Operator Assisted Drive Test Report

EAST GODAVRI SSA

JAN - 2024

(RO HYDERABAD)

Key Performance Indicators: **All TSPs have met the Drop Call Rate (DCR) benchmark of 2%. All TSPs have met the Call Setup Success Rate (CSSR) of 95%, Rx Quality Benchmark not achieved by VIL VoLTE.**

The Operator Assisted Drive Test (OADT) has been carried out by TRAI RO Hyderabad with the help of Service Providers in East Godavari and surrounding areas viz. Rajahmundry, Kakinada, Ravula palem,Amalapuram,YanamTuni,Pithapuram,Peddapuram, Dwarapudi, Samarlakota, Kathipudi, Annavaram etc. from 9:00 AM to 8:00 PM during 22nd January to 25th January 2024. The drive test covered drive route of 480KMs & 7 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 22nd to 25th Jan 2024 covering various locations in East godavari surrounding regions Rajahmundry, Kakinada, Amalapuram, Yanam,Pithapuram,Tuni, Annavaram etc.. 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 480 KMs over a period of 4 days from 22nd to 25th jan'2024. 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 480kms over a period of 3 days for download throughput for 3G & 4G technologies.

Data Tests were performed at 7 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

| 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 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
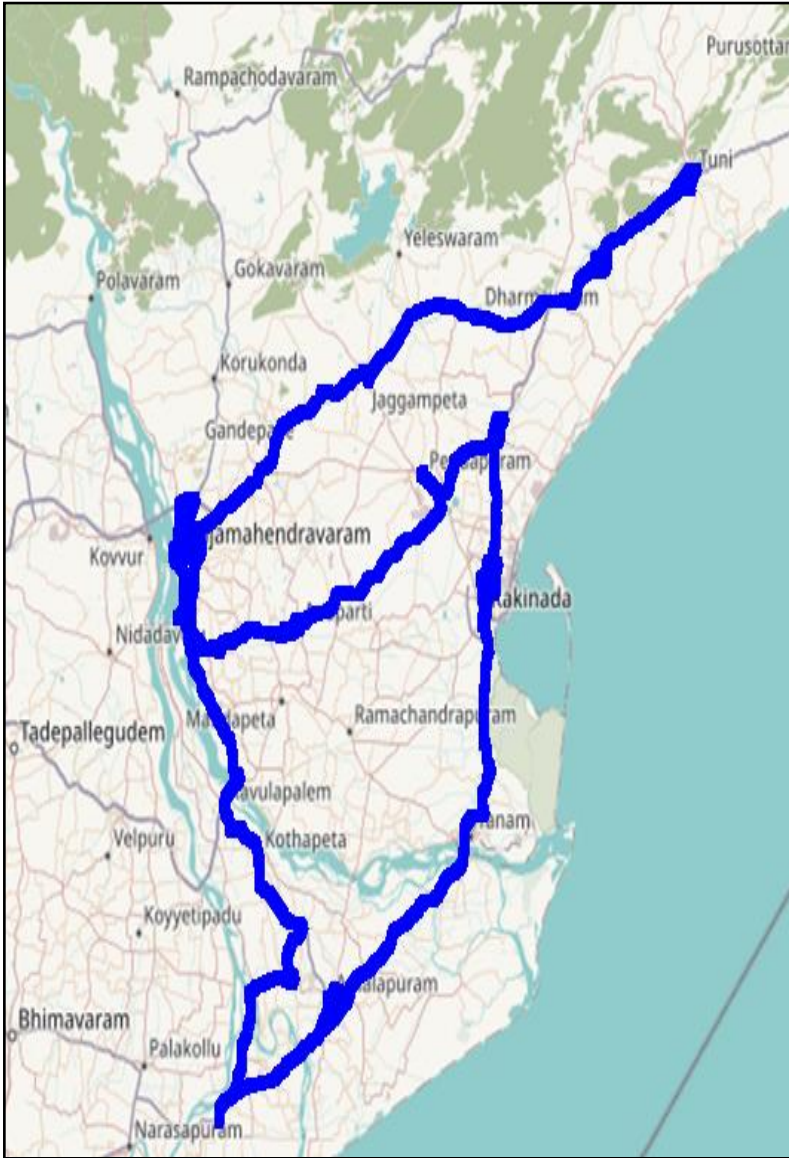
Day-1 Areas Covered -Jonnada to Tuni	
Jonnada Highway	Rajahmundry Highway
Rajahmundry Highway	Rajanagaram Highway
Rajanagaram Highway	Jaggampeta Town
Jaggampeta Town	Kathipudi Highway
Kathipudi Highway	Annavaram
Annavaram	Tuni town
Day-2 Areas Covered -Rajahmundry to Kakinada	
Rajahmundry Town	Vemagiri
Vemagiri	Dwarapudi
Dwarapudi	Anaparthi
Anaparthi	Bikkavolu
Bikkavolu	Samarlakota
Samarlakota	Peddapuram
Samarlakota	Pitapuram
Pitapuram Highway	Kakinada
Day-3 Areas Covered -Rajahmundry(local)-Jonnada to Razole to Kakinada	
Rajahmundry Town	Rajahmundry Highway
Jonnada Highway	Ravulapalem
Ravulapalem	Kothapeta
Kothapeta	Ambajipeta
Ambajipeta	P.Gannavaram
P.Gannavaram	Podalada
Razole Highway	Amalapuram Town
Amalapuram Highway	Yanam Highway
Yanam Highway	Kakinada

Data Service Test- Static Locations

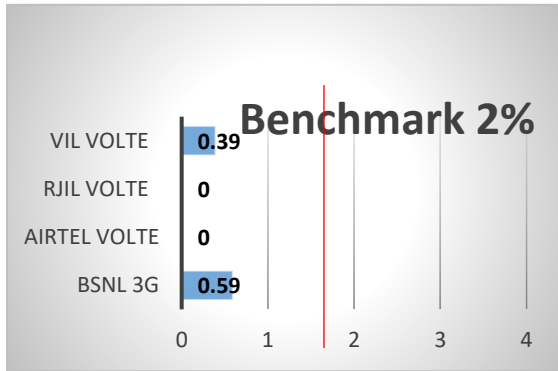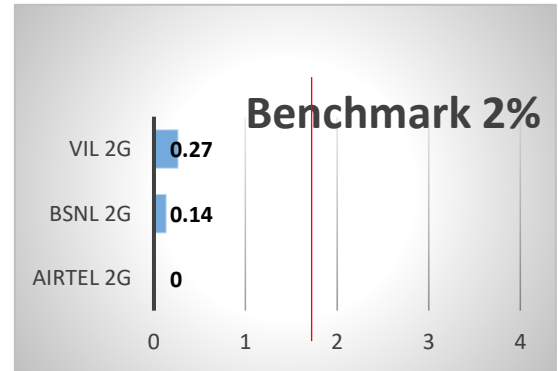| 7 Static Locations |
|---|
| Annavaram Temple |
| RTC Complex - Kakinada |
| Govt. Hospital - Kakinada |
| RTC Complex - Amalapuram |
| Kotagummam Centre - Rajahmundry |
| RTC Complex - Rajahmundry |
| Railway Station - Rajahmundry |
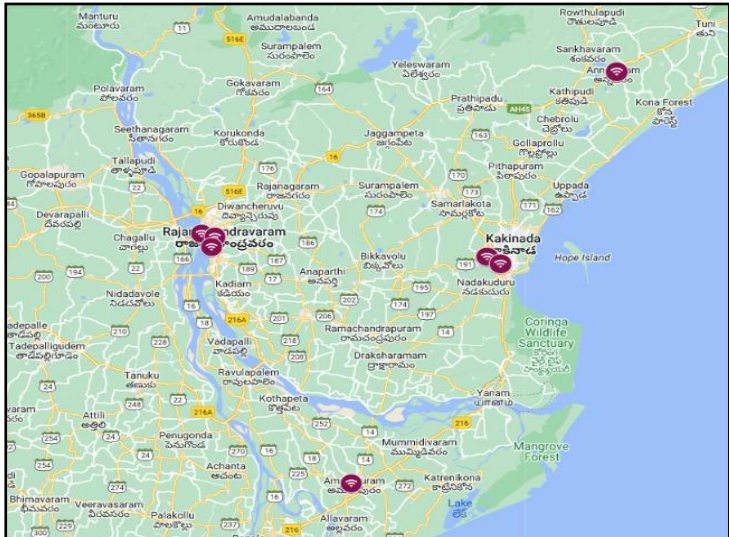
Voice Calls

QoS compliance of the TSPs in Madurai for Voice across technologies 2G/3G/4G-VoLTE:
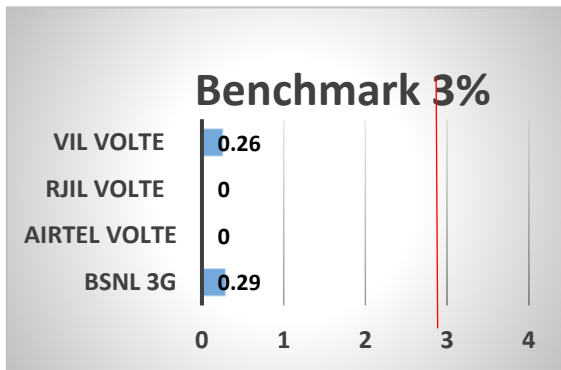
Drop Call Rate (%) — **3G/VoLTE Network**

Benchmark 2%

VIL VOLTE	0.39
RJIL VOLTE	0
AIRTEL VOLTE	0
BSNL 3G	0.59

2G Network

Benchmark 2%

VIL 2G	0.27
BSNL 2G	0.14
AIRTEL 2G	0

Block Call Rate (%) — **3G / VoLTE Network**

Benchmark 3%

VIL VOLTE	0.26
RJIL VOLTE	0
AIRTEL VOLTE	0
BSNL 3G	0.29

2G Network

Benchmark 3%

VIL 2G	0.27
BSNL 2G	1.08
AIRTEL 2G	0
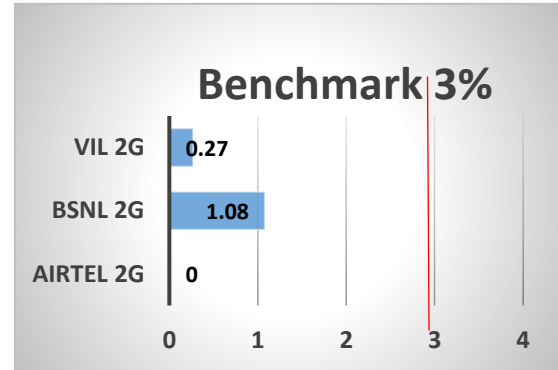
KPIs	2G			3G	VoLTE		
	Airtel	BSNL	VIL	BSNL	Airtel	RJIL	VIL
Drop Call Rate %	0	0.14	0.27	0.59	0	0	0.39
Block Call Rate %	0	1.08	0.27	0.29	0	0	0.26

a) All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%).

b) Call Block Rate (CBR%) benchmark of 3% was achieved by all TSP's.

