

# TEST REPORT

**Reference No.**..... : WTD21D06058407W001  
**FCC ID** ..... : 2ABH3-FOS7HTA  
**Applicant**..... : Furion Ltd.  
**Address**..... : 4/F, Flat C & D, The Grid, 133 Wai Yip Street, Kwun Tong  
Kowloon 999077 Hongkong  
**Manufacturer** ..... : Furion Ltd.  
**Address**..... : 4/F, Flat C & D, The Grid, 133 Wai Yip Street, Kwun Tong  
Kowloon 999077 Hongkong  
**Product**..... : Vision S+ 7-inch Monitor  
**Model(s)** ..... : FOS7HTADS  
**Brand Name**..... : N/A  
**Standards**..... : FCC CFR47 Part 15.247  
**Date of Receipt sample** .... : 2021-06-28  
**Date of Test** ..... : 2021-06-28 to 2022-01-10  
**Date of Issue**..... : 2022-02-22  
**Test Result**..... : **Pass**

## Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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### 3 Revision History

| Test report No.        | Date of Receipt sample | Date of Test                   | Date of Issue | Purpose  | Comment | Approved |
|------------------------|------------------------|--------------------------------|---------------|----------|---------|----------|
| WTD21D06058407<br>W001 | 2021-06-28             | 2021-06-28<br>to<br>2022-01-10 | 2022-02-22    | Original | -       | Valid    |

## 4 General Information

### 4.1 General Description of E.U.T.

|                    |                                   |
|--------------------|-----------------------------------|
| Product:           | Vision S+ 7-inch Monitor          |
| Model(s):          | FOS7HTADS                         |
| Model Description: | N/A                               |
| Hardware Version:  | FOS7HTADS-MAIN-V10                |
| Software Version:  | VISION_S+_7_MONITOR_20211206_V1.8 |
| Note:              | N/A                               |

### 4.2 Details of E.U.T.

|                       |                                                                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Operation Frequency:  | 2412~2462MHz                                                                                                                      |
| Max. RF output power: | ANT 0: 25.38dBm<br>ANT 1: 25.83dBm                                                                                                |
| Type of Modulation:   | CCK, OFDM                                                                                                                         |
| Antenna installation: | External antenna with RP-SMA connector                                                                                            |
| Antenna Gain:         | ANT 0: 3.0dBi<br>ANT 1: 3.0dBi                                                                                                    |
| Ratings:              | DC 5V from car charger                                                                                                            |
| Car charger:          | Input: DC 12 ~24V<br>Output: DC 5.0V  2.4A Max |

**Note:** EUT not support MIMO Transmission techniques.

### 4.3 Channel List

| Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) | Channel No. | Frequency (MHz) |
|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|
| 1           | 2412            | 2           | 2417            | 3           | 2422            | 4           | 2427            |
| 5           | 2432            | 6           | 2437            | 7           | 2442            | 8           | 2447            |
| 9           | 2452            | 10          | 2457            | 11          | 2462            | 12          | -               |

### 4.4 Test Mode

| Test Items                     | Mode | Data Rate | Channel | TX/RX |
|--------------------------------|------|-----------|---------|-------|
| Maximum Peak Output Power      | CCK  | Normal    | 1/6/11  | TX    |
|                                | OFDM | Normal    | 1/6/11  | TX    |
| Power Spectral Density         | CCK  | Normal    | 1/6/11  | TX    |
|                                | OFDM | Normal    | 1/6/11  | TX    |
| 6dB Bandwidth                  | CCK  | Normal    | 1/6/11  | TX    |
|                                | OFDM | Normal    | 1/6/11  | TX    |
| Band Edge                      | CCK  | Normal    | 1/6/11  | TX    |
|                                | OFDM | Normal    | 1/6/11  | TX    |
| Transmitter Spurious Emissions | CCK  | Normal    | 1/6/11  | TX    |
|                                | OFDM | Normal    | 1/6/11  | TX    |

**Note:** parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product.

### 4.5 Test Facility

The test facility has a test site registered with the following organizations:

**ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.**

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

**FCC Designation No.: CN1201. Test Firm Registration No.: 523476.**

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

## 5 Test Summary

| Test Items                                                        | Test Requirement                    | Result |
|-------------------------------------------------------------------|-------------------------------------|--------|
| Radiated Spurious Emissions                                       | 15.247(d)<br>15.205(a)<br>15.209(a) | PASS   |
| Conducted Spurious Emissions                                      | 15.247(d)                           | PASS   |
| Conducted Emissions                                               | 15.207(a)                           | N/A    |
| 6dB Bandwidth                                                     | 15.247(a)(2)                        | PASS   |
| Maximum Peak Output Power                                         | 15.247(b)(3), (4)                   | PASS   |
| Power Spectral Density                                            | 15.247(e)                           | PASS   |
| Band Edge                                                         | 15.247(d)                           | PASS   |
| Antenna Requirement                                               | 15.203                              | PASS   |
| Maximum Permissible Exposure<br>(Exposure of Humans to RF Fields) | 2.1901                              | PASS   |

## 6 Equipment Used during Test

### 6.1 Equipments List

| Conducted Emissions Test Site 2#                              |                            |                      |             |                 |                       |                      |
|---------------------------------------------------------------|----------------------------|----------------------|-------------|-----------------|-----------------------|----------------------|
| Item                                                          | Equipment                  | Manufacturer         | Model No.   | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1.                                                            | EMI Test Receiver          | R&S                  | ESCI        | 101155          | 2021-07-26            | 2022-07-25           |
| 2.                                                            | LISN                       | SCHWARZBECK          | NSLK 8128   | 8128-289        | 2021-07-26            | 2022-07-25           |
| 3.                                                            | Limiter                    | York                 | MTS-IMP-136 | 261115-001-0024 | 2021-07-26            | 2022-07-25           |
| 4.                                                            | Cable                      | LARGE                | RF300       | -               | 2021-07-26            | 2022-07-25           |
| 3m Semi-anechoic Chamber for Radiation Emissions Test site 1# |                            |                      |             |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.   | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1                                                             | Spectrum Analyzer          | R&S                  | FSP         | 100091          | 2021-04-26            | 2022-04-25           |
| 2                                                             | Amplifier                  | Agilent              | 8447D       | 2944A10178      | 2021-07-26            | 2022-07-25           |
| 3                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9163    | 336             | 2021-04-26            | 2022-04-25           |
| 4                                                             | Coaxial Cable (below 1GHz) | Top                  | TYPE16(13M) | -               | 2021-08-23            | 2022-08-22           |
| 5                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9120 D | 667             | 2021-04-26            | 2022-04-25           |
| 6                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9170   | 335             | 2021-07-30            | 2022-07-29           |
| 7                                                             | Broadband Preamplifier     | COMPLIANCE DIRECTION | PAP-1G18    | 2004            | 2021-07-26            | 2022-07-25           |
| 8                                                             | Coaxial Cable (above 1GHz) | Top                  | 1GHz-25GHz  | N/A             | 2021-04-26            | 2022-04-25           |
| 3m Semi-anechoic Chamber for Radiation Emissions Test site 2# |                            |                      |             |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.   | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1                                                             | Test Receiver              | R&S                  | ESCI        | 101296          | 2021-04-26            | 2022-04-25           |
| 2                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9160    | 9160-3325       | 2021-10-31            | 2022-10-30           |
| 3                                                             | Active Loop Antenna        | Com-Power Corp.      | AL-130R     | 10160007        | 2021-04-29            | 2022-04-28           |
|                                                               | Amplifier                  | ANRITSU              | MH648A      | M43381          | 2021-04-26            | 2022-04-25           |
| 4                                                             | Cable                      | HUBER+SUHNER         | CBL2        | 525178          | 2021-04-26            | 2022-04-25           |
| RF Conducted Testing                                          |                            |                      |             |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.   | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1.                                                            | Signal Generator           | Agilent              | N5182A      | MY46240814      | 2021-07-26            | 2022-07-25           |
| 2.                                                            | Spectrum Analyzer          | R&S                  | FSP30       | 100091          | 2021-04-26            | 2022-04-25           |
| 3.                                                            | EXA Signal Analyzer        | Malaysia Keysight    | N9010A      | MY50520207      | 2021-04-26            | 2022-04-25           |

## 6.2 Description of Support Units

| Equipment | Manufacturer | Model No. | Series No. |
|-----------|--------------|-----------|------------|
| /         | /            | /         | /          |

## 6.3 Measurement Uncertainty

| Parameter                                       | Uncertainty                             |
|-------------------------------------------------|-----------------------------------------|
| Conducted Emission                              | ± 3.64 dB(AC mains 150KHz~30MHz)        |
| Radiated Spurious Emissions                     | ± 5.08 dB (Bilog antenna 30M~1000MHz)   |
|                                                 | ± 5.47 dB (Horn antenna 1000M~25000MHz) |
| Radio Frequency                                 | ± 1 x 10 <sup>-7</sup> Hz               |
| RF Power                                        | ± 0.42 dB                               |
| RF Power Density                                | ± 0.7dB                                 |
| Conducted Spurious Emissions                    | ± 2.76 dB (9kHz~26500MHz)               |
| Confidence interval: 95%. Confidence factor:k=2 |                                         |

## 6.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

## 7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019  
ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

| Frequency<br>(MHz) | Field Strength        |                 | Field Strength Limit at 3m Measurement Dist |                                       |
|--------------------|-----------------------|-----------------|---------------------------------------------|---------------------------------------|
|                    | uV/m                  | Distance<br>(m) | uV/m                                        | dBuV/m                                |
| 0.009 ~ 0.490      | $2400/F(\text{kHz})$  | 300             | $10000 * 2400/F(\text{kHz})$                | $20\log^{(2400/F(\text{kHz}))} + 80$  |
| 0.490 ~ 1.705      | $24000/F(\text{kHz})$ | 30              | $100 * 24000/F(\text{kHz})$                 | $20\log^{(24000/F(\text{kHz}))} + 40$ |
| 1.705 ~ 30         | 30                    | 30              | $100 * 30$                                  | $20\log^{(30)} + 40$                  |
| 30 ~ 88            | 100                   | 3               | 100                                         | $20\log^{(100)}$                      |
| 88 ~ 216           | 150                   | 3               | 150                                         | $20\log^{(150)}$                      |
| 216 ~ 960          | 200                   | 3               | 200                                         | $20\log^{(200)}$                      |
| Above 960          | 500                   | 3               | 500                                         | $20\log^{(500)}$                      |

### 7.1 EUT Operation

Operating Environment:

Temperature: 23.5 °C

Humidity: 52.1 % RH

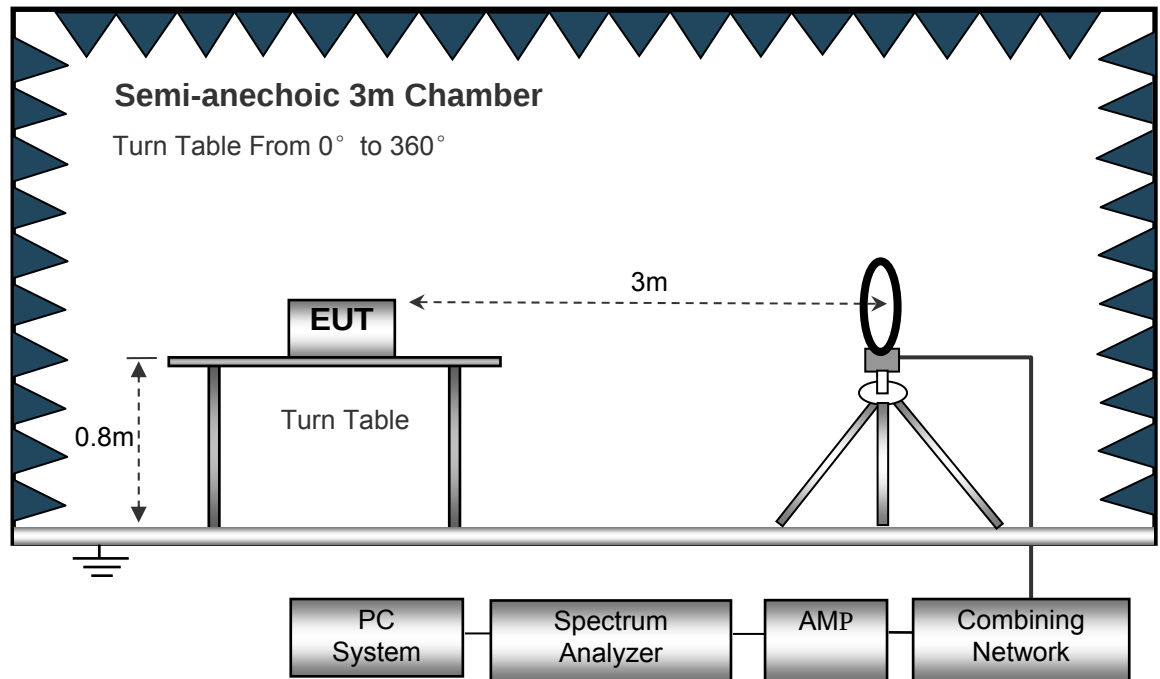
Atmospheric Pressure: 101.2kPa

EUT Operation: The test was performed in TX transmitting mode, the test data were shown in the report.

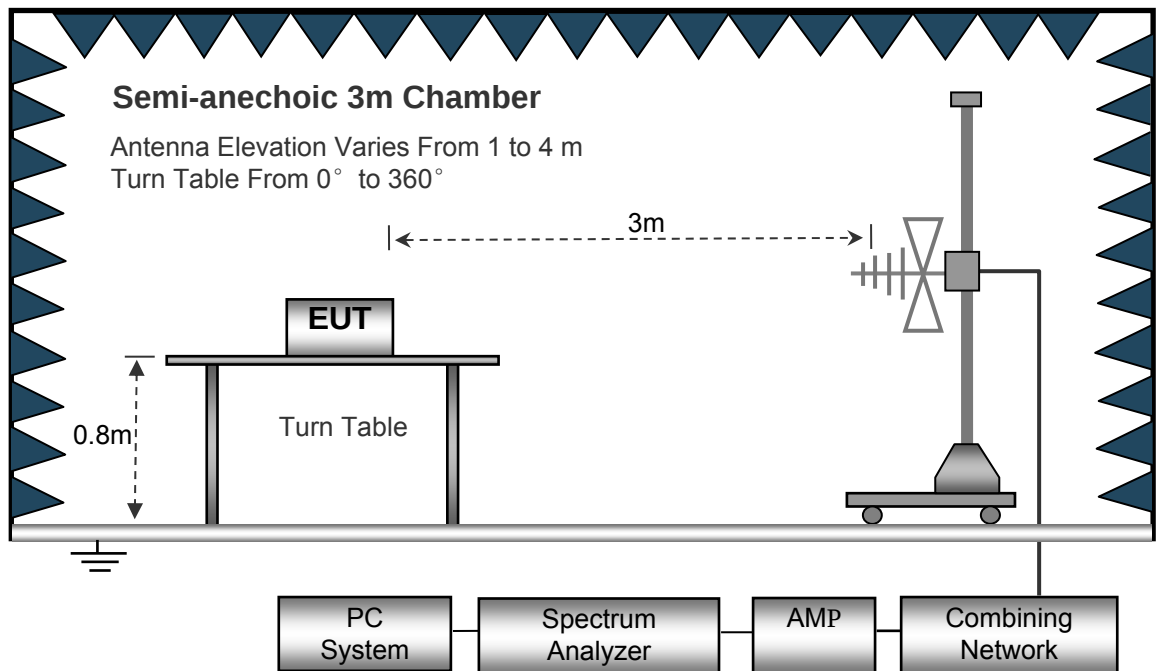
## 7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

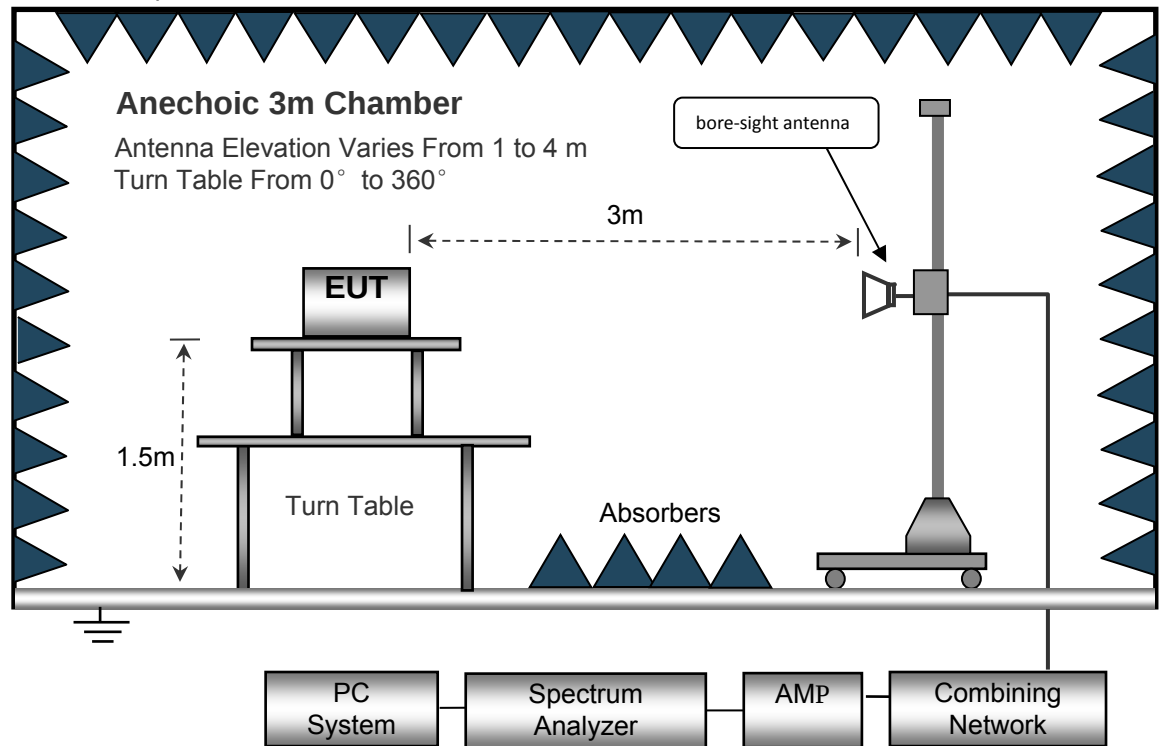
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed ..... Auto  
IF Bandwidth..... 10kHz  
Video Bandwidth..... 10kHz  
Resolution Bandwidth..... 10kHz

30MHz ~ 1GHz

Sweep Speed ..... Auto  
Detector ..... PK  
Resolution Bandwidth..... 100kHz  
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto  
Detector ..... PK  
Resolution Bandwidth..... 1MHz  
Video Bandwidth..... 3MHz  
Detector ..... Ave.  
Resolution Bandwidth..... 1MHz  
Video Bandwidth..... 10Hz

## 7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used during radiated emissions above 1GHz measurement.

## 7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

## 7.6 Summary of Test Results

### Test frequency: below 30MHz

The measurements were more than 20 dB below the limit and not reported.

