

Band	GSM 850	Test channel:	Lowest
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1648.4	Vertical	-41.04	-6.47	-47.51	-13.00	PASS
2472.6	V	-51.03	-2.89	-53.92		
3296.8	V	-61.88	-0.48	-62.36		
1648.4	Horizontal	-41.89	-6.29	-48.18		
2472.6	H	-48.71	-2.99	-51.70		
3296.8	H	-59.50	-0.10	-59.60		

Band	GSM 850	Test channel:	Middle
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1673.2	Vertical	-42.07	-6.46	-48.53	-13.00	PASS
2509.8	V	-54.74	-2.75	-57.49		
3346.4	V	-62.85	-0.47	-63.32		
1673.2	Horizontal	-41.18	-6.32	-47.5		
2509.8	H	-49.02	-2.85	-51.87		
3346.4	H	-62.80	-0.10	-62.90		

Band	GSM 850	Test channel:	Highest
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1697.6	Vertical	-42.56	-6.44	-49.00	-13.00	PASS
2546.4	V	-55.69	-2.58	-58.27		
3395.2	V	-61.34	-0.47	-61.81		
1697.6	Horizontal	-39.03	-6.35	-45.38		
2546.4	H	-49.32	-2.65	-51.97		
3395.2	H	-64.77	-0.10	-64.87		

Band	PCS 1900	Test channel:	Lowest
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3700.4	Vertical	-48.28	0.91	-47.37	-13.00	PASS
5550.6	V	-57.04	6.87	-50.17		
7400.8	V	-66.32	10.39	-55.93		
3700.4	Horizontal	-44.89	1.89	-43.00		
5550.6	H	-52.33	7.38	-44.95		
7400.8	H	-62.57	10.01	-52.56		

Band	PCS 1900	Test channel:	Middle
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3760.0	Vertical	-49.46	1.32	-48.14	-13.00	PASS
5640.0	V	-58.68	7.21	-51.47		
7520.0	V	-58.65	10.43	-48.22		
3760.0	Horizontal	-44.91	2.48	-42.43		
5640.0	H	-58.42	7.63	-50.79		
7520.0	H	-63.10	10.03	-53.07		

Band	PCS 1900	Test channel:	Highest
Test mode:		Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3819.6	Vertical	-48.06	1.72	-46.34	-13.00	PASS
5729.4	V	-55.53	7.54	-47.99		
7639.2	V	-63.34	10.58	-52.76		
3819.6	Horizontal	-47.07	3.07	-44.00		
5729.4	H	-50.98	7.89	-43.09		
7639.2	H	-64.19	10.33	-53.86		

Band	WCDMA Band V	Test channel:	Lowest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1652.8	Vertical	-55.87	-6.47	-62.34	-13.00	PASS
2479.2	V	-62.08	-2.84	-64.92		
3305.6	V	-61.56	-0.48	-62.04		
1652.8	Horizontal	-52.33	-6.30	-58.63		
2479.2	H	-62.11	-2.95	-65.06		
3305.6	H	-62.10	-0.10	-62.20		

Band	WCDMA Band V	Test channel:	Middle
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1673.2	Vertical	-50.89	-6.46	-57.35	-13.00	PASS
2509.8	V	-61.78	-2.75	-64.53		
3346.4	V	-64.45	-0.47	-64.92		
1673.2	Horizontal	-50.92	-6.32	-57.24		
2509.8	H	-62.80	-2.86	-65.66		
3346.4	H	-61.96	-0.10	-62.06		

Band	WCDMA Band V	Test channel:	Highest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
1693.2	Vertical	-57.07	-6.45	-63.52	-13.00	PASS
2539.8	V	-62.64	-2.65	-65.29		
3386.4	V	-67.15	-0.47	-67.62		
1693.2	Horizontal	-52.48	-6.35	-58.83		
2539.8	H	-60.66	-2.74	-63.40		
3386.4	H	-64.93	-0.11	-65.04		