Voice Calls

Coverage

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

TSPS	2G		
	Airtel	**BSNL**	**VIL**
Coverage %	98.4	89.8	82.8

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

TSP	3G	VoLTE (≥ -110 dBm)			VoLTE (-110 to ≥ -120 dBm)		
	BSNL	**Airtel**	**JIO**	**VIL**	**Airtel**	**JIO**	**VIL**
Coverage %	86.2	97.1	96.43	90.01	2.9	3.04	9.9

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

TSP	3G	VoLTE		
	BSNL	**Airtel**	**JIO**	**VIL**
Time spent %	86.59	100	100	99.23

Data Services Static

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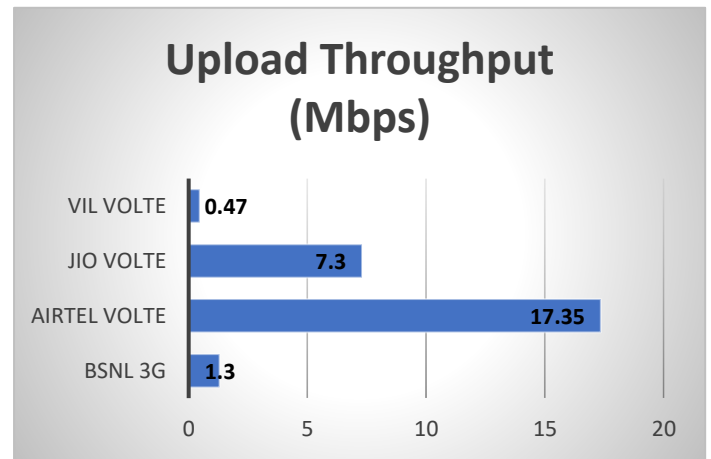
Data Download and Upload Performance (Mbps)

3G/4G Network:

Download Throughput (Mbps)

Network	Value
VIL VOLTE	14.8
JIO VOLTE	41.3
AIRTEL VOLTE	30.08
BSNL 3G	2

Upload Throughput (Mbps)

Upload Throughput (Mbps)

Network	Value
VIL VOLTE	0.47
JIO VOLTE	7.3
AIRTEL VOLTE	17.35
BSNL 3G	1.3

Web Browsing delay (Sec)

Network	Value
VIL VOLTE	0.55
JIO VOLTE	1.7
AIRTEL VOLTE	9.8
BSNL 3G	13.54

Latency (ms)

Network	Value
VIL VOLTE	34
JIO VOLTE	43.5
AIRTEL VOLTE	51
BSNL 3G	132.13
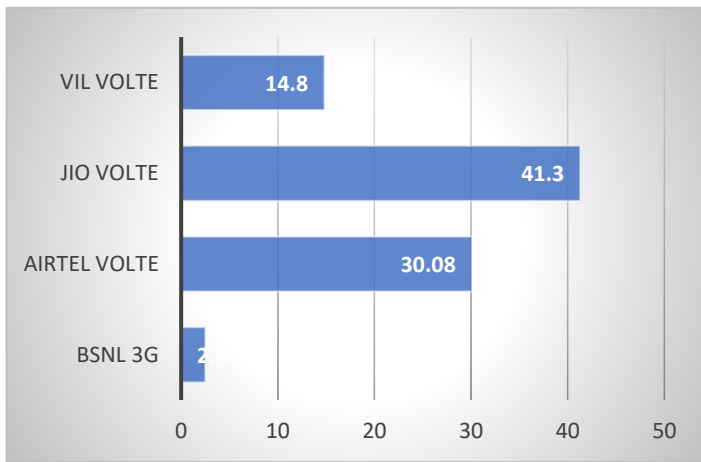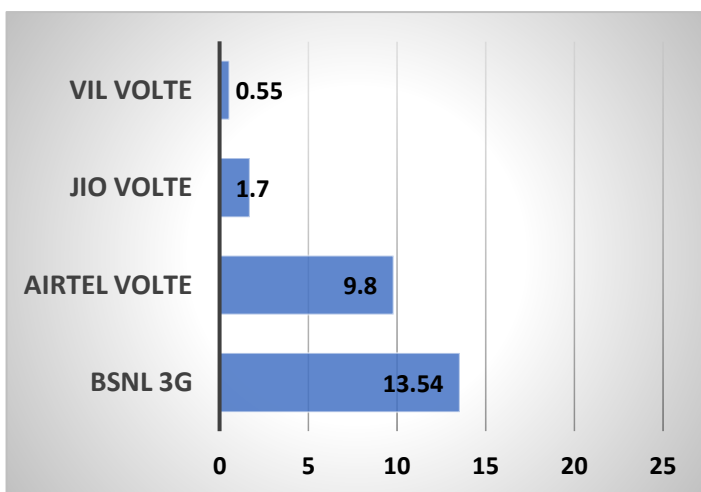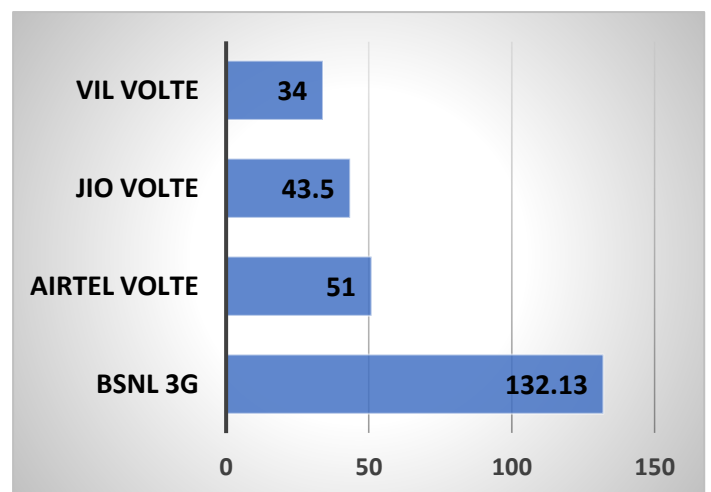
Data Services Dynamic

Dynamic Data was tested for 480 Kms. Download Throughput was tested.

Data Download Performance (Mbps) - Dynamic

3G/4G Network:

Download Throughput (Mbps)

Network	Value
VIL VOLTE	37.13
JIO VOLTE	15.18
AIRTEL VOLTE	32.7
BSNL 3G	1.81
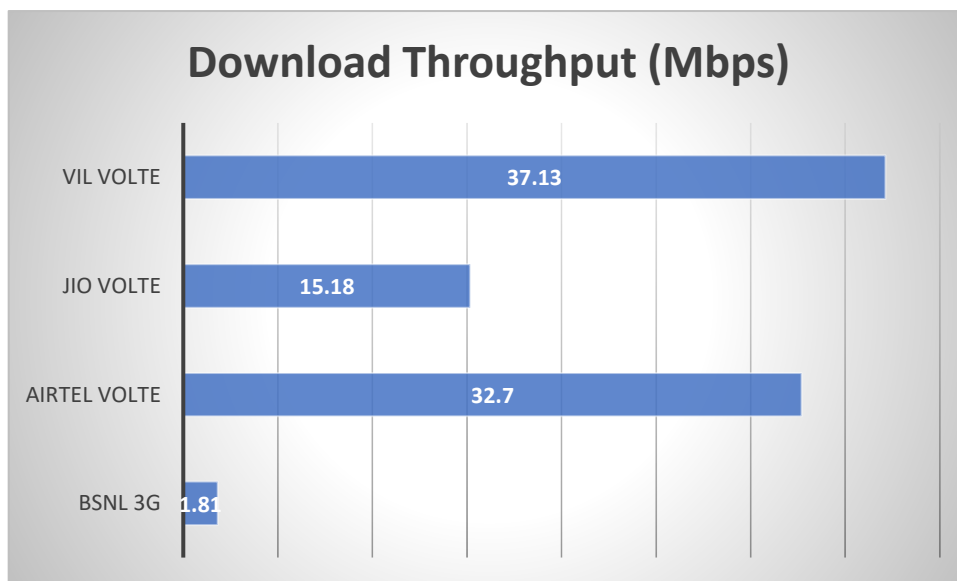
Data Services Static Dynamic	VoLTE			
	BSNL 3G	**Airtel 4G**	**JIO 4G**	**VIL 4G**
Download Throughput (Mbps)	1.81	32.70	15.18	37.13

