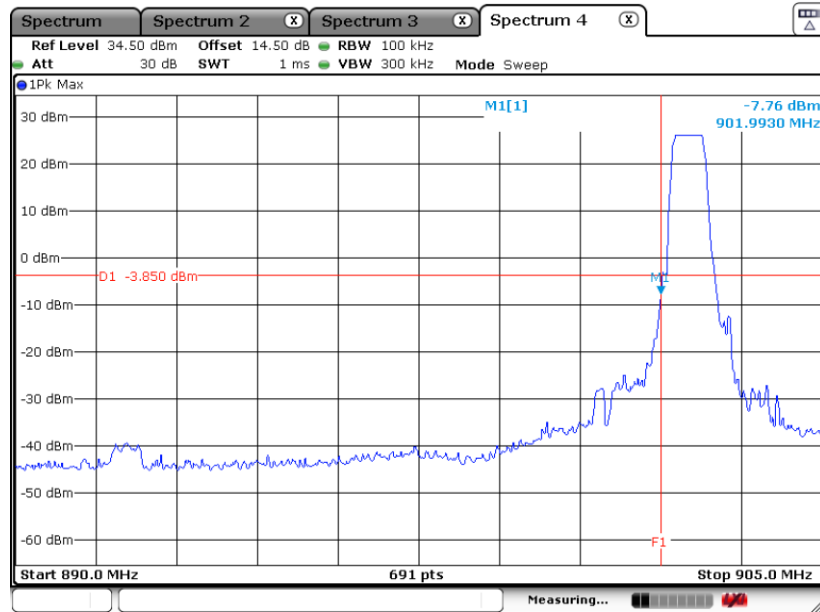




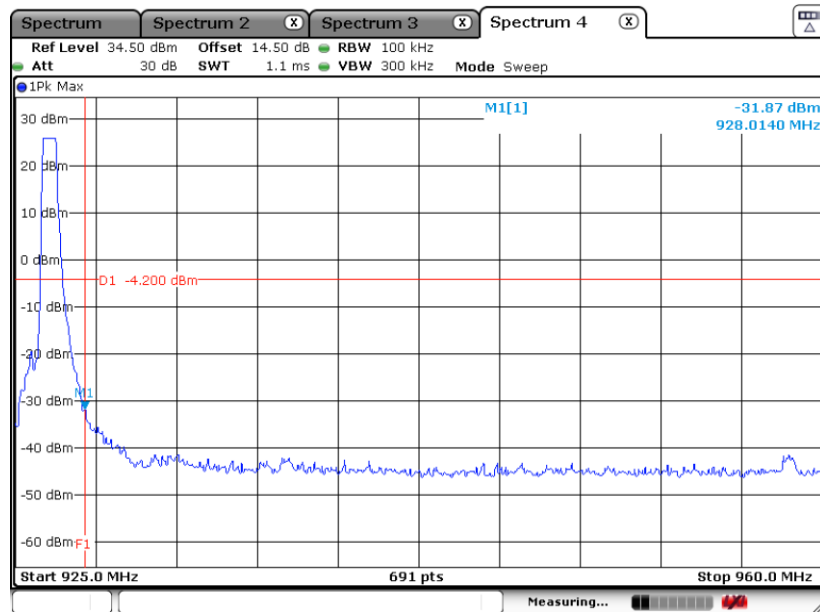
For SF8:

### Low Band Edge Plot on 902.5 MHz



Date: 1.MAR.2022 16:21:27

### High Band Edge Plot on 926.5 MHz

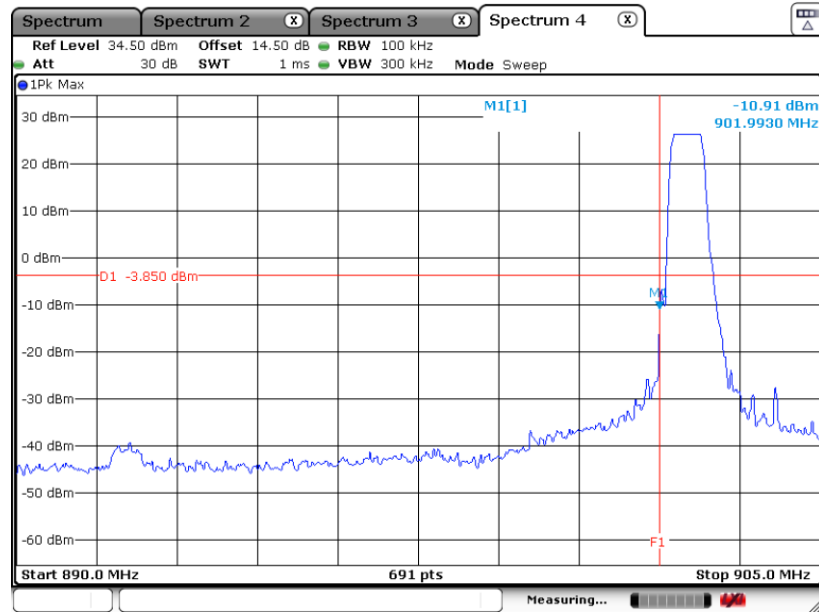


Date: 1.MAR.2022 16:28:01



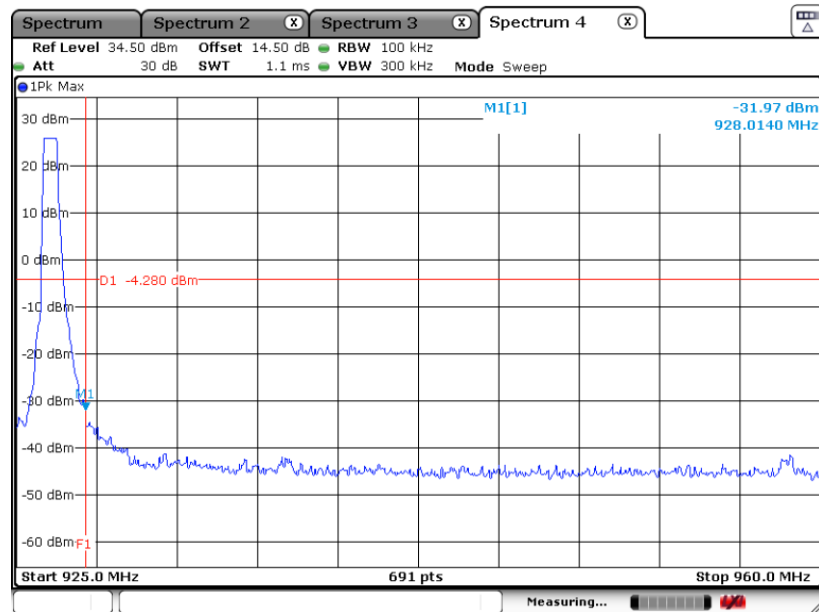
For SF9:

### Low Band Edge Plot on 902.5 MHz



Date: 1.MAR.2022 16:32:18

### High Band Edge Plot on 926.5 MHz

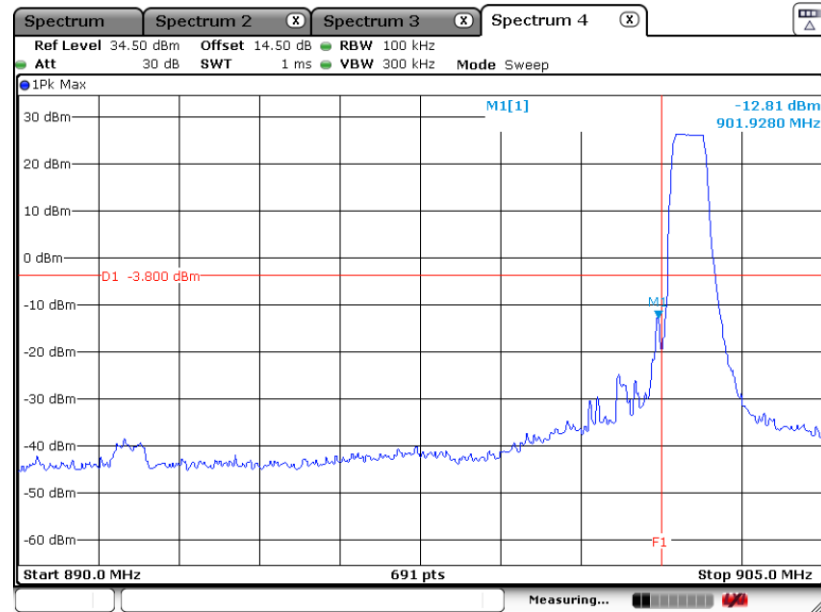


Date: 1.MAR.2022 16:38:29



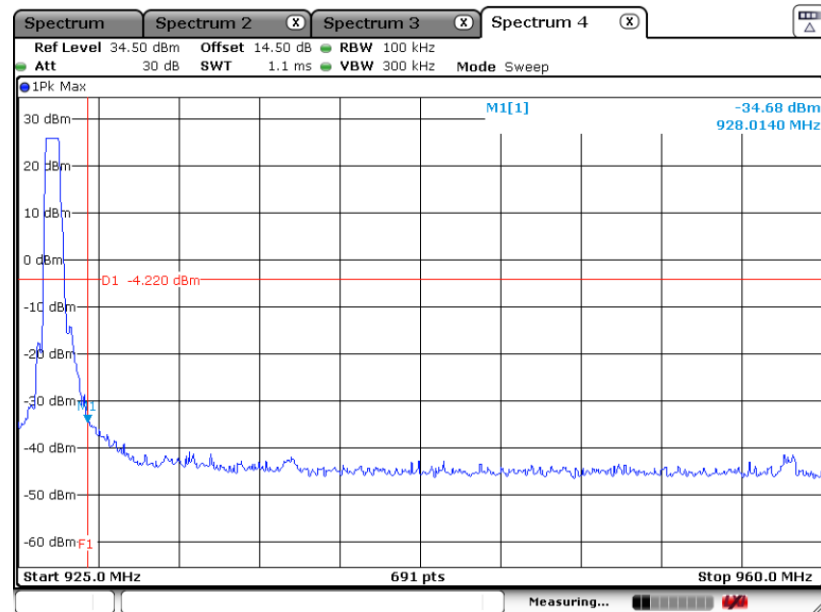
For SF10:

### Low Band Edge Plot on 902.5 MHz



Date: 1.MAR.2022 16:43:25

### High Band Edge Plot on 926.5 MHz

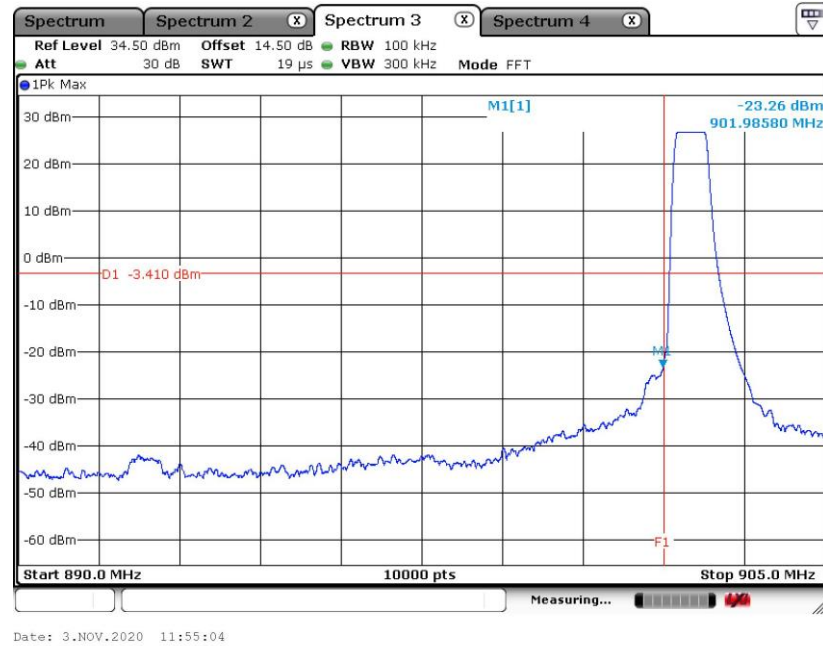


Date: 1.MAR.2022 16:49:02

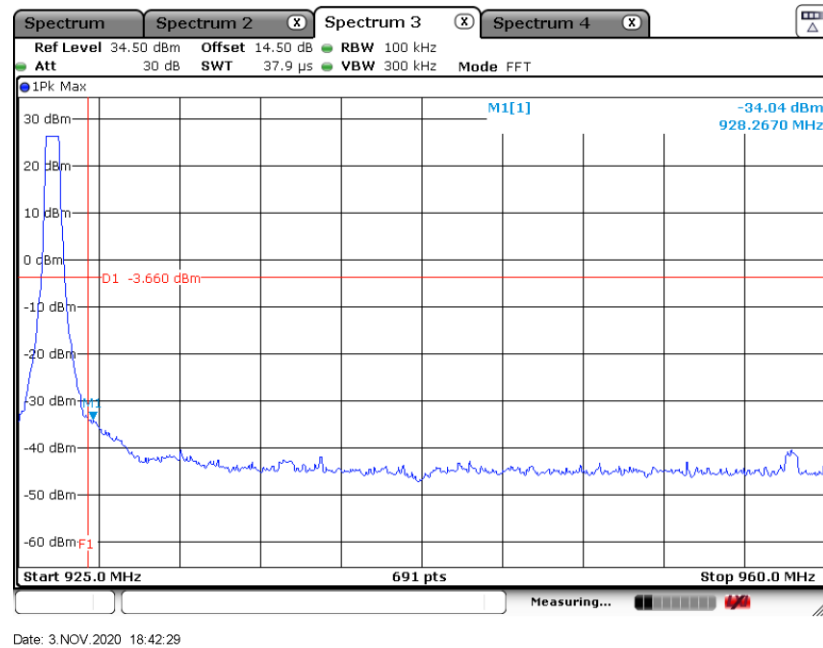


For SF11:

### Low Band Edge Plot on 902.5 MHz



### High Band Edge Plot on 926.5 MHz

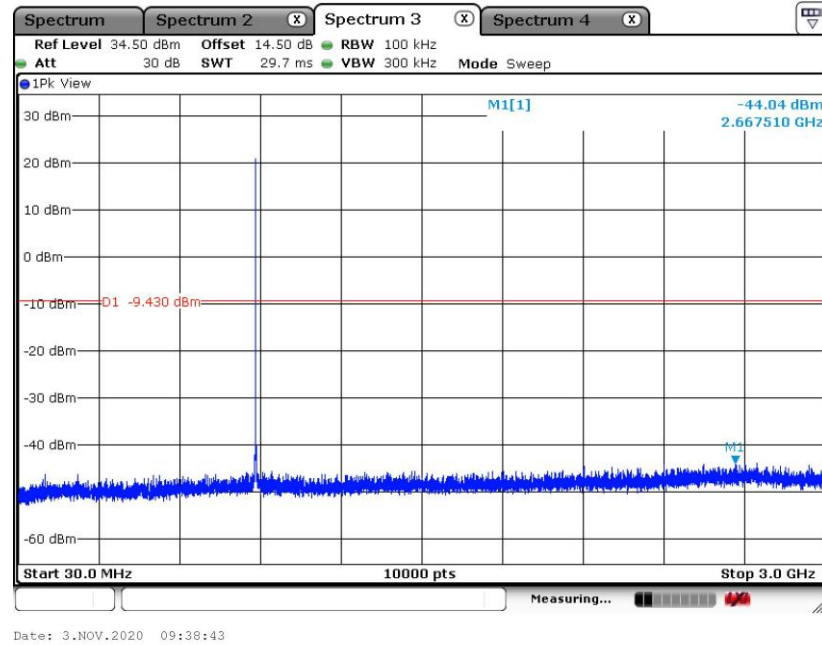




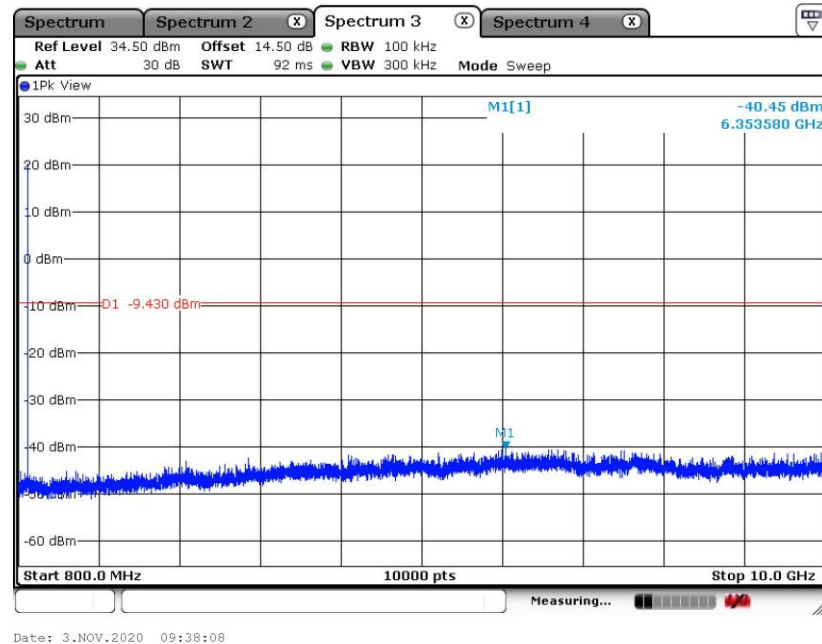
### 3.4.6 Test Result of Conducted Spurious Emission Plots

For SF5:

