



Telecom Regulatory Authority of India

The Indian Telecom Services Performance Indicators October - December, 2016

New Delhi, India
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Snapshot

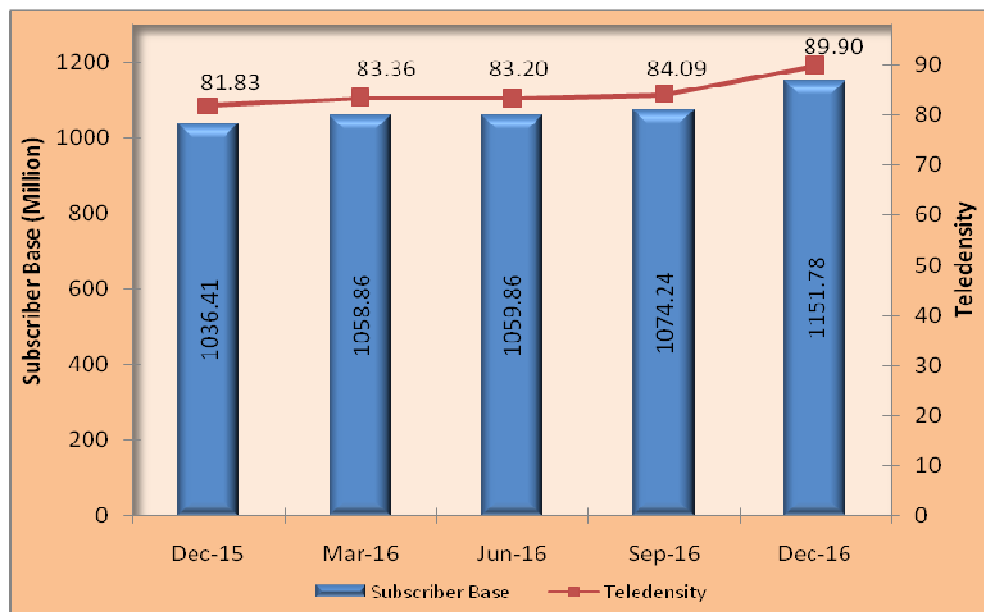
(Data As on Q.E. 31st December, 2016)	
Telecom Subscribers (Wireless + Wireline)	
Total Subscribers	1,151.78 Million
% change over the previous quarter	7.22%
Urban Subscribers	683.14 Million
Rural Subscribers	468.64 Million
Market share of Private Operators	89.79%
Market share of PSU Operators	10.21%
Teledensity	89.90
Urban Teledensity	170.15
Rural Teledensity	53.27
Wireless Subscribers	
Total Wireless Subscribers	1,127.37 Million
% change over the previous quarter	7.70%
Urban Subscribers	662.60 Million
Rural Subscribers	464.78 Million
GSM Subscribers	1,112.30 Million
CDMA Subscribers	15.07 Million
Market share of Private Operators	91.09%
Market share of PSU Operators	8.91%
Teledensity	88.00
Urban Teledensity	165.04
Rural Teledensity	52.84
Wireline Subscribers	
Total Wireline Subscribers	24.40 Million
% change over the previous quarter	-0.37%
Urban Subscribers	20.55 Million
Rural Subscribers	3.86 Million
Market share of Private Operators	29.46%
Market share of PSU Operators	70.54%
Teledensity	1.90
Urban Teledensity	5.12
Rural Teledensity	0.44
No. of Village Public Telephones (VPT)	2,36,163
No. of Public Call Office (PCO)	4,91,190
Telecom Financial Data	
Gross Revenue (GR) during the quarter	₹ 66,532 Crore
% change in GR over the previous quarter	-6.79%
Adjusted Gross Revenue (AGR) during the quarter	₹ 45,905 Crore
% change in AGR over the previous quarter	-9.17%
Share of Public sector undertakings in Access AGR	10.46%
Monthly Average Revenue Per User (ARPU) for Access Services	₹ 112

Internet/Broadband Subscribers	
Total Internet Subscribers	391.50 Million
% change over previous quarter	6.54%
Narrowband subscribers	155.41 Million
Broadband subscribers	236.09 Million
Wired Internet Subscribers	21.51 Million
Wireless Internet Subscribers	370.00 Million
Urban Internet Subscribers	276.44 Million
Rural Internet Subscribers	115.06 Million
Total Internet Subscribers per 100 population	30.56
Urban Internet Subscribers per 100 population	68.86
Rural Internet Subscribers per 100 population	13.08
Broadcasting & Cable Services	
Number of private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	899
Number of Pay TV Channels	287
Number of private FM Radio Stations (excluding All India Radio)	273
Number of Pay Subscribers Registered with Private DTH Operators	97.05 Million
Number of Pay Subscribers Active with Private DTH Operators	62.65 Million
Number of Community Radio Stations licenced (GOPA signed)	255
Number of Operational Community Radio Stations	201
Number of pay DTH Operators	6
Revenue & Usage Parameters	
Monthly ARPU GSM Full Mobility Service	₹ 104
Monthly ARPU CDMA Full Mobility Service	₹ 141
Minutes of Usage (MOU) per subscriber per month - GSM Full Mobility Service	360 Minutes
Minutes of Usage (MOU) per subscriber per month - CDMA Full Mobility Service	255 Minutes
Total Outgoing Minutes of Usage for Internet Telephony	251 Million
Data Usage of Mobile Users	
Data Usage per subscriber per month – GSM (2G+3G+4G)	884.29 MB
Data Usage per subscriber per month - CDMA	503.41 MB
Data Usage per subscriber per month – Total(GSM+CDMA)	878.63 MB
Average outgo per MB data for GSM including LTE	₹ 0.16
Average outgo per MB data for CDMA	₹ 0.12

Executive Summary

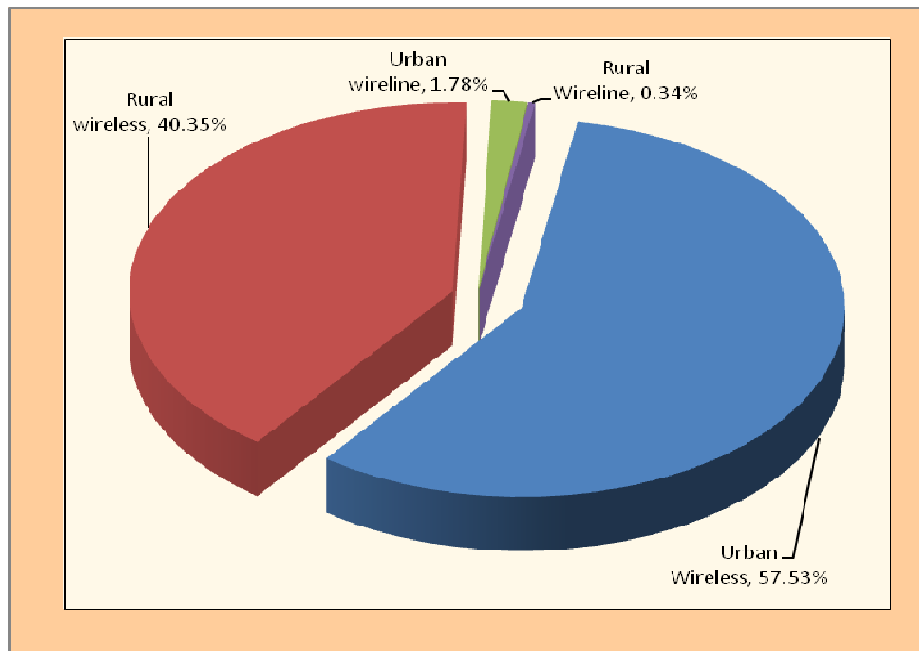
1. The number of telephone subscribers in India increased from 1,074.24 million at the end of Sep-16 to 1,151.78 million at the end of Dec-16, registering a growth of 7.22% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 11.13% over the same quarter of last year. The overall Teledensity in India increased from 84.09 as QE Sep-16 to 89.90 as on QE Dec-16.

Trends in Telephone subscribers and Teledensity in India



2. Subscription in Urban Areas increased from 624.38 million at the end of Sep-16 to 683.14 million at the end of Dec-16, and Urban Teledensity also increased from 156.24 to 170.15 during the same period. Rural subscription also increased from 449.86 million to 468.64 million and Rural Teledensity also increased from 51.24 to 53.27 during the same period.
3. Out of the total subscription, the share of Rural subscription declined from 41.88% at the end of Sep-16 to 40.69% at the end of Dec-16.

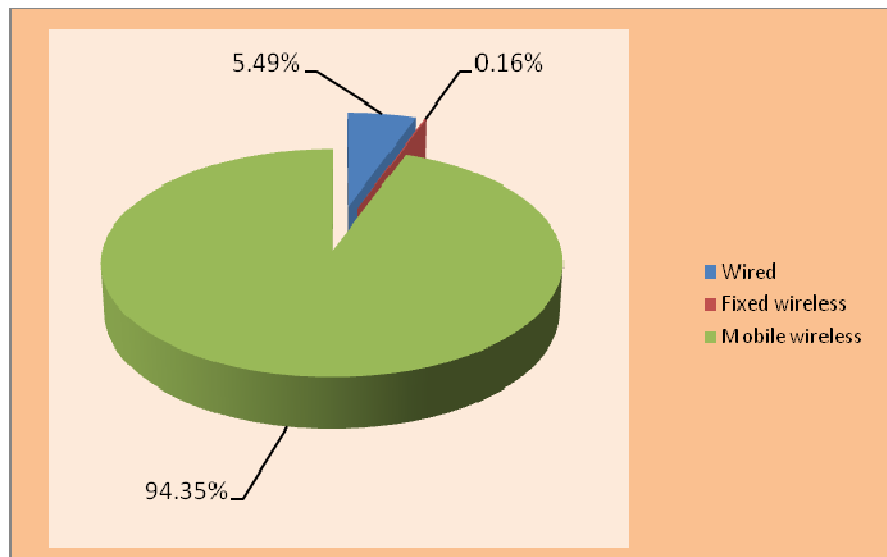
Composition of Telephone Subscribers



4. With a net addition of 77.63 million subscribers during the quarter, total wireless (GSM+CDMA) subscriber base increased from 1,049.74 million at the end of Sep-16 to 1,127.37 million at the end of Dec-16, registering a quarterly growth rate of 7.40% over the previous quarter. The year-on-year (Y-O-Y) growth rate of wireless subscribers for Dec-16 is 11.52%.
5. Wireless Tele-density increased from 82.17 at the end of Sep-16 to 88.00 at the end of Dec-16.
6. Wireline subscriber base further declined from 24.49 million at the end of Sep-16 to 24.40 million at the end of Dec-16, registering a quarterly decline rate of 0.37%. The year-on-year (Y-O-Y) decline rate in wireline subscribers for Dec-16 is 4.37%.
7. Wireline Teledensity declined from 1.92 at the end of Sep-16 to 1.90 at the end of Dec-16.

8. Total number of Internet subscribers has increased from 367.48 million at the end of Sep-16 to 391.50 million at the end of Dec-16, registering a quarterly growth rate of 6.54%. Out of 391.50 million, Wired Internet subscribers are 21.51 million and Wireless Internet subscribers are 370.00 million.

Composition of internet subscription

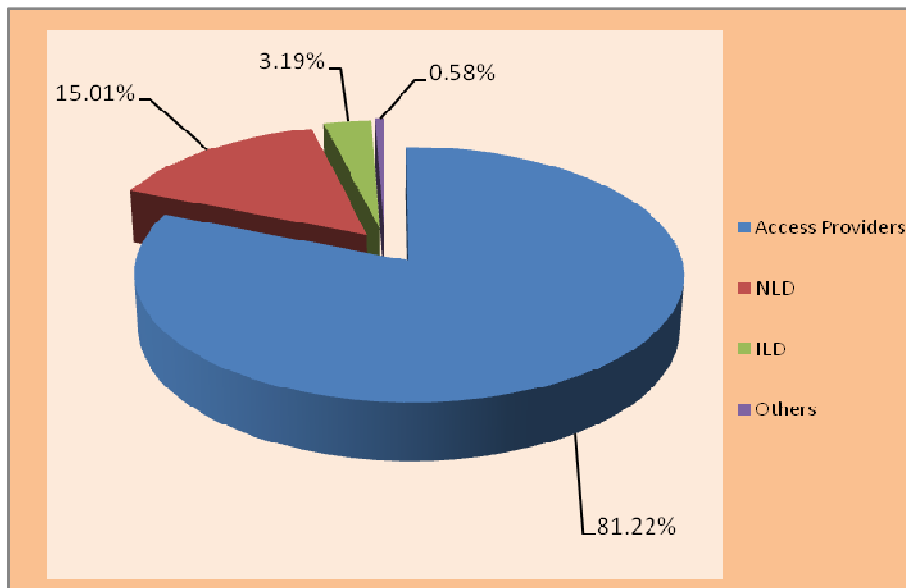


9. The Internet subscriber base of 391.50 million at the end of Dec-16 is comprised of Broadband Internet subscriber base of 236.09 million and Narrowband Internet subscriber base of 155.41 million.
10. The broadband Internet subscriber base grew by 22.77% from 192.30 million at the end of Sep-16 to 236.09 million at the end of Dec-16. On the other hand, the narrowband Internet subscriber base declined by 11.29% from 175.18 million at the end of Sep-16 to 155.41 million at the end of Dec-16.
11. Monthly Average Revenue per User (ARPU) for GSM service (including LTE) declined by 14.10%, from ₹121 in QE Sep-16 to ₹104 in QE Dec-16. Monthly ARPU for GSM service (including LTE) declined by 15.32% on Y-O-Y in this quarter.

12. Prepaid ARPU for GSM service per month declined from ₹103 in QE Sep-16 to ₹86 in QE Dec-16, and Postpaid ARPU per month also declined from ₹485 in QE Sep-16 to ₹456 in QE Dec-16.
13. On an all India average, the overall MOU per subscriber per month for GSM service declined by 1.58% from 366 for QE Sep-16 to 360 in QE Dec-16.
14. Prepaid MOU per subscriber for GSM service declined from 339 in QE Sep-16 to 335 in QE Dec-16, and postpaid MOU also declined from 885 in QE Sep-16 to 849 in QE Dec-16.
15. Monthly ARPU for CDMA full mobility service declined by 8.20%, from ₹154.05 in QE Sep-16 to ₹141.42 in QE Dec-16. Monthly ARPU for CDMA full mobility service increased by 36.86% on Y-O-Y basis in this quarter.
16. The total MOU per subscriber per month for CDMA full mobility service declined by 4.99%, from 269 in QE Sep-16 to 255 in QE Dec-16. The outgoing MOUs declined from 145 in QE Sep-16 to 129 in QE Dec-16, however incoming MOUs increased from 124 in QE Sep-16 to 127 in QE Dec-16.
17. Gross Revenue (GR) and Adjusted Gross Revenue (AGR) of Telecom Service Sector for the QE Dec-16 has been ₹66,532 Crore and ₹45,905 Crore respectively. GR and AGR declined by 6.79% and 9.17% respectively in QE Dec-16 as compared to previous quarter.
18. The year-on-year (Y-O-Y) growth in GR and AGR over the same quarter in last year has been 1.81% and -0.39% respectively.

19. Pass-through charges declined from ₹20,839 Crore in Q.E. Sep-16 to ₹20,627 in Q.E. Dec-16. The quarterly and the year-on-year (Y-O-Y) growth rates of pass-through charges for QE Dec-16 are -1.01% and 7.10% respectively.
20. The License Fee declined from ₹4,091 Crore for the QE Sep-16 to ₹3,698 Crore for the QE Dec-16. The quarterly and the year-on-year (Y-O-Y) growth rates of license fee are -9.62% and 0.20% respectively in this quarter.
21. Access services contributed 81.22% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR), License Fee and Spectrum Usage Charges(SUC) declined by 8.09%, 10.55%, 10.92% and 12.29% respectively however, Pass Through Charges increased by 0.38% in QE Dec-16.
22. Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹131.10 in QE Sep-16 to ₹111.63 in QE Dec-16.

Composition of Adjusted Gross Revenue



23. The performance of 2G wireless service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given as below:

Parameters showing improvement in QoS	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • SDCCH/ Paging Chl. Congestion • TCH Congestion • Worst affected cells having more than 3% TCH drop (call drop) rate • Connection with good voice quality • Metering and billing credibility- post paid • Metering and billing credibility - pre paid • Resolution of billing/charging/validity complaints (98% within 4 weeks) • Resolution of billing/charging/validity complaints (100% within 6 weeks) • Accessibility of call centre/customer care • %age of calls answered by the operators (voice to voice) within 90 sec 	<ul style="list-style-type: none"> • Worst affected BTSs due to downtime • Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) • %age requests for Termination/Closure of service complied within 7 days • Time taken for refund of deposits after closures

24. The performance of 3G wireless service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given below:

Parameters showing improvement in QoS	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • BTSs and Node-B's Accumulated downtime (not available for service) (%age) • Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH 	<ul style="list-style-type: none"> • Point of Interconnection (POI) Congestion

25. The performance of wireline service providers in terms of QoS during the quarter vis-à-vis that in the previous quarter is given below:

Parameters showing improvement in QoS	Parameters showing deterioration in QoS
<ul style="list-style-type: none"> • Fault incidences (No. Of faults/ 100 subs/month) • Fault repaired by next working day for urban areas • Response time to the customer for Assistance- Accessibility of call centre/Customer care. • %age of calls answered by the operators (voice to voice) within 90 seconds. 	<ul style="list-style-type: none"> • Fault repaired within 5 days for urban areas • Mean Time to Repaired (MTTR) • Metering and billing credibility – Post-paid • Termination/Closure of service 100% within 7 days

26. A total number of 899 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 31st December, 2016.
27. During the quarter ending December 2016, there were 287 pay channels as reported by 47 broadcasters as compared to 281 pay channels reported in the previous quarter. 287 pay channels include 208 SD pay TV channels and 79 HD Pay TV channels. During the quarter ending December 2016, as per the reporting, Six new pay channels were commenced. No pay channel was converted into FTA & no channel was reported to be discontinued.
28. Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained a registered pay subscriber base of around 97.05 million (including 62.65 million active subscribers). As on December 2016, there are 6 pay DTH

service providers. This is besides the viewership of the free DTH services of Doordarshan.

29. Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, as on 31st December 2016, there are 273 operational private FM Radio stations and 84 existing cities with operational FM radio channels as compared to 260 private FM Radio Stations reported in the previous quarter. According to the reporting of advertisement revenue done by the FM Radio Service Providers, it has emerged that during the quarter ending 31st December 2016, 13 new private FM Radio Stations have become operational.
30. As per data received from MIB, as on 31st December, 2016, out of the 255 community radio licenses issued so far, 201 stations are operational.

Trends at a Glance

A. Access Service (Wireline + Wireless)

	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber Base (in million)									
Wireline	25.52	25.22	24.74	24.49	24.40	-4.37%	-3.25%	-1.37%	-0.37%
Wireless	1010.89	1033.63	1035.12	1049.74	1127.37	11.52%	9.07%	8.91%	7.40%
Total	1036.41	1058.86	1059.86	1074.24	1151.78	11.13%	8.78%	8.67%	7.22%
Rural	435.75	449.17	450.41	449.86	468.64	7.55%	4.33%	4.05%	4.17%
Urban	600.66	609.69	609.45	624.38	683.14	13.73%	12.05%	12.09%	9.41%
2) Teledensity									
Wireline	2.01	1.99	1.94	1.92	1.90	-5.46%	-4.08%	-1.94%	-0.65%
Wireless	79.82	81.38	81.26	82.17	88.00	10.24%	8.13%	8.29%	7.09%
Total	81.83	83.36	83.20	84.09	89.90	9.86%	7.84%	8.05%	6.91%
Rural	49.94	51.37	51.41	51.24	53.27	6.67%	3.70%	3.62%	3.96%
Urban	152.45	154.01	153.22	156.24	170.15	11.61%	10.48%	11.05%	8.90%
3) Service Provider wise Subscribers Base (in Million)									
Bharti	246.89	254.90	259.47	263.74	269.68	9.23%	5.80%	3.94%	2.25%
Vodafone	193.69	198.04	199.49	200.84	204.82	5.74%	3.43%	2.67%	1.98%
Idea	171.91	175.07	176.23	178.82	190.52	10.82%	8.82%	8.10%	6.54%
BSNL	97.64	101.11	103.74	107.66	110.53	13.20%	9.31%	6.54%	2.66%
Aircel	85.63	87.09	88.93	90.14	90.88	6.12%	4.35%	2.18%	0.81%
Reliance	102.05	103.58	99.88	88.34	87.72	-14.05%	-15.31%	-12.18%	-0.70%
Reliance Jio	-	-	-	15.98	72.16	-	-	-	351.56%
Tata	62.43	61.82	61.10	58.79	54.71	-12.37%	-11.51%	-10.47%	-6.94%
Telenor	50.70	52.45	53.09	52.86	54.47	7.43%	3.84%	2.60%	3.05%
MTNL	7.13	7.06	7.07	7.07	7.10	-0.40%	0.55%	0.42%	0.43%
Sistema	8.06	7.75	7.65	6.78	5.94	-26.40%	-23.41%	-22.37%	-12.41%
Quadrant	3.30	3.42	3.19	3.24	3.26	-1.09%	-4.54%	2.23%	0.81%
Videocon	6.96	6.56	-	-	-	-	-	-	-
Total	1036.41	1058.86	1059.86	1074.24	1151.78	11.13%	8.78%	8.67%	7.22%

B. Internet Services

	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1) Subscriber's Base (in million)									
A. Wired Internet Subscribers	19.98	20.44	20.76	21.26	21.51	7.65%	5.19%	3.59%	1.16%
B. Wireless Internet Subscribers	311.68	322.21	329.72	346.22	370.00	18.71%	14.83%	12.22%	6.87%
i. Mobile Wireless (Mobile & Dongle)	311.16	321.66	329.14	345.60	369.39	18.71%	14.84%	12.23%	6.88%
ii. Fixed Wireless (Wi-Fi, Wi-Max, Point-to-Point Radio & VSAT)	0.52	0.55	0.58	0.62	0.61	16.18%	10.31%	5.92%	-2.27%
Total Internet Subscribers	331.66	342.65	350.48	367.48	391.50	18.04%	14.26%	11.71%	6.54%
2) No. of Internet Subs per 100 Population	26.19	26.98	27.51	28.77	30.56	16.69%	13.28%	11.07%	6.23%

C. Usage and Revenue for Full Mobility Services

1. Traffic (MOU) (minutes of use/subscriber/month)									
i) GSM	376	381	377	366	360	-4.20%	-5.47%	-4.45%	-1.58%
ii) CDMA	252	260	228	269	255	1.51%	-1.75%	12.18%	-4.99%
2) ARPU (₹/sub/ month)									
i) GSM	122.71	124.85	126.05	120.98	103.92	-15.32%	-16.77%	-17.56%	-14.10%
ii) CDMA	103.33	103.54	98.51	154.05	141.42	36.86%	36.58%	43.56%	-8.20%

D. Telecom Financial Data

	QE Dec 2015	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	%age change over Dec-2015	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016
						(12 months)	(9 months)	(6 months)	(3 months)
1. Telecom Sector									
i) Gross Revenue (₹ in Crores)	65347.09	68335.39	73344.66	71378.69	66532.37	1.81%	-2.64%	-9.29%	-6.79%
ii) Adjusted Gross Revenue (₹ in Crores)	46086.66	48379.00	53383.55	50539.20	45905.34	-0.39%	-5.11%	-14.01%	-9.17%
2. Access Services									
Adjusted Gross Revenue (₹ in Crores)	38293.56	39885.55	44754.11	41681.33	37283.71	-2.64%	-6.52%	-16.69%	-10.55%
ARPU per month (AGR/ Average subscribers/3)	123.77	126.91	140.88	131.10	111.63	-9.80%	-12.04%	-20.76%	-14.85%

Introduction

This Report presents the Key Parameters and growth trends for the Telecom Services in India for the quarter ending December, 2016. It provides a broad perspective on the Telecom Services to serve as a reference document for various stakeholders, research agencies and analysts. Chapter-1 depicts the growth pattern, in terms of Subscriber base and Tele-density of Wireline, Wireless, Internet and Value Added Services (VAS). Chapter-2 covers the key revenue and usage parameters. Chapter-3 gives the financial and accounting data. Chapter-4 covers performance of various telecom service providers in terms of QoS. The information relating to Cable TV, DTH & Radio Broadcast services is provided in Chapter-5.

2. The Report has been prepared based on the information furnished by the Service Providers. It is also available on TRAI's website (www.trai.gov.in). Any suggestion pertaining to this report may please be addressed to Advisor (F&EA), TRAI on Tel. +91-11-23230752, Fax. +91-11-23236650 and e-mail: advfea1@traigov.in.

Chapter 1 :

Subscription Data

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- In this report, Tele-density is based on the population projections from census data published by the Office of Registrar General & Census Commissioner of India.

Section A : Access Service - An Overview

1.1 The number of telephone subscribers in India increased from 1,074.24 million at the end of Sep-16 to 1,151.78 million at the end of Dec-16, registering a growth of 7.22% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 11.13% over the same quarter of last year. The overall Tele-density in India increased to 89.90 at the end of Dec-16 from 84.09 at the end of the previous quarter.

Chart 1.1: Trends in Telephone Subscribers and Tele-density in India

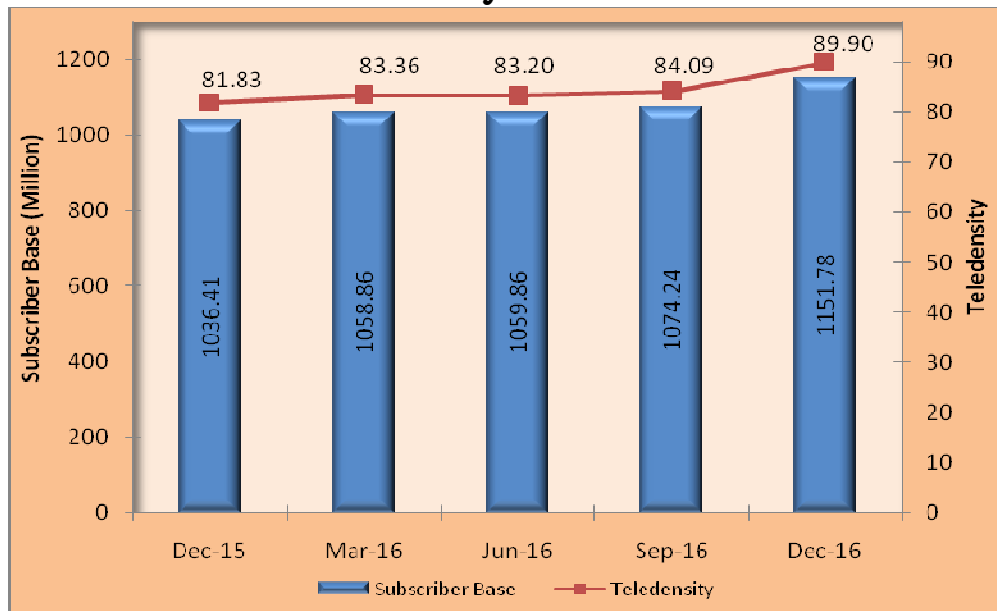
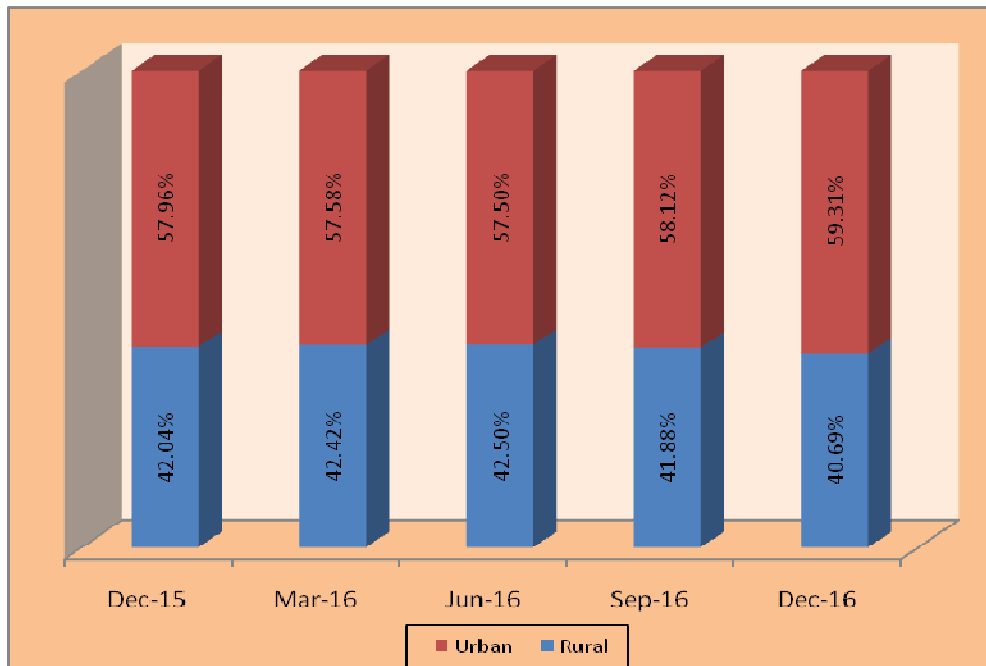


Table 1.1: Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Dec-15	435.75	600.66	49.94	152.45
Mar-16	449.17	609.69	51.37	154.01
Jun-16	450.41	609.45	51.40	153.22
Sep-16	449.86	624.38	51.24	156.24
Dec-16	468.64	683.14	53.27	170.15

- 1.2 Subscription in Urban Areas increased from 624.38 million at the end of Sep-16 to 683.14 million at the end of Dec-16, and the Urban Tele-density also increased from 156.24 to 170.15 during the quarter.
- 1.3 Rural subscription increased from 449.86 million to 468.64 million and the Rural Tele-density also increased from 51.24 to 53.27 during the quarter.
- 1.4 The year-on-year (Y-O-Y) growth rate of Rural and Urban Tele-density from Dec-15 to Dec-16 is 7.55% and 13.73% respectively.

Chart 1.2: Market Share - Rural & Urban Subscribers



- 1.5 Share of rural areas in total telephone subscription has declined from 41.88% at the end of Sep-16 to 40.69% at the end of Dec-16.

Chart 1.3: Composition of Access subscription - Wireline & Wireless

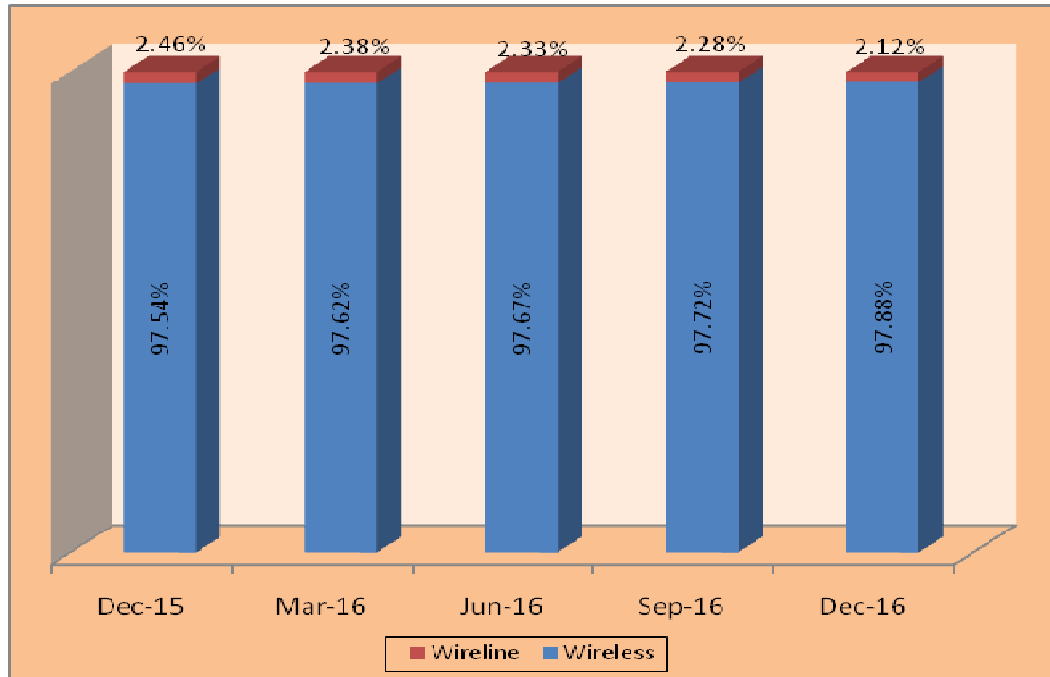


Chart 1.4: Composition of Rural-Urban Telephone Subscribers at the end of the quarter

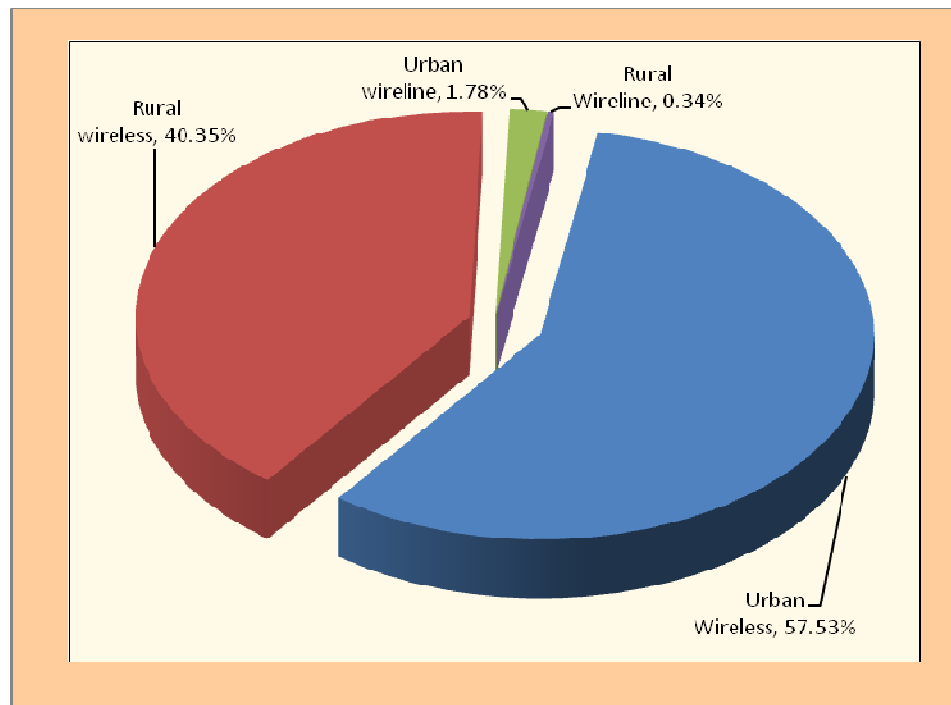


Table 1.2: Service Area wise Access (Wireless+Wireline) Subscriber base

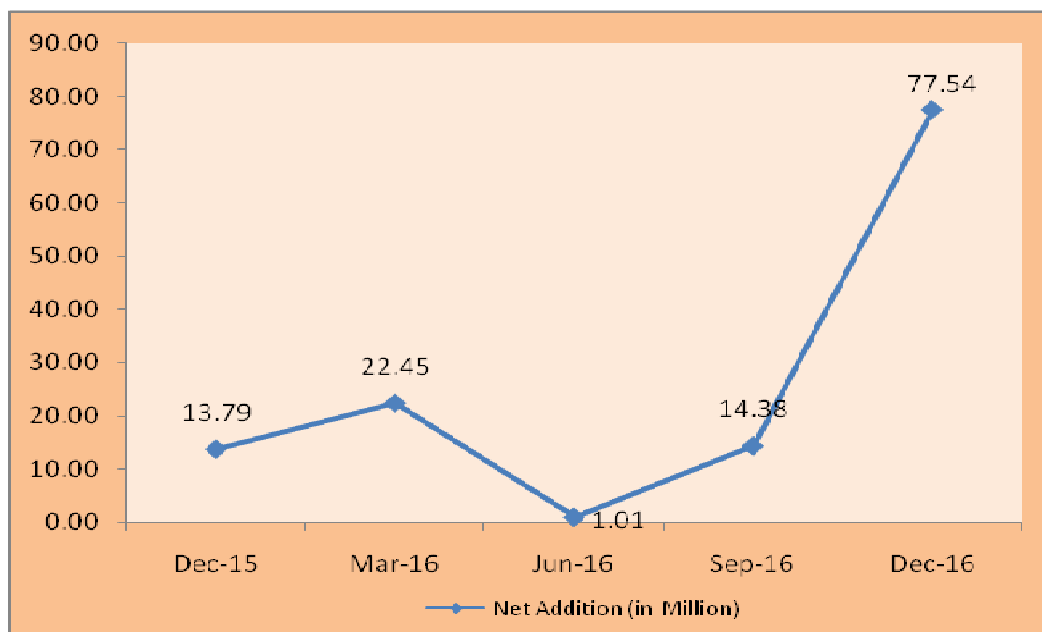
Service Area	Subscribers (million)			
	Sep-16	Dec-16	Net Additions	Rate of Growth (%)
Andhra Pradesh	76.43	83.29	6.85	8.97
Assam	19.99	21.07	1.08	5.39
Bihar	76.89	82.57	5.69	7.40
Delhi	49.11	54.09	4.98	10.14
Gujarat	64.72	69.73	5.01	7.74
Haryana	22.59	24.29	1.70	7.51
Himachal Pradesh	9.48	10.05	0.57	6.03
Jammu & Kashmir	9.70	11.41	1.70	17.56
Karnataka	64.83	69.35	4.52	6.97
Kerala	37.75	40.02	2.27	6.03
Madhya Pradesh	63.88	67.51	3.63	5.68
Maharashtra	86.86	92.64	5.79	6.66
Mumbai	34.91	37.66	2.75	7.88
North East	11.83	12.41	0.59	4.97
Orissa	31.33	33.08	1.75	5.60
Punjab	34.30	37.40	3.10	9.03
Rajasthan	61.91	65.63	3.72	6.01
T.N. (incl. Chennai)	84.74	89.07	4.33	5.11
U.P.(E)	95.31	102.10	6.79	7.13
U.P.(W)	58.88	63.61	4.73	8.03
Kolkata	26.59	29.01	2.42	9.10
West Bengal	52.20	55.77	3.58	6.85
All India	1,074.24	1,151.78	77.54	7.22

1.6 All service areas showed positive growth rate in subscriber base during the quarter ending Dec-16. During the quarter, J&K service area has recorded the highest growth rate of 17.56% followed by Delhi service area with growth rate of 10.14%.

Table 1.3: Service Area wise Rural-Urban Subscribers – Dec-16

Service Area	Subscribers (million)			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	83.29	34.62	48.67	41.57
Assam	21.07	12.82	8.25	60.85
Bihar	82.57	46.16	36.41	55.91
Delhi	54.09	-	54.09	-
Gujarat	69.73	25.79	43.94	36.99
Haryana	24.29	10.88	13.41	44.78
Himachal Pradesh	10.05	6.27	3.78	62.40
Jammu & Kashmir	11.41	5.53	5.87	48.51
Karnataka	69.35	21.09	48.26	30.41
Kerala	40.02	17.30	22.73	43.21
Madhya Pradesh	67.51	31.08	36.43	46.04
Maharashtra	92.64	41.03	51.61	44.29
Mumbai	37.66	1.05	36.61	2.80
North East	12.41	6.17	6.25	49.66
Orissa	33.08	18.56	14.52	56.11
Punjab	37.40	12.75	24.65	34.09
Rajasthan	65.63	32.53	33.10	49.56
T.N. (incl. Chennai)	89.07	24.77	64.30	27.81
U.P.(E)	102.10	50.70	51.40	49.66
U.P.(W)	63.61	27.93	35.68	43.90
Kolkata	29.01	1.94	27.06	6.70
West Bengal	55.77	37.28	18.49	66.85
All India	1,151.78	468.64	683.14	40.69

Chart 1.5: Trend of Net Addition in Telephone Subscription



1.7 The net addition in telephone subscribers is 77.54 million in QE Dec-16 as against the net addition of 14.38 million in QE Sep-16.

Table 1.4 : Service Area wise Teledensity

Service Area/ States	As on 30 th September, 2016			As on 31 st December, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	50.89	176.92	86.12	54.04	195.73	93.66
Assam	45.82	140.81	61.22	46.76	154.78	64.34
Bihar	36.38	174.94	55.52	38.58	189.64	59.46
Delhi	-	-	226.94	-	-	248.19
Gujarat	66.46	148.85	101.12	69.44	162.42	108.63
Haryana	58.63	121.56	81.55	61.66	131.98	87.36
Himachal Pradesh	97.99	395.13	133.05	99.64	447.34	140.79
J&K	54.70	136.77	77.67	61.40	167.25	91.08

Service Area/ States	As on 30 th September, 2016			As on 31 st December, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Karnataka	53.00	182.16	103.42	55.14	196.39	110.39
Kerala	62.98	229.93	105.23	64.45	250.13	111.41
Madhya Pradesh	39.56	117.83	61.09	40.89	126.02	64.35
Maharashtra (incl. Mumbai)*	64.22	135.86	99.06	66.59	146.81	105.69
North East	57.15	164.48	84.28	58.69	175.31	88.24
Orissa	51.49	174.48	73.42	52.87	189.98	77.38
Punjab	72.21	158.56	110.34	73.42	178.54	119.97
Rajasthan	56.99	169.46	84.21	58.18	185.35	88.97
Tamil Nadu (incl. Chennai)	84.94	141.14	118.86	88.07	148.60	124.76
Uttar Pradesh (incl. UPE & UPW)	42.47	148.51	66.81	44.07	163.53	71.53
West Bengal (incl. Kolkata)*	55.32	150.68	82.74	57.72	165.93	88.85
All India	51.24	156.24	84.09	53.27	170.15	89.90

* Population data/projections are available state-wise only.

Notes:-

1. Tele-density figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Delhi Service area, apart from the State of Delhi, includes wireless subscribers of the areas served by the local exchanges of Ghaziabad & Noida (in UP) and Gurgaon & Faridabad (in Haryana).
3. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatisgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

1.8 Himachal Pradesh service area has the highest Rural Tele-density of 99.64 followed by Tamil Nadu service area (88.07). Bihar service area continues to have the lowest Rural Tele-density of 38.58.

