

Operator Assisted Drive Test Report

For

Pune

12th to 14th Aug 2024

Pune – Jejuri - Nhavare – Pune (NH) - 177 Kms
(12th Aug 2024)

Pune & Surrounding Area - 233 Kms
(13th & 14th Aug 2024)

TRAI RO, Bengaluru

Key Performance Indicators:

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

The Operator Assisted Drive Test has been carried out by the Regional Office, Bangalore with the help of Service Providers from 12th to 14th Aug 2024. The drive test covered the route of **410 Kms** including NH/SH of **177 Kms** & **6** hotspots. Approximately **500** calls were made for each of the 7 networks: three 2G networks, one 3G network, and three 4G networks covering four TSPs.

Overview

Voice
Summary

Data
Summary

Overview

Regional Office, TRAI Bengaluru conducted Operator Assisted Drive Test from **12th to 14th Aug 2024** covering various locations in **Pune & 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 **410 KMs** including **NH/SH of 177 Kms** over a period of 3 days from **12th to 14th Aug 2024**. Approximately 500 calls were made for each of the 7 networks: three 2G (Lock Mode) networks, one 3G (Dual mode) network, and three 4G networks covering 4 unique TSPs.

Data Tests: Dynamic data test (Test Data on Move) was conducted for **410 KMs** including **NH/SH of 177 Kms** over a period of 3 days for download throughput for 3G & 4G technology. Data Tests were performed at 6 static locations; three 2G (Lock mode) networks, one 3G (Dual mode) 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.**

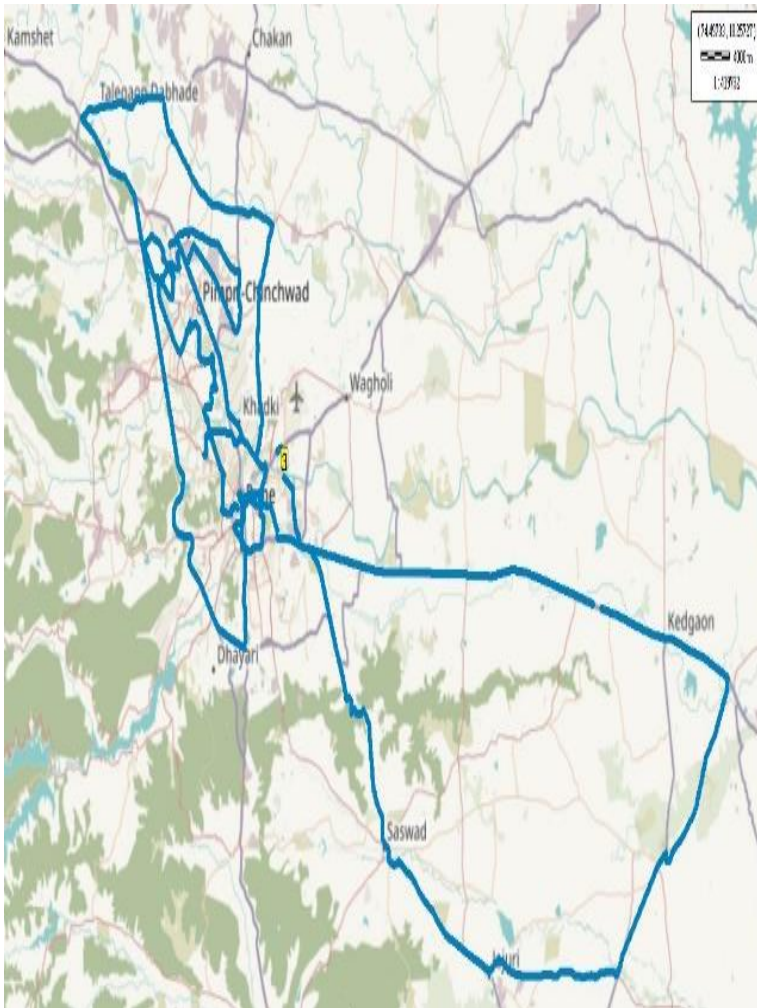
* For Voice and Data KPI's, 2G measurement is done with UE locked on 2G, 3G measurement is done with UE in Dual mode (2G & 3G) and 4G measurement is done with UE in Free Mode.

* 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	
Pune Airport	Agakhan Palace
Hadapsar	Saswad
Jejuri	Morgaon
Loni Karbhor	Aundh Hospital
IISER	Aundh
Pune City	Moshi
Alandi	Dehu road
Chinchwad City	Nigdi
Pimpri	Bosari
Pune Railway Station	Shivaji Nagar

Data Service Test- Static Locations



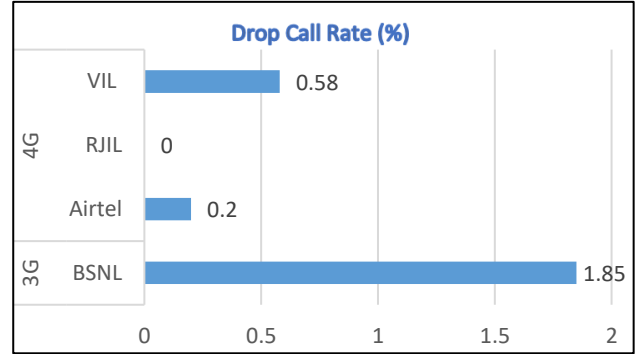
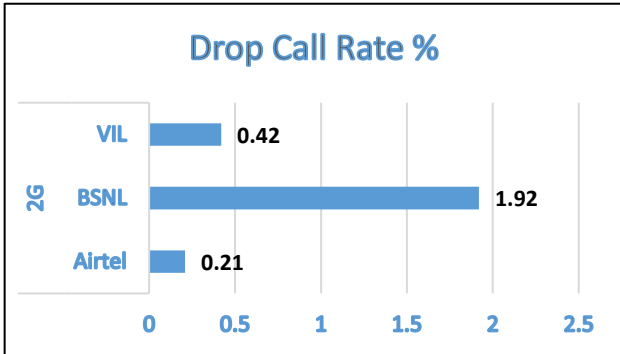
1. Pune Airport
2. Agakhan Palace
3. Aundh Hospital
4. ISSER
5. Pune Railway Station
6. Shivaji Nagar Bus Stand

Voice Calls

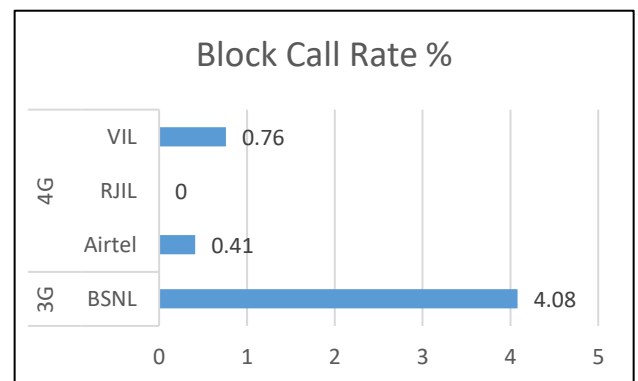
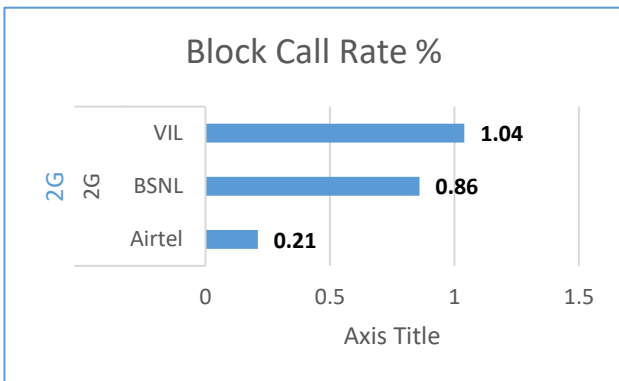
Key Observations

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

Drop Call Rate (%)



Block Call Rate (%)



KPIs	2G			3G	4G		
	Airtel	BSNL	VIL	BSNL	Airtel	RJIL	VIL
Drop Call Rate %	0.21	1.92	0.42	1.85	0.2	0	0.58
Block Call Rate %	0.21	0.86	1.04	4.08	0.41	0	0.76

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

Voice Calls

Key Observations

Coverage

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

TSPs	2G		
	Airtel	BSNL	VIL
Coverage%	89.88	85.13	73.74

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

TSPs	3G	4G		
	BSNL	Airtel	JIO	VIL
Coverage %	18.85	98.33	97.30	95.90

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

TSPs	3G	4G		
	BSNL	Airtel	JIO	VIL
Time Spent on 3G/4G%	98.22	100	100	98.57

Summary

City Level Summary

Voice Call	2G		
	Airtel	BSNL	VIL
Call Attempt	473	579	480
Blocked Call Rate (%)	0.21	0.86	1.04
CSSR% (Accessibility)	99.79	99.14	98.96
Drop Call Rate (%)	0.21	1.92	0.42
Rx Quality (%)	95.16	95.8	95.4
Mobility HOSR (%)	99.65	95.4	97.27

Voice Call	3G/4G			
	BSNL 3G	Airtel 4G	JIO 4G	VIL 4G
Call Attempt	564	492	492	525
Blocked Call Rate (%)	4.08	0.41	0	0.76
CSSR% (Accessibility)	95.92	99.59	100	99.24
Drop Call Rate (%)	1.85	0.2	0	0.58
Rx Quality (%)	96.1	94.41	89.3	85.64
Mobility HOSR (%)	100	100	100	99.79

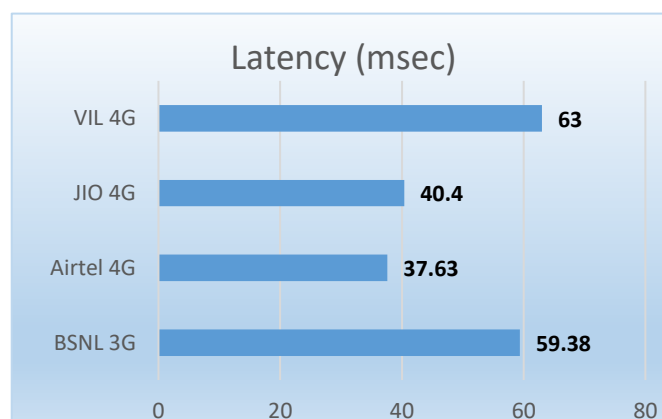
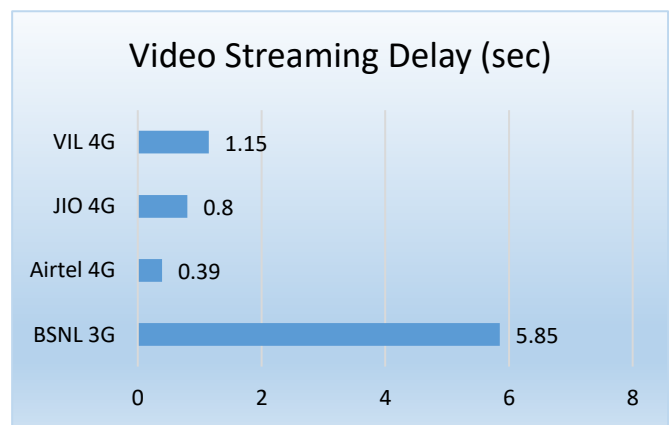
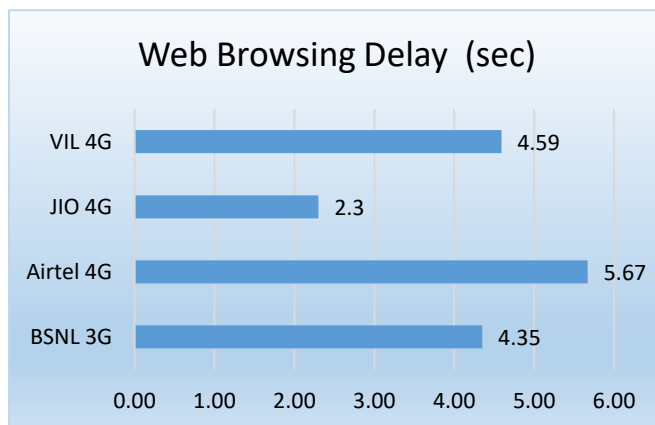
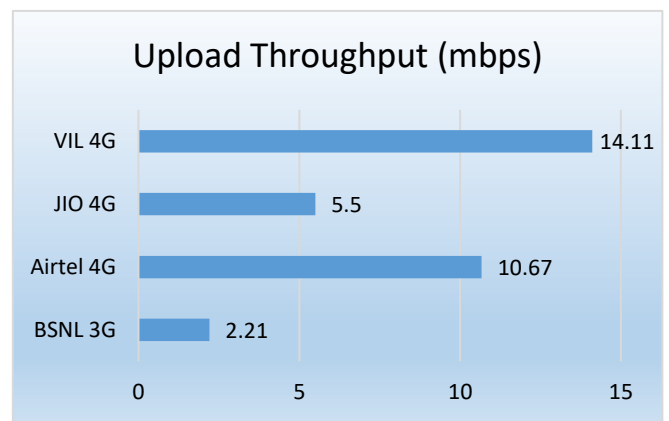
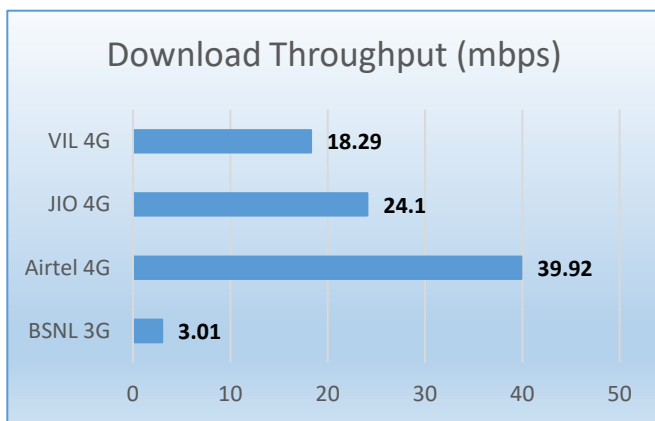
Data Services Static

Key Observations

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:



Summary

City Level Summary(contd.)

Data Services Static	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	35.36	145.33	105.45
Upload Throughput (kbps)	16.01	108	49.88
Web Browsing Delay (sec)	35.33	35.01	32.91
Latency (msec)	248.93	183	151.87

Data Services Static	3G/4G			
	BSNL 3G	Airtel 4G	JIO 4G	VIL 4G
Download Throughput (mbps)	3.01	39.92	24.1	18.29
Upload Throughput (mbps)	2.21	10.67	5.5	14.11
Web Browsing Delay (sec)	4.35	5.67	2.3	4.59
Video Streaming Delay (sec)	5.85	0.39	0.8	1.15
Latency (msec)	59.38	37.63	40.4	63

Data Services Dynamic (Data Test on Move)	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (mbps)	3.81	7.2	18.6	12.66
Upload Throughput (mbps)	2.29	2.51	6.7	4.88

Summary

City Level Data Services Static(contd.)

