

# FCC C2PC Test Report

**FCC ID** : P27-IG502L  
**Equipment** : Monitor Gateway  
**Model No.** : IG-502L  
**Brand Name** : OxTech, LLC  
**Applicant** : Sercomm Corporation  
**Address** : 8F, No. 3-1, YuanQu St., NanKang, Taipei 115,  
Taiwan, R.O.C.  
**Standard** : 47 CFR FCC Part 15.247  
**Received Date** : Apr. 12, 2022  
**Tested Date** : Apr. 13 ~ Apr. 18, 2022

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:

  
\_\_\_\_\_  
Along Chen / Assistant Manager

  
\_\_\_\_\_  
Gary Chang / Manager

## Table of Contents

<b>1</b>	<b>GENERAL DESCRIPTION .....</b>	<b>5</b>
1.1	Information.....	5
1.2	Local Support Equipment List .....	7
1.3	Test Setup Chart .....	7
1.4	The Equipment List .....	8
1.5	Test Standards .....	9
1.6	Reference Guidance .....	9
1.7	Deviation from Test Standard and Measurement Procedure.....	9
1.8	Measurement Uncertainty .....	9
<b>2</b>	<b>TEST CONFIGURATION.....</b>	<b>10</b>
2.1	Testing Facility .....	10
2.2	The Worst Test Modes and Channel Details .....	10
<b>3</b>	<b>TRANSMITTER TEST RESULTS .....</b>	<b>11</b>
3.1	Unwanted Emissions into Restricted Frequency Bands .....	11
3.2	Unwanted Emissions into Non-Restricted Frequency Bands .....	13
3.3	Conducted Output Power .....	14
3.4	Number of Hopping Frequency .....	15
3.5	20dB and Occupied Bandwidth.....	16
3.6	Channel Separation.....	17
3.7	Number of Dwell Time.....	18
3.8	Power Spectral Density .....	19
3.9	AC Power Line Conducted Emissions .....	20
<b>4</b>	<b>TEST LABORATORY INFORMATION .....</b>	<b>21</b>

**Appendix A. Unwanted Emissions into Restricted Frequency Bands**

**Appendix B. Unwanted Emissions into Non-Restricted Frequency Bands**

**Appendix C. Conducted Output Power**

**Appendix D. Number of Hopping Frequency**

**Appendix E. 20dB and Occupied Bandwidth**

**Appendix F. Channel Separation**

**Appendix G. Number of Dwell Time**

**Appendix H. Power Spectral Density**

**Appendix I. AC Power Line Conducted Emissions**

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## Release Record

Report No.	Version	Description	Issued Date
FR1D2104-01-1AH	Rev. 01	Initial issue	Apr. 27, 2022

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.410MHz 39.98 (Margin -7.66dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 48.61MHz 36.55 (Margin -3.45dB) - PK	Pass
15.247(d)	Band Edge	Meet the requirement of limit	Pass
15.247(b)(2)(3)	Conducted Output Power	Power [dBm]: 22.22	Pass
15.247(a)(1)(i)	Number of Hopping Channels	Meet the requirement of limit	Pass
15.247(a)(1)	Hopping Channel Separation	Meet the requirement of limit	Pass
15.247(f)	Dwell Time	Meet the requirement of limit	Pass
15.247(f)	Power spectral density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

# 1 General Description

## 1.1 Information

This report is issued as a FCC Class II Permissive Change. The modification is only concerned with adding 902.3 ~ 914.9 MHz band by software setting.

### 1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	Ch. Freq. (MHz)	Channel List	Data Rate (bit/sec)	Spread Factor	Channel Bandwidth (kHz)
902 ~ 928	902.3 ~ 914.9	64 channels	980-5.47k bps	7 ~ 10	125
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power. Note 2: The device uses LoRa modulation. Note 3: The device supports hybrid mode					

### 1.1.2 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remark
1	Dipole	R-SMA	2.1	---

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

<b>Power Supply Type</b>	12Vdc from adapter
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### 1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC Adapter	Brand: Leader Model: MU18D1120150-A1 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.6A O/P:12Vdc, 1.5A Power Line: 1.45m non-shielded without core
2	AC Adapter	Brand: Sercomm Model: PU18W120ULB15-DPX-00 Power Rating: I/P: 100-240Vac, 50/60Hz, 0.7A O/P:12Vdc, 1.5A, 18.0W
3	RJ45	1.45m non-shielded without core

### 1.1.5 Channel List

Channel Bandwidth: 125KHz							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	902.3	16	905.5	32	908.7	48	911.9
1	902.5	17	905.7	33	908.9	49	912.1
2	902.7	18	905.9	34	909.1	50	912.3
3	902.9	19	906.1	35	909.3	51	912.5
4	903.1	20	906.3	36	909.5	52	912.7
5	903.3	21	906.5	37	909.7	53	912.9
6	903.5	22	906.7	38	909.9	54	913.1
7	903.7	23	906.9	39	910.1	55	913.3
8	903.9	24	907.1	40	910.3	56	913.5
9	904.1	25	907.3	41	910.5	57	913.7
10	904.3	26	907.5	42	910.7	58	913.9
11	904.5	27	907.7	43	910.9	59	914.1
12	904.7	28	907.9	44	911.1	60	914.3
13	904.9	29	908.1	45	911.3	61	914.5
14	905.1	30	908.3	46	911.5	62	914.7
15	905.3	31	908.5	47	911.7	63	914.9

### 1.1.6 Test Tool and Duty Cycle

Test Tool	Putty, Version: V0.060	
Mode	Duty Cycle (%)	Duty Factor (dB)
LoRa (125kHz)	100.00%	0.00

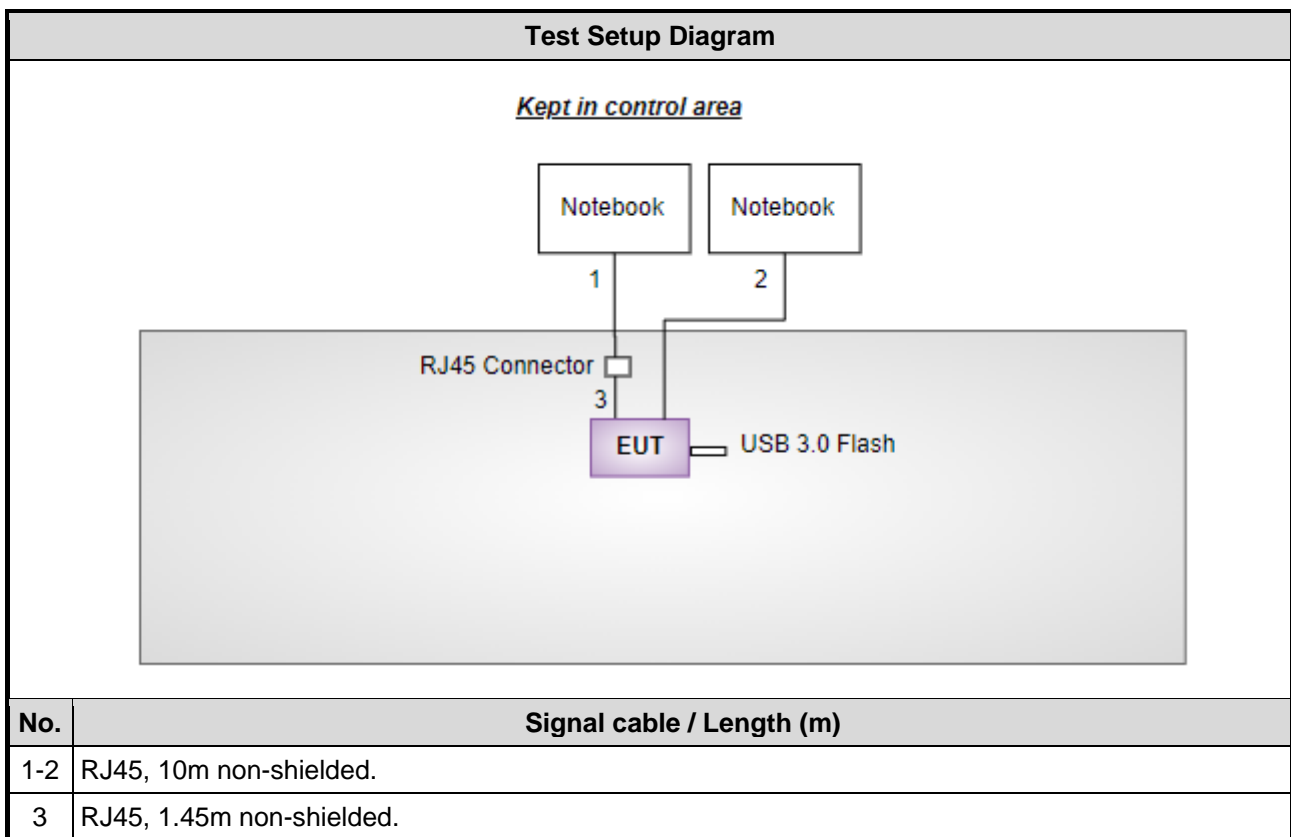
### 1.1.7 Power Index of Test Tool

Channel Bandwidth: 125KHz	
Test Frequency (MHz)	Power Index
902.3	pa 1 --pwid 4
908.5	pa 1 --pwid 3
914.9	pa 1 --pwid 4

## 1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Notebook	DELL	Latitude E5470	DoC	---
2	Notebook	DELL	Latitude E5470	DoC	---
3	USB 3.0 Flash	Transcend	JetFlash 700	---	---

## 1.3 Test Setup Chart



## 1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Apr. 18, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Feb. 16, 2022	Feb. 15, 2023
LISN	R&S	ENV216	101295	Jan. 12, 2022	Jan. 11, 2023
LISN (Support Unit)	SCHWARZBECK	NSLK 8127	8127667	Jan .07, 2022	Jan .06, 2023
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 19, 2021	Oct. 18, 2022
50 ohm terminal (Support Unit)	NA	50	04	May 25, 2021	May.24, 2022
Measurement Software	AUDIX	e3	6.120210k	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Apr. 13 ~ Apr. 14, 2022				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 15, 2022	Mar. 14, 2023
Spectrum Analyzer	R&S	FSV40	101499	Mar. 08, 2022	Mar. 07, 2023
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 08, 2021	Nov. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	May 06, 2021	May 05, 2022
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 20, 2021	Dec. 19, 2022
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170508	Jan. 11, 2022	Jan. 10, 2023
Preamplifier	EMC	EMC02325	980187	Jul. 26, 2021	Jul. 25, 2022
Preamplifier	Agilent	83017A	MY39501309	Sep. 06, 2021	Sep. 05, 2022
Preamplifier	EMC	EMC184045B	980192	Jul. 14, 2021	Jul. 13, 2022
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 05, 2021	Oct. 04, 2022
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Sep. 24, 2021	Sep. 23, 2022
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 24, 2021	Sep. 23, 2022
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 24, 2021	Sep. 23, 2022
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 24, 2021	Sep. 23, 2022
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 24, 2021	Sep. 23, 2022
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.



<b>Test Item</b>	RF Conducted				
<b>Test Site</b>	(TH01-WS)				
<b>Tested Date</b>	Apr. 18, 2022				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Spectrum Analyzer	R&S	FSV40	101498	Nov. 29, 2021	Nov. 28, 2022
Power Meter	Anritsu	ML2495A	1241002	Nov. 07, 2021	Nov. 06, 2022
Power Sensor	Anritsu	MA2411B	1207366	Nov. 07, 2021	Nov. 06, 2022
Measurement Software	Sporton	SENSE-15247_FS	V5.10.7.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

## 1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

## 1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

## 1.7 Deviation from Test Standard and Measurement Procedure

None

## 1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ( $k=2$ )).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	$\pm 34.130$ Hz
Conducted power	$\pm 0.808$ dB
Power density	$\pm 0.583$ dB
Unwanted Emission $\leq 1$ GHz	$\pm 3.96$ dB
Unwanted Emission $> 1$ GHz	$\pm 4.51$ dB

## 2 Test Configuration

### 2.1 Testing Facility

<b>Test Laboratory</b>	International Certification Corporation
<b>Test Site</b>	CO01-WS, TH01-WS
<b>Address of Test Site</b>	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)
<b>Test Site</b>	03CH03-WS
<b>Address of Test Site</b>	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 333, Taiwan (R.O.C.)