Table 1.5 : Growth/Decline in Subscriber base

Service Provider	Subscriber base (millions)			Rate of Growth (%)	Market Share in QE Sep-16 (%)	Market Share in QE Dec-16 (%)
	Sep-16	Dec-16	Net Additions			
Bharti	263.74	269.68	5.94	2.25	24.55	23.41
Vodafone	200.84	204.82	3.98	1.98	18.70	17.78
IDEA	178.82	190.52	11.70	6.54	16.65	16.54
BSNL	107.66	110.53	2.87	2.66	10.02	9.60
Aircel	90.14	90.88	0.73	0.81	8.39	7.89
Reliance Com.	88.34	87.72	-0.62	-0.70	8.22	7.62
Reliance Jio	15.98	72.16	56.18	351.56	1.49	6.26
Tata	58.79	54.71	-4.08	-6.94	5.47	4.75
Telenor	52.86	54.47	1.61	3.05	4.92	4.73
MTNL	7.07	7.10	0.03	0.43	0.66	0.62
Sistema	6.78	5.94	-0.84	-12.41	0.63	0.52
Quadrant	3.24	3.26	0.03	0.81	0.30	0.28
Total	1,074.24	1,151.78	77.54	7.22	100	100

1.9 Bharti Airtel is the leading service provider in access segment in terms of number of subscribers with 269.68 million subscribers. During the QE Dec-16, Reliance Jio Infocom Ltd. recorded the highest net addition of 56.18 million subscribers followed by Idea (11.70 million) and Bharti Airtel (5.94 million).

1.10 Tata Teleservices recorded the highest decline of 4.08 million subscribers during the QE Sep-16. Reliance Communications Group and Sistema Shyam also showed decline in their subscriber base during the quarter.

Table 1.6 : Market Share of the service providers in total rural subscriber base – Q.E. Dec-16

Service Provider	No. of Total Subscribers (in millions)	No. of Rural Subscribers (in millions)	Percentage of Rural subscribers	Market share of Rural subscribers (%)
IDEA	190.52	104.35	54.77	22.27
Vodafone	204.82	109.94	53.68	23.46
Bharti	269.68	130.57	48.42	27.86
Aircel	90.88	31.68	34.86	6.76
BSNL	110.53	35.37	32.00	7.55
Telenor	54.47	16.55	30.39	3.53
Tata	54.71	14.00	25.59	2.99
Reliance Com.	87.72	20.59	23.47	4.39
Sistema	5.94	1.28	21.55	0.27
Reliance Jio	72.16	4.12	5.72	0.88
Quadrant	3.26	0.13	3.84	0.03
MTNL	7.10	0.05	0.68	0.01
Total	1,151.78	468.64	40.69	100

1.11 IDEA continues to remain the service provider with highest proportion of rural subscribers (54.77%), followed by Vodafone (53.68%) to their total subscribers.

Section B : Wireless Service

Table 1.7: List of Cellular Mobile (GSM, LTE & CDMA) Service Providers currently providing service [As on 31st December, 2016]

Sl.No.	Service Provider	Area of Operation
1	Bharti Airtel Ltd	All India
2	Aircel Group	All India*
3	Reliance Communications Ltd	All India (except Assam & NE)
4	Reliance Telecom Ltd	Kolkata, MP, WB, HP, Bihar, Orissa, Assam & NE
5	Vodafone (India) Ltd	All India
6	Tata Teleservices	All India except Assam, NE & J&K
7	IDEA Cellular Ltd	All India#
8	Sistema Shyam Telelink	Delhi, Kolkata, Gujarat, Karnataka, Tamil Nadu (incl. Chennai), Kerala, UP(W), Rajasthan & W.B.
9	BSNL	All India (except Delhi & Mumbai)
10	MTNL	Delhi & Mumbai
11	Quadrant	Punjab
12	Telenor Communications (India) Pvt. Ltd.	Maharashtra, Gujarat, AP, UP(W), UP(E), Bihar & Assam
13	Reliance Jio Infocom Ltd	All India

*TN & AP – CMTS

#Delhi, HP & UP(E) – CMPS.

In remaining LSAs the TSPs have either UASL, UL or UL(AS).

Surce : DoT website

1.12 Total Wireless (GSM+CDMA) subscriber base increased from 1,049.74 million at the end of Sep-16 to 1,127.37 million at the end of Dec-16, thereby showing a quarterly growth rate of 7.40%. During this quarter, net addition of 77.63 million wireless subscribers was recorded. The year-on-year (Y-O-Y) growth rate of wireless subscribers is 11.52% for Q.E. Dec-16.

1.13 Wireless Teledensity increased from 82.17 at the end of Sep-16 to 88.00 at the end of Dec-16.

Chart 1.6: Wireless Subscriber Base and Teledensity

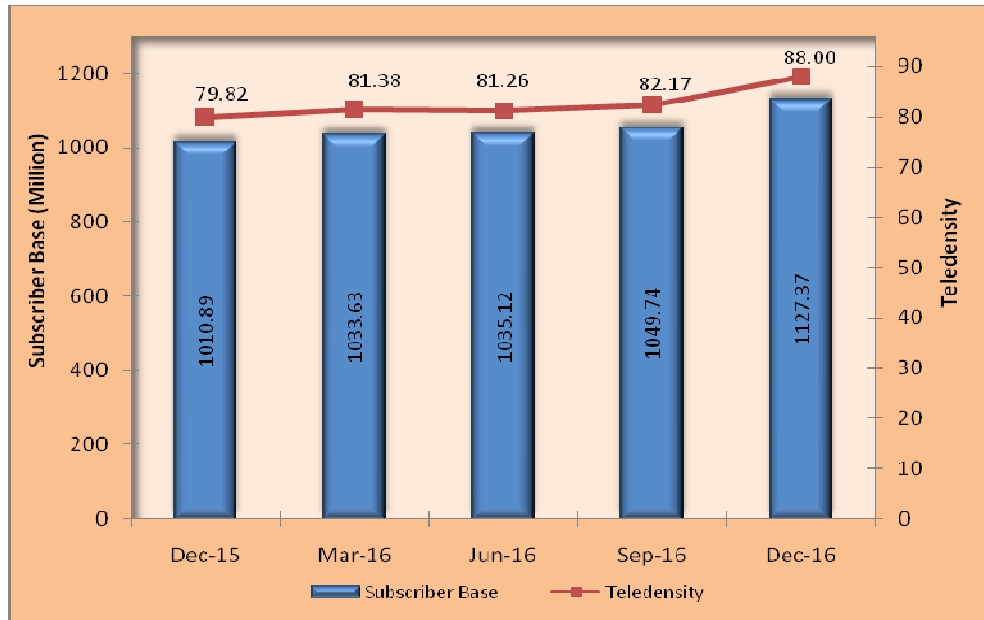


Table 1.8: Wireless Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Tele-density	
	Rural	Urban	Rural	Urban
Dec-15	431.22	579.67	49.43	147.12
Mar-16	444.84	588.79	50.88	148.73
Jun-16	446.33	588.78	50.95	148.03
Sep-16	445.94	603.80	50.80	151.10
Dec-16	464.78	662.60	52.84	165.04

1.14 The Rural Wireless subscribers increased from 445.94 million at the end of Sep-16 to 464.78 million at the end of Dec-16, and the urban wireless subscribers also increased from 603.80 million to 662.60 million during the quarter.

1.15 Quarterly Growth rates of Rural and Urban wireless subscriptions are 4.22% and 9.74% respectively during the QE Dec-16.

1.16 The share of rural wireless subscription declined from 42.48% to 41.23% in total wireless subscription in this quarter.

Chart 1.7: Wireless Market Share - Rural & Urban

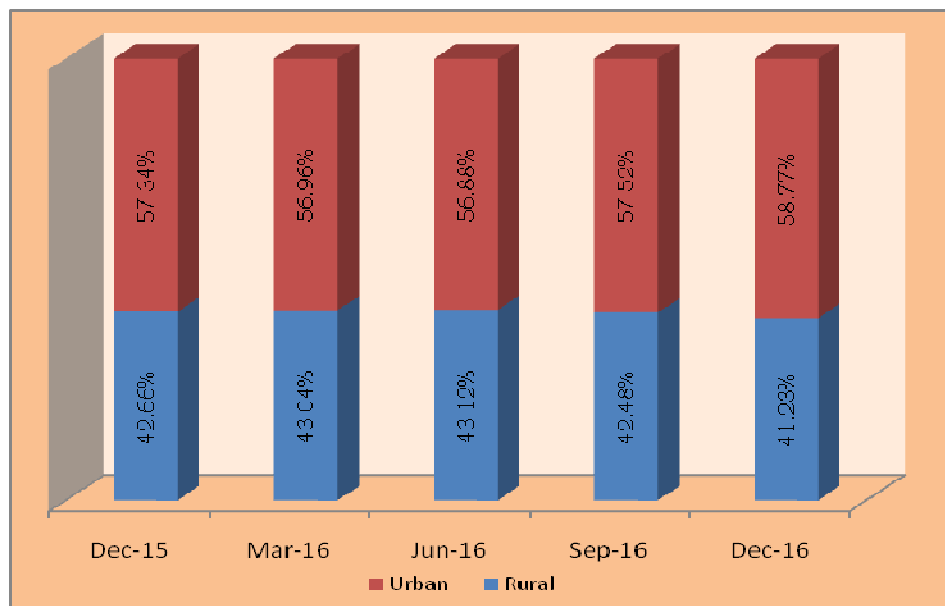


Table 1.9: Growth in Wireless Subscriber base

Service Provider	Subscriber Base (millions)			Rate of Growth (%)	Market Share Sep-16 (%)	Market Share Dec-16 (%)
	Sep-16	Dec-16	Net Additions			
Bharti	259.94	265.85	5.91	2.27	24.76	23.58
Vodafone	200.72	204.69	3.97	1.98	19.12	18.16
IDEA	178.82	190.52	11.70	6.54	17.03	16.90
BSNL	93.77	96.79	3.02	3.22	8.93	8.59
Aircel	90.14	90.88	0.73	0.81	8.59	8.06
Reliance Com.	87.16	86.54	-0.62	-0.71	8.30	7.68
Reliance Jio	15.98	72.16	56.18	351.56	1.52	6.40
Telenor	52.86	54.47	1.61	3.05	5.04	4.83
Tata	57.05	52.98	-4.08	-7.14	5.44	4.70
Sistema	6.72	5.88	-0.84	-12.51	0.64	0.52
MTNL	3.61	3.63	0.02	0.44	0.34	0.32
Quadrant	2.98	3.00	0.02	0.80	0.28	0.27
Total	1,049.74	1,127.37	77.63	7.40	100	100

- 1.17 Bharti remains the leading service provider with 265.85 million wireless subscribers at the end of Dec-16, followed by Vodafone (204.69 million).
- 1.18 In terms of net additions during the quarter ending Dec-16, Reliance Jio (56.18 million) has added the highest number of subscribers, followed by Idea (11.70 million).

Table 1.10: Service Area wise Wireless Subscriber base

Service Area	Subscriber base (in million)			
	Sep-16	Dec-16	Net Additions	Rate of change (%)
Andhra Pradesh	74.79	81.65	6.87	9.18
Assam	19.84	20.91	1.08	5.43
Bihar	76.56	82.26	5.69	7.44
Delhi	45.91	50.88	4.97	10.82
Gujarat	63.37	68.38	5.01	7.90
Haryana	22.24	23.94	1.70	7.65
Himachal Pradesh	9.33	9.90	0.58	6.17
Jammu & Kashmir	9.57	11.27	1.70	17.75
Karnataka	62.60	67.13	4.52	7.23
Kerala	35.60	37.91	2.31	6.49
Madhya Pradesh	62.85	66.48	3.63	5.77
Maharashtra	84.97	90.77	5.79	6.82
Mumbai	31.90	34.63	2.73	8.55
North East	11.70	12.29	0.59	5.03
Orissa	31.04	32.79	1.76	5.66
Punjab	33.27	36.38	3.11	9.34
Rajasthan	61.14	64.88	3.73	6.10
T.N. (incl. Chennai)	82.20	86.54	4.34	5.28
U.P.(E)	94.81	101.60	6.79	7.16
U.P.(W)	58.47	63.21	4.74	8.10
Kolkata	25.71	28.14	2.43	9.45
West Bengal	51.86	55.44	3.58	6.91
All India	1,049.74	1,127.37	77.63	7.40

Table 1.11: Service Area wise Wireless Rural-Urban Subscriber base

Service Area	Subscriber base (in million) – Dec-16			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	81.65	34.31	47.34	42.02
Assam	20.91	12.79	8.12	61.17
Bihar	82.26	46.08	36.18	56.02
Delhi	50.88	2.37	48.51	4.67
Gujarat	68.38	25.59	42.79	37.43
Haryana	23.94	10.81	13.14	45.13
Himachal Pradesh	9.90	6.18	3.72	62.40
Jammu & Kashmir	11.27	5.52	5.76	48.93
Karnataka	67.13	20.90	46.22	31.14
Kerala	37.91	15.99	21.92	42.17
Madhya Pradesh	66.48	30.96	35.52	46.57
Maharashtra	90.77	40.69	50.08	44.82
Mumbai	34.63	1.05	33.57	3.04
North East	12.29	6.14	6.15	49.95
Orissa	32.79	18.50	14.30	56.41
Punjab	36.38	12.50	23.88	34.35
Rajasthan	64.88	32.39	32.48	49.93
T.N. (incl. Chennai)	86.54	24.41	62.13	28.21
U.P.(E)	101.60	50.63	50.97	49.83
U.P.(W)	63.21	27.88	35.32	44.12
Kolkata	28.14	1.94	26.20	6.90
West Bengal	55.44	37.14	18.30	67.00
All India	1,127.37	464.78	662.60	41.23

1.19 Detailed table on service provider wise subscriber base in each service area is at Annexure-1.1.

Table 1.12 : Service Area wise Wireless Tele-density

Service Area	As on 30 th September, 2016			As on 31 st December, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
A.P.	50.40	171.56	84.26	53.56	190.40	91.82
Assam	45.71	138.38	60.74	46.66	152.36	63.86
Bihar	36.31	173.70	55.29	38.51	188.42	59.23
Delhi	-	-	212.16	-	-	233.47
Gujarat	65.93	144.58	99.01	68.91	158.17	106.53
Haryana	58.21	118.78	80.27	61.25	129.26	86.11
H.P.	96.43	388.25	130.86	98.13	440.60	138.66
J&K	54.51	133.55	76.64	61.21	163.92	90.01
Karnataka	52.50	173.86	99.87	54.65	188.11	106.85
Kerala	57.99	220.96	99.23	59.57	241.25	105.52
M.P.	39.40	114.66	60.10	40.73	122.86	63.36
Maharashtra (incl. Mumbai)*	63.67	128.25	95.08	66.05	139.21	101.71
North East	56.90	161.74	83.41	58.45	172.61	87.37
Orissa	51.31	171.51	72.74	52.69	187.05	76.71
Punjab	70.71	152.93	107.01	71.96	172.97	116.69
Rajasthan	56.75	165.93	83.17	57.95	181.87	87.95
Tamil Nadu (incl. Chennai)	83.66	136.07	115.29	86.79	143.57	121.21
Uttar Pradesh (incl. UPE&UPW)*	42.41	147.01	66.42	44.01	162.05	71.15
West Bengal (incl. Kolkata)*	55.10	146.78	81.47	57.51	162.10	87.60
All India	50.80	151.10	82.17	52.84	165.04	88.00

* Population data/projections are available state-wise only.

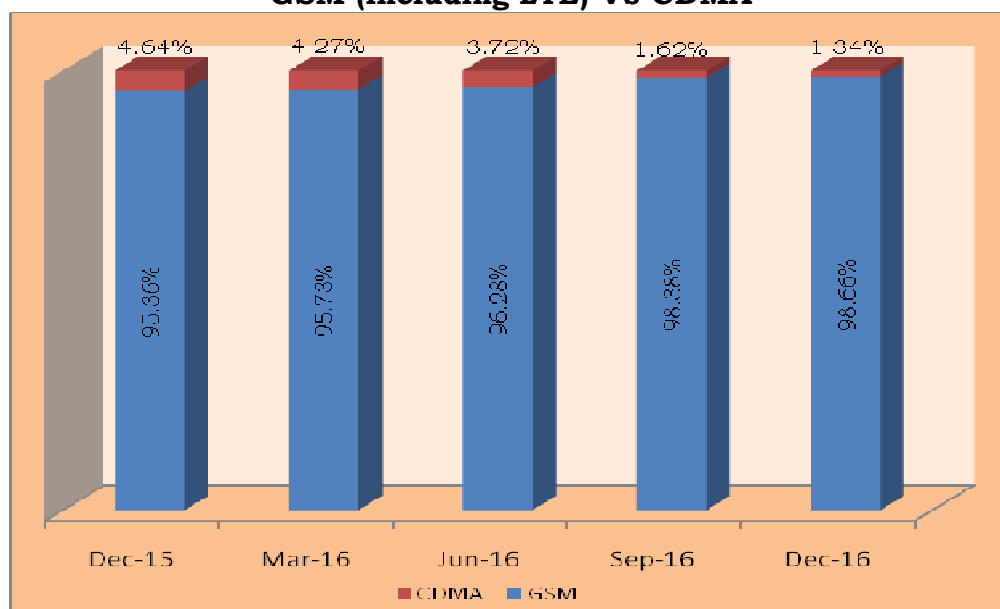
Notes:

1. Teledensity figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Delhi service area, apart from the State of Delhi, includes the areas served by the local exchanges of Ghaziabad & Noida (in UP) and Gurgaon & Faridabad (in Haryana).
3. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatishgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

Table 1.13 : Rural Wireless Subscriber base and Market Share

Service Provider	Total number of wireless Subscribers (in millions)	Rural Subscribers (in millions)	% of Rural subscribers in total	Market Share of Rural Subscribers (%)
IDEA	190.52	104.35	54.77	22.45
Vodafone	204.69	109.94	53.71	23.66
Bharti	265.85	130.57	49.12	28.09
Aircel	90.88	31.68	34.86	6.82
BSNL	96.79	31.63	32.68	6.81
Telenor	54.47	16.55	30.39	3.56
Tata	52.98	13.95	26.33	3.00
Reliance Com.	86.54	20.58	23.79	4.43
Sistema	5.88	1.27	21.59	0.27
Relianc Jio	72.16	4.12	5.72	0.89
Quadrant	3.00	0.07	2.25	0.01
MTNL	3.63	0.05	1.34	0.01
Total	1,127.37	464.78	41.23	100

Chart 1.8: Share of Wireless Subscription: GSM (including LTE) Vs CDMA



1.20 At the end of Sep-16, GSM (including LTE) subscribers constituted 98.66% share of the wireless market as compare to 99.38% in previous quarter.

GSM Services (including LTE)

1.21 The GSM (including LTE) subscribers increased from 1,032.77 million at the end of Sep-16 to 1,112.30 million at the end of Dec-16, showing a quarterly growth of 7.70%. Bharti with 265.85 million subscribers continues to be the largest GSM mobile operator, followed by Vodafone (204.69 million).

Table 1.14 : Group-wise Market Share (in terms of subscription) within GSM Service

Service Provider	As on 30th September, 2016		As on 31st December, 2016		Net Additions during QE Dec-16 (in million)
	No of Subscribers (in millions)	Market Share (%)	No of Subscribers (in millions)	Market Share (%)	
Bharti	259.94	25.17	265.85	23.90	5.91
Vodafone	200.72	19.44	204.69	18.40	3.97
Idea	178.82	17.31	190.52	17.13	11.70
BSNL	92.91	9.00	95.97	8.63	3.06
Aircel	90.14	8.73	90.88	8.17	0.73
Reliance Comm. Group	87.16	8.44	86.54	7.78	-0.62
Telenor	52.86	5.12	54.47	4.90	1.61
Tata	47.66	4.61	44.60	4.01	-3.06
Reliance Jio	15.98	1.55	72.16	6.49	56.18
MTNL	3.61	0.35	3.63	0.33	0.01
Quadrant	2.98	0.29	3.00	0.27	0.02
Total	1,032.77	100	1,112.30	100	79.53

1.22 There has been a net increase of 79.53 million GSM subscribers during the quarter ending Dec-16. Tata Teleservices and Reliance Communications Group showed decline in their GSM subscriber base.

CDMA Services

1.23 There were only three telecom service providers providing CDMA services during the quarter ending December, 2016. The CDMA subscriber base declined from 16.97 million at the end of Sep-16 to 15.07 million at the end of Dec-16, thereby showing a quarterly decline rate of 11.18%. Tata Teleservices with 8.38 million subscribers became the leading operator in CDMA service.

Table 1.15 : Market Share (in terms of subscription) within CDMA Service

Service Provider	As on 30th September, 2016		As on 31st December, 2016		Net Addition during the quarter (in million)
	No of Subscribers (in million)	Market Share (%)	No of Subscribers (in million)	Market Share (%)	
Tata	9.40	55.37	8.38	55.59	-1.02
Sistema	6.72	39.59	5.88	39.00	-0.84
BSNL	0.86	5.04	0.82	5.41	-0.04
Total	16.97	100	15.07	100	-1.90

1.24 There has been a net decline of 1.90 million CDMA subscribers during the quarter ending Dec-16.

1.25 In terms of net additions during the quarter, all the three service providers recorded decline in their CDMA subscriber base.

Section C : Wireline Service

Table 1.16 : Service Providers providing Wireline Service

[As on 31st December, 2016]

Sl. No.	Name of the Service Provider	Area of Operation
1	BSNL	All India except Delhi & Mumbai
2	MTNL	Delhi & Mumbai
3	Bharti Airtel Ltd	Andhra Pradesh (including Telangana), Delhi, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh (including Chhatisgarh), Maharashtra, Mumbai, Punjab, Tamil Nadu (including Chennai), Karnataka, Kerala, Kolkata, Rajasthan, UP(East) and UP(West)
4	Tata Teleservices Ltd. & Tata Teleservices (Mah) Ltd.	All India except N.E., Assam and J&K
5	Quadrant Televentures Ltd. (HFCL)	Punjab
6	Sistema Shyam Telelink Ltd.	Rajasthan
7	Reliance Communications Ltd.	All India except J&K, Assam & North-East
8	Vodafone	All India except J&K

1.26 Total Wireline subscriber base declined from 24.49 million at the end of Sep-16 to 24.40 million at the end of Dec-16 with quarterly declining rate of 0.37%. Overall Wireline Teledensity was 1.90 at the end of Dec-16 as against 1.92 of the previous quarter.

1.27 Rural subscriber base has shown decline of 1.62%, from 3.92 Million at the end of Sep-16 to 3.86 Million at the end of Dec-16. During the same period, Urban subscription also recorded decline of 0.13%, from 20.57 million to 20.55 million.

Chart 1.9: Wireline Subscriber Base and Teledensity

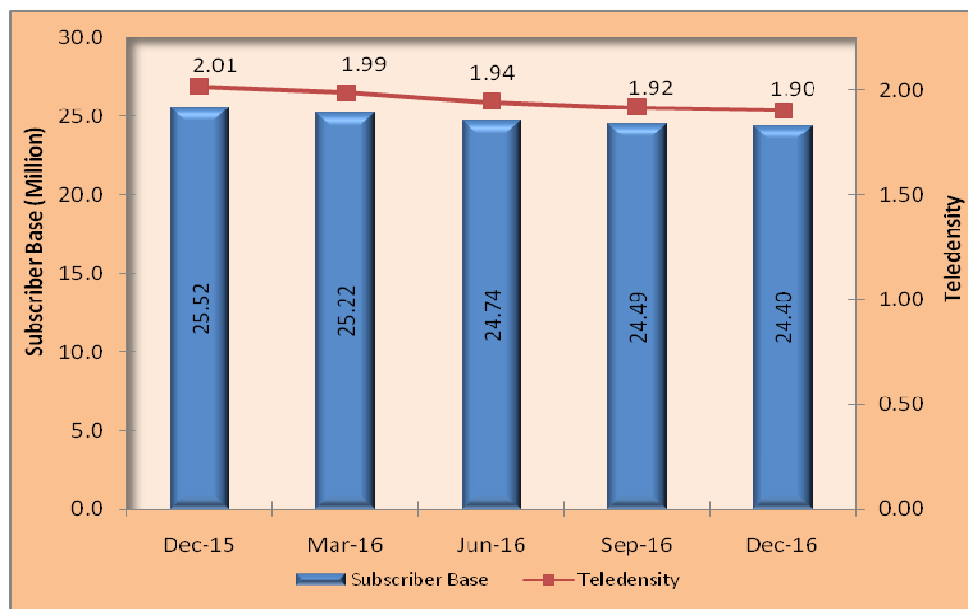


Table 1.17 : Wireline Subscriber Base & Teledensity - Rural & Urban

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
Dec-15	4.53	20.99	0.52	5.33
Mar-16	4.32	20.90	0.49	5.28
Jun-16	4.08	20.66	0.47	5.20
Sep-16	3.92	20.57	0.45	5.15
Dec-16	3.86	20.55	0.44	5.12

Table 1.18 : Service Provider wise Subscriber base (Rural - Urban)

Service Provider	Subscriber Base (million) Dec-16			Share of Rural subscription (%)
	Rural	Urban	Total	
BSNL	3.74	10.00	13.74	27.22
Bharti	--	3.83	3.83	--
MTNL	--	3.48	3.48	--
Tata	0.05	1.68	1.73	2.92
Reliance	0.002	1.17	1.18	0.14
Quadrant	0.06	0.20	0.26	22.02
Vodafone	--	0.13	0.13	--
Sistema	0.01	0.05	0.06	17.62
Total	3.86	20.55	24.40	15.81

Chart 1.10: Composition of Wireline Subscriber base - Rural & Urban

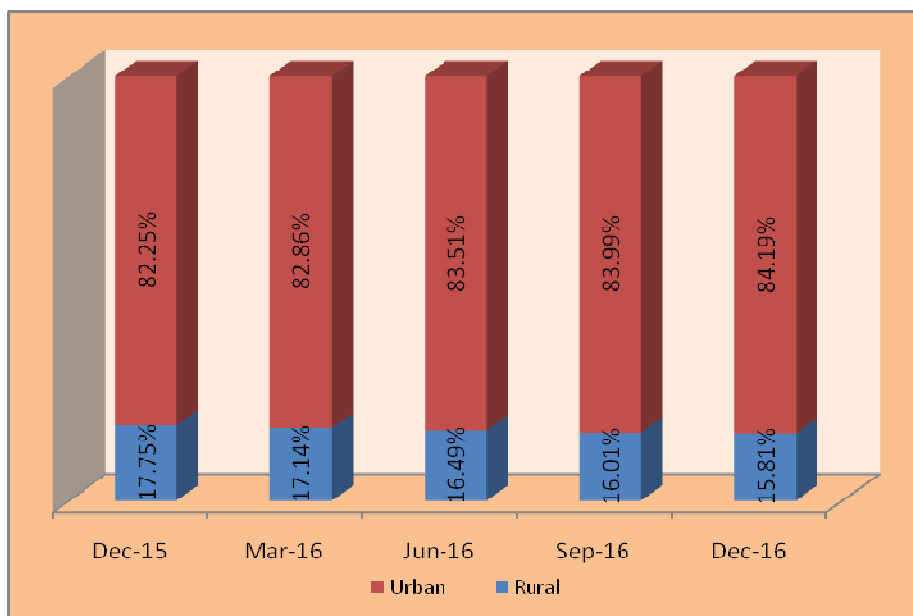


Table 1.19 : Service Provider wise growth in Wireline Subscriber base

Service Provider	Subscriber Base (million)			Rate of change (%)	Market share-Sep-16 (%)	Market share-Dec-16 (%)
	Sep-16	Dec-16	Net Addition			
BSNL	13.89	13.74	-0.155	-1.11	56.72	56.29
Bharti	3.80	3.83	0.033	0.86	15.50	15.69
MTNL	3.46	3.48	0.018	0.51	14.13	14.25
Tata	1.73	1.73	-0.003	-0.15	7.07	7.09
Reliance	1.18	1.18	0.000	-0.01	4.80	4.82
Quadrant	0.26	0.26	0.002	0.92	1.06	1.07
Vodafone	0.12	0.13	0.015	12.39	0.48	0.54
Sistema	0.06	0.06	0.000	-0.62	0.24	0.24
Total	24.49	24.40	-0.090	-0.37	100	100

1.28 Detailed table on service provider wise subscriber base in each service area is at Annexure-1.2.

Table 1.20: Service Area wise Wireline Subscriber base & Net Additions (in million)

Service Area	Sep-16	Dec-16	Net Additions	Rate of Change (%)
Andhra Pradesh	1.65	1.63	-0.014	-0.82
Assam	0.16	0.16	0.000	-0.13
Bihar	0.32	0.32	-0.005	-1.49
Delhi	3.20	3.21	0.010	0.31
Gujarat	1.35	1.35	0.001	0.04
Haryana	0.35	0.35	-0.005	-1.43
Himachal Pradesh	0.16	0.15	-0.004	-2.61
Jammu & Kashmir	0.13	0.13	0.005	3.72
Karnataka	2.23	2.22	-0.004	-0.16
Kerala	2.15	2.12	-0.034	-1.58
Madhya Pradesh	1.03	1.04	0.002	0.19
Maharashtra	1.88	1.88	-0.008	-0.42
Mumbai	3.01	3.03	0.024	0.79
North East	0.12	0.12	-0.001	-0.79
Orissa	0.29	0.29	-0.001	-0.28
Punjab	1.03	1.02	-0.010	-0.96
Rajasthan	0.76	0.75	-0.011	-1.42
T.N. (incl. Chennai)	2.54	2.54	-0.008	-0.33
U.P.(E)	0.50	0.50	-0.001	-0.16
U.P.(W)	0.41	0.40	-0.009	-2.25
Kolkata	0.87	0.86	-0.011	-1.28
West Bengal	0.34	0.33	-0.006	-1.71
All India	24.49	24.40	-0.090	-0.37

1.29 Delhi, Gujarat, J&K, M.P. and Mumbai service areas showed positive growth in wireline subscriber base during QE Dec-16. All other service areas showed decline rate in wireline subscribers during the same period.

**Table 1.21: Service Area wise Wireline Rural-Urban Subscriber
Base– Dec-16 (in million)**

Service Area	Total Subscribers	Rural Subscribers	Urban Subscribers	% of Rural Subscribers
Andhra Pradesh	1.63	0.31	1.33	18.89
Assam	0.16	0.03	0.13	18.06
Bihar	0.32	0.08	0.23	26.39
Delhi	3.21	-	3.21	-
Gujarat	1.35	0.20	1.15	14.63
Haryana	0.35	0.07	0.28	20.75
Himachal Pradesh	0.15	0.10	0.06	62.56
Jammu & Kashmir	0.13	0.02	0.12	12.88
Karnataka	2.22	0.19	2.03	8.50
Kerala	2.12	1.31	0.81	61.88
Madhya Pradesh	1.04	0.12	0.91	11.76
Maharashtra	1.88	0.34	1.53	18.36
Mumbai	3.03	-	3.03	-
North East	0.12	0.03	0.10	20.86
Orissa	0.29	0.07	0.22	22.59
Punjab	1.02	0.25	0.77	24.85
Rajasthan	0.75	0.13	0.62	17.45
T.N. (incl. Chennai)	2.54	0.36	2.18	14.20
U.P.(E)	0.50	0.07	0.43	14.12
U.P.(W)	0.40	0.04	0.36	10.37
Kolkata	0.86	-	0.86	-
West Bengal	0.33	0.14	0.19	42.79
All India	24.40	3.86	20.55	15.81

Table 1.22: Service Area wise Wireline Teledensity

Service Area	As on 30 th September, 2016			As on 31 st December, 2016		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	0.50	5.36	1.86	0.48	5.33	1.84
Assam	0.10	2.44	0.48	0.10	2.42	0.48
Bihar	0.07	1.24	0.23	0.07	1.22	0.23
Delhi	-	-	14.79	-	-	14.73
Gujarat	0.53	4.27	2.10	0.53	4.25	2.10
Haryana	0.42	2.78	1.28	0.41	2.72	1.26
Himachal Pradesh	1.56	6.89	2.19	1.51	6.74	2.13
Jammu & Kashmir	0.19	3.21	1.04	0.19	3.33	1.07
Karnataka	0.51	8.31	3.55	0.49	8.28	3.54
Kerala	4.99	8.97	5.99	4.88	8.88	5.89
Madhya Pradesh	0.16	3.17	0.99	0.16	3.16	0.99
Maharashtra (incl. Mumbai)*	0.55	7.60	3.98	0.55	7.60	3.98
North East	0.24	2.74	0.88	0.24	2.70	0.87
Orissa	0.19	2.97	0.68	0.19	2.94	0.68
Punjab	1.50	5.62	3.32	1.46	5.57	3.28
Rajasthan	0.24	3.53	1.04	0.23	3.47	1.02
Tamil Nadu (incl. Chennai)	1.28	5.07	3.57	1.28	5.03	3.55
Uttar Pradesh (incl. UPE & UPW)	0.06	1.50	0.39	0.06	1.48	0.39
West Bengal (incl. Kolkata)*	0.21	3.90	1.27	0.21	3.84	1.25
All India	0.45	5.15	1.92	0.44	5.12	1.90

* Population data/projections are available state-wise only

- Note: 1. Teledensity figures are derived from the subscriber data provided by the operators and the population projections, for Urban and Rural areas, of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatisgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

Public Call Offices (PCO)

1.30 Total number of PCOs in the country declined from 5,08,236 at the end of Sep-16 to 4,91,190 at the end of Dec-16. Detailed table of service provider wise PCOs is available at Annexure -1.3.

Chart 1.11: Trend of Number of PCOs

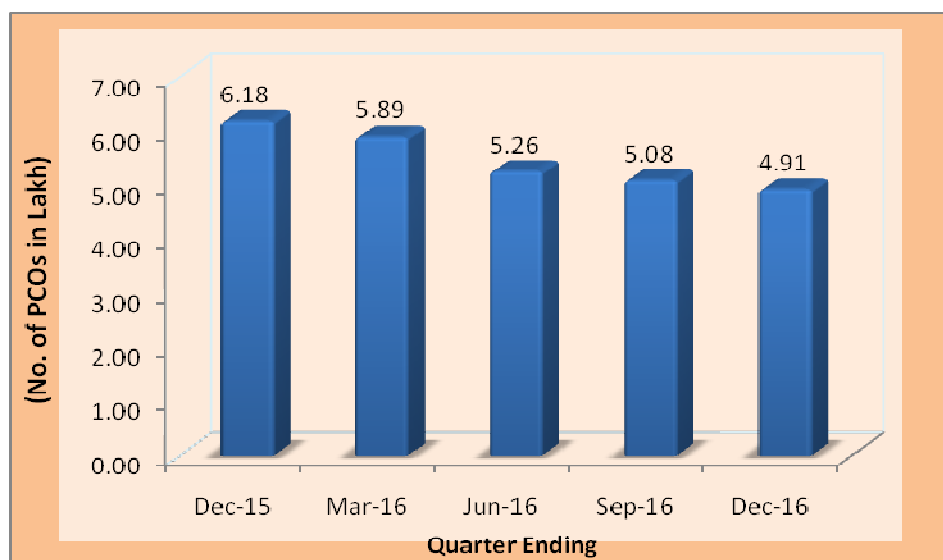


Table 1.23 : Rate of change & Market share of PCOs

Service Provider	Sep-16	Dec-16	Rate of change (%)	Market share (%) (Dec-16)
BSNL	3.10	2.96	-4.52	60.17
MTNL	1.31	1.29	-1.47	26.32
Bharti	0.16	0.15	-4.18	3.12
Quadrant	0.02	0.02	-2.26	0.36
Sistema	0.10	0.10	-1.30	1.95
Tata	0.24	0.25	3.62	5.15
Reliance	0.16	0.14	-7.68	2.92
Total	5.08	4.91	-3.35	100

1.31 Number of PCOs continued shows declining trend. At the Q.E. Dec-16, it has recorded a overall decline of 3.35%. However, M/s Tata Teleservices showed positive growth in its number of PCOs during the quarter. The year-on-year (Y-O-Y) decline rate over the same quarter of the last year is 20.53%.

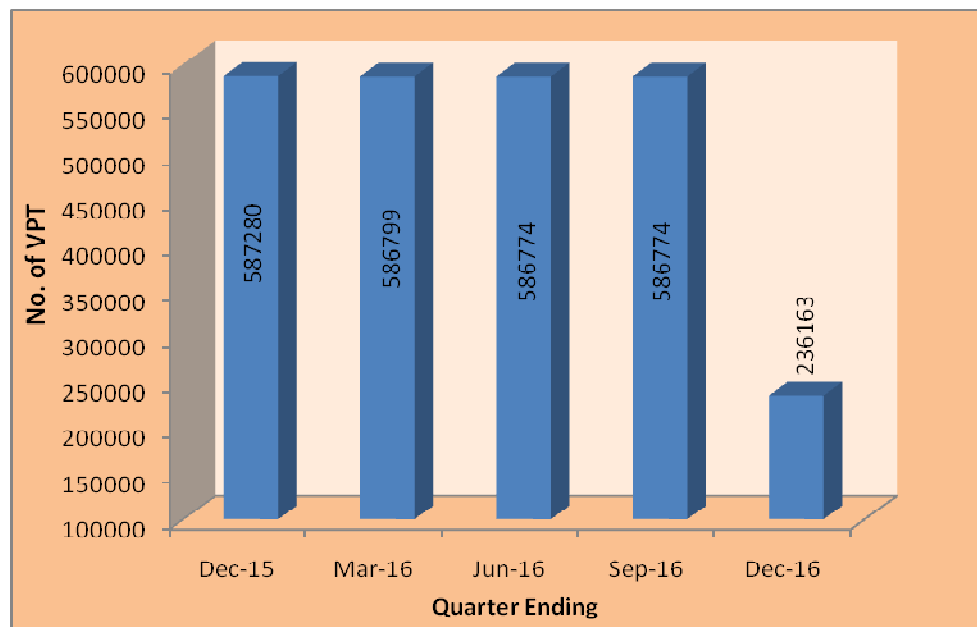
Village Public Telephones (VPTs)

1.32 There are 5,93,731 inhabited villages in India as per census 2001. At the end of the quarter, 39.78% of the total inhabited villages in India have been connected by VPTs.

1.33 Number of VPTs declined from 5,86,774 at the end of Sep-16 to 2,36,163 at the end of Dec-16.

1.34 At the end of Dec-16, only two service providers M/s BSNL and M/s Tata Teleservices were providing VPT in the country. BSNL (2,34,881) has 99.46% market share of total VPTs and Tata Teleservices has 0.54% market share with 1,282 VPTs. Detailed table of VPT is available at Annexure -1.4.

Chart 1.12: Growth/decline Trend in VPTs



Section D: Internet Service

1.35 This section summarizes information submitted by 149 internet service providers for the quarter ending Dec-16. **Part-I** consists of information of Internet service (both narrowband and broadband), **Part-II** consists of broadband service and **Part-III** covers narrowband service.

Part-I : Internet Service (broadband + narrowband)

1.36 As per reports received from operators, total number of internet subscribers increased from 367.48 million at the end of Sep-16 to 391.50 million at the end of Dec-16 with quarterly growth rate of 6.54%.

1.37 Wired Internet subscribers increased from 21.26 million at the end of Sep-16 to 21.51 million at the end of Dec-16 with quarterly growth of 1.16%, and Wireless Internet subscribers increased from 346.22 million at the end of Sep-16 to 370.00 million at the end of Dec-16 with quarterly growth rate of 6.87%.

1.38 Number of Broadband subscribers increased from 192.30 million at the end of Sep-16 to 236.09 million at the end of Dec-16 with quarterly growth rate of 22.77%. However, the number of Narrowband subscribers declined from 175.18 million at the end of Sep-16 to 155.41 million at the end of Sep-16 with quarterly decline rate of 11.29%.

Table 1.24: Trend of Internet subscriber base

Segment	Mode of Access								Total Subscribers (in million)	
	Wired Subscribers (in million)		Wireless Subscribers (in million)							
			Fixed Wireless (Wi-Fi, Wi-Max, Radio & VSAT)		Mobile Wireless (Phone + Dongle)		Total Wireless			
	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16
Broadband	17.84	18.14	0.597	0.589	173.87	217.36	174.46	217.95	192.30	236.09
Narrowband	3.42	3.36	0.027	0.021	171.73	152.03	171.76	152.05	175.18	155.41
Total	21.26	21.51	0.624	0.610	345.60	369.39	346.22	370.00	367.48	391.50

1.39 The following charts present the composition of Internet Subscribers by mode of access and composition of Broadband & Narrowband subscription.

