Operator Assisted Drive Test Report

For

Thrissur

28th to 31st May 2024
Thrissur – Kuttippuram - Thrissur (NH/SH) - 160 Kms
(28th May 2024)
Thrissur & Surrounding Area - 276 Kms
(29th to 31th May 2024)

TRAI RO, Bengaluru

Key Performance Indicators:

- All TSPs have met the 2% QOS benchmark of Drop Call Rate except BSNL 3G.
- All TSPs have met the 3% QOS benchmark of Call Block Rate.
- All 3G/4G TSPs have met the Rx Quality except BSNL 3G & 4G, JIO 4G and VIL 4G .

The Operator Assisted Drive Test has been carried out by the Regional Office, Bangalore with the help of Service Providers from **28th to 31st May 2024**. The drive test covered the route of **436 Kms** including NH/SH of **160 Kms** & **6** hotspots. Approximately **550** calls were made for each of the **8** networks: three 2G networks, one 3G network, and four 4G networks covering four TSPs.

Overview   Voice Summary   Data Summary

Overview

Regional Office, TRAI Bengaluru conducted Operator Assisted Drive Test **28th to 31st May 2024** covering various locations in **Thrissur & Surrounding Region**. The performance of Airtel, BSNL, Vodafone Idea, and Jio were monitored across various technologies (2G, 3G, and 4G/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, Hand Over 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 a wait time of 10 sec between calls in all technologies. The drive test covered a drive route of approximately **436 KMs** including **NH/SH** of **160 Kms** over a period of 4 days from **28th to 31st May 2024**. Approximately 550 calls were made for each of the 8 networks: three 2G (Lock Mode) networks, one 3G (Dual mode) network, and four 4G networks covering 4 unique TSPs.

Data Tests: Dynamic data test (Test Data on Move) was conducted for **436 KMs** including **NH/SH** of **160 Kms** over a period of 4 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) network, and four 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 (Data Test on Move) Drive Route
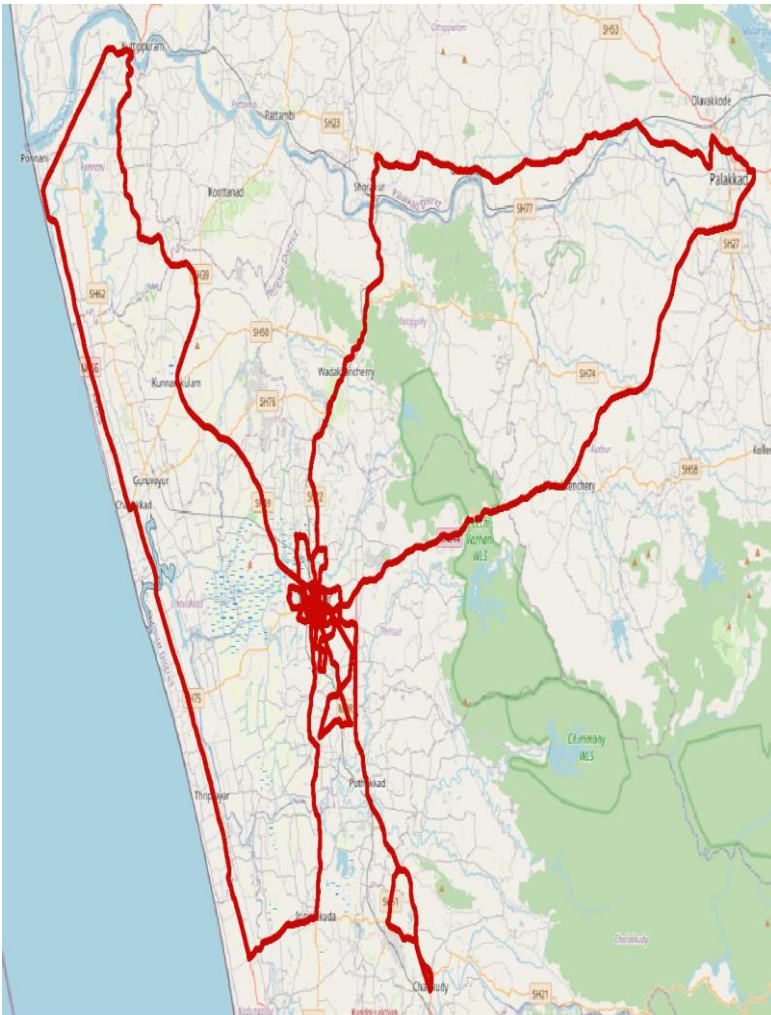
Areas covered	
Thrissur	Ottapalam
Irinjalakkuda	Kulappully
Perinnanam	Shoranur
Vadanapally	Wadakkanchery
Chavakkad	Thrissur Town
Ponnani	Nadathara
Kunnamkulam	Kuttanellur
Mannuthy	Amballur
Alathur	Chalakudy
Palakkad	Kodakara

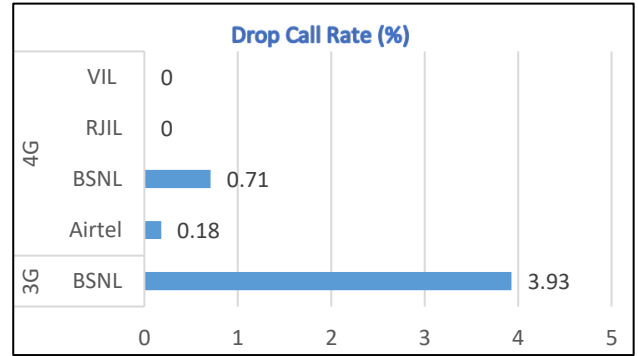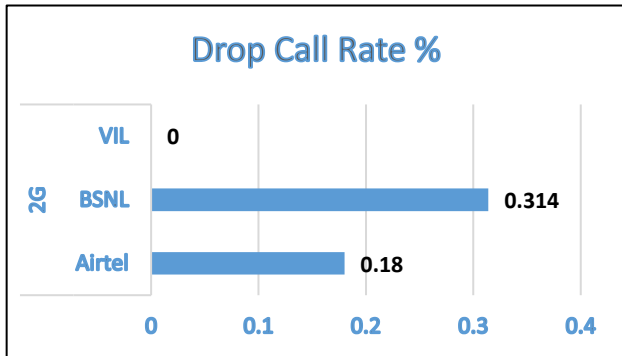## Data Service Test- Static Locations
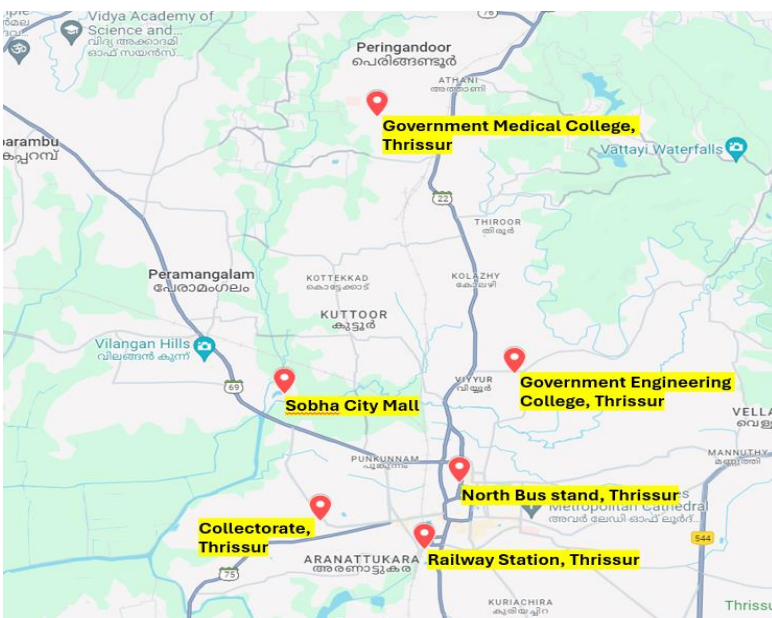
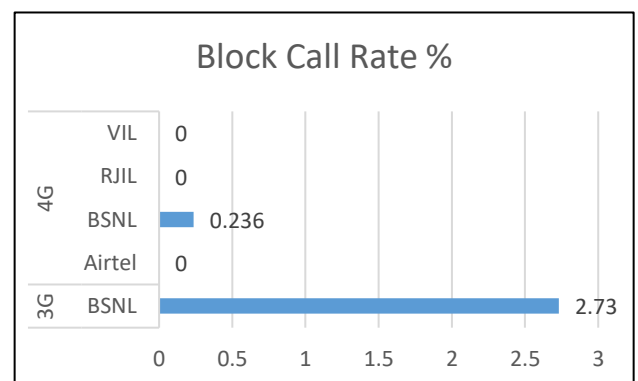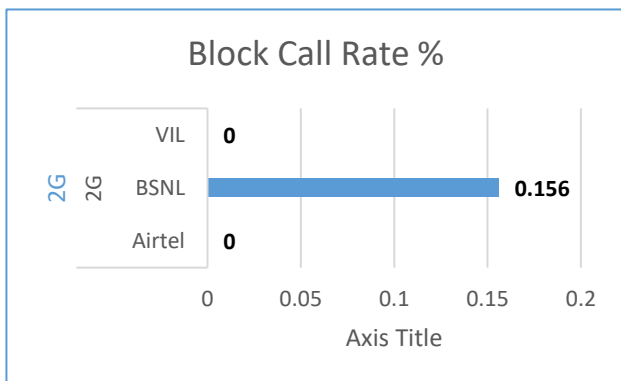| |
|---|
| 1. Collectorate, Thrissur |
| 2. North Bus stand, Thrissur |
| 3. Govt Medical College, Thrissur |
| 4. Govt Engineering College, Thrissur |
| 5. Sobha City Mall |
| 6. Thrissur Railway Station |

Voice Calls

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

Drop Call Rate (%)

Drop Call Rate %

2G:
- VIL: 0
- BSNL: 0.314
- Airtel: 0.18

Drop Call Rate (%)

4G:
- VIL: 0
- RJIL: 0
- BSNL: 0.71
- Airtel: 0.18

3G:
- BSNL: 3.93

Block Call Rate (%)

Block Call Rate %

2G:
- VIL: 0
- BSNL: 0.156
- Airtel: 0

Block Call Rate %

4G:
- VIL: 0
- RJIL: 0
- BSNL: 0.236
- Airtel: 0

3G:
- BSNL: 2.73

KPIs	2G			3G	4G			
	Airtel	BSNL	VIL	BSNL	Airtel	BSNL	RJIL	VIL
Drop Call Rate %	0.18	0.314	0	3.93	0.18	0.71	0	0
Block Call Rate %	0	0.156	0	2.73	0	0.236	0	0

a) All TSPs have met the 2% QOS benchmark of Drop Call Rate excepr BSNL 3G.
b) All TSPs have met the 3% QOS benchmark of Call Block.

Voice Calls

Coverage

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

TSPs	2G		
	Airtel	**BSNL**	**VIL**
Coverage%	91.65	85.51	96.14

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

TSPs	3G	4G			
	BSNL	**Airtel**	**BSNL**	**JIO**	**VIL**
Coverage %	89.60	99.23	96.44	99.30	98.28

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

TSPs	3G	4G			
	BSNL	**Airtel**	**BSNL**	**JIO**	**VIL**
Time Spent on 3G/4G%	38.42	100	61.58	100	99.91

Summary

Voice Call	2G		
	Airtel	**BSNL**	**VIL**
Call Attempt	559	637	645
Blocked Call Rate (%)	0	0.156	0
CSSR% (Accessibility)	100	99.68	100
Drop Call Rate (%)	0.18	0.314	0
Rx Quality (%)	97.97	98.79	97.35
Mobility HOSR (%)	98.12	99.06	98.63

