FCC RF Test Report

APPLICANT	:	Amazon.com Services LLC
EQUIPMENT	:	Digital Media Receiver
MODEL NAME	:	CP38RE
FCC ID	:	2A4DH-3877
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System
TEST DATE(S)	:	Oct. 07, 2023 ~ Dec. 08, 2023

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.01

Sporton International Inc. (ShenZhen)
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR353104-01E	Rev. 01	Initial issue of report	Dec. 22, 2023

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)(3)	Output Power	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	≤ 20dBc	Pass	-
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.15 dB at 4844.00 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 20.30 dB at 0.155 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Amazon.com Services LLC
410 Terry Avenue N Seattle, WA 98109-5210 United States

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	CP38RE
FCC ID	2A4DH-3877
SN	Conducted: P0B3FD01336406W3 Conduction: G0B3230233840056 Radiation: G0B323023384003Q

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	902 MHz ~ 928 MHz
Number of Channels	LoRa DTS 500kHz SF7: 31 LoRa DTS 500kHz SF11: 30 OFDM-LR 500kHz: 30
Bandwidth / Spread Factor	500kHz / 7, 11
Maximum Output Power to Antenna	LoRa DTS 500kHz SF7 : 24.48 dBm (0.2805 W) LoRa DTS 500kHz SF11 : 24.45 dBm (0.2786 W) OFDM-LR 500kHz : 25.31 dBm (0.3396 W)
99% Occupied Bandwidth	LoRa DTS 500kHz SF7 : 0.549 MHz LoRa DTS 500kHz SF11 : 0.549 MHz OFDM-LR 1.4kbps : 0.633 MHz
Antenna Type / Gain	FPC Inv F Antenna with gain 3.5 dBi
Type of Modulation	LoRa OFDM-LR

1.4 Modification of EUT

No modifications are made to the EUT during all test items.

1.5 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO02-SZ; 03CH03-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24
2.	CO02-SZ	AUDIX	E3	6.2009-8-24al

1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
902-928 MHz	1	902.5	17	915.3
	2	903.3	18	916.1
	3	904.1	19	916.9
	4	904.9	20	917.7
	5	905.7	21	918.5
	6	906.5	22	919.3
	7	907.3	23	920.1
	8	908.1	24	920.9
	9	908.9	25	921.7
	10	909.7	26	922.5
	11	910.5	27	923.3
	12	911.3	28	924.1
	13	912.1	29	924.9
	14	912.9	30	925.7
	15	913.7	31	926.5
	16	914.5		

Note:

1. The above EUT's information was declared by manufacturer.
2. The device does not support Channel 1 (902.5MHz) for LoRa DTS 500kHz SF11 & OFDM-LR modes.

2.2 Test Mode

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

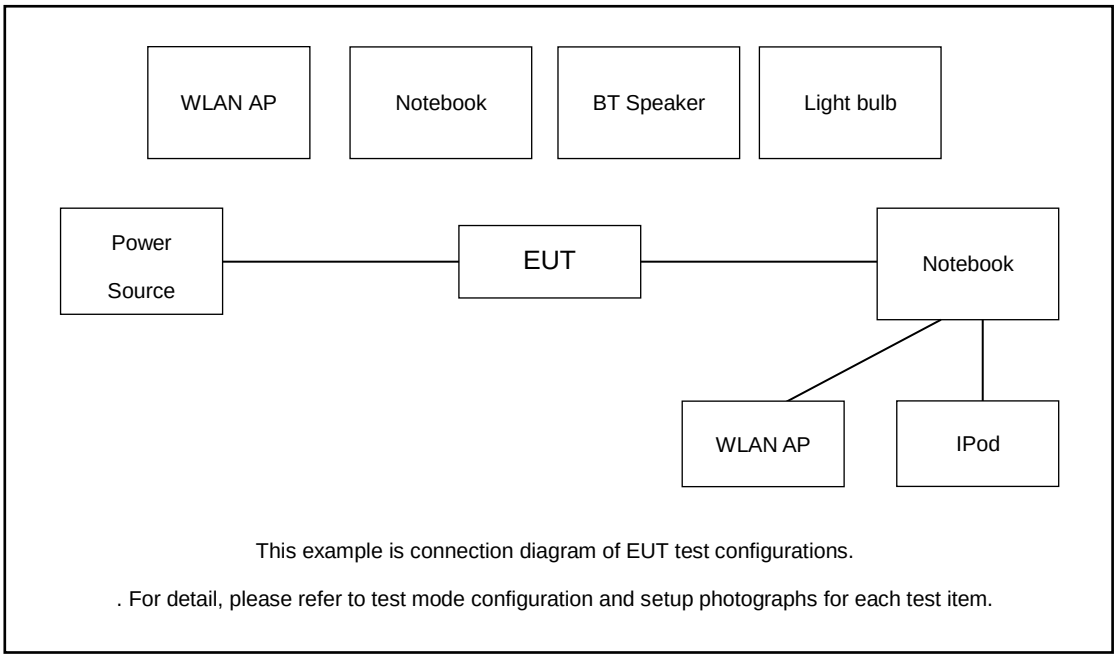
b. AC power line Conducted Emission was tested under maximum output power.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	**Modulation**
	LoRa DTS 500kHz / OFDM-LR
Conducted TCs / Radiated TCs	*LoRa DTS 500kHz SF7:* Mode 1: LoRa Tx CH01_902.5 MHz Mode 2: LoRa Tx CH16_914.5 MHz Mode 3: LoRa Tx CH31_926.5 MHz *LoRa DTS 500kHz SF11:* Mode 1: LoRa Tx CH02_903.3 MHz Mode 2: LoRa Tx CH16_914.5 MHz Mode 3: LoRa Tx CH31_926.5 MHz *OFDM-LR:* Mode 1: LoRa Tx CH02_903.3 MHz Mode 2: LoRa Tx CH16_914.5 MHz Mode 3: LoRa Tx CH31_926.5 MHz *Co-location radiated test modes refer to Appendix C&D*
AC Conducted Emission	Mode 1 : Lora Tx + Zigbee Link + Bluetooth Link + WLAN(2.4G) Link

2.3 Connection Diagram of Test System

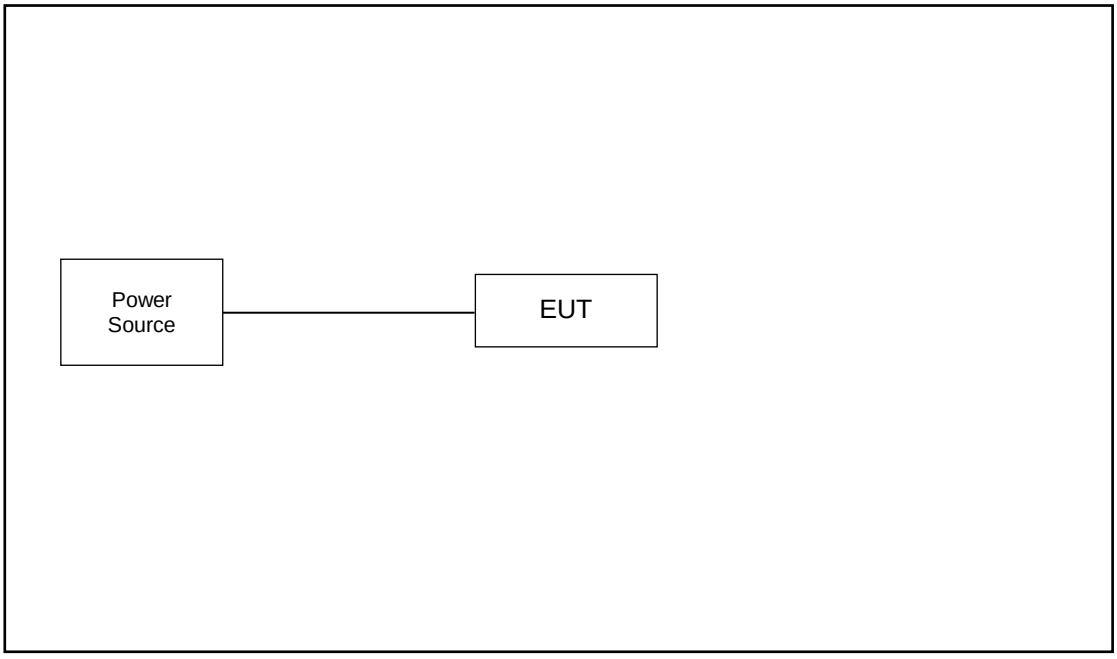
For AC Conducted Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

For Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7m with Core
2.	Notebook	Inspiron 15-7570	Fcc DoC	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
3.	BT Speaker	N/A	N/A	N/A	N/A
4.	Light bulb	N/A	N/A	N/A	N/A
5.	IPod	MC525 ZP/A	Fcc DoC	Shielded, 1.0m	N/A

2.5 EUT Operation Test Setup

For LoRa function, the engineering test program was provided and enabled to make EUT continuous transmit.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 0.1 dB and 20dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 0.1 + 20 = 20.1 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

3.1.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.1.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 30kHz and set the Video bandwidth (VBW) = 100kHz.
6. Measure and record the results in the test report.

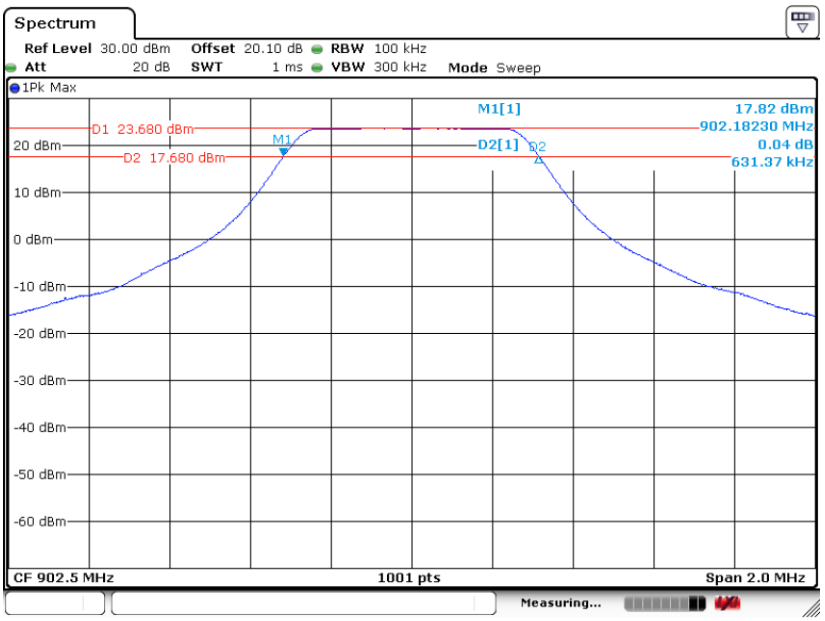
3.1.4 Test Setup

3.1.5 Test Result of 6dB Bandwidth

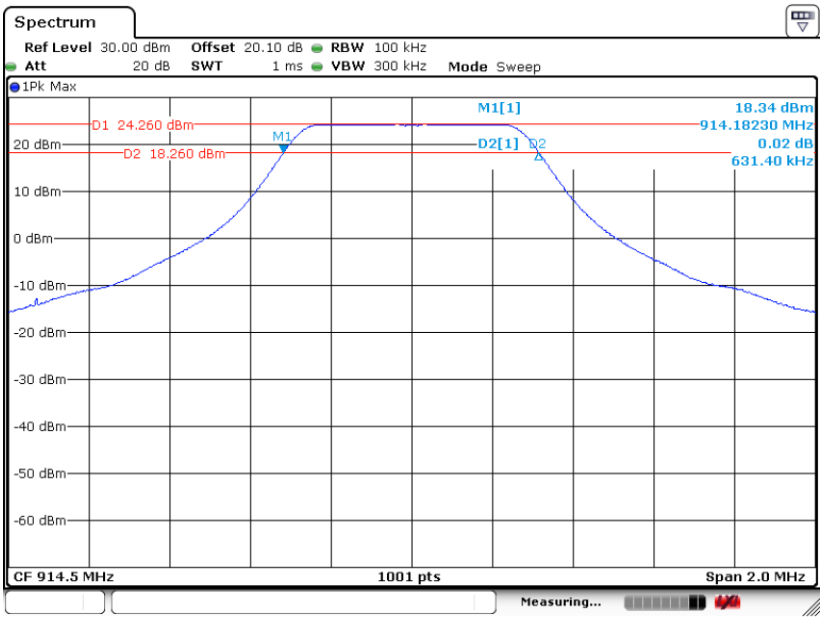
Please refer to Appendix A.

For LoRa DTS SF7:

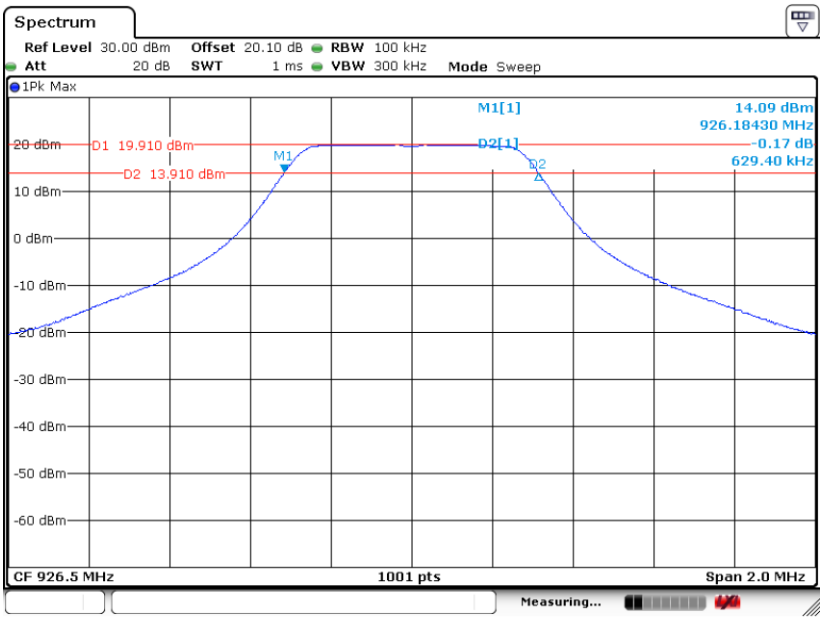
6 dB Bandwidth Plot on 902.5 MHz



6 dB Bandwidth Plot on 914.5 MHz

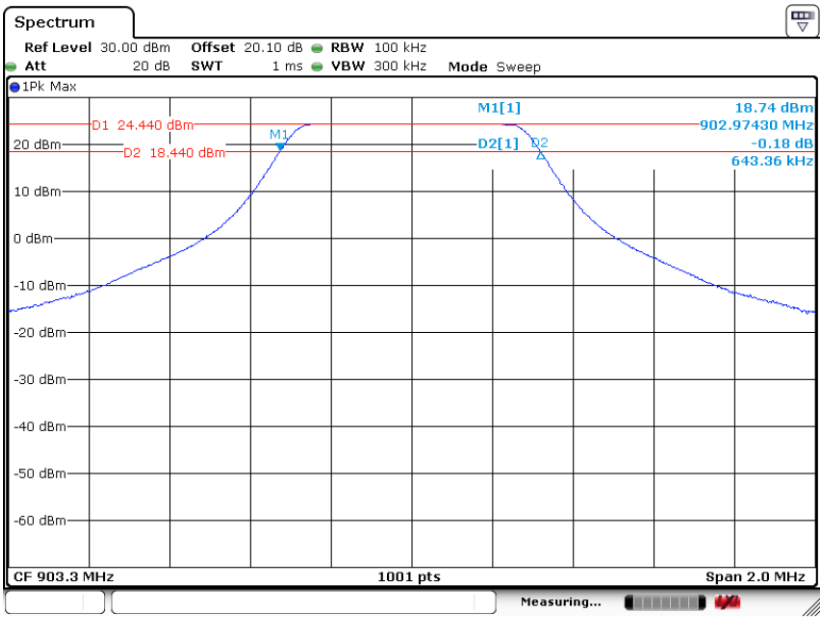


6 dB Bandwidth Plot on 926.5 MHz

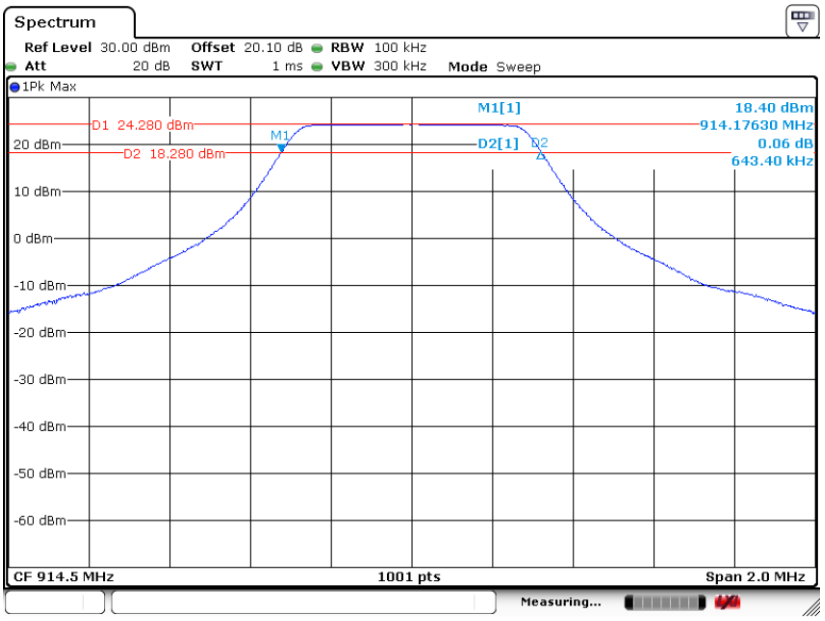


For LoRa DTS SF11:

6 dB Bandwidth Plot on 903.3MHz

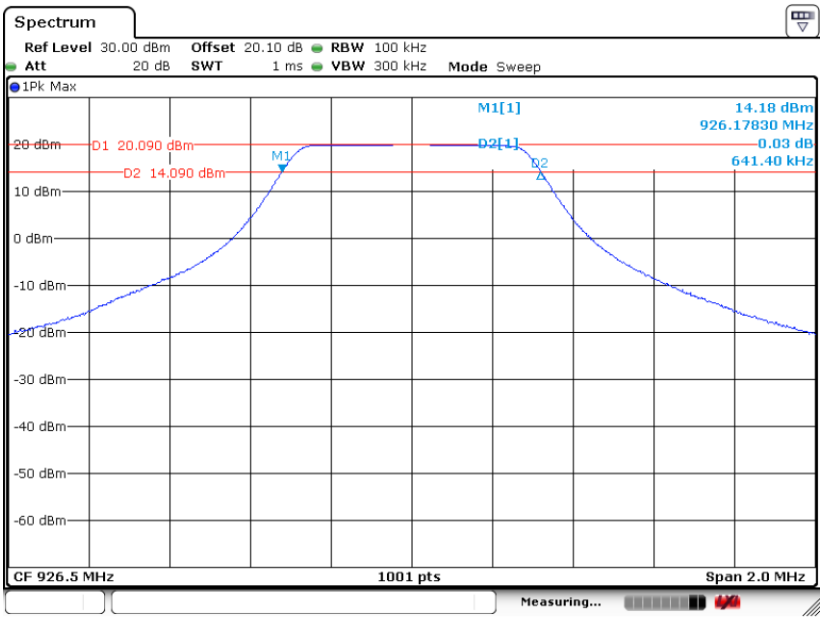


6 dB Bandwidth Plot on 914.5 MHz



Date: 8.OCT.2023 00:01:53

6 dB Bandwidth Plot on 926.5 MHz



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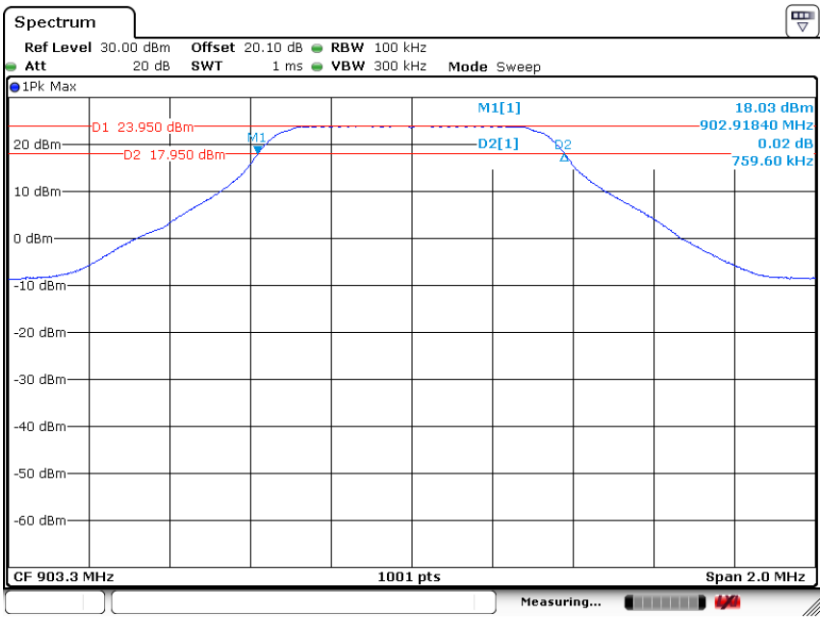
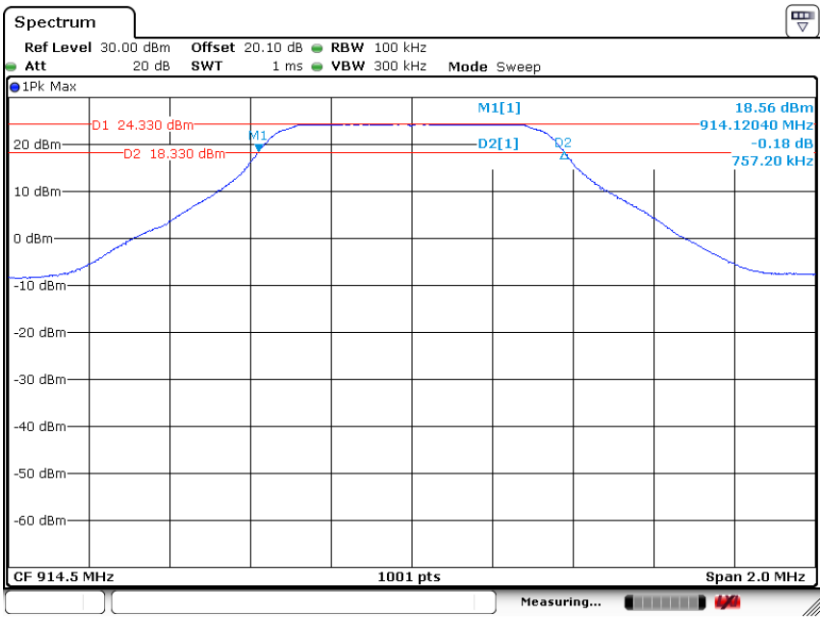
For OFDM-LR:

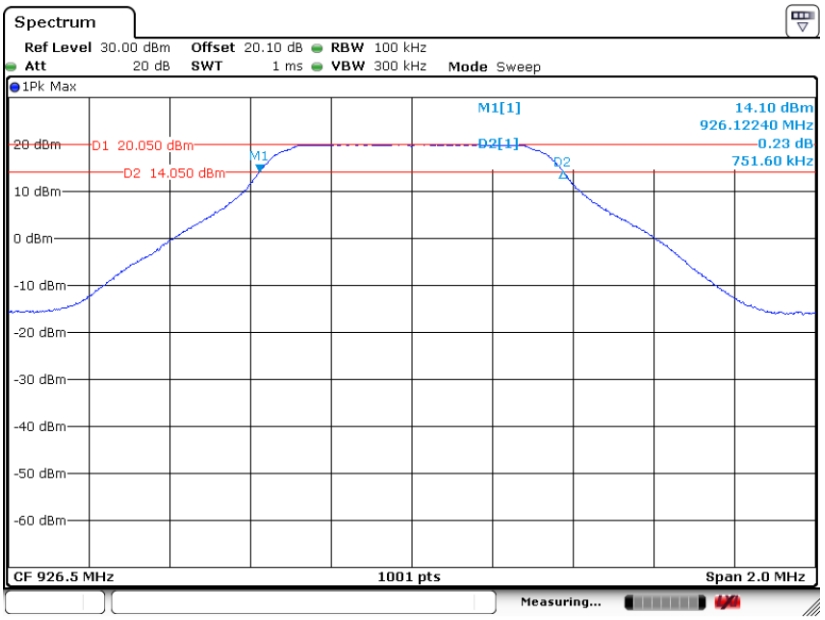
6 dB Bandwidth Plot on 903.3MHz



6 dB Bandwidth Plot on 914.5 MHz



6 dB Bandwidth Plot on 926.5 MHz

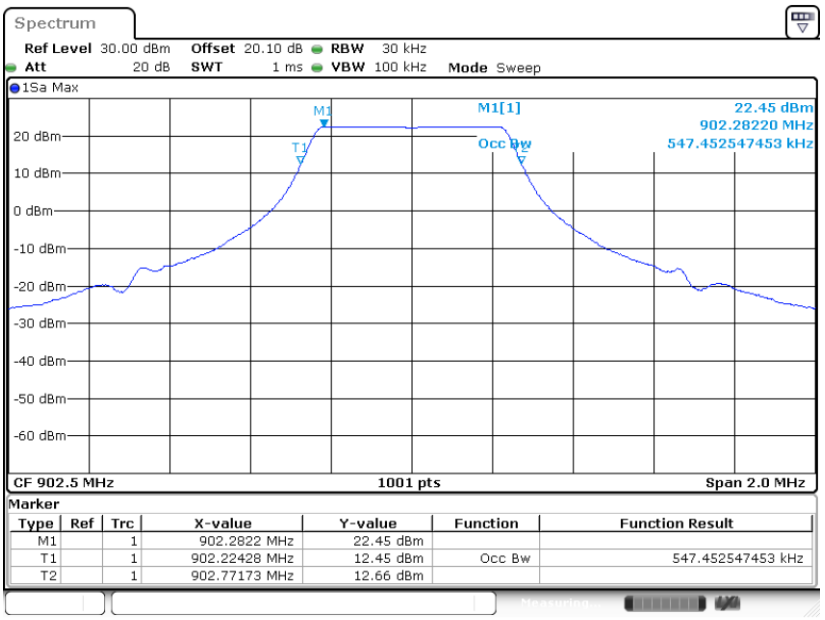


3.1.6 Test Result of 99% Occupied Bandwidth

Please refer to Appendix A.

