

# **TEST REPORT**

**Applicant:** Quectel Wireless Solutions Co., Ltd.

**EUT Description:** LoRa Module

**Model:** KC300Z

**Brand:** Quectel

**FCC ID:** XMR2025KC300Z

**Standards:** FCC 47 CFR Part 15 Subpart C

**Date of Receipt:** 2025/05/12

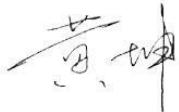
**Date of Test:** 2025/05/12 to 2025/07/07

**Date of Issue:** 2025/07/25

TOWE tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.



  
Huang Kun  
Approved By:

  
Chen Chengfu  
Reviewed By:

## Revision History

Rev.	Issue Date	Description	Revised by
01	2025/07/07	Original	Chen Chengfu
02	2025/07/25	Updated Software Version	Chen Chengfu

## Summary of Test Results

LoRa (125kHz)			
Clause	FCC Part	Test Items	Result
4.1	§15.203/15.247(b)	Antenna Requirement	PASS
4.2	§15.207	AC Power Line Conducted Emission	N/A
4.3	§15.247 (b)(2)	Output Power	PASS
4.4	§15.247 (a)(1)(i)	Occupied Bandwidth	Reporting purposes only
4.5	§15.247 (a)(1)	Hopping Frequency Separation	PASS
4.6	§15.247 (a)(1)(i)	Number Hopping Channels	PASS
4.7	§15.247 (a)(1)(i)	Dwell Time	PASS
4.8	§15.247(d)	Band Edge for Conducted Emissions	PASS
4.9	§15.247(d)	Spurious RF Conducted Emissions	PASS
4.10	§15.205 §15.209	Radiated Spurious emissions and Band Edge	PASS

Test Method: ANSI C63.10:2020, KDB 558074 D01 15.247 Mesa Guidance v05r02.

Remark:

1. Pass is EUT meets standard requirements.
2. The EUT is DC power supply, "N/A" denotes "not applicable".

LoRa (500kHz)			
Clause	FCC Part	Test Items	Result
4.1	§15.203/15.247(b)	Antenna Requirement	PASS
4.2	§15.207	AC Power Line Conducted Emission	N/A
4.3	§15.247 (b)(3)	Output Power	PASS
4.4	§15.247 (a)(2)	Occupied Bandwidth	Reporting purposes only
4.5	§15.247 (e)	Power Spectral Density	PASS
4.6	§15.247(d)	Band Edge for Conducted Emissions	PASS
4.7	§15.247(d)	Spurious RF Conducted Emissions	PASS
4.8	§15.205 §15.209	Radiated Spurious emissions and Band Edge	PASS

Test Method: ANSI C63.10-2020, KDB 558074 D01 15.247 Mesa Guidance v05r02.

Remark:

1. Pass is EUT meets standard requirements.
2. The EUT is DC power supply, "N/A" denotes "not applicable".

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## 1 General Description

### 1.1 Lab Information

#### 1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014

Tel.: +86-755-27212361

Contact Email: info@towewireless.com

#### 1.1.2 Test Facility / Accreditations

##### **A2LA (Certificate Number: 7088.01)**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

##### **FCC Designation No.: CN1353**

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory. Designation Number: CN1353.

##### **ISED CAB identifier: CN0152**

Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0152

Company Number: 31000

## 1.2 Client Information

### 1.2.1 Applicant

Applicant:	Quectel Wireless Solutions Co., Ltd.
Address:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

### 1.2.2 Manufacturer

Manufacturer:	Quectel Wireless Solutions Co., Ltd.
Address:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233

### 1.3 Product Information

EUT Description:	LoRa Module	
Model No.:	KC300Z	
Brand:	Quectel	
Hardware Version:	R1.0	
Software Version:	KC300ZACR01A02K02	
SN.:	RF Conducted	E1M24GH08000138
	RSE	E1M24GH08000071
Modulation Type:	LoRa	
Hopping:	Support (Only 125kHz)	
Frequency Range:	902~928MHz	
Bandwidth:	125kHz, 500kHz	
Antenna Type:	<input checked="" type="checkbox"/> External, <input type="checkbox"/> Integrated	
Antenna Gain:	Ant (dBi)	
	2.5	
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.		

## 2 Test Configuration

### 2.1 Test Channel

Operation Frequency of each channel for LoRa(125kHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	902.2	33	908.6	65	915.0	97	921.4
2	902.4	34	908.8	66	915.2	98	921.6
3	902.6	35	909.0	67	915.4	99	921.8
4	902.8	36	909.2	68	915.6	100	922.0
5	903.0	37	909.4	69	915.8	101	922.2
6	903.2	38	909.6	70	916.0	102	922.4
7	903.4	39	909.8	71	916.2	103	922.6
8	903.6	40	910.0	72	916.4	104	922.8
9	903.8	41	910.2	73	916.6	105	923.0
10	904.0	42	910.4	74	916.8	106	923.2
11	904.2	43	910.6	75	917.0	107	923.4
12	904.4	44	910.8	76	917.2	108	923.6
13	904.6	45	911.0	77	917.4	109	923.8
14	904.8	46	911.2	78	917.6	110	924.0
15	905.0	47	911.4	79	917.8	111	924.2
16	905.2	48	911.6	80	918.0	112	924.4
17	905.4	49	911.8	81	918.2	113	924.6
18	905.6	50	912.0	82	918.4	114	924.8
19	905.8	51	912.2	83	918.6	115	925.0
20	906.0	52	912.4	84	918.8	116	925.2
21	906.2	53	912.6	85	919.0	117	925.4
22	906.4	54	912.8	86	919.2	118	925.6
23	906.6	55	913.0	87	919.4	119	925.8
24	906.8	56	913.2	88	919.6	120	926.0
25	907.0	57	913.4	89	919.8	121	926.2
26	907.2	58	913.6	90	920.0	122	926.4
27	907.4	59	913.8	91	920.2	123	926.6
28	907.6	60	914.0	92	920.4	124	926.8
29	907.8	61	914.2	93	920.6	125	927.0
30	908.0	62	914.4	94	920.8	126	927.2
31	908.2	63	914.6	95	921.0	127	927.4
32	908.4	64	914.8	96	921.2	128	927.6

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test Channel	Test Frequency
The Lowest channel (CH1)	902.2MHz
The Middle channel (CH65)	915.0MHz
The Highest channel (CH128)	927.6MHz

Operation Frequency of each channel for LoRa(500kHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	902.5	9	908.9	17	915.3	25	921.7
2	903.3	10	909.7	18	916.1	26	922.5
3	904.1	11	910.5	19	916.9	27	923.3
4	904.9	12	911.3	20	917.7	28	924.1
5	905.7	13	912.1	21	918.5	29	924.9
6	906.5	14	912.9	22	919.3	30	925.7
7	907.3	15	913.7	23	920.1	31	926.5
8	908.1	16	914.5	24	920.9		

## Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test Channel	Test Frequency
The Lowest channel (CH1)	902.5MHz
The Middle channel (CH16)	914.5MHz
The Highest channel (CH31)	927.5MHz

## 2.2 Worst-case configuration and Mode

Hopping mode (LoRa 125kHz)	Keep the EUT in hopping mode
No hopping mode (LoRa 500kHz)	Keep the EUT was programmed to be in continuously transmitting mode

## 2.3 Support Unit used in test

Description	Manufacturer	Model	Serial Number
Development Board *	Quectel	KC300Z-TE-B	E1M24GI0C000026

Remark: \* the information of table is provided by client.

## 2.4 Test Environment

Temperature:	Normal: 15°C ~ 35°C
Relative Humidity	45 ~ 56 % RH Ambient
Voltage:	DC 3.3V

Remark: The testing environment is within the scope of the EUT user manual and meets the requirements of the standard testing environment.

## 2.5 Test RF Cable

**For all conducted test items:** The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

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

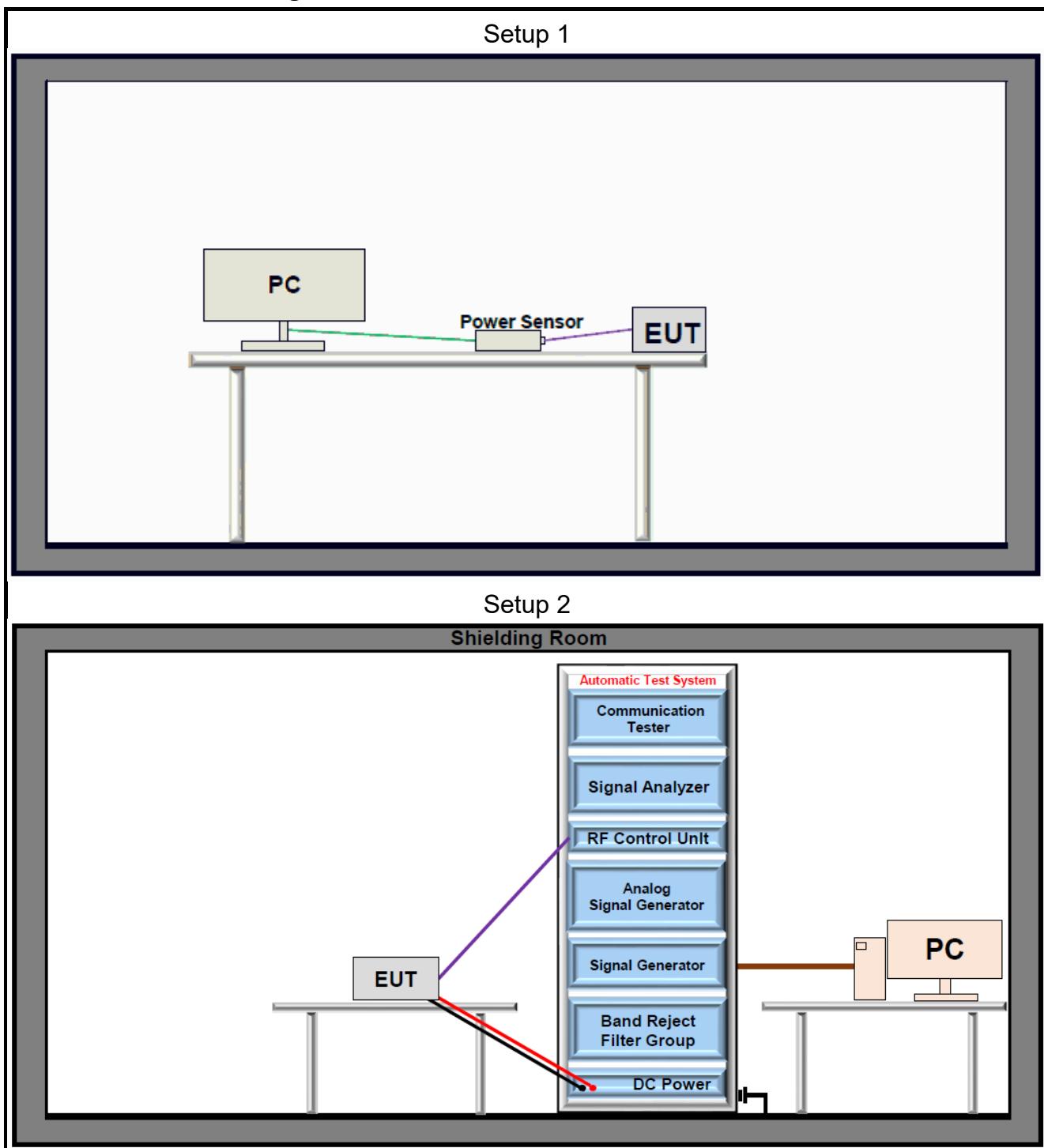
Offset = RF cable loss + attenuator factor.

## 2.6 Modifications

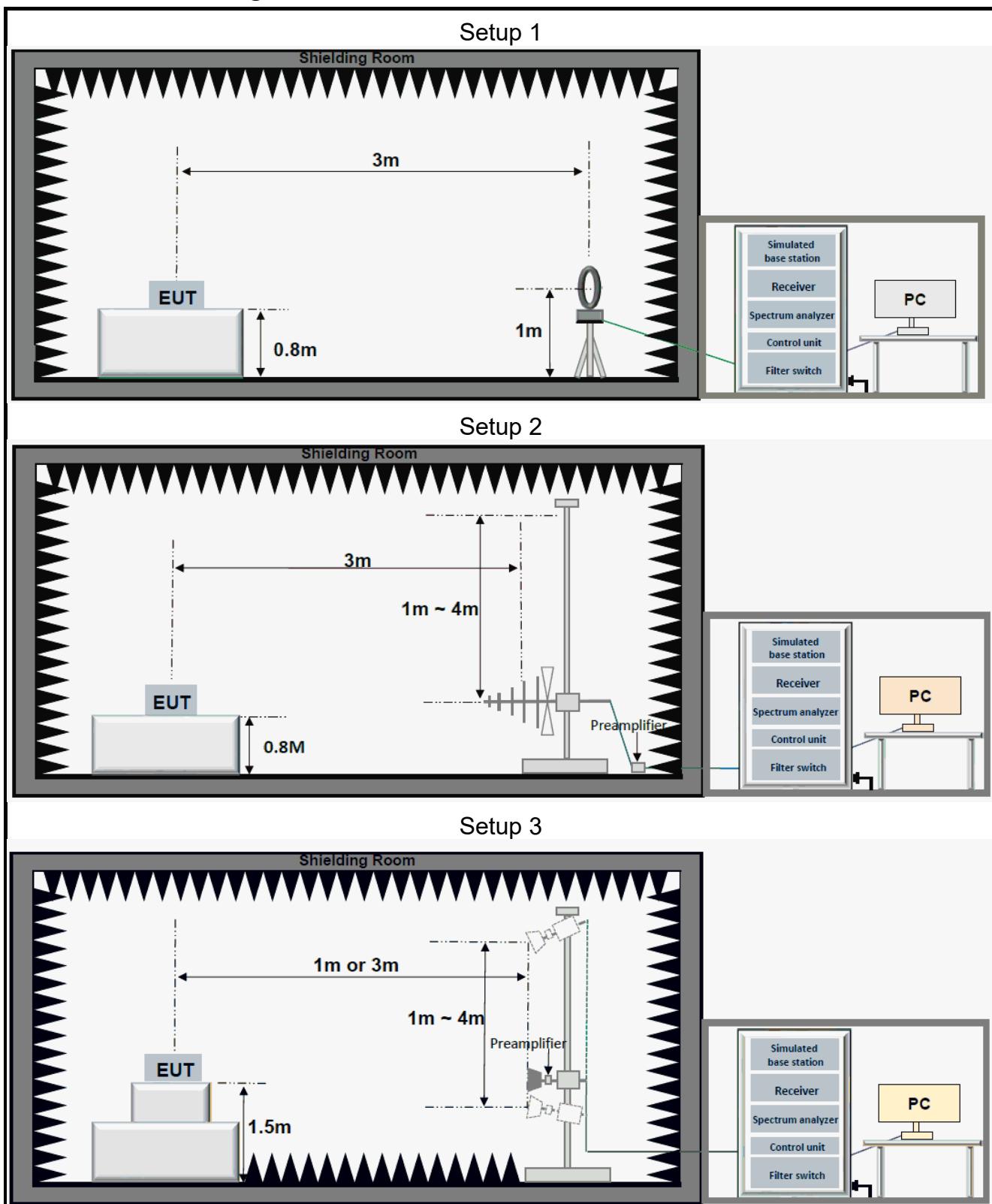
No modifications were made during testing.

