

Consultation Paper No. 19/2016



Telecom Regulatory Authority of India



Consultation Paper

on

**Spectrum Usage Charges and Presumptive Adjusted Gross
Revenue for Internet Service Providers and Commercial Very
Small Aperture Terminal Service Providers**

19th August, 2016

Mahanagar Doorsanchar Bhawan

Jawaharlal Nehru Marg

New Delhi 110 002

Stakeholders are requested to furnish their written comments by 19th September, 2016 and counter-comments by 3rd October, 2016 to the Pr. Advisor (F&EA), TRAI. The comments and counter-comments may also be sent by e-mail to skmishra@traigov.in with a copy to fa@traigov.in. Comments and counter-comments would be posted on TRAI's website www.traigov.in. For any clarification/ information, Shri S.K.Mishra, Pr. Advisor (F&EA), TRAI, New Delhi may be contacted at Tel. No.+91-11-23231856, Fax:+91-11-23235249.

CONTENTS

CHAPTER I: INTRODUCTION	1
CHAPTER II: ISSUES RELATED TO INTERNET SERVICE LICENSE	3
CHAPTER III: ISSUES RELATED TO COMMERCIAL VSAT LICENSE	20
CHAPTER IV: ISSUES FOR CONSULTATION	26
ANNEXURE I	28
ANNEXURE II	32
LIST OF ACRONYMS	40

CHAPTER I: INTRODUCTION

- 1.1 The DoT vide its letter dated 25th June, 2014 (Annexure I) has sought TRAI recommendations on Spectrum Usage Charges (SUC) for Internet Service Providers (ISPs) and floor level of Adjusted Gross Revenue (AGR) based on amount of spectrum held by the Commercial Very Small Aperture Terminal (VSAT) operators. In this letter, DoT had mentioned that it has decided that SUC for ISPs should also be brought under the revenue sharing regime i.e. as a percentage of AGR based on amount of spectrum held along with minimum floor level AGR (i.e. minimum presumptive AGR).
- 1.2 The DoT sought TRAI's recommendations in terms of clause 11(1) of TRAI Act 1997 (as amended) on:
- (A) ISP license
- (i) Rates for SUC;
 - (ii) Percentage of AGR including minimum AGR;
 - (iii) Allied issues like schedule of payment, charging of interest, penalty and Financial Bank Guarantee (FBG).
- (B) Commercial VSAT license
- (i) Floor level (minimum) AGR, based on the amount of spectrum held by commercial VSAT operators.
- 1.3 This consultation paper discusses issues relating to minimum presumptive AGR for ISP licenses and VSAT licenses and other issues raised by DoT in its reference of 25th June 2014. To proceed further on the subject, the Authority vide letter dated 15th May 2015 sought some information/clarifications from the DoT. The information/clarifications were furnished by DoT vide their letter dated 2nd March 2016 (Annexure II).
- 1.4 It may be noted here that in 2014 the Authority has *suo motu* undertaken the exercise of review of definition of revenue base (AGR) for

the reckoning of licence fee (LF) and spectrum usage charges (SUC). The Consultation Paper was issued on 31st July 2014 and Recommendations on 6th January 2015¹. The Recommendations alongwith other issues also contain recommendations on minimum presumptive AGR. In the Recommendations of 6th January 2015, the Authority had recommended that minimum presumptive AGR for the purpose of LF and SUC should not be made applicable for any licenses granted by the Government for providing telecom services. The recommendation was based on the fact that in the new licensing regime, spectrum is allocated through an auction process and TSPs are required to pay market-determined prices which can generally be expected to be sufficient motivation to licensees to start the commercial operations. Further the respective licence agreements include provisions on rollout obligations to be met by the licensee within a specified time frame, failing which, there are provisions for penalty (including prospects of cancellation of assigned spectrum). Therefore, the rationale for imposition of levies based on presumptive AGR does not hold good. However, as the DoT's letter dated 25th June 2014 contains specific reference on minimum presumptive AGR in respect of ISP license and VSAT license, the same has been discussed afresh in the subsequent chapter.

¹ http://www.trai.gov.in/Content/ReDis/542_18.aspx

CHAPTER II: ISSUES RELATED TO INTERNET SERVICE LICENSE

2.1 Internet made its entry in India in the form of ernet project in 1986. However, it took almost another 9 years before Indian public could get internet as a public internet service. Public internet services in India were launched on 15th August 1995 by Videsh Sanchar Nigam Limited (VSNL), a Government of India company at that time (later on privatized).

ISP guidelines of November 1998 and 2002

2.2 In November 1998, the Government recognized the need for encouraging spread of Internet in the country and opened the sector for provisioning of Internet services by private operators. A liberal licensing regime with no entry fee and license fee and unlimited number of players was put in place with a view to increase Internet penetration across the country. The New Telecom Policy 1999 envisaged opening up of internet Telephony where upon Government decided to permit ISPs to process and carry voice signals (Restricted Internet Telephony²) with effect from 1st April 2002. Accordingly, second category of ISP licences [ISP (IT)] issued under the 2002 guidelines, permitted provisioning of Internet Service including Internet telephony.

2.3 There were three categories of ISP licences as indicated below:-

(i) Category "A" licence with jurisdiction of entire country.

(ii) Category "B" licence for any of the 20 Territorial Telecom Circles, four Metro Telephone Districts of Delhi, Mumbai, Calcutta or Chennai and four major telephone districts of Ahmedabad, Bangalore, Hyderabad or Pune are Category 'B' service areas.

² Internet Telephony is a service to process and carry voice signals offered through public Internet by use of Personal Computer (PC) or IP based Customer Premises Equipments (CPE) connecting the following :

(a) PC to PC ; within or outside India

(b) PC in India to Telephone outside India

(c) IP based H.323/SIP Terminals connected directly to ISP nodes to similar Terminals; within or outside India.

(iii) Category "C" Service Area – Any Secondary Switching Area (SSA) of DOT with geographical boundaries as on 1.4.98, with the exception that each of the four Metro Telephone Districts of Delhi, Mumbai, Calcutta & Chennai and of four major Telephone Districts of Ahmedabad, Bangalore, Hyderabad & Pune of the DOT with geographical boundaries as on 1.4.98, will form a separate category "B" Service Area.

2.4 With a view to encourage growth of Internet and increase its penetration, DoT did not impose any financial implications in the form of License Fee till 31.10.2003. However, w.e.f. 01.11.2003 a token Licence Fee of One Rupee per annum was imposed on all ISP licensees (with or without Internet telephony). On 03.03.2006, DoT amended the ISP licence agreement for provision of Internet Service (Including Internet Telephony). A licence fee of 6% of AGR was made applicable on these licensees w.e.f. 01.01.2006. AGR included revenue earned from Internet telephony but excluded revenue from Internet access and Internet content.

ISP guidelines dated 24.08.07

2.5 In August 2007³, DoT issued revised guidelines for grant of licence for Internet services on non-exclusive basis. Under these guidelines, the Government decided to issue a single licence which permits restricted Internet Telephony for the ISPs under the Internet Service License. In these guidelines, there was provision of Category – A ISP licence with all-India jurisdiction and Category- B ISP licence with LSA-wise jurisdiction. The concept of SSA level ISP licences was done away with. One time entry fee of Rs. 20 lakhs for Category-A Internet Service Licence & Rs. 10 lakhs for Category-B Internet Service Licence was made applicable.

2.6 A licence fee of 6% of AGR was imposed and a minimum license fee of Rs.50,000/- per annum for category A service area and Rs.10,000/- per

³ DoT letter No.820-1/2006-LR dated 24th August 2007

annum per service area for category B service areas was specified. The revenues accrued from pure Internet service⁴, Service Tax on provision of service and Sales Tax actually paid to the Government if gross revenue had included as component of Sales Tax and Service Tax and Roaming revenue actually passed on to other eligible/entitled telecom service provider were excluded from the definition of AGR for the purpose of computing licence fee.

- 2.7 The licensee was bound to provide service within 24 months from the date of signing of the licence agreement. Commissioning of service mean providing commercial service to customers.
- 2.8 The guidelines dated 24.08.2007 were amended w.e.f. 25.01.10 and validity period of new ISP licence (granted subsequent to 25.01.10) was enhanced from 15 years to 20 years with revised entry fee of Rs. 30 Lakhs and 15 Lakhs for category A and B respectively.

A Uniform levy of 8% LF on both ISP and ISP (IT)

- 2.9 On 29th June 2012⁵, DoT amended the ISP licence and levied a uniform licence fee of 8% of AGR w.e.f. 1st April 2013 on both ISP and ISP with Internet telephony (ISP-IT) licence. As per Para 2 of this amendment, revenue for the purpose of licence fee for ISP and ISP-IT category shall provisionally include all types of revenue from Internet services, allowing only those deductions available for pass through charges and taxes/levies as applicable in the case of access services, without any set-off for expenses. Para 2 of DoT order was struck down by TDSAT in its judgment of 12th October 2012. DoT referred the matter on 22nd October 2012 to the Authority for recommendations. The Authority gave its recommendations to DoT on 1st May 2014. It is understood that definition of revenue and LF rate has been contested by many ISPs before the court of law.

⁴ Pure Internet Services mean any method / device / technology to provide access to Internet unless explicitly prohibited and all content available including web-hosting, web-colocation which is available on internet without access restriction.

⁵ DoT Order No. 820-01/2006-LR (Vol-II) Pt Dated 29th June 2012

Guideline for Unified License (UL) was issued on 19th August 2013

2.10 Licence regime for Internet services has undergone change with the issuance of guideline for Unified License (UL) on 19th August 2013. As per UL Guidelines, the authorization for provision of Internet Services is granted under Unified License (UL). The applicant company has to apply for Unified License with authorization for Internet Services. Under the Unified License, there are three Categories of authorizations for Internet Services namely Category 'A'- National Area, 'B'- Telecom Circle/Metro Area and 'C'- SSA Area. In case authorisation is required for more than 4 SSAs in a Telecom Circle for ISP 'C' category, Category "B" ISP authorisation for the respective telecom circle is to be applied for. Entry conditions for each category of ISP authorization are as below:

Table 2.1- Entry Conditions for ISP Licence as per UL Guidelines

Service	Minimum Equity (Rs Crore)	Minimum Net-worth (Rs Crore)	Entry Fee (Rs Crore)	PBG (Rs. Crore)	FBG (Rs. Crore)
ISP "A" (National Area)	Nil	Nil	0.3	2	0.1
ISP "B" (Telecom circle/Metro Area)	Nil	Nil	0.2	0.1	0.01
ISP "C" (SSA)	Nil	Nil	0.002	0.005	0.001

2.11 In addition to the Entry Fee, an annual License fee as a percentage of Adjusted Gross Revenue (AGR) is to be paid by the Licensee service-area wise. The License fee is at present 8% of the AGR, inclusive of USO Levy which is presently 5% of AGR.