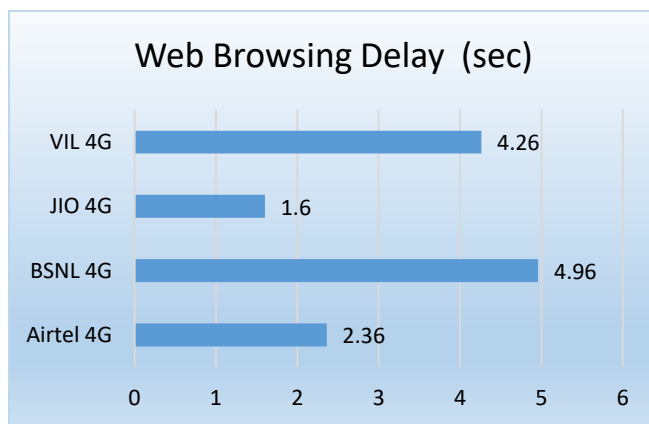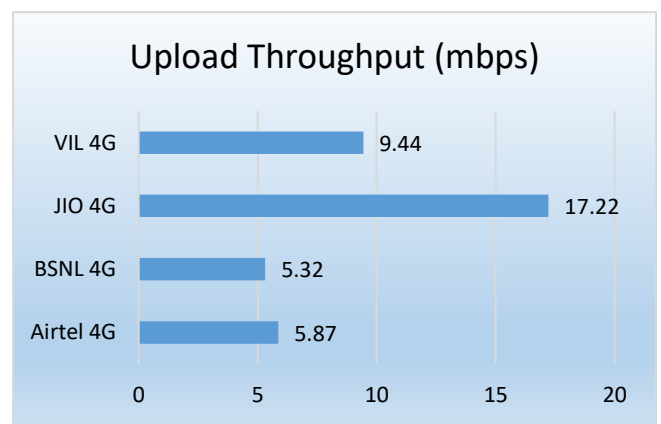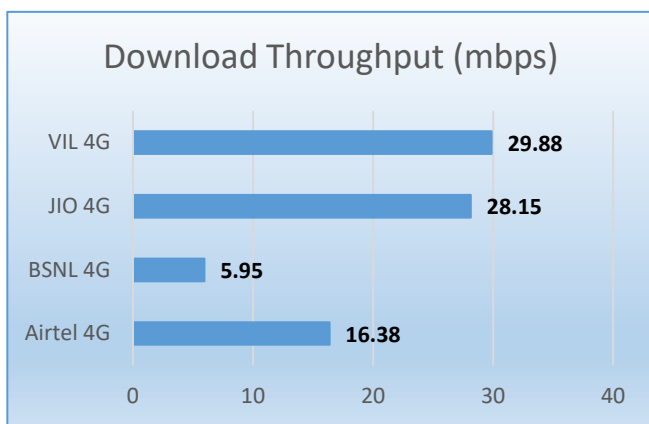| Voice Call	3G/4G				
	BSNL 3G	**Airtel 4G**	**BSNL 4G**	**JIO 4G**	**VIL 4G**
Call Attempt	183	569	423	568	667
Blocked Call Rate (%)	2.73	0	0.236	0	0
CSSR% (Accessibility)	97.27	100	99.76	100	100
Drop Call Rate (%)	3.93	0.18	0.71	0	0
Rx Quality (%)	75.4	97.6	89.16	93.7	90.41
Mobility HOSR (%)	100	100	99.87	99.44	99.61

Data Services Static

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

Data Download, Upload Performance (Mbps), Web Browsing delay, Video Streaming and Latency
3G/4G

3G/4G/ Network:

Download Throughput (mbps)

Network	Value
VIL 4G	29.88
JIO 4G	28.15
BSNL 4G	5.95
Airtel 4G	16.38

Upload Throughput (mbps)

Network	Value
VIL 4G	9.44
JIO 4G	17.22
BSNL 4G	5.32
Airtel 4G	5.87

Web Browsing Delay (sec)

Network	Value
VIL 4G	4.26
JIO 4G	1.6
BSNL 4G	4.96
Airtel 4G	2.36

Video Streaming Delay (sec)

Network	Value
VIL 4G	0.71
JIO 4G	0.31
BSNL 4G	15.22
Airtel 4G	3.36

Latency (msec)

Network	Value
VIL 4G	65
JIO 4G	35
BSNL 4G	103.19
Airtel 4G	71.3
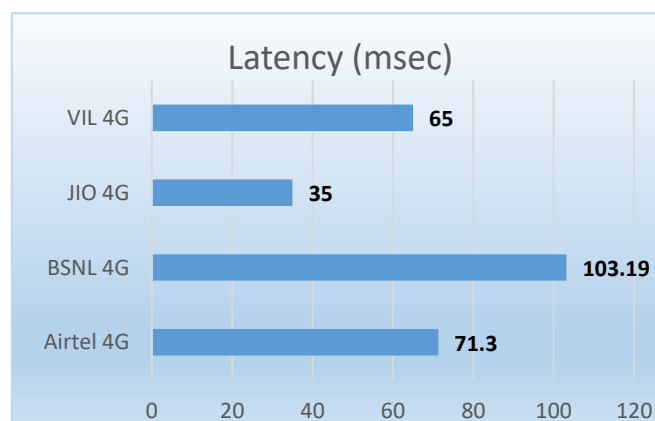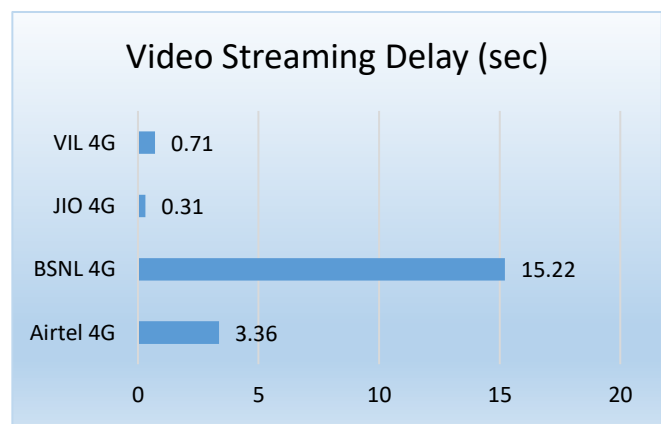
Summary

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	204.89	111.36	145.77
Upload Throughput (kbps)	106	55.112	85.08
Web Browsing Delay (sec)	33.36	52.29	44.63
Latency (msec)	397.37	334.23	452

Data Services Static	4G			
	Airtel 4G	BSNL 4G	JIO 4G	VIL 4G
Download Throughput (mbps)	16.38	5.95	28.15	29.88
Upload Throughput (mbps)	5.87	5.32	17.22	9.44
Web Browsing Delay (sec)	2.36	4.96	1.6	4.26
Video Streaming Delay (sec)	3.36	15.22	0.31	0.71
Latency (msec)	71.3	103.19	35	65

Data Services Dynamic (Data Test on Move)	3G	4G			
	BSNL	Airtel	BSNL	JIO	VIL
Download Throughput (mbps)	1.888	18.3	3.022	9.36	16.91
Upload Throughput (mbps)	1.799	6.81	2.444	3.68	12.54

Summary

Data Services Static – Collectorate	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	198.24	137.25	177.39
Upload Throughput (kbps)	109.6	58.614	78.21
Web Browsing Delay (sec)	32.6	56.49	41.43
Latency (ms)	398.8	297	347

Data Services Static – Collectorate	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	10.92	13.98	33.86	20.19
Upload Throughput (Mbps)	1.76	8.39	25.28	12.99
Web Browsing Delay (sec)	3.46	1.78	1.84	3.91
Video Streaming Delay (sec)	14.93	0.91	0.32	0.75
Latency (ms)	114	73.2	37	75.6

Data Services Static – North Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	208.92	135.34	158.82
Upload Throughput (kbps)	119.58	65.14	89.048
Web Browsing Delay (sec)	27.73	47.83	44.98
Latency (msec)	310.2	178	451

Data Services Static - North Bus Stand	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	1.92	11.8	24.48	42.16
Upload Throughput (Mbps)	4.67	6.6	19.92	9.354
Web Browsing Delay (sec)	6.23	2.57	1.34	4.378
Video Streaming Delay (sec)	20.24	0.74	0.27	0.796
Latency (ms)	108	64	33	69

Summary

Data Services Static – Govt Medical College	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	224	100.19	114.42
Upload Throughput (kbps)	76.18	49.64	84.224
Web Browsing Delay (sec)	28.97	52.69	54.532
Latency (ms)	388	193.00	316

Data Services Static – Govt Medical College	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	8.38	11.03	18.04	35.32
Upload Throughput (Mbps)	7.71	5.2	4.56	9.12
Web Browsing Delay (sec)	4.48	2.43	1.44	4.57
Video Streaming Delay (sec)	10.21	15.01	0.3	0.61
Latency (ms)	118.44	68	34	50

Data Services Static – Govt Engineering college	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	204.62	121.36	153.04
Upload Throughput (kbps)	103.62	64.06	95.63
Web Browsing Delay (sec)	29.15	47.08	43.548
Latency (msec)	385	206	595

Data Services Static – Govt Engineering college	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	5.43	6.43	31.98	27.73
Upload Throughput (Mbps)	5.51	3.63	10.4	5.98
Web Browsing Delay (sec)	6.69	3.12	1.58	4.43
Video Streaming Delay (sec)	22.72	0.72	0.31	0.66
Latency (ms)	104	83	34	71

Summary

Data Services Static – Sobha city mall	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	203.32	73.00	96.83
Upload Throughput (kbps)	115.12	49.38	83.59
Web Browsing Delay (sec)	29.64	48.15	42.75
Latency (ms)	502	943.00	570

Data Services Static – Sobha city mall	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	5.67	38.21	24.34	24.62
Upload Throughput (Mbps)	5.84	8.6	19.32	14.69
Web Browsing Delay (sec)	4.76	2.51	1.54	3.8
Video Streaming Delay (sec)	11.26	2.02	0.31	0.64
Latency (ms)	75	67	34	57

Data Services Static – Railway Station	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	190.26	101.05	174.1
Upload Throughput (kbps)	111.88	43.83	79.81
Web Browsing Delay (sec)	52.09	61.48	40.55
Latency (msec)	400.2	188.40	433

Data Services Static – Railway Station	4G			
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	3.41	16.85	36.19	29.26
Upload Throughput (Mbps)	6.43	2.78	23.85	4.47
Web Browsing Delay (sec)	4.19	1.73	1.62	4.34
Video Streaming Delay (sec)	11.98	0.74	0.33	0.78
Latency (ms)	99	73	38	65

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	91.65
BSNl 2G	85.51
VIL 2G	96.14
BSNL 3G	89.60
Airtel 4G	99.23
BSNL 4G	96.44
Jio 4G	99.30
VIL 4G	98.28

