

<i>CMO</i>	KPIS	THRESHOLD	UPPER DIR	LARKANA	LAHORE	KHAIRPUR	KAHROR PACCA	SHAHKOT
<i>Jazz</i>	NA	$\geq 99\%$	Yes	Yes	Yes	Yes	Yes	Yes
	CSSR	$\geq 98\%$	No	Yes	Yes	Yes	No	Yes
	CCT	≤ 7.5 sec	Yes	Yes	Yes	Yes	Yes	Yes
	CCR	$> 98\%$	No	Yes	Yes	Yes	Yes	Yes
	MOS	≥ 3	Yes	Yes	Yes	Yes	Yes	Yes
	ISHO	$\geq 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
	RSSR	$> 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
<i>Telenor</i>	NA	$\geq 99\%$	Yes	Yes	Yes	Yes	Yes	Yes
	CSSR	$\geq 98\%$	Yes	No	Yes	Yes	No	Yes
	CCT	≤ 7.5 sec	Yes	Yes	Yes	Yes	Yes	Yes
	CCR	$> 98\%$	Yes	Yes	Yes	Yes	No	Yes
	MOS	≥ 3	Yes	Yes	Yes	Yes	Yes	Yes
	ISHO	$\geq 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
	RSSR	$> 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
<i>Ufone</i>	NA	$\geq 99\%$	Yes	Yes	Yes	Yes	Yes	Yes
	CSSR	$\geq 98\%$	No	Yes	Yes	Yes	Yes	Yes
	CCT	≤ 7.5 sec	Yes	Yes	Yes	Yes	Yes	Yes
	CCR	$> 98\%$	Yes	Yes	Yes	No	Yes	No
	MOS	≥ 3	Yes	Yes	Yes	Yes	Yes	Yes
	ISHO	$\geq 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
	RSSR	$> 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
<i>ZonG</i>	NA	$\geq 99\%$	No	Yes	Yes	Yes	Yes	Yes
	CSSR	$\geq 98\%$	No	Yes	N/A	Yes	Yes	N/A
	CCT	≤ 7.5 sec	Yes	Yes	Yes	Yes	Yes	Yes
	CCR	$> 98\%$	No	Yes	N/A	Yes	Yes	N/A
	MOS	≥ 3	Yes	Yes	Yes	Yes	Yes	Yes
	ISHO	$\geq 98\%$	Yes	Yes	Yes	Yes	Yes	Yes
	RSSR	$> 98\%$	Yes	Yes	Yes	Yes	Yes	Yes

* Note Voice QoS KPIs: Network Accessibility (NA) $> 99\%$, Service Accessibility (SA) $> 98\%$, Call Connection Time (CCT) ≤ 7.5 Seconds, Call Completion Ratio (CCR) $\geq 98\%$, Mean Opinion Score (MOS) > 3 , Inter System Hand Over (ISHO) $> 98\%$ & RAB Setup Success Rate (RSSR) $> 98\%$

Table 5.2: Voice QoS KPIs Compliance Level

SMS SERVICE

6.1. A total of **20878 SMS sending attempts** were conducted, out of which **20751 SMS** were **successfully transmitted** by A-Party while **20609 SMS** were **successfully received** at B-Party. The company wise SMS Statistics are shown in **Table 6.1: SMS Statistics** while City wise compliance is shown in **Table 6.2: SMS QoS KPIs Compliance Level**

DESCRIPTION	JAZZ	TELENOR	UFONE	ZONG
SMS SEND REQUEST	5276	5234	5186	5182
SMS SUCCESSFULLY TRANSMITTED	5265	5215	5171	5100
SMS SUCCESSFULLY RECEIVED	5239	5168	5141	5061
SMS RECEIVE SUCCESS RATE (%)	99.3 %	98.74 %	99.13 %	97.66 %
END-TO-END DELIVERY TIME (Sec)	3.17	3.43	2.57	2.63

Table 6.1: SMS Statistics

Operator		Jazz		Telenor		Ufone		ZonG	
SMS KPI		Success Rate	Delivery Time	Success Rate	Delivery Time	Success Rate	Delivery Time	Success Rate	Delivery Time
Surveyed Cities	UPPER DIR	No	Yes	No	Yes	No	Yes	No	Yes
	LARKANA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	LAHORE	Yes	Yes	No	Yes	Yes	Yes	No	Yes
	KHAIRPUR	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	KAHROR PACCA	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
	SHAHKOT	No	Yes	No	Yes	Yes	Yes	No	Yes
	GUJAR KHAN	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	WAH/ TAXILA	Yes	Yes	No	Yes	Yes	Yes	No	Yes
	RAWALPINDI	Yes	Yes	No	Yes	Yes	Yes	No	Yes
	BUNER	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	JACOBABAD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	SUJAWAL	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
	MITHI	Yes	Yes	Yes	Yes	No	Yes	No	Yes
	ABBOTTABAD	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
	SHUJABAD	No	Yes	No	Yes	No	Yes	Yes	Yes
	SWABI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	MURIDKE	Yes	Yes	No	Yes	Yes	Yes	No	Yes

Table 6.2: SMS QoS KPIs Compliance Level

6.2. The SMS Send Request & Successful Reception by Technology, Average Success Rate & End to End Delivery Time and Delivery Duration by Technology are shown in the graphs.