For LoRa DTS SF7:

99% Bandwidth Plot on 902.5 MHz



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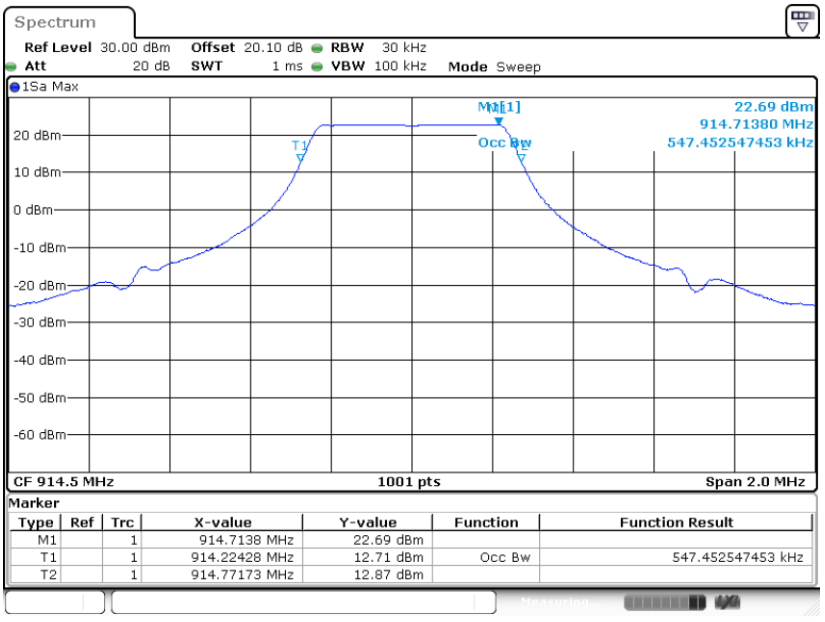
99% Occupied Bandwidth Plot on 914.5 MHz



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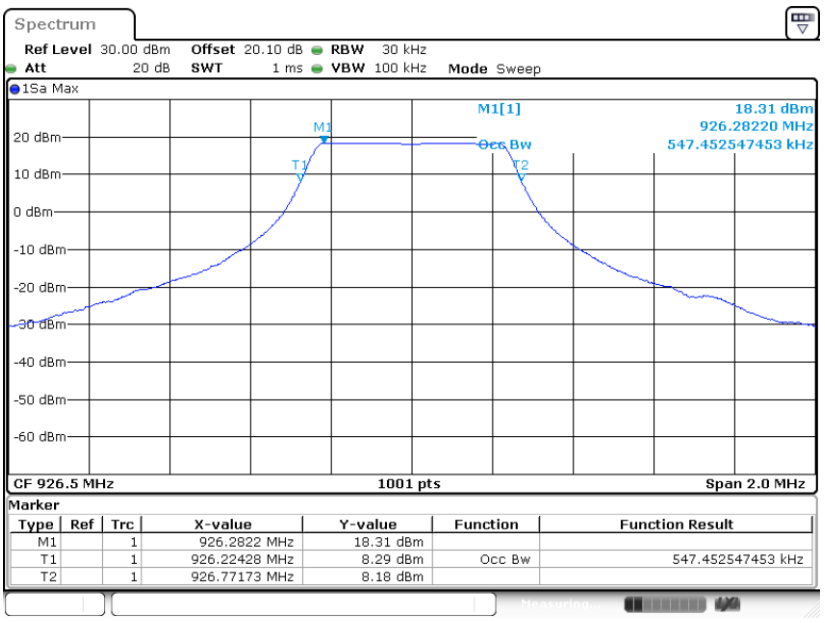
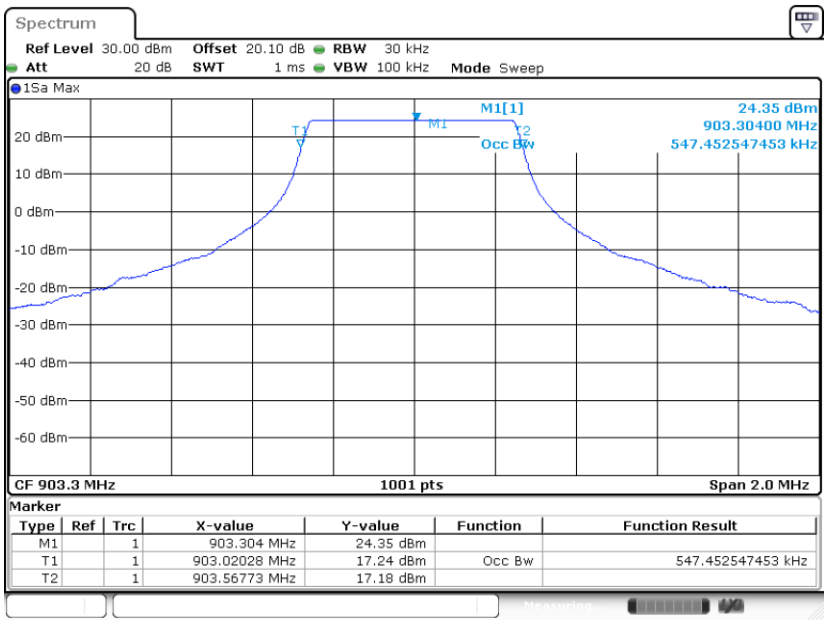
99% Occupied Bandwidth Plot on 926.5 MHz

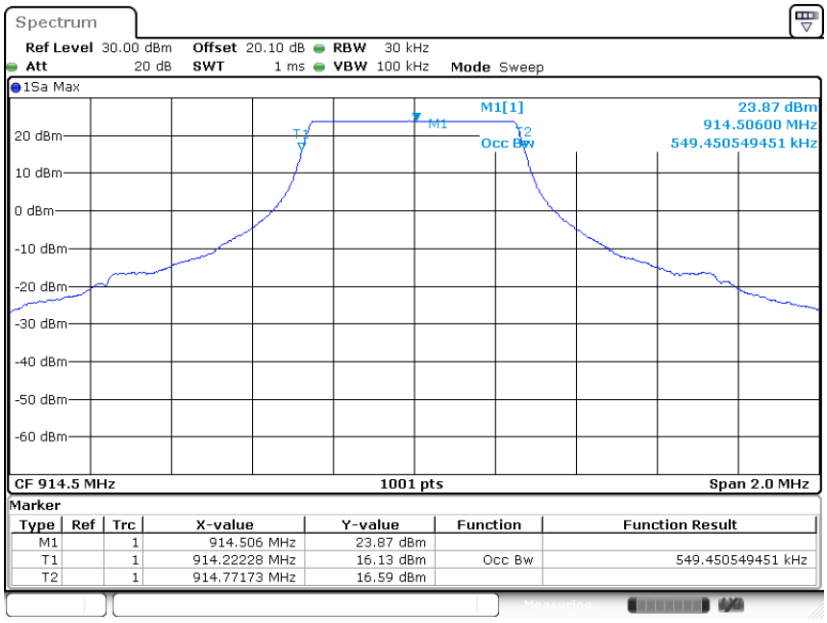


For LoRa DTS SF11:

99% Bandwidth Plot on 903.3MHz



99% Bandwidth Plot on 914.5 MHz



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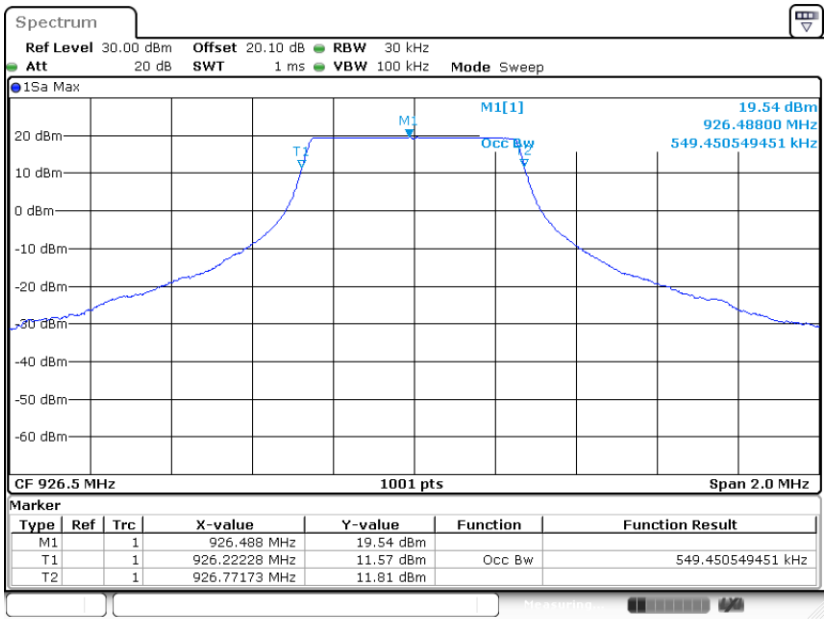
99% Bandwidth Plot on 926.5 MHz



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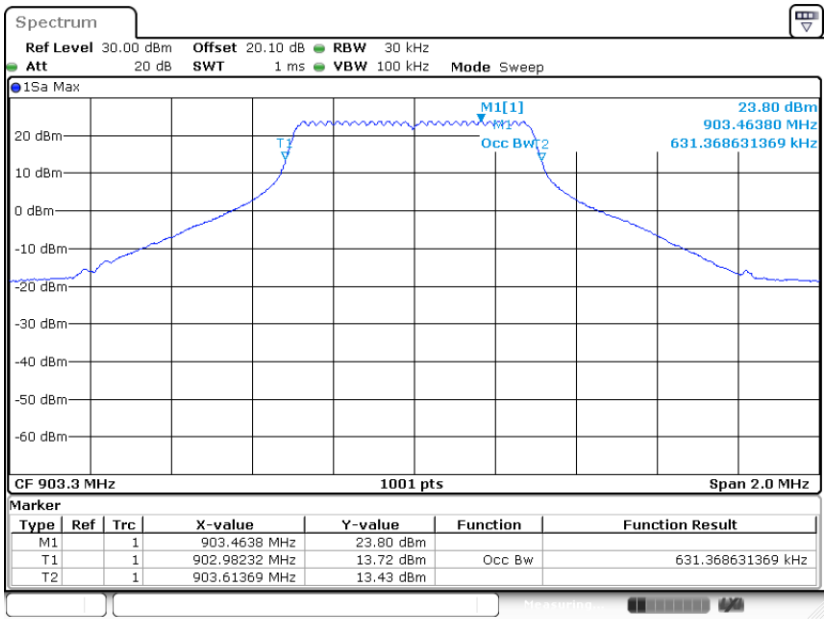
For OFDM-LR:

99% Bandwidth Plot on 903.3MHz



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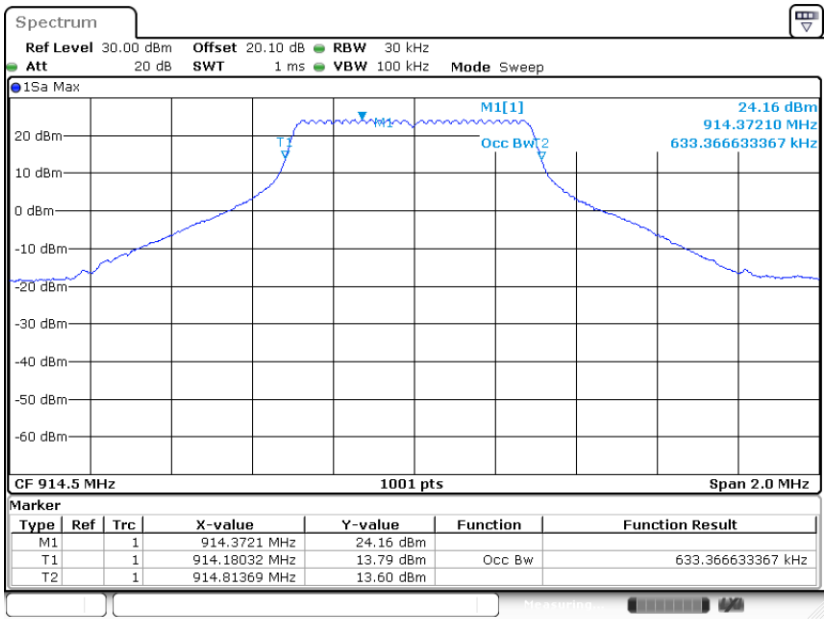
99% Bandwidth Plot on 914.5 MHz



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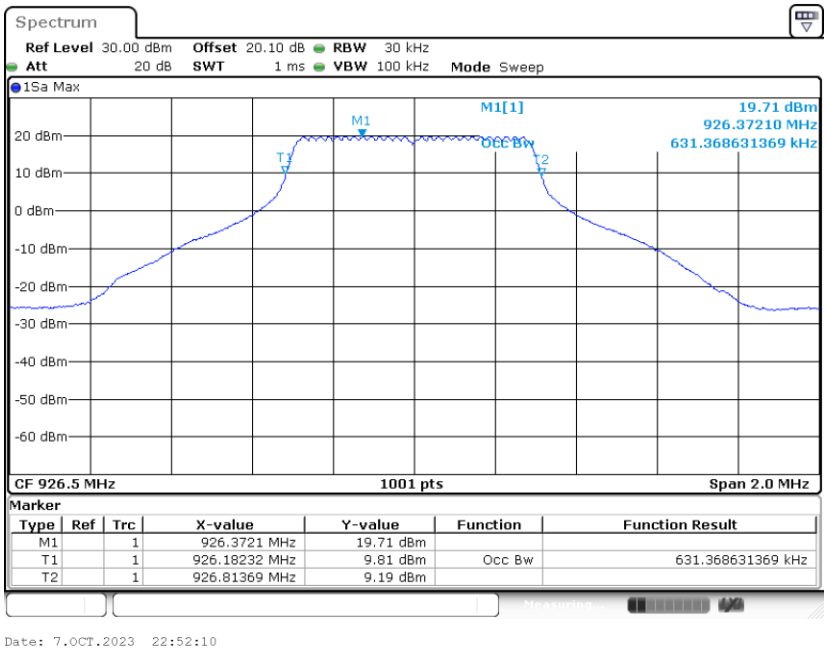
99% Bandwidth Plot on 926.5 MHz



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 902-928MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi is used, the output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

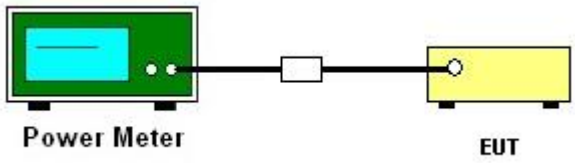
3.2.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

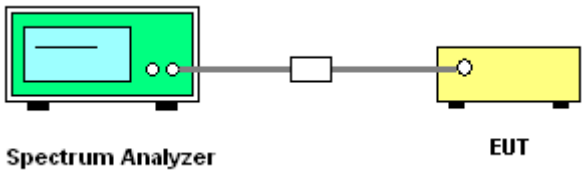
3.3.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 11.10.5 Method AVGPSD-2.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = power averaging (rms), Sweep time = auto couple. Use the peak marker function to determine the maximum power level.
6. Employ trace averaging (rms) mode over a minimum of 100 traces.
7. Ensure that the number of measurement points in the sweep ≥ [2 × span / RBW].
8. Measure and record the results in the test report.
9. Add [10 log (1 / D)], where D is the duty cycle.
10. The Measured power density (dBm)/ 100kHz is a reference level and used as 20/30dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



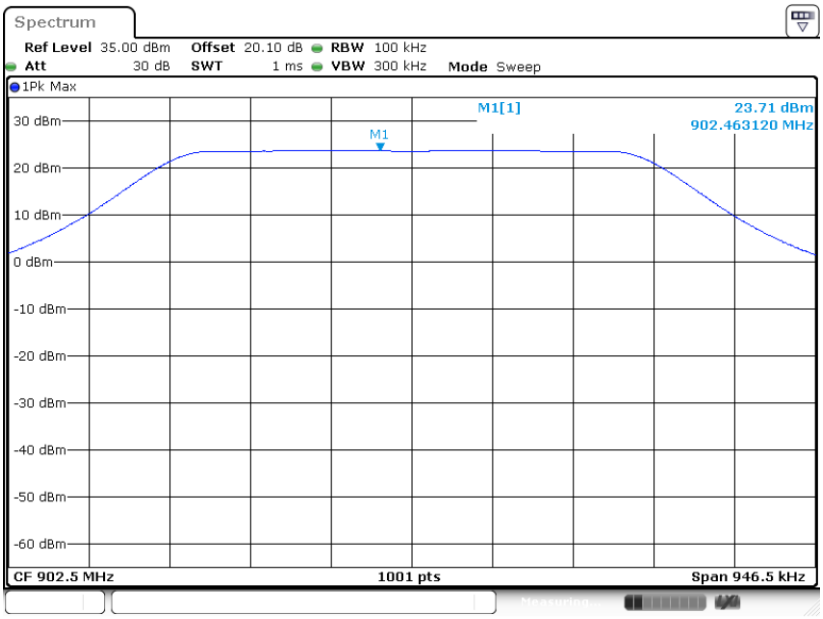
3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

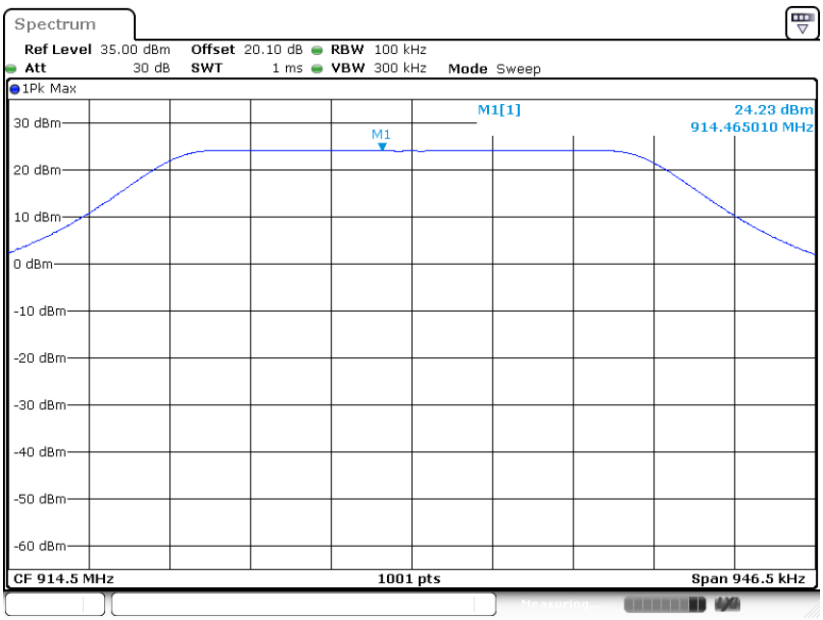
3.3.6 Test Result of Power Spectral Density Plots (100kHz)

For LoRa DTS SF7:

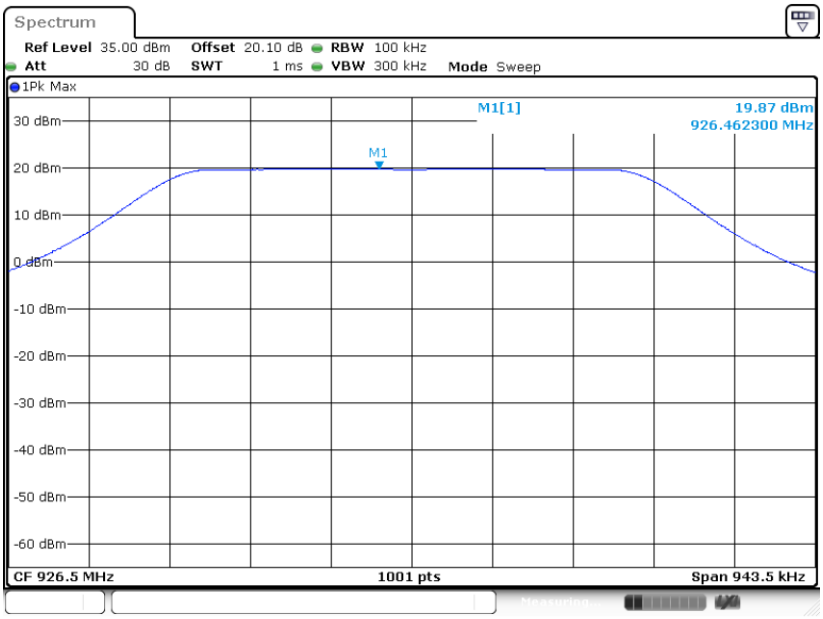
PSD 100kHz Plot on 902.5 MHz



PSD 100kHz Plot on 914.5 MHz

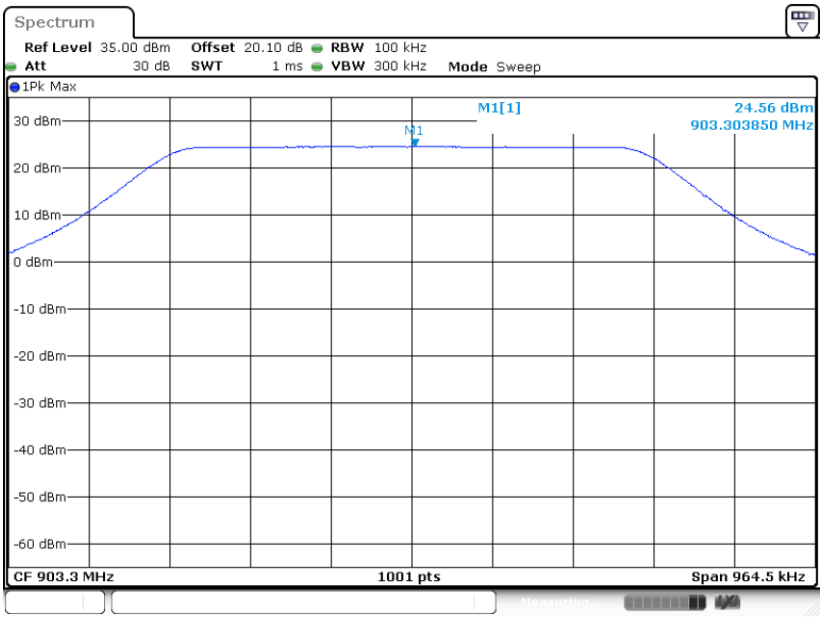


PSD 100kHz Plot on 926.5 MHz

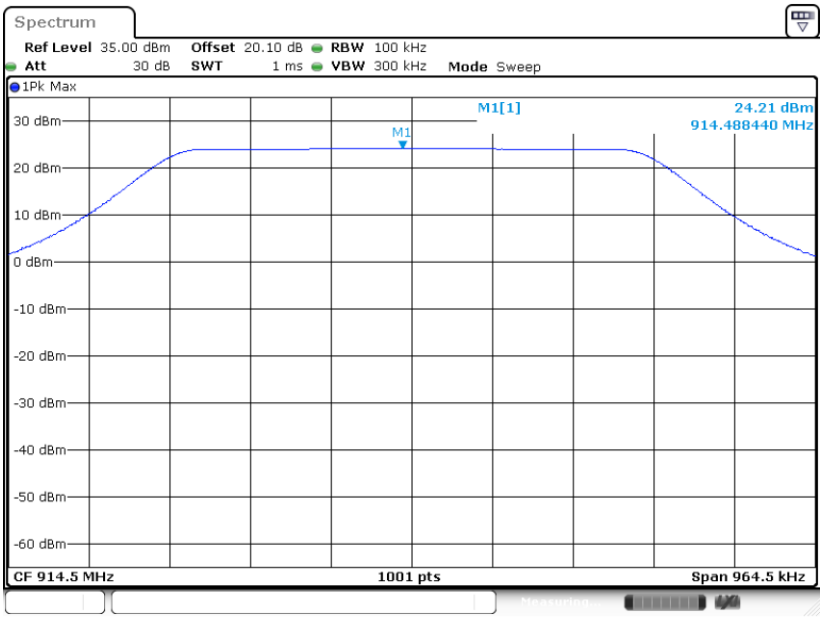


For LoRa DTS SF11:

PSD 100kHz Plot on 903.3 MHz

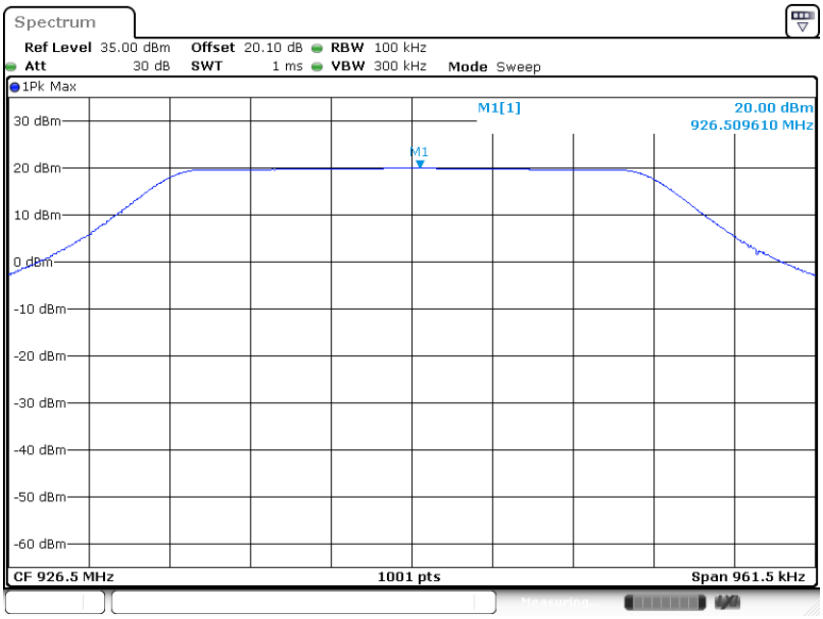


PSD 100kHz Plot on 914.5 MHz



Date: 8.OCT.2023 00:03:19

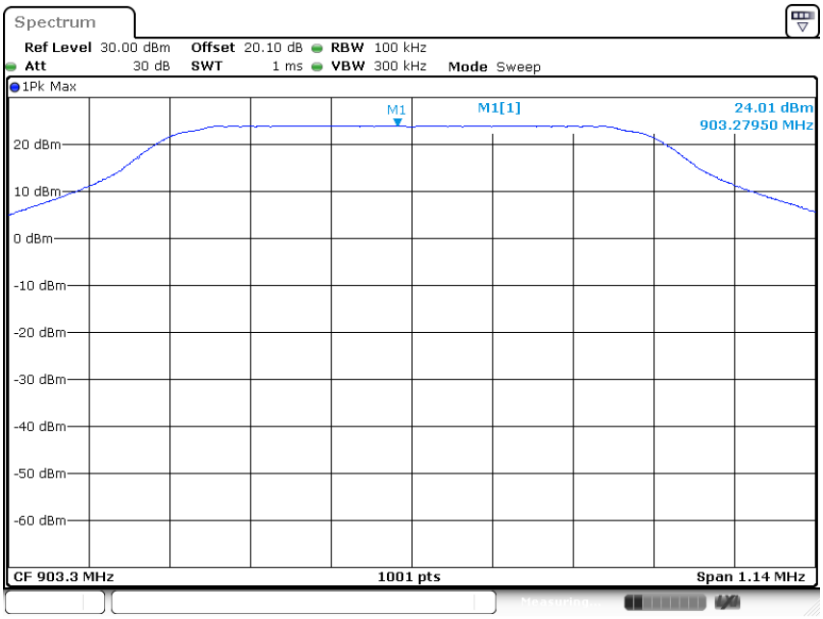
PSD 100kHz Plot on 926.5 MHz



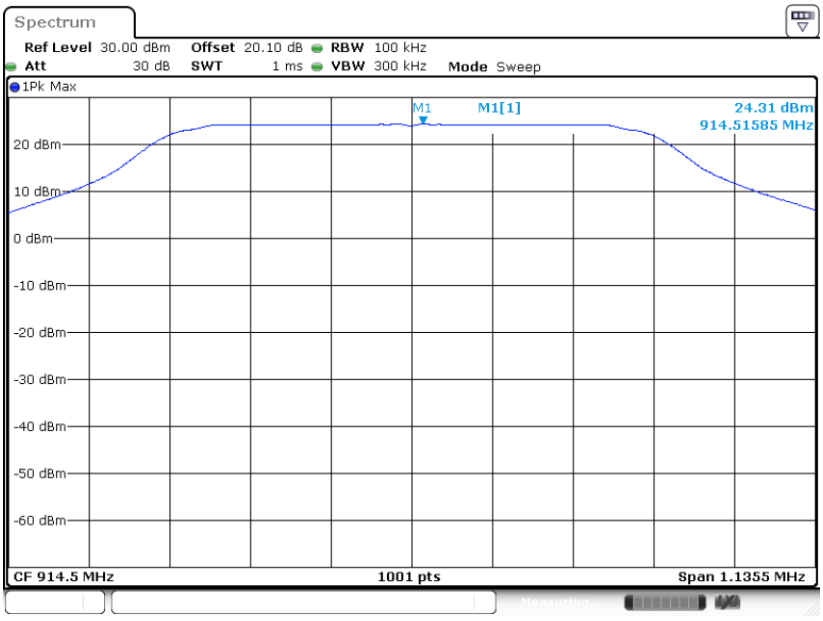
Date: 7.OCT.2023 23:51:33

For OFDM-LR:

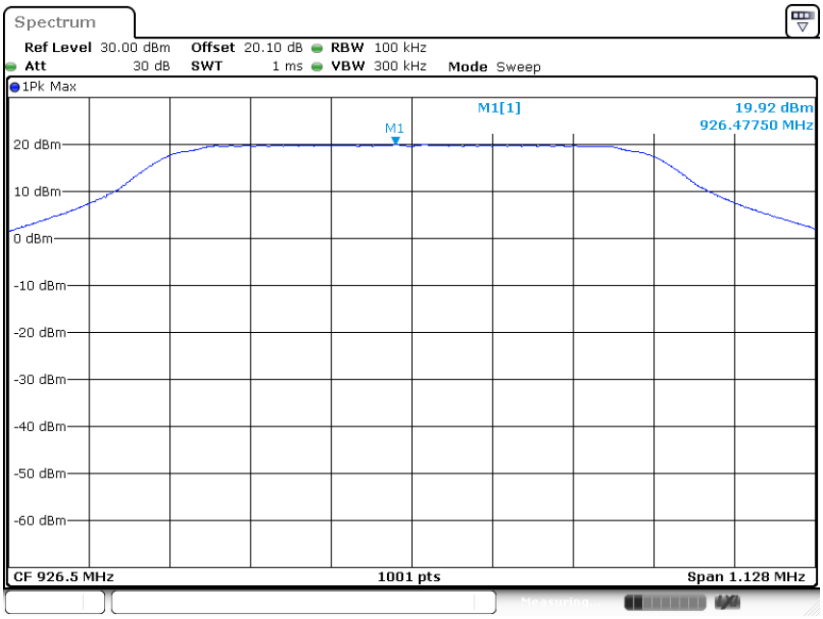
PSD 100kHz Plot on 903.3 MHz



PSD 100kHz Plot on 914.5 MHz



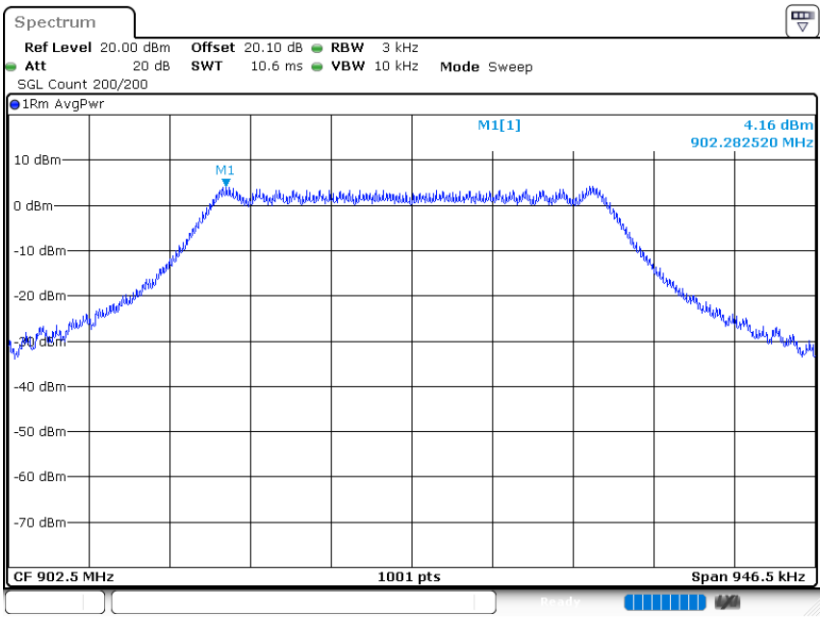
PSD 100kHz Plot on 926.5 MHz



3.3.7 Test Result of Power Spectral Density Plots (3kHz)

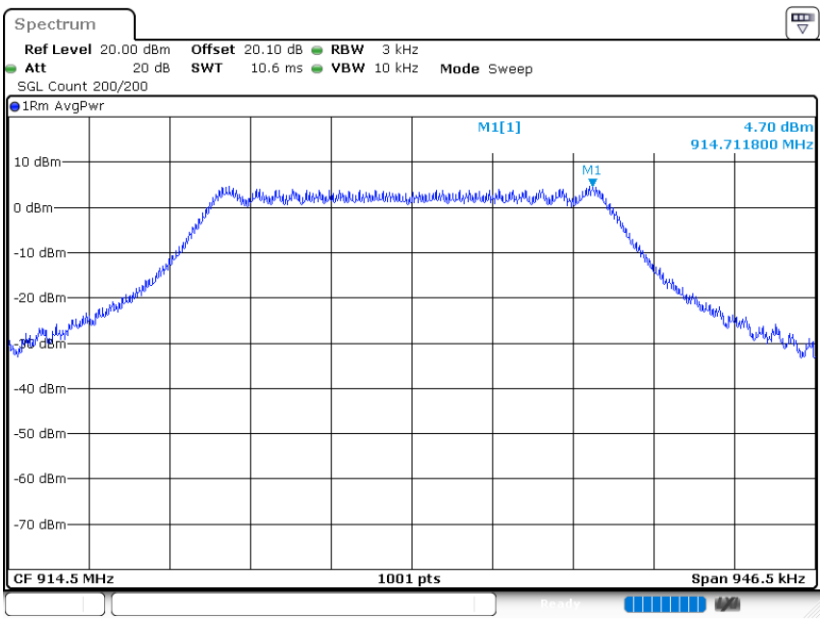
For LoRa DTS SF7:

PSD 3kHz Plot on 902.5 MHz



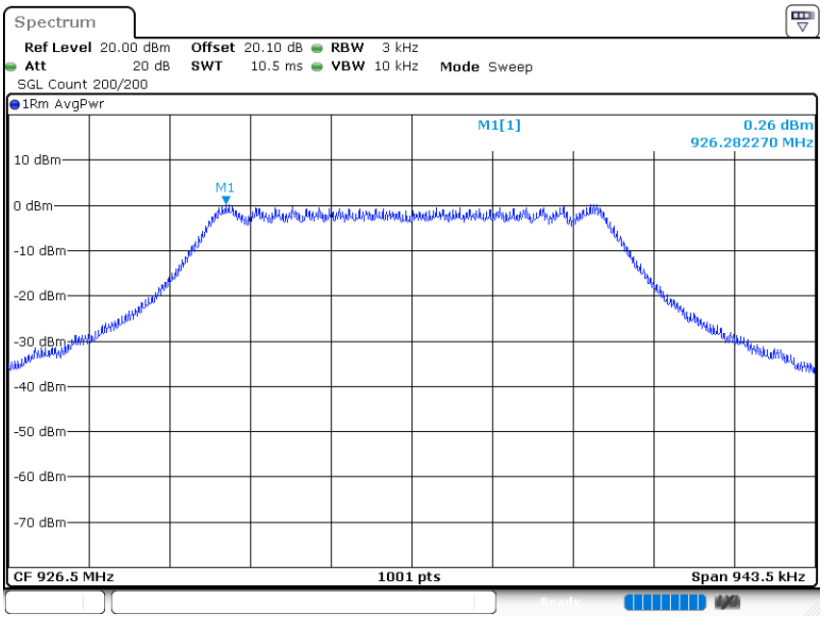
Date: 7.OCT.2023 19:57:17

PSD 3kHz Plot on 914.5 MHz



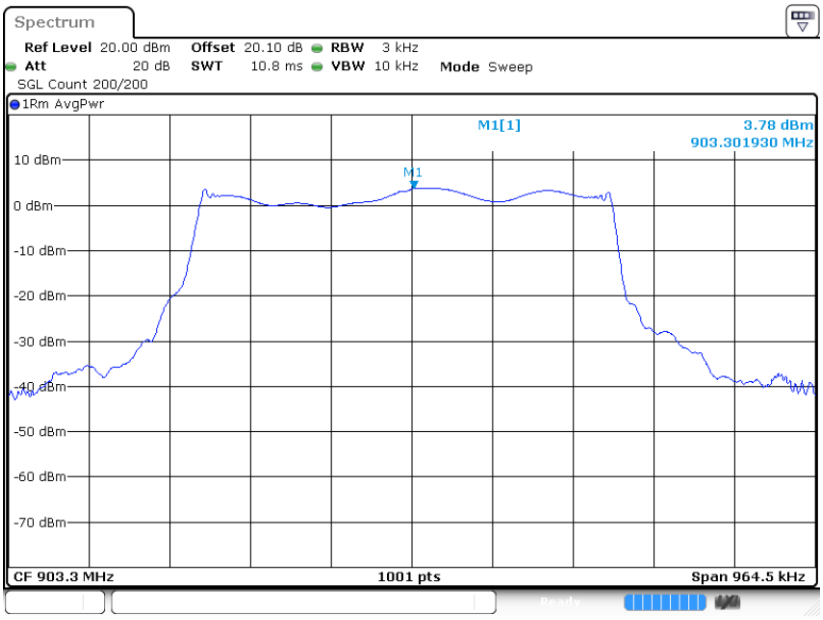
Date: 7.OCT.2023 23:28:56

PSD 3kHz Plot on 926.5 MHz

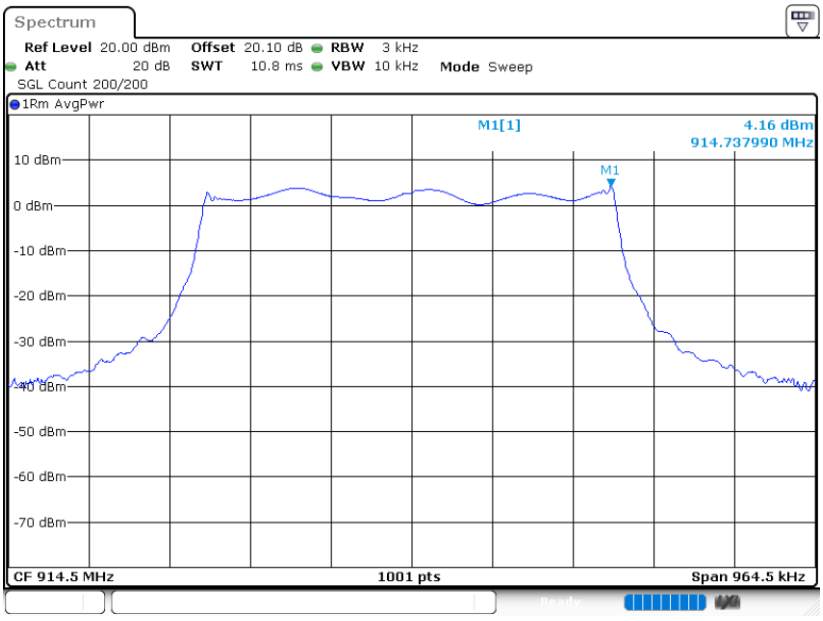


For LoRa DTS SF11:

PSD 3kHz Plot on 903.3 MHz

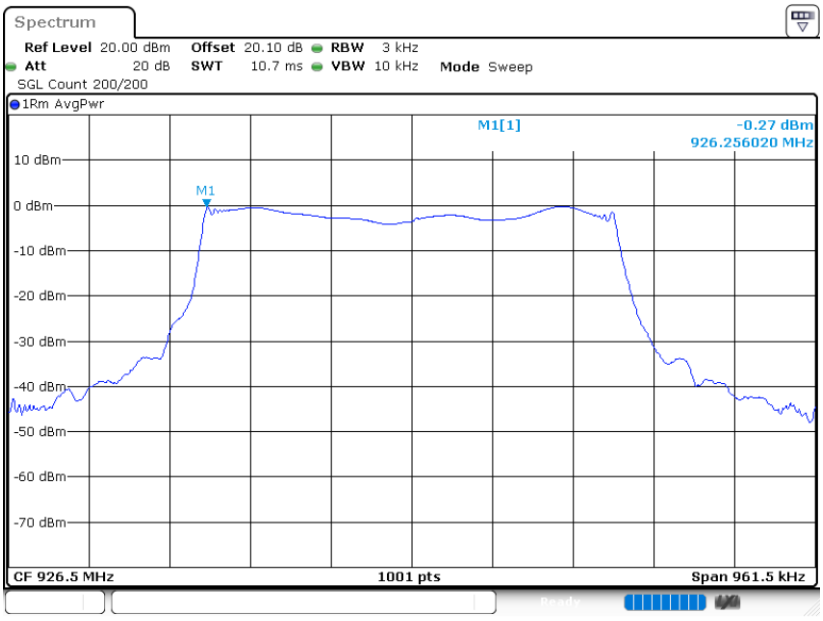


PSD 3kHz Plot on 914.5 MHz



Date: 8.OCT.2023 00:02:37

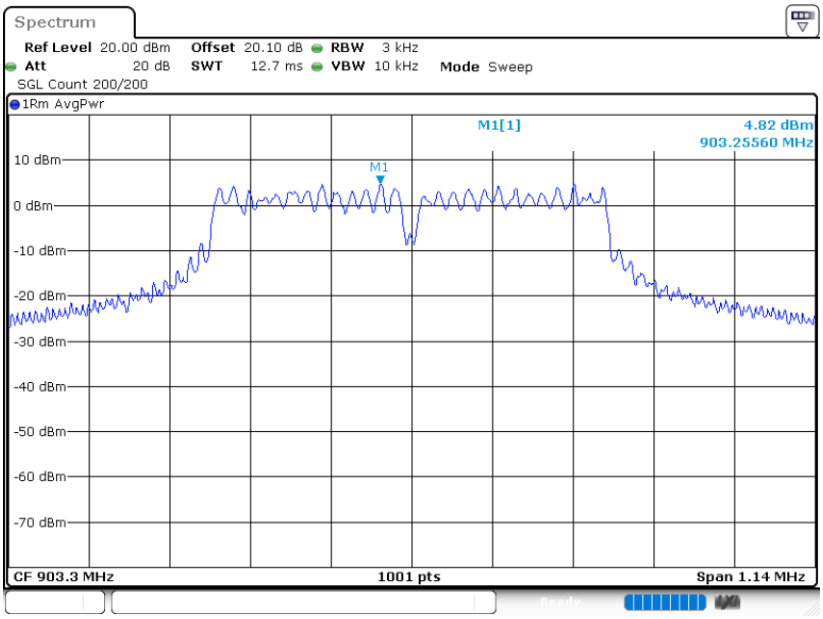
PSD 3kHz Plot on 926.5 MHz



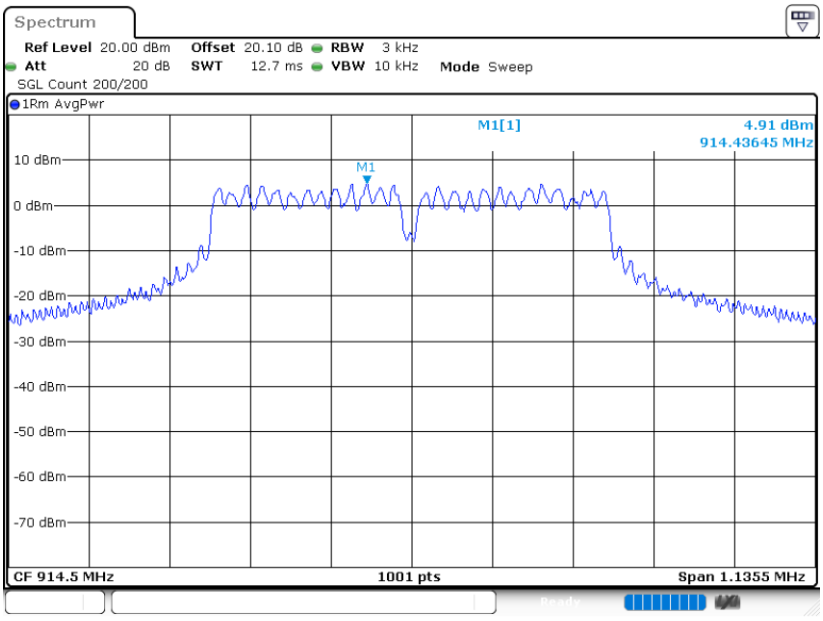
Date: 7.OCT.2023 23:50:24

For OFDM-LR:

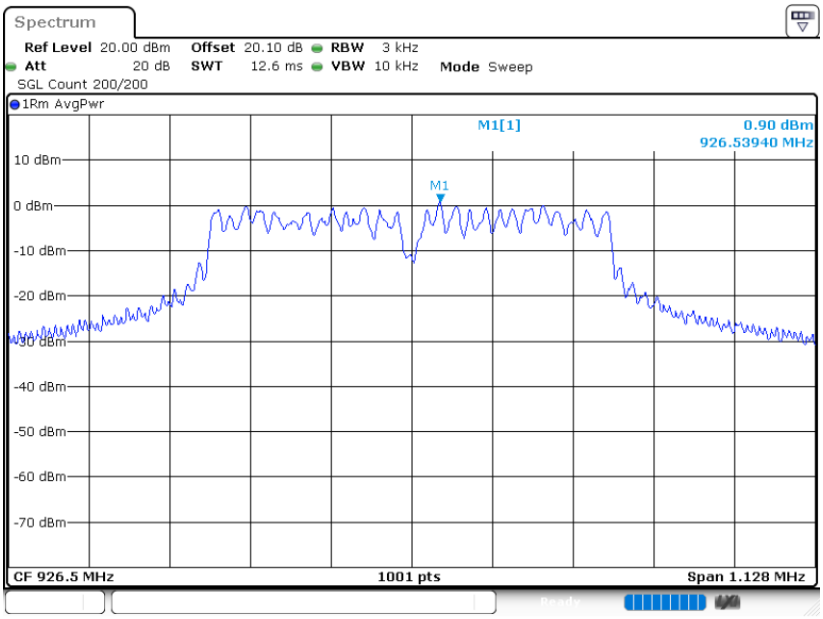
PSD 3kHz Plot on 903.3 MHz



PSD 3kHz Plot on 914.5 MHz



PSD 3kHz Plot on 926.5 MHz



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

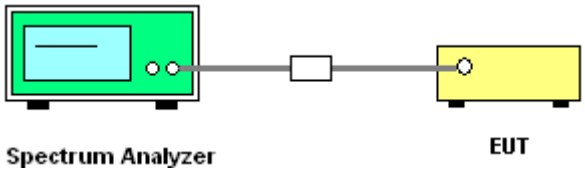
3.4.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.4.3 Test Procedure

1. The testing follows ANSI C63.10-2013 clause 11.13
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz when the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

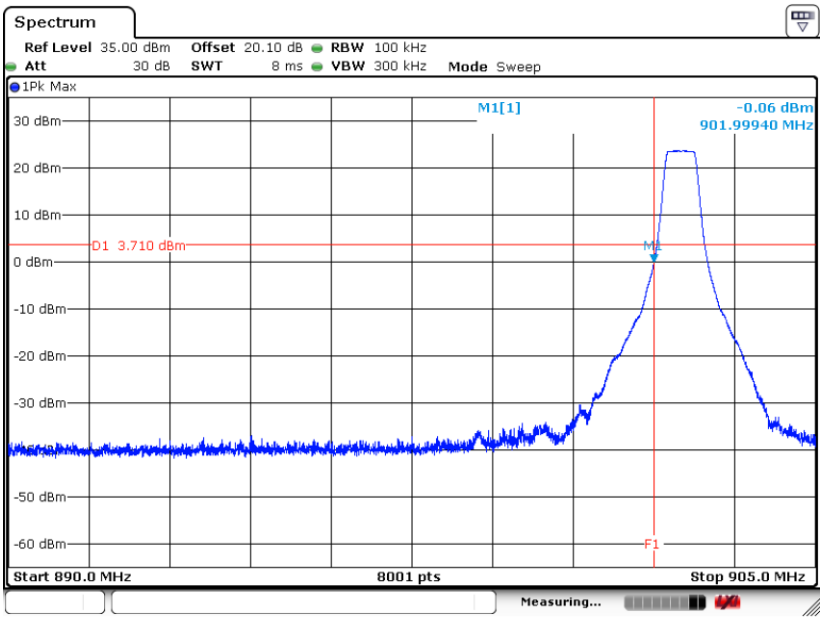
3.4.4 Test Setup



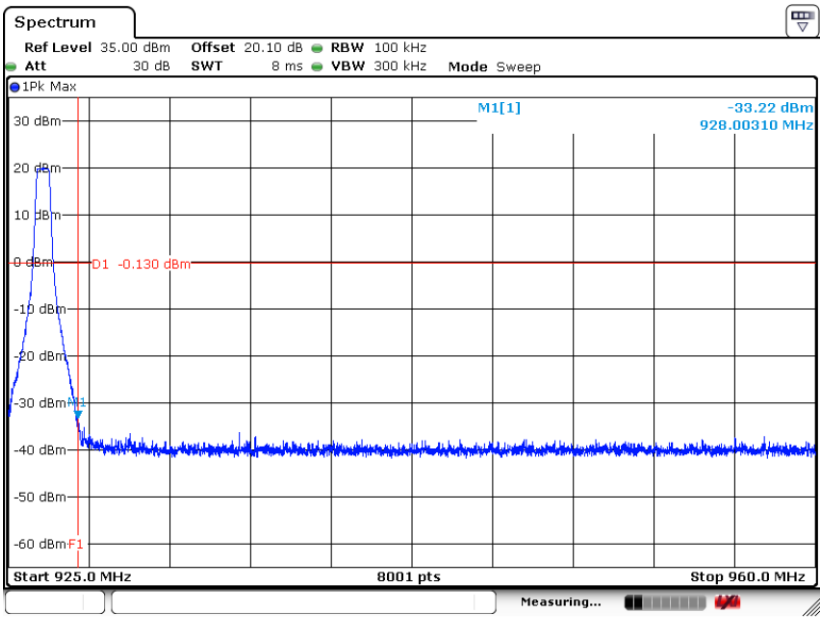
3.4.5 Test Result of Conducted Band Edges Plots