Coverage Distribution %
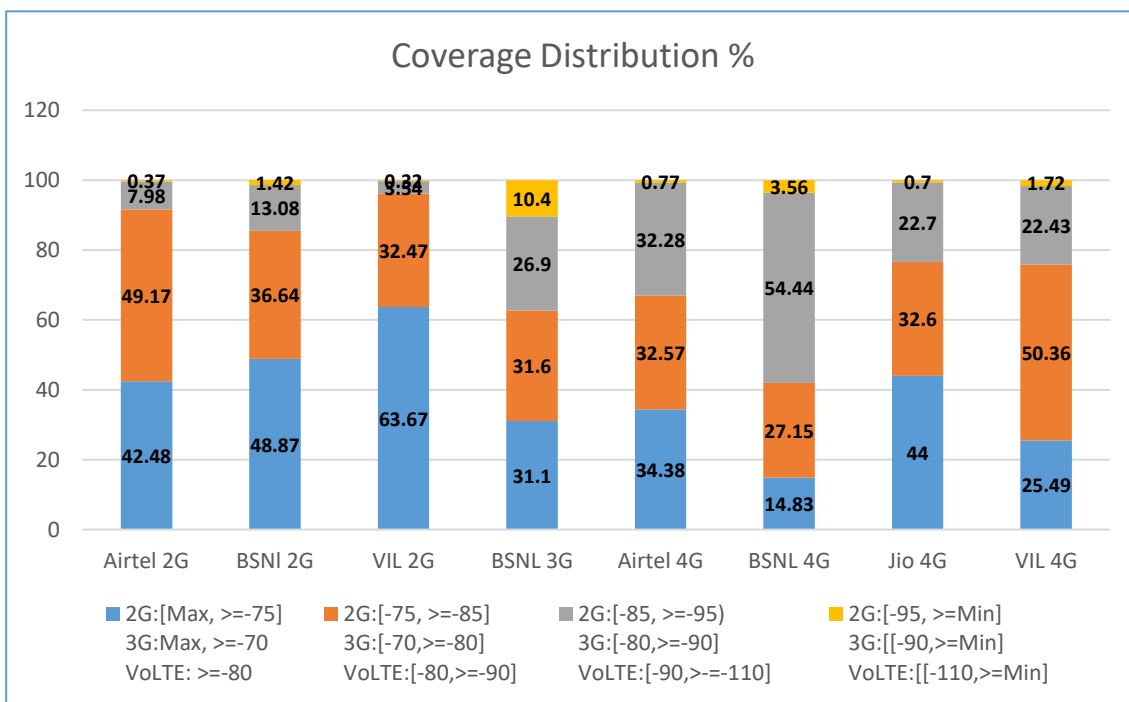
AIRTEL

Technology	Coverage Rate %
2G	91.65
4G	99.23

2G	**4G**
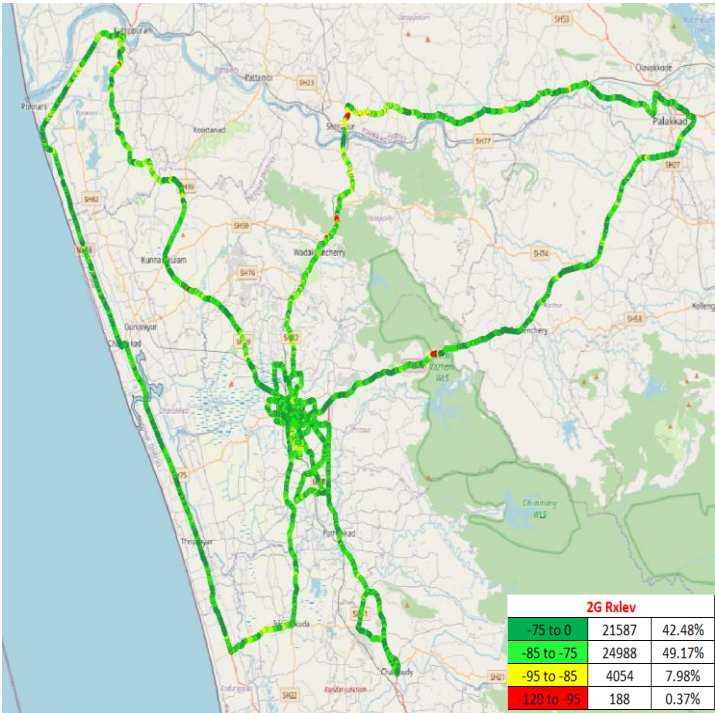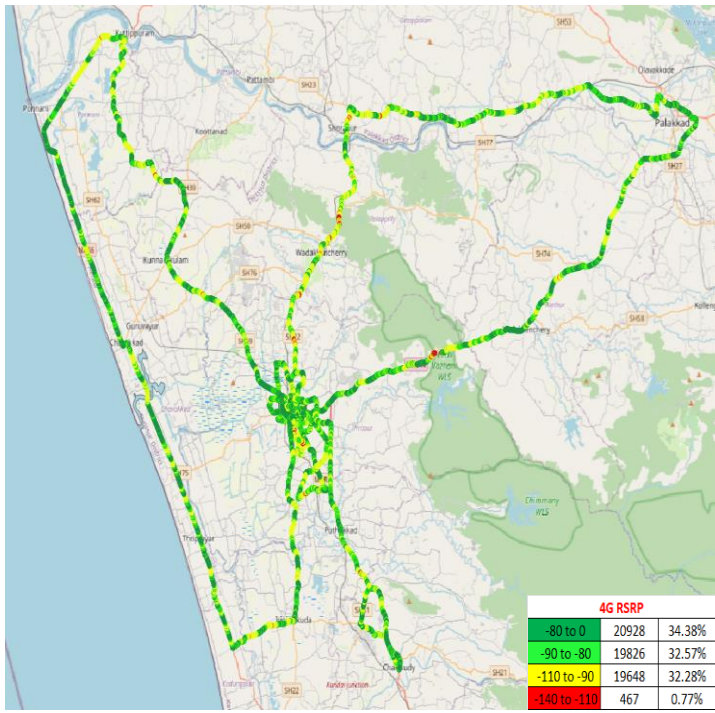
2G		
Overall RxLevel	**# Samples**	**% PDF**
[Max, >=-75]	21587	42.48
[-75, >=-85)	24988	49.17
[-85, >=-95)	4053	7.98
[-95, >=Min)	188	0.37
Total	50817	100

4G		
Overall RSRP	**# Samples**	**% PDF**
[Max, >=-80]	20928	34.38
[-80, >=-90)	19826	32.57
[-90, >=-110)	19648	32.28
[-110, >=Min)	467	0.77
Total	60869	100

BSNL

Technology	Coverage Rate %
2G	85.51
3G	89.60
4G	96.44
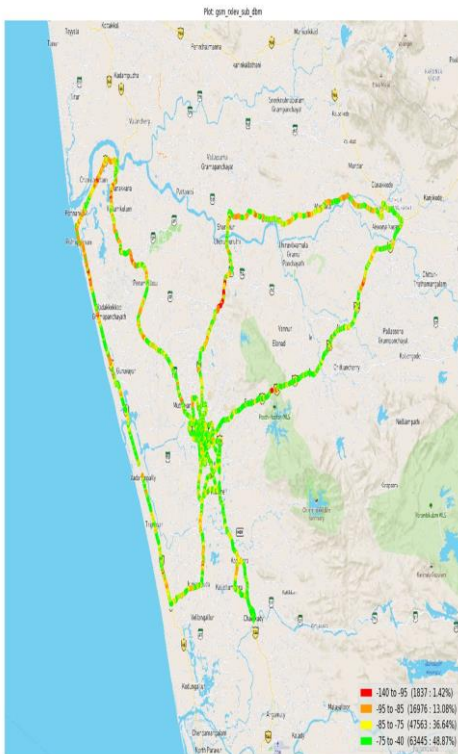
2G	3G	4G
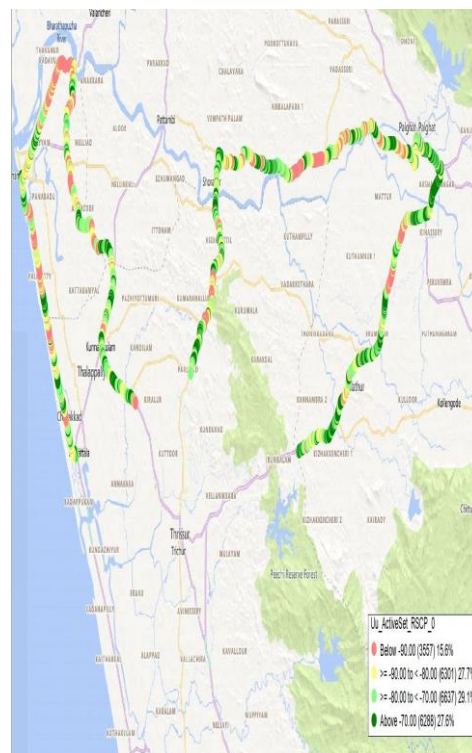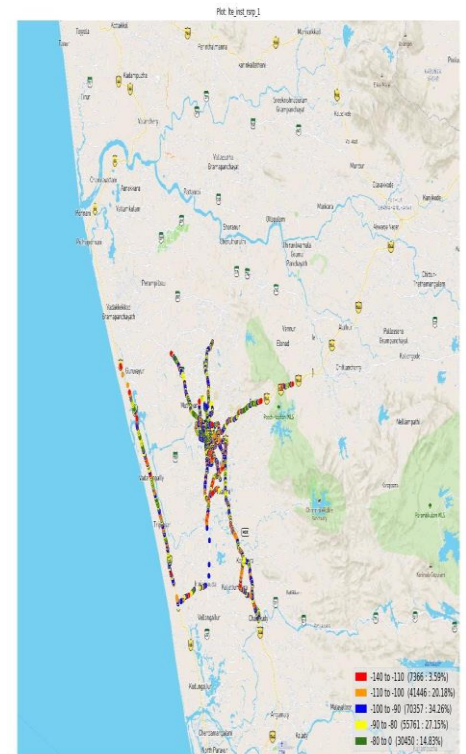
2G		
Overall RxLevel	# Samples	% PDF
[Max, >=-75]	63445	48.87
[-75, >=-85]	47563	36.64
[-85, >=-95]	16976	13.08
[-95, >=Min]	1837	1.42
Total	129821	100

3G		
Overall RSCP	# Samples	% PDF
[Max, >=-70]	6386	31.1
[-70, >=-80]	6504	31.6
[-80, >=-90]	5522	26.9
[-90, >=Min]	2145	10.4
Total	20557	100

4G		
Overall RSRP	# Samples	% PDF
[Max, >=-80]	30450	14.83
[-80, >=-90]	55761	27.15
[-90, >=-110]	111803	54.44
[-110, >=Min]	7366	3.56
Total	205380	100

JIO

Technology	Coverage Rate %
4G	99.30

4G		
Overall RSRP	**# Samples**	**% PDF**
[Max, >=-80]	25985	44.0
[-80, >=-90)	19210	32.6
[-90, >=-110)	13396	22.7
[-110, >=Min)	405	0.7
Total	58996	100

VIL

Technology	Coverage Rate %
2G	96.14
4G	98.28

2G	**4G**
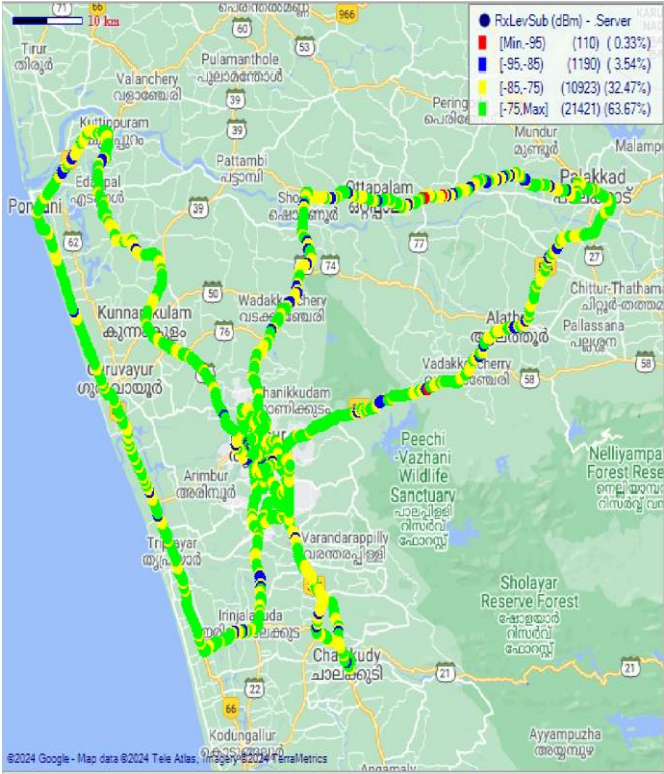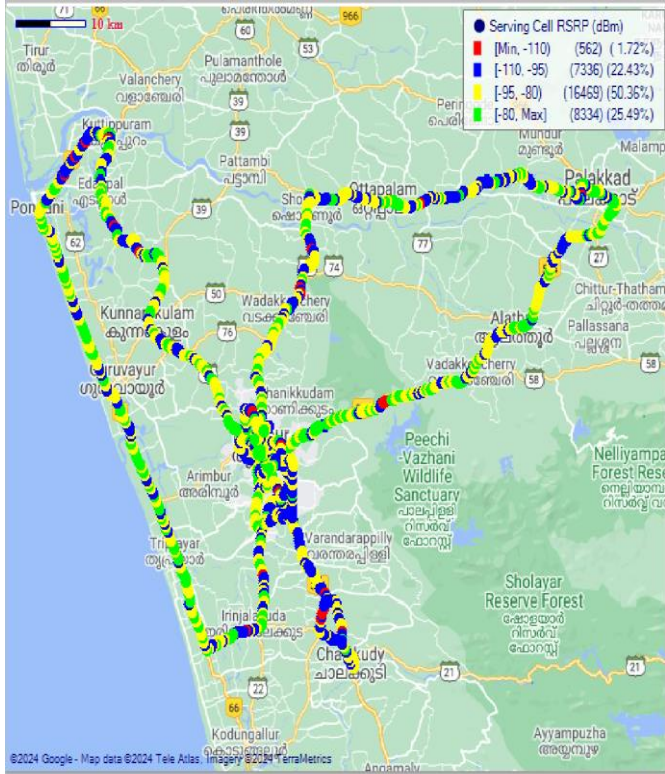
2G		
Overall RxLevel	**# Samples**	**% PDF**
[Max, >=-75]	21421	63.67
[-75, >=-85)	10923	32.47
[-85, >=-95)	1190	3.54
[-95, >=Min)	110	0.32
Total	33644	100

4G		
Overall RSRP	**# Samples**	**% PDF**
[Max, >=-80]	8334	25.49
[-80, >=-90)	16469	50.36
[-90, >=-110)	7336	22.43
[-110, >=Min)	562	1.72
Total	32701	100

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 4G is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP	Rx Quality %
Airtel 2G	97.97
BSNl 2G	98.79
VIL 2G	97.35
BSNL 3G	75.40
Airtel 4G	97.60
BSNL 4G	89.16
Jio 4G	93.70
VIL 4G	90.41

