Radio Test Report

Report No.:STS2501161W02

Issued for

Orbit Irrigation Product Inc.

845N. Overland Road, North Salt Lake, Utah 84054 USA

Product Name:	CMS Control Unit
Brand Name:	Hydro-Rain
Model Name:	CMS-CU
Series Model(s):	N/A
FCC ID:	ML6CMSCU2
Test Standards:	FCC Part15.247

TEST REPORT

Applicant's Name .....: Orbit Irrigation Product Inc.

Address.....: 845N. Overland Road, North Salt Lake, Utah 84054 USA

Manufacturer's Name.....: GARDENA Inc.

Address.....: 845 N Overland Road., North Salt Lake, Utah 84054 USA

Product Description

Product Name .....: CMS Control Unit

Brand Name.....: Hydro-Rain

Model Name.....: CMS-CU

Series Model(s) .....: N/A

Standards .....: FCC Part15.247

Test Procedure.....: ANSI C63.10-2020

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Shenzhen STS Test Services Co., Ltd.

Date of Test.....:

Date of receipt of test item.....: 22 Jan. 2025

Date (s) of performance of tests : 22 Jan. 2025 ~ 04 June 2025

Date of Issue .....: 04 June 2025

Test Result .....: Pass

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Skylar Li

(Skylar Li)

Authorized Signatory : Bovey Yang

(Bovey Yang)

SHENZHEN STS TEST SERVICES CO., LTD. TESTING APPROVAL

Table of Contents Page

Table of Contents Page

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	04 June 2025	STS2501161W02	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
KDB 558074 D01 15.247 Meas Guidance v05r02.

FCC Part 15.247,Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.247(a)(1)	Hopping Channel Separation	PASS	--
15.247(a)(1)&(b)(2)	Output Power	PASS	--
15.209	Radiated Spurious Emission	PASS	--
15.247(d)	Conducted Spurious & Band Edge Emission	PASS	--
15.247(a)(1)	Number of Hopping Frequency	PASS	--
15.247(a)(1)	Dwell Time	PASS	--
15.247(a)(1)	Bandwidth	PASS	--
Part 15.247(d)/part 15.209(a)	Band Edge Emission	PASS	--
15.203	Antenna Requirement	PASS	--

Note:

(1) 'N/A' denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2020.

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ±U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.755dB
2	Unwanted Emissions, conducted	±2.874dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.18dB
5	All emissions, radiated 1G-6GHz	±4.90dB
6	All emissions, radiated>6G	±5.24dB
7	Conducted Emission (9KHz-150KHz)	±2.19dB
8	Conducted Emission (150KHz-30MHz)	±2.53dB
9	Occupied Channel Bandwidth	±3.5%
10	Dwell time	±3.2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	CMS Control Unit
Brand Name	Hydro-Rain
Model Name	CMS-CU
Series Model(s)	N/A
Model Difference	N/A
Channel List	Please refer to the Note 3.
Frequency:	902.3 – 914.9 MHz
Modulation	LORA
Antenna Type	FPC
Antenna Gain	0.2dBi
Power Rating	Input: 3.3-6V DC, or Battery: 6 Alkaline AA batteries
Adapter	N/A
Battery	N/A
Hardware version number	008
Software version number	1.0
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
2. The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	902.3	17	905.7	34	909.1	51	912.5
1	902.5	18	905.9	35	909.3	52	912.7
2	902.7	19	906.1	36	909.5	53	912.9
3	902.9	20	906.3	37	909.7	54	913.1
4	903.1	21	906.5	38	909.9	55	913.3
5	903.3	22	906.7	39	910.1	56	913.5
6	903.5	23	906.9	40	910.3	57	913.7
7	903.7	24	907.1	41	910.5	58	913.9
8	903.9	25	907.3	42	910.7	59	914.1
9	904.1	26	907.5	43	910.9	60	914.3
10	904.3	27	907.7	44	911.1	61	914.5
11	904.5	28	907.9	45	911.3	62	914.7
12	904.7	29	908.1	46	911.5	63	914.9
13	904.9	30	908.3	47	911.7	---	----
14	905.1	31	908.5	48	911.9	---	----
15	905.3	32	908.7	49	912.1	---	----
16	905.5	33	908.9	50	912.3	---	----

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Description	Data Rate/Modulation
Mode 1	TX CH0	LORA
Mode 2	TX CH32	LORA
Mode 3	TX CH63	LORA
Mode 4	Hopping	LORA

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(2) We tested for all available U.S. voltage and frequencies (For 120V, 50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/ 60Hz is shown in the report.

For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 5 : Keeping LoRa TX

2.3 FREQUENCY HOPPING SYSTEM REQUIREMENTS

(1)Standard and Limit

According to FCC Part 15.247(a)(1), The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

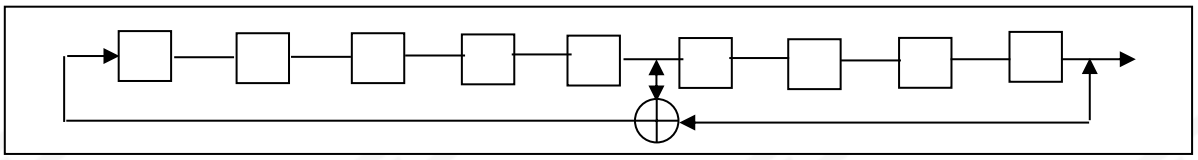
The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

(2)The Pseudorandom sequence may be generated in a nin-stage shift register whose 5^{th} and 9^{th} stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones: i.e. the shift register is initialized with nine ones.

Numver of shift register stages:9

Length of pseudo-random sequence:2^9-1=511bits

Longest sequence of zeros: 8(non-inverted signal)



....

Each frequency used equally on th average by each transmitter.
The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies ini synchronization with the transmitted signals.

(3)Frequency Hopping System
This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule.

Adaptive Frequency Hopping (AFH) was introduced in the Hopping specification to provide an effective way for a Hopping radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Hopping signal or the Hopping signal is interfering with another device. The AFH-enabled Hopping device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with a Hopping system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements FCC Part 15.247 rule.

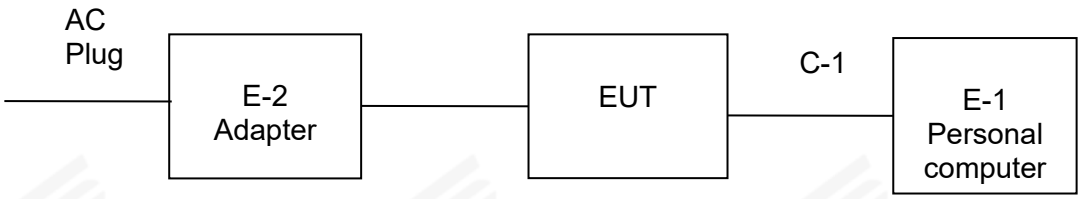
2.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS.

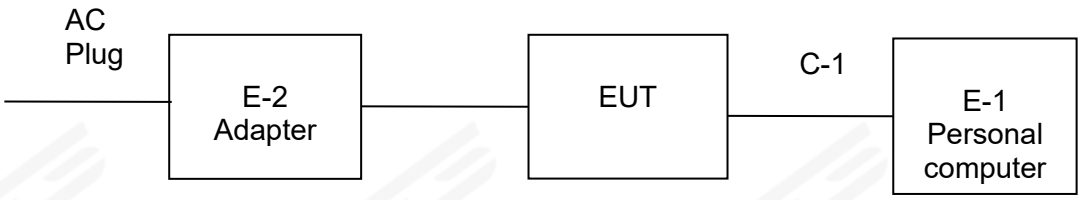
RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
SRD	LORA	LORA	0.2	22	commGui
				22	
				22	

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Conducted Emission Test



2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Personal computer	DELL	Inspiron 3501	N/A
E-2	Adapter	Orbit Irrigation Product Inc.	ALT-0503	N/A
C-1	Serial port board	XES	WTYZK	N/A

Item	Shielded Type	Ferrite Core	Length	Note
N/A	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.

(2) “YES” is means “with core”; “NO” is means “without core”.

101, Building B, Zhuoke Science Park, No. 190 Chongqing Road, Zhancheng Shequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755 3688 6288 Fax: +86-755 3688 6277 Http://www.stsapp.com E-mail:sts@stsapp.com

2.7 EQUIPMENTS LIST

RF Radiation Test Equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2025.02.22	2026.02.21
Pre-Amplifier(1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2024.09.23	2025.09.22
Pre-Amplifier(18G-40GHz)	SKET	LNPA_1840-50	SK2018101801	2025.02.22	2026.02.21
Active loop Antenna	ZHINAN	ZN30900C	16035	2025.02.25	2026.02.24
Bilog Antenna	TESEQ	CBL6111D	34678	2024.09.30	2025.09.29
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2023.09.24	2025.09.23
Horn Antenna	A-INFOMW	LB-180400-KF	J211020657	2023.10.10	2025.10.09
Positioning Controller	MF	MF-7802	MF-780208587	N/A	N/A
Signal Analyzer	R&S	FSV 40-N	101823	2024.09.23	2025.09.22
Switch Control Box	N/A	N/A	N/A	N/A	N/A
Filter Box	BALUN Technology	SU319E	BL-SZ1530051	N/A	N/A
Antenna Mast	MF	MFA-440H	N/A	N/A	N/A
Turn Table	MF	SC100_1	60531	N/A	N/A
AC Power Source	APC	KDF-11010G	F214050035	N/A	N/A
DC power supply	HONGSHENGFENG	DPS-305AF	17064939	2024.09.23	2025.09.22
Test SW	EZ-EMC	Ver.STSLAB-03A1 RE			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2024.09.24	2025.09.23
Limtter	CYBERTEK	EM5010	N/A	2024.09.24	2025.09.23
LISN	R&S	ENV216	101242	2024.09.24	2025.09.23
LISN	EMCO	3810/2NM	23625	2024.09.24	2025.09.23
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Test SW	EZ-EMC	Ver.STSLAB-03A1 CE			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Signal Analyzer	Agilent	N9020A	MY51510623	2025.02.22	2026.02.21
Power detector group	Keysight	NW2021031	N/A	2024.09.23	2025.09.22
Switch control box	MW	MW100-RFCB	N/A	N/A	N/A
Temperature & Humidity	SW-108	SuWei	N/A	2025.02.24	2026.02.23
Test SW	MW	MTS 8310_2.0.0.0			

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

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 (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

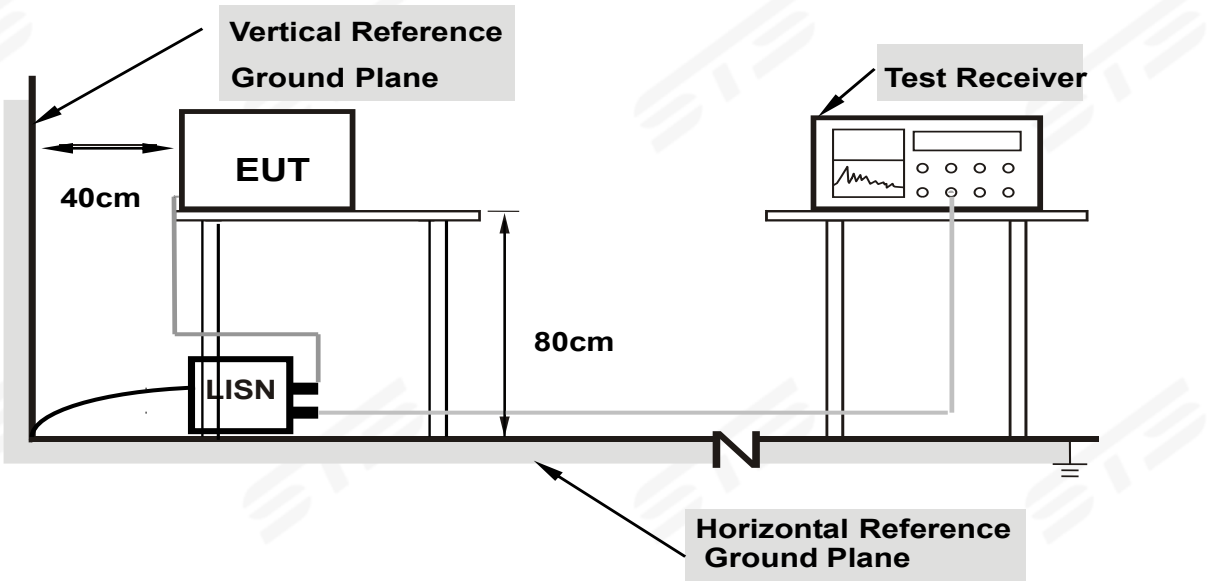
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.4 EUT OPERATING CONDITIONS

