

# Operator Assisted Drive Test Report

## KARIMNAGAR SSA

### December - 2022

### (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%. Rx Quality of 95% is not achieved by BSNL 3G, Jio VoLTE & VIL VoLTE.

The Operator Assisted Drive Test (OADT) has been carried out by TRAI RO Hyderabad with the help of Service Providers in Karimnagar, Ramagundam & Jagtial Cities and surrounding areas Peddapalli, Korutla, Metpalli and Sircilla, Vemulawada from 9:00 AM to 8:00 PM during 19<sup>th</sup> to 22<sup>th</sup> DEC 2022. The drive test covered drive route of 510 KMs & 6 hotspot over a period of 4 days. Approximately 700 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 19<sup>th</sup> to 22<sup>nd</sup> DEC' 2022 covering various locations in Karimnagar City & surrounding regions Jagtial ,Kondagattu, Vemulawada, Sircilla Ramagundam . 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 510 KMs over a period of 4 days from 19<sup>th</sup> to 22<sup>th</sup> DEC'2022. Approximately 700+ 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 566 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.

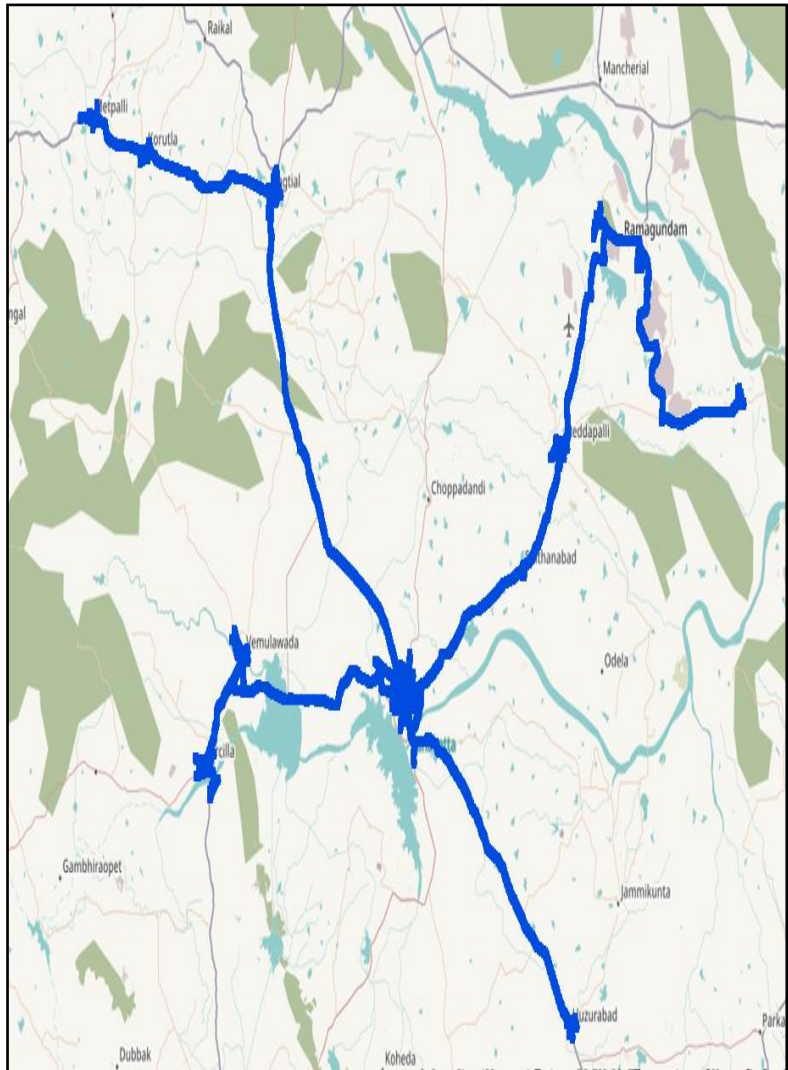
\* 3G KPI's which are calculated from UE in Dual Mode (2G & 3G) includes samples and events of 2G.

\* 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

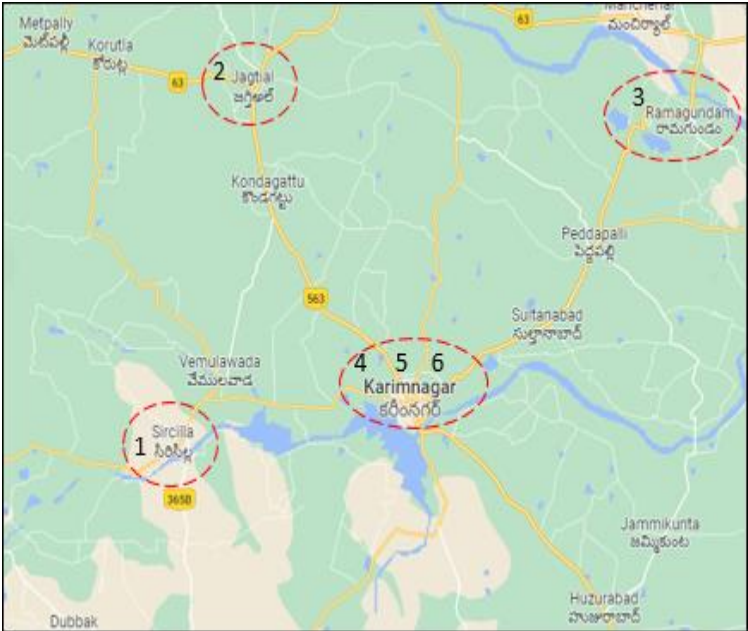
## Voice & Dynamic Data Test Drive Route



### Areas Covered -

Karimnagar Bus stop	Islampura
Karimnagar rly station	Krishna Nagar
Vavilalapalli	Mukaram pura
Pasula Narayana Colony	Chinthakuntra
MukaramPura	Old Bajar
Santhosh nagar	Laxmi puram
Govt Hospital area	Malkapur
Naka Chowrastha	Rekuthi
<b>Areas Covered- Sircilla</b>	<b>Areas Covered – Ramagundam</b>
JP Road	Shanthi nagar
Yelareddy Guda	Annapurna Colony
BY Nagar	Ramagudam Bustop
<b>Areas Covered- Jagtial</b>	<b>Areas Covered- Gooty – Vemulavada</b>
Bus stop Road	Vemulavada temple
	Bus stop Road
Darmapuri Road	Vidhaynagar
Rly Station Road	
Thulasi nagra	

## Data Service Test- Static Locations



### 6 Static Locations

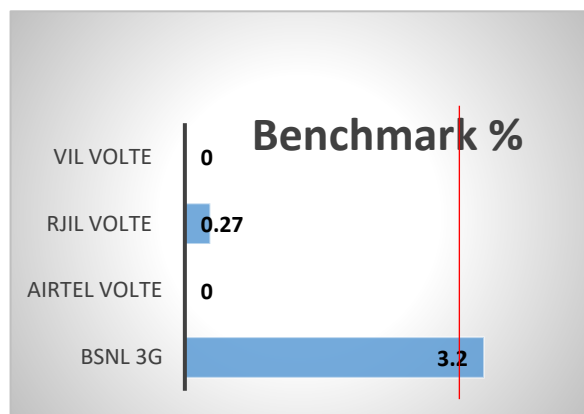
1.Sircilla Bus stand
2.Jagtial Bus stand
3.NTPC Gate 1 - Ramagundam
4.Karimnagar Bus stand
5.Karimnagar - Govt Hospital
6.D Karimnagar – D Mart

# Voice Calls

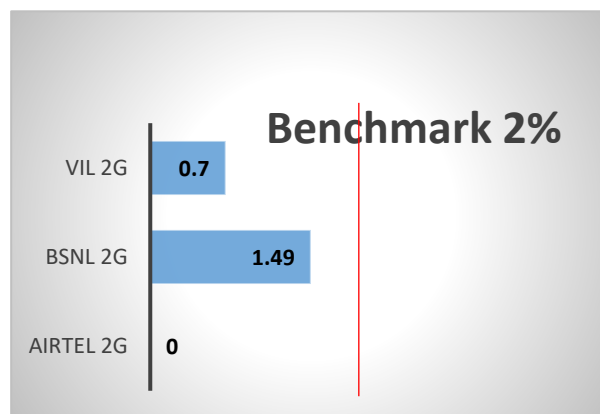
## Key Observations

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

Drop Call Rate (%)

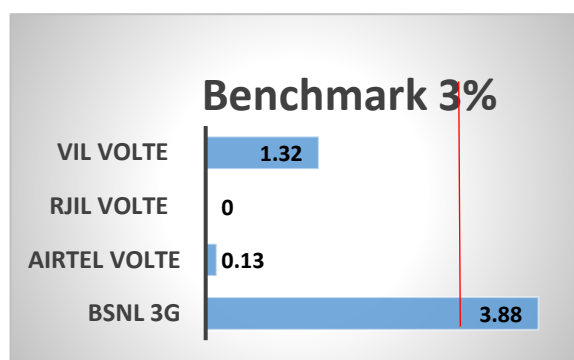


3G/VoLTE Network

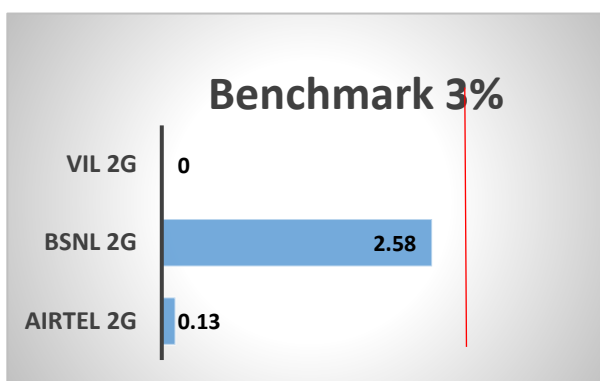


2G Network

Block Call Rate (%)



3G / VoLTE Network



2G Network

KPIs	2G			3G	VoLTE		
	Airtel	BSNL	VIL	BSNL	Airtel	RJIL	VIL
Drop Call Rate %	0	1.49	0.7	3.20	0	0.27	0
Block Call Rate %	<b>0.13</b>	2.58	0	3.88	<b>0.13</b>	0	1.32

- 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 %	88.6	79	80.73

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

TSPs	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Coverage %	80.4	99.58	95.07	88.84

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

TSPs	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Time Spent on 3G/4G %	93.3	100	100	98.26

# Data Services Static

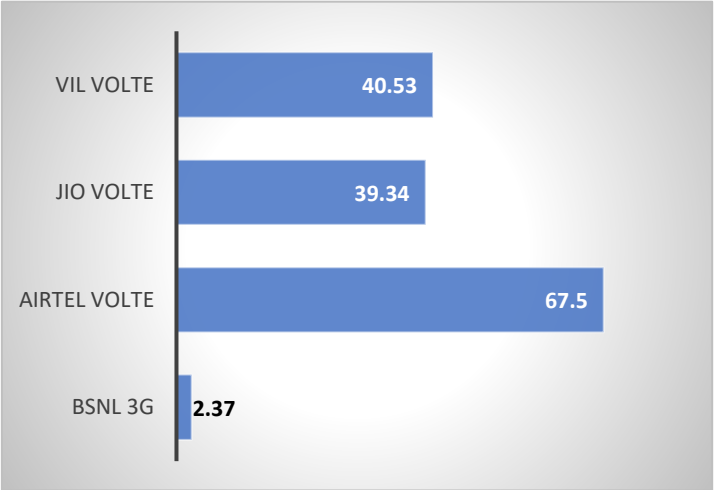
**Key Observations  
(Average of 6  
Hotspots)**

