

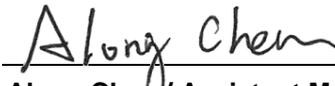
# FCC Test Report

**FCC ID** : P27MQIO  
**Equipment** : Mqio 9W  
**Model No.** : MIO-JU-B  
**Brand Name** : Sercomm, Comcast, MachineQ  
**Applicant** : Sercomm Corporation  
**Address** : 8F, 3-1, YuanQu St., NanKang, Taipei 115,  
Taiwan  
**Standard** : 47 CFR FCC Part 15.247  
**Received Date** : Aug. 01, 2025  
**Tested Date** : Aug. 11 ~ Aug. 25, 2025

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

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**Appendix A. 6dB and Occupied Bandwidth**

**Appendix B. Conducted Output Power**

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

**Appendix E. Emissions in Non-Restricted Frequency Bands**

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

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## Release Record

Report No.	Version	Description	Issued Date
FR580106-1LR	Rev. 01	Initial issue	Sep. 10, 2025

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.444MHz 28.24 (Margin -18.74dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 2.7234GHz 45.24 (Margin -8.76dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 19.25	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	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

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

RF General Information					
Frequency Range (MHz)	Ch. Frequency (MHz)	Channel Number	Physical bit rate (bit/sec)	Spread Factor	Channel Spacing (kHz)
902 ~ 928	903.0 ~ 914.2	64 ~ 71 [8]	21.9-980kbps	7 ~ 12	500
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.					
Note 2: The device uses LoRa modulation.					

### 1.1.2 Antenna Details

Brand	Model	Type	Connector	Gain (dBi)
Sercomm	MQio	PIFA	No	2.62

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

<b>Power Supply Type</b>	12Vdc from adapter
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Note: The above adapter power supply is not bundled in market.

### 1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	RS232	0.45m non-shielded without core
2	Magnetic Mounting Bracket 0	Brand: MachineQ Model: AIO-BA-B

### 1.1.5 Channel List

Frequency Range (MHz)	903.0 ~ 914.2
Channel	Frequency (MHz)
64	903.0
65	904.6
66	906.2
67	907.8
68	909.4
69	911.0
70	912.6
71	914.2

### 1.1.6 Test Tool and Duty Cycle

Test Tool	tera term, v4.105	
Duty Cycle and Duty Factor	Duty Cycle (%)	Duty Factor (dB)
	100.00%	0.00

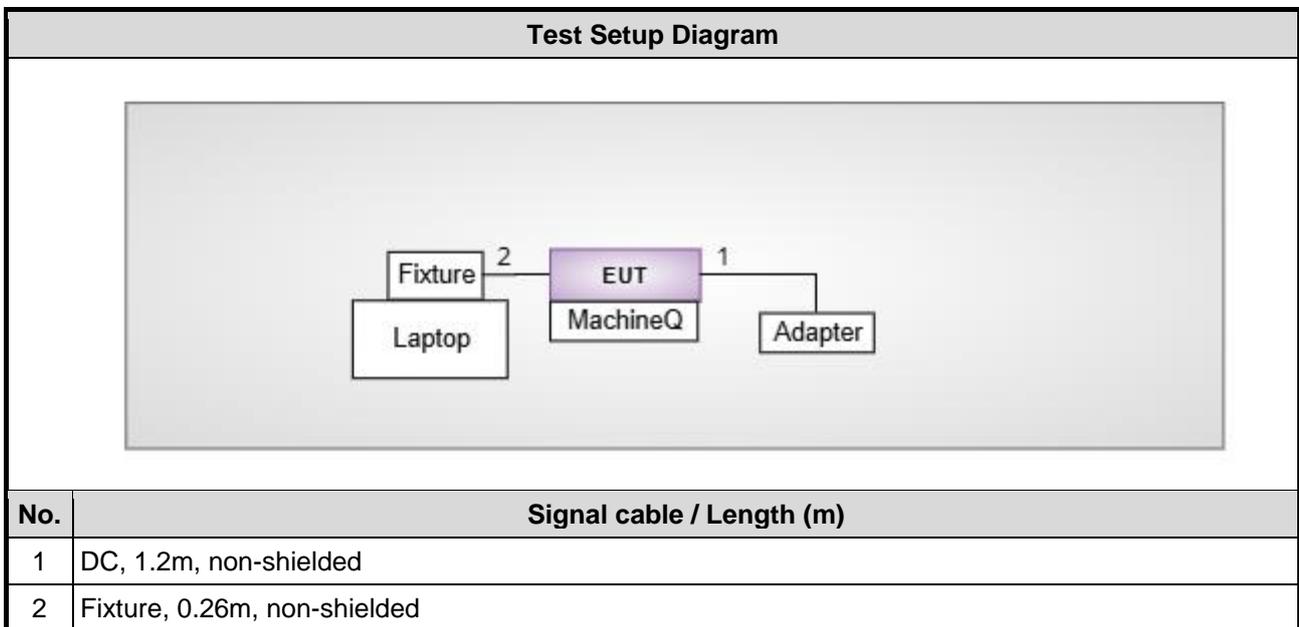
### 1.1.7 Power Index of Test Tool

Mode	Test Frequency (MHz)	Power Index
500kHz	903.0	22
500kHz	907.8	22
500kHz	914.2	22

## 1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Laptop	DELL	Latitude 5400	DoC	---
2	Fixture	---	---	---	Provided by applicant.
3	Adapter	LEI	MU24D1120200 -A1	---	Provided by applicant.

## 1.3 Test Setup Chart



## 1.4 The Equipment List

<b>Test Item</b>	Conducted Emission				
<b>Test Site</b>	Conduction room 1 / (CO01-WS)				
<b>Tested Date</b>	Aug. 25, 2025				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Receiver	R&S	ESR3	101658	Feb. 25, 2025	Feb. 24, 2026
LISN	R&S	ENV216	101579	May 07, 2025	May 06, 2026
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Mar. 21, 2025	Mar. 20, 2026
RF Cable-CON	EMC	EMCCFD300-BM-BM-6000	50821	Oct. 09, 2024	Oct. 08, 2025
50 ohm terminal	NA	50	3	Jul. 30, 2025	Jul. 29, 2026
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>	Aug. 20, 2025				
<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. 12, 2024	Nov. 11, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 26, 2024	Nov. 25, 2025
Power Sensor	Anritsu	MA2411B	1207366	Nov. 26, 2024	Nov. 25, 2025
Attenuator	Pasternack	PE7005-10	10-2	Oct. 04, 2024	Oct. 03, 2025
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	Radiated Emission				
<b>Test Site</b>	966 chamber1 / (03CH01-WS)				
<b>Tested Date</b>	Aug. 11 ~ Aug. 14, 2025				
<b>Instrument</b>	<b>Brand</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Receiver	R&S	ESR3	101657	Mar. 11, 2025	Mar. 10, 2026
Spectrum Analyzer	R&S	FSV40	101498	Nov. 12, 2024	Nov. 11, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 05, 2024	Nov. 04, 2025
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 04, 2025	Jul. 03, 2026
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Nov. 28, 2024	Nov. 27, 2025
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 18, 2024	Nov. 17, 2025
Preamplifier	EMC	EMC02325	980225	Jun. 13, 2025	Jun. 12, 2026
Preamplifier	EMC	EMC118A45SE	980898	Jun. 24, 2025	Jun. 23, 2026
Preamplifier	EMC	EMC184045SE	980903	Aug. 08, 2025	Aug. 07, 2026
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 02, 2024	Oct. 01, 2025
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 02, 2024	Oct. 01, 2025
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 02, 2024	Oct. 01, 2025
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 02, 2024	Oct. 01, 2025
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 02, 2024	Oct. 01, 2025
RF Cable	EMC	EMC104-35M-35M- 3000	210922	Oct. 02, 2024	Oct. 01, 2025
Attenuator	Pasternack	PE7005-10	10-1	Oct. 02, 2024	Oct. 01, 2025
HIGHPASS FILTER 1.5-15G	WHK	WHK1.5/15G-10ST	21	Oct. 02, 2024	Oct. 01, 2025
Measurement Software	Sporton	SENSE-EMI	V5.11	NA	NA
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA
Measurement Software	AUDIX	e3	6.120210g	NA	NA

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

## 1.5 Test Standards

47 CFR FCC Part 15.247  
ANSI C63.10-2020  
ANSI C63.4-2014 + C63.4a-2017

## 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	±34.130 Hz
Conducted power	±0.808 dB
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.41 dB
Radiated emission > 1GHz	±4.59 dB

## 2 Test Configuration

### 2.1 Testing Facility

<b>Test Laboratory</b>	International Certification Corporation
<b>Test Site</b>	CO01-WS, 03CH01-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.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- 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	500kHz	914.2	SF12	---
Unwanted Emissions ≤ 1GHz	500	903.0 / 907.8 / 914.2	SF12	---
Unwanted Emissions > 1GHz	500kHz	903.0 / 907.8 / 914.2	SF12	---
Conducted Output Power 6dB bandwidth Power spectral density	500kHz	903.0 / 907.8 / 914.2	SF12	---

**NOTE:**

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.

### 3 Transmitter Test Results

#### 3.1 6dB and Occupied Bandwidth

##### 3.1.1 Limit of 6dB Bandwidth

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

##### 3.1.2 Test Procedures

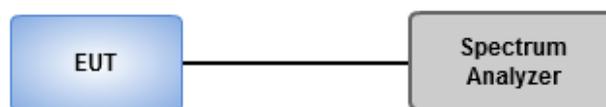
###### 6dB Bandwidth

1. Set resolution bandwidth (RBW) = 1% to 5% of the anticipated emission, Video bandwidth = 3x the RBW.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. 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 6dB relative to the maximum level measured in the fundamental emission.

###### Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 10kHz, Video bandwidth = 30kHz.
2. Detector = Sample, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

##### 3.1.3 Test Setup



##### 3.1.4 Test Results

<b>Ambient Condition</b>	25°C / 65%	<b>Tested By</b>	Aska Huang
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Refer to Appendix A.

## 3.2 Conducted Output Power

### 3.2.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain  $\leq 6\text{dBi}$ , no any corresponding reduction is in output power limit.

### 3.2.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. 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.

### 3.2.3 Test Setup



### 3.2.4 Test Results

<b>Ambient Condition</b>	25°C / 65%	<b>Tested By</b>	Aska Huang
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Refer to Appendix B.