Chart 1.13: Composition of Internet subscription

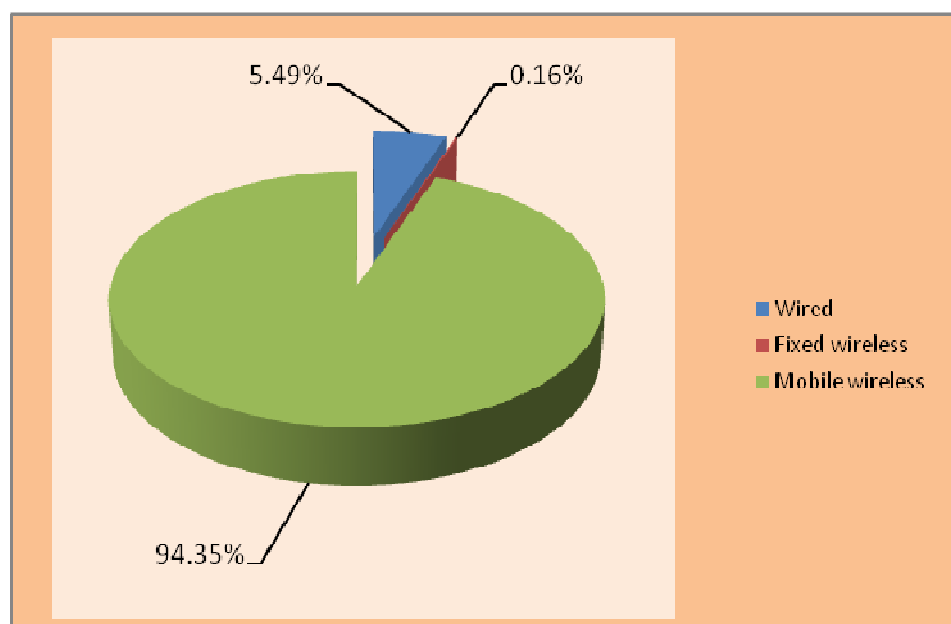
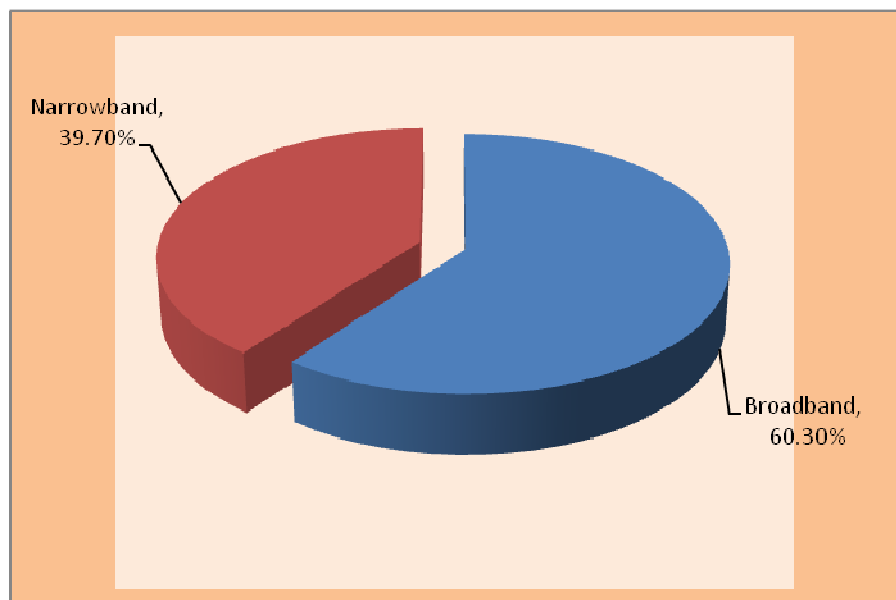
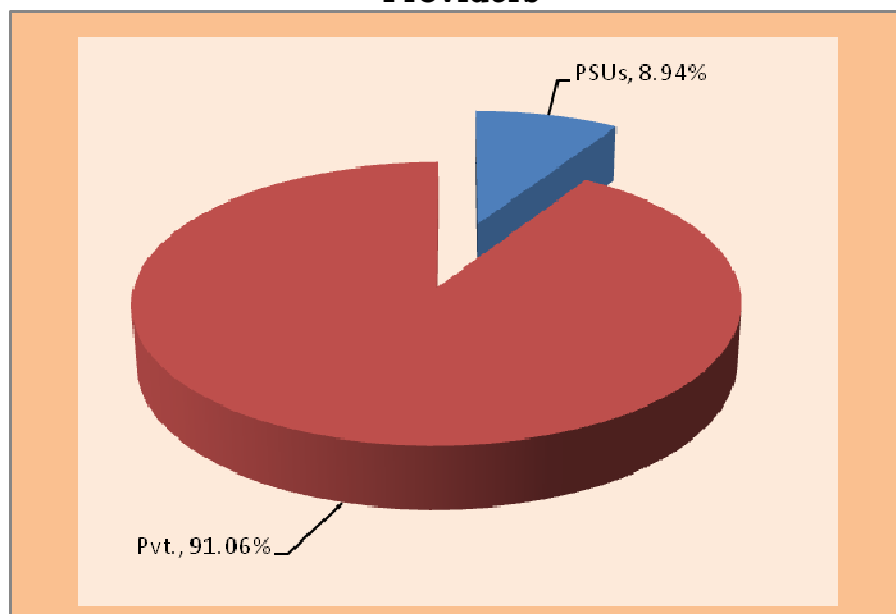


Chart 1.14 : Composition of Broadband & Narrowband subscription



1.40 Private internet service providers hold 91.06% market share of total internet subscribers. The following charts present the composition of market share of PSUs and Private Internet service providers.

Chart 1.15 : Market share of PSUs and Private Internet Service Providers



1.41 The urban/rural break up of internet subscribers are as per the following table.

Table 1.25: Break up of Rural-Urban internet subscriber base

[Subscribers in Millions]

Telecom Service Area	Narrowband (Dec-16)		Broadband (Dec-16)		Total Internet (Dec-16)		Total Internet (Sep-16)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	4.99	6.64	4.67	13.85	9.66	20.49	9.68	17.78
Assam	2.34	0.85	1.19	3.07	3.53	3.92	3.82	3.43
Bihar	6.99	5.77	2.63	7.40	9.61	13.17	9.46	11.67
Delhi	0.32	6.45	0.38	17.90	0.70	24.35	0.67	21.59
Gujarat	3.57	5.25	3.05	12.53	6.62	17.78	6.94	16.23
Haryana	1.42	1.61	1.78	3.77	3.20	5.39	3.40	4.90
Himachal Pradesh	0.91	0.63	0.75	1.13	1.67	1.76	1.86	1.42
Jammu & Kashmir	0.59	0.59	0.44	1.39	1.03	1.99	0.68	1.10
Karnataka	3.05	5.10	2.27	15.06	5.32	20.16	5.68	18.29
Kerala	2.08	2.61	3.78	7.68	5.86	10.29	6.54	9.73
Kolkata	0.16	3.46	0.33	7.08	0.48	10.53	0.49	9.63
Madhya Pradesh	4.98	5.14	2.06	11.31	7.03	16.46	6.84	15.40
Maharashtra	5.48	7.07	4.77	15.29	10.25	22.35	10.30	20.33
Mumbai	0.16	5.13	0.17	13.04	0.33	18.17	0.32	16.25
North East	1.20	0.76	0.84	1.67	2.04	2.43	2.18	2.15
Orissa	2.67	1.73	0.78	4.37	3.45	6.10	3.88	5.17
Punjab	2.47	3.37	1.67	7.85	4.14	11.22	4.64	10.08
Rajasthan	4.77	4.86	2.30	7.61	7.07	12.47	7.52	10.83
Tamil Nadu	3.26	7.68	4.02	15.76	7.28	23.44	6.97	22.21
Uttar Pradesh(East)	8.26	5.90	3.32	8.25	11.59	14.15	12.32	12.18
Uttar Pradesh(West)	4.74	4.67	1.88	6.95	6.62	11.62	6.75	10.21
West Bengal	4.02	1.76	3.57	6.47	7.59	8.22	8.83	7.12
Total	68.40	87.01	46.65	189.44	115.06	276.44	119.79	247.69

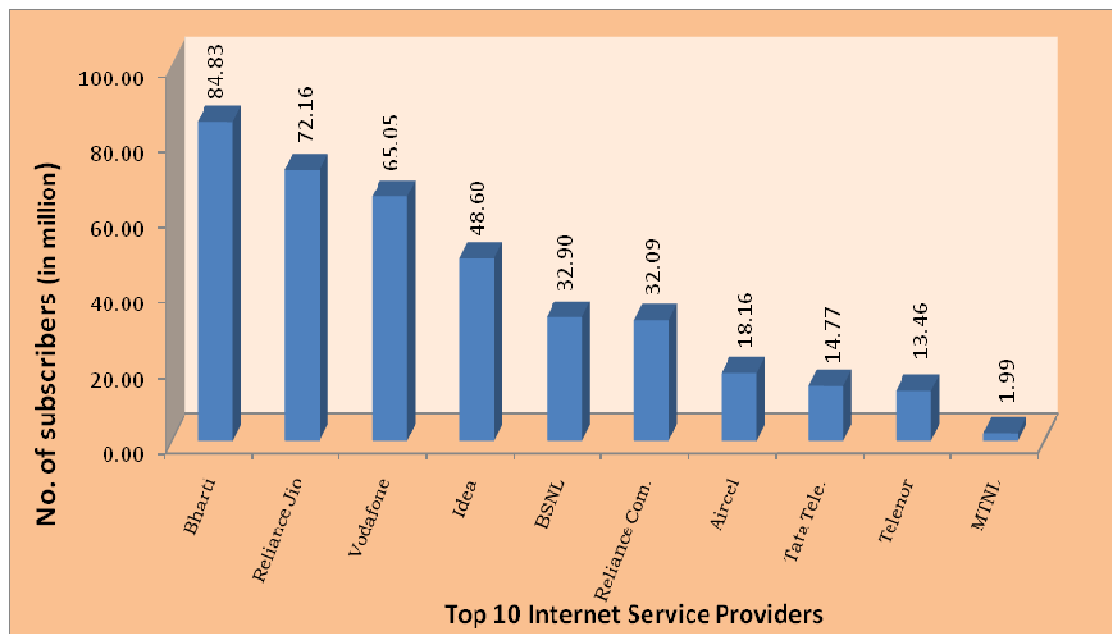
Table 1.26: Internet Subscriber Base and Market Share of top 10 Service Providers – Dec-16

S.No	ISP	No. of Subscribers	Share (%)
1	Bharti Airtel Limited	84832577	21.67
2	Reliance Jio	72157644	18.43
3	Vodafone	65054343	16.62
4	Idea Cellular	48600920	12.41
5	BSNL	32897750	8.40
6	Reliance Communications	32086668	8.20
7	Aircel Ltd	18162631	4.64
8	Tata Teleservices	14772934	3.77
9	Telenor	13463218	3.44
10	MTNL	1993640	0.51
	Total of Top 10 ISPs	384022325	98.09
	Others	7479788	1.91
	Grand Total	391502113	100

1.42 Bharti holds the top position with 21.67% of market share of internet subscribers followed by Reliance Jio with 18.43%. Top 10 Service Providers together hold 98.09% of total internet subscriber base at the QE Dec-16. Detailed table of number of internet subscriber base (broadband and narrowband) of all the service providers is available at Annexure-1.5.

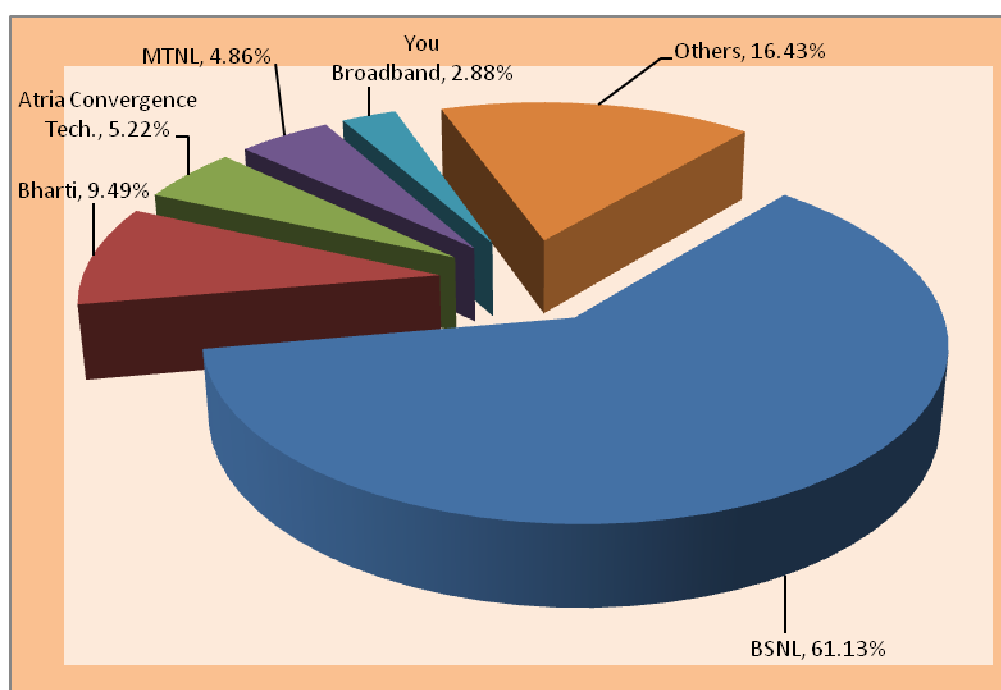
1.43 The following chart depicts the internet subscriber base of top ten ISPs in the QE Dec-16.

Chart 1.16 : Subscriber base of top ten ISPs



1.44 In wired internet segment, BSNL holds 61.13% market share with 13.15 million subscribers, followed by Bharti with 2.04 million subscribers. Total number of wired internet subscriber is 21.51 million at the end of Dec-16.

Chart 1.17 : Composition of Wired Internet subscribers



1.45 In wireless internet segment, Bharti holds 22.38% market share with 82.79 million subscribers followed by Reliance Jio (72.16 million) internet subscribers at the QE Dec-16.

Chart 1.18 : Composition of Wireless Internet subscription

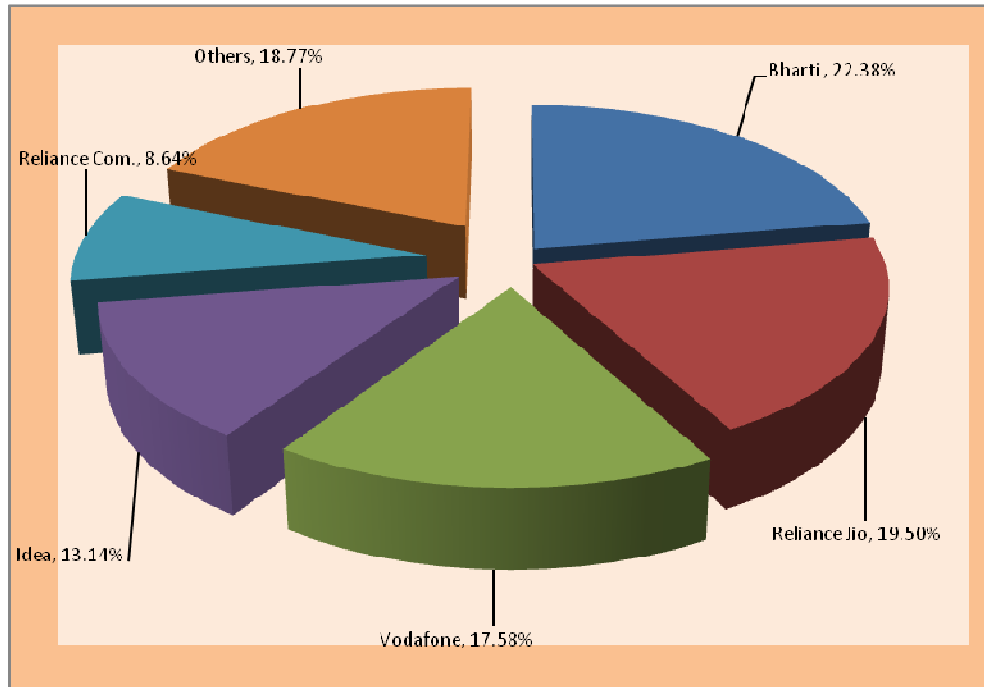


Chart 1.19 : Technology trend for Wireless Internet Access – Dec-16

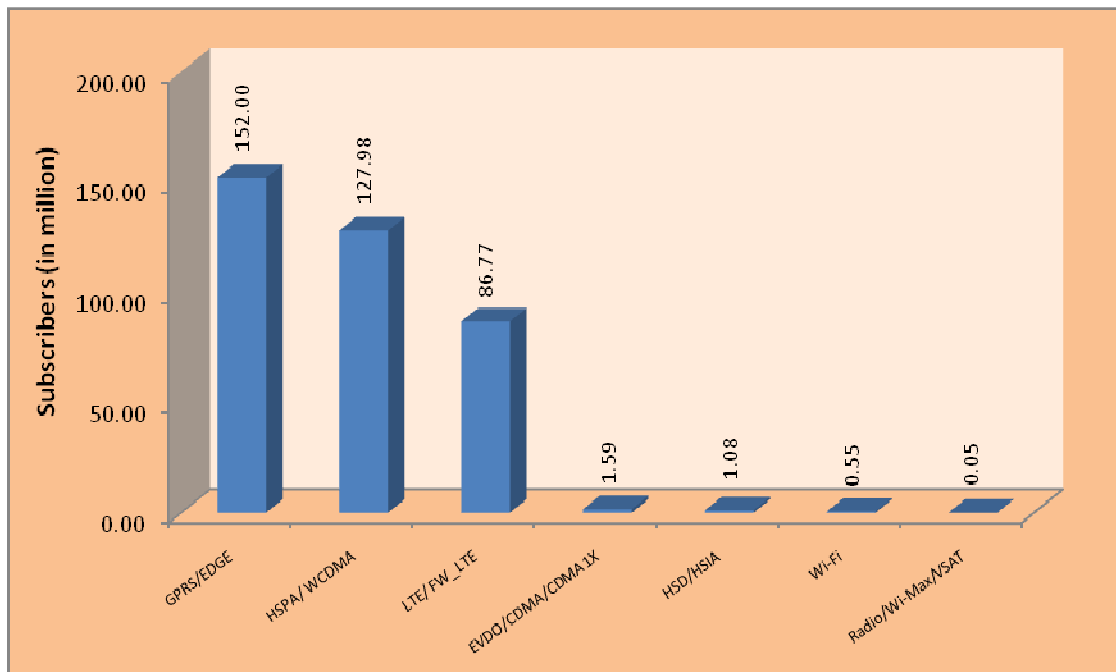
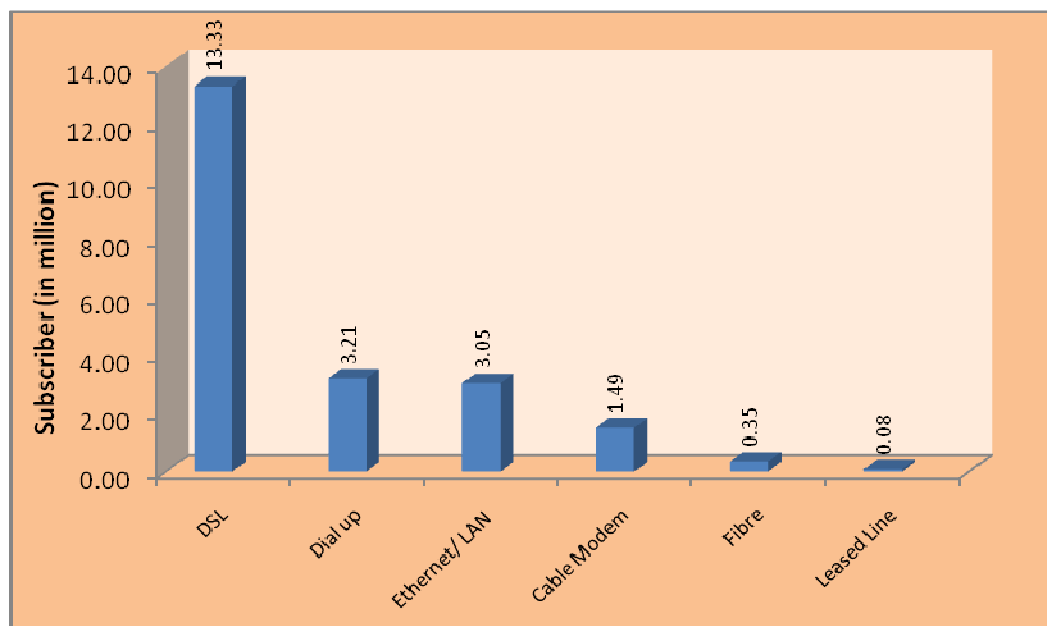


Chart 1.20 : Technology trend for Wired Internet Access – Dec-16



1.46 Top five service areas in terms of internet subscriptions (wired + wireless) are Maharashtra (32.60 million), Tamil Nadu including Chennai (30.72 million), Andhra Pradesh (30.15 million), U.P.(E) (25.74 million) and Karnataka (25.48 million).

Table 1.27 : Service Area wise number of Internet Subscribers per 100 population at the end of Dec-16

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	9.66	20.49	30.15	15.09	82.41	33.91
Assam	3.53	3.92	7.45	12.88	73.55	22.75
Bihar	9.61	13.17	22.78	8.03	68.58	16.41
Delhi	-	-	25.04	88.79	115.87	114.90
Gujarat	6.62	17.78	24.40	17.83	65.72	38.01
Haryana	3.20	5.39	8.58	18.12	52.99	30.87
Himachal Pradesh	1.67	1.76	3.43	26.46	208.26	47.97
Jammu & Kashmir	1.03	1.99	3.02	11.42	56.59	24.08
Karnataka	5.32	20.16	25.48	13.91	82.03	40.55
Kerala	5.86	10.29	16.15	21.82	113.25	44.95

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Madhya Pradesh	7.03	16.46	23.49	9.25	56.93	22.39
Maharashtra	10.25	22.35	32.60	16.74	67.43	41.45
Mumbai	0.33	18.17	18.50			
North East	2.04	2.43	4.47	19.43	68.28	31.80
Orissa	3.45	6.10	9.54	9.81	79.76	22.32
Punjab	4.14	11.22	15.36	23.83	81.26	49.26
Rajasthan	7.07	12.47	19.54	12.65	69.85	26.50
Tamil Nadu	7.28	23.44	30.72	25.89	54.17	43.03
UP (East)	11.59	14.15	25.74	10.20	48.38	18.98
UP (West)	6.62	11.62	18.23			
Kolkata	0.48	10.53	11.02	11.88	68.33	28.12
West Bengal	7.59	8.22	15.81			
Total	115.06	276.44	391.50	13.08	68.86	30.56

* Population data/projections are available state-wise only.

Notes:

1. No. of total internet subscribers per 100 population is derived from the subscriber data provided by the operators and the population projections of the country, published by the Office of the Registrar General & Census Commissioner, India.
2. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatishgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura states.

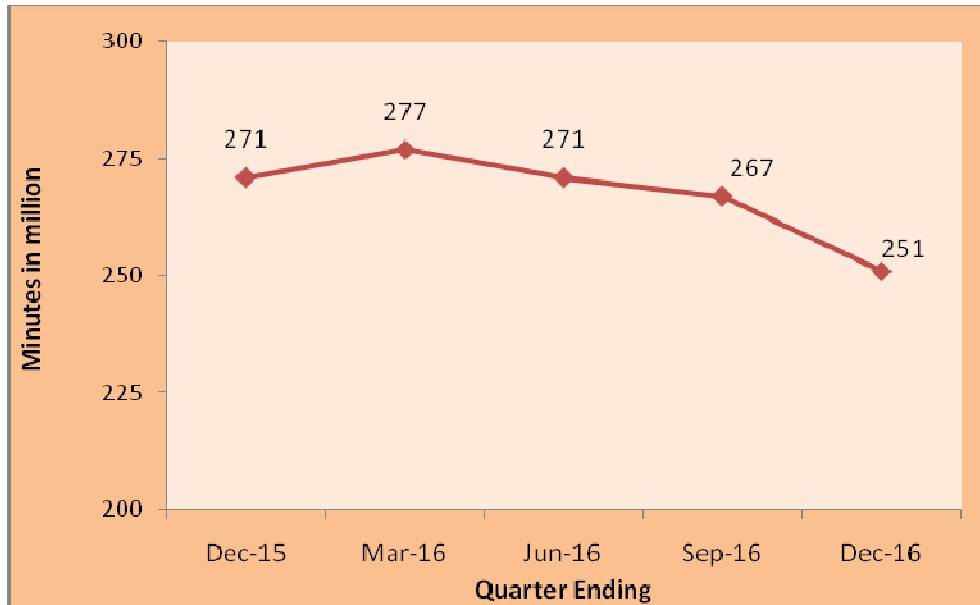
ISP Connectivity

1.47 The International Internet bandwidth owned by various service providers is reported to be 2,028 Gbps during the quarter ending Dec-16 as compared to 2,241 Gbps during the previous quarter.

Internet Telephony

1.48 As per the reports received from 16 service providers, providing Internet Telephony services, the total outgoing minutes of usage for internet telephony is 251 million during the Q.E. Dec-16. List of Internet Telephony Service providers is available at Annexure-1.6.

Chart 1.21 : Trends in MOU for Internet Telephony



Part-II : Broadband Service (Download Speed \geq 512 Kbps)

1.49 The total number of broadband subscribers increased from 192.30 million at the end of Sep-16 to 236.09 million at the end of Dec-16. Out of which wired broadband subscribers are 18.14 million and wireless broadband subscribers are 217.95 million.

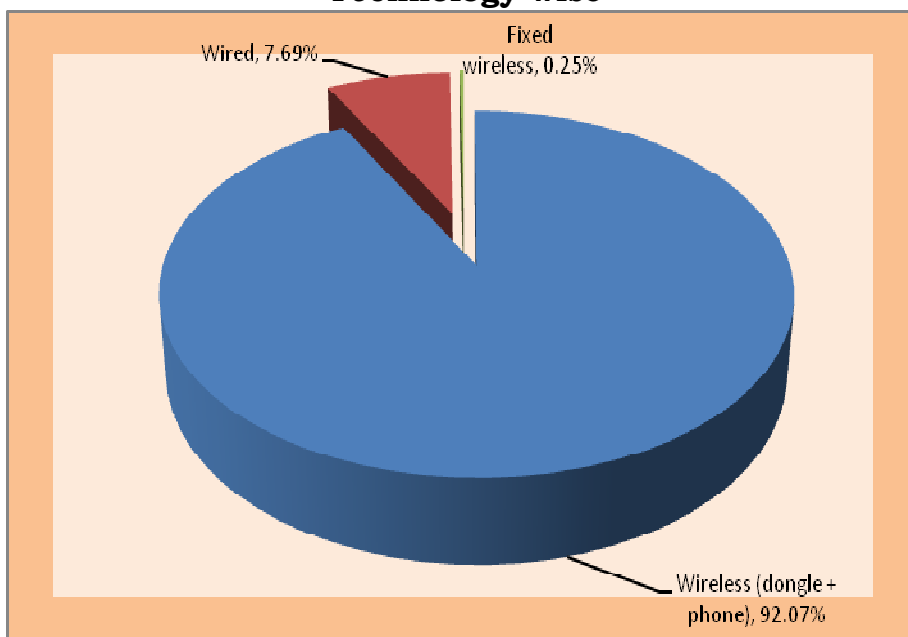
1.50 Top five broadband (wired+wireless) service providers in term of subscribers are Reliance Jio (72.16 million), Bharti (43.56 million), Vodafone (35.02 million), Idea (27.04 million) and BSNL (20.36 million).

1.51 In wired broadband segment, BSNL holds 54.85% market share with 9.95 million subscribers followed by Bharti with 2.04 million subscribers.

1.52 In wireless broadband segment, Reliance Jio holds 33.11% market share with 72.16 million subscribers followed by Bharti (19.05%) with 41.53 million subscribers.

1.53 Top five service areas in respect of broadband subscriptions are Maharashtra (20.05 million), Tamil Nadu including Chennai (19.78 million), Andhra Pradesh (18.52 million), Delhi (18.28 million) and Karnataka (17.33 million).

Chart 1.22 : Composition of Broadband subscription – Technology wise

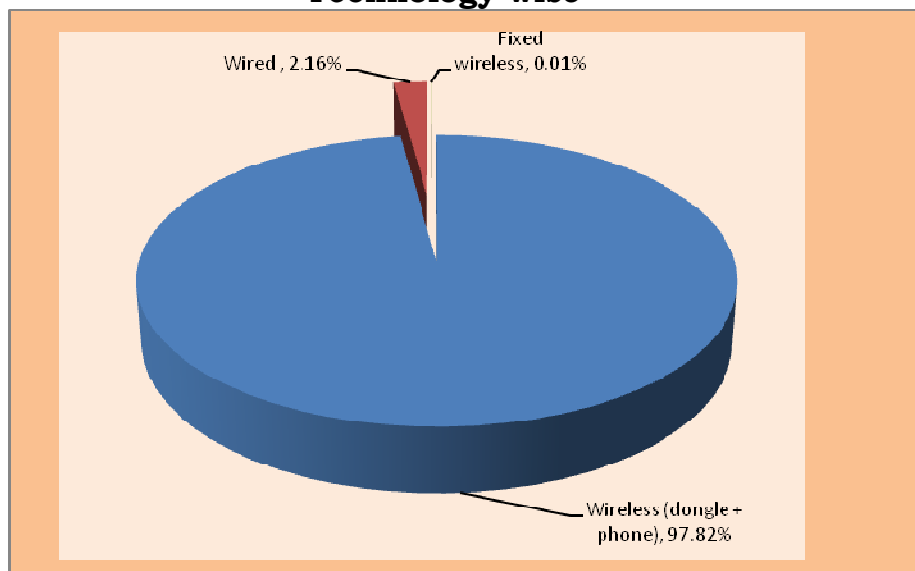


1.54 Mobile Device Users (dongle + phone) constitute 92.07% of total broadband subscribers at the end of Dec-16.

Part-III : Narrowband Service (Download Speed <512 Kbps)

- 1.55 Total number of narrowband subscribers declined from 175.18 million at the end of Sep-16 to 155.41 million at the end of Dec-16 with the quarterly decline rate of 11.29%. Out of 155.41 million narrowband subscribers, Wired Narrowband subscribers are 3.36 million and Wireless Narrowband subscribers are 152.05 million.
- 1.56 The top five narrowband (wired + wireless) service providers in term of subscriber base are Bharti (41.26 million), Vodafone (30.03 million), Idea Cellular (21.56 million), Reliance Communications Group (15.88 million) and Telenor (13.39 million).
- 1.57 In wired narrowband segment, BSNL holds 95.05% market share with 3.20 million subscribers followed by Syscon Infoway Pvt Ltd (0.05 million).
- 1.58 In wireless narrowband segment, Bharti holds 27.14% market share with 41.26 million subscribers followed by Vodafone (30.03 million).

Chart 1.23 : Composition of Narrowband subscription – Technology wise



Section E : Other Value Added Services - PMRTS & VSAT

Public Mobile Radio Trunk Services (PMRTS)

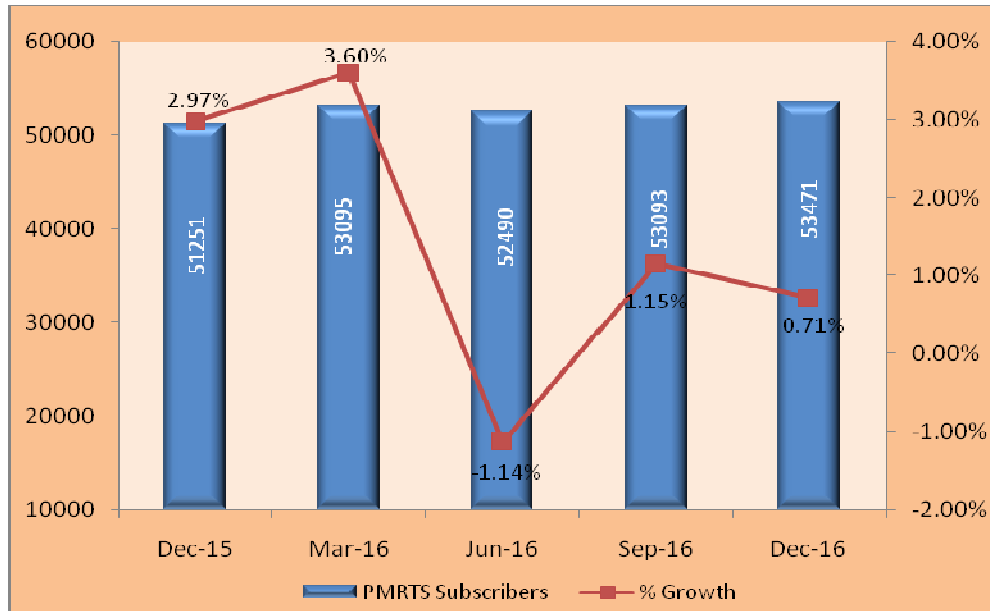
1.59 The subscriber base of PMRTS increased from 53,093 at the end of Sep-16 to 53,471 at the end of Dec-16 with quarterly growth rate of 0.71%.

Table 1.28 : PMRTS Subscriber base - Service Provider wise

Sr. No .	Name of the Service Provider	Subscriber Base as on 30.09.2016	Subscriber Base as on 31.12.2016	Growth in Subscribers	% Growth in subscribers as on 31.12.2016
1	Arya Omnitalk Radio Trunking Services Pvt. Ltd.	44925	45047	122	0.27
4	Procall Ltd.	2866	2967	101	3.52
2	Inative Networks Pvt Ltd	1820	1820	0	0.00
3	Quick Call	1469	1496	27	1.84
5	Smartlink Pvt Ltd	970	1023	53	5.46
6	Bhilwara Telenet Services Pvt Ltd	524	571	47	8.97
7	Wiwonet Solutions Pvt Ltd	269	273	4	1.49
8	Airtalk Solutions & Services Pvt Ltd	250	274	24	9.60
	Total	53093	53471	378	0.71

1.60 Detailed table on Service Area wise subscriber base of PMRTS is available at Annexure-1.7.

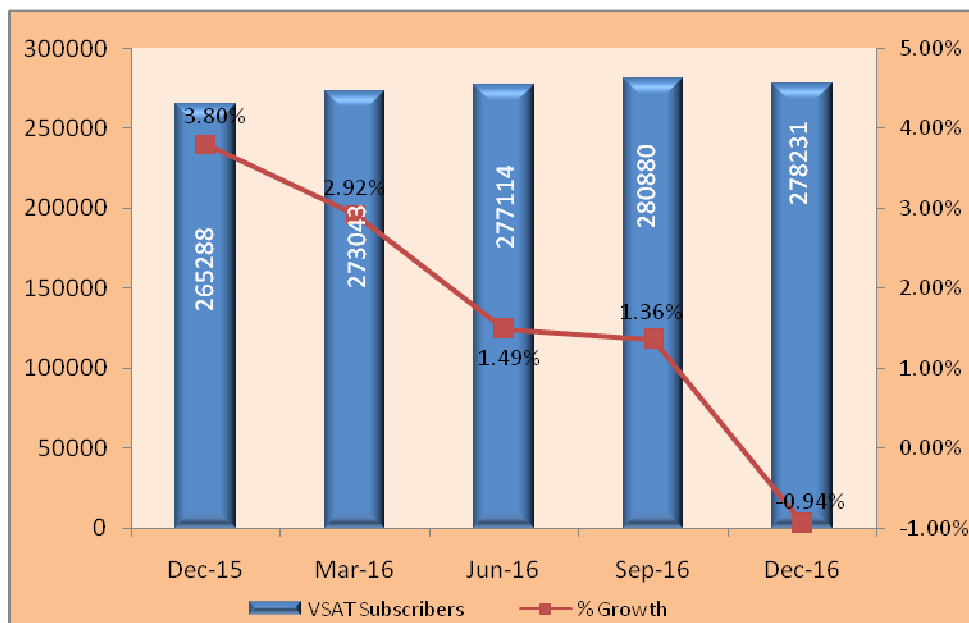
Chart 1.24 : Number of PMRTS subscribers & Rate of Growth (%)



Very Small Aperture Terminal (VSAT)

1.61 The total number of VSAT subscribers declined from 2,80,880 at the end of Sep-16 to 2,78,231 at the end of Dec-16. Net decline during the quarter has been 2,649 at the quarterly decline rate of 0.94%.

Chart 1.24 : Number of VSAT Subscribers & Rate of Growth (%)



**Table 1.29 : VSAT Service Providers currently providing service
& their subscriber base**

Sr. No	Name of Service Providers	Subscriber base at the Quarter ending		Net Addition	%age Growth	Market Share (%) Dec-16
		Sep-16	Dec-16			
1	Hughes Communications Ltd.	107665	101125	-6540	-6.07	36.35
2	Bharti Airtel Limited,	66793	68314	1521	2.28	24.55
3	Tatanet Services	52725	55115	2390	4.53	19.81
4	HCL Comnet	28097	27790	-307	-1.09	9.99
5	BSNL	20636	20412	-224	-1.09	7.34
6	National Informatics Centre Services Incorporated	2812	2863	51	1.81	1.03
7	Infotel Satcom	2058	2518	460	22.35	0.91
8	Planetcast Media Services Ltd	94	94	0	0.00	0.03
	Total	280880	278231	-2649	-0.94	100

1.62 Hughes Communication Limited continues to be the market leader with subscriber base of 1,01,125 followed by Bharti Airtel Ltd (68,314) at the end of Dec-16.

1.63 M/s Infotel Satcom has recorded maximum growth rate of 22.35% followed by M/s Tatanet Services (4.53%). M/s Hughes Communications Ltd., HCL Comnet and BSNL showed decline in number of VSAT subscribers during this quarter.

Chapter 2 :

Revenue and Usage

-
- For all the parameters, Metros indicate data for Delhi, Mumbai & Kolkata. Data for Chennai service area has been included in Circle A, as part of TN.
 - ARPU arrived after adjusting interconnect usage charges and roaming settlement charges.
 - The data contained in the section A & B covers the licensees, who have been providing service during the entire period from 1st October, 2016 to 31st December, 2016 in the various service areas.

Section A: GSM and LTE Services

Table 2.1: Key Indicators - GSM and LTE Services

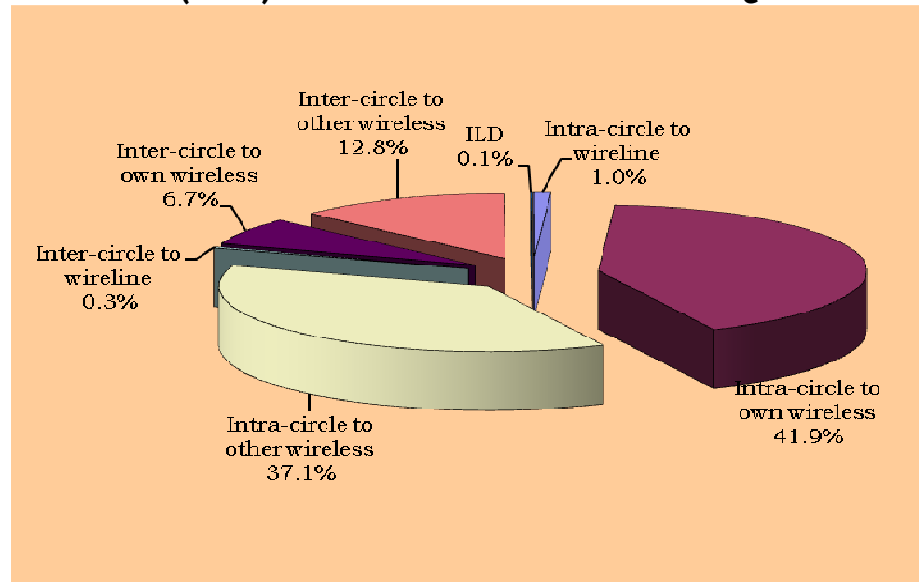
Parameter	Dec-16	Sep-16	Dec-15	QoQ %age change over Sep-16	YoY %age change over Dec-15
Subscriber Base* (million)	1112.70#	1012.06	963.67	9.94	15.46
Share of Prepaid (%)	95.22	95.13	95.41	0.09	-0.20
Incoming MOU* per subscriber per month	191.27	188.09	193.40	1.69	-1.10
Outgoing MOU* per subscriber per month	168.53	177.51	182.19	-5.06	-7.50
No. of Outgoing SMS per subscriber per month	18.31	19.45	21.74	-5.85	-15.77
Average Revenue Per User (ARPU) per month (₹)	103.92	120.98	122.71	-14.10	-15.32

* Subscriber figures are closing figures as on last day of the quarter.

Subscriber figures for 4G LTE is also included. The number of subscribers and MOUs for RJIL includes subscribers used for testing and for internal consumption and also the minutes generated by them.

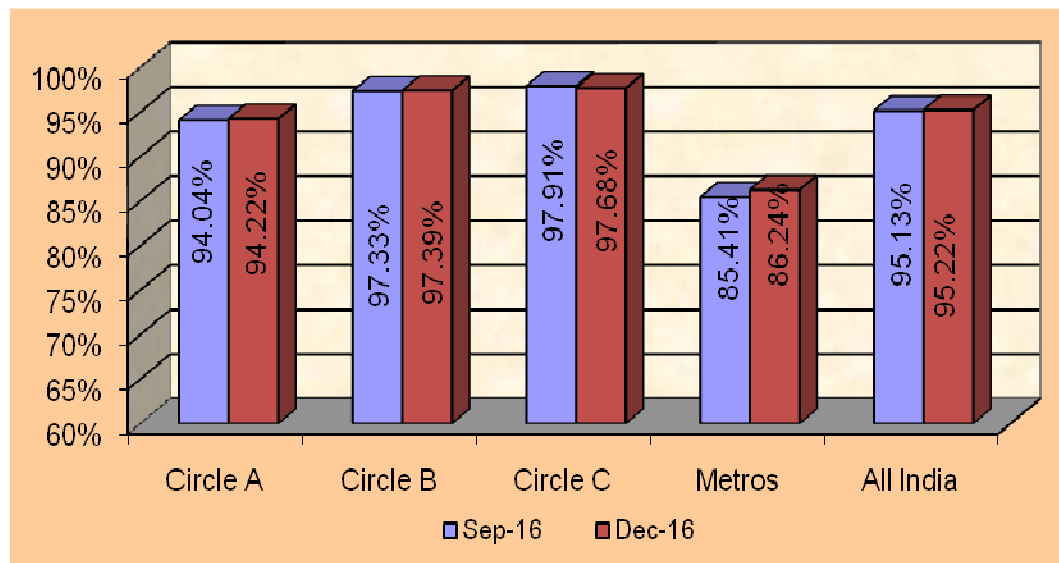
2.1 The following chart presents % break-up of outgoing minutes from Home Service Area (HSA) in the QE Dec-16.

Chart 2.1: Break-up of Outgoing minutes from Home Service Area (HSA) - GSM and LTE Services in QE Dec-16



2.2 The following chart depicts prepaid subscribers as a % of total subscribers as on the last day of the respective quarters for various categories of circles.

Chart 2.2: Proportion of prepaid subscribers



Note: Based on subscriber figures as on the last day of the quarter.

2.3 Market share of prepaid segment increased from 95.13% at the end of Sep-16 to 95.22% at the end of Dec-16.

2.4 The ARPU per month (all India, blended) declined from ₹121 in Q.E. Sep-16 to ₹104 in Q.E. Dec-16. The following table presents the ARPU per month for various categories of circles and various platforms for payment viz. post-paid and pre-paid.

Table 2.2: Monthly ARPU - GSM and LTE Services in QE Dec-16

Circle Category	ARPU per month (in ₹)		
	Post-paid	Pre-paid	Blended
Circle A	464	95	117
Circle B	444	83	92
Circle C	404	77	85
Metros	468	79	134
All India	456	86	104
All private SPs	455	85	104
BSNL/MTNL	471	92	105

2.5 The ARPU per month for pre-paid segment declined from ₹103 in QE Sep-16 to ₹86 in QE Dec-16, and the ARPU per month for postpaid segment also declined from ₹485 in QE Sep-16 to ₹456 in QE Dec-16.

2.6 The following table presents the composition of ARPU per month in the QE Dec-16.

Table 2.3: Composition of ARPU per month - GSM and LTE Services in QE Dec-16

S. No.	Item	Revenue (excl. service tax) per subscriber per month (in ₹)	Share of total revenue from subscribers
1	Usage from Home Service Area		
1.1.	Rental Revenue	20.65	18.6%
1.2.	Revenue from calls	50.76	45.7%
1.3.	Revenue from SMS	2.70	2.4%
1.4.	Revenue from data usage	23.96	21.6%
1.5.	Revenue from other VAS	4.49	4.0%
1.6.	Other revenue	3.10	2.8%
2	Usage outside Home Service Area		
2.1.	Revenue from outroamers	5.38	4.8%
3	Total revenue from subscribers (1+2)	111.03	100%
4	Net inter-operator settlement charges receivable *	-7.11	
5	Net Revenue (ARPU) per month(3+4)	103.92	

* includes Interconnect Usages Charges and roaming settlement charges

2.7 From the above table, it may be seen that the net inter-operator settlement charges payable (₹7.11) accounts for 6.40% of the total revenue from subscribers.

