

22<sup>nd</sup> March 2012



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**Sub: Comments on the Consultation Paper number 04/2012 dated March 7, 2012 on the "Auction of Spectrum"**

*Respected Dr Sarma*

Please find enclosed a copy of our comments on the various issues mentioned in the consultation paper on "Auction of Spectrum".

**Key Messages**

- **Structure of Auction** - We are of the view that auction should be structured in 3 phases/stages: In the first stage, new entrants which include all the licensees who got licenses in 2006, licensees who got licenses under combination of technology category and licensees who are owners of 122 licenses cancelled by the Supreme Court. They all must bid up to 4.4 MHz. In the second stage, once the first stage bidding is over, then all the licensees (Incumbents and post 2006) can bid for spectrum beyond 4.4 MHz and up to total of 6.2 MHz. And in the third stage, all the operators/participants can bid for spectrum beyond 6.2 MHz and up to 10 MHz

In our view, there should be atleast 6 players for the bidding and for the pan India basis at least 75 or 100 MHz should be available.

- **Reserve Price** - In our view, the reserve price could be pegged to the 2001 price discovery by suitably indexing it for both, inflation and cost of money-PLR. By following this method the price arrived at would be around Rupees 6500 to 9000 crore at PLR of say 12% to 15% respectively.
- **Time Frame for Auction-Why 400 days?** - We believe that this is not the first time Government of India is conducting an auction. Recent media reports reveal that the Government has sought an extension of time from the Hon'ble Supreme Court of India by stating that the auction of the 2G Spectrum can be successfully concluded within a span of not less than 400 days. In our view, these 2G auctions can definitely be conducted faster than the 400 days timeframe being sought for by the Government.

It may be noted that as per the provisions of the **TRAI Act, 1997, under Statement of Object and Reasons, clause number 4, sub clause no - 4**, it has been provided that "*the power and function of the Authority includes the protection of the interest of the consumers of telecommunication service.*"

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These unwarranted delays in the auction would cause immense harm to customers, investors and service providers.

We hope that the above is useful to help the Authority formulate on the issue of Auction of Spectrum.

With best personal regards  
Yours sincerely

  
22/12/2012

**B. K. Syngal**  
**Senior Principal**

Encl: as above

Cc: Shri Sudhir Gupta, Pr. Advisor (MS)

**RECOMMENDATIONS ON THE**  
**CONSULTATION PAPER ON AUCTION OF SPECTRUM**

**Introduction**

1. This paper provides recommendations on the Consultation Paper on Auction of Spectrum dated March 7, 2012 issued by the Telecom Regulatory Authority of India ("TRAI" or the "Regulator"). Before providing our recommendations, we have attempted to provide Policy Background, key issues/challenges basis the Supreme Court judgement on 2<sup>nd</sup> February 2012.

**Policy Background**

2. India's National Telecom Policy 1994 ("NTP 1994") was announced on 13<sup>th</sup> May 1994, to deregulate, liberalise and encourage private sector participation in the telecom industry. However, NTP 1994 did not yield desired results. Therefore, a new National Telecom Policy ("NTP 1999") was announced on 1<sup>st</sup> April 1999.
3. The policy on spectrum management as enumerated in NTP 1999 emphasized the need for spectrum to be used efficiently, optimally and economically. It further emphasised the need for a transparent process of allocation of frequency spectrum for use by a service provider and for making it available to various users under specific conditions. Such process required to be effective and efficient and needed to provide for the levy of a spectrum usage fee.
4. On 23<sup>rd</sup> June 2000, pursuant to a reference made by the Ministry of Communications and Information Technology, TRAI made certain recommendations on the issues of appropriate level of entry fee, basis of selection of new operators and entry of 4<sup>th</sup> cellular operator. TRAI recommended that all new operators, barring Department of Telecom ("DoT")/MTNL would be selected through a competitive bidding process. Prospective operators would be required to meet pre-determined criteria in order to qualify to bid for the licence. Pre-qualification would be mainly on the grounds of financial strength and experience, minimum roll out obligation, technical and business plan, payment terms and other commercial conditions. **TRAI also recommended that bidding process should be carefully structured so as to guard against the possible misuses of the process such as pre-emptive over-bidding or cartelisation. For this purpose, a bid structure involving "Multi Stage Informed Ascending Bids" was recommended.**
5. TRAI also recommended that, after each stage of bidding, bids received would be made public and all the bidders would be permitted to raise their bids in the subsequent rounds of bidding. The process would be complete only after a pre-determined number of bid rounds are completed at the end of which the highest bidder for each license would have claim to the licence in question and licences would become effective on payment of the amount of the winning bid for the entry fee within a period specified in the tender document.
6. On the issue of entry of third and fourth operator in a spectrum, TRAI opined that considering the issues related to sharing of spectrum, a view could only be taken after getting a full report from the DoT on the quantum of spectrum being made available for the Cellular Mobile Service Providers (CMSP), existing as well as the proposed new entrants, and the allocation of such spectrum, i.e., the bandwidth within which it would fall.



7. On 5<sup>th</sup> January 2001, the Government of India (GoI) issued guidelines for issue of 4<sup>th</sup> licence for Cellular Mobile Telephony Services (CMTS). These guidelines envisaged a detailed bidding process for selection of the new service providers. On the basis of these recommendations, many licenses were issued. A list of the licenses issued under these guidelines is enclosed as **Annexure A**. In addition to this, few basics services licenses were also issued to operators such as **Reliance Telecomm, Tata Teleservices** etc for providing telecom services by utilising the wireless in Local Loop technology. These licenses were eventually misused for providing full mobility by series of actions of omissions and commissions by the DoT and the TRAI. These actions led to a prolonged legal battle, leading to a negotiated settlement in 2003. Pursuant to this, these licenses were legitimised in 2003. **Reliance Telecomm and Tata Teleservices were the beneficiaries of this backdoor entry into full mobility.**
8. As a result of this settlement on 27<sup>th</sup> October 2003, TRAI made recommendations on 'Unified Licensing' under Section 11 of the Telecom Regulatory Authority of India Act, 1997 ("**TRAI Act**"). These recommendations were made in view of NTP 1994, NTP 1999, international practices, national objectives etc. The recommendations contained various alternatives to decide the benchmark for the entry fees for entry into the '*Unified Access Licensing Regime*'. The recommendations laid emphasis on efficient utilization of spectrum and indicated that it would make further recommendations on efficient utilisation, spectrum pricing, availability and spectrum allocation procedure taking into account the need timing and availability of the spectrum. Few key recommendations were:
  - o To de-link spectrum from the license
  - o To fix a license fee for this plain vanilla license (without any spectrum), and
  - o Most importantly to award all future licenses with spectrum or only spectrum by auctioning as was done for the award of licenses in 2001.
9. Meanwhile, a Group of Ministers ("**GoM**") had been constituted in September 2003, mainly to consider and recommend the best measures to ensure release of adequate spectrum needed for the growth of the telecom sector. The GoM recommended that the DoT and Ministry of Finance ("**MoF**") would discuss and finalise spectrum pricing formula which would include incentive for efficient use of spectrum as well as disincentive for sub-optimal usages. The recommendations emphasised that allotment of additional spectrum is transparent, fair and equitable, avoiding monopolistic situation regarding spectrum allotment usage. The GoM also recommended that the fee paid by fourth cellular operator was to form a benchmark for migration of basic players to the new access regime i.e. for those who made fraudulent entry into full mobility by the back door. The two companies were Reliance and Tatas. These recommendations of the GoM were accepted by the Council of Ministers on 31<sup>st</sup> October 2003.
10. On 11<sup>th</sup> November 2003, the DoT issued new guidelines for UAS licensing. The main features of these guidelines were that existing operators would have the option of continuing under the existing regime or to migrate to the new UAS licence. The obligations with regard to licence/entry fee, service area, roll-out obligations and performance bank guarantees would be the same as the 4<sup>th</sup> operator. Subsequently, the Chairman, TRAI, recommended that the entry fee for new UAS licensees would be same as the fourth operator and in cases where there is no fourth operator, it would be the fees fixed by the Government for the basic operator or the reserve price fixed by the Licensor.



A summary of the October 2003 Recommendations is as follows:

### **"Competition"**

7.37 - On the issue of introducing more competition, the TRAI has always been in favour of open and healthy competition. In its recommendations on the introduction of the 5th and 6th Cellular Mobile license, the TRAI opined that

*"Induction of additional mobile service providers in various service areas can be considered if there is adequate availability of spectrum for the existing service providers as well as for the new players, if permitted."*

*Taking cognisance of spectrum availability, the TRAI is in favour of introducing more competition. However, we feel that in lieu of more cellular operators, it would be more appropriate to have competition in a Unified Licensing framework which will be initiated after six months.*

### **Time and need of introduction of more service providers**

7.38 - As already mentioned earlier, with the continuing growth trend, the expected wireless subscriber base by December, 2005 will be 100 million. To achieve 100 million wireless subscribers (cellular & WLL both) the required investment is of the order of Rs.50, 000 crore. As brought out in Para 6.5 this highlights a need at present itself for greater efforts by existing and new service providers to expand the investment and to meet the market demand for telecom services and help achieve the objectives of telecom growth and development in the country.

7.39 - As brought out in Para-7.37 above, the induction of additional mobile service providers in various service areas can be considered if there is adequate availability of spectrum. As the existing players have to improve the efficiency of utilisation of spectrum **and if Government ensures availability of additional spectrum then in the existing Licensing Regime, they may introduce additional players through a multi-stage bidding process as was followed for 4th cellular operator.**

7.40 - Considering the above, the role of existing and new players in wireless services at the present juncture is well established.

### **Summary of Recommendations**

*In the interest of consumers of the telecom sector and to promote and ensure orderly growth of the telecom sector, the Authority recommends that the country should migrate to "Unified Licensing" Regime for all telecom services. As a preparatory step, Unified Access License will be implemented for access services in each circle. Finally, within six months Unified Access Licensing through an Authorisation process for all services and all geographical areas should be initiated. Service providers will be free to offer all services in all geographical areas through automatic licensing/authorisation subject to notifying the Regulatory Authority and compliance with published guidelines. The guidelines will be published by the Government/Regulator to include various terms & conditions of authorisation, e.g., nominal entry fee, Universal Service Obligation (USO), security conditions, etc. **Service providers who need spectrum for their services will approach Government of India separately. The guidelines for spectrum allocation***



**which would cover the methodology for spectrum pricing will also be notified by the Government.** Service providers would be given choice to migrate to the new regime or maintain the present position

*The present licensing regime may not be flexible enough to accommodate changes. To achieve very high growth in the Telecom Sector in a competitive and fast technological development era, the new unified regime will create a litigation free environment because all service providers will be in a position to offer all types of services in all service areas depending upon service provider's choice. As a preparatory step, Unified Access License will be implemented for access services in each circle. Finally, within six months Unified Access Licensing through an*

*Authorisation process for all services and all geographical areas should be initiated."*

11. These recommendations were accepted by the Minister of Communication & Information Technology (C&IT) on 24<sup>th</sup> November 2003, since this was a major policy change to the NTP 1999, these changes were also placed on the table of the parliament. The Ministry also decided that, with regard to grant of a UASL licence on first-come-first-served basis, it could be issued on a continuous basis subject to the availability of spectrum and without any guarantee of a spectrum. A UASL license did not mean allocation of spectrum or attendant right of spectrum to the licensee. It was merely meant to be a piece of paper for the licensee to start providing Basic telecomm services under the Indian Telegraph Act, 1885 without the use of a spectrum.
12. On 14th December 2005, the DoT issued revised guidelines for UAS licensing. It provided that no restriction should be placed on the number of entrants for provision of UAS in a service area. It further provided that, a licensee would be required to pay an annual licence fee and spectrum charges apart from the non-refundable entry fee. **The guidelines clearly stated that this UASL license did not guarantee them any spectrum.** It appears that the DoT, under pressure, started issuing UASL licenses in the December of 2006 on the plea that there was enough spectrum and not that much demand by the incumbents; therefore those wanting to enter services could do so. It was a farcical situation in the sense that the markets were never tested on the demand and resulted in some 22 licenses to be issued to companies friendly to the then MOC Mr Maran. A list of those who applied for these licenses is attached as **Annexure B.** **However, the spectrum allocation took place in 2008 except for one who had the spectrum in 2007.**
13. It is unknown as to what transpired in the minds of the policy makers, which resulted in a reference to TRAI. Therefore, on 13<sup>th</sup> April 2007, the DoT requested TRAI to furnish its recommendations on the issues of limiting the number of access providers in each service area and review of the terms and conditions in the access provider licence. TRAI made its recommendations on 28<sup>th</sup> August 2007. The main emphasis of these recommendations were the principles of fair competition, no restriction on the number of access service providers in any service area, need for spectrum management, measures to increase spectrum efficiency, allocation of spectrum and compliance of roll out obligations by the service providers. **It was also recommended that in future all spectrum; excluding the spectrum in 800, 900 and 1800 MHz bands in 2G services should be auctioned. In addition, allowing the CDMA operators to also offer GSM services under the name of combination of technology and assigning reasons that in view of the existing infrastructure the rollout in**