### Test frequency: 30MHz ~ 8GHz

ANT0

| Frequency                | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|--------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                          |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                    | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| CCK: Low Channel 2412MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                   | 36.18            | QP          | 34               | 1.6        | H     | -11.62           | 24.56               | 46.00                   | -21.44 |
| 932.27                   | 54.59            | QP          | 250              | 1.5        | V     | -11.62           | 42.97               | 46.00                   | -3.03  |
| 4824.00                  | 54.83            | PK          | 228              | 1.5        | V     | -1.06            | 53.77               | 74.00                   | -20.23 |
| 4824.00                  | 52.25            | Ave         | 228              | 1.5        | V     | -1.06            | <b>51.19</b>        | 54.00                   | -2.81  |
| 7236.00                  | 41.08            | PK          | 68               | 1.2        | H     | 1.33             | 42.41               | 74.00                   | -31.59 |
| 7236.00                  | 41.96            | Ave         | 68               | 1.2        | H     | 1.33             | 43.29               | 54.00                   | -10.71 |
| 2321.82                  | 46.06            | PK          | 303              | 1.4        | V     | -13.19           | 32.87               | 74.00                   | -41.13 |
| 2321.82                  | 37.71            | Ave         | 303              | 1.4        | V     | -13.19           | 24.52               | 54.00                   | -29.48 |
| 2351.43                  | 44.57            | PK          | 71               | 1.1        | H     | -13.14           | 31.43               | 74.00                   | -42.57 |
| 2351.43                  | 36.37            | Ave         | 71               | 1.1        | H     | -13.14           | 23.23               | 54.00                   | -30.77 |
| 2490.20                  | 42.03            | PK          | 68               | 1.5        | V     | -13.08           | 28.95               | 74.00                   | -45.05 |
| 2490.20                  | 38.11            | Ave         | 68               | 1.5        | V     | -13.08           | 25.03               | 54.00                   | -28.97 |

| Frequency                   | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|-----------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                             |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                       | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| CCK: Middle Channel 2437MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                      | 37.37            | QP          | 271              | 1.6        | H     | -11.62           | 25.75               | 46.00                   | -20.25 |
| 932.27                      | 54.19            | QP          | 338              | 1.9        | V     | -11.62           | 42.57               | 46.00                   | -3.43  |
| 4874.00                     | 56.27            | PK          | 150              | 1.8        | V     | -0.62            | 55.65               | 74.00                   | -18.35 |
| 4874.00                     | 48.98            | Ave         | 150              | 1.8        | V     | -0.62            | 48.36               | 54.00                   | -5.64  |
| 7311.00                     | 40.59            | PK          | 287              | 1.2        | H     | 2.21             | 42.80               | 74.00                   | -31.20 |
| 7311.00                     | 42.61            | Ave         | 287              | 1.2        | H     | 2.21             | 44.82               | 54.00                   | -9.18  |
| 2334.84                     | 45.93            | PK          | 208              | 1.4        | V     | -13.19           | 32.74               | 74.00                   | -41.26 |
| 2334.84                     | 37.87            | Ave         | 208              | 1.4        | V     | -13.19           | 24.68               | 54.00                   | -29.32 |
| 2381.20                     | 43.43            | PK          | 292              | 1.2        | H     | -13.14           | 30.29               | 74.00                   | -43.71 |
| 2381.20                     | 37.71            | Ave         | 292              | 1.2        | H     | -13.14           | 24.57               | 54.00                   | -29.43 |
| 2496.38                     | 44.35            | PK          | 91               | 1.7        | V     | -13.08           | 31.27               | 74.00                   | -42.73 |
| 2496.38                     | 37.25            | Ave         | 91               | 1.7        | V     | -13.08           | 24.17               | 54.00                   | -29.83 |

| Frequency                 | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|---------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                           |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                     | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| CCK: High Channel 2462MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                    | 35.96            | QP          | 85               | 1.0        | H     | -11.62           | 24.34               | 46.00                   | -21.66 |
| 932.27                    | 53.69            | QP          | 136              | 1.0        | V     | -11.62           | 42.07               | 46.00                   | -3.93  |
| 4924.00                   | 56.38            | PK          | 286              | 1.8        | V     | -0.24            | 56.14               | 74.00                   | -17.86 |
| 4924.00                   | 47.57            | Ave         | 286              | 1.8        | V     | -0.24            | 47.33               | 54.00                   | -6.67  |
| 7386.00                   | 39.74            | PK          | 121              | 1.1        | H     | 2.84             | 42.58               | 74.00                   | -31.42 |
| 7386.00                   | 43.38            | Ave         | 121              | 1.1        | H     | 2.84             | 46.22               | 54.00                   | -7.78  |
| 2313.43                   | 46.25            | PK          | 112              | 1.5        | V     | -13.19           | 33.06               | 74.00                   | -40.94 |
| 2313.43                   | 39.44            | Ave         | 112              | 1.5        | V     | -13.19           | 26.25               | 54.00                   | -27.75 |
| 2385.97                   | 42.67            | PK          | 182              | 2.0        | H     | -13.14           | 29.53               | 74.00                   | -44.47 |
| 2385.97                   | 36.11            | Ave         | 182              | 2.0        | H     | -13.14           | 22.97               | 54.00                   | -31.03 |
| 2493.72                   | 43.29            | PK          | 131              | 1.9        | V     | -13.08           | 30.21               | 74.00                   | -43.79 |
| 2493.72                   | 36.52            | Ave         | 131              | 1.9        | V     | -13.08           | 23.44               | 54.00                   | -30.56 |

| Frequency                 | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|---------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                           |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                     | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: Low Channel 2412MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                    | 35.53            | QP          | 356              | 1.8        | H     | -11.62           | 23.91               | 46.00                   | -22.09 |
| 932.27                    | 54.33            | QP          | 208              | 1.1        | V     | -11.62           | 42.71               | 46.00                   | -3.29  |
| 4824.00                   | 57.41            | PK          | 355              | 1.0        | V     | -1.06            | 56.35               | 74.00                   | -17.65 |
| 4824.00                   | 48.75            | Ave         | 355              | 1.0        | V     | -1.06            | 47.69               | 54.00                   | -6.31  |
| 7236.00                   | 39.87            | PK          | 86               | 1.1        | H     | 1.33             | 41.20               | 74.00                   | -32.80 |
| 7236.00                   | 43.01            | Ave         | 86               | 1.1        | H     | 1.33             | 44.34               | 54.00                   | -9.66  |
| 2310.13                   | 45.55            | PK          | 134              | 1.8        | V     | -13.19           | 32.36               | 74.00                   | -41.64 |
| 2310.13                   | 37.99            | Ave         | 134              | 1.8        | V     | -13.19           | 24.80               | 54.00                   | -29.20 |
| 2385.18                   | 42.08            | PK          | 43               | 1.1        | H     | -13.14           | 28.94               | 74.00                   | -45.06 |
| 2385.18                   | 36.71            | Ave         | 43               | 1.1        | H     | -13.14           | 23.57               | 54.00                   | -30.43 |
| 2499.51                   | 44.30            | PK          | 99               | 1.3        | V     | -13.08           | 31.22               | 74.00                   | -42.78 |
| 2499.51                   | 38.71            | Ave         | 99               | 1.3        | V     | -13.08           | 25.63               | 54.00                   | -28.37 |

| Frequency                    | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|------------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                              |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                        | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: Middle Channel 2437MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                       | 34.62            | QP          | 86               | 1.2        | H     | -11.62           | 23.00               | 46.00                   | -23.00 |
| 932.27                       | 54.10            | QP          | 354              | 1.1        | V     | -11.62           | 42.48               | 46.00                   | -3.52  |
| 4874.00                      | 58.77            | PK          | 181              | 1.6        | V     | -0.62            | 58.15               | 74.00                   | -15.85 |
| 4874.00                      | 49.54            | Ave         | 181              | 1.6        | V     | -0.62            | 48.92               | 54.00                   | -5.08  |
| 7311.00                      | 40.02            | PK          | 189              | 1.9        | H     | 2.21             | 42.23               | 74.00                   | -31.77 |
| 7311.00                      | 42.78            | Ave         | 189              | 1.9        | H     | 2.21             | 44.99               | 54.00                   | -9.01  |
| 2347.52                      | 46.20            | PK          | 34               | 1.0        | V     | -13.19           | 33.01               | 74.00                   | -40.99 |
| 2347.52                      | 37.91            | Ave         | 34               | 1.0        | V     | -13.19           | 24.72               | 54.00                   | -29.28 |
| 2388.50                      | 44.91            | PK          | 61               | 1.2        | H     | -13.14           | 31.77               | 74.00                   | -42.23 |
| 2388.50                      | 38.06            | Ave         | 61               | 1.2        | H     | -13.14           | 24.92               | 54.00                   | -29.08 |
| 2494.08                      | 43.88            | PK          | 164              | 1.8        | V     | -13.08           | 30.80               | 74.00                   | -43.20 |
| 2494.08                      | 36.05            | Ave         | 164              | 1.8        | V     | -13.08           | 22.97               | 54.00                   | -31.03 |

| Frequency                  | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|----------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                            |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                      | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: High Channel 2462MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                     | 35.64            | QP          | 246              | 1.4        | H     | -11.62           | 24.02               | 46.00                   | -21.98 |
| 932.27                     | 53.10            | QP          | 206              | 2.0        | V     | -11.62           | 41.48               | 46.00                   | -4.52  |
| 4924.00                    | 60.03            | PK          | 169              | 1.9        | V     | -0.24            | 59.79               | 74.00                   | -14.21 |
| 4924.00                    | 49.87            | Ave         | 169              | 1.9        | V     | -0.24            | 49.63               | 54.00                   | -4.37  |
| 7386.00                    | 39.47            | PK          | 217              | 1.4        | H     | 2.84             | 42.31               | 74.00                   | -31.69 |
| 7386.00                    | 42.60            | Ave         | 217              | 1.4        | H     | 2.84             | 45.44               | 54.00                   | -8.56  |
| 2340.85                    | 46.97            | PK          | 21               | 1.3        | V     | -13.19           | 33.78               | 74.00                   | -40.22 |
| 2340.85                    | 39.72            | Ave         | 21               | 1.3        | V     | -13.19           | 26.53               | 54.00                   | -27.47 |
| 2386.36                    | 44.78            | PK          | 290              | 1.0        | H     | -13.14           | 31.64               | 74.00                   | -42.36 |
| 2386.36                    | 36.04            | Ave         | 290              | 1.0        | H     | -13.14           | 22.90               | 54.00                   | -31.10 |
| 2496.78                    | 44.89            | PK          | 182              | 1.3        | V     | -13.08           | 31.81               | 74.00                   | -42.19 |
| 2496.78                    | 36.21            | Ave         | 182              | 1.3        | V     | -13.08           | 23.13               | 54.00                   | -30.87 |

## ANT1

| Frequency                | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|--------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                          |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                    | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| CCK: Low Channel 2412MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                   | 35.18            | QP          | 42               | 1.6        | H     | -11.62           | 23.56               | 46.00                   | -22.44 |
| 932.27                   | 53.59            | QP          | 280              | 1.1        | V     | -11.62           | 41.97               | 46.00                   | -4.03  |
| 4824.00                  | 52.83            | PK          | 200              | 1.1        | V     | -1.06            | 51.77               | 74.00                   | -22.23 |
| 4824.00                  | 51.25            | Ave         | 200              | 1.1        | V     | -1.06            | 50.19               | 54.00                   | -3.81  |
| 7236.00                  | 41.08            | PK          | 34               | 1.5        | H     | 1.33             | 42.41               | 74.00                   | -31.59 |
| 7236.00                  | 41.96            | Ave         | 34               | 1.5        | H     | 1.33             | 43.29               | 54.00                   | -10.71 |
| 2329.02                  | 45.29            | PK          | 69               | 1.5        | V     | -13.19           | 32.10               | 74.00                   | -41.90 |
| 2329.02                  | 38.90            | Ave         | 69               | 1.5        | V     | -13.19           | 25.71               | 54.00                   | -28.29 |
| 2367.82                  | 44.12            | PK          | 75               | 1.7        | H     | -13.14           | 30.98               | 74.00                   | -43.02 |
| 2367.82                  | 37.46            | Ave         | 75               | 1.7        | H     | -13.14           | 24.32               | 54.00                   | -29.68 |
| 2493.78                  | 42.54            | PK          | 94               | 1.4        | V     | -13.08           | 29.46               | 74.00                   | -44.54 |
| 2493.78                  | 38.55            | Ave         | 94               | 1.4        | V     | -13.08           | 25.47               | 54.00                   | -28.53 |

| Frequency                   | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|-----------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                             |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                       | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| CCK: Middle Channel 2437MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                      | 36.14            | QP          | 79               | 1.4        | H     | -11.62           | 24.52               | 46.00                   | -21.48 |
| 932.27                      | 52.10            | QP          | 60               | 1.5        | V     | -11.62           | 40.48               | 46.00                   | -5.52  |
| 4874.00                     | 51.71            | PK          | 16               | 1.6        | V     | -0.62            | 51.09               | 74.00                   | -22.91 |
| 4874.00                     | 50.57            | Ave         | 16               | 1.6        | V     | -0.62            | 49.95               | 54.00                   | -4.05  |
| 7311.00                     | 42.11            | PK          | 159              | 1.5        | H     | 2.21             | 44.32               | 74.00                   | -29.68 |
| 7311.00                     | 41.97            | Ave         | 159              | 1.5        | H     | 2.21             | 44.18               | 54.00                   | -9.82  |
| 2347.84                     | 46.41            | PK          | 117              | 1.8        | V     | -13.19           | 33.22               | 74.00                   | -40.78 |
| 2347.84                     | 38.00            | Ave         | 117              | 1.8        | V     | -13.19           | 24.81               | 54.00                   | -29.19 |
| 2377.71                     | 43.38            | PK          | 195              | 1.5        | H     | -13.14           | 30.24               | 74.00                   | -43.76 |
| 2377.71                     | 37.43            | Ave         | 195              | 1.5        | H     | -13.14           | 24.29               | 54.00                   | -29.71 |
| 2486.40                     | 42.08            | PK          | 97               | 2.0        | V     | -13.08           | 29.00               | 74.00                   | -45.00 |
| 2486.40                     | 37.80            | Ave         | 97               | 2.0        | V     | -13.08           | 24.72               | 54.00                   | -29.28 |

| Frequency                 | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|---------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                           |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                     | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| 11b: High Channel 2462MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                    | 34.94            | QP          | 192              | 1.9        | H     | -11.62           | 23.32               | 46.00                   | -22.68 |
| 932.27                    | 52.65            | QP          | 326              | 1.1        | V     | -11.62           | 41.03               | 46.00                   | -4.97  |
| 4924.00                   | 52.05            | PK          | 91               | 1.5        | V     | -0.24            | 51.81               | 74.00                   | -22.19 |
| 4924.00                   | 50.78            | Ave         | 91               | 1.5        | V     | -0.24            | <b>50.54</b>        | 54.00                   | -3.46  |
| 7386.00                   | 42.45            | PK          | 79               | 1.1        | H     | 2.84             | 45.29               | 74.00                   | -28.71 |
| 7386.00                   | 42.67            | Ave         | 79               | 1.1        | H     | 2.84             | 45.51               | 54.00                   | -8.49  |
| 2328.34                   | 46.91            | PK          | 50               | 1.7        | V     | -13.19           | 33.72               | 74.00                   | -40.28 |
| 2328.34                   | 39.49            | Ave         | 50               | 1.7        | V     | -13.19           | 26.30               | 54.00                   | -27.70 |
| 2370.71                   | 44.22            | PK          | 135              | 1.0        | H     | -13.14           | 31.08               | 74.00                   | -42.92 |
| 2370.71                   | 37.37            | Ave         | 135              | 1.0        | H     | -13.14           | 24.23               | 54.00                   | -29.77 |
| 2487.45                   | 42.99            | PK          | 214              | 1.3        | V     | -13.08           | 29.91               | 74.00                   | -44.09 |
| 2487.45                   | 36.29            | Ave         | 214              | 1.3        | V     | -13.08           | 23.21               | 54.00                   | -30.79 |

| Frequency                 | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|---------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                           |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                     | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: Low Channel 2412MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                    | 34.49            | QP          | 143              | 1.9        | H     | -11.62           | 22.87               | 46.00                   | -23.13 |
| 932.27                    | 52.92            | QP          | 280              | 1.6        | V     | -11.62           | 41.30               | 46.00                   | -4.70  |
| 4824.00                   | 52.06            | PK          | 336              | 1.5        | V     | -1.06            | 51.00               | 74.00                   | -23.00 |
| 4824.00                   | 50.61            | Ave         | 336              | 1.5        | V     | -1.06            | 49.55               | 54.00                   | -4.45  |
| 7236.00                   | 41.47            | PK          | 104              | 1.9        | H     | 1.33             | 42.80               | 74.00                   | -31.20 |
| 7236.00                   | 42.92            | Ave         | 104              | 1.9        | H     | 1.33             | 44.25               | 54.00                   | -9.75  |
| 2321.15                   | 45.58            | PK          | 175              | 1.1        | V     | -13.19           | 32.39               | 74.00                   | -41.61 |
| 2321.15                   | 37.21            | Ave         | 175              | 1.1        | V     | -13.19           | 24.02               | 54.00                   | -29.98 |
| 2375.61                   | 42.63            | PK          | 134              | 1.1        | H     | -13.14           | 29.49               | 74.00                   | -44.51 |
| 2375.61                   | 37.05            | Ave         | 134              | 1.1        | H     | -13.14           | 23.91               | 54.00                   | -30.09 |
| 2486.10                   | 44.81            | PK          | 212              | 1.4        | V     | -13.08           | 31.73               | 74.00                   | -42.27 |
| 2486.10                   | 38.68            | Ave         | 212              | 1.4        | V     | -13.08           | 25.60               | 54.00                   | -28.40 |

| Frequency                    | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|------------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                              |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                        | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: Middle Channel 2437MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                       | 34.03            | QP          | 113              | 1.7        | H     | -11.62           | 22.41               | 46.00                   | -23.59 |
| 932.27                       | 51.41            | QP          | 89               | 1.0        | V     | -11.62           | 39.79               | 46.00                   | -6.21  |
| 4874.00                      | 51.29            | PK          | 355              | 1.8        | V     | -0.62            | 50.67               | 74.00                   | -23.33 |
| 4874.00                      | 49.93            | Ave         | 355              | 1.8        | V     | -0.62            | 49.31               | 54.00                   | -4.69  |
| 7311.00                      | 41.53            | PK          | 228              | 1.9        | H     | 2.21             | 43.74               | 74.00                   | -30.26 |
| 7311.00                      | 44.39            | Ave         | 228              | 1.9        | H     | 2.21             | 46.60               | 54.00                   | -7.40  |
| 2334.09                      | 46.09            | PK          | 334              | 1.4        | V     | -13.19           | 32.90               | 74.00                   | -41.10 |
| 2334.09                      | 38.65            | Ave         | 334              | 1.4        | V     | -13.19           | 25.46               | 54.00                   | -28.54 |
| 2357.12                      | 42.11            | PK          | 47               | 1.0        | H     | -13.14           | 28.97               | 74.00                   | -45.03 |
| 2357.12                      | 36.64            | Ave         | 47               | 1.0        | H     | -13.14           | 23.50               | 54.00                   | -30.50 |
| 2498.90                      | 44.27            | PK          | 200              | 1.9        | V     | -13.08           | 31.19               | 74.00                   | -42.81 |
| 2498.90                      | 37.77            | Ave         | 200              | 1.9        | V     | -13.08           | 24.69               | 54.00                   | -29.31 |