For LoRa DTS SF7:

Low Band Edge Plot on 902.5 MHz

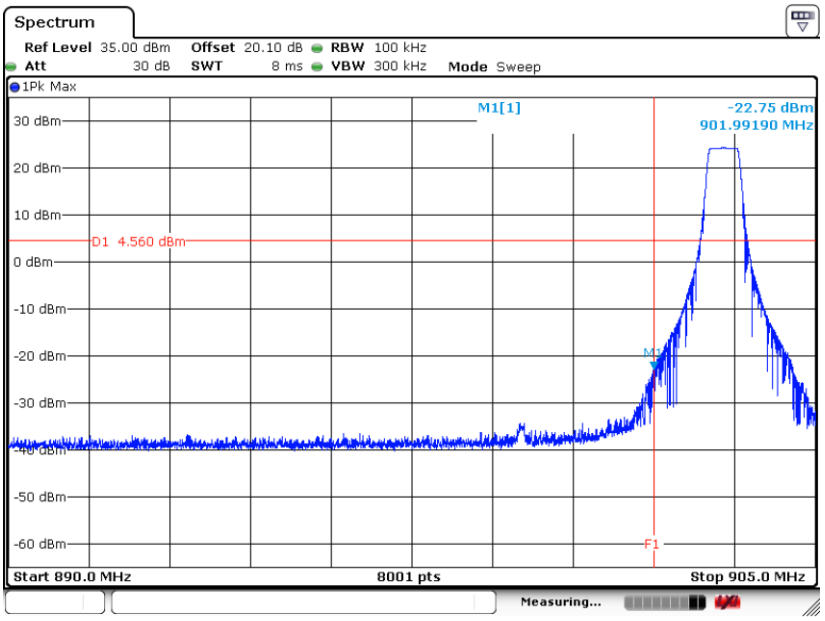


High Band Edge Plot on 926.5 MHz



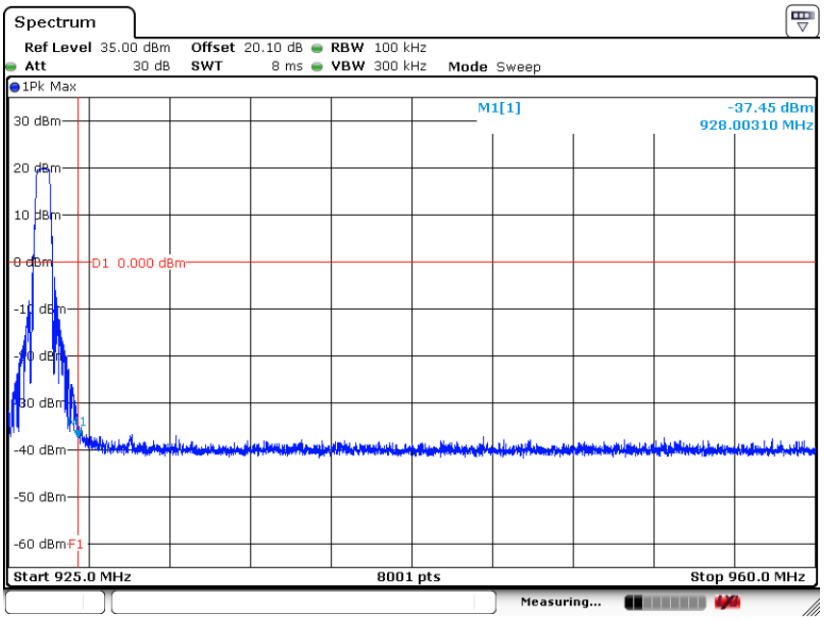
For LoRa DTS SF11:

Low Band Edge Plot on 903.3 MHz



Date: 17.NOV.2023 22:06:42

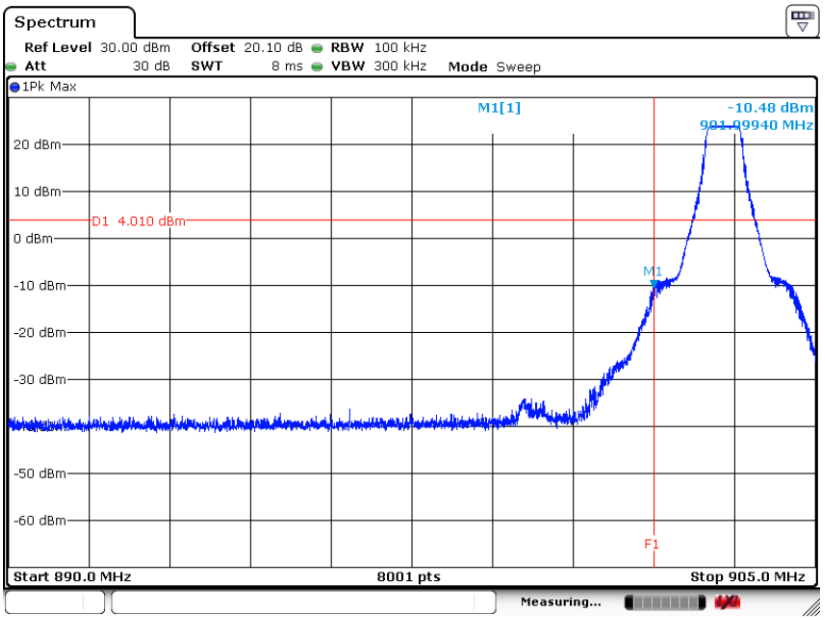
High Band Edge Plot on 926.5 MHz



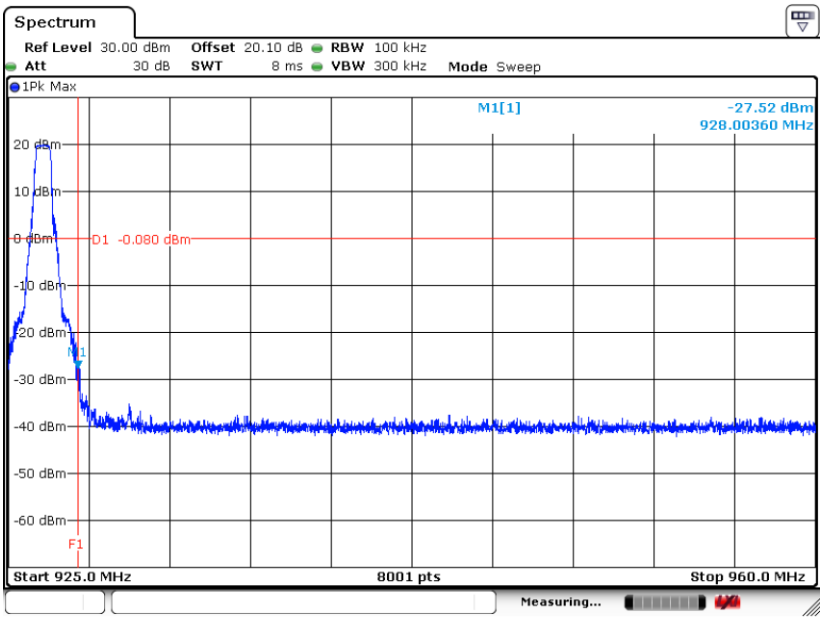
Date: 7.OCT.2023 23:55:09

For OFDM-LR:

Low Band Edge Plot on 903.3 MHz



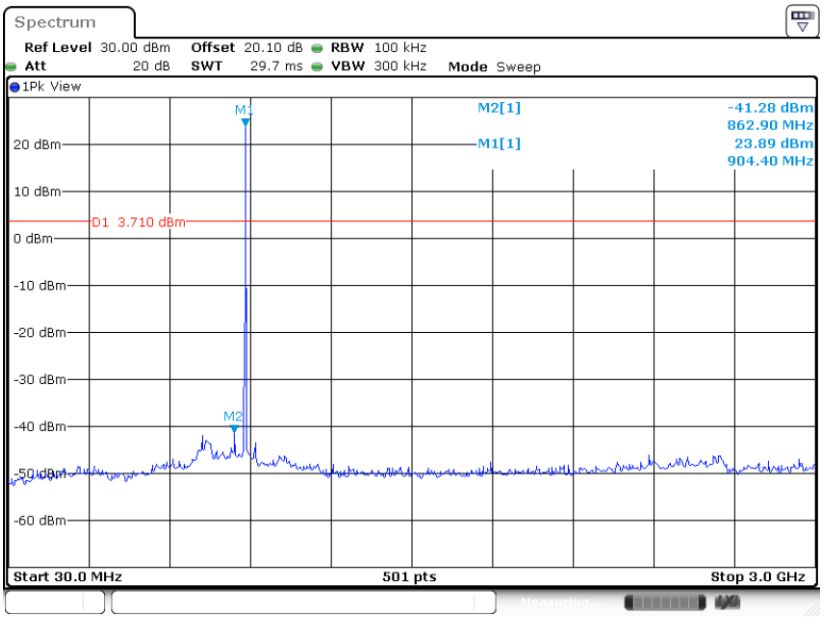
High Band Edge Plot on 926.5 MHz



3.4.6 Test Result of Conducted Spurious Emission Plots

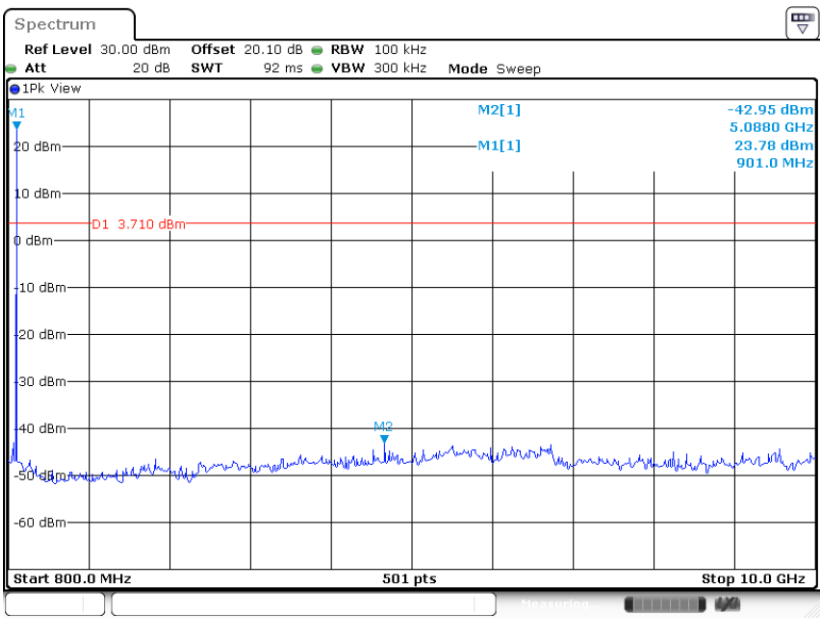
For LoRa DTS SF7:

Conducted Spurious Emission Plot on 902.5 MHz



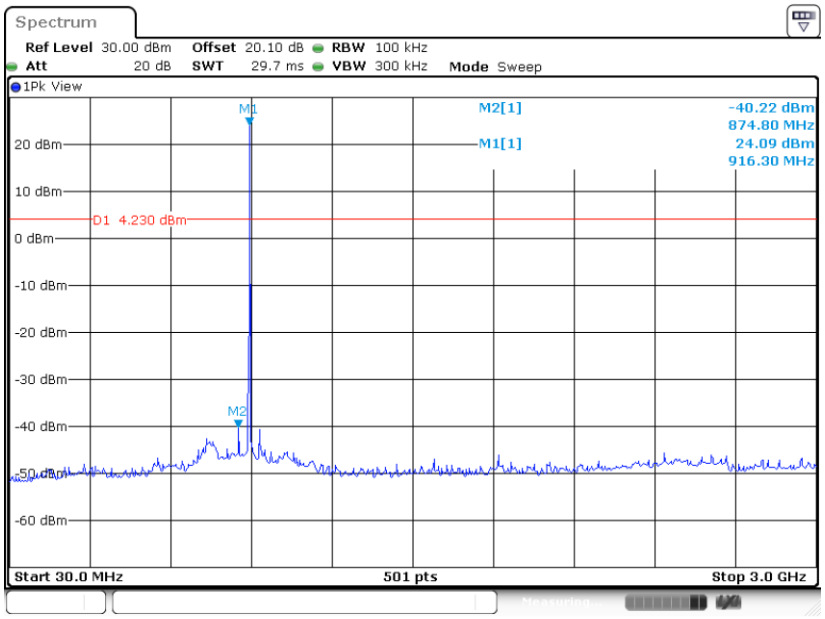
Date: 7.OCT.2023 23:24:16

Conducted Spurious Emission Plot on 902.5 MHz

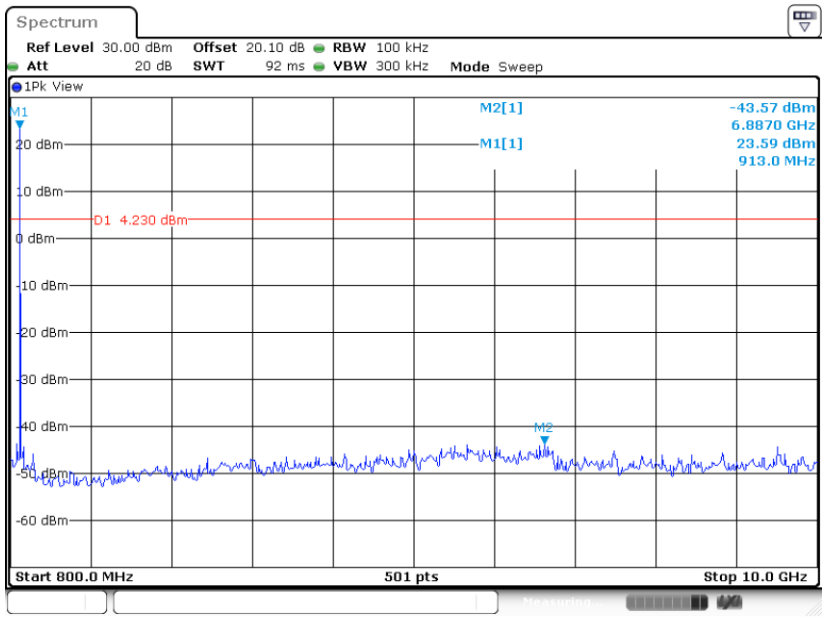


Date: 7.OCT.2023 23:25:25

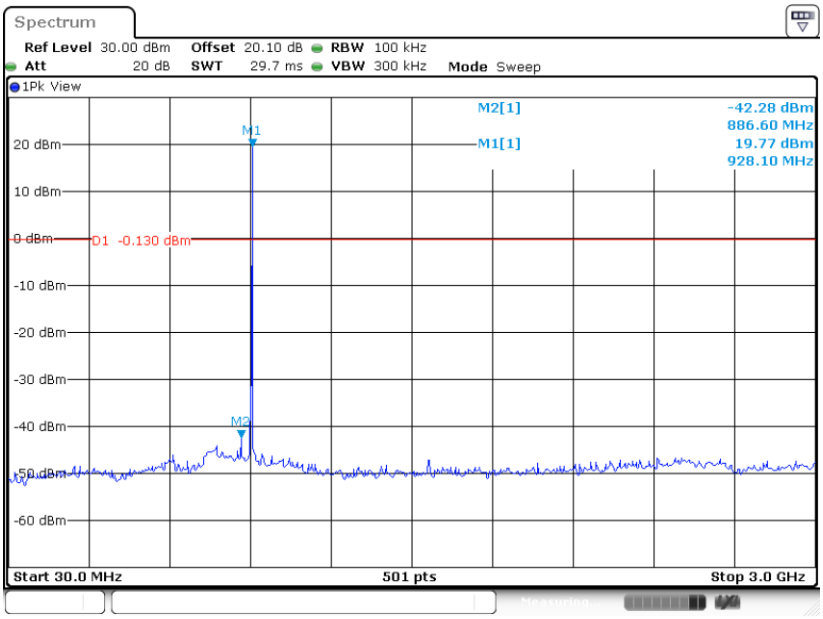
Conducted Spurious Emission Plot on 914.5 MHz



Conducted Spurious Emission Plot on 914.5 MHz

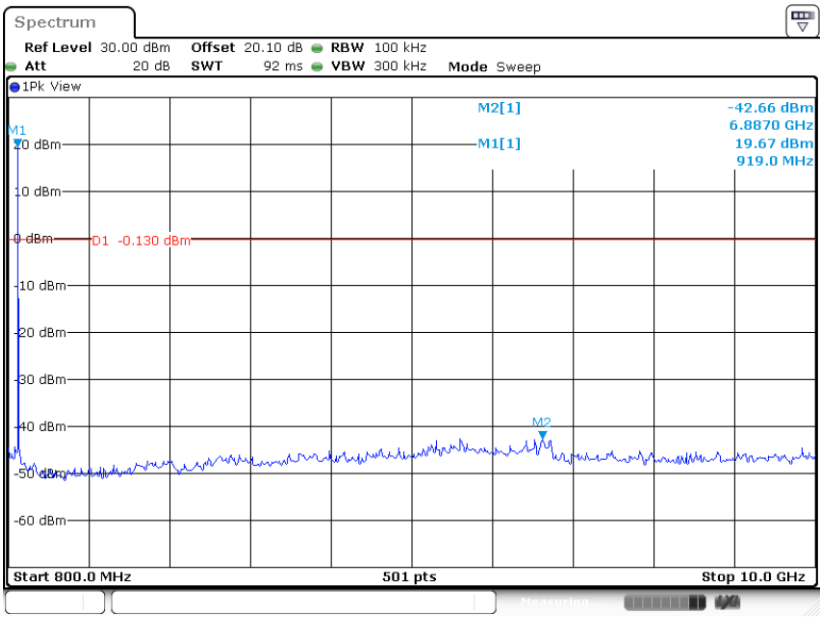


Conducted Spurious Emission Plot on 926.5 MHz



Date: 7.OCT.2023 23:43:50

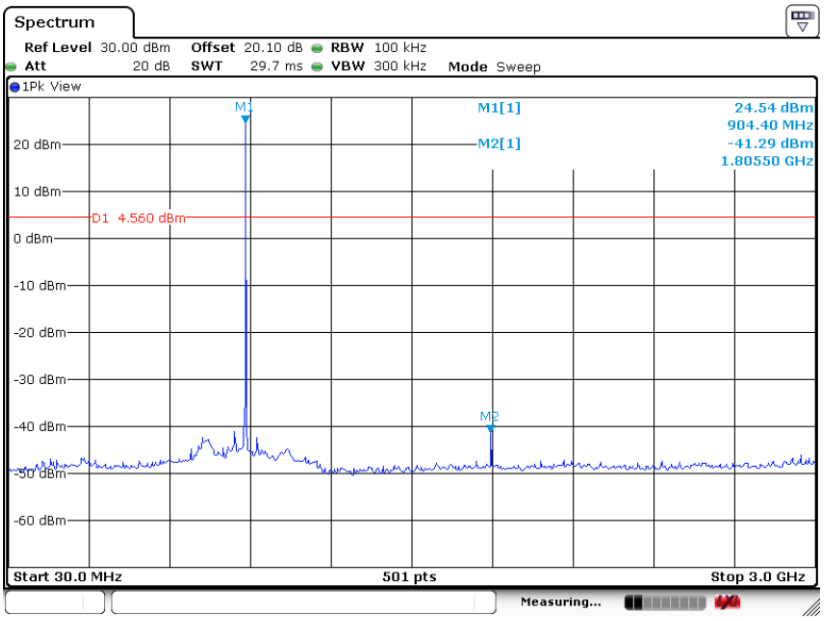
Conducted Spurious Emission Plot on 926.5 MHz



Date: 7.OCT.2023 23:44:38

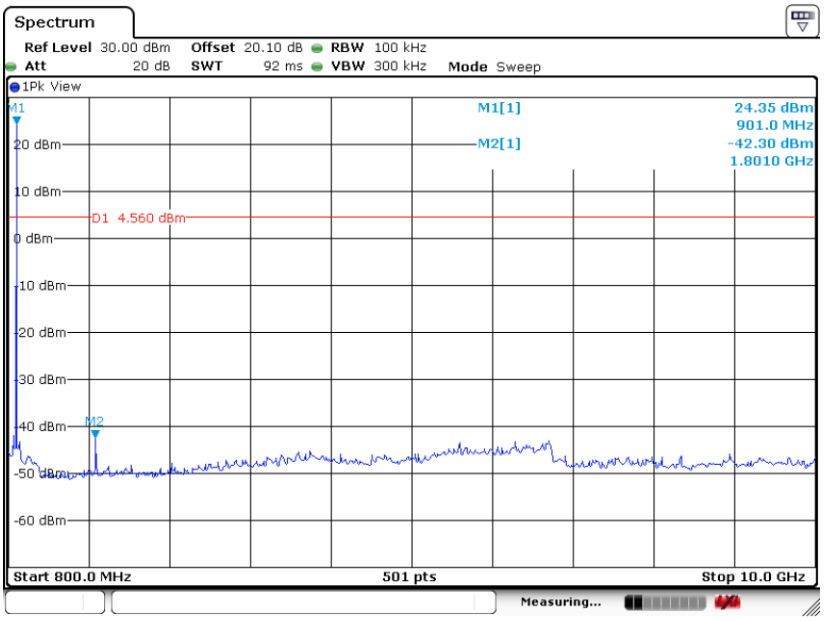
For LoRa DTS SF11:

Conducted Spurious Emission Plot on 903.3 MHz



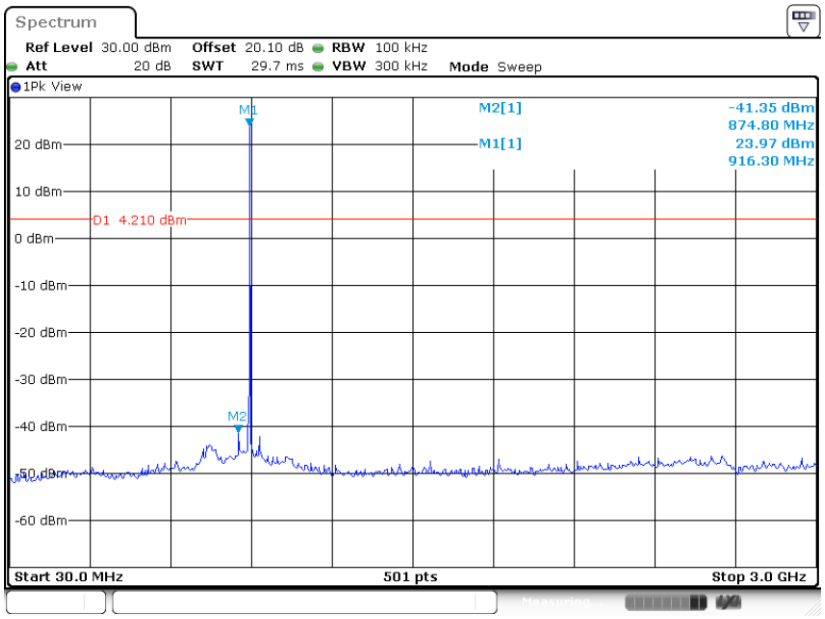
Date: 17.NOV.2023 22:01:43

Conducted Spurious Emission Plot on 903.3 MHz

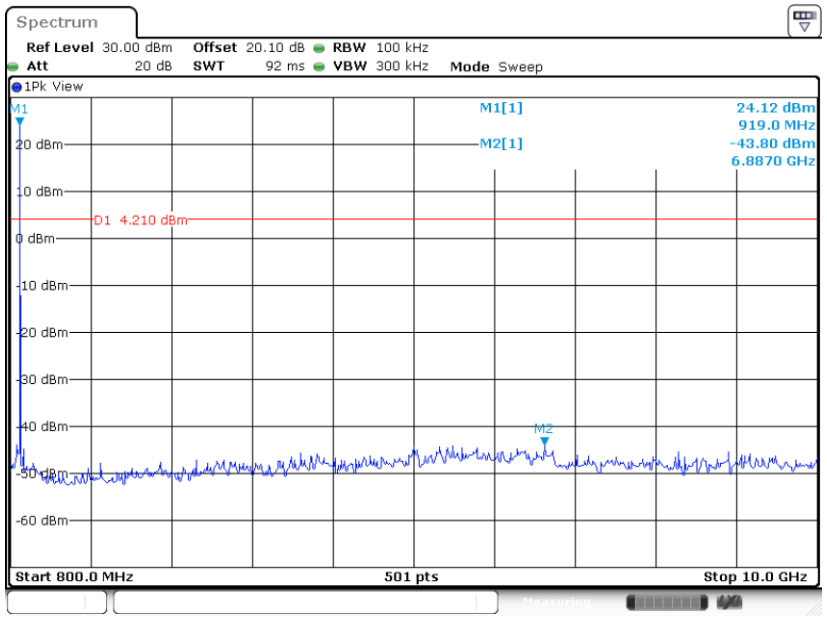


Date: 17.NOV.2023 22:03:11

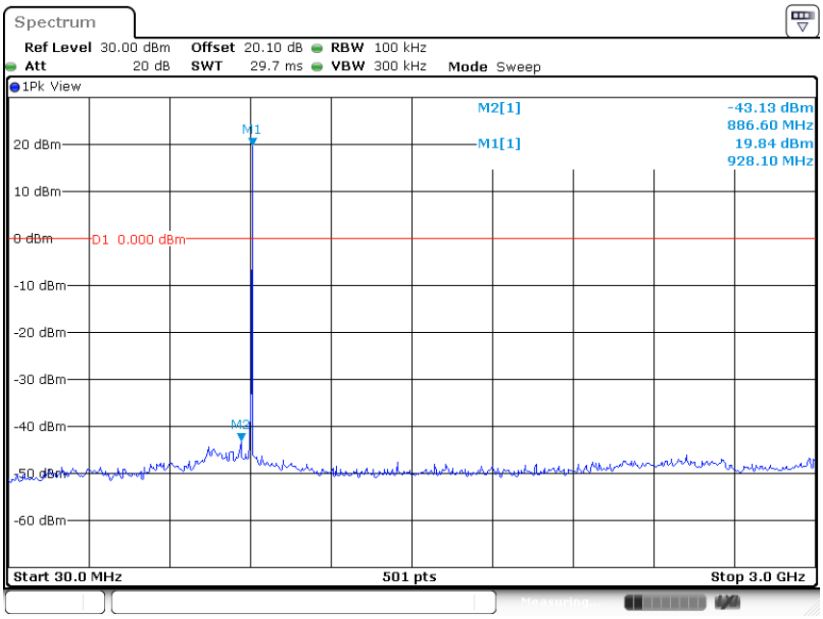
Conducted Spurious Emission Plot on 914.5 MHz