Summary

Voice Call	2G		
	Airtel	**BSNL**	**VIL**
Call Attempt	622	741	735
Blocked Call Rate (%)	0	1.08	0.27
CSSR% (Accessibility)	100	98.92	99.73
Drop Call Rate (%)	0	0.14	0.27
Mobility HOSR (%)	98.16	97.49	99.8
Rx Quality (%)	95.95	96.5	96.51

Voice Call	3G	VoLTE		
	BSNL	**Airtel VoLTE**	**JIO VoLTE**	**VIL VoLTE**
Call Attempt	672	647	752	770
Blocked Call Rate (%)	0.29	0	0	0.26
CSSR% (Accessibility)	99.71	100	99.20%	99.74
Drop Call Rate (%)	0.59	0	0.53%	0.39
Mobility HOSR (%)	100	100	100%	99.9
Rx Quality (%)	95.1	93	96.67%	97.15

Summary

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (Kbps)	176.7	113.61	161.62
Upload Throughput (Kbps)	47.15	61.54	86.71
Web Browsing Delay (sec)	4.41	60.27	11.11
Latency (msec)	122.5	208.08	157.11

Data Services Static	3G	VoLTE		
	BSNL	Airtel VoLTE	JIO VoLTE	VIL VoLTE
Download Throughput (Mbps)	2.48	30.08	41.3	14.8
Upload Throughput (Mbps)	1.30	17.35	7.3	0.47
Web Browsing Delay (sec)	13.54	9.8	1.7	0.55
Latency (msec)	132.13	51	43.5	34

Data Services Static

Annavaram Temple

	2G		
	Airtel	**BSNL**	**VIL**
Download Throughput (kbps)	44.9	88.53	198.2
Upload Throughput (kbps)	32.8	74.69	95
Web Browsing Delay (sec)	4.4	78.4	8.9
Latency (msec)	162.8	207.96	154.8

RTC Complex, Kakinada

	2G		
	Airtel	**BSNL**	**VIL**
Download Throughput (kbps)	213.9	71.25	170.6
Upload Throughput (kbps)	60.4	33.22	59.31
Web Browsing Delay (sec)	6.3	80.2	9.6
Latency (msec)	163.8	314.93	138

Govt. Hospital - Kakinada

	2G		
	Airtel	**BSNL**	**VIL**
Download Throughput (kbps)	92.5	142.19	154.4
Upload Throughput (kbps)	14.3	78.06	78.87
Web Browsing Delay (sec)	3	48.8	11.8
Latency (msec)	86.3	147.15	162

RTC Complex - Amalapuram

	2G		
	Airtel	**BSNL**	**VIL**
Download Throughput (kbps)	228.3	73.33	144.24
Upload Throughput (kbps)	39.2	32.33	56.26
Web Browsing Delay (sec)	5.4	76.3	12.5
Latency (msec)	95.3	198.98	165

Data Services Static

Kotagummam Centre - Rajahmundry	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	234.3	137.46	139.5
Upload Throughput (kbps)	125.0	81.09	125.9
Web Browsing Delay (sec)	3.5	49.2	13.1
Latency (msec)	101	190.09	177

RTC Complex - Rajahmundry	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	238.9	125.11	187.34
Upload Throughput (kbps)	36.1	76.18	102.46
Web Browsing Delay (sec)	4	48.4	9.4
Latency (msec)	135.5	198.24	146

Railway Station - Rajahmundry	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	184	157.39	137.10
Upload Throughput (kbps)	22.3	55.24	89.20
Web Browsing Delay (sec)	4.3	40.6	12.5
Latency (msec)	112.8	199.25	157

Data Services static

Annavaram Temple	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	2.24		57.6	32.84	14.20
Upload Throughput in Mbps	2.58		26.06	20.86	3.42
Web browsing delay in second	8.4		2.6	1.33	2.36
Latency in (msec)	41.63		30.2	34	77

RTC Complex, Kakinada	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	1.88		33.8	69.67	35.05
Upload Throughput in Mbps	1.94		25.03	7.2	3.83
Web browsing delay in second	9.6		2.4	1.24	1.73
Latency in (msec)	69.68		23.16	36	65

Govt. Hospital - Kakinada	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	2.49		48.46	45.74	22.88
Upload Throughput in Mbps	0.95		31.6	4.92	2.85
Web browsing delay in second	7.6		3.6	1.37	1.92
Latency in (msec)	46.39		27.5	34	59

RTC Complex - Amalapuram	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	1.09		25.3	31.55	42.56
Upload Throughput in Mbps	1.43		28.06	4.8	5.85
Video streaming delay in sec	0		0	0	1.18
Web browsing delay in second	12.2		2.9	1.39	1.38
Latency in (msec)	70.63		22.5	36	51

Data Services static

Kotagummam Centre - Rajahmundry	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	2.14		77.9	41.57	42.71
Upload Throughput in Mbps	1.28		24.8	7.82	7.72
Video streaming delay in sec	0		0	0	0.74
Web browsing delay in second	7.4		4.6	1.29	1.97
Latency in (msec)	52.28		25.1	36	58

RTC Complex - Rajahmundry	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	4.24		22.7	0	26.05
Upload Throughput in Mbps	2.26		21.6	0	3.14
Web browsing delay in second	4.2		2.4	0	1.67
Latency in (msec)	35.38		18.5	0	100

Railway Station - Rajahmundry	3G		4G		
	BSNL	VIL	Airtel	JIO	VIL
Download throughput in Mbps	4.23		11.9	25.56	47.60
Upload Throughput in Mbps	2.41		10.4	7.42	7.70
Web browsing delay in second	4		4.9	1.17	0.96
Latency in (msec)	29.66		17.5	42	94

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 ≥ -110dBm. The details are as follows.

TSP	Coverage Rate %
Airtel 2G	**98.4**
BSNL 2G	**89.8**
VIL 2G	**82.80**
BSNL 3G	**86.2**
Airtel VoLTE	**97.1**
Jio VoLTE	**96.43**
VIL VoLTE	**90.10**
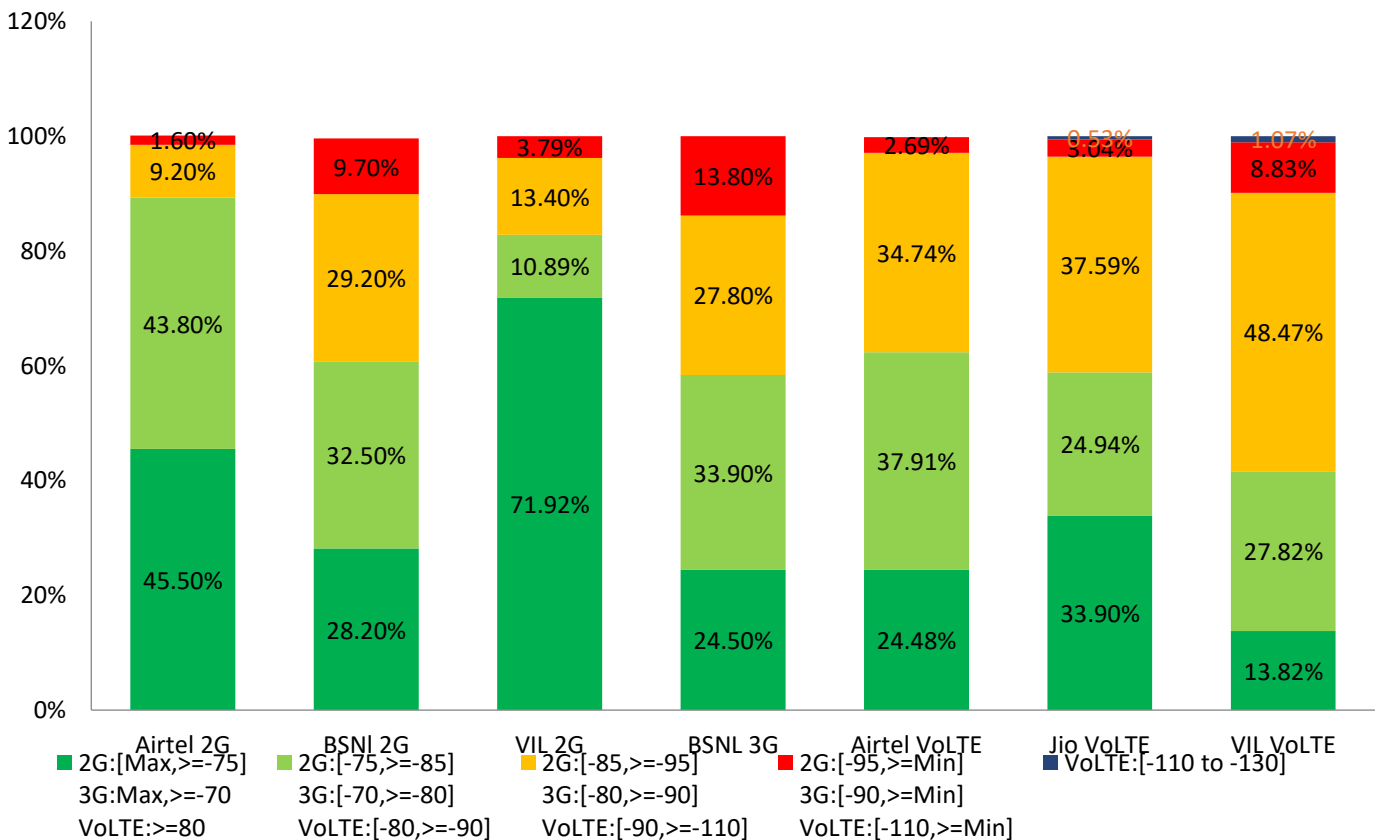
AIRTEL