Present Status of Fixed Internet Subscriber base

2.12 As per information available on DoT website⁶, there were 262 ISP licenses as on 31st December 2015, majority of which belong to category

⁶ http://www.dot.gov.in/sites/default/files/u75/2016_03_18%20ISP-DS.pdf

'B' (i.e. telecom circle/metro area) and category 'C' (i.e. SSA level) license. As of December 2015, out of the total, 331.66 million internet subscribers in the country, 0.51 million are being provided internet through fixed wireless. Number of Fixed Wireless Internet Subscribers⁷ for the last three years is given in the Chart below. For the sake of comparison, number of internet subscribers is also provided below.

CHART 2.1

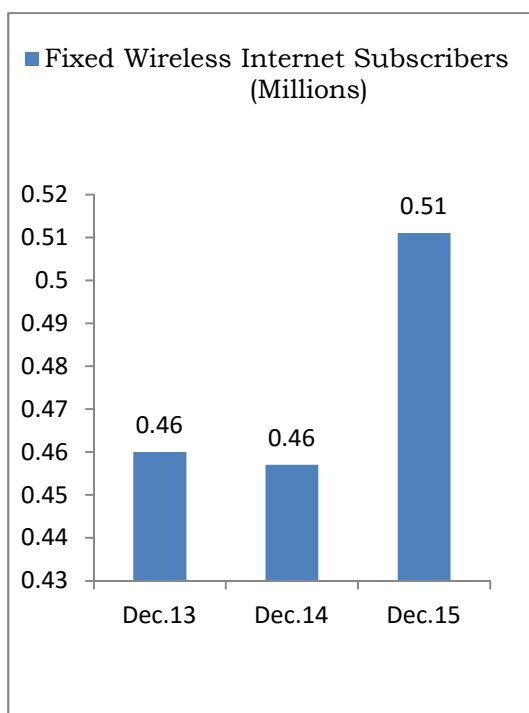
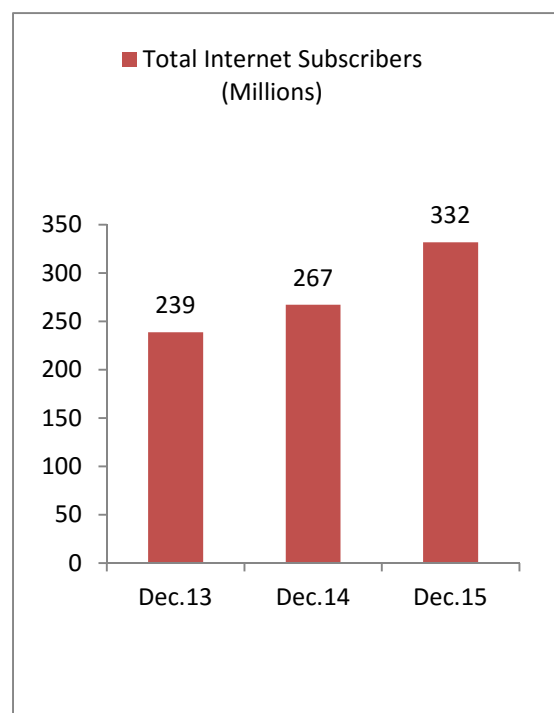


CHART 2.2



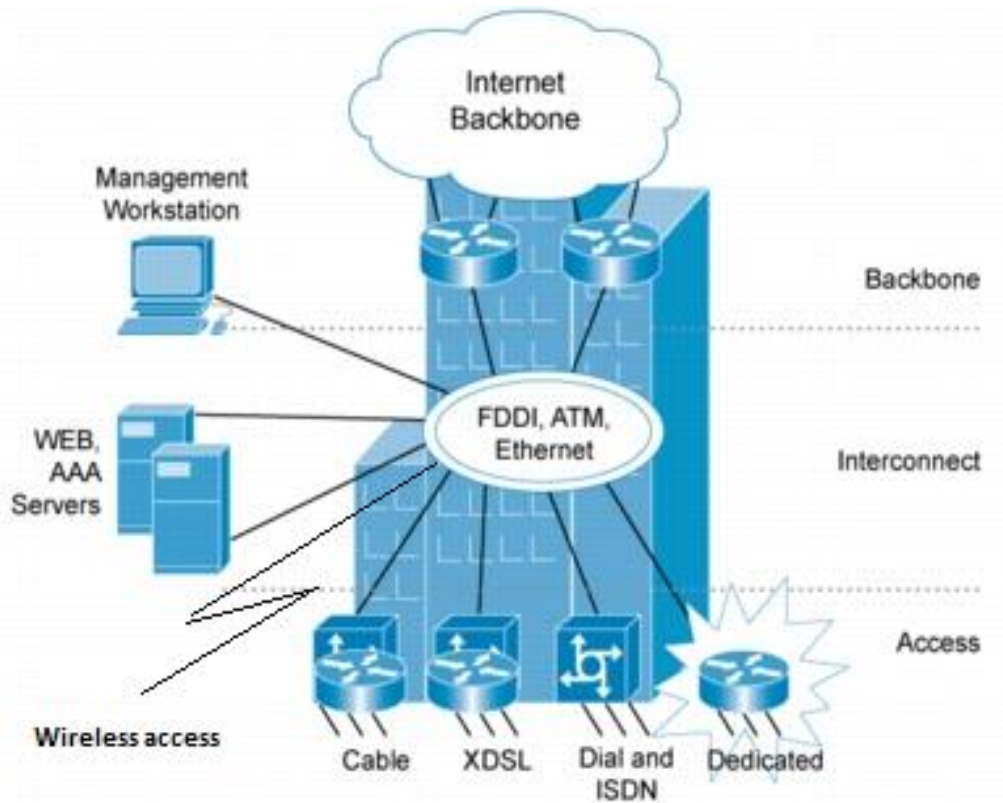
Source: As submitted by ISPs to TRAI

Why do ISPs require spectrum?

2.13 ISPs offer its customers access to the internet. ISPs provide services to both residential and enterprise customers. Its traffic rides typically on an IP backbone. In most cases, the optical fibre is used in the backbone network. However, in the access network, the last mile solution could be a wired medium (Copper cable or Optical Fibre) or a wireless medium.

⁷ Fixed wireless internet subscribers represent the segment of internet subscribers where last mile connectivity is wireless (excluding mobile wireless subscribers). It includes Wi-fi, Point to Point Radio and Wi-Max. Total internet subscribers include mobile wireless subscribers, wired internet subscribers and fixed wireless internet subscribers.

CHART 2.3 : A Typical ISP Network



2.14 Copper pairs can be used by deploying xDSL⁸ technologies. However, links provided on copper suffer from its limited capacity support and inability to scale in a cost efficient manner. The use of copper has limitation that it can support few Mbps of data upto few kilometers using xDSL technologies. Over a period of time, optical fibre has evolved as the most practical wired solution for access as well as backbone network. Owing to its almost limitless capacity and scalability, it is the right choice for high-capacity routes where the potential revenue gain offsets the expense. However, pulling Fibre to every house is practically not feasible due to cost and logistical challenges. Wireless is the alternate medium for providing the last mile access connectivity to the subscribers. It is used particularly in those areas where laying fibre is not a feasible option due to difficult/congested terrain, time constraint

⁸ The acronym DSL stands for digital subscriber line. DSL is a digital broadband transmission technology that involves sending digital information over a subscriber's telephone line. X denotes different variants of DSL technology.

or economical viability. For this the ISP would require spectrum which is allocated by WPC wing of DoT.

Spectrum Assignment Mechanism for ISPs

2.15 Access Spectrum to access service providers such as UL with authorization to provide access services, CMTS, UASL etc is now assigned through market based mechanism and Spectrum Usage Charges (SUC) for such licensees is levied on the basis of percentage of AGR. However, there are certain categories of telecom/broadcast licensees to whom spectrum is assigned administratively and SUC is based on formula basis. ISPs are amongst such licensees. As per the information provided by DoT⁹, present criterion of spectrum allocation to ISPs is city-wise basis subject to the availability of spectrum. Its assignment is renewed annually. However, it has been observed that, practically spectrum management is being done on spot/link-by-link basis; unlike 800/900/1800/2100/2300/2500 bands, where spectrum assignment is being done on Service Area basis. Spectrum to ISPs has been assigned in following spectrum bands:

Table 2.2- Frequency Bands for ISP Licence and Spectrum Allotment Methodology

Sl. No.	Frequency band	Frequency Range	Spectrum Allotment Methodology
1.	2.7 GHz band	2.7-2.9 GHz	Administratively
2.	3.3 GHz band	3.3-3.4 GHz	Administratively
3.	5.7 GHz band	5.725-5.875 GHz	Administratively
4.	10.5 GHz band	10.15-10.65 GHz	Administratively