**rural and sub-urban areas would be faster. These recommendations** were completely flawed for reasons below:

- o The recommendations that "No Auction" in GSM was in complete reversal of the October 2003 recommendations, which recommended auction,
- o While recommending open competition for unlimited number of players it never treated a scenario where the number of players exceeded the quantum of spectrum,
- o The key recommendation of combination of technology violated two key licensing clauses of choice of technology for seeking allocation of spectrum and the 10% equity holding in same areas of operation. The allocation of spectrum under the UASL was categorically either or or and not both. The UASL Licensee had to choose the technology by which he intended to provide Mobile Services ie GSM or CDMA. On receipt of that application, the Wireless Planning and Coordination wing would allocate spectrum earmarked for that Technology. This was a major deviation covered by the government under a policy change in public interest and perhaps under Clause 5 of the unified access service license. **Reliance and Tatas were the beneficiaries of this Largesse yet again.**

### **Key Issues**

12. In 2003, the TRAI Recommendations of auctioning of licenses either with spectrum or spectrum alone were accepted by the Government. It was also accepted that a plain vanilla license would also be created for anyone to enter the Indian telecom market without the use of spectrum. The government was to come up with the entry fee for that plain vanilla license. Also it was clearly mentioned that those service providers who need spectrum for their services will approach Government of India separately, who shall make recommendations for the same. This method of distribution of license in 2007 was at complete variance to the policy approved by the Government in 2003, as is manifest from the foregoing. The recommendations in 2007 wherein it is very clearly mentioned that in future all spectrum; excluding **the spectrum in 800, 900 and 1800 MHz bands in 2G services should be auctioned was completely flawed. This is the Genesis of the problem leading to strictures on the role of the regulator.**
13. It must be emphasised that ever since the telecom markets have opened to the private sector no license, **with spectrum**, whatsoever has been issued without either a bidding process or an auction. **No license with spectrum guaranteed has ever been allocated on FCFS.** The FCFS licenses were granted where there was no requirement of spectrum. The amendment that all licenses would be UASL was the root cause of the problem, though it was implied that such a license carries no guarantee of spectrum.

### **Key Challenges to petitions filed before Supreme Court**

14. The following points were challenged before the Supreme Court in the matters titled as Centre for Public Interest Litigation & Others v Union of India & Others (Writ Petition (Civil) No. 423 of 2010) and Dr. Subramaniam Swamy v Union of India & Others (Writ Petition (Civil) No. 10 of 2011):
  - The entire method adopted by the DoT for grant of license at the entry fee determined by TRAI in 2001 was arbitrary, unconstitutional and contrary to public interest.

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- The principle of first-come-first-served acted upon for grant of license in 2008 is violative of Article 14 of the Constitution and distortion thereof by Minister of C&IT and consequential grant of license is liable to be annulled.
  - Even though a number of licensees failed to fulfill roll-out obligations and violated the conditions of license, the GoI did not take any action to cancel the licenses.
  - The petitioners were not entitled to challenge recommendations made by TRAI and policy decisions taken by Government for grant of UAS licenses.
  - The Court cannot review the grant of licenses at the rate fixed in 2001 and the CAG report cannot be relied upon as it was flawed and based on unfounded assumptions.
  - The licenses were given strictly in accordance with modified first-come-first-served principles and the respondents were able to fulfill LoI conditions as they were aware, through newspaper reports, of the probability of the same being granted in January 2008. Also, applications made in 2004 and 2006 could not be clubbed together with the ones made in August and September 2007 as per the UASL guidelines.
  - Public interest would suffer because of cancellation of licenses as the licensees had made huge investments for creating infrastructure to provide services in different parts of the country.
15. The Supreme Court in its Judgment dated February 2, 2012 in the matters titled as Centre for Public Interest Litigation & Others v Union of India & Others (Writ Petition (Civil) No. 423 of 2010) and Dr. Subramaniam Swamy v Union of India & Others (Writ Petition (Civil) No. 10 of 2011) ("Judgment") declared the licenses granted to the private respondents on or after 10.1.2008 pursuant to two press releases issued on 10.1.2008 and subsequent allocation of spectrum to the licensees as illegal and thus quashed the same.

### **Issues for consultation**

16. In its Consultation Paper, the TRAI has invited comments from stakeholders on various issues and our view on these issues are given below:

#### **1. Principles for Auction**

1.1 We believe that the distribution of any natural resource should be done in a fair and transparent manner. As the natural resource is of, by and for public benefit, hence no one can distribute or sell the public resource for personal benefits, as was the case in 2008 distribution of spectrum. There are two key observations drawn out by the Honourable Supreme Court on 2<sup>nd</sup> February 2012:

- ✓ Natural Resource/Spectrum should be auctioned for providing telecom service
- ✓ How the same auction process can be applied to other minerals. For example, in case of mining, we don't know what quantum to auction. In this situation one can identify and explore. For the exploration process, a set of people can be invited and it's important to segregate prospecting for mining. Once it's authenticated that what quantum is this, one can go ahead and check the quantum. Post the same they can take a call on bidding of the natural resource. A known quantity is auction able, but an unknown not. The key lies in establishing that known quantity and the benefit it





would accrue to the society. There is no need to debunk that the applicability of auctions to other natural resources is entirely misplaced.

- 1.2 For the telecom services, the auction process should be structured in such a manner that the person who is bidding can make a decent proposal knowing the benefits that a natural resource can do for his business in coming 20 years, provided the spectrum is technology neutral. For example – in 2001, 7000 crores was charged from 4 licensees, through auctions, for 20 years and currently total industry revenue is about 150, 000 crores. Thus bidding/auction process provides complete visibility. Unlike FCFS process, auction is a fair and a transparent manner to allocate natural resource to the players for various services. The market discovers the price and not an individual.

## **2. Key Objectives**

- 2.1 Key objectives to be kept in mind during the auctioning of spectrum are: Transparency in the auction process, Equitability, Competition and a fair approach. It is important for the participants to be fully informed about the present availability of the spectrum in different bands, block size, license fee, revenue from AGR (adjusted gross revenue), technology for which the spectrum can be deployed etc. For example – if government has 60 MHz available in a particular band for auctioning and there are 6 players in the industry. Hence, each one of them can have two 5MHz blocks.
- 2.2 The TRAI has also stated that minimum of 6 players should be there for an enhanced competition. All the components of bidding process must be declared upfront.

## **3. Quantum of spectrum**

We are of the view that quantum of spectrum should be adequate for 6 players with at least 10MHz for each of the players. That is minimum of 60 MHz should be there in all the bands. It would be a good practice to announce upfront the quantum of spectrum available for auctioning and the number of licenses which are available. No room must be left for creating artificial scarcity.

## **4. Liberalisation of spectrum**

- 4.1 We are of the view that the spectrum being auctioned should be technology neutral. That is the bidder must be allowed to use the spectrum with whichever technologies he wants. Putting artificial restrictions on technology would lead to sub-optimal usage of spectrum. The Regulator must adopt the concept of a technology and service neutral license. As a part of the same, a service provider must obtain a plain vanilla UASL license. This will make him eligible for providing telecom and allied services in India. No bundled assignment of spectrum should be done as a part of this plain vanilla license. Let the license holder bid for spectrum via open auctions. Upon acquiring spectrum, licensee should be allowed to provide any service using any technology making optimum usage of spectrum. However, it must be ensured that the radiation limits are put in place in order to avoid interference.
- 4.2 Auction should be carried out in a manner to establish the commercial value of the spectrum for all bands. Initially, spectrum came bundled with UASL license and further assignment was done on the basis of subscriber linked criteria – for 800/900/1800 MHz This license/spectrum was valid for 20 years period. Majority of these operators have already been operational for 10-12 years. In our view, upon expiry of license/spectrum validity, further extension should be done only upon

payment of market value of spectrum as established by auction of 3G spectrum or any other comparable spectrum auction.

## **5. Spectrum Re-farming**

The idea of spectrum re-farming was first taken up by the TRAI in 2010 and has since then been a subject matter of discussion between the regulatory authorities and the existing operators as well. The TRAI, in its recommendation, had proposed re-farming of 900 megahertz (MHz) spectrum when operators' licenses come up for renewal between 2014 and 2025. This is considered to be necessary so that the 900 MHz spectrum can be redistributed for high end services.

Keeping in mind the present circumstances, re-farming of spectrum should be undertaken to make available additional spectrum for new and emerging telecom technologies

TRAI must keep in mind the legacy services in the 800 and 900 MHz bands before announcing the re-farming in these bands. It must be done in a phased manner.

Similarly, there are other bands which are useful for IMT and LTE services. These bands are presently in use by other sectors such as broad cast, defense and police etc. There should be a policy to allocate funds for technology replacement and up gradation as an incentive for the vacating user. It should be possible to re-farm bands from 450 MHz to at least 3000 MHz for mobility in all kinds of services by terrestrial or satellites or any other means.

## **6. 700 MHz band**

Of particular interest is 700 MHz band. This band is of great significance since it is capable of offering both voice and data services. This band has distinct propagation characteristics. We would want to go with the second approach that is all the licensees should take part in the auction post defining a spectrum cap in sub-1GHz band and also the overall spectrum cap on total spectrum that a licensee can hold. We strongly recommend that the spectrum being auctioned should be technology neutral; therefore migrating or reserving doesn't make sense.

Also, in our view 700 MHz spectrum should be auctioned immediately and it should not be linked to any band.

## **7. Structure of Auction**

We are of the view that auction should be structured in 3 phases/stages mentioned below:

1. The new entrants which include all the licensees who got licenses in 2006, licensees who got licenses under combination of technology category and licensees who are owners of 122 licenses cancelled by the Supreme Court. They all must bid up to 4.4 MHz
2. In the second stage, once the above bidding is over, then all the licensees (Incumbents and post 2006) can bid for spectrum beyond 4.4 MHz and up to total of 6.2 MHz



3. In the third stage, the participants can bid for spectrum beyond 6.2 MHz and up to 10 MHz

In our view, there should be atleast 6 players for the bidding and for the pan India basis at least 75 or 100 MHz should be available.

**The incumbents (pre 2004) must not be allowed to bid at least in stage (a)**

#### **8. Block Size**

We are of the view that the block size should be 5 MHz or multiples of 5 MHz and going up to 10 MHz for WCDMA technology.

#### **9. Eligibility Criteria**

One of the interpretations of the Judgment can lead to the view that participation in the proposed grant of licenses and allocation of spectrum in 2G band should be open to all eligible parties excluding incumbent operators and their shareholders as they are not eligible to apply for fresh license due to their respective existing licenses. This is based on the rationale that the licensees whose license has been cancelled by the Judgment should be given a fair chance to re-enter the market on such terms which are defined by the licensor in consultation with the Regulator.

Another view which may be taken is that there appears to be an anomaly in the Judgment, as it cancelled only 122 unified access service licenses granted in January 2008. However, that is only part of the story. No doubt these are considered to be the *raison d'etre* of the malaise, but there are some others who are beneficiaries of this largesse, **but not accounted for, given the fact that the spectrum allocation for such beneficiaries took place post 10.1.2008 except one.** A list of spectrum allocation to licenses post 10.1.2008 is attached as **Annexure C**. From the above, therefore, three categories of applicants can be carved out, who may participate in the auction:

- Category A: Those licensees to whom 22 licenses were issued in 2006;
- Category B: Those licensee to whom 44 licenses were granted under combination of technology category in 2007;
- Category C: Those licensees to whom 122 licenses were granted on or after 10.1.2008, which have now been cancelled by the Supreme Court as per the Judgment.

There could possibly be a fourth category of applicants i.e. Category D who applied up to the earlier announced date of 1<sup>st</sup> October 2007. These comprise of 343 licenses.

