# Operator Assisted Drive Test Report

# KURNOOL SSA
# MAR - 2025
# (RO, HYDERABAD)

**Key Performance Indicators:** **All TSPs have met the Drop Call Rate (DCR) benchmark of 2%. All TSPs have met the Call Setup Success Rate (CSSR) of 95%. All TSPs have met the Rx Quality of 95% except Airtel 2G, Airtel & VIL VoLTE.**

The Operator Assisted Drive Test (OADT) has been carried out by TRAI RO Hyderabad with the help of Service Providers in Kurnool City and surrounding areas Kondareddy buruju, Adoni, Yemmiganur, Nandyala, Atmakur, Mantralayam, Dhone, Aallagadda, Nannur Tollgate from 9:00 AM to 8:00 PM during 04th to 07th Mar 2025. The drive test covered drive route of 442 KMs & 7 hotspot over a period of 4 days. Approximately 421 calls were made for each of the 7 networks: Three 2G networks, Four LTE network covering four TSPs.

| Overview | Voice Summary | Data Summary |

# Overview

TRAI Hyderabad conducted Operator Assisted Drive Test from 04th to 07th Mar 2025. covering various locations in Kondareddyburuju, Adoni, Yemmiganur, Nandyala, Atmakur, Mantralayam, Dhone, Aallagadda, Nannur tollgate.The performance of Airtel, BSNL, Jio and Vodafone Idea Limited were monitored across various technologies (2G, 3G, and 4G). The test results obtained from these drive tests were utilized to assess the network quality for Voice and Data services in terms of

**Voice:** Coverage, Quality, Handover Success Rate, Call Setup Success Rate, Drop Call Rate and Block Call Rate.

**Data:** Download and Upload Throughputs, Web Browsing Delay and Latency

**Drive Test Details :**

**Voice Tests:** Calls were made for 90 sec duration with wait time of 10 sec between calls in all technologies. The drive test covered a drive route of approximately 442 KMs over a period of 4 days from 04th to 07th Mar 2025. Approximately 421 calls were made for each of the 7 networks: three 2G (Lock Mode) networks, one 3G (Dual mode) networks and three VoLTE network covering 4 unique TSPs.

**Data Tests:**

1.Dynamic data test was conducted for 442 kms over a period of 3 days for download throughput for 3G & 4G technologies.

Data Tests were performed at 7 static locations for 2G, 3G & 4G technologies of five iterations at each location.

2. For Voice and Data KPI's, 2G measurement is done with UE locked mode, 3G measurement is done with UE in Dual mode (2G & 3G) and 4G measurement is done with UE in Free Mode.

* 3G KPI's which are calculated from UE in Dual Mode (2G & 3G) includes samples and events of 2G.

* 4G KPI's which are calculated from the UE in Free Mode included samples and events of 2G & 3G.14

| Service | Specifications |
|---|---|
| Download | 2G (Locked) - 500KB,   3G (Dual) - 20 MB,   4G (Free) - 40 MB |
| Upload | 2G (Locked) - 100KB,   3G (Dual) - 5 MB,    4G (Free) - 10 MB |
| Web Browsing | 3 links of e/m commerce website www.amazon.in, www.flipkart.com and www.myntra.com |
| Video Streaming | 130 Sec Clip |
| Latency | 32 Bytes on www.google.com |

# Overview

## Voice & Dynamic Data Test Drive Route
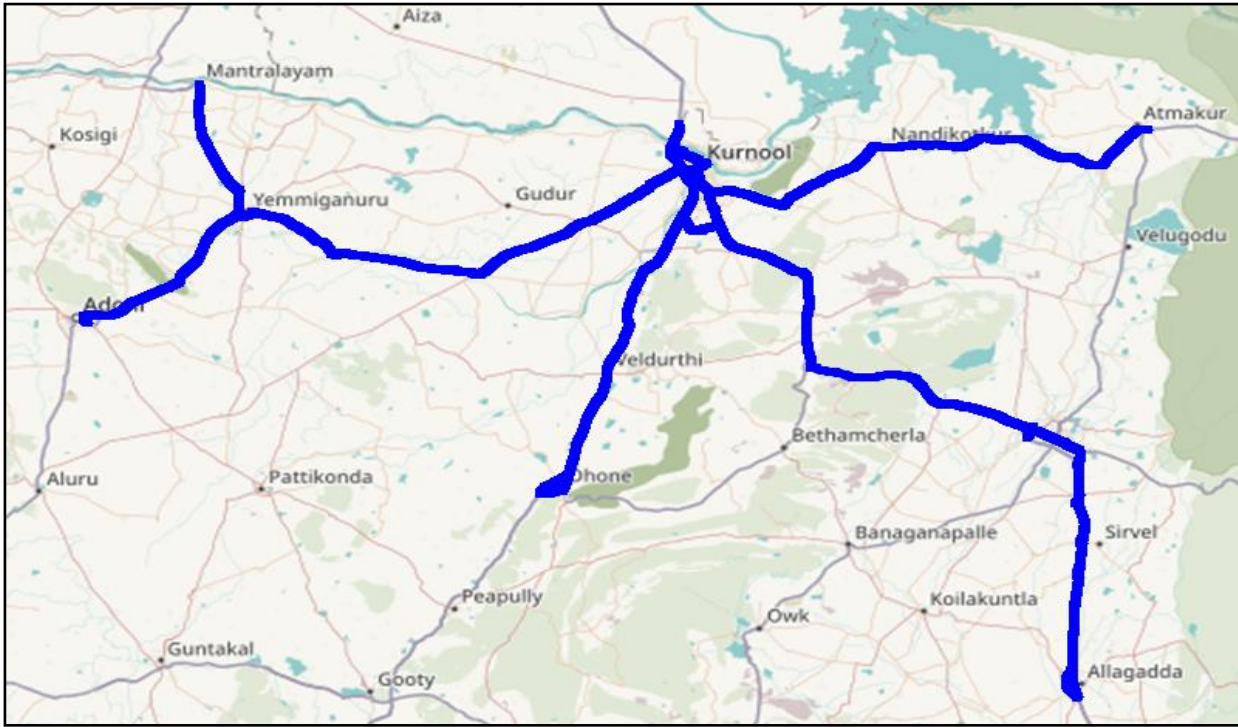


| Kurnool City to Dhone Drive (Day-1) | Peddapad to Adoni Drive (Day-2) | Nannur Tollgate to Allagadda Drive (Day-3) | Pullaiah Engineering College to Atmakur Drive (Day-4) |
|---|---|---|---|
| Peddapadu | Peddapadu | Nannur Tollgate | Pullaiah Engineering College |
| Pullur Tollgate | Kodumur | Orvakal | Nandikotkur |
| Kurnool City Municipal Office | Yemmiganur | Hussainapuram | Pamulapadu |
| Kondareddy Fort | Mantralayam | Panyam | Atmakur |
| Rajvihar | Yemmiganur | Nandyal | |
| C.Camp | Adoni | Allagadda | |
| Pullaiah Engineering College | | | |
| Nandyal Check Post | | | |
| Dhone (Via-Veldurty Road) | | | |

# Overview
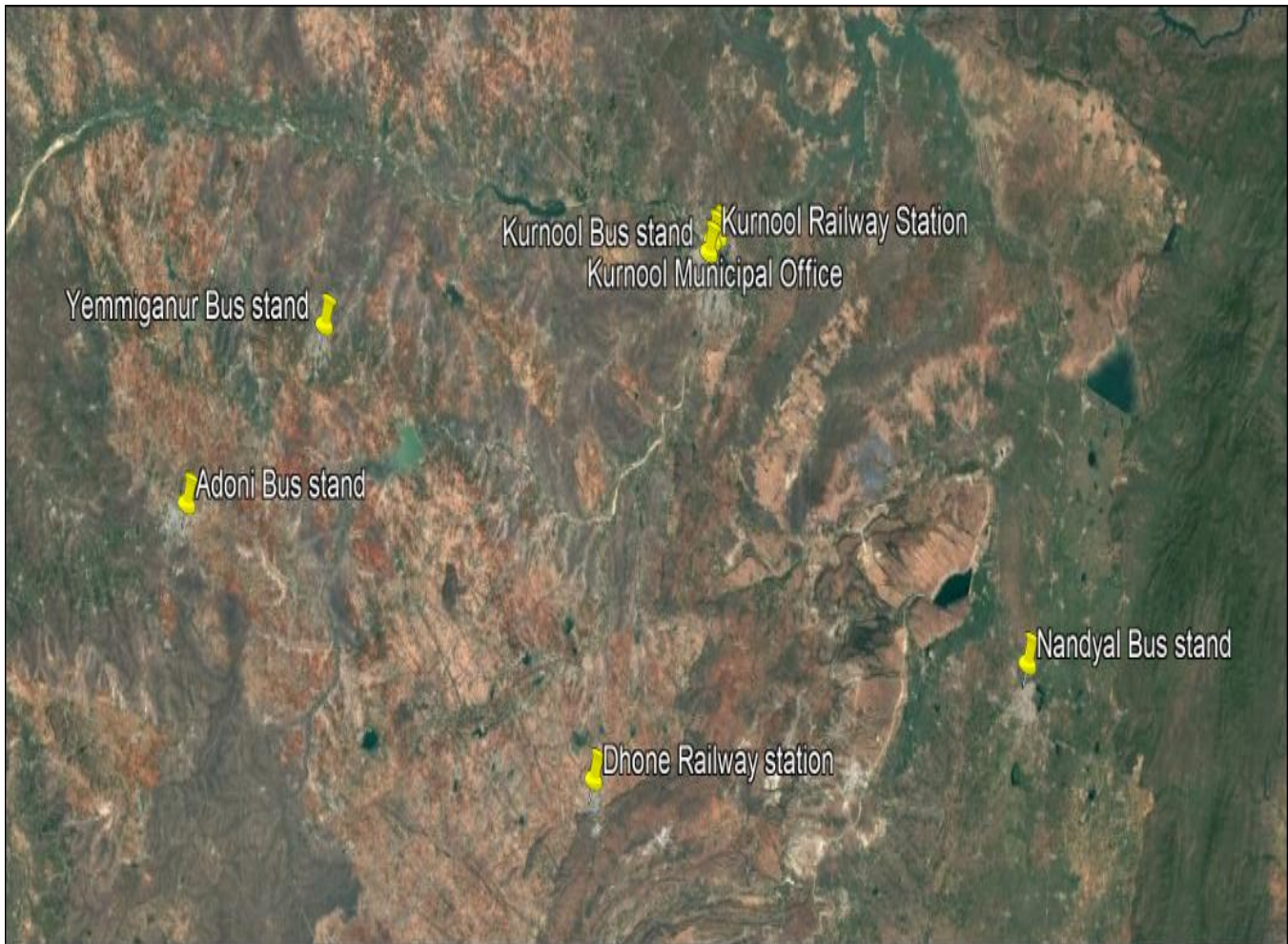
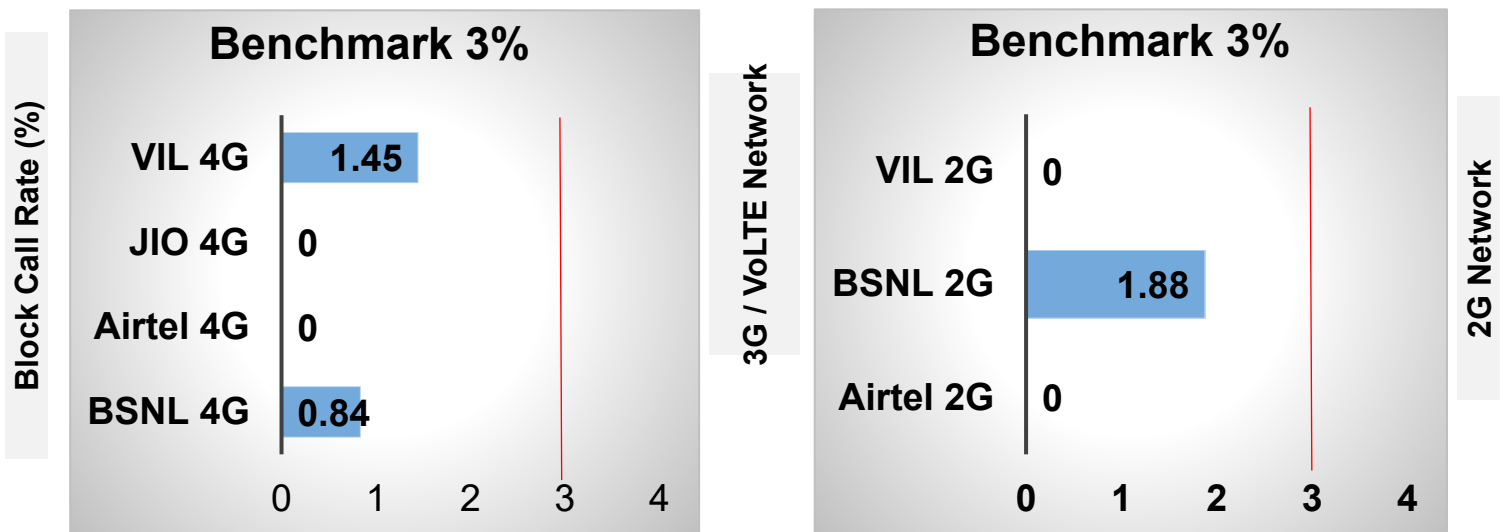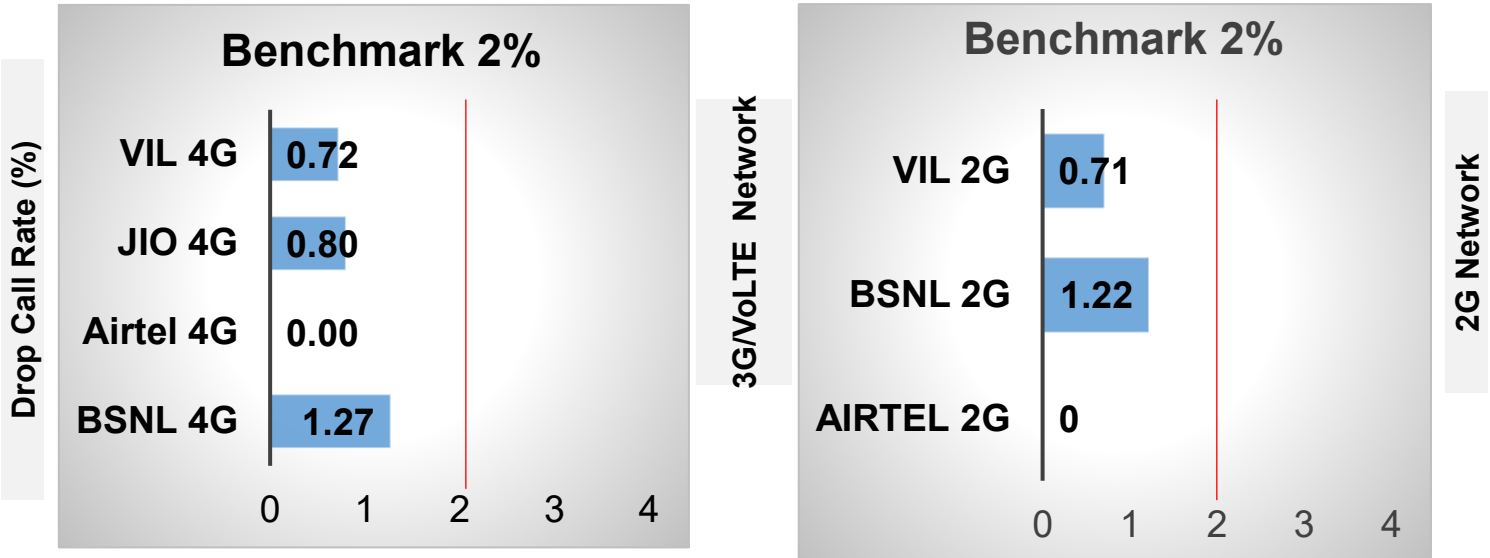| 7 Static Locations |
| --- |
| Dhone Railway station |
| Adoni Bus stand |
| Yemmiganur Bus stand |
| Nandyal Bus stand |
| Kurnool Railway Station |
| Kurnool Bus stand |
| Kurnool Municipal Office |