#### Conducted Spurious Emission Plot on 902.5 MHz

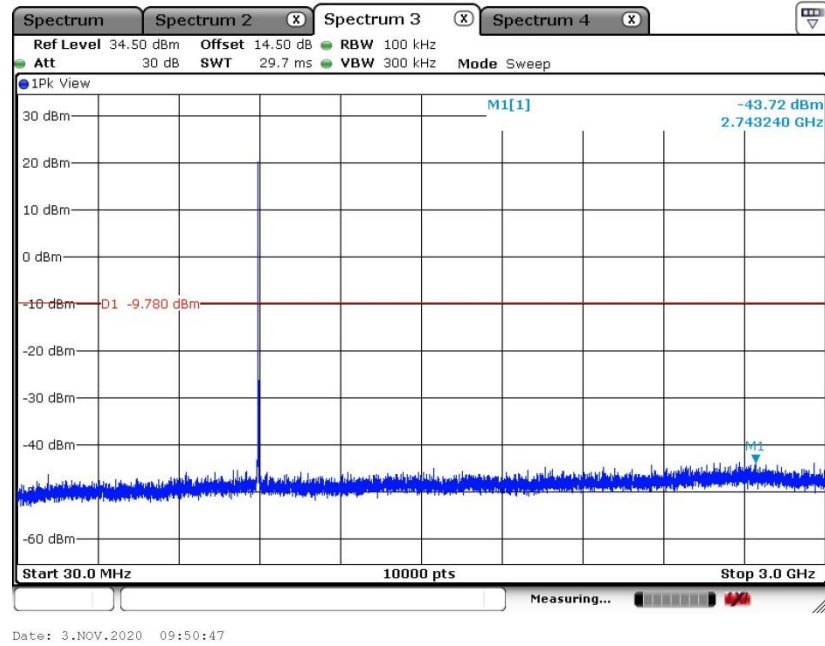


#### Conducted Spurious Emission Plot on 902.5 MHz

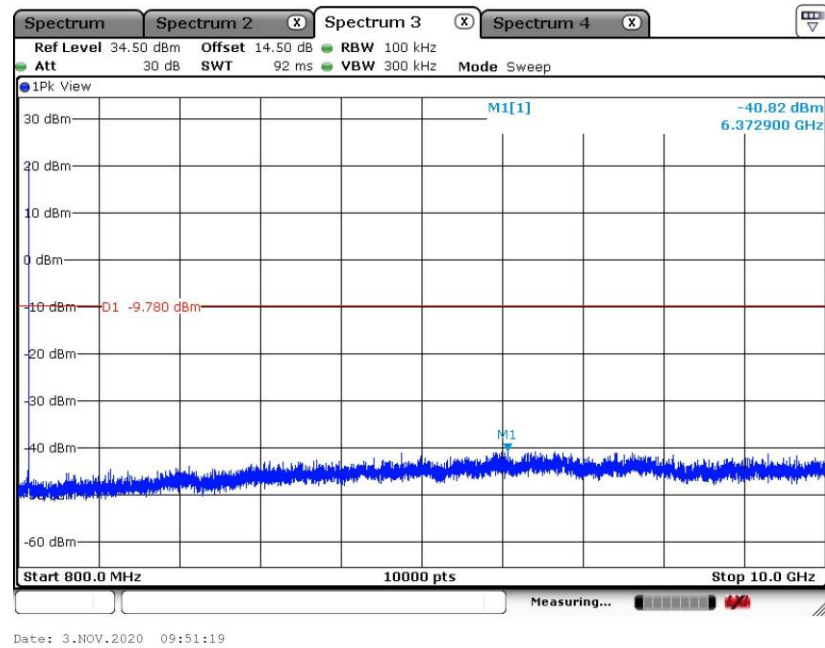




### Conducted Spurious Emission Plot on 914.5 MHz

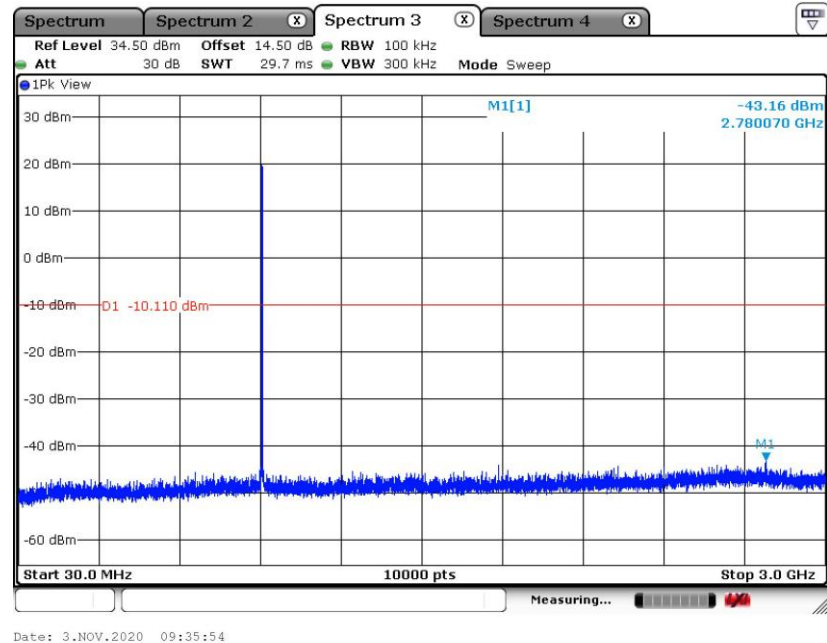


### Conducted Spurious Emission Plot on 914.5 MHz

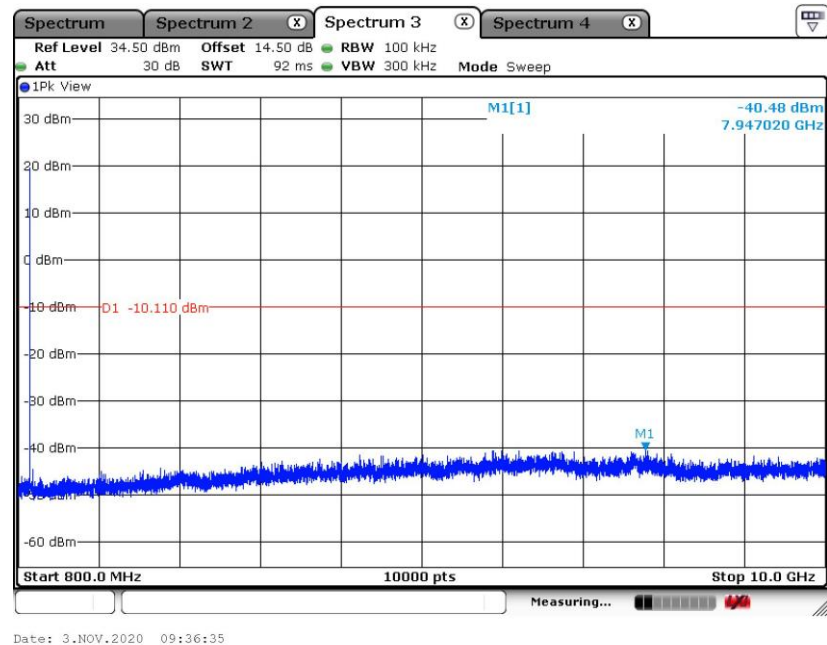




### Conducted Spurious Emission Plot on 926.5 MHz



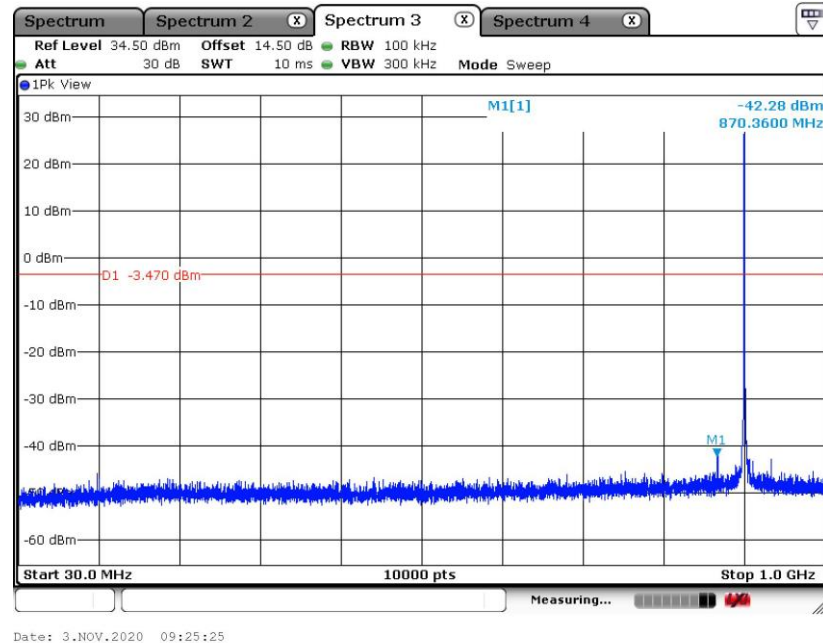
### Conducted Spurious Emission Plot on 926.5 MHz



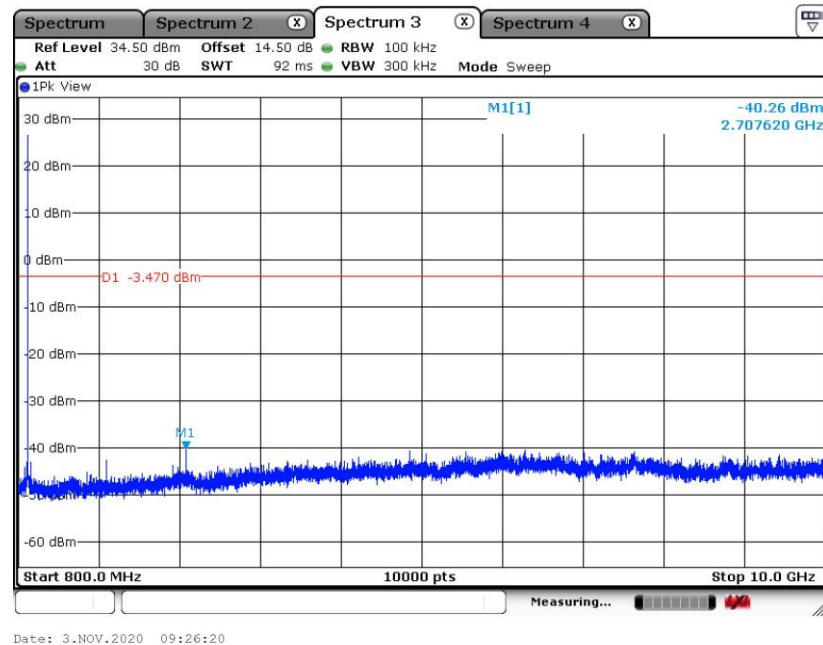


For SF7:

### Conducted Spurious Emission Plot on 902.5 MHz

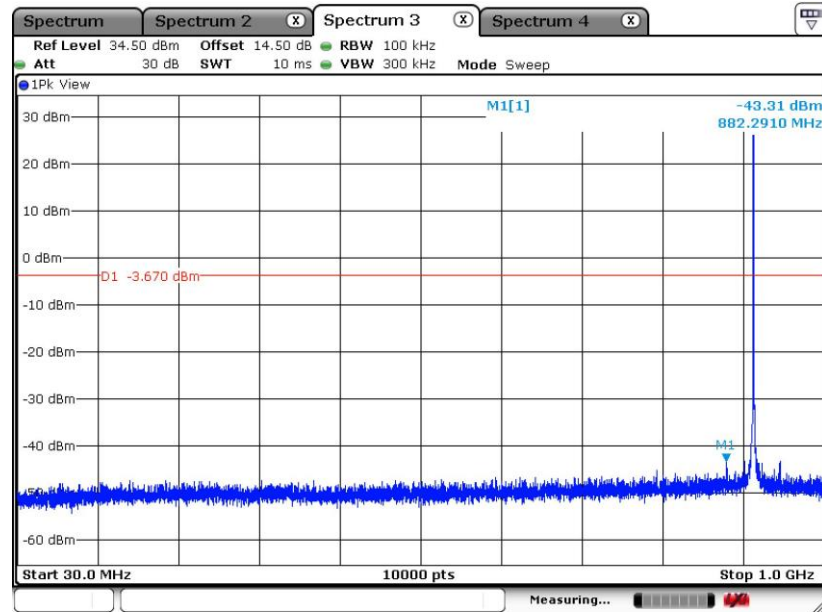


### Conducted Spurious Emission Plot on 902.5 MHz



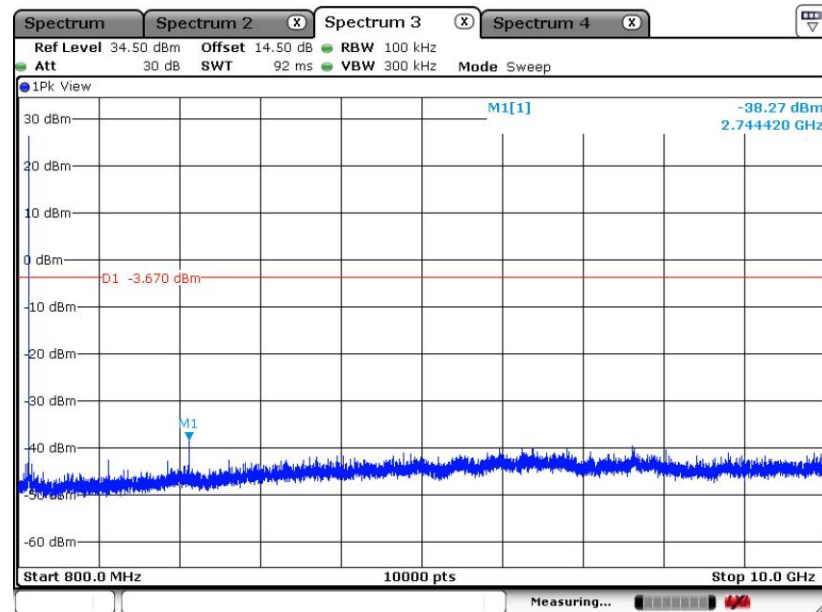


### Conducted Spurious Emission Plot on 914.5 MHz



Date: 3.NOV.2020 09:23:13

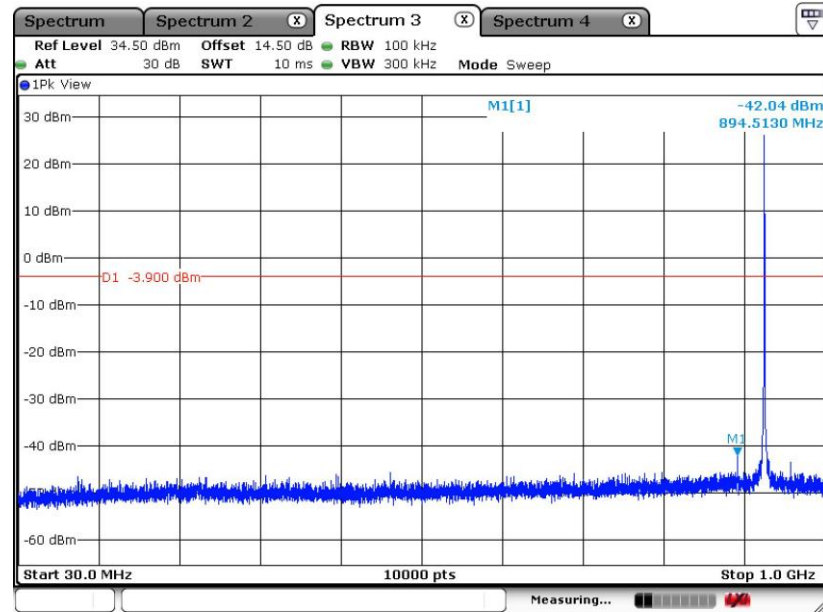
### Conducted Spurious Emission Plot on 914.5 MHz



Date: 3.NOV.2020 09:22:37

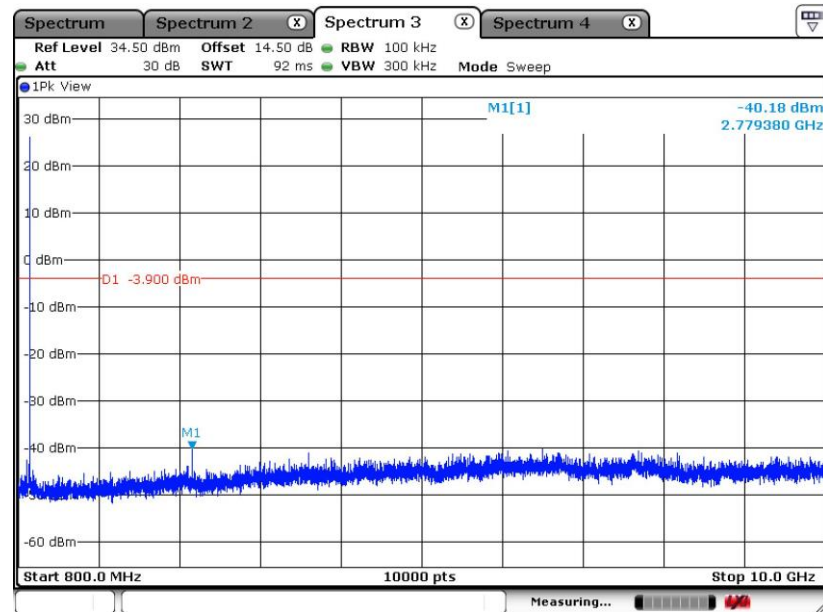


### Conducted Spurious Emission Plot on 926.5 MHz



Date: 3.NOV.2020 09:12:10

### Conducted Spurious Emission Plot on 926.5 MHz

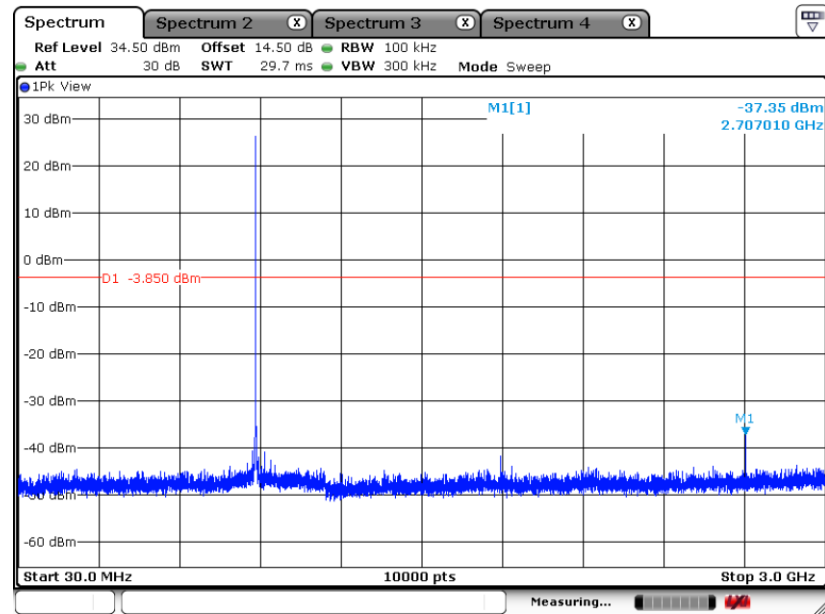


Date: 3.NOV.2020 09:18:29



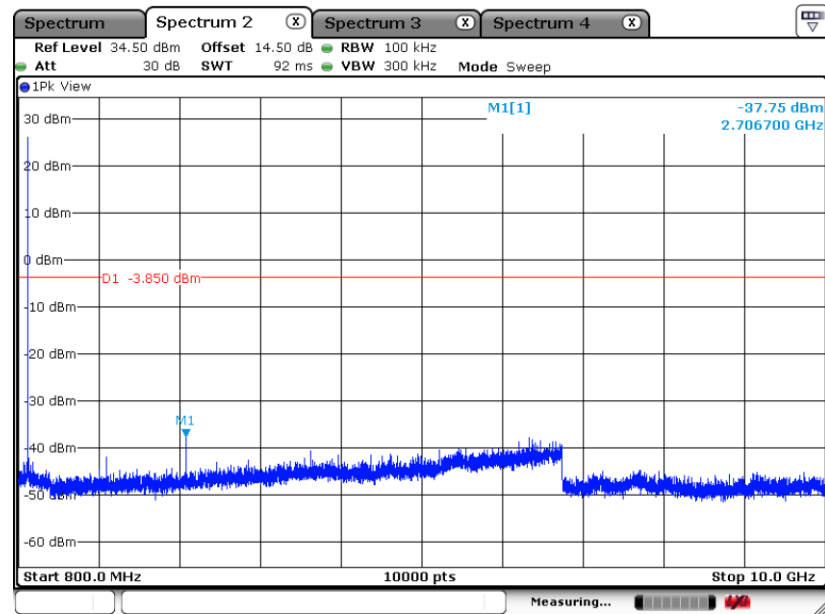
For SF8:

### Conducted Spurious Emission Plot on 902.5 MHz



Date: 1.MAR.2022 16:22:39

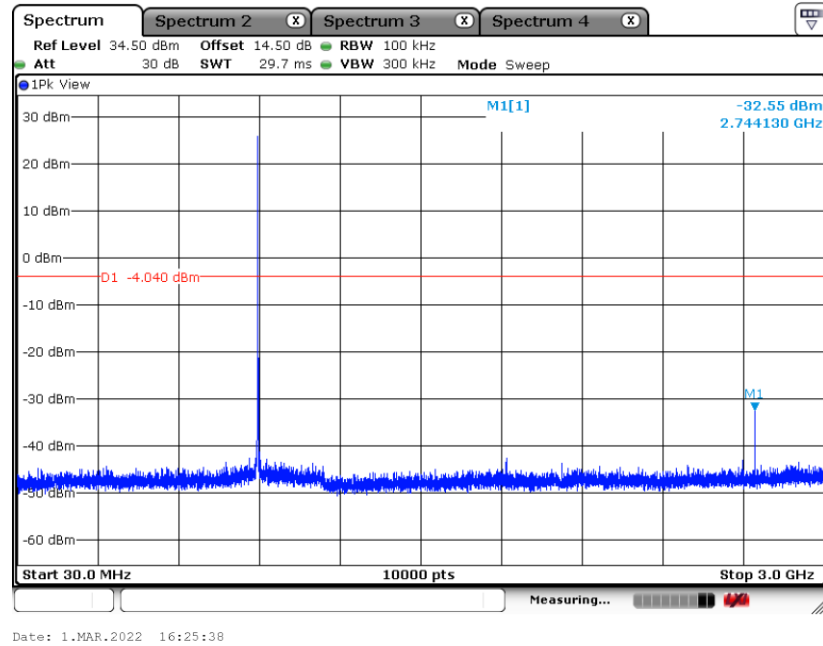
### Conducted Spurious Emission Plot on 902.5 MHz



