City								
Swabi	21342.55	3489.51	10671.98	20884.06	First	Fourth	Third	Second
Karak	25256.02	5846.03	12291.38	20492.05	First	Fourth	Third	Second
Depalpur	25705.74	5429.01	14310.34	13141.29	First	Fourth	Second	Third
Karachi West	30745.65	5755.57	7651.81	15585.05	First	Fourth	Third	Second
Karachi South	27980.42	4360.51	12537.15	9953.77	First	Fourth	Second	Third
Shujabad	23267.01	4623.74	10924.35	12718.15	First	Fourth	Third	Second
Kabirwala	27600.05	3091.6	10026.3	7658.84	First	Fourth	Second	Third
Chichawatni	28983.01	4198.63	14118.11	11864.77	First	Fourth	Second	Third

Table 4.8: Upload User Data Throughput Technology Locked Mode [Fixed Duration] ≥ 768Kbps

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
Karachi Central	1104.29	1506.06	2770.69	2099.58	Fourth	Third	First	Second
Karachi Kemari	903.66	1623.64	2063.82	1384.62	Fourth	Second	First	Third
Karachi Malir	755.33	1217.21	2373.66	2270.8	Fourth	Third	First	Second
Nankana Sahib	695.94	1434.65	2146.87	1216.58	Fourth	Second	First	Third
Nowshera	900.27	1412.17	2027.06	1790.41	Fourth	Third	First	Second
Muridke	245.48	1142.97	2329.95	1182.1	Fourth	Third	First	Second
Swabi	979.45	1020.51	2176.1	1831.51	Fourth	Third	First	Second
Karak	1293.18	1531.47	1382.82	2093.89	Fourth	Second	Third	First
Depalpur	776.83	1281.6	2439.5	1551.51	Fourth	Third	First	Second
Karachi West	1296.74	1520.31	2263.27	1628.73	Fourth	Third	First	Second
Karachi South	754.78	1557.47	2010.1	1031.58	Fourth	Second	First	Third
Shujabad	1521.38	1948.9	1984.93	1086.78	Third	Second	First	Fourth
Kabirwala	1569.33	2270.17	2468.6	1255.38	Third	Second	First	Fourth
Chichawatni	683.83	1296.88	2861.84	1645.21	Fourth	Third	First	Second

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

4.4. **WEBPAGE LOADING TIME.** As per Cellular Mobile Network Quality of Service (QoS) Regulations 2021, licensees are required to meet <u>Webpage Loading Time threshold of 5 Seconds.</u> 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
Karachi Central	4.18	4.77	**5.95**	**5.96**	Yes	Yes	No	No
Karachi Kemari	3.99	**5.06**	**5.42**	**5.07**	Yes	No	No	No
Karachi Malir	4.76	**5.56**	**6.29**	**6.26**	Yes	No	No	No
Nankana Sahib	**6.13**	**5.17**	**6.64**	4.44	No	No	No	Yes
Nowshera	**6.5**	**7.22**	**6.64**	**5.73**	No	No	No	No
Muridke	4.9	**5.65**	**5.16**	**5.09**	Yes	No	No	No
Swabi	**5.81**	**7.38**	**6.48**	**5.6**	No	No	No	No
Karak	**5.4**	**7.4**	**6.92**	**5.17**	No	No	No	No
Depalpur	4.72	**6.48**	4.53	**5.21**	Yes	No	Yes	No
Karachi West	3.47	**5.02**	**5.47**	4.82	Yes	No	No	Yes
Karachi South	4.16	**5.01**	**5.41**	4.8	Yes	No	No	Yes
Shujabad	**6.15**	**6.39**	**6.27**	**6.03**	No	No	No	No
Kabirwala	**5.76**	**6.49**	**6.14**	**5.65**	No	No	No	No
Chichawatni	4.91	**6.32**	4.98	4.58	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 underline 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.**

City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
Karachi Central	53	43	26	31	Yes	Yes	Yes	Yes
Karachi Kemari	65	43	30	38	Yes	Yes	Yes	Yes
Karachi Malir	76	49	33	32	No	Yes	Yes	Yes
Nankana Sahib	76	46	69	44	No	Yes	Yes	Yes
Nowshera	79	72	129	69	No	Yes	No	Yes
Muridke	87	48	52	47	No	Yes	Yes	Yes
Swabi	96	71	69	74	No	Yes	Yes	Yes
Karak	94	63	88	76	No	Yes	No	No
Depalpur	84	66	72	53	No	Yes	Yes	Yes
Karachi West	53	40	27	33	Yes	Yes	Yes	Yes
Karachi South	57	46	30	31	Yes	Yes	Yes	Yes
Shujabad	84	91	54	52	No	No	Yes	Yes
Kabirwala	84	82	39	51	No	No	Yes	Yes
Chichawatni	89	64	64	56	No	Yes	Yes	Yes

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

City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
Karachi Central	55	42	27	35	Yes	Yes	Yes	Yes
Karachi Kemari	62	46	30	33	Yes	Yes	Yes	Yes
Karachi Malir	73	57	34	39	Yes	Yes	Yes	Yes
Nankana Sahib	83	47	55	46	No	Yes	Yes	Yes
Nowshera	71	85	143	99	Yes	No	No	No
Muridke	83	63	53	46	No	Yes	Yes	Yes
Swabi	84	67	74	77	No	Yes	Yes	No
Karak	85	77	80	80	No	No	No	No
Depalpur	101	63	83	44	No	Yes	No	Yes
Karachi West	52	39	30	35	Yes	Yes	Yes	Yes
Karachi South	55	42	30	26	Yes	Yes	Yes	Yes
Shujabad	77	81	37	53	No	No	Yes	Yes
Kabirwala	81	81	42	57	No	No	Yes	Yes
Chichawatni	81	74	71	58	No	Yes	Yes	Yes

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

City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
Karachi Central	515	614	419	104	No	No	No	Yes
Karachi Kemari	513	623	432	77	No	No	No	Yes
Karachi Malir	515	537	435	65	No	No	No	Yes
Nankana Sahib	598	501	478	82	No	No	No	Yes
Nowshera	506	377	539	176	No	No	No	No
Muridke	578	461	489	103	No	No	No	Yes
Swabi	525	283	482	178	No	No	No	No
Karak	547	467	499	181	No	No	No	No
Depalpur	571	373	468	69	No	No	No	Yes