TSP	Coverage Rate %
Airtel 2G	**98.4**
Airtel VoLTE	**97.1**

2G	**VoLTE**
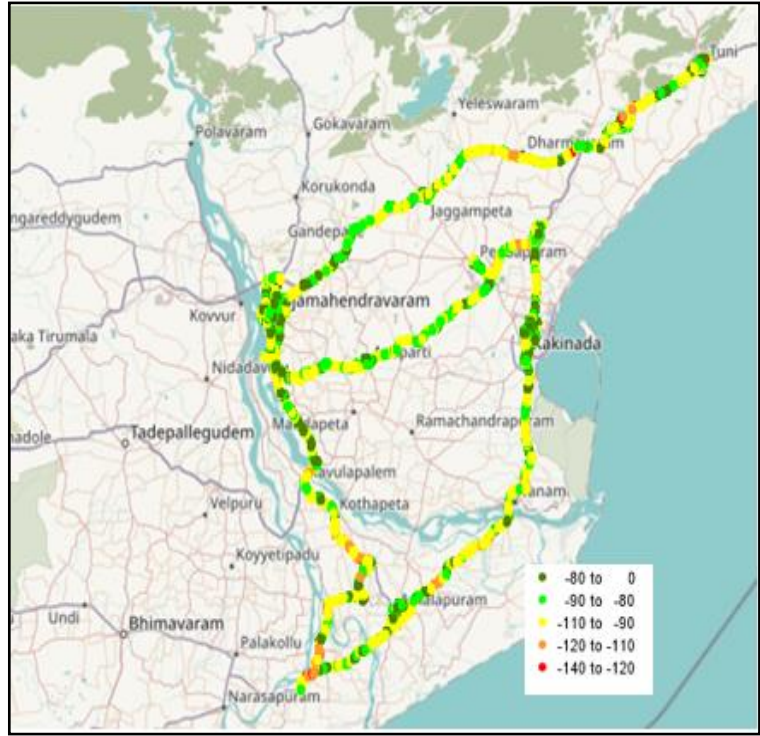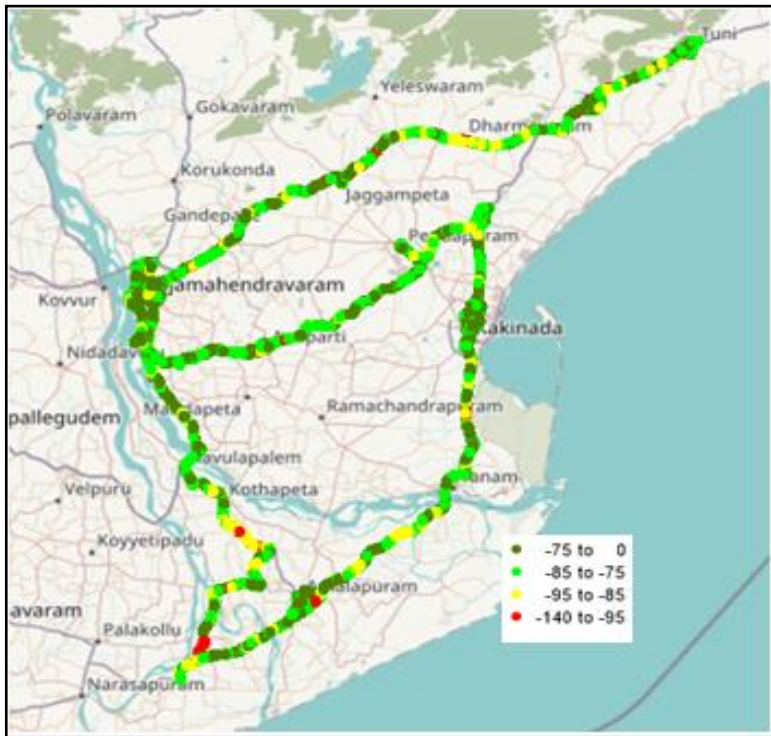
Overall RxLevel	# Samples	%
[Max, >=-75]	2335884	45.5%
[-75, >=-85]	2248352	43.8%
[-85, >=-95]	470795	9.2%
[-95, >=Min]	81205	1.6%
Total	5136236	

Overall RSRP	# Samples	%
[Max, >=-80]	2410619	24.48%
[-80, >=-90]	3732473	37.91%
[-90, >=-110]	3420832	34.74%
[-110, >=-120]	265071	2.69%
[-120, >=Min]	17241	0.18%

BSNL

Technology	Coverage Rate %
2G	89.8
3G	86.2

2G	**3G**
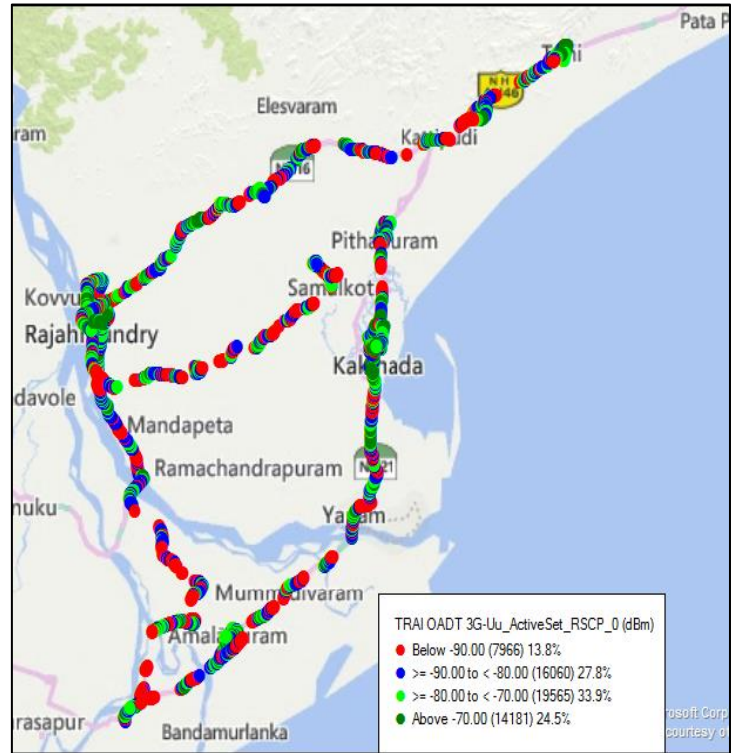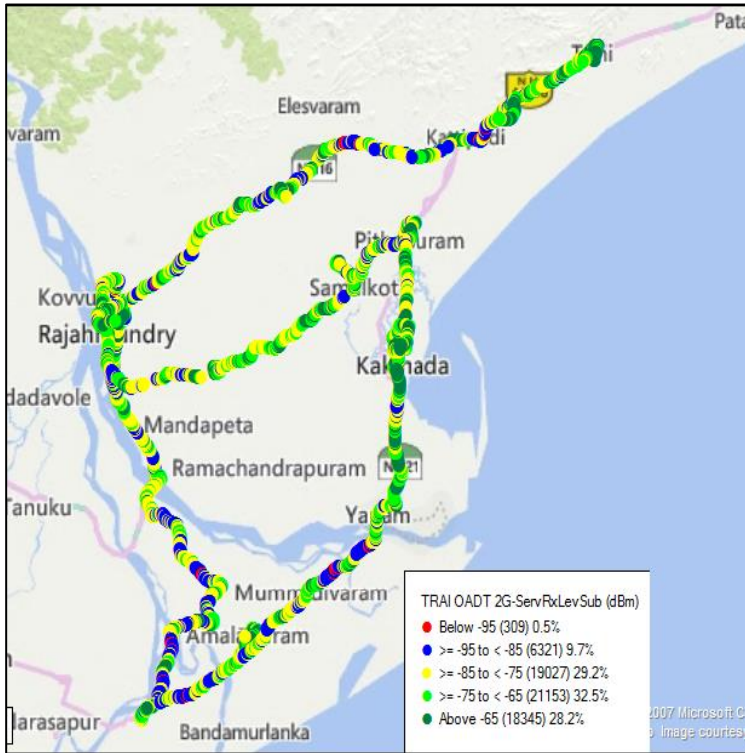
2G		
Overall RxLevel	**# Samples**	**% PDF**
[Max, >=-65]	18345	28.2%
[-65, >=-75)	21153	32.5%
[-75, >=-85)	19027	29.2%
[-85,>=-95]	6321	9.7%
[-95, >=Min)	309	0.5%

3G		
Overall RSCP	**# Samples**	**% PDF**
[Max, >=-70]	14181	24.5%
[-70, >=-80)	19565	33.9%
[-80, >=-90)	16060	27.8%
[-90, >=Min)	7966	13.8%
Total	**45868**	**100%**

