



Operator Assisted Drive Test Report

For

KOLAR

Dec. 2021

RO, Bengaluru

Key Performance Indicators: All TSPs have met the Drop Call Rate (DCR) benchmark of 2% except BSNL 3G . All TSPs have met the Call Setup Success Rate (CSSR) of 95%.

The Operator Assisted Drive Test has been carried out by Regional Office, Bangalore with the help of Service Providers in Kolar city from 9:00 AM to 8:00 PM during 15th to 17th Dec. 2021. The drive test covered drive route of 350 KMs & 6 hotspot over a period of 3 days. Approximately 480+ calls were made for each of the 7 networks: three 2G networks, one 3G network and three LTE network covering four TSPs.

Overview

Voice
Summary

Data
Summary

Overview

Regional Office, TRAI Bengaluru conducted Operator Assisted Drive Test from 15th to 17th December 2021 covering various locations in Kolar City & surrounding region. The performance of Airtel, BSNL, Vodafone Idea and Jio were monitored across various technologies (2G, 3G and 4G/VoLTE). The test results obtained from these drive tests were utilized to assess the network quality for Voice and Data services in terms of

Voice: Coverage, Quality, Handover Success Rate, Call Setup Success Rate, Drop Call Rate and Block Call Rate.

Data: Download and Upload Throughputs, Web Browsing Delay and Latency

Drive Test Details For Kolar:

Voice Tests: Calls were made for 90 sec duration with wait time of 10 sec between calls in all technologies. The drive test covered a drive route of approximately 350 KMs over a period of 3 days from 15th to 17th Dec. 2021 Approximately 480+ calls were made for each of the 7 networks: three 2G (Lock Mode) networks, one 3G (Dual mode) networks and three VoLTE network covering 4 unique TSPs.

Data Tests: Dynamic data test was conducted for 350 kms over a period of 3 days for download throughput for 3G & 4G technology. Data Tests were performed at 6 static locations; three 2G (Lock mode) networks, one 3G (Dual mode) networks and three 4G (Free mode) networks covering 4 unique TSPs were tested. All the data through put figure mentioned in the report are based on the average value.

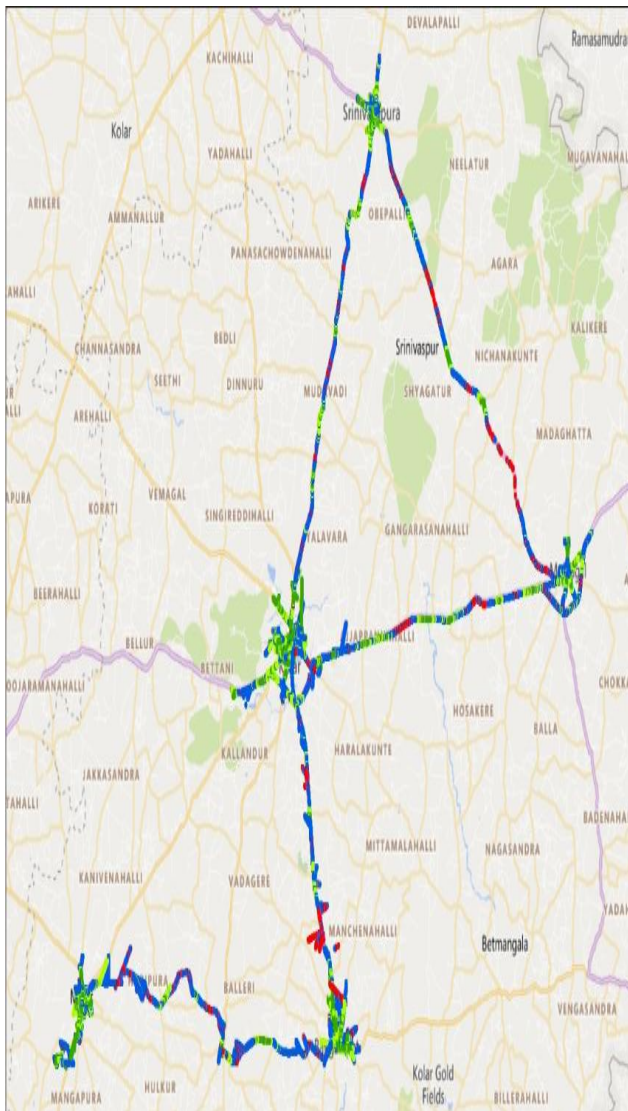
* For Voice and Data KPI's, 2G measurement is done with UE locked on 2G, 3G measurement is done with UE in Dual mode (2G & 3G) and 4G measurement is done with UE in Free Mode.

* 3G KPI's which are calculated from UE in Dual Mode (2G & 3G) includes samples and events of 2G.

* 4G KPI's which are calculated from the UE in Free Mode included samples and events of 2G & 3G.

Service	Specifications
Download	2G (Locked) - 500KB, 3G (Dual) - 20 MB, 4G (Free) - 40 MB
Upload	2G (Locked) - 100KB, 3G (Dual) - 5 MB, 4G (Free) - 10 MB
Web Browsing	3 links of e/m commerce website www.amazon.in , www.flipkart.com and PayTm
Latency	32 Bytes on www.google.com
Video Streaming	130 secs clip

Voice & Dynamic Data Test Drive Route



Areas Covered	
KOLAR	
Kolar to Malur main Road	Kumbarpet
M B Road	Gandhinagar
Gowripet	Rahamath Nagar
Kadripura	Muneswar Nagar
Tekal Road	M G Road
Kalavanchi	Kolar to Srinivasapuram Main Rd
MALUR	
Kolar to Malur Main Road	Kumbarpet
Patalamma Extension	Bagalur Malur Road
Adrsha Nagar	Nehru Extension
Maruti Extension	Industrial Area
MULBAGAL	
Nukalbande	M N Halli Road
M C Road	Bazaar Street
Teacher's Colony	Mulbagal to Kolar MainRoad
BANGARPET	
Karahalli	APMC Colony
Vivekananda nagar	Harati Main Road
Amaravathy Nagar	Hunasanahalli
Abdul Gaffer L/O	Malur-Bangarpet Main Road
SRINIVASAPURA	
Ambedkar Nagar	Gafar Khan Mohalla
Maruti Nagar	Zakir Khan Mohalla
Amanikere	Srinivasapuram to Mulbagal Main Rd

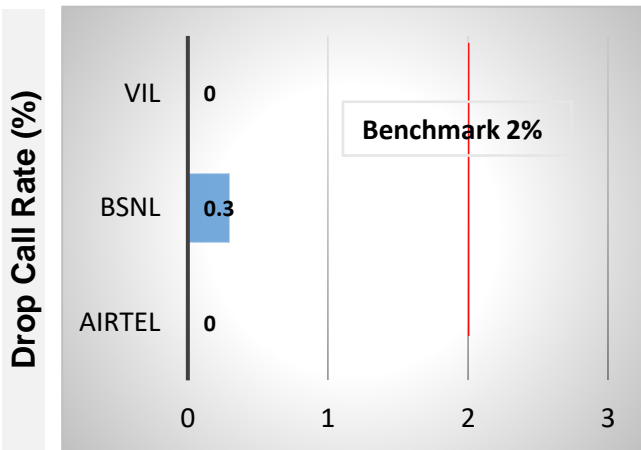
Data Service Test- Static Locations

KSRTC Bus Stand-Kolar
Railway Station-Kolar
KSRTC Bus Stand- Srinivasapuram
Ambedkar Circle-Mulbagal
KSRTC Bus Stand-Malur
Railway Station- Bangarpet

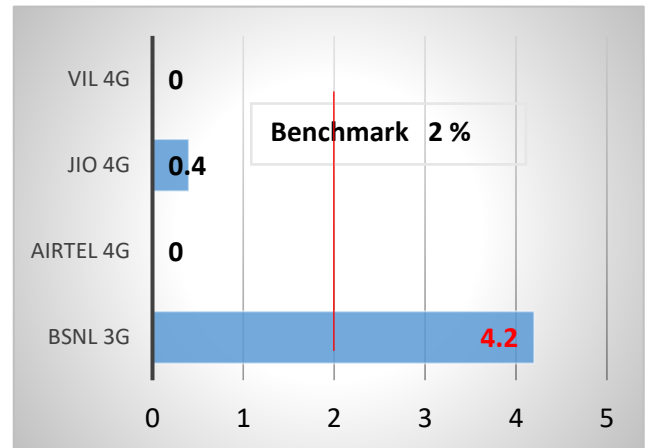
Voice Calls

Key Observations

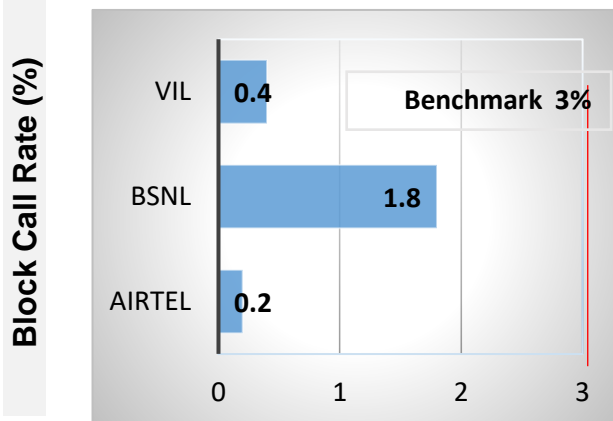
QoS compliance of the TSPs in Kolar for Voice across technologies 2G/3G/4G-VoLTE:



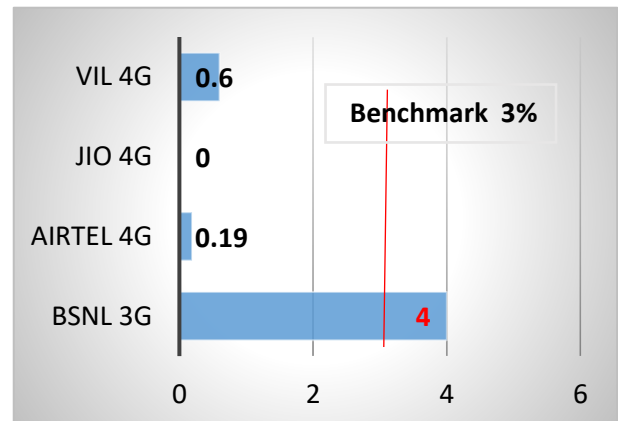
2G Network



3G/VoLTE Network



2G Network



3G/VoLTE Network

KPIs	2G			3G	VoLTE		
	Airtel	BSNL	VIL	BSNL	Airtel	RJIL	VIL
Drop Call Rate %	0	0.3	0	4.2	0	0.4	0
Block Call Rate %	0.2	1.8	0.4	4	0.19	0	0.6

- All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%) except BSNL 3G.
- Call Block Rate (CBR%) benchmark of 3% was achieved by all TSP's except BSNL 3G.

Voice Calls

Key Observations

Coverage

a) Percentage of coverage samples for 2G \geq -85 dBm.

TSPs	2G		
	Airtel	BSNL	VIL
Coverage %	92.03	92.03	77.68

b) Percentage of coverage samples for 3G \geq -90 dBm & LTE \geq -110 dBm.