Rx Quality

Legend:
- Rx Quality (grey)
- Rx Quality 2G:[>5] 3G:[EcNo<-14 dBm] VoLTE:[SINR<=0] (orange)
- Rx Quality 2G:[<=5] 3G:[EcNo>=-14 dBm] VoLTE:[SINR>0] (blue)
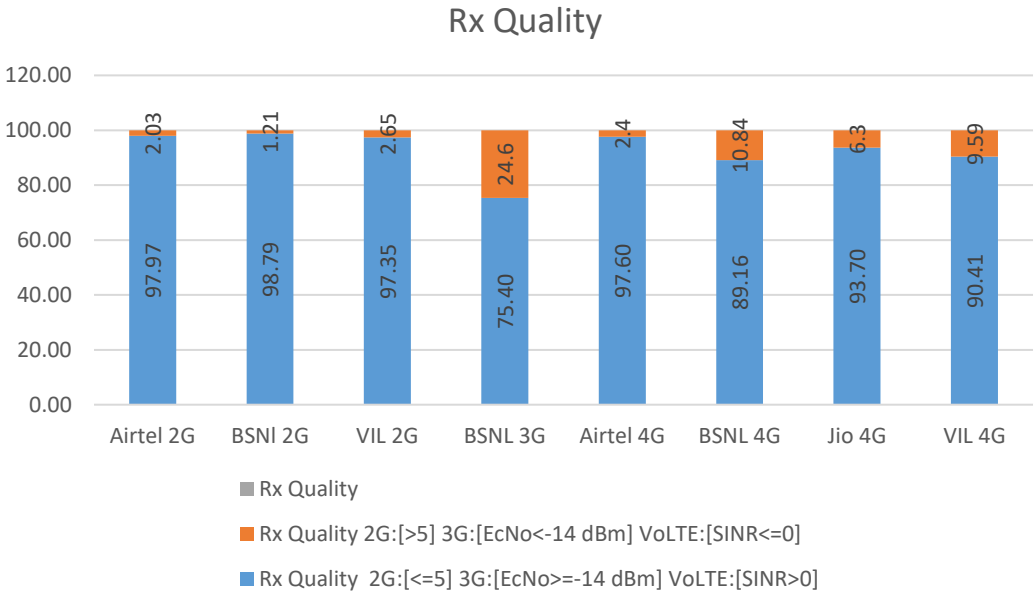
Airtel

Technology	Rx Quality %
2G	97.97
4G	97.60

2G

2G Rx quality		
0 to 2	47053	92.59%
2 to 3	1417	2.79%
3 to 4	832	1.64%
4 to 5	484	0.95%
5 to 20	1031	2.03%

4G

4G SINR		
25 to 0	1458	2.40%
0 to 5	9518	15.64%
5 to 10	18144	29.81%
10 to 15	15598	25.63%
15 to 30	16145	26.53%
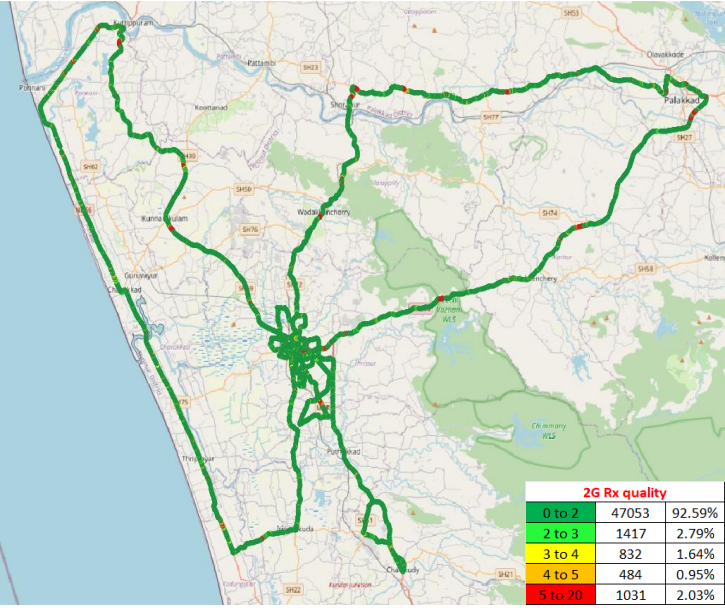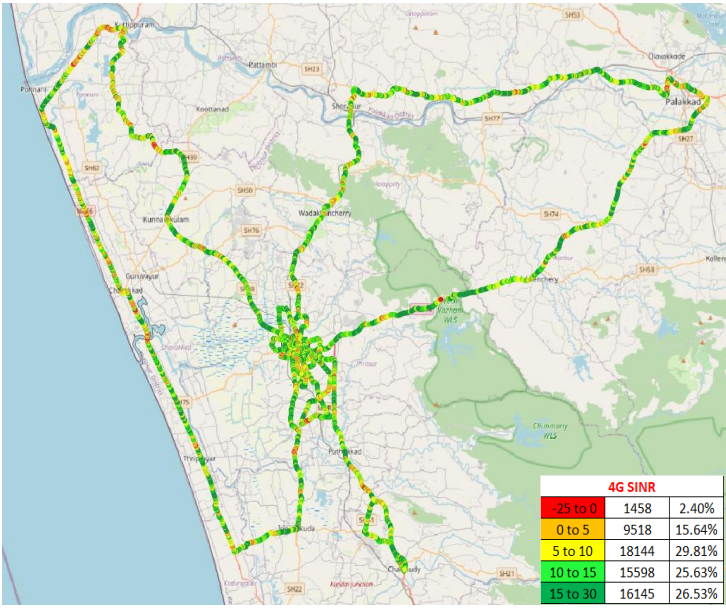
Overall Rx Quality	# Samples	% PDF
(Min, <=2)	47053	92.59
(2, <=3)	1417	2.79
(3 , <=4)	832	1.64
(4 , <=5)	484	0.95
(5 , <=Max)	1031	2.03
Total	50817	100

Overall SINR	# Samples	% PDF
(Min, <=0)	1458	2.40
(0, <=5)	9518	15.64
(5, <=10)	18144	29.81
(10, <=15)	15598	25.63
(15, <=Max)	16145	26.53
Total	60863	

BSNL

Technology	Rx Quality %
2G	98.79
3G	75.40
4G	89.16
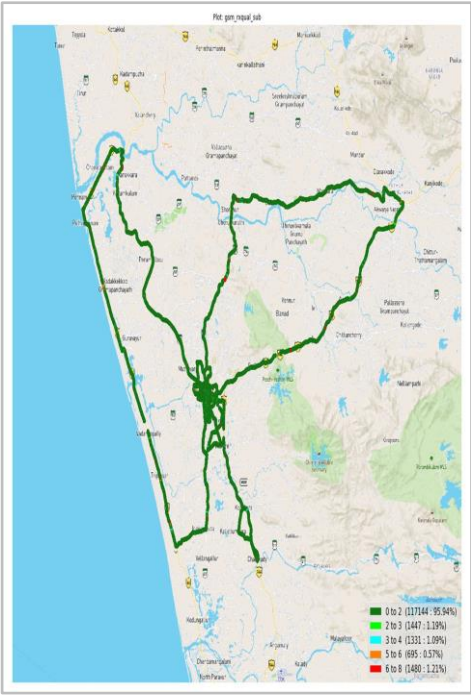
2G	**3G**	**4G**
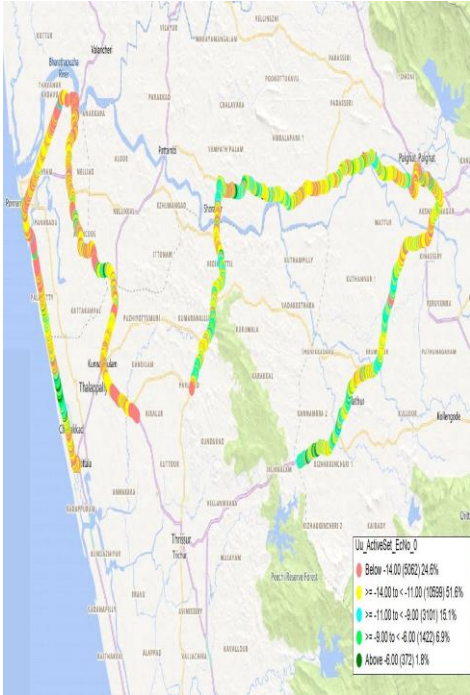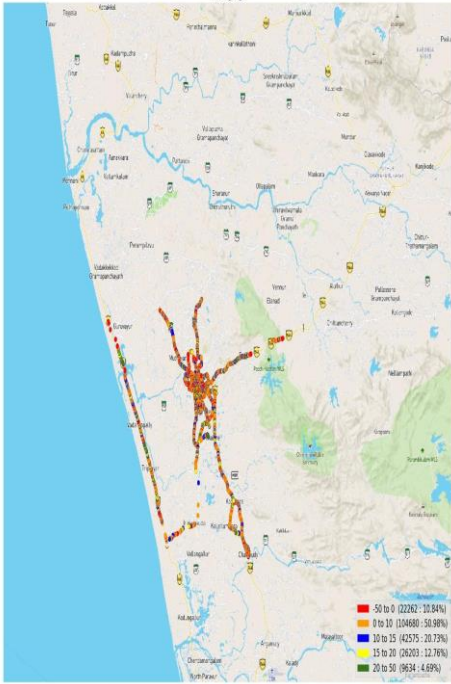
Overall Rx Quality	# Samples	% PDF
(Min, <=2)	117144	95.94
(2, <=3)	1447	1.19
(3 , <=4)	1331	1.09
(4 , <=5)	695	0.57
(5 , <=Max)	1480	1.21
Total	**122097**	**100**

Overall EcNo	# Samples	% PDF
(Max, <=-6)	372	1.8
(-6, <=-9)	1422	6.9
(-9, <=-11)	3101	15.1
(-11, <=-14)	10599	51.6
(-14, <= Min)	5062	24.6
Total	**20566**	**100**

Overall SINR	# Samples	% PDF
(MIN, <=0)	22262	10.84
(0, <=5)	41872	20.4
(5, <=10)	62808	30.58
(10, <=15)	42575	20.73
(15, <= Min)	35837	17.45
Total	**205354**	**100**

JIO

Technology	Rx Quality (%)
4G/4G	93.7
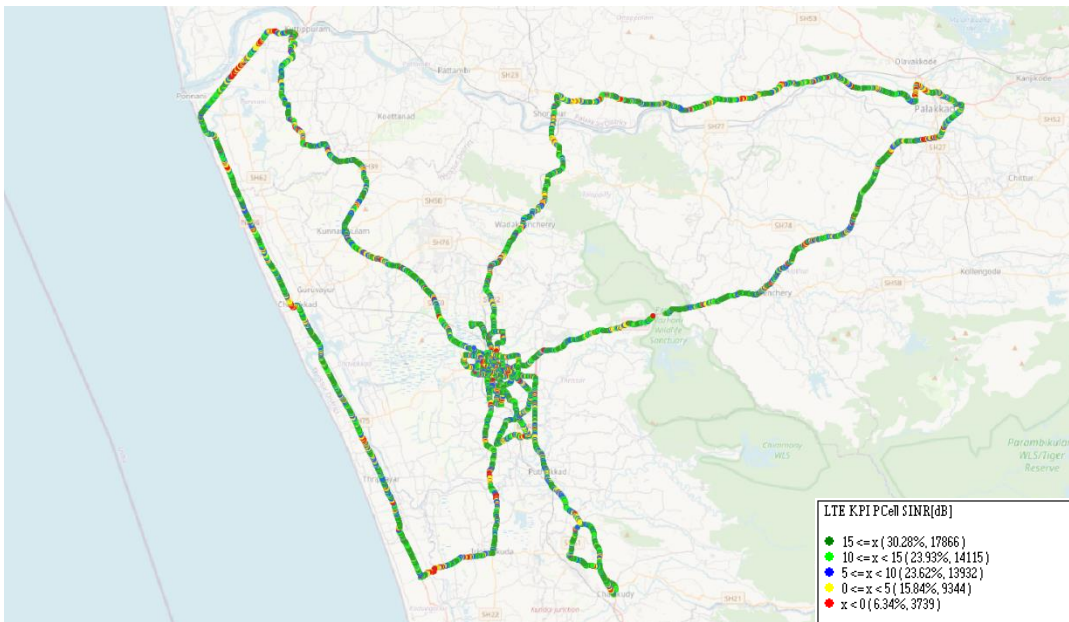
Overall SINR	# Samples	% PDF
(Min, <=0)	3739	6.3
(0, <=5)	9344	15.8
(5, <=10)	13932	23.6
(10, <=15)	14115	23.9
(15, <=Max)	17866	30.3
Total	58996	100

