

Operator Assisted Drive Test Report

KARIMNAGAR SSA

JUNE - 2024

(RO HYDERABAD)

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 (OADT) has been carried out by TRAI RO Hyderabad with the help of Service Providers in Karimnagar City and surrounding areas viz. Jagitial, Korutla, Metpally, Vemulawada, Siricilla, Ellanthakunta, Bejjanki, Huzurabad, Godhavarikhani, NTPC, Manthani, Peddapalli & Sulthanabad etc. from 9:00 AM to 8:00 PM during 25th to 28th June 2024. The drive test covered drive route of 650Kms & 7 hotspot over a period of 4 days. Approximately 850 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

TRAI Hyderabad conducted Operator Assisted Drive Test from 25^h to 28th June 2024 covering various locations Karimnagar and surrounding areas Jagtiyal, Korutla, Metpalli, Vemulawada, Sircilla, Sultanabad, Peddapalli, Ramagundem, Godavarikhani, Manthani and Huzurabad. The performance of Airtel, BSNL, Jio and Vodafone Idea Limited were monitored across various technologies (2G, 3G, and 4G). 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 :

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 650 Kms over a period of 4 days from 25^h to 28th June 2024. Approximately 850 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:

1. Dynamic data test was conducted for 650 kms over a period of 3 days for download throughput for 3G & 4G technologies.

Data Tests were performed at 6 static locations for 2G, 3G & 4G technologies of five iterations at each location.

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

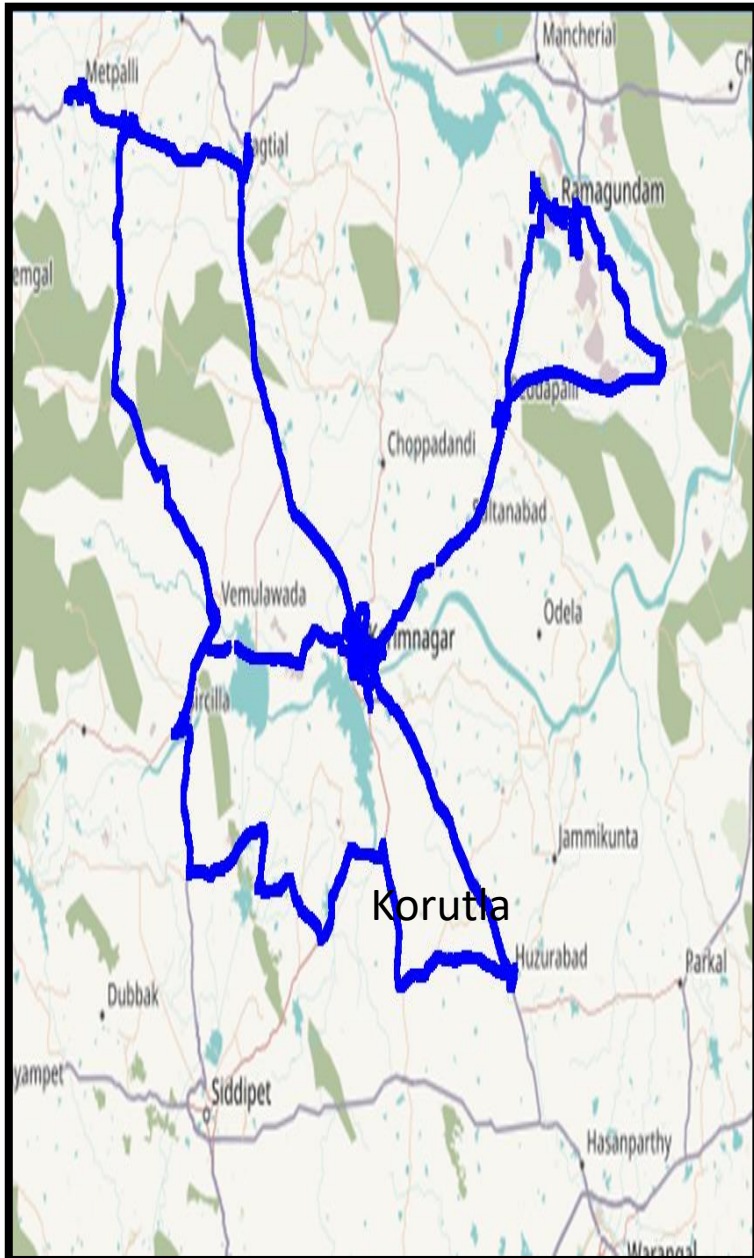
* 3G KPI's which are calculated from UE in Dual Mode (2G & 3G) includes samples and events of 2G.

* 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 www.myntra.com
Video Streaming	130 Sec Clip
Latency	32 Bytes on www.google.com

Overview

Voice & Dynamic Data Test Drive Route



Areas Covered -KARIMNAGAR	
Karimnagar railway station road	New bus stand area
BSNL Office exchange	Ramnagar
Theegalaguttapalli	Kothirampur
Rekurthy	Bank Colony
Kisan nagar	Mankammathota
Padmanagar	Chinthakunta
Adharsha nagar	Hussainpura
Tower Circle	Stadium Road
Areas Covered-JAGTIAL	
Dharmapuri Bypass Road	Old Bus stand
Vani nagar	Clock Tower Road
Puranipet	New busstand area
Areas Covered -Korutla	
Prakasham Road	Kallur Road
Gandhi Road	Ambedkar Road
Areas Covered-Metpalli	
Khanapur Road	Dubbawada
Gajulapeta	Adharshanagar
Areas Covered - Vemulawada	
Temple Road	Bypass Road
Baddi Pochamma Temple	Anjani Nagar
Areas Covered-Siricilla	
B Y Nagar	New busstand area
Pragathi Nagar	Sai nagar
	Yellareddypet
Siricilla - Huzurabad	
Jillela	Ellanthakunta
Bejanki	Huzurabad
Areas Covered - Godhavarikhani,NTPC	
Bus stand Road	Laxmi Ngar
Tilak nagar	Markandeya Colony Road
NTPC Town Ship	Jyothinagar
Ramagundam Railwaystation	Khader Colony
Gunjapadgu	Jallaram
Vithal nagar	LB Nagar
Areas Covered -MANTHANI	Areas Covered - PEDDAPALLI
Gadhi chowk	Bharath Nagar
Market Road	Peddama nagar
Penjaru katta	Chendapalli
Ravula Chervu Katta	Amar chand Marg

Data Service Test- Static Locations

7 Static Locations

Vemulawada Temple

Huzurabad Bus stand

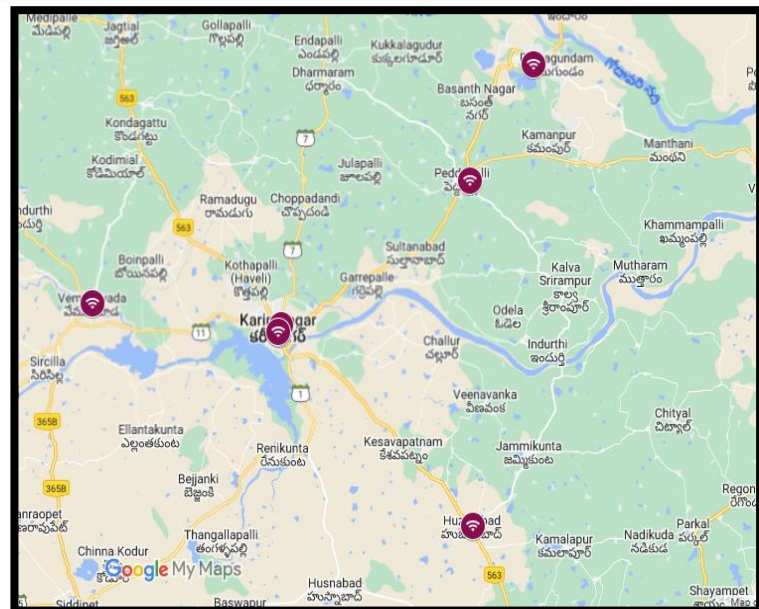
NTPC- Jyothinagar

Peddapalli Railway Station

Karimnagar Bustand

Govt Hospital, Karimnagar

Prathima Multiplex ,Karimnagar

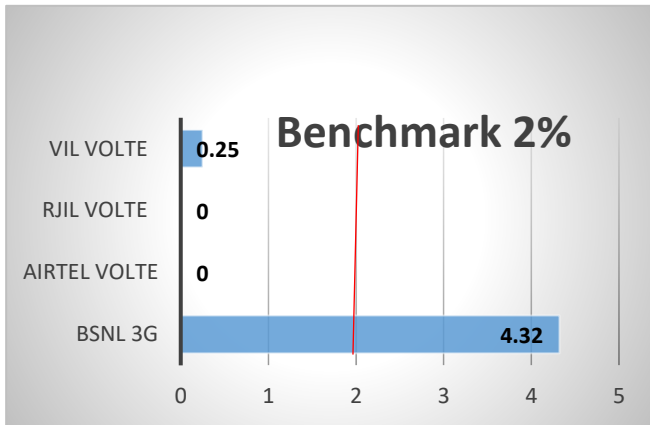


Voice Calls

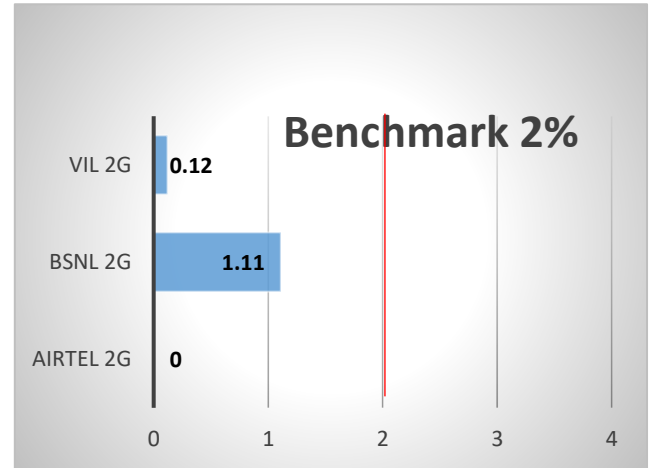
Key Observations

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

Drop Call Rate (%)

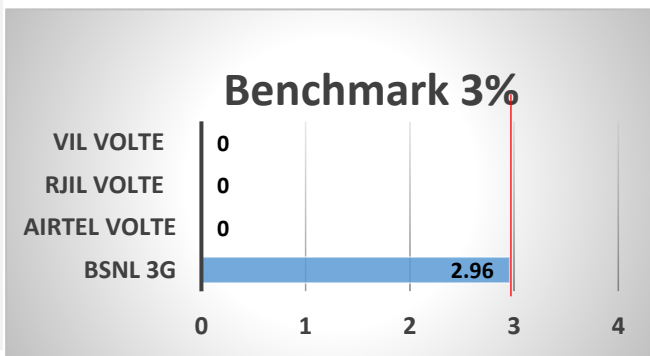


3G/VoLTE Network

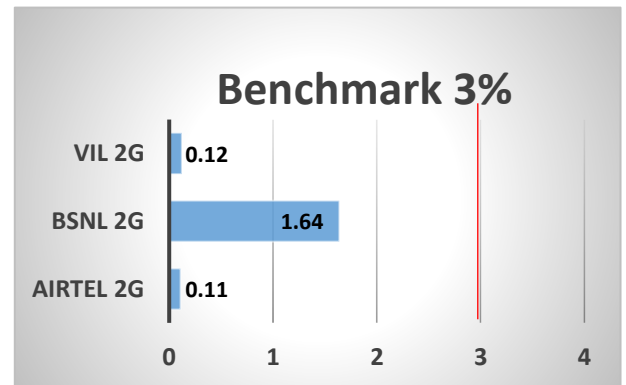


2G Network

Block Call Rate (%)



3G / VoLTE Network



2G Network

KPIs	2G			3G	VoLTE		
	Airtel	BSNL	VIL	BSNL	Airtel	RJIL	VIL
Drop Call Rate %	0	1.11	0.12	4.32	0	0	0.25
Block Call Rate %	0.11	1.64	0.12	2.96	0	0	0

