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* **IN THE HIGH COURT OF DELHI AT NEW DELHI**

Reserved on: 31st May, 2025

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+ **CS(COMM) 653/2019 and CC(COMM) 22/2022**

COMMUNICATION COMPONENTS ANTENNA INC...Plaintiff

Through: Mr. Gaurav Pachnanda, Sr. Adv.
with Mr. Sidhant Goel, Mr. Mohit
Goel, Mr. Deepankar Mishra, Mr.
Aditya Goel & Ms. Avni Goel,
Advs. (M: 9716746496)

versus

ROSENBERGER HOCHFREQUENZTECHNIK GMBH

& CO. KG

.....Defendant No.1

PROSE TECHNOLOGIES INDIA PRIVATE
LIMITED

.....Defendant No.2

ROSENBERGER ASIA PACIFIC ELECTRONIC
CO., LTD.

.....Defendant No.3

PROSE TECHNOLOGIES (SUZHOU)
CO., LTD.

....Defendant No.4

Through: Mr. Vivek Chibb, Senior Advocate
with Late Mr. Varun Sharma, Mr
Manish Aryan, Mr. Nishant Rai,
Ms Manisha Singh, Mr. Abhai
Pandey, Ms. Mansi Gupta, Mr.
Siddharth, Ms. Akhya Anand, Ms.
Shivani Singh, Mr. Dhruv Tandan
& Ms. Anju Agarwal, Advs. (M:
9871135752)



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**CORAM:
JUSTICE PRATHIBA M. SINGH**

JUDGMENT

Prathiba M. Singh, J.

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1. This hearing has been done through hybrid mode.
2. The Plaintiff – M/s. Communication Components Antenna Inc. has filed the present suit seeking a permanent injunction restraining infringement of Indian Patent No.240893 (hereinafter “*IN’893/ suit patent*”) along with damages/rendition of accounts of profits, delivery up etc.

A. BACKGROUND OF THE PARTIES

3. The Plaintiff is a Canadian company and is stated to be one of the fastest growing providers of cellular base station products. According to the Plaintiff, it is engaged in developing innovative products which enable optimum utilisation of the investment made by cellular service providers in cellular base stations. The products and solutions offered by the Plaintiff include technologies that integrate with Base Transceiver Station (BTS) equipment.
4. The Plaintiff is a group company of M/s. Communication Components Inc., which together provides turnkey solutions in respect of



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Radio Frequencies. According to the Plaintiff, it has a state of the art antenna designing facility located in Ottawa, Canada where it develops several products including Antennas, Amplifiers, Low Loss Combiners, Tower Mounted Amplifiers (TMA) & Diplexers, Distributed Antenna System (DAS) Components and Portable Passive Intermodulation (PIM) Testers. Further, within antennas, the Plaintiff, along with M/s. Communication Components Inc., currently supplies Specialty Antennas, Multi-Beam Antennas, Bi-Sector Array Antennas, Small Cell Antenna and Multi-Port Antennas.

5. The Defendants in the suit are Defendant No. 1 - M/s. Rosenberger Hochfrequenztechnik GmbH & Co. KG, a German company and its Indian entities. The Defendant No. 1 is stated to be a prominent antenna manufacturing company headquartered in Germany, from where it manages different entities located world-wide which form part of the Rosenberger Group. The Rosenberger Group is stated to have presence in 22 locations in around 13 countries, with manufacturing plants and sales offices in Europe, Asia, and, North and South America.

6. The Defendant No. 2 - M/s. Prose Technologies India Private Limited (earlier known as M/s. Rosenberger Electronic Co. (India) Pvt. Ltd.) is stated to be a part of the Rosenberger Group. The Defendant No. 2 is stated to be involved in designing, manufacturing and selling state of the art products to leading companies. Along with its principal company – Defendant No. 1, the Defendant No. 2 is engaged in designing, development, manufacturing and sale of products in various areas such as telecommunication, aerospace, medical and automotive industries. According to the Defendant No. 2, the Rosenberger Group employs more



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than 11,000 employees world-wide, who are engaged in developing designing, development, manufacturing and sale of state-of-the-art technology products. The Defendant No. 2 has manufacturing plants in different cities in India and claims to be one of the leading market players for supply of antennas to telecommunication service providers.

7. The Defendant No. 3 - Rosenberger Asia Pacific Electronic Co. Ltd., is also part of the Rosenberger Group having its registered office in Beijing, China. The Defendant No. 3 is stated to be a member of BSATA and AISG, which are standard setting bodies in respect of antenna specifications and have been granted patents in China in respect of split-sector antennas. As per the Plaintiff, the Defendant No. 3 is involved in the sale of the alleged infringing antennas that emit asymmetrical beams, as per its product/technical/sales brochures.

8. Defendant No. 4 – M/s. Rosenberger Technologies Co. Ltd. (now known as M/s. PROSE Technologies (Suzhou) Co., Ltd.) is a company incorporated under the laws of China having its registered office in Kunshan City, Jiangsu Province, China. The Defendant No. 4 is a part of the Rosenberger Group and is stated to be one of the largest suppliers of RF connectors, cable assemblies, telecommunication filtering sub-system etc.

B. FACTUAL BACKGROUND OF IN 240893 (IN'893)

9. The application for securing the suit patent titled “*Asymmetrical Beams For Spectrum Efficiency*” (hereinafter “*Indian Patent Application*”) was filed by the predecessor-in-interest of the Plaintiff – M/s. TenXc Wireless Inc. (hereinafter “*M/s. TenXc*”) on 5th August, 2008 under the Patent Co-operation Treaty claiming benefits from PCT International



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Application dated 19th March, 2007, numbered PCT/CA2007/000434. The said PCT application in turn claimed priority from the Canadian Application dated 17th March, 2006 numbered 2,540,218. The details of the suit patent are set out below:

S. No.	Particulars	Details
1.	Patent Number	240893
2.	Priority Date	17/03/2006
3.	Date of Patent	19/03/2007
4.	Application Number	1683/MUMNP/2008
5.	Date of Grant	09/06/2010
6.	Name of Grantee	TENXC WIRELESS INC.
7.	Name of Patentee	COMMUNICATION COMPONENTS ANTENNA INC.
8.	Type of Application	PCT NATIONAL PHASE APPLICATION
9.	Date of Recordal	15/07/2010
10.	Appropriate Office	MUMBAI
11.	PCT International Application Number	PCT/CA2007/000434
12.	PCT International Filing Date	19/03/2007
13.	Grant Title	ASYMMETRICAL BEAMS FOR SPECTRUM EFFICIENCY
14.	Validity till	19/03/2027

10. The Indian Patent Application was filed consisting of 28 Claims



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which were examined by the Id. Assistant Controller of Patents & Designs and on 3rd December, 2008 the First Examination Report (hereinafter “*FER*”) with a statement of objections was issued to M/s. TenXc Wireless Inc. The said FER was based on the Claims filed in the PCT Application, as originally filed and the amendment to the Claims, as sought, was rejected by the Patent Office. The objections raised in the FER were, *inter alia*, as under:

- (a) Claim 10 does not sufficiently define the constructional features of sub-sector antenna;
- (b) Claims 16-22 are not supported by the description;
- (c) Further details regarding foreign filing, required under Section 8(1) of the Patents Act, 1970, should be filed;
- (d) Details of the search and/or examination report;

11. In response to the FER, M/s. TenXc filed its response to the FER along with revised Claims on 19th November, 2009. Thereafter, an opportunity of hearing was granted on 29th April, 2010 which was duly attended by the authorised agent of M/s. TenXc and on 30th April, 2010 reply was filed with amended Claims 1 to 25 as originally claimed in the PCT Application.

12. The suit patent was, thereafter, granted on 9th June, 2010 to M/s. TenXc comprising of the following claims:

“1. A method for increasing subscriber capacity in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, the at least one sector having an associated sector antenna at the base station having a critical coverage area extending therefrom and overlapping neighbouring sectors thereof in a sector



handover zone, the method comprising the step of: replacing the at least one sector antenna with a split-sector antenna having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone, whereby a total critical coverage area of the plurality of sub-sector coverage areas is substantially equivalent to the critical coverage area of the at least one sector antenna.

2. A method according to claim 1, wherein the number of subscribers that may be serviced in the at least one sector being replaced may be increased.

3. A method according to claim 1, further comprising the step of allocating different control resources to neighbouring sub-sector coverage areas.

4. A method according to claim 1, further comprising the step of allocating a common control resource to sub-sector coverage areas, each neighbouring a third sub-sector coverage area having a different allocated control resource.

5. A method according to claim 1, further comprising the step of implementing automatic frequency planning to derive an optimal frequency plan for all coverage areas.

6. A method according to claim 1, further comprising the step of allocating to the at least one sector antenna a task of broadcasting control information.

7. A method according to claim 6, further comprising the steps of transferring the task of broadcasting control information to the split-sector antenna and of removing the at least one sector antenna.

8. A method according to claim 1, further comprising the step of allocating to the split-sector antenna a task



of handling traffic from at least one of the subscribers.

9. A method according to claim 1, wherein each of the plurality of sub-section coverage areas comprises two asymmetrical sub-sector coverage areas.

10. A sub-sector antenna for use in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, the at least one sector having an associated sector antenna having a critical coverage area extending from the base station and overlapping neighbouring sectors in a sector handover zone, the sub-sector antenna being constructed and arranged for replacing the at least one sector antenna and having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone, whereby a total critical coverage area of the at least one asymmetrical sub-sector coverage area is substantially equivalent to the critical coverage area of the at least one sector antenna being replaced.

11. A sub-sector antenna according to claim 10, wherein the critical coverage area of the sector antenna being replaced is symmetrical.

12. A sub-sector antenna according to claim 10, wherein the number of asymmetrical sub-sector coverage areas is a multiple of 2.

13. A sub-sector antenna according to claim 12, wherein at least some of the asymmetrical sub-sector coverage areas comprise pairs and a first member of a first pair is substantially a mirror image of a second member of the first pair.

14. A sub-sector antenna according to claim 10, wherein a sub-sector handover zone is substantially equal to a sector handover zone.



15. *A sub-sector antenna according to claim 10, wherein the sector antenna being replaced has a half power beam width of approximately 65°.*
16. *A sub-sector antenna according to claim 15, wherein the sub-sector antenna generates two asymmetrical coverage areas each having a half power beam width of approximately 33°.*
17. *A sub-sector antenna according to claim 10, wherein the sector antenna being replaced has a half power beam width of approximately 90°.*
18. *A sub-sector antenna according to claim 17, wherein the sub-sector antenna generates two asymmetrical coverage areas each having a half power beam width of approximately 45°.*
19. *A sub-sector antenna according to claim 10, wherein the sector antenna being replaced has a half power beam width of approximately 105°.*
20. *A sub-sector antenna according to claim 19, wherein the sub-sector antenna generates two asymmetrical coverage areas each having a half power beam width of approximately 53°.*
21. *A sub-sector antenna according to claim 10, wherein the sector antenna being replaced has a half power beam width of approximately 120°.*
22. *A sub-sector antenna according to claim 21, wherein the sub-sector antenna generates two asymmetrical coverage areas each having a half power beam width of approximately 60°.*
23. *A sub-sector antenna according to claim 10, wherein the sub-sector antenna generates minimal side lobes associated with each asymmetrical sub-sector coverage area.*
24. *A sub-sector antenna according to claim 10, further*



comprising a passive network for implementing the at least one asymmetrical sub-sector coverage area.

25. A sub-sector antenna according to claim 10, further comprising an active network for implementing the at least one asymmetrical sub-sector coverage area.”

13. It is stated that sometime in the year 2011, M/s. TenXc Wireless Inc., the predecessor-in-interest of the Plaintiff, was facing financial difficulties being unable to clear its debts. Accordingly, in December, 2011, the assets of M/s. TenXc were sold by its principal vendor which were purchased by the Plaintiff in 2012. In view thereof, all assets of M/s. TenXc were purchased by the Plaintiff *vide* Asset Purchase Agreement dated 23rd December, 2011. Further, all patents of TenXc, including the suit patent, stood assigned to the Plaintiff *vide* Assignment of Patents Agreement dated 11th January, 2012. All confirmatory agreements are stated to have been filed in September-October, 2013. Thereafter, on the 7th October, 2013, the Plaintiff had filed an application with the Indian Patent Office seeking to bring itself on record as the registered proprietor of the suit patent, which was allowed on 18th November 2019. Thus, the Plaintiff is the recorded owner of the suit patent.

14. As per the Plaintiff, the suit patent relates to a new product and eliminates a number of limitations and disadvantages associated with existing technology in the prior art.

15. A detailed analysis of the claims would be undertaken in the later part of this judgment. However, as per the Plaintiff, the subject matter of IN'893 is a split sector antenna and Claim 1 of the suit patent describes the method of using the split-sector antenna in a sectorized cellular communications network, and Claim 10 claims the antenna which is



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capable of being used in a sectorised cellular communications network. Further, Claim 12 claims a split-sector antenna of Claim 10, where the number of asymmetrical sub-sector coverage area by the asymmetric beams is a multiple of two. Whereas Claim 13 claims such that at least some of the asymmetrical sub-sector coverage areas comprise pairs and there exists at least one pair of sub-sector coverage areas where one sub-sector coverage area is a mirror image of the other.

16. According to the Plaintiff, the technology encompassed in IN'893 has been commended in various international publications including the white paper titled "*MIMO and Smart Antennas for 3G and 4G Wireless Systems- Practical Aspects and Deployment Considerations*" published by 3G Americas in May, 2010, which is stated to be a Consortium of leading manufacturers of wireless equipment and service providers. The same has also been recognised in another white paper titled "*Twin Beam Technology Adds Immediate Capacity Without Additional Antennas*" published by Andrew LLC (now owned by M/s. CommScope Technologies LLC).

C. PATENT APPLICATIONS IN FOREIGN JURISDICTIONS

17. It is stated that the Plaintiff had been granted patent in other countries such as China and Indonesia in respect of a substantially similar invention as disclosed in the suit patent. However, for commercial reasons, the same were not pursued by the Plaintiff, resulting in them to either get revoked or lapsed due to non-payment of renewal fee.

18. In addition to the above, applications were also preferred by the Plaintiff in the United States of America and the European Union. Insofar as the United States of America is concerned, it is stated that a patent has



been granted on 13th November, 2012 in respect of the invention disclosed in the suit patent being U.S. Patent No. 8,311,582. It is claimed that the scope of the said US Patent is identical to that of the suit patent, despite there being difference in the language of the independent claims of both the said patents. As per the Plaintiff, the Claims 1 and 13 of the U.S. Patent are nearly identical to the Claims 1 and 10 of IN'893. For ease of reference, a comparative table comparing the text of Claims 1 and 13 of the U.S. Patent and Claims 1 and 10 of the suit patent is set out below:

U.S. Patent No. 8,311,582	IN 240893
<p>Claim 1: A method for increasing subscriber capacity in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, each of the at least one sector having one or more associated sector antennae at the base station having a critical coverage area extending therefrom and overlapping neighbouring sectors thereof in a sector handover zone, the method comprising a step of:</p> <p>replacing the associated one or more sector antennae for a given sector with a split-sector antenna having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone,</p> <p>whereby a total critical coverage area provided by the plurality of sub-sector coverage areas is substantially equivalent to a critical coverage area of the replaced</p>	<p>Claim 1: A method for increasing subscriber capacity in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, the at least one sector having an associated sector antenna at the base station having a critical coverage area extending therefrom and overlapping neighbouring sectors thereof in a sector handover zone, the method comprising the step of:</p> <p>replacing the at least one sector antenna with a split-sector antenna having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone,</p> <p>whereby a total critical coverage area of the plurality of sub-sector coverage areas is substantially equivalent to the critical</p>



<p>one or more associated sector antennae, <u>wherein said at least one asymmetrical sub-sector coverage area reduces overlap with said neighbouring sub-sector coverage area comparing to overlap of the replaced antennae while maintaining the critical coverage area of the replaced antenna.</u></p>	<p>coverage area of the at least one sector antenna.</p>
<p>Claim 13: A split-sector antenna for use in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, each of the at least one sector having one or more associated sector antennae at the base station having a critical coverage area extending therefrom and overlapping neighbouring sectors in a sector handover zone, the split-sector antenna being constructed and arranged for replacing the one or more associated sector antennae and having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone,</p> <p>whereby a total critical coverage area provided by the plurality of sub-sector coverage areas is substantially equivalent to a critical coverage area of the replaced one or more associated sector antennae,</p> <p><u>wherein said at least one asymmetrical sub-sector coverage area reduces overlap with said neighbouring sub-sector coverage area comparing to overlap of the replaced antennae while maintaining the critical coverage area of the replaced antenna.</u></p>	<p>Claim 10: A sub-sector antenna for use in a sectorized cellular communications network having a plurality of subscribers and a base station supporting at least one sector, the at least one sector having an associated sector antenna having a critical coverage area extending from the base station and overlapping neighbouring sectors in a sector handover zone, the sub-sector antenna being constructed and arranged for replacing the at least one sector antenna and having a plurality of sub-sector coverage areas extending therefrom, at least one of which is asymmetrical, each corresponding to a sub-sector and overlapping a neighbouring sub-sector coverage area in a sub-sector handover zone,</p> <p>whereby a total critical coverage area of the at least one asymmetrical sub-sector coverage area is substantially equivalent to the critical coverage area of the at least one sector antenna being replaced.</p>



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19. The validity of the said U.S. Patent was challenged by another entity, i.e., M/s. CommScope before the Patent Trial and Appeal Board, United States Patent and Trademark Office (hereinafter “*US PTAB*”) by way of an *inter partes review*. However, *vide* order dated 3rd November, 2016 the US PTAB rejected institution of the *inter partes review* against the said U.S. Patent. The said decision was further challenged by M/s. CommScope by requesting a rehearing of the same, which was also denied on 15th March, 2017. Thus, the validity of the said U.S. Patent, which corresponds to IN’893, has been upheld by the US PTAB.

20. Thereafter, M/s. CommScope had obtained a global licence and acknowledged the Plaintiff’s right in IN’893 and the corresponding patents. Subsequently CommScope and the Plaintiff had entered into a settlement agreement in 2018.

21. Insofar as the proceedings before the European Patent Office is concerned, the corresponding application EP 1997332 was filed with original Claims which were subsequently amended on 16th July, 2018. The EPO *vide* detailed communication dated 12th December, 2019, after examining the application including consideration of third-party observations, raised multiple objections under Articles 84, 83, 123(2), 54 and 56 of the EPC, including lack of clarity regarding “asymmetrical” beams, lack of sufficiency etc. Although an extension of time to respond was granted on 8th April, 2020, no reply was filed, and by communication dated 14th July, 2020 the EPO informed the applicant that the application was deemed withdrawn under Article 94(4) of EPC for failure to respond to the examination objections.



D. ENFORCEMENT OF SUIT PATENT

22. According to the Plaintiff, the validity of the suit patent has been tested repeatedly in various proceedings, and hence, the invention encompassed therein deserves the highest level of protection.

23. It is stated that even after the grant of the suit patent in 2010, M/s. TenXc had suffered losses due to infringement of the suit patent by several antenna manufacturers. In response, M/s. TenXc / the Plaintiff have filed suits claiming infringement of the suit patent, and the details of the said suits are as under:

Sr. No.	Case Title	Case No.
1.	TenXC Wireless Inc. & Anr. vs. Mobi Antenna Technology (Shenzhen) Co. Ltd.	CS(OS) 1989/2010 [Renumbered: CS(Comm.) 977/2016]
2.	TenXC Wireless Inc. & Anr. vs. Andrew LLC	CS(OS) 1993/2010 [Renumbered: CS(Comm. 1072/2016)]
3.	Communication Components Antenna Inc. vs. Ace Technologies Corp.	CS(Comm.) 1222/2018

Proceedings in CS(Comm.) 977/2016 – First Suit

24. In respect of the suit against M/s. Mobi Antenna Technology (Shenzhen) Co. Ltd (hereinafter “M/s. *Mobi Antenna*”) the same has been finally disposed of *vide* judgement dated 16th May, 2024. The issues before the Id. Single Judge in the said suit were as under:

“9. Based on the pleadings, vide order dated 04.02.2016, both in the suit and the counterclaim, following issues were settled:-



- (i) *Whether the Impugned Patent No.IN240893 is invalid in view of any of the grounds raised in C.C. No.38 of 2012? OPCC*
- (ii) *Whether the Defendants have infringed any of the claims of Impugned Patent No.IN240893? OPP*
- (iii) *If the answer to Issue No.(ii) is in the affirmative, what is the relief that the Plaintiff is entitled to, and for what period? OPP*
- (iv) *Relief.”*

25. In the said matter, *vide* judgement dated 10th August, 2021, the ld. Single Judge rejected the grounds raised by the Defendant in its counter claim. However, the Court on its own analysed the suit patent in respect of Section 64(1)(h) and 64(1)(k), and revoked the suit patent under the said sections. The said judgment was challenged before the Division Bench of this Court, only to the extent that the suit patent had been invalidated. The Division Bench *vide* order dated 1st December, 2021 set aside the decision of the ld. Single Judge only to the extent of the challenge with the direction that an additional issue be framed in this matter in respect of Section 64(1)(h) and 64(1)(k). Thereafter, an additional issue was framed in this matter, which reads as follows:

“(i) Whether the Plaintiff’s Patent Number IN240893 is liable to be revoked on the grounds under Sections 64(1)(h) or 64(1)(k) of the Patents Act, 1970 in the context of Section 10 of the Patents Act 1970? OPCC”

26. *Vide* judgement dated 4th February, 2022 the said additional issue was decided in the favour of the Plaintiff and the Defendants therein were proceeded *ex parte*. The Court had held that the said issue being a question



of fact, in the absence of any specific pleading to the effect and evidence having been led by the Defendants therein, the Court could not conclusively hold that IN'893 has been insufficiently disclosed. Accordingly, the matter proceeded for consideration of remaining issues *qua* infringement and grant of certificate of validity of specifications under Section 113 of the Patents Act, 1970 (hereinafter "*the Act*").

27. *Vide* judgement dated 16th May, 2024, the Id. Single Judge held that IN'893 had been infringed by the Defendant therein *i.e.*, M/s. Mobi Antenna. The findings of the Court in respect of the reliefs granted are relevant and the same are extracted hereunder:

“Relief

91. *Decree of permanent injunction is hereby passed in favour of the Plaintiff restraining Defendant No.1 and anyone acting for or on its behalf from manufacturing/making, using, distributing, selling, offering for sale and importing into India any product which infringes the suit patent IN'893 of the Plaintiff, till its expiry. Plaintiff is held entitled to damages quantified at USD 2,60,45,250 or Rupee equivalent at the current exchange rate, for the period 2011 to 2014, with interest @ 5% per annum from the date of the judgment till actual realization of the amount. Plaintiff is also held entitled to cost of proceedings, as assessed by the Taxing Officer. Plaintiff shall pay additional Court fees on the damages awarded, within four weeks from today.*

92. *Defendant No.1 had abandoned the proceedings midway and were proceeded ex parte. Considering that the suit was uncontested, Court is not granting certificate of validity under Section 113 of the Patents Act. The other reason that weighs with the Court to so hold is that another suit with respect to the same patent being CS(COMM) 653/2019 titled*



'Communication Components Antena Inc. v. Rosenberger Hochfrequenztechnik GmbH & Co. KG & Ors.' is pending before the Co-ordinate Bench of this Court.

93. Suit is decreed accordingly and disposed of. Counter-claim filed by Defendant No.1 is dismissed. Pending application is disposed of.”

Proceedings in CS(Comm.) 1072/2016 - Second Suit

28. In the second suit mentioned above against M/s. Andrew LLC (now M/s. CommScope Technologies LLC) (hereinafter “M/s. CommScope”), initially, vide order dated 4th November, 2011 the Court had rejected the application seeking interim injunction against the Defendant therein, on the ground that *prima facie* there was a credible challenge to the validity of IN’893. Thereafter, as stated above, M/s. CommScope had challenged the validity of the US Patent No. No. 8,311,582 before the US PTAB which was rejected and the validity of the same was upheld after dismissing the review filed by M/s. CommScope as well.

29. Thus, this suit and counter-claims thereto had been dismissed as withdrawn on 3rd April, 2018 in view of the above and the fact that M/s. CommScope had obtain a global license of IN’893.

Proceedings in CS(Comm.) 1222/2018 – Third Suit

30. In respect of the suit filed against M/s. Ace Technologies Inc. (hereinafter “M/s. Ace”) vide order dated 12th July, 2019, the Court had granted interim injunction in respect of IN’893. The Court had taken note of the fact that there are several factors which have changed since the order dated 4th November, 2011 was passed in other suits wherein the validity of IN’893 was in doubt. It was held that these factors would now tilt in favour



of the Plaintiff, insofar as the challenge to IN'893 itself is concerned. The relevant portion of the order dated 12th July, 2019 reads as under:

“69. The Ld. Single Judge in Ten XC v. Mobi Antenna (supra) at the interim stage, in a suit filed for infringement by the predecessor of the Plaintiff, held that since there was a credible challenge to the validity of the patent, an interim injunction could not be granted. This judgment was rendered on 4th November, 2011. The patent in the present suit, was initially rejected by the US patent office, as lacking novelty. At the time when the earlier Ld. Single Judge had considered the validity of the patent at the prima facie stage, the rejection of the US patent, was an important factor, in order to determine whether there was a credible challenge to the Plaintiff. The Ld. Single Judge had also concluded that since the patent was a recent patent, there is a credible challenge. The observations of the Ld. Single Judge are as under:[...]”

70. However, now there are several changed circumstances, such as:

(a) IN'893 is no longer a new patent. It is more than nine years old.

(b) The term of the patent is calculated from the date of application i.e., in this case since 18th March 2007. So more than three years elapsed in the examination and grant process. Only less than 8 years of the term of IN'893 are left. During this period, the patent has neither been revoked, nor held to be invalid in any jurisdiction;

(c) Conversely, US'582 patent has been granted and upheld in the interregnum in the USA;

(d) One of the Defendants has taken a global license to the patent i.e., the party which had itself raised the challenge in the US has now acknowledged the validity and has taken a



licence;

(e) In the suit earlier filed in this court i.e., CS(COMM) t/2016, evidence has been led and judgment is stated to be reserved.

(f) The Defendants in the present case, themselves were notified of IN'893 since 2017, however, till date, they did not choose to either file a revocation, or even a counter claim in the present suit, seeking invalidation.

[...]

73. There are several circumstances that have changed since the interim injunction application in the said two suits were decided. One of the suits has in fact been disposed of as settled. These subsequent facts cannot be ignored by a Court, especially in a patent infringement suit, where the term of the patent is limited and with each passing day, the exclusive monopoly of the patentee is severely dented. The term or life of the patent is not extendible and hence, the changed circumstances would have to be kept in mind. In any event, an order in an interim injunction application is only prima facie in nature, and is rendered in the facts and circumstances pleaded in a particular case. The Ld. Single Judge while finding that there is a credible challenge to the patent observes as under:

“8.2.....At this stage, this Court is not expected to and has not examined the challenge in detail to arrive at a definite finding on the question of validity of the patent which shall be examined at the time of trial. However, this Court is satisfied that the challenge made by the defendants is substantial, tenable and credible.”

Thus, the opinion in that case was not final. There are several factors which now tilt in favour of the Plaintiff, insofar as the challenge to IN'893 itself is concerned.”



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31. Further, the Court held that the Defendant therein was willing to license the suit patent but had procrastinated from obtaining the same, similar to M/s. CommScope, and in view of the same, the Defendant can be put to terms. Accordingly, the Court granted interim relief to the Plaintiffs in the following terms:

“79. The Plaintiff has placed on record, in a sealed cover, the licence agreement signed with the licensee, in respect of the suit patent who was one of the Defendants in the earlier suits. The said license agreement is between Communication Components Antenna Inc., which is the Plaintiff in the present case, and CommScope Technologies, LLC. It relates to US’582 and the family of patents, including IN’893. The said license agreement contemplates an initial lumpsum payment and percentage of net sales as the royalty. The Court has perused the license agreement. Owing to the confidentiality clauses between the said party and the Plaintiff, the said royalty terms are not being reproduced in the judgment.

80. The Defendants have placed on record, the purchase orders for the various models of its antennae. Owing to the fact that the Defendant No.1 which is the manufacturer and seller claims to not have any assets in India, and in view of the discussion above, where the Defendants are clearly infringing the Plaintiff’s patent, the Defendants are liable to deposit some amounts in the Court in order to continue the sales of these antennae in India. The total value of the exports made till date, as per the disclosures made by the Defendants, is as follows:



S. No.	Antenna	Quantity	Amount	Date
1.	XXDW-18-33i-iVT-DB8P	67,627 units	\$64,405,583	Between October, 2016 and October, 2018
2.	XXDW-18-33i-iVT-DB8P-V2	10,000 units	\$8,380,000	18 th December, 2018
3.	XXDW-18-33i-iVT-DB8P-V2	5,000 units	\$3,930,000	22 nd February, 2019
4.	XXDGL-15-33i-iVT-DB-4P	15,000 units	\$9,525,000	2 nd May, 2019
	Total	97,627 units	\$86,240,583	

81. Insofar as the sales made prior to date of suit to the tune of \$64,405,583, which, at the current rate of exchange (1USD = approx. Rs.68) comes to Rs.437,95,79,644/- the Defendants are directed to give a Bank Guarantee for a sum of Rs.40 crores, which is approximately ten percent of the above amount.

82. Insofar as the sales made during the pendency of the suit are concerned, the total sales are to the tune of \$21,835,000, which come to Rs.148,47,80,000/-, ten percent of which is approximately Rs.14.5 crores. The Defendants are directed to deposit the Bank Guarantee and the said sum with the Registrar General of this Court, within one month from date of judgment. If the Defendants do not comply with the above directions within one month, the Defendants shall stand restrained from manufacturing, selling, offering for sale any models of antennae which infringe suit patent number IN 240893.

32. This interim order dated 12th July, 2019 was challenged by the Defendant before the Division Bench of this Court in ***FAO(OS)(COMM) 186/2019***, and vide 8th August, 2019 the Division Bench while considering application for stay of the order passed by the Id. Single Judge, it was



directed as under:

“13. We have enquired from Mr. Sethi, learned Senior Advocate as to how do the appellants/defendants propose to secure the interest of the respondent/plaintiff in the event the latter ultimately succeeds in the pending suit. He submits on instructions that the appellant No.1 is willing to offer a Corporate Guarantee in favour of the Registrar General of this Court for a sum of Rs.40 crores and Rs.14.5 crores figures, that find mention in paras 81 and 82 of the impugned order. Besides the above, Directors of each of the remaining three appellants/companies shall file their affidavits, undertaking inter alia that in the event the respondent/plaintiff ultimately succeeds in the suit, their companies shall comply with the judgment and decree. The Corporate Guarantee offered by the appellant No.1 and the affidavits directed to be filed by the Directors of the remaining three appellants/companies shall be filed within two weeks, with advance copies to the other side.

14. The appellants/defendants shall continue maintaining accounts of the sales in respect of the products mentioned in paras 5 and 10 of the impugned order. The statement of accounts shall be filed in the suit proceedings in a sealed cover, on a monthly basis. In the event, the respondent/plaintiff succeeds in the suit, the said data shall facilitate quantification of the damages that may be awarded against the appellants/defendants. The appellants/defendants shall also continue approaching the Court in the suit proceedings for permission to supply antennae to its customers, as was being done earlier.

15. Having regard to the fact that the issue pertaining to the validity of the patent ‘IN 893’ registered in favour of the respondent/plaintiff, is a subject matter of decision in CS (COMM) 977/2016, wherein arguments have been addressed on the counter claim and



judgment reserved by a coordinate Bench on 24.04.2019, it is clarified that pending a decision in the captioned suit, any observations made in the impugned order dated 12.07.2019 or the view expressed in the present order, both being prima facie in nature, will not weigh with or be a persuasive factor for a decision in the said suit or any other proceeding.”

33. The said order of the Division Bench dated 8th August, 2019 was appealed by the Plaintiff before the Supreme Court in **SLP(C) 21938/2019**, wherein *vide* order dated 20th September, 2019 the Supreme Court set aside the order of the Division Bench in the following terms:

*“ Having heard learned counsel for the parties, **we are of the view that there was absolutely no necessity for the Division Bench, by way of an interim order, to interfere with the well-reasoned Single Judge’s order** dated 12.07.2019, by which, in the interim, Bank Guarantee of Rs. 40 crores and deposit of Rs. 14.05 crores was ordered. This is especially so, as the respondent-company, being a Korean Company, is not ordinarily subject to our jurisdiction.*

In this view of the matter, the Division Bench Order is set aside. The Bank Guarantee in question and the deposit to be made within a period of four weeks from today.

The special leave petition stands disposed of.

Pending application stands disposed of.”

34. Thereafter, *vide* order dated 10th April, 2023 the Division Bench had finally disposed of the appeal against the interim order dated 12th July, 2019 by modifying the same to a limited extent in the following terms:

“98. In view of the above, we consider it apposite that the appellants be granted one more opportunity to



produce the allegedly offending antenna for examination of a court appointed expert. The appellants may approach the learned Trial Court for the said purpose and for modification/ vacation of the impugned judgment. If the Trial Court considers it apposite, it would pass appropriate orders for appointing an expert for assistance in determining whether the allegedly infringing antennae emit beam patterns similar to the Suit Patent and consider the appellants application for vacation/ modification of the impugned judgment.

[...]

*100. The appellant had expressed the difficulty in depositing 10% of the sale proceeds to comply with the terms of the impugned judgment. It is also submitted on their behalf that the said amount is exorbitant. **However, it is noticed that the learned Single Judge had examined a royalty agreement entered into between the respondent and another licensee for use of the patent and had apparently, determined the terms based on the said agreement. Therefore, we do not find any reason to modify the same. However, given the difficulty expressed by the appellants, we consider it apposite to modify the impugned judgment to a limited extent of permitting the respondents to deposit a bank guarantee for a sum of 10% of the sale proceeds instead of depositing the same in cash with the Registrar of this Court.** ”*

35. Further to the above order, the Plaintiff had filed an application before the Id. Single Judge seeking direction to the Defendant for depositing the Bank Guarantee. As on the date of reserving judgement in the present suit, the said application was pending.



36. However, for the sake of completeness, upon checking, it is now revealed from the records that the said application was finally decided by the Id. Single Judge *vide* order dated 1st July, 2025 directing the Defendant to deposit Rs. 290 Crores *i.e.*, 25% of the damages claimed, either by way of a Bank Guarantee or FDR, within four weeks. The relevant portion of the said order reads as under:

“43. Collectively taking all the aforesaid, the plaintiff has been able to convince/ persuade this Court to exercise its inherent powers under Section 151 of the CPC. As such, this Court is of the view that a prima facie case has been made out in favour of the plaintiff and against the defendants with the balance of convenience in its favour for grant of an appropriate relief, at this stage, as the defendants currently do not have any ongoing business operations in India and the absence thereof, indeed undermines and puts at risk the rights/ interests of the plaintiff. Moreover, if the plaintiff’s apprehension regarding the defendant’s inability to satisfy the decree materializes, great irreparable harm, loss and injury is likely to occur against the plaintiff, and the entire objective of the captioned lis shall be rendered otiose.

*44. Accordingly, in the interest of justice and particularly to secure the interests of the plaintiff during the pendency of the present proceedings, **the defendant no.1 is hereby directed to furnish and deposit an amount equivalent to 25% of the damages of Rs.1160 Crores (approximately USD 140 Million) as claimed by the plaintiff i.e. Rs.290 Crores,** in addition to all the monies already deposited by the defendant no.1 in pursuance to previous order(s) of the Court(s) from time to time, either by way of a Bank Guarantee issued by a scheduled commercial bank or in the form of a Fixed Deposit Receipt in the name of*



the Registrar General of this Court within a period of four weeks from today.”

37. The said order was challenged by the Defendant before the Supreme Court in *SLP(C) No. 20326/2025* which was disposed of on 8th August, 2025 without interfering with the order of the Id. Single Judge. However, the Supreme Court extended the time period for depositing the amount as directed by the Id. Single Judge by another 45 days.

38. The suit against M/s. Ace is still pending and is at the stage of final arguments. Thus, the Plaintiff relies upon the above suits in support of the validity of the suit patent.

E. CASE OF THE PLAINTIFF & CORRESPONDENCE BETWEEN THE PARTIES

39. It is stated that sometime in December, 2016 the Plaintiff became aware of the Defendants’ alleged infringing products. The Defendant No.1 – Rosenberger Group, which is a German company, through its Indian subsidiary/group companies offers multi-beam antenna that emit asymmetrical beams. The Plaintiff came across the technical literature and product brochure prepared by the Defendant No. 3 which offer the said multi-beam antenna.

40. The Plaintiff initially had listed the following antenna models of the Defendants, which are alleged to be infringing the suit patent (hereinafter “*infringing products*”):

- (i) MB-4Q9X30V-00
- (ii) MB-4Q9X30V-05
- (iii) MB-2B6X30V-10
- (iv) MB-4W8X33V-0



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- (v) MB-4W8X33V-10
- (vi) S-Wave U/U-33-20DV10-BS
- (vii) S-Wave EW/EW-33-20DV10-BS
- (viii) EW-33-20DV10-BS-F
- (ix) MB-G7W92U9X65V-00
- (x) MBA6409X65V-01

41. The Plaintiff had reserved the right to include within the suit any other model of antenna of the Defendants that infringes IN'893. Accordingly, during the course of hearing, the Plaintiff filed two applications being *I.A. 7640/2022*, whereby the Plaintiff averred that, in addition to abovementioned antennae models, the model no. MB 4W8X33V-01 of the Defendants are also infringing IN'893.

42. According to the Plaintiff, the technical literature and brochure of the Defendants' products reveals that the beam patterns of the Defendants' dual fixed beam antennas reveals that the Defendant was offering/selling split sector antennas which infringed IN'893.

43. According to the Plaintiff, initially the brochures of the Defendants' products were easily downloadable from the internet and the beam patterns were also obtained from the market through material which was circulated by the Defendants. The Plaintiff got conducted an analysis through an expert - Mr. Mark Cosgrove, who overlaid the Defendants' beam patterns over the simulated beam patterns of IN'893, as per the power and phase weightings disclosed in IN'893, at different frequencies and scales of the Defendants' beam patterns and typical antenna design values at each frequency band.



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44. The said expert came to the conclusion that the main beams as also the design values at the corresponding frequencies and scales are identical. As per the expert, since the beam patterns of the Defendants' products and IN'893 are identical, the same would have identical characteristics as that of the antenna disclosed by the suit patent, including the asymmetry and performance characteristics. The asymmetrical coverage of the antennas would also deliver the same energy to the critical coverage area.

45. It is stated that the means employed to induce asymmetry is not a limitation of IN'893, as long as the beam pattern is asymmetrical and the same critical coverage area as that of a conventional sectorised antenna, is maintained.

46. According to the Plaintiff, in order for either the Plaintiff or the Defendants to have sold any antenna in India it would be necessary for the said antenna to replace the existing antenna while maintaining the same critical coverage area, such that there is no need for new tower planning. In effect by maintaining the critical coverage area of the existing antenna the cellular operators are able to continue with the existing network in place. This is also the reason for the cellular operators to have purchased the Plaintiff's Bi-Sector Array Antennas to replace their typical 65 degree antenna.

47. Thus, as per the Plaintiff, the fact that the Defendants' infringing antennas were accepted by cellular operators as a substitute of the Plaintiff's Bi-Sector Array antennas clearly indicates that the infringing antennas are giving substantially the same total critical coverage area, as the Plaintiff's antennas.



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48. Accordingly, it is the case of the Plaintiff that the Defendants' antenna infringes Claim Nos. 1, 10, 12 & 13 of the suit patent.

49. As per the Plaintiff, the Plaintiff has been in touch with the Defendants since 29th December, 2016, when the Plaintiff called upon Defendant No.1 to explore licensing opportunities. This was followed up on 19th January, 2017 *via* a letter to the Defendant No. 2. The Defendants also commenced negotiations and the Legal Manager of Defendant No. 3 asked on 22nd September, 2017 for signing of a Non-Disclosure Agreement before discussions on the license and cross-license, etc. Accordingly, on 7th December, 2017, the Plaintiff had shared a duly signed NDA to Defendant No. 3, which was sent back to the Plaintiff with some changes on 14th December, 2017 for feedback.

50. Around the same time, the Plaintiff is stated to have been in settlement talks with M/s CommScope and since the same was consuming time and effort of the Plaintiff, the NDA shared with the Defendants was withdrawn and the Defendants were informed that the Plaintiff would revert in due course.

51. The Plaintiff and M/s. CommScope, as mentioned above, entered into a global license on royalty basis in 2018 and after the said settlement agreement was executed, the correspondence with the Defendants ensued. The communication between the parties continued till 2019, however, no mutually acceptable terms were arrived at.

52. According to the Plaintiff, its market in India was substantially affected due to the Defendants' antenna which was offered in India at least since 2016. The said antennas were infringing in nature and hence, apart from the permanent injunction, the Plaintiff also prays for



damages/rendition of accounts. According to the Plaintiff, the measure for payments of damages would at least have to be the rate agreed by M/s CommScope in its license agreement of 2018.

F. PROCEEDINGS IN THE PRESENT SUIT

53. Summons were issued in the suit on 3rd December, 2019 and on the said date, the Defendant No. 2 was already represented by Id. Counsel who accepted summons on behalf of the said Defendant. Notice was issued in the application under Order XXXIX Rule 1 and 2 of CPC wherein directions were issued to the Defendants to file the details of the sales of the impugned products in a sealed cover. Further, the Plaintiff was also permitted to place on record in a sealed cover the details of the license entered into with a third party *i.e.*, M/s. CommScope. The relevant directions passed by the Court read as under:

“I.A. 16990/2019 (Application under Section 151 of the Code of Civil Procedure. 1908)

Subject to further orders in the suit, the plaintiff is granted permission to file details of the license entered into with a third party in a sealed cover.

The application stands disposed of.

CS(COMM) 653/2019

1. Issue summons. Mr. Harshvardhan Jha enters appearance on behalf of defendant No.2, and waives formal issuance of summons. The other defendants be served by all modes, including bye-mail at the following addresses: defendant No.1 at hans.rosenberger@rosenberger.com, and defendant No.3 at roy.liv@rosenberger.com and aili@rosenberger.com. An affidavit of service shall be filed by the plaintiff.



2. Written statements be filed within four weeks. The summons to defendant Nos.1 and 3 shall indicate that written statements be filed within four weeks from the date of receipt of summons. The defendants shall also file affidavits of admission/denial of the documents filed by the plaintiffs, failing which the written statements shall not be taken on record.

[...]

I.A. 16988/2019 (Application under Order 39 Rule 1 and 2 of the CPC, 1908)

1. Issue notice, returnable for 19.12.2019. Mr. Harshwardhan Jha accepts notice on behalf of defendant No.2. Defendant Nos.1 and 3 may be served bye-mail in addition.

*2. Copies of the plaint and the entire suit paper book will be served upon the defendants. **They may file a reply/short affidavit within two weeks giving details of the sales of the impugned products. The affidavit may be filed in a sealed cover, without prejudice to the rights and contentions of the parties.***

54. An application was then moved by the Plaintiff seeking impleadment of M/s. Rosenberger Technology (Kunshan) Co. Ltd. as Defendant No. 4 which is a subsidiary of Defendant No. 1 and was stated to be manufacturing and supplying the infringing products. The Court was then informed that the name of the said company was 'M/s. Rosenberger Technologies Co. Ltd'. The said application was allowed on 7th February, 2020 and M/s. Rosenberger Technologies Co. Ltd. was impleaded in the present suit as Defendant No.4.

55. At this stage, it is noted that the Defendant Nos. 1, 2 and 3 were duly served by courier as also speed post and emails. The proof of service has



also been attached with the affidavit of service dated 17th December, 2019 filed by the Plaintiff. Accordingly, the *vakalatnama* on behalf of Defendant Nos.1, 2 & 3 were filed on 18th December, 2019. The service of Defendant No.4 was also affected as per affidavit of service dated 12th March, 2020. The Defendant No.4 has been served electronically on 11th March, 2020.

56. It is also noted that only Defendant Nos. 2 & 4 filed their written statements. Insofar as Defendant No. 1 is concerned, it is stated in Defendant No.2's Written statement that it belongs to the Rosenberger Group and Defendant No. 1 has no involvement in business of antennas. The relevant paragraphs *qua* Defendant No.1 in written statement of Defendant No.2 is set out below:

“G. It is respectfully submitted that Defendant No.1 is a company based in Germany and has no involvement in the antenna business of Defendant No2. In particular, Defendant No.1 has no control over the affairs and management of Defendant No.2 towards manufacturing, selling, offering to sell etc. of antennas. Even otherwise, Defendant No.1 is not involved in the business of antennas either in India or abroad. Thus, Defendant No.1 has no nexus with any of the causes of action alleged in the present suit and may be removed from the array of defendants.”