VIL

Technology	Rx Quality %
2G	97.35
4G	90.41

2G

4G
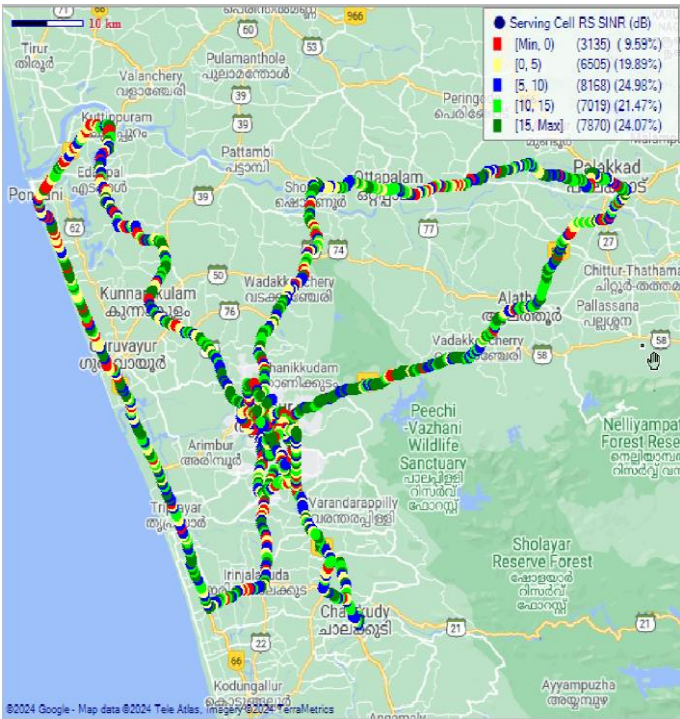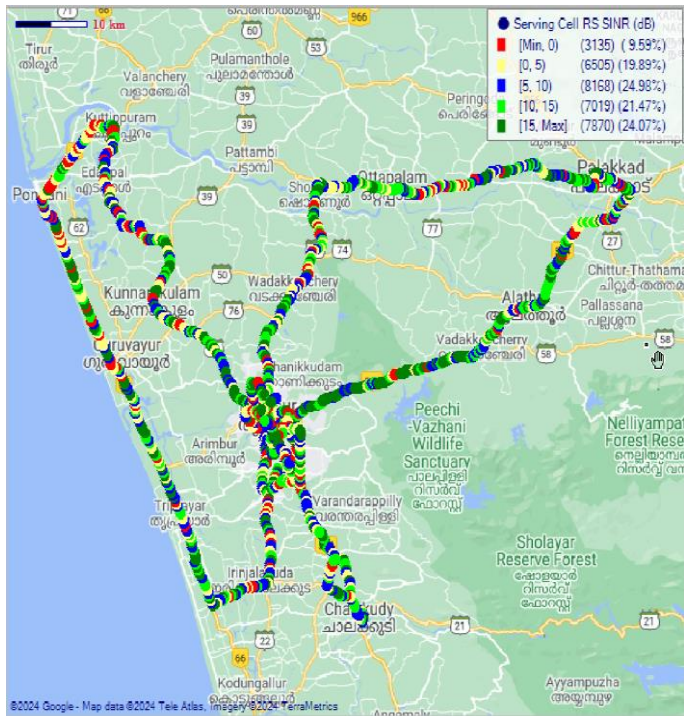
Overall Rx Quality	# Samples	% PDF
(Min, <=2)	23959	83.54%
(2, <=3)	1605	5.59%
(3 , <=4)	1709	5.96%
(4 , <=5)	647	2.26%
(5 , <=Max)	761	2.65%
Total	28681	100.00%

Overall SINR	# Samples	% PDF
(Min, <=0)	3135	9.59
(0, <=5)	6505	19.89
(5, <=10)	8168	24.98
(10, <=15)	7019	21.47
(15, <=Max)	7870	24.07
Total	32697	100

TSP	Time Spent on 3G/4G %
BSNL 3G	38.42
Airtel 4G	100
BSNL 4G	61.58
Jio 4G	100
VIL 4G	99.91

Percentage of time spent on 3G/4G/4G
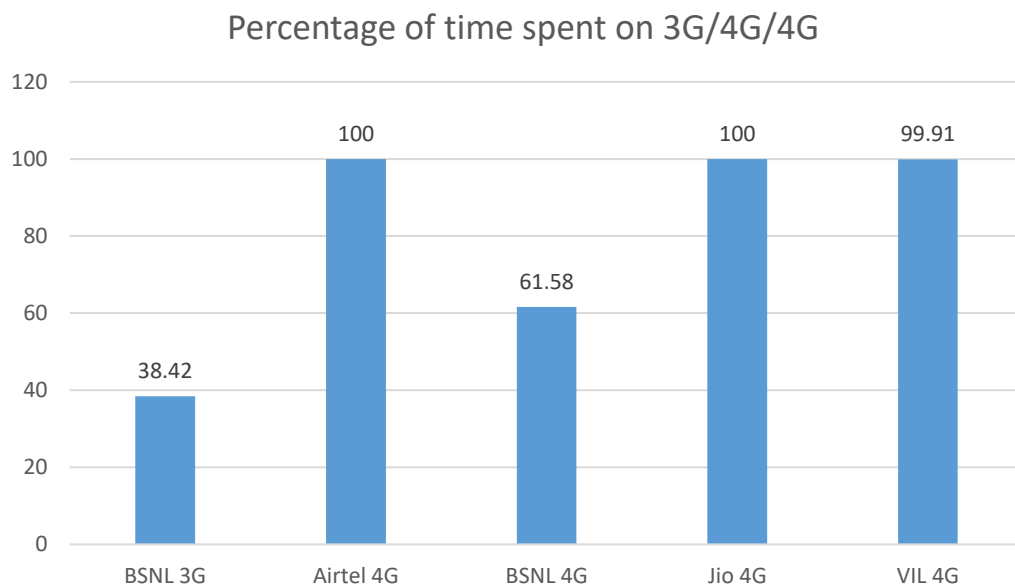
Airtel

Technology	Time Spent %
4G	100
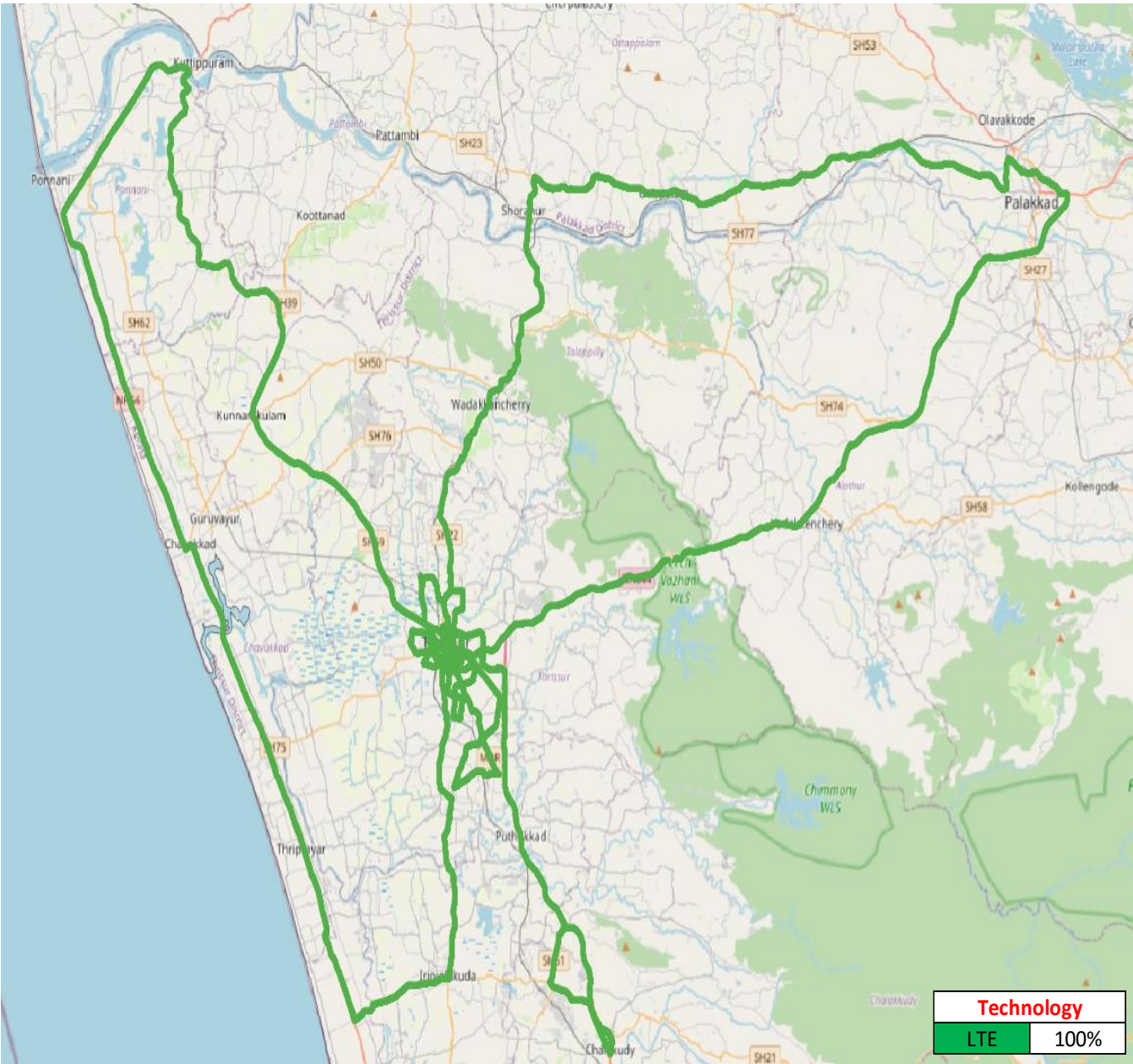
Technology	
LTE	100%

BSNL

Technology	Time Spent %
3G	38.42
4G	61.58
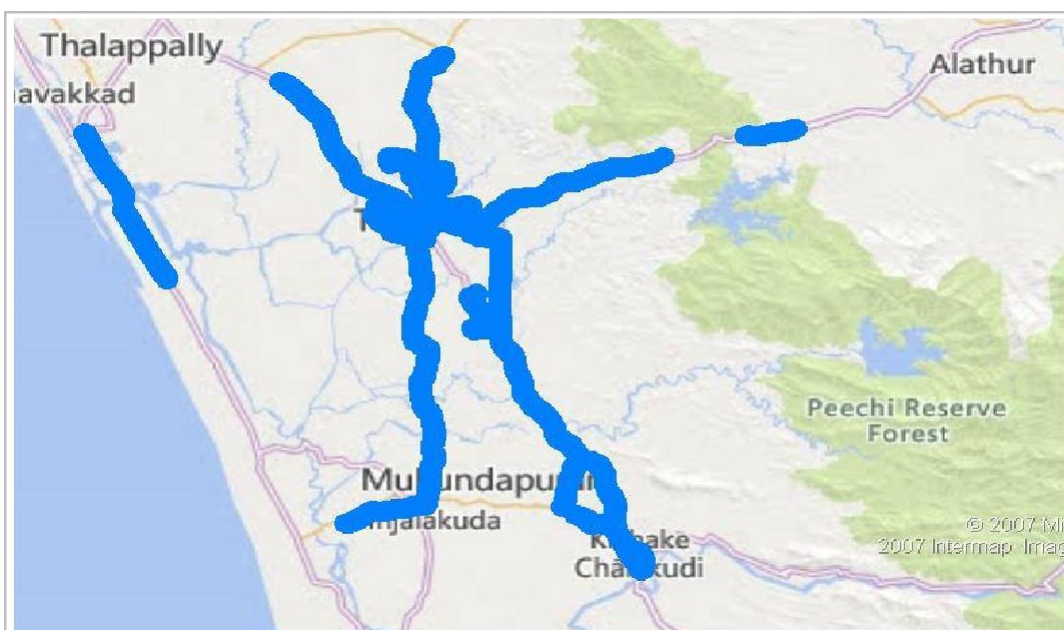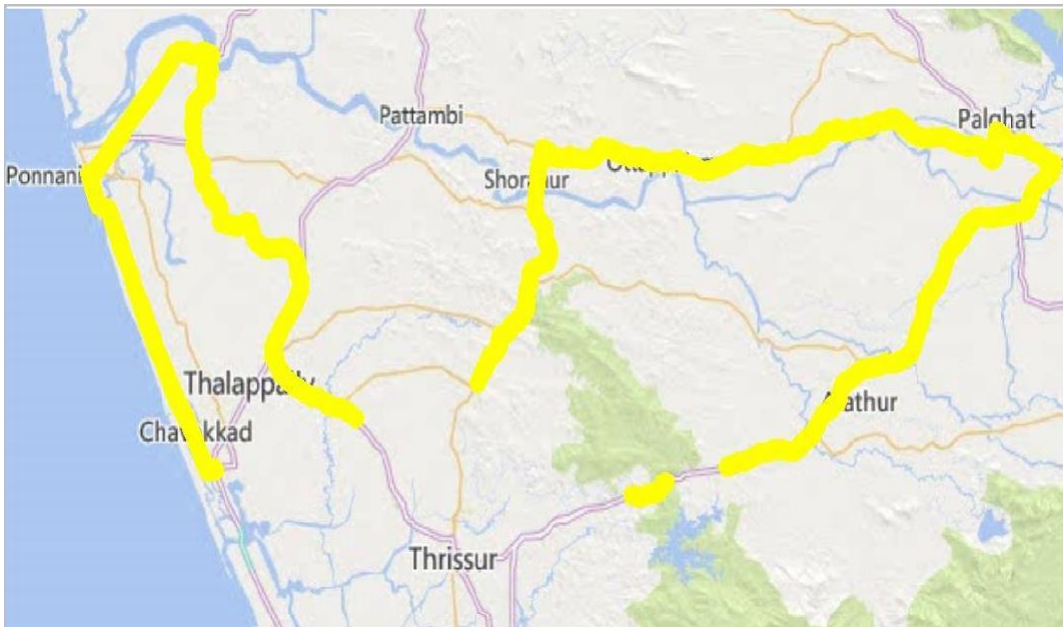
JIO