JIO

Technology	Coverage Rate %
VoLTE	96.43

LTE KPI PCell Serving RSRP[dBm]
VOLTE_EAST_GODAVARI

- -80 <= x (33.90%, 21653)
- -90 <= x < -80 (24.94%, 15932)
- -110 <= x < -90 (37.59%, 24008)
- -120 <= x < -110 (3.04%, 1939)
- x < -120 (0.53%, 339)
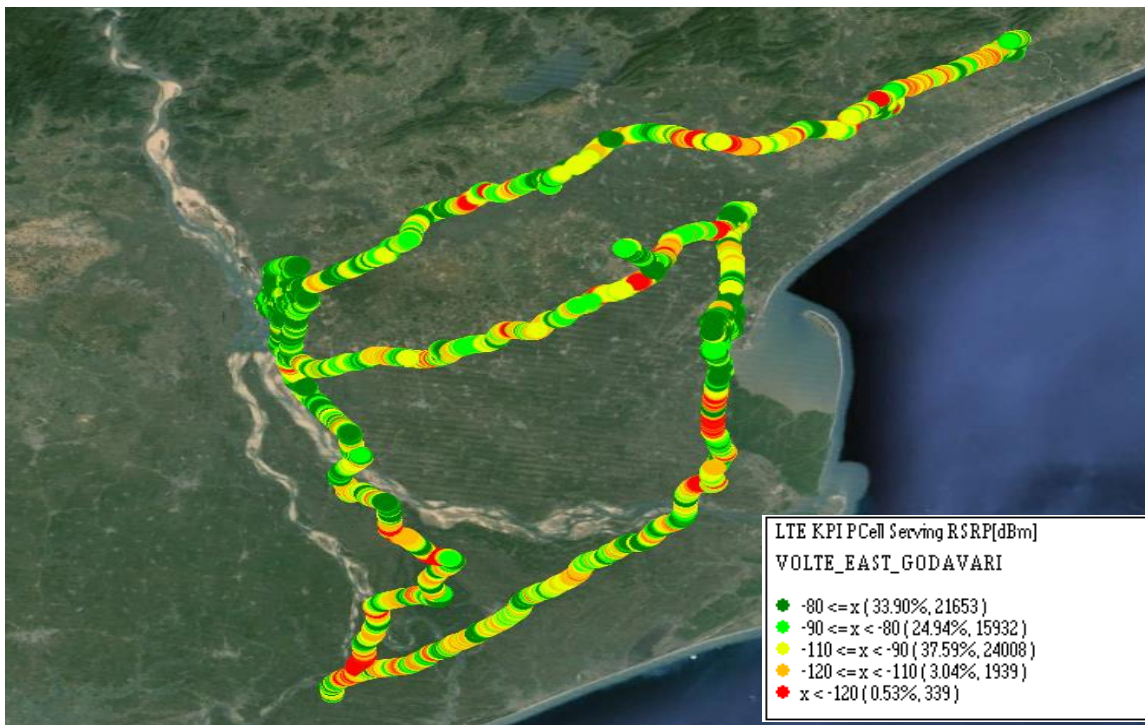
VoLTE		
Overall RSRP	**# Samples**	**%**
[Max, >=-80]	21653	33.9
[-80, >=-90]	15932	24.94
[-90, >=-110]	24008	37.59
[-110, >=-120]	1939	3.04
[-120, >=Min]	339	0.53
Total	63871	100

VIL

Technology	Coverage Rate %
2G	82.8
VoLTE	90.1

2G	VoLTE
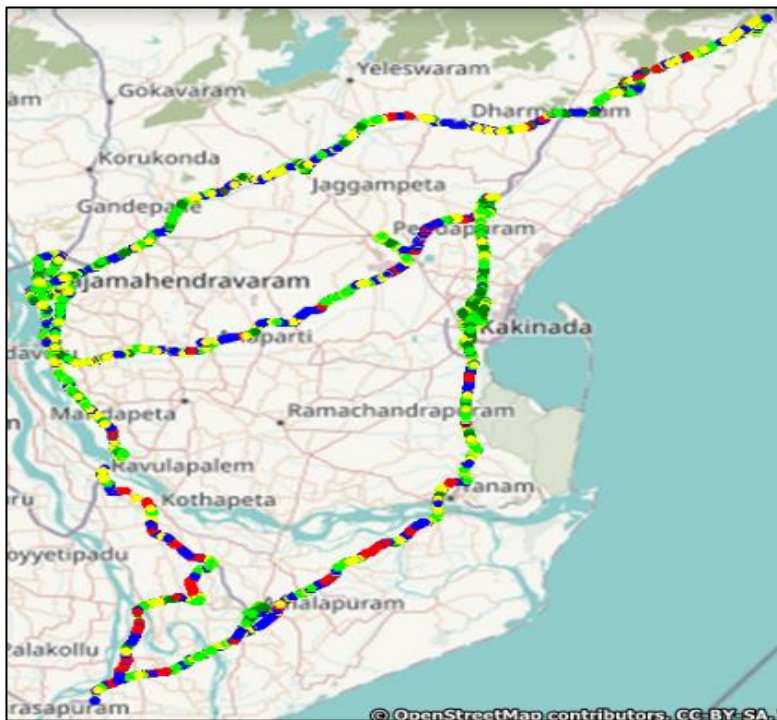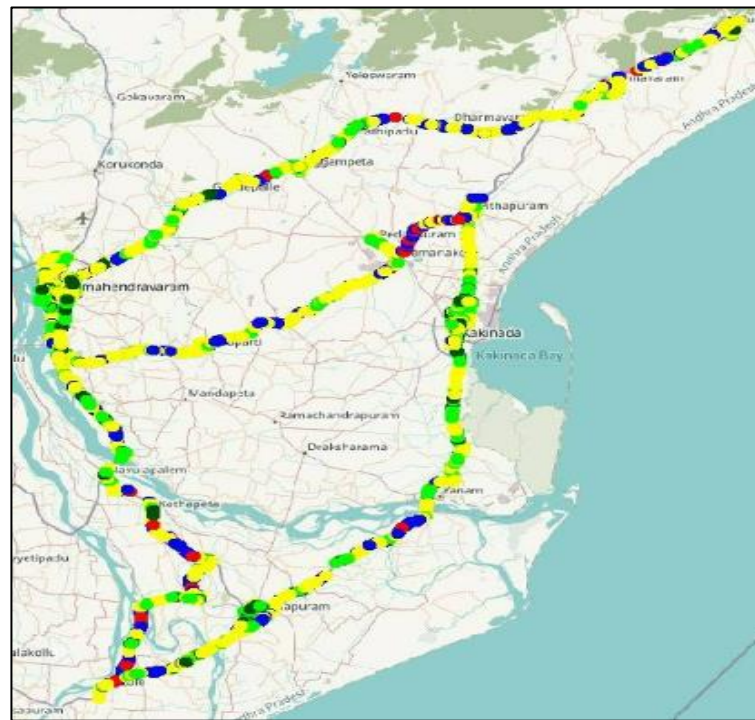
Overall RxLevel	# Samples	%
[Max, >=-75]	17600886	71.92
[-75, >=-85]	2663851	10.89
[-85, >=-95]	3278839	13.40
[-95, >=Min]	928714	3.79
Total	24472290	100

Overall RSRP	# Samples	%
[Max, >=-80]	2110249	13.82
[-80, >=-90]	4247335	27.82
[-90, >=-110]	7400355	48.47
[-110, >=-120]	1347982	8.83
[-120, >=Min]	163266	1.07

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 ≥ 95%.

TSP	Rx Quality %
Airtel 2G	**95.50**
BSNL 2G	**96.15**
VIL 2G	**96.51**
BSNL 3G	**95.1**
Airtel VoLTE	**93**
Jio VoLTE	**96.67**
VIL VoLTE	**92.19**

RX Quality Distribution

Legend:
- ■ Rx Quality 2G:[<=5] 3G:[EcNo>=-14 dBm] VoLTE:[SINR>0]
- ■ Rx Quality 2G:[>5] 3G:[EcNo<-14 dBm] VoLTE:[SINR<=0]
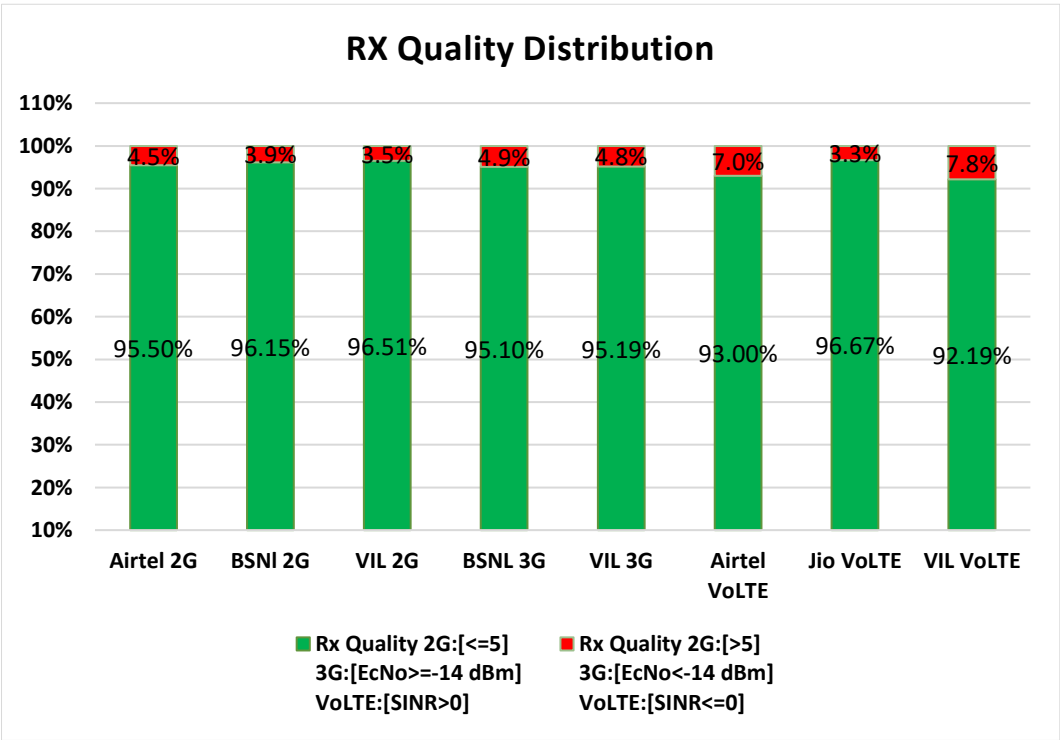
Airtel