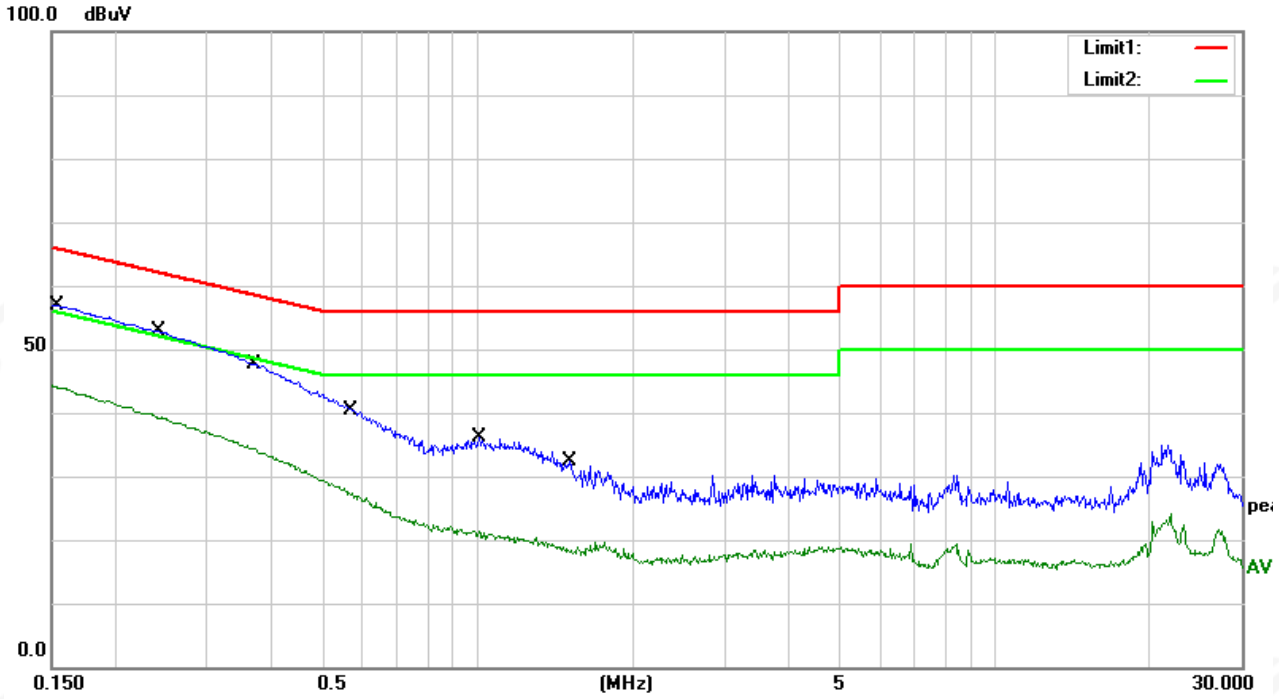
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.5 TEST RESULT

Temperature:	26.1℃	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 5		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1556	36.97	19.75	56.72	65.70	-8.98	QP
2	0.1556	24.53	19.75	44.28	55.70	-11.42	AVG
3	0.2420	32.80	20.03	52.83	62.03	-9.20	QP
4	0.2420	19.97	20.03	40.00	52.03	-12.03	AVG
5	0.3700	27.53	20.11	47.64	58.50	-10.86	QP
6	0.3700	14.66	20.11	34.77	48.50	-13.73	AVG
7	0.5780	20.48	19.91	40.39	56.00	-15.61	QP
8	0.5780	8.30	19.91	28.21	46.00	-17.79	AVG
9	1.0060	16.36	19.77	36.13	56.00	-19.87	QP
10	1.0060	1.61	19.77	21.38	46.00	-24.62	AVG
11	1.5100	12.58	19.83	32.41	56.00	-23.59	QP
12	1.5100	-0.28	19.83	19.55	46.00	-26.45	AVG

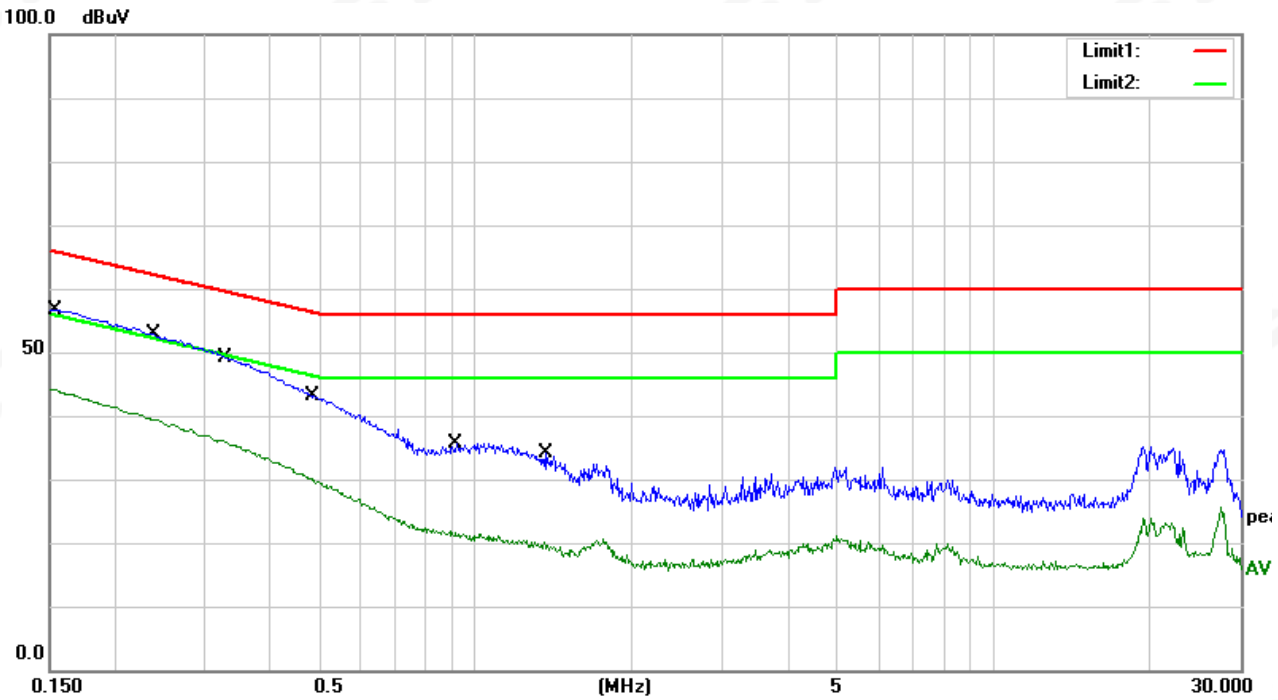
Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



Temperature:	26.1℃	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 5		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1540	36.92	19.75	56.67	65.78	-9.11	QP
2	0.1540	24.43	19.75	44.18	55.78	-11.60	AVG
3	0.2404	32.58	20.02	52.60	62.08	-9.48	QP
4	0.2404	20.10	20.02	40.12	52.08	-11.96	AVG
5	0.3321	28.80	20.19	48.99	59.40	-10.41	QP
6	0.3321	15.87	20.19	36.06	49.40	-13.34	AVG
7	0.4900	23.00	19.97	42.97	56.17	-13.20	QP
8	0.4900	10.26	19.97	30.23	46.17	-15.94	AVG
9	0.9220	15.87	19.79	35.66	56.00	-20.34	QP
10	0.9220	2.01	19.79	21.80	46.00	-24.20	AVG
11	1.3660	14.24	19.81	34.05	56.00	-21.95	QP
12	1.3660	0.84	19.81	20.65	46.00	-25.35	AVG

Remark:
1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205 (a)&209(a) limit in the table and according to ANSI C63.10-2020 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP/AV
Start Frequency	9 KHz/150KHz(Peak/QP/AV)
Stop Frequency	150KHz/30MHz(Peak/QP/AV)
RB / VB (emission in restricted band)	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz); 200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/QP
Start Frequency	30 MHz(Peak/QP)
Stop Frequency	1000 MHz (Peak/QP)
RB / VB (emission in restricted band)	120 KHz / 300 KHz

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 3 MHz(Peak) 1 MHz/1/T MHz(AVG)

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

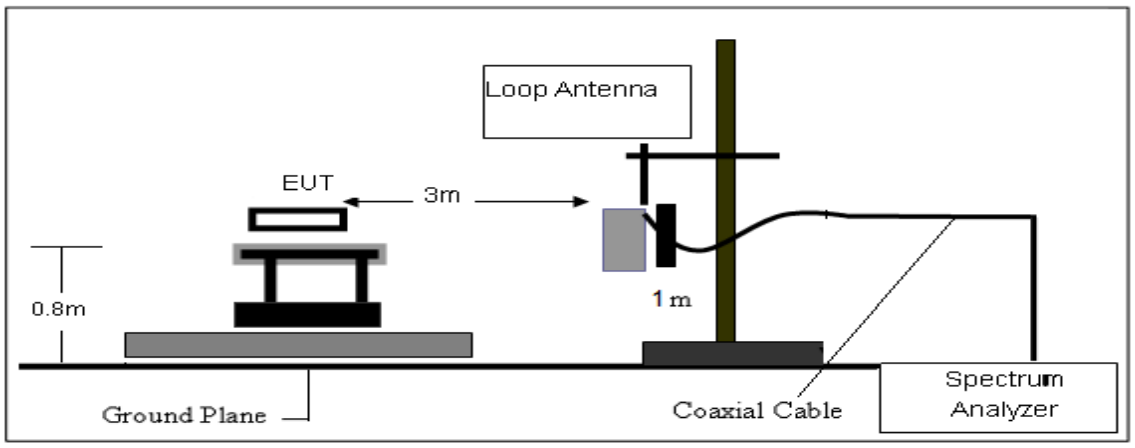
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

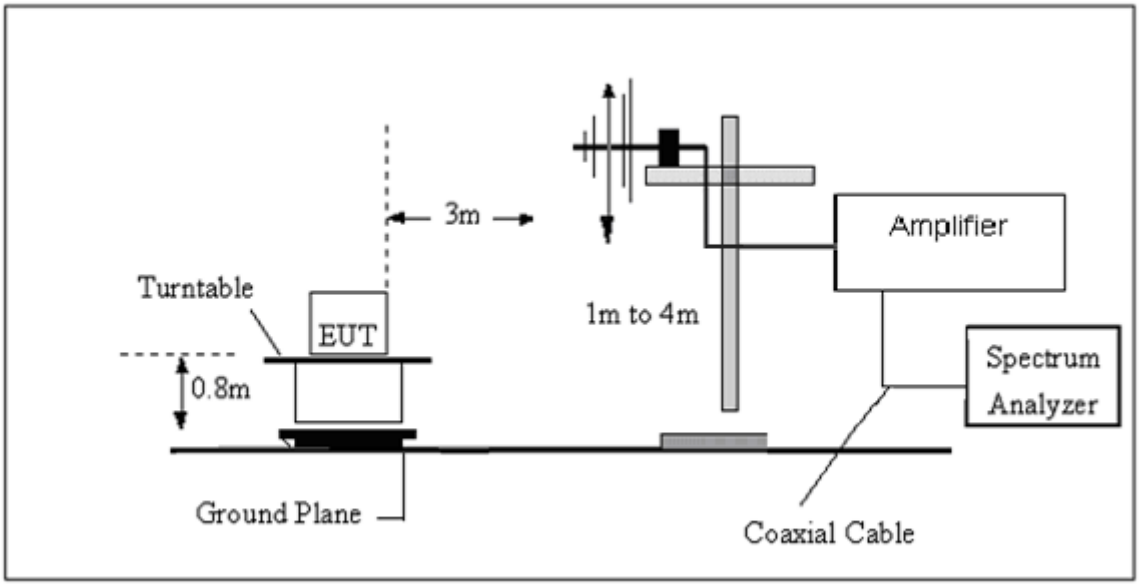
No deviation.

3.2.4 TESTSETUP

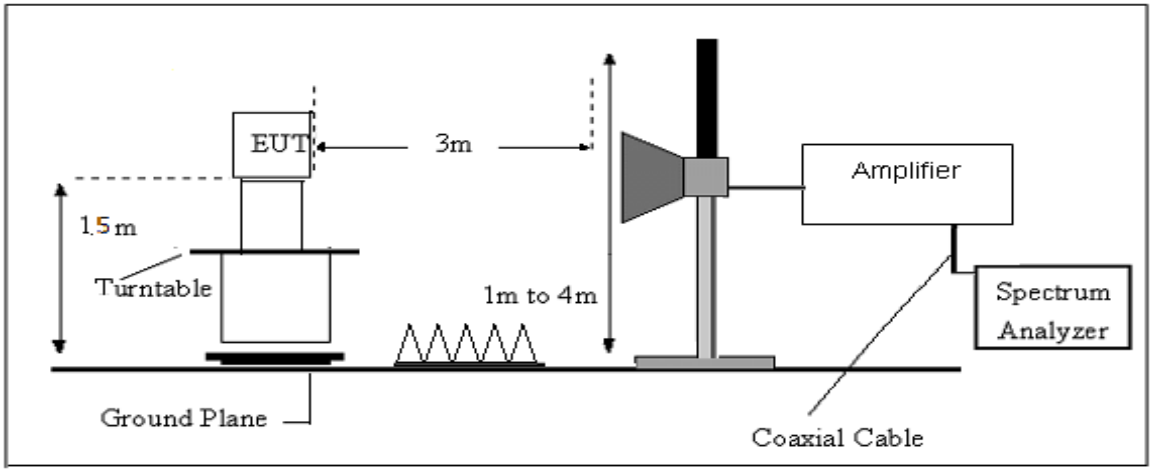
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

Please refer to section 3.1.4 of this report.

3.2.6 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.7 TEST RESULTS

(9KHz-30MHz)

Temperature:	23.4℃	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Test Mode:	TX Mode

Freq.	Reading	Limit	Margin	State	Test Result
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F	
--	--	--	--	--	PASS
--	--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits (dBuv) + distance extrapolation factor.

