



## **Telecom Regulatory Authority of India**

### **The Indian Telecom Services Performance Indicators** January - March, 2017

New Delhi, India  
5<sup>th</sup> July, 2017

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## Snapshot

(Data As on Q.E. 31 <sup>st</sup> March, 2017)	
<b>Telecom Subscribers (Wireless +Wireline)</b>	
Total Subscribers	1,194.58 Million
% change over the previous quarter	3.72%
Urban Subscribers	692.97 Million
Rural Subscribers	501.61 Million
Market share of Private Operators	89.81%
Market share of PSU Operators	10.19%
Teledensity	92.98
Urban Teledensity	171.80
Rural Teledensity	56.91
<b>Wireless Subscribers</b>	
Total Wireless Subscribers	1,170.18 Million
% change over the previous quarter	3.80%
Urban Subscribers	672.42 Million
Rural Subscribers	497.76 Million
GSM Subscribers	1,157.59 Million
CDMA Subscribers	12.59 Million
Market share of Private Operators	91.06%
Market share of PSU Operators	8.94%
Teledensity	91.08
Urban Teledensity	166.71
Rural Teledensity	56.47
<b>Wireline Subscribers</b>	
Total Wireline Subscribers	24.40 Million
% change over the previous quarter	-0.02%
Urban Subscribers	20.56 Million
Rural Subscribers	3.85 Million
Market share of Private Operators	29.71%
Market share of PSU Operators	70.29%
Teledensity	1.90
Urban Teledensity	5.10
Rural Teledensity	0.44
No. of Village Public Telephones (VPT)	2,29,685
No. of Public Call Office (PCO)	4,52,036

<b>Telecom Financial Data</b>	
Gross Revenue (GR) during the quarter	₹ 63,315 Crore
% change in GR over the previous quarter	-4.84%
Adjusted Gross Revenue (AGR) during the quarter	₹ 40,831 Crore
% change in AGR over the previous quarter	-11.05%
Share of Public sector undertakings in Access AGR	12.56%
Monthly Average Revenue Per User (ARPU) for Access Services	₹ 89.34
<b>Internet/Broadband Subscribers</b>	
Total Internet Subscribers	422.19 Million
% change over previous quarter	7.84%
Narrowband subscribers	145.68 Million
Broadband subscribers	276.52 Million
Wired Internet Subscribers	21.58 Million
Wireless Internet Subscribers	400.62 Million
Urban Internet Subscribers	285.68 Million
Rural Internet Subscribers	136.52 Million
Total Internet Subscribers per 100 population	32.86
Urban Internet Subscribers per 100 population	70.83
Rural Internet Subscribers per 100 population	15.49
<b>Broadcasting &amp; Cable Services</b>	
Number of private satellite TV channels permitted by the Ministry of I&B for uplinking only/downlinking /uplinking	888
Number of Pay TV Channels	295
Number of private FM Radio Stations (excluding All India Radio)	293
Number of Pay Subscribers Active with Private DTH Operators	63.61 Million
Number of Community Radio Stations licenced (GOPA signed)	268
Number of Operational Community Radio Stations	206
Number of pay DTH Operators	6
<b>Revenue &amp; Usage Parameters</b>	
Monthly ARPU GSM Full Mobility Service	₹ 83
Monthly ARPU CDMA Full Mobility Service	₹ 131
Minutes of Usage (MOU) per subscriber per month - GSM Full Mobility Service	405 Minutes
Minutes of Usage (MOU) per subscriber per month - CDMA Full Mobility Service	250 Minutes
Total Outgoing Minutes of Usage for Internet Telephony	258 Million
<b>Data Usage of Mobile Users</b>	
Data Usage per subscriber per month – GSM (2G+3G+4G)	1,006 MB
Data Usage per subscriber per month - CDMA	473 MB
Data Usage per subscriber per month – Total(GSM+CDMA)	1,000 MB
Average outgo per GB data for GSM including LTE	₹ 19.10
Average outgo per GB data for CDMA	₹ 121.02

## Executive Summary

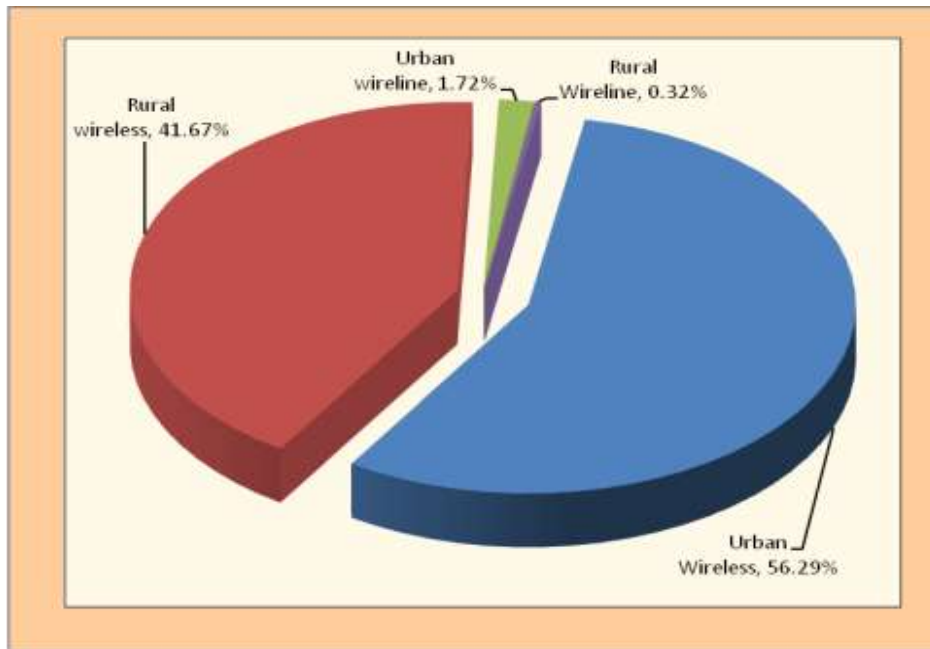
1. The number of telephone subscribers in India increased from 1,151.78 million at the end of Dec-16 to 1,194.58 million at the end of Mar-17, registering a growth of 3.72% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 12.82% over the same quarter of last year. The overall Teledensity in India increased from 89.90 as QE Dec-16 to 92.98 as on QE Mar-17.

### **Trends in Telephone subscribers and Teledensity in India**



2. Subscription in Urban Areas increased from 683.14 million at the end of Dec-16 to 692.97 million at the end of Mar-17, and Urban Teledensity also increased from 170.15 to 171.80 during the same period. Rural subscription also increased from 468.64 million to 501.61 million and Rural Teledensity also increased from 53.27 to 56.91 during the same period.
3. Out of the total subscription, the share of Rural subscription increased from 40.69% at the end of Dec-16 to 41.99% at the end of Mar-17.

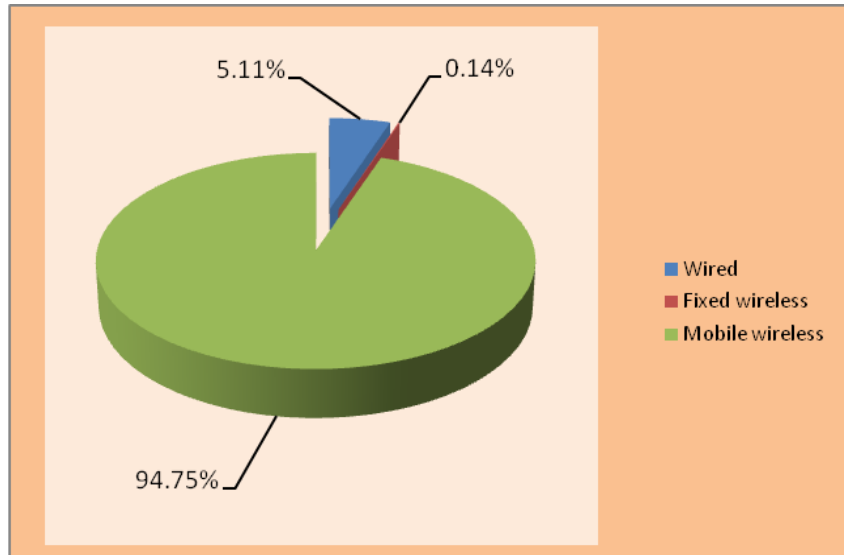
### **Composition of Telephone Subscribers**



4. With a net addition of 42.80 million subscribers during the quarter, total wireless (GSM+CDMA) subscriber base increased from 1,127.37 million at the end of Dec-16 to 1,170.18 million at the end of Mar-17, registering a quarterly growth rate of 3.80% over the previous quarter. The year-on-year (Y-O-Y) growth rate of wireless subscribers for Mar-17 is 13.21%.
5. Wireless Tele-density increased from 88.00 at the end of Dec-16 to 91.08 at the end of Mar-17.
6. Wireline subscriber base more or less remained same at 24.40 million at the end of Mar-17 as per previous quarter. The year-on-year (Y-O-Y) decline rate in wireline subscribers for Mar-17 is 3.27%.
7. Wireline Teledensity also remained same at 1.90 at the end of Mar-17 as per previous quarter.

8. Total number of Internet subscribers has increased from 391.50 million at the end of Dec-16 to 422.19 million at the end of Mar-17, registering a quarterly growth rate of 7.84%. Out of 422.19 million, Wired Internet subscribers are 21.58 million and Wireless Internet subscribers are 400.62 million.

**Composition of internet subscription**



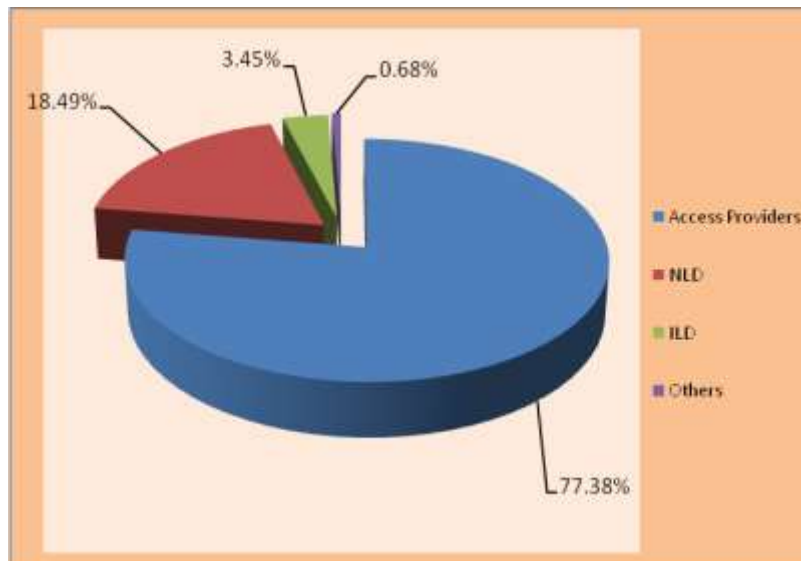
9. The Internet subscriber base of 422.19 million at the end of Mar-17 is comprised of Broadband Internet subscriber base of 276.52 million and Narrowband Internet subscriber base of 145.68 million.
10. The broadband Internet subscriber base grew by 17.12% from 236.09 million at the end of Dec-16 to 276.52 million at the end of Mar-17. On the other hand, the narrowband Internet subscriber base declined by 6.26% from 155.41 million at the end of Dec-16 to 145.68 million at the end of Mar-17.
11. Monthly Average Revenue per User (ARPU) for GSM service (including LTE) declined by 20.44%, from ₹104 in QE Dec-16 to ₹83 in QE Mar-17. Monthly ARPU for GSM service (including LTE) declined by 33.78% on Y-O-Y in this quarter.



12. Prepaid ARPU for GSM service per month declined from ₹86 in QE Dec-16 to ₹67 in QE Mar-17, and Postpaid ARPU per month also declined from ₹456 in QE Dec-16 to ₹412 in QE Mar-17.
13. On an all India average, the overall MOU per subscriber per month for GSM service increased by 11.94% from 360 for QE Dec-16 to 405 in QE Mar-17.
14. Prepaid MOU per subscriber for GSM service increased from 335 in QE Dec-16 to 385 in QE Mar-17, however postpaid MOU declined from 849 in QE Dec-16 to 816 in QE Mar-17.
15. Monthly ARPU for CDMA full mobility service declined by 7.13%, from ₹141 in QE Dec-16 to ₹131 in QE Mar-17. Monthly ARPU for CDMA full mobility service increased by 26.84% on Y-O-Y basis in this quarter.
16. The total MOU per subscriber per month for CDMA full mobility service declined by 2.35%, from 255 in QE Dec-16 to 249 in QE Mar-17. The outgoing MOUs declined from 129 in QE Dec-16 to 112 in QE Mar-17, however incoming MOUs increased from 127 in QE Dec-16 to 137 in QE Mar-17.
17. Gross Revenue (GR) and Adjusted Gross Revenue (AGR) of Telecom Service Sector for the QE Mar-17 has been ₹63,315 Crore and ₹40,831 Crore respectively. GR and AGR declined by 4.84% and 11.05% respectively in QE Mar-17 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 -7.35% and -15.60% respectively.

19. Pass-through charges increased from ₹20,627 Crore in Q.E. Dec-16 to ₹22,484 in Q.E. Mar-17. The quarterly and the year-on-year (Y-O-Y) growth rates of pass-through charges for QE Mar-17 are 9.00% and 12.66% respectively.
20. The License Fee declined from ₹3,698 Crore for the QE Dec-16 to ₹3,361 Crore for the QE Mar-17. The quarterly and the year-on-year (Y-O-Y) growth rates of license fee are -9.09% and -13.19% respectively in this quarter.
21. Access services contributed 77.38% 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 7.92%, 15.26%, 12.77% and 16.33% respectively however, Pass Through Charges increased by 14.65% in QE Mar-17.
22. Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹111.63 in QE Dec-16 to ₹89.34 in QE Mar-17.

**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:

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

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:

<b>Parameters showing improvement in QoS</b>
<ul style="list-style-type: none"> <li>• Worst affected BTSs and Node-B's due to downtime (%age)</li> </ul>

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:

<b>Parameters showing improvement in QoS</b>	<b>Parameters showing deterioration in QoS</b>
<ul style="list-style-type: none"> <li>• Fault repaired by next working day for urban areas</li> <li>• Mean Time to Repaired (MTTR)</li> <li>• %age of calls answered by the operators (voice to voice) within 90 seconds.</li> </ul>	<ul style="list-style-type: none"> <li>• Fault repaired within 5 days for urban areas</li> <li>• Response time to the customer for Assistance- Accessibility of call centre/Customer care.</li> <li>• Termination/Closure of service 100% within 7 days</li> </ul>

26. A total number of 888 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/downlinking/uplinking, as on 31<sup>st</sup> March, 2017.
27. During the quarter ending Mar-17, there were 295 pay channels as reported by 48 broadcasters as compared to 287 pay channels reported in the previous quarter. 295 pay channels include 212 SD pay TV channels and 83 HD Pay TV channels. During the quarter ending Mar-17, as per the reporting, Nine new pay channels were commenced. No pay channel was converted into FTA & one channel namely “Zee Q” was reported to be discontinued.
28. Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained net pay active subscriber base of around 63.61 million. As on March, 2017, 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 31<sup>st</sup> March, 2017, there are 293 operational private FM Radio stations and 84 existing cities with operational FM radio channels as compared to 273 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 Mar-17, 20 new private FM Radio Stations have become operational.
30. As per data received from MIB, as on 31<sup>st</sup> March, 2017, out of the 268 licenses issued so far, 206 community radio stations are already operational.

## Trends at a Glance

### A. Access Service (Wireline + Wireless)

	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	QE Mar 2017	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016	%age change over Dec-2016
						(12 months)	(9 months)	(6 months)	(3 months)
<b>1) Subscriber Base (in million)</b>									
Wireline	25.22	24.74	24.49	24.40	24.40	-3.27%	-1.39%	-0.38%	-0.02%
Wireless	1033.63	1035.12	1049.74	1127.37	1170.18	13.21%	13.05%	11.47%	3.80%
<b>Total</b>	<b>1058.86</b>	<b>1059.86</b>	<b>1074.24</b>	<b>1151.78</b>	<b>1194.58</b>	<b>12.82%</b>	<b>12.71%</b>	<b>11.20%</b>	<b>3.72%</b>
Rural	449.17	450.41	449.86	468.64	501.61	11.67%	11.37%	11.50%	7.04%
Urban	609.69	609.45	624.38	683.14	692.97	13.66%	13.71%	10.99%	1.44%
<b>2) Teledensity</b>									
Wireline	1.99	1.94	1.92	1.90	1.90	-4.37%	-2.23%	-0.95%	-0.30%
Wireless	81.38	81.26	82.17	88.00	91.08	11.92%	12.08%	10.84%	3.50%
<b>Total</b>	<b>83.36</b>	<b>83.20</b>	<b>84.09</b>	<b>89.90</b>	<b>92.98</b>	<b>11.53%</b>	<b>11.75%</b>	<b>10.57%</b>	<b>3.42%</b>
Rural	51.37	51.41	51.24	53.27	56.91	10.77%	10.69%	11.05%	6.82%
Urban	154.01	153.22	156.24	170.15	171.80	11.55%	12.12%	9.96%	0.97%
<b>3) Service Provider wise Subscribers Base (in Million) (wireless+wireline)</b>									
Bharti	254.90	259.47	263.74	269.68	277.51	8.87%	6.96%	5.22%	2.90%
Vodafone	198.04	199.49	200.84	204.82	209.20	5.64%	4.87%	4.16%	2.14%
Idea	175.07	176.23	178.82	190.52	195.37	11.59%	10.86%	9.26%	2.55%
BSNL	101.11	103.74	107.66	110.53	114.68	13.42%	10.54%	6.52%	3.76%
Reliance Jio	-	-	15.98	72.16	108.68	-	-	580.12%	50.62%
Aircel	87.09	88.93	90.14	90.88	90.90	4.38%	2.21%	0.84%	0.03%
Reliance	103.58	99.88	88.34	87.72	84.68	-18.25%	-15.22%	-4.14%	-3.47%
Tata	61.82	61.10	58.79	54.71	50.74	-17.92%	-16.95%	-13.68%	-7.24%
Telenor	52.45	53.09	52.86	54.47	50.49	-3.74%	-4.89%	-4.47%	-7.30%
MTNL	7.06	7.07	7.07	7.10	7.09	0.35%	0.22%	0.23%	-0.20%
Sistema	7.75	7.65	6.78	5.94	4.97	-35.90%	-35.03%	-26.69%	-16.31%
Quadrant	3.42	3.19	3.24	3.26	0.26	-92.30%	-91.76%	-91.87%	-91.94%
Videocon	6.56	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1058.86</b>	<b>1059.86</b>	<b>1074.24</b>	<b>1151.78</b>	<b>1194.58</b>	<b>12.82%</b>	<b>12.71%</b>	<b>11.20%</b>	<b>3.72%</b>

## B. Internet Services

	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	QE Mar 2017	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016	%age change over Dec-2016
						(12 months)	(9 months)	(6 months)	(3 months)
<b>1) Subscriber's Base (in million)</b>									
<b>A. Wired Internet Subscribers</b>	20.44	20.76	21.26	21.51	21.58	5.53%	3.93%	1.49%	0.33%
<b>B. Wireless Internet Subscribers</b>	322.21	329.72	346.22	370.00	400.62	24.33%	21.50%	15.71%	8.28%
i. Mobile Wireless (Mobile & Dongle)	321.66	329.14	345.60	369.39	400.04	24.37%	21.54%	15.75%	8.30%
ii. Fixed Wireless (Wi-Fi, Wi-Max, Point-to-Point Radio & VSAT)	0.55	0.58	0.62	0.61	0.58	5.32%	1.13%	-6.69%	-4.52%
<b>Total Internet Subscribers</b>	<b>342.65</b>	<b>350.48</b>	<b>367.48</b>	<b>391.50</b>	<b>422.19</b>	<b>23.21%</b>	<b>20.46%</b>	<b>14.89%</b>	<b>7.84%</b>
<b>2) No. of Internet Subs per 100 Population</b>	26.98	27.51	28.77	30.56	32.86	21.81%	19.43%	14.23%	7.53%

## C. Usage and Revenue for Full Mobility Services

<b>1. Traffic (MOU) (minutes of use/subscriber/month)</b>									
i) GSM	381	377	366	360	405	6.45%	7.59%	10.82%	12.61%
ii) CDMA	260	228	269	255	250	-3.91%	9.71%	-7.08%	-2.20%
<b>2) ARPU (₹/sub/ month)</b>									
i) GSM	124.85	126.05	120.98	103.92	82.68	-33.78%	-34.41%	-31.66%	-20.44%
ii) CDMA	103.54	98.51	154.05	141.42	131.34	26.85%	33.33%	-14.74%	-7.13%

## D. Telecom Financial Data

	QE Mar 2016	QE Jun 2016	QE Sep 2016	QE Dec 2016	QE Mar 2017	%age change over Mar-2016	%age change over Jun-2016	%age change over Sep-2016	%age change over Dec-2016
						(12 months)	(9 months)	(6 months)	(3 months)
<b>1. Telecom Sector</b>									
i) Gross Revenue (₹ in Crores)	68335.39	73344.66	71378.69	66532.37	63315.18	-7.35%	-13.67%	-11.30%	-4.84%
ii) Adjusted Gross Revenue (₹ in Crores)	48379.00	53383.55	50539.20	45905.34	40831.33	-15.60%	-23.51%	-19.21%	-11.05%
<b>2. Access Services</b>									
Adjusted Gross Revenue (₹ in Crores)	39885.55	44754.11	41681.33	37283.71	31594.91	-20.79%	-29.40%	-24.20%	-15.26%
ARPU per month (AGR/ Average subscribers/3)	126.91	140.88	131.10	111.63	89.34	-29.61%	-36.59%	-31.86%	-19.97%

## **Introduction**

This Report presents the Key Parameters and growth trends for the Telecom Services in India for the quarter ending March, 2017. 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](http://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@trai.gov.in](mailto:advfea1@trai.gov.in).

# **Chapter 1 :**

# **Subscription Data**

- 
- 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 1,151.78 million at the end of Dec-16 to 1,194.58 million at the end of Mar-17, registering a growth of 3.72% over the previous quarter. This reflects year-on-year (Y-O-Y) growth of 12.82% over the same quarter of last year. The overall Tele-density in India increased to 92.98 at the end of Mar-17 from 89.90 at the end of the previous quarter.

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

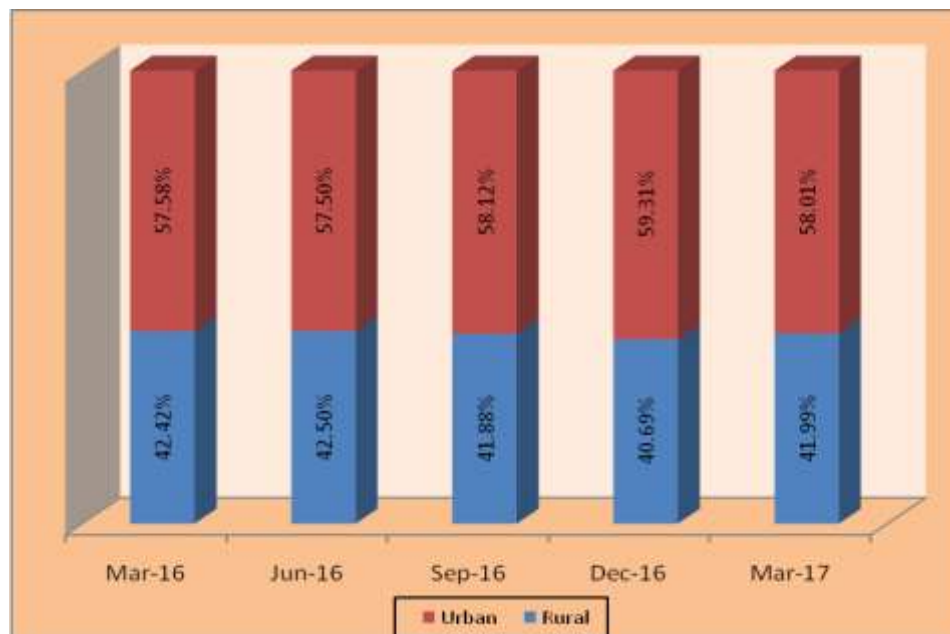


**Table 1.1: Subscriber Base & Teledensity - Rural & Urban**

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
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
Mar-17	501.61	692.97	56.91	171.80

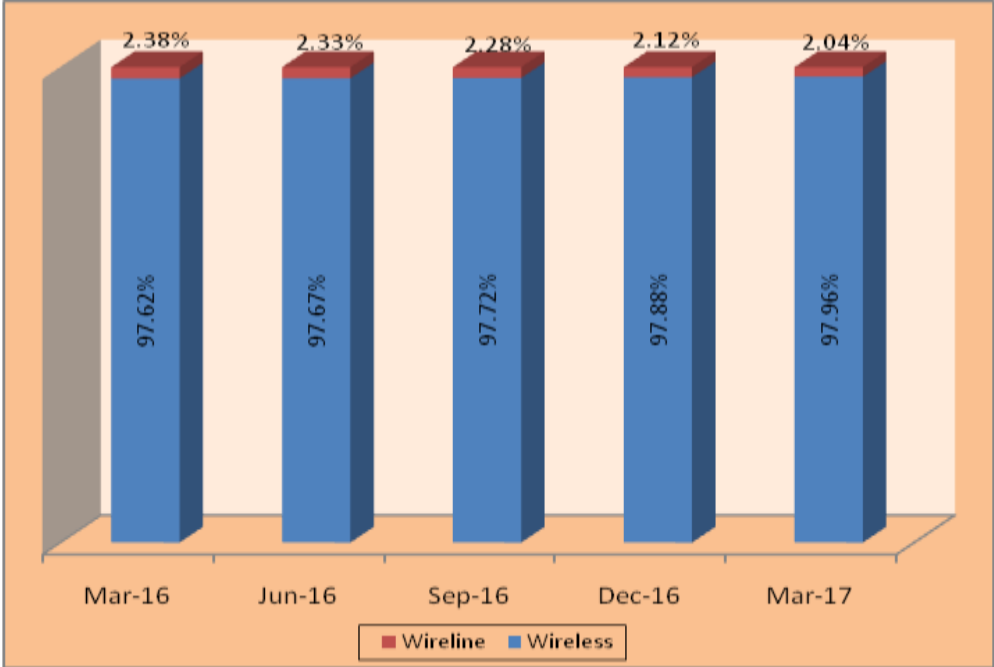
- 1.2 Subscription in Urban Areas increased from 683.14 million at the end of Dec-16 to 692.97 million at the end of Mar-17, and the Urban Tele-density also increased from 170.15 to 171.80 during the quarter.
- 1.3 Rural subscription increased from 468.64 million to 501.61 million and the Rural Tele-density also increased from 53.27 to 56.91 during the quarter.
- 1.4 The year-on-year (Y-O-Y) growth rate of Rural and Urban Tele-density from Mar-16 to Mar-17 is 10.77% and 11.55% respectively.

**Chart 1.2: Market Share - Rural & Urban Subscribers**

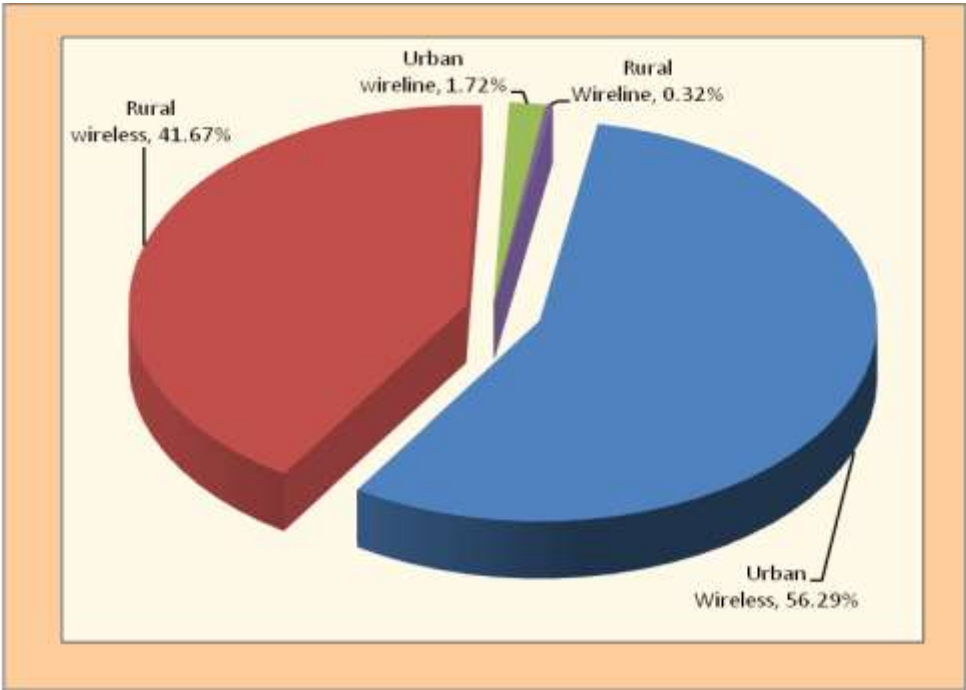


- 1.5 Share of rural areas in total telephone subscription has increased from 40.69% at the end of Dec-16 to 41.99% at the end of Mar-17.

**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)			
	Dec-16	Mar-17	Net Additions	Rate of Growth (%)
Andhra Pradesh	83.29	86.58	3.29	3.95
Assam	21.07	21.97	0.89	4.24
Bihar	82.57	84.88	2.30	2.79
Delhi	54.09	56.57	2.48	4.59
Gujarat	69.73	73.19	3.47	4.97
Haryana	24.29	25.39	1.10	4.54
Himachal Pradesh	10.05	10.57	0.51	5.12
Jammu & Kashmir	11.41	12.04	0.63	5.53
Karnataka	69.35	71.38	2.03	2.93
Kerala	40.02	41.28	1.25	3.13
Madhya Pradesh	67.51	70.57	3.06	4.53
Maharashtra	92.64	95.78	3.13	3.38
Mumbai	37.66	39.62	1.97	5.22
North East	12.41	12.61	0.20	1.59
Orissa	33.08	34.58	1.50	4.53
Punjab	37.40	36.97	-0.43	-1.15
Rajasthan	65.63	68.06	2.43	3.70
T.N. (incl. Chennai)	89.07	91.80	2.73	3.06
U.P.(E)	102.10	105.05	2.95	2.89
U.P.(W)	63.61	67.07	3.46	5.45
Kolkata	29.01	30.18	1.17	4.03
West Bengal	55.77	58.44	2.67	4.79
<b>All India</b>	<b>1,151.78</b>	<b>1,194.58</b>	<b>42.80</b>	<b>3.72</b>

1.6 All service areas except Punjab showed positive growth rate in subscriber base during the quarter ending Mar-17. J&K service area has recorded the highest growth rate of 5.53% followed by U.P.(W) service area with growth rate of 5.45% during the quarter.

**Table 1.3: Service Area wise Rural-Urban Subscribers – Mar-17**

Service Area	Subscribers (million)			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	86.58	38.73	47.85	44.73
Assam	21.97	13.75	8.21	62.62
Bihar	84.88	48.87	36.01	57.57
Delhi	56.57	2.59	53.99	4.58
Gujarat	73.19	28.10	45.10	38.39
Haryana	25.39	11.45	13.94	45.09
Himachal Pradesh	10.57	7.04	3.53	66.61
Jammu & Kashmir	12.04	5.88	6.16	48.84
Karnataka	71.38	22.51	48.87	31.53
Kerala	41.28	18.69	22.59	45.27
Madhya Pradesh	70.57	33.16	37.42	46.98
Maharashtra	95.78	43.14	52.64	45.04
Mumbai	39.62	1.40	38.23	3.52
North East	12.61	6.42	6.20	50.88
Orissa	34.58	20.46	14.12	59.18
Punjab	36.97	13.99	22.99	37.83
Rajasthan	68.06	34.58	33.48	50.81
T.N. (incl. Chennai)	91.80	26.28	65.52	28.63
U.P.(E)	105.05	52.77	52.28	50.23
U.P.(W)	67.07	29.66	37.41	44.22
Kolkata	30.18	2.38	27.80	7.89
West Bengal	58.44	39.78	18.66	68.07
<b>All India</b>	<b>1,194.58</b>	<b>501.61</b>	<b>692.97</b>	<b>41.99</b>

**Chart 1.5: Trend of Net Addition in Telephone Subscription**



1.7 The net addition in telephone subscribers is 42.80 million in QE Mar-17 as against the net addition of 77.54 million in QE Dec-16.

