



FCC TEST REPORT

FCC ID: 2AF6B-10727

On Behalf of

Shenzhen RAKwireless Technology Co.,Ltd.

WisMesh Pocket V3

Model No.: RAK10727

Prepared for : Shenzhen RAKwireless Technology Co.,Ltd.
Address : Room 506, Building B, New Compark, Pingshan First Road, Taoyuan
Street, Nanshan District, Shenzhen, Guangdong, China

Prepared By : Shenzhen PSI Testing Co., Ltd.
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TEST REPORT DECLARATION

Applicant : Shenzhen RAKwireless Technology Co.,Ltd.

Address : Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street,
Nanshan District, Shenzhen, Guangdong, China

Manufacturer : Shenzhen RAKwireless Technology Co.,Ltd.

Address : Room 506, Building B, New Compark, Pingshan First Road, Taoyuan Street,
Nanshan District, Shenzhen, Guangdong, China

Factory : MOKO TECHNOLOGY Ltd

Address : Factory 201, 107 Pinshun Rd Guixiang community, Guanlan Street, Longhua,
Shenzhen, China 518110

EUT Description : WisMesh Pocket V3

(A) Model No. : RAK10727

(B) Trademark : 

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC Part 15C requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....:

Felix Pang
Test Engineer


.....

Approved by (name + signature).....:

Simple Guan
Project Manager


.....

Date of issue.....:

July 28, 2026

Revision History

Revision	Issue Date	Revisions	Revised By
V0	July 28, 2026	Initial released Issue	Felix Pang

1. Summary Of Standards And Results

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Test Item	Standards Paragraph	Result
Conducted Emission	FCC Part 15: 15.207, ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
6dB Bandwidth	FCC PART 15:15.247(a)(2), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Output Power	FCC Part 15: 15.247(b)(3), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Radiated Spurious Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Conducted Spurious & Band Edge Emission	FCC Part 15: 15.247(d), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Power Spectral Density	FCC PART 15:15.247(e), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Radiated Band Edge Emission	FCC Part 15: 15.247(d), ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024	P
Antenna Requirement	FCC Part 15: 15.203	P
Note: 1. P is an abbreviation for Pass. 2. F is an abbreviation for Fail. 3. N/A is an abbreviation for Not Applicable. 4. Conclusion determination rules of this report: Unless there are clear provisions on measurement uncertainty in the standard or customer requirements, decision by actual test data without considering measurement uncertainty. 5. Measurement method usage KDB 558074 D01 15.247 Meas Guidance v05r02.		

2. General Information

2.1. Description of Device (EUT)

Product Name : WisMesh Pocket V3
Model : RAK10727
Diff : N/A
Test Voltage : DC 3.7V from battery, DC 5V from adapter.

Radio Technology	: Lora
Operation frequency	: 915MHz
Modulation type	: LoRa Chirp Spread Spectrum
Channel No.	: 1 Channels
Configuration	SF10
Antenna Type	: Rod antenna, Maximum Gain is -4.56dBi.

Software version : N/A
Hardware version/FVIN : N/A

Note : Antenna information is provided by applicant.
Testing lab is not responsible for the accuracy of the information.

2.2. Accessories of Device (EUT)

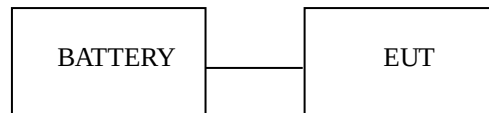
Accessories 1 : N/A
 Manufacturer : N/A
 Model : N/A
 Rating : N/A

2.3. Tested Supporting System Details

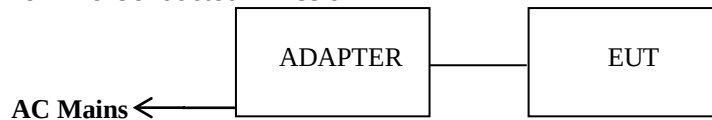
No.	Description	Manufacturer	Model	Serial Number
1	Notebook PC	Dell	Latitude 3490	N/A
2	Adapter	Baseus	CCXFK65CC	AJ250501

2.4. Block Diagram of Connection Between EUT and Simulators

Spurious Emission



Power Line Conducted Emission



RF



2.5. Test Mode Description

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Tested mode, channel, and data rate information		
Mode	Channel	Frequency (MHz)
Lora	CH1	915.0

2.6. Software test version and power setting information

Software testing version	sscom5.12.2.exe		
Mode	The client 's preset testing software is used to control the operation of EUT in continuous transmission mode and select the testing channel, wireless mode:		
Power level setup by client			
Mode	Channel	Frequency (MHz)	Soft Set
Lora	CH-1	915.0	TX level is set as defaults value.

2.7. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	26℃
Humidity range:	25-75%	54%
Pressure range:	86-106kPa	101kPa

2.8. Test Facility

Shenzhen PSI Testing Co., Ltd.

1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission

Registration Number: 916281

Designation Number: CN1362

September 21, 2023 Certificated by IC

Registration Number: 31123

CAB identifier: CN0158

2.9. Measurement Uncertainty

(95% confidence levels, k=2)

Item	Uncertainty
Power Line Conducted Emissions Test	2.13dB
Radiation Emission test in 3m chamber(Below 30MHz)	4.07dB
Radiation Emission test in 3m chamber(30MHz to 1GHz)	4.51dB
Radiation Emission test in 3m chamber(1GHz to 18GHz)	5.07dB
Radiation Emission test in 3m chamber(18GHz to 40GHz)	5.21dB
Radio Frequency	48.24KHz
Conducted RF Power	0.41dB
Power Spectral Density	0.39 dB
Occupied-Bandwidth	968Hz
Duty Cycle	1%
Conducted-Spurious Emission	1.26dB

2.10.Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	N/A	/	2025.12.18	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2025.12.18	1 Year
3.	L.I.S.N.#1	Rohde&Schwarz	ENV 216	102282	/	2025.12.18	1 Year
4.	L.I.S.N.#2	EMCO	3810-2	00094944	/	2025.12.18	1 Year
5.	Loop Antenna	Schwarz beck	FMZB 1519B	00128	/	2025.01.02	2 Year
6.	Bilog Antenna	Schwarz beck	VULB 9168	01448	/	2025.01.02	2 Year
7.	Spectrum Analyzer	Rohde&Schwarz	FSV40-N	101648	3.70	2025.12.18	1 Year
8.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
9.	Amplifier	SKET	LNPA_0118 G-50	SK20220329 01	/	2025.12.18	1 Year
10.	Horn Antenna	Schwarz beck	BBHA 9170	00946	/	2024.12.31	2 Year
11.	Amplifier	SKET	LNPA_1840 G-50	SK20190403 02	/	2025.12.18	1 Year
12.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.0 2-1111533-F Z	/	2025.12.18	1 Year
13.	RF Sensor Unit	Tachoy	TR1029-2	20220428P0 08	/	2025.12.18	1 Year
14.	Spectrum Analyzer	Agilent	N9020A	MY51281067	A.14.03	2025.12.18	1 Year
15.	Temp. & Humid Chamber	Auchno	9606	/	/	2025.12.18	1 Year
16.	Regulated DC Power Supply	Xinouhua	ADC120V10 A	2022112516 38	/	2025.12.18	1 Year
17.	Cable	SKET	Cable-RE-1	#02/#03	/	2025.12.18	1 Year
18.	Cable	SKET	Cable-RE-2	#01	/	2025.12.18	1 Year
19.	Cable	SKET	Cable-RE-3	#04	/	2025.12.18	1 Year
20.	Cable	SKET	Cable-CE-1	A-E-24	/	2025.12.18	1 Year
21.	6dB Attenuator	Schwarzbeck	DGA 9552N 6dB	CK4186	/	2025.12.18	1 Year
22.	Power meter	Agilent	E4419B	GB40202121	/	2025.12.18	1 Year
23.	Comprehensive Test Instrument	Rohde&Schwarz	CMW 500	145266	/	2025.12.18	1 Year
For Test Software Information							
Item		Software Name	Manufacturer		Version		
RE		EZ EMC	Farad		PSI-3A1		
CE		EZ EMC	Farad		PSI-3A1		
RF		RTS	TACHOY		V1.0.0		