### 3.3 Power Spectral Density

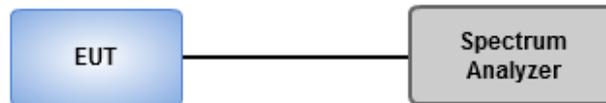
#### 3.3.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

#### 3.3.2 Test Procedures

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

#### 3.3.3 Test Setup



#### 3.3.4 Test Results

<b>Ambient Condition</b>	25°C / 65%	<b>Tested By</b>	Aska Huang
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Refer to Appendix C.

## 3.4 Unwanted Emissions into Restricted Frequency Bands

### 3.4.1 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:**  
Quasi-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.

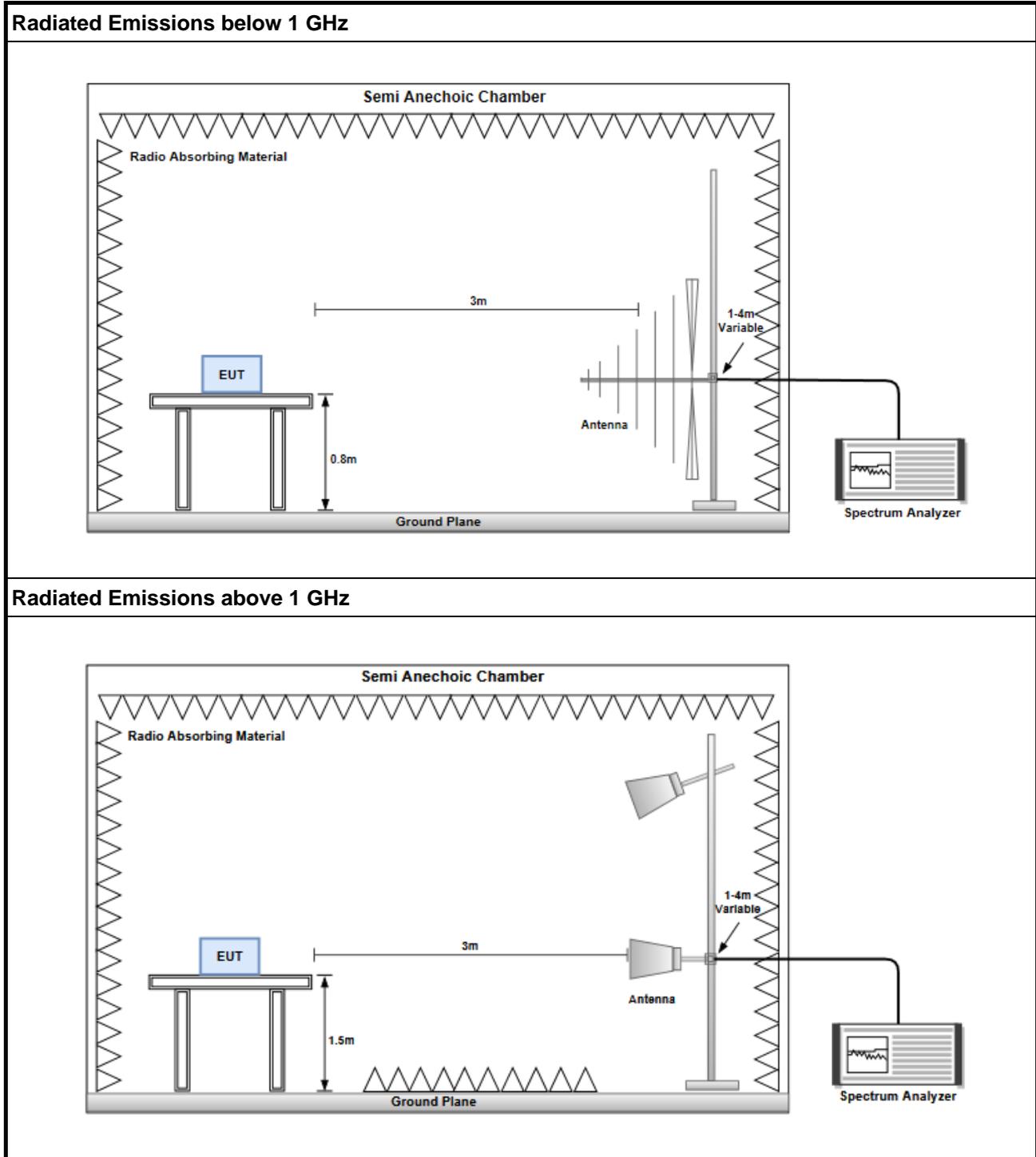
### 3.4.2 Test Procedures

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.

### 3.4.3 Test Setup



### 3.4.4 Test Results

<b>Ambient Condition</b>	24-25°C / 62-53%	<b>Tested By</b>	Akun Chung & Roger Lu
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Refer to Appendix D.

## 3.5 Emissions in Non-Restricted Frequency Bands

### 3.5.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power 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.

### 3.5.2 Test Procedures

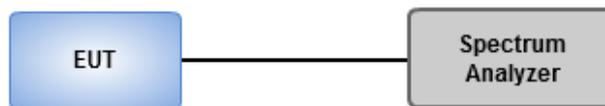
#### Reference level measurement

1. Set RBW=100kHz, VBW = 300kHz, Detector = Peak, Sweep time = Auto
2. Trace = max hold, Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

#### Emission level measurement

1. Set RBW=100kHz, VBW = 300kHz, Detector = Peak, Sweep time = Auto
2. Trace = max hold, Allow Trace to fully stabilize
3. Scan Frequency range is up to 10GHz
4. Use the peak marker function to determine the maximum amplitude level

### 3.5.3 Test Setup



### 3.5.4 Test Results

<b>Ambient Condition</b>	25°C / 65%	<b>Tested By</b>	Aska Huang
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Refer to Appendix E.

## 3.6 AC Power Line Conducted Emissions

### 3.6.1 Limit of AC Power Line Conducted Emissions

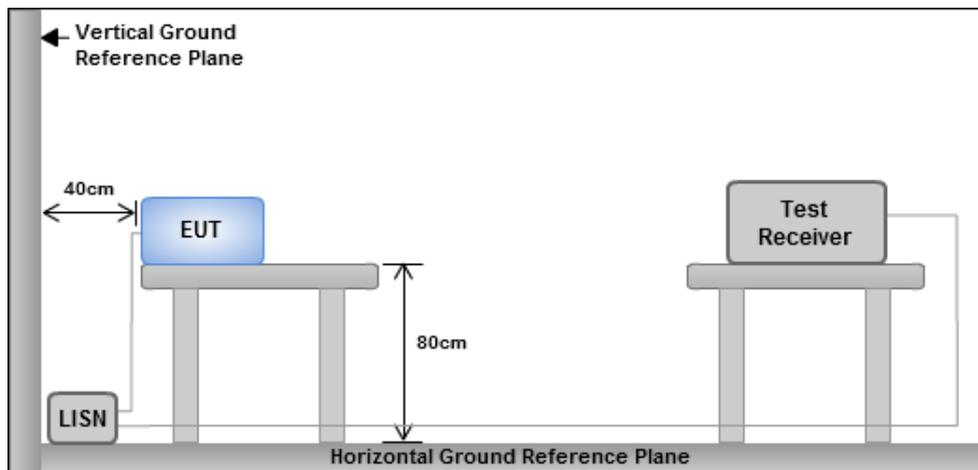
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

### 3.6.2 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.

### 3.6.3 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

### 3.6.4 Test Results

Refer to Appendix F.

## 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 <https://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 33381, 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==



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
902-928MHz	-	-	-	-	-
LoRa (500kHz)	642.5k	495.377k	495KF1D	639.375k	495.377k

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;  
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
LoRa (500kHz)	-	-	-	-
903MHz	Pass	500k	639.375k	495.377k
907.8MHz	Pass	500k	640k	495.377k
914.2MHz	Pass	500k	642.5k	495.377k

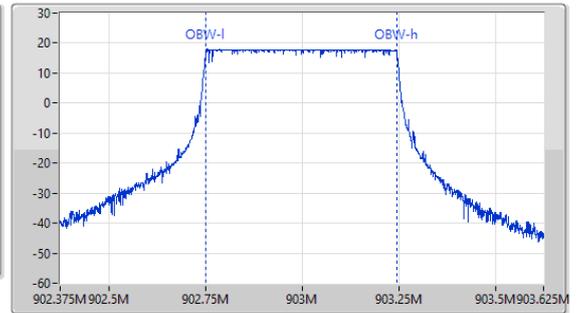
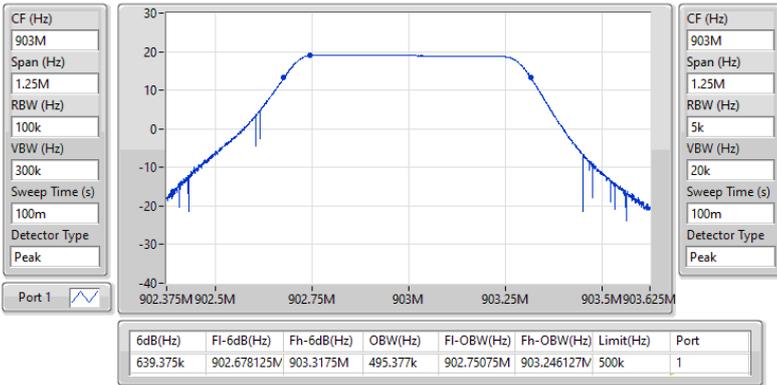
Port X-N dB = Port X 6dB down bandwidth;  
Port X-OBW = Port X 99% occupied bandwidth



902-928MHz\_LoRa (500kHz)

EBW-DTS

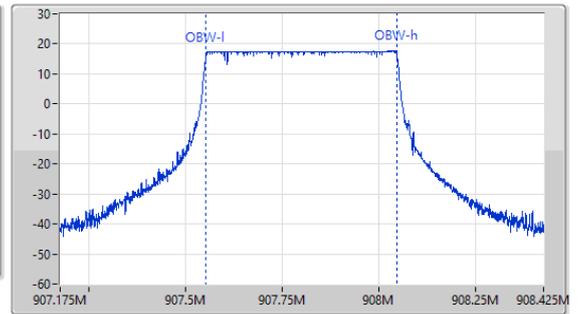
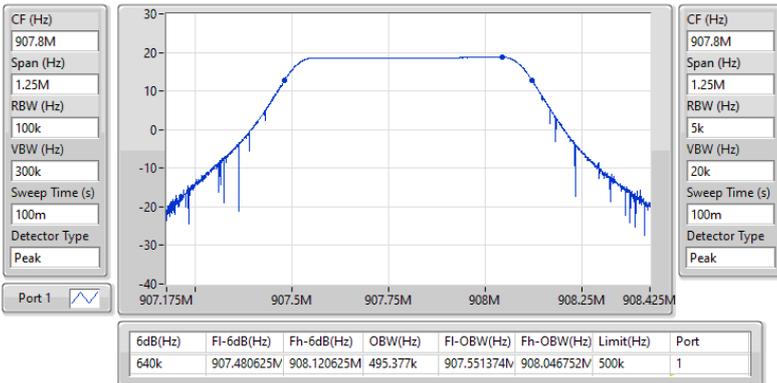
903MHz