# Voice Calls

QoS compliance of the TSPs in Kurnool SSA for Voice across technologies 2G/3G/VoLTE:

**Drop Call Rate (%)** — 3G/VoLTE Network — Benchmark 2%

| TSP | Value |
|-----|-------|
| VIL 4G | 0.72 |
| JIO 4G | 0.80 |
| Airtel 4G | 0.00 |
| BSNL 4G | 1.27 |

**2G Network — Benchmark 2%**

| TSP | Value |
|-----|-------|
| VIL 2G | 0.71 |
| BSNL 2G | 1.22 |
| AIRTEL 2G | 0 |

**Block Call Rate (%)** — 3G/VoLTE Network — Benchmark 3%

| TSP | Value |
|-----|-------|
| VIL 4G | 1.45 |
| JIO 4G | 0 |
| Airtel 4G | 0 |
| BSNL 4G | 0.84 |

**2G Network — Benchmark 3%**

| TSP | Value |
|-----|-------|
| VIL 2G | 0 |
| BSNL 2G | 1.88 |
| Airtel 2G | 0 |

| KPIs | 2G | | | VoLTE | | | |
|------|----|----|----|-------|----|----|----|
| | Airtel | BSNL | VIL | BSNL | Airtel | JIO | VIL |
| **Drop Call Rate %** | 0 | 1.22 | 0.71 | 1.27 | 0 | 0.80 | 0.72 |
| **Block Call Rate %** | 0 | 1.88 | 0 | 0.84 | 0 | 0 | 1.45 |

a) All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%).

b) Call Block Rate (CBR%) benchmark of 3% was achieved by all TSP's.

# Voice Calls

## Coverage

a)  Percentage of coverage samples for 2G ≥ -85 dBm.

| TSPS | 2G | | |
|---|---|---|---|
| | **Airtel** | **BSNL** | **VIL** |
| **Coverage %** | 87.20 | 92.50 | 85.70 |

b)  Percentage of coverage samples for 3G ≥ -90 dBm & LTE  ≥ -110 dBm

| TSP | VoLTE<br>(≥ -110 dBm) | | | |
|---|---|---|---|---|
| | **BSNL** | **Airtel** | **JIO** | **VIL** |
| **Coverage %** | 97.06 | 96.65 | 98.99 | 95.94 |

c)  Percentage of time spent on 3G/VoLTE network

| TSP | VoLTE | | | |
|---|---|---|---|---|
| | **BSNL** | **Airtel** | **JIO** | **VIL** |
| **Time spent %** | 99.10 | 100 | 100 | 99.96 |

# Data Services Static

Data was tested at 7 locations .Following services were tested: Data Download/Upload, Latency (www.google.com), and Web browsing delay (Flipkart, Amazon, Myntra)
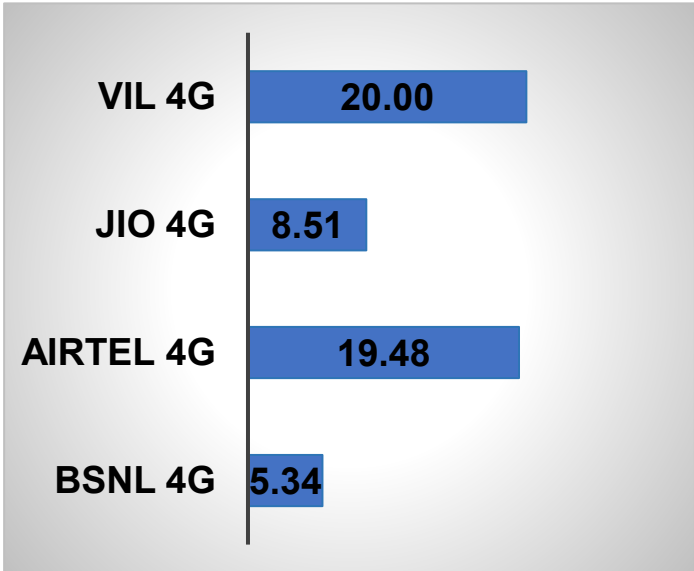
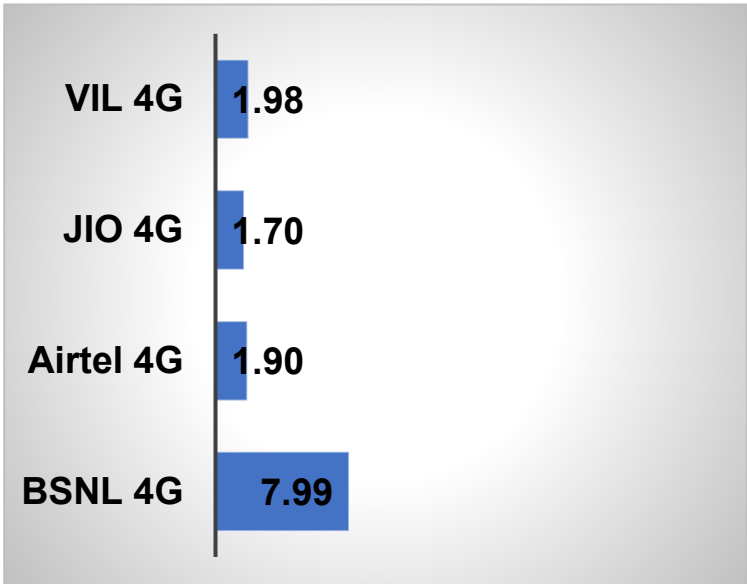## Data Download and Upload Performance (Mbps)
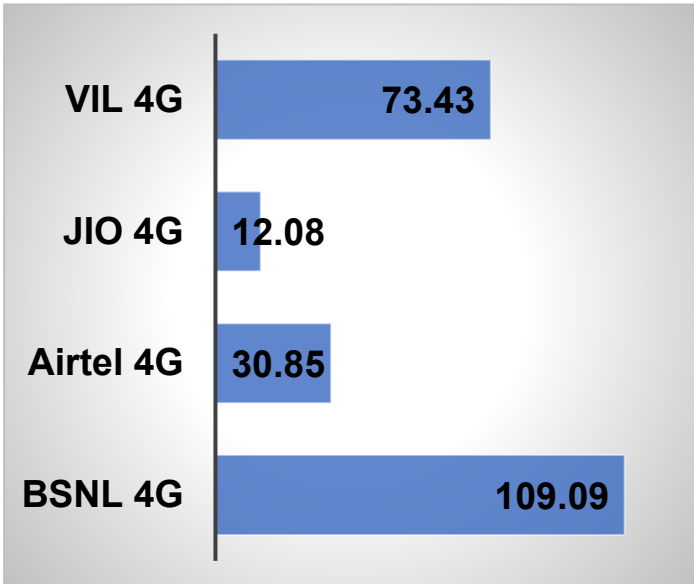
**3G/4G/ Network:**

### Download Throughput (Mbps)
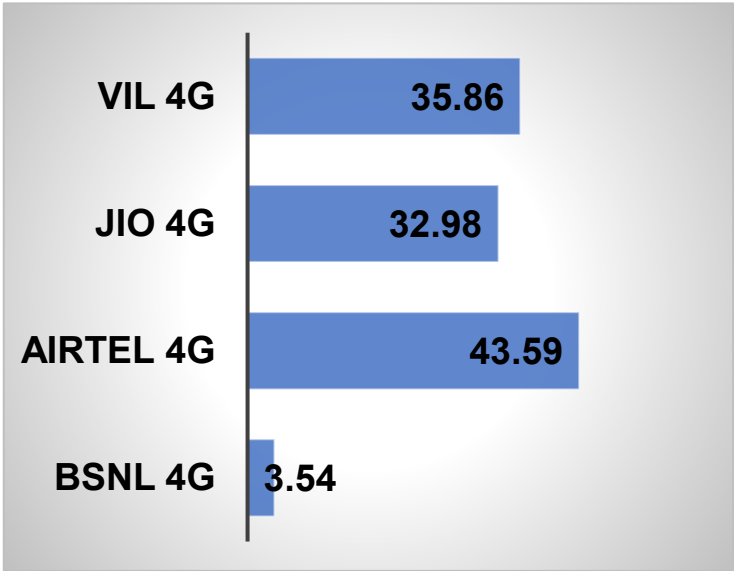
| Network | Value |
|---------|-------|
| VIL 4G | 35.86 |
| JIO 4G | 32.98 |
| AIRTEL 4G | 43.59 |
| BSNL 4G | 3.54 |

### Upload Throughput (Mbps)

| Network | Value |
|---------|-------|
| VIL 4G | 20.00 |
| JIO 4G | 8.51 |
| AIRTEL 4G | 19.48 |
| BSNL 4G | 5.34 |

### Web Browsing delay (Sec)

| Network | Value |
|---------|-------|
| VIL 4G | 1.98 |
| JIO 4G | 1.70 |
| Airtel 4G | 1.90 |
| BSNL 4G | 7.99 |

### Latency (ms)

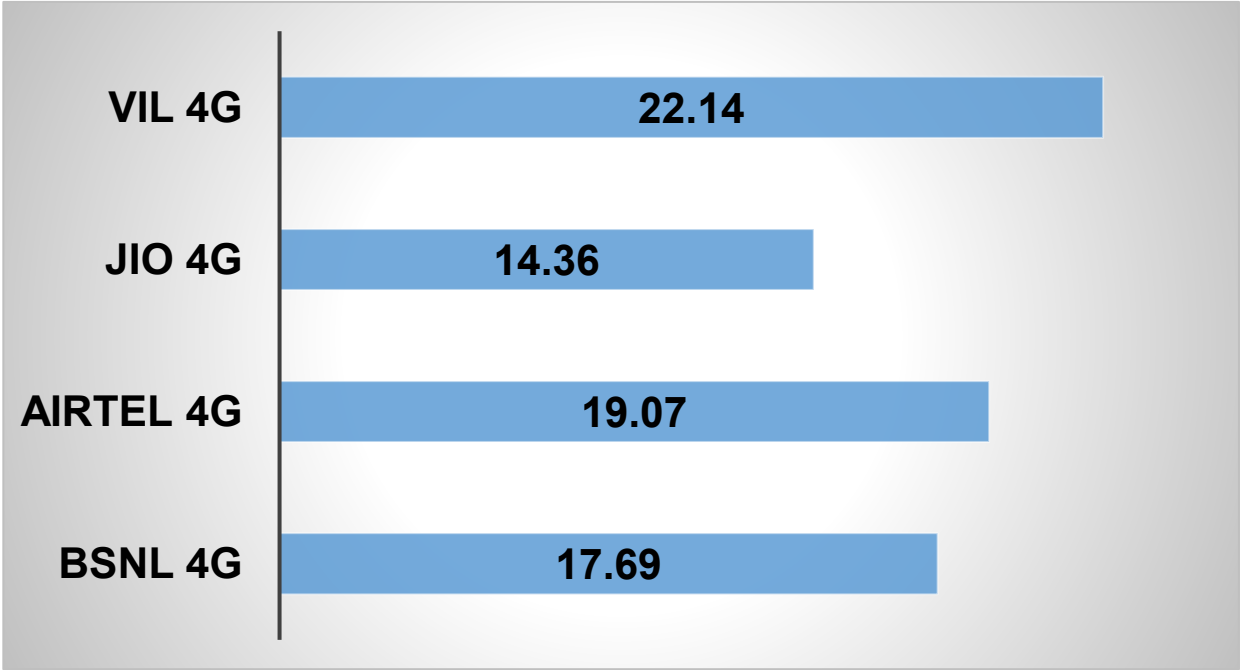| Network | Value |
|---------|-------|
| VIL 4G | 73.43 |
| JIO 4G | 12.08 |
| Airtel 4G | 30.85 |
| BSNL 4G | 109.09 |

# Data Services Dynamic

Dynamic Data was tested, Download Throughput was tested.

**Data Download Performance (Mbps)  - Dynamic**

**3G/4G/ Network:**



| Data  Services Dynamic | 4G | | | |
|---|---|---|---|---|
| | **BSNL 4G** | **Airtel 4G** | **JIO 4G** | **VIL 4G** |
| Download throughput in Mbps | 17.69 | 19.07 | 14.36 | 22.14 |

# Summary

| Voice Calls | 2G | | |
|---|---|---|---|
| | **Airtel** | **BSNL** | **VIL** |
| **Call attempts** | 427 | 586 | 421 |
| **Block call rate %** | 0 | 1.88 | 0 |
| **CSSR %** | 100 | 98.12 | 99.28 |
| **Drop call rate %** | 0 | 1.22 | 0.71 |
| **Mobility HOSR %** | 97.81 | 95.36 | 97.17 |
| **RX Quality %** | 93.50 | 96.90 | 96.30 |

| Voice Calls | VoLTE | | | |
|---|---|---|---|---|
| **TSP ( For 4G)** | **BSNL** | **Airtel** | **JIO** | **VIL** |
| **Call attempts** | 478 | 452 | 369 | 415 |
| **Block call rate %** | 0.84 | 0 | 0 | 1.45 |
| **CSSR %** | 99.16 | 100 | 100 | 97.83 |
| **Drop call rate %** | 1.27 | 0 | 0.80 | 0.72 |
| **Mobility HOSR %** | 99.78 | 100 | 98.96 | 99.65 |
| **RX Quality %** | 97.46 | 92.80 | 95.62 | 85.60 |

# Summary

| Data Services Static | 4G | | | |
|---|---|---|---|---|
| | BSNL 4G | Airtel 4G | JIO 4G | VIL 4G |
| Download throughput in Mbps | 3.54 | 43.59 | 32.98 | 35.86 |
| Upload Throughput in Mbps | 5.34 | 19.48 | 8.51 | 20.00 |
| Web browsing delay in second | 7.99 | 1.90 | 1.70 | 1.98 |
| Latency in (msec) | 109.09 | 30.85 | 12.08 | 73.43 |

## Dhone Railway station

| Dhone Railway station | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 3.81 | 34.8 | 36.72 | 40 |
| Upload Throughput (Mbps) | 9.26 | 17.9 | 8.63 | 21 |
| Web Browsing Delay (sec) | 5.38 | 0.86 | 1.60 | 2.01 |
| Latency (msec) | 112.75 | 33.5 | 19 | 89 |

## Adoni Bus stand

| Adoni Bus stand | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 3.80 | 46.4 | 28.45 | 40 |
| Upload Throughput (Mbps) | 7.62 | 18.8 | 11.43 | 21 |
| Web Browsing Delay (sec) | 10.30 | 1.60 | 1.3 | 1.93 |
| Latency (msec) | 60.21 | 33.40 | 18 | 77 |