2.16 Details of frequency spots assignment to different TSPs is given in Table below¹⁰:

⁹ DoT letter No.- P-11014/03/2012-PP (Pt.) dated 2nd March 2016

¹⁰ As per information provided by DoT

Table 2.3 Frequency Spots Assigned to ISP Licensees

Sl. No.	Name of ISP	Quantum of spectrum allotted (MHz)	Frequency Range	Purpose of spectrum allocation [backhaul or last mile (access) or both]	Duplexing Scheme
1.	M/s Tulip Telecom Ltd.	6+6 MHz	2.7-2.9 GHz	Last Mile	FDD
		6 MHz	3.3-3.4 GHz	Last Mile	TDD
		6 MHz			TDD
		1.75 + 1.75 MHz			FDD
2.	M/s HCL Infinet (Now M/s Tikona Infinet)	6 Mhz	2.7-2.9 GHz	Last Mile	TDD
		6 MHz			
3.	M/s SIFY Technologies Limited	15 MHz	5.725-5.875 GHz	Last Mile	TDD
		15 MHz			
		15 MHz			
		6 MHz	3.3-3.4 GHz	Last Mile	TDD
		6 MHz			
4.	M/s Reliance Communications. Infrastructure Ltd.	6 MHz	3.3-3.4 GHz	Last Mile	TDD
		6 MHz			
		3.50+3.50 MHz	10.15-10.65 GHz		FDD
		3.50+3.50 MHz			
		3.50+3.50 MHz			
		3.50+3.50 MHz			
5.	M/s Reliance WiMax Ltd. (M/s Gateway)	3.50 +3.50 MHz	10.15-10.65 GHz	Last Mile	FDD
		3.50 +3.50 MHz			
		3.50 +3.50 MHz			
6.	M/s Tata Communications Limited	6 MHz	3.3-3.4 GHz	Last Mile	TDD
		6 MHz			
7.	M/s Bharti Airtel Ltd.	6+6 MHz	3.3-3.4 GHz	Last Mile	FDD
		1.75+1.75 MHz			
8.	M/s Dishnet Wireless Ltd. (M/s Aircel	6+6 MHz	3.3-3.4 GHz	Last Mile	FDD

	Limited)				
9.	M/s Citycom Limited	6+6 MHz	3.3-3.4 GHz	Last Mile	TDD
10.	M/s Spectranet Comm. Limited	1.75+1.75 MHz	3.3-3.4 GHz	Last Mile	FDD
11.	M/s World Wide Wireless (for Ludhiana only)	6 MHz	2.7-2.9 GHz	Last Mile	TDD
12.	M/s IOL Telecom	6+6 MHz	2.7-2.9 GHz	Last Mile	FDD
		6 MHz			TDD
13.	M/s S V Teletech	6 MHz	2.7-2.9 GHz	Last Mile	TDD
14.	M/s Rail Tel Corporation	6 MHz	2.7-2.9 GHz	Last Mile	TDD
15.	M/S Track-on-line Private Limited	1.75+1.75 MHz	3.3-3.4 GHz	Last Mile	FDD

Note: Spectrum assignment is BTS/CPE location specific. Location of the links is given in the Annexure-II.

2.17 In this regard following issues arise for consultation:

Q1: Should the spectrum assignment on location basis/link-by-link basis on administrative basis to ISPs, be continued in the specified bands. If not, please suggest alternate assignment mechanism. Please justify your answer.

Minimum Presumptive AGR for SUC

2.18 Licensees do not commence operations immediately from the effective date of their licenses. In case TSP(s) do not roll-out their service, spectrum remains idle and does not generate revenue from subscribers. This not only results in under or non-utilisation of spectrum but also loss of revenue to the exchequer in the form of SUC and LF (as the case may be) as they are based on revenue generated by the licensee.

2.19 The Authority in its recommendations on 'Definition of Revenue Base (AGR) for the Reckoning of Licence Fee and Spectrum Usage Charges'

dated 6th January 2015¹¹ had recommended that minimum presumptive AGR for the purpose of LF and SUC should not be made applicable in any licenses granted by the Government for providing telecom services. The detailed analysis and background for this recommendation is given in Para 2.52 to Para 2.59 of 6th January 2015 Recommendations.

2.20 At present, there is no minimum presumptive AGR in ISP license or Unified Licence (ISP authorization) for the purpose of LF or SUC. However, clause 18.2.1 of Chapter-III of Unified License provides “*that from second year of the effective date of respective authorization, the LF shall be subject to a minimum of 10% of the entry fee of the respective authorized service and service area as in Annexure-II*”.

2.21 In view of the discussions above, the following questions arise for consultation in this regard:

Q2: Should minimum presumptive AGR be introduced in ISP license for the purpose of charging SUC? If yes, what should be the value of minimum presumptive AGR and basis for its computation? Please provide justification for your response.

Spectrum Usage Charge for ISPs

2.22 Radio Spectrum Charges are levied on ISP licensees in accordance with the provisions of license agreement. The ISP license agreement¹²/ UASL agreement¹³ states:

“The LICENSEE shall pay spectrum charges in addition to the License Fees on revenue share basis as notified separately from time to time by the WPC Wing. However, while calculating ‘AGR’ for limited purpose of levying spectrum charges based on revenue share, revenue from wireline subscribers shall not be taken into account.”

¹¹ <http://www.trai.gov.in/WriteReadData/Recommendation/Documents/Reco-AGR-Final-06.01.2015.pdf>

¹² Para 17.3 of standalone ISP license agreement

¹³ Para 18.3 of Unified Access License Agreement

Further royalty for the use of spectrum for point to point links and other access links shall be separately payable as per the details and prescription of Wireless Planning and Coordination Wing. The fee/royalty for the use of spectrum/ possession of wireless telegraphy equipment depends upon various factors such as frequency, hop and link length, areas of operation and other related aspects etc. Authorization of frequencies for setting up Microwave links by Licensed Operators and issue of Licenses shall be separately dealt with WPC Wing as per existing rules.”

Chapter III of Unified License states:

“In case the Licensee obtains spectrum, the licensee shall pay spectrum related charges, including payment for allotment and use of spectrum, as per provisions specified in the relevant NIA document of the auction of spectrum or conditions of spectrum allotment/LoI/directions/instructions of the Licensor/ WPC Wing in this regard. The spectrum related charges shall be payable in addition to the License fee.”

2.23 ISP Licensees having BWA Spectrum need to pay 1% of AGR (earned from BWA spectrum) as annual spectrum charges¹⁴. However, for all other spectrum assigned, at present, the SUC applicable on Internet Service Providers is based on a formula¹⁵ which was revised by DoT through its order dated 22nd March 2012. The charges have factored in number of frequencies/carriers, the maximum distance over which the wireless network would operate and the carrier bandwidth. The formula to calculate spectrum charges is given below:

$$\text{Annual Royalty (in Rupees)} = \sum_{i=1}^n M_i \times W$$

Where, n = no. of Carrier

M = distance based charge

W = bandwidth factor

¹⁴ As per NIA of February 2010 for auction of 3G (2100 MHz) and BWA (2300 MHz) spectrum

¹⁵ DoT Order No.P-11014/34/2009-PP (II) dated 22nd March 2012

2.24 As per information furnished by DoT vide their letter dated 2nd March 2016, spectrum has been assigned to the ISP licenses in the frequency range of 2.7-2.9 GHz, 3.3-3.4 GHz, 5.725-5.875 GHz and 10.15-10.65 GHz. During past three years i.e. 2011-12, 2012-13 and 2013-14, DoT has received Rs. 71.52 crore, Rs. 95.65 crore and Rs. 91.85 crore respectively as royalty charges (formula based) from the ISP licensees.

2.25 As is discussed above, existing system of charging SUC (including spectrum royalty) is formula based and has no linkage with AGR. Now DoT through its reference of 25th June 2014 has communicated Government's decision to bring ISPs under AGR regime (revenue sharing basis) for the purpose of levying of SUC based on the amount of spectrum held along with minimum floor level of AGR. To bring the ISPs under AGR regime, DoT has sought the Authority's recommendations on the following issues:

- (i) Rates for SUC;
- (ii) Percentage of AGR including minimum AGR;
- (iii) Allied issues like schedule of payment, charging of interest, penalty and Financial Bank Guarantee (FBG).

Justification for migrating to Spectrum Charging based on revenue sharing (as a % of AGR)

2.26 On being enquired about the rationale behind DoT's decision to migrate from computation of spectrum charges based on formula to spectrum charges as a percentage of AGR, DoT, through its letter dated 2nd March 2016, clarified that:

"It was decided that ISPs have also been brought under Unified Licensing fee regime w.e.f. 1st July 2012 and spectrum usage charging i.r.o. ISPs may also be brought under the revenue sharing (i.e. as a % of AGR based on the amount of spectrum held with minimum floor level AGR)."

- 2.27 Argument in favour of AGR based spectrum charges could be that it is simple in implementation whereas link-to-link basis charging is relatively complex for the Government as well as the operators, as the number of links vary in a dynamic manner, with new links coming up with new BTSs as well as some links being shifted to OFC.
- 2.28 Another view could be that, charging on a link-to-link basis leads to better utilisation of spectrum as TSPs will use the carrier frequencies judiciously because they have to pay based on the number of links. The AGR based charging should be implemented only if assignment of carriers to ISPs is done on an exclusive basis for a geographic location and the number of BTSs locations on wireless medium should be large enough to justify that. Presently, frequency spots management is being done on link-by-link basis. Wireless Operating Licence (WOL) is issued for each BTS site and CPE site location and is renewed annually. If any ISP has appreciable number of links on fibre and some on MW, then charging on link-to-link basis seems more logical.
- 2.29 In most of the cases, ISPs are not having spectrum in all the cities in a licensed service area (LSA). The underlying principle in levying the SUC is the use of spectrum by ISPs in providing internet service to the subscribers. Therefore, in this context, a proper mechanism is needed where revenue generated from the use of spectrum and revenue generated without using spectrum could be easily identified. This is a prerequisite to any change in existing SUC regime and shifting to AGR based SUC charging. The segregation process should be easy to implement and verifiable
- 2.30 The obvious issue is whether it is appropriate to introduce SUC based on percentage of AGR for ISPs or should the existing formula based spectrum charges continue. As discussed earlier, through its order of March 2012, the WPC has notified fresh charges for point-to-point MW links. In its recommendations on 'Allocation and Pricing of Microwave Access (MWA) and Microwave Backbone (MWB) RF carriers' dated 29th August, 2014, the Authority had recommended that spectrum charges

for MWB¹⁶ link shall be Rs. 13,900 per KM per annum per one carrier of 2x28 MHz bandwidth. In these recommendations, the Authority also analysed the spectrum charges for other Terrestrial Point-to-Point MW links modified by WPC through its order of March 2012. The Authority noted that the charges are 250% of the earlier charges for most of the slabs. In Para 3.60 of these recommendations, the Authority stated that “...the above charges are very high. As MW links are being used by not only TSPs (ISPs, NLD,ILD etc) but also by other organizations such as Railways, ONGC, NTPC etc for their operational needs, therefore, these charges should be rationalized. In hilly and remote areas, MW links are, in some cases, the only way to provide connectivity. Therefore, the Authority is of the view that these charges should be the same as have been recommended for MWB links. Accordingly, the Authority recommends that present spectrum charges for terrestrial Point-to-Point MW links (other than MWB links used in cellular network) should be rationalized and should be the same as have been recommended for MWB links.” **(Emphasis Supplied)**

2.31 In this background, the stakeholders are requested to comment on following questions: -

Q3: Is there a need to introduce SUC based on percentage of AGR for ISPs or should the existing formula based spectrum charges continue? Please give justification while suggesting a particular method of charging SUC.