57. Insofar as the Defendant No. 4 is concerned, it states in its written statement as under:

“2. It is respectfully submitted that Defendant No. 4 is not engaged in direct sales of any antenna in India including the alleged antennas. From January 11, 2018 to January 03, 2020, Defendant No.4 sold two models viz. MB-4W8X33V-01 and S-Wave 0709/0709-33-15DV10-BS-F to an Indian service provider in



Shanghai, People's Republic of China. This sale was made on "Free on Board" basis such that said antennas were sold independently by the Defendant No. 4 in Shanghai and were taken into possession by the Indian service provider at Shanghai itself. The details of the sales made by Defendant No.4 are already submitted with this Hon'ble Court in the affidavit of sales dated January 31, 2020, which is a confidential document.

3. It is submitted that the Defendant No 2, the Defendant No. 3 and the Defendant No. 4 are the subsidiaries of the Defendant No. 1. Defendant No. 4 being a company incorporated in China is being managed from Kunshan, China and no cause of action in the present suit has arisen against Defendant No.4 as no specific allegations have been made against Defendant No.4 in the plaint. In view of the above, the present suit also suffers from misjoinder of parties."

58. The Defendant Nos. 2, 3 & 4 are clearly subsidiaries of Defendant No.1 as is clear from the paragraphs extracted above. Further, despite being duly served and *vakalatnama* having been filed on behalf of Defendant No. 1 and 3, no written statement has been filed by the said Defendant Nos.1 & 3.

59. On 12th February, 2020 correspondence between the parties *via* email etc., were permitted to be filed in a sealed cover by the Plaintiff and further sales figures were also directed to be disclosed by the Defendants. The affidavit disclosing sales figures only till March 2020 had been filed by the Defendants by the next date of hearing *i.e.*, 9th September, 2020, however, the Court directed the Defendants to file a fresh affidavit disclosing the sales.

60. Thereafter, on 23rd May, 2022, an application was filed by the Plaintiff seeking details of another new antenna launched by the



Defendants and the said antenna was allegedly infringing IN'893. On 23rd May, 2022, it was, therefore, directed as under:

“2. This is an application seeking extension of the interim injunction order in respect of the further model of antenna being model number MB- 4W8X33V-01, which is stated to have been launched by the Defendants.

3. Issue notice. Ld. counsel for the Defendants accepts notice.

4. Let the reply be filed by 4th July, 2022 and rejoinder, if any, before the next date of hearing.

5. The Defendants shall disclose the details of the sales of the impugned products, including the new antenna which is subject matter of this application, in a sealed cover, to the Court on the next date of hearing.”

61. The Defendant No. 2 filed a counter claim seeking revocation of the suit patent under Section 104 of the Act which was taken on record and the Registry was directed to number the same on 24th July, 2022. The Court was also informed by the Plaintiff that the financial returns filed by the Defendant No. 2 are not available on the website of the Ministry of corporate Affairs. Accordingly, the Defendant No. 2 was directed to place the same on record by way of an affidavit.

62. *Vide* order dated 5th July, 2023, this Court observed that since the suit patent has a remaining term of merely five years or less, in terms of Rule 16 of the High Court of Delhi Rules Governing Patent Suits, 2022 (hereinafter “*DHC Patent Rules*”) summary adjudication would be permissible. Accordingly, with consent of parties, issues were framed both in the suit and the counter-claim, and the following directions were issued:



“3. In the meantime, during pendency of the present suit, pleadings have been completed. The Defendants have also filed a counter-claim seeking revocation of the patent under Section 104 of the Patents Act, 1970. The patent itself is valid till 17th March, 2017. In terms of the High Court of Delhi Rules Governing Patent Suits, 2022 (hereinafter ‘Patent Rules’) if a patent has less than a five-year term left, the Court can resort to summary adjudication so as to expedite the matter. Rule 16 of the Patent Rules is set out below:

“16. Summary Adjudication in Patent cases

In addition to the provisions contained in the Commercial Courts Act, 2015 for Summary judgment, summary adjudication may be considered by the Court in cases falling in any of the following categories: (i) Where the remaining term of the patent is 5 years or less; (ii) A certificate of validity of the said patent has already been issued or upheld by the erstwhile Intellectual Property Appellate Board, any High Court or the Supreme Court; (iii) If the Defendant is a repeated infringer of the same or related Patent; (iv) If the validity of the Patent is admitted and only infringement is denied”

4. The Plaintiff has already filed on record the affidavit of its expert Mr. Mark Cosgrove and the Defendant has filed the evidence of its expert Mr. Sunil Rathi.

5. A perusal of the matter would reveal that the following would be the issues that would arise for consideration. Accordingly, the following issues are, framed:

- i. Whether the suit patent IN 240893 is liable to be revoked? OPD*
- ii. Whether the Defendants are infringing the suit patents? OPP*
- iii. Whether the Plaintiff is entitled to permanent injunction and damages/rendition of accounts? If*



so, how much?

iv. Relief.

6. **With the consent of parties** and bearing in mind Rule 16 of the Patent Rules, since the matter is proceeding for summary adjudication the following directions are issued:

a) Both the parties shall review their respective expert affidavits and shall file the final affidavits of their experts both in respect of infringement and invalidity within a period of four weeks. The same shall be exchanged by the parties.

b) On behalf of the Defendants, it is submitted by Mr. Sethi, ld. Sr. counsel that the Defendant has approximately Rs. 100 crores worth of assets in India which is unencumbered. Considering that the Defendants are continuing to sell their antenna in India and there has been no injunction, let a list of the assets of the Defendants along with their valuation, be filed on record within four weeks with copy to ld. Counsel for the Plaintiff.

c) In addition, parties are permitted to file the evidence of one person on non-technical aspects including damages.

d) Evidence shall be recorded by the Court, initially, of both the experts and, thereafter, of the witnesses on non-technical aspects including damages.

e) The evidence shall be recorded before the Court and live transcription of the same is permitted. The costs of the same shall be borne by both parties equally. The transcription agency shall, however, be engaged by the Plaintiff. One to two personnel from the transcription agency are permitted to be present in Court to enable live transcription.

f) The cost estimates shall be exchanged between the parties for the transcription.

7. Cross-examination of each technical witness is



restricted to one and half hours. Cross examination of non-technical witnesses is restricted to one hour. The affidavits in evidence be filed by 5th August, 2023.

8. List before the Joint Registrar on 21st August, 2023 for arrangement of the records for the trial as also for marking of exhibits in terms of the affidavit in evidence. After the record is organized the electronic record shall be made available to ld. Counsels for both the parties in order to enable smooth recording of the evidence by the Court. Parties are permitted to prepare trial bundles in consultation with each other for the convenience of the Court.”

63. As can be seen from the above order, time limits were fixed for cross-examination of technical and non-technical witnesses, trial bundles were directed to be prepared and the matter was listed for recording of evidence in Court.

64. *Vide* order dated 19th July, 2023, a confidentiality club was constituted for maintaining confidentiality of sales figures disclosed by the Defendants. The directions for disclosure were issued as under:

“4. Accordingly, it is directed that the Defendants may disclose the sales figures of the antenna models of sales made till 1st July 2023, giving the following particulars:-

- i) Model of the Antenna*
- ii) Price per unit*
- iii) Number of units sold along with price*
- iv) Date on which the sale has been effected*

5. The name of the customers and client details need not be disclosed in the said particulars. The details as directed shall be disclosed by the Defendant within a week to the Plaintiff.

6. Considering the directions passed on the last date,



let the matter be listed before Court on 4th September, 2023 for a pre-trial hearing. On the said date. Id. Counsels for both the parties to assist the Court on the issues that would be required to be put to the expert witnesses. It is made clear that there is no direction for the expert witnesses to appear before Court on the said date.

7. Considering the orders passed today, time for filing of the affidavits is extended till 17th August, 2023. However, Id. Counsels shall ensure that the affidavits are on record by 21st August, 2023 before the Joint Registrar.”

65. Additional documents were, thereafter, sought to be placed on record along with supplementary affidavits by the Plaintiff. On 4th September, 2023, it was directed that evidence would be recorded in Court with live transcription. The affidavits filed by the Parties were taken on record. Examination-in-Chief was recorded through video conferencing and exhibit markings were done on 12th and 13th September, 2023. Pre-trial submissions were heard on 18th September, 2023 and the schedule for cross-examination was fixed in the following terms:

“2. Vide order dated 5th July, 2023, the consent of both parties was recorded to proceed with Summary Adjudication of the present suit in terms of Rule 16 of the High Court of Delhi Rules Governing Patent Suits, 2022, and issues were framed in the suit. A detailed order was also passed as to the manner in which evidence would be recorded in the present case.

3. Today, Id. Senior Counsels for both parties have addressed and concluded pre-trial submissions. The broad schedule which has been agreed to by both the parties is as under:

- On 20th September, 2023, from 2:30 pm onwards,*



both the Plaintiff s witnesses, i.e., Mr. Mark Cosgrove and Mr. Dennis Nathan shall be cross-examined by the Defendant;

- The live transcription for the said date shall be made available by the agency engaged to provide live transcription facility, to the Court Master only and not to any of the parties on the same day, by 7:00 pm. After the Court approves the transcription, the two witnesses shall sign the transcribed statements at 4:30 pm on 21st September, 2023.*

- The Defendants' witnesses, i.e., Mr. Mahesh A. Birari and Mr. Satyajeet Mukherjee shall be cross-examined on 22nd September, 2023, from 2:30 pm onwards. The live transcription agency shall endeavour to provide the transcription of that day's testimony by 6:30 pm. After the Court approves the same, the said witnesses shall sign the transcribed testimony on the same date before leaving the Court premises.*

4. Insofar as the process of cross examination is concerned, both the parties have jointly submitted that when one witness is being cross examined, all the unexamined witnesses shall stay outside the Court room and not have any access to the Court proceedings. However, any other representatives of the parties are free to join the proceedings.

5. In view of the fact that the trial is being conducted in a summary manner and not in the traditional manner where the opportunity for putting suggestions under Order X Rule 2 CPC etc., exists, it is made clear that mere non-putting up suggestions on any aspect of the testimony, would not lead to any adverse inference in favour of either of the parties. The stand of the parties as per pleadings and evidence would be considered by the Court.

6. The live transcription agency is permitted to give a



demonstration of the process of live transcription to the Court Staff tomorrow, i.e., 19th September, '2023 at 4:30 pm, or upon completion of Court proceedings for the day."

66. Thus, as noted above, considering that the present suit has been adjudicated in a summary manner, it was recorded by way of abundant caution that the mere non-putting of suggestions to the witnesses would not be construed either in favour or against any party.

67. On 20th September, 2023, the cross-examination of the witnesses on behalf of the Plaintiff was recorded. In respect of the transcript, the following directions were issued:

"3. Vide order dated 5th July, 2023, in terms of Rule 16 of the High Court of Delhi Rules Governing Patent Suits, 2022 (hereinafter 'Patent Rules'), with the consent of both parties, it was decided to proceed with summary adjudication of this suit and issues were framed in this matter. It was directed that the evidence shall be recorded before the Court through the use of live transcription. The transcription agency was to be engaged by the Plaintiff and the costs for the same would be shared equally by the parties.

4. Ld. Counsel for the Plaintiff has informed the Court that the transcription agency which has been engaged is Opus 2 Singapore PTE Ltd. The two transcribers who are present in Court are:

- i) Ms. Karen Joan Richardson, a citizen of Australia; and*
- ii) Ms. Kelly Ann Jones, a citizen of the United States of America.*

5. The two transcribers have assured the Court that they would record the transcription and the evidence today in a completely fair and unbiased manner and shall be subject to the directions of the Court.



6. Today, the matter is listed for the recording of cross-examination of the Plaintiffs witnesses –

S.No.	Witness	Designation
1	Mr. Dennis Nathan	President, Communication Components Inc.
2	Mr. Mark Cosgrove	Managing Director, M.S.C. Wireless Ltd.

Their examination-in-chief of the two witnesses was recorded by the Id. Joint Registrar on 12th September, 2023. The said two witnesses had joined for the examination-in-Chief virtually and they are today present before the Court in person.

7. Both witnesses have confirmed their respective examinations-in-chief and have handed over a signed copy of the examination-in-chief which is now taken on record.

8. The original board resolution and power of attorney being PW2/69 and PW2/70, respectively, have been inspected by the Id. Counsel for the Defendants and have also been perused by the Court. The same are returned. The said documents shall now be exhibited.

9. Mr. Sethi, Id. Senior Counsel objects to the power of attorney on the ground that the same is not stamped and apostilled. This objection shall be considered at the time of final hearing.

10 The cross-examination is being recorded with the consent of the parties in open Court.

11. The Plaintiffs witnesses - Mr. Dennis Nathan and Mr. Mark Cosgrove have been cross-examined by the Id. Counsels for the Defendants. The cross-examination has concluded.



12. *The transcription agency shall e-mail the final version of the transcription as also the audio recording for the cross examination to the Court Master. The edited transcription for today, incorporating any corrections directed by the Court shall be read through by the two witnesses on 21st September, 2023. The witnesses may read the transcribed statements and sign the same on 21st September, 2023. The witnesses shall be accompanied by at least one Counsel. The Counsel for the parties shall also sign the transcribed documents.*

13. *Insofar as the schedule for 22nd September, 2023 is concerned, the cross-examination shall commence at 11:00 a.m. and shall go on till 1.30 p.m.*

14. *The witnesses of the Defendants shall remain present on the next date by 11:00 a.m. After the cross examination is over on the said date, the edited transcription for the said date shall be emailed to the Court Master of this Court. Thereafter, after the incorporation of any corrections directed by the Court, the witnesses of the Defendants as also the Counsels conducting the cross examination, shall sign the transcribed statement on the same date.”*

68. The Defendants’ witnesses’ cross-examination was recorded on 22nd September, 2023. The following directions were passed in respect of the transcriptions of the cross-examination of the witnesses:

“Conclusion and Directions

15. *Cross examination of DW2 has been undertaken from 11.20 am to 1:17 pm and thereafter of DW1 from 2:10 pm to 2:57 pm.*

16. *The cross examination of both the Defendants’ witnesses have been concluded today. The Court*



records appreciation of both the counsels as also respective witnesses for broadly adhering to the schedule fixed by the Court. Over a period of two days i.e., on 20th September 2023 and 22nd September 2023, the Plaintiffs and the Defendant's evidence is concluded, after recording the cross examination of four witnesses - two technical witnesses and two fact/in-house witnesses, from each side.

17. The transcription agency shall e-mail the final version of the transcription as also the audio recording for the cross examination to the Court Master as also Id. Counsels for the parties. The edited transcription for today, incorporating any corrections mutually agreed by the parties as also those directed by the Court shall be read through by the two witnesses today itself, i.e., 22nd September, 2023. The witnesses shall be accompanied by at least one Counsel. After incorporating all the required changes, the final transcribed statements shall be printed and signed by the witnesses before they leave the Court premises.

18. Both the witnesses are discharged and the evidence is closed. Signed copies of the transcribed depositions as also the audio recording of all the cross examination shall be retained on record in the evidence folder of the Court record. In accordance with Rule 14 of the High Court of Delhi Rules Governing Patent Suits, 2022 the audio recording shall be preserved in the electronic record of the Court in a manner that is not editable or tampered with in any manner.

19. The copies of the transcripts and audio recording shall be made available to the counsels for the parties as well. The trial bundles, which were circulated to the Court and between the parties, shall be used for the purpose of final arguments.

20. Let the parties file their written submissions by 15th December, 2023 along with any judgments, they wish



to rely upon. The electronic record of the Court may be made available to the parties on request.

21. List for commencement of final arguments on 8th January, 2024 and 9th January, 2024.

22. This shall be treated as a part heard matter.”

69. *Vide* order dated 8th January, 2024, the Court had directed the Registry to place on record the audio recordings of the cross examination.

70. On 16th April, 2024, the Court had directed the Defendants to place on record the updated details of the sales figures of the infringing products from 1st July, 2023 till 1st April, 2024.

71. Thereafter, the final arguments were heard on several dates and finally, the present suit was reserved for judgement on 31st May, 2025.

G. (I) SUBMISSIONS ON BEHALF OF THE PLAINTIFF

72. Mr. Gaurav Pachnanda, Id. Senior Counsel has appeared and made submissions on behalf of the Plaintiff in respect of validity of the suit patent, the infringement of the same by the Defendants, and on the prayer for damages.

Validity of Suit Patent & Prior Art

73. At the outset, Mr. Pachnanda, Id. Senior Counsel submits that the subject invention relates to fixed beam antenna, which has as higher subscriber capacity due to the manner in which the patent has converted symmetrical beams into asymmetrical beams. Prior to the suit patent, the beam pattern in an antenna was omni directional *i.e.*, from the centre to different points on circumference in a circle, which would extend and derive their source from the centre of the spherical device. The omni directional spherical beam had its own limitations as there were limited



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subscribers to which it could cover. The subscriber capacity of an antenna same was sought to be increased by creating sectors within the sphere in the form of the three sector antennas, which emanated beams within the larger sphere. Since these sectors and the beam which were emanated, were symmetrical in nature, there were overlapping areas, which were used merely for handover purposes and there were certain areas which did not have any beam influence at all. It is submitted that there was a substantial amount of coverage, which was being completely unutilised in view of the symmetrical nature of beams, which were produced. The said two areas, which were under-utilized and unutilized are (i) handover areas, and (ii) the null area.

74. Insofar as then null area is concerned the Plaintiffs patent does not deal with the same. However, insofar as the handover area is concerned, the subject invention seeks to reduce the amount of handover areas so as to increase the subscriber capacity. The critical coverage area in the three-sector antenna that could be put to use could not be increased by symmetrical beams. Thus, the purpose of the subject invention is to firstly, reduce the handover area, secondly, increase the critical coverage area, and thirdly, while maintaining the critical coverage area, increase the subscriber capacity. This was achieved in the patented invention by splitting the same beams into asymmetrical beams due to which the dominant area remains the same but the handover area was considerably reduced.

75. As per Id. Senior Counsel, it was found that there was a considerable advantage by using asymmetrical beams, as, for each of the three areas there was further sub-division and thus the coverage could be almost



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doubled. By way of an illustration, it is submitted by Mr. Pachnanda, Id. Senior Counsel that if the symmetrical three sector antenna could service 100 subscribers, in the case of asymmetrical antenna with the same amount of critical coverage area, the subscriber capacity would be double.

76. In respect of the prior art the submission of the Id. Senior Counsel is that the entire prior art, which existed at the time when the subject invention was being developed was that the prior art described use of symmetrical beams as being more efficient and were, in fact, teaching away from asymmetrical beams. Thus, the subject invention moved away from the prior art by using asymmetrical beams and by doubling the subscriber capacity within the same critical coverage area by splitting the beams.

77. It is further submitted that the Plaintiff's patented antenna does not merely increase the coverage area, each sector can have separate sub sectors, which could be represented by a separate beam. It is necessary that the critical coverage area is not compromised. The mere increase of coverage area would not result in increase of subscribers. It is only when the sectorisation of the beams takes place with a separate source of power that the subscriber capacity can be increased. If the source of the beam is the same then there would be no difference in the capacity even if the critical coverage area is maintained. Thus, the subject invention not only maintains the critical coverage area but enhances the capacity of the antenna to take on more subscribers itself as the asymmetrical beam has separate sources of power. If the source of power is the same, then there would be no major advantage.



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78. The second feature is that the patented antenna is not an adaptive antenna as argued by the Defendants as the beams are fixed beams. One argument raised by the Defendants is that the underlying and overlying beams were not known in the prior art. It is argued that this is distinguishable because in the Plaintiff's case there is no overlying of the Plaintiff's antenna, the old sector antenna is actually replaced with a new antenna. Plaintiff's antenna has a higher order sectorisation *i.e.*, capable of splitting the beams.

79. To counter the stand of the Defendants' that asymmetry was known in the prior art, thereby attacking the validity of the suit patent, it is submitted that when the Defendants' expert witness *i.e.*, Mr. Mahesh A. Birari was cross-examined on this aspect, the said witness admits that though asymmetry was known, the prior art taught away from the use of asymmetry as any uncontrolled asymmetry was perceived as being disadvantageous and undesirable in cellular networks. Moreover, he also admitted that what was known in the prior art was accidental asymmetry.

80. On the issue of insufficiency, the same was even raised before the Division Bench in *Ace Technologies Corp. and Ors. vs. Communication Components Antenna Inc., 2023:DHC:2479-DB* and it was demonstrated that the full information of the Plaintiff's invention was available in the complete specification. The allegation of Section 10 of the Act having been not satisfied was sufficiently countered by the Plaintiff before the Division Bench. According to Id. Senior Counsel, the manner in which elements spacing or half elements spacing is to be arrived at by reading the complete specification, is established by way of a formula, which is well known for a person skilled in the art. It is argued that on the basis of



the information disclosed in the specification, if one product of the Defendant can be made, then there is sufficient disclosure. In the present case, the Defendants are stated to have made multiple products based on the disclosure in the specification by using the data given in the specification at different frequencies.

81. The manner in which the Plaintiff's expert witness *i.e.*, Mr. Mark Cosgrove has created the beam patterns of the Plaintiff's antenna is by using the power and phase weightings as disclosed in the complete specification itself, by modulating it at different frequencies and by using different scales of depiction. It is stated that the said simulations have been made on a computing platform known as MATLAB as explained by the expert witness in his evidence. The beams generated through this stimulation are then compared with the beams publicly available of the Defendants' antenna. It is submitted that the parties are well aware as to what are asymmetrical beams. The diagrams, which are given in the complete specification, clearly satisfy the requirement of Section 10(2) of the Act, as it is not necessary for the diagrams or the actual stimulation to be done in the complete specification. It is submitted that all that is required to be done is illustration of diagrams as per Section 10(2) of the Act under Rule 13(4) of the Patent Rules, 2003. Further, *Id.* Senior Counsel relies on the evidence of Mr. Birari (DW-2) which clearly shows that the said expert witness understands as to the meaning of symmetry and asymmetry, which is measured on the basis of the line of peaking at 90 degrees. Mr. Pachnanda, *Id.* Senior Counsel urges that the drawings, which are given in the complete specification, are merely illustrative in nature.



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82. Further, according to the submissions and evidence, it is the case of Plaintiff that the term “*critical coverage area*” means the coverage area of a beam excluding/minus the overlap area/handover beams. On the strength of the evidence and pleadings, it is argued that there is sufficient description in the complete specification and the suit patent is not liable to be invalidated due to insufficiency.

Infringement

83. It is urged that a total of 11 models of antennas are claimed by the Plaintiff to be infringing models. Out of these models, the beam patterns were available for 5 antennas, whereas, for the remaining 6 antennas it is stated that the beam patterns were not freely available on the Defendants’ website either at the time of filing this suit or thereafter. It is then urged that in respect of the remaining 6, the Defendants have not bothered to file the beam patterns in the present proceedings. In fact, reliance is placed upon paragraph no. 32 of the plaint, as also on the written statements and the replication, which according to Mr. Pachnanda, Id. Senior Counsel, would show the assertion of the Plaintiff that critical coverage area of the earlier sector antenna and in the patented antenna is the same. According to him, this fact stands admitted in the written statements. Id. Senior Counsel submits that there was no necessity for the Plaintiff to prove that the critical coverage area was the same considering the stand in the written statement.

84. However, the DW-2 did challenge the evidence of the PW-1 by stating that overlaying is not exact and further information relating to the image enlargement scaling and the inter-element spacing is not disclosed.



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The Id. Senior Counsel countering the said challenge submits that the said objections raised by the DW-2 are merely technical in nature and the overlapping nature of the beam pattern itself is not under challenge.

85. Finally, Id. Senior Counsel submits that the evidence of PW-1 itself would show that by using the power in phase weightings as given in page 15 of the complete specification (last two paragraphs), the generation of beams is a normal course in order to show the comparison with the Defendant's antenna's beams so as to establish the identity in the beam patterns. The scale of depiction is merely for the purpose or visual comparison and thus PW-1 has clearly established that the beam patterns generated by the Plaintiff and the Defendant's antenna are identical in nature. Accordingly, the Defendants' antennas are infringing the Plaintiffs suit patent.

Damages

86. On calculation of damages, Mr. Pachnanda, Id. Sr. Counsel has taken the Court through the written submissions. The first submission is that the Plaintiff had led the evidence on the said aspect through Mr. Dennis Nathan – PW2, President of the Plaintiff, who had complete knowledge of the marketing and the sales of the Plaintiff. However, on the other hand, the Defendants have not led any proper evidence on its own sales. DW-1 - Mr. Satyajeet Mukherjee, who was the Legal Manager of Defendant No. 2, stated in his cross-examination that data relating to marketing and sales have been obtained from one Mr. Arshad Fakhri, who is stated to be a member of the marketing team. It is his submissions that when the best evidence *i.e.*, Mr. Fakhri, himself was continuing to work



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with the Defendants, the relevant witness has not been produced and hence, an adverse inference is liable to be made against the Defendants.

87. It is further submitted that the PW-2's evidence affidavit has clearly set out the comparable knowledge of the Plaintiff and the Defendant over which no cross examination was conducted and thus the comparable model statement remains unchallenged.

88. On the calculation of damages itself, there are broadly two sub-categories:-

- i) in respect of antennas which were sold by the Plaintiff but at a lower price due to competition from the Defendants, the damages have been calculated on the basis of loss of profits due to price erosion of the family of the antennas of the Plaintiff.
- ii) The second category is in respect of unsold antennas where the market of the Plaintiff has itself been completely destroyed. This, according to Mr. Pachnanda, ld. Sr. Counsel could have been done on the basis of the projected sales of the Plaintiff which has, however, not been done. The calculation has, thus, been done on the basis of the actual sales of the Defendants itself.

89. On the basis of these calculations which have been set out in the written submissions, the summary of the claim for damages sought by the Plaintiff is as under:



<u>Head of Claim for Compensatory Damages</u>	<u>Amount</u>
Lost profits of the Plaintiff on antenna model BSA-AA65-20R010-32-K	US\$ 71.87 Million
Lost profits of the Plaintiff on antenna model BSA-S65R-B-H6-K	US\$ 29.36 Million
Lost profits of the Plaintiff on antenna model BSA33R-E5BA-K	US\$ 1.85 Million
Lost profits of the Plaintiff on antenna model BSA33R-E5AB-K	US\$ 1.63 Million
Lost profits of the Plaintiff on antenna model BSA-S65V-U-H5-K (VET)	US\$.35 Million
TOTAL OF LOST PROFITS	US\$ 105.12 Million or INR 875.64 Crore
Damages towards Loss of business from countries neighboring India and other South-East Asian and Middle East countries.	US\$ 25 Million
Damage towards moral prejudice.	US\$ 5 Million
TOTAL OF OTHER HEADS OF DAMAGES	USD 30 Million or INR 249.9 Crore
EXEMPLARY DAMAGES	<u>Two times the compensatory damages awarded</u>

90. As can be seen above, the Plaintiff is also seeking exemplary damages on the basis of the decision of the Division Bench of this Court in *Hindustan Unilever Limited vs. Reckitt Benckiser India Limited (ILR (2014) II Delhi 1288)*. Ld. Senior Counsel also relies upon the decision of the Supreme Court in *Muddasani Venkata Narsaiah v. Muddasani Sarojana, (2016) 12 SCC 288* for the proposition by any evidence that is unchallenged deserves to be accepted by the Court.

G. (II) PER CONTRA: SUBMISSIONS ON BEHALF OF THE DEFENDANTS

91. It is again noted that only Defendant No. 2 and Defendant No. 4 have filed their respective written statements and a perusal of the same



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would show that identical grounds have been raised by the said Defendants. Accordingly, the same are dealt with collectively. Further, the Court has also perused the counter-claim filed by the Defendant No. 2 which shall also be dealt with hereunder.

92. Defendant No. 2 claims to be having a plant in Manesar, Gurgaon, Haryana since 2009 for manufacturing of automotive cable assemblies and Radio Frequencies cable assemblies. A second facility in Goa for manufacture of fibre optic cable assemblies, power cable assemblies, microwaves antennas, IM Kits and other products is operational since 2015. Further, in 2018, a manufacturing facility for Radio Frequencies cable assemblies and base station antennas was also set up in Pune.

93. Owing to the manufacturing facilities located in India, the Defendant No. 2 claims to have a strong base in India catering to various renowned companies such as Nokia, Ericsson, Samsung, Bharti Airtel, Reliance Jio, etc. According to Defendant No. 2, it is one of the largest supplier antennas to Indian telecommunication sector and enjoys 30-40% of the market share. According to the Defendant, the filing of the present suit by the Plaintiff is a frustrating attempt to capture the market of Defendant No.2 as the Plaintiff was unable to sell its antennas in India.

94. As per the Defendants, the Plaintiff lost orders for its antennas owing to the inferior quality of the antennas and is merely using the patent to tarnish the reputation of the Defendants. It is the case of the Defendant that adequate due diligence was conducted before launching products in India and despite repeated requests during the correspondence for supply of claim chart, the Plaintiff failed to supply the same. According to the Defendant, there is no evidence on record to support the claim of



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infringement of the patent.

95. It is the case of Defendant No.2 that Defendant No.3 owned patents in China which were being infringed by the Plaintiff which also led to refusal of the Plaintiff's corresponding Chinese application by the Patent re-examination Board *i.e.*, the Chinese National Intellectual Property Administration which revoked the said patent. Thus, it is argued that the Plaintiff has tried to mislead the Court by alleging that it did not pursue its application in China. The further case of Defendant No. 2 is that the Defendants' products do not infringe the Plaintiff's patent and even the expert's evidence is unreliable. According to the Defendants, all the so-called inventive features were already known in the prior art. According to the Defendants, IN'893 is liable to be revoked due to lack of novelty and lack of inventive steps.

96. Mr. Vivek Chib, Id. Senior Counsel has appeared for the Defendants and made submissions. At the outset, the Id. Senior Counsel submits that there are two separate cases which have considered the suit patent being (i) *Communication Components Antenna Inc. v. Mobi Antenna Technology (Shenzhen) Co. Ltd. [CS(Comm) 977/2016]* and (ii) *Ace Technologies (supra)*. In the *Mobi Antenna (supra) matter*, initially the Single Judge had held the patent invalid on the ground of insufficiency. The same was set aside by the Division Bench and remanded for rehearing. The question was reconsidered and the Court held that the ground of insufficiency having not been raised could not be taken as a ground to invalidate the patent. Thereafter, post-trial, the judgment dated 16th May, 2024 was pronounced *ex-parte* by another Single Judge of this Court granting damages. However, in the said judgment it is noted in paragraph



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53 that the certificate of validity cannot be given to this patent as the issue of invalidity is pending hearing.

Invalidity due to Insufficiency

97. On the question of invalidity, the first ground raised is of insufficiency under Section 64(1)(h) of the Act and some reference is made to Section 61(1)(i) of the Act as well. The submission is that in the *Mobi Antenna (supra)* judgment dated 16th May, 2024, the validity was not examined as the matter was *ex-parte*. Insofar as the *Ace Technologies (supra)* judgment is concerned, the same was an interim order wherein the Court held against the Defendant as the Defendant had failed to produce its beam patterns and the antenna.

98. It is submitted that the background to the technology is that the subject invention deals with a bi-sector antenna. The Claims relate to a product and a method. It is the admitted position that Bi-Sector antennas were known even before, however, the question was whether upon replacement of the sector antenna with Bi-Sector antenna, while increasing the number of subscribers, the same efficiency as also substantially same coverage area could be achieved or not. The submission is that the Claim relates to replacement of the sector antenna with a new Bi-Sector antenna. The manner in which an asymmetrical beam is obtained is not explained in the patent and how it achieves the critical coverage area that is substantially same to the replaced single sector antenna is also not explained.

99. It is further submitted that the Defendants' products have not been examined and the comparison with the suit patent is on the basis of beam



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formation. The beam formation from the documents of the Defendants have been superimposed through MATLAB on the beam of the Plaintiff to show identity.

100. One of the principal submissions of Id. Senior Counsel is that there is a distinction between Section 64(1)(h) and Section 2(1)(j)(a) of the Act. While in Section 2(1)(j)(a) of the Act the language used is whether an invention is obvious to a person skilled in the art, in Section 64(1)(h) of the Act the level of skill that is to be possessed is average skill and average knowledge. The fact that there is a distinction between these two provisions itself would show that the test of Section 64(1)(h) need not be same as that of Section 2(1)(j)(a) of the Act. Reliance is placed upon ‘Terrell on the Law of Patents’ to argue that unlike other grounds of invalidity such as novelty, inventive step, etc., where extensive evidence would be required, insufficiency as a ground of invalidity is an inherent ground. The same can be understood by a mere reading of the patent itself and may not need any external tools.

101. Ld. Senior Counsel urges is that Claims have to be interpreted in a purposive manner and a person skilled in the art has to see it holistically. For infringement the claims cannot be read widely and for invalidity the claims cannot be read narrowly. The question of insufficiency is a pure question of fact. The insufficiency being argued here is not only in the complete specification but also in the Claims. Ld. Senior counsel relies upon the complete specification to firstly show the summary of the invention and co-relate the same with Figures 3, 7 and 8 therein. It being the admitted position that asymmetrical beam patterns being known in prior art, the invention claimed by the Plaintiff is on the manner in which



asymmetrical beams are used. For the said purpose the Plaintiff, seeks to use the term “induced asymmetry” in paragraph 27 of the plaint while the said terminology is absent in the specification.

102. The further submission is that insofar as the creation of beam is concerned *i.e.*, the phase, the path, the segment spacing element would be known in the prior art, however, the width and the length in the beam forming the network needs to be disclosed. There is no explanation in the complete specification in respect of the antenna’s element spacing. The distance at which asymmetrical beams are placed to get the asymmetrical patterns would be known to the person skilled in the art. In fact, the history of this patent globally would show in its journey from original Canadian patent till Europe through the PCT route, the objection of insufficiency was raised but having failed to reply to the objection the patent application of the Plaintiff was abandoned in Europe. It is, thus, the submission on behalf of the Defendants that the objection as to insufficiency is an objection which is to be read with the evidence for holding that the patent is invalid.

103. Mr. Chib, Id. Senior Counsel further submitted that to understand the technology of the suit patent, it is necessary to consider the background of the invention as set out in the complete specification. The complete specification in its summary, explains the fact that there are antennas which provide beam patterns. Such antennas could be single sector antenna or even bisector antenna producing single sector coverage area or bisector coverage area. In the bisector coverage area, one of the coverage areas is asymmetrical through an asymmetrical beam. However, it does not create more handover zones or degrades the cellular network in any



manner. Such a bisector antenna with at least one asymmetrical beam is claimed to be having the same critical coverage area as the existing antenna. Mr. Chib, Id. Senior Counsel emphasizes the fact that the term critical coverage area has not been defined anywhere in the complete specification. In the *Mobi Antenna (supra)* Judgment, it is admitted by the Plaintiff that the term ‘critical coverage area’ has been coined by the Plaintiff in this patent.

104. By way of an explanation, Mr. Chib, Id. Sr. Counsel urges that for covering the entire 360 degrees, three sectors would have to be created of 120 degree each, which would require a 65 degree antenna. This is the known fact in the industry. A single sector antenna can have two beams. The suit patent attempts to claim the monopoly in a bi-sector antenna in which at least one beam is asymmetrical. The entire focus of this patent is only on three aspects:-

- i) that one of the beams is at least asymmetrical
- ii) that the critical coverage area is substantially the same
- iii) the handover zone is reduced.

105. The Id. Senior Counsel submits that a figurative explanation of the patent would show that there is no reduction in the handover zone at all. The use of the word ‘substantially similar’ and ‘the same critical coverage area’ also shows that there is no increase in the critical coverage area. Thus, the advantage of introducing asymmetry, according to Mr. Chib, Id. Sr. Counsel, is not decipherable from the complete specification.

106. The complete specification also does not explain the manner in which the asymmetrical beam is to be created. It is presumed that the creation of asymmetry is not in the said area. The novelty in the above



stated three steps is claimed even by PW-1 – Mr. Cosgrove in a very vague manner when he admits in cross-examination that maintenance of foot print *i.e.* critical coverage area, increasing the working portion of the sector and reducing the handover zones, is where the novelty lies.

107. Mr. Chib then highlights the fact that Claim 1 of this patent is a method claim and the intention of the Plaintiff is to claim a monopoly on the principle itself without any specific kind of antenna being created. Even Claim 10 does not explain as to what are the features of the antenna, which can have such asymmetry. No mechanical contraptions have been set out either in the specification or in Claim 10. The method claim as claimed in Claim 1 is simply being converted into a product claim in Claim 10. The patent has to stand on two legs *i.e.* the critical coverage area is substantially the same and the asymmetry has to be there in coverage area. The existence of just one element would not support the patent. The Claim 1 of suit patent is merely based on theoretical principles as ultimately there is no corroboration explained or established between creation of asymmetry and the maintenance of the critical coverage being substantially the same.

108. As per Mr. Chib, ld. Senior Counsel, the possibilities in creating an asymmetric beam are infinite. However, in order to achieve the substantially same critical coverage area, the patentee ought to have disclosed the specific power and phase readings, the element spacing, array arrangement, frequency, etc., which would achieve the object of the patent *i.e.*, maintaining the substantially the same critical coverage area. The Patentee has failed to show correlation between the use of asymmetric beam and how the result *i.e.* the substantially the same asymmetric beam,



is achieved. Since the foundation of the values for the beam pattern have not been laid in the specification, achieving of substantially the same critical coverage area for a person skilled in the art is impossible from reading the complete specification. Hence, the patent lacks sufficiency and is liable to be held as invalid.

109. Mr. Vivek Chib, Id. Senior Counsel has again highlighted the arguments on insufficiency to seek invalidation of the patent under Sections 64(h) and 64(i) of the Patents Act, 1970. Id. Senior Counsel has submitted that the patent is liable to be revoked on the following grounds:

- (1) Non-disclosure of the best method of performing the invention;
- (2) The scope of claims under Section 64(1)(i) is not reflected or covered by the specifications.

110. Id. Senior Counsel highlights the following terms, which were part of the common public knowledge, at the time of the suit patent:

- (i) **Coverage area** - This was a term, which was known in the prior art. This term meant the area of the single sector antenna including the handover zone.
- (ii) **Asymmetry** - This is also known in the prior art. However, it is highlighted that the claim in this case is based upon controlled or induced asymmetry in contrast with uncontrolled or unintentional asymmetry.
- (iii) **Handover Zone** - Handover zone is the overlapping area between the two beams, and **coverage hole** refers to the area above the handover zone within which there is no beam where the overlap occurs.



- (iv) **Critical Coverage Area** - This is a term coined by the Plaintiff in the suit patent. This according to Id. Senior Counsel is the coverage area minus the handover zone. It is mentioned only twice in the entire complete specification, once in the specifications and once in the claim.

111. The Plaintiff has sought to encash upon and give meaning to the term critical coverage area in hindsight in the plaint, though this term is not defined anywhere in the specification. In the plaint, the Plaintiff uses the expression dominant coverage area. In the replication the Plaintiff admits that the terms critical coverage area and coverage area convey very different concepts.

112. The specification contemplates various methods by which antenna patterns would be obtained and trial and error is specifically mentioned. The use of such terminology without any definitiveness itself is evidence of insufficiency. There is no correlation shown in the specification between the asymmetry and critical coverage area.

113. A perusal of the title of the specification would show that it reads as “*asymmetrical beams for spectrum efficiency*” but in the claims it is sought to be extended to the ‘critical coverage area’ as well.

114. The result of simulation, at page 25, is that there is an increase of 125% but it is not shown as to which are the iterations which are performed or which are the simulations, which are performed. Again, vague terms have been used without any specificity. The specification seeks to state that the symmetrical beam and bi-sector antenna would increase handover zones, which is the problem that the invention tends to overcome. However, a reading of Claim 1 and Claim 10 (product claims) would show



that there is no relationship established between asymmetry and critical coverage area. If one goes by the specification and the claims itself, every beam, which is asymmetrical would infringe and such an expansive monopoly in the light of insufficient explanation cannot be permitted. There is no guidance as to what is the meaning of the critical coverage area or how to induce asymmetry. The claim charts have not been given.

115. Reliance is placed upon the Office Action of EPO for the corresponding European patent application to the suit patent. The said Office Action dated 14th July, 2020 has a detailed discussion as to why the suit patent is insufficient. The various portions of the said document are highlighted to argue as under:

- (1) On the ground of insufficiency, the patent application has been rejected;
- (2) There is no calculation of coverage area or critical coverage area;
- (3) Various expressions have been used, which are not technically precise.
- (4) The Examiner also notes how it is physically impossible to have a coverage area provided by the plurality of sub sector coverage areas, which is the same as the coverage area of the replaced sector antenna by using asymmetrical beams.
- (5) The Examiner notes that 100% identity in the critical coverage areas is impossible.
- (6) It is further noted in this Office Action that the manner, in which the asymmetrical beams are used, has not been explained *i.e.* which manner, what extent, which proportion, length, size, form



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and thus the patent application was rejected.

- (7) The EPO Examiner also notes the distinction between intentional asymmetry and unintentional asymmetry but though the patent specification in the detailed discussion speaks of induce asymmetry, the claim merely used the word asymmetry, which includes both intentional and unintentional asymmetry. Thus, the claim is broad.

116. In the EPO, the Plaintiff deleted the expression critical coverage area from the claims and only retained coverage area in the claims. Despite the same, the said patent was not granted.

117. It is also submitted that the beam patterns in figures 3 & 4 are not generated from the power and phase weightings as set out in the specifications in contrast with page 22 para 1 of the specification. (page 7 of TB-4)

118. Ld. Senior Counsel, thus, concludes his submission on insufficiency by arguing that the suit patent is changing colours and is nothing but an exercise in confusion, lacks specificity, definitiveness and technical precision.

Infringement

119. On infringement, the first submission is that in *Ace Technology (supra)*, the antenna beams were created on MATLAB by comparing them with the beam patterns on the brochures. The Plaintiffs' themselves have in paragraph 56 onwards of the evidence by way of affidavit state that the witnesses admit that the beam pattern of the Defendants from sales literature was compared with typical antenna design values and not with



the Plaintiffs' claims. The witness merely put the phase and power weighting of the suit patent to analyse the Defendant's beam patterns.

120. PW-1 clearly states that the comparison (of the product) was not done with the beam pattern of the Plaintiff as contained in the specifications/claims. It is not clear as to how to define a beam pattern (i) Power and phase weighting, (ii) elements spacing, (iii) array arrangement.

121. It is then highlighted by Id. Senior Counsel that in the Division Bench decision in *ACE Technologies Corp. v. Communication Component Antenna Inc, 2023:DHC:2479-DB*, the Plaintiffs themselves do not agree to the use of MATLAB and comparison with power and phase weightings. Paragraphs 93 & 94 are relied upon. In contrast with the stand taken before the Division Bench, PW-1 used the power and phase weighting for comparison, as is evident from the complete specification. PW-1 admits that he has not done comparison of the beam patterns. He also admits that the claims versus product comparison has not been done. The witness has also not analysed previous antenna beam patterns versus the patented antenna beam patterns to establish that the critical coverage area is substantially the same. The witness also admits that comparison of the Critical Coverage Area has not been done, only power and phase weightings.

122. In addition, the witness also admits that even the peak point analysis, which would establish the asymmetry, was not filed.

123. Thus, in conclusion the submission is that the product is not compared, the Critical Coverage Area is not analysed, the peak point analysis for comparing beam patterns is also not done. Mr. Chib then concludes his submission with the following points.



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- (1) The onus of proving infringement is upon the Plaintiff, which onus has not been discharged.
- (2) Merely superimposition of the beam in the manner as has been done by the witness is the incorrect approach.
- (3) In paragraph 27 of the suit, the Plaintiff itself admits that uncontrolled asymmetry existed even before.

124. On the other hand, the Defendant has set out in its affidavit filed by DW-2/1 Mr. Mahesh Biwari that it uses the Buttler Matrix design, which is already known in the prior art. Paragraphs 12 to 15 of the said affidavit would show that in the Defendant's antenna, there is no induced asymmetry. The power and phase weightings are also provided at paragraph 10. The Defendant's antenna primarily have only symmetrical beam patterns. In view of the fact that there is no induced asymmetry and asymmetry is only due to natural causes, the Defendant's antenna cannot be held to be infringing the Plaintiff's patent.

125. In conclusion, it is submitted that no product analysis has been done, the claims have not been compared with the product and only four of the ten antenna models of the Defendants have been compared.

126. The abandonment of the Plaintiff's patent in the EU would be an evidence of the fact that this is a patent which is an obvious patent and lacks inventive step. The office action report which raised the objection of Article 84 dealt with the description given in the complete specification and hence the same was abandoned by the Plaintiff.

