7. MOBILE BROADBAND SERVICE – LATENCY

Latency is a vital indicator of Mobile Broadband Performance as user experience is highly dependent of it. During the survey, Network Latency was measured by calculating the ping between different websites and Ookla Speed Test servers. Latency Test Statistics are shown in Table 7.1: Latency Tests Statistics while the Results are shown in Table 7.2: Automode Latency and Table 7.3: Ookla Latency respectively.

DESCRIPTION		Jazz	Telenor	Ufone	Zong
Automode	ATTEMPTS	6162	5927	6168	6180
	LATENCY (ms)	110.53	77.11	69.96	84.13
Ookla	ATTEMPTS	10423	10928	10551	10641
	LATENCY (ms)	34.5	42.7	36.9	21.6

Table 7.1: Latency Tests Statistics

LATENCY IN AUTOMODE TESTING								
City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BAHWALNAGAR	**78**	67	52.64	73.49	**No**	Yes	Yes	Yes
D.I KHAN	**109**	**79**	**105**	**83**	**No**	**No**	**No**	**No**
LAHORE	60	50	55	43	Yes	Yes	Yes	Yes
MARDAN	**77**	57	**76**	**106**	**No**	Yes	**No**	**No**
SAMUNDARI	**120**	75	**93.28**	74	**No**	Yes	**No**	Yes
SHIKARPUR	50	**82**	45	49	Yes	**No**	Yes	Yes
HYDERABAD	70	70	60	70	Yes	Yes	Yes	Yes
JHELUM	**95**	69	**77**	**152**	**No**	Yes	**No**	**No**
KARACHI MALIR	**85**	**78**	60	73	**No**	**No**	Yes	Yes
NAWABSHAH	**109**	**79**	59	**78**	**No**	**No**	Yes	**No**
NUSHKI	N/A	**243**	**106**	**474**	N/A	**No**	**No**	**No**
QUETTA	**88**	**119**	**107**	**101**	**No**	**No**	**No**	**No**
RAWALPINDI	62	57	58	**121**	Yes	Yes	Yes	**No**
CHUNIAN	**127**	**120**	70	38	**No**	**No**	Yes	Yes
SHARAQPUR	**115**	46	62	41	**No**	Yes	Yes	Yes
KOTRI	**95**	**85**	72	**103**	**No**	**No**	Yes	**No**

Table 7.2: Automode Latency

LATENCY IN OOKLA TESTING								
City	Latency [milliseconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BAHWALNAGAR	34	65	49	29	Yes	Yes	Yes	Yes
D.I KHAN	52	**80**	59.82	26.18	Yes	**No**	Yes	Yes
LAHORE	27	19	31.46	15	Yes	Yes	Yes	Yes
MARDAN	28.05	31	39.59	26.28	Yes	Yes	Yes	Yes
SAMUNDARI	29.8	33	53.09	22.54	Yes	Yes	Yes	Yes
SHIKARPUR	25.6	44.2	29.4	30.8	Yes	Yes	Yes	Yes
HYDERABAD	24.91	27.77	28.25	22.56	Yes	Yes	Yes	Yes
JHELUM	28	29.59	32.58	19.94	Yes	Yes	Yes	Yes
KARACHI MALIR	26.69	28.32	19.51	20.44	Yes	Yes	Yes	Yes
NAWABSHAH	31.5	32	27.01	23.78	Yes	Yes	Yes	Yes
NUSHKI	N/A	**225**	39.57	74.9	N/A	**No**	Yes	Yes

QUETTA	30.12	46.1	47.17	27.12	Yes	Yes	Yes	Yes
RAWALPINDI	21	42.5	23.7	16.5	Yes	Yes	Yes	Yes
CHUNIAN	38.56	46.26	36.96	16.78	Yes	Yes	Yes	Yes
SHARAQPUR	29.19	22.51	35.58	15.68	Yes	Yes	Yes	Yes
KOTRI	24.99	26.83	38.25	23.3	Yes	Yes	Yes	Yes

Table 7.3: Ookla Latency

8. MOBILE BROADBAND SERVICE – WEB PAGE LOADING

Web Page Loading Time of different national and international websites were tested. Results of testing are shown in Table 8.1: Web Page Loading Time.

WEBPAGE LOADING TIME IN IN TECHNOLOGY AUTO DETECT MODE								
City	Webpage Loading Time [seconds]				Compliant (Yes/No)			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BAHWALNAGAR	0.12	0.88	0.89	0.14	Yes	Yes	Yes	Yes
D.I KHAN	2.20	**6.60**	2.80	1.9	Yes	**No**	Yes	Yes
LAHORE	3.26	1.68	1.62	1.24	Yes	Yes	Yes	Yes
MARDAN	2.9	**5.2**	2.6	1.9	Yes	**No**	Yes	Yes
SAMUNDARI	0.68	0.31	0.34	0.14	Yes	Yes	Yes	Yes
SHIKARPUR	3.9	2.70	2.90	1.9	Yes	Yes	Yes	Yes
HYDERABAD	4.9	**6.7**	**6.5**	4.9	Yes	**No**	**No**	Yes
JHELUM	1.9	2.5	2.3	2.1	Yes	Yes	Yes	Yes
KARACHI MALIR	4.4	**7.2**	**6.2**	4.7	Yes	**No**	**No**	Yes
NAWABSHAH	4.6	2.5	3.1	1.7	Yes	Yes	Yes	Yes
NUSHKI	N/A	**6.6**	**7.6**	**5.3**	N/A	**No**	**No**	**No**
QUETTA	**5**	**7.5**	**6.5**	**5.4**	**No**	**No**	**No**	**No**
RAWALPINDI	2.3	2.7	2.3	2.1	Yes	Yes	Yes	Yes
CHUNIAN	**6.6**	**7.1**	**7.1**	**6.5**	**No**	**No**	**No**	**No**
SHARAQPUR	**5.3**	**6.4**	**6.9**	**5.9**	**No**	**No**	**No**	**No**
KOTRI	4.5	**6.9**	**6.6**	**5.1**	Yes	**No**	**No**	**No**

Table 8.1: Web Page Loading Time

Overall survey results of Mobile Broadband Services for each Mobile Operator are shown in the below graphs.

MOBILE BROADBAND SERVICE

Automode Download Throughput (Mbps): Jazz 22.601, Telenor 9.215, Ufone 9.521, Zong 23.372

Automode Upload Throughput (Mbps): Jazz 20.771, Telenor 5.654, Ufone 17.069, Zong 19.53