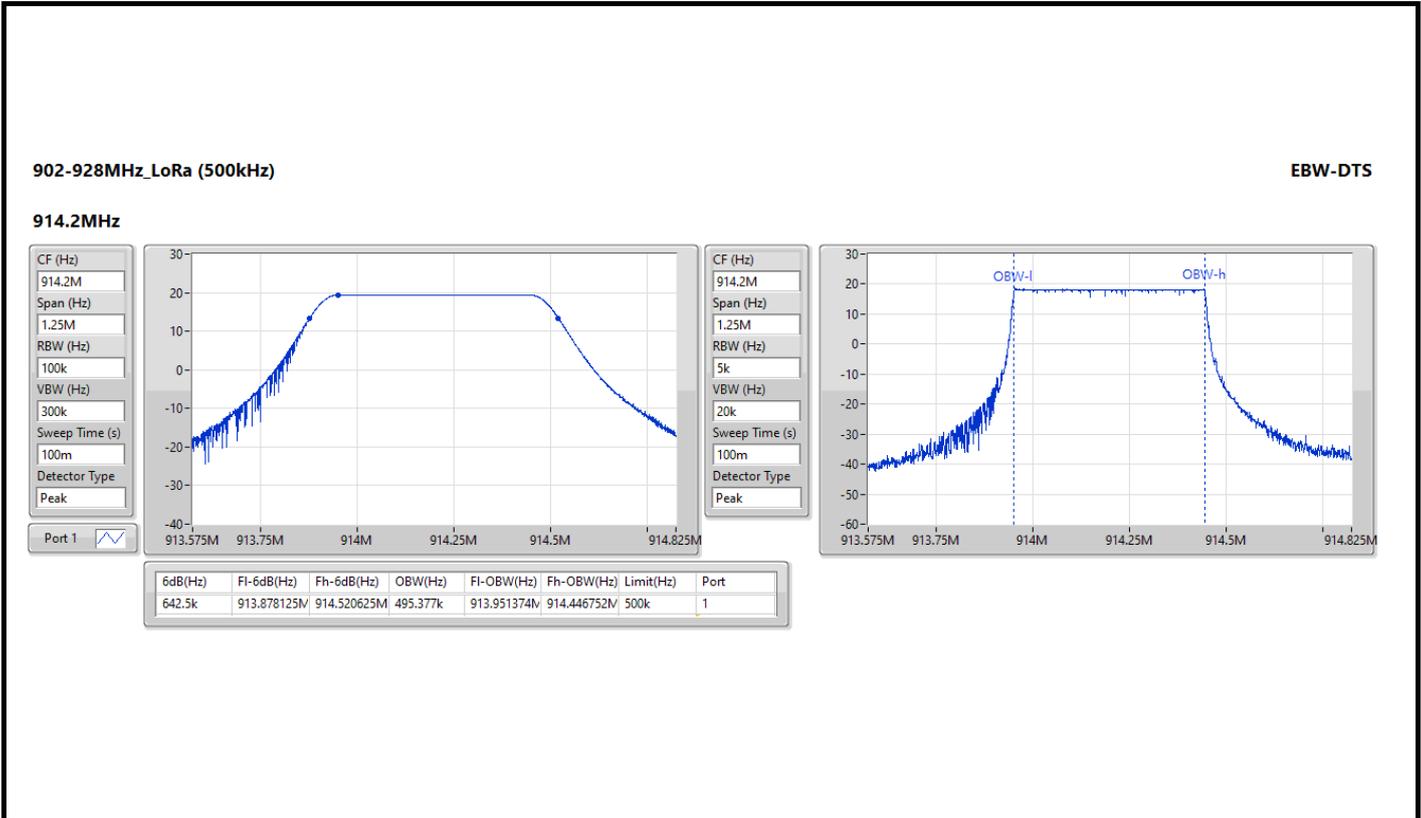


902-928MHz\_LoRa (500kHz)

EBW-DTS

907.8MHz







Summary

Mode	Total Power (dBm)	Total Power (W)
902-928MHz	-	-
LoRa (500kHz)	19.25	0.08414

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
LoRa (500kHz)	-	-	-	-	-	-
903MHz	Pass	2.62	19.10	30.00	21.72	36.00
907.8MHz	Pass	2.62	19.05	30.00	21.67	36.00
914.2MHz	Pass	2.62	19.25	30.00	21.87	36.00

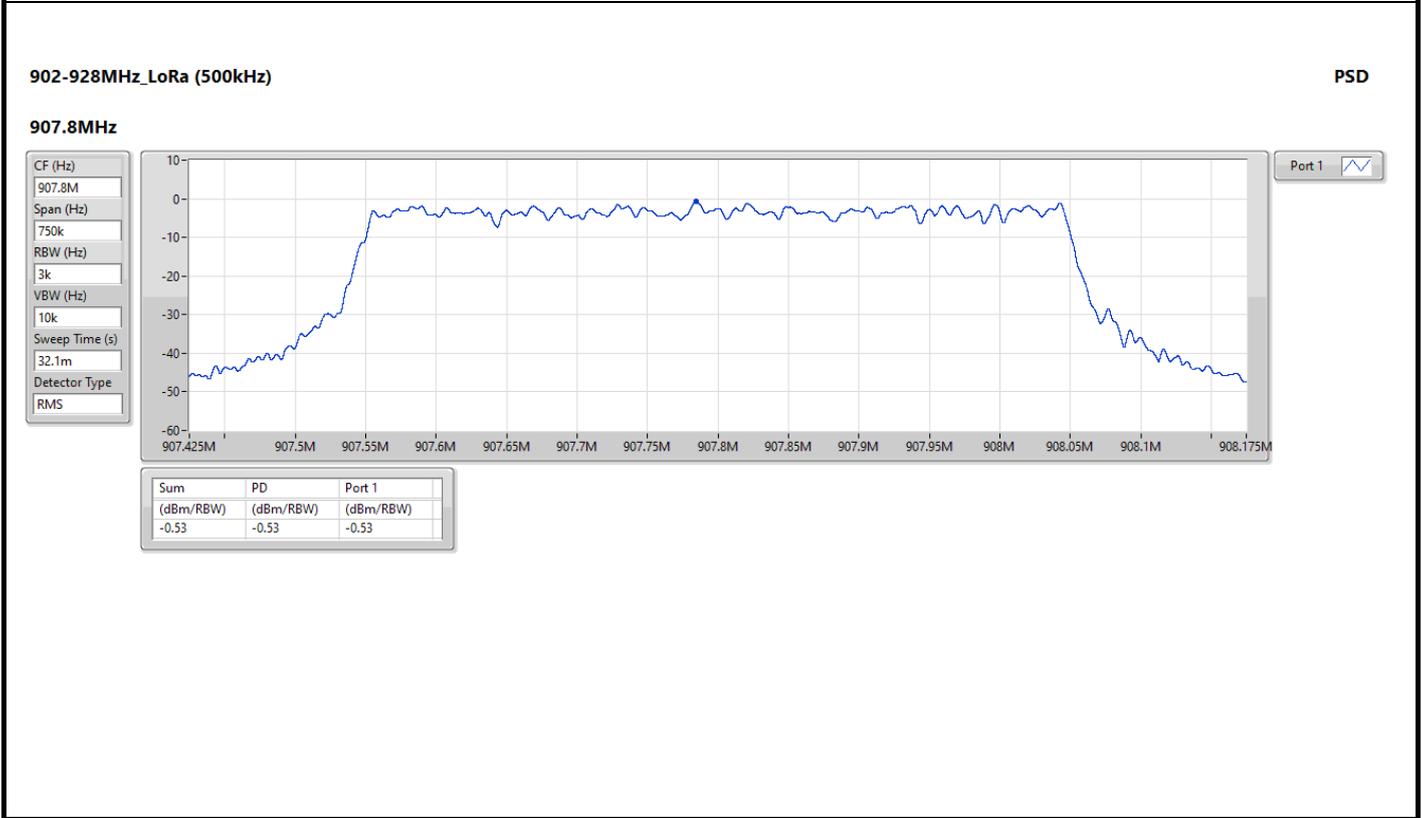
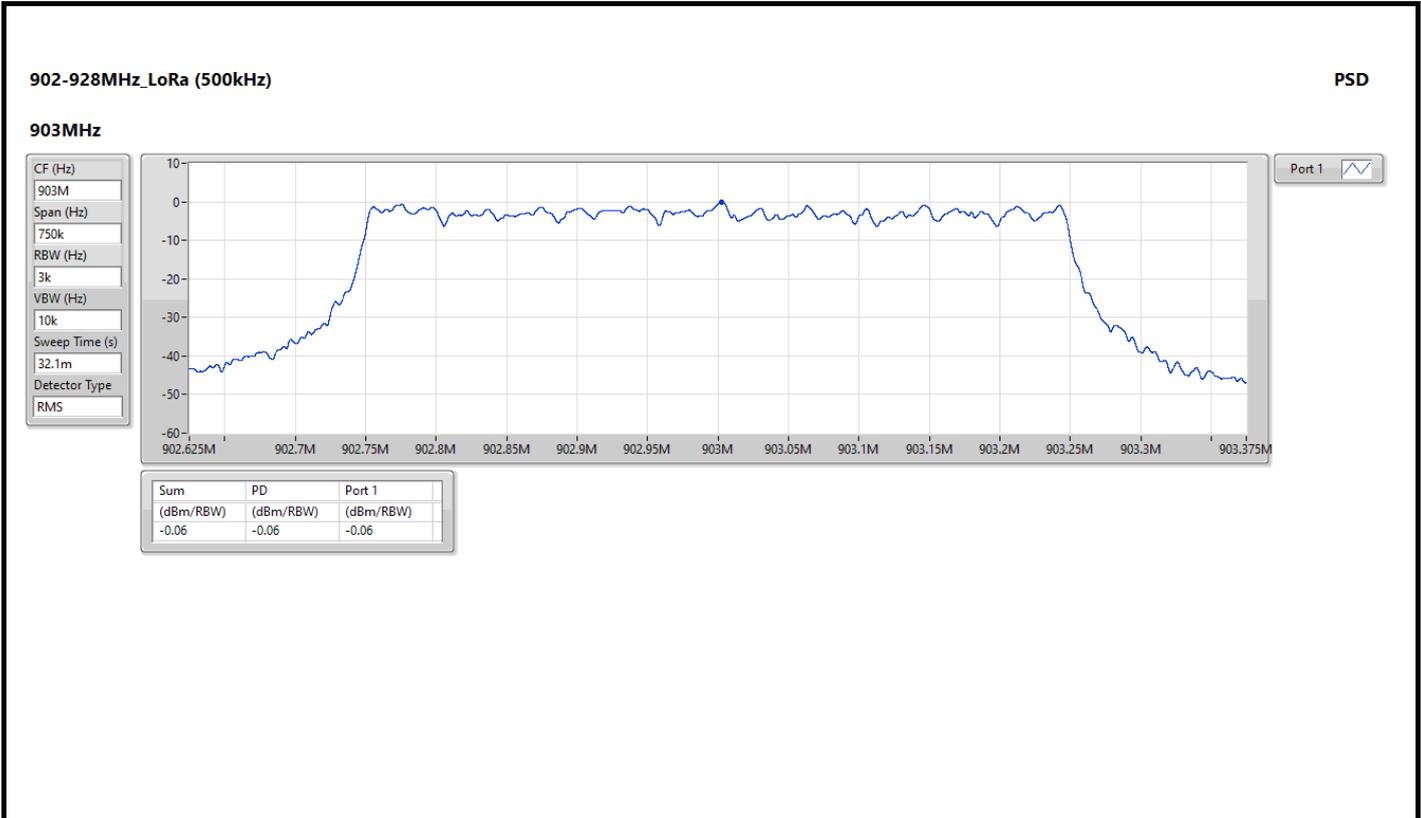