Data Services Static – Pune Airport	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	30.23	92	125.58
Upload Throughput (kbps)	20.41	70	39.82
Web Browsing Delay (sec)	30.27	45.8	23.34
Latency (ms)	246.2	193	147

Data Services Static – Pune Airport	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.56	60.03	15.98	8.8
Upload Throughput (Mbps)	1.61	18.44	5.52	10.85
Web Browsing Delay (sec)	4.15	5.64	3.14	6.76
Video Streaming Delay (sec)	5.77	0.34	0.76	1.03
Latency (ms)	48	34.6	41.2	57.2

Data Services Static – Aga Khan Palace	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	125.02	160	129.42
Upload Throughput (kbps)	27.18	60	76.14
Web Browsing Delay (sec)	36.68	52.8	22.2008
Latency (msec)	245.4	215	154

Data Services Static - Aga Khan Palace	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	1.69	28.21	31.14	14.21
Upload Throughput (Mbps)	2.17	5.14	4.92	17.91
Web Browsing Delay (sec)	4.16	5.72	1.7	4.738
Video Streaming Delay (sec)	6.28	0.47	0.82	1.354
Latency (ms)	63	36.6	39	48.2

Summary

City Level Data Services Static(contd.)

Data Services Static – District Hospital	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	18.43	100.00	103.96
Upload Throughput (kbps)	13.21	290.00	43.44
Web Browsing Delay (sec)	29.87	29.18	37.23
Latency (ms)	250	226.20	148

Data Services Static – District Hospital	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	1.69	37.89	8.58	11.16
Upload Throughput (Mbps)	2.17	16.52	3.18	14.25
Web Browsing Delay (sec)	4.83	5.68	3.24	3.69
Video Streaming Delay (sec)	6.64	0.38	0.6	0.91
Latency (ms)	47.00	40	44	54.4

Data Services Static – IISER College	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	13.16	200	102.64
Upload Throughput (kbps)	13.51	100	46.71
Web Browsing Delay (sec)	39.83	20.84	42.14
Latency (msec)	252	159	150

Data Services Static – IISER College	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	3.25	22.1	22.4	17.78
Upload Throughput (Mbps)	2.82	8.98	5.4	9.09
Web Browsing Delay (sec)	4.6	5.61	1.86	4.12
Video Streaming Delay (sec)	6.22	0.38	0.9	1.03
Latency (ms)	70	39	39	61.4

Summary

City Level Data Services Static(contd.)

Data Services Static – Pune Railway Station	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	13.21	160.00	100.32
Upload Throughput (kbps)	12.4	70.00	42.53
Web Browsing Delay (sec)	36.92	41.64	32.86
Latency (ms)	250	124.40	161.2

Data Services Static – Pune Railway Station	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	5.96	60.3	49.44	38.41
Upload Throughput (Mbps)	2.32	9.3	9.46	15.64
Web Browsing Delay (sec)	3.88	5.78	1.94	4.06
Video Streaming Delay (sec)	4.91	0.37	0.9	1.61
Latency (ms)	62	39	42	103.4

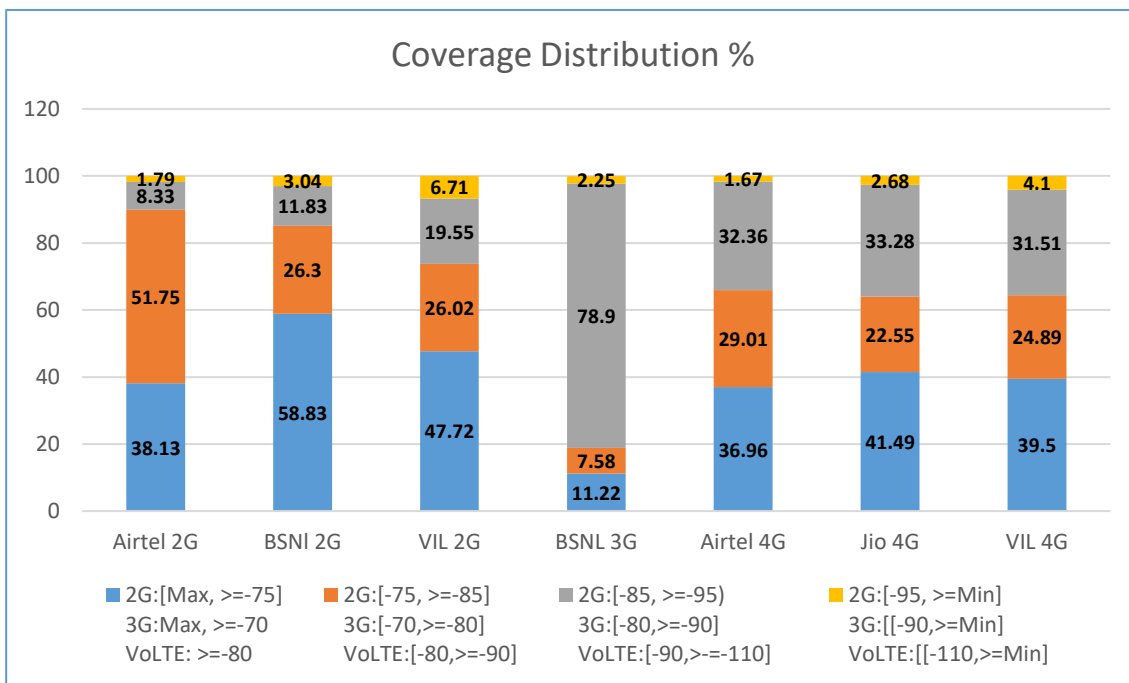
Data Services Static – Shivaji Nagar Bus Stand	2G		
	Airtel	BSNL	VIL
Download Throughput (kbps)	12.13	160.00	70.76
Upload Throughput (kbps)	9.34	58.00	50.61
Web Browsing Delay (sec)	38.44	19.85	39.68
Latency (msec)	249.6	187.20	150.2

Data Services Static – Shivaji Nagar Bus Stand	3G	4G		
	BSNL	Airtel	JIO	VIL
Download Throughput (Mbps)	2.89	31.06	17.02	19.38
Upload Throughput (Mbps)	2.21	5.69	4.66	16.91
Web Browsing Delay (sec)	4.49	5.58	2.08	4.19
Video Streaming Delay (sec)	5.33	0.42	0.82	0.97
Latency (ms)	67	37	38	53.4

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	89.88
BSNI 2G	85.13
VIL 2G	73.74
BSNL 3G	18.85
Airtel 4G	98.33
Jio 4G	97.30
VIL 4G	95.90

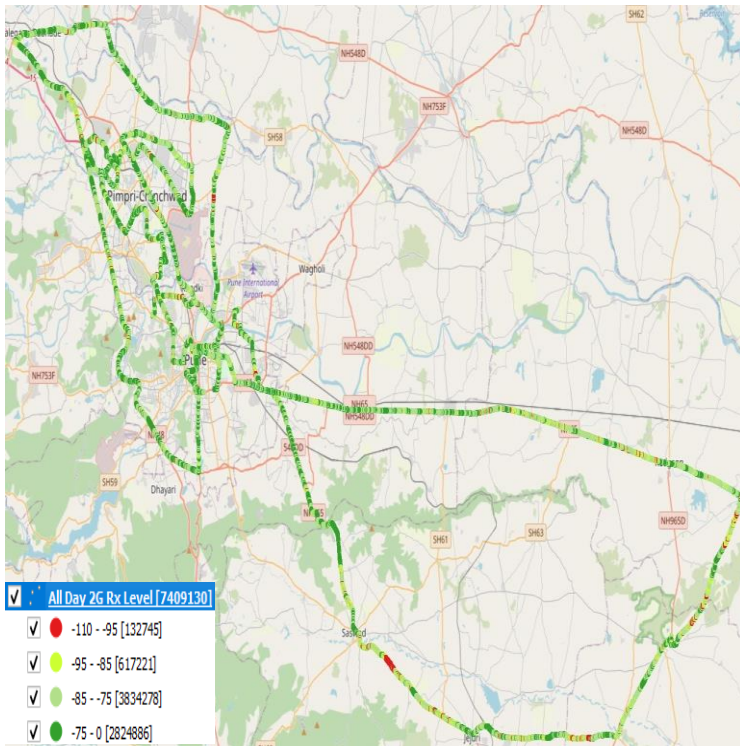


I. Coverage Details

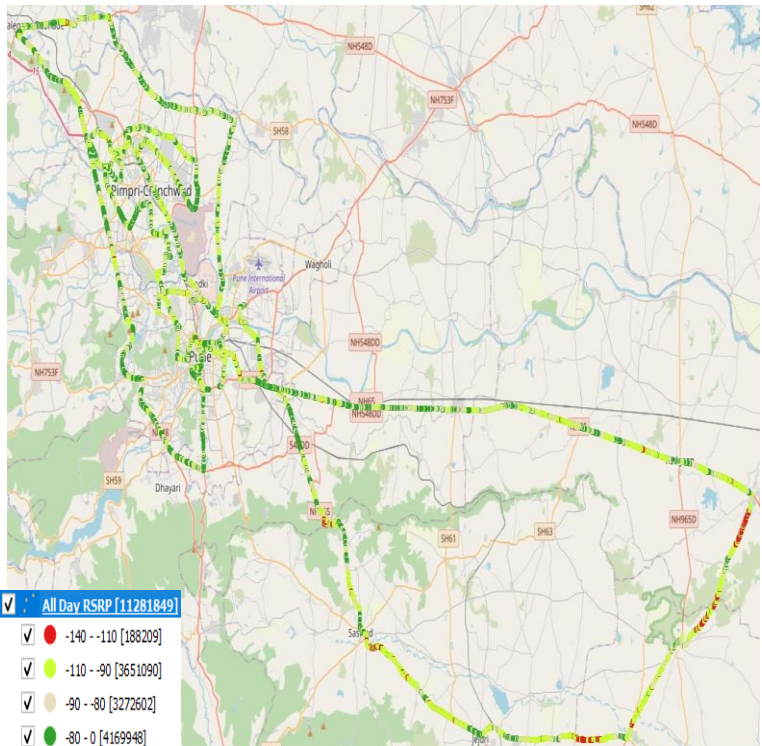
AIRTEL

Technology	Coverage Rate %
2G	89.88
4G	98.33

2G



4G



2G		
Overall RxLevel	# Samples	% PDF
[Max, >=-75]	2824886	38.13
[-75, >=-85)	3834278	51.75
[-85, >=-95)	617221	8.33
[-95, >=Min)	132745	1.79
Total	7409130	100

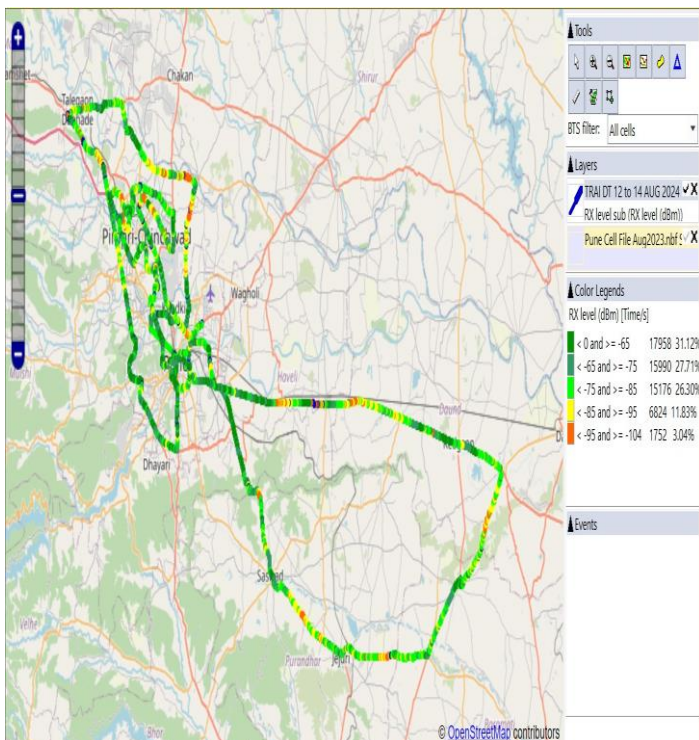
4G/VoLTE		
Overall RSRP	# Samples	% PDF
[Max, >=-80]	4169948	36.96
[-80, >=-90)	3272602	29.01
[-90, >=-110)	3651090	32.36
[-110, >=Min)	188209	1.67
Total	11281849	100