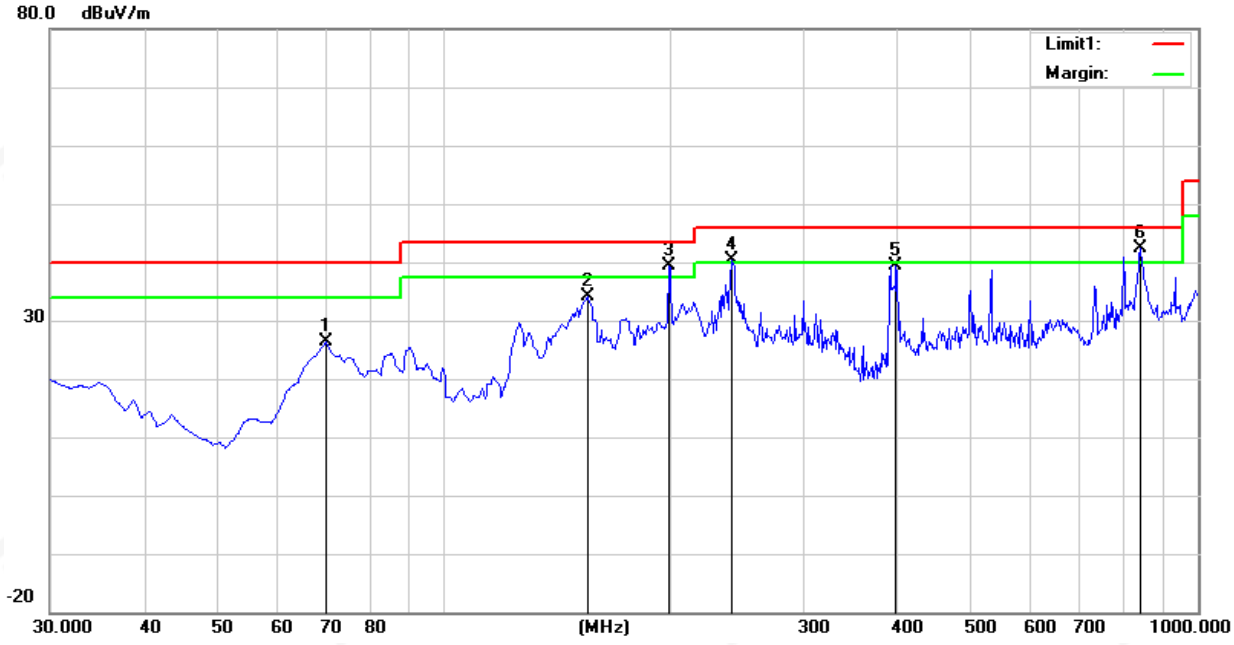
(30MHz-1000MHz)

Temperature:	23.4℃	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	Horizontal
Test Mode:	Mode 1/2/3(Mode 1 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	69.7700	51.26	-24.91	26.35	40.00	-13.65	peak
2	155.1300	52.70	-18.63	34.07	43.50	-9.43	peak
3	198.7800	60.47	-21.12	39.35	43.50	-4.15	peak
4	241.4600	58.04	-17.73	40.31	46.00	-5.69	peak
5	398.6000	50.49	-11.20	39.29	46.00	-6.71	peak
6	839.9500	42.60	-0.34	42.26	46.00	-3.74	peak

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain
3. All modes have been tested,only show the worst case.

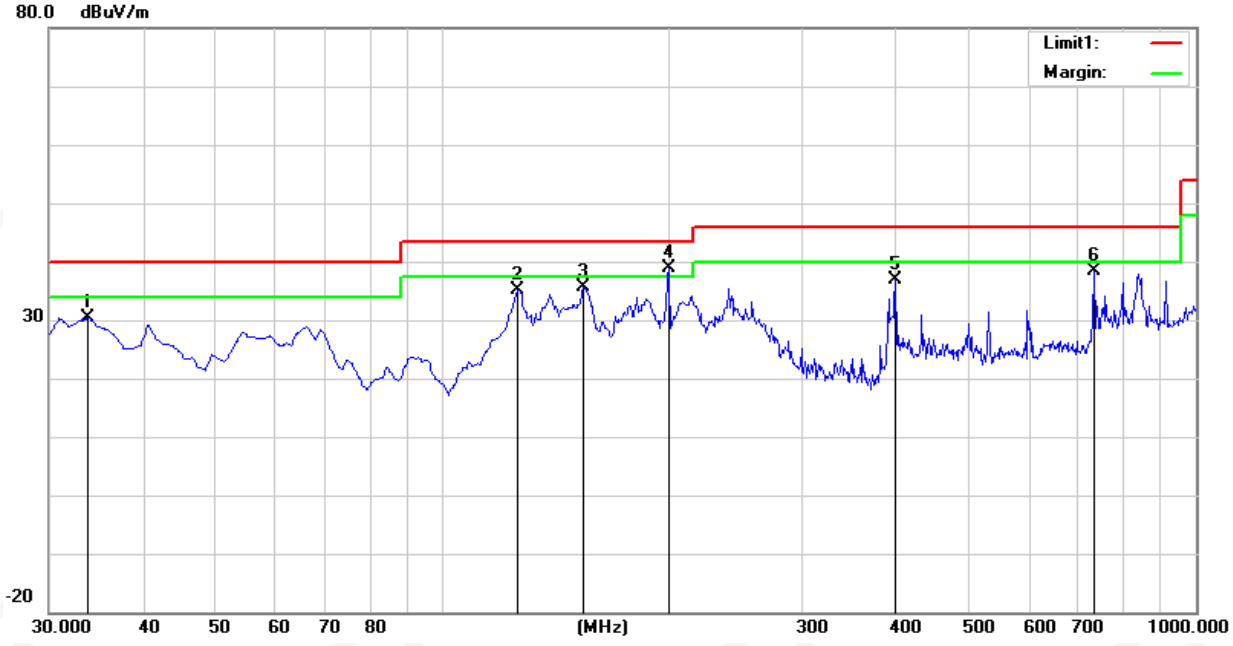


Temperature:	23.4℃	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	Vertical
Test Mode:	Mode 1/2/3(Mode 1 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	33.8800	45.16	-14.80	30.36	40.00	-9.64	peak
2	126.0300	53.43	-18.22	35.21	43.50	-8.29	peak
3	154.1600	54.27	-18.60	35.67	43.50	-7.83	peak
4	199.7500	59.98	-21.11	38.87	43.50	-4.63	peak
5	399.5700	47.98	-11.16	36.82	46.00	-9.18	peak
6	732.2800	40.76	-2.39	38.37	46.00	-7.63	peak

Remark:

4. Margin = Result (Result =Reading + Factor)–Limit
5. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain
6. All modes have been tested,only show the worst case.



(1GHz~25GHz) Spurious emission Requirements

Frequency	Meter Reading	Amplifier	Loss	Antenna Factor	Corrected Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV)	(dB)	(dB)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	Type	
Low Channel (902.3 MHz)										
1226.36	62.10	44.70	6.70	28.20	-9.80	52.30	74.00	-21.70	PK	Vertical
1226.36	51.17	44.70	6.70	28.20	-9.80	41.37	54.00	-12.63	AV	Vertical
1226.33	61.16	44.70	6.70	28.20	-9.80	51.36	74.00	-22.64	PK	Horizontal
1226.33	50.43	44.70	6.70	28.20	-9.80	40.63	54.00	-13.37	AV	Horizontal
1804.73	58.21	44.20	9.04	31.60	-3.56	54.65	74.00	-19.35	PK	Vertical
1804.73	50.15	44.20	9.04	31.60	-3.56	46.59	54.00	-7.41	AV	Vertical
1804.77	58.38	44.20	9.04	31.60	-3.56	54.82	74.00	-19.18	PK	Horizontal
1804.77	49.61	44.20	9.04	31.60	-3.56	46.05	54.00	-7.95	AV	Horizontal
2013.35	49.07	44.20	9.86	32.00	-2.34	46.73	74.00	-27.27	PK	Vertical
2013.35	39.16	44.20	9.86	32.00	-2.34	36.81	54.00	-17.19	AV	Vertical
2013.38	48.41	44.20	9.86	32.00	-2.34	46.07	74.00	-27.93	PK	Horizontal
2013.38	38.61	44.20	9.86	32.00	-2.34	36.26	54.00	-17.74	AV	Horizontal
2706.87	53.60	43.50	11.40	35.50	3.40	57.00	74.00	-17.00	PK	Vertical
2706.87	44.09	43.50	11.40	35.50	3.40	47.49	54.00	-6.51	AV	Vertical
2706.77	54.17	43.50	11.40	35.50	3.40	57.57	74.00	-16.43	PK	Horizontal
2706.77	44.37	43.50	11.40	35.50	3.40	47.77	54.00	-6.23	AV	Horizontal
Middle Channel (908.7 MHz)										
1235.04	61.11	44.70	6.70	28.20	-9.80	51.31	74.00	-22.69	PK	Vertical
1235.04	50.99	44.70	6.70	28.20	-9.80	41.19	54.00	-12.81	AV	Vertical
1235.09	60.82	44.70	6.70	28.20	-9.80	51.02	74.00	-22.98	PK	Horizontal
1235.09	50.91	44.70	6.70	28.20	-9.80	41.11	54.00	-12.89	AV	Horizontal
1817.53	59.45	44.20	9.04	31.60	-3.56	55.89	74.00	-18.11	PK	Vertical
1817.53	49.92	44.20	9.04	31.60	-3.56	46.36	54.00	-7.64	AV	Vertical
1817.55	58.53	44.20	9.04	31.60	-3.56	54.97	74.00	-19.03	PK	Horizontal
1817.55	49.33	44.20	9.04	31.60	-3.56	45.77	54.00	-8.23	AV	Horizontal
2027.64	48.63	44.20	9.86	32.00	-2.34	46.29	74.00	-27.71	PK	Vertical
2027.64	39.35	44.20	9.86	32.00	-2.34	37.00	54.00	-17.00	AV	Vertical
2027.59	48.35	44.20	9.86	32.00	-2.34	46.00	74.00	-28.00	PK	Horizontal
2027.59	38.07	44.20	9.86	32.00	-2.34	35.73	54.00	-18.27	AV	Horizontal
2726.05	54.80	43.50	11.40	35.50	3.40	58.20	74.00	-15.80	PK	Vertical
2726.05	43.56	43.50	11.40	35.50	3.40	46.96	54.00	-7.04	AV	Vertical
2726.02	54.46	43.50	11.40	35.50	3.40	57.86	74.00	-16.14	PK	Horizontal
2726.02	43.54	43.50	11.40	35.50	3.40	46.94	54.00	-7.06	AV	Horizontal

High Channel (914.9 MHz)										
1243.48	61.96	44.70	6.70	28.20	-9.80	52.16	74.00	-21.84	PK	Vertical
1243.48	51.49	44.70	6.70	28.20	-9.80	41.69	54.00	-12.31	AV	Vertical
1243.45	61.08	44.70	6.70	28.20	-9.80	51.28	74.00	-22.72	PK	Horizontal
1243.45	51.24	44.70	6.70	28.20	-9.80	41.44	54.00	-12.56	AV	Horizontal
1830.02	58.54	44.20	9.04	31.60	-3.56	54.98	74.00	-19.02	PK	Vertical
1830.02	50.29	44.20	9.04	31.60	-3.56	46.73	54.00	-7.27	AV	Vertical
1830.01	58.83	44.20	9.04	31.60	-3.56	55.27	74.00	-18.73	PK	Horizontal
1830.01	49.19	44.20	9.04	31.60	-3.56	45.63	54.00	-8.37	AV	Horizontal
2041.43	48.57	44.20	9.86	32.00	-2.34	46.22	74.00	-27.78	PK	Vertical
2041.43	39.10	44.20	9.86	32.00	-2.34	36.76	54.00	-17.24	AV	Vertical
2041.50	47.87	44.20	9.86	32.00	-2.34	45.52	74.00	-28.48	PK	Horizontal
2041.50	39.14	44.20	9.86	32.00	-2.34	36.79	54.00	-17.21	AV	Horizontal
2744.59	54.62	43.50	11.40	35.50	3.40	58.02	74.00	-15.98	PK	Vertical
2744.59	43.93	43.50	11.40	35.50	3.40	47.33	54.00	-6.67	AV	Vertical
2744.63	54.87	43.50	11.40	35.50	3.40	58.27	74.00	-15.73	PK	Horizontal
2744.63	44.19	43.50	11.40	35.50	3.40	47.59	54.00	-6.41	AV	Horizontal

Note:

1) All modes have been measurement, only worst mode was reported.
2) Factor = Antenna Factor + Cable Loss – Pre-amplifier.
   Emission Level = Reading + Factor
3) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

4. CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 LIMIT

According to FCC section 15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 806.3-906.3 MHz Upper Band Edge: 910.9-1010.9 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Hopping Band edge

For Hopping Band edge	For Hopping Band edge
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 806.3-906.3 MHz Upper Band Edge: 910.9-1010.9 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

4.3 TEST SETUP

The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Tune the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, the span is set to be greater than RBW.

4.4 EUT OPERATION CONDITIONS
Please refer to section 3.1.4 of this report.

4.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

5. NUMBER OF HOPPING CHANNEL

5.1 LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)	Number of Hopping Channel	250KHz＞20 dB bandwidth ≥50 channels	902-928	PASS
		250KHz≤20 dB bandwidth＜500KHz ≥25 channels		

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating FrequencyRange
RB	100KHz
VB	300KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

5.3 TEST SETUP

5.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

5.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

6. AVERAGE TIME OF OCCUPANCY

6.1 LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	FrequencyRange (MHz)	Result
15.247 (a)(1)(i)	Average Time of Occupancy	0.4sec	902-928	PASS

6.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyzer.
b. Set RBW =1MHz/VBW =3MHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.

The Dwell Time=Burst Width*Total Hops.The detailed calculations are showed as follows:
Dwell Time Calculate formula:
Dwell time = pulse time (ms) x pulse number in 20s

6.3 TEST SETUP

6.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

6.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

7. HOPPING CHANNEL SEPARATION MEASUREMEN

7.1 LIMIT

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> 20 dB Bandwidth or Channel Separation
RB	5.1kHz (20dB Bandwidth) / 5.1 kHz (Channel Separation)
VB	15 kHz (20dB Bandwidth) / 15 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
b. The resolution bandwidth of 5.1 kHz and the video bandwidth of 15 kHz were utilised for 20 dB bandwidth measurement.
c. The resolution bandwidth of 5.1 kHz and the video bandwidth of 15 kHz were utilised for channel separation measurement.

