

Operator Assisted Drive Test Report

Patiala City and Patiala to Chandigarh Highway

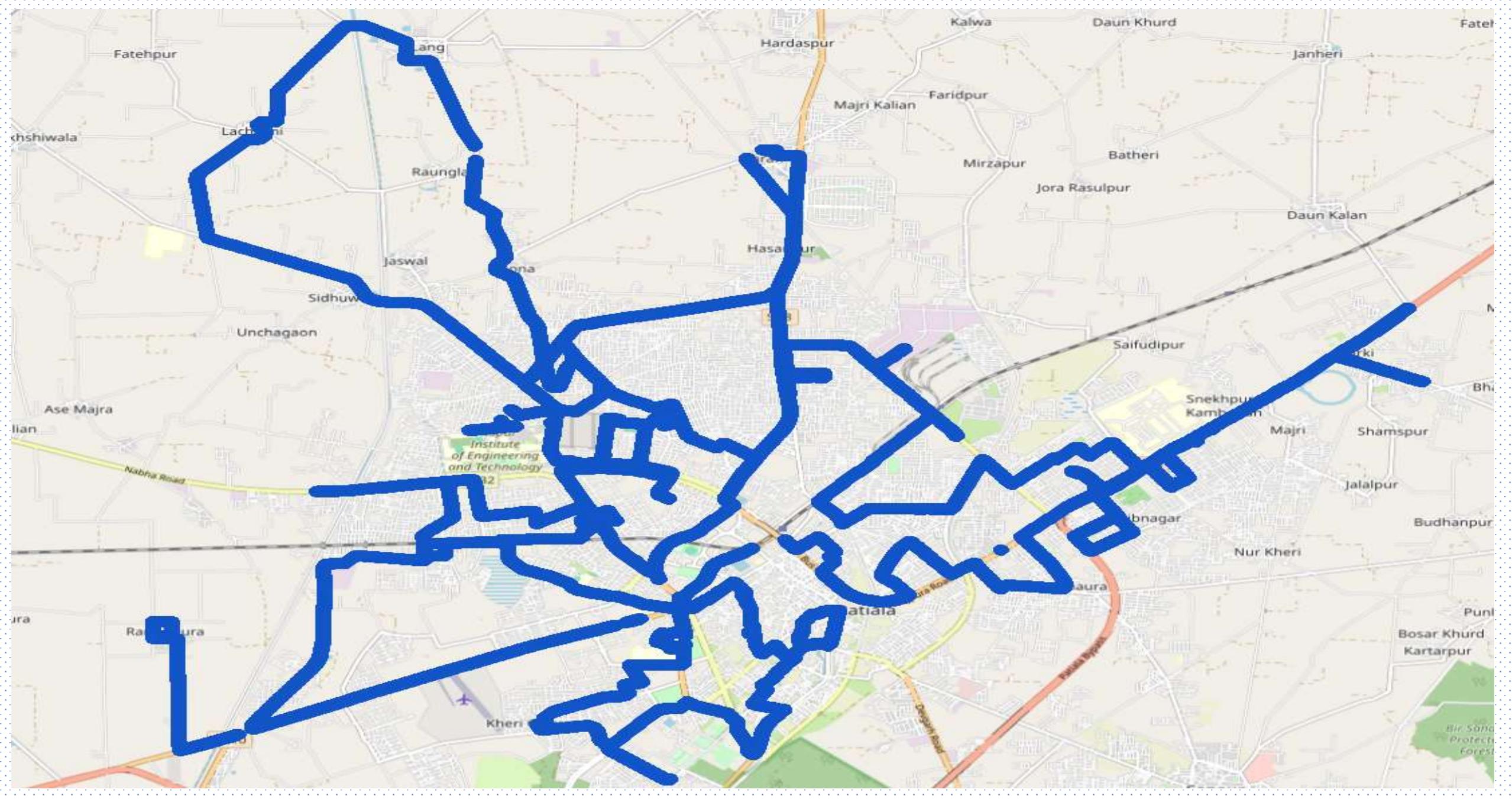
Punjab LSA

August 2025 (Regional Office, Delhi)

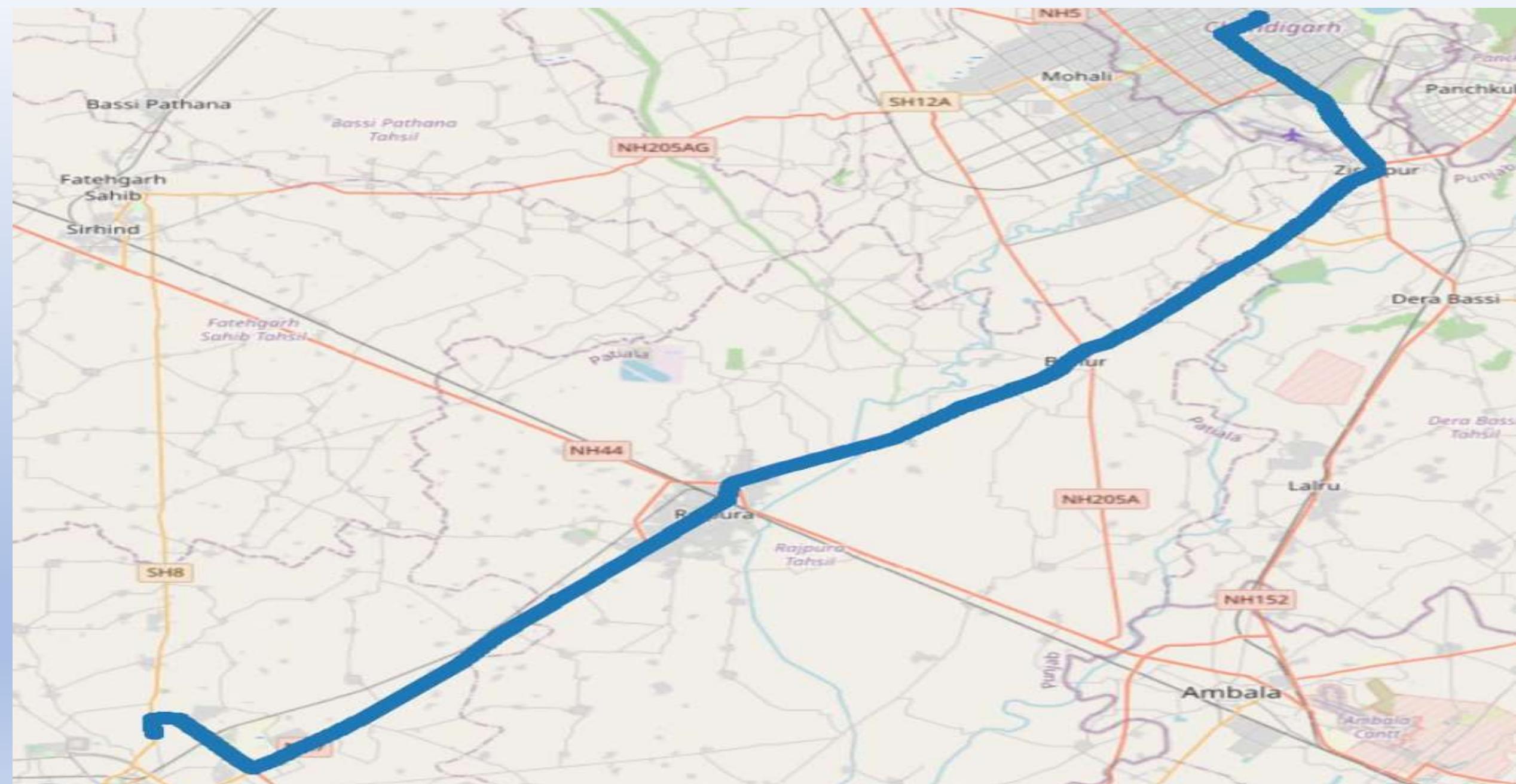
The Operator Assisted Drive Test has been carried out by Regional Office, Delhi with the help of Telecom Service Providers in Punjab LSA covering **Patiala city and highway route from Patiala to Chandigarh** from **20th to 22nd August 2025** from 09.30 AM to 07.30 PM. The drive test covered drive route of **226 KMs (approx.)** over a period of three days, covering hotspot at seven **(07) locations**. Networks Tested: 3 in 2G, 1 in 3G, 4 in 4G and 2 in 5G.