TSPs	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Coverage %	79.82	95.93	95.10	89.92

c) Percentage of time spent on 3G/4G network

TSPs	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Time Spent on 3G/4G %	79.28	100	100	99.73

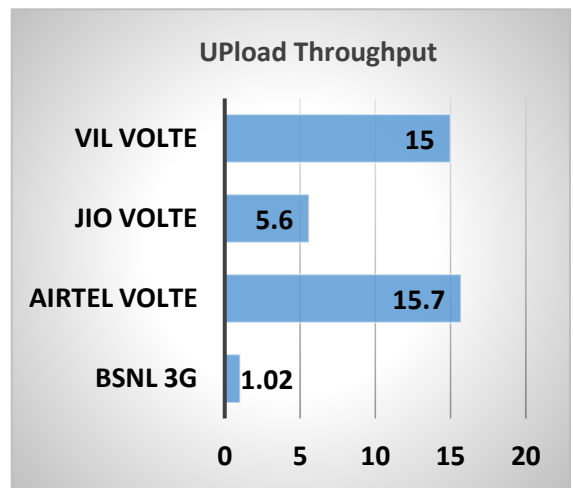
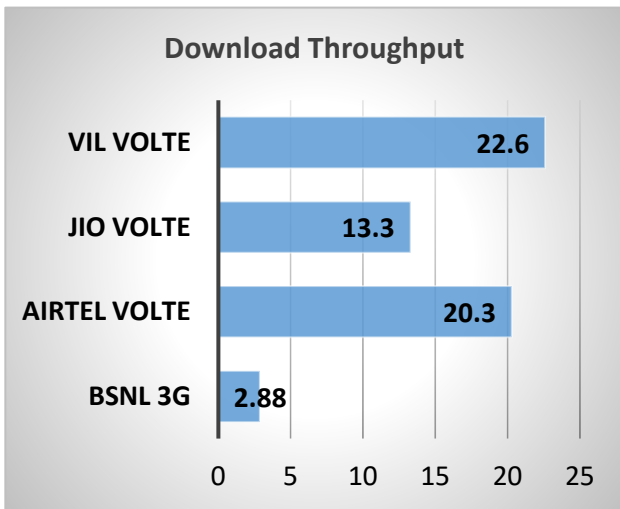
Data Services Static

Key Observations

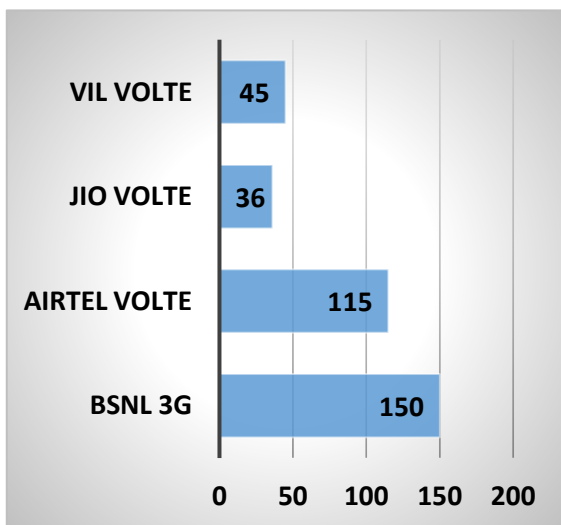
Data was tested at 6 locations .Following services were tested: Data Download/Upload, Latency (www.google.com), and Web browsing (Flipkart, Amazon, PayTm)

Data Download and Upload Performance (Mbps)

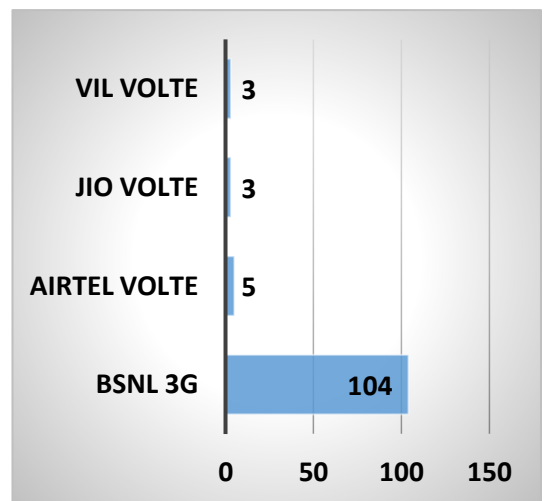
3G/4G/ Network:



Latency (ms)



Web Browsing (Sec)



Summary

City Level Summary

Voice Call	2G		
	Airtel	BSNL	VIL
Call Attempt	503	530	488
Blocked Call Rate (%)	0.20	1.8	0.40
CSSR% (Accessibility)	99.80	98.2	99.60
Drop Call Rate (%)	0	0.3	0
Mobility HOSR (%)	99.56	99.56	99.69
Rx Quality (%)	91.47	94.08	95.82

Voice Call	3G/4G			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Call Attempt	520	530	496	496
Blocked Call Rate (%)	4.0	0.19	0	0.60
CSSR% (Accessibility)	96	99.81	99.59	99.40
Drop Call Rate (%)	4.2	0.00	0.40	0
Mobility HOSR (%)	91.73	99.89	98.73	98.07
Rx Quality (%)	83.84	82.16	89.36	95.93

- All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%) except BSNL 3G.
- Call Block Rate (CBR%) benchmark of 3% was achieved by all TSP's except BSNL 3G.
- Rx Quality is less than 95% for all TSPs except VIL 2G and 4G

Summary

City Level Summary(contd.)

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	99.39	99.33	201.27
Upload Throughput (kbps)	8.40	11.4	93
Web Browsing Delay (sec)	92.98	149.05	12
Latency (msec)	249	238.56	218.27

Data Services Static	3G/VoLTE			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	2.88	20.32	13.27	22.57
Upload Throughput (Mbps)	1.02	15.72	5.58	15.03
Web Browsing Delay (sec)	104.04	4.91	3.16	2.87
Video Streaming Delay (sec)	Not captured	1.22	Not captured	4.30
Latency (ms)	150	115	36.06	44.70

Data Services Dynamic	3G/VoLTE			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	2.38	10.67	6.85	16.36
Upload Throughput (Mbps)	0.79	11.68	1.76	9.84

Summary

City Level Summary(contd.)

Data Services Static - Kolar KSRTC Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	110.01	87.4	208.2
Upload Throughput (kbps)	10.96	13.37	94.6
Web Browsing Delay (sec)	65.75	74.35	11.2
Latency (ms)	265	240	216

Data Services Static - Kolar KSRTC Bus Stand	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	3.91	37.72	1.62	24.32
Upload Throughput (Mbps)	0.88	24.09	3.03	16.6
Web Browsing Delay (sec)	14.54	4.54	3.11	2.2
Video Streaming Delay (sec)	Not captured	0.82	Not captured	5
Latency (ms)	181.4	121	33.78	57.2

Data Services Static – Kolar Railway Station	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	90.11	82.48	192
Upload Throughput (kbps)	8.54	10.12	98.2
Web Browsing Delay (sec)	54.46	48.65	11.4
Latency (msec)	242	228.2	241

Data Services Static - Kolar Railway Station	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	2.03	13.45	8.53	28.14
Upload Throughput (Mbps)	0.94	24.34	1.33	7.96
Web Browsing Delay (sec)	122.745	4.95	3.27	2.6
Video Streaming Delay (sec)	Not captured	1.40	Not captured	4.2
Latency (ms)	51.8	119	41.45	62.2

Summary

City Level Summary(contd.)

Data Services Static – Srinivasapura KSRTC Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	78.82	80.34	218
Upload Throughput (kbps)	4.82	11.8	78.4
Web Browsing Delay (sec)	59.21	74.04	12
Latency (ms)	249	234	231.2

Data Services Static – Srinivasapura KSRTC Bus Stand	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	2.7	15.39	26.55	17.8
Upload Throughput (Mbps)	1.33	2.33	4.41	14.96
Web Browsing Delay (sec)	116.70	4.71	2.90	2.2
Video Streaming Delay (sec)	Not captured	0.89	Not captured	4.6
Latency (ms)	158.2	118	30.96	47.4

Data Services Static – Mulbagal Ambedkar Circle	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	94.65	90.64	179.6
Upload Throughput (kbps)	5.45	10.58	97.2
Web Browsing Delay (sec)	211.98	275.06	11.6
Latency (msec)	252	259.8	199.8

Data Services Static - Mulbagal Ambedkar Circle	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	2.96	11.77	20.45	18.2
Upload Throughput (Mbps)	0.65	3.05	6.72	16.4
Web Browsing Delay (sec)	114.90	4.90	3.07	2.6
Video Streaming Delay (sec)	Not captured	1.49	Not captured	4.6
Latency (ms)	234.8	102	39.2	35.6

Summary

City Level Summary(contd.)

Data Services Static – Bangarpet Railway Station	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	97.73	89.73	199.2
Upload Throughput (kbps)	9.09	11.48	90
Web Browsing Delay (sec)	76.79	258.18	13
Latency (ms)	241	224	213.4

Data Services Static – Bangarpet Railway Station	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	3.042	13.64	6.11	28.8
Upload Throughput (Mbps)	1.51	17.92	13.93	20.94
Web Browsing Delay (sec)	129.88	4.89	3.25	5.2
Video Streaming Delay (sec)	Not captured	1.30	Not captured	2.2
Latency (ms)	148.6	108	35.1	31.6

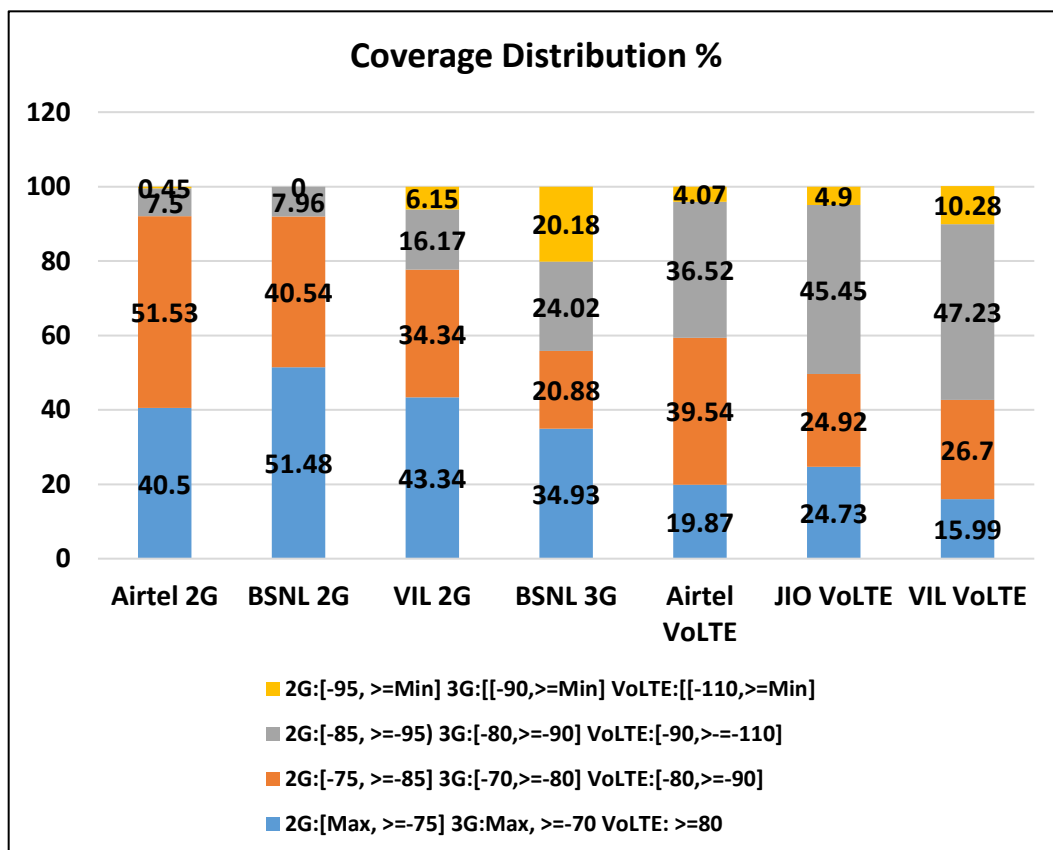
Data Services Static – Malur KSRTC Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	125.00	129.4	210.6
Upload Throughput (kbps)	11.56	11.06	99.6
Web Browsing Delay (sec)	89.66	164.07	12.8
Latency (msec)	244	245.4	208.2

Data Services Static – Malur KSRTC Bus Stand	3G	VoLTE		
	BSNL 3G	Airtel	JIO	VIL
Download Throughput (Mbps)	2.96	29.96	16.37	18.16
Upload Throughput (Mbps)	0.79	22.59	4.09	13.3
Web Browsing Delay (sec)	129.48	5.48	3.38	2.4
Video Streaming Delay (sec)	Not captured	1.39	Not captured	5
Latency (ms)	125.2	123	35.92	34.2

I. Coverage Details

RF Coverage relates to the geographical footprint within the system that has sufficient RF signal strength to provide for a call session. The Coverage rate is calculated on the basis of % of samples in which the Rx level ≥ -85 dBm, RSCP is ≥ -90 dBm & RSRP ≥ -110 dBm. The details are as follows.