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

Voice Calls

Coverage

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

TSPS	2G		
	Airtel	BSNL	VIL
Coverage %	87.3	99.85	71.51

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

TSP	3G	VoLTE (\geq -110 dBm)			VoLTE (-110 to \geq -120 dBm)		
		BSNL	Airtel	JIO	VIL	Airtel	JIO
Coverage %	73.26	99.31	99.32	94.10	0.69	0.68	5.90

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

TSP	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Time spent %	95.68	100	100	99.80

Data Services Static

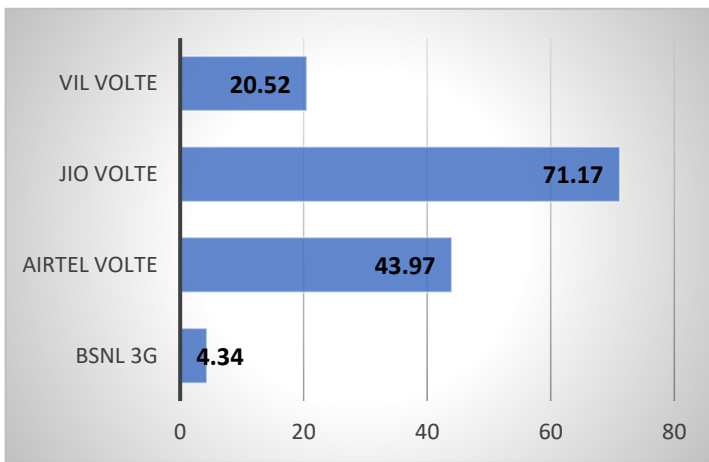
Key Observations (Average of 7 Hotspots)

Data was tested at 7 locations .Following services were tested: Data Download/Upload, Latency (www.google.com), and Web browsing delay (Flipkart, Amazon, PayTm)

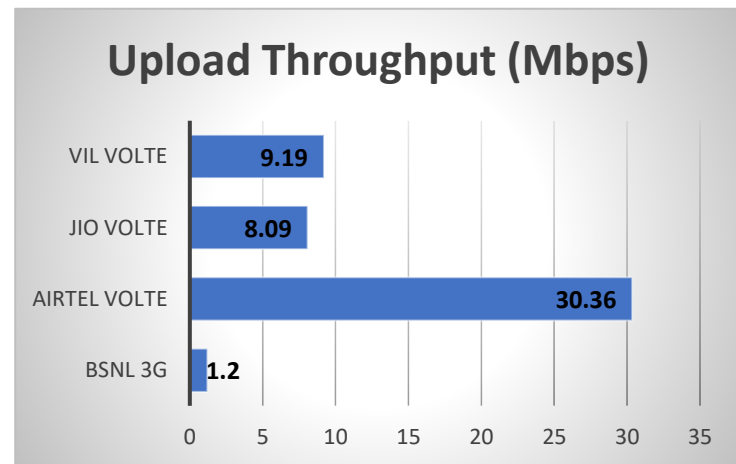
Data Download and Upload Performance (Mbps)

3G/4G Network:

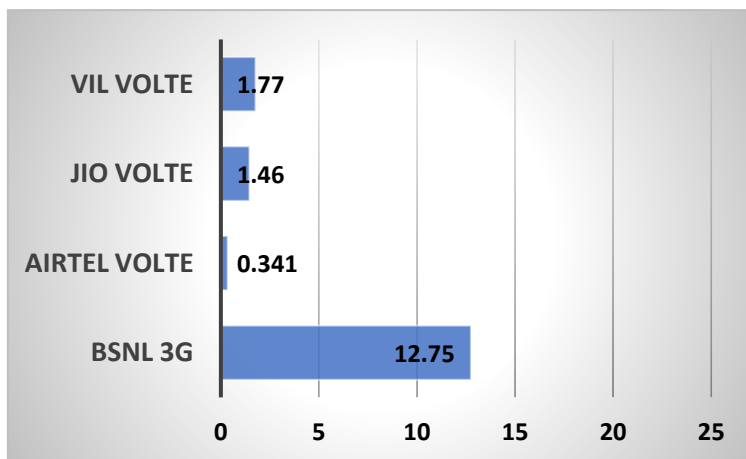
Download Throughput (Mbps)



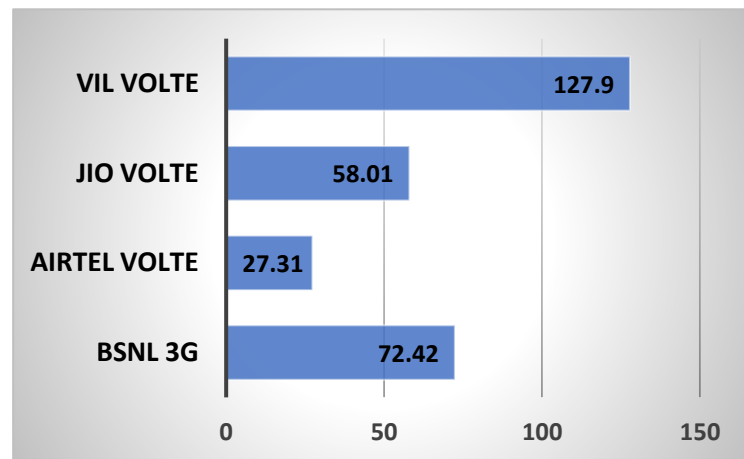
Upload Throughput (Mbps)



Web Browsing delay (Sec)



Latency (ms)



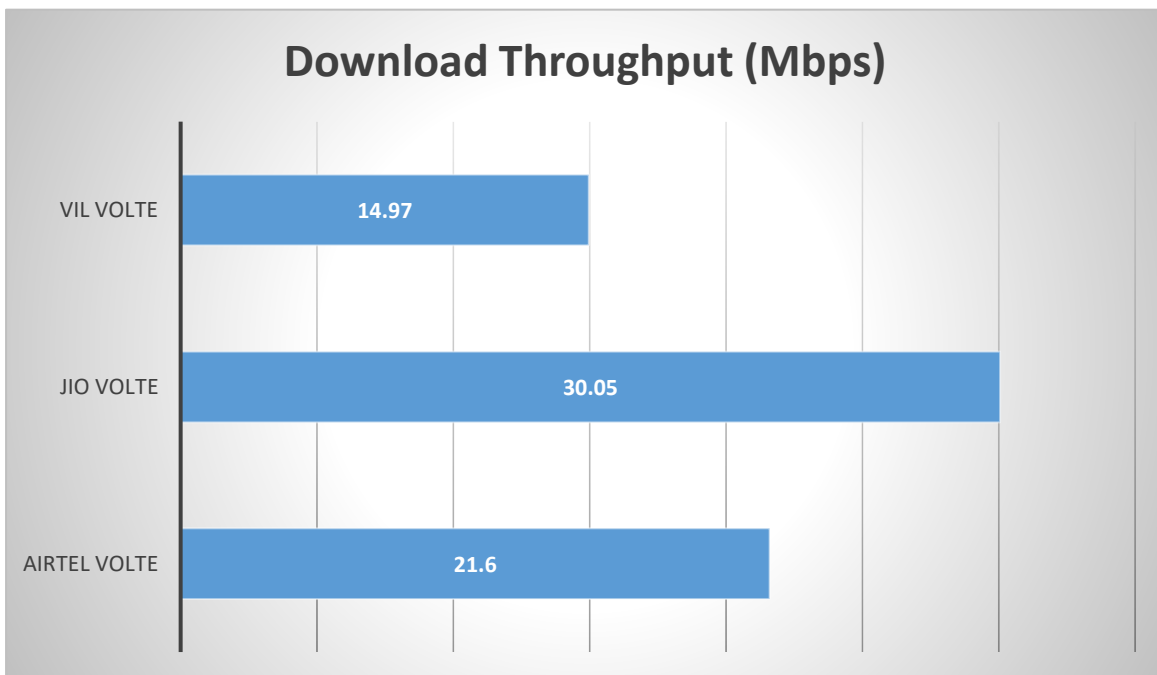
Data Services Dynamic

Key Observations

Dynamic Data was tested for 650 Kms. Download Throughput was tested.

Data Download Performance (kbps) - Dynamic

3G/4G Network:



Data Services Dynamic	VoLTE			
	BSNL 3G	Airtel 4G	JIO 4G	VIL 4G
Download throughput in Mbps	NA	21.60	30.05	14.97

Summary

SSA Level Summary-Voice

Voice Call	2G		
	Airtel	BSNL	VIL
Call Attempt	835	914	810
Blocked Call Rate (%)	0.11	1.64	0.12
CSSR% (Accessibility)	99.89	98.36	99.74
Drop Call Rate (%)	0	1.11	0.12
Mobility HOSR (%)	97.98	96.1	98.56
Rx Quality (%)	95.21	99.85	96.50

Voice Call	3G	VoLTE		
	BSNL	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Call Attempt	879	868	892	785
Blocked Call Rate (%)	2.96	0	0	0.00
CSSR% (Accessibility)	97.04	100	100	99.75
Drop Call Rate (%)	4.32	0	0	0.25
Mobility HOSR (%)	98.3	100	99.20	99.75
Rx Quality (%)	90.42	92.27	96.59	95.87

Summary

SSA Level Summary- (Average of 7 hotspots)- Data Services

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (Kbps)	181.3	59.97	76.65
Upload Throughput (Kbps)	60.4	23.39	47.34
Web Browsing Delay (sec)	3.41	33.16	13.70
Latency (msec)	155.44	249.14	198.90

Data Services Static	3G	VoLTE		
	BSNL	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	4.34	43.97	71.17	20.52
Upload Throughput (Mbps)	1.20	30.36	8.09	9.19
Web Browsing Delay (sec)	12.75	0.341	1.46	1.77
Latency (msec)	72.42	27.31	58.01	127.90

Vemulawada Temple	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	215.20	55.23	67.60
Upload Throughput (kbps)	43.60	20.23	32.80
Web Browsing Delay (sec)	3.54	35.60	13.50
Latency (msec)	122.80	258.50	198.30

Huzurabad Bus stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	151.80	65.02	84.60
Upload Throughput (kbps)	61.20	17.67	39.40
Web Browsing Delay (sec)	3.66	33.40	14.10
Latency (msec)	177.20	270.40	202.70

NTPC Jyothinagar	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	198.40	59.45	49.60
Upload Throughput (kbps)	66.80	22.67	44.90
Web Browsing Delay (sec)	3.10	32.65	14.70
Latency (msec)	149	246.88	202.90

Pedhapalle Railway Station	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	197.40	68.34	72.50
Upload Throughput (kbps)	27.60	25.02	61.50
Web Browsing Delay (sec)	2.07	31.67	13.60
Latency (msec)	163	235.87	194.70

Karimnagar Bustand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	157.40	53.33	90.70
Upload Throughput (kbps)	80.20	25.89	48.20
Web Browsing Delay (sec)	3.57	30.57	13.60
Latency (msec)	163.7	226.89	195.80

Govt Hospital Karimnagar	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	162.60	60.56	62.70
Upload Throughput (kbps)	89.80	27.78	40.80
Web Browsing Delay (sec)	5.44	34.56	13.30
Latency (msec)	133.80	256.67	199.30

Prathima Multiplex Karimnagar	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	186.40	57.89	108.90
Upload Throughput (kbps)	53.60	24.45	63.80
Web Browsing Delay (sec)	2.51	33.67	13.50
Latency (msec)	178.60	248.78	198.70

Vemulawada Temple	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	4.69	60.60	58.10	17.90
Upload Throughput in Mbps	1.06	33.90	6.24	3.50
Video streaming delay in sec	2.21	0	1.66	0.109
Web browsing delay in second	12.45	0.28	1.47	2.40
Latency in (msec)	68	19.70	63	113.20

Huzurabad Bus stand	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	5.82	27.80	77.38	22.30
Upload Throughput in Mbps	1.09	32.40	7.61	9.00
Video streaming delay in sec	2.16	0	2.02	0.11
Web browsing delay in second	13.89	0.34	1.63	1.98
Latency in (msec)	89	29.2	63	112.60