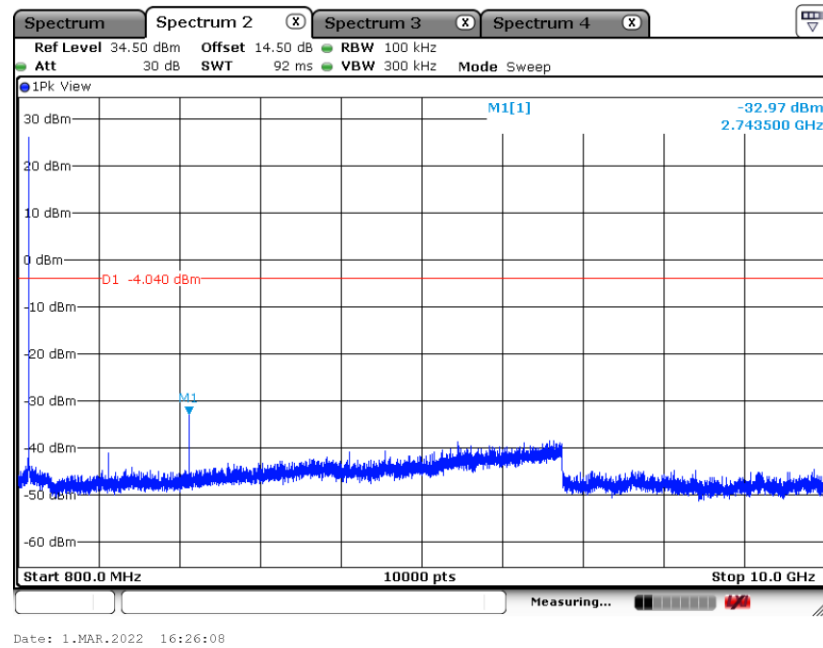
Date: 1.MAR.2022 16:23:06



### Conducted Spurious Emission Plot on 914.5 MHz

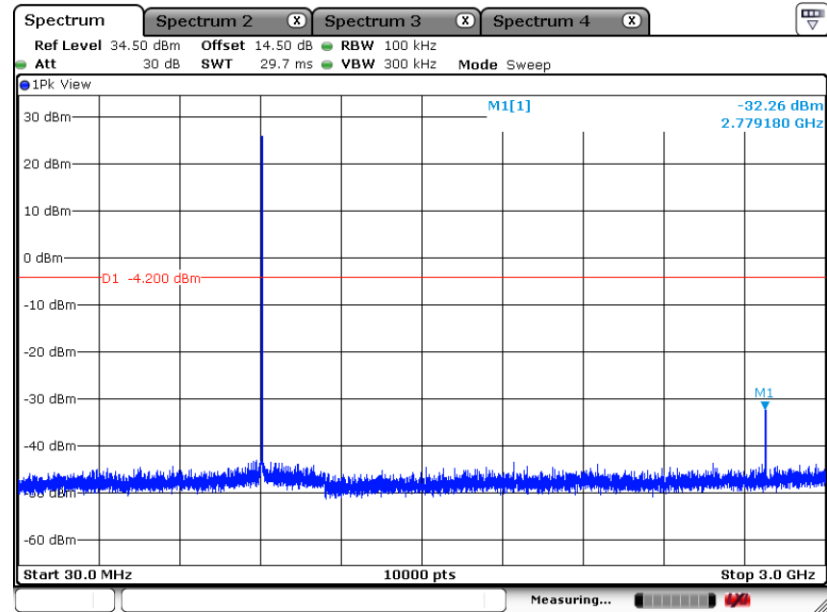


### Conducted Spurious Emission Plot on 914.5 MHz



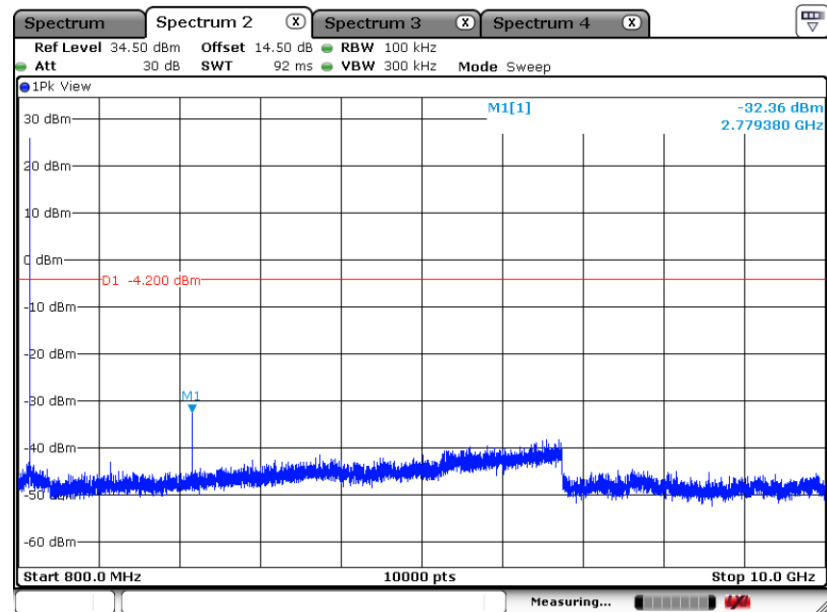


### Conducted Spurious Emission Plot on 926.5 MHz



Date: 1.MAR.2022 16:29:04

### Conducted Spurious Emission Plot on 926.5 MHz

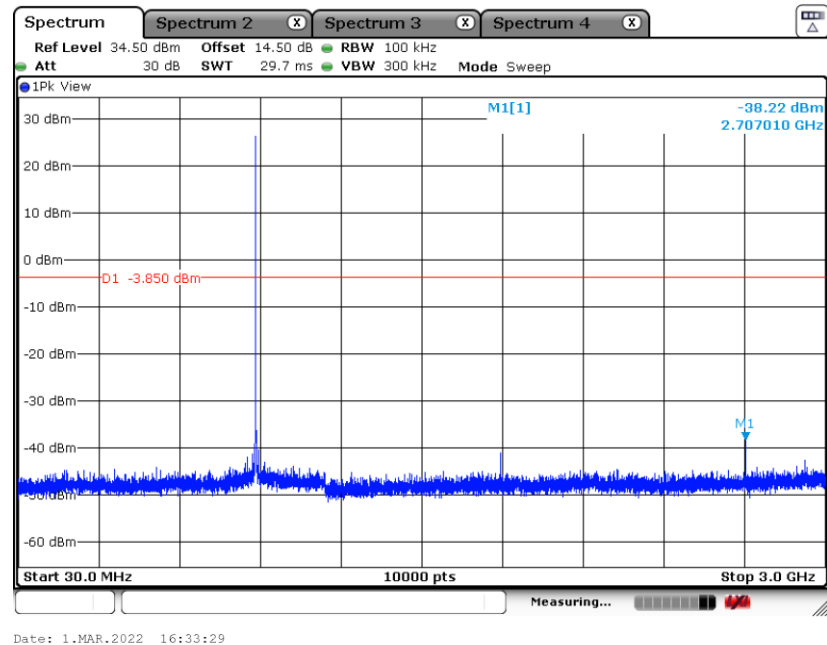


Date: 1.MAR.2022 16:29:29

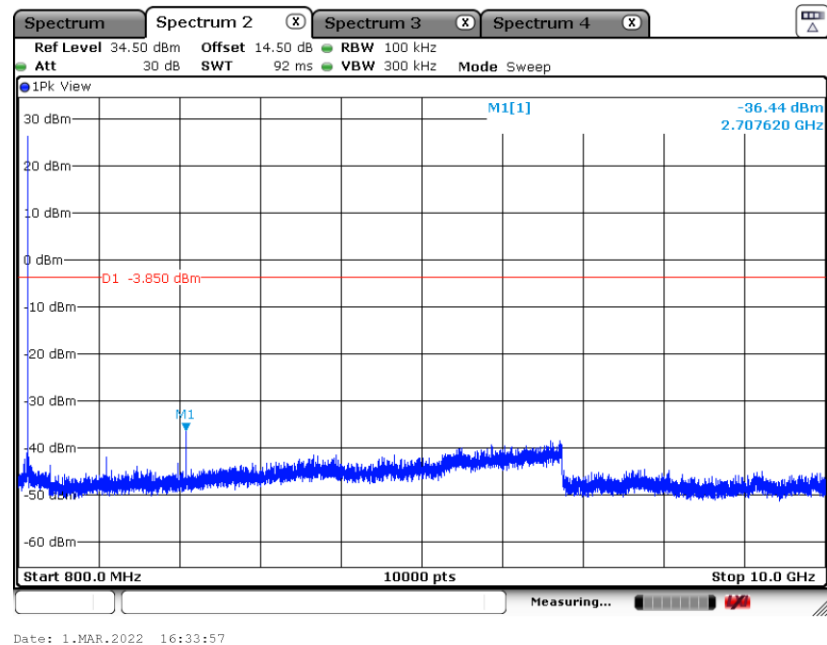


For SF9:

### Conducted Spurious Emission Plot on 902.5 MHz

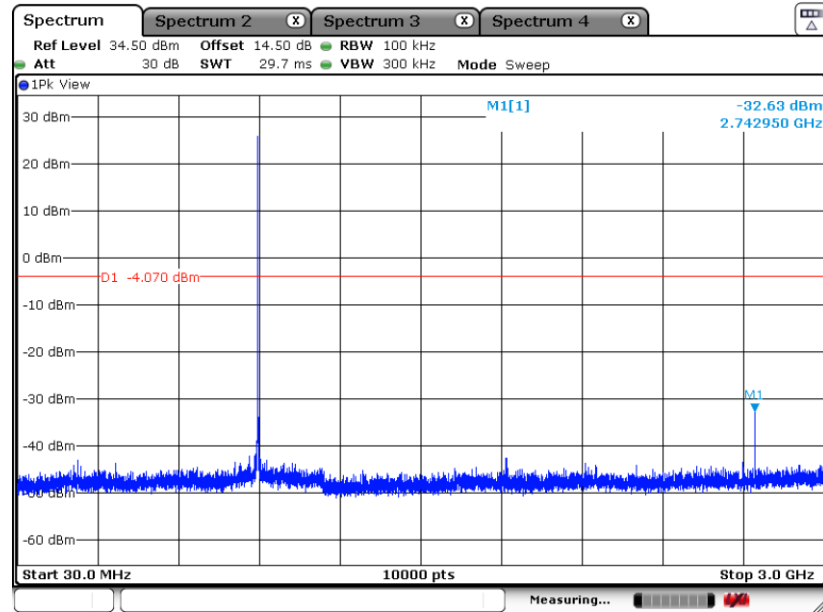


### Conducted Spurious Emission Plot on 902.5 MHz



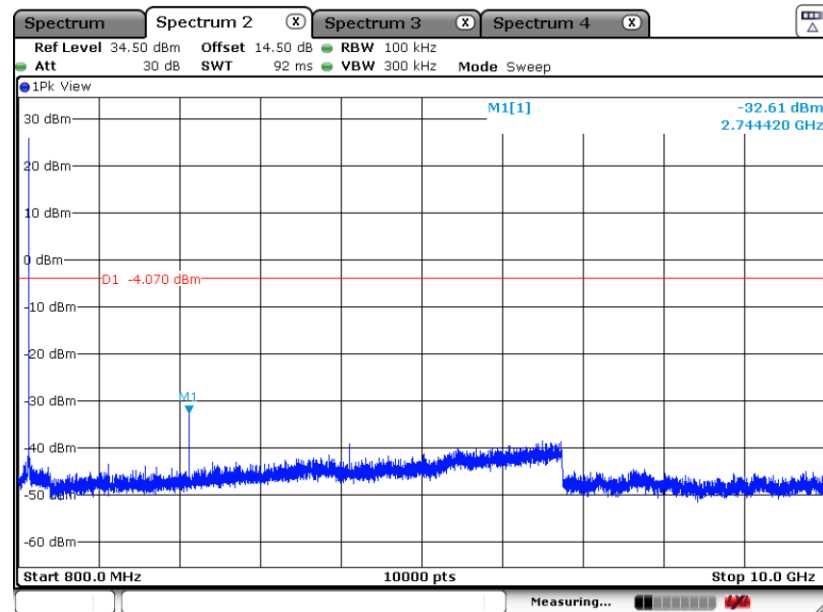


### Conducted Spurious Emission Plot on 914.5 MHz



Date: 1.MAR.2022 16:36:18

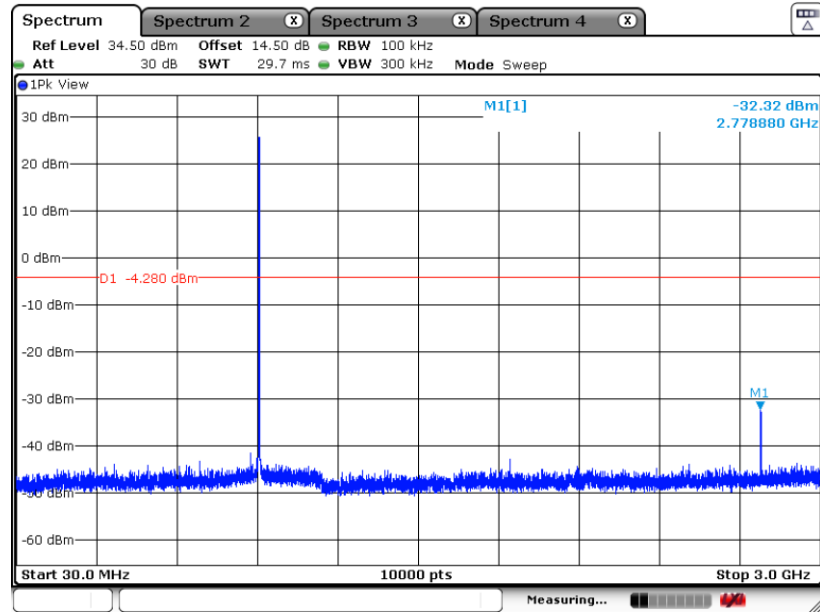
### Conducted Spurious Emission Plot on 914.5 MHz



Date: 1.MAR.2022 16:36:46

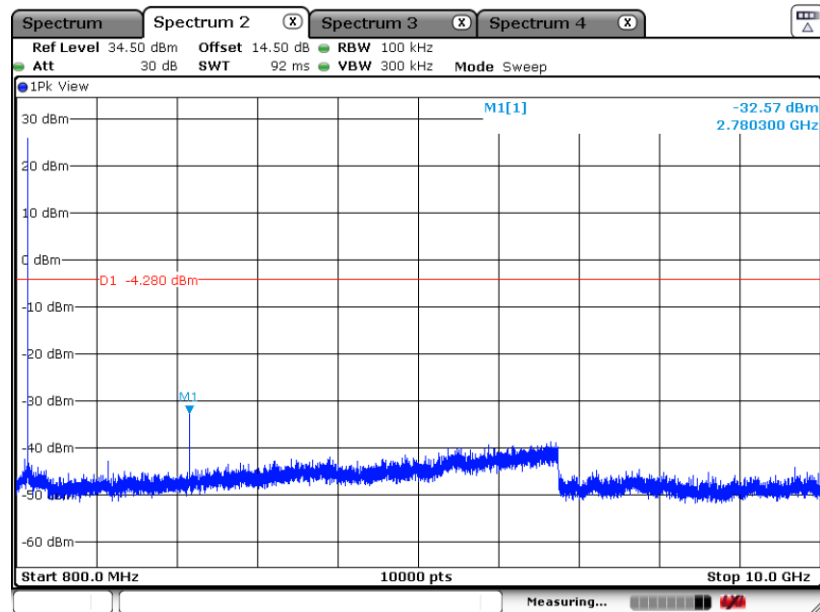


### Conducted Spurious Emission Plot on 926.5 MHz



Date: 1.MAR.2022 16:40:19

### Conducted Spurious Emission Plot on 926.5 MHz

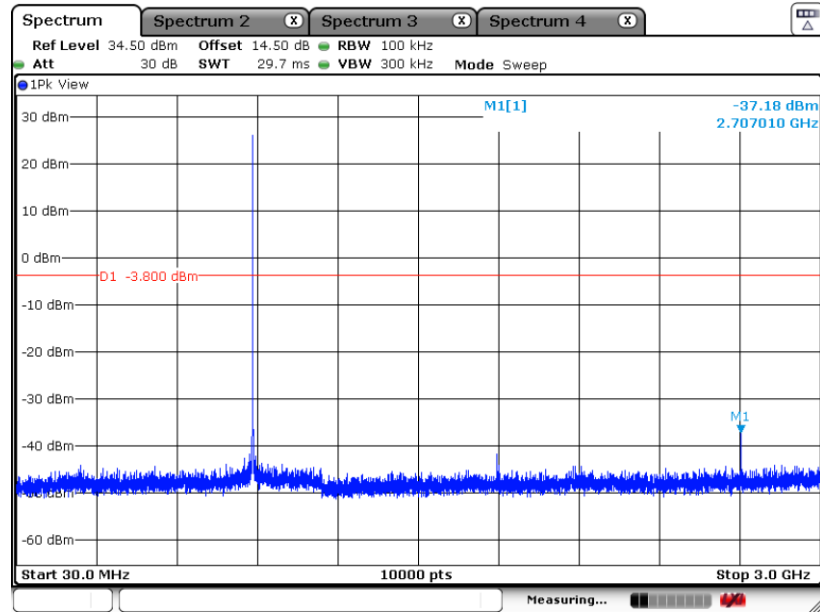


Date: 1.MAR.2022 16:40:42

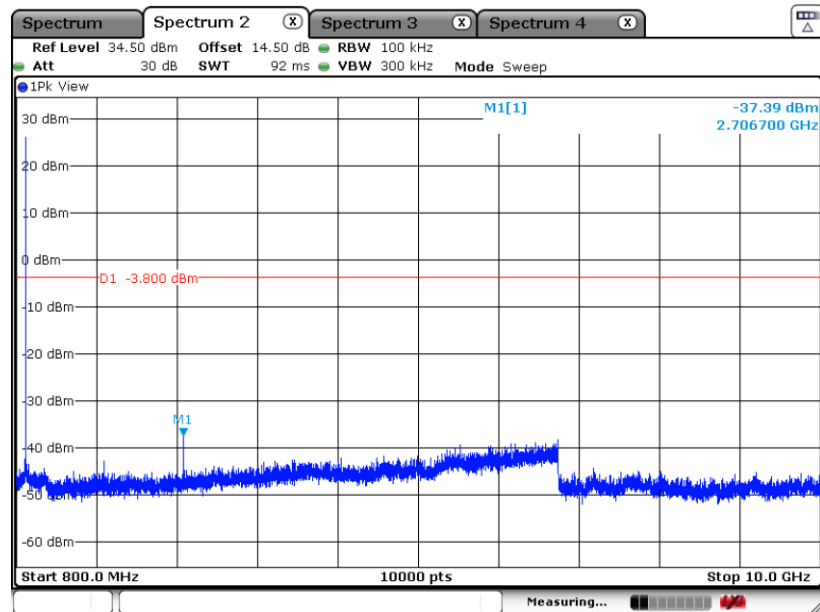


For SF10:

### Conducted Spurious Emission Plot on 902.5 MHz

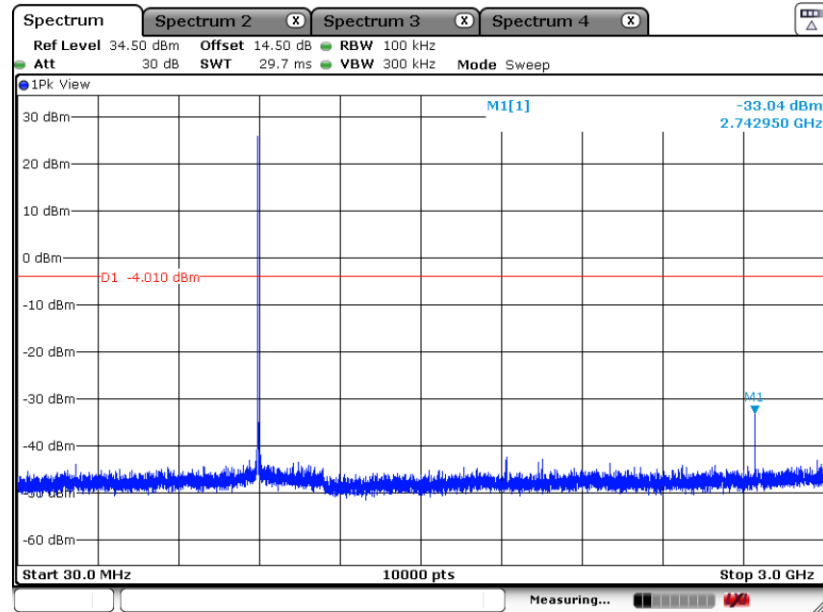


### Conducted Spurious Emission Plot on 902.5 MHz

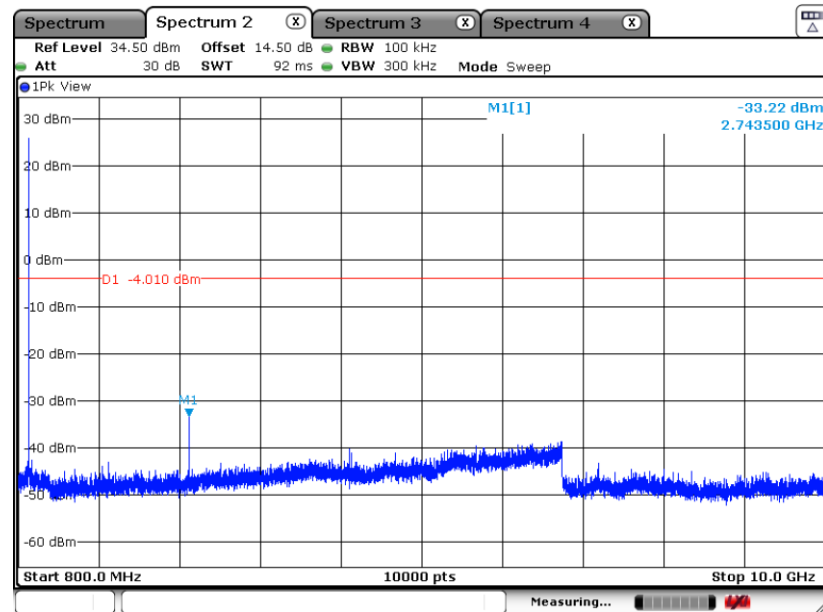




### Conducted Spurious Emission Plot on 914.5 MHz

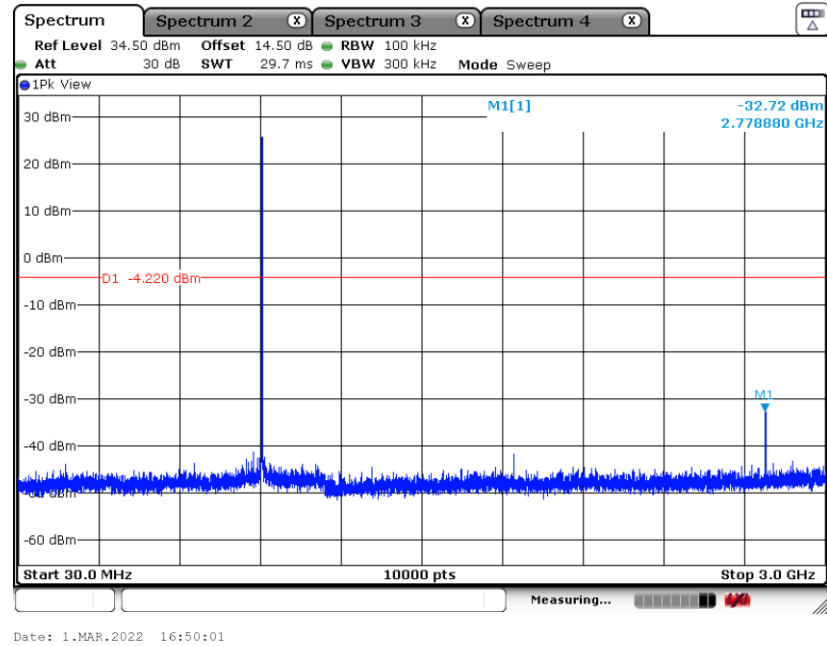


### Conducted Spurious Emission Plot on 914.5 MHz

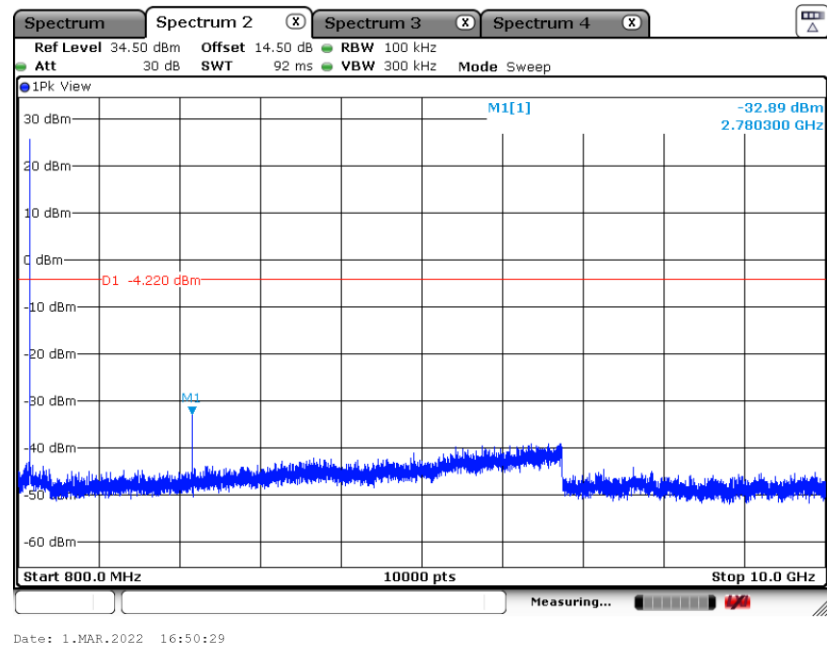




### Conducted Spurious Emission Plot on 926.5 MHz



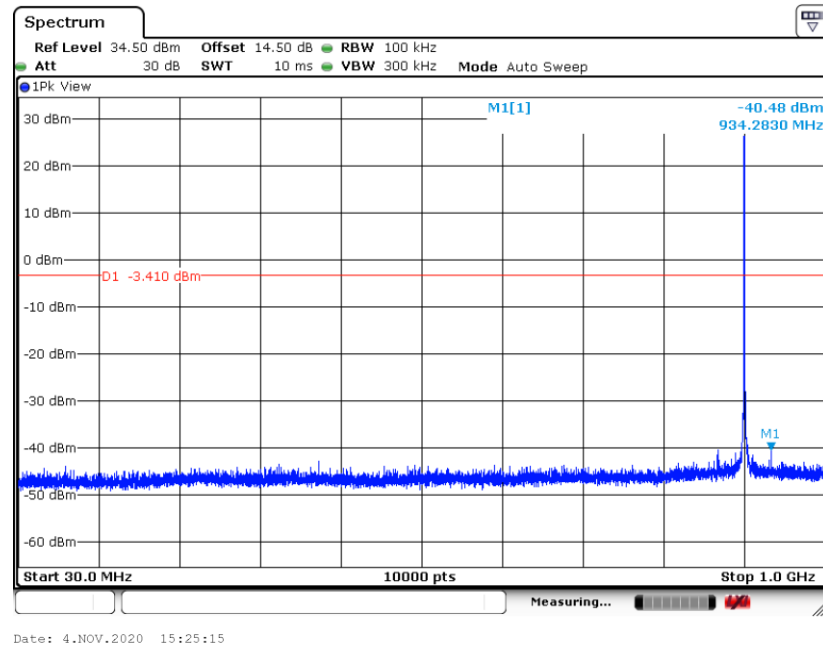
### Conducted Spurious Emission Plot on 926.5 MHz



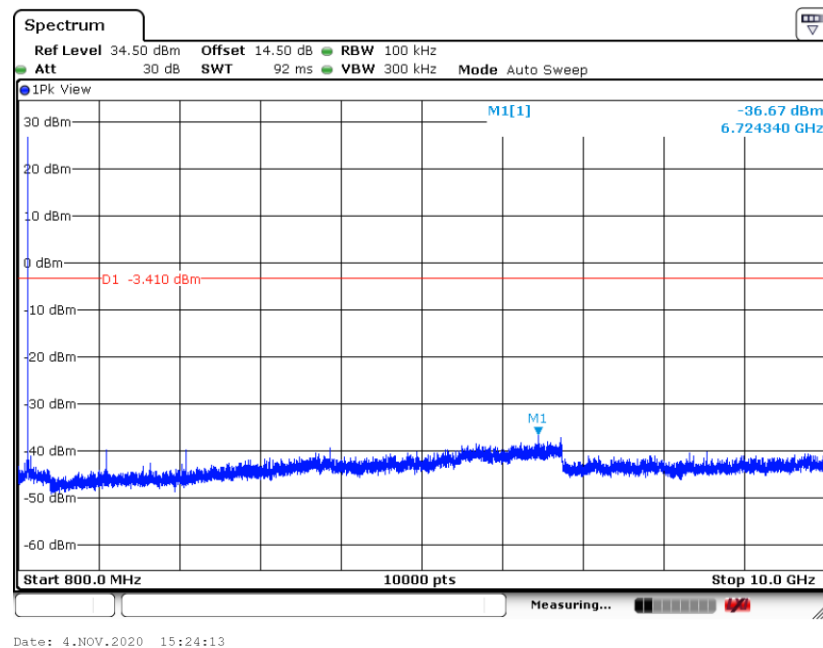


For SF11:

### Conducted Spurious Emission Plot on 902.5 MHz

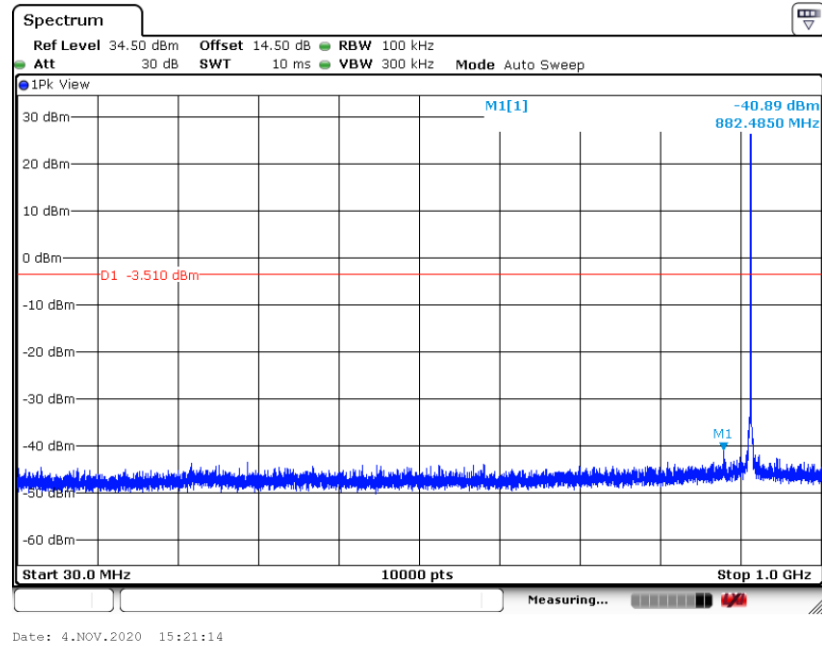


### Conducted Spurious Emission Plot on 902.5 MHz

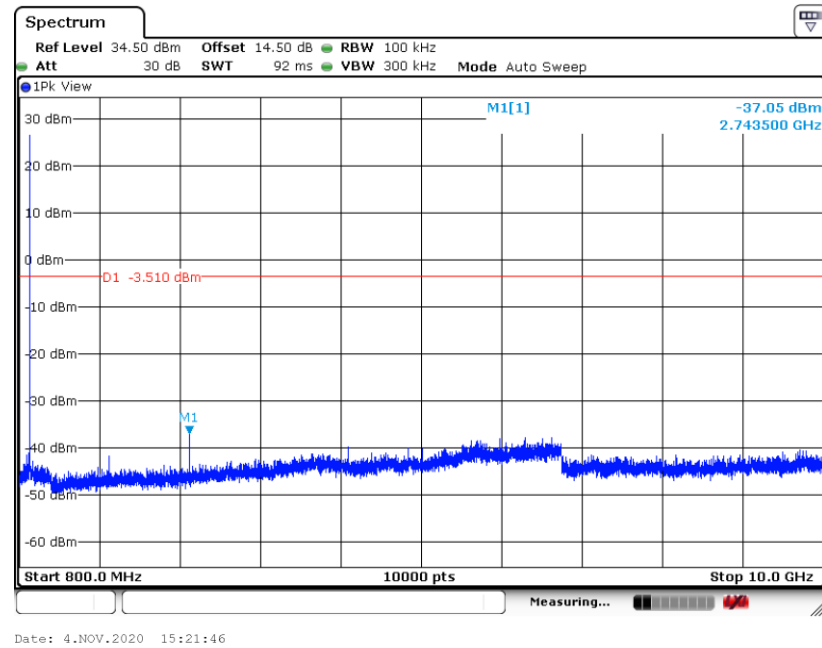




### Conducted Spurious Emission Plot on 914.5 MHz

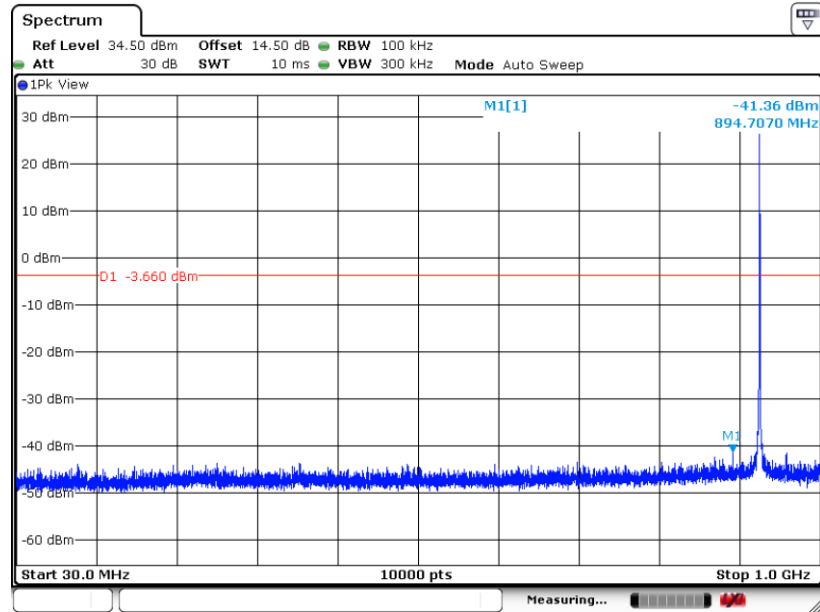


### Conducted Spurious Emission Plot on 914.5 MHz



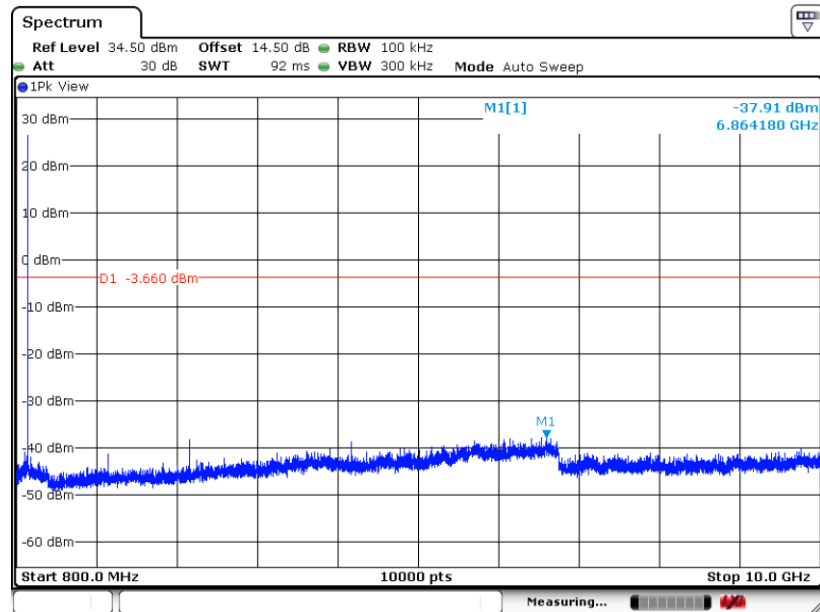


### Conducted Spurious Emission Plot on 926.5 MHz



Date: 4.NOV.2020 15:14:31

### Conducted Spurious Emission Plot on 926.5 MHz



Date: 4.NOV.2020 15:11:36

### 3.5 Radiated Band Edges and Spurious Emission Measurement

#### 3.5.1 Limit of Radiated Band Edges and Spurious Emission

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

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meters) |
|--------------------|--------------------------------------|----------------------------------|
| 0.009 – 0.490      | 2400/F(kHz)                          | 300                              |
| 0.490 – 1.705      | 24000/F(kHz)                         | 30                               |
| 1.705 – 30.0       | 30                                   | 30                               |
| 30 – 88            | 100                                  | 3                                |
| 88 – 216           | 150                                  | 3                                |
| 216 - 960          | 200                                  | 3                                |
| Above 960          | 500                                  | 3                                |

#### 3.5.2 Measuring Instruments

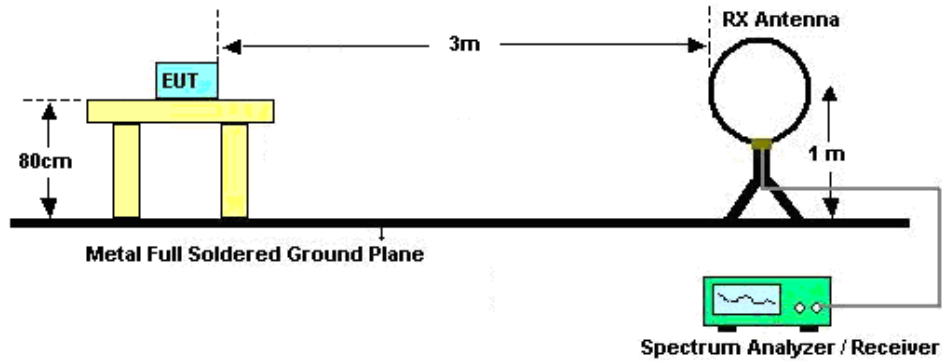
The section 4.0 of List of Measuring Equipment of this test report is used for test.

