

1. Drive test route Map: (Palakkad City- Kerala LSA)

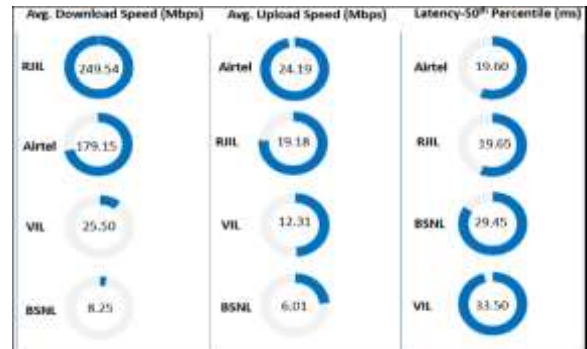
This route map indicates the routes covered in independent drive test in Palakkad city under Kerala LSA.

Legends for the Drive Tests route & area are as below



2. Performance against key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 100.00%, 89.25%, 99.81% and 100.00% respectively in auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL and VIL have call setup time of 1.22, 2.77, 0.60 & 0.80 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%, 0.63%, 0.00% & 0.00% respectively in auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, BSNL, RJIL and VIL have silence call rate 0.58%, 1.24%, 1.15% and 0.88% respectively in packet switched network (5G/4G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS Score of 4.01, 2.99, 3.91 & 4.51 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G/2G) is 179.15 Mbps, BSNL (4G/3G/2G) is 8.25 Mbps, RJIL (5G/4G) is 249.54 Mbps and VIL (4G/2G) is 25.50 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G/2G) is 24.19 Mbps, BSNL (4G/3G/2G) is 6.01 Mbps, RJIL (5G/4G) is 19.18 Mbps and VIL (4G/2G) is 12.31 Mbps.

Data performance - Hotspots (in Mbps):

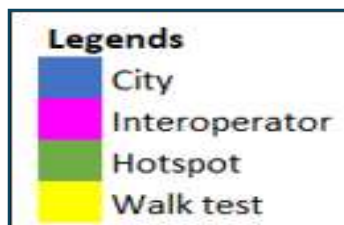
Airtel- 4G D/L:	49.28	4G U/L:	9.85
5G D/L:	210.77	5G U/L:	43.85
BSNL- 4G D/L:	12.15	4G U/L:	10.80
RJIL- 4G D/L:	48.91	4G U/L:	10.31
5G D/L:	88.38	5G U/L:	6.69
VIL- 4G D/L:	22.05	4G U/L:	11.34

Note- “D/L” Download speed, “U/L” Upload speed

Annexure-B

1. Drive test route Map: (Varanasi City- UP East LSA)

This route map indicates the routes covered in independent drive test in Varanasi City under UP East LSA.



2. Performance against key QoS parameters:

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



Summary-Voice Service

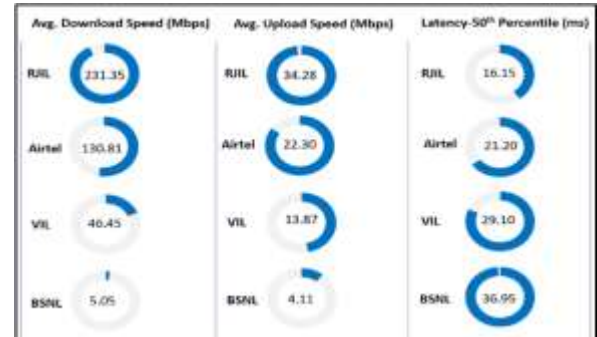
Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 99.46%, 98.14%, 100.00% and 100.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL and VIL have call setup time of 21.69, 4.16, 0.65 & 0.66 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%, 0.95%, 0.16% & 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate 0.24%, 0.00% and 1.22% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have Average MOS Score of 4.01, 2.39, 3.92 & 4.33 respectively.



Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G) is 130.81 Mbps, BSNL (4G/3G/2G) is 5.05 Mbps, RJIL (5G/4G) is 231.35 Mbps and VIL (4G/2G) is 46.45 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G) is 22.30 Mbps, BSNL (4G/3G/2G) is 4.11 Mbps, RJIL (5G/4G) is 34.28 Mbps and VIL (4G/2G) is 13.87 Mbps.