| Frequency                  | Receiver Reading | Detector    | Turn table Angle | RX Antenna |       | Corrected Factor | Corrected Amplitude | FCC Part 15.247/209/205 |        |
|----------------------------|------------------|-------------|------------------|------------|-------|------------------|---------------------|-------------------------|--------|
|                            |                  |             |                  | Height     | Polar |                  |                     | Limit                   | Margin |
| (MHz)                      | (dBμV)           | (PK/QP/Ave) | Degree           | (m)        | (H/V) | (dB)             | (dBμV/m)            | (dBμV/m)                | (dB)   |
| OFDM: High Channel 2462MHz |                  |             |                  |            |       |                  |                     |                         |        |
| 932.27                     | 35.42            | QP          | 301              | 1.5        | H     | -11.62           | 23.80               | 46.00                   | -22.20 |
| 932.27                     | 53.20            | QP          | 262              | 1.7        | V     | -11.62           | 41.58               | 46.00                   | -4.42  |
| 4924.00                    | 50.95            | PK          | 172              | 1.8        | V     | -0.24            | 50.71               | 74.00                   | -23.29 |
| 4924.00                    | 49.52            | Ave         | 172              | 1.8        | V     | -0.24            | 49.28               | 54.00                   | -4.72  |
| 7386.00                    | 40.19            | PK          | 293              | 1.1        | H     | 2.84             | 43.03               | 74.00                   | -30.97 |
| 7386.00                    | 44.28            | Ave         | 293              | 1.1        | H     | 2.84             | 47.12               | 54.00                   | -6.88  |
| 2319.36                    | 46.10            | PK          | 163              | 1.1        | V     | -13.19           | 32.91               | 74.00                   | -41.09 |
| 2319.36                    | 39.90            | Ave         | 163              | 1.1        | V     | -13.19           | 26.71               | 54.00                   | -27.29 |
| 2369.25                    | 43.89            | PK          | 124              | 1.9        | H     | -13.14           | 30.75               | 74.00                   | -43.25 |
| 2369.25                    | 37.37            | Ave         | 124              | 1.9        | H     | -13.14           | 24.23               | 54.00                   | -29.77 |
| 2484.42                    | 42.00            | PK          | 263              | 1.4        | V     | -13.08           | 28.92               | 74.00                   | -45.08 |
| 2484.42                    | 36.30            | Ave         | 263              | 1.4        | V     | -13.08           | 23.22               | 54.00                   | -30.78 |

**Test Frequency: 8GHz~25GHz**

The measurements were more than 20 dB below the limit and not reported.

8 Duty cycle

| Ant.   | Type of Modulation | On time ms | Period ms | Duty Cycle linear | Duty Cycle % | Duty Cycle Factor(dB) | Average Factor(dB) |
|--------|--------------------|------------|-----------|-------------------|--------------|-----------------------|--------------------|
| Ant. 0 | CCK                | 0.312      | 0.640     | 0.49              | 48.75        | 3.12                  | -6.24              |
| Ant. 1 | CCK                | 0.312      | 0.630     | 0.50              | 49.52        | 3.05                  | -6.10              |
| Ant. 0 | OFDM               | 0.216      | 0.484     | 0.45              | 44.63        | 3.50                  | -7.01              |
| Ant. 1 | OFDM               | 0.220      | 0.484     | 0.45              | 45.45        | 3.42                  | -6.85              |

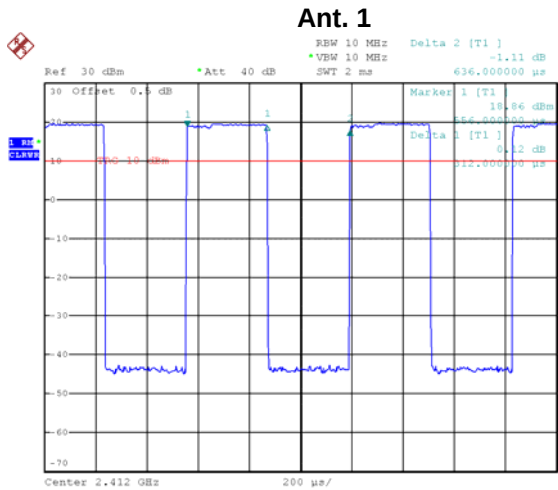
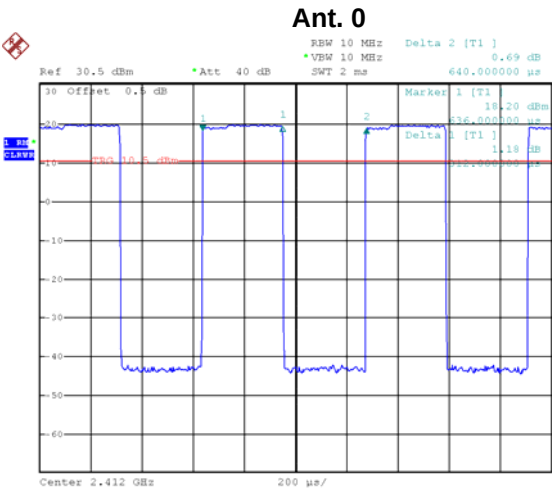
Remark:

Duty cycle=On Time/period;

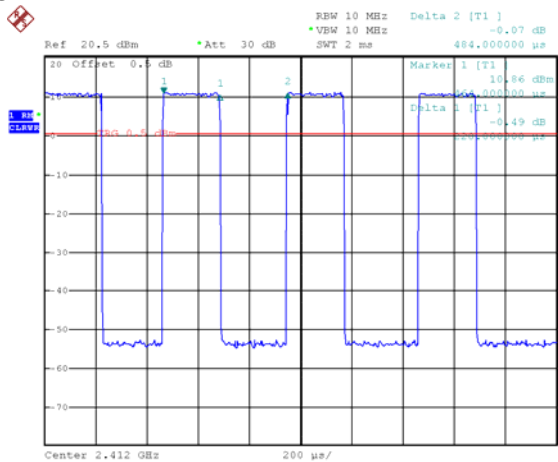
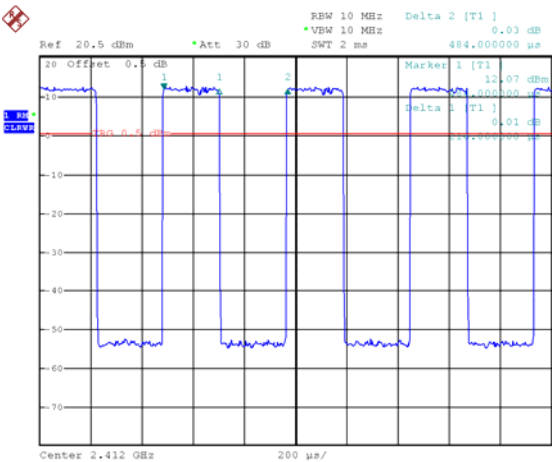
Duty cycle factor=10\*log(1/Duty cycle);

Average factor=20log<sub>10</sub>Duty cycle

CCK



OFDM



## 9 Conducted Spurious Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019  
ANSI C63.10:2013

Test Result: PASS

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 9.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
  - a) Set instrument center frequency to DTS channel center frequency.
  - b) Set the span to ~ 1.5 times the DTS bandwidth.
  - c) Set the RBW = 100 kHz.
  - d) Set the VBW \_  $[3 \times \text{RBW}]$ .
  - e) Detector = peak.
  - f) Sweep time = auto couple.
  - g) Trace mode = max hold.
  - h) Allow trace to fully stabilize.
  - i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

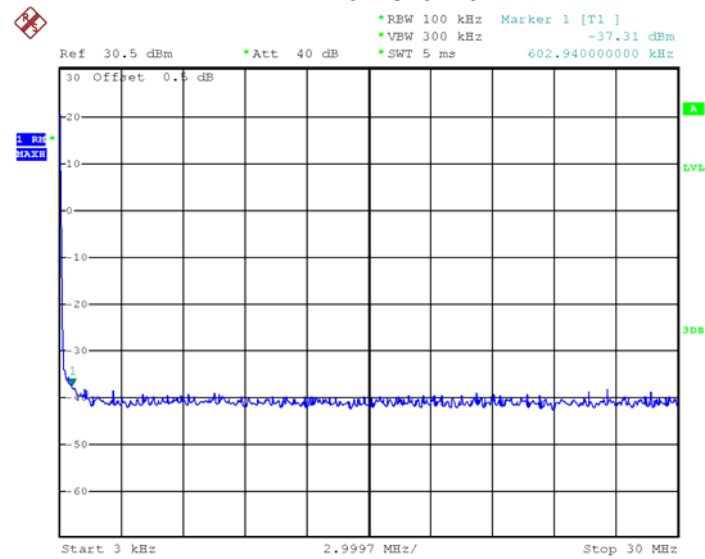
9.2 Test Result

Antenna 0

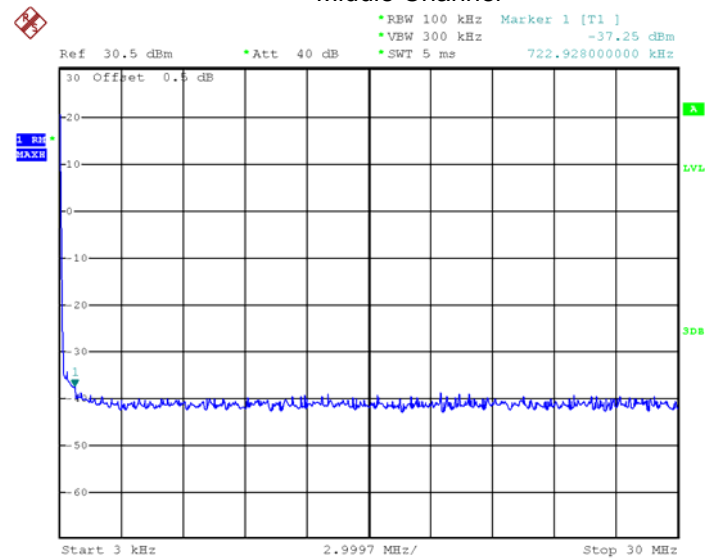
9KHz – 30MHz

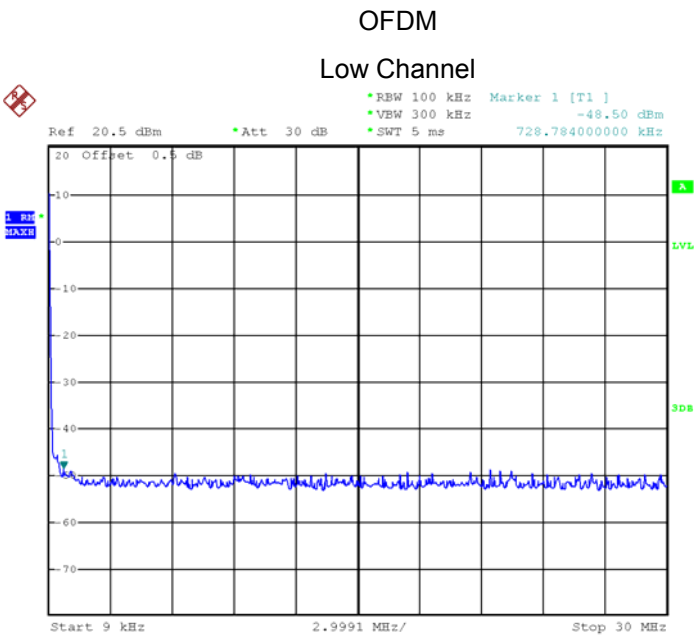
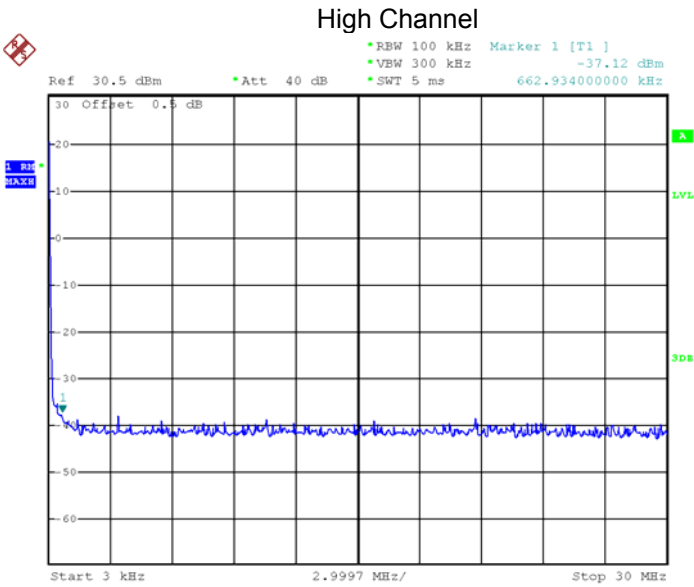
CCK

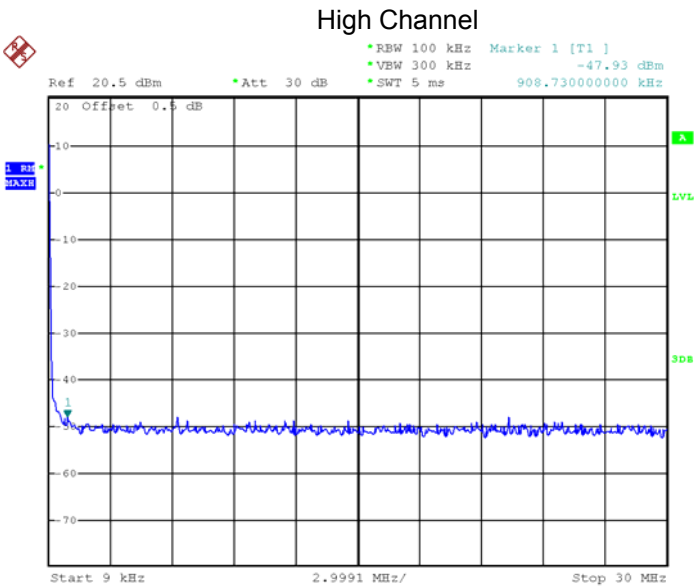
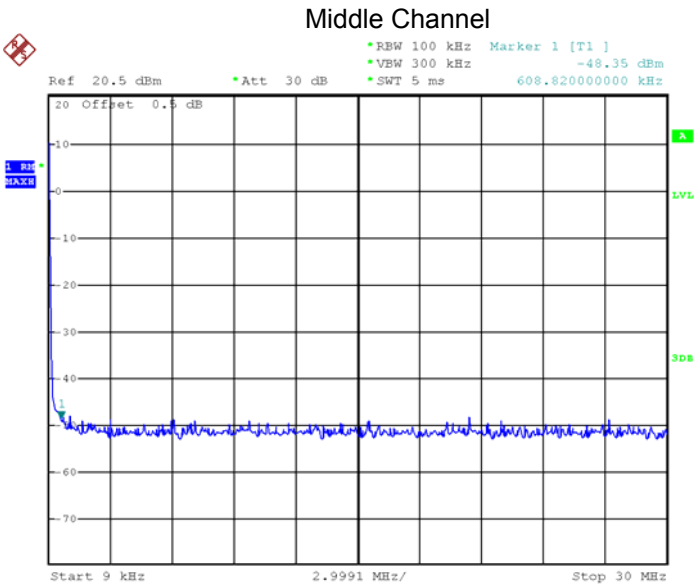
Low Channel



