

---

# FCC Test Report

---

Report No.: AGC00940190102FE07

**FCC ID** : 2AOGVJAXMV50JM

**APPLICATION PURPOSE** : Original Equipment

**PRODUCT DESIGNATION** : Smart phone

**BRAND NAME** : Vonino

**MODEL NAME** : JAX M

**CLIENT** : VONINO ELECTRONICS LIMITED

**DATE OF ISSUE** : Mar. 12, 2019

**STANDARD(S)** : FCC Part 15.247  
KDB 558074 D01 15.247 Meas Guidance v05

**REPORT VERSION** : V1.1

Attestation of *Global Compliance* (Shenzhen) Co., Ltd.

**CAUTION:**

This report shall not be reproduced except in full without the written permission of the test laboratory and shall not be quoted out of context.



REPORT REVISE RECORD

| Report Version | Revise Time     | Issued Date   | Valid Version | Notes            |
|----------------|-----------------|---------------|---------------|------------------|
| V1.0           | /               | Mar. 01, 2019 | Invalid       | Initial Release  |
| V1.1           | 1 <sup>st</sup> | Mar. 12, 2019 | Valid         | Revise report p1 |

## TABLE OF CONTENTS

|                                                                  |           |
|------------------------------------------------------------------|-----------|
| <b>1. GENERAL INFORMATION.....</b>                               | <b>5</b>  |
| 1.1. PRODUCT DESCRIPTION .....                                   | 5         |
| <b>2. GENERAL INFORMATION.....</b>                               | <b>5</b>  |
| 2.1. PRODUCT DESCRIPTION .....                                   | 6         |
| 2.2. TABLE OF CARRIER FREQUENCYS .....                           | 7         |
| 2.3. IEEE 802.11N MODULATION SCHEME.....                         | 8         |
| 2.4. RELATED SUBMITTAL(S) / GRANT (S) .....                      | 8         |
| 2.5. TEST METHODOLOGY .....                                      | 9         |
| 2.6. SPECIAL ACCESSORIES .....                                   | 9         |
| 2.7. EQUIPMENT MODIFICATIONS .....                               | 9         |
| <b>3. MEASUREMENT UNCERTAINTY .....</b>                          | <b>10</b> |
| <b>4. DESCRIPTION OF TEST MODES.....</b>                         | <b>11</b> |
| <b>5 SYSTEM TEST CONFIGURATION .....</b>                         | <b>12</b> |
| 5.1. CONFIGURATION OF EUT SYSTEM .....                           | 12        |
| 5.2. EQUIPMENT USED IN EUT SYSTEM.....                           | 12        |
| 5.3. SUMMARY OF TEST RESULTS.....                                | 12        |
| <b>6. TEST FACILITY .....</b>                                    | <b>13</b> |
| <b>7. OUTPUT POWER .....</b>                                     | <b>14</b> |
| 7.1. MEASUREMENT PROCEDURE .....                                 | 14        |
| 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....           | 14        |
| 7.3. LIMITS AND MEASUREMENT RESULT .....                         | 15        |
| <b>8. 6DB BANDWIDTH .....</b>                                    | <b>17</b> |
| 8.1. MEASUREMENT PROCEDURE .....                                 | 17        |
| 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....           | 17        |
| 8.3. LIMITS AND MEASUREMENT RESULTS .....                        | 18        |
| <b>9. CONDUCTED SPURIOUS EMISSION .....</b>                      | <b>21</b> |
| 9.1. MEASUREMENT PROCEDURE .....                                 | 21        |
| 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....           | 21        |
| 9.3. MEASUREMENT EQUIPMENT USED .....                            | 21        |
| 9.4. LIMITS AND MEASUREMENT RESULT .....                         | 22        |
| <b>10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY .....</b> | <b>29</b> |
| 10.1 MEASUREMENT PROCEDURE .....                                 | 29        |
| 10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....           | 29        |
| 10.3 MEASUREMENT EQUIPMENT USED .....                            | 29        |
| 10.4 LIMITS AND MEASUREMENT RESULT .....                         | 30        |

**11. RADIATED EMISSION..... 33**

11.1. MEASUREMENT PROCEDURE ..... 33

11.2. TEST SETUP ..... 34

11.3. LIMITS AND MEASUREMENT RESULT ..... 35

11.4. TEST RESULT ..... 36

**12. BAND EDGE EMISSION ..... 39**

12.1. MEASUREMENT PROCEDURE ..... 39

12.2. TEST SET-UP..... 39

12.3. RADIATED TEST RESULT ..... 40

12.4. CONDUCTED TEST RESULT ..... 42

**13. FCC LINE CONDUCTED EMISSION TEST ..... 44**

13.1. LIMITS OF LINE CONDUCTED EMISSION TEST..... 44

13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST ..... 44

13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST ..... 45

13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST ..... 46

13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST ..... 47

**APPENDIX A: PHOTOGRAPHS OF TEST SETUP ..... 49**

## 1. GENERAL INFORMATION

### 1.1. PRODUCT DESCRIPTION

|                          |                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|
| Applicant                | VONINO ELECTRONICS LIMITED                                                                                             |
| Address                  | Vonino Electronics (HK) Limited #1109, 11/F, Kowloon Center 33 Ashley Road, Tsim Sha Tsui, Kowloon, Hong Kong          |
| Manufacturer             | VONINO ELECTRONICS LIMITED                                                                                             |
| Address                  | Vonino Electronics (HK) Limited #1109, 11/F, Kowloon Center 33 Ashley Road , Tsim Sha Tsui, Kowloon, Hong Kong         |
| Factory                  | Guangdong Homecare High-Technology Co., Ltd                                                                            |
| Address                  | Guangdong homecare high-tech industrial park, wuliting, puzhai town, fengshun county, meizhou city, guangdong province |
| Product Designation      | Smart phone                                                                                                            |
| Brand Name               | Vonino                                                                                                                 |
| Test Model               | JAX M                                                                                                                  |
| Date of test             | Feb. 27, 2019~Mar. 01, 2019                                                                                            |
| Deviation                | None                                                                                                                   |
| Condition of Test Sample | Normal                                                                                                                 |
| Report Template          | AGCRT-US-BGN/RF                                                                                                        |