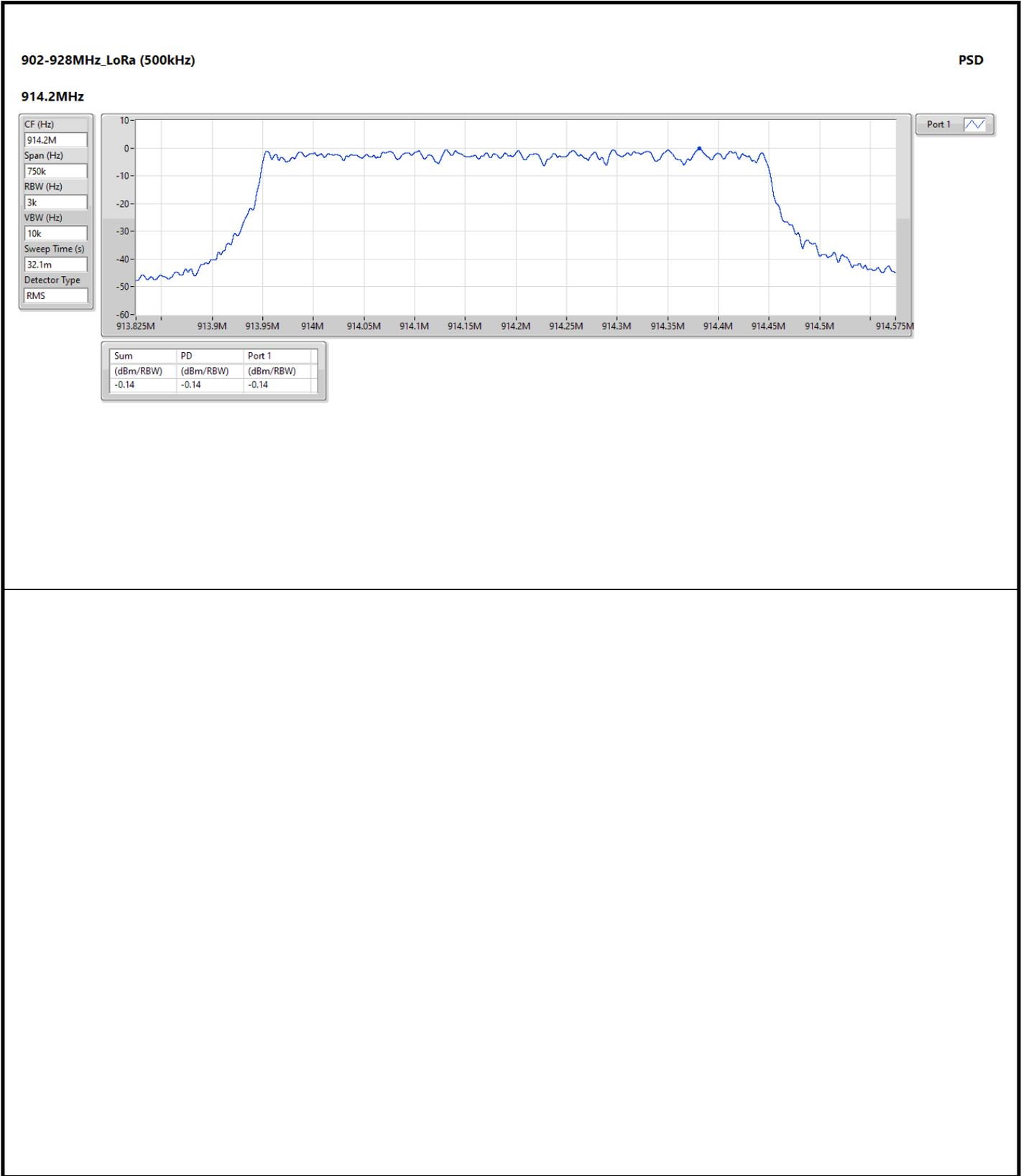
**Summary**

<b>Mode</b>	<b>PD (dBm/3kHz)</b>
902-928MHz	-
LoRa (500kHz)	-0.06

**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 (500kHz)	-	-	-	-
903MHz	Pass	2.62	-0.06	8.00
907.8MHz	Pass	2.62	-0.53	8.00
914.2MHz	Pass	2.62	-0.14	8.00





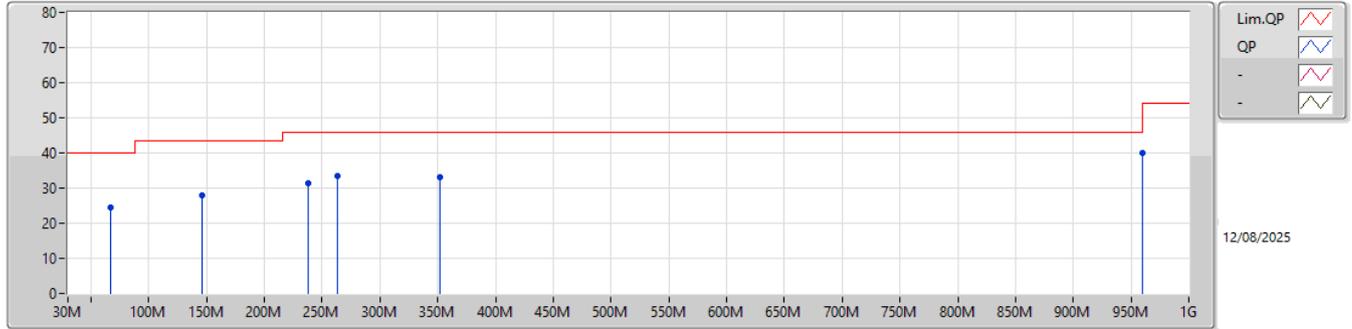


**Summary**

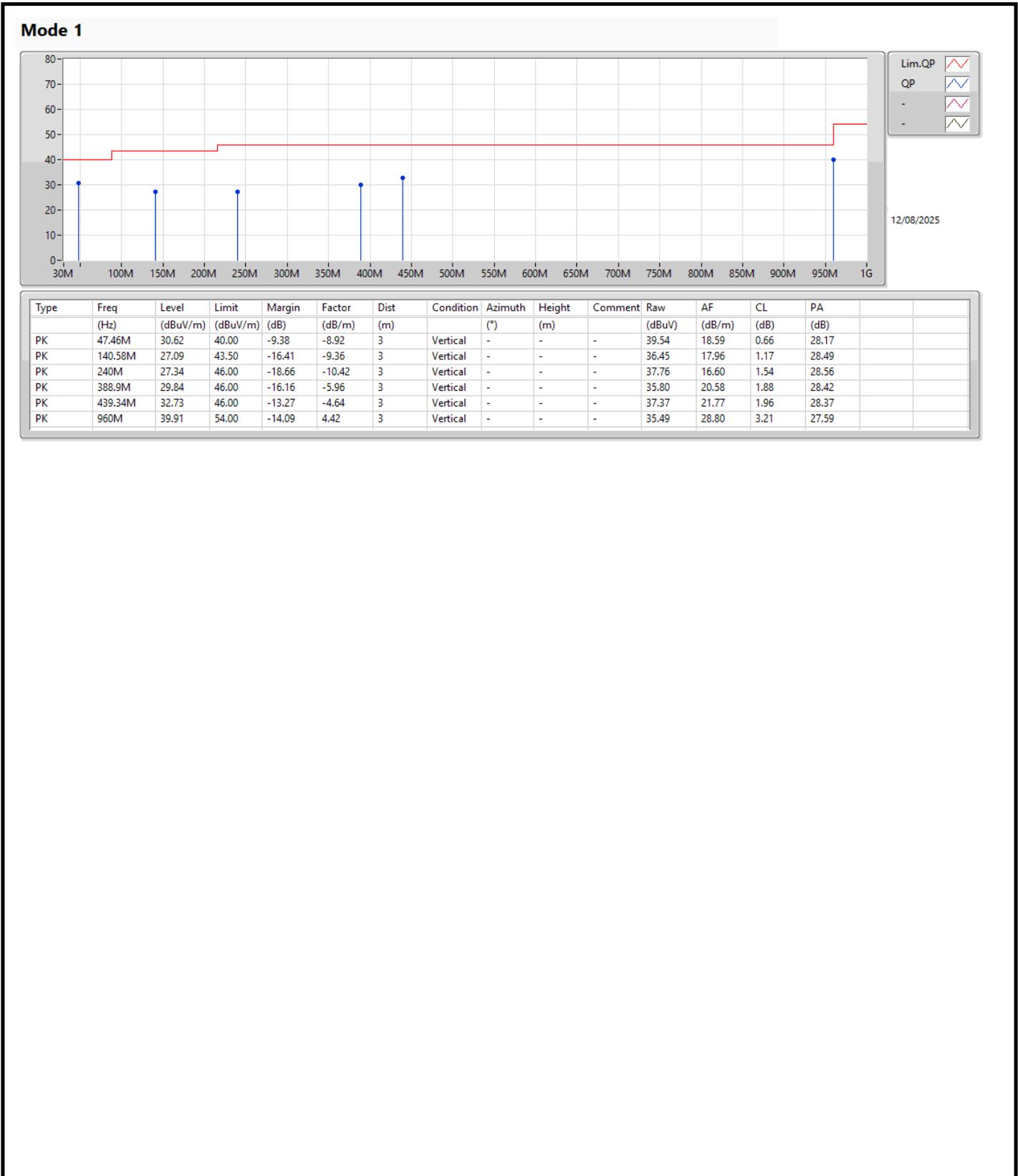
<b>Mode</b>	<b>Result</b>	<b>Type</b>	<b>Freq (Hz)</b>	<b>Level (dBuV/m)</b>	<b>Limit (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Condition</b>
Mode 1	Pass	PK	47.46M	30.62	40.00	-9.38	Vertical
Mode 2	Pass	PK	55.31M	30.26	40.00	-9.74	Vertical
Mode 3	Pass	PK	55.22M	30.12	40.00	-9.88	Vertical



