

Operator Assisted Drive Test (OADT)
Report for

January 2026

Chittoor SSA
and Nearby Areas

27.01.2026 to 30.01.2026

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1. Overview

The Operator Assisted Drive Test carried out in Chittoor City from 27-01-2026 to 30-01-2026 & 9:00 AM to 8:00 PM. The drive test covered drive route of around 445 Kms in 4 days and 8 hotspot locations.

1.1 Telecom Service Providers (TSPs), Technologies and frequency bands captured during Drive Test are as below:

S. No.	Name of TSP	Technology	Frequency Bands (In MHz)
1	Bharti Airtel Ltd.	2G	900 & 1800
2	Bharti Airtel Ltd.	4G	900, 1800 & 2300
3	Bharti Airtel Ltd.	5G	3500
4	BSNL	2G	900
5	BSNL	3G	Not Applicable (NA)
6	BSNL	4G	700,2100 & 2500
7	Reliance JIO Infocomm Ltd.	4G	850, 1800 & 2300
8	Reliance JIO Infocomm Ltd.	5G	700 & 3500
9	Vodafone Idea Ltd.	2G	900
10	Vodafone Idea Ltd.	3G	Not Applicable (NA)
11	Vodafone Idea Ltd.	4G	900, 1800, 2100 & 2500

1.2 Quality of Service parameters measured:

(1) Voice Service:

Dynamic	Static (Hotspot Location)
Call setup time	Call setup time
Call setup success rate (CSSR)	Call setup success rate (CSSR)
Dropped Call rate	Dropped Call rate
Call Silence Rate	
Handover Success Rate (HOSR)	
Packet Drop Rate (Uplink & Downlink)	
Mean Opinion Score (MOS)	
Signal Strength	

(2)

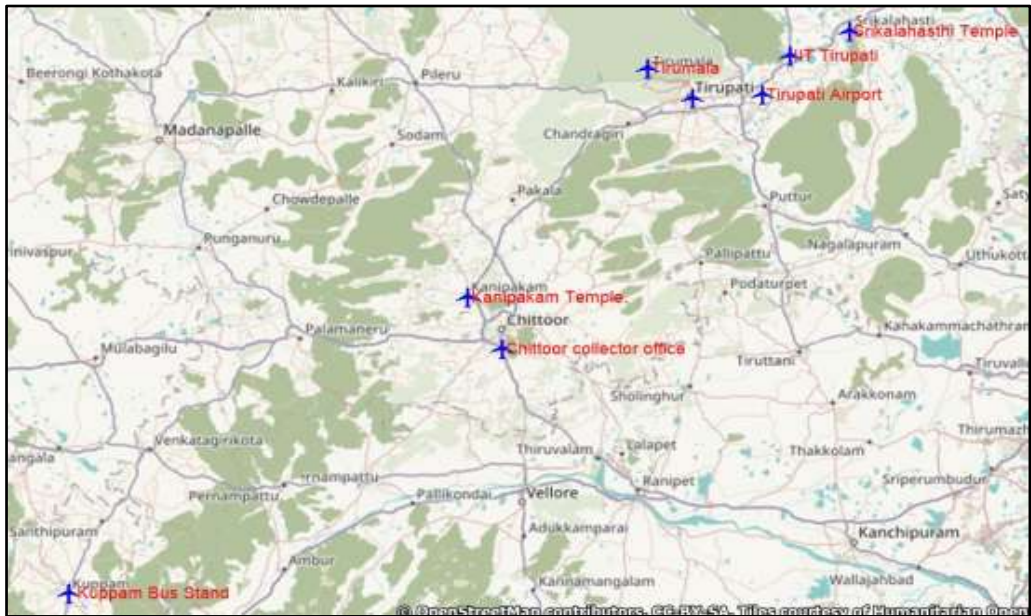
Dynamic	Static (Hotspot Location)
Data speed (DL / UL both)	Data speed (DL/UL both)
Latency	Latency
Jitter	Jitter
	Session Setup Success Rate (DL/UL)
	Packet Drop rate
	Web browsing delay
	Video Streaming performance

Drive Test Methodology adopted during the Drive test is attached as Annexure-I.

2. Executive Summary

This report covers the findings of the OADT undertaken in Chittor, Andhra Pradesh License Service Area (LSA) during the month of January 2026 under the supervision of TRAI Regional Office (RO), Hyderabad. Details of route/area covered during the OADT is as given below:

2.1. Route Map of Drive test & Hotspot locations:



2.2. Drive Test Area detail:

Date	Duration ... AM to ... PM	Drive test route	Distance covered (in Kms)
27-01-2026	09:00 AM to 09:00 PM	Chittoor - Rangampet X road – Pakala - Chandragiri fort – Tirupati - Thiruchanur – Srikalahasti -KLM circle – Puttur - Nagari.	165kms
28-01-2026	09:00 AM to 09:00 PM	Chittoor – Bangarupalyam – Palamaner – Baireddypalle – Venkatagiri Kota – Shanthipuram – Kuppam	125kms
29-01-2026	09:00 AM to 10:00 PM	Chittoor – Kanipakam – Puttur – Kallur – Pileru – Kalikiri – Vayalpadu – Madhanapalle – Angallu – Horsely Hills	155kms
30-01-2026	09:00 AM to 08:00 PM	Hotspots Locations - 4 Nos	0 kms

Date	Time	Hotspot Location	Latitude / Longitude
27-01-2025	03:20PM to 04:30PM	Srikalahasthi Temple	13.75035 79.69779
27-01-2025	06:40PM to 07:50PM	Tirupati Airport	13.63935 79.54714
28-01-2026	05:30PM to 07:00PM	Kuppam Bus Stand	12.74841 78.34546
29-01-2026	11:30AM to 12:40PM	Kanipakam Temple	13.27722 79.03613
30-01-2026	09:30AM to 11:00AM	Chittoor Collector Office	13.18351 79.09613
30-01-2026	03:00PM to 04:00PM	Tirumala temple	13.68472 79.34566
30-01-2026	04:20PM to 05:40PM	Tirupati Bus Stand	13.63032 79.42558
30-01-2026	06:10PM to 07:30PM	IIT Tirupati	13.71459 79.59571

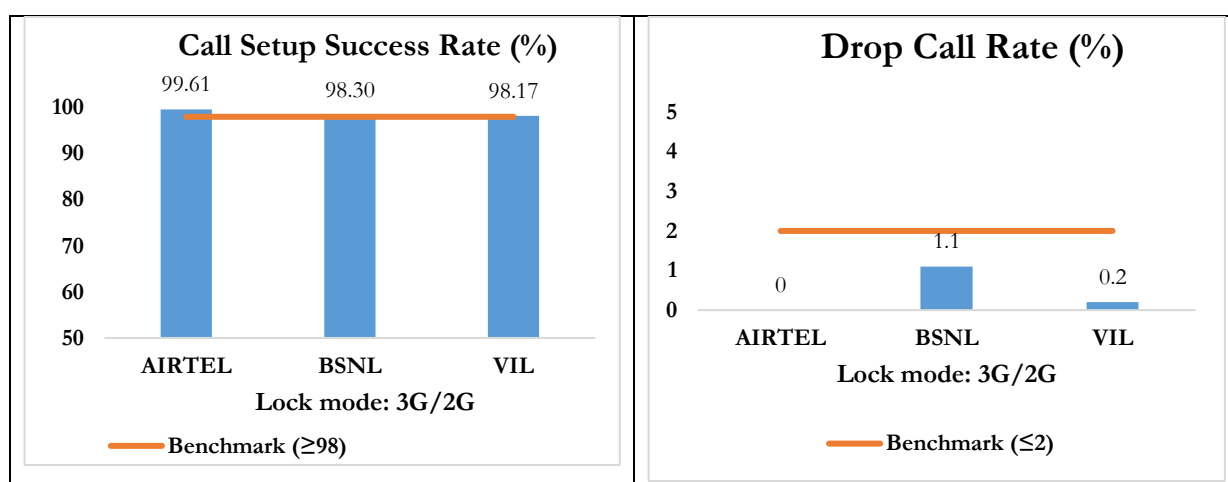
2.3. Details of Drive Test Tools used

S. No	Name of TSP	Tool Name
1.	Airtel	TEMS INVESTIGATION 27.1
		Drive Scenario
		Laptop - 1
		Handset - 1
		Handset - 2
		Handset - 3
		Handset - 4
		Laptop - 2
		Handset - 1
2.	BSNL	Azenqos tool (Version- 3.2.237(99))
		Drive scenario
		Handset-1
		Handset-2
		Handset-3
		Handset-4
		Handset-5
		Handset-1
		Handset-2

3.	RJIL	XCAL Mobile v5.24.67.01	
		Drive Scenario	
		Handset 1	MOS Origination
		Handset 2	
		Handset 3	Ping
		Handset 4	DL
		Handset 5	UL
		Handset 6	Voice
4.	VIL	TEMS Investigation 22.3.6	
		Drive Scenario	
		Laptop - 1	Handset - 1 4G Short call
			Handset - 2 4G UL & ping
		Laptop - 2	Handset - 1 4G DL & ping
			Handset - 2 2G Short call