7.3 TEST SETUP

7.4 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

8. BANDWIDTH TEST

8.1 LIMIT

FCC Part15 15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)	Bandwidth	250KHz＞20 dB bandwidth ≥50 channels	902-928	PASS
		250KHz≤20 dB bandwidth＜500KHz ⩾25 channels		N/A

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	5.1kHz (20dB Bandwidth) / 5.1 kHz (Channel Separation)
VB	15 kHz (20dB Bandwidth) / 15 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 5.1KHz, VBW=15KHz, Sweep time = Auto.

8.3 TEST SETUP

8.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

8.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

9. OUTPUT POWER TEST

9.1 LIMIT

FCC Part 15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(2)	Output Power	⩾hopping channels 50 1 W	902-928	PASS
		25⩽hopping channels＜50 0.25 W		

9.2 TEST PROCEDURE

This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:

a) Use the following spectrum analyzer settings:

1) Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.

2) RBW > 20 dB bandwidth of the emission being measured.

3) VBW ≥ RBW.

4) Sweep: Auto.

5) Detector function: Peak.

6) Trace: Max hold.

b) Allow trace to stabilize.

c) Use the marker-to-peak function to set the marker to the peak of the emission.

d) The indicated level is the peak output power, after any corrections for external attenuators and cables.

e) A plot of the test results and setup description shall be included in the test report.

Note—A peak responding power meter may be used, where the power meter and sensor system video bandwidth is greater than the occupied bandwidth of the unlicensed wireless device, rather than a spectrum analyzer.

9.3 TEST SETUP

9.4 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

9.5 TEST RESULTS

Note: The test data please refer to APPENDIX 1.

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.

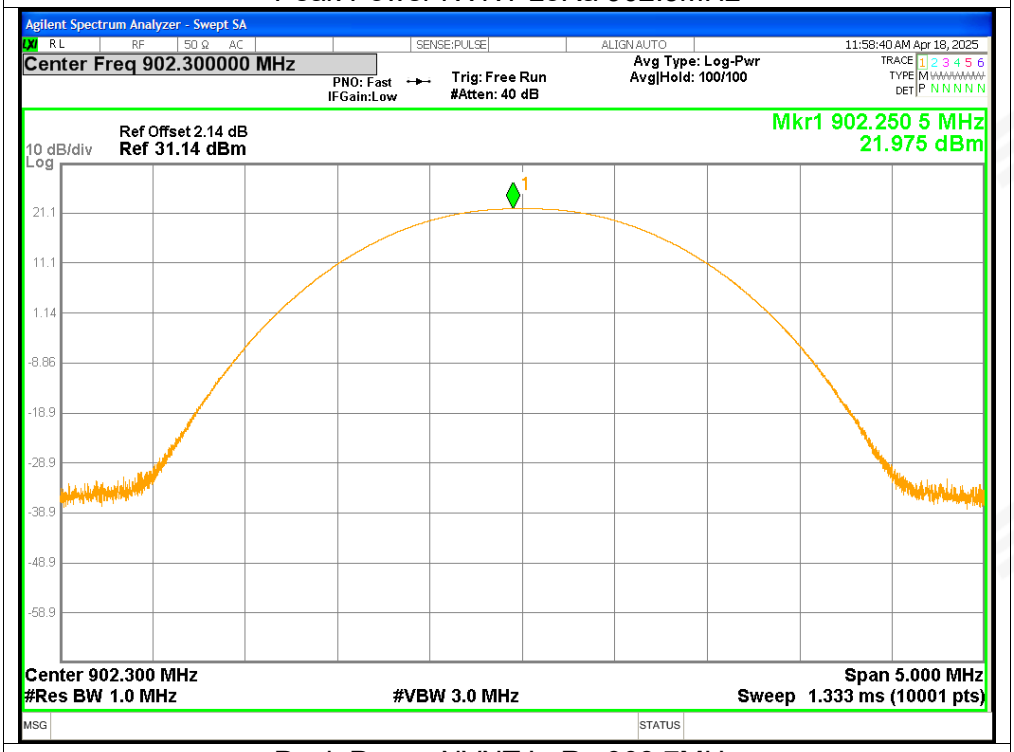
APPENDIX 1-TEST DATA

1. Maximum Peak Conducted Output Power

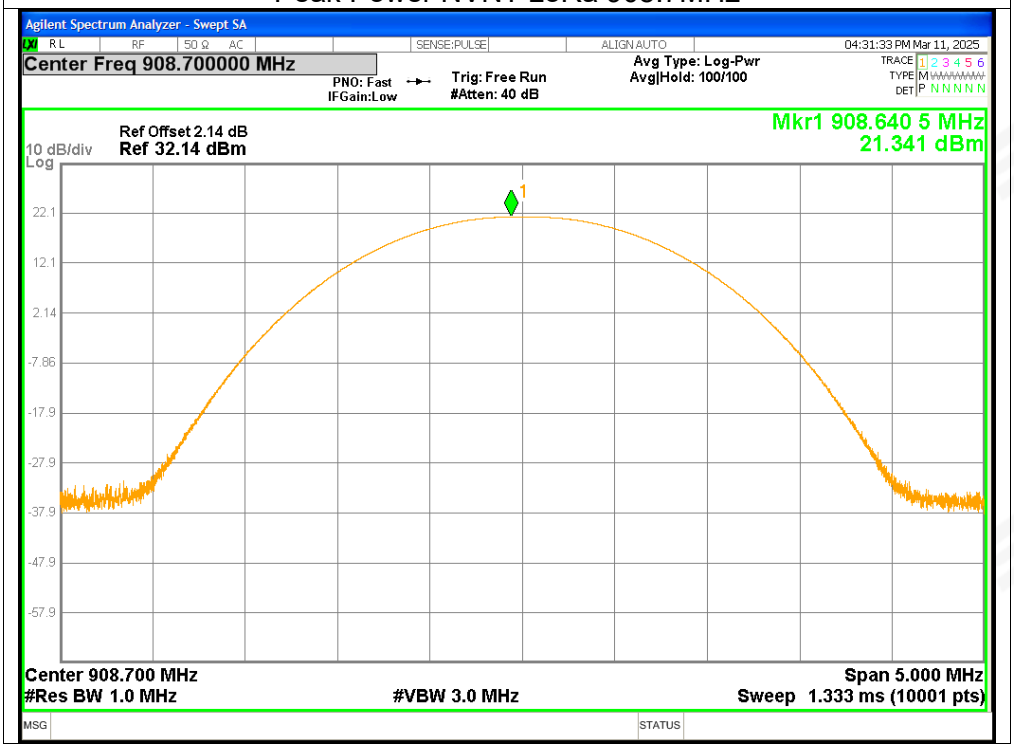
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	LoRa	902.3	21.98	<=30	Pass
NVNT	LoRa	908.7	21.34	<=30	Pass
NVNT	LoRa	914.9	21.3	<=30	Pass

Test Graphs

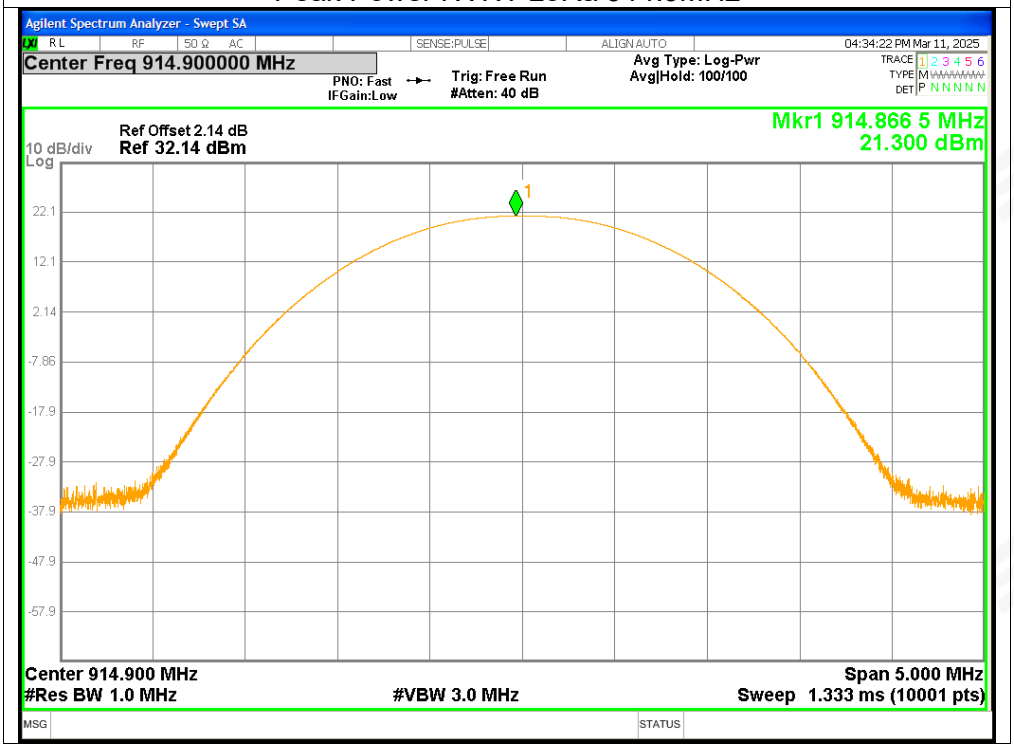
Peak Power NVNT LoRa 902.3MHz



Peak Power NVNT LoRa 908.7MHz



Peak Power NVNT LoRa 914.9MHz

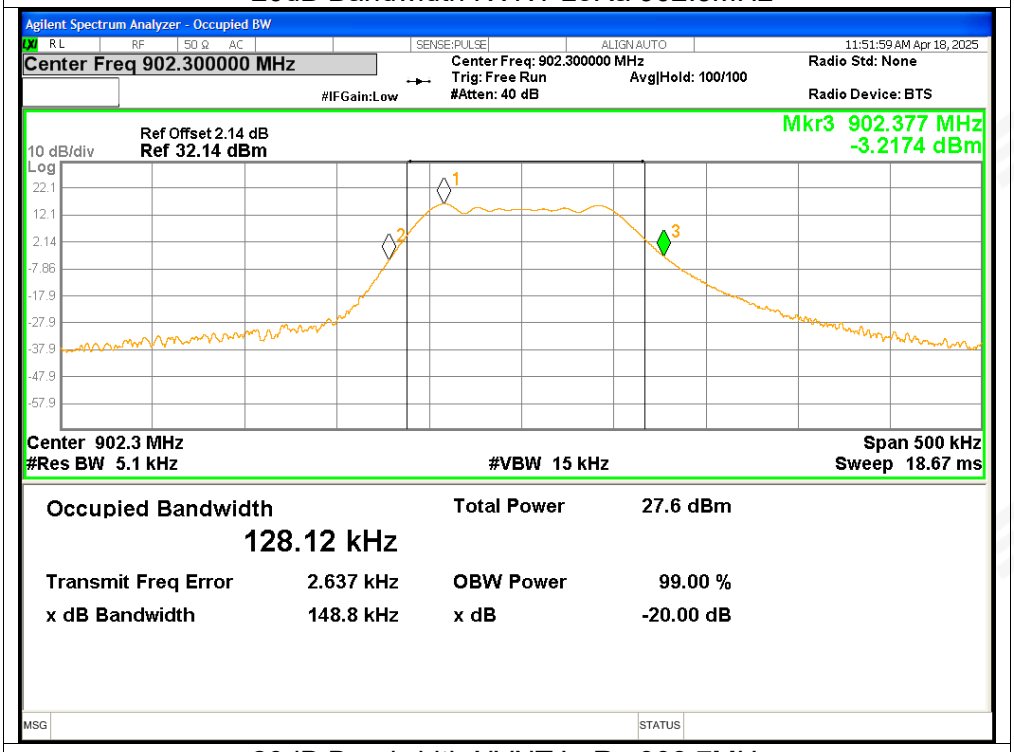


2. -20dB Bandwidth

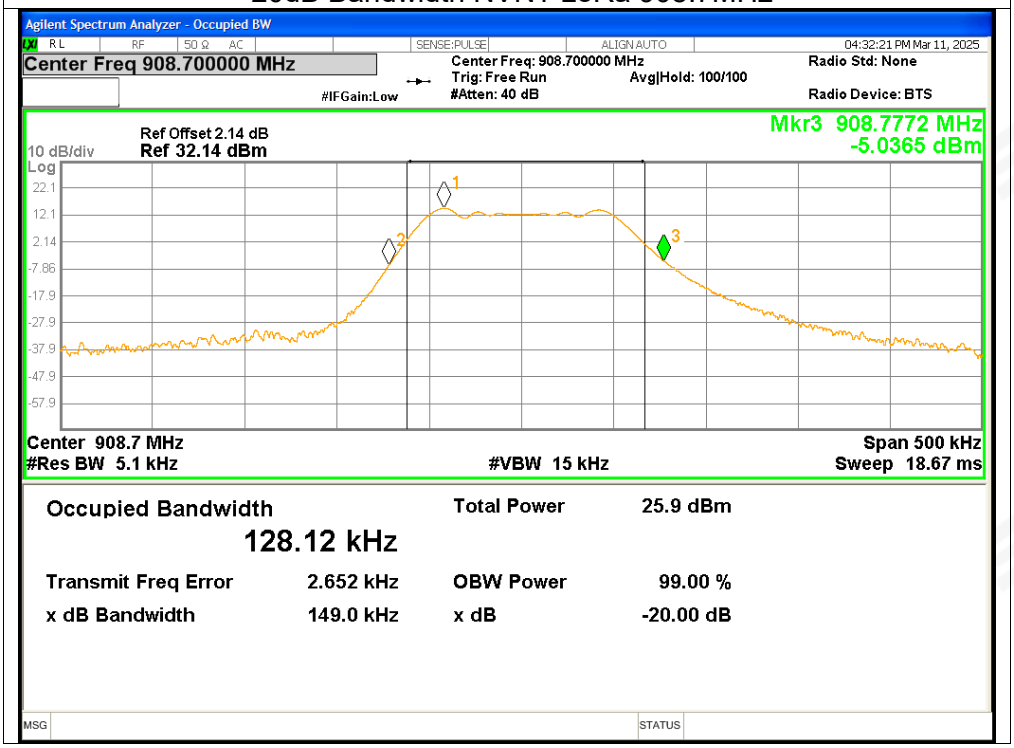
Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	LoRa	902.3	0.1488	Pass
NVNT	LoRa	908.7	0.149	Pass
NVNT	LoRa	914.9	0.1484	Pass