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807C
- CAB identifier: TW2732

### 2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth (kHz)	Test Frequency (MHz)	Separating Factor	Test Configuration
AC Power Line Conducted Emission	125	902.3 / 908.5 / 914.9	SF10	2
Unwanted Emissions Conducted Output Power Hopping Channel Separation 20dB and Occupied bandwidth Power Spectral Density	125	902.3 / 908.5 / 914.9	SF10	1
Number of Hopping Channels	125	902.3 ~ 914.9	SF10	1
Dwell Time	125	902.3	SF10, 9, 8, 7	1
<b>NOTE:</b>				
1. Two adapters (Leader and Sercomm) had been covered during the pretest, and found that <b>Sercomm adapter</b> was the worst case of AC Power line conducted emission test item and <b>Leader adapter</b> was the worst case of Unwanted Emissions test item.				
2. Test configurations are as below Configuration 1: Leader adapter for Unwanted Emissions and antenna port conducted test Configuration 2: Sercomm adapter for AC Power Line Conducted Emissions				

### 3 Transmitter Test Results

#### 3.1 Unwanted Emissions into Restricted Frequency Bands

##### 3.1.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

**Note 1:**  
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

**Note 2:**  
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

##### 3.1.2 Test Procedures

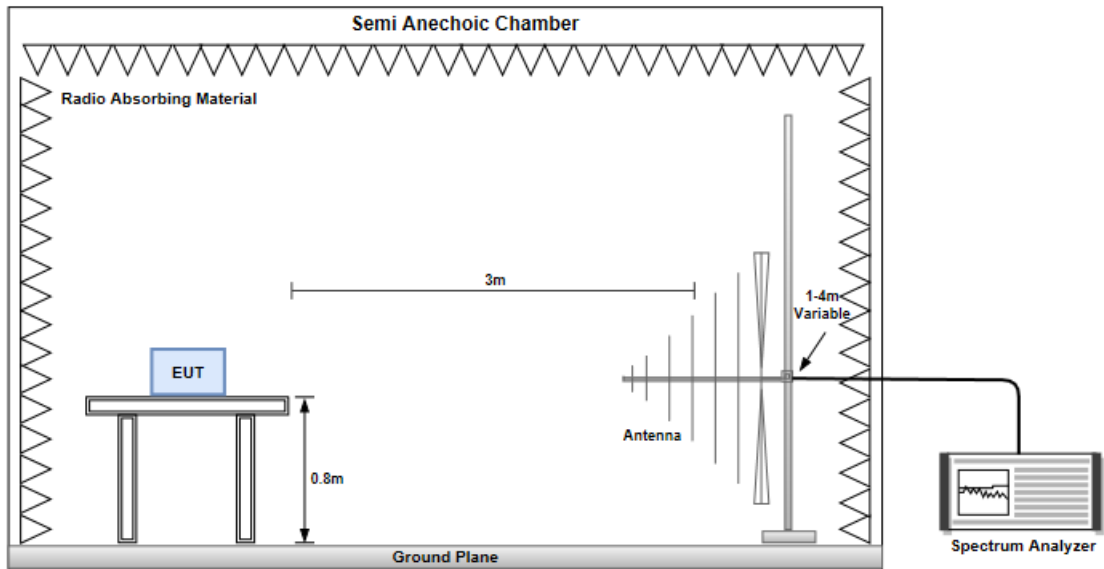
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

**Note:**

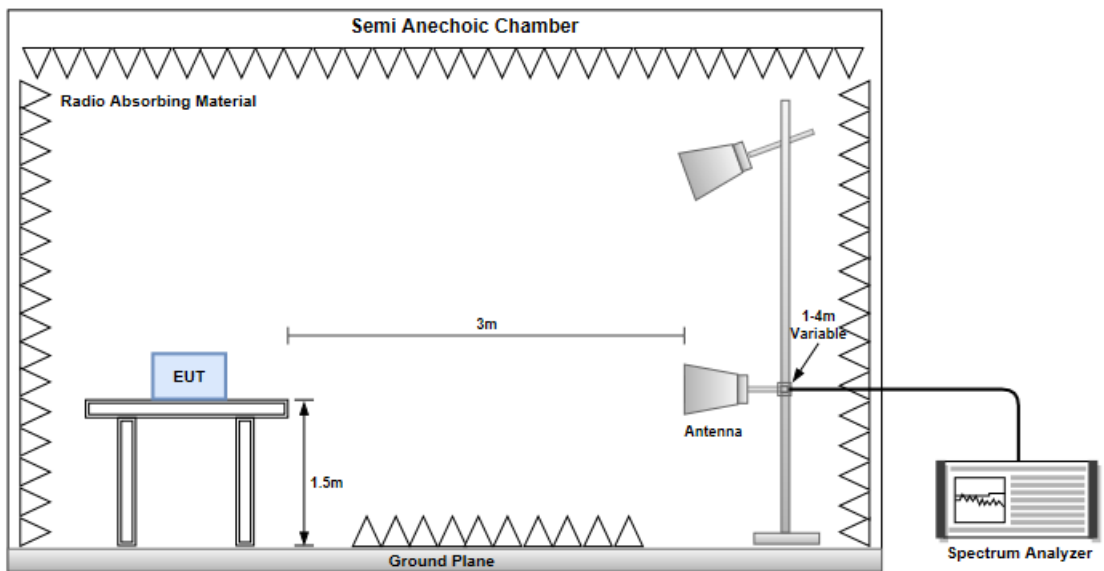
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

### 3.1.3 Test Setup

#### Radiated Emissions below 1 GHz



#### Radiated Emissions above 1 GHz



### 3.1.4 Test Results

Refer to Appendix A.

## 3.2 Unwanted Emissions into Non-Restricted Frequency Bands

### 3.2.1 Limit of Unwanted Emissions into Non-Restricted Frequency Bands

The peak output power 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.

### 3.2.2 Test Procedures

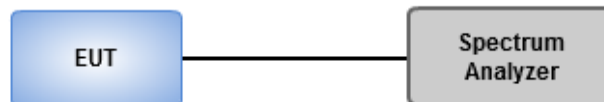
#### Reference Level Measurement

1. Set the RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
2. Set Sweep time = auto couple, Trace mode = max hold.
3. Allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

#### Unwanted Emissions Level Measurement

1. Set RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
2. Trace Mode = max hold, Sweep = auto couple.
3. Allow the trace to stabilize.
4. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

### 3.2.3 Test Setup



### 3.2.4 Test Results

<b>Ambient Condition</b>	22°C / 67%	<b>Tested By</b>	Aska Huang
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Refer to Appendix B.

### 3.3 Conducted Output Power

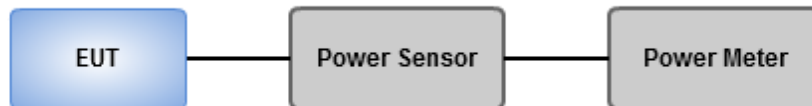
#### 3.3.1 Limit of Conducted Output Power

1W

#### 3.3.2 Test Procedures

1. A wideband power meter is used for power measurement. Bandwidth of power sensor and meter is 50MHz
2. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power

#### 3.3.3 Test Setup



#### 3.3.4 Test Results

Ambient Condition	22°C / 67%	Tested By	Aska Huang
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Refer to Appendix C.

### 3.4 Number of Hopping Frequency

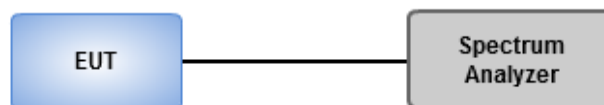
#### 3.4.1 Limit of Number of Hopping Frequency

Number of Hopping Frequencies Limit for Frequency Hopping Systems	
<input checked="" type="checkbox"/>	902-928 MHz Band:
<input type="checkbox"/>	$N \geq 50$ , 20 dB bandwidth of the hopping channel is less than 250 kHz
<input type="checkbox"/>	$N \geq 25$ , 20 dB bandwidth of the hopping channel is 250 kHz or greater
<input checked="" type="checkbox"/>	Hybrid mode, No minimum number of hopping channels associated with hybrid system.
<b>N:</b> Number of Hopping Frequencies	

#### 3.4.2 Test Procedures

1. Set RBW = 100kHz, VBW = 300kHz, Sweep time = Auto, Detector = Peak Trace max hold.
2. Allow trace to stabilize.

#### 3.4.3 Test Setup



#### 3.4.4 Test Results

<b>Ambient Condition</b>	22°C / 67%	<b>Tested By</b>	Aska Huang
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Refer to Appendix D.

## 3.5 20dB and Occupied Bandwidth

### 3.5.1 Test Procedures

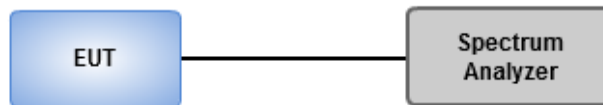
#### 20dB Bandwidth

1. Set RBW=3kHz, VBW=10kHz, Sweep time=Auto, Detector=Peak Trace max hold.
2. Allow trace to stabilize.
3. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

#### Occupied Bandwidth

1. Set RBW=3kHz, VBW=10kHz, Sweep time = Auto, Detector=Peak, Trace max hold
2. Allow trace to stabilize
3. Use Occupied bandwidth function of spectrum analyzer to measuring 99% occupied bandwidth

### 3.5.2 Test Setup



### 3.5.3 Test Results

Ambient Condition	22°C / 67%	Tested By	Aska Huang
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Refer to Appendix E.



## 3.6 Channel Separation

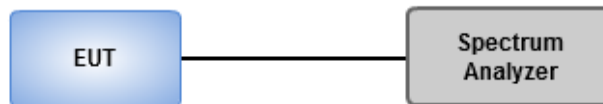
### 3.6.1 Limit of Channel Separation

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.

### 3.6.2 Test Procedures

1. Set RBW=10kHz, VBW=30kHz, Sweep time=Auto, Detector=Peak Trace max hold.
2. Allow trace to stabilize.
3. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The EUT shall show compliance with the appropriate regulatory limit

### 3.6.3 Test Setup



### 3.6.4 Test Results

<b>Ambient Condition</b>	22°C / 67%	<b>Tested By</b>	Aska Huang
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Refer to Appendix F.

### 3.7 Number of Dwell Time

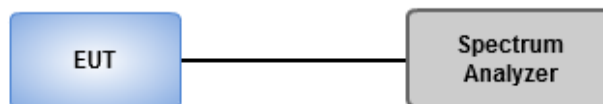
#### 3.7.1 Limit of Dwell time

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
<input checked="" type="checkbox"/>	902-928 MHz Band:
<input type="checkbox"/>	$\leq 0.4$ second within a 20 second period, 20 dB bandwidth of the hopping channel is less than 250 kHz
<input type="checkbox"/>	$\leq 0.4$ second within a 10 second period, 20 dB bandwidth of the hopping channel is 250 kHz or greater
<input checked="" type="checkbox"/>	Hybrid mode ,an average time of occupancy on any frequency not to exceed 0.4 seconds within a time period in seconds equal to the number of hopping frequencies employed multiplied by 0.4

#### 3.7.2 Test Procedures

1. Set RBW=200kHz, VBW=1000kHz, Sweep time=3.2s / 500ms, Detector=Peak, Span=0Hz, Trace max hold for 8 hopping channels.
2. Set RBW=200kHz, VBW=1000kHz, Sweep time=6.4s / 500ms, Detector=Peak, Span=0Hz, Trace max hold for 16 hopping channels.
3. Set RBW=200kHz, VBW=1000kHz, Sweep time=25.6s / 500ms, Detector=Peak, Span=0Hz, Trace max hold for 64 hopping channels.
4. Measure and record the burst on time.

#### 3.7.3 Test Setup



#### 3.7.4 Test Results

<b>Ambient Condition</b>	22°C / 67%	<b>Tested By</b>	Aska Huang
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Refer to Appendix G.

## 3.8 Power Spectral Density

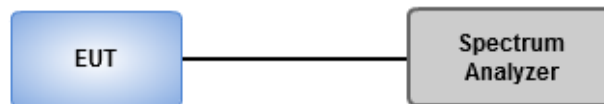
### 3.8.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band. This item is for Hybrid mode.

### 3.8.2 Test Procedures

1. Set the RBW = 3kHz, VBW = 10 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Employ trace averaging (RMS) mode over a minimum of 100 traces
4. Use the peak marker function to determine the maximum amplitude level.

### 3.8.3 Test Setup



### 3.8.4 Test Results

<b>Ambient Condition</b>	22°C / 67%	<b>Tested By</b>	Aska Huang
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Refer to Appendix H.

## 3.9 AC Power Line Conducted Emissions

### 3.9.1 Limit of AC Power Line Conducted Emissions

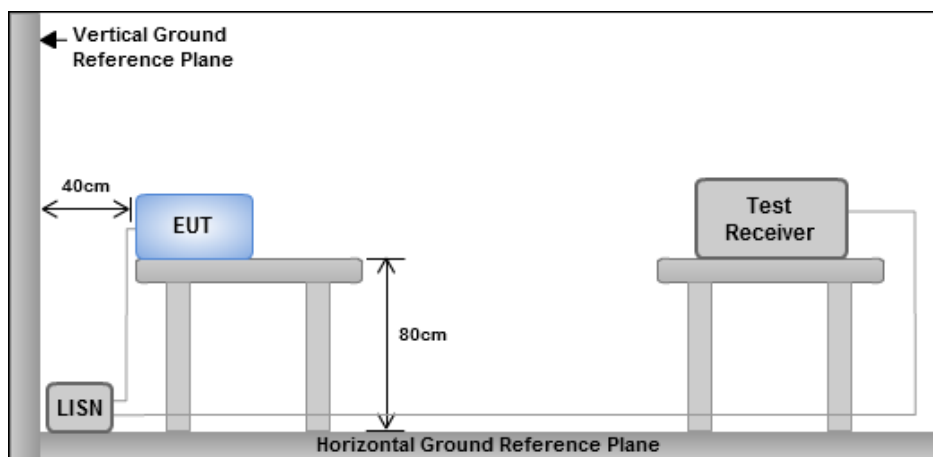
Conducted Emissions Limit		
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: \* Decreases with the logarithm of the frequency.

### 3.9.2 Test Procedures

1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50  $\Omega$  LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V / 60Hz.

### 3.9.3 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

### 3.9.4 Test Result of Conducted Emissions

Refer to Appendix I.

## 4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

### **Linkou**

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou  
District, New Taipei City, Taiwan  
(R.O.C.)

### **Kwei Shan**

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)  
No.2-1, Lane 6, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 33381, Taiwan (R.O.C.)

