

Operator Assisted Drive Test Report

For

Davanagere

July 2022

TRAI RO, Bengaluru

Key Performance Indicators:

- All TSPs have met the 2% QOS benchmark of Drop Call Rate except BSNL 2G, BSNL 3G, VIL 4G.
- All TSPs have met the 3% QOS benchmark of Call Block Rate except BSNL 2G.
- All TSPs have **not** met the Rx Quality (%) except VIL 4G.

The Operator Assisted Drive Test has been carried out by Regional Office, Bangalore with the help of Service Providers from 18-07-2022 to 21-07-2022 The drive test covered a drive route of 320 KMs & 6 hotspots. Approximately 620 calls were made for each of the 7 networks: three 2G networks, one 3G network and three LTE network covering four TSPs.

Overview

Voice Summary Data Summary

Overview

Regional Office, TRAI Bengaluru conducted Operator Assisted Drive Test from 18-07-2022 to 21-07-2022 covering various locations in Davanagere City & surrounding region. The performance of Airtel, BSNL, Vodafone Idea and Jio were monitored across various technologies (2G, 3G and 4G/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 320 KMs over a period of 4 days from 18-07-2022 to 21-07-2022. Approximately 620+ calls were made for each of the 7 networks: three 2G (Lock Mode) networks, one 3G (Dual mode) networks and three 4G network covering 4 unique TSPs.

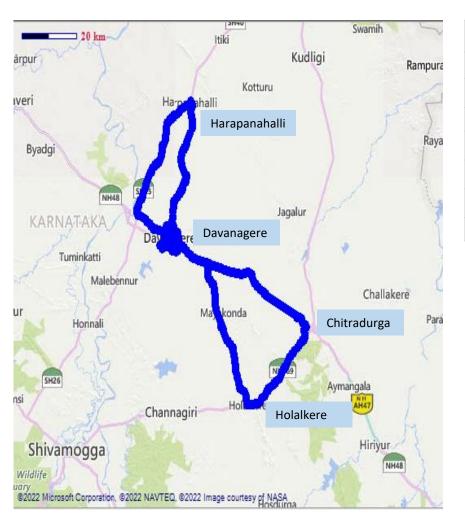
Data Tests: Dynamic data test (Test Data on Move) was conducted for 320 kms over a period of 3 days for download throughput for 3G & 4G technology. Data Tests were performed at 6 static locations; three 2G (Lock mode) networks, one 3G (Dual mode) networks and three 4G (Free mode) networks covering 4 unique TSPs were tested. All the data through put figure mentioned in the report are based on the average value.

- * For Voice and Data KPI's, 2G measurement is done with UE locked on 2G, 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.

| 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 PayTm | | | | |
| Latency | 32 Bytes on <u>www.google.com</u> | | | | |
| Video Streaming | 130 secs clip | | | | |

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Voice & Dynamic Data Test (Data Test on Move) Drive Route



| Areas covered |
|---------------|
| Davangere |
| Harihara |
| Harapanahalli |
| Laxmipura |
| Anagodu |
| Chitradurga |
| Holalkere |

| Areas covered | | | | |
|---------------|---|--|--|--|
| DAY 1 | Davanagere- Harihar- Harapanahalli - Laxmipura - Davanagere | | | |
| DAY 2 | Davanagere – Chitradurga –Holalkere -Anagodu | | | |
| DAY 3 | Davanagere (complete city) | | | |
| DAY 4 | Static Locations | | | |

Data Service Test- Static Locations

| Sub Register Office |
|----------------------------|
| RTO Office |
| Chigateri General Hospital |
| Anjaneya Temple |
| KSRTC Bus Stand |
| Jain Institute |

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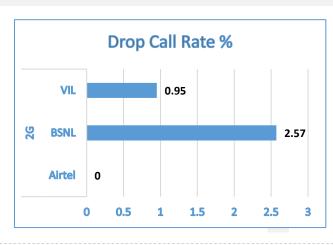
Voice Calls

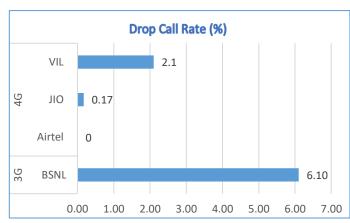
Key Observations

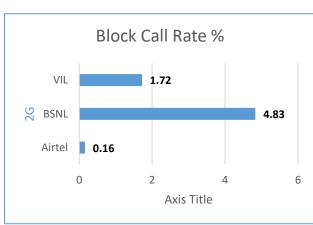
QoS compliance of the TSPs for Voice across technologies 2G/3G/4G-4G:

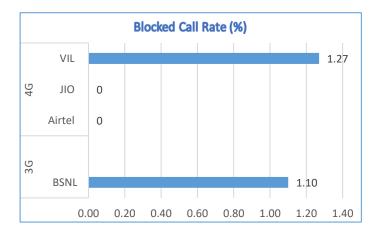
Drop Call Rate (%)

Block Call Rate (%)









| KPIs | 2G | | 3G | 4G | | | |
|-------------------|--------|------|------|------|--------|------|------|
| | Airtel | BSNL | VIL | BSNL | Airtel | RJIL | VIL |
| Drop Call Rate % | 0 | 2.57 | 0.95 | 6.10 | 0 | 0.17 | 2.1 |
| Block Call Rate % | 0.16 | 4.83 | 1.72 | 1.10 | 0 | 0 | 1.27 |

- a) All TSPs have met the 2% QOS benchmark of Drop Call Rate except BSNL 2G, BSNL 3G, VIL 4G.
- b) All TSPs have met the 3% QOS benchmark of Call Block Rate except BSNL 2G.

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Voice Calls

Key Observations

Coverage

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

| | | 2G | |
|-----------|--------|-------|-------|
| TSPs | Airtel | BSNL | VIL |
| Coverage% | 95 | 75.10 | 76.09 |

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

| | 3 G | | 4G | |
|------------|------------|--------|-------|-------|
| TSPs | BSNL | Airtel | JIO | VIL |
| Coverage % | 83.80 | 99.07 | 94.12 | 95.44 |

c) Percentage of time spent on 3G/4G network

| | 3G | | 4G | |
|-------------------------|-------|--------|-----|-----|
| TSPs | BSNL | Airtel | JIO | VIL |
| Time Spent on 3G/4G% | 66.80 | 100 | 100 | 100 |

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City Level Summary

| Voice Call | 2G | | | |
|-----------------------|--------|-------|-------|--|
| Voice Call | Airtel | BSNL | VIL | |
| Call Attempt | 620 | 600 | 639 | |
| Blocked Call Rate (%) | 0.16 | 4.83 | 1.72 | |
| CSSR% (Accessibility) | 99.84 | 95.17 | 98.28 | |
| Drop Call Rate (%) | 0 | 2.57 | 0.95 | |
| Mobility HOSR (%) | 98.65 | 96.60 | 96.59 | |
| Rx Quality (%) | 94.74 | 94.10 | 91.94 | |

| Voice Call | 3G/4G | | | | |
|-----------------------|-----------|---------|--------|--------|--|
| voice Call | Airtel 4G | BSNL 3G | JIO 4G | VIL 4G | |
| Call Attempt | 623 | 445 | 599 | 626 | |
| Blocked Call Rate (%) | 0 | 1.10 | 0 | 1.27 | |
| CSSR% (Accessibility) | 100 | 98.9 | 99.34 | 98.73 | |
| Drop Call Rate (%) | 0 | 6.10 | 0.17 | 2.1 | |
| Mobility HOSR (%) | 99.28 | 100 | 97.66 | 99.44 | |
| Rx Quality (%) | 94.66 | 85.90 | 90.83 | 95.37 | |