Test Graphs

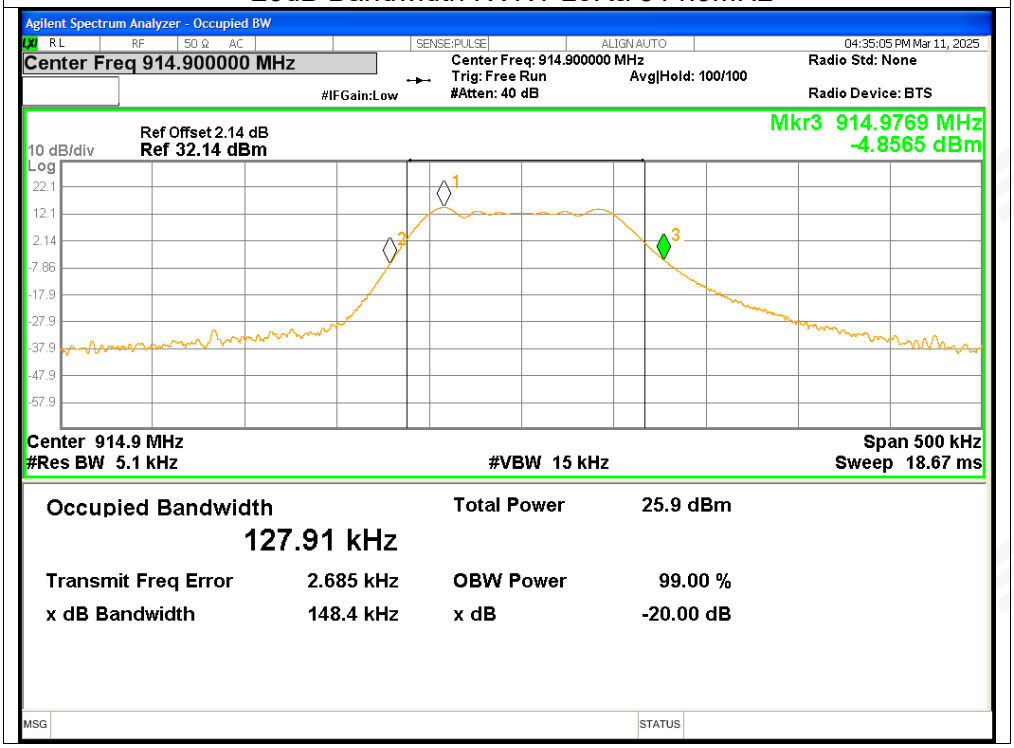
-20dB Bandwidth NVNT LoRa 902.3MHz



-20dB Bandwidth NVNT LoRa 908.7MHz



-20dB Bandwidth NVNT LoRa 914.9MHz

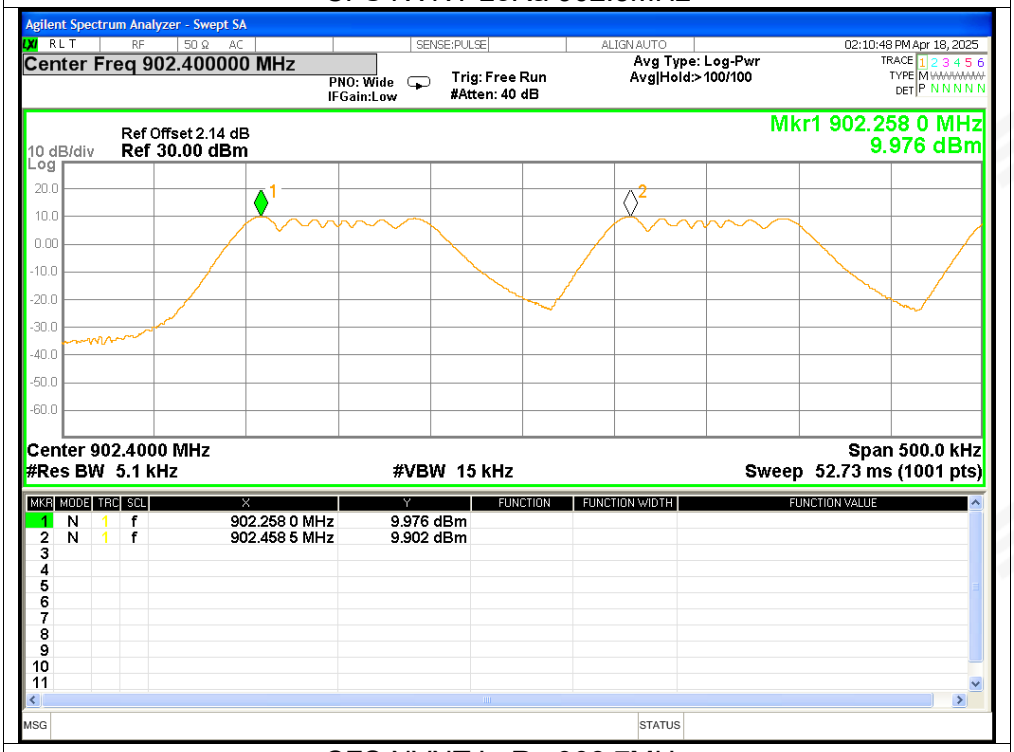


3. Carrier Frequencies Separation

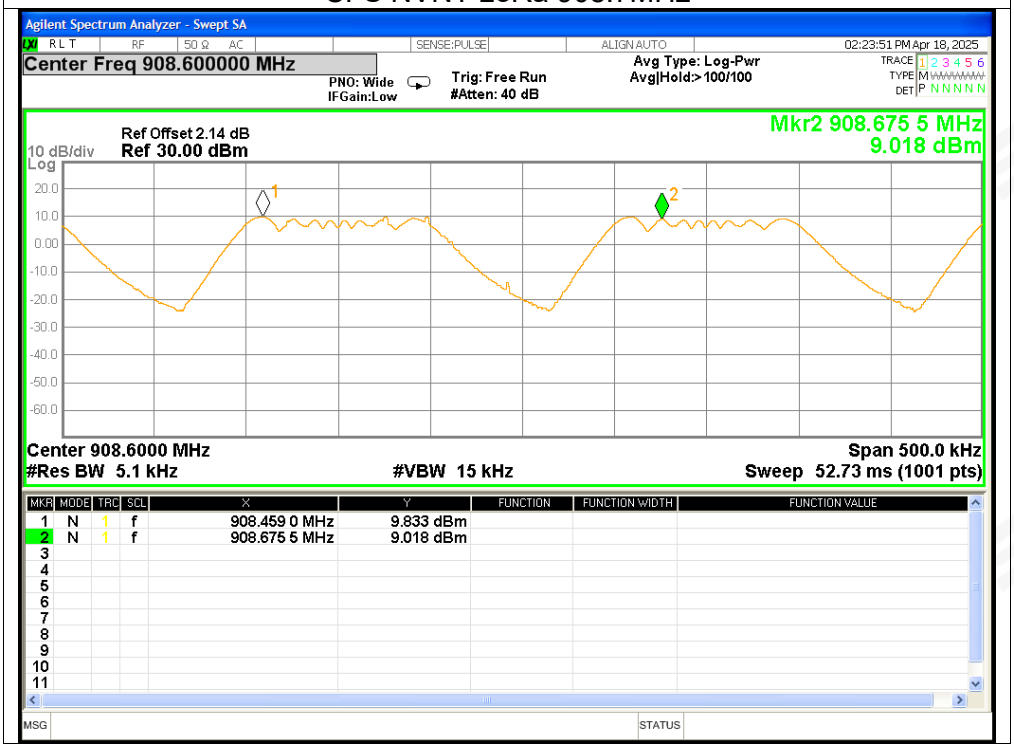
Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	LoRa	902.2580	902.4585	0.2005	>=0.1488	Pass
NVNT	LoRa	908.4590	908.6755	0.2165	>=0.149	Pass
NVNT	LoRa	914.6585	914.8580	0.1995	>=0.1484	Pass