### 3.5.3 Test Procedures

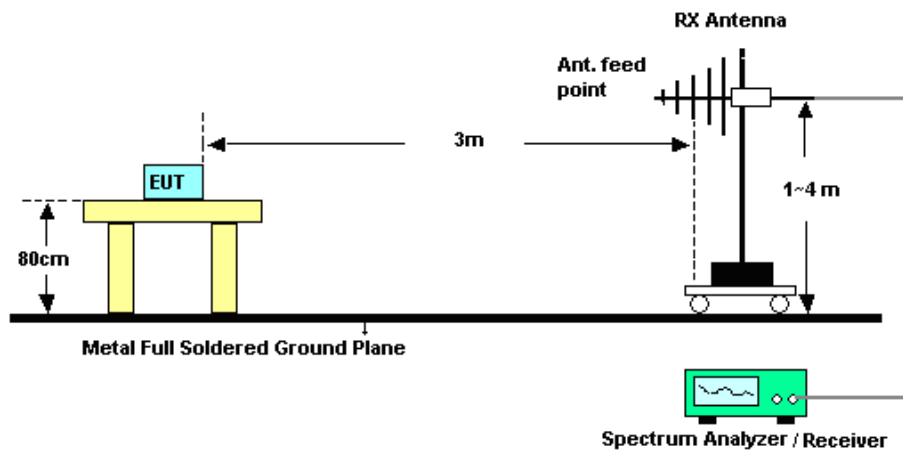
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better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

### 3.5.4 Test Setup

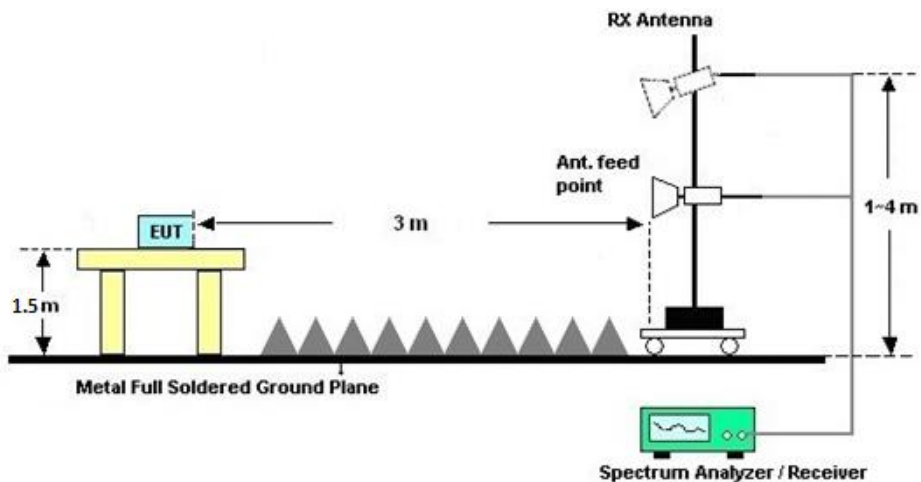
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

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

**3.5.6 Test Result of Radiated Spurious at Band Edges**

Please refer to Appendix C.

**3.5.7 Duty Cycle**

Please refer to Appendix D.

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

Please refer to Appendix C.

## 3.6 AC Conducted Emission Measurement

### 3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

| Frequency of emission (MHz) | Conducted limit (dB $\mu$ V) |           |
|-----------------------------|------------------------------|-----------|
|                             | Quasi-peak                   | Average   |
| 0.15-0.5                    | 66 to 56*                    | 56 to 46* |
| 0.5-5                       | 56                           | 46        |
| 5-30                        | 60                           | 50        |

\*Decreases with the logarithm of the frequency.

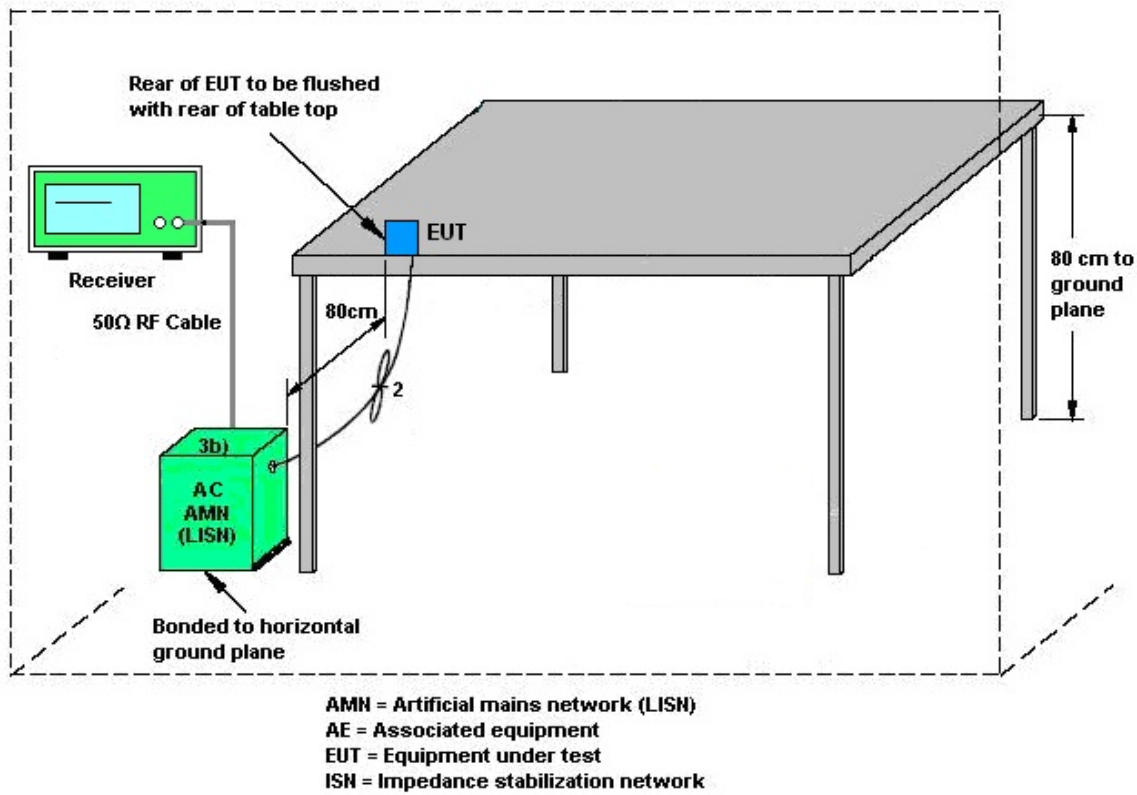
### 3.6.2 Measuring Instruments

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

### 3.6.3 Test Procedures

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

### 3.6.4 Test Setup



### 3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## **3.7 Antenna Requirements**

### **3.7.1 Standard Applicable**

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

### **3.7.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.7.3 Antenna Gain**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipment

| Instrument                | Manufacturer | Model No.                  | Serial No. | Characteristics       | Calibration Date | Test Date                   | Due Date      | Remark                |
|---------------------------|--------------|----------------------------|------------|-----------------------|------------------|-----------------------------|---------------|-----------------------|
| Spectrum Analyzer         | R&S          | FSV40                      | 101040     | 10Hz~40GHz            | Nov. 01, 2020    | Nov. 03, 2020~Nov. 06, 2020 | Oct. 31, 2021 | Conducted (TH01-KS)   |
| Pulse Power Sensor        | Anritsu      | MA2411B                    | 0917070    | 300MHz~40GHz          | Jan. 08, 2020    | Nov. 03, 2020~Nov. 06, 2020 | Jan. 07, 2021 | Conducted (TH01-KS)   |
| Power Meter               | Anritsu      | ML2495A                    | 1005002    | 50MHz Bandwidth       | Jan. 08, 2020    | Nov. 03, 2020~Nov. 06, 2020 | Jan. 07, 2021 | Conducted (TH01-KS)   |
| Spectrum Analyzer         | R&S          | FSV40                      | 101040     | 10Hz~40GHz            | Oct. 14, 2021    | Feb. 25, 2022~Mar. 01, 2022 | Oct. 13, 2022 | Conducted (TH01-KS)   |
| Pulse Power Sensor        | Anritsu      | MA2411B                    | 0917070    | 300MHz~40GHz          | Jan. 05, 2022    | Feb. 25, 2022~Mar. 01, 2022 | Jan. 04, 2023 | Conducted (TH01-KS)   |
| Power Meter               | Anritsu      | ML2495A                    | 1005002    | 50MHz Bandwidth       | Jan. 05, 2022    | Feb. 25, 2022~Mar. 01, 2022 | Jan. 04, 2023 | Conducted (TH01-KS)   |
| EMI Test Receiver         | Keysight     | N9038A                     | MY56400004 | 3Hz~8.5GHz; Max 30dBm | Oct. 17, 2020    | May 27, 2021                | Oct. 16, 2021 | Radiation (03CH04-KS) |
| EXA Spectrum Analyzer     | Keysight     | N9010A                     | MY55150208 | 10Hz~44GHz            | Apr. 12, 2021    | May 27, 2021                | Apr. 11, 2022 | Radiation (03CH04-KS) |
| Loop Antenna              | R&S          | HFH2-Z2                    | 100321     | 9kHz~30MHz            | Nov. 01, 2020    | May 27, 2021                | Oct. 31, 2021 | Radiation (03CH04-KS) |
| Bilog Antenna             | TeseQ        | CBL6111D                   | 49921      | 30MHz~1GHz            | May 29, 2020     | May 27, 2021                | May 28, 2021  | Radiation (03CH04-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117                       | 00218652   | 1GHz~18GHz            | Apr. 25, 2021    | May 27, 2021                | Apr. 24, 2022 | Radiation (03CH04-KS) |
| Amplifier                 | SONOMA       | 310N                       | 187289     | 9KHz ~1GHZ            | Apr. 12, 2021    | May 27, 2021                | Apr. 11, 2022 | Radiation (03CH04-KS) |
| high gain Amplifier       | MITEQ        | AMF-7D-0010<br>1800-30-10P | 2025788    | 1Ghz-18Ghz            | Jan. 06, 2021    | May 27, 2021                | Jan. 05, 2022 | Radiation (03CH04-KS) |
| Amplifier                 | Keysight     | 83017A                     | MY53270203 | 500MHz~26.5GHz        | Apr. 13, 2021    | May 27, 2021                | Apr. 12, 2022 | Radiation (03CH04-KS) |
| AC Power Source           | Chroma       | 61601                      | F104090004 | N/A                   | NCR              | May 27, 2021                | NCR           | Radiation (03CH04-KS) |
| Turn Table                | ChamPro      | EM 1000-T                  | 060762-T   | 0~360 degree          | NCR              | May 27, 2021                | NCR           | Radiation (03CH04-KS) |
| Antenna Mast              | ChamPro      | EM 1000-A                  | 060762-A   | 1 m~4 m               | NCR              | May 27, 2021                | NCR           | Radiation (03CH04-KS) |
| EMI Test Receiver         | Keysight     | N9038A                     | MY56400004 | 3Hz~8.5GHz; Max 30dBm | Oct. 16, 2021    | Mar. 21, 2022               | Oct. 15, 2022 | Radiation (03CH06-KS) |
| EXA Spectrum Analyzer     | Keysight     | N9010A                     | MY55150208 | 10Hz~44GHz            | Apr. 12, 2021    | Mar. 21, 2022               | Apr. 11, 2022 | Radiation (03CH06-KS) |
| Loop Antenna              | R&S          | HFH2-Z2                    | 100321     | 9kHz~30MHz            | Oct. 30, 2021    | Mar. 21, 2022               | Oct. 29, 2022 | Radiation (03CH06-KS) |
| Bilog Antenna             | TeseQ        | CBL6111D                   | 49921      | 30MHz~1GHz            | May 27, 2021     | Mar. 21, 2022               | May 26, 2022  | Radiation (03CH06-KS) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117                       | 00218652   | 1GHz~18GHz            | Apr. 25, 2021    | Mar. 21, 2022               | Apr. 24, 2022 | Radiation (03CH06-KS) |
| Amplifier                 | SONOMA       | 310N                       | 187289     | 9KHz ~1GHZ            | Apr. 12, 2021    | Mar. 21, 2022               | Apr. 11, 2022 | Radiation (03CH06-KS) |
| high gain Amplifier       | MITEQ        | AMF-7D-0010<br>1800-30-10P | 2025788    | 1Ghz-18Ghz            | Jul. 30, 2021    | Mar. 21, 2022               | Jul. 29, 2022 | Radiation (03CH06-KS) |
| Amplifier                 | Keysight     | 83017A                     | MY53270203 | 500MHz~26.5GHz        | Apr. 13, 2021    | Mar. 21, 2022               | Apr. 12, 2022 | Radiation (03CH06-KS) |
| AC Power Source           | Chroma       | 61601                      | F104090004 | N/A                   | NCR              | Mar. 21, 2022               | NCR           | Radiation (03CH06-KS) |
| Turn Table                | ChamPro      | EM 1000-T                  | 060762-T   | 0~360 degree          | NCR              | Mar. 21, 2022               | NCR           | Radiation (03CH06-KS) |
| Antenna Mast              | ChamPro      | EM 1000-A                  | 060762-A   | 1 m~4 m               | NCR              | Mar. 21, 2022               | NCR           | Radiation (03CH06-KS) |
| EMI Receiver              | R&S          | ESC17                      | 100768     | 9kHz~7GHz;            | Apr. 21, 2021    | Jan. 05, 2022               | Apr. 20, 2022 | Conduction (CO01-KS)  |



|                                         |         |        |                  |                            |               |               |               |                         |
|-----------------------------------------|---------|--------|------------------|----------------------------|---------------|---------------|---------------|-------------------------|
| AC LISN<br>(for auxiliary<br>equipment) | MessTec | AN3016 | 060103           | 9kHz~30MHz                 | Oct. 14, 2021 | Jan. 05, 2022 | Oct. 13, 2022 | Conduction<br>(CO01-KS) |
| AC LISN                                 | R&S     | ENV216 | 100334           | 9kHz~30MHz                 | Oct. 14, 2021 | Jan. 05, 2022 | Oct. 13, 2022 | Conduction<br>(CO01-KS) |
| AC Power Source                         | Chroma  | 61602  | ABP00000<br>0811 | AC 0V~300V,<br>45Hz~1000Hz | Oct. 14, 2021 | Jan. 05, 2022 | Oct. 13, 2022 | Conduction<br>(CO01-KS) |

NCR: No Calibration Required

## 5 Uncertainty of Evaluation

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

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

|                                                                         |        |
|-------------------------------------------------------------------------|--------|
| Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ ) | 2.94dB |
|-------------------------------------------------------------------------|--------|

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)<03CH04-KS>

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

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)<03CH04-KS>

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

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)<03CH06-KS>

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

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)<03CH06-KS>

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



## **Appendix A. Conducted Test Results**

**LoRa-DTS-Spreading Factor 5**

|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Aly Cao             | Temperature:       | 20~26 | °C |
| Test Date:     | 2020/11/3~2020/11/6 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF5  | 1       | 902.5Mhz       | 0.50                           | 0.59            | 0.50                     | Pass      |
| SF5  | 16      | 914.5Mhz       | 0.51                           | 0.59            | 0.50                     | Pass      |
| SF5  | 31      | 926.5Mhz       | 0.51                           | 0.59            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF5  | 1       | 902.5Mhz       | 20.16                       | 30.00                                | -1.20       | 18.96                  | 36.00                           | Pass          |
| SF5  | 16      | 914.5Mhz       | 20.03                       | 30.00                                | -1.20       | 18.83                  | 36.00                           | Pass          |
| SF5  | 31      | 926.5Mhz       | 19.84                       | 30.00                                | -1.20       | 18.64                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
 (Duty Factor)

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF5  | 1       | 902.5Mhz       | 0.58                   |
| SF5  | 16      | 914.5Mhz       | 0.58                   |
| SF5  | 31      | 926.5Mhz       | 0.58                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF5  | 1       | 902.5Mhz       | 20.57                        | 7.80                  | -1.20       | 8.00                           | Pass      |
| SF5  | 16      | 914.5Mhz       | 20.22                        | 7.82                  | -1.20       | 8.00                           | Pass      |
| SF5  | 31      | 926.5Mhz       | 19.89                        | 7.92                  | -1.20       | 8.00                           | Pass      |

Note:

1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.

2. Power Density (dBm) = Measured value+ Duty Factor

**LoRa-DTS-Spreading Factor 7**

|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Aly Cao             | Temperature:       | 20~26 | °C |
| Test Date:     | 2020/11/3~2020/11/6 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF7  | 1       | 902.5Mhz       | 0.52                           | 0.63            | 0.50                     | Pass      |
| SF7  | 16      | 914.5Mhz       | 0.52                           | 0.63            | 0.50                     | Pass      |
| SF7  | 31      | 926.5Mhz       | 0.53                           | 0.62            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF7  | 1       | 902.5Mhz       | 26.57                       | 30.00                                | -1.20       | 25.37                  | 36.00                           | Pass          |
| SF7  | 16      | 914.5Mhz       | 26.58                       | 30.00                                | -1.20       | 25.38                  | 36.00                           | Pass          |
| SF7  | 31      | 926.5Mhz       | 26.59                       | 30.00                                | -1.20       | 25.39                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
 (Duty Factor)

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF7  | 1       | 902.5Mhz       | 0.16                   |
| SF7  | 16      | 914.5Mhz       | 0.16                   |
| SF7  | 31      | 926.5Mhz       | 0.16                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF7  | 1       | 902.5Mhz       | 26.53                        | 7.49                  | -1.20       | 8.00                           | Pass      |
| SF7  | 16      | 914.5Mhz       | 26.33                        | 7.25                  | -1.20       | 8.00                           | Pass      |
| SF7  | 31      | 926.5Mhz       | 26.10                        | 7.70                  | -1.20       | 8.00                           | Pass      |

Note:

1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.
2. Power Density (dBm) = Measured value+ Duty Factor

**LoRa-DTS-Spreading Factor 8**

|                |                    |                    |       |    |
|----------------|--------------------|--------------------|-------|----|
| Test Engineer: | Long Wu            | Temperature:       | 20~26 | °C |
| Test Date:     | 2022/2/25~2022/3/1 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF8  | 1       | 902.5Mhz       | 0.50                           | 0.63            | 0.50                     | Pass      |
| SF8  | 16      | 914.5Mhz       | 0.52                           | 0.63            | 0.50                     | Pass      |
| SF8  | 31      | 926.5Mhz       | 0.52                           | 0.63            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF8  | 1       | 902.5Mhz       | 26.18                       | 30.00                                | -1.20       | 24.98                  | 36.00                           | Pass          |
| SF8  | 16      | 914.5Mhz       | 26.06                       | 30.00                                | -1.20       | 24.86                  | 36.00                           | Pass          |
| SF8  | 31      | 926.5Mhz       | 25.85                       | 30.00                                | -1.20       | 24.65                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
**(Duty Fctor)**

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF8  | 1       | 902.5Mhz       | 0.07                   |
| SF8  | 16      | 914.5Mhz       | 0.07                   |
| SF8  | 31      | 926.5Mhz       | 0.07                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF8  | 1       | 902.5Mhz       | 26.15                        | 6.74                  | -1.20       | 8.00                           | Pass      |
| SF8  | 16      | 914.5Mhz       | 25.96                        | 5.64                  | -1.20       | 8.00                           | Pass      |
| SF8  | 31      | 926.5Mhz       | 25.80                        | 4.53                  | -1.20       | 8.00                           | Pass      |

Note:

1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.
2. Power Density (dBm) = Measured value+ Duty Factor

