Operator Assisted Drive Test Report
Delhi NCR
December, 2024
(RO, Delhi)

Key Performance Indicators: **All TSPs have met the Drop Call Rate (DCR) benchmark of ≤ 2%, except MTNL. All TSPs have met the Call Setup Success Rate (CSSR) of ≥ 95%, except MTNL.**

The Operator Assisted Drive Test has been carried out by Regional Office, Delhi with the help of Service Providers in Delhi, Ghaziabad and Faridabad and surrounding areas from 03rd to 6th December 2024 from 9.00 AM to 06.00 PM. The drive test covered drive route of 150 KMs (approx) over a period of four days covering walk test of Sanchar Bhawan, Nirman Bhawan, RML Hospital and TRAI HQ Building. Approximately 1237 calls were made for the 5 networks: one in 2G network, one in 3G network and three in 4G networks covering four TSPs.

Voice and Dynamic/Static Data Test Route		
S.No	Date	Location/Area
1	3-12-2024	Mathura Road to Faridabad & nearby areas
2	4-12-2024	Sahibabad, Indirapuram, Vaishali, Naya Ghaziabad, Rajnagar & nearby areas
3	5-12-2024	Sanchar Bhawan, RML Hospital and Nirman Bhawan
4	6-12-2024	TRAI Office, WTC campus Nauroji Nagar

Overview

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, Call Setup Success Rate, Drop Call Rate and Block Call Rate.

Data: Download Throughputs and Data File Success Rate.

Voice Tests: Calls were made for 90 secs duration with wait time of 5 secs between call in all technologies. One 2G network, One 3G network, Three 4G networks covering 4 unique TSPs were tested.

Data Tests: Dynamic Data Service Testing was performed along same route in all technologies. 500 KB file for 2G, 20MB file for 3G and 40MB file for 4G were downloaded from FTTP server in TSP's own server. Static Data Service Testing was also performed. One 2G (Lock Mode) network, one 3G (Lock Mode) network, Three LTE (Lock Mode) networks covering 4 unique TSPs were tested.

Service	Static Data Service Testing- Specifications
Download	2G (Locked) - 500KB, 3G (Locked) - 20 MB, 4G (Locked) - 40 MB
Upload	2G (Locked) - 100KB, 3G (Locked) - 5 MB, 4G (Locked) - 10 MB
Web Browsing	3 links of e/m commerce website www.amazon.in, www.flipkart.com and PayTm
Video Steaming	130 secs Clip
Latency	32 Bytes on www.google.com

Data Service Test- Static Locations
Sanchar Bhavan
Nirman Bhawan
RML Hospital
TRAI HQ