2.8 On an all India average, the overall minutes of usage (MOU) per subscriber per month declined from 366 in QE Sep-16 to 360 in QE Dec-16.

2.9 The following table presents the total MOU (usage from, and outside, the home service area) per subscriber per month for various categories of circles.

Table 2.4: MOU per subscriber per month - GSM and LTE Services in QE Dec-16

Circle category	MOU per subscriber per month								
	Postpaid			Prepaid			Blended		
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU
Circle A	490	382	872	149	160	309	169	173	342
Circle B	516	359	874	147	191	338	157	195	352
Circle C	544	319	863	158	227	384	166	229	395
Metro	461	330	790	176	159	335	217	183	400
All India	491	358	849	152	183	335	169	191	360

Note: MOU indicates total usage i.e. usage from and outside HSA

2.10 The overall ratio of incoming MOU and outgoing MOUs for the QE Dec-16 is 53.2 : 46.8.

2.11 Number of outgoing SMS per subscriber per month declined from 19 in Q.E. Sep-16 to 18 in Q.E. Dec-16. The following table presents the outgoing SMS usage (usage from, and outside, the home service area) per subscriber per month for various categories of circles and various platforms for payment viz. post-paid and pre-paid.

Table 2.5: No. of Outgoing SMS per subscriber per month - GSM and LTE Services in QE Dec-16

Circle category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Circle A	45	23	25
Circle B	38	16	16
Circle C	25	11	11
Metro	28	12	14
All India	37	17	18

Note: No. of Outgoing SMS indicate total usage i.e. usage from and outside HSA

Chart 2.3 : Minutes of Usage by Out-roamers as a % of Total Minutes of Usage in QE Dec-16

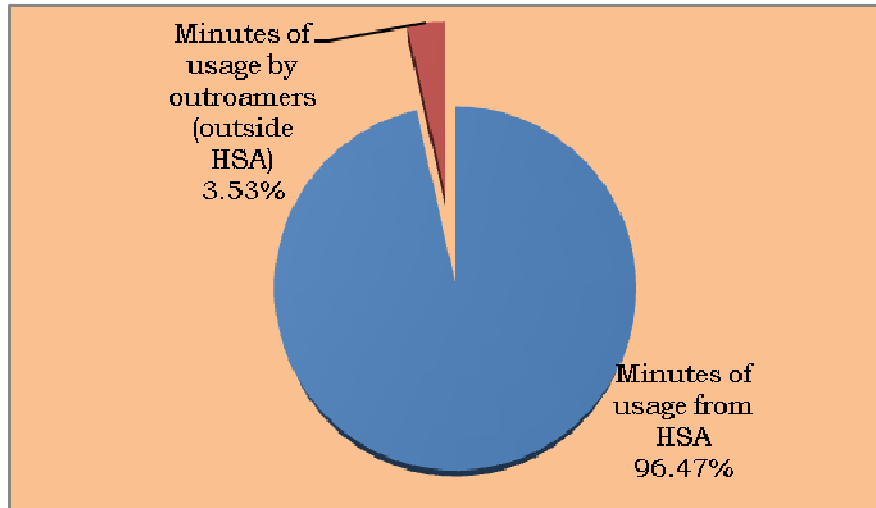
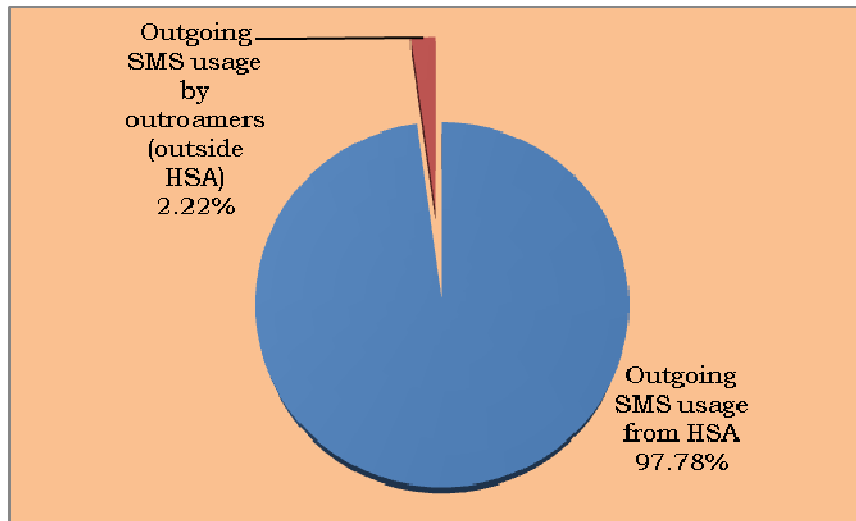


Chart 2.4: Outgoing SMS Usage by Out-roamers as a % of Total No. of Outgoing SMS Usage in QE Dec-16



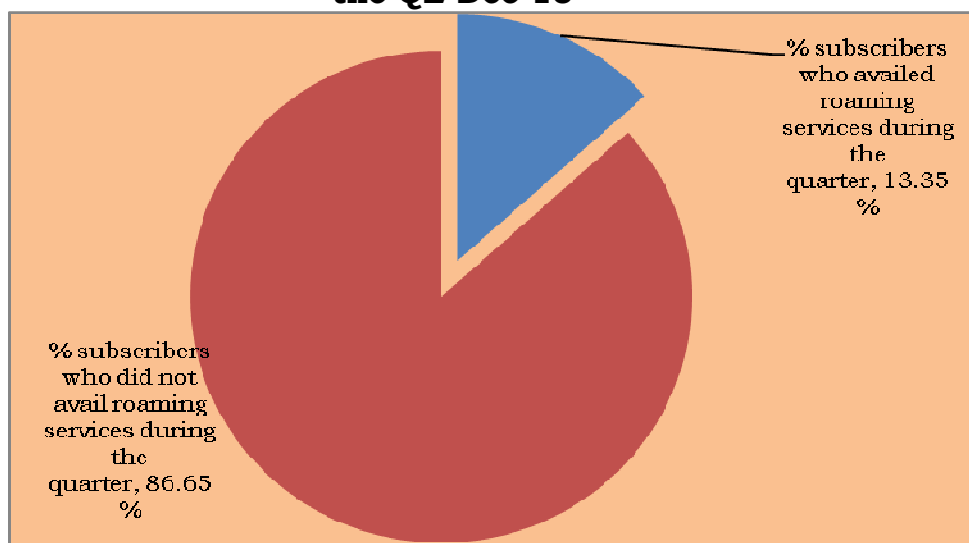
2.12 The following table presents the percentage break-up of outgoing minutes of usage from home service area between various categories of termination networks.

Table 2.6: %Break-up of Outgoing minutes from Home Service Area (HSA) in QE Dec-16

Circle Category	% Intra-circle to wireline	% Intra-circle to own wireless	% Intra-circle to other wireless	% Inter-circle to wireline	% Inter-circle to own wireless	% Inter-circle to other wireless	% ILD
Circle A	1.19	38.38	41.45	0.29	5.29	13.28	0.12
Circle B	0.73	47.05	35.84	0.25	5.57	10.49	0.07
Circle C	0.46	53.02	31.89	0.21	5.95	8.43	0.04
Metros	1.84	22.59	35.17	0.69	15.17	24.30	0.23
All India	0.99	41.95	37.14	0.31	6.69	12.83	0.10

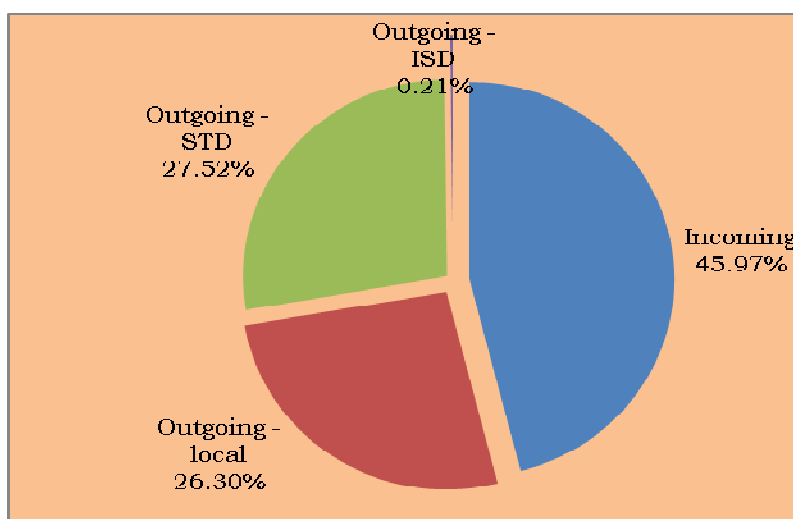
2.13 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter ending Dec-16.

Chart 2.5: % subscribers who availed roaming services during the QE Dec-16



2.14 The usage pattern of out-roamers i.e. usage from outside the home service area shows that incoming minutes accounts for 45.97% of the total minutes of usage by out-roamers in QE Dec-16 as against 49.25% in the previous quarter. The chart given below presents the break-up of minutes of usage of out-roamers during the QE Dec-16.

Chart 2.6: % Break-up of minutes of usage of outroamers (usage from outside the Home Service Area) in QE Dec-16



2.15 The tariff plans are of bundled nature and the trade-off is generally between monthly fixed charges and variable (call) charges. Therefore, average subscriber outgo per outgoing minute for usage from Home Service Area (HSA*) as defined below would be a realistic indicator of average tariff.

*Average Subscriber Outgo per Outgoing Minute for usage from HSA =

$$\frac{\text{Rental revenue} + \text{revenue from outgoing calls from HSA}}{\text{No. of outgoing minutes from HSA}}$$

Table 2.7: Average subscriber outgo per outgoing minute from HSA for GSM and LTE Services in QE Dec-16

Circle Category	₹ per minute)		
	Postpaid	Prepaid	Blended
Circle A	0.51	0.49	0.49
Circle B	0.49	0.41	0.41
Circle C	0.49	0.36	0.37
Metros	0.58	0.44	0.48
All India	0.52	0.43	0.44

2.16 All India average subscriber outgo per outgoing minute declined from ₹0.48 in the QE Sep-16 to ₹0.44 in the QE Dec-16.

Table 2.8: Trends of Key Parameters - GSM and LTE Services

Parameter	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16
1. ARPU (₹ Per month)	123	125	126	121	104
3. Average Revenue from data usage per subscriber per month (in ₹)	28	28	29	29	24
3. MOU per subscriber per month	376	381	377	366	360
4. Outgoing MOU per subscriber per month					
4.1 Local (Intra-circle)	146	147	145	140	133
4.2 NLD (inter-circle)	36	37	36	37	36
4.3 ILD	0.24	0.25	0.20	0.30	0.20
5. No. of Outgoing SMS per subscriber per month	23	22	20	19	18
6. Average subscriber Outgo per outgoing minute from HSA (in ₹)	0.47	0.48	0.49	0.48	0.44

2.17 Service Area wise statistics are available at Annexure-2.1.

Section B: CDMA - Full Mobility Service

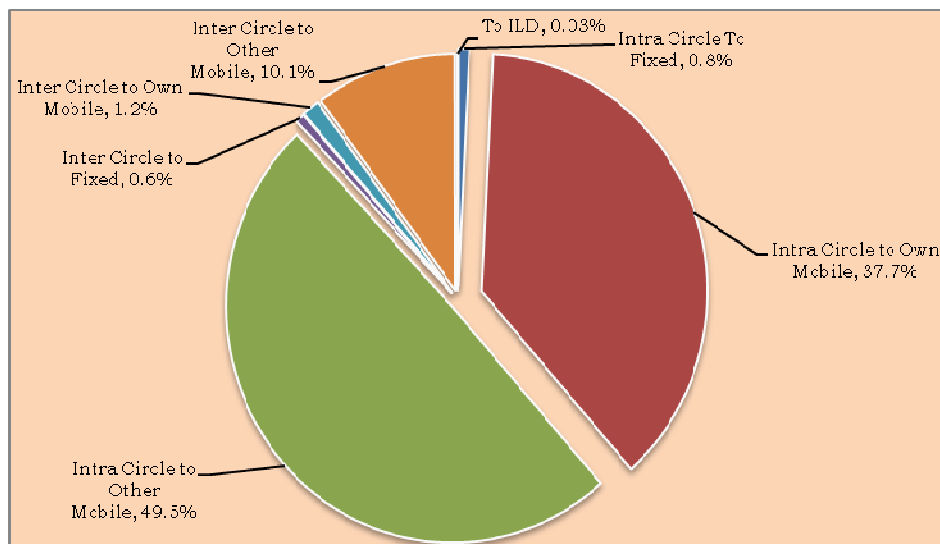
Table 2.9: Key Indicators - CDMA Full Mobility Service

Parameters	QE Dec-16	QE Sep-16	QE Dec-15	QoQ change (%)	YoY change (%)
Subscriber Base (in Millions*)	11.40	12.94	37.89	-11.83	-69.90
Share of Prepaid (%)	85.91	86.10	88.50	-0.19	-2.93
Incoming MOUs per subscriber per month	126.59	123.80	107.78	2.25	17.45
Outgoing MOUs per subscriber per month	128.86	145.08	143.87	-11.18	-10.43
Outgoing SMS per subs per month	2.89	3.21	8.52	-10.02	-66.13
ARPU (₹ per month)	141.42	154.05	103.33	-8.20	36.86

* The subscriber figures are as on last day of the quarter.

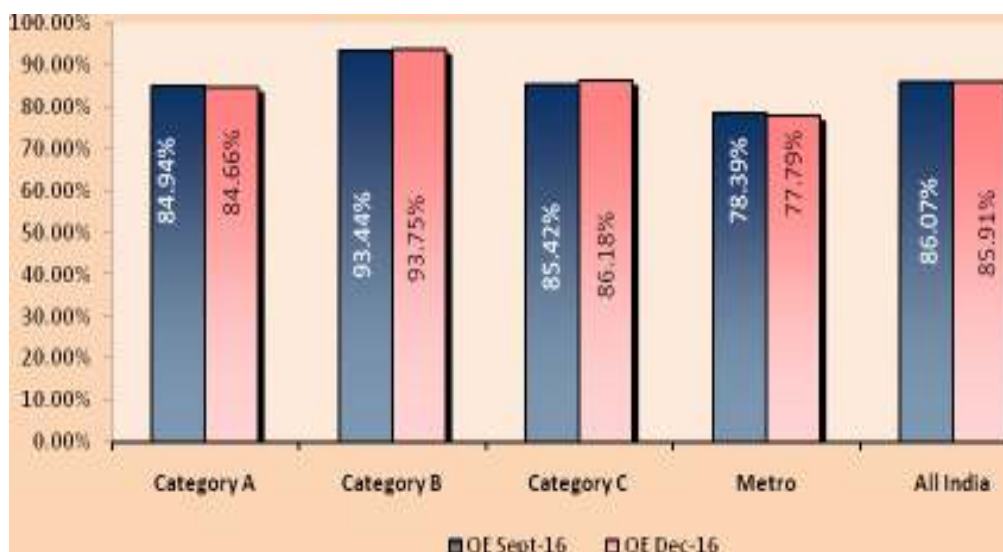
2.18 The following chart depicts % break-up of outgoing minutes from home service area (HSA).

Chart 2.7: % Break-up of Outgoing Minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Dec-16



2.19 The following chart depicts prepaid subscribers as a % of total subscribers as on the last day of the respective quarters for various categories of circles.

Chart 2.8: Proportion of prepaid subscribers – CDMA Full Mobility Service



2.20 Market share of Prepaid segment declined from 86.07% in QE Sep-16 to 85.91% in QE Dec-16.

2.21 The following table presents the ARPU per month for various categories of circles and various platforms for payment viz. postpaid and prepaid.

Table 2.10: Monthly ARPU - CDMA Full Mobility Service in QE Dec-16

(₹per month)

Circle category	Postpaid	Prepaid	Blended ARPU
Circle A	654	78	164
Circle B	540	63	93
Circle C	550	70	140
Metro	574	66	177
All India	593	68	141

2.22 The All India blended Average Revenue Per User (ARPU) per month has shown a decline of 8.20% from ₹154 in QE Sep-16 to ₹141 in QE Dec-16.

2.23 ARPU for Prepaid service declined from ₹78 in QE Sep-16 to ₹68 in QE Dec-16. ARPU for Postpaid service also declined from ₹631 in QE Sep-16 to ₹593 in QE Dec-16.

Table 2.11: Composition of ARPU per month- CDMA Full Mobility Service

S. No.	Item	Revenue (excl. service tax) per subscriber per month (in ₹)	% Share of total revenue from subscribers
1	Usage from Home Service Area		
1.1	Rental Revenue	20.65	14.35
1.2	Revenue from Calls	31.36	21.79
1.3	Revenue from SMS#	0.50	0.35
1.4	Revenue from data usage	82.46	57.30
1.5	Revenue from other VAS	1.69	1.17
1.6	Other Revenue#	5.80	4.03
2	Usage Outside Home Service Area		
2.1	Revenue from Out-roamers	1.47	1.02
3	Total Revenue from Subscribers (1+2)	143.92	100
4	Net inter-operator settlement charges receivable*	-2.50	
5	Net Revenue (ARPU) (3+4)	141.42	

* Includes Interconnect Usage Charges and roaming settlement charges

2.24 From the above table, it may be seen that the net inter-operator settlement charges payable (₹2.50) accounts for 1.74% of total revenue from subscribers in QE Dec-16.

2.25 Revenue from data usage per subscriber per month (for usage from HSA) declined from ₹90.87 in QE Sep-16 to ₹82.46 in QE Dec-16.

2.26 The total MOUs per subscriber per month declined by 4.99%, from 269 in QE Sep-16 to 255 in QE Dec-16. Outgoing MOUs declined from 145 in QE Sep-16 to 129 in QE Dec-16, however incoming MOUs increased from 124 in QE Sep-16 to 127 in QE Dec-16.

2.27 Prepaid MOUs per subscriber per month declined from 275 in QE Sep-16 to 261 in QE Dec-16, and postpaid MOUs per subscriber per month also declined from 232 in QE Sep-16 to 218 in QE Dec-16.

Table 2.12 : MOU per subscriber per month – CDMA Full Mobility Service

MOU per subscriber per month									
Circle category	Postpaid			Prepaid			Blended		
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU
Circle A	79	43	122	96	107	203	94	97	191
Circle B	214	104	318	153	151	303	157	148	304
Circle C	203	109	313	129	175	304	139	166	305
Metro	142	98	240	124	134	258	128	126	254
All India	136	82	218	128	134	261	129	127	255

Note: MOU indicate total usage i.e. usage from and outside HSA

Table 2.13 : Outgoing SMS per subscriber per month in QE Dec-16 – CDMA Full Mobility Service

Category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Category A	1	3	3
Category B	2	3	3
Category C	7	4	4
Metro	2	3	3
All India	2	3	3

Note: Outgoing SMS indicates total usage i.e. usage from and outside HSA.

Chart 2.9: Minutes of usage by out-roamers as a percentage of total minutes of usage in QE Dec-16

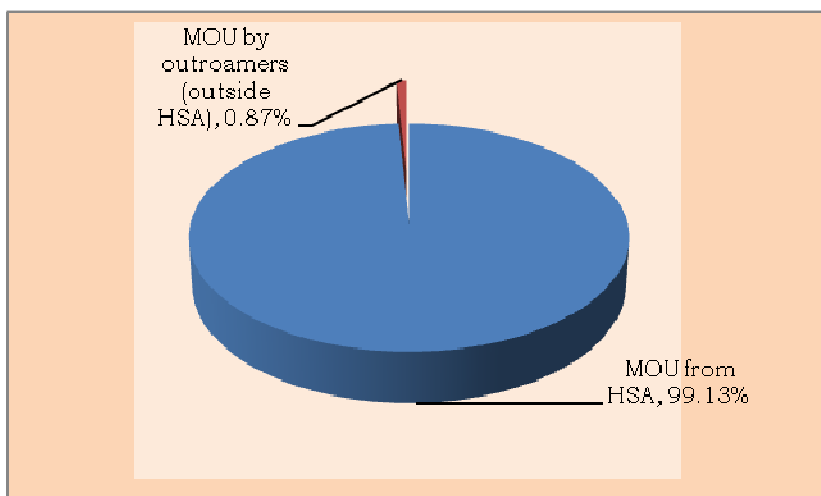


Table 2.14: %Break-up of Outgoing minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Dec-16

Circle	Intra Circle To Wireline (%)	Intra Circle to Own Wireless (%)	Intra Circle to Other Wireless (%)	Inter Circle to Wireline (%)	Inter Circle to Own Wireless(%)	Inter Circle to Other Wireless (%)	ILD (%)
Circle A	1.13	44.30	49.93	1.06	0.34	3.23	0.02
Circle B	0.37	38.61	54.47	0.46	0.55	5.54	0.01
Circle C	0.43	38.56	48.55	0.75	1.32	10.37	0.02
Metro	1.16	31.64	41.90	0.61	2.88	21.74	0.07
All India	0.78	37.70	49.46	0.64	1.24	10.15	0.03

2.28 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter.

Chart 2.10: Percentage of subscribers who availed roaming service during the quarter in QE Dec-16

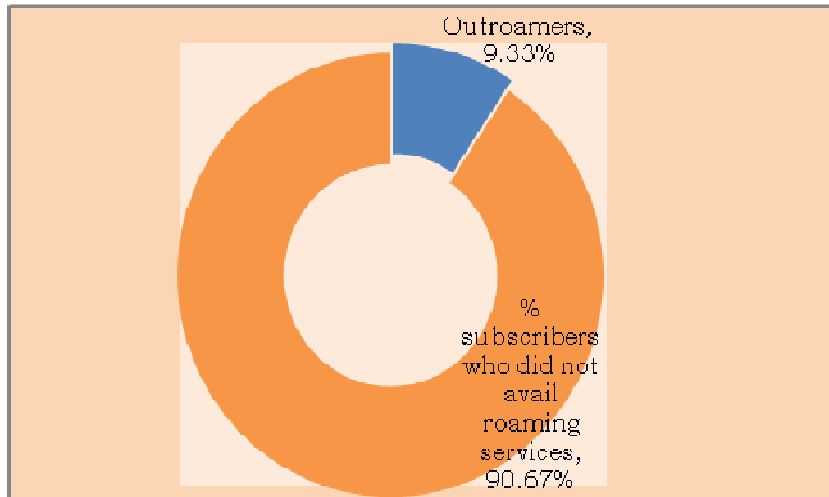


Chart 2.11: Percentage breakup of minutes of usage of Out-roamers (usage from outside the Home Service Area) in QE Dec-16

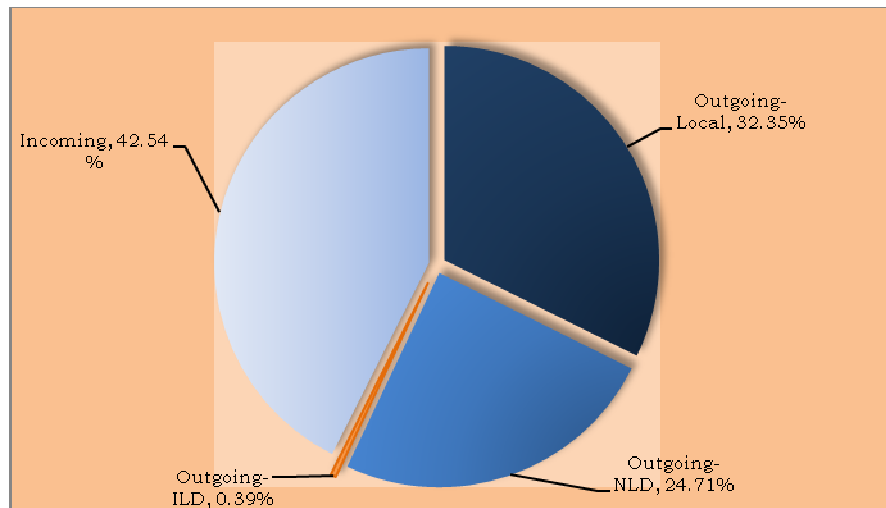


Table 2.15: Average subscriber outgo per outgoing minute from HSA* for CDMA Full Mobility Service in QE Dec-16

[₹ Per min]			
Circle Category	Postpaid	Prepaid	Blended
Circle A	1.28	0.38	0.49
Circle B	0.58	0.25	0.28
Circle C	1.06	0.38	0.52
Metros	0.94	0.39	0.52
All India	0.91	0.32	0.41

*Average Subscriber Outgo per Outgoing Minute for usage from HSA =

$$\frac{\text{Rental revenue} + \text{revenue from outgoing calls from HSA}}{\text{No. of outgoing minutes from HSA}}$$

Table 2.16: Trends of Key Parameters - CDMA Full Mobility Service

Parameter	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16
1. ARPU (₹ Per month)	103	104	99	154	141
2. Average revenue from data usage per subscriber per month (in ₹)	51	51	49	91	82
3. MOU per subscriber per month	252	260	228	269	255
4. Outgoing MOU per subscriber per month	144	150	130	145	129
5. No. of Outgoing SMS per subscriber per month	8.52	7.61	6.85	3.21	2.89
6. Average subscriber Outgo per outgoing minute from HSA (₹)	0.38	0.38	0.39	0.40	0.41

2.29 Service Area wise statistics are available at Annexure-2.2.

Chapter 3 :

Financial Data of

Telecom Service

Sector

Table 3.1: Gross Revenue (GR), Adjusted Gross Revenue (AGR), License Fee (LF) & Spectrum Charges

Particulars	QE Dec-15 (₹ in Crore)	QE Sep-16 (₹ in Crore)	QE Dec-16 (₹ in Crore)	Q-O-Q % Change Over Sep-16	Y-O-Y % Change over Dec-15
Gross Revenue (GR)	65,347	71,379	66,532	-6.79	1.81
Adjusted Gross Revenue (AGR)	46,087	50,539	45,905	-9.17	-0.39
Pass Through Charges (GR-AGR)	19,260	20,839	20,627	-1.01	7.10
License Fee	3,690	4,091	3,698	-9.62	0.20
Spectrum Usage Charges	1,885	1,868	1,639	-12.26	-13.04

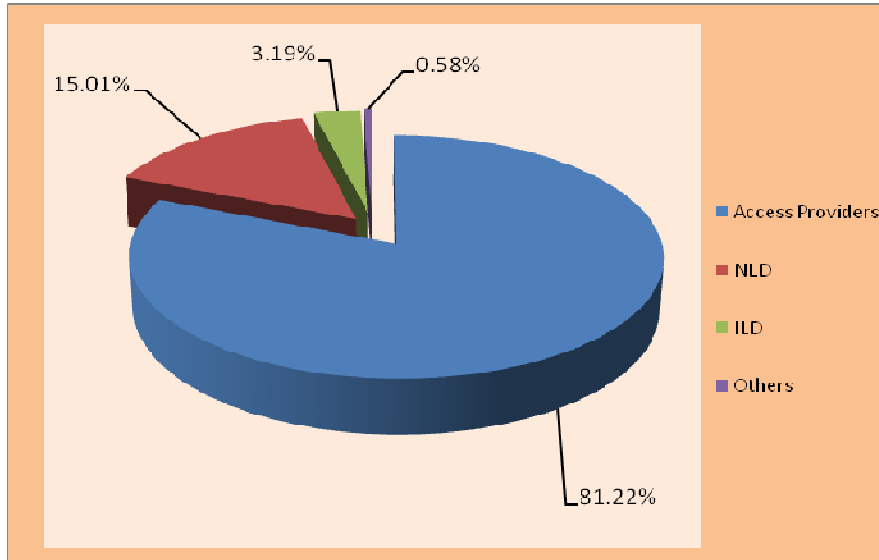
- 3.1 Gross Revenue (GR) quarterly declined by 6.79% in QE Dec-16, however, on annual basis, it has increased by 1.81%. Adjusted Gross Revenue (AGR) quarterly declined by 9.17% in the QE Dec-16.
- 3.2 Pass through charges declined by 1.01% in the QE Dec-16 and on annual basis it increased by 7.10%.
- 3.3 Pass-through charges as a percentage of Gross Revenue are 31.00% in QE Dec-16 as against 29.20% in the previous quarter.

Table 3.2: Service-wise Gross Revenue, Adjusted Gross Revenue, License Fee and Spectrum Charges

(in ₹ Crore)

Service	GR	AGR	LF	Spectrum Usage Charges
Access Providers	49,403	37,284	3,010	1,635
NLD	8,775	6,891	551	-
ILD	3,996	1,464	117	-
Others	4,358	267	19	4
Total	66,532	45,905	3,698	1,639

Chart 3.1: Composition of Adjusted Gross Revenue



3.4 Access services contributed 81.22% of the total Adjusted Gross Revenue of telecom services. In Access services, Gross Revenue (GR), Adjusted Gross Revenue(AGR), License Fee and Spectrum Usage Charges(SUC) declined by 8.09%, 10.55%, 10.92% and 12.29% respectively however, Pass Through Charges increased by 0.38% in QE Dec-16.

3.5 Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹131.10 in QE Sep-16 to ₹111.63 in QE Dec-16.

Chart 3.2: Trend in ARPU per month for Access Services

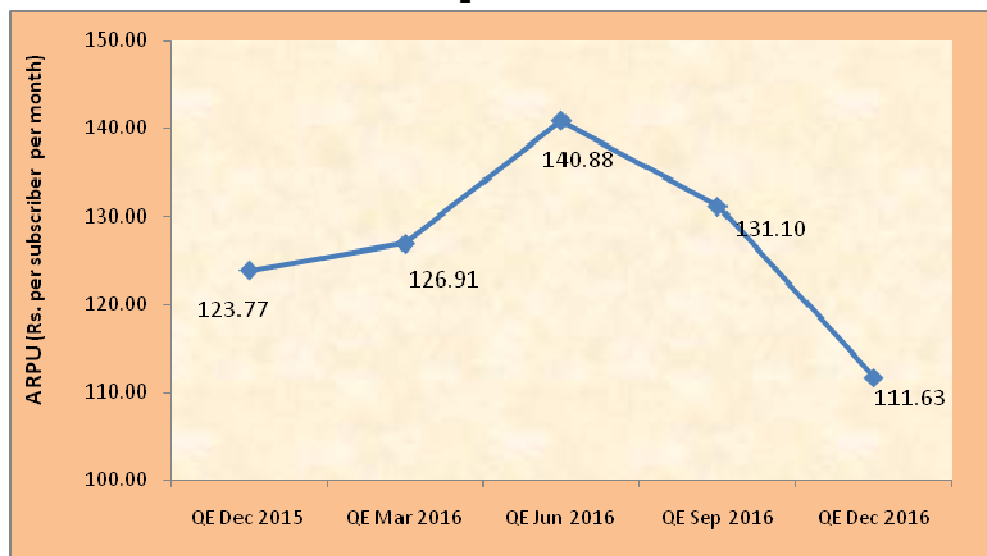


Table 3.3: Access Services - Service Provider wise Adjusted Gross Revenue

(in ₹ Crore)

Service	QE Dec-16	QE Sep-16	% Change
Bharti	11495.66	12493.18	-7.98
Vodafone	8304.49	8754.78	-5.14
Idea	6957.95	7317.81	-4.92
BSNL	3146.11	3283.57	-4.19
Aircel*	2846.89	4328.30	-34.23
Tata	2209.38	2531.34	-12.72
Reliance Com.	967.70	1131.04	-14.44
MTNL	755.27	584.47	29.22
Telenor	703.76	716.91	-1.84
Sistema Shyam	199.66	274.27	-27.20
Quadrant	33.50	23.70	41.35
Videocon^	0.00	218.55	-100.00
Reliance Jio	-336.65	23.41	-1537.80
Grand Total (Access)	37283.71	41681.33	-10.55

*Revenue from surrender of spectrum by M/s Aircel was shown in QE Sep-16.

^M/s Videocon has closed its telecommunication services.

3.6 Public Sector Undertakings' share in the Access AGR of telecom services is 10.46% in the QE Dec-16.

Table 3.4: Category-wise share in Adjusted Gross Revenue (AGR) of Access Services

Category	AGR of Access Services for QE Dec-16 (in ₹ crore)	%age share of AGR
Metro	5500.19	14.75
A	15334.67	41.13
B	12367.66	33.17
C	4081.20	10.95
Total	37283.71	100

Notes :

1. Source: Figures are un-audited and as submitted by the Operators.
2. The figures have been regrouped wherever considered necessary for analysis purpose.
3. The Spectrum usage charges (mostly) are now reported on "Payment for the current Quarter" basis. However, some operators are reporting on payment basis or on estimate basis on projected AGR for next quarter.
4. Metro area includes Delhi, Mumbai and Kolkata only. Chennai is clubbed with Tamilnadu.

Chapter 4 : Quality of Service (QoS)

Section A: Quality of Service Performance of Wireless Service Providers

Part-I : 2G Wireless Services

Table 4.1: QoS Summary - 2G Wireless Service

S. No.	Parameters	Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Q. E. September, 2016		Q. E. December, 2016	
			Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)
I.	Network Related Parameters					
1	Network Availability					
(i)	BTSs Accumulated downtime (not available for service)	≤ 2%	2	1.23%	2	1.23%
(ii)	Worst affected BTSs due to downtime	≤ 2%	6	3.68%	7	4.29%
2	Connection Establishment (Accessibility)					
(i)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	2	1.23%	2	1.23%
(ii)	SDCCH/ Paging Chl. Congestion	≤ 1%	1	0.61%	0	0
(iii)	TCH Congestion	≤ 2%	6	3.68%	3	1.84%
3	Connection Maintenance (Retain ability)					
(i)	Call Drop Rate	≤ 2%	0	0	0	0
(ii)	Worst affected cells having more than 3% TCH drop (call drop) rate	≤ 3%	23	14.11%	16	9.82%
(iii)	Connection with good voice quality	≥ 95%	3	1.84%	2	1.23%
4	Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	≤ 0.5%	9	5.52%	22	13.50%

S. No.	Parameters	Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Q. E. September, 2016		Q. E. December, 2016	
			Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)
II.	Customer Service Quality Parameters					
5	Metering and Billing					
(i)	Metering and billing credibility - post paid	≤ 0.1%	2	1.19%	1	0.60%
(ii)	Metering and billing credibility - pre paid	≤ 0.1%	11	6.55%	7	4.17%
(iii)	Resolution of billing/charging/ validity complaints	98% within 4 weeks	1	0.60%	0	0
		100% within 6 weeks	1	0.60%	0	0
(iv)	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	within 1 week of resolution of complaint	0	0	0	0
6	Response time to the customer for assistance					
(i)	Accessibility of call centre/ customer care	≥ 95%	7	4.17%	1	0.60%
(ii)	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	31	18.45%	21	12.50%
7	Termination / closure of service					
(i)	%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	3	1.79%	4	2.38%
(ii)	Time taken for refund of deposits after closures	100% within 60 days	21	12.50%	29	17.26%

4.1 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. SDCCH/ Paging Chl. Congestion
- b. TCH Congestion
- c. Worst affected cells having more than 3% TCH drop (call drop) rate
- d. Connection with good voice quality
- e. Metering and billing credibility - post paid
- f. Metering and billing credibility - pre paid
- g. Resolution of billing/charging/validity complaints (98% within 4 weeks)
- h. Resolution of billing/charging/validity complaints (100% within 6 weeks)
- i. Accessibility of call centre/ customer care
- j. %age of calls answered by the operators (voice to voice) within 90 sec

4.2 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Worst affected BTSs due to downtime
- b. Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark)
- c. %age requests for Termination / Closure of service complied within 7 days
- d. Time taken for refund of deposits after closures

**Table 4.2: Parameter wise Analysis of Non-compliance of QoS
Benchmarks for 2G Wireless Service Providers**

Parameter	Bench mark	Service Provider	Service Area	Performance
BTSS Accumulated downtime (not available for service)(%age)	$\leq 2\%$	Aircel	North East	4.69
		TTSL CDMA	Tamil Nadu	3.30
Worst affected BTSS due to downtime (%age)	$\leq 2\%$	Aircel	Assam	9.57
			Bihar	2.55
			Jammu & Kashmir	6.01
			North East	27.73
		Airtel	Tamilnadu+Chennai	2.72
		MTS	Tamil Nadu	12.76
		RCOM GSM	Tamilnadu+Chennai	9.36
Call Set-up Success Rate (within licensee's own network)	$\geq 95\%$	Aircel	Assam	93.51
			Bihar	93.90
TCH Congestion (%age)	$\leq 2\%$	Aircel	Assam	4.04
			Bihar	5.69
			North East	2.06
Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	$\leq 3\%$	Aircel	Assam	15.98
			Bihar	12.49
			Delhi	4.15
			Himachal Pradesh	8.63
			Jammu & Kashmir	8.58
			Kerala	3.58
			Mumbai	3.91
			North East	15.02
			Orissa	9.62
			Tamil Nadu	4.14
		West Bengal	9.31	
		BSNL	West Bengal	14.61
		TTSL CDMA	Kolkata	4.12
		Telenor	Bihar	3.97
	UPE	5.18		
Vodafone	Madhya Pradesh	4.44		
Connection with good voice quality	$\geq 95\%$	Aircel	Assam	91.95
			North East	93.59
Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	$\leq 0.5\%$	Aircel	Tamil Nadu	1
		RCOM GSM	Delhi	1
		RTL GSM	Madhya Pradesh	1
		TTSL GSM	Andhra Pradesh	1
			Haryana	1
			Kolkata	1
Kerala	1			

Parameter	Bench mark	Service Provider	Service Area	Performance
Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)			Karnataka	1
			Madhya Pradesh	1
			Orissa	1
			Rajasthan	1
			West Bengal	1
		TTML GSM	Mumbai	1
		TTML CDMA	Mumbai	1
		Telenor	Andhra Pradesh	1
			Bihar	2
			Gujarat	1
			MH	1
			UPE	1
Vodafone	Jammu & Kashmir	1		
	Karnataka	2		
Metering and billing credibility - post paid	≤ 0.1%	Vodafone	Mumbai	0.15
Metering and billing credibility - pre paid	≤ 0.1%	Airtel	Tamilnadu+Chennai	0.11
			Haryana	0.11
			Jammu & Kashmir	0.12
			Kolkata	0.12
		IDEA	North East	0.13
		Vodafone	Andhra Pradesh	0.15
Karnataka	0.13			
Accessibility of call centre/ customer care	≥ 95%	Aircel	Maharashtra	92.62
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	Aircel	Assam	94.29
			Jammu & Kashmir	87.17
		Airtel	Assam	92.86
			Tamilnadu+Chennai	94.98
			Delhi	91.88
			Gujarat	93.75
			Jammu & Kashmir	94.72
			Kolkata	92.00
			Maharashtra	94.87
			Mumbai	94.26
			North East	91.26
			West Bengal	94.56
		RCOM GSM	Andhra Pradesh	94.83
			Tamilnadu+Chennai	91.95
Delhi	85.57			
Gujarat	90.79			

Parameter	Bench mark	Service Provider	Service Area	Performance	
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%		Jammu & Kashmir	75.83	
			Karnataka	89.49	
			Maharashtra	94.85	
			Mumbai	89.06	
			UP E	94.96	
%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	IDEA	Haryana	99.95	
			Kolkata	99.94	
			Mumbai	99.87	
		MTNL	Mumbai	86.88	
Time taken for refund of deposits after closures	100% within 60 days	IDEA	UPE	93.38	
		RCOM GSM	Andhra Pradesh	33.80	
			Tamilnadu+Chennai	55.57	
			Delhi	44.99	
			Gujarat	53.10	
			Haryana	64.35	
			Jammu & Kashmir	90.77	
			Kerala	70.82	
			Karnataka	53.50	
			Maharashtra	61.56	
			Mumbai	53.51	
		RCOM GSM	Punjab	58.52	
			Rajasthan	58.23	
			UP E	30.18	
			UP W	38.28	
			RTL	Assam	70.46
				Bihar	47.82
		Himachal Pradesh		54.11	
		Kolkata		61.42	
		Madhya Pradesh		55.55	
		North East		60.76	
		Orissa		55.27	
		West Bengal	61.96		
TTSL GSM	Madhya Pradesh	99.42			
	Tamil Nadu	98.47			
TTSL CDMA	Andhra Pradesh	99.80			
	Madhya Pradesh	98.94			
	Rajasthan	98.85			
	West Bengal	0.00			

4.3 The detailed table on Service Provider wise performance of QoS parameters for Wireless 2G Services is available at Annexure-4.1.

Part-II : 3G Wireless Services

4.4 The summary of performance of 3G service providers who have not met the benchmarks in this quarter is given in below table.

Table 4.3: QoS Summary - 3G Wireless Service

S. No.	Parameters		Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
				Q. E. September 2016		Q. E. December 2016	
				Out Of 107 (Nos.)	Out of 107 (in %)	Out Of 107 (Nos.)	Out of 107 (in %)
1	Network Availability	BTSs and Node-B's Accumulated downtime (not available for service) (%age)	≤ 2%	2	1.87%	1	0.93%
		Worst affected BTSs and Node-B's due to downtime (%age)	≤ 2%	6	5.61%	6	5.61%
2	Connection Establishment (Accessibility)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	0	0.00%	0	0.00%
		SDCCH/Paging Channel and RRC Congestion (%age)	≤ 1%	0	0.00%	0	0.00%
		TCH and Circuit Switched RAB Congestion (%age)	≤ 2%	0	0.00%	0	0.00%
3	Connection Maintenance (Retainability)	Call Drop and Circuit Switched Voice Drop Rate: (%age)	≤ 2%	0	0.00%	0	0.00%
		Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH	≤ 3%	12	11.21%	10	9.35%
		Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	≥ 95%	0	0.00%	0	0.00%
4	Point of Interconnection	Point of Interconnection (POI) Congestion	≤ 0.5%	1	0.93%	2	1.87%

4.5 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters :-

- a. BTSs and Node-B's Accumulated downtime (not available for service) (%age)
- b. Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH

4.6 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters :-

- a. Point of Interconnection (POI) Congestion

Table 4.4: Parameter wise Analysis of Non-compliance of QoS Benchmarks for 3G Wireless Service Providers

Parameter	Benchmark	Service Provider	Service Area	Performance	
BTSs and Node-B's Accumulated downtime (not available for service) (%age) downtime (not available for service) (%age)	$\leq 2\%$	Aircel	North East	4.69	
Worst affected Node B's due to downtime (%age)	$\leq 2\%$	Aircel	Assam	7.80	
			Bihar	3.01	
			North East	29.96	
		Airtel	Tamil Nadu	3.01	
		BSNL	Kolkata	2.73	
Worst affected cells having more than 3% Circuit Switched Voice Drop Rate	$\leq 3\%$	Aircel	Vodafone	Tamil Nadu	2.27
			Assam	5.24	
			Bihar	7.03	
			J & K	7.95	
			Karnataka	3.56	
			North East	11.15	
			Orissa	8.86	
			Punjab	3.65	
		Tamil Nadu	6.11		
West Bengal	3.84				
Point of Interconnection (POI) Congestion	$\leq 0.5\%$	BSNL	West Bengal	7.62	
		Aircel	Tamil Nadu	1	
		MTNL	Delhi	1	

4.6 The details table on Service Area wise performance of QoS parameters for 3G Wireless Services is available at Annexure-4.2.