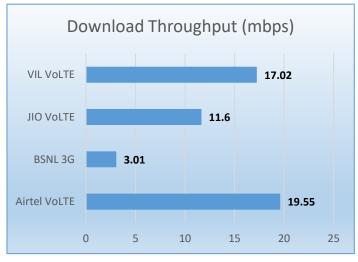
Summary Page 6 of 37

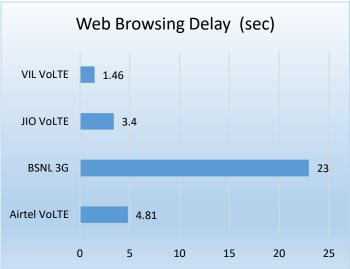
Data Services Static

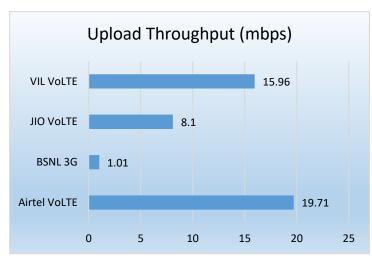
Key Observations

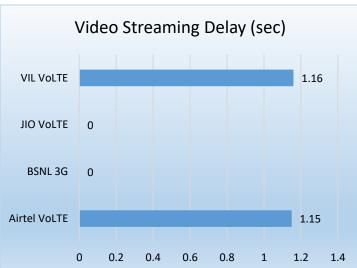
Data was tested at 6 locations .Following services were tested: Data Download/Upload, Latency (www.google.com), and Web browsing (Flipkart, Amazon, PayTm)

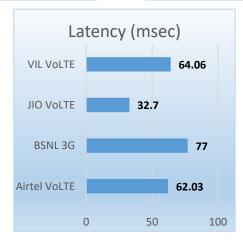
Data Download, Upload Performance (Mbps), Web Browsing delay, Video Streaming and Latency 3G/4G











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City Level Summary(contd.)

| Data Services Static | 2G | | |
|----------------------------|--------|-------|-------|
| | Airtel | BSNL | VIL |
| Download Throughput (kbps) | 122.34 | 23.51 | 173 |
| Upload Throughput (kbps) | 7.84 | 11.75 | 165 |
| Web Browsing Delay (sec) | 107.54 | 139 | 8.66 |
| Latency (msec) | 255.47 | 77 | 220.6 |

| | 3G/4G | | | | |
|-------------------------------|-----------|---------|--------|--------|--|
| Data Services Static | Airtel 4G | BSNL 3G | JIO 4G | VIL 4G | |
| Download Throughput (mbps) | 19.55 | 3.01 | 11.6 | 17.02 | |
| Upload Throughput (mbps) | 19.71 | 1.01 | 8.1 | 15.96 | |
| Web Browsing Delay (sec) | 4.81 | 23 | 3.4 | 1.46 | |
| Video Streaming Delay (sec) | 1.15 | - | 0 | 1.16 | |
| Latency (msec) | 62.03 | 77 | 32.7 | 64.06 | |

| Data Services Dynamic (Data Test on Move) | 3G/4G | | | |
|---|-----------|---------|--------|---------|
| (Bata rest of Move) | Airtel 4G | BSNL 3G | JIO 4G | VIL 4G |
| Download Throughput (mbps) | 28.970 | 3.05 | 9.75 | 13.3384 |
| Upload Throughput (mbps) | 22.03 | - | 2.18 | 4.8136 |

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City Level Data Services Static(contd.)

| Data Services Static – Sub Registrar | | 2G | |
|--------------------------------------|--------|-------|-----|
| Office | Airtel | BSNL | VIL |
| Download Throughput (kbps) | 118.02 | 31.94 | 118 |
| Upload Throughput (kbps) | 8.22 | 17.06 | 128 |
| Web Browsing Delay (sec) | 111.5 | 113.2 | 8 |
| Latency (ms) | 245 | 57 | 216 |

| Data Services Static –Sub | 3G 4G | | 4G | | |
|-----------------------------|---------|--------|-------|-------|--|
| Registrar Office | BSNL 3G | Airtel | JIO | VIL | |
| Download Throughput (Mbps) | 2.62 | 7.33 | 14.02 | 11.66 | |
| Upload Throughput (Mbps) | 1.2 | 10.14 | 13.26 | 10.31 | |
| Web Browsing Delay (sec) | 22 | 5.02 | 3.88 | 1.6 | |
| Video Streaming Delay (sec) | - | 1.66 | 0 | 1.4 | |
| Latency (ms) | 116 | 71 | 33 | 69 | |

| Data Samilaga Static BTO Office | | 2G | 2G | | | |
|---------------------------------|--------|-------|-----|--|--|--|
| Data Services Static RTO Office | Airtel | BSNL | VIL | | | |
| Download Throughput (kbps) | 155.68 | 26.94 | 162 | | | |
| Upload Throughput (kbps) | 7 | 9.04 | 186 | | | |
| Web Browsing Delay (sec) | 68.38 | 108.2 | 8.6 | | | |
| Latency (msec) | 246 | 57 | 236 | | | |

| Data Services Static - RTO Office | 3G | 4G | | |
|-----------------------------------|---------|--------|------|--------|
| | BSNL 3G | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 3.18 | 17.72 | 14.2 | 11.33 |
| Upload Throughput (Mbps) | 0.75 | 17.5 | 5.34 | 13.882 |
| Web Browsing Delay (sec) | 16.6 | 4.34 | 3.06 | 1.4 |
| Video Streaming Delay (sec) | - | 0.78 | 0 | 1 |
| Latency (ms) | 116 | 78 | 34 | 70.2 |

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City Level Data Services Static(contd.)

| Data Sarvigas Statio CC Hasnital | | 2G | |
|------------------------------------|--------|-------|-----|
| Data Services Static – CG Hospital | Airtel | BSNL | VIL |
| Download Throughput (kbps) | 146.04 | 28.16 | 146 |
| Upload Throughput (kbps) | 8.14 | 26.31 | 172 |
| Web Browsing Delay (sec) | 86.88 | 65.4 | 8.6 |
| Latency (ms) | 272 | 57 | 280 |

| Data Services Static – CG Hospital | 3G | | 4G | | |
|------------------------------------|---------|--------|------|-------|--|
| Data Services Static - CG Hospital | BSNL 3G | Airtel | JIO | VIL | |
| Download Throughput (Mbps) | 5.14 | 26.95 | 7.64 | 16.2 | |
| Upload Throughput (Mbps) | 1.34 | 20.8 | 5.66 | 12.57 | |
| Web Browsing Delay (sec) | 9.6 | 3.84 | 3.54 | 1.8 | |
| Video Streaming Delay (sec) | 0 | 0.66 | 0 | 1 | |
| Latency (ms) | 57 | 66 | 38 | 66.2 | |

| Data Services Static – Sri Anjaneya | 2G | | | |
|-------------------------------------|--------|-------|-----|--|
| Swamy Temple | Airtel | BSNL | VIL | |
| Download Throughput (kbps) | 107.76 | 37.16 | 234 | |
| Upload Throughput (kbps) | 7.96 | 7.71 | 208 | |
| Web Browsing Delay (sec) | 142.97 | 235 | 9.4 | |
| Latency (msec) | 269 | 116 | 207 | |

| Data Services Static – Sri | 3 G | | 4G | |
|-----------------------------|------------|--------|------|-------|
| Anjaneya Swamy Temple | BSNL 3G | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 4.08 | 9.86 | 12.1 | 23.05 |
| Upload Throughput (Mbps) | 1.36 | 23.69 | 6.74 | 12.02 |
| Web Browsing Delay (sec) | 24.8 | 4.77 | 3.22 | 2 |
| Video Streaming Delay (sec) | - | 1.46 | 0 | 1 |
| Latency (ms) | 57 | 54 | 29 | 52 |