NTPC Jyothinagar	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	5.36	33.10	75.21	18.70
Upload Throughput in Mbps	1.07	34.40	8.74	2.20
Video streaming delay in sec	2.18	0	0.92	0.31
Web browsing delay in second	14.05	0.28	1.61	2.14
Latency in (msec)	100	23.3	59.33	197.60

Pedhapalle Railway Station	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps		52.20	71.08	27
Upload Throughput in Mbps		29.80	8.05	22.60
Video streaming delay in sec		0	1.35	0.30
Web browsing delay in second		0.50	1.33	2..12
Latency in (msec)		25.50	56	112.60

Karimnagar Bustand	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	2.52	39	71.89	11.2
Upload Throughput in Mbps	1.12	31.6	9.89	8.98
Video streaming delay in sec	2.2	0	1.52	0.116
Web browsing delay in second	10.67	0.29	1.34	2.11
Latency in (msec)	90	35.1	56.43	89.2

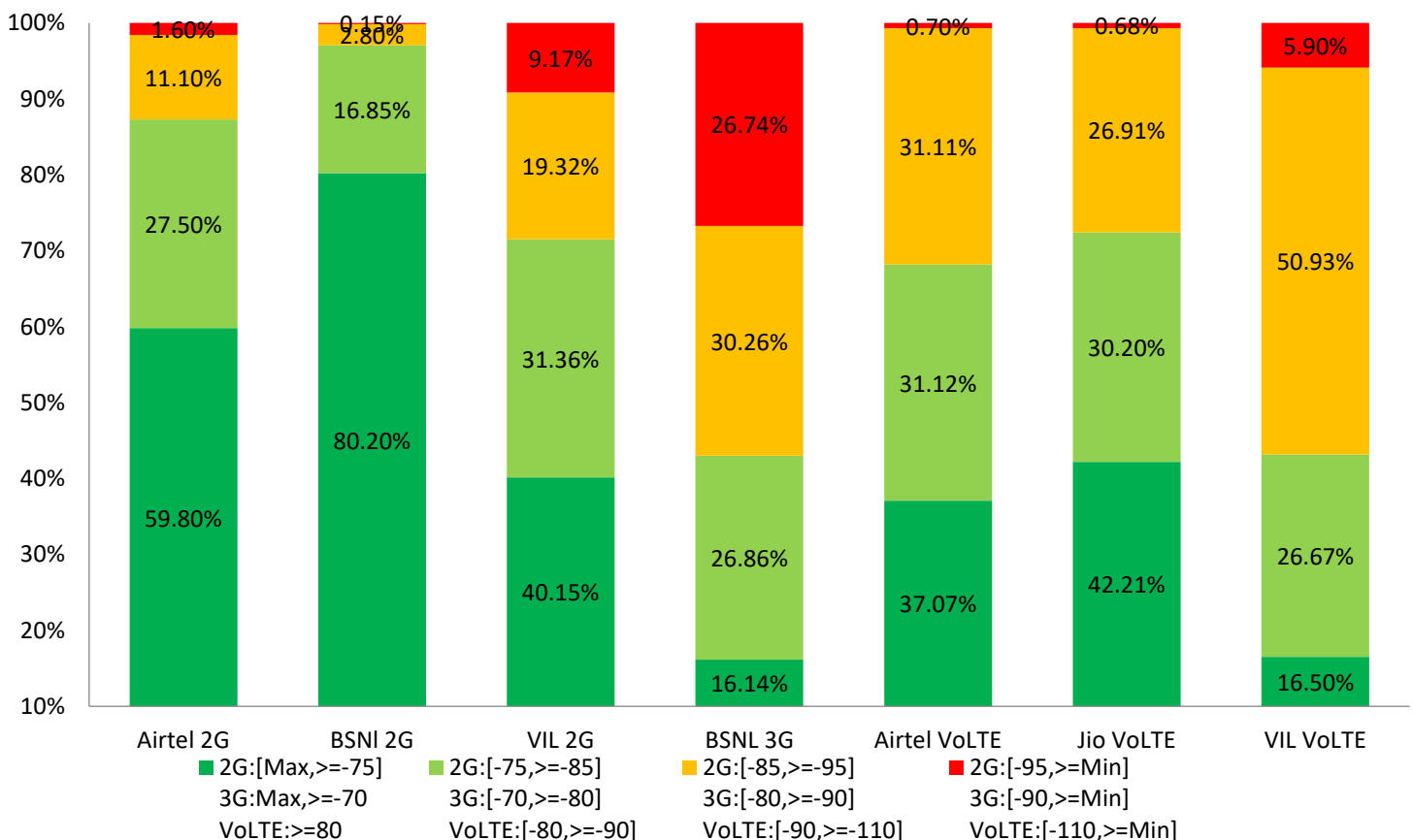
Govt Hospital Karimnagar	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	2.78	44.6	71.3	24.2
Upload Throughput in Mbps	1.34	33.6	6.91	9.46
Video streaming delay in sec	2.16	0	1.68	0.097
Web browsing delay in second	12.99	0.33	1.45	1.89
Latency in (msec)	79	26.9	55	122.6

Prathima Multiplex Karimnagar	3G	4G		
	BSNL	Airtel	JIO	VIL
Download throughput in Mbps	4.89	50.48	73.26	22.4
Upload Throughput in Mbps	1.56	16.8	8.74	8.6
Video streaming delay in sec	2.16	0	1.46	0.199
Web browsing delay in second	11.55	0.37	1.43	1.87
Latency in (msec)	81	31.5	53	147.8

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	87.3
BSNL 2G	97.05
VIL 2G	71.51
BSNL 3G	73.26
Airtel VoLTE	99.31
Jio VoLTE	99.32
VIL VoLTE	94.10



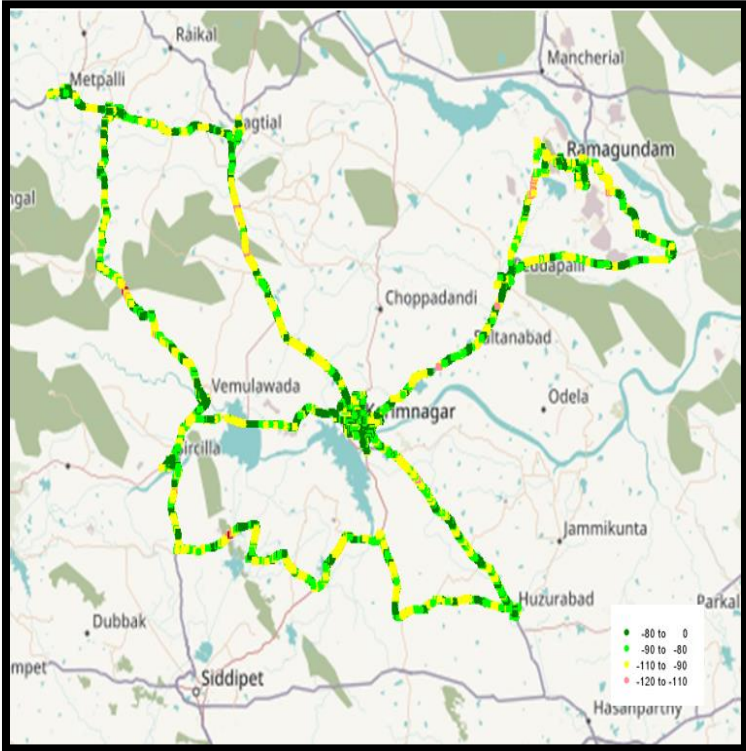
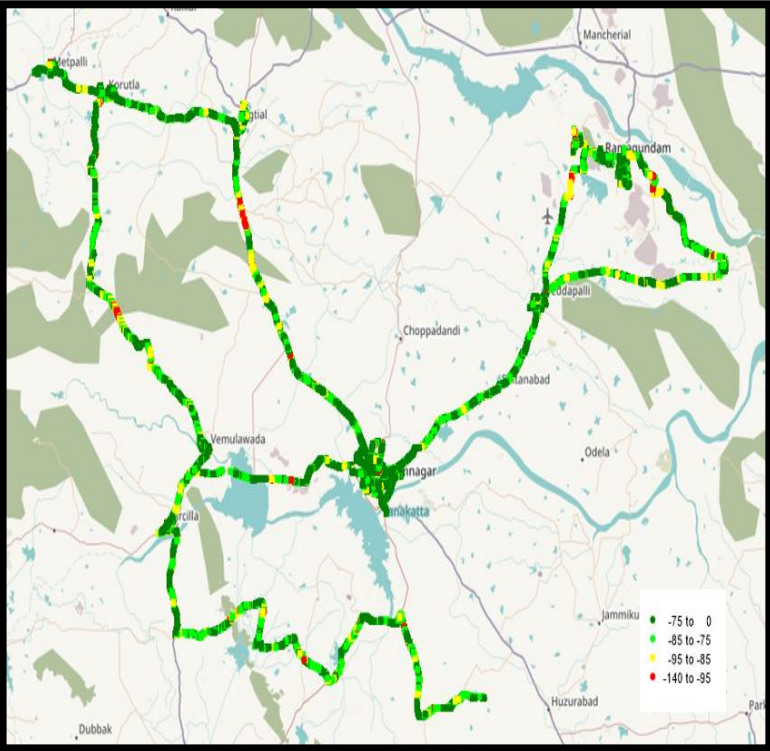
I. Coverage Details

AIRTEL

TSP	Coverage Rate %
Airtel 2G	87.3
Airtel VoLTE	99.31

2G

VoLTE



Overall RxLevel	# Samples	%
[Max, >=-75]	3321556	59.8%
[-75, >=-85]	1525825	27.5%
[-85, >=-95]	614497	11.1%
[-95, >=Min]	88884	1.6%
Total	5550762	100%

Overall RSRP	# Samples	%
[Max, >=-80]	4416050	37.07%
[-80, >=-90]	3707495	31.12%
[-90, >=-110]	3706525	31.11%
[-110, >=-120]	75385	0.63%
[-120, >=Min]	7208	0.06%
Total	11912663	100%