2.4. Key findings (Voice & Data)

2.4.1. Voice Service performance in 3G/2G mode only

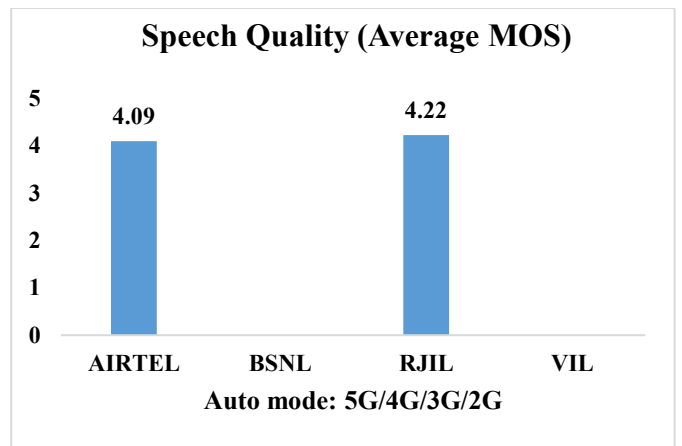
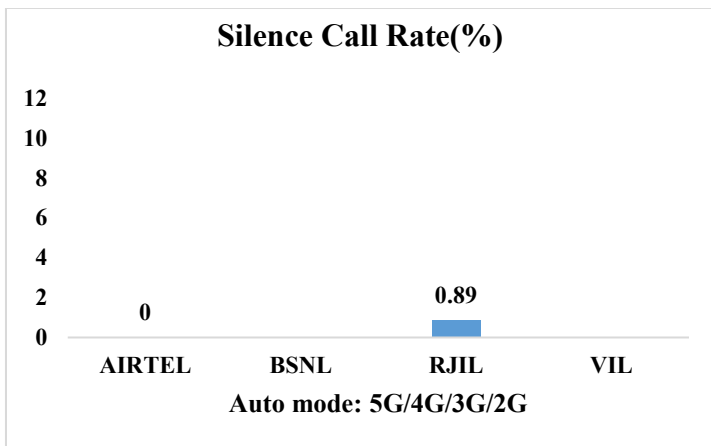
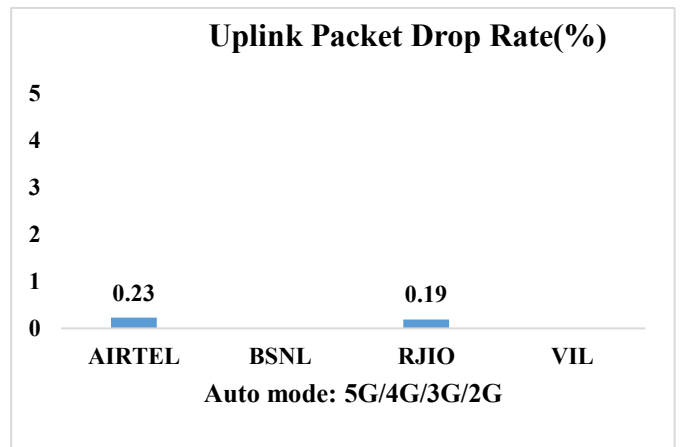
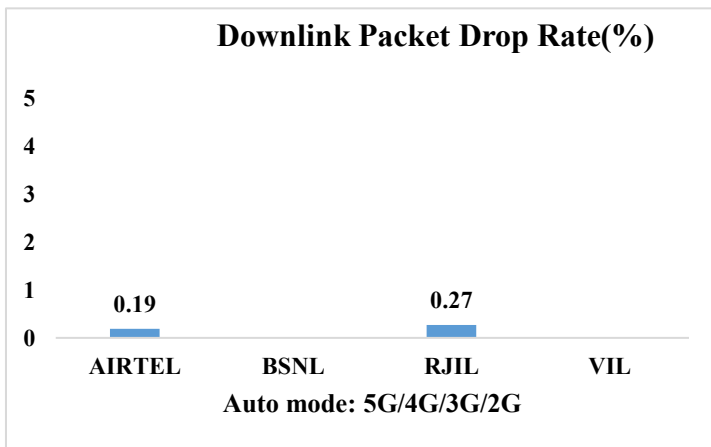
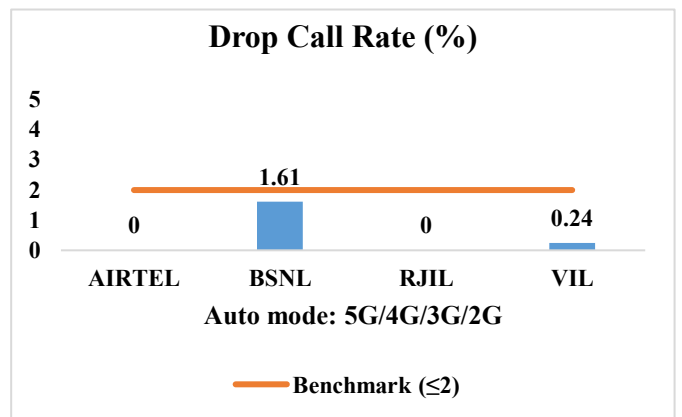
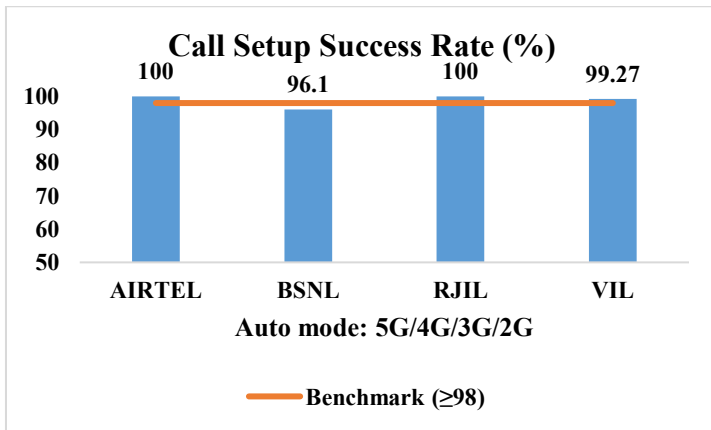


Parameter	Benchmark	AIRTEL	BSNL	VIL
Call Attempts		522	430	494
Call Setup Success Rate (in %)	98	99.61	98.30	98.17
Drop Call Rate (in %)	≤2	0	1.10	0.20
Call Setup Time-Average (in Seconds)		2.50	2.90	2.44
Handover Success Rate (in %)	95	98.20	96.90	97.44

2.4.2. Number of Cell ids latched during drive test (3G/2G mode)

Technology	AIRTEL	BSNL	VIL
3G	NA	NA	NA
2G	441	224	303

2.4.3. Voice Service performance in 5G/4G/3G/2G (Auto mode)

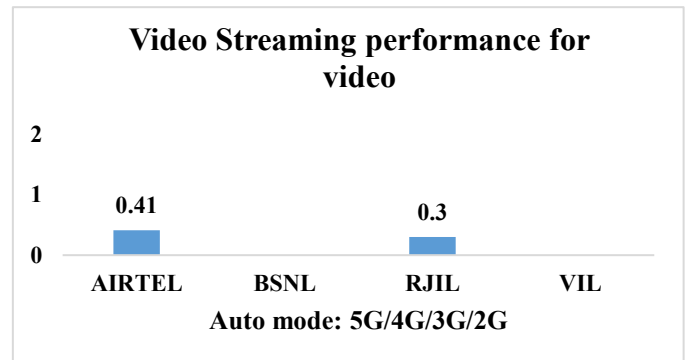
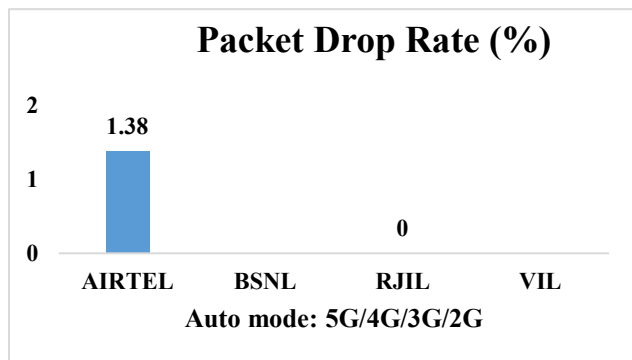
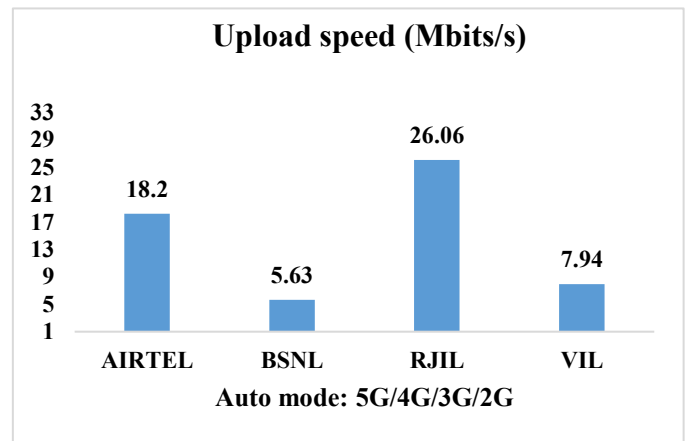
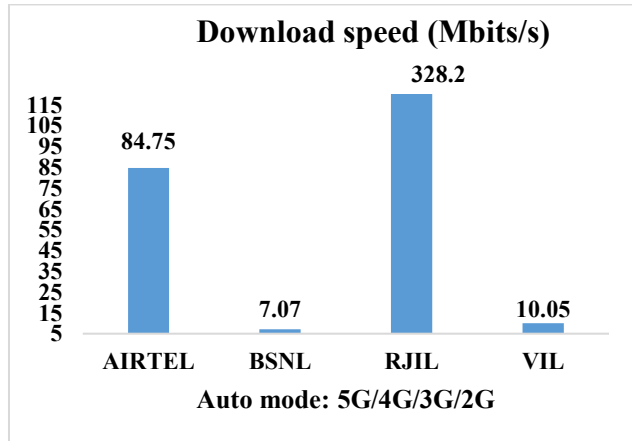