### **Kwei Shan Site II**

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd  
St., Kwei Shan Dist., Tao Yuan  
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC\_Service@icertifi.com.tw

==END==



Below 1GHz

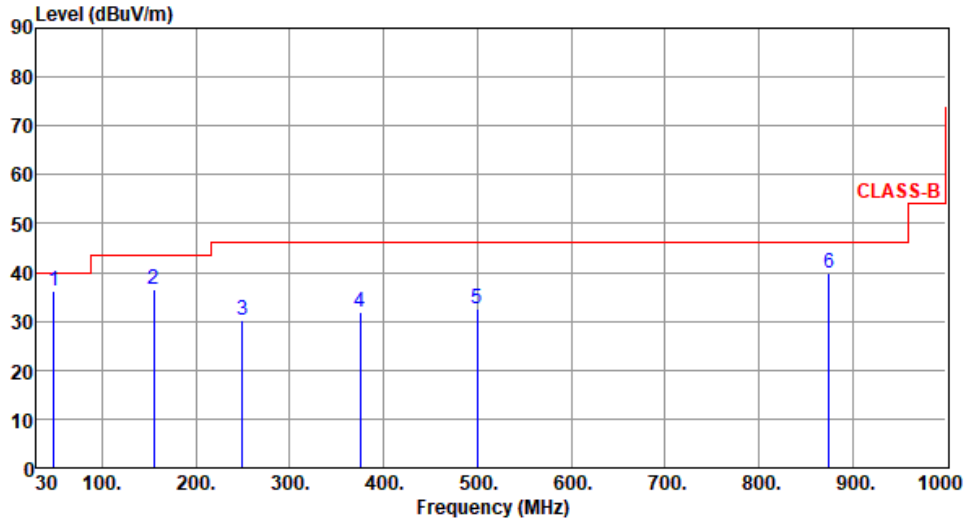
Mode / SF	LoRa / 10	Test Freq. (MHz)	902.3						
Polarization	Horizontal								
Test By :Brad Wu      Temperature(°C):24      Humidity(%):65									
<p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (30 to 1000). A red line represents the CLASS-B limit, which is constant at 46 dBuV/m from 100 MHz to 900 MHz, then rises to 55 dBuV/m at 1000 MHz. Six blue vertical lines indicate measured peaks at 155.42, 249.60, 375.20, 500.00, 625.60, and 876.00 MHz.</p>									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	155.42	36.41	43.50	-7.09	44.92	-8.51	Peak	---	---
2	249.60	32.60	46.00	-13.40	42.39	-9.79	Peak	---	---
3	375.20	33.19	46.00	-12.81	39.38	-6.19	Peak	---	---
4	500.00	34.33	46.00	-11.67	37.08	-2.75	Peak	---	---
5	625.60	36.01	46.00	-9.99	35.76	0.25	Peak	---	---
6	876.00	41.97	46.00	-4.03	37.47	4.50	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	902.3
Polarization	Vertical		

Test By :Brad Wu      Temperature(°C):24      Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	48.36	36.24	40.00	-3.76	45.16	-8.92	Peak	---	---
2	155.26	36.48	43.50	-7.02	44.99	-8.51	Peak	---	---
3	249.60	30.15	46.00	-15.85	39.94	-9.79	Peak	---	---
4	375.20	31.82	46.00	-14.18	38.01	-6.19	Peak	---	---
5	500.00	32.50	46.00	-13.50	35.25	-2.75	Peak	---	---
6	874.96	39.98	46.00	-6.02	35.49	4.49	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

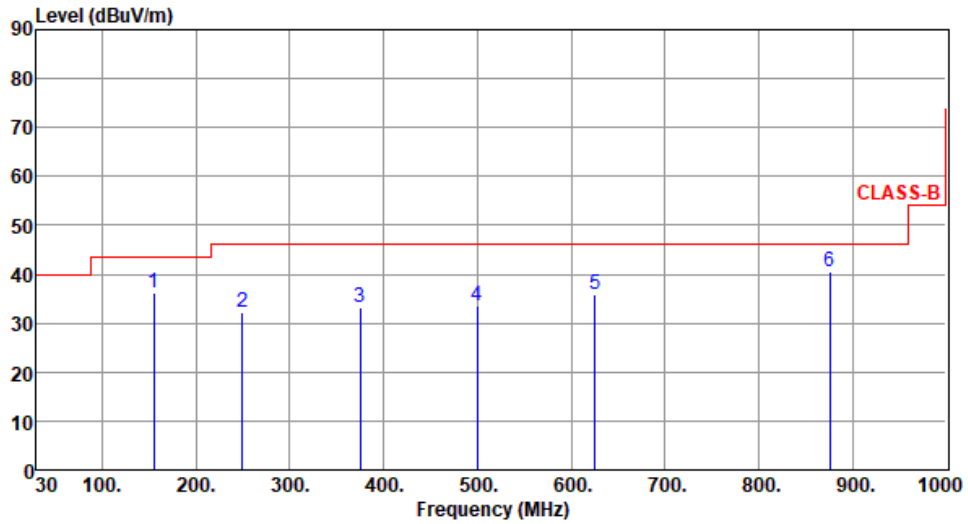
\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	908.5
Polarization	Horizontal		

Test By :Brad Wu      Temperature(°C):24      Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	155.26	36.18	43.50	-7.32	44.69	-8.51	Peak	---	---
2	249.60	32.36	46.00	-13.64	42.15	-9.79	Peak	---	---
3	375.20	33.28	46.00	-12.72	39.47	-6.19	Peak	---	---
4	500.00	33.42	46.00	-12.58	36.17	-2.75	Peak	---	---
5	625.60	35.75	46.00	-10.25	35.50	0.25	Peak	---	---
6	876.00	40.50	46.00	-5.50	36.00	4.50	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



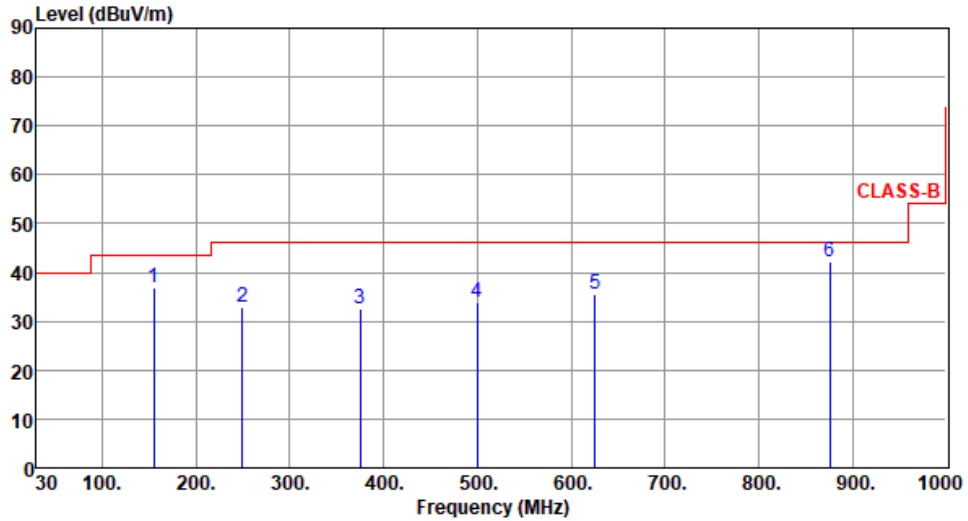


Mode / SF	LoRa / 10	Test Freq. (MHz)	908.5						
Polarization	Vertical								
Test By :Brad Wu      Temperature(°C):24      Humidity(%):65									
<p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (30 to 1000). A red step function represents the CLASS-B emission limit. Six blue vertical lines indicate measured peaks at various frequencies: 1 (48.69 MHz), 2 (155.18 MHz), 3 (249.60 MHz), 4 (375.20 MHz), 5 (500.00 MHz), and 6 (876.00 MHz). The CLASS-B limit is approximately 40 dBuV/m from 30 MHz to 100 MHz, 43 dBuV/m from 100 MHz to 200 MHz, 46 dBuV/m from 200 MHz to 900 MHz, and 70 dBuV/m from 900 MHz to 1000 MHz.</p>									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		cm	deg
1	48.69	36.19	40.00	-3.81	45.14	-8.95	Peak	---	---
2	155.18	36.66	43.50	-6.84	45.17	-8.51	Peak	---	---
3	249.60	31.48	46.00	-14.52	41.27	-9.79	Peak	---	---
4	375.20	31.57	46.00	-14.43	37.76	-6.19	Peak	---	---
5	500.00	32.78	46.00	-13.22	35.53	-2.75	Peak	---	---
6	876.00	38.55	46.00	-7.45	34.05	4.50	Peak	---	---
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).									



Mode / SF	LoRa / 10	Test Freq. (MHz)	914.9
Polarization	Horizontal		

Test By :Brad Wu      Temperature(°C):24      Humidity(%):65



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	155.22	36.84	43.50	-6.66	45.35	-8.51	Peak	---	---
2	249.60	32.89	46.00	-13.11	42.68	-9.79	Peak	---	---
3	375.20	32.42	46.00	-13.58	38.61	-6.19	Peak	---	---
4	500.00	33.75	46.00	-12.25	36.50	-2.75	Peak	---	---
5	625.60	35.63	46.00	-10.37	35.38	0.25	Peak	---	---
6	876.00	42.09	46.00	-3.91	37.59	4.50	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	914.9						
Polarization	Vertical								
Test By :Brad Wu      Temperature(°C):24      Humidity(%):65									
<p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (30 to 1000). A red step function labeled 'CLASS-B' represents the emission limit. Six blue vertical lines indicate peak measurements at various frequencies: 1 (48.61 MHz), 2 (155.25 MHz), 3 (249.60 MHz), 4 (375.20 MHz), 5 (500.00 MHz), and 6 (876.00 MHz).</p>									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	48.61	36.55	40.00	-3.45	45.49	-8.94	Peak	---	---
2	155.25	36.59	43.50	-6.91	45.10	-8.51	Peak	---	---
3	249.60	31.01	46.00	-14.99	40.80	-9.79	Peak	---	---
4	375.20	31.48	46.00	-14.52	37.67	-6.19	Peak	---	---
5	500.00	32.54	46.00	-13.46	35.29	-2.75	Peak	---	---
6	876.00	38.69	46.00	-7.31	34.19	4.50	Peak	---	---
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).									



Above 1GHz

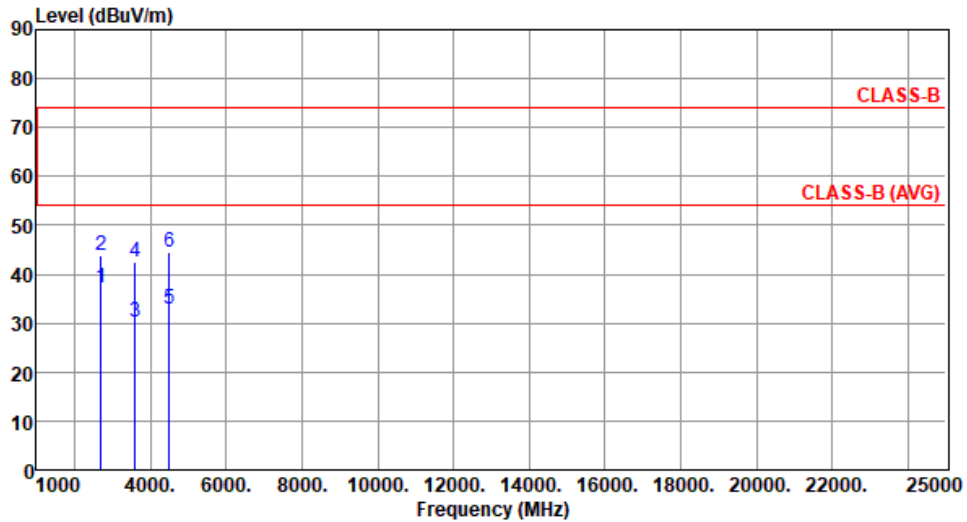
Mode / SF	LoRa / 10	Test Freq. (MHz)	902.3						
Polarization	Horizontal								
Test By :Brad Wu      Temperature(°C):25      Humidity(%):63									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2706.90	33.83	54.00	-20.17	34.86	-1.03	Average	111	270
2	2706.90	41.91	74.00	-32.09	42.94	-1.03	Peak	111	270
3	3609.20	30.41	54.00	-23.59	28.45	1.96	Average	100	15
4	3609.20	43.37	74.00	-30.63	41.41	1.96	Peak	100	15
5	4511.50	32.36	54.00	-21.64	27.69	4.67	Average	100	24
6	4511.50	44.35	74.00	-29.65	39.68	4.67	Peak	100	24

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	902.3
Polarization	Vertical		

Test By :Brad Wu      Temperature(°C):25      Humidity(%):63



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2706.90	37.29	54.00	-16.71	38.32	-1.03	Average	147	36
2	2706.90	43.72	74.00	-30.28	44.75	-1.03	Peak	147	36
3	3609.20	30.20	54.00	-23.80	28.24	1.96	Average	100	55
4	3609.20	42.42	74.00	-31.58	40.46	1.96	Peak	100	55
5	4511.50	32.79	54.00	-21.21	28.12	4.67	Average	100	19
6	4511.50	44.46	74.00	-29.54	39.79	4.67	Peak	100	19

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

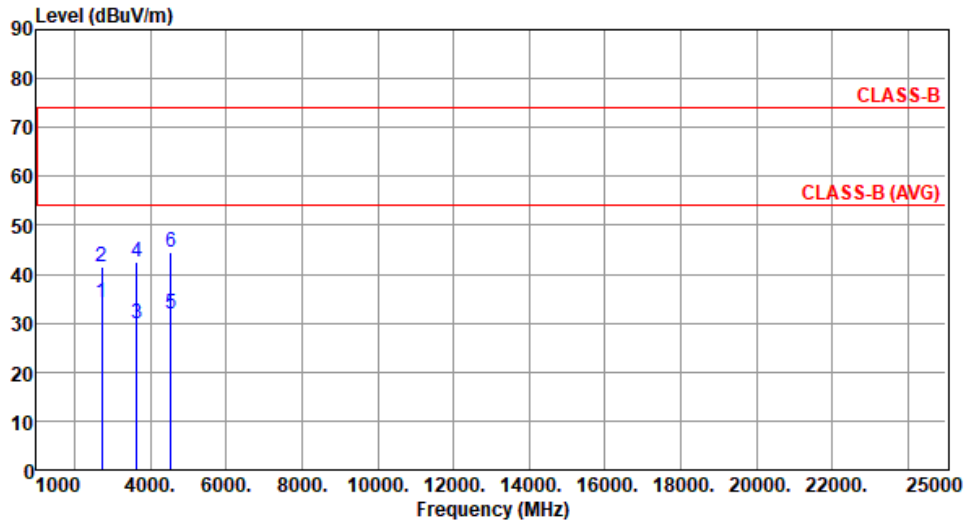
\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	908.5
Polarization	Horizontal		

Test By :Brad Wu      Temperature(°C):25      Humidity(%):63



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2725.50	34.10	54.00	-19.90	35.06	-0.96	Average	116	216
2	2725.50	41.56	74.00	-32.44	42.52	-0.96	Peak	116	216
3	3634.00	29.74	54.00	-24.26	27.69	2.05	Average	100	24
4	3634.00	42.65	74.00	-31.35	40.60	2.05	Peak	100	24
5	4542.50	31.96	54.00	-22.04	27.14	4.82	Average	104	16
6	4542.50	44.40	74.00	-29.60	39.58	4.82	Peak	104	16

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).