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City Level Data Services Static(contd.)

| Data Services Static –KSRTC Bus | | 2G | |
|---------------------------------|--------|-------|-----|
| Stand | Airtel | BSNL | VIL |
| Download Throughput (kbps) | 118.02 | 22.08 | 148 |
| Upload Throughput (kbps) | 7.6 | 12.35 | 80 |
| Web Browsing Delay (sec) | 111.49 | 68 | 8.8 |
| Latency (ms) | 245 | 116 | 187 |

| Data Services Static – KSRTC Bus | 3G | | 4G | | |
|----------------------------------|---------|--------|-------|-------|--|
| Stand | BSNL 3G | Airtel | JIO | VIL | |
| Download Throughput (Mbps) | 1.63 | 34.54 | 11.82 | 12.98 | |
| Upload Throughput (Mbps) | 0.65 | 22.95 | 4.14 | 13.35 | |
| Web Browsing Delay (sec) | 25.4 | 5.86 | 3.34 | 1 | |
| Video Streaming Delay (sec) | - | 0.69 | 0 | 1 | |
| Latency (ms) | 57 | 48 | 33 | 69 | |

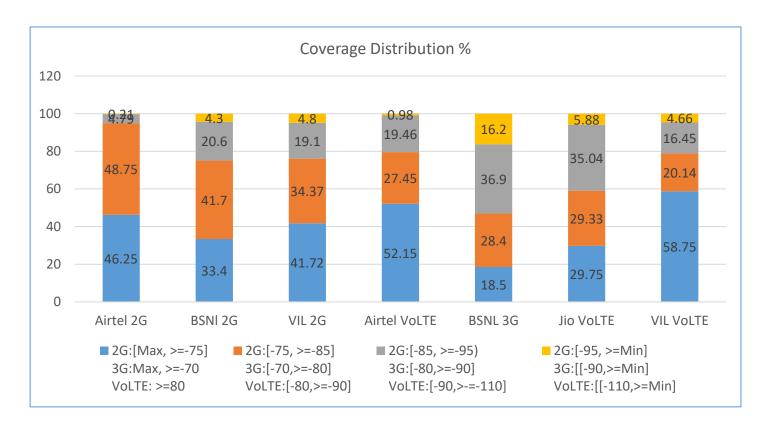
| Data Services Static – Jain Institute | | | |
|---------------------------------------|--------|-------|-----|
| of Technology | Airtel | BSNL | VIL |
| Download Throughput (kbps) | 88.52 | 16.86 | 230 |
| Upload Throughput (kbps) | 8.1 | 10.38 | 216 |
| Web Browsing Delay (sec) | 124.02 | 243 | 8.6 |
| Latency (msec) | 257 | 57 | 197 |

| Data Services Static – Jain | 3G | 4G | | |
|-----------------------------|---------|--------|-------|-------|
| Institute of Technology | BSNL 3G | Airtel | JIO | VIL |
| Download Throughput (Mbps) | 1.41 | 20.89 | 9.94 | 27.01 |
| Upload Throughput (Mbps) | 0.73 | 23.19 | 13.24 | 33.14 |
| Web Browsing Delay (sec) | 40.2 | 5.06 | 3.3 | 1 |
| Video Streaming Delay (sec) | - | 1.63 | 0 | 1.6 |
| Latency (ms) | 57 | 55 | 30 | 58 |

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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 \geq -85 dBm, RSCP is \geq -90 dBm & RSRP \geq -110dBm. The details are as follows.

| TSP | Coverage Rate % | | |
|-----------|-----------------|--|--|
| Airtel 2G | 95 | | |
| BSNI 2G | 75.1 | | |
| VIL 2G | 76.09 | | |
| Airtel 4G | 99.07 | | |
| BSNL 3 G | 83.80 | | |
| Jio 4G | 94.12 | | |
| VIL 4G | 95.44 | | |

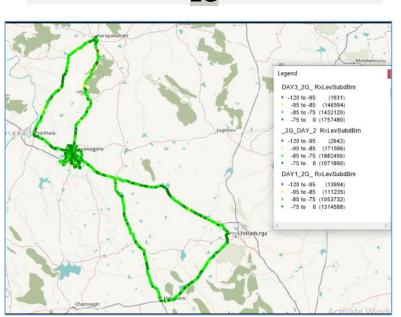


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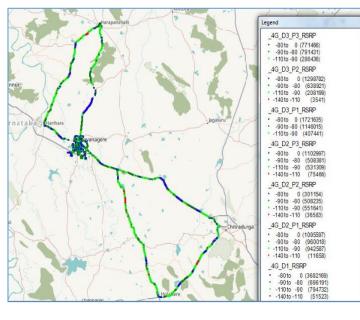
AIRTEL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 95.00 |
| 4G | 99.07 |

2G



4G



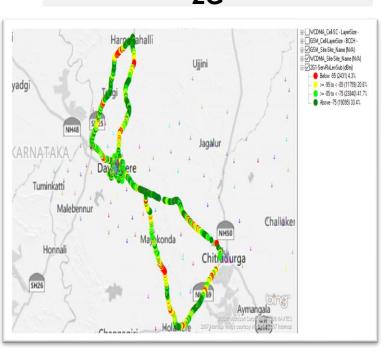
| 2G | | | | |
|-----------------|-----------|-------|--|--|
| Overall RxLevel | # Samples | % PDF | | |
| [Max, >=-75] | 4143958 | 46.25 | | |
| [-75, >=-85) | 4368308 | 48.75 | | |
| [-85, >=-95) | 429425 | 4.79 | | |
| [-95, >=Min) | 18867 | 0.21 | | |
| Total | 8960558 | 100 | | |

| 4G/VoLTE | | | |
|---------------|-----------|-------|--|
| Overall RSRP | # Samples | % PDF | |
| [Max, >=-80] | 9973800 | 52.15 | |
| [-80, >=-90) | 5249192 | 27.45 | |
| [-90, >=-110) | 3722345 | 19.46 | |
| [-110, >=Min) | 178771 | 0.93 | |
| Total | 19124108 | 100 | |

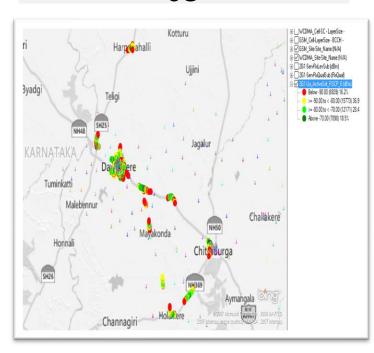
BSNL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 75.10 |
| 3G | 83.80 |





3G

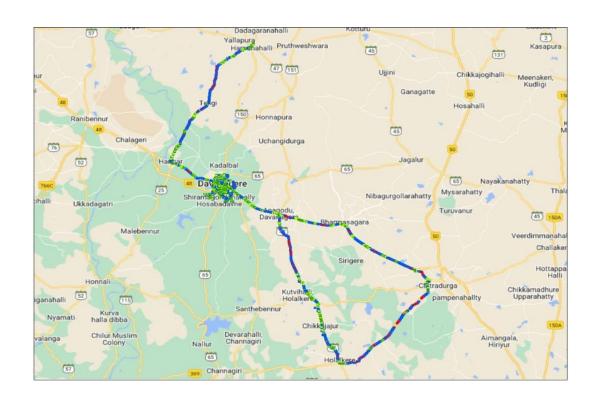


| 2G | | | |
|-----------------|-----------|--------|--|
| Overall RxLevel | # Samples | % PDF | |
| [Max, >=-75] | 19095 | 33.40 | |
| [-75, >=-85) | 23840 | 41.70 | |
| [-85, >=-95) | 11759 | 20.60 | |
| [-95, >=Min) | 2431 | 4.30 | |
| Total | 57125 | 100.00 | |

| 3G | | | |
|--------------|-----------|--------|--|
| Overall RSCP | # Samples | % PDF | |
| [Max, >=-70] | 7898 | 18.50 | |
| [-70, >=-80) | 12171 | 28.40 | |
| [-80, >=-90) | 15773 | 36.90 | |
| [-90, >=Min) | 6939 | 16.20 | |
| Total | 42781 | 100.00 | |

