

## Information note to the Press (Press Release No 45/2023)

**For Immediate Release**

### **Telecom Regulatory Authority of India**

#### **Press release on “Performance Monitoring Report (PMR) on Quality of Service of Cellular Service for QE March 2023”.**

New Delhi, 22nd May, 2023 – TRAI today has released the “Performance Monitoring Report (PMR) on Quality of Service of Cellular Service for QE March 2023” in compliance to the provisions of “*The Standards of Quality of Service for Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009*”.

2. TRAI has laid down the Standards of Quality of Service for Cellular Mobile Telephone Service vide above mentioned Regulations. These regulations have been amended from time to time. These regulations have prescribed various quality of service parameters and its benchmarks in two categories as detailed below: for network related parameters, customer service parameters.

A. Network Service Quality parameters- It includes parameters related to Network Service Availability, Accessibility and Retainability.

B. Customer Service Quality parameters- It includes parameters related to Metering & Billing credibility, Resolution of billing/ charging complaints, Response time to the customer for assistance, Termination/ closure of service and time taken for refund of deposits after closures.

3. All service providers are required to meet the specified benchmarks for each parameter in all License Service Area (LSA) on a quarterly basis. The service providers are required to submit Performance Monitoring Report on quarterly basis to TRAI reporting their performance against these parameters.

4. The PMR reports received from service providers for cellular service for QE March'2023 have been examined. It is observed that all the cellular service providers have met the benchmarks of all network service quality related parameters in all the LSAs whereas some of the service providers are not meeting the benchmarks for few customer related parameters in some of the LSAs.

5. The performance of TSPs in Network service quality related parameters varies from one LSA to another LSA. The relative performance of TSPs in some of the important network related parameters provided below. The rank number-1 shows relatively better performance than rank 2 and so on.

a. Base Station Accumulated down-time (not available for service) (%age) (<= 2%)

LSA	TSP1	TSP2	TSP3	TSP4
Andhra Pradesh	RJIL/VIL	-	Airtel	BSNL
Assam	RJIL	Airtel	VIL	BSNL
Bihar	VIL	RJIL	Airtel	BSNL
Delhi	VIL	MTNL	RJIL	Airtel
Gujarat	VIL	Airtel/RJIL	-	BSNL
Haryana	RJIL	VIL	Airtel	BSNL
Himachal Pradesh	VIL	Airtel	RJIL	BSNL
Jammu & Kashmir	RJIL	VIL	Airtel	BSNL
Karnataka	RJIL	VIL	Airtel	BSNL
Kerala	RJIL	VIL	Airtel	BSNL
Kolkata	RJIL	VIL	Airtel	BSNL
Madhya Pradesh	Airtel	RJIL/VIL	-	BSNL
Maharashtra	Airtel	VIL	RJIL	BSNL

Mumbai	VIL	RJIL	Airtel	MTNL
North East	Airtel	VIL	RJIL	BSNL
Orrisa	Airtel	RJIL	VIL	BSNL
Punjab	VIL	RJIL	Airtel	BSNL
Rajasthan	RJIL	VIL	Airtel	BSNL
Tamil Nadu	RJIL	Airtel	VIL	BSNL
Uttar Pradesh East	VIL	RJIL	Airtel	BSNL
Uttar Pradesh West	VIL	RJIL	Airtel	BSNL
West Bengal	RJIL	VIL	Airtel	BSNL

b. Worst affected Base Stations due to down-time (%age) (<= 2%)