## Yemmiganur Bus stand

| Yemmiganur Bus stand | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 4.25 | 49.90 | 52.86 | 42 |
| Upload Throughput (Mbps) | 1.13 | 20.30 | 9.55 | 21 |
| Web Browsing Delay (sec) | 15.15 | 2.30 | 1.59 | 2.03 |
| Latency (msec) | 45.9 | 27 | 23 | 70 |

## Nandyal Bus stand

| Nandyal Bus stand | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 4.12 | 45 | 61.49 | 13 |
| Upload Throughput (Mbps) | 5.70 | 19.94 | 11.38 | 16 |
| Web Browsing Delay (sec) | 4.73 | 1.7 | 1.94 | 2.01 |
| Latency (msec) | 71.22 | 32.2 | 29 | 75 |

# Data Services static

| Kurnool Railway station | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 3.34 | 65.80 | 23.19 | 43 |
| Upload Throughput (Mbps) | 6.02 | 20.52 | 8.56 | 21 |
| Web Browsing Delay (sec) | 10.04 | 2.5 | 1.80 | 1.89 |
| Latency (msec) | 128.26 | 23.4 | 21 | 62 |

| Kurnool Bus stand | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 2.79 | 31.56 | 33.68 | 30 |
| Upload Throughput (Mbps) | 3.85 | 18.56 | 5.80 | 20 |
| Web Browsing Delay (sec) | 5.22 | 1.7 | 1.97 | 2.04 |
| Latency (msec) | 110.98 | 30.2 | 35 | 64 |

| Kurnool Municipal Office | LTE | | | |
|---|---|---|---|---|
| | BSNL | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 2.69 | 31.68 | 39.68 | 43 |
| Upload Throughput (Mbps) | 3.82 | 20.38 | 9.04 | 20 |
| Web Browsing Delay (sec) | 5.09 | 2.7 | 1.46 | 1.92 |
| Latency (msec) | 234.29 | 36.3 | 22 | 77 |

RF Coverage relates to the geographical footprint within the system that has sufficient RF signal strength to provide for a call session. The Coverage rate is calculated on the basis of % of samples in which the Rx level ≥ -85 dBm, RSCP is ≥ -90 dBm & RSRP ≥ -110dBm. The details are as follows.

| TSP | Coverage Rate % |
|---|---|
| Airtel 2G | 87.20 |
| BSNL 2G | 92.50 |
| VIL 2G | 85.70 |
| BSNL 4G | 97.06 |
| Airtel VoLTE | 96.65 |
| JIO VoLTE | 98.99 |
| VIL VoLTE | 95.94 |
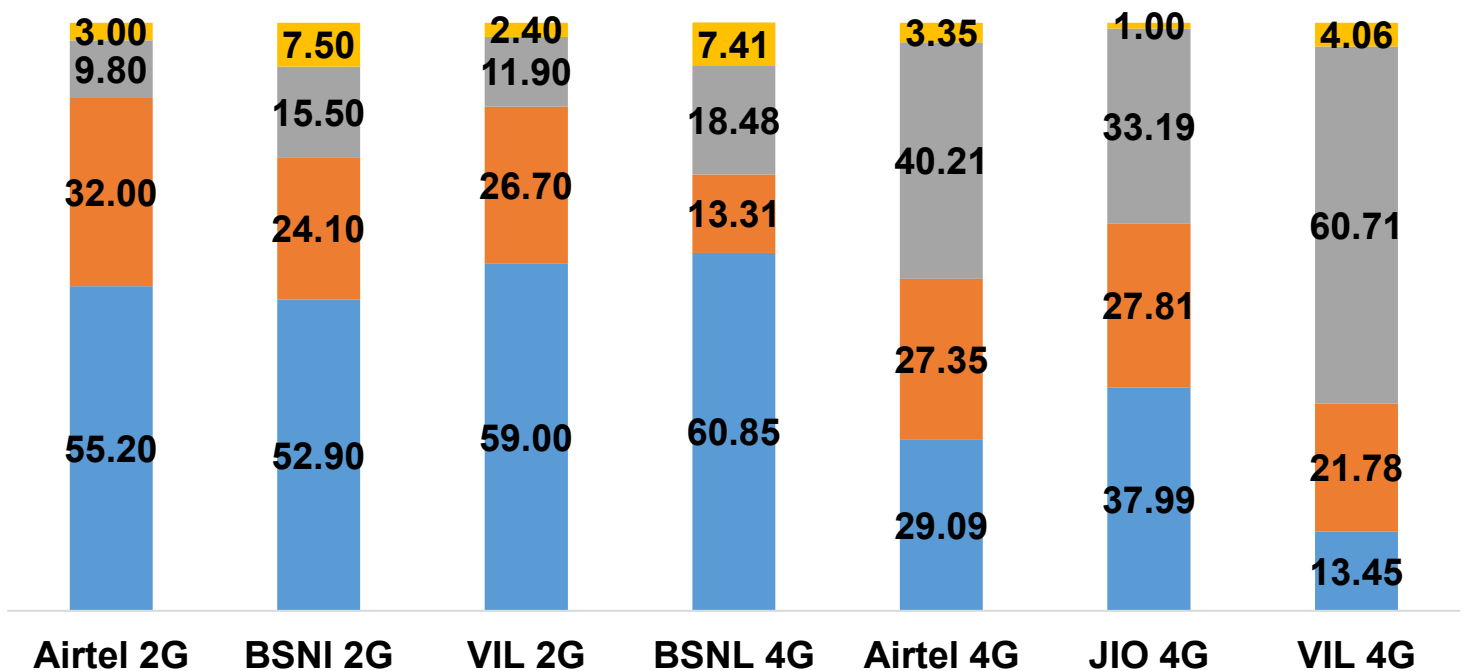
## Coverage Details

| | Airtel 2G | BSNl 2G | VIL 2G | BSNL 4G | Airtel 4G | JIO 4G | VIL 4G |
|---|---|---|---|---|---|---|---|
| 2G:[-95,>=Min] | 3.00 | 7.50 | 2.40 | 7.41 | 3.35 | 1.00 | 4.06 |
| 2G:[-85,>=-95] | 9.80 | 15.50 | 11.90 | 18.48 | 40.21 | 33.19 | 60.71 |
| 2G:[-75,>=-85] | 32.00 | 24.10 | 26.70 | 13.31 | 27.35 | 27.81 | 21.78 |
| 2G:[Max,>=-75] | 55.20 | 52.90 | 59.00 | 60.85 | 29.09 | 37.99 | 13.45 |

Legend:
- 2G:[Max,>=-75] / 3G:Max,>=-70 / VoLTE:>=80
- 2G:[-75,>=-85] / 3G:[-70,>=-80] / VoLTE:[-80,>=-90]
- 2G:[-85,>=-95] / 3G:[-80,>=-90] / VoLTE:[-90,>=-110]
- 2G:[-95,>=Min] / 3G:[-90,>=Min] / VoLTE:[-110,>=Min]

## AIRTEL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 87.20 |
| VoLTE | 96.65 |

| 2G | VoLTE |
|----|-------|



| 2G | | |
|----|----|----|
| **Overall RxLevel** | **# Samples** | **%** |
| **[Max, >=-75]** | 1798283 | 55.20 |
| **[-75, >=-85]** | 1043068 | 32.00 |
| **[-85, >=-95]** | 332375 | 9.80 |
| **[-95, >=Min]** | 82719 | 3.00 |
| **Total** | **3256445** | **100** |

| VoLTE | | |
|-------|----|----|
| **Overall RSRP** | **# Samples** | **%** |
| **[Max, >=-80]** | 1716904 | 29.09 |
| **[-80, >=-90]** | 1614224 | 27.35 |
| **[-90, >=-110]** | 2373183 | 40.21 |
| **[-110, >=-120]** | 168705 | 2.86 |
| **[-120, >=Min]** | 252042 | 0.49 |
| **Total** | **5901809** | **100** |
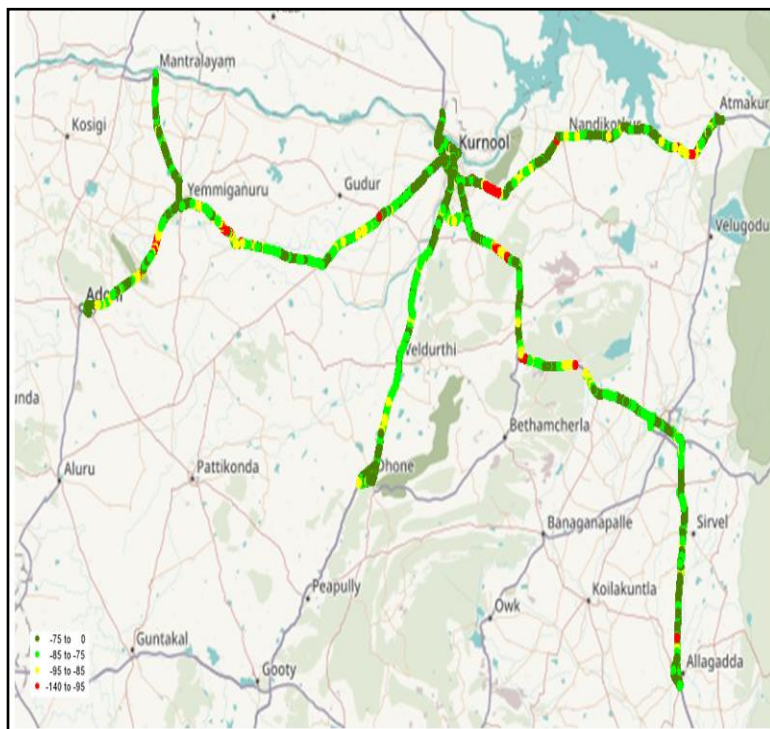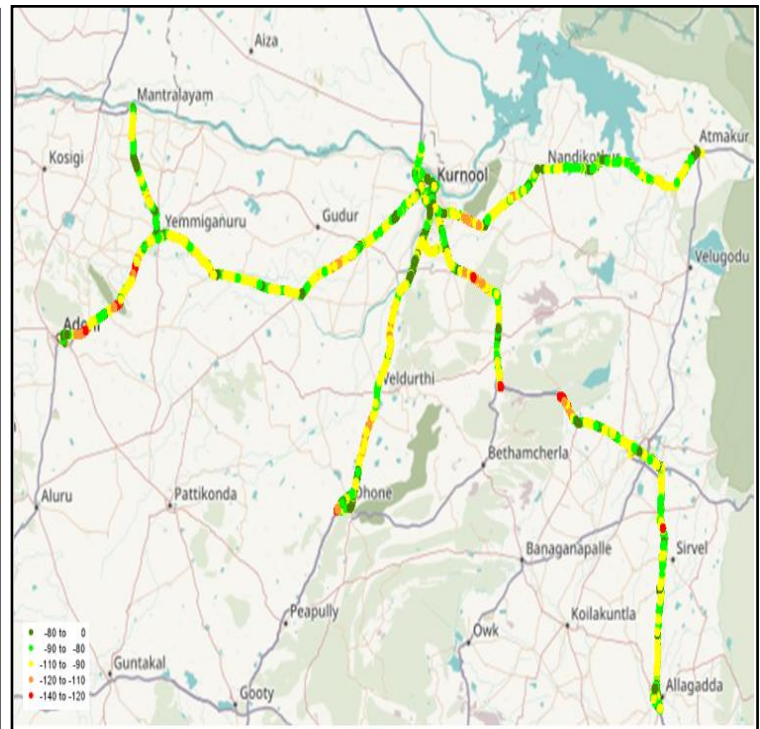
## BSNL

| Technology | Coverage Rate % |
|:---:|:---:|
| 2G | 92.50 |
| 4G | 97.06 |

### 2G
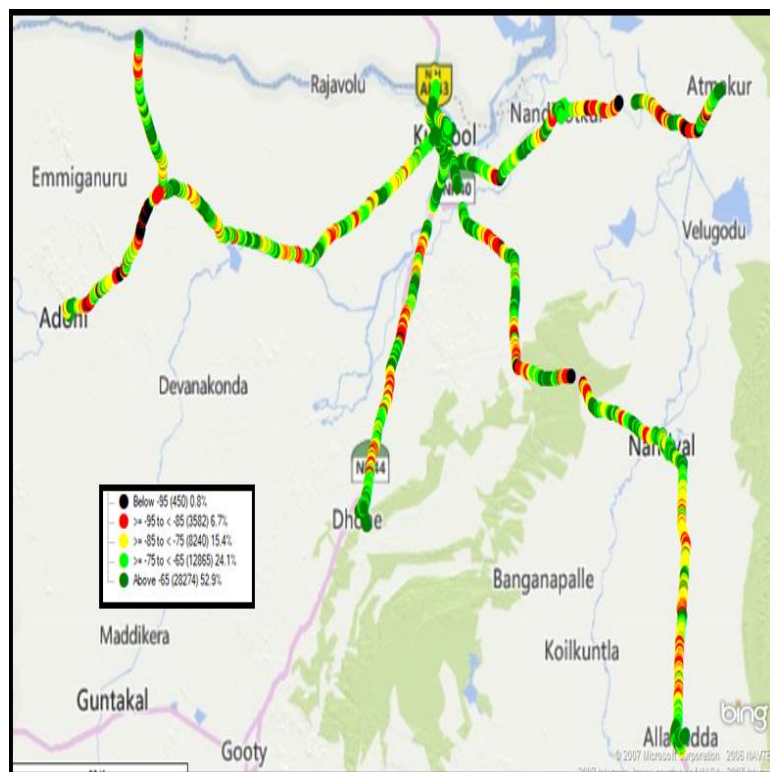
### 4G
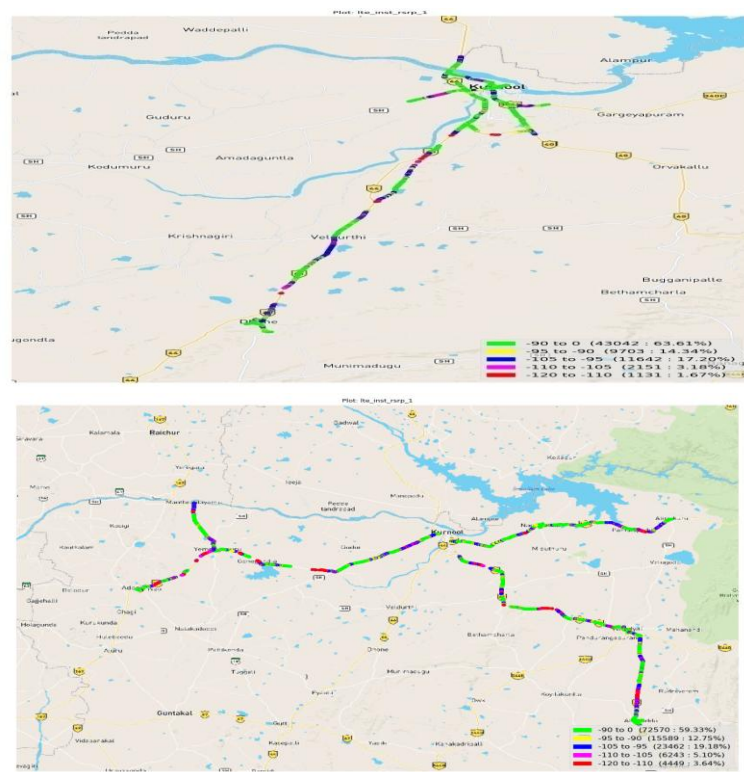




| 2G | | |
|:---:|:---:|:---:|
| Overall RxLevel | # Samples | % PDF |
| [Max, >=-65] | 28274 | 52.90 |
| [-65, >=-75) | 12865 | 24.10 |
| [-75, >=-85) | 8240 | 15.50 |
| [-85,>=-95] | 3582 | 6.70 |
| [-95, >=Min) | 450 | 0.80 |
| Total | 53411 | 100 |

| 4G | | |
|:---:|:---:|:---:|
| Overall RSRP | # Samples | % PDF |
| (Max,  >=-90) | 115612 | 60.85 |
| (<=-95, >=-90) | 25292 | 13.31 |
| [<=-105, >=-95) | 35104 | 18.48 |
| [<=-105, >=Min) | 13974 | 7.41 |
| Total | 189982 | 100% |