Voice and Dynamic/Static Data Test Route			
S.No	Date	Location/Area	Hotspot Locations
1	20-08-2025	Passi Road, Nabha Road, Urban Estate, Bhadson, Adalat Bazar, Kila Bazar, Kesar Bagh, Seun, Model Town, Gur Nanak Nagar, Bahadurgarh, Ranbir Pura.	-
2	21-08-2025	Dashmesh Nagar, Tripri, Ranjit Nagar, Phulkian Enclaver, Rajindra Hospital, Patiala Cantt.	Anardana Chowk, Rajendra Hospital, Kali Mata Mandir, District Court, New Bus Stand, Punjabi University, Dukh Niwaran Gurudwara Sahib.
3	22-08-2025	Patiala to Chandigarh Highway (via Rajpura, Banur, Zirakpur, Chandigarh). – Highway Route (73 kms)	Not Applicable.

Drive Test Route Map : Day-1 & Day2



Drive Test Route Map : Day-3



Key observations from Drive Test (Voice)

TSP	Network tested
Airtel	2G,4G & 5G
BSNL	2G,3G & 4G
RJIO	4G & 5G
VIL	2G & 4G

Calls were made for the **180-sec** duration on the highway route and **90-sec** duration on the city route, with a wait time of **15 sec** between calls in all technologies.

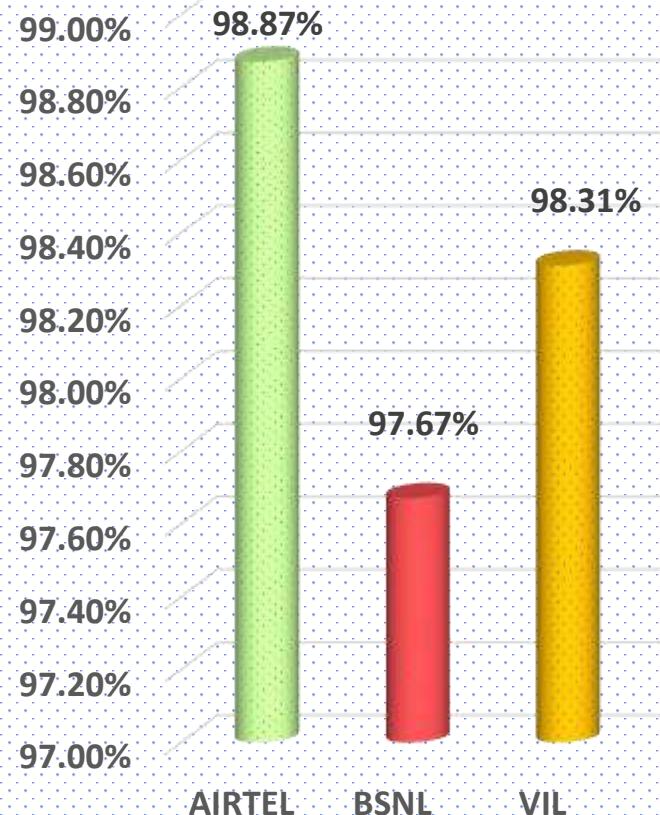
KPI	Benchmark	Observations		
Drop call rate %	≤2%	All TSPs achieved the benchmark except BSNL.		
CSSR %	≥98 %	All TSPs achieved the benchmark except BSNL.		
Handover Success Rate%	≥95%	All TSPs achieved the benchmark except VIL in locked mode.		
Speech Quality (Average MOS)	VIL	BSNL	Airtel	RJIL
	4.01	3.66	4	4.2

Summary – Voice City Dynamic in 3G/2G (Locked Mode)

Voice Call	AIRTEL 2G	BSNL 3G/2G	VIL 2G
Call Attempt	358	386	355
Call Established	354	377	349
CSSR% (Accessibility)	98.87%	97.67%	98.31%
Drop Call Rate (%)	1.88%	2.20%	0.28%
Handover Success Rate (%)	97.73%	99.23%	94.78%

Summary – Voice City Dynamic in 3G/2G (Locked Mode)

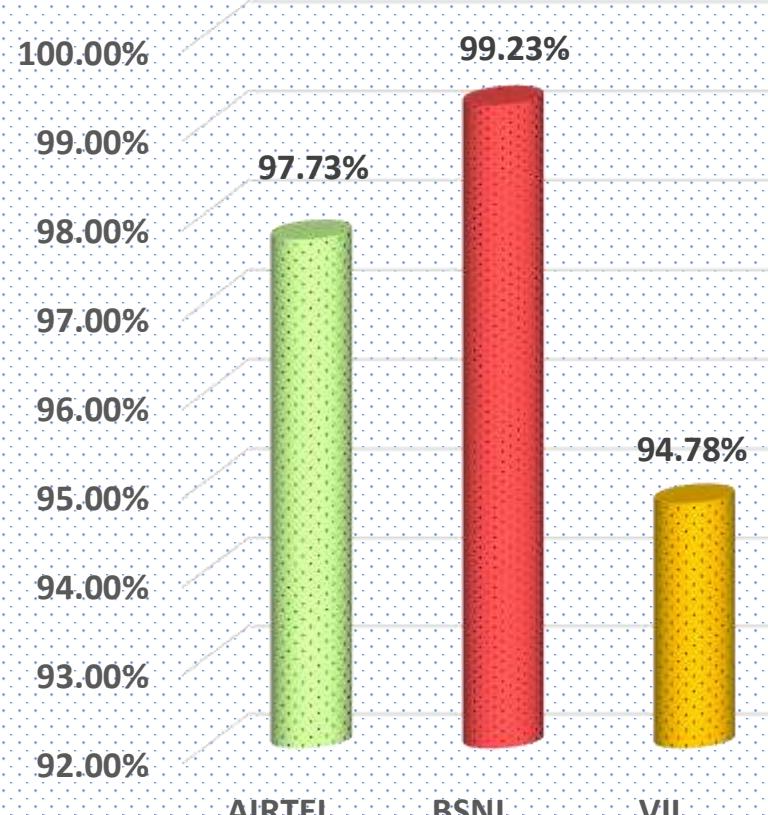
Call Setup Success Rate



Drop Call Rate



Handover Success Rate

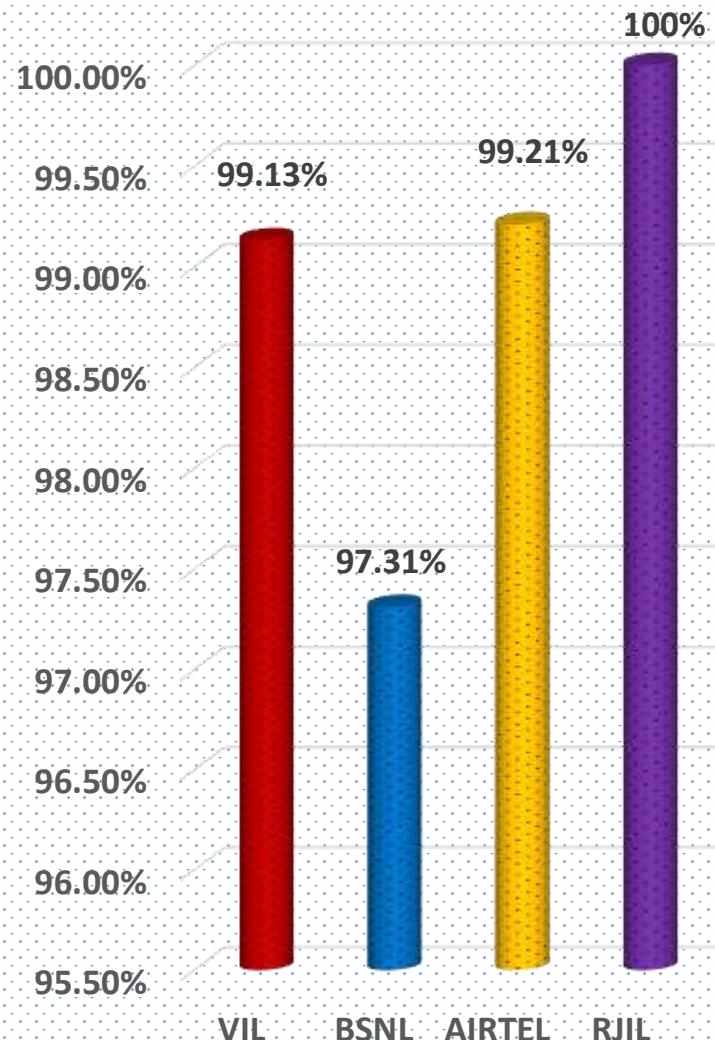


Summary – Voice City Dynamic in 5G/4G/3G/2G (Auto Mode)