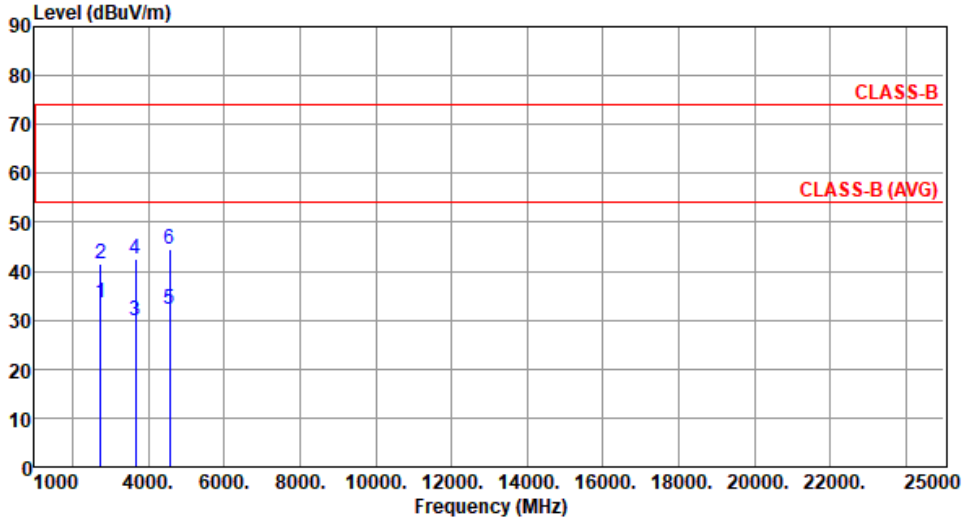
Mode / SF	LoRa / 10	Test Freq. (MHz)	908.5						
Polarization	Vertical								
Test By :Brad Wu      Temperature(°C):25      Humidity(%):63									
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2725.50	39.43	54.00	-14.57	40.39	-0.96	Average	177	74
2	2725.50	44.48	74.00	-29.52	45.44	-0.96	Peak	177	74
3	3634.00	30.62	54.00	-23.38	28.57	2.05	Average	110	56
4	3634.00	42.32	74.00	-31.68	40.27	2.05	Peak	110	56
5	4542.50	33.18	54.00	-20.82	28.36	4.82	Average	100	18
6	4542.50	45.75	74.00	-28.25	40.93	4.82	Peak	100	18

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)  
 \*Factor includes antenna factor , cable loss and amplifier gain  
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).



Mode / SF	LoRa / 10	Test Freq. (MHz)	914.9
Polarization	Horizontal		

Test By :Brad Wu      Temperature(°C):25      Humidity(%):63



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2744.70	33.55	54.00	-20.45	34.45	-0.90	Average	132	256
2	2744.70	41.52	74.00	-32.48	42.42	-0.90	Peak	132	256
3	3659.60	29.97	54.00	-24.03	27.85	2.12	Average	100	33
4	3659.60	42.48	74.00	-31.52	40.36	2.12	Peak	100	33
5	4574.50	32.17	54.00	-21.83	27.24	4.93	Average	100	48
6	4574.50	44.49	74.00	-29.51	39.56	4.93	Peak	100	48

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

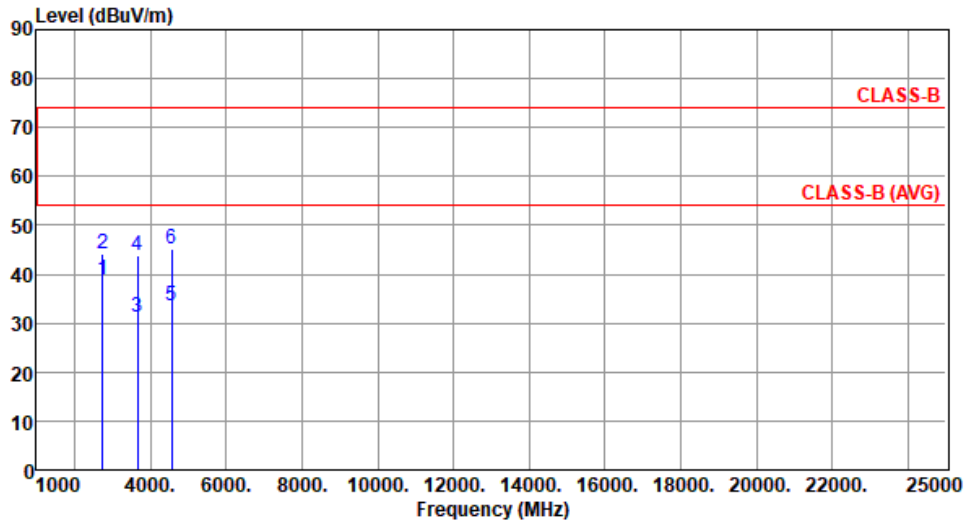
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).





Mode / SF	LoRa / 10	Test Freq. (MHz)	914.9
Polarization	Vertical		

Test By :Brad Wu      Temperature(°C):25      Humidity(%):63

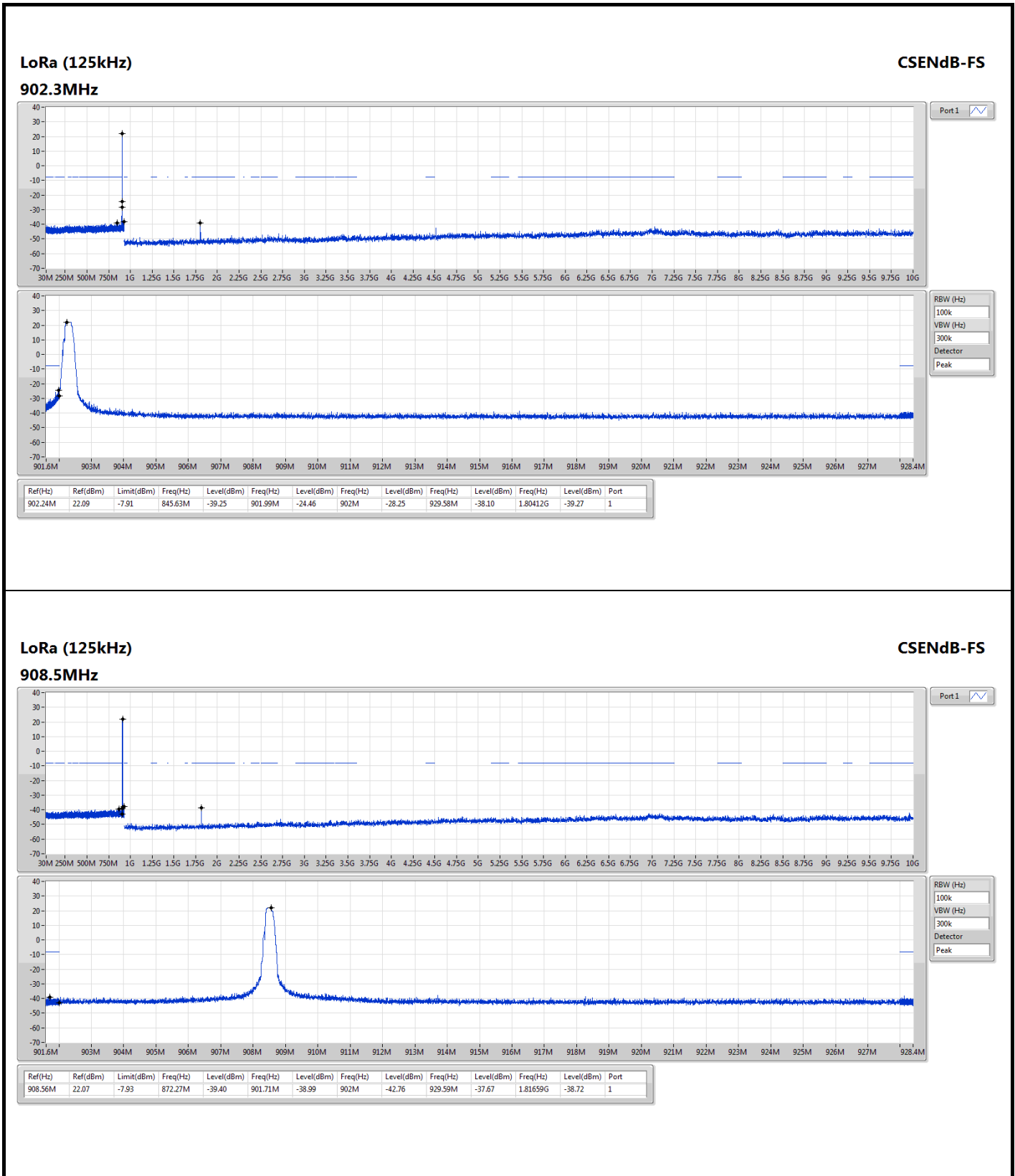


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2744.70	38.92	54.00	-15.08	39.82	-0.90	Average	170	58
2	2744.70	44.28	74.00	-29.72	45.18	-0.90	Peak	170	58
3	3659.60	31.31	54.00	-22.69	29.19	2.12	Average	104	22
4	3659.60	43.98	74.00	-30.02	41.86	2.12	Peak	104	22
5	4574.50	33.58	54.00	-20.42	28.65	4.93	Average	108	66
6	4574.50	45.18	74.00	-28.82	40.25	4.93	Peak	108	66

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

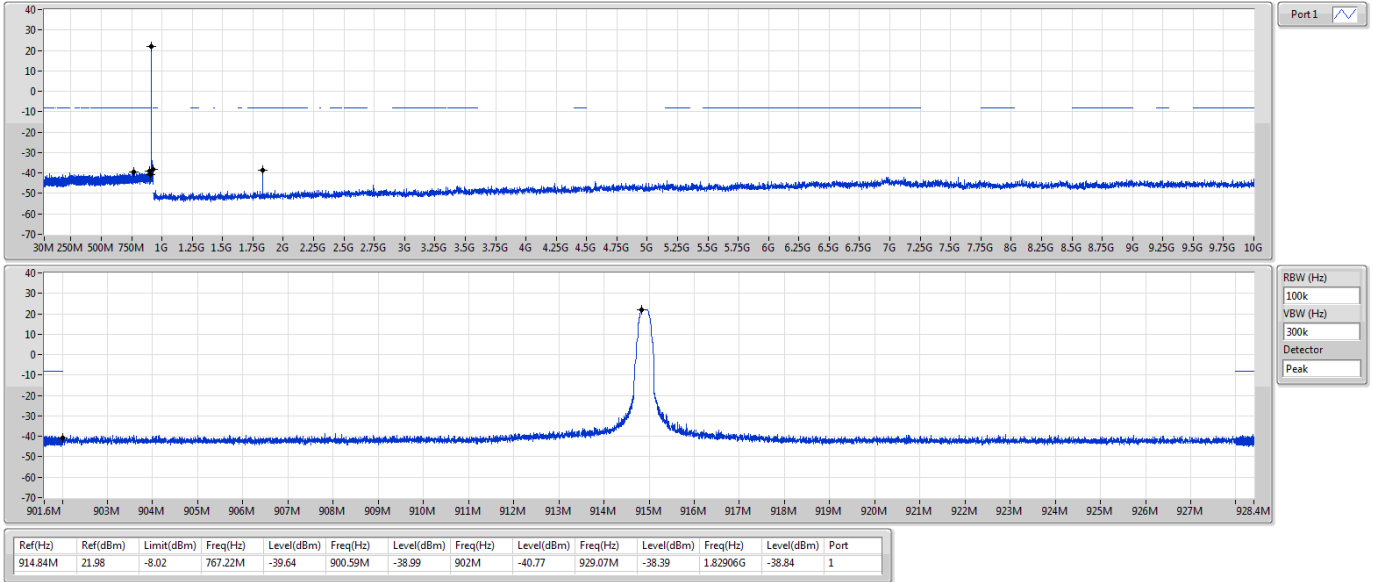




LoRa (125kHz)

