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

% **Date of decision: 10th August, 2021.**

\+ **CS(COMM) No.977/2016 & CC (COMM) No.38/2017.**

COMMUNICATION COMPONENTS ANTENNA INC. (EARLIER KNOWN AS TEN XC WIRELESS INC)

..... Plaintiff

Through: Mr. Gaurav Pachnanda, Sr. Adv. with Mr. Sidhant Goel, Mr. Mohit Goel, Ms. Eshna Kumar, Mr. Deepankar Mishra, Mr. Aditya Goel and Mr. Samik Mukherjee, Advs.

Versus

MOBI ANTENNA TECHNOLOGIES (SHENZHEN) CO. LTD. & ORS **..... Defendants/Counter Claimant**

Through: Mr. Dev Robinson, Mr. Shantanu Tyagi, Ms. Apoorva Murali and Ms. Surabhi Bhandari, Advs.

CORAM:
HON'BLE MR. JUSTICE RAJIV SAHAI ENDLAW

[VIA VIDEO CONFERENCING]

RAJIV SAHAI ENDLAW, J.

1. This suit was originally instituted by TenXc Wireless Inc., a Canadian Corporation and TenXC Wireless India Private Limited against Mobi Antenna Technologies (Shenzhen) Co. Ltd., a Chinese Corporation, for permanent injunction, to restrain infringement of registered Indian Patent No.240893 for an invention entitled "Asymmetrical Beams for Spectrum Efficiency", and for ancillary reliefs.

2. The suit, then numbered as CS(OS) No.1989/2010, came up first before this Court on 27th September, 2010, when on request of the

plaintiffs, the same was adjourned to 28th September, 2010 and thereafter again to 4th October, 2010. On 4th October, 2010, on the contention of the counsel for the plaintiffs that the defendant no.1 Mobi Antenna Technologies (Shenzhen) Co. Ltd. was in the process of selling the impugned products to Reliance Communications and to Tata Teleservices Limited, Reliance Communications and Tata Teleservices Limited were permitted to be impleaded as defendants no.2&3 and while issuing summons of the suit/notice of the application for interim relief to all the defendants, the defendants no.2&3 i.e. Reliance Communications and Tata Teleservices Limited were directed to maintain *status quo* with regard to the installation of "Bi-Sector Array Antenna" supplied by the defendant no.1 Mobi Antenna Technologies (Shenzhen) Co. Ltd. The defendant no.1 Mobi Antenna Technologies (Shenzhen) Co. Ltd. applied under Order XXXIX Rule 4 of the Code of Civil Procedure, 1908 (CPC), but which application was dismissed vide order dated 12th November, 2010, reasoning that the interim order granted on 4th October, 2010 being against the defendants no.2&3 only and not against defendant no.1, the defendant no.1 had no reason to apply under Order XXXIX Rule 4 of the CPC. The defendant no.1 filed another application under Order XXXIX Rule 4 of the CPC and which came up before the Court on 6th December, 2010. The order dated 6th December, 2010 records that in connected CS(OS) No.1993/2010 (which on coming into force of the Commercial Courts Act, 2015 was re-numbered as CS(COMM) No.1072/2016) also filed by the plaintiffs for the same reliefs against some other party, the *ex parte* stay earlier granted had been vacated. The defendant no.1 preferred FAO(OS) No.680-81/2010 against the orders dated 4th October, 2010 of grant of *ex parte* ad interim

injunction against the defendants no.2&3 and dated 12th November, 2010 of dismissal of application under Order XXXIX Rule 4 of the CPC and which appeal also, on 1st December, 2010 was disposed of in view of disposal of FAO(OS) No.660/2010 arising from connected CS(OS) No.1993/2010 and recording that the defendant no.1 will approach the Suit Court for vacation of the interim order. The applications of the plaintiffs in this suit as well as in CS(OS) No.1993/2010 for interim relief were heard together and dismissed vide detailed judgment dated 4th November, 2012, reasoning that the defendants had raised a substantial, tenable and credible challenge to the patent of the plaintiffs and the plaintiffs were thus not entitled to interim injunction. Again, FAO(OS) no.10/2012 was preferred by the plaintiffs impugning the judgment dated 4th November, 2012 of dismissal of applications for interim relief. The said appeal, along with FAO(OS) No.614/2012 arising from CS(OS) No.1993/2010 were disposed of vide common order/judgment dated 23rd February, 2012 expediting the trial in the suits and allowing the amendments sought by the plaintiffs. Vide order dated 28th November, 2013, the two plaintiffs TenXc Wireless Inc. and TenXC Wireless India Private Limited were substituted by Communication Components Antenna Inc., also a Canadian Corporation. Plaint was again amended in July, 2014.

3. The case of the plaintiff, as per last amended plaint dated 25th September, 2015 verified on 26th September, 2015 is, that (i) the erstwhile plaintiff no.1 TenXc Wireless Inc. was an innovation-driven, product-based small business enterprises, which foresaw the need for new, compact, cost-effective and innovative technologies which could address various challenges facing the wireless communication sector, such as acute paucity

of spectrum and the need to ensure greater penetration of advanced state-of-the-art communication technologies at affordable costs; (ii) the erstwhile plaintiff no.1 had focussed its efforts on paucity of spectrum; (iii) the patented invention was designed by the erstwhile plaintiff no.1; (iv) Indian Patent IN240893 was granted on 9th June, 2010, pursuant to an Indian application filed on 5th October, 2008; (v) the Patent Co-operation Treaty (PCT) International Application was filed by the erstwhile plaintiff no.1 on 19th March, 2007 on the basis of a Canadian application filed on 17th March, 2006 at the Canadian Patent Office and on which Canadian Patent No.2,645,720 was granted; (vi) therefore the date of priority of the Indian patent is the date of filing of the Canadian application i.e. 17th March, 2006 and the term of 20 years of Indian patent is calculated from the PCT international filing date i.e. 19th March, 2007; (vii) the invention subject matter of IN240893 is a technology which broadly relates to wireless communication systems, particularly to improve use of available spectrum, using an antenna which enhances subscriber capacity of existing cell sites; (viii) frequency spectrum for wireless communications is a scarce resource, which must be made use of efficiently and optimally; (ix) efforts to accommodate greater number of users of wireless communication systems within the finite amount of spectrum had resulted in technologies such as Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA) and Code Division Multiple Access (CDMA) – each of which technologies increased subscriber capacity by optimizing frequency, time or code; (x) subsequently, cellular concept was introduced to overcome range limitations associated with FDMA, TDMA and CDMA technologies; in the cellular concept, a given area is split into several cells,

with each of these cells being allocated a specified amount of resources to cater to a specified number of wireless users/subscribers; (xi) initially, in the cellular model, a centrally located omni-directional antenna was used – an omni-directional antenna emits signals uniformly, in a single plane, in all directions; (xii) however the intensity of the signal was not satisfactory in the outer fringes of the coverage area and which resulted in dropping of calls and the capacity of the systems being limited; (xiii) to overcome the same, the concept of sectorization was introduced; in sectorization, instead of a single omni-directional antenna, a number of directional sector antenna are used; these directional sector antennae divided the cell into a number of sectors, thereby restricting the radio coverage to a limited segment of the previously circular omni area; (xiv) as the demand of the network grew, adding more sectors was seen as a simple way of increasing capacity without the need for building new sites; (xv) however as more sectors were added, the symmetrical nature of the beams from the sector antenna proved to be a limitation; (xvi) invention protected by the patent of the erstwhile plaintiff no.1 did away with a significant number of limitations and disadvantages associated with all the above technologies; (xvii) the invention protected by the patent of the erstwhile plaintiff no.1 was a flagship product, marketed under the name "Bi-Sector Array Antenna" and its technology was referred to as a "split-sector antenna"; (xviii) the distinguishing feature of the Bi-Sector Array Antenna was, that it emitted an optimized asymmetric beam pattern, as opposed to the conventional symmetric beam pattern of the antennae in the prior art; (xix) the asymmetric beam pattern of the invention radically altered the conventional model of symmetric sectorization; (xx) the inventive step of the erstwhile

