

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR240400074703

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TEST REPORT

Application No.: KSCR2404000747AT
FCC ID: 2APJ4-MA922
Applicant: MeiG Smart Technology Co., Ltd
Address of Applicant: 2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao'an District, Shenzhen
Manufacturer: MeiG Smart Technology Co., Ltd
Address of Manufacturer: 2nd Floor, Office Building, No.5 Lingxia Road, Fenghuang, Fuyong Street, Bao'an District, Shenzhen
Equipment Under Test (EUT):
EUT Name: Wireless communication module
Model No.: MA922
Trade mark: MEIGLink
Standard(s) : 47 CFR Part 2
47 CFR Part 96
Date of Receipt: 2024-04-28
Date of Test: 2024-04-29 to 2024-06-29
Date of Issue: 2024-07-01

Test Result:	Pass
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* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



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<i>Revision Record</i>			
<i>Version</i>	<i>Description</i>	<i>Date</i>	<i>Remark</i>
00	Original	2024-07-01	/

Authorized for issue by:			
Tested By		<i>Maker Qi</i>	
		<hr/> Maker_Qi/Project Engineer	
Approved By		<i>Terry Hou</i>	
		<hr/> Terry Hou /Reviewer	

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2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913, §24.232, §27.50(c), §27.50(d), §27.50(h), §27.50(j), §27.50(k)	ERP≤7W(5G NR n 5) EIRP≤ 3W(5G NR n 12,71) EIRP≤ 2W(5G NR n 2,25,41) EIRP≤ 1W(5G NR n 66,77,78)	PASS
Peak-Average Ratio	§22.913(d), §24.232(d), §27.50(c), §27.50(d), §27.50(h), §27.50(j), §27.50(k)	≤13dB	PASS
Bandwidth	§2.1049	OBW:No limit EBW: No limit	PASS
Band Edge Compliance	§2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block ≤ -13dBm(5G NR n 41<5.5MHz) -25dBm(5G NR n 41≥5.5MHz)	PASS
Spurious emissions at antenna terminals	§2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)	≤ -13dBm(5G NR n 2,5,25,66,71,77,78) ≤ -25dBm(5G NR n 41)	PASS
Radiated spurious emission	§2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)	≤ -13dBm(5G NR n 2,5,25,66,71,77,78) ≤ -25dBm(5G NR n 41)	PASS
Frequency stability	§2.1055, §22.355, §24.235 §27.54	≤ ±2.5ppm.	PASS



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Remark:

This base station supports N77 and N78, and the frequency range is 3450-3800MHz. So we evaluated and tested all the band of Power and PSD, and the rest of the test items were tested based on the maximum power.

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.



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4 General Information

4.1 Details of E.U.T.

Product Name:	Wireless communication module						
Model No.:	MA922						
Firmware version:	MA9228ACHE013000009						
Single Band	FDD Band: n2,n5,n12,n25,n66,n71 TDD Band: n41,n77,n78						
Power Supply:	3.3 V~ 4.3 V						
Test Voltage	3.8V						
HPUE Power Class	Class2: n41,n77,n78						
Type of Modulation	DFTs-OFDM: BPSK\QPSK\16QAM\64QAM\256QAM CP-OFDM: QPSK\16QAM\64QAM\256QAM						
Antenna Type:	External antenna						
Antenna Gain:	n2: 2.3dBi(Provided by the manufacturer) n5: 2.69dBi(Provided by the manufacturer) n12: 5.29dBi(Provided by the manufacturer) n25: 2.3dBi(Provided by the manufacturer) n41: 3.07dBi(Provided by the manufacturer) n66: 3.05dBi(Provided by the manufacturer) n71: 5.29 dBi(Provided by the manufacturer) n77a: 3.06dBi(Provided by the manufacturer) n77d: 3.9dBi(Provided by the manufacturer) n78a: 3.06dBi(Provided by the manufacturer) n78e: 3.4dBi(Provided by the manufacturer)						
Frequency Band(s)	SISO Band	Supported Channel Bandwidth(MHz)				TX(MHz)	RX(MHz)
	NR Band n2	5	10	15	20	1850-1910	1930-1990
		25	30	40	/		
	NR Band n5	5	10	15	20	824-849	869-894
	NR Band n12	5	10	15	/	699-716	729-746
	NR Band n25	5	10	15	20	1850-1915	1850-1915
		25	30	40	/		
	NR Band n41	20	30	40	50	2496-2690	2496-2690
		60	70	80	90		
		100	/	/	/		
NR Band n66	5	10	15	20	1710-1780	2110-2200	
	25	30	40	/			
NR Band n71	5	10	15	20	663 ~ 698	663 ~ 698	

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	NR Band n77	20	30	40	50	3700-3980	3770-3980
		60	70	80	90		
		100	/	/	/		
	NR Band n78	20	30	40	50	3700-3800	3700-3800
		60	70	80	90		
		100	/	/	/		
Extreme vol. Limits:		3.3V DC to 4.3 V DC (nominal: 3.8V DC)					
Extreme temp. Tolerance:		-30°C to +55°C					
<p>Note:</p> <p>1) The antenna gain value is provided by the customer. The test lab will not be responsible for wrong test result due to incorrect information about antenna gain values.</p> <p>2) The frequency band subcarrier interval of TDD is 30kHz, and the frequency band subcarrier interval of FDD is 15kHz.</p> <p>3) The maximum ERP/EIRP is calculated from max output power and max antenna gain.</p> <p>4) All modulations have been tested, only the worst test results of QPSK & QAM are shown in the report.</p>							