If the above stated view not taken into account by the Regulator, it may give undue and unnecessary advantage to Category A and Category B applicants, which is most undesirable. They are fraudulent owners of licenses. They received their spectrum on or after 2008. It must be understood that the licensees mentioned in Category B were a beneficiary of the 2003 litigations and would also be second time beneficiary of a fraud. It is therefore suggested that they must take part in the auction as they are post 2004 licensees and this auction is basically for fresh GSM players post 2004. Should the regulator choose not to include them in the eligible list of the fresh, they must pay the price discovered through the proposed fresh auction and not allowed to continue to hold spectrum at 2001 price, which they fraudulently acquired against the 2003 policy.

## 10. Reserve Price

A reserve price is the price at which bidding begins. If there is a transparent auction with enough competition among bidders, the final price will be largely independent of the reserve price (unless the reserve price is set too high, in which case the auction may not result in a transaction). On the other hand, if there is only one bidder, or if there is collusion, then the final price will be close to the reserve price.

In our view, the reserve price could be pegged to the 2001 price discovery by suitably indexing it for both, inflation and cost of money-PLR. By following this method the price arrived at would be around Rupees 6500 to 9000 crore at PLR of say 12% to 15% respectively.

We have carried out a calculation to determine the reserve price of the spectrum on the basis of cost contribution through this important scarce national resource which is like a raw material vital to provide connectivity. - Let's take 3 situations wherein reserve price of the spectrum is assumed to be 5000 crore, 7500 crore and 10,000 crore for a 4.4 MHz block. By a simple mortgage type calculation for an asset acquired for 20 years, the Equated Monthly Instalment ("**EMI**") is as per table below. This EMI includes both interest as well as the principle amount.

<b>Spectrum Cost (Rupees)</b>	<b>EMI per month at 1% For 20 years for each of the 6 players (Rupees)</b>	<b>No of players</b>	<b>Total EMI paid per month by all the 6 players (Rupees)</b>
5000 crore	50 crore	6	300 crore
7500 crore	75 crore	6	450 crore
10,000 crore	100 crore	6	600 crore

Now assuming that number of total subscribers is 50 crore and the ARPU is 200, the monthly revenue comes up to 10,000 crore. In all the above cases, this cost of spectrum is a miniscule component of the revenues. Assuming that new players have 10% market share, the revenue for them totals up to 1000 crore, which is greater than > EMI's paid in all the three situations by all the 6 players.

However it is obvious that revenue of each of new operators/players depends upon the number of subscribers it has. Let us say Company ABC started its telecom operations in 2009 with zero subscribers and paid the spectrum cost as 1700 crore at that time. So that means Company ABC, has agreed to pay Rupees 17 crore monthly as EMI for the next 20 years. As on January 2012, his subscriber base is, let us say 4 crore and he is still paying Rupees 17 crore EMI, which is clearly an underpaid amount compared to a revenue of around 600 crore at Rupees 150 ARPU.

In the current scenario if reserve price is set at Rupees 5000 crore, with 4 crore as subscriber base, Company ABC can easily generate a revenue worth Rupees 800 crore monthly - 4 crore X 200 (monthly ARPU). Company ABC can easily pay the EMI that is 50 crore monthly for 20 years. All in all there is no reason of setting the reserve price of the spectrum at a low cost considering the above calculations.

Taking 30% out of each of the cost as tax and other deductions, remaining 6 to 10% can be considered for determining the reserve price of the spectrum to be auctioned.

It may not be out of place to mention that a licensee pays around 30% in taxes out of the ARPU. In order to balance the possible higher spectrum charge as result of a market determined price the Regulator may look at a graded tax regime, which may be low to begin with for say for 5 years and ramped up after that say to 20% to start and ramped to 30% or a situation of neutral revenues. Therefore, we believe that a balancing act of an upfront cost and compulsory taxes would bring about equality between the old and new players. It must also be borne in mind that that the burden of marketing and capital cost of equipment is much less than in 2001.

By the above method, price discovery should be per MHz per block of spectrum.

### 11. Roll Out Obligations

Given that the spectrum is a valuable and scarce natural resource, it is important that any spectrum required should also be used efficiently. We are of the view that authority should impose a spectrum squatting charge as an alternate to rollout obligations. **Roll out obligations are contestable and subject to abuse. An upfront squatting charge is the way to go as well as spectrum trading if the government means business.**

#### Spectrum Squatting

Spectrum is a scarce national resource. In India, up till now, spectrum for wireless telephony was being allocated along with the UAS license under an allegedly flawed spectrum allocation policy. A pan India UAS license with a cost of around Rs 1648 crores, which was a price discovered in 2001, was in reality way below the cost of the 2G spectrum which came bundled with it. Additional spectrum was granted on a subscriber linked criteria. The realization of a flaw in the 2G spectrum allocation policy, probably started to dawn with the sale of Hutch to Vodafone at around \$22 billion. The subsequent stake sales in new telecom licensees Swan and Unitech at multiple valuations to the license fee paid by them appears to have fortified the realization that our spectrum allocation policy was flawed and was leading to huge losses to the public exchequer and benefitting private pockets. These two new licensees had not even rolled out a network, making it obvious that the multiple valuation reached reflected the valuation of the spectrum held by these companies. In effect these new licensees, who have failed to rollout any networks, are spectrum squatters, hogging up precious spectrum for making an overnight killing at the expense of the public exchequer.

With these massive losses caused due to the government doling out 2G spectrum, the issue seems to have become explosive in the public arena and it has virtually forced the government to rewrite policy such that future spectrum allocation happens via open and transparent auctions, which can help achieve the market value of the spectrum to the benefit of the public exchequer.

The following table reflects, the kind of fee that the government earns out of license fee/ revenue share and spectrum charges based on the AGR. Thus, spectrum squatting can lead to substantial losses to the public exchequer.

**TABLE-1**

Year	Approximated Jan to year end-No of mobile users	ARPU1	ARPU2	TR1	TR2	Govt revenue 1	Govt revenue 2	Per MHz revenue 1	Per MHz revenue 2
	mn	250/m annualised	350/m annualised	crores	crores	crores	crores	crores	crores
1997	0.339	3000	4200	102	142	20	28	0.34	0.47
1998	0.882	3000	4200	265	370	53	74	0.88	1.23
1999	1.2	3000	4200	360	504	72	101	1.20	1.68
2000	1.884	3000	4200	565	791	113	158	1.88	2.64
2001	3.577	3000	4200	1073	1502	215	300	3.58	5.01
2002	6.432	3000	4200	1930	2701	386	540	6.43	9.00
2003	12.998	3000	4200	3899	5459	780	1092	13.00	18.20
2004	33.701	3000	4200	10110	14154	2022	2831	33.70	47.18
2005	52.175	3000	4200	15653	21914	3131	4383	52.18	73.05
2006	129.54	3000	4200	38862	54407	7772	10881	129.54	181.36
2007	233.62	3000	4200	70886	98120	14017	19624	233.62	327.07
2008	346.29	3000	4200	103887	145442	20777	29088	346.29	484.81
March 2009	391.76	3000	4200	117528	164539	23506	32908	391.76	548.46

\*Revenues in this chart have been approximated for the purpose of arriving at losses to the government due to spectrum squatting

The fee that the government earns from spectrum usage includes service tax of 10%, a blended revenue share of 7%, 2% blended spectrum charges and 1% contribution to the Universal Services Obligation Fund (USOF). Thus, spectrum squatting can potentially lead to a 20% of AGR loss to the public exchequer. For the purpose of computation, the total revenue has been projected on the assumption of approximately Rs 250 (ARPU1) and Rs 350 (ARPU2) as the blended average revenue per user (ARPU) and has been used as an approximation of AGR to calculate the approximate government revenues TR1 and TR2. The last column above indicates the per MHz revenue to government on the assumption that approximately 60 MHz of 2G pan India spectrum is in usage and has been calculated both for TR1 and TR2.

The calculations from the table clearly suggest that auctioned 3G/2G spectrum, if allowed to remain idle could lead to losses in government revenue. With the government allegedly planning to auction four 5 MHz 3G slots amounting to 20 MHz of spectrum, the potential revenue loss due to spectrum squatting can mount to nearly Rs 9000 crores per year given that the approximate government revenue in 2008 was between Rs 3462 million and Rs 4848 million per MHz as per the table above.

Thus, while a certain timeframe may be allowed to acquirers of 3G spectrum to commence services, a certain imputed license fee, spectrum charges and USO contribution should become chargeable beyond that point irrespective of the fact whether services have been

rolled out or not. Announcement of such an upfront fee is likely to act as a deterrent for spectrum squatters to bid for spectrum.

It may be argued that the new 2G UAS licensees have been stipulated with a rollout obligation. However, it may be noted that the rollout obligation is miniscule in relation to the total revenue potential and the potential loss of revenue to the government. Thus, a player may choose to do a minimum rollout just to continue to hold the spectrum till a suitable buyer for the spectrum is found. It may also be noted that almost none of the new UAS licensees have rolled out any 2G network till now as apparent from the latest TRAI release on subscribers added in June and July 2009. This appears to be a clear example of spectrum squatting leading to huge losses to the government exchequer in terms of revenues to be earned out of license fee, spectrum charges, service tax and USO fund contribution. In the case of 3G it may be argued that a 3G winning bidder who pays a substantial amount for 3G spectrum would want to deploy the spectrum to start earning revenues. However, it is also likely that the 3G winning bidder may want to sit out in the wait for a capital gain and in the process lead to losses to the government. As demonstrated above, the total loss to government on 20 MHz 3G spectrum can mount to Rs 9000 crores. On a per player basis, this would amount to Rs 2250 crores.

In this respect some of the following deterrents can be built into the policy framework such that spectrum squatting does not lead to losses to the government:

1. Introduction of a spectrum trading charge such that sale of spectrum and its subsequent transfer results in a fee payable to the government
2. Closure of loop holes like issuance of fresh equity for fresh capital, which can be subsequently en-cashed by issuance of bonus shares and their sale
3. A clear re-write of the subjective and arbitrary rollout obligations, which are open to various interpretations by the operators
4. Introduction of a fee, which becomes due to the government, whether or not the 3G winning bidder deploys the spectrum or not. This fee should take into account the 20% revenue that the government earns from usage of spectrum
5. Apply the same yardstick to the 2 G spectrum holders to pay up for spectrum squatting.

While arriving at a methodology of calculation of a fee to prevent spectrum squatting, the government will need to bear in mind that the announcement of such a fee is likely to depress the upfront bid amounts as the bidding player is likely to factor in such payments into its business model. Too high a fee could depress bids substantially and too low a fee could encourage spectrum squatters. However, it is beyond doubt that a fee to prevent spectrum squatting is necessary and the government will need to establish a fee that does not impact the bid price substantially, but at the same time deters spectrum squatters. Also, this fee needs to be announced before 3G auctions such that various bidders can include it in their business model and determine the bids they would like to place.

A second table as reproduced below to establish the per MHz revenue that is accruable to the government.

TABLE - 2

Year	Operator	Suscribers	Annualised ARPU	TR	Government revenue	Per MHz Revenue@7.5 MHz per operator
			INR	Crores	Crores	Crores
2006	Bharti	31974038	4305	13764	2753	367
2006	Hutch	15364211	4353	6688	1338	178
2006	Idea	14892114	3702	5513	1103	147
2007	Bharti	55162944	3767	20782	4156	554
2007	Vodafone	39864881	3636	14497	2899	387
2007	Idea	24854660	3099	7703	1541	205
2008	Bharti	85650733	3235	27705	5541	739
2008	Vodafone	60933152	2711	16520	3304	441
2008	Idea	38012845	2677	10175	2035	271
			ARPU for 2 Qs			
till Q2 2009	Bharti	102367881	1382	14152	2830	377
till Q2 2010	Vodafone	76449598	1212	9264	1853	247
till Q2 2011	Idea	47088878	1180	5554	1111	148

Data Source: COAI

It may be noted It It may be noted that as per MHz contribution to government revenue by top three operators' averages to around Rs 483 crores per MHz for 2008. Table 1 had put the figure at about Rs 485 crores, which is close to the figure established in Table - 2. From Table -2 it may be concluded that Bharti is the most efficient operator and has utilized the spectrum in the most efficient manner.

As per latest market reports, Bharti commands a 25% market share. 25% of total revenue for value Rs 103887 crores imputed from Table – 1 amounts to Rs 25971 crores, which is close to Bharti's revenue value of Rs 27705 crores for 2008 reflected in Table – 2, suggesting that the estimation techniques used to generate Table – 1 are fairly robust. Vodafone, which reportedly has a market share of 17%, should have revenues of about Rs 17660 crores for 2008 when as computed from Table -1 as per above used methodology. This is close to the figure of Rs 16520 crores in Table – 2.

