



## **CMT Quality of Service (QoS) Survey**

Services of the operators are continuously monitored in order to ensure quality as per the license standards. So far PTA conducted four manual comprehensive QoS survey of Mobile Operators in the coverage area. The mobile companies are instructed to improve their quality of service through expansion of their existing network and system as and when the services are observed below the license targets.

Fifth, QoS survey of mobile operators has been conducted by PTA Zonal Offices located at Peshawar, Rawalpindi, Lahore, Karachi and Quetta from September 4, 2007 through November 16, 2007 using the recently procured state of the art monitoring equipment. The services of five GSM operators i.e. Ufone, Mobilink, Telenor, Warid, and CMPak were checked in selected major and small cities.

## 5<sup>th</sup> CMT QoS Survey Results (Nemo Tool)

### Islamabad

#### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	119	100%	97.50%	99.00%	9.6	3.0
2	Ufone	208	100%	97.50%	94.10%	8.6	2.3
3	Telenor	202	99.6%	98.80%	97.30%	8.8	2.7
4	Warid	208	99.6%	99.20%	99.20%	8.6	3.4
5	CMPak	201	100%	96.30%	97.80%	8.5	3.1

#### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	5.85
2	Ufone	29	93.10%	10.14
3	Telenor	20	100%	5.30
4	Warid	20	95%	4.75
5	CMPak	20	95%	5.90

### Rawalpindi

#### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	204	100%	96.60%	98.50%	9	2.9
2	Ufone	204	100%	99.20%	98.30%	8.2	2.4
3	Telenor	209	100%	97.40%	78.10%	8.8	2.6
4	Warid	208	100%	99.70%	99.40%	8.6	3
5	CMPak	201	100%	93.50%	88.50%	8.4	2.9

#### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	30	100%	4.9
2	Ufone	29	93.1%	10.14
3	Telenor	50	100%	4.80
4	Warid	49	100%	5.49
5	CMPak	30	100%	4.77

## Jhelum

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	201	100%	97.50%	98.00%	7.9	3.1
2	Ufone	205	100%	96.30%	100%	8.	2.5
3	Telenor	200	100%	97.80%	97.80%	8.8	3.0
4	Warid	200	100%	100%	99.60%	9.1	3.1
5	CMPak	209	100%	96.20%	100%	8.2	3.3

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	4.40
2	Ufone	29	100%	5.0
3	Telenor	20	100%	4.65
4	Warid	20	100%	5.35
5	CMPak	20	100%	4.90

## Peshawar

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	202	99.00%	96.50%	95.00%	7.73	2.84
2	Ufone	202	100%	95.00%	92.00%	8.86	2.58
3	Telenor	208	100%	99.00%	90.30%	9.04	2.7
4	Warid	208	100%	97.10%	95.10%	8.13	3.14
5	CMPak	205	96.10%	98.98%	97.90%	8.49	3.16

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	4.50
2	Ufone	20	100%	5.05
3	Telenor	20	100%	4.60
4	Warid	20	100%	4.35
5	CMPak	20	100%	5.55

## Nowshera

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	200	100%	97.00%	94.50%	7.58	3.28
2	Ufone	200	100%	94.50%	93.00%	8.68	2.49
3	Telenor	200	100%	100%	94.00%	8.93	2.97
4	Warid	201	85.07%	95.91%	91.23%	9.12	3.10
5	CMPak	201	99.50%	99.50%	99.00%	8.35	3.12

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	4.60
2	Ufone	20	95%	7.60
3	Telenor	20	100%	4.45
4	Warid	20	50%	3.05
5	CMPak	20	100%	6.0

## Quetta

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	203	100%	98.68%	98.84%	9.56	2.34
2	Ufone	201	100%	99.84%	98.66%	7.78	2.52
3	Telenor	201	100%	99.00%	87.84%	8.76	2.76
4	Warid	203	99.84%	94.00%	99.50%	8.56	3.02
5	CMPak	203	100%	99.02%	94.82%	8.6	2.8

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	30	100%	8
2	Ufone	30	95%	6.7
3	Telenor	30	100%	6.5
4	Warid	30	70%	6.6
5	CMPak	30	100%	7.3

## Pishin

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	109	99.62%	99.60%	100%	8.37	2.67
2	Ufone	110	100%	91.67%	99.62%	7.85	2.65
3	Telenor	111	100%	96.67%	97.32%	9	2.95
4	Warid	111	100%	97.95%	98.07%	9.27	2.95