4.2 Test Frequency

Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5GNR FDD n2	15KHz	5	1852.5	1880	1907.5
		10	1855	1880	1905
		15	1857.5	1880	1902.5
		20	1860	1880	1900
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5GNR FDD n5	15KHz	5	826.5	836.5	846.5
		10	829	836.5	844
		15	831.5	836.5	841.5
		20	834	836.5	839
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5GNR FDD n12	15KHz	5	701.5	707.5	713.5
		10	704	707.5	711
		15	706.5	707.5	708.5

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Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR FDD n25	15KHz	5	1852.5	1882.5	1912.5
		10	1855	1882.5	1910
		15	1857.5	1882.5	1907.5
		20	1860	1882.5	1905
		25	1862.5	1882.5	1902.5
		30	1865	1882.5	1900
		40	1870	1882.5	1895
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR TDD n41	30KHz	20	2506.02	2592.99	2679.99
		30	2511	2592.99	2674.98
		40	2516.01	2592.99	2670
		50	2521.02	2592.99	2664.99
		60	2526	2592.99	2659.98
		80	2536.02	2592.99	2649.99
		90	2541	2592.99	2644.98
		100	2546.01	2592.99	2640
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR FDD n66	15KHz	5	1712.5	1745	1777.5
		10	1715	1745	1775
		15	1717.5	1745	1772.5
		20	1720	1745	1770
		25	1722.5	1745	1767.5
		30	1725	1745	1765
		40	1730	1745	1760
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR FDD n71	15KHz	5	665.5	680.5	695.5
		10	668	680.5	693
		15	670.5	680.5	690.5
		20	673	680.5	688

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Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR TDD n77 (3700-3980MHz)	30KHz	20	3710.01	3840	3969.99
		30	3715.02	3840	3964.98
		40	3720	3840	3960
		50	3725.01	3840	3954.99
		60	3730.02	3840	3949.98
		70	3735	3840	3945
		80	3740.01	3840	3939.99
		90	3745.02	3840	3934.98
		100	3750	3840	3930
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR TDD n77 (3450-3550MHz)	30KHz	20	3460.02	3500.01	3540
		30	3465	3500.01	3534.99
		40	3470.01	3500.01	3529.98
		50	3475.02	3500.01	3525
		60	3480	3500.01	3519.99
		70	3485.01	3500.01	3514.98
		80	3490.02	3500.01	3510
		90	3495	3500.01	3504.99
		100	3500.01	3500.01	3499.98
Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR TDD n78 (3700-3800MHz)	30KHz	20	3710.01	3750	3789.99
		30	3715.02	3750	3784.98
		40	3720	3750	3780
		50	3725.01	3750	3774.99
		60	3730.02	3750	3769.98
		70	3735	3750	3765
		80	3740.01	3750	3759.99
		90	3745.02	3750	3754.98
		100	/	3750	/

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Test mode:	SCS	Nominal Bandwidth (MHz)	RF Channel		
			Low (L)	Middle (M)	High (H)
			MHz	MHz	MHz
5G NR TDD n78 (3450-3550MHz)	30KHz	20	3460.02	3500.01	3540
		30	3465	3500.01	3534.99
		40	3470.01	3500.01	3529.98
		50	3475.02	3500.01	3525
		60	3480	3500.01	3519.99
		70	3485.01	3500.01	3514.98
		80	3490.02	3500.01	3510
		90	3495	3500.01	3504.99
		100	3500.01	3500.01	3499.98

4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	48%	
Atmospheric Pressure:	1015Pa	
Temperature:	TN	25 °C
Voltage:	VL	3.3V
	VN	3.8V
	VH	4.3V

NOTE: VL= lower extreme test voltage
 VN= nominal voltage
 VH= upper extreme test voltage
 TN= normal temperature

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4.4 Test Support Unit

Description	Manufacture	Model No.	S/N
Notebook	ThinkPad	K27	EB24537645
DC power supply	Agilent	E3632A	/

4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

4.6 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

- 1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
- 2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.8 Deviation from Standards

None

4.9 Abnormalities from Standard Conditions

None

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5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/24/2023	08/23/2024
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/24/2023	08/23/2024
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	01/15/2024	01/14/2025
4	Signal Generator	R&S	SMBV100B	KSEM032	03/19/2024	03/18/2025
5	Signal Generator	R&S	SMW200A	KSEM020-1	08/24/2023	08/23/2024
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/24/2023	08/23/2024
7	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/24/2023	08/23/2024
8	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	03/19/2024	03/18/2025
9	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/24/2023	08/23/2024
10	Switcher	CCSRF	FY562	KUS2001M001-3	08/24/2023	08/23/2024
11	AC Power Source	EXTECH	6605	KS301178	N/A	N/A
12	DC Power Supply	Aglient	E3632A	KS301180	N/A	N/A
13	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	02/02/2024	02/01/2025
14	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	08/24/2023	08/23/2024
15	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	03/21/2024	03/20/2025
16	Software	BST	TST-PASS	/	N/A	N/A
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/24/2023	08/23/2024
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	03/19/2024	03/18/2025
3	Signal Generator	Agilent	E8257C	KS301066	08/24/2023	08/23/2024
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/18/2023	03/17/2025
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Bilog Antenna	SCHWARZBECK	VULB9160	CZ301016	03/19/2024	03/18/2027
7	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	03/23/2024	03/22/2026
8	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	KS301186	04/07/2023	04/06/2025
9	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/17/2024	01/16/2026
10	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	KS301187	01/17/2024	01/16/2026
11	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/15/2024	01/14/2025
12	Amplifier(18~40GHz)	TST	LNA180400G40	KSEM038	08/24/2023	08/23/2025
13	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/24/2023	08/23/2024
14	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	03/21/2024	03/20/2025
15	Software	Faratronic	EZ_EMV-v 3A1	/	N/A	N/A