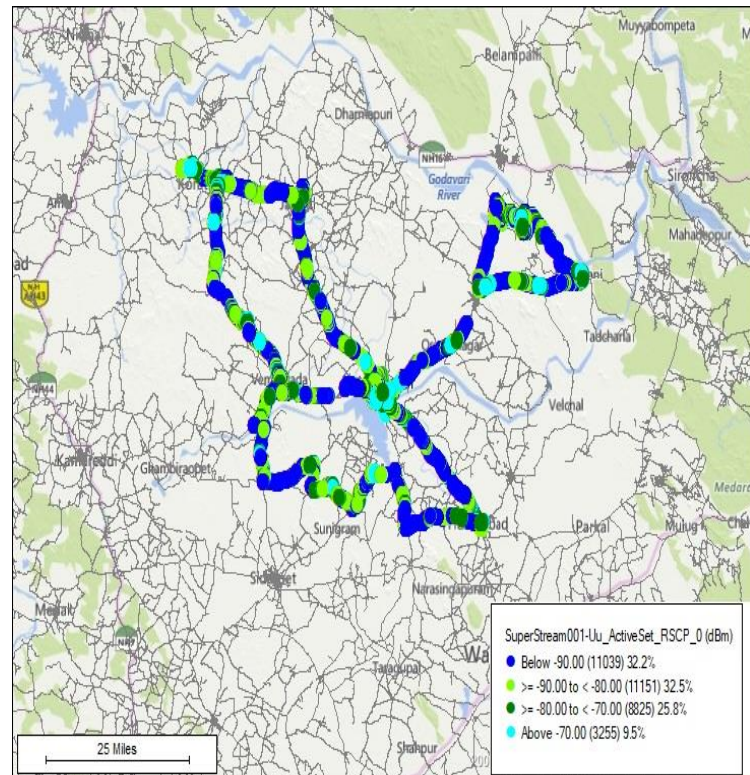
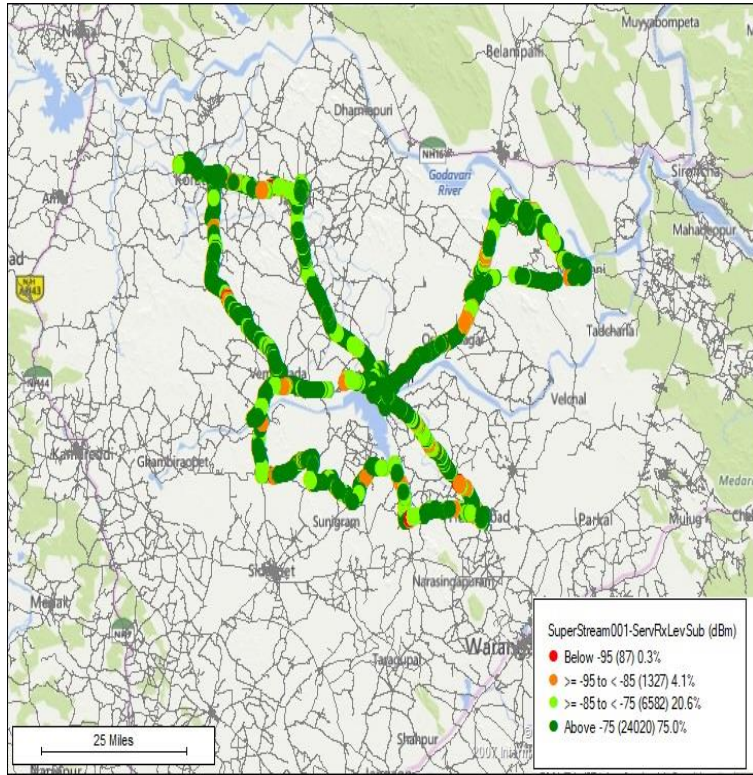
I. Coverage Details

BSNL

Technology	Coverage Rate %
2G	97.05
3G	73.26

2G

3G



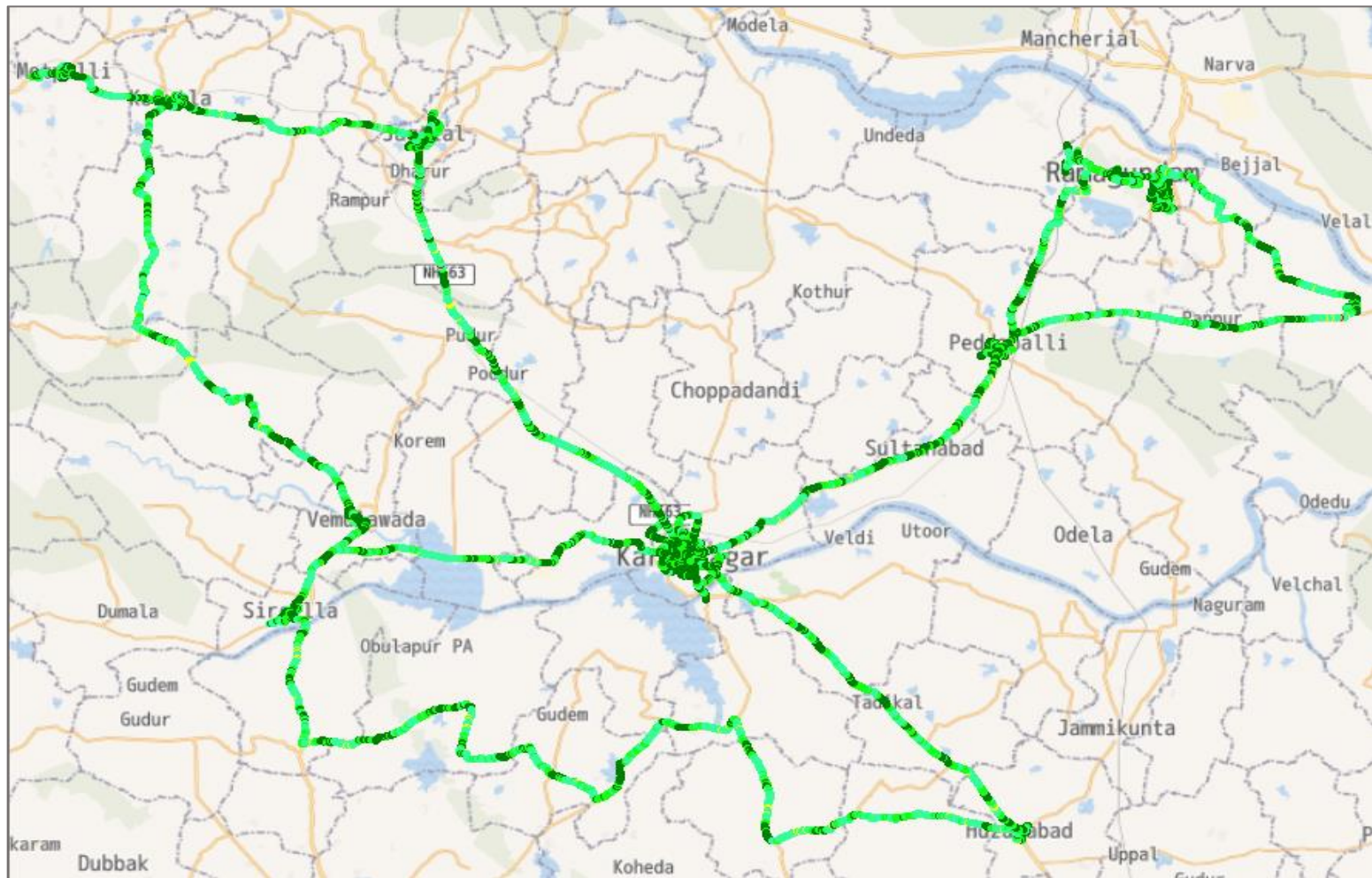
Overall RxLevel	# Samples	%
[Max, >=-75]	71791	80.20
[-75, >=-85]	15085	16.85
[-85, >=-95]	2510	2.80
[-95, >=Min]	131	0.15
Total	89517	100

3G		
Overall RSCP	# Samples	%
[Max, >=-70]	15055	16.14
[-70, >=-80)	25051	26.86
[-80, >=-90)	28214	30.26
[-90, >=Min)	24932	26.74
Total	93252	100

I. Coverage Details

JIO

Technology	Coverage Rate %
VoLTE	99.32



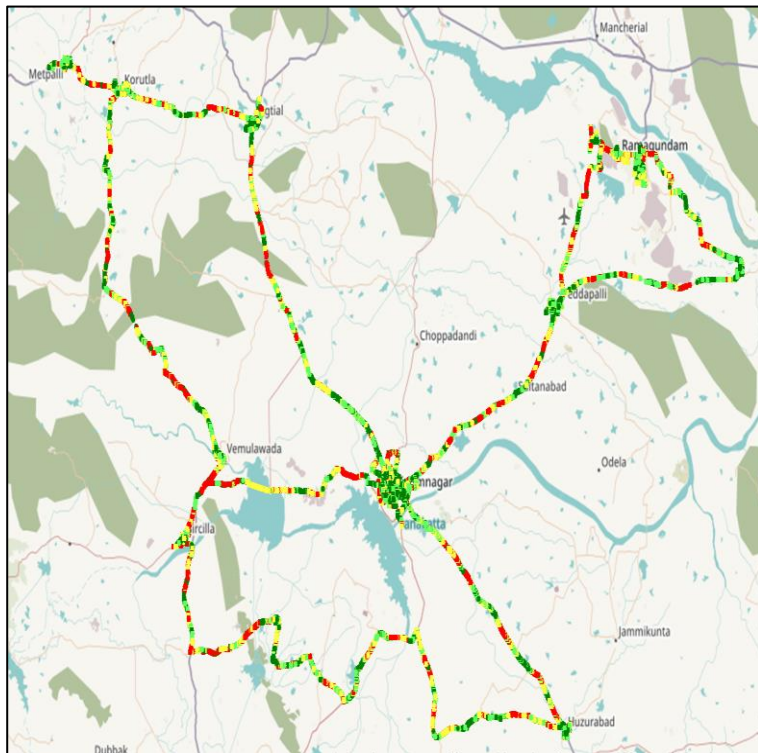
VoLTE		
Overall RSRP	# Samples	%
[Max, >=-80]	39341	42.21
[-80, >=-90]	28152	30.2
[-90, >=-110]	25081	26.91
[-110, >=-120]	617	0.66
[-120, >=Min]	14	0.02
Total	93205	100

I. Coverage Details

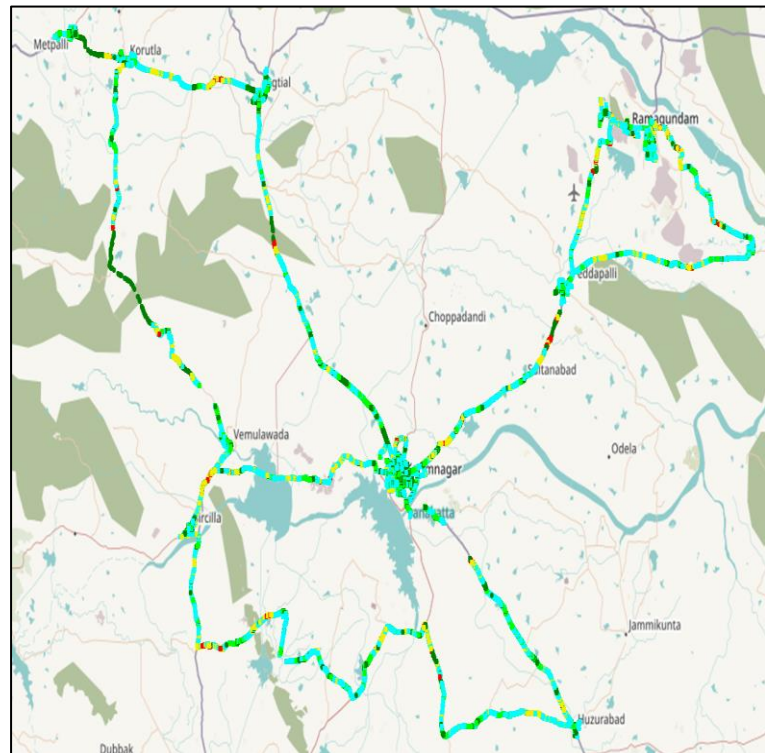
VIL

Technology	Coverage Rate %
2G	71.51
VoLTE	94.10

2G



VoLTE



2G

Overall RxLevel	# Samples	%
[Max, >=-75]	2824728	40.15
[-75, >=-85]	2207274	31.36
[-85, >=-95]	1359894	19.32
[-95, >=Min]	645641	9.17
Total		