Q4: If AGR based SUC is introduced, whether the percentage of AGR should be uniform for all ISP licenses or should it be different, based on revenue/spectrum-holding/any other suitable criteria? Please suggest suitable criteria with reasons.

¹⁶ Normally carriers in the frequency bands below 10 GHz are assigned for MWB carriers. In India, currently 6 GHz (5.925-6.425 GHz) and 7 GHz (7.425-7.725 GHz) bands are used for the assignment of frequencies for MWB carriers. MWB carriers are generally used in the backbone networks of the cellular network. These can also be used in backhaul section if the distance of link length is more.

Q5: What mechanism should be devised for ISP license to identify revenue generated from use of spectrum and revenue generated without use of spectrum? Please give your view on this with justification.

Q6: In case minimum presumptive AGR is prescribed for the ISP license, what percentage should be applied on minimum presumptive AGR to compute SUC? Please provide justifications for your response.

Q7: In case, Formula based spectrum charging mechanism in ISP license is to be continued, do you feel any changes are required in the formula being currently used that was specified by DoT in March 2012? If yes, suggest the alternate formula. Please give detailed justification.

Other Allied Issues – ISP License

Schedule of payment for Spectrum Related Charges

2.32 The ISP license agreement (Para 19.9) /UASL agreement Para 20.9) states:

“The Fee/royalty payable towards WPC Charges shall be payable at such time(s) and in such manner as the WPC Wing of the DoT may prescribe from time to time.”

2.33 Further the Unified License (Para 18.3) indicates that:

“In case the Licensee obtains spectrum, the licensee shall pay spectrum related charges, including payment for allotment and use of spectrum, as per provisions specified in the relevant NIA document of the auction of spectrum or conditions of spectrum allotment/LoI/directions/instructions of the Licensor/WPC Wing in this regard. The spectrum related charges shall be payable in addition to the License fee. “

- 2.34 At present, royalty for the use of spectrum for point to point links and other access links to Government are payable by ISP licensee on annual basis. However, in wireless access service and VSAT service, spectrum related charges are payable on quarterly basis. Further, LF is also payable on quarterly basis in all telecom licensed services.
- 2.35 The following issues arise in this regard for consultation: -

Q8: Do you propose any change in existing schedule of payment of spectrum related charges in the ISP license agreement?

Delay in payment of spectrum related charges

- 2.36 The Unified License (ISP service authorization) stipulates that all charges relating to spectrum are payable in the manner as prescribed by the Licensor/WPC Wing from time to time. At present, royalty for the use of spectrum for point to point links and other access links to Government is payable on annual basis. No specific clause for dealing with delays in payment of spectrum related charges and penalty for such delays are stipulated in the license agreement. However, it has been noticed that license agreement contains provisions on delayed payment (and penalty for delay) of LF¹⁷, or any other dues payable under the license agreement beyond the stipulated period, attracting interest at the rate of 2% above the Prime Lending Rate (PLR) of State Bank of India [existing as on the beginning of the financial year (namely 1st April)] in respect of the license fee pertaining to the said financial year. The interest shall be compounded monthly and a part of the month shall be reckoned as a full month for the purposes of calculation of interest.
- 2.37 In this regard, following question arise for consultation:

Q9: Should a separate regime of interest rates for delayed payment of royalty for the use of spectrum be fixed in ISP License or should it be the same to the prevailing interest

¹⁷ Para 20.7 of Unified License

rates for delayed payment of license fee/ SUC for other licensed telecom services?

Financial Bank Guarantee

2.38 The ISP license¹⁸ stipulates that in addition to financial bank guarantee (FBG) for LF, licensee shall submit separate FBG, for the use of spectrum and also for possession of wireless telegraphy equipment. The relevant clause from ISP license is reproduced below:

“The Fees, charges and royalties for the use of spectrum and also for possession of Wireless Telegraphy equipment shall be separately securitized by furnishing FBG of an amount equivalent to the estimated sum payable annually in the proforma annexed, to WPC, valid for period of one year, renewable from time to time till final clearance of all such dues.”

2.39 In Unified License (ISP service authorization)¹⁹, licensee is required to submit FBG of Rs. Ten lakh for category ‘A’ service area, Rs. One lakh for category ‘B’ service area and Rs. Ten Thousand for category ‘C’ service area with one year validity. In subsequent years, the amount of FBG shall be equivalent to LF for two quarters and other dues (not otherwise securitized).

2.40 In this regard following issues arise for consultation:

Q10: Should separate financial bank guarantee or single financial bank guarantee be submitted by the ISP licensee covering LF payable, fees/charges/royalties for the use of spectrum and other dues (not otherwise securitized)? If yes, what should be the amount of such financial bank guarantee in either case?

¹⁸ Para 21.3 of ISP License

¹⁹ Para 21 and Annexure II of Unified License

CHAPTER III: ISSUES RELATED TO COMMERCIAL VSAT LICENSE

About VSAT

- 3.1 VSAT is a Very Small Aperture Terminal, aligned towards a designated Satellite for up-linking and down-linking communication signals. With VSAT connectivity is possible even at those locations, which cannot be connected through conventional media like copper cable, optical fibre, radio, microwave and any other wire-line / wireless links. VSAT is a versatile solution, not only as a reliable primary link for non-feasible areas, but also as an alternate technology for back link.
- 3.2 VSAT services are majorly used by the Corporate bodies, Banking Sector, Hospitals, Stock Exchanges, Defence, Airlines, Mining Corporations, Power Projects etc. for quick network deployment including inaccessible remote areas.

Present licensing regime for VSAT

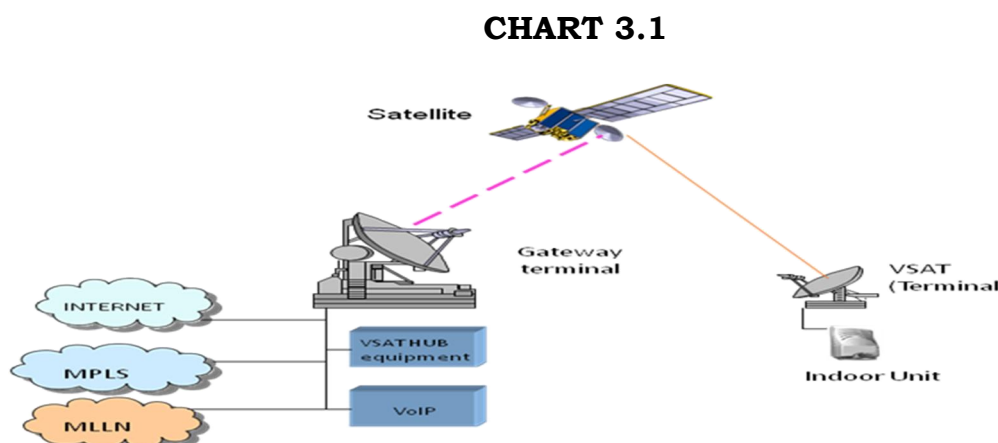
- 3.3 As per the licensing regime in vogue in India, VSAT license is granted for a period of 20 years to applicants to establish, install, operate and maintain VSAT Closed Users Group (CUG) Domestic Data Network service via INSAT Satellite System on non-exclusive basis within territorial boundary of India. There are two types of CUG VSAT licenses, namely (i) Commercial CUG VSAT license and (ii) Captive CUG VSAT license.
- 3.4 The Commercial CUG VSAT service provider can offer the service on commercial basis to the subscribers by setting up a number of Closed User Groups (CUGs) whereas in the captive VSAT service only one CUG can be set up for the captive use of the licensee. Entry Conditions for VSAT Licence as per UL Guidelines are as given below.

Table 3.1- Entry Conditions for VSAT Licence as per UL Guidelines

Service	Minimum Equity (Rs Crore)	Minimum Net-worth (Rs Crore)	Entry Fee (Rs Crore)	PBG (Rs. Crore)	FBG (Rs. Crore)
VSAT (National Area)	Nil	Nil	0.300	0.500	0.300

VSAT network

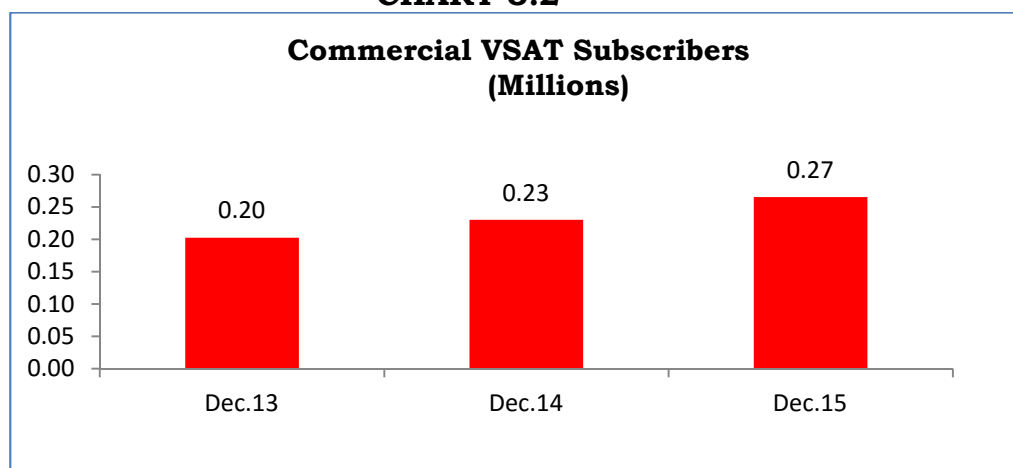
3.5 A VSAT network consists of a VSAT hub, which is run by a service provider and is a shared network where VSATs of many customers are serviced through this hub. The VSAT service provider hires capacity from Department of Space, obtains the necessary regulatory approvals²⁰ and provides services to the customers who have VSATs on their premises. Following Chart provides the network operation of VSAT service.