TSP	Coverage Rate %
Airtel 2G	92.03
BSNI 2G	92.03
VIL 2G	77.68
BSNL 3G	79.82
Airtel VoLTE	95.93
Jio VoLTE	95.10
VIL VoLTE	89.92

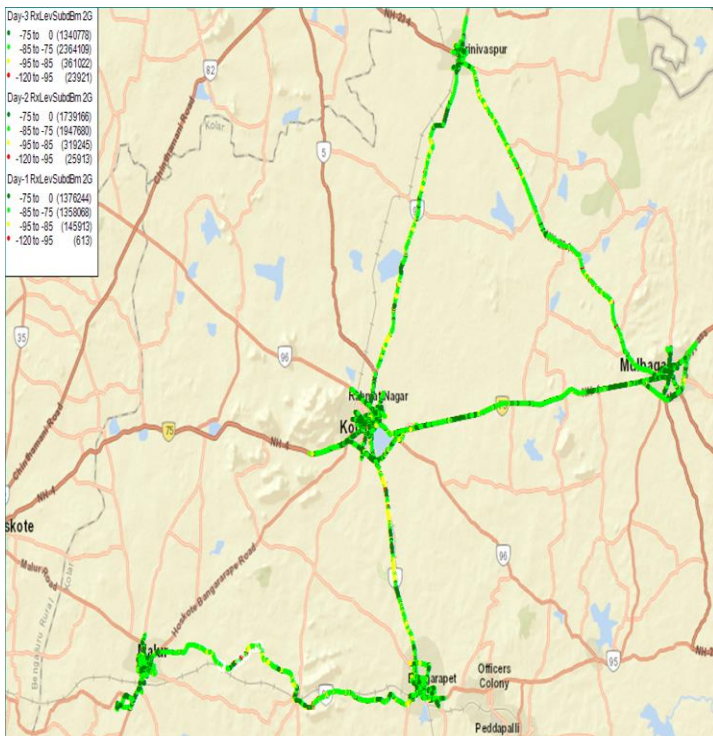


I. Coverage Details

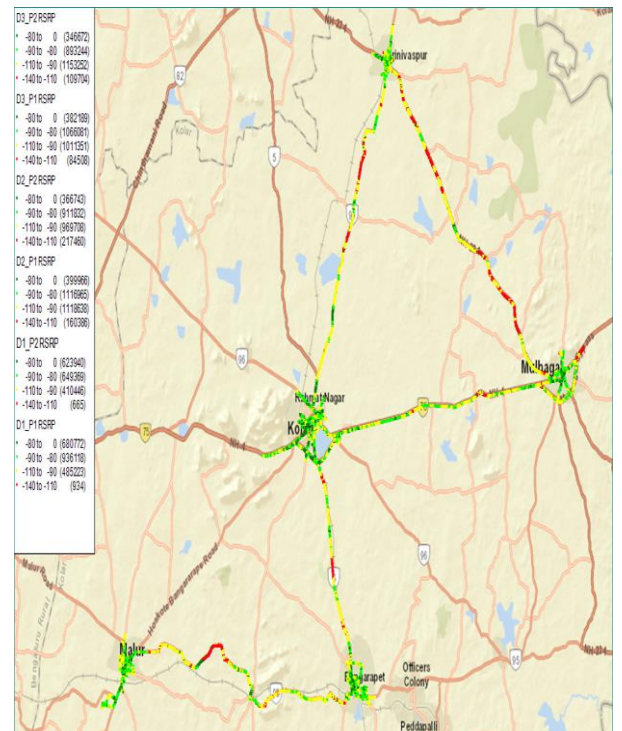
AIRTEL

Technology	Coverage Rate %
2G	92.03
VoLTE	95.93

2G



VoLTE



2G

Overall Rx Level	# Samples	% PDF
[Max, >=-75]	4456188	40.50
[-75, >=-85)	5669857	51.53
[-85, >=-95)	826180	7.50
[-95, >=Min)	50447	0.45
Total	11002672	100.00

4G/VoLTE

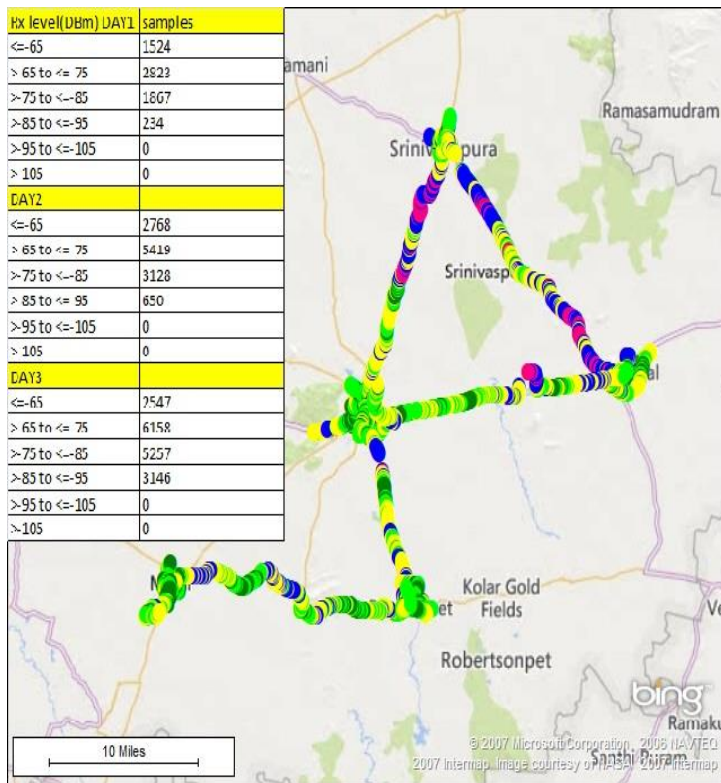
Overall RSRP	# Samples	% PDF
[Max, >=-80]	2800282	19.87
[-80, >=-90)	5573609	39.54
[-90, >=-110)	5148618	36.52
[-110, >=Min)	573657	4.07
Total	14096166	100.00

I. Coverage Details

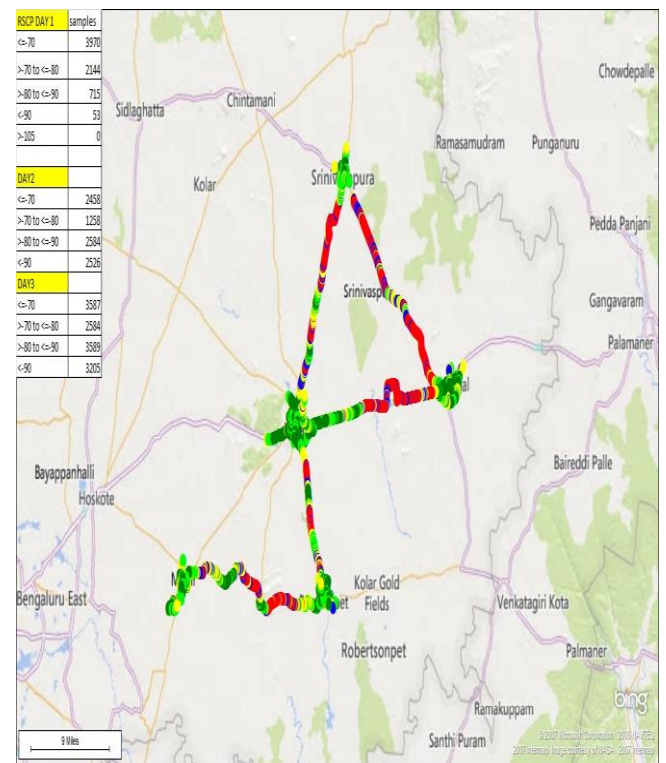
BSNL

Technology	Coverage Rate %
2G	92.03
3G	79.82

2G



3G



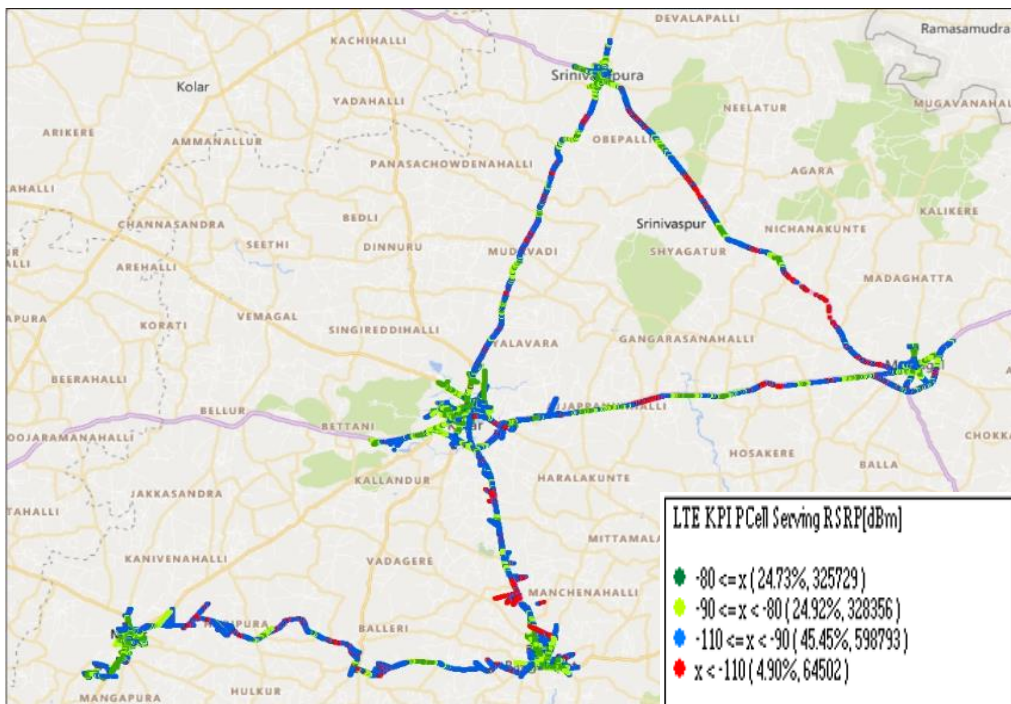
2G		
Overall Rx Level	# Samples	% PDF
[Max, >=-75]	26,239	51.48
[-75, >=-85)	20,604	40.54
[-85, >=-95)	4062	7.96
[-95, >=Min)	0	0
Total	50,968	100.00

3G		
Overall RSCP	# Samples	% PDF
[Max, >=-70]	10,015	34.93
[-70, >=-80)	5986	20.88
[-80, >=-90)	6888	24.02
[<-90)	5784	20.18
Total	28673	100.00

I. Coverage Details

JIO

Technology	Coverage Rate %
VoLTE	95.10



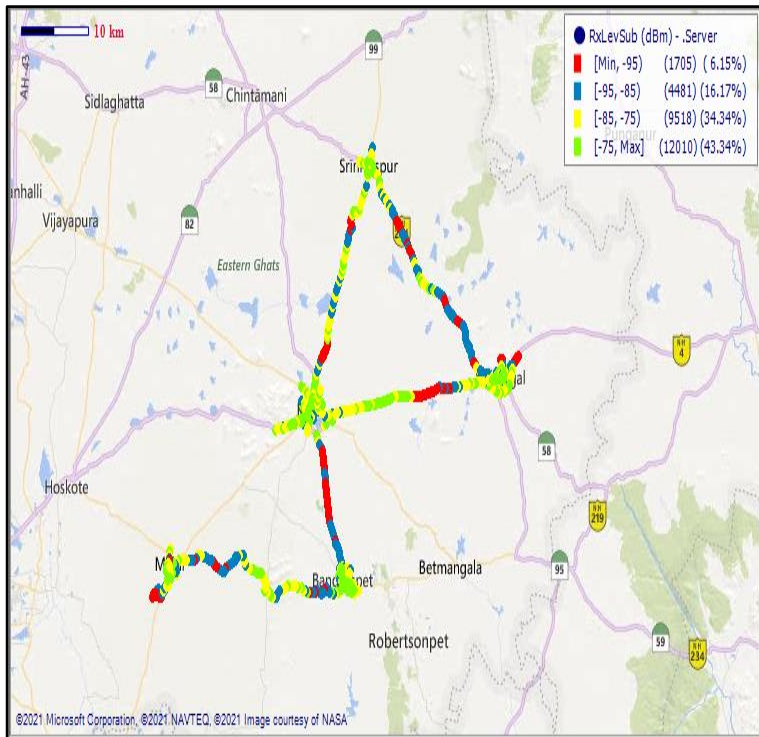
4G/VoLTE		
Overall RSRP	# Samples	% PDF
[Max, >=-80]	325729	24.73
[-80, >=-90)	328356	24.92
[-90, >=-110)	598793	45.45
[-110, >=Min)	64502	4.90
Total	1317380	100

I. Coverage Details

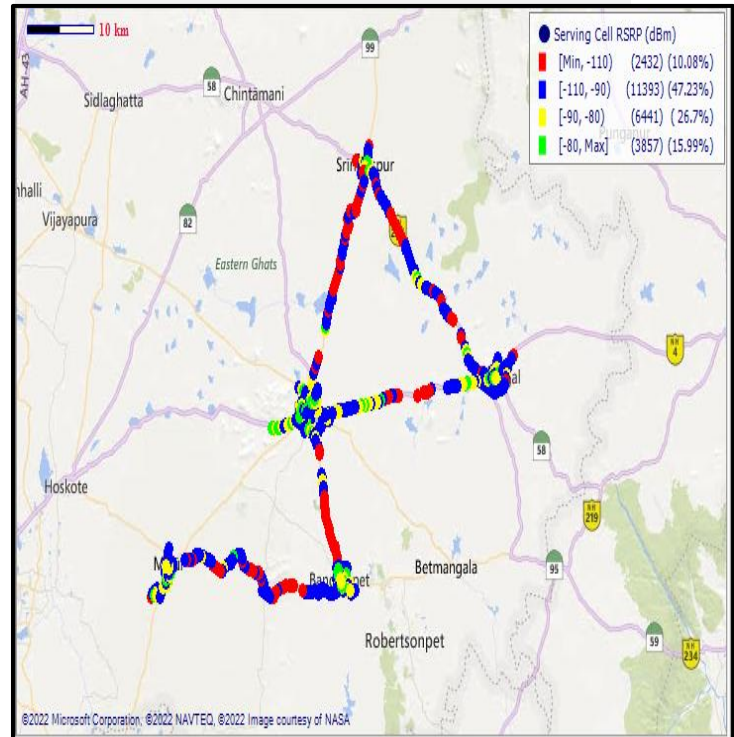
VIL

Technology	Coverage Rate %
2G	77.68
VoLTE	89.92

2G



VoLTE



2G

Overall RxLevel	# Samples	% PDF
[Max, >=-75]	12010	43.34
[-75, >=-85)	9518	34.34
[-85, >=-95)	4481	16.17
[-95, >=Min)	1705	6.15
Total	27714	100