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

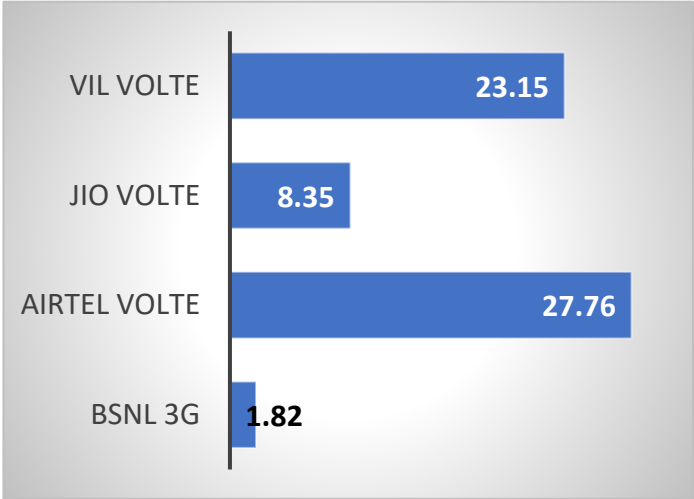
## Data Download and Upload Performance (Mbps)

3G/4G/ Network:

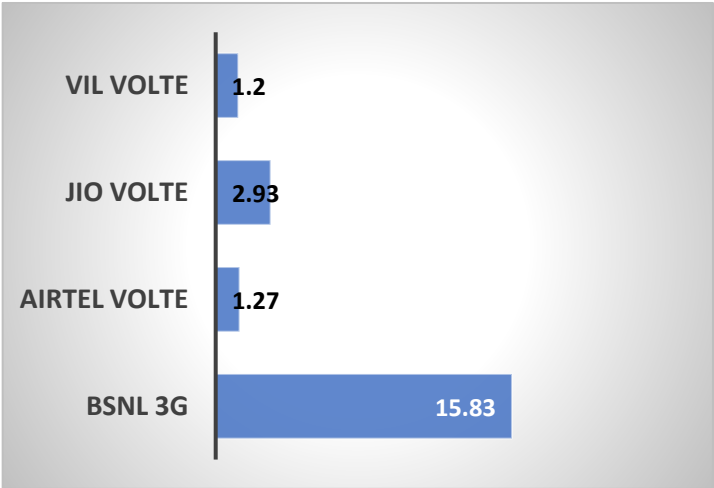
Download Throughput (Mbps)



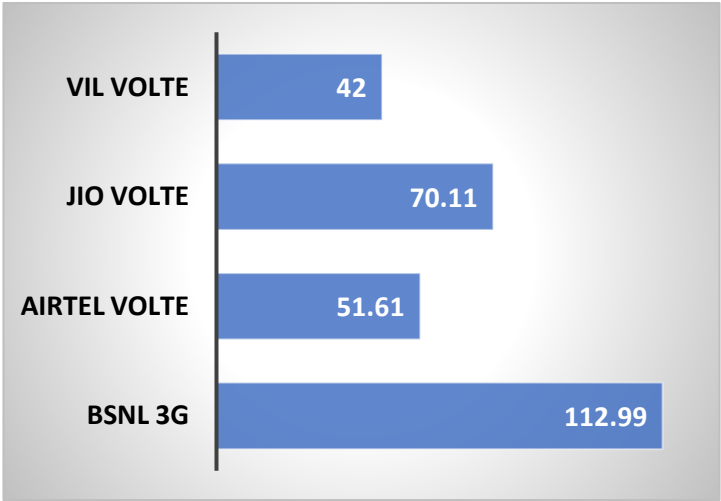
Upload Throughput (Mbps)



Web Browsing delay (Sec)



Latency (ms)



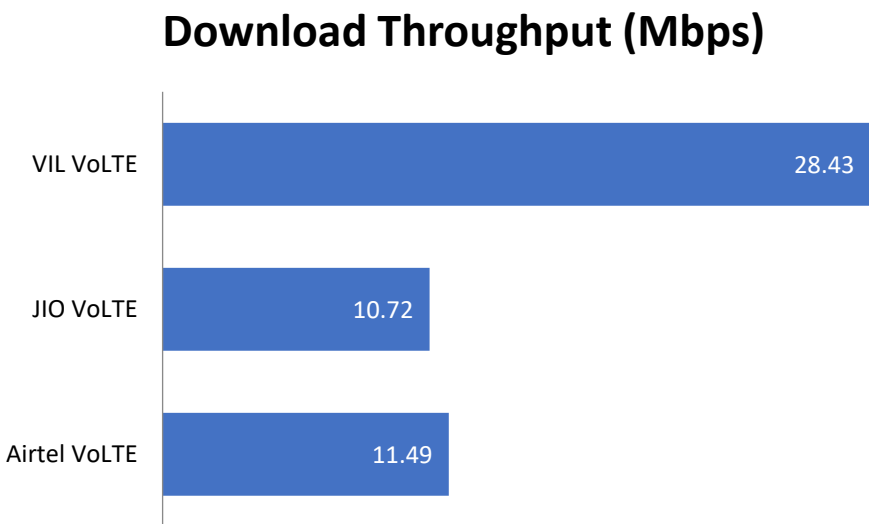
# Data Services Dynamic

Key Observations

Dynamic Data was tested for 510 Kms. Download Throughput was tested.

## Data Download Performance (Mbps) - Dynamic

4G Network:



Data Services Dynamic	4G			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	No Tool	11.49	10.72	28.43

# Summary

## SSA Level Summary-Voice

Voice Call	2G		
	Airtel	BSNL	VIL
Call Attempt	739	814	680
Blocked Call Rate (%)	0.13	2.58	0
CSSR% (Accessibility)	99.87	97.42	100
Drop Call Rate (%)	0	1.49	0.7
Mobility HOSR (%)	98.88	96.69	97.32
Rx Quality (%)	95.20	97.2	95.09

Voice Call	3G/VoLTE			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Call Attempt	748	755	745	678
Blocked Call Rate (%)	3.88	0.13	0	1.32
CSSR% (Accessibility)	96.12	99.87	99.19	99.15
Drop Call Rate (%)	3.20	0	0.27	0
Mobility HOSR (%)	98.1	100	98.46	97.32
Rx Quality (%)	88.5	95.52	92.45	94.98

# Summary

## SSA Level Summary- (Average of 6 hotspots)- Data Services

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	176.5	69.42	84.54
Upload Throughput (kbps)	60.32	34.65	64.2
Web Browsing Delay (sec)	5.7885	45.58	12.54
Latency (msec)	201.57	254.78	213.76

Data Services Static	3G/VoLTE			
	BSNL 3G	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	2.37	67.50	39.34	40.53
Upload Throughput (Mbps)	1.82	27.76	8.35	23.15
Web Browsing Delay (sec)	15.83	1.27	2.93	1.2
Latency (msec)	112.99	51.61	70.11	42

1. Siricilla Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	130.6	51.07	74.5
Upload Throughput (kbps)	88.2	16.36	32,8
Web Browsing Delay (sec)	7.78	48.1	8.6
Latency (msec)	152.48	257.9	187

2. Jagtial Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	193.6	29.79	77.4
Upload Throughput (kbps)	66.4	16.5	82.8
Web Browsing Delay (sec)	4.38	40.56	3.8
Latency (msec)	201.86	226.3	293

3. Ramagundam NTPC	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	183.3	41.74	72.8
Upload Throughput (kbps)	57.4	39.98	47.9
Web Browsing Delay (sec)	6.74	55.95	16.3
Latency (msec)	163.02	317.31	254

4. Karimnagar Bus stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	193.2	33.89	84.2
Upload Throughput (kbps)	72.3	32.18	61.3
Web Browsing Delay (sec)	3.94	45.29	10.7
Latency (msec)	270.72	154	183

5.Karimnagar - Govt Hospital	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	172.8	130.60	<b>102.3</b>
Upload Throughput (kbps)	38.8	67.44	<b>48.2</b>
Web Browsing Delay (sec)	6.47	41.52	<b>14.2</b>
Latency (msec)	260.18	277.79	<b>193</b>

6.D Karimnagar – D Mart	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	185.7	129.41	72.3
Upload Throughput (kbps)	38.8	35.46	70.1
Web Browsing Delay (sec)	5.42	42.04	27
Latency (msec)	161.14	295.37	183

# Data Services static

## SSA Level Summary(contd.)

1. Siricilla Bus Stand	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.72	105.67	45.47	40.32
Upload Throughput (Mbps)	2.11	16.38	10.24	21.35
Web Browsing Delay (sec)	18.47	1.06	2.82	1.02
Latency (msec)	90.8	57.58	81.67	42

2. Jagitial Bus Stand	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.78	48.47	30.04	33.56
Upload Throughput (Mbps)	1.81	38.72	5.8	15.52
Web Browsing Delay (sec)	12.91	0.88	3.15	2.32
Latency (msec)	144.12	37.92	77	46

3. Ramagundam NTPC	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.12	89.75	39.34	32.63
Upload Throughput (Mbps)	1.8	69.29	7.17	15.73
Web Browsing Delay (sec)	15.15	0.94	2.89	1.4
Latency (msec)	126.37	51.7	80.67	37

4. Karimnagar Bus stand	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	1.86	60.08	59.19	32.45
Upload Throughput (kbps)	1.69	12.51	4.84	15.34
Web Browsing Delay (sec)	12.3	1.67	3.13	1.98
Latency (msec)	113.92	66.92	64	63