Middle Channel





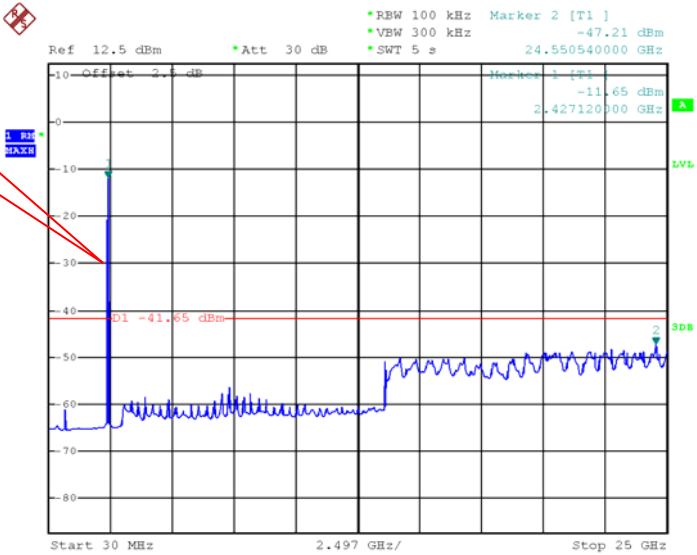


Above 30MHz

CCK

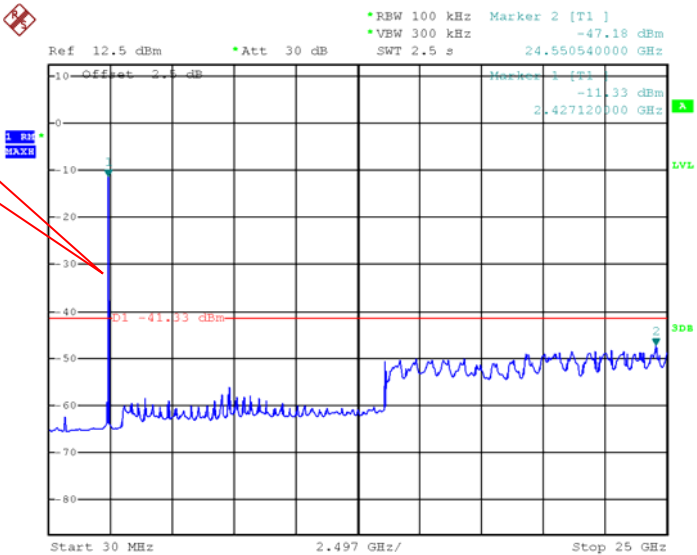
Low Channel

Fundamental



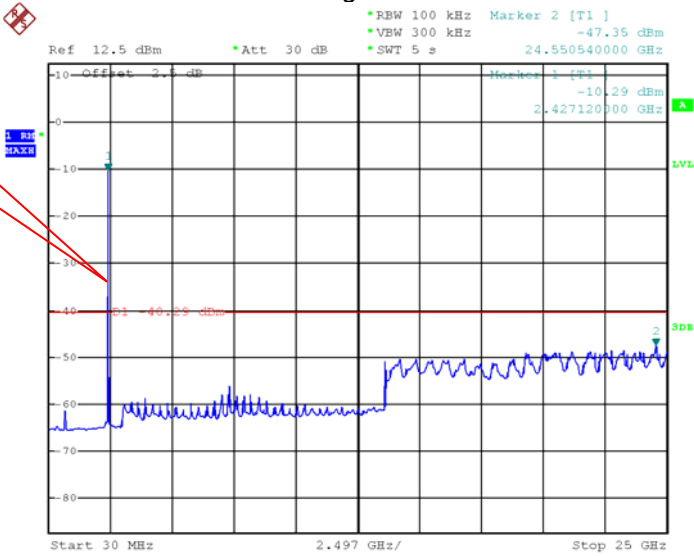
Middle Channel

Fundamental



High Channel

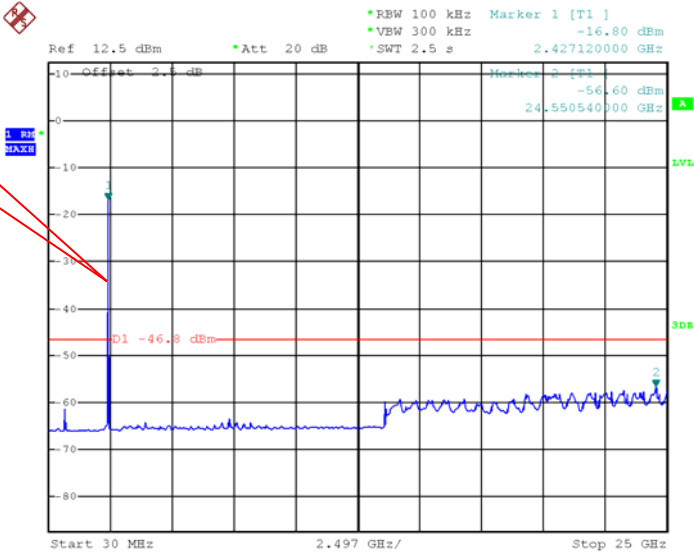
Fundamental

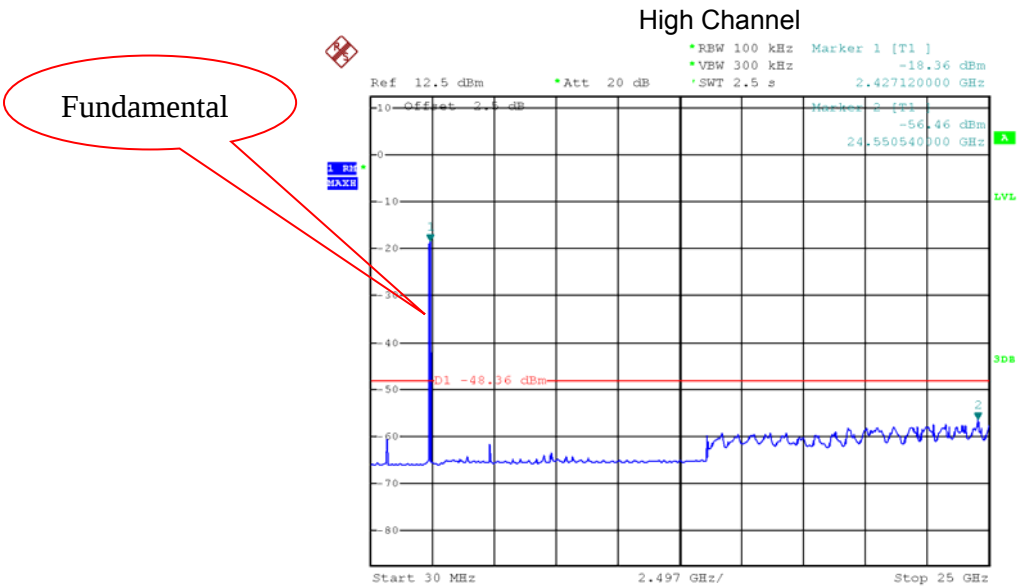
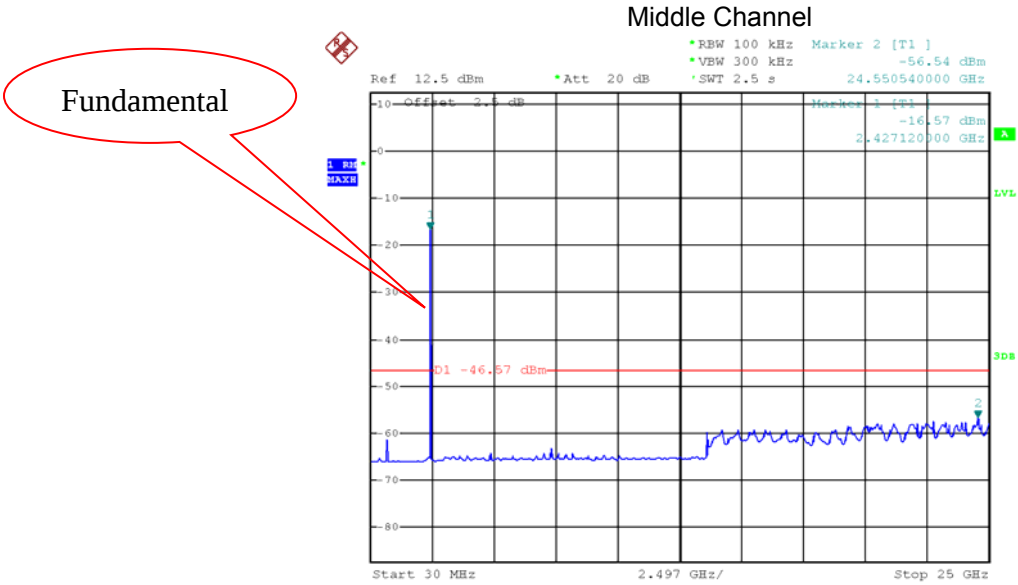


OFDM

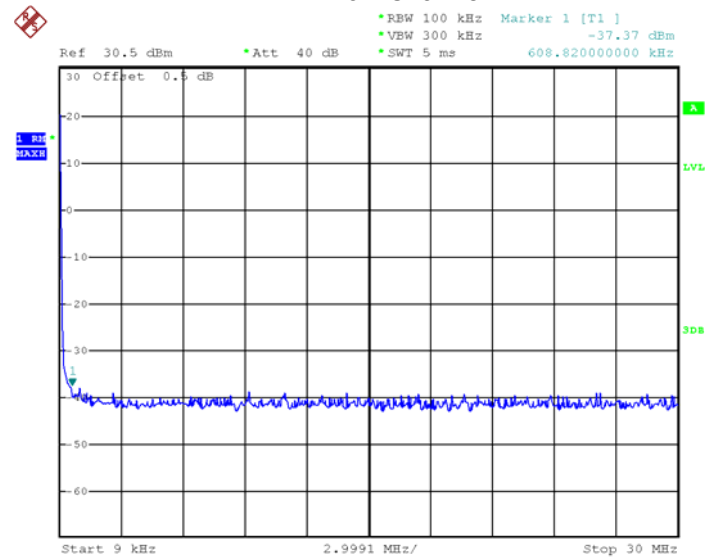
Low Channel

Fundamental

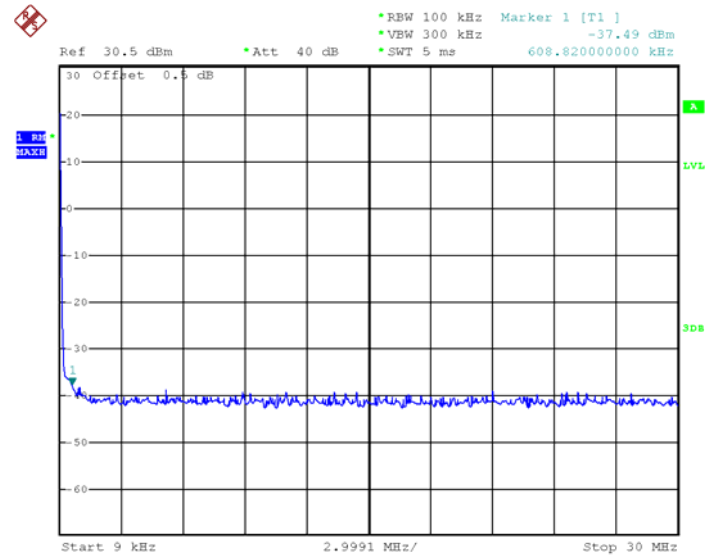


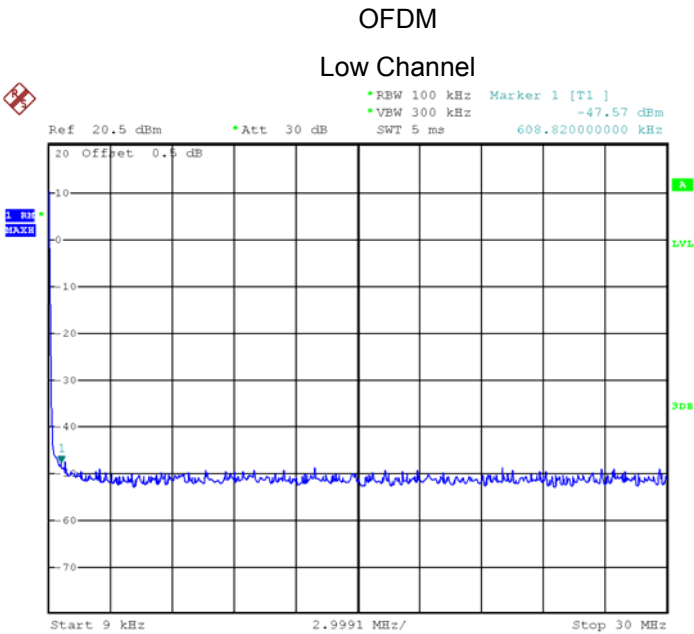
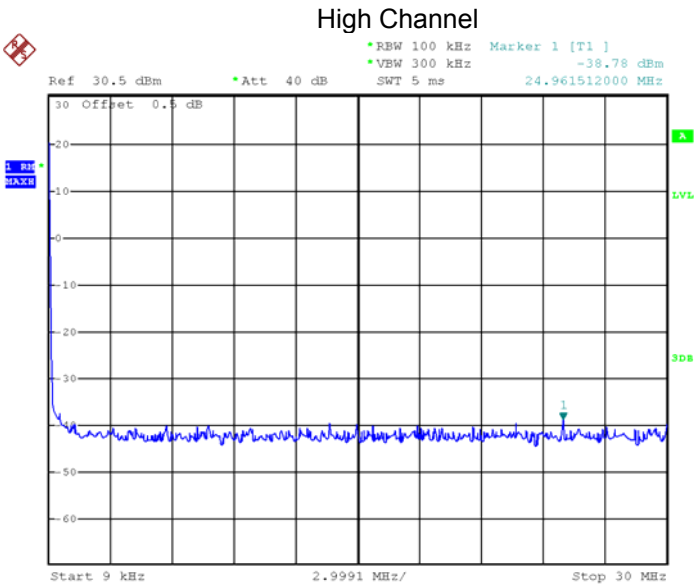


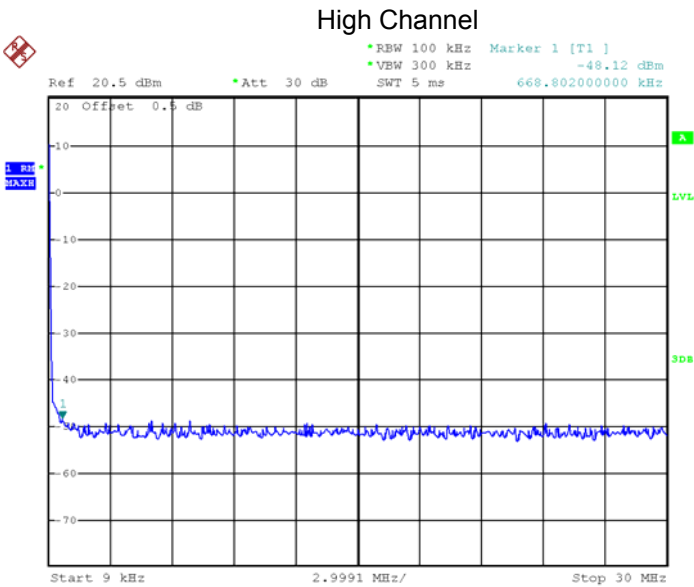
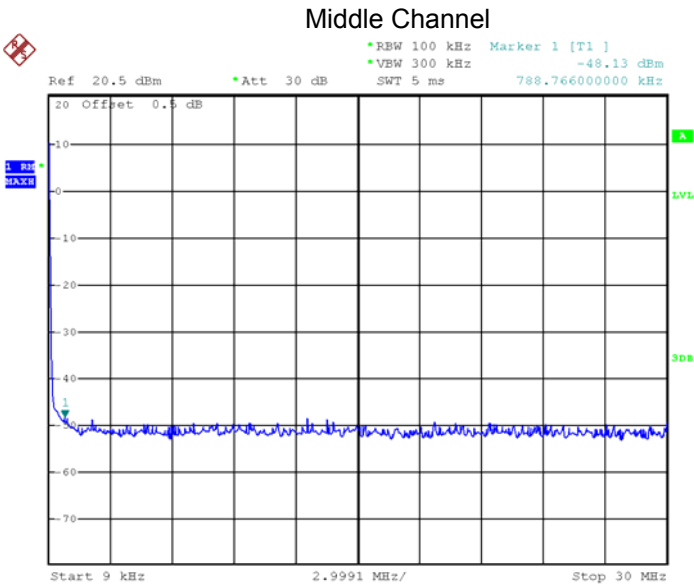
Antenna 1  
9KHz – 30MHz  
CCK  
Low Channel