JIO

| Technology | Coverage Rate % |
|------------|-----------------|
| 4G | 94.12 |



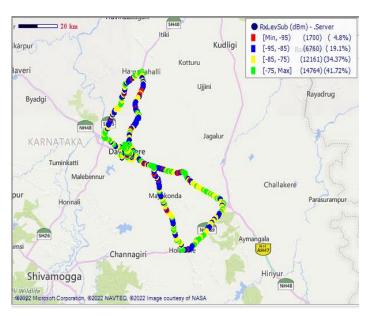
| 40 | 4G/VoLTE | | |
|---------------|-----------|-------|--|
| Overall RSRP | # Samples | % PDF | |
| [Max, >=-80] | 19073 | 29.75 | |
| [-80, >=-90) | 18799 | 29.33 | |
| [-90, >=-110) | 22463 | 35.04 | |
| [-110, >=Min) | 3766 | 5.88 | |
| Total | 64101 | 100 | |

VIL

| Technology | Coverage Rate % |
|------------|-----------------|
| 2G | 76.09 |
| 4G | 95.44 |

2G

4G



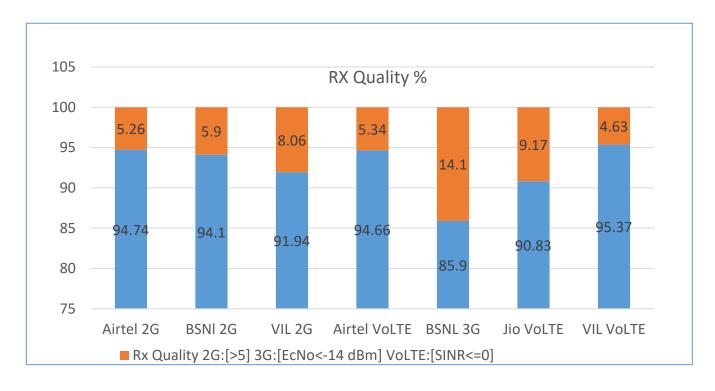
| 20 km | SH40 Itiki | Swamih | Serving Cell RSRP (dBm) [Min, -110) (2857) (4.66%) |
|-------------|---------------------------|------------|--|
| our | Kudlig | Rampura | [-110, -95) (10087) (16.45%) |
| | Kotturu | A A | [-95, -80) (12352) (20.14%) |
| eri 🔪 F | la propinski | | [-80, Max] (36034) (58.75%) |
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| NH48 595 | / | 11 | Kalyandrug |
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| SH26 | E 60 (N | | |
| SHZO | | Aymangala | Pavagada |
| / S/ Char | nnagiri Hol De | NH AH47 | |
| | g.i. | | The state of the s |
| Shivamogga | | Hiriyur | Madakasira |
| | The State of the State of | NH48 | |
| ildlife / A | | | A SUPERIOR |

| 2G | | | |
|-----------------|-----------|-------|--|
| Overall RxLevel | # Samples | % PDF | |
| [Max, >=-75] | 14764 | 41.72 | |
| [-75, >=-85) | 12161 | 34.37 | |
| [-85, >=-95) | 6760 | 19.1 | |
| [-95, >=Min) | 1700 | 4.8 | |
| Total | 35385 | 99.99 | |

| 4G/VoLTE | | |
|---------------|-----------|-------|
| Overall RSRP | # Samples | % PDF |
| [Max, >=-80] | 36034 | 58.75 |
| [-80, >=-90) | 12352 | 20.14 |
| [-90, >=-110) | 10087 | 16.45 |
| [-110, >=Min) | 2857 | 4.66 |
| Total | 61330 | 100 |

For measuring voice quality, as per the QoS norms, RxQual \leq 5 for GSM TSPs, EcNo \geq -14 dBm for 3G TSP sand SINR \geq 0 in case of 4G is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be \geq 95%.

| TSP | Rx Quality % | |
|-----------|--------------|--|
| Airtel 2G | 94.74 | |
| BSNI 2G | 94.1 | |
| VIL 2G | 91.94 | |
| Airtel 4G | 94.66 | |
| BSNL 3G | 85.9 | |
| Jio 4G | 90.83 | |
| VIL 4G | 95.37 | |



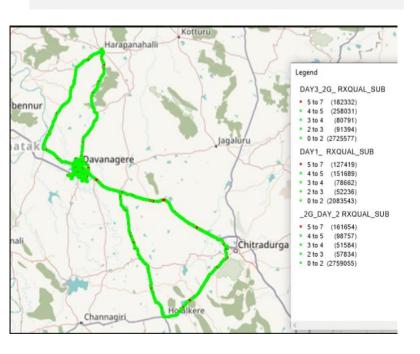
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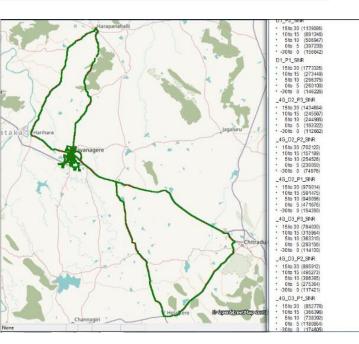
Airtel

| Technology | Rx Quality % |
|------------|--------------|
| 2G | 94.74 |
| 4G | 94.66 |

2G







| Overall Rx Quality | # Samples | % PDF |
|-----------------------|-----------|-------|
| (Min, <=2) | 7568175 | 84.46 |
| (2, <=3) | 201464 | 2.25 |
| (3 , <=4) | 211037 | 2.36 |
| (4 , <=5) | 508477 | 5.67 |
| (5 , <=Max) | 471405 | 5.26 |
| Total | 8960558 | 100% |

| Overall SINR | # Samples | % PDF |
|--------------|-----------|-------|
| (Min, <=0) | 1051012 | 5.34 |
| (0, <=5) | 3301762 | 16.77 |
| (5, <=10) | 3640016 | 18.49 |
| (10, <=15) | 3136658 | 15.93 |
| (15, <=Max) | 8560950 | 43.48 |
| Total | 19690398 | 100 |

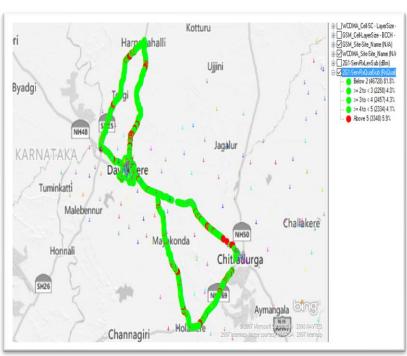
Quality Details Page 18 of 37

BSNL

| Technology | Rx Quality % |
|------------|--------------|
| 2G | 94.10 |
| 3G | 85.90 |