Mode 1

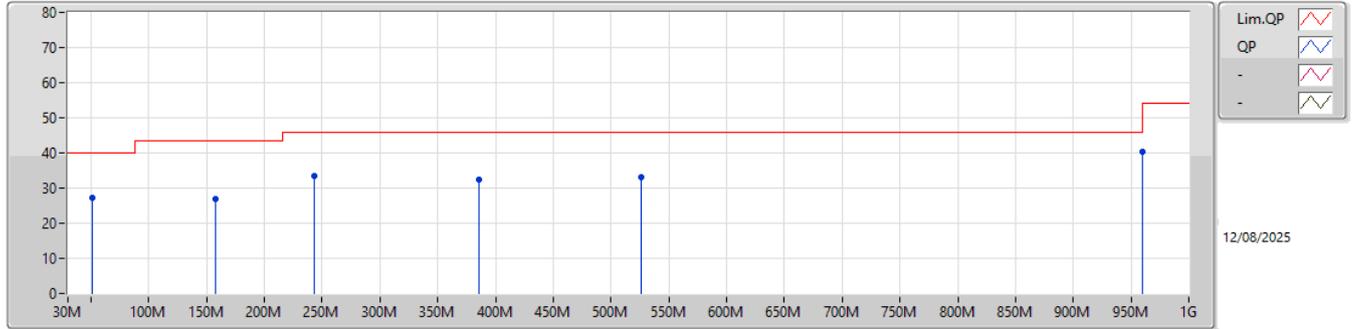


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
PK	66.86M	24.35	40.00	-15.65	-10.72	3	Horizontal	-	-	-	35.07	16.70	0.83	28.25
PK	146.4M	27.99	43.50	-15.51	-8.81	3	Horizontal	-	-	-	36.80	18.48	1.20	28.49
PK	237.58M	31.44	46.00	-14.56	-10.62	3	Horizontal	-	-	-	42.06	16.41	1.53	28.56
PK	262.8M	33.47	46.00	-12.53	-9.76	3	Horizontal	-	-	-	43.23	17.16	1.63	28.55
PK	352.04M	33.23	46.00	-12.77	-7.25	3	Horizontal	-	-	-	40.48	19.40	1.82	28.47
PK	960M	40.01	54.00	-13.99	4.42	3	Horizontal	--	-	-	35.59	28.80	3.21	27.59





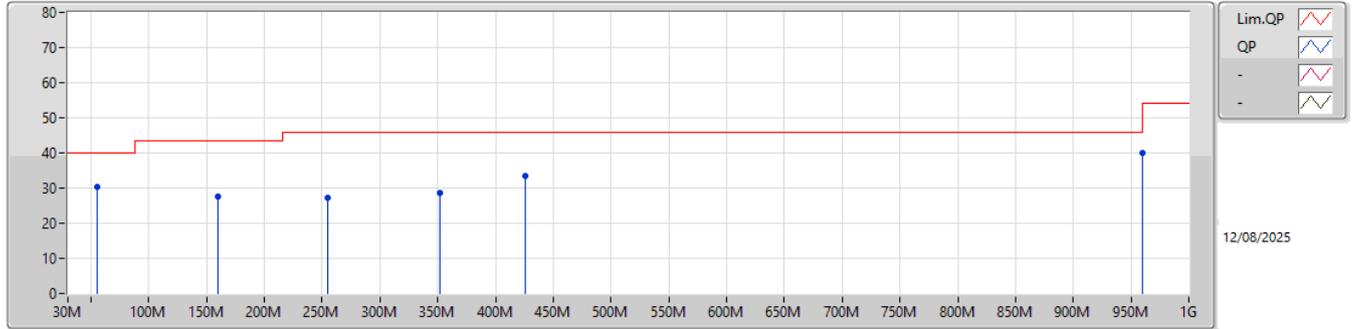
Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
PK	51.52M	27.26	40.00	-12.74	-8.70	3	Horizontal	-	-	-	35.96	18.75	0.72	28.17
PK	158.13M	26.89	43.50	-16.61	-8.87	3	Horizontal	-	-	-	35.76	18.40	1.24	28.51
PK	243.56M	33.41	46.00	-12.59	-10.27	3	Horizontal	-	-	-	43.68	16.74	1.55	28.56
PK	385.21M	32.29	46.00	-13.71	-6.05	3	Horizontal	-	-	-	38.34	20.50	1.88	28.43
PK	526.58M	33.12	46.00	-12.88	-3.15	3	Horizontal	-	-	-	36.27	23.03	2.15	28.33
PK	960M	40.22	54.00	-13.78	4.42	3	Horizontal	-	-	-	35.80	28.80	3.21	27.59



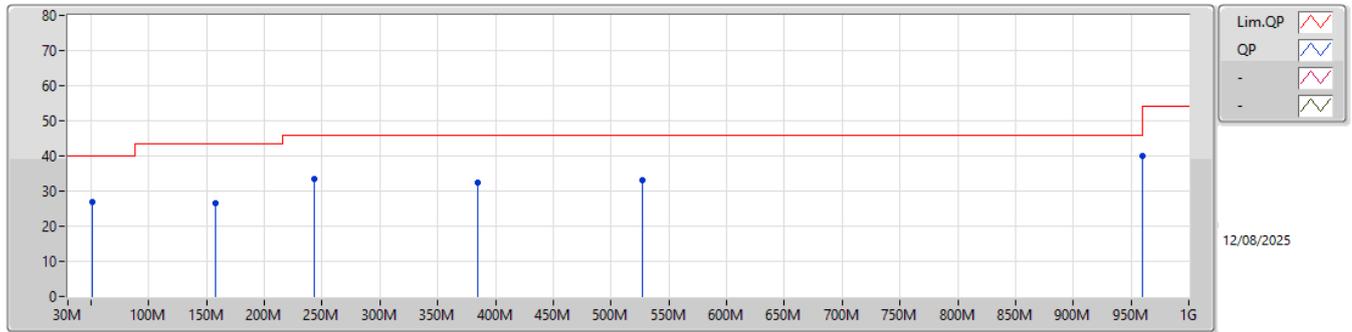
Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
PK	55.31M	30.26	40.00	-9.74	-8.91	3	Vertical	-	-	-	39.17	18.53	0.75	28.19
PK	159.88M	27.62	43.50	-15.88	-8.95	3	Vertical	-	-	-	36.57	18.31	1.25	28.51
PK	255.13M	27.35	46.00	-18.65	-10.05	3	Vertical	-	-	-	37.40	16.91	1.59	28.55
PK	352.15M	28.56	46.00	-17.44	-7.25	3	Vertical	-	-	-	35.81	19.40	1.82	28.47
PK	425.62M	33.36	46.00	-12.64	-5.14	3	Vertical	-	-	-	38.50	21.31	1.94	28.39
PK	960M	40.16	54.00	-13.84	4.42	3	Vertical	-	-	-	35.74	28.80	3.21	27.59



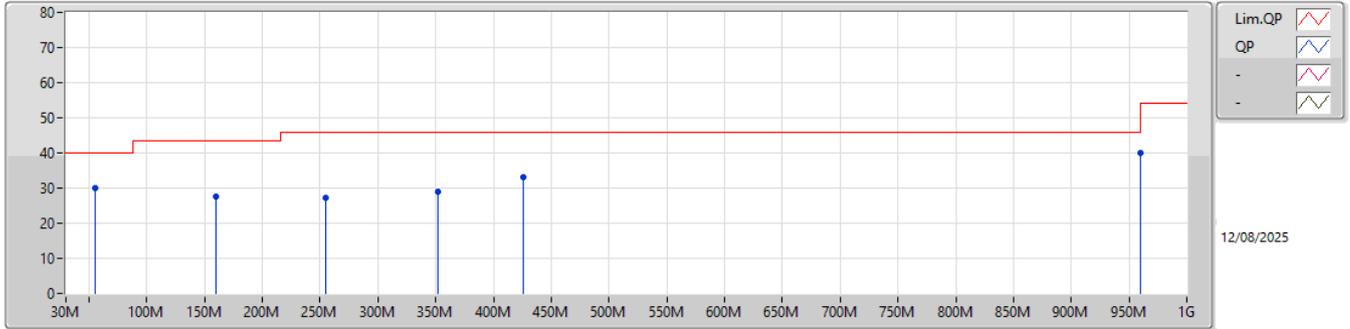
Mode 3



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
PK	51.34M	26.99	40.00	-13.01	-8.68	3	Horizontal	-	-	-	35.67	18.77	0.72	28.17
PK	158.04M	26.70	43.50	-16.80	-8.87	3	Horizontal	-	-	-	35.57	18.40	1.24	28.51
PK	243.4M	33.55	46.00	-12.45	-10.27	3	Horizontal	-	-	-	43.82	16.74	1.55	28.56
PK	385.02M	32.51	46.00	-13.49	-6.05	3	Horizontal	-	-	-	38.56	20.50	1.88	28.43
PK	526.64M	32.94	46.00	-13.06	-3.15	3	Horizontal	-	-	-	36.09	23.03	2.15	28.33
PK	960M	40.04	54.00	-13.96	4.42	3	Horizontal	-	-	-	35.62	28.80	3.21	27.59



Mode 3



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
PK	55.22M	30.12	40.00	-9.88	-8.92	3	Vertical	-	-	-	39.04	18.52	0.75	28.19
PK	159.98M	27.46	43.50	-16.04	-8.96	3	Vertical	-	-	-	36.42	18.30	1.25	28.51
PK	255.04M	27.27	46.00	-18.73	-10.06	3	Vertical	-	-	-	37.33	16.90	1.59	28.55
PK	352.04M	28.91	46.00	-17.09	-7.25	3	Vertical	-	-	-	36.16	19.40	1.82	28.47
PK	425.76M	33.10	46.00	-12.90	-5.13	3	Vertical	-	-	-	38.23	21.32	1.94	28.39
PK	960M	40.03	54.00	-13.97	4.42	3	Vertical	-	-	-	35.61	28.80	3.21	27.59