Drive Test Route Map

DAY-1

AIRTEL
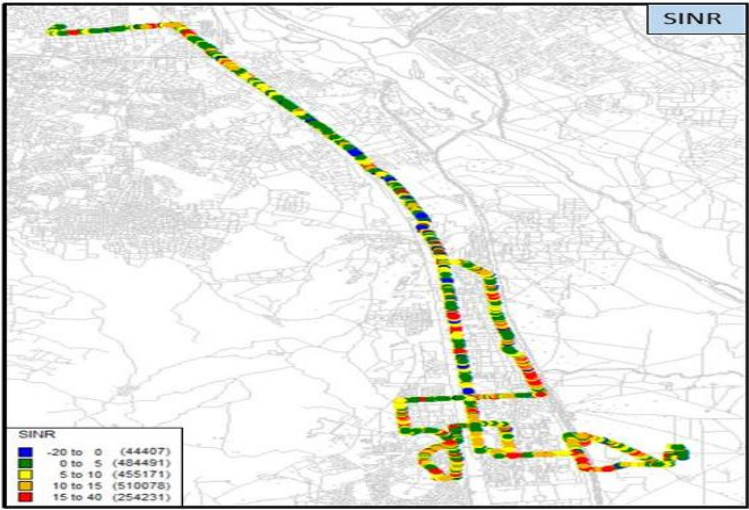
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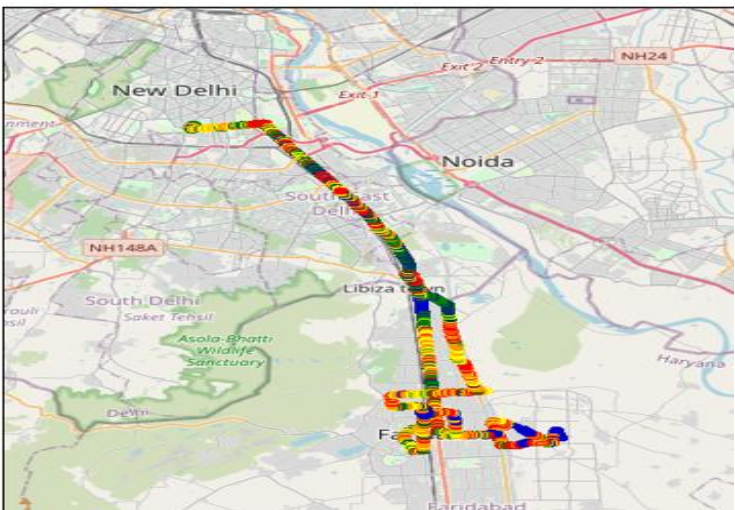
RJIO
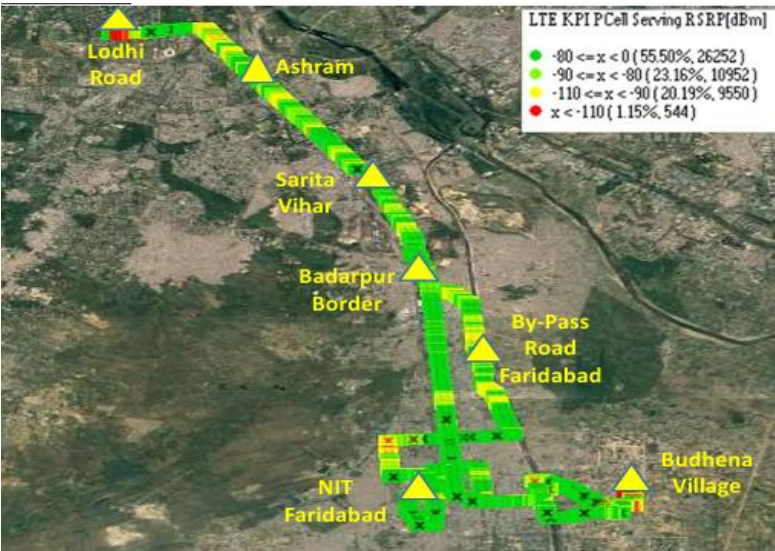
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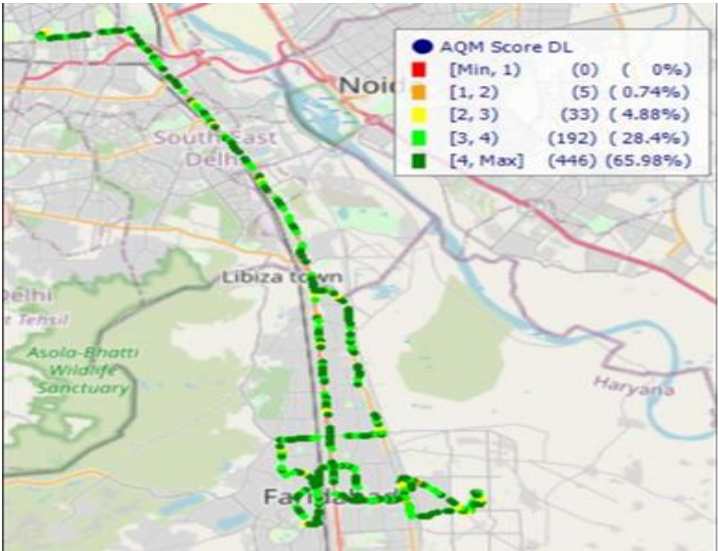
Drive Test Route Map