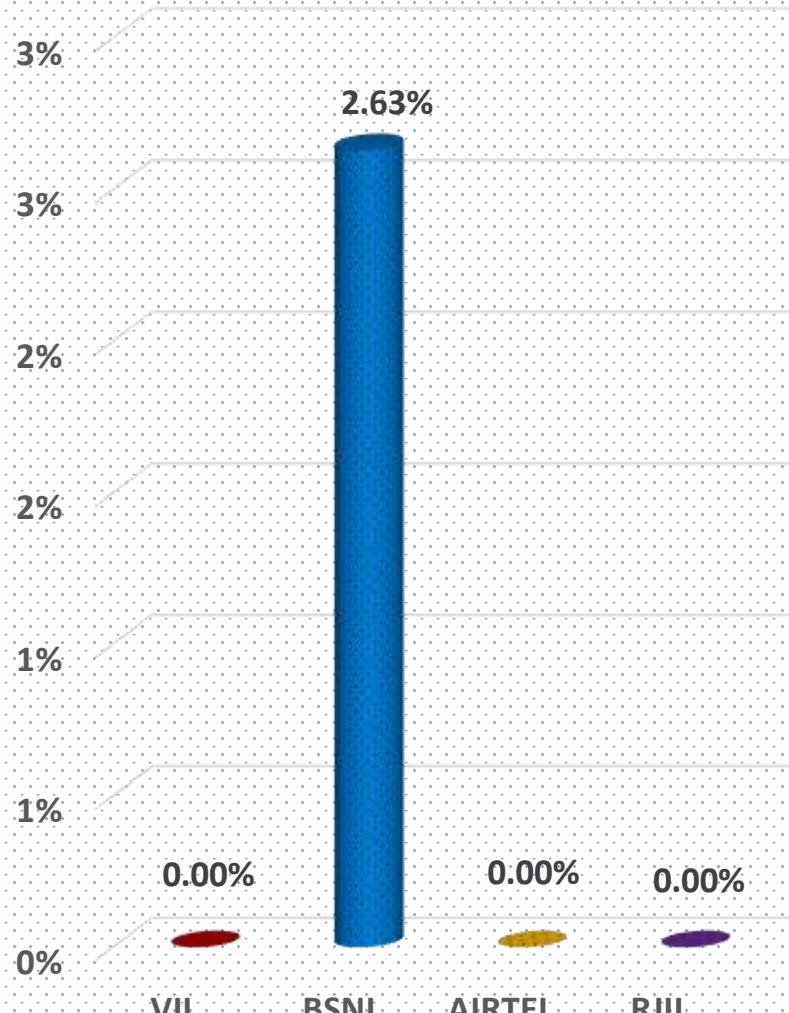
Voice Call	VIL	BSNL	AIRTEL	RJIL
Call Attempt	365	372	378	373
Call Established	362	362	375	373
CSSR% (Accessibility)	99.13%	97.31%	99.21%	100%
Drop Call Rate (%)	0.00%	2.63%	0.00%	0.00%
Handover Success Rate (%)	99.31%	99.78%	99.87%	99.28%
Silence Call Rate %	0%	DT KIT ISSUE	0%	2.13%
Speech Quality (Average MOS)	4.01	3.66	4	4.2

Summary – Voice City Dynamic in 5G/4G/3G/2G (Auto Mode)