Conducted Spurious Emission Plot on 914.5 MHz

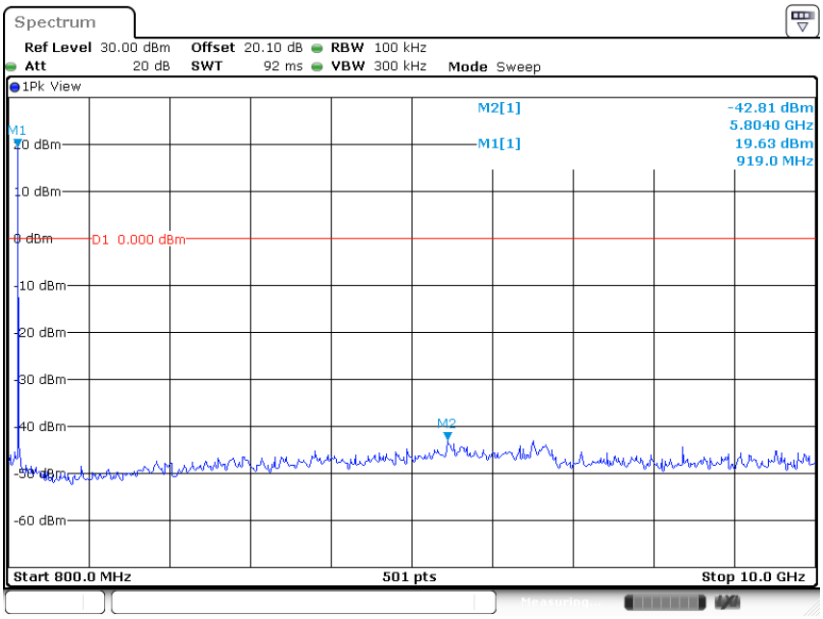


Conducted Spurious Emission Plot on 926.5 MHz



Date: 7.OCT.2023 23:58:20

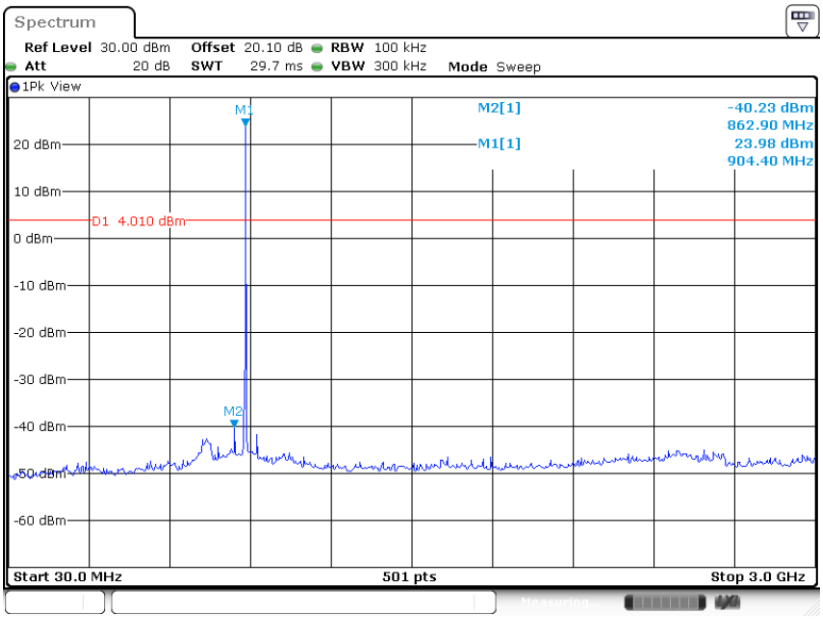
Conducted Spurious Emission Plot on 926.5 MHz



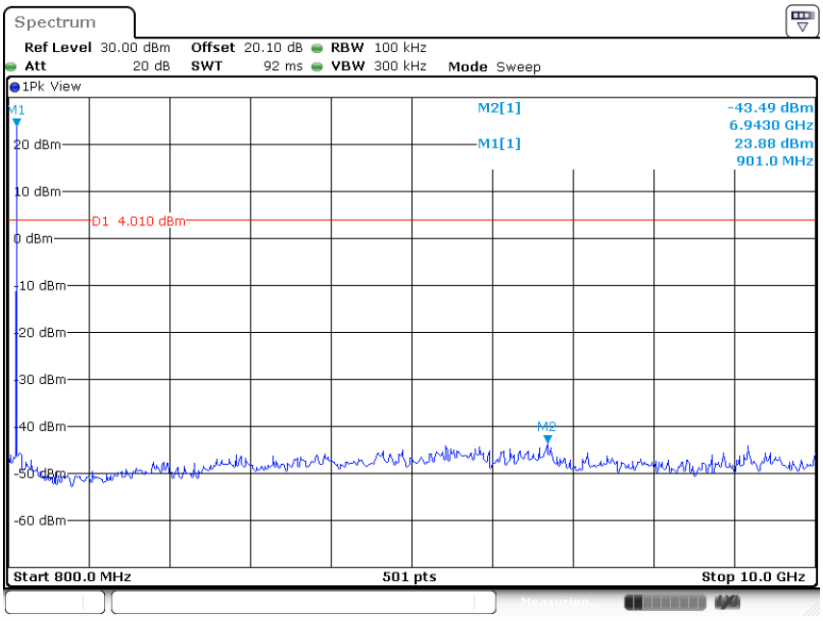
Date: 7.OCT.2023 23:59:24

For OFDM-LR:

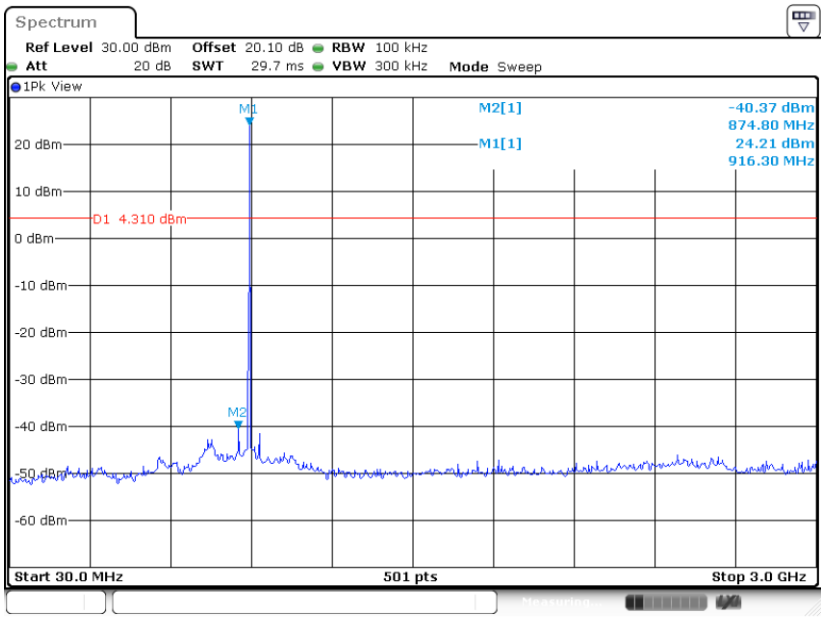
Conducted Spurious Emission Plot on 903.3 MHz



Conducted Spurious Emission Plot on 903.3 MHz

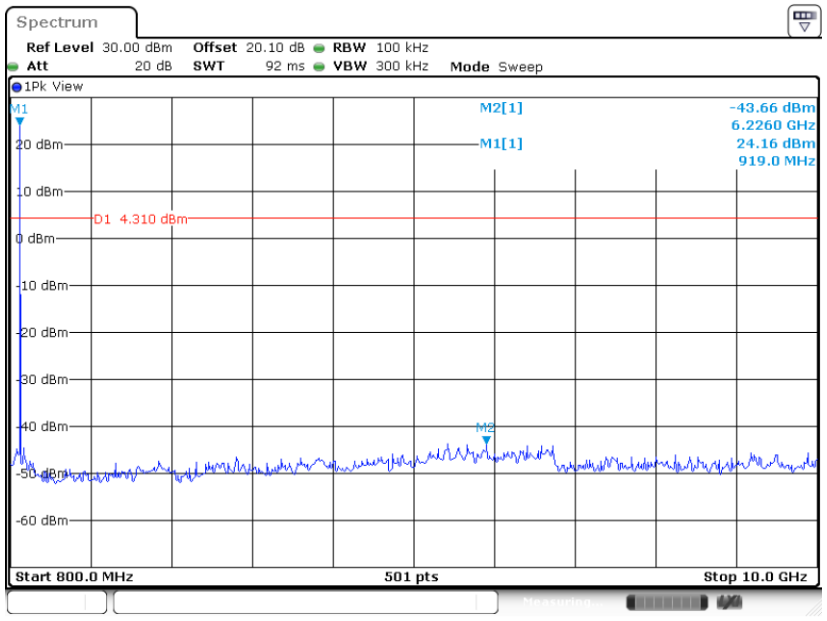


Conducted Spurious Emission Plot on 914.5 MHz



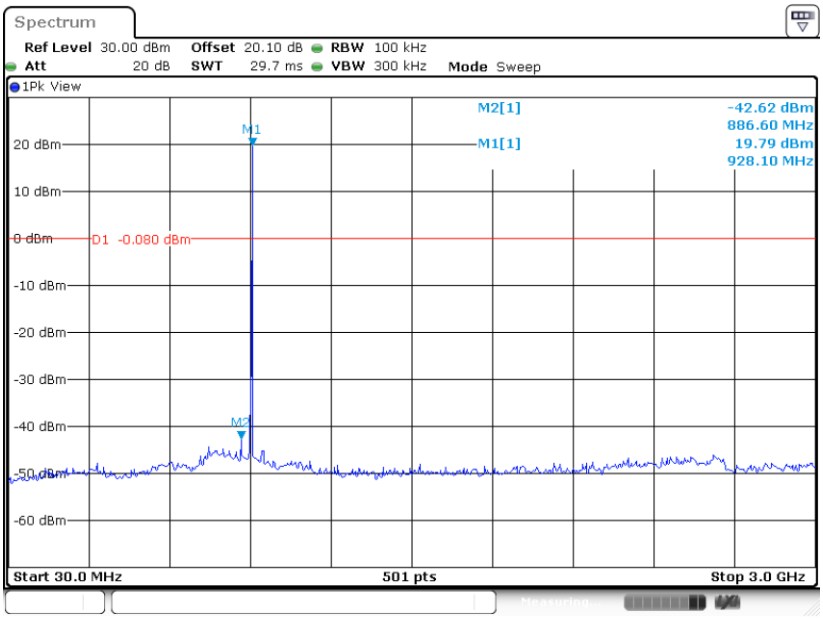
Date: 7.OCT.2023 22:33:44

Conducted Spurious Emission Plot on 914.5 MHz



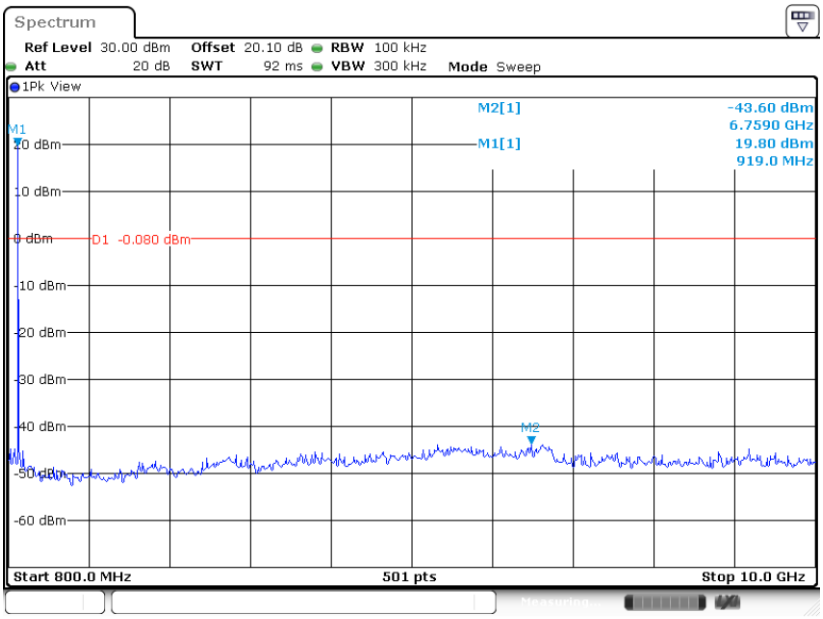
Date: 7.OCT.2023 22:37:47

Conducted Spurious Emission Plot on 926.5 MHz



Date: 7.OCT.2023 22:48:31

Conducted Spurious Emission Plot on 926.5 MHz



Date: 7.OCT.2023 22:50:46

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.5.2 Measuring Instruments

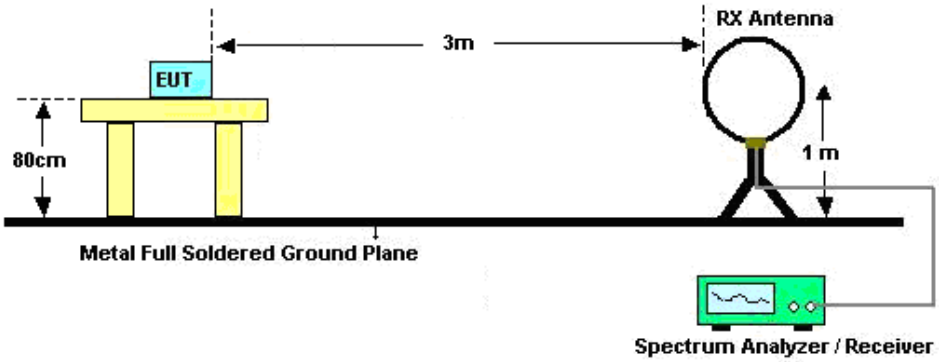
The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.5.3 Test Procedures

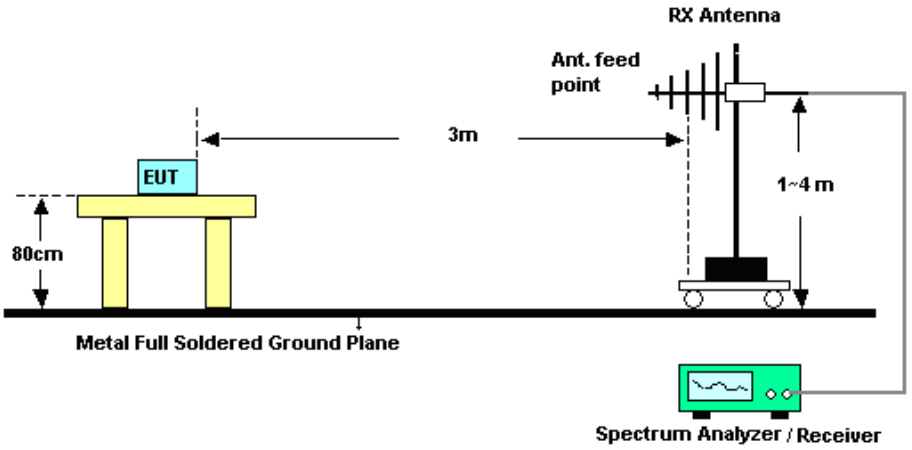
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

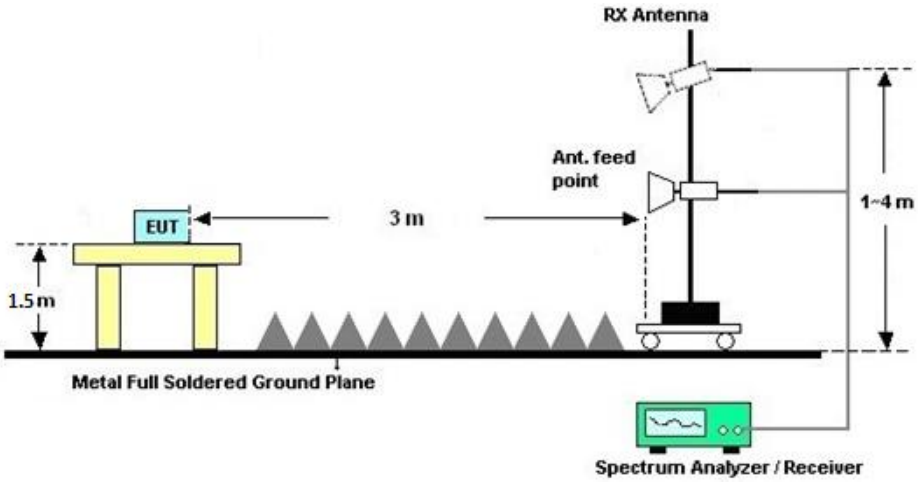
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C&D.

3.5.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C&D.

3.5.8 Duty cycle

Mode	Duty Cycle
LoRa DTS SF7	100%
LoRa DTS SF11	100%
OFDM-LR	100%

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment 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 or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

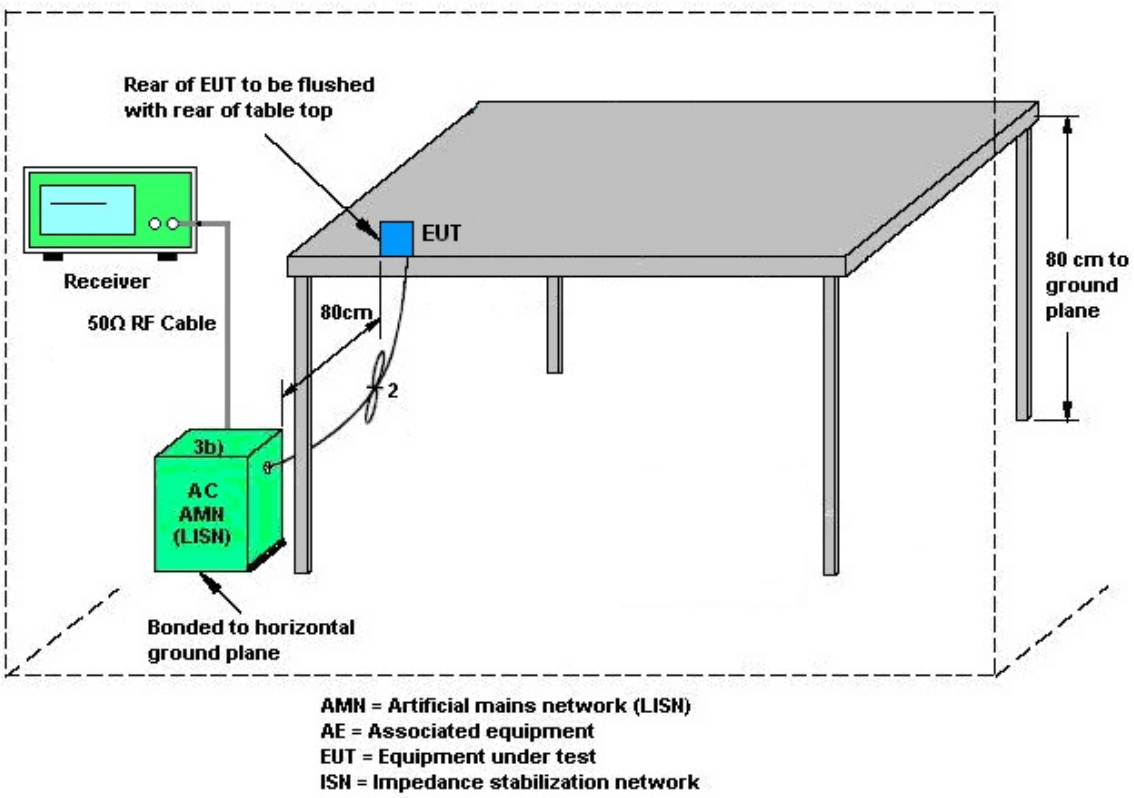
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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 rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 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.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 06, 2023	Oct. 07, 2023~ Nov. 17, 2023	Apr. 05, 2024	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1339473	30MHz~40GHz	Dec. 27, 2022	Oct. 07, 2023~ Nov. 17, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1542004	50MHz Bandwidth	Dec. 27, 2022	Oct. 07, 2023~ Nov. 17, 2023	Dec. 26, 2023	Conducted (TH01-SZ)
Attenuator	MICROWAV	EMVE2214-10	2	30MHz-26.5GHz	Feb. 22, 2023	Oct. 07, 2023~ Nov. 17, 2023	Feb. 22, 2024	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 04, 2023	Oct. 10, 2023~ Dec. 08, 2023	Apr. 03, 2024	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 04, 2023	Oct. 10, 2023~ Dec. 08, 2023	Apr. 03, 2024	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Oct. 10, 2023~ Dec. 08, 2023	Jul. 27, 2024	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Aug. 20, 2023	Oct. 10, 2023~ Dec. 08, 2023	Aug. 19, 2025	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 08, 2023	Oct. 10, 2023~ Dec. 08, 2023	Apr. 07, 2024	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 07, 2023	Oct. 10, 2023~ Dec. 08, 2023	Jul. 06, 2024	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 08, 2023	Oct. 10, 2023~ Dec. 08, 2023	Apr. 07, 2024	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2022	Oct. 10, 2023~ Dec. 08, 2023	Oct. 18, 2023	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023		Oct. 17, 2024	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2022	Oct. 10, 2023~ Dec. 08, 2023	Oct. 18, 2023	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2023		Oct. 17, 2024	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 26, 2022	Oct. 10, 2023~ Dec. 08, 2023	Dec. 25, 2023	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	1 N/A	Nov. 10, 2022	Oct. 10, 2023~ Dec. 08, 2023	Nov. 09, 2023	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	1 N/A	Oct. 18, 2023		Oct. 17, 2024	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Oct. 10, 2023~ Dec. 08, 2023	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Oct. 10, 2023~ Dec. 08, 2023	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 07, 2023	Oct. 31, 2023	Jul. 06, 2024	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 07, 2023	Oct. 31, 2023	Jul. 06, 2024	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Nov. 10, 2022	Oct. 31, 2023	Nov. 09, 2023	Conduction (CO02-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±1.34 dB
Conducted Power Spectral Density	±1.32 dB
Frequency	±1.3 Hz

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.7dB

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.9dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0dB

Appendix A. Conducted Test Results

Test Engineer:	Liu Qiu Qiu	**Temperature:**	24~26°C
Test Date:	2023/10/7~2023/11/17	**Relative Humidity:**	50~53%

LoRa-DTS-Spreading Factor 7

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Channel	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
SF7	1	902.5MHz	0.547	0.631	0.500	Pass
SF7	16	914.5MHz	0.549	0.631	0.500	Pass
SF7	31	926.5MHz	0.549	0.629	0.500	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Channel	Freq. (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	Pass /Fail	Power Setting
SF7	1	902.5MHz	24.36	30.00	Pass	0
SF7	16	914.5MHz	24.48	30.00	Pass	1
SF7	31	926.5MHz	20.15	30.00	Pass	-4.5

TEST RESULTS DATA
Peak Power Density

Mod.	Channel	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
SF7	1	902.5MHz	23.71	4.16	3.50	8.00	Pass
SF7	16	914.5MHz	24.23	4.70	3.50	8.00	Pass
SF7	31	926.5MHz	19.87	0.26	3.50	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