plaintiff no.1, was a technology by which a single sector which was earlier covered by a single directional antenna emitting a single symmetric beam, was split into a number of equivalent sub-sectors by an equal number of beams emitted by a single split-sector antenna with at least one of its sectors so created being an asymmetric sector created by at least one asymmetric beam emitted by the split-sector antenna; (xxi) though the beams in prior art were referred to as symmetric beams but had a negligible degree of asymmetry owing to manufacturing tolerances; this asymmetry was viewed as a defect in the prior art and there were no means of using the symmetric beam in the prior art in a controlled fashion, to cater to a localized demand; (xxii) the technology of the erstwhile plaintiff no.1 deliberately introduced a significant degree of asymmetry; (xxiii) the capability of the invention of the plaintiff no.1 to control and modulate the degree of asymmetry sets it apart from the prior art; (xxiv) the advantage of the technology invented by the erstwhile plaintiff no.1 was, that it significantly reduced gaps/voids in coverage areas and minimized the interfering overlap between the beams; (xxv) the patented invention of the erstwhile plaintiff no.1 did not restrict itself to a range of asymmetry; it claimed the technology of emitting at least one asymmetric beam to create at least one asymmetric sector; (xxvi) therefore, regardless of the degree of asymmetry in the beams, all split-sector antennae which emitted at least one asymmetric beam, fell squarely within the scope of the claims of the erstwhile plaintiff no.1; (xxvii) the most significant contribution of the invention of the erstwhile plaintiff no.1 over and above prior art was, that it enhanced subscriber capacity within a sector/subscriber coverage area, not by increasing the number of sectors and allocating greater resources to each

other, but by replacing a pair of existing directional antennae which emitted a symmetric beam each with a single split-sector antenna that divided the same sector into at least one asymmetric sector, using at least one asymmetric beam; (xxviii) in India, where availability of space for creation of new sectors is a constraint, invention of the erstwhile plaintiff no.1 could be used to address issues of subscriber density with minimal changes to the existing set-up; (xxix) the defendant no.1 Mobi Antenna Technologies (Shenzhen) Co. Ltd. was importing and offering for sale Bi-Sector Array Antennae for use in New Delhi and whose features and functions were identical to the patented split-sector/Bi-Sector Array Antenna of the erstwhile plaintiff no.1; (xxx) on 20th August, 2010, the defendant no.2 Reliance Communications informed the erstwhile plaintiffs that an approved purchase order had been placed by it with the defendant no.1 for supply of 300 Bi-Sector Array Antenna in an around Delhi; the defendant no.2 also informed the erstwhile plaintiffs that a substantial part of the commercial and technical discussions surrounding the technical and commercial feasibility of the defendant no.1's offer for supply of Bi-Sector Array Antenna, incorporated the patented invention of the plaintiffs; (xxxi) on 20th August, 2010, the erstwhile plaintiffs were informed by the defendant no.3 Tata Teleservices that they had imported models no. MB1800-PSA4-18DE10 and MB1800-PSA4-18DT4 for deployment and evaluation as potential substitutes for the Bi-Sector Array Antenna of the plaintiffs; (xxxii) the inventive step of the invention of the erstwhile plaintiff no.1 was a technology by which a single sector, which was earlier covered by a single directional antenna emitting a single symmetric beam was now split into a number of equivalent sub-sectors by an equal number

of beams being emitted by a single split-sector antenna, with at least one of the sub-sectors so created being an asymmetric sector created by at least one asymmetric beam emitted by the split-sector antenna; (xxxiii) the infringing products of the defendant no.1 employ the very same inventive step and are therefore identical to the invention claimed by the patent of the plaintiffs; this is clearly and incontrovertibly established by the beam pattern of the defendant no.1's product as depicted in the sales brochure of the defendant no.1; (xxxiv) further, as claimed in Claims No.12 & 13 of the subject patent, the sub-sector area covered by one beam is a mirror image of the sub-sector area covered by the other beam; (xxxv) from the asymmetric beam patterns of the antenna of the erstwhile plaintiffs and the antenna of the defendant no.1, it is evident that the defendant no.1's antenna clearly infringes the erstwhile plaintiff's patent, in particular Claims No.1, 10, 12 and 13; (xxxvi) the antennas of the defendant no.1 also emit at least one asymmetric beam and consequently infringe the patent of the erstwhile plaintiff; (xxxvii) the Indian Institute of Technology (IIT), Delhi also, after studying the products of the erstwhile plaintiffs and of the defendant no.1, found the products of the defendant no.1 to be infringing the patent of the erstwhile plaintiff; and, (xxxviii) the erstwhile plaintiff no.1 TenXc Wireless Inc., in the second half of the year 2011 was unable to pay its debts and sale of its assets was initiated under Section 63 of the Personal Property Security Act of the Province of Ontario, Canada and Communication Components Antenna Inc. being the highest bidder, acquired *inter alia* the patents held by the erstwhile plaintiff no.1 TenXc Wireless Inc.

4. Accordingly, reliefs of (i) permanent injunction restraining the defendants from manufacturing/making, using, distributing, selling, importing into India any product which infringes the registered Patent IN 240893 of the plaintiffs; (ii) recovery of damages in the sum of Rs.20,00,200/- from the defendant no.1; (iii) delivery of all infringing products; and, (iv) rendition of accounts, were claimed in the suit.

5. The defendant no.1 has defended the suit, by filing a written statement verified on 24th September, 2014, pleading that (i) the plaintiff no.1's patent IN 240893 lacks novelty and is liable to be revoked under Section 64(e) of the Patents Act, 1970; (ii) IN 240893 lacks inventive steps and is liable to be revoked under Section 64(f) of the Act; (iii) invention claimed in subject patent is precluded from being patented under Section 3(d) of the Act and is accordingly liable to be revoked under Section 64(d) and 64(k) of the Act; (iv) the plaintiffs have failed to demonstrate that the defendants are practicing all essential integers of the claimed invention, and which is essential requirement for establishing infringement; (v) the expert evidence of the plaintiffs is unreliable; (vi) the plaintiffs have failed to establish that the subject patent is being worked; (vii) under Section 13(4) of the Act, examination and investigation into subject matter of a patent application by the patent office, prior to grant, does not in any way warrant the validity of the patent; (viii) the plaintiffs have concealed from this Court the findings of the International Search Report issued in connection with the corresponding PCT application of the subject patent; (ix) the International Search Report issued in connection with the PCT application of the corresponding patents stated, that the plaintiffs' invention lacked inventive step and cited two documents from which the invention claimed