Test Graphs

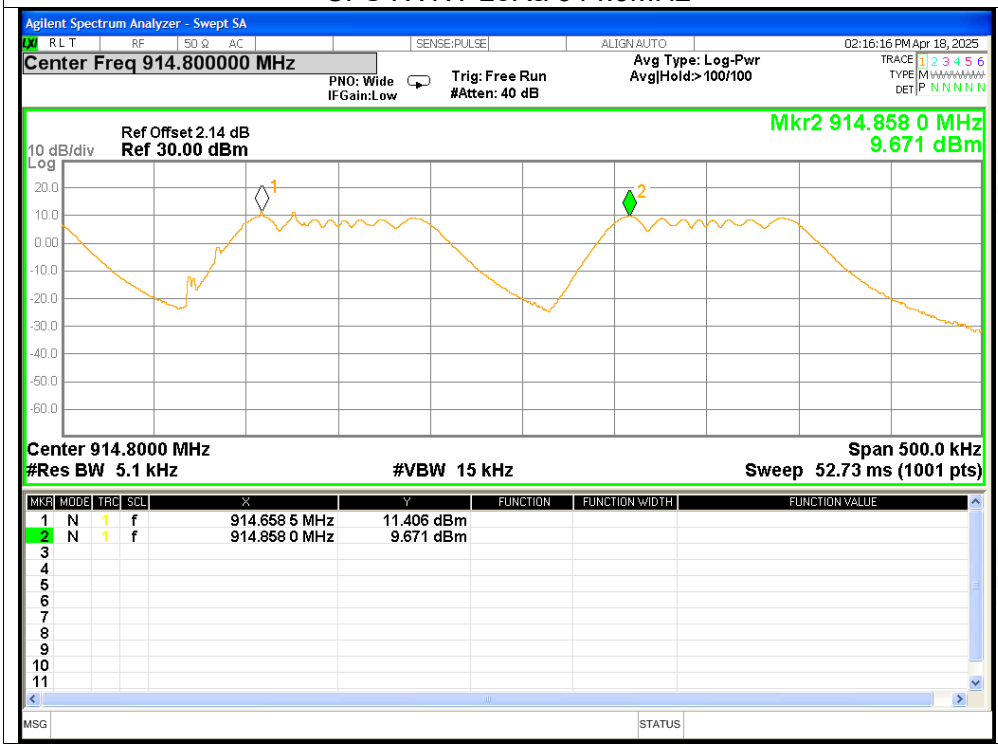
CFS NVNT LoRa 902.3MHz



CFS NVNT LoRa 908.7MHz



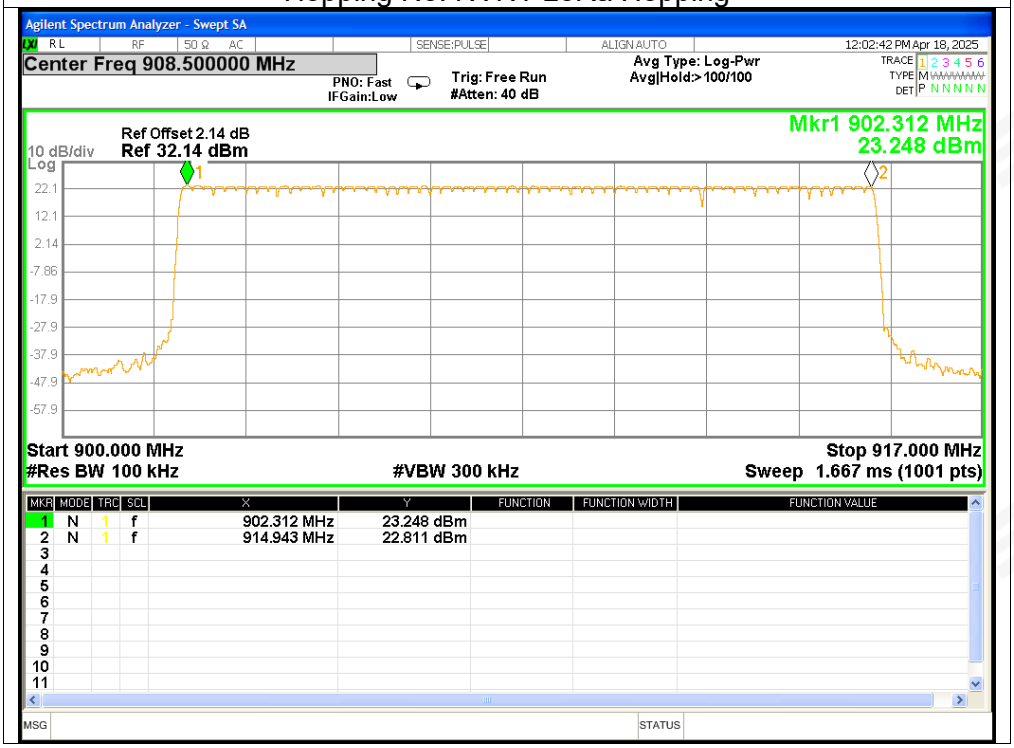
CFS NVNT LoRa 914.9MHz



4. Number of Hopping Channel

Condition	Mode	Hopping Number	Limit	Verdict
NVNT	LoRa	64	>=50	Pass

Test Graphs
Hopping No. NVNT LoRa Hopping

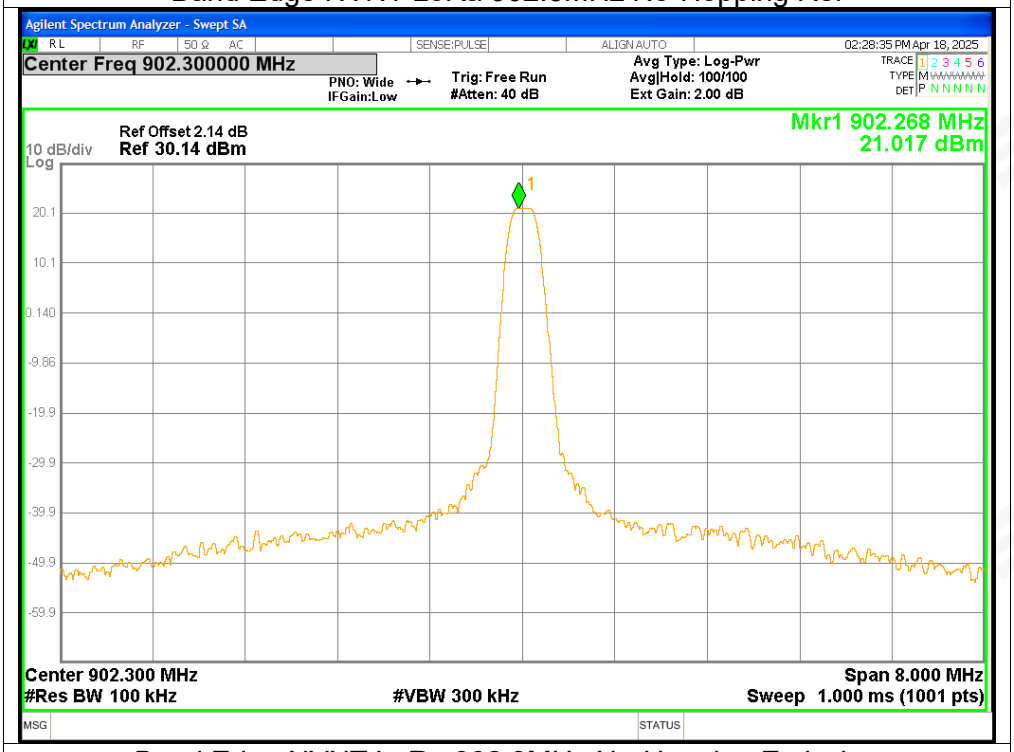


5. Band Edge

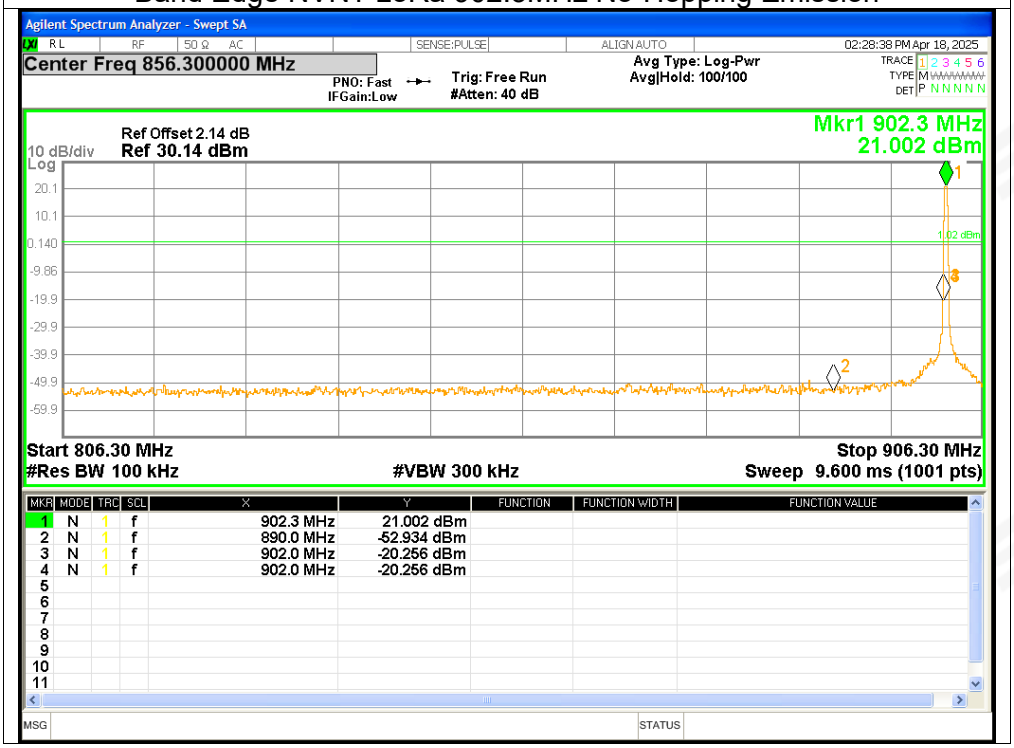
Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	LoRa	902.3	No-Hopping	-41.27	<=-20	Pass
NVNT	LoRa	914.9	No-Hopping	-70.06	<=-20	Pass

Test Graphs

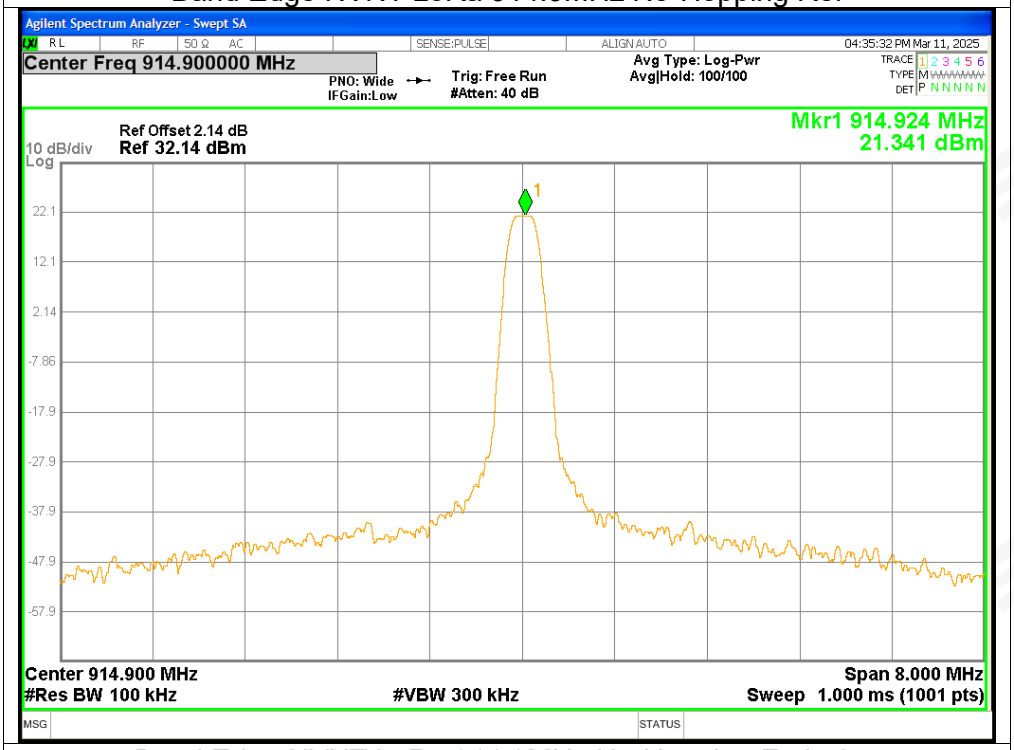
Band Edge NVNT LoRa 902.3MHz No-Hopping Ref



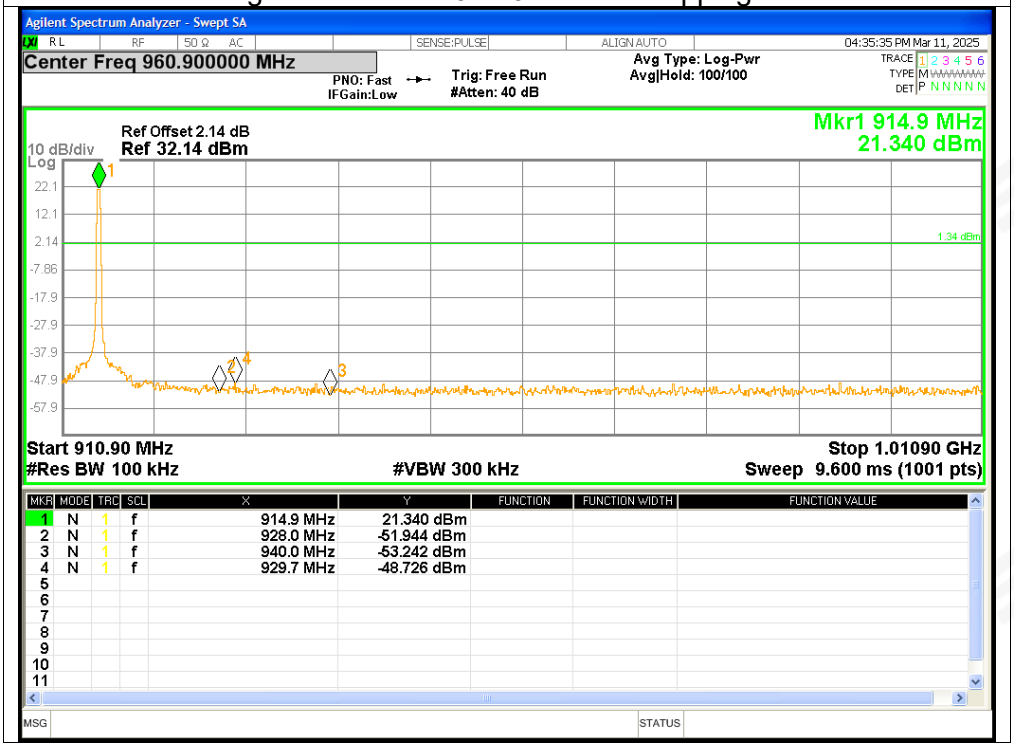
Band Edge NVNT LoRa 902.3MHz No-Hopping Emission



Band Edge NVNT LoRa 914.9MHz No-Hopping Ref



Band Edge NVNT LoRa 914.9MHz No-Hopping Emission



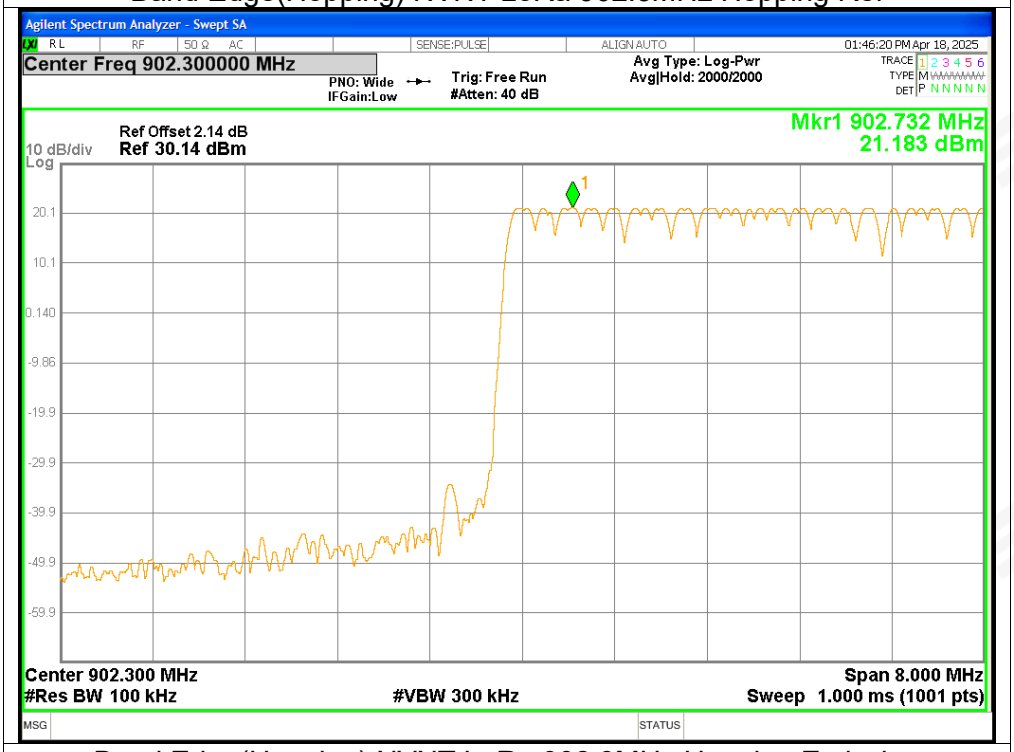
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	914.9 MHz	21.340 dBm			
2	N	1	f	928.0 MHz	-51.944 dBm			
3	N	1	f	940.0 MHz	-53.242 dBm			
4	N	1	f	929.7 MHz	-48.726 dBm			
5								
6								
7								
8								
9								
10								
11								