2G





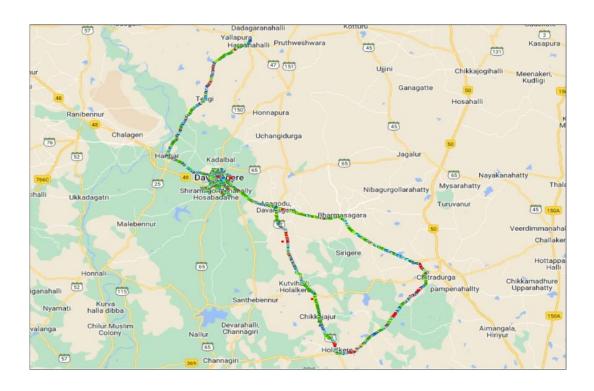
| Overall Rx Quality | # Samples | % PDF |
|--------------------|-----------|--------|
| (Min, <=2) | 46728 | 81.80 |
| (2, <=3) | 2258 | 4.00 |
| (3 , <=4) | 2457 | 4.20 |
| (4 , <=5) | 2334 | 4.10 |
| (5 , <=Max) | 3348 | 5.90 |
| Total | 57125 | 100.00 |

| ri Ha | Kotturu rpr <mark>a</mark> ahalli | ⊕ _ WCDMA_CellSC - LayerSize - ⊕ _ GSM_Cell LayerSize - BCCH - ⊕ _ GSM_Size-Size, Wane (WA) |
|--------------------------|--------------------------------------|--|
| Byadgi | Ujjini , | ⊕ ▼WCOMA_Size-Size_Name_PURA ⊕ □ 261 SemPhut-size_(£fm) ⊕ □ 261 SemPhut-size_(£fm) ⊕ □ 261 SemPhut-size_(£fm) ⊕ □ 361-Uu_Achine-Size_(£fm) ⊕ 0 (£fm) ⊕ □ 461-Uu_Achine-Size_(£fm) ⊕ 0 (£fm) |
| Teligi | 1 1 | - Below -14.00 (6056) 14.2% ->= -14.00 to <-11.00 (12943) 3 ->= -11.00 to <-9.00 (13398) 31 ->= 9.00 to <-6.00 (5900) 13.8% |
| KARNATAKA | Jagalur | ↓ |
| Tuminkatti Malebennur | | 4 |
| Honnali | Mayakonda NH50 | Challakere |
| SH26 | , Chit durga | X |
| Chanr | Ayma | ngala Ong |

| Overall EcNo | # Samples | % PDF |
|---------------|-----------|--------|
| (Max, <=-6) | 4484 | 10.50 |
| (-6, <=-9) | 5900 | 13.80 |
| (-9, <=-11) | 13398 | 31.30 |
| (-11, <=-14) | 12943 | 30.30 |
| (-14, <= Min) | 6056 | 14.10 |
| Total | 42781 | 100.00 |

JIO

| Technology | Rx Quality (%) |
|------------|----------------|
| 4G/4G | 90.83 |



| Overall SINR | # Samples | % PDF |
|--------------|-----------|-------|
| (Min, <=0) | 5881 | 9.17 |
| (0, <=5) | 12697 | 19.81 |
| (5, <=10) | 15264 | 23.81 |
| (10, <=15) | 12514 | 19.52 |
| (15, <=Max) | 17745 | 27.68 |
| Total | 64101 | 100 |

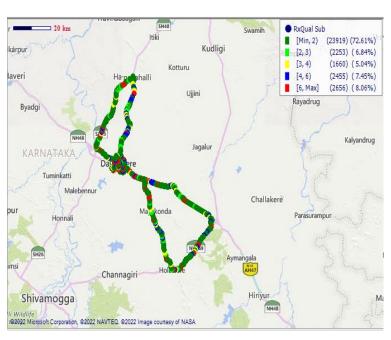
Quality Details Page 20 of 37

VIL

| Technology | Rx Quality % |
|------------|--------------|
| 2G | 91.94 |
| 4G | 95.37 |

2G

4G

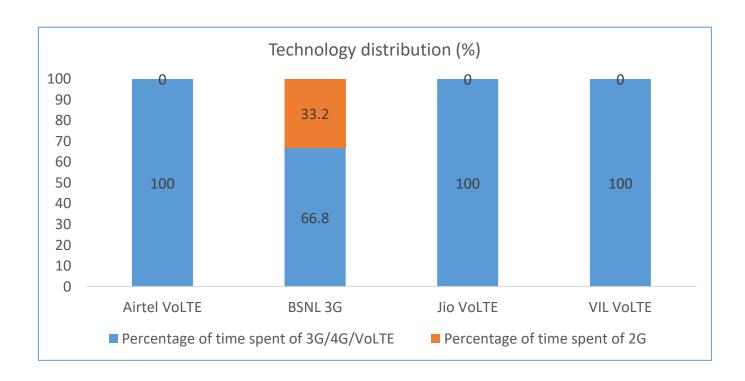


| 20 km | SH40 Itiki | Swar RS SINR Carrier 1 (dB) [Min, 0) (2837) (4.63%) |
|---|--|---|
| 1 | Kudligi | [0,15)mpura (12097) (19.72%) |
| | Kotturu | [5, 10) (16819) (27.42%) |
| Harp | ************************************** | [10, 15) (18049) (29.43%) |
| 6 | Ujjini | [15, Max] (11527) (18.8%) |
| |) | Rayadrug |
| NH48 SUS | Jagalur | Kaly |
| Tuminkatti Da | re | · }7 |
| Malebennur | A CONTRACTOR | Challakere |
| Honnali | Majikonda | Parasurampur |
| 10 | | (justime, |
| 126 | E9 IN | 64 |
| 120 | | ymangala |
| Channa | giri Hol an ke | NH AH47 |
| JEST TO THE PARTY OF THE PARTY | | |
| vamogga | | Hiriyur NH48 |
| | | |

| Overall Rx Quality | # Samples | % PDF |
|--------------------|-----------|-------|
| (Min, <=2) | 23919 | 72.61 |
| (2, <=3) | 2253 | 6.84 |
| (3 , <=4) | 1660 | 5.04 |
| (4 , <=5) | 2455 | 7.45 |
| (5 , <=Max) | 2656 | 8.06 |
| Total | 32943 | 100 |

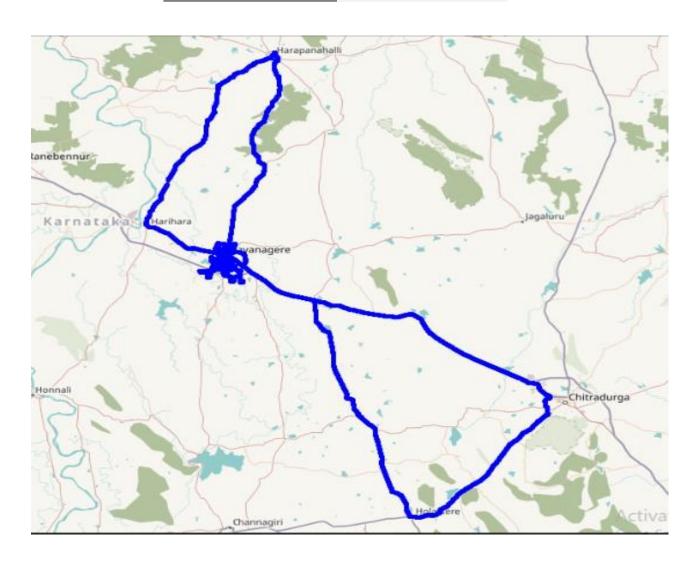
| Overall SINR | # Samples | % PDF |
|--------------|-----------|-------|
| (Min, <=0) | 2837 | 4.63 |
| (0, <=5) | 12097 | 19.72 |
| (5, <=10) | 16819 | 27.42 |
| (10, <=15) | 18049 | 29.43 |
| (15, <=Max) | 11527 | 18.8 |
| Total | 61329 | 100 |

| TSP | Percentage of time spent on 3G/4G/4G |
|-----------|--------------------------------------|
| Airtel 4G | 100 |
| BSNL 3G | 66.8 |
| Jio 4G | 100 |
| VIL 4G | 100 |