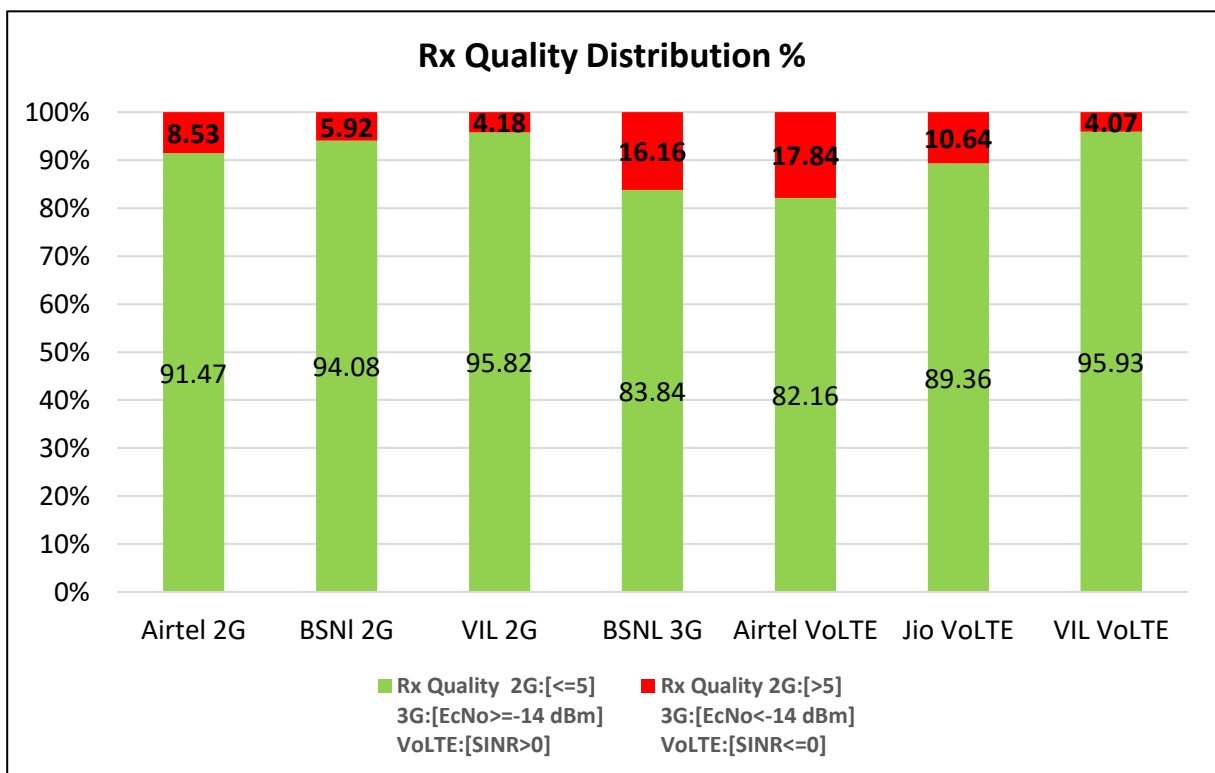
VoLTE

Overall RSRP	# Samples	% PDF
[Max, >=-80]	3857	15.99
[-80, >=-90)	6441	26.7
[-90, >=-100)	6500	26.95
[-100, >=-110)	4893	20.28
[-110, >=Min)	2432	10.08
Total	24123	100

II. Quality Details

For measuring voice quality, as per the QoS norms, Rx Qual ≤ 5 for GSM TSPs, EcNo ≥ -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be $\geq 95\%$.

TSP	Rx Quality %
Airtel 2G	91.47
BSNI 2G	94.08
VIL 2G	95.82
BSNL 3G	83.84
Airtel VoLTE	82.16
Jio VoLTE	89.36
VIL VoLTE	95.93

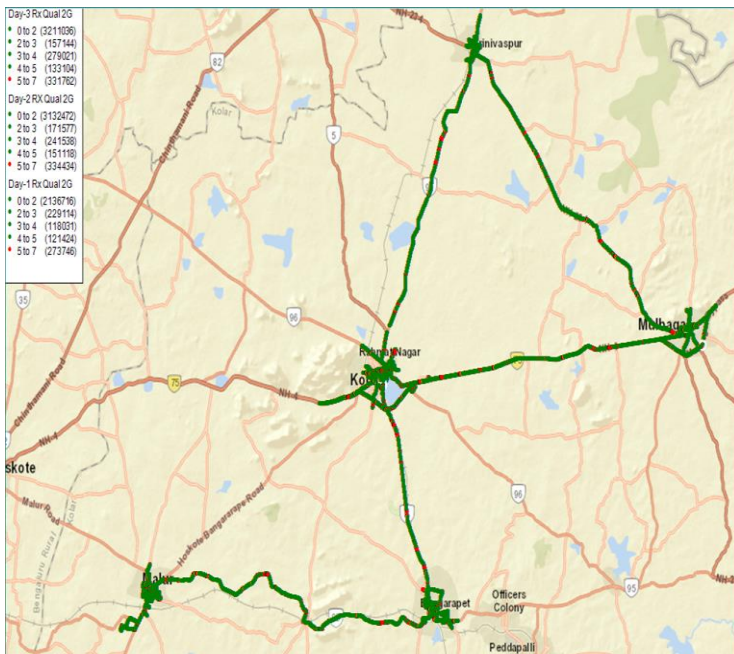


II. Quality Details

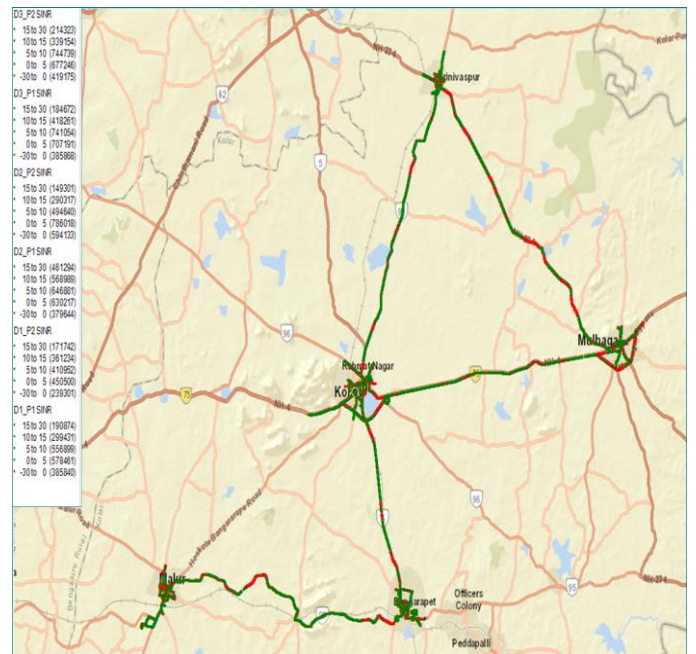
Airtel

Technology	Rx Quality %
2G	91.47
VoLTE	82.16

2G



VoLTE



Overall Rx Quality	# Samples	% PDF
(Min, <=2)	8480224	76.93
(2, <=3)	557835	5.06
(3, <=4)	638590	5.79
(4, <=5)	405646	3.68
(5, <=Max)	939942	8.52
Total	11022237	100.00

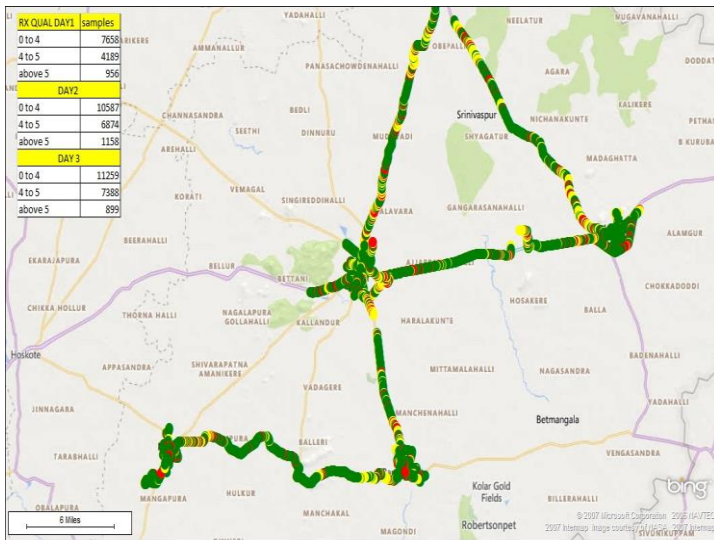
Overall SINR	# Samples	% PDF
(Min, <=0)	2403961	17.84
(0, <=5)	3829633	28.41
(5, <=10)	3595165	26.67
(10, <=15)	2277386	16.90
(15, <=Max)	1372206	10.18
Total	13478351	100.00

II. Quality Details

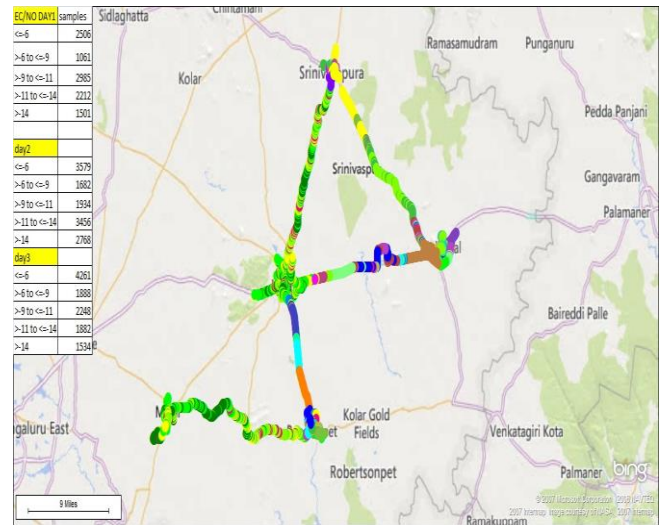
BSNL

Technology	Rx Quality %
2G	94.08
3G	83.84

2G



3G



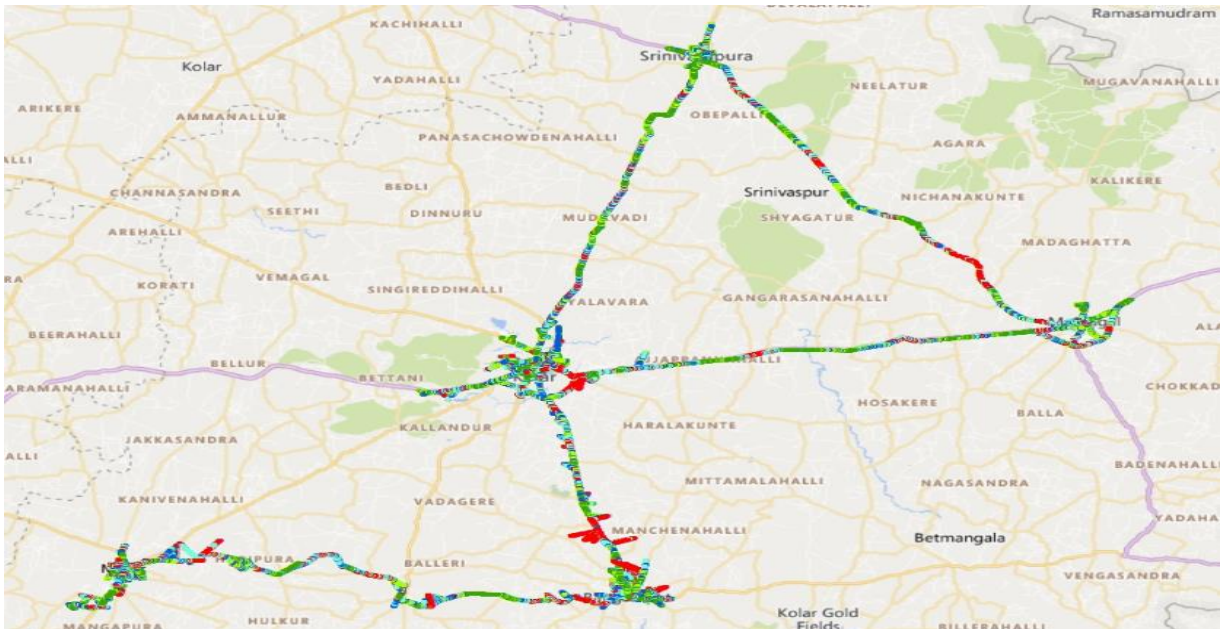
Overall Rx Quality	# Samples	% PDF
(Min, <=2)	17458	34.25
(2, <=3)	11589	22.73
(3, <=4)	14859	29.15
(4, <=5)	4049	7.94
(5, <=Max)	3013	5.91
Total	50968	100.00