**LoRa-DTS-Spreading Factor 9**

|                |                    |                    |       |    |
|----------------|--------------------|--------------------|-------|----|
| Test Engineer: | Long Wu            | Temperature:       | 20~26 | °C |
| Test Date:     | 2022/2/25~2022/3/1 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF9  | 1       | 902.5Mhz       | 0.51                           | 0.63            | 0.50                     | Pass      |
| SF9  | 16      | 914.5Mhz       | 0.52                           | 0.64            | 0.50                     | Pass      |
| SF9  | 31      | 926.5Mhz       | 0.52                           | 0.64            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF9  | 1       | 902.5Mhz       | 26.25                       | 30.00                                | -1.20       | 25.05                  | 36.00                           | Pass          |
| SF9  | 16      | 914.5Mhz       | 26.06                       | 30.00                                | -1.20       | 24.86                  | 36.00                           | Pass          |
| SF9  | 31      | 926.5Mhz       | 25.84                       | 30.00                                | -1.20       | 24.64                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
**(Duty Factor)**

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF9  | 1       | 902.5Mhz       | 0.04                   |
| SF9  | 16      | 914.5Mhz       | 0.04                   |
| SF9  | 31      | 926.5Mhz       | 0.04                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF9  | 1       | 902.5Mhz       | 26.15                        | 6.03                  | -1.20       | 8.00                           | Pass      |
| SF9  | 16      | 914.5Mhz       | 25.93                        | 5.66                  | -1.20       | 8.00                           | Pass      |
| SF9  | 31      | 926.5Mhz       | 25.72                        | 5.47                  | -1.20       | 8.00                           | Pass      |

Note:

1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.
2. Power Density (dBm) = Measured value+ Duty Factor

**LoRa-DTS-Spreading Factor 10**

|                |                    |                    |       |    |
|----------------|--------------------|--------------------|-------|----|
| Test Engineer: | Long Wu            | Temperature:       | 20~26 | °C |
| Test Date:     | 2022/2/25~2022/3/1 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF10 | 1       | 902.5Mhz       | 0.52                           | 0.64            | 0.50                     | Pass      |
| SF10 | 16      | 914.5Mhz       | 0.52                           | 0.64            | 0.50                     | Pass      |
| SF10 | 31      | 926.5Mhz       | 0.52                           | 0.64            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF10 | 1       | 902.5Mhz       | 26.21                       | 30.00                                | -1.20       | 25.01                  | 36.00                           | Pass          |
| SF10 | 16      | 914.5Mhz       | 26.03                       | 30.00                                | -1.20       | 24.83                  | 36.00                           | Pass          |
| SF10 | 31      | 926.5Mhz       | 25.79                       | 30.00                                | -1.20       | 24.59                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
**(Duty Factor)**

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF10 | 1       | 902.5Mhz       | 0.00                   |
| SF10 | 16      | 914.5Mhz       | 0.00                   |
| SF10 | 31      | 926.5Mhz       | 0.00                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF10 | 1       | 902.5Mhz       | 26.20                        | 6.53                  | -1.20       | 8.00                           | Pass      |
| SF10 | 16      | 914.5Mhz       | 25.99                        | 5.88                  | -1.20       | 8.00                           | Pass      |
| SF10 | 31      | 926.5Mhz       | 25.78                        | 5.41                  | -1.20       | 8.00                           | Pass      |

Note:

1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.
2. Power Density (dBm) = Measured value+ Duty Factor

**LoRa-DTS-Spreading Factor 11**

|                |                     |                    |       |    |
|----------------|---------------------|--------------------|-------|----|
| Test Engineer: | Aly Cao             | Temperature:       | 20~26 | °C |
| Test Date:     | 2020/11/3~2020/11/6 | Relative Humidity: | 40~51 | %  |

**TEST RESULTS DATA**  
**6dB and 99% Occupied Bandwidth**

| Mod. | Channel | Freq.<br>(MHz) | 99%<br>Occupied<br>BW<br>(MHz) | 6dB BW<br>(MHz) | 6dB BW<br>Limit<br>(MHz) | Pass/Fail |
|------|---------|----------------|--------------------------------|-----------------|--------------------------|-----------|
| SF11 | 1       | 902.5Mhz       | 0.54                           | 0.64            | 0.50                     | Pass      |
| SF11 | 16      | 914.5Mhz       | 0.54                           | 0.64            | 0.50                     | Pass      |
| SF11 | 31      | 926.5Mhz       | 0.54                           | 0.64            | 0.50                     | Pass      |

**TEST RESULTS DATA**  
**Average Power Table**

| Mod. | Channel | Freq.<br>(MHz) | Conducted<br>Power<br>(dBm) | Conducted<br>Power<br>Limit<br>(dBm) | DG<br>(dBi) | EIRP<br>Power<br>(dBm) | EIRP<br>Power<br>Limit<br>(dBm) | Pass<br>/Fail |
|------|---------|----------------|-----------------------------|--------------------------------------|-------------|------------------------|---------------------------------|---------------|
| SF11 | 1       | 902.5Mhz       | 26.48                       | 30.00                                | -1.20       | 25.28                  | 36.00                           | Pass          |
| SF11 | 16      | 914.5Mhz       | 26.50                       | 30.00                                | -1.20       | 25.30                  | 36.00                           | Pass          |
| SF11 | 31      | 926.5Mhz       | 26.39                       | 30.00                                | -1.20       | 25.19                  | 36.00                           | Pass          |

**TEST RESULTS DATA**  
**Average Power Table**  
 (Duty Factor)

| Mod. | Channel | Freq.<br>(MHz) | Duty<br>Factor<br>(dB) |
|------|---------|----------------|------------------------|
| SF11 | 1       | 902.5Mhz       | 0.00                   |
| SF11 | 16      | 914.5Mhz       | 0.00                   |
| SF11 | 31      | 926.5Mhz       | 0.00                   |

**TEST RESULTS DATA**  
**Power Density**

| Mod. | Channel | Freq.<br>(MHz) | Peak PSD<br>(dBm<br>/100kHz) | PSD<br>(dBm<br>/3kHz) | DG<br>(dBi) | PSD<br>Limit<br>(dBm<br>/3kHz) | Pass/Fail |
|------|---------|----------------|------------------------------|-----------------------|-------------|--------------------------------|-----------|
| SF11 | 1       | 902.5Mhz       | 26.59                        | 7.28                  | -1.20       | 8.00                           | Pass      |
| SF11 | 16      | 914.5Mhz       | 26.49                        | 7.82                  | -1.20       | 8.00                           | Pass      |
| SF11 | 31      | 926.5Mhz       | 26.34                        | 7.20                  | -1.20       | 8.00                           | Pass      |

Note:

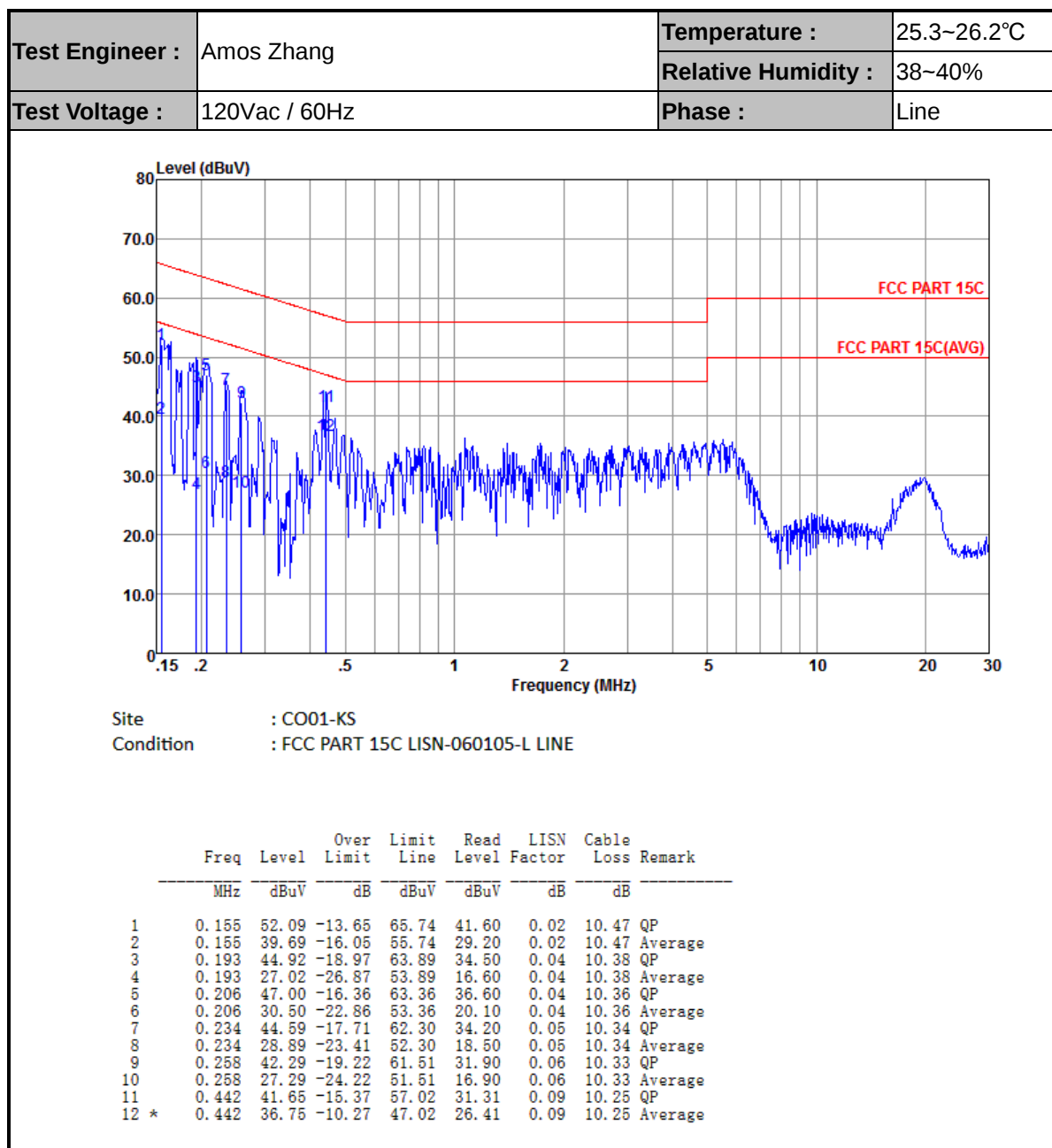
1. PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 30dBc limit.
2. Power Density (dBm) = Measured value+ Duty Factor

**Power Setting Table Summary(for reference only)**

| <b>Modulation type</b> | <b>LR1110 power setting</b> |
|------------------------|-----------------------------|
| LoRa DTS 500kHz SF5    | -11                         |
| LoRa DTS 500kHz SF7    | 0                           |
| LoRa DTS 500kHz SF8    | 0                           |
| LoRa DTS 500kHz SF9    | 0                           |
| LoRa DTS 500kHz SF10   | 0                           |
| LoRa DTS 500kHz SF11   | 0                           |
| LoRa FHSS 125kHz SF7   | 0                           |
| LoRa FHSS 125kHz SF8   | 0                           |
| LoRa FHSS 125kHz SF9   | 0                           |
| LoRa FHSS 125kHz SF10  | 0                           |
| FSK 50kbps             | 0                           |
| FSK 150kbps            | 0                           |
| FSK 250kbps            | 0                           |

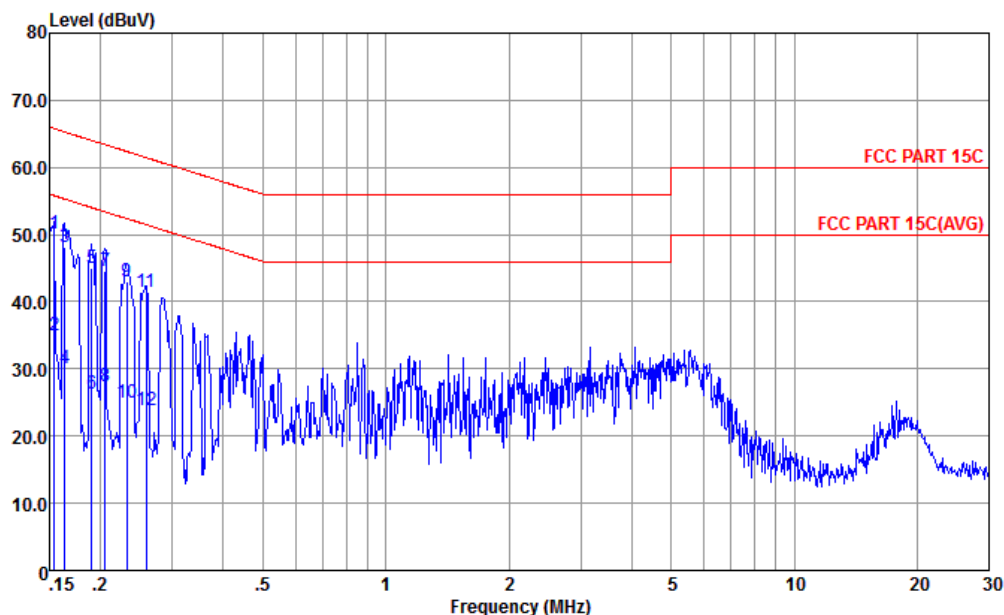


## Appendix B. AC Conducted Emission Test Results





|                 |               |                     |             |
|-----------------|---------------|---------------------|-------------|
| Test Engineer : | Amos Zhang    | Temperature :       | 25.3~26.2°C |
|                 |               | Relative Humidity : | 38~40%      |
| Test Voltage :  | 120Vac / 60Hz | Phase :             | Neutral     |



Site : CO01-KS  
Condition : FCC PART 15C LISN-060105-N NEUTRAL

|     | Freq  | Level | Over   | Limit | Read  | LISN   | Cable | Remark  |
|-----|-------|-------|--------|-------|-------|--------|-------|---------|
|     | MHz   | dBμV  | Limit  | Line  | Level | Factor | Loss  |         |
|     |       |       | dB     | dBμV  | dBμV  | dB     | dB    |         |
| 1 * | 0.154 | 50.08 | -15.70 | 65.78 | 39.50 | 0.11   | 10.47 | QP      |
| 2   | 0.154 | 34.88 | -20.90 | 55.78 | 24.30 | 0.11   | 10.47 | Average |
| 3   | 0.163 | 48.15 | -17.15 | 65.30 | 37.59 | 0.11   | 10.45 | QP      |
| 4   | 0.163 | 30.15 | -25.15 | 55.30 | 19.59 | 0.11   | 10.45 | Average |
| 5   | 0.190 | 44.99 | -19.03 | 64.02 | 34.51 | 0.10   | 10.38 | QP      |
| 6   | 0.190 | 26.39 | -27.63 | 54.02 | 15.91 | 0.10   | 10.38 | Average |
| 7   | 0.205 | 44.56 | -18.84 | 63.40 | 34.10 | 0.10   | 10.36 | QP      |
| 8   | 0.205 | 27.36 | -26.04 | 53.40 | 16.90 | 0.10   | 10.36 | Average |
| 9   | 0.232 | 42.94 | -19.45 | 62.39 | 32.50 | 0.10   | 10.34 | QP      |
| 10  | 0.232 | 24.94 | -27.45 | 52.39 | 14.50 | 0.10   | 10.34 | Average |
| 11  | 0.259 | 41.53 | -19.94 | 61.47 | 31.10 | 0.10   | 10.33 | QP      |
| 12  | 0.259 | 23.93 | -27.54 | 51.47 | 13.50 | 0.10   | 10.33 | Average |

Note:

1.  $\text{Level(dB}\mu\text{V)} = \text{Read Level(dB}\mu\text{V)} + \text{LISN Factor(dB)} + \text{Cable Loss(dB)}$
2.  $\text{Over Limit(dB)} = \text{Level(dB}\mu\text{V)} - \text{Limit Line(dB}\mu\text{V)}$



## Appendix C. Radiated Spurious Emission

### LoRa DTS SF=5 (Band Edge @ 3m)

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 903       | 104.1      | -          | -          | 102.51     | 29.39          | 4.39       | 32.19         | 169     | 299       | P         | H       |
|          |                                                                                                                                                      | 934.04    | 38.02      | -36.08     | 74.1       | 35.35      | 30.33          | 4.47       | 32.13         | 169     | 299       | P         | H       |
|          |                                                                                                                                                      | 903       | 105.17     | -          | -          | 103.58     | 29.39          | 4.39       | 32.19         | 170     | 300       | P         | V       |
|          |                                                                                                                                                      | 934.04    | 39.04      | -36.13     | 75.17      | 36.37      | 30.33          | 4.47       | 32.13         | 170     | 300       | P         | V       |
| 914.5MHz |                                                                                                                                                      | 914.64    | 101.87     | -          | -          | 99.88      | 29.74          | 4.42       | 32.17         | 115     | 108       | P         | H       |
|          |                                                                                                                                                      | 914.64    | 103.91     | -          | -          | 101.92     | 29.74          | 4.42       | 32.17         | 267     | 309       | P         | V       |
| 926.5MHz |                                                                                                                                                      | 894.27    | 38.44      | -42.75     | 81.19      | 36.99      | 29.29          | 4.37       | 32.21         | 172     | 130       | P         | H       |
|          |                                                                                                                                                      | 926.28    | 111.19     | -          | -          | 108.8      | 30.09          | 4.45       | 32.15         | 172     | 130       | P         | H       |
|          |                                                                                                                                                      | 958.29    | 40.02      | -41.17     | 81.19      | 36.8       | 30.77          | 4.53       | 32.08         | 172     | 130       | P         | H       |
|          |                                                                                                                                                      | 894.27    | 36.66      | -51.01     | 77.67      | 35.21      | 29.29          | 4.37       | 32.21         | 164     | 130       | P         | V       |
|          |                                                                                                                                                      | 926.28    | 107.67     | -          | -          | 105.28     | 30.09          | 4.45       | 32.15         | 164     | 130       | P         | V       |
|          |                                                                                                                                                      | 958.29    | 40.6       | -47.07     | 77.67      | 37.38      | 30.77          | 4.53       | 32.08         | 164     | 130       | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



## LoRa DTS SF=5 (Harmonic @ 3m)

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1801      | 41.9       | -32.2      | 74.1       | 71.3       | 27.98          | 6.27       | 63.65         | 300     | 360       | P         | H       |
|          |                                                                                                                                                      | 1801      | 38.83      | -36.34     | 75.17      | 68.23      | 27.98          | 6.27       | 63.65         | 100     | 360       | P         | V       |
| 914.5MHz |                                                                                                                                                      | 1828      | 44.98      | -26.89     | 71.87      | 74.16      | 28.15          | 6.31       | 63.64         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1828      | 38.73      | -35.18     | 73.91      | 67.91      | 28.15          | 6.31       | 63.64         | 100     | 0         | P         | V       |
| 926.5MHz |                                                                                                                                                      | 1855      | 47.23      | -30.44     | 77.67      | 76.29      | 28.23          | 6.34       | 63.63         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1855      | 42.01      | -35.66     | 77.67      | 71.07      | 28.23          | 6.34       | 63.63         | 100     | 0         | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