**Table 1.4 : Service Area wise Teledensity**

Service Area/ States	As on 31 <sup>st</sup> December, 2016			As on 31 <sup>st</sup> March, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	54.04	195.73	93.66	60.35	192.02	97.18
Assam	46.76	154.78	64.34	50.06	153.09	66.89
Bihar	38.58	189.64	59.46	40.72	186.91	60.95
Delhi	-	-	248.19	-	-	257.76
Gujarat	69.44	162.42	108.63	75.54	165.92	113.70
Haryana	61.66	131.98	87.36	64.80	136.26	91.01
Himachal Pradesh	99.64	447.34	140.79	111.63	415.57	147.71
J&K	61.40	167.25	91.08	65.12	174.62	95.88

Service Area/ States	As on 31 <sup>st</sup> December, 2016			As on 31 <sup>st</sup> March, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Karnataka	55.14	196.39	110.39	58.80	198.04	113.38
Kerala	64.45	250.13	111.41	69.53	248.37	114.75
Madhya Pradesh	40.89	126.02	64.35	43.50	128.79	67.04
Maharashtra (incl. Mumbai)*	66.59	146.81	105.69	70.40	150.46	109.50
North East	58.69	175.31	88.24	60.97	172.96	89.40
Orissa	52.87	189.98	77.38	58.21	183.86	80.74
Punjab	73.42	178.54	119.97	80.51	165.52	118.28
Rajasthan	58.18	185.35	88.97	61.66	186.75	91.96
Tamil Nadu (incl. Chennai)	88.07	148.60	124.76	93.91	150.59	128.40
Uttar Pradesh (incl. UPE & UPW)	44.07	163.53	71.53	46.05	167.57	74.02
West Bengal (incl. Kolkata)*	57.72	165.93	88.85	61.92	168.79	92.68
<b>All India</b>	<b>53.27</b>	<b>170.15</b>	<b>89.90</b>	<b>56.91</b>	<b>171.80</b>	<b>92.98</b>

\* 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 111.63 followed by Tamil Nadu service area (93.91). Bihar service area continues to have the lowest Rural Tele-density of 40.72.

**Table 1.5 : Growth/Decline in Subscriber base**

Service Provider	Subscriber base (millions)			Rate of Growth (%)	Market Share in QE Dec-16 (%)	Market Share in QE Mar-17 (%)
	Dec-16	Mar-17	Net Additions			
Bharti	269.68	277.51	7.83	2.90	23.41	23.23
Vodafone	204.82	209.20	4.38	2.14	17.78	17.51
IDEA	190.52	195.37	4.85	2.55	16.54	16.35
BSNL	110.53	114.68	4.15	3.76	9.60	9.60
Reliance Jio	72.16	108.68	36.52	50.62	6.26	9.10
Aircel	90.88	90.90	0.02	0.03	7.89	7.61
Reliance Com.	87.72	84.68	-3.04	-3.47	7.62	7.09
Tata	54.71	50.74	-3.96	-7.24	4.75	4.25
Telenor	54.47	50.49	-3.98	-7.30	4.73	4.23
MTNL	7.10	7.09	-0.01	-0.20	0.62	0.59
Sistema	5.94	4.97	-0.97	-16.31	0.52	0.42
Quadrant	3.26	0.26	-3.00	-91.94	0.28	0.02
<b>Total</b>	<b>1,151.78</b>	<b>1,194.58</b>	<b>42.80</b>	<b>3.72</b>	<b>100</b>	<b>100</b>

1.9 Bharti Airtel is the leading service provider in access segment in terms of number of subscribers with 277.51 million subscribers. During the QE Mar-17, Reliance Jio Infocom Ltd. recorded the highest net addition of 36.52 million subscribers followed by Bharti Airtel (7.83 million).

1.10 Telenor recorded the highest decline of 3.98 million subscribers during the QE Mar-17. Quadrant Televentures showed 92% decline in their subscriber base during the quarter.



**Table 1.6 : Market Share of the service providers in total rural subscriber base – Q.E. Mar-17**

<b>Service Provider</b>	<b>No. of Total Subscribers (in millions)</b>	<b>No. of Rural Subscribers (in millions)</b>	<b>Percentage of Rural subscribers</b>	<b>Market share of Rural subscribers (%)</b>
Bharti	277.51	136.69	49.26	27.25
Vodafone	209.20	114.03	54.51	22.73
IDEA	195.37	108.79	55.69	21.69
BSNL	114.68	36.60	31.92	7.30
Aircel	90.90	31.86	35.05	6.35
Reliance Jio	108.68	26.14	24.05	5.21
Reliance Com.	84.68	19.40	22.91	3.87
Telenor	50.49	14.85	29.40	2.96
Tata	50.74	12.06	23.76	2.40
Sistema	4.97	1.08	21.72	0.22
Quadrant	0.26	0.06	22.33	0.01
MTNL	7.09	0.05	0.69	0.01
<b>Total</b>	<b>1,194.58</b>	<b>501.61</b>	<b>41.99</b>	<b>100</b>

1.11 IDEA continues to remain the service provider with highest proportion of rural subscribers (55.69%), followed by Vodafone (54.51%) 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 31<sup>st</sup> March, 2017]**

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, Odisha, Assam & NE
5	Vodafone (India) Ltd	All India
6	Tata Teleservices	All India except Assam, NE & J&K
7	IDEA Cellular Ltd	All India <sup>#</sup>
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	Telenor Communications (India) Pvt. Ltd.	Maharashtra, Gujarat, AP, UP(W), UP(E) & Bihar
12	Reliance Jio Infocom Ltd	All India

\*TN & AP – CMTS

*Source : DoT website*

#Delhi, HP & UP(E) – CMTS.

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

1.12 Total Wireless (GSM+CDMA) subscriber base increased from 1,127.37 million at the end of Dec-16 to 1,170.18 million at the end of Mar-17, thereby showing a quarterly growth rate of 3.80%. During this quarter, net addition of 42.80 million wireless subscribers was recorded. The year-on-year (Y-O-Y) growth rate of wireless subscribers is 13.21% for Q.E. Mar-17.

1.13 Wireless Teledensity increased from 88.00 at the end of Dec-16 to 91.08 at the end of Mar-17.

**Chart 1.6: Wireless Subscriber Base and Teledensity**



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

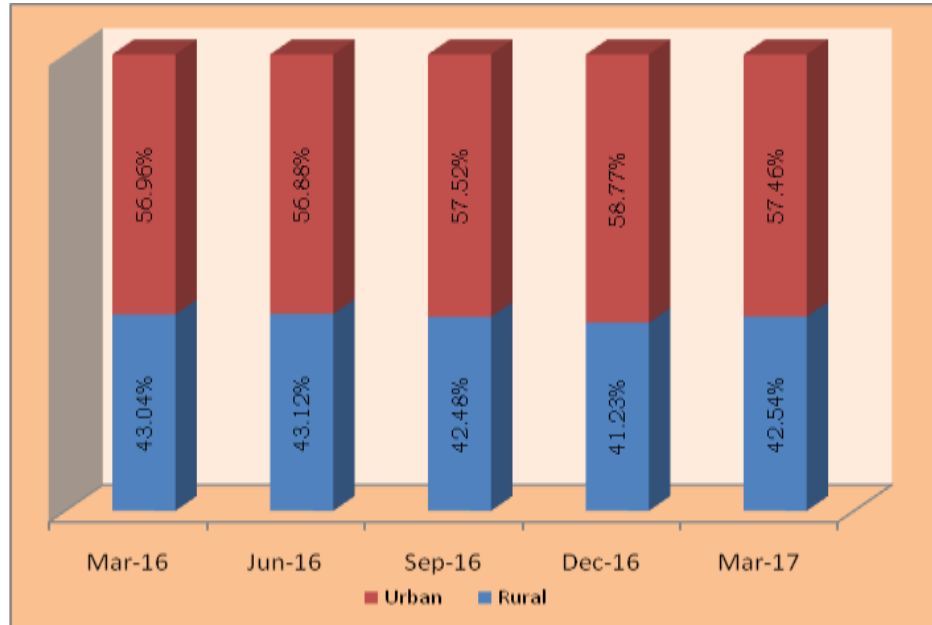
Quarter ending	Subscriber Base (million)		Tele-density	
	Rural	Urban	Rural	Urban
Mar-16	444.84	588.79	50.88	148.73
Jun-16	446.33	588.78	50.95	148.03
Sep-16	445.94	603.80	50.80	151.10
Dec-16	464.78	662.60	52.84	165.04
Mar-17	497.76	672.42	56.47	166.71

1.14 The Rural Wireless subscribers increased from 464.78 million at the end of Dec-16 to 497.76 million at the end of Mar-17, and the urban wireless subscribers also increased from 662.60 million to 672.42 million during the quarter.

1.15 Quarterly Growth rates of Rural and Urban wireless subscriptions are 7.10% and 1.48% respectively during the QE Mar-17.

1.16 The share of rural wireless subscription increased from 41.23% to 42.54% 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 □ Dec-16 (%)	Market Share □ Mar-17 (%)
	Dec-16	Mar-17	Net Additions			
Bharti	265.85	273.65	7.80	2.93	23.58	23.39
Vodafone	204.69	209.06	4.38	2.14	18.16	17.87
IDEA	190.52	195.37	4.85	2.55	16.90	16.70
Reliance Jio	72.16	108.68	36.52	50.62	6.40	9.29
BSNL	96.79	100.99	4.20	4.34	8.59	8.63
Aircel	90.88	90.90	0.02	0.03	8.06	7.77
Reliance Com.	86.54	83.50	-3.04	-3.52	7.68	7.14
Telenor	54.47	50.49	-3.98	-7.30	4.83	4.31
Tata	52.98	48.99	-3.98	-7.52	4.70	4.19
Sistema	5.88	4.91	-0.97	-16.44	0.52	0.42
MTNL	3.63	3.63	0.00	0.04	0.32	0.31
Quadrant*	3.00	-	-3.00	-	0.27	-
<b>Total</b>	<b>1,127.37</b>	<b>1,170.18</b>	<b>42.80</b>	<b>3.80</b>	<b>100</b>	<b>100</b>

\*M/s Quadrant has closed its commercial wireless telephone service during the quarter.

- 1.17 Bharti remains the leading service provider with 273.65 million wireless subscribers at the end of Mar-17, followed by Vodafone (209.06 million).
- 1.18 In terms of net additions during the quarter ending Mar-17, Reliance Jio (36.52 million) has added the highest number of subscribers, followed by Bharti Airtel (7.80 million).

**Table 1.10: Service Area wise Wireless Subscriber base**

Service Area	Subscriber base (in million)			
	Dec-16	Mar-17	Net Additions	Rate of change (%)
Andhra Pradesh	81.65	84.94	3.29	4.03
Assam	20.91	21.81	0.90	4.28
Bihar	82.26	84.56	2.31	2.80
Delhi	50.88	53.35	2.47	4.85
Gujarat	68.38	71.84	3.46	5.06
Haryana	23.94	25.05	1.11	4.62
Himachal Pradesh	9.90	10.42	0.52	5.22
Jammu & Kashmir	11.27	11.90	0.63	5.60
Karnataka	67.13	69.14	2.01	2.99
Kerala	37.91	39.16	1.26	3.32
Madhya Pradesh	66.48	69.55	3.07	4.62
Maharashtra	90.77	93.90	3.13	3.45
Mumbai	34.63	36.58	1.96	5.65
North East	12.29	12.49	0.20	1.61
Orissa	32.79	34.29	1.50	4.56
Punjab	36.38	35.97	-0.41	-1.14
Rajasthan	64.88	67.32	2.44	3.77
T.N. (incl. Chennai)	86.54	89.25	2.72	3.14
U.P.(E)	101.60	104.55	2.95	2.91
U.P.(W)	63.21	66.68	3.47	5.49
Kolkata	28.14	29.32	1.17	4.17
West Bengal	55.44	58.11	2.68	4.83
<b>All India</b>	<b>1,127.37</b>	<b>1,170.18</b>	<b>42.80</b>	<b>3.80</b>

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

Service Area	Subscriber base (in million) – Mar-17			
	Total	Rural	Urban	% of Rural Subscribers
Andhra Pradesh	84.94	38.41	46.53	45.22
Assam	21.81	13.73	8.08	62.94
Bihar	84.56	48.78	35.78	57.69
Delhi	53.35	2.59	50.76	4.85
Gujarat	71.84	27.90	43.94	38.83
Haryana	25.05	11.38	13.67	45.42
Himachal Pradesh	10.42	6.95	3.47	66.67
Jammu & Kashmir	11.90	5.86	6.04	49.25
Karnataka	69.14	22.32	46.82	32.28
Kerala	39.16	17.38	21.78	44.39
Madhya Pradesh	69.55	33.04	36.51	47.50
Maharashtra	93.90	42.79	51.10	45.57
Mumbai	36.58	1.40	35.19	3.81
North East	12.49	6.39	6.10	51.17
Orissa	34.29	20.40	13.89	59.49
Punjab	35.97	13.74	22.23	38.20
Rajasthan	67.32	34.45	32.87	51.17
T.N. (incl. Chennai)	89.25	25.92	63.33	29.04
U.P.(E)	104.55	52.70	51.86	50.40
U.P.(W)	66.68	29.62	37.06	44.42
Kolkata	29.32	2.38	26.94	8.12
West Bengal	58.11	39.64	18.47	68.21
<b>All India</b>	<b>1,170.18</b>	<b>497.76</b>	<b>672.42</b>	<b>42.54</b>

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 31 <sup>st</sup> December, 2016			As on 31 <sup>st</sup> March, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
A.P.	53.56	190.40	91.82	59.86	186.70	95.34
Assam	46.66	152.36	63.86	49.96	150.71	66.41
Bihar	38.51	188.42	59.23	40.66	185.71	60.72
Delhi	-	-	233.47	-	-	243.08
Gujarat	68.91	158.17	106.53	75.01	161.67	111.60
Haryana	61.25	129.26	86.11	64.39	133.58	89.77
H.P.	98.13	440.60	138.66	110.15	408.95	145.62
J&K	61.21	163.92	90.01	64.93	171.29	94.81
Karnataka	54.65	188.11	106.85	58.30	189.72	109.82
Kerala	59.57	241.25	105.52	64.68	239.46	108.88
M.P.	40.73	122.86	63.36	43.35	125.68	66.07
Maharashtra (incl. Mumbai)*	66.05	139.21	101.71	69.85	142.88	105.52
North East	58.45	172.61	87.37	60.73	170.28	88.55
Orissa	52.69	187.05	76.71	58.02	180.92	80.05
Punjab	71.96	172.97	116.69	79.08	160.06	115.06
Rajasthan	57.95	181.87	87.95	61.44	183.34	90.97
Tamil Nadu (incl. Chennai)	86.79	143.57	121.21	92.61	145.57	124.84
Uttar Pradesh (incl. UPE&UPW)*	44.01	162.05	71.15	45.99	166.11	73.64
West Bengal (incl. Kolkata)*	57.51	162.10	87.60	61.71	164.99	91.44
<b>All India</b>	<b>52.84</b>	<b>165.04</b>	<b>88.00</b>	<b>56.47</b>	<b>166.71</b>	<b>91.08</b>

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

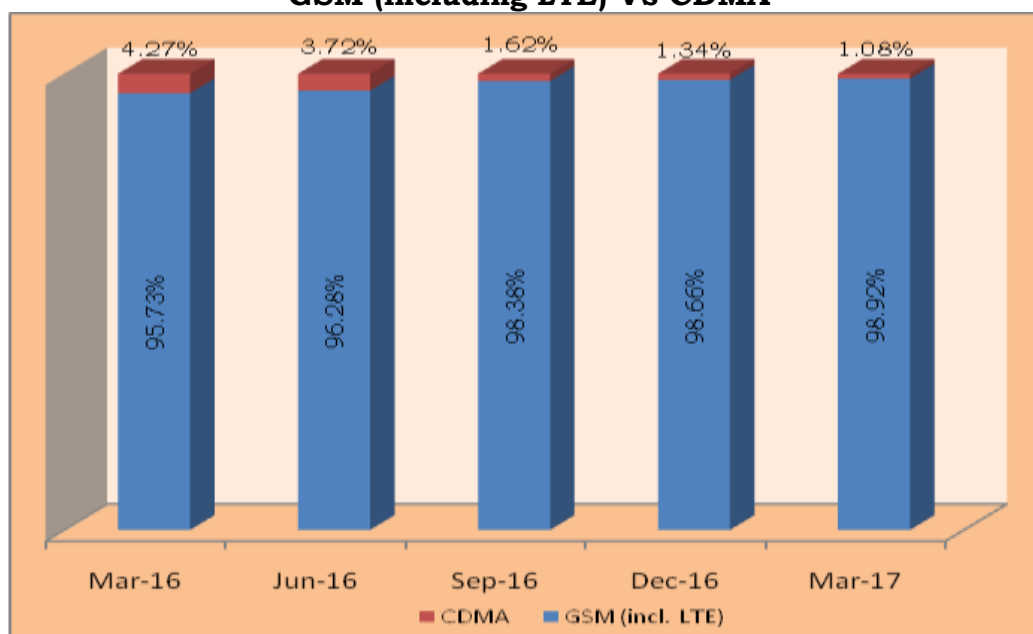
Notes:

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 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.

**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 (%)
Bharti	273.65	136.69	49.95	27.46
Vodafone	209.06	114.03	54.54	22.91
IDEA	195.37	108.79	55.69	21.86
BSNL	100.99	32.88	32.55	6.60
Aircel	90.90	31.86	35.05	6.40
Reliance Jio	108.68	26.14	24.05	5.25
Reliance Com.	83.50	19.40	23.23	3.90
Telenor	50.49	14.85	29.40	2.98
Tata	48.99	12.01	24.51	2.41
Sistema	4.91	1.07	21.77	0.21
MTNL	3.63	0.05	1.34	0.01
<b>Total</b>	<b>1,170.18</b>	<b>497.76</b>	<b>42.54</b>	<b>100</b>

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



1.20 At the end of Mar-17, GSM (including LTE) subscribers constituted 98.92% share of the wireless market as compare to 98.66% in previous quarter.



### **GSM Services (including LTE)**

1.21 The GSM (including LTE) subscribers increased from 1,112.30 million at the end of Dec-16 to 1,157.59 million at the end of Mar-17, showing a quarterly growth of 4.07%. Bharti with 273.65 million subscribers continues to be the largest GSM mobile operator, followed by Vodafone (209.06 million).

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

<b>Service Provider</b>	<b>As on 31<sup>st</sup> December, 2016</b>		<b>As on 31<sup>st</sup> March, 2017</b>		<b>Net Additions during QE Mar-17 (in million)</b>
	<b>No of Subscribers (in millions)</b>	<b>Market Share (%)</b>	<b>No of Subscribers (in millions)</b>	<b>Market Share (%)</b>	
Bharti	265.85	23.90	273.65	23.64	7.80
Vodafone	204.69	18.40	209.06	18.06	4.38
Idea	190.52	17.13	195.37	16.88	4.85
Reliance Jio	72.16	6.49	108.68	9.39	36.52
BSNL	95.97	8.63	100.21	8.66	4.24
Aircel	90.88	8.17	90.90	7.85	0.02
Reliance Comm. Group	86.54	7.78	83.50	7.21	-3.04
Telenor	54.47	4.90	50.49	4.36	-3.98
Tata	44.60	4.01	42.09	3.64	-2.51
MTNL	3.63	0.33	3.63	0.31	00
Quadrant	3.00	0.27	-	00	-3.00
<b>Total</b>	<b>1,112.30</b>	<b>100</b>	<b>1,157.59</b>	<b>100</b>	<b>45.29</b>

1.22 There has been a net increase of 45.29 million GSM subscribers during the quarter ending Mar-17. M/s Reliance Jio showed maximum net addition in its GSM(LTE) subscriber base. M/s Quadrant has closed its GSM mobile services during the quarter.

## **CDMA Services**

1.23 There were only three telecom service providers providing CDMA services during the quarter ending Mar-17. The CDMA subscriber base declined from 15.07 million at the end of Dec-16 to 12.59 million at the end of Mar-17, thereby showing a quarterly decline rate of 16.46%. Tata Teleservices with 6.90 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 31 <sup>st</sup> December, 2016		As on 31 <sup>st</sup> March, 2017		Net Addition/ decline during the quarter (in million)
	No of Subscribers (in million)	Market Share (%)	No of Subscribers (in million)	Market Share (%)	
Tata	8.38	55.59	6.90	54.83	-1.48
Sistema	5.88	39.00	4.91	39.01	-0.97
BSNL	0.82	5.41	0.78	6.16	-0.04
<b>Total</b>	<b>15.07</b>	<b>100</b>	<b>12.59</b>	<b>100</b>	<b>-2.48</b>

1.24 There has been a net decline of 2.48 million CDMA subscribers during the quarter ending Mar-17.

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**

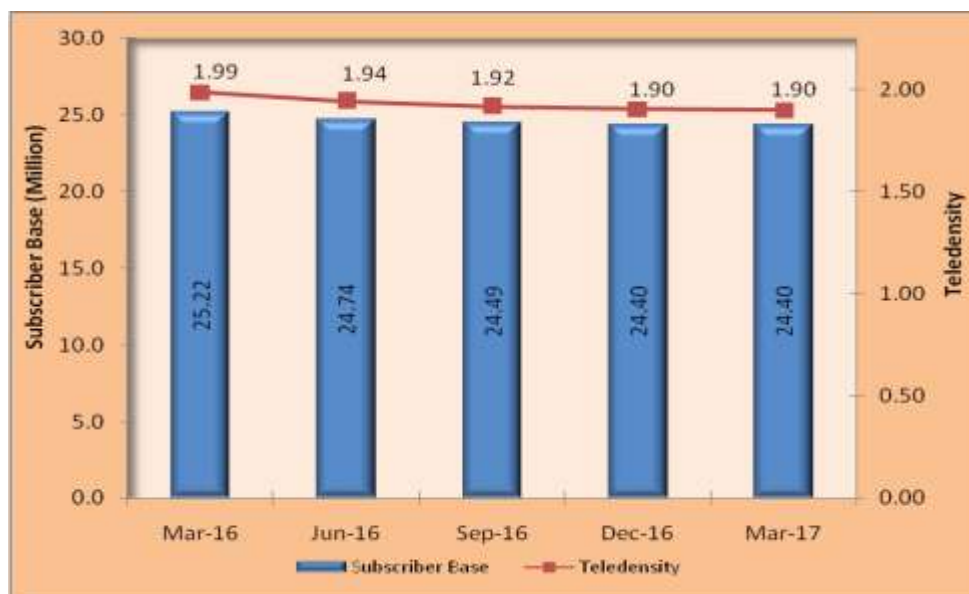
[As on 31<sup>st</sup> March, 2017]

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 more or less remain same at 24.40 million at the quarter ending Mar-17 as against the previous quarter. Overall Wireline Teledensity also remain same at 1.90 at the end of Mar-17 as against the previous quarter.

1.27 Rural subscriber base has shown decline of 0.37%, from 3.86 Million at the end of Dec-16 to 3.85 Million at the end of Mar-17. However, Urban subscription recorded slightly growth of 0.05%, from 20.55 million to 20.56 million during the same period.

**Chart 1.9: Wireline Subscriber Base and Teledensity**



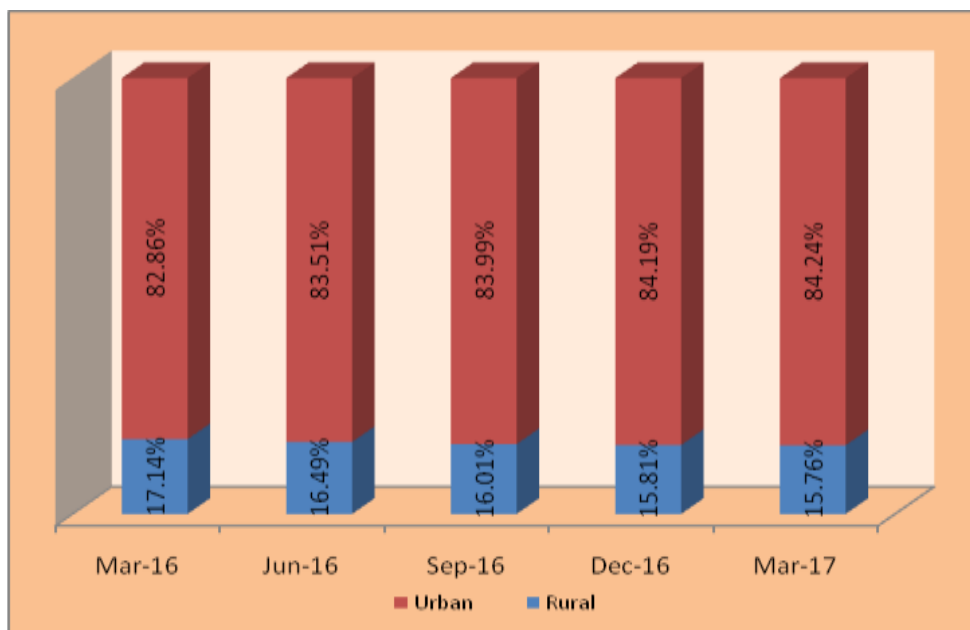
**Table 1.17 : Wireline Subscriber Base & Teledensity - Rural & Urban**

Quarter ending	Subscriber Base (million)		Teledensity	
	Rural	Urban	Rural	Urban
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
Mar-17	3.85	20.56	0.44	5.10

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

Service Provider	Subscriber Base (million) Mar-17			Share of Rural subscription (%)
	Rural	Urban	Total	
BSNL	3.72	9.97	13.69	27.20
Bharti	-	3.87	3.87	--
MTNL	-	3.46	3.46	--
Tata	0.05	1.70	1.75	2.91
Reliance	0.002	1.17	1.17	0.14
Quadrant	0.06	0.20	0.26	22.33
Vodafone	-	0.14	0.14	--
Sistema	0.01	0.05	0.06	17.69
<b>Total</b>	<b>3.85</b>	<b>20.56</b>	<b>24.40</b>	<b>15.76</b>

**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- Dec-16 (%)	Market share- Mar-17(%)
	Dec-16	Mar-17	Net Addition			
BSNL	13.74	13.69	-0.049	-0.35	56.29	56.10
Bharti	3.83	3.87	0.036	0.93	15.69	15.84
MTNL	3.48	3.46	-0.016	-0.45	14.25	14.19
Tata	1.73	1.75	0.020	1.18	7.09	7.17
Reliance	1.18	1.17	-0.001	-0.06	4.82	4.81
Quadrant	0.26	0.26	0.001	0.30	1.07	1.08
Vodafone	0.13	0.14	0.006	4.69	0.54	0.57
Sistema	0.06	0.06	-0.002	-2.81	0.24	0.23
<b>Total</b>	<b>24.40</b>	<b>24.40</b>	<b>-0.004</b>	<b>-0.02</b>	<b>100</b>	<b>100</b>

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)**

<b>Service Area</b>	<b>Dec-16</b>	<b>Mar-17</b>	<b>Net Additions</b>	<b>Rate of Change (%)</b>
Andhra Pradesh	1.63	1.64	0.004	0.23
Assam	0.16	0.16	-0.002	-1.26
Bihar	0.32	0.31	-0.003	-0.90
Delhi	3.21	3.22	0.013	0.41
Gujarat	1.35	1.36	0.009	0.64
Haryana	0.35	0.35	-0.003	-0.93
Himachal Pradesh	0.15	0.15	-0.003	-1.78
Jammu & Kashmir	0.13	0.13	0.000	0.08
Karnataka	2.22	2.24	0.021	0.96
Kerala	2.12	2.11	-0.005	-0.23
Madhya Pradesh	1.04	1.02	-0.012	-1.18
Maharashtra	1.88	1.88	0.003	0.18
Mumbai	3.03	3.04	0.010	0.33
North East	0.12	0.12	-0.001	-0.70
Orissa	0.29	0.29	0.002	0.71
Punjab	1.02	1.01	-0.016	-1.54
Rajasthan	0.75	0.74	-0.013	-1.73
T.N. (incl. Chennai)	2.54	2.55	0.012	0.46
U.P.(E)	0.50	0.49	-0.003	-0.67
U.P.(W)	0.40	0.40	-0.006	-1.42
Kolkata	0.86	0.86	-0.003	-0.38
West Bengal	0.33	0.33	-0.008	-2.39
<b>All India</b>	<b>24.404</b>	<b>24.401</b>	<b>-0.004</b>	<b>-0.02</b>

1.29 Karnataka Service area showed maximum growth rate of 0.96% during QE Mar-17. However, West Bengal service area showed maximum decline rate of 2.39% in their wireline subscriber base during the same period.

**Table 1.21: Service Area wise Wireline Rural-Urban Subscriber  
Base– Mar-17 (in million)**

<b>Service Area</b>	<b>Total Subscribers</b>	<b>Rural Subscribers</b>	<b>Urban Subscribers</b>	<b>% of Rural Subscribers</b>
Andhra Pradesh	1.64	0.31	1.33	19.05
Assam	0.16	0.03	0.13	17.96
Bihar	0.31	0.08	0.23	26.45
Delhi	3.22	-	3.22	-
Gujarat	1.36	0.20	1.16	14.75
Haryana	0.35	0.07	0.27	20.87
Himachal Pradesh	0.15	0.09	0.06	62.35
Jammu & Kashmir	0.13	0.02	0.12	12.56
Karnataka	2.24	0.19	2.05	8.51
Kerala	2.11	1.30	0.81	61.67
Madhya Pradesh	1.02	0.12	0.91	11.52
Maharashtra	1.88	0.35	1.53	18.45
Mumbai	3.04	-	3.04	-
North East	0.12	0.02	0.10	20.54
Orissa	0.29	0.07	0.23	22.63
Punjab	1.01	0.25	0.76	24.77
Rajasthan	0.74	0.13	0.61	17.25
T.N. (incl. Chennai)	2.55	0.36	2.18	14.26
U.P.(E)	0.49	0.07	0.42	14.16
U.P.(W)	0.40	0.04	0.35	10.51
Kolkata	0.86	-	0.86	-
West Bengal	0.33	0.14	0.19	42.60
<b>All India</b>	<b>24.40</b>	<b>3.85</b>	<b>20.56</b>	<b>15.76</b>

**Table 1.22: Service Area wise Wireline Teledensity**

Service Area	As on 31 <sup>st</sup> December, 2016			As on 31 <sup>st</sup> March, 2017		
	Rural Teledensity	Urban Teledensity	Total Teledensity	Rural Teledensity	Urban Teledensity	Total Teledensity
Andhra Pradesh	0.48	5.33	1.84	0.49	5.32	1.84
Assam	0.10	2.42	0.48	0.10	2.38	0.47
Bihar	0.07	1.22	0.23	0.07	1.20	0.23
Delhi	-	-	14.73	-	-	14.68
Gujarat	0.53	4.25	2.10	0.54	4.25	2.11
Haryana	0.41	2.72	1.26	0.41	2.67	1.24
Himachal Pradesh	1.51	6.74	2.13	1.48	6.62	2.09
Jammu & Kashmir	0.19	3.33	1.07	0.19	3.33	1.07
Karnataka	0.49	8.28	3.54	0.50	8.32	3.57
Kerala	4.88	8.88	5.89	4.85	8.90	5.87
Madhya Pradesh	0.16	3.16	0.99	0.15	3.12	0.97
Maharashtra (incl. Mumbai)*	0.55	7.60	3.98	0.55	7.58	3.98
North East	0.24	2.70	0.87	0.24	2.68	0.86
Orissa	0.19	2.94	0.68	0.19	2.94	0.68
Punjab	1.46	5.57	3.28	1.44	5.45	3.22
Rajasthan	0.23	3.47	1.02	0.23	3.41	1.00
Tamil Nadu (incl. Chennai)	1.28	5.03	3.55	1.30	5.02	3.56
Uttar Pradesh (incl. UPE & UPW)	0.06	1.48	0.39	0.06	1.46	0.38
West Bengal (incl. Kolkata)*	0.21	3.84	1.25	0.20	3.80	1.24
<b>All India</b>	<b>0.44</b>	<b>5.12</b>	<b>1.90</b>	<b>0.44</b>	<b>5.10</b>	<b>1.90</b>

\* 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 4,91,190 at the end of Dec-16 to 4,52,036 at the end of Mar-17. 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	Dec-16 (in lakh)	Mar-17 (in lakh)	Rate of change (%)	Market share (%) (Mar-17)
BSNL	2.96	2.79	-5.69	61.65
MTNL	1.29	1.28	-0.95	28.33
Bharti	0.15	0.15	0.00	3.39
Quadrant	0.02	0.02	-7.26	0.36
Sistema	0.10	0.10	-0.32	2.12
Tata	0.25	0.19	-26.00	4.14
Reliance	0.14	0.00	-	-
<b>Total</b>	<b>4.91</b>	<b>4.52</b>	<b>-7.97%</b>	<b>100</b>

1.31 Number of PCOs continued shows declining trend. At the Q.E. Mar-17, it has recorded a overall decline of 7.97%. The year-on-year (Y-O-Y) decline rate over the same quarter of the last year is 23.25%.

## 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, 38.69% of the total inhabited villages in India have been connected by VPTs.
- 1.33 Number of VPTs declined from 2,36,163 at the end of Dec-16 to 2,29,685 at the end of Mar-17.
- 1.34 At the end of Mar-17, only two service providers M/s BSNL and M/s Tata Teleservices were providing VPT in the country. BSNL (2,28,403) has 99.44% market share of total VPTs and Tata Teleservices has 0.56% 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 154 internet service providers for the quarter ending Mar-17. **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 391.50 million at the end of Dec-16 to 422.19 million at the end of Mar-17 with quarterly growth rate of 7.84%.