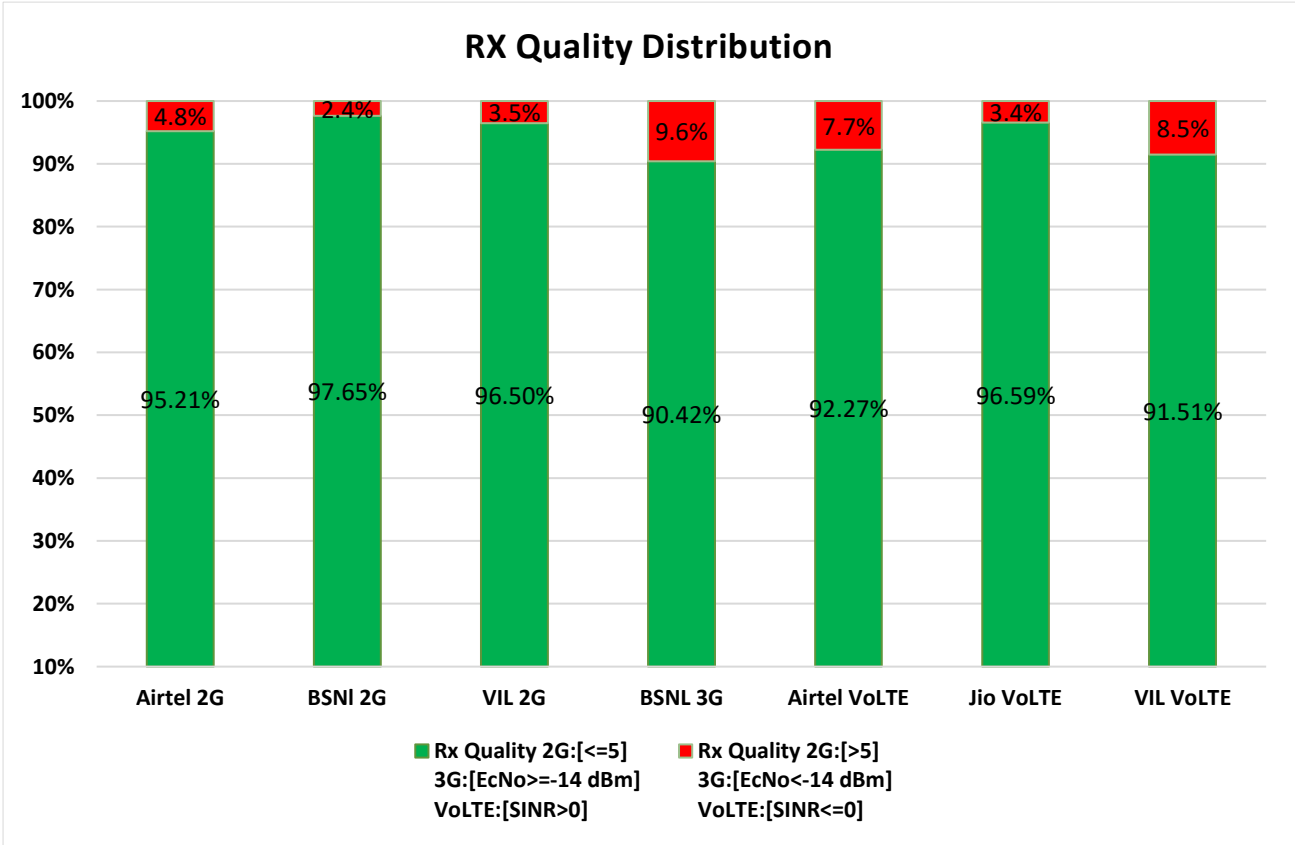
VoLTE

Overall RSRP	# Samples	%
[Max, >=-80]	2938007	16.50
[-80, >=-90]	4749884	26.67
[-90, >=-110]	9070115	50.93
[-110, >=-120]	967164	5.43
[-120, >=Min]	83006	0.47

II. Quality Details

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

TSP	Rx Quality %
Airtel 2G	95.21
BSNL 2G	97.65
VIL 2G	96.50
BSNL 3G	90.42
Airtel VoLTE	92.27
Jio VoLTE	96.59
VIL VoLTE	91.51

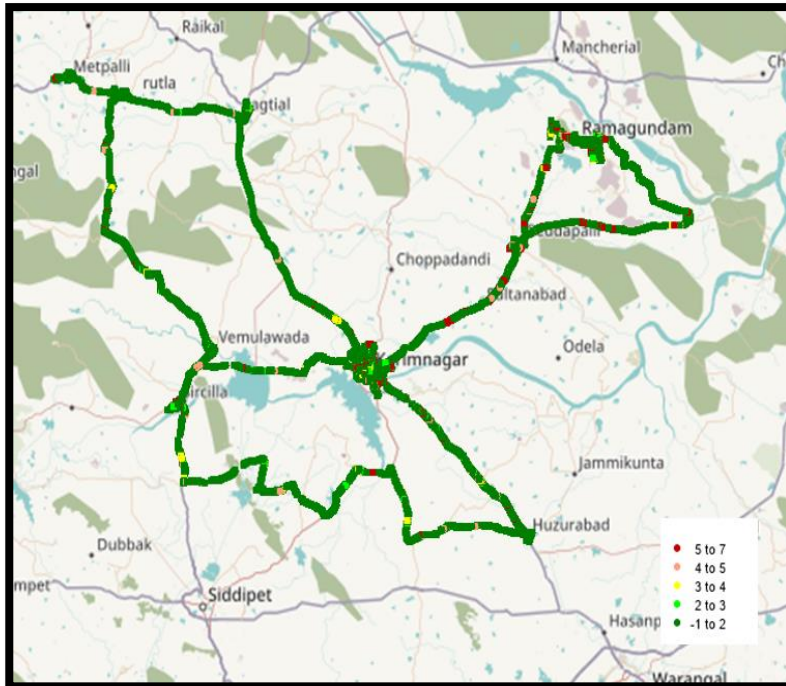


II. Quality Details

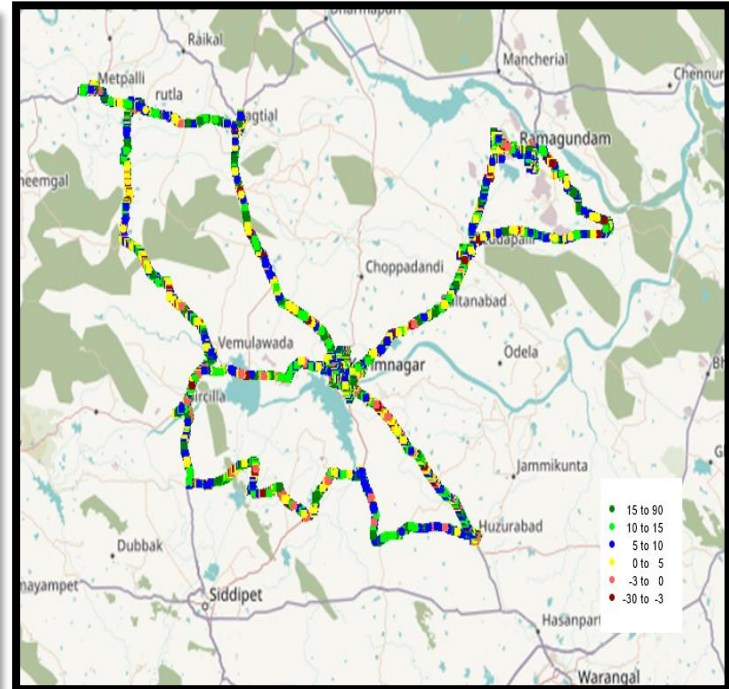
Airtel

Technology	Rx Quality %
2G	95.21
VoLTE	92.27

2G



VoLTE



Overall Rx Quality	# Samples	%
(Min, <=2)	4782024	88.66%
(2, <=3)	120644	2.24%
(3, <=4)	113582	2.11%
(4, <=5)	118847	2.20%
(5, <=Max)	258346	4.79%
Total	5393443	100%

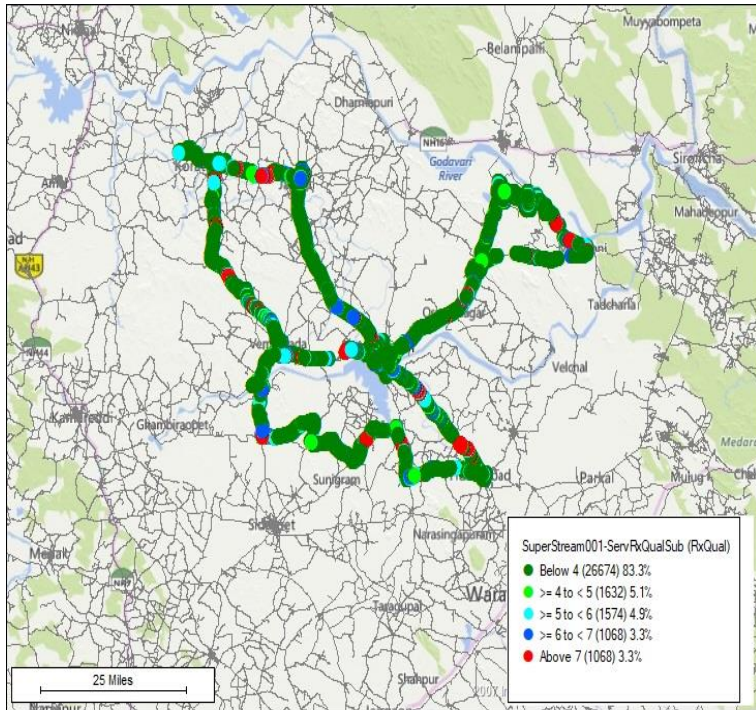
Overall SINR	# Samples	%
(Min, <=-3)	360770	2.99%
(-3, <=0)	573085	4.74%
(0, <=5)	3458184	28.63%
(5, <=10)	3384531	28.02%
(10, <=15)	2343394	19.40%
(15, <=Max)	1960717	16.23%
Total	12080681	100%