LSA	TSP1	TSP2	TSP3	TSP4
Andhra Pradesh	RJIL	VIL	Airtel	BSNL
Assam	BSNL	RJIL	Airtel	VIL
Bihar	Airtel	RJIL	BSNL	VIL
Delhi	VIL	MTNL	RJIL	Airtel
Gujarat	RJIL/VIL	-	BSNL	Airtel
Haryana	BSNL	RJIL	VIL	Airtel
Himachal Pradesh	VIL	Airtel	BSNL	RJIL
Jammu & Kashmir	VIL	RJIL	BSNL	Airtel
Karnataka	RJIL	VIL	BSNL	Airtel
Kerala	RJIL	VIL	BSNL	Airtel
Kolkata	Airtel	RJIL	VIL	BSNL
Madhya Pradesh	BSNL	Airtel	VIL	RJIL
Maharashtra	Airtel	VIL	BSNL	RJIL
Mumbai	VIL	Airtel	RJIL	MTNL
North East	BSNL	Airtel	RJIL	VIL
Orrisa	Airtel	RJIL	BSNL	VIL
Punjab	VIL	RJIL	BSNL	Airtel
Rajasthan	RJIL	VIL	BSNL	Airtel
Tamil Nadu	RJIL	Airtel	VIL	BSNL
Uttar Pradesh East	BSNL	VIL	RJIL	Airtel
Uttar Pradesh West	BSNL	VIL	RJIL	Airtel
West Bengal	RJIL	VIL	Airtel	BSNL

c. Network QoS DCR Spatial Distribution Measure [Network\_QSD(90,90)] (<= 2%)

LSA	TSP1	TSP2	TSP3	TSP4
Andhra Pradesh	RJIL	Airtel	BSNL	VIL
Assam	RJIL	Airtel	BSNL	VIL
Bihar	RJIL	VIL	Airtel	BSNL
Delhi	RJIL	MTNL	VIL	Airtel
Gujarat	RJIL	BSNL	Airtel	VIL
Haryana	RJIL	Airtel	VIL	BSNL
Himachal Pradesh	RJIL	Airtel	VIL	BSNL
Jammu & Kashmir	RJIL	Airtel	VIL	BSNL

Karnataka	RJIL	Airtel	BSNL	VIL
Kerala	RJIL	VIL	Airtel	BSNL
Kolkata	RJIL	VIL	BSNL	Airtel
Madhya Pradesh	RJIL	VIL	Airtel	BSNL
Maharashtra	RJIL	Airtel	BSNL	VIL
Mumbai	RJIL	Airtel	VIL	MTNL
North East	RJIL	Airtel	VIL	BSNL
Orrisa	RJIL	VIL	Airtel	BSNL
Punjab	RJIL	VIL	Airtel	BSNL
Rajasthan	RJIL	Airtel	BSNL	VIL
Tamil Nadu	RJIL	Airtel/VIL	-	BSNL
Uttar Pradesh East	RJIL	Airtel	BSNL	VIL
Uttar Pradesh West	RJIL	Airtel	BSNL	VIL
West Bengal	RJIL	Airtel	VIL	BSNL

d. Network QoS DCR Temporal Distribution Measure [Network\_ QTD(97,90)] (<= 3%)

LSA	TSP1	TSP2	TSP3	TSP4
Andhra Pradesh	RJIL	Airtel	BSNL	VIL
Assam	RJIL	BSNL	Airtel	VIL
Bihar	RJIL	Airtel	VIL	BSNL
Delhi	RJIL	MTNL	VIL	Airtel
Gujarat	RJIL	BSNL/VIL	-	BSNL
Haryana	RJIL	Airtel	BSNL	VIL
Himachal Pradesh	RJIL	Airtel	BSNL	VIL
Jammu & Kashmir	RJIL	Airtel	VIL	BSNL
Karnataka	RJIL	Airtel	BSNL	VIL
Kerala	RJIL	VIL	Airtel	BSNL
Kolkata	RJIL	BSNL	VIL	Airtel
Madhya Pradesh	RJIL	Airtel	BSNL	VIL
Maharashtra	RJIL	Airtel	BSNL	VIL
Mumbai	RJIL	Airtel	VIL	MTNL
North East	RJIL	BSNL	Airtel	VIL
Orrisa	RJIL	Airtel	BSNL	VIL
Punjab	RJIL	VIL	Airtel	BSNL
Rajasthan	RJIL	Airtel	BSNL	VIL
Tamil Nadu	RJIL	VIL	Airtel	BSNL
Uttar Pradesh East	RJIL	Airtel	BSNL	VIL
Uttar Pradesh West	RJIL	Airtel	BSNL	VIL
West Bengal	RJIL	BSNL	Airtel	VIL

6. It is pertinent to mention that though all the service providers have met the network service quality related benchmarks but there may be few pockets or some days where users might experience poor quality or service since these benchmarks are measured on an average basis and assessed over the entire LSA for a given quarter.

