



Operator Assisted Drive Test Report

(Gujarat LSA)

*Kaithal City
(23rd June to 25th June 2026)*

TRAJ Regional Office Jaipur

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1. Introduction

TRAI Act, 1997 mandates the Authority to ensure the services delivered through various telecommunications networks meet required quality standards prescribed, to protect the interest of the consumers of telecommunication services. TRAI is also responsible for conducting the periodical audit of such services provided by the service providers so as to protect the interest of the consumers of telecommunications service.

Accordingly, TRAI with help of TSPs teams undertake assessment of Quality of Service of mobile service through Operator Assisted Drive Test (OADT).

In OADT, the performance of all service providers providing service in a Licensed Service Area (LSA) through various technologies (like 2G/ 3G/ 4G/ 5G) for voice and data are measured by conducting drive test. The drive test routes are finalised based on various objective criteria like reported network performance, consumer complaints etc.

2. Executive Summary

2.1 Drive test details

This report covers the findings of the OADT undertaken in Haryana License Service Area (LSA) during the month of June 26 under the supervision of TRAI Regional Office (RO), Jaipur. Details of route/area covered during the OADT is as given below.

Sl. No	Drive test route	Type of route	Distance covered (KMs)/ Locations	From date	To date	Duration of drive test
1	Kaithal	City	180	23.06.2026	25.06.2026	9AM TO 1PM 5PM TO 8PM
2	Kaithal	Hotspot	6 Locations	25.06.2026	25.06.2026	9AM TO 1PM 5PM TO 8PM

Table-1: Drive test summary

2.2 Drive test routes

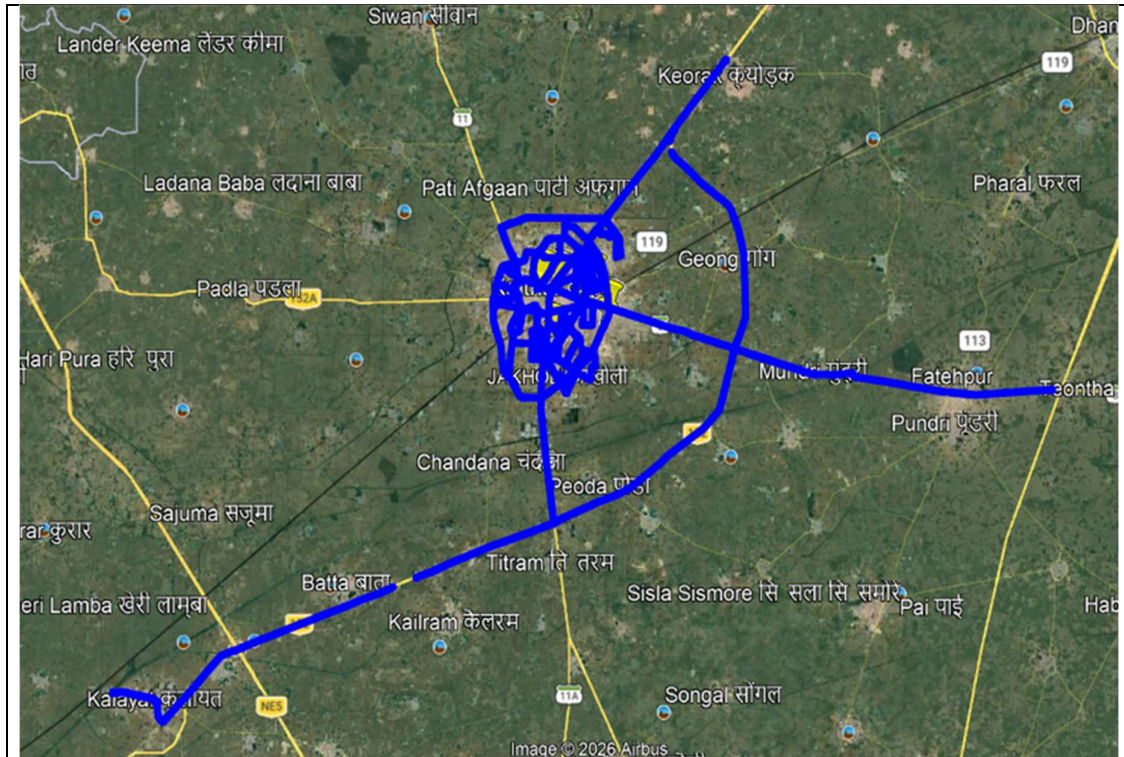


Figure-1: Drive test routes

The map provides overview of drive test routes indicating city drive shown on the map.

2.3 Summary of areas covered

a) Kaithal City:

Railway station Kaithal ,Sikka market Kaithal,Sunderon mohla ,Bata , Kalayat bus stand, Titram mod , Mundri ,Pundri ,Keorak ,Huda Kaithal, friends colony, industrial area ,Adarsh nagar ,Bheni majra ,{atti khot, patti dogra, chiranjiv colony, vivek nagar ,balraj nagar,rishi nagar,sun city Kaithal ,Arjun nagar, Amargarh colony,bus stand Kaithal , old city Kaithal,Ashok garden Kaithal, district court, district civil , aman vatika ,hanuman vatika , Saraffa bazar, iti Kaithal,jat college

b) Hotspot Locations:

1. Saraf Bazar
2. District Court
3. Civil Hospital
4. Kole Complex
5. Vishnu Market
6. Jilha Udyog Kendra

2.4 Telecom service providers detected frequency bands

Technologies covered during the OADT and frequency bands in use are summarised in below table.

S.No.	Name of TSP	Technology	Frequency Bands (In MHz)
1	Bharti Airtel Ltd.	2G	1800
2	Bharti Airtel Ltd.	4G	850,1800,2100,2300
3	Bharti Airtel Ltd.	5G	3500
4	BSNL	2G	900
6	BSNL	4G	700, 2100,2500
7	Reliance JIO Infocomm Ltd.	4G	850,1800,2300
8	Reliance JIO Infocomm Ltd.	5G	700,3500
9	Vodafone Idea Ltd.	2G	900
10	Vodafone Idea Ltd.	4G	900.1800.2100,2600

Table 2: Telecom service provider (TSP) covered in OADT.

2.5 Use of TRAI MY Speed App:

The TRAI My Speed App is a mobile application also used during the Drive test to measure and monitor the quality of mobile broadband services experienced by users at random static/hotspot locations in Kaithal city. It helps both consumers and TRAI assess the actual performance of telecom network of TSPs.

The actual Hotspot results are summarized below and the screenshots of corresponding tests is attached at Annexure-I:

AIRTEL	Saraf Bazar	Districh Court	Civil Hospital	Kole Complex	Vishnu Market	Udyog Kendra	My Speed App Avg	OADT Avg
Coverage	-79	-91	-90	-95	-78	-73		
DL Speed	52.99	187.69	309.38	135.49	129.56	248.61	177.29	135.49
UL Speed	6.83	13.23	28.82	12.61	4.39	32.06	16.32	24.98
Latancy	59.00	31.00	50.00	38.00	34.00	32.00	40.67	12.63
Jitter	6.56	4.12	4.41	5.86	2.95	2.52	4.40	2.30
Packet Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Technology	4G	5G	5G	5G	4G	5G		

BSNL	Saraf Bazar	Districh Court	Civil Hospital	Kole Complex	Vishnu Market	Udyog Kendra	My Speed App Avg	OADT Avg
Coverage	-87	-74	-74	-89	-99	-80		
DL Speed	11.07	21.10	21.10	11.14	10.61	12.44	14.58	12.89
UL Speed	13.18	15.80	15.80	14.89	8.17	12.79	13.44	10.56
Latancy	48.00	48.00	48.00	74.00	51.00	40.00	51.50	51.17
Jitter	5.42	5.31	5.31	7.35	6.43	6.70	6.09	6.13
Packet Loss	0.00	0.00	0.00	1.00	0.50	0.00	0.25	0.33
Technology	4G	4G	4G	4G	4G	4G		

RJIL	Saraf Bazar	Districh Court	Civil Hospital	Kole Complex	Vishnu Market	Udyog Kendra	My Speed App Avg	OADT Avg
Coverage	-76	-82	-83	-98	-72	-93		
DL Speed	274.07	264.73	225.77	169.37	148.43	94.07	196.07	143.47
UL Speed	30.08	21.81	28.82	7.34	23.61	18.20	21.64	21.03
Latancy	25.00	26.00	27.00	27.00	25.00	27.00	26.17	17.81
Jitter	4.74	4.14	6.04	5.42	4.16	5.80	5.05	4.85
Packet Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Technology	5G	5G	5G	5G	5G	5G		

VIL	Saraf Bazar	Districh Court	Civil Hospital	Kole Complex	Vishnu Market	Udyog Kendra	My Speed App Avg	OADT Avg
Coverage	-91	-74	-102	-85	-91	-85		
DL Speed	53.51	164.35	242.98	78.39	53.51	78.39	111.86	76.58
UL Speed	7.08	13.44	20.20	18.71	7.08	18.71	14.20	22.30
Latancy	69.00	28.00	33.00	65.00	69.00	65.00	54.83	29.92
Jitter	5.11	5.70	3.95	6.34	2.11	6.34	4.93	5.26
Packet Loss	0.00	0.00	0.00	2.50	0.00	2.50	0.83	1.62
Technology	5G	5G	5G	5G	5G	5G		

Detailed QoS Performance Analysis

3. Detailed QoS performance analysis

3.1 Overview

This section covers analysis on performance of various categories of drives like city, hotspots and walk test for all telecom service providers, the results of drive tests conducted are shown individually for respective areas/locations.

