RF TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

LoRaWAN communication node

ISSUED TO
Ruixing Hengfang Network (Shenzhen) Co., Ltd

Room 201, building 6 Software Park(Phase 1), Gaoxin Mid 3rd Road, Science and Technology Park, NanShan District, Shenzhen, Guangdong, China 518017

Report No.:	BL-SZ21C0555-603
EUT Name:	LoRaWAN communication node
Model Name:	RHF0M084
Brand Name:	RisingHF
Test Standard:	47 CFR Part 15 Subpart C RSS-Gen Issue 5 RSS-247 Issue 2 (refer section 3.1)
FCC ID:	2AJUZ0M084
ISED Number:	22005-0M084
Test Conclusion:	Pass
Test Date:	Dec. 20, 2021 ~ Jan. 12, 2022
Date of Issue:	Feb. 28, 2022

Tested by: Julie Zhu
Date Feb. 28, 2022

Approved by: Liao Jianming
(Technical Director)
Date Feb. 28, 2022

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Revision History

Version	Issue Date	Revisions Content
Rev. 01	Jan. 18, 2022	Initial Issue
Rev. 02	Feb. 16, 2022	Updated applicant and manufacturer addresses
Rev. 03	Feb. 22, 2022	Updated Section 2.5 Technical Information
Rev. 04	Feb. 28, 2022	Change the Modulation Type

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20℃ to 25℃
Ambient Relative Humidity	45% to 55%
Ambient Pressure	100 kPa to 102 kPa

1.4 Announce

(1) The test report reference to the report template version v2.2.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

(7) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Ruixing Hengfang Network (Shenzhen) Co., Ltd
Address	Room 201, building 6 Software Park(Phase 1), Gaoxin Mid 3rd Road, Science and Technology Park, NanShan District, Shenzhen, Guangdong, China 518017

2.2 Manufacturer Information

Manufacturer	Ruixing Hengfang Network (Shenzhen) Co., Ltd
Address	Room 201, building 6 Software Park(Phase 1), Gaoxin Mid 3rd Road, Science and Technology Park, NanShan District, Shenzhen, Guangdong, China 518017

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	LoRaWAN communication node
Model Name Under Test	RHF0M084
Series Model Name	N/A
Description of Model name differentiation	N/A
Serial Number	0M0842063A00001
Hardware Version	RHF0M084_V2.0
Software Version	v5.0.2
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Technical Information

Network and Wireless connectivity	LoRa

The requirement for the following technical information of the EUT was tested in this report:

Modulation Technology	Frequency hopping system
Modulation Type	LoRa
Product Type	☒ Mobile ☐ Portable ☐ Fix Location
Frequency Range	The frequency range used is 902.3 MHz to 914.9 MHz. The frequency block is 902MHz to 928MHz.
Number of channel	64
Tested Channel	1 (902.3 MHz), 33 (908.7 MHz), 64 (914.9 MHz)
Antenna Type	PIFA Antenna
Antenna Gain	1.0 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)
Antenna System(MIMO Smart Antenna)	N/A

All channel was listed on the following table:

Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)
1	902.3	21	906.3	41	910.3	61	914.3
2	902.5	22	906.5	42	910.5	62	914.5
3	902.7	23	906.7	43	910.7	63	914.7
4	902.9	24	906.9	44	910.9	64	914.9
5	903.1	25	907.1	45	911.1	-	-
6	903.3	26	907.3	46	911.3	-	-
7	903.5	27	907.5	47	911.5	-	-
8	903.7	28	907.7	48	911.7	-	-
9	903.9	29	907.9	49	911.9	-	-
10	904.1	30	908.1	50	912.1	-	-
11	904.3	31	908.3	51	912.3	-	-
12	904.5	32	908.5	52	912.5	-	-
13	904.7	33	908.7	53	912.7	-	-
14	904.9	34	908.9	54	912.9	-	-
15	905.1	35	909.1	55	913.1	-	-
16	905.3	36	909.3	56	913.3	-	-
17	905.5	37	909.5	57	913.5	-	-
18	905.7	38	909.7	58	913.7	-	-
19	905.9	39	909.9	59	913.9	-	-
20	906.1	40	910.1	60	914.1	-	-

2.6 Additional Instructions

EUT Software Settings:

Mode	☒ Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power level setup in software			
Test Software Version	SSCOM V5.13.1		
Support Units (Software installation media)	Description	Manufacturer	Model
	Notebook	HP	N/A
Mode	Frequency (MHz)		Soft Set
LoRa	All		Power parameter Settings is 14

Run Software:

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Miscellaneous Wireless Communications Services
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
3	KDB Publication 558074 D01v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES
4	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
5	RSS-247 Issue 2	Digital Transmission Systems (DTSs), Frequency Hopping Systems(FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
6	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	ISED Part No.	Modulation Technology	Channel	Test Result	Verdict	Remark
1	Antenna Requirement	15.203	RSS-247, 5.4 (d)	N/A	N/A	--	Pass	Note 1
2	Number of Hopping Frequencies	15.247(a)	RSS-247, 5.1 (c)	Frequency hopping system	Hopping Mode	ANNEX A.1	Pass	
3	Peak Output Power	15.247(b)	RSS-247, 5.4 (a)	Frequency hopping system	Low/Middle/High	ANNEX A.2	Pass	
4	Occupied Bandwidth	15.247(a)	RSS-247, 5.1 (a)	Frequency hopping system	Low/Middle/High	ANNEX A.3	Pass	
5	Carrier Frequency Separation	15.247(a)	RSS-247, 5.1 (b)	Frequency hopping system	Hopping Mode	ANNEX A.4	Pass	
6	Time of Occupancy (Dwell time)	15.247(a)	RSS-247, 5.1 (c)	Frequency hopping system	Hopping Mode	ANNEX A.5	Pass	
7	Conducted Spurious Emission & Authorized-band band-edge	15.247(d)	RSS-247, 5.5	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.6	Pass	
8	Conducted Emission	15.207	RSS-GEN, 8.8	Frequency hopping system	Low/Middle/High	ANNEX A.7	Pass	
9	Radiated Spurious Emission	15.209 15.247(d)	RSS-247, 5.5	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.8	Pass	
10	Band Edge(Restricted-band band-edge)	15.209 15.247(d)	RSS-247, 5.5	Frequency hopping system	Low/Middle/High, Hopping Mode	ANNEX A.9	Pass	
Note 1: Please refer to section 5.1								

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	45% to 55%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22℃ to +25℃
Working Voltage of the EUT	NV (Normal Voltage)	3.3 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-40	101544	2021.04.01	2022.03.31
Bluetooth Signaling Unit	ROHDE&SCHWARZ	CMW500	142028	2021.06.01	2022.05.31
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2021.06.01	2022.05.31
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2021.06.01	2022.05.31
LISN	SCHWARZBECK	NSLK 8127	8127-687	2021.06.01	2022.05.31
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2021.04.16	2024.04.15
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2021.08.20	2024.08.19
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2022.07.01
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400KF	J211060273	2021.07.02	2023.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2022.02.20
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	N/A	2019.08.08	2022.08.07
Shielded Enclosure	ChangNing	CN-130701	130703	--	--

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable test Setup
BL410R	BALUN	V2.1.1.488	N/A	The section 4.5.1
BL410E	BALUN	V19.8.28.435	N/A	The section 4.5.2&4.5.3&4.5.4&4.5.5

4.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

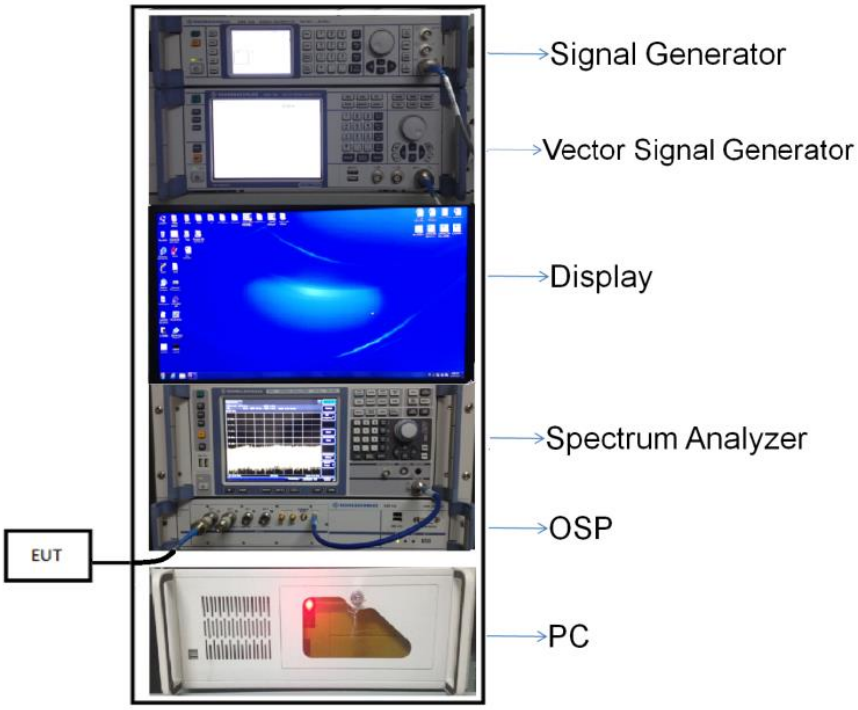
Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.82°C
Humidity	4.1%

4.5 Description of Test Setup

4.5.1 For Antenna Port Test

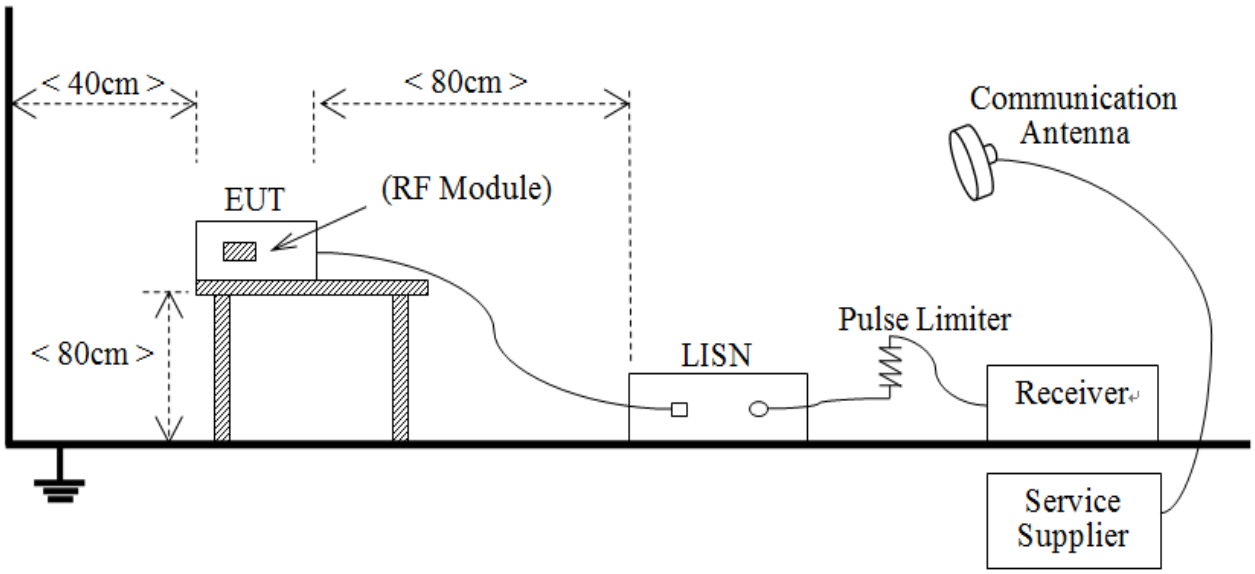
Conducted value (dBm) = Measurement value (dBm) + cable loss (dB)

For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:
Conducted value (dBm) = 10 dBm + 0.5 dB = 10.5 dBm



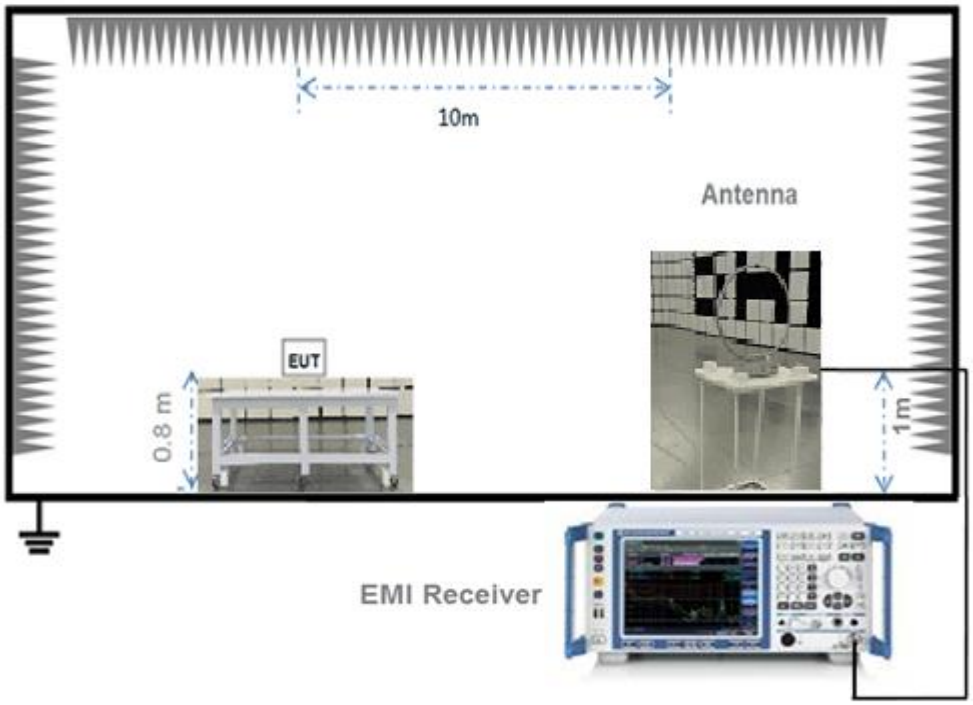
(Diagram 1)