From the foregoing it is quite clear that spectrum squatting causes massive additional losses to the exchequer, **because the yield per megahertz by various players is quite substantial.** Therefore, an imposition of the yield after a delay of one year or two years is a must on all license holders lest they play out their game by spectrum squatting.

## 12. Spectrum Usage Charges

We are of the view that there should be a spectrum usage charge and also there should be an extra charge on usage of additional spectrum.



Annual spectrum charges should be technology neutral and based on the revenues of the operator. A minimum annual spectrum charge can also be levied based on the quantum of spectrum held so that it acts as a deterrent against spectrum squatters. In our view validity of the spectrum should be 20 years from the date of allocation of spectrum, as it is in the current scenario. Also, validity of price of spectrum should be between 3 years to 5 years with suitable indexation limited to inflation and PLR (Primary Lending Rate).

Government should not allow any deferred payment of spectrum and the payment should be upfront in nature. The industry will come up for any number of excuses to defend their inefficiencies.

### **13. Spectrum Trading**

We are of the view that, spectrum trading should be permitted by the regulator so as to evolve optimal spectrum utilization practices. Spectrum trading should also include a spectrum trading fees so as to ensure that Government gets its due share from the trading of this valuable national resource. That means government should every time charge a transfer fee.

Any entity having a plain vanilla UAS license can be permitted to carry out acquisition of spectrum in spectrum trading. Existing UAS licensees can also be permitted to carry out spectrum trading, such that efficient allocation of the scarce resource takes place. Thus, plain vanilla licensees can have the option of participating in governmental auctions to acquire spectrum or also have the option of acquiring spectrum in the open market via spectrum trading.

In our view, the best model of spectrum trading would be the one which can be controlled from the technical angle. While trading, it must be made sure that the radiation must not cause interference to other technologies. The safeguard has to be more on technical ground; once the spectrum is traded the buyer should get the full benefit. It necessary to make sure that any rays of the spectrum must not allow a backdoor entry for any service in other services areas for which other players have paid. Everything should be transparent in terms of kind of services, the entry fees paid etc.

### **14. Misc Issues**

We are of the view that spectrum should be allowed to be mortgaged for raising capital for telecom services.



# ANNEXURE - A

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	38	Bharti Airtel Limited	Gujarat	UAS	28-Sep-2001
2	39	Bharti Airtel Limited	Haryana	UAS	28-Sep-2001
3	43	Bharti Airtel Limited	Kerala	UAS	28-Sep-2001
4	45	Bharti Airtel Limited	Madhya Pradesh	UAS	28-Sep-2001
5	46	Bharti Airtel Limited	Maharashtra	UAS	28-Sep-2001
6	47	Bharti Airtel Limited	Mumbai	UAS	28-Sep-2001
7	50	Bharti Airtel Limited	Tamilnadu (Including Chennai Service Area)	UAS	28-Sep-2001
8	52	Bharti Airtel Limited	Uttar Pradesh (West)	UAS	28-Sep-2001
9	86	Idea Cellular Ltd.	Delhi	CMTS	5-Oct-2001
10	89	Idea Cellular Ltd.	Himachal Pradesh	CMTS	5-Oct-2001
11	100	Idea Cellular Ltd.	Rajasthan	CMTS	5-Oct-2001
12	102	Idea Cellular Ltd.	Uttar Pradesh (East)	CMTS	5-Oct-2001
13	129	Reliance Communications Ltd.	Andhra Pradesh	UAS	20-Jul-2001
14	130	Reliance Communications Ltd.	Bihar	UAS	20-Jul-2001
15	131	Reliance Communications Ltd.	Delhi	UAS	20-Jul-2001
16	133	Reliance Communications Ltd.	Haryana	UAS	20-Jul-2001
17	134	Reliance Communications Ltd.	Himachal Pradesh	UAS	20-Jul-2001
18	136	Reliance Communications Ltd.	Karnataka	UAS	20-Jul-2001
19	137	Reliance Communications Ltd.	Kerala	UAS	20-Jul-2001
20	138	Reliance Communications Ltd.	Kolkata	UAS	20-Jul-2001
21	139	Reliance Communications Ltd.	Madhya Pradesh	UAS	20-Jul-2001
22	140	Reliance Communications Ltd.	Maharashtra	UAS	20-Jul-2001
23	141	Reliance Communications Ltd.	Mumbai	UAS	20-Jul-2001
24	142	Reliance Communications Ltd.	Orissa	UAS	20-Jul-2001
25	143	Reliance Communications Ltd.	Punjab	UAS	20-Jul-2001
26	144	Reliance Communications Ltd.	Rajasthan	UAS	20-Jul-2001
27	145	Reliance Communications Ltd.	Tamilnadu (Including Chennai Service Area)	UAS	26-Sep-2001
28	146	Reliance Communications Ltd.	Uttar Pradesh (East)	UAS	20-Jul-2001
29	147	Reliance Communications Ltd.	Uttar Pradesh (West)	UAS	20-Jul-2001
30	148	Reliance Communications Ltd.	West Bengal	UAS	20-Jul-2001
31	152	Reliance Telecom Ltd.	Kolkata	UAS	27-Sep-2001
32	196	Tata Teleservices Ltd.	Delhi	UAS	31-Aug-2001
33	197	Tata Teleservices Ltd.	Gujarat	UAS	31-Aug-2001
34	201	Tata Teleservices Ltd.	Karnataka	UAS	31-Aug-2001
35	209	Tata Teleservices Ltd.	Tamilnadu (Including Chennai Service Area)	UAS	31-Aug-2001
36	266	Vodafone Essar South Ltd.	Andhra Pradesh	UAS	29-Sep-2001
37	267	Vodafone Essar South Ltd.	Chennai	UAS	26-Sep-2001
38	268	Vodafone Essar South Ltd.	Karnataka	UAS	26-Sep-2001
39	269	Vodafone Essar South Ltd.	Punjab	UAS	5-Oct-2001

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	35 Bharti Airtel Limited	Assam	UAS	8-Jul-2004
2	36 Bharti Airtel Limited	Bihar	UAS	10-Feb-2004
3	41 Bharti Airtel Limited	Jammu & Kashmir	UAS	10-Feb-2004
4	48 Bharti Airtel Limited	Orissa	UAS	10-Feb-2004
5	51 Bharti Airtel Limited	Uttar Pradesh (East)	UAS	10-Feb-2004
6	53 Bharti Airtel Limited	West Bengal	UAS	11-Feb-2004
7	56 Dishnet Wireless Ltd.	Assam	UAS	21-Apr-2004
8	57 Dishnet Wireless Ltd.	Bihar	UAS	21-Apr-2004
9	59 Dishnet Wireless Ltd.	Himachal Pradesh	UAS	21-Apr-2004
10	60 Dishnet Wireless Ltd.	Jammu & Kashmir	UAS	21-Apr-2004
11	64 Dishnet Wireless Ltd.	North East	UAS	21-Apr-2004
12	65 Dishnet Wireless Ltd.	Orissa	UAS	21-Apr-2004
13	69 Dishnet Wireless Ltd.	West Bengal	UAS	21-Apr-2004
14	135 Reliance Communications Ltd.	Jammu & Kashmir	UAS	6-Sep-2004
15	195 Tata Teleservices Ltd.	Bihar	UAS	30-Jan-2004
16	198 Tata Teleservices Ltd.	Haryana	UAS	30-Jan-2004
17	199 Tata Teleservices Ltd.	Himachal Pradesh	UAS	30-Jan-2004
18	202 Tata Teleservices Ltd.	Kerala	UAS	30-Jan-2004
19	203 Tata Teleservices Ltd.	Kolkata	UAS	30-Jan-2004
20	204 Tata Teleservices Ltd.	Madhya Pradesh	UAS	12-Feb-2004
21	206 Tata Teleservices Ltd.	Orissa	UAS	30-Jan-2004
22	207 Tata Teleservices Ltd.	Punjab	UAS	30-Jan-2004
23	208 Tata Teleservices Ltd.	Rajasthan	UAS	30-Jan-2004
24	210 Tata Teleservices Ltd.	Uttar Pradesh (East)	UAS	30-Jan-2004
25	211 Tata Teleservices Ltd.	Uttar Pradesh (West)	UAS	30-Jan-2004
26	212 Tata Teleservices Ltd.	West Bengal	UAS	30-Jan-2004
27	270 Vodafone Essar South Ltd.	Uttar Pradesh (West)	UAS	13-Feb-2004
28	271 Vodafone Essar South Ltd.	West Bengal	UAS	23-Mar-2004

# ANNEXURE - B

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	Aditya Birla Telecom Ltd.	Bihar	UAS	6-Dec-2006
2	Aircel Ltd.	Andhra Pradesh	UAS	5-Dec-2006
3	Aircel Ltd.	Delhi	UAS	5-Dec-2006
4	Aircel Ltd.	Gujarat	UAS	5-Dec-2006
5	Aircel Ltd.	Karnataka	UAS	5-Dec-2006
6	Aircel Ltd.	Maharashtra	UAS	5-Dec-2006
7	Aircel Ltd.	Mumbai	UAS	6-Dec-2006
8	Aircel Ltd.	Rajasthan	UAS	5-Dec-2006
9	Dishnet Wireless Ltd.	Haryana	UAS	14-Dec-2006
10	Dishnet Wireless Ltd.	Kerala	UAS	14-Dec-2006
11	Dishnet Wireless Ltd.	Kolkata	UAS	14-Dec-2006
12	Dishnet Wireless Ltd.	Madhya Pradesh	UAS	14-Dec-2006
13	Dishnet Wireless Ltd.	Punjab	UAS	14-Dec-2006
14	Dishnet Wireless Ltd.	Uttar Pradesh (East)	UAS	14-Dec-2006
15	Dishnet Wireless Ltd.	Uttar Pradesh (West)	UAS	14-Dec-2006
16	Idea Cellular Ltd.	Mumbai	UAS	5-Dec-2006
17	Vodafone Essar Spacel1 Ltd.	Assam	UAS	5-Dec-2006
18	Vodafone Essar Spacel1 Ltd.	Bihar	UAS	5-Dec-2006
19	Vodafone Essar Spacel1 Ltd.	Himachal Pradesh	UAS	5-Dec-2006
20	Vodafone Essar Spacel1 Ltd.	Jammu & Kashmir	UAS	5-Dec-2006
21	Vodafone Essar Spacel1 Ltd.	North East	UAS	5-Dec-2006
22	Vodafone Essar Spacel1 Ltd.	Orissa	UAS	5-Dec-2006