3.2 City

Drive test has been conducted on 23rd June to 25th June 2026 in Kaithal. (refer Table-1)

3.2.1 Drive test route

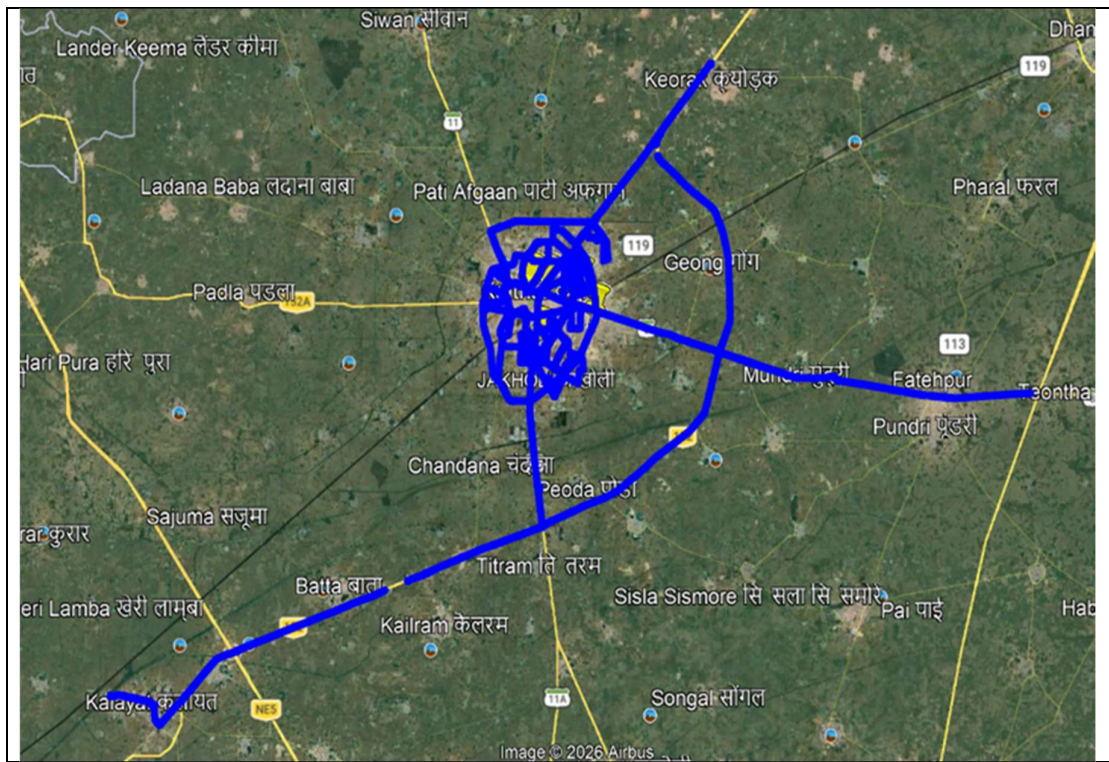


Figure- 2: Drive test routes.

3.2.2 Areas covered:

Railway station Kaithal ,Sikka market Kaithal,Sunderon mohla ,Bata , Kalayat bus stand, Titram mod , Mundri ,Pundri ,Keorak ,Huda Kaithal, friends colony, industrial area ,Adarsh nagar ,Bheni majra ,{atti khot, patti dogra, chiranjiv colony, vivek nagar ,balraj nagar,rishi nagar,sun city Kaithal ,Arjun nagar, Amargarh colony,bus stand Kaithal , old city Kaithal,Ashok garden Kaithal, district court, district civil , aman vatika ,hanuman vatika , Saraffa bazar, iti Kaithal,jat college

3.2.3 Voice performance

(a) Voice Call Performance in 3G/2G network mode only: 3G/2G network mode testing has been done to reflect experience for respective users as they have only 3G/2G compatible handsets.

Parameters	Service Provider		
	3G/2G network mode only		
	AIRTEL	BSNL	VIL
Call Attempts	286	217	278
Call Setup Success Rate %	98.95	99.07	98.15
Drop Call Rate %	0.35	0.92	0.00
Call Setup Time-Average (Second)	3.17	2.52	3.76
Handover Success Rate %	97.49	100.00	97.17

Table-3: Summary of voice call performance in 3G/2G network mode only.

(b) Technology wise Unique cell id's covered in voice test: This section represents technology wise Number of unique cell id's covered in Voice test.

Number of unique cell id's covered in Voice test- Technology wise			
Technology	Service Provider		
	3G/2G network mode only		
	AIRTEL	BSNL	VIL
3G	NA	NA	NA
2G	209	34	173

Table-4: Technology wise number of network cell id's latched during drive test.

Note-

- RJIL does not have 3G/2G network.
- NA- Service provider doesn't provide services in respective technology.

(c) Voice Call Performance in auto network selection mode (5G/4G/3G/2G)

Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempts	295	227	286	310
Call Setup Success Rate %	99.67	97.35	100.00	100.00
Drop Call Rate %	0.34	2.64	0.00	0.28
Call Setup Time Average (Second)	1.27	1.76	1.21	0.86
Handover Success Rate %	99.90	100.00	99.51	100.00

Table-5: Summary of voice call performance in network auto-selection mode.

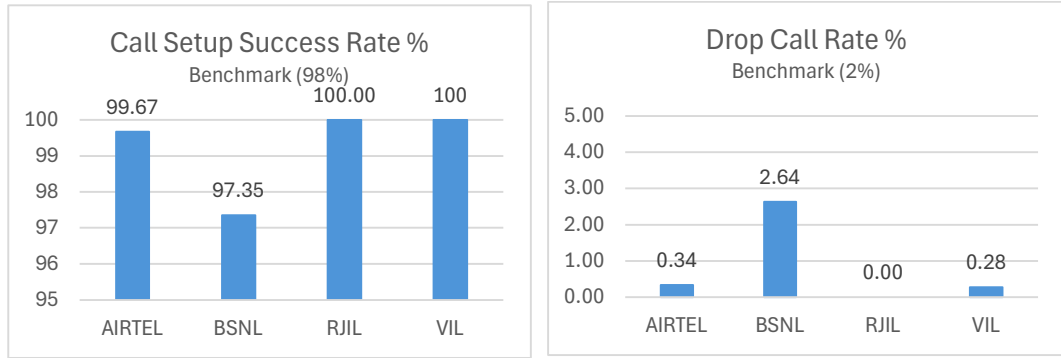


Figure-3: Performance for call setup success rate and Call drop rate.

Parameter	Service Provider			
	Mobile-to-Mobile (5G/4G - Open Mode)			
	AIRTEL	BSNL	RJIL	VIL
Call Established (within service provider Network)	266	NA*	466	307
Call Silence Rate %	1.12	NA*	0.25	0.60
Number of silence instances for >2 sec	3.00	NA*	0.25	0.60
Packet drop Rate Downlink %	1.32	NA*	1.00	0.00
Packet drop Rate Uplink %	1.48	NA*	0.21	0.00

Table-6: Summary of silence instances & packet loss rate for mobile to mobile call.

***The Call silence rate not captured by BSNL due to Test Kit not available.**

(d) Mean Opinion Score (MOS) performance for speech quality:

Mean opinion score indicate quality of speech observed during the drive test across different technologies. This parameter has been calculated for mobile to mobile calls made within same operator network in auto mode (5G/4G/3G/2G). As per ITU-T Recommendation P.863.1, MOS score values means: 5-Excellent, 4-Good, 3-Fair, 2-Poor, 1-Bad.

Speech Quality (MOS) distribution	Service Provider			
	AIRTEL	BSNL	RJIL	VIL
Total Number of MOS Samples for calls in table-6	1472	NA*	1165	1762
Speech Quality (Average MOS Score)	3.95	NA*	4.17	3.90

Table-7: Summary of speech quality (MOS) samples.

***The Call silence rate not captured by BSNL due to Test Kit not available.**

(e) Technology wise Unique cell id's covered in voice test: This section represents technology wise Number of unique cell id's covered in Voice test.

Number of unique cell id's covered in Voice test- Technology wise				
Technology	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
5G	0	NA	230	NA
4G	507	135	71	442
3G	NA	NA	NA	NA
2G	0	5	NA	173

Table-8: Technology wise number of network cell id's latched during drive test.

3.2.4 Data performance

(a) Data Parameters (Auto-selection mode- 5G/4G/3G/2G)

Parameters		Service Provider			
		Auto-selection mode (5G/4G/3G/2G)			
		AIRTEL	BSNL	RJIL	VIL
Download Throughput (Mbits/s)	Average	86.57	4.14	244.1	16.17
	80th Percentile	188.67	5.51	465.01	22.49
	20th Percentile	3.17	0.086	14.35	7.60
Upload Throughput (Mbits/s)	Average	29.63	1.03	20.11	17.90
	80th Percentile	52.57	2.19	30.18	28.38
	20th Percentile	6.17	0.05	3.197	8.19
Latency (ms)	50th Percentile	12.00	53.15	21.00	37.00

Table-9: Summary of Data performance in network auto-selection mode.

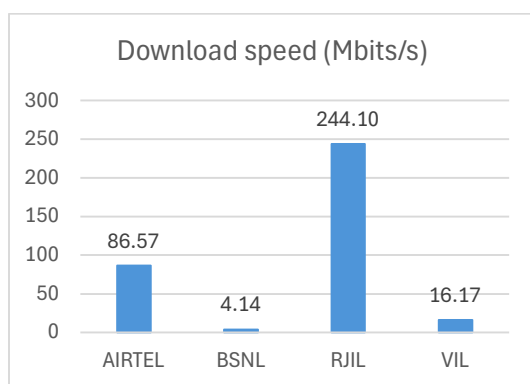


Figure- 4: Download throughput.

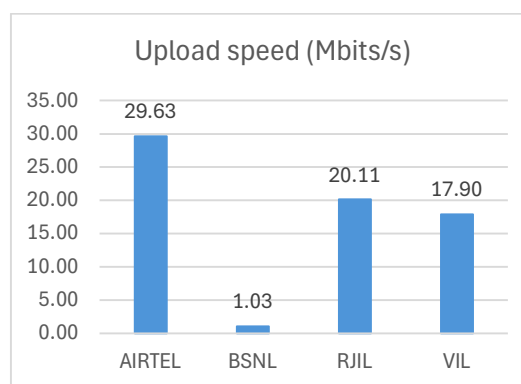


Figure- 5: Upload throughput

(b) Technology wise Unique cell id's covered in data test: This section represents technology wise Number of unique cell id's covered in Voice test.

Number of unique cell id's covered in Data test- Technology wise				
Technology	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
5G	153	NA	65	NA
4G	215	142	71	442
3G	NA	0	NA	NA
2G	0	0	NA	0

Table-10: Technology wise number of network cell id's latched during drive test.

3.3 Hotspots

Hotspot testing has been done on 25th June & 25th June 2026. Six locations were tested in the city.