4.5.2 For AC Power Supply Port Test



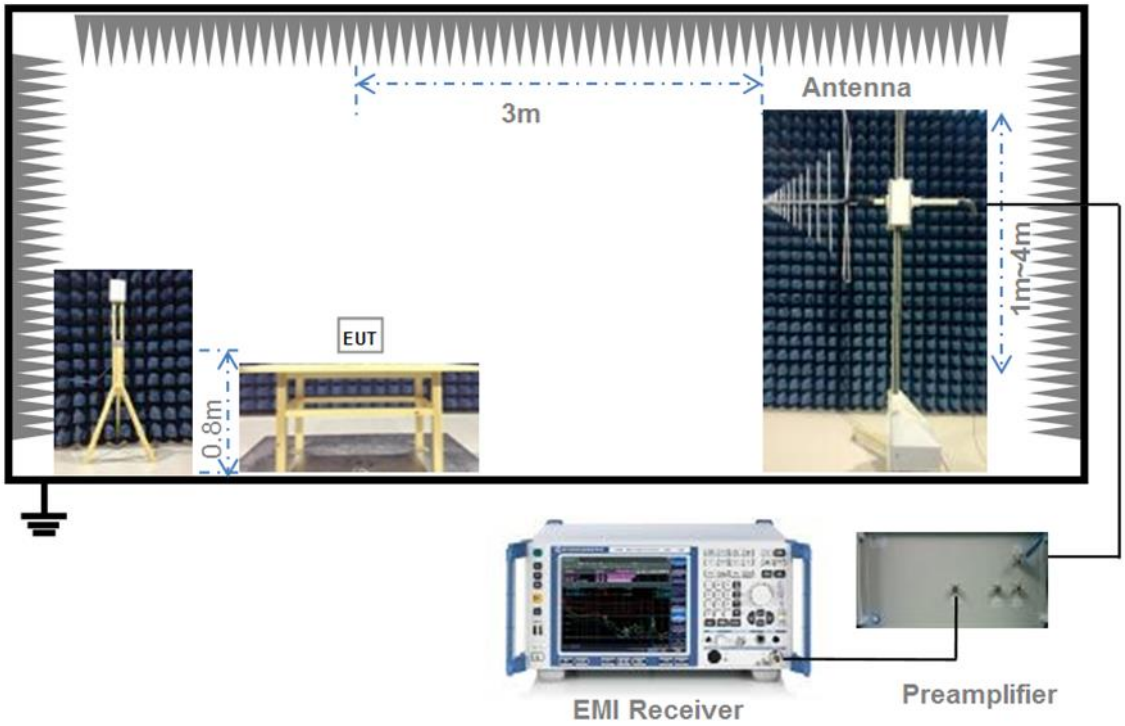
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



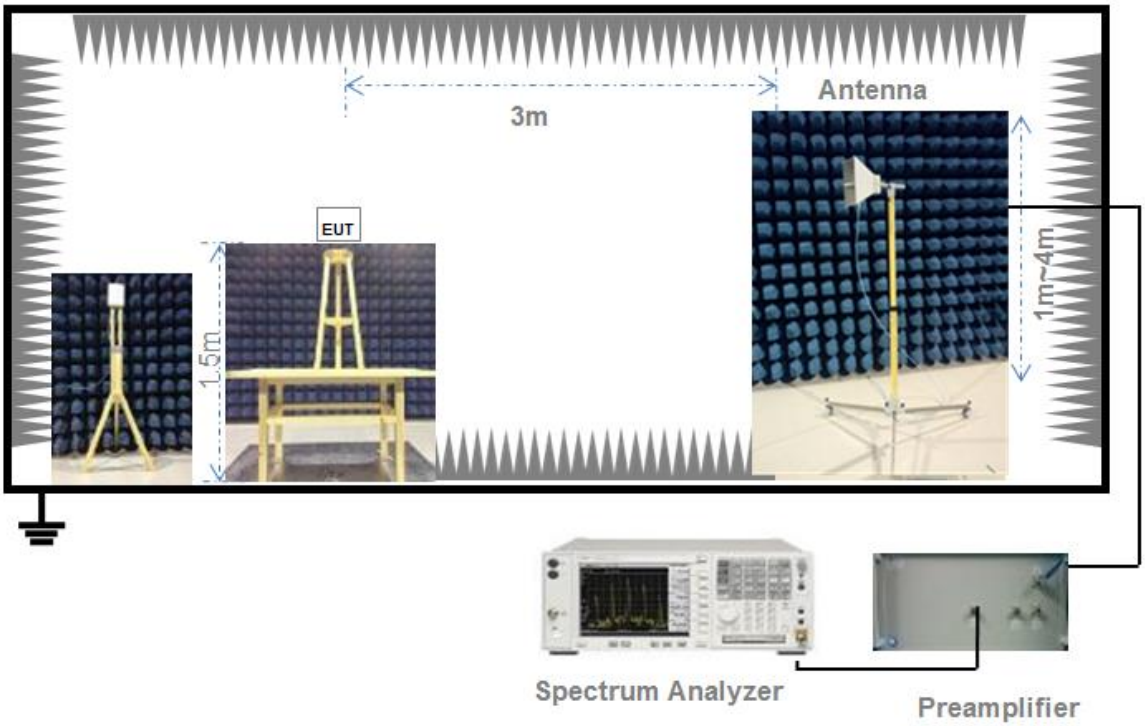
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.6 Measurement Results Explanation Example

4.6.1 For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203; RSS-247, 5.4 (d)

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 user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product	The antenna is welded on the mainboard, can't be replaced by the consumer

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Number of Hopping Frequencies

5.2.1 Limit

FCC §15.247(a); RSS-247, 5.1 (c)

For FHSs in the band 902-928 MHz: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period. If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 10-second period. The maximum 20 dB bandwidth of the hopping channel shall be 500 kHz.

Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.2 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW ≥ 1% of the span

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.2.3 Test Result

Please refer to ANNEX A.1.

5.3 Peak Output Power and E.I.R.P

5.3.1 Test Limit

FCC § 15.247(b); RSS-247, 5.4 (a)

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

RSS-247, 5.4 (2)

For FHSs operating in the band 902-928 MHz, the maximum peak conducted output power shall not exceed 1.0 W and the e.i.r.p. shall not exceed 4 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W and the e.i.r.p. shall not exceed 0.5 W if the hopset uses less than 75 hopping channels (see Section 5.4(5) for exceptions).

5.3.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The Module operates at hopping-off test mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW > the 20 dB bandwidth of the emission being measured

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Occupied Bandwidth

5.4.1 Limit

FCC §15.247(a); RSS-247, 5.1 (a)

5.4.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW = in the range of 1% to 5% of the OBW

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate, Allow the trace to stabilize.

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Carrier Frequency Separation

5.5.1 Limit

FCC §15.247(a); RSS-247, 5.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

5.5.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span

Video (or Average) Bandwidth (VBW) ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

5.5.4 Test Result

Please refer to ANNEX A.4.

5.6 Time of Occupancy (Dwell time)

5.6.1 Limit

FCC §15.247(a); RSS-247, 5.1 (c)

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

5.6.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

5.6.4 Test Result

Please refer to ANNEX A.5

5.7 Conducted Spurious Emission & Authorized-band band-edge

5.7.1 Limit

FCC §15.247(d); RSS-247, 5.5

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.

5.7.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

5.7.4 Test Result

Please refer to ANNEX A.6 and A.7

5.8 Conducted Emission

5.8.1 Limit

FCC §15.207; RSS-GEN, 8.8

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.8.2 Test Setup

See section 4.4.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.8.4 Test Result

Please refer to ANNEX A.7.

5.9 Radiated Spurious Emission

5.9.1 Limit

FCC §15.209&15.247(d); RSS-247, 5.5

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	902/F(kHz)	300
0.490 - 1.705	9020/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:

1. Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].
2. In the emission tables above, the tighter limit applies at the band edges.
3. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
4. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.9.2 Test Setup

See section 4.4.3 to 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.9.4 Test Result

Please refer to ANNEX A.8.

5.10 Band Edge (Restricted-band band-edge)

5.10.1 Limit

FCC §15.209&15.247(d); RSS-247, 5.5

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.10.2 Test Setup

See section 4.4.3 to 4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.10.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.10.4 Test Result

Please refer to ANNEX A.9.

ANNEX A TEST RESULT

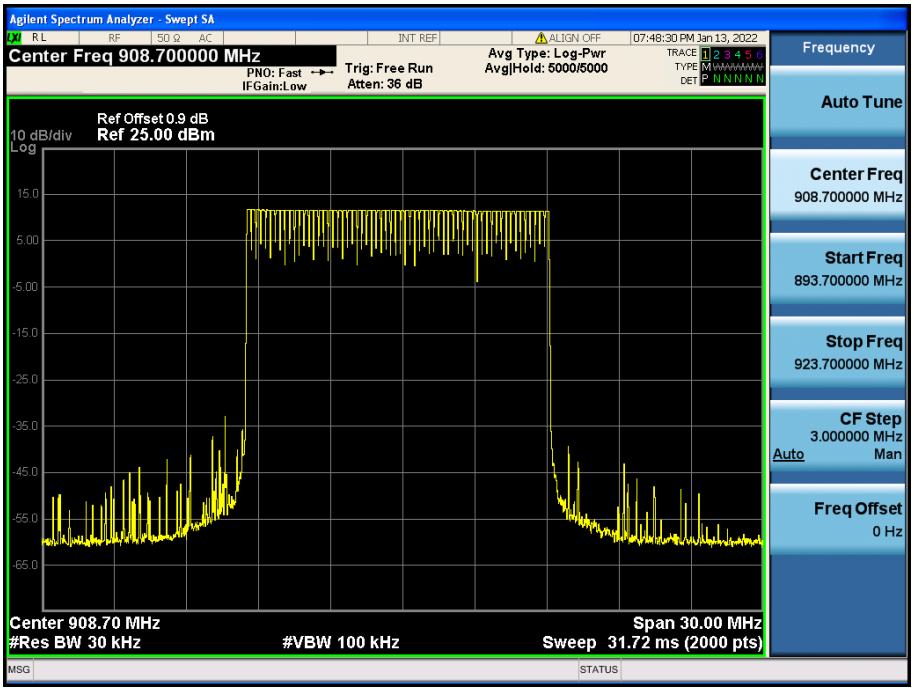
A.1 Number of Hopping Frequency

Test Data

Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
LoRa	902-928	64	50	Pass

Test plots

LoRa



A.2 Peak Output Power

Peak Power Test Data

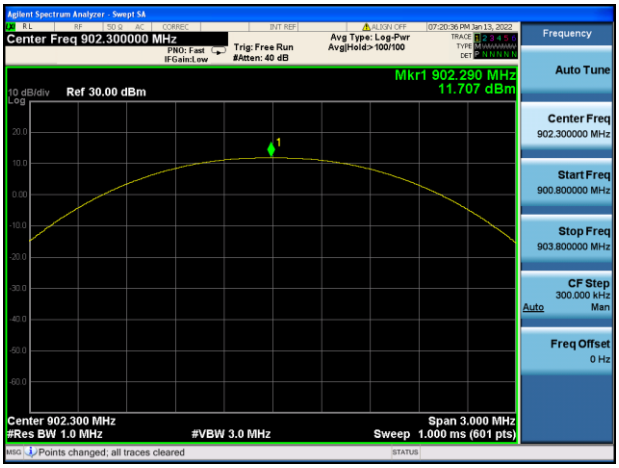
Channel	Measured Output Peak Power		Limit		Verdict
	LoRa		dBm	mW	
	dBm	mW			
Low	11.71	14.81	30	1000	Pass
Middle	11.56	14.31			Pass
High	11.38	13.74			Pass

E.I.R.P Test Data (For ISED)

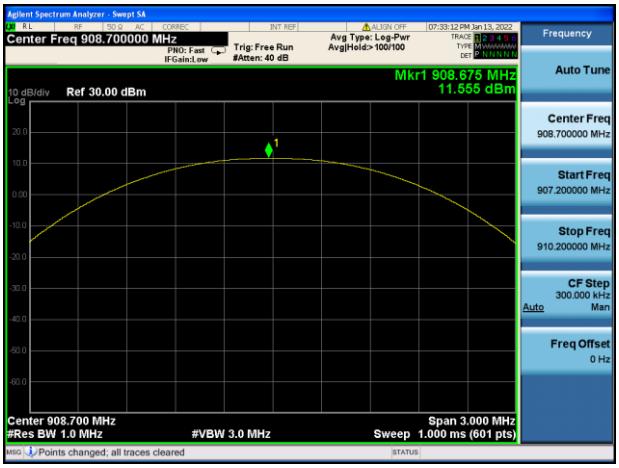
Channel	E.I.R.P		Limit		Verdict
	LORA		dBm	mW	
	dBm	mW			
Low	12.71	18.66	36	4000	Pass
Middle	12.56	18.03			Pass
High	12.38	17.30			Pass

Test plots

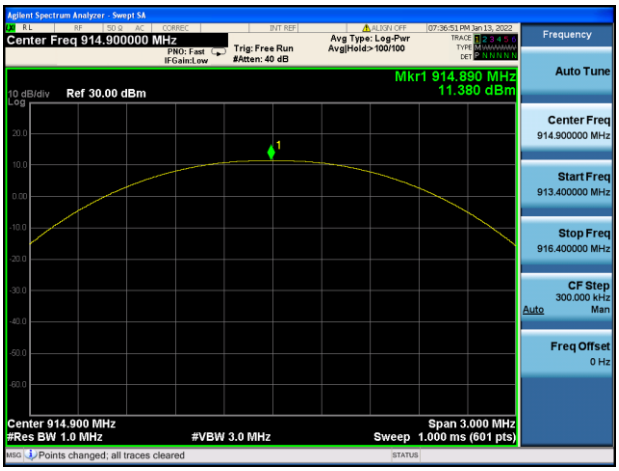
LOW CHANNEL



MIDDLE CHANNEL



HIGH CHANNEL



A.3 20 dB and 99% bandwidth

Test Data

LoRa			
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)	Verdict
Low	0.136000	0.125790	Pass
Middle	0.135300	0.124580	Pass
High	0.135400	0.125680	Pass

Test plots (20 dB Bandwidth)