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	30	100%	7.75
2	Ufone	30	100%	7.85
3	Telenor	30	100%	7.3
4	Warid	30	85%	8.65

## Chaman

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	108	100%	94.60%	95.85%	9.6	2.33
2	Ufone	105	100%	76.25%	100%	8.5	2.27
3	Telenor	106	93.85%	84.77%	99.52%	8.57	2.57
4	CMPak	106	100%	96.25%	100%	8.8	2.67

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	30	100%	7.8
2	Ufone	30	100%	8.4
3	Telenor	30	44%	8.7
4	CMPak	30	100%	8.5

## Lahore

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	213	100%	94.37%	93.43%	9.254	2.722
2	Ufone	200	100%	97.50%	95.50%	8.39	2.482
3	Telenor	200	100%	96.50%	93.00%	8.268	3.172
4	Warid	313	99.57%	90.70%	91.05%	8.648	3.168
5	CMPak	213	100%	97.65%	96.24%	8.416	3.216

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	0%
2	Ufone	20	100%	0%
3	Telenor	20	100%	0%
4	Warid	20	70%	0%
5	CMPak	20	100%	0%

## Gujrat

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	180	100%	98.89%	98.89%	8.352	2.784
2	Ufone	183	100%	93.99%	91.80%	8.96	2.646
3	Telenor	183	100%	93.44%	90.71%	8.932	3.128
4	Warid	180	100%	97.78%	97.78%	8.808	3.212
5	CMPak	180	100%	100%	99.44%	8.486	2.816

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	0%
2	Ufone	20	100%	0%
3	Telenor	20	100%	0%
4	Warid	20	88.89%	0%
5	CMPak	20	100%	0%

## Multan

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	200	100%	96.50%	95.00%	10.33	2.538
2	Ufone	200	100%	96.00%	95.50%	8.868	2.446
3	Telenor	200	100%	98.00%	90.50%	9.658	2.958
4	Warid	200	100%	98.50%	97.50%	8.962	3.13
5	CMPak	200	100%	95.50%	94.00%	9.178	2.644

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	0%
2	Ufone	20	100%	0%
3	Telenor	20	100%	0%
4	Warid	20	70%	0%
5	CMPak	20	100%	0%

## Karachi

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	212	100%	97.88%	99.84%	9.64	2.69
2	Ufone	210	100%	96.38%	99.68%	8.48	2.5
3	Telenor	196	100%	98.84%	97.94%	9.22	3.02
4	Warid	194	100%	98.60%	99.84%	9.2	3.12
5	CMPak	211	99.84%	99.00%	99.70%	8.66	3.04

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	6.8
2	Ufone	20	95%	6.8
3	Telenor	20	100%	6.4
4	Warid	20	84%	4.5
5	CMPak	20	80%	11.5

## Hyderabad

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	158	100%	95.60%	98.46%	9.72	2.98
2	Ufone	143	98.8%	93.90%	100%	9.06	2.67
3	Telenor	144	100%	95.08%	88.56%	7.4	2.69
4	Warid	147	93.66%	89.54%	99.72%	8.46	2.95
5	CMPak	157	100%	100%	91.84%	8.42	3.07

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	7
2	Ufone	20	95%	8.8
3	Telenor	20	95%	4.8
4	Warid	20	95%	1.8
5	CMPak	20	100%	6

## Panu Aaqil / Ghotki

### a. Voice

S.No.	Operator	Total Calls	Network Accessibility (%) TH = 99.5%	Service Accessibility (%) TH = 96%	Call Completion Ratio (%) TH = 96%	Avg Setup Time (sec) TH ≤ 7 sec	Avg MOS TH ≥ 3
1	Mobilink	127	100%	92.04%	99.72%	9.46	2.77
2	Ufone	127	98.14%	100%	96.04%	7.82	2.6
3	Telenor	128	99.2%	100%	99.44%	8.96	3.38
4	Warid	128	99.2%	96.92%	99.44%	8.62	3.35
5	CMPak	127	96.8%	82.92%	93.52%	9.24	2.74

### b. SMS

S.No.	Operator	Total Attempts	Service Accessibility (TH ≥ 99%)	Access Delay (TH ≤ 2)
1	Mobilink	20	100%	6.9
2	Ufone	20	100%	8.8
3	Telenor	20	95%	7.1
4	Warid	20	85%	4.5
5	CMPak	20	100%	12.5