

New Delhi, 27-10-2025

For Immediate Release

TRAI Assesses Network Quality Across Ludhiana City

The Telecom Regulatory Authority of India (TRAI) released its Independent Drive Test (IDT) findings for the Punjab Licensed Service Area (LSA), covering extensive City routes during the month of September 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 08th September 2025 to 11th September 2025, TRAI teams conducted detailed tests across 280.8 km of City Drive Test, 13 Hotspot locations, 3.4 km of walk test, and Inter Operator Calling at 01 location. 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.

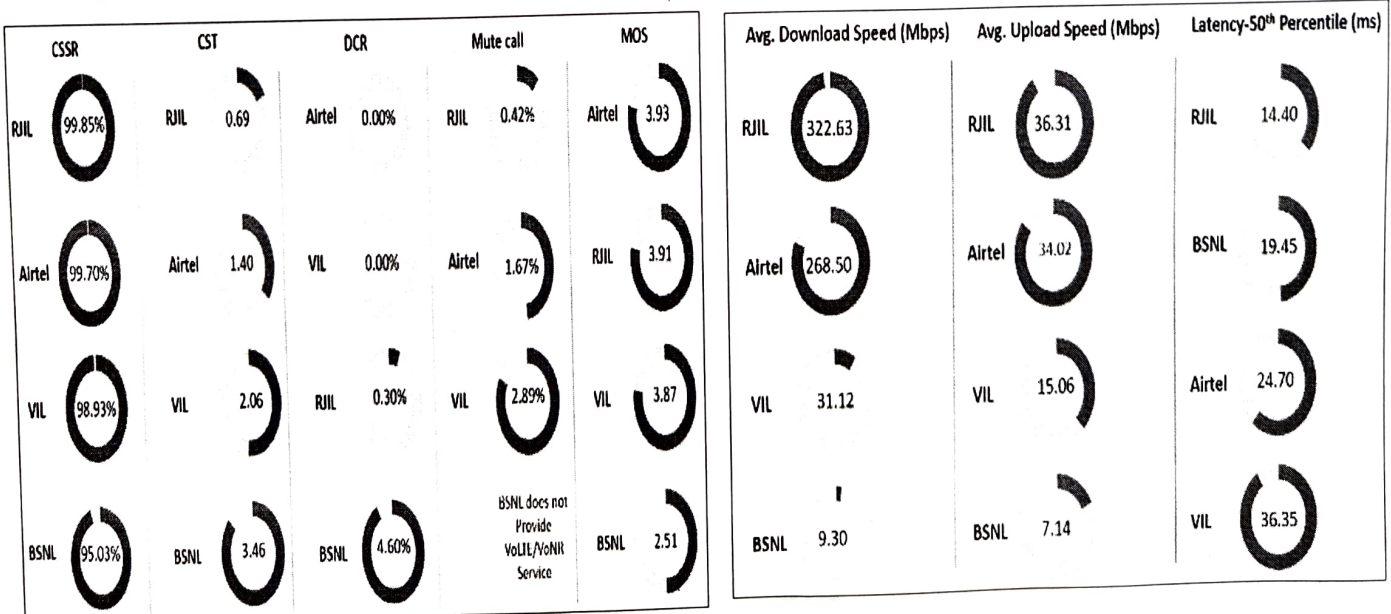
b) **Data Services:** Download/Upload Throughput, Latency, Jitter, Packet Drop Rate, and Video Streaming Delay.

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have 99.70%, 95.03%, 99.85% and 98.93% Call Setup Success Rate respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate: Airtel, BSNL, RJIL and VIL have Drop Call Rate of 0.00%, 4.60%, 0.30% and 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

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.



Summary-Voice services

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have 99.70%, 95.03%, 99.85% and 98.93% call setup success rate respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL & VIL have call setup time of 1.40, 3.46, 0.69 and 2.06 seconds respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate: Airtel, BSNL, RJIL and VIL have drop call rate of 0.00%, 4.60%, 0.30% and 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate of 1.67%, 0.42% and 2.89% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS of 3.93, 2.51, 3.91 and 3.87 respectively.

Summary-Data services

Data Download performance (Overall): Average download speed of Airtel (5G/4G) is 268.50 Mbps, BSNL (4G/3G/2G) is 9.30 Mbps, RJIL (5G/4G) is 322.63 Mbps and VIL (4G/2G) is 31.12 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G) is 34.02 Mbps, BSNL (4G/3G/2G) is 7.14 Mbps, RJIL (5G/4G) is 36.31 Mbps and VIL (4G/2G) is 15.06 Mbps.

Latency (Overall): Airtel, BSNL, RJIL & VIL 50th percentile latency is 24.70 ms, 19.45 ms, 14.40 ms & 36.35 ms respectively.

Data performance - Hotspots (in Mbps):

Airtel-	4G D/L: 37.50	4G U/L: 13.14
	5G D/L: 389.99	5G U/L: 55.37
BSNL-	4G D/L: 8.10	4G U/L: 9.11
RJIL-	4G D/L: 44.71	4G U/L: 8.77
	5G D/L: 389.91	5G U/L: 35.00
VIL-	4G D/L: 26.41	4G U/L: 19.19

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

The assessment in Ludhiana included high-density neighbourhoods such as Civil Lines, Phagguwal, Jainpur, Janpath Estates, Haibowal Kalan, Rakh Bagh, Model Gram, Model Town, Bhai Randhir Singh Nagar, Rajguru Nagar, Ayali Kalan, Shaheed Bhagat Singh Nagar, Karol Bagh, Top Enclave, Thakkarwal, Duggri, Gill, Dhandari Kalan, Sahnewal, Kotla, Focal Point, Dhanansu, Jamalpur, Basti Jodhewal, Kanija, Kasabad etc. TRAI also evaluated real-world conditions at Baba Deep Singh Gurudwara, Bus Stand Ludhiana, Delhi Public School, District Court Ludhiana, DMC Hospital Ludhiana, Feroz Gandhi Market, Guru Nanak Khalsa College for Women, Guru Nanak Dev Engineering College, Ludhiana Railway Station, Neopolis Mall, Punjab Agricultural University, Rakh Bagh, and Silver Arc Mall.

The walk test, conducted on 9th September 2025 and 10th September 2025 in Ludhiana City, focused on, Akal Market and Kipps Market, capturing mobile network behaviour in crowded pedestrian environments.

The tests were conducted using TRAI suggested 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.



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