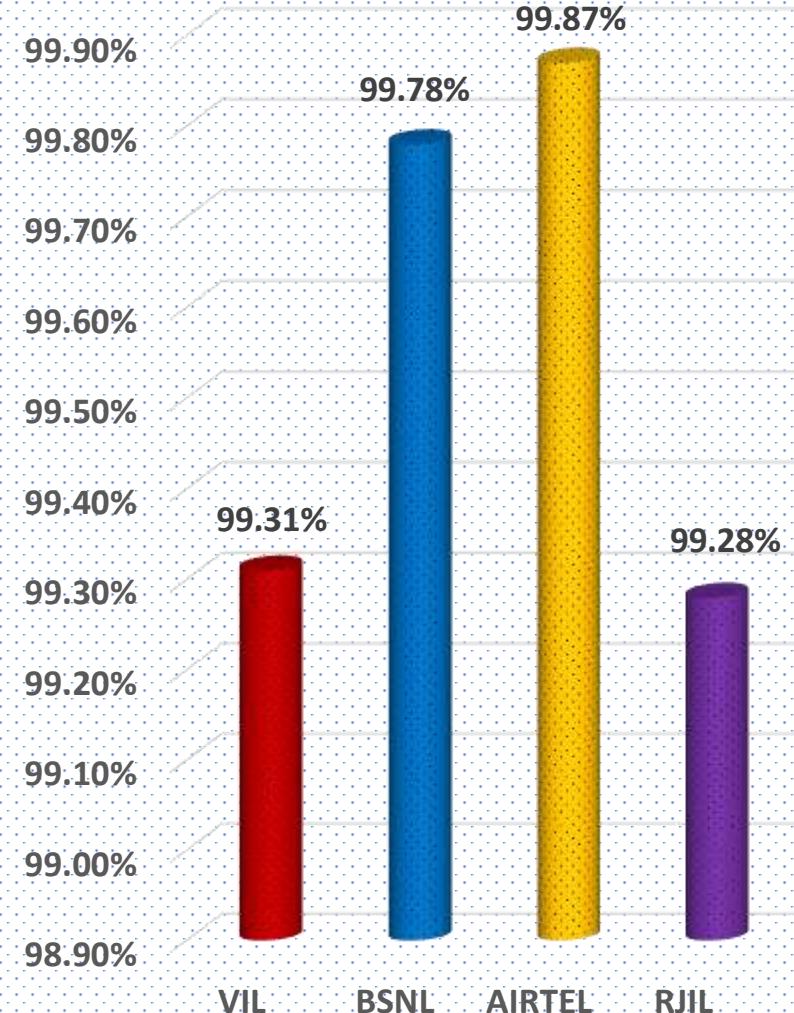
Call Setup Success Rate



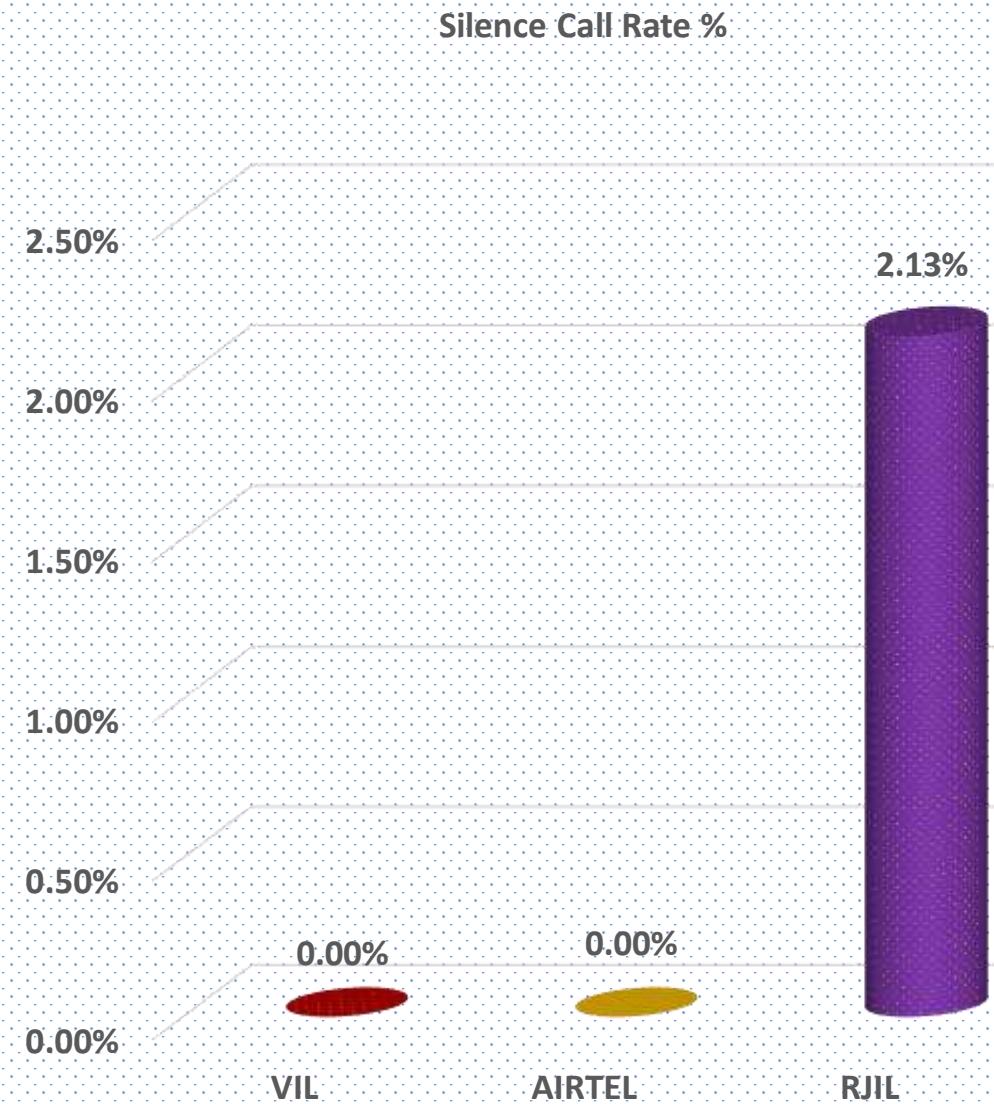
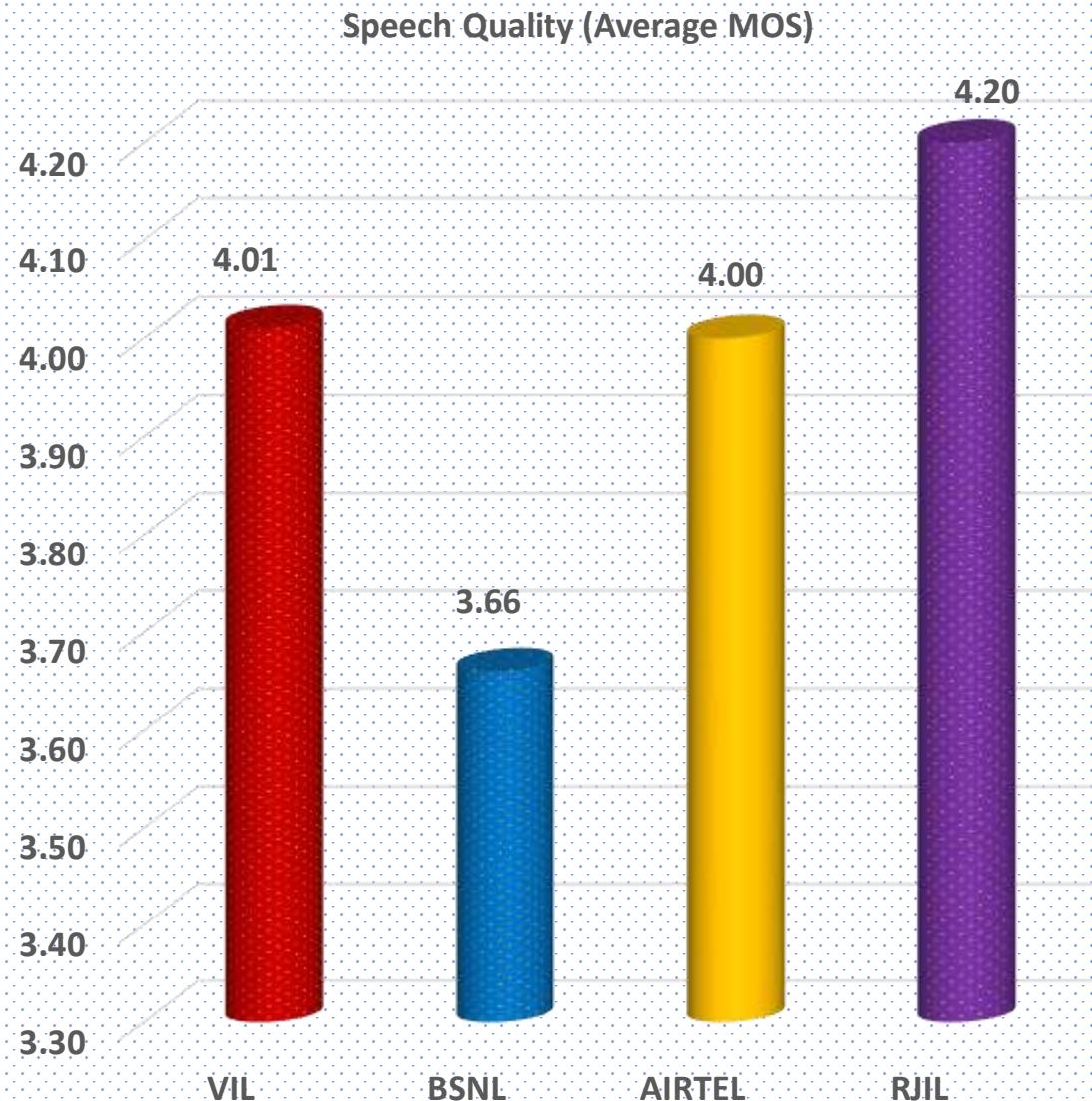
Drop Call Rate



Handover Success Rate

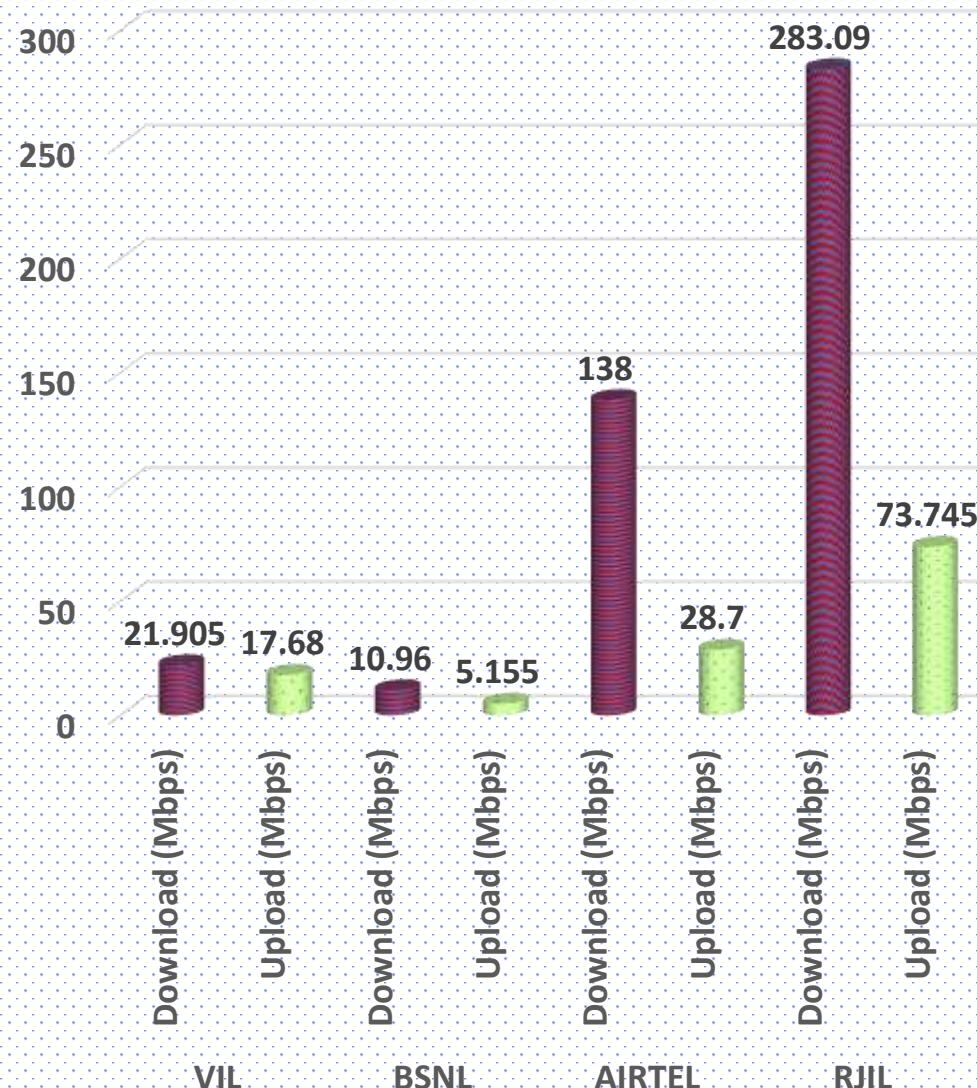


Summary – Voice City Dynamic in 5G/4G/3G/2G (Auto Mode) (Contd..)