3. Spurious Emission

3.1. Test Limits

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

Note: The peak limit is 20 dB higher than the average limit

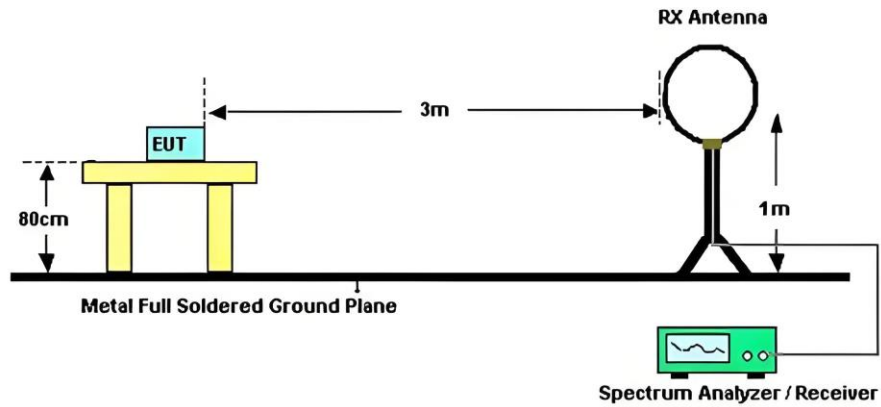
All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

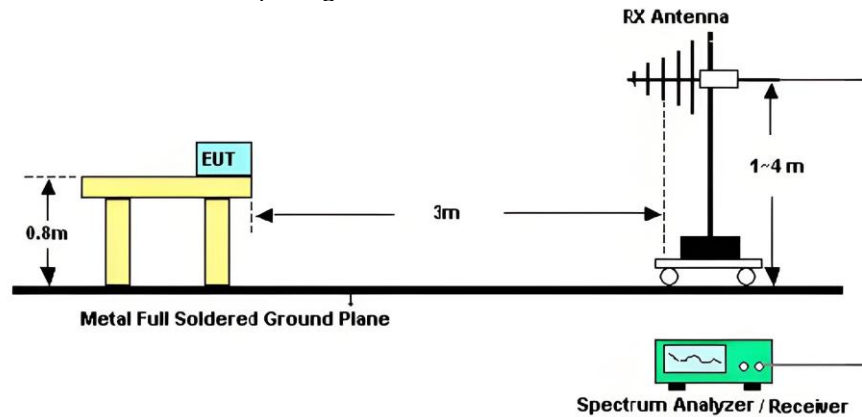
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

3.2. Block Diagram of Test setup

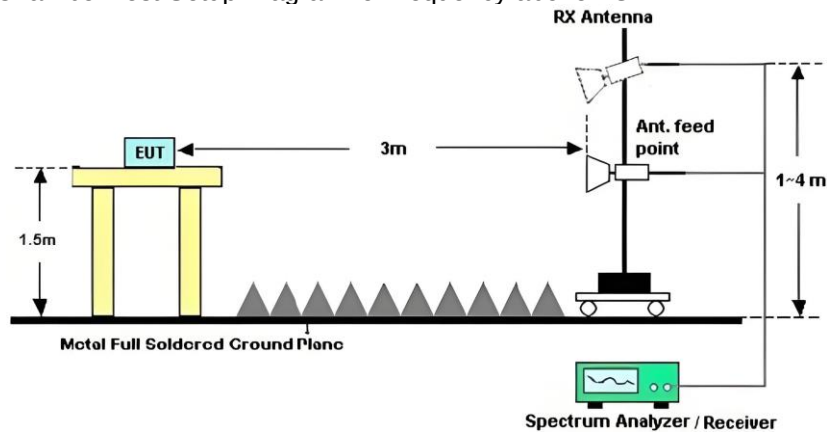
a. In 3m Anechoic Chamber Test Setup Diagram for below 30MHz



b. In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



c. In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



3.3. Test Procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.
- (2) Setup EUT and simulator
- (3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
 - (a) Change work frequency or channel of device if practicable.
 - (b) Change modulation type of device if practicable.
 - (c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions
- (4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated
- (5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 on Radiated Emission test.
- (6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 3MHz for Average measure.

Test setup information:

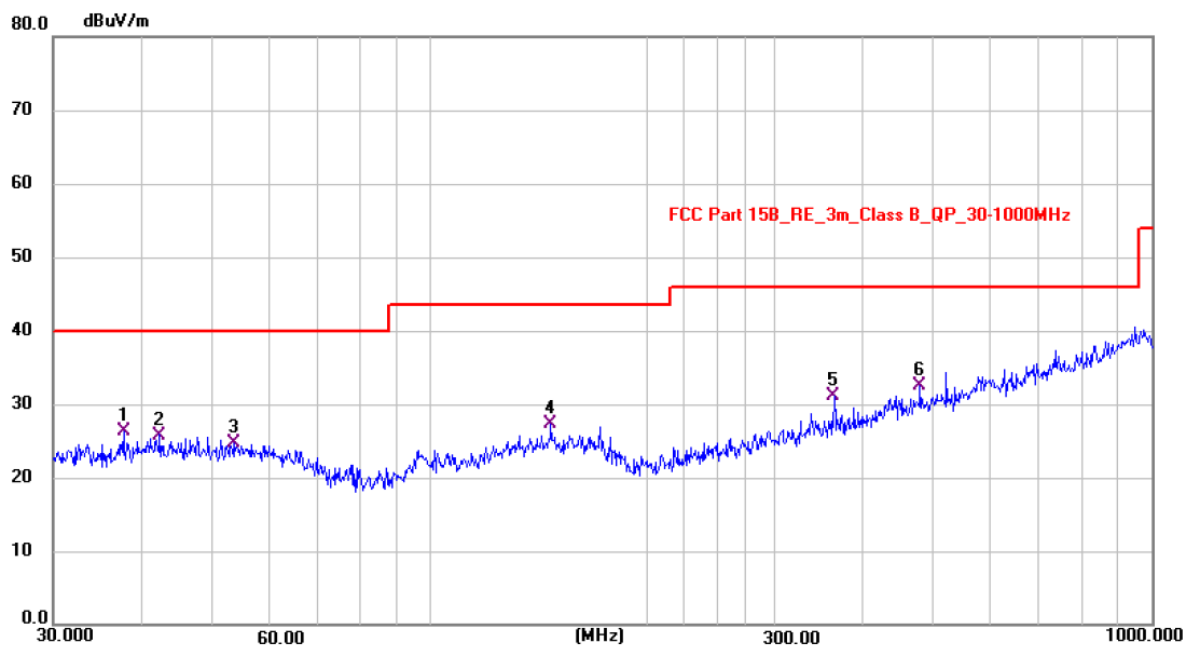
9KHz~150KHz	RBW 200Hz	VBW 1KHz
150KHz~30MHz	RBW 9KHz	VBW 30KHz
30MHz~1GHz	RBW 120KHz	VBW 300KHz
Above1GHz	RBW 1MHz	VBW 3MHz