Overall ECNO	# Samples	% PDF
<=-6	10346	29.14
>-6 to <=-9	4701	13.24
>-9 to <=-11	7167	20.2
>-11 to <=-14	7550	21.27
>-14	5733	16.15
Total	35497	100

II. Quality Details

JIO

Technology	Rx Quality %
VoLTE	89.36



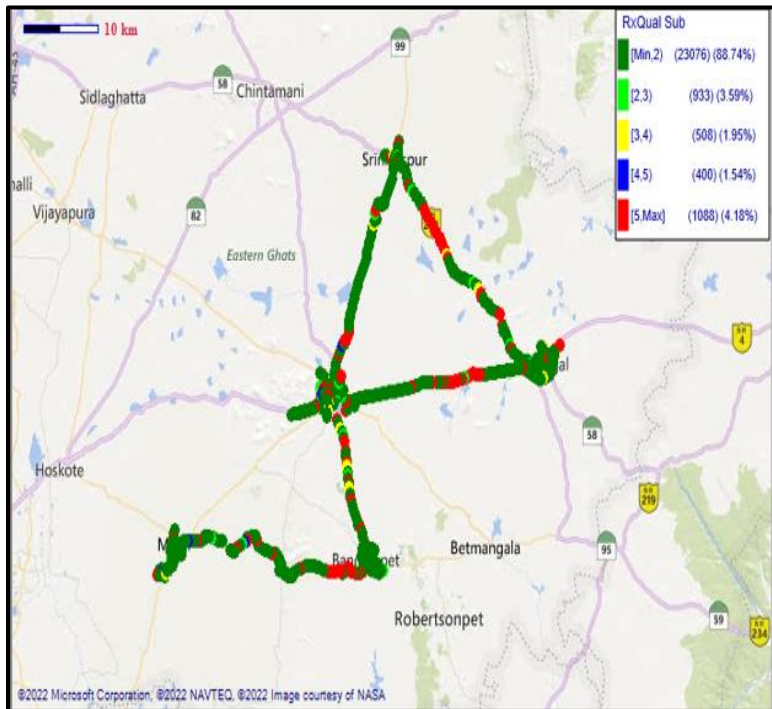
Overall SINR	# Samples	% PDF
(Min, <=0)	140199	10.64
(0, <=5)	253174	19.22
(5, <=10)	294317	22.34
(10, <=15)	254223	19.30
(15, <=Max)	375467	28.50
Total	1317380	100

II. Quality Details

VIL

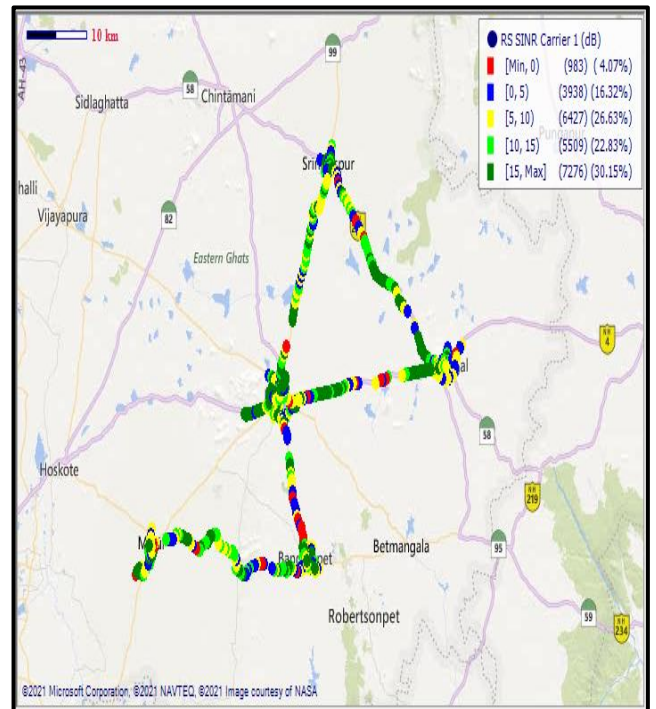
Technology	Rx Quality %
2G	95.82
VoLTE	95.93

2G



Overall Rx Quality	# Samples	% PDF
(Min, <=2)	23076	88.74
(2, <=3)	933	3.59
(3, <=4)	508	1.95
(4, <=5)	400	1.54
(5, <=Max)	1088	4.18
Total	26005	100

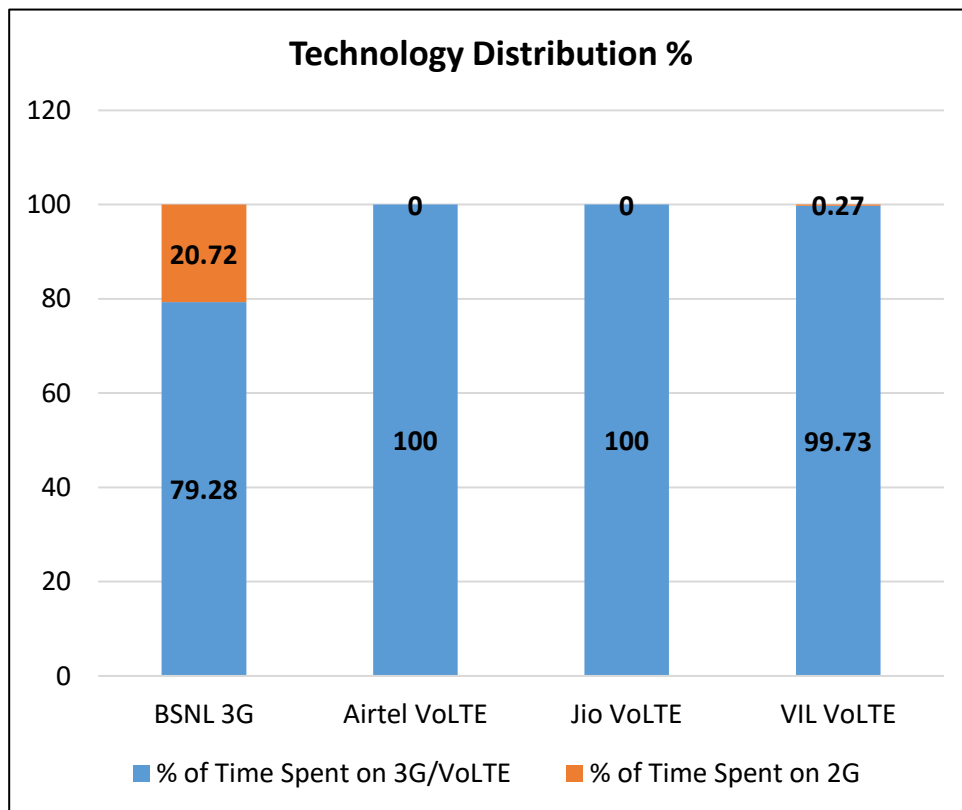
VoLTE



Overall SINR	# Samples	% PDF
(Min, <=0)	983	4.07
(0, <=5)	3938	16.32
(5, <=10)	6427	26.63
(10, <=15)	5509	22.83
(15, <=Max)	7276	30.15
Total	24133	100

III. Technology Details

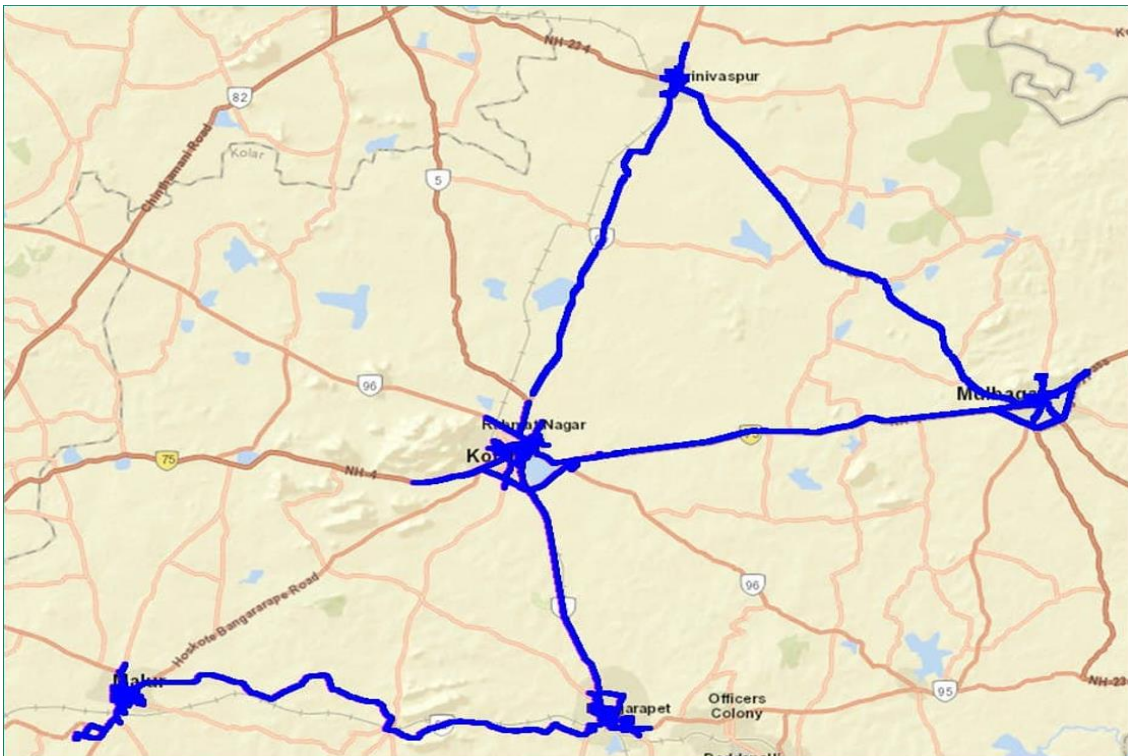
Service Providert	% of Time Spent on 3G/VoLTE
BSNL 3G	79.28
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	99.73