Section B: Quality of Service Performance of Wireline Service Providers

Table 4.5: QoS Summary - Wireline Service

S. No.	Parameters	Benchmark	No. of license areas where operators not meeting the benchmarks			
			Q.E. September, 2016		Q.E. December, 2016	
			Out of 102 (Nos.)	Out of 102 (%age)	Out of 102 (Nos.)	Out of 102 (%age)
(i)	Fault incidences per 100 subs/month	≤ 7	2	2%	0	0%
(ii)	% Fault repaired by next working day for urban areas	≥ 85%	2	2%	1	1%
	% Fault repaired within 5 days (for urban areas)	≥100%	2	2%	6	6%
(iii)	% Fault repaired by next working day for rural and hilly areas	≥ 75%	0	0%	0	0%
	% Fault repaired within 7 days (for rural and hilly areas)	≥100%	0	0%	0	0%
(iv)	MTTR	≤10Hs	5	5%	9	9%
(v)	Point of Interconnection (POI) Congestion (No. of POIs not meeting benchmark)	≤ 0.5%	0	0%	0	0%
(vi)	Metering and Billing credibility - post-paid	≤ 0.1%	0	0%	1	1%
	Metering and Billing credibility - pre-paid	≤ 0.1%	0	0%	0	0%
(vii)	Period of applying credit/waiver/adjustment to customer's	1 week of resolution of complaint	0	0%	0	0%
(viii)	Resolution of billing/charging/Credit & validity complaints	98% within 4 weeks	0	0%	0	0%
	Resolution of billing/charging/Credit & validity complaints	100% within 6 weeks	0	0%	0	0%
	Accessibility of call centre/customer care	≥ 95%	4	4%	0	0%
(ix)	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	19	18%	9	9%
(x)	Termination / closure of service	100% within 7 days	0	0%	1	1%
(xi)	Time taken for refund of deposits after closures	100% within 60 days	0	0%	0	0%

NOTE: Most of the SPs have not reported for the parameter “Metering and billing credibility - pre paid” because they are not providing pre-paid service in Basic (Wire line) service.

4.7 The performance has improved in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Fault incidences (No. Of faults/ 100 subs/month)
- b. Fault repaired by next working day for urban areas
- c. Response time to the customer for Assistance- Accessibility of call centre/Customer care.
- d. %age of calls answered by the operators (voice to voice) within 90 seconds.

4.8 The performance has deteriorated in this quarter as compared to the previous quarter in respect of the following parameters:-

- a. Fault repaired within 5 days for urban areas
- b. Mean Time to Repaired (MTTR)
- c. Metering and billing credibility – Post-paid
- d. Termination/Closure of service 100% within 7 days

Table 4.6: Parameter wise Analysis of Non-compliance of QoS Benchmarks for Wireline Service Providers

Parameters	Bench- marks	Service Provider	Service areas	Parameters not met
% Fault repaired within next working days <i>(for urban areas)</i>	≥85%	MTNL	DL	81.66%
% Fault repaired within 5 days <i>(for urban areas)</i>	≥100%	MTNL	DEL	97.53%
			MUM	99.58%
		Tata	GUJ	99.20%
			KA	98.42%
			KL	99.15%
			TN	99.05%
Mean Time to Repair(MTTR)	≤ 10 Hrs	Tata	DL	15.22
			GJ	11.74
			HR	12.38
			KA	19.26
			KL	12.47
			MP	13.45
			MUM	14.37
			MH	15.05
TN	11.84			

Parameters	Bench- marks	Service Provider	Service areas	Parameters not met
Metering and billing credibility – Post paid	≤ 0.1%	Bharti Airtel Ltd	TN	0.15%
Response time to the customer for assistance - Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥95%	Bharti Airtel Ltd.	AP	94%
			TN	58%
			Gj	74%
			MH	82%
			Mum	93%
		Tata	DL	94.75%
			KL	92.56%
			MUM	94.00%
		MH	90.59%	
Termination/Closure of service	100% within 7 days	MTNL	MUM	99.89%

4.9 Detailed table containing QoS parameters for all the Wireline Service Providers is given in Annexure-4.3.

Section C : Quality of Service Performance of Broadband (wireline) Service

4.10 There are 129 Service Providers (SPs) providing broadband (wireline) service at the end of December, 2016. Out of these SPs, 43 Service Providers are having broadband subscriber base >10,000 and market share of these 43 SPs is 99.06% of total subscriber base. This report covers performance of top 43 broadband Service Providers vis-à-vis the QoS benchmarks prescribed by TRAI, for the QE December, 2016.

Table 4.7 : Summary of Performance of Broadband Service Providers against identified parameters

S.No.	Parameter	Benchmark	Number of Licensees not meeting the Benchmarks			
			Q. E. September, 2016		Q. E. December, 2016	
			Out of 62 (Nos.)	Out of 62 (%)	Out of 68 (Nos.)	Out of 68 (%)
1	Service Provisioning	100% in =<15 working days				
1.2	%age of connections provided within 15 days of registration of demand	100%	6	9.68%	2	2.94%
2	Faults Repair					
2.2	% of faults repaired by next working day (>90%)	>90%	3	4.84%	3	4.41%
2.3	% of faults repaired within 3 working day	=>99%	4	6.45%	4	5.88%
3	Billing Performance					
3.3	%age of bills disputed	<2%	0	0.00%	1	1.47%
3.4	%age of billing complaints resolved within 4 weeks	100% within 4 weeks	0	0.00%	0	0.00%
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	0	0.00%	0	0.00%
4	Response Time to the Customer for assistance					
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	6	9.68%	1	1.47%

S.No.	Parameter	Benchmark	Number of Licensees not meeting the Benchmarks			
			Q. E. September, 2016		Q. E. December, 2016	
			Out of 62 (Nos.)	Out of 62 (%)	Out of 68 (Nos.)	Out of 68 (%)
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	8	12.90%	2	2.94%
5	Bandwidth utilisation/ throughput					
5.2	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	0	1	1.61%	0	0.00%
5.4	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)	0	0	0.00%	0	0.00%
5.7	% International bandwidth utilization during peak hours (TCBH) (Enclose MRTG)<90%	<90%	1	1.61%	0	0.00%
5.8	Broadband Connection Speed available (download) from ISP node to user	>80%	0	0.00%	0	0.00%
6	Service availability/uptime (for all users) in %age					
6.3	Service availability /uptime (for all users) in %age	>98%	0	0.00%	1	1.47%
7	Packet loss (for wired broadband access) in %age	<1%	0	0.00%	0	0.00%
8	Network latency (for wired broadband access)					
8.1	User reference point at POP/ISP Gateway node to IGSP/NIXI	<120 ms	0	0.00%	0	0.00%
8.2	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	<350 ms	0	0.00%	0	0.00%
8.3	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)	<800 ms	0	0.00%	0	0.00%

Table 4.8: Parameter-wise Analysis of non-compliance of QoS benchmarks for Broadband Service Providers

Sl. No.	Parameters	Benchmark	Name of the Service Provider not meeting the Benchmark
1	Service Provisioning		
1.2	%age of connections provided within 15 days of registration of demand	100%	You Broadband - All India (99.66%), Yashash Cable Network Pvt Ltd - Karnataka - (99%)
2	Faults Repair		
2.2	% of faults repaired by next working day (>90%)	>90%	MTNL - Delhi & Mumbai (98.19%), Atria Convergence - All India (86.19%) Yashash Cable Network Pvt Ltd - Karnataka - (89.80%)
2.3	% of faults repaired within 3 working day	=>99%	MTNL - Delhi & Mumbai (92.59%), Atria Convergence - All India (98.20%) TATA (TTML) -Maharashtra & Goa (98.28%) TATA (TTSL) -All India (Pan India) (98.21%)
3	Billing Performance		
3.3	%age of bills disputed	<2%	Tata Com. Ltd. - All India - (2.08%)
4	Response Time to the Customer for assistance		
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	Bharti Airtel - Tamilnadu (57.00%)
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	Bharti Airtel - Maharashtra (76%), Tamilnadu - (63%)
6	Service availability		
6.3	Service availability /uptime (for all users) in %age	>98%	Alliance Broadband - Kolkata (97.64%)

4.11 Detailed table containing QoS parameters for all the Broadband Service Providers is given in Annexure-4.4.

Chapter 5 :

Performance of Cable TV, DTH and Radio Broadcasting Services

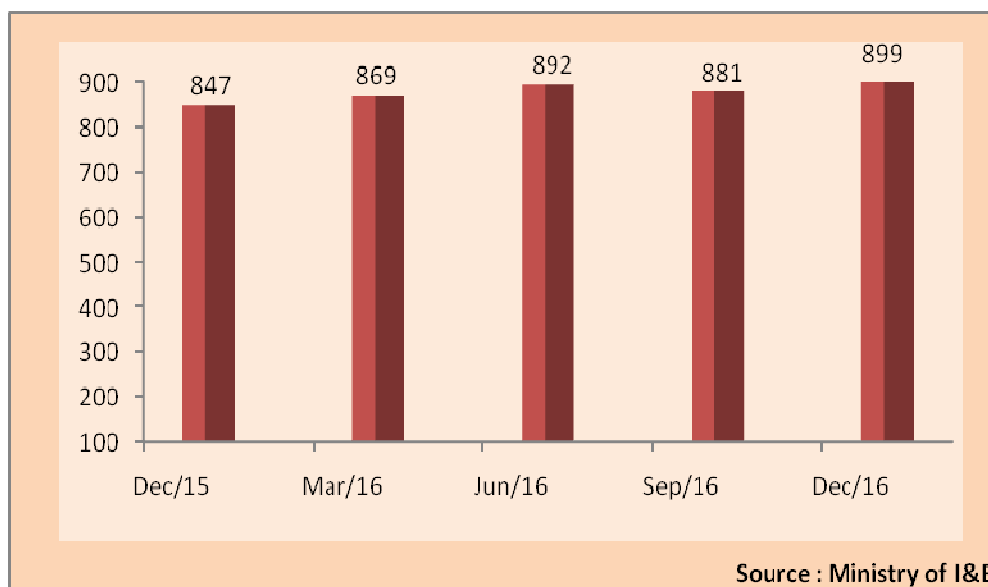
Table 5.1: Key Parameters - Broadcasting & Cable Services

S.No	Parameter	QE Sep-16	QE Dec-16
1	Number of Private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	881	899
2	Number of Pay TV Channels	281	287
3	Private FM Radio stations in operation	260	273
4	Private DTH Operators	6	6
5	Number of Registered DTH Subscribers	94.61 Million	97.05 Million
6	Number of Active DTH Subscribers	61.90 Million	62.65 Million
7	Licenseses of community radio stations	250	255
8	Operational community radio stations	200	201

A. Satellite TV Channels

5.1 A total of 899 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 31st December, 2016.

Chart 5.1: Quarterly growth in number of Satellite TV channels (FTA & Pay) registered with Ministry of I&B



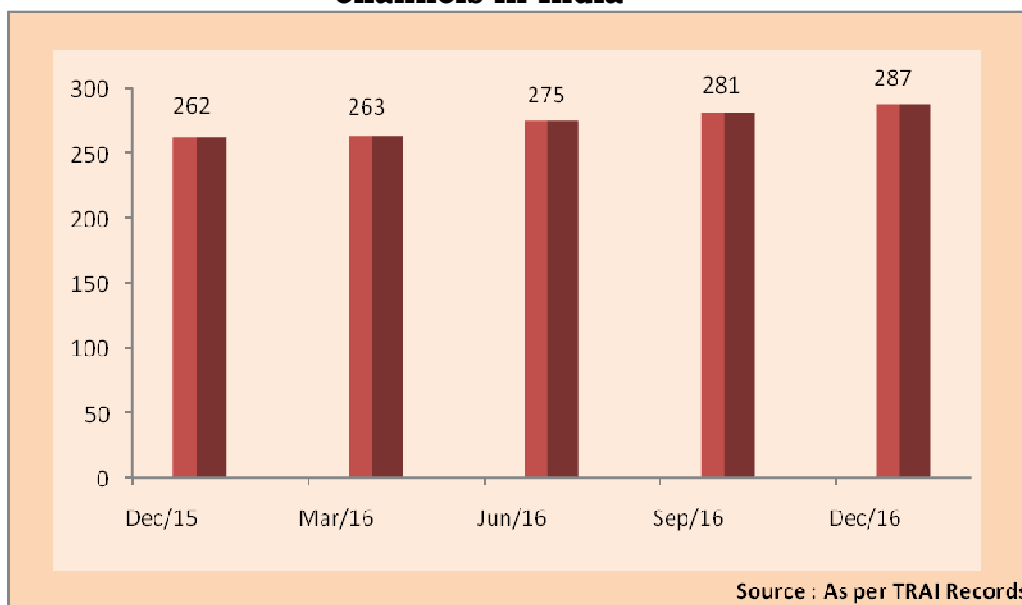
B. Pay TV Channels

5.2 During the quarter ending December 2016, there were 287 pay channels as reported by 47 broadcasters as compared to 281 pay channels reported in the previous quarter. 287 pay channels include 208 SD pay TV channels and 79 HD Pay TV channels. During the quarter ending December 2016, as per the reporting, Six new pay channels were commenced. No pay channel was converted into FTA & no channel was reported to be discontinued. The details are as under:-

New Channels	Name of the Broadcaster
(1) MTV Beats HD	M/s Viacom 18 Media Private Limited
(2) Zee Talkies HD	M/s Zee Entertainment Enterprises Pvt Ltd
(3) Star Gold Select HD	M/s Star India Private Limited
(4) Living Zen	M/s Zee Entertainment Enterprises Pvt Ltd
(5) Zee Bangla HD	M/s Zee Entertainment Enterprises Pvt Ltd
(6) Zee Marathi HD	M/s Zee Entertainment Enterprises Pvt Ltd

5.4 Further, during the quarter, M/s Zee Entertainment Enterprises Pvt Ltd (ZEEL) had discontinued the signal of “Ten 3” channel w.e.f. 06.11.2016 and M/s Taj Television (India) Private Limited has obtained the separate permission for distribution of “Ten 3” channel from MIB & operate the said channel w.e.f. 06.11.2016 (midnight) with same rate. The list of Pay TV Channels is placed at Annexure-5.1.

Chart 5.2 : Quarterly growth in number of satellite Pay TV channels in India



C. Cable TV Sector

5.5 Digitization, with addressability, of cable TV sector is under progress, in a phased manner. It is envisaged to be planned to be executed in four phases. During the quarter, the Ministry of Information and Broadcasting (MIB) extended the cut-off date for Phase-IV of Cable TV Digitization to 31st March 2017 in lieu of uncertainty in the market due to pending court cases and unsatisfactory progress of installation of Set Top boxes (STBs) in Phase-IV areas.

5.6 Further, Ministry also provided additional time for the remaining subscribers in Phase-III areas to switch over to digital mode of transmission by 31st January, 2017 on account of ongoing court proceedings. The revised time-table and the schedule for migration are as below: -

Table 5.2 : Migration Schedule - Digital Addressable Cable TV Systems

Phase	Areas	Sunset date for analog Cable TV
Phase -I	Four Metros of Delhi, Mumbai, Kolkata, Chennai	31.10.2012
Phase -II	Cities with population more than one million (38 cities)	31.03.2013
Phase -III	All Urban areas (Municipal Corporation/ Municipalities)	31.01.2017
Phase -IV	Rest of India	31.03.2017

5.7 As reported by MSOs providing Cable TV services through Digital Addressable System (DAS), details about number of reported channels being carried by the MSOs in areas served by Digital addressable system are as under:-

Areas served by Digital Addressable Systems (DAS)

Particulars	MSO	Number
Maximum number of TV channels (FTA+Pay+Local) carried	M/s Fastway Transmission Pvt Limited and Hathway Sukhamrit Cable & Datacom Pvt Ltd	433
Minimum of TV channels (FTA+Pay+Local) carried	M/s Ortel Communications Limited	205
Maximum number of FTA channels carried	M/s Indian Cable Net Company Limited	180
Maximum number of Pay channels carried	M/s GTPK Kolkata Cable & Broadband Pariseva Limited	236
Maximum number of Local channels carried	M/s Fastway Transmission Pvt Ltd and Hathway Sukhamrit Cable & Datacom Pvt Ltd	89

D. Direct-to-Home (DTH) Sector

5.8 As reported by Pay Direct to Home (DTH) operator, details about number of reported channels being carried by the DTH operators on their platforms as on 31.12.2016 are as under:-

Particulars	DTH Operator	Number
Maximum number of TV channels (FTA+Pay) carried	M/s Tata Sky Ltd	558
Minimum of TV channels (FTA+Pay) carried	M/s Sun Direct Pvt Ltd	227
Maximum number of FTA channels carried	M/s Tata Sky Ltd	261
Maximum number of Pay channels carried	M/s Tata Sky Ltd	297

5.9 Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained a registered pay subscriber base of around 97.05 million (including 62.65 million active subscribers). As on December 2016, there are 6 pay DTH service providers. This is besides the viewership of the free DTH services of Doordarshan. Quarterly growth in the DTH sector in terms of the net active subscriber base is depicted in Figure 3 and Market Share of DTH operator in terms of the percentage of net active subscribers during the quarter is depicted in Figure. The list of private DTH service providers is placed at Annexure 5.2.

Chart 5.3 : Quarterly growth in Net Active subscribers (in million) of pay DTH

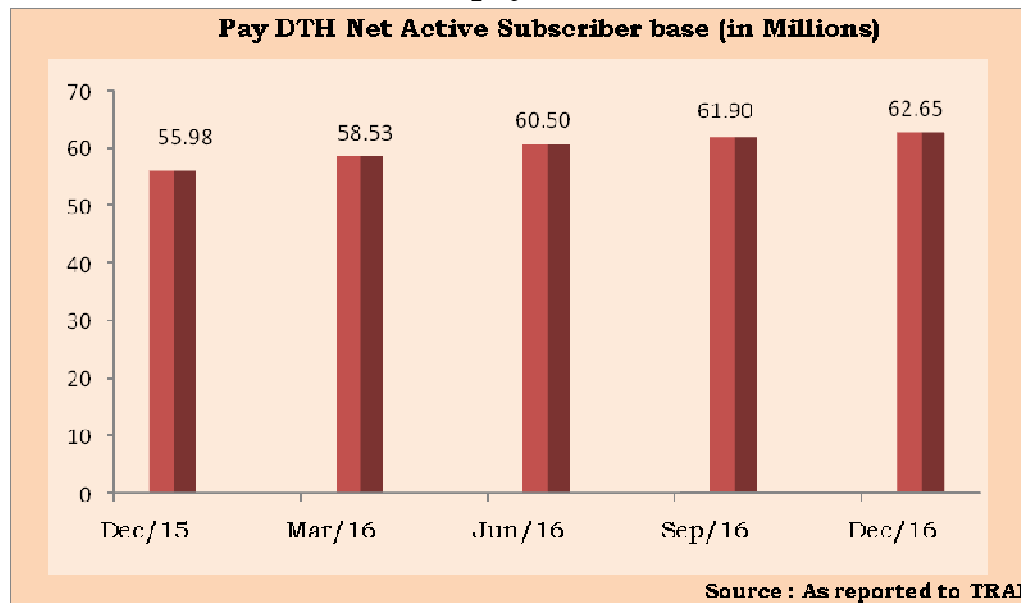
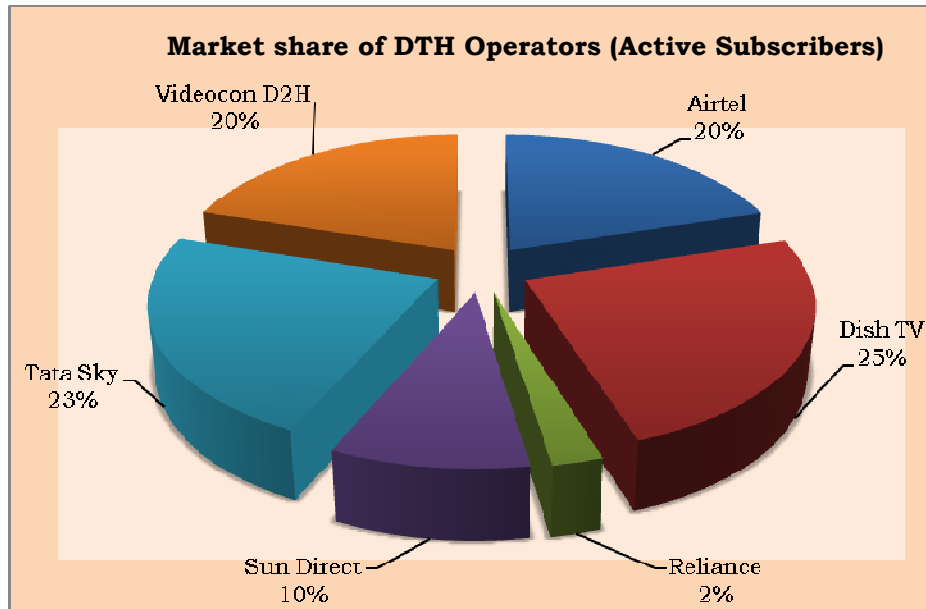


Chart 5.4 : Market Share of 6 pay DTH Operators as on 31.12.2016 in respect of their active subscribers



E. FM Radio Services

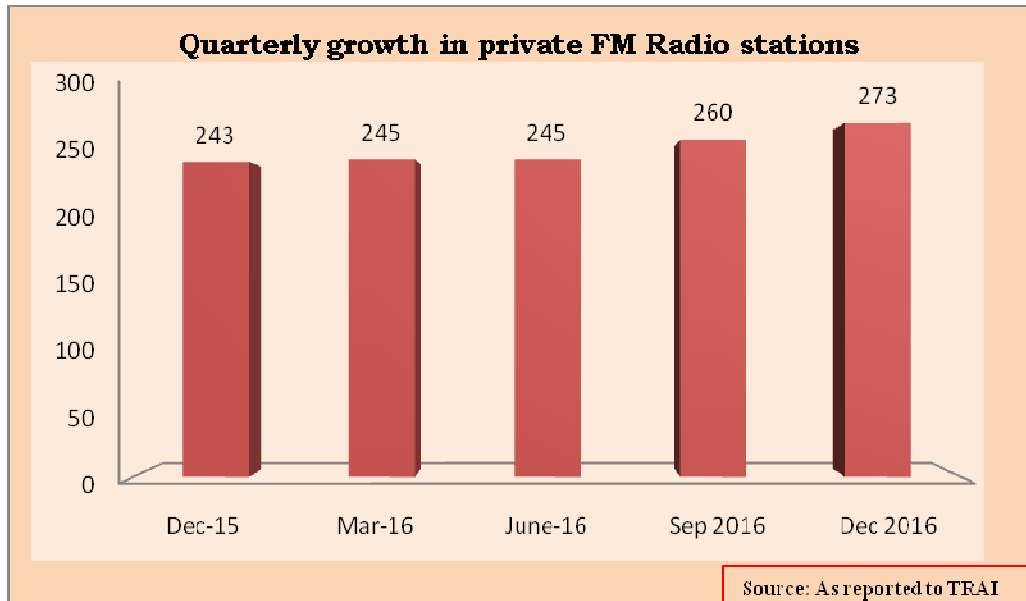
5.10 Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, as on 31st December 2016, there are 273 operational private FM Radio stations and 84 existing cities with operational FM radio channels as compared to 260 private FM Radio Stations reported in the previous quarter. According to the reporting of advertisement revenue done by the FM Radio Service Providers, it has emerged that during the quarter ending 31st December 2016, 13 new private FM Radio Stations have become operational. The details are as under:-

Sl. No.	Name of FM Radio Operator	No of station	Name of the cities
1	D. B. Corp Limited	4	1) Ahmed Nagar 2) Aurangabad 3) Nanded 4) Sangli
2	Digital Radio Broadcasting Ltd	1	1) Jodhpur
3	ENIL	3	1) Jaipur 2) Lucknow 3) Pune

4	Music Broadcast Limited	5	1) Kanpur 2) Kota 3) Ajmer 4) Udiapur 5) Patiala
	Total	13	

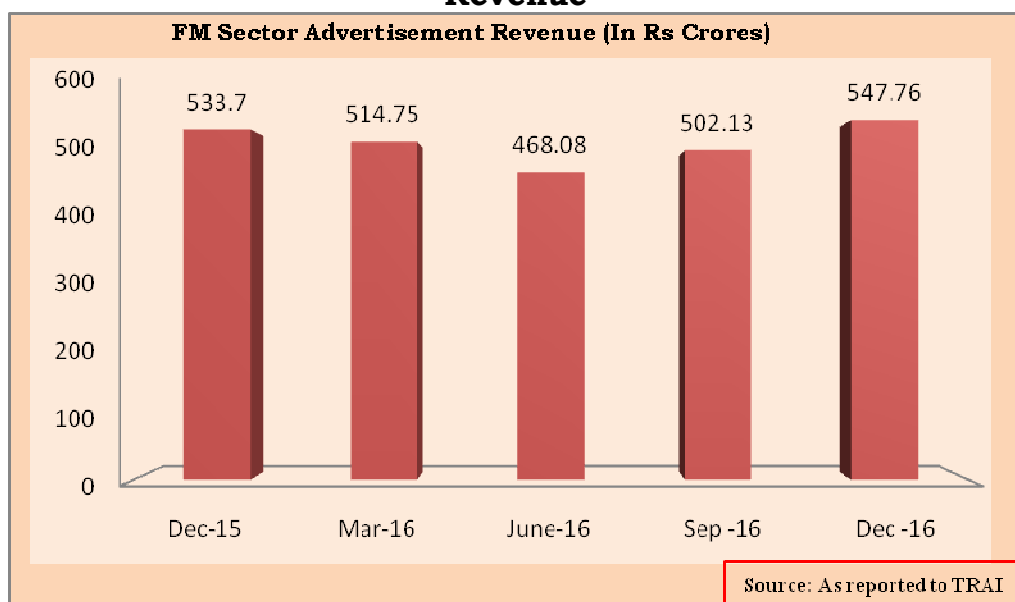
5.11 A list of 84 existing cities with operational FM radio channels is placed at Annexure 5.3.

Chart 5.5 : Quarterly growth in private FM Radio stations



5.12 The reported advertisement revenue during the quarter ending December, 2016 in respect of 272 private FM Radio stations was ₹547.76 crores as against ₹502.13 crores in respect of 259 private FM Radio stations in the previous quarter. The information is based on the details of Advertisement Revenue submitted by the FM radio service providers to TRAI.

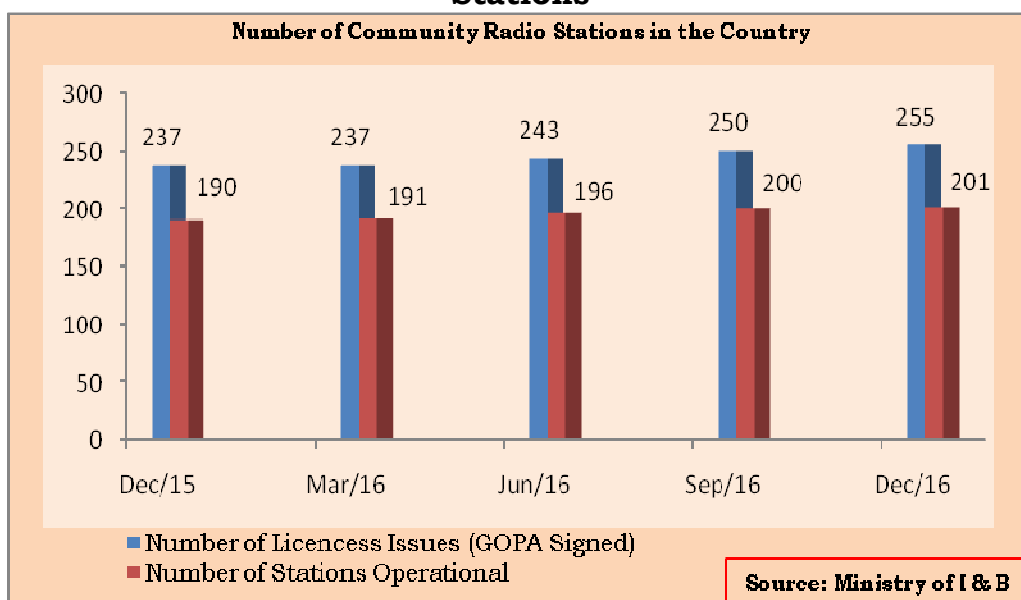
Chart 5.6 : Comparative position in FM Radio Advertisement Revenue



F. Community Radio

5.13 As on 31st December, 2016, out of the 255 licenses issued (GOPI signed) for setting up of Community Radio Stations (CRS), 201 stations are already operational. The quarterly growth in the number of community radio stations is depicted in the chart below.

Chart 5.6 : Quarterly Growth in number of Community Radio Stations



**Table 5.3 : Number of application received/Letters of Intent issued/
Licenses issued in respect of Community Radio Stations**

Sl. No.	Items	As on 31.12.2016
1	Total No. of Applications Received	1983
2	No. of Letters of Intent (LOIs) issued	545
3	No. of Applications rejected	1110
4	No. of Licenses issued (GOPA signed)	255
5	No. of Stations Operational	201

Source: Ministry of Information & Broadcasting (MIB)

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Annexures

Annexure 1.1: Wireless Subscriber Base

Service Area	Vodafone (GSM)		Bharti (GSM)		Idea (GSM)		Aircel (GSM)		Reliance (GSM)	
	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16
Andhra Pradesh	6,912,483	7,030,425	24,494,705	25,112,612	16,117,217	17,448,973	2,515,070	2,544,880	3,958,524	3,681,215
Assam	3,855,986	3,920,440	6,204,577	6,281,027	1,174,550	1,293,198	5,567,244	5,663,035	1,388,329	1,358,951
Bihar	9,307,676	9,706,144	29,246,581	30,102,995	11,037,306	12,040,995	7,346,370	7,436,130	3,415,983	3,269,964
Delhi	10,423,973	10,516,019	11,432,142	11,366,485	6,260,193	6,368,028	6,616,495	6,731,212	5,539,409	5,815,374
Gujarat	19,591,031	19,750,344	8,711,270	8,754,131	12,216,554	12,850,449	17,063	17,063	5,998,180	5,925,364
Haryana	5,546,922	5,791,557	3,333,550	3,382,750	4,790,900	5,042,697	3,092	3,092	1,544,821	1,574,039
Himachal Pradesh	733,571	745,499	2,917,431	2,932,704	815,076	815,885	1,106,934	1,119,545	1,595,450	1,580,165
Jammu & Kashmir	831,343	980,533	3,072,866	3,505,002	439,938	623,267	2,732,907	2,867,502	966,307	949,459
Karnataka	7,808,376	7,911,034	21,630,732	22,001,544	8,759,326	9,630,391	3,288,019	3,365,649	5,138,066	5,218,438
Kerala	7,693,378	7,692,872	4,530,673	4,567,433	10,811,853	11,018,971	365,865	378,558	1,451,767	1,492,938
Madhya Pradesh	6,906,951	6,749,495	13,374,101	13,665,329	22,040,127	23,496,338	20,694	20,694	10,110,279	9,370,161
Maharashtra	18,566,063	18,894,289	13,657,217	13,998,508	24,038,879	25,488,200	2,706,361	2,773,255	4,402,118	4,393,692
Mumbai	8,882,520	8,983,030	6,044,841	6,164,308	4,233,013	4,428,983	2,972,202	2,970,326	4,897,371	4,707,876
North East	1,619,313	1,606,835	4,015,546	4,102,960	525,281	610,574	3,438,367	3,384,813	385,134	368,596
Orissa	4,180,247	4,352,964	10,760,636	10,981,096	1,799,105	2,042,172	4,710,912	4,664,702	2,215,616	2,121,470
Punjab	5,178,416	5,260,726	8,217,016	8,408,589	6,465,841	6,609,685	1,145,068	1,151,413	1,645,613	1,712,133
Rajasthan	11,925,936	12,082,927	19,909,190	20,423,230	7,586,197	8,074,084	6,608,299	6,663,523	5,967,544	5,965,928
Tamil Nadu (incl. Chennai)	15,874,774	16,348,225	18,028,189	18,317,695	6,351,281	6,422,898	21,788,965	21,705,386	5,270,631	5,354,554
UP(E)	19,395,061	19,716,657	21,772,412	22,524,622	10,892,972	11,778,588	7,133,542	7,158,862	8,164,195	8,380,772
UP(W)	11,378,616	11,851,566	8,432,337	8,696,883	14,635,159	15,679,475	785,317	844,454	5,504,703	5,466,988
Kolkata	5,575,130	5,589,894	4,825,039	4,909,018	2,213,046	2,541,949	4,242,022	4,314,664	4,237,250	4,318,179
West Bengal	18,533,481	19,205,455	15,329,615	15,653,684	5,612,524	6,212,076	5,030,171	5,096,795	3,362,695	3,518,673
Total	200,721,247	204,686,930	259,940,666	265,852,605	178,816,338	190,517,876	90,140,979	90,875,553	87,159,985	86,544,929

Annexure 1.1 (contd.)

Service Area	Tata (GSM)		Tata (CDMA)		BSNL (GSM)		BSNL (CDMA)		MTNL (GSM)	
	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16
Andhra Pradesh	3,762,095	3,499,384	598,837	523,849	9,701,992	9,802,001	20,471	18,985		
Assam					1,327,008	1,351,522	66,446	66,212		
Bihar	1,171,990	1,086,671	422,311	390,504	3,771,984	4,024,249	0	0		
Delhi			1,813,846	1,687,228	-	-	-	-	2,324,062	2,327,549
Gujarat	2,615,361	2,353,051	254,635	231,025	4,052,292	4,284,250	44,121	40,649		
Haryana	2,553,980	2,361,141	327,932	287,972	3,454,967	3,574,496	4,793	4,221		
Himachal Pradesh	34,387	30,562	26,118	22,429	1,909,911	1,979,552	11,621	10,586		
Jammu & Kashmir					1,421,240	1,444,470	26,463	26,635		
Karnataka	6,717,093	6,460,007	330,371	289,215	6,890,040	6,827,116	51,436	49,189		
Kerala	1,425,436	1,307,509	90,777	85,522	8,247,510	8,591,605	104,348	95,156		
Madhya Pradesh	4,484,176	4,089,549	363,850	326,513	4,573,974	4,668,613	81,025	76,951		
Maharashtra	4,452,386	4,110,077	1,756,456	1,570,967	6,207,959	6,398,885	50,589	46,264		
Mumbai	2,189,416	2,070,031	818,092	688,729	-	-	-	-	1,288,665	1,298,346
North East					1,451,576	1,485,828	163,022	162,028		
Orissa	2,017,591	1,890,510	101,586	91,893	4,640,934	4,773,897	35,618	34,039		
Punjab	2,252,863	2,123,294	433,520	360,240	4,166,782	4,468,872	0	0		
Rajasthan	613,936	558,851	875,801	759,014	4,729,767	5,066,833	63,048	59,729		
Tamil Nadu (incl. Chennai)	4,193,173	3,960,154	159,701	140,193	8,802,836	8,847,625	41,493	38,337		
UP(E)	3,481,680	3,322,481	329,416	277,646	10,101,676	10,496,496	17,898	14,388		
UP(W)	2,878,750	2,724,418	376,249	352,016	4,973,867	5,325,719	1,854	-		
Kolkata	2,453,946	2,319,592	278,174	260,651	811,404	855,426	703	703		
West Bengal	359,800	331,063	38,049	33,835	1,671,836	1,705,061	70,850	71,292		
Total	47,658,059	44,598,345	9,395,721	8,379,441	92,909,555	95,972,516	855,799	815,364	3,612,727	3,625,895

Annexure 1.1 (contd.)

Service Area	Sistema (CDMA)		Quadrant (GSM)		Reliance Jio (LTE)		Telenor (GSM)		Total		Net Additions
	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	
Andhra Pradesh					1,237,466	6,356,061	5,467,802	5,634,582	74,786,662	81,652,967	6,866,305
Assam					252,467	979,779			19,836,607	20,914,164	1,077,557
Bihar					988,639	4,060,254	9,855,323	10,138,958	76,564,163	82,256,864	5,692,701
Delhi	808,382	699,544			694,861	5,370,396			45,913,363	50,881,835	4,968,472
Gujarat	183,948	155,976			1,462,574	5,593,057	8,226,967	8,424,971	63,373,996	68,380,330	5,006,334
Haryana					678,893	1,918,855			22,239,850	23,940,820	1,700,970
Himachal Pradesh					176,772	665,843			9,327,271	9,902,770	575,499
Jammu & Kashmir					82,788	875,883			9,573,852	11,272,751	1,698,899
Karnataka	990,214	853,274			999,860	4,521,864			62,603,533	67,127,721	4,524,188
Kerala	297,058	261,063			578,635	2,414,402			35,597,300	37,906,029	2,308,729
Madhya Pradesh					893,309	4,012,836			62,848,486	66,476,479	3,627,993
Maharashtra					977,086	4,994,893	8,159,140	8,098,638	84,974,254	90,767,668	5,793,414
Mumbai					572,444	3,314,694			31,898,564	34,626,323	2,727,759
North East					106,560	571,525			11,704,799	12,293,159	588,360
Orissa					576,339	1,841,478			31,038,584	32,794,221	1,755,637
Punjab			2,975,399	2,999,158	790018	3284526			33,270,536	36,378,636	3,108,100
Rajasthan	1,902,826	1,625,425			961,505	3,595,620			61,144,049	64,875,164	3,731,115
Tamil Nadu (incl. Chennai)	622,257	555,764			1,066,478	4,846,319			82,199,778	86,537,150	4,337,372
UP(E)					894,394	4,212,075	12,624,993	13,718,269	94,808,239	101,600,856	6,792,617
UP(W)	128,297	112,436			850,054	3,697,898	8,523,574	8,454,081	58,468,777	63,205,934	4,737,157
Kolkata	478,321	430,489			598,666	2,603,998			25,713,701	28,144,563	2,430,862
West Bengal	1,306,805	1,183,642			539,937	2,425,388			51,855,763	55,436,964	3,581,201
Total	6,718,108	5,877,613	2,975,399	2,999,158	15,979,745	72,157,644	52,857,799	54,469,499	1,049,742,127	1,127,373,368	77,631,241

Annexure 1.2: Wireline Subscriber Base

Service Area	Bharti		Reliance		Quadrant		Sistema		Tata		MTNL		BSNL		Vodafone		Total		Net Additions
	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	Sep-16	Dec-16	
Andhra Pradesh	154,512	158,654	75,756	75,656	-	-	-	-	171,362	172,538	-	-	1,234,923	1,215,896	11,010	11,250	1,647,563	1,633,994	-13,569
Assam					-	-	-	-			-	-	155,682	155,325	1,950	2,100	157,632	157,425	-207
Bihar			6,299	6,436	-	-	-	-	13,081	12,761	-	-	302,111	297,401	1,170	1,260	322,661	317,858	-4,803
Delhi	1,254,086	1,263,413	174,416	173,965	-	-	-	-	134,909	136,059	1,612,218	1,608,461			24,120	27,750	3,199,749	3,209,648	9,899
Gujarat	76,021	76,086	73,694	73,016	-	-	-	-	87,407	88,015	-	-	1,104,443	1,103,146	5,370	7,200	1,346,935	1,347,463	528
Haryana	22,416	22,779	4,397	4,043	-	-	-	-	36,974	36,942	-	-	290,269	285,213			354,056	348,977	-5,079
Himachal Pradesh			4,074	4,014	-	-	-	-	2,641	2,589	-	-	149,374	145,415	30	30	156,119	152,048	-4,071
Jammu & Kashmir					-	-	-	-			-	-	129,354	134,171			129,354	134,171	4,817
Karnataka	617,140	618,389	154,215	155,757	-	-	-	-	207,440	208,921	-	-	1,228,467	1,216,834	19,500	23,190	2,226,762	2,223,091	-3,671
Kerala	57,278	57,915	33,186	33,096	-	-	-	-	18,739	18,723	-	-	2,039,586	2,005,095	1,620	1,680	2,150,409	2,116,509	-33,900
Madhya Pradesh	272,973	272,988	19,732	19,755	-	-	-	-	16,380	16,098	-	-	724,554	726,773	420	420	1,034,059	1,036,034	1,975
Maharashtra	76,564	77,520	82,540	82,090	-	-	-	-	284,392	282,870	-	-	1,428,521	1,420,475	12,402	13,501	1,884,419	1,876,456	-7,963
Mumbai	351,977	354,879	255,230	256,548	-	-	-	-	533,345	529,968	1,848,292	1,869,600			19,914	21,467	3,008,758	3,032,462	23,704
North East					-	-	-	-			-	-	122,655	121,685	150	150	122,805	121,835	-970
Orissa			3,293	3,281	-	-	-	-	8,334	8,130	-	-	278,217	277,579	1,080	1,110	290,924	290,100	-824
Punjab	117,126	119,526	21,284	20,789	259,732	262,114	-	-	16,979	16,402	-	-	616,366	602,669	930	1,020	1,032,417	1,022,520	-9,897
Rajasthan	48,304	48,496	20,164	19,866	-	-	58,671	58,305	11,771	11,796	-	-	621,367	610,665	2,010	2,370	762,287	751,498	-10,789
Tamil Nadu (incl. Chennai)	542,900	551,834	134,097	133,968	-	-	-	-	109,746	109,238	-	-	1,748,466	1,730,644	9,270	10,350	2,544,479	2,536,034	-8,445
U.P.(E)	63,816	63,942	34,822	34,767	-	-	-	-	15,485	15,564	-	-	383,493	382,226	1,170	1,500	498,786	497,999	-787
U.P.(W)	23,026	23,115	7,187	7,127	-	-	-	-	10,129	9,958	-	-	370,099	360,830	930	1,080	411,371	402,110	-9,261
Kolkata	119,150	120,571	69,154	69,154	-	-	-	-	49,255	49,330	-	-	630,643	617,718	5,190	5,460	873,392	862,233	-11,159
West Bengal			1,943	2,048	-	-	-	-	3,947	3,827	-	-	333,714	327,936	60	60	339,664	333,871	-5,793
Total	3,797,289	3,830,107	1,175,483	1,175,376	259,732	262,114	58,671	58,305	1,732,316	1,729,729	3,460,510	3,478,061	13,892,304	13,737,696	118,296	132,948	24,494,601	24,404,336	-90,265

Annexure 1.3: Service Area and Operator wise details of PCOs

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.9.2016	Number of PCOs as on 31.12.2016	Net PCO increase/ decrease as on 31.12.2016	Percentage Growth/ Decline as on 31.12.2016 (%)
Andhra Pradesh (Excluding Telangana)	Bharat Sanchar Nigam Ltd.	24,014	20,958	-3,056	-12.73
	Bharti Group	181	181	0	0
	Reliance Group	7,450	5,595	-1,855	-24.90
	Tata Group	2,703	5,785	3,082	114.02
Andhra Pradesh (Including Telangana)	Bharat Sanchar Nigam Ltd.	24,014	20,958	-3,056	-12.73
	Bharti Group	181	181	0	0
	Reliance Group	7,450	5,595	-1,855	-24.90
	Tata Group	2,703	5,785	3,082	114.02
Assam	Bharat Sanchar Nigam Ltd.	8,260	7,188	-1,072	-12.98
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	1,641	1,641	0	0
	Tata Group	1	1	0	0
Jharkhand	Bharat Sanchar Nigam Ltd.	4,580	4,429	-151	-3.30
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	6,221	6,070	-151	-2.43
	Tata Group	1	1	0	0
Delhi	Bharti Group	586	513	-73	-12.46
	Mahanagar Telephone Nigam Ltd	53,956	53,473	-483	-0.90
	Reliance Group	130	90	-40	-30.77
	Tata Group	2,252	2,019	-233	-10.35
Gujarat	Bharat Sanchar Nigam Ltd.	22,666	22,393	-273	-1.20
	Bharti Group	14	14	0	0
	Reliance Group	615	523	-92	-14.96
	Tata Group	862	1,360	498	57.77
Haryana	Bharat Sanchar Nigam Ltd.	2,078	2,018	-60	-2.89
	Bharti Group	171	170	-1	-0.58
	Tata Group	38	41	3	7.89

Annexure 1.3 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.9.2016	Number of PCOs as on 31.12.2016	Net PCO increase/decrease as on 31.12.2016	Percentage Growth/Decline as on 31.12.2016 (%)
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	1,945	1,762	-183	-9.41
	Tata Group	14	8	-6	-42.86
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	2,422	2,307	-115	-4.75
Karnataka	Bharat Sanchar Nigam Ltd.	28,828	27,000	-1,828	-6.34
	Bharti Group	4,445	4,287	-158	-3.55
	Reliance Group	1,365	951	-414	-30.33
	Tata Group	1,118	983	-135	-12.08
Kerala	Bharat Sanchar Nigam Ltd.	20,446	20,199	-247	-1.21
	Bharti Group	518	512	-6	-1.16
	Reliance Group	180	36	-144	-80.00
	Tata Group	46	46	0	0
Kolkata	Bharat Sanchar Nigam Ltd.	5,338	5,238	-100	-1.87
	Bharti Group	28	26	-2	-7.14
	Reliance Group	128	151	23	17.97
	Tata Group	380	303	-77	-20.26
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	22,912	22,760	-152	-0.66
	Bharti Group	2,462	2,309	-153	-6.21
	Reliance Group	213	104	-109	-51.17
	Tata Group	760	650	-110	-14.47
Chhatisgarh	Bharat Sanchar Nigam Ltd.	1,709	1,625	-84	-4.92
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	24,621	24,385	-236	-0.96
	Bharti Group	2,462	2,309	-153	-6.21
	Reliance Group	213	104	-109	-51.17
	Tata Group	760	650	-110	-14.47
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	60,144	58,012	-2,132	-3.54
	Mahanagar Telephone Nigam Ltd	0	75,805	75,805	0

Annexure 1.3 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.9.2016	Number of PCOs as on 31.12.2016	Net PCO increase/decrease as on 31.12.2016	Percentage Growth/Decline as on 31.12.2016 (%)
	Reliance Group	885	1,216	331	37.40
	Tata Group	10,401	8,858	-1,543	-14.84
Mumbai	Bharti Group	40	40	0	0
	Mahanagar Telephone Nigam Ltd	77,247	0	0	0
	Reliance Group	3,345	3,380	35	1.05
	Tata Group	4,713	4,325	-388	-8.23
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	60,144	58,012	-2,132	-3.54
	Bharti Group	40	40	0	0
	Mahanagar Telephone Nigam Ltd./MTNL	77,247	75,805	-1,442	-1.87
	Reliance Group	4,230	4,596	366	8.65
	Tata Group	15,114	13,183	-1,931	-12.78
Arunachal Pradesh	Bharat Sanchar Nigam Ltd.	4,478	1,216	-3,262	-72.85
Nagaland	Bharat Sanchar Nigam Ltd.	0	3,166	3,166	0
Orissa	Bharat Sanchar Nigam Ltd.	2,366	2,311	-55	-2.32
	Tata Group	94	75	-19	-20.21
Punjab	Bharat Sanchar Nigam Ltd.	4,925	4,590	-335	-6.80
	Bharti Group	79	70	-9	-11.39
	Quadrant Televentures Ltd.	1,817	1,776	-41	-2.26
	Tata Group	233	169	-64	-27.47
Rajasthan	Bharat Sanchar Nigam Ltd.	9,142	8,796	-346	-3.78
	Bharti Group	211	210	-1	-0.47
	Reliance Group	95	115	20	21.05
	Sistema Shyam	9,727	9,601	-126	-1.30
	Tata Group	210	172	-38	-18.10

Annexure 1.3 (Contd.)