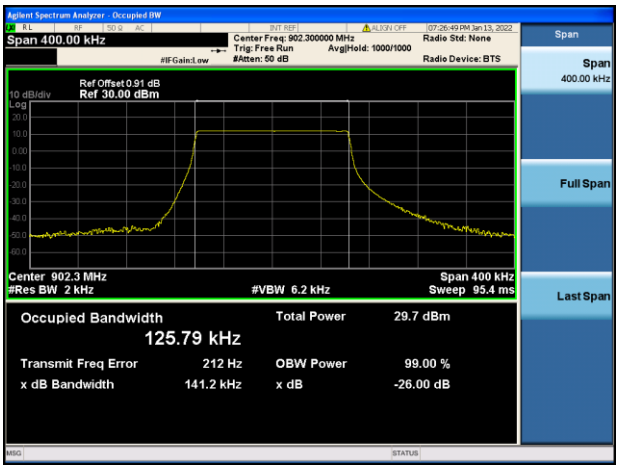
LOW CHANNEL

MIDDLE CHANNEL

HIGH CHANNEL

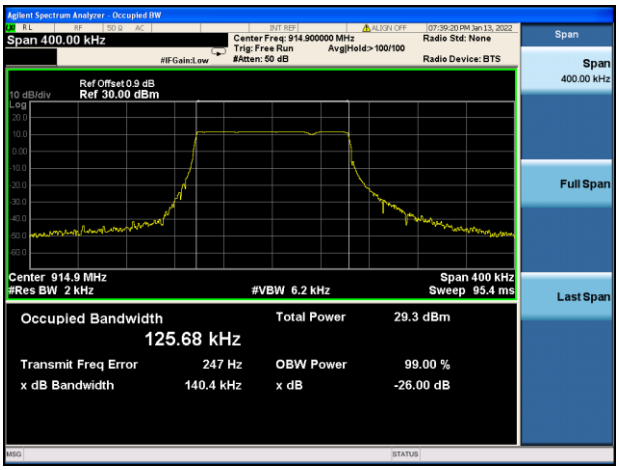
Test plots (99% Bandwidth)

LOW CHANNEL



MIDDLE CHANNEL

HIGH CHANNEL



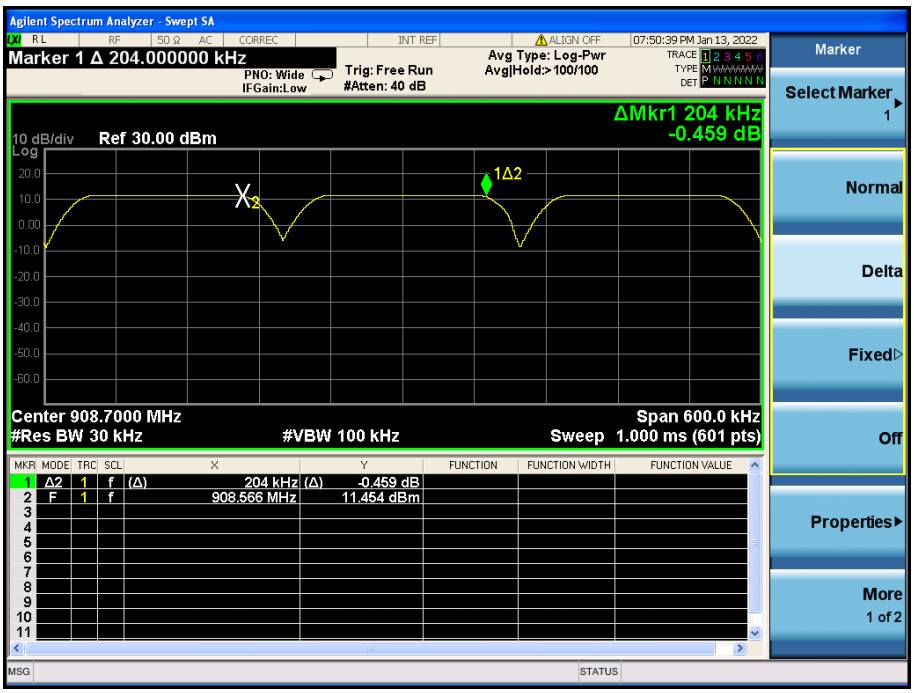
A.4 Hopping Frequency Separation

Test Data

Mode	Frequency separation (MHz)	Max 20 dB Bandwidth (MHz)	Verdict
LoRa	0.204	0.136	Pass

Test Plots

LoRa

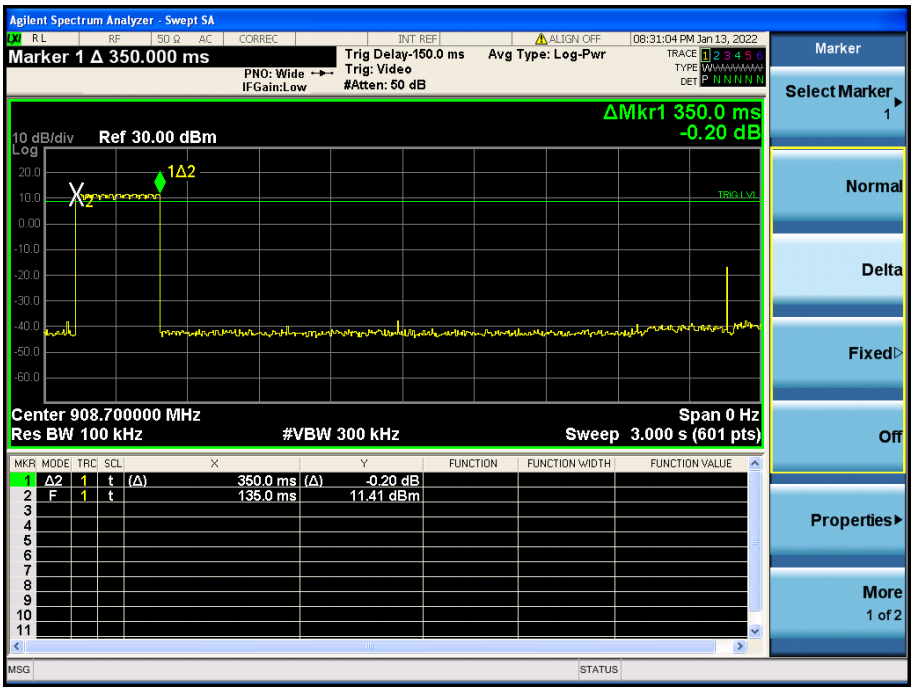


A.5 Average Time of Occupancy

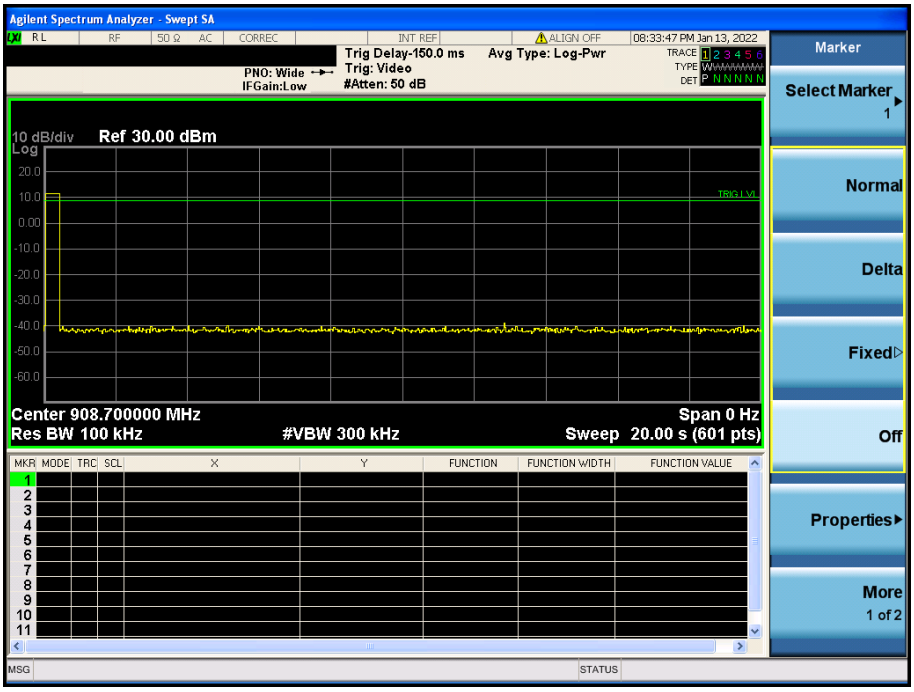
Test Data

Total of Dwell(ms)	Limit (sec)	Verdict
0.350	0.4	Pass

LoRa 3S



LoRa 20S



A.6 Conducted Spurious Emissions & Authorized-band band-edge

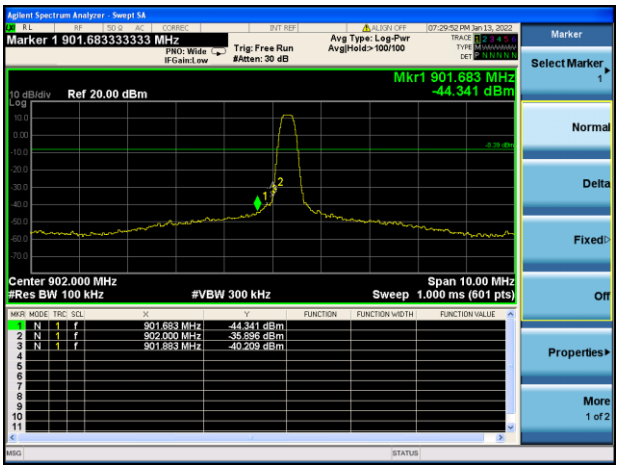
Test Data

LoRa				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-38.26	11.61	-8.39	Pass
Middle	-37.72	11.50	-8.51	Pass
High	-37.35	11.37	-8.63	Pass

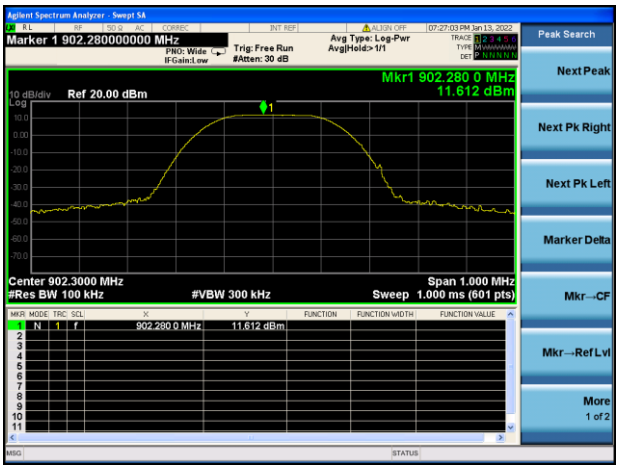
LoRa				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Hopping	-37.49	11.71	-8.29	Pass

Test Plots

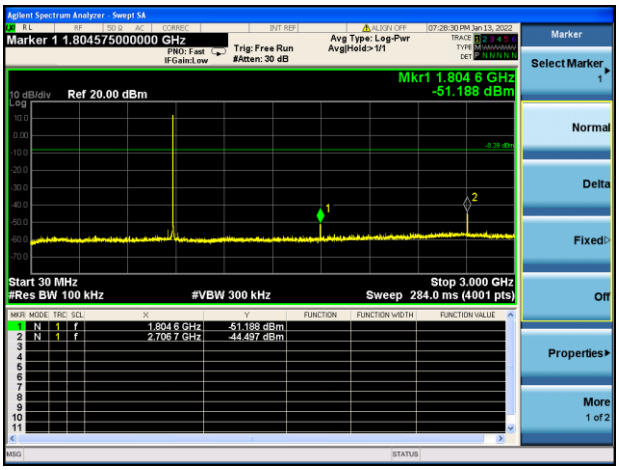
LOW CHANNEL, CARRIER LEVEL



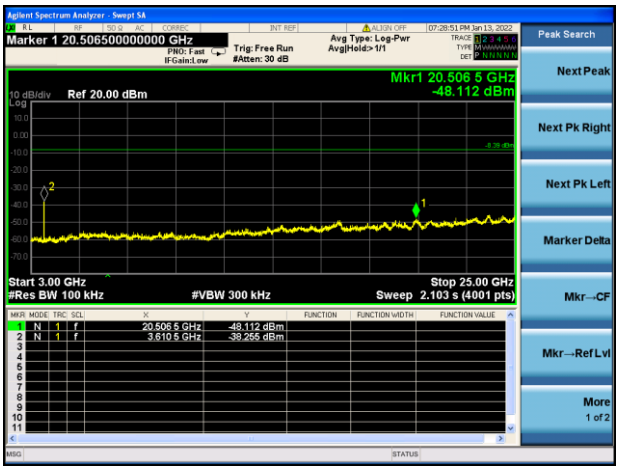
LOW CHANNEL, Band Edge



LOW CHANNEL , SPURIOUS 30 MHz ~ 3 GHz

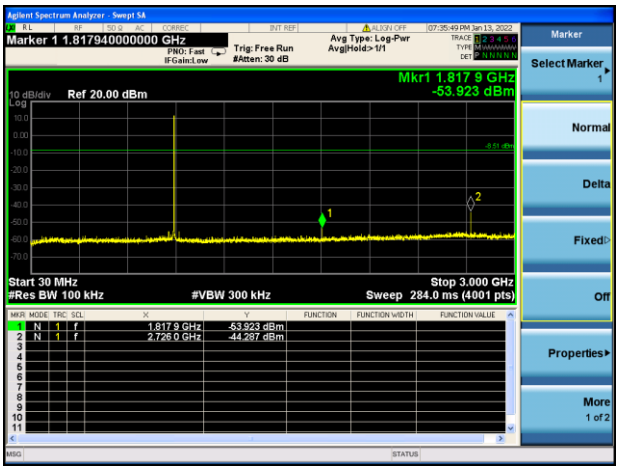


LOW CHANNEL , SPURIOUS 3 GHz ~ 25 GHz

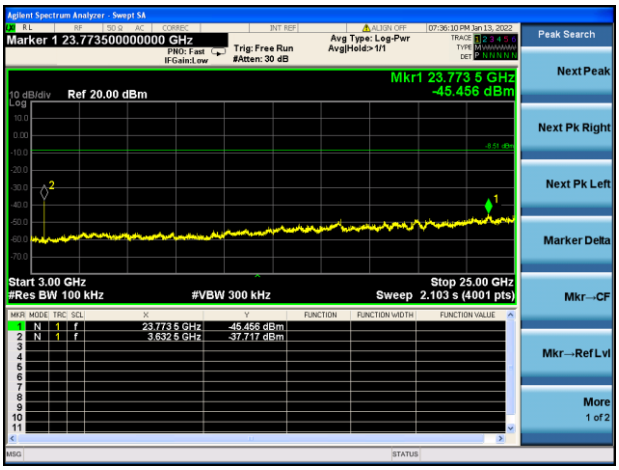


MIDDLE CHANNEL, CARRIER LEVEL

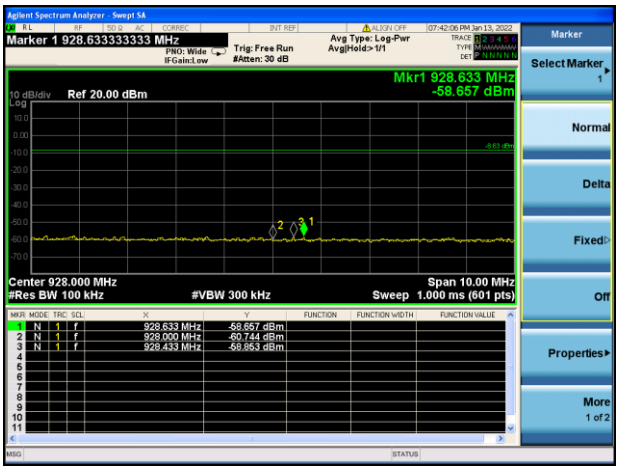
MIDDLE CHANNEL , SPURIOUS 30 MHz ~ 3 GHz