6 Radio Spectrum Matter Test Results

6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement: §2.1046, §22.913, §24.232, §27.50(c), §27.50(d), §27.50(h), §27.50(j), §27.50(k)

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit:
 ERP ≤ 7W (5G NR n 5)
 EIRP ≤ 3W (5G NR n 12, 71)
 EIRP ≤ 2W (5G NR n 2, 25, 41)
 EIRP ≤ 1W (5G NR n 66, 77, 78)

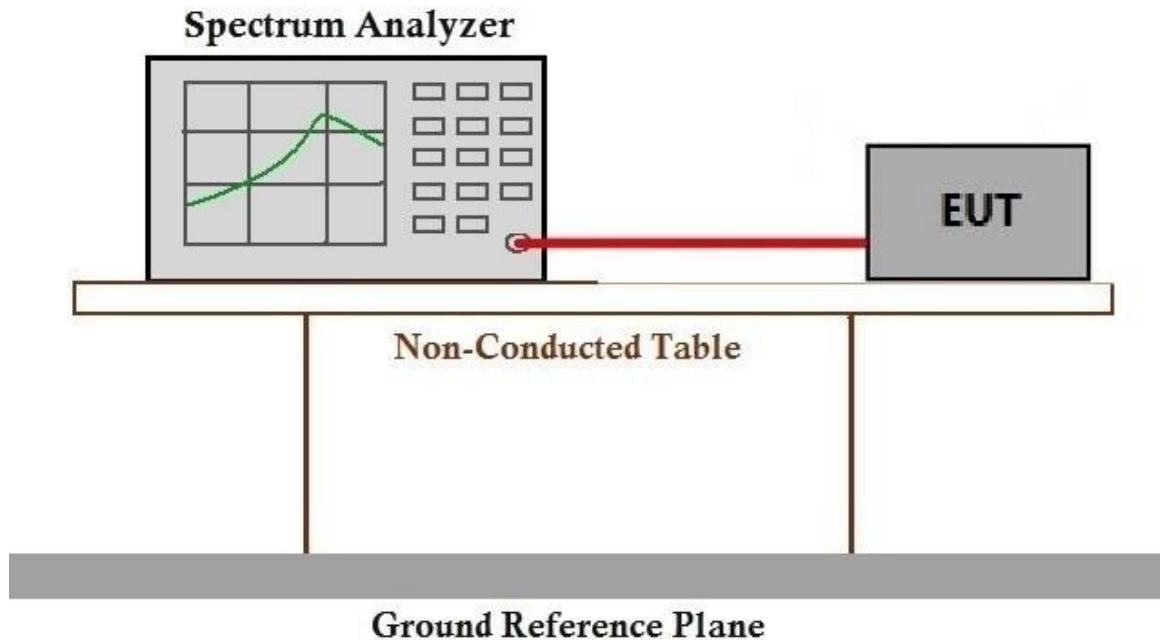
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 20.4 °C Humidity: 56.4 % RH Atmospheric Pressure: 1030 mbar

Test mode: 00: Tx mode, Keep the EUT in transmitting mode.

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

Please refer to Appendix for KSCR2404000747AT-FCC-NR-n2&5&12&25&41&66&71&n77a&n77d&n78a,&n78e