7. The complete performance of all the TSPs for each of the benchmark against respective parameters are given in **Annexure**.

8. For any clarification/ information Shri Tejpal Singh, Advisor (QoS-I) TRAI may be contacted at Tel. No. 011-23233602 or email [adv-qos1@trai.gov.in](mailto:adv-qos1@trai.gov.in).

*V. Raghunandan*  
(V. Raghunandan)  
Secretary, TRAI

LSA Name	TSP Name	Network Related Parameters											Customer Service Quality Parameters								
		Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)						Metering and Billing				Response time to the customer for assistance		Termination / closure of service		
		BS Accumulated downtime (not available for service) (%age)	Worst affected BSs due to downtime (%age)	Call Set-up Success Rate and Session Establishment Success Rate for Circuit Switched Voice or VoLTE as applicable	SDCCH/Paging Channel Congestion/ RRC Congestion (%age)	TCH, RAB and E-RAB Congestion (%age)	Network QoS DCR Spatial Distribution Measure [Network_QSD(90,90)]	Network QoS DCR Temporal Distribution Measure [Network_QTD(97,90)]	Connections with good voice quality, Circuit Switched Voice Quality and VoLTE quality	Down Link (DL) Packet Drop Rate or DL-PDR	Up Link (UL) Packet Drop Rate or UL-PDR	Point of Interconnection (POI) Congestion (on individual POI) - No. of POIs not meeting the benchmark	Metering and billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/complaints - within 4 weeks	Resolution of billing/complaints - within 6 weeks	Period of applying credit/waiver/adjustment to customer's account from the date of resolution of complaints	Accessibility of call center/customer care	Percentage of calls answered by the operators (voice to voice) within ninety seconds	Termination / Closure of service	Time taken for refund of deposits after closures
<=2%	<=2%	>=95%	<=1%	<=2%	<=2%	<=3%	0.95	<=2%	<=2%	<=0.5	<=0.1%	<=0.1%	98% within 4 weeks	100% within 6 weeks	100% within 1 week of resolution of complaint	>=95%	>=95%	<= 7 days	100% within 60 days		
Andhra Pradesh	AIRTEL	0.11%	0.53%	99.47%	0.34%	0.33%	0.70%	0.91%	96.59%	0.16%	0.14%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	91.87%	100.00%	100.00%
	BSNL	1.28%	1.83%	98.44%	0.62%	0.60%	1.56%	1.70%	98.84%	0.09%	0.22%	0	0.02%	0.00%	100.00%	100.00%	100.00%	96.05%	92.29%	100.00%	100.00%
	RJIL	0.05%	0.07%	99.73%	0.04%	0.00%	0.17%	0.28%	99.96%	0.00%	0.07%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.61%	98.60%	100.00%	100.00%
	VIL	0.05%	0.27%	99.22%	0.30%	0.22%	1.59%	2.30%	97.88%	0.01%	0.14%	0	0.00%	0.00%	99.14%	100.00%	100.00%	99.06%	99.35%	100.00%	100.00%
Assam	AIRTEL	0.20%	0.99%	98.95%	0.24%	0.38%	1.83%	2.59%	96.73%	0.17%	0.15%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	90.60%	100.00%	100.00%
	BSNL	1.76%	0.50%	98.48%	0.79%	1.74%	1.86%	2.31%	98.41%	1.62%	1.77%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.96%	98.00%	100.00%	100.00%
	RJIL	0.18%	0.52%	99.73%	0.02%	0.00%	0.35%	0.45%	99.96%	0.00%	0.07%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.01%	99.16%	100.00%	100.00%
	VIL	0.48%	1.81%	99.50%	0.13%	0.49%	1.95%	2.76%	98.12%	0.09%	0.10%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.18%	99.95%	100.00%	100.00%
Bihar	AIRTEL	0.08%	0.06%	98.16%	0.37%	0.44%	1.34%	1.57%	98.34%	0.15%	0.35%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	87.52%	100.00%	100.00%
	BSNL	1.94%	0.64%	95.84%	0.32%	0.31%	1.87%	2.38%	98.40%	0.00%	0.00%	0	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	RJIL	0.06%	0.08%	99.61%	0.01%	0.00%	0.25%	0.36%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.10%	99.09%	100.00%	100.00%