## 2.7 Test Setup Diagram

### 2.7.1 Conducted Configuration



## 2.7.2 Radiated Configuration



### 3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable to recognized national standards.

#### 3.1 Test Equipment List

RF Conducted					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Signal Analyzer	Keysight	N9020A	US46470429	2025/03/14	2026/03/13
Signal Generator	R&S	SMR20	101027	2025/03/11	2026/03/10
Vector Signal Generator	R&S	SMM100A	549353	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
Power Sensor	Anritsu	MA24408A	12520	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
RF Control Unit	Tonscend	JS0806-2	23C80620671	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
Cable Loss	Tonscend	N/A	N/A	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
Attenuator	Yinsaige	30dB	N/A	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
Measurement Software	Tonscend	TS1120-3	10659	N/A	N/A

Radiated Emission					
Description	Manufacturer	Model	S.N.	Last Due	Cal Due
Biconic Logarithmic Periodic Antennas	Schwarzbeck	VULB9163	1643	2023/06/25	2026/06/24
Double-Ridged Horn Antennas	Schwarzbeck	BBHA 9120D	2809	2023/06/25	2026/06/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1290	2023/06/25	2026/06/24
Loop Antenna	Schwarzbeck	FMZB 1519C	1519C-028	2023/06/29	2026/06/28
Signal Analyzer	Keysight	N9020A	MY49100252	2025/03/11	2026/03/10
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY63440541	2024/05/30	2025/05/29
				2025/05/29	2026/05/28
Wideband Radio Communication Tester	R&S	CMW500	150645	2025/03/11	2026/03/10
Low Noise Amplifier	Tonscend	TAP9K3G40	AP23A8060273	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP01018050	AP22G806258	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP18040048	AP22G806247	2025/03/11	2027/03/10
Hygrometer	BINGYU	HTC-1	N/A	2024/07/29	2025/07/28
Band Reject Filter Group	Townshend	JS0806-F	23A806F0652	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

### 3.2 Measurement Uncertainty

Parameter	<b>U<sub>lab</sub></b>
Frequency Error	679.98Hz
Output Power	0.76dB
Conducted Spurious Emissions	2.22dB
Radiated Emissions(30MHz~1000MHz)	4.66dB
Radiated Emissions(1GHz~18GHz)	5.42dB

Uncertainty figures are valid to a confidence level of 95%

## 4 Test results

### 4.1 Antenna Requirement

<b>Standard Applicable:</b>	47 CFR Part 15C Section 15.203 /247(b)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
<p>The antenna gain and type as provided by the manufacturer are as follows: The antenna Type is External. With maximum gain is 2.5dBi. Antenna Anti-Replacement Construction: An embedded-in antenna design is used.</p>	

## 4.2 Output Power

### Limits

LoRa 125kHz: For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels.

LoRa 500kHz: For systems using digital modulation in the 902-928 MHz, If with directional antenna gains less than 6 dBi, the limit is 30dBm.

### Test Procedure

LoRa 125kHz: ANSI C63.10:2020 Section 7.8.5

LoRa 500kHz: ANSI C63.10:2020 Section 11.9.1.2(PKPM1) or 11.9.2.3.2(AVGPM-G)

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The power output was measured on the EUT antenna port using RF Cable with an attenuator connected to a power sensor. Output power was read directly from the power sensor.
3. Measure and record the results in the test report.

### Test Setup

Refer to section 2.7.1- Setup 1 for details.

### Measuring Instruments

The measuring equipment is listed in section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.3 Occupied Bandwidth

### Limits

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

EBW: For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz,

OBW: None, for reporting purposes only.

### Test Procedure

LoRa 125kHz: ANSI C63.10:2020 Section 6.9.2 and 6.9.3

LoRa 500kHz: ANSI C63.10:2020 Section 11.8.2 and 6.9.3

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. The transmitter output is connected to a spectrum analyzer.
3. RBW = 100kHz (DTS)
4. RBW = 1% - 5% (OBW)
5. VBW = 3 times the RBW
6. Span = Approximately 2 to 5times the 20dB bandwidth
7. Sweep = Auto
8. Detector = Peak
9. Trace = Max hold.
10. The trace was allowed to stabilize
11. Measure and record the results in the test report.

### Test Notes

The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to X= 20. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.4 Power Spectral Density

### Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### Test Procedure

ANSI C63.10:2013 Section 11.10.2(PKPSD)

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. The transmitter output is connected to a spectrum analyzer
3.  $3\text{kHz} \leq \text{RBW} \leq 100\text{ kHz}$   
(If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.)
4.  $\text{VBW} \geq 3$  times RBW
5. Span = 1.5 times the DTS bandwidth
6. Sweep = Auto
7. Detector = Peak
8. Trace = Max hold
9. The trace was allowed to stabilize
10. Measure and record the results in the test report.

### Test Notes

Limit = 8dBm/3kHz, But the actual measurement is dBm/100kHz, and the conversion formula for limit is as follows:

$$\text{Limit} = 8\text{dBm} - \text{Log}_{10}(3\text{kHz}/100\text{kHz}) * 10 = 23.23\text{dBm}/100\text{kHz}$$

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.5 Hopping Frequency Separation

### Limits

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.

### Test Procedure

ANSI C63.10:2020 Section 7.8.2

### Test Settings

11. Set to the maximum power setting and enable the EUT transmit continuously
12. Enable the EUT hopping function
13. The transmitter output is connected to a spectrum analyzer
14. RBW = 30% of channel spacing. Adjust as necessary to best identify center of each individual channel
15. VBW  $\geq$  RBW
16. Span = Wide enough to capture the peaks of two adjacent channels
17. Sweep = Auto
18. Detector = Peak
19. Trace = Max hold
20. The trace was allowed to stabilize
21. Measure and record the results in the test report

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.6 Number of Hopping Channels

### Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies.

### Test Procedure

ANSI C63.10:2020 Section 7.8.3

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. Enable the EUT hopping function
3. The transmitter output is connected to a spectrum analyzer
4. RBW < 30% of channel spacing or 20dB bandwidth, whichever is smaller.
5. VBW  $\geq$  RBW
6. Span = The frequency band of operation
7. Sweep = Auto
8. Detector = Peak
9. Trace = Max hold
10. The trace was allowed to stabilize
11. Measure and record the results in the test report.

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.7 Dwell Time

### Limits

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

### Test Procedure

ANSI C63.10:2020 Section 7.8.4

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. Enable the EUT hopping function
3. The transmitter output is connected to a spectrum analyzer
4.  $RBW \leq \text{channel spacing}$  and  $\gg 1/T$ , where  $T$  is expected dwell time per channel
5.  $VBW \geq RBW$
6. Span = Zero span, centered on a hopping channel
7. Sweep = As necessary to capture the entire dwell time per hopping channel
8. Detector = Peak
9. Trace = Max hold
10. The trace was allowed to stabilize
11. Measure and record the results in the test report

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.8 Band Edge for Conducted Emissions

### Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph 15.247(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### Test Procedure

LoRa 125kHz: ANSI C63.10:2020 Section 7.8.7.2  
LoRa 500kHz: ANSI C63.10:2020 Section 11.11.3

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously
2. Activate frequency hopping function if necessary
3. The transmitter output is connected to a spectrum analyzer
4. RBW = 100kHz
5. VBW = 300kHz
6. Point  $\geq 2 \times$  span/RBW
7. Sweep = Auto
8. Detector = Peak
9. Trace = Max hold
10. The trace was allowed to stabilize
11. Measure and record the results in the test report

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.9 Spurious RF Conducted Emissions

### Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph 15.247(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### Test Procedure

LoRa 125kHz: ANSI C63.10:2020 Section 7.8.7

LoRa 500kHz: ANSI C63.10:2020 Section 11.11.3

### Test Settings

1. Set to the maximum power setting and enable the EUT transmit continuously.
2. Activate frequency hopping function if necessary.
3. The transmitter output is connected to a spectrum analyzer
4. The spectrum from 30MHz - 26.5GHz
5. RBW = 100kHz
6. VBW = 300kHz
7. Sweep = Auto
8. Detector = Peak
9. Trace = Max hold
10. The trace was allowed to stabilize
11. Measure and record the results in the test report

### Test Setup

Refer to section 2.7.1- Setup 2 for details.

### Measuring Instruments

The measuring equipment is listed in the section 3.1 of this test report.

### Test Result

The detailed test data see: **Appendix**.

## 4.10 Radiated Spurious Emissions and Band Edge

### Limits

Spurious emissions are permitted in any of the frequency bands:

MHz	MHz	MHz	MHz	GHz	GHz
0.090 - 0.110	12.29 - 12.293	149.9 - 150.05	1660 - 1710	4.5 - 5.15	14.47 - 14.5
0.495 - 0.505	12.51975 - 12.52025	156.52475 - 156.52525	1718.8 - 1722.2	5.35 - 5.46	15.35 - 16.2
2.1735 - 2.1905	12.5767 - 12.57725	156.7 - 156.9	2200 - 2300	7.25 - 7.75	17.7 - 21.4
4.125 - 128	13.36 - 13.41	162.0125 - 167.17	2310 - 2390	8.025 - 8.5	22.01 - 23.12
4.17725 - 4.17775	16.42 - 16.423	167.72 - 173.2	2483.5 - 2500	9.0 - 9.2	23.6 - 24.0
4.20725 - 4.20775	16.69475 - 16.69525	240 - 285	2655 - 2900	9.3 - 9.5	31.2 - 31.8
6.215 - 6.218	1680425 - 1680475	322 - 335.4	3260 - 3267	10.6 - 12.7	36.43 - 36.5
6.26775 - 6.26825	25.5 - 25.67	399.9 - 410	3332 - 3339	13.25 - 13.4	
6.31175 - 6.31225	37.5 - 38.25	608 - 614	3345.8 - 3358		
8.291 - 8.294	73 - 74.6	960 - 1240	3600 - 4400		
8.362 - 8.366	74.8 - 75.2	1300 - 1427			
8.37625 - 8.38675	108 - 121.94	1435 - 1626.5			
8.41425 - 8.41475	123 - 138	1645.5 - 1646.5			

Radiated disturbance of an intentional radiator:

Frequency	Field strength ( $\mu$ V/m)	Limit (dB $\mu$ V/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	74.0	Peak	3
		54.0	Average	

### Test Procedure

ANSI C63.10:2020 Section 6.4 & 6.5 & 6.6

### Test Settings

- For radiated emissions measurements performed at frequencies less than or equal to 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the reference ground plane.
- For radiated emissions measurements performed at frequencies above 1GHz, the EUT shall be placed on a RF-transparent table or support at a nominal height of 80cm above the ground plane.
- Radiated measurements shall be made with the measurement antenna positioned in both horizontal and vertical polarization. The measurement antenna shall be varied from 1m to 4m in height above the reference ground in a search for the relative positioning that produces the maximum radiated signal level (i.e, field strength or received power), when orienting the measurement antenna in vertical polarization, the minimum height of the lowest element of the antenna shall clear the site reference ground plane by at least 25cm.
- For each suspected emission, the EUT was ranged its worst case and then tune the antenna tower(from 1~4m) and turntable(from 0~360°) find the maximum reading. Preamplifier and a high pass filter are used for the test in order get better signal level comply with the guidelines.
- Set to the maximum power setting and enable the EUT transmit continuously.
- The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
- spectrum analyzer setting:  
Measurements Below 1000MHz: RBW = 120 kHz; VBW  $\geq$  300 kHz; Detector = Peak  
Measurements Above 1000MHz: RBW = 1 MHz; VBW  $\geq$  3 MHz; Detector = Peak

**Average Measurements Above 1000MHz:**

RBW = 1 MHz, VBW  $\geq 1/T$ , with peak detector for average measurements.

8. The field strength is calculated by adding the Antenna Factor, Cable Factor. The basic equation with a sample calculation is as follows:

Level = Reading(dB $\mu$ V) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit(dB $\mu$ V/m) – Level(dB $\mu$ V/m)

9. Repeat above procedures until all frequencies measured was complete.

10. Measure and record the results in the test report.

**Test Notes**

1. Emissions below 18GHz were measured at a 3-meter test distance while emissions above 18GHz were measured at a 1-meter test distance with the application of a distance correction factor.
2. Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. the disturbance between 9kHz to 30MHz and 18GHz to 40GHz was very low. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be recorded, so only the harmonics had been displayed.
3. These frequencies which near "-" should be ignored because they are Fundamental frequency.

**Test Setup**

Refer to section 2.7.2 for details.

**Measuring Instruments**

The measuring equipment is listed in the section 3.1 of this test report.

**Test Result**

The detailed test data see: **Appendix**.

## 5 Test Setup Photos

The detailed test data see: **Appendix A - LoRa&FSK Setup Photos**

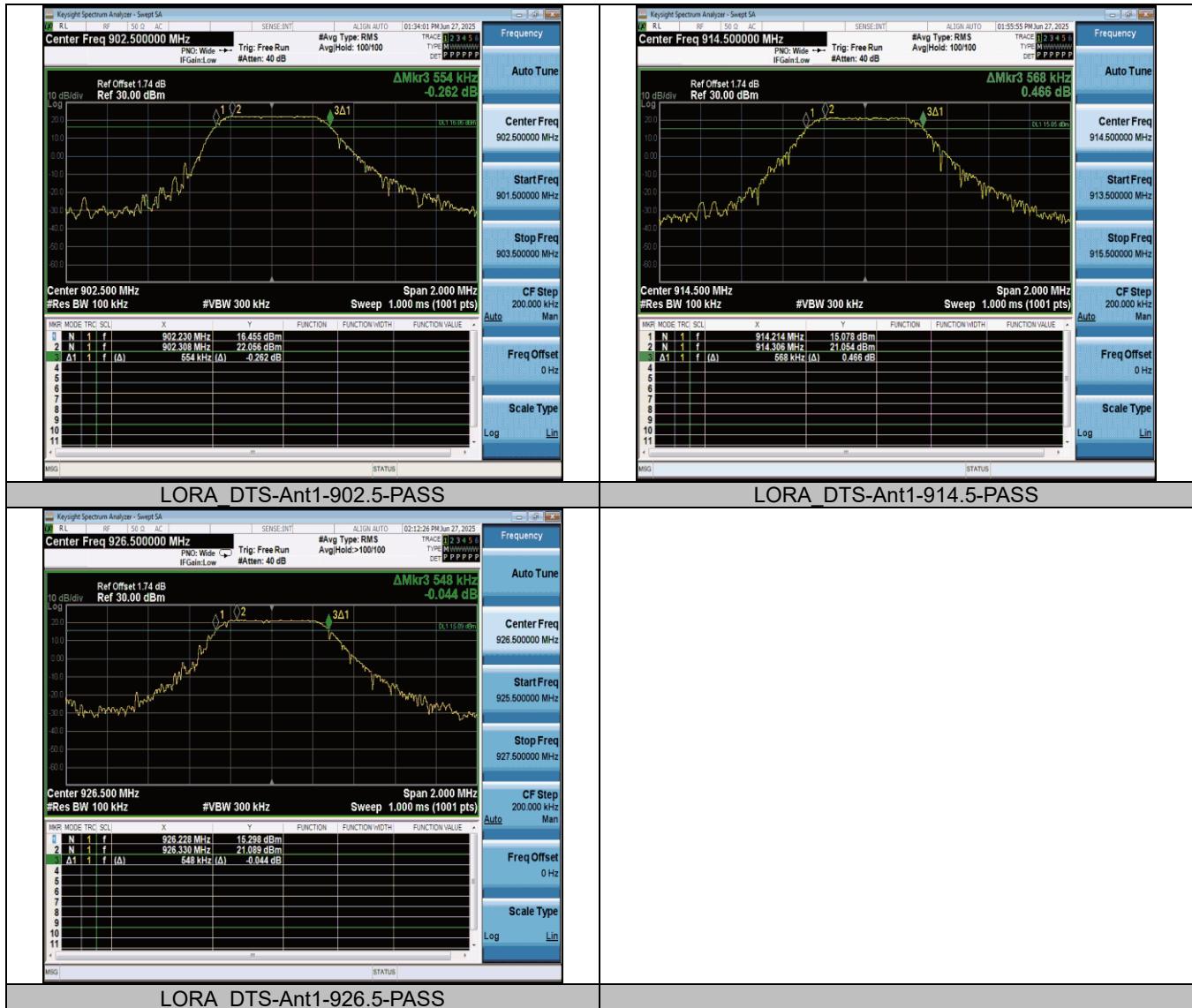
# Appendix

## For-LORA-DTS

### DTS Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
LORA_DTS	Ant1	902.5	0.554	902.230	902.784	0.5	PASS
LORA_DTS	Ant1	914.5	0.568	914.214	914.782	0.5	PASS
LORA_DTS	Ant1	926.5	0.548	926.228	926.776	0.5	PASS

### Test Graphs



## Occupied Channel Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
LORA_DTS	Ant1	902.5	0.51708	902.2527	902.7698	---	PASS
LORA_DTS	Ant1	914.5	0.53091	914.2348	914.7657	---	PASS
LORA_DTS	Ant1	926.5	0.51811	926.2515	926.7696	---	PASS