Middle Channel





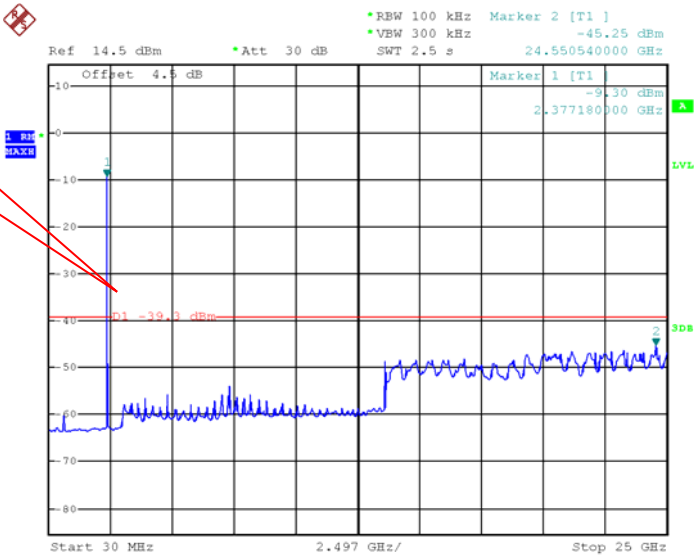


Above 30MHz

CCK

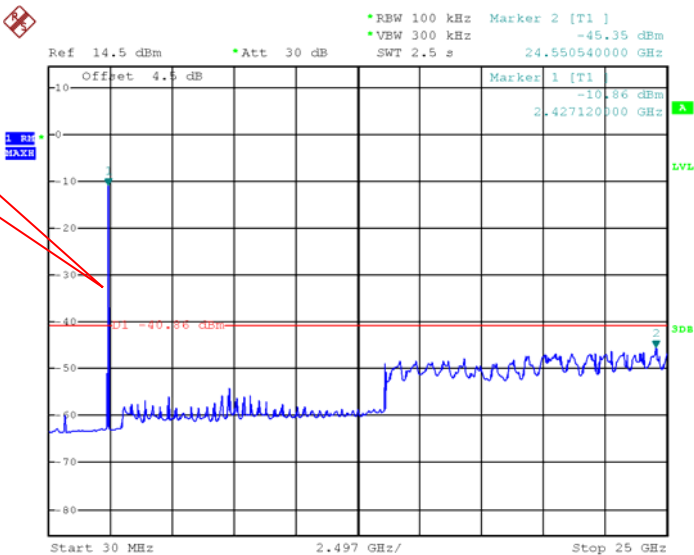
Low Channel

Fundamental

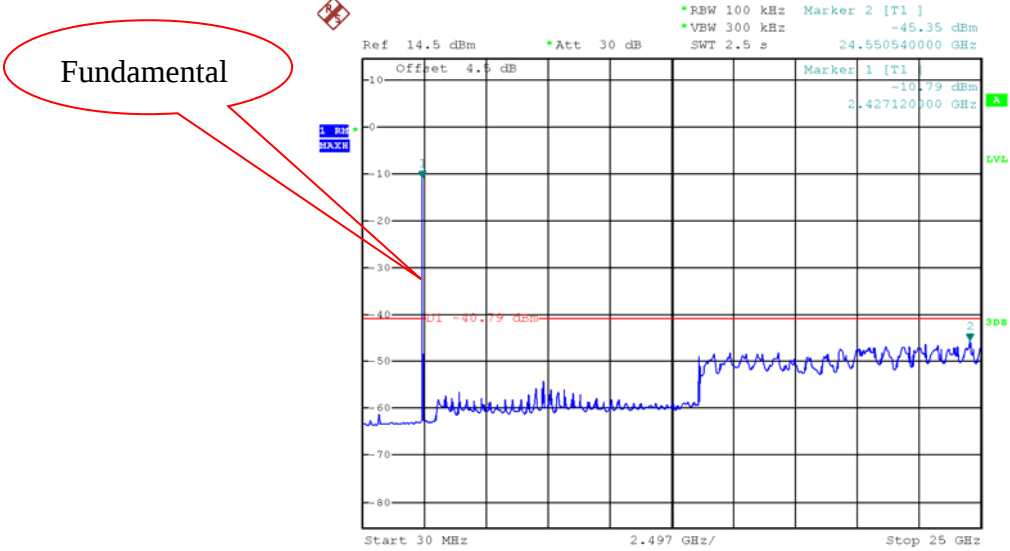


Middle Channel

Fundamental

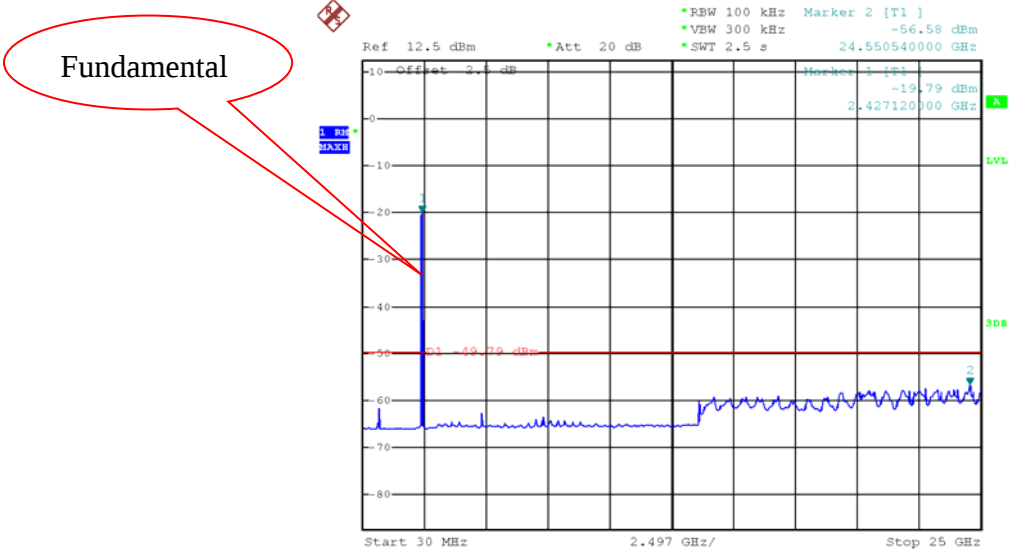


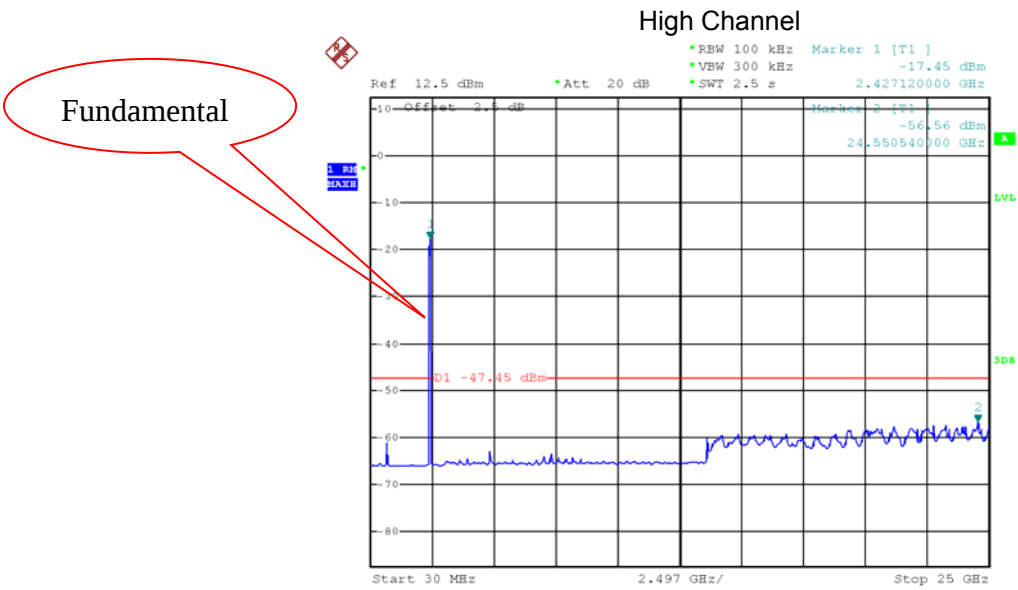
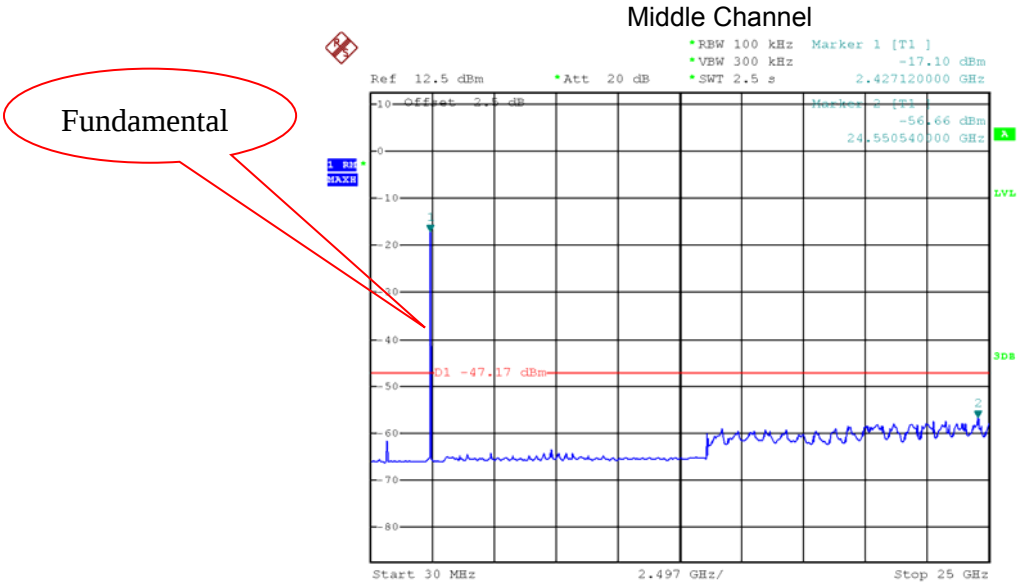
High Channel



OFDM

Low Channel





## 10 Band Edge Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019  
ANSI C63.10:2013

Test Limit: Regulation 15.247(d), in any 100 kHz bandwidth outside the frequency band which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Mode: Transmitting

### 10.1 Test Produce

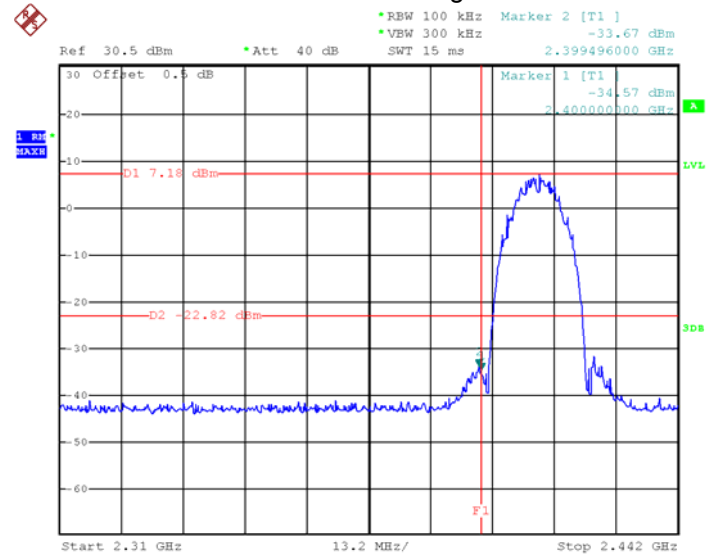
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

10.2 Test Result

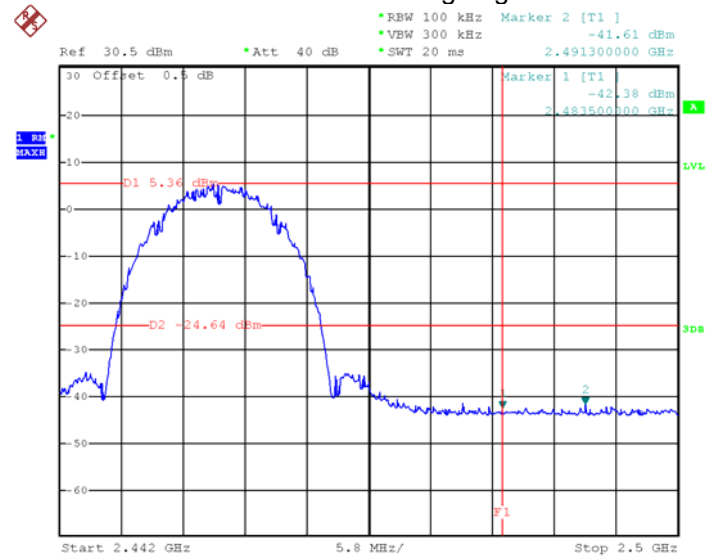
Test result plots shown as follows:

Antenna 0

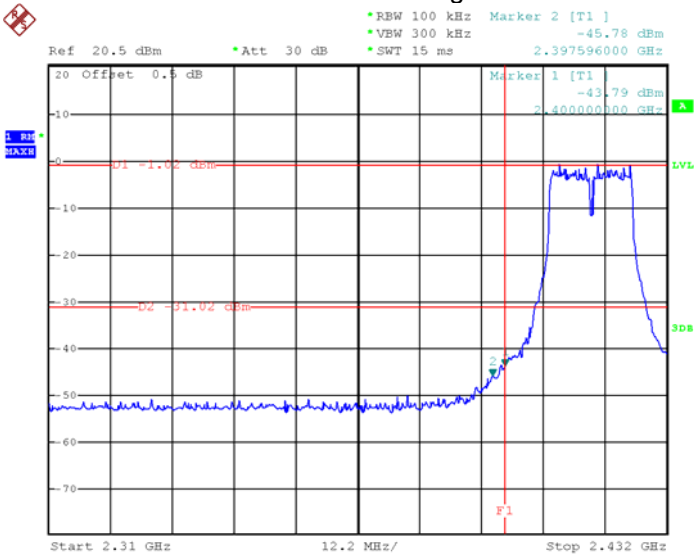
TX CCK: Band edge-left side



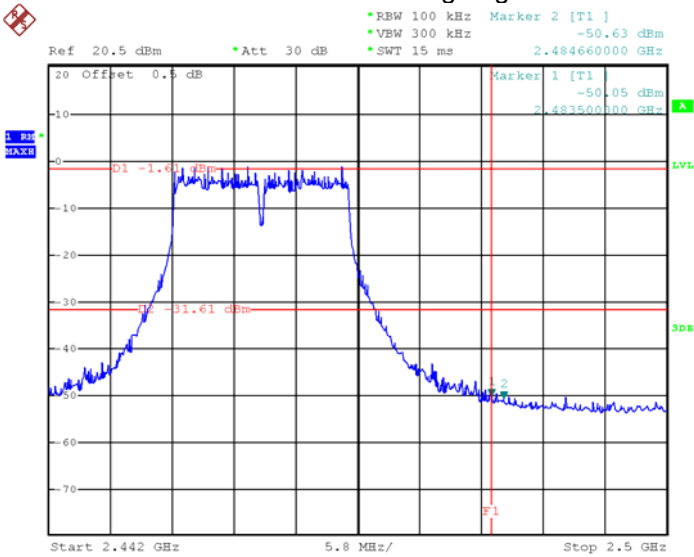
TX CCK: Band edge-right side



TX OFDM: Band edge-left side

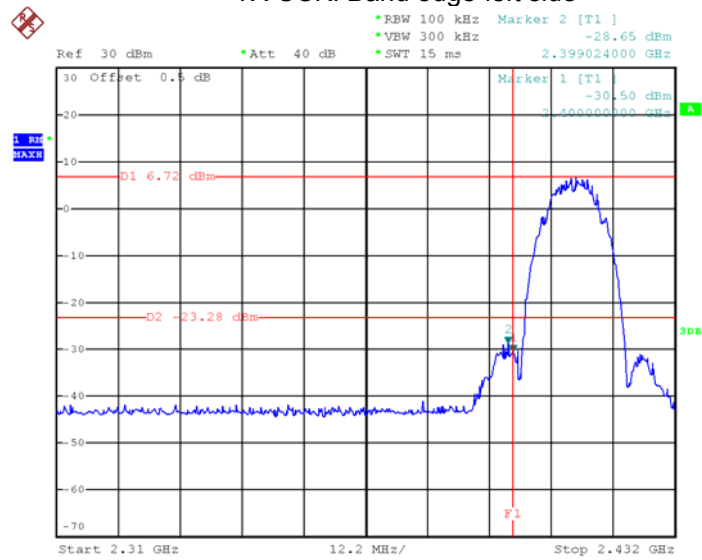


TX OFDM: Band edge-right side

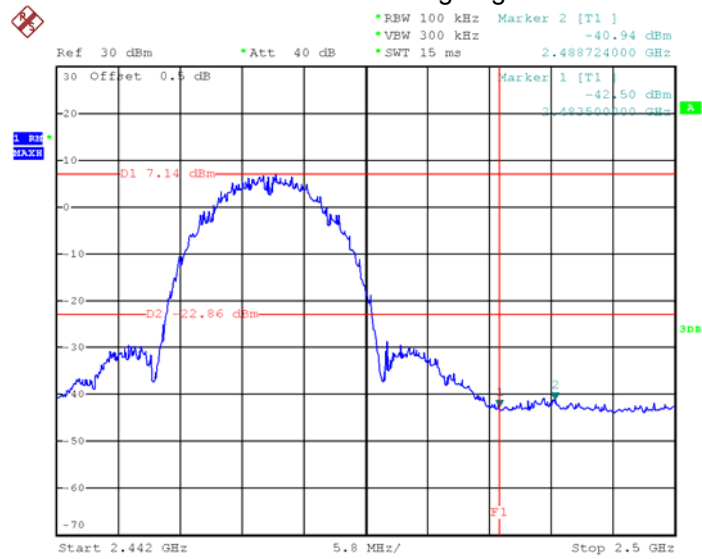


Antenna 1

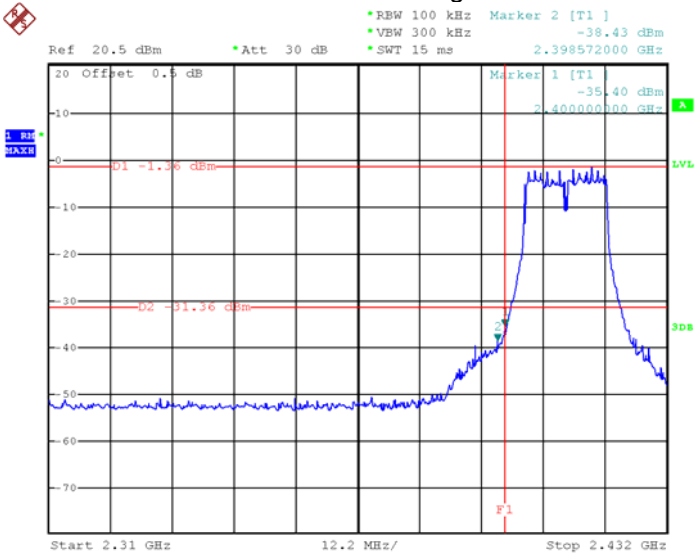
TX CCK: Band edge-left side



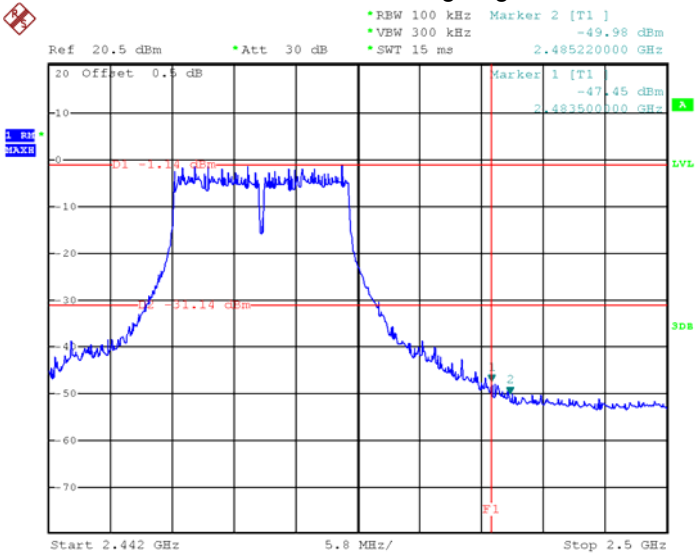
TX CCK: Band edge-right side



TX OFDM: Band edge-left side



TX OFDM: Band edge-right side



## 11 6 dB Bandwidth and 99% Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019

ANSI C63.10:2013

### 11.1 Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

### 11.2 Test Result:

Antenna 0

| Operation mode | Test Channel | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|----------------|--------------|---------------------|---------------------|
| TX CCK         | Channel 1    | 9.476               | 14.240              |
|                | Channel 6    | 9.888               | 14.208              |
|                | Channel 11   | 9.792               | 14.176              |
| TX OFDM        | Channel 1    | 16.060              | 17.248              |
|                | Channel 6    | 16.412              | 17.204              |
|                | Channel 11   | 16.280              | 17.248              |

Antenna 1

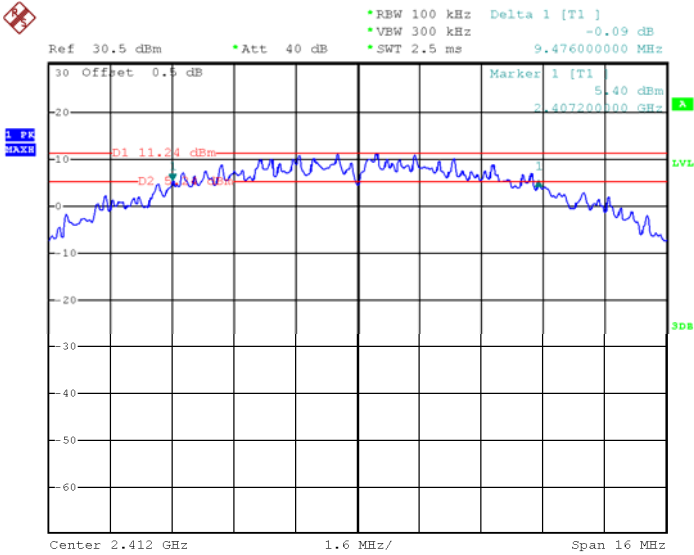
| Operation mode | Test Channel | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|----------------|--------------|---------------------|---------------------|
| TX CCK         | Channel 1    | 9.984               | 14.272              |
|                | Channel 6    | 9.856               | 14.208              |
|                | Channel 11   | 9.824               | 14.176              |
| TX OFDM        | Channel 1    | 16.192              | 17.500              |
|                | Channel 6    | 16.300              | 17.500              |
|                | Channel 11   | 16.000              | 17.500              |

Test result plot:

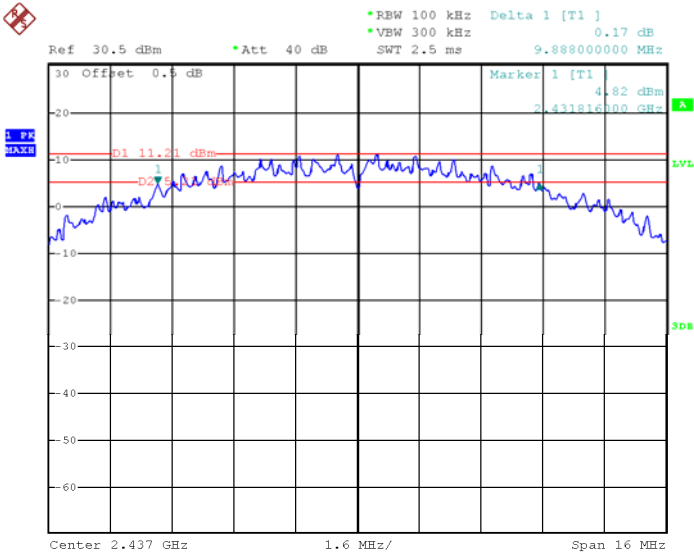
6dB Bandwidth

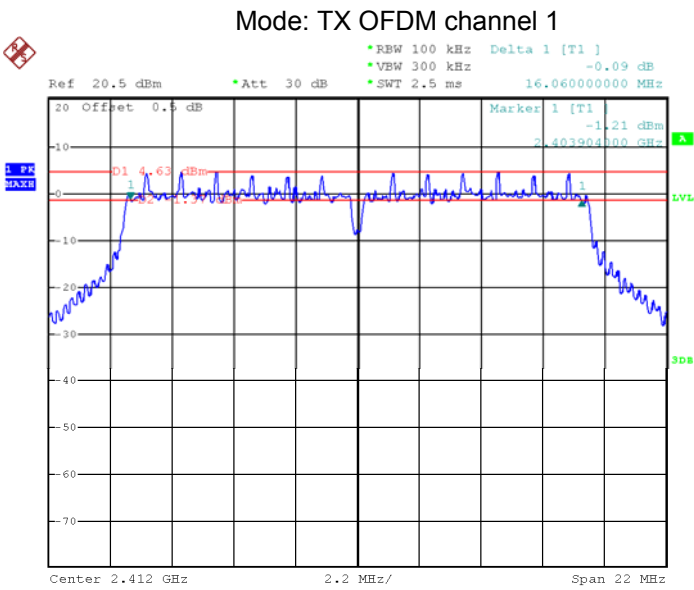
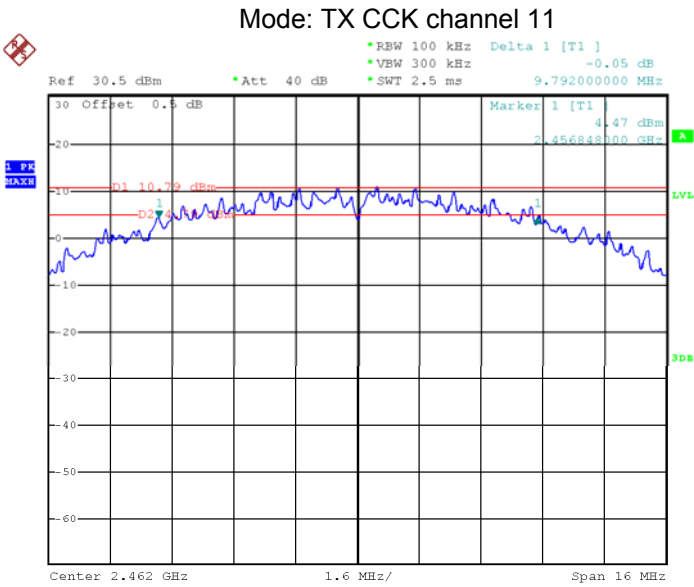
Antenna 0

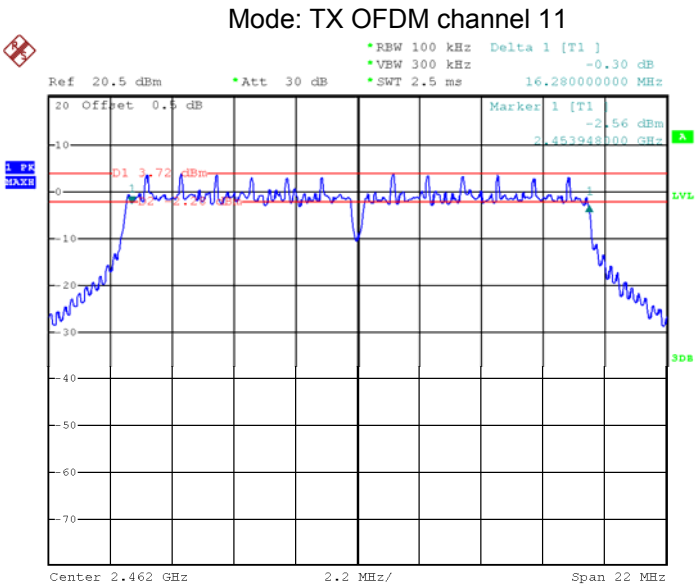
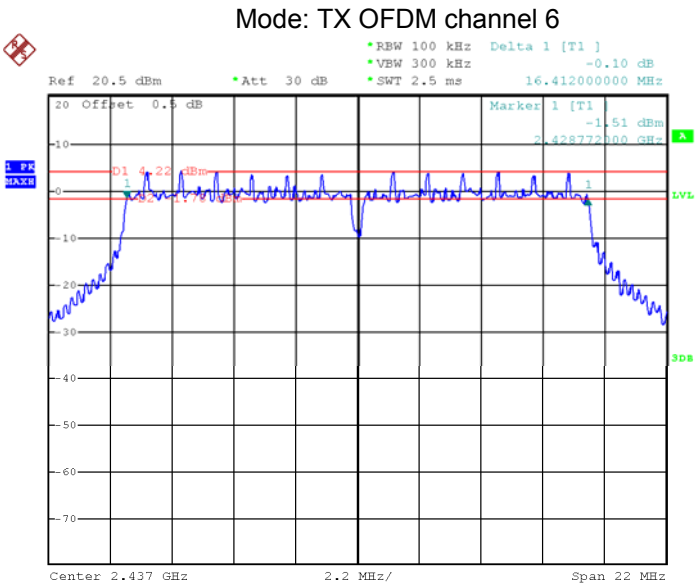
Mode: TX CCK channel 1



Mode: TX CCK channel 6

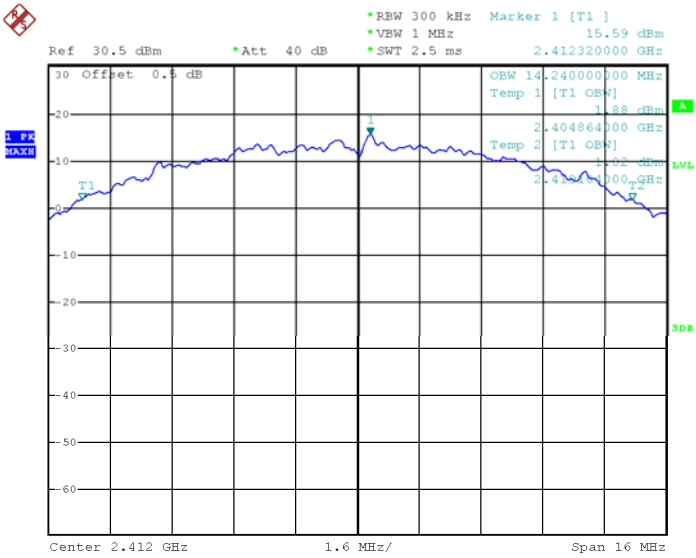




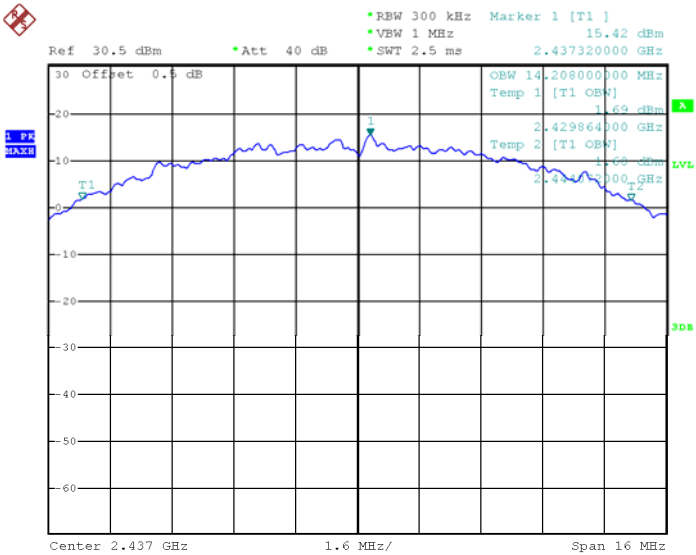


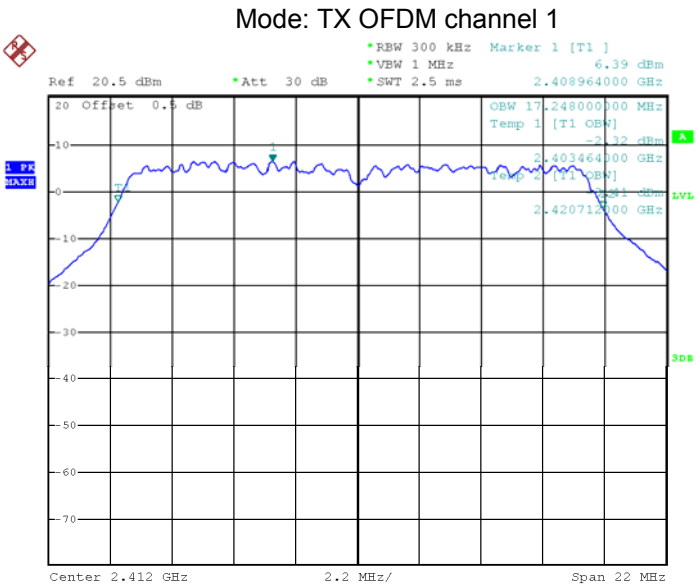
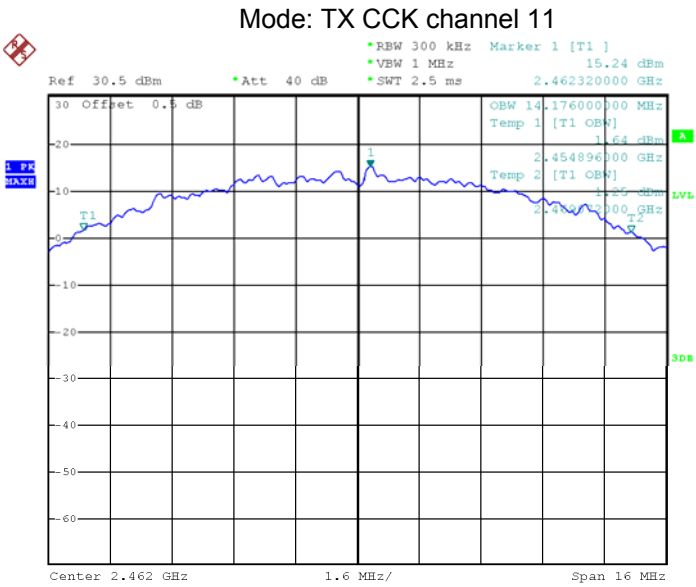
99% Bandwidth

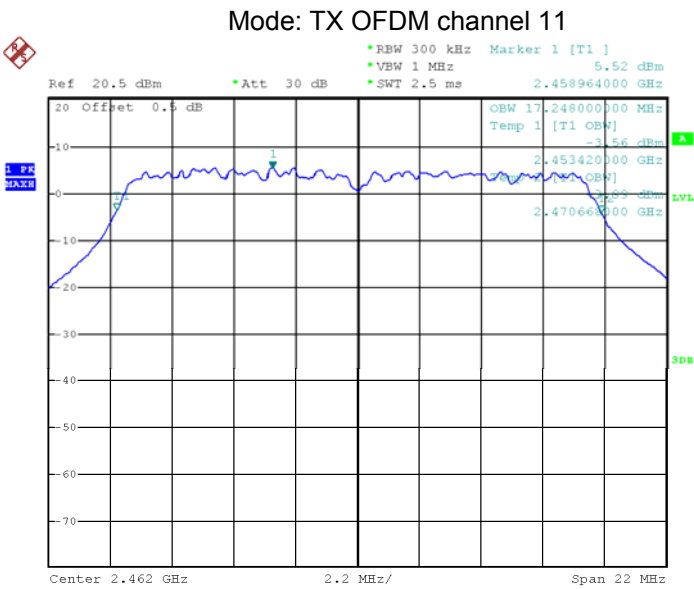
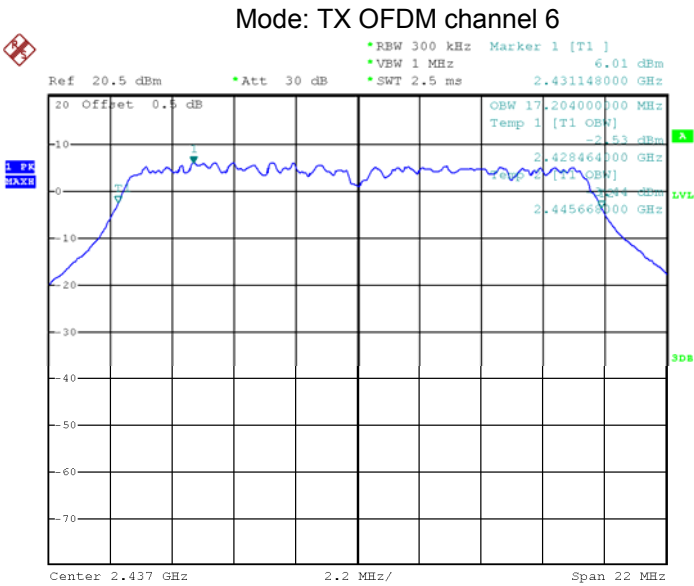
Mode: TX CCK channel 1



Mode: TX CCK channel 6



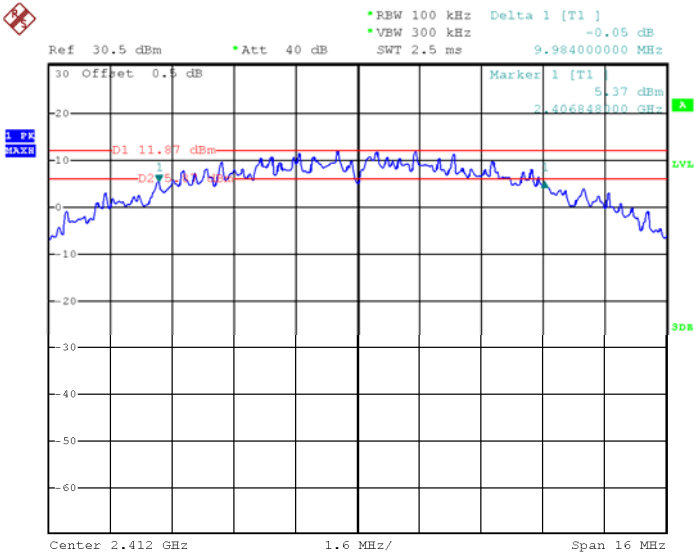




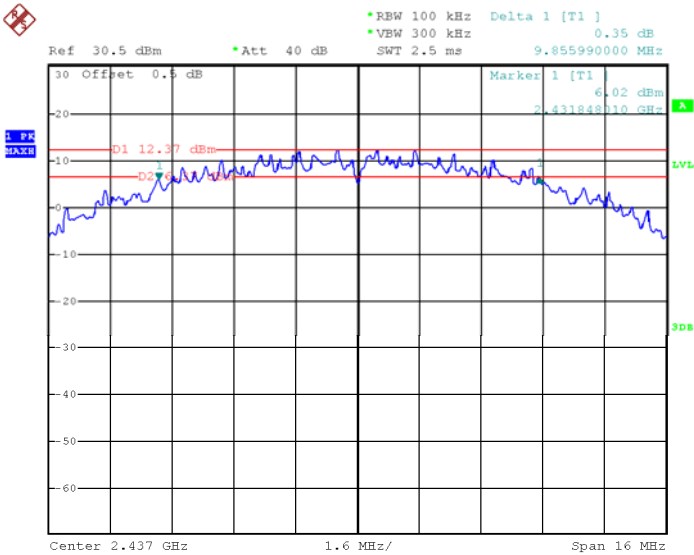
6dB Bandwidth

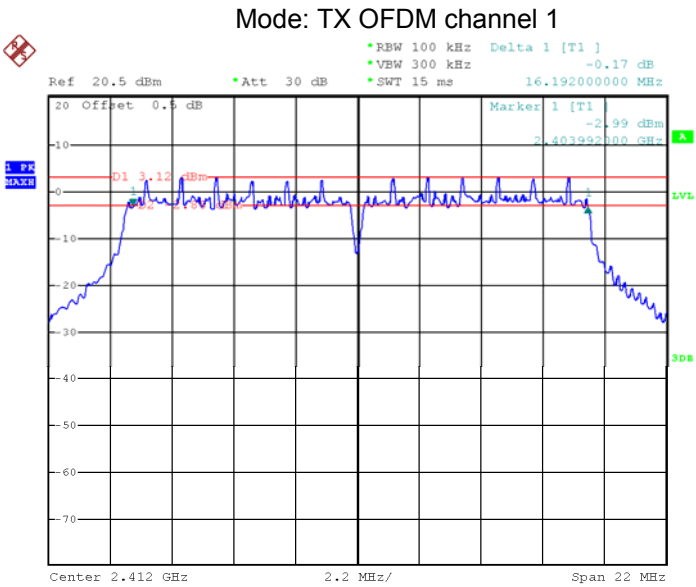
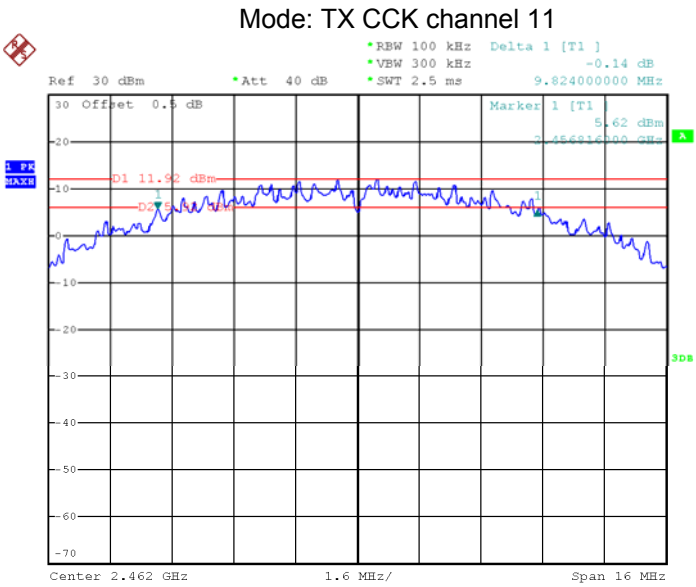
Antenna 1