3.3.1 Locations

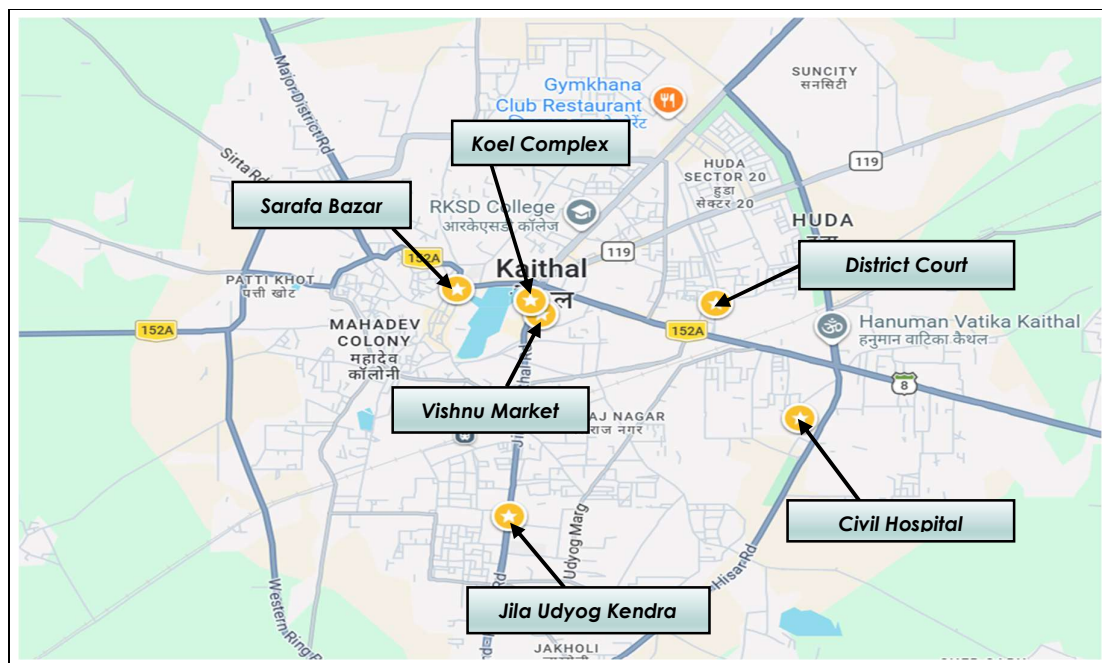


Figure-6: Hotspot locations

3.3.2 Hotspot covered:

1. Saraf Bazar
2. District Court
3. Civil Hospital
4. Kole Complex
5. Vishnu Market
6. Jilha Udyog Kendra

3.3.3 Voice performance

Overall Voice Performance				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	60	60	60	60
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.92	1.44	1.19	0.70

Table-11: Overall summary of voice call performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -1 Saraf Bazar				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.86	1.53	1.15	0.62

Table-12: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

Hotspot -2 District Court				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.84	1.15	1.27	0.75

Table-13: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

Hotspot -3 Civil Hospital				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.75	1.36	1.08	0.65

Table-14: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

Hotspot -4 Kole Complex				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.31	1.15	1.19	0.74

Table-15: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

Hotspot -5 Vishnu Market				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	1.95	1.95	1.30	0.79

Table-16: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

Hotspot -6 Jilha Udyog Kendra				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Attempt	10	10	10	10
Call Setup Success Rate %	100.00	100.00	100.00	100.00
Drop Call Rate %	0.00	0.00	0.00	0.00
Call Setup Time-Average (Sec)	2.86	1.50	1.15	0.68

Table-17: Summary of voice call performance in network auto-selection mode 5G/4G/3G/2G).

3.3.4 Data performance (Auto-selection mode 5G/4G/3G/2G)

Overall Data Performance				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	135.49	12.89	178.32	76.58
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	24.98	10.56	23.97	22.30
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	12.63	51.17	20.98	37.25
Jitter (ms)	2.30	6.13	5.65	5.26
Packet Loss Rate%	0.00	0.33	0.16	1.62
Web Browsing Delay (Second)	9.74	12.18	3.13	5.56
Youtube Initial Buffer Delay (Second)	3.08	0.88	1.66	0.44

Table-18: Overall Summary of Data performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -1 Saraf Bazar				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	89.15	11.07	237.12	44.50
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	12.79	13.18	23.71	10.00
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	12.00	48.00	19.88	38.50
Jitter (ms)	2.86	5.42	4.55	5.08
Packet Loss Rate%	0.00	0.00	0.00	1.20
Web Browsing Delay (Second)	11.36	11.44	3.98	5.02
YouTube Initial Buffer Delay (Second)	1.97	0.61	0.81	0.48

Table-19: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G)

Hotspot -2 District Court				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	178.76	21.10	111.89	52.50
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	24.21	15.80	21.16	26.00
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	12.00	48.00	24.00	40.50
Jitter (ms)	1.78	5.31	5.16	4.44
Packet Loss Rate%	0.00	0.00	0.00	1.3
Web Browsing Delay (Second)	8.88	10.37	4.09	8.36
YouTube Initial Buffer Delay (Second)	4.17	3.12	0.30	0.28

Table-20: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -3 Civil Hospital				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	138.60	7.21	121.45	91.30
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	35.86	2.87	23.89	8.70
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	14.05	57.00	22.00	35.00
Jitter (ms)	1.80	5.37	6.13	6.07
Packet Loss Rate%	0.00	0.00	0.59	3.90
Web Browsing Delay (Second)	9.93	13.97	1.28	8.36
YouTube Initial Buffer Delay (Second)	1.89	0.51	7.64	0.28

Table-21: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -4 Kole Complex				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	102.76	10.60	138.71	142.20
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	6.22	12.13	19.35	29.60
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	12.18	53.00	21.00	28.00
Jitter (ms)	1.90	7.57	7.33	3.95
Packet Loss Rate%	0.00	0.00	0.27	1.10
Web Browsing Delay (Second)	7.45	7.57	3.73	4.87
YouTube Initial Buffer Delay (Second)	2.03	0.00	0.42	0.31

Table-22: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -5 Vishnu Market				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	90.94	10.61	251.65	114.90
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	8.03	8.17	38.04	25.00
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	15.50	51.00	20.00	37.50
Jitter (ms)	4.96	6.43	5.92	5.70
Packet Loss Rate%	0.00	0.50	0.03	1.10
Web Browsing Delay (Second)	10.41	16.57	2.42	3.26
YouTube Initial Buffer Delay (Second)	4.22	0.62	0.37	0.64

Table-23: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G).

Hotspot -6 Jilha Udyog Kendra				
Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Download Throughput Average (Mbits/s)	212.70	16.75	209.09	14.10
Download Session Setup Success Rate %	100.00	100.00	100.00	100.00
Upload Throughput Average (Mbits/s)	62.76	11.18	17.68	34.50
Upload Session Setup Success Rate %	100.00	100.00	100.00	100.00
Latency (ms)-50th Percentile	10.04	50.00	19.00	44.00
Jitter (ms)	0.50	6.65	4.82	6.34
Packet Loss Rate%	0.00	1.50	0.05	1.10
Web Browsing Delay (Second)	10.41	13.15	3.27	3.48
YouTube Initial Buffer Delay (Second)	4.22	0.39	0.41	0.67

Table-24: Summary of Data performance in network auto-selection mode (5G/4G/3G/2G)

4. TSP wise signal strength(Kaithal City):

Technology	Parameter	Range	Color
2G	Rx Level	≥ -85 dBm	Magenta
		< -85 dBm	Red
3G	RSCP	≥ -90 dBm	Cyan
		< -90 dBm	Blue
4G	RSRP	≥ -110 dBm	Light Green
		< -110 dBm	Dark Green
5G	RSRP	≥ -110 dBm	Light Blue
		< -110 dBm	Yellow