CSEndB-FS

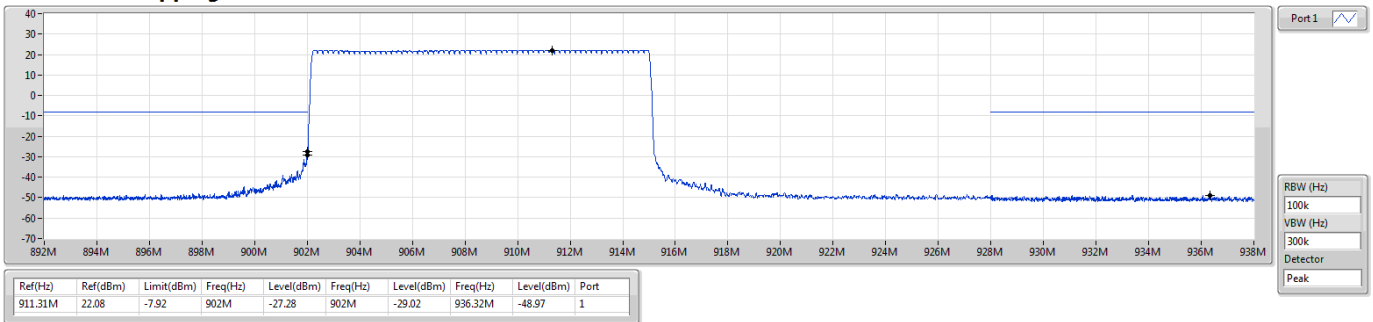
914.9MHz



LoRa (125kHz)

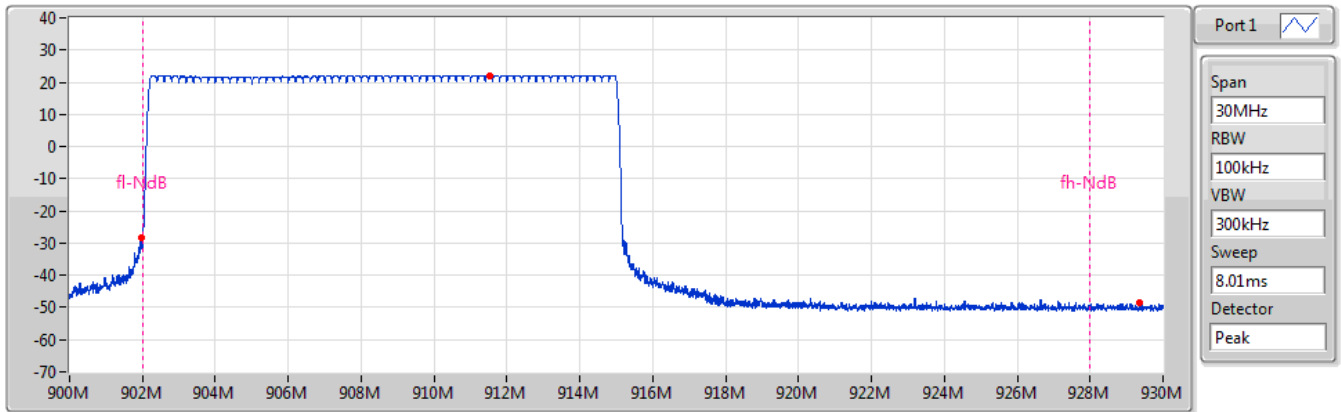
CSEndB-FS

902.3MHz-Hopping On





**LoRa (125kHz)**  
**902.3MHz**  
**Hopping Ch Bandedge (Non-restricted Band)**



Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
2.09	911.52M	22.09	901.96125M	-28.11	929.35125M	-48.53



**Summary**

<b>Mode</b>	<b>Power (dBm)</b>	<b>Power (W)</b>
902-928MHz	-	-
LoRa (125kHz)	22.22	0.16672

**Result**

<b>Mode</b>	<b>Result</b>	<b>Antenna Gain (dBi)</b>	<b>Power (dBm)</b>	<b>Power Limit (dBm)</b>
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	2.10	22.16	30.00
908.5MHz	Pass	2.10	22.22	30.00
914.9MHz	Pass	2.10	22.04	30.00



**Summary**

<b>Mode</b>	<b>Max-Hop No</b>
902-928MHz	-
LoRa (125kHz)	64

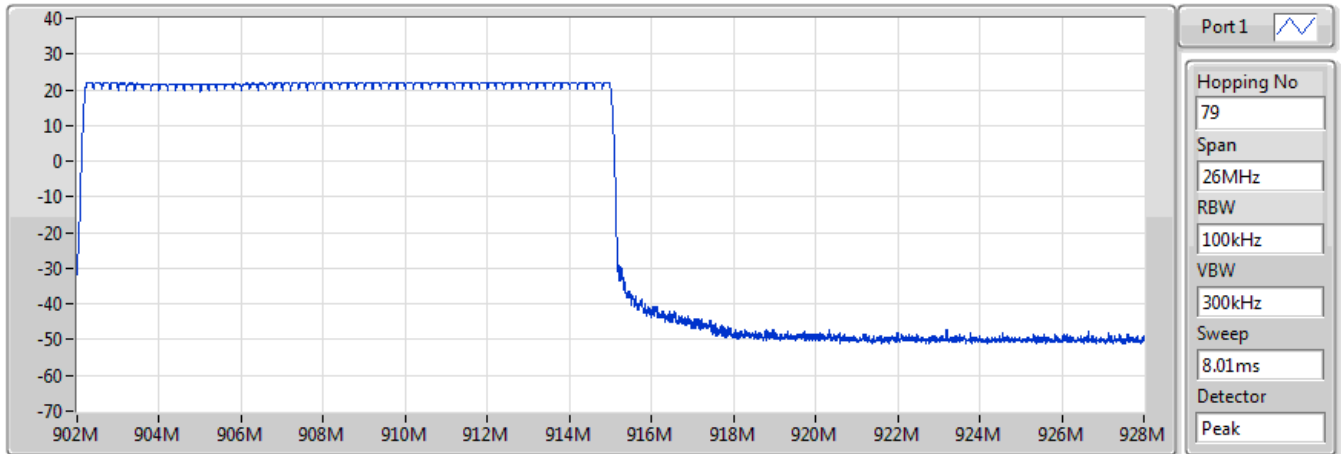
**Result**

<b>Mode</b>	<b>Result</b>	<b>Hopping No</b>	<b>Limit</b>
LoRa (125kHz)	-	-	-
902.3MHz	Pass	64	-



LoRa (125kHz)  
902.3MHz

Hopping-FS



Hopping No	Limit
64	15



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
902-928MHz	-	-	-	-	-
LoRa (125kHz)	133.333k	123.01k	123KF1D	133.333k	123.01k

Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;  
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	Inf	133.333k	123.01k
908.5MHz	Pass	Inf	133.333k	123.01k
914.9MHz	Pass	Inf	133.333k	123.01k

Port X-N dB = Port X 20dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth

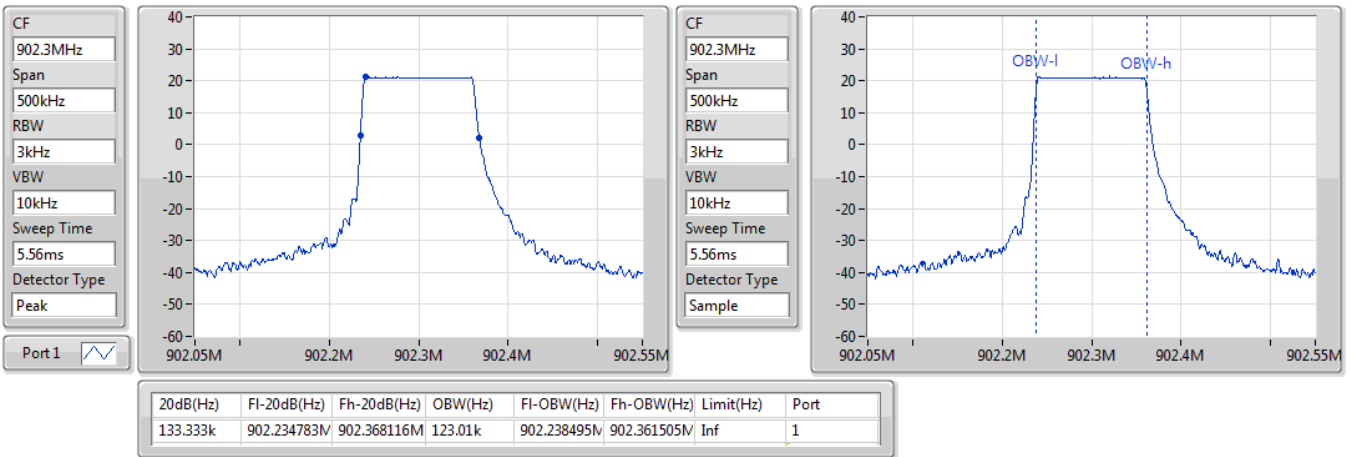




LoRa (125kHz)

EBW-FS

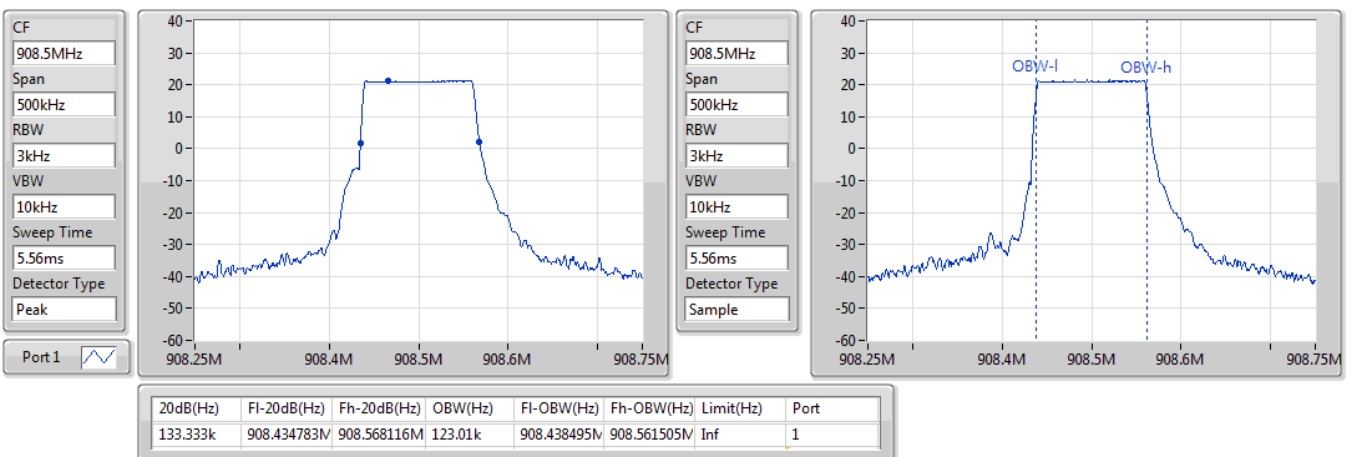
902.3MHz



LoRa (125kHz)

EBW-FS

908.5MHz



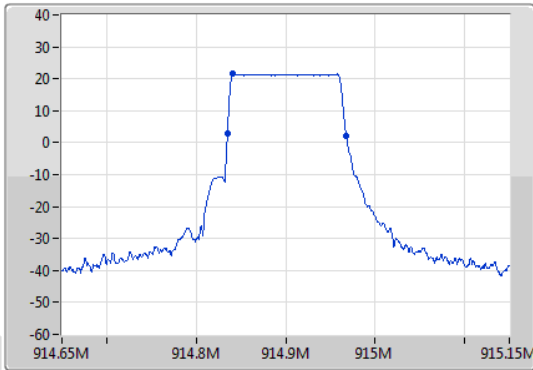


LoRa (125kHz)

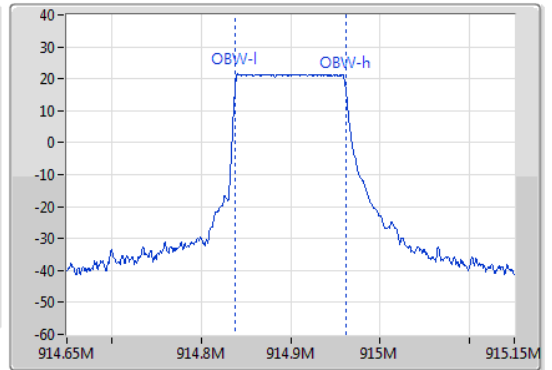
EBW-FS

914.9MHz

CF  
914.9MHz  
Span  
500kHz  
RBW  
3kHz  
VBW  
10kHz  
Sweep Time  
5.56ms  
Detector Type  
Peak  
Port 1



CF  
914.9MHz  
Span  
500kHz  
RBW  
3kHz  
VBW  
10kHz  
Sweep Time  
5.56ms  
Detector Type  
Sample



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
133.333k	914.834783M	914.968116M	123.01k	914.838495M	914.961505M	Inf	1



Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
902-928MHz	-	-
LoRa (125kHz)	201.73913k	200k