	VIL	0.02%	1.02%	99.06%	0.10%	0.10%	1.28%	1.85%	99.22%	0.00%	0.03%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.10%	99.85%	100.00%	100.00%
Delhi	AIRTEL	0.18%	1.62%	99.34%	0.14%	0.20%	1.82%	2.33%	95.17%	0.42%	0.21%	0	0.01%	0.00%	100.00%	100.00%	100.00%	100.00%	92.55%	100.00%	100.00%
	MTNL	0.06%	0.22%	97.51%	0.14%	0.87%	1.28%	1.46%	98.35%	NA	NA	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.01%	99.85%	100.00%	100.00%
	RJIL	0.08%	0.24%	99.70%	0.00%	0.00%	0.17%	0.33%	99.95%	0.00%	0.09%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.16%	99.23%	100.00%	100.00%
	VIL	0.05%	0.14%	99.83%	0.07%	0.16%	1.35%	1.90%	99.59%	0.15%	0.23%	0	0.00%	0.01%	100.00%	100.00%	100.00%	98.89%	100.00%	100.00%	100.00%
Gujarat	AIRTEL	0.08%	0.43%	99.36%	0.22%	0.30%	1.55%	1.92%	96.17%	0.09%	0.18%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	92.26%	100.00%	100.00%
	BSNL	1.22%	0.40%	98.01%	0.10%	0.61%	1.22%	2.08%	98.24%	0.09%	0.18%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.66%	96.29%	100.00%	100.00%
	RJIL	0.08%	0.15%	99.74%	0.01%	0.00%	0.13%	0.24%	99.97%	0.00%	0.07%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.87%	98.69%	100.00%	100.00%
	VIL	0.04%	0.15%	99.60%	0.08%	0.41%	1.44%	1.92%	96.63%	0.14%	0.17%	0	0.01%	0.00%	100.00%	100.00%	100.00%	97.86%	99.93%	100.00%	100.00%
Haryana	AIRTEL	0.20%	1.56%	99.60%	0.10%	0.15%	1.08%	1.39%	95.53%	0.11%	0.22%	0	0.01%	0.00%	100.00%	100.00%	100.00%	100.00%	91.68%	100.00%	100.00%
	BSNL	0.92%	0.16%	98.83%	0.21%	0.66%	1.58%	1.76%	96.97%	0.21%	0.57%	0	0.01%	0.00%	100.00%	100.00%	100.00%	97.04%	95.15%	100.00%	100.00%
	RJIL	0.07%	0.18%	99.72%	0.00%	0.00%	0.23%	0.44%	99.97%	0.00%	0.06%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.56%	98.78%	100.00%	100.00%
	VIL	0.10%	0.38%	99.41%	0.24%	0.58%	1.56%	2.17%	98.19%	0.13%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.73%	99.97%	100.00%	100.00%
Himachal Pradesh	AIRTEL	0.10%	0.34%	99.78%	0.12%	0.11%	1.23%	1.85%	96.14%	0.15%	0.12%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	93.22%	100.00%	100.00%
	BSNL	1.94%	0.42%	97.83%	0.63%	1.26%	1.91%	2.08%	96.26%	0.00%	0.00%	0	0.01%	0.00%	100.00%	100.00%	100.00%	99.65%	97.92%	100.00%	100.00%
	RJIL	0.15%	0.61%	99.65%	0.00%	0.00%	0.13%	0.29%	99.97%	0.00%	0.05%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.64%	99.19%	100.00%	100.00%
	VIL	0.06%	0.04%	99.20%	0.37%	0.39%	1.82%	2.44%	95.72%	0.15%	0.21%	0	0.01%	0.00%	100.00%	100.00%	100.00%	99.86%	99.96%	100.00%	100.00%
Jammu & Kashmir	AIRTEL	0.27%	1.64%	99.45%	0.07%	0.07%	0.38%	0.90%	95.94%	0.19%	0.14%	0	0.01%	0.00%	100.00%	100.00%	100.00%	100.00%	88.60%	100.00%	100.00%
	BSNL	1.98%	0.62%	98.34%	0.85%	0.90%	1.97%	2.78%	96.48%	0.02%	0.11%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.00%	99.98%	100.00%	100.00%
	RJIL	0.13%	0.58%	99.74%	0.00%	0.00%	0.09%	0.32%	99.97%	0.00%	0.05%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.68%	99.59%	100.00%	100.00%
	VIL	0.26%	0.55%	99.17%	0.12%	0.54%	1.69%	2.13%	97.98%	0.19%	0.17%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.84%	99.99%	100.00%	100.00%
Karnataka	AIRTEL	0.17%	0.76%	99.67%	0.14%	0.21%	0.83%	1.39%	95.07%	0.15%	0.14%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	93.61%	100.00%	100.00%
	BSNL	1.35%	0.51%	98.55%	0.45%	0.33%	1.49%	1.61%	97.98%	0.66%	0.74%	0	0.00%	0.00%	99.76%	100.00%	100.00%	95.27%	92.34%	100.00%	100.00%
	RJIL	0.04%	0.04%	99.73%	0.06%	0.00%	0.14%	0.29%	99.97%	0.00%	0.06%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.89%	98.36%	100.00%	100.00%
	VIL	0.09%	0.46%	99.62%	0.49%	0.09%	1.59%	1.96%	98.87%	0.10%	0.14%	0	0.01%	0.00%	100.00%	100.00%	100.00%	98.02%	99.94%	100.00%	100.00%