### Test Graphs



**Maximum conducted output power****Test Result**

Type	TestMode	Frequency[MHz]	Power [dBm] Avg.	Limit[dBm]	Verdict
LORA DTS	500kHz	902.5	21.180	≤30	PASS
		914.5	21.194	≤30	PASS
		926.5	21.189	≤30	PASS

## Maximum power spectral density Test Result

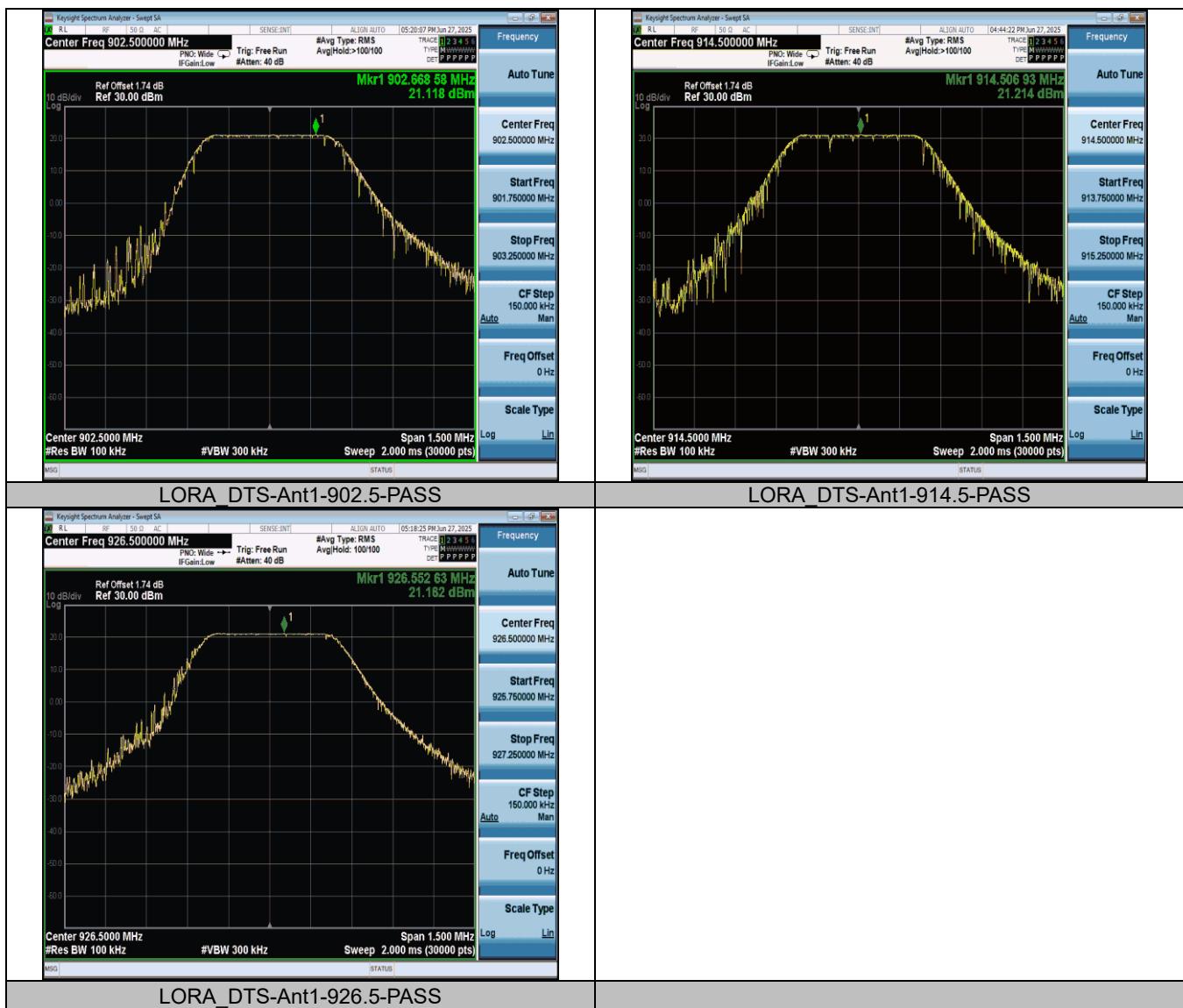
Test Mode	Antenna	Frequency[MHz]	Result[dBm/100kHz]	Limit[dBm/100kHz]	Verdict
LORA_DTS	Ant1	902.5	21.12	≤23.23	PASS
LORA_DTS	Ant1	914.5	21.21	≤23.23	PASS
LORA_DTS	Ant1	926.5	21.16	≤23.23	PASS

### Note:

Limit = 8dBm/3kHz, But the actual measurement is dBm/100kHz, and the conversion formula for limit is as follows:

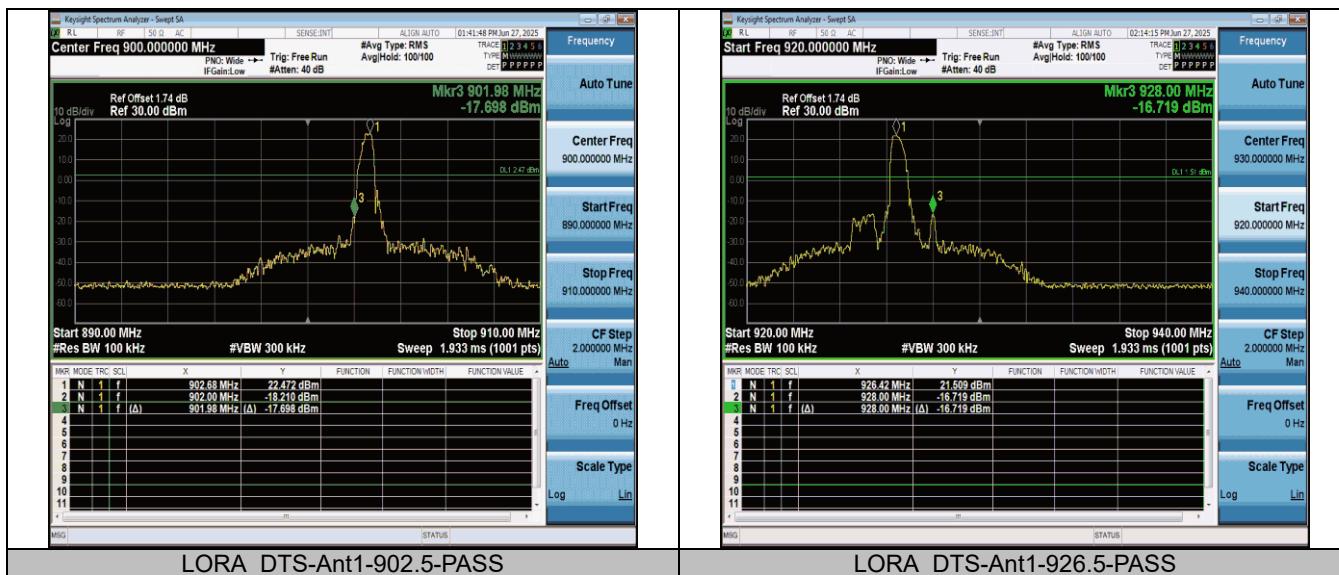
$$\text{Limit} = 8\text{dBm} - \text{Log10}(3\text{kHz}/100\text{kHz}) * 10 = 23.23\text{dBm}/100\text{kHz}$$

## Test Graphs

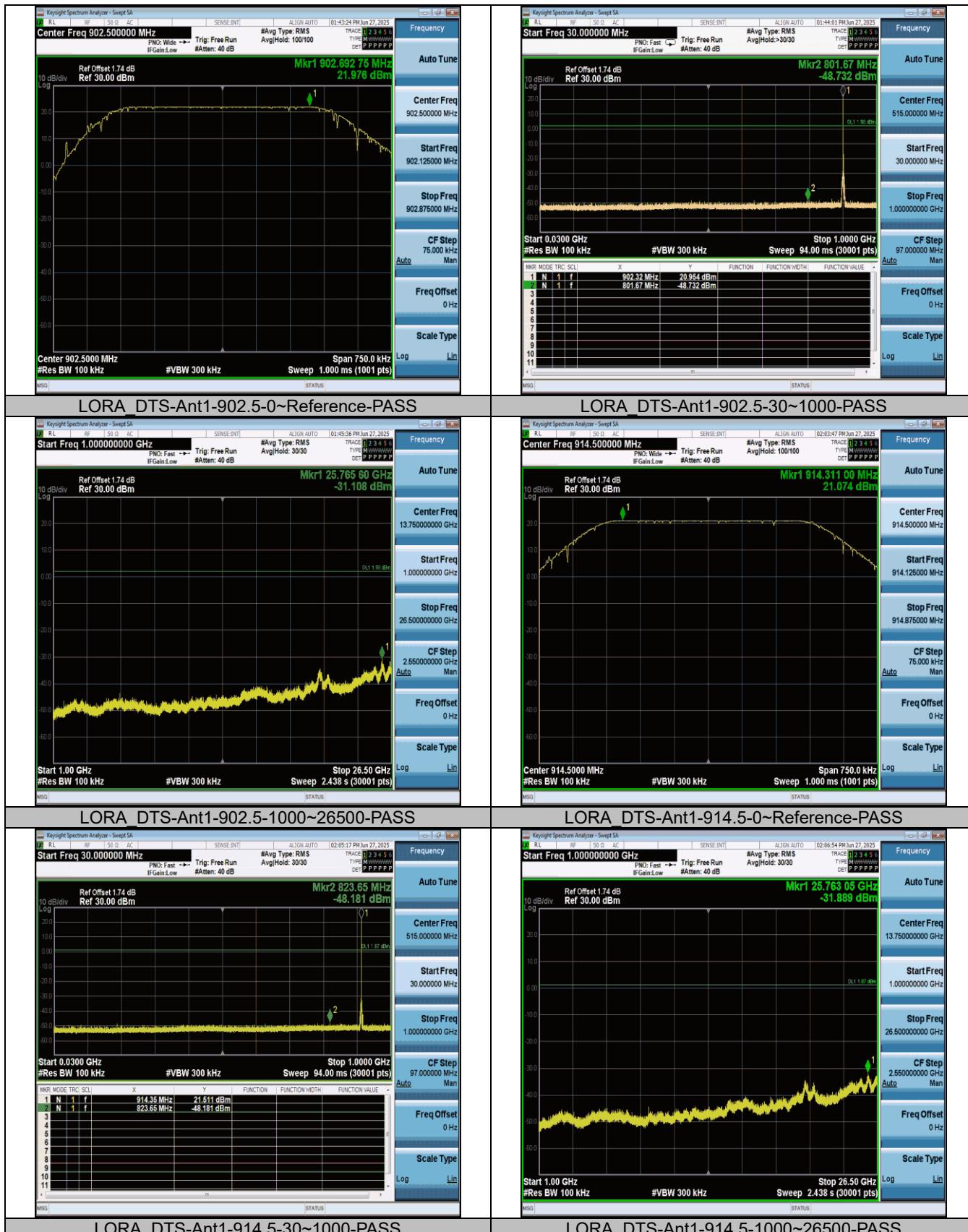


## Band edge measurements

### Test Graphs



## Conducted Spurious Emission Test Graphs



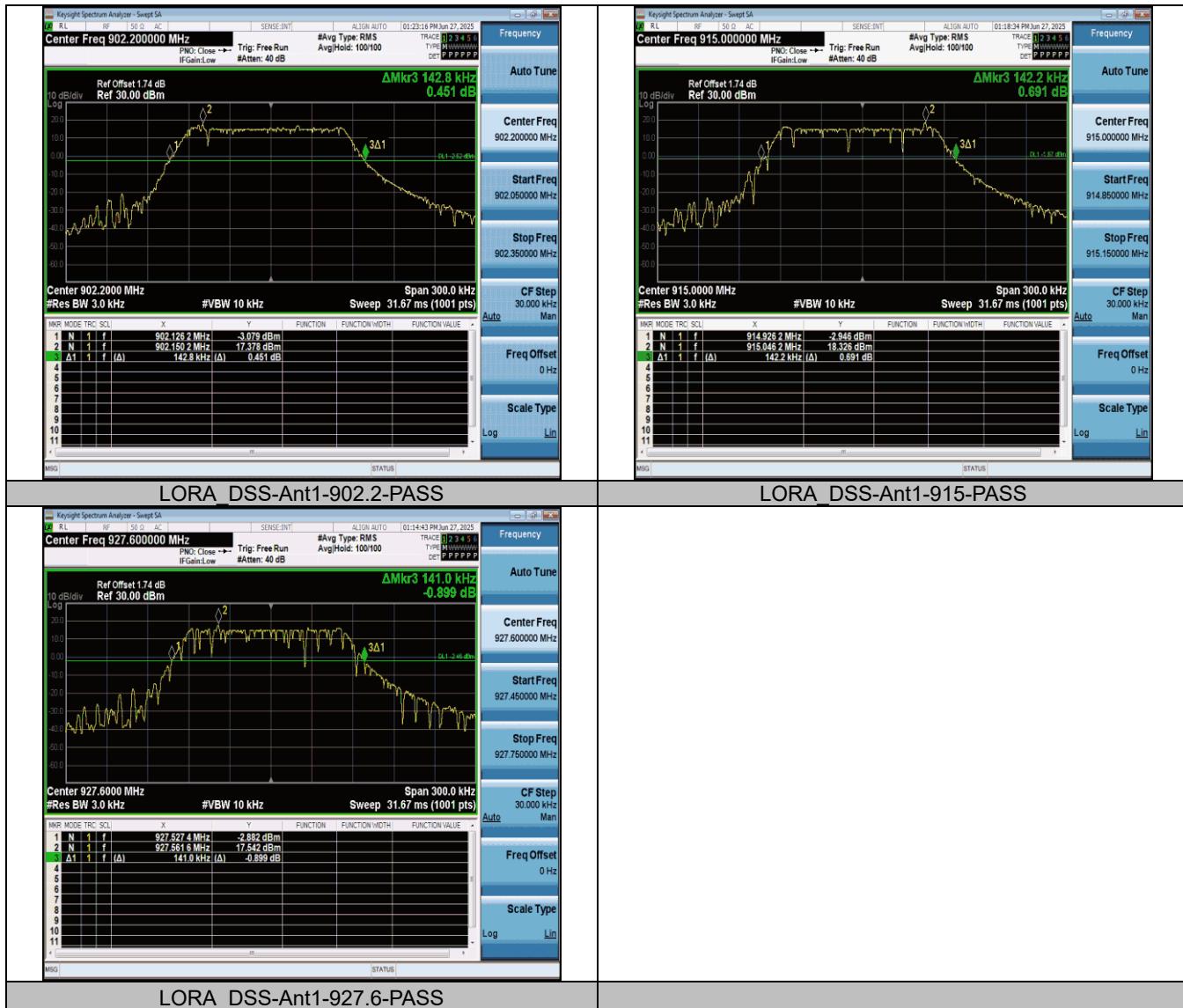


## For-LORA-DSS

20dB Emission Bandwidth  
Test Result

TestMode	Antenna	Frequency[MHz]	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
LORA DSS	Ant1	902.2	0.143	902.126	902.269	≤0.25	PASS
LORA DSS	Ant1	915	0.142	914.926	915.068	≤0.25	PASS
LORA DSS	Ant1	927.6	0.141	927.527	927.668	≤0.25	PASS