was obvious to a person skilled in the art; (x) as per the International Preliminary Report on patentability qua the PCT application corresponding to subject patent, the feature of split-sector mobile antenna with plurality of sub-sector coverage areas and antenna beams having an asymmetrical shape was earlier disclosed in international application WO 2006/004463 (Hagerman); (xi) the plaintiff, in the suit also is claiming the invention/inventive step in the feature of split-sector mobile antenna with plurality of sub-sector coverage area and antenna beams having a asymmetric shape; (xii) however the plaintiff, in response to the defendants application under Order XXXIX Rule 4 of the CPC changed its position to contend that novelty in inventiveness resides in the feature that the total coverage area of the plurality of sub-sector coverage areas is equivalent to the critical coverage area of at least one sector antenna; (xiii) distinguishing feature of the invention as asserted by the plaintiff in its pleadings in this suit were disclosed in publications predating the priority date of 17th March, 2006 of the subject patent; the patent asserted by the plaintiffs was therefore anticipated and liable to be revoked under Sections 64(e) and 64(f) of the Patents Act; (xiv) technical problem sought to be resolved by the subject patent was well-known in the art as far back as 2003 and such problems were known to be capable of being addressed by careful radio planning; the technical solution proposed by the plaintiffs in connection with this problem and with respect to which the subject patent was obtained, was well-known within the domain of mobile telecommunications, well before the priority date of 17th March, 2006; (xv) the method and sub-sector antenna recited in Claims 1 and 10 respectively lacked novelty and inventive steps, in view of US 6,167,036 (Beven); US 6,167,036 disclosed

all features of Claims 1&10 of the subject patent and was published on 26th December, 2000 i.e. prior to the priority date of the subject patent; Claims 1&10 of the subject patent are invalid under Section 64(e) of the Patents Act; (xvi) invention claimed in Claims 1&10 was also disclosed to the public by prior publication dated 1st March, 2006; the said publication disclosed replacing conventional antenna with Bi-Sector asymmetric antenna wherein the original antenna coverage area is split into multiple sectors having asymmetric patents; the said publication also predates the priority date 17th March, 2006 of the subject patent; (xvii) the method and sub-sector antenna recited by Claims 1&10 of the subject patent also lacked novelty and inventive step in view of WO 2006/004463; (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; (xxi) similarly, Claims 2,3,4,6,7,9,11,12,13,14,15,16,17,18,19,20,21,22,23,24 and 25 of the subject patent also lack novelty and inventive steps; that Claims 1 to 25 of the subject patent, namely method of replacing conventional antenna with split-sector antenna and a split-sector antenna for replacing conventional antenna, are all mere uses for the split-sector antenna already known and under Section 3(d) of the Act are not an invention; (xxii) the invention claimed in the subject patent is no more than a mere arrangement including re-arrangement or duplication of known devices and each of which known devices functions independently of one another in a known way and is not an invention under Section 3(f) of the Act; (xxiii) the plaintiffs have not demonstrated that the total critical coverage area provided by the plurality of sub-sector coverage areas is substantially equivalent to the critical coverage area of the replaced one or more associated sector antenna; and, (xxiv) the plaintiffs have also not demonstrated that the defendants are practicing all essential features of the invention claimed by the plaintiffs.

6. The defendant no.2, in its written statement dated 14th October, 2014 has pleaded, that (i) beams or beam patterns allegedly created by the plaintiff for the coverage areas, are neither products nor processes within the meaning of the said expressions as used in the Patents Act; accordingly, these do not come within the scope of inventions and cannot be owned or possessed by or be subject to the monopoly of any person; (ii) a patent can be claimed with regard to a novel antenna technology or technique but not merely with respect to use, application or operation of existing antenna technology; (iii) the beams and the beam patterns relating to an antenna or

its alleged coverage area are not part of the antenna, neither as a product nor as a technological process involved in its working and operation; if the same result i.e. same beam pattern can be achieved by any other existing antenna technology, then the same is not regarded as an infringement of a patent; (iv) a patent cannot be claimed with respect to a beam pattern, independently of the technology from which it is generated; (v) improvement by mere use and working of known antenna technology cannot be a measure of novelty and inventiveness; such improvement is not an invention of new product or process or technology by itself; (vi) whether a antenna improves the use of available spectrum or enhances subscriber capacity of a cell site, is not relevant for the purpose of determining whether the technology involved in working of such antenna is in the nature of a new invention or not; (vii) the plaintiff's claim of invention is neither novel nor involves any inventive steps or relates to technologies and techniques claimed in the patent are obvious, known and anticipated in the prior art; (viii) sectorization and sub-sectorization is not a matter of technology or a product or process capable of being recognized as an invention or registered as a patent – it is a matter of industrial application of known technologies and a business and operational methodology involving various purely practical considerations in management of available technology; (ix) the plaintiff, in the plaint admits that asymmetry was very much a known feature or attribute of beams formed from the antenna; the plaintiff claims to use the very same asymmetry to its advantage, clearly admitting that what was being claimed was a mere use of a known process, machine or apparatus – such a claim is not capable of being registered as a patent by virtue of Section 3 of the Patents Act; (x) the plaintiff has

nowhere disclosed any specific technique or novel inventive step being used by the plaintiff to generate asymmetry in the beam or to control or modulate the same; (xi) beam pattern is merely the mathematical function or graphical representation of radiation properties of the antenna; the antenna pattern describes how the antenna radiates energy out into the space; the radiation pattern of an antenna is not a part of the technology involved in the antenna for generating such pattern but is merely a result of such technology and which technology is admitted to be known in the prior art; (xii) the radiation patterns in themselves are not technology and do not define or describe the technology involved in the antenna; (xiii) mere graphical representation of radiation information is expressly excluded from the scope of patent under Section 3(n) of the Patents Act; and, (xiv) increased subscriber capacity in itself is not a determinant of novelty and inventiveness.

7. The Counter Claim of the defendant no.1, seeking declaration of the subject patent as invalid and revocation thereof, contains the same pleas as in the written statement of the defendant no.1.

8. The plaintiff, in its written statement to the Counter Claim of the defendant no.1, has pleaded that (i) the cellular systems need antenna to radiate radio frequency energy into atmosphere, such that the handheld mobiles can communicate with the network base station transmission / receiving systems; (ii) the most basic antenna structures create an omni-pattern in which the radio frequency energy is radiated in a circular pattern, away from the base station transmission, in every direction; (iii) to increase the capacity of the systems, the network designers used sectorization i.e.

radio frequency emissions are restricted to a portion of the omni-pattern, to allow two, three or more sectors to radiate from each base station transmission with each sector operating as an independent base station transmission, thereby increasing the number of radio channels and hence the customers supported in an area; (iv) the radio frequency pattern created by these sector antennas, was a asymmetrical pattern, due to complexity of arranging the elements within the antenna and the need to focus the radio frequency energy in a known direction while maintaining a reasonable level of coverage throughout the 360 degree of the coverage area of the base station transmission, with multiple antennas arranged in a sectored pattern; (v) in theory, increasing the number of sectors per site should have proportionally increased the supported traffic; however in reality, due to imperfections of the antenna patterns, the gains in capacity were less than ideal; (vi) to apply high order sectorization, network designers were facing problems of, (a) increased number of antennas needed per site; (b) inefficiencies caused by the handover zones being increased; and, (c) the coverage footprint of the sites requiring expensive readjustments and interferences due to overlap; (vii) prior to the invention subject matter of the patent, no technology was available that solved all the problems; (viii) the subject patent, prior to the institution of the suit, has been granted patents in Canada and Indonesia; (ix) after the institution of the suit, patent has been granted in China as well; (x) the patent applications in United States, European Union, Egypt and other jurisdictions were pending consideration; (xi) the subject patent is directed to using a multi beam antenna with asymmetrical pattern shapes to uniquely shape and optimize the pattern, reducing the loss in performance due to increased overlap areas

and intra sector interference observed in standard antennas; by optimizing the asymmetrical shape such that the critical coverage area of the sector remains substantially the same, the patented invention overcomes the above mentioned barriers / challenges of sectorization; (xii) the earlier knowledge or publication of a technological problem does not in any way take away from the ingenuity or novelty of an innovation; and, (xiii) a document which merely makes a reference to or discusses the technical problems sought to be addressed, does not serve as a prior art.