II. Quality Details

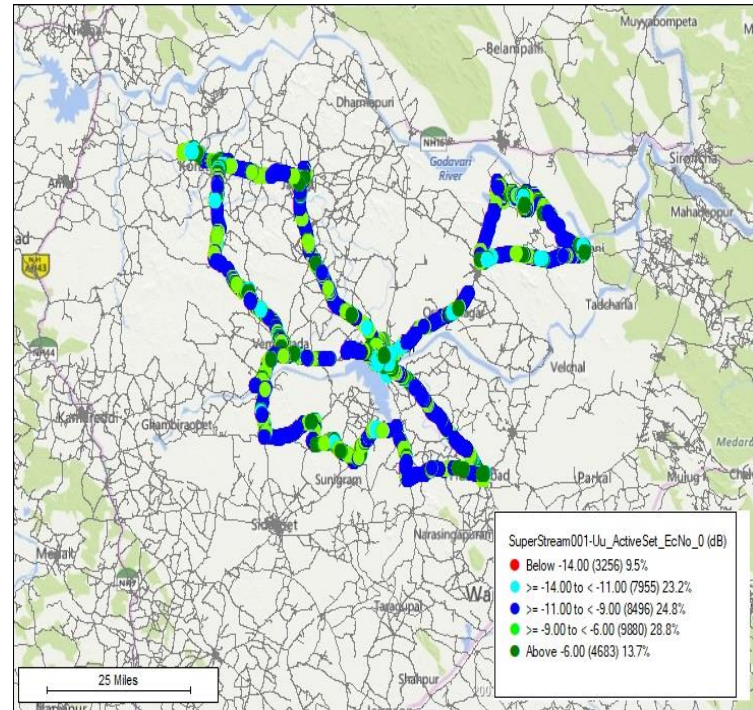
BSNL

Technology	Rx Quality %
2G	97.65
3G	90.42

2G



3G



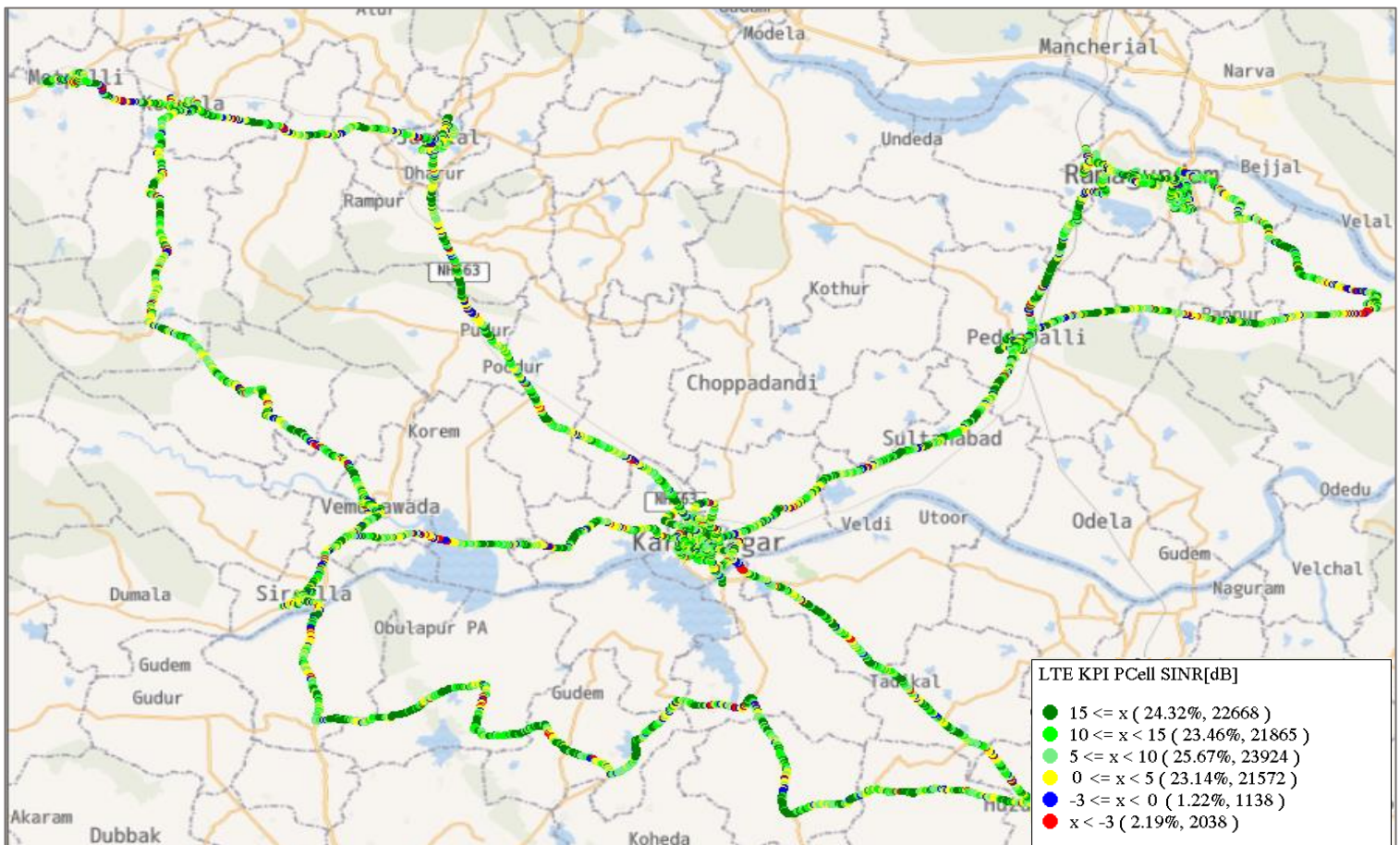
Overall Rx Quality	# Samples	%
(Min, <=2)	75939	84.83
(2, <=3)	4639	5.18
(3, <=4)	4117	4.60
(4, <=5)	2715	3.03
(5, <=Max)	2107	2.36
Total	89517	100

Overall EcNo	# Samples	%
(Max, <=-6)	17750	19.04
(-6, <=-9)	26764	28.70
(-9, <=-11)	20925	22.44
(-11, <=-14)	18875	20.24
(-14, <= Min)	8938	9.58
Total	93252	100

II. Quality Details

JIO

Technology	Rx Quality %
VoLTE	96.59



Overall SINR	# Samples	%
(Min, <=-3)	2038	2.19
(-3, <=0)	1138	1.22
(0, <=5)	21572	23.14
(5, <=10)	23924	25.67
(10, <=15)	21865	23.46
(15, <=Max)	22668	24.32
Total	93205	100

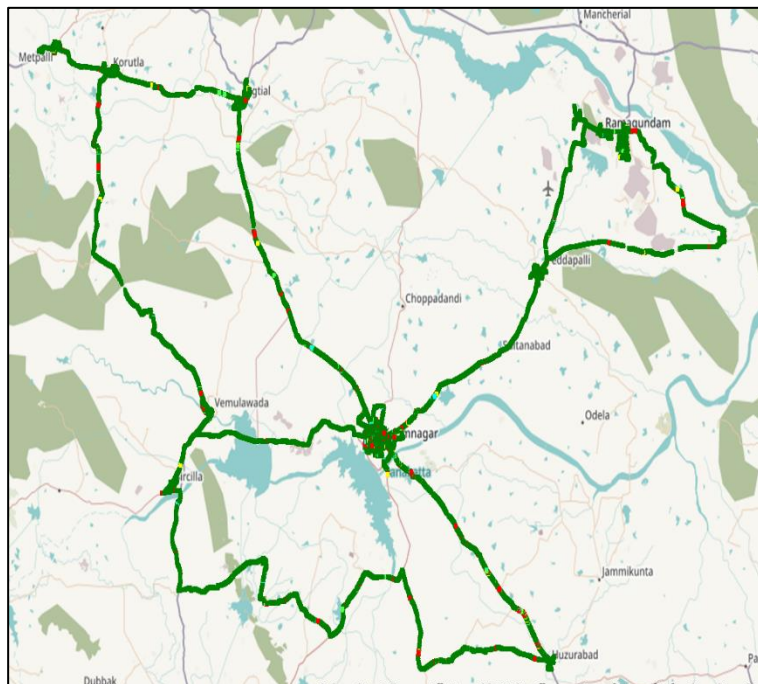
II. Quality Details

For measuring voice quality, as per the QoS norms, RxQual ≤ 5 for GSM TSPs, EcNo ≥ -14 dBm for 3G TSPs and SINR > -3 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 $\geq 95\%$.

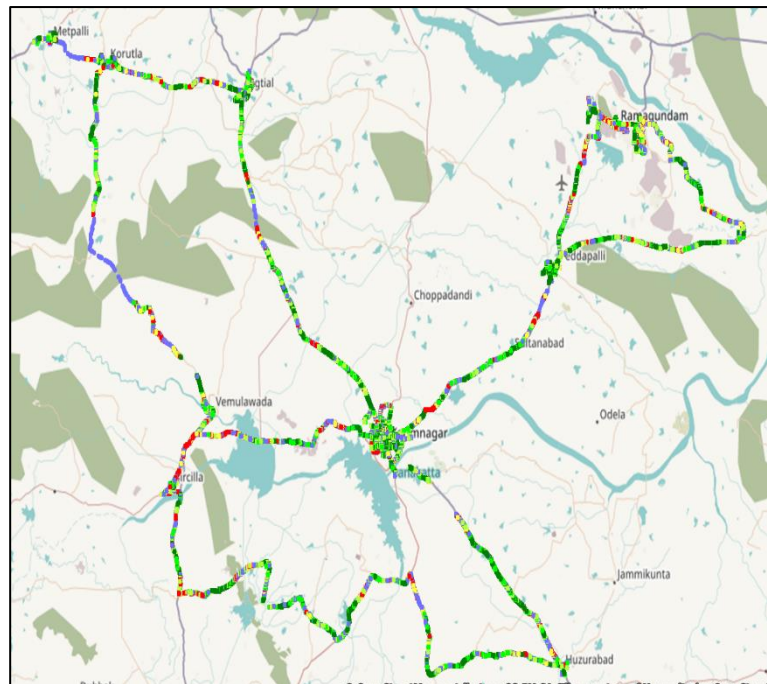
VIL

Technology	Rx Quality %
2G	96.50
VoLTE	91.51

2G



VoLTE



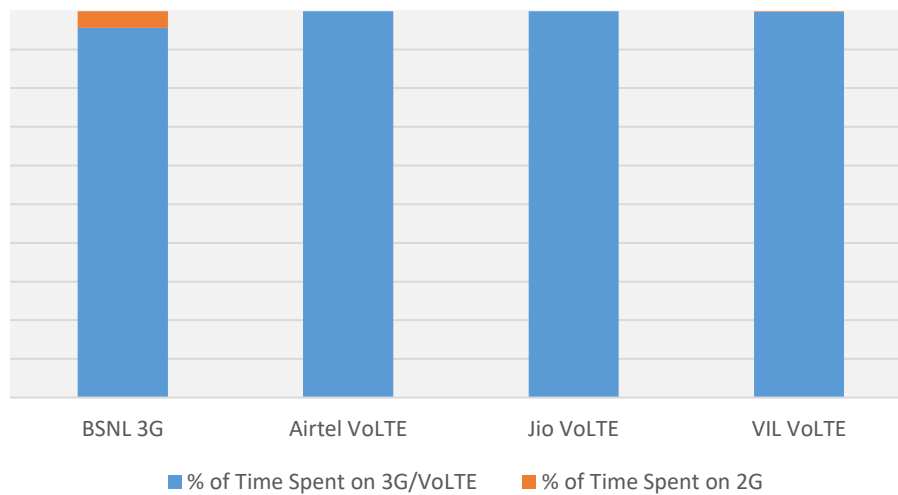
Overall Rx Quality	# Samples	%
(Min, ≤ 2)	6224924	92.97
(2, ≤ 3)	86070	1.29
(3, ≤ 4)	74805	1.12
(4, ≤ 5)	75057	1.12
(5, \leq Max)	234429	3.50
Total		

Overall SINR	# Samples	%
(Min, ≤ -3)	740004	4.13
(-3, ≤ 0)	783282	4.36
(0, ≤ 5)	3174536	17.70
(5, ≤ 10)	3855589	21.49
(10, ≤ 15)	3495403	19.49
(15, \leq Max)	5889360	32.83
Total		

III. Technology Details

TSP	% of Time Spent on 3G/VoLTE
BSNL 3G	95.68
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	99.80