Table:25: Signal strength legend format

4.1 AIRTEL

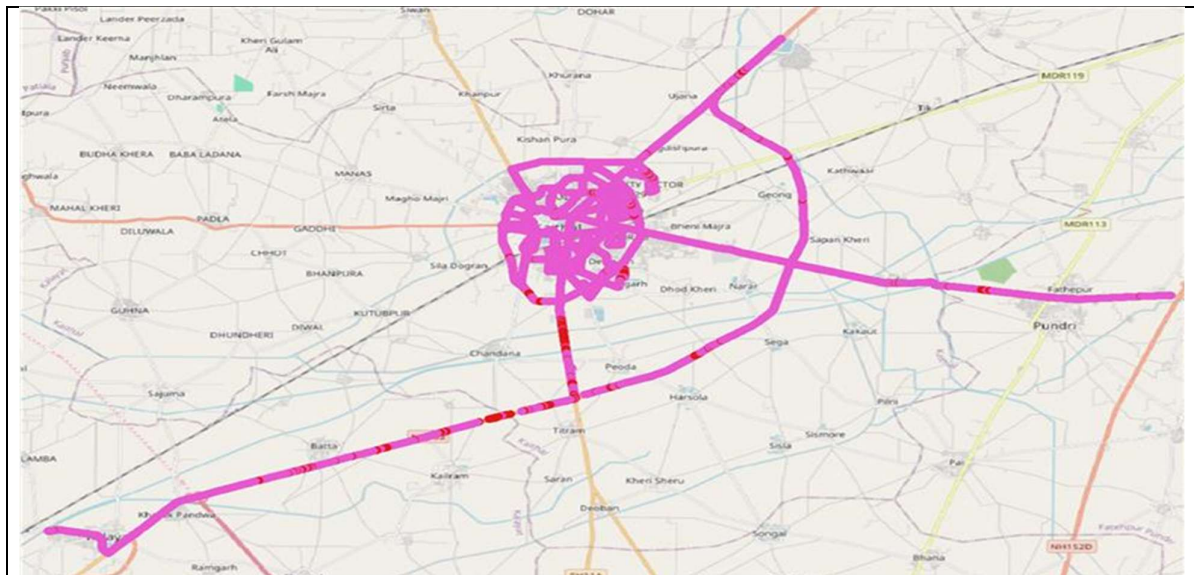


Figure-7: Signal strength 2G/3G network mode – AIRTEL

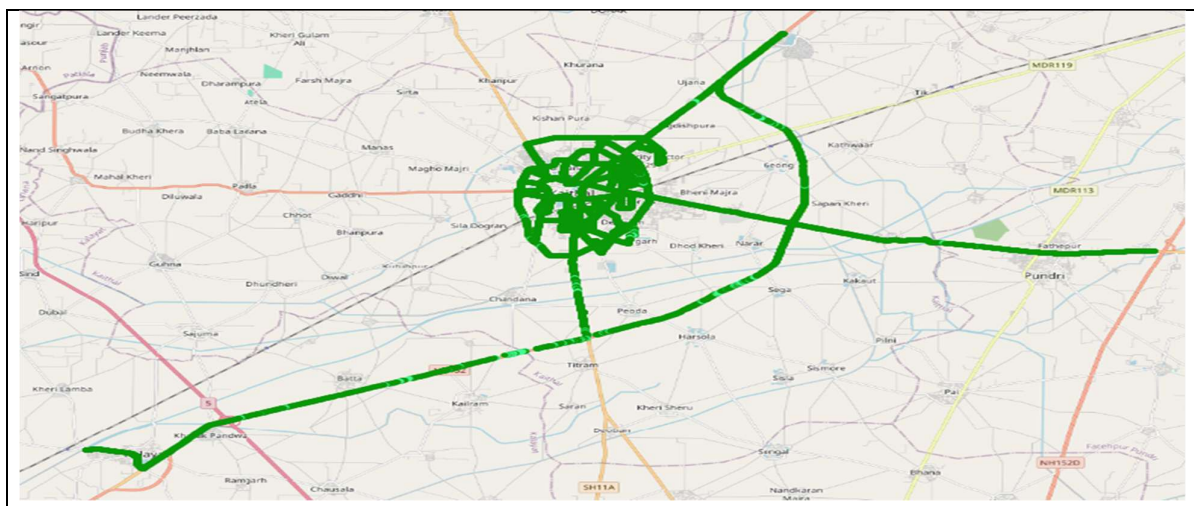


Figure-8: Signal strength auto-selection mode 5G/4G/3G/2G – AIRTEL

4.2 BSNL

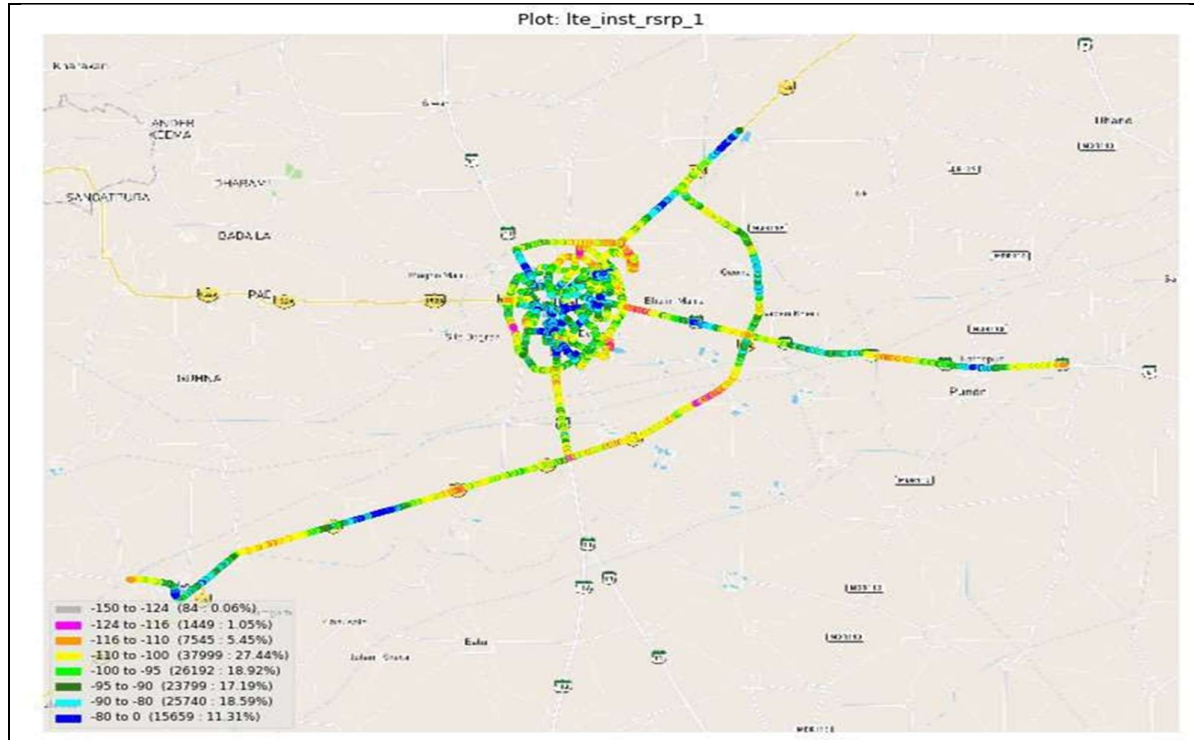


Figure-9: Signal strength 2G/3G network mode – BSNL

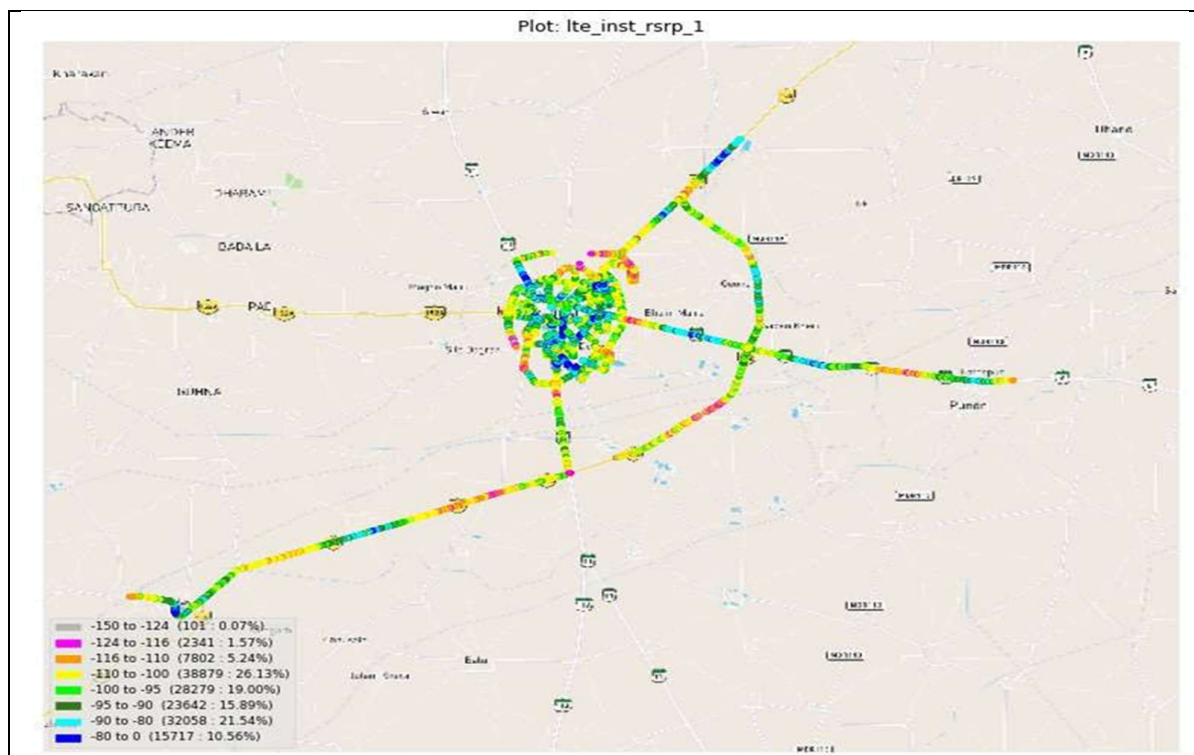


Figure-10: Signal strength auto-selection mode 5G/4G/3G/2G – BSNL

4.3 RJIL

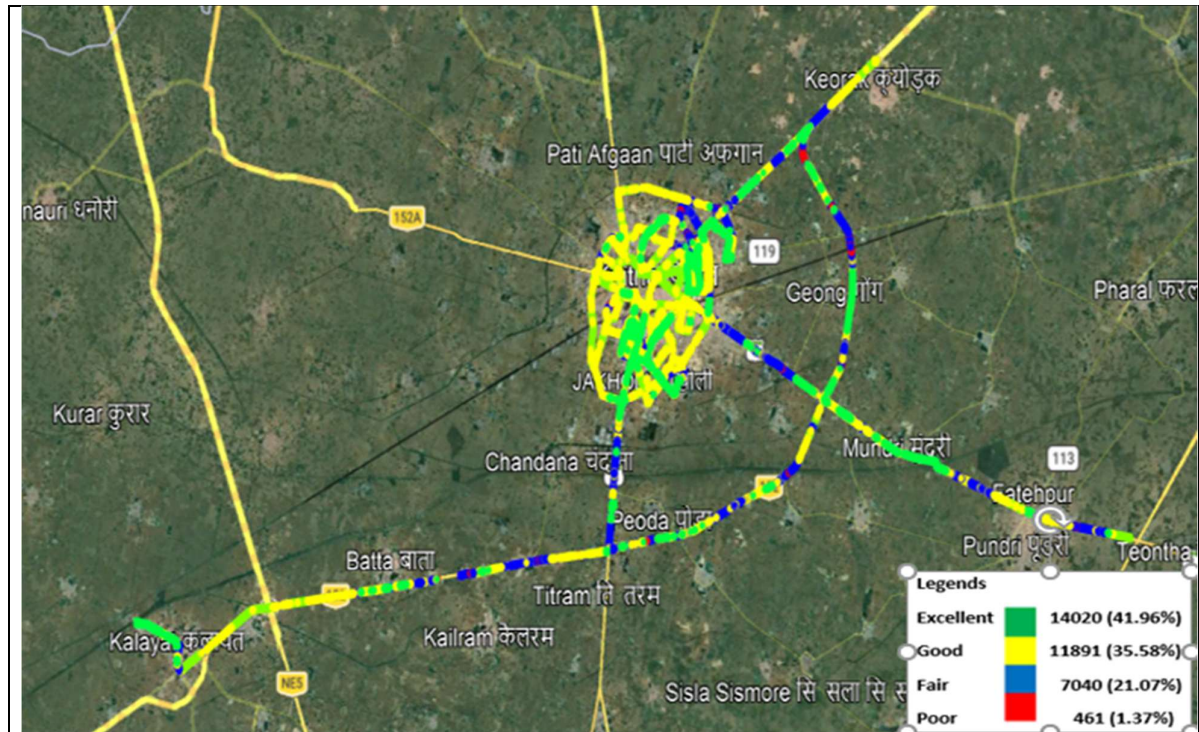


Figure-11: Signal strength auto-selection mode 5G/4G/3G/2G – RJIL

4.4 VIL

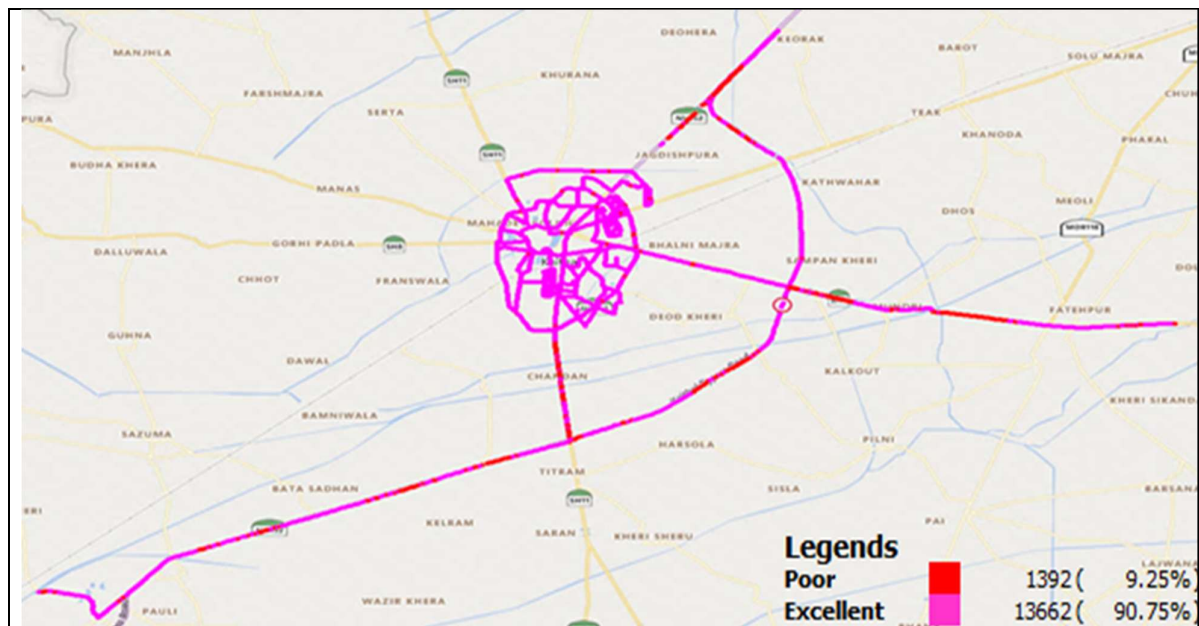


Figure-12: Signal strength 2G/3G network mode– VIL

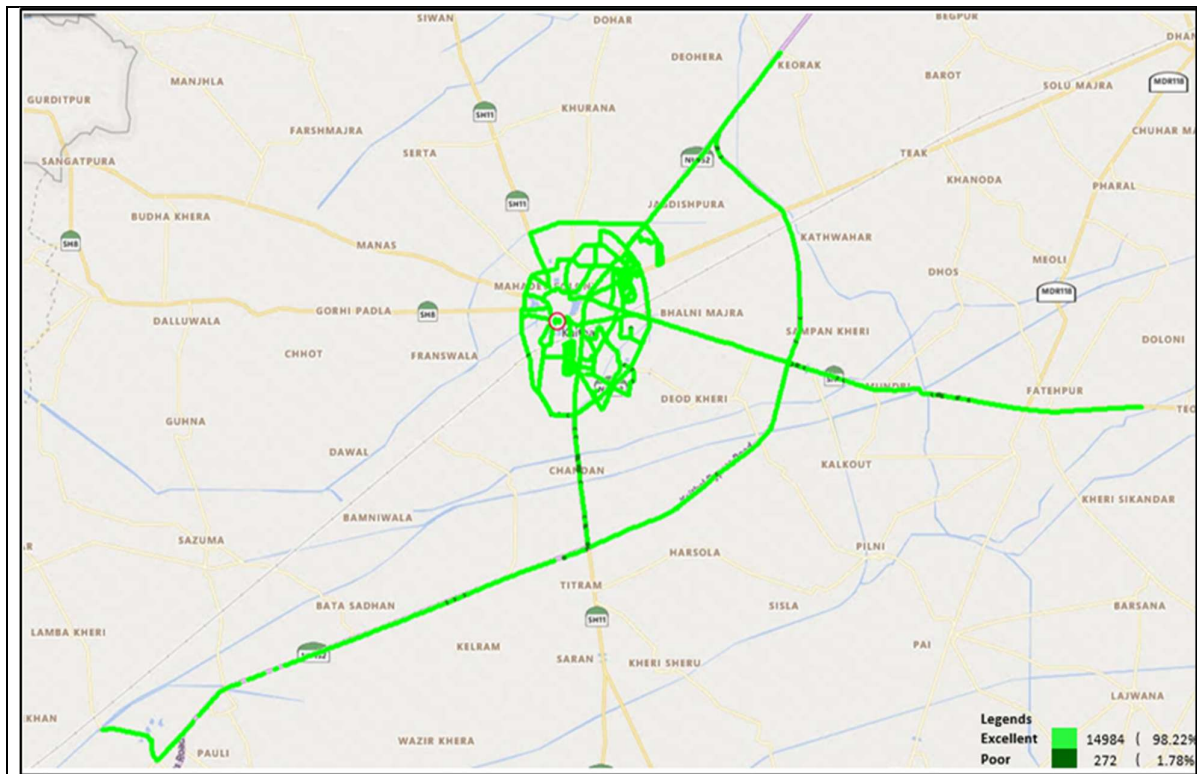


Figure-13: Signal strength auto-selection mode 5G/4G/3G/2G – VIL

5. Conclusion:

The operator wise comparative Analysis of various key parameters (5G/4G/3G/2G Open Mode) is given in table below:

Parameters	Service Provider			
	Auto-selection mode (5G/4G/3G/2G)			
	AIRTEL	BSNL	RJIL	VIL
Call Setup Success Rate %	99.67	97.35	100.00	100.00
Drop Call Rate %	0.34	2.64	0.00	0.28
Call Setup Time Average (Second)	1.27	1.76	1.21	0.86
Silence Call Rate %	1.12	NA*	0.25	0.60
Average MOS score	3.95	NA*	4.17	3.90
Packet Drop Rate (Downlink) %	1.32	NA*	1.00	0.00
Packet Drop Rate (Uplink)%	1.48	NA*	0.21	0.00
Download Throughput (Declared)Mbps	18.00	14.56	15.00	15.00
Download Throughput (Average) Mbps	86.57	4.14	244.1	16.17
Upload Throughput (Declared) Mbps	8.00	6.32	7.00	8.00
Upload Throughput (Average) Mbps	29.63	1.03	20.11	17.90
Latency in ms (50 th percentile)	12.00	53.15	21.00	37.00

Table:26: Operator wise comparative analysis of QoS parameters.

***The Call silence rate & MOS score is not captured by BSNL due to Test Kit not available.**

TSPs response:

- Call setup success rate (CSSR) as 97.35% not meeting the benchmark >=98%)** (Table 5 Page 8)

BSNL Response: . The observed Call Setup Success Rate (CSSR) is marginally below the prescribed benchmark. Kaithal city is presently served by 16 BTS sites, which results in relatively low site density, particularly in the outskirts and fringe areas covered during the drive test. Low site density leads to weak signal conditions and cell-edge scenarios, which adversely affect call accessibility. Upcoming 4G expansion in Kaithal, is expected to significantly improve uplink performance **(Action plan attached at Annexure-II)**

