

MOBILE BROADBAND SERVICE

4.1. **DATA SESSIONS IN TECHNOLOGY AUTO DETECT MODE.** A series of data tests including Capacity Tests, Data Transfer Tests, Web Browsing and Ping were carried out wherein Key Performance Indicators (KPIs) of Upload and Download User Data Throughput (i.e. Speed), Webpage Loading Time and Latency have been measured. In Fixed Duration Testing, a File of 10GB was downloaded and Uploaded for 3 minutes duration whereas in Fixed Size Testing, a File of 5MB and 2MB was completely downloaded and uploaded respectively. In order to measure Webpage Loading Time, different webpages were checked and in case of Latency, different website(s) were pinged to measure Round Trip Time (RTT)/Latency. The 4G/LTE and 3G signal strengths, Number of Tests, Upload and Download User Data Throughput, Webpage Loading Time and Latency detail is mentioned in **Table 4.1: Data Tests Statistics**.

| DESCRIPTION | | | | JAZZ | TELENOR | UFONE | ZONG | |
|---------------------------------------|--------------------|------------------------|--------------|--------|---------|--------|--------|-------|
| AUTO DETECT MODE | CAPACITY TEST | DOWNLOAD | ATTEMPTS | 6409 | 6368 | 6393 | 6414 | |
| | | | SPEED (Mbps) | 22.727 | 6.379 | 10.695 | 23.747 | |
| | | UPLOAD | ATTEMPTS | 6420 | 6382 | 6404 | 6423 | |
| | | | SPEED (Mbps) | 22.341 | 6.1 | 17.565 | 19.809 | |
| | DATA TRANSFER TEST | DOWNLOAD | ATTEMPTS | 6271 | 6388 | 6160 | 6429 | |
| | | | SPEED (Mbps) | 9.995 | 5.62 | 7.41 | 9.924 | |
| | | UPLOAD | ATTEMPTS | 6452 | 6422 | 6434 | 6453 | |
| | | | SPEED (Mbps) | 5.802 | 3.865 | 5.578 | 5.718 | |
| | BROWSING TEST | ATTEMPTS | | | 25687 | 25578 | 25597 | 25717 |
| | | LOADING TIME (Seconds) | | | 3.35 | 3.52 | 3.67 | 3.3 |
| | PING TEST | ATTEMPTS | | | 6469 | 6458 | 6458 | 6469 |
| | | LATENCY (msec) | | | 106.36 | 64.99 | 62.45 | 79.4 |
| AVERAGE 4G SIGNAL STRENGTH (RSRP) dBm | | | | -81.2 | -85.2 | -80.4 | -79.4 | |
| AVERAGE 3G SIGNAL STRENGTH (RSCP) dBm | | | | -83.26 | -78.09 | -75.22 | -82.55 | |

Table 4.1: Data Tests Statistics

4.2. **DOWNLOAD USER DATA THROUGHPUT.** As per Next Generation Mobile Service (NGMS) licenses, licensees are required to meet the threshold of minimum of 3Mbps of 4G/LTE & 512Kbps of 3G Download User Data Throughput. The results of Data Service QoS KPI i.e. Download User Data Throughput are shown in (i). **Table 4.2: Download User Data Throughput Technology Auto Detect Mode [Fixed Duration] \geq 3Mbps**, (ii). **Table 4.3: Download User Data Throughput Technology Auto Detect Mode [Fixed Size] \geq 3Mbps**,

| DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION) | | | | | | | | |
|---|--------------------------------------|---------|-------|-------|-------------------|---------|--------|--------|
| City | Download User Data Throughput [Mbps] | | | | Operator Position | | | |
| | Jazz | Telenor | Ufone | ZonG | Jazz | Telenor | Ufone | ZonG |
| UPPER DIR | 13.11 | 2.33 | 21.04 | 14.27 | Third | Fourth | First | Second |
| LARKANA | 19.08 | 5.57 | 7.38 | 23.37 | Second | Fourth | Third | First |
| LAHORE | 17.37 | 9.76 | 13.62 | 33.34 | Second | Fourth | Third | First |
| KHAIRPUR | 16.75 | 12.34 | 6.81 | 22.88 | Second | Third | Fourth | First |
| KAHROR PACCA | 17.62 | 13.51 | 5.35 | 21.17 | Second | Third | Fourth | First |
| SHAHKOT | 22.06 | 6.67 | 16.20 | 18.08 | First | Fourth | Third | Second |
| GUJAR KHAN | 28.30 | 2.20 | 11.12 | 28.56 | Second | Fourth | Third | First |
| WAH/ TAXILA | 22.35 | 2.23 | 13.55 | 20.85 | First | Fourth | Third | Second |
| RAWALPINDI | 30.89 | 4.33 | 8.96 | 21.62 | First | Fourth | Third | Second |
| BUNER | 30.44 | 2.29 | 3.45 | 16.87 | First | Fourth | Third | Second |
| JACOBABAD | 23.70 | 10.99 | 10.03 | 23.66 | First | Third | Fourth | Second |

| DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION) | | | | | | | | |
|---|--------------------------------------|---------|-------|-------|-------------------|---------|--------|--------|
| City | Download User Data Throughput [Mbps] | | | | Operator Position | | | |
| | Jazz | Telenor | Ufone | ZonG | Jazz | Telenor | Ufone | ZonG |
| SUJAWAL | 35.88 | 3.75 | 27.37 | 29.90 | First | Fourth | Third | Second |
| MITHI | 30.56 | 4.11 | 11.33 | 36.56 | Second | Fourth | Third | First |
| ABBOTTABAD | 21.49 | 4.03 | 7.54 | 20.56 | First | Fourth | Third | Second |
| SHUJABAD | 18.03 | 8.66 | 2.02 | 30.38 | Second | Third | Fourth | First |
| SWABI | 23.63 | 2.02 | 5.39 | 14.21 | First | Fourth | Third | Second |
| MURIDKE | 20.61 | 10.40 | 13.45 | 24.98 | Second | Fourth | Third | First |