I. Coverage Details

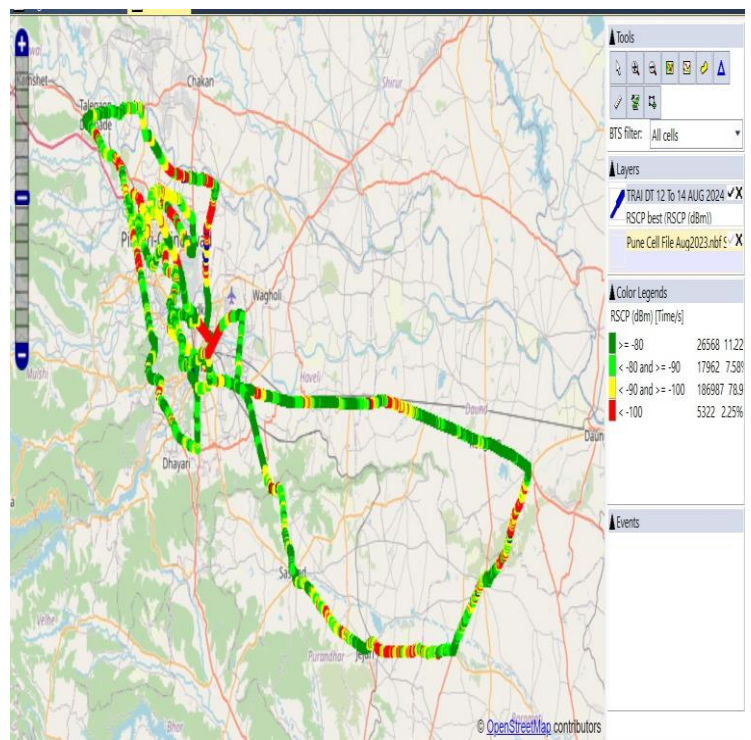
BSNL

Technology	Coverage Rate %
2G	85.13
3G	18.85

2G



3G



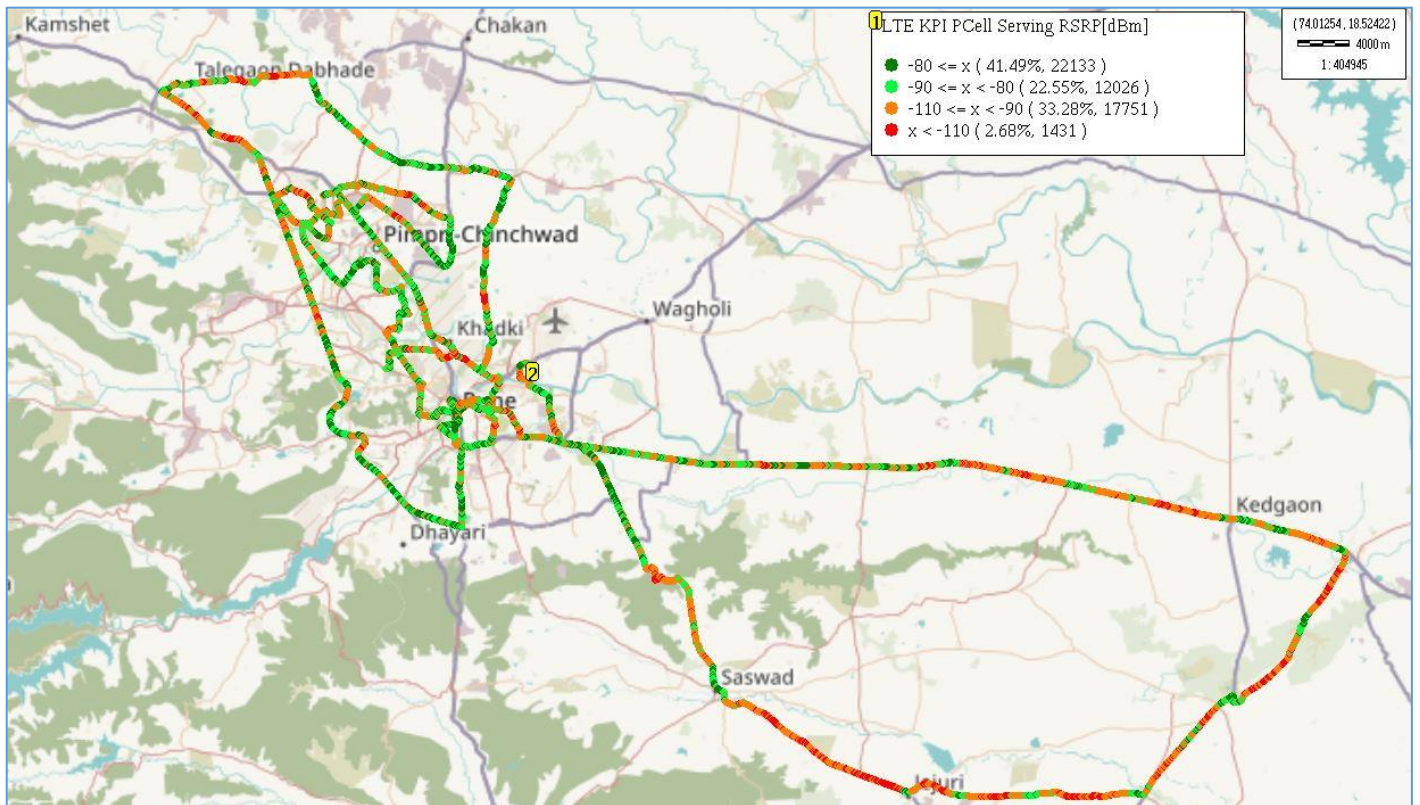
2G		
Overall RxLevel	# Samples	% PDF
[Max, >=-75]	33948	58.83
[-75, >=-85]	15176	26.3
[-85, >=-95]	6824	11.83
[-95, >=Min]	1752	3.04
Total	57700	100

3G		
Overall RSCP	# Samples	% PDF
[Max, >=-70]	26568	11.22
[-70, >=-80]	17962	7.58
[-80, >=-90]	186987	78.9
[-90, >=Min]	5322	2.25
Total	236839	100

I. Coverage Details

JIO

Technology	Coverage Rate %
4G	97.30



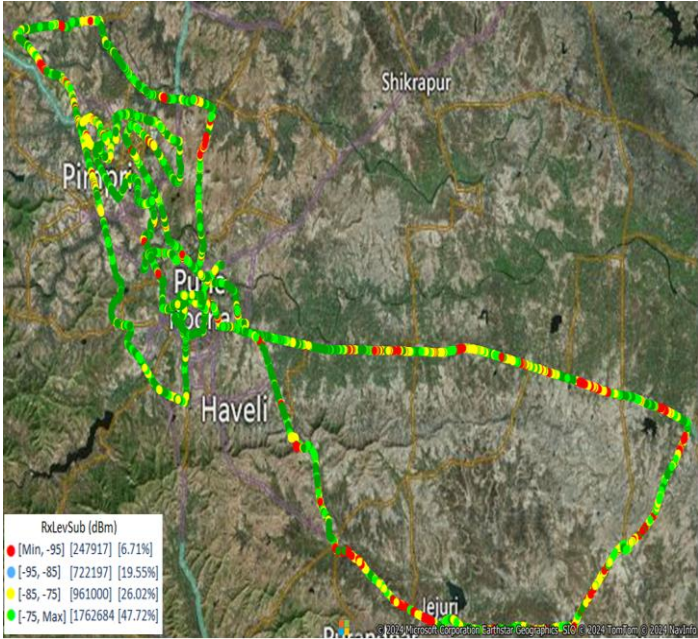
4G/VoLTE		
Overall RSRP	# Samples	% PDF
[Max, >=-80]	22133	41.49
[-80, >=-90)	12026	22.55
[-90, >=-110)	17751	33.28
[-110, >=Min)	1431	2.68
Total	53341	100

I. Coverage Details

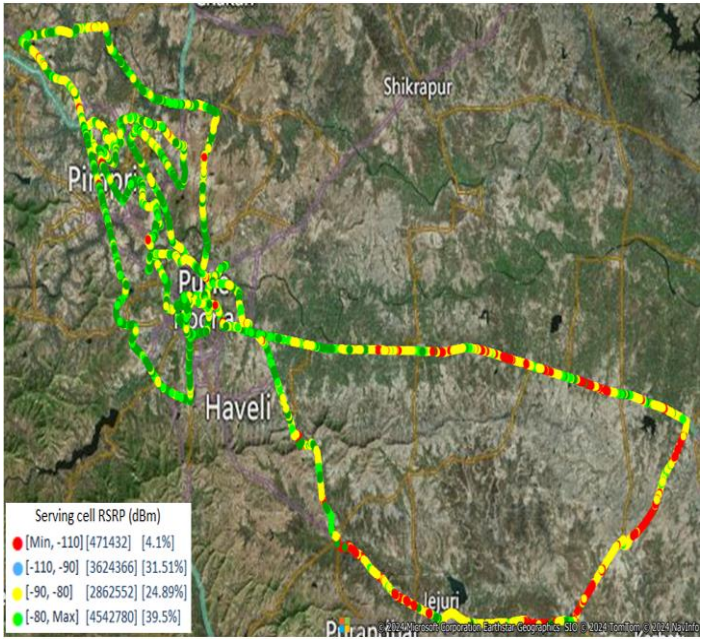
VIL

Technology	Coverage Rate %
2G	73.74
4G	95.90

2G



4G



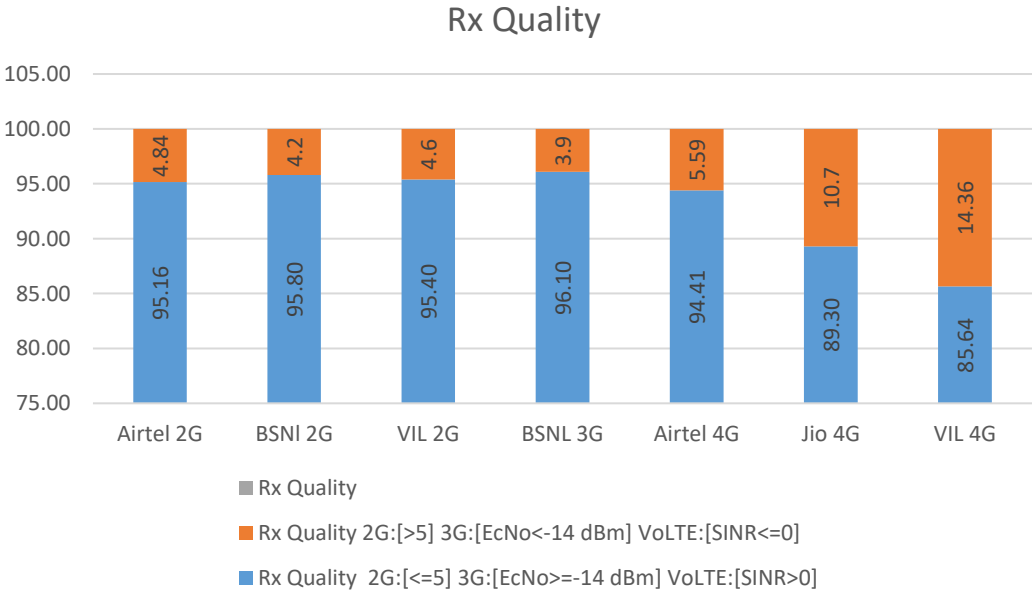
2G		
Overall RxLevel	# Samples	% PDF
[Max, >=-75]	1762684	47.72
[-75, >=-85)	961000	26.02
[-85, >=-95)	722197	19.55
[-95, >=Min)	247917	6.71
Total	3693798	100

4G/VoLTE		
Overall RSRP	# Samples	% PDF
[Max, >=-80]	4542780	39.5
[-80, >=-90)	2862552	24.89
[-90, >=-110)	3624366	31.51
[-110, >=Min)	471472	4.1
Total	11501130	100

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 4G 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	95.16
BSNI 2G	95.80
VIL 2G	95.40
BSNL 3G	96.10
Airtel 4G	94.41
Jio 4G	89.30
VIL 4G	85.64

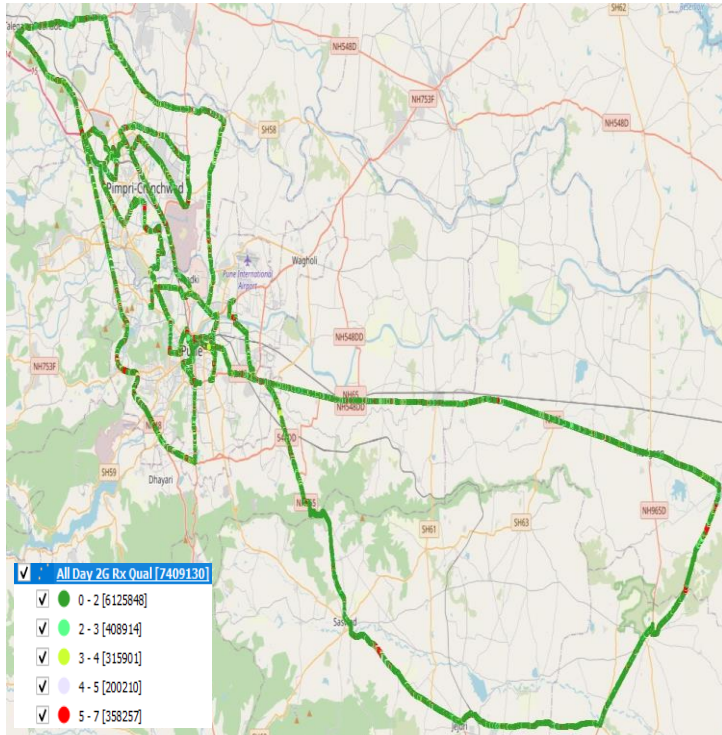


II. Quality Details

Airtel

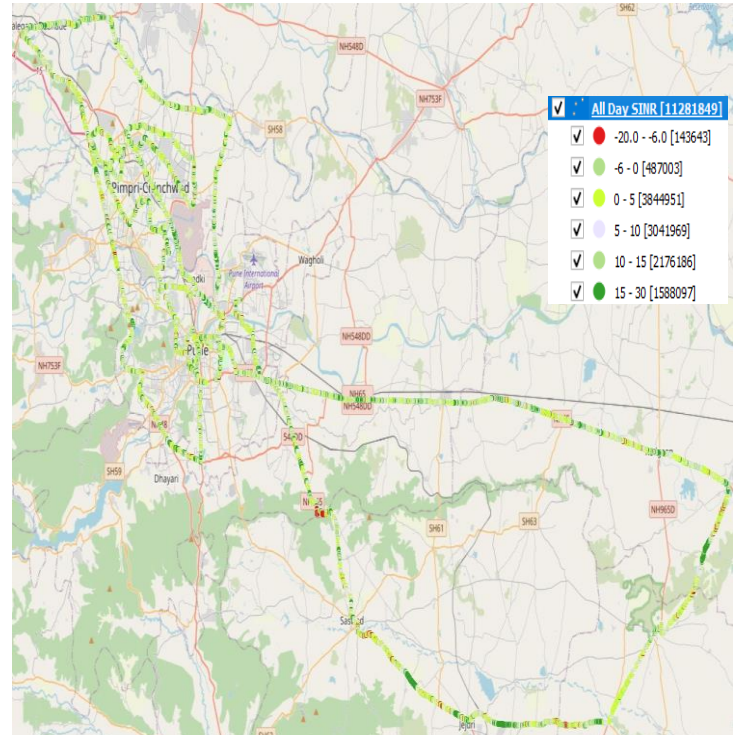
Technology	Rx Quality %
2G	95.16
4G	94.41

2G



Overall Rx Quality	# Samples	% PDF
(Min, <=2)	6125848	82.68
(2, <=3)	408914	5.52
(3, <=4)	315901	4.26
(4, <=5)	200210	2.70
(5, <=Max)	358257	4.84
Total	7409130	100

4G



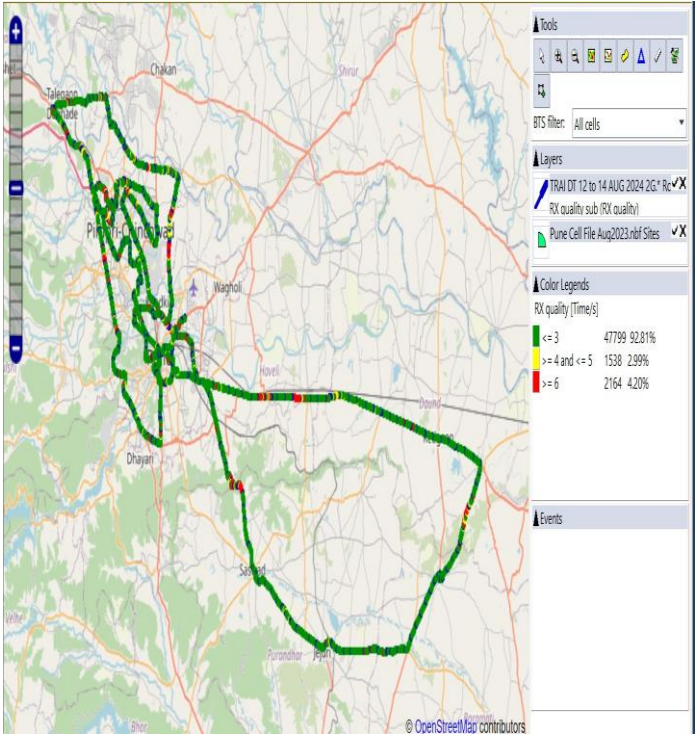
Overall SINR	# Samples	% PDF
(Min, <=0)	630646	5.59
(0, <=5)	3844951	34.08
(5, <=10)	3041969	26.96
(10, <=15)	2176186	19.29
(15, <=Max)	1588097	14.08
Total	11281849	100