LoRa-DTS-Spreading Factor 11

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Channel	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
SF11	2	903.3Mhz	0.547	0.643	0.500	Pass
SF11	16	914.5MHz	0.549	0.643	0.500	Pass
SF11	31	926.5MHz	0.549	0.641	0.500	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Channel	Freq. (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	Pass /Fail	Power Setting
SF11	2	903.3Mhz	24.22	30.00	Pass	0
SF11	16	914.5MHz	24.45	30.00	Pass	1
SF11	31	926.5MHz	20.25	30.00	Pass	-4.5

TEST RESULTS DATA
Peak Power Density

Mod.	Channel	Freq. (MHz)	Peak PSD (dBm /100kHz)	AVG PSD (dBm /3kHz)	DG (dBi)	AVG PSD Limit (dBm /3kHz)	Pass/Fail
SF11	2	903.3Mhz	24.56	3.78	3.50	8.00	Pass
SF11	16	914.5MHz	24.21	4.16	3.50	8.00	Pass
SF11	31	926.5MHz	20.00	-0.27	3.50	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

OFDM-LR

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Channel	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
OFDM-LR	2	903.3MHz	0.631	0.760	0.500	Pass
OFDM-LR	16	914.5MHz	0.633	0.757	0.500	Pass
OFDM-LR	31	926.5MHz	0.631	0.752	0.500	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Channel	Freq. (MHz)	Conducted Power (dBm)	Conducted Power Limit (dBm)	Pass /Fail	Power Setting
OFDM-LR	2	903.3MHz	25.05	30.00	Pass	0
OFDM-LR	16	914.5MHz	25.31	30.00	Pass	1
OFDM-LR	31	926.5MHz	21.42	30.00	Pass	-4

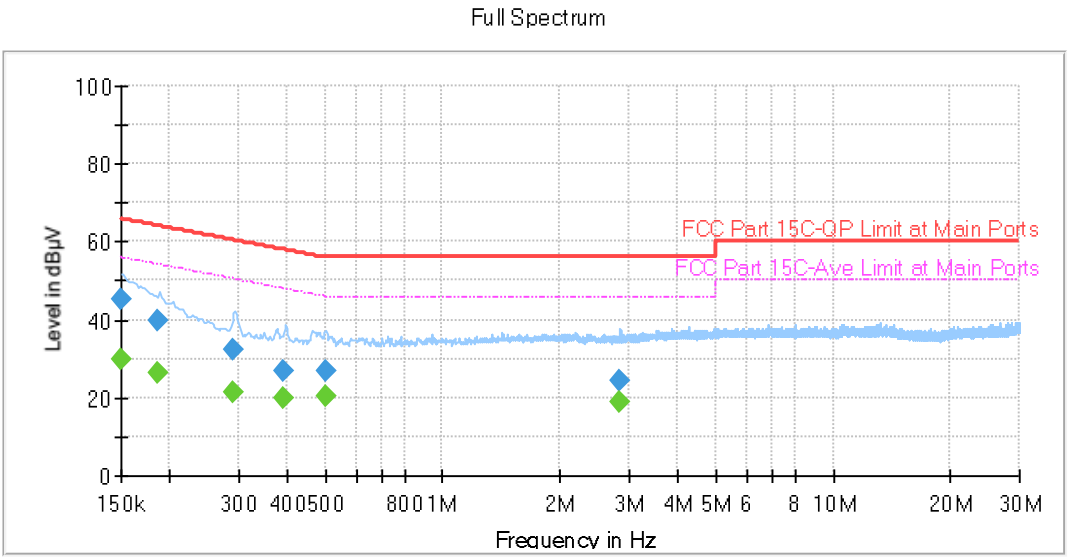
TEST RESULTS DATA
Peak Power Density

Mod.	Channel	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
OFDM-LR	2	903.3MHz	24.01	4.82	3.50	8.00	Pass
OFDM-LR	16	914.5MHz	24.31	4.91	3.50	8.00	Pass
OFDM-LR	31	926.5MHz	19.92	0.90	3.50	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

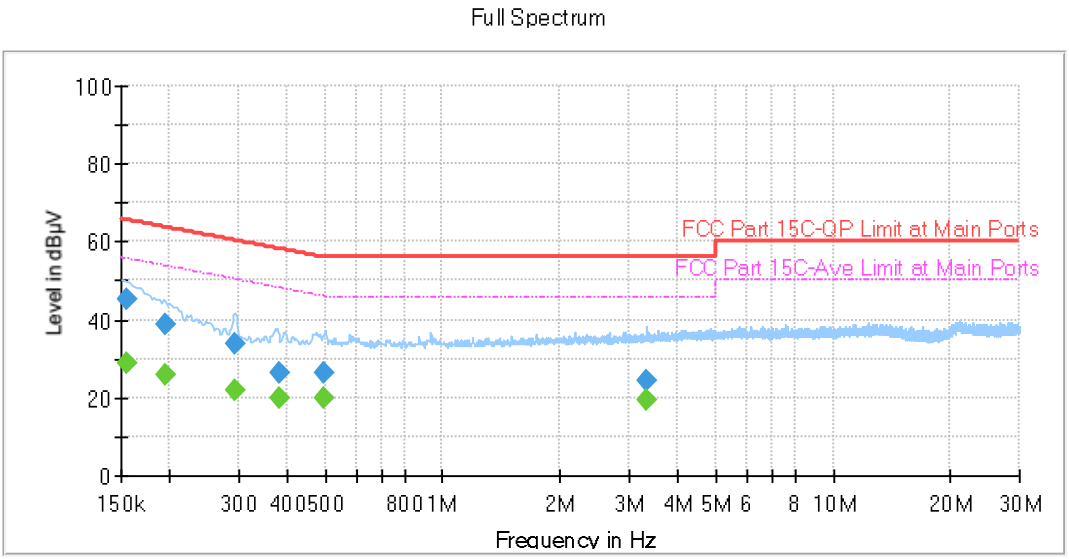
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tao Zhang	**Temperature :**	24~25℃
		Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	45.44	---	66.00	20.56	L1	OFF	19.7
0.150000	---	29.77	56.00	26.23	L1	OFF	19.7
0.186540	39.90	---	64.19	24.29	L1	OFF	19.7
0.186540	---	26.49	54.19	27.70	L1	OFF	19.7
0.289500	32.28	---	60.54	28.26	L1	OFF	19.7
0.289500	---	21.24	50.54	29.29	L1	OFF	19.7
0.390750	26.64	---	58.05	31.41	L1	OFF	19.7
0.390750	---	19.99	48.05	28.06	L1	OFF	19.7
0.503970	26.94	---	56.00	29.06	L1	OFF	19.7
0.503970	---	20.15	46.00	25.85	L1	OFF	19.7
2.852520	24.33	---	56.00	31.67	L1	OFF	19.8
2.852520	---	19.14	46.00	26.86	L1	OFF	19.8

Test Engineer :	Tao Zhang	**Temperature :**	24~25℃
		Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.155490	45.40	---	65.70	20.30	N	OFF	19.7
0.155490	---	28.65	55.70	27.05	N	OFF	19.7
0.195000	38.80	---	63.82	25.02	N	OFF	19.7
0.195000	---	25.77	53.82	28.05	N	OFF	19.7
0.293010	34.02	---	60.44	26.42	N	OFF	19.7
0.293010	---	21.70	50.44	28.74	N	OFF	19.7
0.381750	26.44	---	58.24	31.80	N	OFF	19.7
0.381750	---	19.96	48.24	28.28	N	OFF	19.7
0.496500	26.61	---	56.06	29.45	N	OFF	19.7
0.496500	---	20.07	46.06	25.99	N	OFF	19.7
3.321330	24.43	---	56.00	31.57	N	OFF	19.8
3.321330	---	19.19	46.00	26.81	N	OFF	19.8

Appendix C. Radiated Spurious Emission

902~928MHz

LoRa DTS SF=7 (LF 30Mhz-1Ghz@ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
902.5MHz		137.67	25.5	-18	43.5	41.04	17.96	1.23	34.73	-	-	P	H
		280.26	24.22	-21.78	46	38.61	18.51	1.74	34.64	-	-	P	H
	*	902.5	115.45	-	-	117.93	28.67	3.15	34.3	-	-	P	H
		137.67	26.96	-16.54	43.5	42.5	17.96	1.23	34.73	-	-	P	V
		266.68	23.8	-22.2	46	38.68	18.09	1.69	34.66	-	-	P	V
	*	902.5	117.11	-	-	119.59	28.67	3.15	34.3	-	-	P	V
914.5MHz		137.67	25.3	-18.2	43.5	40.84	17.96	1.23	34.73	-	-	P	H
		274.44	24.05	-21.95	46	38.65	18.33	1.72	34.65	-	-	P	H
	*	914.5	114.01	-	-	116.17	28.96	3.18	34.3	-	-	P	H
		137.67	26.48	-17.02	43.5	42.02	17.96	1.23	34.73	-	-	P	V
		274.44	23.58	-22.42	46	38.18	18.33	1.72	34.65	-	-	P	V
	*	914.5	117.11	-	-	119.27	28.96	3.18	34.3	-	-	A	V
926.5MHz		137.67	24.96	-18.54	43.5	40.5	17.96	1.23	34.73	-	-	P	H
		282.2	24.67	-21.33	46	39	18.57	1.74	34.64	-	-	P	H
	*	926.5	111.4	-	-	113.26	29.23	3.21	34.3	-	-	P	H
		137.67	26.43	-17.07	43.5	41.97	17.96	1.23	34.73	-	-	P	V
		266.68	24.04	-21.96	46	38.92	18.09	1.69	34.66	-	-	P	V
	*	926.5	114.74	-	-	116.6	29.23	3.21	34.3	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF= 11 (LF 30Mhz-1Ghz@ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		114.39	24.86	-18.64	43.5	42.42	16.08	1.13	34.77	-	-	P	H
		137.67	28.8	-14.7	43.5	44.34	17.96	1.23	34.73	-	-	P	H
	*	903.3	120.88	-	-	123.32	28.7	3.16	34.3	-	-	P	H
		112.45	27.06	-16.44	43.5	44.8	15.92	1.12	34.78	-	-	P	V
		132.82	23.14	-20.36	43.5	39.1	17.57	1.21	34.74	-	-	P	V
	*	903.3	112.46	-	-	114.9	28.7	3.16	34.3	-	-	P	V
914.5MHz		137.67	24.25	-19.25	43.5	39.79	17.96	1.23	34.73	-	-	P	H
		285.11	24.72	-21.28	46	38.94	18.66	1.75	34.63	-	-	P	H
	*	914.5	116.29	-	-	118.45	28.96	3.18	34.3	-	-	P	H
		137.67	27.24	-16.26	43.5	42.78	17.96	1.23	34.73	-	-	P	V
		276.38	23.97	-22.03	46	38.51	18.39	1.72	34.65	-	-	P	V
	*	914.5	118.16	-	-	120.32	28.96	3.18	34.3	-	-	P	V
926.5MHz		137.67	23.36	-20.14	43.5	38.9	17.96	1.23	34.73	-	-	P	H
		282.2	23.75	-22.25	46	38.08	18.57	1.74	34.64	-	-	P	H
	*	926.5	117.58	-	-	119.44	29.23	3.21	34.3	-	-	P	H
		136.7	23.57	-19.93	43.5	39.19	17.88	1.23	34.73	-	-	P	V
		279.29	23.81	-22.19	46	38.24	18.48	1.73	34.64	-	-	P	V
	*	926.5	113.32	-	-	115.18	29.23	3.21	34.3	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

OFDM-LR (LF 30Mhz-1Ghz@ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		135.73	23.65	-19.85	43.5	39.36	17.8	1.22	34.73	-	-	P	H
		279.29	24.05	-21.95	46	38.48	18.48	1.73	34.64	-	-	P	H
	*	903.3	118.44	-	-	120.88	28.7	3.16	34.3	-	-	P	H
		137.67	28.09	-15.41	43.5	43.63	17.96	1.23	34.73	-	-	P	V
		285.11	24.44	-21.56	46	38.66	18.66	1.75	34.63	-	-	P	V
	*	903.3	115.41	-	-	117.85	28.7	3.16	34.3	-	-	P	V
914.5MHz		136.7	23.69	-19.81	43.5	39.31	17.88	1.23	34.73	-	-	P	H
		281.23	25.2	-20.8	46	39.56	18.54	1.74	34.64	-	-	P	H
	*	914.5	119.01	-	-	121.17	28.96	3.18	34.3	-	-	P	H
		137.67	28.3	-15.2	43.5	43.84	17.96	1.23	34.73	-	-	P	V
		281.23	24.05	-21.95	46	38.41	18.54	1.74	34.64	-	-	P	V
	*	914.5	115.59	-	-	117.75	28.96	3.18	34.3	-	-	P	V
926.5MHz		136.7	24.05	-19.45	43.5	39.67	17.88	1.23	34.73	-	-	P	H
		260.86	24.06	-21.94	46	39.17	17.9	1.67	34.68	-	-	P	H
	*	926.5	117.61	-	-	119.47	29.23	3.21	34.3	-	-	P	H
		137.67	29.65	-13.85	43.5	45.19	17.96	1.23	34.73	-	-	P	V
		283.17	23.26	-22.74	46	37.55	18.6	1.75	34.64	-	-	P	V
		926.5	111.33	-	-	113.19	29.23	3.21	34.3	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF=7 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
902.5MHz		862.26	50.76	-44.69	95.45	51.91	28.76	4.39	34.3	-	-	P	H
	*	902.5	115.45	----	----	116.66	28.67	4.42	34.3	-	-	P	H
		942.77	49.12	-46.33	95.45	49.32	29.6	4.5	34.3	-	-	P	H
		862.26	53.44	-43.67	97.11	54.59	28.76	4.39	34.3	-	-	P	V
	*	902.5	117.11	----	----	118.32	28.67	4.42	34.3	-	-	P	V
		942.77	52.32	-44.79	97.11	52.52	29.6	4.5	34.3	-	-	P	V
914.5MHz		873.9	52.62	-41.39	94.01	53.8	28.72	4.4	34.3			P	H
	*	914.5	114.01	----	----	114.9	28.96	4.45	34.3			P	H
		954.41	48.11	-45.9	94.01	48.09	29.79	4.52	34.29			P	H
		873.9	55.97	-41.14	97.11	57.15	28.72	4.4	34.3	-	-	P	V
	*	914.5	117.11	----	----	118	28.96	4.45	34.3	-	-	P	V
		954.41	52.42	-44.69	97.11	52.4	29.79	4.52	34.29	-	-	P	V
926.5MHz		886.51	47.83	-43.57	91.4	49.04	28.68	4.41	34.3	-	-	P	H
	*	926.5	111.4	------	------	112	29.23	4.47	34.3	-	-	P	H
		966.05	43.72	-47.68	91.4	43.59	29.85	4.55	34.27	-	-	P	H
		886.51	51.6	-43.14	94.74	52.81	28.68	4.41	34.3	-	-	P	V
	*	926.5	114.74	------	------	115.34	29.23	4.47	34.3	-	-	P	V
		966.05	48.19	-46.55	94.74	48.06	29.85	4.55	34.27	-	-	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

LoRa DTS SF=7 (Harmonic @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
902.5MHz		1805	36.38	-59.07	95.45	60.73	29.4	4.21	57.96	-	-	P	H
		2707.5	42.21	-31.79	74	62.92	31.6	5.2	57.51	-	-	P	H
		3610	40.59	-33.41	74	58.68	32.77	6.19	57.05	-	-	P	H
		1805	36.48	-60.63	97.11	60.83	29.4	4.21	57.96	-	-	P	V
		2707.5	40.85	-33.15	74	61.56	31.6	5.2	57.51	-	-	P	V
		3610	40.67	-33.33	74	58.76	32.77	6.19	57.05	-	-	P	V
914.5MHz		1829	36.34	-57.67	94.01	60.5	29.6	4.21	57.97	-	-	P	H
		2743.5	39.11	-34.89	74	59.75	31.6	5.24	57.48	-	-	P	H
		3658	41.87	-32.13	74	59.91	32.82	6.18	57.04	-	-	P	H
		1829	37.47	-59.64	97.11	61.63	29.6	4.21	57.97	-	-	P	V
		2743.5	41.62	-32.38	74	62.26	31.6	5.24	57.48	-	-	P	V
		3658	41.43	-32.57	74	59.47	32.82	6.18	57.04	-	-	A	V
926.5MHz		1853	36.81	-54.59	91.4	60.83	29.7	4.25	57.97	-	-	P	H
		2779.5	39.16	-34.84	74	59.66	31.67	5.28	57.45	-	-	P	H
		3706	41.05	-32.95	74	59.01	32.89	6.17	57.02	-	-	P	H
		1853	36.96	-57.78	94.74	60.98	29.7	4.25	57.97	-	-	P	V
		2779.5	43.46	-30.54	74	63.96	31.67	5.28	57.45	-	-	P	V
		3706	40.93	-33.07	74	58.89	32.89	6.17	57.02	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF= 11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		863.23	53.99	-46.89	100.88	52.88	29.08	3.08	31.05	-	-	P	H
	*	903.3	120.88	----	----	119.05	29.56	3.16	30.89	-	-	P	H
		942.77	53.48	-47.4	100.88	50.99	30.08	3.22	30.81	-	-	P	H
		863.23	46.54	-45.92	92.46	45.43	29.08	3.08	31.05	-	-	P	V
	*	903.3	112.46	----	----	110.63	29.56	3.16	30.89	-	-	P	V
		943.74	47.49	-44.97	92.46	44.99	30.09	3.22	30.81	-	-	P	V
914.5MHz		874.87	51.86	-44.43	96.29	53.04	28.72	4.4	34.3	-	-	P	H
	*	914.5	116.29	----	----	117.18	28.96	4.45	34.3	-	-	P	H
		954.41	48.02	-48.27	96.29	48	29.79	4.52	34.29	-	-	P	H
		874.87	55.57	-42.59	98.16	56.75	28.72	4.4	34.3	-	-	P	V
	*	914.5	118.16	----	----	119.05	28.96	4.45	34.3	-	-	P	V
		954.41	52.91	-45.25	98.16	52.89	29.79	4.52	34.29	-	-	P	V
926.5MHz		886.51	51.95	-45.63	97.58	53.16	28.68	4.41	34.3	-	-	P	H
	*	926.5	117.58	----	----	118.18	29.23	4.47	34.3	-	-	P	H
		966.05	50.14	-47.44	97.58	50.01	29.85	4.55	34.27	-	-	P	H
		886.51	48.52	-44.8	93.32	49.73	28.68	4.41	34.3	-	-	P	V
	*	926.5	113.32	----	----	113.92	29.23	4.47	34.3	-	-	P	V
		967.02	46.19	-47.13	93.32	46.05	29.86	4.55	34.27	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa DTS SF= 11 (Harmonic @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		1806.6	36.76	-64.12	100.88	61.11	29.4	4.21	57.96	-	-	P	H
		2709.9	38.55	-35.45	74	59.25	31.6	5.2	57.5	-	-	P	H
		3613.2	40.23	-33.77	74	58.32	32.77	6.19	57.05	-	-	P	H
		1806.6	36.95	-55.51	92.46	61.3	29.4	4.21	57.96	-	-	P	V
		2709.9	39.52	-34.48	74	60.22	31.6	5.2	57.5	-	-	P	V
		3613.2	41.33	-32.67	74	59.42	32.77	6.19	57.05	-	-	P	V
914.5MHz		1829	36.25	-60.04	96.29	60.41	29.6	4.21	57.97	-	-	P	H
		2743.5	39.16	-34.84	74	59.8	31.6	5.24	57.48	-	-	P	H
		3658	42.17	-31.83	74	60.21	32.82	6.18	57.04	-	-	P	H
		1829	36.41	-61.75	98.16	60.57	29.6	4.21	57.97	-	-	P	V
		2743.5	39.6	-34.4	74	60.24	31.6	5.24	57.48	-	-	P	V
		3658	41.53	-32.47	74	59.57	32.82	6.18	57.04	-	-	P	V
926.5MHz		1853	36.1	-61.48	97.58	60.12	29.7	4.25	57.97	-	-	P	H
		2779.5	39.81	-34.19	74	60.31	31.67	5.28	57.45	-	-	P	H
		3706	40.17	-33.83	74	58.13	32.89	6.17	57.02	-	-	P	H
		1853	36.3	-57.02	93.32	60.32	29.7	4.25	57.97	-	-	P	V
		2779.5	40.28	-33.72	74	60.78	31.67	5.28	57.45	-	-	P	V
		3706	41.34	-32.66	74	59.3	32.89	6.17	57.02	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

OFDM-LR (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		863.23	51.05	-47.39	98.44	52.21	28.75	4.39	34.3	-	-	P	H
	*	903.3	118.44	----	----	119.61	28.7	4.43	34.3	-	-	P	H
		942.77	55.07	-43.37	98.44	55.27	29.6	4.5	34.3	-	-	P	H
		863.23	53.19	-42.22	95.41	54.35	28.75	4.39	34.3	-	-	P	V
	*	903.3	115.41	----	----	116.58	28.7	4.43	34.3	-	-	P	V
		942.77	47.5	-47.91	95.41	47.7	29.6	4.5	34.3	-	-	P	V
914.5MHz		873.9	54.42	-44.59	99.01	55.6	28.72	4.4	34.3	-	-	P	H
	*	914.5	119.01	----	----	119.9	28.96	4.45	34.3	-	-	P	H
		954.41	54.8	-44.21	99.01	54.78	29.79	4.52	34.29	-	-	P	H
		874.87	54.23	-41.36	95.59	55.41	28.72	4.4	34.3	-	-	P	V
	*	914.5	115.59	----	----	116.48	28.96	4.45	34.3	-	-	P	V
		954.41	48.71	-46.88	95.59	48.69	29.79	4.52	34.29	-	-	P	V
926.5MHz		886.51	50.72	-46.89	97.61	51.93	28.68	4.41	34.3	-	-	P	H
	*	926.5	117.61	----	----	118.21	29.23	4.47	34.3	-	-	P	H
		966.05	50.08	-47.53	97.61	49.95	29.85	4.55	34.27	-	-	P	H
		886.51	48.04	-43.29	91.33	49.25	28.68	4.41	34.3	-	-	P	V
	*	926.5	111.33	----	----	111.93	29.23	4.47	34.3	-	-	P	V
		966.05	44.48	-46.85	91.33	44.35	29.85	4.55	34.27	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

OFDM-LR (Harmonic @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
903.3MHz		1806.6	36.42	-62.02	98.44	60.77	29.4	4.21	57.96	-	-	P	H
		2709.9	42.46	-31.54	74	63.16	31.6	5.2	57.5	-	-	P	H
		3613.2	40.1	-33.9	74	58.19	32.77	6.19	57.05	-	-	P	H
		1806.6	37.2	-58.21	95.41	61.55	29.4	4.21	57.96	-	-	P	V
		2709.9	41.81	-32.19	74	62.51	31.6	5.2	57.5	-	-	P	V
		3613.2	42.01	-31.99	74	60.1	32.77	6.19	57.05	-	-	P	V
914.5MHz		1829	35.9	-63.11	99.01	60.06	29.6	4.21	57.97	-	-	P	H
		2743.5	41.69	-32.31	74	62.33	31.6	5.24	57.48	-	-	P	H
		3658	40.79	-33.21	74	58.83	32.82	6.18	57.04	-	-	P	H
		1829	36.61	-58.98	95.59	60.77	29.6	4.21	57.97	-	-	P	V
		2743.5	41	-33	74	61.64	31.6	5.24	57.48	-	-	P	V
		3658	40.92	-33.08	74	58.96	32.82	6.18	57.04	-	-	P	V
927.5MHz		1853	36.5	-61.11	97.61	60.52	29.7	4.25	57.97	-	-	P	H
		2779.5	41.87	-32.13	74	62.37	31.67	5.28	57.45	-	-	P	H
		3706	40.71	-33.29	74	58.67	32.89	6.17	57.02	-	-	P	H
		1853	36.12	-55.21	91.33	60.14	29.7	4.25	57.97	-	-	P	V
		2779.5	42.53	-31.47	74	63.03	31.67	5.28	57.45	-	-	P	V
		3706	41.6	-32.4	74	59.56	32.89	6.17	57.02	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

<Co-location modes>:

Mode 1 802.11ax20 CH01 &BLE 1M CH00& Zigbee CH19& Lora DTS SF11 500Khz CH16

11ax20 CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2380.03	52.65	-21.35	74	52.1	30.63	4.77	34.85	117	27	P	H
		2389.90	43.29	-10.71	54	42.72	30.6	4.81	34.84	117	27	A	H
	*	2412	103.88	----	----	103.27	30.63	4.81	34.83	117	27	P	H
	*	2412	95.65	----	----	95.04	30.63	4.81	34.83	117	27	A	H
		2390	57.57	-16.43	74	57	30.6	4.81	34.84	173	354	P	V
		2389.90	47.08	-6.92	54	46.51	30.6	4.81	34.84	173	354	A	V
	*	2412	110.17	----	----	109.56	30.63	4.81	34.83	173	354	P	V
	*	2412	101.16	----	----	100.55	30.63	4.81	34.83	173	354	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH00 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2387.80	53.79	-20.21	74	53.22	30.6	4.81	34.84	208	34	P	H
		2390	43.94	-10.06	54	43.37	30.6	4.81	34.84	208	34	A	H
	*	2402	105.16	----	----	104.59	30.6	4.81	34.84	208	34	P	H
	*	2402	102.17	----	----	101.6	30.6	4.81	34.84	208	34	A	H
		2388.96	52.44	-21.56	74	51.87	30.6	4.81	34.84	172	299	P	V
		2390	43.17	-10.83	54	42.6	30.6	4.81	34.84	172	299	A	V
	*	2402	103.47	----	----	102.9	30.6	4.81	34.84	172	299	P	V
	*	2402	100.84	----	----	100.27	30.6	4.81	34.84	172	299	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH19 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2380.42	48.85	-25.15	74	48.3	30.63	4.77	34.85	261	243	P	H
		2389.8	38.92	-15.08	54	38.35	30.6	4.81	34.84	261	243	A	H
	*	2445	104.57	----	----	103.83	30.7	4.86	34.82	261	243	P	H
	*	2445	102.69	----	----	101.95	30.7	4.86	34.82	261	243	A	H
		2486.49	52.16	-21.84	74	51.22	30.83	4.92	34.81	261	243	P	H
		2487.05	39.62	-14.38	54	38.68	30.83	4.92	34.81	261	243	A	H
		2384.48	52.41	-21.59	74	51.86	30.63	4.77	34.85	117	63	P	V
		2389.94	42.42	-11.58	54	41.85	30.6	4.81	34.84	117	63	A	V
	*	2445	112.45	----	----	111.71	30.7	4.86	34.82	117	63	P	V
	*	2445	110.61	----	----	109.87	30.7	4.86	34.82	117	63	A	V
		2485.02	53.46	-20.54	74	52.52	30.83	4.92	34.81	117	63	P	V
		2485.51	43.59	-10.41	54	42.65	30.83	4.92	34.81	117	63	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		874.87	51.31	-44.43	95.74	53.77	28.72	3.12	34.3	100	33	P	H
	*	914.64	115.74	----	----	117.9	28.96	3.18	34.3	100	33	P	H
		954.41	47.47	-48.27	95.74	48.7	29.79	3.27	34.29	100	33	P	H
		874.87	55.02	-42.59	97.61	57.48	28.72	3.12	34.3	100	25	P	V
	*	914.64	117.61	----	----	119.77	28.96	3.18	34.3	100	25	P	V
		954.41	52.36	-45.25	97.61	53.59	29.79	3.27	34.29	100	25	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	42.22	-31.78	74	43.69	29.6	4.21	35.28	-	-	P	H
		2743.5	47.04	-26.96	74	44.81	31.6	5.24	34.61	-	-	P	H
		3658	39.88	-34.12	74	57.92	32.82	6.18	57.04	-	-	P	H
		4804	41.41	-32.59	74	56.9	34.23	7.75	57.47	-	-	P	H
		4824	43.22	-30.78	74	58.69	34.26	7.75	57.48	-	-	P	H
		4890	42.74	-31.26	74	58.13	34.36	7.78	57.53	-	-	P	H
		7335	43.58	-30.42	74	58.14	35.43	8.95	58.94	-	-	P	H
		1829	43.08	-30.92	74	44.55	29.6	4.21	35.28	-	-	P	V
		2743.5	46.54	-27.46	74	44.31	31.6	5.24	34.61	-	-	P	V
		3658	42.13	-31.87	74	60.17	32.82	6.18	57.04	-	-	P	V
		4804	42.1	-31.9	74	57.59	34.23	7.75	57.47	-	-	P	V
		4824	42.07	-31.93	74	57.54	34.26	7.75	57.48	-	-	P	V
		4890	42.97	-31.03	74	58.36	34.36	7.78	57.53	-	-	P	V
		7335	43.31	-30.69	74	57.87	35.43	8.95	58.94	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode 2 802.11b CH01 &BLE 1M CH18& Zigbee CH25& Lora DTS SF11 500Khz CH16

11b CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2331.42	49.75	-24.25	74	49.16	30.73	4.73	34.87	305	4	P	H
		2386.12	41.11	-12.89	54	40.54	30.6	4.81	34.84	305	4	A	H
	*	2412	99.68	----	----	99.07	30.63	4.81	34.83	305	4	P	H
	*	2412	96.68	----	----	96.07	30.63	4.81	34.83	305	4	A	H
		2385.91	50.74	-23.26	74	50.17	30.6	4.81	34.84	219	28	P	V
		2386.02	42.31	-11.69	54	41.74	30.6	4.81	34.84	219	28	A	V
	*	2412	104.72	----	----	104.11	30.63	4.81	34.83	219	28	P	V
	*	2412	101.52	----	----	100.91	30.63	4.81	34.83	219	28	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH18 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2386.3	49.72	-24.28	74	49.15	30.6	4.81	34.84	236	38	P	H
		2386.02	42.18	-11.82	54	41.61	30.6	4.81	34.84	236	38	A	H
	*	2438	103.68	----	----	102.94	30.7	4.86	34.82	236	38	P	H
	*	2438	102.83	----	----	102.09	30.7	4.86	34.82	236	38	A	H
		2498.53	49.22	-24.78	74	48.2	30.9	4.92	34.8	236	38	P	H
		2486.21	38.87	-15.13	54	37.93	30.83	4.92	34.81	236	38	A	H
		2388.12	48.94	-25.06	74	48.37	30.6	4.81	34.84	176	305	P	V
		2386.16	39.86	-14.14	54	39.29	30.6	4.81	34.84	176	305	A	V
	*	2438	101.69	----	----	100.95	30.7	4.86	34.82	176	305	P	V
	*	2438	100.86	----	----	100.12	30.7	4.86	34.82	176	305	A	V
		2483.55	50.77	-23.23	74	49.83	30.83	4.92	34.81	176	305	P	V
		2483.5	42.35	-11.65	54	41.41	30.83	4.92	34.81	176	305	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH25 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2475	93.41	----	----	92.47	30.83	4.92	34.81	105	47	P	H
	*	2475	91.63	----	----	90.69	30.83	4.92	34.81	105	47	A	H
		2487.4	49.72	-24.28	74	48.78	30.83	4.92	34.81	105	47	P	H
		2483.52	37.95	-16.05	54	37.01	30.83	4.92	34.81	105	47	A	H
	*	2475	109.42	----	----	108.48	30.83	4.92	34.81	114	104	P	V
	*	2475	106.55	----	----	105.61	30.83	4.92	34.81	114	104	A	V
		2483.52	55.43	-18.57	74	54.49	30.83	4.92	34.81	114	104	P	V
		2483.52	46.13	-7.87	54	45.19	30.83	4.92	34.81	114	104	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		870.99	49.89	-46.81	96.7	52.34	28.73	3.12	34.3	100	56	P	H
	*	914.5	116.7	----	----	118.86	28.96	3.18	34.3	100	56	P	H
		952.47	49.3	-47.4	96.7	50.54	29.78	3.27	34.29	100	56	P	H
		874.87	54.4	-42.59	96.99	56.86	28.72	3.12	34.3	100	85	P	V
	*	914.5	116.99	----	----	119.15	28.96	3.18	34.3	100	85	P	V
		953.44	52.08	-44.91	96.99	53.32	29.78	3.27	34.29	100	85	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1892	41.91	-32.09	74	43.01	29.77	4.29	35.16	-	-	P	H
		2743.5	44.96	-29.04	74	42.73	31.6	5.24	34.61	-	-	A	H
		4824	41.92	-32.08	74	57.39	34.26	7.75	57.48	-	-	P	H
		4876	41.48	-32.52	74	56.91	34.33	7.76	57.52	-	-	A	H
		4950	45.07	-28.93	74	60.4	34.43	7.8	57.56	-	-	P	H
		7314	42.7	-31.3	74	57.23	35.44	8.95	58.92	-	-	A	H
		7425	43.22	-30.78	74	57.59	35.41	9.19	58.97	-	-	P	H
		1892	41.84	-32.16	74	42.94	29.77	4.29	35.16	-	-	P	V
		2743.5	45.11	-28.89	74	42.88	31.6	5.24	34.61	-	-	A	V
		4824	45.36	-28.64	74	60.83	34.26	7.75	57.48	-	-	P	V
		4876	42.02	-31.98	74	57.45	34.33	7.76	57.52	-	-	A	V
		4950	44.22	-29.78	74	59.55	34.43	7.8	57.56	-	-	P	V
		7314	43.4	-30.6	74	57.93	35.44	8.95	58.92	-	-	A	V
		7425	42.95	-31.05	74	57.32	35.41	9.19	58.97	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode 3 802.11b CH03 &BLE 1M CH29& Zigbee CH25& Lora DTS SF11 500Khz CH16

11b CH03 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2383.92	51.58	-22.42	74	51.03	30.63	4.77	34.85	351	357	P	H
		2383.92	42.7	-11.3	54	42.15	30.63	4.77	34.85	351	357	A	H
	*	2422	106.17	----	----	105.52	30.67	4.81	34.83	351	357	P	H
	*	2422	103.17	----	----	102.52	30.67	4.81	34.83	351	357	A	H
		2384.34	53.88	-20.12	74	53.33	30.63	4.77	34.85	200	12	P	V
		2383.92	47.78	-6.22	54	47.23	30.63	4.77	34.85	200	12	A	V
	*	2422	111.47	----	----	110.82	30.67	4.81	34.83	200	12	P	V
	*	2422	108.15	----	----	107.5	30.67	4.81	34.83	200	12	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH29 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2383.92	50.2	-23.8	74	49.65	30.63	4.77	34.85	264	32	P	H
		2384.2	42.02	-11.98	54	41.47	30.63	4.77	34.85	264	32	A	H
	*	2460	102.35	----	----	101.54	30.77	4.86	34.82	264	32	P	H
	*	2460	100.47	----	----	99.66	30.77	4.86	34.82	264	32	A	H
		2497.06	48.59	-25.41	74	47.57	30.9	4.92	34.8	264	32	P	H
		2487.82	38.66	-15.34	54	37.65	30.9	4.92	34.81	264	32	A	H
		2383.64	50	-24	74	49.45	30.63	4.77	34.85	102	314	P	V
		2384.06	41.38	-12.62	54	40.83	30.63	4.77	34.85	102	314	A	V
	*	2460	100.26	----	----	99.45	30.77	4.86	34.82	102	314	P	V
	*	2460	99.72	----	----	98.91	30.77	4.86	34.82	102	314	A	V
		2483.76	50.9	-23.1	74	49.96	30.83	4.92	34.81	102	314	P	V
		2483.5	41.79	-12.21	54	40.85	30.83	4.92	34.81	102	314	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH25 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2475	98.43	----	----	97.49	30.83	4.92	34.81	393	312	P	H
	*	2475	96.5	----	----	95.56	30.83	4.92	34.81	393	312	A	H
		2499.24	49.71	-24.29	74	48.69	30.9	4.92	34.8	393	312	P	H
		2483.52	39.31	-14.69	54	38.37	30.83	4.92	34.81	393	312	A	H
	*	2475	109.46	----	----	108.52	30.83	4.92	34.81	124	75	P	V
	*	2475	107.49	----	----	106.55	30.83	4.92	34.81	124	75	A	V
		2484.04	56.59	-17.41	74	55.65	30.83	4.92	34.81	124	75	P	V
		2483.52	47.55	-6.45	54	46.61	30.83	4.92	34.81	124	75	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		874.87	49.15	-45.34	94.49	51.61	28.72	3.12	34.3	100	53	P	H
	*	914.5	114.49	----	----	116.65	28.96	3.18	34.3	100	53	P	H
		954.41	48.59	-45.9	94.49	49.82	29.79	3.27	34.29	100	53	P	H
		874.87	53.96	-41.59	95.55	56.42	28.72	3.12	34.3	100	76	P	V
	*	914.5	115.55	----	----	117.71	28.96	3.18	34.3	100	76	P	V
		954.41	51.87	-43.68	95.55	53.1	29.79	3.27	34.29	100	76	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	45.98	-28.02	74	47.45	29.6	4.21	35.28	-	-	P	H
		2743.5	49.71	-24.29	74	47.48	31.6	5.24	34.61	-	-	P	H
		4844	54.22	-19.78	74	69.67	34.28	7.76	57.49	121	22	P	H
		4844	50.85	-3.15	54	66.3	34.28	7.76	57.49	121	22	A	H
		4920	41.54	-32.46	74	56.89	34.4	7.8	57.55	-	-	P	H
		4950	46.48	-27.52	74	61.81	34.43	7.8	57.56	-	-	P	H
		7266	43.37	-30.63	74	58.01	35.44	8.83	58.91	-	-	P	H
		7380	42.57	-31.43	74	56.9	35.42	9.2	58.95	-	-	P	H
		7425	43.76	-30.24	74	58.13	35.41	9.19	58.97	-	-	P	H
		1829	45.33	-28.67	74	46.8	29.6	4.21	35.28	-	-	P	V
		2743.5	49.85	-24.15	74	47.62	31.6	5.24	34.61	-	-	P	V
		4844	51.25	-22.75	74	66.7	34.28	7.76	57.49	145	339	P	V
		4844	45.97	-8.03	54	61.42	34.28	7.76	57.49	145	339	A	V
		4920	41.07	-32.93	74	56.42	34.4	7.8	57.55	-	-	P	V
		4950	46.55	-27.45	74	61.88	34.43	7.8	57.56	-	-	P	V
		7266	43.27	-30.73	74	57.91	35.44	8.83	58.91	-	-	P	V
		7380	43.22	-30.78	74	57.55	35.42	9.2	58.95	-	-	P	V
		7425	43.57	-30.43	74	57.94	35.41	9.19	58.97	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode 4 802.11b CH08 &BLE 1M CH01& Zigbee CH25& Lora DTS SF11 500Khz CH16

802.11b CH08 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2320.36	50.64	-23.36	74	50.05	30.73	4.73	34.87	340	360	P	H
		2378.88	39.57	-14.43	54	39.02	30.63	4.77	34.85	340	360	A	H
	*	2447	106.26	----	----	105.52	30.7	4.86	34.82	340	360	P	H
	*	2447	103.04	----	----	102.3	30.7	4.86	34.82	340	360	A	H
		2483.69	50.07	-23.93	74	49.13	30.83	4.92	34.81	340	360	P	H
		2483.5	41.78	-12.22	54	40.84	30.83	4.92	34.81	340	360	A	H
		2368.94	49.58	-24.42	74	49.03	30.63	4.77	34.85	161	12	P	V
		2378.6	39.56	-14.44	54	39.01	30.63	4.77	34.85	161	12	A	V
	*	2447	110.85	----	----	110.11	30.7	4.86	34.82	161	12	P	V
	*	2447	107.87	----	----	107.13	30.7	4.86	34.82	161	12	A	V
		2485.51	52.23	-21.77	74	51.29	30.83	4.92	34.81	161	12	P	V
		2484.53	40.44	-13.56	54	39.5	30.83	4.92	34.81	161	12	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH01 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2361.24	49.81	-24.19	74	49.22	30.67	4.77	34.85	209	35	P	H
		2378.56	38.59	-15.41	54	38.04	30.63	4.77	34.85	209	35	A	H
	*	2404	101.05	----	----	100.45	30.63	4.81	34.84	209	35	P	H
	*	2404	99.97	----	----	99.37	30.63	4.81	34.84	209	35	A	H
		2384.02	48.89	-25.11	74	48.34	30.63	4.77	34.85	176	320	P	V
		2390	39.96	-14.04	54	39.39	30.6	4.81	34.84	176	320	A	V
	*	2404	97.68	----	----	97.08	30.63	4.81	34.84	176	320	P	V
	*	2404	97.03	----	----	96.43	30.63	4.81	34.84	176	320	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH25 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2475	97.83	----	----	96.89	30.83	4.92	34.81	125	76	P	H
	*	2475	95.75	----	----	94.81	30.83	4.92	34.81	125	76	A	H
		2488.52	50.52	-23.48	74	49.51	30.9	4.92	34.81	125	76	P	H
		2483.52	39.22	-14.78	54	38.28	30.83	4.92	34.81	125	76	A	H
	*	2475	109.25	----	----	108.31	30.83	4.92	34.81	130	133	P	V
	*	2475	107.23	----	----	106.29	30.83	4.92	34.81	130	133	A	V
		2483.6	56.48	-17.52	74	55.54	30.83	4.92	34.81	130	133	P	V
		2483.52	47.91	-6.09	54	46.97	30.83	4.92	34.81	130	133	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		870.99	50.58	-44.36	94.94	53.03	28.73	3.12	34.3	100	57	P	H
	*	914.64	114.94	----	----	117.1	28.96	3.18	34.3	100	57	P	H
		946.65	50.64	-44.3	94.94	52	29.69	3.25	34.3	100	57	P	H
		873.9	51.48	-44.49	95.97	53.94	28.72	3.12	34.3	100	45	P	V
	*	914.64	115.97	----	----	118.13	28.96	3.18	34.3	100	45	P	V
		955.38	52.31	-43.66	95.97	53.54	29.79	3.27	34.29	100	45	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	42.27	-31.73	74	43.74	29.6	4.21	35.28	-	-	P	H
		2743.5	47.67	-26.33	74	45.44	31.6	5.24	34.61	-	-	P	H
		3658	40.07	-33.93	74	58.11	32.82	6.18	57.04	-	-	P	H
		4808	40.37	-33.63	74	55.86	34.23	7.75	57.47	-	-	P	H
		4894	53.09	-20.91	74	68.48	34.36	7.78	57.53	126	2	P	H
		4894	49.39	-4.61	54	64.78	34.36	7.78	57.53	126	2	A	H
		4950	45.9	-28.1	74	61.23	34.43	7.8	57.56	-	-	P	H
		7341	44.71	-29.29	74	59.14	35.43	9.08	58.94	-	-	P	H
		7425	43.77	-30.23	74	58.14	35.41	9.19	58.97	-	-	P	H
		1829	41.8	-32.2	74	43.27	29.6	4.21	35.28	-	-	P	V
		2743.5	45.99	-28.01	74	43.76	31.6	5.24	34.61	-	-	A	V
		3658	40.59	-33.41	74	58.63	32.82	6.18	57.04	-	-	P	V
		4808	40.56	-33.44	74	56.05	34.23	7.75	57.47	-	-	A	V
		4894	46.3	-27.7	74	61.69	34.36	7.78	57.53	-	-	P	V
		4950	46.3	-27.7	74	61.63	34.43	7.8	57.56	-	-	A	V
		7341	44.08	-29.92	74	58.51	35.43	9.08	58.94	-	-	P	V
		7425	43.37	-30.63	74	57.74	35.41	9.19	58.97	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode 5 802.11ax20 CH11 &BLE 1M CH39& Zigbee CH11& Lora DTS SF11 500Khz CH16

11ax20 CH11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2462	104.64	----	----	103.83	30.77	4.86	34.82	107	55	P	H
	*	2462	94.41	----	----	93.6	30.77	4.86	34.82	107	55	A	H
		2483.68	52.73	-21.27	74	51.79	30.83	4.92	34.81	107	55	P	H
		2483.76	42.57	-11.43	54	41.63	30.83	4.92	34.81	107	55	A	H
	*	2462	108.16	----	----	107.35	30.77	4.86	34.82	169	355	P	V
	*	2462	99.45	----	----	98.64	30.77	4.86	34.82	169	355	A	V
		2484.16	57.78	-16.22	74	56.84	30.83	4.92	34.81	169	355	P	V
		2483.56	45.98	-8.02	54	45.04	30.83	4.92	34.81	169	355	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH39 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2480	101.06	----	----	100.12	30.83	4.92	34.81	194	36	P	H
	*	2480	100.44	----	----	99.5	30.83	4.92	34.81	194	36	A	H
		2484.16	53.27	-20.73	74	52.33	30.83	4.92	34.81	194	36	P	H
		2483.72	42.36	-11.64	54	41.42	30.83	4.92	34.81	194	36	A	H
	*	2480	99.96	----	----	99.02	30.83	4.92	34.81	208	316	P	V
	*	2480	99.17	----	----	98.23	30.83	4.92	34.81	208	316	A	V
		2483.96	51.14	-22.86	74	50.2	30.83	4.92	34.81	208	316	P	V
		2483.56	41.32	-12.68	54	40.38	30.83	4.92	34.81	208	316	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2325.22	49.52	-24.48	74	48.93	30.73	4.73	34.87	139	109	P	H
		2350.21	37.95	-16.05	54	37.34	30.7	4.77	34.86	139	109	A	H
	*	2405	102.73	----	----	102.13	30.63	4.81	34.84	139	109	P	H
	*	2405	100.48	----	----	99.88	30.63	4.81	34.84	139	109	A	H
		2366.59	55.85	-18.15	74	55.26	30.67	4.77	34.85	138	132	P	V
		2368.48	45.06	-8.94	54	44.47	30.67	4.77	34.85	138	132	A	V
	*	2405	114.5	----	----	113.9	30.63	4.81	34.84	138	132	P	V
	*	2405	112.26	----	----	111.66	30.63	4.81	34.84	138	132	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		868.08	51.56	-44.5	96.06	54	28.74	3.12	34.3	100	75	P	H
	*	914.64	116.06	----	----	118.22	28.96	3.18	34.3	100	75	P	H
		941.8	48.14	-47.92	96.06	49.62	29.58	3.24	34.3	100	75	P	H
		880.69	52.19	-44.45	96.64	54.66	28.7	3.13	34.3	100	82	P	V
	*	914.64	116.64	----	----	118.8	28.96	3.18	34.3	100	82	P	V
		953.44	52.84	-43.8	96.64	54.08	29.78	3.27	34.29	100	82	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	41	-33	74	42.47	29.6	4.21	35.28	-	-	P	H
		2743.5	46.11	-27.89	74	43.88	31.6	5.24	34.61	-	-	A	H
		3658	40.63	-33.37	74	58.67	32.82	6.18	57.04	-	-	P	H
		4810	45.65	-28.35	74	61.14	34.23	7.75	57.47	-	-	A	H
		4924	41.82	-32.18	74	57.17	34.4	7.8	57.55	-	-	P	H
		4960	41.89	-32.11	74	57.21	34.45	7.81	57.58	-	-	A	H
		7386	43.94	-30.06	74	58.28	35.42	9.2	58.96	-	-	P	H
		7440	44.35	-29.65	74	58.73	35.41	9.19	58.98	-	-	A	H
		1829	40.75	-33.25	74	42.22	29.6	4.21	35.28	-	-	P	V
		2743.5	43.91	-30.09	74	41.68	31.6	5.24	34.61	-	-	A	V
		3658	40.93	-33.07	74	58.97	32.82	6.18	57.04	-	-	P	V
		4810	45.49	-28.51	74	60.98	34.23	7.75	57.47	-	-	A	V
		4924	41.16	-32.84	74	56.51	34.4	7.8	57.55	-	-	P	V
		4960	41.91	-32.09	74	57.23	34.45	7.81	57.58	-	-	A	V
		7386	43.96	-30.04	74	58.3	35.42	9.2	58.96	-	-	P	V
		7440	43.53	-30.47	74	57.91	35.41	9.19	58.98	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode 6 802.11a CH36 &BLE 1M CH39& Zigbee CH11& Lora DTS SF11 500Khz CH16

802.11a CH36 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		5145.86	56.14	-17.86	74	47.58	34.62	7.91	33.97	218	262	P	H
		5146.12	47.54	-6.46	54	38.98	34.62	7.91	33.97	218	262	A	H
	*	5180	112.03	----	----	103.4	34.65	7.93	33.95	218	262	P	H
	*	5180	103.93	----	----	95.3	34.65	7.93	33.95	218	262	A	H
		5147.16	57.06	-16.94	74	48.5	34.62	7.91	33.97	272	326	P	V
		5147.94	45.45	-8.55	54	36.89	34.62	7.91	33.97	272	326	A	V
	*	5180	111.1	----	----	102.47	34.65	7.93	33.95	272	326	P	V
	*	5180	102.89	----	----	94.26	34.65	7.93	33.95	272	326	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH39 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	2480	100.76	----	----	99.82	30.83	4.92	34.81	194	36	P	H
	*	2480	99.81	----	----	98.87	30.83	4.92	34.81	194	36	A	H
		2499.24	49	-25	74	47.98	30.9	4.92	34.8	194	36	P	H
		2483.56	38.59	-15.41	54	37.65	30.83	4.92	34.81	194	36	A	H
	*	2480	100.23	----	----	99.29	30.83	4.92	34.81	214	320	P	V
	*	2480	99.66	----	----	98.72	30.83	4.92	34.81	214	320	A	V
		2483.56	49.96	-24.04	74	49.02	30.83	4.92	34.81	214	320	P	V
		2484.04	39.17	-14.83	54	38.23	30.83	4.92	34.81	214	320	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2355.57	49.08	-24.92	74	48.5	30.67	4.77	34.86	137	110	P	H
		2368.48	37.48	-16.52	54	36.89	30.67	4.77	34.85	137	110	A	H
	*	2405	102.77	----	----	102.17	30.63	4.81	34.84	137	110	P	H
	*	2405	100.69	----	----	100.09	30.63	4.81	34.84	137	110	A	H
		2367.22	55.51	-18.49	74	54.92	30.67	4.77	34.85	139	136	P	V
		2368.59	44.96	-9.04	54	44.41	30.63	4.77	34.85	139	136	A	V
	*	2405	114.02	----	----	113.42	30.63	4.81	34.84	139	136	P	V
	*	2405	111.97	----	----	111.37	30.63	4.81	34.84	139	136	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		869.05	50.21	-45.73	95.94	52.66	28.73	3.12	34.3	100	52	P	H
	*	914.64	115.94	----	----	118.1	28.96	3.18	34.3	100	52	P	H
		941.8	51.39	-44.55	95.94	52.87	29.58	3.24	34.3	100	52	P	H
		880.69	54.64	-42.22	96.86	57.11	28.7	3.13	34.3	100	69	P	V
	*	914.64	116.86	----	----	119.02	28.96	3.18	34.3	100	69	P	V
		953.44	55.29	-41.57	96.86	56.53	29.78	3.27	34.29	100	69	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	41.04	-32.96	74	42.51	29.6	4.21	35.28	-	-	P	H
		2743.5	49.3	-24.7	74	47.07	31.6	5.24	34.61	-	-	P	H
		3658	40.71	-33.29	74	58.75	32.82	6.18	57.04	-	-	P	H
		4810	45	-29	74	60.49	34.23	7.75	57.47	-	-	P	H
		4960	43.01	-30.99	74	58.33	34.45	7.81	57.58	-	-	P	H
		7440	42.4	-31.6	74	56.78	35.41	9.19	58.98	-	-	P	H
		10360	46.88	-21.42	68.3	57.8	37.34	10.73	58.99	-	-	P	H
		15540	47.94	-26.06	74	55.22	38.93	12.72	58.93	-	-	P	H
		1829	41.31	-32.69	74	42.78	29.6	4.21	35.28	-	-	P	V
		2743.5	45.66	-28.34	74	43.43	31.6	5.24	34.61	-	-	P	V
		3658	40.58	-33.42	74	58.62	32.82	6.18	57.04	-	-	P	V
		4810	43.8	-30.2	74	59.29	34.23	7.75	57.47	-	-	P	V
		4960	42.67	-31.33	74	57.99	34.45	7.81	57.58	-	-	P	V
		7440	43.03	-30.97	74	57.41	35.41	9.19	58.98	-	-	P	V
		10360	46.73	-21.57	68.3	57.65	37.34	10.73	58.99	-	-	P	V
		15540	47.19	-26.81	74	54.47	38.93	12.72	58.93	-	-	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