127. The core issue in this case is that the critical coverage area is not defined in a complete specification. It is an admitted position in the *Mobi Antenna (supra)* judgment that critical coverage area is a pointer. As per



the Defendants:

- (i) Bi-sector antennas were known.
- (ii) Increase of subscriber base through asymmetry was also known.
- (iii) The critical coverage area can, therefore, be the same, however, the Plaintiff's case is that the novelty lies in maintaining the critical coverage area and increasing the sub-base which the patent specification does not support.

128. It is argued that the Plaintiff admits that the critical coverage area is equal to effective coverage area which is also equal to dominant coverage area. It is stated that the Plaintiff's case is that establishing the critical coverage area being equivalent is not a fact in issue, however, the same is denied by the Defendants. Since the Plaintiff has not even chosen to calculate the critical coverage area of the competing antenna while arguing infringement, this issue would be fatal.

129. Before the EPO, the Plaintiff has argued that the critical coverage area is nothing but the coverage area and, thereafter, the invention has been abandoned. Here on the contrary, it is argued that the critical coverage area and the coverage area are distinct concepts. Since there is no calculation of the critical coverage area in this matter, infringement has not been established.

130. The Plaintiff also relies upon the grant of the patent in the United States whereas it has failed to disclose the specific document called as notice of allowability and fees due as also examiner-initiated interview summary. The notice of allowability has not been disclosed by the Plaintiff. The objection raised by the USPTO, initially was under Section 103 of the United States Code Title 35 – Patents which is the equivalent



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argument of lack of inventive step. In the previous interim decision in *Ace Technologies Corp. (supra)* this Court had held that the amendment which was made was a clarificatory amendment, however, that may have been under the impression that the notice of allowability did not exist and only the clarification document existed. According to the Defendants document nos. D-1, D-2 and D-3 make the patent obvious and, therefore, completely susceptible to revocation. The notice of allowability records specifically that the inventive step is overcome by amending the claim and, therefore, this was an important document which would show how the objection was raised and how the amendment was carried out. The clarifications were the later step in the process of grant.

131. Insofar as the evidence of DW-2 - Mr. Mahesh A Birari is concerned, the reliance placed upon his deposition while dealing with the Ericsson patent is being misconstrued by the Plaintiff. It needs to be borne in mind that the said witness is not a person skilled in the art but, in fact, is an expert.

132. Lastly, on the aspect of damages, it is submitted that the entire trial is based on transcripts and no suggestions have been put even denials need not be there for every averment. The Plaintiff is merely trying to assert an expansive monopoly and taking action against Korean companies, Chinese companies and German companies. The Defendant has a patent in China and then Brazil. The Plaintiff has only one license which is with M/s. CommScope. No other license has been placed on record. Even the fact that the complete specification has already been analysed in the earlier judgment would not bind this Court as opined in **Terrel on the Law of Patents** [19th edition] in paragraph 9.179. The issue of insufficiency it is



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highlighted, has not been dealt with by any of the previous judgments. Mr. Chib, ld. Sr. Counsel, submits that the sales of the Defendant are more than 1.3 Billion USD globally and it is a 50 years old company.

G. (III) REJOINDER SUBMISSIONS BY THE PLAINTIFF

133. In the replications, the Plaintiff defends the validity of IN'893. It also seeks to diagrammatically represent the beam patterns to show infringement. Reliance is placed upon the USPTAB order to defend the validity of the suit patent and it is argued that the claims in the US patent are slightly different but the crux of the invention is the same. According to the Plaintiff, the prior art cited by the Defendants have already been considered and rejected by the USPTO. It is also highlighted that the Plaintiff had filed a divisional application from IN'893 and a third party namely Andrew LLC had opposed the said divisional application. Various objections were taken therein including prior art which were cited in these proceedings by the Defendants.

134. The USPTO considered all the prior art and passed a detailed order on 6th July, 2020. In fact, the said order adjudicates most of the `prior art and merely rejects divisional application on the ground that there was no distinctive inventive concept between the divisional application and IN'893. Thus, in effect the Plaintiff's case is that IN'893 has sustained several levels of challenges both in the USA and in India. All the prior art cited by the Defendants are stated to have been considered by the patent office. The Defendants also relies upon the orders passed by this Court in different suits filed by the Plaintiff which have in effect upheld the validity of the suit patent.



135. Mr. Gaurav Pachnanda, Id. Senior Counsel in his rejoinder submissions has touched upon the following issues:

- (i) The legal regime for EU Patents is substantially different from that applicable in India.
- (ii) Inventive Concept of IN'893.
- (iii) Sufficiency of Disclosure of IN'893.
- (iv) There is substantial equivalence of critical coverage area of Defendant's Infringing Products with the critical coverage of the earlier sector antenna.
- (v) Alleged use of Butler Matrix by the Defendants
- (vi) Claim construction carried out in the *Mobi Antenna (supra)* judgement.

136. Only on some of the issues, oral submissions have been made. In respect of the remaining issues reliance is placed on the written submissions filed on behalf of the Plaintiff.

137. The first point is in respect of the patent of the Plaintiff having been abandoned/withdrawn. It is submitted by Mr. Pachnanda, Id. Senior Counsel that there is a substantial difference between Indian & EU Regulations in terms of examination of patents. It is further submitted that in terms of EU patent examination, the requirement is of full disclosure in the claim itself without reference to the specification. Reference is made to Article 84 of European Patent Convention and Guidelines for Examination in the EPO which confirms that the knowledge is only on the basis of the Claims and not the complete specification. He contrasts this with the requirement of USPTO wherein the patent was granted after perusing the Specification.



138. Reliance is also placed upon the Division Bench judgment in *ACE Technologies (supra)* wherein the Division Bench of this Court clearly holds that reference to the specification would be permissible by interpreting the claims itself. Reference is also made to the Id. Single Judge's judgment in *ACE Technologies Corp (supra)*.

139. The fact that different jurisdictions have different laws and regulations, which govern the patents, is also highlighted in *Blackberry Limited v. Assistant Controller of Patents and Designs, (2024:DHC:6571)*.

140. On the evidence in respect of why the Plaintiff abandoned the patent, the Id. Senior Counsel referred to PW-2's evidence affidavit where he clearly made a statement that the reason why it was abandoned was for business reasons. He was cross-examined in this matter where PW-2 tried to explain further about the said business reasons. However, though PW-2 was willing to elaborate, the Defendants' Id. Senior Counsel clearly and categorically stated that elaboration is not needed. This position also prevails in the re-examination. Mr. Pachnanda, Id. Senior Counsel, submits that business reasons, insofar as the Plaintiff is concerned, is that the use of the antenna is more effective in a population dense area like India rather than in the European Union. Further, reference is made to *TUI UK Ltd v. Griffiths, 2023 UK Supreme Court 48*, where in case cross-examination is not done in a particular aspect, then adverse inference would be liable to be drawn.

Sufficiency of Disclosure

141. This is the main defence on insufficiency which has been raised in the written statement. It is the stand of the Defendants that power and



phase weightings required to stimulate asymmetrical beam patterns are not disclosed in IN'893. Reliance is then placed by the Plaintiff on the replication to argue that the use of butler matrix by the Defendant is incorrect and that butler matrix would not give the same results if power and phase weightings are not disclosed and the elements spacing is also not disclosed.

142. Insofar as non-disclosure of single element pattern is concerned, if the power and phase weightings are disclosed, the stand of the Plaintiff is that the same can be derived from the simple cosine function. Similarly, elements spacing is half of the wavelength of a frequency of an antenna, which is also known to a person skilled in the art. Thus, there is no insufficiency of disclosure as per the Id. Senior Counsel.

143. The Id. Sr. Counsel refers to the cross-examination of DW-2 – Mr. Birari to show that when a question was put to the witness as to whether the power and phase weightings had been generated by him on MATLAB or not, the answer of the witness was that it was generated but it was not put in the affidavit. Thus, it is submitted that the witness did not place the same on record, which would show that it is not possible to generate the same. It is further argued that when the entire case of the Plaintiff was put to the Defendant's witness – DW-2, he tried to state that the beam patterns do not exactly overlap and the image enlargement, scaling etc. are not disclosed. Thus, there was a shift in the position of the witness insofar as the sufficiency is concerned.

144. Lastly, he relies upon the recent judgment in *Koninklijke Philips Electronics N.V vs. Maj. (Retd) Sukesh Behl & Anr., 2025:DHC:1144* for insufficiency in respect of Section 61(1)(h) of the Patent Act.



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Alleged use of Butler Matrix by the Defendants

145. The ld. Senior Counsel submits that the argument that Defendant used butler matrix is a completely incorrect argument. Reference is made to paragraphs 11 & 12 of Evidence Affidavit of DW-2, where the said argument has been stated. However, in cross-examination DW-2 admits that the said patent is based upon Blass matrix and Nolan matrix and not Butler matrix.

Claim construction carried out in the *Mobi Antenna* Judgement

146. Finally, on claim construction, it is submitted that on this very patent, a ld. Single Judge of this Court has already upheld the claim construction of the suit patent and since the said matter was decided finally after trial, it would have more than a persuasive effect and the patent ought to be held to be valid.

147. On queries by the Court, Mr. Goel, ld. Counsel for the Plaintiff has answered that the Plaintiff has only one license *i.e.*, with M/s. CommScope. The Plaintiff has sales in several countries Indonesia, Malaysia, US and Canada. In India, the Plaintiff does not have the market as the same has been taken up fully by the Defendant. The Plaintiff's antenna is sold at USD 1000 in other countries. The Defendant initially launched at USD 1050, and, thereafter, moved to USD 850, USD 750 and USD 650. Currently, the Defendant's antenna is sold at USD 350. The Defendant has had sales of more than one lakh antenna in India. He submits that in *Mobi Antenna Technologies (supra)*, the Plaintiff had sought damages on the basis of 94,000 antenna but the Court had taken a standard of 50,000 antenna. In this case, the product to claim comparison has not been done. The patent is valid till 2027. In *Mobi Antenna*



Technologies (supra), the Defendant was not present in Court and it was on the basis of hypothetical reconstruction that the damages were awarded but in this case the actual figures are available.

H. ANALYSIS AND FINDINGS

148. Heard.

149. In the present suit, *vide* order dated 5th July, 2023, four issues have been formulated by the Court for adjudication. The said issues are as under:

- (i) **Whether the suit patent IN'893 is liable to be revoked? OPD**
- (ii) **Whether the Defendants are infringing the suit patent? OPP**
- (iii) **Whether the Plaintiff is entitled to permanent injunction and damages/rendition of accounts? If so, how much?**
- (iv) **Relief**

150. Both parties have led evidence and testimonies of one fact witness and one expert witness, each, has been recorded. The list of witnesses who have been examined are as under:

Sr. No.	Witness Name & No.	Position [At the time of recording of evidence]
1.	Mr. Mark Cosgrove [PW -1]	Expert Witness
2.	Mr. Dennis Nathan [PW-2]	President of the Plaintiff
3.	Mr. Satyajeet Mukherjee [DW-1]	Legal Manager of the Def. No. 2



4.	Mr. Mahesh A. Birari [DW-2]	Working as RF R&D Manager in M/s. Prose Technologies for last six months.
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ISSUE I: WHETHER THE SUIT PATENT IN'893 IS LIABLE TO BE REVOKED?

151. The Defendants have raised several grounds for challenging the validity of the suit patent IN'893 and the same are as under:

- i) That the subject invention lacks novelty in view of the prior art in terms of Section 64(1)(e) of the Act;
- ii) The suit patent lacks inventive step and is obvious to a person skilled in the art in terms of Section 64(1)(f) of the Act;
- iii) That the complete specification does not sufficiently and fairly describe the invention in terms of Section 64(1)(h) of the Act;
- iv) That the complete specification does not sufficiently and clearly define the invention and the specification is also not fairly based on the disclosures made in the specification in terms of Section 64(1)(i) of the Act;
- v) That the suit patent was obtained on a false representation and suggestion in terms of Section 64(1)(j) of the Act;
- vi) That the invention is not patentable in terms of Section 64(1)(k) of the Act;

152. The burden of proving the invalidity of the suit patent is on the Defendants.

153. This Court shall now consider each ground of revocation raised by the Defendants in detail.

Lack of novelty in terms of Section 64(1)(e) of the Act

154. Before proceeding towards examination of the prior art documents



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relied upon by the Defendants, to establish lack of novelty, this Court deems it necessary to set out the legal framework governing the determination of novelty in India. Section 64(1)(e) of the Act provides that a patent may be revoked where the invention was publicly known or publicly used in India before the priority date, or was published anywhere in the world before the same date. It is equally well settled that for the purposes of determining novelty, prior art documents cannot be “mosaiced” or read in combination with one another, each document must be considered individually and assessed on its own terms. It is also highlighted that a generic disclosure in prior art does not, by itself, defeat the novelty of a specific and limited disclosure.

155. At the outset, it would be relevant to consider the technology encompassed in the suit patent, before considering the prior art which is alleged to anticipate the Claims of the suit patent. The Plaintiff’s expert witness Mr. Mark Cosgrove – PW-1 has sought to explain the technology in his evidence affidavit by stating that as on the priority date of IN’893 *i.e.*, 17th March, 2006, increase in the number of sectors of an antenna would ideally increase the number of subscribers that can be catered to by the said antenna. However, whenever, such sectors were increased, the handover zones and the overlap areas also increased which in effect, therefore, decreased the dominant critical coverage area. The result of this was a reduction in connectivity.

156. According to PW-1, higher order sectorization for increased capacity was not achieving the desired purpose commensurate to the required investment and hence, was considered as expensive and impractical. At the relevant point in time, the sector antenna which existed



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was a conventional 65-degree fixed sector antenna with three sector-sites. The state of the art, at that stage, was for the antenna to emit beams as symmetrical as possible to cover each sector of the cell. Further, as per the existing knowledge, the intention was to eliminate asymmetry in the beams of fixed beams split-sector antennas. According to PW-1, a split sector antenna emitting asymmetric beams that could maintain substantially equivalent critical coverage area as of the earlier sector antenna was not known in the prior art. Asymmetry was considered as a disadvantage/distortion in fixed beam split-sector antenna. The purpose, therefore, was to increase higher sectorization while maintaining equivalent critical coverage area and to also reduce the handover area. Another issue which had to be considered, as per PW-1, is that higher order sectorization was not required throughout the network, instead, it was to be deployed in specific local areas. Therefore, a solution to the problems with high sectorisation had to allow for mixing of higher and lower order sectors in the same area for cost effectiveness. According to PW-1, the reduction in the handover area and overlap areas while maintaining the critical coverage areas was made possible only in IN'893 by use of one or more asymmetrical beams. Reduction in the handover area automatically leads to maintenance of the total critical coverage area.

157. The evidence of PW-1, as summarised above, is also consistent with the disclosures made in the Complete Specification of the suit patent itself. The Complete Specification identifies the technical problems arising from higher order sectorization. The limitations of the existing antenna systems are also acknowledged therein. The technical solution, being the deliberate introduction of asymmetry into beam patterns, is also disclosed in the



Complete Specification. The said disclosures are therefore directly referable to, and corroborate, the evidence led by PW-1. The relevant portions of the Complete Specification are extracted hereinbelow:

“Although, in theory, high spectral efficiency is achievable with large values of N , practical deployment considerations will generally limit this number to a finite set of possibilities. For example, large values of N will cause a significant proportion of the subscribers to languish in continuous handover situations.”

xxx xxx xxx

“When $N=3$, antennas with a half power beam width of 65° are typically used, because they provide better coverage. For uneven traffic between sectors or for other values of N , multiple antennas may be used with beam widths of 33, 45, 53, 60, 65, 90, 105, etc.”

xxx xxx xxx

“For higher sectorization, that is, $N > 3$, a mix of existing antennas will not provide optimal coverage, resulting in either a significant and excessive overlap between beam patterns or else high cusping loss between adjacent beam patterns. In the former case, an excessive number of subscribers will be candidates for handover, while in the latter scenario, coverage holes could result in handover failures.”

xxx xxx xxx

“Furthermore, it appears that the need for higher order sectorization is primarily a local phenomenon, rather than a characteristic across a network, since subscribers are not generally uniformly distributed across a network. As a result, the need for increased subscriber capacity is only apparent for a few scattered sectors in a network that typically encounter large distributions of subscribers. In such a case, blindly increasing the number of sectors for all of the sites will not result in an efficient capacity to cost ratio since some of the additional transceivers will never be used.”



xxx xxx xxx

“The present invention accomplishes these aims by replacing a single sector coverage area with at least one coverage area, at least one of which is asymmetrical. The use of asymmetrical coverage areas permits the total coverage area to closely approximate the symmetrical sector coverage area being replaced, without creating excessively large sub-sector handover zones or introducing severe degradation in the network performance.”

xxx xxx xxx

“Heretofore, antenna beam patterns have consistently been symmetrical, such as is shown in Figure 1, which shows 3 mirror-imaged pairs (110,111), (120,121) (130,131) of symmetrical sub-sector beams. Such a coverage pattern creates very large overlap regions between pairs of sub-sector beams (e.g. 130, 131), and between a sub-sector beam from two different adjacent sectors, e.g. 131, 110 (at 113).”

xxx xxx xxx

“It has been discovered that such new antennas may be created by introducing asymmetry into the generated beam pattern.”

158. With this technical backdrop in mind, the Court shall now proceed to examine the prior art documents relied upon by the Defendants in support of their argument of lack of novelty. A tabular representation of the said prior arts is set out below:

S. No.	Document	Details
1.	US2005/0030249 A1 [“D1”]	US Patent Application Date: 10 th February, 2005 Inventor: Gabriel et al. Title: Antenna Arrangement and a method in particular for its operation



2.	WO 02/05383 A1 [“D2”]	PCT Patent Application Date: 17 th January, 2002 Inventor: Rhodes et al. Title: Cellular Antenna
3.	TenXc’s Article [“D3”]	Date: 1 st March, 2006 Published on internet by the predecessor- in-interest of the Plaintiff.

159. It is stated by the Defendants that the **Document D1-US2005/0030249 A1** (hereinafter “*Gabriel*”) was published on 10th February, 2005, prior to the priority date of the suit patent. It is their case that all the Claims 1 to 10 of the suit patent have been anticipated by Gabriel. On this aspect, Defendant witness of DW-2 *i.e.*, Mr. Birari states that Gabriel teaches both replacement of an earlier antenna and asymmetric beam patterns. According to DW-2, whenever a cellular operator wants to replace an antenna, the obvious and natural understanding would be that the coverage area cannot be reduced by the replacement. Mr. Birari, further states that **Document D2 - WO 02/05383 A1** (hereinafter “*Rhodes*”) is incorporated within Gabriel by way of reference and that it anticipates the requirement to adjust the operating parameters of antennas to maintain the required coverage areas. It is stated by DW-1 in its affidavit that Gabriel according to DW-1 discloses all the features of claim 10 as also three important aspects:

- (i) Replacement of earlier antenna;
- (ii) Asymmetric beam patterns;
- (iii) Ensuring maintenance of required coverage area;



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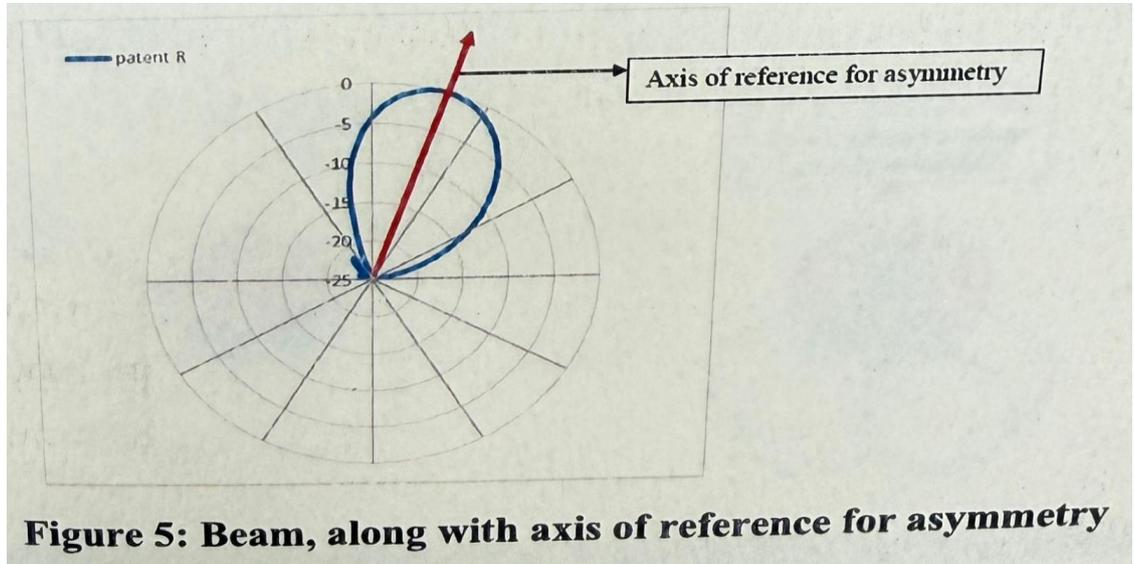
160. It is further stated that independent Claims 1 and 10 of the suit patent have also been anticipated in Document D3 which is an article published by TenXc on 1st March, 2006 (hereinafter “*TenXc Article*”). It is stated that the said article disclosed replacing of conventional antenna with bi-sector asymmetric antenna whereby the coverage area is split into multiple sectors having asymmetric patterns.

161. On the other hand, in respect of the prior art relied upon by the Defendants, including Gabriel and TenXc Article, to prove invalidity of the suit patent it is stated by PW-1 that the same have been considered and rejected either by the USPTO/ US PTAB and/or by Id. Single Judge of this Court in *Communication Components Antenna Inc. v. Mobi Antenna Technologies (Shenzhen) Co. Ltd. and Ors., 2021:DHC:2412*.

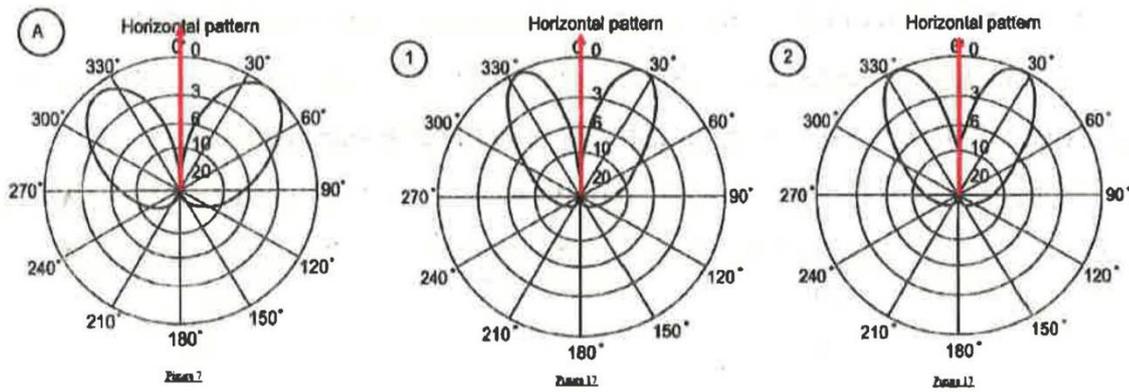
162. According to PW-1, Gabriel did not disclose a split-sector antenna or a sectorized cellular communication network, as it is limited to a single-beam system because there is no disclosure of plurality of sub-sector coverage area in it. It is stated that Gabriel only deals with replacement of an antenna in a straight sector-for-sector exchange. Gabriel also does not contemplate maintaining the same footprint and is far from dealing with maintenance of a substantially equivalent critical coverage area upon replacement of antennas. As per PW-1, since Gabriel does not disclose a cellular communication network based on higher order sectorization, it cannot anticipate IN’893. Moreover, the nature of symmetry discussed in Gabriel is also different. Gabriel does not identify which of the beams are symmetrical and which are asymmetrical. The asymmetry mentioned therein is about a vertical plane perpendicular to the antenna face which is fundamentally different from IN’893 wherein the asymmetry is about the



line of reference passing through the peak gain point of the main beam in the horizontal plane. As an illustration of the same, PW-1 in his evidence affidavit has provided the following figure:



163. This has been compared with the diagrammatic representation of the asymmetry discussed in Gabriel which is as under:



164. Further, according to PW-1, since Gabriel teaches that a butler matrix design can be used to create a single beam, it cannot, therefore, disclose a multi-beam design as per IN'893. Thus, it is stated by PW-1 that since Gabriel does not contemplate increase of level of sectorization and in fact teaches away from IN'893, it cannot impinge upon the novelty of



the suit patent.

165. Insofar as Rhodes is concerned, it is stated by PW-1 that the same does not contemplate in any manner the feature of maintaining critical coverage area. Hence, the same cannot be considered to disclose the feature of reduction of handover area as disclosed in IN'893. Moreover, it is stated that Rhodes does not address higher order sectorization or asymmetry within the beams.

166. Lastly, in respect of the TenXc Article, PW-1 states that said article merely provides disembodied idea of three principles:

- (i) higher order sectorization in unknown plane;
- (ii) dual sector panel antennas in an unknown plane;
- (iii) 'asymmetric patterns' of an unknown and unexplained nature.

167. It is stated that the said article has to be considered in the context of state of the art as on the priority date of IN'893, especially, to appreciate the uncertainty of interpreting the term "asymmetric patterns" used therein. There are no drawings/illustrations in the said article, and as per PW-1, in the absence of the same there is no identifiable axis of reference for determining the meaning and nature of asymmetric patterns mentioned in the article. Since, the prior art had been consistently teaching use of symmetrical beams, a person skilled in the art, as per PW-1, would not have understood the asymmetric patterns to mean asymmetric beam patterns as disclosed in IN'893. Further, the TenXc Article does not disclose overlapping of sub-sector coverage areas and the necessity to reduce the same. It is also stated that the said article does not mention the aspect of maintaining the total critical coverage area similar to the replaced



antenna.

168. In cross-examination, PW-1 has not been questioned in respect of his evidence *qua* Gabriel, Rhodes or the TenXc Article. However, in the cross-examination of DW-1 repeated questions are put to the witness in respect of Gabriel and the nature of the symmetry that is disclosed in the same. A perusal of the same would show that DW-1, despite repeated questioning, continues to be totally evasive in this matter. In fact, in respect of one of the questions as to what is the nature of the antenna which is disclosed in Gabriel, the witness is unable to answer. The relevant portion of the cross-examination is as under:

“Q. I suggest it to you, Mr. Birari – in fact, instead of a suggestion, let me ask you one more question about Gabriel.

Is it correct, Mr. Birari, that Gabriel teaches an antenna where one beam created out of one input is divided into two-sub-beams?

A. Can you repeat your question, sir?

Q. Is it correct that Garbriel teaches an antenna where one beam created out of one input is divided into two sub-beams?

A. Yes, but here, again I say that – so here, the sub-beams which you are considering, it is from the adaptive circuit area which is given here. You can see in the figure which you pointed out that the figure number 8, there they have introduced the phase shifter, and then in the adaptive, they are doing it. Like –

THE COURT: Do you want to say something more?

A. No. The other sir was asking. So if I am given more clarity, I can.”



169. In respect of comparison of beam pattern of the suit patent with Gabriel, when being questioned that the same are not comparable, the answer of the witness DW-1 was as under:

“Q. I put it to you that the beam patterns depicted on an irregular scale such as Gabriel cannot be compared with beam patterns depicted on a regular scale such as the beam patterns simulated from the suit patent in the manner that defendant number 2 has done in paragraph BBB of the statement.

THE COURT: In simple words, what you are saying is they are not comparable? Irregular scale and regular scale, you cannot compare the beam. That is what they’re saying.

A. I have a disagreement with that. If you have sufficient information from the suit patent in which you can do the simulation, and then you can create. Whether, here, as in representation or the printout has given a different scale, but at most you can do the simulation, and then you can just compare it.”

170. The Court has perused the three prior art documents relied upon by the Defendants as also the respective evidence affidavits and testimonies. A perusal of Gabriel would show that it deals with an antenna arrangement in a particular manner that one antenna element offsets with respect to another in the horizontal direction. The entire patent relates to an antenna arrangement and does not relate to a novel antenna. Moreover, a perusal of the claims in Gabriel would show that the purpose of the antenna arrangement in Gabriel is for providing a horizontal radiation pattern wherein one of the patterns is asymmetric. Thus, the purpose of Gabriel as is being cited by the Defendants is to show that asymmetric beam patterns



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were known prior to the suit patent. Insofar as this aspect is concerned, this position is not even disputed by the Plaintiff. Asymmetric beam patterns were known in the field but the novelty of the suit patent was to create a split sector antenna with a plurality of sub-sector coverage areas, one of which was asymmetrical in a manner so as to ensure that the total critical coverage area is not compromised. Gabriel does not deal with such an antenna and also does not have any teaching in respect of maintaining the critical coverage area.

171. In addition, Gabriel does not disclose a split sector antenna or a sectorized cellular communication network. Since it is a single beam system, the substantial equivalence of the critical coverage area of the plurality of sub-sector coverage areas, as disclosed in the suit patent, is not contemplated. There is also no identification of the fact as to which of the beams in Gabriel is asymmetrical. Further, it is also highlighted that Gabriel does not address the replacement of a sector antenna for the purpose of increasing subscriber capacity, nor does it contemplate the reduction of handover zones upon such replacement. Moreover, the nature of symmetry and asymmetry discussed in Gabriel and in the suit patent is fundamentally different. It does not deal with asymmetry within the beams. The nature of asymmetry produced is different.

172. For the purpose of assessing how the nature of asymmetry in Gabriel is fundamentally different from that in IN'893, this Court deems it appropriate to also examine how Gabriel produces asymmetry. Upon perusal of the Complete Specification of Gabriel, and specifically paragraph [0018], it is clear that the said prior art achieves asymmetric horizontal polar diagrams through a phase shifter arrangement operating



in conjunction with a downstream hybrid circuit. The asymmetry produced operates about a vertical plane perpendicular to the reflector face of the antenna. Further, Gabriel acknowledges in paragraph [0015] that it is “*completely surprising*” that such an arrangement can produce asymmetric horizontal polar diagrams. This stands in sharp contrast to IN’893, where the asymmetry is specifically introduced into the generated beam pattern about the line of reference passing through the peak gain point of the main beam in the horizontal plane. Accordingly, in the assessment of the Court, the disclosure of the suit patent and Gabriel are not just different degrees of the same concept, but they are conceptually distinct forms of asymmetry operating on entirely different planes of reference.

173. The Complete Specification of the suit patent expressly records that prior to IN’893, antenna beam patterns had consistently been symmetrical and that it was through the suit patent that it was first discovered that asymmetry could be deliberately introduced into the beam pattern to achieve the desired technical result. This disclosure directly confirms that the kind of asymmetry contemplated in Gabriel, being incidental to a phase-splitting arrangement and acknowledged therein as surprising is not the purposeful, deliberate beam-level asymmetry that forms the novel core of IN’893.

174. It is also worth noting that DW-2 in his cross examination has conceded that Gabriel teaches an antenna where one beam created from one input is divided into two sub-beams. This admission confirms that Gabriel operates on a fundamentally different principle. In IN’893, the Complete Specification discloses that the new antenna produces a plurality of separate beams, each defining a new sub-sector with only a small



overlapping area between them, which together provide substantially identical coverage to the sector supported by the original antenna. This is a multi-beam architecture directed at higher order sectorization. Gabriel's single-beam architecture, by definition, cannot achieve this result and does not teach it.

175. Accordingly, in the assessment of this Court, far from supporting the Defendants' claim of lack of novelty, a reading of Gabriel in its entirety reveals that it teaches away from the inventive approach of IN'893. Gabriel's object is to shape the polar diagram in the horizontal direction to allow location-specific antenna patterns, a problem entirely distinct from higher order sectorization and the maintenance of critical coverage area. Gabriel does not address higher order sectorization. It does not contemplate mixing of higher and lower order sectors. It contains no teaching on maintaining a substantially equivalent critical coverage area upon replacement of a sector antenna. Accordingly, even if Gabriel is read together with Rhodes, as the Defendants contend, the combined disclosure does not supply the missing elements of IN'893. Thus, in the opinion of the Court Gabriel does not anticipate the suit patent.

176. It is relevant to note that the Id. Single Judge in *Mobi Antenna (supra) vide* judgement dated 10th August, 2021 had considered and rejected the prior art, including Gabriel, which were cited by the Defendant therein. The relevant portion of the said judgement reads as under:

"5. [...] (xviii) Claims No.1&10 of the subject patent were also entirely anticipated vide US 6,094,165 (Smith); (xix) several other prior art publications viz. (a) US 2005/0030249 (Gabriel), (b) US 2001/0024173 (Katz), (c) US 6,608,591 (Wastberg), (d) Elliot, RS,



*Design of Line Source Antennas for Narrow Beamwidth and Asymmetric Low Sidelobes, IEEE Transactions on Antennas and Propagation, 1975; (e) Trucco, A, Synthesizing Asymmetric Beams Patterns, IEEE Journal of Oceanic Engineering, 2000; (f) Thornton, John, a Low Sidelobe Asymmetric Beam Antenna for High Altitude Platform Communications, IEEE Microwave and Wireless Components Letters, Volume 14, No.2, 2004; (g) Ramakoteswara Rao, G.V., Design and Development of Asymmetric Beam Monopulse Antenna System at KA- Band, APMC 2005 proceedings, 2005; and, (h) invention of the subject patent is also rendered obvious from Bidgoli Hossein, the Internet Encyclopedia, Volume 3, John Wiley & Sons (of the year 2004), **(xx) in view of the above prior art and prior public usage, all elements of the invention claimed in Claims 1& 10 of the subject patent would have been obvious to a person of skill in the art; [...]***

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20. *The counsel for the defendant no.1/counter claimant, during his arguments as well as in his written arguments, has referred to a larger number of judgments but the need to burden this judgment therewith is not felt. The counsel for the defendant no.1/counter claimant, during the hearing also took me through various prior art pleaded in the written statement as well as in the Counter Claim, to contend that prior art are with respect to (i) use of multi beam antennas; (ii) antennas supported by base station; (iii) replacement of existing cell sites to increase network capacity; (iv) asymmetry; (v) coverage of a sector area by multiple beams from antenna connected to the base station; and, (vi) replacement. While so dealing with the prior art, attention was also drawn to the answers in cross- examination of the witness of the plaintiff. **The counsel for the defendant no.1/counter claimant also***



argued - that the crux of the argument of the plaintiff is, that the patent is in the plaintiff having used asymmetry to its advantage; however the prior art of Gabriel, Beven and Smith also teach advantages of asymmetry. Reference was made to, In the matter of an application for a patent by L & G (1941) 58 RPC 21 and to Dow Chemical Co. (Mildner's) Patent, [1973] RPC 808, to contend that there can be no invention in using a known material in the manufacture of known articles for the reason that it possesses a known property which renders it useful for this purpose.

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39. That brings me to the grounds of revocation under Section 64(e) and (f) of the Act i.e. invention claimed in the complete specifications being not new having regard to what was publically known or publically used or being obvious having regard to what was publically known and/or published before the priority date. **The defendant no.1/counter claimant in this regard has referred to a large number of prior art. The defence of the plaintiff thereto is twofold. Firstly, that all such prior art have been rejected by the United States Patent and Trademark Office (USPTO) while granting US patent. Secondly, that the reference to prior art is in the hindsight of the inventive step subject matter of patent.**

40. The defendant no.1/counter claimant in its written arguments, with respect to the prior art Bevan, drawn attention to the deposition of its witness. The said witness has deposed of the same teaching use of multi beam antennas and disclosing coverage area of sector antenna overlapping coverage areas of neighbouring sector antennas. Attention has also been invited to the deposition of the witness of the plaintiff in defence to the Counter Claim, of the said prior art being concerned with need and solution for increasing subscriber capacity and of replacing the existing cell



*sites to increase network capacity. It is further the argument of the defendant no.1/counter claimant that the said prior art is also found to support asymmetry. The defence of the plaintiff thereto is, that the witness of the defendant has not deposed of asymmetry and asymmetry cannot be deduced from the language thereof. **I have similarly perused the written arguments and the depositions and the cross-examinations of the witnesses referred to therein and I am afraid, therefrom I am unable to find any conclusive proof of obviousness, applying the test of the person skilled in the art. Thus, the grounds of revocation under Section 64(e) and (f) are not made out.***

177. Insofar as Rhodes is concerned, the same as per the Defendants is incorporated fully into Gabriel and thus for the purposes of determining novelty, the Court is to primarily deal with Gabriel and the TenXc Article. In any event, as per the pleadings in the counter-claim, the Defendants' reliance on Rhodes is limited to a single passage at page 23, lines 20-30 of its specification, which discloses that when one antenna is adjusted, the operating parameters of other antennas may be automatically adjusted to ensure the required coverage is still maintained. It is contended by the Defendants' that this passage, read into Gabriel by incorporation, supplies the element of maintaining coverage area. However, in the analysis of this Court, the "required coverage" referred to in the said passage of Rhodes is not the same as the "critical coverage area" as disclosed in IN'893. Rhodes contains no such concept anywhere in its specification, and does not disclose maintenance of critical coverage area at all. Hence, any reliance on the same to suggest that it discloses reduction of handover zones similar to IN'893 would be misplaced. The reliance on Rhodes is accordingly



rejected.

178. Coming to the TenXc Article which is a news article in respect of the launch of M/s. TenXc's PCS bi-sector array. It is seen that, although, the said article refers to asymmetric patterns and high order sectorisation to increase the network capacity, there are no details mentioned as to the manner for achieving of the same. A perusal of the text of the said article cited as a prior art document shows that while it mentions that the PCS bi-sector array "*applies the principles of higher-order sectorization to increase overall site capacity*" and that the "*array's asymmetric patterns and single dual-sector panel addresses network design and implementation issues that have inhibited operators from moving to higher-order sectorization sites,*" it provides no technical details whatsoever as to how such asymmetric patterns are generated, how higher order sectorization is achieved, or how the critical coverage area of the replaced antenna is maintained. The article also does not mention the reduction of handover zones and maintenance of critical coverage areas upon replacement of the existing 65 degree sector antennas.

179. Accordingly, in the analysis of this Court, while the prior art article does state that the array can be used for replacement of existing 65° sector antennas, it says nothing about how the replacement is to be effected, what beam patterns are used, or how the coverage area of the replaced antenna is preserved. These are precisely the elements that constitute the novel and inventive contribution of IN'893, and none of them are disclosed in the TenXc Article.

180. The said article has also been considered by this Court in the interim judgement dated 12th July, 2019 in *Ace Technologies (supra)*. The



relevant portion of the said judgement reads as under:

*“57. Out of the prior art referred to by the Defendants, the Article dated 1st March, 2006 is a publication related to the patented invention itself. The date of filing of the PCT application of the suit patent, is 19th March, 2007. The article is of March, 2006, wherein, the company TenXC Wireless Inc., which was the predecessor of the Plaintiff and was the original patentee, seeks to inform how the use of an asymmetrical antenna could lead to advantages. **However, a perusal of the article shows that there are no details whatsoever as to the manner in which the result is to be achieved. For an invention to be prior published, and to be hit by prior art, it has to be viewed from the point of view of a skilled addressee as to whether the document would by itself, without the disclosure in the patent specification, be sufficient to anticipate the invention.** Terrell on the Law of Patents observes on the construction of prior art documents as under:*

“11-55 Once a particular document or other prior disclosure has been identified, it is necessary to determine what information is conveyed. The prior document or disclosure is to be treated as read or understood through the eyes of the relevant skilled person, the notional addressee. In appropriate cases, the skilled person may have to be a team of people with different scientific backgrounds so that the import of the document may be fully understood.

11-56 This may involve two separate steps: first, construing the prior disclosure as a matter of law, and secondly determining what the skilled reader would derive from it. Pumfrey J stated in Inpro’s Patent (sic. Research in Motion v. Inpro [2006] R.P.C. 20, [111]), that “The teaching of the specification, once construed, is a question of fact, as is what the skilled man would do with that



teaching without the exercise of inventive ingenuity.” As noted below, he went on to explain that the relevant teaching may involve both explicit and implicit disclosure.

11-57 The general rule for the construction of prior documents is the same as that for any other documents, namely “that the document should be construed as if the court had to construe it at the date of publication, to the exclusion of information subsequently discovered.””

*58. This would require evidence to be shown to the effect that a skilled addressee would be able to know how to make the antenna subject-matter of the suit patent, merely by reading the article, without the disclosure in the suit patent. **At this stage, this court is of the opinion that the article per se, could not have by itself, been sufficient to anticipate the disclosure in the invention. The article at best may have given a hint as to what was coming. Nothing more.***

From the above, it is clear that the TenXc Article belonged to the Plaintiff’s predecessor-in-interest’s product which was launched in 2006 targeting capacity and quality challenges arising in high-capacity macro cell site. Although, the said article mentions the use of asymmetric patterns and single dual sector panel, the same does not mention the method through which the same would be implemented. It is also relevant to note that the said article does not disclose any axis of reference for determining the nature of the asymmetric patterns, nor does it identify the plane with reference to which such asymmetry is to be understood. In the absence of any drawings, illustrations or technical details, a person skilled in the art reading the article as on the priority date, when the prior art consistently taught the use of symmetrical beams, would not have understood the



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reference to “asymmetric patterns” as disclosing the specific asymmetrical beam patterns as defined and claimed in IN’893. This is also clear from the observations of the Id. Single Judge in *Ace Technologies (supra)*, as extracted above, since at best the said article could have been considered as an indication of what was to follow. However, by itself, the TenXc Article would not satisfy the threshold required for anticipation of the subject invention.

181. As has already been discussed above, it is settled law that to satisfy the claim of anticipation the whole of the subject invention should be there in the prior art. The anticipation must be such as to describe or be an infringement of the claim attacked. Further, in *Merck Sharp & Dohme v. Glenmark Pharmaceuticals, 2015 (63) PTC 257 (Del)*, a Division Bench of this Court had observed that to constitute prior disclosure of an invention, the matter relied upon as prior art must disclose such subject matter which, if performed, would necessarily result in the infringement of the patent. Hence, if the prior art fully disclosing the invention, infringes the claims, then the said claim is clearly anticipated.

182. Upon applying the aforesaid legal principles to the facts of the present case, none of the prior art documents relied upon by the Defendants, in the opinion of the Court, anticipate the invention disclosed in the suit patent. Accordingly, the grounds for challenge to the validity of the suit patent under Section 64(1)(e) of the Act are not made out and the suit patent is held to be novel. The objection on the ground of lack of novelty is accordingly rejected.



Lack of Inventive Step Under Section 64(1)(f) of the Act

183. On the aspect of lack of inventive step, the Defendants cite and rely on the following documents:

S. No.	Document	Details
1.	US 6480524 [“D4”]	US Patent Application Date: 12 th November, 2002 Inventor: Smith et al. Title: Multiple Beam Antenna
2.	WO 2006/004463 A1 [“D5”]	PCT Patent Application Date: 30 th June, 2004 Inventor: Hagerman et al. Title: Antenna Beam Shape Optimization
3.	US 6094165 [“D6”]	US Patent Application Date: 25 th July, 2000 Inventor: Martin Stevans Smith Title: Combined Multi-Beam and Sector Coverage Antenna Array
4.	US 6127972 [“D7”]	US Patent Application Date: 3 rd October, 2000 Inventor: Avidor et al. Title: Technique for Wireless Communications using a Multi-Sector Antenna Arrangement
5.	US 2004/0185783 A1 [“D8”]	US Patent Application Date: 23 rd September, 2004 Inventor: Okawa et al. Title: Directional Beam Communication System, Directional Beam Communication Method, Base Station and Controller
6.	WO 00/76027 A1 [“D9”]	PCT Patent Application Date: 7 th June, 2000 Inventor: Herscovici et al. Title: Axially Symmetric Gradient Lenses and Antenna Systems Employing Same



7.	WO 01/89030 A1 [“D10”]	PCT Patent Date: 22 nd November, 2021 Inventor: Ylitalo Title: Hybrid Antenna Array
8.	US 2004/106437 A1 [“D11”]	US Patent Application Date: 3 rd June, 2004 Inventor: Yiltalo Title: Data Transmission Method and Arrangement
9.	WO 02/05383 A1 [“D2”]	PCT Patent Application Date: 17 th January, 2002 Inventor: Rhodes et al. Title: Cellular Antenna

184. According to the Defendants, the object of the suit patent of replacing sector antennas with sub-sector antennas to achieve sectorization has been disclosed in **Document D4 - US 6480524** (hereinafter “*Smith – I*”) which also discusses the shortcomings of omni-directional antennas in cell sectorisation. It is stated that the purpose of *Smith – I* is also to minimize the handover areas between antenna beams of adjacent cell antennas. As per the Defendants, the arrangement disclosed in *Smith – I* creates an interleaving pattern between adjacent cells with reduced overlap, thereby, improving the capacity of the network. As per the Defendants, the problem of increased overlapping between adjacent cells had been addressed by *Smith – I* itself and the same also provided for higher order sectorisation as also use of multi-beam directional antenna. Further, it is stated that *Smith – I* discloses replacement of sectorised antenna while not only matching the critical coverage area but improving the same by reducing null points.