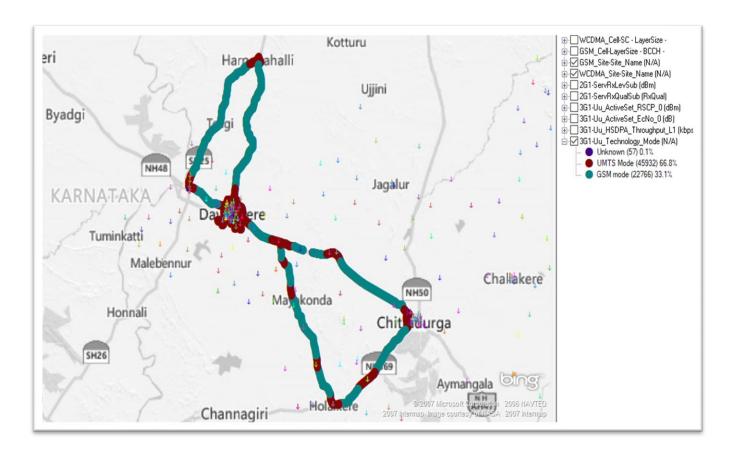
Airtel

| Technology | Time Spent on 4G |
|------------|------------------|
| 2G | 100 |



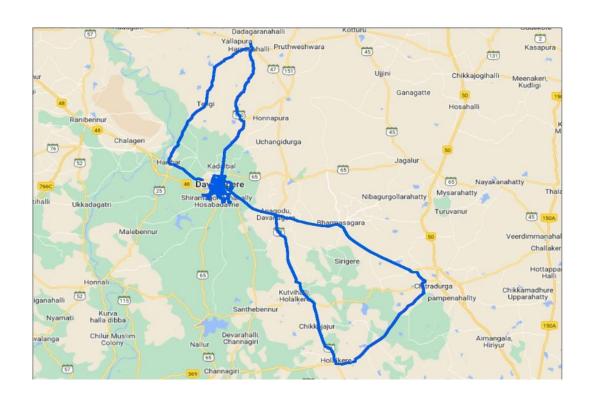
BSNL

| Technology | Time Spent |
|------------|------------|
| 3G | 66.80 |



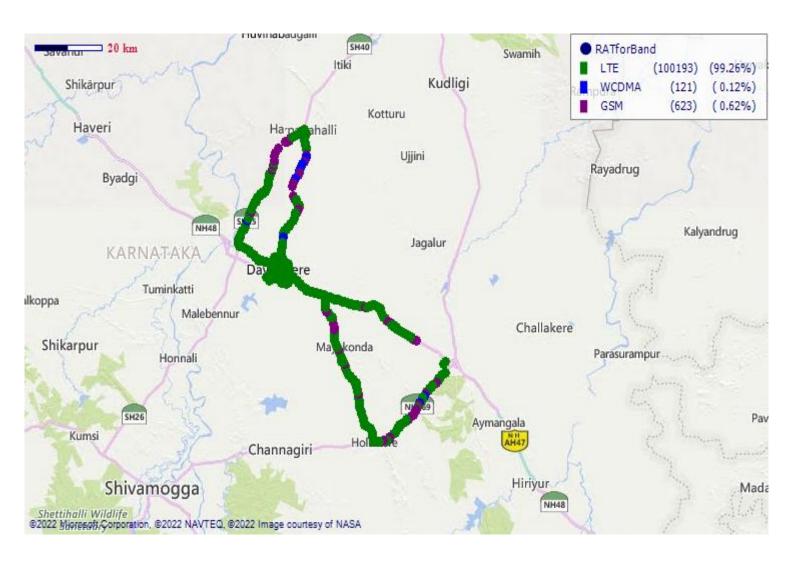
JIO

| Technology | Time Spent | |
|------------|------------|--|
| 4G | 100 | |



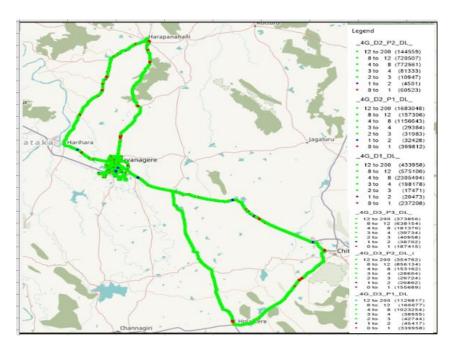
VIL

| Technology | Time Spent |
|------------|------------|
| 4G | 100 |

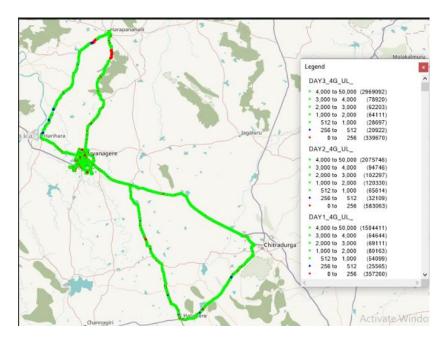


IV. Dynamic Data Test(Data Test on Move)- 4G DL/UL Details

Airtel



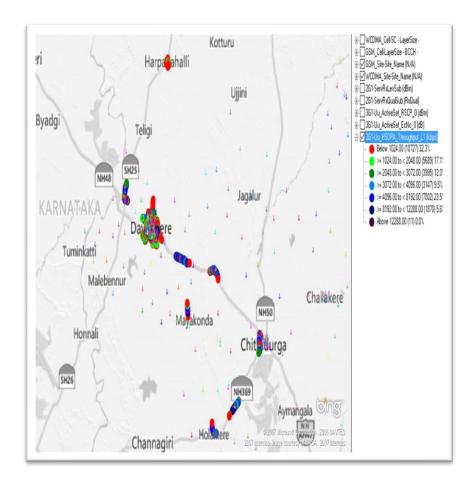
| DL throughput | No. of Samples | % |
|---------------|-------------------|-------|
| 0 to 1 Mbps | 1380605 | 9.23 |
| 1 to 2 Mbps | 168383 | 1.13 |
| 2 to 3 Mbps | 173827 | 1.16 |
| 3 to 4 Mbps | 416188 | 2.78 |
| 4 to 8 Mbps | 5592394 | 37.37 |
| 8 to 12 Mbps | 3113884 | 20.81 |
| >12 Mbps | 4120000 | 27.53 |
| Total | 14965281 | 100 |



| UL throughput | No. of samples | % |
|----------------------|----------------|------|
| 0 to 0.256 Mbps | 1279993 | 14.6 |
| 0.256 to 0.512 Mbps | 78596 | 0.9 |
| 0.512 Mbps to 1 Mbps | 148410 | 1.7 |
| 1 to 2 Mbps | 264604 | 3.0 |
| 2 to 3 Mbps | 233611 | 2.7 |
| 3 to 4 Mbps | 238310 | 2.7 |
| >4Mbps | 6549249 | 74.5 |
| Total | 8792773 | 100 |

IV. Dynamic DataTest(Data Test on Move)-3G DL/UL Details

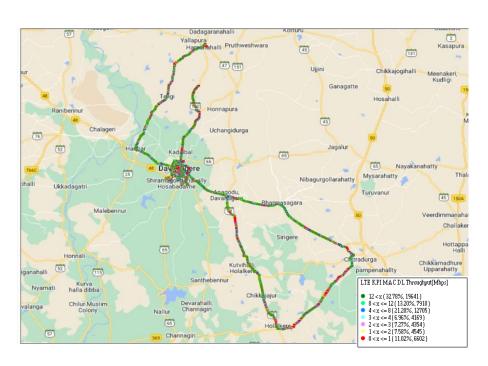
BSNL



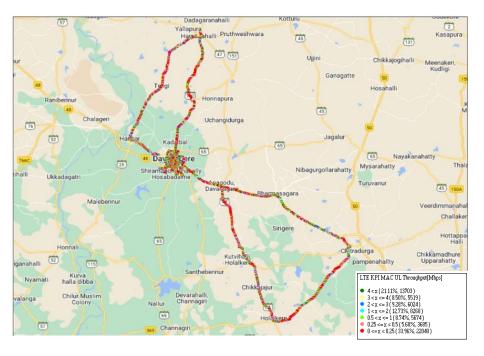
| DL throughput | No. of Samples | % |
|------------------|-------------------|------|
| 0 to 1 Mbps | 10727 | 32.3 |
| 1 to 2 Mbps | 5689 | 17.1 |
| 2 to 3 Mbps | 3995 | 12 |
| 3 to 4 Mbps | 3147 | 9.5 |
| 4 to 8 Mbps | 7802 | 23.5 |
| 8 to 12 Mbps | 1870 | 5.6 |
| >12 Mbps | 11 | 0 |
| Total | 33241 | 100 |