# Data Services static

## SSA Level Summary(contd.)

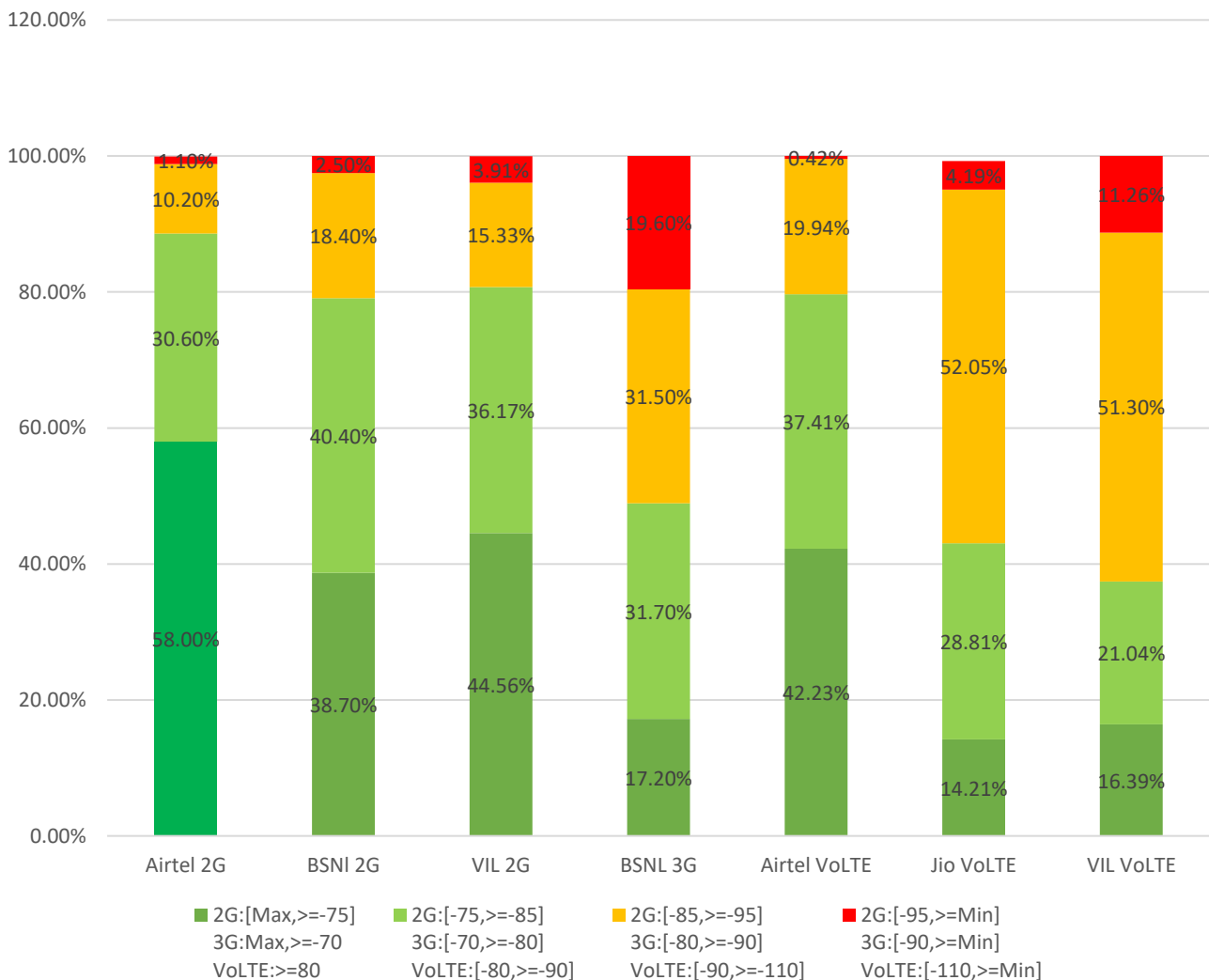
5.Karimnagar - Govt Hospital	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.04	45.41	43.99	36.36
Upload Throughput (Mbps)	1.82	13.71	5.77	16.86
Web Browsing Delay (sec)	13.1	1.14	2.92	1.45
Latency (msec)	83.17	47.48	55	52

6.D Karimnagar – D Mart	3G	VoLTE		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.7	55.65	51.99	42.56
Upload Throughput (Mbps)	1.68	15.98	6.26	23.15
Web Browsing Delay (sec)	23.03	1.97	2.70	1.32
Latency (msec)	119.54	47.9	62.33	32

## 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  $\geq -85$  dBm, RSCP is  $\geq -90$  dBm & RSRP  $\geq -110$  dBm. The details are as follows.

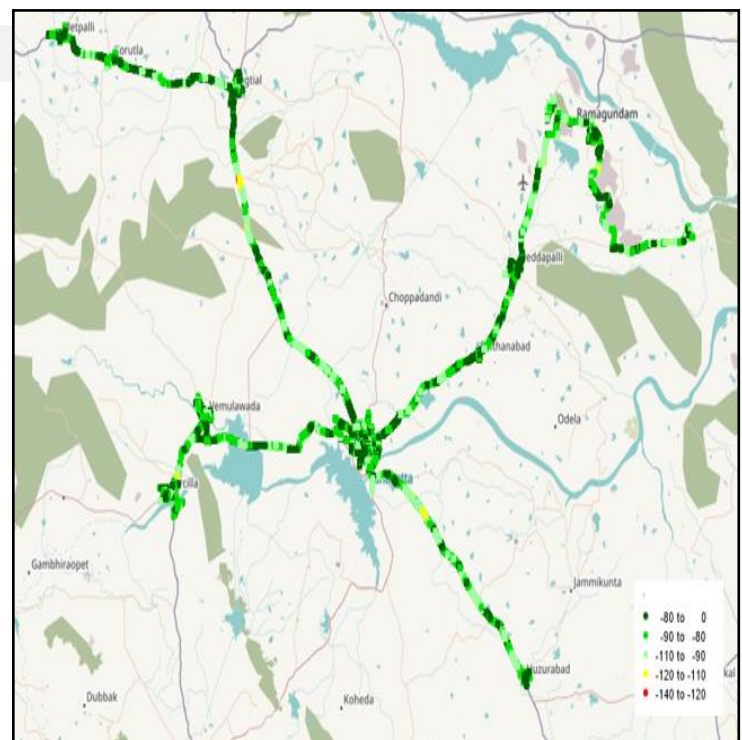
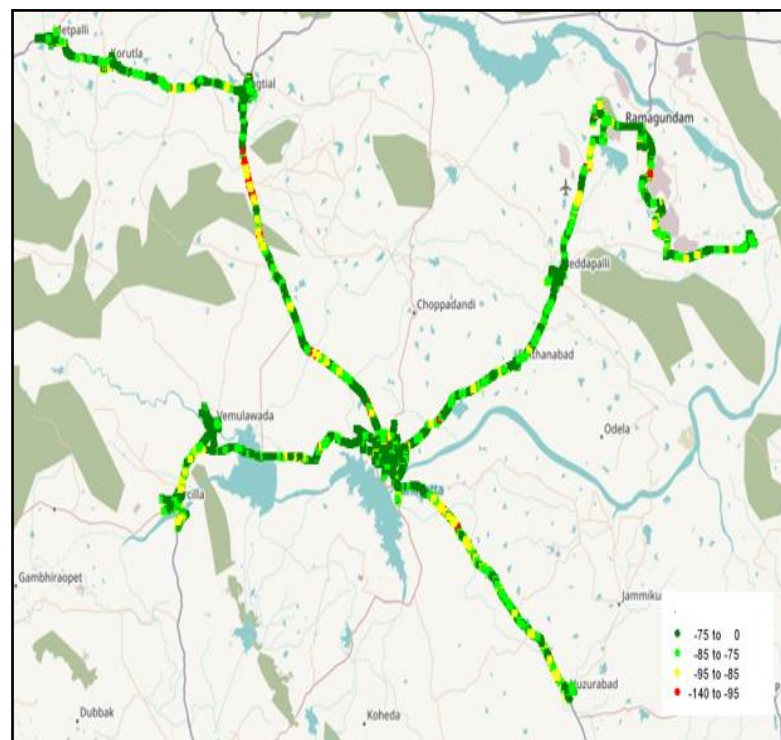
TSP	Coverage Rate %
Airtel 2G	88.6
BSNL 2G	79.1
VIL 2G	80.73
BSNL 3G	80.4
Airtel VoLTE	99.58
Jio VoLTE	95.07
VIL VoLTE	88.84



# I. Coverage Details

## AIRTEL

Technology	Coverage Rate %
2G	88.6
VoLTE	99.58



### 2G

Overall RxLevel	# Samples	%
[Max, >=-75]	10298968	58
[-75, >=-85]	5427037	30.6
[-85, >=-95]	1816805	10.2
[-95, >=Min]	200570	1.1
<b>Total</b>	<b>17743380</b>	

### VoLTE

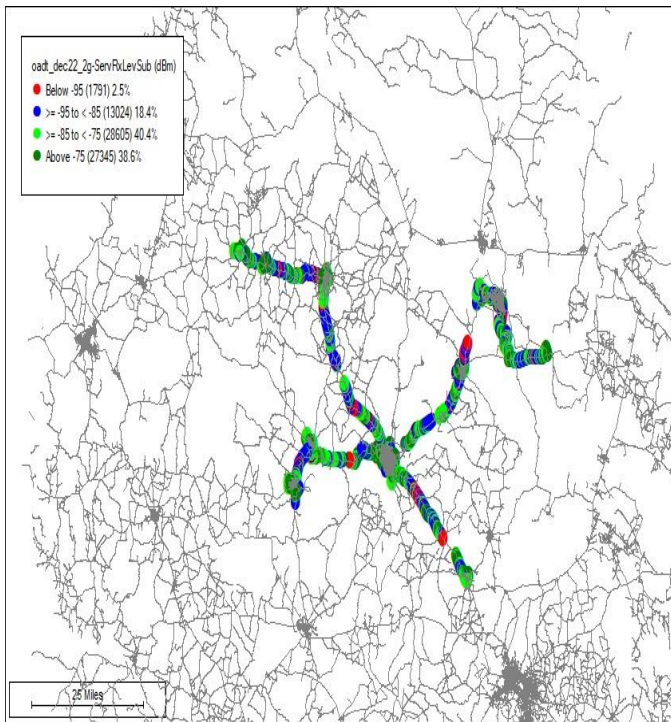
Overall RSRP	# Samples	%
[Max, >=-80]	7595012	42.23
[-80, >=-90]	6727576	37.41
[-90, >=-110]	3586065	19.94
[-110, >=-120]	75190	0.42
[-120, >=Min]	1109	0.01
<b>Total</b>	<b>17984952</b>	

# I. Coverage Details

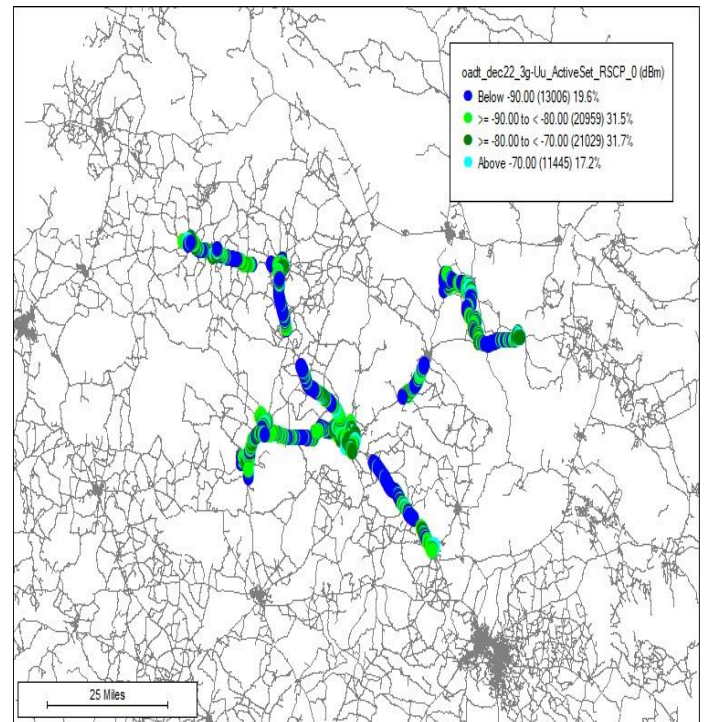
## BSNL

Technology	Coverage Rate %
2G	79.1
3G	80.4

### 2G



### 3G



### 2G

Overall RxLevel	# Samples	%
[Max, >=-75]	27345	38.7
[-75, >=-85)	28605	40.4
[-85, >=-95)	13024	18.4
[-95, >=Min)	1791	2.5
<b>Total</b>	<b>70765</b>	<b>100</b>