Technology	Rx Quality %
2G	95.50
VoLTE	93

2G	VoLTE
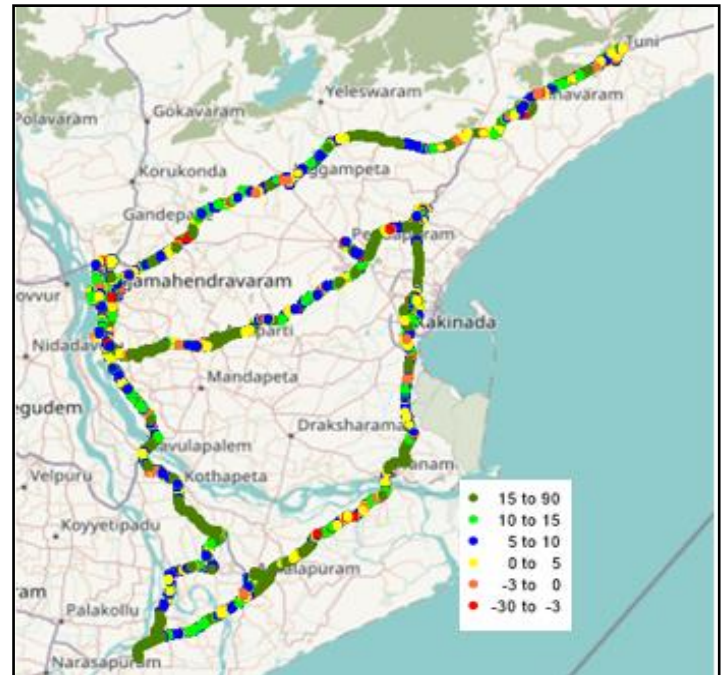
Overall Rx Quality	# Samples	%
(Min, <=2)	4229290	89.09%
(2, <=3)	113769	2.40%
(3 , <=4)	105399	2.22%
(4 , <=5)	85380	1.80%
(5 , <=Max)	213482	4.50%
Total	4747320	

Overall SINR	# Samples	%
(Min, <=-3)	171805	2%
(-3, <=0)	529941	5%
(0, <=5)	1830777	18%
(5, <=10)	2667355	27%
(10, <=15)	1697981	17%
(15, <=Max)	3037444	31%
Total		

BSNL

Technology	Rx Quality %
2G	**96.5**
3G	**95.1**

2G	**3G**
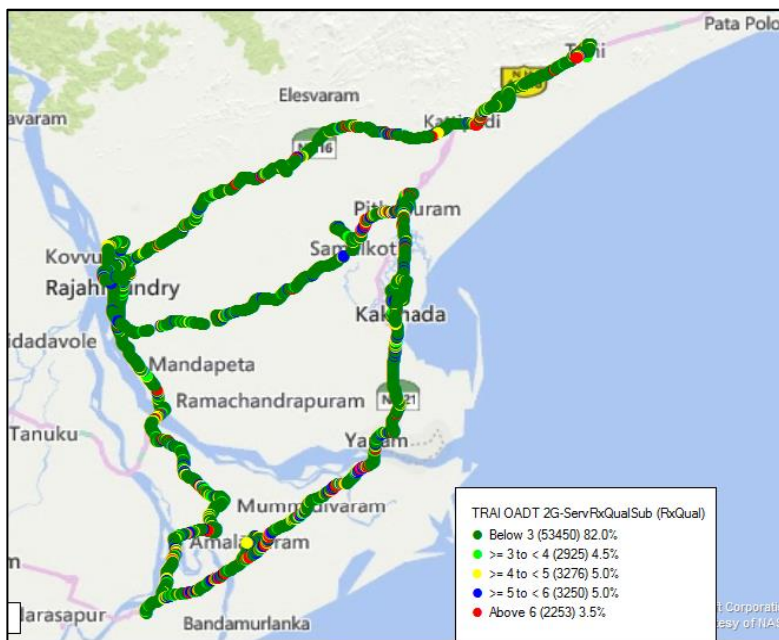
Overall Rx Quality	# Samples	% PDF
(Min, <=2)	53450	82.0%
(2, <=3)	2925	4.5%
(3 , <=4)	3276	5.0%
(4 , <=5)	3250	5.0%
(5 , <=Max)	2253	3.5%
Total	**65154**	**100%**
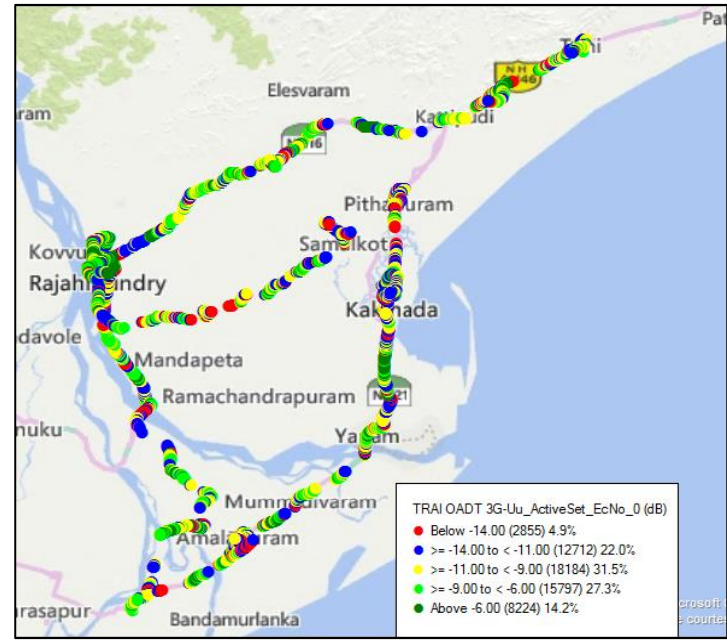
Overall EcNo	# Samples	% PDF
(Max, <=-6)	8224	14.2%
(-6, <=-9)	15797	27.3%
(-9, <=-11)	18184	31.5%
(-11, <=-14)	12712	22.0%
(-14, <= Min)	2855	4.9%
Total	**57772**	**100%**

JIO

Technology	Rx Quality %
VoLTE	96.67
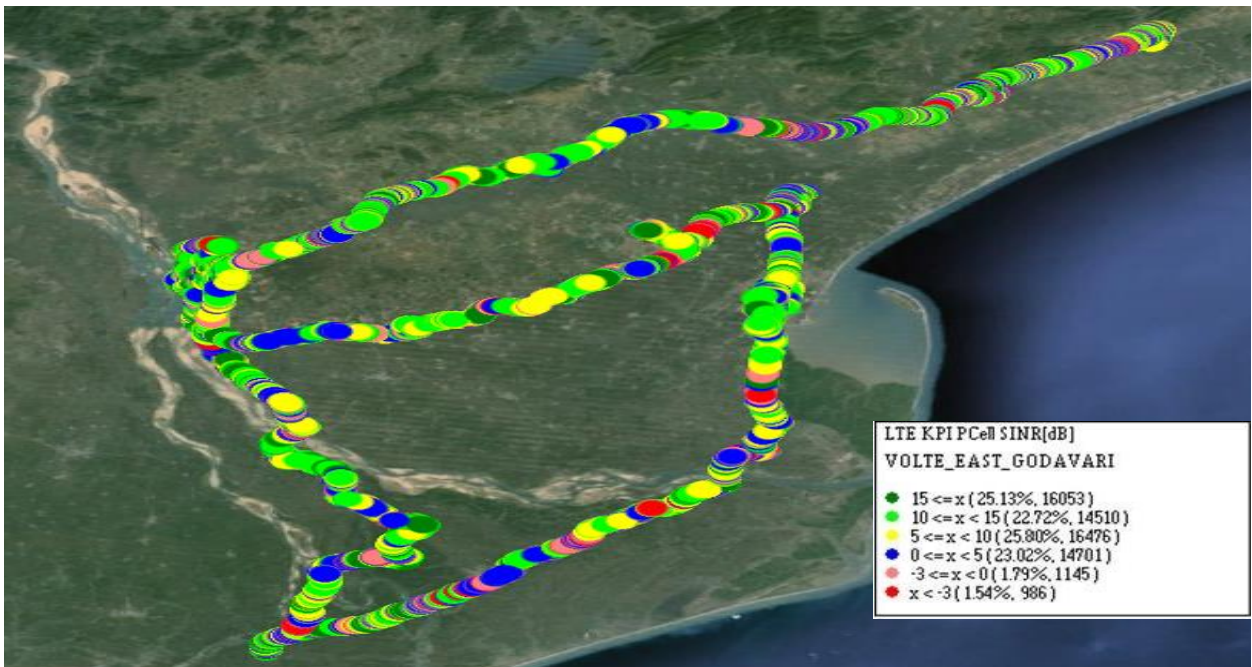
Overall SINR	# Samples	%
(Min, <=-3)	986	1.54
(-3, <=0)	1145	1.79
(0, <=5)	14701	23.02
(5, <=10)	16476	25.80
(10, <=15)	14510	22.72
(15, <=Max)	16053	25.13
Total	**63871**	**100**

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, whereas quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.
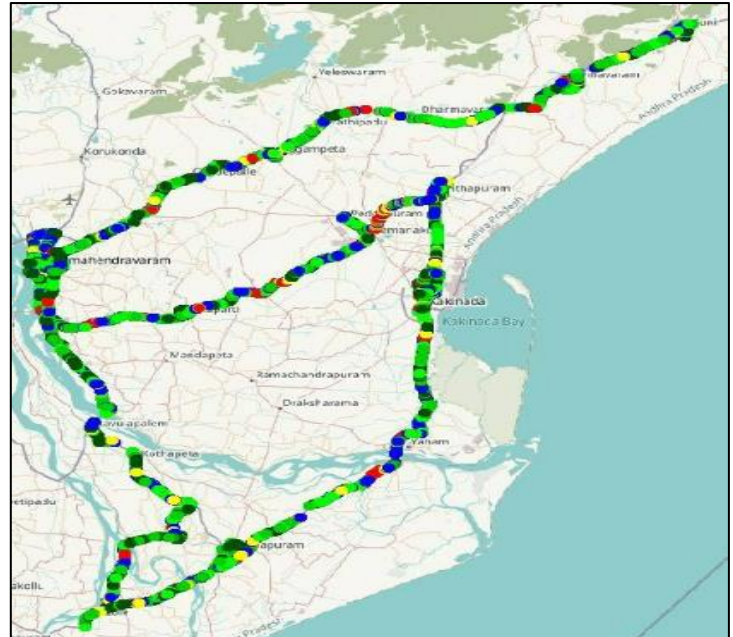
VIL

