

UPLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION)								
City	Automode Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Attock</i>	18681.4	6550.38	21332.57	17390.48	Second	Fourth	First	Third
<i>Hafizabad</i>	15931.56	4114.74	17867.28	21280.89	Third	Fourth	Second	First
<i>Rawalpindi</i>	18242.43	7080.04	17693.23	19484.96	Second	Fourth	Third	First
<i>Hyderabad</i>	19770.05	6705.88	19144.34	22657.11	Second	Fourth	Third	First
<i>Karachi East</i>	24533.27	7413.88	23835.34	23545.16	First	Fourth	Second	Third
<i>Pakpattan</i>	20157.72	6022.37	20918.29	21940.6	Third	Fourth	Second	First
<i>Khanpur</i>	16010.83	3910.02	21426.82	19114.83	Third	Fourth	First	Second
<i>Lodhran</i>	15828.19	3164.41	2642.72	16035.03	Second	Third	Fourth	First
<i>Wazirabad</i>	23128.26	7243.53	26927.81	24956.32	Third	Fourth	First	Second

Table 4.6: Upload User Data Throughput Technology Auto Detect Mode [Fixed Duration] ≥ 512Kbps

UPLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED SIZE)								
City	Auto mode Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Attock</i>	13157.41	11358.81	16858.45	15273.11	Third	Fourth	First	Second
<i>Hafizabad</i>	12864.18	9134.07	13447.81	12204.07	Second	Fourth	First	Third
<i>Rawalpindi</i>	14348.58	11036.09	13954.39	16244.83	Second	Fourth	Third	First
<i>Hyderabad</i>	10297.19	11918.57	15964.71	14653	Fourth	Third	First	Second
<i>Karachi East</i>	9850.67	5939.53	9768.73	8845.32	First	Fourth	Second	Third
<i>Pakpattan</i>	13249.11	10563.21	17890.04	16822.68	Third	Fourth	First	Second
<i>Khanpur</i>	13179.07	9004.47	17306.99	14748.16	Third	Fourth	First	Second
<i>Lodhran</i>	12458.87	8555.51	4766.04	10756.71	First	Third	Fourth	Second
<i>Wazirabad</i>	15044.95	11215.83	14808.64	14349.81	First	Fourth	Second	Third

Table 4.7: Upload User Data Throughput Technology Auto Detect Mode [Fixed Size] ≥ 512Kbps

UPLOAD USER DATA THROUGHPUT IN 4G TECHNOLOGY LOCKED MODE (FIXED DURATION)								
City	Auto mode Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Attock</i>	19522.9	4990.77	20817.14	17494.09	Second	Fourth	First	Third
<i>Hafizabad</i>	17176.81	3765.95	20466.42	22540.34	Third	Fourth	Second	First
<i>Rawalpindi</i>	17097.68	6274.1	18186.68	18546.47	Third	Fourth	Second	First
<i>Hyderabad</i>	20377.2	6776.42	19671.8	22597.74	Second	Fourth	Third	First
<i>Karachi East</i>	N/A				N/A			
<i>Pakpattan</i>	18769.39	5528.99	19285.91	18925.83	Third	Fourth	First	Second
<i>Khanpur</i>	15418.48	3551.11	19207.88	16992.99	Third	Fourth	First	Second
<i>Lodhran</i>	20057.11	3392.23	11.43	16073.45	First	Third	Fourth	Second
<i>Wazirabad</i>	17110.54	5861.4	24210.63	20364.96	Third	Fourth	First	Second

Table 4.8: Upload User Data Throughput Technology Locked Mode [Fixed Duration] ≥ 512Kbps

UPLOAD USER DATA THROUGHPUT IN 3G TECHNOLOGY LOCKED MODE (FIXED DURATION)								
City	Auto mode Throughput [Kbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Attock</i>	1273.94	1520.25	1735.54	600.11	Third	Second	First	Fourth
<i>Hafizabad</i>	375.65	1150.07	2886.45	1572.91	Fourth	Third	First	Second
<i>Rawalpindi</i>	1365.88	1256.67	1914.83	863.49	Second	Third	First	Fourth
<i>Hyderabad</i>	654.74	N/A	1668.77	N/A	Second	N/A	First	N/A
<i>Karachi East</i>	N/A				N/A			
<i>Pakpattan</i>	1332.88	1522.54	4363.72	1592.64	Fourth	Third	First	Second
<i>Khanpur</i>	1225.32	1448.2	2479.74	1307.45	Fourth	Second	First	Third
<i>Lodhran</i>	1418.56	2195.33	2455.8	1495.07	Fourth	Second	First	Third
<i>Wazirabad</i>	314.45	1452.9	3025.82	1886.9	Fourth	Third	First	Second

Table 4.9: Upload User Data Throughput in 3G Technology Locked Mode [Fixed Duration] ≥ 64Kbps

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
<i>Attock</i>	6.3	6.6	6.5	5.1	No	No	No	No
<i>Hafizabad</i>	6.7	7.6	5.0	6.2	No	No	No	No
<i>Rawalpindi</i>	6.2	6.2	5.7	4.9	No	No	No	Yes
<i>Hyderabad</i>	5.2	5.4	4.9	4.6	No	No	Yes	Yes
<i>Karachi East</i>	6.3	6.1	5.5	5.4	No	No	No	No
<i>Pakpattan</i>	5.8	6.0	4.2	5.5	No	No	Yes	No
<i>Khanpur</i>	7.6	7.4	5.2	6.3	No	No	No	No
<i>Lodhran</i>	7.5	6.9	8.1	6.5	No	No	No	No
<i>Wazirabad</i>	4.8	5.8	4.8	4.8	Yes	No	Yes	Yes

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
<i>Attock</i>	241	219	205	208	No	No	No	No
<i>Hafizabad</i>	256	231	226	238	No	No	No	No
<i>Rawalpindi</i>	224	230	212	226	No	No	No	No
<i>Hyderabad</i>	281	215	223	249	No	No	No	No
<i>Karachi East</i>	205	209	195	213	No	No	No	No
<i>Pakpattan</i>	250	245	216	229	No	No	No	No
<i>Khanpur</i>	248	253	201	223	No	No	No	No
<i>Lodhran</i>	216	266	246	275	No	No	No	No
<i>Wazirabad</i>	219	216	225	222	No	No	No	No

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

LATENCY IN 4G/LTE TECHNOLOGY LOCKED MODE								
City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
<i>Attock</i>	87	74	67	169	No	Yes	Yes	No
<i>Hafizabad</i>	84	77	78	154	No	No	No	No
<i>Rawalpindi</i>	67	77	71	118	Yes	No	Yes	No
<i>Hyderabad</i>	276	211	223	248	No	No	No	No
<i>Karachi East</i>	N/A				N/A			
<i>Pakpattan</i>	88	84	60	69	No	No	Yes	Yes
<i>Khanpur</i>	78	109	62	84	No	No	Yes	No
<i>Lodhran</i>	68	105	84	77	Yes	No	No	No
<i>Wazirabad</i>	80	74	87	74	No	Yes	No	Yes

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