6. Band Edge(Hopping)

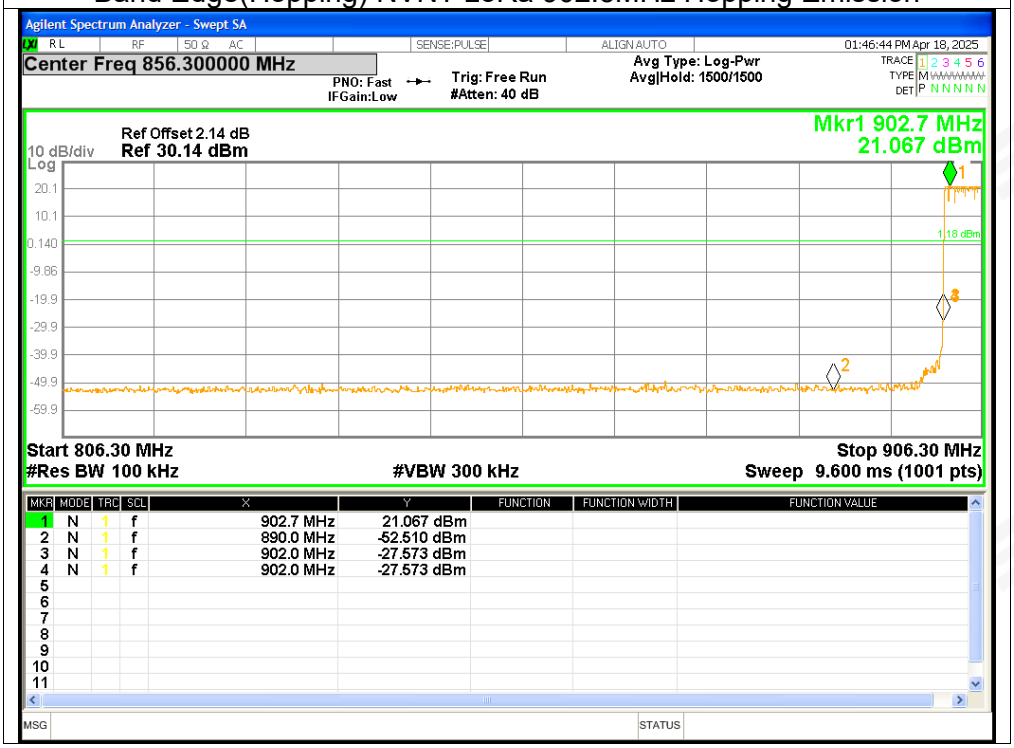
Condition	Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	LoRa	902.3	Hopping	-48.75	<=-20	Pass
NVNT	LoRa	914.9	Hopping	-69.9	<=-20	Pass

Test Graphs

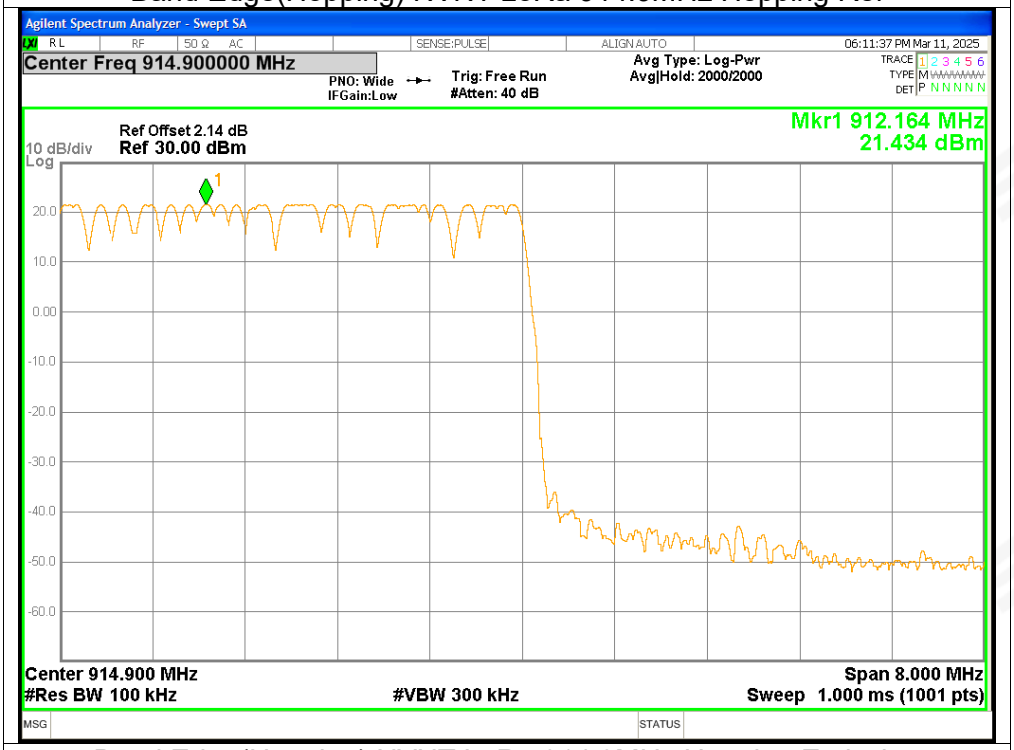
Band Edge(Hopping) NVNT LoRa 902.3MHz Hopping Ref



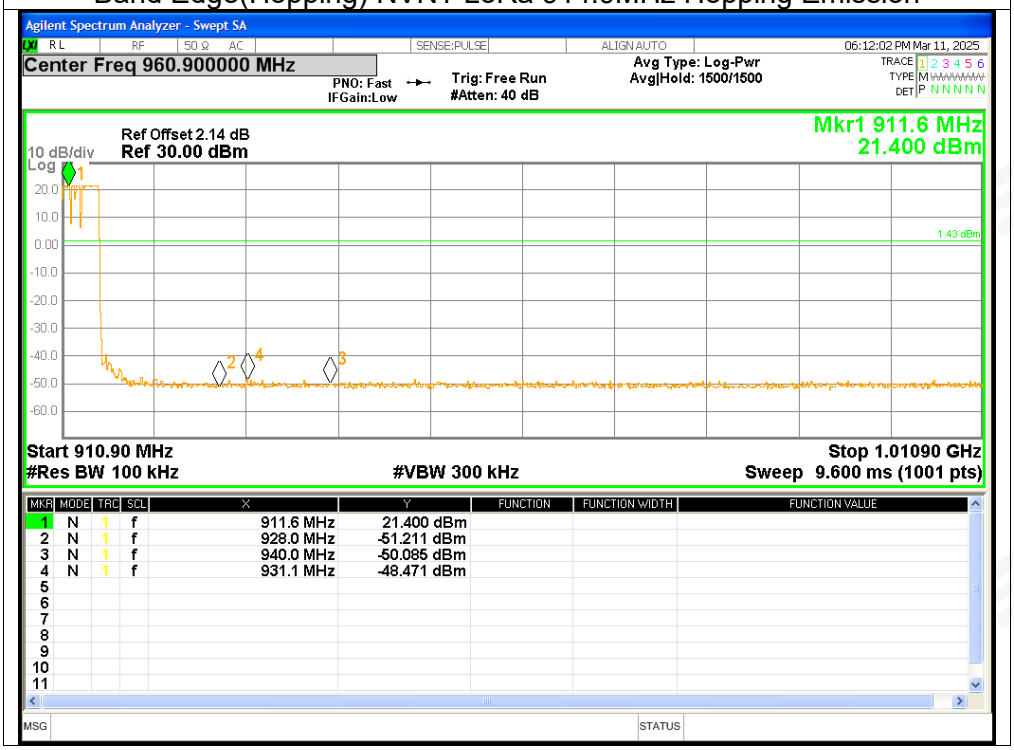
Band Edge(Hopping) NVNT LoRa 902.3MHz Hopping Emission



Band Edge(Hopping) NVNT LoRa 914.9MHz Hopping Ref



Band Edge(Hopping) NVNT LoRa 914.9MHz Hopping Emission

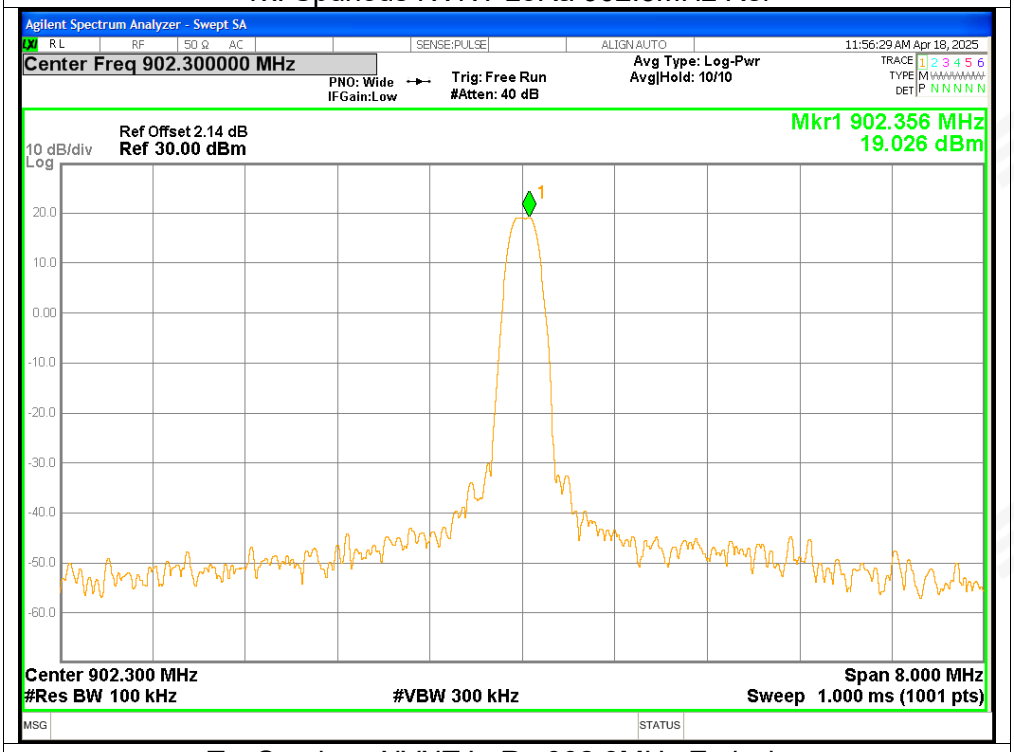


7. Conducted RF Spurious Emission

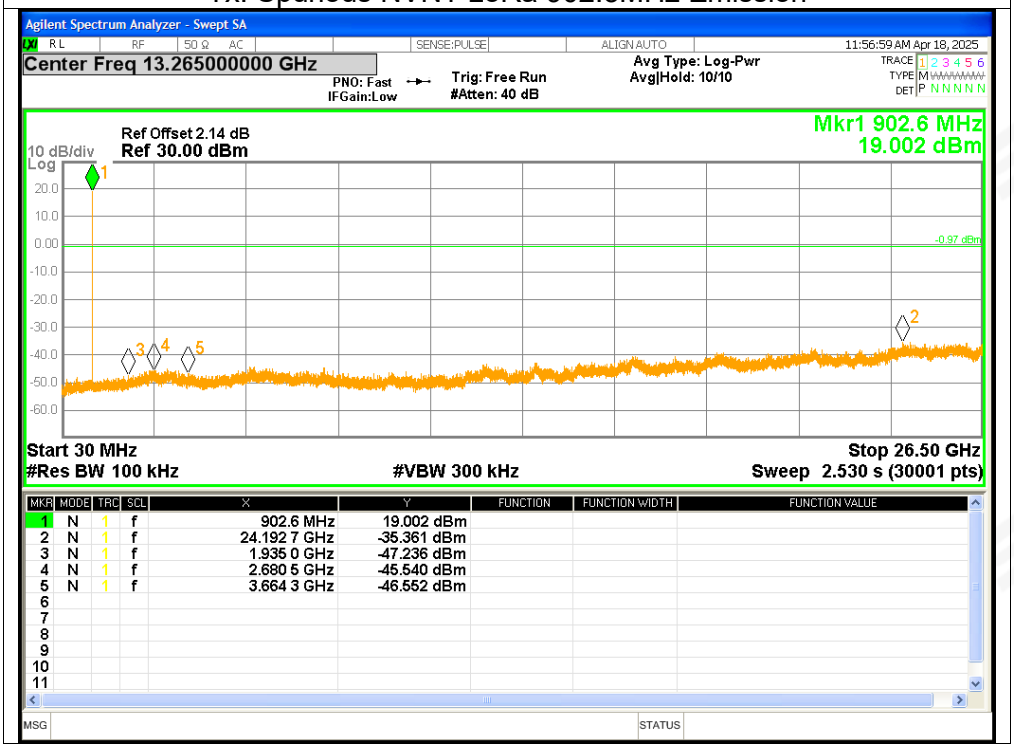
Condition	Mode	Frequency (MHz)	Max Value (dBc)	Offset Attenuation (dB)	Final Value (dBc)	Limit (dBc)	Verdict
NVNT	LoRa	902.3	-54.39	7.19	-47.20	<=-20	Pass
NVNT	LoRa	908.7	-56.28	7.53	-48.75	<=-20	Pass
NVNT	LoRa	914.9	-56.42	7.59	-48.83	<=-20	Pass