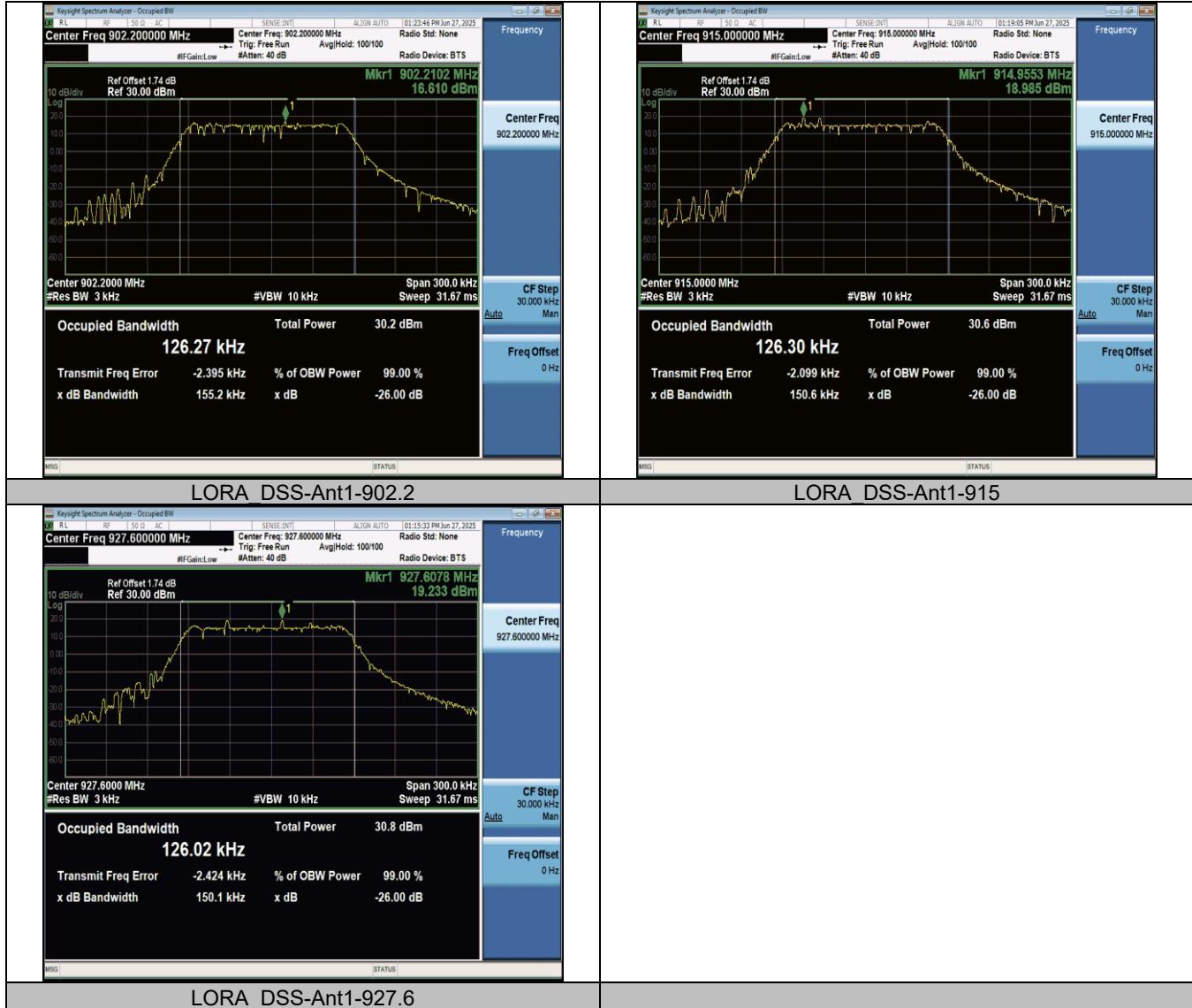
## Test Graphs



## Occupied Channel Bandwidth Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
LORA_DSS	Ant1	902.2	0.12627	902.1345	902.2607	---	PASS
LORA_DSS	Ant1	915	0.12630	914.9348	915.0611	---	PASS
LORA_DSS	Ant1	927.6	0.12602	927.5346	927.6606	---	PASS

### Test Graphs



**Maximum conducted output power****Test Result**

Type	TestMode	Frequency[MHz]	Power [dBm] Avg.	Limit[dBm]	Verdict
LORA DSS	125kHz	902.2	21.175	≤30	PASS
		915	21.213	≤30	PASS
		927.6	21.180	≤30	PASS

## Carrier frequency separation Test Result

TestMode	Antenna	Hop/Non-Hop	Result[MHz]	Limit[MHz]	Verdict
LORA_DSS	Ant1	Hop	0.192	≥0.143	PASS

### Test Graphs

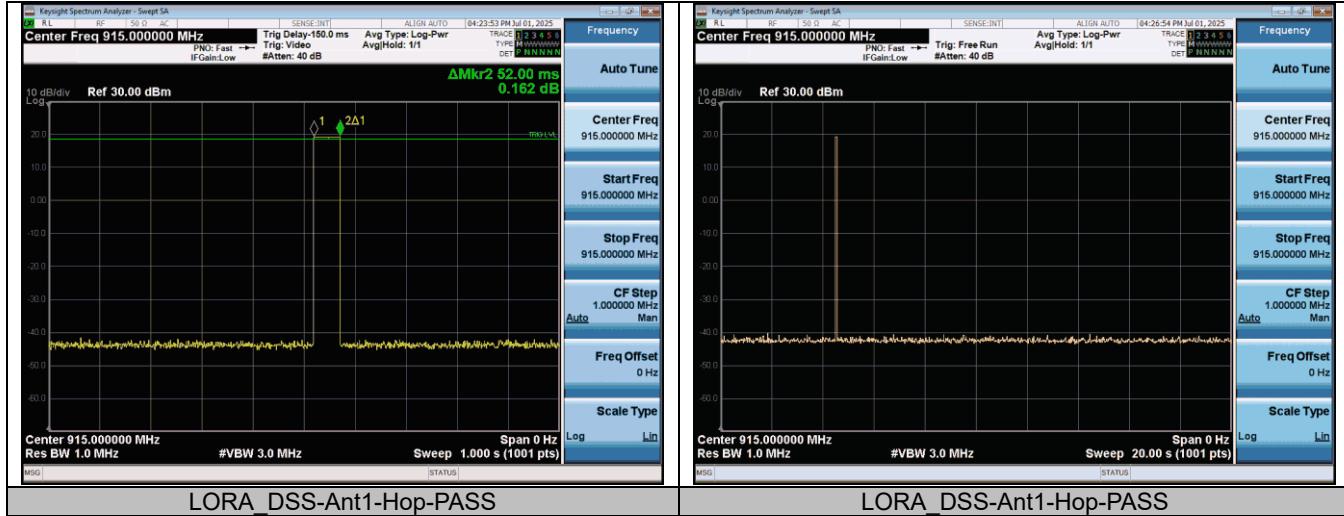


## Time of occupancy

### Test Result

TestMode	Antenna	Hop/Non-Hop	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
LORA_DSS	Ant1	Hop	52.0	1	0.052	≤0.4	PASS

### Test Graphs



## Number of hopping channels

### Test Result

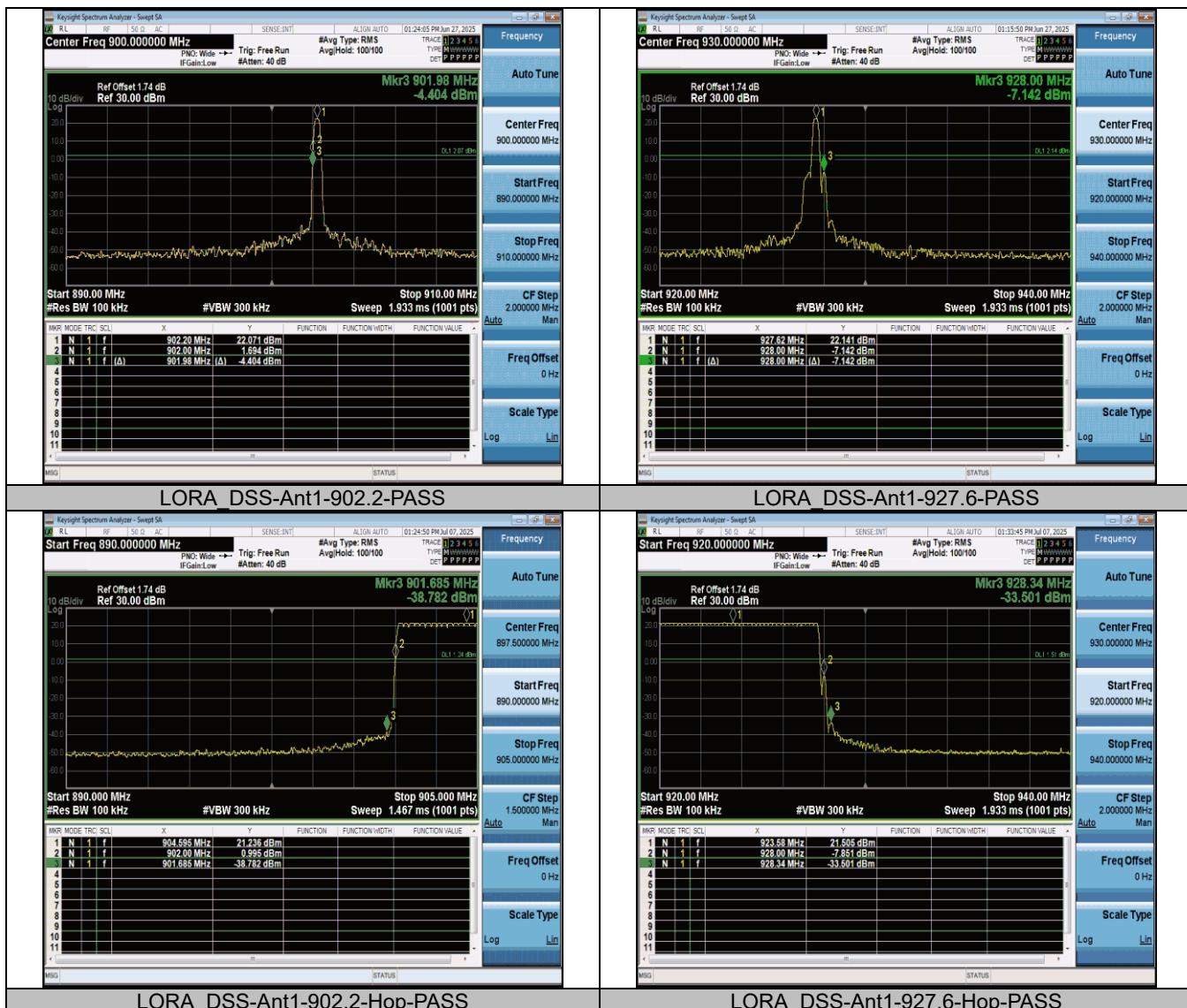
TestMode	Antenna	Hop/Non-Hop	Result[Num]	Limit[Num]	Verdict
LORA_DSS	Ant1	Hop	128	≥50	PASS