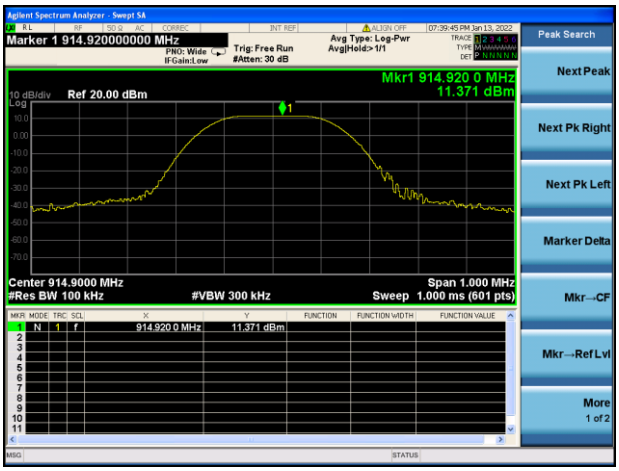
MIDDLE CHANNEL , SPURIOUS 3 GHz ~ 25 GHz



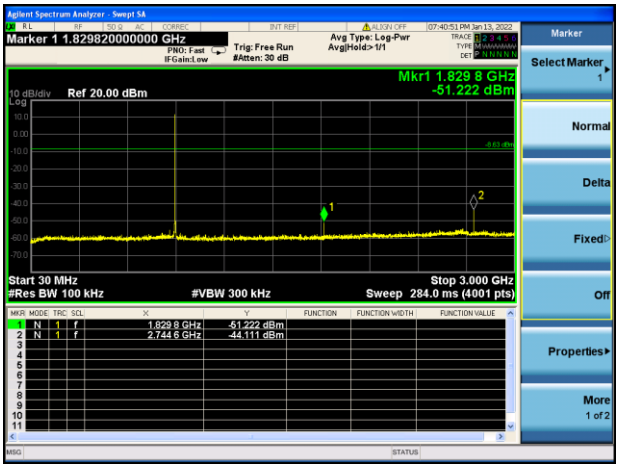
HIGH CHANNEL, CARRIER LEVEL



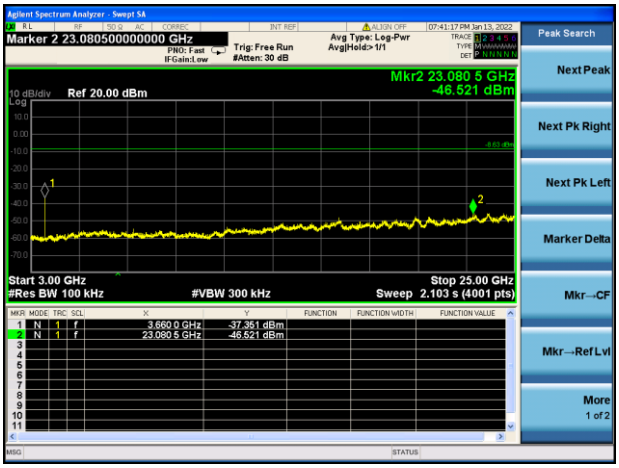
HIGH CHANNEL , BAND EDGE



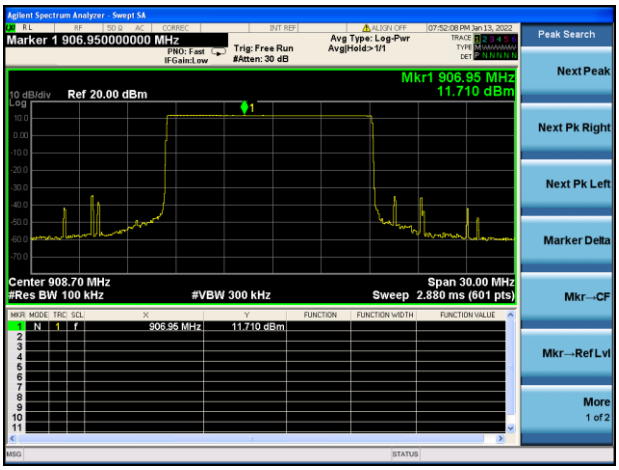
HIGH CHANNEL , SPURIOUS 30 MHz ~ 3 GHz



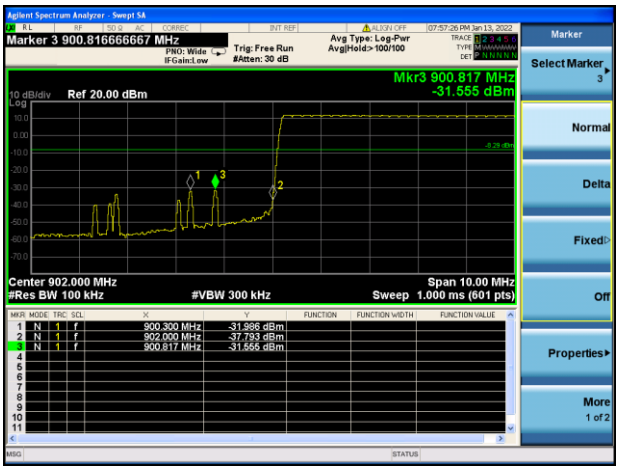
HIGH CHANNEL , SPURIOUS 3 GHz ~ 25 GHz



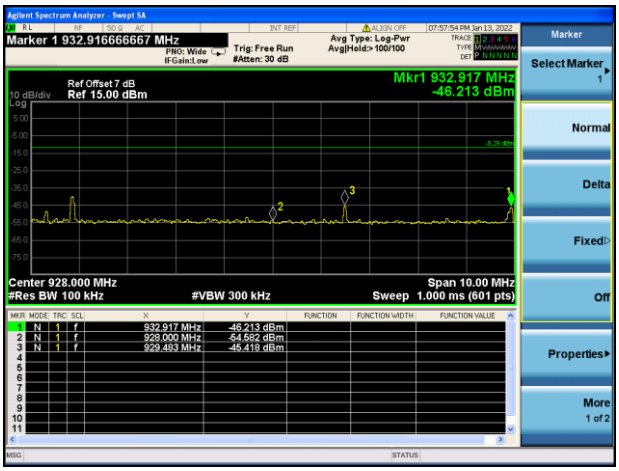
HOPPING, CARRIER LEVEL



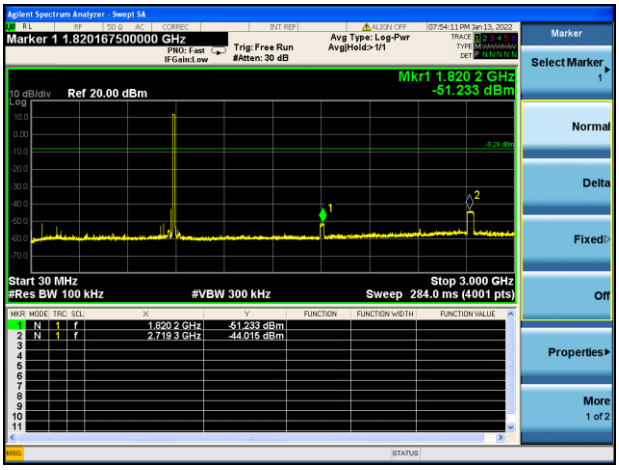
Hopping BAND EDGE (LOW)



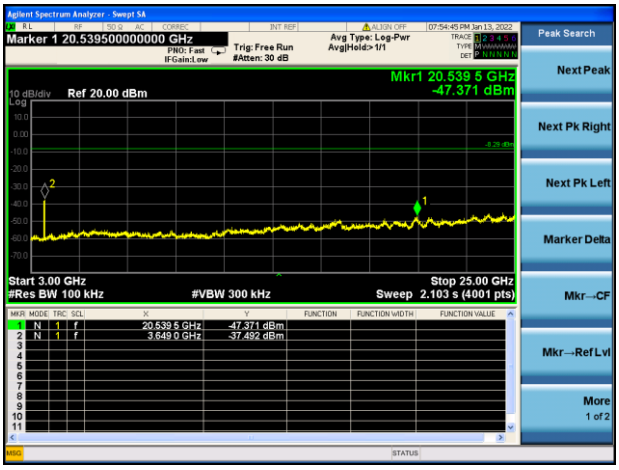
Hopping BAND EDGE (HIGH)



Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



Hopping Mode, SPURIOUS 3 GHz ~ 25 GHz

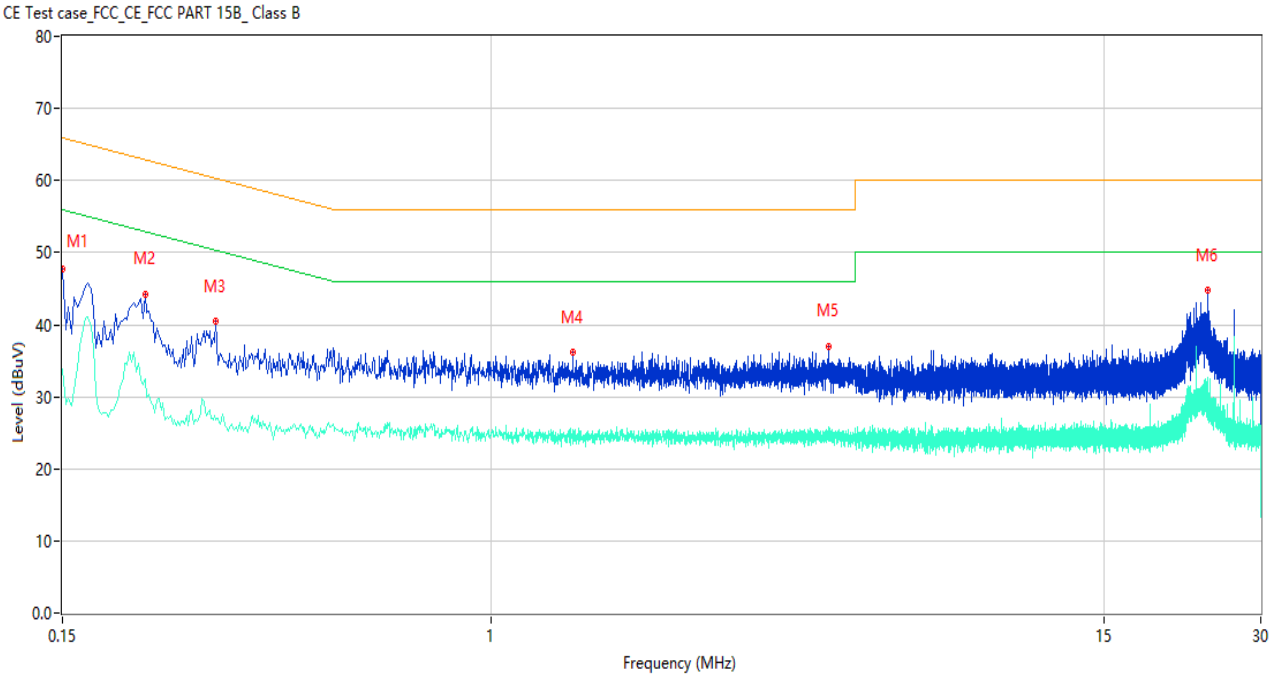


A.7 Conducted Emissions

Note [1]: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.
Note [2]: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