3.4. Test Results

We have scanned from 9kHz to the 10th harmonic of the EUT's highest frequency.
Detailed information please see the following page.

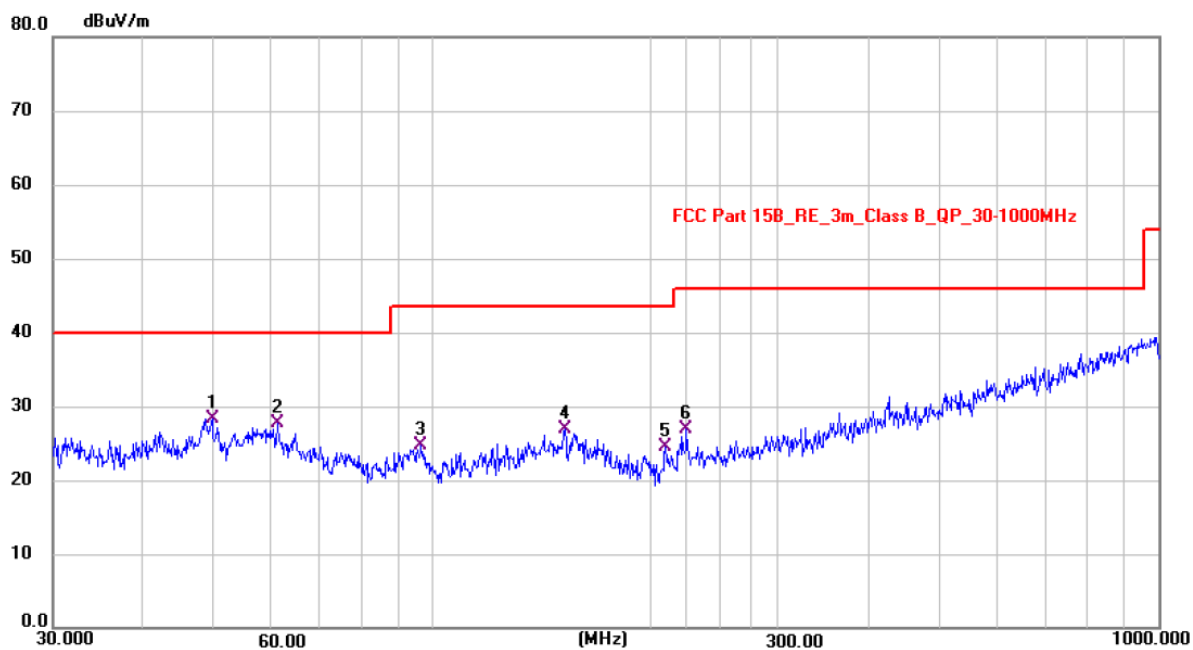
From 9KHz to 30MHz:	
Test Date : 2026.07.03	Temperature : 26℃
Test Engineer : Felix Pang	Humidity : 54%
Test Mode : Lora mode	
Test Voltage : DC 3.7V	
Test Results : PASS	
Note:	The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

From 30MHz to 1000MHz:	
Test Date : 2026.07.03	Temperature : 26℃
Test Engineer : Felix Pang	Humidity : 54%
Test Mode : Lora mode	
Test Voltage : DC 3.7V	
Test Results : PASS	
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. All modes have been tested, and only worst data of TX Mode Channel 1 was listed in this report.

Polarization: Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.6137	12.29	13.94	26.23	40.00	-13.77	QP
2	42.2652	11.69	14.11	25.80	40.00	-14.20	QP
3	53.5756	11.04	13.57	24.61	40.00	-15.39	QP
4	146.9521	12.24	14.99	27.23	43.50	-16.27	QP
5	364.0999	14.19	16.85	31.04	46.00	-14.96	QP
6 *	478.2163	12.98	19.48	32.46	46.00	-13.54	QP

Level = Reading + Factor Margin = Level - Limit

Polarization: Vertical

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	49.8377	14.60	13.75	28.35	40.00	-11.65	QP
2	61.1316	14.61	13.04	27.65	40.00	-12.35	QP
3	96.6054	14.01	10.73	24.74	43.50	-18.76	QP
4	152.5304	11.71	15.20	26.91	43.50	-16.59	QP
5	210.0482	12.64	11.89	24.53	43.50	-18.97	QP
6	223.7334	14.40	12.48	26.88	46.00	-19.12	QP

Level = Reading + Factor Margin = Level - Limit

From 1GHz to 25GHz:	
Test Date : 2026.07.03	Temperature : 26℃
Test Engineer : Felix Pang	Humidity : 54%
Test Mode : Lora mode	
Test Voltage : DC 3.7V	
Test Results : PASS	
Note:	1. The test results are listed in next pages. 2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out. 3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.

Modulation Type : LoRa Chirp Spread Spectrum								
Test Mode : TX 915MHz								
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)	Limit (dBuV/m)	Margin	Remark
1	1830.0	V	59.58	-12.70	46.88	74.00	-27.12	Peak
2	1830.0	V	46.81	-12.70	34.11	54.00	-19.89	Avg
3	2745.0	--	--	--	--	--	--	--
4	3660.0	--	--	--	--	--	--	--
5	1830.0	H	55.19	-12.70	42.49	74.00	-31.51	Peak
6	1830.0	H	44.90	-12.70	32.20	54.00	-21.80	Avg
7	2745.0	--	--	--	--	--	--	--
8	3660.0	--	--	--	--	--	--	--
Note: 1. Means other frequency and mode comply with standard requirements and at least have 20dB margin. 2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit.								