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185. The **Document D5 - WO 2006/004463 A1** (hereinafter “*Hagerman*”) provides an adjustment and optimization of antenna beams shape. It also contemplates providing differential shape system of antenna beam sectors. Thus, it is stated that Smith – I and Hagerman together when combined would enable a person skilled in the art to understand the disadvantages of omni-directional antenna and replacing such antenna with bi-directional antenna in order to reduce overlap. They also teach optimization of antenna by maintaining the coverage area giving rise to asymmetry to reduce interference. According to the Defendants, the combined teachings of Smith – I and Hagerman are sufficient motivation to arrive at the suit patent, rendering the same obvious to a person skilled in the art.

186. The Defendants also state that **Document D6 - US 6094165** (hereinafter “*Smith - IP*”) and **Document D7 - US 6127972** (hereinafter “*Avidor*”) disclose multiple asymmetric beams emitted by a sector antenna which would then lead to beam patterns which are asymmetric as contemplated in the suit patent. It is also stated that Avidor also discloses asymmetric handover zones, which could only be achieved if the beam patterns are asymmetric.

187. Further, **Document D8 - US 2004/0185783 A1** (hereinafter “*Okawa*”) is stated to disclose antenna designs which shares an array antenna amongst the plurality of adjacent sectors to increase the interference suppression effect. This would then increase the capacity of the directional beam connection system. The **Document D9 - WO 00/76027 A1** (hereinafter “*Herscovici*”) is also cited by the Defendants which is stated to disclose an antenna system that transmits a variety of



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asymmetrical radiation patterns. It is also stated that the Herscovici identifies asymmetric antenna beam patterns as an advantage in antenna technology for cellular communications.

188. In addition to the above, it is noted that DW-1 – Mr. Satyajeet Mukherjee in his evidence affidavit has referred to three additional prior art documents in support of the ground of lack of inventive step *i.e.*, Rhodes, **Document D10 - WO 01/89030 A1** (hereinafter “*Ylitalo - P*”), and **Document - D11 - US 2004/106437 A1** (hereinafter “*Ylitalo - IP*”). However, the same have not been discussed by the Defendants either in the evidence affidavit or in the counter claim.

189. According to the Defendants, therefore, the subject invention in the suit patent is obvious to a person skilled in the art and is thus liable to be revoked.

190. In response to the prior art documents cited by the Defendants, the stand of PW-1 in his evidence affidavit is that most of these documents have been considered and rejected by either the USPTO / US PTAB, as also in the judgment of the Id. Single Judge in *Communication Components Antenna Inc. v. Mobi Antenna Technologies (Shenzhen) Co. Ltd. and Ors., 2021:DHC:2412* and the same ought to be relied upon by the Court. In any event, it is also argued by PW-1 that the prior arts cited for lack of inventive step form a mosaic of scattered references which are unrelated. They are disjointed, unconnected and inconsistent which would not disclose IN’893. Insofar as Smith – I is concerned, PW-1 states that it does not teach asymmetrical beam patterns as it refers only to symmetrical beams. It is stated that Smith – I does not disclose the feature of reduction of handover area and of maintaining the critical coverage area.



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It promotes movement towards a nine-sector solution using narrow directional beams. It nowhere teaches how beams which are asymmetrical in nature can be used to optimize the critical coverage area and reduce handover losses. As per PW-1 Smith – I provides for an inter-cell solution, instead of intra-cell as disclosed in IN'893, which requires surrounding sites to also be nine-sectored for creating the interleaving pattern. This ignores the fact that higher sectorization, as per PW-1, is a localised requirement and is not necessary for the entire network.

191. As per PW-1, Hagerman deals with an adaptive antenna and not a fixed beam antenna, and therefore, is fundamentally different from IN'893. The adaptive antenna may be changed as per the requirements of the network, whereas, the fixed-beam antenna remains constant. It is also stated that Hagerman does not disclose sectorized cellular communication network or sub-sector coverage areas. Further, since Hagerman teaches adaptive-beam antenna system, whereby the coverage area would not be fixed, it would be impossible to disclose the feature of maintenance of substantially equivalent critical coverage area of the antenna system to be replaced which has fixed coverage area.

192. PW-1 also challenges as to how these two documents could be combined to create a mosaic to arrive at the solution contemplated in IN'893. Insofar as the common general knowledge is concerned, PW-1 argues, that Smith – II, Avidor, Okawa, and Herscovici also do not lead to the suit invention for a person skilled in the art. It is stated that Smith-II discloses an underlay-overlay system which is entirely different from a sectorised system as disclosed in IN'893. In the network system disclosed in Smith – II there are no handover areas when moving solely between the



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narrower underlay traffic beams. Further, it is stated that while a sectorised antenna system requires replacement of existing antenna with higher sector antenna, in the underlay-overlay system the old and new antennas co-exist. Smith – II also acknowledges that asymmetry or mis-shaping of a beam is a disadvantage. Even Avidor, as per PW-1, teaches that beams should have uniform distribution over the sector. It is stated that a person skilled in art while seeing the diagrams in Avidor would have assumed that the same were symmetrical. It further teaches away from non-uniformity as it emphasizes on perfect symmetry/uniformity. Insofar as Okawa is concerned, it is stated that what is taught therein is an adaptive beam system which discards sectorization as a solution. There is no disclosure of asymmetrical beams, as per PW-1, in Okawa, as it does not desire asymmetry. In respect of Herscovici it is stated that it relates to lens antennas based on gradient lenses. The nature of asymmetry discussed in Herscovici is not comparable to IN'893 as the same is in 3D radiation patterns. It is stated that Herscovici interprets asymmetry as when the azimuth beamwidth is different from the elevation beamwidth, contrary to any asymmetry within the antenna beams along the axis of peak gain in single plane.

193. According to PW-1, any mention of asymmetry in patent documents relating to antenna have been used by the Defendants to simply defeat the validity of the suit patent.

194. Further, in respect of Ylitalo – I, PW-1 states that the same relates to the design of an antenna system to support an underlay/overlay concept. It further teaches two sets elements within an antenna. One set for the purpose of producing the broad broadcast beam for carrying the common



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control channel and the other set for producing a narrow dedicated beam for traffic channel only. It does not deal with sectorized solution or how the dedicated channel sub-beams can exist on their own. As per the PW-1, IN'893 eliminates the need for the overlay and underlay beams. The document does not deal with the symmetry or asymmetry of the beams and thus it is only in pure hindsight that one can speculate that the beams could be asymmetrical. According to PW-1, Ylitalo-I is wholly inapplicable for analysing validity of the suit patent as it deals with adaptive antenna which are opposite of fixed beam antenna systems.

195. As per PW-1, Ylitalo – II does not disclose an antenna, instead it discloses means to digitally form beams in an adaptive system, which is nowhere close to an antenna system disclosed in IN'893. It deals with balancing of powers within the amplifiers of an adaptive system. Ylitalo – II does not deal with use of asymmetrical beams for minimizing handover regions as it only deals with an adaptive system. As per PW-1, Ylitalo – II teaches in the opposite direction of IN'893.

196. The Court has perused the evidence affidavits filed by the Defendants. DW-1 in his evidence affidavit has addressed the ground of lack of inventive step and filed the documents cited for the same. The evidence in respect of lack of inventive step filed by DW-1 is restricted to three paragraphs and the same read as under:

“LACK OF INVENTIVE STEP:

46. I state that the granted claims 1 and 10 of the impugned patent correspond mutatis mutandis to the claims 1 and 10 of the corresponding US patent application no.US 12/094,299 which was examined by the USPTO and held to be lacking inventive step. The



US patent application no. US 12/094,299 and its prosecution history is exhibited as Ex.DW-1/13. These claims of the said corresponding US application were then amended by the Plaintiff by adding the following limitation:

"wherein said at least one asymmetrical sub-sector coverage area reduces overlap with said neighbouring sub-sector coverage area comparing to overlap of the replaced antennae while maintaining the critical coverage area of the replaced antenna."

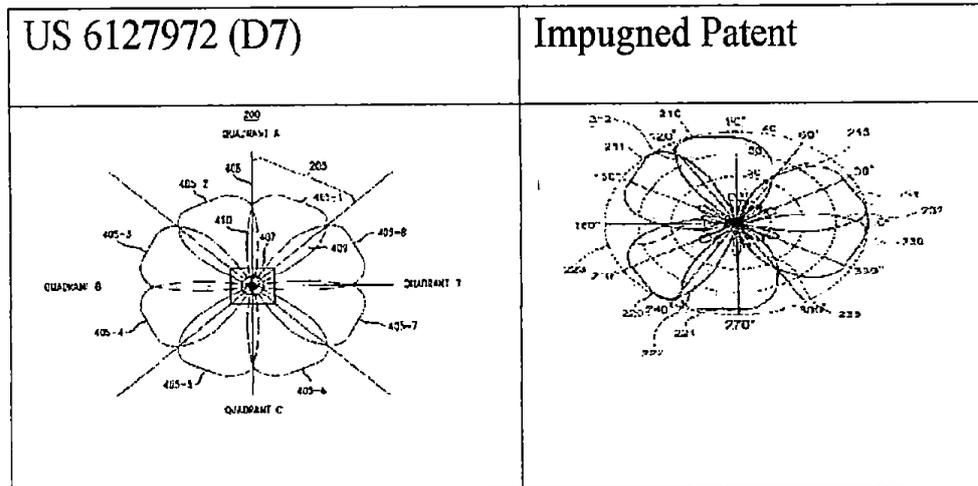
Only after adding the above limitation, the US patent application was allowed by the USPTO to proceed to a grant of patent, although erroneously, which eventually resulted in US Patent No.8311582. In other words, the Plaintiff admitted that the claims of the impugned patent, which read onto the examined and rejected claims of the corresponding US application no.US 12/094,299 lacked inventive step and only to overcome the same, a limitation was added, which has not been done so in the impugned patent. Therefore, the claims of impugned patent lack inventive step requires no further investigation and is abundantly established from the admission made by the Plaintiff before the USPTO.

47. I state that the impugned Patent lacks inventive step at least in view of prior art documents US 6480524 (hereinafter called as "D4"), WO 2006004463 (hereinafter called as "D5"), US 6094165 (hereinafter called as "D6") and US 6127972 (hereinafter called as "D7"), which are exhibited as Ex.DW-1/13, Ex.DW-1/14 and Ex.DW-1/15, respectively. I further state that the impugned Patent lacks inventive step in view of prior art documents US20040185783A1 (hereinafter called as "D8"), WO2000076027A1 (hereinafter called



as "D9"), US 2004/106437, WO 02/05383A1 and WO 01/89030 A1, which are exhibited as Ex.DW-1/16, Ex.DW-1/17, Ex.DW-1/18. Ex.DW-1/19 and ExD W-1/20, respectively.

48. I state that D7 discloses asymmetric beam patterns similar to the impugned Patent as shown below:



197. Apart from the above three paragraphs, no other evidence has been led by the Defendants in support of the plea of lack of inventive step. DW-1 has not explained in his evidence affidavit any of the contentions or grounds taken in the counter-claim as to how all of the prior art documents combined together would lead to an inference of lack of inventive step. The evidence of DW-1 on this aspect is sketchy to say the least. In fact, in the cross-examination, it has been revealed that DW-1 himself did not have any technical expertise to depose on either novelty or inventive step. The relevant portion of the cross-examination is set out below:

“Q. All right. Let me put it like this, Mr. Mukherjee. Is it correct that the statements in your affidavit, two affidavits, in respect of alleged lack of novelty with respect to the suit patent are based on technical advice received by you from the same



technical team that you referred to earlier?

A. Can you repeat that?

Q. Is it correct that your statements in your two affidavits alleging lack of novelty in the suit patent are based on the technical advice received by you from the defendants' technical team, as you referred earlier; is that correct?

A. Yes.

Q. And it is also correct that your statements in your affidavits regarding lack of inventive step, alleged lack of inventive step in the suit patent are also based on the inputs you received from the same technical team?

A. Yes.

Q. Is it okay for me to assume that you are not qualified to give any opinion with respect to the patent laws in USA, China, Brazil, or the European Union?

A. That's correct."

198. It is noted that in the evidence affidavit extracted above DW-1 has referred to the prosecution history of the US patent application No. 12/094,299 which is corresponding to IN'893. It is stated that Claims 1 and 10 of the suit patent correspond to Claims 1 and 10 of the US patent which were amended by the Plaintiff to get over lack of inventive step. This ground has already been considered by this Court in ***Communication Components Antenna Inc. vs. Ace Technologies Corp. And Ors., 2019:DHC:3323***, wherein it was held as under:

"42. The US prosecution history of the corresponding US patent shows that during the prosecution of the US patent, Claims 1 and 30, of US'582, which are corresponding to Claims 1 and 10 of IN'893, were



amended to add language at the end. The difference in the language is illustrated from the table relied upon by the defendant which is extracted below: [...]

43. A perusal of the additional language in the claims of US'582, which is shown in bold in the above table, shows that the added language seeks to explain in further detail the manner in which the overlaps are reduced in the patented invention, as compared to the replaced antenna - while maintaining the critical coverage area. This language, does not in any manner, restrict the claims of IN'893, but in fact adds an additional feature of "reduction of overlap". The reduction of overlap in fact makes the patent claim more focused. A reading of the Indian patent specification, also shows that the entire purpose of the replacement of the existing antenna with the novel patented antenna is to increase the efficiency and quality, while not reducing critical coverage area, and ensuring that there is no degradation. The adding of this language, brings more focus on the difference between the prior art in Gilhousen (supra), the Article dated 1st March, 2006 (supra), and Newman (supra) and is a fact which goes in favour of the Plaintiff, rather than the Defendants, as it sufficiently distinguishes the prior art in the claims itself.

44. This addition of language does not render the suit patent invalid, but in fact strengthens yet another novel feature of the suit patent. 45. The submission of the Defendants, that this is, in fact, a further limitation would not be correct while viewed in the context of the present invention, wherein the Patent specification has sufficiently established how there are several additional benefits with IN'893. One benefit would also be the reduction of overlap. It is the well-settled position in law, that a patent specification and the claims have to be interpreted not literally, but purposively.



[...]

47. It is also now a settled position in law that, statements made after the grant of a patent, would not be relevant in interpreting grant of a patent. The Ld. Division Bench in *Roche v. Cipla (supra)*, relying on the judgment of the US Court in *Pfizer v. Ranbaxy* 457 F.3d 1284, held as under:

“66..... In case of any doubt as to what a claim means, resort can be had to the specification which will aid in solving or ascertaining the true intent and meaning of the language employed in the claims and for which the court can consider patent prosecution history in order to understand as to how the inventor or the patent examiner understood the invention. The Court recognized that since prosecution is an ongoing process, it often lacks clarity of the specification and thus is less useful for claim construction. The Court also recognizes that having regard to extrinsic evidence such as inventor testimony, dictionaries and treaties would be permissible but has to be resorted to with caution because essentially extrinsic evidence is always treated as of lesser significance in comparison with intrinsic evidence. In the decision reported as 457 F.3. 1284 (United States) Pfizer v. Ranbaxy the Court held that the statements made during prosecution of foreign applications are irrelevant as they are in response to unique patentability requirements overseas. The Court also held that the statement made in later unrelated applications cannot be used to interpret claims of prior patent. In the decision reported as 1995 RPC 255 (UK) Glaverbel SA v. British Coal Corp the Court held that a patent is construed objectively, through the eyes of a skilled addressee. The Court also held that the whole document must be read together, the body of specification with the



claims. But if claim is clear then monopoly sought by patentee cannot be extended or cut down by reference to the rest of the specification and the subsequent conduct is not available to aid the interpretation of a written document.

48. Thus, the additional language in the claims of US'582 cannot be read as a limitation but is merely highlighting another aspect of the patented invention. A perusal of the Indian specification shows that in the description of the invention, it is clearly stated as under:

*“Where, as with the present invention, the new antenna may product a plurality of separate beams, each defining a new sub-sector, **with only a small overlapping area between them** and which together provide substantially identical coverage to the sector supported by the original antenna, a single sector may be upgraded to become a plurality of sub-sectors without significantly affecting neighbouring sites.”*

(At Page 10 of the Patent Specification)

49. Thus, the feature of ‘reduction of overlap’ contained in the additional language of the US claims is also a part of the Indian patent itself. There is no external limitation that has been added in the US claims. Thus, the Defendant’s contention that IN’893 is invalid, as there is an admission in US’582 that without the additional language the patent is obvious, is liable to be rejected. From the above it is clear that the additional language in US’582 claims do not affect the scope of the Indian patent in any manner.”

199. On the other hand, DW-2, who is the expert witness of the Defendants, does not deal with the aspect of inventive step at all in his evidence affidavit. Thus, while DW-2 did lead some evidence on lack of



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novelty, however, on inventive step, there is no evidence led whatsoever by the said witness. It is noted that DW-2 in his affidavit states as under:

“34. That I state that I have read the explanation given in the written statement and counter claim filed by the Defendant to show how the alleged invention claimed in the Suit Patent lacks an inventive step in view of the prior art. I totally agree with the said explanation and endorse it as true and correct.”

200. In effect, DW-2 has simply endorsed the pleadings *i.e.*, the written statement and counter-claim, and has not even bothered to explain as to how the prior art documents read together would make the invention obvious to a person skilled in the art. The reliance upon the pleadings, in this cryptic manner that too by an expert who is expected to give evidence on lack of inventive step, would be wholly unacceptable, inasmuch as if this kind of affidavit is accepted as sufficient, then the scope of evidence being given and the extent of knowledge of the witness cannot be gauged at all by the Court. In fact, from the oral evidence *i.e.*, the cross-examination of DW-2 in respect of other technical issues, it becomes clear that the witness is being evasive even on aspects where he has given detailed evidence in his affidavit, for example on asymmetrical beams, comparison of beam patterns, etc. In fact, the written statement and the counter-claim are signed by DW-1 Mr. Mukherjee and not by DW-2 Mr. Birari. Accordingly, while deposing as an expert witness, if Mr. Birari wanted to lead evidence on the lack of inventive step, the same ought to have been done in a detailed fashion in his evidence affidavit discussing all the prior art.

201. At this stage, it would be apposite to consider the role of expert



witnesses in adducing evidence relating to obviousness or lack of inventive step. In this regard, **Terrell on the Law of Patents**¹ observes as under:

“Primary Evidence

The primary evidence is therefore that of the expert witnesses called by the parties, who can give evidence as to the identity and attributes of the skilled person or team, the common general knowledge which they would possess and the way in which such persons would, as a matter of routine, approach problems in the relevant art. *The expert evidence can also identify steps which would either be routine, or require a degree of lateral thinking and hence not be obvious to the skilled person.*

*In practice, the experts called by the parties tend to be over-skilled. However, **the courts have generally found it helpful to have the best possible guidance from persons steeped in the art, and have been able to make allowance where necessary.** It must be recalled that experts are not called as living embodiments of the unimaginative and uninventive skilled person: so it is not a contest to see whose expert most closely represents the skilled person. As well as being over-qualified, the experts may come to the case with personal prejudices or preferences that must be discounted.*

*The role of expert witnesses in giving evidence on obviousness in patent actions was considered by Jacob LJ in *Technip France SA's Patent*, [2004] R.P.C. 23, [52]-[53] who said as follows:*

“... sometimes the requirement that the skilled man be uninventive is used by counsel for a patentee in an attempt to downgrade or

¹ Terrell on the Law of Patents, Sweet & Maxwell, 18th Edn., 2016, at §12-94 to §12-100



dismiss the evidence of an expert called to say that a patent is obvious — “my witness is more nerdlike than his” is the general theme. I do not find this a helpful approach.

...

*I must explain why I think the attempt to approximate real people to the notional man is not helpful. **It is to do with the function of expert witnesses in patent actions. Their primary function is to educate the court in the technology — they come as teachers, as makers of the mantle for the court to don.** For that purpose it does not matter whether they do or do not approximate to the skilled man. What matters is how good they are at explaining things.*

*But it also is permissible for an expert witness to opine on an ‘ultimate question’ which is not one of law. I so held in *Routestone v Minorities Finance* [1997] B.C.C. 180 and see s.3 of the Civil Evidence Act 1972. As regards obviousness of a patent Sir Donald Nicholls V-C giving the judgment of the Court of Appeal in *Mölnlycke v Procter & Gamble* [1994] R.P.C. 49 at page 113 was explicit on the point:*

‘In applying the statutory criterion [i.e. as to whether an alleged inventive step was obvious] and making these findings [i.e. as to obviousness] the court will almost invariably require the assistance of expert evidence. The primary evidence will be that of properly qualified expert witnesses who will say whether or not in their opinions the relevant step would have been obvious to a skilled man having regard to the state of the art.’

But just because the opinion is admissible:



‘it by no means follows that the court must follow it. On its own (unless uncontested) it would be “a mere bit of empty rhetoric” ... What really matters in most cases is the reasons given for the opinion. As a practical matter a well-constructed expert’s report containing opinion evidence sets out the opinion and the reasons for it. If the reasons stand up the opinion does, if not, not. A rule of evidence which excludes this opinion evidence serves no practical purpose. What happens if the evidence is regarded as inadmissible is that experts’ reports simply try to creep up to the opinion without openly giving it. They insinuate rather than explicate’

Because the expert’s conclusion (e.g. obvious or not), as such, although admissible, is of little value it does not really matter what the actual attributes of the real expert witness are. What matters are the reasons for his or her opinion. And those reasons do not depend on how closely the expert approximates to the skilled man.”

202. Thus, in the opinion of the Court, DW-2 should have dealt with the documents cited for challenging the validity of suit patent for lack of inventive step. The evidence of DW-1, who is the Legal Manager of Defendant No. 2, itself being summary in nature, does not assist the Court in appreciating the prior art. It was imperative for the Defendants to have adduced detailed expert evidence in this regard.

203. Be that as it may, the Court has also perused the documents cited in respect of lack of inventive step. In fact, although the DW-2 has not lead any evidence on the lack of inventive step, in his cross-examination in respect of a question on uncontrolled asymmetry along the peak gain *qua*



the prior art, DW-2 stated as under:

“MR PACHNANDA: So is it correct that in the prior art, uncontrolled asymmetry along the line of peak gain was viewed as a disadvantage, an unavoidable disadvantage, and undesirable in cellular communication network? Is that correct?”

A. Yes. It's correct.

Q. Is it correct that prior art was teaching away from even this accidental presence of asymmetry along the line of peak gain direction in beams, and it was discrediting and discouraging the same? Accidental asymmetry.

A. Can you repeat the question once again?

Q. Is it correct that prior art --

MR SHARMA: You can read from there.

A. Okay. Yes. I do. I agree that on that -- ”

204. The first and foremost fundamental principle in patent law is that whenever multiple documents are relied upon for the purpose of arguing lack of inventive step, the said documents ought to be inter-linked or connected in some manner. It would not be permissible for any party, for example say in the present case, to simply do a search on any patent database on antenna or asymmetrical beams and literally file all the patents relating to antennas or asymmetrical beams to argue that this would form a mosaic for proving lack of inventive step or obviousness. In this regard, the Calcutta High Court in its judgement dated 13th June, 2023 in ***Guangdong OPPO Mobile Telecommunications Corp. Ltd. v. The***



Controller of Patents and Designs², had observed as under:

“12. [...] If several prior art documents are to be read in combination, there must be some common thread linking the claim with the prior art documents obvious to a person skilled in the art. It must be shown that the skilled person when faced with the claim would turn to some other citation to supplement the claim. Otherwise, the combined reading of the prior art documents or mosaicking of the same is impermissible.”

205. Similarly, this Court in ***Sterlite Technologies Ltd. v. HFCL Ltd.***³, while dealing with mosaicing observed as under:

*“20.3 Since only these two documents are being used as prior art at this stage, this Court, at the outset, holds that the Plaintiff’s claim of mosaicing lacks merit. The objection of “mosaicing” would normally apply when completely unconnected documents are presented in a combination to defeat the inventive step in the invention. However, the argument of mosaicing cannot be sustained when there are only two documents used as prior art and such documents are interconnected or disclose similar products. **When multiple documents are alleged to disclose substantially similar products to the patented product, then the same is a reflection of the state of the art and not “mosaicing”.**”*

206. Further, the test of obviousness as contained in Section 2(j)(a) of the Act is that the state of art has to be looked at from the point of view of a person skilled in the art and the jump from the state of art to the patented invention should be in a manner which is smooth and obvious. It should not require too much imagination for arriving at the patented invention

² AID No. 20 of 2022.

³ 2022 SCC OnLine Del 2895.



from the state of art. The Division Bench of this High Court in *F Hoffman La Roche v. Cipla*⁴ had summarised the steps/inquiries involved in the test for obviousness or lack of inventive step which is as under:

“151. From the decisions noted above to determine obviousness/lack of inventive steps the following inquiries are required to be conducted:

- Step No.1 To identify an ordinary person skilled in the art,*
- Step No.2 To identify the inventive concept embodied in the patent,*
- Step No.3 To impute to a normal skilled but unimaginative ordinary person skilled in the art what was common general knowledge in the art at the priority date.*
- Step No. 4 To identify the differences, if any, between the matter cited and the alleged invention and ascertain whether the differences are ordinary application of law or involve various different steps requiring multiple, theoretical and practical applications,*
- Step No.5 To decide whether those differences, viewed in the knowledge of alleged invention, constituted steps which would have been obvious to the ordinary person skilled in the art and rule out a hideshow [sic] approach.”*

207. In the above discussed background, none of the documents which have been cited by the Defendants, in fact, establish the objection as to the

⁴ 2015:DHC:9674-DB



lack of inventive step. Each of the documents are distinguishable from a bare reading and some of them do not even relate to the invention at hand.

The same is illustrated from the table below:

Sr. No.	Document	Distinguishing factors
1.	Smith-I [D4]	Smith-I deals with an antenna arrangement where capacity is sought to be increased by adding at least one power amplifier to be shared for use across the antenna beams while increasing capacity. The antenna beams are also arranged in a manner that they are orthogonal in use to obstruct the loss. In fact, Smith-I does not teach asymmetrical beam patterns or use thereof and the manner in which they can be configured to increase efficiency.
2.	Hagerman [D5]	This document relates to changing/adjusting the shape of the antenna beam of a directional antenna, in order to allow optimization of the antenna beam and to minimize the number of required handovers. This patent does not in any manner come close to the suit patent.
3.	Smith - II [D6]	This document relates to two purported inventions. One being a beam former apparatus for a cellular radio based station and a base station apparatus for a cellular radio communication system. It also relates to a method of providing beam coverage for a sector of a cellular radio cell area consisting of analogue signals or digital signals. This invention does not deal with asymmetrical beams at all.
4.	Avidor [D7]	This document relates to an antenna arrangement consisting of a number of antennas which would serve one or more sectors. During the process of transmission by



		<p>an antenna to a corresponding sector, there is likely to be interference due to the other transmissions which are taking place. The invention is meant to reduce the said interference in a manner so as to maximize beam efficiency.</p>
5.	Okawa [D8]	<p>This document again relates to suppression of interference by providing a directional beam communication system. This is achieved by reducing the width of a directional beam to be transmitted and the manner in which the same is to be done.</p>
6.	Herscovici [D9]	<p>This document relates to the manner in which lenses can be used for directing, shaping and focusing electromagnetic radiation and how they can be employed in antenna systems. The arrangement of lenses in a particular manner so as to have proper radiation in an open space coverage area is one of the teachings in this patent. The claims in this patent relate to specific type of lenses having measured contours and rotations which are incorporated into antenna system to enable efficient transmission and reception of radiation. Further, the asymmetry disclosed in this document relates to asymmetry in the 3D radiation pattern and not the beam patterns along their axis of peak gain.</p>
7.	Ylitalo – I [D10]	<p>This document teaches how a base station can be kept small by sending directed as well as undirected beams. The said two beams are sent through dedicated channels covering each separate sectors thereby bringing in greater efficiency without requiring bigger base station.</p>



8.	Ylitalo-II [D11]	This document relates to a transmitter for determining weight factors of antenna beams and the methods for directing the weight factors. The said document does not in any manner relate to the invention disclosed in IN 893 and the mere reference to beams which could be speculatively asymmetrical cannot render the suit patent obvious.
9.	Rhodes [D2]	This document does not contemplate in any manner the feature of maintaining critical coverage area. Hence, the same cannot be considered to disclose the feature of reduction of handover area as disclosed in IN'893. Moreover, it does not address higher order sectorization or asymmetry within the beams.

208. A perusal of the documents cited by the Defendants would show that the Defendants have simply done searches on a patent database and any patent document which refers to asymmetrical beam patterns or other beam patterns have been cited as prior art without even connecting the Dots. In the assessment of this Court, the Defendants have engaged in a textbook exercise of impermissible hindsight bias, while aiming to prove lack of inventive step in the suit patent. By using the suit patent as a blueprint, the Defendants have attempted to work backwards, cherry-picking isolated words like 'asymmetry' from entirely different technological environments, such as 3D lenses in prior art document- D9 and underlay/overlay systems in prior art document D6, in an attempt to reverse-engineer a case for obviousness.

209. Such an approach by persons challenging patents is observed in several cases and can be dealt with using a Model that this Court terms as



the ‘DARTBOARD MODEL’. In this Model, at the centre of the Dartboard is the subject invention which is being challenged and each of the prior arts are the Darts being slung at the invention in question. The prior arts being cited are an attempt by the Defendants to keep trying to hit one Dart after another at the patent – with the fervent hope that one would hit the ‘Bulls-Eye’. Such an approach often results in enormous consumption of resources of both sides – especially the applicant/owner of the patent who is made to deal with unrelated documents, engage experts to distinguish the same and also raises costs of patent litigation. Apart from the impact on parties, it also results in inordinate consumption of time of Courts and patent offices. The Dartboard approach of Defendants in patent litigation ought to be dealt with imposition of heavy costs.

210. For any invention to be obvious, the following steps have to be shown:

- What is in the prior art which relates to the invention?
- What is the common teaching known to a person skilled in the art?
- How does such a person make the JUMP from the prior art to the subject invention?

211. When there are multiple prior art references or documents, relied upon in order to establish obviousness, it is necessary for one document to be linked to another. The linking could be based on the ‘Relevant field’ or the ‘Problem being solved’ or even both. It could also be documents/ references having common source, connecting the documents. By way of example:

- (a) A prior art document could be read with an educational text book to



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show that the invention is obvious to a person skilled in the art;

- (b) Two documents or references having a common source or origin, when read together provide the solution to the problem which the subject invention seeks to address.

212. These are mere illustrative examples. There could be several other ways of establishing linkage between multiple references or documents. But the underlying rule is that there has to be a link.

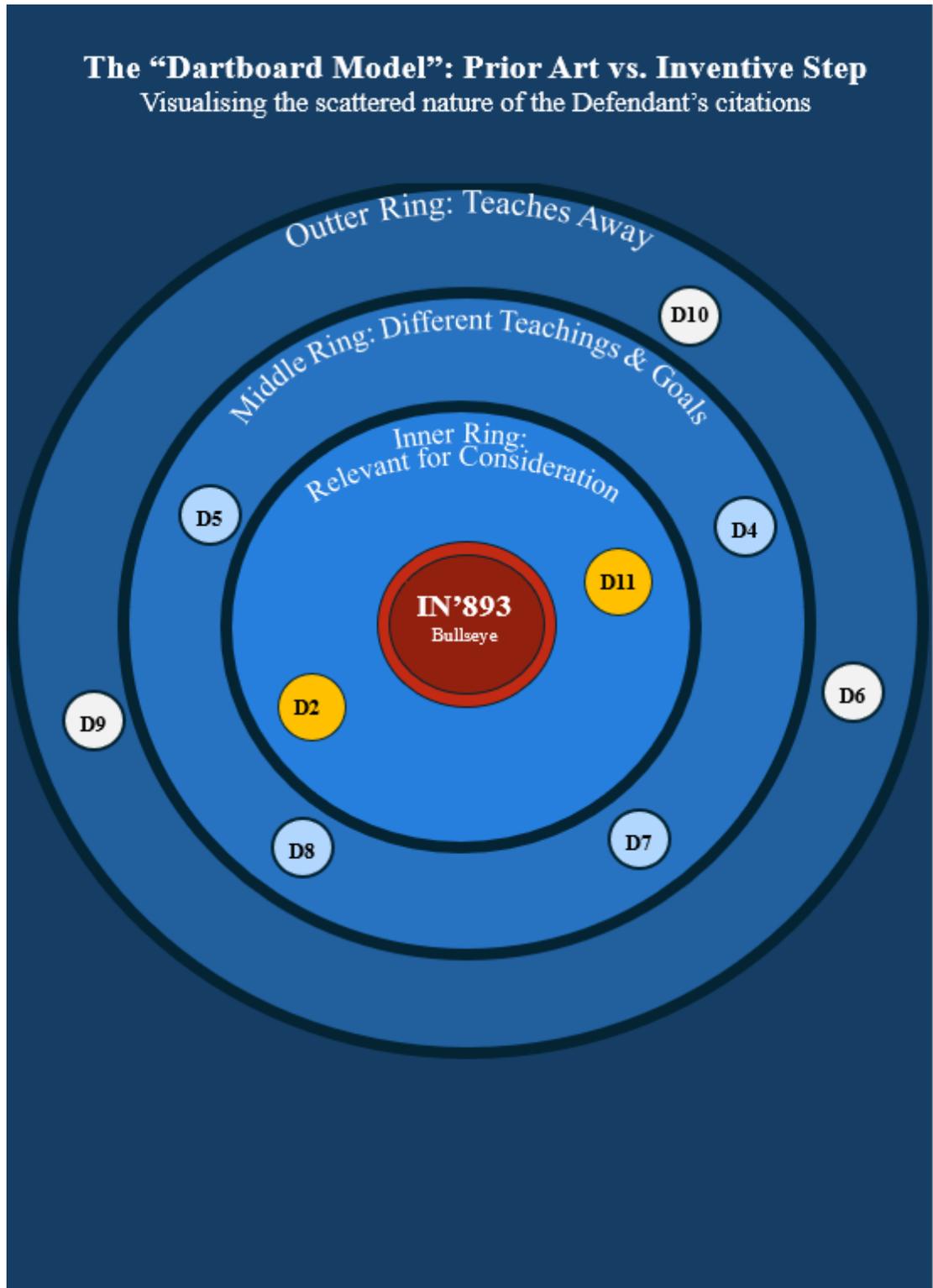
213. In the era of increased use of AI tools and Large Language Models (LLMs) it would be extremely easy for persons challenging patents or the grant thereof to cite several unrelated prior arts, raising the objection of lack of inventive step. However, the Courts have to be extremely cautious in such cases to ensure that the threshold of inventive step is not too high – so as to stifle or impede human innovation. Deeper scrutiny would be required to examine if there exists sufficient motivation for a person skilled in the art to combine such documents or references – failing which simply by citing multiple prior arts, patents may end up being revoked or inventions may not get their due.

214. In this very case, a total of nine prior arts have been cited to raise the ground of lack of inventive step. There is no evidence led on record to show as to how these documents make the patented invention obvious to the person skilled in the art. There is no connectivity established between the cited documents. There is no inter-linking. If the Court had to diagrammatically represent the dashboard of prior arts with reference to the suit patent, the same can be illustratively depicted as under:



The “Dartboard Model”: Prior Art vs. Inventive Step

Visualising the scattered nature of the Defendant’s citations





215. Coming to the present case, there is no evidence led to explain these steps or interlinking by any of the witnesses. DW-1 who deposes on this aspect is the Legal Head who does not possess requisite technical expertise. DW-2 merely makes a reference to the ground of lack of inventive step. Out of the nine documents only two documents even come close to the subject matter of the invention viz., D11 and D2. The same are clearly distinguishable as set out in the table above. On these documents, PW-1 has also satisfactorily distinguished them. PW-1 distinguishes Ylitalo on the ground that it operates in a fundamentally different technological domain, namely adaptive and underlay–overlay antenna systems, as opposed to the fixed-beam, sectorized antenna architecture of IN’893. Ylitalo does not disclose replacement of sector antennas, but instead relies on co-existing broadcast and traffic beams, and does not address or achieve reduction of handover regions or maintenance of critical coverage area. Further, the alleged asymmetry in Ylitalo is neither disclosed nor functionally employed; the document is silent on asymmetry as a design principle, and in fact teaches away from the claimed invention. Further, in respect of Rhodes, PW-1 the expert distinguishes the same on the basis that it is limited to adjustable antenna parameters such as tilt, beam direction, and beamwidth, without any disclosure relating to the shape or attributes of beams, higher-order sectorization, or asymmetrical beam patterns. It is stated that Rhodes does not teach the concept of maintaining critical coverage area or reducing handover regions; its reference to “coverage” is merely generic and descriptive, lacking any technical definition or implementation. The disclosure is confined to general optimisation through automatic adjustment between sectors, and



does not provide any teaching or suggestion of the specific beam shaping or asymmetry central to IN'893.

216. In the opinion of this Court, in the present case on the basis of the cited prior art documents, the Defendants do not have a credible case on lack of inventive step. The differences between the cited prior which relate to remotely related technologies such as adaptive systems, lenses, and overlay-underlay networks and the suit patent are significant; and a person skilled in the art, lacking the blueprint of the suit patent, would not find the transition to these steps obvious. The said ground has been raised in a casual and lethargic manner with no seriousness. A conjoint reading of the documents cited by the Defendants for obviousness or lack of inventive step would not motivate a person skilled in the art to predict IN'893. The said documents do not create a mosaic which would disclose the suit patent. Hence, the challenge under Section 64(1)(f) of the Act miserably fails.

Insufficiency under Section 64(1)(h) of the Act

217. The next ground alleged by the Defendants is that the complete specification of the suit patent does not sufficiently define the subject invention nor does it disclose the best method of working the same. This is a serious ground raised by the Defendants and requires some discussion. In order to appreciate this objection, the grounds raised by the Defendants are set out below:

- (i) The complete specification does not disclose how to induce the desired asymmetry in the beam pattern. A person skilled in the art cannot, therefore, implement the patented invention.



- (ii) The phase and power settings, which are stated to be giving rise to specific beam patterns, are like flower petals. However, these shapes are not radiated through the Defendants' antenna. The manner, in which such flower petals beam pattern can be generated, is not properly defined.
- (iii) If only conventional methods are to be used for deciding the beam patterns or optimisation of them then the suit patent ought to be revoked as it fails to disclose the best method for performing the same as required under Section 10(4) of the Act. The person skilled in the art is required to perform steps through trial and error to optimise the beam pattern as there is no clarity in the complete specification.
- (iv) The manner of optimization or shaping of the beam pattern as asymmetrical has not been explained as no solution has been put forth in the complete specification.
- (v) The term critical coverage area, which has been used repeatedly in the suit patent, has not been described or defined.
- (vi) Since the critical coverage area is a critical aspect of the suit patent, leaving the same ambiguous would show that the suit patent is lacking and undeterminable.
- (vii) The term asymmetry has also not been defined in the suit patent, and it is also not sufficiently clear from the description of the suit patent as there can be different ways of construing asymmetry. The description given in paragraph 35 of the plaint is absent in the patent document and is clearly an afterthought.



- (viii) The term ‘substantially equivalent’ is also a vague expression being indefinite in its scope.
- (ix) Hence, all the technical features, which are required to be contained in the patent document, are lacking.

218. The above grounds, as contained in the counter claim, have been reiterated by the two witnesses for the Defendants in their evidence affidavit. In respect of the grounds under Section 64(1)(h) of the Act, DW-1 in his cross-examination admits that he is the concerned person from the legal department and his role is, therefore, limited to the legal inputs that are required. The relevant portion of the cross-examination of DW-1 is extracted hereunder:

“Q. Let me put it like this: is it correct that your personal involvement in the marketing and sale of defendants’ antennas to its customers in India has been limited to legal issues and contractual issues?”

A. Of course, primarily since I am the concerned person for the legal department, my role is of course limited to the legal inputs that are required. [...]”

219. In fact, he admits that the contents of the written statement and counter claim are primarily based on inputs received from the technical team of the Defendant No. 2, comprising of experts. DW-2 - Mr. Mahesh Birari is also one such technical person. The relevant portion of the cross-examination of DW-1 reads as under:

“Q. [...] So is it correct that wherever your affidavit deals with matters relating to the science and technical constructions of defendants’ antennas such as design and construct of the beam forming network of the defendants’ antennas or the nature of couplers used in the defendants’ antennas et cetera, you have really



relied upon the information provided to you by the technical team of the defendants?

A. Yes, the technical team and the various other technical information that has been shared by the concerned departments of our organisation.

[...]

Q. Can you name some of the key members of the defendants' technical team who provided you this information regarding technical matters?

A. Well, technical teams are based over outside India and Asia Pacific. So we don't have a regular interaction with them. So at this point of time, I won't be able to recollect names. But of course Mr. Mahesh is one of them. Mr Mahesh Birari is one of them [...]

Q. Is it correct that it was you who verified and signed the written statement of the defendant number 2 filed in these proceedings?

A. That's correct.

[...]

Q. [...] Now, my question is : is this the kind of comparison that, according to you, service providers and customers in the Indian Market have been making for preferring the defendants' antenna over the plaintiff's antenna?

A. Well, I am not a technical guy in this matter. So any kind of references like this that are mentioned in this document is beyond my personal understanding since this is for a technical expert to elaborate on."

220. It is clear from the evidence of DW-1 that he lacks technical expertise to support the grounds for challenging validity of the suit patent



in general, and in particular under Section 64(1)(a) of the Act, as he has stated throughout his evidence that he does not have any relevant technical qualifications.

221. On the aspect as to whether the critical coverage area is defined in the suit patent or not, the cross-examination of DW-2 shows that the said witness admits as to what he understands as coverage area and his conclusion is that in the suit patent, the critical coverage area is neither defined in the suit patent nor in any literature. The entire cross-examination of DW-2 however shows that the coverage area of multiple beams and the effect thereof is well understood by the said witness. Despite this, the questions relating to the same are not candidly answered by DW-2. The relevant portion of DW-2's cross-examination is extracted hereunder for ease of reference:

“Q. Is it correct that you understand the meaning of critical coverage area?”

A. From the suit patent, I did not understand anything as in critical coverage area as well as in the normal literature also I did not find that.

[...]

THE COURT: Do you understand what is coverage area?

A. Yes. I do understand.

[...]

Q. Is it correct that the coverage area of one beam would be the total of the dominant area and the hand over area?

(Pause)

That's a lot of time, Mr Birari. It's a simple question?



THE COURT: I was about to say that. Why are you taking so long? It's a straight question.

A. Yes. It's a straight question, but do you mean to say that only the coverage area for the single beam?

Q. Yes. The coverage area for the single beam will have to be the area that is held by a hand over and the dominant part of the beam. That is the total coverage area of the single beam. Correct?

A. Yes. That is correct."

222. The Plaintiff's expert witness PW-1 in paragraph 190 to 196 of his evidence affidavit deals with the ground of insufficiency of disclosure. At the outset, it is stated that a conjoint reading of the beamforming network shown in Figure 7 and Figure 8 in the suit patent, and the power and phase weightings disclosed in therein, can produce asymmetrical beam patters with the claimed characteristics of IN'893. It is his case that the terms 'substantially equivalent', 'critical coverage area' and 'asymmetrical' are fully understandable by a person skilled in the art considering the state of the art, teachings and the context of IN'893. Reliance is placed upon various technical literature, which have referred to and used this terminology, including the 3G America White Paper⁵, as also the European Patent Application No. EP 1830200 A1⁶. In his cross-examination, about the term critical coverage area PW-1 has answered as under:

"Q. Is it correct that the term "critical coverage area" is not defined in the suit patent in the same way you have done it in the affidavit?

⁵ 3G Americas, MIMO and Smart Antennas for 3G and 4G Wireless Systems - Practical Aspects and Deployment Considerations, May 2010.

⁶ Duda, A. (2007). *Method and system for speed estimation in a network* (EU Patent Application No. EP 1830200 A1). European Patent Office.



A. Again, it's reading the patent and arriving at a conclusion. So may I?

You have to – “critical coverage area” is a term. So hence, it has to exist somewhere in the patent to be defined. When you read the patent, it's always tied -- the critical coverage area is in addition to the handover area. And the logical conclusion is that the total coverage area is a summation of the critical coverage area plus the handover area. And anybody would know that that -- an alternative definition of that would be the dominant area plus a handover area because there is no other interpretation. So it doesn't explain that in one sentence, but I cannot see another reading of the patent that gives you an alternative conclusion.

Q. Just one more from the answer.

Is there any literature or any textbook that defines the word “critical coverage area” this way?

A. I've seen patents use the word “critical coverage area.”

Q. Let me rephrase it. Before filing this patent.

A. Not before filing the suit.

Q. Let me rephrase it. Before filing of the suit patent, has “critical coverage area” been defined in any textbook or any paper otherwise, any literature?