Parameter	AIRTEL	BSNL	RJIL	VIL
Call Attempts	542	559	553	414
Call Setup Success Rate %	100%	96.1%	100%	99.27%
Drop Call Rate%	0	1.61	0.0	0.24
Call Setup Time-Average (Second)	0.91	3.48	0.87	1.23
Handover Success Rate %	99.92%	99.36%	99.55%	99.84%
Downlink Packet drop rate %	0.19	Not done due to non-availability of tools	0.27	TWAXMP License and Server not available for this KPI
Uplink Packet drop rate %	0.23		0.19	TWAXMP License and Server not available for this KPI
Silence Call Rate %	0		0.89	MOS POLQA v3 license not available
Speech Quality (Average MOS)	4.09		4.22	MOS POLQA v3 license not available

2.4.4. Number of Cell ids latched during drive test (Auto mode)

Technology	AIRTEL	BSNL	RJIL	VIL
5G	NA	NA	6912	NA
4G	795	383	26537	229
3G	NA	NA	NA	NA
2G	NA	44	NA	303

2.4.5. Data performance in 5G/4G/3G/2G (Auto mode)



QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	21.68	2	WIP	6.70
	Average	84.75	7.07	328.20	10.05
	80 th Percentile	148.98	11.9	547.6	13.94
Download Session Setup Success Rate %		99.28	95.6	100%	100
Upload speed (Mbits/s)	Typical	5.31	2	WIP	5.70
	Average	18.20	5.63	26.06	7.94
	80 th Percentile	31.05	8.45	45.03	13.11
Upload Session Setup Success Rate %		99.65	93.6	100%	100

Latency (in ms)	50 th Percentile	28	46.48	25.0	51
Jitter (in ms)	Average	11.21	Not done due to non-availability of tools	22.09	TWAXMP License and Server not available for this KPI
Packet Drop Rate %		1.38		0	
Web browsing delay (in sec)		3.76		1.65	
Video Streaming performance for video		0.41		0.30	

2.4.6. TSP-wise Key Findings:

- Airtel has 95.25% of samples falling in the excellent signal strength category for 3G/2G (Lock mode) and 96.76% of samples falling in the excellent signal strength category for 5G/4G/3G/2G (Auto-selection mode)
- BSNL has 78.32% of samples falling in the excellent signal strength category for 2G/3G And 91.22% of samples falling in the excellent signal strength category for 4G.
- RJIO has 97.31% of samples falling in the excellent signal strength category for auto-selection mode (5G/4G/3G/2G).
- VIL has 88.23 % of samples falling in the excellent signal strength category for 3G/2G (Lock mode) and 88.97% of samples falling in the excellent signal strength category for 5G/4G/3G/2G (Auto-selection mode)

Voice-

3G/2G Mode

- Airtel has 99.61% call setup success rate and 0% drop call rate have been observed in 3G/2G network mode
- BSNL has 98.3% Call Setup Success Rate, and 1.1% Drop Call Rate have been observed in 3G/2G network mode.
- VIL has 98.17% call setup success rate and 0.20% drop call rate have been observed in 2G network mode

5G/4G/3G/2G (Auto mode)

- Airtel has 100% call setup success rate and 0% drop call rate have been observed for auto-selection mode (5G/4G/3G/2G)
- BSNL has **96.1%** Call Setup Success Rate, and 1.6% Drop Call Rate have been observed for auto-selection mode (5G/4G/3G/2G).
- RJIO has 100% call setup success rate and 0% drop call rate have been observed for auto-selection mode (5G/4G/3G/2G)
- VIL has 99.27% call setup success rate and 0.24% drop call rate have been observed for auto-selection mode (5G/4G/3G/2G)

Hotspot Locations

- Airtel has 100% call setup success rate and 0% drop call rate have been observed in auto-selection mode (5G/4G/3G/2G) for all hotspot locations
- BSNL Airtel has 100% call setup success rate and 0% drop call rate have been observed in auto-selection mode (5G/4G/3G/2G) for all hotspot locations
- RJIO has 100% call setup success rate and 0% drop call rate have been observed in auto-selection mode (5G/4G/3G/2G) for all hotspot locations
- VIL has 98.25% call setup success rate and 0.99% drop call rate have been observed in auto-selection mode (5G/4G/3G/2G) for all hotspot locations

Data-

- Airtel has 84.75 Mbps average download speed & 18.20 Mbps average upload speed across measured routes
- BSNL has 7.07 Mbps average Download Speed & 5.63 Mbps average Upload Speed across measured routes.
- RJIO has 328.2 Mbps average download speed & 26.06 Mbps average upload speed across measured routes
- VIL has 10.05 Mbps average download speed & 7.94 Mbps average upload speed across measured routes

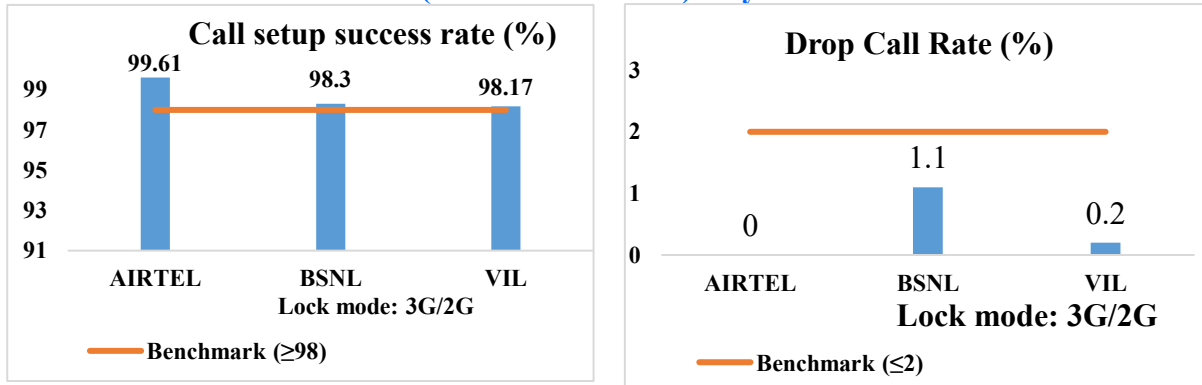
Hotspot Locations

- Airtel has 115.06 Mbps average download speed & 33.23 Mbps average upload speed overall Hotspot location
- BSNL has 9.97 Mbps average Download Speed & 5.57 Mbps average Upload Speed Overall Hotspot Locations.
- RJIO has 301.36 Mbps average download speed & 59.56 Mbps average upload speed overall Hotspot location
- VIL has 21.26 Mbps average download speed & 9.04 Mbps average upload speed overall Hotspot location

Detailed QoS Performance Analysis

3. QoS Performance Analysis – Dynamic

3.1. Voice Service Performance (3G/2G Lock mode) - Dynamic



Parameters	Airtel	BSNL	VIL
Total Distance covered (in Kms)	445	445	445
No. of Call Attempts	522	430	494
No. of Call Established	520	423	485
Call setup success rate (CSSR) %	99.61%	98.3%	98.17%
No. of Drop Call	0	5	1
Drop Call Rate %	0	1.1	0.20
Call Setup Time Average (Sec.)	2.5	2.9	2.80
No. of Handover Attempts	965	258	431
No. of Handover success	948	250	420
HOSR %	98.23	96.9	97.44
Total no of RLT Occurrence	106664	Tool does not support	97940
No of RLT > 48	0	Tool does not support	0

3.1.1. Number of Cell ids latched during drive test (3G/2G - Lock mode)

Number of unique Cell ids covered in Voice test				
Technology	AIRTEL	BSNL	RJIL	VIL
3G	NA	NA	NA	NA
2G	441	224	NA	303