Technology	Rx Quality %
2G	96.51
VoLTE	97.15

2G	VoLTE

Overall Rx Quality	# Samples	%
(Min, <=2)	5850442	93.19
(2, <=3)	67558	1.08
(3 , <=4)	70322	1.12
(4 , <=5)	70332	1.12
(5 , <=Max)	219605	3.50
Total	6278259	

Overall SINR	# Samples	%
(Min, <=-3)	433903	2.85
(-3, <=0)	758438	4.97
(0, <=5)	2130566	13.98
(5, <=10)	2931724	19.23
(10, <=15)	3571435	23.43
(15, <=Max)	5419140	35.55
Total	15245206	

TSP	% of Time Spent on 3G/VoLTE
BSNL 3G	86.59
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	99.23

Technology Distribution

Airtel

Technology	Time Spent on 4G
4G	100 %

BSNL

Technology	Time Spent on 3G
3G	86.59 %

JIO

Technology	Time Spent on 4G
4G	100 %

VIL

Technology	Time Spent on 4G
4G	99.23 %

Airtel

Technology	Time Spent on 4G
4G	100%

BSNL

Technology	Time Spent on 3G
3G	86.59 %

JIO

Technology	Time Spent on 4G
4G	**100%**

VIL

Technology	Time Spent on 4G
4G	**99.23 %**

Airtel

Data Statistics - Dynamic Complete SSA

Data KPIs – Overall	4G
Download Throughput (Mbps)	26.8
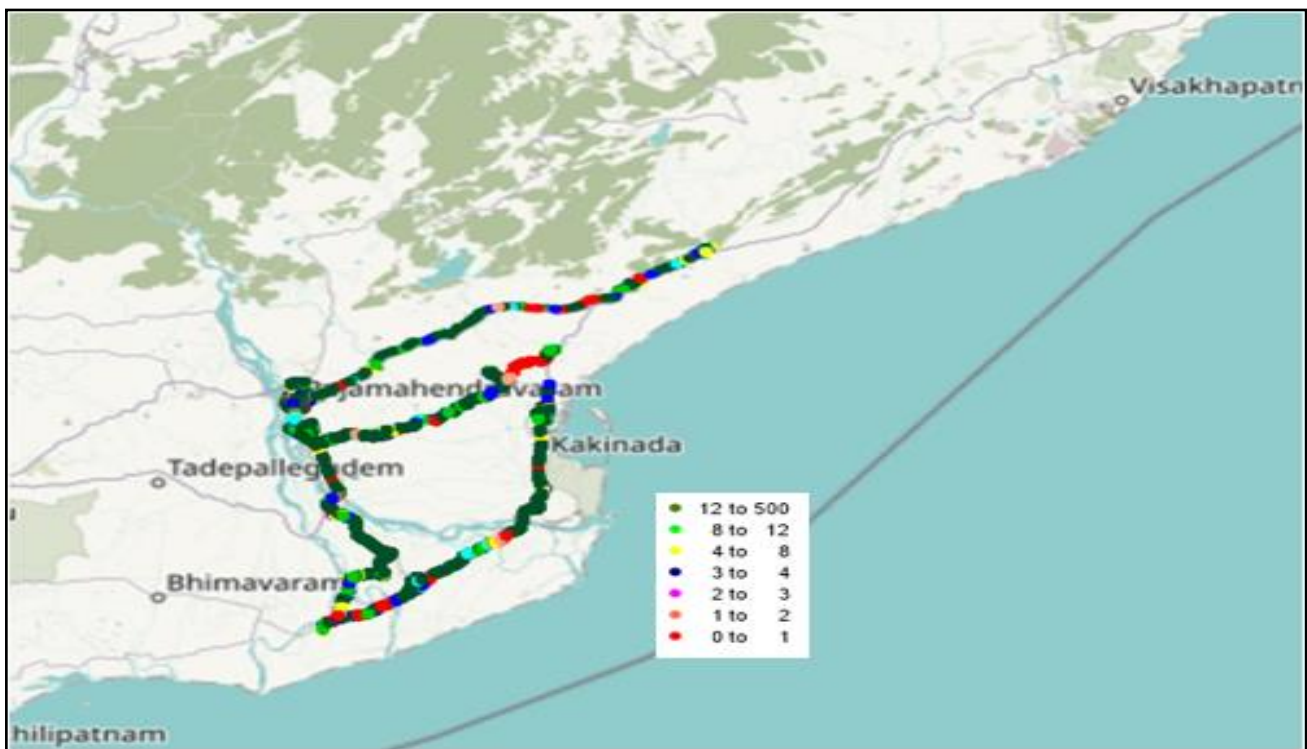
DL throughput	No of Sample	%
0 to 1 Mbps	472442	2.9%
1 to 2 Mbps	321266	2.0%
2 to 3 Mbps	460095	2.9%
3 to 4 Mbps	446601	2.8%
4 to 8 Mbps	1602880	9.9%
8 to 12 Mbps	1571122	9.7%
>12 Mbps	11256228	69.78%
Total	16130634	

BSNL

Data Statistics - Dynamic Complete SSA

Data KPIs - Overall	3G
Download Throughput (Mbps)	**1.81**

BSNL TRAI OADT Dynamic 3G DL-Physical_Throughput_DL (kbps)
- Below 1000.00 kbps (33218) 43.7%
- >= 1000.00 kbps to < 2.000 Mbps (14126) 18.6%
- >= 2.000 Mbps to < 3.000 Mbps (12546) 16.5%
- >= 3.000 Mbps to < 4.000 Mbps (7545) 9.9%
- >= 4.000 Mbps to < 8.000 Mbps (8638) 11.4%
- >= 8.000 Mbps to < 12.00 Mbps (6) 0.0%
- Above 12.00 Mbps (0) 0.0%
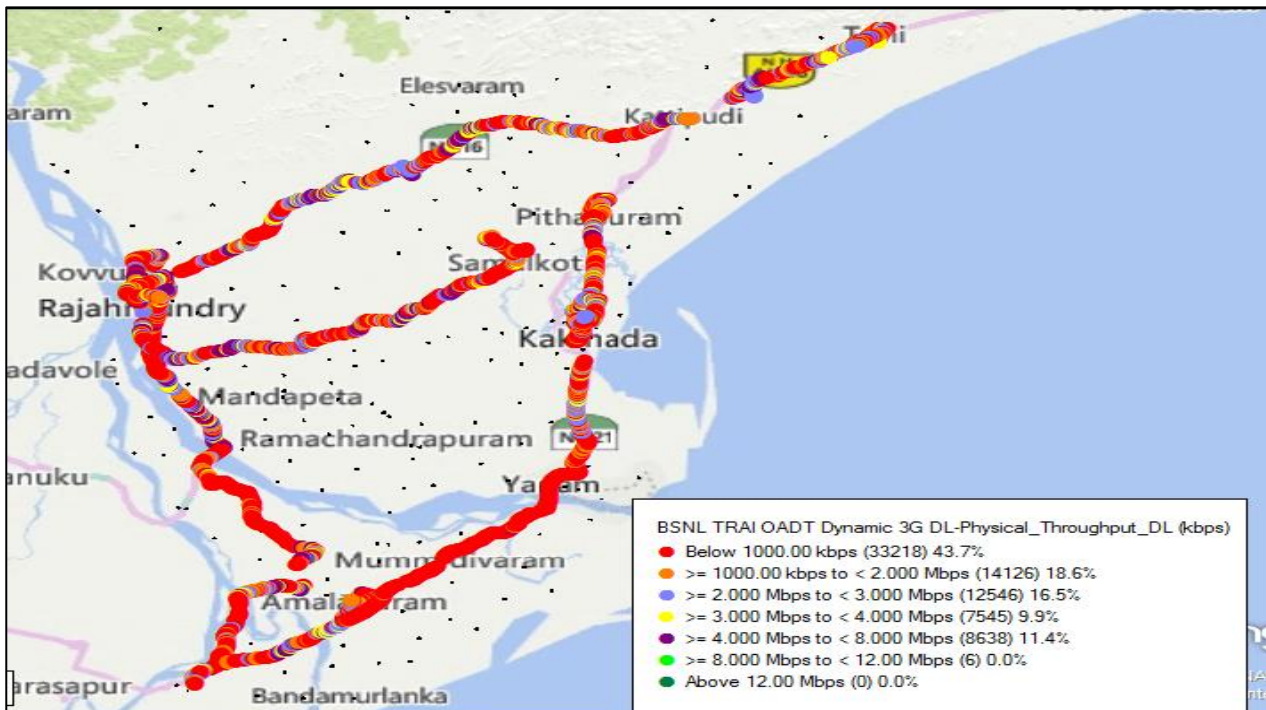
DL throughput	No of Samples	%
0 to 1 Mbps	33218	43.7
1 to 2 Mbps	14126	18.6
2 to 3 Mbps	12546	16.5
3 to 4 Mbps	7545	9.9
4 to 8 Mbps	8638	11.4
8 to 12 Mbps	6	0.0
>12 Mbps	0	0.0