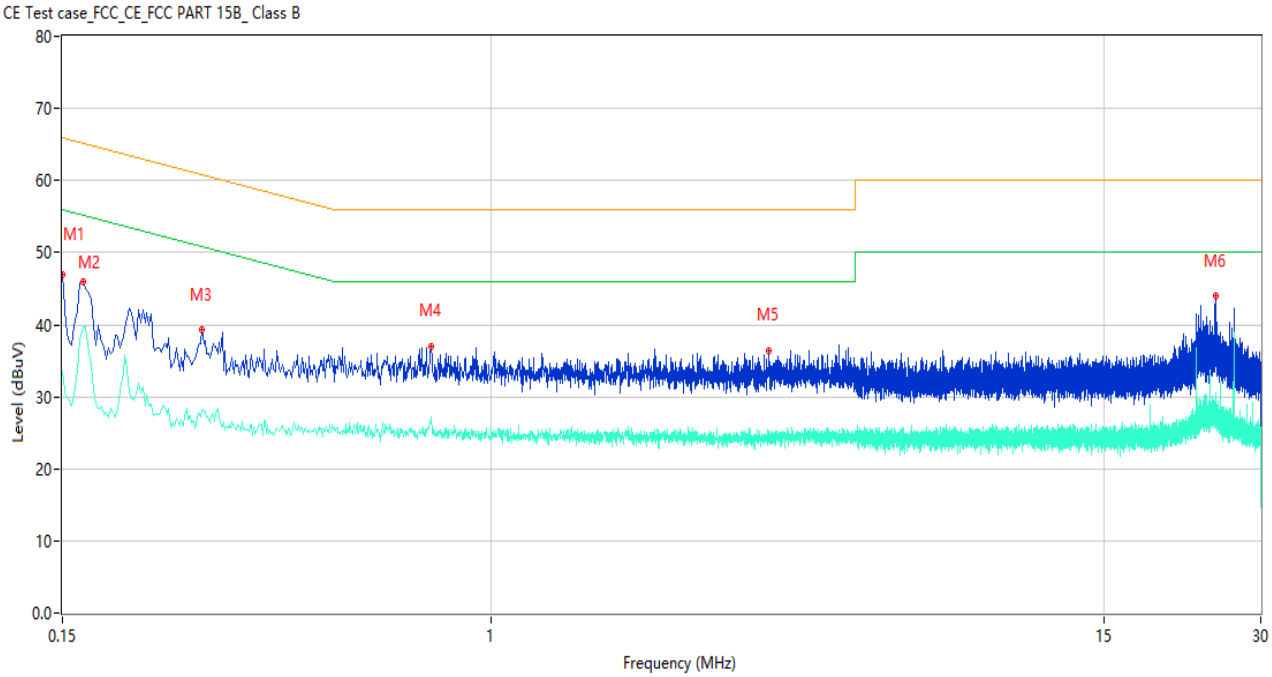
Test Data and Plots

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	47.80	11.00	66.00	-18.20	Peak	L	Pass
1**	0.150	33.92	11.00	56.00	-22.08	AV	L	Pass
2	0.216	44.24	10.94	62.97	-18.73	Peak	L	Pass
2**	0.216	32.49	10.94	52.97	-20.48	AV	L	Pass
3	0.296	40.47	10.88	60.35	-19.88	Peak	L	Pass
3**	0.296	26.87	10.88	50.35	-23.48	AV	L	Pass
4	1.432	36.26	10.72	56.00	-19.74	Peak	L	Pass
4**	1.432	25.34	10.72	46.00	-20.66	AV	L	Pass
5	4.444	36.94	10.70	56.00	-19.06	Peak	L	Pass
5**	4.444	25.11	10.70	46.00	-20.89	AV	L	Pass
6	23.734	44.77	10.59	60.00	-15.23	Peak	L	Pass
6**	23.734	31.15	10.59	50.00	-18.85	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	46.97	11.00	66.00	-19.03	Peak	N	Pass
1**	0.150	33.46	11.00	56.00	-22.54	AV	N	Pass
2	0.164	45.96	10.98	65.26	-19.30	Peak	N	Pass
2**	0.164	39.62	10.98	55.26	-15.64	AV	N	Pass
3	0.278	39.28	10.90	60.88	-21.60	Peak	N	Pass
3**	0.278	28.12	10.90	50.88	-22.76	AV	N	Pass
4	0.766	37.06	10.80	56.00	-18.94	Peak	N	Pass
4**	0.766	26.96	10.80	46.00	-19.04	AV	N	Pass
5	3.404	36.43	10.71	56.00	-19.57	Peak	N	Pass
5**	3.404	24.51	10.71	46.00	-21.49	AV	N	Pass
6	24.590	44.10	10.51	60.00	-15.90	Peak	N	Pass
6**	24.590	29.07	10.51	50.00	-20.93	AV	N	Pass

A.8 Radiated Spurious Emission

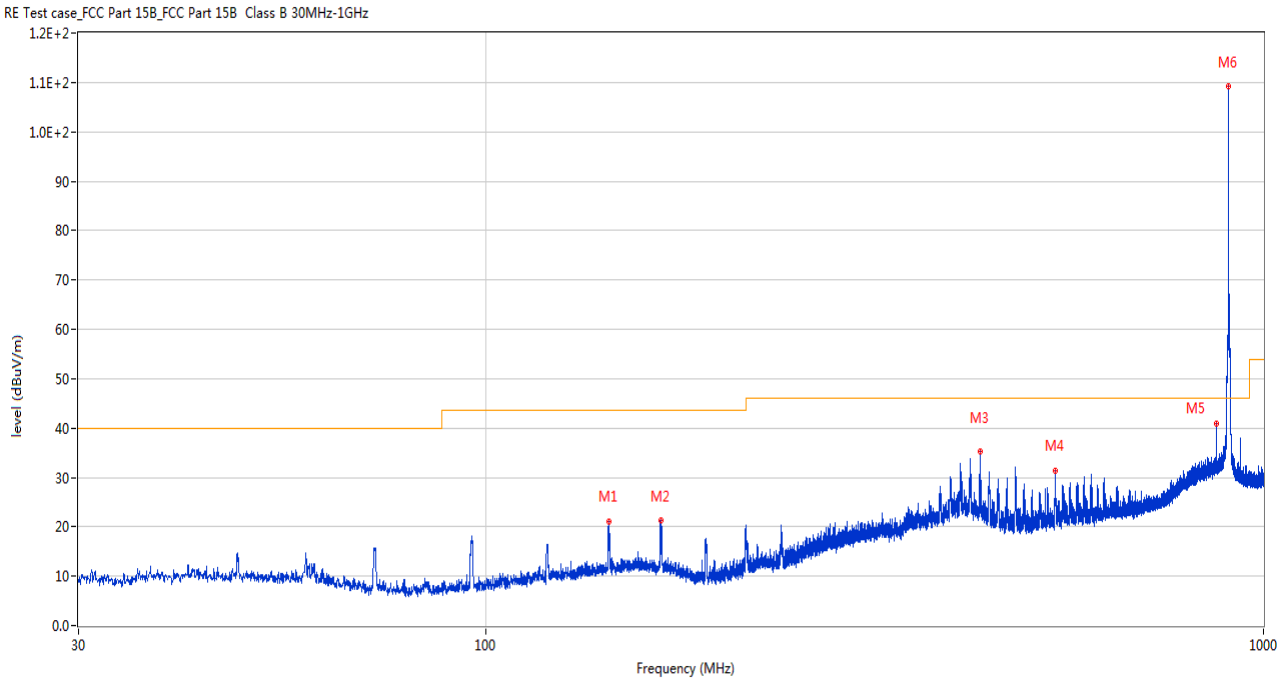
Note [1]: The symbol of "--" in the table which means not application.

Note [2]: For the test data above 1 GHz, according the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note [3]: The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

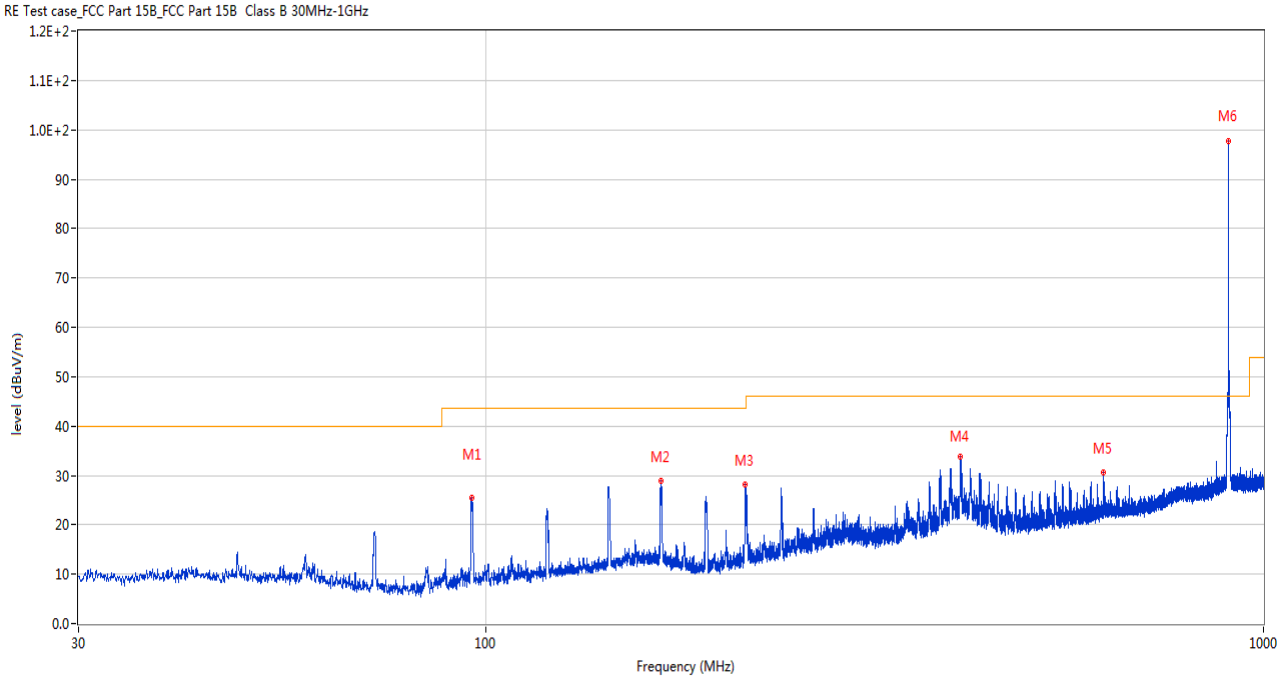
Test Data and Plots

LOW CHANNEL ANT V



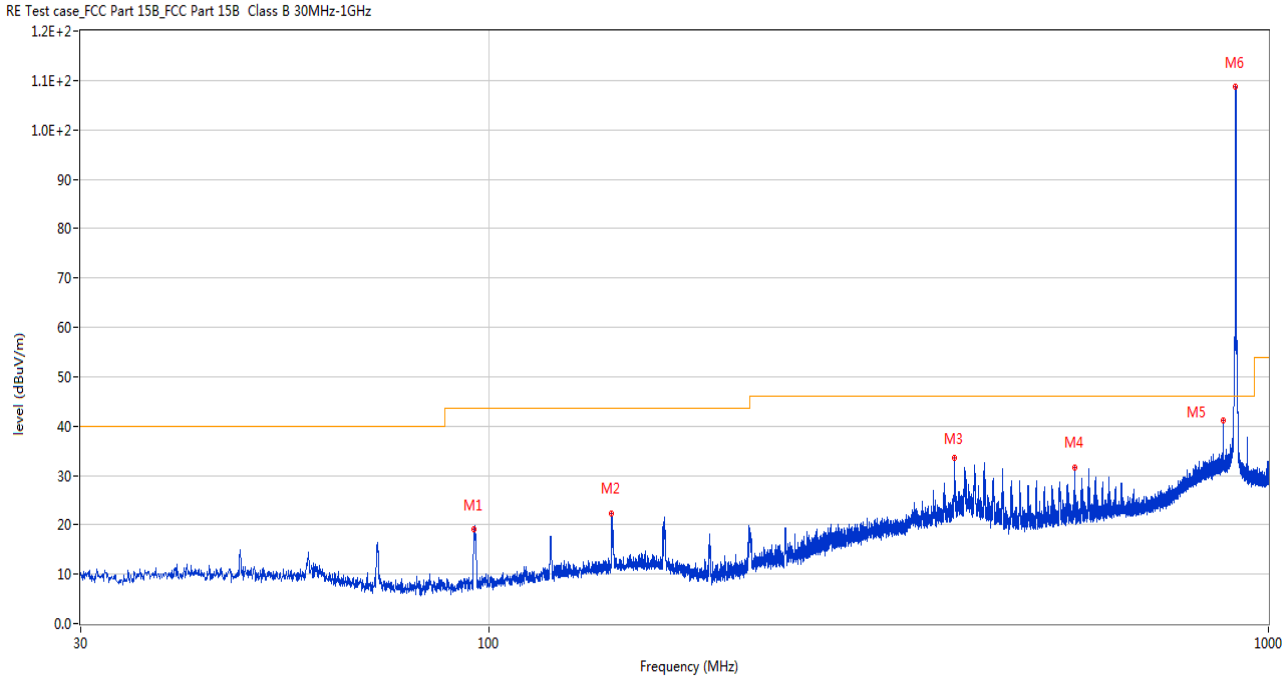
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	143.975	21.15	-24.64	43.5	-22.35	Peak	207.00	200	Vertical	Pass
2	167.934	21.25	-24.77	43.5	-22.25	Peak	217.00	200	Vertical	Pass
3	431.968	35.29	-20.00	46.0	-10.71	Peak	160.00	100	Vertical	Pass
4	539.783	31.40	-17.15	46.0	-14.60	Peak	124.00	100	Vertical	Pass
5	869.972	40.78	-8.92	46.0	-5.22	Peak	360.00	200	Vertical	Pass
6	901.982	109.34	-7.76	46.0	63.34	Peak	151.00	100	Vertical	N/A

LOW CHANNEL, ANT H



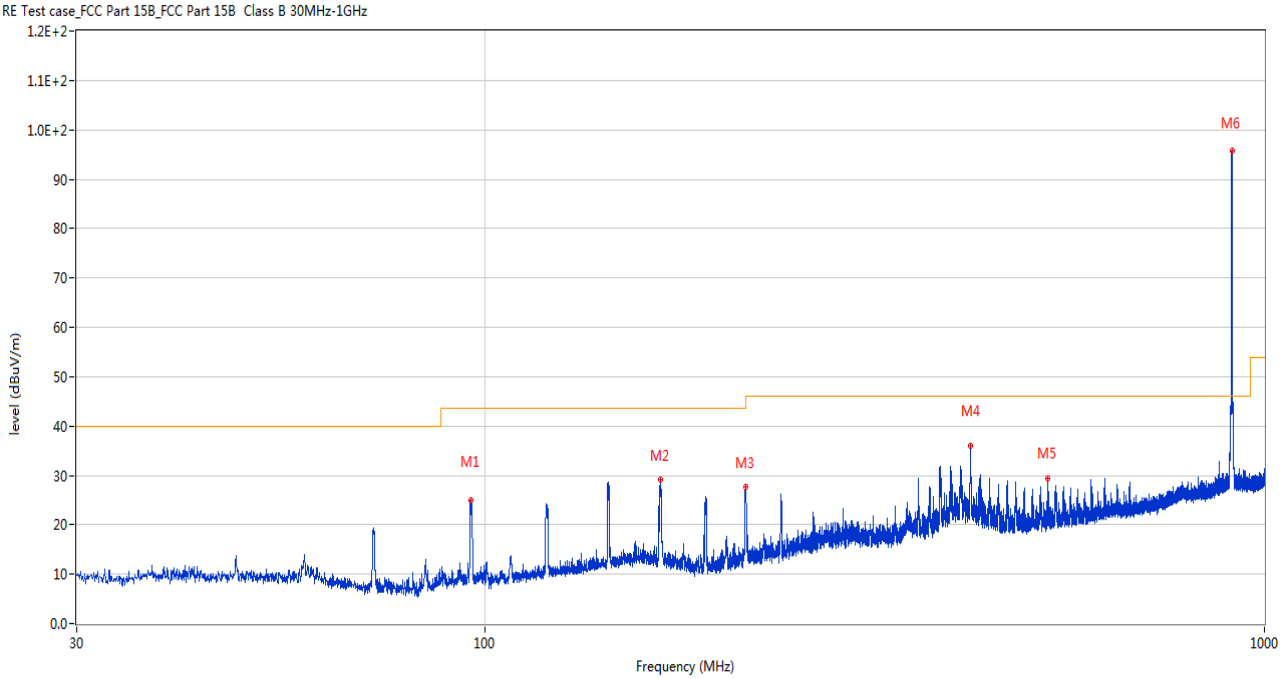
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	96.105	25.43	-29.06	43.5	-18.07	Peak	259.00	200	Horizontal	Pass
2	167.982	28.80	-24.78	43.5	-14.70	Peak	288.00	200	Horizontal	Pass
3	215.949	28.04	-27.21	43.5	-15.46	Peak	274.00	100	Horizontal	Pass
4	408.106	33.74	-20.84	46.0	-12.26	Peak	293.00	100	Horizontal	Pass
5	623.252	30.59	-13.65	46.0	-15.41	Peak	236.00	100	Horizontal	Pass
6	902.030	97.72	-7.75	46.0	51.72	Peak	61.00	200	Horizontal	N/A