4. Power Line Conducted Emission

4.1. Test Limits

Frequency (MHz)	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 -0.50	66 -56*	56 - 46*
0.50 -5.00	56	46
5.00 -30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

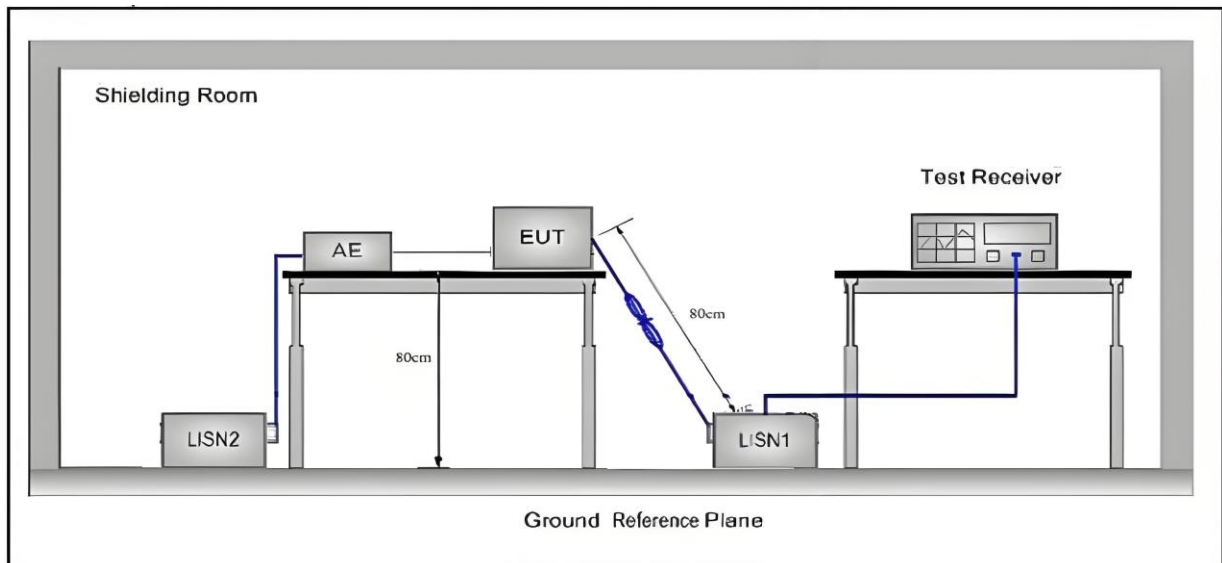
4.2. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10-2020+Cor.

1-2023+C63.10a-2024 + Errata to C63.10a-2024 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9 kHz.

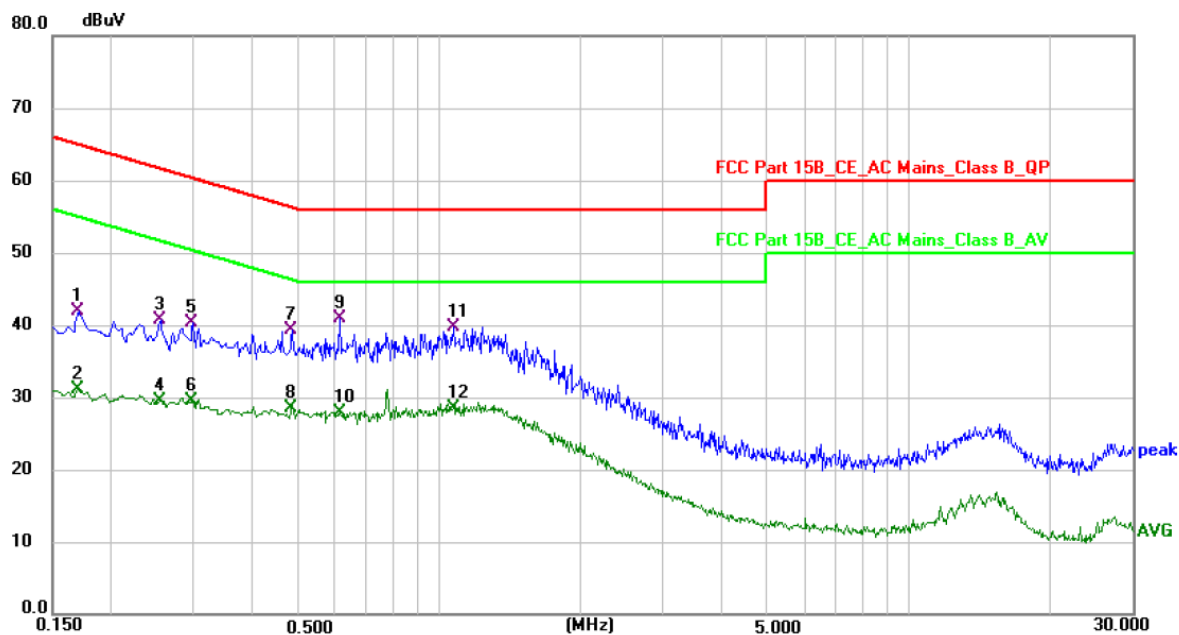
4.3. Test Setup



4.4. Test Results

Test Date	: 2026.07.03	Temperature	: 26℃
Test Engineer	: Felix Pang	Humidity	: 54%
Test Mode	: Lora mode		
Test Voltage	: DC 5V From Adapter Input AC 120V/60Hz		
Test Results	: PASS		
Note:	1. The test results are listed in next pages.		
	2. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector and quasi-peak detector need not be carried out.		
	3. If the limits for the measurement with the average detector are met when using a receiver with a quasi-peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.		

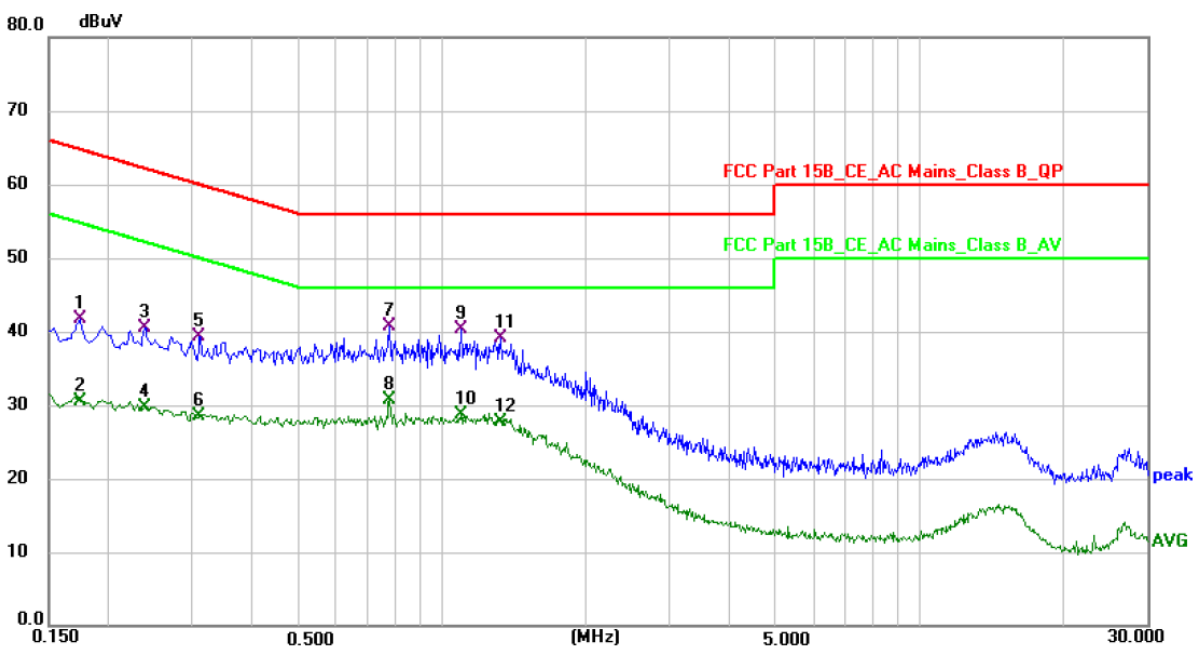
Polarization: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1700	32.23	9.60	41.83	64.96	-23.13	QP
2	0.1700	21.43	9.60	31.03	54.96	-23.93	AVG
3	0.2540	31.31	9.42	40.73	61.63	-20.90	QP
4	0.2540	20.11	9.42	29.53	51.63	-22.10	AVG
5	0.2980	30.87	9.42	40.29	60.30	-20.01	QP
6	0.2980	20.10	9.42	29.52	50.30	-20.78	AVG
7	0.4860	29.55	9.68	39.23	56.24	-17.01	QP
8	0.4860	18.91	9.68	28.59	46.24	-17.65	AVG
9 *	0.6140	31.27	9.56	40.83	56.00	-15.17	QP
10	0.6140	18.37	9.56	27.93	46.00	-18.07	AVG
11	1.0740	29.83	9.84	39.67	56.00	-16.33	QP
12	1.0740	18.66	9.84	28.50	46.00	-17.50	AVG