## JIO

| Technology | Coverage Rate % |
|------------|-----------------|
| **VoLTE** | 98.99 |

### VoLTE



LTE KPI PCell Serving RSRP[dBm]

KURNOOLVOICE

- -80 <= x ( 37.99%, 14084 )
- -90 <= x < -80 ( 27.81%, 10311 )
- -110 <= x < -90 ( 33.19%, 12303 )
- -120 <= x < -110 ( 0.71%, 265 )
- x < -120 ( 0.29%, 108 )
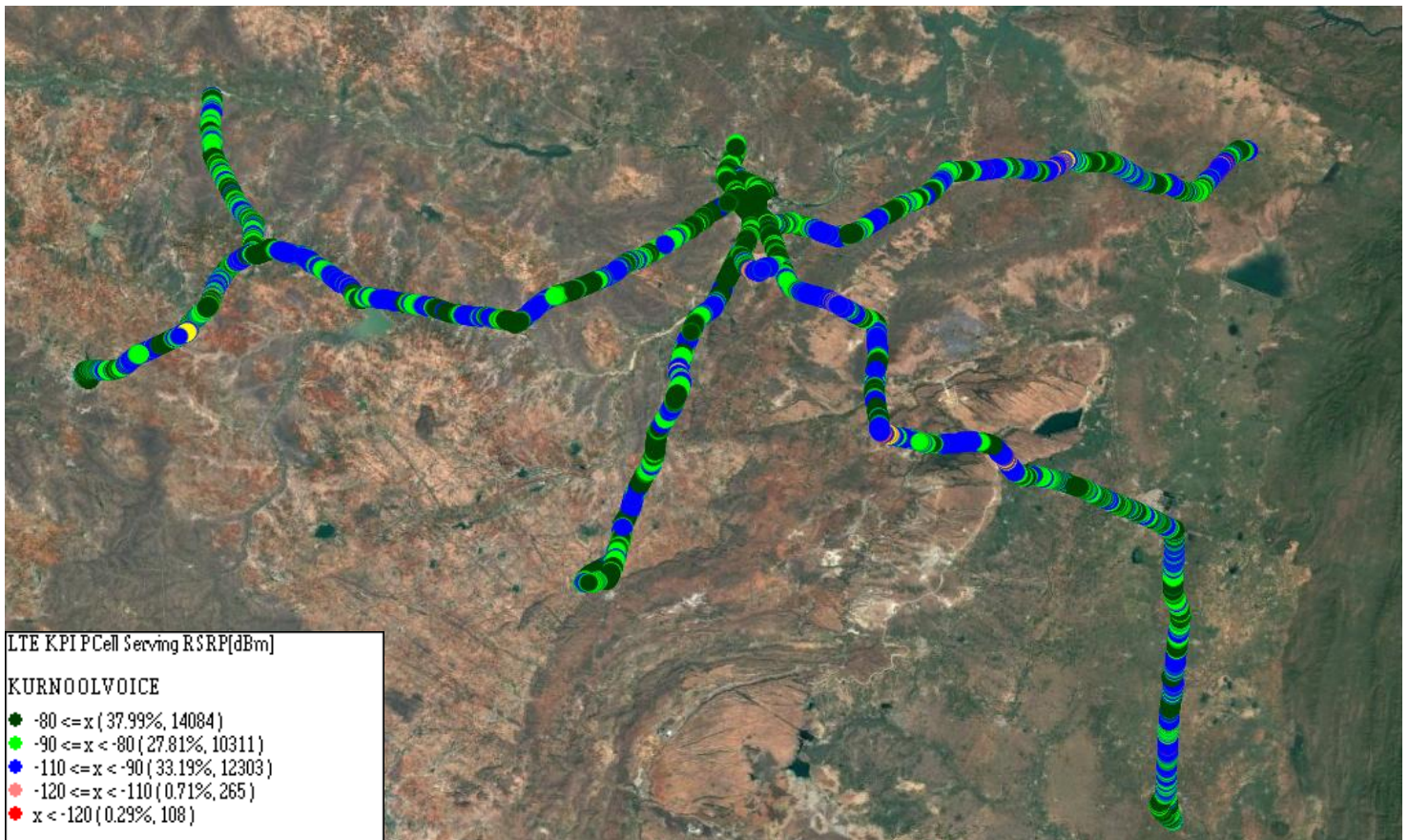
| VoLTE | | |
|-------|-----|-----|
| **Overall RSRP** | **# Samples** | **%** |
| **[Max, >=-80]** | 14084 | 37.99 |
| **[-80, >=-90]** | 10311 | 27.81 |
| **[-90, >=-110]** | 12303 | 33.19 |
| **[-110, >=-120]** | 265 | 0.71 |
| **[-120, >=Min]** | 108 | 0.29 |
| **Total** | **37071** | **100** |

VIL

| Technology | Coverage Rate % |
|:---:|:---:|
| **2G** | 85.70 |
| **VoLTE** | 95.94 |

| **2G** | **VoLTE** |
|:---:|:---:|





| 2G | | |
|:---:|:---:|:---:|
| **Overall RxLevel** | **# Samples** | **%** |
| **[Max, >=-75]** | 2628242 | 59.00 |
| **[-75, >=-85]** | 1190711 | 26.70 |
| **[-85, >=-95]** | 529433 | 11.90 |
| **[-95, >=Min]** | 105884 | 2.40 |
| **Total** | **4454270** | **100** |

| VoLTE | | |
|:---:|:---:|:---:|
| **Overall RSRP** | **# Samples** | **%** |
| **[Max, >=-80]** | 1274342 | 13.45 |
| **[-80, >=-90]** | 2063037 | 21.78 |
| **[-90, >=-110]** | 5751328 | 60.71 |
| **[-110, >=-120]** | 363448 | 3.83 |
| **[-120, >=Min]** | 22033 | 0.23 |
| **Total** | **9474188** | **100** |
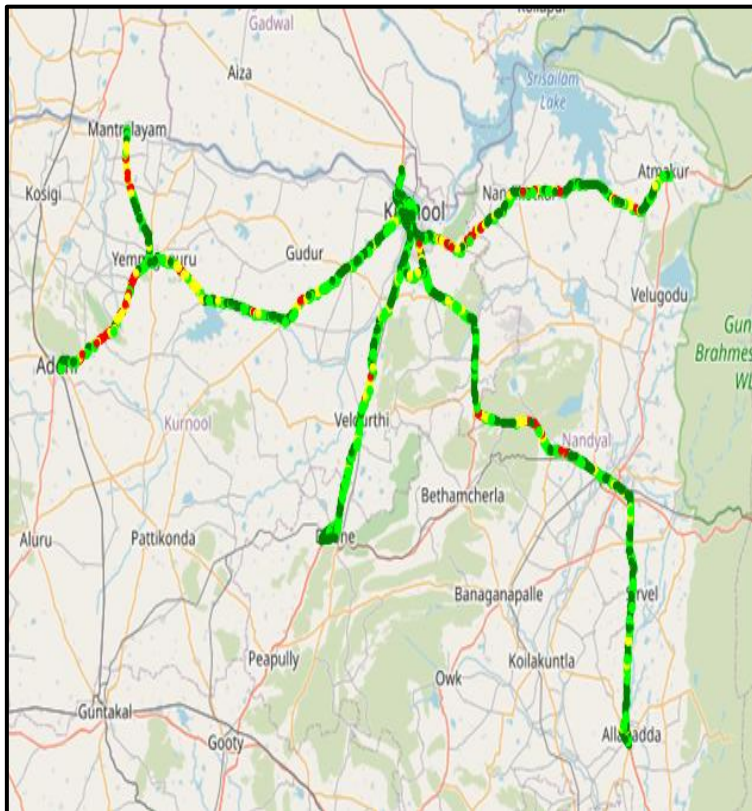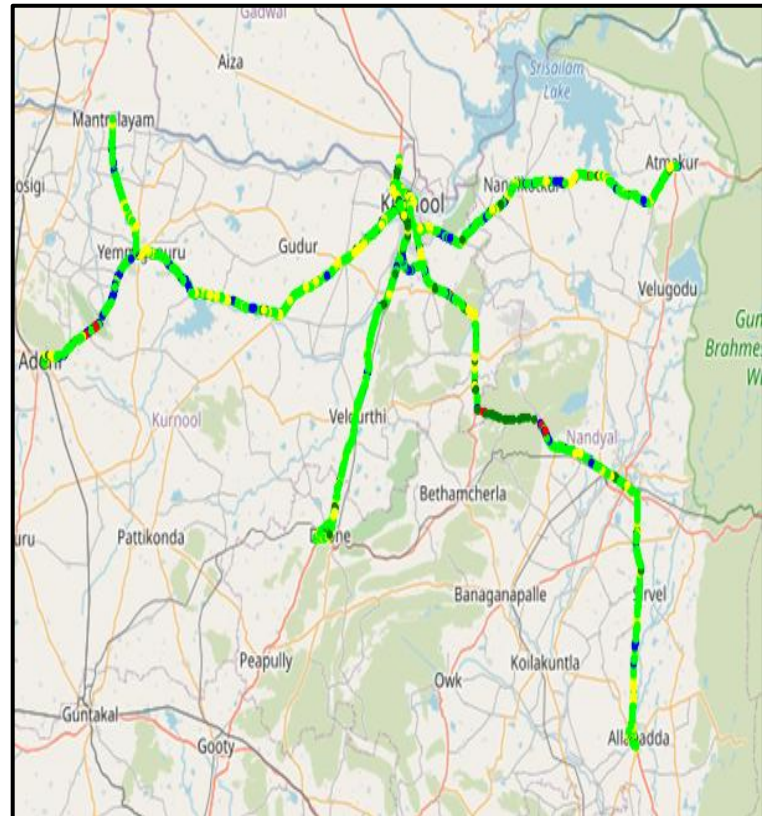
# II. Quality Details

For measuring voice quality, as per the QoS norms, Rx Qual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

| TSP | Rx Quality % |
| --- | --- |
| Airtel 2G | 93.50 |
| BSNL 2G | 96.90 |
| VIL 2G | 96.30 |
| BSNL 4G | 97.46 |
| Airtel 4G | 92.80 |
| JIO 4G | 95.62 |
| VIL 4G | 85.60 |

**RX Quality Distribution**

| TSP | Rx Quality % | Below Benchmark % |
| --- | --- | --- |
| Airtel 2G | 93.50 | 6.50 |
| BSNl 2G | 96.90 | 3.10 |
| VIL 2G | 96.30 | 3.70 |
| BSNL 4G | 97.46 | 2.54 |
| Airtel 4G | 92.80 | 7.20 |
| JIO 4G | 95.62 | 4.38 |
| VIL 4G | 85.60 | 14.40 |
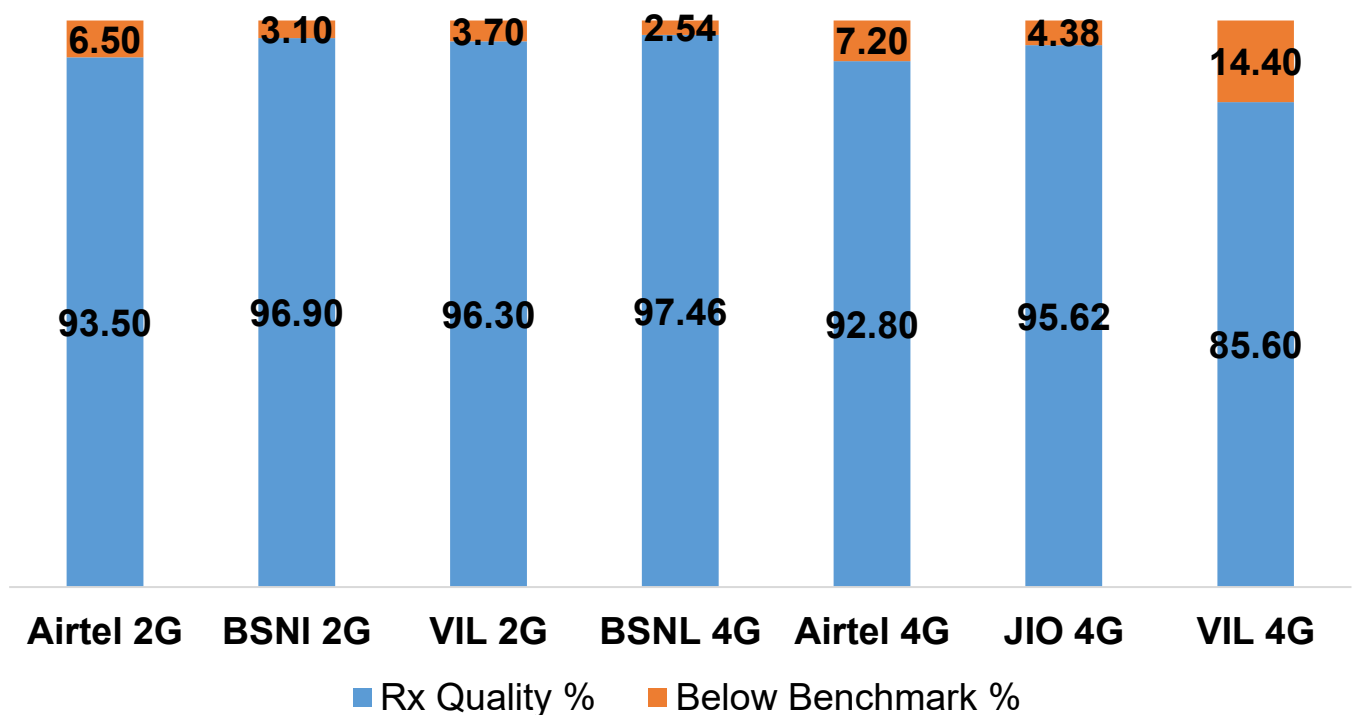
## Airtel

| Technology | Rx Quality % |
|:---:|:---:|
| **2G** | 93.50 |
| **VoLTE** | 92.80 |

| **2G** | **VoLTE** |
|:---:|:---:|





| Overall Rx Quality | # Samples | % |
|:---:|:---:|:---:|
| **(Min, <=2)** | 2689348 | 86.10 |
| **(2, <=3)** | 72550 | 2.30 |
| **(3 , <=4)** | 73109 | 2.40 |
| **(4 , <=5)** | 82187 | 2.70 |
| **(5 , <=Max)** | 183797 | 6.50 |
| **Total** | **3100991** | **100** |