Result

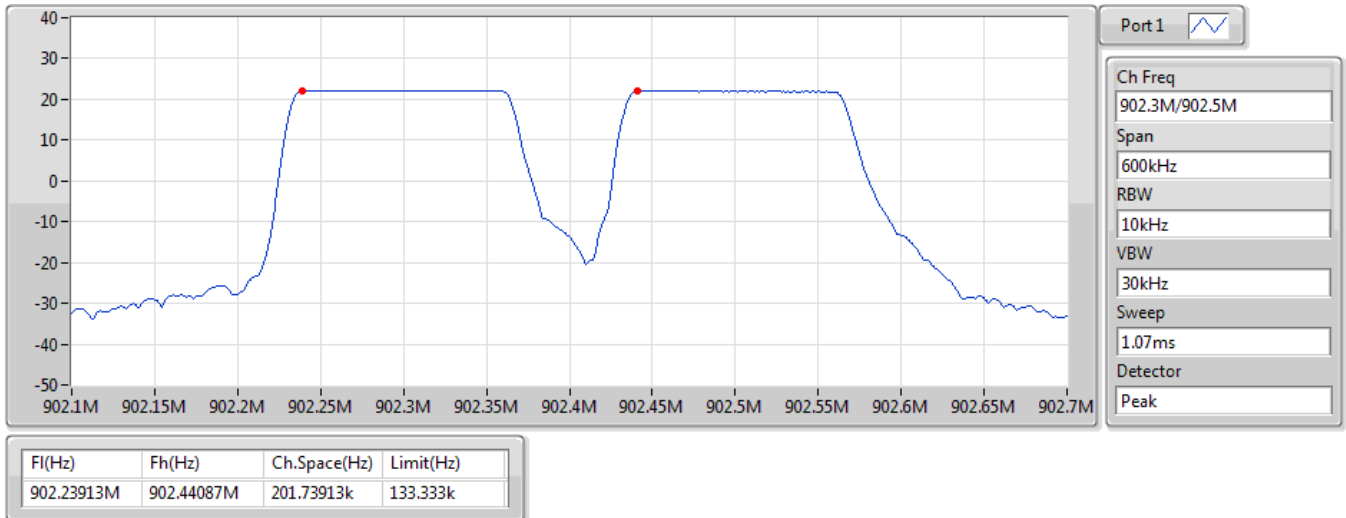
Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
LoRa (125kHz)	-	-	-	-	-
902.3MHz	Pass	902.23913M	902.44087M	201.73913k	133.333k
908.5MHz	Pass	908.558261M	908.758261M	200k	133.333k
914.9MHz	Pass	914.63913M	914.84087M	201.73913k	133.333k



### LoRa (125kHz)

### Channel Separation-FS

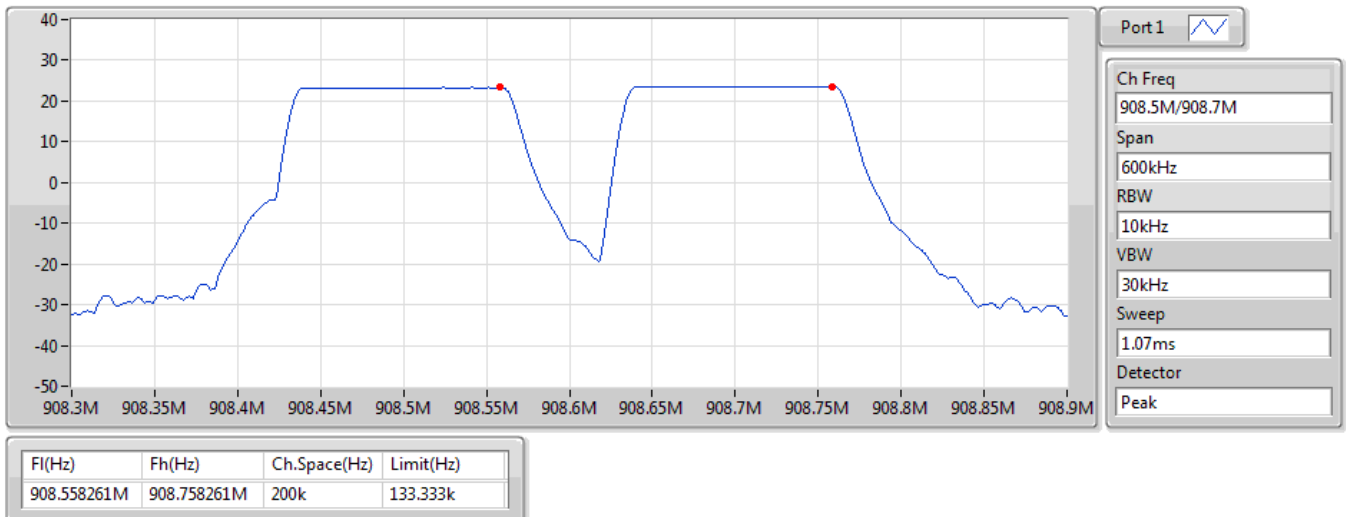
#### 902.3M/902.5MHz



### LoRa (125kHz)

### Channel Separation-FS

#### 908.5M/908.7MHz

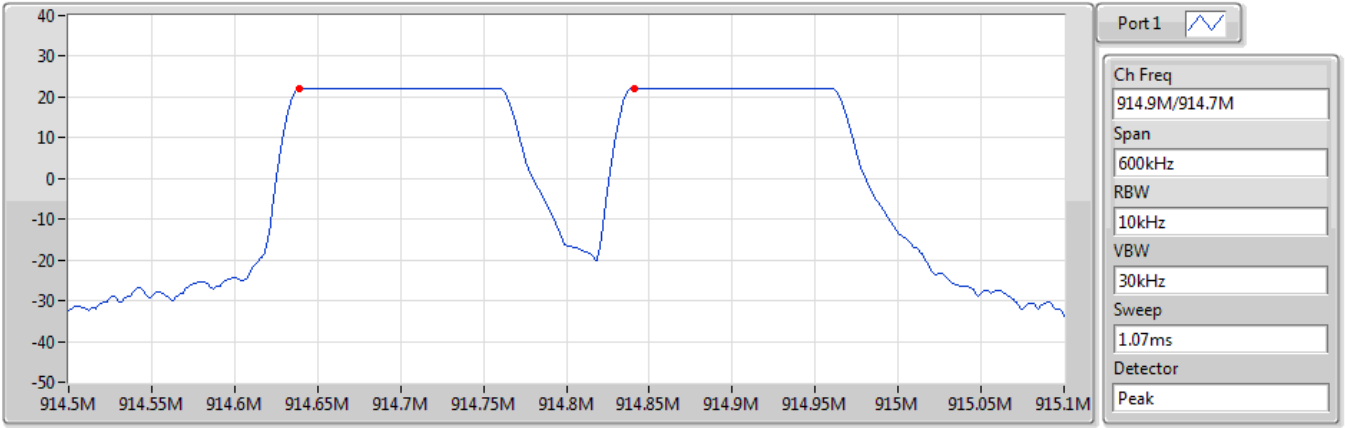




LoRa (125kHz)

Channel Separation-FS

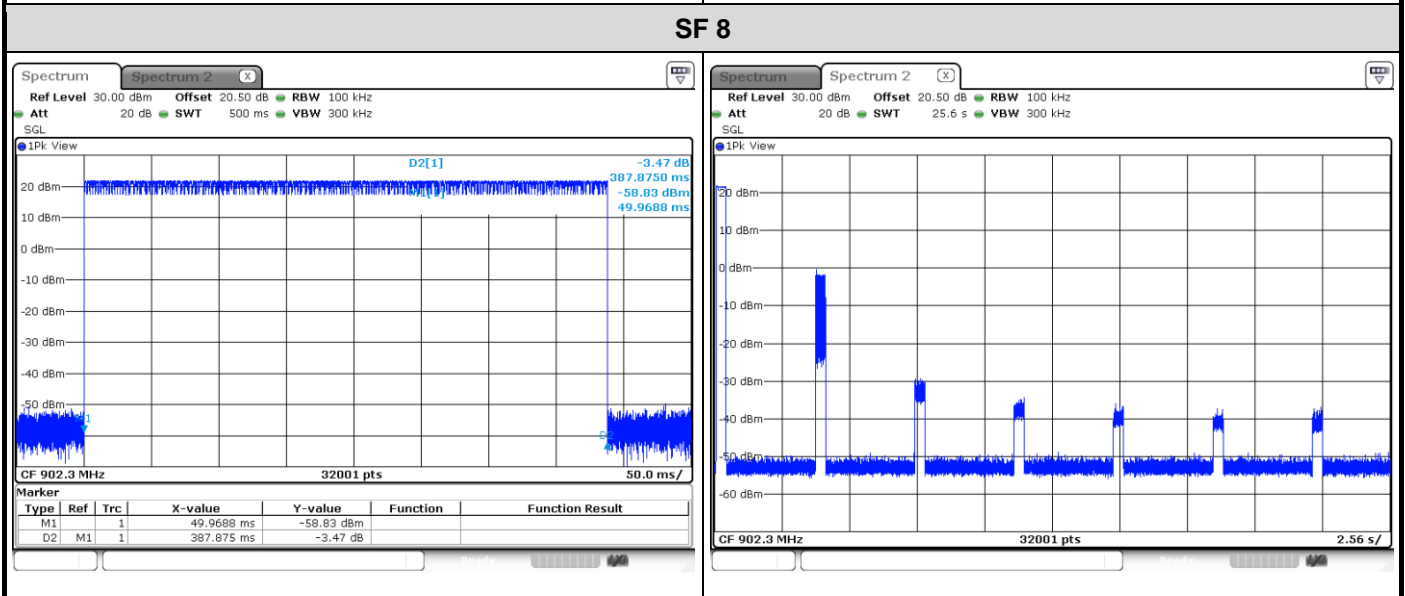
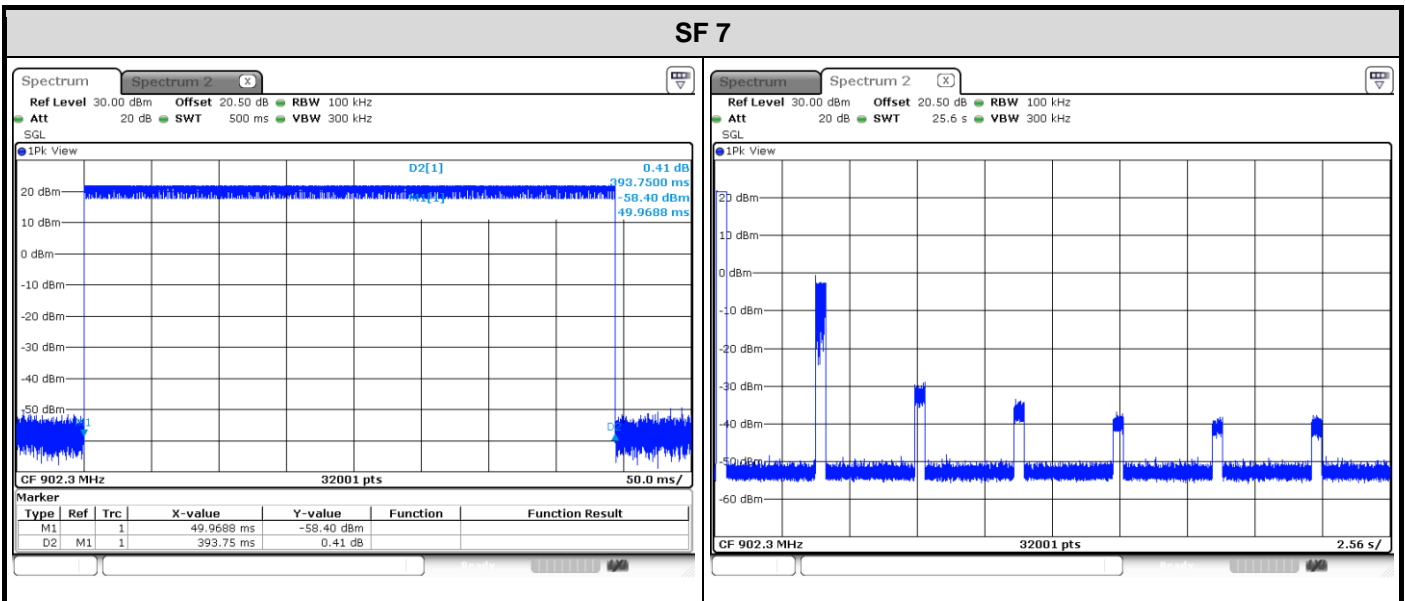
914.9M/914.7MHz