MIDDLE CHANNEL ANT V



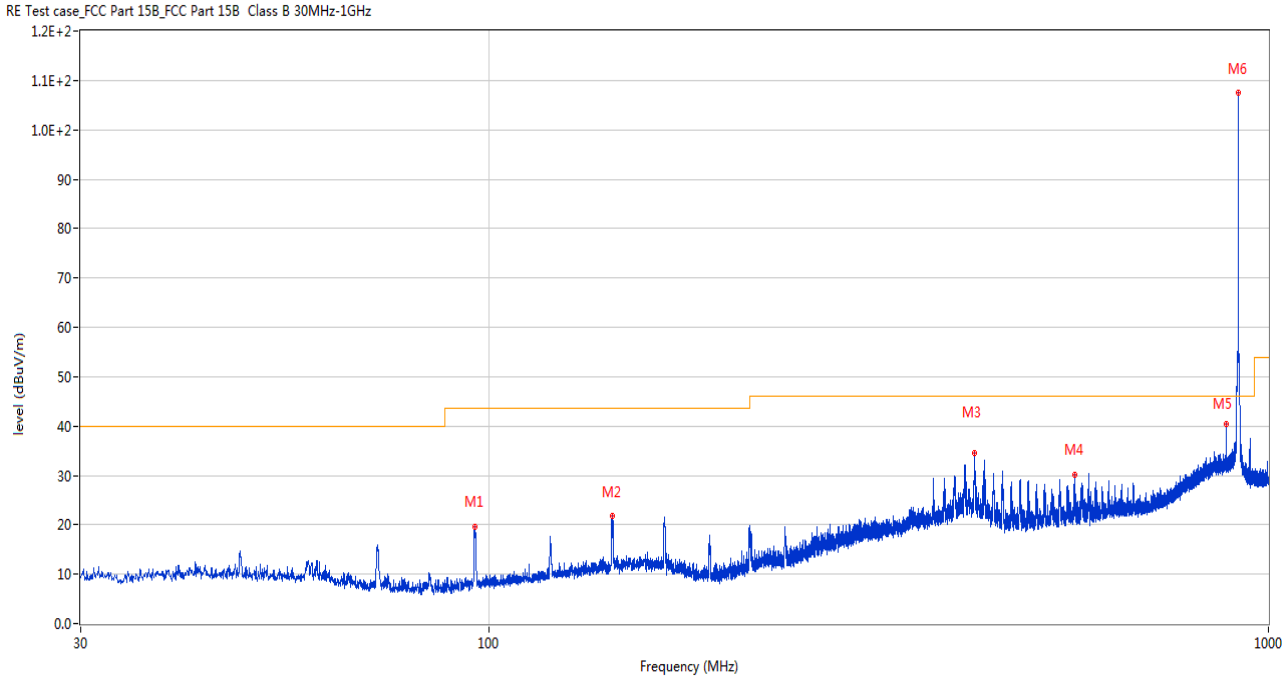
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	95.911	19.05	-29.08	43.5	-24.45	Peak	360.00	200	Vertical	Pass
2	143.781	22.19	-24.65	43.5	-21.31	Peak	187.00	200	Vertical	Pass
3	395.302	33.63	-21.25	46.0	-12.37	Peak	258.00	100	Vertical	Pass
4	564.082	31.64	-16.64	46.0	-14.36	Peak	360.00	200	Vertical	Pass
5	876.325	41.05	-8.56	46.0	-4.95	Peak	147.00	100	Vertical	Pass
6	907.898	108.71	-7.65	46.0	62.71	Peak	157.00	100	Vertical	N/A

MIDDLE CHANNEL, ANT H



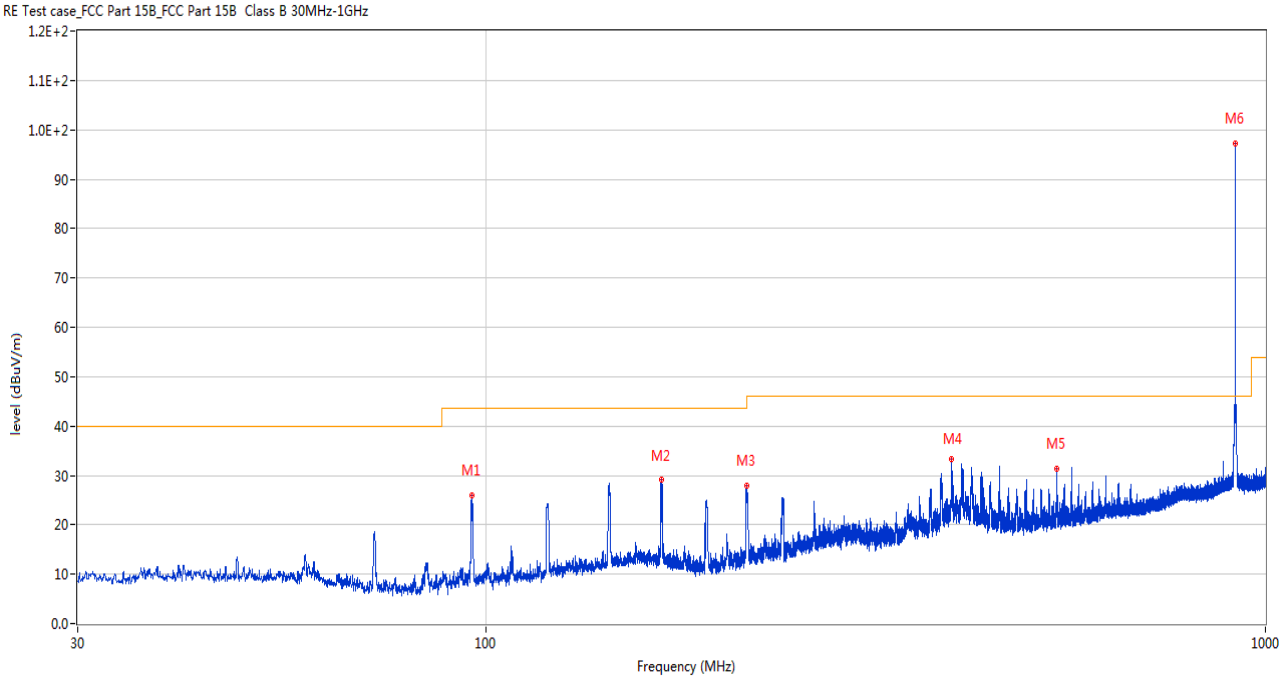
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	95.960	24.95	-29.08	43.5	-18.55	Peak	265.00	200	Horizontal	Pass
2	168.031	29.12	-24.78	43.5	-14.38	Peak	265.00	200	Horizontal	Pass
3	215.998	27.69	-27.21	43.5	-15.81	Peak	123.00	100	Horizontal	Pass
4	419.406	36.10	-20.25	46.0	-9.90	Peak	291.00	100	Horizontal	Pass
5	528.143	29.50	-17.64	46.0	-16.50	Peak	123.00	100	Horizontal	Pass
6	908.238	95.86	-7.68	46.0	49.86	Peak	272.00	100	Horizontal	N/A

HIGH CHANNEL ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	96.008	19.71	-29.07	43.5	-23.79	Peak	42.00	200	Vertical	Pass
2	144.024	21.81	-24.63	43.5	-21.69	Peak	197.00	200	Vertical	Pass
3	420.037	34.43	-20.24	46.0	-11.57	Peak	290.00	100	Vertical	Pass
4	563.985	30.23	-16.64	46.0	-15.77	Peak	354.00	200	Vertical	Pass
5	882.824	40.39	-8.36	46.0	-5.61	Peak	0.00	100	Vertical	Pass
6	914.688	107.57	-7.71	46.0	61.57	Peak	156.00	100	Vertical	N/A

HIGH CHANNEL, ANT H

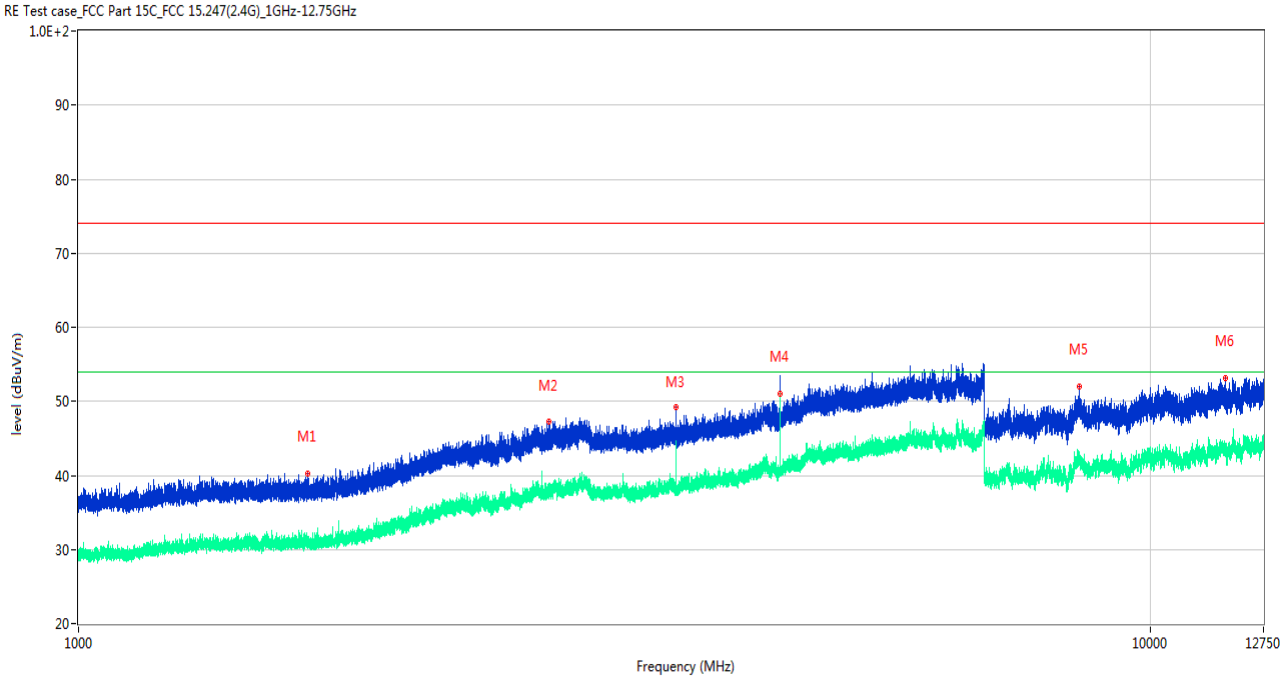


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	96.057	25.84	-29.07	43.5	-17.66	Peak	85.00	200	Horizontal	Pass
2	168.031	29.25	-24.78	43.5	-14.25	Peak	263.00	200	Horizontal	Pass
3	216.046	27.98	-27.21	46.0	-18.02	Peak	126.00	100	Horizontal	Pass
4	395.738	33.22	-21.25	46.0	-12.78	Peak	156.00	100	Horizontal	Pass
5	540.608	31.33	-17.10	46.0	-14.67	Peak	215.00	100	Horizontal	Pass
6	914.688	97.14	-7.71	46.0	51.14	Peak	265.00	100	Horizontal	N/A

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

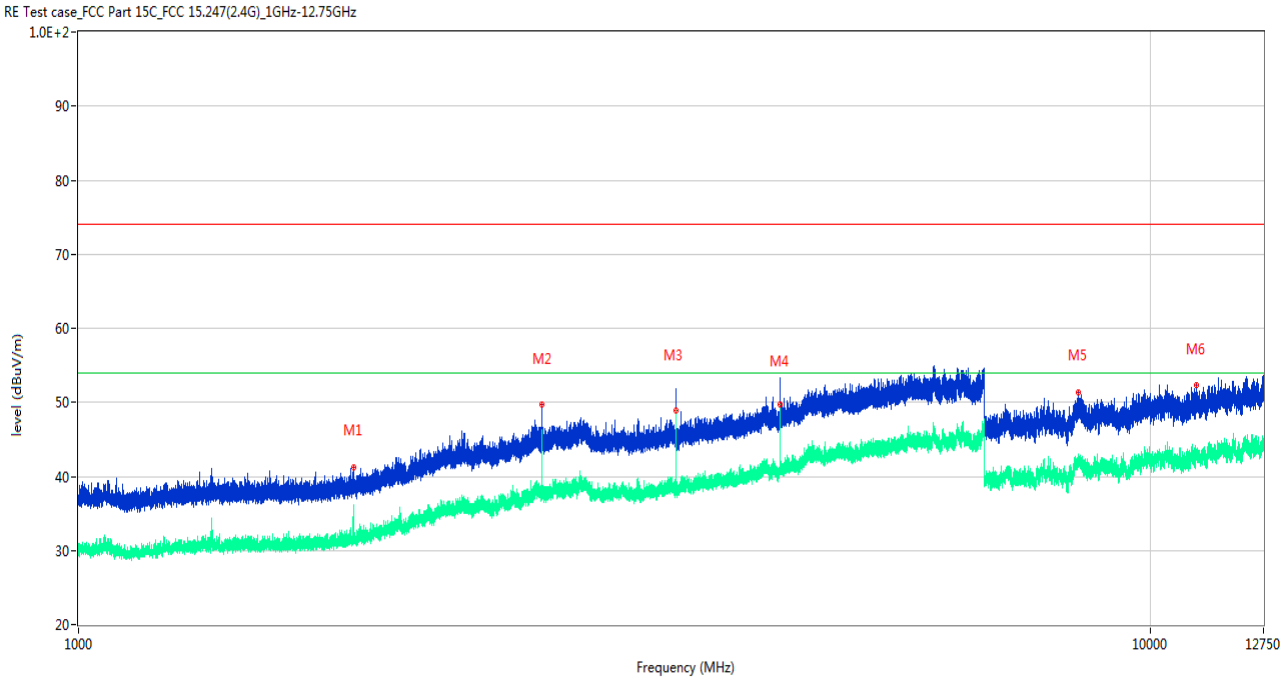
Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