Note: Level = Reading + Factor Margin = Level - Limit

Polarization: N



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	32.10	9.52	41.62	64.77	-23.15	QP
2	0.1740	21.06	9.52	30.58	54.77	-24.19	AVG
3	0.2380	31.09	9.42	40.51	62.17	-21.66	QP
4	0.2380	20.20	9.42	29.62	52.17	-22.55	AVG
5	0.3100	29.85	9.42	39.27	59.97	-20.70	QP
6	0.3100	18.99	9.42	28.41	49.97	-21.56	AVG
7	0.7780	30.76	9.85	40.61	56.00	-15.39	QP
8 *	0.7780	20.90	9.85	30.75	46.00	-15.25	AVG
9	1.0940	30.69	9.61	40.30	56.00	-15.70	QP
10	1.0940	19.07	9.61	28.68	46.00	-17.32	AVG
11	1.3300	29.55	9.56	39.11	56.00	-16.89	QP
12	1.3300	18.24	9.56	27.80	46.00	-18.20	AVG

Note: Level = Reading + Factor Margin = Level - Limit

5. Out-of-band Emissions

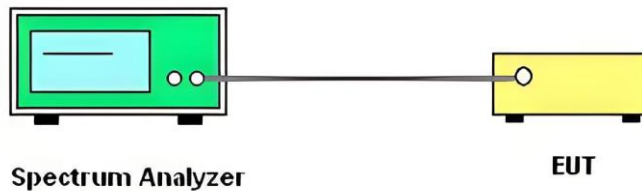
5.1. Test Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.

5.2. Test Procedure

ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Section 11.11.1, Section 11.11.2, Section 11.11.3 Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge and out-of-band emissions.

5.3. Test Setup



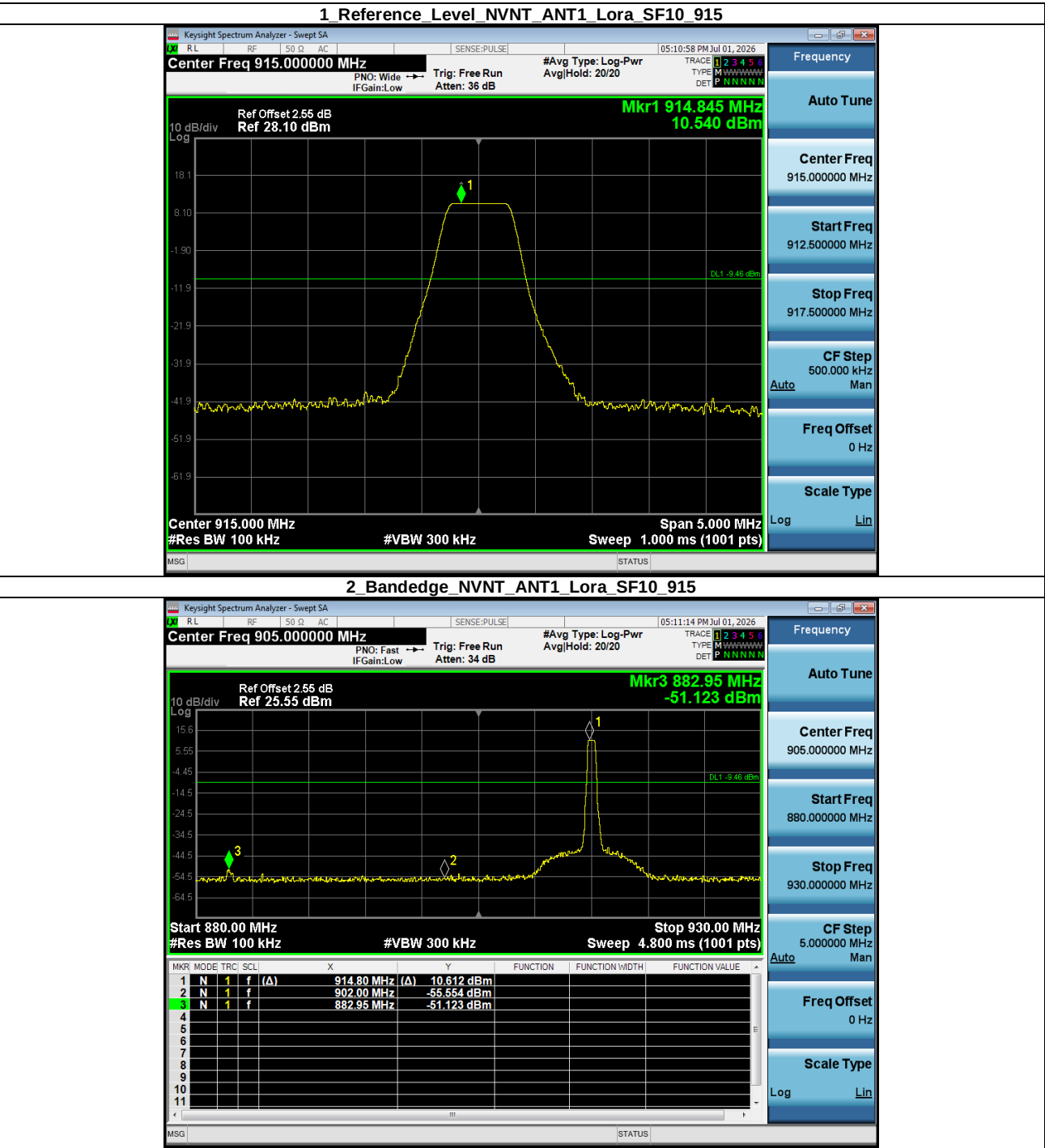
5.4. Test Results

PASS.