Data performance - Hotspots (in Mbps):

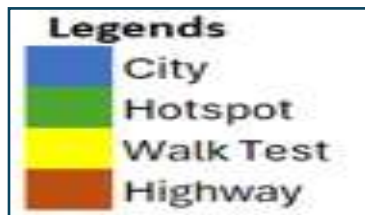
Airtel- 4G D/L: 63.07	4G U/L: 6.68
5G D/L: 89.33	5G U/L: 13.46
BSNL- 4G D/L: 6.42	4G U/L: 4.83
RJIL- 4G D/L: 40.17	4G U/L: 10.43
5G D/L: 163.13	5G U/L: 32.71
VIL- 4G D/L: 29.49	4G U/L: 9.17

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

Annexure-C

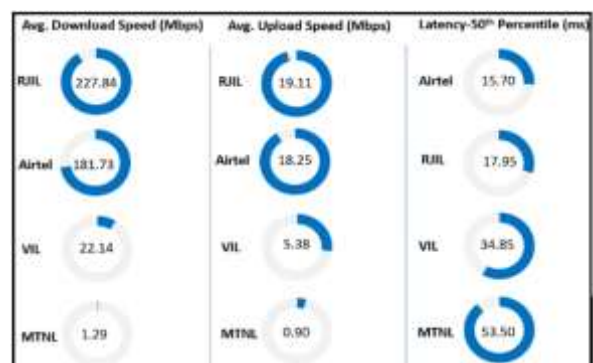
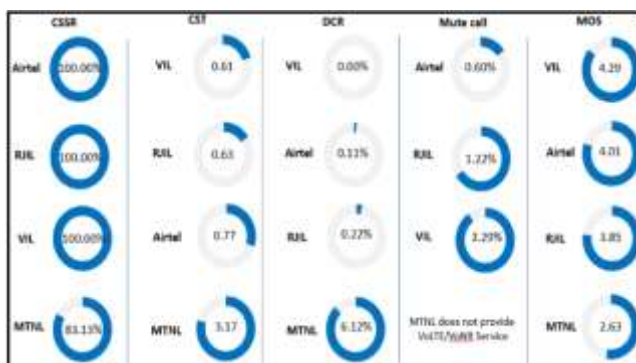
1. Drive test route Map: (Delhi city & Noida to Aligarh Highway Route - Delhi LSA)

This route map indicates the routes covered in independent drive test in Delhi city & Noida to Aligarh highway route



2. Performance against key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, MTNL, RJIL and VIL have call setup success rate of 100.00%, 83.13%, 100.00% and 100.00% and respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, MTNL, RJIL and VIL have call setup time of 0.77, 3.17, 0.63 & 0.61 seconds respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate: Airtel, MTNL, RJIL and VIL have drop call rate of 0.11%, 6.12%, 0.22% & 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate of 0.60%, 1.22% and 3.29% respectively in packet switched network (5G/4G).

Mean Opinion Score (MOS): Airtel, MTNL, RJIL and VIL have average MOS Score of 4.01, 2.63, 3.85 & 4.29 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G) is 181.73 Mbps, MTNL (3G/2G) is 1.29 Mbps, RJIL (5G/4G) is 227.84 Mbps and VIL (4G/2G) is 22.14 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G) is 18.25 Mbps, MTNL (3G/2G) is 0.90 Mbps, RJIL (5G/4G) is 19.11 Mbps and VIL (4G/2G) is 5.38 Mbps.

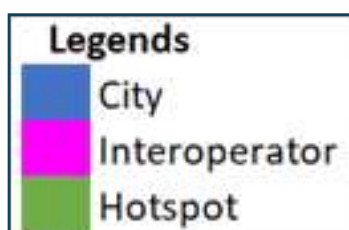
Data performance - Hotspots (in Mbps):

Airtel-	4G D/L: 31.23	4G U/L: 9.63
	5G D/L: 242.24	5G U/L: 30.90
RJIL-	4G D/L: 32.53	4G U/L: 8.81
	5G D/L: 285.62	5G U/L: 23.89
VIL-	4G D/L: 24.90	4G U/L: 7.08

Note- "D/L" Download speed, "U/L" Upload speed in 4G & 5G technology have not been observed in MTNL at hotspot locations.

1. Drive test route Map: (Cuttack City – Odisha LSA)

This route map indicates the routes covered in independent drive test in Cuttack City under Odisha LSA.