- Dropped Call rate (DCR) as 2.64% not meeting the benchmark <=2%)** (Table 5 Page 8)

BSNL Response: PO has been issued by BSNL H/Q for installation of 4G Sites, Roll out of this project likely to be completed by 31.12.2026

- Average Download throughput as 4.14 Mbps having lower throughput then declared as 14.56 Mbps in the PMR of June 2026.** (Table 9 Page 10)

BSNL Response: The observed download throughput is primarily affected by the limited site density in Kaithal city. With only 16 BTS sites catering to the city and adjoining areas, users in cell-edge locations experience lower signal quality and spectral efficiency, resulting in reduced throughput during mobility. Performance is expected to

improve with the planned expansion of the BSNL 4G network. (Action plan attached at Annexure-II)

4. **Average upload throughput as 1.03 Mbps having lower throughput than declared as 6.32 Mbps in the PMR of June 2026.** (Table 9 Page 10)

BSNL Response: The lower upload throughput is attributable to the same coverage limitations arising from the existing network footprint. Weak uplink radio conditions in fringe coverage areas impact upload performance during the drive test. Upcoming 4G expansion in Kaithal is expected to significantly improve the performance. (Action plan attached at Annexure-II). ADD ON PO has been issued by BSNL H/Q for installation of 4G Sites, Roll out of this project likely to be completed by 31.12.2026

5. **Latency having Value as 53.15 ms is not meeting the benchmark (<50ms) for BSNL.** (Table 9 Page 10)

BSNL Response: ADD ON PO has been issued by BSNL H/Q for installation of 4G Sites, Roll out of this project likely to be completed by 31.12.2026

Annexure-I

TRAI My Speed App: -

Speed test and Video & Browser test with TRAI My Speed App is carried out for all TSPs randomly during the drive test as well as at each hotspot location.

A) During the Drive Test

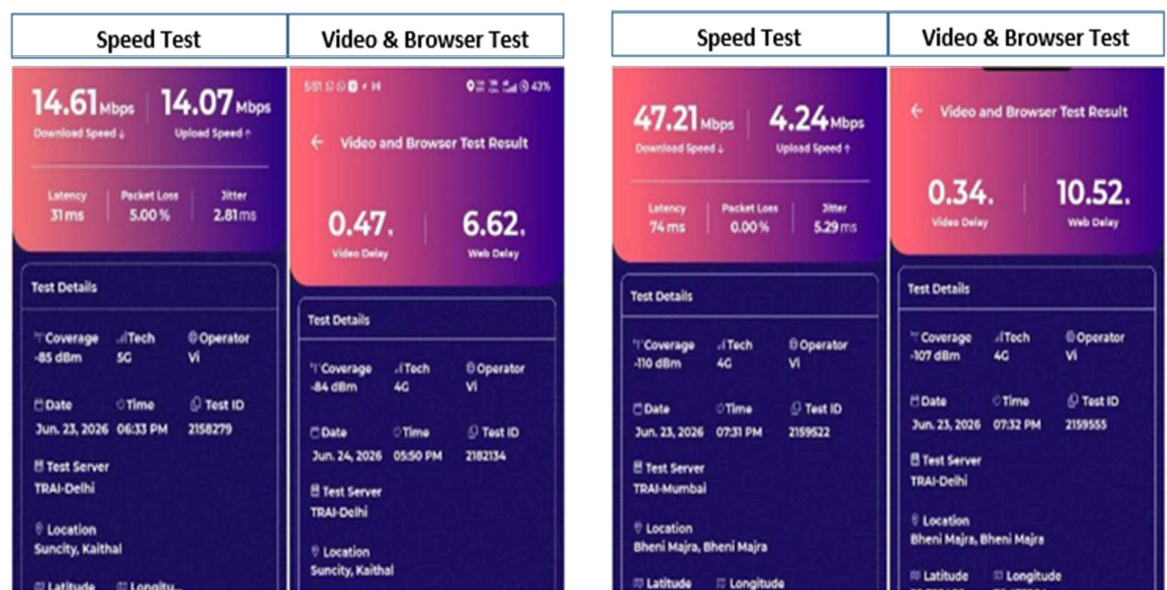
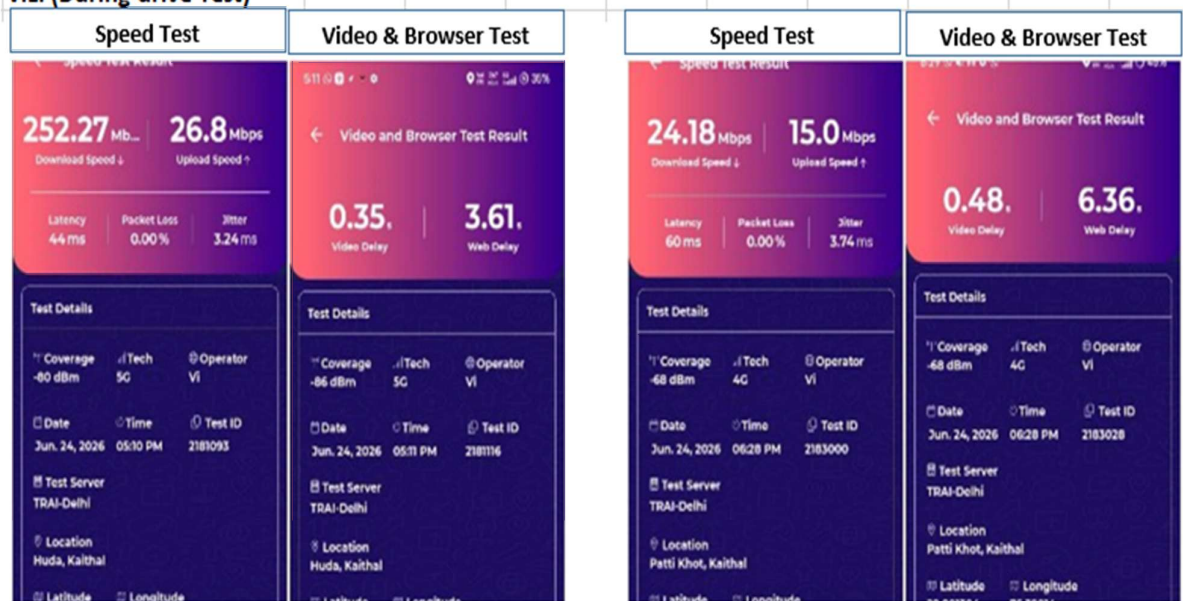
AIRTEL: (During drive Test)			
Speed Test	Video & Browser Test	Speed Test	Video & Browser Test

