

Table 4.8: Upload User Data Throughput in 4G Technology Locked Mode [Fixed Duration] \geq 768 Kbps

UPLOAD USER DATA THROUGHPUT IN 3G TECHNOLOGY LOCKED MODE (FIXED DURATION)								
Road	Upload Data Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Quetta to Zhob</i>	997.71	1890.55	2742.63	1196.13	Fourth	Second	First	Third
<i>Lahore to Sargodha</i>	654.73	1218.52	1783.34	634.46	Third	Second	First	Fourth
<i>Lahore to Rawalpindi</i>	724.45	1174.63	2345.99	608.85	Third	Second	First	Fourth
<i>Lahore to Multan</i>	1225.36	1224.81	1846.35	760.84	Second	Third	First	Fourth
<i>Islamabad to Kohat</i>	1322.19	1127.62	1515.2	847.25	Second	Third	First	Fourth
<i>Mianwali to Bakhar</i>	870.66	1105.53	1158.63	847.64	Third	Second	First	Fourth
<i>Isamabad to D.I Khan</i>	913.48	1040.11	1698.64	338.79	Third	Second	First	Fourth
<i>T.M Panah to J. Pirwala</i>	1776.22	2236.29	1173.86	665.92	Second	First	Third	Fourth
<i>Kot Sabzal to Multan</i>	1482.14	2305.9	1889.79	892.19	Third	First	Second	Fourth
<i>Chakdara to Kalam</i>	1151.39	917.79	1277.26	1651.27	Third	Fourth	Second	First
<i>Khuazakhela to Behsam</i>	322.8	975.77	2184.98	1761.51	Fourth	Third	First	Second
<i>Peshawer to DG Khan</i>	1007.85	1417.77	2184.26	1447.54	Fourth	Third	First	Second

Table 4.9: Upload User Data Throughput in 3G Technology Locked Mode [Fixed Duration] \geq 128 Kbps

4.4. **WEBPAGE LOADING TIME.** As per Cellular Mobile Network Quality of Service (QoS) Regulations 2021, licensees are required to meet Webpage Loading Time threshold of 5 Seconds. The results of Webpage Loading Time is shown in **Table 4.10: Webpage Loading Time < 5 Seconds.**

WEBPAGE LOADING TIME IN TECHNOLOGY AUTO DETECT MODE ON ROADS								
Road	Webpage Loading Time (Sec)				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Quetta to Zhob</i>	6.3	6.5	6.3	6.4	No	No	No	No
<i>Zhob to Quetta</i>	6.2	6.7	7.3	6.5	No	No	No	No
<i>Lahore to Sargodha</i>	5.8	7.0	5.3	5.6	No	No	No	No
<i>Lahore to Rawalpindi</i>	5	7	6	5	Yes	No	No	Yes
<i>Lahore to Multan</i>	6	7	6	6	No	No	No	No
<i>Islamabad to Kohat</i>	5.5	7.1	6.5	6.2	No	No	No	No
<i>Mianwali to Bakhar</i>	5.9	6.7	6.6	5.3	No	No	No	No
<i>Isamabad to D.I Khan</i>	6.1	7.2	6.6	6.1	No	No	No	No
<i>T.M Panah to J. Pirwala</i>	7.1	7.7	7.3	7.1	No	No	No	No
<i>Kot Sabzal to Multan</i>	6.5	7.1	6.8	6.1	No	No	No	No
<i>Chakdara to Kalam</i>	6.6	8.2	6.9	6.3	No	No	No	No
<i>Khuazakhela to Behsam</i>	6.2	7.7	6.5	5.9	No	No	No	No
<i>Peshawer to DG Khan</i>	6.6	7.7	7.5	6.6	No	No	No	No

Table 4.10: Webpage Loading Time < 5 Seconds

4.5. **LATENCY.** As per Cellular Mobile Network Quality of Service (QoS) Regulations 2021, licensees are required to meet threshold of 75 milliseconds of 4G/LTE Technology & 150 milliseconds of 3G Technology of Latency. The results of QoS KPI Latency is shown in (i). **Table 4.11: Latency in Technology Auto Detect Mode < 75 milliseconds,** (ii). **Table 4.12: Latency in 4G/LTE Technology Locked Mode < 75 milliseconds & (iii) Table 4.13: Latency in 3G Technology Locked Mode < 150 milliseconds.**