9. Though replications in the suit as well as in the Counter Claim have also been filed but need to advert thereto is not felt as not only did the counsels make verbal arguments in support of their respective claims but also submitted arguments in writing and narrative whereof would show the case of each of the parties. The reference hereinabove to the plaint, written statement, Counter Claim and written statement thereto was only to show the flavor of the controversy in the subject suit.

10. The counsel for the plaintiff, in pursuance to IA No.17204/2015 of the defendants no.2 and 3 under Sections 151,152 and 153 of the CPC, in the wake of enhancement sought by the plaintiff of the valuation of the suit, on 24th September, 2015 stated that the plaintiff was not claiming the relief of damages against the defendant nos.2 and 3. In view of the said statement, IA No.17204/2015 was withdrawn by the defendants nos.2 and 3.

11. Vide order dated 4th February, 2016, the following issues were framed in the suit and in the Counter Claim:

"(i) Whether the impugned Patent No.IN240893 is invalid in view of any of the grounds raised in counterclaim No.38/2012? OPCC

(ii) Whether the defendants have infringed any of the claim of the impugned Patent No.IN240893? OPP

(iii) If the answer to issue no.(ii) is in affirmative, what is the relief that the plaintiff is entitled to, and for what period? OPP

(iv) Relief."

and evidence ordered to be recorded on commission.

12. Vide order dated 27th July, 2016, the suit was ordered to be re-numbered as a commercial suit and was so re-numbered.

The plaintiff, in its evidence has examined two witnesses i.e. PW1 Mr. Mark Cosgrove and PW2 Mr. Dennis Nathan. The defendant no.1 examined only one witness namely Prof. Ramesh Garg. The plaintiff, in its evidence in response to the Counter Claim, again examined Mr. Mark Cosgrove aforesaid as CC RW1.

13. On 27th November, 2017, the counsels reported that trial in the suit stood concluded.

14. The defendants, as directed while dismissing the applications of the plaintiffs for interim injunction, had been filing their accounts in a sealed cover. The plaintiff filed IA No.1652/2018 for de-sealing of the sealed cover and which application came up before this Court on 13th February, 2018. It was the contention of the counsel for the defendants in opposition thereto, that under Section 108 of the Patents Act, the plaintiff was entitled either to damages or to accounts of profits; it was contended that the defendant no.1 had also made a Counter Claim challenging the validity of

the patent and if the validity of the patent claimed by the plaintiff was decided against the plaintiff, the question of the plaintiff being entitled to accounts or damages will not arise.

15. It was however enquired from the counsel for the defendants, whether not CPC required arguments on all issues to be addressed at one time and adjudication of all issues by one judgment only and if the arguments were also to be addressed on issue no.(iii) in the suit, whether not it was fair to allow access to the counsel for the plaintiff to the accounts filed by the defendants from time to time, to enable the counsel for the plaintiff to formulate his arguments with respect thereto. On the counsel for the defendants not controverting the same, vide order dated 13th February, 2018, a Confidentiality Club for perusal of the accounts produced by the defendants in sealed cover, was ordered to be constituted.

16. The counsels were heard on 15th March, 2018, 19th March, 2018 and 1st May, 2018 and again on 22nd January, 2019, 23rd January, 2019, 24th January, 2019, 26th February, 2019, 27th February, 2019, 28th February, 2019, 11th March, 2019, 12th March, 2019, 26th March, 2019 and 27th March, 2019. In view of the long time being taken in the hearing, on 27th March, 2019, it was agreed that (i) both counsels will give their written arguments on issue no.1, dividing the arguments in two parts, firstly, whether irrespective of the defence and Counter Claim of the defendants, the patent, on a mere reading thereof was not patentable under the provisions of the Patents Act; and secondly, whether the subject patent, on the basis of evidence led by the defendants on its Counter Claim, has been proved to be not patentable; (ii) this Court, after concluding the hearing on

issue no.1, will pronounce its findings thereon; (iii) irrespective of the findings on issueno.1, thereafter the counsels will address on issues no.2 to 3 and findings will be returned thereon; and, (iv) right to appeal of the party aggrieved from the findings on issue no.1 will remain suspended till the pronouncement of the judgment on all issues framed on 4th February, 2016. Vide order dated 24th April, 2019, judgment on issue no.1 in the suit was reserved.

17. On 19th December, 2019, IA No.18065/2019 of the plaintiff, for placing on record, (i) judgment dated 12th July, 2019 in CS(COMM) No.1222/2018 titled ***Communication Components Antenna Inc. Vs. Ace Technologies Corporation***, (ii) order dated 8th August, 2019 of the Division Bench of this Court in FAO(OS)(COMM) No.186/2019 titled ***Ace Technologies Corporation Vs. Communication Components Antenna Inc.,*** (iii) order dated 20th September, 2019 of Supreme Court in SLP(C) No.21938/2019 titled ***Communication Components Antenna Inc. Vs. Ace Technologies Corporation & Ors.,*** and (iv) judgment dated 31st October, 2019 in ***Communication Components Antenna Inc. Vs. Ace Technologies Corporation*** came up before this Court and was disposed of, observing that orders / judgments of the Courts could always be taken note of while pronouncing orders / judgments.

18. In accordance with the Case Management order dated 27th March, 2019, this judgment decides only Issue no.(i) in the suit i.e. "Whether the impugned patent no.IN240893 is invalid in view of any of the grounds raised in C.C. No.38 of 2012? OPCC".

19. The onus of the issue aforesaid being on the defendants/defendant no.1/counter claimant, I will first notice the arguments of the counsel for the defendant no.1/ counter claimant on Issue No.(i). It was argued, (a) the invention is directed to network planning in an established network; (b) there are two main claims in the subject patent i.e. Claims 1&10 and the subsidiary Claims 12&13; (c) Claim no. 1 is to method of increasing subscriber capacity in a cellular communication network, with the method essentially comprising of, at least one antenna with a critical coverage area overlapping with the neighbouring sectors; at least one multi beam antenna with it least one of its beams being asymmetrical; each beam of the multi beam antenna overlapping with neighbouring beam of the multi beam antenna and replacing the single beam antenna of the network with the multi beam antenna with the critical coverage area of the at least antenna being equal to the total critical coverage area of multi beam antenna; (d) the method being disclosed has only one method limitation i.e. of replacement; (e) thus, for infringement of Claim No.1, replacement is necessary; (f) Claim No.1 is a set of instructions to a person carrying out the step of replacement; (g) the crux of the method disclosed in the invention is replacement of a sector antenna with a split-sector antenna with the area covered by the beams of the split-sector antenna being substantially equivalent to the area covered by the sector antenna which it replaces; additionally, at least one of the beams of the split-sector antenna has to be asymmetric; (h) next aspect of invention, is the split-sector nature of antenna which is replacing the sector antenna; (i) it is not the case of the plaintiff that it has invented split-sector antenna; split-sector antennas have existed since prior to the subject invention; (j) thus, simply put, invention

claimed is an antenna which has two beams and the collective area covered by the two beams is equivalent to the area covered by the single beam being replaced; (k) the scope of the word 'asymmetric', 'critical coverage area' and 'substantially equivalent' used in the patent is without any specifications; (l) the other main Claim No.10 in the patent is directed to antenna itself with the antenna essentially comprising of at least one antenna with a critical coverage area overlapping with neighbouring sectors; at least one antenna with one asymmetrical beam; (m) each beam of the multi beam antenna overlapping with the neighbouring beam of the multi beam antenna and the critical coverage area of the replaced antenna being equal to the critical coverage area of the provided asymmetrical beam or asymmetrical beams; (n) the invention is founded on the concept of higher order sectorization; higher order sectorization essentially requires that a broader beam be replaced by antennas that have narrower beams; the narrower beams may be rendered by a multi beam antenna or a number of single beam antennas, with the effect being the same; (o) a beam is no more than a electromagnetic radiation, like light, though of a different frequency; electromagnetic radiations, that in aggregate form a beam, are nothing more than a phenomena of release of energy upon excitation of electrons in molecules; emission of electromagnetic waves is but a natural phenomena exhibited under certain circumstances; (p) laying a claim to such electromagnetic radiations of beam, would amount to laying a claim to a scientific principle; discovery of scientific principles are precluded from being claimed as invention, under Section 3(b) of the Act; Section 2(1)(j) defines "invention" as meaning a new product or process; (q) Section 2(1)(j) refers to a tangible product and which is required to be defined in the