A. Sorry. Can I just clarify. Are you asking whether I was aware of any before the suit or whether was anything published before filing of the suit?

Q. No. Anything that existed before. You might have now.

A. I have seen definitions of “dominant,” with the word “dominant” used but not the words “critical coverage.” So I have not seen people make that assumption of comparing critical – of associating “critical” with “dominant.” But this was a new



definition that was created within the patent to explain a particular feature of the patent. And that's how I believe that that phrase, "critical coverage area," has come about. But I have since seen other people use the phrase "critical coverage area" in a similar way.

Q. Where? Do you have any --

A. In a European patent.

Q. After the filing of the suit patent?

A. I would have to check what the days on that, but I came across the European patent after the filing of the suit.

Q. After. Just a last suggestion. Is it correct that critical coverage area is not defined in the suit patent? That's what my suggestion is. So you can just answer in direct -- actually, I just said -- actually, I rephrased it, the way it has been defined in the affidavit. Now I'm just broadening that.

Is it correct that "critical coverage area" has not been defined in the suit patent? You can just say yes, incorrect, and correct. That's all.

A. I would say incorrect because it's a conclusion you derive. To me, as a person skilled in the art, it's not in doubt. So other people with my experience would come to the same conclusion as I had come to.

THE COURT: Would it be correct to say that the critical coverage area was not defined in the patent but according to you it would be known to a person skilled in the art?

A. Yes, your Ladyship.

THE COURT: I'm just putting it so that the conclusion is clear.

THE WITNESS: It is."



223. A perusal of the above cross-examination would show that although the term ‘critical coverage area’ has not been defined in the suit patent, as per PW-1, the meaning of the same would be discernible for a person skilled in the art from a reading of the suit patent. It is noted that ‘critical coverage area’ has also been explained in the evidence affidavit of PW-1 in the following manner:

“38. In this regard, it is also relevant to note that “Critical coverage area”, or dominant coverage area as it is also known in the art, means the coverage area of a beam excluding handover areas (those areas overlapping between sectors/sub-sectors). This is apparent from a reading of IN240893, as well as the state of the art as on the priority date of IN240893, and would be so understood by any person skilled in the art. A person skilled in the art would readily understand that the term “critical coverage area” is an area of “dominant signal”, i.e., the portion of the sector that is unique to that sector and where the traffic carrying capabilities of the sector are found. Throughout IN240893, the “critical coverage area” is the “total coverage area minus the handover area”, given that the critical coverage area is the area where the sector power can be detected above a minimum threshold. I am aware that this is also the manner in which the Plaintiff had defined the expression "critical coverage area" before the United States Patent and Trademark Office as well as before the European Patent Office. For this reason, whenever the term coverage area is used in the Complete Specification of IN240893, it is used along with the fact of “small overlapping area”, “low overlap” and the like. For this reason, as well, IN240893 uses two different terms, “critical coverage area” and “coverage area”, because they were meant to convey different concepts.”



224. Further, in respect of the term “asymmetry” PW-1 in his affidavit has explained the same as under:

*“36. In order to ascertain whether any fixed beam antenna falls within the scope of Indian Patent No.240893, it is only necessary to compare the beam patterns of any antenna with the typical beam patterns that are generated from the power and phase weightings mentioned in Indian Patent No.240893 (which is reproduced above in this Affidavit). **Although it would be readily obvious to a person skilled in the art, but it may be added by me that the asymmetrical shape of the beams in the context of IN240893 is in the shape of the beam as emitted from the antenna, and not the asymmetrical shape that may result due to noise, distortion and topographical obstructions.***

*37. Care must be taken here that Indian Patent No.240893 does not claim any, and every, asymmetry or asymmetrical beam shape/pattern, but rather an optimized and asymmetrical beam shape/pattern of the main beam of a fixed-beam antenna, which is capable of achieving the collective objects described in the preceding, and succeeding, paragraphs of this Complaint, and embodied in the figure above, in respect of fixed sector coverage areas, which make up sectorized cellular communications networks. The degree of asymmetry covered by Indian Patent No.240893 is necessarily limited by its intended usage of substantial equivalence between the critical coverage area of the earlier sector antenna and the new sub-sector antenna. **Simply put, any degree or any nature of asymmetry in the main beam, especially from the uncontrolled asymmetry in misshaped/ distorted beams, would not provide the feature of substantial equivalence between the critical coverage area of the replaced sector antenna and the replacing sub-sector antenna. Therefore, this feature of maintenance of substantial equivalence between the critical coverage area of the***



earlier sector antenna and the new sub-sector antenna is a limitation on the degree of asymmetry in the main beams of Indian Patent No.240893. Thus, as per Indian Patent No.240893, the term a “split-sector antenna”/”sub-sector antenna” refers to any fixed beam, multi-beam antenna, which produces, by any means whatsoever, asymmetrical beam(s) that has the feature of maintaining critical coverage area, and is not limited to any particular sub-sector antenna design.

[...]

39. **The asymmetry of the beams contemplated by Indian Patent No.240893 is along a line of reference passing through the peak gain point of the main beam in the horizontal plane** (as shown in the figure below in 'red').

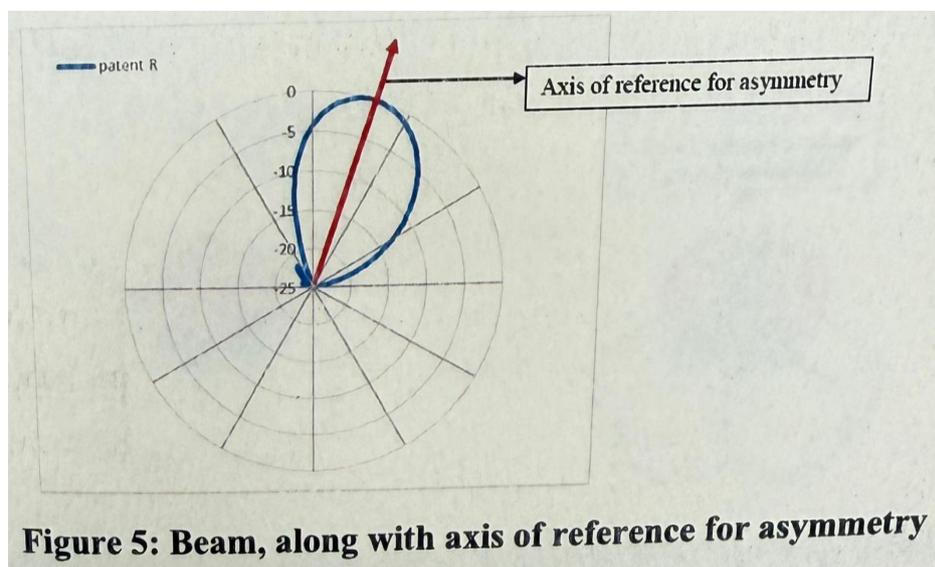


Figure 5: Beam, along with axis of reference for asymmetry

I note that the Defendants term the above beam pattern as being symmetrical. However, it would be immediately apparent to any person skilled in the art that the above beam pattern is asymmetrical.”

225. Therefore, the term asymmetry is to be understood, as per PW-1, to mean asymmetry along the line of reference passing through the peak gain



point of the main beam in the horizontal plane. PW-1 was also extensively questioned on the interpretation of asymmetry *vis-à-vis* the suit patent, and the relevant portion of the same is extracted hereunder:

“Q. Side lobes are not used to determine whether a beam is symmetrical or asymmetric?”

A. There is some people that will refer to asymmetry within a side lobe, but that’s not the asymmetry that’s related to this patent, but – correct, you could refer to it, but that’s not the reference of asymmetry within here. We’re talking about the reference of asymmetry within the main lobe, not asymmetry due to any side lobes.

Q. So asymmetry can be defined in different ways.

A. Correct.

Q. And if asymmetry can be defined in different ways, is there any particular definition of asymmetry in the suit patent?

A. It’s one of interpretation of the text.

Q. Yes or no, and then answer whatever.

A. Okay. Not explicitly.

Q. Not explicitly?

A. It’s implied from the text.

xxx

xxx

xxx

xxx

Q. So I put to you that the suit patent does not mention induced or tailored asymmetry anywhere in the complete specification.

A. In the complete specification, yes, it does. But it’s not in a specific sentence that says exactly that. You have to read all the documents. You have to take in to

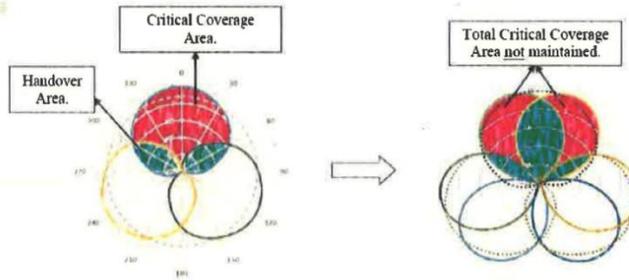


account that that refers to mirror imaging which implies that any angle of asymmetry isn't along the boresight. It was mirror images on the boresight. So you're left with a description of asymmetry, but you arrive at the conclusion that it is purely within the main beam because of all of the other descriptives that are in there."

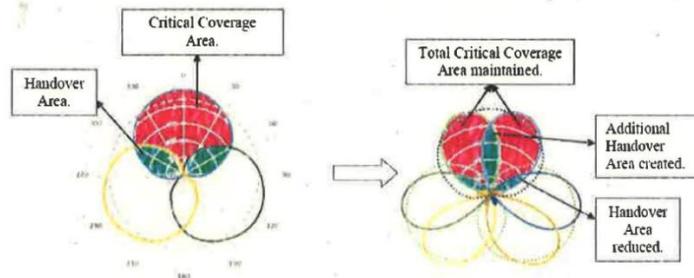
226. It is clear from both the evidence affidavit and the cross-examination that as per PW-1 although asymmetry has not been expressly defined in the suit patent, it would be apparent and obvious to a person skilled in the art that the asymmetry in the beam patterns is as contemplated in the suit patent.

227. Insofar as the term 'substantially equivalent' used in respect of critical coverage area is concerned, PW-1 in his evidence affidavit has discussed the same and provided a diagrammatical representation of the same in the following terms:

"41. The feature of substantial equivalence of the total critical coverage area of the new sub-sector antenna with the critical coverage area of the earlier sector antenna, inherently, and necessarily, leads to reduction in size of the handover areas of the new sub-sector antenna. This is an inherent feature of the claims of Indian Patent No.240893 because at least one additional handover area is created when a sector antenna is replaced by a split-sector antenna, although critical coverage area of the replacing split-sector antenna remains substantially equivalent to that of replaced sector antenna. In any case, reduction in size of the handover areas of the new sub-sector antenna is a feature clearly disclosed in the complete specifications of IN240893. This can be diagrammatically represented below:



Reduction of total critical coverage area because of large handover area using Symmetrical Beams of the Prior Art split-sector antenna



Substantial maintenance of total critical coverage area because of reduction of handover area using Asymmetrical Beams of IN240893

42. As can be seen above, in prior art teachings, individual handover areas were not reduced when moving to a split-sector antenna with symmetrical beams from a sector antenna with symmetrical beams. This is represented above, where the total critical coverage area (areas shown in red) is not maintained because of increase in the overall handover areas (areas shown in green that has increased), which reduces the overall critical coverage area (areas shown in red which has reduced). The inventive step of IN240893 is diagrammatically represented above, where the total critical coverage area is maintained (see areas shown below in red color which is substantially equivalent) as a result of reduction of individual handover areas at the sector edges and sub-sector edge (see each area shown below in green color which have individually reduced), and maintenance of substantially same overall handover area (total area shown in green color). For this reason, the scope of



IN240893 and U.S. Patent No.8,311,582 (which is the corresponding patent in United States of America) is identical, even though there is a slight difference in the language of the independent claims of both patents.”

228. Accordingly, it is the case of the Plaintiff that all the three terms *i.e.*, ‘substantially equivalent’, ‘critical coverage area’, and ‘asymmetry’ are fully understandable for any person skilled in the art.

229. The further argument of the Defendant is that the element spacing has not been specified in the patent specification and hence the suit patent is invalid due to insufficiency. This is rebutted by PW-1 who states that non-disclosure of element spacing would not affect the validity of the patent in the following manner:

“Q. So you mean if you input these values of power and phase of the suit patent in any antenna, it would start working like the antenna in the suit patent?”

A. No. You've got to design the antenna to produce that pattern which is defined from it. Then if you're going to use that phase and weighting, the whole of the beam former has got to be designed to produce that at a specific frequency. That specific frequency then defines the element spacing. So once you've defined the working, that's when your element spacing comes in. It's got to be, when you've defined what you want, then you can lock down the design itself.

Q. All these factors contribute to that.

A. Yes.

Q. Is it correct to say that the suit patent does not give any embodiment of the element spacing, how much would be the spacing, what would be the single element beam pattern and what even would be the frequency?”



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A. No. As I said, the - - it does not.

Q. It does not?

A. Because the power and phase weighting is frequency independent. It can be translated to any frequency, and that's when you bring in the element spacing and the frequency of operation.”

230. On the aspect of insufficiency, the term ‘critical coverage area’ is clearly understandable from a reading of the suit patent. Every antenna has a coverage area – but the whole of the said area cannot be utilised by subscribers due to various reasons such as signal overlaps, weak signals etc., So the coverage area which can be utilised is the critical coverage area or dominant coverage area – as termed by PW-1. The manner in which the Defendants tend to amplify the lack of a definition of this term to argue ‘Insufficiency’ is nothing but an exaggeration as in the telecommunication industry, coverage area and hence critical coverage area is easily understandable. The said term is not to be defined with mathematical precision but is to be broadly understood in the context of the invention. Similarly the expression ‘substantially equivalent’ also merely means that the replacement would continue to maintain the effective coverage area of the earlier antenna.

231. It is also noted that the Defendants have also relied upon examination report dated 12th December, 2019 of the European Patent Office (hereinafter “EPO”) to argue that the EPO had raised objections, *inter alia*, on the ground of lack of sufficiency of disclosure. In the examination report the EPO has taken an objection that the features of the asymmetrical beams have not been fully defined. Another objection raised



by EPO is that it is physically impossible to have same coverage area between symmetrical and asymmetrical beams. The Court has perused the said examination report and the relevant portions are extracted below:

*“c) It is physically **impossible** to have a coverage area provided by the plurality of sub-sector coverage areas which "is the same as" the coverage area of the replaced associated sector antenna" by using asymmetrical beams. This fact is well-known from antenna theory and can be seen e.g. in Figure 3 but also, and in a clearer manner, in Figure 5.*

*In other words, at most the coverage area after replacement approximates the coverage area before replacement, but a 100% coincidence in coverage areas is **simply impossible**.*

*Moreover, even if assuming (arguendo) that such possibility would be possible (which is not accepted, as it is physically impossible), the application as filed does **not** provide any technical **manner (i.e. how)** in which, by e.g. using two (or more) directional antennas whose beams cover two (or more) sub-sectors, and which replace an associated sector antenna whose beam covers a sector, the two beams of the two (or more) sub-sectors cover exactly the same coverage area as the area covered by the associated sector antenna.*

*In other words, the mere fact that asymmetrical beams are used without explaining **how** (i.e. in which manner, to which extent, in which proportion, length, size, form... technically and precisely defined), by using them, the same coverage area is achieved by the two or more beams of the sub-sectors as the coverage area of the one associated sector antenna leads to a **lack of sufficiency of disclosure** which appears irremediable, since the application as filed does **not** provide any teaching which would allow remedying such deficiency*



of the claims by way of amendment. Due to the above reasons, the requirements of Article 83 EPC are **not** met.

[...]

In this same context, and w.r.t. the expression “is substantially the same in area as” in **independent claims 1, 5 and 9**, the Examiner wishes to point out the following:

In view of the reasons set out under Items 4.1 and 4.2 above, should the Applicant intend to delete the alternative “is the same in area as” from the **independent claims 1, 5 and 9**, the Examiner kindly warns the Applicant about the following:

The expression “is substantially the same in area as” comprises the relative term “substantially”. Such term is neither clear, nor technically precise.

In this respect, the term “substantially” should **not** be used in the claims because it has **no** well-recognised meaning, see EPC Guidelines F-IV, 4.6.

In fact, it can be interpreted in completely different subjective manners. In other words, different skilled readers may give to the term “substantially” different interpretations, i.e. what for a certain skilled reader could be interpreted as “substantially” could be interpreted by a different skilled reader as “not substantially”. Therefore, the skilled reader-dependent arbitrary interpretation of such expression renders the meaning of “substantially” unclear.

Moreover, there is **no** part in the application as filed which could represent a basis for clarifying such expression in the above claims in order to overcome the present objection.”



232. These discussions in the EPO appear to be stemming from the submission made on behalf of the patentee that the coverage area “is the same” after replacement of symmetrical beams with asymmetrical beams. The claim in the suit patent, however, is not of identical coverage area but *substantially equivalent* which deserves to be considered here. The Court notes that the EPO has also objected to the term “substantially equivalent” as being neither clear nor technically precise. Further, the term asymmetry is also held to include both unintentional and intentional asymmetry. It is on these grounds that the patent has been rejected in the EPO. It is also observed that the application before the EPO had been abandoned by the Plaintiff.

233. The Defendants have also relied on the proceedings before the Patent Re-examination Board of the National Intellectual Property Administration, Peoples Republic of China. *Vide* its decision dated 5th July, 2013 the application for invalidation of the corresponding Chinese patent filed by Andrew LLC (now M/s. CommScope) had been decided. The corresponding Chinese patent was set aside and the key decision points in the said order is set out hereunder:

“Key decision points:

If the necessary technical features of the technical problem to be solved in a patent are not recorded in the claim, the content recorded in the current independent claim alone is not enough to solve the technical problem to be solved in the patent and the claim cannot reflect the technical solution of the invention as a whole, the claim lacks the necessary technical features.”



2026:DHC:2665



234. A further perusal of the said decision would show that the corresponding Chinese patent was being decided as on the priority date of 17th March, 2006 which was the earliest filing date and in the said priority document, the allegation is that sufficient material did not exist to show the manner in which the split sector antenna with multiple sub-sector areas could achieve the results as explained in the specification. The entire decision is based on insufficiency in the priority document. The decision is also based upon paragraph 2 of Article 21 of the Rules for Implementation of Patent Law in China which requires that an independent claim shall as a whole reflect the technical plan of the invention or utility model and record the necessary technical features for solving the technical problem.

235. The requirement in India, on the other hand, is contained in Section 10 of the Act which requires that the invention ought to be fully and particularly described as also its operation or use. The best method by which it is to be performed is to be disclosed including other methods which may be known to the patentee. An abstract of the technical information also has to be provided along with the claims. There is a clear difference between wording of paragraph 2 of Article 21 of the Chinese patent law and Section 10(4) of the Act. Moreover, the EPO's decision and the Chinese decision appear to proceed on the basis of a priority document which is taken as the basis for examining the respective patent specifications whereas in India no argument relating to the priority document has even been raised or defended at all in the pleadings or in the evidence.



236. It is also relevant to not lose sight of the fact that the claims of corresponding patents in foreign jurisdictions would not automatically have a bearing on construing the claims of the Indian patent. The wording of the Claims may vary in different jurisdictions according to the different prosecution practices and sometimes to even accommodate peculiar local laws.

237. However, the test to be ultimately applied for construction of the claims in India requires the claims to be read in the context of the prior art and the specification. The Supreme Court in ***Bishwanath Prasad Radhey Shyam vs. Hindustan Metal Industries***, MANU/SC/0255/1978, has held that the proper way to construe a specification is not to read the claims first and then see what the full description of the invention is, but first to read the description of the invention, so that the mind may be prepared for what is claimed by the invention, because the patentee cannot claim more than what he desires to patent. The claims must be so construed as to give an effective meaning to each of them. The specification and the claims must be looked at and construed together. The relevant portion of the judgement reads as under:

“42. As pointed out in Arnold v. Bradbury (1871) 6 Ch. A. 706 the proper way to construe a specification is not to read the claims first and then see what the full description of the invention is, but first to read the description of the invention, in order that the mind may be prepared for what it is, that the invention is to be claimed, for the patentee cannot claim more than he desires to patent. In Parkinson v. Simon (1894) 11 R.P.C. 483 Lord Esher M.R. enunciated that as far as possible the claims must be so construed as to give an effective meaning to each of them, but the specification



and the claims must be looked at and construed together.”

238. Accordingly, the claims of the suit patent have to be constructed in view of the complete specification and reliance on the prosecution history before foreign jurisdictions, would not on its own, be sufficient to satisfy the ground of insufficiency under Indian law.

Claims do not sufficiently define the invention

239. The above ground is based on the objection under Section 64(1)(i) of the Act. On this aspect, the counter-claim of the Defendant No. 2 states as under:

“46. That the impugned Patent is also liable to be revoked under Section 64(1)(i) of the Indian Patents Act, 1970 as the scope of the claims are not clearly defined. The Plaintiff is claiming that the impugned Patent relates to an induced/optimized asymmetric beam pattern, whereas, the claims of the impugned Patent do not provide the technical features to achieve such induced/optimized asymmetry. In particular, claim 1 and 10 of the impugned Patent only claims an alleged result or objective of the invention but not the technical aspects thereof.”

240. On this aspect, Mr. Mukerjee, DW-1, in his evidence affidavit states that the Claims do not provide the technical features to achieve the induced asymmetry, and nothing more has been added. Same is the position insofar as DW-2 is concerned, who also states that the considerable elements of the antenna have not been given. The patent only relates to a scheme and is devoid of any technical features. It is also argued by DW-2 that the suit patent is trying to claim a natural phenomenon beyond control of the patentee. It is further argued that the suit patent only involves simple



mathematics and mental act, and does not involves any ingenuity.

241. These grounds, in the opinion of the Court, have been taken by the Defendants clearly *for the sake of it* as each of these grounds contradict with one another. The Defendants are merely trivialising the subject invention by taking all possible grounds in a bid to “try their luck”. This is evident from the fact that while, on the one hand, the Defendants argue that the subject invention is a natural phenomenon, on the other hand, it is argued that the same is a scheme or a mental act. Such grounds cannot co-exist with one another and, in fact, reflect the lack of seriousness in the challenge to the validity of the suit patent. The Claims of the suit patent shall be analysed in later section of the judgement and the discussion in respect of the complete specification and the patented invention would substantially deal with the grounds under Section 64(1)(i) of the Act.

False Representation under Section 64(1)(j) of the Act

242. The ground under 64(1)(j) as raised by the Defendants is as under:

“47. That the impugned Patent is liable to be revoked under Section 64(1)(j) of the Act since the patent has been obtained on false representation. In particular, the radiation pattern as disclosed in the description of the impugned patent are not obtainable from the power and phase valuses as stated in the description.”

243. Mr. Mukherjee, DW-1, in his evidence affidavit, in respect of 64(1)(j) states as under:

“51. I state that the impugned Patent is liable to be revoked under Section 64(1)(j) of the Act since the patent obtained on false representation. In particular, the radiation pattern as disclosed in the description of the impugned patent are not obtainable from the power



and phase values as stated in the description. I further state that these are general power and phase values inputted in various antennas and thus, novelty and inventive does not reside in these values because of which these values have not been specifically claimed.

52. I state that Defendant No. 1 has no relation with the cause of action alleged to be arising in the present suit and has been added as Defendant No. 1 only to mask the main Defendants.

53. I state that each antenna has a different beam characteristic due to its structural differences and thus, beam patterns are not solely dependent on the phase and power weightings, which have to be calibrated according to each antenna. The Plaintiff has even failed to show as to what power and phase weightings give what kind of beam patterns. The most significant observation is that none of the patterns shown in the plaint correspond to the illustrations of the impugned Patent at any of the frequency, phase, power, and other inputs claimed by the Plaintiff, which seriously undermines the claims of the Plaintiff. ”

244. Further, the DW-2 states on this aspect as under:

“46. That I state that I have seen the affidavit filed by Mr. Cosgrove and find that it suffers from significant infirmities. Firstly, every antenna model has a different characteristic. Thus, in the absence of any information on the Plaintiff's models, beam patterns shown by Mr. Cosgrove obtained from the power and phase settings mentioned in the Suit Patent cannot be verified. Similarly, Mr. Cosgrove has failed to show which beam pattern corresponds to which phase and power values. Thirdly, the beam patterns overlaid over the expanded beam images obtained from Defendants' brochures are not overlapping perfectly. Mr. Cosgrove has also not



shown to what extent the images from Defendants' brochures have been expanded to match the scale. In the absence of the above information, Mr. Cosgrove's opinion without any proper investigation."

245. Thus, the argument of the Defendants is that the radiation patterns as claimed in the patent are not obtainable from the power and phase weightings disclosed in suit patent. Hence, the patented invention is not novel or inventive. On this aspect, the cross-examination of DW-1 reads as under:

"Q. Can I just show you your evidence affidavit in trial bundle II, paragraph 51, at page 278. Do you see paragraph 51, the spill-over portion at the top of page 278?"

A. Yes.

Q. You say: "In particular, the radiation pattern as disclosed in the description of the impugned patent are not obtainable from the power and phase values as stated in the description." Do you see that?"

A. Yes.

Q. Is it correct that you haven't personally undertaken the exercise to simulate the radiation patterns from the power and phase values in the suit patent?"

A. That's correct."

246. Further, DW-2 in his cross-examination, while being questioned as to whether he has simulated the beam pattern on MATLAB or any other simulation software to support his above statements has deposed as under:

"Q. Now, you did not simulate the beam pattern on MATLAB or on any other simulation software from the power and phase weightings disclosed in the suit patent



using the typical element spacing of wave length at this frequency of 2300 to 2400MHz. Correct? Is that correct?

A. Let me just read out the questions once again. I'm referring back to the suit patent which has disclosed the phase and power values. Your question, sir, is that the same is applied for this model?

Q. No. My question is that you did not simulate the beam pattern on MATLAB or any other software from the power and phase weightings of the suit patent using this

THE COURT: Did you simulate any beam pattern from this antenna?

A. On this particular model?

THE COURT: Yes.

A. Yes. but which I had not given in the affidavit on record , so which normally we do.

THE COURT: You did a normal simulation?

A. Yes.

THE COURT: Did you simulate this particular product with any weightings in the patent?

A. No.

THE COURT: No. Okay.

MR SHARMA: I think the question about the defendant product did not come in.



THE COURT: That's okay.

MR PACHNANDA: Have you even simulated the power and phase weightings on MATLAB using this frequency of 2300 to 2400MHz using the information from the suit patent, on MATLAB? Have you done any work on MATLAB for the preparation of your expert evidence personally ?

A. Not as such because the information disclosed is not sufficient. So we cannot go further simulations .”

247. In the above cross-examination, there is some overlapping between the argument on novelty under Section 64(1)(j) of the Act and in respect of infringement. However, as noted above the evidence reveals that DW-1 lacks the technical expertise itself to support the grounds under 64(1)(j) of the Act. Insofar as DW-2 is concerned, it clearly appears that he did not conduct any simulations on any software to arrive at the findings that the power and phase weightings disclosed in the suit patent would not result in the subject invention.

248. The ground of challenge under Section 64(1)(j) of the Act has also been dealt by the Plaintiffs witness PW-1 who states in his evidence affidavit as under:

“195. As regards the comments made by the Defendants regarding the scope of the claims of IN240893 not being clearly defined, I state that anyone who would know the state of the art as on the priority date of IN240893 would clearly understand the scope of the claims of IN240893, and the pioneer nature of the invention disclosed in it. I am personally aware that even today, i.e., after almost 18 years from the priority date, and despite several technological advancements made in the telecommunication space, the invention



disclosed in IN240893 remains relevant. I have always believed that the invention of IN240893 was many years ahead of its time, and I see my thinking coming true with the demand that products covered by IN240893 still command. I note that the Defendants also call the invention of IN240893 a mere scheme or rule or method of performing a mental act. I would disagree with such statements. Without laboring too much on this point, I would refer to earlier portions of my Affidavit that would provide some insight into the technical concept of IN240893.”

249. Thus, in response to the above objection, the Plaintiff’s stand is that the power and phase weightings given in the complete specification are illustrative and exemplary embodiments and the claims are not confined to the said weightings. However, PW-1 is silent on this aspect as to whether the power and phase weighting readings result in the radiation pattern as disclosed in the description or not. In order to deal with the objection, therefore, the Court has considered Figures 2 to 6 of the complete specification which are explained in the detailed description of the preferred embodiments as under:

“As can be seen from a comparison of Figure 2, which shows 3 mirror-imaged pairs (210, 211), (220,221), (230,231) of asymmetrical sub-sector beams to replace a traditional 3 sector configuration with a 6 sub-sector configuration, the use of asymmetrical beams ensures handover region reduction by means of the low overlaps 212, 222 and .232 of adjacent pairs of sub-sector beams (210, 211), (220,221) and (230,231) respectively, and low overlaps between sub-sector beams of a first pair and subsector beams of a second pair, shown at 213, 223 and 233. This consequently reduces handover overhead for most wireless standards and results in a net capacity and throughput



increase, while maintaining the initial coverage by matching the antenna radiation pattern at the edges of the original sector, so that network planning overhead is minimized or avoided. Furthermore, the use of an asymmetrical sub-sector beam maintains low cusping loss between adjacent beams so as to achieve good overall network coverage with no new coverage holes. This is shown in Figure 3 which shows, for clarity of illustration, sub-sector beams 230, 231, overlaying conventional full sector beam patterns 310, 320, 330 shown in dashed outline.

For ease in use, clarity and maximum versatility, radiation plots are usually normalized to the outer edge of the coordinate system. Furthermore, signal strength is not normally thought of in terms of strength in volts, microvolts etc., so radiation plots are usually shown in relative decibels (dB).

Decibels are used to express differences in power in a logarithmic fashion.. A drop of 1 dB means that the power is decreased to about 80% of the original value while a 3 dB drop is a power decrease of 50% or one-half the power. The beamwidth specified on most data sheets is usually the 3 dB or half-power beamwidth. A 10 dB drop is considered a large drop, a decrease to 10% of the original power level.

Those having ordinary skill in this art will readily recognize that not all sectors need to be upgraded, as is shown in Figure 4. Nor are all sectors upgraded to the same sectorization level. Rather, some sectors 310, 320 could be left alone, without upgrade, while others (230, 231) upgraded to be replaced by a two sub-sector configuration. Still others could be replaced by a higher sub-sector configuration as shown in Figure 5, which shows a 3 sub-sector configuration 510, 520, 530. In order to provide substantially similar



coverage over the conventional sector beam 540 they are replacing (shown in dashed outline), the central sub-sector beam 520 may be symmetrical, while the other two sub-sector beams 510, 530 are asymmetrical and mirror images of one another.

In Figure 6, there is shown a 4 sub-sector configuration 610, 620, 630, 640. Again; the conventional sector beam 540 is shown in dotted outline. Here however, the two central sub-sector beams 620, 630 are asymmetrical and mirror images of one another, as are the two outer sub-sector beams 610, 640.

In both Figures 5 and 6, it may be seen that the introduction of asymmetrical beams allows close approximation of the coverage area of the conventional sector antenna being replaced, with small side lobes and minimal overlap. Because the beam patterns of the new antenna corresponding to a sector to sub-sector upgrade have largely the same overall beam pattern as the antenna being replaced, as shown in Figure 3, upgrades could be made relatively transparently with regard to network planning, resulting in more efficient use of resources.”

250. In the cross-examination of PW-1 on this aspect, he states as under:

“Q. How is that tailoring of asymmetry done, as per the suit patent?”

A. As per the suit patent, it's embodied in the phase and weightings and the beam shape that results from that.

Q. But you say that the illustrations given in figure 3 and 4, those are not based on power and phase values of the suit patent itself. So how can you say that there is any embodiment by virtue of power and phase values of the suit patent?”



A. Figures 3 and 4 are used to explain the concepts. And in the text, it refers to the different handover areas, the different portions of the sector. But the embodiment of the phase and weightings creates an absolute defined pattern which matches the features and functionality defined in the patent, as far as I can see.

Q. So before you said that the suit patent gives one value of power for the four ports. You have mentioned one, in megawatts, and phase difference is in degrees. So that's the only value which would induce asymmetry, according to the suit patent?

A. As far as I understand, it's the embodiment, it's not the only way of producing that beam pattern, but it's a definitive marker of the shape of that beam pattern. Once you've created that beam pattern, there is multiple ways and I think the patent admits that and states that. That once you've defined the shape, then there are multiple ways of reverse engineering or coming up with the same.

Q. And it will also depend on element spacing, single element beam pattern, frequency, and dB scale?

A. There are essential design values that are used to create a pattern. So they're encompassed in that value essentially, into the shape, not into the values, but into the pattern shape. All the element spacings allow you to do is to translate that shape to different bounds and frequencies.

Q. So is it correct that apart from power and phase values the element spacing, single element beam



pattern, frequency, they also contribute to beam shaping?

A. In an absolute -- in a real world antenna, yes. But you've then got to define that frequency of operation. The power and phase weighting of the patent is frequency dependent and element dependent. It creates a shape that then can be translated to the real world by defining what frequency of operation you want to work in.

Q. So you mean if you input these values of power and phase of the suit patent in any antenna, it would start working like the antenna in the suit patent?

A. No. You've got to design the antenna to produce that pattern which is defined from it. Then if you're going to use that phase and weighting, the whole of the beam form has got to be designed to produce that at a specific frequency. That specific frequency then defines the element spacing. So once you've defined the working, that's when your element spacing comes in. It's got to be, when you've defined what you want, then you can lock down the design itself.

Q. All these factors contribute to that.

A. Yes.

Q. Is it correct to say that the suit patent does not give any embodiment of the element spacing, how much would be the spacing, what would be the single element beam pattern and what even would be the frequency?

A. No. As I said, the -- it does not.



Q. It does not?

A. Because the phase and weighting is frequency independent. It can be translated to any frequency, and that's when you bring in the element spacing and the frequency of operation.

Q. Is it correct that beam shaping was known before the filing of the suit patent?

A. Correct.

Q. And power and phase values were being varied and tuned to make those beam shapes?

A. Yes. Yes. Correct.

Q. In the figure 3 and 4 of the suit patent, in fact, 3, 4,5 and 6, the suit patent does not disclose the element spacing single beam pattern for these -- what were the values of those for these patterns, for these figures?

A. Correct. It does not.

Q. Correct, it doesn't. Okay. I put to you that there is no proper enablement of the suit patent if we just read the complete specification and the drawings.

A. I would disagree.

Q. It is incorrect. Is it correct that the Butler Matrix based antenna cannot use the phase values as they are used in the suit patent?

A. A Butler Matrix is a beam forming -- it's actually just a combining device. So, to clarify, you're talking of an antenna based on a Butler Matrix beam former?

Q. Yes.



A. A Butler Matrix beam former -- Butler Matrix is a specific –

Q. It's a mathematical model, you can say?

A. It's not a mathematical model. It's an absolute physical design that uses a set of hybrids, crossovers and phasings. So it is a beam former in itself, and it has its own set of phases. A Butler Matrix can be controlled and create different phases, but a Butler Matrix has its own set of parallel forms of output.

Q. Output?

A. Yes.

Q. So can we use the phase values mentioned in the suit patent on a Butler Matrix design antenna?

A. You would have to modify Butler Matrix to do it, but you couldn't use a standard Butler Matrix, but you would have to modify it.

Q. So to change an existing antenna to the antenna of the suit patent, certain modifications have to be done?

A. You would need a completely different design because –

Q. A completely different design?

A. Yes.

Q. But those design features are not there in claim 10, are they?



A. No.

Q. Would I be correct if I say that claim 10 – just go through it -- does not reveal the essential construction features of the suit antenna, suit patent antenna, but it demonstrates the principle for that antenna?

A. Yes. I think that's a good way of putting it. Correct."

251. A perusal of the complete specification of the suit patent read with the cross-examination of PW-1 shows that the power and phase weighting which are mentioned in the complete specification are for the purpose of showing how using the said weightings increased the capacity by 25% than expected. The weightings, as in any other complete specification, are illustrative in nature. Even if the weightings which changed the shape of the beams would broadly be in the manner as is illustrative in paragraph 2 to 6 of the complete specification. The same weightings need not produce the same readings on the beams as both the weightings and the beams are illustrative in nature and are merely *preferred embodiments*. In the cross-examination, PW-1 makes it abundantly clear that the power and phase values are varied and tuned to make the beam shapes. The beam shape can be arrived at by using the principle claimed in the description of Claim 10 for the antenna. The said principle can be applied for different weightings for producing different beams in the antenna depending upon the area to be covered. In the opinion of the Court, unless and until the Defendants were able to show that by the antenna described in the suit patent the shape of the beams as described in Figures 2 to 6 of complete specification cannot be arrived at after simulating the same using any standard software, the argument of insufficiency under Section 64(1)(j) cannot stand. In fact,



the complete specification itself makes it clear that the power and phase coefficient and weightings given in the specification are illustrative, which is set out in the following paragraph of the complete specification:

“Those having ordinary skill in this art will appreciate that there are a number of mechanisms by which a series of powers and phase coefficients could be generated to match a specified antenna pattern, including but not limited to array synthesis methods, solving constrained optimization problems or even by trial and error. In this instance, a simulation tool, such as is available from Zeland Software Inc. was used to predict the asymmetrical antenna array patterns and the expected array performance obtainable therefrom.”

Non-patentability under Section 64(1)(k) of the Act

252. Further, the Defendants have raised an objection under Section 64(1)(k) of the Act that the suit patent is not patentable on the ground that it is a mere scheme or rule or method of performing a mental act. This objection though raised in the counter-claim has not been argued by the ld. Senior Counsel for the Defendants during oral arguments. DW-1 has not led any evidence to support this ground either in his initial evidence affidavit or in additional evidence affidavit. DW-2 has also deposed on anticipation and lack of inventive step but has not led any evidence to support the said ground under Section 64(1)(k) of the Act. In his evidence affidavit, DW-2 attempted to testify that the asymmetry in beam pattern is a natural phenomenon and the half power bandwidth is only a mental act involving no ingenuity. However, no oral arguments have been addressed on this aspect.



253. Even otherwise, a perusal of the complete specification would show that the invention disclosed is more than a mental act. It is clearly an implementable invention in the telecommunication industry and has in fact been implemented by the parties. Replacement of an antenna in order to change the beam patterns to reduce the overlapping areas cannot, by any stretch of imagination, be termed as a scheme or a rule or a mental act. Hence, this objection is meritless.

Overall Analysis of the Complete Specification *vis-à-vis* Grounds for Invalidity

254. It is a well-recognized fact in the telecommunications sector that spectrum is scarce, and there is continuous innovation as to the manner in which more and more subscribers *i.e.*, increase in the subscriber capacity, can be achieved. Such innovations would be in communication networks, either in the telecommunication infrastructure *i.e.*, antennas, base station, towers etc., or even in the mobile handsets. The innovation could be so minute that it may not even be perceptible to the human eye or mind when seen in isolation. However, the overall impact of the innovation could be cumulatively much higher than what is perceived.

255. The background of the suit patent document sets out the challenges that the industry faces in increasing subscribers capacity within the existing infrastructure so as to make it cost efficient and least intrusive in nature. One of the most important devices, which is used in this form of communication is an antenna. Initially, cellular networks used omnidirectional antennas, which transmitted signals uniformly across a 360-degree area. While being simple, this design suffered from weak signal intensity at the outer edges of coverage, leading to call drops. It also



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limited network capacity because signals spilled uniformly in all directions, creating inefficiencies.

256. To improve performance, the industry adopted sectorisation. Instead of one omni-directional antenna, the 360-degree cell was divided into sectors using multiple directional antennas. It is stated that conventionally, three antennas with symmetrical beam patterns were used, each covering 120 degrees. This improved signal strength and capacity, and the symmetry made network design and replication easier for operators. However, as network demand increased, operators needed to create additional sectors to boost capacity. This could be done either by adding more antennas or by using split-sector/multi-beam antennas. But increasing the number of sectors led to greater overlap between adjacent sectors *i.e.*, handover areas. Excessive overlap caused signal interference resulting in call drops and reduced user capacity. The invention in IN'893 allegedly solves this issue by introducing asymmetrical beam patterns, departing from conventional symmetrical sectorisation. These asymmetrical beams are stated to reduce overlap between sectors while preserving the overall dominant coverage area. As a result, spectral efficiency improves and subscriber capacity increases, even though the number of handover zones may rise. The suit patent teaches a specific technical solution whereby an existing sector antenna is replaced by a split-sector antenna having asymmetrical sub-sector coverage areas, such that the total critical coverage area is substantially maintained while the subscriber capacity is increased, and handover zones are reduced, all within the existing site infrastructure and without requiring network-wide changes. The patent depicts the same clearly in the following four figures:

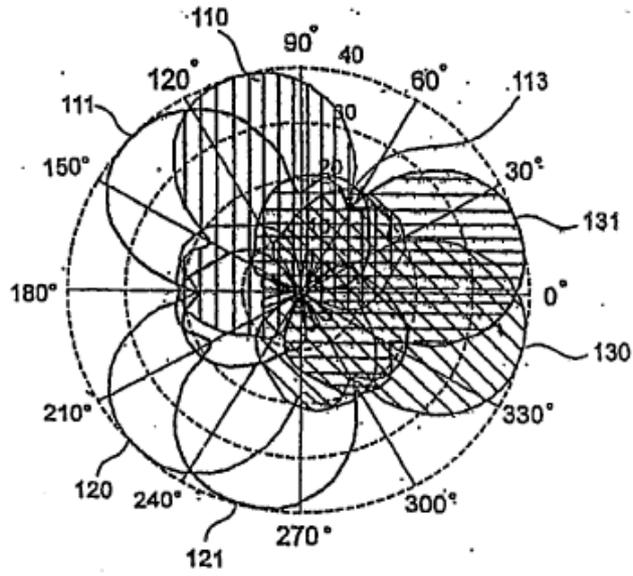


Figure 1

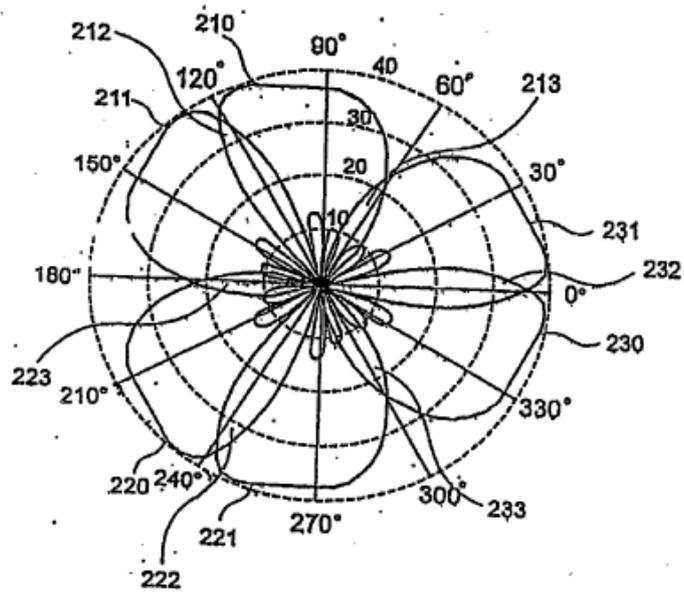


Figure 2

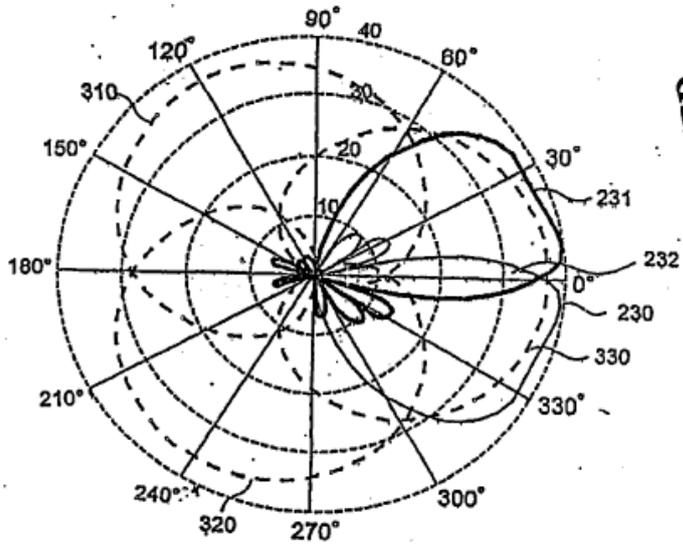


Figure 3

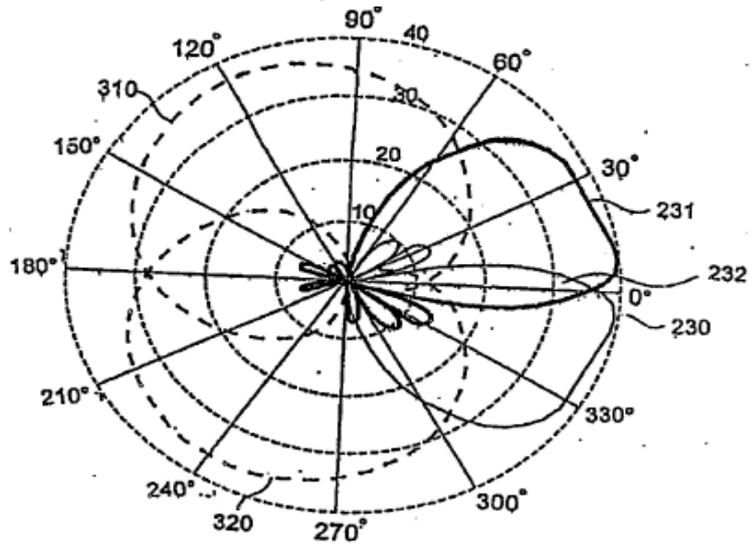


Figure 4



257. Figure 1 depicts a sectorised antenna emitting symmetrical beams, whereas Figure 2 illustrates an antenna emitting asymmetrical beams. The comparison of Figure 1 and Figure 2 would show how the overlapping area or handover zone is reduced in the latter. Figure 3 shows by superimposing the symmetrical and asymmetrical beams as to how the handover zone is reduced. Figure 4 depicts the result where, in a particular cell, instead of three antennas producing symmetrical beams, one antenna is replaced with two producing asymmetrical beams thereby, reducing the handover zone and thus, maintaining the coverage area while increasing subscriber capacity. The manner, in which asymmetry can be introduced by changing the power and phase weightings/coefficients, is illustratively depicted in the remaining figures of the complete specification as also with the readings given in page 18 of the complete specification. Upon doing so, the following results were illustratively achieved:

“(1) The capacity of the upgraded sector increased by 125% whereas an increase of only 100% was expected;

(2) The capacity of PQ0130 site increased by 58%;

(3) Handover overhead for the upgraded sector and site PQ0130 improved by 9% and 4.8% respectively;

(4) Coverage of the upgraded sector and site PQ0130 improved by 49% and 27% respectively;

(5) The area of the overall network with signal level greater than -80dBm increased by 21% (see Table 2 below);

(6) At the cluster level, there is no degradation in terms of key performance metrics;



(7) A degradation of reverse link noise rise occurred at each of sector and site level by 18.9% and 11.5% respectively.