DAY-2

AIRTEL
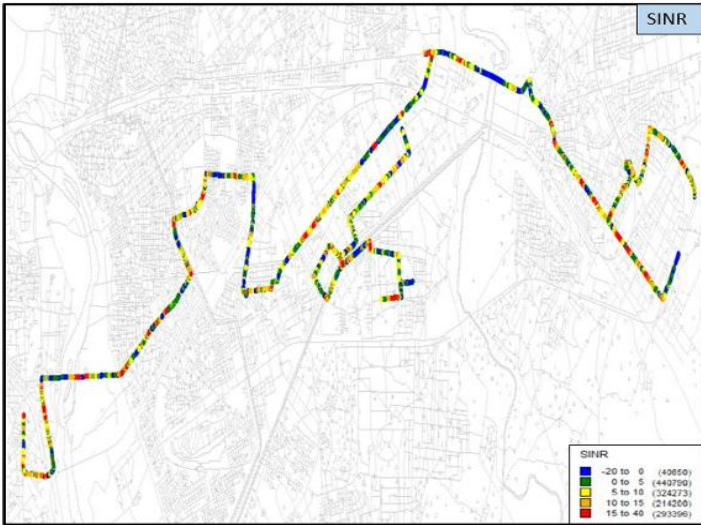
MTNL

RJIO

VI
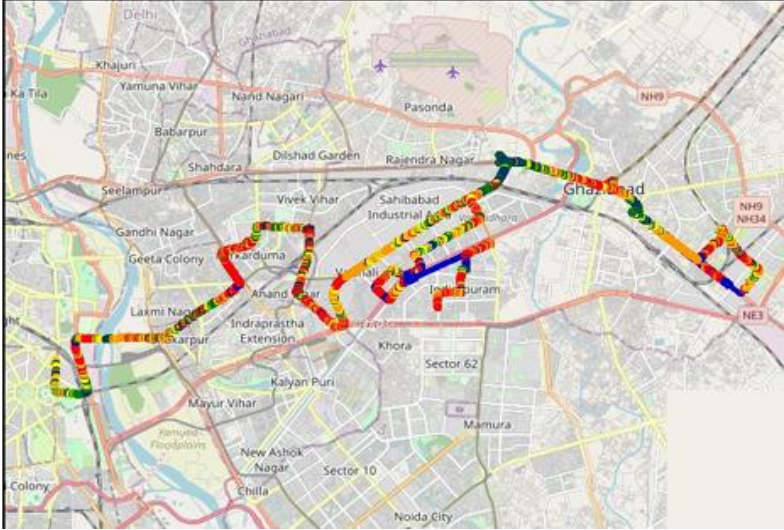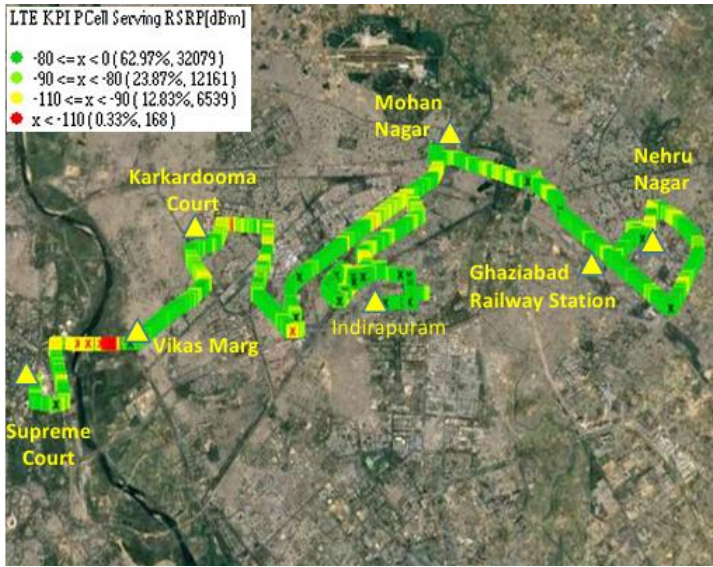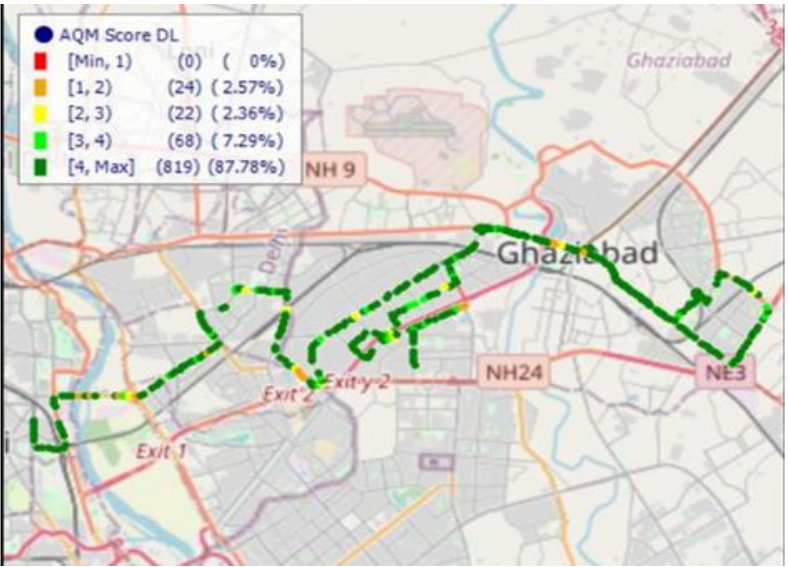
Summary

DAY-1

Voice Call	2G
	VIL 2G
Call Attempt	96
Blocked Call Rate (%)	0
CSSR% (Accessibility)	100
Drop Call Rate (%)	0
Mobility HOSR (%)	97.41
Rx Quality (%) (=<5)	95.70

Voice Call	3G/4G			
	MTNL 3G	AIRTEL 4G	RJIO 4G	VIL 4G
Call Attempt	107	97	97	104
Calls Established	98	97	97	104
CSSR% (Accessibility)	91.58	100	100	100
Drop Call Rate (%)	3.06	0	0	0
Mobility HOSR (%)	100	100	99.18	98.77
Ec/No%(>= -14 dbm) in 3G SINR%(> 0) in 4G	23.38	97.46	-	95.93