claims, in order to secure patent rights in it; a beam is not a product as it is an exhibited natural phenomena dictated by the property of the material and the shaping of a beam to form asymmetric beams can also not be considered to be a product, as shaping of beams is simply manipulation of arrangements and other reflected surfaces, to give it a shape; (r) the claims in the subject patent do not comprise of a beam or a method of generating beam or even an antenna for generating beams; (s) the witness of the plaintiff, in answer to Questions no.171, 89, 91 to 96 and 92 has admitted that the specifications of the subject patent do not claim novelty in multi beam antenna and that multi beam antennas were known from before and has further admitted that replacement, and antennas throwing asymmetric beams, were also known earlier and has explained that the inventive contribution is use of asymmetric beams antenna; (t) the specification claimed for preserving the fundamental objective of the invention, is that the coverage area of replaced antenna and the coverage area of the replacing antenna are substantially identical; to permit founding of claims on such lose parametric correlation, would mean preventing anyone from using multi beam antennas, because it is the patentee's own case that there is always a degree of asymmetry in beams; this would put the patentee in a position to restrain third parties from using prior art antennas after the date of it is own patent; (u) there is no teaching in the specification as to how asymmetry is to be induced or what particular methods/steps required to be undertaken to produce asymmetry; (v) the plaintiff, in the specification itself has admitted that a simulation tool as available from Zeland Software Inc. was used to predict the asymmetrical antenna patterns and the expected array performance obtained thereform; this demonstrates that the plaintiff

had no role to play even in asymmetric beams and the same has been done by extrapolating values in reverse from computer simulations; (w) even if an invention passes the test under Section 2(1)(j), but falls within the scope of any of the provisions of Section 3, it cannot be claimed as an invention; (x) Claim no.1 relates to a method of increasing subscriber capacity in a network environment and prescribes only one step therefor i.e. of replacing; however replacement of one antenna with another was well known and obvious; (y) replacement prescribed is also with a multi beam antenna having one or more asymmetric beams; the only characterizing aspect of the invention is the asymmetric beams but which asymmetry is not on account of any novel construction of the multi beam antenna but on account of using antennas of prior art in all the flexibility in beam fashioning that they already have; (z) Claim No.1 squarely fall within the ambit of "new use for a known substance or of the mere use of a known process" within the meaning of Section 3(d) of the Act; (aa) Claim no.10 also is with respect to construction and arrangement and in which also no novelty is claimed; rendering of beam patterns, including asymmetrical beam patterns from an otherwise known antenna, is nothing more than use of a known antennas in terms of beam fashioning capabilities it has inherent in it; (bb) the witness of the plaintiff, in answer to Questions no.70, 71, 72, 170 to 174 has confirmed that multi beam antennas were known; (cc) Claims No.12&13 relating to additional embodiments, of asymmetrical beams being provided in multiples of two with possibility of being mirror images, do not provide any new matter; (dd) accordingly Claim No.1,10,12&13 are all liable to be struck down under Section 3(f); (ee) the remaining Claims No.2 to 9, 11 and 14 to 25 are of embodiments that do not contribute in

novel fashion to the construction of the antenna and therefore also fall within the ambit of Section 3(f); (ff) according to the plaintiff, the invention lies in the use of asymmetry; the representations of the beam are approximations applied essentially to enable a modular understanding of the network; actual beams are never hexagonal in the coverage area; operatively therefore, the invention seeks to cover geography or coverage area by dividing the notional hexagon or hexagons into smaller geometric bits and applying available flexibilities for forming beams to cover those areas; (gg) the plaintiff's best case is of, from the entire ambit of infinite beam shapes that are possible to be formed using known antennas, selecting those that cover a given notional area better; the patent claim is thus nothing more than a discovery of a scientific principle, that existing antennas are capable of covering geometric areas with multiple beams with some of such beams requiring asymmetry to cover the desired geography; (hh) it is not that asymmetry has caused adequate covering of desired coverage area; the phenomenon of odd beam shape has been recorded or observed as having asymmetry – this is nothing but a mere discovery of a scientific principle; (ii) the invention is a formulation of an abstract theory that certain beam shapes in combination, will better cover the coverage area; (jj) there is no limiting of the invention in precisely stating what particular configuration of beams would cover precisely the same area as the antenna being replaced; in the absence of specifications, it is an abstract theory and formulation of such theory is not patentable; (kk) invention is thus a mere discovery of a scientific principle and a formulation of an abstract theory; (ll) the plaintiff's witness, in answer to Questions no.90 and 92, has admitted that there is no parametric treatment of the degree of

asymmetry in the specification, let alone the claims; (mm) since a beam itself is a manifestation of manipulation of known antennas and asymmetry is a nomenclature provided to those beams that are not symmetrical, on account of manipulation or use of existing antennas, it cannot be said whether an asymmetric beam is a feature involving a technical advance; (nn) the specifications fail to disclose the parametric values that enable the beam shape provided in Figures 2,3,4,5 and 6 of the patent; the specification falls short of the requirement of full and particular disclosure of Section 10(4)(a); rather specification misleads to a certain extent by providing values, the figures for which it does not disclose; without the said figures, no significant contribution to the existing art can be deciphered; (oo) the patent does not disclose the best method of performing the invention known to the applicant/patentee and for which he is entitled to claim protection; (pp) it is the plaintiff's own case that the subject patent does not disclose any degree of asymmetry, as admitted by the plaintiff's witness in answer to Question no.89; (qq) the patent does not demonstrate the best method of performing the invention nor does it detail what the plaintiff is entitled to claim protection for; (rr) the patent is liable to be revoked, for non-compliance with Section 10(4)(a) & (b) of the Act; (ss) the patent keeps all the claims open ended in terms of the maximum value of higher order sectorization within which the invention may be reasonably considered to work; the patent fails to define the scope of the invention and is liable to be revoked under Section 64(h) also; and, (tt) all the claims of the subject patent are liable to be revoked for non-compliance of Section 10(5).

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 arts pleaded in the written statement as well as in the Counter Claim, to contend that prior arts 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 arts, 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 arts 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.