# ANNEXURE - C

Details of allotted spectrum to all the GSM operators

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz	
1	Delhi	Bharti	31.05.1995	4.1			
			31.12.1995	1.9			
			17.07.2002	1.8			
			17.07.2003		2.0		
			<b>Total</b>		8.0	2.0	10.0
		Vodafone	05.07.1995	4.1			
			31.12.1995	1.9			
			17.07.2002	1.8			
			15.10.2003		2.0		
			<b>Total</b>		8.0	2.0	10.0
		MTNL	22.12.2000	6.2			
			05.12.2005		1.9		
			10.03.2007		4.4		
				<b>Total</b>	6.2	9.2	(2.1)
IDEA	03.10.2002		5.2				
	05.12.2005			1.9			
	<b>Total</b>		8.0	3.1			
	Aircel Ltd	11.01.2003		4.4	4.4		
	Reliance	11.01.2003		4.4	4.4		
	Essatel DB Pvt Ltd	24.04.2003		4.4	4.4		
	<b>Total in Delhi S.A</b>		22.2	31.4	53.6		
2	Mumbai	Vodafone	31.05.1995	4.1			
			01.02.1997	1.8			
			17.07.2002	1.0			
			15.10.2003		2.0		
			<b>Total</b>		8.0	2.0	10.0
		Bharti	11.03.2002		0.2		
			21.04.2004		1.0		
			20.01.2006		1.8		
				<b>Total</b>		3.0	
		MTNL	22.12.2000	6.2			
			05.12.2005		1.9		
			30.03.2007		4.4		
				<b>Total</b>	6.2	9.2	10.0
		Reliance	11.01.2003		1.4		1.4
			11.01.2003		4.4		4.4
		EPL	27.06.1995	4.4			
			Dec-1995	1.3			
			13.31.2003	1.4			
			26.03.2004		2.0		
	<b>Total</b>	8.7	2.0	10.0			
Aircel Ltd	11.01.2003		3.1		3.1		
Essatel DB Pvt Ltd	09.09.2003		4.4		4.4		
Datacom	09.09.2003		4.4		4.4		
Unitech	09.09.2003		4.4		4.4		
TTSL	09.07.2004		4.4		4.4		
	<b>Total in Mumbai S.A</b>		22.2	50.2	72.4		
3	Kolkata	Bharti	29.11.1995	4.1			
			23.12.1999	1.5			
			23.01.2005		1.3		
			<b>Total</b>	5.2	1.3	5.0	
		BSNL	22.12.2000	6.2			
			10.05.2007		3.8		
			<b>Total</b>	6.2	3.8	10.0	
		Reliance	11.03.2002		6.2		6.2
		Aircel	05.04.2007		4.4		4.4
		Vodafone	03.11.1995	4.4			
			28.01.1997	1.8			
			30.05.2004	1.5			
			12.07.2006		2.0		
			<b>Total</b>	7.3	2.0	9.3	
Datacom	09.01.2003		4.4		4.4		
Idea	09.01.2003		4.4		4.4		
Unitech	09.01.2003		4.4		4.4		
TTSL	09.01.2003		4.4		4.4		
Aircel	09.01.2003		4.4		4.4		
	<b>Total in S.A</b>		20.2	10.2	50.4		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total allotment in MHz	
4	Maharashtra	Bharti	01.04.2002		6.2		
			14.11.2008		1.0		
			09.03.2009		1.0		
			<b>Total</b>			8.2	8.2
		Idea	12.12.1995	4.4			
			09.08.2000	1.8			
			31.12.2003	1.6			
			01.04.2005		2.0		
			<b>Total</b>	7.8	2.0		9.8
		Reliance	10.01.2008		4.4		4.4
		BSNL	22.12.2000	6.2			
			27.10.2004		1.8		
			12.03.2007		2.0		
			<b>Total</b>	6.2	3.8		10.0
		Vodafone	19.12.1995	4.4			
			28.12.1999	1.8			
			<b>Total</b>	6.2			6.2
		Aircel Ltd	10.01.2008		4.4		4.4
		Datacom	10.09.2008		4.4		4.4
		Unitech	10.09.2008		4.4		4.4
Etisalat DB Pvt. Ltd	10.09.2008		4.4		4.4		
Spice	06.05.2009		4.4		4.4		
Loop	14.11.2008		4.4		4.4		
TTSL	14.11.2008		4.4		4.4		
	<b>Total in S.A</b>		20.2	49.2	69.4		
6	Gujarat	Vodafone	19.12.1995	4.4			
			06.03.2000	1.8			
			31.12.2003	1.6			
			13.05.2005		2.0		
			<b>Total</b>	7.8	2.0		9.8
		Reliance	10.01.2008		4.4		4.4
		BSNL	22.12.2000	6.2			
			16.05.2005		1.2		
			<b>Total</b>	6.2	1.2		7.4
		Idea	12.12.1995	4.4			
			09.08.2000	1.8			
			<b>Total</b>	6.2			6.2
		Bharti	01.04.2002		6.2		6.2
		Aircel Ltd.	11.01.2008		4.4		4.4
		Datacom	25.09.2008		4.4		4.4
		Unitech	25.09.2008		4.4		4.4
		Etisalat DB Pvt. Ltd	25.09.2008		4.4		4.4
		Loop	09.03.2009		4.4		4.4
		TTSL	09.03.2009		4.4		4.4
			<b>Total in S.A</b>		20.2	40.2	60.4
5	A.P	Vodafone	11.03.2002		6.2	6.2	
		Aircel Ltd	10.01.2008		4.4	4.4	
		Reliance	10.01.2008		4.4	4.4	
		Bharti	12.12.1995	4.4			
			03.04.2000	1.8			
			09.02.2004	1.6			
			27.05.2008		1.4		
			09.03.2009		0.9		
			<b>Total</b>	7.8	2.2		10.0
		BSNL	22.12.2000	6.2			
			20.09.2004		1.8		
			12.03.2007		2.0		
			<b>Total</b>	6.2	3.8		10.0
		IDEA	19.12.1995	4.4			
			27.12.2000	1.8			
			20.09.2004		1.9		
			<b>Total</b>	6.2	1.9		8.0
		Datacom	27.05.2008		4.4		4.4
		Unitech	27.05.2008		4.4		4.4
		Spice	27.05.2008		4.4		4.4
Etisalat DB Pvt. Ltd	27.05.2008		4.4		4.4		
Loop	27.05.2008		4.4		4.4		
TTSL	27.05.2008		4.4		4.4		
	<b>Total in S.A</b>		20.2	49.2	69.4		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allocation in 900MHz band in MHz	Allocation in 1800MHz band in MHz	Total in MHz
7	Karnataka	Bharti	15.02.1996	4.4		
			03.04.2000	1.8		
			31.12.2003	1.5		
			03.12.2004		2.0	
			24.09.2008		0.2	
		Total		7.8	2.2	10.0
		Spice	04.04.1996	4.4		
			03.04.2000	1.8		
		Total		6.2		6.2
		Vodafone	11.03.2002		6.2	
			22.01.2005		1.8	
		Total			8.0	8.0
		Aircel Ltd.	10.01.2008		4.4	4.4
		Reliance	10.01.2008		4.4	4.4
		BSNL	22.12.2000	6.2		
			05.11.2004		1.8	
			05.04.2007		2.0	
		Total		6.2	3.8	10.0
		Datacom	30.05.2008		4.4	4.4
		Idea	30.05.2008		4.4	4.4
		Unitech	30.05.2008		4.4	4.4
Etsalat DB Pvt Ltd	30.05.2008		4.4	4.4		
Loop	30.05.2008		4.4	4.4		
TTSL	30.05.2008		4.4	4.4		
Total in S.A		20.2	49.2	69.4		
8	Chennai	Aircel Ltd	29.11.1995	4.4		
			01.03.2000	1.8		
			20.01.2006		1.8	
			15.11.2006		0.5	
		Total		6.2	2.4	8.6
		Bharti	29.11.1995	4.4		
			29.01.1998	1.8		
			20.01.2006		1.8	
			15.11.2006		0.5	
		Total		6.2	2.4	8.6
		BSNL	22.12.2000	6.2		
			20.03.2005		1.8	
		Total		6.2	1.8	8.0
		Vodafone	30.05.2002		6.2	
			01.08.2006		1.8	
Total			8.0	8.0		
Total Chennai S.A		18.6	14.5	33.2		
Tamilnadu	Tamilnadu	Vodafone	12.12.1995	4.4		
			28.12.1999	1.8		
			30.07.2008	1.0		
		Total		7.2		7.2
		Aircel Ltd	31.12.1998	4.4		
			06.10.1999	1.8		
			09.01.2004	1.6		
			03.12.2004		2.0	
		Total		7.8	2.0	9.8
		BSNL	22.12.2000	6.2		
20.09.2004			1.8			
Total		6.2	1.8	8.0		
Bharti	11.03.2002		6.2	6.2		
Total in T.N S.A		21.2	10.0	31.2		
Tamilnadu (incl of Chennai)	Tamilnadu (incl of Chennai)	Bharti	30.07.2008		0.5	0.5
		Reliance	10.01.2008		4.4	4.4
		BSNL	12.03.2007		2.0	2.0
		Datacom	22.04.2008		4.4	4.4
		Idea	22.04.2008		4.4	4.4
		Unitech	22.04.2008		4.4	4.4
		Etsalat DB Pvt Ltd	22.04.2008		4.4	4.4
		Loop	22.04.2008		4.4	4.4
		TTSL	22.04.2008		4.4	4.4
Total		0.0	33.4	33.4		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
9	Kerala	BSNL	22.12.2000	6.2		
			20.09.2004		1.8	
			12.03.2007		2.0	
		Total		6.2	3.8	10.0
		Vodafone	12.12.1995	4.4		
			28.12.1999	1.8		
		Total		6.2		6.2
		Bharti	11.03.2002		6.2	6.2
		Idea	12.12.1995	4.4		
			28.12.1999	1.8		
			28.10.2004		1.8	
		Total		6.2	1.8	9.0
		Reliance	10.01.2008		4.4	4.4
		Dishnet	10.01.2008		4.4	4.4
		Datacom	15.05.2008		4.4	4.4
Unitech	15.05.2008		4.4	4.4		
Etisalat DB Pvt. Ltd	15.05.2008		4.4	4.4		
Loop	15.05.2008		4.4	4.4		
TTSL	15.05.2008		4.4	4.4		
Total in S.A			18.6	42.6	61.2	
10	Punjab	Vodafone	03.04.2002		4.4	
			28.01.2004		1.8	
		Total			6.2	6.2
		Bharti	12.12.1995	4.4		
			28.12.1999	1.8		
			09.01.2004	1.8		
		Total		7.8		7.8
		Spice	04.04.1996	4.4		
			03.04.2000	1.8		
			09.01.2004	1.5		
		Total		7.8		7.8
		BSNL	22.12.2000	6.2		6.2
		Reliance	11.01.2008		4.4	4.4
		Aircel Ltd.	11.01.2008		4.4	4.4
		HFCL	10.09.2008		4.4	4.4
		Idea	06.05.2009		4.4	4.4
		Unitech	10.09.2008		4.4	4.4
		Etisalat DB Pvt. Ltd	10.09.2008		4.4	4.4
		Loop	09.03.2009		4.4	4.4
		TTSL	09.03.2009		4.4	4.4
Total in S.A			21.8	41.4	63.2	
11	Haryana	Bharti	01.04.2002		6.2	6.2
		BSNL	22.12.2000	6.2		
			12.07.2007		3.8	
		Total		6.2	3.8	10.0
		Reliance	11.01.2008		4.4	4.4
		Idea	12.12.1995	4.4		
			28.12.1999	1.8		
		Total		6.2		6.2
		Vodafone	28.12.1995	4.4		
			02.01.2001	1.8		
		Total		6.2		6.2
		Dishnet	11.01.2008		4.4	4.4
		Datacom	04.12.2008		4.4	4.4
		Unitech	04.12.2008		4.4	4.4
		Etisalat DB Pvt. Ltd	04.12.2008		4.4	4.4
Spice	06.05.2009		4.4	4.4		
TTSL	04.12.2008		4.4	4.4		
Loop	04.12.2008		4.4	4.4		
Total in S.A			18.6	45.2	63.8	



S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz	
12	UP(West)	Bharti	03.04.2002		6.2	6.2	
		Vodafone	06.05.2004	6.2		6.2	
		Idea	12.12.1995	4.4			
			28.12.1999	1.8			
			28.01.2006		1.8		
		Total		6.2	1.8	8.0	
		BSNL	22.12.2000	6.2			
			28.01.2006			1.8	
			12.03.2007			2.0	
		Total		6.2	3.8	10.0	
		Reliance	11.01.2008			4.4	4.4
		Aircel Ltd	11.01.2008			4.4	4.4
		Datacom	25.09.2008			4.4	4.4
		Unitech	25.09.2008			4.4	4.4
		Etisalat DB Pvt. Ltd	25.09.2008			4.4	4.4
		Loop	26.12.2008			4.4	4.4
		TTSL	26.12.2008			4.4	4.4
Total in S.A		18.5	42.6	61.2			
13	UP(E)	Bharti	06.05.2004	6.2			
			21.01.2009		1.0		
		Total		6.2	1.0	7.2	
		Vodafone	12.12.1995	4.4			
			02.01.2001	1.8			
			28.01.2006			1.8	
		Total		6.2	2.0	8.2	
		Reliance	11.01.2008			4.4	4.4
		Idea	03.04.2002			4.4	
			22.02.2006			1.8	
		Total			5.2	6.2	
		BSNL	22.12.2000	6.2			
			28.01.2006			1.8	
			12.03.2007			2.0	
		Total		6.2	3.8	10.0	
		Dishnet	11.01.2008			4.4	4.4
		Datacom	10.09.2008			4.4	4.4
Unitech	10.09.2008			4.4	4.4		
Etisalat DB Pvt. Ltd	10.09.2008			4.4	4.4		
Loop	21.01.2009			4.4	4.4		
TTSL	21.01.2009			4.4	4.4		
Total in S.A		18.6	43.8	62.4			
14	Rajasthan	Vodafone	12.12.1995	4.4			
			02.01.2001	1.8			
		Total		6.2		6.2	
		Idea	01.04.2002			4.4	
			19.12.2005			1.8	
		Total			5.2	6.2	
		Reliance	11.01.2008			4.4	4.4
		BSNL	22.12.2000	6.2			
			08.06.2006			1.8	
		Total		6.2	1.8	8.0	
		Bharti	22.04.1996	4.4			
			10.08.2000	1.8			
			23.12.2008			2.0	
		Total		6.2	2.0	8.2	
		Aircel Ltd	11.01.2008			4.4	4.4
		Shyam Telcelink	23.12.2008			4.4	4.4
		Datacom	23.12.2008			4.4	4.4
Unitech	23.12.2008			4.4	4.4		
Etisalat DB Pvt. Ltd	23.12.2008			4.4	4.4		
TTSL	23.12.2008			4.4	4.4		
Loop	23.12.2008			4.4	4.4		
Total in S.A		18.6	45.2	63.8			