| Overall SINR | # Samples | % |
|:---:|:---:|:---:|
| **(Min, <=-3)** | 252042 | 4.00 |
| **(-3, <=0)** | 184195 | 3.00 |
| **(0, <=5)** | 1971773 | 32.40 |
| **(5, <=10)** | 1732523 | 28.50 |
| **(10, <=15)** | 1182670 | 19.40 |
| **(15, <=Max)** | 763168 | 12.50 |
| **Total** | **6086371** | **100** |
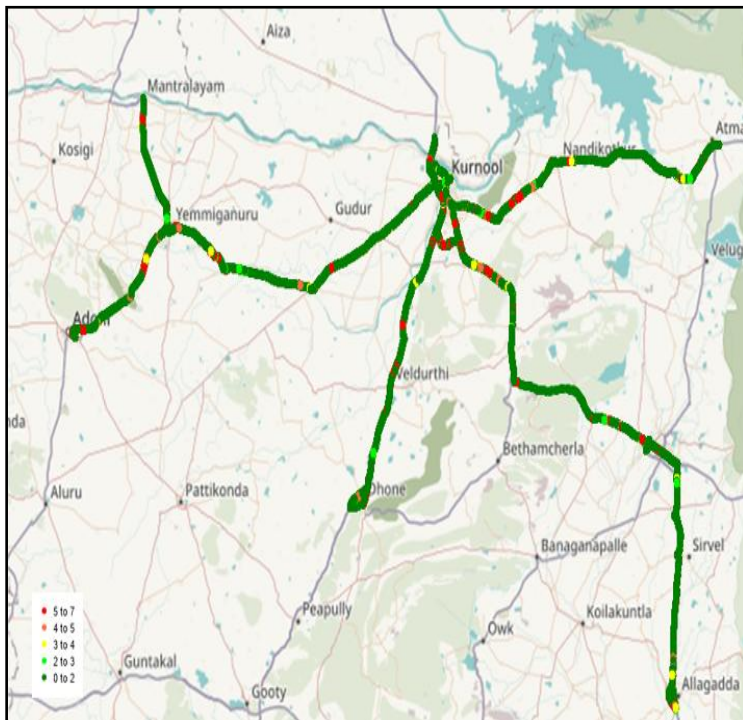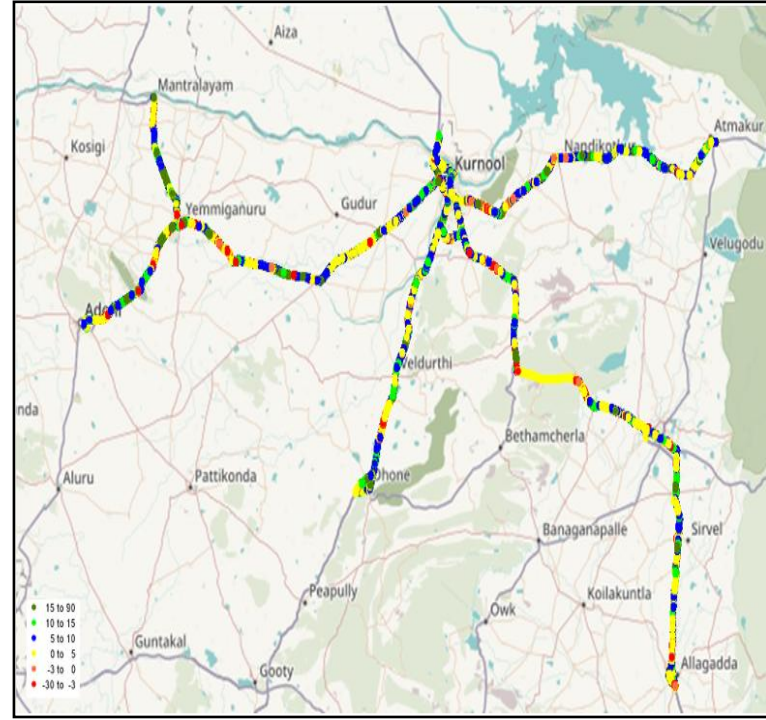
## BSNL

| Technology | Rx Quality % |
|------------|--------------|
| BSNL 2G | 96.90 |
| BSNL 4G | 97.46 |

### 2G
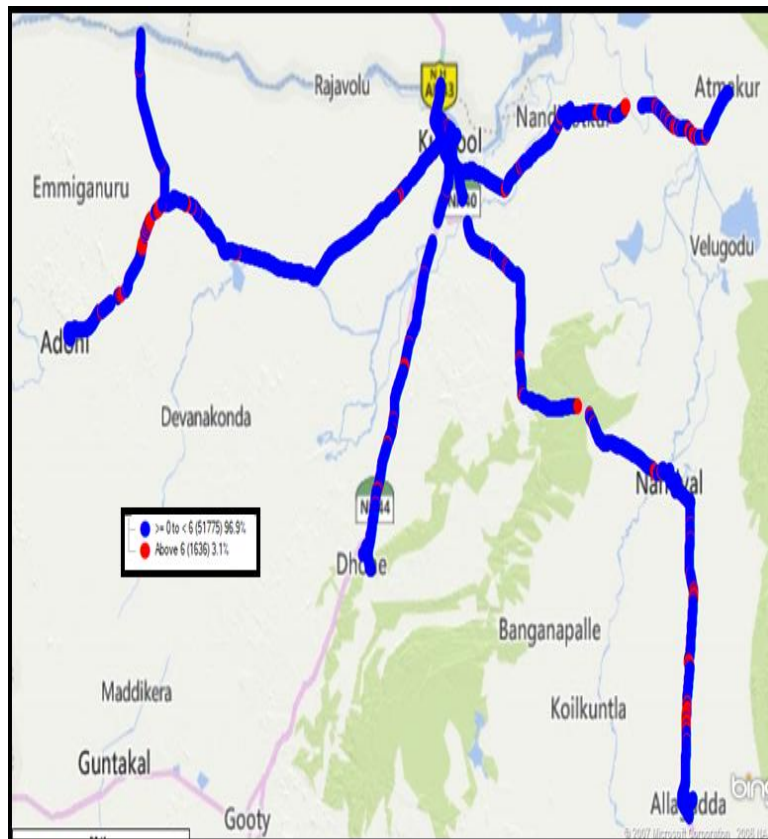
### 4G



| 2G | | |
|-----|-----|-----|
| Overall Rx Quality | # Samples | % PDF |
| (0, < 6) | 51775 | 96.90 |
| ( Above 6, <=Max ) | 1636 | 3.10 |
| Total | 53411 | 100 |

| 4G | | |
|-----|-----|-----|
| Overall RSRQ | # Samples | % PDF |
| -12 to Max | 172156 | 90.25 |
| -15 to -12 | 13756 | 7.21 |
| -20 to -15 | 4124 | 2.16 |
| Min to -20 | 717 | 0.38 |
| Total | 190753 | 100 |

### JIO

| Technology | Rx Quality % |
|:---:|:---:|
| VoLTE | 95.62 |

### VoLTE



LTE KPI PCell SINR[dB]

KURNOOLVOICE

- 15 <= x ( 21.78%, 8073 )
- 10 <= x < 15 ( 19.85%, 7358 )
- 5 <= x < 10 ( 25.01%, 9271 )
- 0 <= x < 5 ( 28.98%, 10743 )
- -6 <= x < 0 ( 3.16%, 1173 )
- x < -6 ( 1.22%, 453 )
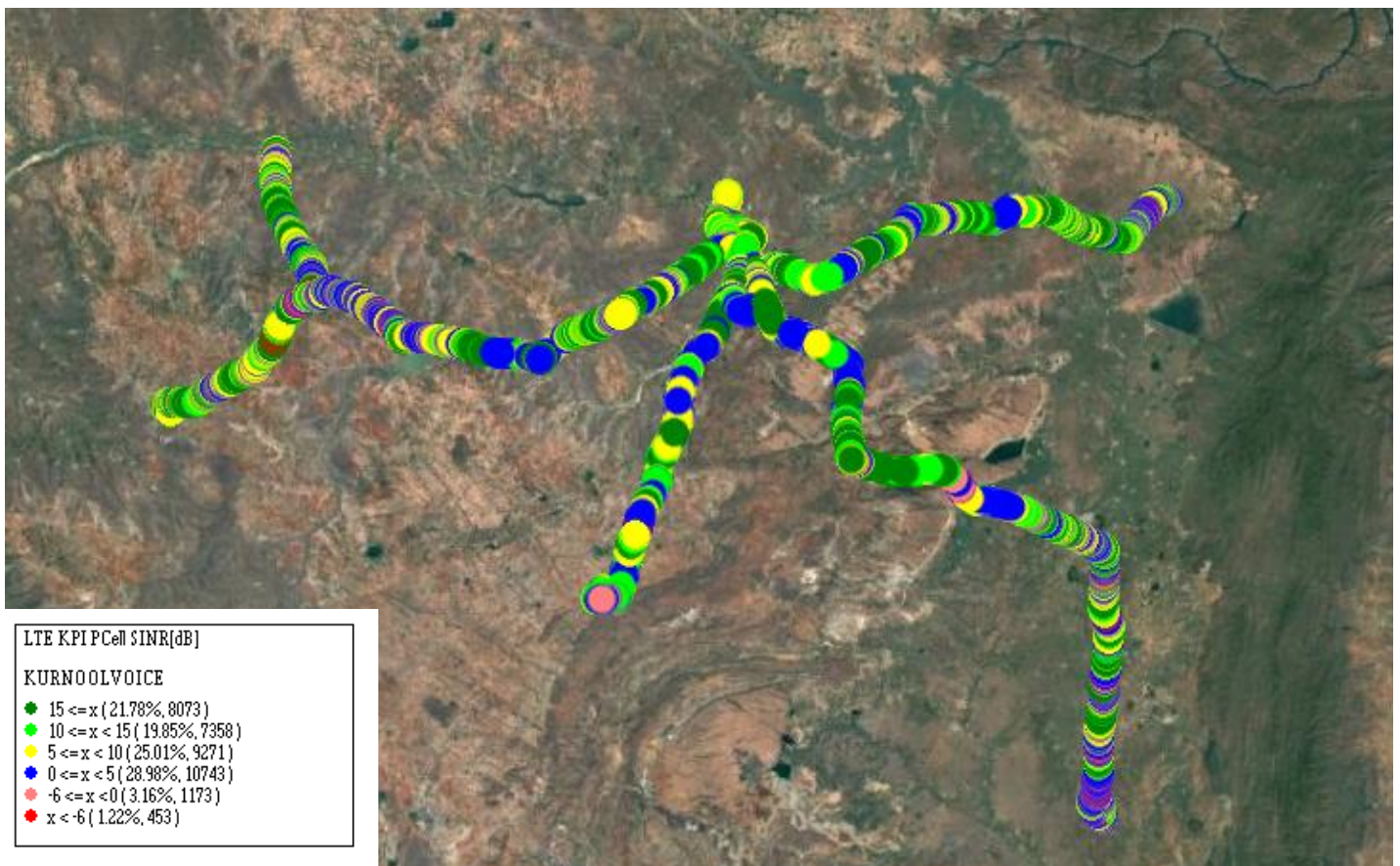
| Overall SINR | # Samples | % |
|:---:|:---:|:---:|
| (Min, <=-6) | 453 | 1.22 |
| (-6, <=0) | 1173 | 3.16 |
| (0, <=5) | 10743 | 28.98 |
| (5, <=10) | 9271 | 25.01 |
| (10, <=15) | 7358 | 19.85 |
| (15, <=Max) | 8073 | 21.78 |
| Total | 37071 | 100 |

### VIL

| Technology | Rx Quality % |
|:---:|:---:|
| **2G** | 96.30 |
| **VoLTE** | 85.60 |

| **2G** | **VoLTE** |
|:---:|:---:|





| Overall Rx Quality | # Samples | % |
|:---:|:---:|:---:|
| (Min, <=2) | 3943390 | 88.50 |
| (2, <=3) | 227493 | 5.10 |
| (3 , <=4) | 58283 | 1.30 |
| (4 , <=5) | 60522 | 1.40 |
| (5 , <=Max) | 164582 | 3.70 |
| **Total** | **4454270** | **100** |

| Overall SINR | # Samples | % |
|:---:|:---:|:---:|
| (Min, <=-3) | 379156 | 4.00 |
| (-3, <=0) | 981890 | 10.40 |
| (0, <=5) | 2275538 | 24.00 |
| (5, <=10) | 2661403 | 28.10 |
| (10, <=15) | 1788976 | 18.90 |
| (15, <=Max) | 1387225 | 14.60 |
| **Total** | **9474188** | **100** |

| TSP | % of Time Spent on 3G/VoLTE |
|---|---|
| BSNL VoLTE | 99.10 |
| Airtel VoLTE | 100 |
| JIO VoLTE | 100 |
| VIL VoLTE | 99.96 |