21. Per contra, the senior counsel for the plaintiff, with respect to issue no.(i) supra, argued that (a) the feature of a fixed beam split-sector antenna to emit split-sector beams, at least one of which asymmetrical and which would maintain substantially equivalent critical coverage area as of the earlier sector antenna, and its industrial use, qualifies as a technical advance

as compared to the existing knowledge; (b) this feature also has economic significance as it increases the subscriber capacity of cellular network in a more efficient manner than earlier solutions; (c) the specification of the subject patent discloses the embodiment of a fixed beam split-sector antenna that emits split-sector beams, at least one of which is asymmetrical and which maintains substantially equivalent critical coverage area as of the earlier sector antenna; (d) a patent can be obtained for a mode of carrying a principle into effect, especially when the patentee is aware that no particular sort or modification or form of apparatus is essential in order to obtain benefit from the principle; once it is so there is no necessity for the patentee to describe and confine to any one form of apparatus; reliance in this regard was placed on ***Lallubhai Chakubhai Jarivala vs. Shamaldas Sankalchand Shah*** 1934 (36) Bom LR 881; (e) the plaintiff's witness, in response to Questions No.94 and 95 deposed, that the subject patent does not use any existing antenna but rather creates a new class of antennas; (f) one cannot merely take an existing antenna and convert it into an antenna covered by the subject patent; (g) the subject patent does not claim any invention in any process for creating asymmetrical beams using any specific power and phase weightings; 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; (h) once the asymmetrical pattern produced from these power and phase weightings was disclosed in the subject patent, it is possible for any person skilled in the art to reverse engineer the beam pattern i.e. to know multiple ways of carrying out the principle of the subject patent; reliance was placed

on several judgments, also recorded in the written arguments of the plaintiff, to contend that to constitute patentable subject matter, it may only be a small step but a step forward; (i) split-sector antenna claimed in the subject patent is in itself a new product nor do the new antennas of subject patent function in a known way; (j) merely because the new product is a result of use of a known process, machine or apparatus, such new product cannot be denied patentability under Section 3(d); (k) since the new antennas of subject patent or their use to increase subscriber capacity by maintaining substantially equivalent critical coverage area as of the earlier sector antenna, were not known, the subject patent is not hit by Section 3(d) of the Act; (l) the defendant no.1/counter claimant has failed to prove in evidence, that prior art taught the antennas of subject patent; thus the antennas of the subject patent cannot be said to be a known device so as to attract Section 3(d); (m) the manner in which the new antennas of subject patent are put to use, is not a mere use; this is not a case of a pen being merely used as a highlighter or vice a versa; (n) even if the use of a known process, machine or apparatus results in a new product, such new product cannot be denied patentability; (o) antennas of the subject patent were not known and do not function in a known way and thus are not hit by Section 3(f) of the Act; (p) the defendant no.1/counter claimant, though has addressed arguments in this respect, has not pleaded the ground of insufficiency of disclosure/ambiguity in disclosure as a ground of invalidity; the arguments in this regard are thus to be rejected; (xiv) reliance in this regard was placed on ***F. Hoffmann-La Roche Ltd. vs. Cipla Ltd.*** (2015) 225 DLT 391 (DB) and ***Koninklijke Philips Vs. Rajesh Bansal*** (2018) (75) PTC 621 Del; (q) allegations of insufficiency or ambiguity of

disclosure have to be seen through the eyes of a person skilled in the art; if the defendant no.1/counter claimant had challenged the subject patent on the ground of ambiguity or insufficiency of disclosure in its pleadings, the plaintiff would have led evidence to demonstrate that the disclosure in the subject patent is not ambiguous or insufficient; (r) claims in a patent have to be constructed purposively; (s) the plaintiff's witness gave evidence of the step of 'replacement'; no contrary evidence was led by defendant no.1's witness; adverse inference thus has to be drawn against defendant no.1/ counter claimant; (t) the plaintiff's witness gave evidence that the subject patent does not claim any and every asymmetry or asymmetrical beam shape/pattern, but rather an optimized asymmetrical beam shape which is capable of achieving the objects of the patent; no contrary evidence was given by the witness of defendant no.1/counter claimant; (u) the witness of the defendant no.1/counter claimant in cross examination agreed that 'critical coverage area' means the coverage area of beam minus the overlap area and handover areas; it thus cannot be argued that the term 'critical coverage area' is vague or ambiguous; (v) similarly the term 'substantially equivalent' means as close as possible; a patent does not become indefinite merely by use of terms such as 'close to', 'closely approximate' or 'substantially equal'; (w) to prove lack of novelty, it was incumbent on the defendant no.1/counter claimant to show that all the features of the subject patent were disclosed in one document; it is not permissible to contend lack of novelty by showing that a combination of two or more documents disclosed all the features of a patent; and, (x) since the new antennas of the subject patent or their use increases subscriber capacity by maintaining substantially equivalent critical coverage area as of the earlier sector

antenna, the subject patent is not hit by Section 3(d). Needless to state, the senior counsel for the plaintiff also, besides the aforesaid judgments referred to a number of other judgments but the need to burden this judgment wherewith is not felt.

22. I have considered the rival contentions and the judgments cited.

23. I may at the outset record, that though interim relief in this suit was denied to the plaintiff and which order was upheld till the Supreme Court, but in the suit filed by the plaintiff against ***Ace Technologies Corporation*** supra, the Commercial Division of this Court, notwithstanding the denial of interim order in this suit, found in favour of the plaintiff at the interim stage, *inter alia* reasoning (i) that what prevailed with the Court in denying interim relief to the plaintiff in this suit was *inter alia* denial of corresponding US Patent by the US Patent Office, on the ground of lack of novelty; (ii) however since then, US Patent stood granted; (iii) that when interim relief was denied in this suit, the subject patent was a new patent, which now was 9 years old and during which period it had neither been revoked nor held to be invalid in any jurisdiction; (iv) that the defendants in another suit filed by the plaintiff and the interim relief wherein was denied along with interim relief in this suit had since taken a global licence from the plaintiff; and, (v) that Ace Technologies Corporation inspite of being notified by the plaintiff, had neither applied for revocation of the patent nor instituted a Counter Claim. The said order of the Commercial Division, though was set aside by the Commercial Appellate Division but restored by the Supreme Court. Supreme Court however merely observed, that there was no reason for the Commercial Appellate Division to interfere with the

well-reasoned order of the Commercial Division. I may also note that the interim relief granted to the plaintiff against Ace Technologies Corporation, is not of injunction but of furnishing accounts and bank guarantees for the profits earned.

24. That brings me to the subject patent. Though the senior counsel for the plaintiff, in his arguments as well as in his written arguments has referred to the antenna being the subject matter of patent but the patent granted to the plaintiff by the Patent Office of India is for an invention entitled "Asymmetrical Beams For Spectrum Efficiency". The 'Abstract' of the patent, set out in the Certificate of Registration of the subject patent, also describes the patent as:

> *"A method and apparatus for increasing capacity and performance of a base station for a sectorized cellular wireless network is disclosed in which one of the sector antennas is replaced or supplanted by a novel sub-sector antenna that generates a plurality of asymmetrical sub-sector coverage areas that collectively substantially cover the coverage area of the replaced sector antenna. The use of asymmetrical coverage areas permits the total coverage area to closely approximate the symmetrical sector coverage area without creating excessively large sub-sector handover zones or introducing severe degradation in the network performance. This in turn permits the selective replacement of a single sector antenna rather than the wholesale replacement of all sector antennas in a region, leading to lower transitional costs and the ability to provide a focused approach to capacity planning."*

25. The 'Field of the Invention' described in the patent is:

> "*The present invention relates to network planning and in particular to improve sector capacity and throughout in an established network without creating coverage holes".*

26. The 'Summary of the Invention' as described in the patent is:

"Accordingly, it is desirable to provide an antenna with beam patterns that are tailored for specific sector coverage.

It is further desirable to provide an antenna that can permit load balancing through the addition of capacity only where needed.

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.

According to a first broad aspect of an embodiment of the present invention, there is disclosed, a method of 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.

According to a second broad aspect of an embodiment of the present invention, there is disclosed 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".

27. The 'Embodiments' of the invention are described by reference to ten figures, of which seven figures are of beams, one of "an art work lay out of an exemplary sector antenna system in accordance with an embodiment of the present inventions" and the remaining two are geographic representations of a real tri-cellular network and of a real tri-cellular network in which a singular cellular sight is equipped with a Bi-Sector Array Antenna of the subject invention. Though the patent refers to "new antenna" but while describing apparatus, states that:

"The present invention can be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combination thereof. Apparatus of the invention can be implemented in a computer program product tangibly embodied in a machine-readable storage device for execution by a programmable processor; and actions can be performed by a programmable processor executing a program of instructions to perform functions of the invention by operating on input data and generating output. The invention can be implemented advantageously in one or more computer programs that are executable on a programmable system including at least one input device, and at least one output device. Each computer program can be implemented in a high-level procedural or

object oriented programming language, or in assembly or machine language if desired; and in any case, the language can be a compiled or interpreted language.