3.1.2. Signal Strength Map: (3G/2G - Lock mode)

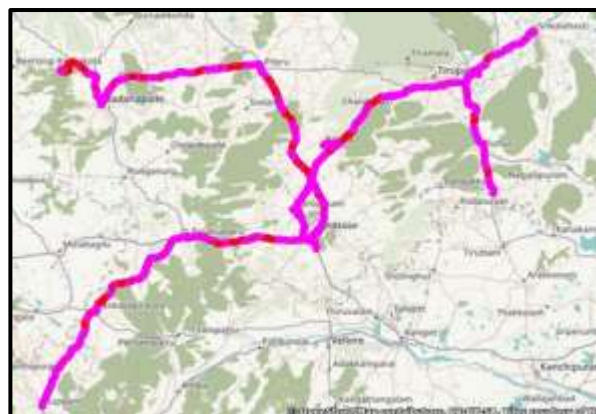
Signal Strength Map (for each TSP)	Map Legend:	
	2G- Pink (Rx Level $\geq$ -85 dBm), 3G- Sky blue (RSCP Level $\geq$ -90 dBm) < -90 dBm)	Red (Rx Level < -85 dBm) Dark Blue (RSCP Level < -90 dBm)



Airtel-2G



BSNL-3G/2G



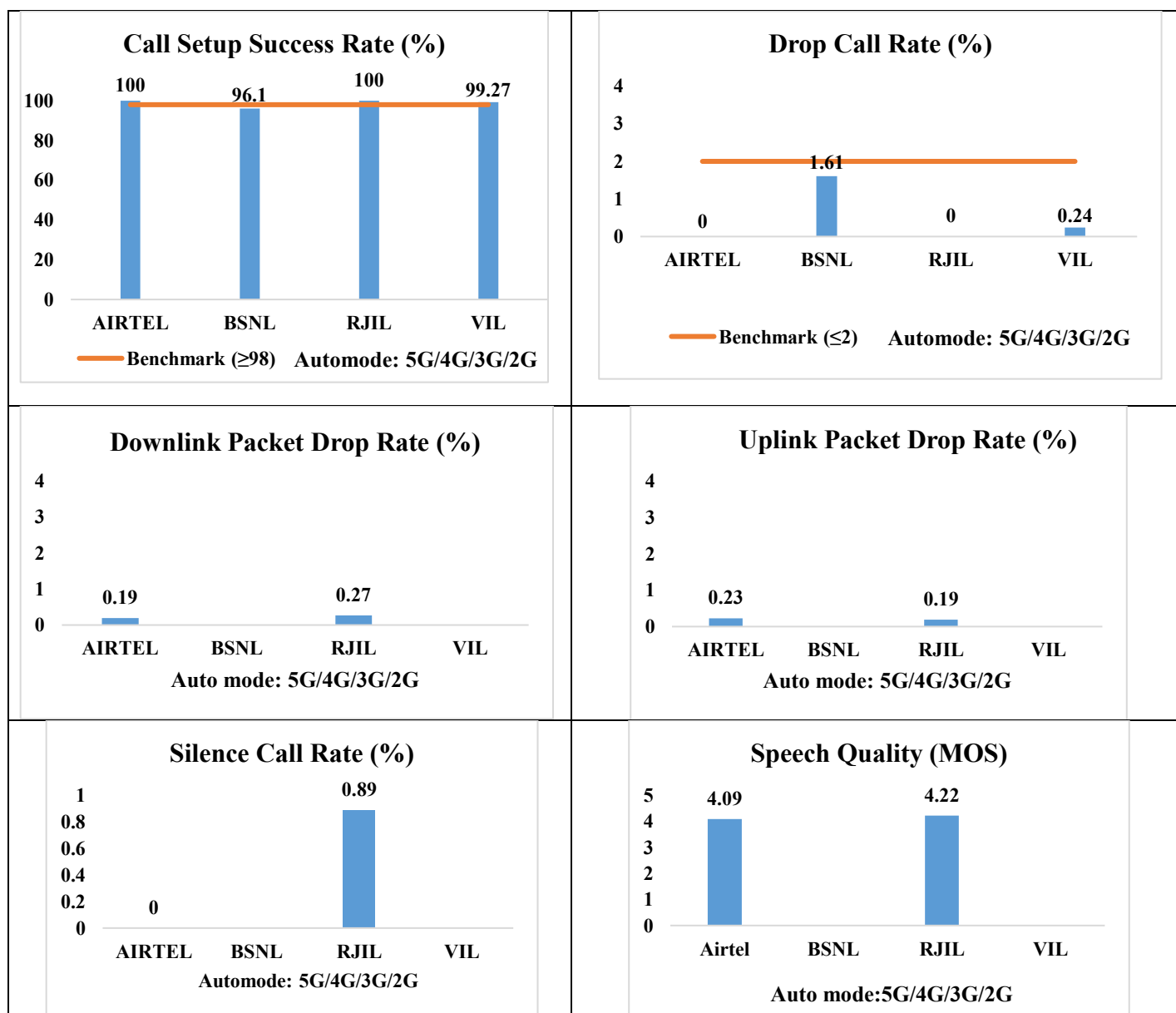
VIL-2G

3.1.3. Signal Strength distribution: (3G/2G - Lock mode)

Rx Level - 2G								
Overall Rx Level	No of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, $\geq$ -65]	2150008	18277	NA	812965	22.27	20.45	NA	18.55
[-65, $\geq$ -75)	4358180	24249	NA	1286994	45.15	27.14	NA	29.37
[-75, $\geq$ -85)	2686570	27458	NA	1766603	27.83	30.73	NA	40.31
[-85, $\geq$ Min)	458660	19369	NA	515933	4.75	21.68	NA	11.77
Total	9653418	89353	NA	4382495	100	100	NA	100

Rx Level - 3G								
Overall RSCP	No of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥ -70]	NA	NA	NA	NA	NA	NA	NA	NA
$[-70, \geq -80)$	NA	NA	NA	NA	NA	NA	NA	NA
$[-80, \geq -90)$	NA	NA	NA	NA	NA	NA	NA	NA
$[-90, \geq \text{Min})$	NA	NA	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	NA	NA

3.2. Voice Service Performance in 5G/4G/3G/2G (Auto mode) – Dynamics



Parameters	Airtel	BSNL	RJIL	VIL
Total Distance covered (in Kms)	445	445	586	445
No. of Call Attempts	542	559	553	414
No. of Call Established	542	537	553	411
Call setup success rate (CSSR) %	100%	96.1%	100%	99.27%
No. of Drop Call	0	9	0	1

Drop Call Rate %	0	1.61	0.00	0.24
Call Setup Time Average (Sec.)	0.91	3.48	0.87	1.25
No. of Handover Attempts	2542	792	2878	979
No. of Handover success	2540	787	2865	976
HOSR %	99.92	99.36	99.55	99.69
Packet Drop Rate (Downlink)	0.19	The test could not be performed due to limitations of the tools	0.27	TWAMP License and Server not available for this KPI
Packet Drop Rate (Uplink)	0.23		0.19	TWAMP License and Server not available for this KPI
Number of silence call for > 2 sec.	0		6	MOS POLQA v3 license not available
Silence Call Rate %	0		0.89	MOS POLQA v3 license not available
Number of MOS samples	3470		4487	MOS POLQA v3 license not available
Average MOS score	4.09		4.22	MOS POLQA v3 license not available

3.2.1. Number of Cell ids latched during drive test 5G/4G/3G/2G - Auto mode)

Number of unique cell ids covered in Voice test				
Technology	Service Provider			
	AIRTEL	BSNL	RJIL	VIL
3G	--	2	--	--
2G	0	45	--	92
4G	795	389	26537	229
5G	334	--	6912	--

3.2.2. Signal Strength Map: (5G/4G/3G/2G - Auto mode)

Signal Strength Map	Map Legend- 2G- Pink (Rx Level $\geq$ -85 dBm), 3G- Sky blue (RSCP Level $\geq$ -90 dBm)	Red (Rx Level $<$ -85 dBm) Dark Blue (RSCP Level $<$ -90 dBm)
	Map Legend- 4G- Light Green (RSRP Level $\geq$ -110 dBm), 5G- Light Yellow (RSRP Level $\geq$ -110 dBm),	Dark Green (RSRP Level $<$ -110 dBm) Dark Yellow (RSRP Level $<$ -110 dBm)

Technology	Parameter	Range	Colour
2G	Rx Level	$\geq$ -85 dBm	
		$<$ -85 dBm	
3G	RSCP	$\geq$ -90 dBm	
		$<$ -90 dBm	
4G	RSRP	$\geq$ -110 dBm	
		$<$ -110 dBm	
5G	RSRP	$\geq$ -110 dBm	
		$<$ -110 dBm	