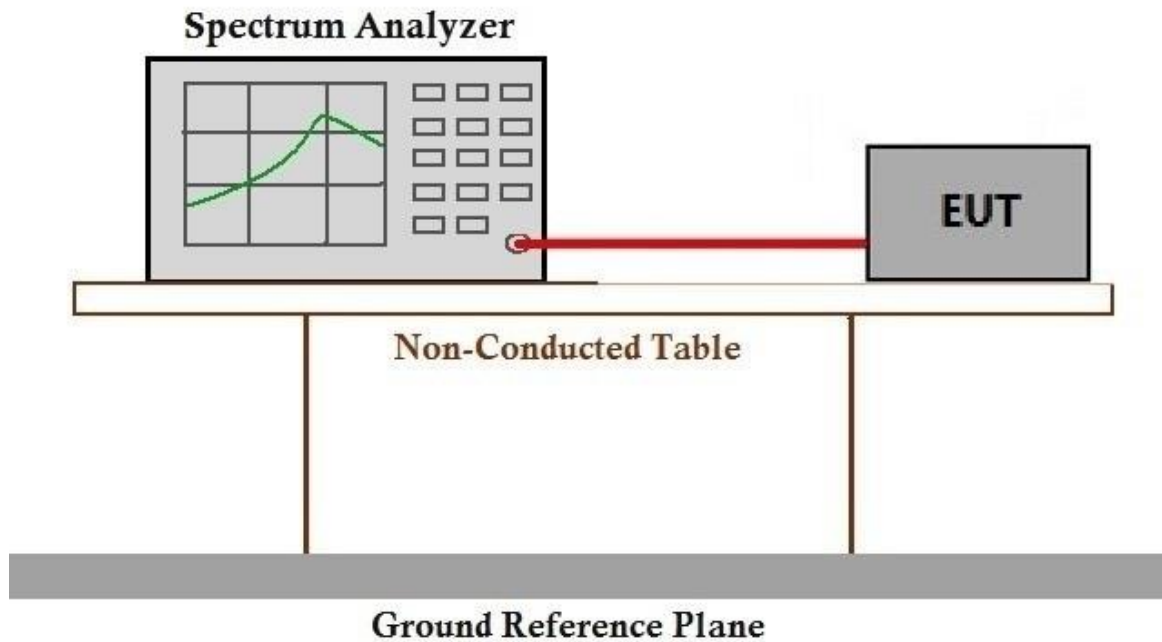
6.2 Peak-Average Ratio

Test Requirement: §22.913(d), §24.232(d), §27.50(c), §27.50(d), §27.50(h), §27.50(j), §27.50(k)
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤13dB

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 20.4 °C Humidity: 56.4 % RH Atmospheric Pressure: 1030 mbar
Test mode: 00: Tx mode, Keep the EUT in transmitting mode.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Please refer to Appendix for KSCR2404000747AT-FCC-NR-n2&5&12&25&41&66&71&n77a&n77d&n78a,&n78e

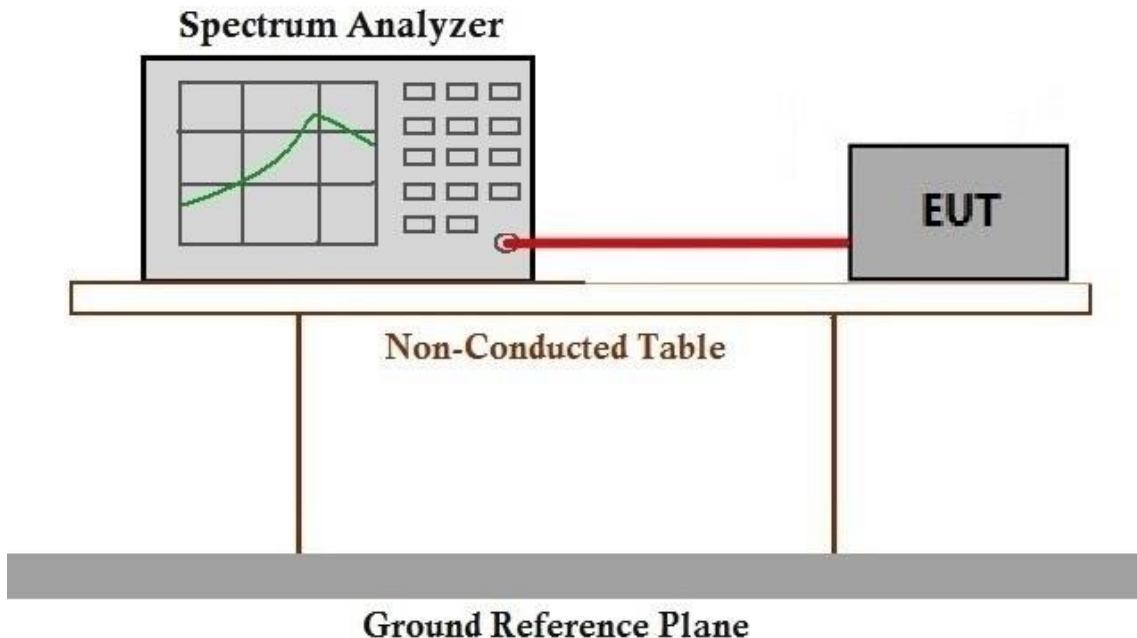
6.3 Band Edge Compliance

Test Requirement:	§2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)
Test Method:	ANSI C63.26, KDB 971168 D01 v03
Limit:	<p>Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.</p> <p>Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.</p>

6.3.1 E.U.T. Operation

Operating Environment:			
Temperature:	20.4 °C	Humidity:	56.4 % RH
		Atmospheric Pressure:	1030 mbar
Test mode:	00: Tx mode, Keep the EUT in transmitting mode.		

6.3.2 Test Setup Diagram





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6.3.3 Measurement Data

Please refer to Appendix for KSCR2404000747AT-FCC-NR-n2&5&12&25&41&66&71&n77a&n77d&n78a,&n78e

6.4 Spurious emissions at antenna terminals

Test Requirement: §2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.

Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

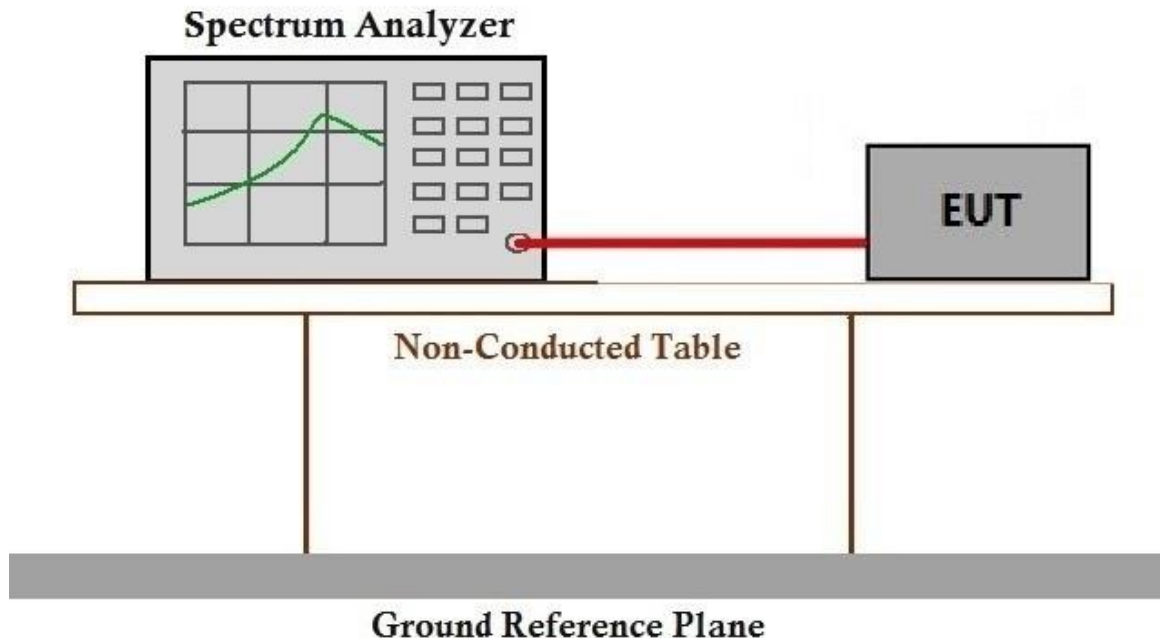
6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 20.4 °C Humidity: 56.4 % RH Atmospheric Pressure: 1030 mbar

Test mode: 00: Tx mode, Keep the EUT in transmitting mode.

6.4.2 Test Setup Diagram





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6.4.3 Measurement Data

Please refer to Appendix for KSCR2404000747AT-FCC-NR-n2&5&12&25&41&66&71&n77a&n77d&n78a,&n78e

6.5 Field strength of spurious radiation

Test Requirement: §2.1051, §22.917, §24.238, §27.53(h), §27.53(g), §27.53(m), §27.53(i), §27.50(n)

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by the SAS to CBSDs, the conducted power of any CBSD emission outside the fundamental emission bandwidth as specified in paragraph (e)(3) of this section (whether the emission is inside or outside of the authorized band) shall not exceed -13 dBm/MHz within 0-10 megahertz above the upper SAS-assigned channel edge and within 0-10 megahertz below the lower SAS-assigned channel edge. At all frequencies greater than 10 megahertz above the upper SAS assigned channel edge and less than 10 MHz below the lower SAS assigned channel edge, the conducted power of any CBSD emission shall not exceed -25 dBm/MHz. The upper and lower SAS assigned channel edges are the upper and lower limits of any channel assigned to a CBSD by an SAS, or in the case of multiple contiguous channels, the upper and lower limits of the combined contiguous channels.

Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

Note: For MIMO mode, the conducted Bandedge/Spurious are tested at single antenna port and add $10 \cdot \log(NANT)$ according to KDB 662911 D01, only the worst MIMO Ant is shown in the report.

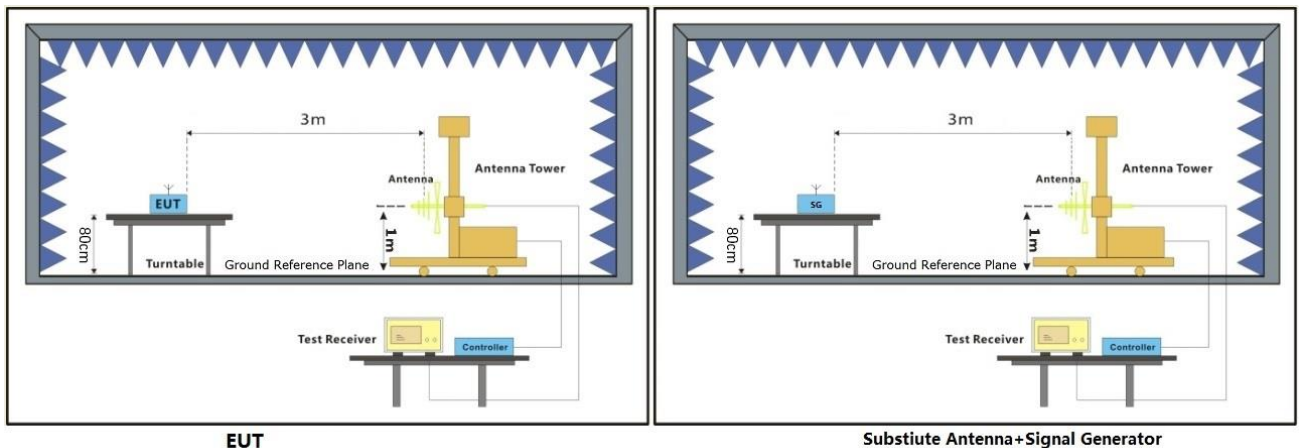
6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20.4 °C Humidity: 56.4 % RH Atmospheric Pressure: 1030 mbar

Test mode: 00: Tx mode, Keep the EUT in transmitting mode.