Band	WCDMA Band IV	Test channel:	Lowest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
2452.3	Vertical	-64.29	-2.96	-67.25	-13.00	PASS
3424.8	V	-63.57	-0.46	-64.03		
5137.2	V	-65.24	6.11	-59.13		
2452.3	Horizontal	-62.08	-2.99	-65.07		
3424.8	H	-61.91	-0.11	-62.02		
5137.2	H	-62.52	6.55	-55.97		

Band	WCDMA Band IV	Test channel:	Middle
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
2641.3	Vertical	-63.32	-2.15	-65.47	-13.00	PASS
3465.2	V	-60.93	-0.46	-61.39		
5197.8	V	-66.06	6.21	-59.85		
2641.3	Horizontal	-61.79	-2.11	-63.90		
3465.2	H	-63.84	-0.11	-63.95		
5197.8	H	-65.87	6.66	-59.21		

Band	WCDMA Band IV	Test channel:	Highest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature :	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3102.2	Vertical	-63.55	-2.15	-65.70	-13.00	PASS
3505.2	V	-63.18	-0.41	-63.59		
5257.8	V	-59.80	6.30	-53.50		
3102.2	Horizontal	-63.54	-0.09	-63.63		
3505.2	H	-63.42	-0.06	-63.48		
5257.8	H	-66.97	6.77	-60.20		

Band	WCDMA Band II	Test channel:	Lowest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3704.8	Vertical	-51.13	0.94	-50.19	-13.00	PASS
5557.2	V	-64.46	6.89	-57.57		
7409.6	V	-66.79	10.39	-56.4		
3704.8	Horizontal	-55.04	1.93	-53.11		
5557.2	H	-61.45	7.39	-54.06		
7409.6	H	-68.48	10.01	-58.47		

Band	WCDMA Band II	Test channel:	Middle
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3760.0	Vertical	-61.87	1.32	-60.55	-13.00	PASS
5640.0	V	-65.34	7.21	-58.13		
7520.0	V	-55.55	10.43	-45.12		
3760.0	Horizontal	-60.62	2.48	-58.14		
5640.0	H	-64.93	7.63	-57.30		
7520.0	H	-63.98	10.03	-53.95		

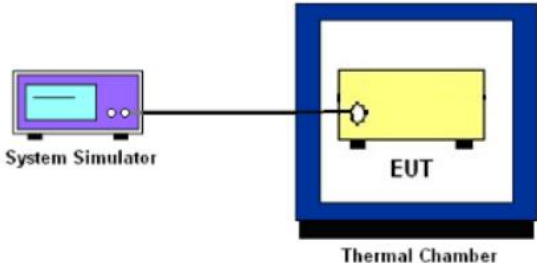
Band	WCDMA Band II	Test channel:	Highest
Test mode:	RMC 12.2Kbps Link (QPSK)	Temperature:	25°C
		Relative Humidity:	56%

Note: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Frequency (MHz)	Spurious Emission				Limit (dBm)	Result
	Polarization	Level (dBm)	Correction Factor (dB)	Spurious emissions (dBm)		
3815.2	Vertical	-55.22	1.69	-53.53	-13.00	PASS
5722.8	V	-67.04	7.52	-59.52		
7630.4	V	-67.55	10.57	-56.98		
3815.2	Horizontal	-55.08	3.03	-52.05		
5722.8	H	-62.16	7.87	-54.29		
7630.4	H	-66.47	10.31	-56.16		

