

UPLOAD USER DATA THROUGHPUT IN 4G TECHNOLOGY LOCKED MODE (FIXED DURATION)								
City	Upload User Data Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
SUKKUR	25296.16	6583.92	22434.03	22005.5	First	Fourth	Second	Third
BAHAWALPUR	20112.04	6932.49	17081.91	20704.52	Second	Fourth	Third	First
CHARSADDA	20585.38	6670.14	16509.27	23512.04	Second	Fourth	Third	First
GWADAR	18750.48	6338.92	14214.57	8413.74	First	Fourth	Second	Third
QUETTA	24932.98	4042.08	15705.89	12826.01	First	Fourth	Second	Third
ISLAMABAD	21580.27	5810.8	14444.14	15379.18	First	Fourth	Third	Second
KOT RADHA KISHAN	25329.49	5969.83	17275.58	23104.88	First	Fourth	Third	Second
SHEIKHUPURA	24588.02	7687.65	16582.58	19201.22	First	Fourth	Third	Second
HANGU	23092.25	5458.11	13642.84	15844.73	First	Fourth	Third	Second
KUHLAK	18747.18	3512.71	16410.66	15908.18	First	Fourth	Second	Third
ABBOTTABAD	26814.77	6053.73	16307.21	17551.25	First	Fourth	Third	Second
LOWER DIR	16414.1	2822.36	17016.25	18251.52	Third	Fourth	Second	First
MANSEHRA	28559.98	3693.91	17470.17	16499.75	First	Fourth	Second	Third
MATIARI	24703.69	3922.55	21044.44	25370.06	Second	Fourth	Third	First
MACH	22514.32	2585.51	14121.67	13699.32	First	Fourth	Second	Third
PASROOR	21901.78	2279.73	14962.07	24635.67	Second	Fourth	Third	First
PISHIN	25293.55	3684.02	16611.27	16956.16	First	Fourth	Third	Second
SARGODHA	23662.54	5931.77	16919.72	20345.94	First	Fourth	Third	Second
UMERKOT	16550.65	4777.4	16402.01	18799.97	Second	Fourth	Third	First

Table 4.8: Upload User Data Throughput Technology Locked Mode [Fixed Duration]  $\geq 768\text{Kbps}$

UPLOAD USER DATA THROUGHPUT IN 3G TECHNOLOGY LOCKED MODE (FIXED DURATION)								
City	Upload User Data Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
SUKKUR	1386.51	2647.26	2620.96	1996.41	Fourth	First	Second	Third
BAHAWALPUR	1442.35	2182.59	2982.26	2208.55	Fourth	Third	First	Second
CHARSADDA	1202.51	1796.23	2135.31	1568.35	Fourth	Second	First	Third
GWADAR	725.79	2011.73	2698.71	1589.55	Fourth	Second	First	Third
QUETTA	1343.3	1543.74	2015.31	1712.12	Fourth	Third	First	Second
ISLAMABAD	1088.59	1069.67	2395.25	817.8	Second	Third	First	Fourth
KOT RADHA KISHAN	731.07	1559.61	3084.41	2656.84	Fourth	Third	First	Second
SHEIKHUPURA	278.43	1430.4	2439.91	1781.76	Fourth	Third	First	Second
HANGU	1267.94	1445.21	2867.92	1878.99	Fourth	Third	First	Second
KUHLAK	1623.13	1634.06	2610.84	1896.36	Fourth	Third	First	Second
ABBOTTABAD	1601.45	1203.44	2412.66	804.2	Second	Third	First	Fourth
LOWER DIR	701.15	1272.28	2390.25	1847.91	Fourth	Third	First	Second
MANSEHRA	1694.28	1199.07	2554.65	771.58	Second	Third	First	Fourth
MATIARI	1472.65	2301.79	2500.62	2914.7	Fourth	Third	Second	First
MACH	N/A	2037.77	2185.2	2370.28	N/A	Third	Second	First
PASROOR	205.33	657.54	2680.73	2015.28	Fourth	Third	First	Second
PISHIN	1318.11	1588.13	1664.34	1503.42	Fourth	Second	First	Third
SARGODHA	1024.14	1519.87	2835.93	1934.56	Fourth	Third	First	Second
UMERKOT	N/A	1384.68	1852.94	3153.01	N/A	Third	Second	First

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

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 IN CITIES								
City	Webpage Loading Time [seconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
SUKKUR	3.99	5.37	4.82	5.80	Yes	No	Yes	No
BAHAWALPUR	5.28	6.94	6.99	6.54	No	No	No	No
CHARSADDA	7.85	8.02	8.31	7.90	No	No	No	No
GWADAR	8.62	6.91	7.30	7.37	No	No	No	No
QUETTA	4.29	7.15	6.26	6.31	Yes	No	No	No
ISLAMABAD	5.11	6.73	6.29	5.07	No	No	No	No
KOT RADHA KISHAN	4.86	7.69	5.23	4.20	Yes	No	No	Yes
SHEIKHUPURA	5.28	6.13	5.62	4.45	No	No	No	Yes
HANGU	7.48	8.15	8.48	8.26	No	No	No	No
KUHLAK	4.49	6.52	6.41	6.31	Yes	No	No	No
ABBOTTABAD	6.70	7.83	7.69	8.27	No	No	No	No
LOWER DIR	7.04	8.36	6.98	6.69	No	No	No	No
MANSEHRA	6.28	8.67	7.04	6.44	No	No	No	No
MATIARI	4.48	8.64	6.68	5.37	Yes	No	No	No
MACH	4.20	6.65	6.22	5.75	Yes	No	No	No
PASROOR	5.97	8.57	6.37	4.35	No	No	No	Yes
PISHIN	4.51	6.54	7.47	6.58	Yes	No	No	No
SARGODHA	5.22	7.09	6.79	6.30	No	No	No	No
UMERKOT	4.04	6.50	6.45	5.29	Yes	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								
City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
SUKKUR	46	39	33	57	Yes	Yes	Yes	Yes
BAHAWALPUR	82	69	79	55	No	Yes	No	Yes
CHARSADDA	410	213	286	144	No	No	No	No
GWADAR	208	80	53	98	No	No	Yes	No
QUETTA	58	89	51	67	Yes	No	Yes	Yes
ISLAMABAD	73	71	65	94	Yes	Yes	Yes	No
KOT RADHA KISHAN	89	55	58	43	No	Yes	Yes	Yes
SHEIKHUPURA	77	52	163	49	No	Yes	No	Yes
HANGU	422	324	338	154	No	No	No	No
KUHLAK	58	85	55	61	Yes	No	Yes	Yes
ABBOTTABAD	82	55	83	115	No	Yes	No	No
LOWER DIR	114	71	76	80	No	Yes	No	No
MANSEHRA	71	69	68	63	Yes	Yes	Yes	Yes
MATIARI	50	39	63	33	Yes	Yes	Yes	Yes
MACH	74	57	61	43	Yes	Yes	Yes	Yes
PASROOR	125	59	112	57	No	Yes	No	Yes
PISHIN	46	70	67	72	Yes	Yes	Yes	Yes
SARGODHA	59	66	74	57	Yes	Yes	Yes	Yes
UMERKOT	43	71	33	36	Yes	Yes	Yes	Yes

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