Market for Commercial CUG VSAT

3.6 At present eight TSPs are providing commercial VSAT services in India. Annual revenue being generated by these TSPs is about Rs. 400 Crore. Status of commercial VSAT subscribers for the last three years (Chart 3.2) and spectrum allotted to commercial VSAT operators (Table 3.2) are as under:

²⁰ Para 4.2 of Chapter-XIV of Unified License (Commercial VSAT CUG Service)

CHART 3.2

Source: Information submitted by Commercial VSAT operators to TRAI

**Table 3.2
Spectrum Allocation to Commercial VSAT Operators**

Sl No.	Commercial VSAT Operator	Allocated capacity in MHz		
		C-Band	Ku Band	Total
1	Essel Shyam Communication Ltd.	27	12	39
2	Bharti Airtel Ltd.	36.0	127.60	163.6
3	Hughes Communications India Ltd.	50.0	121.4	171.4
4	HCL Comnet System and Services Ltd.	130.3	85.5	215.8
5	Tatanet Services Ltd.	61.5	52.5	114.0
6	Infinium India Ltd.	-	9.8	9.8
7	Infotel Satcom Pvt. Ltd.	36	54	90
8	NIC Services inc.	-	36	36
9	New Age Satellite Services Pvt. Ltd.	1	-	1
10	Bharat Sanchar Nigam Limited	-	1,668	1,668

Source: Information provided by DoT (As on 09.09.2014)

Applicability of license fee and SUC

- 3.7 In case of VSAT, the transponder bandwidth is allocated by the Department of Space (DoS) and the frequency allotment is carried out by WPC, DOT. Therefore, the VSAT licensees have to essentially take the

satellite bandwidth and pay the charges for the transponder-bandwidth to the DoS. In addition, they are required to pay license fee and spectrum charges to WPC, DoT.

- 3.8 As per the present regime, the Commercial CUG VSAT operators are levied license fee as 8% of adjusted Gross Revenue (AGR). Spectrum usage charges w.e.f.1st January 2003 for commercial VSAT networks are being levied as per WPC order dated 16th April 2003. Spectrum usage charges varies between 3% to 4% (depending upon the data rate) of AGR (Table 3.3). However, no minimum levy of License fee and spectrum charges by way of prescribing minimum presumptive AGR have been specified for Commercial CUG VSAT license.

Table 3.3
Spectrum Usage Charge applicable to Commercial VSAT Operators

Range of Data Rate	Spectrum Charges
Up to 128 kbps	3% of AGR
Higher than 128 kbps and up to 512 kbps	3.5% of AGR
Higher than 512 kbps and up to 2 Mbps	4% of AGR

Minimum presumptive AGR

- 3.9 The concept of minimum presumptive AGR and Recommendations of the Authority of 6th January 2015 on the same has been discussed in the Chapter II above.
- 3.10 As an alternate mechanism to ensure that the network is rolled-out and services are made available to customers within a reasonable time and the allotted spectrum does not remain idle, minimum roll-out obligations are mandated in the licence. The chapter XIV on “Commercial VSAT CUG Service” of Unified License, inter-alia, provides the following roll-out obligations:

“5.1 The Licensee shall roll out the network by installing and commissioning a HUB Station for Star Network configuration or at least two VSAT Terminals in case of Mesh Network configuration within 12

months from the date of frequency allotment by WPC. The Licensee shall approach WPC for frequency allotment within 1 month of date of allocation of transponder bandwidth by Department of Space.

...
5.6 *In case the Licensee fails to rollout the network, within the period prescribed, the Licensor shall be entitled to recover LD charges @Rs. 1 Lakh (Rupees One Lakh) per month subject to a maximum amount of Rs. 24 lakh. For delay of more than 24 months, in addition to imposition of maximum amount of LD as mentioned above, the frequency allotment may be withdrawn and the Service authorization may also be terminated. The PBG shall be encashed to the extent of LD amount, if the same is not paid within the time period specified in the notice for recovery of LD. The licensee on such occasions, shall restore the partially encashed guarantee to the full amount. Any failure to do so shall amount to violation of the terms and conditions of the License.”*

3.11 As discussed above, at present, there is no minimum presumptive AGR in VSAT license or Unified Licence (VSAT authorization) for the purpose of SUC or LF. SUC for Commercial VSAT TSPs are levied as a percentage of AGR. SUC for VSAT service²¹ vary from 3 – 4% depending upon the data rate. On LF, clause 18.2.1 of Chapter-III of Unified License provides “*that from second year of the effective date of respective authorization, the LF shall be subject to a minimum of 10% of the entry fee of the respective authorized service and service area as in Annexure-II*”.

3.12 As stated above, the VSAT licensees have to essentially hire the satellite bandwidth and pay the charges for the transponder-bandwidth to the DoS. The current transponder charge are around 5 crore per transponder (36 MHz). License fee and spectrum charges payable to WPC are the additional charges that a VSAT licensee is required to pay. Keeping in view the charges payable by the VSAT licensee, it can be presumed that it would be taking bandwidth based on its actual requirement and therefore, the revenue generated by them is likely to be

²¹ DoT Order No. R-11014/9/2001-LR dated 16th April 2003

in line with it. Prescription of minimum presumptive AGR on one hand could force the TSPs to efficiently utilize the spectrum and on the other hand may discourage the existing TSPs, especially the small TSPs.

3.13 In view of the above discussions, the following questions arise for consultation:

Q11: Is there a need to specify minimum presumptive AGR for commercial CUG VSAT license for the purpose of charging SUC? If yes, what should be the value of minimum presumptive AGR and basis for its computation? Please provide justifications for your response.

Spectrum Usage Charge for VSAT

3.14 As discussed above, SUC for commercial VSAT services ranges from 3–4% depending upon the data rate. These rates were fixed by DoT in April 2003²². In its Recommendations of 3rd October 2005²³ on ‘Growth of Telecom services in rural India - The Way Forward’, the Authority had recommended (Para 7.9.1) that there should be a single rate of WPC fee (SUC) and the ceiling of 4% should be lowered to 1% to cover administrative charges only.

3.15 In this regard, following point arise for consultation:-

Q12: Should the SUC applicable to commercial VSAT services be reviewed? If yes, what should be the rate of SUC to be charged? Please give your view on this with justification.

3.16 General

Q13: In addition to the issues mentioned above, comments of stakeholders is also invited on any other related matter/issues.

²² DoT order No. R-11014/9/2001-LR dated 16th April 2003

²³ <http://www.traai.gov.in/WriteReadData/Recommendation/Documents/recom3oct05.pdf>

CHAPTER IV: ISSUES FOR CONSULTATION

- Q1: Should the spectrum assignment on location basis/link-by-link basis on administrative basis to ISPs, be continued in the specified bands. If not, please suggest alternate assignment mechanism. Please justify your answer.**
- Q2: Should minimum presumptive AGR be introduced in ISP license for the purpose of charging SUC? If yes, what should be the value of minimum presumptive AGR and basis for its computation? Please provide justification for your response.**
- Q3: Is there a need to introduce SUC based on percentage of AGR for ISPs or should the existing formula based spectrum charges continue? Please give justification while suggesting a particular method of charging SUC.**
- Q4: If AGR based SUC is introduced, whether the percentage of AGR should be uniform for all ISP licenses or should it be different, based on revenue/spectrum-holding/any other suitable criteria? Please suggest suitable criteria with reasons.**
- Q5: What mechanism should be devised for ISP licensees to identify revenue generated from use of spectrum and revenue generated without use of spectrum? Please give your view on this with justification.**
- Q6: In case minimum presumptive AGR is prescribed for the ISP license, what percentage should be applied on minimum presumptive AGR to compute SUC? Please provide justifications for your response.**
- Q7: In case, Formula based spectrum charging mechanism in ISP license is to be continued, do you feel any changes are required in the formula being currently used that was specified by DoT in March 2012? If yes, suggest the alternate formula. Please give detailed justification.**
- Q8: Do you propose any change in existing schedule of payment of spectrum related charges in the ISP license agreement?**
- Q9: Should a separate regime of interest rates for delayed payment of**

royalty for the use of spectrum be fixed in ISP license or should it be the same to the prevailing interest rates for delayed payment of license fee/ SUC for other licensed telecom services?

Q10: Should separate financial bank guarantee or single financial bank guarantee be submitted by the ISP licensee covering LF payable, fees/charges/royalties for the use of spectrum and other dues (not otherwise securitized)? If yes, what should be the amount of such financial bank guarantee in either case?

Q11: Is there a need to specify minimum presumptive AGR for commercial CUG VSAT license for the purpose of charging SUC? If yes, what should be the value of minimum presumptive AGR and basis for its computation? Please provide justifications for your response.

Q12: Should the SUC applicable to commercial VSAT services be reviewed? If yes, what should be the rate of SUC to be charged? Please give your view on this with justification.

Q13: In addition to the issues mentioned above, comments of stakeholders is also invited on any other related matter/issues.

ANNEXURE I

Government of India
Ministry of Communications & IT
Department of Telecommunications
Wireless Planning & Co-ordination (WPC) Wing
Sanchar Bhawan, 20 Ashok Road
New Delhi - 110 001

No.P-11014/03/2012-PP(Pt)

Dated: 25-06-2014

To,
The Secretary,
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan,
Jawaharlal Nehru Marg, (Old Minto Road)
New Delhi-110 002

Sub: TRAI recommendations on spectrum uses charging for Internet Service Providers (ISPs) and floor level of AGR based on amount of spectrum held by commercial VSAT operators regarding.

Sir,

I am directed to state that it has been decided by DoT that spectrum usage charges for ISPs should also be brought under the revenue sharing regime i.e. as a percentage of AGR based on amount of spectrum held, along with minimum floor level of AGR.

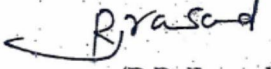
2. Presently, the spectrum usage charges (SUC) are applicable on ISPs as spectrum charging orders No.P-11014/34/2009-PP(II) dated 22nd March, 2012 (Copy enclosed) which is on formula basis. To bring the ISPs under AGR regime, TRAI is requested to provide its recommendations on the following issue:

- (i) Rates for spectrum usage charges;
- (ii) Percentage of AGR including minimum AGR;
- (iii) Allied issues like schedule of payment, charging of interest, penalty and Financial Bank Guarantee (FBG).