1.37 Wired Internet subscribers increased from 21.51 million at the end of Dec-16 to 21.58 million at the end of Mar-17 with quarterly growth of 0.33%, and Wireless Internet subscribers increased from 370.00 million at the end of Dec-16 to 400.62 million at the end of Mar-17 with quarterly growth rate of 8.28%.

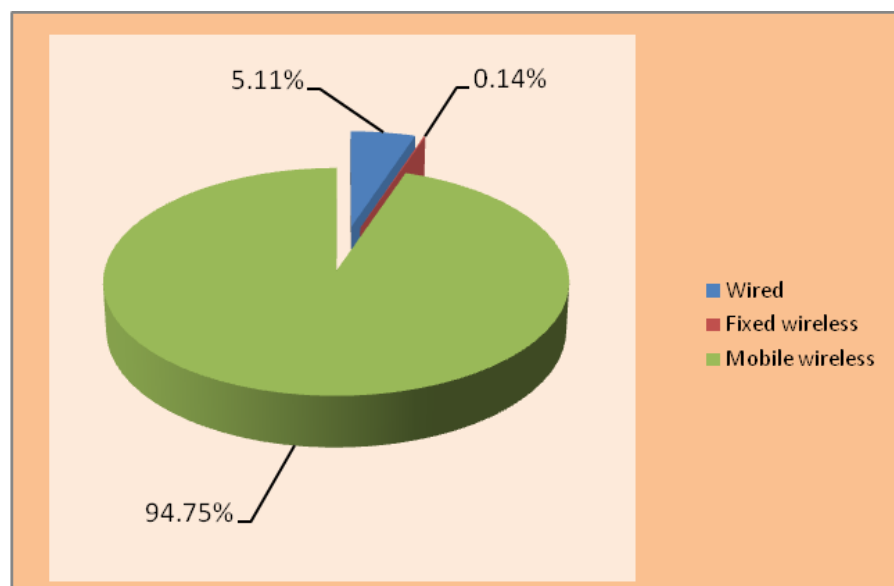
1.38 Number of Broadband subscribers increased from 236.09 million at the end of Dec-16 to 276.52 million at the end of Mar-17 with quarterly growth rate of 17.12%. However, the number of Narrowband subscribers declined from 155.41 million at the end of Dec-16 to 145.68 million at the end of Mar-17 with quarterly decline rate of 6.26%.

**Table 1.24: Trend of Internet subscriber base**

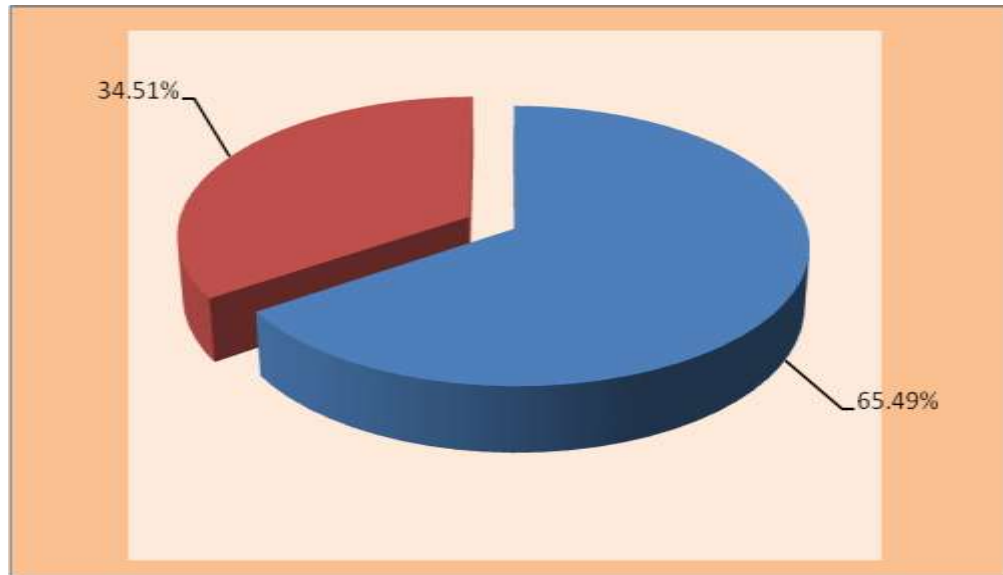
Segment	Mode of Access								Total Subscribers (in million)	
	Wired Subscribers (in million)		Wireless Subscribers (in million)							
			Fixed Wireless (Wi-Fi, Wi-Max, Radio & VSAT)		Mobile Wireless (Phone + Dongle)		Total Wireless			
	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17
Broadband	18.14	18.24	0.589	0.560	217.36	257.71	217.95	258.27	236.09	276.52
Narrowband	3.36	3.33	0.021	0.022	152.03	142.32	152.05	142.34	155.41	145.68
<b>Total</b>	<b>21.51</b>	<b>21.58</b>	<b>0.610</b>	<b>0.582</b>	<b>369.39</b>	<b>400.04</b>	<b>370.00</b>	<b>400.62</b>	<b>391.50</b>	<b>422.19</b>

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**

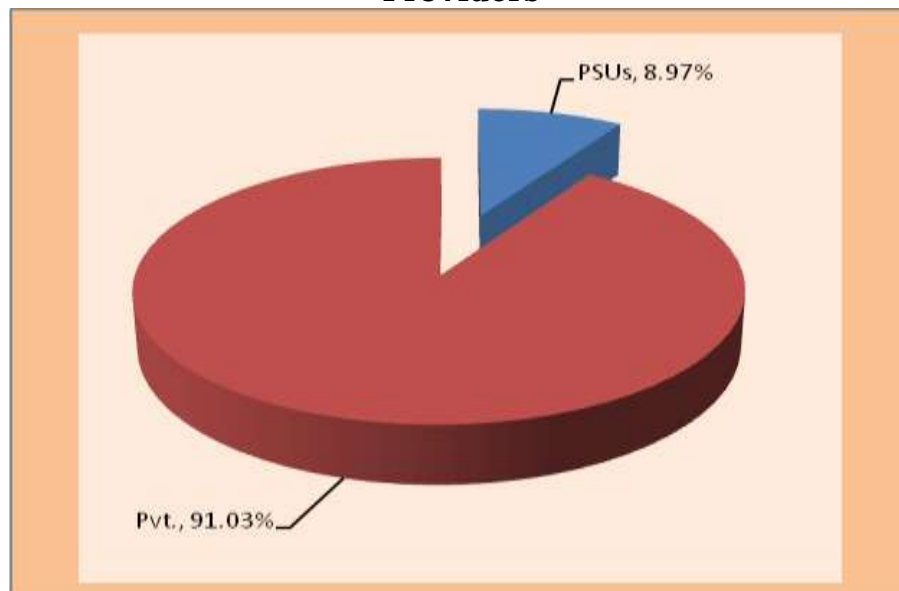


**Chart 1.14 : Composition of Broadband & Narrowband subscription**



1.40 Private internet service providers hold 91.03% market share of total internet subscribers at the Q.E. Mar-17. 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 (Mar-17)		Broadband (Mar-17)		Total Internet (Mar-17)		Total Internet (Dec-16)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	4.65	6.08	7.44	13.63	12.10	19.71	9.66	20.49
Assam	2.38	0.85	1.87	2.97	4.25	3.82	3.53	3.92
Bihar	7.53	4.53	4.37	7.66	11.91	12.19	9.61	13.17
Delhi	0.29	5.70	0.40	20.40	0.69	26.10	0.70	24.35
Gujarat	3.45	5.38	4.80	13.66	8.26	19.04	6.62	17.78
Haryana	1.28	1.49	2.37	4.50	3.65	5.99	3.20	5.39
Himachal Pradesh	0.82	0.58	1.28	1.08	2.10	1.66	1.67	1.76
Jammu & Kashmir	0.96	0.77	0.91	1.87	1.87	2.64	1.03	1.99
Karnataka	2.74	4.54	3.63	15.95	6.37	20.50	5.32	20.16
Kerala	1.73	2.22	4.99	7.61	6.72	9.83	5.86	10.29
Kolkata	0.16	3.24	0.60	7.66	0.76	10.90	0.48	10.53
Madhya Pradesh	4.70	5.03	2.99	12.04	7.70	17.07	7.03	16.46
Maharashtra	5.07	7.52	6.68	16.68	11.75	24.20	10.25	22.35
Mumbai	0.15	4.54	0.36	14.52	0.50	19.06	0.33	18.17
North East	1.09	0.74	1.13	1.79	2.22	2.53	2.04	2.43
Orissa	2.86	1.64	2.07	3.94	4.93	5.58	3.45	6.10
Punjab	2.04	2.85	2.64	9.12	4.67	11.97	4.14	11.22
Rajasthan	4.46	4.36	4.25	8.48	8.71	12.84	7.07	12.47
Tamil Nadu	2.66	6.89	5.42	17.35	8.08	24.24	7.28	23.44
Uttar Pradesh(East)	7.87	5.63	5.54	9.55	13.41	15.18	11.59	14.15
Uttar Pradesh(West)	4.40	4.12	2.70	8.71	7.10	12.83	6.62	11.62
West Bengal	4.17	1.51	4.63	6.28	8.80	7.78	7.59	8.22
<b>Total</b>	<b>65.45</b>	<b>80.22</b>	<b>71.06</b>	<b>205.45</b>	<b>136.52</b>	<b>285.68</b>	<b>115.06</b>	<b>276.44</b>

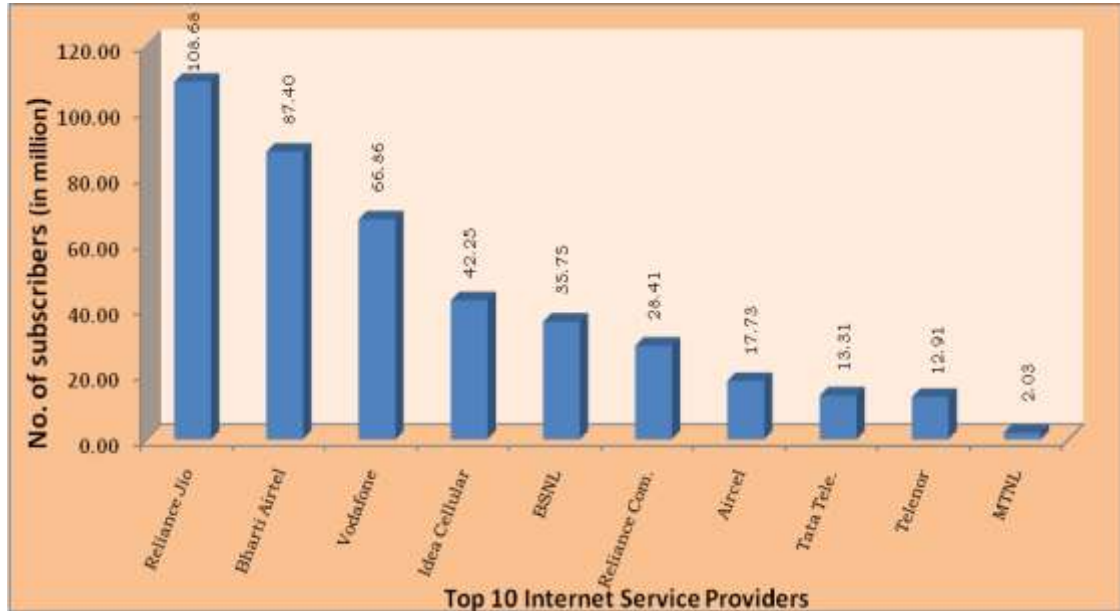
**Table 1.26: Internet Subscriber Base and Market Share of top 10 Service Providers – Mar-17**

<b>S.No</b>	<b>ISP</b>	<b>No. of Subscribers</b>	<b>Share (%)</b>
1	Reliance Jio Infocom Ltd	108680772	25.74
2	Bharti Airtel Limited	87399644	20.70
3	Vodafone	66860069	15.84
4	Idea Cellular	42246318	10.01
5	BSNL	35754772	8.47
6	Reliance Communications	28412496	6.73
7	Aircel Ltd	17727940	4.20
8	Tata Teleservices	13311112	3.15
9	Telenor	12912316	3.06
10	MTNL	2033472	0.48
	<b>Total of Top 10 ISPs</b>	<b>415338911</b>	98.38
	<b>Others</b>	<b>6854343</b>	1.62
	<b>Grand Total</b>	<b>422193254</b>	<b>100</b>

1.42 Reliance Jio holds the top position with 25.74% of market share of internet subscribers followed by Bharti Airtel with 20.70%. Top 10 Service Providers together hold 98.38% of total internet subscriber base at the QE Mar-17. Detailed table of number of internet subscriber base (broadband and narrowband) of all the service providers is available at Annexure-1.5.

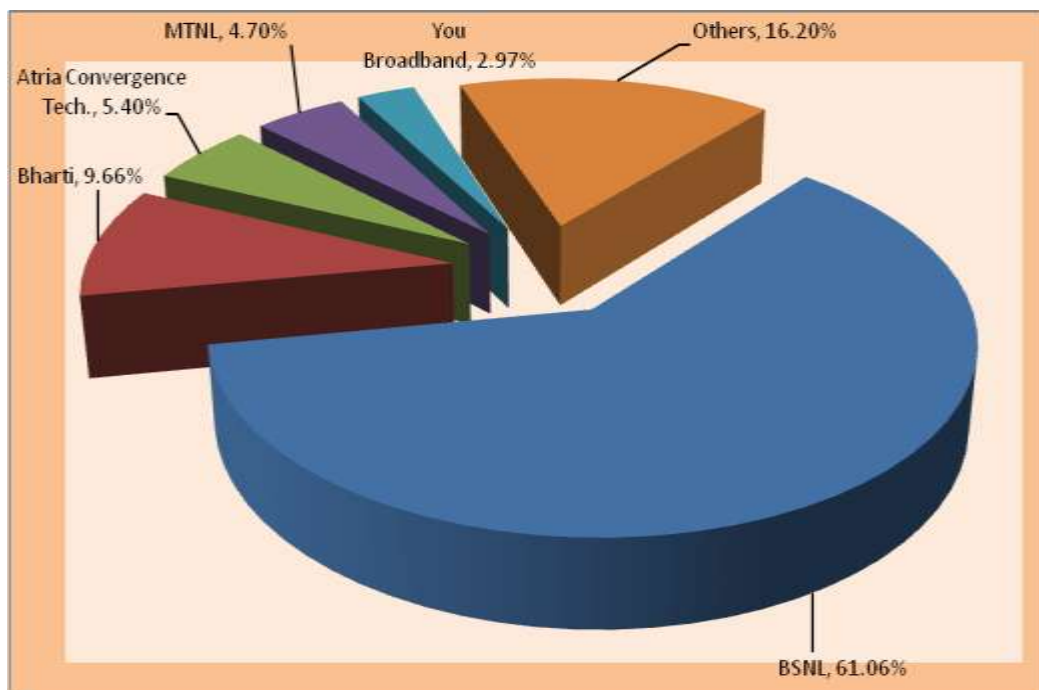
1.43 The following chart depicts the internet subscriber base of top ten ISPs in the QE Mar-17.

**Chart 1.16 : Subscriber base of top ten ISPs**



1.44 In wired internet segment, BSNL holds 61.06% market share with 13.17 million subscribers, followed by Bharti with 2.08 million subscribers. Total number of wired internet subscriber is 21.58 million at the end of Mar-17.

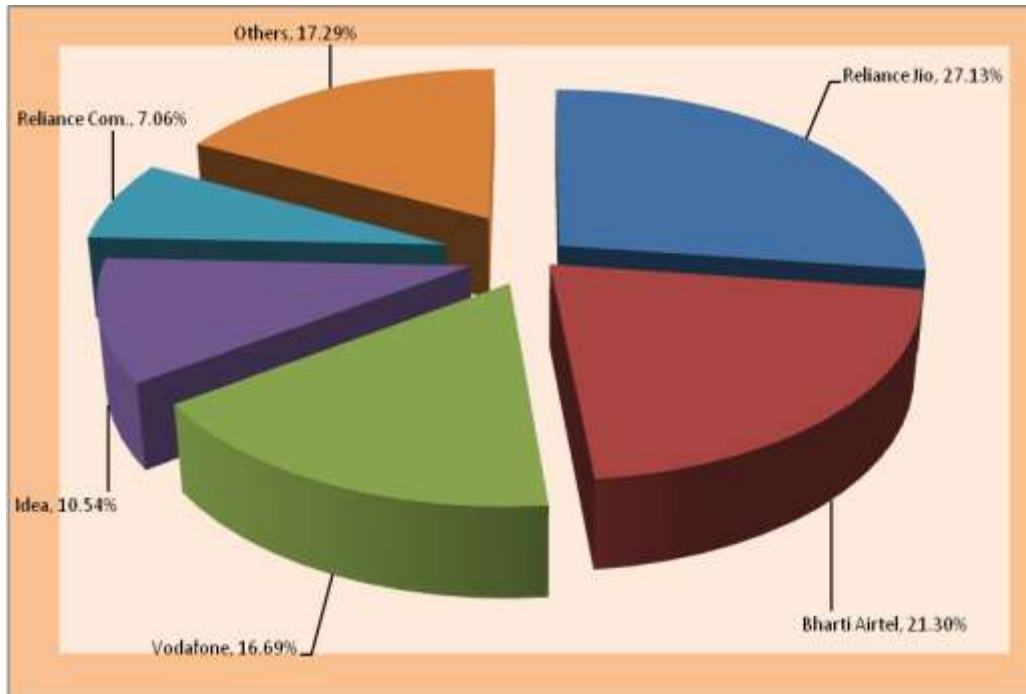
**Chart 1.17 : Composition of Wired Internet subscribers**



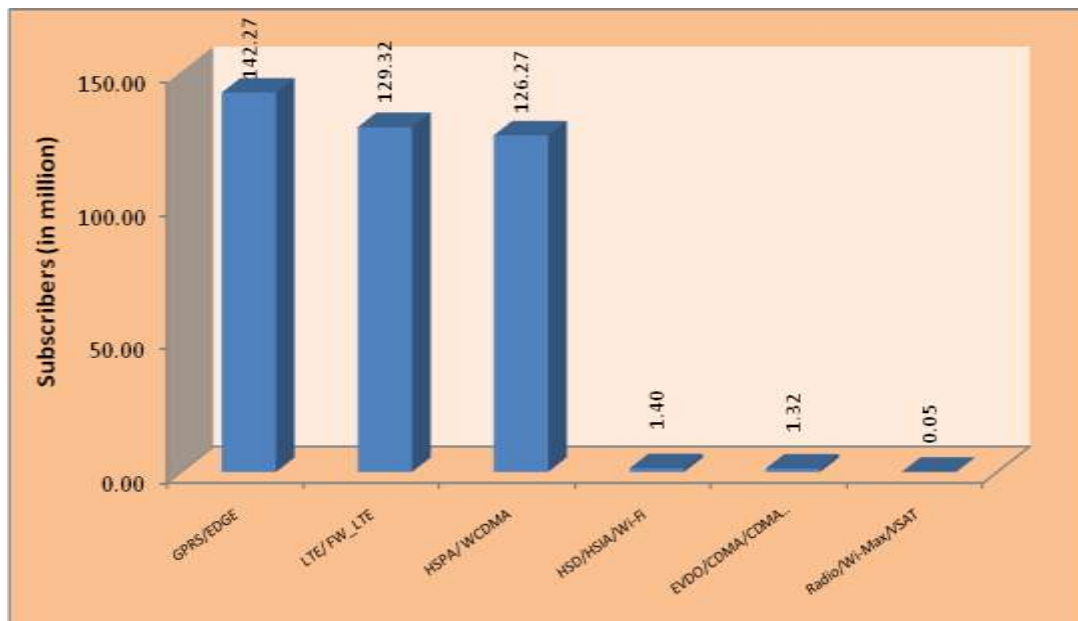


1.45 In wireless internet segment, Reliance Jio holds 27.13% market share with 108.68 million subscribers followed by Bharti Airtel with 85.32 million wireless internet subscribers at the QE Mar-17.

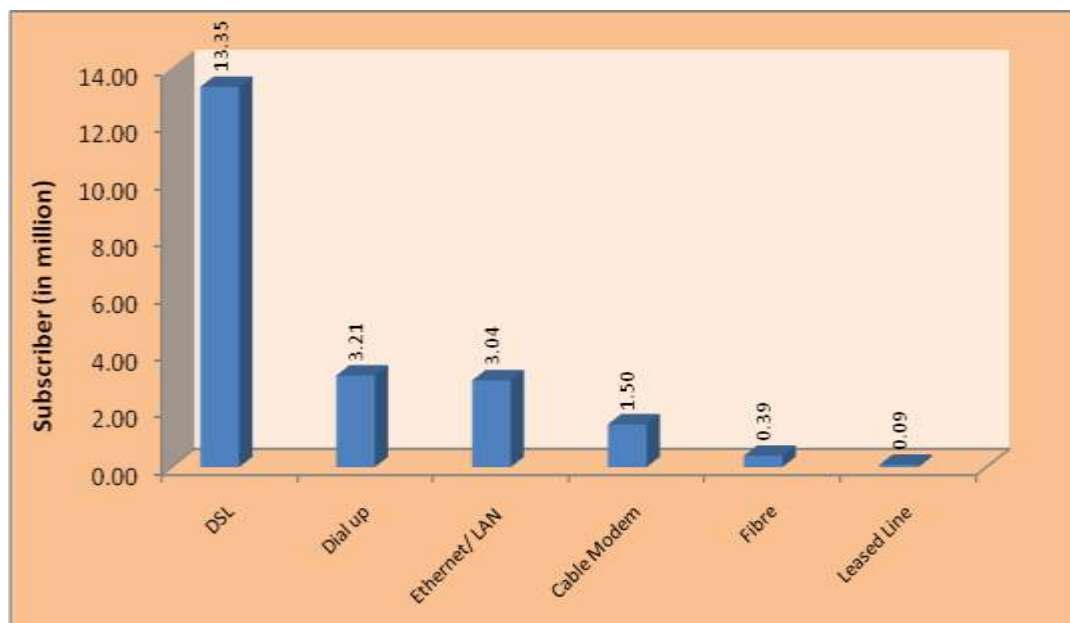
**Chart 1.18 : Composition of Wireless Internet subscription**



**Chart 1.19 : Technology trend for Wireless Internet Access – Mar-17**



**Chart 1.20 : Technology trend for Wired Internet Access – Mar-17**



1.46 Top five service areas in terms of internet subscriptions (wired + wireless) are Maharashtra (35.94 million), Tamil Nadu including Chennai (32.32 million), Andhra Pradesh (31.80 million), U.P.(E) (28.58 million) and Gujarat (27.30 million).

**Table 1.27 : Service Area wise number of Internet Subscribers per 100 population at the end of Mar-17**

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	12.10	19.71	31.80	18.85	79.08	35.70
Assam	4.25	3.82	8.07	15.47	71.24	24.58
Bihar	11.91	12.19	24.10	9.92	63.28	17.30
Delhi	-	-	26.79	-	-	122.06
Gujarat	8.26	19.04	27.30	22.20	70.05	42.40
Haryana	3.65	5.99	9.63	20.64	58.50	34.52
Himachal Pradesh	2.10	1.66	3.76	33.25	195.89	52.55
Jammu & Kashmir	1.87	2.64	4.51	20.72	74.90	35.94
Karnataka	6.37	20.50	26.87	16.65	83.06	42.68
Kerala	6.72	9.83	16.55	24.99	108.14	46.01

Service Area	Internet Subscribers (in million)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Madhya Pradesh	7.70	17.07	24.77	10.10	58.75	23.53
Maharashtra	11.75	24.20	35.94	19.36	71.63	44.89
Mumbai	0.50	19.06	19.57			
North East	2.22	2.53	4.75	21.12	70.60	33.68
Orissa	4.93	5.58	10.51	14.01	72.73	24.54
Punjab	4.67	11.97	16.65	26.90	86.21	53.25
Rajasthan	8.71	12.84	21.55	15.53	71.64	29.12
Tamil Nadu	8.08	24.24	32.32	28.86	55.72	45.20
UP (East)	13.41	15.18	28.58	11.46	52.33	20.86
UP (West)	7.10	12.83	19.93			
Kolkata	0.76	10.90	11.66	14.03	67.89	29.53
West Bengal	8.80	7.78	16.58			
<b>Total</b>	<b>136.52</b>	<b>285.68</b>	<b>422.19</b>	<b>15.49</b>	<b>70.83</b>	<b>32.86</b>

\* 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.

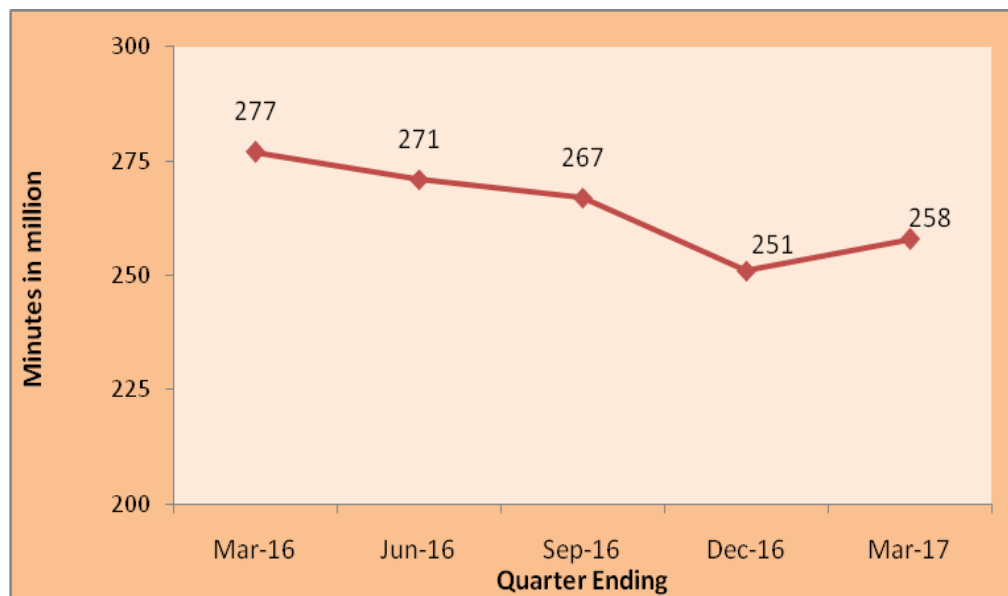
## ISP Connectivity

1.47 The International Internet bandwidth owned by various service providers is reported to be 2,600 Gbps during the quarter ending Mar-17 as compared to 2,028 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 258 million during the Q.E. Mar-17. List of Internet Telephony Service providers is available at Annexure-1.6.

**Chart 1.21 : Trends in MOU for Internet Telephony**



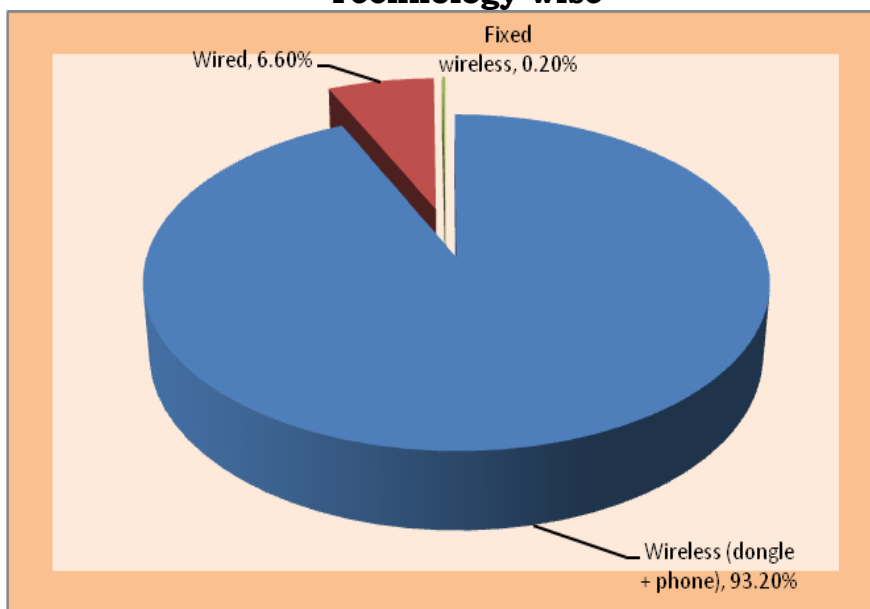
## Part-II : Broadband Service (Download Speed $\geq$ 512 Kbps)

1.49 The total number of broadband subscribers increased from 236.09 million at the end of Dec-16 to 276.52 million at the end of Mar-17. Out of which wired broadband subscribers are 18.24 million and wireless broadband subscribers are 258.27 million.

1.50 Top five broadband (wired+wireless) service providers in term of subscribers are Reliance Jio (108.68 million), Bharti (49.13 million), Vodafone (37.72 million), Idea (24.70 million) and BSNL (21.67 million).

- 1.51 In wired broadband segment, BSNL holds 54.71% market share with 9.98 million subscribers followed by Bharti with 2.08 million subscribers.
- 1.52 In wireless broadband segment, Reliance Jio holds 27.13% market share with 108.68 million subscribers followed by Bharti (11.74%) with 47.04 million subscribers.
- 1.53 Top five service areas in respect of broadband subscriptions are Maharashtra (23.36 million), Tamil Nadu including Chennai (22.77 million), Andhra Pradesh (21.07 million), Delhi (20.80 million) and Karnataka (19.59 million).

**Chart 1.22 : Composition of Broadband subscription – Technology wise**

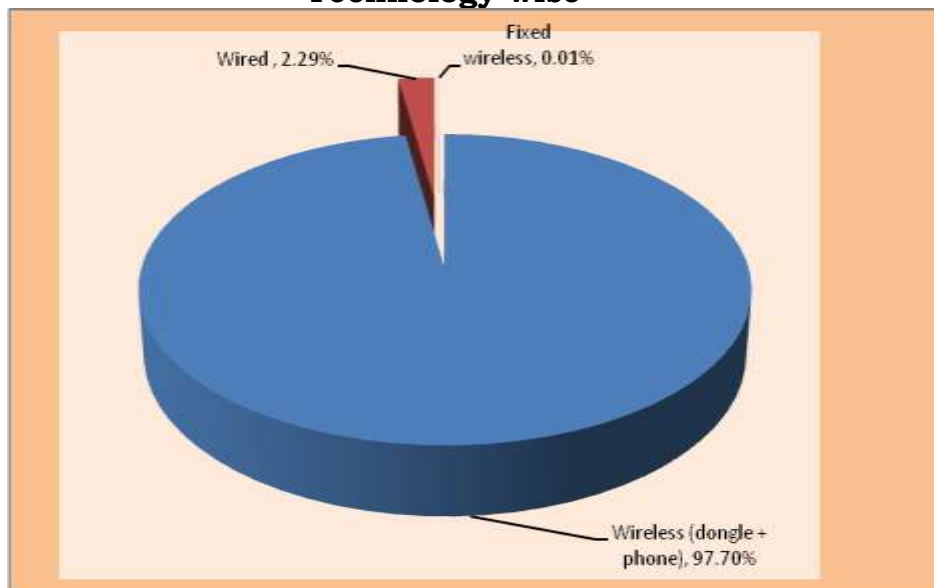


- 1.54 Mobile Device Users (dongle + phone) constitute 93.20% of total broadband subscribers at the end of Mar-17.

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

- 1.55 Total number of narrowband subscribers declined from 155.41 million at the end of Dec-16 to 145.68 million at the end of Mar-17 with the quarterly decline rate of 6.26%. Out of 145.68 million narrowband subscribers, Wired Narrowband subscribers are 3.33 million and Wireless Narrowband subscribers are 142.34 million.
- 1.56 The top five narrowband (wired + wireless) service providers in term of subscriber base are Bharti (38.27 million), Vodafone (29.14 million), Idea Cellular (17.55 million), Reliance Communications Group (14.29 million) and Telenor (12.81 million).
- 1.57 In wired narrowband segment, BSNL holds 95.82% market share with 3.195 million subscribers followed by Syscon Infoway Pvt Ltd (0.027 million).
- 1.58 In wireless narrowband segment, Bharti holds 26.89% market share with 38.27 million subscribers followed by Vodafone (29.14 million).