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1900MHz band in MHz	Total Allotment in MHz
15	M.P	Bharti	01.04.2002		6.2	
			08.01.2007		1.8	
		Total			8.0	8.0
		Vodafone	11.02.2008		4.4	4.4
		BSNL	22.12.2000	6.2		
			10.05.2007		3.8	
		Total		6.2	3.8	10.0
		Reliance	12.12.1995	4.4		
			09.01.2001	1.8		
		Total		6.2		6.2
		IDEA	12.12.1995	4.4		
			09.09.2002	1.8		
			02.11.2006		1.8	
		Total		6.2	1.8	8.0
		Dishnet	11.01.2008		4.4	4.4
		Datacom	29.08.2009		4.4	4.4
		Unitech	29.08.2009		4.4	4.4
Loop	29.08.2009		4.4	4.4		
TTSL	29.08.2009		4.4	4.4		
Allianz	29.08.2009		4.4	4.4		
Total in S.A			18.5	44.4	63.0	
16	West Bengal	Bharti	12.08.2004	4.4		
			10.01.2008		1.8	
		Total		4.4	1.8	6.2
		Dishnet	15.12.2004		4.4	4.4
		Vodafone	12.08.2004	4.4		
			10.01.2008		1.8	
		Total		4.4	1.8	6.2
		Reliance	12.12.1995	4.4		
			20.02.2004		1.8	
		Total		4.4	1.8	6.2
		BSNL	22.12.2000	6.2		
			12.03.2007		1.8	
		Total		6.2	1.8	8.0
		Datacom	09.01.2009		4.4	4.4
		IDEA	09.01.2009		4.4	4.4
Unitech	09.01.2009		4.4	4.4		
Loop	09.01.2009		4.4	4.4		
TTSL	09.01.2009		4.4	4.4		
Total in S.A			19.4	33.6	53.0	
17	HP	Vodafone	11.01.2008		4.4	4.4
		Dishnet	13.03.2006		4.4	4.4
		Bharti	12.12.1995	4.4		
			19.09.2003	1.8		
		Total		6.2		6.2
		Reliance	12.12.1995	4.4		
			26.08.2005	1.8		
		Total		6.2		6.2
		Idea	11.03.2002		4.4	4.4
		BSNL	22.12.2000	6.2		
			12.07.2007		3.8	
		Total		6.2	3.8	10.0
		Datacom	04.12.2008		4.4	4.4
		Unitech	04.12.2008		4.4	4.4
S.Tel	04.12.2008		4.4	4.4		
Loop	04.12.2008		4.4	4.4		
TTSL	04.12.2008		4.4	4.4		
Total in S.A			18.6	39.0	57.6	

			allocation of spectrum	900MHz band in MHz	1800MHz band in MHz	in MHz
18	Bihar	Bharti	06.05.2004	6.2		
			09.06.2006		1.8	
			03.10.2008		0.2	
			30.11.2008		1.0	
		Total		6.2	3.0	9.2
		Vodafone	11.01.2008		4.4	4.4
		Reliance	12.12.1995	4.4		
			28.12.1999	1.8		
			23.10.2006		1.8	
		Total		6.2	1.8	8.0
		BSNL	22.12.2000	6.2		
			24.08.2006		1.8	
		Total		6.2	3.8	10.0
		Dishnet	07.02.2006		4.4	4.4
		ABTL	11.01.2009		4.4	4.4
		Datacom	03.10.2008		4.4	4.4
		Unitech	03.10.2008		4.4	4.4
S Tel	03.10.2008		4.4	4.4		
Loop	03.10.2008		4.4	4.4		
TTSL	03.10.2008		4.4	4.4		
Alianz	03.10.2008		4.4	4.4		
Total in S.A		18.5	48.2	66.8		
19	Orissa	Vodafone	11.01.2008		4.4	4.4
		Reliance	12.12.1995	4.4		
			05.09.2001	1.8		
		Total		6.2		6.2
		BSNL	22.12.2000	6.2		
			10.05.2007		3.8	
		Total		6.2	3.8	10.0
		Dishnet	24.12.2004		4.4	4.4
		Bharti	06.05.2004	6.2		
			18.09.2006		1.8	
		Total		6.2	1.8	8.0
		Datacom	24.04.2008		4.4	4.4
		Idea	24.04.2008		4.4	4.4
		Unitech	24.04.2008		4.4	4.4
S Tel	24.04.2008		4.4	4.4		
Loop	24.04.2008		4.4	4.4		
TTSL	24.04.2008		4.4	4.4		
Total in S.A		18.5	40.9	59.4		
20	Assam	Vodafone	11.01.2008		4.4	4.4
		Bharti	27.12.2004	1.8		
			15.03.2005		2.6	
			10.11.2006		1.8	
		Total		1.8	4.4	6.2
		BSNL	29.04.2003	6.2		
			24.05.2007		3.8	
		Total		6.2	3.8	10.0
		Reliance	12.12.1995	4.4		
			06.10.2003	1.8		
		Total		6.2		6.2
		Dishnet	22.07.2004	4.4		
		Total	01.12.2006		1.8	
		Total		4.4	1.8	6.2
		Datacom	22.12.2008		4.4	4.4
		Idea	22.12.2008		4.4	4.4
Unitech	22.12.2008		4.4	4.4		
S.Tel	22.12.2008		4.4	4.4		
Loop	22.12.2008		4.4	4.4		
Total in S.A		18.6	36.4	55.0		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
21	NE	Bharti	24.12.2004	4.4		
			23.12.2008		1.8	
		Total		4.4	1.8	6.2
		BSNL	28.04.2003	6.2		
			10.05.2007		3.3	
		Total		6.2	3.3	10.0
		Reliance	12.12.1995	4.4		
			20.01.2006		1.8	
		Total		4.4	1.8	6.2
		Dishnet	22.07.2004	4.4		4.4
		Vodafone	11.01.2008		4.4	4.4
		Datacom	23.12.2008		4.4	4.4
		Idea	23.12.2008		4.4	4.4
		Unitech	23.12.2008		4.4	4.4
		Loop	23.12.2008		4.4	4.4
S.Tel	23.12.2008		4.4	4.4		
Total in S.A		19.4	33.8	53.2		
22	J & K	Vodafone	11.01.2008		4.4	4.4
		Reliance	11.01.2008		4.4	4.4
		BSNL	28.04.2003	6.2		
			16.08.2006	1.8		
		Total		8.0		8.0
		Dishnet	01.09.2004	4.4		4.4
		Bharti	22.06.2004	4.4		
			28.06.2006	1.8		
		Total		6.2		6.2
		Datacom	24.12.2008		4.4	4.4
		Idea	24.12.2008		4.4	4.4
		Unitech	24.12.2008		4.4	4.4
		S.Tel	24.12.2008		4.4	4.4
Loop	24.12.2008		4.4	4.4		
Total in S.A		16.5	30.8	49.4		



Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	38	Bharti Airtel Limited	Gujarat	UAS	28-Sep-2001
2	39	Bharti Airtel Limited	Haryana	UAS	28-Sep-2001
3	43	Bharti Airtel Limited	Kerala	UAS	28-Sep-2001
4	45	Bharti Airtel Limited	Madhya Pradesh	UAS	28-Sep-2001
5	46	Bharti Airtel Limited	Maharashtra	UAS	28-Sep-2001
6	47	Bharti Airtel Limited	Mumbai	UAS	28-Sep-2001
7	50	Bharti Airtel Limited	Tamilnadu (including Chennai Service Area)	UAS	28-Sep-2001
8	52	Bharti Airtel Limited	Uttar Pradesh (West)	UAS	28-Sep-2001
9	86	Idea Cellular Ltd.	Delhi	CMTS	5-Oct-2001
10	89	Idea Cellular Ltd.	Himachal Pradesh	CMTS	5-Oct-2001
11	100	Idea Cellular Ltd.	Rajasthan	CMTS	5-Oct-2001
12	102	Idea Cellular Ltd.	Uttar Pradesh (East)	CMTS	5-Oct-2001
13	129	Reliance Communications Ltd.	Andhra Pradesh	UAS	20-Jul-2001
14	130	Reliance Communications Ltd.	Bihar	UAS	20-Jul-2001
15	131	Reliance Communications Ltd.	Delhi	UAS	20-Jul-2001
16	133	Reliance Communications Ltd.	Haryana	UAS	20-Jul-2001
17	134	Reliance Communications Ltd.	Himachal Pradesh	UAS	20-Jul-2001
18	136	Reliance Communications Ltd.	Karnataka	UAS	20-Jul-2001
19	137	Reliance Communications Ltd.	Kerala	UAS	20-Jul-2001
20	138	Reliance Communications Ltd.	Kolkata	UAS	20-Jul-2001
21	139	Reliance Communications Ltd.	Madhya Pradesh	UAS	20-Jul-2001
22	140	Reliance Communications Ltd.	Maharashtra	UAS	20-Jul-2001
23	141	Reliance Communications Ltd.	Mumbai	UAS	20-Jul-2001
24	142	Reliance Communications Ltd.	Orissa	UAS	20-Jul-2001
25	143	Reliance Communications Ltd.	Punjab	UAS	20-Jul-2001
26	144	Reliance Communications Ltd.	Rajasthan	UAS	20-Jul-2001
27	145	Reliance Communications Ltd.	Tamilnadu (including Chennai Service Area)	UAS	26-Sep-2001
28	146	Reliance Communications Ltd.	Uttar Pradesh (East)	UAS	20-Jul-2001
29	147	Reliance Communications Ltd.	Uttar Pradesh (West)	UAS	20-Jul-2001
30	148	Reliance Communications Ltd.	West Bengal	UAS	20-Jul-2001
31	152	Reliance Telecom Ltd.	Kolkata	UAS	27-Sep-2001
32	196	Tata Teleservices Ltd.	Delhi	UAS	31-Aug-2001
33	197	Tata Teleservices Ltd.	Gujarat	UAS	31-Aug-2001
34	201	Tata Teleservices Ltd.	Karnataka	UAS	31-Aug-2001
35	209	Tata Teleservices Ltd.	Tamilnadu (including Chennai Service Area)	UAS	31-Aug-2001
36	266	Vodafone Essar South Ltd.	Andhra Pradesh	UAS	29-Sep-2001
37	267	Vodafone Essar South Ltd.	Chennai	UAS	26-Sep-2001
38	268	Vodafone Essar South Ltd.	Karnataka	UAS	26-Sep-2001
39	269	Vodafone Essar South Ltd.	Punjab	UAS	5-Oct-2001