6.5.2 Test Setup Diagram



6.5.3 Measurement Procedure and Data

Test Procedure:

- (1) On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3) The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7) The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11) The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14) The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15) The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17) The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

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n2-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3337.4	-54.08	-13	-41.08	Horizontal
6548.4	-55.94	-13	-42.94	Horizontal
8955.8	-54.07	-13	-41.07	Horizontal
1707.5	-51.46	-13	-38.46	Vertical
6305.6	-58.75	-13	-45.75	Vertical
7999.9	-55.28	-13	-42.28	Vertical

n2-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4061.2	-56.12	-13	-43.12	Horizontal
7099.2	-60.77	-13	-47.77	Horizontal
10007.8	-56.92	-13	-43.92	Horizontal
4709.2	-51.02	-13	-38.02	Vertical
6452.7	-59.25	-13	-46.25	Vertical
10196.4	-59.13	-13	-46.13	Vertical

n2-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3194.8	-59.31	-13	-46.31	Horizontal
5524.6	-61.07	-13	-48.07	Horizontal
7756.5	-53.03	-13	-40.03	Horizontal
2092.7	-53.44	-13	-40.44	Vertical
6007.3	-61.10	-13	-48.10	Vertical
10164.6	-56.60	-13	-43.60	Vertical

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n5-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3320.7	-51.32	-13	-38.32	Horizontal
8436.3	-57.89	-13	-44.89	Horizontal
10061.1	-55.21	-13	-42.21	Horizontal
4192.3	-60.58	-13	-47.58	Vertical
6947.8	-59.13	-13	-46.13	Vertical
8513.1	-53.28	-13	-40.28	Vertical

n5-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3839.0	-50.76	-13	-37.76	Horizontal
5756.5	-60.82	-13	-47.82	Horizontal
10990.6	-57.52	-13	-44.52	Horizontal
2524.4	-55.77	-13	-42.77	Vertical
5128.6	-60.84	-13	-47.84	Vertical
8930.1	-56.01	-13	-43.01	Vertical

n5-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3847.8	-58.32	-13	-45.32	Horizontal
5754.8	-63.40	-13	-50.40	Horizontal
9636.8	-56.69	-13	-43.69	Horizontal
3775.0	-60.22	-13	-47.22	Vertical
5487.3	-59.65	-13	-46.65	Vertical
8905.1	-52.50	-13	-39.50	Vertical

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n12-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5922.8	-59.18	-13	-46.18	Horizontal
8655.6	-60.23	-13	-47.23	Horizontal
10570.9	-57.05	-13	-44.05	Horizontal
5393.9	-58.15	-13	-45.15	Vertical
9037.0	-57.96	-13	-44.96	Vertical
12740.9	-53.42	-13	-40.42	Vertical

n12-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3871.4	-53.74	-13	-40.74	Horizontal
4397.6	-59.16	-13	-46.16	Horizontal
10166.4	-56.63	-13	-43.63	Horizontal
3639.1	-53.30	-13	-40.30	Vertical
5427.1	-60.04	-13	-47.04	Vertical
10648.2	-58.08	-13	-45.08	Vertical

n12-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4128.0	-60.56	-13	-47.56	Horizontal
5146.7	-60.70	-13	-47.70	Horizontal
10814.4	-53.51	-13	-40.51	Horizontal
2373.0	-60.21	-13	-47.21	Vertical
4605.6	-61.67	-13	-48.67	Vertical
9839.2	-54.19	-13	-41.19	Vertical

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n25-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3395.4	-59.68	-13	-46.68	Horizontal
6784.6	-59.98	-13	-46.98	Horizontal
10077.0	-54.51	-13	-41.51	Horizontal
3638.1	-53.93	-13	-40.93	Vertical
5084.4	-58.58	-13	-45.58	Vertical
10198.5	-54.21	-13	-41.21	Vertical

n25-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4209.4	-53.21	-13	-40.21	Horizontal
5168.0	-60.44	-13	-47.44	Horizontal
10792.0	-59.37	-13	-46.37	Horizontal
2893.2	-59.01	-13	-46.01	Vertical
5568.9	-58.27	-13	-45.27	Vertical
10662.5	-56.31	-13	-43.31	Vertical

n25-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4036.5	-53.38	-13	-40.38	Horizontal
6910.6	-63.58	-13	-50.58	Horizontal
9200.1	-56.11	-13	-43.11	Horizontal
3398.9	-59.01	-13	-46.01	Vertical
6988.2	-59.25	-13	-46.25	Vertical
9967.1	-53.32	-13	-40.32	Vertical