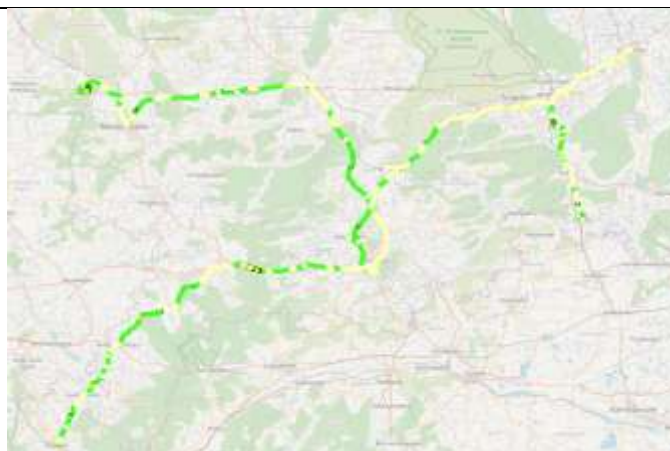
Airtel



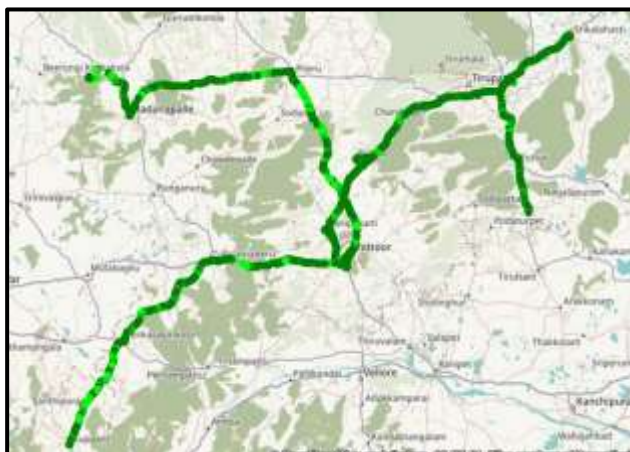
4G- BSNL



2G- BSNL



JIO



VIL

3.2.3. Signal Strength distribution: (5G/4G/3G/2G - Auto mode)

Rx Level - 2G								
Overall Rx Level	No of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥ -65]	NA	493	NA	812965	NA	11.25	NA	18.55
$[-65, \geq -75]$	NA	381	NA	1286994	NA	8.69	NA	29.37

[-75, ≥-85]	NA	1072	NA	1766603	NA	24.46	NA	40.31
[-85, ≥Min]	NA	2437	NA	515933	NA	55.6	NA	11.77
Total	NA	4383	NA	4382495	NA	100	NA	100
Rx Level -3G								
Overall RSCP	No of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-70]	NA	NA	NA	NA	NA	NA	NA	NA
[-70, ≥-80]	NA	NA	NA	NA	NA	NA	NA	NA
[-80, ≥-90]	NA	NA	NA	NA	NA	NA	NA	NA
[-90, ≥Min]	NA	NA	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	NA	NA
Rx Level -4G								
Overall RSRP	No of Samples				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-80]	4548468	34645	5020	873648	29.75	17.07	18.86	10.19
[-80, ≥-95]	6613614	86486	11313	3375345	43.25	42.6	42.51	39.39
[-95, ≥-110]	3688196	66094	9099	3407753	24.12	32.56	34.19	39.77
[-110, ≥Min]	440115	15776	1182	913118	2.88	7.77	4.44	10.65
Total	15290393	203001	26614	8569864	100	100	100	100
Rx Level -5G								
Overall RSRP	No of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-80]	1221060	NA	8837	NA	18.48	NA	36.8	NA
[-80, ≥-95]	2876513	NA	11741	NA	43.54	NA	48.89	NA
[-95, ≥-110]	2239831	NA	3257	NA	33.90	NA	13.56	NA
[-110, ≥Min]	269130	NA	179	NA	4.07	NA	0.75	NA
Total	6606534	NA	24014	NA	100	NA	100	NA

3.3. Data Service performance in 5G/4G/3G/2G (Auto mode) - Dynamic

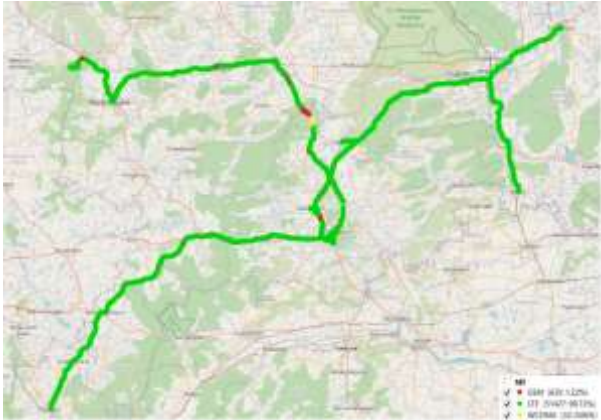
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Average	84.75	7.07	328.2	10.05
	80th Percentile	148.9	11.9	547.6	13.94
	20th Percentile	21.57	0.55	64.4	3.56
Upload speed (Mbits/s)	Average	18.20	5.63	26.06	7.94
	80th Percentile	30.64	8.45	45.03	10.34
	20th Percentile	5.24	2.05	2.86	1.42
Latency (ms)	Average	33	85.0	30.5	41.60
	50th Percentile	28	46.48	25	44.80
Jitter (ms)	Average	11.19	Test could not be performed due to limitations of tools	11.05	TWAMP License and Server not available for this KPI

3.4. Time Spent (Technology-wise)

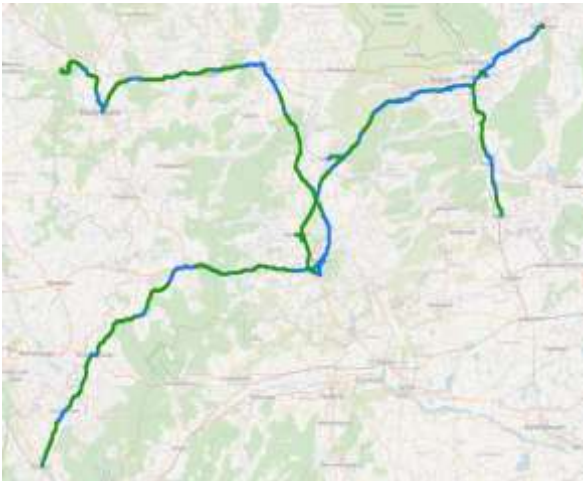
Time Spent Map (for each TSP)	Map Legend:	
	2G – Red	3G – Yellow
	4G – Green	5G - Blue



Airtel



BSNL



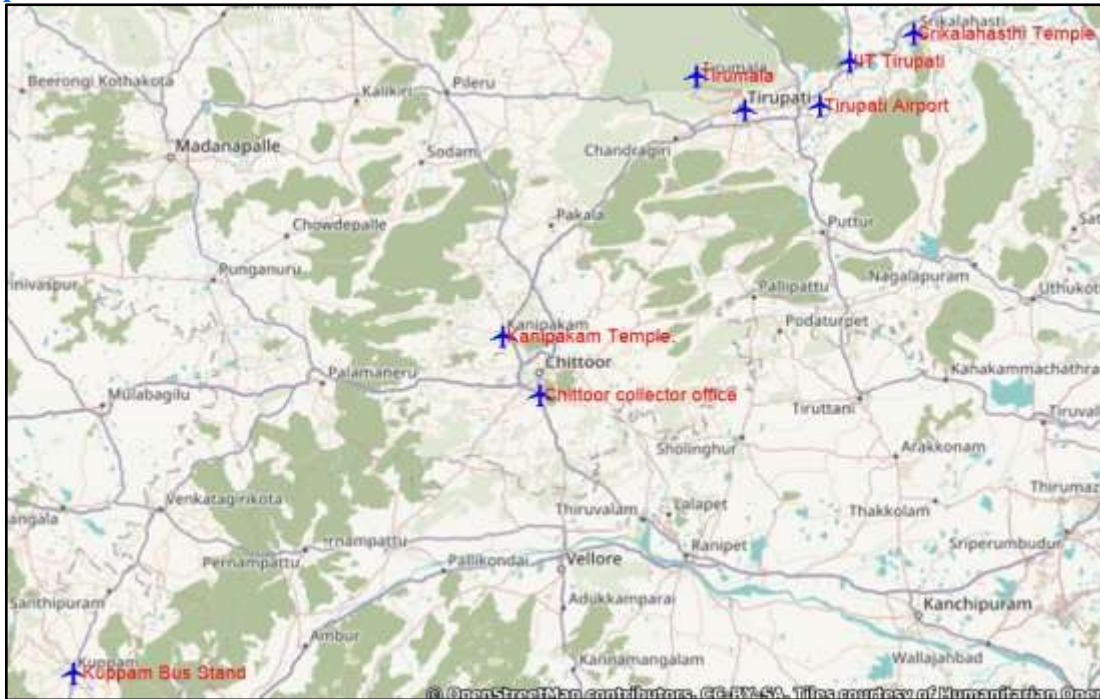
RJIL



VIL

4. QoS Performance Analysis – Static

4.1. Hot spot Locations



Hotspot Name	Latitude & Longitude	Date of Measurement	Time of Measurement
Srikalahasthi Temple	13.75046 & 79.69789	27-01-2026	03:20PM to 04:30PM
Tirupati Airport	13.63771 & 79.54724	27-01-2026	06:40PM to 07:50PM
Kuppam Bus Stap	12.74841 & 78.34513	28-01-2026	05:30PM to 07:00PM
Kanipakam Temple	13.2764 & 79.0362	29-01-2026	11:30AM to 12:40PM
Chittoor Collector Office	13.18343 & 79.09633	30-01-2026	09:30AM to 11:00AM
Tirumala temple	13.68442 & 79.34808	30-01-2026	03:00PM to 04:00PM
Tirupati Bus stop	13.63039 & 79.42559	30-01-2026	04:20PM to 05:40PM
IIT Tirupati	13.70553 & 79.59494	30-01-2026	06:10PM to 07:30PM

