

## MOBILE BROADBAND SERVICE

4.1. **DATA SESSIONS IN TECHNOLOGY AUTO DETECT MODE.** A series of data tests including Capacity Tests, Data Transfer Tests, Web Browsing and Ping were carried out wherein Key Performance Indicators (KPIs) of Upload and Download User Data Throughput (i.e. Speed), Webpage Loading Time and Latency have been measured. In Fixed Duration Testing, a File of 10GB was downloaded and Uploaded for 3 minutes duration whereas in Fixed Size Testing, a File of 5MB and 2MB was completely downloaded and uploaded respectively. In order to measure Webpage Loading Time, different webpages were checked and in case of Latency, different website(s) were pinged to measure Round Trip Time (RTT)/Latency. The 4G and 3G signal strengths, Number of Tests, Upload and Download User Data Throughput, Webpage Loading Time and Latency detail is mentioned in **Table 4.1: Data Tests Statistics**.

DESCRIPTION				JAZZ	TELENOR	UFONE	ZONG	
AUTO DETECT MODE	CAPACITY TEST	DOWNLOAD	ATTEMPTS	6794	6860	6846	6900	
			SPEED (Mbps)	25.93	6.42	8.65	19.82	
		UPLOAD	ATTEMPTS	6807	6870	6871	6911	
			SPEED (Mbps)	23.17	6.35	16.14	19.88	
	DATA TRANSFER TEST	DOWNLOAD	ATTEMPTS	6839	6927	6461	6916	
			SPEED (Mbps)	10.253	5.42	6.801	9.771	
		UPLOAD	ATTEMPTS	6831	6923	6435	6905	
			SPEED (Mbps)	5.388	4.124	5.684	5.995	
	BROWSING TEST	ATTEMPTS			25507	25767	25641	25847
		LOADING TIME (Seconds)			3.16	4.33	3.43	3.04
	PING TEST	ATTEMPTS			6870	6973	6952	6975
		LATENCY (msec)			72.41	64.37	74.65	72.05
AVERAGE 4G SIGNAL STRENGTH (RSRP) dBm				-81	-84	-79.4	-78.9	
AVERAGE 3G SIGNAL STRENGTH (RSCP) dBm				-78.37	-79.14	-66.36	-63.23	

**Table 4.1: Data Tests Statistics**

4.2. **DOWNLOAD USER DATA THROUGHPUT.** As per Next Generation Mobile Service (NGMS) licenses, licensees are required to meet the threshold of minimum of 4 Mbps of 4G/LTE & 1 Mbps of 4G Download User Data Throughput. The results of Data Service QoS KPI i.e. Download User Data Throughput are shown in (i). **Table 4.2: Download User Data Throughput Technology Auto Detect Mode [Fixed Duration]  $\geq$  4Mbps**, (ii). **Table 4.3: Download User Data Throughput Technology Auto Detect Mode [Fixed Size]  $\geq$  4Mbps**,

DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION)								
City	Download User Data Throughput [Mbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BATTAGRAM	23.00	2.10	7.40	16.05	First	Fourth	Third	Second
BESHAM	46.70	2.60	N/A	25.94	First	Third	N/A	Second
DADU	19.57	5.41	6.63	19.88	Second	Fourth	Third	First
DASKA	22.69	4.90	15.64	21.25	First	Fourth	Third	Second
DERA ALLAH YAR	20.5	4.4	5.21	18.70	First	Fourth	Third	Second
GHOTKI	15.38	6.72	3.56	17.34	Second	Third	Fourth	First
ISLAMABAD	26.63	5.54	7.07	18.10	First	Fourth	Third	Second
JHANG	32.83	7.47	10.79	17.00	First	Fourth	Third	Second
KHUSHAB	24.77	12.38	4.37	18.05	First	Third	Fourth	Second
MUZAFARGARH	22.30	13.40	8.00	24.07	Second	Third	Fourth	First

DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION)								
City	Download User Data Throughput [Mbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
MIRPUR KHAS	29.70	6.50	11.20	23.41	First	Fourth	Third	Second
NOWSHERA	28.25	5.02	6.29	15.75	First	Fourth	Third	Second
OKARA	23.30	7.60	11.52	22.96	First	Fourth	Third	Second
PESHAWAR	23.47	3.89	4.79	12.20	First	Fourth	Third	Second
QUETTA	24.20	7.80	6.81	14.92	First	Third	Fourth	Second
SEHWAN	14.70	8.21	12.38	23.80	Second	Fourth	Third	First
THATTA	34.60	9.30	8.20	23.74	First	Third	Fourth	Second

Table4.2: Download User Data Throughput Technology Auto Detect Mode [Fixed Duration]  $\geq$  4Mbps

DOWNLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED SIZE)								
City	Download User Data Throughput [Mbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BATTAGRAM	12.10	3.10	8.04	11.04	First	Fourth	Third	Second
BESHAM	15.70	4.50	N/A	15.73	Second	Third	N/A	First
DADU	10.65	5.04	6.39	10.22	First	Fourth	Third	Second
DASKA	10.38	4.99	10.74	11.66	Third	Fourth	Second	First
DERA ALLAH YAR	20.50	4.40	5.21	18.70	First	Fourth	Third	Second
GHOTKI	9.29	6.17	4.66	10.13	Second	Third	Fourth	First
ISLAMABAD	12.75	5.56	6.40	10.43	First	Fourth	Third	Second
JHANG	13.76	6.51	6.50	9.20	First	Third	Fourth	Second
KHUSHAB	13.24	8.52	4.05	10.87	First	Third	Fourth	Second
MUZAFARGARH	12.10	8.70	6.58	13.68	Second	Third	Fourth	First
MIRPUR KHAS	12.50	5.90	8.85	14.19	Second	Fourth	Third	First
NOWSHERA	12.25	4.77	6.85	8.95	First	Fourth	Third	Second
OKARA	9.60	6.80	8.84	11.23	Second	Fourth	Third	First
PESHAWAR	11.12	4.63	5.30	7.80	First	Fourth	Third	Second
QUETTA	11.80	6.70	6.02	10.55	First	Third	Fourth	Second
SEHWAN	10.84	6.68	7.70	12.60	Second	Fourth	Third	First
THATTA	16.40	8.00	7.59	14.23	First	Third	Fourth	Second

Table4.3: Download User Data Throughput Technology Auto Detect Mode [Fixed Size]  $\geq$  4Mbps

4.3. **UPLOAD USER DATA THROUGHPUT.** As per Cellular Mobile Network Quality of Service (QoS) Regulations 2021, licensees are required to meet the threshold of minimum of 1 Mbps of 4G/LTE. The results of Data Service QoS KPI i.e. Upload User Data Throughput is shown in (i). Table 4.4: Upload User Data Throughput Technology Auto Detect Mode [Fixed Duration]  $\geq$  1 Mbps, (ii). Table 4.5: Upload User Data Throughput Technology Auto Detect Mode [Fixed Size]  $\geq$  1Mbps,

UPLOAD USER DATA THROUGHPUT IN TECHNOLOGY AUTO DETECT MODE (FIXED DURATION)								
City	Upload User Data Throughput [Mbps]				Operator Position			
	Jazz	Telenor	Ufone	ZonG	Jazz	Telenor	Ufone	ZonG
BATTAGRAM	24.3	4.6	18.88	11.72	First	Fourth	Second	Third
BESHAM	23.1	5.0	N/A	13.4	First	Third	N/A	Second
DADU	20.33	3.69	15.56	22.23	Second	Fourth	Third	First
DASKA	21.8	5.3	19.7	26.6	Second	Fourth	Third	First
DERA ALLAH YAR	1.90	2.90	3.20	1.80	Third	Second	First	Fourth
GHOTKI	25.21	5.28	14.80	22.04	First	Fourth	Third	Second
ISLAMABAD	19.39	7.56	14.11	13.52	First	Fourth	Second	Third
JHANG	23.26	5.95	18.61	24.87	Second	Fourth	Third	First