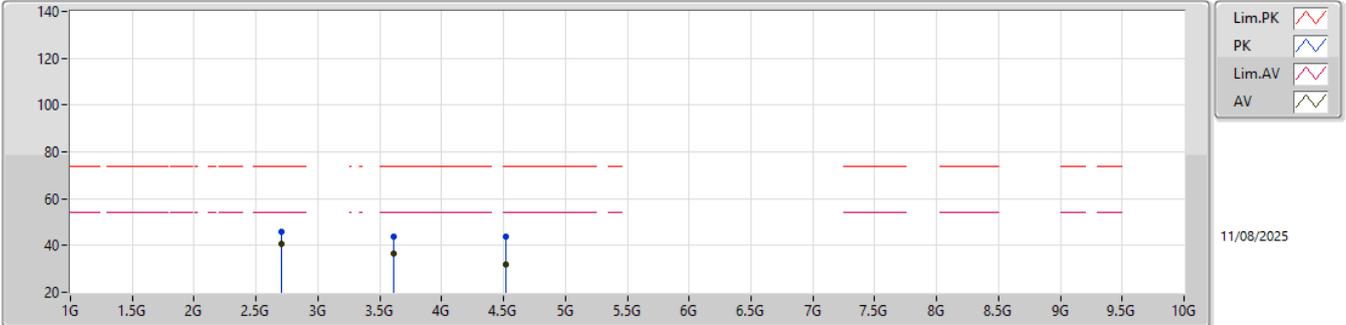
**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
902-928MHz	-	-	-	-	-	-	-	-	-	-	-
LoRa (500kHz)	Pass	AV	2.7234G	45.24	54.00	-8.76	3	Vertical	189	2.81	-



902-928MHz\_LoRa (500kHz)

903MHz\_TX

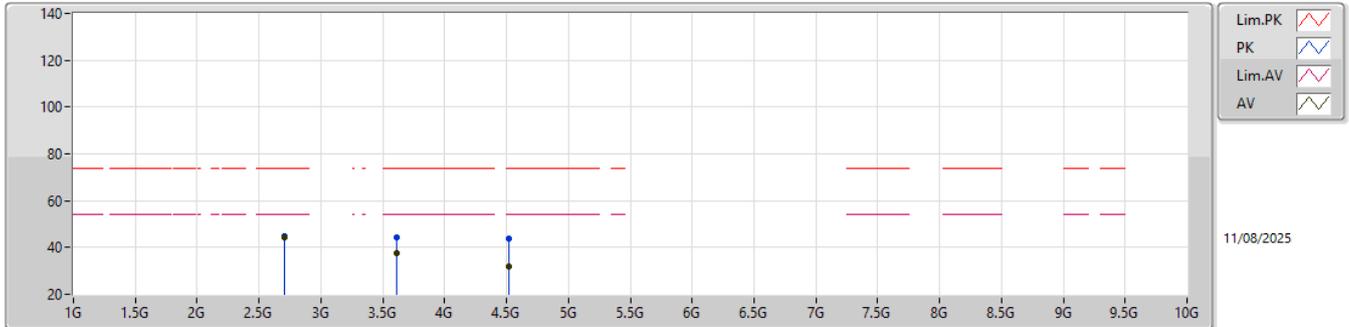


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.709G	40.82	54.00	-13.18	44.95	3	Horizontal	153	1.89	-	27.70	5.08	36.91
PK	2.709G	45.62	74.00	-28.38	49.75	3	Horizontal	153	1.89	-	27.70	5.08	36.91
AV	3.612G	36.64	54.00	-17.36	38.85	3	Horizontal	143	2.02	-	29.25	5.88	37.34
PK	3.612G	43.57	74.00	-30.43	45.78	3	Horizontal	143	2.02	-	29.25	5.88	37.34
AV	4.515G	31.94	54.00	-22.06	32.85	3	Horizontal	144	1.00	-	30.93	6.41	38.25
PK	4.515G	43.82	74.00	-30.18	44.73	3	Horizontal	144	1.00	-	30.93	6.41	38.25



902-928MHz\_LoRa (500kHz)

903MHz\_TX

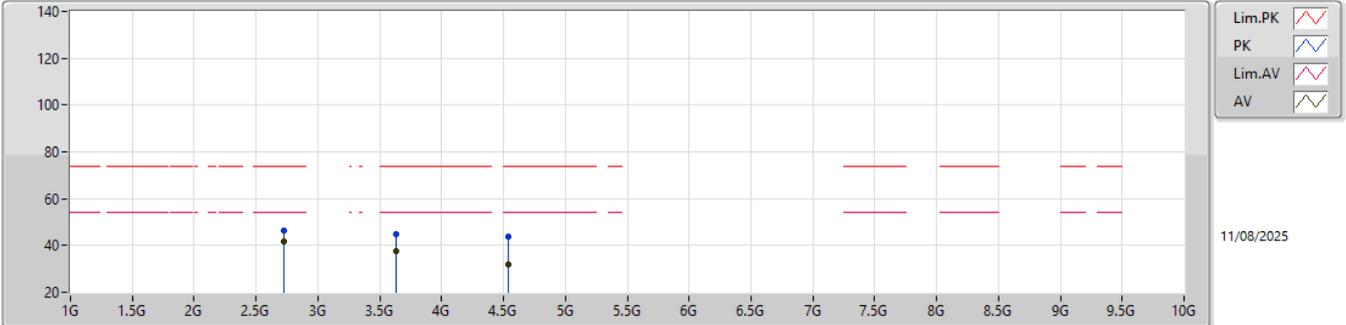


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.709G	44.32	54.00	-9.68	48.45	3	Vertical	191	2.59	-	27.70	5.08	36.91
PK	2.709G	44.71	74.00	-29.29	48.84	3	Vertical	191	2.59	-	27.70	5.08	36.91
AV	3.612G	37.54	54.00	-16.46	39.75	3	Vertical	177	1.81	-	29.25	5.88	37.34
PK	3.612G	44.29	74.00	-29.71	46.50	3	Vertical	177	1.81	-	29.25	5.88	37.34
AV	4.515G	32.03	54.00	-21.97	32.94	3	Vertical	173	1.00	-	30.93	6.41	38.25
PK	4.515G	43.81	74.00	-30.19	44.72	3	Vertical	173	1.00	-	30.93	6.41	38.25



902-928MHz\_LoRa (500kHz)

907.8MHz\_TX

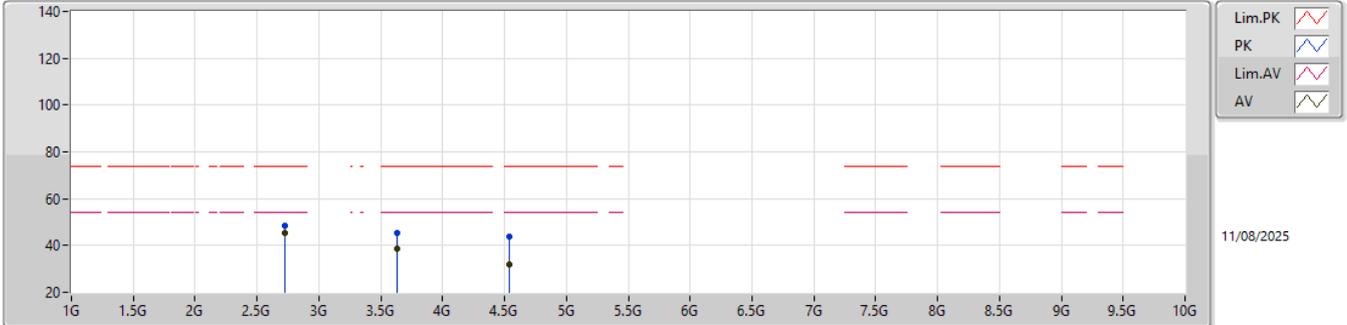


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.7234G	41.73	54.00	-12.27	45.64	3	Horizontal	150	1.88	-	27.90	5.10	36.91
PK	2.7234G	46.49	74.00	-27.51	50.40	3	Horizontal	150	1.88	-	27.90	5.10	36.91
AV	3.6312G	37.55	54.00	-16.45	39.71	3	Horizontal	145	2.01	-	29.32	5.89	37.37
PK	3.6312G	44.78	74.00	-29.22	46.94	3	Horizontal	145	2.01	-	29.32	5.89	37.37
AV	4.539G	31.95	54.00	-22.05	32.80	3	Horizontal	143	1.00	-	30.98	6.44	38.27
PK	4.539G	43.88	74.00	-30.12	44.73	3	Horizontal	143	1.00	-	30.98	6.44	38.27



902-928MHz\_LoRa (500kHz)

907.8MHz\_TX

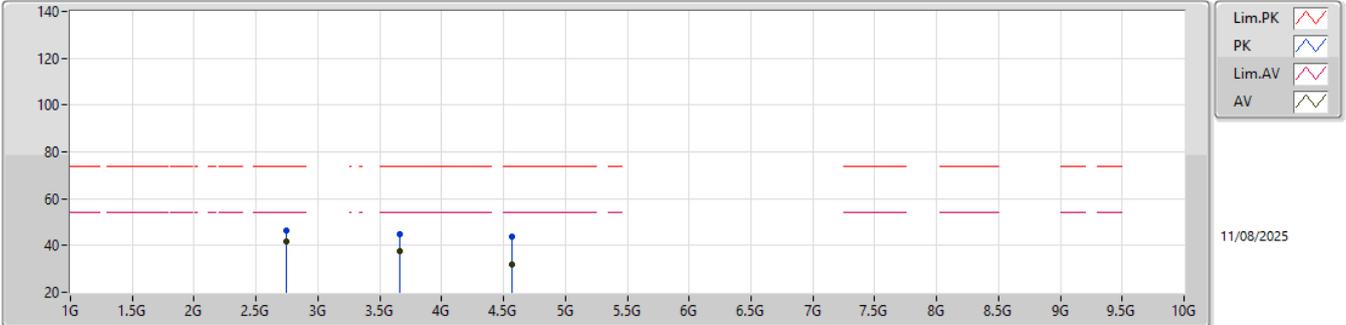


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.7234G	45.24	54.00	-8.76	49.15	3	Vertical	189	2.81	-	27.90	5.10	36.91
PK	2.7234G	48.63	74.00	-25.37	52.54	3	Vertical	189	2.81	-	27.90	5.10	36.91
AV	3.6312G	38.66	54.00	-15.34	40.82	3	Vertical	173	1.79	-	29.32	5.89	37.37
PK	3.6312G	45.37	74.00	-28.63	47.53	3	Vertical	173	1.79	-	29.32	5.89	37.37
AV	4.539G	32.02	54.00	-21.98	32.87	3	Vertical	177	1.00	-	30.98	6.44	38.27
PK	4.539G	43.88	74.00	-30.12	44.73	3	Vertical	177	1.00	-	30.98	6.44	38.27