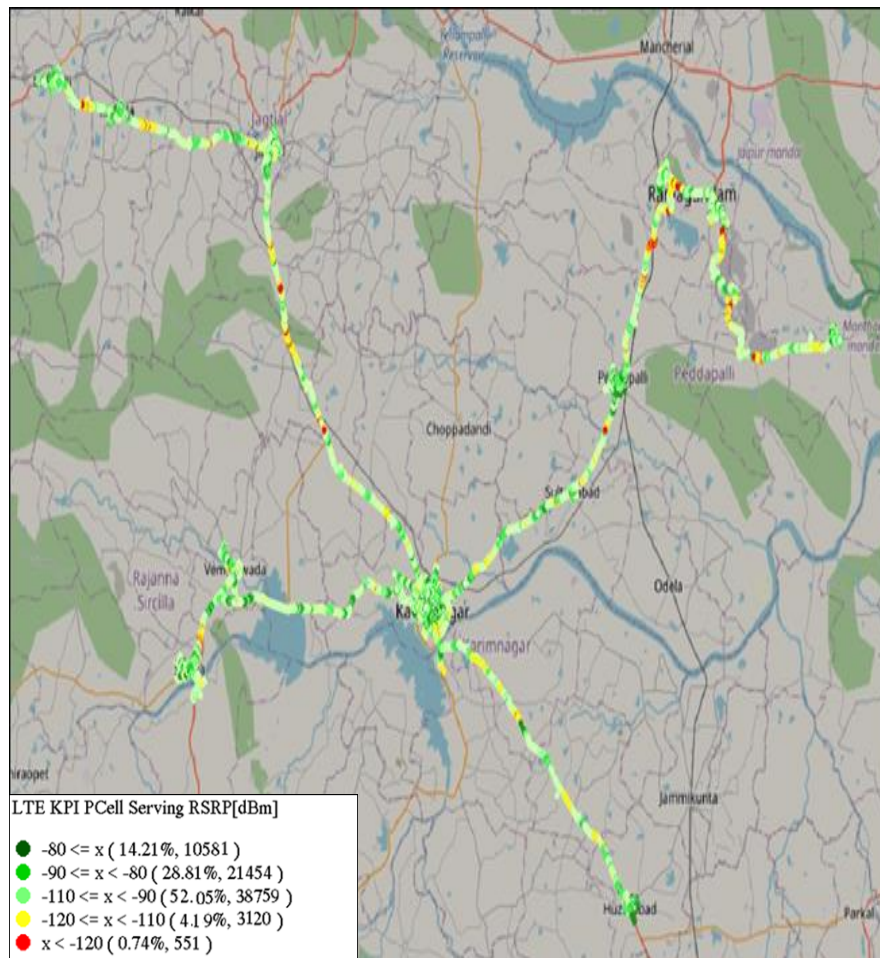
### 3G

Overall RSCP	# Samples	%
[Max, >=-70]	11445	17.2
[-70, >=-80)	21029	31.7
[-80, >=-90)	20959	31.5
[-90, >=Min)	13006	19.6
<b>Total</b>	<b>66439</b>	<b>100</b>

## I. Coverage Details

### JIO

Technology	Coverage Rate %
VoLTE	95.07



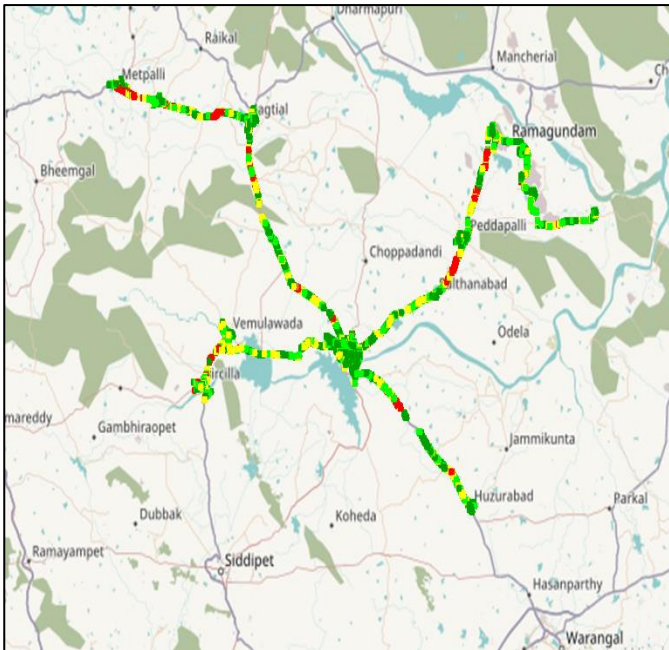
VoLTE		
Overall RSRP	# Samples	%
[Max, >=-80]	10581	14.21
[-80, >=-90]	21454	28.81
[-90, >=-110]	38759	52.05
[-110, >=-120]	3120	4.19
[-120, >=Min]	551	0.74
<b>Total</b>	<b>74465</b>	<b>100</b>

# I. Coverage Details

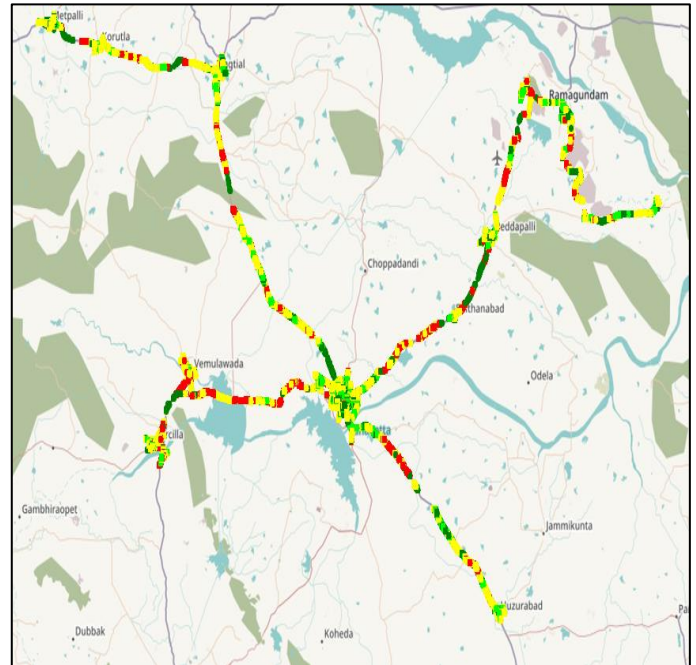
## VIL

Technology	Coverage Rate %
2G	80.73
VoLTE	88.84

### 2G



### VoLTE



2G		
Overall RxLevel	# Samples	%
[Max, >=-75]	3585084	44.56
[-75, >=-85)	2910184	36.17
[-85, >=-95)	1233607	15.33
[-95, >=Min)	315228	3.91
<b>Total</b>		<b>100</b>

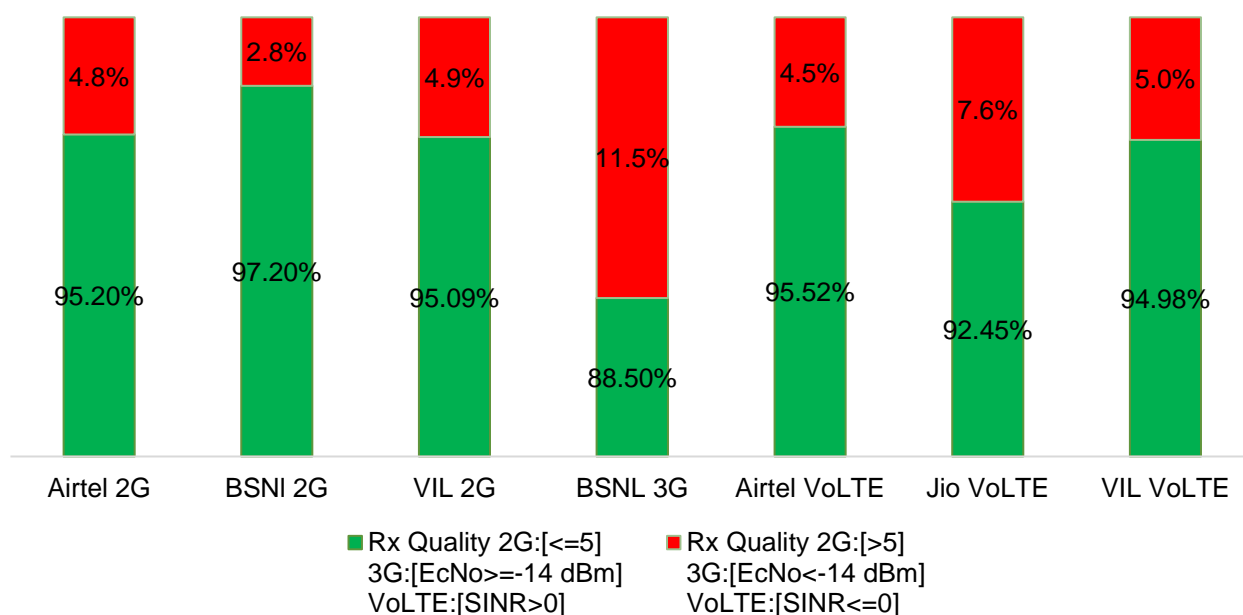
4G		
Overall RSRP	# Samples	%
[Max, >=-80]	2869808	16.39
[-80, >=-90)	3684801	21.04
[-90, >=-110)	8981754	51.30
[-110, >=Min)	1971626	11.26
<b>Total</b>	<b>17507989</b>	<b>100</b>

## II. Quality Details

For measuring voice quality, as per the QoS norms, RxQual  $\leq 5$  for GSM TSPs, EcNo  $\geq -14$  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	95.2
BSNL 2G	97.2
VIL 2G	95.09
BSNL 3G	88.5
Airtel VoLTE	95.52
Jio VoLTE	92.45
VIL VoLTE	94.98

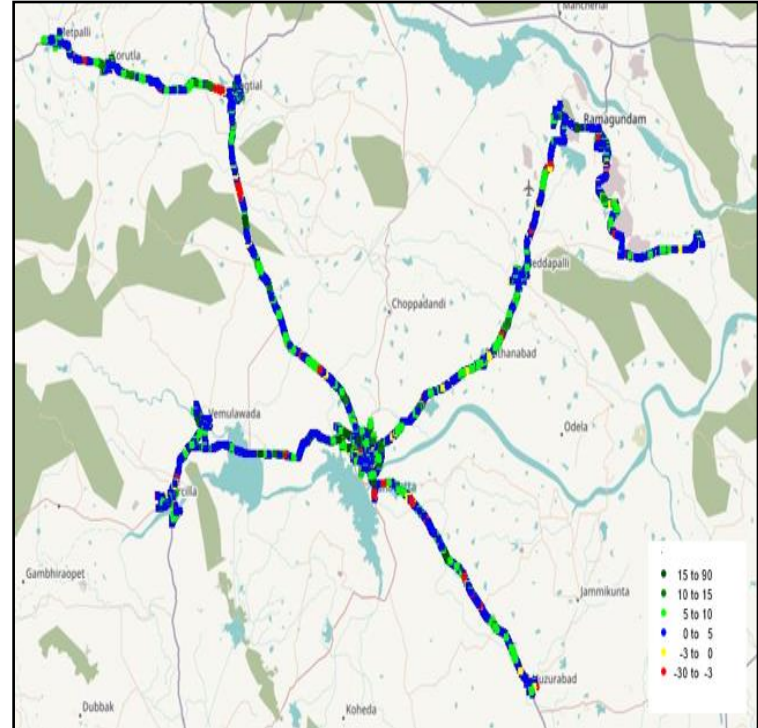
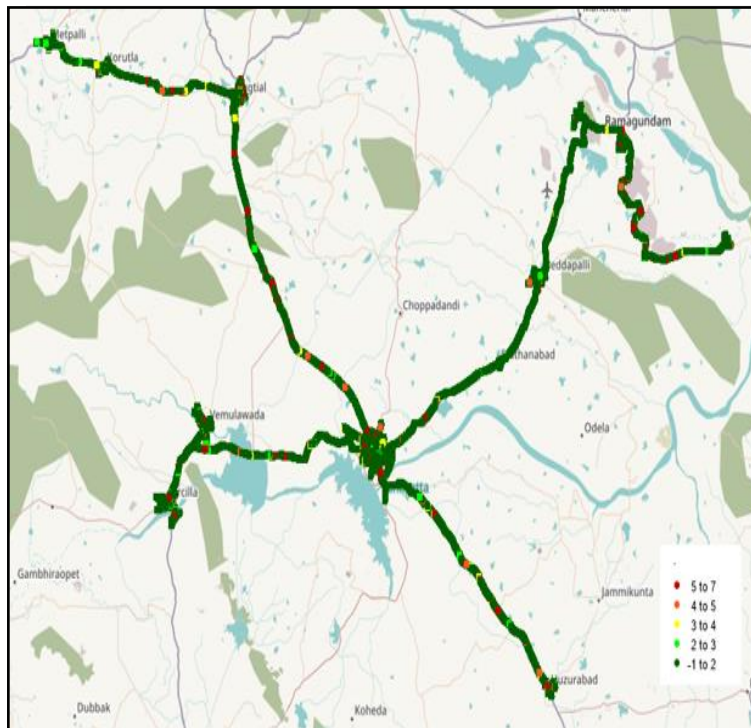
### RX Quality Distribution