Voice Calls

QoS compliance of the TSPs in Delhi LSA for Voice across technologies 2G/3G/4G

Drop Call Rate % - Benchmark ≤2%

Drop Call Rate (%)

2G, 3G & 4G Network

Provider	Drop Call Rate (%)
MTNL (3G)	3.06
VI (2G)	0
AIRTEL (4G)	0
JIO (4G)	0
VI (4G)	0
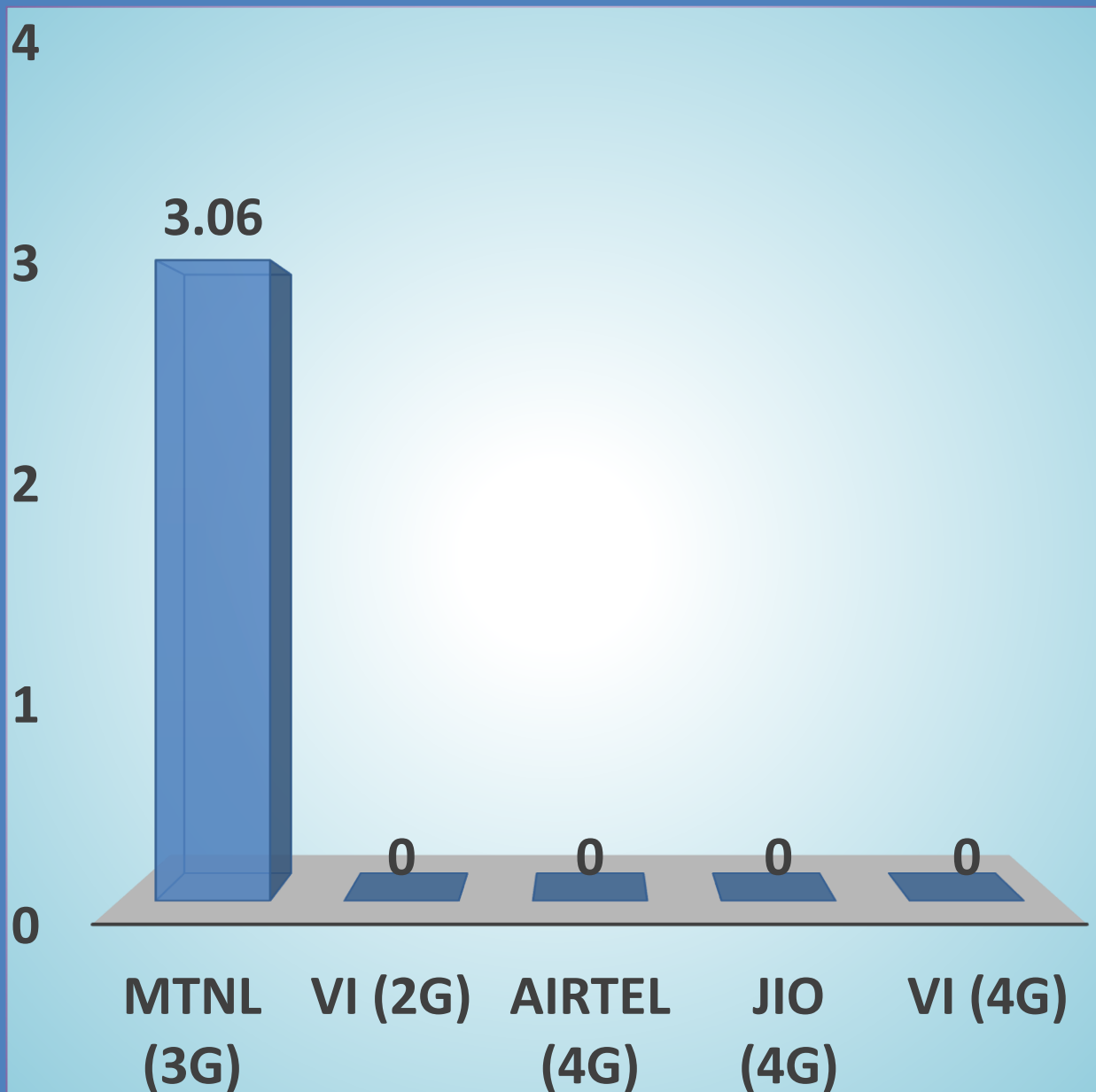
Summary

DAY-2

Voice Call	2G
	VIL
Call Attempt	130
Blocked Call Rate (%)	0
CSSR% (Accessibility)	100
Drop Call Rate (%)	0
Mobility HOSR (%)	98.36
Rx Quality (%) (=<5)	95.79