902-928MHz\_LoRa (500kHz)

914.2MHz\_TX

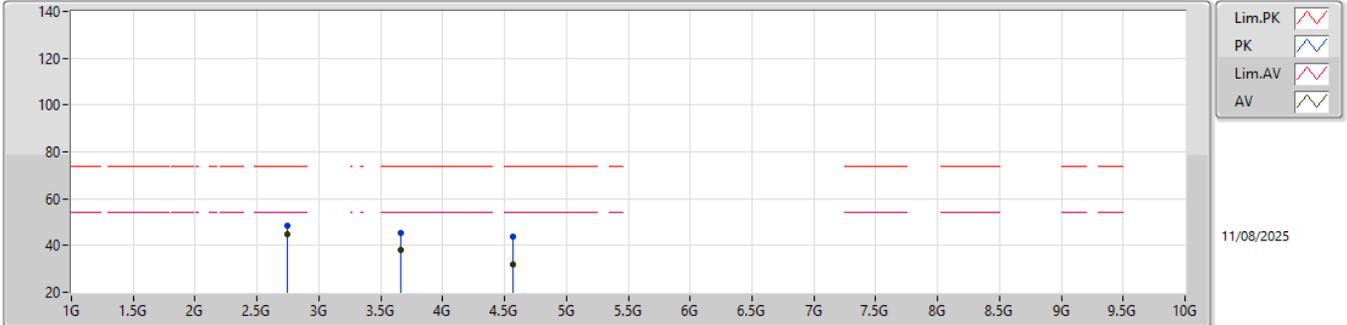


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.7426G	41.48	54.00	-12.52	45.37	3	Horizontal	151	1.73	-	27.90	5.12	36.91
PK	2.7426G	46.28	74.00	-27.72	50.17	3	Horizontal	151	1.73	-	27.90	5.12	36.91
AV	3.6568G	37.44	54.00	-16.56	39.56	3	Horizontal	142	1.93	-	29.39	5.90	37.41
PK	3.6568G	44.75	74.00	-29.25	46.87	3	Horizontal	142	1.93	-	29.39	5.90	37.41
AV	4.571G	31.79	54.00	-22.21	32.60	3	Horizontal	148	1.00	-	31.00	6.48	38.29
PK	4.571G	43.74	74.00	-30.26	44.55	3	Horizontal	148	1.00	-	31.00	6.48	38.29

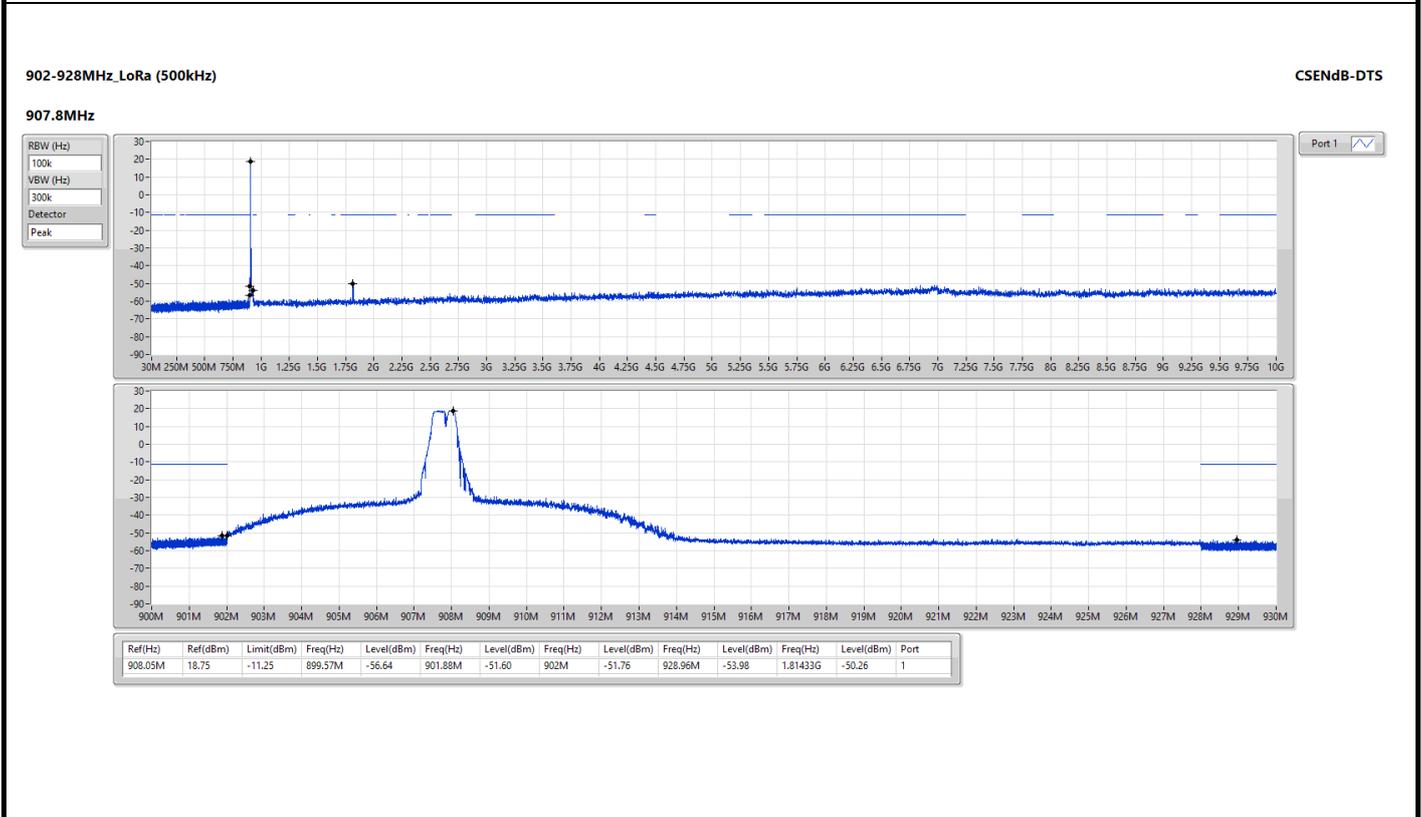
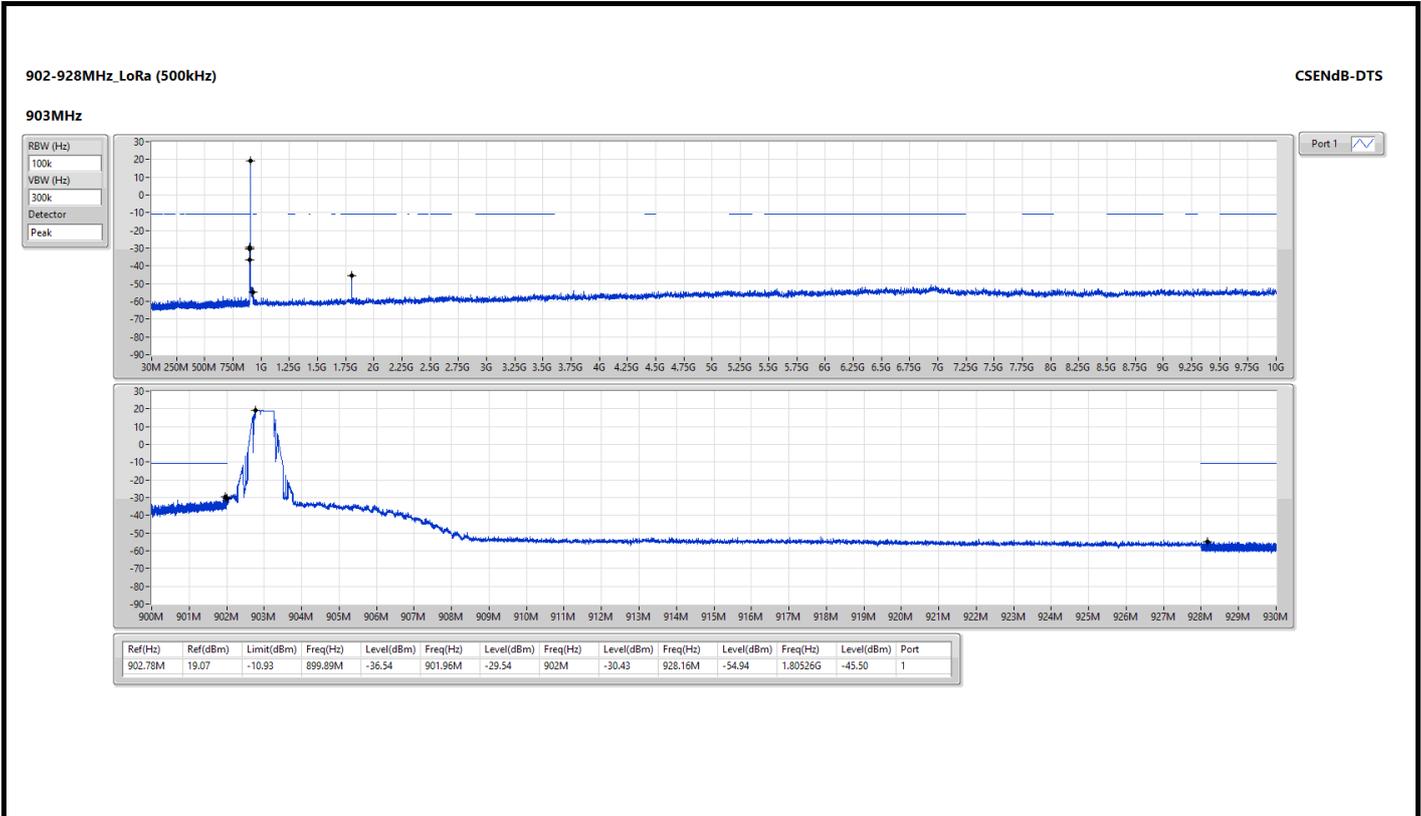