## II. Quality Details

### Airtel

Technology	Rx Quality %
2G	95.20
VoLTE	95.52



Overall Rx Quality	# Samples	%
(Min, <=2)	15526737	87.56
(2, <=3)	626991	3.54
(3, <=4)	401408	2.26
(4, <=5)	326693	1.84
(5, <=Max)	851551	4.80
<b>Total</b>	<b>17733380</b>	

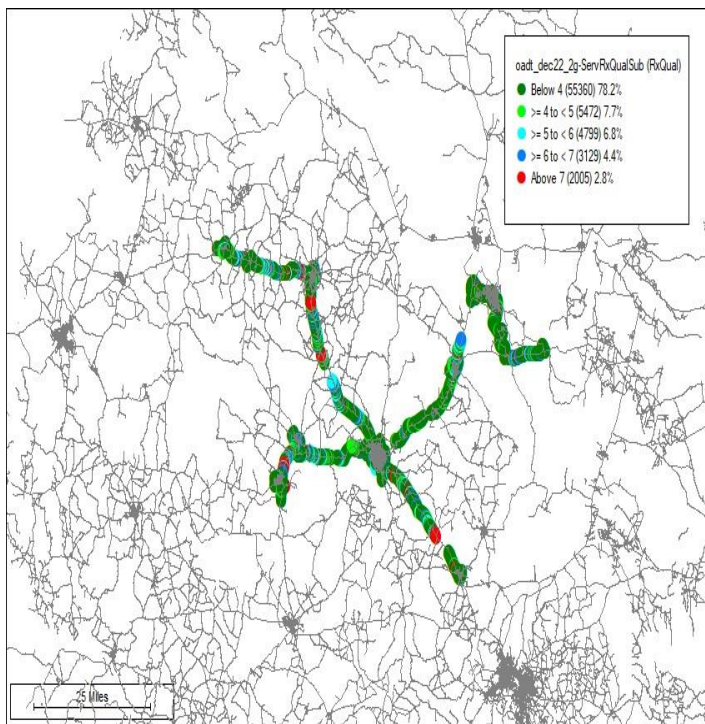
Overall SINR	# Samples	%
(Min, <=-3)	368002	2.04
(-3, <=0)	439948	2.44
(0, <=5)	9271105	51.37
(5, <=10)	4584054	25.4
(10, <=15)	2316092	12.83
(15, <=Max)	1068668	5.92
<b>Total</b>	<b>18047869</b>	

## II. Quality Details

### BSNL

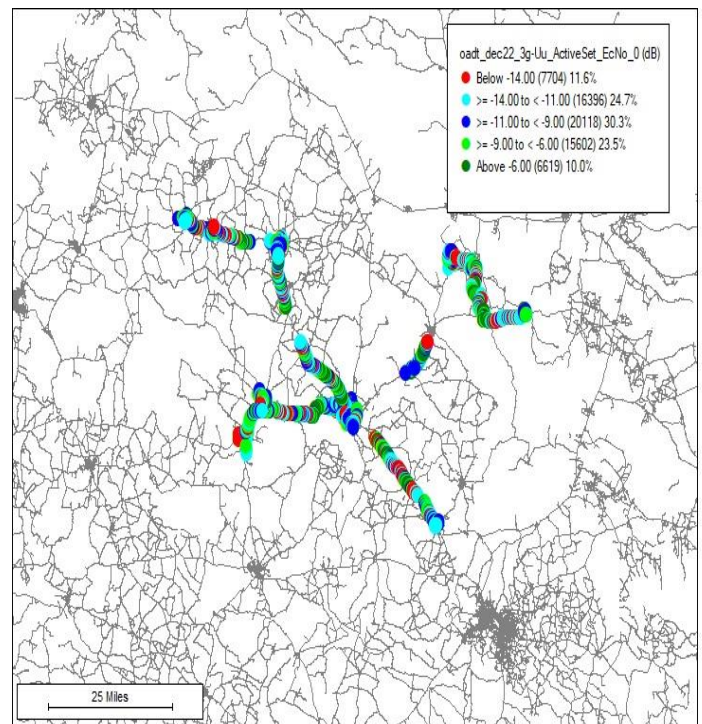
Technology	Rx Quality %
2G	97.2
3G	88.5

### 2G



Overall Rx Quality	# Samples	%
(Min, $\leq 2$ )	55360	78.3
(2, $\leq 3$ )	5472	7.7
(3, $\leq 4$ )	4799	6.8
(4, $\leq 5$ )	3129	4.4
(5, $\leq$ Max)	2005	2.8
<b>Total</b>	<b>70765</b>	<b>100</b>

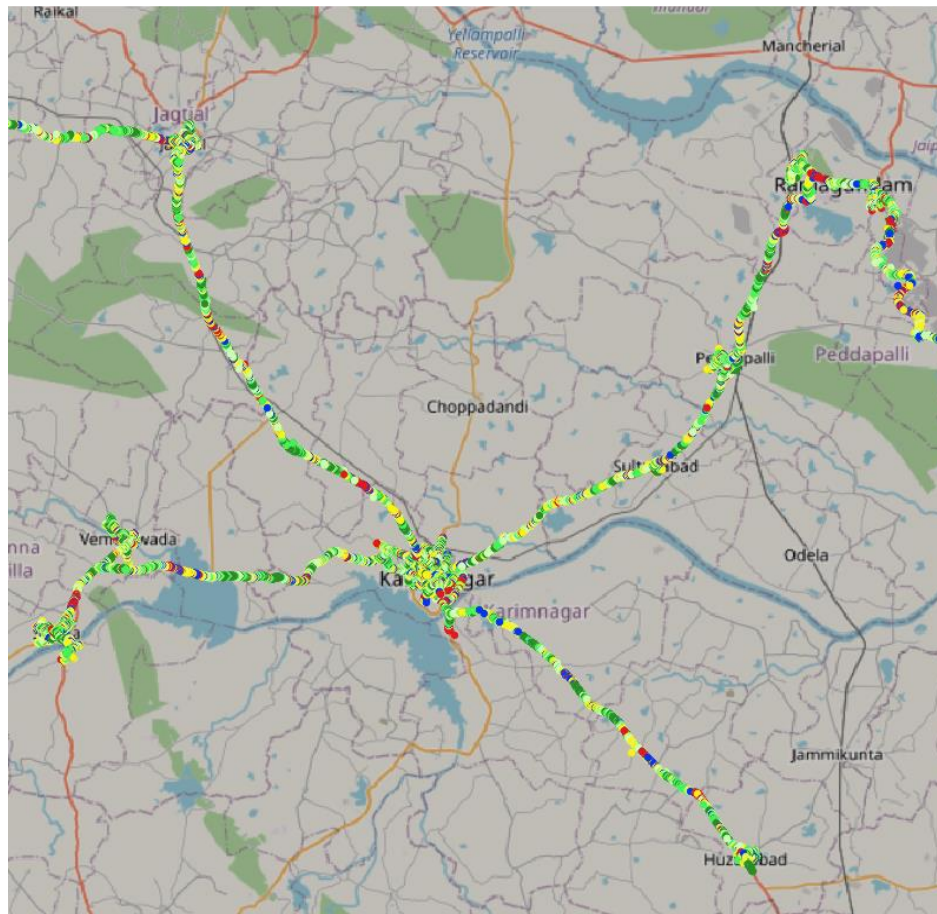
### 3G



Overall EcNo	# Samples	%
(Max, $\leq -6$ )	6619	10
(-6, $\leq -9$ )	15602	23.5
(-9, $\leq -11$ )	20118	30.3
(-11, $\leq -14$ )	16396	24.7
(-14, $\leq$ Min)	7704	11.5
<b>Total</b>	<b>66439</b>	<b>100</b>

## II. Quality Details

JIO	
Technology	Rx Quality %
VoLTE	92.45



Overall SINR	# Samples	%
(Min, <=-3)	4228	5.63
(-3, <=0)	1395	1.87
(0, <=5)	20419	27.42
(5, <=10)	18171	24.40
(10, <=15)	15891	21.34
(15, <=Max)	14361	19.29
<b>Total</b>	<b>74465</b>	<b>100</b>