**Chart 1.23 : Composition of Narrowband subscription – Technology wise**



## Section E : Other Value Added Services - PMRTS & VSAT

### Public Mobile Radio Trunk Services (PMRTS)

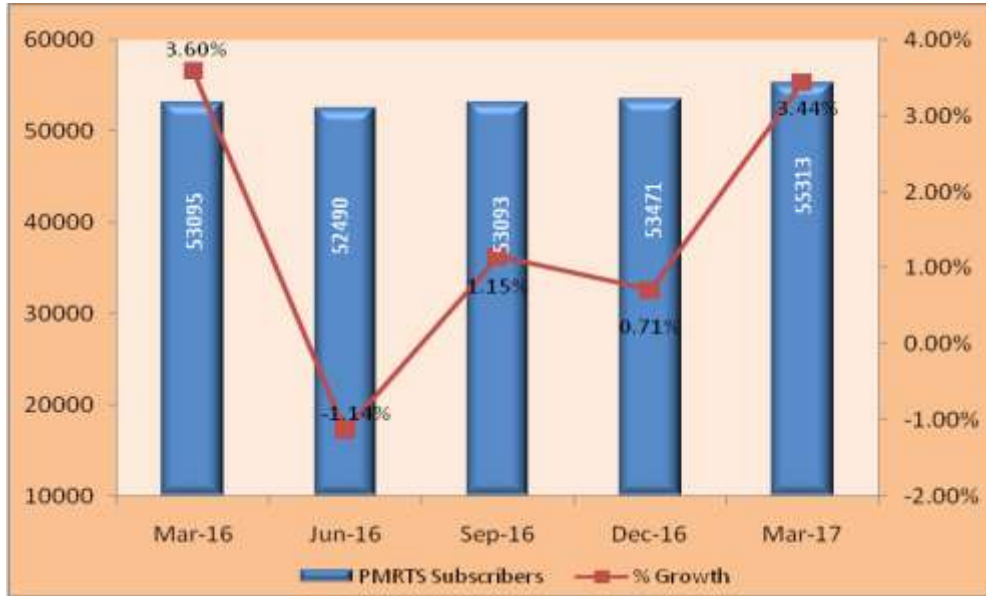
1.59 The subscriber base of PMRTS increased from 53,471 at the end of Dec-16 to 55,313 at the end of Mar-17 with quarterly growth rate of 3.44%.

**Table 1.28 : PMRTS Subscriber base - Service Provider wise**

Sr. No .	Name of the Service Provider	Subscriber Base as on 31.12.2016	Subscriber Base as on 31.03.2017	Growth in Subscribers	% Growth in subscribers as on 31.03.2017
1	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	45047	46804	1757	3.90
4	Procall Ltd.	2967	3032	65	2.19
2	Inative Networks Pvt Ltd	1820	1820	0	0.00
3	Quick Call	1496	1457	-39	-2.61
5	Smartlink Pvt Ltd	1023	1072	49	4.79
6	Bhilwara Telenet Services Pvt Ltd	571	581	10	1.75
7	Wiwonet Solutions Pvt Ltd	273	273	0	0.00
8	Airtalk Solutions & Services Pvt Ltd	274	274	0	0.00
	<b>Total</b>	<b>53471</b>	<b>55313</b>	<b>1842</b>	<b>3.44</b>

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

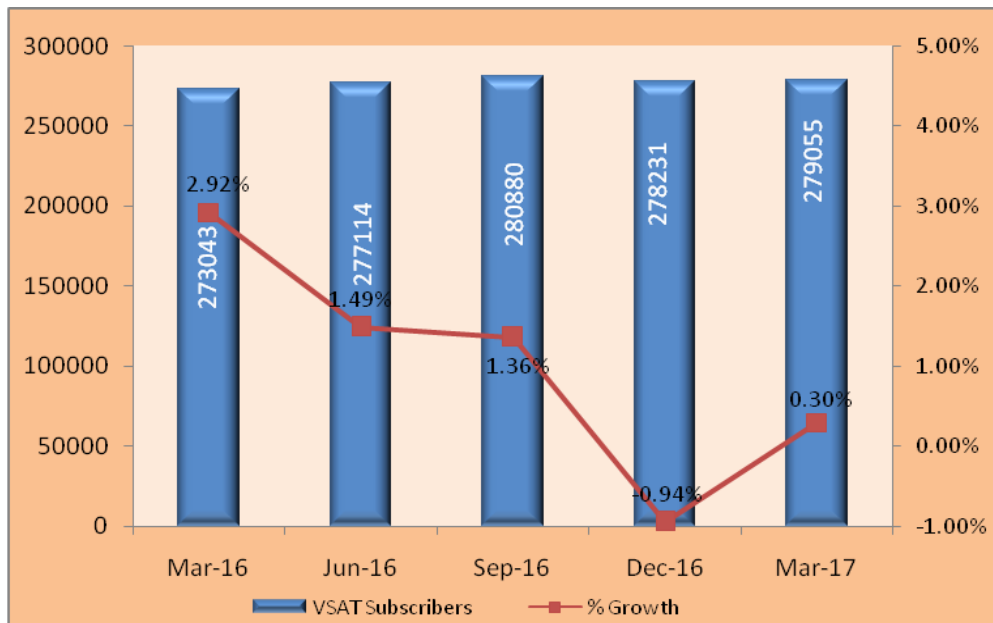
**Chart 1.24 : Number of PMRTS subscribers & Rate of Growth (%)**



**Very Small Aperture Terminal (VSAT)**

1.61 The total number of VSAT subscribers increased from 2,78,231 at the end of Dec-16 to 2,79,055 at the end of Mar-17. Net addition during the quarter has been 824 at the growth rate of 0.30%.

**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 (%) Mar-17
		Dec-16	Mar-17			
1	Hughes Communications Ltd.	101125	101603	478	0.47	36.41
2	Bharti Airtel Limited,	68314	70451	2137	3.13	25.25
3	Tatanet Services	55115	53736	-1379	-2.50	19.26
4	HCL Comnet	27790	27556	-234	-0.84	9.87
5	BSNL	20412	20271	-141	-0.69	7.26
6	National Informatics Centre Services Incorporated	2863	2864	1	0.03	1.03
7	Infotel Satcom	2518	2480	-38	-1.51	0.89
8	Planetcast Media Services Ltd	94	94	0	0.00	0.03
	<b>Total</b>	<b>278231</b>	<b>279055</b>	<b>824</b>	<b>0.30</b>	<b>100</b>

1.62 Hughes Communication Limited continues to be the market leader in VSAT with subscriber base of 1,01,603 followed by Bharti Airtel Ltd (70,451) at the end of Mar-17.

1.63 M/s Bharti Airtel has recorded maximum growth rate of 3.13% and Tatanet Services showed maximum decline rate of 2.50% 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 1<sup>st</sup> January, 2017 to 31<sup>st</sup> March, 2017 in the various service areas.

## Section A: GSM and LTE Services

**Table 2.1: Key Indicators - GSM and LTE Services**

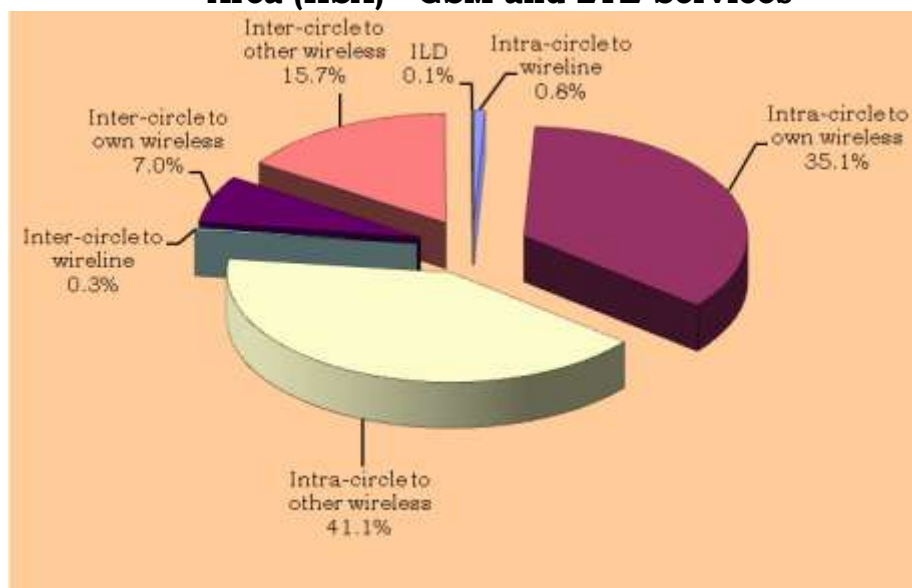
Parameter	Mar-17	Dec-16	Mar-16	QoQ %age change over Dec-16	YoY %age change over Mar-16
Subscriber Base* (million)	1156.37#	1112.70	989.54	3.93%	16.86%
Share of Prepaid (%)	95.41%	95.22%	95.36%	0.20%	0.05%
Incoming MOU* per subscriber per month	208.06	191.27	196.29	8.77%	6.00%
Outgoing MOU* per subscriber per month	197.10	168.53	184.33	16.95%	6.93%
No. of Outgoing SMS per subscriber per month	16.82	18.31	20.99	-8.17%	-19.87%
Average Revenue Per User (ARPU) per month (₹)	82.68	103.92	124.85	-20.44%	-33.78%

\* 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.

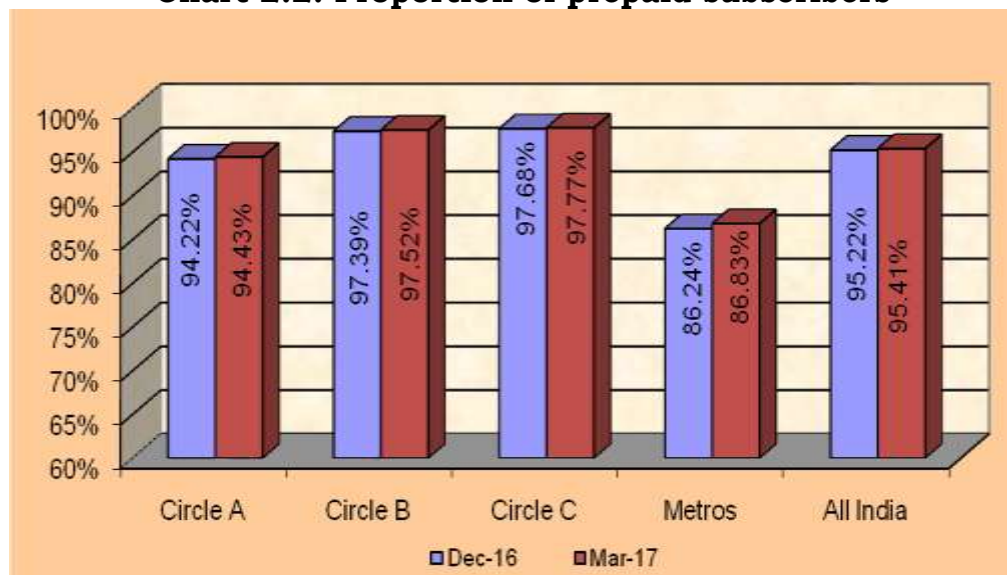
2.1 The following chart presents % break-up of outgoing minutes from Home Service Area (HSA) in the QE Mar-17.

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



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 95.22% at the end of Dec-16 to 95.41% at the end of Mar-17.

2.4 The ARPU per month (all India, blended) declined from ₹104 in Q.E. Dec-16 to ₹83 in Q.E. Mar-17. 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 Mar-17**

Circle Category	ARPU per month (in ₹)		
	Post-paid	Pre-paid	Blended
Circle A	432	73	93
Circle B	407	67	76
Circle C	346	66	73
Metros	405	40	89
<b>All India</b>	<b>412</b>	<b>67</b>	<b>82.68</b>
All private SPs	411	66	82.12
BSNL/MTNL	440	77	88.48

2.5 The ARPU per month for pre-paid segment declined from ₹86 in QE Dec-16 to ₹67 in QE Mar-17, and ARPU per month for postpaid segment also declined from ₹456 in QE Dec-16 to ₹412 in QE Mar-17.

2.6 The following table presents the composition of ARPU per month in the QE Mar-17.

**Table 2.3: Composition of ARPU per month - GSM and LTE Services in QE Mar-17**

<b>S. No.</b>	<b>Item</b>	<b>Revenue (excl. service tax) per subscriber per month (in ₹)</b>	<b>Share of total revenue from subscribers</b>
1	<b>Usage from Home Service Area</b>		
1.1.	Rental Revenue	19.13	20.9%
1.2.	Revenue from calls	39.60	43.3%
1.3.	Revenue from SMS	2.35	2.6%
1.4.	Revenue from data usage	19.23	21.0%
1.5.	Revenue from other VAS	4.04	4.4%
1.6.	Other revenue	2.81	3.1%
2	<b>Usage outside Home Service Area</b>		
2.1.	Revenue from outroamers	4.34	4.7%
3	<b>Total revenue from subscribers (1+2)</b>	<b>91.51</b>	<b>100%</b>
4	Net inter-operator settlement charges receivable *	-8.83	
5	<b>Net Revenue (ARPU) per month(3+4)</b>	<b>82.68</b>	

\* 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 (₹8.83) accounts for 9.65% of the total revenue from subscribers.

2.8 On an all India average, the overall minutes of usage (MOU) per subscriber per month increased from 360 in QE Dec-16 to 403 in QE Mar-17.

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 Mar-17**

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	455	390	845	178	166	344	193	179	372
Circle B	467	369	835	173	216	389	181	220	400
Circle C	472	290	762	201	258	459	208	258	466
<b>Metro</b>	439	335	774	231	165	397	259	188	447
<b>All India</b>	<b>454</b>	<b>362</b>	<b>816</b>	<b>185</b>	<b>201</b>	<b>385</b>	<b>197</b>	<b>208</b>	<b>405</b>

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 Mar-17 is 51.4 : 48.6.

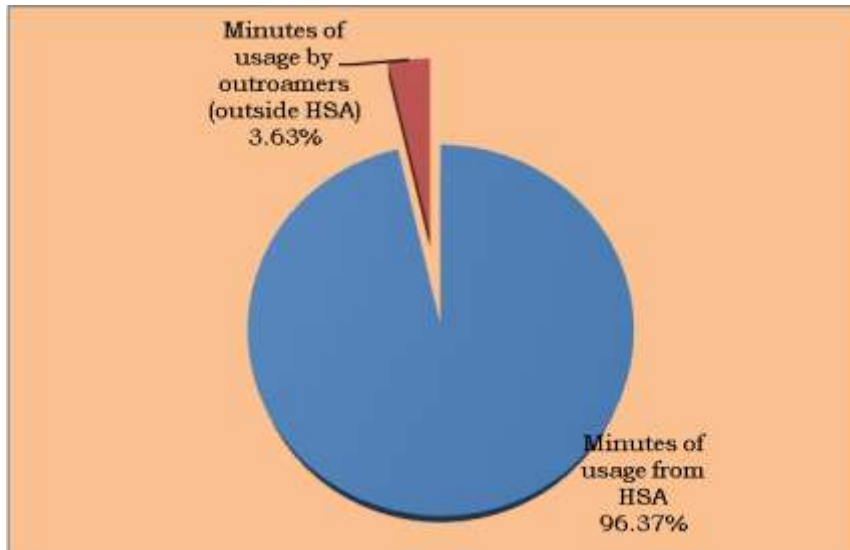
2.11 Number of outgoing SMS per subscriber per month declined from 18 in Q.E. Dec-16 to 17 in Q.E. Mar-17. The following table presents the outgoing SMS usage (usage from, and outside, the home service area) per subscriber per month for various categories of circles and various platforms for payment viz. post-paid and pre-paid.

**Table 2.5: No. of Outgoing SMS per subscriber per month - GSM and LTE Services in QE Mar-17**

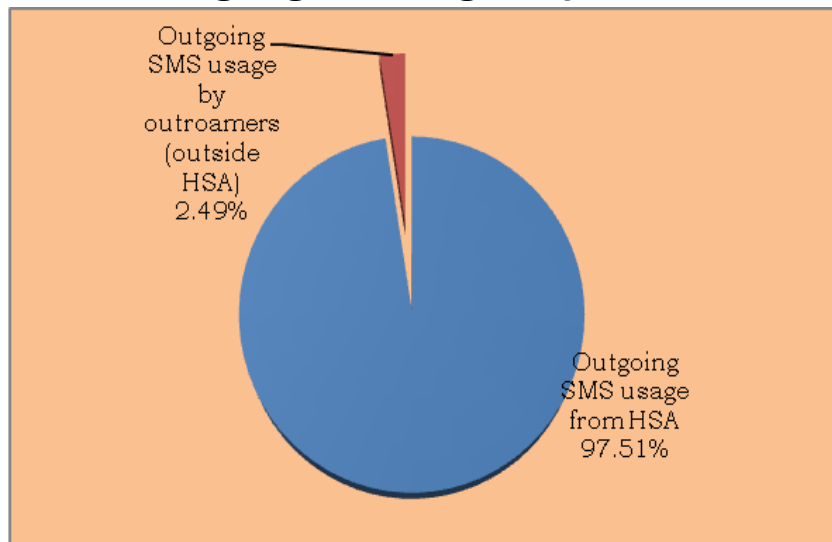
Circle category	Outgoing SMS per subscriber month		
	Postpaid	Prepaid	Blended
Circle A	101	19	23
Circle B	35	14	15
Circle C	24	10	10
Metro	24	10	12
<b>All India</b>	<b>59</b>	<b>15</b>	<b>17</b>

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 Mar-17**



**Chart 2.4: Outgoing SMS Usage by Out-roamers as a % of Total No. of Outgoing SMS Usage in QE Mar-17**



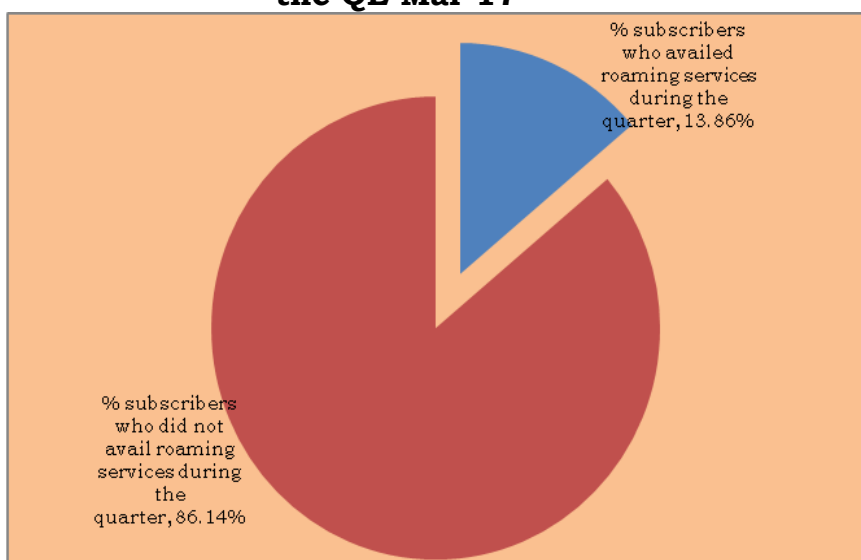
2.12 The following table presents the percentage break-up of outgoing minutes of usage from home service area between various categories of termination networks.

**Table 2.6: %Break-up of Outgoing minutes from Home Service Area (HSA) in QE Mar-17**

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
<b>Circle A</b>	1.00	31.85	44.90	0.31	5.73	16.11	0.10
<b>Circle B</b>	0.59	40.85	39.94	0.23	6.02	12.30	0.06
<b>Circle C</b>	0.31	43.49	39.11	0.17	5.52	11.38	0.03
<b>Metros</b>	1.44	16.76	36.45	0.55	15.09	29.54	0.17
<b>All India</b>	<b>0.79</b>	<b>35.10</b>	<b>41.08</b>	<b>0.29</b>	<b>7.00</b>	<b>15.67</b>	<b>0.08</b>

2.13 The chart given below presents the percentage of subscribers who availed roaming services (out-roamers) during the quarter ending Mar-17.

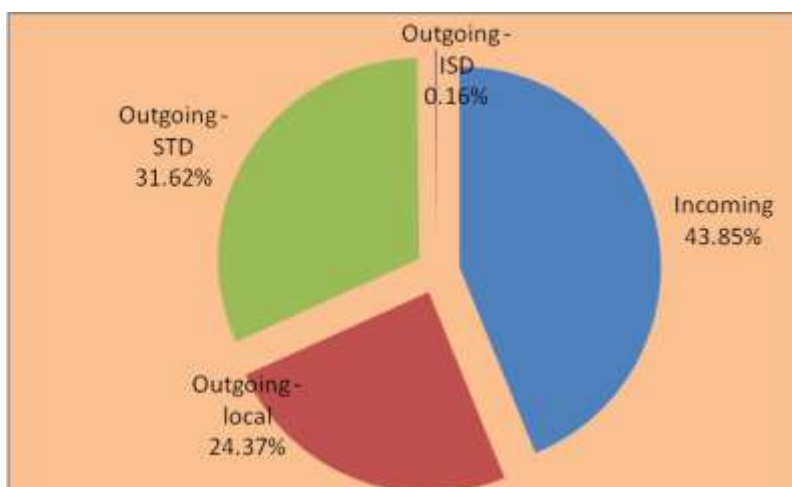
**Chart 2.5: % subscribers who availed roaming services during the QE Mar-17**



2.14 The usage pattern of out-roamers i.e. usage from outside the home service area shows that incoming minutes accounts for 43.85% of the total minutes of usage by out-roamers in QE Mar-17 as against 45.97% in the previous quarter. The chart given below presents the break-up of minutes of usage of out-roamers during the QE Mar-17.



**Chart 2.6: % Break-up of minutes of usage of outroamers (usage from outside the Home Service Area) in QE Mar-17**



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 Mar-17**

Circle Category	(₹ per minute)		
	Postpaid	Prepaid	Blended
Circle A	0.49	0.33	0.35
Circle B	0.47	0.29	0.30
Circle C	0.43	0.24	0.25
Metros	0.53	0.24	0.31
<b>All India</b>	<b>0.49</b>	<b>0.29</b>	<b>0.31</b>

2.16 All India average subscriber outgo per outgoing minute declined from ₹0.44 in the QE Dec-16 to ₹0.31 in the QE Mar-17.

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

Parameter	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17
<b>1. ARPU (₹ Per month)</b>	125	126	121	104	83
<b>3. Average Revenue from data usage per subscriber per month ( in ₹)</b>	28	29	29	24	19
<b>3. MOU per subscriber per month</b>	381	377	366	360	405
<b>4. Outgoing MOU per subscriber per month</b>					
4.1 Local (Intra-circle)	147	145	140	133	149
4.2 NLD (inter-circle)	37	36	37	36	48
4.3 ILD	0.25	0.20	0.30	0.20	0.20
<b>5. No. of Outgoing SMS per subscriber per month</b>	22	20	19	18	17
<b>6. Average subscriber Outgo per outgoing minute from HSA (in ₹)</b>	0.48	0.49	0.48	0.44	0.31

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

## Section B: CDMA - Full Mobility Service

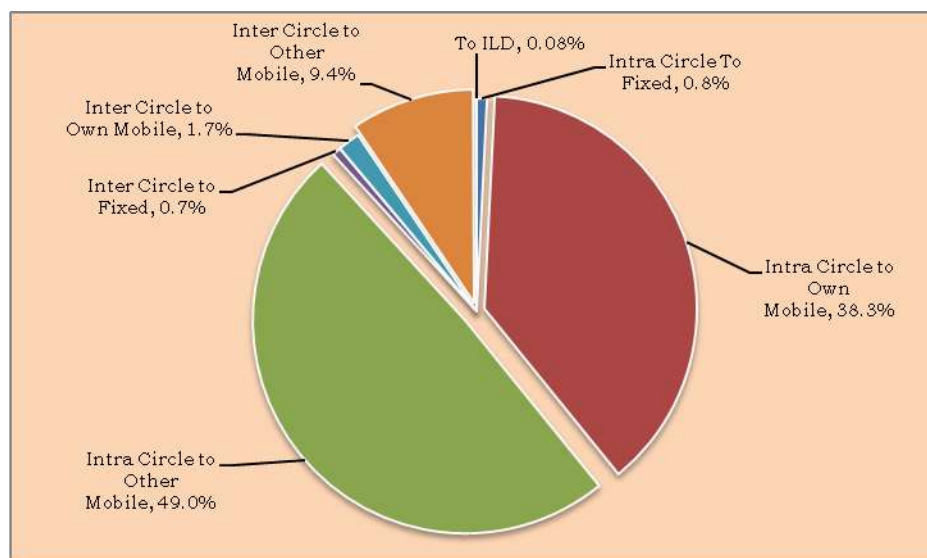
**Table 2.9: Key Indicators - CDMA Full Mobility Service**

Parameters	QE Mar-17	QE Dec-16	QE Mar-16	QoQ change (%)	YoY change (%)
Subscriber Base (in Millions*)	9.78	11.40	34.8	-14.20	-71.91
Share of Prepaid (%)	85.66	85.9	89.5	-0.28	-4.32
Incoming MOUs per subscriber per month	137.40	126.59	110.1	8.54	24.78
Outgoing MOUs per subscriber per month	112.43	128.86	150.3	-12.75	-25.18
Outgoing SMS per subs per month	2.66	2.89	7.6	-7.96	-65.11
ARPU (₹ per month)	131.34	141.42	103.5	-7.13	26.84

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

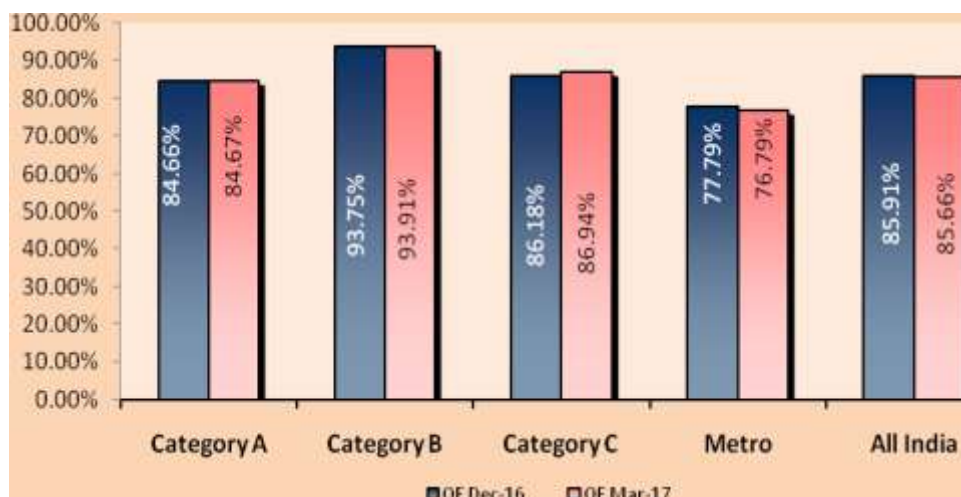
2.18 The following chart depicts % break-up of outgoing minutes from home service area (HSA).

**Chart 2.7: % Break-up of Outgoing Minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Mar-17**



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 85.91% in QE Dec-16 to 85.66% in QE Mar-17.

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 Mar-17**

(₹per month)

Circle category	Postpaid	Prepaid	Blended ARPU
Circle A	603	71	153
Circle B	403	58	86
Circle C	535	64	127
Metro	528	59	165
<b>All India</b>	<b>527</b>	<b>62</b>	<b>131</b>

2.22 The All India blended Average Revenue Per User (ARPU) per month has shown a decline of 7.13% from ₹141 in QE Dec-16 to ₹131 in QE Mar-17.

2.23 ARPU for Prepaid service declined from ₹68 in QE Dec-16 to ₹62 in QE Mar-17. ARPU for Postpaid service also declined from ₹593 in QE Dec-16 to ₹527 in QE Mar-17.

**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
<b>1</b>	<b>Usage from Home Service Area</b>		
1.1	Rental Revenue	19.85	15.13
1.2	Revenue from Calls	27.90	21.26
1.3	Revenue from SMS#	0.44	0.34
1.4	Revenue from data usage	74.99	57.14
1.5	Revenue from other VAS	1.46	1.12
1.6	Other Revenue#	5.29	4.03
<b>2</b>	<b>Usage Outside Home Service Area</b>		
2.1	Revenue from Out-roamers	1.30	0.99
<b>3</b>	<b>Total Revenue from Subscribers (1+2)</b>	<b>131.23</b>	<b>100</b>
<b>4</b>	<b>Net inter-operator settlement charges receivable*</b>	<b>0.10</b>	
<b>5</b>	<b>Net Revenue (ARPU) (3+4)</b>	<b>131.33</b>	

\* Includes Interconnect Usage Charges and roaming settlement charges

2.24 Revenue from data usage per subscriber per month (for usage from HSA) declined from ₹82.46 in QE Dec-16 to ₹74.99 in QE Mar-17.

2.25 The total MOUs per subscriber per month declined by 2.35%, from 255 in QE Dec-16 to 249 in QE Mar-17. Outgoing MOUs declined from 129 in QE Dec-16 to 112 in QE Mar-17, however incoming MOUs increased from 127 in QE Dec-16 to 137 in QE Mar-17.

2.26 Prepaid MOUs per subscriber per month declined from 261 in QE Dec-16 to 257 in QE Mar-17, and postpaid MOUs per subscriber per month also declined from 218 in QE Dec-16 to 199 in QE Mar-17.

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

<b>MOU per subscriber per month</b>									
<b>Circle category</b>	<b>Postpaid</b>			<b>Prepaid</b>			<b>Blended</b>		
	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU	Outgoing MOU	Incoming MOU	Total MOU
Circle A	75	49	<b>124</b>	88	118	<b>206</b>	86	108	<b>194</b>
Circle B	149	79	<b>228</b>	125	161	<b>286</b>	129	157	<b>286</b>
Circle C	182	105	<b>287</b>	104	181	<b>284</b>	114	171	<b>285</b>
Metro	129	101	<b>230</b>	115	150	<b>265</b>	118	139	<b>257</b>
<b>All India</b>	<b>118</b>	<b>81</b>	<b>199</b>	<b>111</b>	<b>146</b>	<b>257</b>	<b>112</b>	<b>137</b>	<b>249</b>

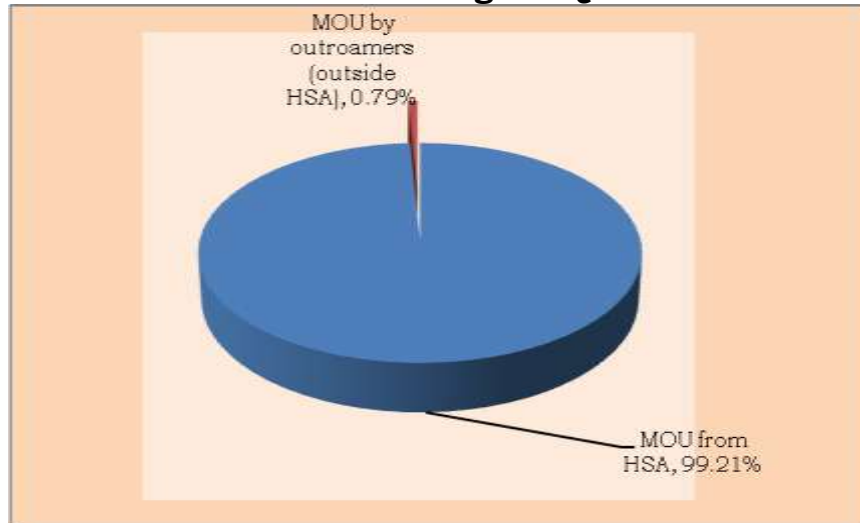
*Note: MOU indicate total usage i.e. usage from and outside HSA*

**Table 2.13 : Outgoing SMS per subscriber per month in QE Mar-17 – CDMA Full Mobility Service**

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

*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 Mar-17**

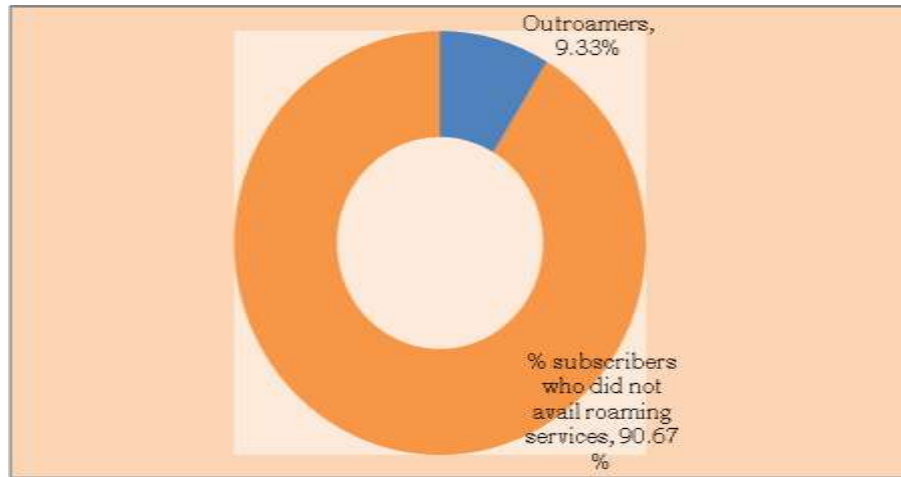


**Table 2.14: %Break-up of Outgoing minutes from Home Service Area (HSA) - CDMA Full Mobility Service in QE Mar-17**

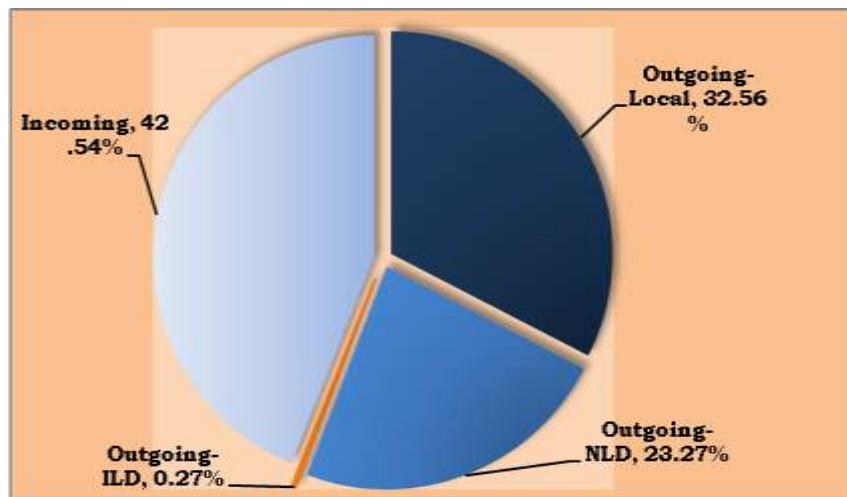
Circle	Intra Circle To Wireline (%)	Intra Circle to Own Wireless (%)	Intra Circle to Other Wireless (%)	Inter Circle to Wireline (%)	Inter Circle to Own Wireless(%)	Inter Circle to Other Wireless (%)	ILD (%)
<b>Circle A</b>	1.13	44.99	50.02	0.82	0.30	2.72	0.02
<b>Circle B</b>	0.37	39.60	54.28	0.49	0.50	4.64	0.11
<b>Circle C</b>	0.42	36.69	51.74	0.83	1.06	9.24	0.02
<b>Metro</b>	1.22	32.31	41.26	0.83	4.23	20.08	0.08
<b>All India</b>	0.82	38.35	49.03	0.68	1.69	9.36	0.08

2.27 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 Mar-17**



**Chart 2.11: Percentage breakup of minutes of usage of Out-roamers (usage from outside the Home Service Area) in QE Mar-17**



**Table 2.15: Average subscriber outgo per outgoing minute from HSA\* for CDMA Full Mobility Service in QE Mar-17**

[ ` Per min]

Circle Category	Postpaid	Prepaid	Blended
Circle A	1.32	0.39	0.52
Circle B	0.63	0.27	0.30
Circle C	1.15	0.40	0.56
Metros	1.00	0.36	0.52
<b>All India</b>	<b>0.98</b>	<b>0.33</b>	<b>0.43</b>



\*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	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17
<b>1. ARPU (₹ Per month)</b>	104	99	154	141	131
<b>2. Average revenue from data usage per subscriber per month (in ₹)</b>	51	49	91	82	75
<b>3. MOU per subscriber per month</b>	260	228	269	255	249
<b>4. Outgoing MOU per subscriber per month</b>	150	130	145	129	112
<b>5. No. of Outgoing SMS per subscriber per month</b>	7.61	6.85	3.21	2.89	2.66
<b>6. Average subscriber Outgo per outgoing minute from HSA (₹)</b>	0.38	0.39	0.40	0.41	0.43

2.28 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 Mar-16 (₹ in Crore)	QE Dec-16 (₹ in Crore)	QE Mar-17 (₹ in Crore)	Q-O-Q % Change	Y-O-Y % Change
Gross Revenue (GR)	68,335	66,532	63,315	-4.84	-7.35
Adjusted Gross Revenue (AGR)	48,379	45,905	40,831	-11.05	-15.60
Pass Through Charges (GR-AGR)	19,956	20,627	22,484	9.00	12.66
License Fee	3,872	3,698	3,361	-9.09	-13.19
Spectrum Usage Charges	1,918	1,639	1,372	-16.31	-28.49

3.1 Gross Revenue (GR) quarterly declined by 4.84% in QE Mar-17, and on annual basis, it has declined by 7.35%. Adjusted Gross Revenue (AGR) quarterly declined by 11.05% in the QE Mar-17.