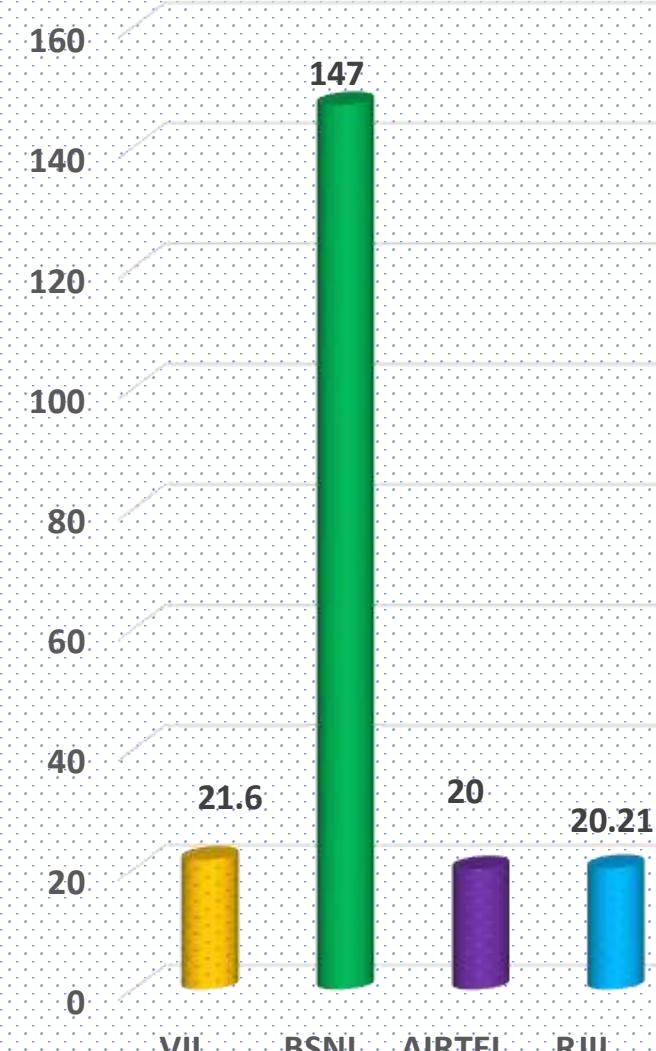


Data Service Performance in 5G/4G/3G/2G (Auto mode) - Dynamic

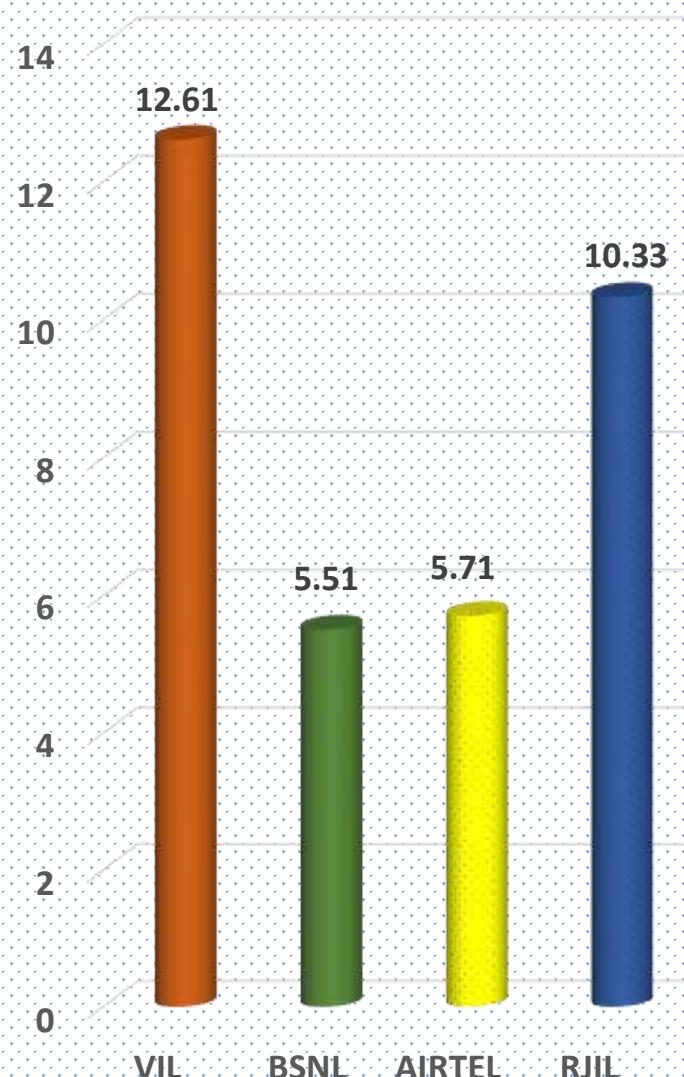
Average Download/Upload Speed - Dynamic



Average Latency - Dynamic



Average Jitter - Dynamic



Summary-Voice Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) – Over all (Static-Hotspot)

Voice Call	VIL	BSNL	AIRTEL	RJIL
Call Attempt	70	70	70	70
Call Established	70	66	70	70
CSSR% (Accessibility)	100%	94.28%	100%	100%
No. of Drop Call	0	0	0	0
Drop Call Rate (%)	0%	0%	0%	0%
Call Setup Time Average (Sec.)	1.36	2.77	1.3	1.08

Summary-Data Service Performance (5G/ 4G/ 3G/ 2G - Auto mode) – Over all (Static-Hotspot)

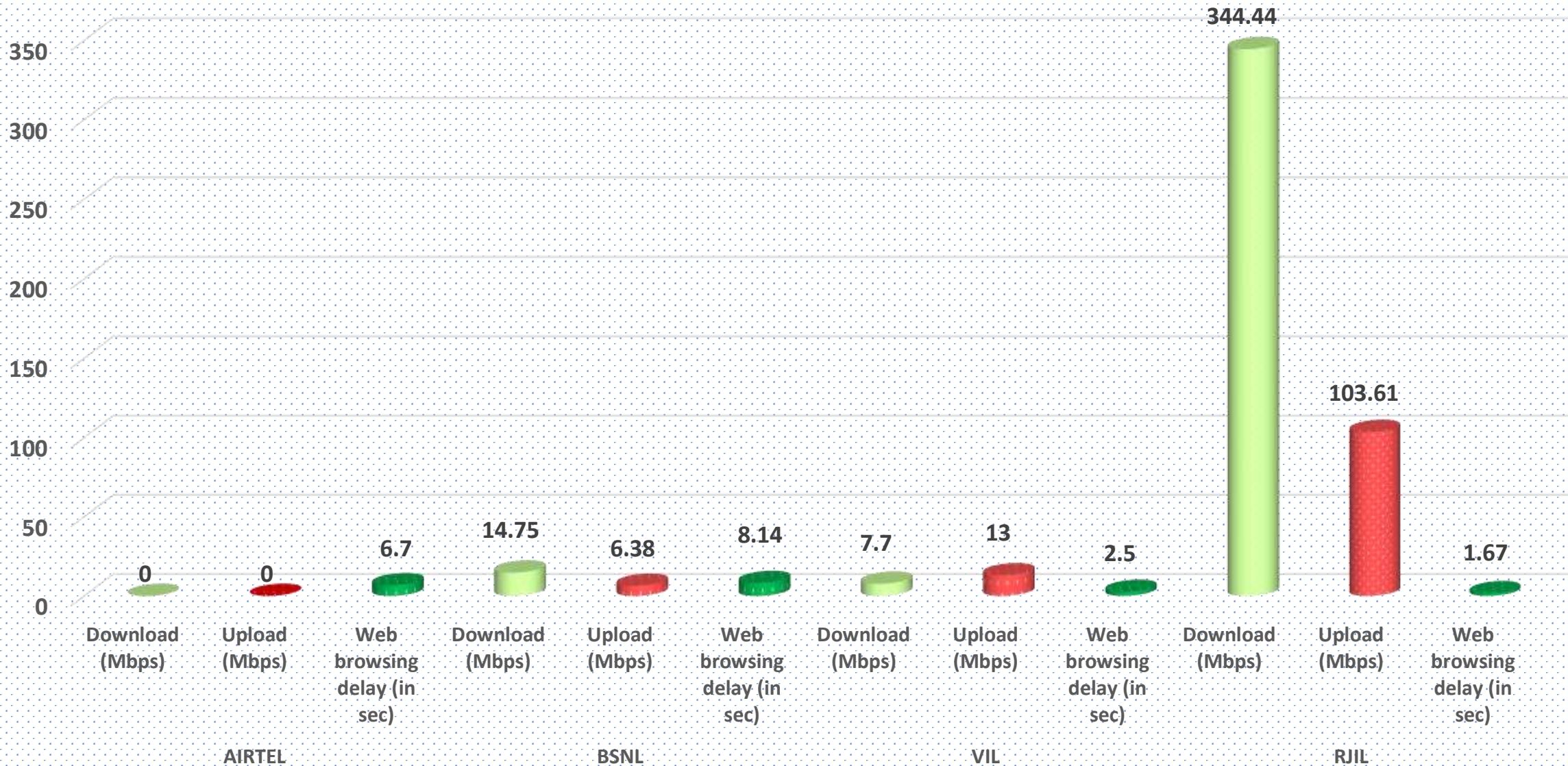
Data Service	VIL	BSNL	AIRTEL	RJIL
Average Download speed (Mbps)	11.6	13.55	173.8	278.19
Average Upload speed (Mbps)	22	9.87	26.4	85.55
Latency 50 th percentile (ms)	37	54.44	26	22.43
Average Jitter (ms)	6.9	25.67	4.22	9.30
Packet Drop Rate (%)	0	2.34	0%	0.55
Web browsing delay (sec)	4.2	7.81	8.4	1.76
Video Streaming performance for video (sec)	1.2	DT KIT ISSUE	0.9	0.43