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	35 Bharti Airtel Limited	Assam	UAS	8-Jul-2004
2	36 Bharti Airtel Limited	Bihar	UAS	10-Feb-2004
3	41 Bharti Airtel Limited	Jammu & Kashmir	UAS	10-Feb-2004
4	48 Bharti Airtel Limited	Orissa	UAS	10-Feb-2004
5	51 Bharti Airtel Limited	Uttar Pradesh (East)	UAS	10-Feb-2004
6	53 Bharti Airtel Limited	West Bengal	UAS	11-Feb-2004
7	56 Dishnet Wireless Ltd.	Assam	UAS	21-Apr-2004
8	57 Dishnet Wireless Ltd.	Bihar	UAS	21-Apr-2004
9	59 Dishnet Wireless Ltd.	Himachal Pradesh	UAS	21-Apr-2004
10	60 Dishnet Wireless Ltd.	Jammu & Kashmir	UAS	21-Apr-2004
11	64 Dishnet Wireless Ltd.	North East	UAS	21-Apr-2004
12	65 Dishnet Wireless Ltd.	Orissa	UAS	21-Apr-2004
13	69 Dishnet Wireless Ltd.	West Bengal	UAS	21-Apr-2004
14	135 Reliance Communications Ltd.	Jammu & Kashmir	UAS	6-Sep-2004
15	195 Tata Teleservices Ltd.	Bihar	UAS	30-Jan-2004
16	198 Tata Teleservices Ltd.	Haryana	UAS	30-Jan-2004
17	199 Tata Teleservices Ltd.	Himachal Pradesh	UAS	30-Jan-2004
18	202 Tata Teleservices Ltd.	Kerala	UAS	30-Jan-2004
19	203 Tata Teleservices Ltd.	Kolkata	UAS	30-Jan-2004
20	204 Tata Teleservices Ltd.	Madhya Pradesh	UAS	12-Feb-2004
21	206 Tata Teleservices Ltd.	Orissa	UAS	30-Jan-2004
22	207 Tata Teleservices Ltd.	Punjab	UAS	30-Jan-2004
23	208 Tata Teleservices Ltd.	Rajasthan	UAS	30-Jan-2004
24	210 Tata Teleservices Ltd.	Uttar Pradesh (East)	UAS	30-Jan-2004
25	211 Tata Teleservices Ltd.	Uttar Pradesh (West)	UAS	30-Jan-2004
26	212 Tata Teleservices Ltd.	West Bengal	UAS	30-Jan-2004
27	270 Vodafone Essar South Ltd.	Uttar Pradesh (West)	UAS	13-Feb-2004
28	271 Vodafone Essar South Ltd.	West Bengal	UAS	23-Mar-2004

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	Aditya Birla Telecom Ltd.	Bihar	UAS	6-Dec-2006
2	Aircel Ltd.	Andhra Pradesh	UAS	5-Dec-2006
3	Aircel Ltd.	Delhi	UAS	5-Dec-2006
4	Aircel Ltd.	Gujarat	UAS	5-Dec-2006
5	Aircel Ltd.	Karnataka	UAS	5-Dec-2006
6	Aircel Ltd.	Maharashtra	UAS	5-Dec-2006
7	Aircel Ltd.	Mumbai	UAS	6-Dec-2006
8	Aircel Ltd.	Rajasthan	UAS	5-Dec-2006
9	Dishnet Wireless Ltd.	Haryana	UAS	14-Dec-2006
10	Dishnet Wireless Ltd.	Kerala	UAS	14-Dec-2006
11	Dishnet Wireless Ltd.	Kolkata	UAS	14-Dec-2006
12	Dishnet Wireless Ltd.	Madhya Pradesh	UAS	14-Dec-2006
13	Dishnet Wireless Ltd.	Punjab	UAS	14-Dec-2006
14	Dishnet Wireless Ltd.	Uttar Pradesh (East)	UAS	14-Dec-2006
15	Dishnet Wireless Ltd.	Uttar Pradesh (West)	UAS	14-Dec-2006
16	Idea Cellular Ltd.	Mumbai	UAS	5-Dec-2006
17	Vodafone Essar Spacetel Ltd.	Assam	UAS	5-Dec-2006
18	Vodafone Essar Spacetel Ltd.	Bihar	UAS	5-Dec-2006
19	Vodafone Essar Spacetel Ltd.	Himachal Pradesh	UAS	5-Dec-2006
20	Vodafone Essar Spacetel Ltd.	Jammu & Kashmir	UAS	5-Dec-2006
21	Vodafone Essar Spacetel Ltd.	North East	UAS	5-Dec-2006
22	Vodafone Essar Spacetel Ltd.	Orissa	UAS	5-Dec-2006



**Details of allotted spectrum to all the GSM operators**

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz	
1	Delhi	Bharti	31.05.1995	4.4			
			31.12.1995	1.8			
			17.07.2002	1.8			
			17.07.2003		2.0		
			<b>Total</b>		8.0	2.0	10.0
		Vodafone	05.07.1995	4.4			
			31.12.1995	1.8			
			17.07.2002	1.8			
			15.10.2003			2.0	
			<b>Total</b>		8.0	2.0	10.0
		MTNL	22.12.2000	6.2			
			06.12.2005			1.8	
			30.03.2007			4.4	
			<b>Total</b>	6.2		6.2	12.4
IDEA	22.10.2002			6.2			
	06.12.2005			1.8			
	<b>Total</b>			8.0	8.0		
Aircel Ltd.	11.01.2008			4.4	4.4		
Reliance	11.01.2008			4.4	4.4		
Etisalat DB Pvt. Ltd	28.08.2008			4.4	4.4		
	<b>Total in Delhi S.A</b>		22.2	31.4	53.6		
2	Mumbai	Vodafone	31.05.1995	4.4			
			04.02.1997	1.8			
			17.07.2002	1.8			
			15.10.2003			2.0	
			<b>Total</b>		8.0	2.0	10.0
		Bharti	11.03.2002			6.2	
			21.04.2004			1.8	
			20.01.2006			1.2	
			<b>Total</b>			9.2	9.2
		MTNL	22.12.2000	6.2			
			06.05.2005			1.8	
			30.03.2007			4.4	
			<b>Total</b>	6.2		6.2	12.4
		Idea	11.01.2008			4.4	4.4
		Reliance	11.01.2008			4.4	4.4
		BPL	27.06.1995	4.4			
			Dec'1996	1.8			
			13.01.2003	1.8			
			06.09.2004			2.0	
	<b>Total</b>	8.0		2.0	10.0		
Aircel Ltd.	11.01.2008			4.4	4.4		
Etisalat DB Pvt. Ltd	09.09.2008			4.4	4.4		
Datacom	09.09.2008			4.4	4.4		
Unitech	09.09.2008			4.4	4.4		
TTSL	09.09.2008			4.4	4.4		
	<b>Total in Mumbai S.A</b>		22.2	50.2	72.4		
3	Kolkata	Bharti	29.11.1995	4.4			
			28.12.1999	1.8			
			22.01.2005			1.8	
			<b>Total</b>		6.2	1.8	8.0
		BSNL	22.12.2000	6.2			
			10.05.2007			3.8	
			<b>Total</b>	6.2		3.8	10.0
		Reliance	11.03.2002			6.2	6.2
		Aircel	05.04.2007			4.4	4.4
		Vodafone	29.11.1995	4.4			
			28.01.1997	1.8			
			30.06.2004	1.6			
			12.07.2006			2.0	
			<b>Total</b>	7.8		2.0	9.8
		Datacom	09.01.2009			4.4	4.4
Idea	09.01.2009			4.4	4.4		
Unitech	09.01.2009			4.4	4.4		
TTSL	09.01.2009			4.4	4.4		
Loop	09.01.2009			4.4	4.4		
	<b>Total in S.A</b>		20.2	40.2	60.4		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz	
4	Maharashtra	Bharti	01.04.2002		6.2		
			14.11.2008		1.0		
			09.03.2009		1.0		
		Total				8.2	8.2
		Idea	12.12.1995	4.4			
			09.08.2000	1.8			
			31.12.2003	1.6			
		Total		7.8	2.0	2.0	9.8
		Reliance	10.01.2008			4.4	4.4
			22.12.2000	6.2			
		BSNL	27.10.2004			1.8	
			12.03.2007			2.0	
			Total		6.2	3.8	10.0
		Vodafone	19.12.1995	4.4			
			28.12.1999	1.8			
		Total		6.2			6.2
		Aircel Ltd.	10.01.2008			4.4	4.4
		Datacom	10.09.2008			4.4	4.4
		Unitech	10.09.2008			4.4	4.4
		Etisalat DB Pvt. Ltd	10.09.2008			4.4	4.4
Spice	06.05.2009			4.4	4.4		
Loop	14.11.2008			4.4	4.4		
TTSL	14.11.2008			4.4	4.4		
Total in S.A			20.2	49.2	69.4		
5	Gujarat	Vodafone	19.12.1995	4.4			
			06.03.2000	1.8			
			31.12.2003	1.6			
			13.05.2005		2.0		
		Total		7.8	2.0	9.8	
		Reliance	11.01.2008			4.4	4.4
			22.12.2000	6.2			
		BSNL	16.05.2005			1.2	
			Total		6.2	1.2	7.4
		Idea	12.12.1995	4.4			
			09.08.2000	1.8			
		Total		6.2			6.2
		Bharti	01.04.2002			6.2	6.2
			11.01.2008			4.4	4.4
		Aircel Ltd.	11.01.2008			4.4	4.4
		Datacom	25.09.2008			4.4	4.4
		Unitech	25.09.2008			4.4	4.4
Etisalat DB Pvt. Ltd	25.09.2008			4.4	4.4		
Loop	09.03.2009			4.4	4.4		
TTSL	09.03.2009			4.4	4.4		
Total in S.A			20.2	40.2	60.4		
6	A.P	Vodafone	11.03.2002		6.2	6.2	
			10.01.2008		4.4	4.4	
			10.01.2008		4.4	4.4	
		Bharti	12.12.1995	4.4			
			03.04.2000	1.8			
			09.02.2004	1.6			
			27.05.2008			1.4	
			09.03.2009			0.8	
		Total		7.8	2.2	10.0	
		BSNL	22.12.2000	6.2			
			20.09.2004			1.8	
			12.03.2007			2.0	
		Total		6.2	3.8	10.0	
		IDEA	19.12.1995	4.4			
			27.12.2000	1.8			
			20.09.2004			1.8	
		Total		6.2	1.8	8.0	
		Datacom	27.05.2008			4.4	4.4
		Unitech	27.05.2008			4.4	4.4
Spice	27.05.2008			4.4	4.4		
Etisalat DB Pvt. Ltd	27.05.2008			4.4	4.4		
Loop	27.05.2008			4.4	4.4		
TTSL	27.05.2008			4.4	4.4		
Total in S.A			20.2	49.2	69.4		

S.No.	Service Area	Operators	Date of allocation of spectrum	900MHz band in MHz	1800MHz band in MHz	in MHz	
7	Karnataka	Bharti	15.02.1996	4.4			
			03.04.2000	1.8			
			31.12.2003	1.6			
			03.12.2004		2.0		
			24.09.2008		0.2		
		Total		7.8	2.2	10.0	
		Spice	04.04.1996	4.4			
			03.04.2000	1.8			
		Total		6.2		6.2	
		Vodafone	11.03.2002		6.2		
			22.01.2005		1.8		
		Total			8.0		8.0
		Aircel Ltd.	10.01.2008			4.4	4.4
		Reliance	10.01.2008			4.4	4.4
		BSNL	22.12.2000	6.2			
			05.11.2004		1.8		
			05.04.2007		2.0		
		Total		6.2	3.8		10.0
		Datacom	30.05.2008			4.4	4.4
		Idea	30.05.2008			4.4	4.4
Unitech	30.05.2008			4.4	4.4		
Etsalat DB Pvt. Ltd	30.05.2008			4.4	4.4		
Loop	30.05.2008			4.4	4.4		
TTSL	30.05.2008			4.4	4.4		
Total in S.A			20.2	49.2	69.4		
8	Chennai	Aircel Ltd.	29.11.1995	4.4			
			01.03.2000	1.8			
			20.01.2006		1.8		
			15.11.2006		0.6		
		Total		6.2	2.4	8.6	
		Bharti	29.11.1995	4.4			
			29.01.1998	1.8			
			20.01.2006		1.8		
			15.11.2006		0.6		
		Total		6.2	2.4	8.6	
	BSNL	22.12.2000	6.2				
		20.03.2006		1.8			
	Total		6.2	1.8	8.0		
	Vodafone	30.05.2002		6.2			
		01.06.2006		1.8			
	Total			8.0		8.0	
	Total Chennai S.A			18.6	14.6	33.2	
	Tamilnadu	Vodafone	12.12.1995	4.4			
			28.12.1999	1.8			
			30.07.2008	1.0			
Total			7.2		7.2		
Aircel Ltd.		31.12.1998	4.4				
		06.10.1999	1.8				
		09.01.2004	1.6				
		03.12.2004		2.0			
Total			7.8	2.0	9.8		
BSNL		22.12.2000	6.2				
	20.09.2004		1.8				
Total		6.2	1.8	8.0			
Bharti	11.03.2002		6.2		6.2		
Total in T.N S.A			21.2	10.0	31.2		
Tamilnadu (incl. of Chennai)	Bharti	30.07.2008		0.6	0.6		
		10.01.2008		4.4	4.4		
		12.03.2007		2.0	2.0		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
		22.04.2008		4.4	4.4		
Total		0.0	33.4	33.4			