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 30.9.2016	Number of PCOs as on 31.12.2016	Net PCO increase/decrease as on 31.12.2016	Percentage Growth/Decline as on 31.12.2016 (%)
Tamilnadu (excluding chennai)	Bharat Sanchar Nigam Ltd.	46,979	44,282	-2,697	-5.74
	Bharti Group	7,062	6,809	-253	-3.58
	Reliance Group	1,150	2,200	1,050	91.30
	Tata Group	292	235	-57	-19.52
Chennai	Bharat Sanchar Nigam Ltd.	11,210	10,892	-318	-2.84
Tamil Nadu (including Chennai)	Bharat Sanchar Nigam Ltd.	58,189	55,174	-3,015	-5.18
	Bharti Group	7,062	6,809	-253	-3.58
	Reliance Group	1,150	2,200	1,050	91.30
	Tata Group	292	235	-57	-19.52
Uttar Pradesh-East	Bharat Sanchar Nigam Ltd.	12,997	12,726	-271	-2.09
	Bharti Group	117	111	-6	-5.13
	Tata Group	29	23	-6	-20.69
Uttarakhand	Bharat Sanchar Nigam Ltd.	1,496	1,471	-25	-1.67
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	2,954	2,927	-27	-0.91
	Bharti Group	92	85	-7	-7.61
	Tata Group	184	179	-5	-2.72
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	4,450	4,398	-52	-1.17
	Bharti Group	92	85	-7	-7.61
	Tata Group	184	179	-5	-2.72
West Bengal (excluding Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	5,833	5,481	-352	-6.03
	Tata Group	92	75	-17	-18.48
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	142	142	0	0
West Bengal (incl. Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	5,975	5,623	-352	-5.89
	Tata Group	92	75	-17	-18.48
Total		508,236	491,190	-17,046	-3.35

Annexure 1.4: Service Area & Operator wise details of Village Public Telephones

Name of Circle/Service Area	Service Provider	Number of VPTs as on 30.9.2016	Number of VPTs as on 31.12.2016	Net VPTs increase/ decreased as on 31.12.2016	Percentage Growth/ Decline as on 31.12.2016
Andhra Pradesh (Excl. Telangana)	Bharat Sanchar Nigam Ltd.	25,107	10,113	-14,994	-0.60
Andhra Pradesh (Incl. Telangana)	Bharat Sanchar Nigam Ltd.	25,107	10,113	-14,994	-0.60
Assam	Bharat Sanchar Nigam Ltd.	24,692	2,900	-21,792	-0.88
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	38,941	7,008	-31,933	-0.82
Jharkhand	Bharat Sanchar Nigam Ltd.	28,821	530	-28,291	-0.98
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	67,762	7,538	-60,224	-0.89
Gujarat	Bharat Sanchar Nigam Ltd.	18,054	11,628	-6,426	-0.36
Haryana	Bharat Sanchar Nigam Ltd.	6,678	1,543	-5,135	-0.77
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	17,408	9,144	-8,264	-0.47
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	6,385	4,401	-1,984	-0.31
Karnataka	Bharat Sanchar Nigam Ltd.	27,451	8,573	-18,878	-0.69
Kerala	Bharat Sanchar Nigam Ltd.	1,372	490	-882	-0.64
Kolkata	Bharat Sanchar Nigam Ltd.	613	135	-478	-0.78
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	51,986	40,818	-11,168	-0.21
Chhattisgarh	Bharat Sanchar Nigam Ltd.	18,328	7,531	-10,797	-0.59
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	70,314	48,349	-21,965	-0.31
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	40,654	27,324	-13,330	-0.33
	Tata Group	1,282	1,282	0	0
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	40,654	27,324	-13,330	-0.33
	Tata Group	1,282	1,282	0	0
North East	Bharat Sanchar Nigam Ltd.	13,109	0	0	0
Orissa	Bharat Sanchar Nigam Ltd.	45,215	6,205	-39,010	-0.86

Annexure 1.4 (contd.)

Name of Circle/Service Area	Service Provider	Number of VPTs as on 30.9.2016	Number of VPTs as on 31.12.2016	Net VPTs increase/ decreased as on 31.12.2016	Percentage Growth/ Decline as on 31.12.2016
Punjab	Bharat Sanchar Nigam Ltd.	12,065	10,406	-1,659	-0.14
Rajasthan	Bharat Sanchar Nigam Ltd.	39,568	17,949	-21,619	-0.55
	Sistema Shyam	3,010	0	-3,010	-1.00
Tamilnadu (excl. chennai)	Bharat Sanchar Nigam Ltd.	13,837	12,599	-1,238	-0.09
Chennai	Bharat Sanchar Nigam Ltd.	1,655	217	-1,438	-0.87
Tamil Nadu (incl. Chennai)	Bharat Sanchar Nigam Ltd.	15,492	12,816	-2,676	-0.17
Uttar Pradesh-East	Bharat Sanchar Nigam Ltd.	74,145	1,574	-72,571	-0.98
Uttarakhand	Bharat Sanchar Nigam Ltd.	15,381	3,462	-11,919	-0.77
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	23,707	4,748	-18,959	-0.80
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	39,088	8,210	-30,878	-0.79
West Bengal (excl. Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	36,958	36,958	0	0
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	352	340	-12	-0.03
West Bengal (incl. Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	37,310	37,298	-12	0
Total		586,774	236,163	-350,611	-59.75

Annexure 1.5 : Internet Service Provider(ISP) wise Internet Subscriber base

S.No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
1.	Bharti Airtel Limited	41268702	43563875	84832577
2.	Reliance Jio Infocomm Ltd	0	72157644	72157644
3.	Vodafone India Ltd.	30034419	35019924	65054343
4.	Idea Cellular Ltd.	21557066	27043854	48600920
5.	Bharat Sanchar Nigam Ltd.	12534957	20362793	32897750
6.	Reliance Communications Ltd.	15896606	16190062	32086668
7.	Aircel Ltd.	12040270	6122361	18162631
8.	Tata (Tata Teleservices Ltd. & Tata Teleservices (Maharashtra)) Ltd.	7712109	7060825	14772934
9.	Telenor Ltd.	13387332	75886	13463218
10.	Mahanagar Telephone Nigam Ltd.	471736	1521904	1993640
11.	Sistema Shyam	15508	1567591	1583099
12.	Atria Convergence Technologies Pvt. Ltd.	0	1121726	1121726
13.	You Broadband India Pvt. Ltd.	16527	606535	623062
14.	Hathway Cable & Datacom Pvt.Ltd.	15329	579696	595025
15.	Quadrant Televentures Ltd.	360679	231325	592004
16.	Tikona	3961	388941	392902
17.	Syscon Infoway Pvt Ltd	49259	194565	243824
18.	GTPL Broadband Pvt. Ltd.	293	224149	224442
19.	D-Vois Broadband Private Limited	0	209710	209710
20.	Asianet Satellite Communications Ltd.	0	192836	192836
21.	Alliance Broadband Services Pvt Ltd.	0	163454	163454
22.	Indinet Service Pvt Ltd	0	140109	140109
23.	DEN Networks Ltd	16	115147	115163
24.	RailTel Corporation of India Ltd.	0	98801	98801
25.	Excitel Broadband Private Limited	0	90211	90211
26.	Five Network Solution (India) Ltd.	0	79898	79898
27.	Ortel Communication Ltd.	0	72503	72503
28.	Honesty Net Solutions (I) Pvt Ltd	423	68822	69245
29.	Planet E-Shop Holdings India Ltd.	2045	55348	57393
30.	R.K. Infratel Limited	2	48734	48736
31.	Nextra Teleservices Pvt. Ltd.	0	45816	45816
32.	Meghbela Cable & Broadband Servies (P) Ltd	0	42256	42256

Annexure 1.5 (contd.)

S.No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
33.	SITI Broadband Services Pvt. Ltd.	0	39564	39564
34.	Home Systems Pvt. Ltd.	0	35408	35408
35.	Citycom Networks Pvt. Ltd.	0	33354	33354
36.	Limras Eronet Broadband Service Pvt Ltd	6604	25309	31913
37.	Wish Net Pvt. Ltd.	0	30892	30892
38.	Broadband Pacenet (I) Pvt. Ltd.	0	29572	29572
39.	Vasai Cable Pvt. Ltd.	0	25581	25581
40.	DNA Infotel Pvt Ltd	0	23339	23339
41.	Wan and Lan Internet Pvt. Ltd.	0	22622	22622
42.	Tata Communications Limited	892	21621	22513
43.	Chandra Net Pvt. Limited	34	21523	21557
44.	Rajesh Multi Channel Pvt. Ltd.	269	20151	20420
45.	Ishan Netsol Pvt Ltd	14423	2167	16590
46.	Apna Telelink Ltd.	0	14959	14959
47.	GBPS Networks Pvt. Ltd.	0	13654	13654
48.	World Phone Internet Services Pvt Ltd	1234	12268	13502
49.	Quest Consultancy Pvt. Ltd.	0	13497	13497
50.	North East Dataa Network Pvt Ltd.	0	13008	13008
51.	Southern Online Bio Technologies Ltd.	481	11938	12419
52.	Yashash Cable Network Pvt Ltd	0	12276	12276
53.	IKF Technologies Ltd	2085	9844	11929
54.	Geocity Network Solutions Pvt. Ltd.	0	11778	11778
55.	Kappa Internet Services Pvt Ltd.	0	11162	11162
56.	City Online Services Ltd	0	10937	10937
57.	Pioneerelabs	368	9964	10332
58.	SmartLink Broadband Services	0	9858	9858
59.	Swiftnet Broadband Pvt Ltd	0	8721	8721
60.	Blazenet Ltd.	4069	3874	7943
61.	Airgenie Communications Pvt. Ltd.	3834	3834	7668
62.	Netplus Broadband Services Pvt.Ltd	0	7499	7499
63.	Fusionnet Web Services Pvt. Ltd.	0	7056	7056
64.	CJM Consultancy Services Pvt. Ltd.	0	6279	6279
65.	Spacenet Internet Services Pvt Ltd	0	5836	5836

Annexure 1.5 (contd.)

S.No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
66.	Intermedia Cable Communication Pvt Ltd	0	5765	5765
67.	Sikka Broadband(P) Ltd.	0	5296	5296
68.	Readylink Internet Services Pvt Ltd	411	4667	5078
69.	Kaizen Infonet Pvt Ltd	100	4940	5040
70.	Siliguri Internet & Cable TV Pvt.Ltd.	0	4986	4986
71.	Narmada Cyberzone Pvt Ltd	1858	3097	4955
72.	Nettlinx Ltd.	788	4028	4816
73.	United Telecoms Ltd.	189	4510	4699
74.	WE INTERNET LIMITED	0	4449	4449
75.	Digital Network associates Pvt. Ltd	89	4296	4385
76.	Rajesh Patel Net Services Pvt. Ltd.	280	3946	4226
77.	CJ Online Pvt. Ltd.	0	4007	4007
78.	Swiftmail Communications Ltd.	1217	2675	3892
79.	Shri Omkar Infocom Pvt. Ltd.	0	3605	3605
80.	HCL Comnet Systems & Services Ltd	3403	31	3434
81.	RI Networks Pvt Ltd	0	3098	3098
82.	Multinet (Udaipur) Pvt. Ltd.	0	3036	3036
83.	F/X Wireless Technology Services Pvt. Ltd.	0	2871	2871
84.	Speed Online.net Pvt. Ltd.	0	2487	2487
85.	Sphier Infotech Pvt. Ltd.	0	2480	2480
86.	Sify Technologies Ltd.	1175	1047	2222
87.	Star Broadband Services (I) Pvt Ltd	0	2169	2169
88.	S.S.Netcom Pvt Ltd	0	1920	1920
89.	Hughes Communications India Ltd.	578	1278	1856
90.	Capture Network Systems Pvt. Ltd.	278	1559	1837
91.	Touch Net India Pvt. Ltd.	35	1614	1649
92.	Harisree CableNet Pvt. Ltd.	0	1344	1344
93.	Aeroway Networks Pvt Ltd.	0	1202	1202
94.	Digital2Virtual ISP Pvt. Ltd.	0	1166	1166
95.	Symbois Creations Pvt. Ltd.	14	995	1009
96.	delDSL Internet Pvt Ltd	0	971	971
97.	STN Communication & Advertising Pvt Ltd.	154	750	904
98.	Data Infosys Ltd.	0	764	764

Annexure 1.5 (contd.)

S.No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
99.	Rajdhani Telecom Pvt. Ltd.	80	652	732
100.	Elyzium Technologies Pvt. Ltd.	0	663	663
101.	Primenet Global Ltd.	0	636	636
102.	Datawave IT solutions Pvt. Ltd.	0	625	625
103.	NetMagic Solutions(P) Ltd.	0	610	610
104.	Conjoinix Technologies Pvt Ltd	0	609	609
105.	Correl IT Services Pvt. Ltd.	0	607	607
106.	Japra Tele Link Pvt. Ltd.	0	583	583
107.	Barani Data Solutions Private Ltd	324	252	576
108.	Rida Communication Pvt. Ltd.	0	443	443
109.	Gleam Worldwide Services Pvt. Ltd.	0	420	420
110.	Chetan Internet Services Pvt. Ltd.	0	414	414
111.	Tamana Winet Pvt. Ltd.	0	413	413
112.	Daksh Broadband Services Pvt Ltd	0	374	374
113.	Singh Internet Services Pvt. Ltd.	0	364	364
114.	Oasis Cable Pvt Ltd.	0	281	281
115.	Sab Infotech (Sab Industries)	0	281	281
116.	Power Grid Corporation of India Ltd.	0	265	265
117.	Gorakhpur Net Services Pvt. Ltd.	0	246	246
118.	Jetspot Networks Pvt. Ltd.	0	246	246
119.	Pulse Telesystems Pvt. Ltd.	0	236	236
120.	Oistel Telecom Pvt. Ltd.	0	233	233
121.	Sampark Infotainment Pvt Ltd	0	200	200
122.	Khetan Cable Network (P) Ltd	0	197	197
123.	Bhiwani Communications Pvt. Ltd.	104	84	188
124.	Cityzone Infonet Pvt. Ltd	0	182	182
125.	Microsense Pvt. Ltd.	0	182	182
126.	QBC Infotech Pvt. Ltd.	0	179	179
127.	ERNET India	111	57	168
128.	Shri Vinayagaa Internet Pvt Ltd	28	118	146
129.	Reticule Infotech Pvt. Ltd.	0	143	143
130.	Tata Sky Broadband Private Limited	0	133	133
131.	Trans Virtual Pvt. Ltd.	17	79	96
132.	VIVA Communications Pvt Ltd (Mylai Karpagambal Information Systems (P) Ltd)	0	94	94

Annexure 1.5 (contd.)

S.No.	Name of the Service Provider	Narrowband Subscribers	Broadband Subscribers	Total Subscribers
133.	Edge Telecommunications Pvt. Ltd.	0	78	78
134.	Sanyog Networks Pvt Ltd	0	76	76
135.	Telestra Telecommunications Pvt. Ltd.	0	58	58
136.	Dream Plus Multi Services Pvt. Ltd.	2	55	57
137.	AT&T Global Network Services India Private Limited	0	54	54
138.	West Bengal Electronics Industry Development Corp. Ltd.	0	51	51
139.	Verizon Communications India Pvt. Ltd.	0	48	48
140.	Adya Tech One Services Pvt Ltd	0	39	39
141.	Novanet India Ltd.	0	16	16
142.	Vcare Call Centres India Pvt. Ltd.	0	16	16
143.	Airmesh Communications Limited	0	15	15
144.	Financial Technologies Communications Ltd.	11	0	11
145.	Nelco Ltd.	0	8	8
146.	Tatanet Services Ltd	0	8	8
147.	Essel Shyam Communications Limited	7	0	7
148.	ABT Ltd.	3	2	5
149.	Orange Business Ser. India Network Pvt. Ltd.	0	5	5
Total		155412788	236089325	391502113
Total (in millions)		155.41	236.09	391.50

Note: Some wireless service providers exclude incidental data users from their subscriber base, based on minimum usage decided by them.

**Annexure 1.6: List of Service Providers which reported IP
Telephony Minutes for Q.E. Dec-16**

S. No.	Name of Service Providers which reported IP Telephony Minutes
1	Alliance Broadband Services Pvt. Ltd.
2	Asianet Satellite Communications Ltd.
3	Blazenet Ltd.
4	City Online Services Ltd.
5	Citycom Networks Pvt. Ltd.
6	Data Infosys Ltd.
7	delDSL Internet Pvt Ltd
8	Novanet Ltd.
9	Pipetel Communications Pvt. Ltd.
10	Pulse Telesystems Pvt. Ltd.
11	Sify Technologies Ltd.
12	Tata Communications Limited
13	Trikon Electronics Pvt. Ltd.
14	VIVA Communications Pvt. Ltd.
15	World Phone Internet Services Pvt. Ltd.
16	You Broadband & Cable India Pvt. Ltd.

Annexure 1.7: Service Area wise PMRTS subscriber Base

Sl. No.	Operative Area	Service Provider	Subscriber Base	
			30.09.2016	31.12.2016
1	Delhi (Faridabad/ Gurgaon)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	5853	5825
		Procall(Delhi)	2561	2655
		Procall (Faridabad)		
		Procall (Gurgaon)		
		Total	8414	8480
2	Mumbai(Navi Mumbai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	8232	8192
		Smartalk (Mumbai)	515	546
		Bhilwara Telenet(Mumbai)	524	571
		Airtalk Solutions & Services Pvt. Ltd	250	274
		Total	9521	9583
3	Kolkata	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	2463	2410
		Total	2463	2410
4	TN(Chennai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	6707	6897
		Quick Calls	264	269
		Total	6971	7166
5	Karnataka (Bangalore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	7351	7289
		Quick Calls	258	262
		Total	7609	7551
6	Andhra Pradesh (Vishakhapatnam & Hyderabad)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	4841	4849
		Quick Calls (Hyderabad Urban)	947	965
		Total	5788	5814
7	Madhya Pradesh (Indore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1015	1073
		Total	1015	1073
8	Rajasthan (Jaipur)	Procall	305	312
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	505	479
		Total	810	791

Annexure- 1.7 (Contd.)

Sl. No.	Operative Area	Service Provider	Subscriber Base	
			30.09.2016	31.12.2016
9	Gujrat (Ahmedabad/ Surat/Vadodara/ Bharuch/ Kutch/Amrela / Jamnagar)	Arya Omnitalk Radio Trunking Services Pvt.Ltd. (Ahmedaba/Surat/Vadodara /Bharuch)	6006	6076
		Inative Network Pvt. Ltd. (Ahmedaba/Surat/Vadodara / Bharuch/ Kutch/Amrela / Jamnagar)	1820	1820
		Total	7826	7896
10	Maharashtra (Pune)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1442	1425
		Smartalk	455	477
		Total	1897	1902
11	Kerala (Cochin City & Quilon)	Wiwonet Solutions Pvt. Ltd.	269	273
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	510	532
		Total	779	805
Grand Total			53,093	53,471

Annexure 2.1: GSM Service - Service Area wise Statistics for QE Dec-16

Key parameters for service areas of category-A

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
AP	95.19	122	22	193	195	388
Gujarat	94.06	96	8	167	151	319
Karnataka	92.85	129	29	174	184	358
MH	94.52	113	32	153	154	306
TN (incl. Chennai)	94.16	125	29	162	181	343

Key parameters for service areas of category-B

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Haryana	96.53	90	17	197	189	386
Kerala	96.14	169	11	177	219	396
MP	97.27	85	12	139	155	294
Punjab	93.45	123	80	196	204	400
Rajasthan	96.95	89	7	145	175	319
UP(E)	98.59	79	7	152	225	378
UP(W)	97.94	77	14	157	187	344
WB	99.02	74	16	145	201	346

Key parameters for service areas of category-C

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Assam	96.72	111	29	165	221	386
Bihar	99.19	74	4	152	243	395
HP	97.98	90	6	168	179	347
J&K	85.20	110	9	258	266	524
NE	97.91	118	43	149	164	313
Orissa	98.60	73	7	178	224	402

Key parameters for service areas of category-Metro

Service Area	% of pre-paid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Kolkata	92.86	89	14	163	175	337
Delhi	85.68	141	13	226	188	414
Mumbai	81.68	159	15	247	184	430

**Annexure 2.2: CDMA Full Mobility Service - Service Area wise Statistics
for QE Dec-16**

Key parameters for service areas of Category A

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
MH	87.53	133	5	96	91	187
Gujarat	77.33	221	2	85	62	147
TN (incl. Chennai)	82.51	220	1	72	73	145
Karnataka	86.55	152	3	108	126	234
AP	83.80	131	3	95	105	199

Key parameters for service areas of Category B

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
WB	99.34	59	3	148	164	312
Rajasthan	95.96	77	3	191	160	351
UP(E)	75.44	216	1	63	71	134
MP	88.39	117	3	208	190	398
Kerala	84.50	194	1	45	44	89
UP(W)	85.40	148	3	94	124	218
Haryana	90.36	80	2	162	170	332
Punjab	68.54	197	1	160	102	262

Key parameters for service areas of Category C

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Orissa	80.72	156	1	112	128	240
Bihar	90.05	122	5	150	185	335
HP	60.04	278	2	126	91	217
North East			NA			
Assam			NA			
J&K			NA			

Key parameters for service areas of Category Metro

Service Area	% of Prepaid in total subscribers	ARPU (₹ per month)	Total usage (from & outside HSA) per subscriber per month			
			Outgoing SMS	Outgoing MOU	Incoming MOU	Total MOU
Kolkata	83.71	147	3	112	132	244
Delhi	82.41	157	3	151	140	291
Mumbai	53.92	277	1	64	68	132

Annexure 4.1: Performance of QoS Parameters for Cellular Mobile 2G Service

Performance Monitoring Report on Quality of Service of Cellular Mobile Service Providers for quarter ending, December, 2016																			
Name of Service Area	Name of Service Provider	Network Related Parameters									Customer Service Quality Parameters								
		Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)			POI	Metering and billing					Response time to the customer for assistance		Termination / closure of service	
		BTSs Accumulated downtime (not available for service) (%age)	Worst affected BTSs due to downtime (%age)	Call Set-up Success Rate (within licensee's own network)	SDCCH/ Paging Chl. Congestion (%age)	TCH Congestion (%age)	Call Drop Rate (%age)	Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	Connection with good voice quality	Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)	Metering and billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging complaints	Resolution of billing/charging complaints	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	Accessibility of call centre/ customer care	Percentage of calls answered by the operators (voice to voice) within 90 seconds	%age requests for Termination / Closure of service complied within 7 days	Time taken for refund of deposits after closures
		≤ 2%	≤ 2%	≥ 95%	≤ 1%	≤ 2%	≤ 2%	≤ 3%	≥ 95%	≤ 0.5%	≤ 0.1%	≤ 0.1%	98% within 4 weeks	100% within 6 weeks	within 1 week of resolution of complaint	≥ 95%	≥ 95%	100% within 7 days	100% within 60 days
Andhra Pradesh	Aircel	0.08	0.09	98.93	0.12	0.48	0.36	1.83	97.56	0	0.01	0.00	100.00	100.00	100.00	97.43	96.54	100.00	100.00
	AIRTEL	0.06	0.01	97.91	0.65	1.06	0.96	2.31	97.14	0	0.01	0.05	100.00	100.00	100.00	99.87	97.16	100.00	100.00
	BSNL	1.19	1.91	98.21	0.45	1.02	0.68	2.69	98.00	0	0.00	0.00	100.00	100.00	100.00	97.00	95.00	100.00	100.00
	IDEA	0.04	0.01	99.14	0.44	0.83	0.79	2.81	96.97	0	0.04	0.01	99.93	100.00	100.00	98.99	99.18	100.00	100.00
	RCOM GSM	0.22	1.46	98.66	0.03	0.44	0.15	0.53	99.42	0	0.09	0.07	100.00	100.00	100.00	98.99	94.83	100.00	33.80
	TELENOR	0.07	0.04	99.50	0.08	0.07	0.69	1.73	98.41	1	NA	0.00	100.00	100.00	NA	99.49	99.43	NA	NA
	TTSL CDMA	0.04	0.05	99.37	0.00	0.05	0.22	2.26	98.25	0	0.00	0.00	100.00	100.00	100.00	100.00	99.06	100.00	99.80
	TTSL GSM	0.03	0.01	99.11	0.04	0.08	0.47	2.80	98.01	1	0.00	0.00	100.00	100.00	100.00	98.06	97.10	100.00	100.00
VODAFONE	0.05	0.14	99.90	0.07	0.10	0.40	2.89	99.22	0	0.07	0.15	100.00	100.00	100.00	100.00	97.30	100.00	100.00	
Assam	Aircel	1.58	9.57	93.51	0.53	4.04	1.95	15.98	91.95	0	0.00	0.00	100.00	100.00	100.00	95.16	94.29	100.00	100.00
	AIRTEL	0.25	0.81	95.56	0.84	1.39	1.33	1.67	99.31	0	0.01	0.01	100.00	100.00	100.00	99.96	92.86	100.00	100.00
	BSNL	1.99	1.96	98.13	0.86	1.87	1.91	2.98	96.57	0	0.01	0.00	100.00	100.00	100.00	97.00	96.90	100.00	100.00
	IDEA	0.91	0.79	97.59	0.31	1.55	0.57	2.61	95.37	0	0.01	0.07	100.00	100.00	100.00	95.93	99.88	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	97.92	98.62	100.00	70.46
	VODAFONE	0.60	1.51	98.95	0.36	1.05	0.65	1.86	97.02	0	0.08	0.04	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bihar	Aircel	0.59	2.55	93.90	0.57	5.69	1.62	12.49	95.47	0	0.00	0.00	100.00	100.00	100.00	95.60	97.73	100.00	100.00
	AIRTEL	0.08	0.29	95.87	0.61	1.30	1.39	2.74	96.14	0	0.00	0.02	100.00	100.00	100.00	99.76	96.71	100.00	100.00
	BSNL	1.82	1.95	96.50	0.42	0.33	1.48	2.66	97.12	0	0.00	0.00	100.00	100.00	100.00	99.00	98.43	100.00	100.00
	IDEA	0.68	1.73	97.22	0.87	1.86	1.20	2.67	96.62	0	0.02	0.01	100.00	100.00	100.00	98.86	99.74	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	99.56	97.89	100.00	47.82
	TELENOR	0.16	0.34	98.42	0.46	1.13	1.04	3.97	97.29	2	NA	0.00	100.00	100.00	NA	99.68	99.59	NA	NA
	TTSL CDMA	0.11	0.00	98.38	0.00	0.18	0.18	0.81	98.25	0	0.00	0.00	100.00	100.00	100.00	100.00	99.51	100.00	100.00
	TTSL GSM	0.07	0.00	98.66	0.09	0.17	0.44	2.01	97.81	0	0.00	0.00	100.00	100.00	100.00	98.36	98.01	100.00	100.00
VODAFONE	0.33	1.01	99.58	0.14	0.42	0.85	2.85	98.32	0	0.00	0.07	100.00	100.00	100.00	100.00	97.69	100.00	100.00	
Chennai	BSNL	0.47	1.49	98.33	0.27	1.67	0.63	1.52	97.66	0	0.02	0.01	99.75	100.00	100.00	95.00	98.64	100.00	100.00

Annexure 4.1 (Contd.)

Delhi	Aircel	0.18	0.35	98.09	0.18	0.96	0.75	4.15	96.85	0	0.00	0.00	100.00	100.00	100.00	95.67	97.99	100.00	100.00
	AIRTEL	0.01	0.00	99.38	0.07	0.03	0.67	1.19	99.23	0	0.01	0.02	100.00	100.00	100.00	99.99	91.88	100.00	100.00
	IDEA	0.06	0.00	99.18	0.23	0.15	0.78	2.74	98.67	0	0.09	0.06	100.00	100.00	100.00	98.91	99.60	100.00	100.00
	MTNL	0.11	0.17	97.23	0.41	1.76	1.80	2.63	97.30	0	0.07	0.01	100.00	100.00	100.00	95.61	95.95	100.00	100.00
	MTS	0.02	0.00	99.26	0.00	0.01	0.21	1.77	99.18	0	0.01	0.02	100.00	100.00	100.00	97.99	98.63	100.00	100.00
	RCOM GSM	0.09	0.91	99.48	0.06	0.52	0.17	0.45	98.51	1	0.09	0.09	100.00	100.00	100.00	99.71	85.57	100.00	44.99
	TTSL CDMA	0.05	0.07	99.39	0.00	0.04	0.23	0.99	99.18	0	0.00	0.00	100.00	100.00	100.00	98.36	95.83	100.00	100.00
VODAFONE	0.12	0.53	99.08	0.47	0.92	1.13	2.66	97.98	0	0.09	0.02	100.00	100.00	100.00	100.00	97.21	100.00	100.00	
Gujarat	Aircel	0.03	0.00	99.20	0.03	0.01	0.38	2.46	97.24	0	0.00	0.00	100.00	100.00	100.00	96.58	98.67	100.00	100.00
	AIRTEL	0.08	0.16	98.75	0.10	0.84	0.77	1.98	97.42	0	0.01	0.10	100.00	100.00	100.00	100.00	93.75	100.00	100.00
	BSNL	1.47	1.12	97.73	0.07	0.37	0.35	1.21	100.00	0	0.02	0.01	100.00	100.00	100.00	97.00	96.88	100.00	100.00
	IDEA	0.03	0.05	99.15	0.42	0.29	0.90	2.42	96.23	0	0.04	0.03	99.98	100.00	100.00	98.22	99.75	100.00	100.00
	MTS	0.01	0.00	99.80	0.00	0.00	0.14	1.76	99.23	0	0.02	0.05	100.00	100.00	100.00	97.32	95.26	100.00	100.00
	RCOM GSM	0.12	1.21	99.89	0.02	0.35	0.12	0.38	98.64	0	0.09	0.09	100.00	100.00	100.00	99.52	90.79	100.00	53.10
	TELENOR	0.06	0.08	98.89	0.23	0.15	0.82	2.41	98.15	1	NA	0.00	100.00	100.00	NA	99.56	99.12	NA	NA
	TTSL CDMA	0.00	0.00	98.71	0.00	0.09	0.23	1.69	99.36	0	0.00	0.00	100.00	100.00	100.00	100.00	99.39	100.00	100.00
TTSL GSM	0.03	0.00	99.28	0.03	0.04	0.39	1.74	98.78	0	0.00	0.00	100.00	100.00	100.00	98.27	97.76	100.00	100.00	
VODAFONE	0.06	0.26	99.83	0.31	0.17	0.76	2.29	97.23	0	0.05	0.01	100.00	100.00	100.00	100.00	96.62	100.00	100.00	
Haryana	Aircel	0.10	0.00	96.48	0.00	0.00	0.00	0.04	98.87	0	0.00	0.00	100.00	100.00	100.00	98.32	99.91	100.00	100.00
	AIRTEL	0.13	0.13	99.30	0.24	0.40	0.87	0.34	98.84	0	0.01	0.11	100.00	100.00	100.00	100.00	97.54	100.00	100.00
	BSNL	0.80	1.25	98.73	0.27	0.48	1.38	1.18	97.61	0	0.03	0.00	100.00	100.00	100.00	100.00	99.69	100.00	100.00
	IDEA	0.02	0.03	98.16	0.29	0.46	0.67	2.19	97.96	0	0.08	0.07	100.00	100.00	100.00	99.26	99.49	99.95	100.00
	RCOM GSM	0.06	0.30	99.68	0.07	0.12	0.09	0.56	99.38	0	0.09	0.09	100.00	100.00	100.00	98.33	95.70	100.00	64.35
	TTSL CDMA	0.10	0.00	98.06	0.00	0.20	0.41	1.61	97.24	0	0.00	0.00	100.00	100.00	100.00	100.00	97.42	100.00	100.00
	TTSL GSM	0.07	0.14	98.78	0.02	0.23	0.53	1.99	97.20	1	0.00	0.00	100.00	100.00	100.00	98.34	98.58	100.00	100.00
VODAFONE	0.05	0.03	99.83	0.11	0.17	0.66	2.26	97.80	0	0.08	0.03	100.00	100.00	100.00	100.00	97.16	100.00	100.00	
Himachal Pradesh	Aircel	0.10	0.27	99.65	0.03	0.17	1.03	8.63	96.18	0	0.00	0.00	100.00	100.00	100.00	98.40	97.70	100.00	100.00
	AIRTEL	0.02	0.12	99.09	0.17	0.08	0.63	0.53	98.18	0	0.01	0.03	100.00	100.00	100.00	100.00	97.84	100.00	100.00
	BSNL	1.86	1.92	98.75	0.65	1.25	1.98	2.65	95.02	0	0.01	0.00	100.00	100.00	100.00	100.00	99.56	100.00	100.00
	IDEA	0.10	0.42	99.57	0.05	0.05	1.30	1.92	97.33	0	0.01	0.03	100.00	100.00	100.00	99.26	99.64	100.00	100.00
	RTL	0.06	0.39	95.58	0.28	0.34	0.39	1.57	96.67	0	0.08	0.09	100.00	100.00	100.00	99.10	95.86	100.00	54.11
	TTSL CDMA	0.02	0.00	99.19	0.00	0.07	0.02	0.50	97.89	0	0.00	0.00	100.00	100.00	100.00	100.00	99.45	100.00	100.00
	TTSL GSM	0.00	0.00	99.73	0.00	0.00	0.11	1.01	95.99	0	0.00	0.00	100.00	100.00	100.00	97.57	99.74	100.00	100.00
VODAFONE	0.02	0.00	99.95	0.01	0.05	0.67	2.26	97.64	0	0.09	0.05	100.00	100.00	100.00	100.00	99.44	100.00	100.00	
Jammu & Kashmir	Aircel	0.88	6.01	96.68	0.48	1.82	1.13	8.58	95.86	0	0.00	0.00	100.00	100.00	100.00	97.53	87.17	100.00	100.00
	AIRTEL	0.17	0.25	98.38	0.23	0.79	0.92	0.42	98.26	0	0.01	0.12	100.00	100.00	100.00	99.88	94.72	100.00	100.00
	BSNL	1.51	0.60	98.80	0.56	1.20	0.79	2.06	96.87	0	0.01	0.00	100.00	100.00	100.00	100.00	99.67	100.00	100.00
	IDEA	0.16	0.76	98.80	0.08	0.89	1.10	2.06	96.06	0	0.00	0.02	100.00	100.00	100.00	97.96	99.37	100.00	100.00
	RCOM GSM	0.05	0.47	98.03	0.10	0.44	0.24	0.95	98.86	0	0.09	0.09	100.00	100.00	100.00	99.23	75.83	100.00	90.77
VODAFONE	0.25	0.76	99.37	0.04	0.63	0.63	2.79	98.99	1	0.02	0.00	100.00	100.00	100.00	100.00	97.98	100.00	100.00	

Annexure 4.1 (Contd.)