4.2. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) – Over all

Parameters	Airtel	BSNL	RJIL	VIL
No. of Call Attempts	80	80	160	402
No. of Call Established	80	80	160	395
Call setup success rate (CSSR) %	100%	100%	100%	98.25%
No. of Drop Call	0	0	0	4
Drop Call Rate %	0	0	0	0.99
Call Setup Time Average (Sec.)	0.79	2.76	1.19	1.25

4.3. Data Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) – Over all

QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	58.42	2	*Typical Values not available (WIP)	13.48
	Average	115.06	9.97	301.36	21.26

	80th Percentile	161.42	14.03	590.97	43.97
Download Session Setup Success Rate %		100	100	100	100%
Upload speed (Mbits/s)	Typical	22.59	2	*Typical Values not available	6.13
	Average	33.23	5.57	59.56	9.04
	80th Percentile	46.87	8.41	93.24	16.15
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	28	55.7	25.87	51.50
Jitter (in ms)	Average	11.21	Drive test tool not supported	8.68	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		3.3	3.49	1.65	4.98
Video Streaming performance for video		0.36	2.28	0.30	1.56

*Typical - Typical Values cannot be captured from Drive Logs

4.4. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Srikalahasthi Temple			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.6	2.6	1.31	1.37
Total no of RLT Occurrence	0	Drive test tool not supported	Applicable for 2G only	2009
No of RLT > 48	0			0

4.5. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location:

Name of Hotspot Location		Srikalahasthi Temple			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	52.11	2	*Typical Values not available	9.87
	Average	114.81	5.25	438.54	13.98

	80th Percentile	169.49	5.56	867.63	23.44
Download Session Setup Success Rate %		100	100	100	100
Upload speed (Mbits/s)	Typical	38.66	2	*Typical Values not available	20.47
	Average	44.47	4.59	52.81	18.36
	80th Percentile	49.07	4.65	102.6	21.52
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	24	52.7	30	51
Jitter (in ms)	Average	24.20	Not done due to non-availability of tools	8.32	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		2.34	0.67	1.91	4.25
Video Streaming performance for video		0.31	1.46	0.37	0.26

*Typical - Typical Values cannot be captured from Drive Logs

4.6. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Tirupati Airport			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.7	3.1	1.07	1.42
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1986
No of RLT > 48	0			0

4.7. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location:

Name of Hotspot Location		Tirupati Airport			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	57.33	2	*Typical Values not available	3.19

	Average	73.80	6.05	256.8	7.40
	80th Percentile	90.74	7.35	455.25	4.84
Download Session Setup Success Rate %		100	100	100	100
Upload speed (Mbits/s)	Typical	19.12	2	*Typical Values not available	2.83
	Average	23.19	2.21	83.57	2.97
	80th Percentile	25.59	2.22	143.26	3.80
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	24	77.2	23	72
Jitter (in ms)	Average	21.90	Not done due to non-availability of tools	6.73	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.10	5.4	1.47	5.80
Video Streaming performance for video		0.28	2.54	0.28	0.78

*Typical - Typical Values cannot be captured from Drive Logs

4.8. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Kuppam Bus Stand			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.71	2.8	1.14	1.43
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1998
No of RLT > 48	0			0

4.9. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		Kuppam Bus Stand			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	52.35	2	*Typical Values not available	36.09
	Average	156.48	9.87	343.21	33.26
	80th Percentile	244.85	10.53	669.9	52.21

Download Session Setup Success Rate %		100	100	100	100
Upload speed (Mbits/s)	Typical	49.45	2	*Typical Values not available	18.17
	Average	51.28	4.93	51.9	16.80
	80th Percentile	55.38	4.72	89.5	20.05
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	40	52.5	28	48
Jitter (in ms)	Average	40	Not done due to non-availability of tools	7.56	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.70	3.75	1.82	4.90
Video Streaming performance for video		0.19	1.56	0.25	0.27

*Typical - Typical Values cannot be captured from Drive Logs

4.10. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Kanipakam Temple			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.81	2.6	1.24	1.42
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1992
No of RLT > 48	0			0

4.11. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		Kanipakam Temple			
Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	64.99	2	Typical Values not available	57.73
	Average	144.59	17.53	227.06	50.31
	80th Percentile	205.47	17.99	613.03	65.79

Download Session Setup Success Rate %		100	100	100	100
Upload speed (Mbits/s)	Typical	15.86	2	Typical Values not available	4.48
	Average	21.19	9.55	131.15	4.52
	80th Percentile	28.71	10.42	138.43	5.35
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	26	105	25	47
Jitter (in ms)	Average	33.28	Not done due to non-availability of tools	10.07	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.10	3.65	1.15	4.11
Video Streaming performance for video		0.28	1.76	0.25	0.26

***Typical** - Typical Values cannot be captured from Drive Logs

4.12. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Chittoor Collector Office			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.79	2.67	1.22	1.38
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1995
No of RLT > 48	0			0

4.13. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		Chittoor Collector Office			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	47.08	2	Typical Values not available	14.55
	Average	94.31	9.85	438.5	17.79
	80th Percentile	128.14	12.71	800.42	27.45
Download Session Setup Success Rate		100	100	100	100

%					
Upload speed (Mbits/s)	Typical	46.18	2	Typical Values not available	7.90
	Average	48.02	8.89	41.44	10.40
	80th Percentile	50.54	8.54	77.72	9.80
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	33	37.2	22	54
Jitter (in ms)	Average	41.50	Not done due to non-availability of tools	10.02	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.30	4.16	1.94	4.29
Video Streaming performance for video		0.29	1.5	0.34	0.22

*Typical - Typical Values cannot be captured from Drive Logs

4.14. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Tirumala Temple			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.9	3.06	1.19	1.26
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	2003
No of RLT > 48	0			0

4.15. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		Tirumala Temple			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	52.37	2	Typical Values not available	23.20
	Average	97.94	8.63	310.13	22.90
	80th Percentile	158.05	9.92	513.71	31.69

Download Session Setup Success Rate %		100	100	100	100
Upload speed (Mbits/s)	Typical	26.71	2	Typical Values not available	6.80
	Average	30.34	3.66	35.12	11.50
	80th Percentile	35.44	3.69	44.51	10.30
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	56	64.6	30	46
Jitter (in ms)	Average	50.40	Not done due to non-availability of tools	13.02	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.60	3.02	1.87	4.20
Video Streaming performance for video		0.21	3.16	0.36	0.31

***Typical** - Typical Values cannot be captured from Drive Logs

4.16. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	Tirupati Bus Stand			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	20	10
No of Call Established	10	10	20	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.88	2.4	1.31	1.47
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1997
No of RLT > 48	0			0

4.17. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		Tirupati Bus Stand			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbits/s)	Typical	70.02	2	Typical Values not available	12.38
	Average	120.03	7.29	347.5	12.58
	80th Percentile	155.26	8.14	730.8	15.34
Download Session Setup Success Rate %		100	100	100	100

Upload speed (Mbps/s)	Typical	34.11	2	Typical Values not available	5.46
	Average	39.85	4.36	62.4	4.61
	80th Percentile	46.33	4.96	118.18	7.03
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	36	57.7	23	52
Jitter (in ms)	Average	34.90	Not done due to non-availability of tools	8.45	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.10	3.97	1.88	4.20
Video Streaming performance for video		0.23	4.3	0.26	0.26

*Typical - Typical Values cannot be captured from Drive Logs

4.18. Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) at each Hotspot location

Name of Hotspot Location	IIT Tirupati			
Parameters	Airtel	BSNL	RJIL	VIL
No of Call Attempts	10	10	10	10
No of Call Established	10	10	10	10
Call setup success rate (CSSR) %	100%	100%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate %	0	0	0	0
Call Setup Time Average (Sec.)	0.84	2.9	1.03	1.64
Total no of RLT Occurrence	0	Tool does not support	Applicable for 2G only	1986
No of RLT > 48	0			0

4.19. Data Service Performance (5G/4G/3G/2G - auto mode) at each Hotspot location

Name of Hotspot Location		IIT Tirupati			
QoS Parameters		AIRTEL	BSNL	RJIL	VIL
Download speed (Mbps/s)	Typical	51.59	2	Typical Values not available	12.42
	Average	190.19	15.25	50.07	11.90
	80th Percentile	177.85	16.53	77.04	14.94
Download Session Setup Success Rate %		100	100	100	100
Upload speed	Typical	25.50	2	Typical	2.82