LOW CHANNEL 1 GHz to 18 GHz, ANT H



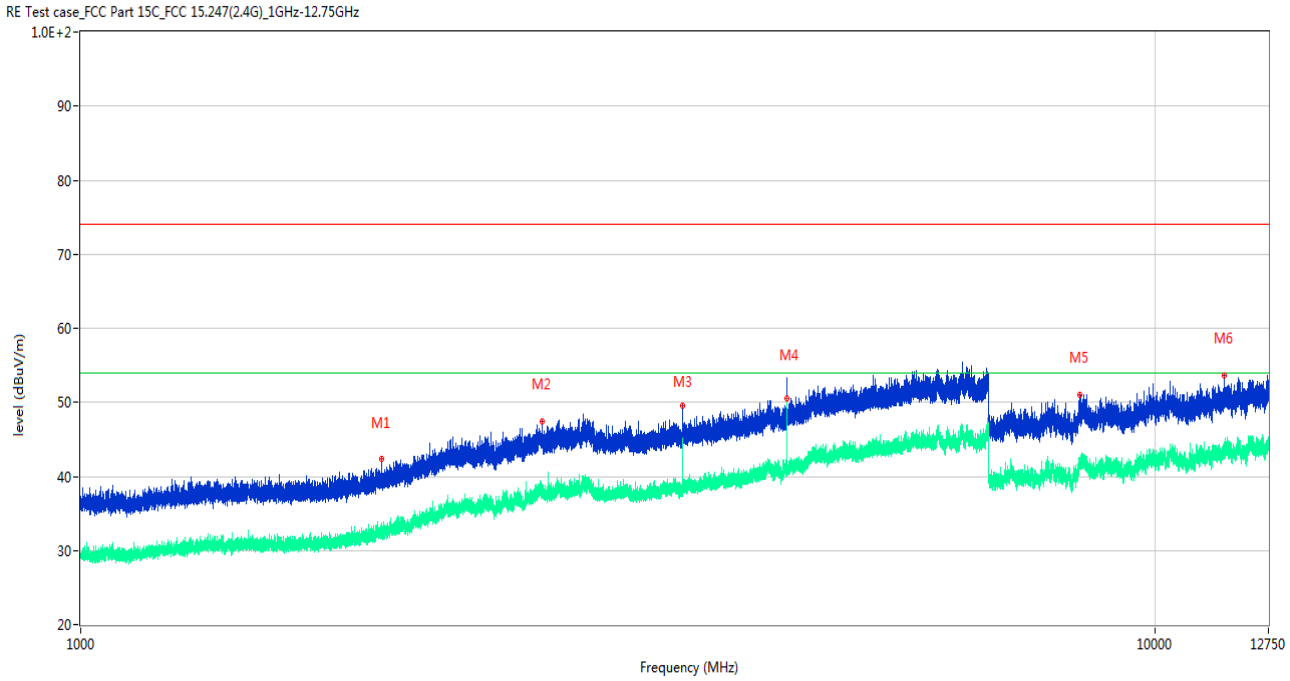
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1634.500	40.27	-17.68	74.0	-33.73	Peak	250.00	150	Horizontal	Pass
1**	1634.500	30.88	-17.68	54.0	-23.12	AV	250.00	150	Horizontal	Pass
2	2748.700	47.21	-11.10	74.0	-26.79	Peak	44.00	150	Horizontal	Pass
2**	2748.700	38.08	-11.10	54.0	-15.92	AV	44.00	150	Horizontal	Pass
3	3608.000	49.20	-7.21	74.0	-24.80	Peak	247.00	150	Horizontal	Pass
3**	3608.000	43.83	-7.21	54.0	-10.17	AV	247.00	150	Horizontal	Pass
4	4511.200	52.78	-4.13	74.0	-21.22	Peak	208.00	150	Horizontal	Pass
4**	4511.200	50.95	-4.13	54.0	-3.05	AV	208.00	150	Horizontal	Pass
5	8580.675	52.06	-2.10	74.0	-21.94	Peak	14.00	150	Horizontal	Pass
5**	8580.675	41.65	-2.10	54.0	-12.35	AV	14.00	150	Horizontal	Pass
6	11761.000	53.14	1.24	74.0	-20.86	Peak	33.00	150	Horizontal	Pass
6**	11761.000	43.38	1.24	54.0	-10.62	AV	33.00	150	Horizontal	Pass

LOW CHANNEL 1 GHz to 18 GHz, ANT V



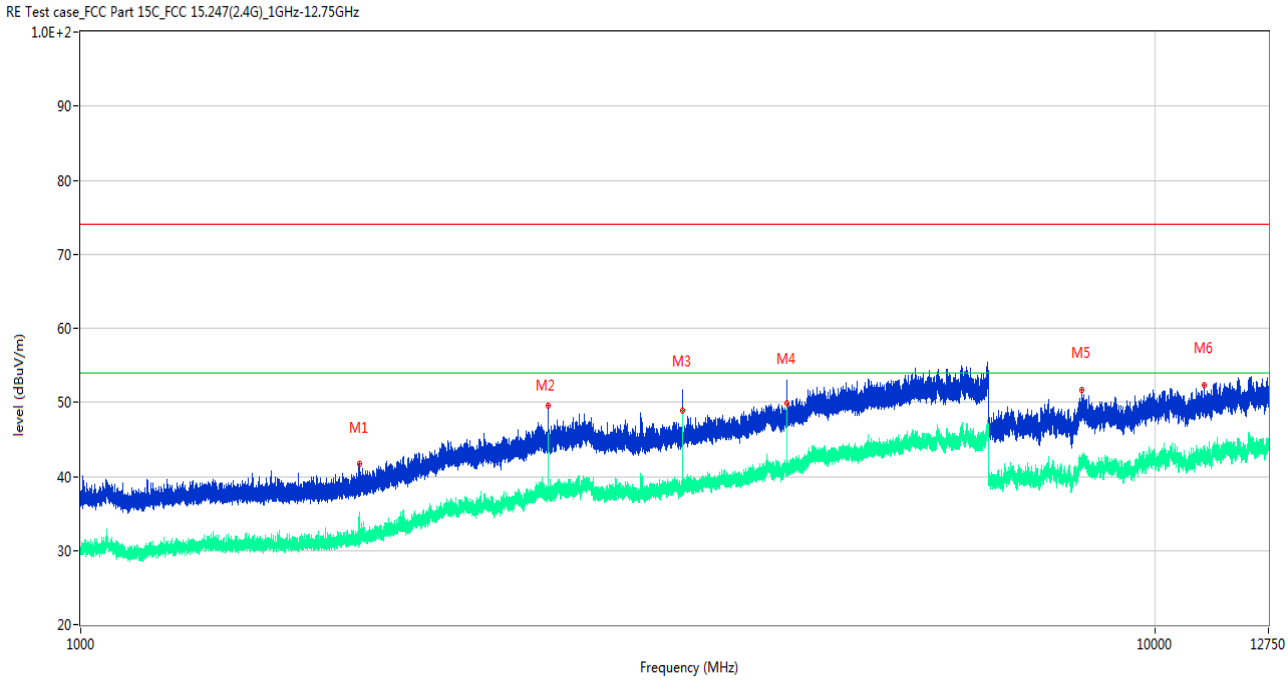
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1805.000	41.29	-16.85	74.0	-32.71	Peak	26.00	150	Vertical	Pass
1**	1805.000	34.47	-16.85	54.0	-19.53	AV	26.00	150	Vertical	Pass
2	2706.200	49.72	-11.69	74.0	-24.28	Peak	360.00	150	Vertical	Pass
2**	2706.200	45.55	-11.69	54.0	-8.45	AV	360.00	150	Vertical	Pass
3	3609.600	51.86	-7.13	74.0	-22.14	Peak	283.00	150	Vertical	Pass
3**	3609.600	48.87	-7.13	54.0	-5.13	AV	283.00	150	Vertical	Pass
4	4510.000	51.82	-4.13	74.0	-22.18	Peak	137.00	150	Vertical	Pass
4**	4510.000	49.71	-4.13	54.0	-4.29	AV	137.00	150	Vertical	Pass
5	8569.175	51.41	-2.07	74.0	-22.59	Peak	326.00	150	Vertical	Pass
5**	8569.175	42.62	-2.07	54.0	-11.38	AV	326.00	150	Vertical	Pass
6	11036.213	52.37	-0.56	74.0	-21.63	Peak	344.00	150	Vertical	Pass
6**	11036.213	42.58	-0.56	54.0	-11.42	AV	344.00	150	Vertical	Pass

MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H



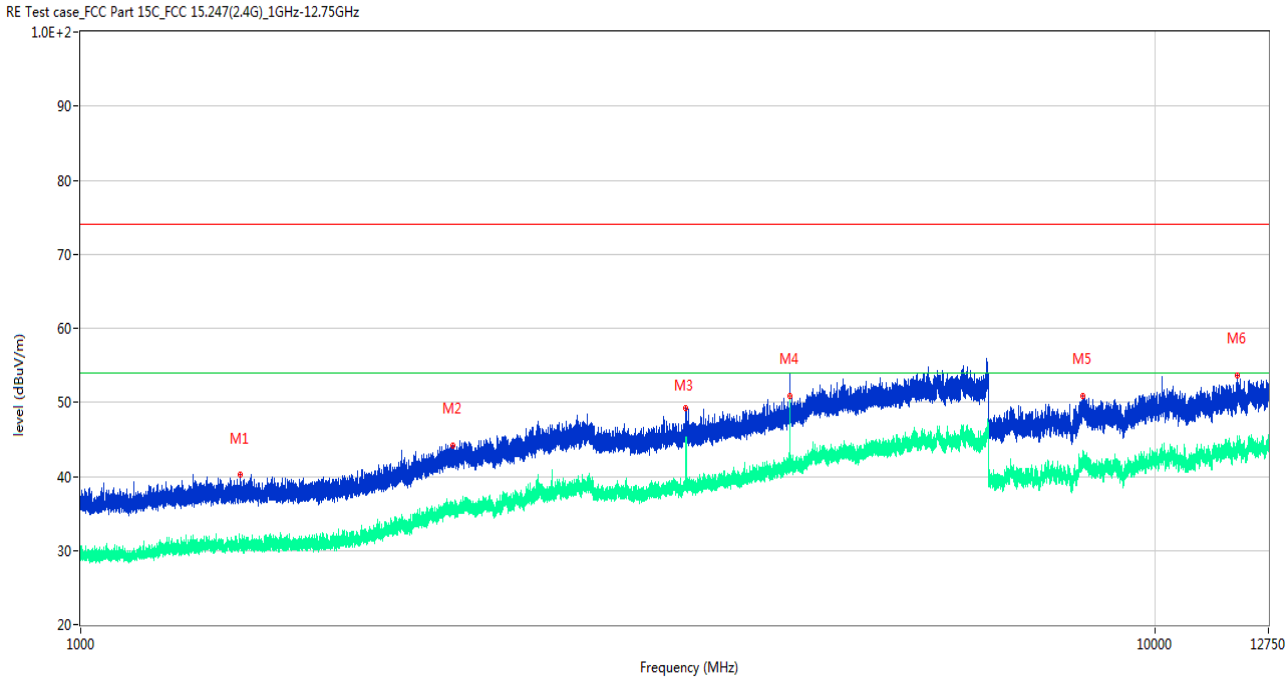
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1904.500	42.35	-15.95	74.0	-31.65	Peak	85.00	150	Horizontal	Pass
1**	1904.500	33.69	-15.95	54.0	-20.31	AV	85.00	150	Horizontal	Pass
2	2689.400	47.50	-11.04	74.0	-26.50	Peak	341.00	150	Horizontal	Pass
2**	2689.400	38.19	-11.04	54.0	-15.81	AV	341.00	150	Horizontal	Pass
3	3633.200	49.61	-6.93	74.0	-24.39	Peak	226.00	150	Horizontal	Pass
3**	3633.200	45.12	-6.93	54.0	-8.88	AV	226.00	150	Horizontal	Pass
4	4539.800	53.30	-4.34	74.0	-20.70	Peak	226.00	150	Horizontal	Pass
4**	4539.800	50.53	-4.34	54.0	-3.47	AV	226.00	150	Horizontal	Pass
5	8503.625	50.94	-1.35	74.0	-23.06	Peak	124.00	150	Horizontal	Pass
5**	8503.625	41.98	-1.35	54.0	-12.02	AV	124.00	150	Horizontal	Pass
6	11602.588	53.63	-0.03	74.0	-20.37	Peak	29.00	150	Horizontal	Pass
6**	11602.588	43.59	-0.03	54.0	-10.41	AV	29.00	150	Horizontal	Pass

MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V



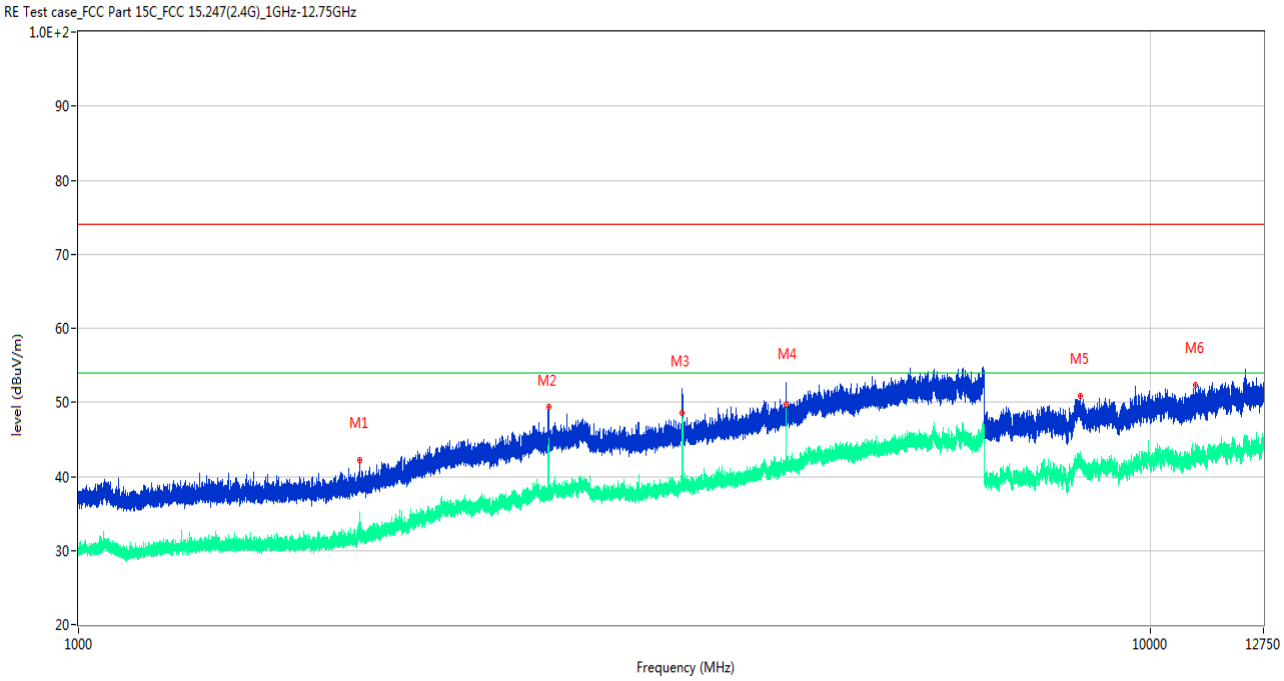
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1816.500	41.77	-17.07	74.0	-32.23	Peak	29.00	150	Vertical	Pass
1**	1816.500	35.24	-17.07	54.0	-18.76	AV	29.00	150	Vertical	Pass
2	2724.100	49.54	-10.84	74.0	-24.46	Peak	125.00	150	Vertical	Pass
2**	2724.100	45.87	-10.84	54.0	-8.13	AV	125.00	150	Vertical	Pass
3	3633.400	51.52	-6.91	74.0	-22.48	Peak	259.00	150	Vertical	Pass
3**	3633.400	48.87	-6.91	54.0	-5.13	AV	259.00	150	Vertical	Pass
4	4539.800	51.64	-4.34	74.0	-22.36	Peak	284.00	150	Vertical	Pass
4**	4539.800	49.85	-4.34	54.0	-4.15	AV	284.00	150	Vertical	Pass
5	8555.662	51.66	-2.09	74.0	-22.34	Peak	263.00	150	Vertical	Pass
5**	8555.662	42.64	-2.09	54.0	-11.36	AV	263.00	150	Vertical	Pass
6	11104.062	52.29	-0.91	74.0	-21.71	Peak	244.00	150	Vertical	Pass
6**	11104.062	44.12	-0.91	54.0	-9.88	AV	244.00	150	Vertical	Pass

HIGH CHANNEL 1 GHz to 18 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1407.700	40.16	-17.41	74.0	-33.84	Peak	19.00	150	Horizontal	Pass
1**	1407.700	30.45	-17.41	54.0	-23.55	AV	19.00	150	Horizontal	Pass
2	2221.800	44.24	-13.10	74.0	-29.76	Peak	131.00	150	Horizontal	Pass
2**	2221.800	35.15	-13.10	54.0	-18.85	AV	131.00	150	Horizontal	Pass
3	3659.600	49.26	-6.81	74.0	-24.74	Peak	319.00	150	Horizontal	Pass
3**	3659.600	43.93	-6.81	54.0	-10.07	AV	319.00	150	Horizontal	Pass
4	4574.000	53.56	-3.90	74.0	-20.44	Peak	28.00	150	Horizontal	Pass
4**	4574.000	50.80	-3.90	54.0	-3.20	AV	28.00	150	Horizontal	Pass
5	8559.688	50.81	-2.10	74.0	-23.19	Peak	178.00	150	Horizontal	Pass
5**	8559.688	41.43	-2.10	54.0	-12.57	AV	178.00	150	Horizontal	Pass
6	11939.250	53.65	1.69	74.0	-20.35	Peak	236.00	150	Horizontal	Pass
6**	11939.250	44.38	1.69	54.0	-9.62	AV	236.00	150	Horizontal	Pass

HIGH CHANNEL 1 GHz to 18 GHz, ANT V



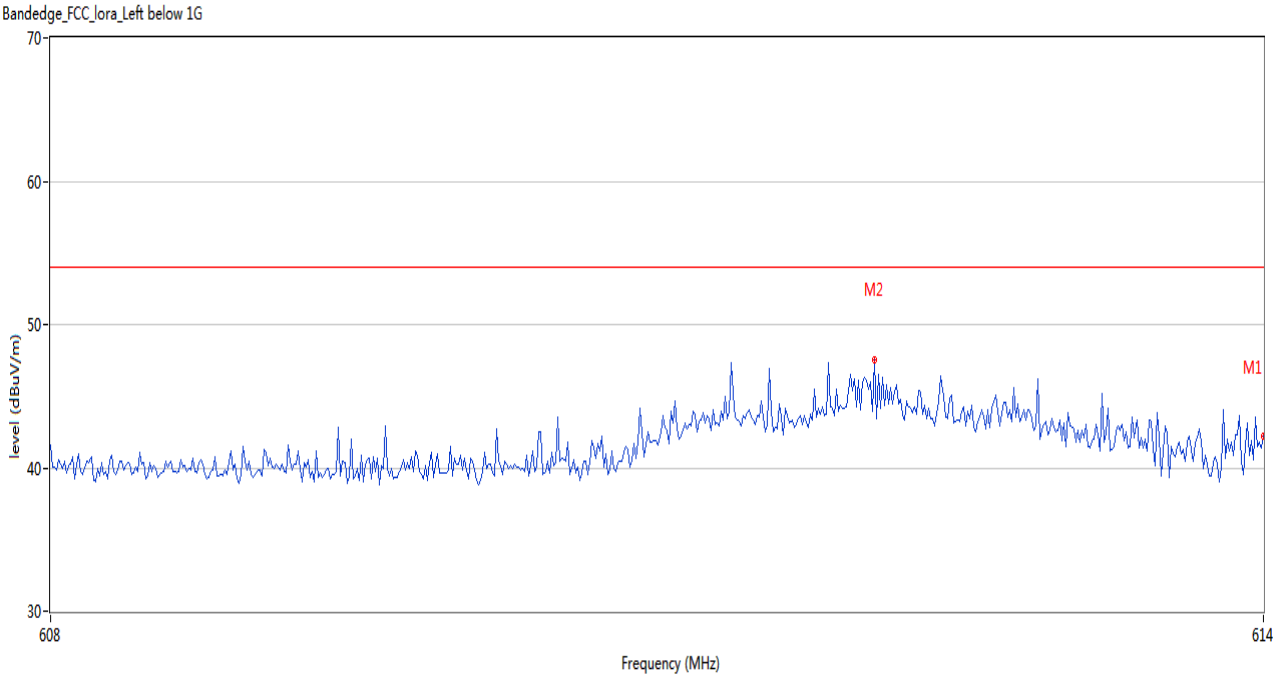
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1831.400	42.13	-16.66	74.0	-31.87	Peak	185.00	150	Vertical	Pass
1**	1831.400	32.06	-16.66	54.0	-21.94	AV	185.00	150	Vertical	Pass
2	2744.000	49.38	-11.24	74.0	-24.62	Peak	18.00	150	Vertical	Pass
2**	2744.000	44.23	-11.24	54.0	-9.77	AV	18.00	150	Vertical	Pass
3	3659.400	51.16	-6.80	74.0	-22.84	Peak	276.00	150	Vertical	Pass
3**	3659.400	48.56	-6.80	54.0	-5.44	AV	276.00	150	Vertical	Pass
4	4575.800	52.52	-3.87	74.0	-21.48	Peak	155.00	150	Vertical	Pass
4**	4575.800	49.63	-3.87	54.0	-4.37	AV	155.00	150	Vertical	Pass
5	8597.638	50.81	-2.21	74.0	-23.19	Peak	228.00	150	Vertical	Pass
5**	8597.638	42.64	-2.21	54.0	-11.36	AV	228.00	150	Vertical	Pass
6	11027.588	52.35	-0.65	74.0	-21.65	Peak	266.00	150	Vertical	Pass
6**	11027.588	43.50	-0.65	54.0	-10.50	AV	266.00	150	Vertical	Pass

A.9 Band Edge (Restricted-band band-edge)

Note [1]: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.
Note [2]: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.
Note [3]: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.
Note [4]: The Level (dBuV/m) has been corrected by factor.

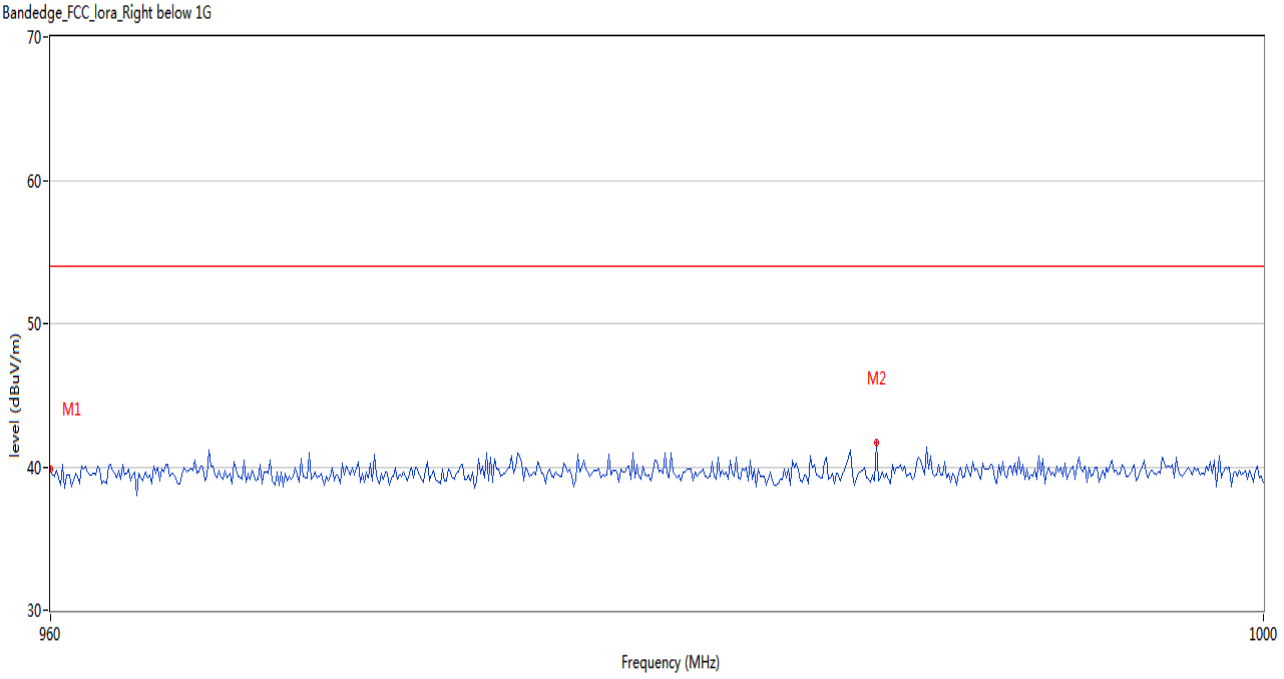
Test Data

LOW CHANNEL



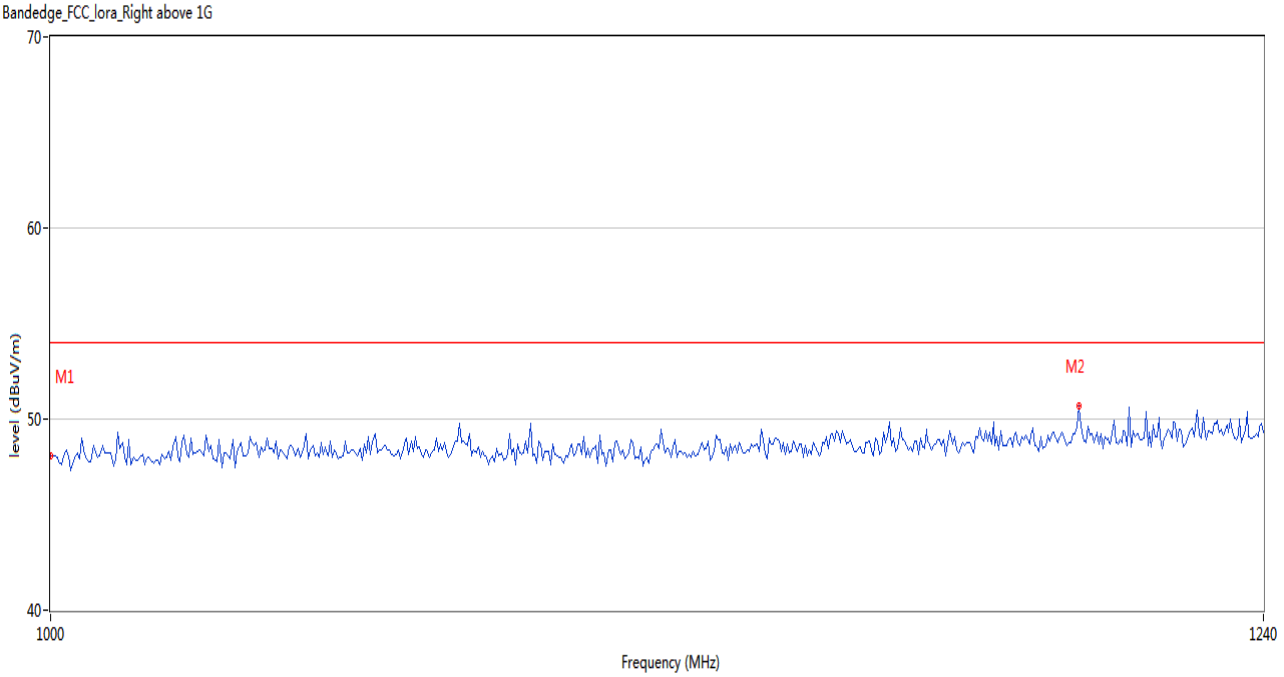
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	614.000	42.21	3.31	54.0	-11.79	Peak	209.00	100	Vertical	Pass
2	612.070	47.50	3.29	54.0	-6.50	Peak	104.00	100	Vertical	Pass

MIDDLE CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	960.000	39.81	-3.60	54.0	-14.19	Peak	244.00	150	Vertical	Pass
2	987.067	41.70	-3.53	54.0	-12.30	Peak	286.00	150	Vertical	Pass

HIGH CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	48.06	-6.22	54.0	-5.94	Peak	324.00	150	Vertical	Pass
2	1200.000	50.72	-5.84	54.0	-3.28	Peak	87.00	150	Vertical	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ21C0555-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL- SZ21C0555-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL- SZ21C0555-AI.PDF”.

--END OF REPORT--