Voice Call	3G/4G			
	MTNL 3G	AIRTEL 4G	RJIO 4G	VIL 4G
Call Attempt	175	107	108	136
Calls Established	158	107	108	136
CSSR% (Accessibility)	90.28	100	100	100
Drop Call Rate (%)	7.59	0	0	0
Mobility HOSR (%)	100	100	99.73	99.52
Ec/No%(>= -14 dbm) in 3G SINR%(> 0) in 4G	31.18	96.9	-	96.59

Voice Calls

QoS compliance of the TSPs in Delhi LSA for Voice across technologies 2G/3G/4G

Drop Call Rate % - Benchmark ≤2%

Drop Call Rate (%)

2G, 3G & 4G Network

	Drop Call Rate %
MTNL (3G)	7.59
VI (2G)	0
AIRTEL (4G)	0
JIO (4G)	0
VI (4G)	0

Summary
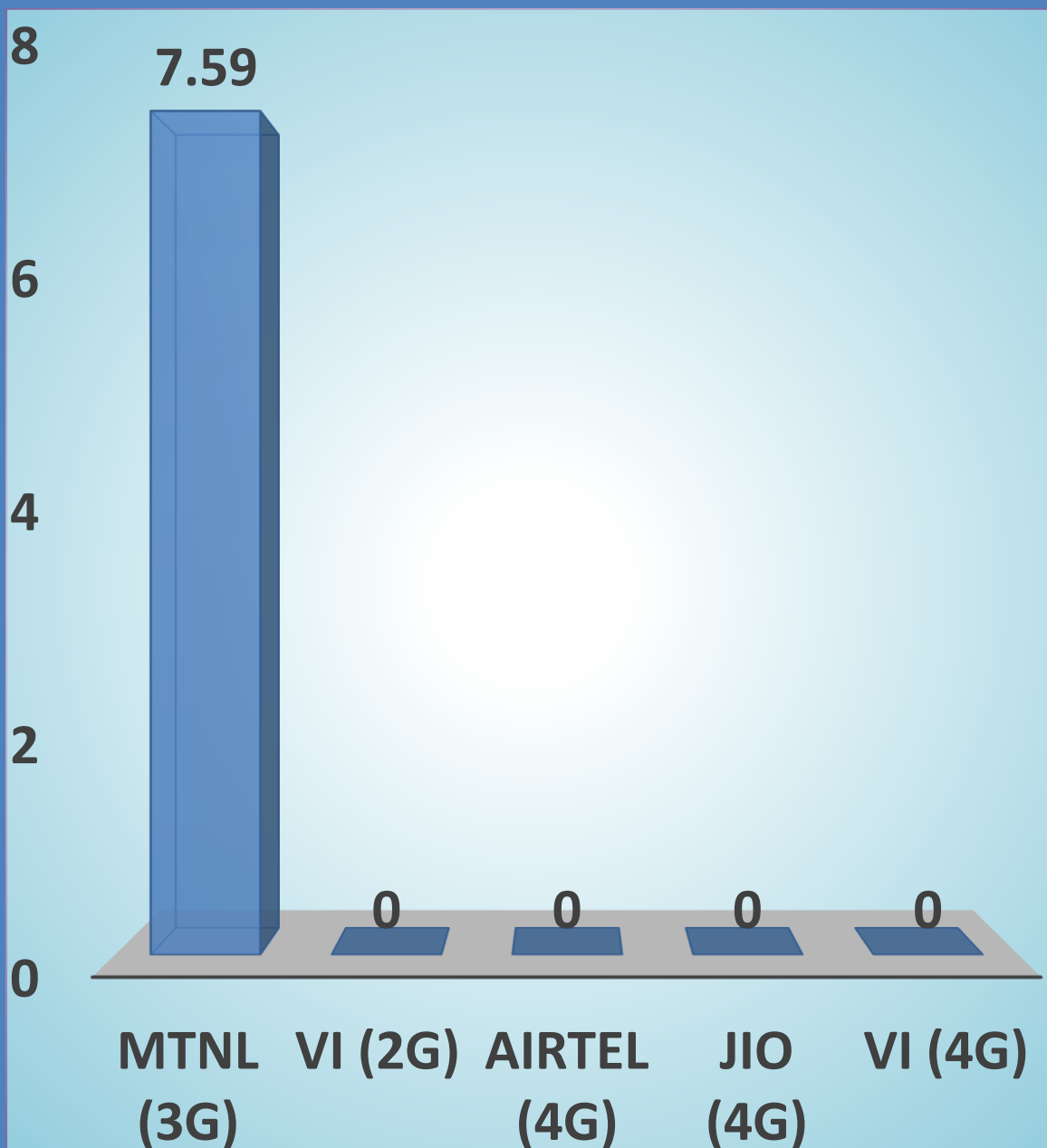
DAY-1

3G DATA DYNAMIC TEST (MTNL)