III. Technology Details

Airtel

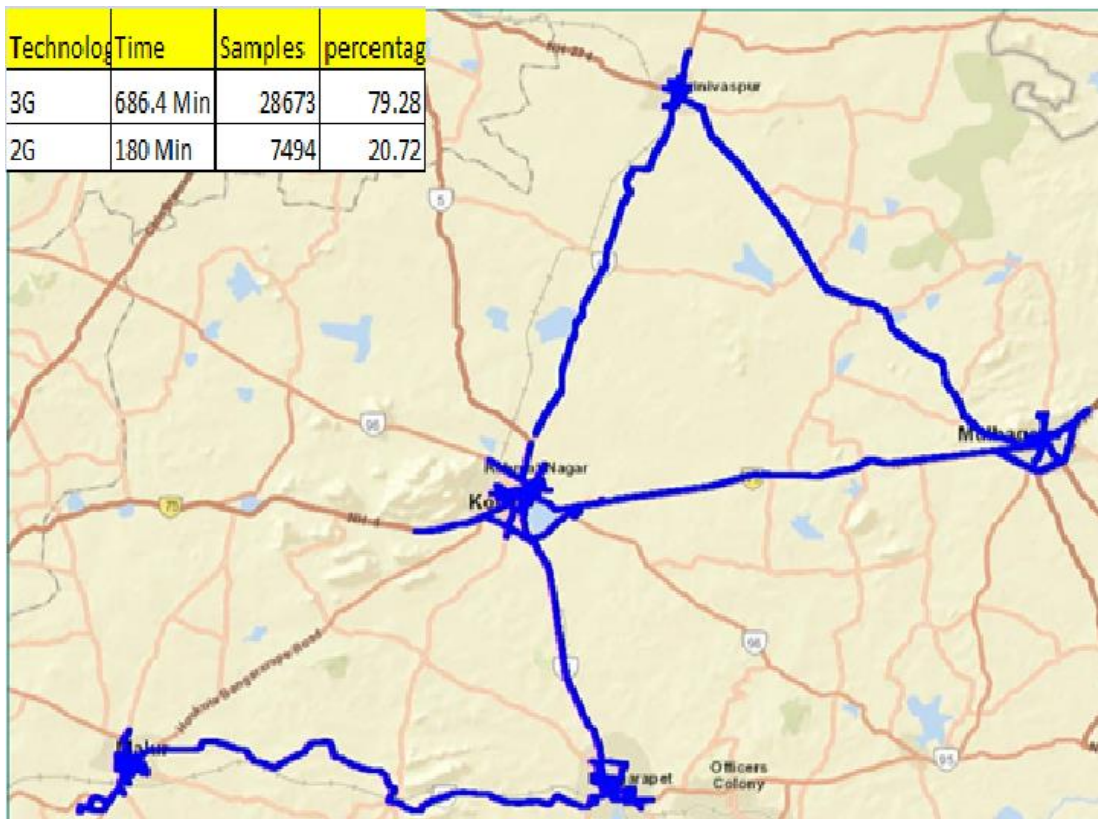
Technology	Time Spent
VoLTE	100%



III. Technology Details

BSNL

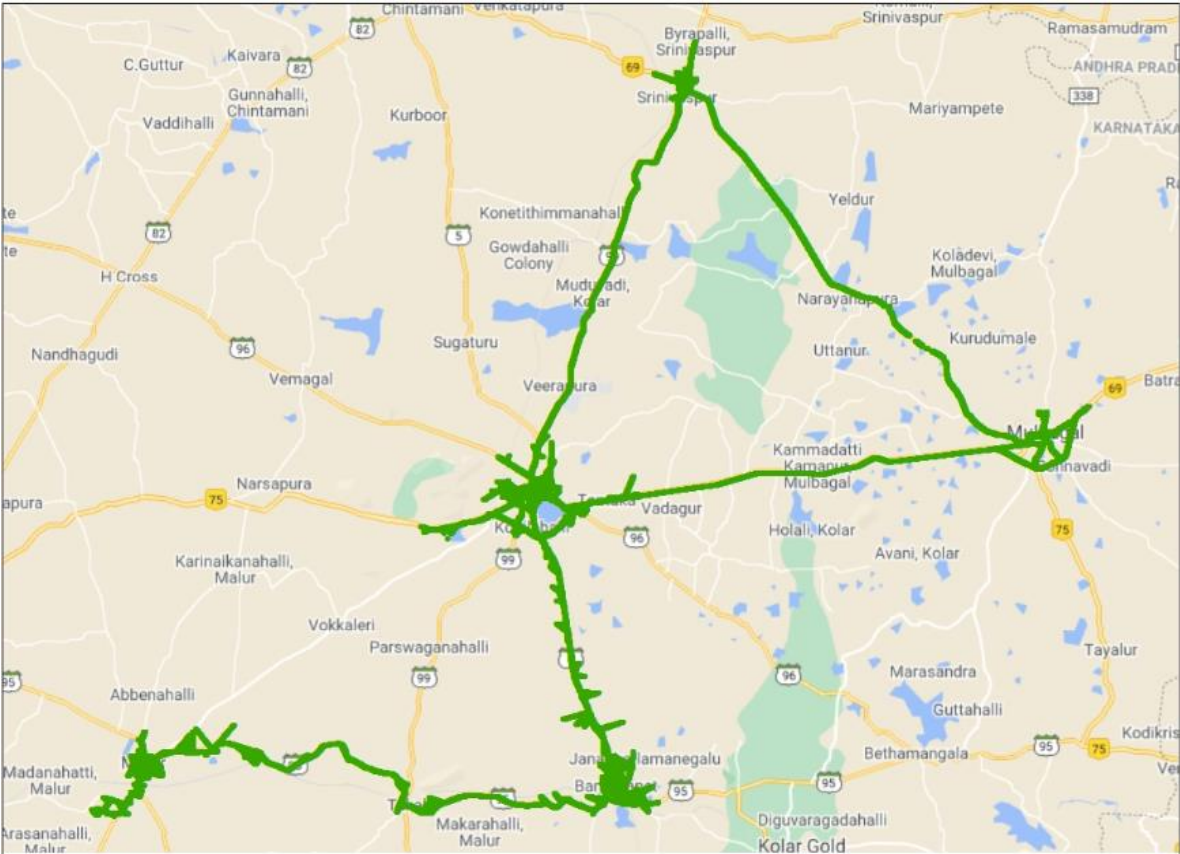
Technology	Time Spent
3G	79.28 %



III. Technology Details

JIO

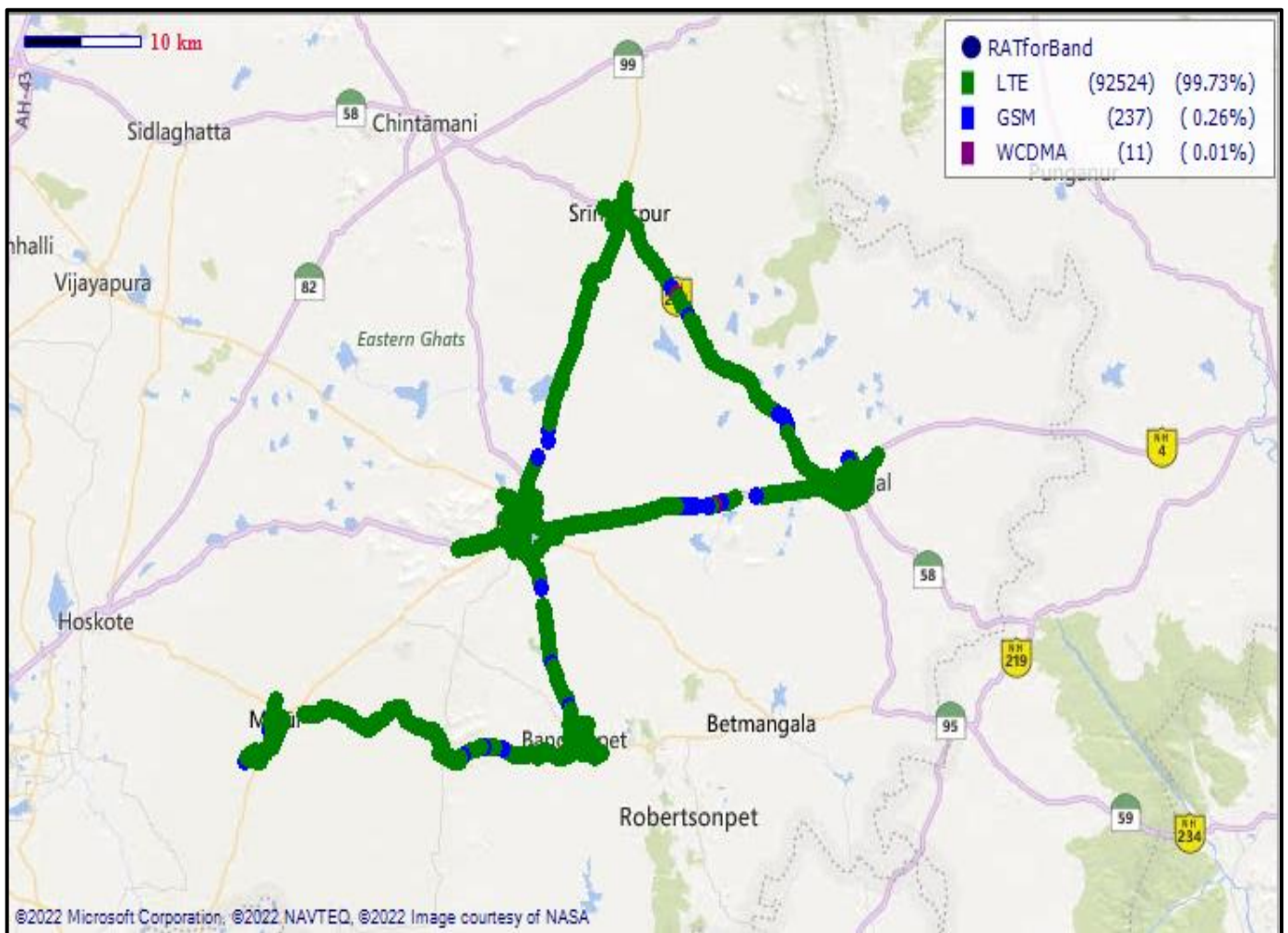
Technology	Time Spent
VoLTE	100 %



III. Technology Details

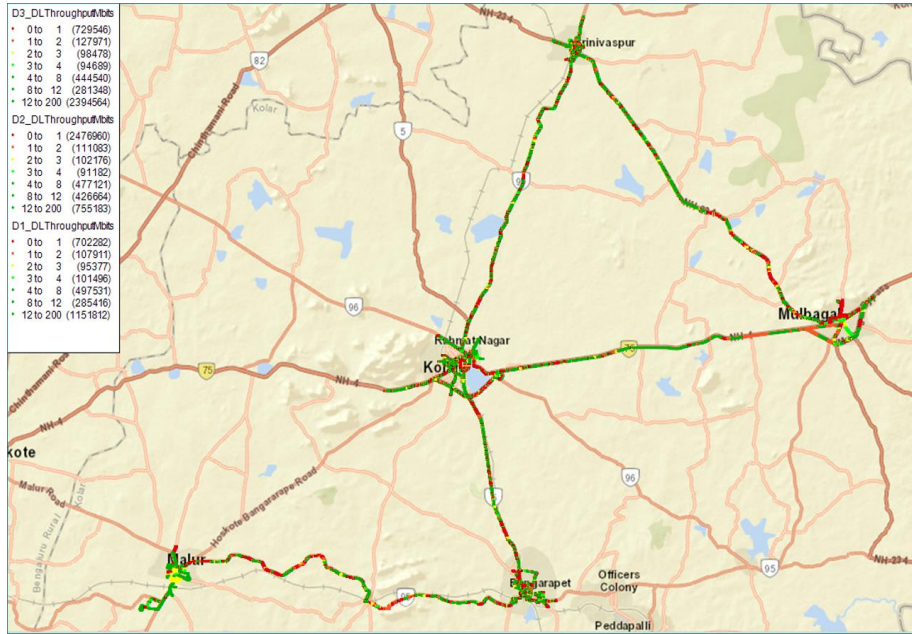
VIL

Technology	Time Spent
VoLTE	99.73 %

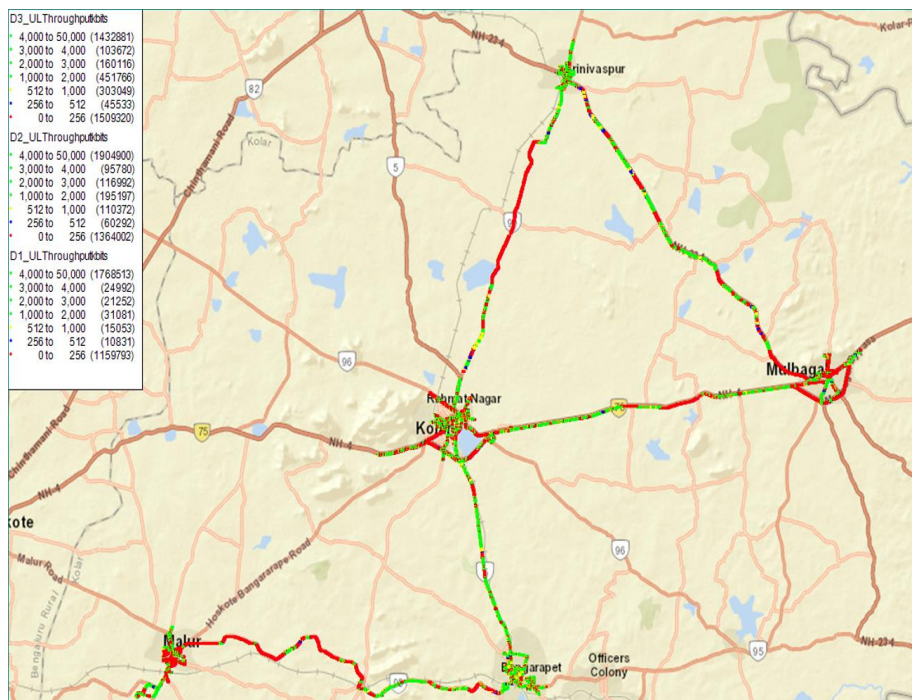


IV. Dynamic Data Test- 4G DL/UL Details

Airtel



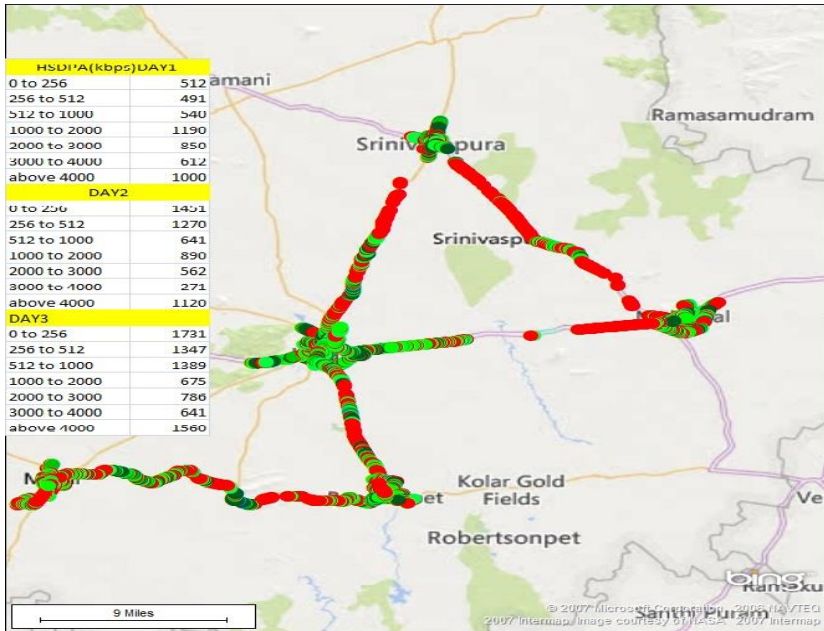
DL throughput	No. of Samples	%
0 to 1 Mbps	3908788	33.83
1 to 2 Mbps	346965	3.00
2 to 3 Mbps	296031	2.56
3 to 4 Mbps	287367	2.49
4 to 8 Mbps	1419192	12.28
8 to 12 Mbps	993428	8.60
>12 Mbps	4301559	37.23
Total	11553330	100.00