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n41-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5678.4	-53.85	-25	-28.85	Horizontal
8562.8	-60.29	-25	-35.29	Horizontal
12140.6	-57.98	-25	-32.98	Horizontal
6231.5	-53.58	-25	-28.58	Vertical
9741.9	-59.21	-25	-34.21	Vertical
13743.8	-59.93	-25	-34.93	Vertical

n41-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5638.3	-58.88	-25	-33.88	Horizontal
8456.5	-59.59	-25	-34.59	Horizontal
13864.4	-55.49	-25	-30.49	Horizontal
6764.9	-54.27	-25	-29.27	Vertical
9403.8	-61.31	-25	-36.31	Vertical
12438.2	-55.92	-25	-30.92	Vertical

n41-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5960.0	-53.20	-25	-28.20	Horizontal
8988.4	-59.32	-25	-34.32	Horizontal
13622.7	-52.46	-25	-27.46	Horizontal
6788.4	-53.68	-25	-28.68	Vertical
9061.1	-62.44	-25	-37.44	Vertical
13462.4	-53.02	-25	-28.02	Vertical

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n66-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3906.8	-53.42	-13	-40.42	Horizontal
6721.2	-60.61	-13	-47.61	Horizontal
8931.9	-55.41	-13	-42.41	Horizontal
3802.6	-55.51	-13	-42.51	Vertical
4266.7	-56.07	-13	-43.07	Vertical
9228.3	-54.86	-13	-41.86	Vertical

n66-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
2821.0	-53.96	-13	-40.96	Horizontal
6130.5	-57.50	-13	-44.50	Horizontal
7518.7	-59.08	-13	-46.08	Horizontal
3369.9	-58.57	-13	-45.57	Vertical
6029.9	-58.32	-13	-45.32	Vertical
10948.7	-57.17	-13	-44.17	Vertical

n66-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3205.4	-56.93	-13	-43.93	Horizontal
4396.8	-59.16	-13	-46.16	Horizontal
9173.7	-53.02	-13	-40.02	Horizontal
2514.1	-60.39	-13	-47.39	Vertical
5042.3	-59.24	-13	-46.24	Vertical
10995.2	-56.31	-13	-43.31	Vertical

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n71-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3808.3	-55.82	-13	-42.82	Horizontal
4006.9	-59.34	-13	-46.34	Horizontal
7341.6	-56.14	-13	-43.14	Horizontal
2924.5	-53.72	-13	-40.72	Vertical
6032.7	-56.53	-13	-43.53	Vertical
7990.0	-54.70	-13	-41.70	Vertical

n71-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
2717.6	-58.21	-13	-45.21	Horizontal
6809.6	-58.27	-13	-45.27	Horizontal
10595.8	-58.57	-13	-45.57	Horizontal
2894.7	-58.39	-13	-45.39	Vertical
6246.3	-57.60	-13	-44.60	Vertical
8989.5	-59.07	-13	-46.07	Vertical

n71-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3610.3	-51.69	-13	-38.69	Horizontal
4438.7	-60.69	-13	-47.69	Horizontal
10235.4	-53.45	-13	-40.45	Horizontal
3602.4	-59.93	-13	-46.93	Vertical
5585.2	-59.53	-13	-46.53	Vertical
8826.3	-56.37	-13	-43.37	Vertical

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n77a-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5357.2	-57.38	-13	-44.38	Horizontal
9709.9	-56.50	-13	-43.50	Horizontal
10590.1	-57.29	-13	-44.29	Horizontal
6601.5	-52.56	-13	-39.56	Vertical
9147.1	-60.69	-13	-47.69	Vertical
11782.9	-57.11	-13	-44.11	Vertical

n77a-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
6362.8	-52.34	-13	-39.34	Horizontal
9917.1	-58.80	-13	-45.80	Horizontal
12878.9	-59.55	-13	-46.55	Horizontal
5546.3	-55.82	-13	-42.82	Vertical
8912.4	-62.19	-13	-49.19	Vertical
10440.4	-59.53	-13	-46.53	Vertical

n77a-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
6935.9	-60.39	-13	-47.39	Horizontal
9822.3	-62.17	-13	-49.17	Horizontal
12516.7	-53.46	-13	-40.46	Horizontal
6079.3	-59.07	-13	-46.07	Vertical
9493.2	-63.09	-13	-50.09	Vertical
13226.8	-55.23	-13	-42.23	Vertical

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n77d-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5922.2	-54.81	-13	-41.81	Horizontal
8135.0	-59.02	-13	-46.02	Horizontal
10122.5	-56.29	-13	-43.29	Horizontal
4676.7	-58.88	-13	-45.88	Vertical
8445.1	-61.92	-13	-48.92	Vertical
10575.4	-55.79	-13	-42.79	Vertical

n77d-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3563.2	-57.60	-13	-44.60	Horizontal
6045.0	-59.15	-13	-46.15	Horizontal
10283.7	-55.37	-13	-42.37	Horizontal
3534.9	-52.72	-13	-39.72	Vertical
5852.3	-58.17	-13	-45.17	Vertical
11329.0	-59.21	-13	-46.21	Vertical

n77d-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3293.0	-53.94	-13	-40.94	Horizontal
7486.8	-59.43	-13	-46.43	Horizontal
1313.8	-56.31	-13	-43.31	Horizontal
4558.0	-57.86	-13	-44.86	Vertical
7021.9	-57.06	-13	-44.06	Vertical
9777.8	-54.46	-13	-41.46	Vertical