6.7. Frequency Stability Measurement

6.7.1. Test Specification

Test Requirement:	FCC Part 2.1055 ; FCC Part 22.355 ; FCC Part 24.235 FCC Part 27.54
Test Method:	FCC KDB 971168 D01v03r01
Operation mode:	Refer to item 3.1
Limit:	FCC Part 22.355 : ± 2.5 ppm FCC Part 24.235 : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.
Test Setup:	 The diagram shows a System Simulator (a purple box with a screen) connected by a cable to a yellow box labeled 'EUT'. The EUT is placed inside a blue square frame labeled 'Thermal Chamber'.
Test Procedure:	Test Procedures for Temperature Variation 1. The testing follows FCC KDB 971168 D01v03r01 Section 9.0. 2. The EUT was set up in the thermal chamber and connected with the system simulator. 3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute. 4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute. Test Procedures for Voltage Variation 1. The testing follows FCC KDB 971168 D01v03r01 Section 9.0. 2. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the system simulator. 3. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT. 4. The variation in frequency was measured for the worst case.
Test Result:	PASS
Remark:	All three channels of all modulations have been tested, but only the worst channel and the worst modulation show in this test item.

6.7.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Date of Cal.	Due Date
Universal Radio Communication Tester	R&S	CMU200	110188	Jun. 26, 2025	Jun. 25, 2026
Programable tempratuce and humidity chamber	JQ	JQ-2000	/	Jun. 26, 2025	Jun. 25, 2026
DC power supply	Kingrang	KR3005K	/	Jun. 26, 2025	Jun. 25, 2026
Combiner Box	AT890-RFB	Ascentest	/	/	/

6.7.3. Test Data

Test Result of Temperature Variation

Band:	GSM 850	Channel:	190
Limit (ppm):	2.5	Frequency:	836.6MHz
Temperature (°C)	Deviation (ppm)	Result	
50	0.014	PASS	
40	0.016		
30	0.019		
20	0.011		
10	0.010		
0	0.015		
-10	0.018		
-20	0.013		
-30	0.021		

Band:	GSM 1900	Channel:	661
Limit (ppm):	Note	Frequency:	1880MHz
Temperature (°C)	Deviation (ppm)	Result	
50	0.021	PASS	
40	0.015		
30	0.017		
20	0.019		
10	0.016		
0	0.013		
-10	0.012		
-20	0.022		
-30	0.020		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Band:	WCDMA Band V	Channel:	4182
Limit (ppm):	2.5	Frequency:	836.4MHz
Temperature (°C)	RMC 12.2Kbps Deviation (ppm)	Result	
50	0.021	PASS	
40	0.015		
30	0.017		
20	0.013		
10	0.014		
0	0.019		
-10	0.018		
-20	0.023		
-30	0.024		

Band:	WCDMA Band IV	Channel:	1413
Limit (ppm):	Note	Frequency:	1732.6
Temperature (°C)	HSUPA Deviation (ppm)	Result	
50	0.022	PASS	
40	0.021		
30	0.023		
20	0.018		
10	0.015		
0	0.019		
-10	0.016		
-20	0.017		
-30	0.020		

Band:	WCDMA Band II	Channel:	9400
Limit (ppm):	Note	Frequency:	1880MHz
Temperature (°C)	RMC 12.2Kbps Deviation (ppm)	Result	
50	0.023	PASS	
40	0.018		
30	0.016		
20	0.017		
10	0.015		
0	0.013		
-10	0.019		
-20	0.018		
-30	0.022		

Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH190	GSM	4.45	+0.016	2.5	PASS
		3.87	+0.018		
		3.29	+0.014		
GSM 1900 CH661	GSM	4.45	+0.013	(Note 3.)	
		3.87	+0.016		
		3.29	+0.018		
WCDMA Band V CH4182	RMC 12.2Kbps	4.45	-0.019	2.5	
		3.87	-0.014		
		3.29	-0.017		
WCDMA Band IV CH1413	RMC 12.2Kbps	4.45	-0.015		
		3.87	-0.019		
		3.29	-0.016		
WCDMA Band II CH9400	RMC 12.2Kbps	4.45	-0.014	(Note 3.)	
		3.87	-0.015		
		3.29	-0.021		

Note:

1. Normal Voltage = 3.87V.
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Appendix A: Photographs of Test Setup

Please refer to document Appendix No.: TCT251024E025-A

Appendix B: Photographs of EUT

Please refer to document Appendix No.: TCT251024E025-B & TCT251024E025-C

*******END OF REPORT*******