BSNL: (During drive Test)			
Speed Test	Video & Browser Test	Speed Test	Video & Browser Test

RJIL: (During drive Test)

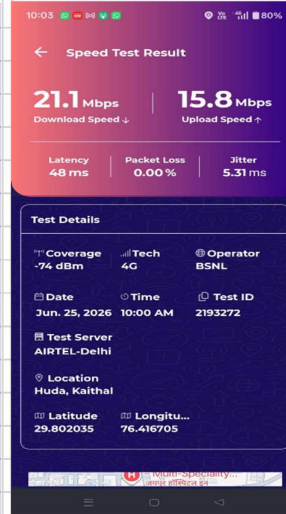
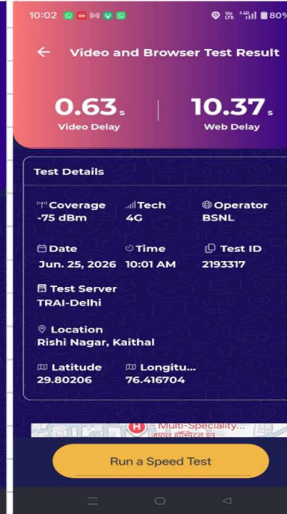
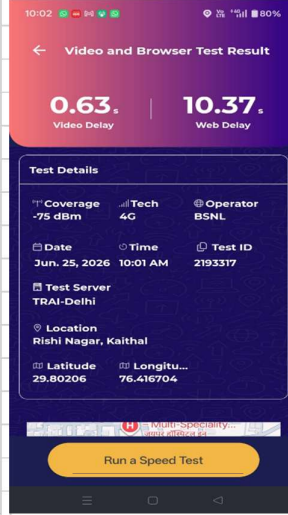
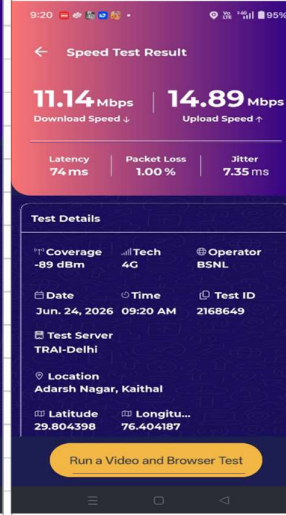
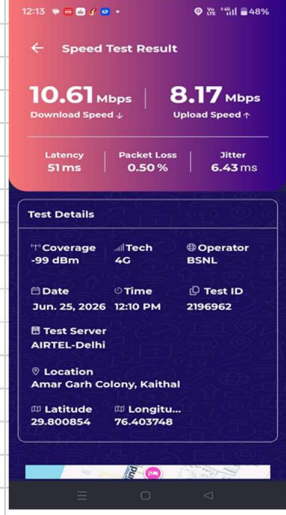
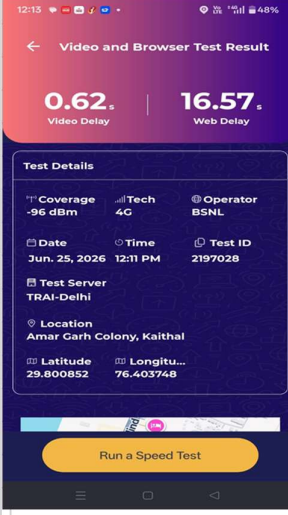
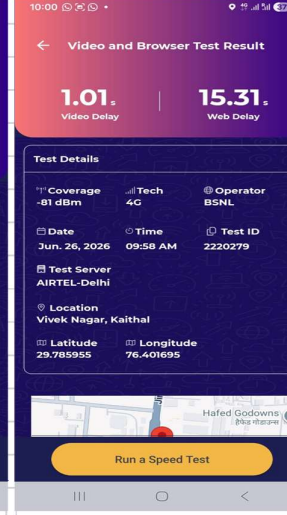
Speed Test	Speed Test	Speed Test
12:50 5G 50% 100% ← Speed Test Result 274.07 Mbps 30.08 Mbps Download Speed ↓ Upload Speed ↑ Latency 25 ms Packet Loss 0.00 % Jitter 4.74 ms Test Details Coverage -76 dBm Tech 5G Operator Jio Date Jun. 25, 2026 Time 12:50 PM Test ID 2198056 Test Server TRAI-Delhi Location Old City, Kaithal Latitude 29.802958 Longitude 76.397117 Run a Video and Browser Test	7:14 5G 50% 100% ← Speed Test Result 264.73 Mbps 21.81 Mbps Download Speed ↓ Upload Speed ↑ Latency 26 ms Packet Loss 0.00 % Jitter 4.14 ms Test Details Coverage -82 dBm Tech 5G Operator Jio Date Jun. 24, 2026 Time 07:14 PM Test ID 2184013 Test Server TRAI-Delhi Location Balraj Nagar, Kaithal Latitude 29.793027 Longitude 76.40319 Run a Video and Browser Test	6:30 5G 50% 100% ← Speed Test Result 323.18 Mbps 32.25 Mbps Download Speed ↓ Upload Speed ↑ Latency 52 ms Packet Loss 0.00 % Jitter 4.01 ms Test Details Coverage -68 dBm Tech 5G Operator Jio Date Jun. 24, 2026 Time 06:26 PM Test ID 2182955 Test Server TRAI-Delhi Location Patti Khot, Kaithal Latitude 29.801367 Longitude 76.389932
5:48 5G 50% 100% ← Speed Test Result 208.76 Mbps 11.23 Mbps Download Speed ↓ Upload Speed ↑ Latency 26 ms Packet Loss 0.50 % Jitter 6.06 ms Test Details Coverage -101 dBm Tech 5G Operator Jio Date Jun. 24, 2026 Time 05:48 PM Test ID 2182065 Test Server TRAI-Delhi Location Suncity, Kaithal Latitude 29.8191 Longitude 76.428463	4:30 5G 50% 100% ← Speed Test Result 257.79 Mbps 22.05 Mbps Download Speed ↓ Upload Speed ↑ Latency 25 ms Packet Loss 0.00 % Jitter 5.38 ms Test Details Coverage -73 dBm Tech 5G Operator Jio Date Jun. 24, 2026 Time 04:29 PM Test ID 2180030 Test Server TRAI-Delhi Location - Latitude - Longitude -	6:32 5G 50% 100% ← Speed Test Result 270.42 Mbps 18.2 Mbps Download Speed ↓ Upload Speed ↑ Latency 27 ms Packet Loss 0.00 % Jitter 4.95 ms Test Details Coverage -86 dBm Tech 5G Operator Jio Date Jun. 23, 2026 Time 06:31 PM Test ID 2158214 Test Server TRAI-Delhi Location Huda, Kaithal Latitude 29.817238 Longitude 76.418863

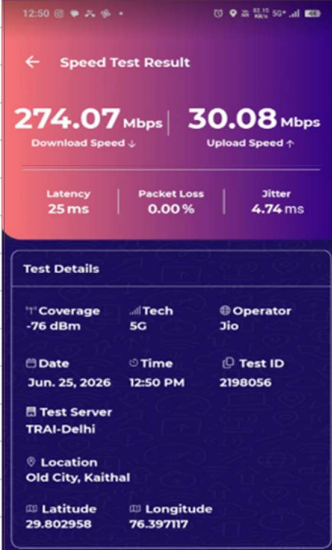
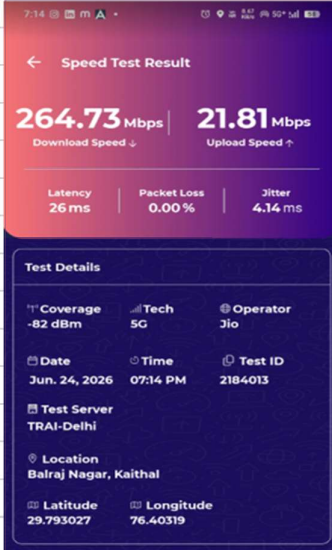
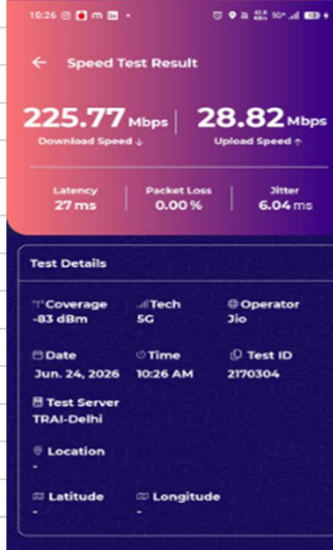
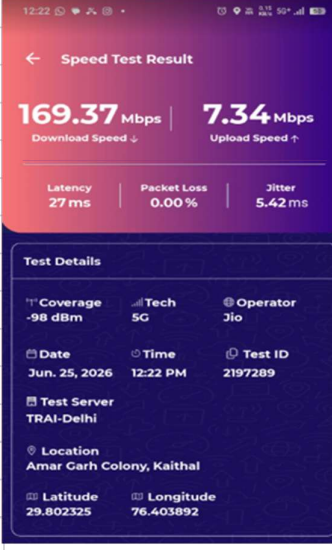
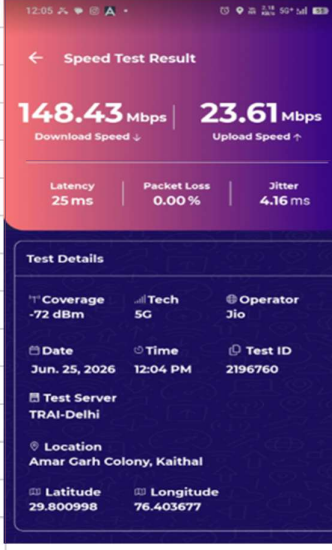
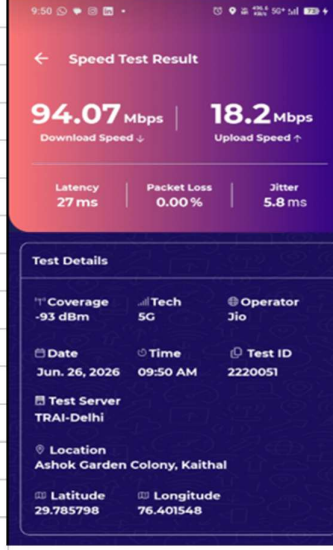
VIL: (During drive Test)