| | BSNL 4G | Airtel 4G | JIO 4G | VIL 4G |
|---|---|---|---|---|
| % of Time Spent on 2G | 0.90 | 0 | 0 | 0.04 |
| % of Time Spent on 3G/VoLTE | 99.10 | 100 | 100 | 99.96 |
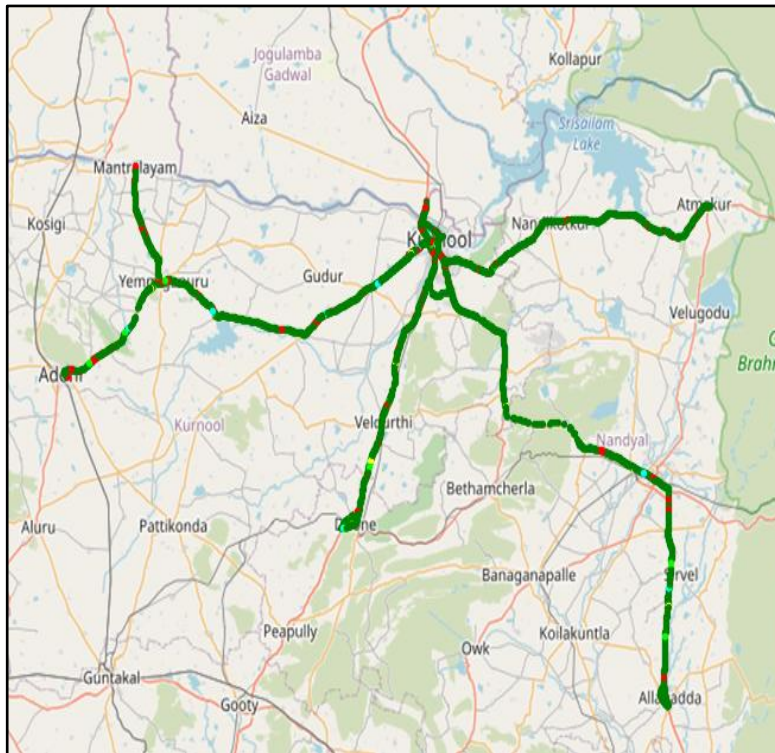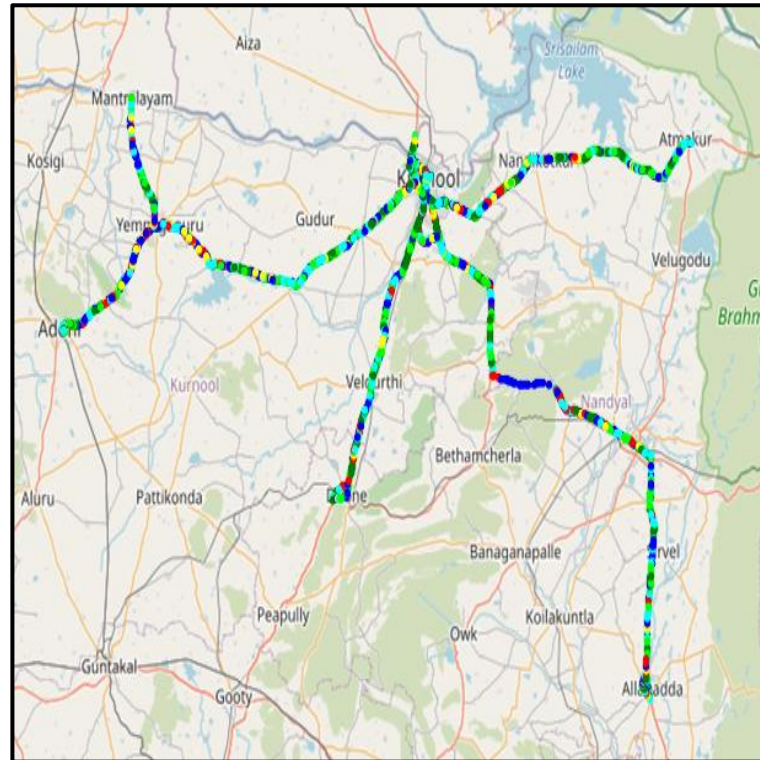
■ % of Time Spent on 3G/VoLTE   ■ % of Time Spent on 2G
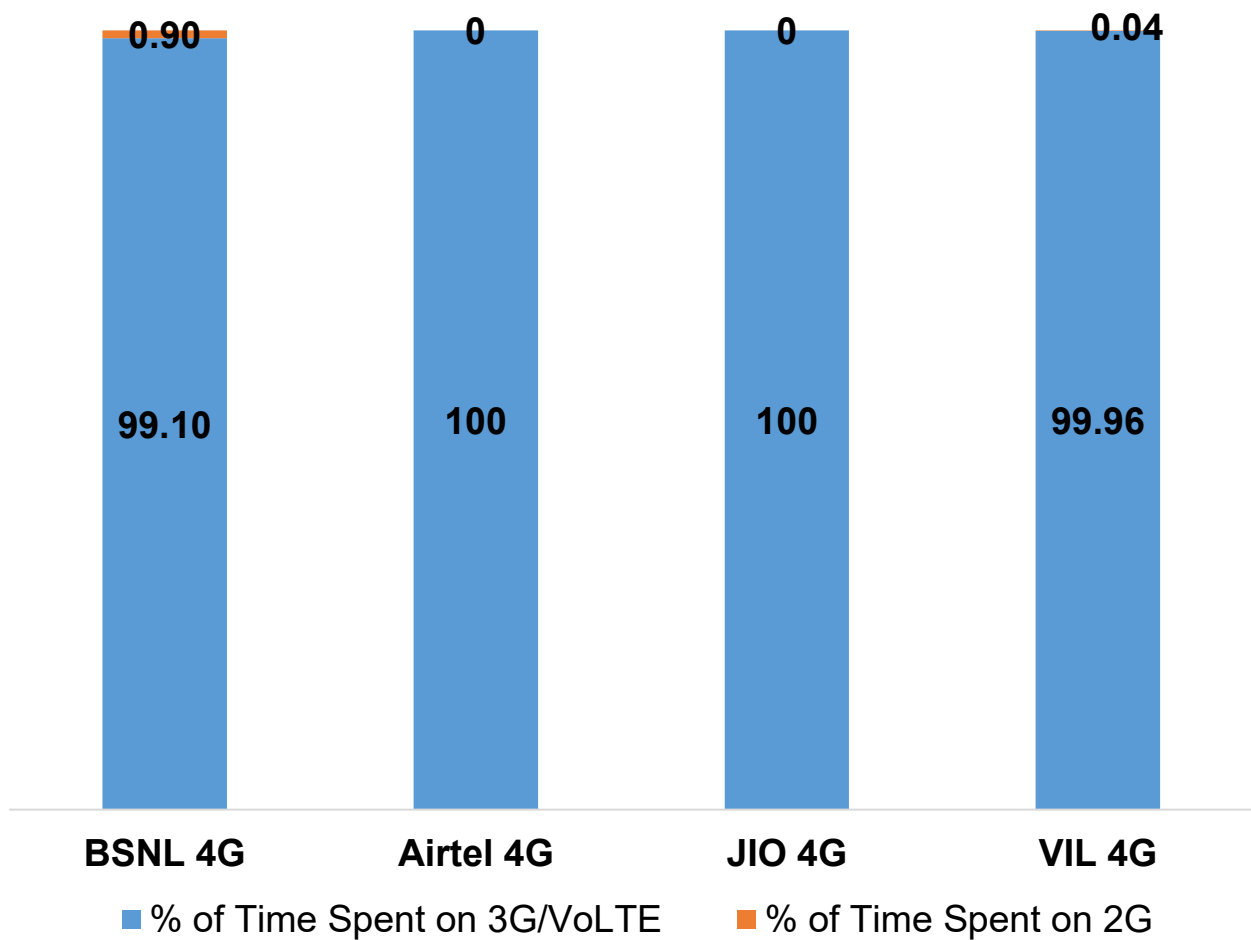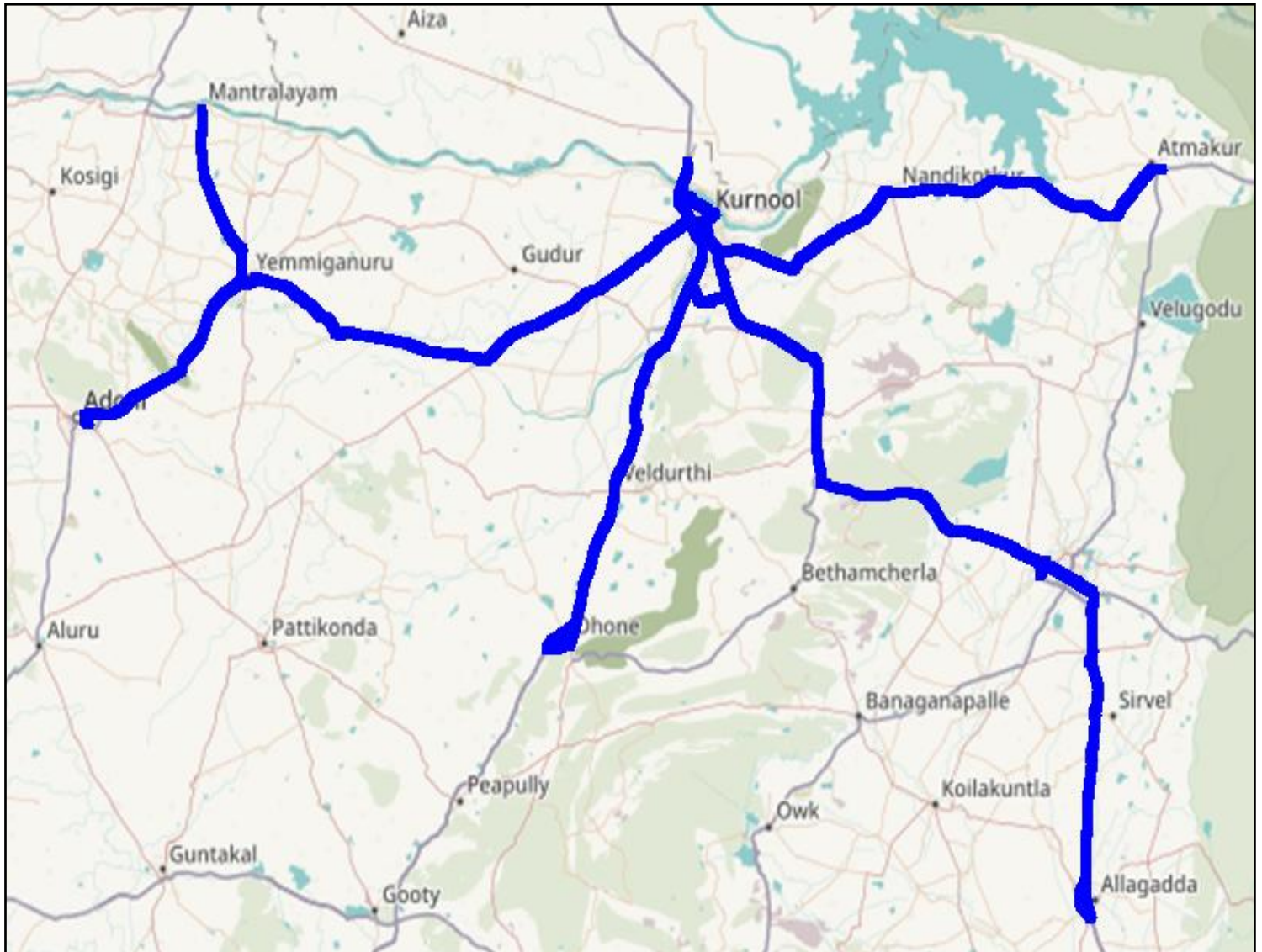
## Airtel

| Technology | Time Spent  % |
|:---:|:---:|
| **VoLTE** | 100 |

## BSNL

| Technology | Time Spent % |
|------------|--------------|
| 4G | 99.10 |



NO SERVICE (65 : 0.34%)
LTE (18763 : 99.06%)
WCDMA (56 : 0.30%)
GSM (57 : 0.30%)



NO SERVICE (122 : 0.36%)
LTE (33935 : 99.15%)
GSM (34 : 0.10%)
WCDMA (135 : 0.39%)
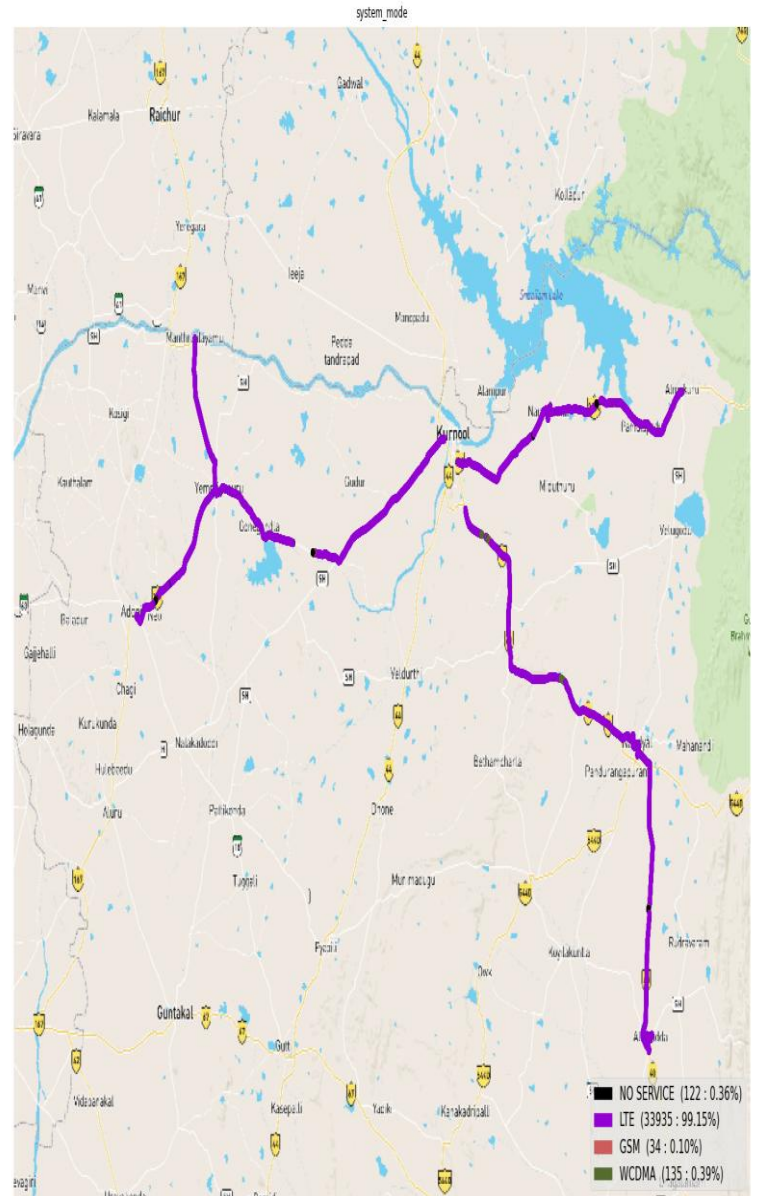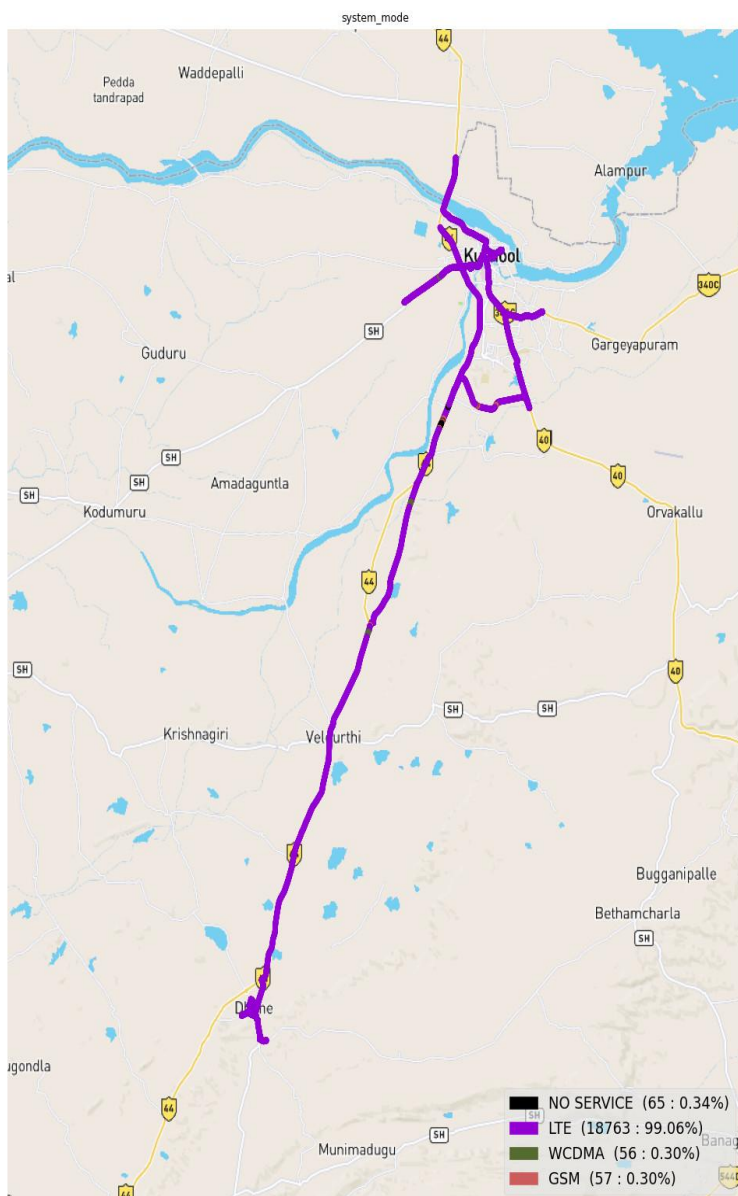
**JIO**
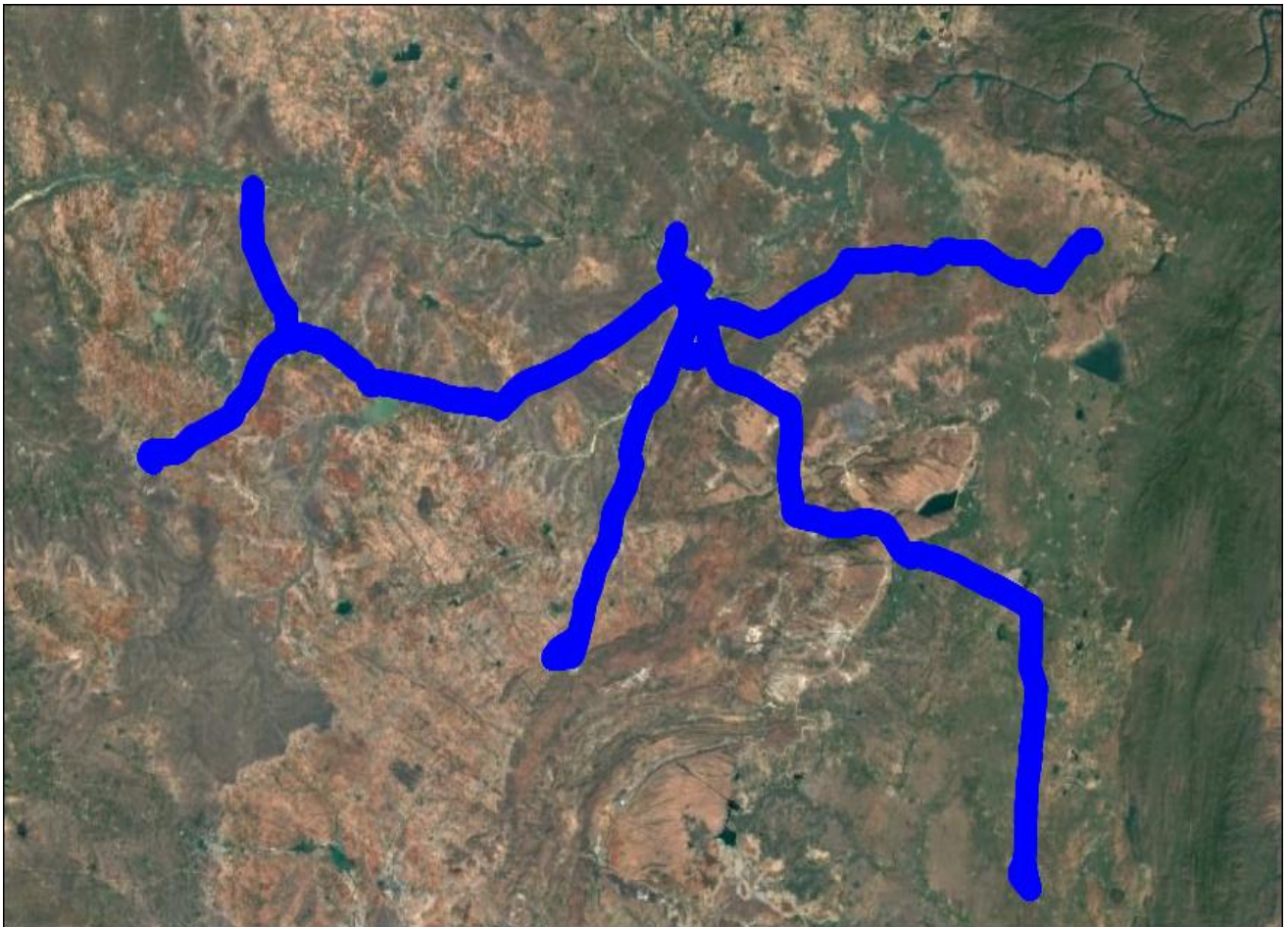
| Technology | Time Spent  % |
|------------|---------------|
| VoLTE      | 100           |