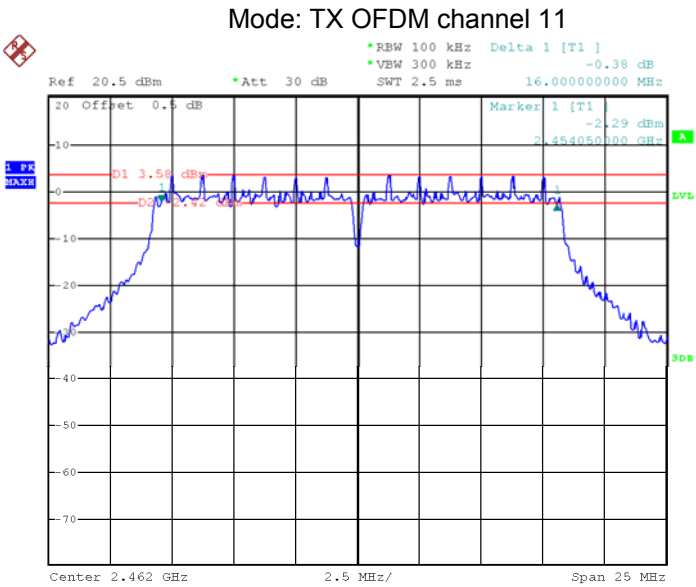
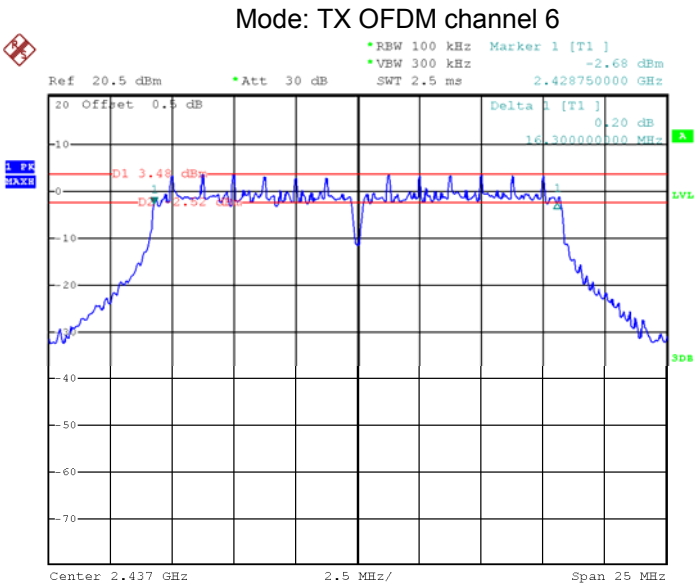
Mode: TX CCK channel 1



Mode: TX CCK channel 6

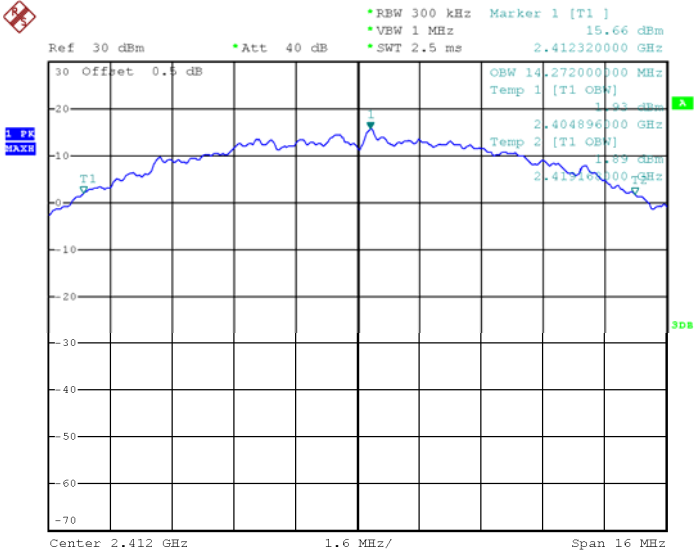




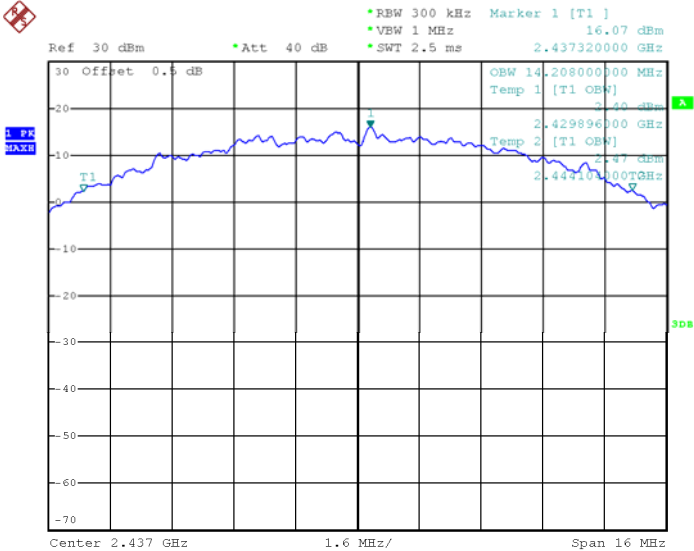


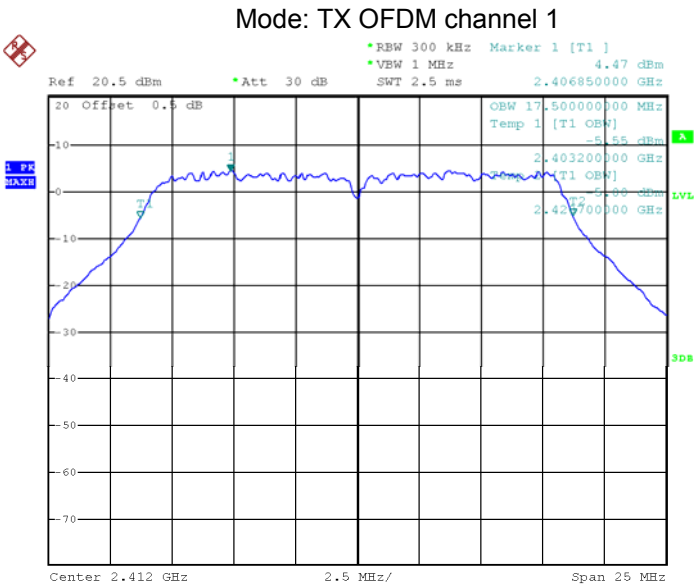
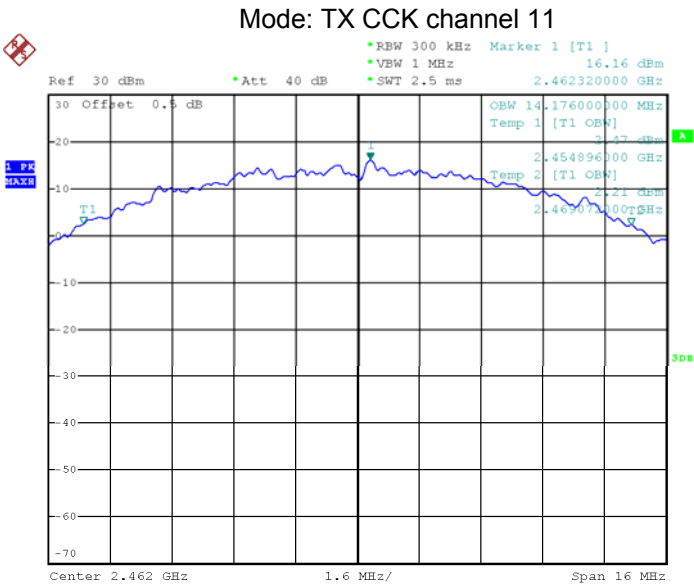
99% Bandwidth

Mode: TX CCK channel 1

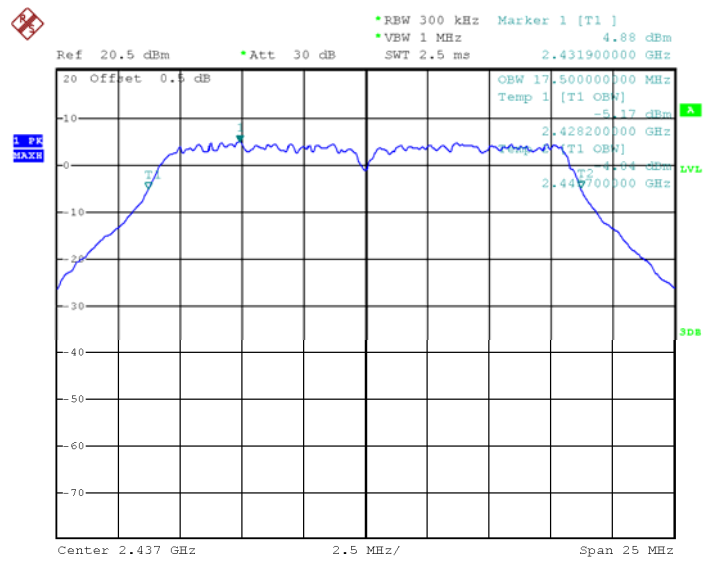


Mode: TX CCK channel 6

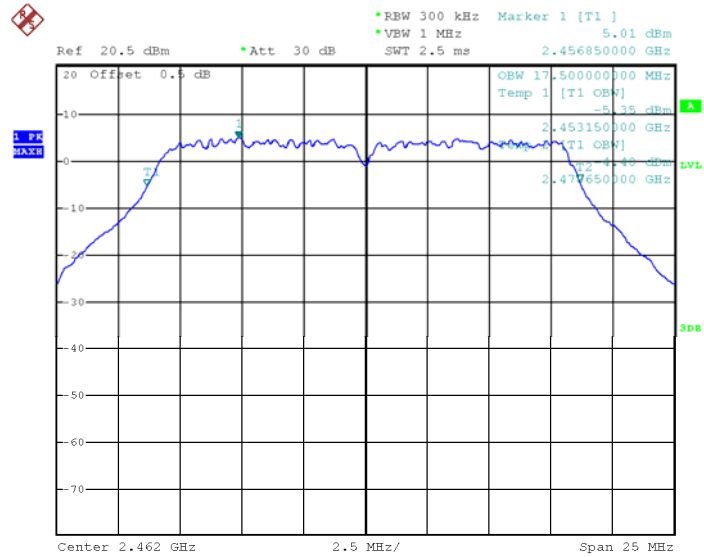




Mode: TX OFDM channel 6



Mode: TX OFDM channel 11



## 12 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019  
ANSI C63.10:2013

### 12.1 Test Procedure:

KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019

section 8.3.1.2

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

a) Set the RBW = 1% to 5% of the OBW, not to exceed 1MHz.

b) Set the VBW  $\geq 3 \times$  RBW

c) Set the span  $\geq 1.5 \times$  OBW.

d) Detector = RMS.

e) Sweep time = auto couple.

f) trigger = free run.

g) Number of points in sweep  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.)

h) Trace average at least 100 traces in power averaging (rms) mode.

i) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

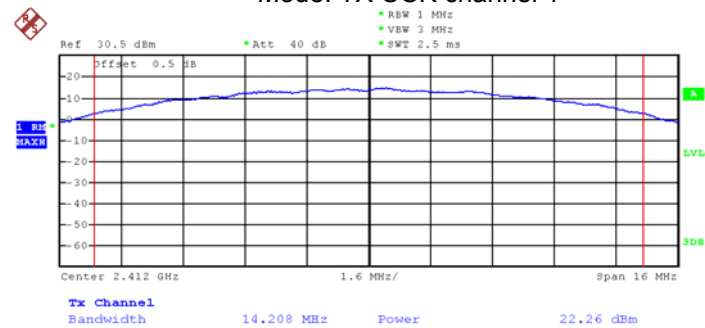
**12.2 Test Result:**

| Operation mode | Frequency (MHz) | Maximum Peak Output Power |                |              |                    |                |              |           |
|----------------|-----------------|---------------------------|----------------|--------------|--------------------|----------------|--------------|-----------|
|                |                 | ANT0                      |                |              | ANT1               |                |              | SUM (dBm) |
|                |                 | Measurements (dBm)        | DC Factor (dB) | Power (dBm)  | Measurements (dBm) | DC Factor (dB) | Power (dBm)  |           |
| TX CCK         | 2412            | 22.26                     | 3.12           | <b>25.38</b> | 22.18              | 3.05           | 25.23        | /         |
|                | 2437            | 22.10                     |                | 25.22        | 22.65              |                | 25.70        | /         |
|                | 2462            | 21.88                     |                | 25.00        | 22.78              |                | <b>25.83</b> | /         |
| TX OFDM        | 2412            | 16.69                     | 3.50           | 20.19        | 15.22              | 3.42           | 18.64        | /         |
|                | 2437            | 16.46                     |                | 19.96        | 15.51              |                | 18.93        | /         |
|                | 2462            | 15.89                     |                | 19.39        | 15.62              |                | 19.04        | /         |

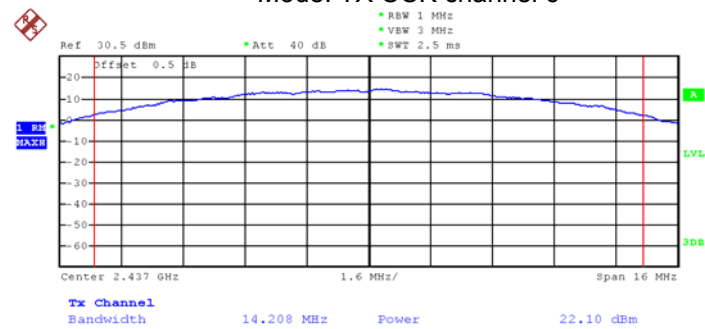
Test Plot

Antenna 0

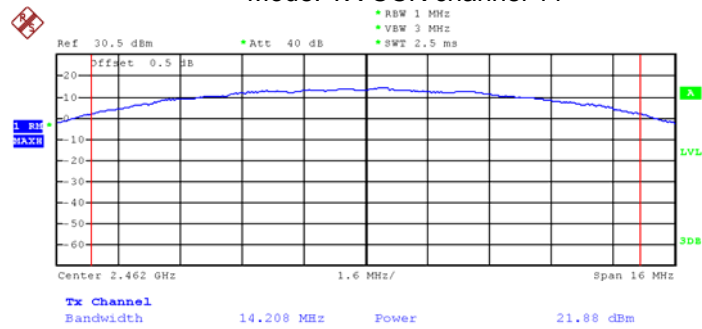
Mode: TX CCK channel 1



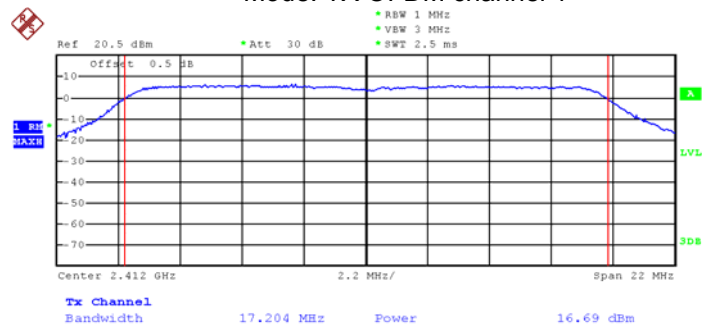
Mode: TX CCK channel 6



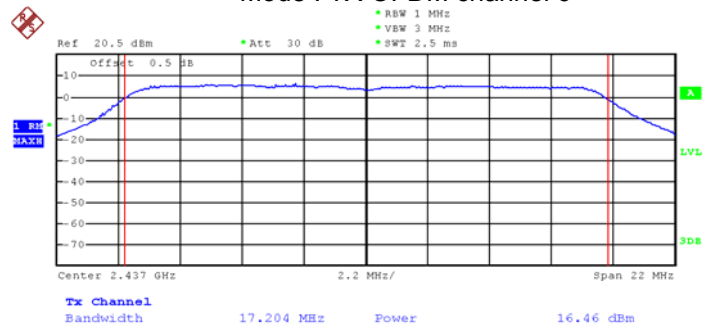
Mode: TX CCK channel 11



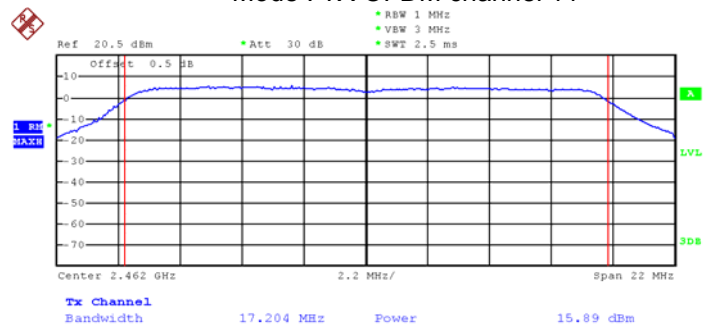
Mode: TX OFDM channel 1



Mode : TX OFDM channel 6

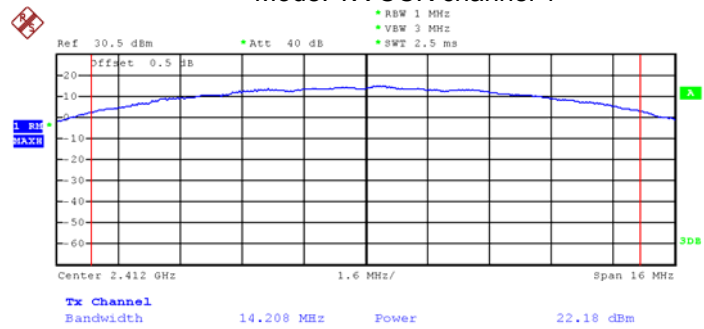


Mode : TX OFDM channel 11

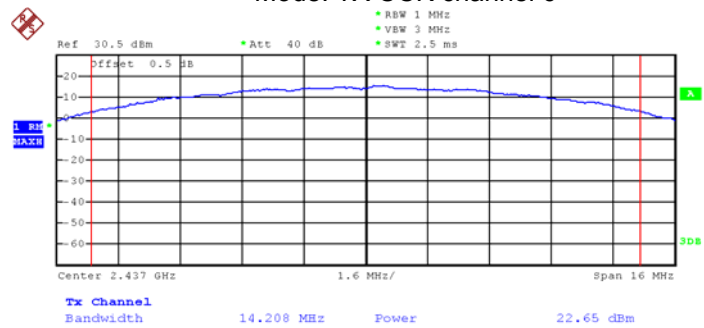


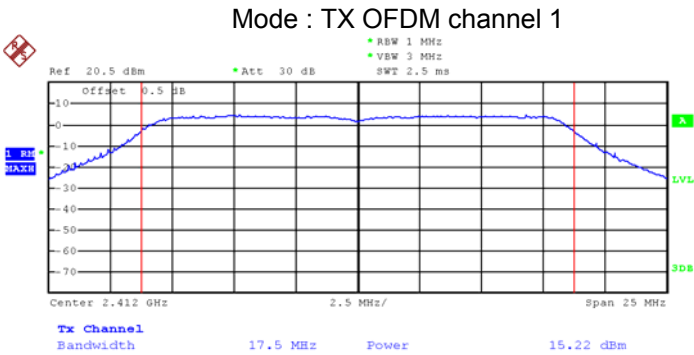
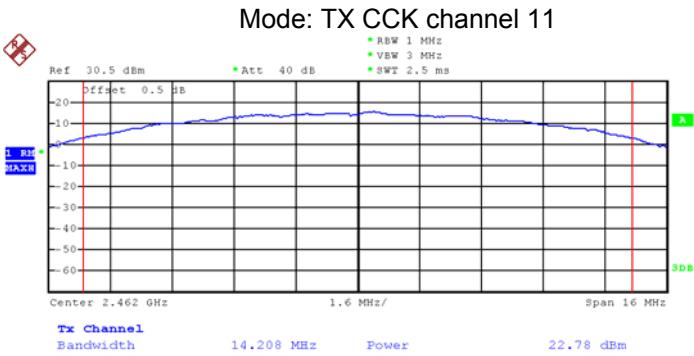
Antenna 1