Table4.2: Download User Data Throughput Technology Auto Detect Mode [Fixed Duration] \geq 3Mbps

| DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED SIZE) | | | | | | | | |
|---|--------------------------------------|---------|-------|-------|-------------------|---------|--------|--------|
| City | Download User Data Throughput [Mbps] | | | | Operator Position | | | |
| | Jazz | Telenor | Ufone | ZonG | Jazz | Telenor | Ufone | ZonG |
| UPPER DIR | 7.00 | 4.50 | 10.29 | 9.07 | Third | Fourth | First | Second |
| LARKANA | 11.83 | 5.52 | 6.05 | 11.28 | First | Fourth | Third | Second |
| LAHORE | 10.40 | 7.47 | 10.28 | 14.39 | Second | Fourth | Third | First |
| KHAIRPUR | 9.14 | 8.73 | 6.62 | 11.90 | Second | Third | Fourth | First |
| KAHROR PACCA | 10.70 | 9.19 | 5.73 | 13.00 | Second | Third | Fourth | First |
| SHAHKOT | 12.78 | 6.46 | 11.27 | 10.13 | First | Fourth | Second | Third |
| GUJAR KHAN | 13.40 | 3.83 | 7.58 | 12.08 | First | Fourth | Third | Second |
| WAH/ TAXILA | 11.13 | 3.51 | 8.73 | 10.76 | First | Fourth | Third | Second |
| RAWALPINDI | 13.17 | 4.89 | 7.60 | 11.45 | First | Fourth | Third | Second |
| BUNER | 11.67 | 3.25 | 4.70 | 8.43 | First | Fourth | Third | Second |
| JACOBABAD | 13.22 | 7.57 | 7.64 | 11.59 | First | Fourth | Third | Second |
| SUJAWAL | 15.45 | 3.45 | 14.53 | 13.85 | First | Fourth | Second | Third |
| MITHI | 13.57 | 5.30 | 8.31 | 10.95 | First | Fourth | Third | Second |
| ABBOTTABAD | 10.9 | 4.9 | 6.7 | 10.5 | First | Fourth | Third | Second |
| SHUJABAD | 10.8 | 7.0 | 3.4 | 14.9 | Second | Third | Fourth | First |
| SWABI | 11.6 | 3.6 | 5.4 | 8.5 | First | Fourth | Third | Second |
| MURIDKE | 10.5 | 7.3 | 8.9 | 12.4 | Second | Fourth | Third | First |

Table4.3: Download User Data Throughput Technology Auto Detect Mode [Fixed Size] \geq 3Mbps

4.3. **UPLOAD USER DATA THROUGHPUT.** As per Cellular Mobile Network Quality of Service (QoS) Regulations 2021, licensees are required to meet the threshold of minimum of 786Kbps of 4G/LTE & 128Kbps of 3G of Upload User Data Throughput. The results of Data Service QoS KPI i.e. Upload User Data Throughput is shown in (i). Table 4.4: Upload User Data Throughput Technology Auto Detect Mode [Fixed Duration] \geq 768Kbps, (ii). Table 4.5: Upload User Data Throughput Technology Auto Detect Mode [Fixed Size] \geq 768Kbps,

| UPLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION) | | | | | | | | |
|---|------------------------------------|---------|----------|----------|-------------------|---------|--------|--------|
| City | Upload User Data Throughput [Kbps] | | | | Operator Position | | | |
| | Jazz | Telenor | Ufone | ZonG | Jazz | Telenor | Ufone | ZonG |
| UPPER DIR | 9507.45 | 3170.27 | 17244.33 | 13612.93 | Third | Fourth | First | Second |
| LARKANA | 24512.48 | 4702.53 | 20062.1 | 23229.12 | First | Fourth | Third | Second |
| LAHORE | 23461.84 | 8847.7 | 20101.42 | 22446.8 | First | Fourth | Third | Second |
| KHAIRPUR | 24993.93 | 6974.67 | 17714.76 | 23106.16 | First | Fourth | Third | Second |
| KAHROR PACCA | 30147.08 | 5254.37 | 12927.14 | 19185.98 | First | Fourth | Third | Second |
| SHAHKOT | 28517.78 | 4735.65 | 19663.35 | 24699.69 | First | Fourth | Third | Second |
| GUJAR KHAN | 29127.13 | 6331.51 | 20642.18 | 18486.91 | First | Fourth | Second | Third |
| WAH/ TAXILA | 20938.3 | 6911.5 | 21533.72 | 18357.29 | Second | Fourth | First | Third |
| RAWALPINDI | 23112.06 | 6676.87 | 18659.59 | 19165.98 | First | Fourth | Third | Second |