## VIL

| Technology | Time Spent % |
|------------|--------------|
| VoLTE | 99.96 |
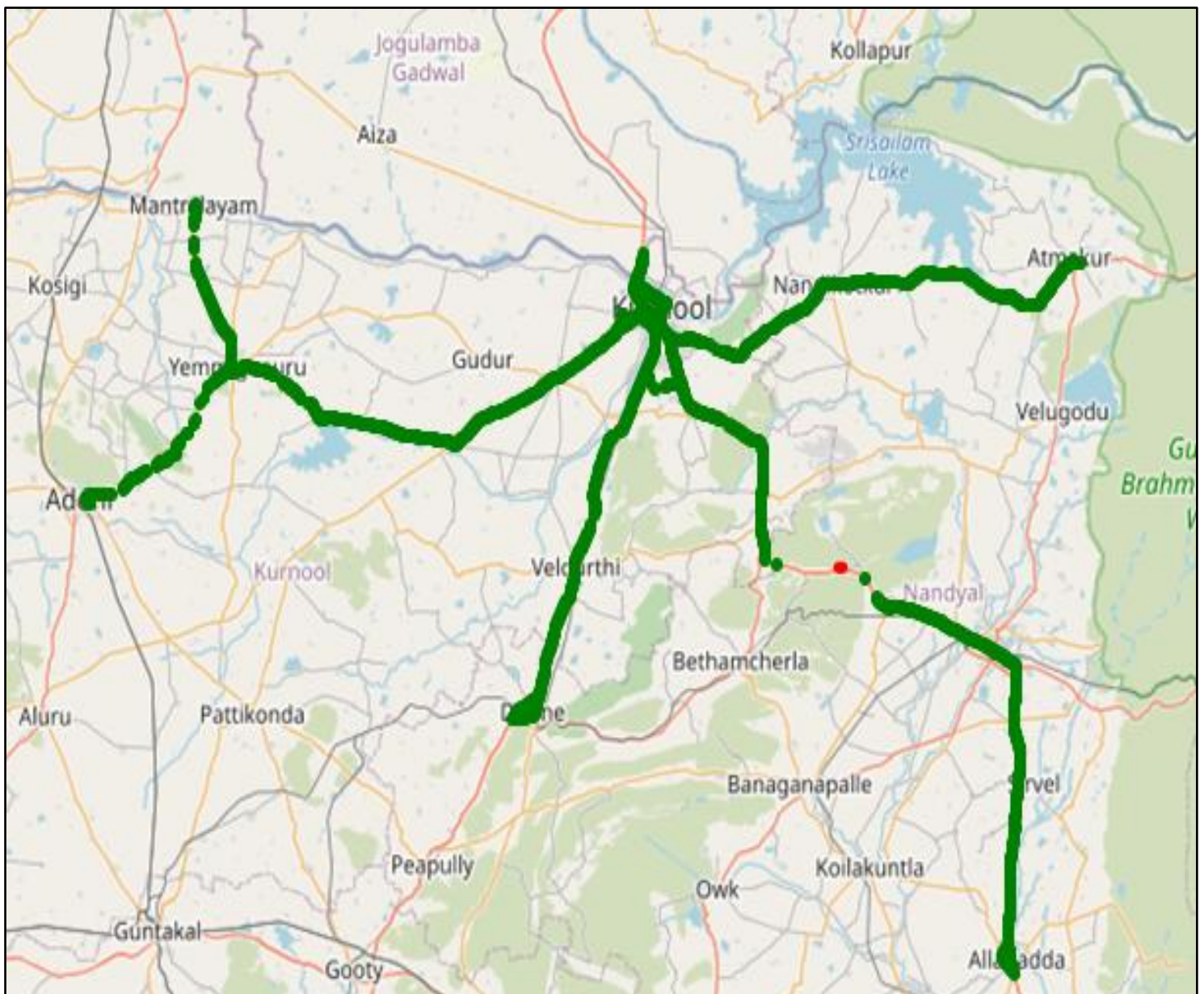
## Airtel

### Data Statistics - Dynamic Complete SSA

| Data KPIs - Overall | 4G |
|---|---|
| **Download Throughput (Mbps)** | 19.07 |



| DL throughput | No of Sample | % |
|---|---|---|
| **0 to 1 Mbps** | 734392 | 7.00 |
| **1 to 2 Mbps** | 338368 | 3.20 |
| **2 to 3 Mbps** | 348318 | 3.30 |
| **3 to 4 Mbps** | 331230 | 3.10 |
| **4 to 8 Mbps** | 1324643 | 12.60 |
| **8 to 12 Mbps** | 1184722 | 11.20 |
| **>12 Mbps** | 6274219 | 59.60 |
| **Total** | **10535892** | **100** |
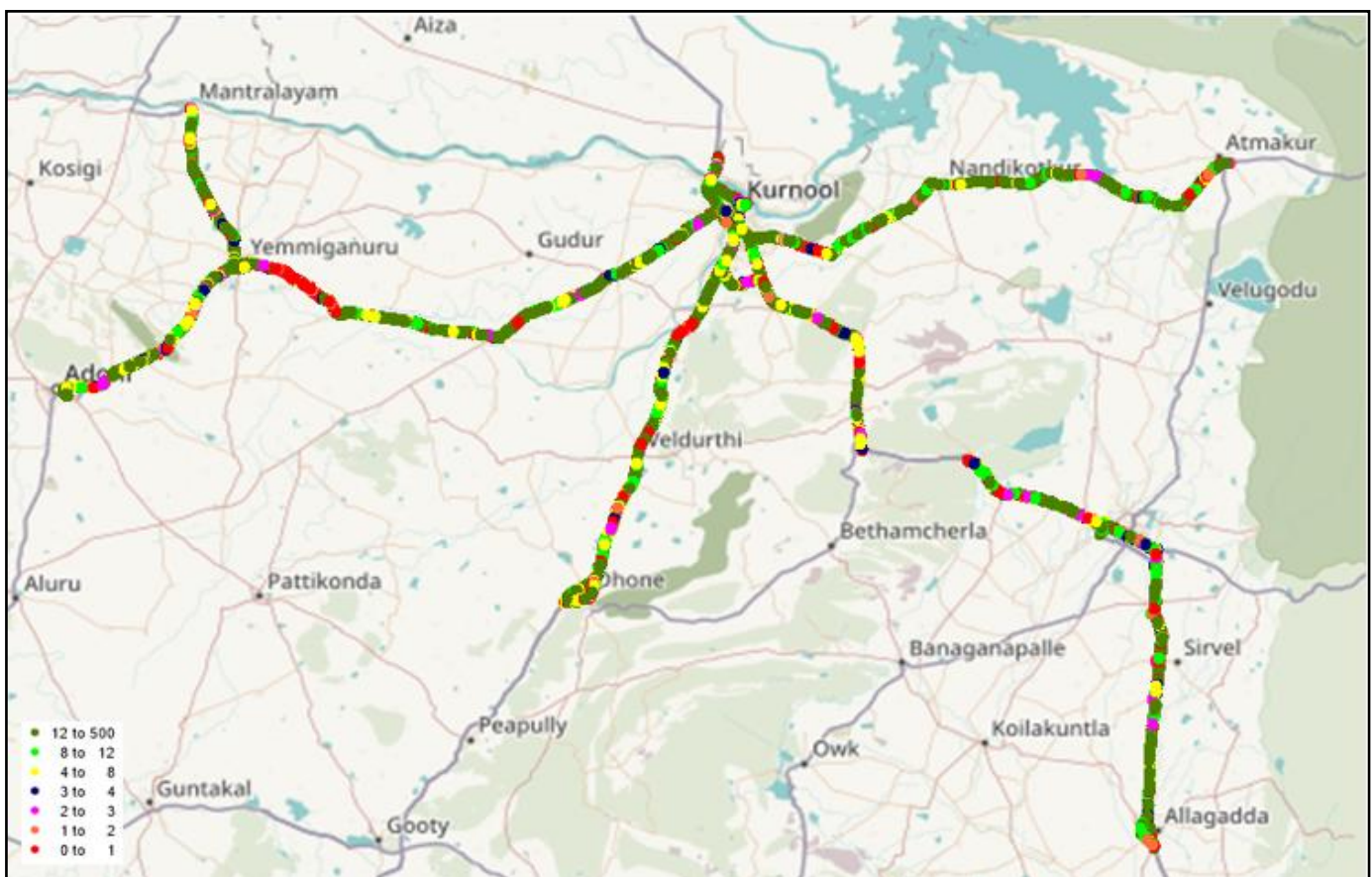
## BSNL

### Data Statistics - Dynamic Complete SSA

| Data KPIs - Overall | 4G |
|---|---|
| Download Throughput (Mbps) | 17.69 |



Plot: lte_l1_dl_throughput_all_carriers

4096 to 50000  (11648 : 73.12%)
2048 to 4096  (1931 : 12.12%)
1024 to 2048  (1073 : 6.74%)
512 to 1024  (425 : 2.67%)
0 to 512  (852 : 5.35%)