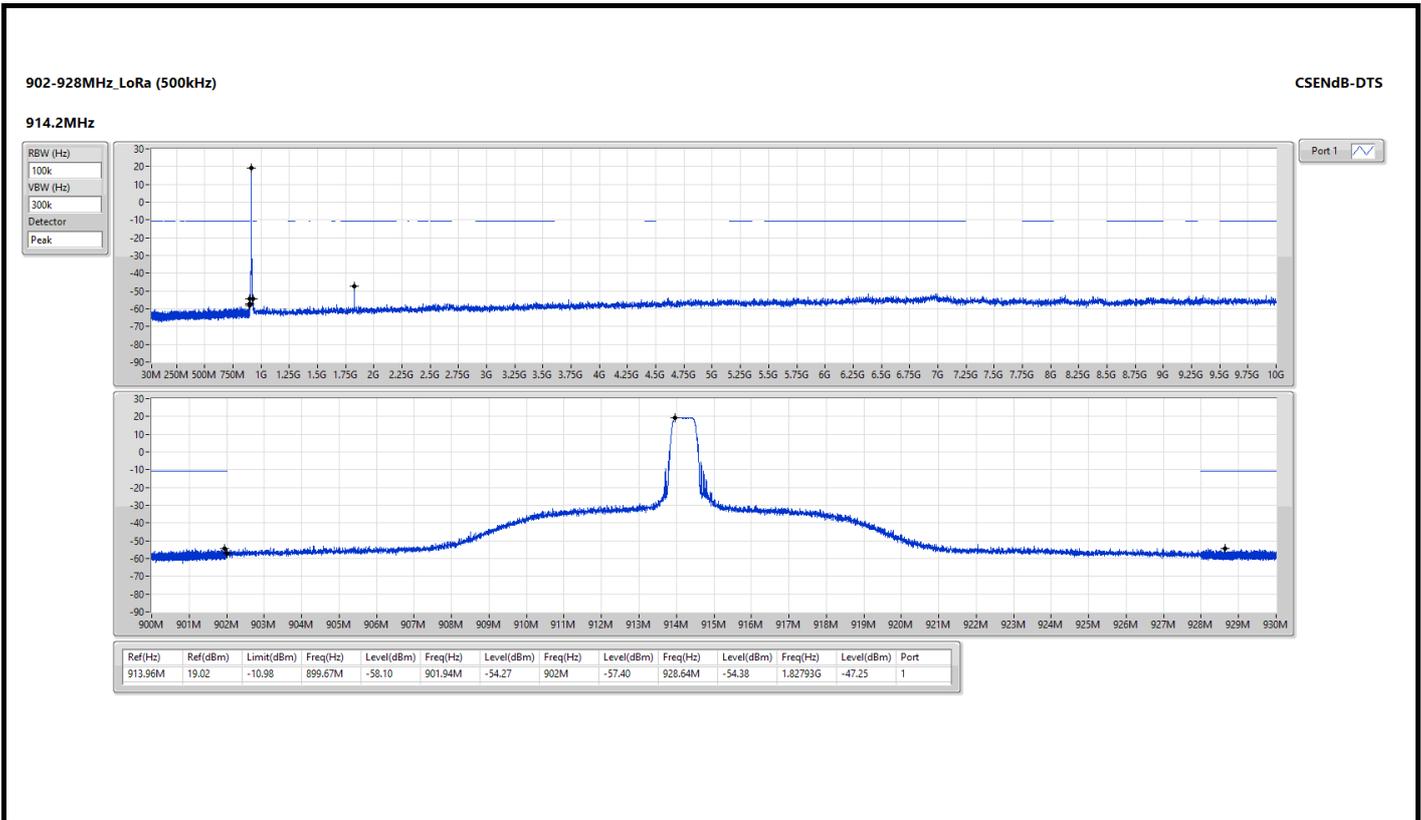
902-928MHz\_LoRa (500kHz)

914.2MHz\_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)
AV	2.7426G	45.05	54.00	-8.95	48.94	3	Vertical	189	2.86	-	27.90	5.12	36.91
PK	2.7426G	48.24	74.00	-25.76	52.13	3	Vertical	189	2.86	-	27.90	5.12	36.91
AV	3.6568G	38.24	54.00	-15.76	40.36	3	Vertical	174	1.73	-	29.39	5.90	37.41
PK	3.6568G	45.13	74.00	-28.87	47.25	3	Vertical	174	1.73	-	29.39	5.90	37.41
AV	4.571G	31.93	54.00	-22.07	32.74	3	Vertical	177	1.00	-	31.00	6.48	38.29
PK	4.571G	43.83	74.00	-30.17	44.64	3	Vertical	177	1.00	-	31.00	6.48	38.29

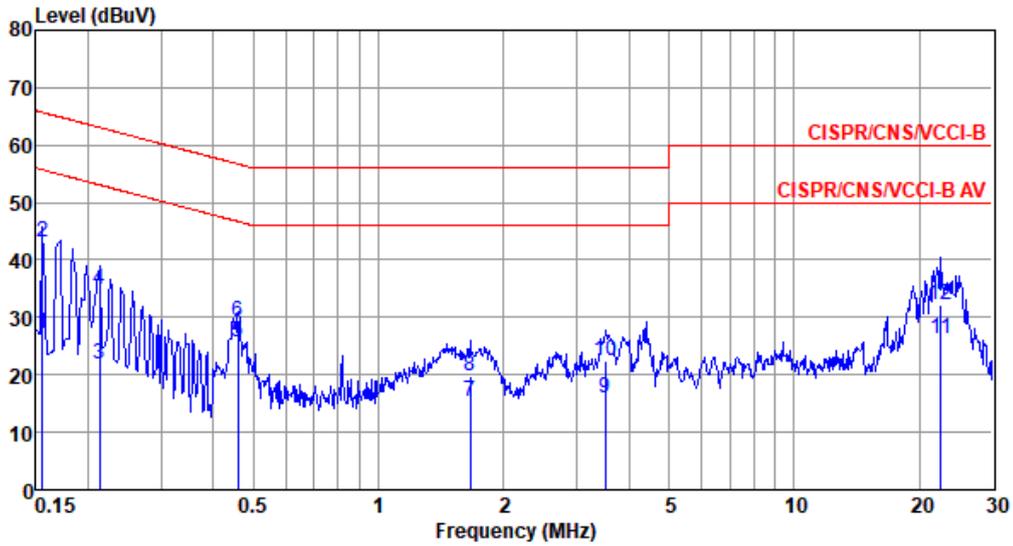






Power Phase	Line	Test Freq. (MHz)	914.2
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Test by : Joe Liao      Temperature: 25°C      Humidity: 64%



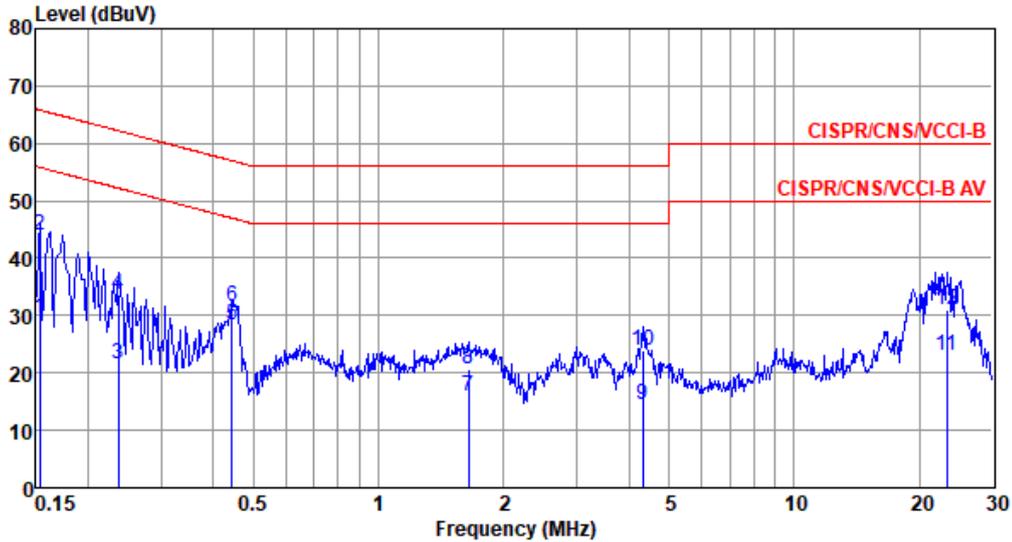
	Freq MHz	Level dBUV	Limit Line dBUV	Over Limit dB	Read Level dBUV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.156	27.14	55.69	-28.55	17.19	9.65	0.08	0.22	Average
2	0.156	43.15	65.69	-22.54	33.20	9.65	0.08	0.22	QP
3	0.213	21.77	53.10	-31.33	11.78	9.64	0.08	0.27	Average
4	0.213	34.77	63.10	-28.33	24.78	9.64	0.08	0.27	QP
5*	0.459	25.60	46.71	-21.11	15.54	9.64	0.09	0.33	Average
6	0.459	29.36	56.71	-27.35	19.30	9.64	0.09	0.33	QP
7	1.662	15.45	46.00	-30.55	5.23	9.65	0.15	0.42	Average
8	1.662	19.90	56.00	-36.10	9.68	9.65	0.15	0.42	QP
9	3.509	15.84	46.00	-30.16	5.49	9.67	0.21	0.47	Average
10	3.509	22.50	56.00	-33.50	12.15	9.67	0.21	0.47	QP
11	22.535	26.17	50.00	-23.83	15.19	9.68	0.60	0.70	Average
12	22.535	32.27	60.00	-27.73	21.29	9.68	0.60	0.70	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)	914.2
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Test by : Joe Liao      Temperature: 25°C      Humidity: 64%



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	Factor dB	Cable loss dB	Aux dB	Remark
1	0.153	29.49	55.82	-26.33	19.63	9.64	0.08	0.14	Average
2	0.153	43.91	65.82	-21.91	34.05	9.64	0.08	0.14	QP
3	0.237	21.64	52.22	-30.58	11.71	9.64	0.08	0.21	Average
4	0.237	33.65	62.22	-28.57	23.72	9.64	0.08	0.21	QP
5*	0.444	28.24	46.98	-18.74	18.25	9.63	0.09	0.27	Average
6	0.444	31.58	56.98	-25.40	21.59	9.63	0.09	0.27	QP
7	1.645	16.00	46.00	-30.00	5.80	9.65	0.15	0.40	Average
8	1.645	20.56	56.00	-35.44	10.36	9.65	0.15	0.40	QP
9	4.315	14.40	46.00	-31.60	4.03	9.66	0.23	0.48	Average
10	4.315	24.04	56.00	-31.96	13.67	9.66	0.23	0.48	QP
11	23.263	23.02	50.00	-26.98	11.96	9.79	0.61	0.66	Average
12	23.263	31.01	60.00	-28.99	19.95	9.79	0.61	0.66	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).