B) At Hotspot Location:

AIRTEL (Hotspot Locations)			
Hotspot-1 Saraf Bazar		Hotspot-2 District Court	
← Video and Browser Test Result 0.50. 7.55. Video Delay Web Delay Test Details 📶 Coverage -79 dBm 📶 Tech 4G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 03:26 PM 📄 Test ID 2201770 🖨️ Test Server TRAI-Delhi 📍 Location Old City, Kaithal 📍 Latitude 29.802785 📍 Longitude 76.397733 Run a Speed Test	← Speed Test Result 52.99 Mbps 6.83 Mbps Download Speed ↓ Upload Speed ↑ Latency 59 ms Packet Loss 0.00 % Jitter 6.56 ms Test Details 📶 Coverage -79 dBm 📶 Tech 4G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 03:25 PM 📄 Test ID 2201734 🖨️ Test Server TRAI-Delhi 📍 Location Old City, Kaithal 📍 Latitude 29.802799 📍 Longitude 76.397726 Run a Video and Browser Test	← Video and Browser Test Result 0.56. 20.08. Video Delay Web Delay Test Details 📶 Coverage -91 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 10:58 AM 📄 Test ID 2194937 🖨️ Test Server TRAI-Delhi 📍 Location Rishi Nagar, Kaithal 📍 Latitude 29.801731 📍 Longitude 76.416632 Run a Speed Test	← Speed Test Result 187.69 Mb... 13.23 Mbps Download Speed ↓ Upload Speed ↑ Latency 31 ms Packet Loss 0.00 % Jitter 4.12 ms Test Details 📶 Coverage -91 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 10:58 AM 📄 Test ID 2194870 🖨️ Test Server TRAI-Delhi 📍 Location Rishi Nagar, Kaithal 📍 Latitude 29.801733 📍 Longitude 76.416637 Run a Video and Browser Test
Hotspot-3 Civil Hospital		Hotspot-4 Kole Complex	
← Speed Test Result 309.38 M... 28.82 Mbps Download Speed ↓ Upload Speed ↑ Latency 50 ms Packet Loss 0.00 % Jitter 4.41 ms Test Details 📶 Coverage -90 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 11:47 AM 📄 Test ID 2196234 🖨️ Test Server TRAI-Mumbai 📍 Location Patti Gadar, Kaithal 📍 Latitude 29.791355 📍 Longitude 76.427762 Run a Video and Browser Test	← Video and Browser Test Result 0.29. 6.96. Video Delay Web Delay Test Details 📶 Coverage -95 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 11:47 AM 📄 Test ID 2196275 🖨️ Test Server TRAI-Delhi 📍 Location Patti Gadar, Kaithal 📍 Latitude 29.793154 📍 Longitude 76.422756 Run a Speed Test	← Video and Browser Test Result 0.71. 8.50. Video Delay Web Delay Test Details 📶 Coverage -94 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 02:39 PM 📄 Test ID 2200866 🖨️ Test Server TRAI-Delhi 📍 Location Amar Garh Colony, Kaithal 📍 Latitude 29.801923 📍 Longitude 76.40311 Run a Speed Test	← Speed Test Result 135.49 Mb... 12.61 Mbps Download Speed ↓ Upload Speed ↑ Latency 38 ms Packet Loss 0.00 % Jitter 5.86 ms Test Details 📶 Coverage -95 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 02:38 PM 📄 Test ID 2200837 🖨️ Test Server TRAI-Delhi 📍 Location Amar Garh Colony, Kaithal 📍 Latitude 29.801924 📍 Longitude 76.40311 Run a Video and Browser Test
Hotspot-5 Vishnu Market		Hotspot-6 Jilha Udyog Kendra	
← Speed Test Result 129.56 Mb... 4.39 Mbps Download Speed ↓ Upload Speed ↑ Latency 34 ms Packet Loss 0.00 % Jitter 2.95 ms Test Details 📶 Coverage -78 dBm 📶 Tech 4G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 12:22 PM 📄 Test ID 2197293 🖨️ Test Server TRAI-Delhi 📍 Location Amar Garh Colony, Kaithal 📍 Latitude 29.800887 📍 Longitude 76.401877 Run a Video and Browser Test	← Video and Browser Test Result 0.45. 3.11. Video Delay Web Delay Test Details 📶 Coverage -75 dBm 📶 Tech 4G 📶 Operator Airtel 📅 Date Jun. 25, 2026 ⌚ Time 12:23 PM 📄 Test ID 2197320 🖨️ Test Server TRAI-Delhi 📍 Location Amar Garh Colony, Kaithal 📍 Latitude 29.800887 📍 Longitude 76.403877 Run a Speed Test	← Video and Browser Test Result 0.44. 10.02. Video Delay Web Delay Test Details 📶 Coverage -75 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 26, 2026 ⌚ Time 10:25 AM 📄 Test ID 2220917 🖨️ Test Server TRAI-Delhi 📍 Location Ashok Garden Colony, Kaithal 📍 Latitude 29.785817 📍 Longitude 76.40153 Run a Video and Browser Test	← Speed Test Result 248.61 Mbps 32.06 Mbps Download Speed ↓ Upload Speed ↑ Latency 32 ms Packet Loss 0.00 % Jitter 2.52 ms Test Details 📶 Coverage -73 dBm 📶 Tech 5G 📶 Operator Airtel 📅 Date Jun. 26, 2026 ⌚ Time 10:24 AM 📄 Test ID 2220875 🖨️ Test Server TRAI-Delhi 📍 Location Ashok Garden Colony, Kaithal 📍 Latitude 29.785821 📍 Longitude 76.401503 Run a Video and Browser Test

BSNL (Hotspot Locations)			
Hotspot-1 Saraf Bazar		Hotspot-2 District Court	
 Speed Test Result 11.07 Mbps Download Speed ↓ 13.18 Mbps Upload Speed ↑ Latency: 48 ms Packet Loss: 0.00 % Jitter: 5.42 ms Test Details Coverage: -87 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 01:05 PM Test ID: 2198418 Test Server: AIRTEL-Delhi Location: Old City, Kaithal Latitude: 29.802942 Longitude: 76.397629	 Video and Browser Test Result 0.61 s Video Delay 11.44 s Web Delay Test Details Coverage: -89 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 01:06 PM Test ID: 2198467 Test Server: AIRTEL-Delhi Location: Old City, Kaithal Latitude: 29.802942 Longitude: 76.397629	 Speed Test Result 21.1 Mbps Download Speed ↓ 15.8 Mbps Upload Speed ↑ Latency: 48 ms Packet Loss: 0.00 % Jitter: 5.31 ms Test Details Coverage: -74 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 10:00 AM Test ID: 2193272 Test Server: AIRTEL-Delhi Location: Huda, Kaithal Latitude: 29.802035 Longitude: 76.416705	 Video and Browser Test Result 0.63 s Video Delay 10.37 s Web Delay Test Details Coverage: -75 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 10:01 AM Test ID: 2193317 Test Server: TRAI-Delhi Location: Rishi Nagar, Kaithal Latitude: 29.80206 Longitude: 76.416704
Hotspot-3 Civil Hospital		Hotspot-4 Kole Complex	
 Speed Test Result 21.1 Mbps Download Speed ↓ 15.8 Mbps Upload Speed ↑ Latency: 48 ms Packet Loss: 0.00 % Jitter: 5.31 ms Test Details Coverage: -74 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 10:00 AM Test ID: 2193272 Test Server: AIRTEL-Delhi Location: Huda, Kaithal Latitude: 29.802035 Longitude: 76.416705	 Video and Browser Test Result 0.63 s Video Delay 10.37 s Web Delay Test Details Coverage: -75 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 10:01 AM Test ID: 2193317 Test Server: TRAI-Delhi Location: Rishi Nagar, Kaithal Latitude: 29.80206 Longitude: 76.416704	 Speed Test Result 11.14 Mbps Download Speed ↓ 14.89 Mbps Upload Speed ↑ Latency: 74 ms Packet Loss: 1.00 % Jitter: 7.35 ms Test Details Coverage: -89 dBm Tech: 4G Operator: BSNL Date: Jun. 24, 2026 Time: 09:20 AM Test ID: 2168649 Test Server: TRAI-Delhi Location: Adarsh Nagar, Kaithal Latitude: 29.804398 Longitude: 76.404187	 Video and Browser Test Result 0.67 s Video Delay 11.22 s Web Delay Test Details Coverage: -95 dBm Tech: 4G Operator: BSNL Date: Jun. 24, 2026 Time: 09:20 AM Test ID: 2168690 Test Server: TRAI-Delhi Location: Adarsh Nagar, Kaithal Latitude: 29.804404 Longitude: 76.4042
Hotspot-5 Vishnu Market		Hotspot-6 Jilha Udypg Kendra	
 Speed Test Result 10.61 Mbps Download Speed ↓ 8.17 Mbps Upload Speed ↑ Latency: 51 ms Packet Loss: 0.50 % Jitter: 6.43 ms Test Details Coverage: -99 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 12:10 PM Test ID: 2196962 Test Server: AIRTEL-Delhi Location: Amar Garh Colony, Kaithal Latitude: 29.800854 Longitude: 76.403748	 Video and Browser Test Result 0.62 s Video Delay 16.57 s Web Delay Test Details Coverage: -96 dBm Tech: 4G Operator: BSNL Date: Jun. 25, 2026 Time: 12:11 PM Test ID: 2197028 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal Latitude: 29.800852 Longitude: 76.403748	 Speed Test Result 12.44 Mbps Download Speed ↓ 12.79 Mbps Upload Speed ↑ Latency: 40 ms Packet Loss: 0.00 % Jitter: 6.7 ms Test Details Coverage: -80 dBm Tech: 4G Operator: BSNL Date: Jun. 26, 2026 Time: 09:57 AM Test ID: 2220218 Test Server: TRAI-Delhi Location: Vivek Nagar, Kaithal Latitude: 29.78595 Longitude: 76.401648	 Video and Browser Test Result 1.01 s Video Delay 15.31 s Web Delay Test Details Coverage: -81 dBm Tech: 4G Operator: BSNL Date: Jun. 26, 2026 Time: 09:58 AM Test ID: 2220279 Test Server: AIRTEL-Delhi Location: Vivek Nagar, Kaithal Latitude: 29.785955 Longitude: 76.401695