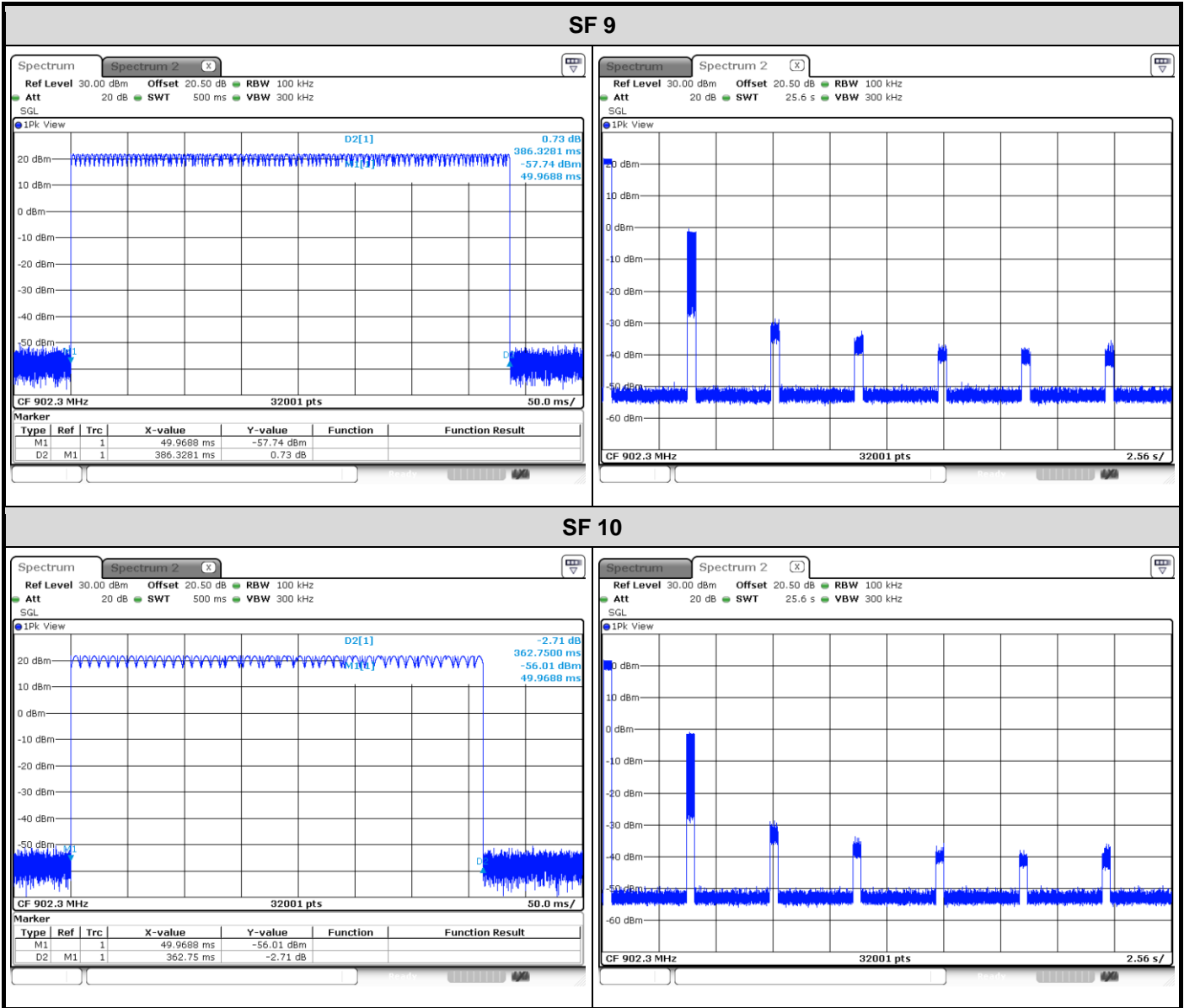


F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
914.63913M	914.84087M	201.73913k	133.333k



Mode / SF	Freq. (MHz)	Length of Transmission Time (sec)	Number of transmission in a 25.6 S (64 Hopping*0.4S)	Result (s)	Limit (s)
LoRa / 7	902.3	0.393750	1	0.393750	0.4
LoRa / 8	902.3	0.387875	1	0.387875	0.4
LoRa / 9	902.3	0.386328	1	0.386328	0.4
LoRa / 10	902.3	0.362750	1	0.362750	0.4







**Summary**

<b>Mode</b>	<b>PD (dBm/3kHz)</b>
902-928MHz	-
LoRa (125kHz)	7.76

**Result**

<b>Mode</b>	<b>Result</b>	<b>Antenna Gain (dBi)</b>	<b>Power Density (dBm/3kHz)</b>	<b>Power Density Limit (dBm/3kHz)</b>
LoRa (125kHz)	-	-	-	-
902.3MHz	Pass	2.10	7.55	8.00
908.5MHz	Pass	2.10	7.76	8.00
914.9MHz	Pass	2.10	7.65	8.00



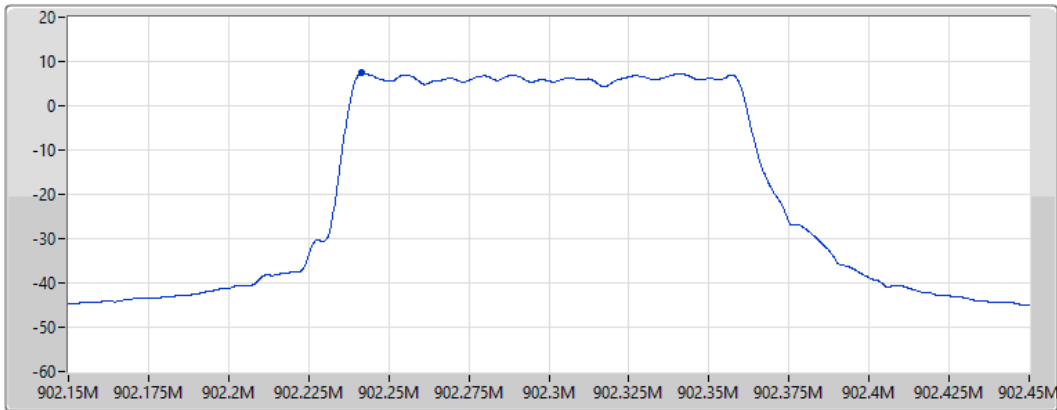


### LoRa (125kHz)

PSD

#### 902.3MHz

CF  
902.3MHz  
Span  
300kHz  
RBW  
3kHz  
VBW  
10kHz  
Sweep Time  
3.34ms  
Detector Type  
RMS



Port 1

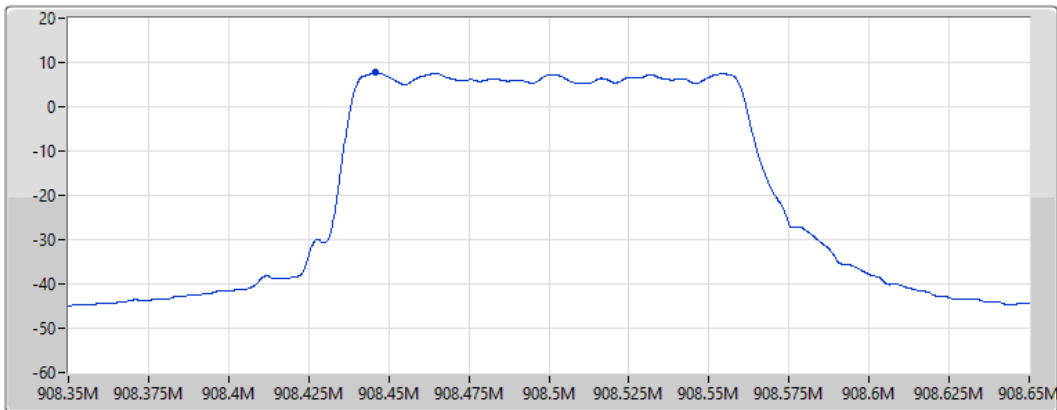
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.55	7.55	7.55

### LoRa (125kHz)

PSD

#### 908.5MHz

CF  
908.5MHz  
Span  
300kHz  
RBW  
3kHz  
VBW  
10kHz  
Sweep Time  
3.34ms  
Detector Type  
RMS



Port 1

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.76	7.76	7.76

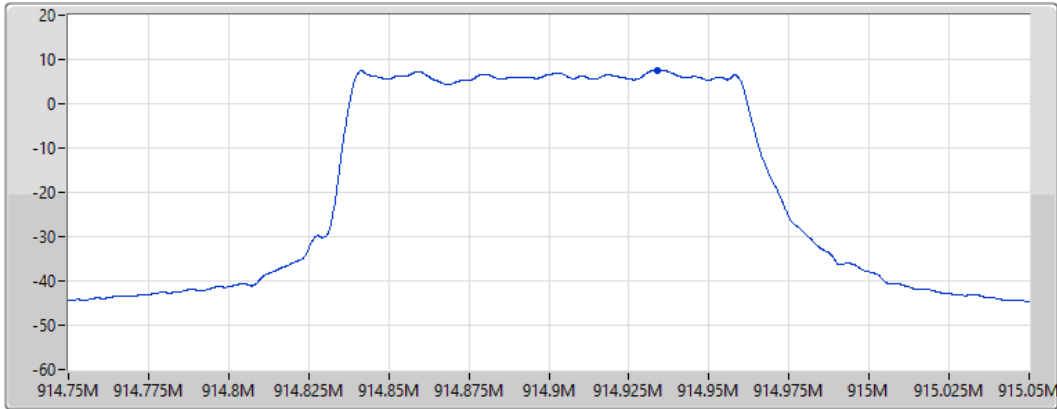


LoRa (125kHz)

PSD

914.9MHz

CF  
914.9MHz  
Span  
300kHz  
RBW  
3kHz  
VBW  
10kHz  
Sweep Time  
3.34ms  
Detector Type  
RMS

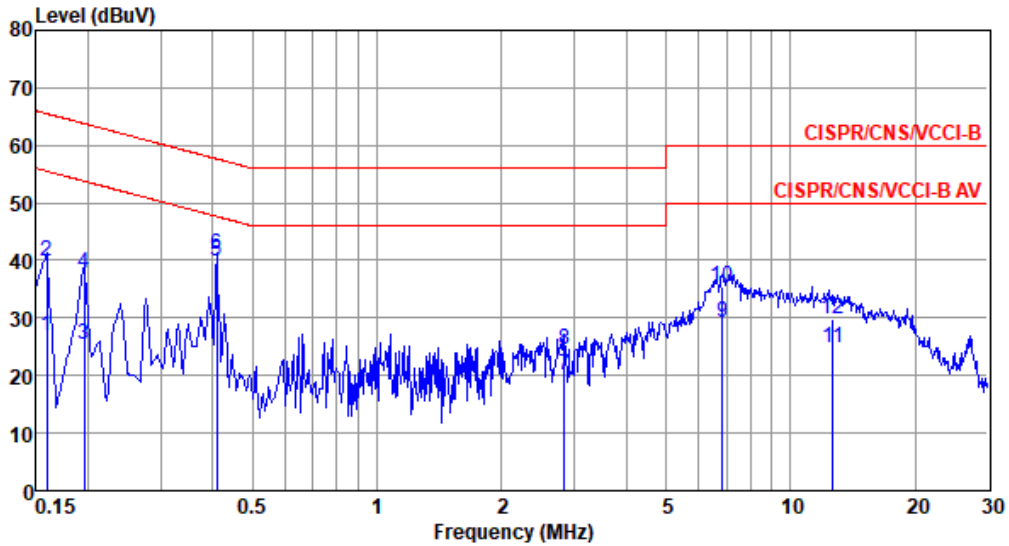


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.65	7.65	7.65



Power Phase	Line	Test Freq. (MHz)	902.3
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



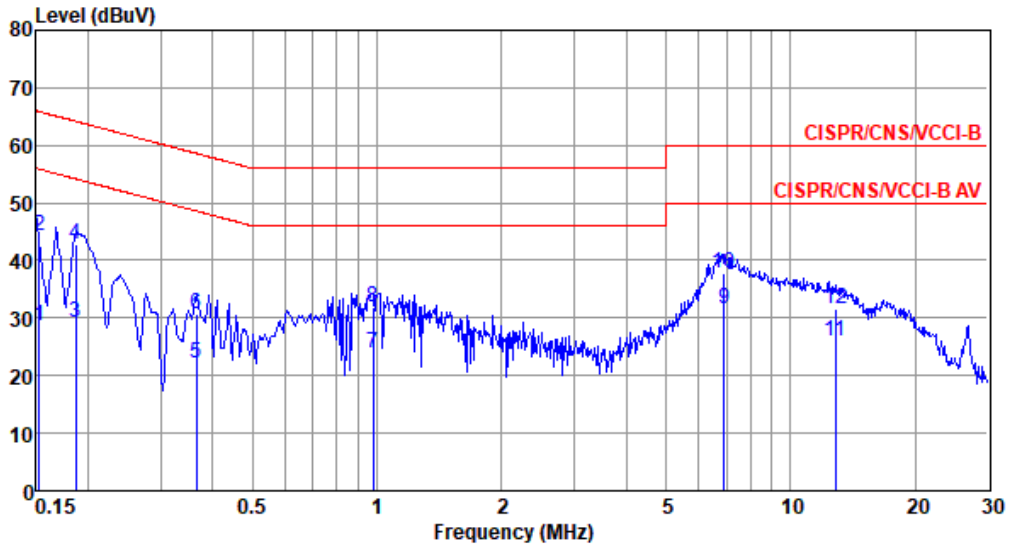
	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.159	26.78	55.52	-28.74	16.84	9.66	0.08	0.20	Average
2	0.159	39.71	65.52	-25.81	29.77	9.66	0.08	0.20	QP
3	0.195	25.25	53.80	-28.55	15.30	9.65	0.08	0.22	Average
4	0.195	37.83	63.80	-25.97	27.88	9.65	0.08	0.22	QP
5*	0.410	39.75	47.64	-7.89	29.67	9.64	0.08	0.36	Average
6	0.410	41.07	57.64	-16.57	30.99	9.64	0.08	0.36	QP
7	2.839	20.19	46.00	-25.81	9.92	9.66	0.20	0.41	Average
8	2.839	24.55	56.00	-31.45	14.28	9.66	0.20	0.41	QP
9	6.841	29.24	50.00	-20.76	18.77	9.69	0.35	0.43	Average
10	6.841	35.44	60.00	-24.56	24.97	9.69	0.35	0.43	QP
11	12.649	24.90	50.00	-25.10	14.20	9.70	0.51	0.49	Average
12	12.649	29.94	60.00	-30.06	19.24	9.70	0.51	0.49	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).  
 Note 2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).