3.2 Pass through charges increased by 9.00% in the QE Mar-17 and on annual basis it increased by 12.66%.

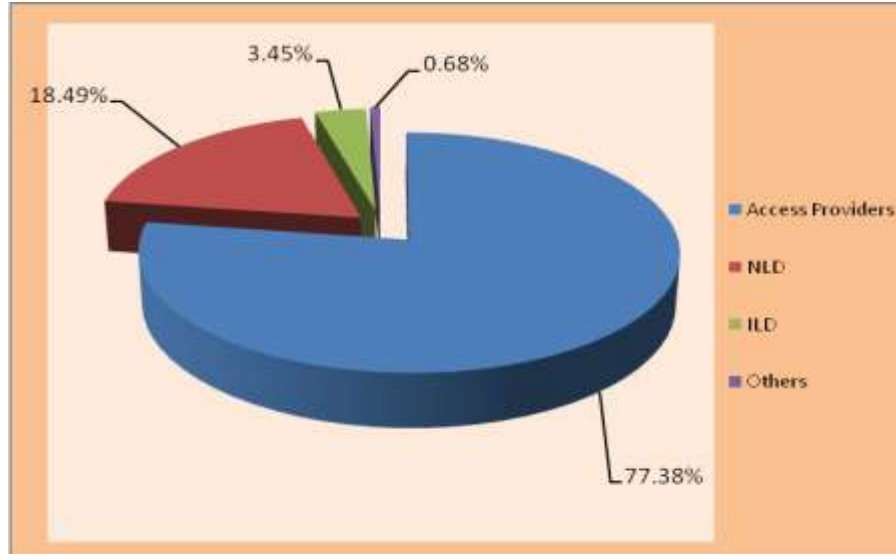
3.3 Pass-through charges as a percentage of Gross Revenue are 30.54% in QE Mar-17 as against 30.00% in the previous quarter.

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

(in ₹ Crore)

Service	GR	AGR	LF	Spectrum Usage Charges
<b>Access Providers</b>	45,490	31,595	2,626	1368
<b>NLD</b>	9,902	7,548	604	-
<b>ILD</b>	3,748	1,410	112	-
<b>Others</b>	4,176	278	20	4
<b>Total</b>	<b>63,315</b>	<b>40,831</b>	<b>3,361</b>	<b>1372</b>

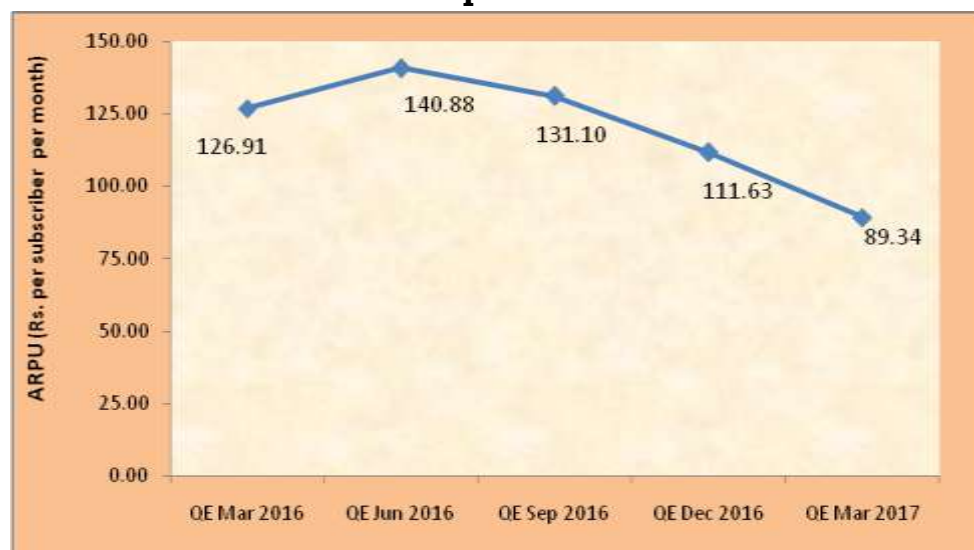
**Chart 3.1: Composition of Adjusted Gross Revenue**



3.4 Access services contributed 77.38% 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 7.92%, 15.26%, 12.77% and 16.33% respectively however, Pass Through Charges increased by 14.65% in QE Mar-17.

3.5 Monthly Average Revenue per User (ARPU) for Access Services based on AGR declined from ₹111.63 in QE Dec-16 to ₹89.34 in QE Mar-17.

**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 Mar-17	QE Dec-16	% Change
Bharti	10361.88	11495.66	-9.86
Vodafone	7258.13	8304.49	-12.60
Idea	6401.13	6957.95	-8.00
BSNL	3318.71	3146.11	5.49
Tata	1877.35	2209.38	-15.03
Aircel	1360.75	2846.89	-52.20
Reliance Com.	733.01	967.70	-24.25
Telenor	650.77	703.76	-7.53
MTNL	650.09	755.27	-13.93
Sistema Shyam	157.53	199.66	-21.10
Quadrant	4.19	33.50	-87.49
Reliance Jio	-1178.61	-336.65	250.10
<b>Grand Total (Access)</b>	<b>31594.91</b>	<b>37283.71</b>	<b>-15.26</b>

3.6 Public Sector Undertakings' share in the Access AGR of telecom services is 12.56% in the QE Mar-17.

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

Category	AGR of Access Services for QE Mar-17 (in ₹ crore)	%age share of AGR
Metro	4318.63	13.67
A	12545.42	39.71
B	10961.01	34.69
C	3769.85	11.93
<b>Total</b>	<b>31594.91</b>	<b>100</b>

**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			
			Quarter Ending, December, 2016		Quarter Ending, March, 2017	
			Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)
<b>I.</b>	<b>Network Related Parameters</b>					
<b>1</b>	<b>Network Availability</b>					
(i)	BTSs Accumulated downtime (not available for service)	≤ 2%	2	1.23%	1	0.61%
(ii)	Worst affected BTSs due to downtime	≤ 2%	7	4.29%	3	1.84%
<b>2</b>	<b>Connection Establishment (Accessibility)</b>					
(i)	Call Set-up Success Rate (within licensee's own network)	≥ 95%	2	1.23%	2	1.23%
(ii)	SDCCH/ Paging Chl. Congestion	≤ 1%	0	0	0	0
(iii)	TCH Congestion	≤ 2%	3	1.84%	3	1.84%
<b>3</b>	<b>Connection Maintenance (Retain ability)</b>					
(i)	Call Drop Rate	≤ 2%	0	0	0	0
(ii)	Worst affected cells having more than 3% TCH drop (call drop) rate	≤ 3%	16	9.82%	14	8.59%
(iii)	Connection with good voice quality	≥ 95%	2	1.23%	3	1.84%
<b>4</b>	<b>Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter)</b>	≤ 0.5%	22	13.50%	7	4.29%

S. No.	Parameters	Bench mark	No. of CMTS Licensees not Meeting the Benchmarks			
			Quarter Ending, December, 2016		Quarter Ending, March, 2017	
			Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)	Out Of 163 for Network and Out of 168 for Customer (Nos.)	Out Of 163 for Network and Out of 168 for Customer (%)
<b>II.</b>	<b>Customer Service Quality Parameters</b>					
<b>5</b>	<b>Metering and Billing</b>					
(i)	Metering and billing credibility - post paid	≤ 0.1%	1	0.60%	2	1.19%
(ii)	Metering and billing credibility - pre paid	≤ 0.1%	7	4.17%	4	2.38%
(iii)	Resolution of billing/charging/ validity complaints	98% within 4 weeks	0	0	0	0
		100% within 6 weeks	0	0	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
<b>6</b>	<b>Response time to the customer for assistance</b>					
(i)	Accessibility of call centre/ customer care	≥ 95%	1	0.60%	4	2.38%
(ii)	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	21	12.50%	29	17.26%
<b>7</b>	<b>Termination / closure of service</b>					
(i)	%age requests for Termination / Closure of service complied within 7 days	100% within 7 days	4	2.38%	8	4.76%
(ii)	Time taken for refund of deposits after closures	100% within 60 days	29	17.26%	23	13.69%



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

- a. BTSs Accumulated downtime (not available for service)
- b. Worst affected BTSs due to downtime
- c. Worst affected cells having more than 3% TCH drop (call drop rate)
- d. Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark)
- e. Metering and billing credibility - pre paid
- f. Time taken for refund of deposits after closures

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

- a. Connection with good voice quality
- b. Metering and billing credibility - post paid
- c. Accessibility of call centre/ customer care
- d. %age of calls answered by the operators (voice to voice) within 90 sec
- e. %age requests for Termination / Closure of service complied within 7 days

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

Parameter	Benchmark	Service Provider	Service Area	Performance
BTSs Accumulated downtime (not available for service) (%age)	≤ 2%	Aircel	North East	4.47
Worst affected BTSs due to downtime (%age)	≤ 2%	Aircel	Assam	7.30
			Jammu & Kashmir	5.55
			North East	28.47
Call Set-up Success Rate (within licensee's own network)	≥ 95%	Aircel	Assam	90.60
		QTL	Punjab	65.87
TCH Congestion (%age)	≤ 2%	Aircel	Assam	6.79
			Bihar	4.46
		Vodafone	UP-East	2.19
Worst affected cells having more than 3% TCH drop (call drop) rate (%age)	≤ 3%	Aircel	Assam	13.66
			Bihar	8.76
			Delhi	4.13
			Himachal Pradesh	8.58
			Jammu & Kashmir	8.80
			Kerala	3.63
			Mumbai	3.95
			North East	14.23
			Orissa	4.45
			Tamil Nadu	4.05
		West Bengal	8.14	
		BSNL	West Bengal	13.13
		Telenor	UP-East	3.29
Vodafone	Madhya Pradesh	3.25		
Connection with good voice quality	≥ 95%	Aircel	Assam	92.43
			North East	93.79
		QTL	Punjab	64.77
Point of Interconnection (POI) Congestion (No. of POIs not meeting the benchmark) (Averaged over a period of quarter )	≤ 0.5%	Aircel	Tamil Nadu	1
		BSNL	Gujarat	1
		Telenor	Andhra Pradesh	1
			Bihar	2
			Gujarat	1
			Maharashtra	1
UP-East	1			
Metering and billing credibility - post paid	≤ 0.1%	IDEA	Delhi	0.14
			Haryana	0.18

Parameter	Benchmark	Service Provider	Service Area	Performance
Metering and billing credibility - pre paid	≤ 0.1%	AIRTEL	Punjab	0.14
			TamilNadu + Chennai	0.11
	≤ 0.1%	Vodafone	UP-West	0.21
			Kolkata	0.13
Accessibility of call centre/ customer care	≥ 95%	Aircel	Bihar	93.96
			Delhi	82.74
			Karnataka	91.05
		AIRTEL	Jammu & Kashmir	91.63
Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	Aircel	Assam	94.01
			Delhi	86.92
			Kerala	92.03
			Kolkata	92.03
		AIRTEL	Andhra Pradesh	94.85
			Assam	78.47
			Bihar	86.14
			Delhi	89.17
			Gujarat	92.47
			Jammu & Kashmir	81.66
			Karnataka	91.95
			Kerala	89.28
			Kolkata	88.96
			Maharashtra	94.91
			Mumbai	88.26
			North East	83.96
		TamilNadu + Chennai	91.83	
		UP-East	94.56	
		West Bengal	85.26	
		RCOM GSM	Jammu & Kashmir	87.93
			TamilNadu + Chennai	94.42
		RTL	Kolkata	94.59
		TTSL GSM	Andhra Pradesh	93.91
Vodafone	Delhi	86.59		
	Karnataka	88.57		
	Mumbai	86.88		
	Rajasthan	92.06		

Parameter	Benchmark	Service Provider	Service Area	Performance
%age requests for Termination / Closure of service complied within 7 days	100% within 7 days		Tamilnadu	94.90
			UP-East	93.92
		Aircel	Assam	99.74
			Jammu & Kashmir	99.44
			North East	90.38
		IDEA	Delhi	99.95
			Gujarat	99.98
			Haryana	99.97
			Kolkata	99.97
		MTNL	Mumbai	95.47
Time taken for refund of deposits after closures	100% within 60 days	IDEA	Delhi	98.59
			Gujarat	99.98
		RCOM GSM	Andhra Pradesh	69.27
			Delhi	65.71
			Gujarat	72.90
			Haryana	61.83
			Jammu & Kashmir	52.77
			Karnataka	61.54
			Kerala	62.01
			Maharashtra	66.52
			Mumbai	68.77
			Punjab	62.44
			Rajasthan	69.16
			TamilNadu + Chennai	67.15
			UP-East	68.68
		UP-West	75.68	
		RTL	Assam	47.75
			Bihar	60.87
			Himachal Pradesh	45.57
			Kolkata	68.90
Madhya Pradesh	57.76			
Orissa	40.19			
West Bengal	73.94			

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			
				Quarter Ending, December 2016		Quarter Ending, March 2017	
				Out Of 107 (Nos.)	Out of 107 (in %)	Out Of 108 (Nos.)	Out of 108 (in %)
1	<b>Network Availability</b>	BTSs and Node-B's Accumulated downtime (not available for service) (%age)	≤ 2%	1	0.93%	1	0.93%
		Worst affected BTSs and Node-B's due to downtime (%age)	≤ 2%	6	5.61%	3	2.78%
2	<b>Connection Establishment (Accessibility)</b>	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	<b>Connection Maintenance (Retainability)</b>	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%	10	9.35%	10	9.26%
		Connections with good voice quality and Circuit Switch Voice Quality (CSV quality)	≥ 95%	0	0.00%	0	0.00%
4	<b>Point of Interconnection</b>	Point of Interconnection (POI) Congestion	≤ 0.5%	2	1.87%	2	1.85%

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

- a. Worst Affected BTSs and Node-B's due to downtime (%age)

**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	3.32
Worst affected Node B's due to downtime (%age)	$\leq 2\%$	Aircel	Assam	8.61
			Jammu & Kashmir	5.14
			North East	23.46
Worst affected cells having more than 3% Circuit Switched Voice Drop Rate	$\leq 3\%$	Aircel	Assam	4.62
			Bihar	5.49
			Jammu & Kashmir	9.96
			Karnataka	3.62
			North East	12.52
			Orissa	5.28
			Punjab	3.78
			Tamil Nadu	6.80
		West Bengal	3.35	
		BSNL	West Bengal	7.42
Point of Interconnection (POI) Congestion	$\leq 0.5\%$	Aircel	Tamil Nadu	1
		BSNL	Gujarat	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 December, 2016		Q E March, 2017	
			Out of 102 In Nos.	Out of 102 In %age	Out of 103 In Nos.	Out of 103 In %age
(i)	Fault incidences per 100 subs/month	≤ 7	0	0%	0	0%
(ii)	% Fault repaired by next working day for urban areas	≥ 85%	1	1%	0	0%
	% Fault repaired within 5 days (for urban areas)	≥100%	6	6%	11	11%
(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	9	9%	8	8%
(v)	Point of Interconnection (POI) Congestion (No. of PolS not meeting benchmark)	≤ 0.5%	0	0%	0	0%
(vi)	Metering and Billing credibility - post-paid	≤ 0.1%	1	1%	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%
(ix)	Accessibility of call centre/customer care	≥ 95%	0	0%	1	1%
	%age of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	9	9%	3	3%
(x)	Termination / closure of service	100% within 7 days	1	1%	3	3%
(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” due to 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 repaired by next working day for urban areas
- b. Mean Time to Repaired (MTTR)
- c. %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. Response time to the customer for Assistance-Accessibility of call centre/Customer care.
- c. 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 5 days ( <i>for urban areas</i> )	≥100%	MTNL	DEL	98.61%
			MUM	99.76%
		Tata	AP	99.55%
			DL	98.55%
			GJ	99.60%
			HR	97.96%
			KA	99.26%
			KL	99.11%
			MUM	99.69%
			MH	99.64%
			TN	99.80%
Mean Time to Repair(MTTR)	≤ 10 Hrs	Tata	AP	11.77
			DL	17.48
			GJ	11.13
			KA	18.62
			KL	20.59
			MUM	12.81
			MH	13.74
			TN	11.37
Metering and billing credibility – Post paid	≤ 0.1%	Bharti Airtel Ltd	TN	0.20%
Response time to the customer for assistance- Accessibility of call centre/customer care	≥ 95%	BSNL	PB	91.66%
Response time to the customer for assistance - Percentage of calls answered by the operators (voice to voice) within 90 seconds	≥ 95%	TATA	AP	90.14%
			Mum	86.45%
			MH	86.61%
Termination/Closure of service	100% within 7 days	MTNL	MUM	99.66%
		TATA	KA	86.35%
			MH	99.45%

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 132 Service Providers (SPs) providing broadband (wireline) service at the end of March, 2017. Out of these SPs, 44 Service Providers are having broadband subscriber base >10,000 and market share of these 44 SPs is 99.02% 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 March, 2017.

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

S.No.	Parameter	Benchmark	No. of Licensees not meeting the Benchmarks			
			Quarter Ending December, 2016		Quarter Ending March, 2017	
			Out of 62 (No.)	Out of 62 (%)	Out of 62 (No.)	Out of 62 (%)
<b>1</b>	<b>Service Provisioning</b>	100% in =<15 working days				
1.2	%age of connections provided within 15 days of registration of demand	100%	2	<b>3.23%</b>	2	<b>2.90%</b>
<b>2</b>	<b>Faults Repair</b>					
2.2	% of faults repaired by next working day (>90%)	>90%	3	<b>4.84%</b>	4	<b>5.80%</b>
2.3	% of faults repaired within 3 working day	=>99%	4	<b>6.45%</b>	4	<b>5.80%</b>
<b>3</b>	<b>Billing Performance</b>					
3.3	%age of bills disputed	<2%	1	<b>1.61%</b>	0	<b>0.00%</b>
3.4	%age of billing complaints resolved within 4 weeks	100% within 4 weeks	0	<b>0.00%</b>	0	<b>0.00%</b>
3.5	%age of cases to whom refund of deposits is made within 60 days of closures	100% within 60 days	0	<b>0.00%</b>	0	<b>0.00%</b>

S.No.	Parameter	Benchmark	No. of Licensees not meeting the Benchmarks			
			Quarter Ending December, 2016		Quarter Ending March, 2017	
			Out of 62 (No.)	Out of 62 (%)	Out of 62 (No.)	Out of 62 (%)
<b>4</b>	<b>Response Time to the Customer for assistance</b>					
4.2	%age of calls answered by operator (Voice to voice) within 60 sec	>60%	1	<b>1.61%</b>	0	<b>0.00%</b>
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	2	<b>3.23%</b>	1	<b>1.45%</b>
<b>5</b>	<b>Bandwidth utilisation/ throughput</b>					
5.2	No. of Intra network links having Bandwidth utilisation >90% during peak hours (TCBH)	0	0	<b>0.00%</b>	0	<b>0.00%</b>
5.4	No. of Upstream links for International connectivity having bandwidth utilisation >90% during peak hours (TCBH)	0	0	<b>0.00%</b>	0	<b>0.00%</b>
5.7	% International bandwidth utilization during peak hours (TCBH) (Enclose MRTG) <90%	<90%	0	<b>0.00%</b>	0	<b>0.00%</b>
5.8	Broadband Connection Speed available (download) from ISP node to user	>80%	0	<b>0.00%</b>	0	<b>0.00%</b>
<b>6</b>	<b>Service availability / uptime (for all users) in %age</b>					
6.3	Service availability /uptime (for all users) in %age	>98%	1	<b>1.61%</b>	0	<b>0.00%</b>
<b>7</b>	<b>Packet loss (for wired broadband access) in %age</b>					
<b>8</b>	<b>Network latency (for wired broadband access)</b>					
8.1	User reference point at POP/ISP Gateway node to IGSP/NIXI	<120 ms	0	<b>0.00%</b>	0	<b>0.00%</b>
8.2	User reference point at ISP Gateway node to International nearest NAP port abroad (terrestrial)	<350 ms	0	<b>0.00%</b>	0	<b>0.00%</b>
8.3	User reference point at ISP Gateway node to International nearest NAP port abroad (satellite)	<800 ms	0	<b>0.00%</b>	0	<b>0.00%</b>

**Note:** M/s IKF Technologies Ltd. (New entrants) has not submitted PMR for the quarter ending March, 2017.

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

<b>Sl. No.</b>	<b>Parameters</b>	<b>Benchmark</b>	<b>Name of the Service Provider not meeting the Benchmark</b>
<b>1</b>	<b>Service Provisioning</b>		
1.2	%age of connections provided within 15 days of registration of demand	100%	<b>Yashash Cable</b> - Karnataka (99.56%), <b>You Broadband</b> - All India (99.87%)
<b>2</b>	<b>Faults Repair</b>		
2.2	% of faults repaired by next working day (>90%)	>90%	<b>MTNL</b> - Delhi & Mumbai (84.63%), <b>Atria Convergence</b> - All India (84.10%) <b>TATA (TTML)</b> -Maharashtra & Goa (88.00%) <b>TATA (TTSL)</b> -All India (Pan India) (88.99%)
2.3	% of faults repaired within 3 working day	=>99%	<b>MTNL</b> - Delhi & Mumbai (94.01%), <b>Atria Convergence</b> - All India (98.33%) <b>TATA (TTML)</b> -Maharashtra & Goa (97.41%) <b>TATA (TTSL)</b> -All India (Pan India) (97.42%)
<b>4</b>	<b>Response Time to the Customer for assistance</b>		
4.3	%age of calls answered by operator (Voice to voice) within 90 sec	>80%	<b>TATA (TCL)</b> - All India - (78.00%)

**Note:** M/s IKF Technologies Ltd. (New entrants) has not submitted PMR for the quarter ending March, 2017.

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 Dec-16	QE Mar-17
1	Number of Private satellite TV channels permitted by the Ministry of I&B for uplinking only/ downlinking / uplinking	899	888
2	Number of Pay TV Channels	287	295
3	Private FM Radio stations in operation	273	293
4	Private DTH Operators	6	6
5	Number of Active DTH Subscribers	62.65 Million	63.61 Million
6	No. of community radio stations licenced (GOPA signed)	255	268
7	Operational community radio stations	201	206

**A. Satellite TV Channels**

5.1 A total of 888 private satellite TV channels have been permitted by the Ministry of Information and Broadcasting (MIB) for uplinking only/ downlinking / uplinking, as on 31<sup>st</sup> March, 2017.

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



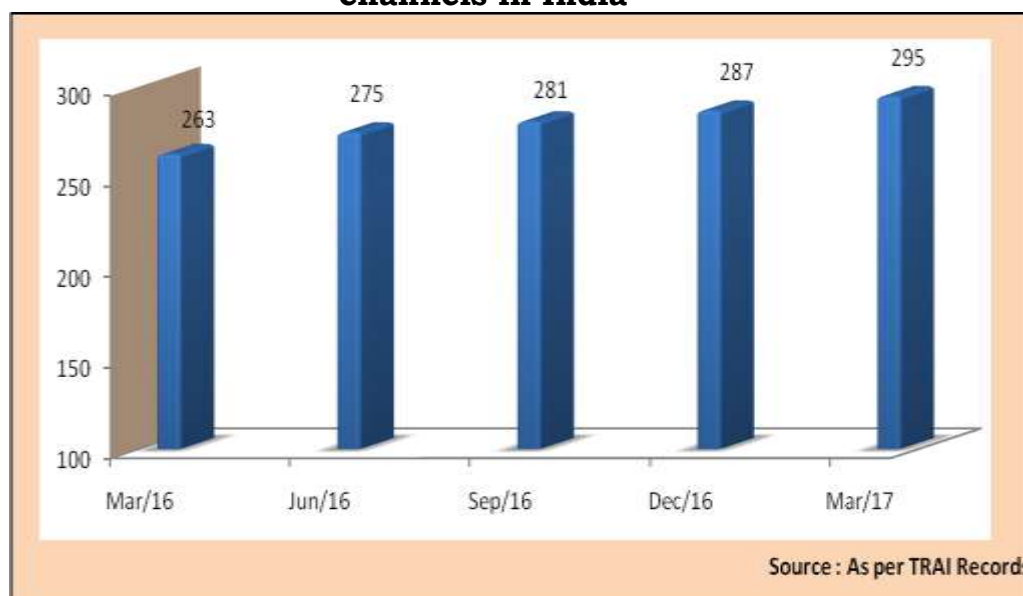
## B. Pay TV Channels

5.2 During the quarter ending March, 2017, there were 295 pay channels as reported by 48 broadcasters as compared to 287 pay channels reported in the previous quarter. 295 pay channels include 212 SD pay TV channels and 83 HD Pay TV channels. The list of Pay TV Channels is placed at **Annexure-5.1**.

5.3 During the quarter ending March 2017, as per the reporting, Nine new pay channels were commenced. No pay channel was converted into FTA & one channel namely “Zee Q” was reported to be discontinued. The details are as under:-

S.No	Name of the Broadcaster	Channel's name
1	Sony Networks Pictures India Pvt Limited	Sony Rox HD
2	M/s Celebrities Management Private Limited	Travel XP Tamil
3	M/s Discovery Communications India	DSPORTS
4	M/s MSM World Wide Factual Media Pvt Limited	Sony BBC Earth HD
5	M/s Viacom 18 Media Private Limited	Cineplex HD
6	M/s Viacom 18 Media Private Limited	VH 1
7	M/s Viacom 18 Media Private Limited	Comedy Central
8	M/s Star India Private Limited	MAA Movies HD
9	M/s MSM World Wide Factual Media Pvt Limited	Sony BBC Earth

**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 31<sup>st</sup> March 2017 in view 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 31<sup>st</sup> 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**

<b>Phase</b>	<b>Areas</b>	<b>Sunset date for analog Cable TV</b>
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)**

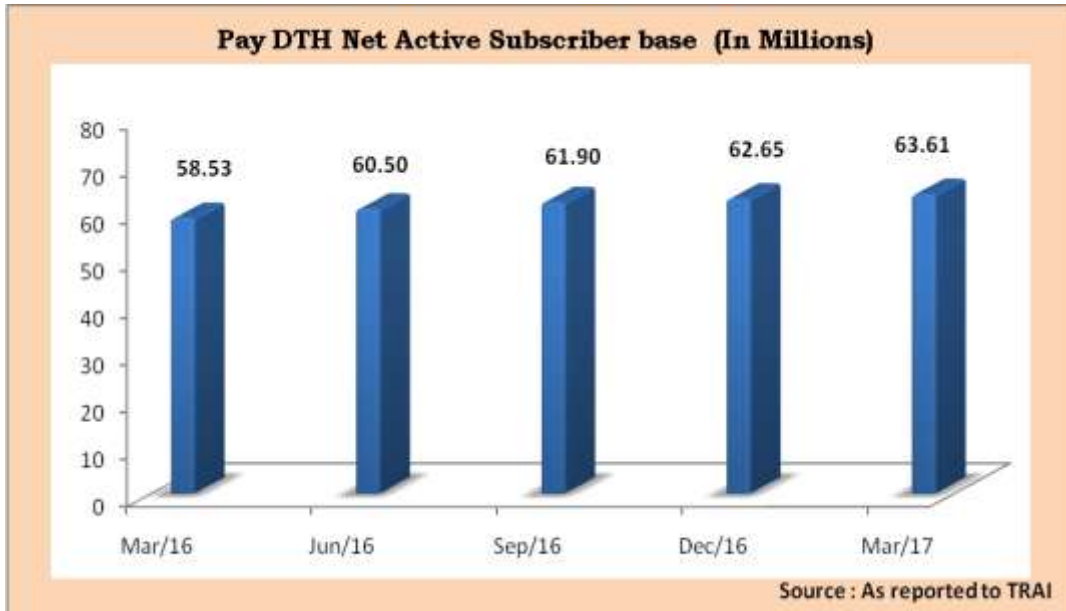
<b>Particulars</b>	<b>MSO</b>	<b>Number</b>
Maximum number of TV channels <b>(FTA+Pay+Local)</b> carried	Siti Cable Network Limited	<b>409</b>
Minimum of TV channels <b>(FTA+Pay+Local)</b> carried	Digicable Network India Pvt. Limited	<b>260</b>
Maximum number of <b>FTA</b> channels carried	M/s Indian Cable Net Company Limited	<b>180</b>
Maximum number of <b>Pay</b> channels carried	M/s GTPL Kolkata Cable & Broadband Pariseva Limited	<b>239</b>
Maximum number of <b>Local</b> channels carried	M/s Fastway Transmission Pvt Ltd and Hathway Sukhamrit Cable & Datacom Pvt Ltd	<b>90</b>

**D. Direct-to-Home (DTH) Sector**

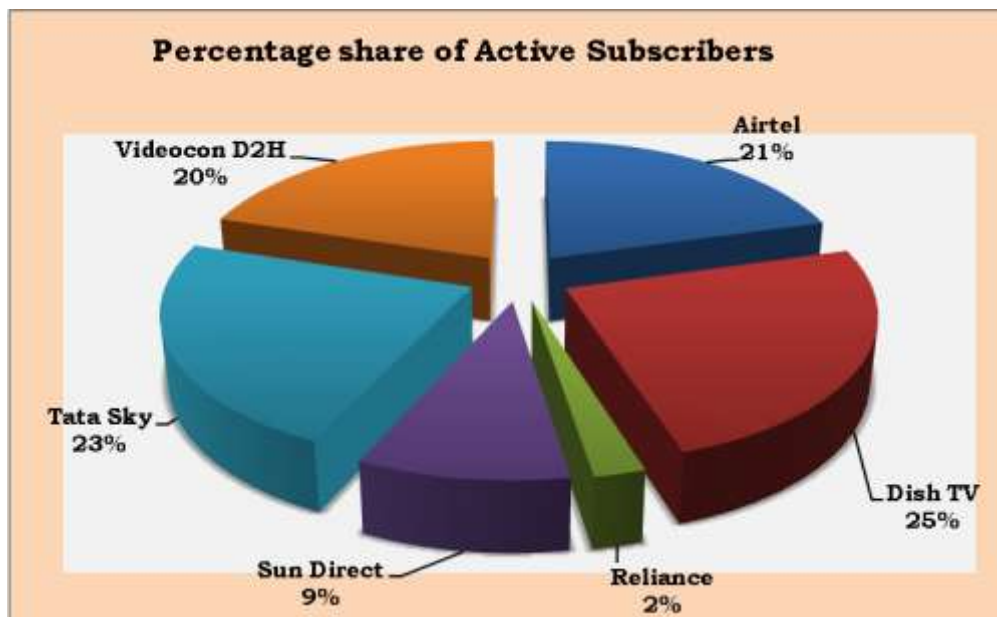
5.8 Since its introduction in the year 2003, Indian DTH service has displayed a phenomenal growth. DTH has attained net pay active subscriber base of around 63.61 million.