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
9	Kerala	BSNL	22.12.2000	6.2		
			20.09.2004		1.8	
			12.03.2007		2.0	
		Total		6.2	3.8	10.0
		Vodafone	12.12.1995	4.4		
			28.12.1999	1.8		
		Total		6.2		6.2
		Bharti	11.03.2002		6.2	6.2
		Idea	12.12.1995	4.4		
			28.12.1999	1.8		
			28.10.2004		1.8	
		Total		6.2	1.8	8.0
		Reliance	10.01.2008		4.4	4.4
		Dishnet	10.01.2008		4.4	4.4
		Datacom	15.05.2008		4.4	4.4
		Unitech	15.05.2008		4.4	4.4
Etisalat DB Pvt. Ltd	15.05.2008		4.4	4.4		
Loop	15.05.2008		4.4	4.4		
TTSL	15.05.2008		4.4	4.4		
Total in S.A		18.6	42.6	61.2		
10	Punjab	Vodafone	03.04.2002		4.4	
			28.01.2004		1.8	
		Total			6.2	6.2
		Bharti	12.12.1995	4.4		
			28.12.1999	1.8		
			09.01.2004	1.6		
		Total		7.8		7.8
		Spice	04.04.1996	4.4		
			03.04.2000	1.8		
			09.01.2004	1.6		
		Total		7.8		7.8
		BSNL	22.12.2000	6.2		6.2
		Reliance	11.01.2008		4.4	4.4
		Aircel Ltd.	11.01.2008		4.4	4.4
		HFCL	10.09.2008		4.4	4.4
		Idea	06.05.2009		4.4	4.4
		Unitech	10.09.2008		4.4	4.4
Etisalat DB Pvt. Ltd	10.09.2008		4.4	4.4		
Loop	09.03.2009		4.4	4.4		
TTSL	09.03.2009		4.4	4.4		
Total in S.A		21.8	41.4	63.2		
11	Haryana	Bharti	01.04.2002		6.2	6.2
		BSNL	22.12.2000	6.2		
			12.07.2007		3.8	
		Total		6.2	3.8	10.0
		Reliance	11.01.2008		4.4	4.4
		Idea	12.12.1995	4.4		
			28.12.1999	1.8		
		Total		6.2		6.2
		Vodafone	28.12.1995	4.4		
			02.01.2001	1.8		
		Total		6.2		6.2
		Dishnet	11.01.2008		4.4	4.4
		Datacom	04.12.2008		4.4	4.4
		Unitech	04.12.2008		4.4	4.4
		Etisalat DB Pvt. Ltd	04.12.2008		4.4	4.4
		Spice	06.05.2009		4.4	4.4
TTSL	04.12.2008		4.4	4.4		
Loop	04.12.2008		4.4	4.4		
Total in S.A		18.6	45.2	63.8		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
12	UP(West)	Bharti	03.04.2002		6.2	6.2
		Vodafone	06.05.2004	6.2		6.2
		Idea	12.12.1995	4.4		
			28.12.1999	1.8		
			28.01.2006		1.8	
		Total		6.2	1.8	8.0
		BSNL	22.12.2000	6.2		
			28.01.2006		1.8	
			12.03.2007		2.0	
		Total		6.2	3.8	10.0
		Reliance	11.01.2008		4.4	4.4
		Aircel Ltd.	11.01.2008		4.4	4.4
		Datacom	25.09.2008		4.4	4.4
		Unitech	25.09.2008		4.4	4.4
		Etisalat DB Pvt. Ltd	25.09.2008		4.4	4.4
		Loop	26.12.2008		4.4	4.4
TTSL	26.12.2008		4.4	4.4		
Total in S.A		18.6	42.6	61.2		
13	UP(E)	Bharti	06.05.2004	6.2		
			21.01.2009		1.0	
		Total		6.2	1.0	7.2
		Vodafone	12.12.1995	4.4		
			02.01.2001	1.8		
			28.01.2006		1.8	
			21.01.2009		0.2	
		Total		6.2	2.0	8.2
		Reliance	11.01.2008		4.4	4.4
		Idea	03.04.2002		4.4	
			22.02.2006		1.8	
		Total			6.2	6.2
		BSNL	22.12.2000	6.2		
			28.01.2006		1.8	
			12.03.2007		2.0	
		Total		6.2	3.8	10.0
Dishnet	11.01.2008		4.4	4.4		
Datacom	10.09.2008		4.4	4.4		
Unitech	10.09.2008		4.4	4.4		
Etisalat DB Pvt. Ltd	10.09.2008		4.4	4.4		
Loop	21.01.2009		4.4	4.4		
TTSL	21.01.2009		4.4	4.4		
Total in S.A		18.6	43.8	62.4		
14	Rajasthan	Vodafone	12.12.1995	4.4		
			02.01.2001	1.8		
		Total		6.2		6.2
		Idea	01.04.2002		4.4	
			19.12.2005		1.8	
		Total			6.2	6.2
		Reliance	11.01.2008		4.4	4.4
		BSNL	22.12.2000	6.2		
			08.06.2006		1.8	
		Total		6.2	1.8	8.0
		Bharti	22.04.1996	4.4		
			10.08.2000	1.8		
			23.12.2008		2.0	
		Total		6.2	2.0	8.2
		Aircel Ltd.	11.01.2008		4.4	4.4
		Shyam Telelink	23.12.2008		4.4	4.4
Datacom	23.12.2008		4.4	4.4		
Unitech	23.12.2008		4.4	4.4		
Etisalat DB Pvt. Ltd	23.12.2008		4.4	4.4		
TTSL	23.12.2008		4.4	4.4		
Loop	23.12.2008		4.4	4.4		
Total in S.A		18.6	45.2	63.8		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz	
15	M.P	Bharti	01.04.2002		6.2		
			08.01.2007		1.8		
		Total				8.0	8.0
		Vodafone	11.02.2008			4.4	4.4
		BSNL	22.12.2000	6.2			
			10.05.2007			3.8	
		Total		6.2		3.8	10.0
		Reliance	12.12.1995	4.4			
			08.01.2001	1.8			
		Total		6.2			6.2
		IDEA	12.12.1995	4.4			
			09.09.2002	1.8			
			02.11.2006			1.8	
		Total		6.2		1.8	8.0
		Dishnet	11.01.2008			4.4	4.4
		Datacom	28.08.2008			4.4	4.4
		Unitech	28.08.2008			4.4	4.4
Loop	28.08.2008			4.4	4.4		
TTSL	28.08.2008			4.4	4.4		
Allianz	28.08.2008			4.4	4.4		
Total in S.A			18.5	44.4	63.0		
16	West Bengal	Bharti	12.08.2004	4.4			
			10.01.2008			1.8	
		Total		4.4		1.8	6.2
		Dishnet	15.12.2004			4.4	4.4
		Vodafone	12.08.2004	4.4			
			10.01.2008			1.8	
		Total		4.4		1.8	6.2
		Reliance	12.12.1995	4.4			
			20.02.2004			1.8	
		Total		4.4		1.8	6.2
		BSNL	22.12.2000	6.2			
			12.03.2007			1.8	
		Total		6.2		1.8	8.0
		Datacom	09.01.2009			4.4	4.4
		IDEA	09.01.2009			4.4	4.4
		Unitech	09.01.2009			4.4	4.4
		Loop	09.01.2009			4.4	4.4
TTSL	09.01.2009			4.4	4.4		
Total in S.A			19.4	33.6	53.0		
17	HP	Vodafone	11.01.2008		4.4	4.4	
		Dishnet	13.03.2006		4.4	4.4	
		Bharti	12.12.1995	4.4			
			19.09.2003	1.8			
		Total		6.2			6.2
		Reliance	12.12.1995	4.4			
			26.08.2005	1.8			
		Total		6.2			6.2
		Idea	11.03.2002			4.4	4.4
		BSNL	22.12.2000	6.2			
			12.07.2007			3.8	
		Total		6.2		3.8	10.0
		Datacom	04.12.2008			4.4	4.4
		Unitech	04.12.2008			4.4	4.4
		S.Tel	04.12.2008			4.4	4.4
Loop	04.12.2008			4.4	4.4		
TTSL	04.12.2008			4.4	4.4		
Total in S.A			18.6	39.0	57.6		

			allocation of spectrum	900MHz band in MHz	1800MHz band in MHz	in MHz	
18	Bihar	Bharti	06.05.2004	6.2			
			09.06.2006		1.8		
			03.10.2008		0.2		
			30.11.2008		1.0		
			<b>Total</b>		6.2	3.0	9.2
		Vodafone	11.01.2008			4.4	4.4
		Reliance	12.12.1995	4.4			
			28.12.1999	1.8			
			23.10.2006			1.8	
			<b>Total</b>		6.2	1.8	8.0
		BSNL	22.12.2000	6.2			
			24.08.2006			1.8	
			05.04.2007			2.0	
			<b>Total</b>		6.2	3.8	10.0
		Dishnet	07.02.2006			4.4	4.4
		ABTL	11.01.2008			4.4	4.4
		Datacom	03.10.2008			4.4	4.4
		Unitech	03.10.2008			4.4	4.4
S Tel	03.10.2008			4.4	4.4		
Loop	03.10.2008			4.4	4.4		
TTSL	03.10.2008			4.4	4.4		
Allianz	03.10.2008			4.4	4.4		
	<b>Total in S.A</b>		18.6	48.2	66.8		
19	Orissa	Vodafone	11.01.2008		4.4	4.4	
		Reliance	12.12.1995	4.4			
			05.09.2001	1.8			
			<b>Total</b>		6.2		6.2
		BSNL	22.12.2000	6.2			
			10.05.2007			3.8	
			<b>Total</b>		6.2	3.8	10.0
		Dishnet	24.12.2004			4.4	4.4
		Bharti	06.05.2004	6.2			
			16.09.2006			1.8	
			<b>Total</b>		6.2	1.8	8.0
		Datacom	24.04.2008			4.4	4.4
		Idea	24.04.2008			4.4	4.4
		Unitech	24.04.2008			4.4	4.4
		S Tel	24.04.2008			4.4	4.4
		Loop	24.04.2008			4.4	4.4
		TTSL	24.04.2008			4.4	4.4
			<b>Total in S.A</b>		18.6	40.9	59.4
20	Assam	Vodafone	11.01.2008		4.4	4.4	
		Bharti	27.12.2004	1.8			
			15.03.2005		2.6		
			10.11.2006		1.8		
			<b>Total</b>		1.8	4.4	6.2
		BSNL	28.04.2003	6.2			
			24.05.2007			3.8	
			<b>Total</b>		6.2	3.8	10.0
		Reliance	12.12.1995	4.4			
			06.10.2003	1.8			
			<b>Total</b>		6.2		6.2
		Dishnet	22.07.2004	4.4			
			01.12.2006			1.8	
			<b>Total</b>		4.4	1.8	6.2
		Datacom	22.12.2008			4.4	4.4
		Idea	22.12.2008			4.4	4.4
		Unitech	22.12.2008			4.4	4.4
		S.Tel	22.12.2008			4.4	4.4
Loop	22.12.2008			4.4	4.4		
	<b>Total in S.A</b>		18.6	36.4	55.0		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
21	NE	Bharti	24.12.2004	4.4		
			23.12.2008		1.8	
		Total		4.4	1.8	6.2
		BSNL	28.04.2003	6.2		
			10.05.2007		3.8	
		Total		6.2	3.8	10.0
		Reliance	12.12.1995	4.4		
			20.01.2006		1.8	
		Total		4.4	1.8	6.2
		Dishnet	22.07.2004	4.4		4.4
		Vodafone	11.01.2008		4.4	4.4
		Datacom	23.12.2008		4.4	4.4
		Idea	23.12.2008		4.4	4.4
		Unitech	23.12.2008		4.4	4.4
		Loop	23.12.2008		4.4	4.4
		S.Tel	23.12.2008		4.4	4.4
		Total in S.A		19.4	33.8	53.2
22	J & K	Vodafone	11.01.2008		4.4	4.4
		Reliance	11.01.2008		4.4	4.4
		BSNL	28.04.2003	6.2		
			16.06.2006	1.8		
		Total		8.0		8.0
		Dishnet	01.09.2004	4.4		4.4
		Bharti	22.06.2004	4.4		
			28.06.2006	1.8		
		Total		6.2		6.2
		Datacom	24.12.2008		4.4	4.4
		Idea	24.12.2008		4.4	4.4
		Unitech	24.12.2008		4.4	4.4
		S.Tel	24.12.2008		4.4	4.4
		Loop	24.12.2008		4.4	4.4
Total in S.A		18.5	30.8	49.4		