II. Quality Details

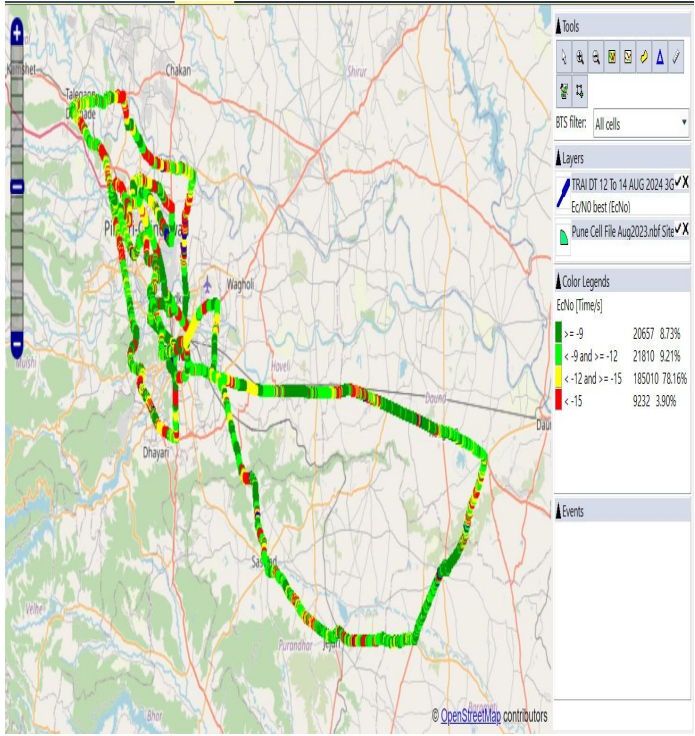
BSNL

Technology	Rx Quality %
2G	95.80
3G	96.10

2G



3G



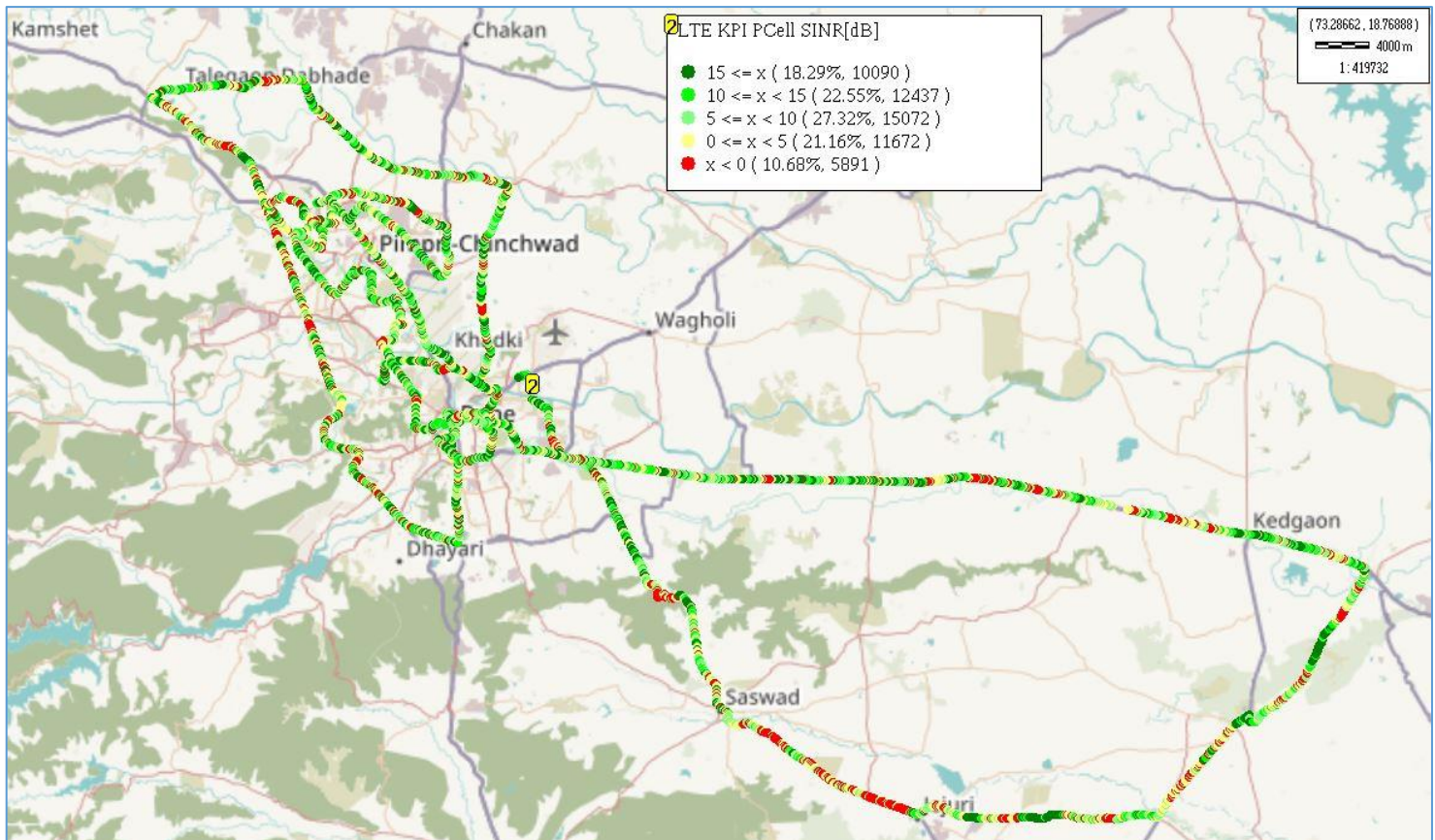
Overall Rx Quality	# Samples	% PDF
(Min, <=2)		
(2, <=3)		
(3, <=4)	47799	92.81
(4, <=5)	1538	2.99
(5, <=Max)	2164	4.2
Total	51501	100

Overall EcNo	# Samples	% PDF
(Max, <=-6)		
(-6, <=-9)	20657	8.73
(-9, <=-11)	21810	9.21
(-11, <=-14)	185010	78.16
(-14, <= Min)	9232	3.9
Total	278978	100

II. Quality Details

JIO

Technology	Rx Quality (%)
4G/4G	89.30



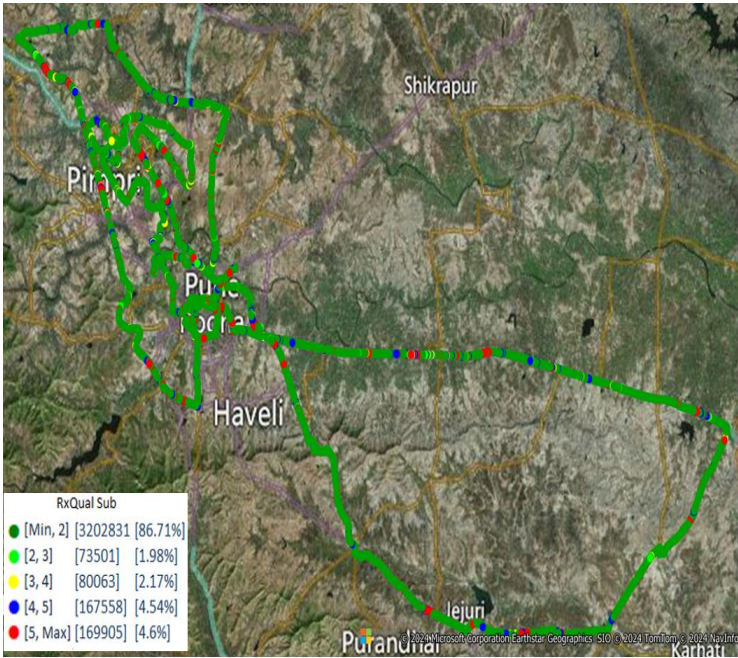
Overall SINR	# Samples	% PDF
(Min, <=0)	5891	10.68
(0, <=5)	11672	21.16
(5, <=10)	15072	27.32
(10, <=15)	12437	22.55
(15, <=Max)	10090	18.29
Total	55162	100

II. Quality Details

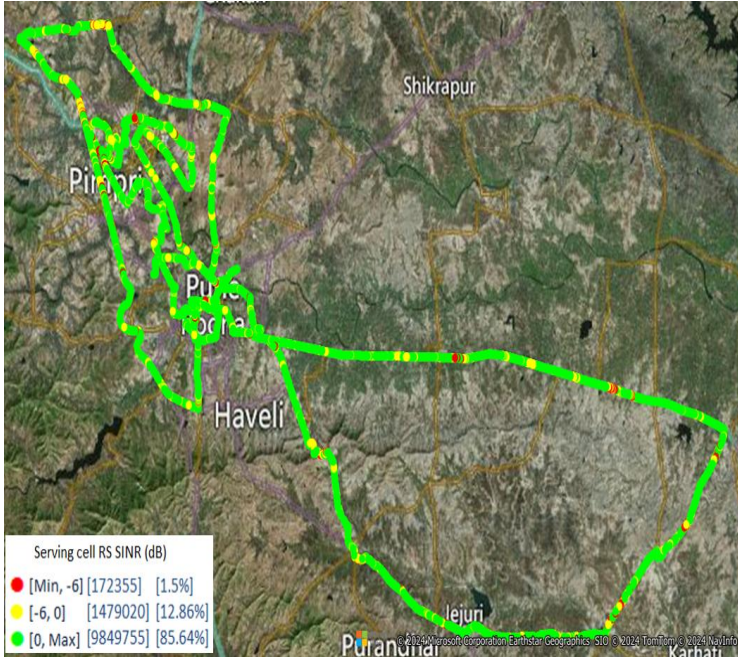
VIL

Technology	Rx Quality %
2G	95.40
4G	85.64

2G



4G

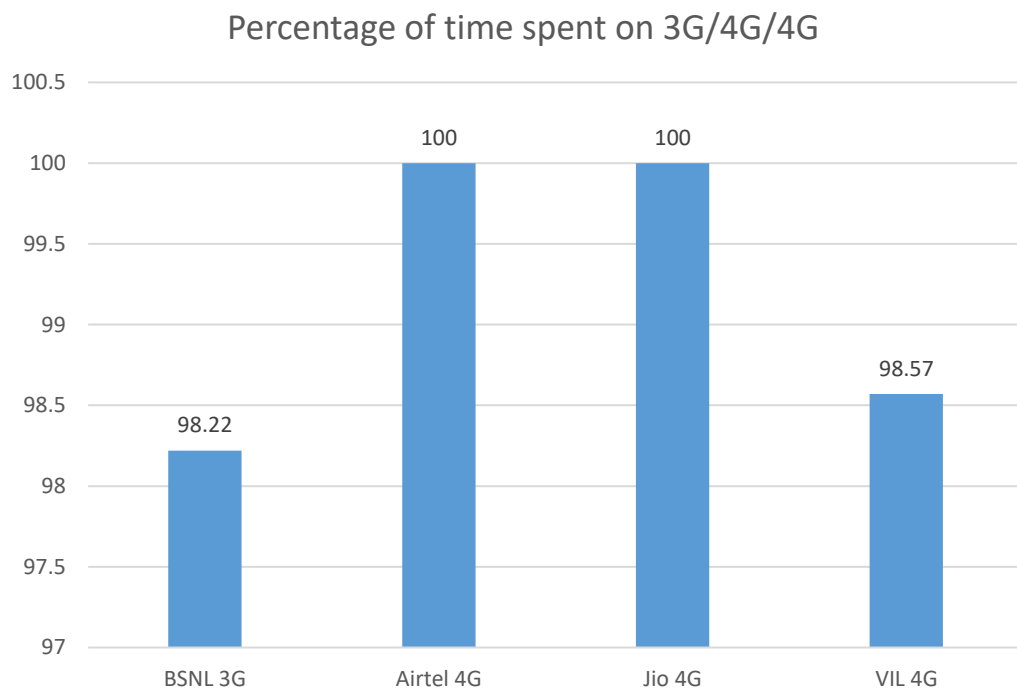


Overall Rx Quality	# Samples	% PDF
(Min, <=2)	3202831	86.71
(2, <=3)	73501	1.98
(3 , <=4)	80063	2.17
(4 , <=5)	167558	4.54
(5 , <=Max)	169905	4.6
Total	3693858	100

Overall SINR	# Samples	% PDF
(Min, <=0)	1651375	14.36
(0, <=5)	2386769	20.75
(5, <=10)	2526699	21.97
(10, <=15)	2108396	18.33
(15, <=Max)	2827891	24.59
Total	11501130	100