5.9 As on March 2017, 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 and Market Share of DTH operator in terms of the percentage of net active subscribers during the quarter are depicted in the following charts.

**Chart 5.3 : Quarterly growth in Net Active subscribers of pay DTH**



**Chart 5.4 : Market share of DTH Operators**



5.10 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 31.03.2017 are as under:-

<b>Particulars</b>	<b>DTH Operator</b>	<b>Number</b>
Maximum number of TV channels <b>(FTA+Pay)</b> carried	M/s Tata Sky Ltd	<b>562</b>
Minimum of TV channels <b>(FTA+Pay)</b> carried	M/s Sun Direct Pvt Ltd	<b>257</b>
Maximum number of <b>FTA</b> channels carried	M/s Tata Sky Ltd	<b>256</b>
Maximum number of <b>Pay</b> channels carried	M/s Tata Sky Ltd	<b>306</b>

#### **E. FM Radio Services**

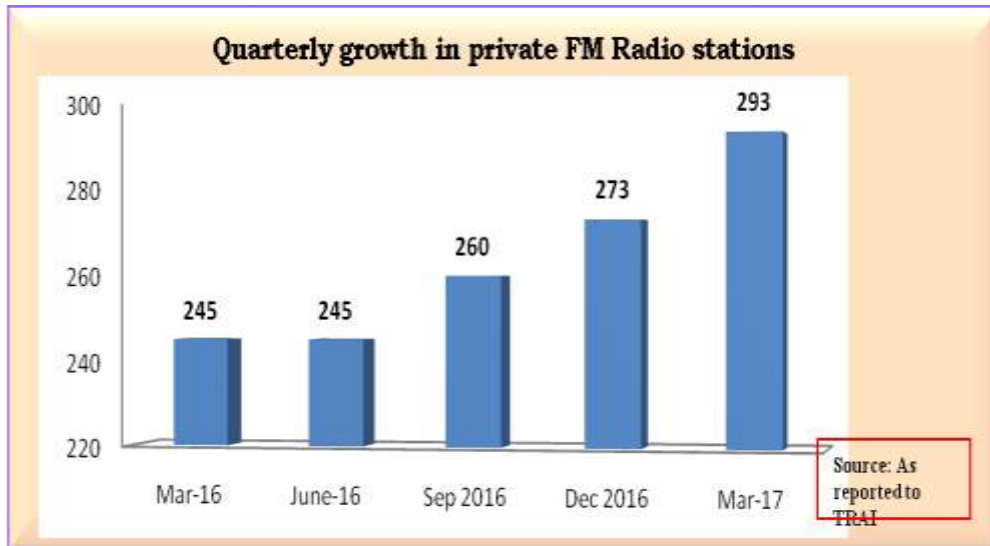
5.11 Apart from the radio Stations operated by All India Radio, Prasar Bharati – a public broadcaster, as on 31<sup>st</sup> March 2017, there are 293 operational private FM Radio stations and 84 existing cities with operational FM radio channels as compared to 273 private FM Radio Stations reported 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 31<sup>st</sup> March 2017, 20 new private FM Radio Stations have become operational. The details are as under:-

<b>S.No</b>	<b>Name of FM Radio Operator</b>	<b>No of stations</b>	<b>Name of the cities</b>
1	<b>D B Corp Limited</b>	<b>6</b>	1) Nasik 2) Jalgoan 3) Solapur 4) Dhule 5) Bikaner 6) Asola
2	<b>South Asia FM Limited</b>	<b>4</b>	1) Amritsar 2) Chandigarh 3) Patna 4) Surat

S.No	Name of FM Radio Operator	No of stations	Name of the cities
3	<b>ENIL</b>	<b>4</b>	1) Kanpur 2) Hyderabad 3) Nagpur 4) Shillong
4	<b>Music Broadcast Limited</b>	<b>6</b>	1) Bikaner 2) Patna 3) Jamshedpur 4) Kohlapur 5) Nasik 6) Madurai
	<b>Total</b>	<b>20</b>	

5.12 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**



5.13 The reported advertisement revenue during the quarter ending Mar-17 in respect of 293 private FM Radio stations is Rs 528.57 crores as against Rs 547.76 crores in respect of 273 private FM Radio stations for the previous quarter. The following chart shows the details of Advertisement Revenue submitted by the FM Radio service providers to TRAI.

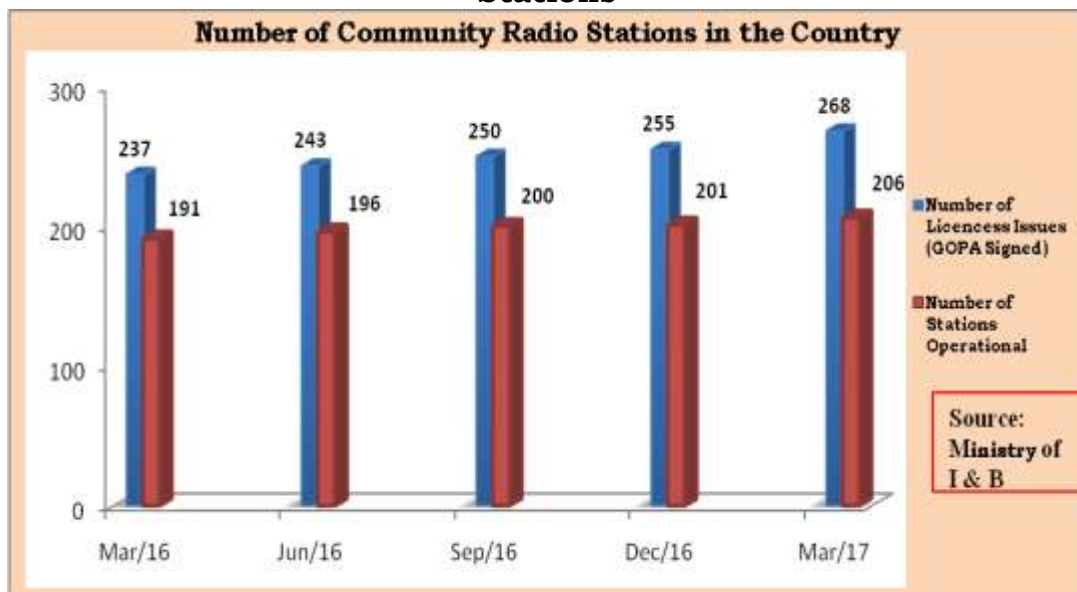
**Chart 5.6 : Comparative position in FM Radio Advertisement Revenue**



**F. Community Radio**

5.14 As on 31<sup>st</sup> March 2017, out of the 268 licenses issued (GOPA Signed) for setting up of CRS, 206 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**

<b>Sl. No.</b>	<b>Items</b>	<b>As on 31.03.2017</b>
1	Total No. of Applications Received	2,050
2	No. of Letters of Intent (LOIs) issued	564
3	No. of Applications rejected	1,110
4	No. of Licenses issued (GOPA signed)	268
5	No. of Stations Operational	206

**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)	
	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17
Andhra Pradesh	7,030,425	6,946,782	25,112,612	25,867,782	17,448,973	17,580,618	2,544,880	2,614,825	3,681,215	3,602,108
Assam	3,920,440	4,024,913	6,281,027	6,444,077	1,293,198	1,349,496	5,663,035	5,825,332	1,358,951	1,126,540
Bihar	9,706,144	9,734,549	30,102,995	30,973,054	12,040,995	12,668,538	7,436,130	7,558,894	3,269,964	3,189,799
Delhi	10,516,019	10,761,078	11,366,485	11,614,979	6,368,028	6,482,774	6,731,212	6,879,107	5,815,374	5,620,041
Gujarat	19,750,344	20,047,643	8,754,131	9,185,830	12,850,449	13,163,074	17,063	17,063	5,925,364	5,442,298
Haryana	5,791,557	6,044,807	3,382,750	3,509,696	5,042,697	5,124,252	3,092	3,092	1,574,039	1,478,879
Himachal Pradesh	745,499	726,409	2,932,704	2,976,955	815,885	812,687	1,119,545	1,122,264	1,580,165	1,539,244
Jammu & Kashmir	980,533	994,663	3,505,002	3,624,527	623,267	694,436	2,867,502	2,992,224	949,459	872,711
Karnataka	7,911,034	7,794,458	22,001,544	22,235,613	9,630,391	9,560,816	3,365,649	3,441,843	5,218,438	5,179,073
Kerala	7,692,872	7,673,404	4,567,433	4,552,674	11,018,971	11,011,621	378,558	370,538	1,492,938	1,359,520
Madhya Pradesh	6,749,495	6,814,499	13,665,329	13,991,614	23,496,338	24,031,263	20,694	20,694	9,370,161	9,217,734
Maharashtra	18,894,289	19,339,105	13,998,508	14,417,511	25,488,200	26,479,754	2,773,255	2,687,942	4,393,692	3,925,525
Mumbai	8,983,030	9,034,825	6,164,308	6,455,214	4,428,983	4,375,655	2,970,326	2,899,449	4,707,876	4,802,481
North East	1,606,835	1,617,039	4,102,960	4,236,796	610,574	638,078	3,384,813	3,280,364	368,596	258,238
Orissa	4,352,964	4,533,783	10,981,096	11,501,033	2,042,172	2,076,079	4,664,702	4,630,846	2,121,470	2,131,457
Punjab	5,260,726	5,457,177	8,408,589	8,910,989	6,609,685	7,062,015	1,151,413	1,134,365	1,712,133	1,680,520
Rajasthan	12,082,927	12,302,399	20,423,230	21,064,107	8,074,084	8,389,292	6,663,523	6,680,710	5,965,928	5,619,973
Tamil Nadu (incl. Chennai)	16,348,225	16,277,638	18,317,695	18,383,677	6,422,898	6,165,269	21,705,386	21,362,720	5,354,554	5,372,873
UP(E)	19,716,657	20,582,425	22,524,622	23,494,355	11,778,588	12,305,494	7,158,862	6,940,970	8,380,772	8,108,789
UP(W)	11,851,566	12,377,044	8,696,883	8,955,315	15,679,475	16,387,742	844,454	871,275	5,466,988	5,448,718
Kolkata	5,589,894	5,722,074	4,909,018	5,026,679	2,541,949	2,642,321	4,314,664	4,411,882	4,318,179	4,086,852
West Bengal	19,205,455	20,256,152	15,653,684	16,225,906	6,212,076	6,367,573	5,096,795	5,153,469	3,518,673	3,438,350
<b>Total</b>	<b>204,686,930</b>	<b>209,062,866</b>	<b>265,852,605</b>	<b>273,648,383</b>	<b>190,517,876</b>	<b>195,368,847</b>	<b>90,875,553</b>	<b>90,899,868</b>	<b>86,544,929</b>	<b>83,501,723</b>



**Annexure 1.1 (contd.)**

Service Area	Tata (GSM)		Tata (CDMA)		BSNL (GSM)		BSNL (CDMA)		MTNL (GSM)	
	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17
Andhra Pradesh	3,499,384	3,293,478	523,849	441,090	9,802,001	9,902,190	18,985	17,214		
Assam	-	-	-	-	1,351,522	1,443,451	66,212	63,788		
Bihar	1,086,671	1,016,577	390,504	320,369	4,024,249	4,003,810	-	-		
Delhi	-	-	1,687,228	1,437,392	-	-	-	-	2,327,549	2,327,203
Gujarat	2,353,051	2,257,898	231,025	214,905	4,284,250	4,811,203	40,649	37,705		
Haryana	2,361,141	2,207,133	287,972	200,740	3,574,496	3,711,636	4,221	3,749		
Himachal Pradesh	30,562	26,353	22,429	18,405	1,979,552	2,147,061	10,586	9,091		
Jammu & Kashmir	-	-	-	-	1,444,470	1,449,322	26,635	24,331		
Karnataka	6,460,007	6,030,974	289,215	207,608	6,827,116	6,976,379	49,189	44,997		
Kerala	1,307,509	1,202,090	85,522	76,175	8,591,605	9,017,410	95,156	89,156		
Madhya Pradesh	4,089,549	3,943,810	326,513	250,683	4,668,613	5,097,114	76,951	72,673		
Maharashtra	4,110,077	3,875,033	1,570,967	1,322,969	6,398,885	6,459,444	46,264	42,287		
Mumbai	2,070,031	2,017,498	688,729	637,436	-	-	-	-	1,298,346	1,300,117
North East	-	-	-	-	1,485,828	1,430,408	162,028	161,903		
Orissa	1,890,510	1,730,758	91,893	83,721	4,773,897	4,996,060	34,039	31,986		
Punjab	2,123,294	2,033,028	360,240	246,373	4,468,872	4,541,692	-	-		
Rajasthan	558,851	499,066	759,014	566,004	5,066,833	5,469,181	59,729	56,017		
Tamil Nadu (incl. Chennai)	3,960,154	3,777,986	140,193	121,993	8,847,625	9,192,867	38,337	35,919		
UP(E)	3,322,481	3,088,558	277,646	185,566	10,496,496	11,155,587	14,388	12,554		
UP(W)	2,724,418	2,580,657	352,016	297,481	5,325,719	5,754,216	-	-		
Kolkata	2,319,592	2,202,255	260,651	243,945	855,426	956,040	703	703		
West Bengal	331,063	307,479	33,835	31,067	1,705,061	1,698,668	71,292	71,741		
<b>Total</b>	<b>44,598,345</b>	<b>42,090,631</b>	<b>8,379,441</b>	<b>6,903,922</b>	<b>95,972,516</b>	<b>100,213,739</b>	<b>815,364</b>	<b>775,814</b>	<b>3,625,895</b>	<b>3,627,320</b>

**Annexure 1.1 (contd.)**

Service Area	Sistema (CDMA)		Quadrant (GSM)		Reliance Jio (LTE)		Telenor (GSM)		Total		Net Additions
	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	
Andhra Pradesh					6,356,061	9,371,987	5,634,582	5,301,805	81,652,967	84,939,879	3,286,912
Assam					979,779	1,532,190			20,914,164	21,809,787	895,623
Bihar					4,060,254	6,005,685	10,138,958	9,091,905	82,256,864	84,563,180	2,306,316
Delhi	699,544	537,482			5,370,396	7,690,965			50,881,835	53,351,021	2,469,186
Gujarat	155,976	132,022			5,593,057	8,055,148	8,424,971	8,473,311	68,380,330	71,838,100	3,457,770
Haryana					1,918,855	2,761,991			23,940,820	25,045,975	1,105,155
Himachal Pradesh					665,843	1,041,359			9,902,770	10,419,828	517,058
Jammu & Kashmir					875,883	1,251,478			11,272,751	11,903,692	630,941
Karnataka	853,274	724,483			4,521,864	6,939,226			67,127,721	69,135,470	2,007,749
Kerala	261,063	234,410			2,414,402	3,576,308			37,906,029	39,163,306	1,257,277
Madhya Pradesh					4,012,836	6,106,473			66,476,479	69,546,557	3,070,078
Maharashtra					4,994,893	7,646,067	8,098,638	7,702,877	90,767,668	93,898,514	3,130,846
Mumbai					3,314,694	5,059,378			34,626,323	36,582,053	1,955,730
North East					571,525	868,295			12,293,159	12,491,121	197,962
Orissa					1,841,478	2,575,408			32,794,221	34,291,131	1,496,910
Punjab			2,999,158	-	3284525	4899284			36,378,635	35,965,443	(413,192)
Rajasthan	1,625,425	1,301,847			3,595,620	5,370,687			64,875,164	67,319,283	2,444,119
Tamil Nadu (incl. Chennai)	555,764	478,051			4,846,319	8,083,805			86,537,150	89,252,798	2,715,648
UP(E)					4,212,075	6,899,354	13,718,269	11,780,109	101,600,856	104,553,761	2,952,905
UP(W)	112,436	96,212			3,697,898	5,764,355	8,454,081	8,143,142	63,205,934	66,676,157	3,470,223
Kolkata	430,489	376,331			2,603,998	3,647,897			28,144,563	29,316,979	1,172,416
West Bengal	1,183,642	1,030,433			2,425,388	3,533,432			55,436,964	58,114,270	2,677,306
<b>Total</b>	<b>5,877,613</b>	<b>4,911,271</b>	<b>2,999,158</b>	<b>-</b>	<b>72,157,643</b>	<b>108,680,772</b>	<b>54,469,499</b>	<b>50,493,149</b>	<b>1,127,373,367</b>	<b>1,170,178,305</b>	<b>42,804,938</b>

## Annexure 1.2: Wireline Subscriber Base

Service Area	Bharti		Reliance		Quadrant		Sistema		Tata		MTNL		BSNL		Vodafone		Total		Net Additions
	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	Dec-16	Mar-17	
Andhra Pradesh	158,654	161,781	75,656	75,535					172,538	172,162			1,215,896	1,216,162	11,250	12,150	1,633,994	1,637,790	3,796
Assam													155,325	153,165	2,100	2,280	157,425	155,445	-1,980
Bihar			6,436	6,497					12,761	12,458			297,401	294,437	1,260	1,590	317,858	314,982	-2,876
Delhi	1,263,413	1,283,061	173,965	172,804					136,059	136,136	1,608,461	1,601,487			27,750	29,190	3,209,648	3,222,678	13,030
Gujarat	76,086	76,409	73,016	72,642					88,015	88,529			1,103,146	1,110,425	7,200	8,149	1,347,463	1,356,154	8,691
Haryana	22,779	22,967	4,043	4,014					36,942	36,462			285,213	282,293			348,977	345,736	-3,241
Himachal Pradesh			4,014	3,924					2,589	2,554			145,415	142,809	30	60	152,048	149,347	-2,701
Jammu & Kashmir													134,171	134,283			134,171	134,283	112
Karnataka	618,389	621,424	155,757	157,088					208,921	212,737			1,216,834	1,229,813	23,190	23,370	2,223,091	2,244,432	21,341
Kerala	57,915	58,304	33,096	32,950					18,723	19,136			2,005,095	1,999,633	1,680	1,680	2,116,509	2,111,703	-4,806
Madhya Pradesh	272,988	273,061	19,755	19,658					16,098	16,330			726,773	714,319	420	420	1,036,034	1,023,788	-12,246
Maharashtra	77,520	79,319	82,090	81,744					282,870	285,516			1,420,475	1,419,352	13,501	13,934	1,876,456	1,879,865	3,409
Mumbai	354,879	357,907	256,548	257,723					529,968	543,237	1,869,600	1,860,887			21,467	22,605	3,032,462	3,042,359	9,897
North East													121,685	120,802	150	180	121,835	120,982	-853
Orissa			3,281	3,281					8,130	8,001			277,579	279,674	1,110	1,200	290,100	292,156	2,056
Punjab	119,526	119,907	20,789	20,637	262,114	262,891			16,402	16,113			602,669	586,185	1,020	1,050	1,022,520	1,006,783	-15,737
Rajasthan	48,496	48,591	19,866	19,737			58,305	56,669	11,796	11,308			610,665	599,739	2,370	2,430	751,498	738,474	-13,024
Tamil Nadu (incl. Chennai)	551,834	554,994	133,968	133,567					109,238	111,249			1,730,644	1,737,302	10,350	10,680	2,536,034	2,547,792	11,758
U.P.(E)	63,942	63,995	34,767	34,703					15,564	14,474			382,226	379,998	1,500	1,470	497,999	494,640	-3,359
U.P.(W)	23,115	23,187	7,127	7,102					9,958	9,545			360,830	355,420	1,080	1,140	402,110	396,394	-5,716
Kolkata	120,571	120,857	69,154	69,051					49,330	50,291			617,718	613,190	5,460	5,550	862,233	858,939	-3,294
West Bengal			2,048	2,018					3,827	3,864			327,936	319,963	60	60	333,871	325,905	-7,966
<b>Total</b>	<b>3,830,107</b>	<b>3,865,764</b>	<b>1,175,376</b>	<b>1,174,675</b>	<b>262,114</b>	<b>262,891</b>	<b>58,305</b>	<b>56,669</b>	<b>1,729,729</b>	<b>1,750,102</b>	<b>3,478,061</b>	<b>3,462,374</b>	<b>13,737,696</b>	<b>13,688,964</b>	<b>132,948</b>	<b>139,188</b>	<b>24,404,336</b>	<b>24,400,627</b>	<b>-3,709</b>

### Annexure 1.3: Service Area and Operator wise details of PCOs

Name of the Circle/Service Area	Service Provider	Number of PCOs as on 31.12.16	Number of PCOs as on 31.03.17	Net PCO increase/decrease as on 31.03.17	Percentage Growth/Decline (%)
Andhra Pradesh (Excluding Telangana)	Bharat Sanchar Nigam Ltd.	20,958	19,959	-999	-4.77
	Bharti Group	181	181	0	0
	Reliance Group	5,595	0	-5,595	-100.00
	Tata Group	5,785	2,390	-3,395	-58.69
Andhra Pradesh (Including Telangana)	Bharat Sanchar Nigam Ltd.	20,958	19,959	-999	-4.77
	Bharti Group	181	181	0	0
	Reliance Group	5,595	0	-5,595	-100.00
	Tata Group	5,785	2,390	-3,395	-58.69
Assam	Bharat Sanchar Nigam Ltd.	7,188	6,321	-867	-12.06
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	1,641	1,641	0	0
	Tata Group	1	2	1	100.00
Jharkhand	Bharat Sanchar Nigam Ltd.	4,429	3,397	-1,032	-23.30
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	6,070	5,038	-1,032	-17.00
	Tata Group	1	2	1	100.00
Delhi	Bharti Group	513	513	0	0
	Mahanagar Telephone Nigam Ltd./MTNL	53,473	52,918	-555	-1.04
	Reliance Group	90	0	-90	-100.00
	Tata Group	2,019	1,763	-256	-12.68
Gujarat	Bharat Sanchar Nigam Ltd.	22,393	21,987	-406	-1.81
	Bharti Group	14	14	0	0
	Reliance Group	523	0	-523	-100.00
	Tata Group	1,360	898	-462	-33.97
Haryana	Bharat Sanchar Nigam Ltd.	2,018	1,952	-66	-3.27
	Bharti Group	170	170	0	0
	Tata Group	41	38	-3	-7.32
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	1,762	1,675	-87	-4.94
	Tata Group	8	5	-3	-37.50
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	2,307	2,223	-84	-3.64

**Annexure 1.3 (Contd.)**

<b>Name of the Circle/Service Area</b>	<b>Service Provider</b>	<b>Number of PCOs as on 31.12.16</b>	<b>Number of PCOs as on 31.03.17</b>	<b>Net PCO increase/decrease as on 31.03.17</b>	<b>Percentage Growth/Decline (%)</b>
Karnataka	Bharat Sanchar Nigam Ltd.	27,000	25,797	-1,203	-4.46
	Bharti Group	4,287	4,287	0	0
	Reliance Group	951	0	-951	-100.00
	Tata Group	983	787	-196	-19.94
Kerala	Bharat Sanchar Nigam Ltd.	20,199	19,679	-520	-2.57
	Bharti Group	512	512	0	0
	Reliance Group	36	0	-36	-100.00
	Tata Group	46	37	-9	-19.57
Kolkata	Bharat Sanchar Nigam Ltd.	5,238	5,124	-114	-2.18
	Bharti Group	26	26	0	0
	Reliance Group	151	0	-151	-100.00
	Tata Group	303	238	-65	-21.45
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	22,760	22,525	-235	-1.03
	Bharti Group	2,309	2,309	0	0
	Reliance Group	104	0	-104	-100.00
	Tata Group	650	601	-49	-7.54
Chhattisgarh	Bharat Sanchar Nigam Ltd.	1,625	1,640	15	0.92
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	24,385	24,165	-220	-0.90
	Bharti Group	2,309	2,309	0	0
	Reliance Group	104	0	-104	-100.00
	Tata Group	650	601	-49	-7.54
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	58,012	51,979	-6,033	-10.40
	Mahanagar Telephone Nigam Ltd.	75,805	0	-75,805	-100.00
	Reliance Group	1,216	0	-1,216	-100.00
	Tata Group	8,858	7,153	-1,705	-19.25
Mumbai	Bharti Group	40	40	0	0
	Mahanagar Telephone Nigam Ltd.	0	75,137	0	0
	Reliance Group	3,380	0	0	0
	Tata Group	4,325	4,066	-259	-5.99

**Annexure 1.3 (Contd.)**

<b>Name of the Circle/Service Area</b>	<b>Service Provider</b>	<b>Number of PCOs as on 31.12.16</b>	<b>Number of PCOs as on 31.03.17</b>	<b>Net PCO increase/decrease as on 31.03.17</b>	<b>Percentage Growth/Decline (%)</b>
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	58,012	51,979	-6,033	-10.40
	Bharti Group	40	40	0	0
	Mahanagar Telephone Nigam Ltd./MTNL	75,805	75,137	-668	-0.88
	Reliance Group	4,596	0	-4,596	-100.00
	Tata Group	13,183	11,219	-1,964	-14.90
Arunachal Pradesh	Bharat Sanchar Nigam Ltd.	1,216	1,149	-67	-5.51
Nagaland	Bharat Sanchar Nigam Ltd.	3,166	2,624	-542	-17.12
Orissa	Bharat Sanchar Nigam Ltd.	2,311	2,255	-56	-2.42
	Tata Group	75	66	-9	-12.00
Punjab	Bharat Sanchar Nigam Ltd.	4,590	4,215	-375	-8.17
	Bharti Group	70	70	0	0
	Quadrant Televentures Ltd.	1,776	1,647	-129	-7.26
	Tata Group	169	143	-26	-15.38
Rajasthan	Bharat Sanchar Nigam Ltd.	8,796	7,844	-952	-10.82
	Bharti Group	210	210	0	0
	Reliance Group	115	0	-115	-100.00
	Sistema Shyam	9,601	9,570	-31	-0.32
	Tata Group	172	175	3	1.74
Tamilnadu (excluding chennai)	Bharat Sanchar Nigam Ltd.	44,282	42,511	-1,771	-4.00
	Bharti Group	6,809	6,809	0	0
	Reliance Group	2,200	0	-2,200	-100.00
	Tata Group	235	154	-81	-34.47
Chennai	Bharat Sanchar Nigam Ltd.	10,892	10,663	-229	-2.10
Tamil Nadu (including Chennai)	Bharat Sanchar Nigam Ltd.	55,174	53,174	-2,000	-3.62
	Bharti Group	6,809	6,809	0	0
	Reliance Group	2,200	0	-2,200	-100.00
	Tata Group	235	154	-81	-34.47

**Annexure 1.3 (Contd.)**

<b>Name of the Circle/Service Area</b>	<b>Service Provider</b>	<b>Number of PCOs as on 31.12.16</b>	<b>Number of PCOs as on 31.03.17</b>	<b>Net PCO increase/decrease as on 31.03.17</b>	<b>Percentage Growth/Decline (%)</b>
Uttar Pradesh- East	Bharat Sanchar Nigam Ltd.	12,726	11,840	-886	-6.96
	Bharti Group	111	111	0	0
	Tata Group	23	17	-6	-26.09
Uttarakhand	Bharat Sanchar Nigam Ltd.	1,471	1,382	-89	-6.05
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	2,927	2,799	-128	-4.37
	Bharti Group	85	85	0	0
	Tata Group	179	142	-37	-20.67
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	4,398	4,181	-217	-4.93
	Bharti Group	85	85	0	0
	Tata Group	179	142	-37	-20.67
West Bengal (excluding Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	5,481	5,377	-104	-1.90
	Tata Group	75	52	-23	-30.67
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	142	142	0	0
West Bengal (including Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	5,623	5,519	-104	-1.85
	Tata Group	75	52	-23	-30.67
<b>Total</b>		<b>491,190</b>	<b>452,036</b>	<b>-39,154</b>	<b>-7.97</b>

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

<b>Name of Circle/Service Area</b>	<b>Service Provider</b>	<b>Number of VPTs as on 31.12.2016</b>	<b>Number of VPTs as on 31.03.2017</b>	<b>Net VPTs increase/ decreased as on 31.03.2017</b>	<b>Percentage Growth/ Decline</b>
Andhra Pradesh (Excluding Telangana)	Bharat Sanchar Nigam Ltd.	10,113	10,113	0	0
Andhra Pradesh (Including Telangana)	Bharat Sanchar Nigam Ltd.	10,113	10,113	0	0
Assam	Bharat Sanchar Nigam Ltd.	2,900	2,900	0	0
Bihar (excluding Jharkhand)	Bharat Sanchar Nigam Ltd.	7,008	7,008	0	0
Jharkhand	Bharat Sanchar Nigam Ltd.	530	530	0	0
Bihar (including Jharkhand)	Bharat Sanchar Nigam Ltd.	7,538	7,538	0	0
Gujarat	Bharat Sanchar Nigam Ltd.	11,628	11,128	-500	-0.04
Haryana	Bharat Sanchar Nigam Ltd.	1,543	1,476	-67	-0.04
Himachal Pradesh	Bharat Sanchar Nigam Ltd.	9,144	9,144	0	0
Jammu & Kashmir	Bharat Sanchar Nigam Ltd.	4,401	4,401	0	0
Karnataka	Bharat Sanchar Nigam Ltd.	8,573	8,435	-138	-0.02
Kerala	Bharat Sanchar Nigam Ltd.	490	469	-21	-0.04
Kolkata	Bharat Sanchar Nigam Ltd.	135	135	0	0
Madhya Pradesh (excluding Chhattisgarh)	Bharat Sanchar Nigam Ltd.	40,818	39,715	-1,103	-0.03
Chhattisgarh	Bharat Sanchar Nigam Ltd.	7,531	7,531	0	0
Madhya Pradesh (including Chhattisgarh)	Bharat Sanchar Nigam Ltd.	48,349	47,246	-1,103	-0.02
Maharashtra & Goa	Bharat Sanchar Nigam Ltd.	27,324	25,507	-1,817	-0.07
	Tata Group	1,282	1,282	0	0
Maharashtra (including Mumbai & Goa)	Bharat Sanchar Nigam Ltd.	27,324	25,507	-1,817	-0.07
	Tata Group	1,282	1,282	0	0



**Annexure 1.4 (contd.)**

<b>Name of Circle/Service Area</b>	<b>Service Provider</b>	<b>Number of VPTs as on 31.12.2016</b>	<b>Number of VPTs as on 31.03.2017</b>	<b>Net VPTs increase/ decreased as on 31.03.2017</b>	<b>Percentage Growth/ Decline</b>
Orissa	Bharat Sanchar Nigam Ltd.	6,205	6,205	0	0
Punjab	Bharat Sanchar Nigam Ltd.	10,406	10,385	-21	-0.00
Rajasthan	Bharat Sanchar Nigam Ltd.	17,949	16,879	-1,070	-0.06
Tamilnadu (excluding chennai)	Bharat Sanchar Nigam Ltd.	12,599	12,053	-546	-0.04
Chennai	Bharat Sanchar Nigam Ltd.	217	178	-39	-0.18
Tamil Nadu (including Chennai)	Bharat Sanchar Nigam Ltd.	12,816	12,231	-585	-0.05
Uttar Pradesh-East	Bharat Sanchar Nigam Ltd.	1,574	1,452	-122	-0.08
Uttarakhand	Bharat Sanchar Nigam Ltd.	3,462	2,462	-1,000	-0.29
Uttar Pradesh - West (excluding Uttarakhand)	Bharat Sanchar Nigam Ltd.	4,748	4,714	-34	-0.01
Uttar Pradesh - West (including Uttarakhand)	Bharat Sanchar Nigam Ltd.	8,210	7,176	-1,034	-0.13
West Bengal (excluding Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	36,958	36,958	0	0
Andaman and Nicobar	Bharat Sanchar Nigam Ltd.	340	340	0	0
West Bengal (including Andaman & Nicobar)	Bharat Sanchar Nigam Ltd.	37,298	37,298	0	0
<b>Total</b>		<b>236,163</b>	<b>229,685</b>	<b>-6,478</b>	<b>-2.74</b>