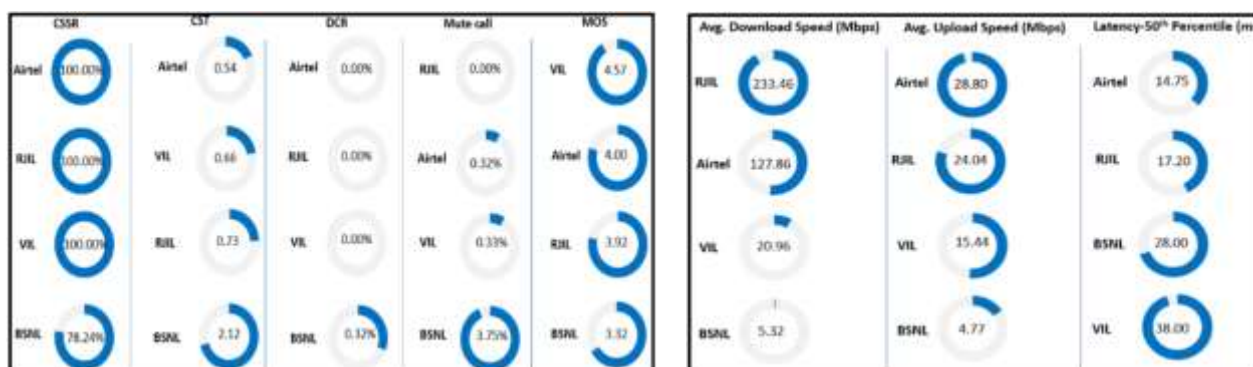


Drive



2. Performance against key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 100.00%, 78.24%, 100.00% and 100.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL and VIL have call setup time of 0.54, 2.12, 0.73 & 0.66 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%, 0.32%, 0.00% & 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, BSNL, RJIL and VIL have silence call rate of 0.32%, 3.75%, 0.00% and 0.33% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS Score of 4.00, 3.32, 3.92 & 4.57 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G) is 127.86 Mbps, BSNL (4G/3G) is 5.32 Mbps, RJIL (5G/4G) is 233.46 Mbps and VIL (4G/2G) is 20.96 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G) is 28.80 Mbps, BSNL (4G/3G) is 4.77 Mbps, RJIL (5G/4G) is 24.04 Mbps and VIL (4G/2G) is 15.44 Mbps.

Data performance - Hotspots (in Mbps):

Airtel- 4G D/L:	48.23	4G U/L:	9.92
5G D/L:	161.26	5G U/L:	44.53
BSNL- 4G D/L:	6.77	4G U/L:	8.42
RJIL- 4G D/L:	40.91	4G U/L:	11.76
5G D/L:	102.09	5G U/L:	15.52
VIL- 4G D/L:	19.25	4G U/L:	16.56

Note- “D/L” Download speed, “U/L” Upload speed

Annexure-E

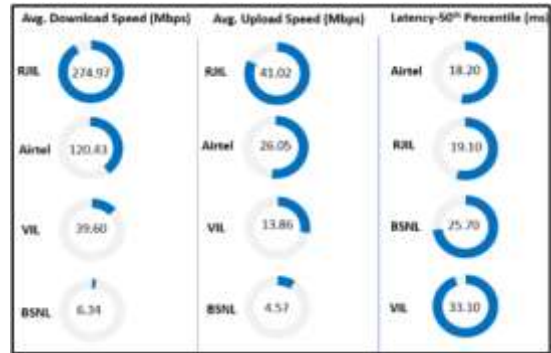
1. Drive test route Map: (Jodhpur City- Rajasthan LSA)

This route map indicates the routes covered in independent drive test in Jodhpur City under Rajasthan LSA.



2. Performance against key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 99.14%, 99.28%, 100.00%, and 98.88% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL & VIL have call setup time of 2.19, 3.12, 0.69 and 1.34 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%, 2.18%, 0.00% 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 0.56%, 0.00% and 0.72% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS Score of 4.04, 2.49, 3.99 and 4.62 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G) is 120.43 Mbps, BSNL (4G/3G) is 6.34 Mbps, RJIL (5G/4G) is 274.97 Mbps and VIL (4G/2G) is 39.60 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G) is 26.05 Mbps, BSNL (4G/3G) is 4.57 Mbps, RJIL (5G/4G) is 41.02 Mbps and VIL (4G/2G) is 13.86 Mbps.

Data performance - Hotspots (in Mbps):

Airtel- 4G D/L:	44.58	4G U/L:	13.86
5G D/L:	123.08	5G U/L:	19.67
BSNL- 4G D/L:	10.38	4G U/L:	8.32
RJIL- 4G D/L:	35.49	4G U/L:	11.81
5G D/L:	172.95	5G U/L:	27.57
VIL- 4G D/L:	34.48	4G U/L:	15.96

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

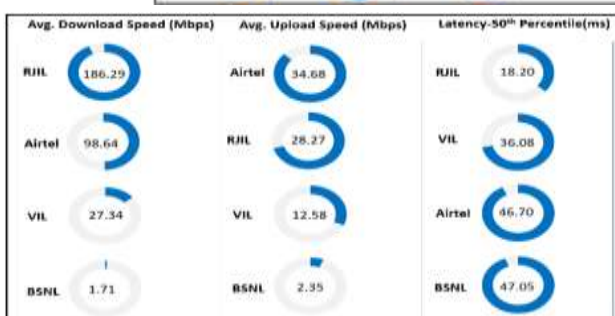
1. Drive test route Map: (Patna city & Bihar Sharif, Sheikhpura, Munger & Jamui district – Bihar & Jharkhand LSA)