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n78a-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
6571.9	-57.56	-13	-44.56	Horizontal
8891.9	-60.17	-13	-47.17	Horizontal
12610.6	-57.01	-13	-44.01	Horizontal
6232.5	-60.55	-13	-47.55	Vertical
9594.5	-59.85	-13	-46.85	Vertical
11638.7	-54.47	-13	-41.47	Vertical

n78a-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5638.8	-50.11	-13	-37.11	Horizontal
9120.3	-59.02	-13	-46.02	Horizontal
12796.4	-56.78	-13	-43.78	Horizontal
6752.6	-52.14	-13	-39.14	Vertical
8397.8	-58.02	-13	-45.02	Vertical
13707.3	-56.98	-13	-43.98	Vertical

n78a-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
5387.0	-60.25	-13	-47.25	Horizontal
7811.1	-61.37	-13	-48.37	Horizontal
12993.3	-56.83	-13	-43.83	Horizontal
5566.0	-58.75	-13	-45.75	Vertical
9869.3	-61.42	-13	-48.42	Vertical
14027.7	-56.95	-13	-43.95	Vertical

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n78e-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4668.3	-59.23	-13	-46.23	Horizontal
7458.9	-57.91	-13	-44.91	Horizontal
11406.6	-57.29	-13	-44.29	Horizontal
4505.9	-58.53	-13	-45.53	Vertical
6822.1	-56.08	-13	-43.08	Vertical
11003.5	-54.82	-13	-41.82	Vertical

n78e-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
4553.8	-57.86	-13	-44.86	Horizontal
6699.2	-57.51	-13	-44.51	Horizontal
11080.2	-54.61	-13	-41.61	Horizontal
3972.7	-52.41	-13	-39.41	Vertical
6477.7	-57.73	-13	-44.73	Vertical
10350.4	-56.57	-13	-43.57	Vertical

n78e-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
6145.1	-55.40	-13	-42.40	Horizontal
7980.9	-57.68	-13	-44.68	Horizontal
10852.7	-56.64	-13	-43.64	Horizontal
4969.7	-57.32	-13	-44.32	Vertical
6508.0	-58.95	-13	-45.95	Vertical
11294.0	-55.62	-13	-42.62	Vertical

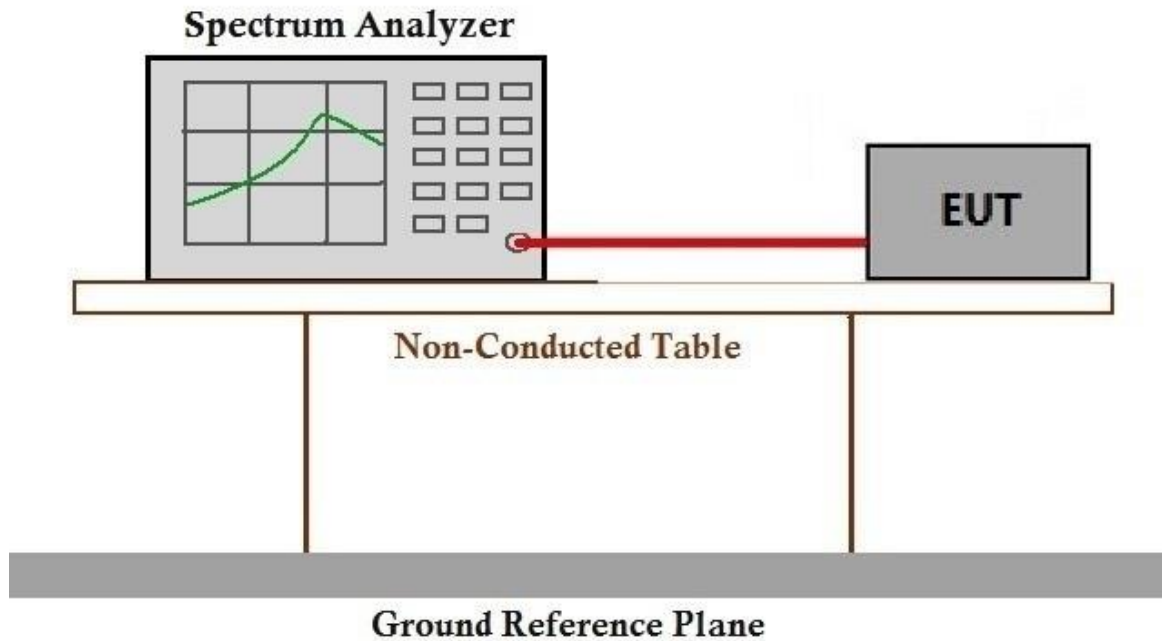
6.6 Frequency stability

Test Requirement: §2.1055, §22.355, §24.235, §27.54
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: Fundamental emission stays within authorized frequency block

6.6.1 E.U.T. Operation

Operating Environment:
Temperature: 20.4 °C Humidity: 56.4 % RH Atmospheric Pressure: 1030 mbar
Test mode: 00: Tx mode, Keep the EUT in transmitting mode.

6.6.2 Test Setup Diagram





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6.6.3 Measurement Data

Please refer to Appendix for KSCR2404000747AT-FCC-NR-n2&5&12&25&41&66&71&n77a&n77d&n78a,&n78e



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7 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2404000747AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2404000747AT

- End of the Report -