Karnataka	Aircel	0.11	0.22	99.21	0.04	0.20	0.56	2.48	97.57	0	0.00	0.00	100.00	100.00	100.00	97.14	97.41	100.00	100.00
	AIRTEL	0.08	0.06	98.64	0.24	0.32	0.49	1.54	96.30	0	0.01	0.03	100.00	100.00	100.00	100.00	95.39	100.00	100.00
	BSNL	1.18	1.80	98.60	0.22	0.56	0.69	2.01	96.96	0	0.06	0.00	99.77	100.00	100.00	99.00	97.10	100.00	100.00
	IDEA	0.09	0.22	99.25	0.31	0.21	0.55	2.13	97.03	0	0.07	0.04	100.00	100.00	100.00	99.78	99.10	100.00	100.00
	MTS	0.12	0.00	99.47	0.00	0.03	0.42	2.48	99.21	0	0.00	0.00	100.00	100.00	100.00	99.60	96.64	100.00	100.00
	RCOM GSM	0.12	0.62	99.33	0.05	0.24	0.08	0.32	99.37	0	0.09	0.08	100.00	100.00	100.00	99.37	89.49	100.00	53.50
	TTSL CDMA	0.12	0.46	99.00	0.00	0.07	0.27	1.33	98.65	0	0.00	0.00	100.00	100.00	100.00	100.00	99.45	100.00	100.00
	TTSL GSM	0.07	0.12	98.62	0.06	0.14	0.44	2.02	97.94	1	0.00	0.00	100.00	100.00	100.00	98.14	97.63	100.00	100.00
VODAFONE	0.17	0.61	99.88	0.22	0.11	0.40	2.84	98.85	2	0.09	0.13	99.98	100.00	100.00	100.00	96.28	100.00	100.00	
Kerala	Aircel	0.07	0.00	99.67	0.03	0.03	0.47	3.58	97.51	0	0.00	0.00	100.00	100.00	100.00	97.95	98.19	100.00	100.00
	AIRTEL	0.09	0.06	99.10	0.12	0.54	0.74	2.90	97.79	0	0.01	0.08	100.00	100.00	100.00	99.95	96.08	100.00	100.00
	BSNL	0.23	0.06	98.95	0.21	1.05	0.56	0.80	99.83	0	0.02	0.01	100.00	100.00	100.00	98.00	96.29	100.00	100.00
	IDEA	0.07	0.24	99.92	0.12	0.33	0.53	1.51	96.89	0	0.05	0.01	99.94	100.00	100.00	98.17	99.33	100.00	100.00
	MTS	0.02	0.00	99.32	0.00	0.00	0.21	2.74	99.18	0	0.05	0.01	100.00	100.00	100.00	98.00	99.00	100.00	100.00
	RCOM GSM	0.09	0.41	99.62	0.01	0.13	0.06	0.63	99.55	0	0.09	0.09	100.00	100.00	100.00	97.37	97.23	100.00	70.82
	TTSL CDMA	0.03	0.00	98.91	0.00	0.03	0.22	1.61	99.13	0	0.00	0.00	100.00	100.00	100.00	100.00	99.53	100.00	100.00
	TTSL GSM	0.04	0.00	99.74	0.01	0.02	0.38	2.68	99.05	1	0.00	0.00	100.00	100.00	100.00	97.90	98.31	100.00	100.00
VODAFONE	0.04	0.02	99.62	0.04	0.15	0.38	1.68	97.46	0	0.10	0.06	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Kolkata	Aircel	0.09	0.19	97.94	0.14	0.06	0.69	2.84	97.84	0	0.02	0.00	100.00	100.00	100.00	98.45	96.00	100.00	100.00
	AIRTEL	0.00	0.00	99.61	0.03	0.01	0.60	2.39	98.76	0	0.01	0.12	100.00	100.00	100.00	99.97	92.00	100.00	100.00
	BSNL	1.28	1.98	99.01	0.62	0.60	1.13	2.12	99.82	0	0.06	0.08	99.00	100.00	100.00	100.00	95.59	100.00	100.00
	IDEA	0.19	0.37	99.78	0.05	0.04	0.31	0.30	97.85	0	0.08	0.07	100.00	100.00	100.00	98.88	99.35	99.94	100.00
	MTS	0.02	0.00	99.88	0.00	0.00	0.52	2.52	99.93	0	0.08	0.03	100.00	100.00	100.00	99.84	96.14	100.00	100.00
	RTL	0.32	1.94	96.54	0.05	0.28	0.09	0.33	99.13	0	0.07	0.09	100.00	100.00	100.00	99.55	97.44	100.00	61.42
	TTSL CDMA	0.05	0.00	98.40	0.00	0.19	0.59	4.12	99.19	0	0.00	0.00	100.00	100.00	100.00	100.00	98.64	100.00	100.00
	TTSL GSM	0.09	0.11	99.46	0.04	0.01	0.51	1.95	98.58	1	0.00	0.00	100.00	100.00	100.00	98.96	97.29	100.00	100.00
VODAFONE	0.05	0.29	99.61	0.03	0.39	0.73	2.79	97.98	0	0.03	0.07	100.00	100.00	100.00	99.99	97.46	100.00	100.00	
Madhya Pradesh	Aircel	0.42	0.00	98.21	0.13	0.00	0.58	0.78	99.17	0	0.00	0.00	100.00	100.00	100.00	98.85	99.34	100.00	100.00
	AIRTEL	0.08	0.07	98.74	0.06	0.52	0.91	1.67	97.07	0	0.01	0.06	100.00	100.00	100.00	100.00	98.58	100.00	100.00
	BSNL	1.89	1.74	97.35	0.23	0.57	1.14	1.78	97.64	0	0.00	0.05	100.00	100.00	100.00	98.00	97.44	100.00	100.00
	IDEA	0.08	0.23	97.62	0.33	1.19	0.71	1.84	97.88	0	0.08	0.02	100.00	100.00	100.00	98.39	99.03	100.00	100.00
	RTL	0.36	1.54	96.54	0.07	0.78	0.16	0.63	98.81	1	0.07	0.09	100.00	100.00	100.00	99.83	97.54	100.00	55.55
	TTSL CDMA	0.09	0.83	99.07	0.00	0.00	0.21	1.92	99.18	0	0.00	0.00	100.00	100.00	100.00	100.00	99.16	100.00	98.94
	TTSL GSM	0.02	0.00	99.38	0.03	0.04	0.42	1.88	98.87	1	0.00	0.00	100.00	100.00	100.00	97.53	98.82	100.00	99.42
VODAFONE	0.06	0.14	99.77	0.07	0.23	0.63	4.44	98.90	0	0.03	0.05	99.90	100.00	100.00	100.00	99.20	100.00	100.00	
Maharashtra	Aircel	0.04	0.03	99.34	0.04	0.06	0.60	2.63	96.48	0	0.00	0.01	100.00	100.00	100.00	92.62	97.91	100.00	100.00
	AIRTEL	0.03	0.00	98.46	0.09	0.30	0.50	1.63	96.79	0	0.01	0.06	100.00	100.00	100.00	100.00	94.87	100.00	100.00
	BSNL	1.85	1.71	96.30	0.44	1.55	1.11	2.78	96.94	0	0.00	0.01	100.00	100.00	100.00	100.00	98.10	100.00	100.00
	IDEA	0.06	0.16	98.47	0.72	0.89	0.60	2.16	98.67	0	0.06	0.04	100.00	100.00	100.00	98.82	99.47	100.00	100.00
	RCOM GSM	0.10	0.85	99.07	0.11	0.34	0.12	0.45	98.91	0	0.09	0.09	100.00	100.00	100.00	99.25	94.85	100.00	61.56
	TELENO	0.11	0.37	98.95	0.16	0.19	0.83	2.91	97.72	1	NA	0.00	100.00	100.00	NA	99.49	99.46	NA	NA
	TTML CDMA	0.02	0.00	98.79	0.02	0.77	0.40	2.05	99.17	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	100.00
	TTML GSM	0.02	0.00	99.26	0.03	0.39	0.39	1.83	98.42	0	0.00	0.00	100.00	100.00	100.00	97.19	97.76	100.00	100.00
VODAFONE	0.11	0.40	99.59	0.25	0.41	0.67	2.49	97.20	0	0.06	0.04	100.00	100.00	100.00	99.99	98.64	100.00	100.00	

Annexure 4.1 (Contd.)

Madhya Pradesh	Aircel	0.44	0.52	97.46	0.31	0.00	0.83	0.78	98.62	0	0.00	0.00	100.00	100.00	100.00	98.77	99.19	100.00	100.00
	AIRTEL	0.17	0.27	98.63	0.06	0.69	1.04	2.35	96.94	0	0.01	0.04	99.96	100.00	100.00	100.00	97.93	100.00	100.00
	BSNL	1.91	1.65	96.84	0.46	1.10	1.14	2.27	97.78	0	0.00	0.02	100.00	100.00	100.00	98.00	95.59	100.00	100.00
	IDEA	0.21	1.04	97.40	0.26	1.24	0.86	2.41	97.73	0	0.10	0.02	100.00	100.00	100.00	98.35	98.72	100.00	100.00
	RTL	0.33	1.49	95.89	0.10	0.68	0.20	0.72	98.61	0	0.09	0.09	100.00	100.00	100.00	99.72	92.83	100.00	95.83
	TTSL CDMA	0.25	0.70	98.90	0.00	0.00	0.33	2.84	99.10	0	0.00	0.00	100.00	100.00	100.00	100.00	99.30	100.00	100.00
	TTSL GSM	0.03	0.00	99.36	0.08	0.11	0.58	2.68	98.58	0	0.00	0.00	100.00	100.00	100.00	97.44	98.24	100.00	100.00
	VODAFONE	0.20	1.22	99.60	0.10	0.40	0.80	5.59	98.65	0	0.05	0.14	99.97	100.00	100.00	100.00	99.58	100.00	100.00
Maharashtra	Aircel	0.08	0.08	99.07	0.07	0.17	0.68	2.92	95.96	0	0.00	0.00	100.00	100.00	100.00	98.31	97.39	100.00	100.00
	AIRTEL	0.03	0.00	98.23	0.09	0.60	0.54	1.66	96.51	0	0.01	0.03	99.88	100.00	100.00	99.96	96.20	100.00	100.00
	BSNL	1.91	1.76	96.42	0.50	1.43	1.19	2.88	97.39	0	0.00	0.01	100.00	100.00	100.00	100.00	97.88	100.00	100.00
	IDEA	0.08	0.19	98.73	0.61	0.76	0.58	2.24	98.56	1	0.06	0.04	100.00	100.00	100.00	98.76	99.47	100.00	100.00
	RCOM CDMA	0.42	1.14	96.48	0.00	1.72	0.46	0.38	99.53	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	RCOM GSM	0.18	1.25	99.22	0.10	0.27	0.15	0.49	98.98	0	0.09	0.09	100.00	100.00	100.00	99.43	89.13	100.00	99.68
	TELENOR	0.21	1.03	98.60	0.19	0.32	0.99	3.67	97.33	0	NA	0.00	100.00	100.00	NA	99.49	98.92	NA	NA
	TTML CDMA	0.05	0.00	98.16	0.00	0.90	0.62	2.67	99.91	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	100.00
	TTML GSM	0.03	0.00	99.59	0.05	0.09	0.42	1.68	97.46	0	0.00	0.00	100.00	100.00	100.00	96.79	94.69	100.00	100.00
	VODAFONE	0.17	0.67	99.46	0.35	0.54	0.85	2.67	96.88	0	0.04	0.04	100.00	100.00	100.00	99.99	98.86	100.00	100.00
Mumbai	Aircel	0.11	0.46	97.65	0.23	0.62	1.04	5.56	96.83	0	0.00	0.00	100.00	100.00	100.00	99.11	97.73	100.00	100.00
	AIRTEL	0.06	0.00	99.80	0.03	0.06	0.81	1.74	97.64	0	0.01	0.04	100.00	100.00	100.00	99.46	90.65	100.00	100.00
	IDEA	0.09	0.10	99.17	0.15	0.49	1.01	1.60	96.66	1	0.02	0.02	100.00	100.00	100.00	99.50	98.91	100.00	100.00
	MTNL	0.75	1.15	98.22	0.36	0.14	1.59	2.15	96.52	0	0.040	0.00	99.97	100.00	100.00	100.00	95.75	100.00	100.00
	RCOM GSM	0.05	0.44	99.60	0.13	0.33	0.19	0.50	99.20	0	0.09	0.09	100.00	100.00	100.00	99.12	81.87	100.00	78.96
	TTML CDMA	0.07	0.00	99.22	0.00	0.02	0.44	1.70	99.09	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	100.00
	TTML GSM	0.35	0.00	99.28	0.03	0.04	0.46	1.93	97.78	0	0.00	0.00	100.00	100.00	100.00	98.19	95.48	100.00	100.00
	VODAFONE	0.16	0.00	99.27	0.08	0.73	1.12	3.73	97.72	0	0.41	0.24	99.99	100.00	100.00	99.73	94.01	100.00	98.83
North East	Aircel	5.52	35.65	95.26	0.53	2.98	1.89	17.63	92.80	0	0.00	0.00	100.00	100.00	100.00	96.42	97.89	100.00	100.00
	AIRTEL	1.02	1.39	95.60	0.66	0.80	0.87	1.20	99.14	0	0.01	0.02	100.00	100.00	100.00	92.35	93.23	100.00	100.00
	BSNL	1.82	1.85	97.17	0.84	1.74	1.74	2.30	97.06	0	0.03	0.03	99.50	100.00	100.00	98.00	96.93	100.00	100.00
	IDEA	1.88	1.37	97.43	0.22	0.63	0.62	1.94	96.24	0	0.01	0.12	100.00	100.00	100.00	100.00	99.55	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.09	100.00	100.00	100.00	96.23	97.19	100.00	69.05
	VODAFONE	1.69	1.81	98.38	0.75	1.62	0.82	1.77	97.03	0	0.04	0.04	100.00	100.00	100.00	99.99	100.00	100.00	100.00

Annexure 4.1 (Contd.)

Mumbai	Aircel	0.09	0.44	98.11	0.13	0.29	0.84	3.91	97.34	0	0.00	0.00	100.00	100.00	100.00	99.11	96.65	100.00	100.00
	AIRTEL	0.05	0.00	98.98	0.05	0.05	0.75	1.70	97.65	0	0.01	0.04	100.00	100.00	100.00	100.00	94.26	100.00	100.00
	IDEA	0.09	0.07	99.44	0.26	0.27	0.87	1.60	97.11	0	0.02	0.02	100.00	100.00	100.00	97.98	98.98	99.87	100.00
	MTNL	0.54	1.25	97.90	0.42	0.12	1.51	2.20	96.69	0	0.06	0.00	99.06	100.00	100.00	100.00	97.87	86.88	100.00
	RCOM GSM	0.03	0.18	98.93	0.14	0.51	0.16	0.35	99.27	0	0.09	0.09	100.00	100.00	100.00	98.95	89.06	100.00	53.51
	TTML CDMA	0.08	0.00	99.33	0.01	0.02	0.36	1.67	98.74	1	0.00	0.00	100.00	100.00	100.00	100.00	99.69	100.00	100.00
	TTML GSM	0.09	0.00	99.48	0.01	0.02	0.38	1.58	98.72	1	0.00	0.00	100.00	100.00	100.00	98.04	97.57	100.00	100.00
VODAFONE	0.13	0.00	99.38	0.12	0.62	0.95	2.68	98.08	0	0.15	0.08	99.99	100.00	100.00	99.57	95.99	100.00	100.00	
North East	Aircel	4.69	27.73	96.77	0.51	2.06	1.62	15.02	93.59	0	0.00	0.00	100.00	100.00	100.00	96.43	99.00	100.00	100.00
	AIRTEL	0.94	1.43	95.66	0.33	0.61	0.81	1.07	99.43	0	0.01	0.03	100.00	100.00	100.00	100.00	91.26	100.00	100.00
	BSNL	1.74	1.77	97.48	0.79	1.67	1.65	2.14	97.29	0	0.03	0.03	99.00	100.00	100.00	98.00	97.46	100.00	100.00
	IDEA	1.93	1.56	98.41	0.17	0.34	0.53	1.68	96.90	0	0.00	0.13	100.00	100.00	100.00	100.00	99.23	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.09	100.00	100.00	100.00	96.36	98.59	100.00	60.76
VODAFONE	1.62	1.69	98.67	0.37	1.33	0.82	1.64	97.36	0	0.04	0.04	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Orissa	Aircel	0.26	1.05	98.15	0.66	1.60	1.13	9.62	96.45	0	0.00	0.00	100.00	100.00	100.00	97.45	98.93	100.00	100.00
	AIRTEL	0.06	0.00	95.86	0.36	1.69	1.33	1.60	96.05	0	0.01	0.05	100.00	100.00	100.00	99.97	97.74	100.00	100.00
	BSNL	1.29	1.93	98.78	0.85	1.22	1.88	2.87	97.74	0	0.03	0.01	100.00	100.00	100.00	97.00	98.40	100.00	100.00
	IDEA	0.18	0.51	99.12	0.12	0.15	0.25	0.07	95.70	0	0.02	0.04	100.00	100.00	100.00	97.82	99.86	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.09	100.00	100.00	100.00	98.72	96.85	100.00	55.27	
	TTSL CDMA	0.04	0.00	98.62	0.00	0.01	0.36	1.61	98.25	0	0.00	0.00	100.00	100.00	100.00	100.00	99.30	100.00	100.00
	TTSL GSM	0.03	0.00	98.97	0.10	0.54	0.33	1.28	97.91	1	0.00	0.00	100.00	100.00	100.00	97.18	98.40	100.00	100.00
VODAFONE	0.12	0.23	99.55	0.26	0.47	0.69	1.79	97.92	0	0.04	0.08	100.00	100.00	100.00	99.98	98.40	100.00	100.00	
Punjab	Aircel	0.13	0.10	98.30	0.03	0.30	0.63	2.15	97.72	0	0.00	0.00	100.00	100.00	100.00	97.98	97.73	100.00	100.00
	AIRTEL	0.03	0.00	99.66	0.01	0.02	0.57	1.07	98.87	0	0.01	0.07	100.00	100.00	100.00	99.93	95.70	100.00	100.00
	BSNL	0.56	1.85	97.30	0.47	0.94	0.46	1.18	96.97	0	0.01	0.00	100.00	100.00	100.00	100.00	99.60	100.00	100.00
	IDEA	0.04	0.06	98.86	0.08	0.20	0.29	0.47	97.93	0	0.04	0.07	100.00	100.00	100.00	99.89	99.61	100.00	100.00
	QTL	0.14	0.01	98.63	0.02	0.14	0.63	0.38	96.96	0	0.00	0.00	100.00	100.00	100.00	100.00	97.78	100.00	100.00
	RCOM GSM	0.05	0.44	99.17	0.07	0.10	0.07	0.52	99.20	0	0.09	0.09	100.00	100.00	100.00	98.88	95.90	100.00	58.52
	TTSL CDMA	0.02	0.00	98.72	0.00	0.02	0.16	1.88	99.05	0	0.00	0.00	100.00	100.00	100.00	100.00	99.29	100.00	100.00
	TTSL GSM	0.03	0.02	98.94	0.02	0.07	0.39	1.36	97.41	0	0.00	0.00	100.00	100.00	100.00	98.19	98.14	100.00	100.00
VODAFONE	0.03	0.06	99.88	0.07	0.12	0.54	2.84	98.18	0	0.05	0.04	100.00	100.00	100.00	100.00	98.43	100.00	100.00	
Rajasthan	Aircel	0.06	0.03	97.63	0.25	0.82	0.73	2.69	96.95	0	0.00	0.00	100.00	100.00	100.00	97.56	96.48	100.00	100.00
	AIRTEL	0.08	0.10	97.38	0.45	1.45	0.70	0.92	98.67	0	0.01	0.02	100.00	100.00	100.00	99.98	97.89	100.00	100.00
	BSNL	1.15	1.29	98.36	0.63	1.63	1.53	1.90	98.02	0	0.05	0.04	99.90	100.00	100.00	95.00	96.38	100.00	100.00
	IDEA	0.03	0.02	99.54	0.16	0.20	0.53	1.27	97.41	0	0.05	0.04	100.00	100.00	100.00	99.73	99.77	100.00	100.00
	MTS	0.11	0.07	99.11	0.00	0.06	0.54	1.54	99.21	0	0.04	0.02	100.00	100.00	100.00	99.94	98.54	100.00	100.00
	RCOM GSM	0.09	1.21	97.65	0.13	0.35	0.14	0.84	98.97	0	0.09	0.09	100.00	100.00	100.00	99.37	97.20	100.00	58.23
	TTSL CDMA	0.00	0.00	98.83	0.00	0.07	0.27	1.81	98.94	0	0.00	0.00	100.00	100.00	100.00	100.00	99.50	100.00	98.85
TTSL GSM	0.00	0.00	99.47	0.03	0.08	0.35	1.60	99.09	1	0.00	0.00	100.00	100.00	100.00	96.11	98.35	100.00	100.00	
VODAFONE	0.06	0.20	99.58	0.22	0.42	0.65	2.77	96.59	0	0.08	0.05	100.00	100.00	100.00	100.00	98.12	100.00	100.00	

Annexure 4.1 (Contd.)

Tamil Nadu	Aircel	0.12	0.39	99.06	0.39	0.59	0.82	4.14	95.54	1	0.00	0.00	100.00	100.00	100.00	95.51	98.39	100.00	100.00
	BSNL	0.84	1.92	98.93	0.19	0.47	0.92	2.18	97.14	0	0.03	0.00	100.00	100.00	100.00	100.00	96.00	100.00	100.00
	IDEA	0.03	0.05	99.80	0.06	0.07	0.26	1.58	98.81	0	0.06	0.09	100.00	100.00	100.00	98.72	98.83	100.00	100.00
	MTS	1.13	12.76	99.37	0.00	0.04	0.33	2.61	99.19	0	0.07	0.00	100.00	100.00	100.00	98.00	95.03	100.00	100.00
	TTSL CDMA	3.30	0.15	98.21	0.00	0.28	0.17	0.81	98.95	0	0.00	0.00	100.00	100.00	100.00	100.00	99.11	100.00	100.00
	TTSL GSM	1.82	0.94	99.44	0.15	0.06	0.33	1.54	98.91	0	0.00	0.00	100.00	100.00	100.00	98.91	97.05	100.00	98.47
	VODAFONE	0.21	1.37	99.63	0.24	0.37	0.64	2.57	98.16	0	0.08	0.05	100.00	100.00	100.00	95.03	96.73	100.00	100.00
Tamil Nadu + Chennai	AIRTEL	0.52	2.72	99.00	0.73	0.70	0.68	2.38	97.89	0	0.01	0.11	100.00	100.00	100.00	100.00	94.98	100.00	100.00
	RCOM GSM	0.93	9.36	96.84	0.31	0.12	0.13	0.43	99.43	0	0.09	0.07	100.00	100.00	100.00	98.34	91.95	100.00	55.57
UP East	Aircel	0.08	0.26	99.14	0.37	0.36	0.56	2.64	97.63	0	0.00	0.00	100.00	100.00	100.00	98.36	98.27	100.00	100.00
	AIRTEL	0.40	1.66	95.05	0.41	0.87	1.13	2.68	97.22	0	0.01	0.03	100.00	100.00	100.00	100.00	98.63	100.00	100.00
	BSNL	1.61	1.75	98.59	0.64	1.62	1.39	2.40	96.50	0	0.10	0.09	98.50	100.00	100.00	97.00	98.75	100.00	100.00
	IDEA	0.21	0.40	98.83	0.46	1.06	1.02	2.56	96.30	0	0.07	0.06	100.00	100.00	100.00	99.61	99.66	100.00	93.38
	RCOM GSM	0.10	0.62	98.27	0.17	0.98	0.13	0.48	98.65	0	0.09	0.09	100.00	100.00	100.00	99.25	94.96	100.00	30.18
	TELENOR	0.06	0.00	98.32	0.38	0.87	1.01	5.18	95.93	1	NA	0.01	100.00	100.00	NA	99.29	99.68	NA	NA
	TTSL CDMA	0.06	0.00	98.21	0.00	0.11	0.07	1.38	99.15	0	0.00	0.00	100.00	100.00	100.00	100.00	99.05	100.00	100.00
	TTSL GSM	0.08	0.11	97.32	0.40	0.77	0.31	2.04	97.33	0	0.00	0.00	100.00	100.00	100.00	98.59	98.16	100.00	100.00
VODAFONE	0.08	0.15	99.06	0.22	0.94	0.96	2.97	95.60	0	0.09	0.02	100.00	100.00	100.00	100.00	98.01	100.00	100.00	
UP West	Aircel	0.07	0.15	99.59	0.16	0.25	0.56	1.89	97.26	0	0.00	0.00	100.00	100.00	100.00	98.02	99.54	100.00	100.00
	AIRTEL	0.69	0.87	98.15	0.51	1.38	1.36	2.13	97.26	0	0.01	0.08	100.00	100.00	100.00	100.00	98.15	100.00	100.00
	BSNL	1.49	1.82	98.43	0.48	0.85	1.29	2.34	96.38	0	0.01	0.00	100.00	100.00	100.00	100.00	97.32	100.00	100.00
	IDEA	0.06	0.10	97.63	0.80	1.48	1.03	2.80	96.15	0	0.10	0.00	99.92	100.00	100.00	99.43	99.81	100.00	100.00
	MTS	0.04	0.00	99.81	0.00	0.00	0.24	2.82	99.16	0	0.03	0.02	100.00	100.00	100.00	99.91	97.99	100.00	100.00
	RCOM GSM	0.06	0.18	98.69	0.10	0.41	0.11	0.36	98.68	0	0.09	0.09	100.00	100.00	100.00	99.24	95.30	100.00	38.28
	TELENOR	0.17	0.14	99.45	0.32	0.39	0.66	2.68	97.58	1	NA	0.00	100.00	100.00	NA	98.70	99.48	NA	NA
	TTSL CDMA	0.14	0.00	99.43	0.00	0.19	0.27	2.40	98.69	0	0.00	0.00	100.00	100.00	100.00	100.00	99.54	100.00	100.00
TTSL GSM	0.08	0.04	98.37	0.27	0.39	0.42	2.08	97.53	0	0.00	0.00	100.00	100.00	100.00	97.94	98.93	100.00	100.00	
VODAFONE	0.12	0.24	99.13	0.28	0.73	0.79	2.80	96.62	0	0.07	0.06	100.00	100.00	100.00	98.47	96.56	100.00	100.00	
West Bengal	Aircel	0.16	0.63	98.11	0.27	0.26	0.96	9.31	97.40	0	0.00	0.00	100.00	100.00	100.00	97.36	97.54	100.00	100.00
	AIRTEL	0.03	0.00	95.39	0.09	1.68	1.28	2.67	95.62	0	0.01	0.08	100.00	100.00	100.00	99.99	94.56	100.00	100.00
	BSNL	0.28	0.57	97.93	0.82	1.40	1.44	14.61	96.05	0	0.03	0.02	99.11	100.00	100.00	97.50	97.76	100.00	100.00
	IDEA	0.06	0.36	99.39	0.05	0.11	0.43	0.33	97.02	0	0.08	0.06	100.00	100.00	100.00	99.20	99.87	100.00	100.00
	MTS	0.08	0.00	99.80	0.00	0.05	0.63	2.57	99.48	0	0.09	0.02	100.00	100.00	100.00	99.39	95.43	100.00	100.00
	RTL	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	0.09	100.00	100.00	100.00	99.56	96.71	100.00	61.96
	TTSL CDMA	0.00	0.00	98.67	0.00	0.04	0.09	0.55	97.68	0	0.00	0.00	100.00	100.00	100.00	100.00	99.80	100.00	0.00
	TTSL GSM	0.02	0.00	99.11	0.02	0.11	0.55	2.73	97.87	1	0.00	0.00	100.00	100.00	100.00	98.54	99.35	100.00	100.00
VODAFONE	0.03	0.07	99.43	0.39	0.57	0.78	2.62	96.44	0	0.04	0.03	100.00	100.00	100.00	100.00	96.47	100.00	100.00	

Annexure 4.2: Performance of QoS Parameters for Cellular Mobile 3G Service

Performance Monitoring Report on Quality of Service of Cellular Mobile Service Providers for quarter ending December , 2016											
Name of the Service Area / City	Name of Service Provider	Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)			POI	
		ETS and Node-B's Accumulated downtime (not available for service) (%age)	Worst affected BTSs and Node-B's due to downtime (%age)	Call Set-up Success Rate (within licensee's own network)	SDCCH/Paging Channel and RRC Congestion (%age)	TCH and Circuit Switched RAB Congestion (%age)	Call Drop and Circuit Switched Voice Drop Rate: (%age)	Worst affected cells having more than 3% TCH drop (call drop) and Circuit Switched Voice Drop Rate:-CBBH	Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	Point of Interconnection (POI) Congestion	
		1	2	3	4	5	6	7	8	9	10
		Benchmark	≤ 2%	≤ 2%	≥ 95%	≤ 1%	≤ 2%	≤ 2%	≤ 3%	≥ 95%	≤ 0.5%
Andhra Pradesh	Aircel	0.07	0.09	99.20	0.33	0.24	0.27	2.14	99.82	0	
	Airtel	0.06	0.07	98.09	0.02	0.00	0.32	1.86	98.85	0	
	BSNL	0.43	1.50	98.00	0.63	0.53	0.40	1.67	99.77	0	
	IDEA	0.04	0.01	99.84	0.14	0.10	0.19	1.13	99.71	0	
Assam	Aircel	1.39	7.80	99.24	0.15	0.00	0.47	5.24	98.92	0	
	Airtel	0.49	1.18	99.06	0.03	0.04	0.58	1.11	98.74	0	
	BSNL	1.80	1.87	97.00	0.77	1.43	1.73	2.80	96.57	0	
	RTL	0.18	1.31	99.33	0.03	0.21	0.04	0.18	99.89	0	
	Vodafone	0.75	0.98	99.86	0.04	0.03	0.35	2.36	98.90	0	
Bihar	Aircel	0.58	3.01	98.53	0.24	0.11	0.62	7.03	98.97	0	
	Airtel	0.05	0.35	98.93	0.05	0.16	0.63	2.39	98.66	0	
	BSNL	1.88	1.75	95.67	0.42	0.83	1.48	2.85	96.33	0	
	RTL	0.04	0.09	99.70	0.01	0.01	0.05	0.35	99.87	0	
Chennai	BSNL	0.50	1.40	98.00	0.73	0.30	1.27	1.73	97.60	0	
Delhi	Airtel	0.02	0.00	99.12	0.09	0.10	0.49	2.63	98.76	0	
	IDEA	0.11	0.00	99.81	0.08	0.04	0.41	2.43	98.40	0	
	MTNL	0.10	0.54	97.30	0.65	1.67	1.66	2.00	96.30	1	
	RCom	0.16	1.41	99.97	0.03	0.00	0.24	1.49	99.69	0	
	Vodafone	0.14	0.67	99.75	0.09	0.13	0.49	2.24	98.94	0	
Gujarat	Airtel	0.09	0.14	99.71	0.00	0.02	0.19	1.98	99.50	0	
	BSNL	1.07	1.63	99.00	0.33	0.37	0.73	2.00	100.00	0	
	IDEA	0.04	0.06	99.75	0.17	0.05	0.31	1.89	98.80	0	
	Tata	0.01	0.00	99.66	0.00	0.07	0.43	2.19	99.76	0	
	Vodafone	0.04	0.20	99.82	0.09	0.03	0.18	1.37	99.06	0	
Haryana	Airtel	0.11	0.13	99.04	0.00	0.00	0.09	0.45	97.90	0	
	BSNL	0.83	1.37	99.00	0.77	0.47	0.50	1.20	97.57	0	
	IDEA	0.02	0.00	99.51	0.41	0.19	0.30	2.65	98.94	0	
	Tata	0.06	0.05	99.89	0.26	0.15	0.13	0.98	99.64	0	
	Vodafone	0.07	0.08	99.88	0.01	0.00	0.23	2.08	98.34	0	

Annexure 4.2 (Contd.)

Himachal Pradesh	Airtel	0.12	0.16	99.23	0.02	0.01	0.59	0.92	98.91	0
	BSNL	1.20	1.50	99.00	0.47	0.33	0.80	2.13	99.67	0
	IDEA	0.11	0.08	99.26	0.14	0.09	0.68	1.77	96.90	0
	RTL	0.04	0.36	99.93	0.00	0.00	0.02	0.36	99.69	0
Jammu & Kashmir	Airtel	0.34	2.00	98.43	0.30	0.11	1.10	7.95	98.89	0
	Airtel	0.25	0.08	99.44	0.01	0.01	1.00	1.06	98.78	0
	BSNL	1.27	0.30	97.33	0.40	0.80	1.47	2.30	97.50	0
	IDEA	0.24	0.43	99.26	0.52	0.35	1.37	1.76	97.24	0
	Rcom	0.30	1.90	99.99	0.02	0.02	0.03	0.22	99.72	0
Karnataka	Airtel	0.16	0.19	98.79	0.75	0.06	0.41	3.56	99.82	0
	Airtel	0.08	0.05	99.57	0.07	0.07	0.21	1.59	99.69	0
	BSNL	0.87	1.67	98.67	0.50	0.70	0.57	1.47	99.70	0
	Tata	0.07	0.11	99.21	0.64	0.42	0.18	0.89	99.11	0
	Vodafone	0.33	0.97	99.87	0.01	0.03	0.16	0.73	99.71	0
Kerala	Airtel	0.09	0.00	99.15	0.34	0.13	0.70	2.81	99.82	0
	BSNL	0.20	0.03	97.00	0.03	0.27	0.30	1.93	99.83	0
	IDEA	0.04	0.06	99.59	0.38	0.17	0.25	0.98	97.23	0
	Tata	0.04	0.00	99.62	0.01	0.02	0.23	1.69	99.76	0
	Vodafone	0.03	0.00	99.91	0.00	0.01	0.16	0.40	99.71	0
Kolkata	Airtel	0.06	0.16	99.57	0.22	0.10	0.27	2.66	98.49	0
	Airtel	0.00	0.00	99.59	0.00	0.00	0.24	1.72	99.00	0
	BSNL	1.70	2.73	97.00	0.53	1.03	1.80	2.57	99.80	0
	IDEA	0.12	0.22	99.91	0.00	0.02	0.18	0.10	99.80	0
	RTL	0.25	1.53	99.89	0.10	0.05	0.04	0.16	99.91	0
	Vodafone	0.06	0.23	99.91	0.00	0.00	0.26	1.78	98.95	0
Madhya Pradesh	Airtel	0.14	0.21	99.84	0.01	0.02	0.25	1.43	99.32	0
	BSNL	1.63	1.52	97.17	0.70	0.27	0.40	1.88	97.63	0
	IDEA	0.06	0.03	99.67	0.06	0.09	0.53	2.22	99.14	0
	RTL	0.05	0.06	98.86	0.11	0.01	0.05	0.26	99.89	0
	Tata	0.01	0.00	99.59	0.02	0.13	0.31	2.05	99.79	0
Maharashtra	Airtel	0.05	0.00	99.71	0.03	0.08	0.38	0.79	98.90	0
	BSNL	1.73	1.60	96.00	0.63	1.27	1.03	2.70	96.87	0
	IDEA	0.07	0.11	99.73	0.23	0.08	0.38	2.28	98.35	0
	Tata	0.00	0.00	99.42	0.09	0.13	0.32	1.90	100.00	0
	Vodafone	0.10	0.37	99.84	0.14	0.05	0.21	1.67	98.93	0
Mumbai	Airtel	0.04	0.00	98.21	0.02	0.02	0.36	2.01	99.52	0
	MTNL	0.47	1.23	97.77	0.27	0.13	1.43	2.70	98.92	0
	RCom	0.10	0.92	99.08	0.03	0.02	0.07	0.23	99.71	0
	Vodafone	0.18	0.00	99.79	0.00	0.00	0.39	1.77	98.85	0

Annexure 4.2 (Contd.)

North East	Aircel	4.69	29.96	98.89	0.18	0.02	1.12	11.15	98.76	0
	Airtel	1.17	1.45	98.65	0.12	0.02	0.88	0.95	98.46	0
	BSNL	1.45	1.65	97.50	0.63	1.62	1.52	2.08	97.35	0
	RTL	0.37	0.93	99.92	0.03	0.10	0.02	0.38	99.86	0
	Vodafone	1.50	1.09	99.64	0.24	0.14	0.72	2.64	98.89	0
Orissa	Aircel	0.41	1.32	99.11	0.05	0.02	0.87	8.86	98.95	0
	Airtel	0.03	0.00	99.59	0.03	0.15	0.48	1.73	99.25	0
	BSNL	1.43	1.83	96.67	0.80	1.80	1.77	2.77	97.70	0
	RTL	0.03	0.22	99.97	0.02	0.00	0.09	1.23	99.90	0
Punjab	Aircel	0.18	0.35	99.88	0.15	0.02	0.30	3.65	99.12	0
	Airtel	0.03	0.00	99.47	0.11	0.23	0.16	1.22	99.80	0
	BSNL	0.33	1.40	100.00	0.30	0.10	0.03	1.47	98.83	0
	IDEA	0.05	0.14	99.76	0.05	0.03	0.20	1.11	99.59	0
	RCom	0.15	0.50	99.99	0.00	0.00	0.03	0.22	99.79	0
	Tata	0.03	0.03	99.49	0.28	0.21	0.13	0.69	99.14	0
Rajasthan	Airtel	0.11	0.18	99.63	0.01	0.02	0.55	1.09	98.86	0
	BSNL	1.17	1.70	99.00	0.67	0.30	1.17	2.13	97.47	0
	RCom	0.22	1.26	99.86	0.03	0.03	0.04	0.18	99.64	0
	Tata	0.00	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0
Tamil Nadu	Vodafone	0.09	0.45	99.86	0.03	0.03	0.31	2.77	98.89	0
	Aircel	0.19	0.68	98.96	0.22	0.02	0.48	6.11	98.92	1
	Airtel	0.59	3.01	99.87	0.02	0.07	0.17	1.35	99.26	0
	BSNL	0.50	1.77	99.00	0.00	0.13	0.23	1.67	99.60	0
UPE	Vodafone	0.31	2.27	99.81	0.10	0.05	0.30	2.46	99.11	0
	Aircel	0.08	0.17	99.60	0.00	0.00	0.33	2.36	99.54	0
	Airtel	0.51	1.80	99.85	0.21	0.15	0.32	2.03	99.36	0
	BSNL	1.30	1.37	98.67	0.80	0.43	1.37	2.70	96.50	0
	IDEA	0.23	0.49	99.77	0.58	0.08	0.60	2.37	98.55	0
UPW	Vodafone	0.32	1.16	99.83	0.13	0.03	0.32	2.58	99.01	0
	Airtel	0.84	0.99	99.18	0.01	0.00	0.57	1.35	98.93	0
	BSNL	1.35	1.30	98.17	0.83	0.72	0.63	2.40	96.35	0
	IDEA	0.23	0.60	99.32	0.83	0.38	0.34	2.81	98.99	0
	Tata	0.09	0.00	99.54	0.30	0.20	0.16	1.39	99.14	0
West Bengal	Vodafone	0.14	0.46	99.90	0.01	0.01	0.31	2.85	98.95	0
	Aircel	0.23	0.78	99.05	0.47	0.37	0.32	3.84	98.33	0
	Airtel	0.04	0.00	99.68	0.03	0.06	0.44	2.08	99.08	0
	BSNL	0.20	0.20	97.17	0.48	0.77	0.90	7.62	95.52	0
	RTL	0.11	1.26	99.06	0.02	0.03	0.11	0.34	99.87	0
	Vodafone	0.03	0.00	99.66	0.07	0.08	0.37	2.65	99.01	0

Annexure 4.3: Performance of QoS Parameters for Basic (Wire-line) Service

Quarterly Performance Monitoring Report (PMR) on QoS of Basic Telephone Service (Wireline) for QE December,2016																			
Sl. No.	Name of Service Area	Name of Service Provider	Faults incidences (No. of faults/100 Subs./ month)	Fault Repair				Rent Rebate	Mean Time to Repair (MTRR)	POI Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark	Metering and Billing				Response time to the customer for Assistance		Termination / closure of service		
				% of faults repaired by next working day	% of faults repaired within 5 days	% of faults repaired by next working day	% of faults repaired within 7 days				Metering and Billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging / validity complaints	Period of applying credit/ waiver/ adjustment to customer's account from the date of resolution of complaints	Accessibility of call centre/ customer care	Percentage of calls answered by the operators (voice to voice) within 90 seconds	%age requests for termination / Closure of service complied within 7 days	Time taken for refund of deposits after closures	
																			≤ 7
1	A&N	BSNL	5.00	87.00%	100.00%	87.00%	100%	30	7.00	0.00	0.10%	0.00	98.00%	100.00%	100.00%	98.90%	99.00%	100.00%	100.00%
2	AP	Reliance	1.32	100.00%	100.00%	NA	NA	0	4.3	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
3		TTSL	5.44	99.00%	100.00%	NA	NA	34	6.38	0.00	0.01%	0.00%	100.00%	100.00%	100.00%	98.06%	96.51%	100.00%	100.00%
4		Vodafone	0.38	100.00%	100.00%	NA	NA	NA	3.15	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA
5		Bharti	4.25	90.40%	100.00%	NA	NA	0	3.37	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	94.00%	100.00%	100.00%
6		BSNL	5.00	87.00%	100.00%	90.00%	100%	206	6.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	98.41%	98.36%	100.00%	100.00%
7	ASM	Vodafone	1.35	100.00%	100.00%	NA	NA	NA	1.34	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA
8		BSNL	4.00	97.00%	100.00%	95.00%	100%	119	3.00	0.00	0.03%	0.00	100.00%	100.00%	100.00%	99.28%	98.67%	100.00%	100.00%
9	BH	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
10		TTSL	0.69	100.00%	100.00%	NA	NA	0	7.47	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.36%	98.11%	100.00%	100.00%
11		Vodafone	2.01	100.00%	100.00%	NA	NA	NA	0.30	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
12		BSNL	4.00	97.00%	100.00%	95.00%	100%	0	4.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	98.63%	99.33%	100.00%	100.00%
13	Chattisgarh	BSNL	4.00	97.00%	100.00%	96.00%	100%	624	6.00	0.00	0.01%	0.01	99.00%	100.00%	100.00%	96.95%	96.91%	100.00%	100.00%
14	CN	Reliance	0.02	100.00%	100.00%	NA	NA	0	4.6	0.00	0.02%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
15		BSNL	4.00	93.00%	100.00%	93.00%	100%	805	7.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	98.80%	98.77%	100.00%	100.00%
16	DEL	Reliance	0.03	100.00%	100.00%	NA	NA	0	4.7	0.00	0.02%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
17		TTSL	2.32	94.00%	100.00%	NA	NA	5	15.22	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.36%	94.75%	100.00%	100.00%
18		Vodafone	0.52	100.00%	100.00%	NA	NA	NA	3.14	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA
19		Bharti	4.84	90.46%	100.00%	NA	NA	548	4.56	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	96.00%	100.00%	100.00%
20		MTNL	4.67	81.66%	97.53%	NA	NA	17435	6.46	0.00	0.01%	0.00%	99.71%	100.00%	100.00%	98.93%	99.26%	100.00%	100.00%
21	GUJ	Reliance	0.75	100.00%	100.00%	NA	NA	0	4.5	0.00	0.02%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
22		TTSL	1.22	95.00%	99.00%	NA	NA	29	11.74	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.27%	96.99%	100.00%	100.00%
23		Vodafone	0.21	100.00%	100.00%	NA	NA	NA	0.52	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
24		Bharti	2.85	91.71%	100.00%	NA	NA	21	5.92	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	74.00%	100.00%	100.00%
25		BSNL	5.00	96.00%	100.00%	92.00%	100%	435	5.00	0.00	0.03%	0.00	100.00%	100.00%	100.00%	97.75%	97.59%	100.00%	100.00%
26	HP	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
27		BSNL	5.00	90.00%	100.00%	93.00%	100%	386	6.00	0.00	0.02%	0.00	98.29%	100.00%	100.00%	95.65%	100.00%	100.00%	100.00%