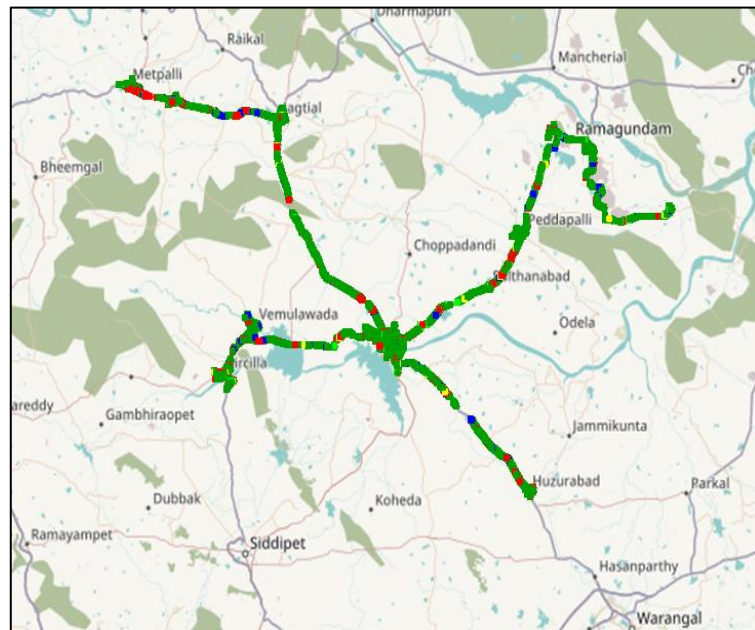
## II. Quality Details

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

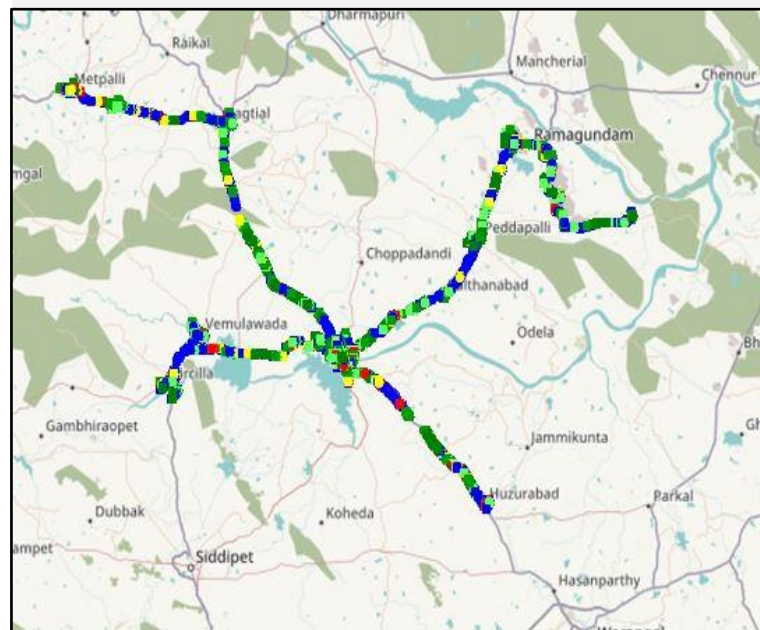
### VIL

Technology	Rx Quality %
2G	95.09
VoLTE	94.98

### 2G



### VoLTE

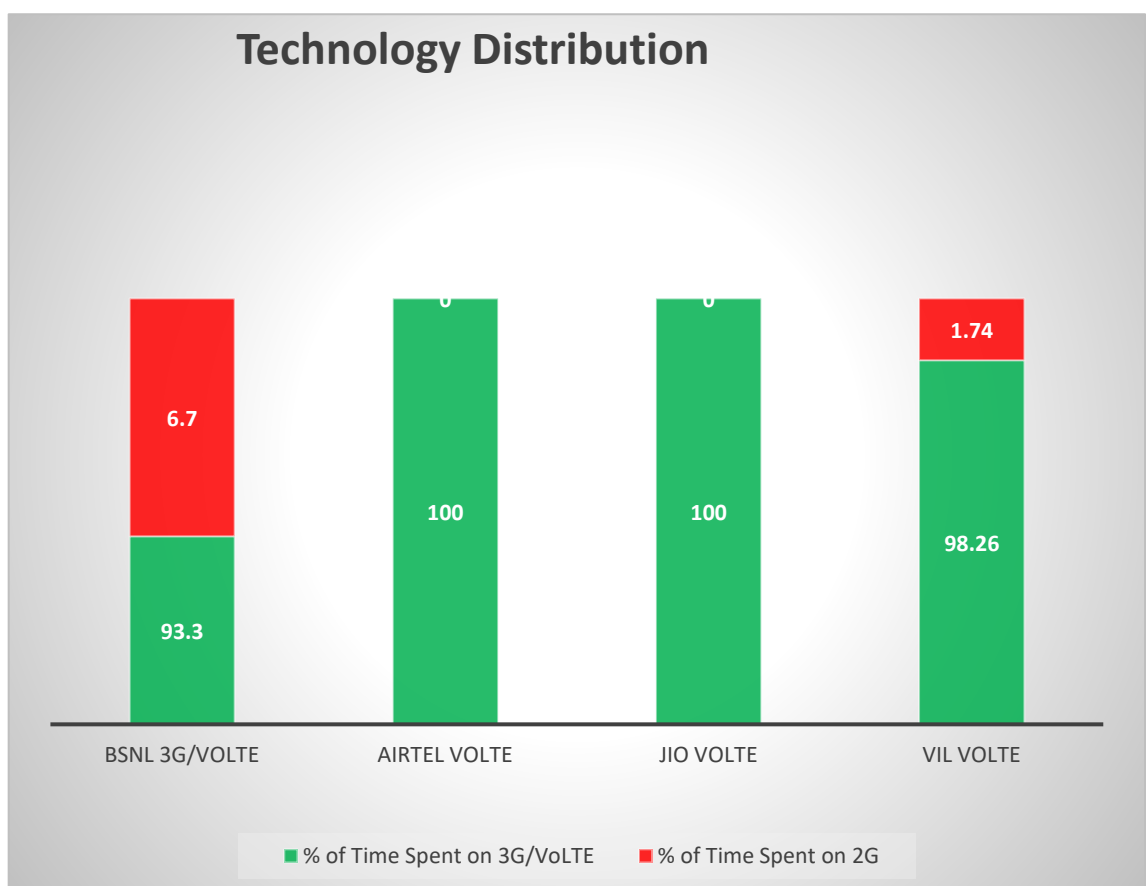


Overall Rx Quality	# Samples	%
(Min, $\leq 2$ )	7044826	87.51
(2, $\leq 3$ )	140933	1.75
(3, $\leq 4$ )	152260	1.89
(4, $\leq 5$ )	315870	3.92
(5, $\leq \text{Max}$ )	395514	4.91
<b>Total</b>	<b>8049403</b>	<b>100</b>

Overall SINR	# Samples	%
(Min, $\leq -3$ )	879497	5.02
(-3, $\leq 0$ )	1305502	7.46
(0, $\leq 5$ )	3533301	20.2
(5, $\leq 10$ )	4298454	24.6
(10, $\leq 15$ )	3254071	18.6
(15, $\leq \text{Max}$ )	4237164	24.2
<b>Total</b>	<b>17367517</b>	<b>100</b>

### III. Technology Details

TSP	% of Time Spent on 3G/VoLTE
BSNL 3G	93.3
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	98.26