IV. Dynamic DataTest(Data Test on Move)-4G DL/UL Details

JIO



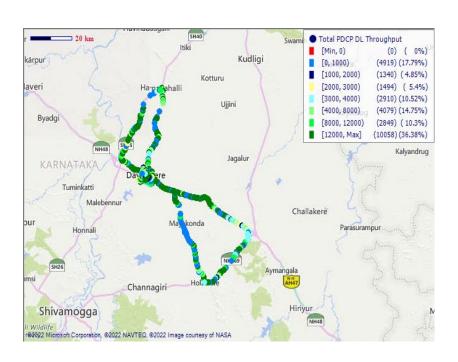
| DL throughput | No. of Samples | % |
|---------------|----------------|-------|
| | | |
| 0 to 1 Mbps | 6602 | 11.02 |
| 1 to 2 Mbps | 4545 | 7.58 |
| 2 to 3 Mbps | 4354 | 7.27 |
| 3 to 4 Mbps | 4169 | 6.96 |
| 4 to 8 Mbps | 12705 | 21.20 |
| 8 to 12 Mbps | 7910 | 13.20 |
| >12 Mbps | 19641 | 32.78 |
| Total | 59926 | 100 |



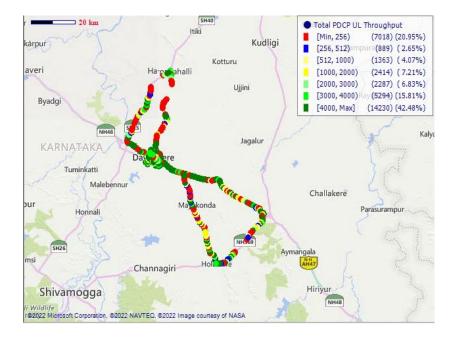
| | No. of | |
|--------------------|---------|-------|
| Upload throughput | samples | % |
| | | |
| 0 to 256 kbps Mbps | 22040 | 33.96 |
| 250 to 512 kbps | 3685 | 5.68 |
| 512 Kbps to 1 Mbps | 5674 | 8.74 |
| 1 to 2 Mbps | 8260 | 12.73 |
| 2 to 3 Mbps | 6024 | 9.28 |
| 3 to 4 Mbps | 5519 | 8.50 |
| >4Mbps | 13703 | 21.11 |
| Total | 64905 | 100 |

IV. Dynamic Data Test(Data Test on Move)-4G DL/UL Details

VIL



| DL throughput | No. of Samples | % |
|---------------|----------------|-------|
| 0 to 1 Mbps | 4919 | 17.79 |
| 1 to 2 Mbps | 1340 | 4.85 |
| 2 to 3 Mbps | 1494 | 5.4 |
| 3 to 4 Mbps | 2910 | 10.52 |
| 4 to 8 Mbps | 4079 | 14.75 |
| 8 to 12 Mbps | 2849 | 10.3 |
| >12 Mbps | 10058 | 36.38 |
| Total | 27649 | 99.99 |



| | No. of | |
|--------------------------|---------|-------|
| Upload throughput | samples | % |
| | | |
| 0 to 256 kbps Mbps | 7018 | 20.95 |
| 250 to 512 kbps | 889 | 2.65 |
| 512 Kbps to 1 Mbps | 1363 | 4.07 |
| 1 to 2 Mbps | 2414 | 7.21 |
| 2 to 3 Mbps | 2287 | 6.83 |
| 3 to 4 Mbps | 5294 | 15.81 |
| >4Mbps | 14230 | 42.48 |
| Total | 33495 | 100 |

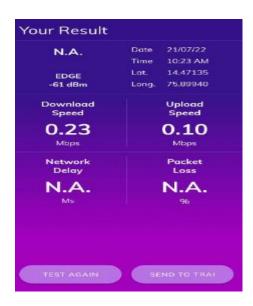
V. TRAI MySpeed App Test Details-2G

| Techology-2G | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|----------------|------------|------------|------------|------------|------------|------------|
| Download Speed | 0.23 | 0.16 | 0.19 | 0.25 | 0.2 | 0.18 |
| Upload Speed | 0.1 | 0.15 | 0.11 | 0.12 | 0.13 | 0.12 |
| Latency | N.A | N.A | N.A | N.A | N.A | N.A |

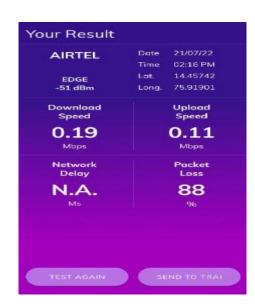
Sub Registrar-Davanagere

RTO -Davanagere

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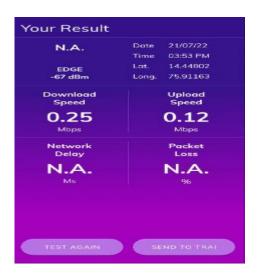


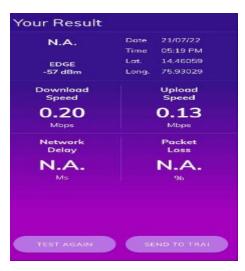


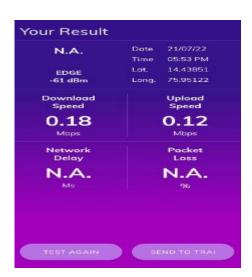
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KSRTC Bus Stand - Davanagere

Jain Institute Of Tech -Davanagere







Airtel

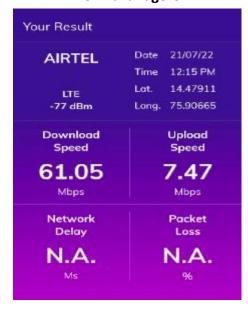
V. TRAI MySpeed App Test Details-4G

| Techology- 4G/VoLTE | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|------------------------|------------|------------|------------|------------|------------|------------|
| Download Speed | 22.22 | 61.05 | 55.03 | 29.32 | 40.74 | 18.15 |
| Upload Speed | 8.23 | 7.47 | 8.06 | 25.84 | 8.49 | 5.5 |
| Latency | N.A | N.A | N.A | N.A | N.A | N.A |

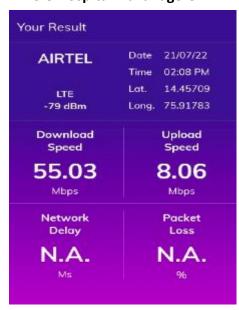
Sub Registrar-Davanagere



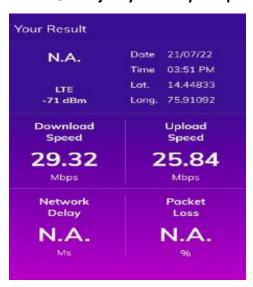
RTO -Davanagere



C G Hospital-Davanagere



Sri Anjaneya Swamy Temple



KSRTC Bus Stand - Davanagere



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| AIRTEL | Date 21/07/22 |
|----------|----------------|
| | Time 06:00 PM |
| LTE | Lat. 14.43576 |
| -87 dBm | Long. 75,95843 |
| Download | Upload |
| Speed | Speed |
| 18.15 | 5.50 |
| Mbps | Mbps |
| Network | Packet |
| Delay | Loss |
| N.A. | N.A. |
| Ms | 96 |