### Test Graphs

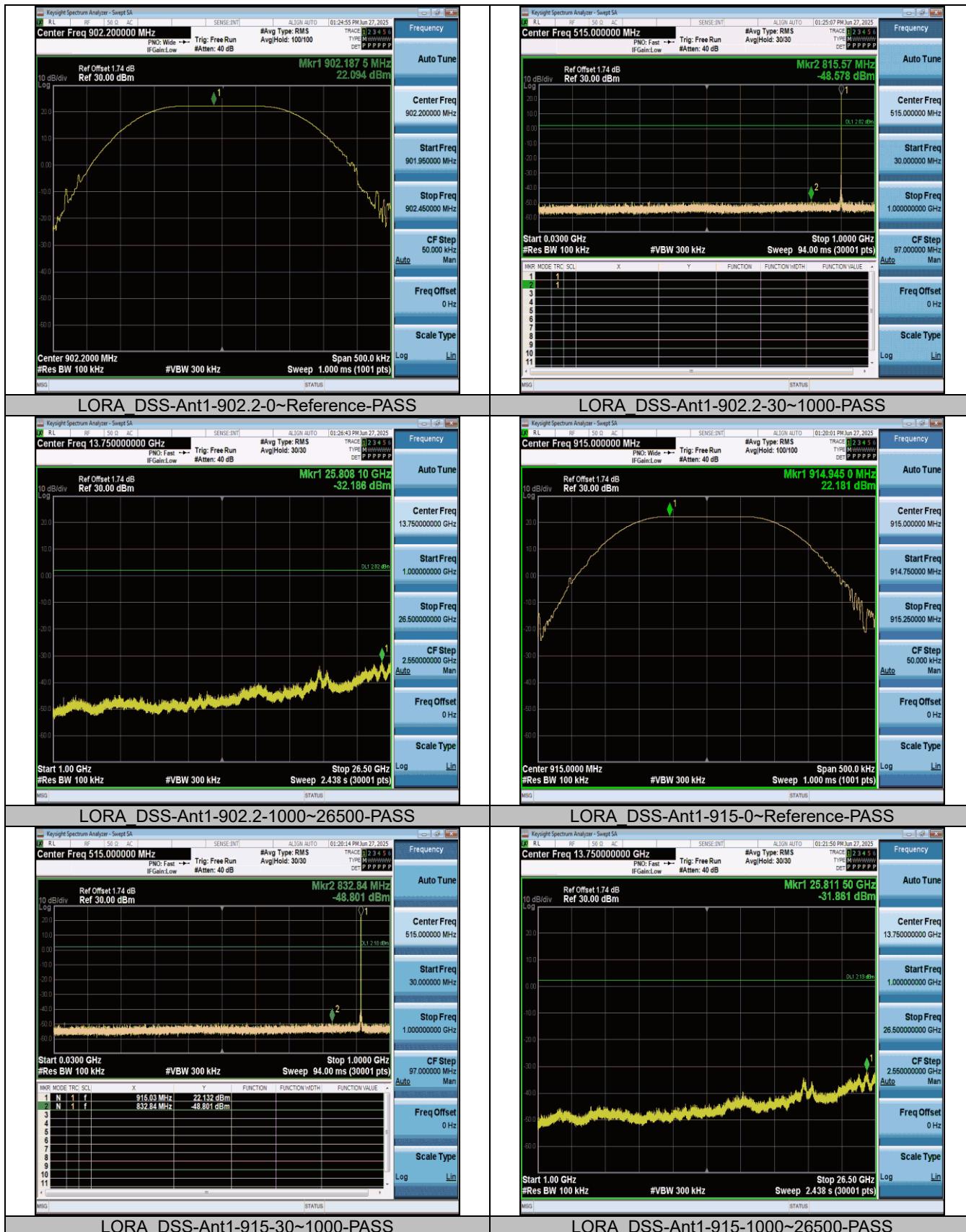


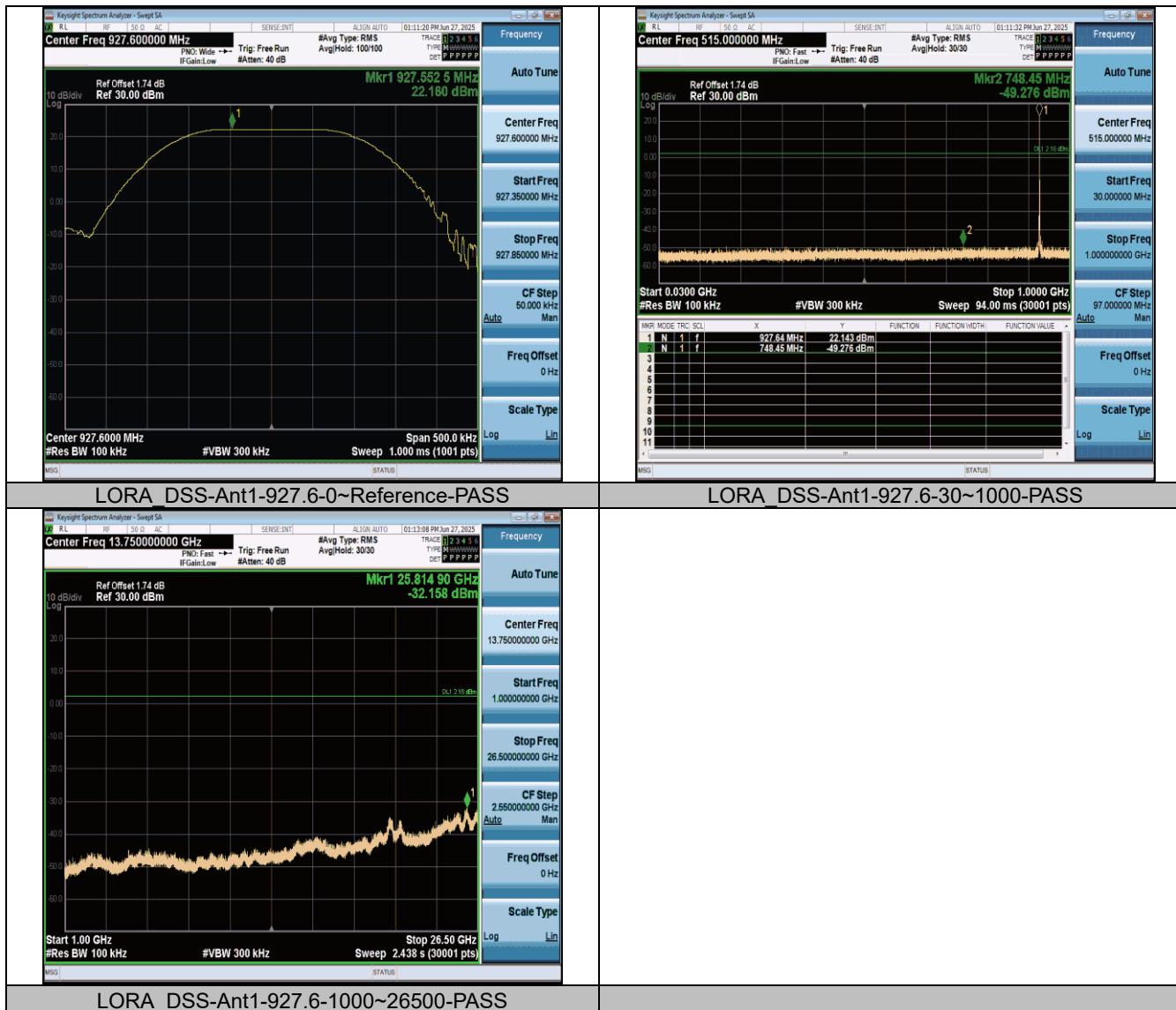
## Band edge measurements

### Test Graphs



## Conducted Spurious Emission Test Graphs



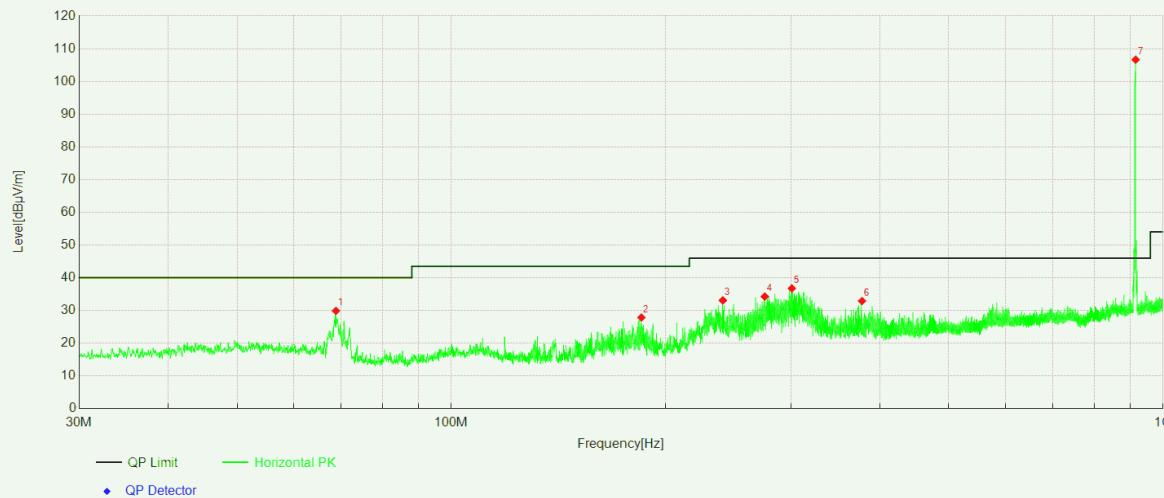


## Radiated Spurious Emissions

### Test Result Below 1GHz

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

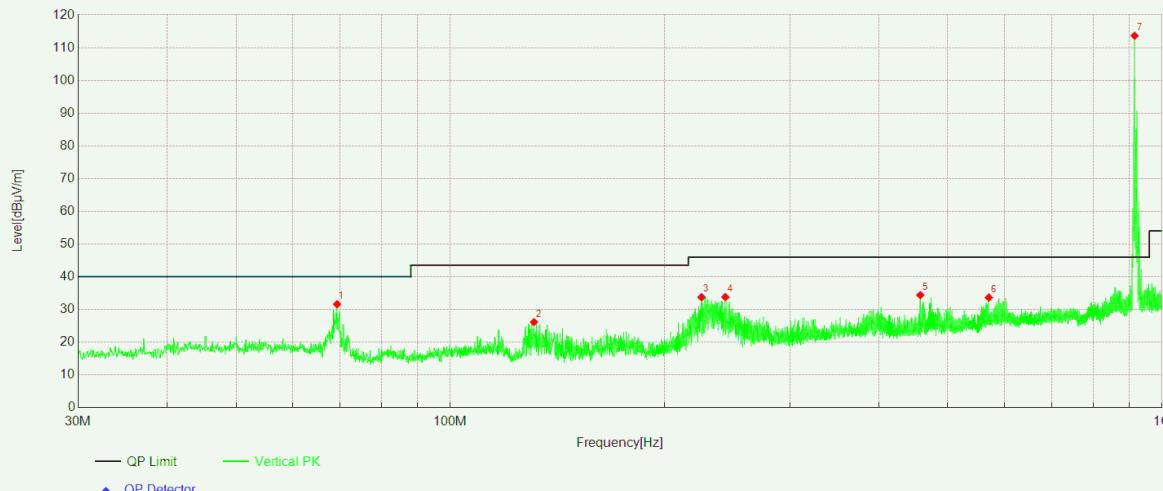
#### Test Graph



#### Data List

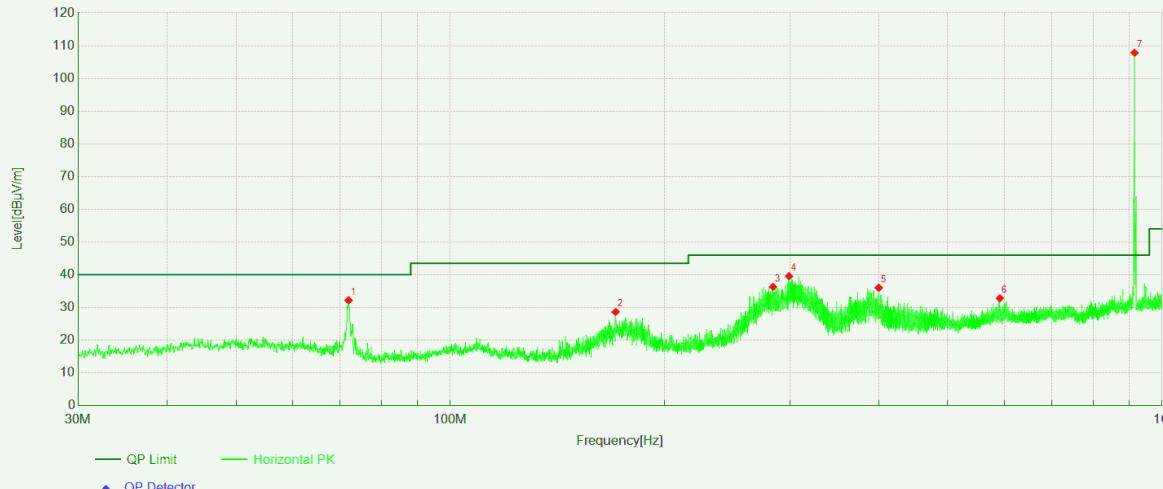
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	68.85	48.76	-18.87	29.89	40.00	10.11	Horizontal	PASS
2	184.96	46.86	-19.00	27.86	43.50	15.64	Horizontal	PASS
3	240.73	49.47	-16.37	33.10	46.00	12.90	Horizontal	PASS
4	275.65	49.27	-15.02	34.25	46.00	11.75	Horizontal	PASS
5	300.92	51.11	-14.35	36.76	46.00	9.24	Horizontal	PASS
6	377.60	44.73	-11.84	32.89	46.00	13.11	Horizontal	PASS
7	915.17	109.25	-2.60	106.65	-	-	Horizontal	NA

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

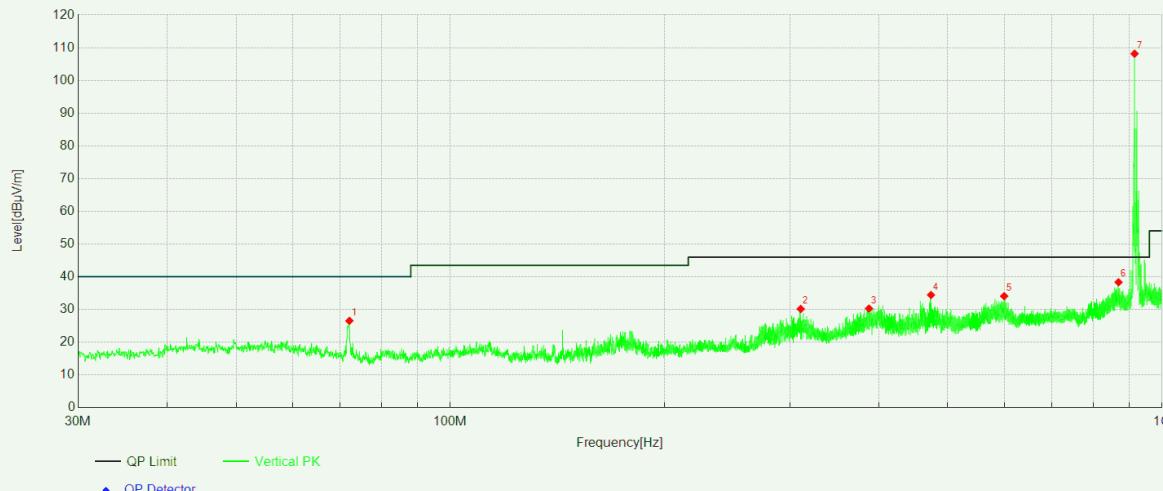
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	69.33	50.97	-19.36	31.61	40.00	8.39	Vertical	PASS
2	131.07	45.82	-19.69	26.13	43.50	17.37	Vertical	PASS
3	225.41	50.56	-16.83	33.73	46.00	12.27	Vertical	PASS
4	243.50	50.61	-16.83	33.78	46.00	12.22	Vertical	PASS
5	457.43	45.34	-10.94	34.40	46.00	11.60	Vertical	PASS
6	571.07	41.18	-7.52	33.66	46.00	12.34	Vertical	PASS
7	915.13	116.36	-2.70	113.66	-	-	Vertical	NA

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	71.95	52.58	-20.37	32.21	40.00	7.79	Horizontal	PASS
2	170.75	48.17	-19.52	28.65	43.50	14.85	Horizontal	PASS
3	284.09	51.37	-15.07	36.30	46.00	9.70	Horizontal	PASS
4	299.13	54.09	-14.49	39.60	46.00	6.40	Horizontal	PASS
5	400.01	47.46	-11.44	36.02	46.00	9.98	Horizontal	PASS
6	591.78	40.46	-7.63	32.83	46.00	13.17	Horizontal	PASS
7	915.03	110.43	-2.60	107.83	-	-	Horizontal	NA

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

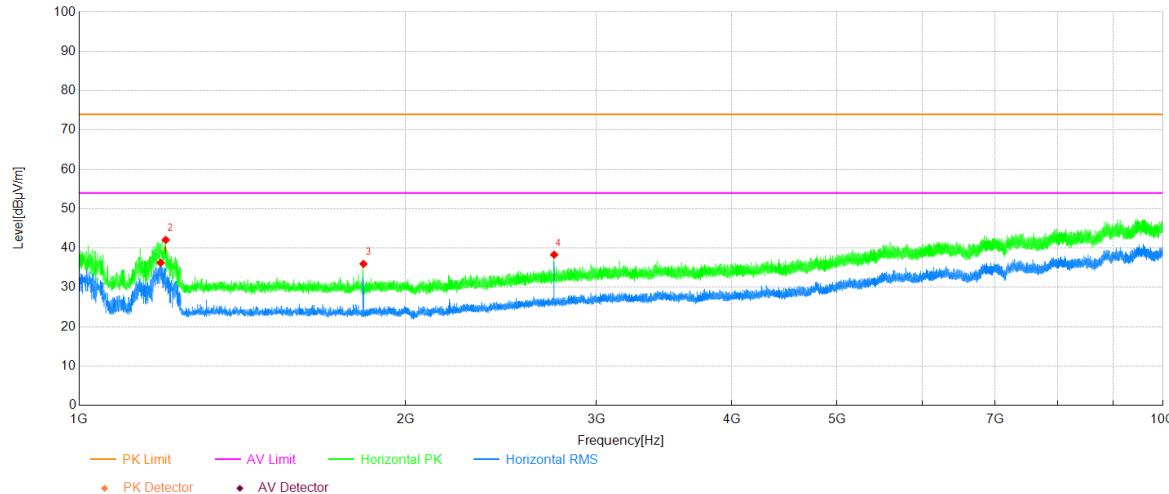
**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	72.15	46.38	-19.84	26.54	40.00	13.46	Vertical	PASS
2	310.67	44.59	-14.40	30.19	46.00	15.81	Vertical	PASS
3	387.49	41.97	-11.67	30.30	46.00	15.70	Vertical	PASS
4	473.63	44.83	-10.39	34.44	46.00	11.56	Vertical	PASS
5	600.02	40.98	-6.90	34.08	46.00	11.92	Vertical	PASS
6	868.71	41.68	-3.33	38.35	46.00	7.65	Vertical	PASS
7	915.08	110.86	-2.70	108.16	-	-	Vertical	NA

## Test Result Above 1GHz

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	914.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

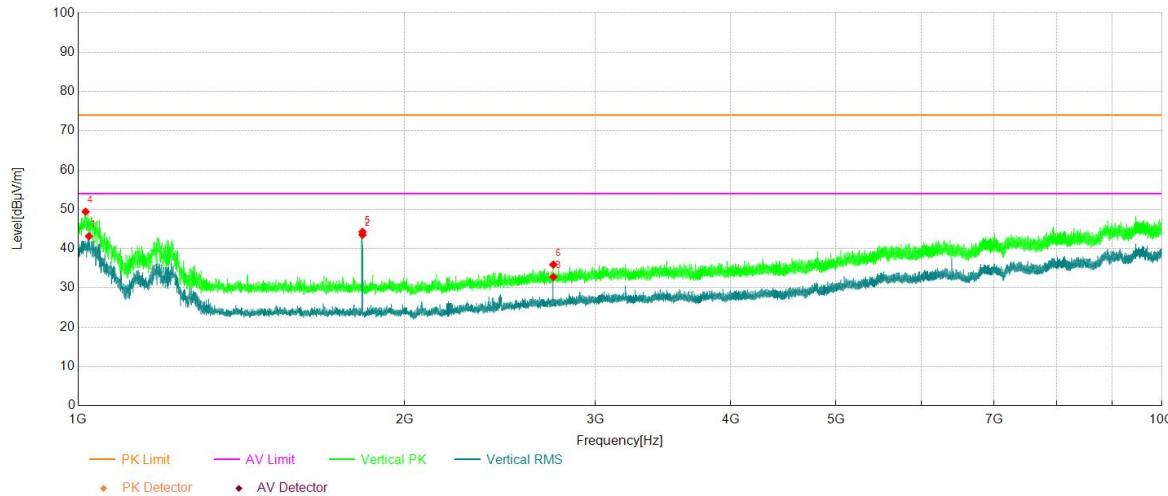
## Test Graph



## Data List

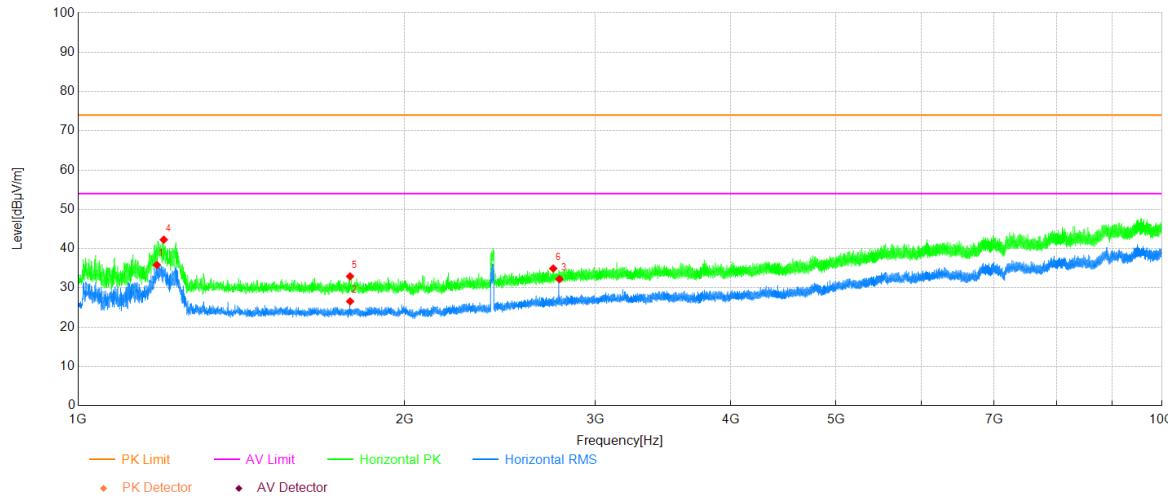
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	1189.00	55.26	-18.99	36.27	54.00	17.73	Horizontal	PASS
2	1201.90	61.04	-18.96	42.08	74.00	31.92	Horizontal	PASS
3	1829.50	54.68	-18.69	35.99	74.00	38.01	Horizontal	PASS
4	2743.00	53.13	-14.81	38.32	74.00	35.68	Horizontal	PASS