DL throughput	No of Sample	Sample %
0 to 0.5 Mbps	2779	36.17
0.5 to 1 Mbps	592	7.71
1 to 2 Mbps	1117	14.55
2 to 5 Mbps	2060	26.81
>5 Mbps	1134	14.76
Total	**7682**	**100%**

4G DATA DYNAMIC TEST

DL throughput	Airtel		JIO		VI	
	No. of Sample	Sample %	No. of Sample	Sample %	No. of Sample	Sample %
0 to 1 Mbps	27967	0.62%	290	2.82	107	1.90%
1 to 2 Mbps	38168	0.85%	178	1.73	193	3.43%
2 to 5 Mbps	158377	3.51%	585	5.70	626	11.12%
5 to 10 Mbps	282325	6.26%	918	8.95	1068	18.95%
>10 Mbps	4000576	88.76%	8296	80.80	3638	64.60%
Total	**4507413**	**100**	**10267**	**100**	**5632**	**100**

5G DATA DYNAMIC TEST

DL throughput	Airtel		JIO	
	No. of Sample	Sample %	No. of Sample	Sample %
0 to 2 Mbps	19731	0.36%	2228	4.87
2 to10 Mbps	37162	0.67%	3737	8.18
10 to 40 Mbps	56087	1.01%	2161	4.73
40 to 200 Mbps	1008527	18.22%	12862	28.14
>200 Mbps	4413001	79.74%	24716	54.08
Total	**5534508**	**100**	**45704**	**100**

Summary

DAY-2

3G DATA DYNAMIC TEST (MTNL)

DL throughput	No. of Sample	Sample %
0 to 0.5 Mbps	3617	38.77
0.5 to 1 Mbps	966	10.35
1 to 2 Mbps	1303	13.97
2 to 5 Mbps	2001	21.45
>5 Mbps	1443	15.46
Total	9330	100

4G DATA DYNAMIC TEST

DL throughput	Airtel		JIO		VI	
	No. of Sample	Sample %	No. of Sample	Sample %	No. of Sample	Sample %
0 to 1 Mbps	36141	1.22	522	4.79	66	1.74
1 to 2 Mbps	43874	1.48	245	2.25	138	3.65
2 to 5 Mbps	209028	7.07	787	7.23	411	10.86
5 to 10 Mbps	374884	12.67	1131	10.39	766	20.23
>10 Mbps	2294095	77.56	8203	75.34	2405	63.52
Total	2958022	100	10888	100	3786	100

5G DATA DYNAMIC TEST

DL throughput	Airtel		JIO	
	No. of Sample	Sample %	No. of Sample	Sample %
0 to 2 Mbps	19731	0.36%	3198	5.72
2 to10 Mbps	37162	0.67%	3288	5.88
10 to 40 Mbps	56087	1.01%	2524	4.51
40 to 200 Mbps	1008527	18.22%	15304	27.35
>200 Mbps	4413001	79.74%	31632	56.54
Total	5534508	100	55946	100

Summary-Data Services Static

AIRTEL

Sanchar Bhawan	4G		5G	
Test Location Name	DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)
Main Gate	30.40	0.98	474.00	42.30
Back Side Exit Gate	46.00	1.38	354.00	64.80
Parking Area Entry	67.40	1.66	315.00	80.30
Parking Area Ramp	25.50	1.32	235.00	88.70
Near Canteen	26.90	1.89	222.00	20.70
Inside Canteen	36.9	2.20	254.00	16.50
Main Exit Gate	29.60	1.36	354.00	33.00
Outside Building	41.80	1.26	218.00	25.30
Left Outside Area	47.40	2.41	209.00	33.20

RML Hospital	4G		5G	
Test Location Name	DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)
Entry Gate	38.80	6.26	301.00	67.70
Exit Gate	32.70	2.57	257.00	89.10
Emergency Gate	55.20	4.11	209.00	58.60
Trauma Centre	38.50	3.86	308.00	103.00
Crona Screening Center	31.80	2.80	473.00	60.30
OPD	38.70	3.71	323.00	81.20
Emergency Building	26.70	2.25	372.00	60.60
Admission Enquiry	23.50	2.08	117.00	8.91
Gate No.5	53.80	4.17	270.00	38.10
Near Ambulance Waiting Area	32.30	3.66	148.00	12.80