The test results are listed in next pages.

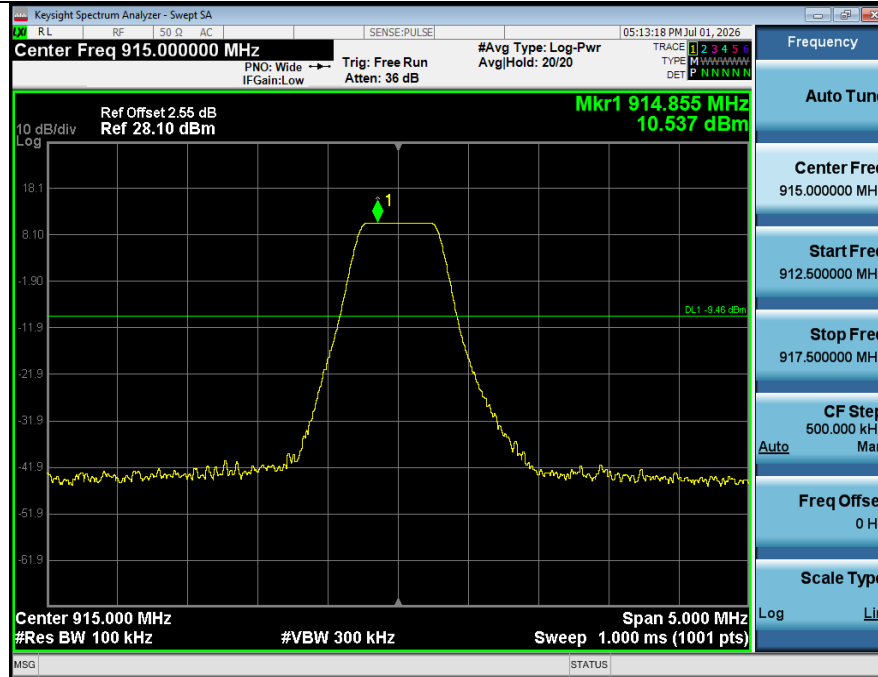
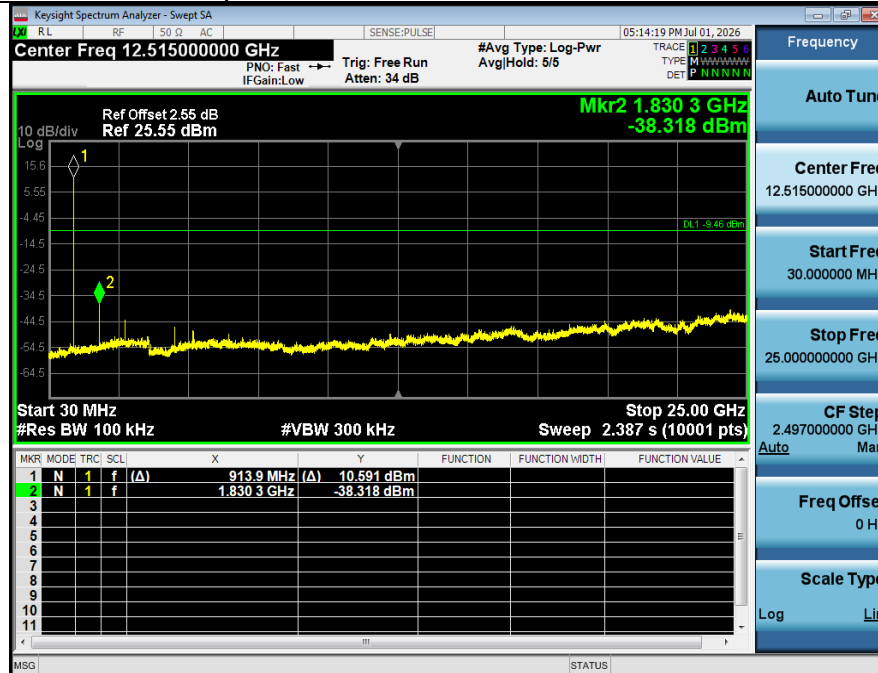
Band Edge: Pass

Condition	Antenna	Test Mode	TX_Frequency (MHz)	Max. Mark_freq(MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	Lora_SF10	915.00	882.950	10.540	-51.123	-9.460	Pass



Spurious Emission: Pass

Condition	Antenna	Test Mode	TX_Frequency (MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	Lora_SF10	915.00	10.537	-38.318	-9.463	Pass

1 Reference Level NVNT_ANT1_Lora_SF10_915**2 Spurious Emission NVNT_ANT1_Lora_SF10_915**

6. Conducted Maximum Output Power

6.1. Test limits

Please refer FCC PART 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1 W(30dBm)

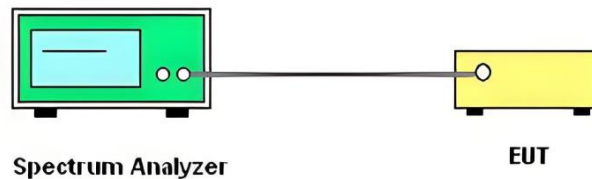
6.2. Test Procedure

ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 11.9.1 Maximum peak conducted output power.

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- a) Set the RBW $\geq$ DTS bandwidth.
- b) Set VBW $\geq [3 \times \text{RBW}]$.
- c) Set span $\geq [3 \times \text{RBW}]$.
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