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	914.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

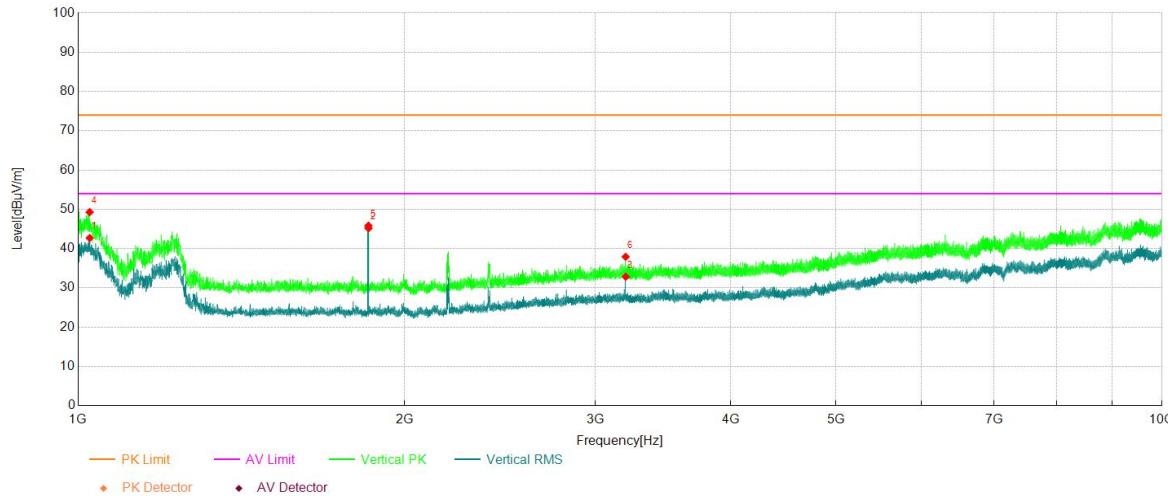
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1023.10	61.32	-18.18	43.14	54.00	10.86	Vertical	PASS
2	1829.50	62.20	-18.69	43.51	54.00	10.49	Vertical	PASS
3	2744.20	47.56	-14.79	32.77	54.00	21.23	Vertical	PASS
4	1015.90	67.35	-17.96	49.39	74.00	24.61	Vertical	PASS
5	1829.50	62.96	-18.69	44.27	74.00	29.73	Vertical	PASS
6	2744.20	50.73	-14.79	35.94	74.00	38.06	Vertical	PASS

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

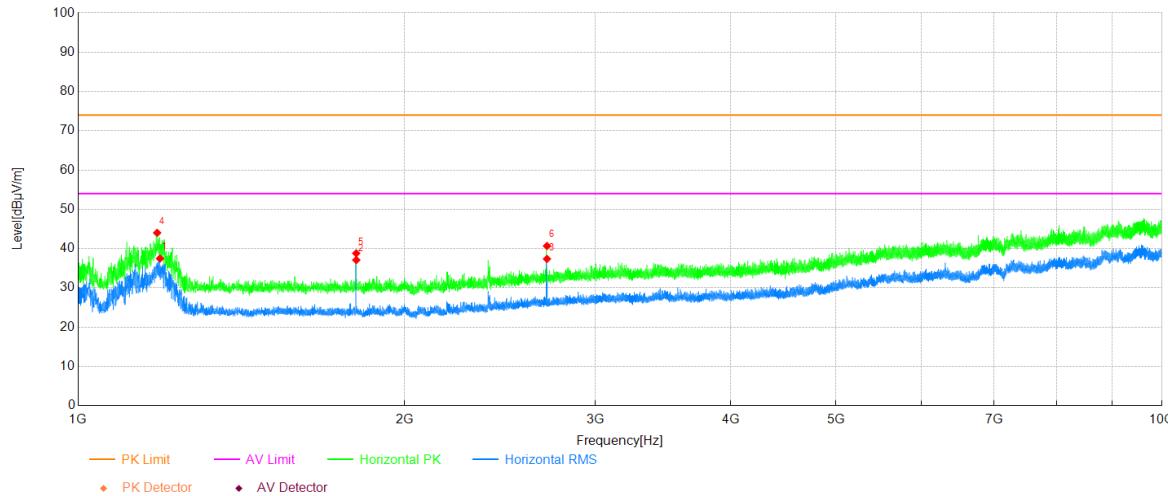
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1182.10	54.88	-19.03	35.85	54.00	18.15	Horizontal	PASS
2	1782.10	45.28	-18.72	26.56	54.00	27.44	Horizontal	PASS
3	2779.90	46.93	-14.70	32.23	54.00	21.77	Horizontal	PASS
4	1199.50	61.21	-18.95	42.26	74.00	31.74	Horizontal	PASS
5	1781.80	51.66	-18.72	32.94	74.00	41.06	Horizontal	PASS
6	2743.60	49.73	-14.81	34.92	74.00	39.08	Horizontal	PASS

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

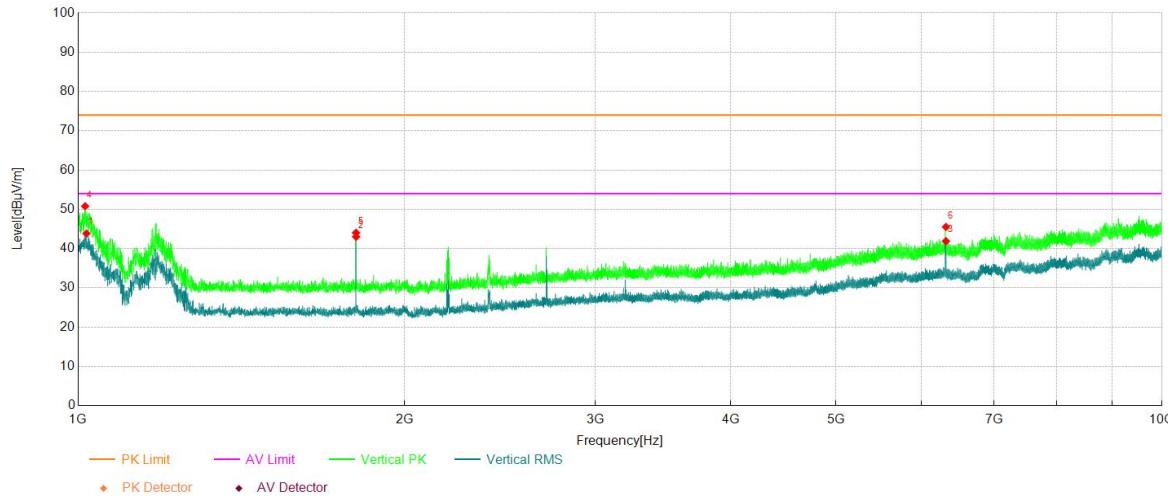
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1024.90	60.93	-18.23	42.70	54.00	11.30	Vertical	PASS
2	1852.90	63.83	-18.64	45.19	54.00	8.81	Vertical	PASS
3	3200.20	45.74	-12.90	32.84	54.00	21.16	Vertical	PASS
4	1024.60	67.50	-18.22	49.28	74.00	24.72	Vertical	PASS
5	1852.60	64.49	-18.64	45.85	74.00	28.15	Vertical	PASS
6	3199.90	50.81	-12.90	37.91	74.00	36.09	Vertical	PASS

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	902.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

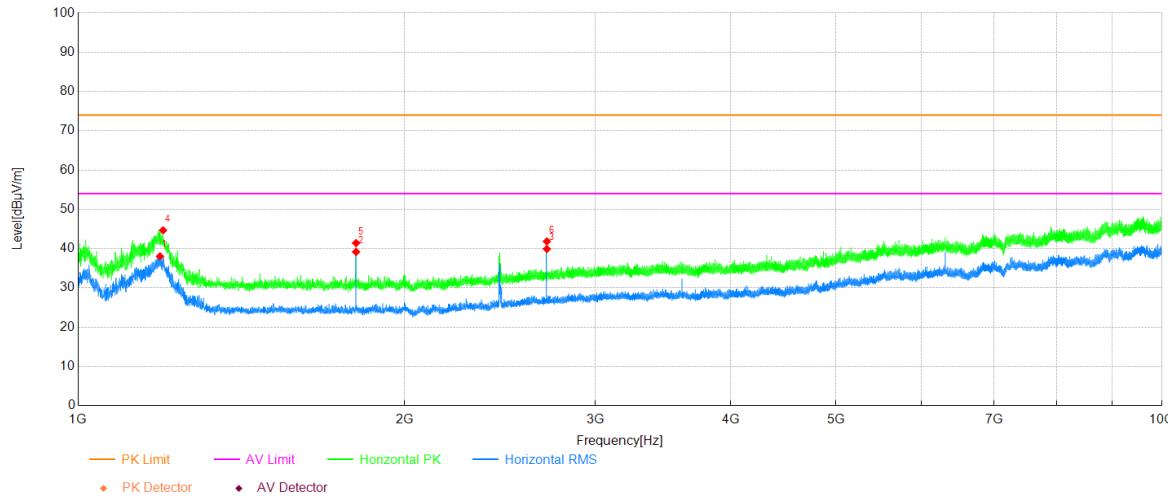
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	1189.90	56.46	-18.99	37.47	54.00	16.53	Horizontal	PASS
2	1805.50	55.81	-18.72	37.09	54.00	16.91	Horizontal	PASS
3	2707.30	52.54	-15.16	37.38	54.00	16.62	Horizontal	PASS
4	1182.70	63.04	-19.03	44.01	74.00	29.99	Horizontal	PASS
5	1805.20	57.52	-18.72	38.80	74.00	35.20	Horizontal	PASS
6	2707.30	55.83	-15.16	40.67	74.00	33.33	Horizontal	PASS

Project Information			
Mode:	LORA DTS	Band:	-
Bandwidth	500KHz	Channel	902.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

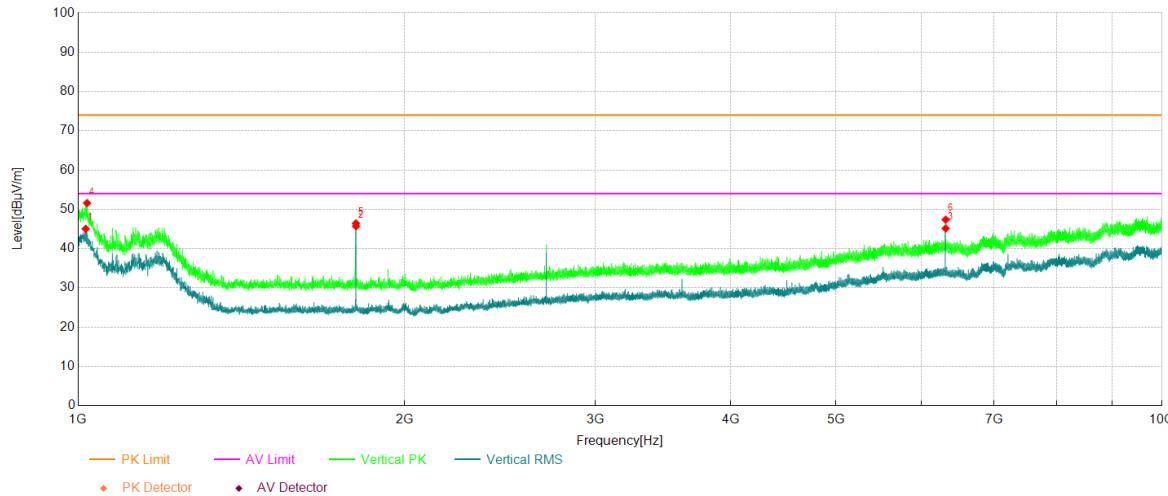
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	1017.70	61.86	-18.01	43.85	54.00	10.15	Vertical	PASS
2	1804.90	61.73	-18.72	43.01	54.00	10.99	Vertical	PASS
3	6319.00	45.59	-3.69	41.90	54.00	12.10	Vertical	PASS
4	1015.00	68.73	-17.93	50.80	74.00	23.20	Vertical	PASS
5	1804.60	62.75	-18.72	44.03	74.00	29.97	Vertical	PASS
6	6318.70	49.21	-3.70	45.51	74.00	28.49	Vertical	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	902.2MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

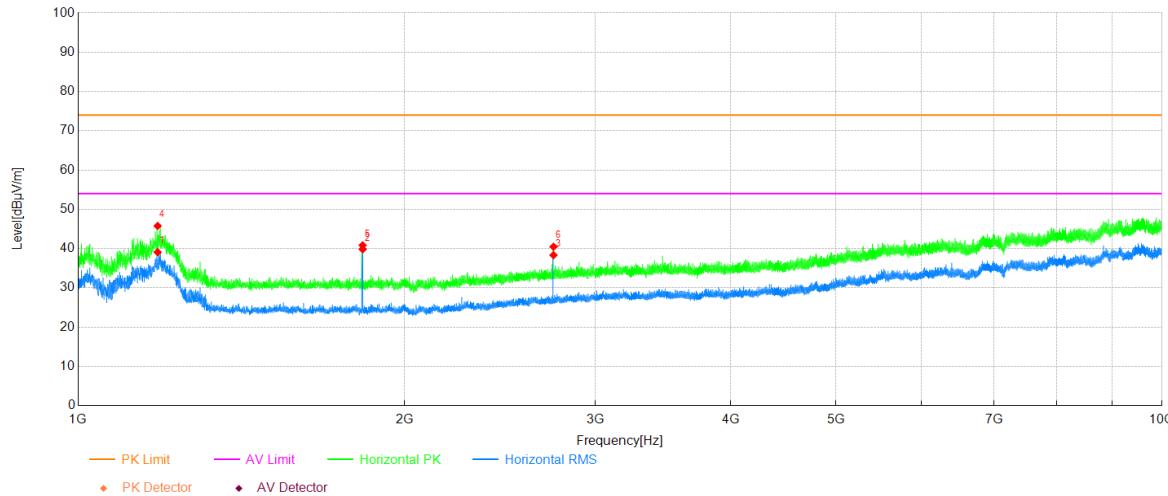
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1189.90	57.02	-18.99	38.03	54.00	15.97	Horizontal	PASS
2	1804.90	57.89	-18.72	39.17	54.00	14.83	Horizontal	PASS
3	2706.70	55.06	-15.16	39.90	54.00	14.10	Horizontal	PASS
4	1197.70	63.62	-18.96	44.66	74.00	29.34	Horizontal	PASS
5	1804.60	60.13	-18.72	41.41	74.00	32.59	Horizontal	PASS
6	2706.40	56.99	-15.16	41.83	74.00	32.17	Horizontal	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	902.2MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