Data Summary at Hotspot Locations: Download and Upload Speed(in Mbps)

S.No.	Hotspot Locations	AIRTEL		RJIL		VIL		BSNL	
		Download	Upload	Download	Upload	Download	Upload	Download	Upload
1	Anardana Chowk	305.10	42.70	344.44	103.61	7.70	13.00	14.75	6.38
2	Rajindra Hospital	129.00	31.90	134.01	10.62	9.00	34.10	11.33	9.87
3	Kali Mata Mandir	130.10	16.50	352.38	50.91	4.50	4.40	9.37	5.04
4	District Court	292.80	21.10	337.06	79.51	8.90	17.01	7.89	10.09
5	New Bus Stand	119.90	22.00	235.22	83.20	9.50	23.80	21.45	17.64
6	Punjabi University	288.60	57.90	409.91	114.30	22.90	35.50	14.29	12.10
7	Dukh Nivaran Sahib	120.80	27.30	270.56	119.22	22.80	35.10	15.81	7.99

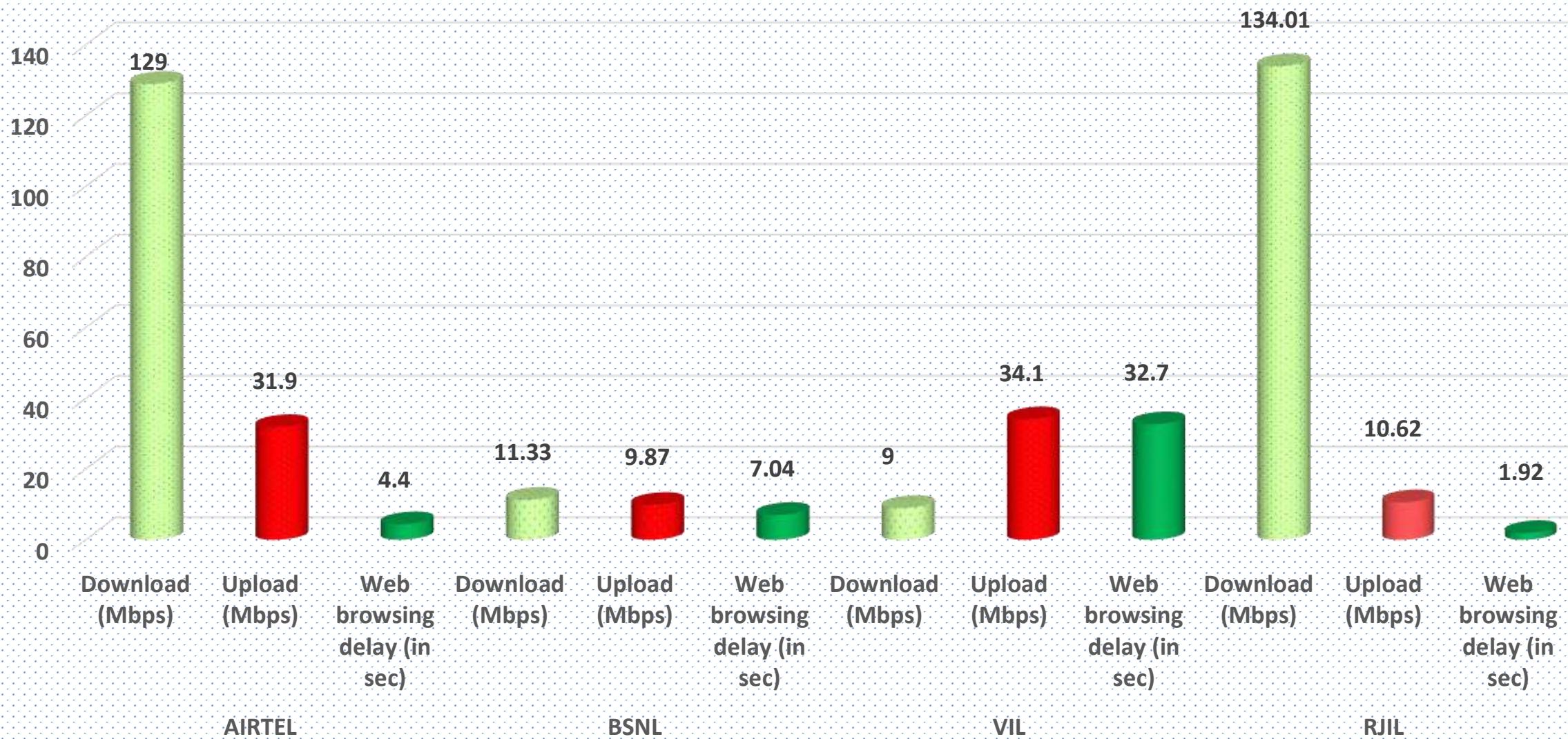
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : Anar dana Chowk



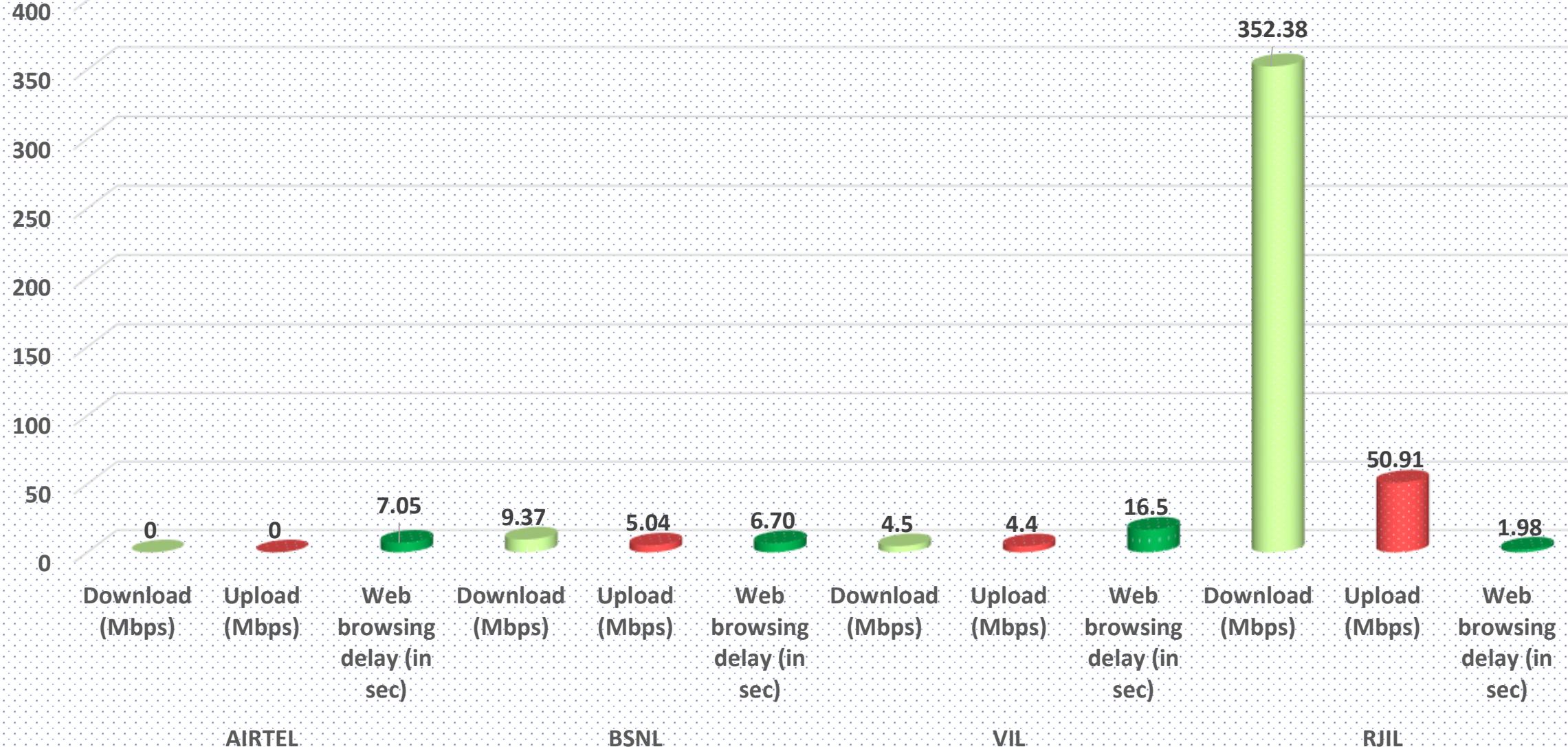
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : Rajinder Hospital



