

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	3	Multan, Larkana, Sukkur
2.	Telenor	4	Chakwal, Multan, Badin, Larkana
3.	Ufone	1	Attock

Table 5.6: Non-Compliance of Call Completion Ratio > 98%

- e. **END-TO-END SPEECH QUALITY / MEAN OPINION SCORE.** The analysis of QoS KPI **End-to-End Speech Quality/ Mean Opinion Score of > 3** in all the surveyed cities revealed following:

- i. **COMPLIANCE.** The cities where CMOs remained compliant is mentioned in **Table 5.7: Compliance of Mean Opinion Score > 3.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	3	Chakwal, Badin, Mirpur Khas
2.	Telenor	1	Nawabshah
3.	Ufone	9	Attock, Narowal, Multan, Bahawalpur, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur
4.	ZonG	13	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur, Nowshera

Table 5.7: Compliance of Mean Opinion Score > 3

- ii. **NON-COMPLIANCE.** The cities where CMOs remained non-compliant is mentioned in **Table 5.8: Non-Compliance of Mean Opinion Score > 3.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	10	Attock, Mianwali, Narowal, Multan, Bahawalpur, Larkana, Nawabshah, Sanghar, Sukkur, Nowshera
2.	Telenor	12	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Badin, Larkana, Mirpur Khas, Sanghar, Sukkur, Nowshera
3.	Ufone	4	Chakwal, Mianwali, Nowshera, Badin

Table 5.8: Non-Compliance of Mean Opinion Score > 3

- f. **INTER SYSTEM HANDOVER OF CIRCUIT SWITCHED VOICE.** Except **ZonG at Multan**, CMOs have achieved the QoS KPIs of **Inter System Handover of Circuit Switched Voice > 98%** in surveyed cities.
- g. **RAB SETUP SUCCESS RATE.** **All CMOs have achieved** the QoS KPI **RAB Setup Success Rate > 98%** in all 13 x surveyed cities.

SMS SERVICE

6.1. 2 x QoS KPIs i.e. “SMS Success Rate” and “SMS End to End Delivery Time” have been measured and the results are as under:

- a. **SMS SUCCESS RATE.** The analysis of QoS KPI **SMS Success Rate of 99%** in all the 13 x surveyed cities revealed following:
- i. **COMPLIANCE.** The cities where CMOs remained compliant is mentioned in **Table 6.1: Compliance of SMS Success Rate > 99%.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	3	Badin, Larkana, Sanghar
2.	Ufone	1	Nowshera
3.	ZonG	1	Badin

Table 6.1: Compliance of SMS Success Rate > 99%

- ii. **NON-COMPLIANCE.** The cities where CMOs remained non-compliant is mentioned in **Table 6.2: Non-Compliance of SMS Success Rate > 99%.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	10	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Mirpur Khas, Nawabshah, Sukkur, Nowshera
2.	Telenor	13	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur, Nowshera
3.	Ufone	12	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur
4.	ZonG	12	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur, Nowshera

Table 6.2: Non-Compliance of SMS Success Rate > 99%

- b. **SMS END-TO-END DELIVERY TIME.** The analysis of QoS KPI **SMS End-to-End Delivery time of 12 Seconds** in 13 x surveyed cities revealed following:

- i. **COMPLIANCE.** The cities where CMOs remained compliant is mentioned in **Table 6.3: Compliance of SMS End-To-End Delivery Time ≤ 12 Seconds.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	10	Attock, Chakwal, Narowal, Bahawalpur, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur
2.	Telenor	6	Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur
3.	Ufone	7	Attock, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur
4.	ZonG	13	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Badin, Larkana, Mirpur Khas, Nawabshah, Sanghar, Sukkur, Nowshera

Table 6.3: Compliance of SMS End-To-End Delivery Time ≤ 12 Seconds

- ii. **NON-COMPLIANCE.** The cities where CMOs remained non-compliant is mentioned in **Table 6.4: Non-Compliance of SMS End-To-End Delivery Time ≤ 12 Seconds.**

S. #.	Operator	Cities	
		Count	Names
1.	Jazz	3	Mianwali, Multan, Nowshera
2.	Telenor	7	Attock, Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Nowshera
3.	Ufone	6	Chakwal, Mianwali, Narowal, Multan, Bahawalpur, Nowshera

Table 6.4: Non-Compliance of SMS End-To-End Delivery Time ≤ 12 Seconds