### III. Technology Details

#### Airtel

Technology	Time Spent on 4G
4G	100%

#### BSNL

Technology	Time Spent on 3G
3G	93.3%

#### JIO

Technology	Time Spent on 4G
4G	100%

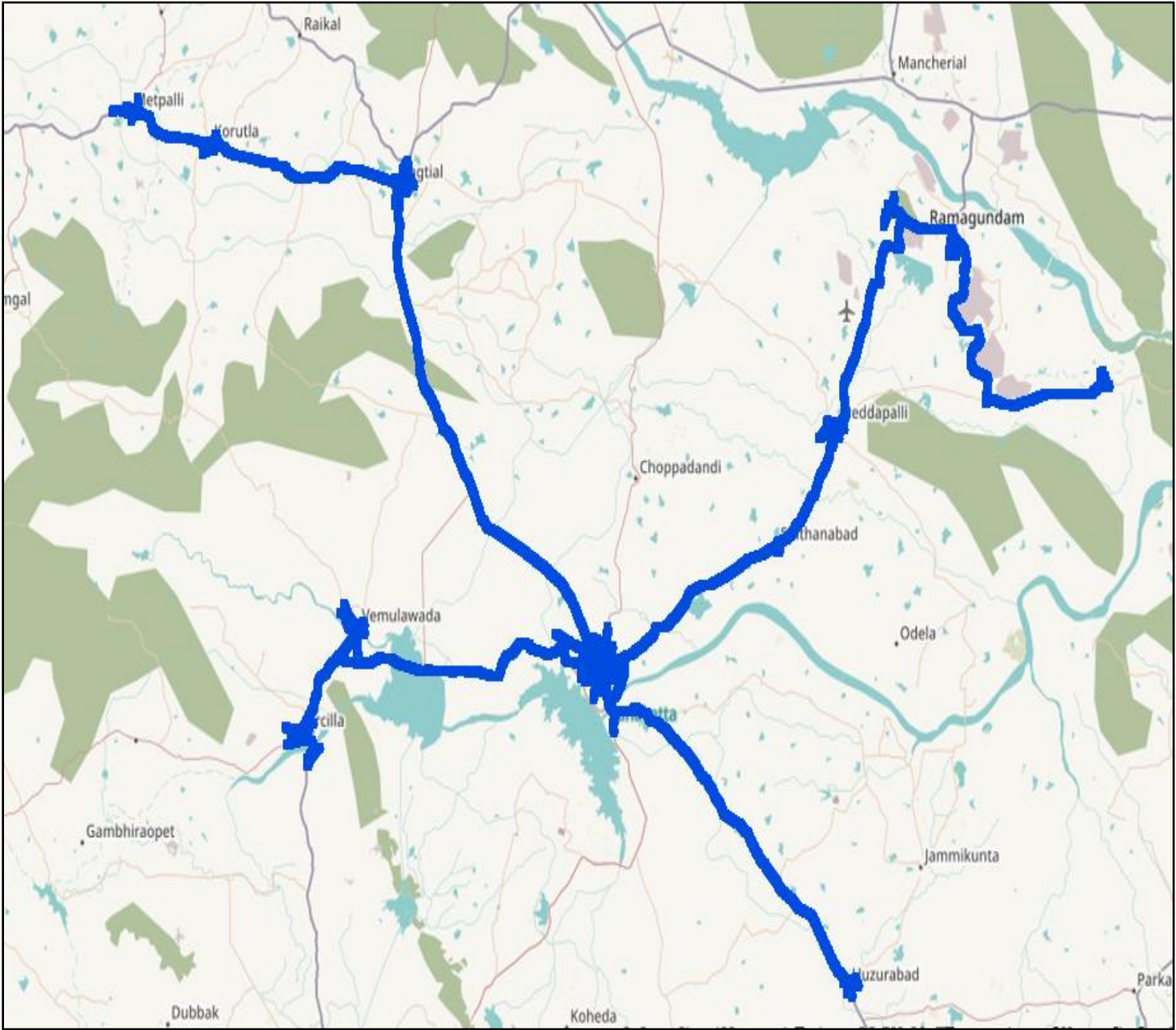
#### VIL

Technology	Time Spent on 4G
4G	98.26%

III. Technology Details

Airtel

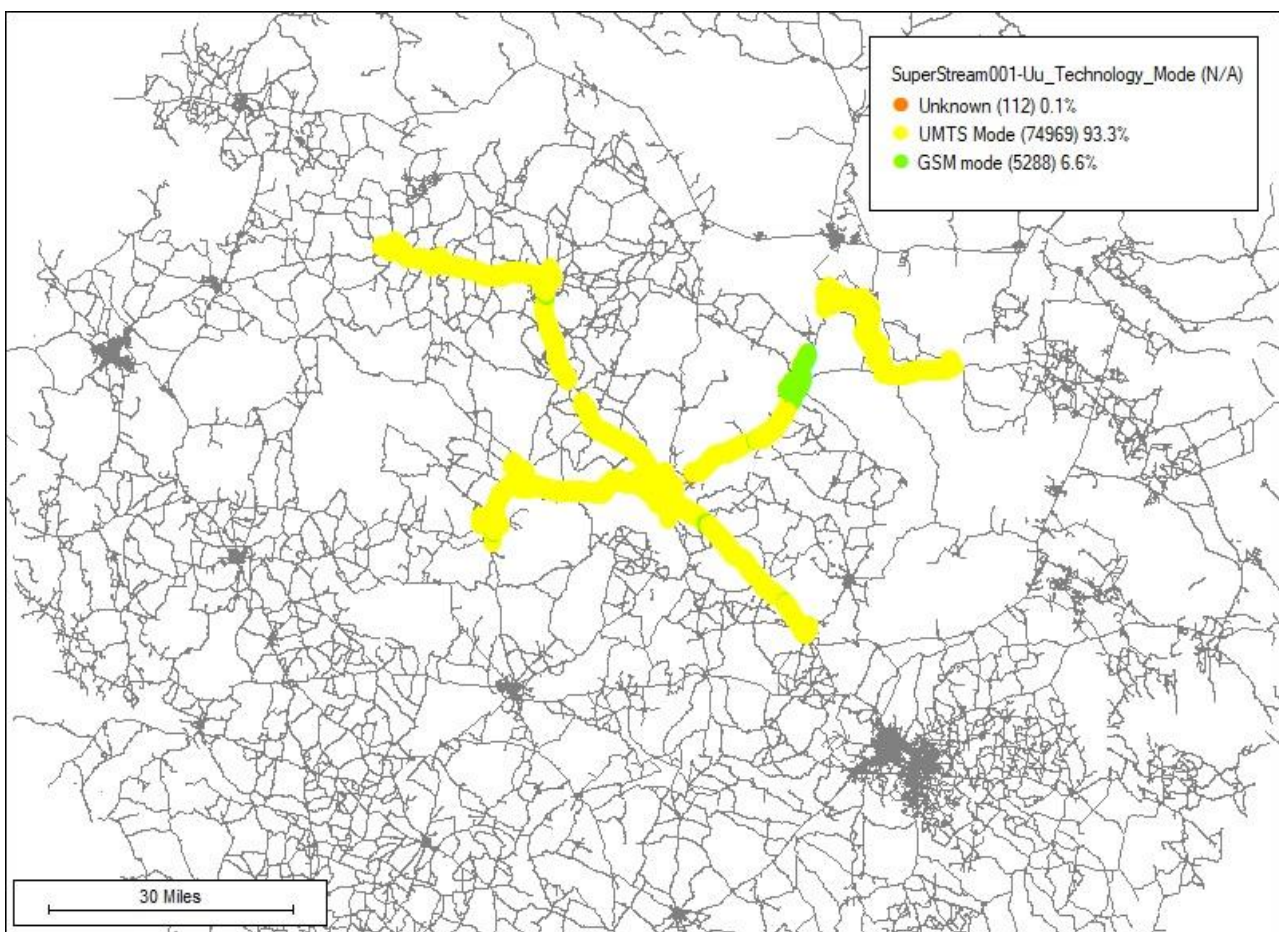
Technology	Time Spent on 4G
4G	100%



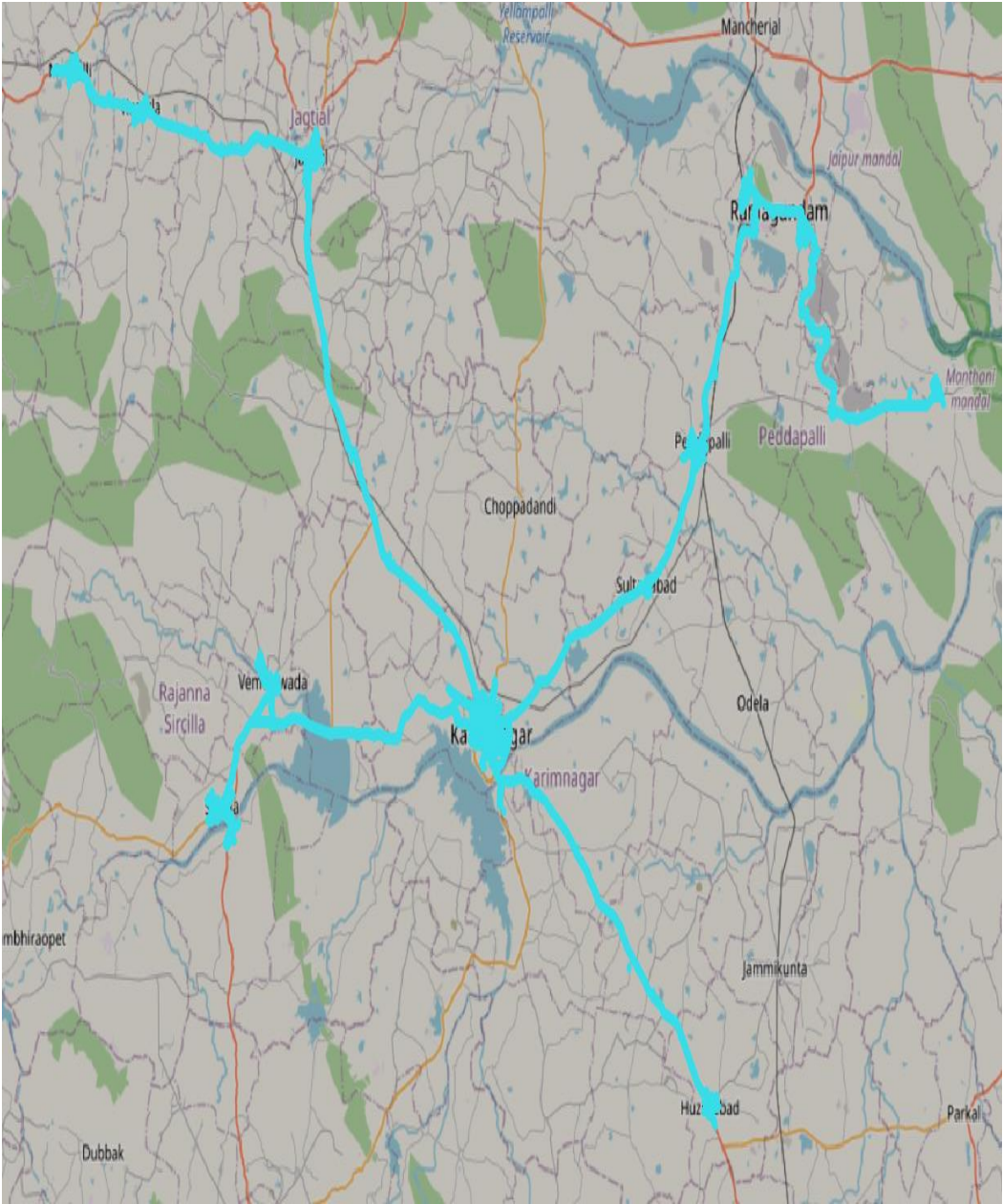
### III. Technology Details

#### BSNL

Technology	Time Spent on 3G
3G	93.3%



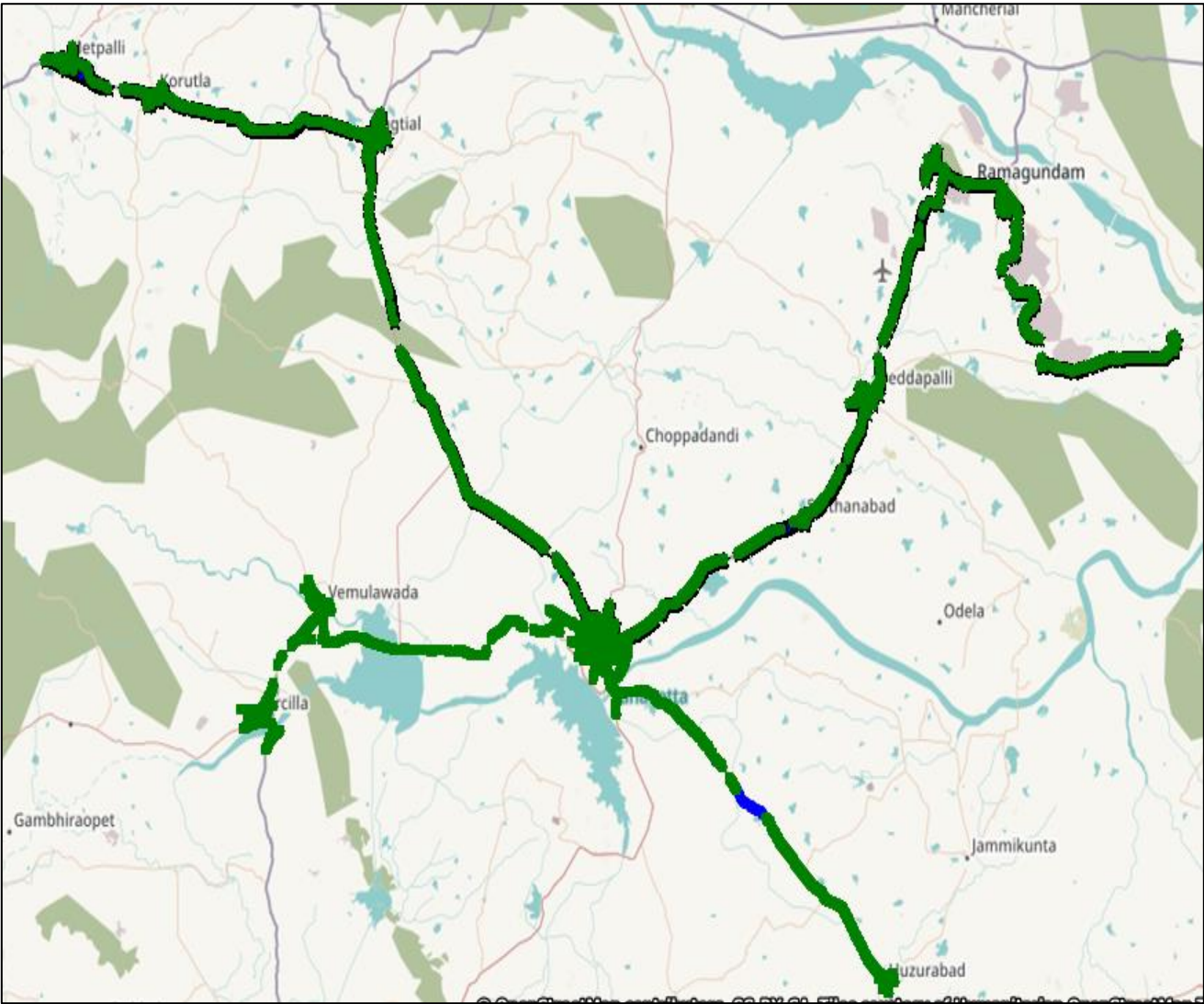
JIO	
Technology	Time Spent on 4G
4G	100%