**Annexure 1.5 : Internet Service Provider(ISP) wise Internet Subscriber base  
as on 31.03.2017**

<b>S.No.</b>	<b>Name of the Service Provider</b>	<b>Narrowband Subscribers</b>	<b>Broadband Subscribers</b>	<b>Total Subscribers</b>
1	Reliance Jio Infocomm Ltd (Infotel Broadband Services Limited)	0	108680772	108680772
2	Bharti Airtel Limited	38272711	49126933	87399644
3	Vodafone	29138055	37722014	66860069
4	Idea Cellular	17549614	24696704	42246318
5	Bharat Sanchar Nigam Ltd.	14081235	21673537	35754772
6	Reliance Communications	14294333	14118163	28412496
7	Aircel	11866451	5861489	17727940
8	Tata	7030280	6280832	13311112
9	Telenor	12805108	107208	12912316
10	Mahanagar Telephone Nigam Ltd.	510247	1523225	2033472
11	Sistema Shyam	14236	1271134	1285370
12	Atria Convergence Technologies Pvt Ltd	0	1165890	1165890
13	You Broadband India Pvt. Ltd.	16528	629342	645870
14	Hathway Cable & Datacom Pvt. Ltd.	15329	579696	595025
15	Tikona	3060	373114	376174
16	GTPL Broadband Pvt. Ltd.	147	236632	236779
17	Quadrant Televentures Ltd.	662	234145	234807
18	D-Vois Broadband Private Limited	0	206420	206420
19	Asianet Satellite Communications Ltd.	0	188814	188814
20	Syscon Infoway Pvt Ltd	26691	153323	180014
21	Alliance Broadband Services Pvt. Ltd.	0	177251	177251
22	Indinet Service Pvt Ltd	0	141879	141879
23	Excitel Broadband Private Limited	0	113872	113872
24	DEN Networks Ltd	6	112303	112309
25	RailTel Corporation of India Ltd.	0	102761	102761
26	Five Network Solution (India) Ltd.	0	75543	75543
27	Ortel Communication Ltd.	0	73087	73087
28	Honesty Net Solutions (I) Pvt Ltd	164	67576	67740
29	Planet E-Shop Holdings India Ltd.	1728	56433	58161
30	R.K. Infratel Limited	2	53606	53608
31	Nextra Teleservices Pvt. Ltd.	0	50726	50726
32	Meghbela Cable & Broadband Servies (P) Ltd	0	43406	43406
33	SITI Broadband Services Pvt. Ltd.	0	42049	42049
34	Wish Net Pvt. Ltd.	0	33602	33602
35	Citycom Networks Pvt. Ltd.	0	33404	33404

**Annexure 1.5 (contd.)**

<b>S.No.</b>	<b>Name of the Service Provider</b>	<b>Narrowband Subscribers</b>	<b>Broadband Subscribers</b>	<b>Total Subscribers</b>
36	Limras Eronet Broadband Service Pvt Ltd	7024	25552	32576
37	Vasai Cable Pvt. Ltd.	0	26190	26190
38	DNA Infotel Pvt Ltd	0	24231	24231
39	Broadband Pacenet (I) Pvt. Ltd.	0	24170	24170
40	Tata Communications Limited	5660	16820	22480
41	Wan and Lan Internet Pvt. Ltd.	743	21281	22024
42	Chandra Net Pvt. Limited	13	21501	21514
43	Rajesh Multi Channel Pvt. Ltd.	185	19347	19532
44	Ishan Netsol Pvt Ltd	16360	2763	19123
45	Apna Telelink Ltd.	0	14458	14458
46	GBPS Networks Pvt. Ltd.	0	14169	14169
47	Quest Consultancy Pvt. Ltd.	0	13828	13828
48	Geocity Network Solutions Pvt. Ltd.	0	13095	13095
49	Home Systems Pvt. Ltd.	0	13013	13013
50	Yashash Cable Network Pvt Ltd	0	12576	12576
51	IKF Technologies Ltd	1332	11058	12390
52	Southern Online Bio Technologies Ltd.	163	11692	11855
53	City Online Services Ltd	0	11752	11752
54	World Phone Internet Services Pvt Ltd	0	11405	11405
55	Kappa Internet Services Pvt Ltd.	0	10720	10720
56	Pioneerelabs	332	9845	10177
57	North East Dataa Network Pvt Ltd.	0	9939	9939
58	SmartLink Broadband Services	0	9821	9821
59	Swiftnet Broadband Pvt Ltd	0	8667	8667
60	Fusionnet Web Services Pvt. Ltd.	0	8479	8479
61	Airgenie Communications Pvt. Ltd.	4228	4228	8456
62	VIVA Communications Pvt Ltd (Mylai Karpagambal Information Systems (P) Ltd)	221	8126	8347
63	Lotus Broadband Pvt Ltd	144	7960	8104
64	Blazenet Ltd.	4069	3874	7943
65	Netplus Broadband Services Pvt. Ltd	0	6183	6183
66	Readylink Internet Services Pvt Ltd	511	5256	5767
67	CJM Consultancy Services Pvt. Ltd.	0	5753	5753
68	Intermedia Cable Communication Pvt Ltd	0	5752	5752
69	Spacenet Internet Services Pvt Ltd	0	5390	5390
70	United Telecoms Ltd.	198	4989	5187

**Annexure 1.5 (contd.)**

<b>S.No.</b>	<b>Name of the Service Provider</b>	<b>Narrowband Subscribers</b>	<b>Broadband Subscribers</b>	<b>Total Subscribers</b>
71	Sikka Broadband(P) Ltd.(Gomti Cable Network Pvt. Ltd.)	0	5184	5184
72	Siliguri Internet & Cable TV Pvt. Ltd.	0	5004	5004
73	Narmada Cyberzone Pvt Ltd	1858	3097	4955
74	Digital Network associates Pvt. Ltd	79	4519	4598
75	RI Networks Pvt Ltd	0	4381	4381
76	Swiftmail Communications Ltd.	1256	2736	3992
77	Shri Omkar Infocom Pvt. Ltd.	0	3956	3956
78	CJ Online Pvt. Ltd.	0	3570	3570
79	Nettlinx Ltd.	231	3319	3550
80	HCL Comnet Systems & Services Ltd.	3403	31	3434
81	Multinet (Udaipur) Pvt. Ltd.	0	3154	3154
82	Kaizen Infonet Pvt Ltd	21	2982	3003
83	Rajesh Patel Net Services Pvt. Ltd.	154	2808	2962
84	WE INTERNET LIMITED (Nivyah Infrastructure & Telecom Services Ltd.)	0	2957	2957
85	F/X Wireless Technology Services Pvt. Ltd.	0	2600	2600
86	Speed Online.net Pvt. Ltd.	0	2485	2485
87	Sphier Infotech Pvt. Ltd.	0	2466	2466
88	Star Broadband Services (I) Pvt Ltd	0	2303	2303
89	S.S.Netcom Pvt Ltd	0	1952	1952
90	Sify Technologies Ltd.	1018	890	1908
91	Capture Network Systems Pvt. Ltd.	281	1563	1844
92	Hughes Communications India Ltd.	552	1270	1822
93	Touch Net India Pvt. Ltd.	11	1549	1560
94	Harisree CableNet Pvt. Ltd.	0	1391	1391
95	Aeroway Networks Pvt Ltd.	0	1289	1289
96	Symbois Creations Pvt. Ltd.	14	1238	1252
97	delDSL Internet Pvt Ltd	0	1056	1056
98	STN Communication & Advertising Pvt Ltd.	130	740	870
99	Data Infosys Ltd.	0	793	793
100	NetMagic Solutions(P) Ltd.	0	760	760
101	Correl IT Services Pvt. Ltd.	0	708	708
102	Elyzium Technologies Pvt. Ltd.	0	678	678
103	Datawave IT solutions Pvt. Ltd.	0	629	629
104	Primenet Global Ltd.	0	622	622
105	Japra Tele Link Pvt. Ltd.	0	612	612

**Annexure 1.5 (contd.)**

<b>S.No.</b>	<b>Name of the Service Provider</b>	<b>Narrowband Subscribers</b>	<b>Broadband Subscribers</b>	<b>Total Subscribers</b>
106	Rajdhani Telecom Pvt. Ltd.	61	550	611
107	Barani Data Solutions Private Limited	336	258	594
108	Digital2Virtual ISP Pvt. Ltd.	0	549	549
109	Conjoinix Technologies Pvt Ltd	0	547	547
110	Shree Balaji Infoway Pvt. Ltd.	0	510	510
111	Daksh Broadband Services Pvt Ltd	0	498	498
112	Gorakhpur Net Services Pvt. Ltd.	0	488	488
113	Oasis Cable Pvt Ltd.	438	7	445
114	Rida Communication Pvt. Ltd.	0	424	424
115	Tamana Winet Pvt. Ltd.	0	412	412
116	Gleam Worldwide Services Pvt. Ltd.	0	379	379
117	Singh Internet Services Pvt. Ltd.	0	360	360
118	Jetspot Networks Pvt. Ltd.	0	330	330
119	Chetan Internet Services Pvt. Ltd.	0	328	328
120	Tata Sky Broadband Private Limited	0	310	310
121	Power Grid Corporation of India Ltd.	0	265	265
122	Sab Infotech (Sab Industries)	0	249	249
123	Sampark Infotainment Pvt Ltd	0	241	241
124	Pulse Telesystems Pvt. Ltd.	0	237	237
125	Oistel Telecom Pvt. Ltd.	0	230	230
126	Cityzone Infonet Pvt. Ltd	0	203	203
127	Khetan Cable Network (P) Ltd	0	199	199
128	Reticule Infotech Pvt. Ltd.	0	183	183
129	Microsense Pvt. Ltd.	0	180	180
130	ERNET India	110	66	176
131	QBC Infotech Pvt. Ltd.	0	159	159
132	Suncity Broadband Pvt Ltd.	0	159	159
133	Bhiwani Communications Pvt. Ltd.	86	65	151
134	Shri Vinayagaa Internet Pvt Ltd	28	118	146
135	Dream Plus Multi Services Pvt. Ltd.	10	98	108
136	Trans Virtual Pvt. Ltd.	16	77	93
137	Pacific Internet India Pvt. Ltd.	82	0	82
138	Sanyog Networks Pvt Ltd	0	76	76
139	Telestra Telecommunications Pvt. Ltd.	0	71	71
140	Edge Telecommunications Pvt. Ltd.	0	63	63
141	AT&T Global Network Services India Private Limited	0	56	56

**Annexure 1.5 (contd.)**

<b>S.No.</b>	<b>Name of the Service Provider</b>	<b>Narrowband Subscribers</b>	<b>Broadband Subscribers</b>	<b>Total Subscribers</b>
142	Angel Air Network Solutions Private Limited	0	56	56
143	Verizon Communications India Pvt. Ltd. (Worldcom Communications ).	0	53	53
144	West Bengal Electronics Industry Development Corp. Ltd.	0	53	53
145	Adya Tech One Services Pvt Ltd	0	44	44
146	Novanet India Ltd.	0	16	16
147	Vcare Call Centres India Pvt. Ltd.	0	16	16
148	Airmesh Communications Limited	0	15	15
149	Financial Technologies Communications Ltd.	11	0	11
150	Orange Business Services India Network Pvt. Ltd.	0	11	11
151	Nelco Ltd.	0	9	9
152	Essel Shyam Communications Limited	8	0	8
153	Tatanet Services Ltd	0	7	7
154	ABT Ltd.	3	2	5
	<b>Total</b>	<b>145677967</b>	<b>276515287</b>	<b>422193254</b>

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. Mar-17**

<b>S. No.</b>	<b>Name of Service Providers which reported IP Telephony Minutes</b>
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	
			31.12.2016	31.03.2017
1	Delhi(Faridabad/ Gurgaon)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	5825	5995
		Procall(Delhi)	2655	2721
		Procall (Faridabad)		
		Procall (Gurgaon)		
		<b>Total</b>	<b>8480</b>	<b>8716</b>
2	Mumbai(Navi Mumbai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	8192	8545
		Smartalk (Mumbai)	546	491
		Bhilwara Telenet(Mumbai)	571	581
		Airtalk Solutions & Services Pvt. Ltd	274	274
		<b>Total</b>	<b>9583</b>	<b>9891</b>
3	Kolkata	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	2410	2478
		<b>Total</b>	<b>2410</b>	<b>2478</b>
4	TN(Chennai)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	6897	7181
		Quick Calls	269	212
		<b>Total</b>	<b>7166</b>	<b>7393</b>
5	Karnataka (Bangalore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	7289	7448
		Quick Calls	262	268
		<b>Total</b>	<b>7551</b>	<b>7716</b>
6	Andhra Pradesh (Vishakhapatnam & Hyderabad)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	4849	5133
		Quick Calls (Hyderabad Urban)	965	977
		<b>Total</b>	<b>5814</b>	<b>6110</b>
7	Madhya Pradesh ( Indore)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1073	1238
		<b>Total</b>	<b>1073</b>	<b>1238</b>
8	Rajasthan (Jaipur)	Procall	312	311
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	479	516
		<b>Total</b>	<b>791</b>	<b>827</b>



**Annexure- 1.7 (Contd.)**

Sl. No.	Operative Area	Service Provider	Subscriber Base	
			31.12.2016	31.03.2017
9	Gujrat (Ahmedaba/Surat /Vadodara/ Bharuch/Dahej/ Kutch/Amrela / Jamnagar)	Arya Omnitalk Radio Trunking Services Pvt.Ltd. (Ahmedaba/Surat/Vadodara/ Bharuch/Dahej)	6076	6181
		Inative Network Pvt. Ltd. (Ahmedaba/Surat/Vadodara/ Bharuch/ Kutch/Amrela / Jamnagar)	1820	1820
		<b>Total</b>	<b>7896</b>	<b>8001</b>
10	Maharashtra (Pune)	Arya Omnitalk Radio Trunking Services Pvt.Ltd.	1425	1494
		Smartalk	477	581
		<b>Total</b>	<b>1902</b>	<b>2075</b>
11	Kerala (Cochin City & Quilon)	Wiwonet Solutions Pvt. Ltd.	273	273
		Arya Omnitalk Radio Trunking Services Pvt.Ltd.	532	595
		<b>Total</b>	<b>805</b>	<b>868</b>
<b>Grand Total</b>			<b>53471</b>	<b>55313</b>

**Annexure 2.1: GSM Service - Service Area wise Statistics for QE Mar-17**

**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	95.27	99	20	203	199	402
Gujarat	94.37	71	8	195	156	351
Karnataka	93.06	102	26	207	190	397
MH	94.74	92	31	182	164	346
TN (incl. Chennai)	94.45	100	29	184	186	370

**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	96.81	65	25	230	200	430
Kerala	96.30	140	10	170	212	382
MP	97.40	71	11	177	179	356
Punjab	93.57	92	62	223	198	421
Rajasthan	97.15	71	7	185	192	377
UP(E)	98.63	70	6	182	258	440
UP(W)	98.06	64	9	147	251	398
WB	99.08	62	16	175	220	395

**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	96.87	94	25	210	250	460
Bihar	99.21	68	5	195	286	481
HP	98.05	63	5	177	158	335
J&K	86.16	90	8	295	268	562
NE	97.97	94	36	193	183	376
Orissa	98.69	61	7	221	250	471

**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	93.22	64	11	187	182	369
Delhi	86.46	88	12	279	195	474
Mumbai	82.24	110	14	288	184	471

**Annexure 2.2: CDMA Full Mobility Service - Service Area wise Statistics for  
QE Mar-17**

**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	87.65	126	5	96	106	202
Gujarat	78.41	199	2	77	68	145
TN (incl. Chennai)	82.55	195	1	62	57	119
Karnataka	86.42	140	2	96	85	181
AP	82.61	134	3	87	75	162

**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	99.36	56	3	128	118	246
Rajasthan	96.10	73	3	155	134	189
UP(E)	77.59	200	1	55	45	100
MP	89.05	111	2	155	130	285
Kerala	85.55	165	1	41	36	77
UP(W)	85.18	129	2	76	57	134
Haryana	91.50	68	2	123	93	216
Punjab	67.21	190	1	134	94	228

**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	81.69	149	1	95	142	237
Bihar	90.70	110	5	122	104	226
HP	58.20	261	2	96	61	177
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	83.65	136	2	95	86	244
Delhi	80.99	148	3	140	91	291
Mumbai	55.44	254	1	67	79	132













## 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 March , 2017											
Name of the Service Area / City	Name of Service Provider	Network Availability		Connection Establishment			Connection Maintenance (Retainability)			POI	
		BTS and Node-Bs Accumulated downtime (not available for service) (%age)	Worst affected BTSs and Node-Bs 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 and Voice Quality (CSV 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	0.13	0.96	99.02	0.43	0.28	0.24	2.82	99.80	0	
	Airtel	0.07	0.07	98.72	0.02	0.00	0.33	2.08	98.80	0	
	BSNL	0.70	1.47	99.00	0.70	0.50	0.40	2.03	99.70	0	
	IDEA	0.05	0.02	99.86	0.08	0.08	0.17	1.04	99.73	0	
Assam	Aircel	1.45	8.61	98.83	0.38	0.00	0.49	4.62	98.96	0	
	Airtel	1.10	1.12	97.98	0.07	0.01	0.72	1.07	98.70	0	
	BSNL	1.63	1.83	95.33	0.57	0.70	1.80	2.43	96.40	0	
	RTL	0.25	1.84	99.63	0.03	0.01	0.04	0.22	99.90	0	
	Vodafone	0.66	1.03	99.81	0.03	0.02	0.37	1.93	98.89	0	
Bihar	Aircel	0.34	1.40	97.87	0.21	0.09	0.50	5.49	99.28	0	
	Airtel	0.05	0.36	98.73	0.08	0.29	0.68	2.20	99.53	0	
	BSNL	1.88	1.85	95.67	0.42	0.85	1.37	2.87	96.00	0	
	RTL	0.07	0.51	99.88	0.01	0.03	0.06	0.27	99.85	0	
Chennai	BSNL	0.37	1.37	98.33	0.80	0.17	1.27	1.53	96.87	0	
Delhi	Airtel	0.02	0.00	99.31	0.03	0.06	0.46	2.96	98.88	0	
	IDEA	0.13	0.00	99.83	0.02	0.01	0.38	2.44	98.38	0	
	MTNL	0.08	0.48	97.34	0.67	1.71	1.73	2.10	96.30	0	
	RCom	0.18	1.90	99.98	0.00	0.00	0.30	1.59	99.67	0	
	Vodafone	0.12	0.55	99.42	0.06	0.06	0.48	2.07	99.74	0	
Gujarat	Airtel	0.09	0.17	99.60	0.01	0.09	0.19	2.08	99.48	0	
	BSNL	1.17	1.07	99.00	0.50	0.43	1.10	1.93	100.00	1	
	IDEA	0.04	0.05	99.79	0.06	0.03	0.29	1.68	98.80	0	
	Tata	0.01	0.00	99.65	0.03	0.13	0.42	2.33	99.77	0	
	Vodafone	0.04	0.07	99.84	0.05	0.02	0.15	1.28	99.07	0	
Haryana	Airtel	0.10	0.16	99.07	0.00	0.00	0.09	0.45	98.03	0	
	BSNL	0.87	0.60	99.00	0.77	0.40	0.50	1.27	97.67	0	
	IDEA	0.07	0.00	99.68	0.21	0.10	0.28	2.76	98.86	0	
	Tata	0.12	0.45	99.86	0.32	0.25	0.14	1.18	99.82	0	
	Vodafone	0.15	0.63	99.81	0.04	0.00	0.30	2.33	98.23	0	

**Annexure 4.2 (Contd.)**

Himachal Pradesh	Airtel	0.10	0.14	99.14	0.03	0.01	0.64	1.03	98.80	0
	BSNL	1.10	1.57	98.67	0.40	0.53	0.70	1.87	99.70	0
	IDEA	0.25	0.47	99.26	0.13	0.11	0.69	1.56	97.09	0
	RTL	0.23	1.61	99.86	0.01	0.00	0.04	0.42	97.83	0
Jammu & Kashmir	Airtel	0.80	5.14	98.77	0.12	0.03	1.00	9.96	99.06	0
	Airtel	0.25	0.36	99.19	0.01	0.05	0.88	0.37	98.70	0
	BSNL	0.23	0.63	97.67	0.57	1.37	0.73	1.50	97.47	0
	IDEA	0.42	1.13	99.44	0.18	0.17	1.29	2.07	97.02	0
	RCom	0.46	1.70	99.91	0.06	0.14	0.04	0.22	99.71	0
Karnataka	Airtel	0.14	0.19	98.97	0.48	0.06	0.39	3.62	99.82	0
	Airtel	0.06	0.02	99.58	0.03	0.05	0.19	1.41	99.71	0
	BSNL	0.90	1.50	99.00	0.40	0.50	0.53	1.40	99.63	0
	Tata	0.06	0.01	99.38	0.53	0.27	0.17	0.94	99.11	0
	Vodafone	0.18	0.87	99.88	0.00	0.01	0.12	0.62	99.68	0
Kerala	Airtel	0.12	0.33	99.28	0.31	0.04	0.67	2.54	99.84	0
	BSNL	0.23	0.03	96.33	0.17	0.37	0.47	2.33	99.90	0
	IDEA	0.06	0.02	99.68	0.34	0.09	0.22	0.77	98.08	0
	Tata	0.05	0.00	99.68	0.01	0.02	0.22	1.62	99.81	0
	Vodafone	0.03	0.00	99.86	0.00	0.00	0.14	0.35	99.77	0
Kolkata	Airtel	0.08	0.14	99.61	0.21	0.04	0.28	2.92	98.64	0
	Airtel	0.00	0.00	99.61	0.00	0.00	0.25	1.86	99.25	0
	BSNL	1.23	1.90	96.33	0.53	0.70	1.20	2.80	99.77	0
	IDEA	0.16	0.22	99.91	0.00	0.00	0.18	0.09	99.79	0
	RTL	0.28	1.76	99.95	0.03	0.01	0.05	0.16	99.90	0
	Vodafone	0.03	0.04	99.90	0.00	0.01	0.27	2.29	98.98	0
Madhya Pradesh	Airtel	0.15	0.31	99.86	0.01	0.02	0.26	1.43	99.39	0
	BSNL	1.72	1.65	97.00	0.72	0.63	0.72	2.53	97.72	0
	IDEA	0.10	0.06	99.72	0.04	0.05	0.48	1.96	98.95	0
	RTL	0.08	0.15	99.94	0.04	0.00	0.04	0.16	99.90	0
	Tata	0.02	0.00	99.65	0.02	0.13	0.29	1.93	99.84	0
Maharashtra	Airtel	0.02	0.00	99.31	0.05	0.18	0.45	0.68	98.97	0
	BSNL	1.70	1.53	96.33	0.73	1.10	0.93	2.63	96.40	0
	IDEA	0.07	0.13	99.75	0.21	0.05	0.38	2.08	98.30	0
	Tata	0.00	0.00	99.71	0.03	0.07	0.30	1.72	100.00	0
	Vodafone	0.10	0.23	99.78	0.26	0.09	0.22	1.50	98.94	0
Mumbai	Airtel	0.04	0.00	99.67	0.01	0.04	0.37	2.29	99.95	0
	MTNL	0.57	1.30	97.63	0.33	0.20	1.43	2.30	98.93	0
	Rcom	0.16	1.30	99.62	0.02	0.01	0.07	0.17	99.73	0
	Vodafone	0.17	0.00	99.78	0.00	0.00	0.39	2.42	98.86	0

**Annexure 4.2 (Contd.)**

North East	Aircel	3.32	23.46	97.11	0.33	0.05	1.19	12.52	98.96	0
	Airtel	1.11	1.20	98.22	0.04	0.03	1.01	1.01	98.57	0
	BSNL	1.43	1.68	97.50	0.67	1.62	1.53	2.23	97.32	0
	RTL	0.40	1.38	99.83	0.02	0.04	0.02	0.23	99.87	0
	Vodafone	1.37	1.34	99.55	0.06	0.02	0.57	2.51	98.90	0
Orissa	Aircel	0.28	1.17	99.37	0.02	0.01	0.79	5.28	98.97	0
	Airtel	0.07	0.14	98.99	0.12	0.21	0.54	1.51	99.33	0
	BSNL	1.37	1.77	96.33	0.87	1.83	1.90	2.80	97.87	0
	RTL	0.04	0.38	99.99	0.00	0.00	0.07	0.96	99.90	0
	Vodafone	0.07	0.00	99.93	0.00	0.00	0.21	2.20	100.00	0
Punjab	Aircel	0.17	0.35	99.52	0.12	0.00	0.35	3.78	99.09	0
	Airtel	0.03	0.01	99.38	0.12	0.12	0.18	1.19	99.78	0
	BSNL	0.40	1.43	100.00	0.10	0.07	0.00	1.57	98.83	0
	IDEA	0.08	0.13	99.81	0.16	0.05	0.20	1.02	99.69	0
	RCom	0.18	1.24	99.99	0.00	0.00	0.02	0.17	99.79	0
	Tata	0.05	0.17	99.52	0.26	0.15	0.14	0.77	99.14	0
Rajasthan	Airtel	0.12	0.16	99.43	0.03	0.03	0.51	0.91	98.91	0
	BSNL	1.07	1.63	99.33	0.73	0.93	1.13	1.93	97.00	0
	Rcom	0.21	0.87	99.76	0.16	0.11	0.05	0.21	99.52	0
	Tata	0.00	0.00	100.00	0.00	0.00	0.00	0.00	100.00	0
	Vodafone	0.07	0.18	99.89	0.02	0.01	0.26	2.77	98.90	0
Tamil Nadu	Aircel	0.31	0.98	98.72	0.30	0.05	0.51	6.80	98.86	1
	Airtel	0.08	0.20	99.89	0.02	0.04	0.16	1.40	99.37	0
	BSNL	0.33	1.77	99.00	0.00	0.17	0.20	0.80	99.63	0
	Vodafone	0.22	1.38	99.74	0.30	0.10	0.29	2.32	99.11	0
UP East	Aircel	0.11	0.45	99.64	0.00	0.00	0.32	2.52	99.56	0
	Airtel	0.31	1.17	99.93	0.18	0.07	0.36	1.98	99.66	0
	BSNL	1.20	1.70	98.00	0.73	0.47	1.27	2.57	96.47	0
	IDEA	0.17	0.27	99.86	0.54	0.07	0.61	2.40	98.73	0
	Vodafone	0.36	1.29	99.77	0.04	0.01	0.35	2.77	98.99	0
UP West	Airtel	1.05	1.66	99.41	0.02	0.00	0.48	1.06	98.93	0
	BSNL	1.38	1.12	98.50	0.78	0.63	0.60	2.42	96.28	0
	IDEA	0.24	0.65	99.20	0.91	0.42	0.38	2.16	98.93	0
	Tata	0.08	0.03	99.58	0.27	0.17	0.16	1.47	99.14	0
	Vodafone	0.28	0.92	99.85	0.03	0.02	0.34	2.85	98.89	0
West Bengal	Aircel	0.21	0.69	99.05	0.16	0.32	0.25	3.35	98.57	0
	Airtel	0.09	0.15	98.82	0.06	0.12	0.46	2.09	99.34	0
	BSNL	0.20	0.15	96.83	0.50	0.80	0.97	7.42	95.50	0
	RTL	0.18	1.82	99.01	0.01	0.09	0.13	0.34	99.87	0
	Vodafone	0.05	0.09	99.75	0.05	0.03	0.39	2.50	98.97	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 March, 2017

Name of Service Area	Name of Service Provider	Faults incidences (No. of faults/100 Subs./month)	Fault Repair				Rent Rebate	Mean Time to Repair (MTTR)	POI	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 creditibility - post paid	Metering and billing creditibility - 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	
		Benchmarks																
		≤7	For urban areas by next working day: ≥ 85%	For urban areas: ≥ 100%	For rural and hilly areas: ≥ 75%	For rural and hilly areas: ≥ 100%	≤ 10 Hrs	≤ 0.5%	≤ 0.1%	≤ 0.1%	98% within 4 weeks	100% within 6 weeks	1 week of resolution of complaint	≥ 95%	≥ 95%	100% within 7 days	100% within 60 days	
A&N	BSNL	4.00	86.00%	100.00%	86.00%	100%	29	7.00	0.00	0.10%	0.10	98.00%	100.00%	100.00%	98.55%	98.67%	100.00%	100.00%
AP	Reliance	1.52	100.00%	100.00%	NA	NA	0	4.7	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	6.20	94.48%	<b>99.55%</b>	NA	NA	208	<b>11.77</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.29%	<b>90.14%</b>	100.00%	100.00%
	Vodafone	0.50	100.00%	100.00%	NA	NA	NA	0.46	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	4.58	94.61%	100.00%	NA	NA	0	3.81	0.00	0.04%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
	BSNL	4.00	99.00%	100.00%	99.00%	100%	191	6.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	98.32%	98.27%	100.00%	100.00%
ASM	Vodafone	1.23	100.00%	100.00%	NA	NA	NA	1.36	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	BSNL	4.00	97.00%	100.00%	96.00%	100%	107	3.00	0.00	0.03%	0.00	100.00%	100.00%	100.00%	99.20%	99.00%	100.00%	100.00%
BH	Reliance	0.86	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.86	100.00%	100.00%	NA	NA	0	2.07	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.22%	96.73%	100.00%	100.00%
	Vodafone	1.93	100.00%	100.00%	NA	NA	NA	1.30	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	BSNL	4.00	97.00%	100.00%	95.00%	100%	0	5.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	99.06%	99.33%	100.00%	100.00%
Chattisgarh	BSNL	4.00	97.00%	100.00%	97.00%	100%	714	6.00	0.00	0.01%	0.01	99.00%	100.00%	100.00%	96.73%	96.73%	100.00%	100.00%
CN	Reliance	0.02	100.00%	100.00%	NA	NA	0	6.3	0.00	0.05%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	BSNL	4.00	93.00%	100.00%	93.00%	100%	1902	8.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	99.14%	99.15%	100.00%	100.00%
DEL	Reliance	0.03	100.00%	100.00%	NA	NA	0	4.9	0.00	0.07%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	2.05	92.10%	<b>98.55%</b>	NA	NA	9	<b>17.48</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.53%	98.27%	100.00%	100.00%
	Vodafone	0.49	100.00%	100.00%	NA	NA	NA	1.04	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	4.73	89.27%	100.00%	NA	NA	833	5.02	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
	MTNL	5.01	88.06%	<b>98.61%</b>	NA	NA	12416	4.74	0.00	0.01%	0.00%	99.71%	100.00%	100.00%	99.88%	99.94%	100.00%	100.00%
GUJ	Reliance	0.57	100.00%	100.00%	NA	NA	0	4.3	0.00	0.04%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	1.10	96.33%	<b>99.60%</b>	NA	NA	8	<b>11.13</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.17%	96.74%	100.00%	100.00%
	Vodafone	0.22	100.00%	100.00%	NA	NA	NA	0.53	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Bharti	2.23	92.50%	100.00%	NA	NA	23	5.68	0.00	0.03%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
	BSNL	5.00	97.00%	100.00%	92.00%	100%	487	5.00	0.00	0.03%	0.00	100.00%	100.00%	100.00%	98.01%	97.85%	100.00%	100.00%
HP	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	Vodafone	0.56	NA	NA	100.00%	NA	NA	0.0	0.00	0.00%	NA	NA	NA	NA	NA	95.00%	100.00%	100.00%
	BSNL	5.00	90.00%	100.00%	94.00%	100%	447	6.00	0.00	0.02%	0.00	98.32%	100.00%	100.00%	95.52%	100.00%	100.00%	100.00%

