TELECOM REGULATORY AUTHORITY OF INDIA

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For Immediate Release

TRAI Assesses Network Quality Across Una & Mandi City and Highway Route from Una to Mandi via Bilaspur and Mandi to Una via Rewalsar and Hamirpur and New Delhi to Una Railway Route

The Telecom Regulatory Authority of India (TRAI) released its Independent Drive Test (IDT) findings for the Himachal Pradesh Licensed Service Area (LSA), covering extensive City/Highway/Railway routes during the month of May 2025. The drive tests, conducted under the supervision of the TRAI Regional Office, Delhi, were designed to capture real-world mobile network performance across diverse usage environments – Urban Zones, Institutional Hotspots, Public Transport Hubs, and high-speed Corridors.

Between 26th May 2025 to 28th May 2025, TRAI teams conducted detailed tests across 116.6 kms of City Test, 283.9 kms of Highway Test, 384.8 kms of Railway Test, 5 Hotspot locations and 2.3 kms of Walk Test. Technologies evaluated included 2G, 3G, 4G, and 5G, reflecting the service experience of users across multiple handset capabilities. The findings of IDT have already been intimated to all the TSPs concerned.
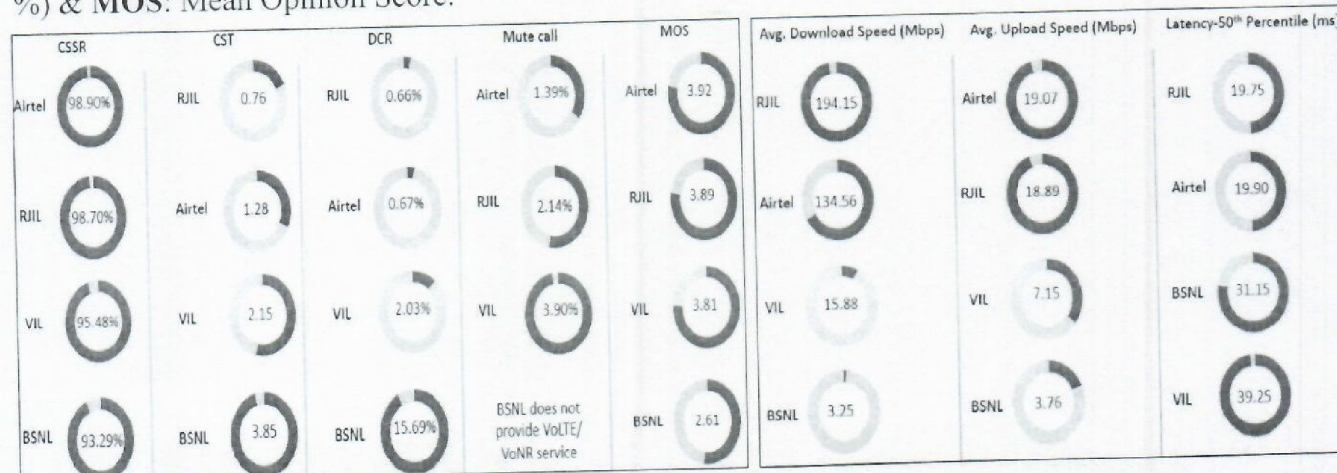
Key Parameters Assessed:

a) **Voice Services**: Call Setup Success Rate (CSSR), Drop Call Rate (DCR), Call Setup Time, Call Silence Rate, Speech Quality (MOS), Coverage.

b) **Data Services**: Download/Upload Throughput, Latency, Jitter, Packet Drop Rate, and Video Streaming Delay.

The overall mobile network performance in Una and Mandi were found to be mixed. Call Setup Success Rate - Airtel, BSNL, RJIL and VIL have call setup success rate of 98.90%, 93.29%, 98.70% and 95.48% respectively in Auto-selection mode (5G/4G/3G/2G). Drop Call Rate - Airtel, BSNL, RJIL and VIL have drop call rate of 0.67%, 15.69%, 0.66% and 2.03% respectively in Auto-selection mode (5G/4G/3G/2G). 5G data services also delivered encouraging results in city hotspots, with peak download speeds reaching 572.97 Mbps and upload speeds touching 62.30 Mbps.

Performance against key QoS parameters

CSSR: Call Setup Success Rate (in %), **CST**: Call Setup Time (in seconds), **DCR**: Drop Call Rate (in %) & **MOS**: Mean Opinion Score.