Technology	Time Spent %
4G	100

VIL

Technology	Time Spent
4G	99.91
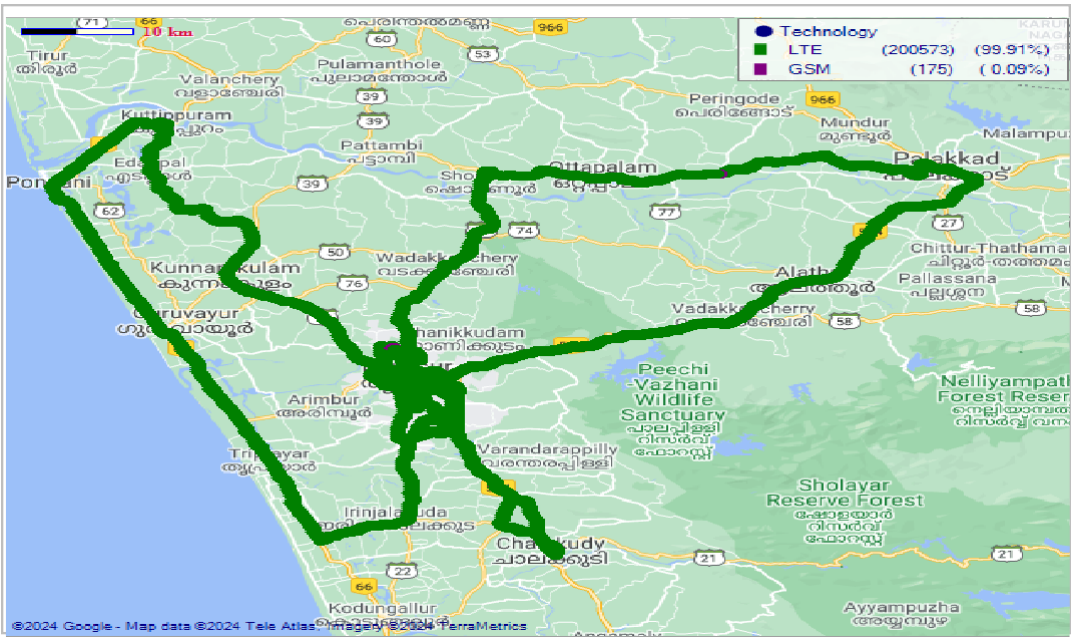
Airtel

DL Throughput map legend:

DL Throughput		
0 to 1	9293	15.26%
1 to 2	1149	1.89%
2 to 3	1531	2.51%
3 to 4	1596	2.62%
4 to 8	6105	10.02%
8 to 12	6497	10.67%
12 to 80	34744	57.04%
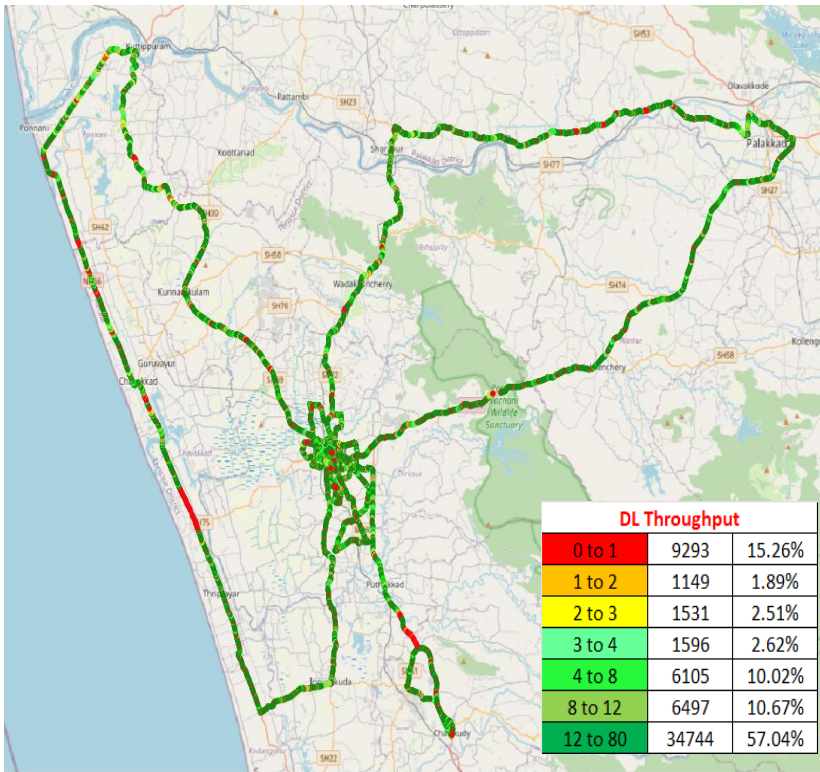
DL throughput	No. of Samples	%
0 to 1 Mbps	9293	15.26
1 to 2 Mbps	1149	1.89
2 to 3 Mbps	1531	2.51
3 to 4 Mbps	1596	2.62
4 to 8 Mbps	6101	10.02
8 to 12 Mbps	6497	10.67
>12 Mbps	34744	57.04
Total	94836	100

UL Throughput map legend:

UL Throughput		
0 to 256	16570	30.77%
256 to 512	1940	3.60%
512 to 1024	4891	9.08%
1024 to 2028	5856	10.87%
2048 to 3072	5267	9.78%
3072 to 4096	4360	8.10%
4096 to 30000	14968	27.79%
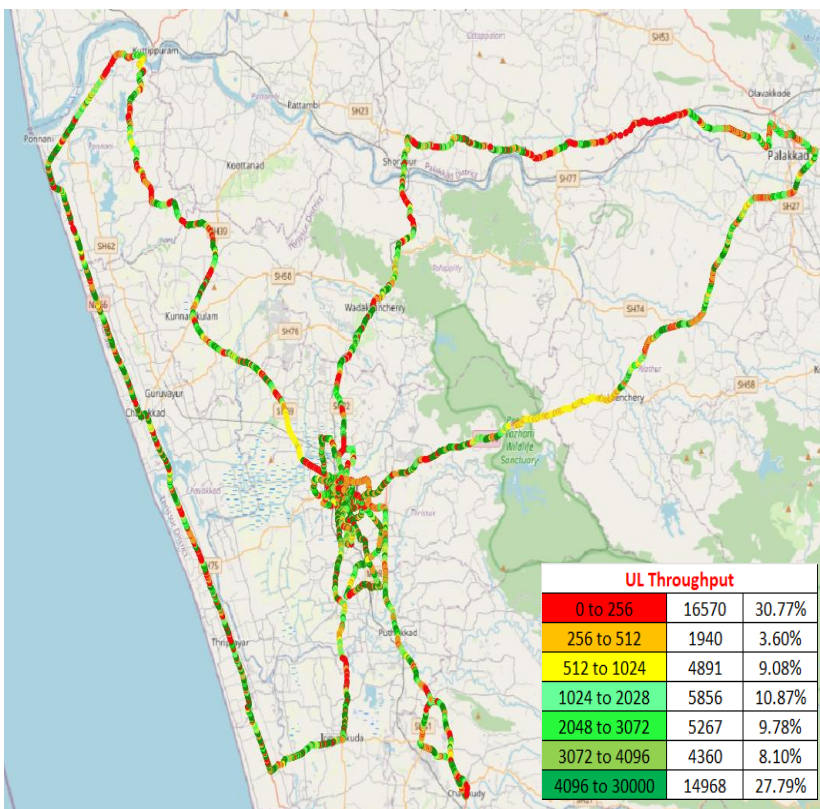
UL throughput	No. of samples	%
0 to 256 Kbps	67799	74.39
250 to 512 Kbps	2668	2.93
512 Kbps to 1 Mbps	2959	3.25
1 to 2 Mbps	3107	3.41
2 to 3 Mbps	2738	3.00
3 to 4 Mbps	2585	2.84
>4 Mbps	9290	10.19
Total	91146	100

BSNL
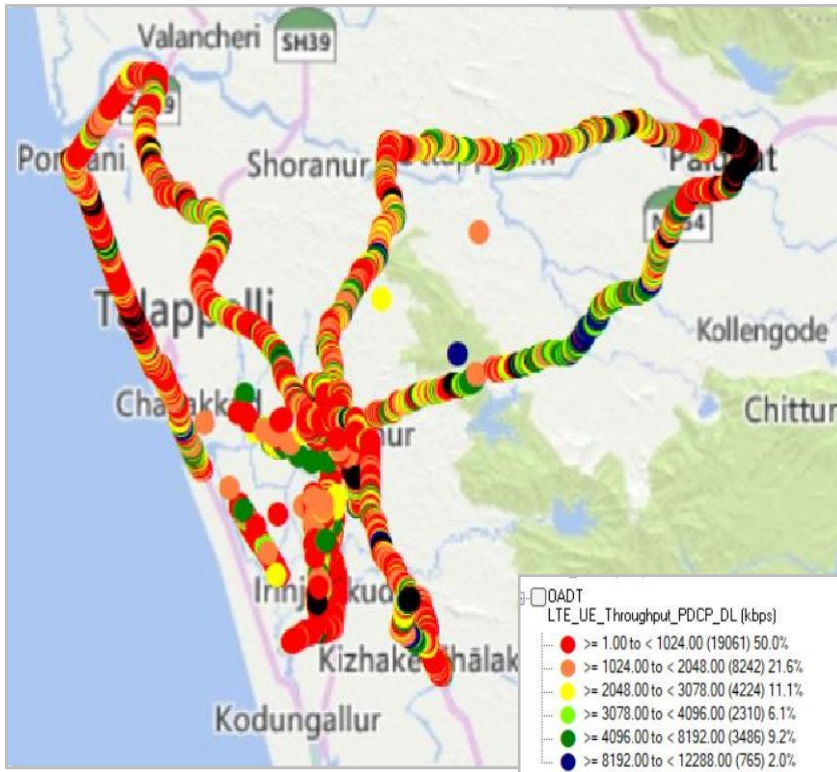
DL throughput	No. of Samples	%
0 to 1 Mbps	26816	45.6
1 to 2 Mbps	12886	21.9
2 to 3 Mbps	7053	12.0
3 to 4 Mbps	3972	6.8
4 to 8 Mbps	6093	10.4
8 to 12 Mbps	1955	3.3
>12 Mbps	0	0
Total	58775	100
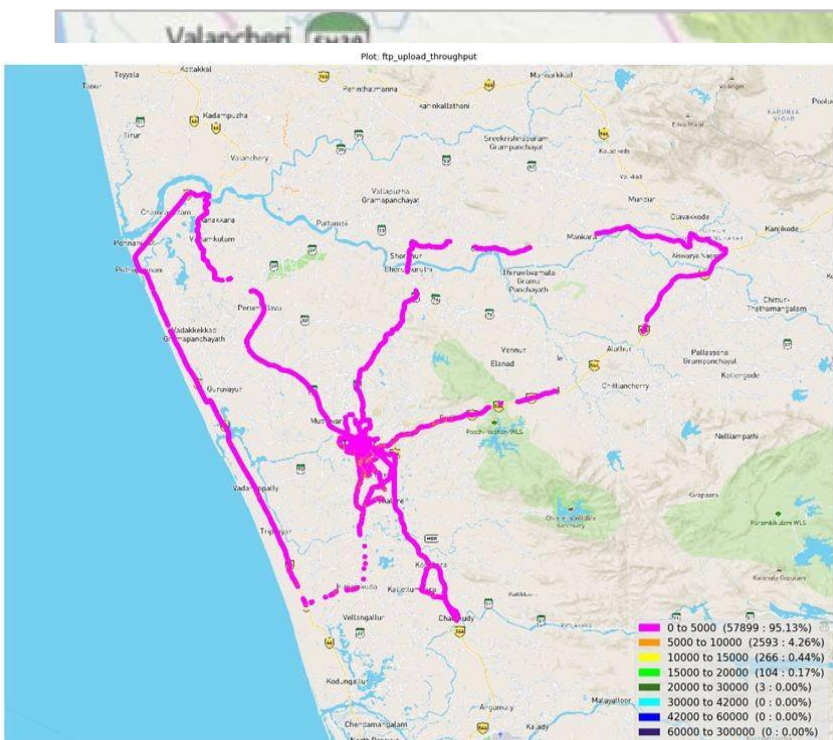
UL throughput	No. of Samples	%
0 to 1 Mbps	2228	3.63
1 to 2 Mbps	20360	33.2
2 to 3 Mbps	8372	13.65
3 to 4 Mbps	8014	13.06
4 to 8 Mbps	7228	11.79
8 to 12 Mbps	7168	11.69
>12 Mbps	7951	12.97
Total	61321	100