**Annexure 4.3 (Contd.)**

HR	Vodafone	0.00	NA	NA	NA	NA	NA	0.00	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.61	97.96%	<b>97.96%</b>	NA	NA	0	9.67	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.19%	95.18%	100.00%	100.00%
	Bharti	6.97	98.09%	100.00%	NA	NA	0	2.46	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
J&K	BSNL	5.00	96.00%	100.00%	96.00%	100%	640	6.00	0.00	0.09%	0.00	100.00%	100.00%	100.00%	95.87%	100.00%	100.00%	100.00%
	BSNL	5.00	96.00%	100.00%	91.00%	100%	49	7.00	0.00	0.02%	0.00	98.00%	100.00%	100.00%	95.20%	100.00%	100.00%	100.00%
	BSNL	2.00	99.00%	100.00%	97.00%	100%	914	6.00	0.00	0.09%	0.00	100.00%	100.00%	100.00%	99.11%	99.33%	100.00%	100.00%
	Vodafone	0.42	100.00%	100.00%	NA	NA	NA	0.17	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
KER	Reliance	0.14	100.00%	100.00%	NA	NA	0	4.7	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.75	92.86%	<b>99.11%</b>	NA	NA	2	<b>20.59</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.90%	95.55%	100.00%	100.00%
	Bharti	5.51	96.36%	100.00%	NA	NA	1	5.00	0.00	0.05%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
	BSNL	4.00	93.00%	100.00%	92.00%	100%	729	7.00	0.00	0.02%	0.00	99.82%	100.00%	100.00%	96.67%	96.65%	100.00%	100.00%
KOL	Vodafone	0.53	100.00%	100.00%	NA	NA	NA	1.39	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Reliance	0.03	100.00%	100.00%	NA	NA	0	4.7	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	Bharti	5.84	92.64%	100.00%	NA	NA	55	6.45	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
	BSNL	6.00	91.00%	100.00%	NA	NA	393	8.00	0.00	0.00%	0.00	98.47%	100.00%	100.00%	99.46%	99.00%	100.00%	100.00%
KTK	Vodafone	0.38	100.00%	100.00%	NA	NA	NA	1.19	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Reliance	0.02	100.00%	100.00%	NA	NA	0	4.5	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.66	91.70%	<b>99.26%</b>	NA	NA	14	<b>18.62</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.17%	99.07%	<b>86.35%</b>	100.00%
	Bharti	4.00	86.59%	100.00%	NA	NA	660	4.39	0.00	0.07%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
MH	BSNL	4.00	96.00%	100.00%	97.00%	100%	5994	7.00	0.00	0.10%	0.00	98.00%	100.00%	100.00%	97.26%	97.26%	100.00%	100.00%
	Bharti	1.50	93.32%	100.00%	NA	NA	35	5.29	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	96.00%	100.00%	100.00%
	BSNL	4.00	91.00%	100.00%	87.00%	100%	950	6.00	0.00	0.01%	0.00	100.00%	100.00%	100.00%	95.12%	97.09%	100.00%	100.00%
	Reliance	0.11	100.00%	100.00%	NA	NA	0	4.8	0.00	0.02%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	Vodafone	0.43	100.00%	100.00%	NA	NA	NA	4.09	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	TTSL	1.20	94.53%	<b>99.64%</b>	NA	NA	70	<b>13.74</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	96.83%	<b>86.61%</b>	<b>99.45%</b>	100.00%
MP	Vodafone	1.90	100.00%	100.00%	NA	NA	NA	2.01	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Reliance	0.13	100.00%	100.00%	NA	NA	0	4.6	0.00	0.01%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	3.92	98.71%	100.00%	NA	NA	0	3.23	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.62%	95.27%	100.00%	100.00%
	Bharti	5.66	88.51%	100.00%	NA	NA	384	4.52	0.00	0.04%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
MUM	BSNL	4.00	92.00%	100.00%	88.00%	100%	405	4.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	97.90%	97.93%	100.00%	100.00%
	Vodafone	0.38	100.00%	100.00%	NA	NA	NA	1.53	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Bharti	0.76	93.69%	100.00%	NA	NA	49	5.00	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
	MTNL	3.18	94.94%	<b>99.76%</b>	NA	NA	15881	5.94	0.00	0.04%	NA	99.44%	100.00%	100.00%	96.45%	95.86%	<b>99.66%</b>	100.00%
	Reliance	0.02	100.00%	100.00%	NA	NA	0	4.5	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
NE	TTSL	2.30	94.09%	<b>99.69%</b>	NA	NA	164	<b>12.81</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.36%	<b>86.45%</b>	100.00%	100.00%
	Vodafone	0.00	NA	NA	NA	NA	NA	0.00	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	BSNL	4.00	92.00%	100.00%	93.00%	100%	89	7.00	0.00	0.07%	0.00	98.00%	100.00%	100.00%	99.45%	99.00%	100.00%	100.00%
	BSNL	2.00	91.00%	100.00%	98.00%	100%	45	5.00	0.00	0.01%	0.01	100.00%	100.00%	100.00%	99.25%	99.33%	100.00%	100.00%
OR	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.01%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.06%	98.29%	100.00%	100.00%
	BSNL	6.00	93.00%	100.00%	91.00%	100%	766	5.00	0.00	0.09%	0.00	99.00%	100.00%	100.00%	99.10%	98.67%	100.00%	100.00%
	Vodafone	1.00	100.00%	100.00%	NA	NA	NA	1.21	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA

**Annexure 4.3 (Contd.)**

PB	Vodafone	0.69	100.00%	100.00%	NA	NA	NA	1.04	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	NA	NA
	Reliance	0.05	100.00%	100.00%	NA	NA	0	4.9	0.00	0.01%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	1.92	97.94%	100.00%	NA	NA	2	5.27	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.20%	95.50%	100.00%	100.00%
	Bharti	6.47	88.67%	100.00%	NA	NA	0	4.02	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
	Quadrant	4.60	90.72%	100.00%	100.00%	100%	0	7.83	0.00	0.02%	0.00%	100.00%	100.00%	100.00%	96.00%	95.00%	100.00%	100.00%
	BSNL	5.00	93.00%	100.00%	92.00%	100%	927	6.00	0.00	0.05%	0.00	100.00%	100.00%	100.00%	<b>91.66%</b>	100.00%	100.00%	100.00%
RAJ	Reliance	0.11	100.00%	100.00%	NA	NA	0	5.5	0.00	0.01%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	5.85	100.00%	100.00%	NA	NA	0	3.02	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	96.18%	95.40%	100.00%	100.00%
	Vodafone	0.84	100.00%	100.00%	NA	NA	NA	3.25	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	4.72	86.83%	100.00%	NA	NA	0	4.90	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
	Sistema	1.83	92.21%	100.00%	95.28%	100%	0	7.68	0.00	0.04%	0.00%	100.00%	100.00%	100.00%	98.81%	95.77%	100.00%	100.00%
	BSNL	5.00	98.00%	100.00%	98.00%	100%	402	6.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	96.37%	100.00%	100.00%	100.00%
TN	Reliance	0.06	100.00%	100.00%	NA	NA	0	6.0	0.00	0.01%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	1.13	94.76%	<b>99.80%</b>	NA	NA	3	<b>11.37</b>	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.77%	98.03%	100.00%	100.00%
	Vodafone	1.14	100.00%	100.00%	NA	NA	NA	1.34	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	6.02	91.25%	100.00%	NA	NA	609	7.77	0.00	<b>0.20%</b>	NA	100.00%	100.00%	100.00%	100.00%	95.00%	100.00%	100.00%
	BSNL	4.00	94.00%	100.00%	91.00%	100%	2125	8.00	0.00	0.08%	0.00	100.00%	100.00%	100.00%	98.74%	98.75%	100.00%	100.00%
UPE	Reliance	0.06	100.00%	100.00%	NA	NA	0	5.1	0.00	0.02%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.34%	100.00%	100.00%	100.00%
	Vodafone	0.54	100.00%	100.00%	NA	NA	NA	2.07	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	7.00	90.99%	100.00%	NA	NA	0	3.89	0.00	0.01%	NA	100.00%	100.00%	100.00%	100.00%	98.00%	100.00%	100.00%
	BSNL	4.00	94.00%	100.00%	92.00%	100%	787	5.00	0.00	0.08%	0.00	100.00%	100.00%	100.00%	96.09%	100.00%	100.00%	100.00%
UPW	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	TTSL	0.00	100.00%	100.00%	NA	NA	0	0.00	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	97.95%	100.00%	100.00%	100.00%
	Vodafone	1.11	100.00%	100.00%	NA	NA	NA	1.32	0.00	0.00%	NA	NA	NA	NA	95.00%	100.00%	100.00%	NA
	Bharti	6.99	94.66%	100.00%	NA	NA	0	2.95	0.00	0.02%	NA	100.00%	100.00%	100.00%	100.00%	97.00%	100.00%	100.00%
	BSNL	5.00	96.00%	100.00%	96.00%	100%	700	5.00	0.00	0.04%	0.00	100.00%	100.00%	100.00%	95.36%	100.00%	100.00%	100.00%
Uttaranchal	BSNL	5.00	98.00%	100.00%	97.00%	100%	335	4.00	0.00	0.00%	0.00	100.00%	100.00%	100.00%	95.72%	100.00%	100.00%	100.00%
West Bengal	Reliance	0.00	NA	NA	NA	NA	0	0.0	0.00	0.00%	NA	100%	100%	NA	99.57%	99.44%	100.00%	100.00%
	BSNL	5.00	91.00%	100.00%	93.00%	100%	1628	5.00	0.00	0.02%	0.00	100.00%	100.00%	100.00%	98.62%	99.00%	100.00%	100.00%
	TTSL	1.83	99.52%	100.00%	NA	NA	1	3.67	0.00	0.00%	0.00%	100.00%	100.00%	100.00%	98.55%	95.94%	100.00%	100.00%
	Vodafone	3.33	100.00%	100.00%	NA	NA	NA	0.27	0.00	0.00%	NA	NA	NA	NA	95.00%	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 March 2017																				
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 demand	% 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 MRTG) <90%	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
1	<b>BSNL</b>	All India	100.00%	93.89%	99.70%	0	0.07%	100.00%	100.00%	98.01%	98.66%	0	0	63.40%	91.30%	99.68%	0.10%	15	187	NA
2	<b>Bharti Airtel</b>	Andhra Pradesh	100.00%	94.57%	100.00%	0	0.02%	100.00%	100.00%	93.00%	96.00%	0	0	45.42%	100.00%	99.99%	0.00%	35	49	NA
		Delhi	100.00%	91.61%	99.25%	0	0.02%	100.00%	100.00%	94.00%	97.00%	0	0	64.38%	100.00%	99.99%	0.00%	32	77	NA
		Gujarat	100.00%	95.07%	99.61%	0	0.02%	100.00%	100.00%	92.00%	96.00%	0	NA	NA	100.00%	99.99%	0.12%	37	62	NA
		Haryana	100.00%	95.43%	99.89%	0	0.01%	100.00%	100.00%	94.00%	97.00%	0	NA	NA	100.00%	99.99%	0.00%	29	77	NA
		Karnataka	100.00%	90.60%	99.95%	0	0.03%	100.00%	100.00%	94.00%	97.00%	0	0	60.36%	100.00%	99.97%	0.00%	27	43	NA
		Kerala	100.00%	96.39%	100.00%	0	0.02%	100.00%	100.00%	96.00%	97.00%	0	NA	NA	100.00%	99.98%	0.00%	30	35	NA
		Kolkata	100.00%	95.26%	100.00%	0	0.01%	100.00%	100.00%	95.00%	97.00%	0	0	56.63%	100.00%	100.00%	0.00%	81	78	NA
		Madhya Pradesh	100.00%	90.18%	99.17%	0	0.01%	100.00%	100.00%	92.00%	96.00%	0	0	51.08%	100.00%	99.95%	0.00%	72	72	NA
		Maharashtra	100.00%	95.69%	99.29%	0	0.01%	100.00%	100.00%	94.00%	97.00%	0	NA	NA	100.00%	99.99%	0.34%	47	62	NA
		Mumbai	100.00%	96.28%	99.50%	0	0.02%	100.00%	100.00%	93.00%	96.00%	0	0	59.50%	100.00%	99.98%	0.13%	24	62	NA
		Punjab	100.00%	91.12%	99.13%	0	0.01%	100.00%	100.00%	94.00%	97.00%	0	0	43.20%	100.00%	99.99%	0.00%	30	86	NA
		Rajasthan	100.00%	90.25%	99.54%	0	0.00%	100.00%	100.00%	94.00%	97.00%	0	NA	NA	100.00%	100.00%	0.00%	37	82	NA
		Tamilnadu	100.00%	93.80%	99.96%	0	0.10%	100.00%	100.00%	91.00%	94.00%	0	0	64.58%	100.00%	99.99%	0.00%	31	35	NA
		Uttar Pradesh - East	100.00%	90.53%	99.02%	0	0.01%	100.00%	100.00%	94.00%	97.00%	0	0	59.88%	100.00%	99.93%	0.00%	35	88	NA
Uttar Pradesh - West	100.00%	90.33%	99.13%	0	0.01%	100.00%	100.00%	94.00%	97.00%	0	NA	NA	100.00%	99.90%	0.00%	28	77	NA		
3	<b>MTNL</b>	Delhi & Mumbai	100.00%	<b>84.63%</b>	<b>94.01%</b>	19333	0.263%	100.00%	100.00%	98.49%	98.65%	Nil	0	77.11%	89.58%	99.86%	0.52%	43	275	NA
4	<b>Alliance Broadband</b>	Kolkata	100.00%	92.00%	99.11%	Nil	1.10%	100.00%	Nil	85.33%	90.33%	0	0	67.31%	95.80%	98.73%	0.66%	106	313	724
5	<b>Asianet Satellite</b>	Kerala	100.00%	90.29%	99.38%	Nil	1.91%	100.00%	100.00%	60.52%	80.81%	Nil	0	64.70%	90.00%	99.37%	1.00%	50	270	NA
6	<b>Atria Convergence</b>	All India	100.00%	<b>84.10%</b>	<b>98.33%</b>	101202	0.37%	100.00%	Nil	74.00%	86.00%	0	0	75.20%	90.00%	99.95%	1.00%	50	300	NA
7	<b>Broadband Pacenet India Pvt. Ltd.</b>	All India	100.00%	90.40%	99.10%	0	1.00%	100.00%	Nil	82.00%	90.00%	0	0	60.00%	90.00%	99.30%	0.45%	75	260	0
8	<b>Citycom Networks</b>	All India	100.00%	90.90%	99.30%	591	0.29%	100.00%	100.00%	86.10%	88.80%	0	0	27.60%	92.45%	99.30%	1.00%	26	141	NA
9	<b>DEN Networks Ltd.</b>	All India	100.00%	95.92%	99.84%	Nil	NA	NA	NA	92.00%	91.00%	Nil	Nil	78.46%	96.00%	98.24%	0.00%	NA	287	NA
10	<b>D-Vois Broadband</b>	All India	100.00%	95.00%	99.00%	-	1.43%	100.00%	-	91.51%	94.10%	0	Nil	Nil	90.00%	99.99%	0.10%	120	350	800
11	<b>DNA Infotel Pvt. Ltd.</b>	Maharashtra	100.00%	91.12%	99.40%	0	0.08%	100.00%	NA	60.60%	81.20%	0	0	80.00%	80.00%	99.63%	1.00%	4	255	600
12	<b>Excitel Broadband Private Limited</b>	Delhi	100.00%	93.47%	99.31%	277	NA	NA	NA	73.37%	82.80%	Nil	Nil	79.74%	96.00%	98.54%	0.00%	5	198.3	NA
13	<b>Five Networks</b>	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	<b>GBPS Networks Pvt. Ltd.</b>	Pune, Maharashtra	100.00%	91.13%	99.16%	Nil	0.00%	100.00%	Nil	62.47%	85.00%	0	0	80.00%	80.00%	99.77%	1.00%	4	255	600
15	<b>Geocity Network</b>	Delhi	100.00%	94.00%	100.00%	0	0.00%	100.00%	100.00%	78.00%	86.00%	0	0	88.00%	87.67%	99.30%	0.50%	60	300	400

### Annexure 4.4 (Contd.)

16	GTPL Broadband Pvt.Ltd.	All India	100.00%	95.00%	99.00%	822	0.19%	100.00%	NA	95.00%	99.00%	NA	0	89.80%	91.00%	99.61%	0.00%	11	300	NA	
17	Hathway Cable & Datacom Ltd.	Andhra Pradesh	100.00%	99.42%	99.74%	46	1.75%	100.00%	100.00%	85.00%	86.00%	0	0	86.00%	90.00%	99.89%	0.18%	78	300	NA	
		Delhi	100.00%	98.00%	99.00%	14	0.30%	100.00%	100.00%	73.00%	87.00%	0	0	88.00%	85.00%	99.65%	0.33%	115	325	NA	
		Gujarat	100.00%	93.99%	99.40%	0	NA	NA	NA	87.90%	97.34%	0	0	78.31%	90.00%	99.05%	0.95%	79	265	NA	
		Karnataka	100.00%	91.00%	99.11%	108	1.91%	100.00%	100.00%	91.67%	94.33%	0	0	89.00%	90.00%	99.83%	0.19%	86	275	NA	
		Maharashtra & Goa	100.00%	98.60%	99.74%	434	1.95%	100.00%	100.00%	97.00%	97.00%	0	0	85.00%	90.00%	99.87%	0.14%	76	258	NA	
		Madhya Pradesh	100.00%	100.00%	100.00%	0	NA	NA	NA	70.00%	96.00%	0	0	83.00%	100.00%	99.93%	0.06%	100	295	NA	
		Punjab	100.00%	98.00%	99.00%	0	NA	NA	NA	82.00%	90.00%	0	0	40.00%	85.00%	99.75%	0.32%	110	325	NA	
		Uttar Pradesh - West	100.00%	98.00%	99.00%	0	0.51%	100.00%	100.00%	73.00%	87.00%	0	0	87.00%	85.00%	99.58%	0.46%	115	310	NA	
		Kolkata	100.00%	100.00%	100.00%	0	NA	NA	NA	100.00%	100.00%	0	0	86.63%	100.00%	99.72%	0.27%	10	256	NA	
Chennai	100.00%	93.00%	99.00%	0	NA	NA	NA	85.00%	99.00%	0	0	66.00%	100.00%	99.76%	0.28%	80	287	NA			
18	Home Systems	Mumbai	100.00%	95.00%	99.99%	NA	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%	93.00%	100.00%	0	Nil	100.00%	0.00%	66.00%	100.00%	0	NA	NA	95.00%	99.00%	1.00%	7	66	NA	
20	Indinet Service Pvt. Ltd.	All India	100.00%	91.00%	100.00%	301	0.00%	100.00%	100.00%	66.00%	81.00%	0	0	77	99.00%	100.00%	0.00%	45	271	0	
21	Limras Eronet	All India	100.00%	99.00%	100.00%	0	1.00%	100.00%	0.00%	90.00%	100.00%	0	0	82.00%	90.00%	99.00%	1.00%	45	215	0	
22	Meghela 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%	0.00%	99.90%	0.00%	60	150	0	
23	Nextra Teleservices Pvt.	Delhi	100.00%	91.50%	99.30%	4041	1.70%	100.00%	100.00%	74.00%	83.00%	0	0	89.00%	100.00%	100.00%	1.00%	120	350	NA	
24	Ortel Communications	All India	100.00%	93.37%	99.55%	NA	NA	NA	NA	100.00%	100.00%	0	0	58.35%	93.00%	99.88%	0.00%	82	227	NA	
25	Planet E-Shop Holdings India Ltd. (formerly IndusInd Media)	All India	100.00%	97.00%	99.00%	0	0.00%	100.00%	100.00%	100.00%	100.00%	0	0	44.00	80.00%	98.00%	1.00%	45	260	NA	
26	Quadrant Televentures	Punjab	100.00%	92.34%	100.00%	0	0.02%	100.00%	100.00%	77.00%	82.00%	Nil	Nil	79.00%	100.00%	99.90%	0.00%	80	280	NA	
27	Quest Consultancy Pvt.Ltd.	Valsad (Gujarat)	100.00%	95.00%	100.00%	Nil	0.00%	100.00%	0.00%	89.00%	99.00%	0	Nil	82.00%	99.00%	99.00%	0.30%	13	267	NA	
28	RailTel Corporation	All India (Pan India)	100.00%	97.60%	100.00%	230	0.00%	100.00%	0.00%	84.57%	93.47%	0	0	52.16%	100.00%	99.95%	1.00%	120	350	NA	
29	Rajesh Multichannel	Mumbai	100.00%	98.00%	100.00%	0	0.00%	100.00%	100.00%	96.00%	97.00%	0	0	87.00%	86.00%	99.00%	0.00%	46	250	500	
30	Reliance Com. (RCL)	All India	100.00%	100.00%	100.00%	Nil	0.13%	100.00%	100.00%	99.00%	99.00%	Nil	Nil	59.62%	93.00%	99.00%	0.44%	1	6	0	
31	RK Infratel Ltd.	Gujarat	100.00%	90.38%	99.32%	0	NA	100.00%	NA	100.00%	100.00%	0	0	85.93%	95.50%	99.82%	0.29%	120	350	NA	
32	Siti Broadband	All India	100.00%	95.25%	99.30%	0	0.00%	100.00%	0.00%	94.00%	99.00%	0	0	65.00%	90.00%	99.74%	0.00%	77	280	NA	
33	Southern (SOBTL)	Andhra Pradesh	100.00%	99.00%	100.00%	0	0.00%	100.00%	100.00%	92.00%	100.00%	0	0	85.00%	95.00%	99.90%	0.05%	100	300	500	
34	Syscon Infoway Pvt. Ltd.	Maharashtra	100.00%	97.00%	100.00%	Nil	0.00%	100.00%	NA	76.00%	87.67%	0	0	72.00%	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	71.00%	99.00%	100.00%	0.00%	1	47	80	
35	TTML	Maharashtra & Goa	100.00%	88.00%	97.41%	318	0.17%	100.00%	100.00%	80.73%	84.88%	0	0	76.09%	90.16%	99.88%	0.00%	48	176	Nil	
36	Tata (TTSL)	All India (Pan India)	100.00%	88.99%	97.42%	160	0.33%	100.00%	100.00%	79.60%	84.23%	0	0	62.42%	92.35%	99.81%	0.00%	60	198	Nil	
37	Tata Communications (TCL)	All India	NA	100.00%	100.00%	0	0.00%	100.00%	0.00%	75.00%	78.00%	0	0	57.87%	80.00%	99.46%	0.00%	15	253	NA	
38	Vasai Cable	Mumbai	100.00%	95.95%	100.00%	Nil	0.09%	100.00%	Nil	83.32%	89.42%	Nil	0	63.00%	90.00%	100.00%	1.00%	4	255	NA	
39	Wan and Lan Internet	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	
40	Wish Net Pvt. Ltd.	West Bengal	100.00%	98.88%	100.00%	0	0.04%	100.00%	NA	81.67%	97.67%	0	0	74.30%	100.00%	99.88%	1.00%	20	NA	NA	
		Kolkata	100.00%	98.85%	100.00%	0	0.01%	100.00%	NA	81.67%	97.67%	0	0	74.96%	100.00%	99.88%	1.00%	40	NA	NA	
41	World Phone Internet Services Pvt Ltd	PAN India	100.00%	100.00%	100.00%	0	0.00%	100.00%	0.00%	100.00%	100.00%	0	NA	NA	85.00%	99.83%	1.00%	25	NA	NA	
42	Yashash Cable Network	Karnataka	99.56%	91.46%	99.05%	0	0.00%	NA	NA	75.68%	80.81%	0	0	0.00%	80.00%	99.00%	1.00%	30	280	NA	
43	You Broadband	All India	99.87%	97.50%	99.49%	0	0.00%	100.00%	100.00%	91.26%	93.91%	NA	0	76.56%	87.09%	99.47%	0.00%	9	274	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**

<b>Sl. No.</b>	<b>Name of the broadcaster</b>	<b>Sl. No</b>	<b>Name of the channel</b>	<b>Declared as SD or HD</b>
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	BTVi (Earlier name "Bloomberg TV India")	SD
9	M/s Celebrities Management Pvt Limited	25	Travel XP HD (Earlier name "Travel XP")	HD
		26	Travel XP Tamil	SD
10	M/s Greycells18 Media Ltd	27	Topper TV (#)	SD
11	M/s Discovery Communications India	28	Animal Planet	SD
		29	Discovery Channel	SD
		30	Discovery Channel – Tamil	SD
		31	Discovery Kids Channel	SD
		32	Discovery Science	SD
		33	Discovery Turbo	SD
		34	ID Investigation Discovery	SD
		35	Discovery HD World (earlier name "Discovery HD")	HD

**Annexure 5.1(Contd.)**

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

**Annexure 5.1(Contd.)**

<b>Sl. No.</b>	<b>Name of the broadcaster</b>	<b>Sl. No</b>	<b>Name of the channel</b>	<b>Declared as SD or HD</b>
		72	PIX HD	HD
		73	MAX HD	HD
		74	SONY ESPN HD	HD
		75	Le PLEX HD	HD
		76	SAB HD	HD
		77	SONY ROX HD	HD
21	M/s MSM World Wide Factual Media Private Limited	78	SONY BBC EARTH	SD
		79	SONY BBC EARTH HD	HD
22	M/s NDTV Life style Limited	80	NDTV Good Times	SD
23	M/s Neo Sports Broadcast Pvt Limited	81	NEO Prime (Earlier name "Neo Cricket")	SD
		82	Neo Sports	SD
24	M/s New Delhi Television Limited	83	NDTV 24*7	SD
		84	Granada TV (HD)	HD
		85	Trace Sports HD	HD
		86	NDTV Profit	SD
25	M/s NGC Network (India) Pvt Limited	87	Fox Life	SD
		88	National Geographic Channel (NGC)	SD
		89	Fox Life HD	HD
		90	Nat Geo Wild	SD
		91	National Geographic HD	HD
		92	Nat Geo Music HD	HD
		93	Nat Geo Wild HD	HD
		94	Nat Geo People HD	HD
		95	Baby TV HD	HD
26	M/s Odisha Television Limited	96	Prarthana	SD
		97	Tarang	SD
		98	Tarang Music	SD
		99	Alankar	SD
27	M/s Panorama Television Private Limited	100	ETV Bihar Jharkhand	SD
		101	ETV MP Chattisgarh	SD
		102	ETV Rajasthan	SD
		103	ETV Uttar Pradesh Uttarachal	SD
		104	ETV Urdu	SD
		105	ETV News Kannada	SD
		106	ETV News Bangla	SD
		107	ETV Haryana / H. P.	SD
		108	ETV News Gujarati	SD
		109	ETV News Odia	SD
		110	9X Tashan (Earlier name "Purvaiya")	SD
29	M/s Raj Television Network Limited	111	Raj Musix Kannada	SD
		112	Raj Digital Plus	SD

**Annexure 5.1(Contd.)**

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

**Annexure 5.1(Contd.)**

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

**Annexure 5.1(Contd.)**

<b>Sl. No.</b>	<b>Name of the broadcaster</b>	<b>Sl. No</b>	<b>Name of the channel</b>	<b>Declared as SD or HD</b>
35	M/s Taj Television India Private Limited	196	Ten 2 (earlier name 'Ten Action')	SD
		197	Ten 1 (earlier name 'Ten Sports')	SD
		198	Ten 3	SD
		199	Ten Golf HD	HD
		200	Ten 1 HD (earlier name 'Ten HD')	HD
36	M/s Turmeric Vision Pvt Ltd	201	Food Food TV	SD
37	M/s Turner International India Pvt Ltd	202	Cartoon Network	SD
		203	CNN International	SD
		204	HBO	SD
		205	POGO	SD
		206	Toonami (Earlier name "Boomerang")	SD
		207	WB	SD
		208	HBO HD (Earlier name "HBO Hits HD")	HD
38	M/s TV 18 Broadcast Limited	209	CNN News 18 (earlier name "CNN-IBN")	SD
		210	CNBC Bazaar	SD
		211	CNBC TV 18 Prime HD	HD
		212	CNBC Awaaz	SD
		213	CNBC TV 18	SD
39	M/s TV Today Network Limited	214	Aaj Tak	SD
		215	Delhi Aaj Tak	SD
		216	India Today (Earlier name "Headlines Today")	SD
		217	Aaj Tak Tez	SD
40	M/s United Home Entertainment Pvt Limited	218	Hungama TV	SD
41	M/s Disney Broadcasting (India) Limited	219	Disney Junior (Earlier name "UTV Comedy")	SD
		220	UTV Movies	SD
		221	Disney XD (Earlier name "UTV World Movies")	SD
		222	Bindass Play (Earlier name "UTV Stars")	SD
		223	The Disney Channel	SD
42	M/s Viacom 18 Media Private Limited	224	Colors	SD
		225	Comedy Central (HD Distribution)	HD
		226	MTV	SD
		227	NICK	SD
		228	Nick Jr / Teen Nick	SD
		229	SONIC	SD
		230	VH 1 (HD Distribution)	HD
231	Colors Infinity HD	HD		

**Annexure 5.1(Contd.)**

<b>Sl. No.</b>	<b>Name of the broadcaster</b>	<b>Sl. No</b>	<b>Name of the channel</b>	<b>Declared as SD or HD</b>
		232	Colors Infinity	SD
		233	Colors HD	HD
		234	NICKS HD+	HD
		235	MTV Indies (HD Distribution)	HD
		236	Rishtey Cineplex	SD
		237	MTV Beats (Earlier name "X Zone")	SD
		238	Colors Kannada HD	HD
		239	Colors Marathi HD	HD
		240	Colors Bangla HD	HD
		241	Colors Super	SD
		242	Colors Bangla (Earlier name "ETV Bangla")	SD
		243	Colors Gujarati ( Earlier name "ETV Gujarati")	SD
		244	Colors Kannada (Earlier name "ETV Kannada")	SD
		245	Colors Marathi (Earlier name "ETV Marathi")	SD
		246	Colors Oriya (Earlier name "ETV Oriya")	SD
		247	MTV Beats HD	HD
		248	Cineplex HD	HD
		249	VH 1	SD
		250	Comedy Central	SD
43	M/s Vijay Television Pvt Limited	251	Vijay TV (except Tamil Nadu)	SD
		252	Vijay Super	SD
		253	Vijay HD	HD
44	M/s Zee Akaash News Pvt Ltd	254	24 Ghanta	SD
45	M/s Zee Entertainment Enterprises Limited	255	Zee ETC Bollywood (Earlier name "Zee Bollywood")	SD
		256	Action Cinema	SD
		257	Zee Bangla Cinema	SD
		258	Zee Café HD	HD
		259	Zee Café	SD
		260	Zee Cinema	SD
		261	Classic Cinema	SD
		262	Zee Salaam	SD
		263	Zee Studio	SD
		264	Zee Talkies	SD
		265	Zee TV	SD
		266	Zing	SD
		267	Zindagi	SD
		268	& Picture	SD

**Annexure 5.1(Contd.)**

<b>Sl. No.</b>	<b>Name of the broadcaster</b>	<b>Sl. No</b>	<b>Name of the channel</b>	<b>Declared as SD or HD</b>
		269	Zee Bangla	SD
		270	Zee Marathi	SD
		271	Living Foodz (earlier name "Zee Khana Khazana")	SD
		272	Zee TV HD	HD
		273	Zee Cinema HD	HD
		274	Zee Studio HD	HD
		275	& TV	SD
		276	& TV HD	HD
		277	Zee Kannada	SD
		278	Zee Telugu	SD
		279	& Pictures HD	HD
		280	Zee Cinemalu	SD
		281	Zee Yuva	SD
		282	Zee Marathi HD	HD
		283	Living Zen	SD
		284	Zee Bangla HD	HD
		285	Zee Talkies HD	HD
46	M/s Zee Media Corporation Limited	286	Zee 24 Taas	SD
		287	Zee Kalinga (Earlier name "Zee 24 Ghantalu")	SD
		288	Zee Business	SD
		289	Zee Punjab Haryana Himachal (Earlier name "Zee Punjabi")	SD
		290	Zee Madhya Pradesh Chattisgarh	SD
		291	WION	SD
		292	Zee Rajasthan News (Earliner name "Zee Marudhara" and "Zee Rajasthan Plus")	SD
47	M/s Zoom Entertainment Network Limited	293	Movies Now	SD
48	M/s AXN Networks India Private Limited	294	SONY ESPN (Earlier name "SONY KIX")	SD
		295	AXN HD	HD

Note :

(A) Indicative a-la-carte rates of the pay channels, as reported to TRAI as offered by the broadcaster to the DPOs, are for information of the stakeholders.

(B) \* the a-la-cartes rate of the pay channels for addressable systems shall not be more than 42% of the rate for such channel, as specified for non-addressable systems.

(C) # Advertisement free channels

(D) \*\* Channel is not being distributed on non- Addressable Systems.



## **Annexure 5.2 : List of pay DTH Operators**

- 1. M/s. Tata Sky Ltd.,**  
3<sup>rd</sup> 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](http://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](http://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](http://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](http://www.airtel.in)
  
- 5. Reliance Big TV Pvt. Ltd.**  
3<sup>rd</sup> Floor, A-Wing,  
Reliance Centre, Maharaja Ranjit Singh Marg,  
New Delhi – 110 002  
Ph: 011-30331012  
Fax : 011-30331781  
Website : [www.rcom.co.in](http://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](http://www.vedeocond2h.com)

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

<b>S.No.</b>	<b>Name of City</b>	<b>Category</b>	<b>Number of operational channels</b>
1	Agra	B	3
2	Ahmedabad	A	6
3	Ahmednagar	C	3
4	Aizwal	D	1
5	Ajmer	C	3
6	Akola	C	2
7	Aligarh	C	2
8	Allahabad	B	3
9	Amritsar	B	4
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	3
17	Bilaspur	C	1
18	Chandigarh	C	4
19	Chennai	A+	8
20	Cochin	B	4
21	Coimbatore	B	4
22	Delhi	A+	9
23	Dhule	C	2
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	7
31	Indore	B	4
32	Jabalpur	B	4
33	Jaipur	A	6
34	Jalandhar	C	4
35	Jalgaon	C	3
36	Jammu	C	1
37	Jamshedpur	B	4
38	Jhansi	C	1
39	Jodhpur	C	4
40	Kannur	C	4
41	Kanpur	A	6
42	Karnal	D	3
43	Kolhapur	C	3

**Annexure- 5.3 (Contd.)**

<b>S.No.</b>	<b>Name of City</b>	<b>Category</b>	<b>Number of operational channels</b>
44	Kolkata	A+	8
45	Kota	C	4
46	Kozhikode	C	2
47	Lucknow	A	5
48	Madurai	B	4
49	Mangalore	C	3
50	Mumbai	A+	9
51	Muzaffarpur	C	1
52	Mysore	C	2
53	Nagpur	A	5
54	Nanded	C	2
55	Nasik	C	4
56	Panaji	D	3
57	Patiala	C	4
58	Patna	B	3
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	2
68	Shimla	D	3
69	Sholapur	C	3
70	Siliguri	C	3
71	Srinagar	C	1
72	Surat	A	6
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
<b>Total</b>			<b>293</b>

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

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