

| S. #. | Operator | Motorways / Highways / Inter Cities Roads | |
|-------|----------|---|---|
| | | Count | Names |
| | | | to Mirpur Khas, Karachi to Nawabshah, Sukkur to Nawabshah, Sukkur to Larkana |
| 4. | ZonG | 16 | GT Road Peshawar to Rawalpindi, Rawalpindi to Attock, Rawalpindi to Chakwal, Lahore to Mianwali, Lahore to Narowal, Lahore to Pattoki, Lahore to Multan, Multan to Abdul Hakeem, Multan to Bahawalpur, Multan to Kot Addu, Hyderabad to Badin, Hyderabad to Mirpur Khas, Karachi to Nawabshah, Karachi to Sanghar, Sukkur to Nawabshah, Sukkur to Larkana |

Table 6.3: Compliance of SMS End-To-End Delivery Time \leq 12 Seconds

- ii. **NON-COMPLIANCE.** The Motorways / Highways / Inter Cities Roads where CMOs remained non-compliant is mentioned in **Table 6.4: Non-Compliance of SMS End-To-End Delivery Time \leq 12 Seconds.**

| S. #. | Operator | Motorways / Highways / Inter Cities Roads | |
|-------|----------|---|--|
| | | Count | Names |
| 1. | Jazz | 3 | Lahore to Narowal, Lahore to Multan, Karachi to Sanghar |
| 2. | Telenor | 7 | GT Road Peshawar to Rawalpindi, Rawalpindi to Attock, Rawalpindi to Chakwal, Lahore to Mianwali, Lahore to Narowal, Multan to Bahawalpur, Multan to Kot Addu |
| 3. | Ufone | 7 | GT Road Peshawar to Rawalpindi, Rawalpindi to Chakwal, Lahore to Narowal, Lahore to Pattoki, Lahore to Multan, Hyderabad to Badin, Karachi to Sanghar |

Table 6.4: Non-Compliance of SMS End-To-End Delivery Time \leq 12 Seconds

SURVEY MAPS & GRAPHICAL RESULTS

7.1 The 4G/LTE Signal Strength (RSRP) samples recorded during drive test on survey routes plotted on maps along-with Voice & SMS QoS KPIs survey results in graphical form are placed at **Annex-A, Annex-B & Annex-C** on Motorways / Highways and Inter-Cities Roads of Punjab, Sindh & Khyber Pakhtunkhwa respectively.

STANDING IN SURVEY

8.1. CMOs have been prioritized/ placed at 1st, 2nd, 3rd & 4th position in each category i.e. Mobile Network Coverage, Mobile Broadband Service, Voice Service and SMS Service, based upon the compliance level against each QoS KPI in each category in surveyed Motorways / Highways / Inter Cities Roads.

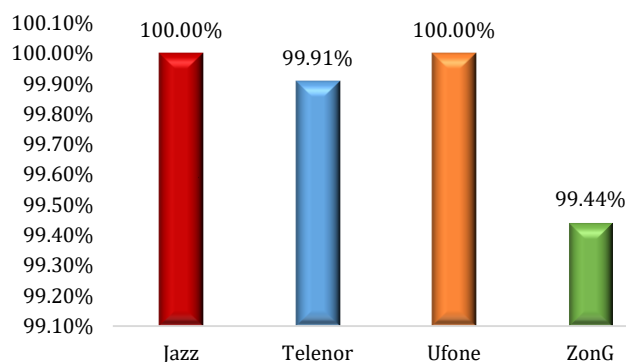
- a. **MOBILE NETWORK COVERAGE.** The categorization of CMOs as per QoS KPI i.e. Signal Strength of 4G/LTE and 3G Networks on Surveyed Motorways / Highways and Inter Cities Roads is shown in **Table 8.1: CMOs Standing in Mobile Network Coverage.**

| S. #. | Operator | Compliance Level – Number of Motorways / Highways / Inter Cities Roads | | Standing |
|-------|----------|--|---------------|-----------------|
| | | Compliant | Non-Compliant | |
| 1. | ZonG | 28 | 4 | 1 st |
| 2. | Jazz | 22 | 10 | 2 nd |
| 3. | Telenor | 20 | 12 | 3 rd |
| 4. | Ufone | 19 | 13 | 4 th |