Suitable processors include, by way of example, both general and specific microprocessors. Generally, a processor will receive instructions and data from a read-only memory and/or a random access memory. Generally, a computer will include one or more mass storage devices for storing data files; such devices include magnetic disks, such as internal hard disks and removable disks, magneto-optical disks; and optical disks. Storage devices suitable for tangibly embodying computer program instructions and data include all forms of volatile and non-volatile memory, including by way of example semiconductor memory devices, such as EPROM, EEPROM, and flash memory devices; magnetic disks such as internal hard disks and removable disks; magneto-optical disks; CD-ROM disks; and buffer circuits such as latches and/or flip flops. Any of the foregoing can be supplemented by, or incorporated in ASICs (applications-specific integrated circuits), FPGAs (field programmable gate arrays) or DSPs (digital signal processors).

The system may comprise a processor, a random access memory, a hard drive controller, and an input/output controller coupled by a processor bus.

It will be apparent to those skilled in this art that various modifications and variations may be made to the embodiments disclosed herein, consistent with the present invention, without departing from the spirit and scope of the present invention.

Other embodiments consistent with the present invention will become apparent from consideration of the specification and the practice of the invention disclosed therein.

Accordingly, the specification and the embodiments are to be considered exemplary only, with the true scope and spirit of the invention being disclosed by the following claims."

28. The claims 1 to 28 are also with respect to the method for increasing subscriber capacity in a sectorized cellular communications network as

described in the abstract of the invention, with no claim being specific to the apparatus of the antenna.

29. The patent claimed is thus in respect of a method to achieve the desired result. The method described in the patent is of substituting one of the sector antennas by a sub-sector antenna that generates plurality of asymmetrical beams that collectively substantially cover the coverage area of the replaced sector antenna. The apparatus described for achieving the said purpose is exemplary only, thereby admitting that the purpose can be achieved by collation of any other apparatus. It is not in dispute that sector antennas/sub-sector antennas emitting asymmetrical beams, existed from earlier. The novelty and inventive step is claimed in the asymmetrical beams emitting from the sub-sector antenna covering the same area as the antenna which was replaced by the sub-sector antenna. No particular shape of the asymmetrical beams is described – they can be of any shape as long as they cover substantially the same area as the antenna which was replaced by the sub-sector antenna.

30. What has troubled me throughout is the fear that the said patent can be exploited to prohibit all others from devising methods of increasing subscriber capacity. The defendant No.1/counter claimant is not found to deny that the method subject matter of patent does indeed result in increasing the subscriber capacity. The method subject matter of patent being only of replacing a sector antenna with the sub-sector antenna generating plurality of asymmetrical beams, without any specifications of the sub-sector antenna to be used to replace the sector-antenna and without any shape and size of the asymmetrical beam as long as the area covered by

the replaced antenna is substantially covered, is found to entitle the plaintiff to restrain any other person who has achieved the objective of the patent i.e. increase in subscriber capacity, thereby closing rights of further scientific work and invention in the matter of increasing subscriber capacity. The plaintiff admits asymmetry to be feature of the beams. The fear is, that even if owing to any invention in the apparatus i.e. antenna/sector antenna/sub-sector antenna, subscriber capacity is increased, the plaintiff may claim the same also to be an infringement since the beams emitted from the antenna would also have a feature of asymmetry. The limitations in the claim of increasing subscriber capacity, of replacing one or more sector antenna for a given sector with the split-sector antenna having a plurality of sub-sector coverage areas, at least one of which is asymmetrical, are found to be too wide, to be incapable of confining the invention of the plaintiff. Such a patent would entitle the plaintiff to restrain any other method of increasing subscriber capacity and would confer monopoly on the plaintiff and enable the plaintiff to stand in the way of further research in the field of increasing subscriber capacity.

31. The response of the senior counsel for the plaintiff thereto was, that the defendant No.1/counter-claimant has not taken it as a ground for revocation. It was contended that the said plea is a plea of 'complete specification not sufficiently and fairly describing the invention and the method by which it is to be performed', within the meaning of Section 64(h) of the Act which has not been invoked as a ground of revocation. It was thus contended that revocation cannot be ordered on a ground not pleaded.

32. There can be no doubt whatsoever that Section 64(h) of the Act does not find mention in the written statement or in the Counter Claim of the defendant No.1/counter-claimant, though Section 64(d), (e) & (f) are expressly pleaded. However, merely because a legal provision is not pleaded, is not a ground for treating a pleading as not invoking the same. Pleadings are to be read holistically and such a reading of the written statement and Counter Claim shows the defendant No.1/counter-claimant to have indeed pleaded, (a) that mobile antennae having asymmetric beam shapes were well known in the art, at least as early as 1975 and the plaintiff's assertions that previously asymmetry was viewed as a defect are completely false; (b) that the invention claimed in the subject patent is rendered obvious in view of prior publications which disclose a cell sector being sub-divided into sub-sectors by multiple directional beams having a total coverage area substantially equal to the coverage area of the cell sector in question; (c) that the written description in the patent does not elaborate further on these design techniques, instead assuming that a person of skill in the art would be aware and well versed with them; (d) that though the patent states that when multiple sites are subject to higher order of sectorization in a specific area, automatic frequency planning could be used to derive an optimal frequency plan for all sites but the specifications do not provide for further explanation in connection therewith, except by way of an example with respect to CDMA systems, thereby acknowledging that this feature too is among the design techniques of network planning, which are known and would be apparent to the person skilled in the art; (e) "that by wording claims in this fashion, plaintiff No.1 has tried to appropriate for itself all telecom networks which incorporate asymmetric

beam antennae. As established in connection with Claims 1 and 10, asymmetric beam antennae were well known prior to plaintiff No.1's alleged invention. Active and passive networks are also well known within the field of art, which is conclusively demonstrated by virtue of the fact that the written description for IN 240893 merely mentions these two forms of network without providing any further information with regard to their manner of construction. The fact that the skilled person would have been expected to understand these terms establishes that passive or active networks by themselves do not impart novelty and inventive step to claims 24 and 25"; (f) that "any claim that seeks to claim monopoly on such matter, either directly or effectively, is liable to be held unpatentable"; (g) that "the present invention, in pith and substance, relates only to use of an apparatus, which is an asymmetric beam antenna….the plaintiffs have not demonstrated any novelty, let alone inventiveness in the asymmetric beam antenna. In other words, the plaintiffs have nothing more to add to the asymmetric beam antenna than was already known at the priority date of IN 240893 i.e. March 17, 2006. This conclusively establishes that plaintiff No.1 has done no more than pick up a conventional asymmetric beam antenna and thereafter used it in precisely the fashion that an asymmetric beam antenna by its very nature is designed to be used or operated"; (h) that "the method aspects of the invention do not in any way contribute to the state of art other than providing for the mere use of prior art symmetric antennae"; (i) that "a further inquiry then requires to be made as to whether any additional method steps (if any) qualify through the gateways of novelty and inventiveness. It is submitted that none of the method claims have suggested any method steps that go beyond the mere functionality of