JIO
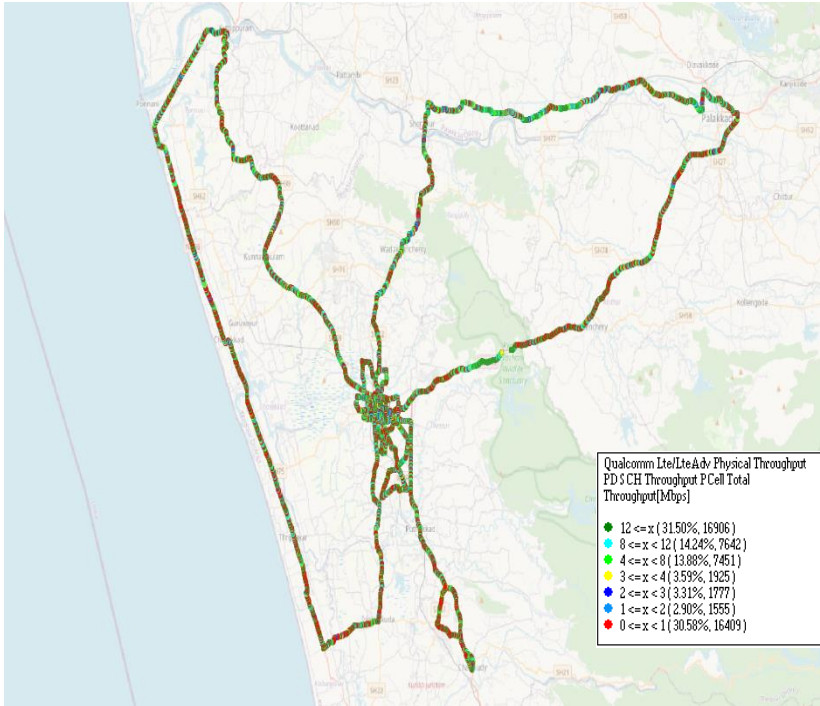
DL throughput	No. of Samples	%
0 to 1 Mbps	16409	31
1 to 2 Mbps	1555	3
2 to 3 Mbps	1777	3
3 to 4 Mbps	1925	4
4 to 8 Mbps	7451	14
8 to 12 Mbps	7642	14
>12 Mbps	16906	32
Total	**53665**	**100**
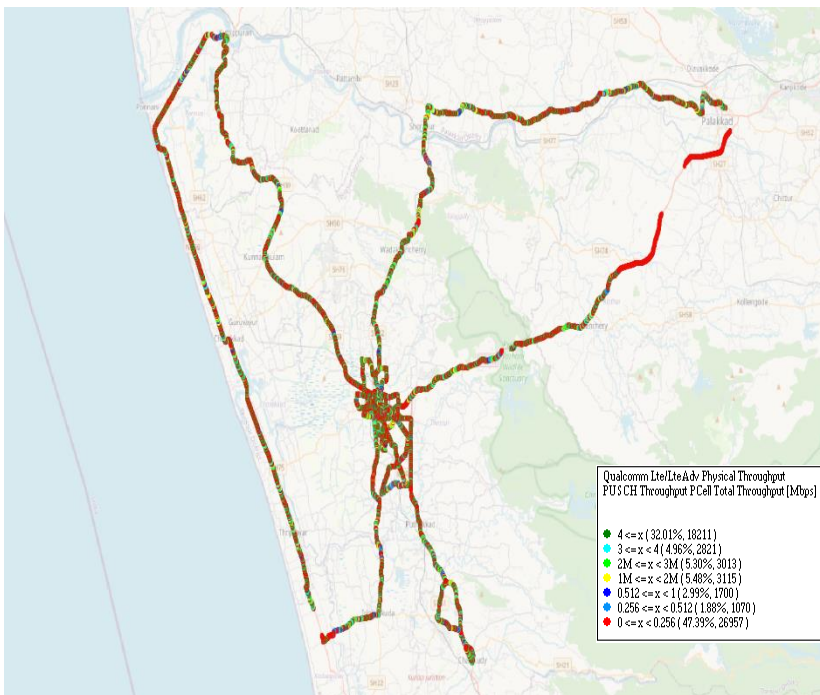
UL throughput	No. of samples	%
0 to 256 kbps Mbps	26957	47.39
256 to 512 kbps	1070	1.88
512 Kbps to 1 Mbps	1700	2.99
1 to 2 Mbps	3115	5.48
2 to 3 Mbps	3013	5.30
3 to 4 Mbps	2821	4.96
>4Mbps	18211	32.01
Total	**56887**	**100**

VIL
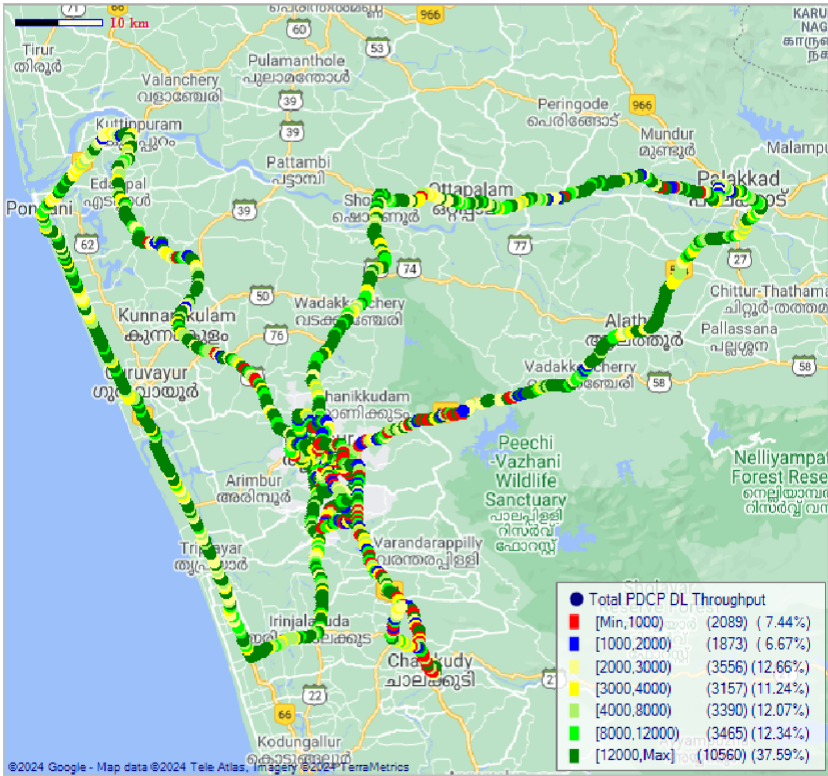
DL throughput	No. of Samples	%
0 to 1 Mbps	2089	7.44
1 to 2 Mbps	1873	6.67
2 to 3 Mbps	3556	12.66
3 to 4 Mbps	3157	11.24
4 to 8 Mbps	3390	12.07
8 to 12 Mbps	3465	12.34
>12 Mbps	10560	37.59
Total	28090	100
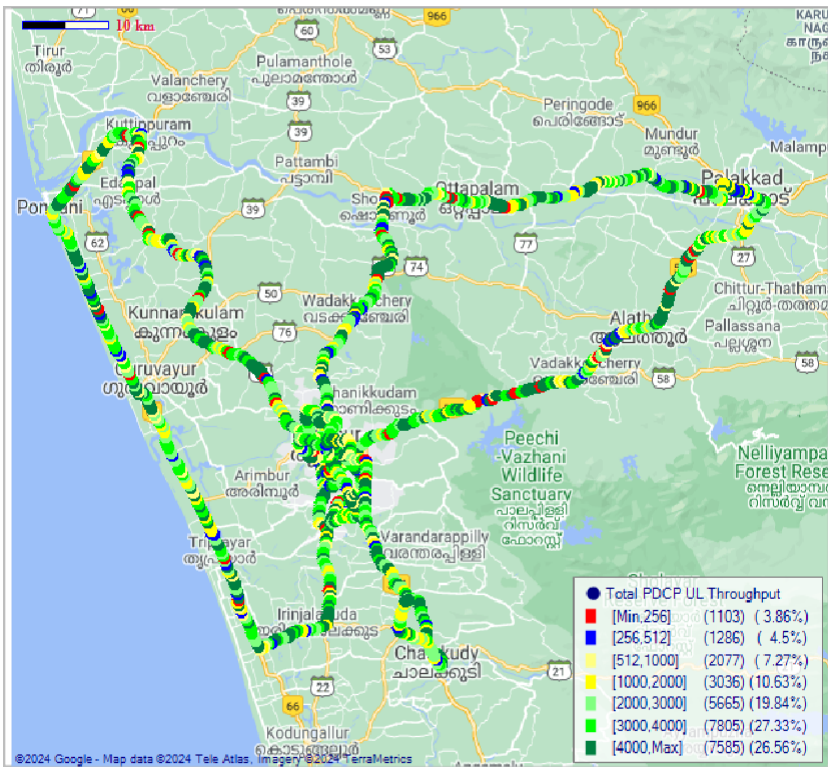
UL throughput	No. of samples	%
0 to 256 Kbps	1103	3.86
250 to 512 Kbps	1286	4.50
512 Kbps to 1 Mbps	2077	7.27
1 to 2 Mbps	3036	10.63
2 to 3 Mbps	5665	19.84
3 to 4 Mbps	7805	27.33
>4Mbps	7585	26.56
Total	28557	100

V. TRAI My Speed App Test Details-2G

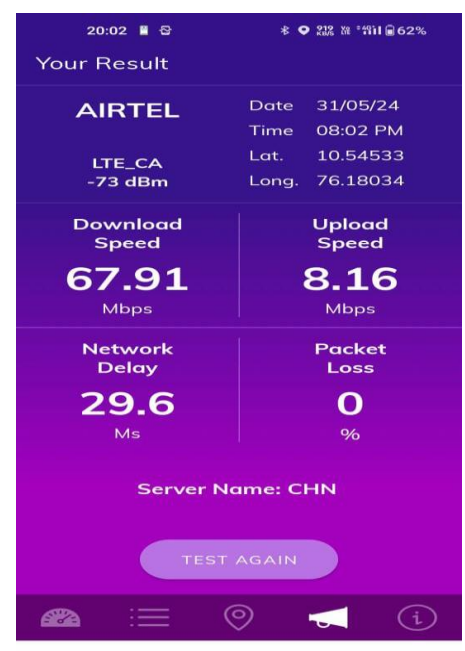| Techology-2G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	0.21	0.2	0.2	0.2	0.19	0.2
Upload Speed (Mbps)	0.12	0.13	0.14	0.15	0.12	0.09
Latency (ms)	192.6	222.3	432.1	264.9	198.8	262.1

Collectorate
North Bus Stand
Govt Medical College
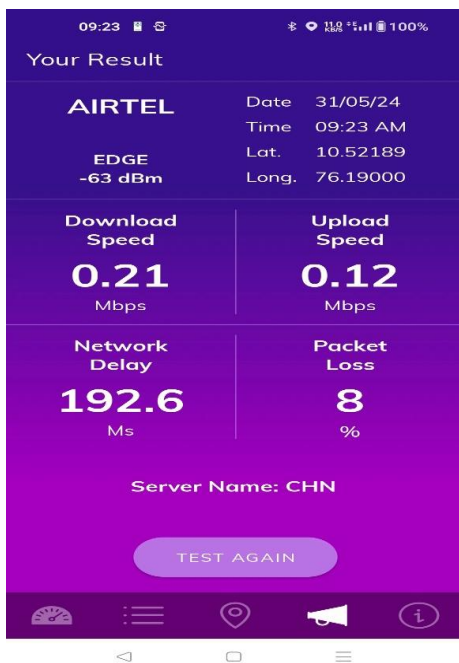
Govt Engineering college
Sobha city mall
Railway Station

AIRTEL
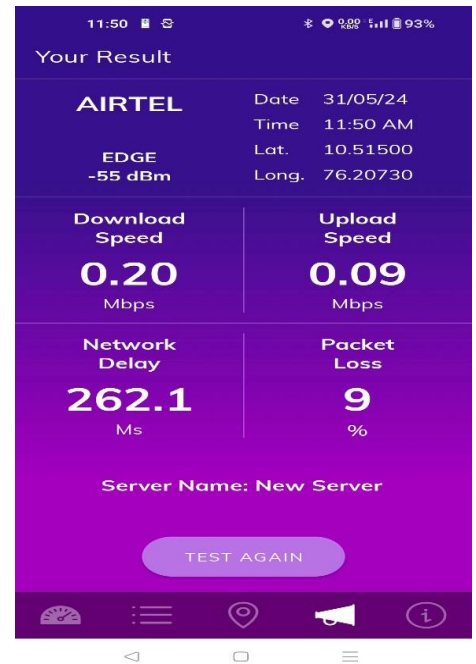
Techology-4G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	34.11	23.58	33.64	33.64	67.91	22.94
Upload Speed (Mbps)	2.18	8.22	4.34	4.34	8.16	4.64
Latency (ms)	42.4	29	57.3	57.3	29.6	40.8