III. Technology Details

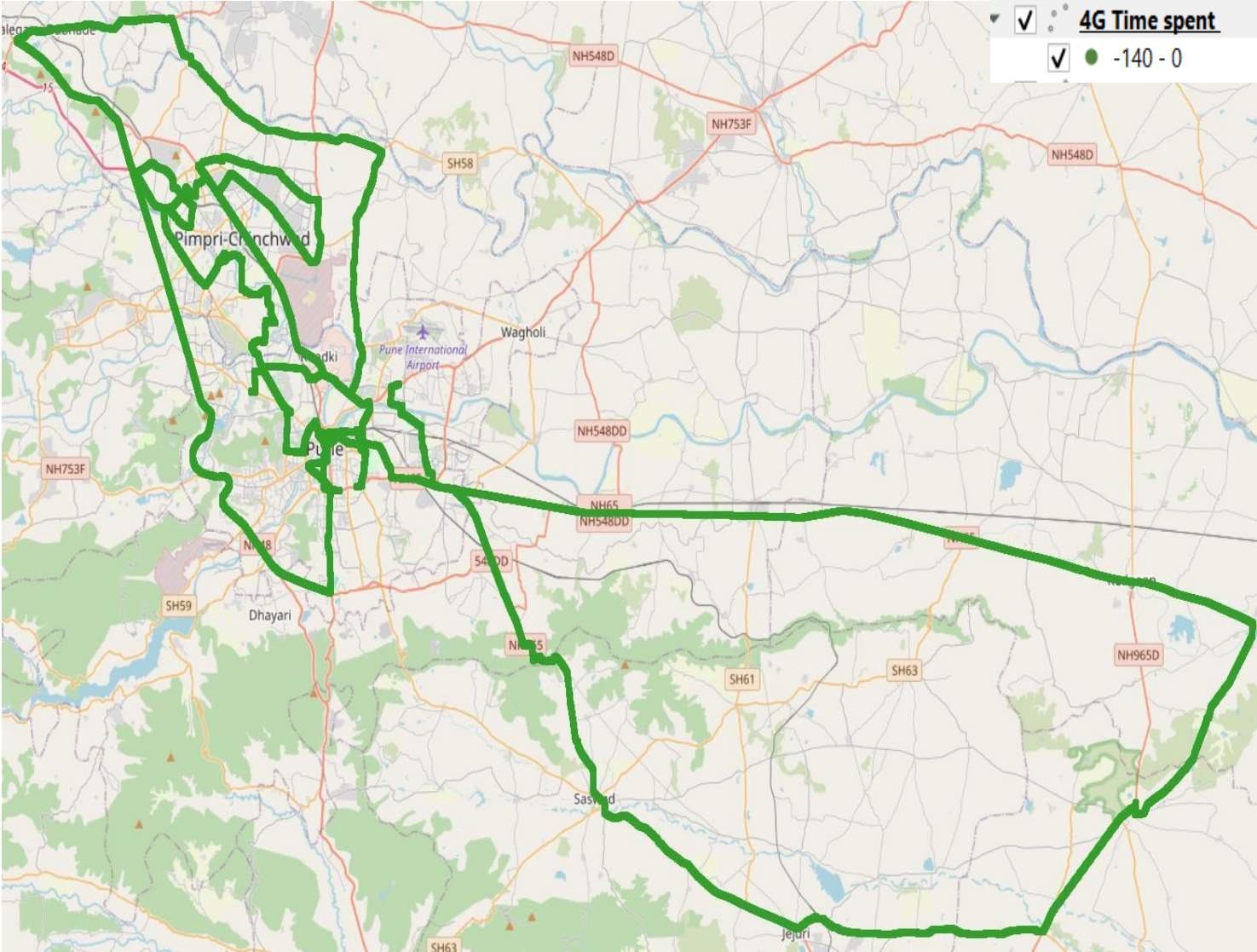
TSP	Time Spent on 3G/4G %
BSNL 3G	98.22
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	98.57