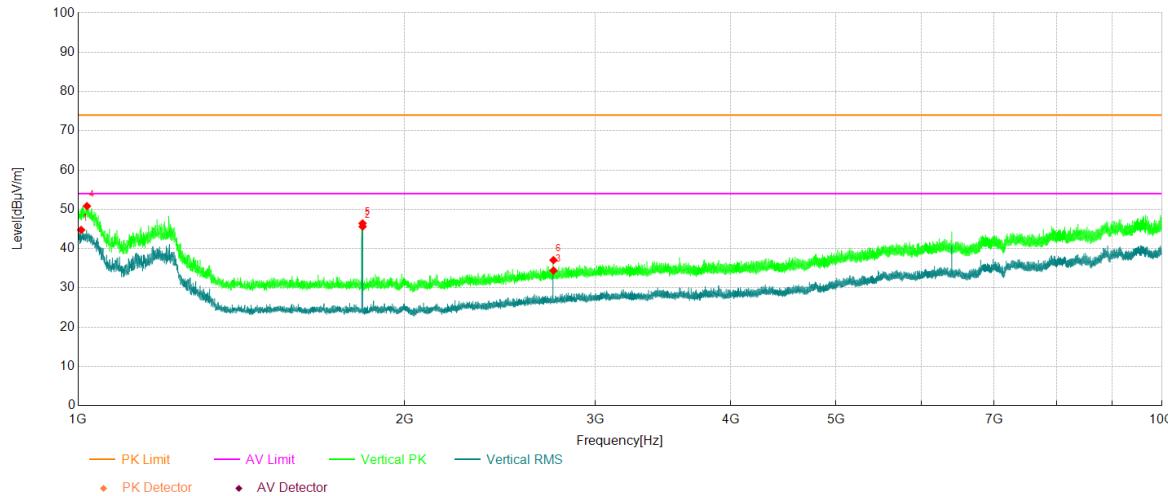
NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	1016.20	63.00	-17.97	45.03	54.00	8.97	Vertical	PASS
2	1804.60	64.41	-18.72	45.69	54.00	8.31	Vertical	PASS
3	6315.40	48.83	-3.68	45.15	54.00	8.85	Vertical	PASS
4	1019.20	69.65	-18.06	51.59	74.00	22.41	Vertical	PASS
5	1804.30	65.14	-18.72	46.42	74.00	27.58	Vertical	PASS
6	6315.10	51.03	-3.67	47.36	74.00	26.64	Vertical	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

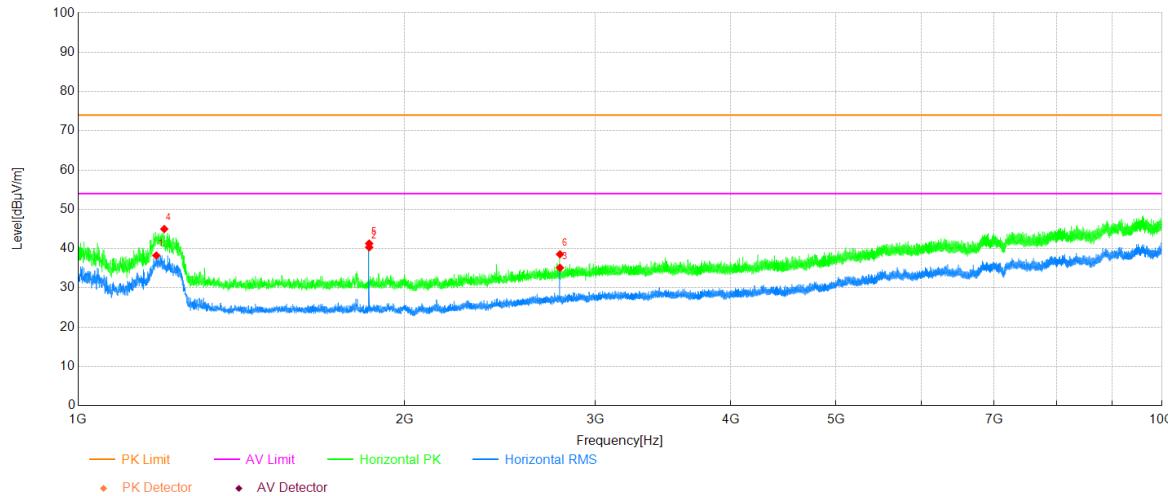
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1183.90	58.11	-19.02	39.09	54.00	14.91	Horizontal	PASS
2	1830.40	58.52	-18.69	39.83	54.00	14.17	Horizontal	PASS
3	2745.10	53.13	-14.79	38.34	54.00	15.66	Horizontal	PASS
4	1183.90	64.79	-19.02	45.77	74.00	28.23	Horizontal	PASS
5	1830.10	59.53	-18.69	40.84	74.00	33.16	Horizontal	PASS
6	2745.10	55.26	-14.79	40.47	74.00	33.53	Horizontal	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

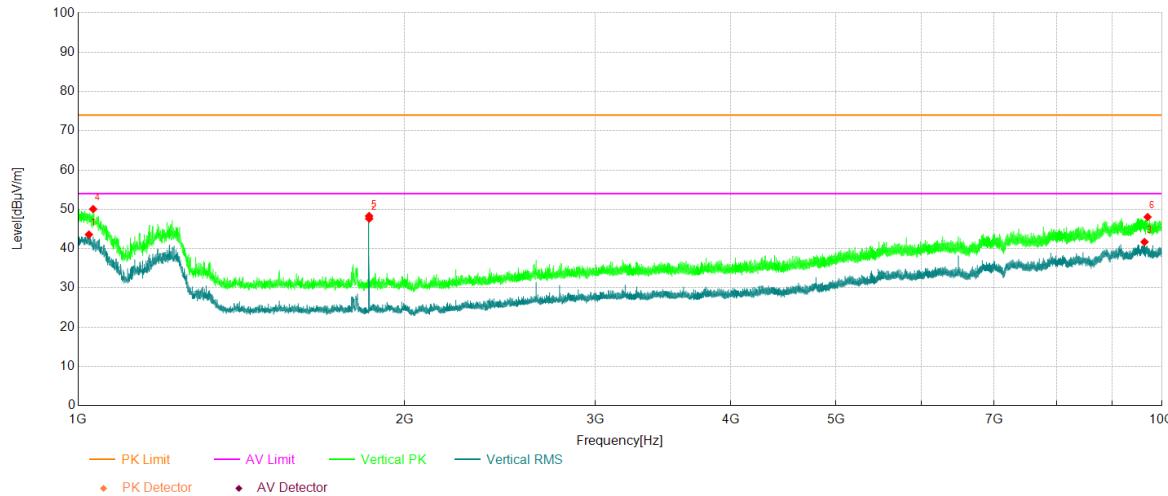
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1006.30	62.41	-17.66	44.75	54.00	9.25	Vertical	PASS
2	1830.10	64.30	-18.69	45.61	54.00	8.39	Vertical	PASS
3	2745.10	49.20	-14.79	34.41	54.00	19.59	Vertical	PASS
4	1018.90	68.87	-18.05	50.82	74.00	23.18	Vertical	PASS
5	1829.80	65.11	-18.69	46.42	74.00	27.58	Vertical	PASS
6	2744.80	51.85	-14.79	37.06	74.00	36.94	Vertical	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	927.6MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1180.60	57.28	-19.04	38.24	54.00	15.76	Horizontal	PASS
2	1855.60	58.94	-18.62	40.32	54.00	13.68	Horizontal	PASS
3	2782.90	49.81	-14.69	35.12	54.00	18.88	Horizontal	PASS
4	1200.70	63.94	-18.95	44.99	74.00	29.01	Horizontal	PASS
5	1855.60	59.91	-18.62	41.29	74.00	32.71	Horizontal	PASS
6	2782.90	53.25	-14.69	38.56	74.00	35.44	Horizontal	PASS

Project Information			
Mode:	LORA DSS	Band:	-
Bandwidth	125KHz	Channel	927.6MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

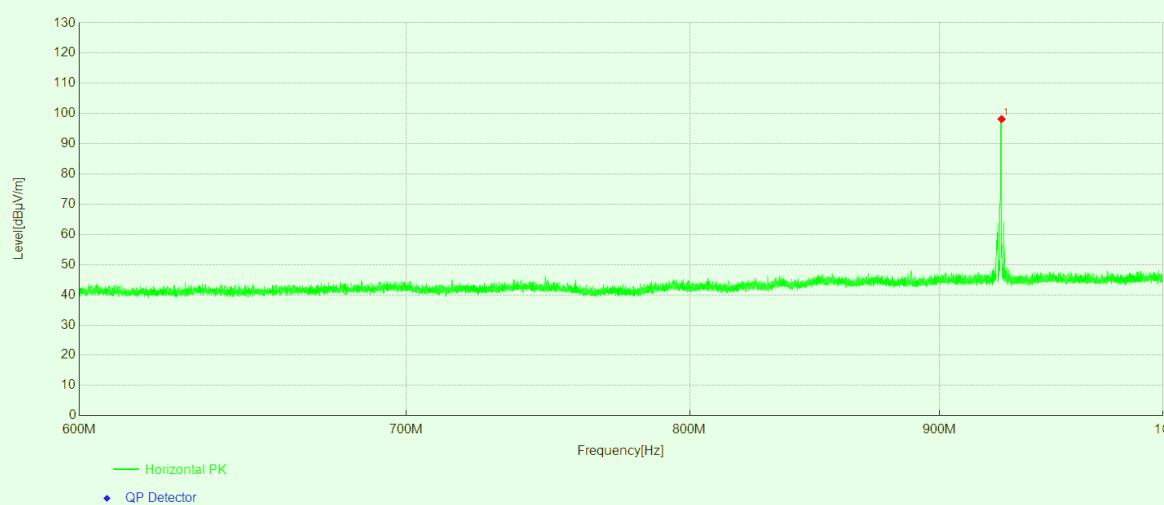
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	1023.10	61.75	-18.18	43.57	54.00	10.43	Vertical	PASS
2	1855.60	66.25	-18.62	47.63	54.00	6.37	Vertical	PASS
3	9634.90	38.61	3.09	41.70	54.00	12.30	Vertical	PASS
4	1032.40	68.52	-18.46	50.06	74.00	23.94	Vertical	PASS
5	1855.30	66.92	-18.63	48.29	74.00	25.71	Vertical	PASS
6	9697.60	44.22	3.82	48.04	74.00	25.96	Vertical	PASS

## Radiated Band Edge

### Test Result

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

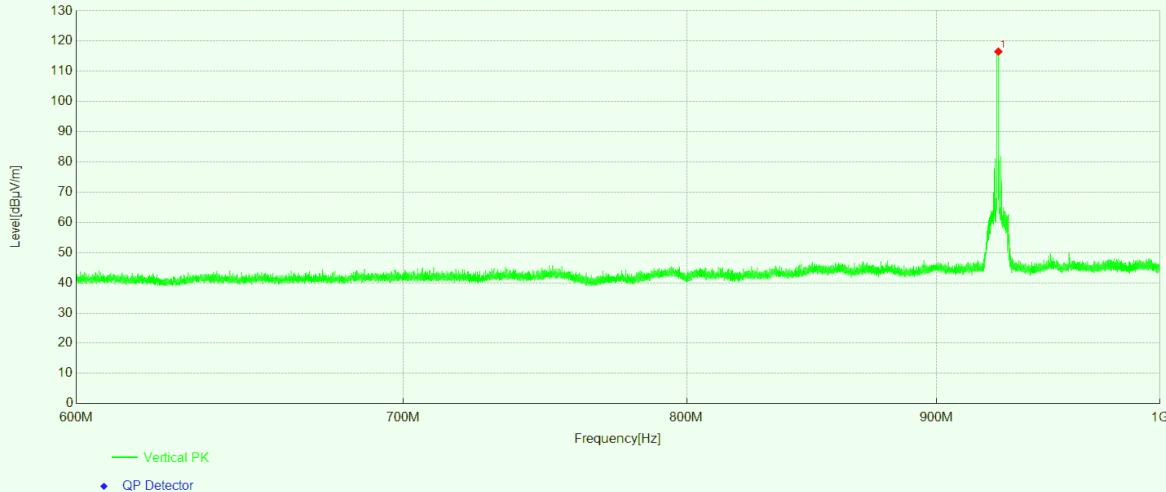
#### Test Graph



#### Data List

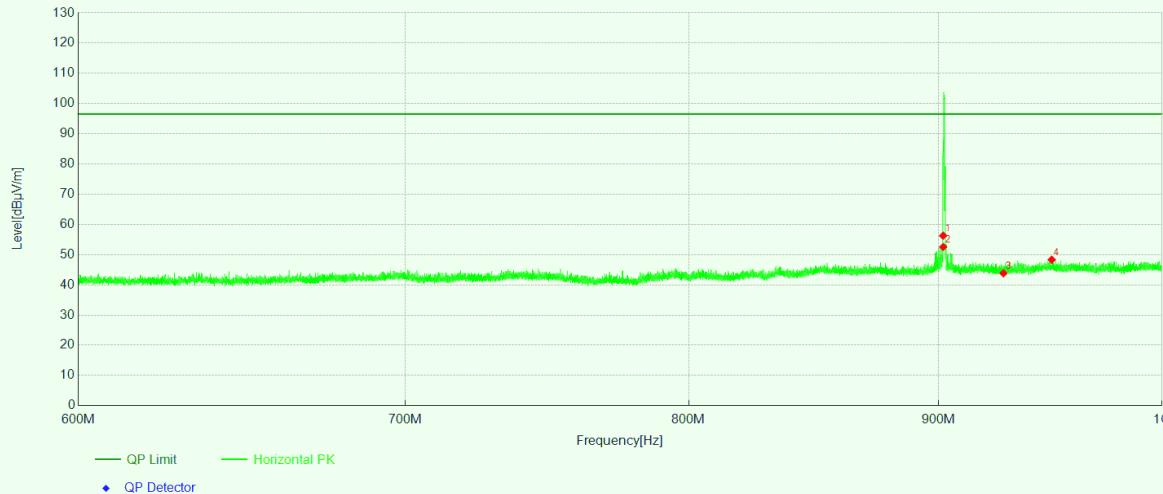
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Polarity	Verdict
1	926.72	87.05	11.09	98.14	-	-	Horizontal	NA

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

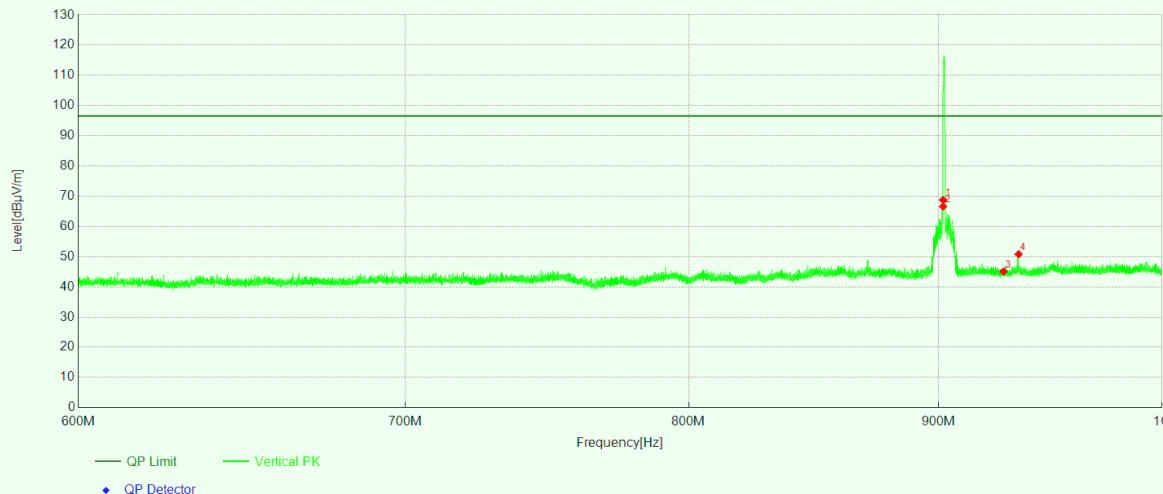
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	926.62	105.60	10.96	116.56	-	-	Vertical	NA

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	902.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	901.98	44.86	11.42	56.28	96.56	40.28	Horizontal	PASS
2	902.00	41.12	11.42	52.54	96.56	44.02	Horizontal	PASS
3	928.00	32.71	11.13	43.84	96.56	52.72	Horizontal	PASS
4	949.34	36.14	12.18	48.32	96.56	48.24	Horizontal	PASS