3. It has also been decided to introduce a floor level of AGR, based on the amount of spectrum held by a commercial VSAT operator, for appropriate spectrum charging and efficient usages of spectrum by VSAT operators. Presently, vide Order No. R-11014/9/2001-LR dated 16th April, 2003, the spectrum charges applicable on Commercial VSAT operators are based on revenue sharing, however, no minimum AGR is indicated in the said order. TRAI is requested to recommend the floor level (minimum) AGR, based on the amount of spectrum held by commercial VSAT operators.

4. TRAI may provide its recommendations on para 2 and 3 above as per the proviso under section 11(1) of TRAI Act 1997 (as amended from time to time).

Encl:-a/a

Yours Sincerely

(R.B. Prasad)
Joint. Wireless Adviser

Government of India
Ministry of Communications & IT
Department of Telecommunication
Wireless Planning & Co-ordination (WPC) Wing

Sanchar Bhavan,
20, Ashoka Road,
New Delhi-110 001

No. P-11014/34/2009-PP (II)

Date: 22nd March, 2012

ORDER

Subject: Royalty charges for Assignments of Frequencies to 'Captive Users' (users being charged on formula basis) including all Government Users, involving **Multi Channel Operations for Fixed/ Land/ Land Mobile Stations.**

In pursuance of Power conferred by section 4 of the Indian Telegraph Act, 1885(13 of 1885) and in supersession of this Ministry's Orders No. R-11014/26/2002-LR dated 06.05.2003, No. R-11014/26/2002-LR dated 01.04.2003, No. R-11014/4/87-LR (pt.) dated 20.07.1995 and No. R-11014/4/87-LR dated 09.12.1987, the Central Government has decided the following Royalty charges for Assignments of Frequencies to 'Captive Users' (users being charged on formula basis) including all Government Users, involving **Multi Channel Operations for Fixed/ Land/ Land Mobile Stations:-**

2. *Annual Royalty* is calculated as per the following formula and rules:

$$\text{Annual Royalty (in Rupees)} = \sum_{i=1}^n M_i \times W, \text{ where } n = \text{no. of carriers.}$$

- i. The Basic Royalty (M) given below is for *one* carrier frequency in a *Basic Link* (simplex) of 2 Fixed/ Land/ Land Mobile stations (1 station for broadcasting).
- ii. Duplex circuits (with two central frequencies) and Semi-duplex circuits shall be charged at twice the rate of simplex (single central frequency) circuits.
- iii. For multi-frequency circuits, even if operating in simplex mode, the Basic Royalty shall be charged for each frequency separately.
- iv. For the purpose of charging Royalty under Table-B, the *Bandwidth Factor W* shall be as per *Table-C*, given below.
- v. For all carrier frequencies, the chargeable bandwidth shall include the *Guard Bands* required to be provided as per *ITUs*.
- vi. The rates of Royalty apply to the specified *polarization(s)* of the assigned frequencies.
- vii. In addition to above, the explanatory "Notes" on the applicability of royalty charges, are as following:
 - To determine the "Maximum Distance" slab applicable to a case, the 'maximum power rating/ assigned' of the transmission equipment be considered, and expressly recorded in the assignment instrument Decision Letter, Agreement-in-Principle, or Wireless Operating License (DL/ AIP/ WOL).

Royalty Charges for Multi-channel

- The *duration* of a radio frequency assignment will normally be one or two years. If an applicant desires, and frequencies are available, the duration of assignment may be fixed as three or four or five years.
- Before issuing any DL/ AIP/ WOL, full amounts of Royalty shall be submitted by the applicant in advance for the entire duration of the DL/ AIP/ WOL.
- For all assignments of frequencies, all applicants or users shall pay the applicable Royalty, License Fee, etc. at the rates and terms in force from time to time, all previously paid amounts being adjusted on pro-rata basis.

Table-B For The 'M' Factor

Distance Cat.	"Maximum Distance (KM) Over Which the F/L/LM Network would operate"	Royalty Charges (in Rs.) for of the Basic Link.
		<i>M</i>
I	<= 2	1500
II	<= 5	3000
III	> 5 <= 25	6000
IV	> 25 <= 60	12000
V	> 60 <= 120	22500
VI	> 120 <= 500	37500
VII	> 500	50000

Table-C for The 'W' Factor

Slabs of Adjacent Channel Separation (BW), in MHz	Values of W
Up to and including 2	30
More than 2 but < = 3.5	40
More than 3.5 but < = 7	60
More than 7 but < = 14	90
More than 14 but < = 28	120
> 28	120+30 x (Excess bandwidth to 28 MHz / 7) [⊗]

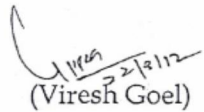
⊗: That is, in steps of 7 MHz or part thereof.

viii. Any "single channel service" that uses a channel bandwidth in excess of 375 KHz shall be covered by Charging Table-C above, where the Bandwidth Factor "W" is used from the lowest value of 30 onwards.

3. For Charging of "Licence fee and other fees, Surcharge/ late fee and Charging Methodologies for Royalty / licence fees, Order No. No. P-11014/34/2009-PP (IV) dated 22nd March, 2012 shall be applicable

Royalty Charges for Multi-channel

4. This issues with the concurrence of the Wireless Finance Division, vide this Dy. No.482/Sr.DDG(WPF), dated 19/3/12.
5. This Order shall come into force from 1st April 2012.


(Viresh Goel)
Deputy Wireless Advisor
to the Government of India

Copy to:

1. All concerned
2. Wireless Finance Division
3. Wireless Monitoring Organisation
4. Director, IT DoT for uploading on DoT website
5. DWA(ASMS) for uploading on WPC Wing website

Government of India
 Ministry of Communications & IT
 Department of Telecommunications
 WPC Wing (T-Group)
 6th Floor Sanchar Bhawan, New Delhi-1

No.- P-11014/03/2012-PP (Pt.)

Date:-02.03.2016

To,

The Secretary,
 Telecom Regulatory Authority of India
 Mahanagar Doorsanchar Bhawan,
 Jawaharlal Nehru Marg, (Old Minto Road)
 New Delhi-2

{Kind Attn:- Sh. Sanjeev Banzal, Advisor (Network, Spectrum and Licensing)}

Ref:- TRAI letter no.- 15-01/2015-F&FA dated 15 May 2015

Subject:- Recommendation sought by DoT on spectrum usages charging for Internet Service Providers (ISPs) and floor level of AGR based on amount of spectrum held by commercial VSAT operators and related issues.

Sir,

I am directed to refer to your letter at reference above on the subject and to convey the following with respect to Para-4 of the above letter:

(a)- It was decided that ISPs have also been brought under Unified Licensing fee regime w.e.f. 1st July, 2012 and spectrum charging i.r.o. ISPs may also be brought under the revenue sharing (i.e. as a % of AGR based on the amount of spectrum held with minimum floor level AGR).

4 (b):- Spectrum charges from ISPs are NOT being levied on AGR basis at present. The spectrum charging from ISPs is on fixed formula basis as per Order No.P-11014/34/2009-PP(II) dated 22/03/2012 (Annex-I 3 pages).

4 (c):- The royalty as referred in Para-2(ii) is NOT in addition to spectrum charges mentioned in Para-2(i). The spectrum charging (including spectrum royalty) on fixed formula basis shall be discontinued once it is migrated on AGR based charging.

4 (d)-(e):- Present criteria of spectrum allocation to ISPs is on city wise basis, subject to availability of spectrum. The details of ISPs are enclosed in Annex-II (4 pages).

Encl:- As above

Yours Sincerely,



(R B Prasad)
 Joint Wireless Adviser
 Ph- 2337 2183

Government of India
Ministry of Communications & IT
Department of Telecommunication
Wireless Planning & Co-ordination (WPC) Wing

Sanchar Bhavan,
20, Ashoka Road,
New Delhi-110 001

No. P-11014/34/2009-PP (II)

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2. *Annual Royalty* is calculated as per the following formula and rules:

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- iii. For multi-frequency circuits, even if operating in simplex mode, the Basic Royalty shall be charged for each frequency separately.
- iv. For the purpose of charging Royalty under Table-B, the *Bandwidth Factor W* shall be as per *Table-C*, given below.
- v. For all carrier frequencies, the chargeable bandwidth shall include the *Guard Bands* required to be provided as per *ITUs*.
- vi. The rates of Royalty apply to the specified *polarization(s)* of the assigned frequencies.
- vii. In addition to above, the explanatory "Notes" on the applicability of royalty charges, are as following:
 - To determine the "Maximum Distance" slab applicable to a case, the 'maximum power rating/ assigned' of the transmission equipment be considered, and expressly recorded in the assignment instrument Decision Letter, Agreement-in-Principle, or Wireless Operating License (DL/ AIP/ WOL).

- The *duration* of a radio frequency assignment will normally be one or two years. If an applicant desires, and frequencies are available, the duration of assignment may be fixed as three or four or five years.
- Before issuing any DL/ AIP/ WOL, full amounts of Royalty shall be submitted by the applicant in advance for the entire duration of the DL/ AIP/ WOL.
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> 28	120+30 x (Excess bandwidth to 28 MHz / 7) ®

®: That is, in steps of 7 MHz or part thereof.

viii. Any "single channel service" that uses a channel bandwidth in excess of 375 KHz shall be covered by Charging Table-C above, where the Bandwidth Factor "W" is used from the lowest value of 30 onwards.

3. For Charging of "Licence fee and other fees, Surcharge/ late fee and Charging Methodologies for Royalty / licence fees, Order No. No. P-11014/34/2009-PP (IV) dated 22nd March, 2012 shall be applicable

Royalty Charges for Multi-channel

4. This issues with the concurrence of the Wireless Finance Division, vide this Dy. No.482/Sr.DDG(WPF), dated 19/3/12.
5. This Order shall come into force from 1st April 2012.