From the above simulation results, it is apparent that upgrading a single sector by asymmetrical beams may add benefits to surrounding sectors in the network and without any significant degradation to surrounding sectors and sites.

The effect of simulation on the network coverage density, shown in terms of coverage by signal level is set out in Table 2 below.

Network Coverage Density	Surface (km ²)	Surface (km ²)	Improvement
Coverage by Signal Level	Before	After	
Best signal level (dBm) ≥ -80	72.72	88.05	21.1%
Best signal level (dBm) ≥ -90	99.46	99.62	0.2%
Best signal level (dBm) ≥ -100	101.40	101.52	0.1%
Best signal level (dBm) ≥ -110	101.66	101.63	0.0%
Best signal level (dBm) ≥ -120	101.75	101.74	0.0%

258. The above result, as reflected in the patent document, shows several advantages:

- (i) All the antennas in a particular cell need not to be replaced.
- (ii) Replacement of one antenna with another producing asymmetrical beams can reduce the handover area.



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- (iii) Reducing the handover area increases the subscriber capacity by maintaining the same coverage area.
- (iv) The importance of maintaining coverage area is that if the coverage area is modified or changed, it results in making changes in the overall network itself *i.e.*, geographical area where a particular antenna would be replaced would have to be modified. For example, colony A is being serviced by one particular antenna 'A' and colony B is being serviced by a particular antenna 'B'. If the coverage of colony A being serviced by antenna A is changed to overlap with the coverage of antenna B, then modification would have to be carried in antenna B as well. However, if the coverage of antenna A is maintained and is not modified, then no changes need to be made to any other antenna.
- (v) The advantage ultimately is to ensure that by achieving the asymmetrical beams through varied power and phase coefficients-
- No change is required in the network
 - There is no impact on any other coverage areas, which are serviced by different antennas.
 - The coverage area of the modified antenna is maintained.
- However, the subscriber base is increased.

259. The novelty and inventive step in the suit patent reside in these elements, which have not been disclosed in any of the prior art documents. Antenna producing asymmetrical beams may have been known but other advantages were not achieved prior to the suit patent. The grounds of



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insufficiency, which have been raised, though appealing at first blush, do not carry any weight, inasmuch as how to change the power and phase coefficients, how to make the antenna produce asymmetrical beams, how to replace one with the other, would be known to persons skilled in the art. What the patent achieves is to spell out the manner in which, while maintaining the coverage area and reducing the handover zone, more efficiency can be obtained in a network.

260. The witnesses who appeared on behalf of the Defendants firstly were not able to discharge the onus of proving that the subject invention as a whole was not novel or lacked inventive step. DW-1 lacked the technical capability to even depose on technical aspects of the suit patent. He merely deposed on legal points and not on any technical points. The entire cross-examination of DW1 is replete with answers that the written statement, counter claim and evidence affidavit was based on briefings given to him by his technical team. Thus, DW1's evidence does not, in any manner, support the plea of invalidity of the suit patent.

261. Insofar as DW-2 is concerned, the pleas of invalidity or lack of inventive step have been raised primarily on the aspect of insufficiency and lack of definitiveness in the claims. The said grounds were the basis of rejection of the corresponding patent before the EPO and the revocation in China. In both the said jurisdictions, the validity of the corresponding patent was decided on the anvil of the priority document and not on the complete specification itself. Insofar as the priority document is concerned, no arguments have been made before this Court in this regard. Moreover, the text of the complete specification, as granted, is distinguishable from the ones considered by the EPO or in China, which



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is clear from the language of the claims itself.

262. This Court is also of the opinion that the requirement in China for patentability, as contained in paragraph 2 of Article 21 of the Rules for Implementation of Patent Law is also not the same as contained in Section 10 of the Act. A basic reading of the patent document itself shows that the background state of the art has clearly captured, the shortcomings in the prior art have been highlighted, and the description of the invention is sufficiently detailed. The illustrative embodiments and even the preferred embodiments have been set out in the suit patent and the claims are clear. Any person skilled in the art, who reads the patent documents, would be able to understand what the invention seeks to achieve and on the basis of existing knowledge would be able to work the invention. As contained in the documents itself, the power and phase coefficients can be modified depending upon the coverage sought to be achieved. Antennas are designed depending upon the nature of the geographical area, the antenna seeks to cover. There can be endless number of combinations that could be used to achieve a particular result. No patent can be expected to contain all the permutations and combinations. In fact, Section 10 of the Act requires the best method to be disclosed, which obviously must be the best method known to the patentee at the time of filing of the patent specification. The Defendants have not been able to show that using power and phase coefficients set out in the suit patent with the results as captured in the suit patent *i.e.*, increase of capacity by 125% could not be achieved. The Defendants have not been able to show that the capacity of the site could not be increased in terms of the seven elements set out at pages 18 and 19 of the specifications. Until and unless, the Defendants prove that



the result achieved at points (1) to (7) at pages 18 & 19 of the specification was either a mirage or mere imagination, the argument of insufficiency completely fails. No simulation has been done by the Defendants to show that this cannot be achieved and the beam patterns as contained in the figures in the complete specification cannot be achieved. The argument of invalidity thus fails.

263. In fact, the Plaintiff's witness, PW-1, captures the overall impact of the suit patent as also the novelty and the inventive step residing therein in his cross examination in the following terms:

"THE COURT: How would you construe the second part of this claim beginning: "The subsector antenna" line 27:

"The subsector antenna being constructed and arranged for replacing at least one particular antenna having a plurality of subsector coverage areas extending therefore at least one or two asymmetrical each corresponding to a subsector and having enabling subsector coverage area in a subsector handover zone"?

In this part of the claim, where, according to you, does the novelty of this particular claim reside?

A. The novelty is the replacing with a plurality of subsector coverage areas. Yes. To be -- the novelty is actually contained in the next paragraph. It's in the "whereby" clause. So within that particular paragraph, it's for replacing with a plurality of subsectors. That's the only novelty that's in there, essentially.

Q. Now, in the next paragraph?

A. Now, in the "whereby" clause this is where you've got the total critical coverage area, which is a



definition of trying to maintain that footprint, that critical coverage area to the dominant coverage area, the working portion of a sector while increasing the number of sectors and hence creating more handover zones. So you need to minimise the handover zones to make that original area the same. So you're trying to create more capacity without destroying the original coverage by creating more handover zones. So that's the novelty. That's the plurality of coverage by creating that "whereby" clause and obviously claim 10 is about an antenna that does that.

Q. So, according to you, in the antenna where there is a replacement and having a plurality of subsector coverage areas which are the substantial equivalent critical coverage area of the one that was replaced would be?

A. Correct. I would interpret that, yes. If all the features are aligned together, then that would be correct.

THE COURT: My question is very specific. Plurality which has the same coverage area of the replaced antenna with less handover zones or equal handover zones, according to you, would be infringing the suit patent?

A. If it was asymmetrical as well, correct.

Q. And according to you, the embodiments in the statements support this view?

A. Correct."

264. It is clear from the above cross-examination that the Claims of the suit patent, especially Claim nos. 1 & 10, clearly show where novelty



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resides. In the opinion of the Court the witness of the Plaintiff i.e. PW1 has proved the same beyond any reasonable doubt. In fact, PW-1 has simulated the beam pattern with different readings and has set out the results of the said pattern which itself shows that while the values can continuously change the patterns that are produced are effectively the same. They would maintain substantially similar critical coverage area while increasing subscriber capacity. In fact, by doing such stimulation it would be easy to also determine whether a particular antenna producing a similar beam pattern would also be infringing or not. PW-1 summarises the novelty and inventive step of IN'893 as under:

“44. To summarize, I state that IN240893 claims a fixed beam split-sector antenna that emits those split-sector beams, at least one of which is asymmetrical, which maintain substantially the equivalent critical coverage area of a replaced sector antenna - the replaced sector antenna being of the type that was commonly used in the industry at the time of the invention. This new split-sector antenna of IN240893 can be used to increase subscriber capacity in a sectorized cellular communications network while maintaining the substantially equivalent coverage area, which was otherwise a problem with prior-art/earlier antennas. The effect/result of IN240893 is increase in subscriber capacity, while split-sector beams, at least one of which is asymmetrical, that can maintain substantially equivalent critical coverage area (as stated above), is the feature of IN240893. Fixed beam split-sector antennas having this feature were not known in prior art. This feature of IN240893 has economic significance as it increases the subscriber capacity of a cellular network (a) to higher levels than earlier solutions, and (b) in a more efficient manner than earlier solutions. The ways/means of



achieving such asymmetrical beams from a fixed beam split sector antenna is not a limitation of IN240893. IN240893 is also not limited to any particular asymmetrical beam shape as long as the asymmetrical beam shape achieves the functionality described in IN240893.

45. The "new product" of Indian Patent No.240893 is, therefore, a split-sector antenna having the inventive step detailed below. Therefore, the "subject matter" of Indian Patent No.240893 is a split-sector antenna. Claim 1 of Indian Patent No.240893, claims the method of using the split-sector antenna described above in a sectorized cellular communications network, while Claim 10 claims the split-sector antenna, which is capable of being used in a sectorized cellular communications network. Claim 12 of Indian Patent No.240893 claims a splitsector antenna of Claim 10, where the number of asymmetrical sub-sector coverage areas created by the asymmetric beams is a multiple of two, while Claim 13 Claims the split-sector antenna of Claim 12, such that at least some of the asymmetrical sub-sectur coverage areas comprise pairs and there exists at least one pair of sub-sector coverage areas where one sub-sector coverage area is a mirror image of the other."

Independent material that proves the validity of suit patent

265. Various documents have been placed on record by the Plaintiffs to show how after the patented invention had been published, two separate articles or white papers were released. First, the white paper released in May, 2010 by 3G Americas which showed beam patterns produced using the power and phase weightings at 1800 MHZ and, secondly, a white paper by Andrew LLC which clearly stated that use of asymmetrical beam pattern can be done in any manner so as to achieve theoretical doubling of sector capacity. These independent documents would also show that there



were sufficient teaching in the suit patent to work the patented invention. The USPTAB also confirmed the validity of the suit patent *vide* its decision dated 15th March, 2017. Thus, in the opinion of the Court, in view of the foregoing reasons the Defendants have failed to discharge the burden of proving invalidity of the suit patent. Accordingly, the first issue is decided in favour of the Plaintiff and the suit patent IN'893 is held to be valid.

II. WHETHER THE DEFENDANTS ARE INFRINGING THE SUIT PATENT?

266. According to the plaint, the Plaintiff is stated to have acquired knowledge of the Defendant's alleged infringing products in December, 2016, on the basis of technical literature and sales brochures of Defendant No. 3. It is stated that the infringing products offered by the Defendants are multi-beam antennas emitting asymmetrical beams. The said technical literature, sales brochure and other documents were available on the internet and on the said basis the following models of the Defendants were stated to be infringing models of antenna:

- i. MB-4Q9X30V-00
- ii. MB-4Q9X30V-05
- iii. MB-2B6X30V-10
- iv. MB-4W8X33V-0
- v. MB-4W8X33V-10
- vi. S-Wave U/U-33-20DV10-BS
- vii. S-Wave EW/EW-33-20DV10-BS
- viii. EW-33-20DV10-BS-F
- ix. MB-G7W92U9X65V-00 (This particular antenna is a hybrid antenna which can emit



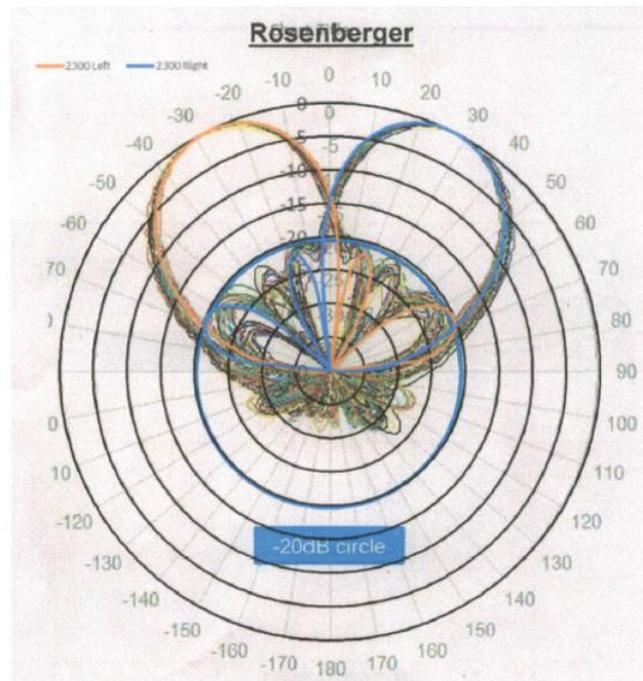
single 65-degree beam as well as asymmetrical beams similar to the beam patterns produced from power and phase weightings mentioned in IN240893 in the 1710-2170 MHz frequency band)

x. MBA6409X65V -01

267. During the pendency of the suit another model was also added to this list being MB 4W8X33V-01. The Plaintiff had filed, at the outset, an application seeking interim injunction. In support of the application for interim injunction an expert affidavit of PW-1 was filed in respect of beam patterns dated 2nd August, 2019. In the said opinion PW-1 had compared the beam patterns simulated from the power and phase weightings disclosed in the suit patent with the beam patterns of the alleged infringing products which were available from the sales literature of the Defendants. The Plaintiff had also obtained certain presentations, etc., relating to some of the infringing models, though, not available online which were compared by PW-1. PW-1 simulated the beam patterns in a simulation tool written in MATLAB programming environment employing standard mathematical models used in the industry. The said tool was set to simulate elements of different spacing, at different frequencies and with different power and phase weightings. The simulated outputs of the antennas were then stated to have been analysed in Microsoft Excel spreadsheet, using the standard graphing tools in MS-Excel the polar plot of the beam patterns are prepared. In this format the beam patterns of the suit patent and the Defendant's products are compared at different scales. From the material available of the Defendants' products an overlaying was done by PW-1



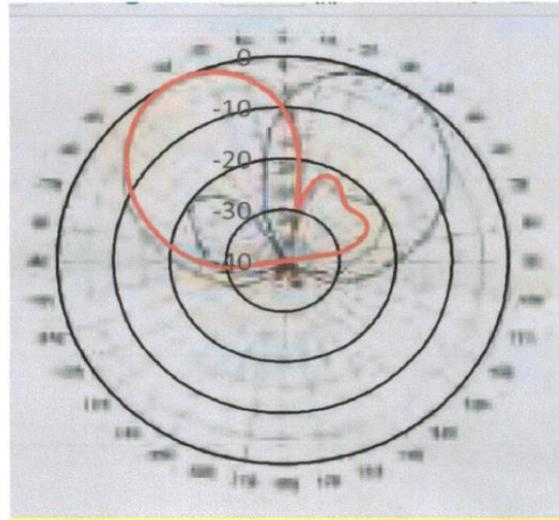
which revealed almost identical beam patterns. According to PW-1, the shape and characteristics of the beam patterns are the same, though, there may be some slight immaterial variation. As an illustration, few of the polar points provided in the opinion are extracted here:



Beam Patterns of Indian Patent No.240893 (In Orange and Blue colours) overlaid on Beam Patterns of Defendants' Antenna Product at 40dB scale with 9-degree notional rotation (for ease of visual comparison) in the 2300-2400 MHz range



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Beam pattern of S-Wave U/U-33-20DV10-BS overlaid with the left beam pattern of IN240893 (in Red) at 40dB scale with 7-degree notional rotation (for ease of visual comparison) using typical antenna design values in the 1800-1900 MHz range since this antenna is an antenna designed for the 1710-2400 MHz band

268. On the other hand, according to the Defendants, the above comparison cannot be considered as the beam pattern of the Defendants' products is complete different from the ones disclosed in the suit patent. It is stated that PW-1 has not mentioned in his expert opinion the model numbers of the Defendants' products which have been compared. As per the Defendants', various features of the antenna disclosed in Claim 10 of the suit patent were already known at the time of filing of the same. The Defendants' antennas are designed to emit symmetrical beams only. It is stated that they merely use a Butler Matrix design which exist in the prior art to manufacture the Defendants' products. The Butler Matrix design is stated to be in existence since 1982 and the same does not provide any method for inducing asymmetry in the beam patterns. In addition, the Defendants also use the Offset design for products sold outside India, which are also designed to emit symmetrical beams, but in practice may



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not be exactly symmetrical. Thus, the Defendants have set up what is known in patent law parlance as a *Gillette defence*.

269. In response to this, the case of the Plaintiffs is better captured by PW-1 in the following sentences which is part of his affidavit:

“65. [...] This is a case of the Defendants telling the half-truth, i.e. they say that they are using Butler Matrix Design for antennas, but not telling what they are additionally doing to make the beams of such antennas identical in shape to the beams simulated from the power and phase weightings disclosed in IN240893.”

270. In cross-examination PW-1 admits that he has not physically tested any of the Defendants antenna models and he has merely compared the beam patterns to which he had access. The PW-1 is questioned extensively on the MATLAB stimulation used by him to generate various beam patterns contained in paragraph 33 of his evidence affidavit and he narrates the manner in which these stimulations have been created by using the power and phase weightings given in the suit patent along with the element spacing which defines the antenna. The questioning was also to the effect that PW-1 had seen the beam patterns of different antennas of the Defendants and, thereafter, conducted the MATLAB simulation which was admitted as correct by PW-1. The relevant portion of the cross-examination is set out below:

“MR SHARMA: So my question was only on the timing that you were given by the plaintiff the beam patterns for the defendant antenna models, and then you ran these simulations which are on pages 17 to 19?

A. Correct.

Q. So this is a suggestion I'm putting to you. I put to you



that you have reverse—engineered the simulated beam patterns by hit and trial after knowing the beam — I put to you that you have reverse — engineered the simulated beam patterns from pages 17 to 19 by hit and trial after knowing the beam patterns of the defendants' antenna models.

A. I disagree.”

271. The PW-1, thereafter, was questioned as to whether any comparative analysis was done by him in respect of whether the Defendants' antenna models actually cover the substantial critical coverage area of previous antenna to which the PW-1 replied that he has not done such analysis as he was only asked to do the comparison of beam patterns. The relevant portion of the cross-examination reads as under:

“Q. So have you done any comparative analysis or obtained any data that the beam patterns of the defendant antenna models actually cover substantial critical coverage area of any previous sector antenna?

A. No. My brief—

Q. You have not done that exercise?

A. I haven't done that analysis. My brief was to look at beam patterns and say whether they were identical to the phase and weightings of the patent.

Q. So you cannot confirm or deny whether beam patterns of the defendants' antennas, whether they substantially cover -- they are substantially equal to the critical coverage area of any sector antenna, or based on any study or comparative analysis ?

A. I wasn't asked to do that over and above comparing it to what is in the patent. So I'm just confirming that



the beam patterns match with what is defined in the patent.

Q. And you did not conduct any comparative study to find out whether the beam patterns of the defendant antennas actually result in reduction of handover zones?

A. Again, the same thing. I'm only asked to verify that they correspond to the patent phase and weightings.

Q. So yes, no, and then you can explain.

A. So that would be a "no" with my clarification."

272. PW-1 also confirms that mere use of power and phase values would not be sufficient but an antenna has to be designed in a manner so as to produce a specific frequency which then defines the element spacing. It is only once the element spacing has been defined that the antenna will produce the effect as required in the patented invention.

273. In order to counter the claim of infringement, PW-1 was also cross-examined on the question of determination of peak points of beam patterns, data of which was not filed along with his evidence affidavit. The conclusion of the said cross-examination is that while the peak points which forms the raw data part of a MS-Excel sheet could have been used to analyse the beam patterns, the visual match is itself sufficient. PW-1, however, admits that checking of the data would have simply proved the infringement in an easier manner. The relevant partition of the cross-examination reads as under:

" Q. All right. So have you scientifically determined – now I'm coming to the asymmetrical. Have you determined the peak points of the



beam patterns demonstrated in your affidavit, figures 17 to 19?

A. The peak points are available within the Excel spreadsheet because it's tabulated on a 1-degree thing. So the peak values are available. I don't need to determine. That's part of the output. It's on a degree basis.

Q. But you did not file that?

A. Sorry, I don't understand the question.

Q. You did not file that Excel sheet which has those peak values?

A. I didn't -- it's not published.

Q. You did not put it in the affidavit or any document?

A. No. Correct.

Q. According to you, unless we know the peak points, we cannot determine the asymmetry which is defined by you in the affidavit. We need to know what the peak point is. Unless we know that, we cannot see whether there is any asymmetry or not.

A. The peak pointing -- the pointing direction of the antenna is available in the raw data outputted from MATLAB. So we know the peak pointing direction of all these antennas. I have not indicated it on the graphs. I didn't see a need to do that. But the peak pointing direction is always available in a beam pattern because it's on a 1-degree thing. I just have to read it off. So the value is available, but I haven't published that value in here.



Q. All right. So I put another question to you. So only looking at the beam patterns and your affidavit, one cannot determine the peak point in the simulations from 17 to 19 and the defendant beam patterns – you can have a look also, from 32 to 35 of your affidavit, 32 to 35.

So these are defendant antenna beam patterns. Superimposed is the MATLAB simulation. I'm referring to these. And the MATLAB simulations, one, page 17 to 19.

So for these particular beam patterns, the affidavit and the information given in the affidavit is not enough to determine the peak points?

A. You can visually, but to be accurate, the best way would be to go back to the raw data.

Q. So it's no?

A. No, not to -- well –

Q. From the affidavit and the information that is in the affidavit, you cannot determine the peak points?

A. I would like to clarify that. To what accuracy do you want me to clarify?

Q. Where the peak point is. We have to determine what the asymmetry is.

A. The graphs are done to scale. So you could simply look at the graphs. You could expand the graph to a point where you could read off a single point. Because they are a scaled graph, you could do that. But easier would be to just check the data.”



274. The entire cross-examination of PW-1 has been directed towards MATLAB simulated patterns and the method of finding the point of peaking in the beam patterns. PW-1 has been able to explain how the MATLAB stimulation was created in terms of the teaching given in the suit patent so as to establish infringement after comparing the beam patterns with the Defendants' beam patterns as disclosed in their brochure.

275. As against this effort by the Plaintiff, the Defendant's case is captured by DW-1 and DW-2 in their evidence. DW-1 in his evidence states that no scientific investigation has been done by the Plaintiff to prove that the Defendants' antennas are infringing the Plaintiff's patent. DW-1 primarily explains the correspondence entered into between the parties in response to license and royalties demanded by the Plaintiff. According to DW-1, the Plaintiff has merely relied upon a vague investigation and irrelevant comparison of the graphs of the beam patterns by PW-1 who did not investigate the designs of the Defendant's products. In fact, DW-1 claims that the Plaintiff's split sector antenna which was sold in China were violating and infringing the Defendant's Chinese patents which are also related to split sector antennas. The stand of DW-1 is that claim charts were withheld by the Plaintiffs when the Defendants raised allegations of infringements of their Chinese patents. According to DW-1, the Plaintiff has merely reverse plotted the available patterns from Defendants' brochures on stimulation software. The relevant paragraph of DW-1's evidence affidavit is set out below:

“32. I state that the Plaintiff has wrongly relied upon his own expert's evidence by simply enlarging/reverse plotting the available beam pattern shapes from the alleged Defendants' brochures on simulated software.



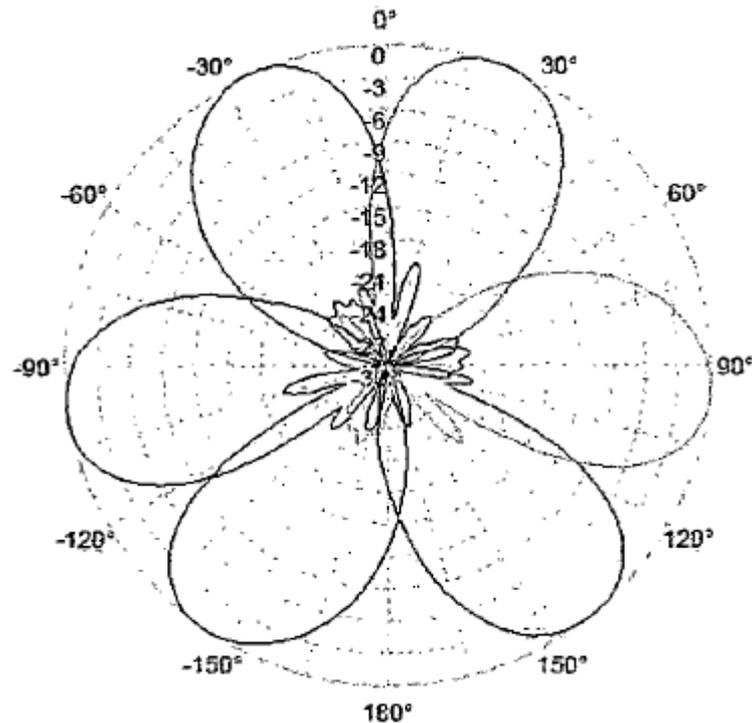
However, said expert, who was an employee of TenXC - the Plaintiffs predecessor-in-interest in the impugned Patent, has failed to show that the Defendant No.2's said beam patterns are comparable or equivalent to the beam patterns illustrated in the suit Patent or any of the Plaintiff's products which implement the suit Patent. It is pertinent to mention that the beam patterns shown in the impugned Patent are completely different from the beam patterns of the Defendant No.2's products. In other words, the beam patterns of the Defendant's products have not been compared to the beam patterns disclosed in the impugned Patent. Even those models of the Plaintiffs product that have been used in the simulated software to compare the beam patterns have not been disclosed in the expert's affidavit. I further state that the expert's evidence is unreliable, influenced by the Plaintiff and an after thought. I further state that the Plaintiff has failed to provide antenna element spacing, constructional features, specific plaintiffs antennas of which examples of beam patterns have been used by the Plaintiff to compare with Defendant No.2 antennas' beam patterns."

276. DW-1's stand, therefore, is that since the MATLAB simulated beam patterns were generated using some products of Defendants and the details of the models have not been given, infringement cannot be considered as being proved. According to DW-1, the beam patterns of the Plaintiffs and the Defendants are starkly different from each other. DW-1 also claims that Defendants used Butler Matrix design, as also Offset design to manufacture multi-beam antennas and the beams patterns may not be perfectly symmetrical. The relevant paragraph of DW-1's evidence affidavit is extracted below:

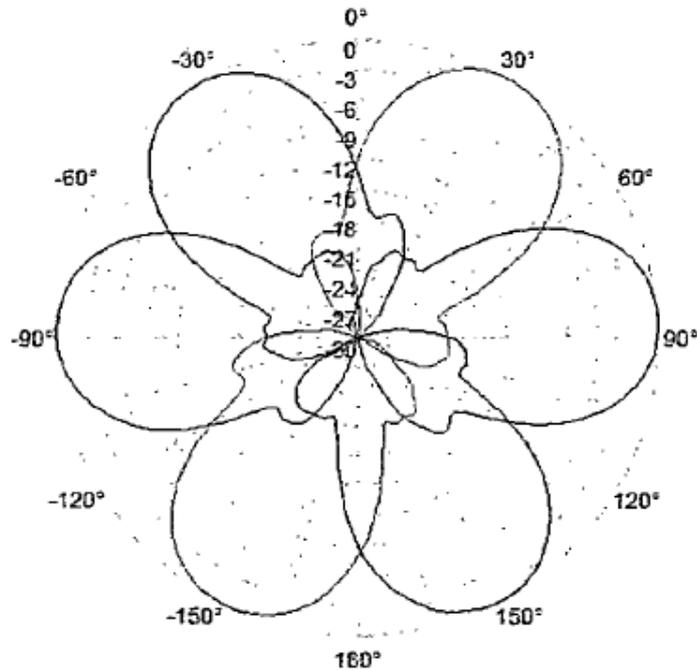
"38. I state that the design and the beam patterns of the Defendant No.2's twin beam antennas sold in India are



based on Bulter Matrix design which was known at least since 1982 and which provides no mechanism or structure to induce or optimize asymmetry in such beam patterns. Defendant No.2's antennas are designed to radiate symmetric beam patters only. In addition to Butler Matrix design, the Defendants also use Offset design to manufacture twin beam which are also sold by the Defendants outside India and these antennas are also designed to radiate symmetric beam patterns, but due to noise and surrounding factors, practically the beam patterns radiated through these antennas may not be perfectly symmetrical. Moreover, the Defendant No. 3 is a member of BSATA and AISG, the standard setting bodies which provide general definition of antenna specification and remote electric downtilt functionality of antennas. The simulated beam patterns (with unwanted side lobes) as radiated from Defendant No.2' antennas based on Butler Matrix design are as follows:



The real beam pattern that is observed from the Defendants' products is as follows:



The Defendants' products which are manufactured using Butler Matrix design do not infringe the suit Patent as in the beam patterns of the Defendants' products there is no induced asymmetry or optimization of any alleged asymmetry. Any asymmetry in the Defendants' beam patterns, as the Plaintiff has rightly pointed out, is unwanted and uncontrolled due to noise, distortion and surrounding factors.”

277. DW-1's case, therefore, is that asymmetry of the Plaintiff's antenna and the Defendant's antenna is different, since in the Defendants' antennas there is no induced asymmetry and any asymmetry that may occur is due to distortion or other factors. The core of DW-1's evidence is that there is no corresponding beam pattern as shown in Figure 3 and Figure 4 of the suit patent in the Defendants' antenna. The simple defence of DW-1 is, therefore, that the Defendants use the Butler Matrix design as disclosed in different documents including an article titled "A Dual Beam Base Station



Antenna for Land Mobile Communication” published by NTT Mobile Communications Network Inc., Japan, sometime in 1995, as also US Patent No. US 6608591 B2⁷ (hereinafter “Wästberg”).

278. Insofar as DW-2 is concerned, DW-2 challenges the asymmetry feature in the suit patent itself and states that asymmetry is simply accidental in the suit patent as no court process for inducing asymmetry has been disclosed. DW-2 also states that the Defendants’ antennas are based on dual beam Butler Matrix, which is known from Wästberg. According to DW-2, the Defendants have adopted directional coupler component and used in the Butler Matrix based dual beam antenna design, which is known in the prior art, as mentioned above. The categorical assertion is made by DW-2 to the following effect:

“13. That I state that the design and the beam patterns of the Defendants’ twin beam antennas sold in India are based on Bulter Matrix. The Butler Matrix has been known in the prior art at least since 1982. Apart from that, the Defendants’ use Direction Couplers for phase rotation unlike the fixed conductive traces shown in Figure 8 of the suit patent. The phase rotations in the suit patent are fixed and determined by the relative lengths of conductive traces (last paragraph page 15 of the complete specification of the suit patent) whereas, in Defendants’ antennas, phase rotations are determined by the Directional Coupler circuit as shown hereinabove. Therefore, Defendants’ antennas are different from the suit patent.”

279. He also claims that in the suit patent, the phase rotations are fixed but the Defendants use directional couplers and hence, the Defendants’ antennas are different from the patented antennas. The Defendants’

⁷ Published on 19th August, 2003.



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antennas have asymmetry which is unwanted and uncontrolled.

280. The Court has considered the evidence of the Defendants on this aspect. Insofar as DW-1 is concerned, all the evidence given by the DW-1 would be completely hearsay as DW-1 has no technical knowledge at all. The testimony of DW-1 would at best be relevant in respect of the correspondence entered into between the parties and the genuineness of the Defendants' brochures. On the technical aspect of infringement, it is DW-2's testimony that would be relevant. DW-2 has been cross-examined in respect of particular model of the Defendants' antenna namely MB4Q9X30V-00 (Exh.PW-2/4), which shows the frequency of operation at 2300 to 2400 MHz. In cross-examination, he admits that on this antenna, DW-1 did not do any simulation either through MATLAB or any simulation software using the power and phase weightings given in the suit patent. In addition, DW-1 confirms that the simulation of the power and phase weightings on MATLAB was not done using any information given in the suit patent as well. Thus, DW-2's concluding stand in the cross-examination is that no test was conducted by the Defendants to generate any beam pattern on the Defendants' product to show that the beam pattern is different from that of the Plaintiff's suit patent. DW-2 has also been questioned on the beam pattern of the Defendants' product brochure having been generated by PW-1 using the power and phase weightings of the suit patent generating beam patterns which are reproduced in his evidence affidavit. In response, the DW-2 states as under:

*“Q. Can I now take you to trial bundle II, page 35.
Let me identify this document for you before you start*



reading at page 35. This is the affidavit of Mark Cosgrove who gave evidence before this Court yesterday. And it starts at page number 1. I'm drawing your attention –

THE COURT: One second.

Have you read Mark Cosgrove's affidavit before?

A. Yes.

MR. PACHNANDA: Can you now have a look at page 35 of the trial bundle.

A. Yes.

[...]

Q. Have a look at the beam pattern on top - -

A. Okay.

Q. --- which refers to the same model of the defendants' beam antenna that I mentioned earlier, that you saw earlier. And I'm giving a suggestion to you. I'll put it to you that all that Mr. Cosgrove has done is that, first, he has picked up the frequency disclosed by the defendants in respect of this antenna model from the defendants' product brochures which is 2300 to 2400. Then based on this frequency, he has fixed the element spacing based on typical half – wavelength element spacing. Next, he has used the simple cosine function formula for representing the single element pattern and, thereafter, he has used the power and phase weightings disclosed in the suit patent to generate the beam patterns in MATLAB at 30 decibel scale.

It is these beam patterns that he has generated on MATLAB using the power and phase weightings of the suit patent that have been compared in this diagram



with the beam patterns of the product of the defendant that I earlier showed you at page 63 of trial bundle III, volume I.

Do you deny my suggestion?

A. Yes. I deny your suggestion because, here, you can see clearly – so on the graphs, you can see clearly the beam patterns are not exactly overlap. Moreover, here, the information which you suggested, the image enlargement, the scaling, and other other part is the inter – element spacing which does not disclose here.”

281. From the answer given by DW-2 in his cross-examination it is clear that he is unable to state that the beam pattern of the Defendants’ antenna generated by PW-1 is inaccurate. Thus, the beam pattern generated by PW1 in his affidavit in respect of Defendants’ antenna model is taken as proved, inasmuch as, DW-2 has admitted the manner in which elements spacing is to be fixed, that a simple cosine function formula is to be used and, thereafter, the phase and power weightings disclosed in the suit patent has to applied to generate the beam pattern in MATLAB. This admission of DW-2 comes in the cross-examination which is extracted hereunder:

“Q. Can I now take you to paragraph 15 of your affidavit, at page 305 of trial bundle II and if you see seventh line from top, you say – in fact, let me start with the sentence above from the fifth line:

“This single element of a dipole on a ground plane which is the typical sectorised cellular components usually has around 75 degree 3dB beam width. This single element pattern can be represented with simple cosine function”

Isn’t it correct that you have yourself deposed that the single element pattern can be represented with a simple formula of the cosine function?



A. Sir, here –

THE COURT: Yes or no?

A. Yes, but it is partially – it is applicable because here, I'm stating the inter – element spacing information also with the amplitude and phase value. So creating the beam pattern amplitude phase element information, element pattern information and inter element spacing, these are the minimum basic requirement to generate the beams.

Q. So, according to you, even if the single element pattern could be generated, you would have wanted the element spacing?

A. Yes. Definitely.

Q. Yes.

A. And, moreover, if we generate the cos function, single element pattern which will be a precise comparison, as such.”

282. Insofar as the use of Butler Matrix design and Offset design is concerned, the affidavit of DW-2 - Mr. Birari does not mention Offset design at all. Insofar as Butler Matrix is concerned, DW-2 refers to the PCB Board design extracted by him at para 12 of his affidavit. He states in his cross-examination that Butler Matrix is a mathematical model. When questioned about whether Butler Matrix is a specific arrangement of various components to create devices, the witness answers that it does not make an adaptive arrangement. On the basis of paragraph 12 of the affidavit, DW-2 is questioned as to whether the Defendants are using Butler Matrix design disclosed in Figure 13 to Figure 16 of Wästberg *i.e.*,



the Ericsson patent. DW-2 answers in the affirmative. The witness is then referred to the Wästberg patent to show that in fact, the said patent cannot be combined with a directional coupler and is actually based on Blass Matrix and Nolan Matrix. The witness also admits to this. The relevant portion of the cross-examination reads as under:

“Q. It is correct that figure 14 of Wastberg is in fact based on a Blass matrix and figures 15 and 16 are based on a Nolan matrix?”

A. Okay.

Q. It is correct?”

A. Yes.”

283. The relevant portion of the Wästberg patent are extracted hereunder:

“An azimuth beam-forming network can be implemented as a Blass matrix by using six directional couplers. Such a Blass matrix with three ports is illustrated in FIG. 14. The Blass matrix allows the number of input ports to be less than the number of antenna elements. The input ports are placed at the right side of the matrix (In1 and In2 in FIG. 1), and the antenna ports at the top of the matrix. The remaining connections are terminated with matched loads. Two beams are formed by connecting signals to the In 1 and In 2 ports. The drawback with the Blass matrix network is that a substantial amount of the input power is lost in the terminations.

Still another alternative for driving the three radiating columns of patch elements would be a Nolan matrix presenting three ports indicated in FIG. 15. Such a Nolan matrix will be identical with the equivalent circuitry of FIG. 16 showing a network with three antennas and three ports. The Nolan-type



azimuth beam-forming network consists of three directional couplers and three phase-shifters. The input signal is attached to two of the input ports (In 1, In 2 or In 3) while the remaining port is terminated. The directional couplers could have arbitrary coupling and directivity depending on which beam parameters that are desired. The drawback with the tree port Nolan network is that it is not symmetric and will not generate symmetric beams.”

284. DW-2 tries to explain the same by showing Figure 15 and Figure 16 of the Wästberg patent. However, clearly, the said patent does not mention Butler Matrix. DW-2 also admits the product brochure of model no. MB4Q9X30V-00 (Ex.PW-2/4). Ex.DW2/P2 is an antenna and accessory brochure, when confronted to him, in which the antennas are designed to emit symmetrical beams. DW-2 broadly admits the said brochure. In respect of some other antenna from the same brochure, DW-2 admits that they emit asymmetrical beams.

Overall Infringement

285. The Court has considered the pleadings, evidence and the submissions made by the parties on the issue of infringement. The following points summarise the position in this regard:

- (i) Both the Plaintiff and the Defendants have not seen each other's physical antenna.
- (ii) The nature of the antenna seems to be a customised antenna, which is not easily available in the market.
- (iii) Defendants' product brochures have been broadly admitted.
- (iv) Plaintiff's suit patent's beam pattern is on record.

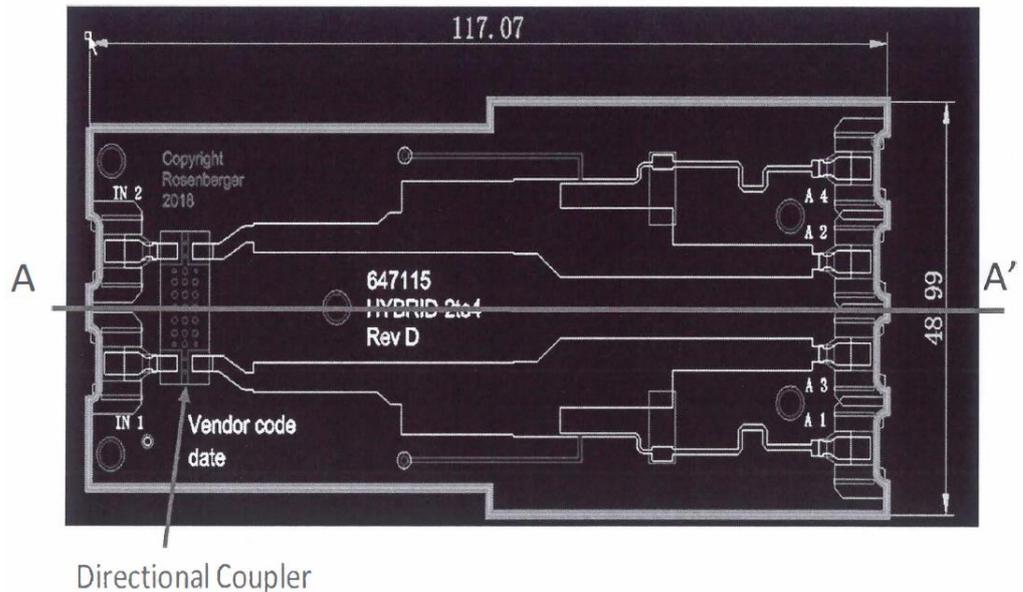


- (v) PW-1 has generated different beam patterns applying different power and phase weightings using MATLAB simulation.
- (vi) MATLAB is nothing but a computerized simulation software.
- (vii) Power and phase weightings in the suit patent has been mentioned in the patent itself. This position is admitted by the Defendants.
- (viii) Change in the values of the power and phase weightings in the MATLAB software is a technical step that can be undertaken by anyone who would know how to use MATLAB.
- (ix) PW-1's generated MATLAB images of the beam pattern cannot, therefore, be seriously disputed.
- (x) By comparing MATLAB simulated beam patterns with the Defendants admitted beam patterns in their product brochures, the Plaintiff discharges the initial onus in respect of infringement.
- (xi) DW-1 has no technical expertise to depose in these matters.
- (xii) DW-2 admits that he did not conduct any simulation to dispute the assertion that the Plaintiff's beam patterns and Defendants' beam patterns are similar.
- (xiii) The Defendants' have set up a Gillette defence by claiming that Butler Matrix model was used to design their antenna. DW-2's core defence on this aspect is in paragraph 12 of his evidence affidavit, which reads as under:

“12. That I state that the Defendants have adopted the directional coupler component and used it in the butler matrix dual beam antenna design, known in the prior art. The Defendants are using directional



coupler made by Anaren model number X3C25P1-05S and integrated on PCB board design by Defendants' drawing number 647115 as follows:



The aforesaid PCB board used in the Defendants' antennas also show symmetric spacing between the outputs ports A1, A2, A3 and A4. This is clear from the line in Red colour (A-A') that cuts the PCB in symmetric halves such that the ports A1, A3 and A2, A4 are symmetrically apart."

- (xiv) DW-2 admits in his cross-examination that the Defendants applied Butler Matrix to the antenna disclosed in the Wästberg patent. However, the said Wästberg patent states that it uses Nolan Matrix and Blass Matrix. Thus, the defence of Butler Matrix is not made out.
- (xv) Insofar as proving the MATLAB simulated beam patterns produced by PW-1 is concerned, Defendants admit two important aspects –



- (i) That the elements spacing calculation is known to persons skilled in the art; and
- (ii) Secondly, using of a simple cosine function formula is also known.
- (xvi) That with these two admissions, PW-1's MATLAB generated beam patterns stand proved.
- (xvii) A comparison of the Defendants' brochure beam patterns and the PW-1's MATLAB simulated beam patterns showing infringement, therefore, stands proved.
- (xviii) PW-1 has generated the said beam patterns in his affidavit, which would show that the patterns are nothing but asymmetrical beam patterns, which are illustratively depicted in figure 3 and figure 4 of the suit patent. With mere change in values, different asymmetrical beam patterns can be generated giving the same result.