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	902.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

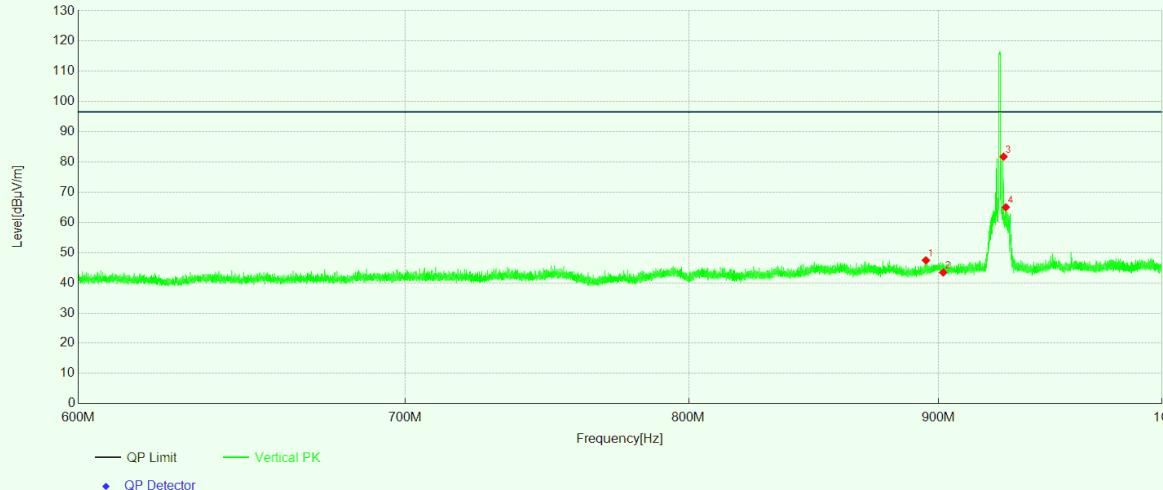
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	901.98	57.51	11.24	68.75	96.56	27.81	Vertical	PASS
2	902.00	55.34	11.24	66.58	96.56	29.98	Vertical	PASS
3	928.00	34.19	10.89	45.08	96.56	51.48	Vertical	PASS
4	934.64	39.17	11.63	50.80	96.56	45.76	Vertical	PASS

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

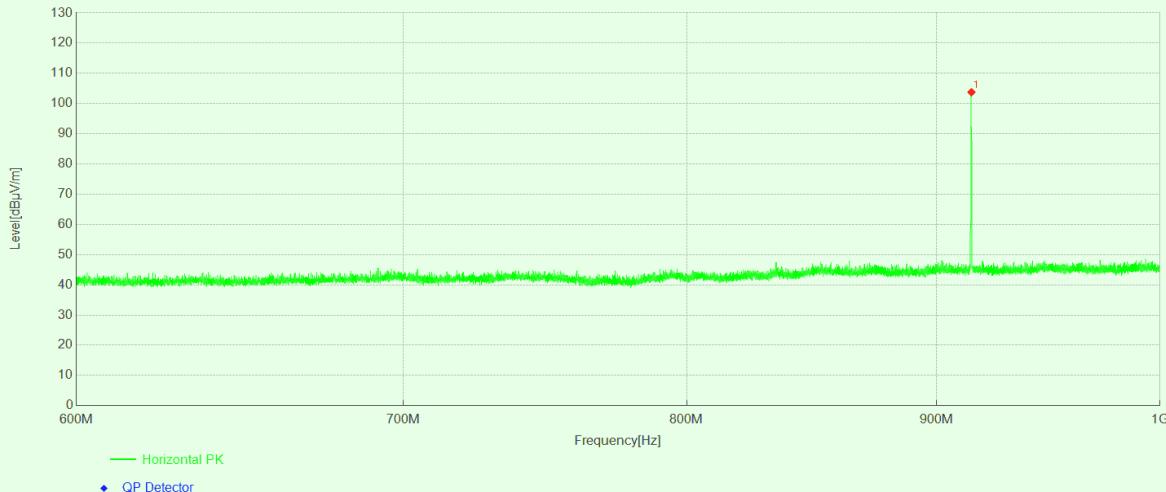
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	888.18	37.43	10.51	47.94	96.56	48.62	Horizontal	PASS
2	902.00	33.88	11.42	45.30	96.56	51.26	Horizontal	PASS
3	928.00	52.85	11.13	63.98	96.56	32.58	Horizontal	PASS
4	929.20	37.81	11.18	48.99	96.56	47.57	Horizontal	PASS

Project Information			
Mode:	Lora DTS	Band:	-
Bandwidth	500KHz	Channel	926.5MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

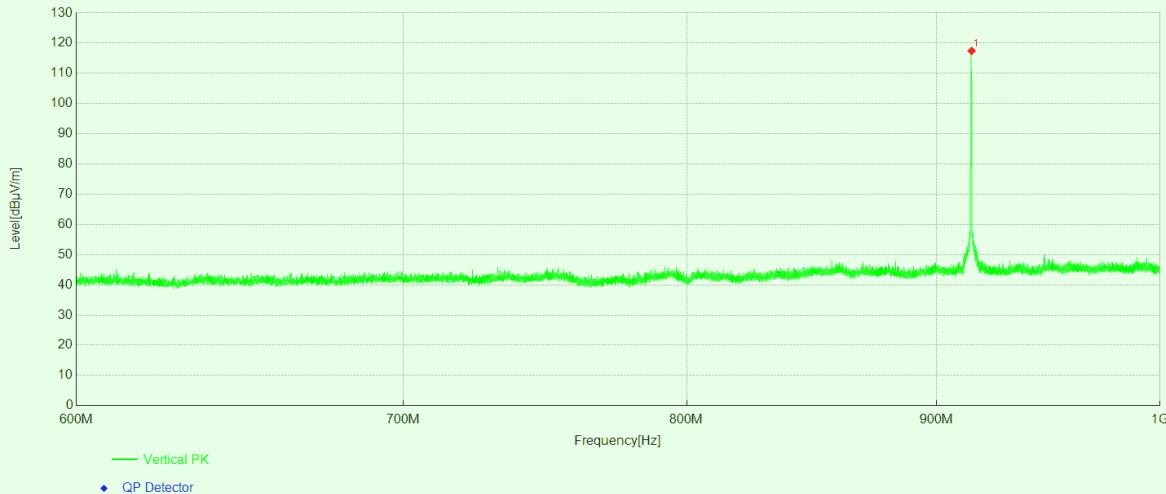
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	894.66	36.79	10.65	47.44	96.56	49.12	Vertical	PASS
2	902.00	32.22	11.24	43.46	96.56	53.10	Vertical	PASS
3	928.00	70.89	10.89	81.78	96.56	14.78	Vertical	PASS
4	929.02	54.13	10.85	64.98	96.56	31.58	Vertical	PASS

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

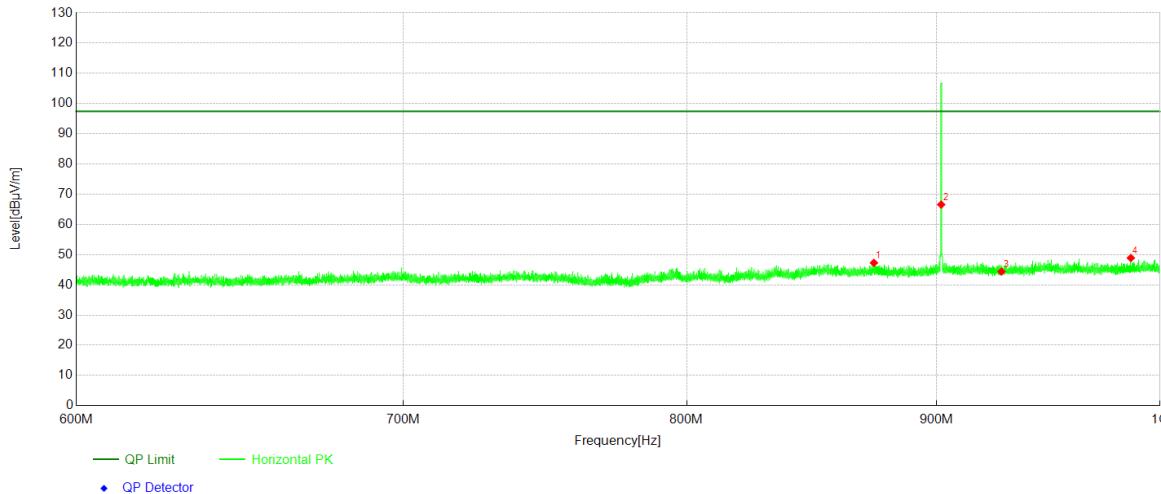
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	914.96	92.37	11.40	103.77	-	-	Horizontal	NA

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	915MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

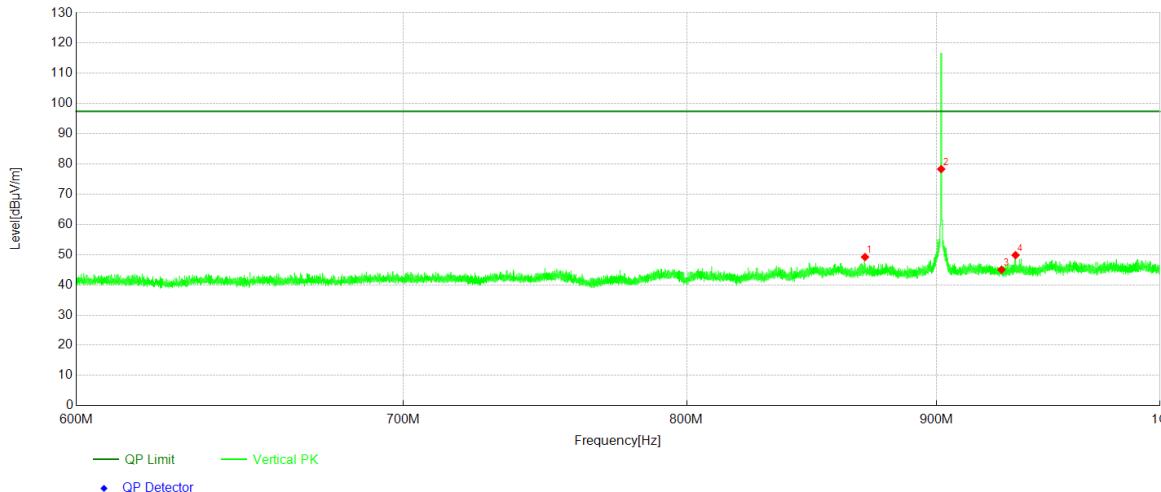
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	915.02	106.13	11.30	117.43	-	-	Vertical	NA

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	902.2MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

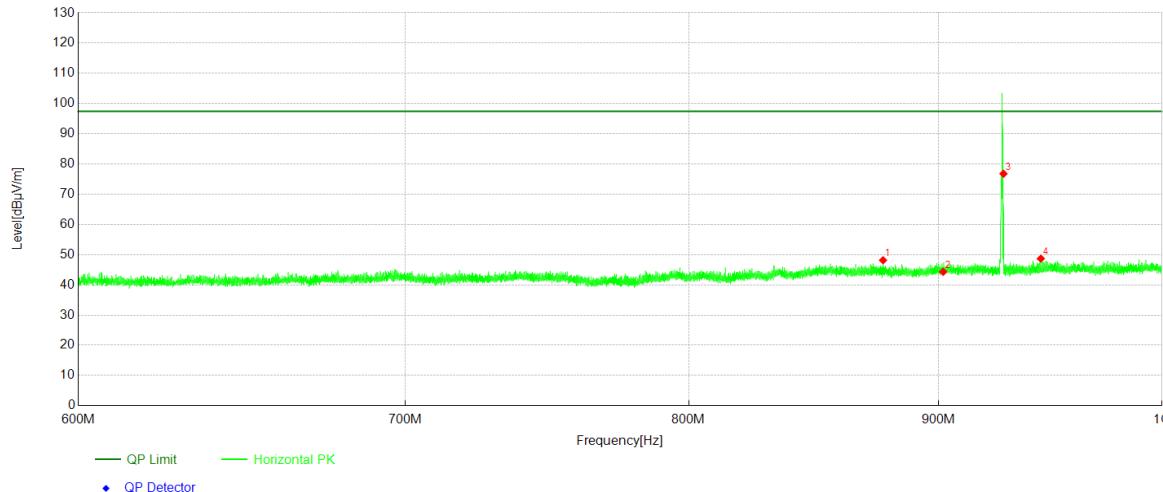
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	873.86	36.25	11.03	47.28	97.43	50.15	Horizontal	PASS
2	902.00	55.15	11.42	66.57	97.43	30.86	Horizontal	PASS
3	928.00	33.25	11.13	44.38	97.43	53.05	Horizontal	PASS
4	986.34	36.96	11.94	48.90	97.43	48.53	Horizontal	PASS

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	902.2MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

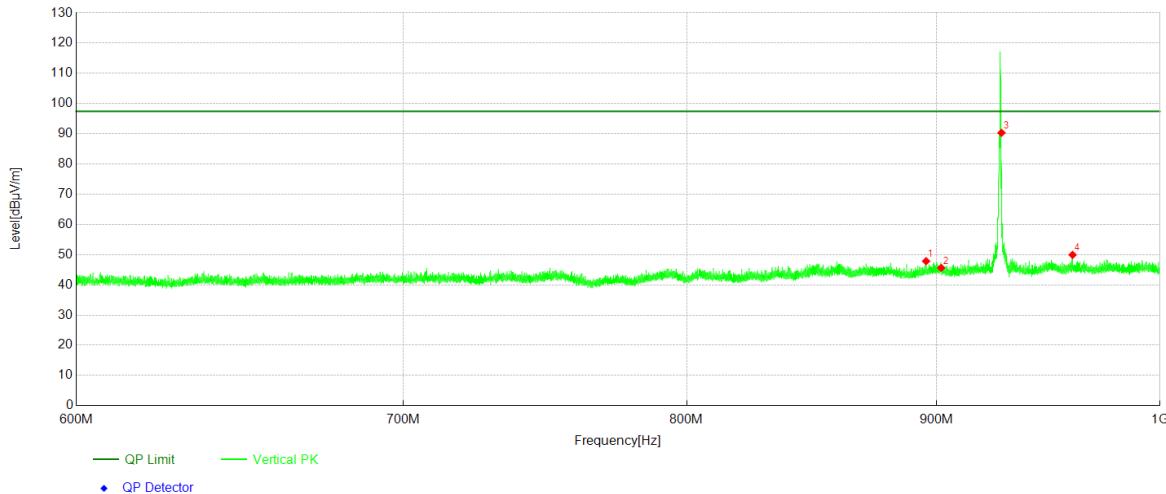
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	870.18	38.30	10.91	49.21	97.43	48.22	Vertical	PASS
2	902.00	67.07	11.24	78.31	97.43	19.12	Vertical	PASS
3	928.00	34.10	10.89	44.99	97.43	52.44	Vertical	PASS
4	934.16	38.29	11.55	49.84	97.43	47.59	Vertical	PASS

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	927.6MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dB $\mu$ V]	Factor [dB]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Polarity	Verdict
1	876.80	37.28	10.88	48.16	97.43	49.27	Horizontal	PASS
2	902.00	32.89	11.42	44.31	97.43	53.12	Horizontal	PASS
3	928.00	65.65	11.13	76.78	97.43	20.65	Horizontal	PASS
4	944.46	36.78	11.89	48.67	97.43	48.76	Horizontal	PASS

Project Information			
Mode:	Lora DSS	Band:	-
Bandwidth	125KHz	Channel	927.6MHz
SN:	E1M24GH08000071	Engineer:	Ou shuyan
Remark:			

**Test Graph****Data List**

NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Verdict
1	895.62	37.04	10.80	47.84	97.43	49.59	Vertical	PASS
2	902.00	34.37	11.24	45.61	97.43	51.82	Vertical	PASS
3	928.00	79.43	10.89	90.32	97.43	7.11	Vertical	PASS
4	959.62	37.92	12.00	49.92	97.43	47.51	Vertical	PASS

~The End~