Nirman Bhawan	4G		5G	
Test Location Name	DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)
Opposite Post office	40.60	5.79	111.00	5.83
Main Gate	49.10	20.40	257.00	14.30
Front of Reception No. 2	34.10	13.00	184.00	15.60
Basement Parking Entry	18.00	1.84	175.00	13.00
Basement Parking Exit Gate	18.40	2.83	319.00	12.20
Back Side Exit Gate	45.70	8.38	216.00	17.10
VIP Parking	51.30	11.00	186.00	19.30
Gate No-2	30.70	5.75	96.50	5.79

Summary-Data Services Static

AIRTEL

World Trade Centre & TRAI HQ, Nauroji Nagar	4G		5G	
	DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)
Tower F - Ground Floor (Indoor)	86.00	3.31	436.00	19.20
Tower F - 7th Floor (Indoor) Chairman Office	67.70	2.30	584.00	64.40
Tower F -7th Floor (Indoor) GYM	81.30	2.66	698.00	71.5
Tower F - 7th Floor (Indoor) Office area	78.10	2.11	673.00	63.90
Tower F - 7th Floor (Indoor) Washroom Area	51.90	1.17	583.00	56.40
Tower F - 6th Floor (Indoor) Cafeteria	85.30	1.05	408.00	65.50
Tower F - 6th Floor (Indoor) Office Area	82.30	2.73	640.00	73.40
Tower F - 6th Floor (Indoor) Meeting Room	82.30	1.63	434.00	48.30
Tower F - 5th Floor (Indoor) TSP Room 507	91.30	8.16	680.00	40.10
Tower F - 5th Floor (Indoor) Room 536	85.30	6.09	701.00	48.60
Tower F - Basement-B2 Pillar	-91.00	-73.00	635.00	25.20
Tower F - Basement-B1 FC-8	71.00	19.00	648.00	41.20
Tower F - Basement-B1 Pillar-ND 100	7.20	1.98	410.00	6.77
Tower G - (Outdoor)	18.00	18.00	131.00	12.30
Tower E - (Outdoor)	-91.00	-73.00	180.00	40.10
Tower D - (Outdoor)	71.00	19.00	179.00	15.8
Tower C - (Outdoor)	18.00	18.00	219.00	8.10
Tower A - (Outdoor)	-91.00	-73.00	165.00	5.80
Tower B - (Outdoor)	7.20	1.98	28.00	4.00

Summary-Data Services Static

RJIO

Sanchar Bhawan	4G		5G	
Test Location Name	**DL (Mbps)**	**UL (Mbps)**	**DL (Mbps)**	**UL (Mbps)**
Main Gate	8.77	7.64	322.00	88.37
MOS Parking	28.90	13.50	527.40	112.40
DOT Back Office	34.19	13.87	515.90	118.80
Parking Area Entry	49.25	11.92	692.66	116.10
Moid of Parking	40.54	10.06	605.67	52.32
Near Canteen	21.19	4.77	373.15	52.13
Inside Canteen	71.92	16.41	417.76	30.86
At Exit Gate	18.17	4.98	306.97	55.79
At Reserved Parking (Differently Abled Person)	36.50	9.82	441.99	116.18

RML Hospital	4G		5G	
Test Location Name	**DL (Mbps)**	**UL (Mbps)**	**DL (Mbps)**	**UL (Mbps)**
Staff Entry Gate	35.93	6.09	331.20	35.07
Exit Gate No-01	29.88	5.81	256.87	28.09
Emergency Gate	14.55	4.71	374.65	54.61
Trauma Centre	22.38	2.46	337.85	47.78
Crona Screening Center	10.89	3.58	203.44	29.52
OPD	17.44	2.46	142.97	18.91
Emergency Building	6.18	3.54	247.03	22.80
Admission Enquiry	17.17	8.34	317.01	36.15
Exit Gate No-02	26.29	2.80	272.62	18.78
Nursing Home	9.07	3.60	188.76	44.97

Nirman Bhawan	4G		5G	
Test Location Name	**DL (Mbps)**	**UL (Mbps)**	**DL (Mbps)**	**UL (Mbps)**
Opposite Post office	23.67	3.81	201.00	42.00
Main Gate	14.88	11.28	277.99	57.53
New Ramp Exit	7.69	3.78	184.74	13.84
Adjacent Udyog Bhavan	13.90	2.14	331.72	56.62
Near Exit Gate	13.83	3.77	307.37	65.39
Near CPWD Office	12.76	4.20	215.29	32.72
Near Gate No-2	5.08	2.20	167.98	18.99