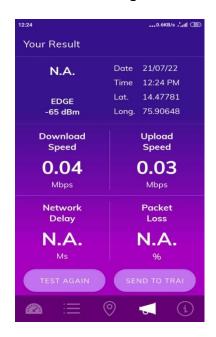
V. TRAI MySpeed App Test Details-2G

| Technology - 2G / GSM | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|------------------------|------------|------------|------------|------------|------------|------------|
| Download Speed in Mbps | 0.09 | 0.04 | 0.08 | 0.03 | 0.07 | 0.03 |
| Upload Speed in Mbps | 0.06 | 0.03 | 0.07 | 0.01 | 0.04 | 0.02 |
| Latency | NA | NA | NA | NA | NA | NA |

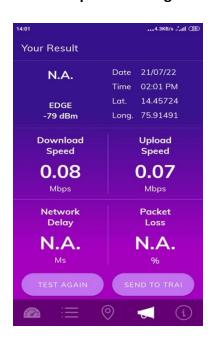
Sub Registrar-Davanagere



RTO -Davanagere



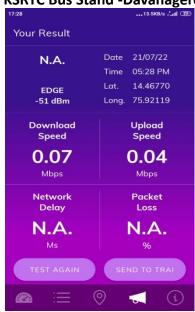
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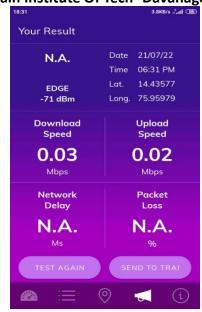
Sri Anjaneya Swamy Temple



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Jain Institute Of Tech -Davanagere



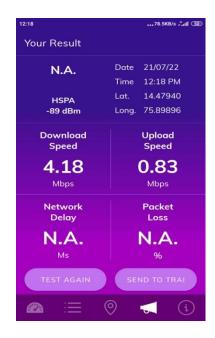
V. TRAI MySpeed App Test Details-3G

| Technology - 3G / UMTS | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|------------------------|------------|------------|------------|------------|------------|------------|
| Download Speed in Mbps | 2.09 | 4.18 | 3.70 | 1.76 | 2.12 | 1.20 |
| Upload Speed in Mbps | 1.32 | 0.83 | 1.55 | 0.30 | 1.55 | 0.20 |
| Latency | NA | NA | NA | NA | NA | NA |

Sub Registrar-Davanagere



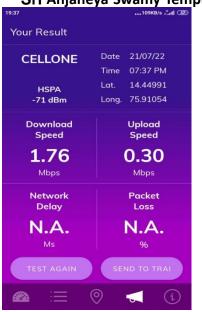
RTO -Davanagere



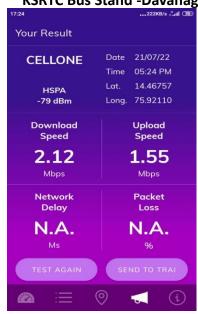
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V. TRAI My Speed App Test Details-4G

| Techology-4G/VoLTE | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|--------------------|------------|------------|------------|------------|------------|------------|
| Download Speed | 27.83 | 19.68 | 9.91 | 27.73 | 25.30 | 20.01 |
| Upload Speed | 6.54 | 8.94 | 6.19 | 4.70 | 6.57 | 22.57 |
| Latency | 40.1 | 38.1 | 48.3 | 37.4 | 34.6 | 27.3 |

Sub Registrar-Davanagere

| JIO | Date 21/0 | 7/22 |
|-------------------|-------------|------|
| | Time 10:49 | MA 6 |
| LTE | Lat. 14.4 | 7138 |
| -92 dBm | Long. 75.89 | 9927 |
| Download Speed | Uplo Spe | |
| 27.83 | 6.5 | 54 |
| Mbps | Mb | |
| Network | Pac | |
| Delay | Lo | ss |
| 40.1 | 0 | |
| Ms | 96 | |

RTO -Davanagere

| JIO | Date 21/07/22 Time 12:03 PM |
|-------------------|---------------------------------|
| LTE -78 dBm | Lat. 14.47801 Long. 75.90649 |
| Download Speed | Upload Speed |
| 19.68 | 8.94 |
| Mbps | Mbps |
| Network Delay | Packet Loss |
| 38.1 | 0 |
| Ms | % |

C G Hospital-Davanagere

| JIO | Date 21/07/22 |
|-------------------|--------------------------------|
| | Time 02:10 PN Lat. 14.45849 |
| LTE -86 dBm | Long. 75.91760 |
| Download Speed | Upload Speed |
| 9.91 | 6.19 |
| Mbps | Mbps |
| Network Delay | Packet Loss |
| 48.3 | 0 |
| Ms | % |

Sri Anjaneya Swamy Temple

| JIO | Date | 21/07/22 03:30 PM |
|-------------------|--------------|----------------------|
| LTE | Time Lat. | 14.44853 |
| -74 dBm | Long. | 75.91115 |
| Download Speed | | Upload Speed |
| 27.73 | | 4.70 |
| Mbps | | Mbps |
| Network Delay | | Packet Loss |
| 37.4 | | 0 |
| Ms | | % |

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| JIO | Date 21/07/22 |
|-------------------|-----------------|
| | Time 04:35 PM |
| LTE | Lat. 14.46032 |
| -79 dBm | Long. 75.93063 |
| Download Speed | Upload Speed |
| | |
| 25.30 | 6.57 |
| Mbps | Mbps |
| Network | Packet |
| Delay | Loss |
| 34.6 | 0 |
| Ms | % |

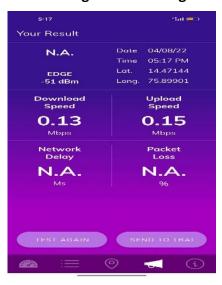
Jain Institute Of Tech -Davanagere

| JIO | Date 21/ | 07/22 |
|---|-----------|-------------|
| 11 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Time 05: | 56 PM |
| LTE | Lat. 14. | 43232 |
| -67 dBm | Long. 75. | 96066 |
| Download Speed | | load eed |
| 20.01 | | .57 |
| | | |
| Mbps | M | bps |
| Network | Pa | cket |
| Delay | L | oss |
| 27.3 | | 0 |
| Ms | | % |

V. TRAI MySpeed App Test Details-2G

| Techology-2G/GSM | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|----------------------|------------|------------|------------|------------|------------|------------|
| Download Speed(Mbps) | 0.13 | 0.19 | 0.22 | 0.20 | 0.20 | 0.26 |
| Upload Speed(Mbps) | 0.15 | 0.17 | 0.22 | 0.20 | 0.10 | 0.20 |
| Latency | NA | NA | NA | NA | NA | NA |

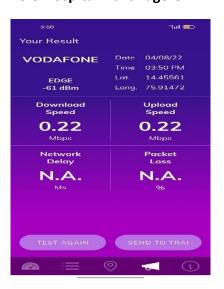
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V. TRAI My Speed App Test Details-4G

| Techology-4G/VoLTE | Location 1 | Location 2 | Location 3 | Location 4 | Location 5 | Location 6 |
|--------------------|------------|------------|------------|------------|------------|------------|
| Download Speed | 10.28 | 10.38 | 11.18 | 16.96 | 36.67 | 30.74 |
| Upload Speed | 6.55 | 3.49 | 16.33 | 10.36 | 12.46 | 14.53 |
| Latency | NA | NA | NA | NA | NA | NA |

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RTO -Davanagere



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Sri Anjaneya Swamy Temple



KSRTC Bus Stand -Davanagere



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