Collectorate

North Bus Stand

Govt Medical College

Govt Engineering college

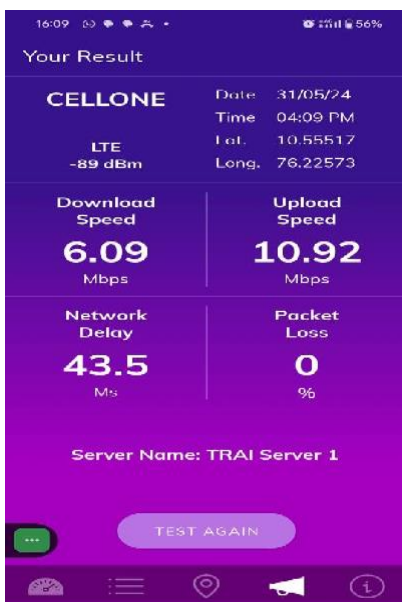### Sobha city mall

Railway Station

Techology-2G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	0.04	0.10	0.14	0.11	0.07	0.07
Upload Speed (Mbps)	0.04	0.04	0.08	0.16	0.09	0.04
Latency(ms)	167.9	375.6	154.6	163.2	226.5	149.9

Collectorate
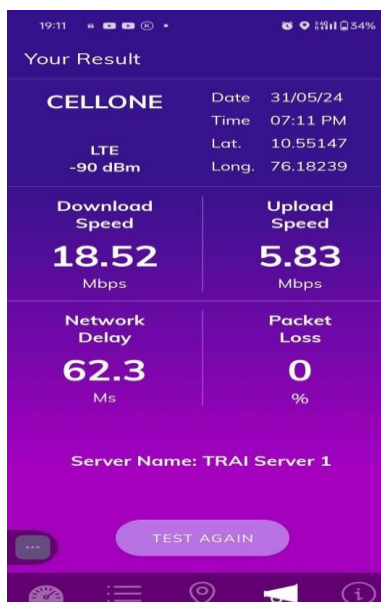

North Bus Stand

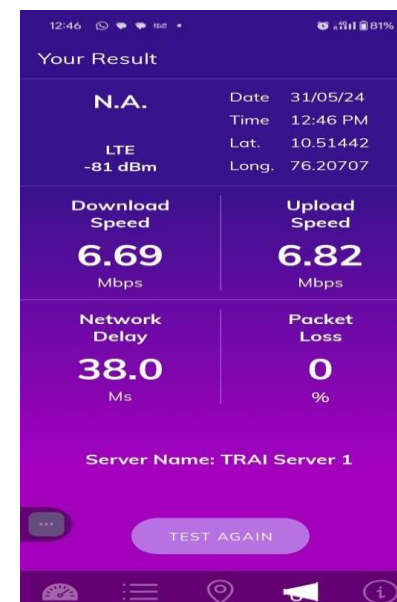### Govt Medical College

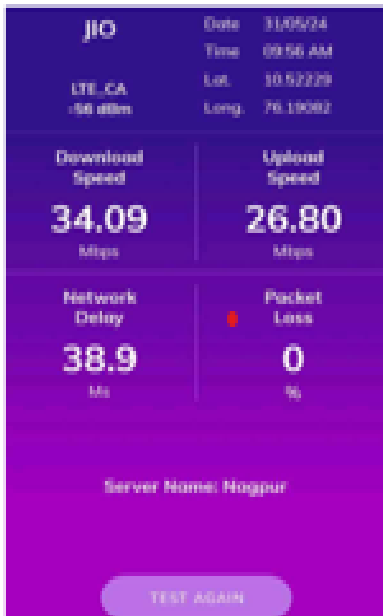### Govt Engineering college

Sobha city mall

Railway Station

V. TRAI MySpeed App Test Details- 4G

Techology-4G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	21.97	3.64	12.35	6.09	18.52	6.69
Upload Speed (Mbps)	16.48	8.76	9.96	10.92	5.83	6.82
Latency(ms)	42.5	70.2	39.5	43.5	62.3	38

Collectorate
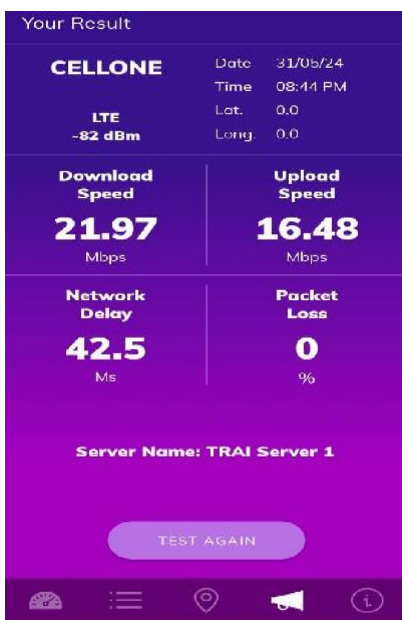
North Bus Stand
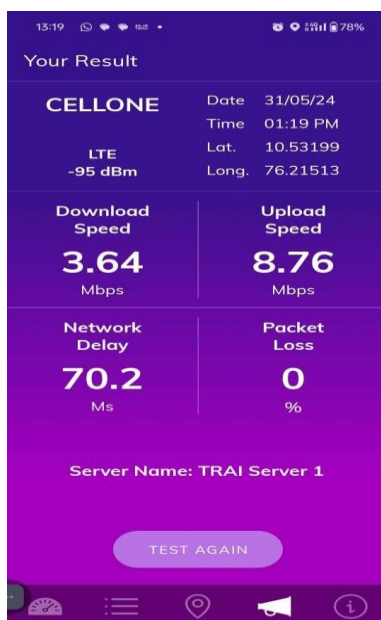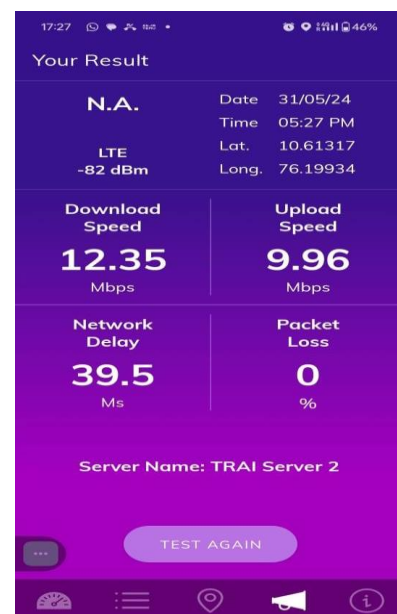
Govt Medical College

Govt Engineering college

Sobha city mall

Railway Station

V. TRAI MySpeed App Test Details-4G

Techology-4G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	34.09	25.76	37.44	33.06	24.31	18.93
Upload Speed (Mbps)	26.80	22.88	25.67	10.02	20.28	4.07
Latency (ms)	38.9	39.7	43.6	39.5	41.0	48

Collectorate

North Bus Stand

Govt Medical College
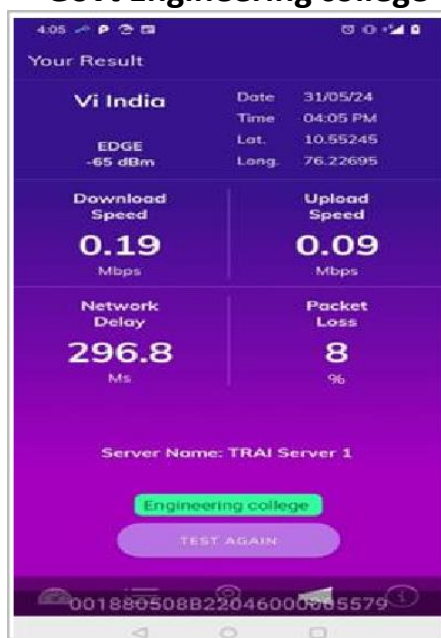

Govt Engineering college

Sobha city mall

Railway Station

VODAFONE IDEA
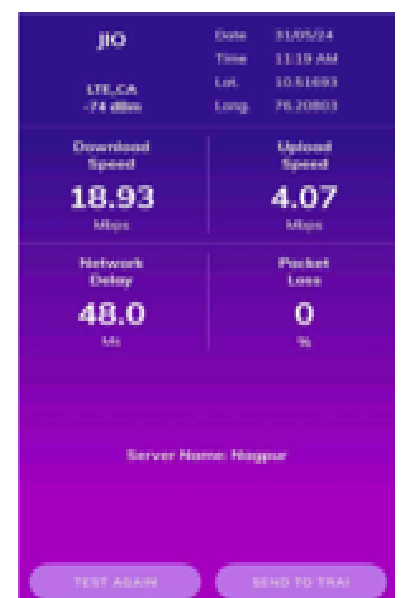
Techology-2G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering College	Sobha city mall	Railway Station
Download Speed (Mbps)	0.20	0.12	0.11	0.19	0.18	0.16
Upload Speed (Mbps)	0.17	0.06	0.07	0.09	0.08	0.13
Latency (ms)	383	127	153	297	134	445

Collectorate

North Bus Stand

Govt Medical College

Govt Engineering college
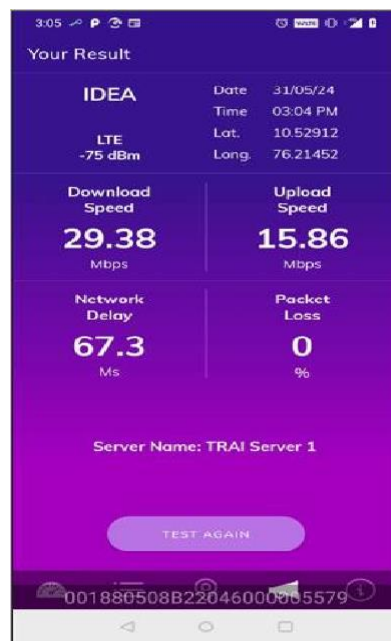

Sobha city mall

Railway Station

V. TRAI MySpeed App Test Details-4G
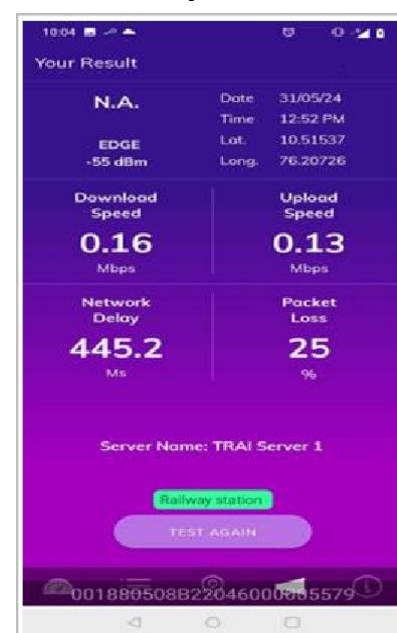
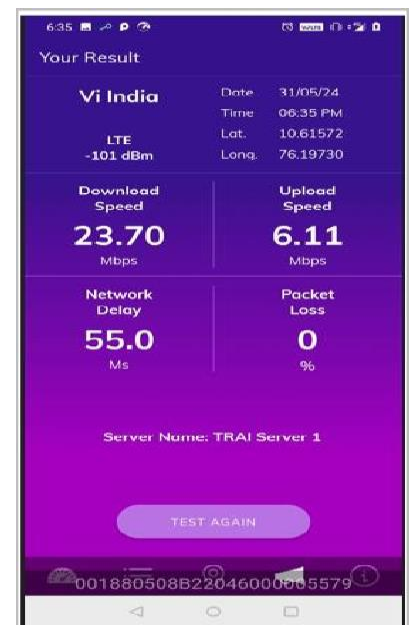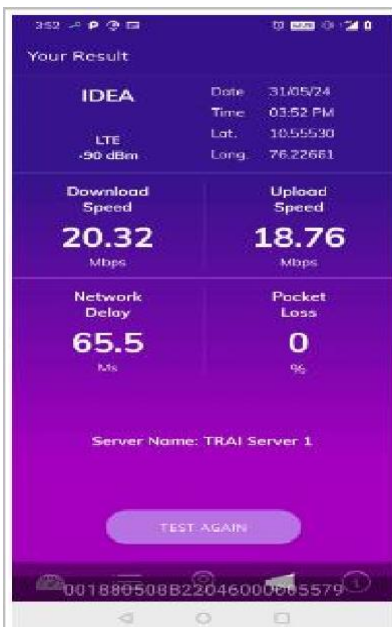| Techology-4G	Collectorate	North Bus Stand	Govt Medical College	Govt Engineering college	Sobha city mall	Railway Station
Download Speed (Mbps)	24.89	29.38	23.70	20.32	48.17	44.72
Upload Speed (Mbps)	7.25	15.86	6.11	18.76	34.63	36.39
Latency (ms)	86	67	55	66	78	54

Collectorate

North Bus Stand

Govt Medical College

Govt Engineering college

Sobha city mall

Railway Station