III. Technology Details

Airtel

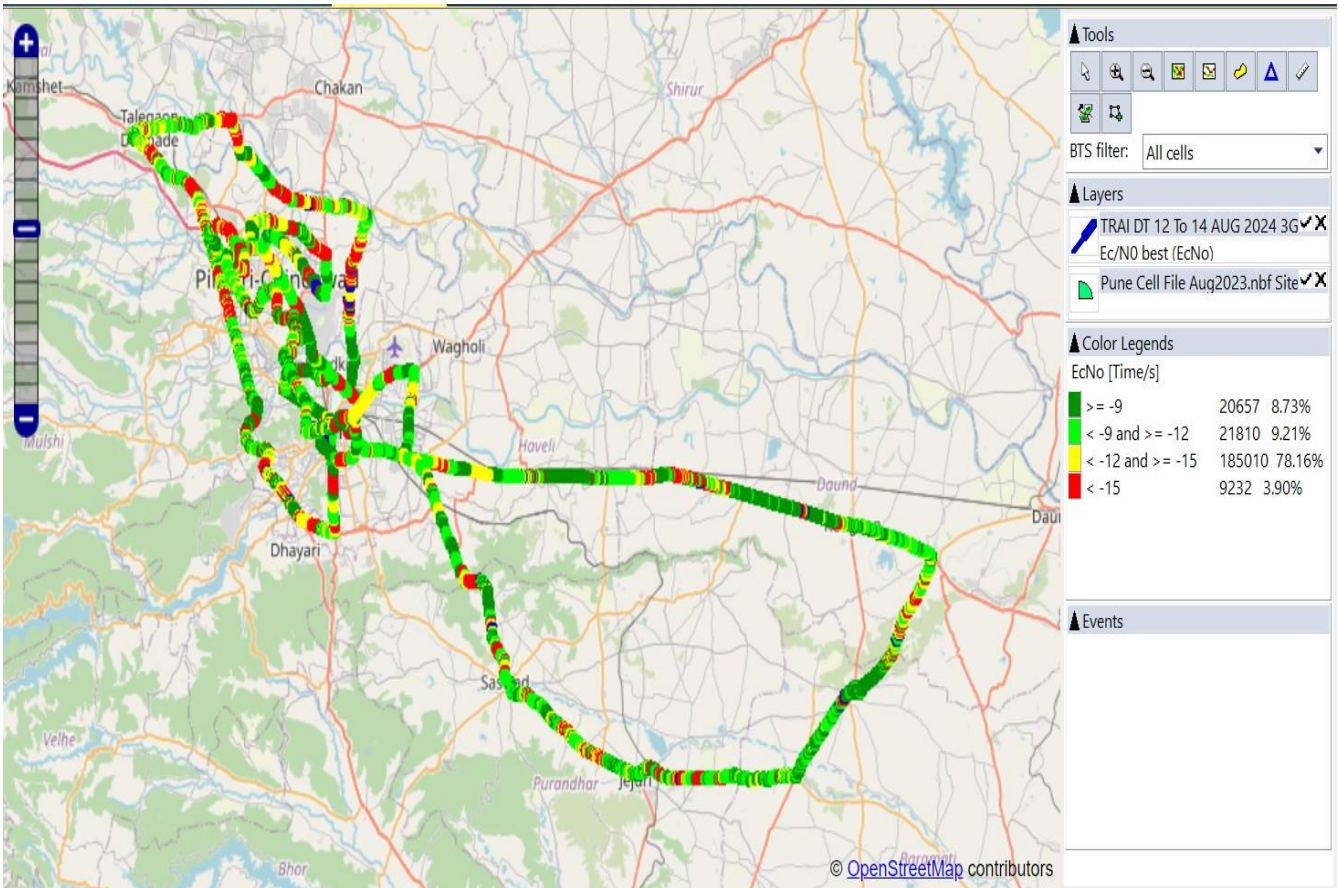
Technology	Time Spent %
4G	100



III. Technology Details

BSNL

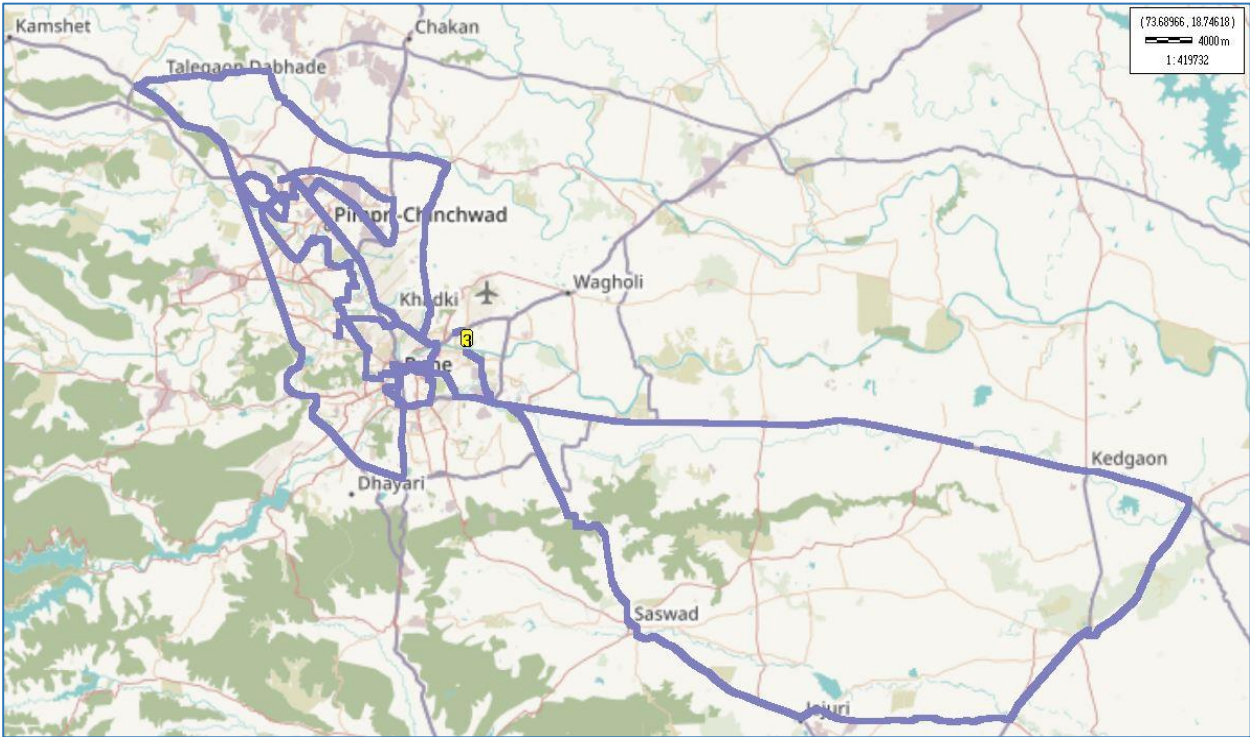
Technology	Time Spent %
3G	98.22



III. Technology Details

JIO

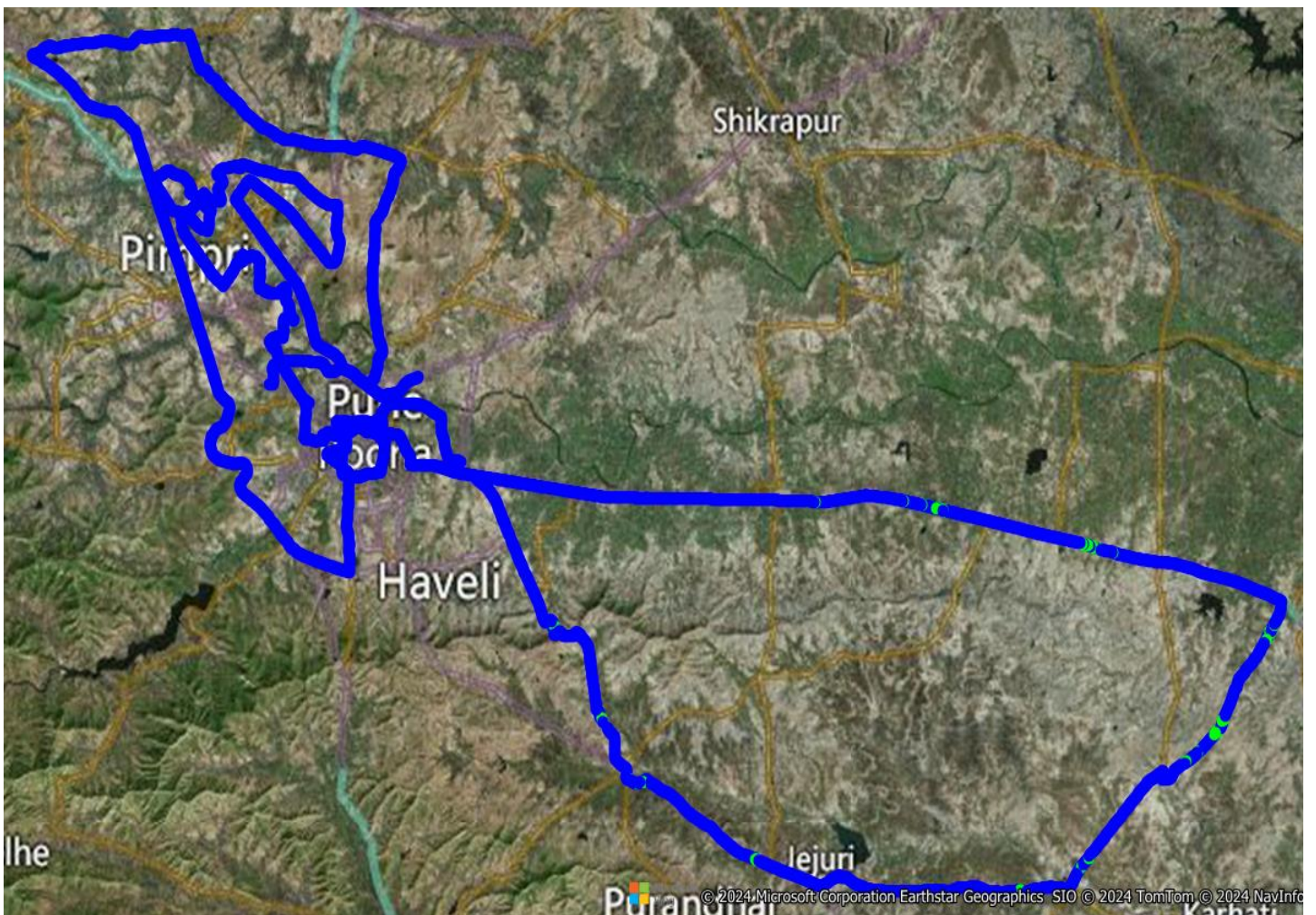
Technology	Time Spent %
4G	100



III. Technology Details

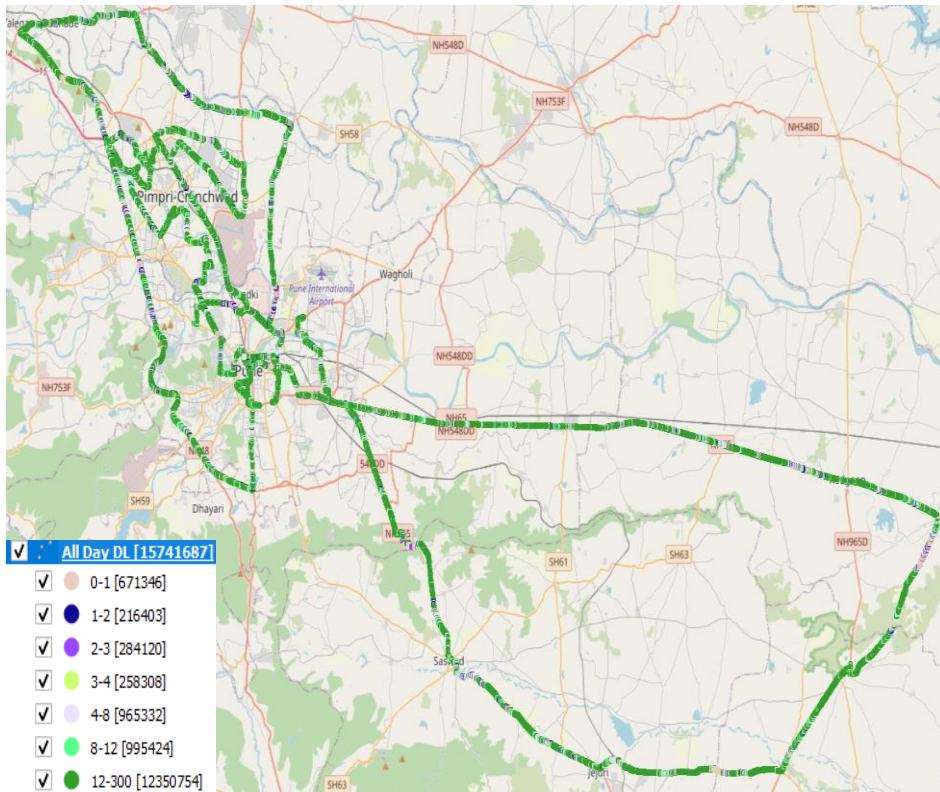
VIL

Technology	Time Spent
4G	98.57

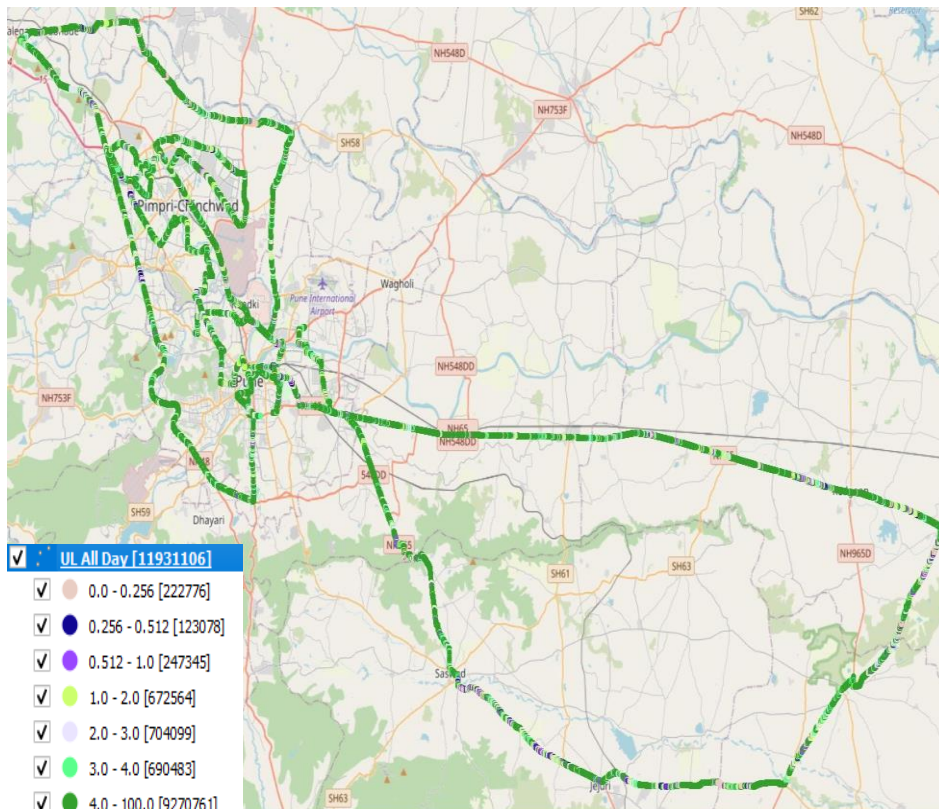


IV. Dynamic Data Test (Data Test on Move) - 4G DL/UL Details

Airtel



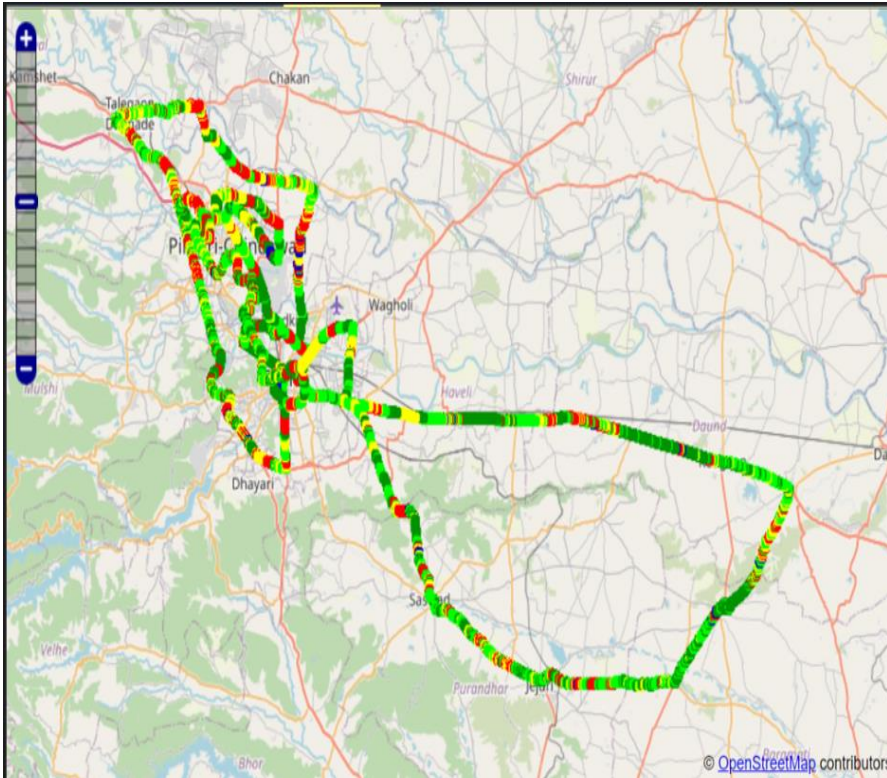
DL throughput	No. of Samples	%
0 to 1 Mbps	1230754	26.63
1 to 2 Mbps	995424	21.54
2 to 3 Mbps	965332	20.89
3 to 4 Mbps	258308	5.59
4 to 8 Mbps	284120	6.15
8 to 12 Mbps	216403	4.68
>12 Mbps	671346	14.53
Total	4621687	100.00



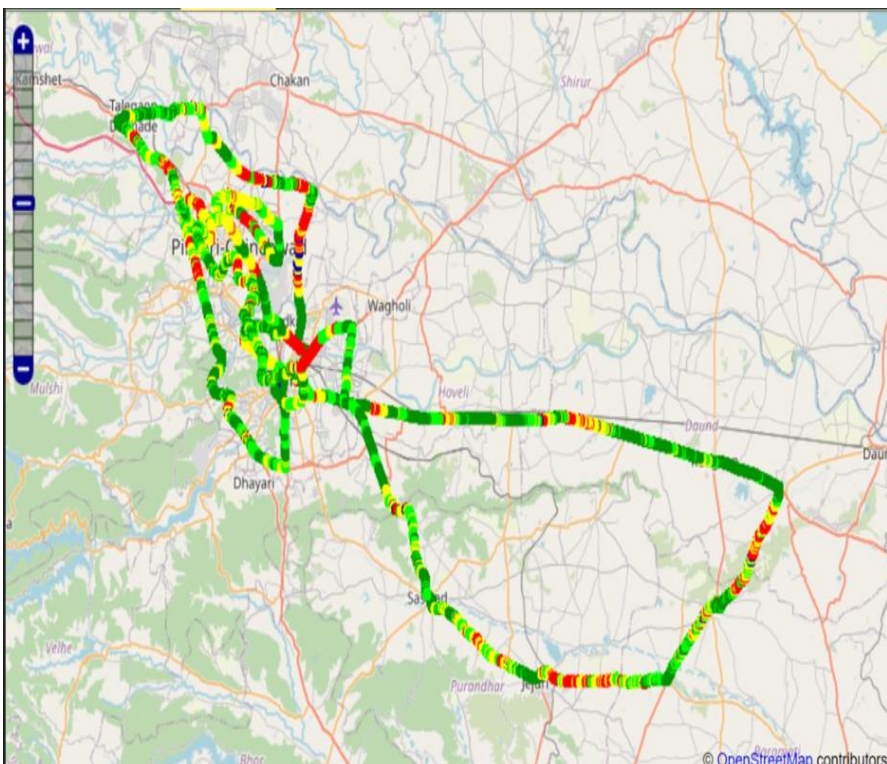
UL throughput	No. of samples	%
0 to 256 Kbps	9270761	77.70
250 to 512 Kbps	690483	5.79
512 Kbps to 1 Mbps	704099	5.90
1 to 2 Mbps	672564	5.64
2 to 3 Mbps	247345	2.07
3 to 4 Mbps	123078	1.03
>4 Mbps	222776	1.87
Total	11931106	100

IV. Dynamic Data Test(Data Test on Move)- 3G/4G DL/UL Details

BSNL



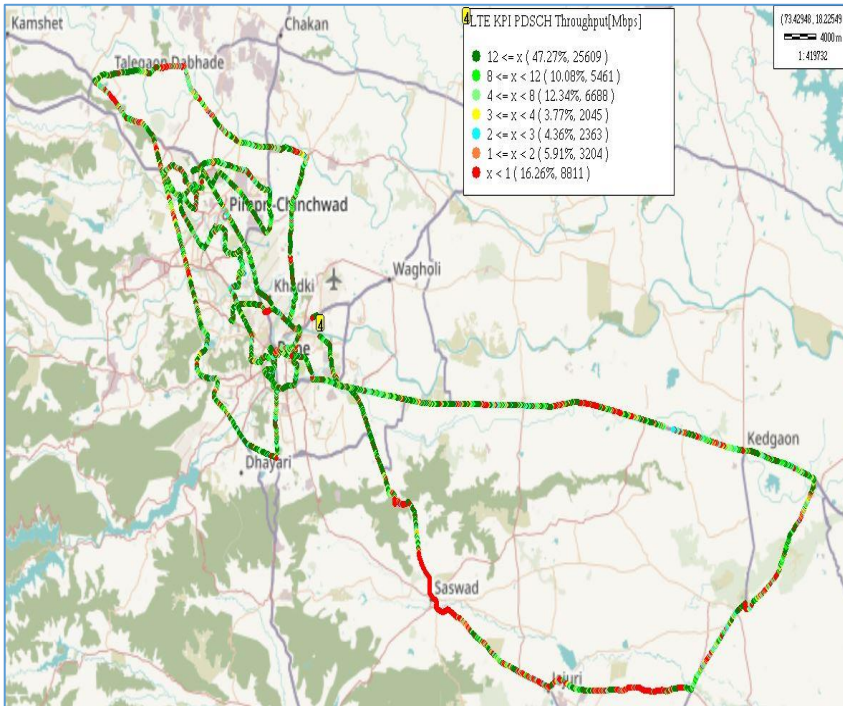
DL throughput	No. of Samples	%
0 to 1 Mbps	485	30.85
1 to 2 Mbps	675	42.93
2 to 3 Mbps	148	9.41
3 to 4 Mbps	218	1.38
4 to 8 Mbps	34	0.216
8 to 12 Mbps	12	0.076
>12 Mbps	0	0
Total	1572	100



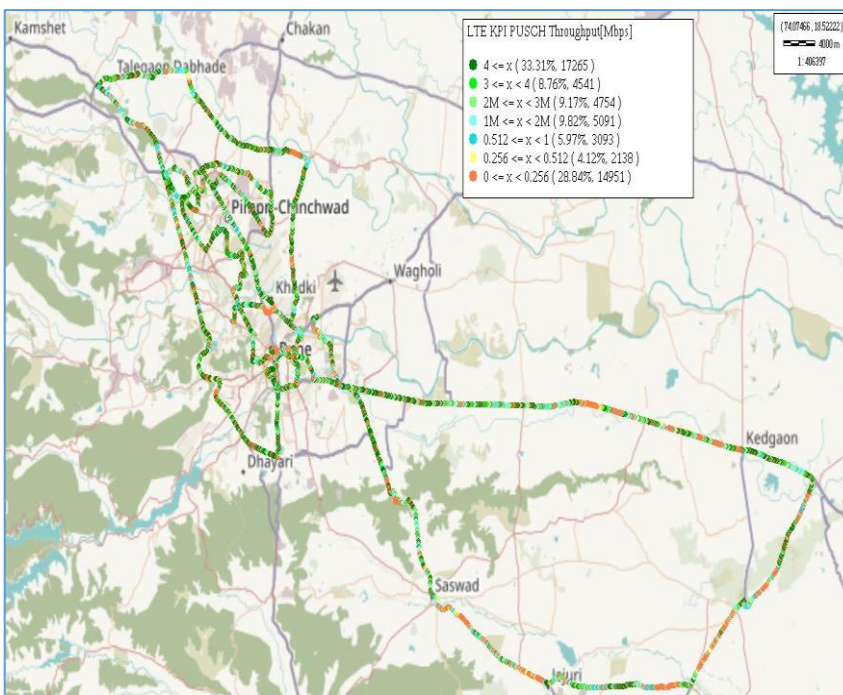
UL throughput	No. of Samples	%
0 to 1 Mbps	265	8.61
1 to 2 Mbps	360	11.69
2 to 3 Mbps	1042	33.86
3 to 4 Mbps	1386	45.04
4 to 8 Mbps	24	0.779
8 to 12 Mbps	0	0
>12 Mbps	0	0
Total	3077	100

IV. Dynamic Data Test(Data Test on Move)- 4G DL/UL Details

JIO



DL throughput	No. of Samples	%
0 to 1 Mbps	8811	16.26
1 to 2 Mbps	3202	5.91
2 to 3 Mbps	2363	4.36
3 to 4 Mbps	2045	3.77
4 to 8 Mbps	6688	12.34
8 to 12 Mbps	5461	10.08
>12 Mbps	25609	47.27
Total	54181	100



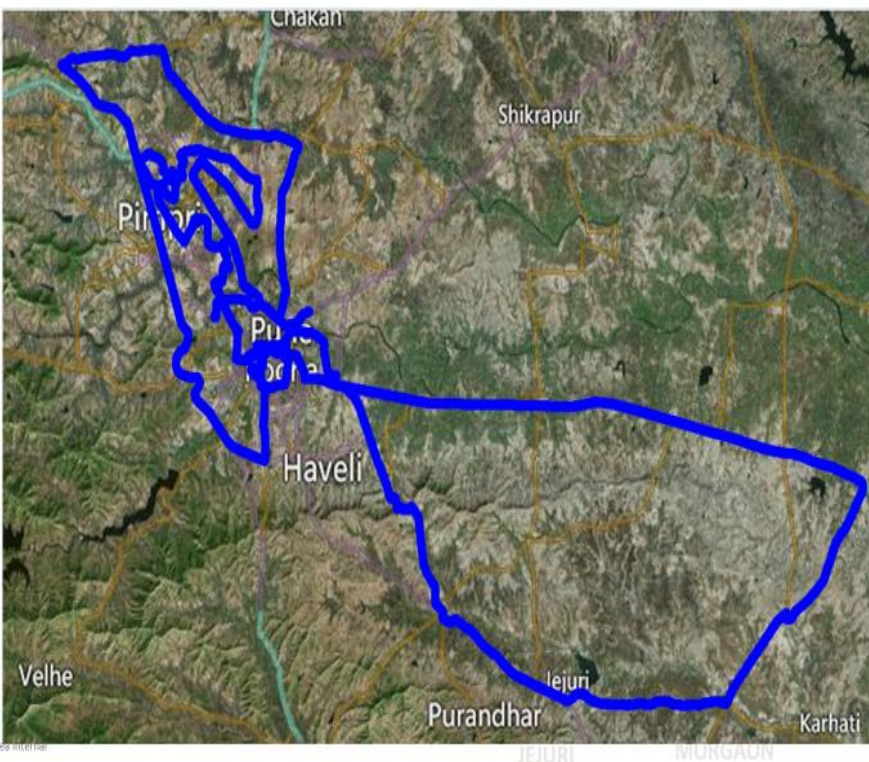
UL throughput	No. of samples	%
0 to 256 kbps Mbps	14951	28.84
256 to 512 kbps	2138	0.512
512 Kbps to 1 Mbps	3093	5.97
1 to 2 Mbps	5091	9.82
2 to 3 Mbps	4754	9.17
3 to 4 Mbps	4541	8.76
>4Mbps	17265	33.31
Total	51833	100