an asymmetric beam antenna. In other words, there is no subject matter in claims that can in pith and substance be considered to be of a nature which is not merely dictated by the functionality of the antenna. Effectively, providing patent protection for such claims pre-empts use of asymmetric beam antennae in certain aspects, which aspects would naturally suggest themselves given the very nature of asymmetric beam antennae"; and, (j) that "the alleged invention of the plaintiff No.1 is nothing more than a mere attempt to unlawfully secure for itself exclusive use of technology that has been within the public domain from as far as back as 1975". The said pleas in the written statement of the defendant No.1/counter-claimant, in my view do contain the defence/Counter Claim of, the complete specification in the patent not sufficiently and fairly describing the method by which it is to be performed and/or of the description of the method or the instructions for the working of the invention as contained in the complete specifications not disclosing the best method of performing it which was known to the plaintiff and for which the plaintiff was entitled the claim protection, within the meaning of Section 64(1)(h) of the Act. Moreover, the defendant no.2 also in its written statement, as aforesaid, has pleaded that the plaintiff has nowhere disclosed any specific technique or novel inventive step being used by the plaintiff to generate asymmetry in the beam or to control or modulate the same. Though defendant no.2 has not filed a Counter Claim, but Section 107(1) permits the defendant no.2 to in his defence, take grounds on which the patent may be revoked under Section 64. Thus it is not open to the plaintiff to contend that this Court cannot go into the question of the completed specification not sufficiently and fairly describing the method by which the invention claimed is to be performed

and/or not disclosing the best method known to the plaintiff and for which the plaintiff is entitled to protection. I may however notice, that while framing issues in the suit, an omnibus issue no.(i) was framed; ideally, on a plea of revocation, specific issues qua each ground of revocation ought to be framed, to make the parties aware and conscious at the time of framing of issues as well as at the time of adducing evidence of the grounds of revocation on which judgment shall be pronounced. This Court, on the administrative side is in the process of framing of Rules under the Patents Act and I commend to the Committee concerned to consider the said aspect.

33. Patent rights, unlike rights in a trademark and copyright, are granted for a limited time, to balance the interest of the inventor on the one hand and of the consumers/public at large on the other hand. Thus, while the inventor is granted exclusive right to practice his/her invention for the limited time, in India of 20 years, after the expiry of the said time, it is felt that the benefit of the invention should be available to all. The requirement, before grant of patent, of Section 10(4), of specification fully and particularly describing the invention and its operation or use and the method by which it is to be performed and disclosing the best method of performing the invention known to the applicant and for which he is entitled to claim protection, has to be construed in the said light. Grant of a patent should not have the effect of, during the term of the patent, preventing all others from researching/inventive other products/other methods by which the same result as achieved by the patented invention, can be reached. If the patent is granted merely with reference to the result i.e. technical advancement and economic significance achieved, the same

would enable the patentee to prevent others from inventing other products/processes/methods to achieve the same result which the patented invention has achieved. The plaintiff in the present case has not described the method by which the invention is to be performed and in Figure 7 of the embodiments of the patent, expressly stated that the same is merely the exemplar and the invention claimed can be achieved by other modes also. The invention claimed, is in method of increase of subscriber base and upon grant of patent, vests the plaintiff with exclusivity over increase in subscriber base, by whichsoever method, thereby effectively blocking all others who also achieve the target of increasing the subscriber base. The words used to describe the method by which increase in subscriber base is achieved, are also vague, so as to take within their ambit all methods of increase in subscriber base. The method described in Claim No.1, is of replacing the associated one or more sector antenna 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, whereby total critical coverage area provided by the plurality of sub-sector coverage areas is substantially equivalent to the critical coverage area of the replaced one or more associated sector antenna. The invention claimed, is not of a split-sector antenna having a plurality of sub-sector coverage areas extending therefrom. The invention claimed is not in the asymmetrical coverage area, which it has emerged, is a natural phenomena, with efforts in the past being to make a asymmetrical coverage areas symmetrical. The invention claimed is, to allow asymmetrical beams to be, and not make efforts to

make them symmetrical. No dimensions of shape of the asymmetrical beam is prescribed. Figure 8 of the Embodiments is merely "an artwork layout of an exemplary beam forming network sector for the sector antenna system for Figure 7." The only test prescribed is of achieving substantially equivalent coverage area. It thus follows that the invention claimed is in replacing a sector antenna with a/any split-sector antenna having plurality of sub-sector coverage areas extending therefrom and to allow at least one of the beams emanating from the split-sector antenna to remain asymmetrical and combining the two of them to create coverage area which will be substantially equivalent to the coverage area of the earlier combination of antennas. I am reminded of, use by us as children of magnifying glass, to burn a hole in paper, by focusing the sun rays through the magnifying glass. With the same magnifying glass, while some of us could immediately burn paper, others could not, or take much longer time therefor. Any method to achieve subscriber capacity is bound to use antennas/split-sector antennas and/or combination thereof. Antenna itself is a word of English language, being a metallic structure that captures and/or transmits electromagnetic waves. The antennas are admitted by the plaintiff, to emanate asymmetrical waves, with attempts till prior to the invention claimed being to make them symmetrical. The method in which invention is claimed, without specifying the particulars of the antennas to be used and/or of the beams to be generated therefrom, remain vague, permitting the plaintiff to claim infringement qua any method of increasing subscriber capacity and which is bound to use antennas/split-sector antennas emitting beams.

34. I am therefore of the view that the defendant no.1/counter claimant has made out a case of revocation of the patent on the grounds provided under Section 64(h) and (k) of the Act. The claim of the complete specifications was not patentable under the Act, being non-complaint with Section 10 of the Act.

35. That brings me to the ground of revocation under Section 64(d) of the Act i.e. of the complete specification not constituting an invention within the meaning of the Act. It is argued that neither a new product nor a new process has been invented, within the meaning of Section 2(j) of the Act. It is further argued that the invention even if any is a mere discovery of a new use of known process, machine or apparatus (within the meaning of Section 3(d) of the Act) i.e. of use of antenna/split-sector antenna, already known and in use, and of asymmetrical beams, also already known and in use, to achieve larger subscriber capacity.

36. I am unable to agree. The patent claimed is in the method for increasing capacity. The invention is thus not of any product but of a process to increase subscriber capacity of beams emanating from an antenna. As aforesaid, increase in subscriber capacity, by adopting the method disclosed in the patent, is not controverted. Once it is so, it follows that the method has economic significance within the meaning of Section 2(ja), to constitute a inventive step. Though under Section 3(d) a mere use of a known process or a known apparatus is not an invention, but only if the same does not result in a new product and/or in the enhancement of known efficacy. Though the plaintiff uses known antenna/split-sector antenna but the combination, at least one of the beams emanating from which is

asymmetrical, but since the resultant beam has increased subscriber capacity, it constitutes an enhancement of known efficacy of beams and Section 3(d) would not be attracted.

37. I am also unable to agree that the invention is a mere discovery of a scientific principle or formulation of an abstract theory. The invention, as aforesaid enhances the known efficacy and is thus not an abstract theory.

38. Thus the ground of revocation under Section 64(d) is not made out.

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 arts. The defence of the plaintiff thereto is twofold. Firstly, that all such prior arts have been rejected by the United States Patent and Trademark Office (USPTO) while granting US patent. Secondly, that the reference to prior arts 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.

41. I therefore answer issue no.(i) as under:

> *"(i) Whether the impugned Patent No.IN240893 is invalid in view of any of the grounds raised in counterclaim No.38/2012? OPCC*

by answering in the affirmative, in favour of the defendant no.1/counter claimant and by holding the Patent No. IN 240893 to be invalid and liable to revocation under Section 64(h) & (k) of the Patents Act, 1970.

42. In accordance with the order dated 27th March, 2019, list the suit for further consideration before the Roster Bench on 7th September, 2021.

RAJIV SAHAI ENDLAW, J.

AUGUST 10, 2021
pp/gsr/bs..