This route map indicates the routes covered in independent drive test in Patna city & Bihar Sharif, Sheikhpura, Munger & Jamui district under Bihar LSA including Jharkhand. Legends for the Drive Tests route & area are as



2. Performance against key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 99.27%, 90.74%, 99.86% and 64.44% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL & VIL have call setup time of 1.77, 2.88, 0.71 and 2.20 seconds respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate: Airtel, BSNL, RJIL and VIL have drop call rate 0.00%, 6.63%, 0.14% and 1.43% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate 0.84%, 0.42% and 6.22% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have average MOS Score of 4.04, 3.06, 3.96 and 4.46 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G/2G) is 98.64 Mbps, BSNL (4G/3G/2G) is 1.71 Mbps, RJIL (5G/4G) is 186.29 Mbps and VIL (4G/2G) is 27.34 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G/2G) is 34.68 Mbps, BSNL (4G/3G/2G) is 2.35 Mbps, RJIL (5G/4G) is 28.27 Mbps and VIL (4G/2G) is 12.58 Mbps.

Data performance - Hotspots (in Mbps):

Airtel- 4G D/L:	66.08	4G U/L:	15.34
5G D/L:	154.13	5G U/L:	41.83
BSNL- 4G D/L:	6.39	4G U/L:	10.96
RJIL- 4G D/L:	51.08	4G U/L:	12.00
5G D/L:	255.46	5G U/L:	33.68
VIL- 4G D/L:	24.07	4G U/L:	18.33

Note- “D/L” Download speed, “U/L” Upload speed

Annexure-G

1. Drive test route Map: (Gangtok city and Pakyong Districts areas – West Bengal LSA)

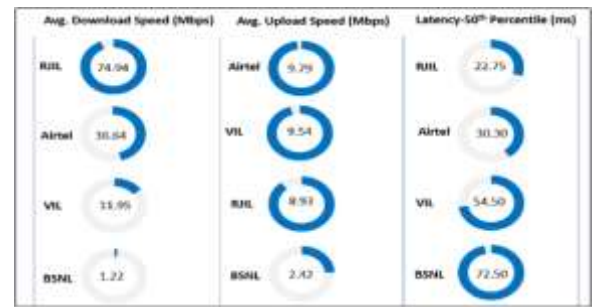
This route map indicates the routes covered in independent drive test in Gangtok city and Pakyong Districts under West Bengal LSA LSA.

Legends for the Drive Tests route & area are as below



2. key QoS parameters:

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



Summary-Voice Service

Call Setup Success Rate: Airtel, BSNL, RJIL and VIL have call setup success rate of 77.11%, 51.93%, 87.33% and 94.29% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Setup Time: Airtel, BSNL, RJIL and VIL have call setup time of 2.59, 5.59, 1.08 & 1.63 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%, 5.45%, 1.53% & 0.00% respectively in Auto-selection mode (5G/4G/3G/2G).

Call Silence/Mute Rate: Airtel, BSNL, RJIL and VIL have silence call rate 11.86%, 5.79%, 7.88% and 16.88% respectively in packet switched network (4G/5G).

Mean Opinion Score (MOS): Airtel, BSNL, RJIL and VIL have Average MOS Score of 3.63, 3.26, 3.64 & 3.84 respectively.

Summary-Data Service

Data Download performance (Overall): Average download speed of Airtel (5G/4G/2G) is 36.64 Mbps, BSNL (4G/3G/2G) is 1.22 Mbps, RJIL (5G/4G) is 74.94 Mbps and VIL (4G/2G) is 11.95 Mbps.

Data Upload performance (Overall): Average upload speed of Airtel (5G/4G/2G) is 9.79 Mbps, BSNL (4G/3G/2G) is 2.42 Mbps, RJIL (5G/4G) is 8.93 Mbps and VIL (4G/2G) is 9.54 Mbps.

Data performance - Hotspots (in Mbps):

Airtel- 4G D/L: 48.73	4G U/L: 14.35
5G D/L: 162.20	5G U/L: 39.19
BSNL- 4G D/L: 1.04	4G U/L: 2.47
RJIL- 4G D/L: 26.78	4G U/L: 7.52
5G D/L: 79.15	5G U/L: 13.71
VIL- 4G D/L: 11.18	4G U/L: 9.74

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