IV. Dynamic Data Test (Data Test on Move)- 4G DL/UL Details

VIL



DL throughput	No. of Samples	%
0 to 1 Mbps	2465788	22.32
1 to 2 Mbps	749257	6.78
2 to 3 Mbps	565725	5.12
3 to 4 Mbps	485249	4.39
4 to 8 Mbps	1444026	13.07
8 to 12 Mbps	1082565	9.8
>12 Mbps	4253914	38.52
Total	11046524	100



UL throughput	No. of samples	%
0 to 256 Kbps	3307858	31.43
250 to 512 Kbps	510439	4.85
512 Kbps to 1 Mbps	517807	4.92
1 to 2 Mbps	831437	7.9
2 to 3 Mbps	768290	7.3
3 to 4 Mbps	557800	5.3
>4Mbps	4030893	38.3
Total	10524524	100

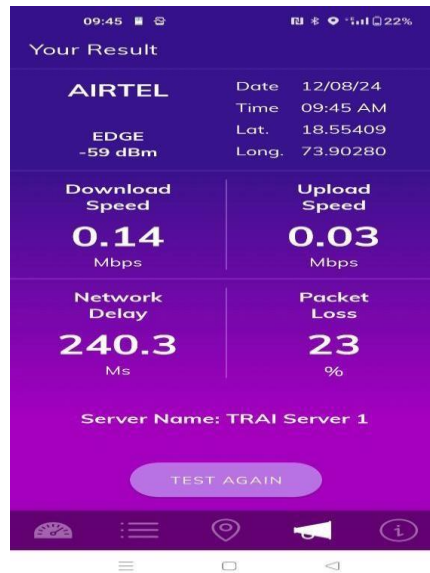
V. TRAI My Speed App Test Details-2G

Technology-2G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	0.04	0.14	0.02	0.06	0.13	0.13
Upload Speed (Mbps)	0.02	0.03	0.03	0.09	0.02	0.03
Latency (ms)	NA	240.3	NA	266.8	212.7	NA

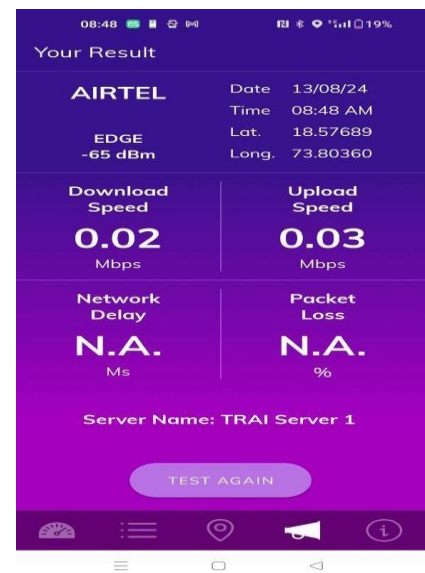
Pune Airport



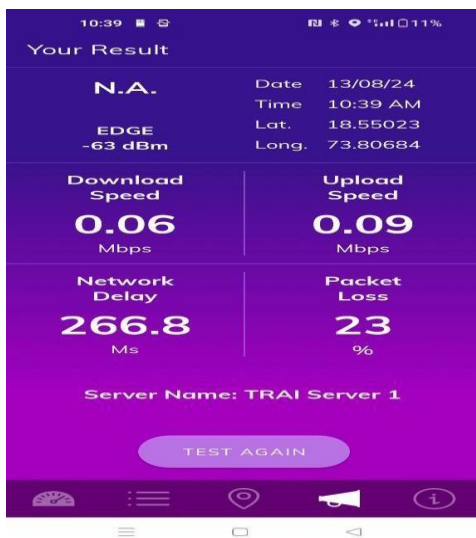
Aga Khan Palace



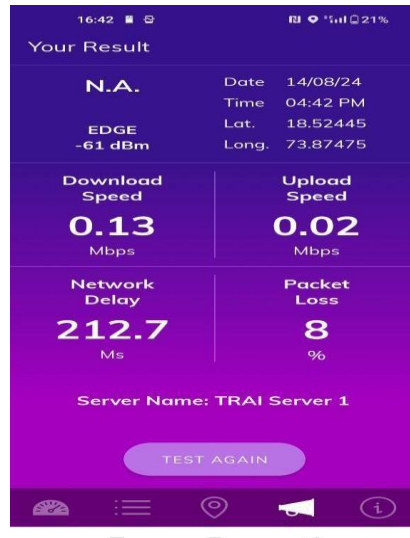
District Hospital



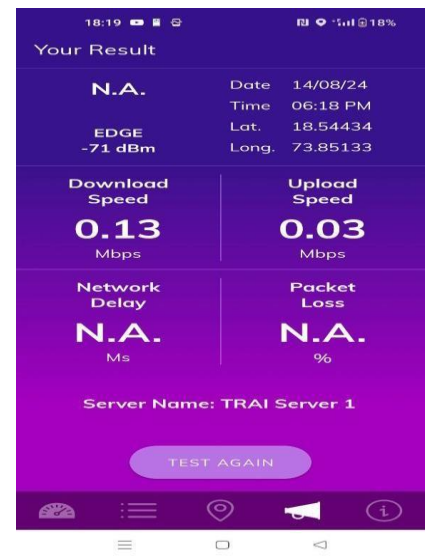
IISER College



Pune Railway Station



Shivaji Nagar Bus Stand



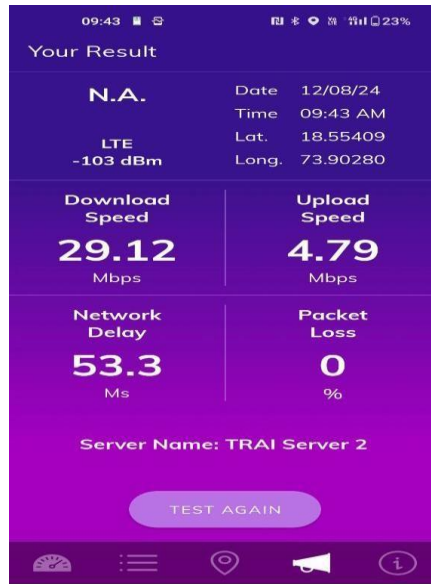
V. TRAI My Speed App Test Details-4G

Techology-4G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	62.97	29.12	37.51	17.61	64.57	31.35
Upload Speed (Mbps)	20.29	4.79	15.65	5.0	10.16	4.88
Latency (ms)	39.8	53.3	45.7	73.2	NA	50.1

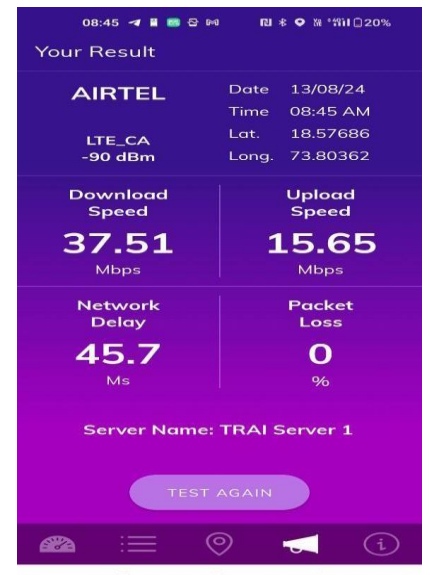
Pune Airport



Aga Khan Palace



District Hospital



IISER College



Pune Railway Station



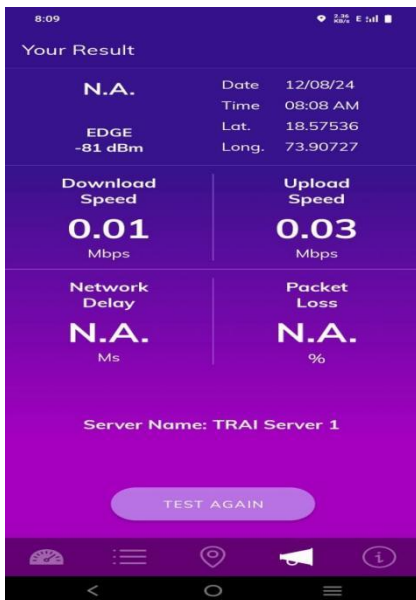
Shivaji Nagar Bus Stand



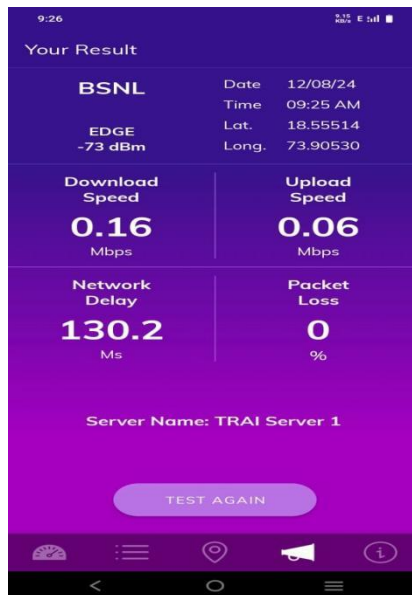
V. TRAI My Speed App Test Details-2G

Techology-2G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	0.01	0.16	0.06	0.02	0.16	0.16
Upload Speed (Mbps)	0.03	0.06	0.03	0.01	0.07	0.06
Latency (ms)	NA	130.2	NA	NA	328.1	162.8

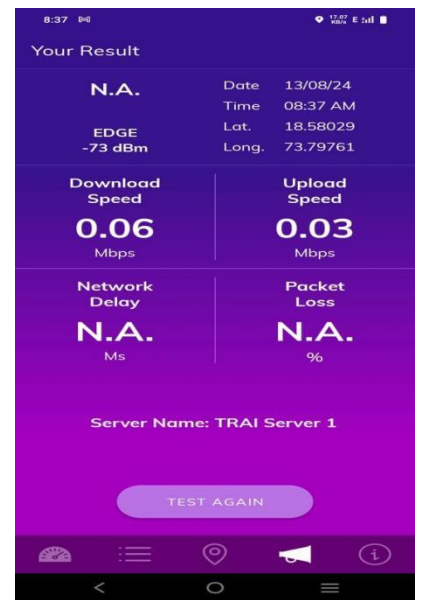
Pune Airport



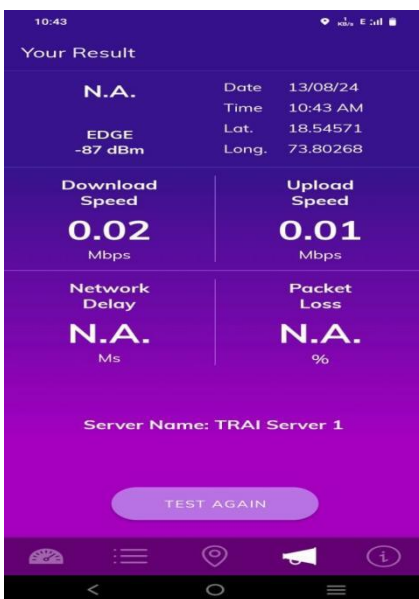
Aga Khan Palace



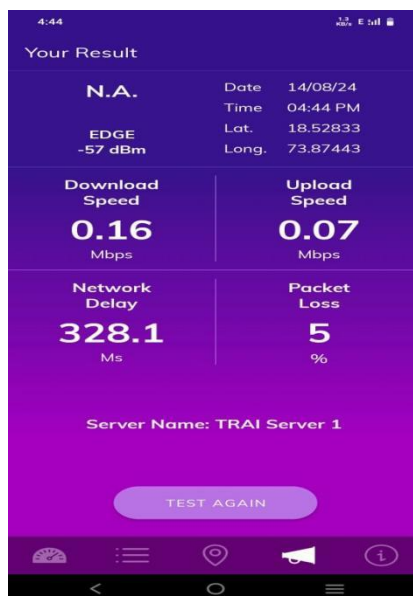
District Hospital



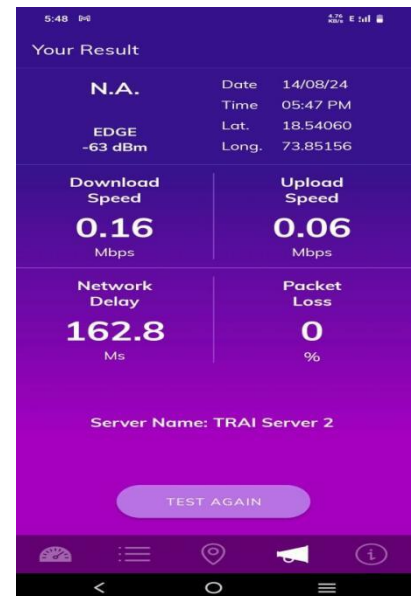
IISER College



Pune Railway Station



Shivaji Nagar Bus Stand



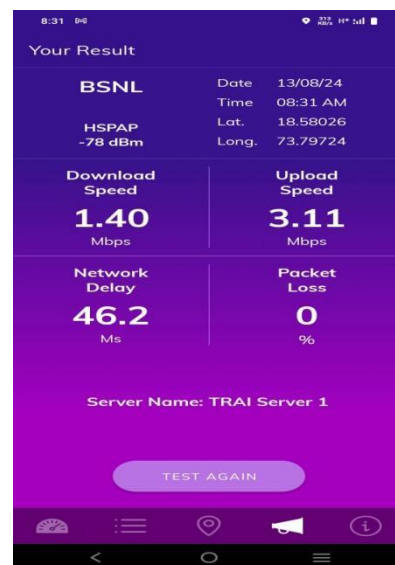
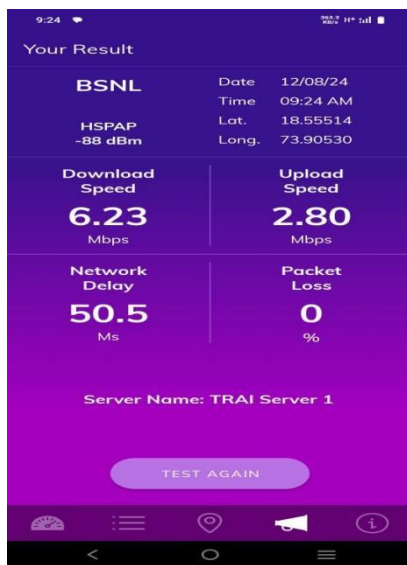
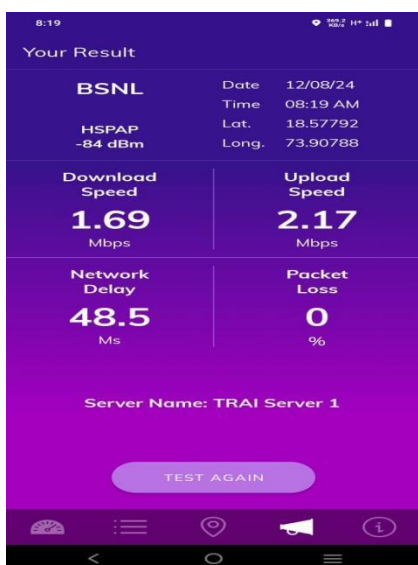
V. TRAI My Speed App Test Details-4G