22/3/12

(Viresh Goel)

Deputy Wireless Advisor
to the Government of India

Copy to:

1. All concerned
2. Wireless Finance Division
3. Wireless Monitoring Organisation
4. Director, IT DoT for uploading on DoT website
5. DWA(ASMS) for uploading on WPC Wing website

Spectrum Allocation Details of ISPs

Table - A

SL No.	Name of ISP	Quantum of Spectrum allotted (MHz)	Frequency Range	Number of carrier frequencies	Location of link
1.	M/s Tulip Telecom Ltd.	6+6 MHz	2.7 - 2.9 GHz	2833/2883 MHz (FDD)	Chennai, Bangalore, Delhi, Kolkata, Malapuram, Paliurkot, Nilambur, Vengara, Wandoor, Mankada, Ankkiam, Valvano, Morayoor, Pookottur, Panakkad, Kakkanchery, Lucknow, G. B. Nagar, Agra, Dehradun, Udhm Singh Nagar, Ahmedabad, Valsad, Jalgaon, Dhanbad, Mahendragarh, Allahabad, Jhanshi, Pondicherry, Salem, Sundergarh, Thiruvananthapuram, Kangra, south Karnataka, Hassan, Gurgaon, Amritsar, East idnapur, Rohtak, Saharanpur, Banskant, Mumbai, Kurukshetra, Dharwad, Raigarh, Kanpur, Bhopal, Alwar, Tirunelveli, Hyderabad, North Goa, Kolkata, New Delhi, Aurangabad, Solapur, Solan, Chandigarh, Kamrup, Visbakhapatnam, Surat, Karnal, Bokaro, Bilaspur, Hazaribag, Akola, Pune, Indore, Raipur, Faridabad, Jaipur, Ludhiana, Patiala, Gwalior, Ksishnagiri, Varrodara, Bareilly, Anand, Ambala, Aligarh, Ajmer, Aizawal, Ahmednager, Saharanpur, Gorakhpur, Hoshangabad, Howrah, Haridwar, Kachchh, Kheda, Kota, Kolhapur, Karur, Patna, Gurudaspur, South Delhi, Nellore, Nagpur, Krishna, Thane, Chittoor, Thrissur, Kerala, Kupwara, Darjeeling, Solapur, Nasik, East Khashi Hills, Ernakullam, Jamshedpur, Jhajar, Sonipat, Udaipur, Bikaner, Sundergarh, Cuttack, Rewari, Bhavnagar, Shimla, Sangli, Ranchi, Rajkot, Kanyakumari, Mysore, Moradabad, Meerut, Mathura, Mehsana, Jodhpur, Jannagar, Jammu, Jalgaon, Jabalpur, Erode, Burdwan, Bhiwani, Coimbatore, Kozhikode, Khorda, Alwar, Bhatinda, Bharatpur, Belgaoon, Garia, Sealdah, Jupitter, Jadavpur, Dumdum, Allora, Bhadup, Barabazar, Bangeshwar, Hazra, Sitabuldi, Nagar, Howrah, Jamshedpur, Kandra, Kamrup, Sangli, Banskant, Karur, Dharwad, Khorda, Hazaribag, Cherlapally, Gaziabad, Solapur, Rajkot, Kota, Aligarh, Kanpur, Mahendragarh, Bilaspur, Akola, Agra.
		6 MHz 6 MHz 1.75+1.75 MHz	3.3 - 3.4 GHz	3331.5 MHz 3381.5 MHz (TDD) 3328.875/3378.875 MHz (FDD)	New Delhi, Gurgaon, Bangalore, Pune, Ludhiana, Gaziabad, Kolkata, Valsad, G. B. Nagar, Patiala, Gurdaspur, Nagpur, Jammu, Jalandhar, Srinagar, Thane, Chennai, Mumbai, Amritsar, Russel, Saharanpur, Sungargarh, Rohtak, Jabalpur, Thissur, Thiruvananthapuram, Mathura, Tirunelveli, Agra, Ajmer, Bhavnagar, East Khashi hills, Ambala, Bareilly, Bhatinda, Khoda, Kozhikode, Dharwad, Hamirpur, Kamrup, Gorakhpur, Erode, Danbad, Dehradun, Cuttack, Chandigarh, Salen, Rajkot, Goa, Karnal, Nellore, Muradabad, Murrut, Lucknow, Kurukshetra, Jalgaon, Jabalpur, Hosangabad, Kolhapur, Akola, Gwalior, Mysore, Udamsingh Nagar, Allahabad, Pondichery, Kota, Coimbatore, Bharatpur, Shimla, Ernakulam, Anand, Sonipat, Surat, Bilaspur, Raipur, Madurai, Bhawadi, Jhanshi, Hazaribag, Kangra, Karnal, Valsad, Khera, Nellore, Solapur, Ranchi, Patna, Nasik, Kanyakumari, Jodhpur, Vishkhapatnam, Krishna Nagar, Udaipur, Tiruchirapalli, Jhanshi, Jamshedpur, Jaipur, Indore, Aizwal, Hazaribag, Akola, Thrissur, Kanpur, Jannagar, varanashi, Chittoor, Kachchh, Bhopal, Bharatpur, Aurangabad, Patiala, Nagpur, Jalandhar, Malappuram, Amritsar, Hyderabad, Bangalore, Ahmedabad, Jammu, Srinagar, Ajmer, Anand, Shimla, Rajkot, Goa, Karnal, Ambala, Varanashi, Lucknow, Jabalpur, Dhanbad, Sonipat, Rohtak, Surat, Bilaspur, Solapur, Hazaribag, Erode, Khoda, Kangra, Kozhikode, Kerala, Akola, Jabalpur, Dharwad, Rewari, Ranchi, Raipur, Kanyakumari, Goregaon, Tirunelveli, Jaipur.

					Indore,Hoshangabad,Hamirpur(HP),Gwalior,Gorakhpur,Erode,Dhanbad,Dehradun,Cuttack,Ernakulam,Chandigarh,Bharatpur,Ambala,Allahabd,Bhavnagar,Koltapur,Ajmer,Akola,Salem Jodhpur,Valsad,Khoda,Kamrup,Pondicherry
2.	M/s HCL Infninet (Now M/s Tikona Infninet)	6 MHz 6 MHz	2.7 – 2.9 GHz	2733 MHz & 2739 MHz(TDD)	Hyderabad,Delhi,Ahmedabad,Faridabad,Chandigarh,Chennai,G.B.Nagar,Raipur,Mysore,Madurai,Indore,Varodara North 24 parganas,Salem,Coimbatore,Khoda,Nasik Ernakulam,Bangalore,Gurgaon,Kolkata Chennai,Valsad Medak,Solan,U.S.Nagar Jhajjar,Ludhiana,Nalgonda,Goa,Vishkhatnam,Varanasi, Thiruvananthapuram Tiruchrapalli,Surat,Pondicherry,Patna,Nagpur,Ambala,Ghaziabad,G.B.Nagar,Guntur,Jaipur,Lucknow,Pune,Mumbai,Bangalore,Dehradun,Belgaon,Kachchh,Baruch,Thane,Valsad,Wardman,Ranchi,Chandigarh,Amritsar,Jodhpur,Thane,East Godavari,Jammu,Hissar,Ambala,Saharanpur,Warrangal,Chennai,Ahmedabad,Hyderabad,Vellary
3.	M/s SIFY Technologies Limited	15 MHz 15 MHz 15 MHz	5.725 – 5.875GHz	5732.5MHz (TDD) 5792.5MHz (TDD) 5807.5 MHz(TDD)	Kerala,Madhurai,Cochin,Coimbatore,Salem,Kannur,Calicut,Mysore,Manglore,Bangalore,Chennai,Shimoga,Devgiri Hubli,Goa,Belgaun,Guntur,Vijayawada,Hyderabad,Secunderabad,Pune,Warangal,Mumbai,Thane,Nasik,Bhuvaneshwar Nagpur,Surat,Raipur,jamnagar,Kolkata,Indore,Bhopal,Ahmedbad,Kota,Patna,Guwahati,jodhpur,Kanpur,Lucknow Jaipur,Agra,Faridabad,New Delhi Ghaziabad,Panchkula,Chandogarb,Ludhiana
4.	M/s Reliance Commns. Infrastructure Ltd.	6 MHz 6 MHz 3.50+3.50 MHz 3.50+3.50 MHz 3.50+3.50 MHz 3.50+3.50 MHz	3.3 – 3.4 GHz 10.15 – 10.65 GHz	3310.5 MHz 3360.5 MHz(TDD) 10208.5/10558.5 MHz (FDD) 10212.0/10562.0 MHz (FDD) 10215.5/10565.5 MHz (FDD) 10226.0/10576.0 MHz (FDD)	Bangalore,Chennai,Hyderabad,Pune,Mumbai,Surat,Gujarat,Baroda,Kolkata Ahmedabad,Delhi,New Delhi.
5.	M/s Reliance WiMax Ltd. (M/s Gateway)	3.50+3.50 MHz 3.50+3.50 MHz 3.50+3.50 MHz	10.15 – 10.65 GHz	10541.0/10191.0 MHz (FDD) 10544.5/10194.5 MHz (FDD) 10569.0/10219.0 MHz (FDD)	Delhi,Mumbai,Pune,Bangalore