286. The usual way of proving infringement is by comparing the claims of the suit patent to the Defendants' products. However, in the present case, the Court is faced with a unique situation where the Defendants' product is not readily available only the Defendants' product brochures were earlier available online but thereafter, have been pulled down. Some marketing information of the Defendants' antenna given to their own clients traced by the Plaintiff have also been placed on record. Clearly, the antenna appears to be a customized antenna depending upon the customers' requirements and are not a shelf product. The Defendants who could have easily produced their own beam patterns have failed to do so. If they were confident of not infringing the suit patent, the Defendants



could have established the same by candidly producing their beam patterns. However, the defendants conduct is itself suspect. Some of their brochures containing the beam patterns etc., were available earlier online, however as the suit progressed, even this material has been pulled down. Obviously, the Defendants effort was to make it difficult for the Plaintiff to prove infringement. This conduct of the Defendants is suspect to say the least. Under such circumstances, the only possible way to prove infringement is by comparing the suit patent with the Defendants' product brochures. The product brochures of the Defendants are available on record which disclose the beam patterns and other technical steps.

Findings on infringement

287. The features of the antenna in the suit patent and the Defendants' products are captured in a tabular form hereunder:

S. No.	Features of the Suit Patent	Defendants' Infringing Products
1	Split Sector Antenna	Yes
2	Asymmetrical Beam Pattern	Yes (Clear from the Defendants' brochures)
3	Critical coverage area is maintained	Yes (Proved on the basis of evidence)
4	Reduction in handover zones	Yes

288. The novelty and the inventive step in the Plaintiff's patent, as discussed above, lies in the fact that in a sector antenna containing a plurality of sectors, one sector is split in a manner so as to achieve the same critical coverage area. The splitting is achieved by replacing one sector of



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the antenna with its split sector wherein the sub-sector is asymmetrical. The Plaintiff's patent does not intend to cover all asymmetrical antennas but only those in which asymmetry is achieved by maintaining the same critical coverage area but reducing the handover zones.

289. This is sought to be proved by the Plaintiff's witness by comparing the beam patterns as set out in the Defendants' brochures, which are admitted documents, and overlaying the same on the Plaintiff's beam patterns as disclosed in IN'893 in terms of power and phase weightings disclosed in the suit patent. The beam patterns can be depicted on different scales. PW-1 has produced such beam patterns to show how the handover zone is reduced while maintaining the critical coverage area. The beam patterns, as emerging from the Plaintiff's patent and the Defendant's brochures, when overlaid above each other at different weightings and values, show a near identity in the beam patterns. The basic elements between the two antennas being identical, the only question that is to be seen is whether the critical coverage area is being maintained while using one asymmetrical sub-sector coverage area. The Defendants' antenna does have one asymmetrical sector coverage area. The beam patterns show that the critical coverage area is not being compromised. The methodology used by PW-1 is set out in paragraph nos. 56 to 61 of his evidence affidavit which are extracted below:

“56. The Plaintiff has provided to me the available beam patterns of the Infringing Products of the Defendants from sales literature for the purpose of comparing the same with the beam patterns produced from the power and phase weightings disclosed in IN240893 at the different frequencies and at the different scales that the Defendants' beam patterns



were available, using typical antenna design values at each frequency band. The Plaintiff has also provided me some other beam patterns, which, I am informed, were also obtained by the Plaintiff in the ordinary course of business. I am informed that access to beam patterns of antenna model, numbered MB-4Q9X30V-05, EW-33-20DV10-BS-F, MB- 4W8X33V-0, MB-286X30V-10 and MBA64O9X65V-01 was not freely available on the website of the Defendants as on the date of filing the Suit, and I have also verified this fact on my own. If and when I am given access to the beam patterns and/or technical brochures of the said antenna models, I will be pleased to provide my analysis for the same.

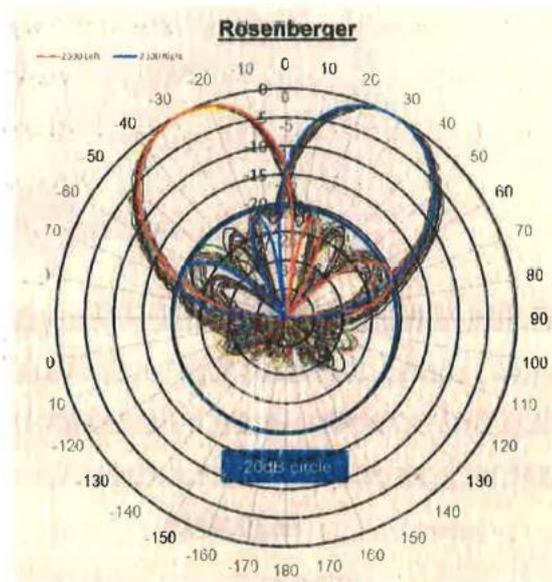
57. In order to ensure that the beam pattern simulated from the power and phase weightings disclosed in Indian Patent No.240893 is being compared in a technically correct manner with the available beam patterns of the Defendants, care is needed to ensure that the correct aspect ratio is maintained (i.e., circles remain circles), and that the same scale is used (i.e., the value attributed to each contour or circle in the plots is exactly the same). The available beam patterns of the Defendants are depicted on different scales depending on the antenna and this is verifiable from the information available on the polar plot of these beam patterns. Therefore, I have also compared the beam patterns from the power and phase weightings disclosed in Indian Patent No.240893 at the same corresponding scale as the relevant available beam pattern so as to make a technically correct comparison. I may clarify that in enlarging the beam patterns for the purpose of comparison, the aspect ratio of the beams was not disturbed in any manner whatsoever.

58. Once a beam pattern has been simulated using the available engineering settings, the Defendants'

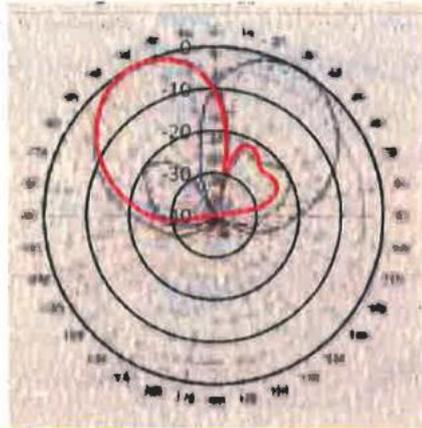


available beam patterns are verified from the datasheet of that antenna product, and the plots are confirmed to be at the correct scale, by using the MS-Excel tools to overlay one plot on another, while maintaining the correct aspect-ratios, and also depicted on the same axis of orientation/ beam pointing direction for visual comparison.

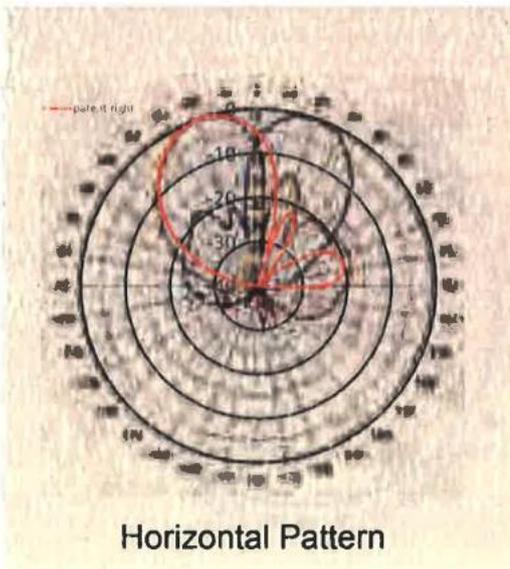
59. The results of the beam pattern overlays performed by me are reproduced below:



Beam Patterns of IN240893 (In Orange and Blue colours) overlaid on Beam Patterns of Defendants' Antenna Products at 40dB scale with 9-degree notional rotation (for ease of reference) in the 2300-2400 MHz range

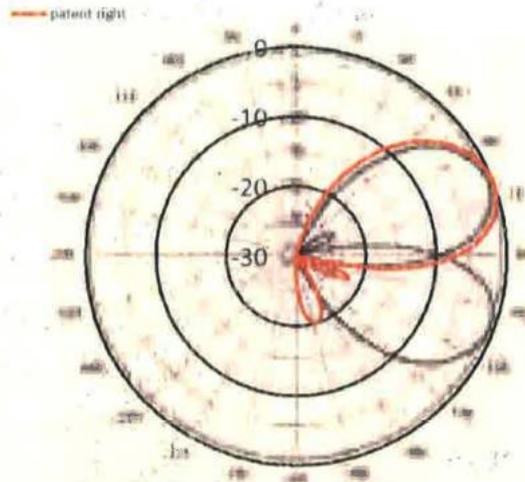


Beam pattern of S-Wave U/U-33-20DV10-BS overlaid with the left beam pattern of IN240893 (in Red) at 40dB scale with 7-degree notional rotation (for ease of reference) using typical antenna design values in the 1800-1900 MHz range since this antenna is an antenna designed for the 1710-2400 MHz band

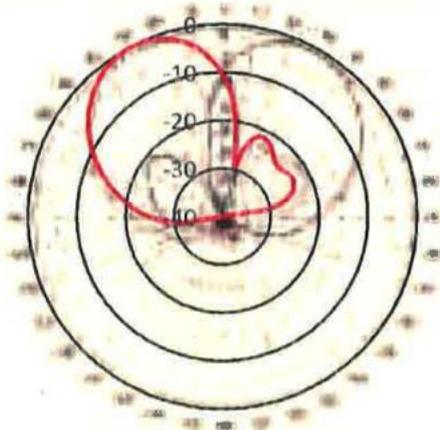


Horizontal Pattern

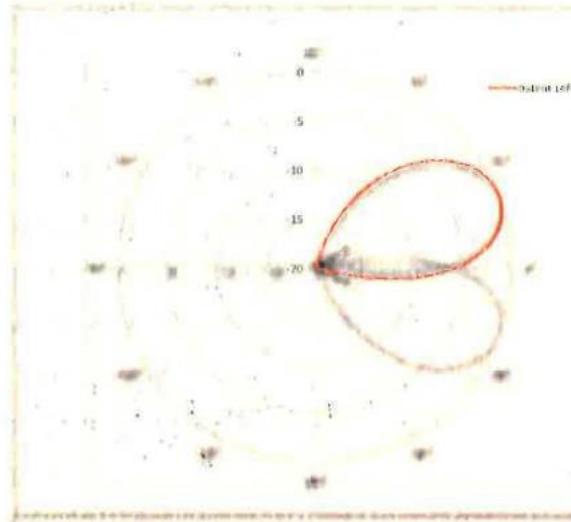
Beam pattern of S-Wave EW/EW-33-20DV10-BS overlaid with the left beam pattern of IN240893 (in Orange) at 40dB scale with 2-degree notional rotation (for ease of reference) using typical antenna design values in the 2300-2400 MHz range since this antenna is an antenna designed for the 1700-2690 MHz band



Beam pattern of MB-4Q9X30V-00 overlaid with the left beam pattern of IN240893 (in Orange) at 30dB scale at its original beam pointing direction using typical antenna design values in the 2300-2400 MHz range since this antenna is an antenna designed for the 2300-2400 MHz band



Beam pattern of MB-G7W92U9X65V-00 overlaid with the left beam pattern of IN240893 (in Red) at 40dB scale with 8-degree notional rotation (for ease of reference) using typical antenna design values in the 1800-1900 MHz range since the dual-beams are designed for the 1710-2170 MHz



Beam pattern of MB-4W8X33V-10 overlaid with the left beam pattern of IN240893 (in Red) at 20dB scale with 3-degree notional rotation (for ease of reference) using typical antenna design values in the 1800-1900 MHz range since the dual-beams are designed for the 1710-2170 MHz band

60. As is evident from the above overlay comparisons carried out by me, the main beams of the Defendants' Infringing Products, as available, and (b) the typical beams reproduced using the settings and figures disclosed in Indian Patent IN240893 and other typical antenna design values at the corresponding frequency and scale, are identical. What is certain is that each and every pattern exhibits the same characteristic shape as that of the pattern generated from the exemplary power and phase weightings disclosed in IN240893. As a result of this, these beams (and consequently the antennas, notwithstanding the design of antennas) would have exactly the same asymmetry and performance characteristics from a deployment perspective and would have exactly the same asymmetrical coverage as each pattern delivers the same energy to this critical area.

61. The slight difference in the beam pointing



directions of the two sets of beams results in respect of some of the Infringing Products in an immaterial variation in the crossover points of the beams. While this rotation reduces the handover area at the sub-sector edge, it correspondingly increases the handover area at the two sector edges, and therefore, maintains the same critical coverage area as maintained by the non-limiting beam patterns of IN240893. One must remember that maintenance of critical coverage area is a collective function of handover areas at both the sector edge as well as the sub-sector edge. Since the asymmetrical beams of the Defendants' Infringing Products are identical in shape to the beam shapes of the non-limiting beam patterns of IN240893, they would embody all the features of IN240893 even at their original beam pointing directions. For this reason, the non-limiting beam patterns of IN240893 were rotated to the same direction as the beams of the Defendants' Infringing Products for visual comparison without changing the shapes of any of the beams in any manner whatsoever."

290. As against these, DW-1 is unable to give any technical response as he lacks the necessary qualifications. DW-2 does not produce or deny the Defendants' brochures. DW-2 also does not produce any alternate beam patterns of the Defendants' antenna, to dispute the beam patterns produced by the Plaintiff's MATLAB simulations. Merely challenging the Plaintiff's simulation and overlaying images, would not be sufficient in the present case as the Defendants have also not produced any antenna or actual beam pattern from their antenna, which would have been the best evidence. The Defendants having withheld their best evidence, the Plaintiff has produced its best evidence *i.e.*, the patent and the Defendants' brochures, which are admitted documents. Considering that these are



customised heavy duty antennas and are not off the shelf products, the Plaintiff having discharged its initial onus, the Defendants have failed to traverse the same sufficiently.

291. Under such circumstances, the only conclusion that the Court can arrive at is that the Plaintiff has sufficiently proved infringement of its suit patent. Moreover, even the Defendants' stand that they are using the Butler Matrix design has been sufficiently disproved in the cross-examination of DW-2 as the Defendants were unable to show which prior art is being used for the manufacture of their antenna in combination with the Butler Matrix design.

Correspondence between the Plaintiff and the Defendants

292. At this stage it would also be necessary to consider the correspondence between the parties. *Vide* letter dated 29th December, 2016 the Plaintiff's through Counsel, gave notice to Defendant No.1/Rosenberger, Germany, of the fact that the Plaintiff is the owner of various patents/patent applications in several jurisdiction including the Indian patent. According to the Plaintiff, the twin beam pattern antennas were being sold by the Defendants and the Plaintiff wished to explore licensing opportunities for the said patented technology. The said letter dated 29th December, 2016 was followed up with another letter by Indian attorneys of Plaintiff dated 19th January, 2017 to Defendant No.2/Rosenberger, India, on similar lines.

293. In September, 2017, a draft licensing agreement was sent by the Plaintiff to the Defendants. *Vide* email dated 22nd September, 2017, Rosenberger replied that it is willing to explore the possibility of licencing including a cross-licence. However, Rosenberger suggested that it would



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be necessary to sign an NDA since confidential data would be discussed.

294. On 7th December, 2017, an NDA was duly signed by the Plaintiff and sent to the Defendants. The Defendants responded with some changes in the NDA on 14th December, 2017. After this email exchange, the Plaintiff parallelly were engaging in discussion with M/s. CommScope. However, it is also revealed that in the meantime, the Defendants alleged that the Plaintiff was infringing its patent in China. This led to withdrawal of the NDA by the Plaintiff. Thereafter, in January, 2019, the correspondence resumed between the parties primarily about the NDA. The communication, however, did not result in any fruitful negotiations or settlement of the disputes, which then led to litigation.

295. The correspondence between the parties thus reveals that no fruitful negotiations took place between the parties. On the correspondence which took place, all the documents have been exhibited by PW-2 - Mr. Dennis Nathan. DW1 has also given details about the correspondence. However, the same would not be conclusive either way. The only fact to be borne in mind is that the parties had engaged in correspondence without any positive outcome. Thus, having found in favour of the Plaintiff in respect of infringement of the suit patent, the Court is to consider the next issue of damages.

III. WHETHER THE PLAINTIFF IS ENTITLED TO PERMANENT INJUNCTION AND DAMAGES/RENDITION OF ACCOUNTS? IF SO, HOW MUCH?

296. The Plaintiff, in the plaint, has prayed for both damages and rendition of accounts of profits. However, under Section 108 of the Act, the reliefs that can be granted in a suit for infringement are either damages



or accounts of profits, at the option of the Plaintiff. Section 108 of the Act is extracted below:

“108. Reliefs in suits for infringement.—

*(1) The reliefs which a court may grant in any suit for infringement include an injunction (subject to such terms, if any, as the court thinks fit) and, **at the option of the plaintiff, either damages or an account of profits.***

(2) The court may also order that the goods which are found to be infringing and materials and implement, the predominant use of which is in the creation of infringing goods shall be seized, forfeited or destroyed, as the court deems fit under the circumstances of the case without payment of any compensation.”

297. Under Rule 20 of the Delhi High Court Intellectual Property Rights Division Rules, 2022 (hereinafter “DHC IPD Rules”), the following factors can be considered for determining the damages or accounts profits. The said Rule reads as under:

“20. Damages/Account of profits A party seeking damages/account of profits, shall give a reasonable estimate of the amounts claimed and the foundational facts/account statements in respect thereof along with any evidence, documentary and/or oral led by the parties to support such a claim. In addition, the Court shall consider the following factors while determining the quantum of damages:

- (i) Lost profits suffered by the injured party;*
- (ii) Profits earned by the infringing party;*



- (iii) *Quantum of income which the injured party may have earned through royalties/license fees, had the use of the subject IPR been duly authorized;*
- (iv) *The duration of the infringement;*
- (v) *Degree of intention/neglect underlying the infringement;*
- (vi) *Conduct of the infringing party to mitigate the damages being incurred by the injured party;*

In the computation of damages, the Court may take the assistance of an expert as provided for under Rule 31 of these Rules.”

298. In the evidence, as also during the course of submissions, the Plaintiff has opted for damages and not for rendition of accounts of profits.

299. On damages, evidence has been led by Mr. Dennis Nathan, PW-2, who has deposed that the Plaintiff has sold more than 50 million USD worth of antennas in the North American market under the corresponding US Patent No. 8311582. Some of the purchase orders showing the sales of such antenna ranging between USD 1960 to USD 7650 have been placed on record. According to the Plaintiff, the antenna of the Plaintiff continues to remain relevant despite the telecom market having evolved to 4G and 5G. According to the Plaintiff, there are various models of the Defendants which are infringing. The following are the other models of infringing products which have the dual beam technology:

- i. MB-4Q9X30V-00
- ii. MB-4Q9X30V-05



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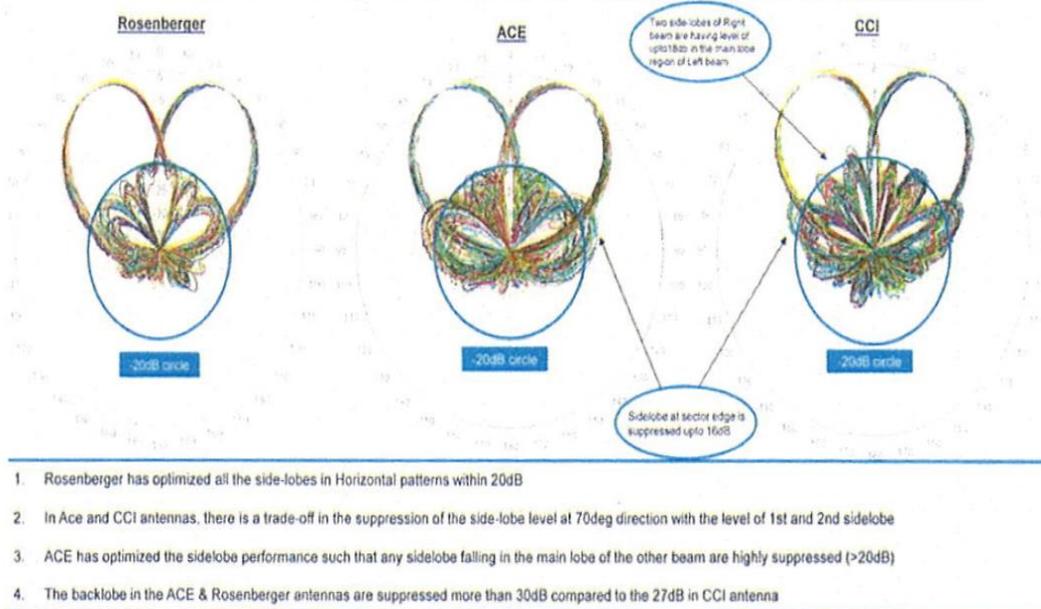


- iii. MB-2B6X30V-10
- iv. MB-4W8X33V-0
- v. MB-4W8X33V-10
- vi. S-Wave U/U-33-20DV10-BS
- vii. S-Wave EW/EW-33-20DV10-BS
- viii. EW-33-20DV10-BS-F
- ix. MB-G7W92U9X65V-00
- x. MBA64O9X65V-01
- xi. MB-4W8X33V-01

300. The beam patterns for all these models were not available. However, according to the Plaintiff, owing to the functionality, all these dual beam models are infringing. According to PW-2, the comparison was being shown between the Plaintiff's and the Defendants' antenna beams by the Defendants themselves to one of the customers, namely, M/s. Reliance Jio Infocom Ltd. (*hereinafter 'RJIL'*) for its 4G LTE network in 2300-2400 MHZ. The said extract from the brochure of the Defendants is set out below:



- Horizontal Radiation Patterns at all Tilts, Frequencies and Ports were plotted to compare the worst case performance in three antennas



The text below the diagram reads as under:

- 1 Rosenberg has optimized all the side-lobes in Horizontal patterns within 20dB.
- 2 In Ace and CCI antennas there is a trade-off in the suppression of the side lobe level at 70deg direction with the level of 1st and 2nd sidelobs
- 3 ACE has optimized the sidelobe performance such that any sidelobe falling in the main lobe of the other beam are highly suppressed (>20dB)
- 4 The backlobe in the ACE & Rosenberg antennas are suppressed more than 30dB compared to the 27dB in CCI antenna

301. The above diagram is a comparison of the beam patterns of Rosenberg (Defendants), M/s Ace Technologies Corporation and Plaintiff. This diagram was prepared by the Defendants for their customer RJIL to show that the beam patterns are almost identical.

302. The above comparison is stated to have been obtained by PW-2 in the ordinary course of business. The said diagram actually establishes the



beam patterns of the Plaintiff's and the Defendants' antennas to be identical. According to PW-2, the Defendants' antennas were being promoted for replacing earlier antennas. The advantage of the Plaintiff's antenna of having the same total critical coverage area was the same advantage which the Defendants' infringing products sought to promote in their brochure, *albeit*, the Defendants had also tried to highlight some other advantage of their antenna. The commercial viability of the Plaintiff's antenna and thereby even the Defendants' antenna was that no change would have to be made in the tower network of the client if the antenna is replaced. According to PW-2, the same advantage of the Plaintiff's antenna was encashed upon by the Defendants. According to the Plaintiff, in brownfield areas, the replacement was obvious and even in greenfield areas, the replacement would be advantageous if the same critical coverage area could have been maintained. On this basis, the Defendants unfairly competed with the Plaintiff by promoting and selling comparable antenna models. According to PW-2, the comparable antennas were tabulated as under:

<i>Defendants' Antenna Model</i>	<i>Features of this antenna model</i>	<i>Plaintiff's comparable Antenna Model</i>
<i>MB-4Q9X30V-00</i>	<i>4x Polarization, 4x (2300-2400) MHz Multi Beam Panel Antenna with Integrated Remote Electric Tilt, 8 ports antenna</i>	<i>BSA-AA65-20R0 10-32-K</i>
<i>MB-2B6X30Y-10</i>	<i>XX Pol, 2x (824-896) MHz 4 port Dual beam</i>	<i>BSA-S65R-B-H6-K</i>



	<i>Panel Antenna with Integrated Exchangeable RETs</i>	
<i>MB-4W8X33V-10 And MB-4W8X33V-01</i>	<i>4xPol. 4x (1710-2690) MHz 8 port Dual Twin Beam Antenna with integrated RET;</i>	<i>BSA33R-E5BA-K</i>
<i>S-WA VE-U/U-33-20DV10-BS</i>	<i>XX Pol. 2x l 710-2170 MHz 4 ports Muti Beam Panel Antenna with variable Electrical Tilt. Two beams</i>	<i>BSA-S65V-U-H5-K (VET)</i>
<i>S-WAVE-EW/EW-33-20DV10-BS</i>	<i>XX Pol, 2x l 710-2690 MHz 4 ports Muti Beam Panel Antenna with Optional External RET.</i>	<i>BSA33R-E5AB-K</i>

303. Thus, the claim of PW-2 on behalf of the Plaintiff is for loss of profits.

304. In respect of the model - *BSAAA65-20RO I 0-32-K*, according to the Plaintiff, it was in actual discussion with RJIL for sale of the said model. Actual details of the team which was in discussion with the said company are contained in the affidavit. For this model, the Plaintiff is stated to have quoted USD 2600 as the price per antenna which was thereafter reduced to USD 1600. However, RJIL changed the price to 1250 and as per PW-2, the reason for the said change was due to lower quotes from the



Defendants for the comparable model. The quantity of antennas which was to be purchased by RJIL was 30,000. The Plaintiff then sent a revised offer of USD 950 per antenna based on a minimum supply of 10,000 antennas. This continued and finally the Plaintiff was able to sell only 4998 antennas at USD 950 and the Defendants sold 10,000 antennas of the comparable model at USD 873 per antenna. According to the Plaintiff, the cost price for the antenna model was USD 775 which is sought to be proved on the basis of the bill of materials which is annexed with PW-2's affidavit. The loss of profits due to price erosion on this model as claimed is to the tune of USD 3,248,700.

305. Similarly, for the other four models as well, the negotiations with the clients and competition between the Plaintiff and the Defendants continued in respect of different antenna models. It is the case of the Plaintiff that, on each occasion, it had to substantially reduce its price due to the offering and sale of infringing antenna by the Defendants.

306. On each of these models of antenna, the claim of the Plaintiff is based on:

- (i) loss of profits due to loss of sales;
- (ii) loss of profits due to price erosion.

307. In respect of loss of profits due to loss of sales, the different sale prices which the Plaintiff had offered to its clients have been taken into consideration and the quantum claimed *qua* each models is as under:

(i) BSA-AA65 20R010-32-K:

*“Assuming the sale price to be **United States Dollars One Thousand Six Hundred (US\$ 1,600) per antenna**, PW-2 calculated the lost profits at*



United States Dollars Sixty Eight Million Six Hundred and Twenty Three Thousand Five Hundred (US\$ 68,623,500) or an equivalent amount in Indian Rupees for this antenna model. [see paragraph 73 at page 146 of Trial Bundle – II] This is explained below: ”

<i>Sale Price ('A')</i>	<i>Cost Price ('B')</i>	<i>Profit per antenna ('C' = A - B)</i>	<i>Number of comparable antennas (antenna model MB-4Q9X30V-00), by the Defendants as per their Sales Affidavit. ('D')</i>	<i>Lost Profits ('E' = C x D)</i>
US\$ 1,600	US\$ 775	US\$ 825	83,180	US\$ 68,623,500
US\$ 1,250	US\$ 775	US\$ 475	83,180	US\$ 39,510,500

<i>Un-eroded Sale Price ('A')</i>	<i>Eroded Sale Price ('B')</i>	<i>Erosion of Price per antenna ('C' = A - B)</i>	<i>Number of antennas of model BSA-AA65-20R010-32-K, sold by the Plaintiff. ('D')</i>	<i>Lost Profits due to price erosion ('E' = C x D)</i>
US\$ 1,600	US\$ 950	US\$ 650	4,998	US\$ 3,248,700
US\$ 1,250	US\$ 950	US\$ 300	4,998	US\$ 1,499,400

**(ii) BSA-S65R-B-H6-K**

<i>Sale Price ('A')</i>	<i>Cost Price ('B')</i>	<i>Profit per antenna ('C' = A - B)</i>	<i>Number of comparable antennas (antenna model MB-2B6X30V-10), sold by the Defendants as per their Sales Affidavit. ('D')</i>	<i>Lost Profits ('E' = C x D)</i>
<i>US\$ 1,650</i>	<i>US\$ 778</i>	<i>US\$ 872</i>	<i>32,512</i>	<i>US\$ 28,350,464</i>
<i>US\$ 1,150</i>	<i>US\$ 778</i>	<i>US\$ 372</i>	<i>32,512</i>	<i>US\$ 12,094,464</i>

<i>Un-eroded Sale Price ('A')</i>	<i>Eroded Sale Price ('B')</i>	<i>Erosion of Price per antenna ('C' = A - B)</i>	<i>Number of antennas of model BSA-S65R-B-H6-K, sold by the Plaintiff. ('D')</i>	<i>Lost Profits due to price erosion ('E' = C x D)</i>
<i>US\$ 1,650</i>	<i>US\$ 975</i>	<i>US\$ 675</i>	<i>1,500</i>	<i>US\$ 1,012,500</i>
<i>US\$ 1,150</i>	<i>US\$ 975</i>	<i>US\$ 175</i>	<i>1,500</i>	<i>US\$ 262,500</i>

“Lost Profits on BSA33R-E5BA-K In paragraph 98 to 102, PW-2 gave evidence that it is entitled to lost profits due to lost sales of United States Dollars One Million Eight Hundred and Fifty-Four Thousand Four Hundred and Ninety-Three (US\$



1,854,493) or an equivalent amount in Indian Rupees, on antenna model BSA33R-E5BA-K. [see pages 153 to 155 of Trial Bundle – II] A summary of the lost profits calculated by PW-2 for this antenna model is captured below: ”

(iii) BSA33R-E5BA-K

Sale Price (‘A’)	Cost Price (‘B’)	Profit per antenna (‘C’ = A - B)	Number of comparable antennas (antenna models MB- 4W8X33V-10 and MB-4W8X33V-01), sold by the Defendants as per their Sales Affidavit. (‘D’)	Lost Profits (‘E’ = C x D)
US\$ 1,289	US\$ 978	US\$ 311	5,963	US\$ 1,854,493

(iv) BSA33R-E5AB-K

*“In paragraph 103 to 106, PW-2 gave evidence that it is entitled to lost profits **due to lost sales of United States Dollars One Million Six Hundred and Thirty-Five Thousand Two Hundred and Seventy-Eight (US\$ 1,635,278)** or an equivalent amount in Indian Rupees, on antenna model BSA33R-E5AB-K. [see pages 155 to 156 of Trial Bundle – II] A summary of the lost profits calculated by PW-2 for this antenna model is captured below:*

Sale Price (‘A’)	Cost Price (‘B’)	Profit per antenna (‘C’ = A - B)	Number of comparable antennas (antenna model S-	Lost Profits (‘E’ = C x D)



			WAVE-EW/EW-33-20DV10-BS), sold by the Defendants as per their Sales Affidavit. ('D')	
US\$ 801	US\$ 400	US\$ 401	4,078	US\$ 1,635,278

(v) **BSA-S65V-U-H5-K (VET)**

*“In paragraph 107 to 110, PW-2 gave evidence that it is entitled to lost profits **due to lost sales of United States Dollars Three Hundred and Fifty-One Thousand Eight Hundred and Thirty-Seven (US\$ 351,837)** or an equivalent amount in Indian Rupees, on antenna model BSA-S65V-U-H5-K (VET). [see pages 156 to 158 of Trial Bundle – II] A summary of the lost profits calculated by PW-2 for this antenna model is captured below:*

Sale Price ('A')	Cost Price ('B')	Profit per antenna ('C' = A - B)	Number of comparable antennas (antenna model S-WAVE-EW/EW-33-20DV10-BS), sold by the Defendants as per their Sales Affidavit. ('D')	Lost Profits ('E' = C x D)
US\$ 480	US\$ 323	US\$ 157	2,241	US\$ 351,837

308. PW-2 was cross-examined, on some of the details of models which were given as also the brochures of the Defendants which were relied upon by him. PW-2 confirms that the actual antennas were not available but it was based on the brochures and published data by the Defendants which showed the beam patterns from the European market. However, he also



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confirms that the additional models described as other infringing products in paragraph 44 of his evidence affidavit in respect of the European markets, he had not placed the European brochures on record. PW-2 also confirms that the beam pattern data was available in respect of five models of Defendants. PW-2 also confirms that the Plaintiff never asked for furnishing beam patterns *qua* any of the models of the Defendants. In his cross-examination, PW-2 also confirms that though RJIL had stated they had preferred the Defendants' model as the side lobe level was slightly better, it was his case that the primary reason was that the Defendants were offering a much lower price. This was an oral communication between Reliance officials and PW-2. The witness confirms in his cross-examination that on several occasions, the network operator *i.e.*, the customer, would either seek reduction of price due to the competitor *i.e.*, the Defendants, or reduce the number of antennas purchased or the order would completely dry up. In the case of M/s. Bharati Airtel, the purchase is through a reverse auction process and the starting price itself would be lower than the price which was fixed by Airtel.

309. PW-2 did not have any communication in writing to support the assertion that the Defendants were given the orders due to the lower price. However, it was his case that the orders did not come to the Plaintiff due to the lower price of Defendants as communicated orally to the sales force of the Plaintiff. Insofar as bill of material is concerned, the same was based on the cost of manufacturing the Plaintiff's antenna in China, though the said bill of material is certified by an Auditor. PW-2 confirmed that the predecessor of the Plaintiff had started selling antennas in 2007 which was acquired by the Plaintiff in 2011. The Plaintiff had sold more than 30,000



antennas in India. PW-2 confirms that apart from the Defendants, the other competitors are M/s. Ace Technologies Corp. and M/s CommScope Technologies LLC. With M/s CommScope, the Plaintiff had entered into a licence agreement. Insofar as the calculations put forth by the PW-2 for the calculation of loss of profit for various models is concerned, no cross-examination was done by the Defendants.

310. In respect of damages, Mr. Satyajeet Mukherjee – DW-1 gave evidence on behalf of the Defendants in which he states that the Plaintiff's antennas do not meet the standards required in India and therefore there is no significant market presence. It is claimed that the antennas are defective products and are technologically inferior technology. According to the DW-1, the Plaintiff has been repeatedly suing different parties only to prevent competitors. The suppression of back lobe which the PW-2 admitted as having been told to the Plaintiff, is according to the DW-1 is sign of better quality antenna. The Plaintiff has not been able to convert the purchase orders into sales only because the antennas were not acceptable to the market. The pricing had no bearing on the same.

311. On the evidence given by DW-1 in cross-examination, it is admitted by DW-1 that he has not been personally involved in the marketing or selling of Defendants' antenna which was handled only by the sales and marketing team:

“Q. Is it correct that you have never personally been involved in marketing or selling the defendants' antennas to its customers or clients in India?”

A. The legal department is the back end of an organisation, it's actually the sales and marketing team who do all the front end jobs, so we always have



regular interaction with our internal departments. So that would be wrong to say that it's no. It's not even no. But it depends on the scenarios, you know what kind of inputs are required from us. We share them. And basis that the sales and marketing team members decides to go ahead."

312. He also confirms that insofar as his assertions in respect of Plaintiff's antenna and the Plaintiff's investment in India is concerned, the DW-1 has obtained information from the marketing team which according to him is reliable information. The relevant portion of the cross-examination are as under:

"Q. And I'm referring to paragraph 11 where you say that:

"... the Plaintiff is reasonably believed to have made no investment in India and as far as I have been told by Defendant No. 2's marketing team ..."

So is it correct that when it comes to matters relating to the business side of selling of defendants' antennas, you have relied upon the information to you by the marketing team of the defendants?

A. I would like to give an answer like this, that in matters of business decision, the inputs of legal department are sought from time to time. So whenever those have been sought, have been relied upon. And in this specific case, as you are mentioning, the defendant -- I mean, our marketing team passes on reliable information which is collected from the market. So on that basis, I have relied on my affidavit.

Q. So the answer is, yes, you are relying on the information provided to you by the marketing team?

A. Yes.

Q. Can you name some of the members of the marketing team who have provided you this information?



A. I mean, there are a few of them. Of course it's Mr Arshad Fakhri (phonetic) who is on the business side.

Q. And Mr Arshad Fakhri who you've just named, was in touch with you right up to the filing of your affidavit on 11 August 2023?

A. Yes. As a matter of regular interaction, we keep on discussing various matters of business importance, and of course this being a litigation, he is still involved.

Q. And he's still working for the defendants, right?

A. Yes, he is.

Q. Is it correct that you are not personally or you have been personally involved in the preparation of the product brochures of the defendants' telecommunication antennas that are sold in the Indian market?

A. Yes, of course. Since I belong to the legal department, it has no role in this."

313. Further, in cross-examination, DW-1 admits Exh.PW-2/10 wherein the Defendants have compared the Defendants' beam patterns with M/s. Ace Technologies Corp. and Plaintiff's beam pattern. DW-1 also confirms that he has never personally simulated the beam patterns on MATLAB software. He also confirms that he has no personal knowledge of design of beam pattern placed on Butler Matrix. On the constitution of Defendants, DW-1 confirms that Defendant No.2 - Rosenberger India Pvt. Ltd. is now known as Prose Technology India Pvt. Ltd. and that when he referred to 30% to 40% market share in India, he refers to Prose Group. He also confirms that the customer of Defendants in India are Reliance Jio, Bharti Airtel and others. He also reluctantly confirms that some of the orders were placed upon the Plaintiff which were cancelled may have come to the



Defendants.

314. In suits relating to infringement of patents, in terms of the DHC IPD Rules, there are various measures that can be used for calculation of damages. Such measures would include loss of profits of the Plaintiff, profits earned by the Defendants, income which could have been earned through royalties or licence fee. Some of the further factors that can be taken into consideration would include the conduct of the parties as well and the duration of infringement.

Calculation of Damages

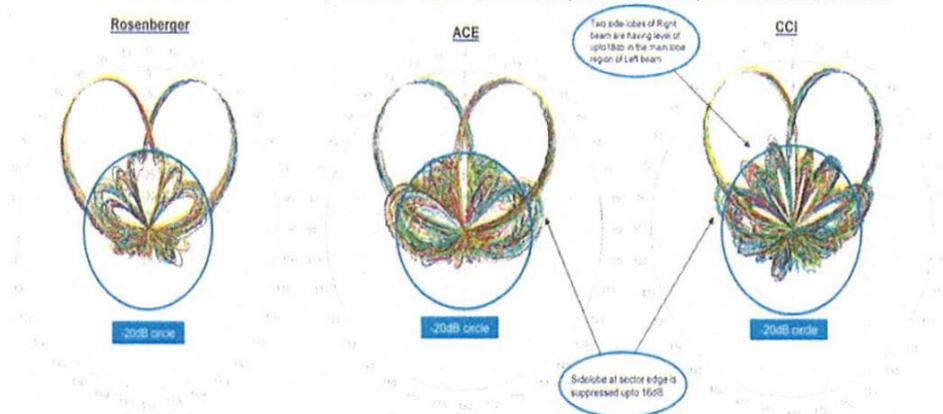
315. In the present case, the Plaintiff has tried to calculate damages suffered by setting out lost profits on the basis of the sales of the Defendants. The Plaintiff has also calculated lost profits on the basis of number of antennas sold by the Plaintiff as well. In addition, exemplary / punitive damages or aggravated damages have also been sought. Thus, the claims are for compensatory damages by applying different prices and for exemplary damages.

316. The first and foremost feature that this Court has to note while embarking on the aspect of damages would be the exclusive nature of the industry in question. There are limited number of antenna manufacturers and sellers and also limited number of telecom service providers who would be the purchasers/customers of the manufacturers. Two of the main manufacturers are before this Court i.e., Plaintiff and the Defendants in respect of the antenna in question. The evidence on record as placed by PW-2 shows that there have been sales offers made to both RJIL and Airtel by the Plaintiff and the Defendants. PW-2 has explained in his cross-examination the reverse auction mechanism due to which on the basis of



low price quoted by the Defendants, the Plaintiff was unable to make any supplies. As against the Plaintiff’s 30,000 antennas, the Defendants have sold 1,27,974 antennas which is more than three time of number of antennas sold by the Plaintiff. The reasons for the same could be, in the realm of speculative factors such as better sales and marketing, supplies, negotiation capabilities, after sales service, easier supplies apart from the technology involved. From the admitted document *i.e.*, Exh.PW-2/10, it is clear that the Defendants were pitching themselves as a supplier of competing antennas with that of the Plaintiff. There can be no doubt that anyone in business is entitled to make a comparative assessment with the competing products. However, Exh.PW-2/10 proves one thing *i.e.*, that the Defendants did not merely portray themselves as being better than the Plaintiff in technology, but the beam patterns in the said admitted document also show that the Defendants tried to portray that they had made some optimization over the Plaintiff’s technology. For the sake of ready reference, PW-2/10 is extracted below:

• Horizontal Radiation Patterns at all Tilts, Frequencies and Ports were plotted to compare the worst case performance in three antennas



1. Rosenberger has optimized all the side-lobes in Horizontal patterns within 20dB
2. In Ace and CCI antennas, there is a trade-off in the suppression of the side-lobe level at 70deg direction with the level of 1st and 2nd sidelobe
3. ACE has optimized the sidelobe performance such that any sidelobe falling in the main lobe of the other beam are highly suppressed (>20dB)
4. The backlobe in the ACE & Rosenberger antennas are suppressed more than 30dB compared to the 27dB in CCI antenna



317. This document is in fact relied upon by DW-1 in his evidence to argue that the back lobe in the Defendants' antenna was suppressed more than 30dB in comparison to the 27dB in Plaintiff's antenna, though the said suppression would clearly appear to be minimal in nature. Exh.PW-2/10 shows the following:

- i) That the Plaintiff and Defendants were direct competitors;
- ii) That the beam patterns of the two antennas were almost identical;
- iii) The Defendants in fact claimed slight superiority over the Plaintiff's antenna.

318. The beam patterns being almost identical and PW-1 having established that when the beam patterns are identical, the critical coverage area is maintained, infringement already stands established. The fact that the comparison of beam patterns is portrayed by the Defendants to their customers, shows that the same is of significance for the industry. The Defendants have clearly taken advantage of the infringing antennas in pitching their antenna products. The question is now about damages.

319. Loss of profits is a method by which damages can be calculated in patent infringement suits. While some part of the Plaintiff's sales may have depleted due to stiff competition from the Defendants, it cannot be the sole and only factor. Moreover, the Defendants may have been able to sell more antennas due to various other factors as well, as discussed above. Thus, in the opinion of this Court, in this case loss of profits cannot be awarded on the basis of sales of the Defendants. What would be a reasonable measure would either be the price erosion of the Plaintiff or royalties which the



Defendant would have been required to pay if they had licenced the Plaintiff's technology.

320. Coming to erosion of price per antenna of that of the Plaintiff, from the evidence of PW-2, it is clear that on many occasions due to competition, the Plaintiff had themselves reduced the price of their antenna. Under such circumstances, the infringement of the suit patent cannot be the sole blameworthy factor for reduction in the Plaintiff's antenna's price. The reasons could be much more.

321. The general principle for award of damages is that the innocent party has to be put in the same position as it would have been, if not for the infringement. It would be instructive to refer to the discussion in **Terrell on the Law of Patents**⁸ on the principles on which damages are to be assessed, particularly, where the patentee grants licenses:

"The principle to be applied in assessing damages is that the claimant should be restored by monetary compensation to the position which they would have occupied but for the wrongful acts of the defendant, provided always that such loss as they prove are: (i) foreseeable, (ii) caused by the wrong, and (iii) not excluded from recovery by public or social policy.

[...]

Patentees derive their remuneration in respect of their inventions either by utilising their monopoly rights to enable them to obtain increased profits as manufacturers, or by permitting others to use their inventions under license in consideration of royalty payments. In the latter case, the determination of the

⁸ *Terrell on the Law of Patents*, Sweet & Maxwell, 18th Edn., 2016.



*damages accruing from infringements is usually a relatively simple matter, it being **generally assumed that the damage is equal to the amount which the infringer would have had to pay had they had a license upon terms normally granted by the patentee.***”

322. Thus, though the damages claimed by the Plaintiff is extremely ambitious, this Court is of the opinion that, in these facts and evidence which has been placed before the Court, a reasonable measure would be the damages calculated on the basis of licence fee or royalty rates.