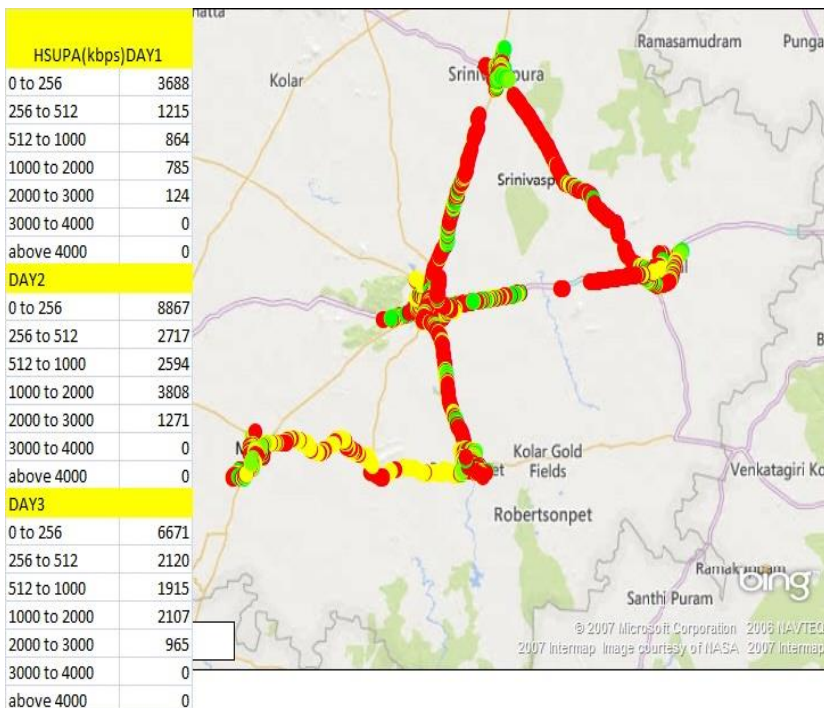
Upload throughput	No. of samples	%
0 to 256 kbps Mbps	4033115	37.05
256 to 512 kbps	116656	1.07
512 Kbps to 1 Mbps	428474	3.94
1 to 2 Mbps	678044	6.23
2 to 3 Mbps	298360	2.74
3 to 4 Mbps	224444	2.06
>4Mbps	5106294	46.91
Total	10885387	100.00

IV. Dynamic Data Test- 3G DL/UL Details

BSNL



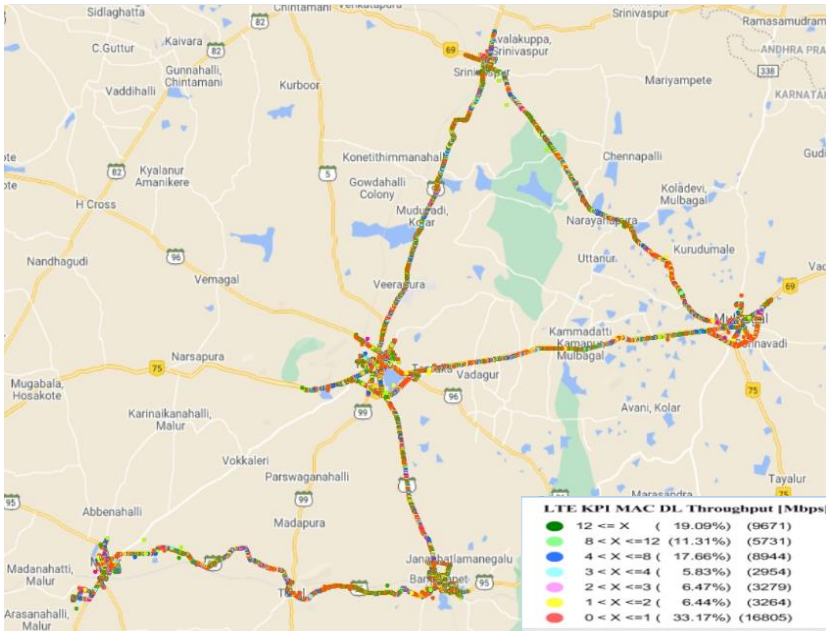
DL throughput	No. of Samples	%
0 to 1 Mbps	3512	20.07
1 to 2 Mbps	3091	17.67
2 to 3 Mbps	2440	13.95
3 to 4 Mbps	2590	14.80
4 to 8 Mbps	1850	10.57
8 to 12 Mbps	1512	8.64
>12 Mbps	2500	14.29
Total	17495	100.00



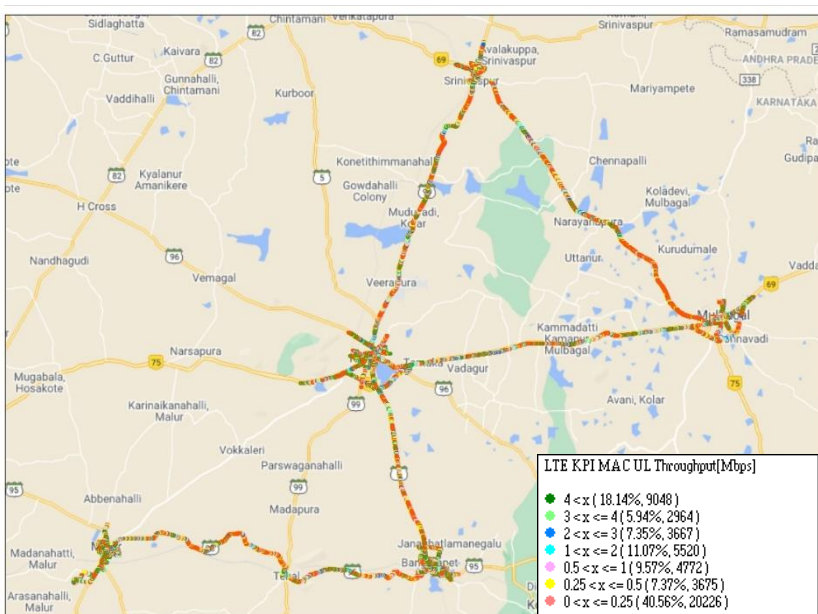
UL throughput	No. of Samples	%
0 to 256 kbps Mbps	19226	48.12
250 to 512 kbps	6088	15.23
512 Kbps to 1 Mbps	5578	13.96
1 to 2 Mbps	6700	16.77
2 to 3 Mbps	2360	5.90
3 to 4 Mbps	0	0.00
>4Mbps	0	0.00
Total	39952	100.00

IV. Dynamic Data Test- 4G DL/UL Details

JIO



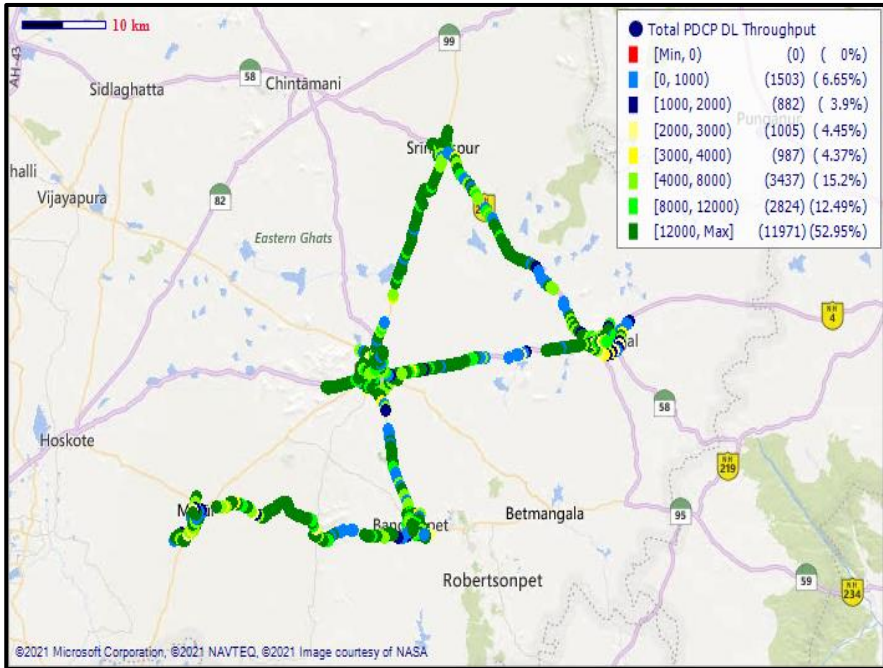
DL throughput	No. of Samples	%
0 to 1 Mbps	16805	33.17
1 to 2 Mbps	3264	6.44
2 to 3 Mbps	3279	6.47
3 to 4 Mbps	2954	5.83
4 to 8 Mbps	8944	17.66
8 to 12 Mbps	5731	11.31
>12 Mbps	9671	19.09
Total	50648	100



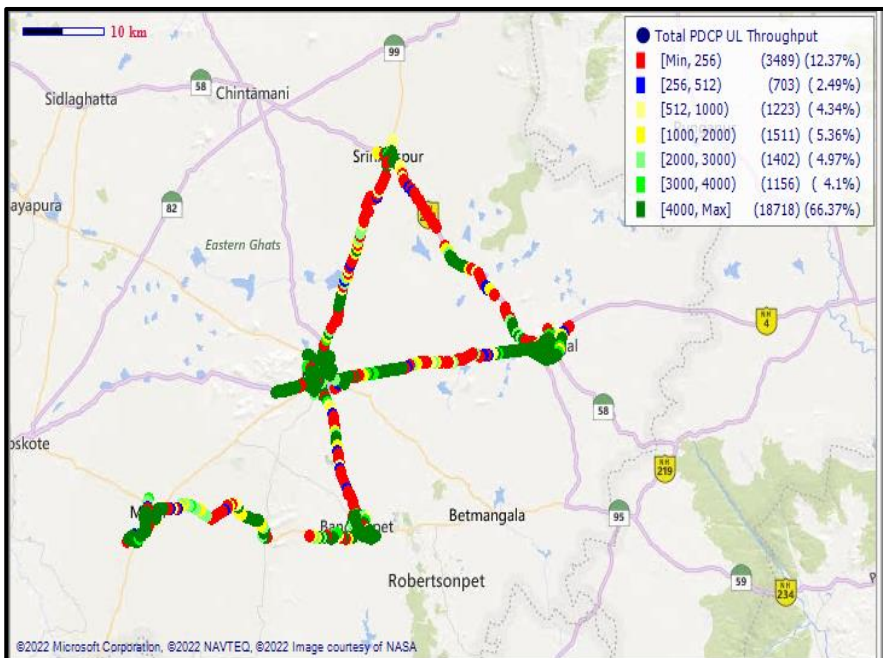
Upload throughput	No. of samples	%
0 to 256 kbps Mbps	20226	40.56
250 to 512 kbps	3675	7.37
512 Kbps to 1 Mbps	4772	9.57
1 to 2 Mbps	5520	11.07
2 to 3 Mbps	3667	7.35
3 to 4 Mbps	2964	5.94
>4Mbps	9048	18.14
Total	49872	100

IV. Dynamic Data Test- 4G DL/UL Details

VIL



DL throughput	No. of Samples	%
0 to 1 Mbps	1503	6.65
1 to 2 Mbps	882	3.9
2 to 3 Mbps	1005	4.45
3 to 4 Mbps	987	4.37
4 to 8 Mbps	3437	15.2
8 to 12 Mbps	2824	12.49
>12 Mbps	11971	52.95
Total	22609	100



Upload throughput	No. of samples	%
0 to 256 kbps Mbps	3489	12.37
250 to 512 kbps	703	2.49
512 Kbps to 1 Mbps	1223	4.34
1 to 2 Mbps	1511	5.36
2 to 3 Mbps	1402	4.97
3 to 4 Mbps	1156	4.1
>4Mbps	18718	66.37
Total	28202	100