LATENCY IN TECHNOLOGY AUTO DETECT MODE								
Road	Latency (milliseconds)				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Quetta to Zhob</i>	326	280	252	290	No	No	No	No
<i>Zhob to Quetta</i>	292	299	394	228	No	No	No	No
<i>Lahore to Sargodha</i>	261	234	217	225	No	No	No	No

LATENCY IN TECHNOLOGY AUTO DETECT MODE								
Road	Latency (milliseconds)				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Lahore to Rawalpindi</i>	255	242	221	223	No	No	No	No
<i>Lahore to Multan</i>	242	237	304	239	No	No	No	No
<i>Islamabad to Kohat</i>	243	246	257	295	No	No	No	No
<i>Mianwali to Bakhar</i>	337	262	307	268	No	No	No	No
<i>Isamabad to D.I Khan</i>	255	342	285	314	No	No	No	No
<i>T.M Panah to J. Pirwala</i>	242	243	319	218	No	No	No	No
<i>Kot Sabzal to Multan</i>	232	220	319	211	No	No	No	No
<i>Chakdara to Kalam</i>	280	238	262	223	No	No	No	No
<i>Khuazakhela to Behsam</i>	588	266	471	270	No	No	No	No
<i>Peshawer to DG Khan</i>	269	260	308	246	No	No	No	No

Table 4.11: Latency in Technology Auto Detect Mode < 75 milliseconds

LATENCY IN 4G/LTE TECHNOLOGY LOCKED MODE								
Road	Latency (milliseconds)				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Zhob to Quetta</i>	165	103	104	151	No	No	No	No
<i>Lahore to Sargodha</i>	66	85	88	69	Yes	No	No	Yes
<i>Lahore to Rawalpindi</i>	87	90	88	216	No	No	No	No
<i>Lahore to Multan</i>	95	98	80	98	No	No	No	No
<i>Islamabad to Kohat</i>	82	87	87	154	No	No	No	No
<i>Mianwali to Bakhar</i>	160	133	119	114	No	No	No	No
<i>Isamabad to D.I Khan</i>	108	116	117	141	No	No	No	No
<i>T.M Panah to J. Pirwala</i>	69	93	131	79	Yes	No	No	No
<i>Kot Sabzal to Multan</i>	70	89	106	69	Yes	No	No	Yes
<i>Chakdara to Kalam</i>	97	97	115	106	No	No	No	No
<i>Khuazakhela to Behsam</i>	198	130	123	217	No	No	No	No
<i>Peshawer to DG Khan</i>	112	116	111	103	No	No	No	No

Table 4.12: Latency in 4G/LTE Technology Locked Mode < 75 milliseconds

LATENCY IN 3G TECHNOLOGY LOCKED MODE								
Road	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Quetta to Zhob</i>	513	996	458	391	No	No	No	No
<i>Lahore to Sargodha</i>	607	493	521	137	No	No	No	Yes
<i>Lahore to Rawalpindi</i>	489	389	506	136	No	No	No	Yes
<i>Lahore to Multan</i>	351	496	446	117	No	No	No	Yes
<i>Islamabad to Kohat</i>	577	453	445	285	No	No	No	No
<i>Mianwali to Bakhar</i>	381	930	492	375	No	No	No	No
<i>Isamabad to D.I Khan</i>	574	600	467	371	No	No	No	No
<i>T.M Panah to J. Pirwala</i>	169	1185	292	107	No	No	No	Yes
<i>Kot Sabzal to Multan</i>	243	1025	509	111	No	No	No	Yes
<i>Chakdara to Kalam</i>	521	693	518	387	No	No	No	No
<i>Khuazakhela to Behsam</i>	642	561	521	683	No	No	No	No
<i>Peshawer to DG Khan</i>	643	719	585	399	No	No	No	No

Table 4.13: Latency in 3G Technology Locked Mode < 150 milliseconds

4.6. During the survey, the deployed technologies by Cellular Mobile Operators (CMOs), Success Rate of http Transfer Download Tests and Resource Block Utilization have been recorded. The details can be seen in attached graphs.