6.3. Test Setup

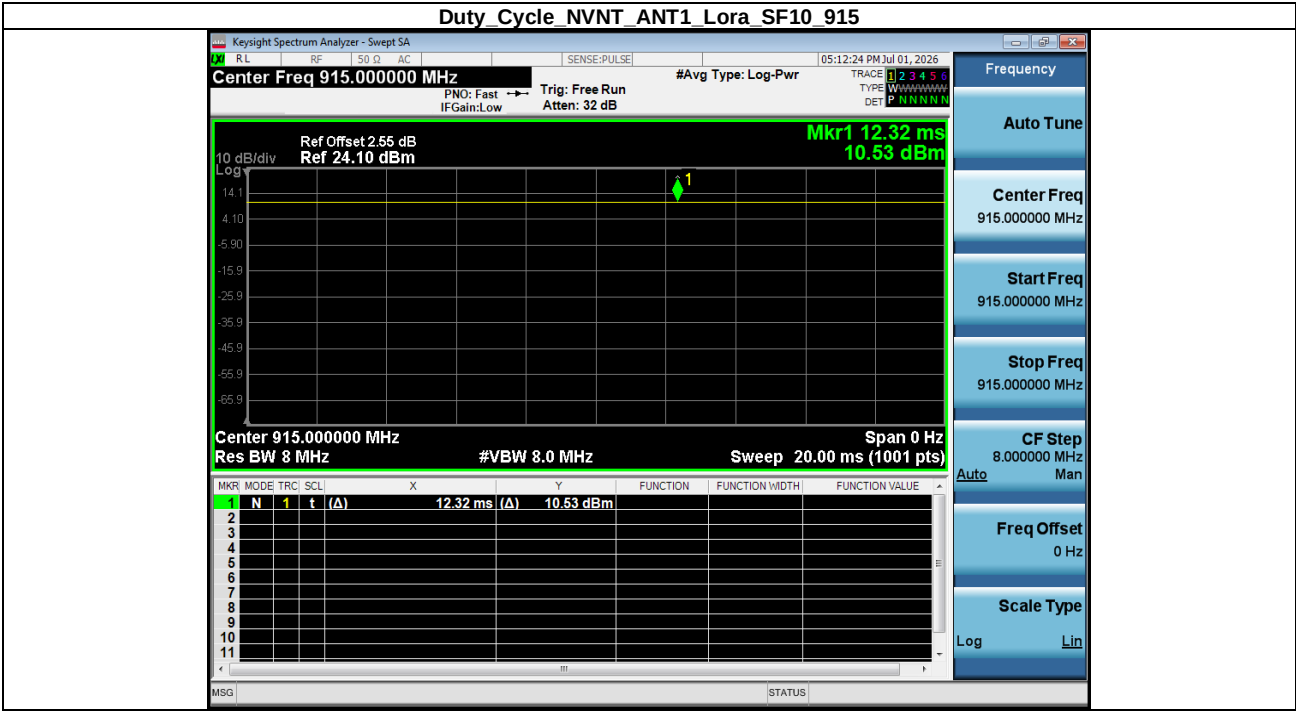


6.4. Test Results

Condition	Antenna	Test Mode	Frequency (MHz)	Max. Conducted Power(dBm)	Max. Conducted Power(mW)	Limit(mW)	Result
NVNT	ANT1	Lora_SF10	915.00	10.60	11.48	1000	Pass



Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	Lora_SF10	915.00	100	0.00



7. Peak Power Spectral Density

7.1. Test limits

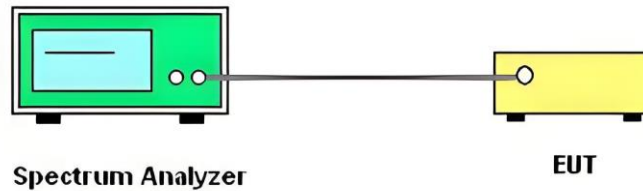
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

7.2. Test Procedure

Details see the KDB558074 D01 Meas Guidance v05r02

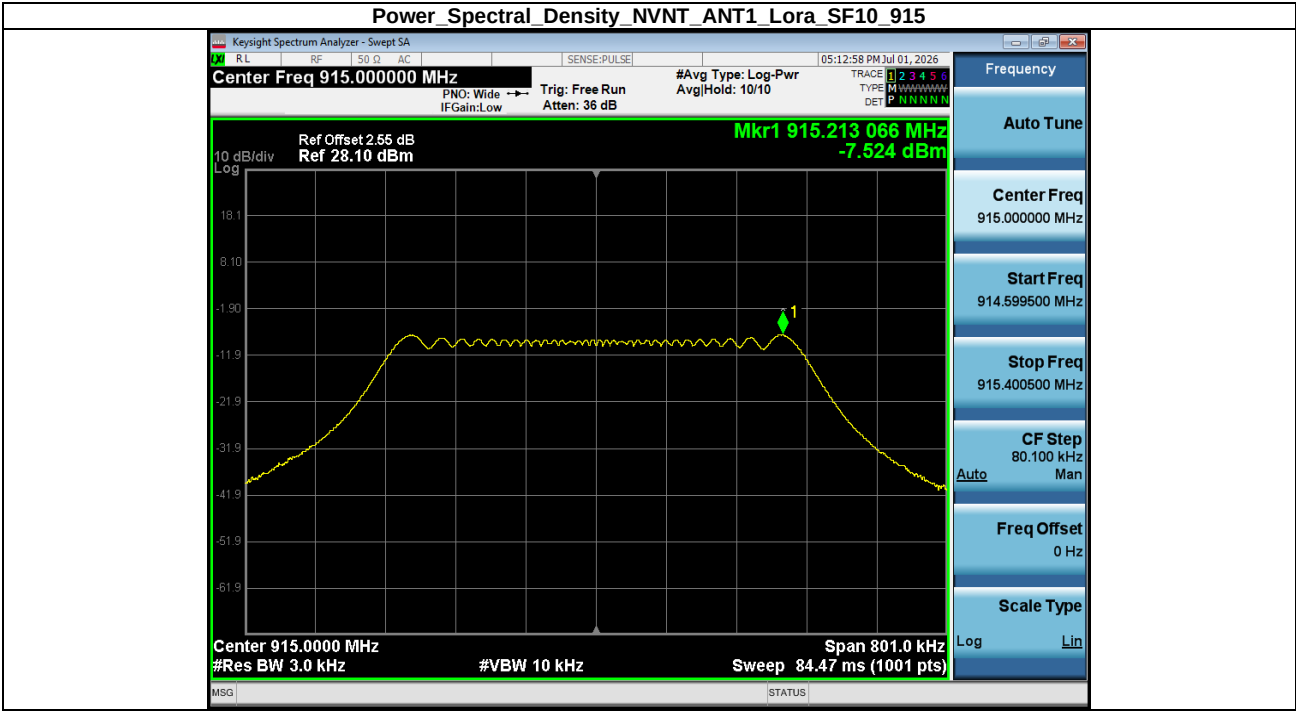
1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 3kHz(Set the RBW to: $3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$), VBW = 10kHz(Set the $\text{VBW} \geq 3 \times \text{RBW}$), $\text{span} \geq 1.5 \times \text{DTS bandwidth}$., detail see the test plot.
4. Record the max reading.
5. Repeat the above procedure until the measurements for all frequencies are completed.

7.3. Test Setup



7.4. Test Results

Condition	Antenna	Test Mode	Frequency (MHz)	Power Spectral Density(dBm/3kHz)	Limit(dBm/3kHz)	Result
NVNT	ANT1	Lora_SF10	915.00	-7.52	8	Pass



8. Occupied Bandwidth

8.1. Test limits

Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz

8.2. Test Procedure

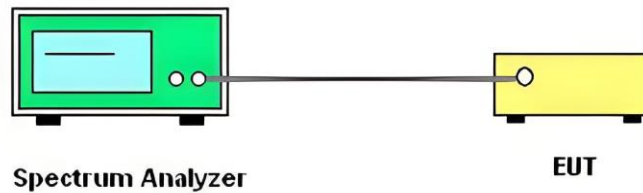
Details see the KDB558074 D01 Meas Guidance v05r02 and C63.10 section 6.9.3

a) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 100kHz, VBW $\geq$ 3*RBW =300kHz, Peak Detector, Sweep time set auto, detail see the test plot.