Techology-4G/VoLTE	Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
Download Speed	30.7	26.83	20.34	19.11	32.48	59.86
Upload Speed	26.58	5.62	25.89	27.27	28.46	17.17
Latency	36.4	32.3	NA	50.5	NA	44.3

AIRTEL Date: 15/12/21
 Time: 04:34 PM
 LTE Lat.: 13.12517
 -70 dBm Long.: 78.13344

Download Speed	Upload Speed
30.70 Mbps	26.58 Mbps
Network Delay	Packet Loss
36.4 Ms	0 %

AIRTEL Date: 15/12/21
 Time: 05:49 PM
 LTE Lat.: 13.13702
 -71 dBm Long.: 78.12858

Download Speed	Upload Speed
26.83 Mbps	5.62 Mbps
Network Delay	Packet Loss
32.3 Ms	0 %

N.A. Date: 16/12/21
 Time: 01:33 PM
 LTE Lat.: 13.33269
 -85 dBm Long.: 78.21014

Download Speed	Upload Speed
20.34 Mbps	25.89 Mbps
Network Delay	Packet Loss
N.A. Ms	N.A. %

AIRTEL Date: 16/12/21
 Time: 07:26 PM
 LTE Lat.: 13.16105
 -77 dBm Long.: 78.39190

Download Speed	Upload Speed
19.11 Mbps	27.27 Mbps
Network Delay	Packet Loss
50.5 Ms	0 %

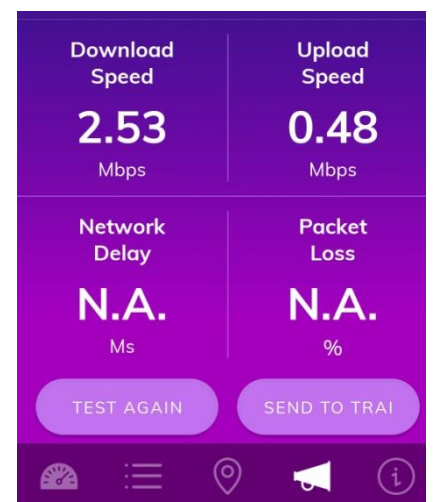
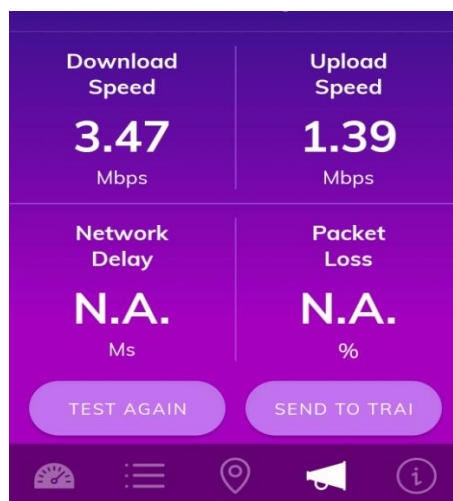
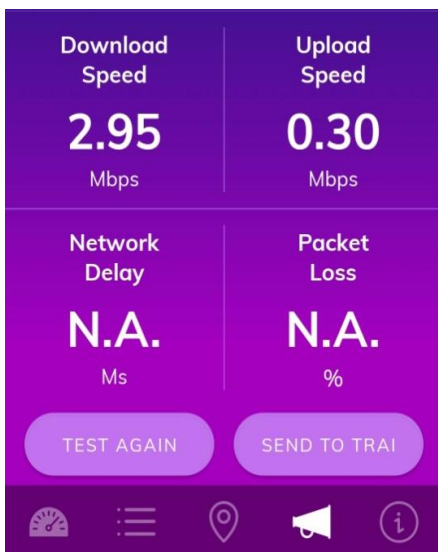
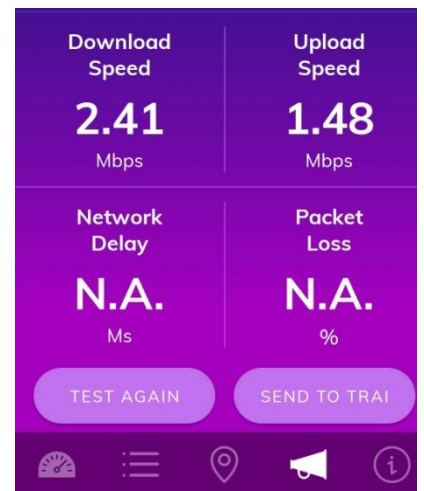
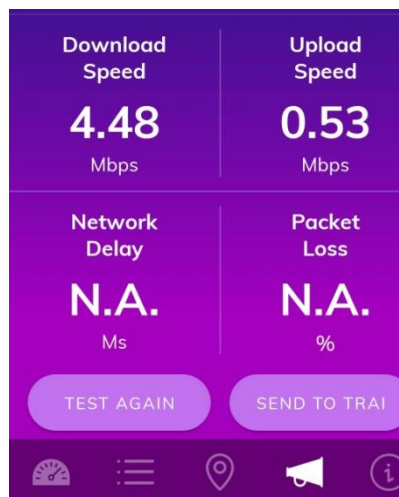
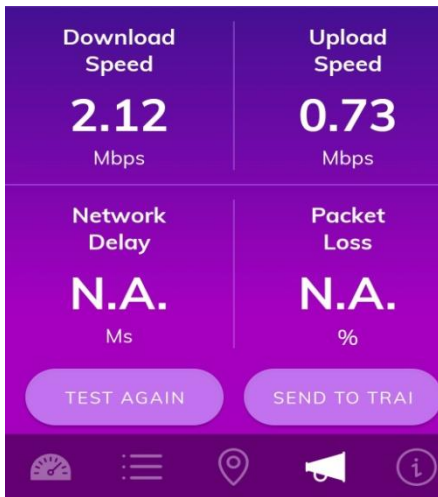
N.A. Date: 17/12/21
 Time: 12:41 PM
 LTE Lat.: 12.98575
 -68 dBm Long.: 78.17945

Download Speed	Upload Speed
32.48 Mbps	28.46 Mbps
Network Delay	Packet Loss
N.A. Ms	N.A. %

AIRTEL Date: 17/12/21
 Time: 07:31 PM
 LTE Lat.: 13.00200
 -79 dBm Long.: 77.93809

Download Speed	Upload Speed
59.86 Mbps	17.17 Mbps
Network Delay	Packet Loss
44.3 Ms	0 %

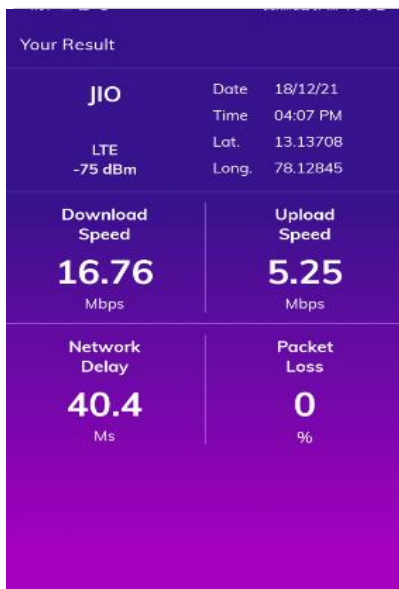
Techology-3G	Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
Download Speed (Mbps)	2.12	4.48	2.41	2.95	3.47	2.53
Upload Speed (Mbps)	0.73	0.53	1.48	0.3	1.39	0.48
Latency (Ms)	Data not captured in the App					



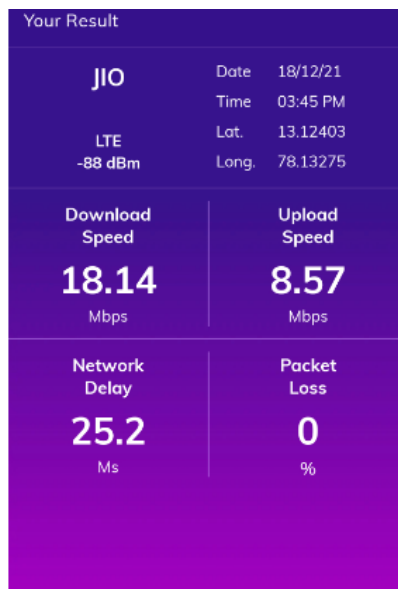
V. TRAI My Speed App Test Details-4G

Techology-4G/VoLTE	KSRTC Bus stand - Kolar	Railway station Kolar	KSRTC Busstand Srinivasapuram	Ambedkar Circle Mulbagal	KSRTC Bus stand Malur	Railway station Bangerpet
Download Speed (Mbps)	16.76	18.14	25.13	28.09	16.74	17.62
Upload Speed (Mbps)	5.25	8.57	9.84	7.63	6.09	9.65
Latency (Ms)	40.4	25.2	22.1	33.3	28.4	40.2

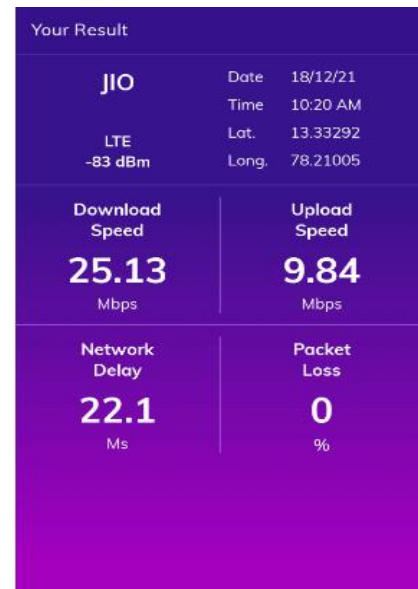
KSRTC Bus stand -Kolar



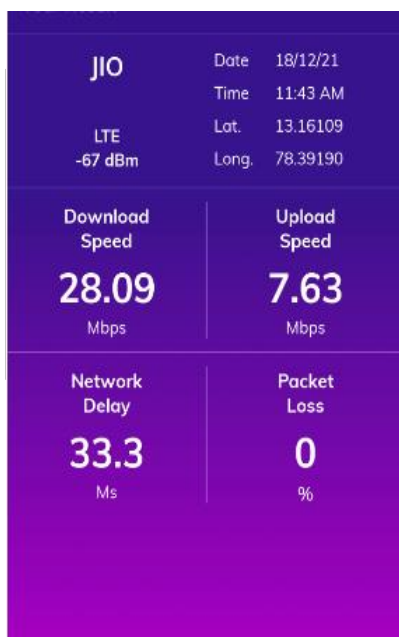
Railway station Kolar



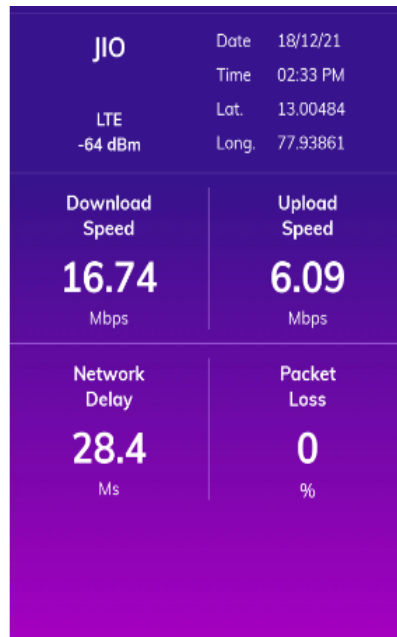
KSRTC Bus stand Srinivasapuram



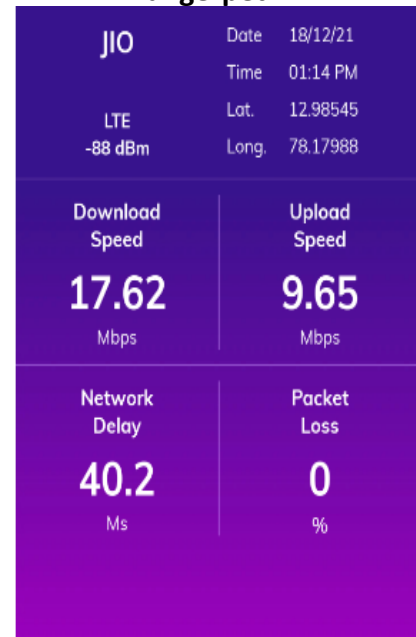
Ambedkar Circle Mulbagal



KSRTC Bus stand Malur



Railway station Bangerpet



V. TRAI My Speed App Test Details-4G

Techology-4G/VoLTE	Location 1	Location 2	Location 3	Location 4	Location 5	Location 6
Download Speed (Mbps)	16.68	58.64	27.98	27.98	22.75	29.69
Upload Speed (Mbps)	27.83	24.81	12.98	12.98	29.46	25.92
Latency (ms)	Not captured in the App					