(Mbits/s)				Values not available	
	Average	33.12	6.39	18.13	3.19
	80th Percentile	38.31	6.58	31.79	5.48
Upload Session Setup Success Rate %		100	100	100	100
Latency (in ms)	50th Percentile	19	49.4	26	56
Jitter (in ms)	Average	20.30	Not done due to non-availability of tools	5.27	TWAMP License and Server not available for this KPI
Packet Drop Rate %		0	0	0	
Web browsing delay (in sec)		4.03	3.37	1.19	
Video Streaming performance for video		0.26	1.99	0.35	1.40

*Typical - Typical Values cannot be captured from Drive Logs

4.20. Signal Strength distribution at Static location – Over all

Rx Level -2G								
Overall Rx Level	No. of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-65]	555874	18277	NA	163565	38.70	20.45	NA	30.03
[-65, ≥-75)	270511	24249	NA	217893	18.80	27.14	NA	40.40
[-75, ≥-85)	562656	27458	NA	155935	39.20	30.73	NA	28.90
[-85, ≥Min)	47759	19369	NA	1709	3.30	21.68	NA	0.30
Total	1436800	89353	NA	539102	100	100	NA	100
Rx Level -3G								
Overall RSCP	No. of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-70]	NA	NA	NA	NA	NA	NA	NA	NA
[-70, ≥-80)	NA	NA	NA	NA	NA	NA	NA	NA
[-80, ≥-90)	NA	NA	NA	NA	NA	NA	NA	NA
[-90, ≥Min)	NA	NA	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	NA	NA
Rx Level -4G								
Overall RSRP	No. of Sample				Sample %			
	Airtel	BSNL	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-80]	799962	34645	5575	714441	37.40	17.07	64.78	33.30
[-80, ≥-95]	1190017	86486	2673	573537	55.70	42.6	31.06	26.73
[-95, ≥-110]	145952	66094	358	623524	6.80	32.56	4.16	29.06
[-110, ≥Min]	571	15776	--	234235	0	7.77	--	10.92
Total	2136502	203001	8606	2145737	100	100	100.00	100

Rx Level -5G								
Overall RSRP	No. of Sample				66094			
	Airtel	15776	RJIL	VIL	Airtel	BSNL	RJIL	VIL
[Max, ≥-80]	26231	203001	6675	NA	49.90	NA	77.58	NA
[-80, ≥-95]	19899	NA	1914	NA	37.80	NA	22.25	NA
[-95, ≥-110]	6468	NA	15	NA	12.30	NA	0.17	NA
[-110, ≥Min]	0	NA	--	NA	0	NA	--	NA
Total	52598	NA	8604	NA	100	NA	100.00	NA

5. Improvement plan for shortcoming observed during Drive Test

Sr. No.	Name of TSP	Route/ Location	Name of Area & LSA	Lat. & Long.	Observation (No coverage / Poor coverage / Poor Signal Quality/ Call drops / Call Setup failure, and Hand Over failure/ Block/ Down Link Packet Drop/ Up	Improvement Plan (Optimization /Radiation of New Site/up-gradation of existing site/upgradati on of backhaul etc.)	Time Line/ Remarks
1.	Airtel	Pakala town road	AP	13.384255 & 79.094302	Coverage improvement	Physical optimization	Closed
2.	Airtel	Pakala Tirupati Road	AP	13.452833 & 79.150829	Signal Quality	Physical optimization	Closed
3.	Airtel	Pakala Tirupati Road	AP	13.514382 & 79.214965	Coverage improvement	Upgradation of Existing site	Open
4.	Airtel	Pakala Tirupati Road	AP	13.547858 & 79.237977	Signal Quality	Upgradation of Existing site	Open
5.	Airtel	Chandragiri-Tirupati road	AP	13.579214 & 79.303644	Coverage improvement	Physical optimization	Closed
6.	Airtel	Renigunta mulagamurri	AP	13.571874 & 79.515032	Coverage improvement	Physical optimization	Open
7.	Airtel	Srinivasapura m HN716	AP	13.548707 & 79.539237	Coverage improvement	Physical optimization	Closed
8.	Airtel	Gundrajukuppa m NH716	AP	13.369381 & 79.572638	Signal Quality	Physical optimization	Open

9.	Airtel	Krishnagiri NH42	AP	12.834163 & 78.382313	Coverage improvement	Physical optimization	Closed
10.	Airtel	Balajahalli NH42	AP	12.981770 & 78.467389	Coverage improvement	Physical optimization	Open
11.	Airtel	Krishnapuram	AP	13.030498 & 78.508986	Signal Quality	Physical optimization	Closed
12.	Airtel	Palamaner	AP	13.067876 & 78.537532	Coverage improvement	Physical optimization	Closed
13.	Airtel	Kaigallu	AP	13.078481 & 78.551020	Coverage improvement	Physical optimization	Closed
14.	Airtel	Belupalle	AP	13.143470 & 78.641348	Signal Quality	Physical optimization	Closed
15.	Airtel	Mogali	AP	13.192265 & 78.819892	Coverage improvement	Physical optimization	Closed
16.	Airtel	KANDLAMA DUGU C	AP	13.669119 & 78.419482	Signal Quality	Physical optimization	Open
17.	Airtel	Kalikiri Bypass	AP	13.643254 & 78.761031	Coverage improvement	Physical optimization	Closed
18.	Airtel	Kallur-Piler HW	AP	13.599930 & 78.984866	Coverage improvement	Physical optimization	Open
19.	Airtel	Kallur,Kadapa HWY	AP	13.546230 & 79.008677	Coverage improvement	Physical optimization	Closed
20.	Airtel	Gungutlapalle	AP	13.505588 & 79.035743	Signal Quality	New site	Open
21.	Airtel	Karnoor Ranipet HWY NH40	AP	13.454182 & 79.037842	Coverage improvement	Physical optimization	Closed
22.	Airtel	Erracheruvupalle NH40	AP	13.407421 & 79.045491	Data speeds improvement	Physical optimization	Closed
23.	Airtel	Chigarapalle NH140	AP	13.304535 & 79.054902	Data speeds improvement	Physical optimization	Closed
24.	BSNL	Yerraguntapalle	AP	13.62692 & 78.96655	Poor coverage	New site to be acquired	1 Year
25.	BSNL	Thotakanuma	AP	13.07125 & 78.52755	Poor coverage	New site proposed	New Saturation site (CAT-5) is proposed

26.	BSNL	Gandaboyanapalli	AP	13.64452 & 78.73864	Poor coverage	4G site to be commissioned	Hardware Upgradation in progress
27.	BSNL	Bandapalli	AP	13.305498 & 79.114837	Poor coverage	New site to be acquired	1 Year
28.	RJIL	Mogili ghat road section	AP	13.193885 78.803913	Poor coverage	Radiation of new site	New site proposed for Mogili ghat road section (13.193885 78.803913)
29.	RJIL	Near Allikasam, Tirupati - NH-716	AP	13.572508 79.514891	Poor coverage	Operational Issues	Operational issues in Nearby serving site is resolved
30.	RJIL	Nearby Srini Food Park, Mogili, NH-69	AP	13.187946 78.825195	Silence Call	Optimization	Closed
31.	RJIL	Near Pothapalu, NH-71	AP	13.602124 78.533803	Silence Call	Optimization	Closed
32.	RJIL	Near Cherukuvari Palle, Tirupati-Anantapur Hiway	AP	13.636260 78.683490	Silence Call	Optimization	Closed
33.	RJIL	Near Karnataka Shell Petrol station, NH-42, Panthanahalli	AP	12.976630 78.465290	Silence Call	Optimization	Closed
34.	RJIL	Nearby Chinnasettipalli, NH-42	AP	12.779100 78.357750	Silence Call	Optimization	Closed
35.	VIL	Kotturu	AP	13.255083 & 79.120497	Poor Coverage	New Site Planned in FY26-27	FY26-27
36.	VIL	Indiramma colony	AP	13.250636 & 79.119905	Poor Coverage	New Site Planned in FY26-27	FY26-27
37.	VIL	Bandapalli	AP	13.30843 & 79.113585	Poor Coverage	New Site Planned in FY26-27	FY26-27
38.	VIL	Thenepalle	AP	13.379604 & 79.076027	Poor Coverage	New site proposed	New site proposed