CSSR		CST		DCR		Mute call		MOS		Avg. Download Speed (Mbps)		Avg. Upload Speed (Mbps)		Latency-50th Percentile (ms)	
Airtel	98.90%	RJIL	0.76	RJIL	0.66%	Airtel	1.39%	Airtel	3.92	RJIL	194.15	Airtel	19.07	RJIL	19.75
RJIL	98.70%	Airtel	1.28	Airtel	0.67%	RJIL	2.14%	RJIL	3.89	Airtel	134.56	RJIL	18.89	Airtel	19.90
VIL	95.48%	VIL	2.15	VIL	2.03%	VIL	3.90%	VIL	3.81	VIL	15.88	VIL	7.15	BSNL	31.15
BSNL	93.29%	BSNL	3.85	BSNL	15.69%	BSNL does not provide VoLTE/ VoNR service		BSNL	2.61	BSNL	3.25	BSNL	3.76	VIL	39.25

Summary-Voice services

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 98.90%, 93.29%, 98.70% and 95.48% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL & VIL have call setup time of 1.28, 3.85, 0.76 and 2.15 seconds respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate: Airtel, BSNL, RJIL and VIL have drop call rate of 0.67%, 15.69%, 0.66% and 2.03% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate of 1.39%, 2.14% and 3.90% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS of 3.92, 2.61, 3.89 and 3.81 respectively.

Summary-Data services

Data Download performance (Overall): Average download speed of Airtel (5G/4G/2G) is 134.56 Mbps, BSNL (4G/3G/2G) is 3.25 Mbps, RJIL (5G/4G) is 194.15 Mbps and VIL (4G/2G) is 15.88 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G/2G) is 19.07 Mbps, BSNL (4G/3G/2G) is 3.76 Mbps, RJIL (5G/4G) is 18.89 Mbps and VIL (4G/2G) is 7.15 Mbps.

Data performance - Hotspots (in Mbps):

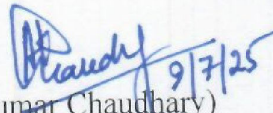|		
Airtel-	4G D/L: 59.56	4G U/L: 18.20
	5G D/L: 572.97	5G U/L: 62.30
BSNL-	4G D/L: 5.27	4G U/L: 12.73
RJIL-	4G D/L: 59.52	4G U/L: 14.55
	5G D/L: 326.39	5G U/L: 53.38
VIL-	4G D/L: 14.30	4G U/L: 6.55

Note- "D/L" Download speed, "U/L" Upload speed

In Una and Mandi, the assessment included high-density neighbourhoods like Barnoh, Dangoli, Jal Gran, Jhalera and Lal Singhi etc., in Una and Pakhri, Kunnu, Narla, Padhar and Kotropi etc., in Mandi. TRAI also evaluated real-world conditions at District and Sessions Court Una, ICFAI Una, IIT Mandi, ISBT Una, and Sunrise Hospital, Una to reflect stationary user experience. The walk tests, conducted on 26th May 2025 in Una City and 28th May 2025 in Mandi City, focused on, Una Railway Station and IIT Mandi, capturing mobile network behaviour in crowded pedestrian environments. The Una to Mandi highway corridor, a high-speed mobility stretches passing through Jindwari, Ganguwal, Kiratpur Sahib, Zakatkhana, Bilaspur, Ghaghas, Barmana, Sundarnagar and Nagchala etc., and Mandi to Una passing through Ner Chowk, Rewalsar, Manoh, Ladraur, Bhota, Hamirpur, Salouni, Barsar, Matyana and Barnoh etc., were also tested to understand quality of service during intercity travel.

Commenting on the findings, Shri Anil Kumar Lahoti, Chairman TRAI said:

"As India rapidly transitions into a digitally connected economy, TRAI remains committed to ensuring that service quality keeps pace with consumer expectations. These IDT results reflect actual user experience, help benchmark operator performance, and guide necessary network improvements."

The tests were conducted using TRAI-calibrated equipment and standardised protocols in real-time environments. The detailed report is available at TRAI website www.trai.gov.in. For any clarification/information, Shri Vivek Khare, Advisor (Regional Office, Delhi) TRAI may be contacted on email: adv.ca@trai.gov.in or at Tel. No. +91-11-20907772.

9/7/25

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