LSA Name	TSP Name	Network Related Parameters											Customer Service Quality Parameters								
		Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)						Metering and Billing				Response time to the customer for assistance		Termination / closure of service		
		BS Accumulated downtime (not available for service) (%age)	Worst affected BSs due to downtime (%age)	Call Set-up Success Rate and Session Establishment Success Rate for Circuit Switched Voice or VoLTE as applicable	SDCCH/Paging Channel Congestion/ RRC Congestion (%age)	TCH, RAB and E-RAB Congestion (%age)	Network QoS DCR Spatial Distribution Measure [Network_QSD(90,90)]	Network QoS DCR Temporal Distribution Measure [Network_QTD(97,90)]	Connections with good voice quality, Circuit Switched Voice Quality and VoLTE quality	Down Link (DL) Packet Drop Rate or UL-PDR	Up Link (UL) Packet Drop Rate or UL-PDR	Point of Interconnection (POI) Congestion (on individual POI) - No. of POIs not meeting the benchmark	Metering and billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging complaint s- within 4 weeks	Resolution of billing/charging complaint s- within 6 weeks	Period of applying credit/waiver/ adjustment to customer's account from the date of resolution of complaints	Accessibility of call center/ customer care	Percentage of calls answered by the operators (voice to voice) within ninety seconds	Termination / Closure of service	Time taken for refund of deposits after closures
<=2%	<=2%	=>95%	<=1%	<=2%	<=2%	<=3%	0.95	<=2%	<=2%	<=0.5	<=0.1%	<=0.1%	98% within 4 weeks	100% within 6 weeks	100% within 1 week of resolution of complaint	=>95%	=>95%	<= 7 days	100% within 60 days		
Kerala	AIRTEL	0.10%	0.24%	99.69%	0.47%	0.60%	1.37%	2.13%	96.63%	0.14%	0.47%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	78.43%	100.00%	100.00%
	BSNL	0.21%	0.19%	98.76%	0.68%	0.56%	1.90%	2.30%	98.73%	0.06%	0.18%	0	0.00%	0.01%	100.00%	100.00%	100.00%	97.10%	95.49%	100.00%	100.00%
	RJIL	0.02%	0.02%	99.75%	0.15%	0.00%	0.13%	0.56%	99.97%	0.00%	0.06%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.76%	98.08%	100.00%	100.00%
Kolkata	VIL	0.04%	0.04%	99.71%	0.28%	0.29%	0.51%	0.93%	99.06%	0.06%	0.13%	0	0.02%	0.00%	100.00%	100.00%	100.00%	91.04%	99.57%	100.00%	100.00%
	AIRTEL	0.07%	0.00%	99.80%	0.23%	0.23%	1.63%	2.56%	97.78%	0.15%	0.28%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	88.65%	100.00%	100.00%
	BSNL	0.18%	0.54%	98.31%	0.10%	0.24%	1.41%	1.59%	96.90%	0.00%	0.00%	0	0.00%	0.00%	99.00%	100.00%	100.00%	96.14%	95.03%	100.00%	100.00%
Madhya Pradesh	RJIL	0.01%	0.02%	99.75%	0.01%	0.00%	0.06%	0.28%	99.98%	0.00%	0.04%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.14%	98.59%	100.00%	100.00%
	VIL	0.05%	0.14%	99.90%	0.19%	0.10%	1.14%	1.60%	97.71%	0.09%	0.14%	0	0.02%	0.01%	100.00%	100.00%	100.00%	99.53%	99.96%	100.00%	100.00%
	AIRTEL	0.09%	0.41%	99.20%	0.17%	0.22%	1.60%	1.90%	96.83%	0.10%	0.17%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	91.54%	100.00%	100.00%
Maharashtra	BSNL	1.15%	0.33%	98.36%	0.43%	1.02%	1.83%	2.03%	98.60%	0.00%	0.00%	0	0.00%	0.03%	100.00%	100.00%	100.00%	99.97%	97.98%	100.00%	100.00%