39.	VIL	Vepanapalle	AP	13.383185 & 79.094061	Poor Coverage	New site proposed	New site proposed
40.	VIL	Paturu	AP	13.419992 & 79.03787	Poor Coverage	New Site Planned in FY26-27	FY26-27
41.	VIL	Gundalapalle	AP	13.447902 & 79.035027	Poor Coverage	New site proposed	New site proposed
42.	VIL	Padiputlabayalu	AP	13.501429 & 79.037243	Poor Coverage	New site proposed	New site proposed
43.	VIL	Ramireddygaripalli	AP	13.609795 & 78.978275	Poor Coverage	New site proposed	New site proposed
44.	VIL	Vootupalle	AP	13.653393 & 78.860277	Poor Coverage	New Site Planned in FY26-27	FY26-27
45.	VIL	Thatiguntapalle	AP	13.647772 & 78.777875	Poor Coverage	New Site Planned in FY26-27	FY26-27
46.	VIL	Cherukuvarepalle	AP	13.62968 & 78.666093	Poor Coverage	New site proposed	New site proposed
47.	VIL	Gownivaripalli	AP	13.608277 & 78.490971	Poor Coverage	New site proposed	New site proposed
48.	VIL	Kantevaripalli	AP	13.662045 & 78.449801	Poor Coverage	New site proposed	New site proposed
49.	VIL	Adusupalli	AP	13.448316 & 79.131864	Poor Coverage	New Site Planned in FY26-27	FY26-27
50.	VIL	Adenepalli	AP	13.441642 & 79.145749	Poor Coverage	New site proposed	New site proposed
51.	VIL	Guntagadanki	AP	13.473018 & 79.180932	Poor Coverage	New Site Planned in FY26-27	FY26-27
52.	VIL	Mungilipattu	AP	13.559683 & 79.249597	Poor Coverage	New Site Planned in FY26-27	FY26-27
53.	VIL	Chandragiri by-pass	AP	13.5794 & 79.312892	Poor Coverage	New Site Planned in FY26-27	FY26-27
54.	VIL	Oteru	AP	13.606224 & 79.429366	Poor Coverage	New Site Planned in FY26-27	FY26-27
55.	VIL	Airport Road	AP	13.644437 & 79.5427	Poor Coverage	New site proposed	New site proposed
56.	VIL	Setharampet	AP	13.683086 & 79.575502	Poor Coverage	New Site Planned in FY26-27	FY26-27

57.	VIL	Allikesam	AP	13.572205 & 79.515079	Poor Coverage	New site proposed	New site proposed
58.	VIL	SV PuramToll Plaza	AP	13.525522 & 79.533484	Poor Coverage	New Site Planned in FY26-27	FY26-27
59.	VIL	Parameswara Mangalam,	AP	13.369879 & 79.572358	Poor Coverage	New site proposed	New site proposed
60.	VIL	Iruvaram	AP	13.19316 & 79.074451	Poor Coverage	New Site Planned in FY26-27	FY26-27
61.	VIL	Amara Raja Growth Corridor	AP	13.193935 & 79.031553	Poor Coverage	New Site Planned in FY26-27	FY26-27
62.	VIL	Kalluru Palli	AP	13.20056 & 78.968085	Poor Coverage	New Site Planned in FY26-27	FY26-27
63.	VIL	Nalagam palli	AP	13.205979 & 78.924142	Poor Coverage	optimization done	Optimizati on done
64.	VIL	Plamakulapalle	AP	13.194199 & 78.889309	Poor Coverage	New Site Planned in FY26-27	FY26-27
65.	VIL	Mogili	AP	14.459071 & 77.702374	No Coverage	New Site Planned in FY26-27	FY26-27
66.	VIL	Palamaner	AP	13.203545 & 78.758342	Poor Coverage	New Site Planned in FY26-27	FY26-27
67.	VIL	Moram	AP	13.170988 & 78.690696	Poor Coverage	New site proposed	New site proposed
68.	VIL	Kammanapalle	AP	13.112182 & 78.629079	Poor Coverage	New site proposed	New site proposed
69.	VIL	Foure Roads, Theertham	AP	13.081603 & 78.5714	Poor Coverage	New site proposed	New site proposed
70.	VIL	Kasturipuram	AP	13.069993 & 78.538256	Poor Coverage	New Site Planned in FY26-27	FY26-27
71.	VIL	Krishnapuaram	AP	13.030438 & 78.507868	Poor Coverage	New site proposed	New site proposed
72.	VIL	Padigalakuppam	AP	12.961396 & 78.465161	No Coverage	New Site Planned in FY26-27	FY26-27
73.	VIL	Rajpet	AP	12.913899 & 78.445561	Poor Coverage	New site proposed	New site proposed
74.	VIL	Santhi Puram	AP	12.857679 & 78.395236	Poor Coverage	New Site Planned in FY26-27	FY26-27

75.	VIL	Tumsi	AP	12.850679 & 78.389963	Poor Coverage	New site proposed	New site proposed
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6. Compliance Report for shortcomings observed during Drive Test

Improvement in KPI Parameter	Airtel	BSNL	RJIL	VIL
Call Drop location/area wise action taken and improvement observed	NA	New sites to be Acquired		New Sites Planned
Down Link Packet Drop (DLPD) for voice & Up Link Packet Drop (ULPD) for voice in 4G & 5G - location/area wise action taken and improvement observed	NA	NA		Physical Optimization & Capacity Upgradation
Call Setup failure, and Hand Over failure -location/area wise action taken and improvement observed	NA	New Sites to be Acquired	Physical optimization Dones	
Poor Rx Quality - location/area wise action taken and improvement observed	Shared	New sites to be Acquired		Physical optimization planned
Poor Coverage - location/area wise action taken and improvement observed	Shared	New sites to be Acquired	New Solution proposed	New Sites & Physical optimization done
Poor DL Speed (i.e. Speed < 2 Mbps) -location/area wise action taken and improvement observed	NA	New sites to be Acquired		
Others Poor KPIs (e.g. high latency, etc) - location/area wise action taken and improvement observed	NA	New sites to be Acquired	Physical optimization Done	

Annexure-I

Drive Test Methodology adopted during the Drive test:

(1) Voice Tests:

Sl. No.	QoS Parameter	Measurement Criteria and methodology
1	Call setup time	Time taken from call initiate to call alerting/ringing.
2	Call setup success rate	CSSR = (Total Call Established/ Total Call Attempt) *100 Call Setup attempt time: 30 sec. Call duration (City/Highway): 90/180 sec. Wait/ Guard Time: 15sec.

3	Dropped Call rate (DCR)	Call Drop Rate = (Total Call Drop/Total Call Established) *100
4	Call Silence Rate (Muting)	Silence call rate = (count of silence / Total calls established) *100 Continuous RTP gap $\geq$ 2 sec
5	Handover Success Rate	Handover Success Rate = Count of successful handovers (All Technology Handover combined) / Total count of Handover Attempt (All Technology Handover combined) *100 Handover types which are considered- 2G Inter & Intra cell, 3G Soft & IRAT, 4G Inter & Intra frequency & SRVCC, 5G Inter & Intra frequency & 5G to 4G handovers.
6	Packet Drop Rate (DL & UL) for Packet Switched Network (4G & 5G)	Number of RTP (Real-time Transport Protocol) Packets lost divided by total RTP packet received (against each source SSRC and sequence number) at call originating handset. This KPI will be calculated from MOS call for packet call only (VoNR/VoLTE)
7	Mean Opinion Score (MOS) Performance (in 5G/4G/3G/2G: Auto mode)	Voice quality in mobile networks is measured with algorithms based on ITU-T P.863 (POLQA) Excellent: MOS $\geq$ 4 and $<$ 5, Good: MOS $\geq$ 3 and $<$ 4, Fair: MOS $\geq$ 2 and $<$ 3, Poor : MOS $\geq$ 1 and $<$ 2

(2) Data Tests:

Sl. No.	QoS Parameter	Measurement Criteria and methodology
1	Data speed in Mbits/s (DL/UL both)	Download Speed = Total bytes transferred during download / Total time for transfer Upload Speed = Total bytes transferred during upload / Total time for transfer. Download: File Size: 500 MB for 120 sec, 30 Sec Timeout Upload: File size: 250 MB for 120 sec, 30 Sec Timeout (Multithread 3- TCP Connection at a time for both DL & UL)
2	Latency (in ms)	Latency is the time taken by a packet to reach the receiving end point after being transmitted from the sending point in broadband service. Test with Packet of size of 512 Bytes - 1000 count on TSP's Test server using UDP packets (TWAMP)
3	Jitter (in ms)	Test with Packet of size of 512/256 Bytes - 1000 count on TSP's own Test server using UDP (TWAMP) & RTP packets separately
4	Session Setup Success Rate (in %) (DL/UL)	(Total DL or UL session established (successfully connected to server)/ Total DL or UL session attempt) x100
5	Packet drop rate (in %)	No. of packets lost out of total packet transferred during the testing. - Packet loss rate = (Total packet lost / Total packet sent) x100 Packet delay (RTT) $>$90 ms considered as packet loss and included in Packet drop rate. - The measurement should include all major types of packets i.e., TCP, UDP and RTP in their representative ratio. The 90th percentile value of the packet drop measurements shall be considered the Packet drop rate.

6	Web browsing delay (in seconds)	Time taken to open the web page successfully is considered as web browsing delay / web page download time. LSA-wise 3 popular websites to be taken
7	Video Streaming performance (in seconds)	TRAI Prescribed Video of 20 Sec with 25 sec Timeout & without caching https://www.youtube.com/watch?v=rH2RjvI0DFs