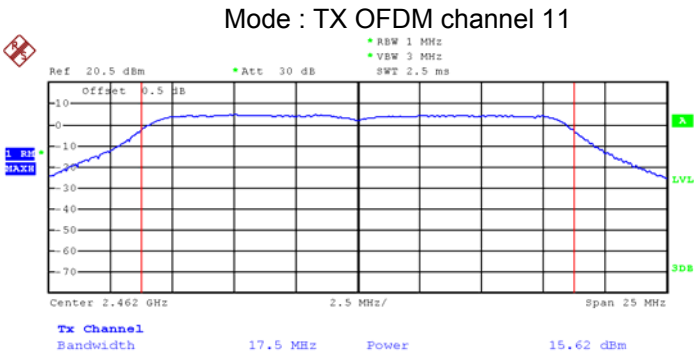
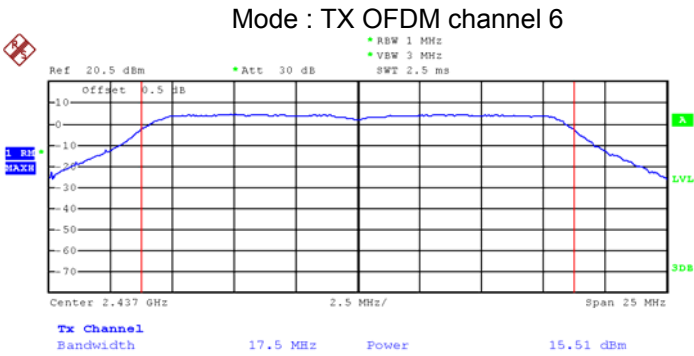
Mode: TX CCK channel 1



Mode: TX CCK channel 6







### 13 Power Spectral density

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019

ANSI C63.10:2013

#### 13.1 Test Procedure:

KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019 section 10.2

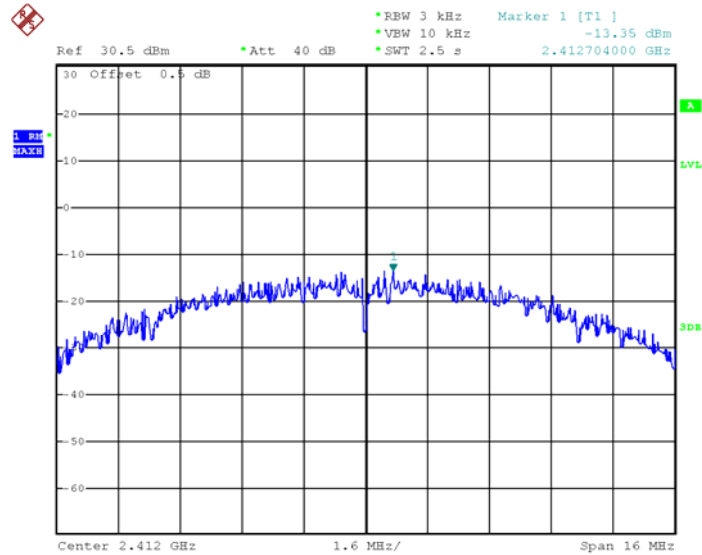
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz, Span = 1.5 times the DTS channel bandwidth (6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section  
Submit this plot.

#### 13.2 Test Result:

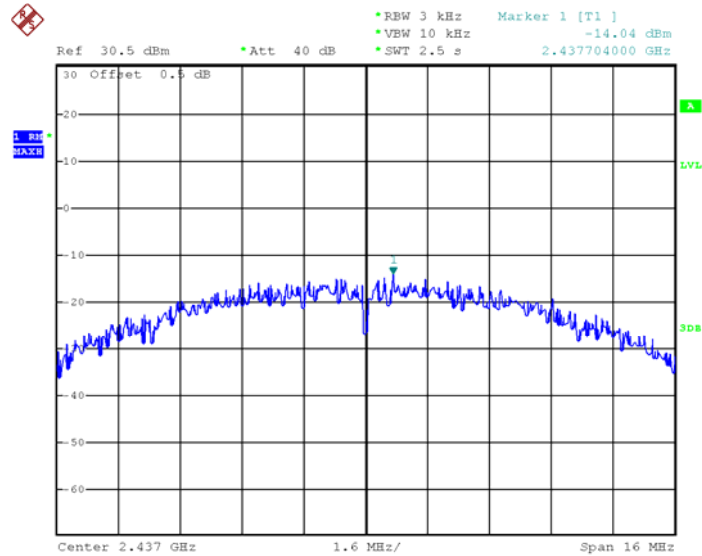
| Operation mode | Frequency (MHz) | Power Spectral density |                |           |                    |                |           |           |
|----------------|-----------------|------------------------|----------------|-----------|--------------------|----------------|-----------|-----------|
|                |                 | ANT0                   |                |           | ANT1               |                |           | SUM (dBm) |
|                |                 | Measurements (dBm)     | DC Factor (dB) | PSD (dBm) | Measurements (dBm) | DC Factor (dB) | PSD (dBm) |           |
| TX CCK         | 2412            | -13.35                 | 3.12           | -10.23    | -13.41             | 3.05           | -10.36    | /         |
|                | 2437            | -14.04                 |                | -10.92    | -13.49             |                | -10.44    | /         |
|                | 2462            | -13.94                 |                | -10.82    | -12.80             |                | -9.75     | /         |
| TX OFDM        | 2412            | -21.30                 | 3.50           | -17.80    | -22.96             | 3.42           | -19.54    | /         |
|                | 2437            | -23.20                 |                | -19.30    | -22.93             |                | -19.51    | /         |
|                | 2462            | -22.62                 |                | -19.12    | -21.24             |                | -17.82    | /         |

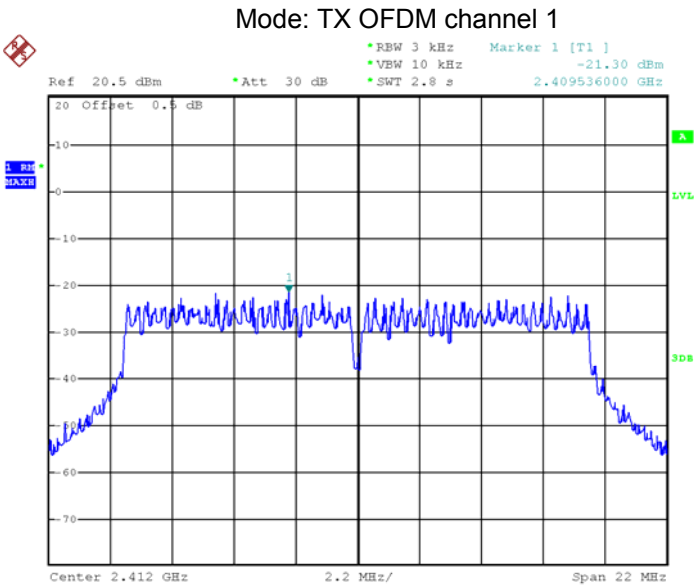
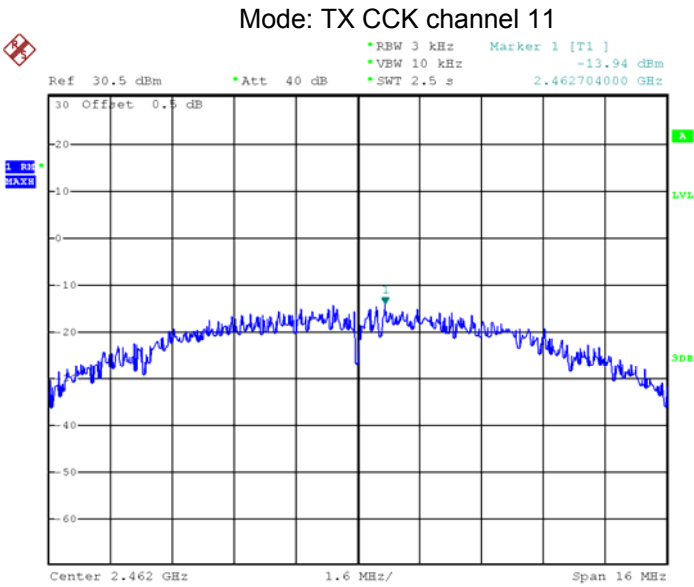
Test Plot

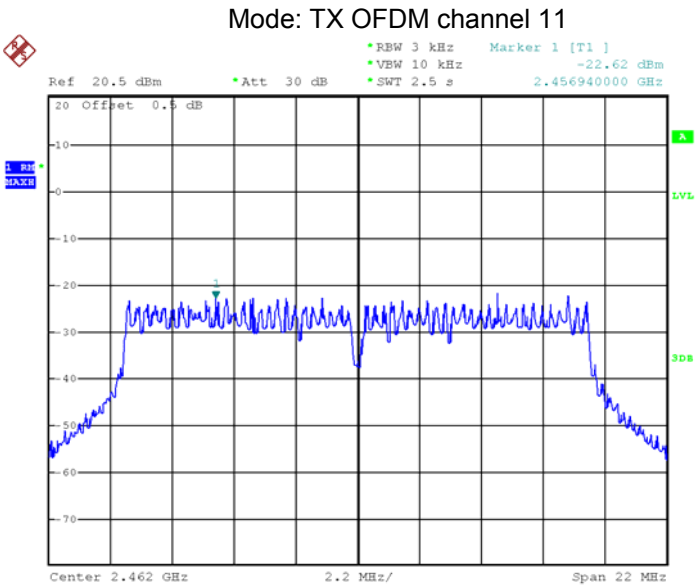
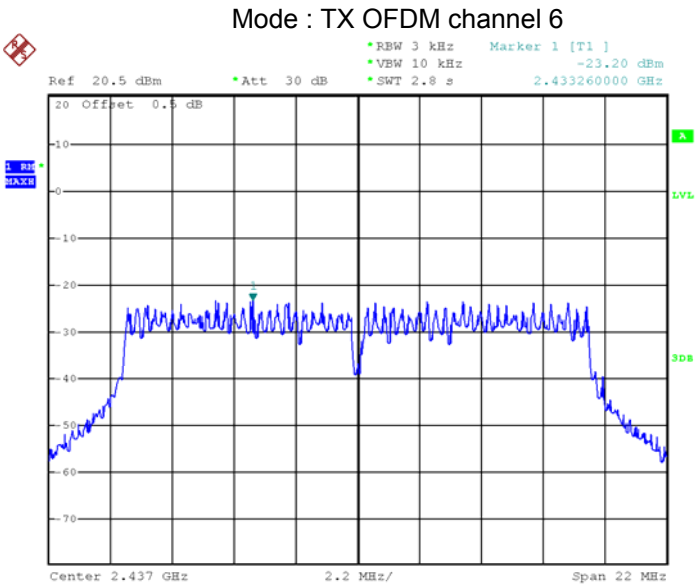
Antenna 0  
Mode: TX CCK channel 1



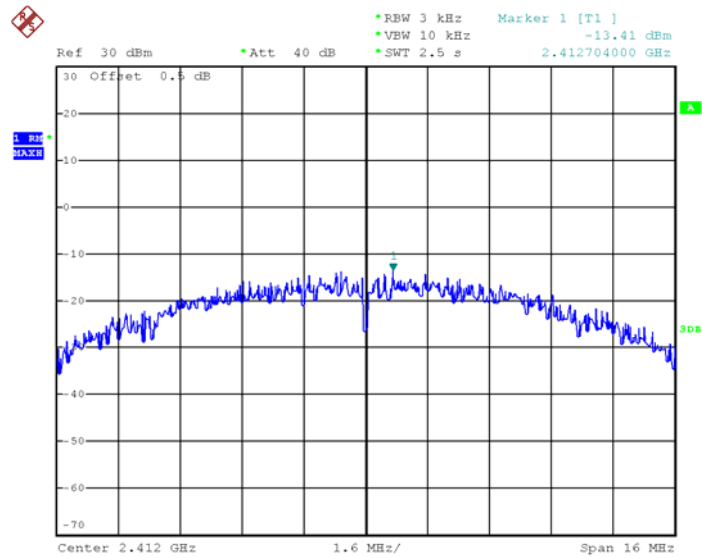
Mode: TX CCK channel 6



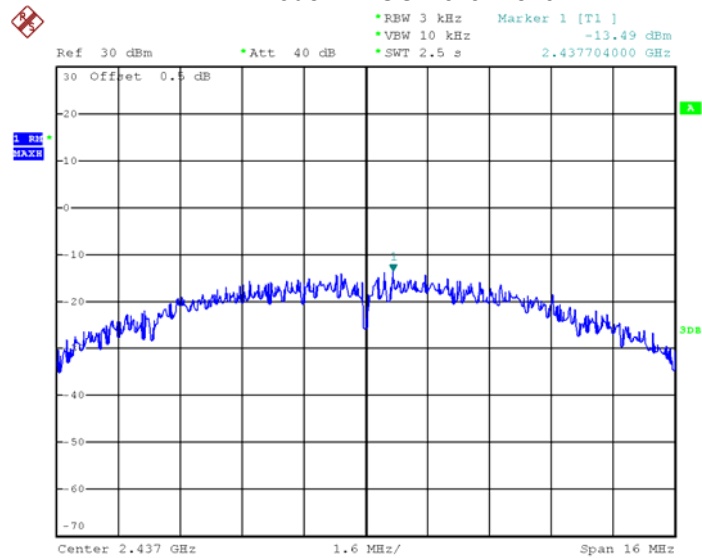


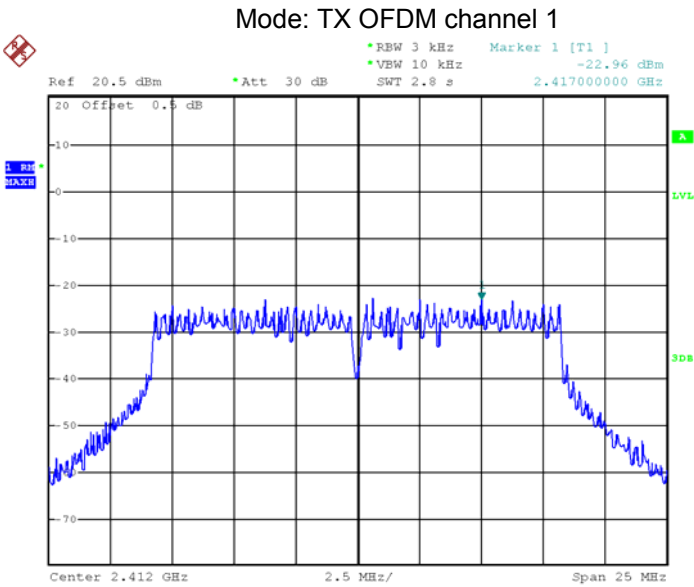
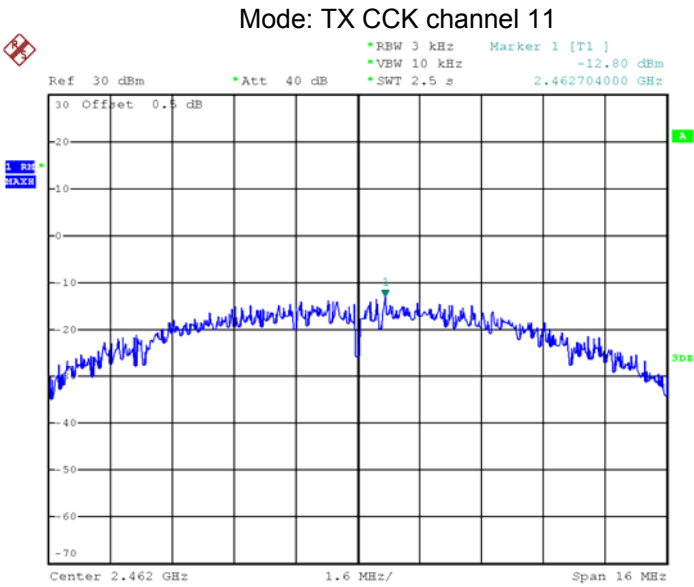


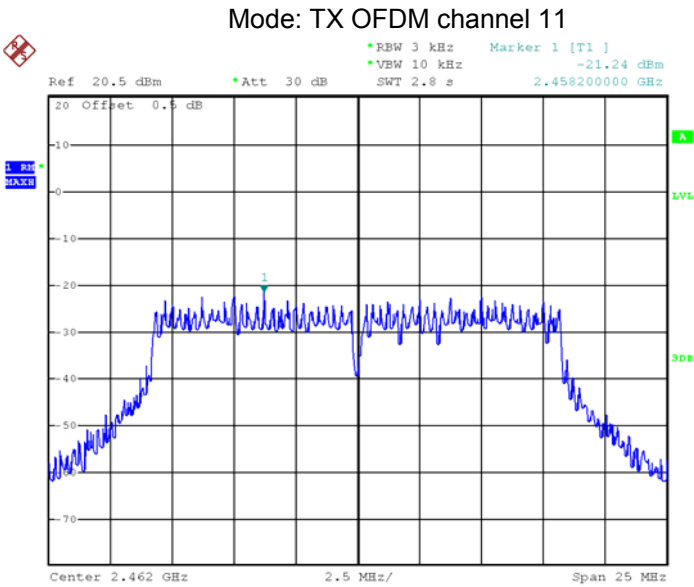
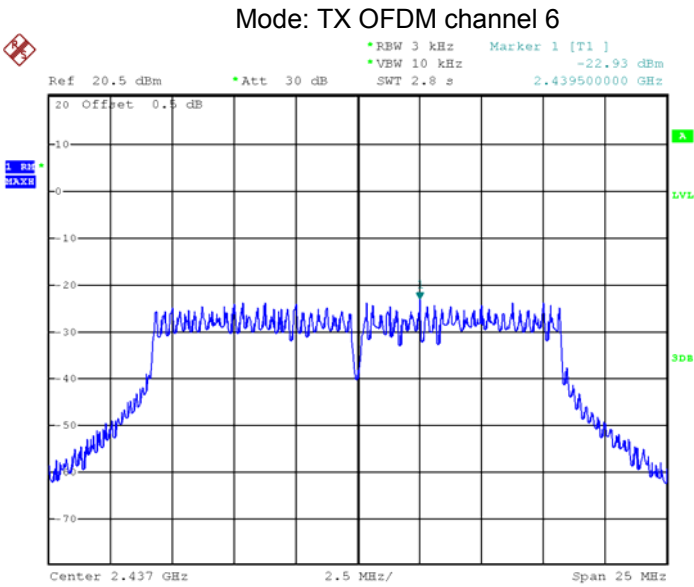
Antenna 1  
Mode: TX CCK channel 1



Mode: TX CCK channel 6







## **14 Antenna Requirement**

According to the FCC Part 15 Paragraph 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. This product has two external antennas fulfil the requirement of this section.

Note: Please refer to EUT photos for mor details.

## **15 RF Exposure**

Note: Please refer to MPE report: WTD21D06058407W002.

## **16 Photographs of test setup and EUT.**

Note: Please refer to appendix: Appendix-FOS7HTADS-Photos.

=====End of Report=====