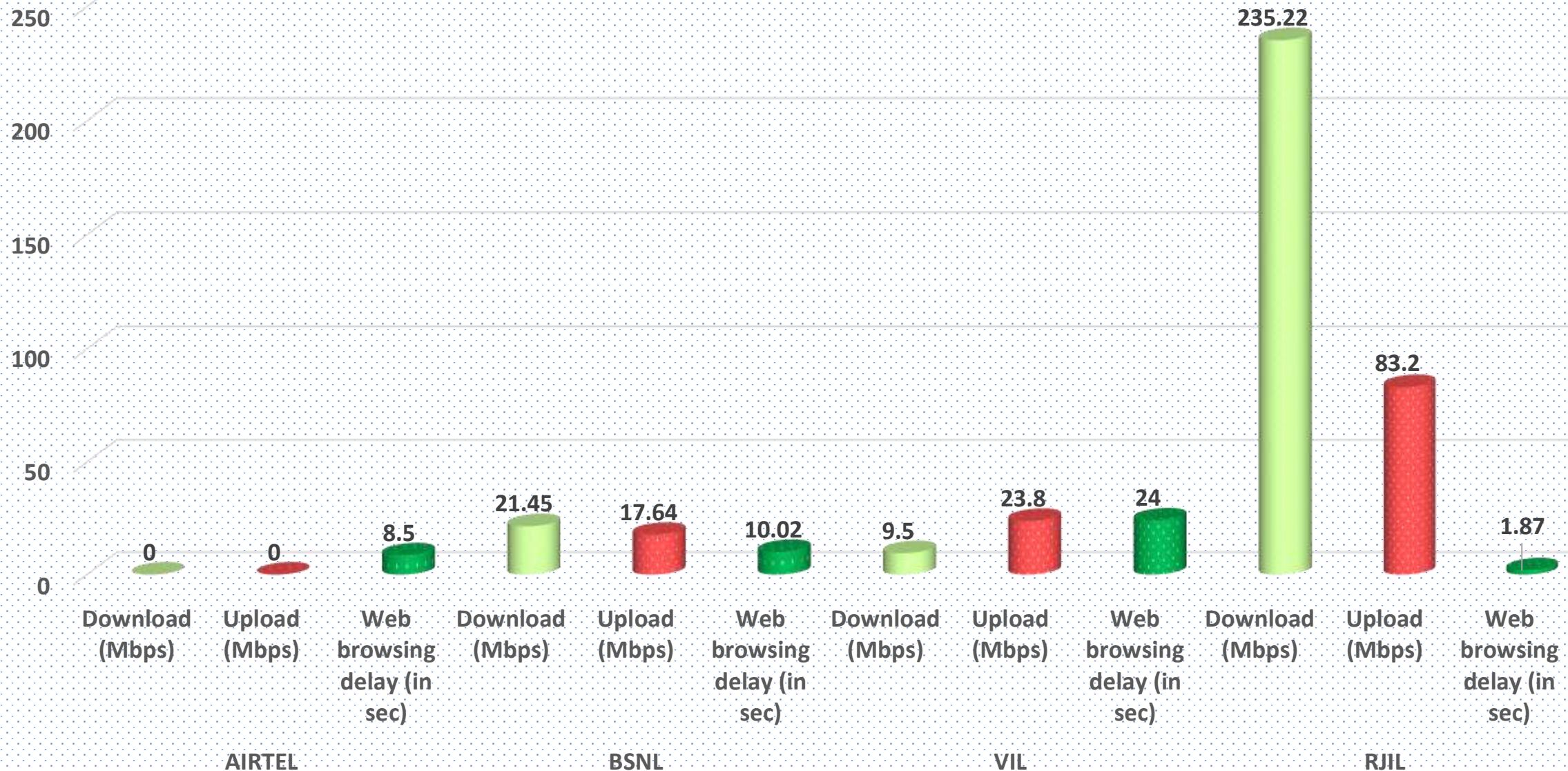
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : Kali Mata Mandir



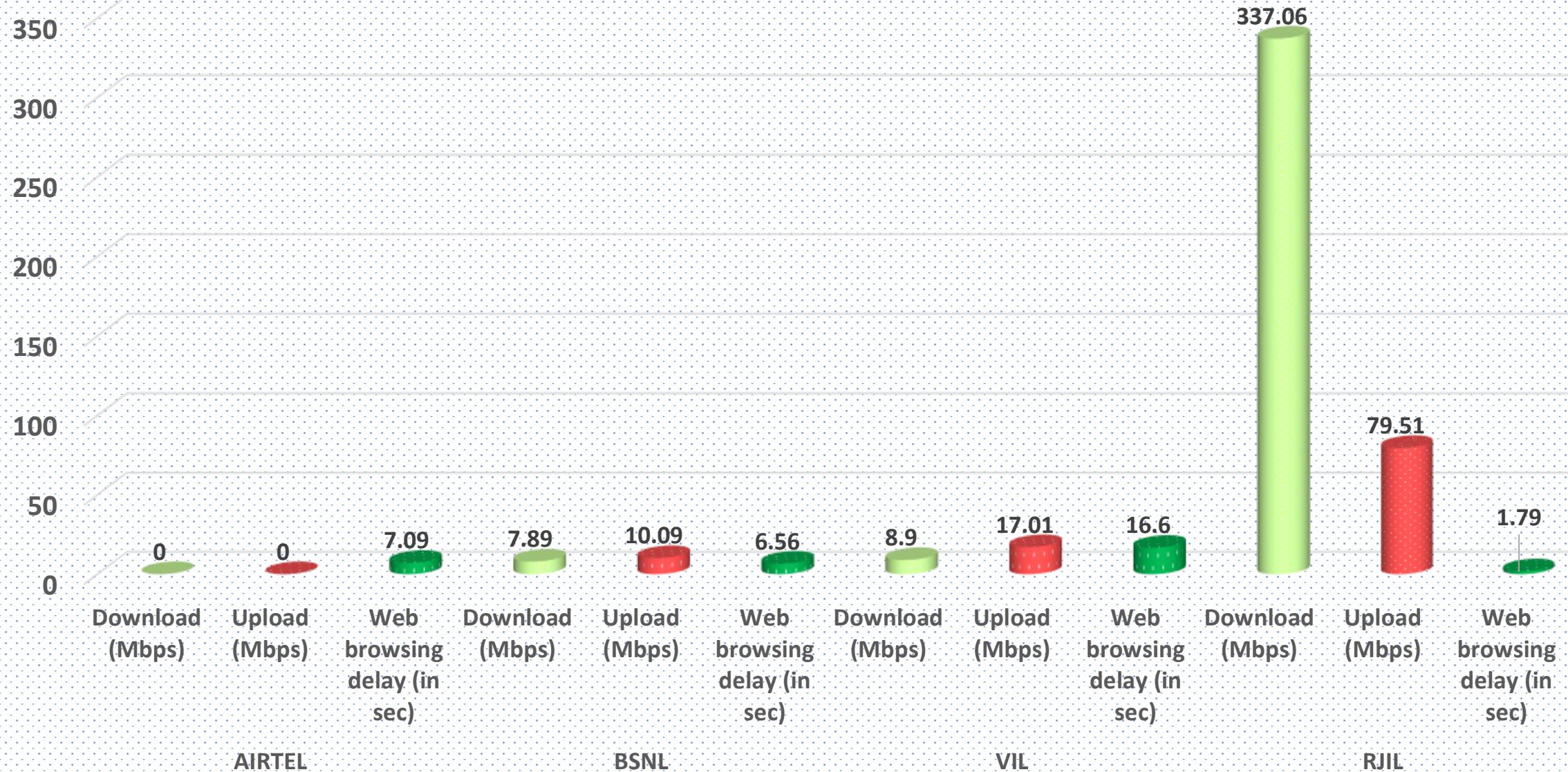
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : New Bus Stand Patiala