### III. Technology Details

#### VIL

Technology	Time Spent on 4G
4G	98.26%

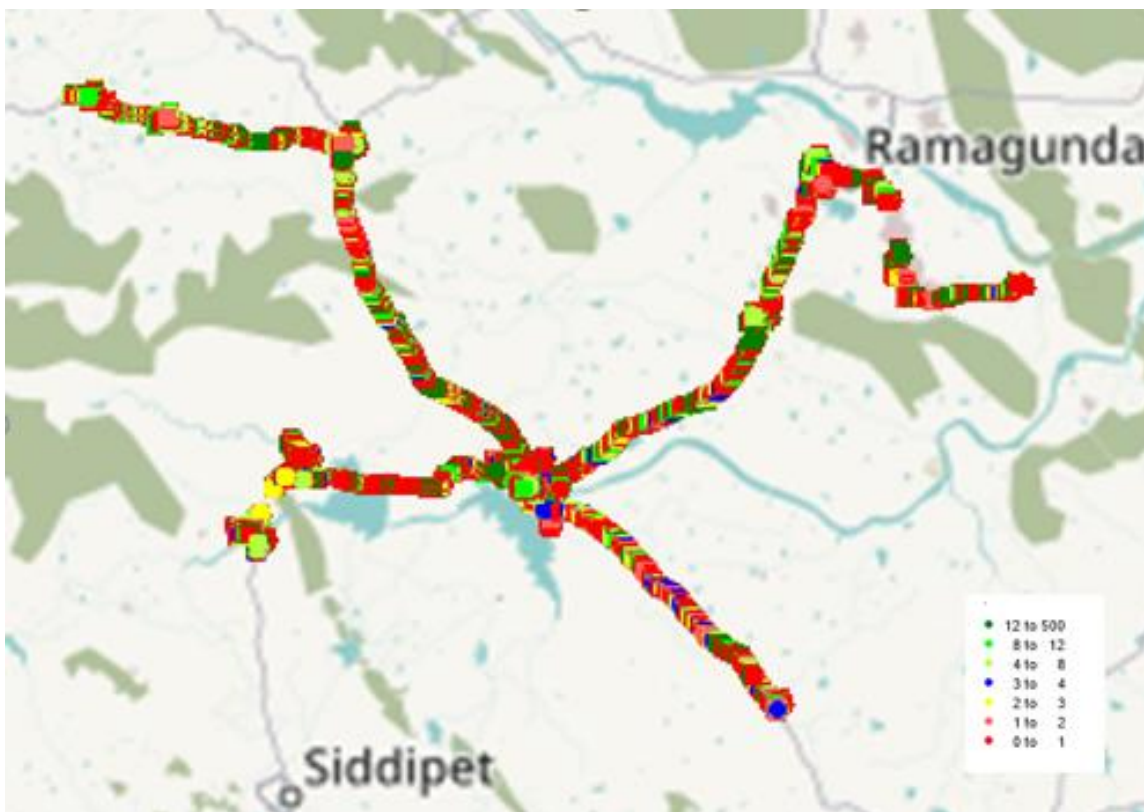


## IV. Dynamic Data Test- 4G DL Details

### Airtel

#### Data Statistics - Dynamic Complete SSA - 510Kms

Data KPIs – Overall	4G
Download Throughput (Mbps)	11.49



DL throughput	No of Sample	%
0 to 1 Mbps	190204	46.6%
1 to 2 Mbps	21469	5.3%
2 to 3 Mbps	16849	4.1%
3 to 4 Mbps	14175	3.5%
4 to 8 Mbps	59151	14.5%
8 to 12 Mbps	35851	8.8%
>12 Mbps	70369	17.24%
<b>Total</b>	<b>408068</b>	

## IV. Dynamic Data Test- 3G DL Details

**BSNL**

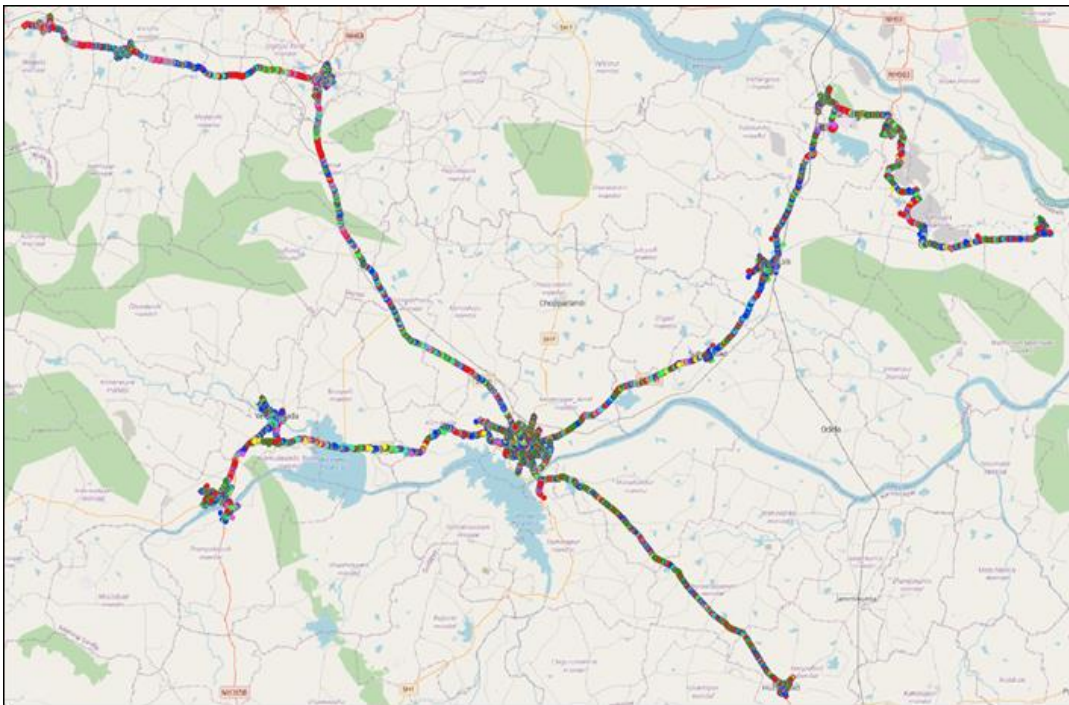
**Not offered due to not availability of tool**

## IV. Dynamic Data Test- 4G DL Details

### JIO

#### Data Statistics - Dynamic Complete SSA - 525 Kms

Data KPIs - Overall	4G
Download Throughput (Mbps)	10.72



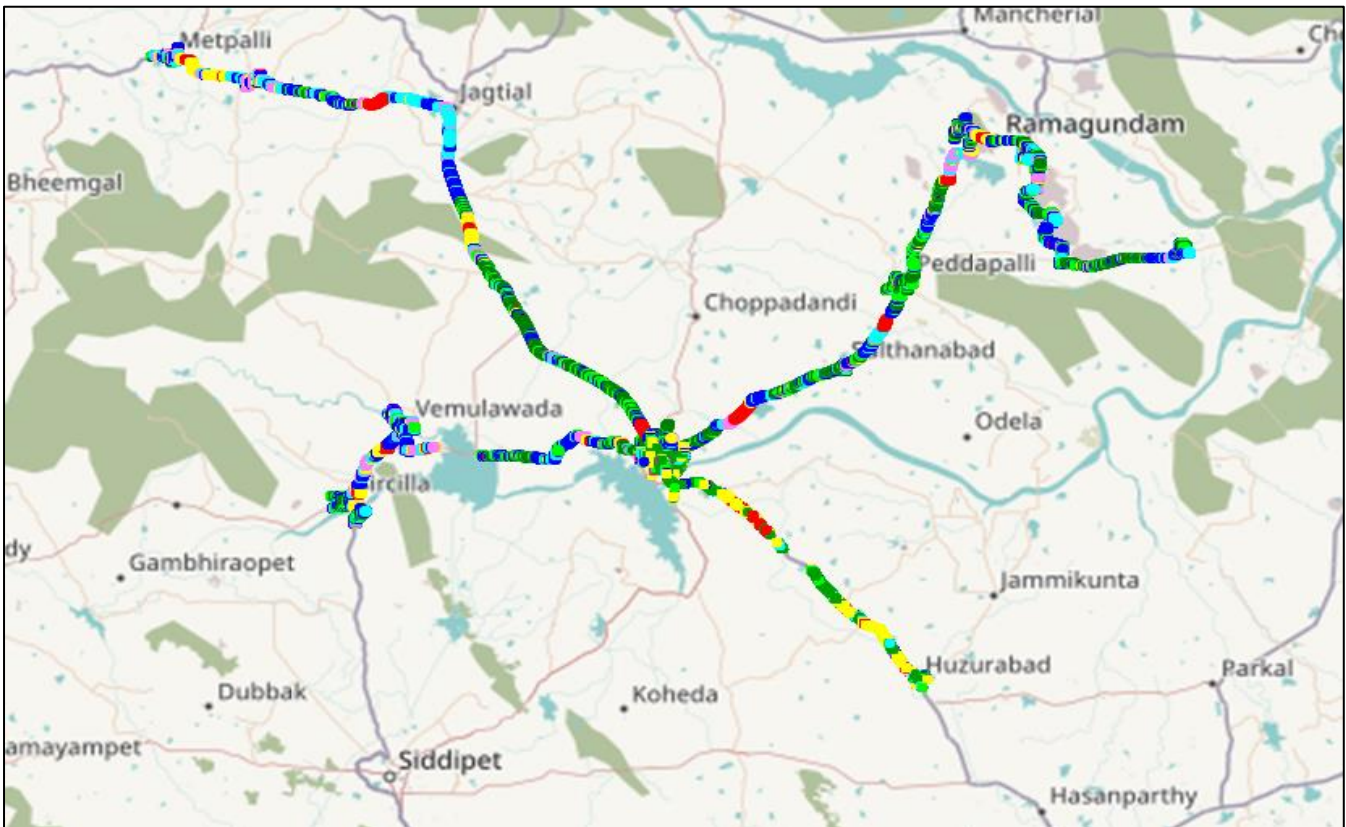
DL throughput	No. of Samples	%
0 to 1 Mbps	15676	22.65
1 to 2 Mbps	4762	6.88
2 to 3 Mbps	5034	7.27
3 to 4 Mbps	4899	7.08
4 to 8 Mbps	17589	25.43
8 to 12 Mbps	11573	16.72
>12 Mbps	9668	13.97
<b>Total</b>	<b>69201</b>	<b>100</b>

## IV. Dynamic Data Test- 4G DL Details

### VIL

#### Data Statistics - Dynamic Complete SSA - 526 Kms

Data KPIs - Overall	4G
Download Throughput (Mbps)	28.43



DL throughput mbps	no of samples	%
0 to 1 Mbps	584145	3.27
1 to 2 Mbps	1082544	6.06
2 to 3 Mbps	1632748	9.14
3 to 4 Mbps	1839968	10.3
4 to 8 Mbps	5878965	32.91
8 to 12 Mbps	3449493	19.31
> 12 Mbps	3395902	19.01
total	17863764	100

## Airtel

	1.Sircilla Bus stand	2.Jagtial Bus-Stand	3.NTPC Gate 1 Ramagundam	4.Karimnagar Bus stand	5.Karimnagar Govt Hospital	6.Karimnagar D Mart
Technology -3G / 4G						
Download in Mbps	63.81	80.82	70.55	69.64	82.18	79.45
Upload in Mbps	46.90	14.29	13.19	16.97	46.28	19.74

## BSNL

	1.Sircilla Bus stand	2.Jagtial Bus-Stand	3.NTPC Gate 1 Ramagundam	4.Karimnagar Bus stand	5.Karimnagar Govt Hospital	6.Karimnagar D Mart
Technology -3G / 4G						
Download in Mbps	4.22	3.2	9.55	7.74	5.2	13.17
Upload in Mbps	3.42	2.54	4.71	4.2	4.11	3.96

## JIO

	1.Sircilla Bus stand	2.Jagtial Bus-Stand	3.NTPC Gate 1 Ramagundam	4.Karimnagar Bus stand	5.Karimnagar Govt Hospital	6.Karimnagar D Mart
Technology -3G / 4G						
Download in Mbps	109.54	93.53	88.25	81.65	98.34	123.39
Upload in Mbps	10.32	39.40	26.38	27.75	9.04	24.20

## VIL

Technology- 4G	Sircilla – TS RTC Bus stand	Ramagundam -NTPC	Jagityala – TS RTC Bus stand	Karimnagar– TSRTC Bus Stand	Karimnagar– Govt Hospital	Karimnagar – D-mart
Download Speed Mbps	22.09	23.21	26.90	20.66	42.21	48.39
Upload Speed Mbps	20.53	4.0	19.86	9.01	1.51	12.70