6.	M/s Tata Communications Limited	6 MHz 6 MHz	3.3 – 3.4 GHz	3317.5 MHz 3367.5 MHz(TDD)	Navi Mumbai, Andheri, Bhubaneswar, Nasik, Surat, Raipur, Rajkot, Baroda, Kolkata, Indore, Ahmedabad, Gandhinagar Bhopal, Jhansi, Gwalior, Kanpur, Udaipur, Lucknow, Jaipur, Gurgaon, New Delhi, Delhi, Mohali, Ludhiana, Shimla Jalandhar Amritsar, Chota Shimla, Noida, Trivandrum, Kollam, Kottayam, Ernakulam, Cochin, Trichy, Coimbatore, Tripura, Calicut, Erode Cuddalore, Kannur Mysore, Bangalore, Chennai, Goa, Hyderabad, Podicherry, Pune, Mumbai, Navi Mumbai, Hubli, Chandigarh
7.	M/s Bharti Airtel Ltd.	6+6 MHz 1.75+1.75 MHz	3.3 – 3.4 GHz	3324.5/3374.5 MHz(FDD) 3334.125/3384.125 MHz(FDD)	Trivandrum(Kerala), Madurai(TN), Ernakulam, Trichy(TN), Coimbatore(TN), Calicut, Salem(TN), Pondicherry(TN) Mysore(KTK), Mangalore(KTK), Vellore(TN), Chennai, Nellore(AP), Hubli, Goa, Jalgaon Guntur(AP), Vijaywada(AP), Gandhinager(Guj), Hyderabad, Vishakhapatnam(AP), Warngal(AP), Nasik(Maha) Bhuvneshwar, Surat, Raipur(C.garh), Bilashgarh(C.garh). Baroda, Kolkata, Udaipur(Raj), Indore(MP) Ahmedabad, Bhopal, Kota(Raj), Varanashi(UP(E)), Allahabad, Gwalior(MP), Lucknow, Agra, Ambala, Chandigarh, Ludhiana Jalandhar, Amritsar, Kapurthala, Hyderabad, Bangalore, Goregaon(E), Faridabad, Noida, Gurgaon(Har), New Delhi Delhi, Ghaziabad, Mumbai
8.	M/s Dishnet Wireless Ltd (M/s Aircel Limited)	6+6 MHz	3.3 – 3.4 GHz	3345.5/3395.5 MHz(FDD)	Madhurai, Dindigul, Ettayapuram, RVPuram, Trivandrum, Nagercoil, Trichy, Tanjaur, Nagapattnam, Coimbatore, Podanur Vellore, Erode, Coonoor, Ooty, Chidambaram, Salem, Cuddalore, Pondichery, Nyveli, Mysore, arrakonam, Chennai, Tirunavelli Tuticorin, Hosur, Bangalore, Kanchipuram, Mangalore, Vellore, Ramehwaram, Sriperumpudhur, Tumkur Chikkamagalore, Devan giri, Udpi, Karaikal, Cholavaram, Thriuthani, Kanyakumari, Sivakashi, Several other paces in TN, Simoga, Hosi p Hosepet, Bidar, Gadag, Belgaum, Trimala, Tirupathi, Chittoor, Srikalahthi, Puttur, Hindupur, Aanthpuram Cuddapah, Guddur, Nellore, Bellari, Kurnool, Goa, Prakasham, Srisalam, Amravati, Machilipatnam, Raichur, Krishna District, Vijaywada, West Godavari, Mahaboob Nagar, Nalgonda, Kakinada, Rajahmundry, hammam, Gulbarga Secundrabad Hyderabad, Medak, Warangal, Ranga reddy, Vijaynagaram, Nijamabad, Adilabad, East godawari Pune, Mumbai, Nasik, Aurangabad, Nagpur, Baroda, Ahmedbad, Valsad, Bhavnagar, Rajkot, Junagarh Surendra nager, Godhra, Navsari, Nadiad, Ankleshwari, Bharauch, Bhopal, Indore, Sihor, Lucknow, Jaipur, Chandigarh, Delhi.
9.	M/s Citycom Limited	6+6 MHz	3.3 – 3.4 GHz	3338.5/3388.5 MHz(TDD)	New Delhi, Vijaywada(AP)- cancelled w.e.f. 01/07/2012
10.	M/s Spectranet Comm. Limited	1.75+1.75 MHz	3.3 – 3.4 GHz	3330.625/3380.625 MHz(FDD)	Bangalore, Mumbai, Faridabad, Gurgaon, New Delhi, Delhi, Ghaziabad Assignment cancelled w..e.f. 01.07.2012
11.	M/s World Wide Wireless	6 MHz	2.7 – 2.9 GHz	2819 MHz(TDD)	Ahmedabad,, Ludhiana, Hyderabad, Mumbai, delhi, Bangalore, Pune, Kolkata, Chennai
12.	M/s IOL Telecom	6+6 MHz 6 MHz	2.7 – 2.9 GHz	2704/2754 MHz(FDD) 2889 MHz(TDD)	Gandhinagar, Bhopal, Jhansi, Gwalior, Kanpur, Udaipur, Lucknow, Jaipur, Gurgaon, New Delhi, Delhi, Mohali, Ludhiana, Shimla Jalandhar, Amritsar, Chota Shimla, Noida, Trivandrum, Kollam, Kottayam, Ernakulam Cochin, Trichy, Coimbatore, Tripura Calicut, Erode, Cuddalore, Kannur Mysore, Bangalore, Chennai, Goa, Hyderabad

13.	M/s S V eletech	6 MHz	2.7 – 2.9 GHz	2819 MHz(TDD)	Imphal,Delhi,Gurgaon,Hyderabad,Lucknow,Dehradun,Patna,Bangalore Gandhi Nagar, Est godavarh Ranchi Jaipur Thiruvananthapuram, Bhopal, Mumbai, Raipur Goa, Khorda, East Khasi Hills, Tripura, East Sikkim, Papum Pare, Kolkata, Adilabad, Chittoor, Guntur, Kurnool, Nalgonda, Nizamabad, Vishakhapatnam, Warangal, Upper Subansiri, Dibang Valley, Bongaigaon, Chacher, Jorhat, Tinsukia, Bhagalpur, Kisanganj, Muzaffarpur, West Champaran, Bilaspur, Dantewada, Jashpur, Korba, Kanker, New Delhi, Ahmedabad, Junagarh Kachchh, Rajkot, Vadodara, ambala, Faridabad, Gurgaon, Hissar, Sonapat, Kullu, Solan, Anantnag, Jammu, Bokaro, Palamu, Deoghar, Bhagalpur, Gumla, Koderma, Bangalore, Belagam, Bellary, Bijpur, Davangare, Hassan, Alappujha, Cannanore, Kollan Kozhikode, Palakkad, Chhindwara, Gwalior, Indore Jabalpur, Ujjain, Vidisha, Agmed Nagar, Aurangabad, Jalgaon, Kolhapur, Nagpur, Pune, Solapur, Aizawal, Kohima, Bolangir, Cuttack, Debagarh, Ganjam, Nabarangapura, Puri, Sambalpur, Amritsar, Bhatinda Hosiapur, Kapurthala, Ludhiana, Moga, Patiala, Sangrur, Biharatpur, Bikaner, Junagarh, Gangnagar, Jodhpur, Kota, Pali Udaipur, Coimbatore, Dharampuri, Erode, Thanjavur, Nagapattinam, Namakkal, Shivaganga, Tirunelveli, Tuticorin, Vellore Vallupuram, Tripura, Chamoli, Nainital, Pithoragarh, Agre, Ballia, Azamgarh, Bulandshahar, Sitapur, Aligarh, Farrukhabad Ghaziabad, Ghaziapur, Aligarh, Gorakhpur, G. B. Nagar, Jhansi, Kannauj, Kanpur Sonbhadra, Moradabad, Muzaffarnagar Pratapgarh, Rae Bareli, Tehri, Sitapur, Sulanpur Varanashi, Howrah, Burdwan(W), Darjeeling(W), Howrah, Jalpaiguri Cooch behar, Purulia East Godawari, Cuddapah, Karim Nagar, Karim Nagar, Khammam, Krishna Nagar, Medak, Prakasam K.V. Rangareddy, Srikakulam Vizianagram, Papum pare, East siang, Dibag Valley, West Kameng, Barpeta, Darrang Dhubri, Dibrugarh, Goalpara, Golaghat, Chacher, Karbi, Anglong, Kokrajhar, Lakhimpur, Marigaon, Nagaaon Nalbari, Sabsagar, Sonitpur, Araria, Jehanabad, Aurangabad, Banka, Kaimur, Begusarai, Darbhanga, Gaya, Gopalganj, Jamui Jahanabad, Khagaria, Kaimur, Katihar, Madhubani, Mugger, Madhepura, Nalanda, Purnia Rohtas, Samastipur, Kaimur, Katihar Munger, Madhepura, Nalanda, Purnia, Sheohar, Patna, Saran, Supaul, Vaishali, Dantewada, Janjgir, Koriya, Raipur Mahasamund Rajnandgaon, Amreli, Anand, Banaskantha, Panchmahal, Jamnagar, Bharuch, Navsari Sabarkantha, Valsad, Bhiwani, Fatehabad, Jhajjar, Jind, Kurukshetra, Mahendragarh, Karnal, Rewari, Sirsa Faridabad, Bilaspur(HP), Kandra, Kinnaur, Lahul & spiti, Mandi, Sirmaur, Baramulla, Doda, Kupwara, Leh, Poonch, Pulwama Rajouri, Udampur, Hazaribagh, Dhanbad, Bhagalpur, Garhwa, Giridih, Aurangabad, Lohardaga, Pakur, Bokaro Chamrajnagar, Chitradurga, Dharward, Haveri, Kodagu, Kolar, Koppal, Mandya, Shimoga, Tumkur, Udipi, Mysore, Kolar Kasargod, Palakkad, Pathanamthitta, Thrissur, Wayanad, Karnal, Una, Jalandhar, Ajmer, Jaisalmer, Sawai, Madhopur, Kanchipuram, Shahjahanpur, Bankura, East Midnapore, East siang, Dhemaji, Sitamarhi, Raigarh, Bharuch, Gulburga Junagarh, Kamrup, Chamba, Mysore, Faridkot, Faridkot, Nawada, Gadag, Idukki, Chandigarh, Khandwa, Mayurbanj, Annatapur, Karimganj, Buxar, Saharsa, Surguja, Ambala, Hazaribagh, Kottayam
14.	M/s Rail Tel Corporation	6 MHz	2.7 – 2.9 GHz	2839 MHz(TDD)	Guntur, Hyderabad, Vijaywada, Guwahati, Jamshedpur, Patna, Ahmedabad, Rajkot, Gurgaon, Karnal, ernakulam, Tiruvalla Hubli, Mangalore, Mysore, Mumbai, Mahalaxmi, Borivali, Virar, Kalayan, Nagpur, Nasik, Panjim(Gao), Pune, Bhopal, Raipur Bhubneshwar, Chandigarh, Chandigarh, Ludhiana, Jaipur, Kota, Coimbatore, Madurai, Salem, Trichy, Kanpur, Lucknow Ghaziabad, Kolkata, New Delhi, Tuglakbad, Delhi Cantt, Delhi
15.	M/s Track-on-line Private limited	1.75+1.75 MHz	3.3 – 3.4 GHz	3330.625/3380.625 MHz(FDD)	Mumbai, Chennai, Delhi, Bangalore

LIST OF ACRONYMS

Sl No.	Acronym	Description
1.	AGR	Adjusted Gross Revenue
2.	BWA	Broadband Wireless Access
3.	DoT	Department of Telecommunications
4.	FBG	Financial Bank Guarantee
5.	IMT	International Mobile Telecommunications
6.	ISP	Internet Service Provider
7.	LF	License Fee
8.	SUC	Spectrum Usage Charges
9.	TSP	Telecom Service Provider
10.	UASL	Unified Access Service License
11.	UL	Unified License
12.	VSAT	Very Small Aperture Terminal
13.	WPC	Wireless Planning & Coordination Wing