Techology-4G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	1.69	6.23	1.4	3.25	4.33	5.96
Upload Speed (Mbps)	2.17	2.8	3.11	2.82	3.63	2.32
Latency (ms)	48.5	50.5	46.2	50.2	49.7	52.7

Pune Airport

Aga Khan Palace

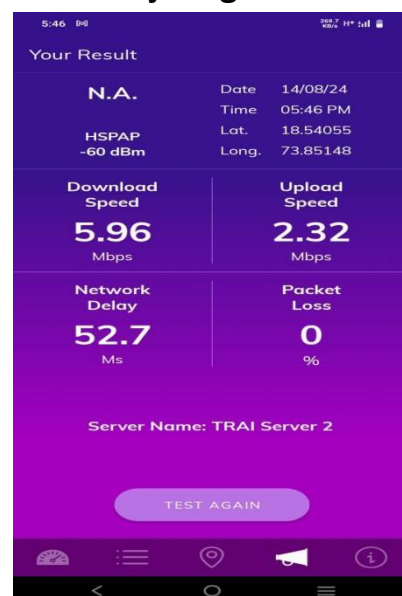
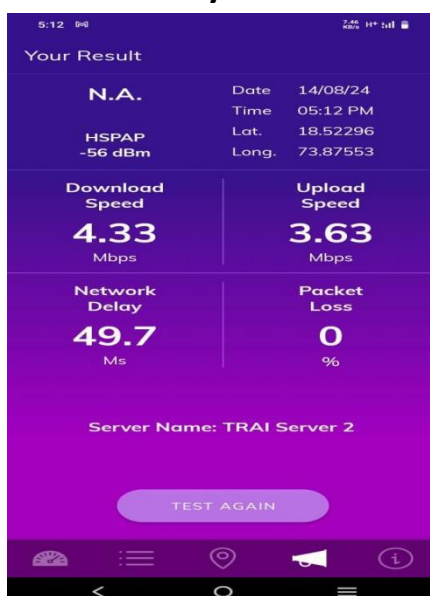
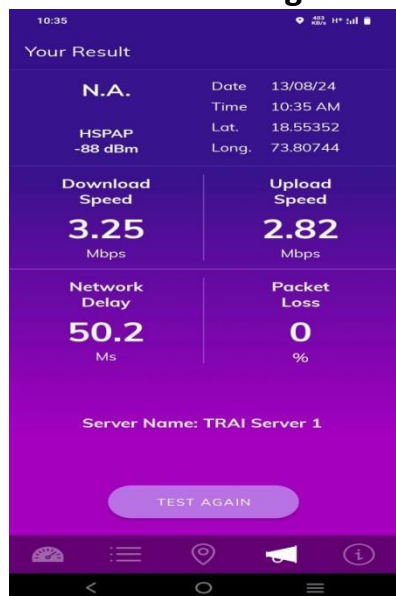
District Hospital



IISER College

Pune Railway Station

Shivaji Nagar Bus Stand



V. TRAI My Speed App Test Details-4G

Techology-4G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	6.55	43.43	3.25	20.86	38.94	22.72
Upload Speed (Mbps)	1.45	3.22	1.37	4.47	49.21	3.50
Latency (ms)	79.4	71.7	43.2	31.2	58.4	32.7

Pune Airport



Aga Khan Palace



District Hospital



IISER College



Pune Railway Station



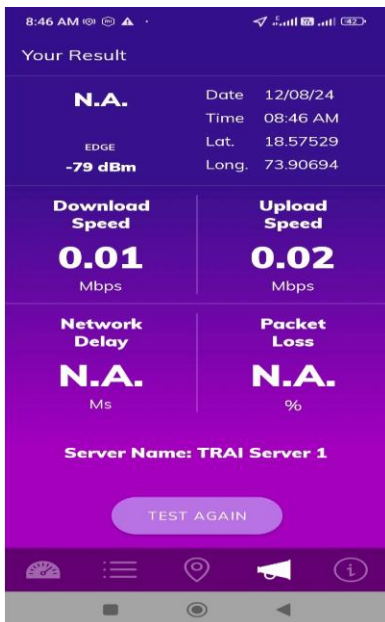
Shivaji Nagar Bus Stand



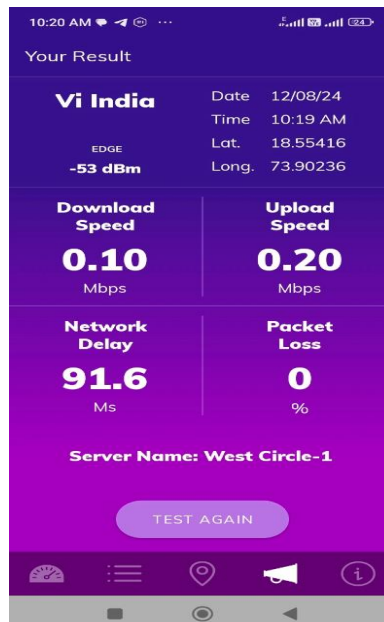
V. TRAI My Speed App Test Details-2G

Techology-2G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	0.01	0.10	0.04	0.09	0.38	0.09
Upload Speed (Mbps)	0.02	0.20	0.09	0.03	0.03	0.04
Latency (ms)	NA	91.6	NA	NA	NA	119.8

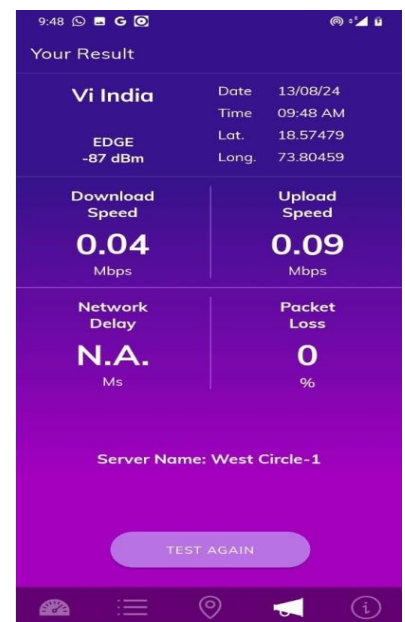
Pune Airport



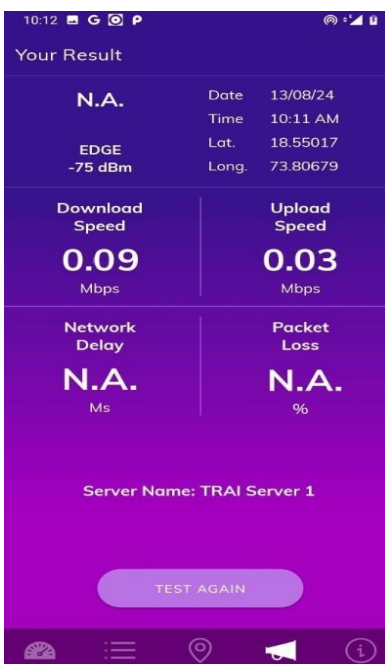
Aga Khan Palace



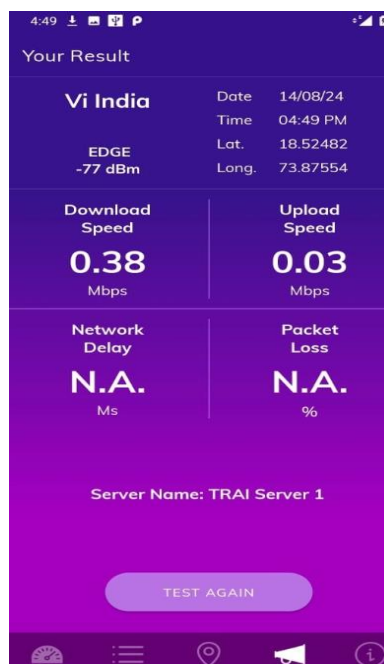
District Hospital



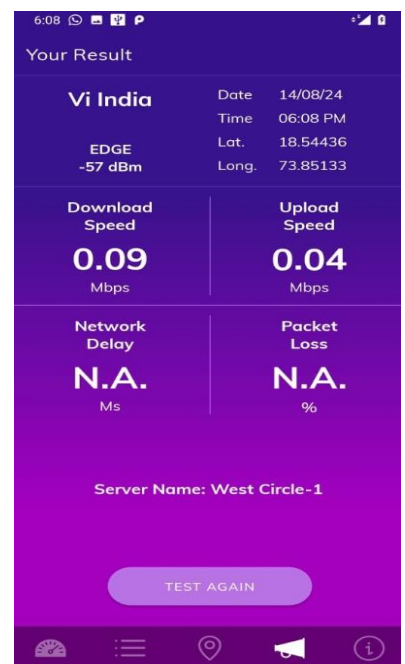
IISER College



Pune Railway Station



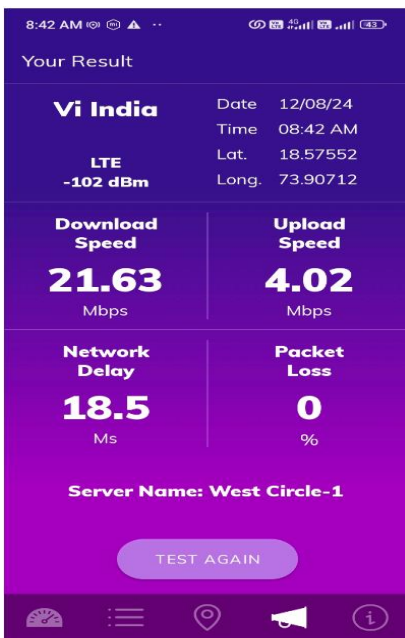
Shivaji Nagar Bus Stand



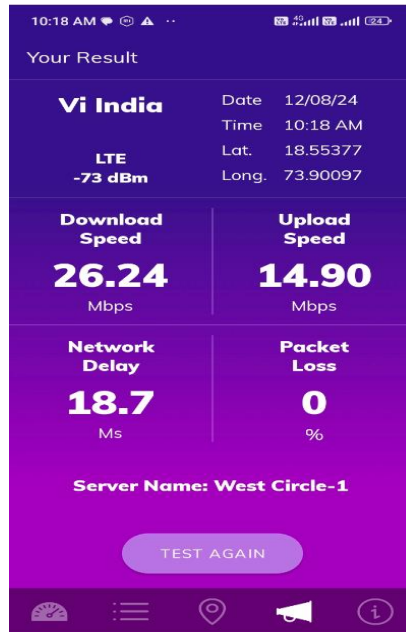
V. TRAI My Speed App Test Details-4G

Techology-4G	Pune Airport	Aga Khan Palace	District Hospital	IISER College	Pune Railway Station	Shivaji Nagar Bus Stand
Download Speed (Mbps)	21.63	26.24	10.28	118.84	95.54	36.38
Upload Speed (Mbps)	4.02	14.90	28.35	99.71	22.91	17.10
Latency (ms)	18.5	18.7	28	17.08	23.2	NA

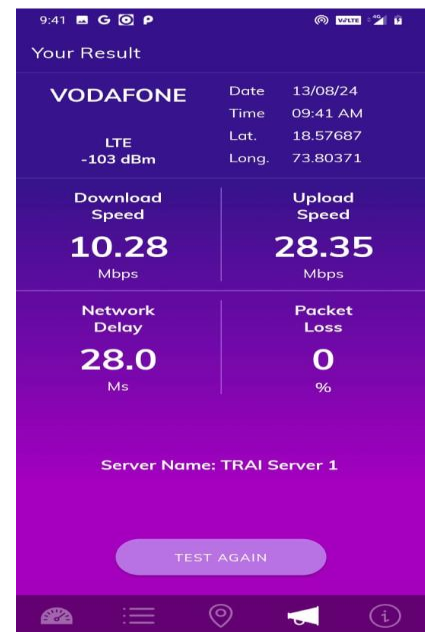
Pune Airport



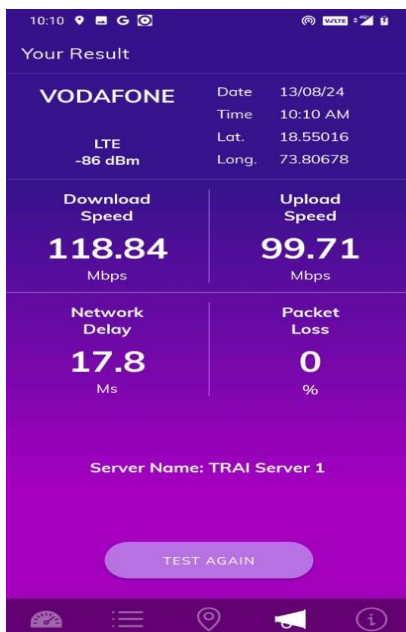
Aga Khan Palace



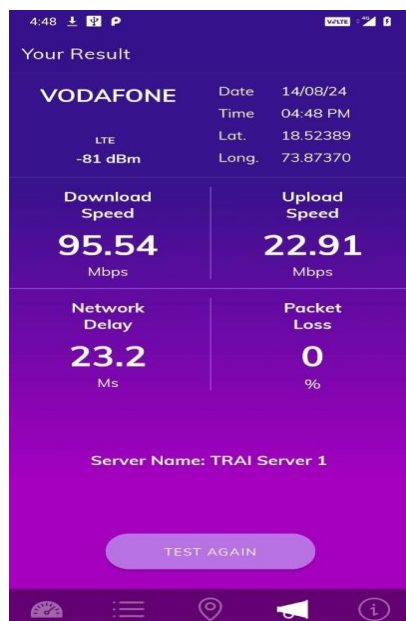
District Hospital



IISER College



Pune Railway Station



Shivaji Nagar Bus Stand