	RJIL	0.13%	0.54%	99.66%	0.00%	0.00%	0.31%	0.42%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.87%	98.98%	100.00%	100.00%
	VIL	0.13%	0.51%	98.74%	0.30%	0.71%	1.56%	2.13%	97.48%	0.24%	0.12%	0	0.01%	0.00%	100.00%	100.00%	100.00%	96.69%	99.34%	100.00%	100.00%
Mumbai	AIRTEL	0.06%	0.04%	99.40%	0.26%	0.21%	1.19%	1.59%	97.43%	0.08%	0.20%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	94.43%	100.00%	100.00%
	BSNL	1.69%	0.62%	97.65%	0.45%	0.84%	1.66%	2.42%	97.10%	0.06%	0.17%	0	0.03%	0.00%	99.02%	100.00%	100.00%	98.49%	96.62%	100.00%	100.00%
	RJIL	0.19%	0.71%	99.69%	0.01%	0.00%	0.23%	0.32%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.86%	98.99%	100.00%	100.00%
North East	VIL	0.15%	0.12%	98.40%	0.63%	1.17%	1.75%	2.70%	96.93%	0.26%	0.12%	0	0.01%	0.00%	99.84%	100.00%	100.00%	95.54%	99.92%	100.00%	100.00%
	AIRTEL	0.31%	0.42%	99.20%	0.19%	0.26%	1.47%	1.82%	96.40%	0.18%	0.21%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	95.14%	100.00%	100.00%
	MTNL	0.40%	1.70%	98.00%	0.20%	0.20%	1.82%	2.78%	98.16%	NA	NA	0	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	99.09%	100.00%	100.00%
Odisha	RJIL	0.18%	0.70%	99.65%	0.01%	0.00%	0.11%	0.22%	99.95%	0.00%	0.10%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.96%	98.87%	100.00%	100.00%
	VIL	0.10%	0.10%	99.70%	0.21%	0.30%	1.54%	2.35%	98.95%	0.15%	0.21%	0	0.01%	0.00%	99.92%	100.00%	100.00%	98.71%	99.97%	100.00%	100.00%
	AIRTEL	0.41%	0.90%	98.83%	0.32%	0.82%	1.65%	2.00%	98.00%	0.18%	0.14%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	85.35%	100.00%	100.00%
Punjab	BSNL	1.96%	0.45%	97.98%	0.81%	1.03%	1.93%	1.95%	97.00%	0.00%	0.00%	0	0.05%	0.05%	100.00%	100.00%	100.00%	96.00%	96.40%	100.00%	100.00%
	RJIL	0.83%	0.97%	99.71%	0.00%	0.00%	0.45%	0.66%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.17%	99.22%	100.00%	100.00%
	VIL	0.66%	1.92%	99.59%	0.24%	0.40%	1.87%	2.24%	97.77%	0.14%	0.11%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.93%	99.94%	100.00%	100.00%
Punjab	AIRTEL	0.02%	0.02%	98.88%	0.18%	0.38%	1.57%	1.71%	97.19%	0.14%	0.01%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	92.52%	100.00%	100.00%
	BSNL	1.24%	0.64%	96.67%	0.60%	1.64%	1.91%	1.98%	96.87%	0.00%	0.00%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.30%	98.94%	100.00%	100.00%
	RJIL	0.05%	0.06%	99.69%	0.02%	0.00%	0.26%	0.40%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.00%	99.15%	100.00%	100.00%
Punjab	VIL	0.20%	0.94%	99.87%	0.08%	0.11%	1.47%	2.02%	98.90%	0.04%	0.12%	0	0.02%	0.01%	100.00%	100.00%	100.00%	99.07%	99.93%	100.00%	100.00%
	AIRTEL	0.18%	0.97%	99.49%	0.20%	0.21%	0.91%	1.12%	98.45%	0.10%	0.34%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	90.95%	100.00%	100.00%
	BSNL	0.50%	0.47%	98.48%	0.34%	0.29%	1.79%	2.02%	97.62%	0.01%	0.02%	0	0.00%	0.00%	100.00%	100.00%	100.00%	95.00%	99.98%	100.00%	100.00%
Punjab	RJIL	0.08%	0.20%	99.67%	0.00%	0.00%	0.05%	0.23%	99.97%	0.00%	0.05%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.68%	99.02%	100.00%	100.00%
	VIL	0.03%	0.16%	99.55%	0.08%	0.45%	0.48%	1.08%	99.37%	0.11%	0.21%	0	0.01%	0.00%	100.00%	100.00%	100.00%	99.43%	99.98%	100.00%	100.00%