Technology Distribution



III. Technology Details

Airtel

Technology	Time Spent on 4G
4G	100

BSNL

Technology	Time Spent on 3G
3G	95.68

JIO

Technology	Time Spent on 4G
4G	100

VIL

Technology	Time Spent on 4G
4G	99.80

III. Technology Details

Airtel

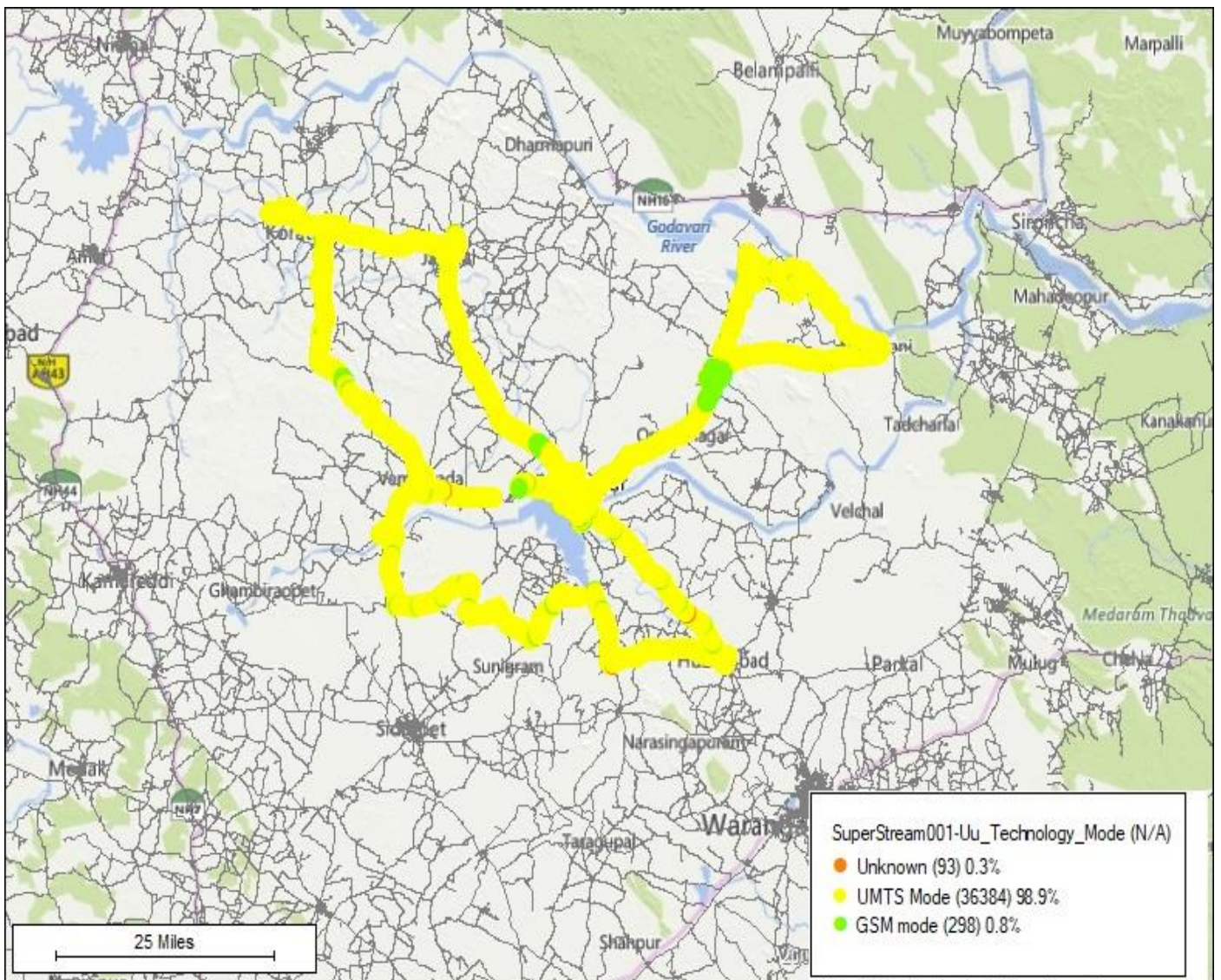
Technology	Time Spent on 4G
4G	100%



III. Technology Details

BSNL

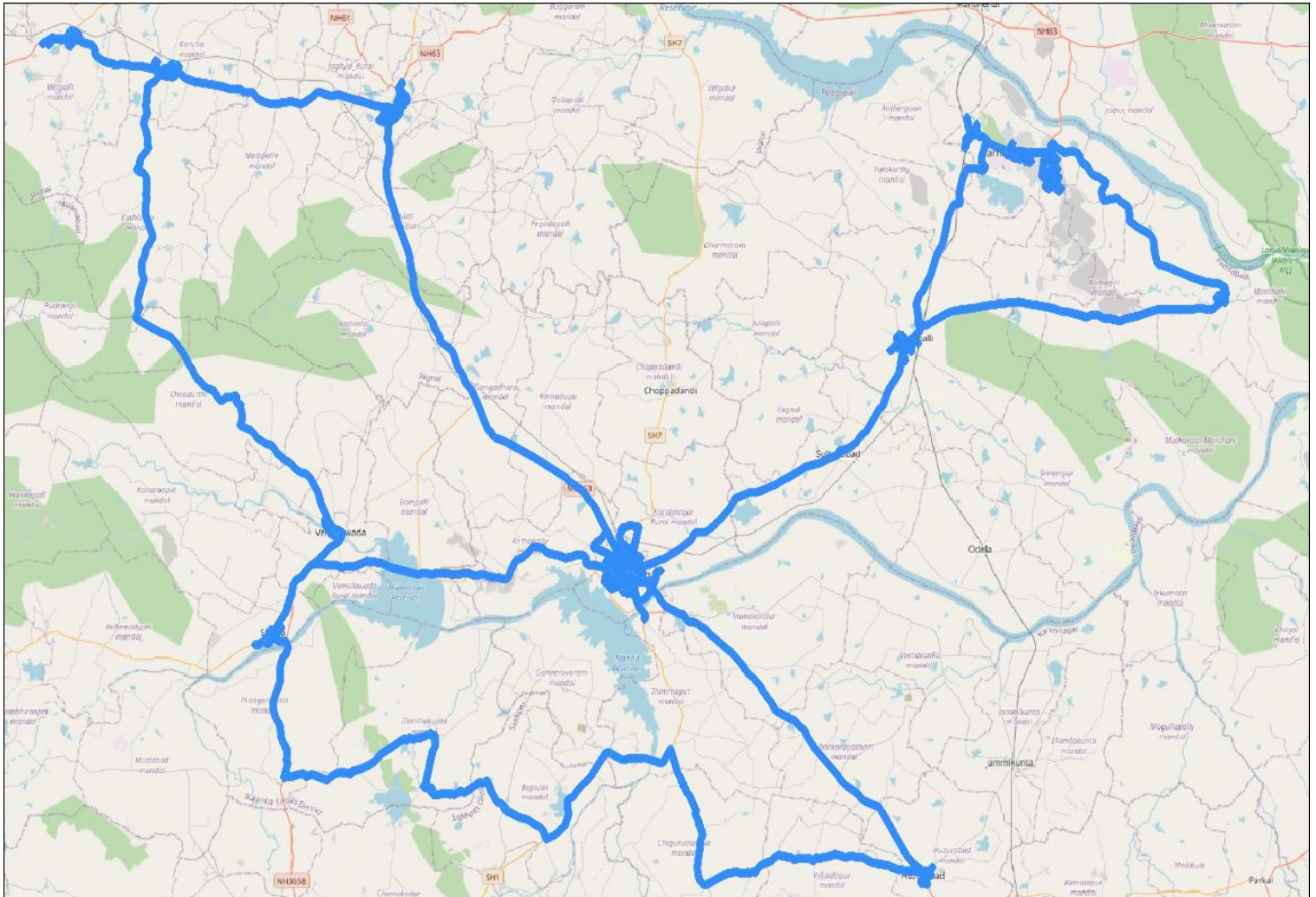
Technology	Time Spent on 3G
3G	93.3 %



III. Technology Details

JIO

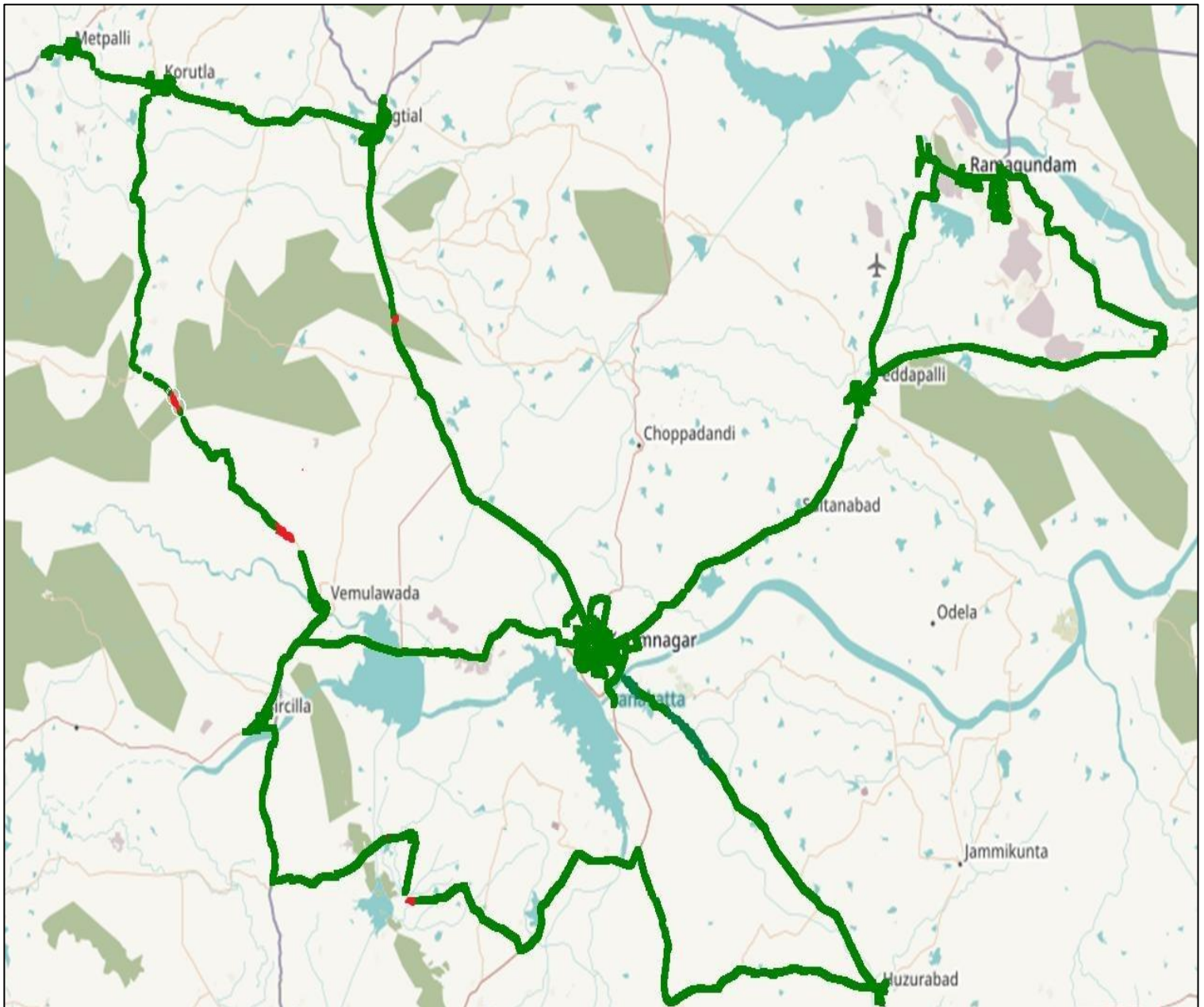
Technology	Time Spent on 4G
4G	100%



III. Technology Details

VIL

Technology	Time Spent on 4G
4G	99.80 %

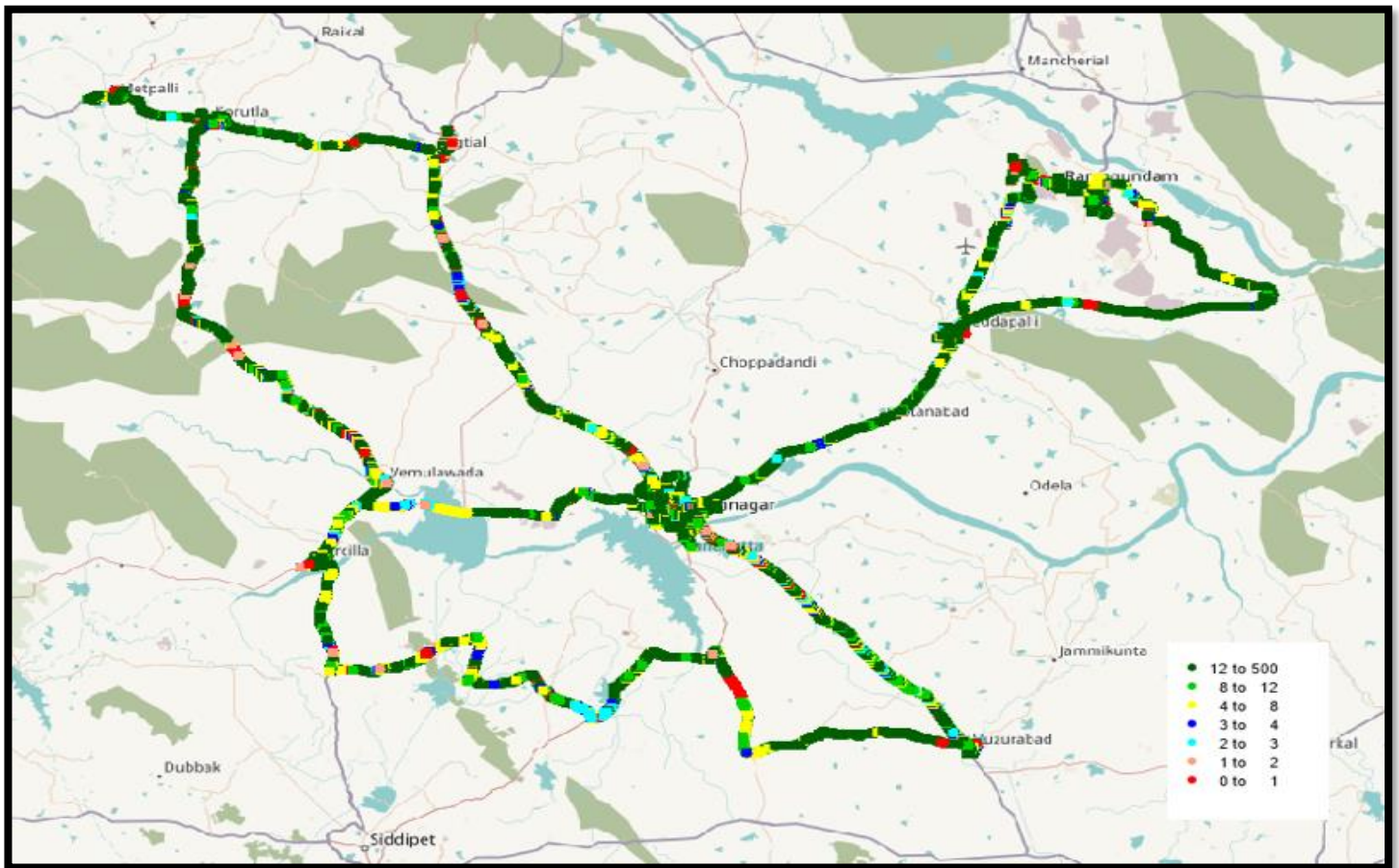


IV. Dynamic Data Test- 4G DL Details

Airtel

Data Statistics - Dynamic Complete SSA

Data KPIs – Overall	4G
Download Throughput (Mbps)	21.60



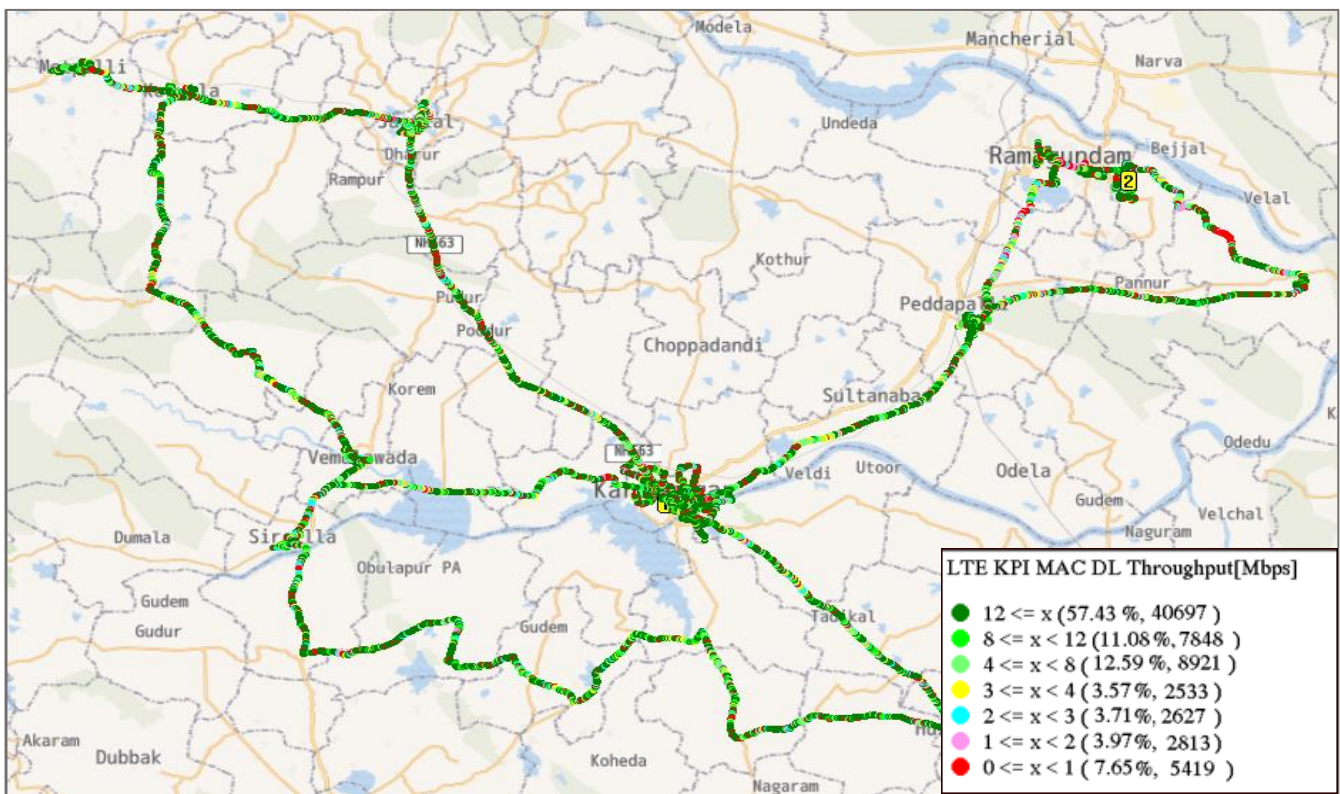
DL throughput	No of Sample	%
0 to 1 Mbps	812733	3.0%
1 to 2 Mbps	576816	2.1%
2 to 3 Mbps	693629	2.6%
3 to 4 Mbps	585887	2.2%
4 to 8 Mbps	3611994	13.4%
8 to 12 Mbps	2360736	8.8%
>12 Mbps	18222353	67.83%
Total	26864148	

IV. Dynamic Data Test- 4G DL Details

JIO

Data Statistics - Dynamic Complete SSA

Data KPIs - Overall	4G
Download Throughput (Mbps)	33.05



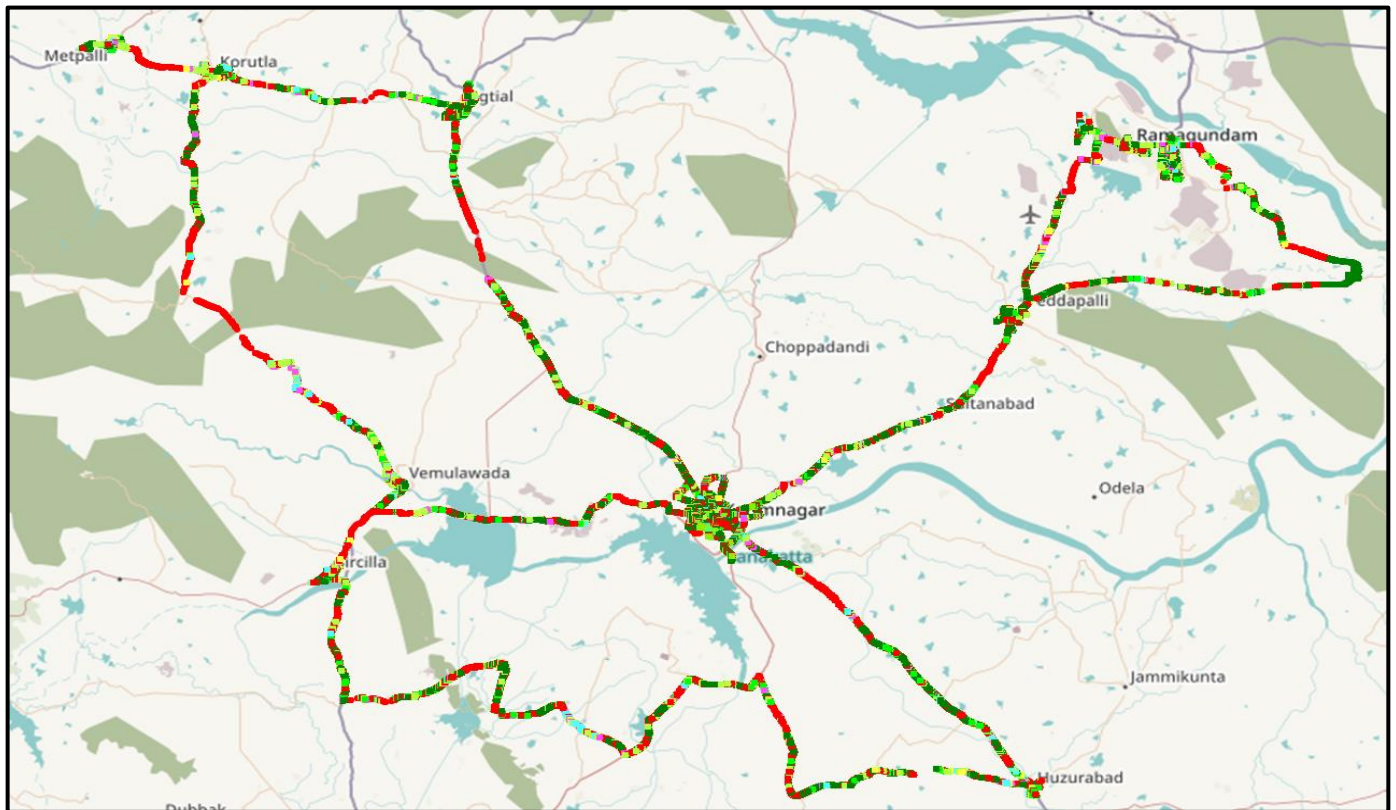
DL Throughput	No of Sample	%
0 to 1 Mbps	5419	7.65
1 to 2 Mbps	2813	3.97
2 to 3 Mbps	2627	3.71
3 to 4 Mbps	2533	3.57
4 to 8 Mbps	8921	12.59
8 to 12 Mbps	7848	11.08
>12 Mbps	40697	57.43
Total	70858	100

IV. Dynamic Data Test- 4G DL Details

VIL

Data Statistics - Dynamic Complete SSA

Data KPIs - Overall	4G
Download Throughput (Mbps)	14.97



DL throughput	No of Sample	%
0 to 1 Mbps	2588075	10.12