Power Phase	Neutral	Test Freq. (MHz)	902.3
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.152	28.54	55.87	-27.33	18.61	9.69	0.08	0.16	Average
2	0.152	44.24	65.87	-21.63	34.31	9.69	0.08	0.16	QP
3	0.186	29.15	54.20	-25.05	19.22	9.68	0.08	0.17	Average
4	0.186	42.70	64.20	-21.50	32.77	9.68	0.08	0.17	QP
5	0.365	22.01	48.61	-26.60	12.07	9.67	0.08	0.19	Average
6	0.365	30.85	58.61	-27.76	20.91	9.67	0.08	0.19	QP
7	0.979	23.81	46.00	-22.19	13.69	9.68	0.16	0.28	Average
8	0.979	31.94	56.00	-24.06	21.82	9.68	0.16	0.28	QP
9*	6.914	31.59	50.00	-18.41	21.15	9.74	0.35	0.35	Average
10	6.914	37.70	60.00	-22.30	27.26	9.74	0.35	0.35	QP
11	12.852	25.99	50.00	-24.01	15.25	9.79	0.52	0.43	Average
12	12.852	31.57	60.00	-28.43	20.83	9.79	0.52	0.43	QP

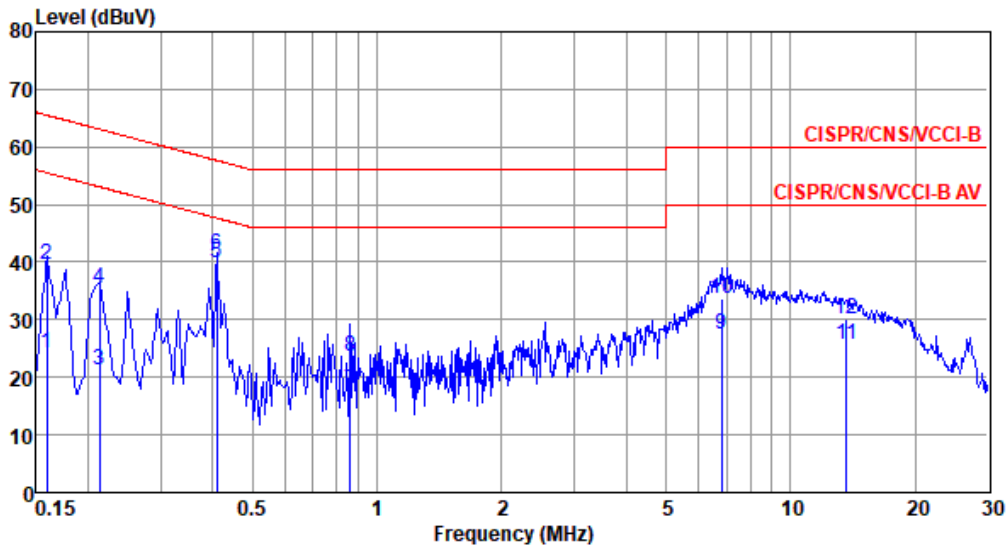
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).



Power Phase	Line	Test Freq. (MHz)	908.5
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.159	24.13	55.52	-31.39	14.19	9.66	0.08	0.20	Average
2	0.159	39.70	65.52	-25.82	29.76	9.66	0.08	0.20	QP
3	0.213	21.34	53.10	-31.76	11.38	9.65	0.08	0.23	Average
4	0.213	35.38	63.10	-27.72	25.42	9.65	0.08	0.23	QP
5*	0.410	39.98	47.64	-7.66	29.90	9.64	0.08	0.36	Average
6	0.410	41.25	57.64	-16.39	31.17	9.64	0.08	0.36	QP
7	0.862	17.58	46.00	-28.42	7.41	9.65	0.15	0.37	Average
8	0.862	23.60	56.00	-32.40	13.43	9.65	0.15	0.37	QP
9	6.805	27.53	50.00	-22.47	17.06	9.69	0.35	0.43	Average
10	6.805	33.52	60.00	-26.48	23.05	9.69	0.35	0.43	QP
11	13.623	25.76	50.00	-24.24	15.03	9.70	0.53	0.50	Average
12	13.623	30.21	60.00	-29.79	19.48	9.70	0.53	0.50	QP

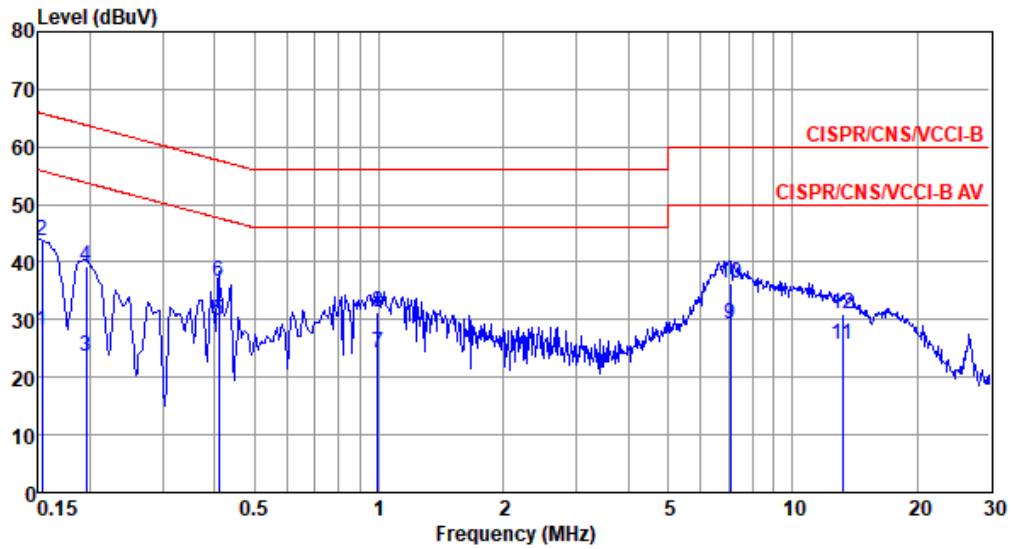
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).



Power Phase	Neutral	Test Freq. (MHz)	908.5
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



	Freq	Level	Limit	Over	Read	Factor	Cable	Aux	Remark
	MHz	dBuV	Line	Limit	Level	dB	loss	dB	
			dBuV	dB	dBuV		dB		
1	0.153	28.07	55.82	-27.75	18.14	9.69	0.08	0.16	Average
2	0.153	43.78	65.82	-22.04	33.85	9.69	0.08	0.16	QP
3	0.195	23.70	53.80	-30.10	13.76	9.68	0.08	0.18	Average
4	0.195	39.15	63.80	-24.65	29.21	9.68	0.08	0.18	QP
5*	0.410	29.85	47.64	-17.79	19.91	9.67	0.08	0.19	Average
6	0.410	36.62	57.64	-21.02	26.68	9.67	0.08	0.19	QP
7	0.994	24.31	46.00	-21.69	14.19	9.68	0.16	0.28	Average
8	0.994	31.23	56.00	-24.77	21.11	9.68	0.16	0.28	QP
9	7.062	29.10	50.00	-20.90	18.65	9.74	0.36	0.35	Average
10	7.062	36.20	60.00	-23.80	25.75	9.74	0.36	0.35	QP
11	13.197	25.57	50.00	-24.43	14.82	9.79	0.52	0.44	Average
12	13.197	30.93	60.00	-29.07	20.18	9.79	0.52	0.44	QP

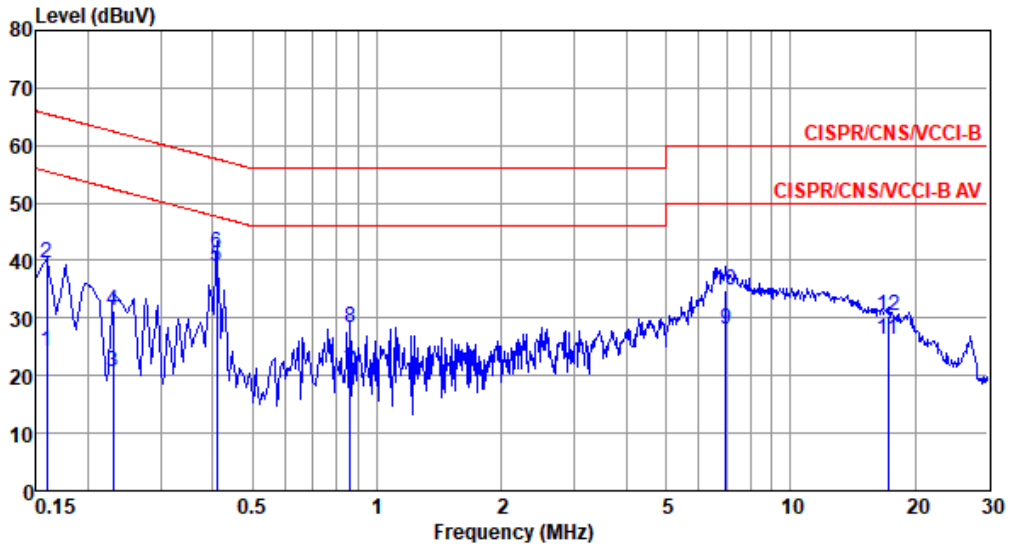
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).



Power Phase	Line	Test Freq. (MHz)	914.9
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.159	24.15	55.52	-31.37	14.21	9.66	0.08	0.20	Average
2	0.159	39.47	65.52	-26.05	29.53	9.66	0.08	0.20	QP
3	0.230	20.74	52.44	-31.70	10.76	9.65	0.08	0.25	Average
4	0.230	31.33	62.44	-31.11	21.35	9.65	0.08	0.25	QP
5*	0.410	39.02	47.64	-8.62	28.94	9.64	0.08	0.36	Average
6	0.410	41.23	57.64	-16.41	31.15	9.64	0.08	0.36	QP
7	0.862	20.57	46.00	-25.43	10.40	9.65	0.15	0.37	Average
8	0.862	28.46	56.00	-27.54	18.29	9.65	0.15	0.37	QP
9	6.988	28.17	50.00	-21.83	17.70	9.69	0.35	0.43	Average
10	6.988	34.73	60.00	-25.27	24.26	9.69	0.35	0.43	QP
11	17.199	26.30	50.00	-23.70	15.42	9.69	0.61	0.58	Average
12	17.199	30.47	60.00	-29.53	19.59	9.69	0.61	0.58	QP

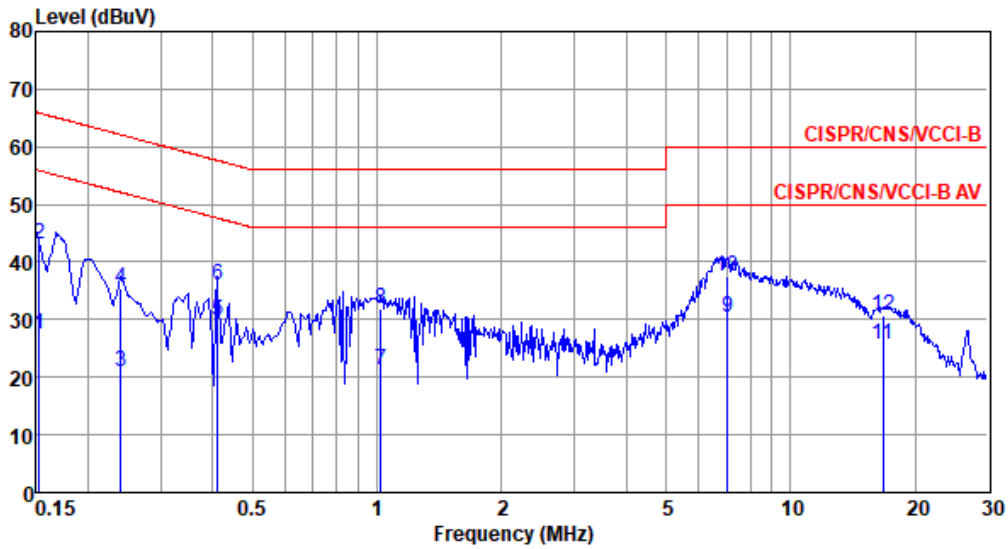
Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).



Power Phase	Neutral	Test Freq. (MHz)	914.9
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Test by : Joe Liao      Temperature: 20°C      Humidity: 60%



	Freq	Level	Limit	Over	Read	Factor	Cable	Aux	Remark
	MHz	dBuV	Line	Limit	Level	dB	loss	dB	
			dBuV	dB	dBuV		dB		
1	0.152	27.50	55.87	-28.37	17.57	9.69	0.08	0.16	Average
2	0.152	43.06	65.87	-22.81	33.13	9.69	0.08	0.16	QP
3	0.240	20.97	52.08	-31.11	11.03	9.68	0.08	0.18	Average
4	0.240	35.54	62.08	-26.54	25.60	9.68	0.08	0.18	QP
5*	0.412	29.87	47.61	-17.74	19.93	9.67	0.08	0.19	Average
6	0.412	35.88	57.61	-21.73	25.94	9.67	0.08	0.19	QP
7	1.021	21.16	46.00	-24.84	11.04	9.68	0.16	0.28	Average
8	1.021	31.80	56.00	-24.20	21.68	9.68	0.16	0.28	QP
9	7.025	30.34	50.00	-19.66	19.89	9.74	0.36	0.35	Average
10	7.025	37.48	60.00	-22.52	27.03	9.74	0.36	0.35	QP
11	16.750	25.66	50.00	-24.34	14.78	9.82	0.60	0.46	Average
12	16.750	30.65	60.00	-29.35	19.77	9.82	0.60	0.46	QP

Note 1: Level (dBUV) = Read Level (dBUV) + LISN Factor (dB) + Cable Loss (dB) + Aux (dB).

2: Over Limit (dB) = Level (dBUV) – Limit Line (dBUV).