Summary-Data Services Static

RJIO

World Trade Centre & TRAI HQ, Nauroji Nagar	4G		5G	
	DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)
Tower F - (Outdoor)	178.17	9.30	225.23	23.21
Tower F - Ground Floor (Indoor)	109.91	7.49	296.80	26.20
Tower F - 7th Floor (Indoor) Chairman Office	181.87	5.92	334.81	13.82
Tower F -7th Floor (Indoor) GYM	100.41	7.43	466.92	20.20
Tower F - 7th Floor (Indoor) Office area	156.95	8.34	509.82	24.50
Tower F - 7th Floor (Indoor) washroom	160.70	5.91	253.45	13.34
Tower F - 6th Floor (Indoor) Cafeteria	88.43	7.78	399.50	8.76
Tower F - 6th Floor (Indoor) office area	97.55	7.76	539.56	23.34
Tower F - 6th Floor (Indoor) Meeting room	129.39	9.13	608.70	31.63
Tower F - 5th Floor (Indoor) office area	100.34	8.79	464.78	12.86
Tower F - 5th Floor (Indoor) TSP Room 507	156.14	10.56	485.87	42.76
Tower F - 5th Floor (Indoor) Room 536	158.40	9.23	435.65	14.43
Tower F - 4th Floor (Indoor) Entrance	149.03	8.64	559.43	30.32
Tower F - 4th Floor(Indoor) Office area	170.24	9.18	660.73	31.33
Tower F - 4th Floor(Indoor) Office area	109.62	9.38	526.21	30.17
Tower F - Basement-B2 Pillar-FC9	145.74	18.63	595.31	9.23
Tower F - Basement-B2 Pillar-FC38	67.49	3.85	452.63	9.23
Tower F - Basement-B1 Pillar-FC9	171.87	9.30	521.80	9.73
Tower F - Basement-B1 Pillar-ND99A	29.62	3.92	333.42	9.81
Tower G - (Outdoor)	24.71	6.41	165.23	12.34
NP School - (Outdoor) Atal Adharsh School	37.12	20.92	228.23	22.85
Tower H - (Outdoor)	16.09	4.76	260.08	35.17
Tower I - (Outdoor)	32.67	9.34	289.43	32.98
Tower E - (Outdoor)	42.67	8.75	400.07	31.11
Tower D - (Outdoor)	33.59	9.72	399.27	89.19
Tower C - (Outdoor)	31.65	9.57	231.62	78.39
Tower A - (Outdoor)	54.97	9.34	541.63	87.14
Tower B - (Outdoor)	40.81	9.34	535.65	64.65

Summary-Data Services Static

MTNL

Sanchar Bhawan	3G	
Test Location Name	**DL(Mbps)**	**UL(Mbps)**
Main Gate	1.24	0.60
Mid Parking	0.82	0.80
Canteen	1.08	0.23
Exit Gate	5.51	0.40

RML Hospital	3G	
Test Location Name	**DL(Mbps)**	**UL(Mbps)**
Gate No.4	3.7	3.45
Gate No.5	3.51	2.43
Emergency Ward	5.87	2.32
Trauma Care Centre	5.28	1.79
Corona Screening Centre	6.5	1.58
Old Emergency Building	3.87	2.7
Admission Enquiry Counter	11.14	2.87
OPD	3.91	1.24

Nirman Bhawan	3G	
Test Location Name	**DL(Mbps)**	**UL(Mbps)**
Entry Gate	3.97	1.87
Parking	2.90	0.41
Parking Near Exit Gate	2.86	1.23
Gate No.3	6.00	2.34
Gate No.2	5.65	2.48
Gate No.2 Bike Parking	4.47	2.98
Exit Gate	7.64	2.36

Summary-Data Services Static

MTNL

TRAI HQ, Nauroji Nagar	3G	
Test Location Name	**DL(Mbps)**	**UL(Mbps)**
701	1.82	0.06
701 GYM	4.68	0.10
7th Floor Office Area	1.59	0.03
6th Floor TRAI Main Office	1.75	0.08
628 Dinning Area	2.26	0.09
6th Floor Cafeteria	1.86	0.04
TDP Server Room	2.16	0.18
Room 536	2.16	0.05
4th Floor Office Area	1.70	0.03
B2 Basement	1.69	0.02
B1 Basement	0.5	0.01

Summary-Data Services Static

VI

Test Location Name	4G	
	DL(Mbps)	UL(Mbps)
Sanchar Bhawan	23.16	12.6
RML Hospital	14.41	10.84
Nirman Bhawan	24.4	15.27

TRAI HQ, Nauroji Nagar

S.No	Test Location Name	4G	
		DL(Mbps)	UL(Mbps)
1	7th Floor	27.2	15.7
2	6th Floor	44.6	14.9
3	6th Floor Cafeteria	65	4.63
4	5th Floor	68.1	5.24
5	4th Floor	61.5	8.38
6	4th Floor Office Area	59	7.13
7	B1 Basement	48.6	15.7
8	B2 Basement	51.6	16.5

THANK YOU