323. In reaching this conclusion, the Court has also considered the respective submissions of the parties, wherein both the Plaintiff and Defendants have referred to calculation of damages by way of royalties as an acceptable method, *albeit*, differing on the rate at which the same shall be calculated. The relevant portion of the pleadings are extracted hereunder:

Plaintiff’s submission in the plaint:

“102. Further, the Defendants are liable to pay the Plaintiff royalty / license fee by way of damages on the illegal sales made by them in India at least at the rate at which CommScope Technologies, LLC has agreed to pay royalty/license fee to the Plaintiff.”

Defendants’ submissions in rejoinder note of arguments dated 6th May, 2025, and written submissions dated 30th May, 2025, respectively:

“6.4 Reasonable Royalties:

*Hypothetical Negotiation standard comes from the matter of **Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970)** and its used by the Courts to calculate reasonable royalties. This is due to the "legal fiction" that an*



infringer and patent holder had a license agreement in place before an infringement occurred.”

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*“12.8. The Defendants respectfully submit that in view of the above submissions by the Defendants, the instant suit of the Plaintiff deserves to be dismissed. However, it is most respectfully submitted that if this Hon'ble Court was to hold against the Defendants by observing that its products infringe the Suit Patent, then the only method to apply for damages would be by way of royalty since the Defendants have been disclosing their sales figures to this Hon'ble Court. The Defendants submit that amongst the eleven (11) models alleged to be infringing and the price as well as demand for these models vary tremendously. The variation in the prices and demand is on account of the different parameters and the quality of those antennas. Therefore, the other factors are causing changes in the price and demand of the Defendant's antennas and not the contribution of the technology in the Suit Patent. **In view of these submissions, if this Hon'ble Court is considering fixing the royalty, then the royalty rate may kindly be fixed at less than 5%**”*

324. At this stage, it is relevant to consider the interim judgement in *Ace Technologies (supra)*⁹ which involved the same suit patent, and wherein this Court had directed deposit in the following terms:

“79. The Plaintiff has placed on record, in a sealed cover, the licence agreement signed with the licensee, in respect of the suit patent who was one of the Defendants in the earlier suits. The said license agreement is between Communication Components Antenna Inc., which is the Plaintiff in the present case, and CommScope Technologies,

⁹ Interim judgement dated 12th July, 2019



LLC. It relates to US'582 and the family of patents, including IN'893. The said license agreement contemplates an initial lumpsum payment and percentage of net sales as the royalty. The Court has perused the license agreement. Owing to the confidentiality clauses between the said party and the Plaintiff, the said royalty terms are not being reproduced in the judgment.

80. The Defendants have placed on record, the purchase orders for the various models of its antennae. Owing to the fact that the Defendant No.1 which is the manufacturer and seller claims to not have any assets in India, and in view of the discussion above, where the Defendants are clearly infringing the Plaintiff's patent, the Defendants are liable to deposit some amounts in the Court in order to continue the sales of these antennae in India. The total value of the exports made till date, as per the disclosures made by the Defendants, is as follows:

S. No.	Antenna	Quantity	Amount	Date
1.	XXDW-18-33i-iVT-DB8P	67,627 units	\$64,405,583	Between October, 2016 and October, 2018
2.	XXDW-18-33i-iVT-DB8P-V2	10,000 units	\$8,380,000	18 th December, 2018
3.	XXDW-18-33i-iVT-DB8P-V2	5,000 units	\$3,930,000	22 nd February, 2019
4.	XXDGL-15-33i-iVT-DB-4P	15,000 units	\$9,525,000	2 nd May, 2019
	Total	97,627 units	\$86,240,583	



81. *Insofar as the sales made prior to date of suit to the tune of \$64,405,583, which, at the current rate of exchange (1USD = approx. Rs.68) comes to Rs.437,95,79,644/- the Defendants are directed to give a Bank Guarantee for a sum of Rs.40 crores, which is approximately ten percent of the above amount.*

82. *Insofar as the sales made during the pendency of the suit are concerned, the total sales are to the tune of \$21,835,000, which come to Rs.148,47,80,000/-, ten percent of which is approximately Rs.14.5 crores. The Defendants are directed to deposit the Bank Guarantee and the said sum with the Registrar General of this Court, within one month from date of judgment. If the Defendants do not comply with the above directions within one month, the Defendants shall stand restrained from manufacturing, selling, offering for sale any models of antennae which infringe suit patent number IN 240893.”*

325. The above decision was challenged before the Id. Division Bench in ***FAO(OS)(COMM)186/2019*** titled ***Ace Technologies Corp. & Ors. vs Communication Components Antenna Inc.*** wherein *vide* order dated 10th April, 2023, the Id. Division Bench directed as under:

“98. In view of the above, we consider it apposite that the appellants be granted one more opportunity to produce the allegedly offending antenna for examination of a court appointed expert. The appellants may approach the learned Trial Court for the said purpose and for modification/ vacation of the impugned judgment. If the Trial Court considers it apposite, it would pass appropriate orders for appointing an expert for assistance in determining whether the allegedly



infringing antennae emit beam patterns similar to the Suit Patent and consider the appellants application for vacation/ modification of the impugned judgment.

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100. The appellant had expressed the difficulty in depositing 10% of the sale proceeds to comply with the terms of the impugned judgment. It is also submitted on their behalf that the said amount is exorbitant. However, it is noticed that the learned Single Judge had examined a royalty agreement entered into between the respondent and another licensee for use of the patent and had apparently, determined the terms based on the said agreement. Therefore, we do not find any reason to modify the same. However, given the difficulty expressed by the appellants, we consider it apposite to modify the impugned judgment to a limited extent of permitting the respondents to deposit a bank guarantee for a sum of 10% of the sale proceeds instead of depositing the same in cash with the Registrar of this Court.”

326. The SLP against the said order was dismissed on 20th September, 2019 in **SLP(C) 21938/2019**. Thus, the Plaintiff was directed to be secured at 10% of the sales profits of the Defendants. A further deposit of 25% of the damages of Rs.1160 crores was also directed by the Id. Single Judge vide order dated 1st July, 2025 in the following terms:

“39. In view thereof, as also bearing in mind the substantial decline of 65% (approximately) in the valuation of defendant no.1, ends of justice would be adequately met by directing primarily the defendant no.1 to deposit 25% of the amount claimed by the plaintiff as damages, more so, since



the same is derived on the basis of Rs.1160 Crores (approximately USD 140 Million). Also, in view of the depreciating financial position of defendant no.1 which is, admittedly, a foreign (Korean) entity, as also in view of Article 217 of the Korean Civil Procedure Act and the apprehensions of the plaintiff qua inability of the defendants to pay the damages, the aforesaid measure is not only fair and reasonable, but rather practical as well. Taking all these as, unless adequate safeguards are put in place, at this stage, the very purpose/ interest of justice shall be rendered otiose.

40. Also, the factual circumstances involved justify grant of security deposit as an interim arrangement; and that too without entering into an elaborate discourse on merits at this stage. This is, especially, with a view to uphold/ protect the rights of a registered patent holder like the plaintiff; as also to promote a progressive patent regime that incentivizes innovation/ creativity and intellectual advancement. While maintaining a conducive framework for dissemination of knowledge, and keeping in view the object of adjudicatory process to ensure that when/ if the ultimate decree or relief is granted, the same should not become incapable of being enforced and should be in the form of an effective relief, the plaintiff has been able to make out a case in its favour.

41. At this juncture, it is imperative to note that while the exact quantification of damages remains to be adjudicated, this Court, vide order dated 12.07.2019, prima facie found that the defendants are indeed infringing the suit patent, which has also been upheld by the Hon'ble Division Bench of this Court vide order dated 10.04.2023 and which has attained finality. Further, in pursuance to the



order dated 12.07.2019 of this Court and also by the Hon'ble Supreme Court vide order dated 30.09.2019, the defendant no.1 has cumulatively deposited Rs.70 Crores @ 10% of the revenue generated from sales as a continuing obligation of the proceeds accruing from the infringing use of the plaintiff's patent. Both the aforesaid orders have neither been altered/ modified/ changed and as such are final and binding upon the defendants even as of today.

42. Despite the aforesaid, since it is the case of the defendants that there had been no sales in the preceding year, no deposits had been made before this Court, the same, in addition to the other factors coupled with the continued non-compliance with the directions of this Court, reflect that the financial position of the defendant no.1, is indeed in a precarious state. The apprehension raised by the plaintiff regarding the defendants' inability to satisfy the decree, if ultimately passed, considering the facts and circumstances of the present lis will turn into a reality, if appropriate order(s) is/ are not passed, at this stage.

43. Collectively taking all the aforesaid, the plaintiff has been able to convince/ persuade this Court to exercise its inherent powers under Section 151 of the CPC. As such, this Court is of the view that a prima facie case has been made out in favour of the plaintiff and against the defendants with the balance of convenience in its favour for grant of an appropriate relief, at this stage, as the defendants currently do not have any ongoing business operations in India and the absence thereof, indeed undermines and puts at risk the rights/ interests of the plaintiff. Moreover, if the plaintiff's apprehension regarding the defendant's inability



to satisfy the decree materializes, great irreparable harm, loss and injury is likely to occur against the plaintiff, and the entire objective of the captioned lis shall be rendered otiose.

44. Accordingly, in the interest of justice and particularly to secure the interests of the plaintiff during the pendency of the present proceedings, the defendant no.1 is hereby directed to furnish and deposit an amount equivalent to 25% of the damages of Rs.1160 Crores (approximately USD 140 Million) as claimed by the plaintiff i.e. Rs.290 Crores, in addition to all the monies already deposited by the defendant no.1 in pursuance to previous order(s) of the Court(s) from time to time, either by way of a Bank Guarantee issued by a scheduled commercial bank or in the form of a Fixed Deposit Receipt in the name of the Registrar General of this Court within a period of four weeks from today.

45. Accordingly, the present application is allowed and disposed of.”

327. The said order was challenged by the Defendant therein before the Supreme Court in **SLP(C) No. 20326/2025** which was disposed of on 8th August, 2025, after the judgement was reserved in the present suit. In the said order, the Supreme Court has not interfered with the order of the Id. Single Judge. However, the Supreme Court extended the time period for depositing the amount as directed by the Id. Single Judge by another 45 days. Thus, even at the interim stage the measure of Royalties payable, is an acceptable standard to safeguard the rights of the Plaintiff.

328. Coming back to the facts of this case, it is the admitted position that the Defendants were in correspondence with the Plaintiff during the period



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from December, 2016 till 2019, as is evident in the discussion in paragraphs 292-295 above. The obvious purpose of such correspondence was for obtaining a license for the Plaintiff's suit patent and its technology. However, even at the stage of signing of the NDA itself, the negotiations did not fructify, resulting in the present suit.

329. As noted above, the Plaintiff did face stiff competition from the Defendants in respect of customers in India, including RJIL and Bharati Airtel for offering almost identical technology. The DW-1 – Mr. Satyajeet Mukherjee, has admitted in his cross-examination that some of the orders placed on the Plaintiff and later cancelled, may have come to the Defendants. In such circumstances, the Plaintiff deserves to be compensated in the form of damages.

330. It is also relevant to note in this context that while the Defendants claim to have conducted adequate due diligence before launching their products in India, this assertion remains entirely unsubstantiated. The Defendants have failed to place on record any Freedom to Operate (FTO) Search Report, or any other documentary proof evidencing that such due diligence was actually undertaken. In the absence of corroborating material, the claim of due diligence falls flat. A party that launches products into a market without verifiable due diligence in respect of subsisting patents cannot subsequently seek to mitigate its liability on the basis of such an unsupported premise.

331. Accordingly, this Court is of the view that the Defendants would be liable to pay damages, which would be equivalent of the royalty, which would have been payable if the Defendants had entered into a license agreement with the Plaintiff.



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332. The Court had directed the Defendants, from time to time during the course of proceedings, to place on record by way of an affidavit in a sealed cover the sales figures for different periods. Further to the said directions, the Defendants have filed seven sales affidavits dated 31st January, 2020, 29th September, 2020, 20th January, 2022, 1st July, 2022, 4th November, 2022, 25th July, 2023, 6th May, 2024, all deposed by Mr. Satyajeet Mukherjee on behalf of the Defendants.

333. The said affidavits contain sales figure *qua* each of the infringing antennas along with the total units sold by the Defendants. The price of each of the infringing antenna model has changed from time to time. However, the sales affidavits contain the total earnings from the sales during respective periods.

334. As per the Plaintiff, the following are the infringing antennas of the Defendants:

- i. MB-4Q9X30V-00
- ii. MB-4Q9X30V-05
- iii. MB-2B6X30V-10
- iv. MB-4W8X33V-0
- v. MB-4W8X33V-10
- vi. S-Wave U/U-33-20DV10-BS
- vii. S-Wave EW/EW-33-20DV10-BS
- viii. EW-33-20DV10-BS-F
- ix. MB-G7W92U9X65V-00
- x. MBA64O9X65V-01
- xi. MB-4W8X33V-01



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335. As per the sales affidavits of the Defendants placed on record, the total sales against each of the above mentioned infringing antennas is as under:

i. MB-4Q9X30V-00

USD Transactions

Sale Period	No. of Units / Price per Unit (USD)	Total Amount (USD)
25.01.2017 to 17.02.2017	10,000 / 985.00	9,850,000.00
27.02.2017 to 15.03.2017	4,500 / 968.00	4,356,000.00
15.08.2018 to 27.08.2018	5,000 / 873.00	4,365,000.00
29.08.2018 to 17.09.2018	6,500 / 863.00	5,609,500.00
10.10.2018 to 25.10.2018	7,500 / 848.00	6,360,000.00
24.01.2019 to 14.02.2019	7,000 / 798.00	5,586,000.00
18.03.2019	5,000 / 769.00	3,845,000.00
02.08.2019 to 30.08.2019	10,000 / 700.00	7,000,000.00
TOTAL		46,971,500.00

INR Transactions

Sale Period	No. of Units / Price per Unit (INR)	Total Amount (INR)
04.04.2020 to	20,000 / 35,000.00	70,00,00,000.00



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17.08.2020		
07.09.2020 to 28.09.2020	2,456 / 33,325.00	8,18,46,200.00
05.10.2020	224	88,15,070.35
04.05.2022 to 15.06.2022	2,060	7,70,56,360.00
16.06.2022 to 22.07.2022	2,940	10,99,73,640.00
TOTAL		97,76,91,270.35 (INR)

ii. MB-4Q9X30V-05*No sale.***iii. MB-2B6X30V-10****USD Transactions**

Sale Period	No. of Units / Price per Unit (USD)	Total Amount (USD)
11.01.2018	2,500 / 753.00	1,882,500.00
20.11.2018 to 23.11.2018	2,000 / 723.00	1,446,000.00
24.01.2019 to 31.01.2019	7,000 / 638.00	4,466,000.00
02.08.2019 to 03.01.2020	10,000 / 570.00	5,700,000.00
01.10.2020 to 31.12.2021	1,012	4,79,991.60
TOTAL		13,974,491.60



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**INR Transactions**

Sale Period	No. of Units / Price per Unit (INR)	Total Amount (INR)
16.06.2020 to 07.08.2020	5,000 / 33,000.00	16,50,00,000.00
25.11.2020 to 18.01.2021	5,000	17,71,32,750.00
TOTAL		34,21,32,750.00 (INR)

iv. **MB-4W8X33V-0** : *Model no. is incorrect.*

v. **MB-4W8X33V-10**

Sale Period	No. of Units / Price per Unit	Total Amount (INR)
27.04.2019 to 04.05.2019	925 / 59,900.00	5,54,07,500.00
19.10.2020 to 12.01.2021 (V-01)	88	52,71,200.00
TOTAL		6,06,78,700.00

vi. **S-WaveU/U-33-20DV10-BS**

Sale Period	No. of Units / Per Unit Price (INR)	Total Amount (INR)
26.05.2017 to 29.12.2018	2,241 / 27,462.10	6,15,42,566.10
TOTAL		6,15,42,566.10



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**vii. S-Wave EW/EW-33-20DV10-BS**

Sale Period	No. of Units / Per Unit Price (INR)	Total Amount (INR)
29.11.2019 to 18.01.2020	905 / 25,700.00	2,32,58,500.00
22.07.2017 to 10.01.2018	2,557 / 30,269.61	7,73,99,392.77
31.01.2020 to 17.03.2020	279 / 25,700.00	71,70,300.00
08.04.2020 to 17.08.2020	287 / 25,700.00	73,75,900.00
07.10.2020	50	11,97,500.00
TOTAL		11,64,01,592.77

viii. EW-33-20DV10-BS-F*No sale.***ix. MB-G7W92U9X65V-00***No sale.***x. MBA64O9X65V-01***No sale.***xi. MB-4W8X33V-01**

Sale Period	No. of Units / Price per Unit (INR)	Total Amount (INR)
01.11.2019 to 18.01.2020	2,033 / 59,900.00	12,17,76,700.00
25.01.2020 to 12.03.2020	1,456 / 59,900.00	8,72,14,400.00
08.04.2020 to	1,130 / 59,900.00	6,76,87,000.00



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11.09.2020		
19.10.2020 to 12.01.2021	88	52,71,200.00
07.05.2022 to 31.05.2022	198	41,58,000.00
30.06.2022 to 12.07.2022	133	27,93,000.00
TOTAL		28,89,00,300.00

SUMMARY OF ALL TOTALS

USD Totals

Model	Total (USD)
MB-4Q9X30V-00	46,971,500.00
MB-2B6X30V-10 (corrected)	13,974,491.60
GRAND TOTAL (USD)	60,945,991.60

INR Totals

Model	Total (INR)
MB-4Q9X30V-00	97,76,91,270.35
MB-2B6X30V-10 (corrected)	34,21,32,750.00
MB-4W8X33V-10	6,06,78,700.00
S-WaveU/U-33-20DV10-BS	6,15,42,566.10
S-Wave EW/EW-33-20DV10-BS	11,64,01,592.77
MB-4W8X33V-01	28,89,00,300.00
GRAND TOTAL (INR)	184,73,47,179.22/-



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336. In cases of patent infringement, one measure of compensatory damages is the royalty which a licensor would have agreed upon at the time of the infringement, upon considering the nature of the patent, the extent of its use, and the commercial advantage derived therefrom. The Court has perused the license agreement on record with M/s. Comscope Technologies, LLC, which has been kept in a sealed cover. After having perused the same, it is clear to the Court that in the said agreement, there is a range of royalty per antenna. On the basis of the said range, it is the opinion of this Court that the Defendants ought not to be put in the same position as of a licensee, who has *bonafidely* negotiated a license, but ought to be directed to pay the higher percentage as royalty on sales.

337. In the above background, this Court is of the view that the appropriate royalty rate would be 20% of the price of the antenna and that the same is a fair and justified measure of the damages suffered by the Plaintiff.

338. Accordingly, on the basis of the sales figures as disclosed by the Defendants in their Affidavit of Sales filed before the Court on several dates, the total sales of the alleged infringing antenna models in USD amounts to **\$60,945,991.60/-** and in INR amount to **₹1,84,73,47,179.22/-**.

339. Applying the royalty rate of 20% thereto:

- (i) the royalty amount in respect of sales in US Dollars is **\$12,189,198.32** (being 20% of USD 60,945,991.60); and
- (ii) the royalty amount in respect of sales in Indian Rupees is **₹36,94,69,435.84/-** (being 20% of INR 1,84,73,47,179.22/-).



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340. In the context of a money decree passed by a civil court in respect of a foreign currency claim, it is a settled principle of law, that the relevant date for conversion is the date of the decree. This principle has been confirmed by the Supreme Court in *DLF Ltd. v. Koncar Generators and Motors Ltd.*, *2024 SCC OnLine SC 1907*, wherein it was held that the date of the award is the appropriate date for conversion of a foreign currency claim into Indian Rupees. The underlying rationale for the same given in the said decision was that it is only upon the passing of the adjudicatory order that the liability of the judgment debtor crystallises and the obligation to pay in Indian Rupees accrues. The said principle applies with equal force to a decree of a civil court, inasmuch as the date of the decree is the date on which the rights and liabilities of the parties are finally determined and the obligation to satisfy the decree in Indian Rupees comes into existence.

341. Accordingly, the date of conversion applicable in the present case is **30th March, 2026**, being the date of this judgment and decree.

342. As on 30th March, 2026, the prevailing rate of exchange, is \$1 = **₹94.65¹⁰**. Applying the said rate of conversion to the USD-denominated royalties of USD 1,21,89,198.32, the equivalent amount in Indian Rupees works out to **INR 115,37,67,348.06**.

343. Thus, the total damages payable by the Defendants to the Plaintiff are, accordingly, computed as under:

¹⁰ <https://www.rbi.org.in/scripts/referenceratearchive.aspx>



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Component	Amount (INR)
Royalty on INR-denominated sales (20%)	₹36,94,69,435.84/-
Royalty on USD-denominated sales converted @ ₹94.77 (20%)	₹115,37,67,348.06/-
Total Damages	₹152,32,36,783.90/-

344. Accordingly, the Defendants are liable to pay to the Plaintiff a sum of ₹152,32,36,783.90/- towards damages. The said amount shall be remitted to the Plaintiff within a period of three months of the issuance of the decree. If the amount is tendered and paid within three months, no interest would be liable to be paid. However, upon failure to pay the amount by 30th June, 2026, simple interest @ 7% per annum would be liable to be paid to the Plaintiff, till the date of payment.

345. It is noticed that the Plaintiff has valued the reliefs sought for the purposes of the payment of Court Fees. The relevant paragraphs of the suit are extracted hereunder:

“110. This Suit is presently valued for the purpose of jurisdiction and court fees as follows:

a) For a decree of permanent injunction restraining infringement of Indian Patent No.240893 by the Defendants in any manner whatsoever, this Suit is valued at Rupees Two Hundred (Rs.200/-), and court fees of Rupees Twenty (Rs.20/-) is affixed.

b) For a decree of damages, or in the alternative for rendition of accounts, the suit is presently valued at Rupees Two Crore and One Thousand (Rs.2,00,01,000/-), and court fees of Rupees Two Lacs and Ten (Rs.2,00,010/-) is affixed. Further, for



*rendition of accounts, the relief is valued at Rupees Two Hundred (Rs.200/-), and court fees of Rupees Twenty (Rs.20/-) is affixed. **The Plaintiff submits that the above valuation is an approximate figure, and the Plaintiff undertakes to pay further court fees as may be determined by this Hon'ble Court upon the amounts that the Plaintiff is able to prove in the course of trial, and upon disclosure of sales made by the Defendants.***

c) For an order of delivery up of infringing antenna models, including packaging, labels, brochures, other printed material and any other document relating to the infringing antenna models, the relief is valued at Rupees Two Hundred (Rs.200/-), and court fees of Rupees Twenty (Rs .20/-) is affixed.

This Suit is, therefore, presently valued for the purpose of court fees and jurisdiction at Rupees Two Crore One Thousand Six Hundred (Rs.2,00,01,600/-), and court fees of Rupees Two Lac and Two Thousand (Rs.2,01,000/-) is being paid.”

346. At the initial stage of filing of the plaint, the Plaintiff cannot be expected to assess as to what would be the sales made by the Defendants or that what would be the damages that would be awarded. Hence, it is only on estimated basis that the Plaintiff values the suit and deposits the court fee.

347. This is clear from a reading of the judgement passed by the Supreme Court in ***Commercial Aviation and Travel Co. v. Vimla Pannalal, (1988) 3 SCC 423***, wherein the Supreme Court has held that in suits falling under Section 7(iv) of the Court Fees Act, 1870, which includes suits for injunction and rendition of accounts, it would not be possible for the Plaintiff to value the suit with certainty. In such case, the Courts would



have to temporarily accept the valuation as per the Plaintiff. The relevant portion of the said judgement reads as under:

*“7. So far as suits coming under Section 7(iv) of the Court Fees Act are concerned, the legislature has left the question of valuation of the relief sought in the plaint or memorandum of appeal to the plaintiff. The reason is obvious. **The suits which are mentioned under Section 7(iv) are of such nature that it is difficult to lay down any standard of valuation. Indeed, the legislature has not laid down any standard of valuation in the Court Fees Act.** Under Section 9 of the Suits Valuation Act, the High Court may, with the previous sanction of the State Government, frame rules for the valuation of suits referred to in Section 7(iv) of the Court Fees Act. Although the Punjab High Court has framed rules under Section 9 of the Suits Valuation Act which are applicable to the Union Territory of Delhi, such rules do not lay down any standard of valuation with regard to suits coming under Section 7(iv) of the Court Fees Act. It has already been noticed that under Rule 4(i) of the Punjab High Court Rules, the value of suit for accounts for purposes of court fee will be as determined by the Court Fees Act, which means that the valuation of the relief will have to be made by the plaintiff under Section 7(iv)(f) of the Court Fees Act.*

8. In a suit for accounts it is almost impossible for the plaintiff to value the relief correctly. So long as the account is not taken, the plaintiff cannot say what amount, if at all, would be found due to him on such accounting. The plaintiff may think that a huge amount would be found due to him, but upon actual accounting it may be found that nothing is due to the plaintiff. A suit for accounts is filed with the fond hope that on accounting a substantial amount would be found due to the plaintiff. But the relief cannot be



valued on such hope, surmise or conjecture.

9. In this connection, we may refer to the provision of Order VII, Rule 11 (b) of the Code of Civil Procedure, which provides, *inter alia*, that the plaint shall be rejected where the relief claimed is undervalued and the plaintiff, on being required by the court to correct the valuation within a time to be fixed by the court, fails to do so. It is manifestly clear from the provision of Order VII, Rule 11(b) that a court has to come to a finding that the relief claimed has been undervalued, which necessarily means that the court is able to decide and specify proper and correct valuation of the relief and, after determination of the correct value of the relief, requires the plaintiff to correct his valuation within a time to be fixed by the court. If the plaintiff does not correct the valuation within the time allowed, the plaint is liable to be rejected. **The question is whether in a suit for accounts simpliciter, the court can come to a finding as to the proper and correct value of the relief until the final determination is made. In our opinion, ordinarily it is not possible for the court at a preliminary stage to determine the value of the relief in a suit for accounts simpliciter. If the court is itself unable to say what the correct valuation of the relief is, it cannot require the plaintiff to correct the valuation that has been made by him. Indeed, in a suit for accounts it is also difficult for the court to come to a finding even as to the approximate correct valuation of the relief. In such a case, the court has no other alternative than to accept plaintiff's valuation tentatively.**

10. There has been a divergence of judicial opinion on the question as to whether the plaintiff in a suit for accounts is entitled to put any valuation he likes. It is not necessary to refer to the decisions of different High Courts on the point, and suffice it to say that they are



not uniform, some holding that the plaintiff is free to give his own valuation and others holding that the plaintiff is not entitled to give an arbitrary valuation without having any link or connection with the relief in question.

11. In this connection, we may refer to a Five Judge Bench decision of this Court in S. Rm. Ar. S. Sp. Sathappa Chettiar v. S. Rm. Ar. Rm. Ramanathan Chettiar [1958 SCR 1024, 1033-34 : AIR 1958 SC 245] Gajendragadkar, J. speaking for the Court observed as follows:

“If the scheme laid down for the computation of fees payable in suits covered by the several sub-sections of Section 7 is considered, it would be clear that, in respect of suits falling under sub-section (iv), a departure has been made and liberty has been given to the plaintiff to value his claim for the purposes of court fees. The theoretical basis of this provision appears to be that in cases in which the plaintiff is given the option to value his claim, it is really difficult to value the claim with any precision or definiteness. Take for instance the claim for partition where the plaintiff seeks to enforce his right to share in any property on the ground that it is joint family property. The basis of the claim is that the property in respect of which a share is claimed is joint family property. In other words, it is property in which the plaintiff has an undivided share. What the plaintiff purports to do by making a claim for partition is to ask the court to give him certain specified properties separately and absolutely on his own account for his share in lieu of his undivided share in the whole property. Now it would be clear that the conversion of the plaintiff's alleged undivided share in the joint family property into his separate share cannot be easily valued in terms of rupees with any precision or definiteness. That is why legislature has left it to the option of the plaintiff to value his claim for the payment



of court fees. It really means that in suits falling under Section 7(iv)(b) the amount stated by the plaintiff as the value of his claim for partition has ordinarily to be accepted by the court in computing the court fees payable in respect of the said relief. In the circumstances of this case it is unnecessary to consider whether, under the provisions of this section, the plaintiff has been given an absolute right or option to place any valuation whatever on his relief.”

*12. In the above decision, this Court took the view that the conversion of the plaintiff's undivided share in the joint family property into his separate share cannot be easily valued in terms of rupees with any precision or definiteness. It is true that the court did not consider whether the plaintiff had been given an absolute right or option to place any valuation whatever on his relief under the provision of Section 7(iv) of the Court Fees Act, but **the difficulty that would be felt by the court in exercising its power under Order VII, Rule 11(b) of the Code of Civil Procedure is that if it is unable to determine the correct value of the relief, it cannot direct the plaintiff to correct the valuation. Order VII, Rule 11(b) contemplates correct valuation and not approximate correct valuation and such correct valuation of the relief has to be determined by the court. If the court cannot determine the correct valuation of the relief claimed, it cannot require the plaintiff to correct the valuation and, consequently, Order VII, Rule 11(b) will not be applicable.**”*

348. The decision of the Supreme Court in *Commercial Aviation (supra)*, has been relied upon by this Court in *Okasa Pharma Ltd. v. Lilly Icos Llc, 2007 SCC OnLine Del 2026*, while rejecting an appeal against the order allowing amendment of plaint for valuing the trademark infringement suit, seeking *inter alia* rendition of accounts, for the purpose of jurisdiction. The



relevant portion of the said order reads as under:

“4. The respondent had stated in the amendment application that the suit for relief of rendition of accounts is provisionally valued for the purpose of court fees at Rs. 20,00,050/- and court fees of Rs. 21,913/- is fixed thereon. However, for the purpose of jurisdiction, the relief of rendition of accounts was valued at Rs. 1,00,00,050/- on the basis that the respondent expects that it will be entitled to Rs. 1,00,00,000/-. In the amendment application, it was stated by the respondent that at the moment it has no viable means of calculating or estimating the amount of profits they will be entitled to and therefore, for the purpose of jurisdiction the suit for rendition of accounts is sought to be valued at Rs. 20,00,050/-.

5. The reason given by the respondent/plaintiff has been accepted by the learned single Judge.

6. It is well settled that a plaintiff can assign different valuations in a suit for the purpose of Court fees and jurisdiction, unless there is a statutory prohibition. The Supreme Court in the case of Commercial Aviation and Travel v. Vimla Pannalal reported at (1988) 3 SCC 423 : AIR 1988 SC 1636 has laid down that in a suit for rendition of accounts, it is almost impossible for a plaintiff to value relief for rendition of accounts with arithmetical accuracy. Reference was made to Section 7(iv) of the Court Fees Act and it was noticed that the legislature has left the question of valuation of the relief for rendition of accounts to the plaintiffs. The legislature had also not laid down any specific standards for valuation. It was also noticed that as per Rules framed under Section 9 of the Court Fees Act applicable to Delhi, no standard for valuation has been laid down. Thus, tentative valuation given by the plaintiff should be normally accepted. This Court in the case of Pfizer Products, Inc. v. B.L. & Co. reported in (2006) 129 DLT 327, following the earlier judgments in the case of Eastman Kodak Company v. M.R.



Electronics reported in (1994) 56 DLT 79 and Automatic Electric Limited v. R.K. dhawan reported in (1995) 57 DLT 49 has held that ordinarily courts will not examine the tentative correctness of the valuation given but the plaintiff cannot act arbitrarily and fix any value. In the case of Pfizer Products (supra) it was noticed that the plaintiff had valued its turnover into thousands of crores for claiming damages for infringement and therefore the difference in valuation of relief for rendition of accounts for the purpose of Court fees and jurisdiction was held to be contrary to law.

7. The facts of the present case are entirely different. The respondent had moved an amendment application for reducing the tentative value fixed by him for jurisdiction purposes in respect of the relief for rendition of accounts. It is not the case of the appellant that the valuation as made in the amendment application is arbitrary and without any basis. Learned counsel for the appellant has not argued on this basis. Learned Single Judge has also not found on examining the facts of the case that the valuation as stated in the amendment application filed by the respondent for the purpose of Court fees and jurisdiction for rendition of accounts and profits was arbitrary. In the present case as per the original plaint the relief for rendition of accounts for purpose of Court fee was valued at Rs. 20,00,050/- and the same relief for the purpose of jurisdiction was valued at Rs. 1 crore. As per the amendment application, the relief of rendition of accounts for purpose of Court fee and jurisdiction was sought to be valued at the same figure of Rs. 20,00,050/-. Learned Single Judge while allowing the said amendment has also referred to the decision of the Supreme Court in the case of Abdul Hamid Shamsi v. Abdul Majid reported in (1988) 2 SCC 575 : AIR 1988 SC 1150. In view of the reasons given above, and those given by the learned single Judge, we



do not find any merit in the above contention of the appellant.”

349. Accordingly, let the Plaintiffs pay the additional Court Fees as per the reliefs granted, within one week.

Costs

350. In commercial suits, the Supreme Court has laid down in *Uflex Limited v. Government of Tamil Nadu and Others, (2022) 1 SCC 165* has laid down the principles for determining costs in commercial matters.

The relevant portion of the said judgement reads as under:

55. We may note that the common thread running through all these three cases is the reiteration of salutary principles : (i) costs should ordinarily follow the event; (ii) realistic costs ought to be awarded keeping in view the ever-increasing litigation expenses; and (iii) the costs should serve the purpose of curbing frivolous and vexatious litigation. [Report No. 240 of the Law Commission of India.]

56. We may note that this endeavour in India is not unique to our country and in a way adopts the principle prevalent in England of costs following the event. The position may be somewhat different in the United States but then there are different principles applicable where champerty is prevalent. No doubt in most of the countries like India the discretion is with the court. There has to be a proportionality to the costs and if they are unreasonable, the doubt would be resolved in favour of the paying party [UK Civil Procedure Rule 44.2.] . As per Halsbury's Laws of England, the discretion to award costs must be exercised judicially and in accordance with reason and justice. [Vol. 10, 4th Edn. (Para 15).] The following principles have been set out therein:



“In deciding what order (if any) to make about costs, the court must have regard to all the circumstances, including:

- (i) The conduct of all the parties;*
- (ii) Whether a party has succeeded on part of his case, even if he has not been wholly successful; and*
- (iii) Any payment into court or admissible offer to settle made by a party which is drawn to the court's attention.*

The conduct of the parties includes:

- (a) Conduct before, as well as during, the proceedings and in particular the extent to which the parties followed any relevant pre-action protocol;*
- (b) Whether it was reasonable for a party to raise, pursue or contest a particular allegation or issue;*
- (c) The manner in which a party has pursued or defended his case or a particular allegation or issue; and*
- (d) Whether a claimant who has succeeded in his claim, in whole or in part, exaggerated his claim.” [10th Vol. 4th Edn. (Para 17).]*

[...]

58. *We have set forth the aforesaid so that there is appreciation of the principles that in carrying on commercial litigation, parties must weigh the commercial interests, which would include the consequences of the matter not receiving favourable consideration by the courts. Mindless appeals should not be the rule. We are conscious that in the given facts of the case the respondents have succeeded before the Division Bench though they failed before the learned Single Judge. Suffice to say that all the parties before*



us are financially strong and took a commercial decision to carry this legal battle right up to this Court. They must, thus, face the consequences and costs of success or failure in the present proceedings.”

351. The Court has also considered Section 35 of CPC and Rule 2 Chapter XXIII of the Delhi High Court (Original Side) Rules, 2018, which deal with imposition of costs. The said provisions read as under:

Section 35 of CPC

“35. Costs.— (1) In relation to any Commercial dispute, the Court, notwithstanding anything contained in any other law for the time being in force or Rule, has the discretion to determine:

- (a) whether costs are payable by one party to another;*
- (b) the quantum of those costs; and*
- (c) when they are to be paid.*

Explanation.— For the purpose of clause (a), the expression “costs” shall mean reasonable costs relating to—

- (i) the fees and expenses of the witnesses incurred;*
- (ii) legal fees and expenses incurred;*
- (iii) any other expenses incurred in connection with the proceedings.*

(2) If the Court decides to make an order for payment of costs, the general rule is that the unsuccessful party shall be ordered to pay the costs of the successful party:

Provided that the Court may make an order deviating from the general rule for reasons to be recorded in writing.”

Rule 2, Chapter XXIII of DHC (Original Side) Rules



“2. Imposition of actual costs. - In addition to imposition of costs, as provided in Rule 1 of this Chapter, the Court shall award costs guided by and upto actual costs as borne by the parties, even if the same has not been quantified by parties, at the time of decreeing or dismissing the suit. In this behalf the Court will take into consideration all relevant factors including (but not restricted) the actual fees paid to the Advocates/ Senior Advocates; actual expenses for publication, citation etc.; actual costs incurred in prosecution and conduct of suit including but not limited to costs and expenses incurred for attending proceedings, procuring attendance of witnesses, experts etc.; execution of commissions; and all other legitimate expenses incurred by the party, which the Court orders to be paid to any party.

In addition to imposition of costs as above, the Court may also pass a decree for costs as provided in Sections 35-A and 35-B of the Code or under any applicable law.”

352. In the present case, considering the manner in which the Defendants have led an evasive evidence and have been unable to establish invalidity as also failed to produce their antennas or even the beam patterns, the conduct of the Defendants has been far from *bonafide*. In fact, at the initial stages, the beam patterns of the Defendants were available publicly including on the internet, some of which documents have been exhibited by the Plaintiff. However, thereafter, even these documents were not available by the time trial of the suit was concluded. This shows that there has been a deliberate attempt by the Defendants to:

- Not produce their antennas;



- Not to undertake any testing of their antennas to compare the beam patterns with the suit patent;
- To not produce their actual beam pattern;
- In non-filing of proper and complete sales figures.

353. Under these circumstances, the Plaintiff is entitled to complete actual costs in this matter.

ISSUE IV: RELIEFS

354. In view of the above discussion, the issues framed in the present suit are accordingly decided as under:

(i) Whether the suit patent IN'893 is liable to be revoked? OPD

The onus to prove this issue was on the Defendants, which the Defendants have been unable to discharge. It is held that the Defendants have not been able to establish any grounds for revocation of the suit patent *i.e.*, IN'240893. Accordingly, this issue is decided in favour of the Plaintiff, and the counterclaim of the Defendants is dismissed.

(ii) Whether the Defendants are infringing the suit patent? OPP

The onus to prove this issue was on the Plaintiff. In view of the discussion about this Court holds that the Plaintiff has been able to discharge the onus of proving that the Defendants are infringing the Plaintiff's suit patent. This issue is held in favour of the Plaintiffs.

(iii) Whether the Plaintiff is entitled to permanent injunction and damages/rendition of accounts? If so, how much? OPP

In view of the decision on the first and second issue, it is held that the



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Plaintiff is entitled to permanent injunction and damages. In so far as damages/ rendition of accounts is concerned, only one of these reliefs would be liable to be considered. In the facts of this case, the Plaintiff has pressed for damages, which relief has been considered and granted by the Court as set out below.

(iv) Relief

(a) A decree of permanent injunction is granted restraining the Defendants, their manufacturers, dealers, retailers, subsidiaries, and associate companies from selling, offering for sale or promoting any antenna which infringe the Plaintiff's suit patent *i.e.*, IN240893 including the following models:

1. MB-4Q9X30V-00
2. MB-4Q9X30V-05
3. MB-2B6X30V-10
4. MB-4W8X33V-0
5. MB-4W8X33V-10
6. S-Wave U/U-33-20DV10-BS
7. S-Wave EW/EW-33-20DV10-BS
8. EW-33-20DV10-BS-F
9. MB-G7W92U9X65V-00
10. MBA64O9X65V-01
11. MB-4W8X33V-01

(b) The above injunction would extend to the models mentioned above as also any other models which would be infringing the Plaintiff's suit patent.

(c) Insofar as past sales made by the Defendants are concerned, for the period during which the sales figures have been furnished before the Court, the decree for a sum of **₹152,32,36,783.90/-**



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(Rupees One Hundred and Fifty-Two Crores Thirty-Two Lakhs Thirty-Six Thousand Seven Hundred Eighty-Three and Nighty Paise) is passed in favour of the Plaintiff.

- (d) The said amount shall be paid to the Plaintiff by 30th June, 2026. In case the same is not paid by the said date, 7% simple interest per annum would be liable to be paid by the Defendants w.e.f. 1st July, 2026.
- (e) Insofar as the sales made by the Defendants which have not yet been accounted for in the sales affidavits filed by the Defendants, the sales affidavits till the date of this judgment shall be filed within 4 weeks. The damages in terms of the additional sales affidavits shall be calculated on the basis of 20% of the said sales and the same shall be paid to the Plaintiff by 30th June, 2026. If the same is not paid, interest as directed above would also liable to be paid on this additional amount as well.
- (f) The Plaintiff shall also be entitled to taxed costs. Thus, for the purposes of calculation of actual costs, the Plaintiff shall file its bill of costs in terms of Rule 5 of Chapter XXIII of the Delhi High Court (Original Side) Rules, 2018 within two weeks. The representatives of the Plaintiff shall appear before the Taxation Officer on 9th April, 2026 who shall determine the actual costs incurred by the Plaintiff in the present litigation.
- (g) Costs as determined by the Taxation Officer shall be paid by the Defendants to the Plaintiff by 30th June, 2026 from the date of determination.



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(h) Plaintiff shall pay the additional Court Fees on the differential amount awarded in favour of the Plaintiff within one week.

355. In view of the fact that the Court has held the suit patent to be a valid patent, the Registry of this Court is directed to issue **a certificate of validity is granted in respect of IN240893 in terms of Section 113 of the Act.**

356. Before parting, it would be appropriate to highlight various procedural measures adopted by the Court in terms of the DHC IPD Rules and the DHC Patent Rules, with the consent of the parties, to enable the recording of evidence by the Court and adjudication of the suit. The present suit, relating to the patent in respect of antennas used in telecommunication systems, was filed in December 2019. The suit patent is valid till 19th March, 2027. After completion of pleadings, considering the remaining term of the suit patent, at the time of case management, with the cooperation and the assistance of Id. Counsels for the parties, the Court was able to fast track the trial by adopting various steps, including the following:

- i) Ld. Counsels for the parties agreed for summary adjudication of the suit in terms of Rule 16 of the DHC Patent Rules.
- ii) Confidentiality club was constituted for keeping the sales figures of the Defendants confidential.
- iii) Both parties agreed to lead evidence of only one technical witness and one non-technical witness.
- iv) All evidence affidavits were filed and exchanged between parties.
- v) All documents relied upon by the parties were exhibited and



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- marked before the Joint Registrar.
- vi) The examination-in-chief of the witnesses was recorded before the Joint Registrar through virtual mode for the witnesses that were residing abroad or were appearing from outstation.
 - vii) The cross-examination was conducted in Court with live transcription. The costs of the transcription service were borne equally by both parties.
 - viii) The Plaintiff's witnesses were cross-examined on one day and on the second day, the Defendant's witnesses were cross-examined. Further, the time for examination of each witness was also restricted to one and half hours. Both ld. Counsel broadly adhered to the time limits and thus, the recording of evidence was completed expeditiously.
 - ix) In cross-examination, the necessity for giving suggestions was dispensed with and cross-examination was conducted only on the core evidence being tendered by the witnesses.
 - x) The audio recordings of the testimonies were stored on pen drives and retained as part of the Court records.
 - xi) For convenience of the Court during final arguments, Trial Bundles of pleadings, documents and other relevant materials were prepared by the parties, in consultation with each other.

357. All the above steps have enabled the completion of the trial in the present suit expeditiously, between framing of issues in July, 2023 and conclusion of evidence in September, 2023 *i.e.*, within a period of three months.

358. The Court records its deep appreciation for the able assistance



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provided by Mr. Gaurav Pachnanda, Mr. Vivek Chib and Mr. Sandeep Sethi the ld. Senior Counsels as also ld. Counsels for the parties. The Court would also wish to specifically commend the excellent assistance provided by Mr. Varun Sharma, ld. Counsel, who unfortunately passed away during the period when the judgement was reserved in this matter.

359. The Registry is directed to communicate a copy of this judgment to the office of the Controller General of Patents, Designs and Trademarks of India on email llc-ipo@gov.in for necessary information and compliance.

360. Let the documents/affidavits that are in sealed covers that were opened and perused by the Court, be re-sealed and retained in the Court file.

361. The recordings of the testimonies of the witnesses kept in the pen drives be retained as part of the Court record.

362. The suit is decreed in the in terms of paragraphs 354 and 355. Decree sheet be drawn accordingly.

PRATHIBA M. SINGH
JUDGE

MARCH 30, 2026
Rahul/dk/dj/msh