Plot: lte_l1_dl_throughput_all_carriers

4096 to 50000  (19752 : 66.97%)
2048 to 4096  (2106 : 7.14%)
1024 to 2048  (2783 : 9.44%)
512 to 1024  (2554 : 8.66%)
0 to 512  (2301 : 7.80%)
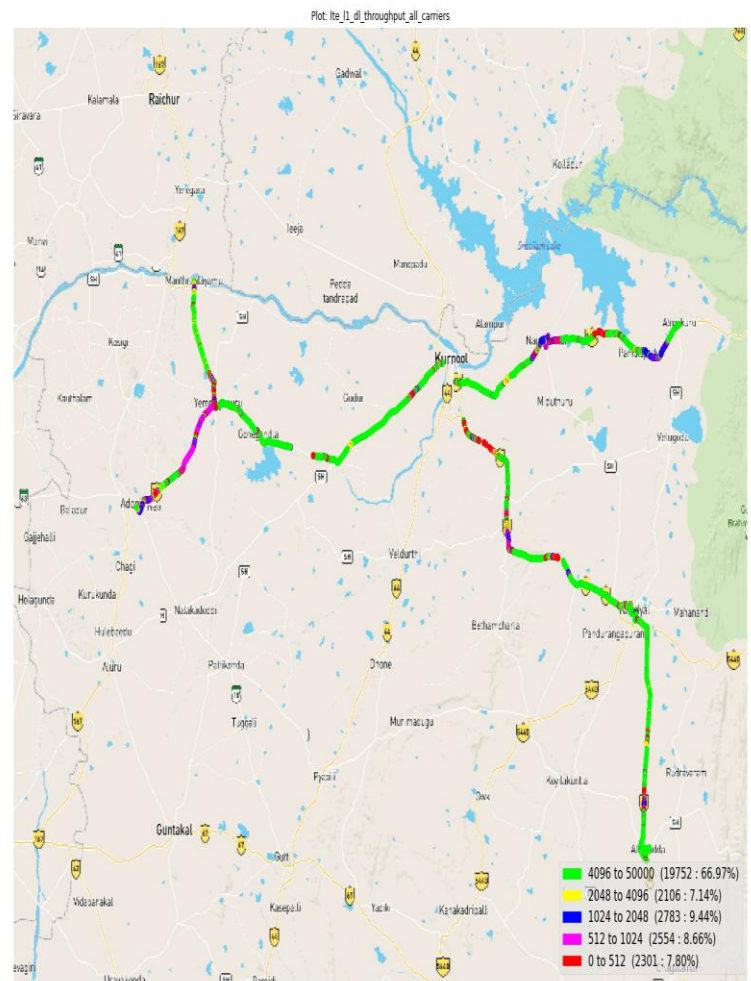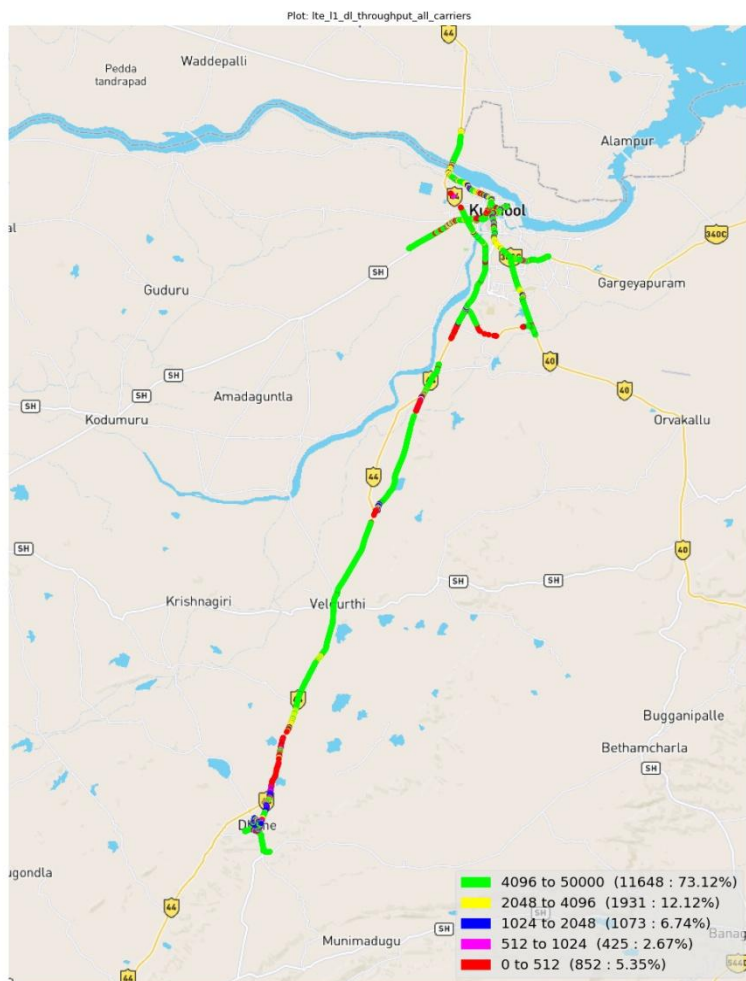
| DL throughput | No of Samples | % |
|---|---|---|
| > 4096 | 31400 | 69.12 |
| 2048 to 4096 | 4037 | 8.89 |
| 1024 to 2048 | 3856 | 8.49 |
| 512 to 1024 | 2979 | 6.56 |
| 0 to 512 | 3153 | 6.94 |

## JIO

### Data Statistics - Dynamic Complete SSA

| Data KPIs - Overall | 4G |
|---|---|
| Download Throughput (Mbps) | 14.36 |



LTE KPI MAC DL Throughput[Mbps]

- 12 <= x ( 63.43%, 22105 )
- 8 <= x < 12 ( 8.94%, 3116 )
- 4 <= x < 8 ( 11.86%, 4132 )
- 3 <= x < 4 ( 3.70%, 1289 )
- 2 <= x < 3 ( 3.96%, 1379 )
- 1 <= x < 2 ( 3.43%, 1195 )
- 0 <= x < 1 ( 4.68%, 1632 )
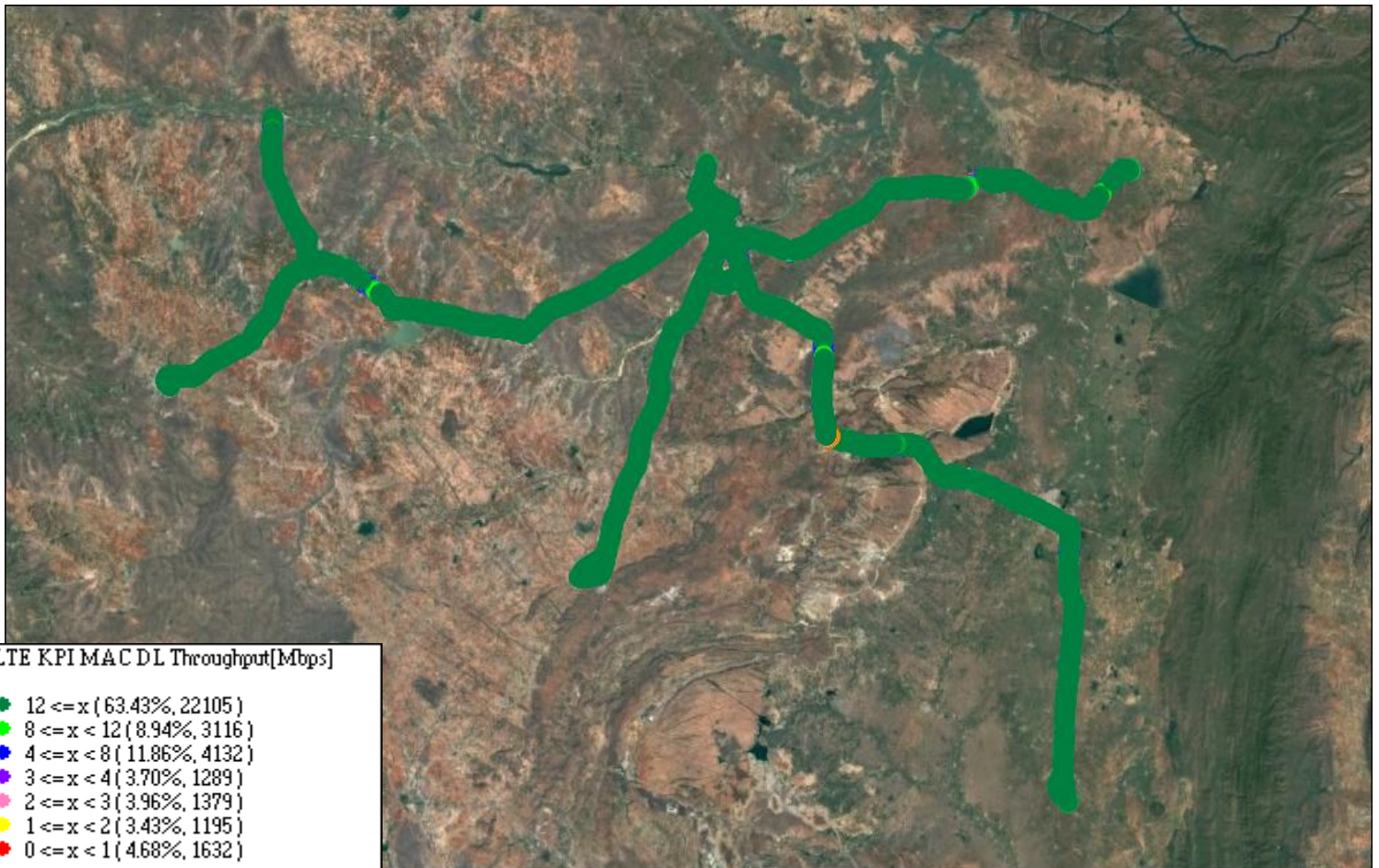
| DL Throughput | No of Sample | % |
|---|---|---|
| 0 to 1 Mbps | 1632 | 4.68 |
| 1 to 2 Mbps | 1195 | 3.43 |
| 2 to 3 Mbps | 1379 | 3.96 |
| 3 to 4 Mbps | 1289 | 3.70 |
| 4 to 8 Mbps | 4132 | 11.86 |
| 8 to 12 Mbps | 3116 | 8.94 |
| >12 Mbps | 22105 | 63.43 |

## VIL

### Data Statistics - Dynamic Complete SSA
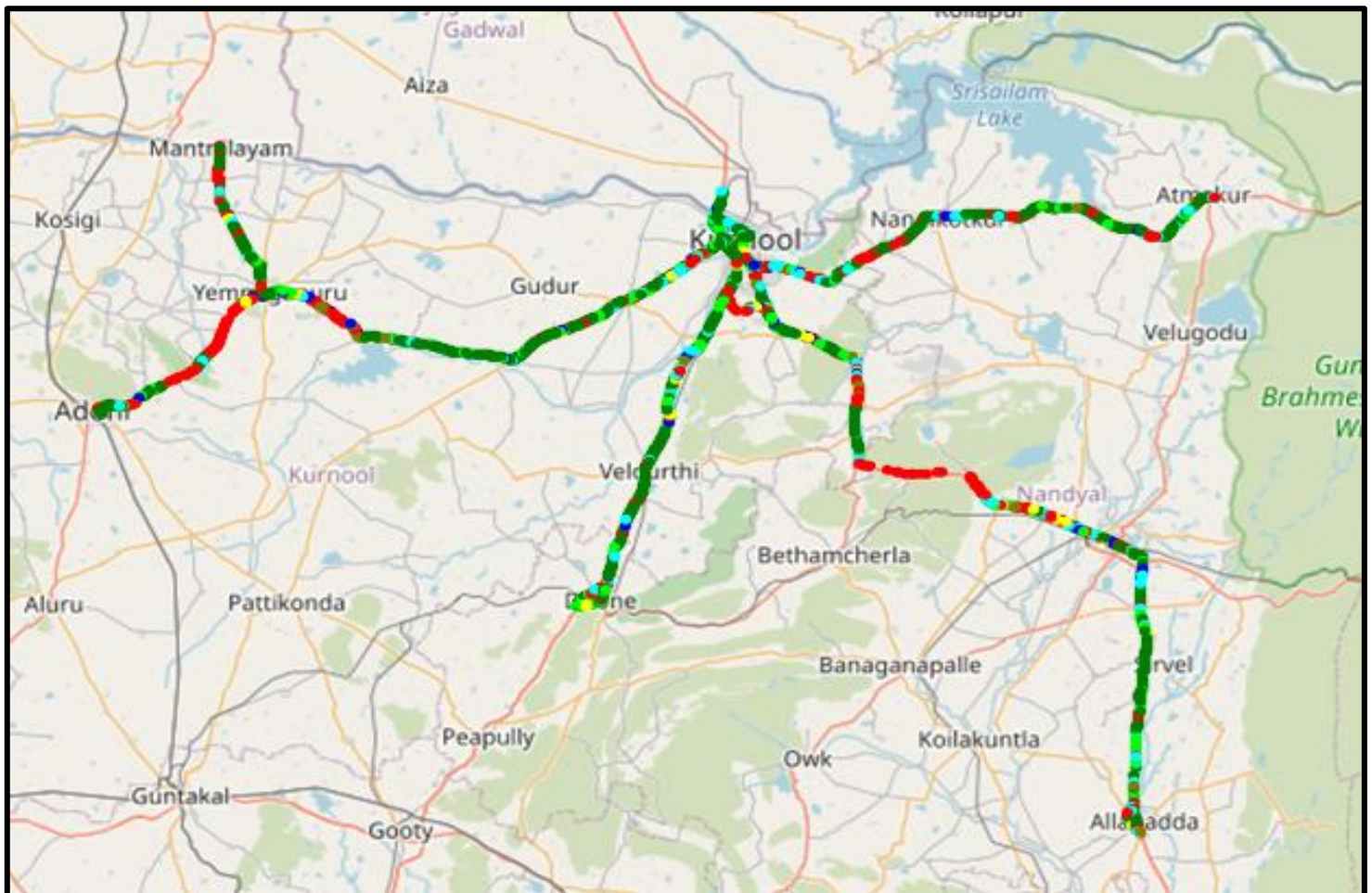
| Data KPIs - Overall | 4G |
|---|---|
| Download Throughput (Mbps) | 22.14 |



| DL throughput | No of Sample | % |
|---|---|---|
| 0 to 1 Mbps | 1033733 | 6.05 |
| 1 to 2 Mbps | 540135 | 3.16 |
| 2 to 3 Mbps | 602723 | 3.53 |
| 3 to 4 Mbps | 635905 | 3.72 |
| 4 to 8 Mbps | 2068100 | 12.11 |
| 8 to 12 Mbps | 2082433 | 12.20 |
| >12 Mbps | 10111903 | 59.22 |
| Total | 17074932 | 100 |

## Airtel

| Technology 4G | 1. Dhone Railway station | 2. Adoni Bus stand | 3. Yemmiganur Bus stand | 4. Nandyal Bus stand |
|---|---|---|---|---|
| Download in Mbps | 63.16 | 45.15 | 75.24 | 32.99 |
| Upload in Mbps | 12.47 | 18.85 | 26.99 | 5.49 |

| Technology 4G | 5. Kurnool Railway Station | 6. Kurnool Bus stand | 7. Kurnool Municipal Office |
|---|---|---|---|
| Download in Mbps | 53.65 | 57.88 | 76.16 |
| Upload in Mbps | 15.53 | 28.85 | 23.37 |

## BSNL

| Technology 4G | 1. Dhone Railway station | 2. Adoni Bus stand | 3. Yemmiganur Bus stand | 4. Nandyal Bus stand |
|---|---|---|---|---|
| Download in Mbps | 12.7 | 1.00 | 0.91 | 14.62 |
| Upload in Mbps | 8.47 | 0.58 | 1.35 | 15.35 |

| Technology 4G | 5. Kurnool Railway Station | 6. Kurnool Bus stand | 7. Kurnool Municipal Office |
|---|---|---|---|
| Download in Mbps | 11.03 | 9.35 | 11.26 |
| Upload in Mbps | 19.48 | 0.46 | 0.22 |

## JIO

| Technology 4G | 1. Dhone Railway station | 2. Adoni Bus stand | 3. Yemmiganur Bus stand | 4. Nandyal Bus stand |
|---|---|---|---|---|
| Download in Mbps | 39.06 | 68.36 | 42.71 | 31.23 |
| Upload in Mbps | 11.68 | 8.81 | 8.10 | 12.95 |

| Technology 4G | 5. Kurnool Railway Station | 6. Kurnool Bus stand | 7. Kurnool Municipal Office |
|---|---|---|---|
| Download in Mbps | 47.68 | 45.86 | 61.34 |
| Upload in Mbps | 9.93 | 26.43 | 11.68 |

## VIL

| Technology 4G | 1. Dhone Railway station | 2. Adoni Bus stand | 3. Yemmiganur Bus stand | 4. Nandyal Bus stand |
|---|---|---|---|---|
| Download in Mbps | 13.3 | 13.63 | 16.5 | 10.14 |
| Upload in Mbps | 2.21 | 13.12 | 16.6 | 12.68 |

| Technology 4G | 5. Kurnool Railway Station | 6. Kurnool Bus stand | 7. Kurnool Municipal Office |
|---|---|---|---|
| Download in Mbps | 12.93 | 14.67 | 13.76 |
| Upload in Mbps | 11.58 | 15.06 | 13.24 |

| S.No | No of NH/SH routes | NH routes | SH routes | Distance (Km) |
|------|--------------------|-----------|-----------|---------------|
| **NH/SH Routes covered in OADT by Airtel / BSNL / RJIL / VIL** |
| 1 | Kurnool to dhone | NH 44 | | 50 Kms |
| 2 | Kurnool to yemmiganur | NH 167 | | 70 Kms |
| 3 | Kurnool to Nandyala | NH 44 / NH 40 | | 75 kms |
| 4 | Kurnool to Atmakur | | SH 60 | 65 kms |