Test Graphs

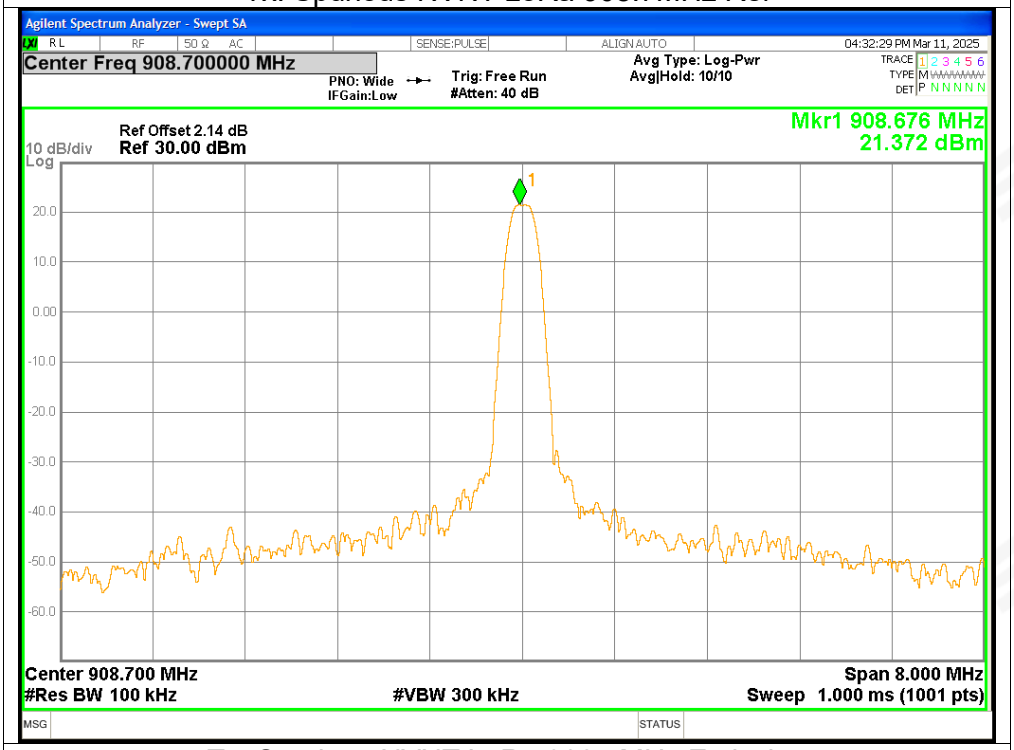
Tx. Spurious NVNT LoRa 902.3MHz Ref



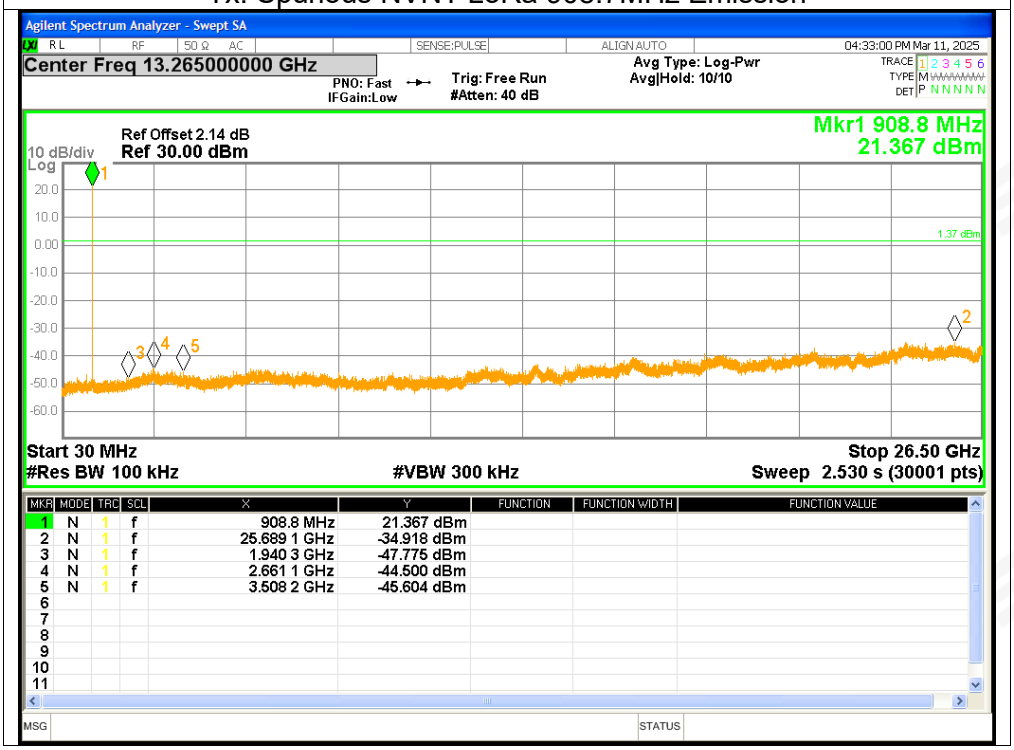
Tx. Spurious NVNT LoRa 902.3MHz Emission



Tx. Spurious NVNT LoRa 908.7MHz Ref

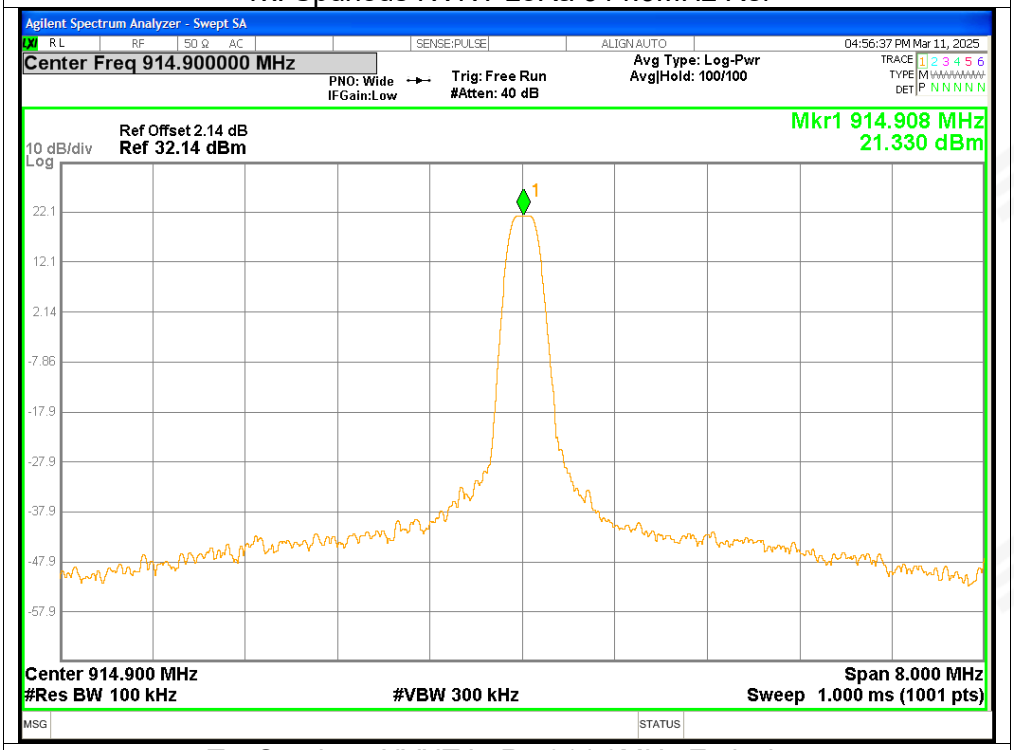


Tx. Spurious NVNT LoRa 908.7MHz Emission

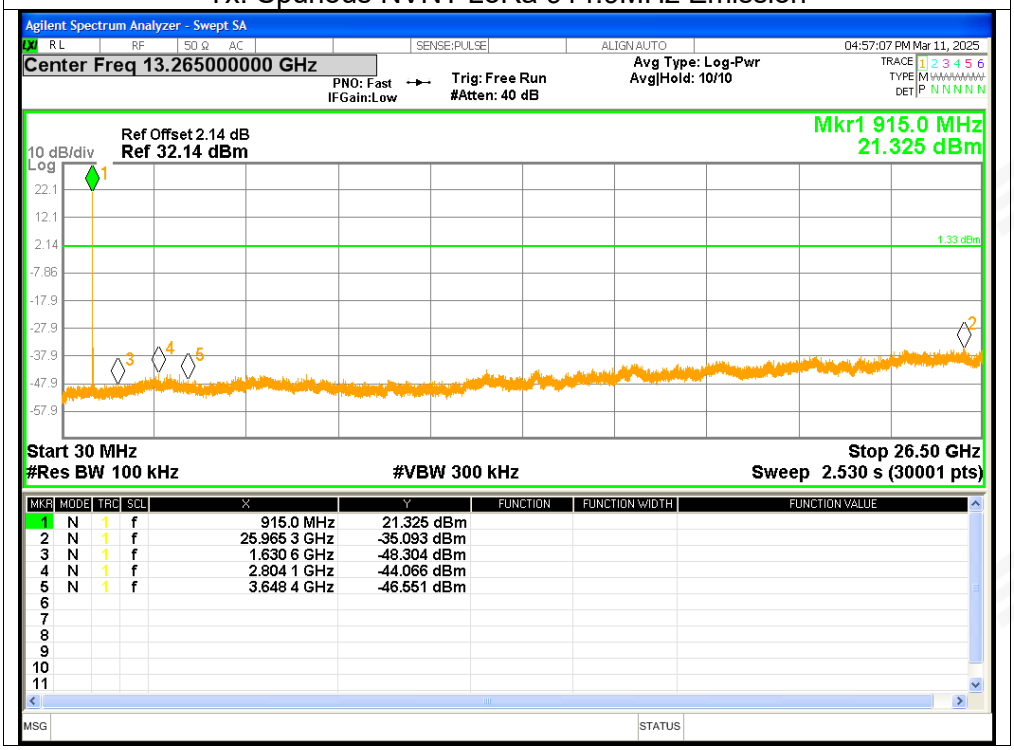


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	908.8 MHz	21.367 dBm			
2	N	1	f	25.689 1 GHz	-34.918 dBm			
3	N	1	f	1.940 3 GHz	-47.775 dBm			
4	N	1	f	2.661 1 GHz	-44.500 dBm			
5	N	1	f	3.508 2 GHz	-45.604 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT LoRa 914.9MHz Ref



Tx. Spurious NVNT LoRa 914.9MHz Emission

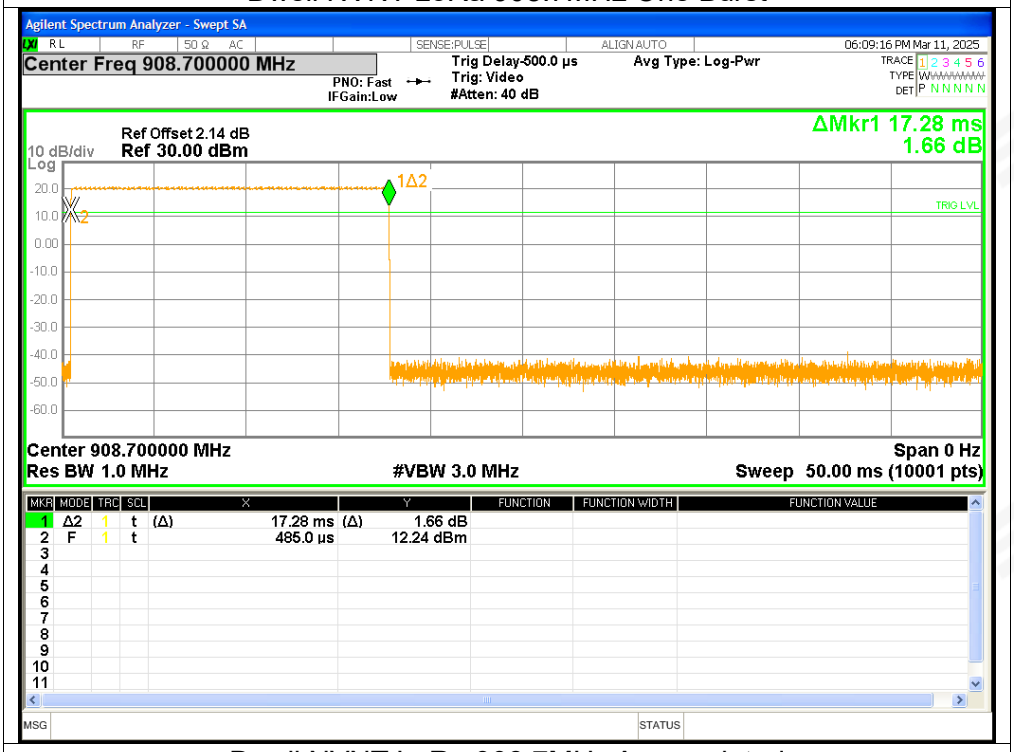


8. Dwell Time

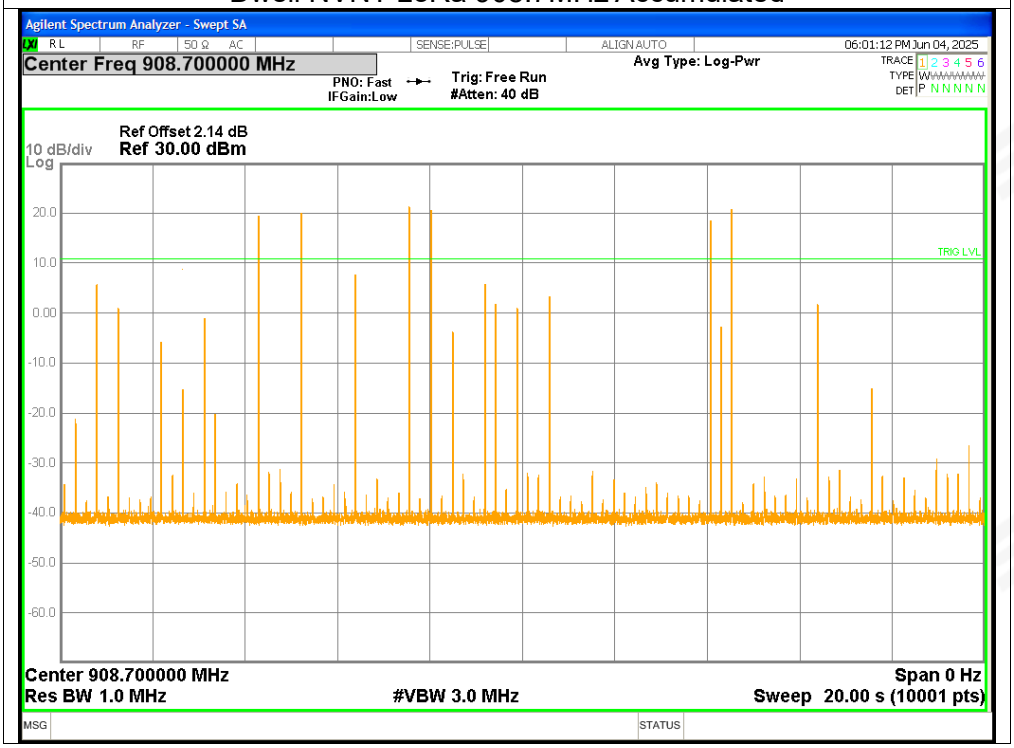
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	LoRa	908.7	17.275	103.65	6	20000	<=400	Pass

Test Graphs

Dwell NVNT LoRa 908.7MHz One Burst



Dwell NVNT LoRa 908.7MHz Accumulated



APPENDIX 2-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※