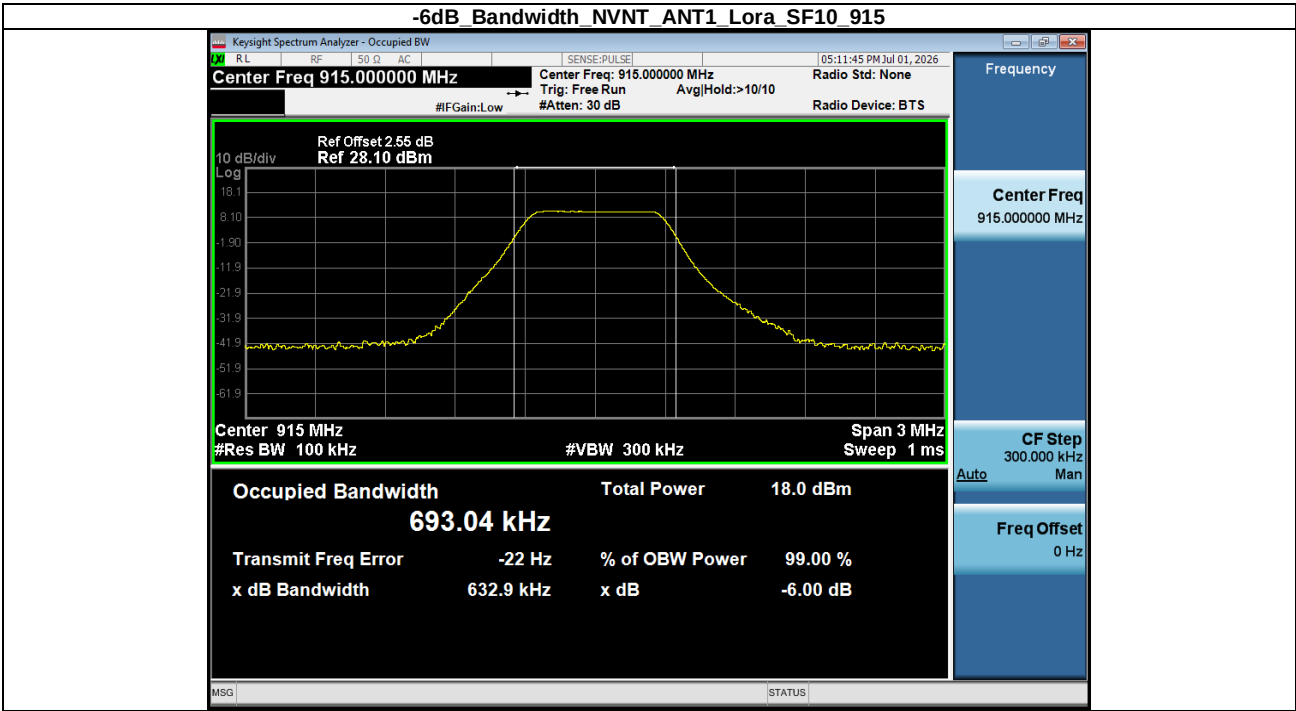
c) The test receiver set RBW =1-5%BW, VBW>3*RBW, Sweep time set auto, detail see the test plot for 99%Bandwidth.

8.3. Test Setup

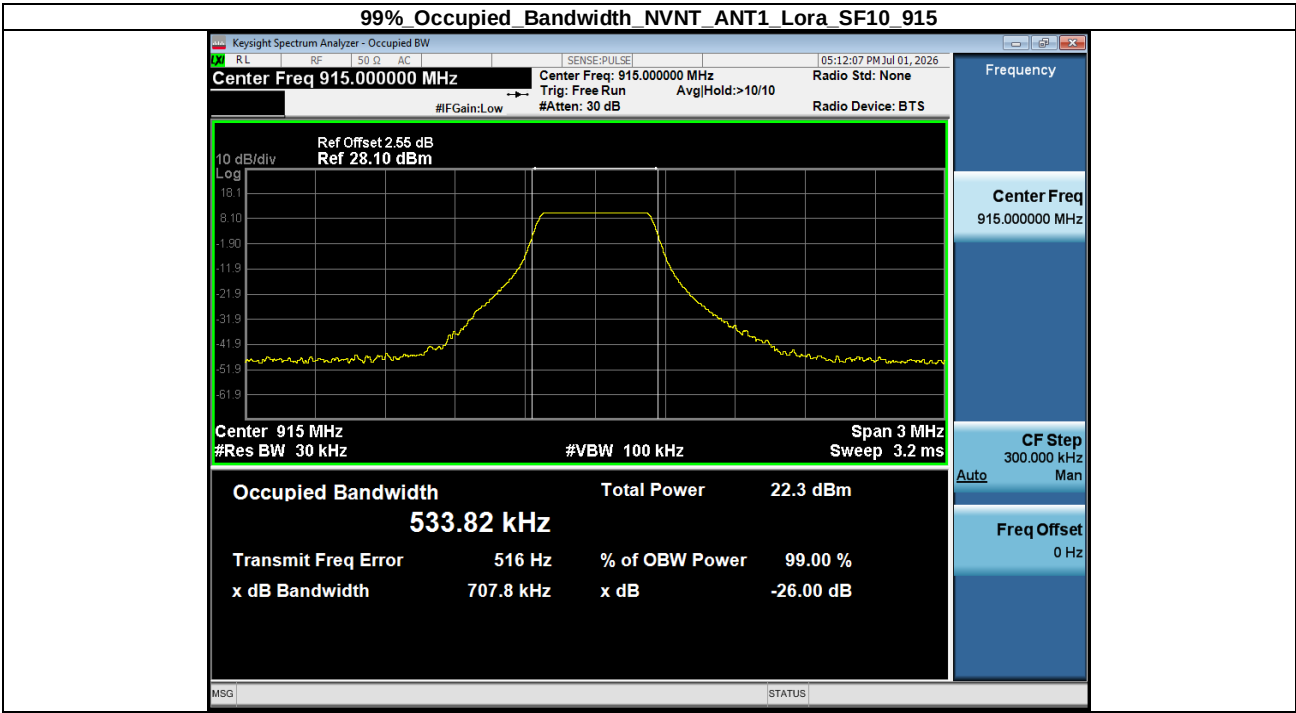


8.4. Test Results

Condition	Antenna	Test Mode	Frequency (MHz)	-6dB BW(kHz)	limit(kHz)	Result
NVNT	ANT1	Lora_SF10	915.00	632.87	500	Pass



Condition	Antenna	Test Mode	Frequency (MHz)	99%BW(MHz)
NVNT	ANT1	Lora_SF10	915.00	0.534



9. Antenna Requirement

9.1. Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the Lora_SF10, but the use of a standard antenna jack or electrical connector is prohibited.

9.2. Test Results

The EUT antenna is Rod antenna. It complies with the standard requirement.

10. Photos of test setup

Reference to the **psi2606167-C01-R01 appendix I Test Setup Photo** for details.

11. Photos of EUT

Reference to the **psi2606167-C01-R01 appendix II external photos** and **appendix III internal photos** for details.

----- END OF REPORT-----