1 to 2 Mbps	849353	3.32
2 to 3 Mbps	1063256	4.16
3 to 4 Mbps	1274-95	4.98
4 to 8 Mbps	4671181	18.27
8 to 12 Mbps	3174695	12.43
>12 Mbps	11840581	46.73
Total	25561236	100

V. TRAI MySpeed App

Airtel

Technology-4G	Vemulawada Temple	Huzurabad Bus stand	NTPC Jyothinagar	Pedhapalle Railway Station	Karimnagar Bustand	Govt Hospital Karimnagar	Prathima Multiplex Karimnagar
Download Speed Mbps	66.96	83.82	53.92	54.05	61.85	43.98	47.31
Upload Speed Mbps	18.50	18.04	23.05	25.96	38.38	14.81	27.95

BSNL

Technology-3G	Vemulawada Temple	Huzurabad Bus stand	Pedhapalle Railway Station	NTPC Jyothinagar	Karimnagar Bustand	Prathima Multiplex Karimnagar	Govt Hospital Karimnagar
Download Speed Mbps	1.21	6.72	13.82	4.88	3.72	4.58	2.08
Upload Speed Mbps	2.76	1.75	5.34	0.60	0.26	0.84	2.42

JIO

Technology-4G	Vemulawada Temple	Huzurabad Bus stand	Pedhapalle Railway Station	NTPC Jyothinagar	Karimnagar Bustand	Prathima Multiplex Karimnagar	Govt Hospital Karimnagar
Download Speed Mbps	81.82	118.00	96.85	92.97	92.49	103.97	84.82
Upload Speed Mbps	22.39	26.69	22.79	16.84	30.74	22.32	13.15

VIL

Technology-4G	Vemulawada Temple	Huzurabad Bus stand	Pedhapalle Railway Station	NTPC Jyothinagar	Karimnagar Bustand	Prathima Multiplex Karimnagar	Govt Hospital Karimnagar
Download Speed Mbps	19.93	30.66	23.16	34.96	37.49	23.6	34.09
Upload Speed Mbps	20.99	10.38	18.39	4.42	9.12	10.12	10.37

NH/SH Routes Covered in OADT by Airtel/BSNL/RJIL/VIL				
S.No	No. of NH/SH Routes	NH routes	SH routes	Distance(Km)
1	Karimnagar to Sircilla		SH 11	36
2	Sircilla to vemulawada		SH 11	20
3	Jagtiyal - Karimnagar - Huzurabad	NH 563		89
4	Karimnagar to NTPC		SH 1	79
5	Metpally- Jagtiyal	NH 63		33