RJIL (Hotspot Locations)		
Hotspot-1 Saraf Bazar	Hotspot-2 District Court	Hotspot-3 Civil Hospital
 Speed Test Result 274.07 Mbps 30.08 Mbps Download Speed ↓ Upload Speed ↑ Latency: 25 ms Packet Loss: 0.00 % Jitter: 4.74 ms Test Details Coverage: -76 dBm Tech: 5G Operator: Jio Date: Jun. 25, 2026 Time: 12:50 PM Test ID: 2198056 Test Server: TRAI-Delhi Location: Old City, Kaithal Latitude: 29.802958 Longitude: 76.397117	 Speed Test Result 264.73 Mbps 21.81 Mbps Download Speed ↓ Upload Speed ↑ Latency: 26 ms Packet Loss: 0.00 % Jitter: 4.14 ms Test Details Coverage: -82 dBm Tech: 5G Operator: Jio Date: Jun. 24, 2026 Time: 07:14 PM Test ID: 2184013 Test Server: TRAI-Delhi Location: Balraj Nagar, Kaithal Latitude: 29.793027 Longitude: 76.40319	 Speed Test Result 225.77 Mbps 28.82 Mbps Download Speed ↓ Upload Speed ↑ Latency: 27 ms Packet Loss: 0.00 % Jitter: 6.04 ms Test Details Coverage: -83 dBm Tech: 5G Operator: Jio Date: Jun. 24, 2026 Time: 10:26 AM Test ID: 2170304 Test Server: TRAI-Delhi Location: - Latitude: - Longitude: -
Hotspot-4 Vishnu Market	Hotspot-5 Kole Complex	Hotspot-6 Jilha Udyog Kendra
 Speed Test Result 169.37 Mbps 7.34 Mbps Download Speed ↓ Upload Speed ↑ Latency: 27 ms Packet Loss: 0.00 % Jitter: 5.42 ms Test Details Coverage: -98 dBm Tech: 5G Operator: Jio Date: Jun. 25, 2026 Time: 12:22 PM Test ID: 2197289 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal Latitude: 29.802325 Longitude: 76.403892	 Speed Test Result 148.43 Mbps 23.61 Mbps Download Speed ↓ Upload Speed ↑ Latency: 25 ms Packet Loss: 0.00 % Jitter: 4.16 ms Test Details Coverage: -72 dBm Tech: 5G Operator: Jio Date: Jun. 25, 2026 Time: 12:04 PM Test ID: 2196760 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal Latitude: 29.800998 Longitude: 76.403677	 Speed Test Result 94.07 Mbps 18.2 Mbps Download Speed ↓ Upload Speed ↑ Latency: 27 ms Packet Loss: 0.00 % Jitter: 5.8 ms Test Details Coverage: -93 dBm Tech: 5G Operator: Jio Date: Jun. 26, 2026 Time: 09:50 AM Test ID: 2220051 Test Server: TRAI-Delhi Location: Ashok Garden Colony, Kaithal Latitude: 29.785798 Longitude: 76.401548

VIL (Hotspot Locations)			
Hotspot-1 Saraf Bazar		Hotspot-2 District Court	
← Speed Test Result 53.51 Mbps 7.08 Mbps Download Speed ↓ Upload Speed ↑ Latency: 69 ms Packet Loss: 0.00 % Jitter: 5.11 ms Test Details Coverage: -91 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 02:03 PM Test ID: 2200076 Test Server: TRAI-Mumbai Location: Old City, Kaithal	2:05 55% ← Video and Browser Test Result 0.48 s 5.02 s Video Delay Web Delay Test Details Coverage: -88 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 02:04 PM Test ID: 2200114 Test Server: TRAI-Delhi Location: Old City, Kaithal	164.35 Mbps 13.44 Mbps Download Speed ↓ Upload Speed ↑ Latency: 28 ms Packet Loss: 0.00 % Jitter: 5.7 ms Test Details Coverage: -74 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 12:37 PM Test ID: 2197722 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal	← Video and Browser Test Result 0.64 s 3.26 s Video Delay Web Delay Test Details Coverage: -74 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 12:38 PM Test ID: 2197753 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal
Hotspot-3 Civil Hospital		Hotspot-4 Kole Complex	
← Speed Test Result 242.98 Mbps 20.2 Mbps Download Speed ↓ Upload Speed ↑ Latency: 33 ms Packet Loss: 0.00 % Jitter: 3.95 ms Test Details Coverage: -102 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 01:15 PM Test ID: 2198706 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal	1:16 64% ← Video and Browser Test Result 0.31 s 4.87 s Video Delay Web Delay Test Details Coverage: -101 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 01:15 PM Test ID: 2198748 Test Server: TRAI-Delhi Location: Amar Garh Colony, Kaithal	78.39 Mbps 18.71 Mbps Download Speed ↓ Upload Speed ↑ Latency: 65 ms Packet Loss: 2.50 % Jitter: 6.34 ms Test Details Coverage: -85 dBm Tech: 5G Operator: Vi Date: Jun. 26, 2026 Time: 09:28 AM Test ID: 2219530 Test Server: TRAI-Mumbai Location: Ashok Garden Colony, Kaithal	09:29 100% ← Video and Browser Test Result 0.67 s 3.48 s Video Delay Web Delay Test Details Coverage: -85 dBm Tech: 5G Operator: Vi Date: Jun. 26, 2026 Time: 09:29 AM Test ID: 2219546 Test Server: TRAI-Delhi Location: Ashok Garden Colony, Kaithal
Hotspot-5 Vishnu Market		Hotspot-6 Jilha Udyog Kendra	
← Speed Test Result 53.51 Mbps 7.08 Mbps Download Speed ↓ Upload Speed ↑ Latency: 69 ms Packet Loss: 0.00 % Jitter: 5.11 ms Test Details Coverage: -91 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 02:03 PM Test ID: 2200076 Test Server: TRAI-Mumbai Location: Old City, Kaithal	2:05 55% ← Video and Browser Test Result 0.48 s 5.02 s Video Delay Web Delay Test Details Coverage: -88 dBm Tech: 5G Operator: Vi Date: Jun. 25, 2026 Time: 02:04 PM Test ID: 2200114 Test Server: TRAI-Delhi Location: Old City, Kaithal	78.39 Mbps 18.71 Mbps Download Speed ↓ Upload Speed ↑ Latency: 65 ms Packet Loss: 2.50 % Jitter: 6.34 ms Test Details Coverage: -85 dBm Tech: 5G Operator: Vi Date: Jun. 26, 2026 Time: 09:28 AM Test ID: 2219530 Test Server: TRAI-Mumbai Location: Ashok Garden Colony, Kaithal	09:29 100% ← Video and Browser Test Result 0.67 s 3.48 s Video Delay Web Delay Test Details Coverage: -85 dBm Tech: 5G Operator: Vi Date: Jun. 26, 2026 Time: 09:29 AM Test ID: 2219546 Test Server: TRAI-Delhi Location: Ashok Garden Colony, Kaithal

Observations on my speed measurement: -

1. Airtel

- The download speed recorded was between 309.38 Mbps and 52.99 Mbps at hotspot locations having higher values as compared to declared speed for Haryana LSA as 18 Mbps.
- Upload speeds varied between 4.39 Mbps and 32.60 Mbps. At two hotspot locations down load speed recorded is less than as declared for Haryana LSA as 8Mbps.
- Packet loss was 0% in all Airtel measurements.
- Latency at all hotspot test recorded between 31 ms and 59 ms and jitter between 2.25 ms and 6.56 ms.
- Coverage strength ranged from -73 dBm to -95 dBm.

2. BSNL

- The download speed recorded was between 10.07 Mbps and 21.10 Mbps at hotspot locations having lesser values as compared to declared speed for Haryana LSA as 14.56 Mbps.
- Upload speeds varied between 8.17 Mbps and 15.80 Mbps. at hotspot locations having higher values as compared to declared speed for Haryana LSA as 6.32Mbps.
- Packet loss is found 1% & 0.5% for two locations in BSNL measurements.
- Latency at all hotspot test recorded between 40 ms and 74 ms and jitter between 5.31 ms and 7.35 ms.
- Coverage strength ranged from -74 dBm to -99 dBm.

3. Reliance Jio (RJIL):

- The download speed recorded was between 94.07 Mbps and 274.07 Mbps at hotspot locations having higher values as compared to declared speed for Haryana LSA as 15 Mbps.
- Upload speeds varied between 7.34 Mbps and 30.08 Mbps. at hotspot locations having higher values as compared to declared speed for Haryana LSA as 7Mbps.
- Packet loss recorded 0% for all locations.
- Higher Latency value recorded as 27 ms, while jitter was 6.04 ms.
- Coverage strength ranged from -72 dBm to -98 dBm.

4. Vodafone Idea (VIL)

- The download speed recorded was between 53.51 Mbps and 242.98 Mbps at hotspot locations having higher values as compared to declared speed for Haryana LSA as 15 Mbps.
- Upload speeds varied between 7.08 Mbps and 20.20 Mbps. At two hotspot locations down load speed recorded is less than as declared for Haryana LSA as 8Mbps.
- Packet loss recorded 2.5% at two locations
- Higher Latency value recorded as 69 ms, while jitter was 6.34 ms.
- Coverage strength ranged from -74 dBm to -102 dBm.

Action Taken Report/Action plan received from BSNL

S.No	Actionable QoS parameter	Remarks
1	Call setup success rate (97.35%) is below benchmark.	The observed Call Setup Success Rate (CSSR) is marginally below the prescribed benchmark. Kaithal city is presently served by 16 BTS sites, which results in relatively low site density, particularly in the outskirts and fringe areas covered during the drive test. Low site density leads to weak signal conditions and cell-edge scenarios, which adversely affect call accessibility. Upcoming 4G expansion in Kaithal, is expected to significantly improve uplink performance
2	Avg.Download throughput (4.14 Mbps) is below the typical declared speed by BSNL	The observed download throughput is primarily affected by the limited site density in Kaithal city. With only 16 BTS sites catering to the city and adjoining areas, users in cell-edge locations experience lower signal quality and spectral efficiency, resulting in reduced throughput during mobility. Performance is expected to improve with the planned expansion of the BSNL 4G network.
3	Avg.Upload throughput (1.03 Mbps) is below the typical declared speed by BSNL	The lower upload throughput is attributable to the same coverage limitations arising from the existing network footprint. Weak uplink radio conditions in fringe coverage areas impact upload performance during the drive test. Upcoming 4G expansion in Kaithal is expected to significantly improve the performance.

ADD ON PO has been issued by BSNL H/Q for installation of 4G Sites, Roll out of this project likely to be completed by 31.12.2026.