LSA Name	TSP Name	Network Related Parameters											Customer Service Quality Parameters								
		Network Availability		Connection Establishment (Accessibility)			Connection Maintenance (Retainability)						Metering and Billing					Response time to the customer for assistance		Termination / closure of service	
		BS Accumulated down-time (not available for service) (%age)	Worst affected BSs due to down-time (%age)	Call Set-up Success Rate and Session Establishment Success Rate for Circuit Switched Voice or VoLTE as applicable	SDCCH/Paging Channel Congestion/RRC Congestion (%age)	TCH, RAB and E-RAB Congestion (%age)	Network QoS DCR Spatial Distribution Measure [Network_QSD(90,90)]	Network QoS DCR Temporal Distribution Measure [Network_QTD(97,90)]	Connections with good voice quality, Circuit Switched Voice Quality and VoLTE quality	Down Link (DL) Packet Drop Rate or DL-PDR	Up Link (UL) Packet Drop Rate or UL-PDR	Point of Interconnection (POI) Congestion (on individual POI) - No. of POIs not meeting the benchmark	Metering and billing credibility - post paid	Metering and billing credibility - pre paid	Resolution of billing/charging complaints- within 4 weeks	Resolution of billing/charging complaints- within 6 weeks	Period of applying credit/waiver/adjustment to customer's account from the date of resolution of complaints	Accessibility of call center/customer care	Percentage of calls answered by the operators (voice to voice) within ninety seconds	Termination / Closure of service	Time taken for refund of deposits after closures
<=2%	<=2%	=>95%	<=1%	<=2%	<=2%	<=3%	0.95	<=2%	<=2%	<=0.5	<=0.1%	<=0.1%	98% within 4 weeks	100% within 6 weeks	100% within 1 week of resolution of complaint	=>95%	=>95%	<= 7 days	100% within 60 days		
Rajasthan	AIRTEL	0.21%	1.23%	98.52%	0.24%	0.54%	0.67%	1.03%	98.38%	0.20%	0.18%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	91.46%	100.00%	100.00%
	BSNL	1.26%	0.54%	98.59%	0.77%	1.41%	1.57%	2.57%	98.71%	0.00%	0.00%	0	0.02%	0.01%	100.00%	100.00%	100.00%	99.50%	97.26%	100.00%	100.00%
	RJIL	0.08%	0.17%	99.72%	0.00%	0.00%	0.23%	0.35%	99.97%	0.00%	0.07%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.88%	99.03%	100.00%	100.00%
	VIL	0.13%	0.43%	99.37%	0.24%	0.40%	1.88%	2.74%	97.73%	0.18%	0.20%	0	0.01%	0.01%	100.00%	100.00%	100.00%	98.58%	99.96%	100.00%	100.00%