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28	HR	Vodafone	0.00	100.00%	100.00%	NA	NA	NA	0.18	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
29		Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
30		TTSL	0.43	95.00%	100.00%	NA	NA	0	12.38	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.34%	98.58%	100.00%	100.00%
31		Bharti	6.83	95.96%	100.00%	NA	NA	6	3.03	0.00	0.04%	NA	100.00%	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%
32		BSNL	5.00	96.00%	100.00%	94.00%	100%	524	6.00	0.00	0.08%	0.00	100.00%	100.00%	100.00%	95.97%	100.00%	100.00%	100.00%
33	J&K	BSNL	5.00	95.00%	100.00%	93.00%	100%	85	7.00	0.00	0.02%	0.00	98.00%	100.00%	100.00%	95.77%	100.00%	100.00%	100.00%
34	JHAR	BSNL	2.00	98.00%	100.00%	93.00%	100%	272	6.00	0.00	0.09%	0.00	98.00%	100.00%	100.00%	99.35%	99.00%	100.00%	100.00%
35	KER	Vodafone	0.42	100.00%	100.00%	NA	NA	NA	0.17	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
36		Reliance	0.13	100.00%	100.00%	NA	NA	0	4.0	0.00	0.01%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
37		TTSL	0.80	95.00%	99.00%	NA	NA	3	12.47	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.90%	92.56%	100.00%	100.00%
38		Bharti	5.70	97.89%	100.00%	NA	NA	10	5.19	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	96.00%	100.00%	100.00%
39		BSNL	4.00	89.00%	100.00%	92.00%	100%	1155	7.00	0.00	0.04%	0.00	99.82%	100.00%	100.00%	95.98%	95.92%	100.00%	100.00%
40	KOL	Vodafone	0.51	100.00%	100.00%	NA	NA	NA	2.56	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
41		Reliance	0.04	100.00%	100.00%	NA	NA	0	4.4	0.00	0.01%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
42		Bharti	5.74	90.40%	100.00%	NA	NA	71	8.68	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
43		BSNL	6.00	90.00%	100.00%	NA	NA	393	8.00	0.00	0.00%	0.00	98.43%	100.00%	100.00%	99.49%	98.67%	100.00%	100.00%
44	KTK	Vodafone	0.45	100.00%	100.00%	NA	NA	NA	1.50	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA
45		Reliance	0.02	100.00%	100.00%	NA	NA	0	4.5	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
46		TTSL	0.65	92.00%	98.00%	NA	NA	14	19.26	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.14%	95.13%	100.00%	100.00%
47		Bharti	4.03	87.39%	100.00%	NA	NA	645	4.66	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
48		BSNL	4.00	96.00%	100.00%	96.00%	100%	3351	7.00	0.00	0.10%	0.00	98.00%	100.00%	100.00%	97.36%	97.33%	100.00%	100.00%
49	MH	Bharti	2.11	93.51%	100.00%	NA	NA	45	5.85	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	82.00%	100.00%	100.00%
50		BSNL	4.00	92.00%	100.00%	87.00%	100%	787	6.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	96.81%	97.81%	100.00%	100.00%
51		Reliance	0.12	100.00%	100.00%	NA	NA	0	4.2	0.00	0.03%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
52		Vodafone	0.43	100.00%	100.00%	NA	NA	NA	4.09	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
53		TTSL	1.14	96.00%	100.00%	NA	NA	42	15.05	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.19%	90.59%	100.00%	100.00%
54		Vodafone	1.98	100.00%	100.00%	NA	NA	NA	0.23	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
55	MP	Reliance	0.20	100.00%	100.00%	NA	NA	0	4.1	0.00	0.01%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
56		TTSL	6.36	94.00%	100.00%	NA	NA	0	13.45	0.00	0.08%	0.00%	100.00%	100.00%	100.00%	97.53%	97.08%	100.00%	100.00%
57		Bharti	6.78	91.15%	100.00%	NA	NA	161	4.53	0.00	0.07%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
58		BSNL	5.00	89.00%	100.00%	87.00%	100%	541	3.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	97.67%	97.65%	100.00%	100.00%
59	MUM	Vodafone	0.33	100.00%	100.00%	NA	NA	NA	1.48	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
60		Bharti	1.36	92.82%	100.00%	NA	NA	59	5.62	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	93.00%	100.00%	100.00%
61		MTNL	4.25	92.86%	99.58%	NA	NA	24512	6.71	0.00	0.04%	NA	99.44%	100.00%	100.00%	97.35%	96.85%	99.89%	100.00%
62		Reliance	0.03	100.00%	100.00%	NA	NA	0	4.1	0.00	0.02%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
63		TTSL	2.34	94.00%	100.00%	NA	NA	217	14.37	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.04%	94.00%	100.00%	100.00%
64	NE	Vodafone	0.00	NA	NA	NA	NA	NA	0.00	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA
65	NE-I	BSNL	4.00	92.00%	100.00%	93.00%	100%	102	7.00	0.00	0.07%	0.00	98.00%	100.00%	100.00%	99.15%	99.00%	100.00%	100.00%
66	NE-II	BSNL	2.00	95.00%	100.00%	99.00%	100%	36	3.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	98.72%	99.00%	100.00%	100.00%

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67	OR	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%	
68		TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
69		BSNL	6.00	93.00%	100.00%	92.00%	100%	745	4.00	0.00	0.09%	0.00	99.00%	100.00%	100.00%	100.00%	98.94%	98.00%	100.00%	100.00%
70		Vodafone	2.37	100.00%	100.00%	NA	NA	NA	1.38	0.00	0.00%	NA	NA	NA	NA	NA	97.00%	100.00%	NA	NA
71	PB	Vodafone	0.57	93.00%	100.00%	NA	NA	NA	1.56	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA	
72		Reliance	0.05	100.00%	100.00%	NA	NA	0	4.5	0.00	0.01%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%	
73		TTSL	0.91	97.00%	100.00%	NA	NA	0	7.13	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	98.19%	95.53%	100.00%	100.00%
74		Bharti	5.88	88.68%	100.00%	NA	NA	70	4.56	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
75		Quadrant	4.14	92.09%	100.00%	100.00%	100%	0	7.03	0.00	0.04%	0.00%	100.00%	100.00%	100.00%	100.00%	96.00%	95.00%	100.00%	100.00%
76		BSNL	5.00	93.00%	100.00%	93.00%	100%	864	6.00	0.00	0.05%	0.00	98.00%	100.00%	100.00%	100.00%	95.68%	100.00%	100.00%	100.00%
77	RAJ	Reliance	0.07	100.00%	100.00%	NA	NA	0	4.1	0.00	0.01%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%	
78		TTSL	1.68	97.00%	100.00%	NA	NA	0	8.07	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	96.11%	97.78%	100.00%	100.00%
79		Vodafone	0.49	100.00%	100.00%	NA	NA	NA	0.41	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA	
80		Bharti	4.72	86.34%	100.00%	NA	NA	13	5.03	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	99.00%	99.00%	100.00%	100.00%
81		Sistema	1.87	86.80%	100.00%	87.65%	100%	0	8.37	0.00	0.06%	0.00%	100.00%	100.00%	100.00%	100.00%	99.12%	97.41%	100.00%	100.00%
82		BSNL	5.00	98.00%	100.00%	98.00%	100%	598	7.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	100.00%	96.46%	100.00%	100.00%	100.00%
83	TN	Reliance	0.09	100.00%	100.00%	NA	NA	0	4.6	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%	
84		TTSL	1.20	95.00%	99.00%	NA	NA	19	11.84	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	98.91%	96.66%	100.00%	100.00%
85		Vodafone	0.92	100.00%	100.00%	NA	NA	NA	2.35	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA	
86		Bharti	6.50	94.26%	100.00%	NA	NA	1090	6.96	0.00	0.15%	NA	100.00%	100.00%	100.00%	100.00%	100.00%	58.00%	100.00%	100.00%
87		BSNL	4.00	93.00%	100.00%	91.00%	100%	2039	8.00	0.00	0.07%	0.00	100.00%	100.00%	100.00%	100.00%	98.43%	98.38%	100.00%	100.00%
88		UPE	Reliance	0.06	100.00%	100.00%	NA	NA	0	4.3	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
89	TTSL		0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
90	Vodafone		0.73	100.00%	100.00%	NA	NA	NA	0.55	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA	
91	Bharti		6.96	95.40%	100.00%	NA	NA	54	3.62	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%
92	BSNL		4.00	93.00%	100.00%	93.00%	100%	945	5.00	0.00	0.06%	0.00	100.00%	100.00%	100.00%	100.00%	96.16%	100.00%	100.00%	100.00%
93	UPW		Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%
94		TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
95		Vodafone	0.90	100.00%	100.00%	NA	NA	NA	5.42	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	100.00%	NA	
96		Bharti	6.97	96.55%	100.00%	NA	NA	18	3	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	100.00%	99.00%	100.00%	100.00%
97		BSNL	5.00	96.00%	100.00%	96.00%	100%	1033	5.00	0.00	0.05%	0.00	100.00%	100.00%	100.00%	100.00%	95.36%	100.00%	100.00%	100.00%
98		Uttaranchal	BSNL	5.00	94.00%	100.00%	95.00%	100%	325	4.00	0.00	0.00%	0.00	98.00%	100.00%	100.00%	100.00%	96.45%	100.00%	100.00%
99	West Bengal	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.07%	98.63%	100.00%	100.00%	
100		BSNL	5.00	92.00%	100.00%	92.00%	100%	995	6.00	0.00	0.01%	0.00	98.00%	100.00%	100.00%	100.00%	98.77%	98.67%	100.00%	100.00%
101		TTSL	1.82	99.00%	100.00%	NA	NA	4	4.56	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	98.91%	96.31%	100.00%	100.00%
102		Vodafone	6.11	100.00%	100.00%	NA	NA	NA	2.20	0.00	0.00%	NA	NA	NA	NA	97.00%	100.00%	NA	NA	

Annexure 4.4: Quality of Service Performance of Broadband Service Providers

Performance Monitoring Report on Quality of Service of Service Providers providing broadband service (wireline) for Quarter Ending December, 2016

Sl. No.	Service Provider	Service area	Service Provisioning	Faults Repair		Billing Performance				Response Time to the Customer for assistance		Bandwidth utilisation/throughput				Service availability /uptime (for all users) in %age	Packet Loss	Network latency (for wired broadband access)			
			%age of connections provided within 15 days of registration of dem and	% of faults repaired by next working day (>90%)	% of faults repaired within 3 working day	Rent Rebate	% age of bills disputed	% age of billing complaints resolved within 4 weeks	% age of cases to whom refund of deposits is made within 60 days of closures	% age of calls answered by operator (Voice to voice) within 60 sec	% age of calls answered by operator (Voice to voice) within 90 sec	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)	% international bandwidth utilization during peak hours (TCBH) (Enclose MRIG)	Broadband Connection Speed available (download) from ISP node to user		Packet loss (for wired broadband access) in %age	User reference point at POP/ISP Gateway node to International gateway (IGSP/NIXI)	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)	
			100%	>90%	=>99%	in nos.	<2%	100% within 4 weeks	100% within 60 days	>60%	>80%	0	0	<90%	>80%		>98%	<1%	<120 ms	<350 ms	<800 ms
1	BSNL	All India	100.00%	93.82%	99.71%	4730	0.06%	100.00%	100.00%	97.56%	98.32%	0	0	61.00%	90.45%	99.70%	0.09%	23	188	NA	
2	Bharti Airtel	Andhra Pradesh	100.00%	92.27%	100.00%	0	0.01%	100.00%	100.00%	87.00%	92.00%	0	0	51.11%	100.00%	100.00%	0.00%	37	48	NA	
		Delhi	100.00%	93.43%	99.31%	548	0.01%	100.00%	100.00%	87.00%	92.00%	0	0	65.12%	100.00%	99.97%	0.00%	32	82	NA	
		Gujarat	100.00%	93.45%	99.55%	21	0.01%	100.00%	100.00%	88.00%	90.00%	0	0	NA	NA	100.00%	0.17%	62	69	NA	
		Haryana	100.00%	94.66%	99.59%	6	0.01%	100.00%	100.00%	97.00%	98.00%	0	0	NA	NA	100.00%	0.00%	25	82	NA	
		Karnataka	100.00%	90.45%	99.76%	645	0.03%	100.00%	100.00%	90.00%	93.00%	0	0	66.80%	100.00%	99.99%	0.00%	27	41	NA	
		Kerala	100.00%	96.47%	99.94%	10	0.02%	100.00%	100.00%	93.00%	96.00%	0	0	NA	NA	100.00%	0.00%	40	35	NA	
		Kolkata	100.00%	94.84%	100.00%	71	0.00%	100.00%	100.00%	92.00%	94.00%	0	0	50.71%	100.00%	100.00%	0.00%	83	77	NA	
		Madhya Pradesh	100.00%	91.01%	99.26%	161	0.01%	100.00%	100.00%	93.00%	96.00%	0	0	69.20%	100.00%	99.94%	0.00%	85	71	NA	
		Maharashtra	100.00%	94.79%	99.16%	45	0.01%	100.00%	100.00%	72.00%	76.00%	0	0	NA	NA	100.00%	99.96%	0.41%	43	69	NA
		Mumbai	100.00%	93.46%	99.30%	59	0.01%	100.00%	100.00%	89.00%	92.00%	0	0	52.55%	100.00%	99.98%	0.11%	24	69	NA	
		Punjab	100.00%	91.33%	99.14%	70	0.01%	100.00%	100.00%	97.00%	98.00%	0	0	37.43%	100.00%	99.99%	0.00%	29	90	NA	
		Rajasthan	100.00%	90.27%	99.30%	13	0.00%	100.00%	100.00%	96.00%	98.00%	0	0	NA	NA	100.00%	100.00%	0.00%	42	82	NA
Tamilnadu	100.00%	92.64%	99.97%	1090	0.04%	100.00%	100.00%	57.00%	63.00%	0	0	72.37%	100.00%	99.99%	0.00%	22	35	NA			
Uttar Pradesh - East	100.00%	91.26%	99.13%	54	0.01%	100.00%	100.00%	97.00%	98.00%	0	0	65.75%	100.00%	99.98%	0.00%	38	91	NA			
Uttar Pradesh-West	100.00%	90.26%	99.28%	18	0.00%	100.00%	100.00%	97.00%	98.00%	0	0	NA	NA	100.00%	99.97%	0.00%	28	82	NA		
3	MTNL	Delhi & Mumbai	100.00%	82.38%	92.59%	24635	0.08%	100.00%	100.00%	97.58%	98.15%	Nil	0	74.29%	89.66%	99.89%	0.60%	43	273	NA	
4	Alliance Broadband	Kolkata	100.00%	91.33%	99.67%	Nil	1.17%	100.00%	Nil	85.33%	90.33%	0	0	67.31%	95.80%	97.64%	0.66%	106	313	724	
5	Asianet Satellite	Kerala	100.00%	90.67%	99.36%	Nil	1.92%	100.00%	100.00%	60.49%	80.71%	Nil	0	64.49%	90.00%	99.40%	1.00%	50	270	NA	
6	Atria Convergence	All India	100.00%	87.40%	98.19%	48579	0.86%	100.00%	Nil	80.00%	86.00%	0	0	68.84%	90.00%	99.92%	1.00%	50	300	NA	
7	Broadband Pacenet India Pvt. Ltd.	All India	100.00%	90.40%	99.10%	0	1.00%	100.00%	Nil	82.00%	90.00%	0	0	61.11%	89.00%	99.30%	0.45%	75	260	0	
8	Citycom Networks	All India	100.00%	90.40%	99.80%	1344	0.34%	100.00%	100.00%	85.80%	88.60%	0	0	28.00%	85.94%	98.80%	1.00%	38	141	NA	
9	DEN Networks Ltd.	All India	100.00%	93.57%	99.56%	Nil	NA	NA	NA	88.00%	91.00%	Nil	Nil	88.44%	95.00%	98.23%	0.73%	30	290	NA	
10	D-Vois Broadband	All India	100.00%	95.00%	99.00%	-	0.79%	100.00%	-	94.52%	96.59%	0	0	Nil	90.00%	99.99%	0.10%	120	350	800	
11	DNA Infotel Pvt. Ltd.	Maharashtra	100.00%	90.36%	99.33%	0	0.09%	100.00%	Nil	60.52%	81.24%	0	0	80.00%	80.00%	99.73%	1.00%	4	255	600	
12	Excitel Broadband Private Limited	Delhi	100.00%	93.47%	99.33%	195	NA	NA	NA	69.24%	81.22%	Nil	Nil	76.10%	96.00%	98.55%	0.00%	5	198.6	NA	
13	Five Networks	All India	100.00%	99.50%	100.00%	NA	0.00%	100.00%	100.00%	NA	NA	NA	0	NA	90.00%	99.00%	1.00%	NA	NA	NA	
14	GBPS Networks Pvt. Ltd.	Pune, Maharashtra	100.00%	91.21%	99.02%	Nil	0.00%	100.00%	Nil	62.55%	84.69%	0	0	80.00%	80.00%	99.73%	1.00%	4	255	600	

Annexure 4.4 (Contd.)

15	Geocity Network	Delhi	100.00%	92.00%	100.00%	0	0.00%	100.00%	100.00%	72.00%	86.00%	0	0	88.00%	87.67%	99.30%	0.50%	60	300	400
16	GTPL Broadband Pvt. Ltd.	All India	100.00%	94.00%	99.00%	1487	0.11%	100.00%	NA	94.00%	99.00%	NA	0	82.40%	91.00%	99.63%	0.00%	11	300	NA
17	Hathway Cable & Datacom Ltd.	Andhra Pradesh	100.00%	99.17%	99.69%	134	1.72%	100.00%	100.00%	92.00%	94.00%	0	0	78.00%	90.00%	99.80%	0.15%	82	276	NA
		Delhi	100.00%	97.00%	99.00%	36	0.27%	100.00%	100.00%	80.00%	89.00%	0	0	77.00%	85.00%	99.54%	0.40%	110	305	NA
		Gujarat	100.00%	94.35%	99.38%	0	NA	NA	NA	87.57%	97.33%	0	NA	77.00%	90.00%	99.23%	0.28%	79	265	NA
		Karnataka	100.00%	93.52%	99.58%	161	1.92%	100.00%	100.00%	96.33%	98.00%	0	0	77.00%	90.00%	99.66%	0.47%	83	269	NA
		Maharashtra & Goa	100.00%	96.18%	99.17%	682	1.24%	100.00%	100.00%	96.00%	97.00%	0	0	79.00%	90.00%	99.78%	0.15%	77	266	NA
		Madhya Pradesh	100.00%	100.00%	100.00%	0	NA	NA	NA	81.00%	96.00%	0	0	81.00%	100.00%	99.91%	0.00%	100	320	NA
		Punjab	100.00%	98.00%	99.00%	0	0.00%	100.00%	100.00%	82.00%	90.00%	0	0	85.00%	85.00%	99.61%	0.28%	110	330	NA
		Uttar Pradesh-West	100.00%	97.00%	99.00%	0	0.00%	100.00%	100.00%	80.00%	89.00%	0	0	79.00%	85.00%	99.59%	0.54%	105	325	NA
	Kolkata	100.00%	100.00%	100.00%	0	NA	NA	NA	100.00%	100.00%	0	0	65.87%	100.00%	99.77%	0.40%	10	256	NA	
18	Home Systems	Mumbai	100.00%	95.00%	99.99%	0	0.00%	100.00%	0.00	70.00%	89.00%	0	0	72.00%	95.00%	99.00%	0.01%	50	295	NA
19	Honesty Net Solutions (I) Pvt. Ltd.	Mumbai	100.00%	94.00%	100.00%	0	Nil	100.00%	0.00	68.00%	100.00%	0	NA	NA	95.00%	99.00%	1.00%	7	66	NA
20	Indinet Service Pvt. Ltd.	All India	100.00%	90.50%	100.00%	227	0.00%	100.00%	100.00%	67.00%	82.00%	0	0	80	99.00%	99.00%	0.00%	54	282	NA
21	Limras Eronet Broadband	Chennai	100.00%	99.00%	100.00%	2927	1.00%	100.00%	0.00	90.00%	100.00%	0	0	80.00%	90.00%	99.00%	1.00%	45	230	0
22	Meghbela Cable & Broadband Services	Kolkata	100.00%	100.00%	100.00%	0	0.00%	100.00%	100.00%	94.00%	100.00%	0	0	0.00%	100.00%	99.90%	0.00%	60	150	0
		West Bengal	100.00%	100.00%	100.00%	0	0.00%	100.00%	100.00%	94.00%	100.00%	0	0	0.00%	100.00%	99.90%	0.00%	60	150	0
23	Nextra Teleservices Pvt.	Delhi	100.00%	91.90%	99.40%	4844	1.72%	100.00%	100.00%	96.00%	99.00%	0	0	80.00%	100.00%	100.00%	1.00%	120	350	NA
24	North East Dataa Network Pvt. Ltd.	Karnataka	100.00%	99.20%	99.99%	0	0.00%	100.00%	100.00%	99.50%	99.50%	0	0	70.00%	90.00%	99.00%	1.00%	100	300	NA
25	Planet E-Shop Holdings India Ltd. (formerly IndusInd Media)	All India	100.00%	97.00%	99.00%	8	0.00%	100.00%	100.00%	100.00%	100.00%	0	0	39.67	80.00%	98.00%	1.00%	45	260	NA
26	Ortel Communications	All India	100.00%	92.78%	99.62%	NA	NA	NA	NA	100.00%	100.00%	0	0	56.79%	92.00%	99.88%	0.00%	83	229	NA
27	Quadrant Televentures	Punjab	100.00%	95.79%	100.00%	0	0.01%	100.00%	100.00%	90.33%	92.67%	0	0	78.00%	100.00%	99.89%	0.00%	80	280	NA
28	Quest Consultancy Pvt. Ltd.	Gujarat	100.00%	95.00%	100.00%	Nil	Nil	100.00%	Nil	89.00%	99.00%	0	Nil	82.00%	99.00%	99.00%	0.30%	13	267	NA
29	RailTel Corporation	All India (Pan India)	100.00%	97.00%	100.00%	Nil	Nil	100.00%	NA	91.06%	98.96%	0	0	24.50%	100.00%	99.81%	1.00%	120	350	NA
30	Rajesh Multichannel	Mumbai	100.00%	98.00%	100.00%	0	0.00%	100.00%	100.00%	96.00%	98.00%	0	0	87.00%	86.00%	99.00%	0.00%	46	250	500
31	Reliance Com. (RCL)	All India	100.00%	100.00%	100.00%	Nil	0.20%	100.00%	100.00%	98.00%	99.00%	Nil	Nil	38.00%	0.00%	99.00%	0.60%	1	6	0
32	RK Infratel Ltd.	Gujarat	100.00%	91.97%	99.15%	0	NA	100.00%	NA	100.00%	100.00%	0	0	84.91%	96.00%	99.82%	0.17%	120	350	NA
33	Siti Broadband	All India	100.00%	95.30%	99.21%	0	0.00%	NA	0.00	78.00%	99.00%	0	0	69.00%	95.00%	99.66%	0.00%	67	272	NA
34	Southern (SOBTL)	Andhra Pradesh	100.00%	99.00%	100.00%	0	0.00%	100.00%	100.00%	91.00%	100.00%	0	0	83.00%	95.00%	99.80%	0.05%	100	300	500
35	Syscon Infoway Pvt. Ltd.	Maharashtra	100.00%	97.00%	100.00%	Nil	0.00%	100.00%	NA	76.00%	87.67%	0	0	61.07%	99.00%	100.00%	1.00%	1	47	80
		Mumbai	100.00%	96.33%	100.00%	Nil	0.00%	100.00%	0.00	82.33%	88.00%	0	0	70.00%	99.00%	100.00%	0.00%	1	47	80
36	TTML	Maharashtra & Goa	100.00%	91.96%	98.28%	118	0.32%	100.00%	100.00%	86.60%	90.23%	0	0	81.25%	91.78%	99.88%	0.00%	48	174	NA
37	Tata (TTSL)	All India (Pan India)	100.00%	92.78%	98.21%	67	0.47%	100.00%	100.00%	91.72%	94.55%	0	0	67.86%	91.72%	99.56%	0.00%	63	62	Nil
38	TCL	All India	NA	100.00%	100.00%	0	2.08%	100.00%	0.00	92.00%	95.00%	0	0	48.00%	80.00%	98.50%	0.00%		253	
39	Vasai Cable	Mumbai	100.00%	95.03%	100.00%	Nil	0.10%	100.00%	Nil	92.21%	95.84%	Nil	0	63.00%	90.00%	100.00%	1.00%	4	255	NA
40	Wish Net Pvt. Ltd.	West Bengal	100.00%	98.87%	100.00%	0	0.04%	100.00%	NA	81.67%	97.67%	0	0	74.26%	100.00%	99.88%	1.00%	20	NA	NA
		Kolkata	100.00%	98.86%	100.00%	0	0.01%	100.00%	NA	81.67%	97.67%	0	0	74.87%	100.00%	99.88%	1.00%	40	NA	NA
41	Wan and Lan Internet Pvt.	Mumbai	100.00%	100.00%	100.00%	0	0.00%	100.00%	0.00	90.00%	90.00%	0	0	90.00%	90.00%	99.90%	0.00%	20	40	80
42	Yashash Cable Network	Karnataka	99.00%	89.80%	99.43%	15	0.00%	NA	NA	76.75%	80.69%	0	0	0.00%	80.00%	98.00%	1.00%	30	280	NA
43	You Broadband	All India	99.66%	95.65%	99.47%	12670	0.00%	100.00%	100.00%	94.00%	96.00%	NA	0	77.43%	87.48%	99.26%	0.00%	8	276	NA
			DNF= Data not as per Format				NR= Data not reported by the Service Provider						NA = Not Applicable			C/DNF= Complied the parameter but Data is not in the required format				

Annexure 5.1: List of Broadcasters and their Pay TV Channels as reported to TRAI

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
1	M/s 9X Media Private Limited	1	9XM	SD
2	M/s AETN 18 Media Pvt Limited	2	The History Channel	HD
		3	FY1 TV18	HD
3	M/s Asianet Communications Limited	4	Asianet	SD
		5	Asianet Plus	SD
		6	Asianet Movies	SD
		7	Suvarna Plus	SD
		8	Asianet HD	HD
		9	Star Suvarna (Earlier name "Suvarna")	SD
4	M/s B4U Television Network India Limited	10	B4U Movies	SD
5	M/s Bangla Entertainment Private Limited	11	AATH	SD
6	M/s BBC Global News India Private Limited	12	BBC World News	SD
7	M/s Bennett, Coleman & Company Limited	13	Zoom	SD
		14	Romedy Now	SD
		15	MN +(Earlier name "Movies Now +")	HD
		16	Magicbricks Now	SD
		17	ET NOW	SD
		18	Times Now	SD
		19	Romedy Now HD	HD
		20	Movies Now HD	HD
		21	Movies Now 2 HD	HD
		22	Movies Now 2	SD
23	Times Now HD	HD		
8	M/s Business Broadcast News Private Limited	24	Bloomberg TV India	SD
9	M/s Celebrities Management Pvt Limited	25	Travel XP HD (Earlier name "Travel XP")	HD
10	M/s Greycells18 Media Limited	26	Topper TV (#)	SD
11	M/s Discovery Communications India	27	Animal Planet	SD
		28	Discovery Channel	SD
		29	Discovery Channel – Tamil	SD
		30	Discovery Kids Channel	SD
		31	Discovery Science	SD
		32	Discovery Turbo	SD
		33	ID Investigation Discovery	SD
		34	Discovery HD World (earlier name "Discovery HD")	HD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		35	Animal Planet HD World (earlier name "Discovery Home and Health")	HD
		36	TLC HD world (earlier name "Military Channel")	HD
		37	TLC	SD
12	M/s Da Vinci Media India Private Limited	38	Da Vinci Learning	HD
13	E-24 Glamour Limited	39	E 24	SD
14	M/s Eenadu Televisoin Private Limited	40	ETV Telugu	SD
		41	ETV Andhra Pradesh (earlier name "ETV-2")	SD
		42	ETV - Telangana (earlier name "ETV-3")	SD
		43	ETV Cinema	SD
		44	ETV Life	SD
		45	ETV Plus	SD
		46	ETV Abhiruchi	SD
47	ETV HD	HD		
15	M/s EPIC Television Networks Pvt Limited	48	EPIC TV (HD Distribution)	HD
16	M/s Genx Entertainment Limited	49	UTV Bindass	SD
		50	UTV Action	SD
17	M/s IBN Lokmat News Private Ltd	51	IBN Lokmat	SD
18	M/s Mavis Satcom Limited	52	J Movies	SD
		53	Jaya Max	SD
		54	Jaya Plus	SD
		55	Jaya TV HD	HD
19	M/s ABP News Network Pvt Limited	56	ABP Ananda	SD
		57	ABP Majha	SD
20	M/s Sony Pictures Networks Distribution India Private Limited	58	Animax	SD
		59	AXN	SD
		60	SET MAX	SD
		61	MIX	SD
		62	SAB	SD
		63	SONY ENTERTAINMENT CHANNEL (SET)	SD
		64	PIX	SD
		65	SIX	SD
		66	MAX 2 (Earlier name "MAX HD")	SD
		67	PAL (Earlier Name "SAB HD")	SD
		68	SET HD	HD
		69	SIX HD	HD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		70	PIX HD	HD
		71	MAX HD	HD
		72	SONY ESPN HD	HD
		73	Le PLEX HD	HD
		74	SAB HD	HD
21	M/s NDTV Life style Limited	75	NDTV Good Times	SD
22	M/s Neo Sports Broadcast Pvt Limited	76	NEO Prime (Earlier name "Neo Cricket")	SD
		77	Neo Sports	SD
23	M/s New Delhi Television Limited	78	NDTV 24*7	SD
		79	Granada TV (HD)	HD
		80	Trace Sports HD	HD
		81	NDTV Profit	SD
24	M/s NGC Network (India) Pvt Limited	82	Fox Life	SD
		83	National Geographic Channel (NGC)	SD
		84	Fox Life HD	HD
		85	Nat Geo Wild	SD
		86	National Geographic HD	HD
		87	Nat Geo Music HD	HD
		88	Nat Geo Wild HD	HD
		89	Nat Geo People HD	HD
		90	Baby TV HD	HD
25	M/s Odisha Television Limited	91	Prarthana	SD
		92	Tarang	SD
		93	Tarang Music	SD
		94	Alankar	SD
26	M/s Panorama Television Private Limited	95	ETV Bihar Jharkhand	SD
		96	ETV MP Chattisgarh	SD
		97	ETV Rajasthan	SD
		98	ETV Uttar Pradesh Uttarachal	SD
		99	ETV Urdu	SD
		100	ETV News Kannada	SD
		101	ETV News Bangla	SD
		102	ETV Haryana / Himanchal Pradesh	SD
		103	ETV News Gujarati	SD
		104	ETV News Odia	SD
27	M/s Paul Entertainments Pvt Limited	105	9X Tashan (Earlier name "Purvaiya")	SD
28	M/s Raj Television Network Limited	106	Raj Musix Kannada	SD
		107	Raj Digital Plus	SD
		108	Raj Musix	SD
		109	Raj News	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		110	Raj TV	SD
		111	Vissa TV	SD
29	M/s Sahara India Commercial Corporation Ltd	112	Sahara Filmy	SD
		113	Sahara One	SD
30	M/s Sarthak Entertainment Pvt Limited	114	Sarthak TV	SD
31	M/s Silverstar Communications Limited	115	Mega 24	SD
		116	Mega Musiq	SD
		117	Mega TV	SD
		118	Channel (V)	SD
		119	Star Sports 4	SD
		120	FX	SD
		121	Life Ok (earlier name "Star One")	SD
		122	Movies OK (earlier name "Gold Action")	SD
		123	Star Sports 3	SD
		124	Star Gold	SD
		125	Star Jalsha	SD
		126	Star Movies	SD
		127	Star Movies Action	SD
		128	Star Plus	SD
		129	Star Pravah	SD
		130	Star Sports 1	SD
		131	Star Sports 2	SD
		132	Star World	SD
32	M/s Star India Private Limited	133	Jalsha Movies (Earlier name "Star Bengali")	SD
		134	Star Sports HD 2	HD
		135	Star Sports HD 1	HD
		136	Life Ok HD	HD
		137	Star Gold HD	HD
		138	Star Movies HD	HD
		139	Star Plus HD	HD
		140	Star World Premiere HD	HD
		141	Star Sports HD 3	HD
		142	Star Sports HD 4	HD
		143	Star Movies Select HD	HD
		144	Star World HD	HD
		145	FX HD	HD
		146	MAA Gold	SD
		147	MAA Movies	SD
		148	MAA Music	SD
		149	MAA TV	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		150	Star Pravah HD	HD
		151	Star Jalsha HD	HD
		152	Jalsha Movies HD	HD
		153	Star Sports Select HD 1	HD
		154	Star Sports Select HD 2	HD
		155	MAA HD	HD
		156	Star Gold Select HD	HD
33	M/s SUN TV Network Limited	157	Adithya TV	SD
		158	Chintu TV	SD
		159	Chutti TV	SD
		160	Gemini Comedy	SD
		161	Gemini Life	SD
		162	Gemini Movies	SD
		163	Gemini Music	SD
		164	Gemini News	SD
		165	Gemini TV	SD
		166	KTV	SD
		167	Kiran TV	SD
		168	Kushi TV	SD
		169	SUN Life	SD
		170	Sun Music	SD
		171	Sun News	SD
		172	Surya Music (Earlier name "Sun News English")	SD
		173	SUN TV	SD
		174	SUN TV RI	SD
		175	Surya TV	SD
		176	Udaya Comedy	SD
		177	Udaya Movies	SD
		178	Udaya Music	SD
		179	Udaya News	SD
180	Udaya TV	SD		
181	Kochu TV	SD		
182	Sun TV HD	HD		
183	KTV HD	HD		
184	Sun Music HD	HD		
185	Gemini TV HD	HD		
186	Sun Action (#)	SD		
187	Gemini Action (#)	SD		
188	Surya Action (#)	SD		
189	Suriyan TV (#)	SD		
34	M/s Taj Television India Private Limited	190	Ten 2 (earlier name 'Ten Action')	SD
		191	Ten 1 (earlier name 'Ten Sports')	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		192	Ten 3	SD
		193	Ten Golf HD	HD
		194	Ten 1 HD (earlier name 'Ten HD')	HD
35	M/s Turmeric Vision Private Limited	195	Food Food TV	SD
36	M/s Turner International India Pvt Ltd	196	Cartoon Network	SD
		197	CNN International	SD
		198	HBO	SD
		199	POGO	SD
		200	Toonami (Earlier name "Boomerang")	SD
		201	WB	SD
37	M/s TV 18 Broadcast Limited	202	HBO HD (Earlier name "HBO Hits HD")	HD
		203	CNN News 18 (earlier name "CNN-IBN")	SD
		204	CNBC Bazaar	SD
		205	CNBC TV 18 Prime HD	HD
		206	CNBC Awaaz	SD
38	M/s TV Today Network Limited	207	CNBC TV 18	SD
		208	Aaj Tak	SD
		209	Delhi Aaj Tak	SD
		210	India Today (Earlier name "Headlines Today")	SD
39	M/s United Home Entertainment Pvt Limited	211	Aaj Tak Tez	SD
		212	Hungama TV	SD
40	M/s Disney Broadcasting (India) Limited	213	Disney Junior (Earlier name "UTV Comedy")	SD
		214	UTV Movies	SD
		215	Disney XD (Earlier name "UTV World Movies")	SD
		216	Bindass Play (Earlier name "UTV Stars")	SD
		217	The Disney Channel	SD
41	M/s Viacom 18 Media Private Limited	218	Colors	SD
		219	Comedy Central (HD Distribution)	HD
		220	MTV	SD
		221	NICK	SD
		222	Nick Jr / Teen Nick	SD
		223	SONIC	SD
		224	VH 1 (HD Distribution)	HD
		225	Colors Infinity HD	HD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		226	Colors Infinity	SD
		227	Colors HD	HD
		228	NICKS HD+	HD
		229	MTV Indies (HD Distribution)	HD
		230	Rishtey Cineplex	SD
		231	MTV Beats (Earlier name "X Zone")	SD
		232	Colors Kannada HD	HD
		233	Colors Marathi HD	HD
		234	Colors Bangla HD	HD
		235	Colors Super	SD
		236	Colors Bangla (Earlier name "ETV Bangla")	SD
		237	Colors Gujarati (Earlier name "ETV Gujarati")	SD
		238	Colors Kannada (Earlier name "ETV Kannada")	SD
		239	Colors Marathi (Earlier name "ETV Marathi")	SD
		240	Colors Oriya (Earlier name "ETV Oriya")	SD
		241	MTV Beats HD	HD
42	M/s Vijay Television Pvt Limited	242	Vijay TV (except Tamil Nadu)	SD
		243	Vijay Super	SD
		244	Vijay HD	HD
43	M/s Zee Akaash News Private Limited	245	24 Ghanta	SD
44	M/s Zee Entertainment Enterprises Limited	246	Zee ETC Bollywood (Earlier name "Zee Bollywood")	SD
		247	Action Cinema	SD
		248	Zee Bangla Cinema	SD
		249	Zee Café HD	HD
		250	Zee Café	SD
		251	Zee Cinema	SD
		252	Classic Cinema	SD
		253	Zee Salaam	SD
		254	Zee Studio	SD
		255	Zee Talkies	SD
		256	Zee TV	SD
		257	Zing	SD
		258	Zindagi	SD
		259	& Picture	SD
		260	Zee Q	SD
		261	Zee Bangla	SD
		262	Zee Marathi	SD

Annexure 5.1(Contd.)

Sl. No.	Name of the broadcaster	Sl. No	Name of the channel	Declared as SD or HD
		263	Living Foodz (earlier name "Zee Khana Khazana")	SD
		264	Zee TV HD	HD
		265	Zee Cinema HD	HD
		266	Zee Studio HD	HD
		267	& TV	SD
		268	& TV HD	HD
		269	Zee Kannada	SD
		270	Zee Telugu	SD
		271	& Pictures HD	HD
		272	Zee Cinemalu	SD
		273	Zee Yuva	SD
		274	Zee Marathi HD	HD
		275	Living Zen	SD
		276	Zee Bangla HD	HD
		277	Zee Talkies HD	HD
		278	Zee 24 Taas	SD
		279	Zee Kalinga (Earlier name "Zee 24 Ghantalu)	SD
		280	Zee Business	SD
45	M/s Zee Media Corporation Limited	281	Zee Punjab Haryana Himachal (Earlier name "Zee Punjabi")	SD
		282	Zee Madhya Pradesh Chattisgarh	SD
		283	WION	SD
		284	Zee Rajasthan News (Earliner name "Zee Marudhara" and "Zee Rajasthan Plus")	SD
46	M/s Zoom Entertainment Network Limited	285	Movies Now	SD
47	M/s AXN Networks India Private Limited	286	SONY ESPN (Earlier name "SONY KIX")	SD
		287	AXN HD	HD

Annexure 5.2 : List of pay DTH Operators

- 1. M/s. Tata Sky Ltd.,**
3rd Floor, C-1, Wadia International Centre (Bombay Dyeing)
Pandurang Budhkar Marg, Worli,
Mumbai – 400 025
Tel: 022-6613 3000
Fax-022-6613 3030
Website : www.tatasky.com

- 2. M/s Dish TV India Ltd.**
FC-19, Sector-16A, Film City,
Noida-201301
Tel: 91-120-2467005 / 2467000
Fax: 91-120-4357082
Website : www.dishtv.in

- 3. SUN Direct TV(P) Ltd.**
Murasoli Maran Towers, 73, MRC Nagar,
Main Road, MRC Nagar, Chennai – 28
PH: 044-44676767, Fax No 044-40679191
Website : www.sundirect.in

- 4. Bharti Telemedia Ltd.**
Airtel Centre, Plot No 16,
Udyog Vihar Phase IV,
Gurgaon – 122 015
Ph: 0124-4222222
Fax : 0124-4248063
Website : www.airtel.in

- 5. Reliance Big TV Pvt. Ltd.**
3rd Floor, A-Wing,
Reliance Centre, Maharaja Ranjit Singh Marg,
New Delhi – 110 002
Ph: 011-30331012
Fax : 011-30331781
Website : www.rcom.co.in

- 6. M/s Videocon d2h Limited
(Formerly Bharat Business Channel Limited)**
Plot No.1D, Udyog Vihar Industrial Area,
Surajpur, Greater NOIDA,
Distt, Gautam Budh Nagar - 201 306
Ph: 0120-6141000
Fax : 0120-6141250
Website : www.vedeocond2h.com

Annexure 5.3: List of 84 existing cities with operational FM Radio Channels in India

S.No.	Name of City	Category	Number of operational channels
1	Agra	B	3
2	Ahmedabad	A	6
3	Ahmednagar	C	3
4	Aizwal	D	1
5	Ajmer	C	3
6	Akola	C	1
7	Aligarh	C	2
8	Allahabad	B	3
9	Amritsar	B	3
10	Asansol	B	2
11	Aurangabad	C	3
12	Bareilly	C	3
13	Bengaluru	A	8
14	Bhopal	B	4
15	Bhubaneshwar	C	3
16	Bikaner	C	1
17	Bilaspur	C	1
18	Chandigarh	C	3
19	Chennai	A+	8
20	Cochin	B	4
21	Coimbatore	B	4
22	Delhi	A+	9
23	Dhule	C	1
24	Gangtok	D	2
25	Gorakhpur	C	2
26	Gulbarga	C	1
27	Guwahati	C	4
28	Gwalior	C	4
29	Hissar	D	4
30	Hyderabad	A	6
31	Indore	B	4
32	Jabalpur	B	4

Annexure- 5.3 (Contd.)

S.No.	Name of City	Category	Number of operational channels
33	Jaipur	A	6
34	Jalandhar	C	4
35	Jalgaon	C	2
36	Jammu	C	1
37	Jamshedpur	B	3
38	Jhansi	C	1
39	Jodhpur	C	4
40	Kannur	C	4
41	Kanpur	A	5
42	Karnal	D	3
43	Kolhapur	C	2
44	Kolkata	A+	8
45	Kota	C	4
46	Kozhikode	C	2
47	Lucknow	A	5
48	Madurai	B	3
49	Mangalore	C	3
50	Mumbai	A+	9
51	Muzaffarpur	C	1
52	Mysore	C	2
53	Nagpur	A	4
54	Nanded	C	2
55	Nasik	C	2
56	Panaji	D	3
57	Patiala	C	4
58	Patna	B	1
59	Puducherry	C	3
60	Pune	A	5
61	Raipur	C	4
62	Rajahmundry	C	1
63	Rajkot	B	4
64	Ranchi	C	4
65	Rourkela	C	2
66	Sangli	C	3
67	Shillong	D	1

Annexure- 5.3 (Contd.)

S.No.	Name of City	Category	Number of operational channels
68	Shimla	D	3
69	Sholapur	C	2
70	Siliguri	C	3
71	Srinagar	C	1
72	Surat	A	5
73	Thiruvananthapuram	C	4
74	Thrissur	C	4
75	Tiruchy	C	2
76	Tirunelveli	C	2
77	Tirupati	C	2
78	Tuticorin	C	2
79	Udaipur	C	4
80	Vadodra	B	4
81	Varanasi	B	3
82	Vijayawada	B	2
83	Vishakapatnam	B	4
84	Warrangal	C	1
Total			273

Source:: As reported by Private FM Radio Service Providers to TRAI

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