Mode 7 802.11a CH100 &BLE 1M CH19& Zigbee CH11& Lora DTS SF11 500Khz CH16

802.11a CH100 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		5458.48	56.94	-17.06	74	47.37	34.86	8.43	33.72	181	320	P	H
		5470	59.31	-8.99	68.3	49.78	34.87	8.38	33.72	181	320	P	H
		5459.92	49.49	-4.51	54	39.92	34.86	8.43	33.72	181	320	A	H
	*	5500	110.95	----	----	101.37	34.9	8.38	33.7	181	320	P	H
	*	5500	104.1	----	----	94.52	34.9	8.38	33.7	181	320	A	H
		5453.2	54.48	-19.52	74	44.91	34.86	8.43	33.72	101	31	P	V
		5468.56	56.64	-11.66	68.3	47.11	34.87	8.38	33.72	101	31	P	V
		5458.48	47.24	-6.76	54	37.67	34.86	8.43	33.72	101	31	A	V
	*	5500	109.51	----	----	99.93	34.9	8.38	33.7	101	31	P	V
	*	5500	102.2	----	----	92.62	34.9	8.38	33.7	101	31	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH19 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2331.98	49.07	-24.93	74	48.48	30.73	4.73	34.87	196	36	P	H
		2368.38	38.38	-15.62	54	37.79	30.67	4.77	34.85	196	36	A	H
	*	2440	103.98	----	----	103.24	30.7	4.86	34.82	196	36	P	H
	*	2440	103.4	----	----	102.66	30.7	4.86	34.82	196	36	A	H
		2484.74	48.99	-25.01	74	48.05	30.83	4.92	34.81	196	36	P	H
		2497.69	38.77	-15.23	54	37.75	30.9	4.92	34.8	196	36	A	H
		2368.66	53.25	-20.75	74	52.7	30.63	4.77	34.85	166	6	P	V
		2369.22	43.63	-10.37	54	43.08	30.63	4.77	34.85	166	6	A	V
	*	2440	101.56	----	----	100.82	30.7	4.86	34.82	166	6	P	V
	*	2440	100.91	----	----	100.17	30.7	4.86	34.82	166	6	A	V
		2484.53	51.78	-22.22	74	50.84	30.83	4.92	34.81	166	6	P	V
		2486.42	41.85	-12.15	54	40.91	30.83	4.92	34.81	166	6	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH11 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2368.59	49.4	-24.6	74	48.85	30.63	4.77	34.85	135	105	P	H
		2369.01	38.93	-15.07	54	38.38	30.63	4.77	34.85	135	105	A	H
	*	2405	102.7	----	----	102.1	30.63	4.81	34.84	135	105	P	H
	*	2405	100.68	----	----	100.08	30.63	4.81	34.84	135	105	A	H
		2369.115	55.25	-18.75	74	54.7	30.63	4.77	34.85	161	127	P	V
		2368.905	45.22	-8.78	54	44.67	30.63	4.77	34.85	161	127	A	V
	*	2405	113.4	----	----	112.8	30.63	4.81	34.84	161	127	P	V
	*	2405	111.39	----	----	110.79	30.63	4.81	34.84	161	127	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		869.15	49	-46.73	95.73	51.45	28.73	3.12	34.3	100	25	P	H
	*	914.5	115.73	----	----	117.89	28.96	3.18	34.3	100	25	P	H
		941.3	50.18	-45.55	95.73	51.68	29.56	3.24	34.3	100	25	P	H
		880.42	53.85	-42.22	96.07	56.32	28.7	3.13	34.3	100	36	P	V
	*	914.5	116.07	----	----	118.23	28.96	3.18	34.3	100	36	P	V
		953.13	54.5	-41.57	96.07	55.74	29.78	3.27	34.29	100	36	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	40.51	-33.49	74	41.98	29.6	4.21	35.28	-	-	P	H
		2743.5	44.96	-29.04	74	42.73	31.6	5.24	34.61	-	-	A	H
		3658	47.83	-26.17	74	61.01	32.82	6.18	52.18	-	-	P	H
		4810	50.1	-23.9	74	59.95	34.23	7.75	51.83	-	-	A	H
		4880	47.52	-26.48	74	57.35	34.33	7.76	51.92	-	-	P	H
		7320	42.36	-31.64	74	56.91	35.43	8.95	58.93	-	-	A	H
		11000	46.99	-27.01	74	56.49	37.6	11.2	58.3	-	-	P	H
		16500	48.22	-20.08	68.3	54.66	39.5	12.9	58.84	-	-	A	H
		1829	41.27	-32.73	74	42.74	29.6	4.21	35.28	-	-	P	V
		2743.5	50.28	-23.72	74	48.05	31.6	5.24	34.61	-	-	A	V
		3658	47.24	-26.76	74	60.42	32.82	6.18	52.18	-	-	P	V
		4810	51.71	-22.29	74	61.56	34.23	7.75	51.83	-	-	A	V
		4880	48.01	-25.99	74	57.84	34.33	7.76	51.92	-	-	P	V
		7320	41.35	-32.65	74	55.9	35.43	8.95	58.93	-	-	A	V
		11000	47.88	-26.12	74	57.38	37.6	11.2	58.3	-	-	P	V
		16500	47.6	-20.7	68.3	54.04	39.5	12.9	58.84	-	-	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Mode8 802.11ax20 CH233 &BLE 1M CH00& Zigbee CH19& Lora DTS SF11 500Khz CH16

802.11ax20 CH233 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location	*	7115	93.23	----	----	83.5	35.48	8.68	34.43	322	269	P	H
	*	7115	88.64	----	----	78.91	35.48	8.68	34.43	322	269	A	H
		7125	74.71	-13.49	88.2	65.01	35.48	8.68	34.46	322	269	P	H
		7252.99	40.84	-33.16	74	31.31	35.45	8.7	34.62	322	269	P	H
		7125	61.15	-7.05	68.2	51.45	35.48	8.68	34.46	322	269	A	H
		7254.21	31.81	-22.19	54	22.28	35.45	8.7	34.62	322	269	A	H
	*	7115	92.04	----	----	82.31	35.48	8.68	34.43	111	62	s	V
	*	7115	88.37	----	----	78.64	35.48	8.68	34.43	111	62	A	V
		7125	72.21	-15.99	88.2	62.51	35.48	8.68	34.46	111	62	P	V
		7338.43	41.18	-32.82	74	31.38	35.43	9.08	34.71	111	62	P	V
		7125	58.7	-9.5	68.2	49	35.48	8.68	34.46	111	62	A	V
		7270.48	31.87	-22.13	54	22.22	35.44	8.83	34.62	111	62	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

BLE CH00 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2364.6	48.2	-25.8	74	47.61	30.67	4.77	34.85	148	68	P	H
		2382.34	37.82	-16.18	54	37.27	30.63	4.77	34.85	148	68	A	H
	*	2402	97.89	----	----	97.32	30.6	4.81	34.84	148	68	P	H
	*	2402	97.31	----	----	96.74	30.6	4.81	34.84	148	68	A	H
		2387.91	48.11	-25.89	74	47.54	30.6	4.81	34.84	228	315	P	V
		2383.18	38.34	-15.66	54	37.79	30.63	4.77	34.85	228	315	A	V
	*	2402	98.87	----	----	98.3	30.6	4.81	34.84	228	315	P	V
	*	2402	98.1	----	----	97.53	30.6	4.81	34.84	228	315	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Zigbee CH19 (Band Edge @ 3m)

	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		2320.64	48.93	-25.07	74	48.34	30.73	4.73	34.87	145	109	P	H
		2389.66	37.74	-16.26	54	37.17	30.6	4.81	34.84	145	109	A	H
	*	2445	102.86	----	----	102.12	30.7	4.86	34.82	145	109	P	H
	*	2445	100.98	----	----	100.24	30.7	4.86	34.82	145	109	A	H
		2484.18	49.55	-24.45	74	48.61	30.83	4.92	34.81	145	109	P	H
		2485.51	38.82	-15.18	54	37.88	30.83	4.92	34.81	145	109	A	H
		2385.6	53.45	-20.55	74	52.88	30.6	4.81	34.84	139	134	P	V
		2389.94	43.43	-10.57	54	42.86	30.6	4.81	34.84	139	134	A	V
	*	2445	113.49	----	----	112.75	30.7	4.86	34.82	139	134	P	V
	*	2445	111.54	----	----	110.8	30.7	4.86	34.82	139	134	A	V
		2494.12	53.88	-20.12	74	52.86	30.9	4.92	34.8	139	134	P	V
		2493.14	44.46	-9.54	54	43.44	30.9	4.92	34.8	139	134	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

LoRa(DTS)-SF11 CH16 (Fundamental @ 3m)

	Note	Frequency	Level	Margin	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
		(MHz)	(dBµV/m)	(dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	(H/V)
914.5MHz		870.02	47.31	-48.94	96.25	49.76	28.73	3.12	34.3	100	54	P	H
	*	914.5	116.25	----	----	118.41	28.96	3.18	34.3	100	54	P	H
		940.83	49.63	-46.62	96.25	51.13	29.56	3.24	34.3	100	54	P	H
		879.72	52.21	-44.11	96.32	54.68	28.7	3.13	34.3	100	32	P	V
	*	914.5	116.32	----	----	118.48	28.96	3.18	34.3	100	32	P	V
		954.41	52.77	-43.55	96.32	54	29.79	3.27	34.29	100	32	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

(Harmonic @ 3m)

WIFI Ant.	Note	Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
Co-location		1829	40.64	-33.36	74	42.11	29.6	4.21	35.28	-	-	P	H
		2743.5	47.52	-26.48	74	45.29	31.6	5.24	34.61	-	-	P	H
		3658	41.03	-32.97	74	59.07	32.82	6.18	57.04	-	-	P	H
		4804	42.25	-31.75	74	57.74	34.23	7.75	57.47	-	-	P	H
		4890	42.9	-31.1	74	58.29	34.36	7.78	57.53	-	-	P	H
		7335	47.45	-26.55	74	54.78	35.43	8.95	51.71	-	-	P	H
		14230	50.28	-37.92	88.2	49.9	38.54	12.73	50.89	-	-	P	H
		1829	40.58	-33.42	74	42.05	29.6	4.21	35.28	-	-	P	V
		2743.5	44.95	-29.05	74	42.72	31.6	5.24	34.61	-	-	P	V
		3658	40.59	-33.41	74	58.63	32.82	6.18	57.04	-	-	P	V
		4804	42.33	-31.67	74	57.82	34.23	7.75	57.47	-	-	P	V
		4890	42.68	-31.32	74	58.07	34.36	7.78	57.53	-	-	P	V
		7335	47.66	-26.34	74	54.99	35.43	8.95	51.71	-	-	P	V
		14230	50.23	-37.97	88.2	49.85	38.54	12.73	50.89	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
902.2MHz		136.7	23.47	-20.03	43.5	39.09	17.88	1.23	34.73	-	-	P	H
		259.89	23.87	-22.13	46	39.01	17.87	1.67	34.68	-	-	P	H
	*	902.2	118.37	-	-	120.85	28.67	3.15	34.3	-	-	P	H

1. Level(dBμV/m) = Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 136.7MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 17.88(dB/m) + 1.23(dB) + 39.09(dBμV) – 34.73 (dB)

= 23.47 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 23.47(dBμV/m) – 43.5(dBμV/m)

= -20.03(dB)

Non-Restricted band：

	Note	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
902.2MHz		862.26	50.22	-48.15	98.37	51.37	28.76	4.39	34.3	-	-	P	H
	*	902.2	118.37	----	----	119.58	28.67	4.42	34.3	-	-	P	H

1. Limit Line(dBμV/m) = Fundamental Level(dBμV/m) – 20(dBc)

For Peak Limit @ 862.26MHz:

1. Limit Line(dBμV/m)

= Fundamental Level(dBμV/m) – 20(dBc)

= 118.37(dBμV/m) – 20(dBc)

= 98.37 (dBμV/m)

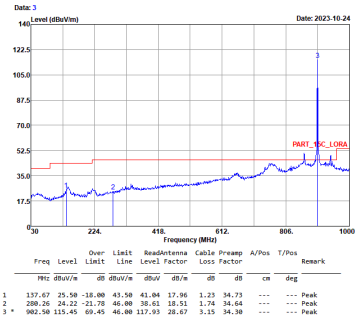
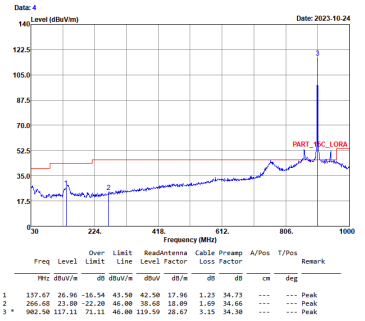
The peak measured complies with the limit line, so test result is “PASS”.

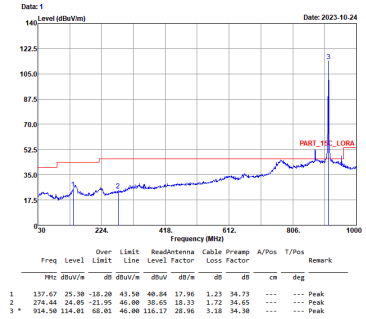
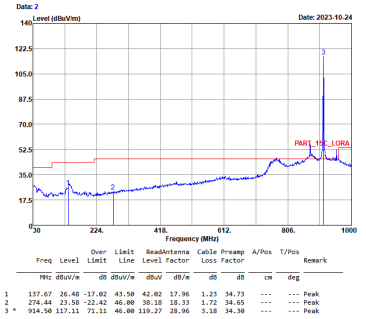
Appendix D. Radiated Spurious Emission Plots

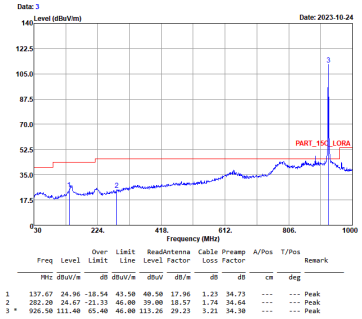
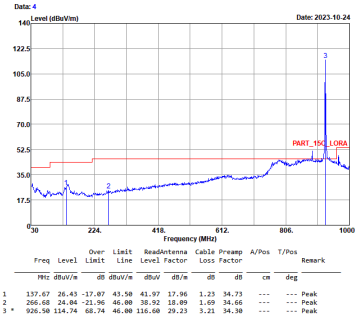
Note symbol

-L	**Low channel location**
-R	**High channel location**

LoRa 500KHz DTS SF=7

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=7 CH01 902.5	
	Horizontal	Vertical
Peak		

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=7 CH16 914.5	
	Horizontal	Vertical
Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 25.30 -18.20 43.50 40.84 17.96 1.23 34.73 --- --- Peak 2 274.44 24.05 -21.95 46.00 38.65 18.33 1.72 34.65 --- --- Peak 3 * 914.50 114.01 68.01 46.00 116.17 28.96 3.18 34.30 --- --- Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 26.48 -17.02 43.50 42.02 17.96 1.23 34.73 --- --- Peak 2 274.44 23.58 -22.42 46.00 38.18 18.33 1.72 34.65 --- --- Peak 3 * 914.50 117.11 71.11 46.00 119.27 28.96 3.18 34.30 --- --- Peak

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=7 CH31 926.5	
	Horizontal	Vertical
Peak		

Data: 3

Level (dBuV/m)

Date: 2023-10-24

Frequency (MHz)

PART_15C_LORA

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	137.67	24.96	-18.54	43.50	40.50	17.96	1.23	34.73	---	--- Peak
2	282.20	24.67	-21.33	46.00	39.00	18.57	1.74	34.64	---	--- Peak
3 *	926.50	111.40	65.40	46.00	113.26	29.23	3.21	34.30	---	--- Peak

Data: 4

Level (dBuV/m)

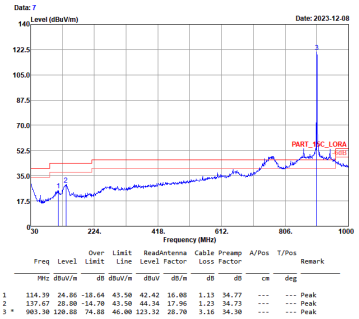
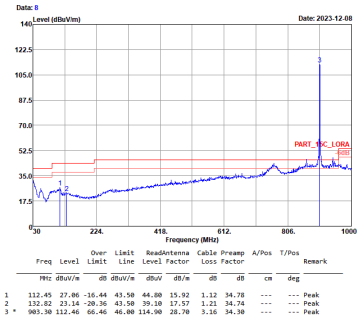
Date: 2023-10-24

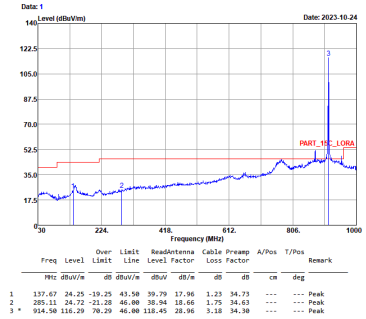
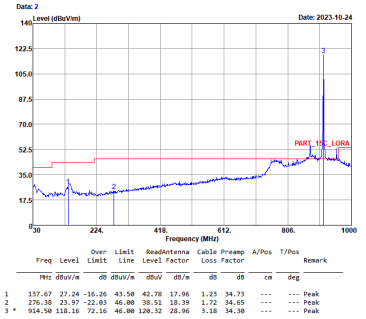
Frequency (MHz)

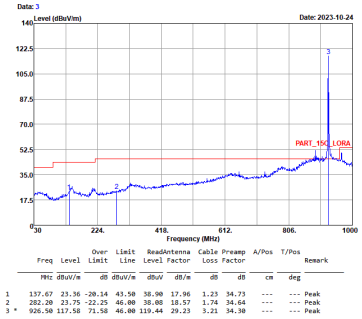
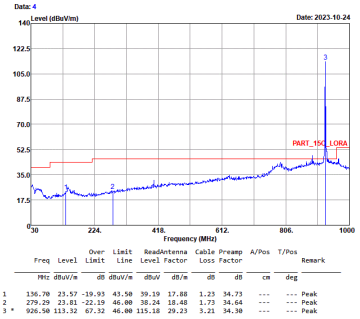
PART_15C_LORA

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	137.67	26.43	-17.07	43.50	41.97	17.96	1.23	34.73	---	--- Peak
2	266.68	24.04	-21.96	46.00	38.92	18.09	1.69	34.66	---	--- Peak
3 *	926.50	114.74	68.74	46.00	116.60	29.23	3.21	34.30	---	--- Peak

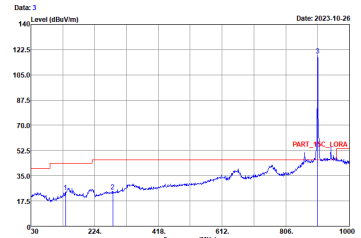
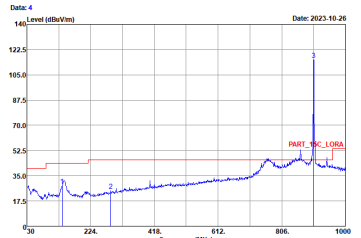
LoRa 500KHz DTS SF=11

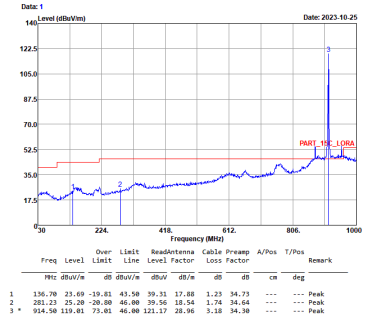
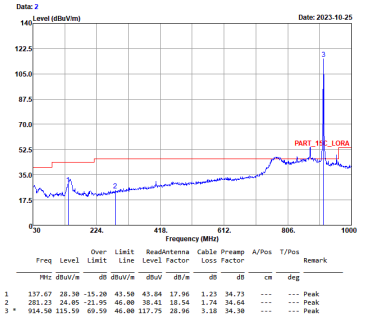
LoRa	903.3~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=11 CH01 903.3	
	Horizontal	Vertical
Peak		

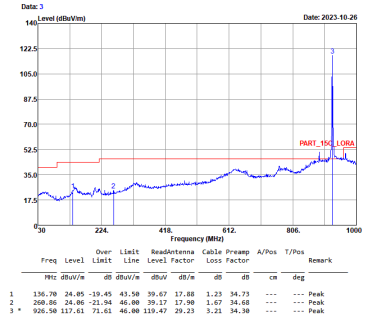
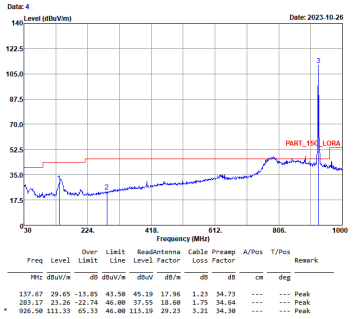
LoRa	903.3~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=11 CH16 914.5	
	Horizontal	Vertical
Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 24.25 -19.25 43.50 39.79 17.96 1.23 34.73 --- --- Peak 2 285.11 24.72 -21.28 46.00 38.94 18.66 1.75 34.63 --- --- Peak 3 * 914.50 116.29 70.29 46.00 118.45 28.96 3.18 34.30 --- --- Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 27.24 -16.26 43.50 42.78 17.96 1.23 34.73 --- --- Peak 2 276.38 23.97 -22.03 46.00 38.51 18.39 1.72 34.65 --- --- Peak 3 * 914.50 118.16 72.16 46.00 120.32 28.96 3.18 34.30 --- --- Peak

LoRa	903.3~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	LoRa 500KHz DTS SF=11 CH31 926.5	
	Horizontal	Vertical
Peak		

OFDM-LR

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	OFDM-LR CH02 903.3	
	Horizontal	Vertical
Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 135.73 23.65 -19.85 43.50 39.36 17.80 1.22 34.73 --- --- Peak 2 279.29 24.05 -21.95 46.00 38.48 18.48 1.73 34.64 --- --- Peak 3 * 903.30 118.44 72.44 46.00 120.88 28.70 3.16 34.30 --- --- Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 28.09 -15.41 43.50 43.63 17.96 1.23 34.73 --- --- Peak 2 285.11 24.44 -21.56 46.00 38.66 18.66 1.75 34.63 --- --- Peak 3 * 903.30 115.41 69.41 46.00 117.85 28.70 3.16 34.30 --- --- Peak

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	OFDM-LR CH16 914.5	
	Horizontal	Vertical
Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 136.70 23.69 -19.81 43.50 39.31 17.88 1.23 34.73 --- --- Peak 2 281.23 25.20 -20.80 46.00 39.56 18.54 1.74 34.64 --- --- Peak 3 * 914.50 119.01 73.01 46.00 121.17 28.96 3.18 34.30 --- --- Peak	 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 28.30 -15.20 43.50 43.84 17.96 1.23 34.73 --- --- Peak 2 281.23 24.05 -21.95 46.00 38.41 18.54 1.74 34.64 --- --- Peak 3 * 914.50 115.59 69.59 46.00 117.75 28.96 3.18 34.30 --- --- Peak

LoRa	902.5~926.5 (LF 30Mhz-1Ghz@ 3m)	
ANT	OFDM-LR CH31 926.5	
	Horizontal	Vertical
Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 136.70 24.05 -19.45 43.50 39.67 17.88 1.23 34.73 --- --- Peak 2 260.86 24.06 -21.94 46.00 39.17 17.90 1.67 34.68 --- --- Peak 3 * 926.50 117.61 71.61 46.00 119.47 29.23 3.21 34.30 --- --- Peak	 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 137.67 29.65 -13.85 43.50 45.19 17.96 1.23 34.73 --- --- Peak 2 283.17 23.26 -22.74 46.00 37.55 18.60 1.75 34.64 --- --- Peak 3 * 926.50 111.33 65.33 46.00 113.19 29.23 3.21 34.30 --- --- Peak