Tamilnadu including Chennai	AIRTEL	0.07%	0.26%	99.73%	0.19%	0.21%	1.52%	2.50%	98.07%	0.14%	0.14%	0	0.02%	0.00%	100.00%	100.00%	100.00%	100.00%	71.34%	100.00%	100.00%
	BSNL	0.78%	0.52%	99.21%	0.51%	0.45%	1.82%	2.73%	98.17%	0.00%	0.00%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.27%	97.58%	100.00%	100.00%
	RJIL	0.05%	0.11%	99.73%	0.01%	0.00%	0.13%	0.30%	99.97%	0.00%	0.06%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.89%	97.78%	100.00%	100.00%
	VIL	0.14%	0.49%	99.39%	0.56%	0.59%	1.52%	2.04%	97.97%	0.08%	0.13%	0	0.02%	0.00%	100.00%	100.00%	100.00%	97.56%	99.92%	100.00%	100.00%
Uttar Pradesh (East)	AIRTEL	0.30%	1.08%	98.79%	0.62%	0.55%	1.22%	1.53%	98.29%	0.15%	0.28%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	85.16%	100.00%	100.00%
	BSNL	1.05%	0.64%	99.27%	0.96%	0.18%	1.39%	1.92%	97.20%	0.00%	0.03%	0	0.00%	0.00%	100.00%	100.00%	100.00%	96.00%	95.64%	100.00%	100.00%
	RJIL	0.20%	0.87%	99.64%	0.00%	0.00%	0.27%	0.42%	99.97%	0.00%	0.07%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.04%	99.01%	100.00%	100.00%
	VIL	0.10%	0.66%	99.43%	0.18%	0.54%	1.69%	2.27%	98.15%	0.12%	0.25%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.36%	99.92%	100.00%	100.00%
Uttar Pradesh (West)	AIRTEL	0.32%	0.86%	99.79%	0.15%	0.15%	1.21%	1.60%	95.63%	0.11%	0.19%	0	0.03%	0.00%	100.00%	100.00%	100.00%	100.00%	89.84%	100.00%	100.00%
	BSNL	1.86%	0.58%	96.49%	0.86%	1.21%	1.71%	1.92%	96.99%	0.00%	0.00%	0	0.00%	0.01%	100.00%	100.00%	100.00%	96.75%	97.94%	100.00%	100.00%
	RJIL	0.15%	0.75%	99.69%	0.01%	0.00%	0.29%	0.48%	99.97%	0.00%	0.06%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.47%	98.97%	100.00%	100.00%
	VIL	0.11%	0.66%	99.37%	0.31%	0.60%	1.59%	2.33%	97.33%	0.09%	0.16%	0	0.00%	0.00%	100.00%	100.00%	100.00%	99.09%	99.95%	100.00%	100.00%
West Bengal	AIRTEL	0.09%	0.44%	98.87%	0.19%	0.43%	1.85%	2.56%	96.31%	0.34%	0.31%	0	0.04%	0.00%	100.00%	100.00%	100.00%	100.00%	83.80%	100.00%	100.00%
	BSNL	0.34%	0.56%	96.35%	0.79%	1.39%	1.96%	2.17%	97.87%	0.32%	1.96%	0	0.00%	0.01%	98.00%	100.00%	100.00%	97.00%	97.14%	100.00%	100.00%
	RJIL	0.05%	0.08%	99.69%	0.02%	0.00%	0.34%	0.46%	99.96%	0.00%	0.08%	0	0.00%	0.00%	100.00%	100.00%	100.00%	98.99%	98.19%	100.00%	100.00%
	VIL	0.07%	0.24%	99.87%	0.07%	0.12%	1.92%	2.70%	98.03%	0.11%	0.16%	0	0.01%	0.00%	100.00%	100.00%	100.00%	99.19%	99.93%	100.00%	100.00%