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

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 870.02    | 35.23      | -40.81     | 76.04      | 33.93      | 29.24          | 4.32       | 32.26         | 174     | 285       | P         | H       |
|          |                                                                                                                                                      | 903       | 106.04     | -          | -          | 104.45     | 29.39          | 4.39       | 32.19         | 174     | 285       | P         | H       |
|          |                                                                                                                                                      | 935.01    | 36.45      | -39.59     | 76.04      | 33.75      | 30.36          | 4.47       | 32.13         | 174     | 285       | P         | H       |
|          |                                                                                                                                                      | 870.02    | 34.51      | -41.86     | 76.37      | 33.21      | 29.24          | 4.32       | 32.26         | 170     | 290       | P         | V       |
|          |                                                                                                                                                      | 903       | 106.37     | -          | -          | 104.78     | 29.39          | 4.39       | 32.19         | 170     | 290       | P         | V       |
|          |                                                                                                                                                      | 935.01    | 36.17      | -40.2      | 76.37      | 33.47      | 30.36          | 4.47       | 32.13         | 170     | 290       | P         | V       |
| 914.5MHz |                                                                                                                                                      | 882.63    | 39.14      | -47.07     | 86.21      | 37.76      | 29.27          | 4.34       | 32.23         | 169     | 351       | P         | H       |
|          |                                                                                                                                                      | 914.64    | 116.21     | -          | -          | 114.22     | 29.74          | 4.42       | 32.17         | 169     | 351       | P         | H       |
|          |                                                                                                                                                      | 946.65    | 45.11      | -41.1      | 86.21      | 42.01      | 30.71          | 4.5        | 32.11         | 169     | 351       | P         | H       |
|          |                                                                                                                                                      | 882.63    | 34.09      | -44.16     | 78.25      | 32.71      | 29.27          | 4.34       | 32.23         | 160     | 134       | P         | V       |
|          |                                                                                                                                                      | 914.64    | 108.25     | -          | -          | 106.26     | 29.74          | 4.42       | 32.17         | 160     | 134       | P         | V       |
|          |                                                                                                                                                      | 946.65    | 42         | -36.25     | 78.25      | 38.9       | 30.71          | 4.5        | 32.11         | 160     | 134       | P         | V       |
| 926.5MHz |                                                                                                                                                      | 894.27    | 42.67      | -44.88     | 87.55      | 41.22      | 29.29          | 4.37       | 32.21         | 100     | 186       | P         | H       |
|          |                                                                                                                                                      | 926.28    | 117.55     | -          | -          | 115.16     | 30.09          | 4.45       | 32.15         | 100     | 186       | P         | H       |
|          |                                                                                                                                                      | 958.29    | 45.14      | -42.41     | 87.55      | 41.92      | 30.77          | 4.53       | 32.08         | 100     | 186       | P         | H       |
|          |                                                                                                                                                      | 894.27    | 37.83      | -43.23     | 81.06      | 36.38      | 29.29          | 4.37       | 32.21         | 159     | 291       | P         | V       |
|          |                                                                                                                                                      | 926.28    | 111.06     | -          | -          | 108.67     | 30.09          | 4.45       | 32.15         | 159     | 291       | P         | V       |
|          |                                                                                                                                                      | 958.29    | 44.87      | -36.19     | 81.06      | 41.65      | 30.77          | 4.53       | 32.08         | 159     | 291       | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



## LoRa DTS SF= 7 (Harmonic @ 3m)

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamplifier Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )              | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1801      | 47.97      | -28.07     | 76.04      | 77.37      | 27.98          | 6.27       | 63.65               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 2710      | 42.34      | -31.66     | 74         | 64.56      | 32.54          | 7.71       | 62.47               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1810      | 40.33      | -36.04     | 76.37      | 69.61      | 28.07          | 6.29       | 63.64               | 100     | 0         | P         | V       |
| 914.5MHz |                                                                                                                                                      | 1828      | 54.93      | -31.28     | 86.21      | 84.11      | 28.15          | 6.31       | 63.64               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1828      | 47.64      | -30.61     | 78.25      | 76.82      | 28.15          | 6.31       | 63.64               | 100     | 0         | P         | V       |
| 926.5MHz |                                                                                                                                                      | 1855      | 60.85      | -26.7      | 87.55      | 89.91      | 28.23          | 6.34       | 63.63               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 2782      | 43.9       | -30.1      | 74         | 65.93      | 32.59          | 7.83       | 62.45               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 8335      | 47.41      | -26.59     | 74         | 60.9       | 36.54          | 13.63      | 63.66               | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1855      | 54.76      | -26.3      | 81.06      | 83.82      | 28.23          | 6.34       | 63.63               | 100     | 0         | P         | V       |
|          |                                                                                                                                                      | 8335      | 47.07      | -26.93     | 74         | 60.56      | 36.54          | 13.63      | 63.66               | 100     | 0         | P         | V       |
|          |                                                                                                                                                      | 9262      | 47.6       | -33.46     | 81.06      | 59.7       | 37.55          | 14.38      | 64.03               | 100     | 0         | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |                     |         |           |           |         |



## LoRa DTS SF=8 (Band Edge @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 608.12    | 32.02      | -13.98        | 46            | 36.52         | 25.13             | 3.65          | 33.28            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 902.03    | 109.59     | -             | -             | 110.75        | 26.72             | 4.49          | 32.37            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 611.03    | 31.7       | -14.3         | 46            | 35.73         | 25.59             | 3.66          | 33.28            | 100        | 43           | P            | V       |
|          |                                                                                                                                                      | 902.03    | 109.29     | -             | -             | 109.75        | 27.42             | 4.49          | 32.37            | 100        | 43           | P            | V       |
| 914.5MHz |                                                                                                                                                      | 613.94    | 31.67      | -14.33        | 46            | 36.14         | 25.15             | 3.67          | 33.29            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 914.64    | 111.63     | -             | -             | 112.5         | 26.85             | 4.51          | 32.23            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 613.94    | 32.19      | -13.81        | 46            | 36.2          | 25.61             | 3.67          | 33.29            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 914.64    | 101.45     | -             | -             | 101.62        | 27.55             | 4.51          | 32.23            | 100        | 360          | P            | V       |
| 926.5MHz |                                                                                                                                                      | 608.12    | 31.65      | -14.35        | 46            | 36.15         | 25.13             | 3.65          | 33.28            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 926.28    | 110.65     | -             | -             | 111.26        | 26.96             | 4.54          | 32.11            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 613.94    | 32.09      | -13.91        | 46            | 36.1          | 25.61             | 3.67          | 33.29            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 926.28    | 109.28     | -             | -             | 109.19        | 27.66             | 4.54          | 32.11            | 100        | 360          | P            | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



## LoRa DTS SF=8 (Harmonic @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1801      | 53.77      | -25.82     | 79.59      | 81.55      | 30.6           | 6.34       | 64.72         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 2710      | 46.26      | -27.74     | 74         | 71.17      | 32.3           | 7.89       | 65.1          | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1801      | 46.55      | -32.74     | 79.29      | 74.33      | 30.6           | 6.34       | 64.72         | 300     | 0         | P         | V       |
|          |                                                                                                                                                      | 2707.5    | 49.48      | -24.52     | 74         | 74.41      | 32.3           | 7.86       | 65.09         | 300     | 0         | P         | V       |
| 914.5MHz |                                                                                                                                                      | 1828      | 60.82      | -29.81     | 81.63      | 88.36      | 30.78          | 6.4        | 64.72         | 100     | 0         | P         | H       |
|          |                                                                                                                                                      | 2746      | 45.52      | -28.48     | 74         | 70.37      | 32.3           | 7.96       | 65.11         | 100     | 0         | P         | H       |
|          |                                                                                                                                                      | 9145      | 50.22      | -23.78     | 74         | 64.52      | 36.58          | 15.2       | 66.08         | 100     | 0         | P         | H       |
|          |                                                                                                                                                      | 1828      | 52.2       | -19.25     | 71.45      | 79.74      | 30.78          | 6.4        | 64.72         | 300     | 0         | P         | V       |
|          |                                                                                                                                                      | 2743.5    | 40.86      | -33.14     | 74         | 65.71      | 32.3           | 7.96       | 65.11         | 300     | 0         | P         | V       |
|          |                                                                                                                                                      | 9145      | 50.71      | -23.29     | 74         | 65.01      | 36.58          | 15.2       | 66.08         | 300     | 0         | P         | V       |
| 926.5MHz |                                                                                                                                                      | 1850      | 67.61      | -12.94     | 80.65      | 95.02      | 30.88          | 6.43       | 64.72         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 2776.5    | 48.65      | -25.35     | 74         | 73.48      | 32.3           | 7.99       | 65.12         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 8335.5    | 46.23      | -27.77     | 74         | 61.88      | 35.79          | 14.54      | 65.98         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 9270.5    | 47.31      | -33.34     | 80.65      | 61.32      | 36.66          | 15.43      | 66.1          | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1855      | 54.48      | -24.8      | 79.28      | 81.89      | 30.88          | 6.43       | 64.72         | 100     | 0         | P         | V       |
|          |                                                                                                                                                      | 2782      | 46.12      | -27.88     | 74         | 70.92      | 32.3           | 8.02       | 65.12         | 100     | 0         | P         | V       |
|          |                                                                                                                                                      | 8335      | 45.12      | -28.88     | 74         | 60.76      | 35.8           | 14.55      | 65.99         | 100     | 0         | P         | V       |
|          |                                                                                                                                                      | 9262      | 50.62      | -28.66     | 79.28      | 64.63      | 36.66          | 15.43      | 66.1          | 100     | 0         | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



## LoRa DTS SF=9 (Band Edge @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 612.97    | 31.26      | -14.74        | 46            | 35.74         | 25.15             | 3.66          | 33.29            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 903       | 109.45     | -             | -             | 110.59        | 26.73             | 4.49          | 32.36            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 609.09    | 32.07      | -13.93        | 46            | 36.12         | 25.57             | 3.66          | 33.28            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 903       | 98.14      | -             | -             | 98.58         | 27.43             | 4.49          | 32.36            | 100        | 360          | P            | V       |
| 914.5MHz |                                                                                                                                                      | 612       | 31.12      | -14.88        | 46            | 35.59         | 25.15             | 3.66          | 33.28            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 914.64    | 111.57     | -             | -             | 112.44        | 26.85             | 4.51          | 32.23            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 608.12    | 31.92      | -14.08        | 46            | 35.99         | 25.56             | 3.65          | 33.28            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 914.64    | 102.04     | -             | -             | 102.21        | 27.55             | 4.51          | 32.23            | 100        | 360          | P            | V       |
| 926.5MHz |                                                                                                                                                      | 612.97    | 31.36      | -14.64        | 46            | 35.84         | 25.15             | 3.66          | 33.29            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 926.28    | 110.15     | -             | -             | 110.76        | 26.96             | 4.54          | 32.11            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 611.03    | 31.93      | -14.07        | 46            | 35.96         | 25.59             | 3.66          | 33.28            | 100        | 0            | P            | V       |
|          |                                                                                                                                                      | 926.28    | 109.29     | -             | -             | 109.2         | 27.66             | 4.54          | 32.11            | 100        | 0            | P            | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



## LoRa DTS SF=9 (Harmonic @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1801      | 56.32      | -23.13        | 79.45         | 84.1          | 30.6              | 6.34          | 64.72            | 300        | 0            | P            | H       |
|          |                                                                                                                                                      | 2710      | 45.98      | -28.02        | 74            | 70.89         | 32.3              | 7.89          | 65.1             | 300        | 0            | P            | H       |
|          |                                                                                                                                                      | 9028      | 47.6       | -26.4         | 74            | 62.25         | 36.51             | 14.89         | 66.05            | 300        | 0            | P            | H       |
|          |                                                                                                                                                      | 1801      | 47.84      | -20.3         | 68.14         | 75.62         | 30.6              | 6.34          | 64.72            | 100        | 338          | P            | V       |
|          |                                                                                                                                                      | 2710      | 40.55      | -33.45        | 74            | 65.46         | 32.3              | 7.89          | 65.1             | 100        | 338          | P            | V       |
|          |                                                                                                                                                      | 9019      | 48         | -26           | 74            | 62.65         | 36.51             | 14.89         | 66.05            | 100        | 338          | P            | V       |
| 914.5MHz |                                                                                                                                                      | 1824.5    | 60.83      | -19.74        | 80.57         | 88.49         | 30.69             | 6.37          | 64.72            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 2742.5    | 45.43      | -28.57        | 74            | 70.3          | 32.3              | 7.93          | 65.1             | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 9143      | 50.49      | -23.51        | 74            | 64.79         | 36.58             | 15.2          | 66.08            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 1828      | 49.37      | -22.67        | 72.04         | 76.91         | 30.78             | 6.4           | 64.72            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 2746      | 49.69      | -24.31        | 74            | 74.54         | 32.3              | 7.96          | 65.11            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 9145      | 50.46      | -23.54        | 74            | 64.76         | 36.58             | 15.2          | 66.08            | 300        | 360          | P            | V       |
| 926.5MHz |                                                                                                                                                      | 1855      | 66.62      | -13.53        | 80.15         | 94.03         | 30.88             | 6.43          | 64.72            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 2782      | 46.63      | -27.37        | 74            | 71.43         | 32.3              | 8.02          | 65.12            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 9262      | 47.32      | -32.83        | 80.15         | 61.33         | 36.66             | 15.43         | 66.1             | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 1855      | 56.7       | -22.59        | 79.29         | 84.11         | 30.88             | 6.43          | 64.72            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 2782      | 42.44      | -31.56        | 74            | 67.24         | 32.3              | 8.02          | 65.12            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 9262      | 47.4       | -31.89        | 79.29         | 61.41         | 36.66             | 15.43         | 66.1             | 300        | 360          | P            | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



## LoRa DTS SF=10 (Band Edge @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 610.06    | 31.71      | -14.29        | 46            | 36.19         | 25.14             | 3.66          | 33.28            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 903       | 110.1      | -             | -             | 111.24        | 26.73             | 4.49          | 32.36            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 609.09    | 32.34      | -13.66        | 46            | 36.39         | 25.57             | 3.66          | 33.28            | 100        | 0            | P            | V       |
|          |                                                                                                                                                      | 903       | 98.14      | -             | -             | 98.58         | 27.43             | 4.49          | 32.36            | 100        | 0            | P            | V       |
| 914.5MHz |                                                                                                                                                      | 612.97    | 31.46      | -14.54        | 46            | 35.94         | 25.15             | 3.66          | 33.29            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 914.64    | 111.59     | -             | -             | 112.46        | 26.85             | 4.51          | 32.23            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 612.97    | 32.41      | -13.59        | 46            | 36.44         | 25.6              | 3.66          | 33.29            | 100        | 0            | P            | V       |
|          |                                                                                                                                                      | 914.64    | 101.15     | -             | -             | 101.32        | 27.55             | 4.51          | 32.23            | 100        | 0            | P            | V       |
| 926.5MHz |                                                                                                                                                      | 612       | 32.07      | -13.93        | 46            | 36.54         | 25.15             | 3.66          | 33.28            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 926.28    | 110.14     | -             | -             | 110.75        | 26.96             | 4.54          | 32.11            | 100        | 0            | P            | H       |
|          |                                                                                                                                                      | 611.03    | 32.75      | -13.25        | 46            | 36.78         | 25.59             | 3.66          | 33.28            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 926.28    | 109.05     | -             | -             | 108.96        | 27.66             | 4.54          | 32.11            | 100        | 360          | P            | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



## LoRa DTS SF=10 (Harmonic @ 3m)

|          | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1801      | 54.34      | -25.76        | 80.1          | 82.12         | 30.6              | 6.34          | 64.72            | 300        | 0            | P            | H       |
|          |                                                                                                                                                      | 2710      | 45.98      | -28.02        | 74            | 70.89         | 32.3              | 7.89          | 65.1             | 300        | 0            | P            | H       |
|          |                                                                                                                                                      | 1801      | 46.98      | -21.16        | 68.14         | 74.76         | 30.6              | 6.34          | 64.72            | 300        | 0            | P            | V       |
|          |                                                                                                                                                      | 2710      | 42.92      | -31.08        | 74            | 67.83         | 32.3              | 7.89          | 65.1             | 300        | 0            | P            | V       |
| 914.5MHz |                                                                                                                                                      | 1828      | 60.42      | -21.17        | 81.59         | 87.96         | 30.78             | 6.4           | 64.72            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 2746      | 45.06      | -28.94        | 74            | 69.91         | 32.3              | 7.96          | 65.11            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 9145      | 50.7       | -23.3         | 74            | 65            | 36.58             | 15.2          | 66.08            | 100        | 360          | P            | H       |
|          |                                                                                                                                                      | 1828      | 51.77      | -19.38        | 71.15         | 79.31         | 30.78             | 6.4           | 64.72            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 2746      | 41.42      | -32.58        | 74            | 66.27         | 32.3              | 7.96          | 65.11            | 300        | 360          | P            | V       |
|          |                                                                                                                                                      | 9145      | 50.81      | -23.19        | 74            | 65.11         | 36.58             | 15.2          | 66.08            | 300        | 360          | P            | V       |
| 926.5MHz |                                                                                                                                                      | 1855      | 66.09      | -14.05        | 80.14         | 93.5          | 30.88             | 6.43          | 64.72            | 300        | 360          | P            | H       |
|          |                                                                                                                                                      | 2782      | 47.51      | -26.49        | 74            | 72.31         | 32.3              | 8.02          | 65.12            | 300        | 360          | P            | H       |
|          |                                                                                                                                                      | 9262      | 49.86      | -30.28        | 80.14         | 63.87         | 36.66             | 15.43         | 66.1             | 300        | 360          | P            | H       |
|          |                                                                                                                                                      | 1855      | 58.22      | -20.83        | 79.05         | 85.63         | 30.88             | 6.43          | 64.72            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 2782      | 43.25      | -30.75        | 74            | 68.05         | 32.3              | 8.02          | 65.12            | 100        | 360          | P            | V       |
|          |                                                                                                                                                      | 9262      | 48.17      | -30.88        | 79.05         | 62.18         | 36.66             | 15.43         | 66.1             | 100        | 360          | P            | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



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

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preampl Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|----------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )         | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 870.02    | 42.84      | -42.1      | 84.94      | 41.54      | 29.24          | 4.32       | 32.26          | 100     | 185       | P         | H       |
|          |                                                                                                                                                      | 903       | 114.94     | -          | -          | 113.35     | 29.39          | 4.39       | 32.19          | 100     | 185       | P         | H       |
|          |                                                                                                                                                      | 935.01    | 46.25      | -38.69     | 84.94      | 43.55      | 30.36          | 4.47       | 32.13          | 100     | 185       | P         | H       |
|          |                                                                                                                                                      | 903       | 107.55     | -          | -          | 105.96     | 29.39          | 4.39       | 32.19          | 174     | 111       | P         | V       |
|          |                                                                                                                                                      | 934.04    | 39.67      | -37.88     | 77.55      | 37         | 30.33          | 4.47       | 32.13          | 174     | 111       | P         | V       |
| 914.5MHz |                                                                                                                                                      | 914.64    | 115.88     | -          | -          | 113.89     | 29.74          | 4.42       | 32.17          | 162     | 181       | P         | H       |
|          |                                                                                                                                                      | 914.64    | 108.35     | -          | -          | 106.36     | 29.74          | 4.42       | 32.17          | 169     | 129       | P         | V       |
| 926.5MHz |                                                                                                                                                      | 894.27    | 42.28      | -45.1      | 87.38      | 40.83      | 29.29          | 4.37       | 32.21          | 100     | 180       | P         | H       |
|          |                                                                                                                                                      | 926.28    | 117.38     | -          | -          | 114.99     | 30.09          | 4.45       | 32.15          | 100     | 180       | P         | H       |
|          |                                                                                                                                                      | 958.29    | 44.88      | -42.5      | 87.38      | 41.66      | 30.77          | 4.53       | 32.08          | 100     | 180       | P         | H       |
|          |                                                                                                                                                      | 911.73    | 40.16      | -40.2      | 80.36      | 38.28      | 29.65          | 4.41       | 32.18          | 151     | 129       | P         | V       |
|          |                                                                                                                                                      | 926.28    | 110.36     | -          | -          | 107.97     | 30.09          | 4.45       | 32.15          | 151     | 129       | P         | V       |
|          |                                                                                                                                                      | 958.29    | 44.1       | -36.26     | 80.36      | 40.88      | 30.77          | 4.53       | 32.08          | 151     | 129       | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |                |         |           |           |         |