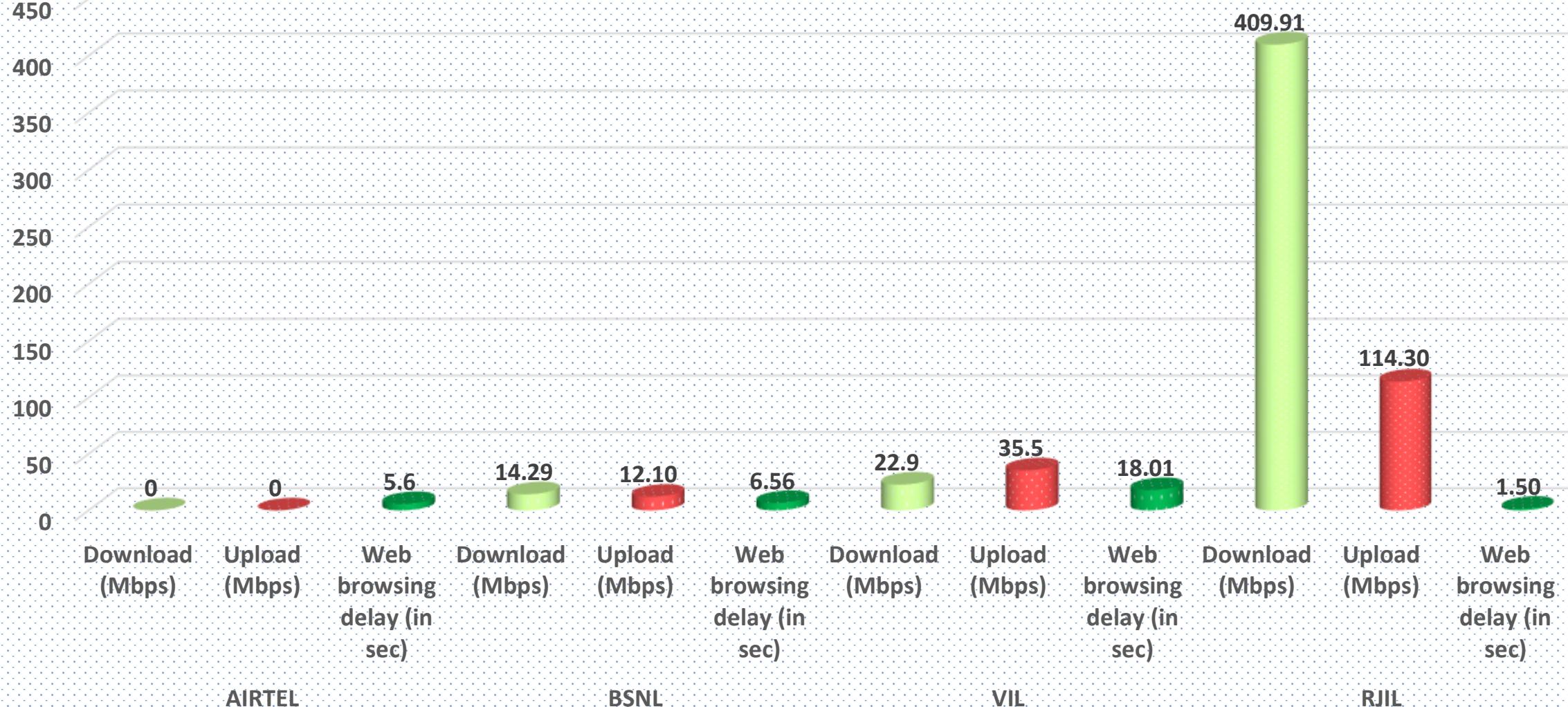
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : District Court



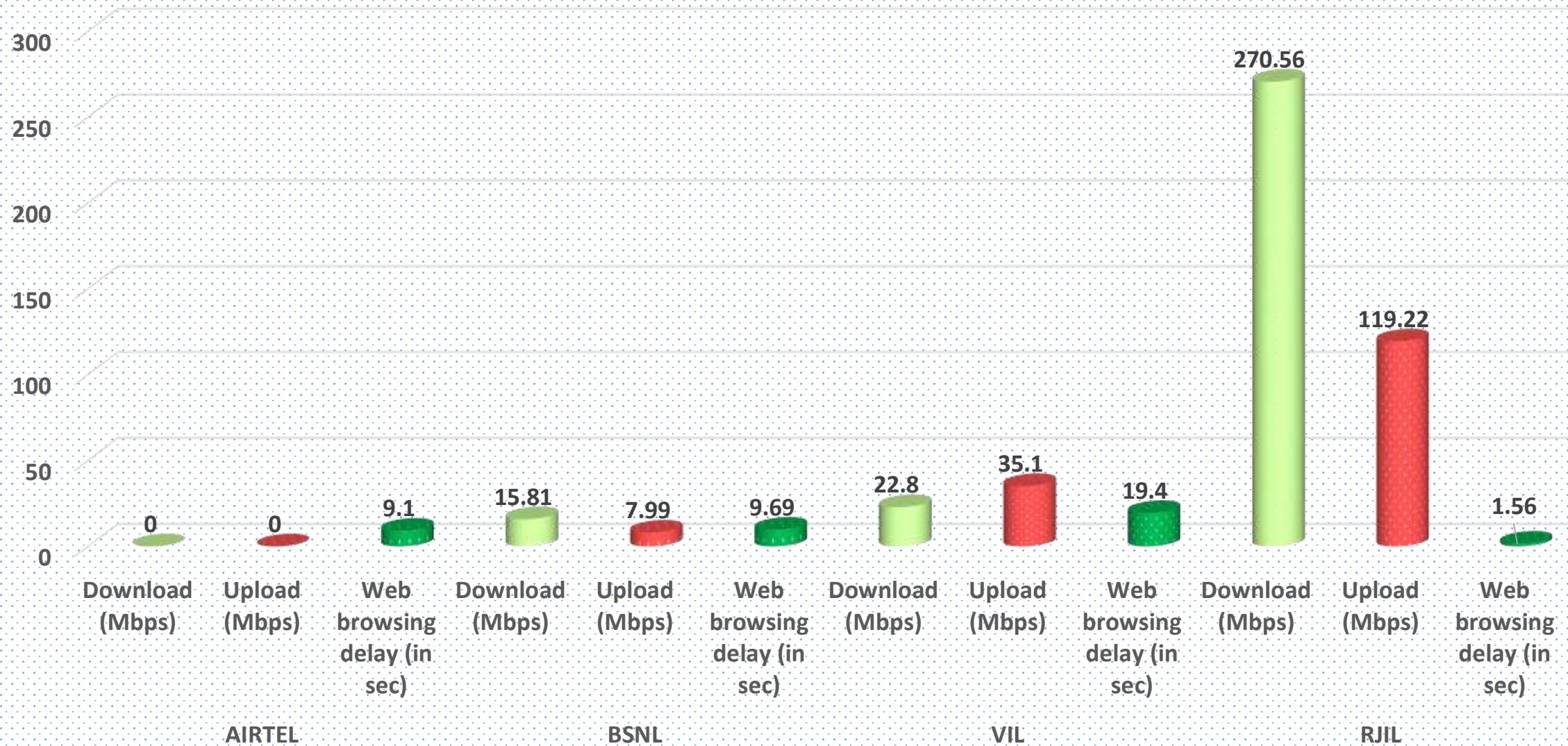
Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : Punjabi University



Data Service Performance in 5G/4G/3G/2G (Auto mode) - Static

Hotspot Location : Dukh niwaran Sahib Gurudwara



Coverage – Voice Calls

- Percentage of coverage samples for $2G \geq -85 \text{ dBm}$

TSPs	2G		
	Airtel	VIL	BSNL
Coverage%	95.47%	81.95%	76.97%

- Percentage of coverage samples for $3G \geq -90 \text{ dBm}$

TSPs	3G
	BSNL
Coverage%	87.28%

Coverage – Voice Calls (Contd..)

- Percentage of coverage samples for $4G \geq -110 \text{ dBm}$

TSPs	4G			
	Airtel	RJIL	VIL	BSNL
Coverage %	99.70%	99.65%	98.84%	98.04%

- Percentage of coverage samples for $5G \geq -110 \text{ dBm}$

TSPs	5G
	RJIL
Coverage %	99.65%

THANK YOU