JIO

Data Statistics - Dynamic Complete SSA

Data KPIs - Overall	4G
Download Throughput (Mbps)	15.185

LTE KPI MAC DL Throughput[Mbps]
EAT GODAVARI_DL_DRIVE

- 12 <= x (37.84%, 21191)
- 8 <= x < 12 (8.58%, 4805)
- 4 <= x < 8 (10.83%, 6064)
- 3 <= x < 4 (3.13%, 1753)
- 2 <= x < 3 (3.24%, 1813)
- 1 <= x < 2 (3.32%, 1860)
- 0 <= x < 1 (33.07%, 18518)
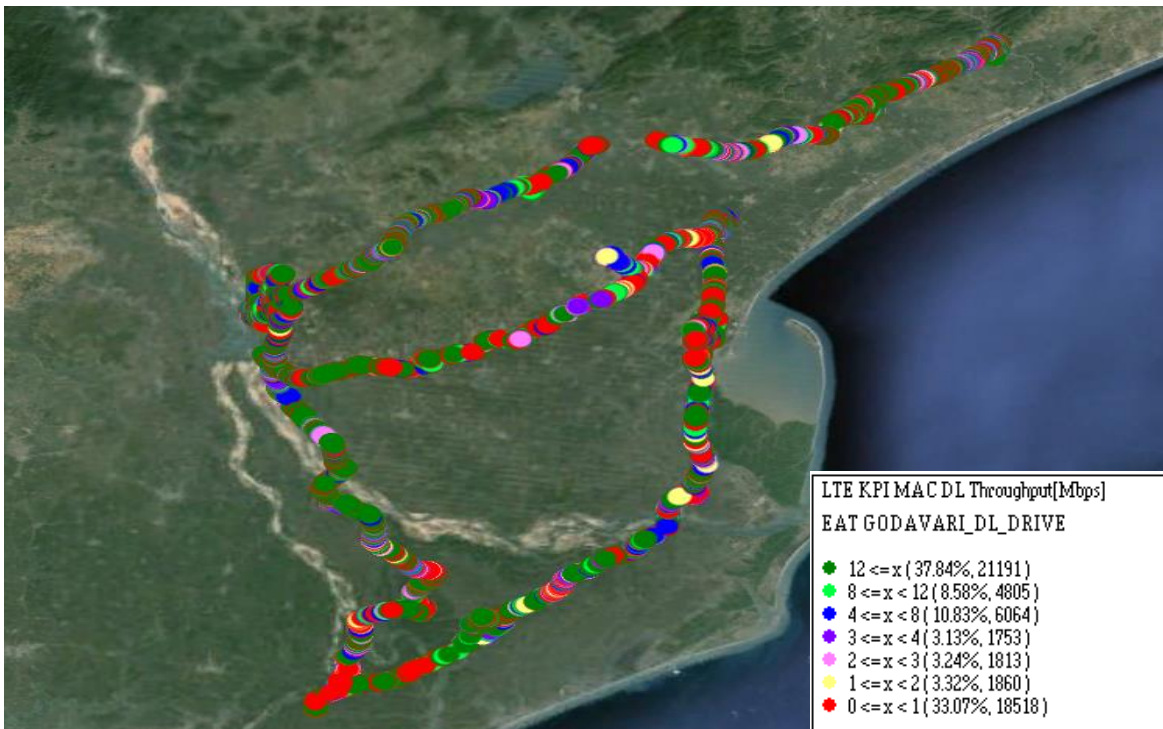
DL Throughput	No of Sample	%
0 to 1 Mbps	16448	24.42%
1 to 2 Mbps	5603	8.32%
2 to 3 Mbps	5780	8.58%
3 to 4 Mbps	5764	8.56%
4 to 8 Mbps	18126	26.91%
8 to 12 Mbps	11051	16.41%
>12 Mbps	4584	6.81%

VIL

Data Statistics - Dynamic Complete SSA

Data KPIs - Overall	4G
Download Throughput (Mbps)	37.13
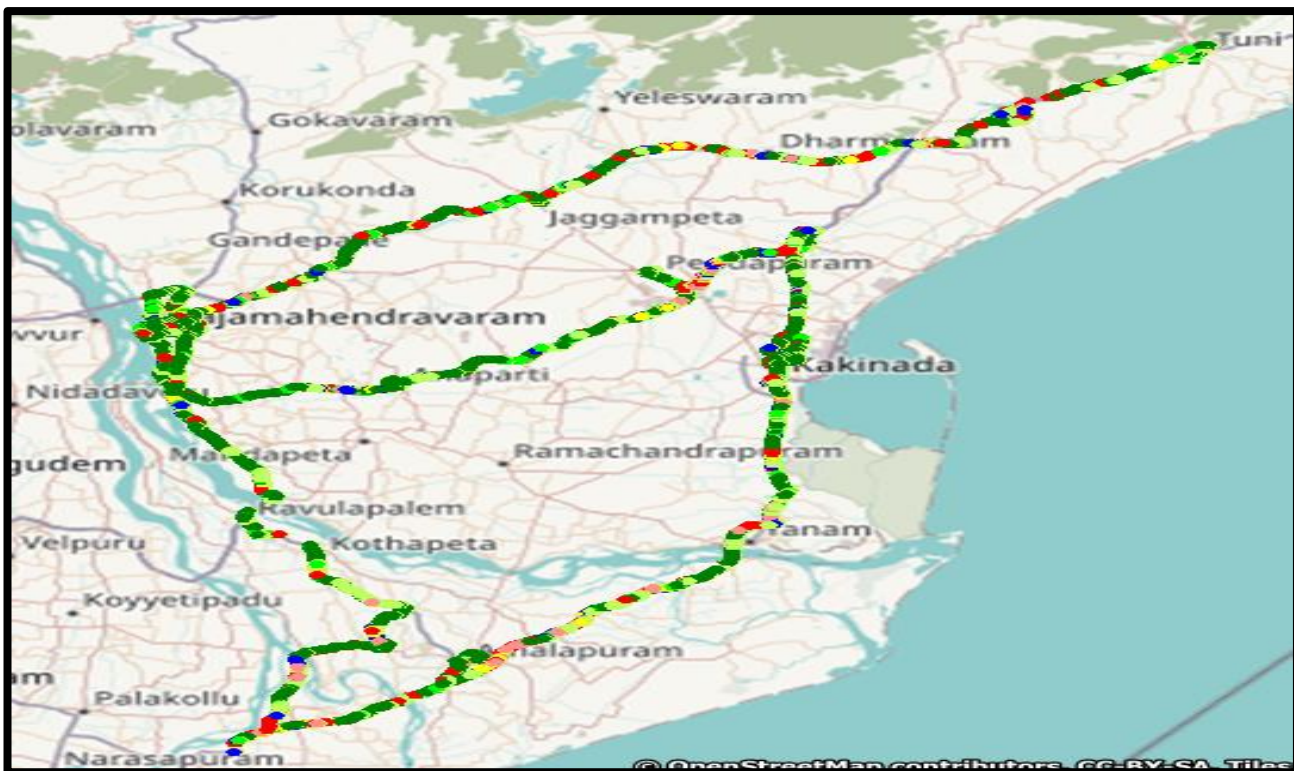
DL throughput	No of Sample	%
0 to 1 Mbps	1376736	5.00%
1 to 2 Mbps	797727	2.90%
2 to 3 Mbps	902965	3.28%
3 to 4 Mbps	928714	3.37%
4 to 8 Mbps	3278839	11.90%
8 to 12 Mbps	2663851	9.67%
>12 Mbps	17600886	63.89%
Total	27549718	100

Airtel

Technology - 4G	Annavaram Temple	RTC Complex - Kakinada	Govt. Hospital - Kakinada	RTC Complex - Amalapuram	Kotagummam Centre - Rajahmundry	RTC Complex - Rajahmundry	Railway Station - Rajahmundry
Download Speed Mbps	44.96	41.08	48.88	42.47	45.82	45.49	56.43
Upload Speed Mbps	28.67	21.04	28.84	19.64	13.96	19.68	37.14

BSNL

Technology - 4G	Annavaram Temple	RTC Complex - Kakinada	Govt. Hospital - Kakinada	RTC Complex - Amalapuram	Kotagummam Centre - Rajahmundry	RTC Complex - Rajahmundry	Railway Station - Rajahmundry
Download Speed Mbps	3.4	2.61	2.26	1.82	2.34	2.67	2.42
Upload Speed Mbps	1.05	1.9	2.11	1.98	1.32	1.89	1.86

JIO

Technology - 4G	Annavaram Temple	RTC Complex - Kakinada	Govt. Hospital - Kakinada	RTC Complex - Amalapuram	Kotagummam Centre - Rajahmundry	RTC Complex - Rajahmundry	Railway Station - Rajahmundry
Download Speed Mbps	45.48	84.89	61.73	43.61	65.96	NA	81.54
Upload Speed Mbps	20.16	25.34	17.49	16.14	25.03	NA	31.58

VIL

Technology - 4G	Annavaram Temple	RTC Complex - Kakinada	Govt. Hospital - Kakinada	RTC Complex - Amalapuram	Kotagummam Centre - Rajahmundry	RTC Complex - Rajahmundry	Railway Station - Rajahmundry
Download Speed Mbps	26.74	35.07	43.61	31.04	36.95	28.36	36.08
Upload Speed Mbps	5.70	5.84	12.81	3.82	4.82	4.35	5.88

	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	Ravulapalem-Tuni	NH-216		130
2	Vemagiri-Samarlakota		SH-17	48
3	Samarlakota-Pitapuram		SH-173	14
4	Pitapuram-Razole	NH-216		96
5	Ravulapalem - Ambajipeta		SH-18	28
6	Ambajipeta-P Gannavaram		SH-225	7
7	P. Gannavaram-Podalada		SH-15	14
8	Rajahmundry to Kakinada	NH 216	SH 17	70
9	Jonnada to Amalapuram	NH 216 NH 216A		40