## LoRa DTS SF=11 (Harmonic @ 3m)

| LoRa DTS | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|          |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| 902.5MHz |                                                                                                                                                      | 1810      | 50.48      | -34.46     | 84.94      | 79.76      | 28.07          | 6.29       | 63.64         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 2710      | 43.73      | -30.27     | 74         | 65.95      | 32.54          | 7.71       | 62.47         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1810      | 44.11      | -33.44     | 77.55      | 73.39      | 28.07          | 6.29       | 63.64         | 100     | 0         | P         | V       |
| 914.5MHz |                                                                                                                                                      | 1828      | 54.5       | -31.38     | 85.88      | 83.68      | 28.15          | 6.31       | 63.64         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1828      | 47.17      | -31.18     | 78.35      | 76.35      | 28.15          | 6.31       | 63.64         | 100     | 0         | P         | V       |
| 926.5MHz |                                                                                                                                                      | 1828      | 54.5       | -32.88     | 87.38      | 83.68      | 28.15          | 6.31       | 63.64         | 300     | 0         | P         | H       |
|          |                                                                                                                                                      | 1828      | 47.17      | -33.19     | 80.36      | 76.35      | 28.15          | 6.31       | 63.64         | 100     | 0         | P         | V       |
| Remark   | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



For co-location:

## LoRa DTS SF=8 + BLE (BE @ 3m)

|                      | Note                                                                                                                                                 | Frequency | Level      | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Peak Avg. | Pol.    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|------------|------------|------------|----------------|------------|---------------|---------|-----------|-----------|---------|
|                      |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )     | ( dBμV/m ) | ( dBμV )   | ( dB/m )       | ( dB )     | ( dB )        | ( cm )  | ( deg )   | ( P/A )   | ( H/V ) |
| BLE<br>CH39          |                                                                                                                                                      | 2485.54   | 56.7       | -17.3      | 74         | 47.97      | 32.12          | 7.28       | 30.67         | 128     | 51        | P         | H       |
|                      |                                                                                                                                                      | 2489.08   | 46.57      | -7.43      | 54         | 37.77      | 32.15          | 7.32       | 30.67         | 128     | 51        | A         | H       |
|                      |                                                                                                                                                      | 2480      | 95.2       | -          | -          | 86.47      | 32.12          | 7.28       | 30.67         | 128     | 51        | P         | H       |
|                      |                                                                                                                                                      | 2480      | 92.95      | -          | -          | 84.22      | 32.12          | 7.28       | 30.67         | 128     | 51        | A         | H       |
|                      |                                                                                                                                                      | 2488      | 56.65      | -17.35     | 74         | 47.85      | 32.15          | 7.32       | 30.67         | 300     | 26        | P         | V       |
|                      |                                                                                                                                                      | 2492.68   | 46.44      | -7.56      | 54         | 37.57      | 32.15          | 7.32       | 30.6          | 300     | 26        | A         | V       |
|                      |                                                                                                                                                      | 2480      | 93.59      | -          | -          | 84.86      | 32.12          | 7.28       | 30.67         | 300     | 26        | P         | V       |
|                      |                                                                                                                                                      | 2480      | 92.36      | -          | -          | 83.63      | 32.12          | 7.28       | 30.67         | 300     | 26        | A         | V       |
| DTS SF=8<br>926.5Mhz |                                                                                                                                                      | 608.12    | 31.65      | -14.35     | 46         | 34.37      | 25.91          | 3.65       | 32.28         | 100     | 0         | P         | H       |
|                      |                                                                                                                                                      | 926.28    | 116.9      | -          | -          | 114.45     | 30.11          | 4.54       | 32.2          | 100     | 0         | P         | H       |
|                      |                                                                                                                                                      | 609.09    | 32.02      | -13.98     | 46         | 34.72      | 25.92          | 3.66       | 32.28         | 300     | 0         | P         | V       |
|                      |                                                                                                                                                      | 927.25    | 114.82     | -          | -          | 112.34     | 30.14          | 4.54       | 32.2          | 300     | 0         | P         | V       |
| Remark               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |            |            |            |                |            |               |         |           |           |         |



## LoRa DTS SF=8 + BLE (Harmonic@ 3m)

|                      | Note                                                                                                                                                 | Frequency | Level      | Over<br>Limit | Limit<br>Line | Read<br>Level | Antenna<br>Factor | Cable<br>Loss | Preamp<br>Factor | Ant<br>Pos | Table<br>Pos | Peak<br>Avg. | Pol.    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---------------|---------------|---------------|-------------------|---------------|------------------|------------|--------------|--------------|---------|
|                      |                                                                                                                                                      | ( MHz )   | ( dBμV/m ) | ( dB )        | ( dBμV/m )    | ( dBμV )      | ( dB/m )          | ( dB )        | ( dB )           | ( cm )     | ( deg )      | ( P/A )      | ( H/V ) |
| BLE<br>CH39          |                                                                                                                                                      | 4960      | 42.23      | -31.77        | 74            | 62.69         | 34.1              | 10.89         | 65.45            | 300        | 360          | P            | H       |
|                      |                                                                                                                                                      | 7440      | 44.93      | -29.07        | 74            | 60.91         | 35.8              | 13.55         | 65.33            | 300        | 360          | P            | H       |
|                      |                                                                                                                                                      | 4965      | 41.26      | -32.74        | 74            | 61.72         | 34.1              | 10.89         | 65.45            | 100        | 0            | P            | V       |
|                      |                                                                                                                                                      | 7440      | 44.06      | -29.94        | 74            | 60.04         | 35.8              | 13.55         | 65.33            | 100        | 0            | P            | V       |
| DTS SF=8<br>926.5Mhz |                                                                                                                                                      | 1855      | 59.59      | -27.31        | 86.9          | 87            | 30.88             | 6.43          | 64.72            | 100        | 0            | P            | H       |
|                      |                                                                                                                                                      | 2780      | 50.96      | -23.04        | 74            | 75.76         | 32.3              | 8.02          | 65.12            | 100        | 0            | P            | H       |
|                      |                                                                                                                                                      | 1855      | 43.37      | -41.45        | 84.82         | 70.78         | 30.88             | 6.43          | 64.72            | 100        | 0            | P            | V       |
|                      |                                                                                                                                                      | 2782      | 40.37      | -33.63        | 74            | 65.17         | 32.3              | 8.02          | 65.12            | 100        | 0            | P            | V       |
| Remark               | 1. No other spurious found.<br>2. All results are PASS against Peak and Average limit line.<br>3. Non-restricted band limit is 100kHz-PSD down 30dB. |           |            |               |               |               |                   |               |                  |            |              |              |         |



## Emission below 1GHz

## LoRa DTS SF=8 (LF)

| BT                     | Note                                                                       | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>( dB/m ) | Cable<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>(P/A) | Pol.<br>(H/V) |
|------------------------|----------------------------------------------------------------------------|----------------------|---------------------|-------------------------|-----------------------------|-------------------------|-------------------------------|-------------------------|----------------------------|----------------------|-------------------------|-----------------------|---------------|
| LoRa DTS<br>SF=8<br>LF |                                                                            | 31.94                | 23.45               | -16.55                  | 40                          | 33.31                   | 22.48                         | 0.72                    | 33.06                      | -                    | -                       | P                     | H             |
|                        |                                                                            | 158.04               | 19.34               | -24.16                  | 43.5                        | 33.54                   | 16.95                         | 1.83                    | 32.98                      | -                    | -                       | P                     | H             |
|                        |                                                                            | 382.11               | 25.56               | -20.44                  | 46                          | 33.74                   | 21.44                         | 2.86                    | 32.48                      | -                    | -                       | P                     | H             |
|                        |                                                                            | 471.35               | 28.78               | -17.22                  | 46                          | 34.4                    | 23.52                         | 3.19                    | 32.33                      | -                    | -                       | P                     | H             |
|                        |                                                                            | 682.81               | 33.48               | -12.52                  | 46                          | 35.49                   | 26.67                         | 3.85                    | 32.53                      | -                    | -                       | P                     | H             |
|                        |                                                                            | 778.84               | 36.07               | -9.93                   | 46                          | 35.95                   | 28.34                         | 4.09                    | 32.31                      | 100                  | 186                     | P                     | H             |
|                        |                                                                            | 31.94                | 21.73               | -18.27                  | 40                          | 31.59                   | 22.48                         | 0.72                    | 33.06                      | -                    | -                       | P                     | V             |
|                        |                                                                            | 185.2                | 17.15               | -26.35                  | 43.5                        | 32.34                   | 15.75                         | 1.99                    | 32.93                      | -                    | -                       | P                     | V             |
|                        |                                                                            | 294.81               | 20.8                | -25.2                   | 46                          | 31.76                   | 19.23                         | 2.52                    | 32.71                      | -                    | -                       | P                     | V             |
|                        |                                                                            | 453.89               | 26.99               | -19.01                  | 46                          | 32.9                    | 23.18                         | 3.13                    | 32.22                      | -                    | -                       | P                     | V             |
|                        |                                                                            | 669.23               | 31.26               | -14.74                  | 46                          | 33.37                   | 26.64                         | 3.81                    | 32.56                      | -                    | -                       | P                     | V             |
|                        |                                                                            | 817.64               | 32.54               | -13.46                  | 46                          | 31.9                    | 28.62                         | 4.19                    | 32.17                      | 159                  | 291                     | P                     | V             |
| Remark                 | 1. No other spurious found.<br>2. All results are PASS against limit line. |                      |                     |                         |                             |                         |                               |                         |                            |                      |                         |                       |               |



**Note symbol**

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



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

| WIFI<br>Ant.<br>1 | Note | Frequency<br>( MHz ) | Level<br>( dBμV/m ) | Over<br>Limit<br>( dB ) | Limit<br>Line<br>( dBμV/m ) | Read<br>Level<br>( dBμV ) | Antenna<br>Factor<br>( dB/m ) | Path<br>Loss<br>( dB ) | Preamp<br>Factor<br>( dB ) | Ant<br>Pos<br>( cm ) | Table<br>Pos<br>( deg ) | Peak<br>Avg.<br>( P/A ) | Pol.<br>( H/V ) |
|-------------------|------|----------------------|---------------------|-------------------------|-----------------------------|---------------------------|-------------------------------|------------------------|----------------------------|----------------------|-------------------------|-------------------------|-----------------|
| 802.11b<br>CH 01  |      | 2390                 | 55.45               | -18.55                  | 74                          | 54.51                     | 32.22                         | 4.58                   | 35.86                      | 103                  | 308                     | P                       | H               |
| 2412MHz           |      | 2390                 | 43.54               | -10.46                  | 54                          | 42.6                      | 32.22                         | 4.58                   | 35.86                      | 103                  | 308                     | A                       | H               |

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

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
2. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

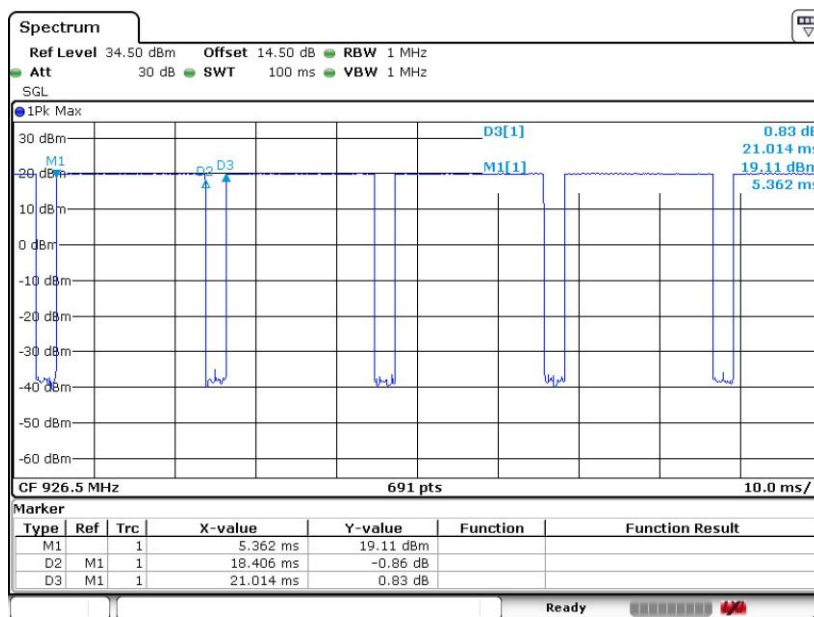
1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
2. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 43.54(dBμV/m) – 54(dBμV/m)  
= -10.46(dB)

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

## Appendix D. Duty Cycle Plots

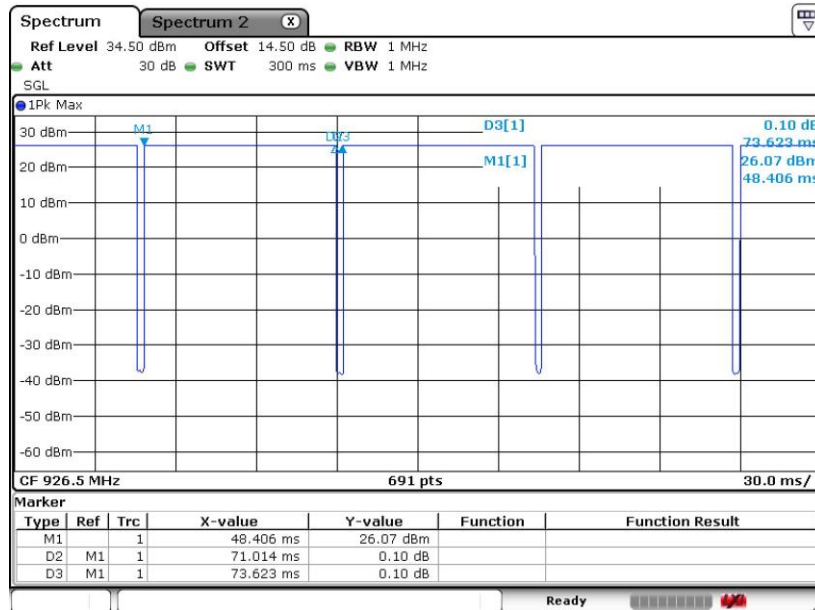
| Band          | Duty Cycle(%) | T(ms)  | 1/T(kHz) | VBW Setting |
|---------------|---------------|--------|----------|-------------|
| LoRa DTS SF5  | 87.59         | 18.406 | 0.054    | 0.13kHz     |
| LoRa DTS SF7  | 96.46         | 71.014 | 0.014    | 0.13kHz     |
| LoRa DTS SF8  | 98.37         | -      | -        | 10Hz        |
| LoRa DTS SF9  | 99.09         | -      | -        | 10Hz        |
| LoRa DTS SF10 | 100           | -      | -        | 10Hz        |
| LoRa DTS SF11 | 100           | -      | -        | 10Hz        |

### LoRa DTS SF5

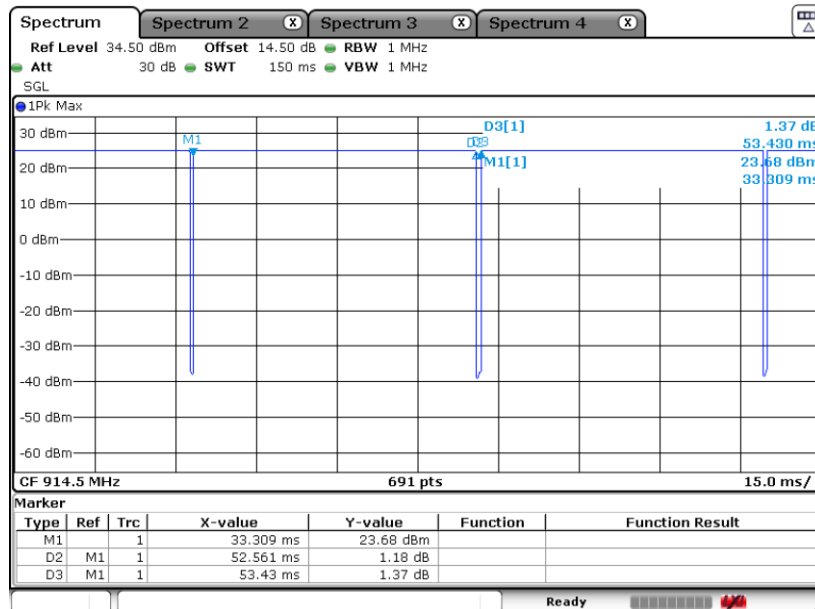




### LoRa DTS SF7

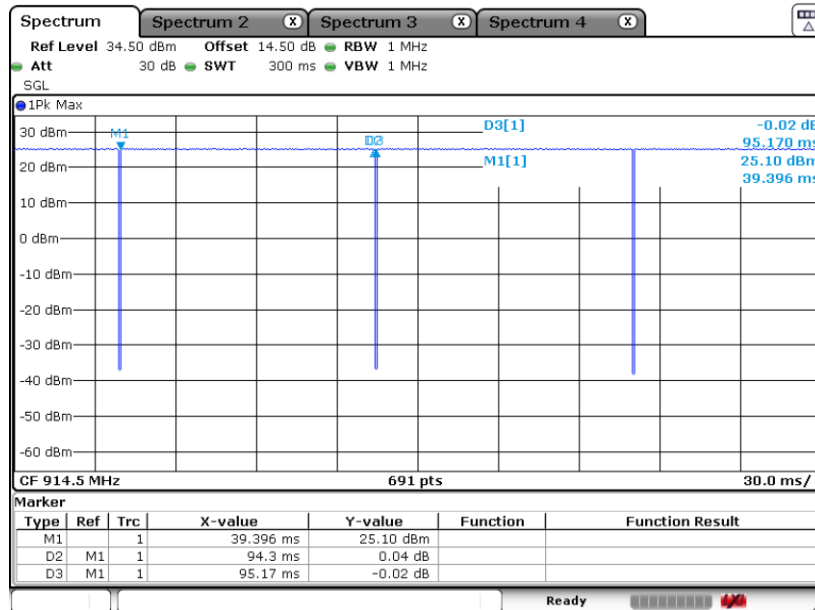


### LoRa DTS SF8

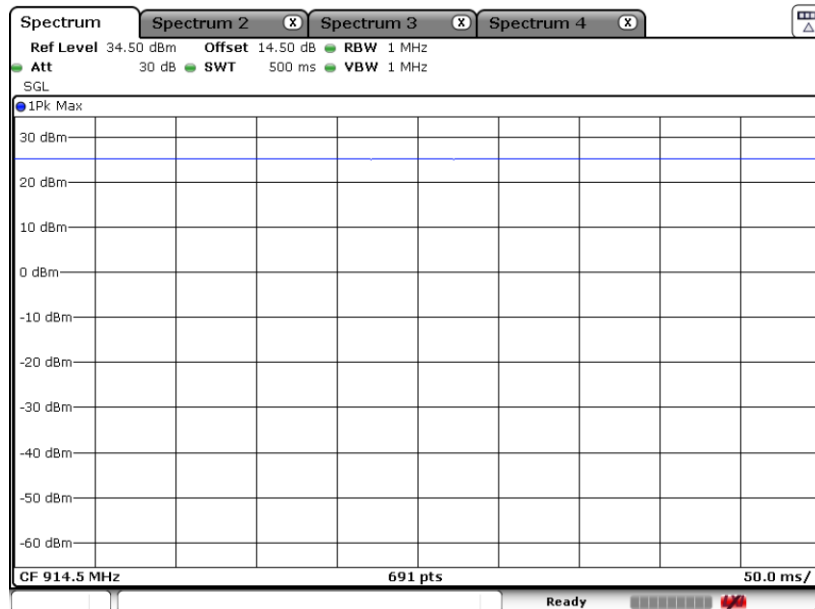




### LoRa DTS SF9



### LoRa DTS SF10





LoRa DTS SF11