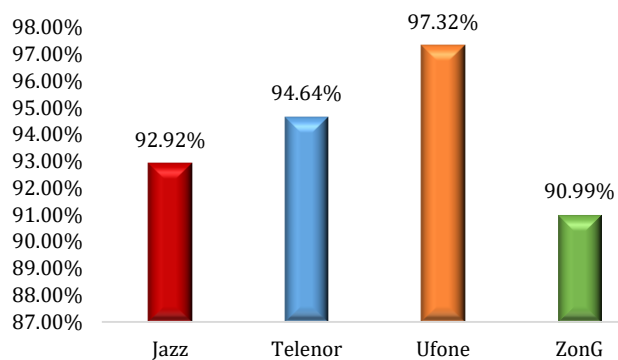
Table 8.1: CMOs Standing in Mobile Network Coverage

QUALITY OF SERVICE SURVEY RESULTS – LAHORE TO MIANWALI

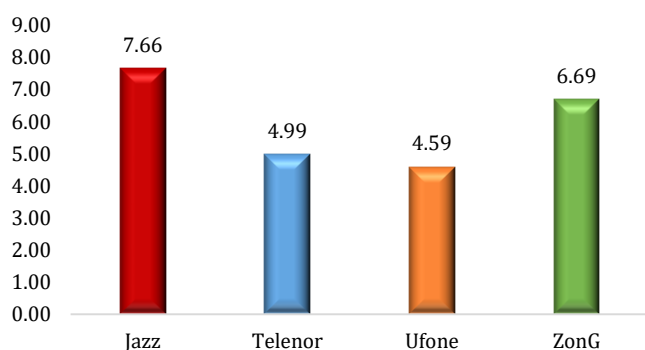
Network Accessibility > 99%



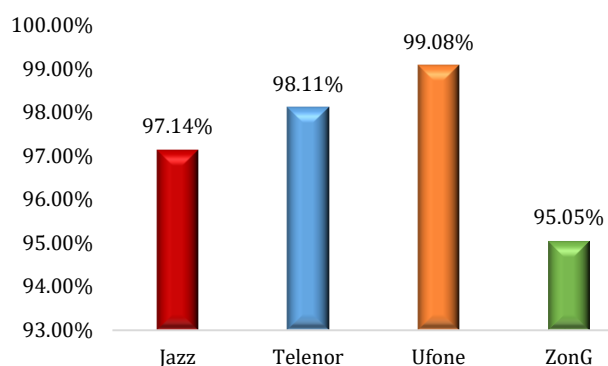
Service Accessibility > 98%



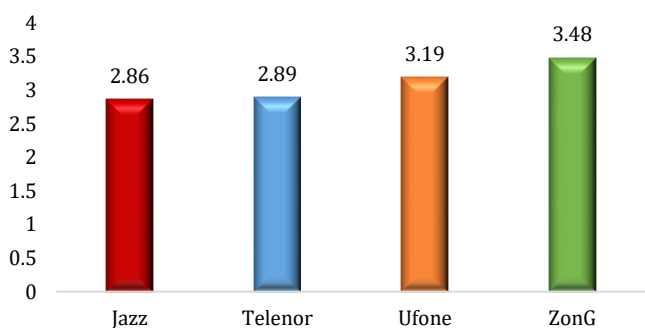
Call Connection Time < 6.5 Seconds



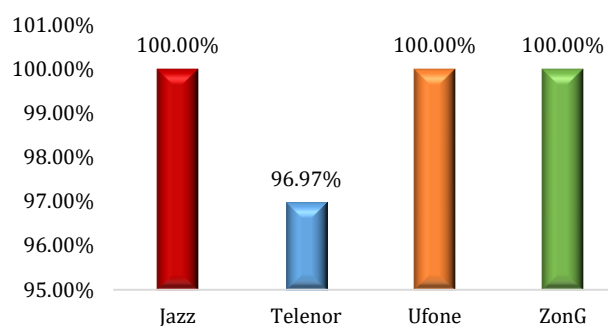
Call Completion Ratio > 98%



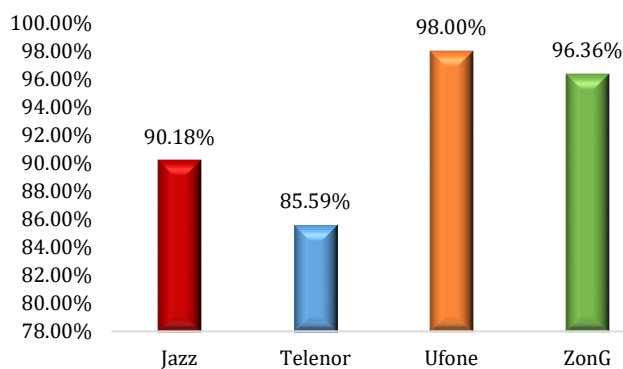
Mean Opinion Score > 3



ISHO for Circuit Switched Voice > 98%



SMS Success Rate > 99%



SMS End-to-End Delivery Time < 12 Seconds