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance(Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

The test results of this report relate only to the tested sample identified in this report.

Tested By



Jeast Zhan(Zhan jiangdong)

Mar. 01, 2019

Reviewed By



Bart Xie(Xie Xiaobin)

Mar. 12, 2019

Approved By



Forrest Lei(Lei Yonggang)  
Authorized Officer

Mar. 12, 2019

## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

The EUT is designed as “MOBILE PHONE ”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

|                            |                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operation Frequency</b> | 2.412 GHz~2.462GHz                                                                                                                      |
| <b>Output Power</b>        | IEEE 802.11b: <b>13.65</b> dBm, IEEE 802.11g: <b>11.28</b> dBm;<br>IEEE 802.11n(20): <b>11.28</b> dBm,IEEE 802.11n(40): <b>8.89</b> dBm |
| <b>Modulation</b>          | DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)                                                                                     |
| <b>Number of channels</b>  | 11 Channels (IEEE802.11b/g/n20)& 7 Channels (IEEE802.11n40)                                                                             |
| <b>Hardware Version</b>    | Y393B_MB_V2                                                                                                                             |
| <b>Software Version</b>    | Y393B16.YBT.V51B10.EU.16+1.8.1.Go.V01.01.20181228                                                                                       |
| <b>Antenna Designation</b> | PIFA Antenna                                                                                                                            |
| <b>Antenna Gain</b>        | 1.0dBi                                                                                                                                  |
| <b>Power Supply</b>        | DC3.7V by Built-in Li-ion Battery                                                                                                       |

## 2.2. TABLE OF CARRIER FREQUENCIES

| Frequency Band | Channel Number | Frequency |
|----------------|----------------|-----------|
| 2400~2483.5MHZ | 1              | 2412 MHZ  |
|                | 2              | 2417 MHZ  |
|                | 3              | 2422 MHZ  |
|                | 4              | 2427 MHZ  |
|                | 5              | 2432 MHZ  |
|                | 6              | 2437 MHZ  |
|                | 7              | 2442 MHZ  |
|                | 8              | 2447 MHZ  |
|                | 9              | 2452 MHZ  |
|                | 10             | 2457 MHZ  |
|                | 11             | 2462 MHZ  |

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11  
For 802.11n 40MHZ bandwidth system use Channel 3 to Channel 9.

### 2.3. IEEE 802.11N MODULATION SCHEME

| MCS Index | Nss | Modulation | R   | NBPSC | NCBPS |       | NDBPS |       | Data rate(Mbps) |       |
|-----------|-----|------------|-----|-------|-------|-------|-------|-------|-----------------|-------|
|           |     |            |     |       |       |       |       |       | 800nsGI         |       |
|           |     |            |     |       | 20MHz | 40MHz | 20MHz | 40MHz | 20MHz           | 40MHz |
| 0         | 1   | BPSK       | 1/2 | 1     | 52    | 108   | 26    | 54    | 6.5             | 13.5  |
| 1         | 1   | QPSK       | 1/2 | 2     | 104   | 216   | 52    | 108   | 13.0            | 27.0  |
| 2         | 1   | QPSK       | 3/4 | 2     | 104   | 216   | 78    | 162   | 19.5            | 40.5  |
| 3         | 1   | 16-QAM     | 1/2 | 4     | 208   | 432   | 104   | 216   | 26.0            | 54.0  |
| 4         | 1   | 16-QAM     | 3/4 | 4     | 208   | 432   | 156   | 324   | 39.0            | 81.0  |
| 5         | 1   | 64-QAM     | 2/3 | 6     | 312   | 648   | 208   | 432   | 52.0            | 108.0 |
| 6         | 1   | 64-QAM     | 3/4 | 6     | 312   | 648   | 234   | 489   | 58.5            | 121.5 |
| 7         | 1   | 64-QAM     | 5/6 | 6     | 312   | 648   | 260   | 540   | 65.0            | 135.0 |

| Symbol | Explanation                             |
|--------|-----------------------------------------|
| NSS    | Number of spatial streams               |
| R      | Code rate                               |
| NBPSC  | Number of coded bits per single carrier |
| NCBPS  | Number of coded bits per symbol         |
| NDBPS  | Number of data bits per symbol          |
| GI     | Guard interval                          |

### 2.4. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AOGVJAXMV50JM** filing to comply with the FCC Part 15 requirements.



## **2.5. TEST METHODOLOGY**

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013).

Radiated testing was performed at an antenna to EUT distance 3 meters.

Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.247 rules KDB 558074 D01 DTS Meas Guidance v05.

## **2.6. SPECIAL ACCESSORIES**

Refer to section 5.2.

## **2.7. EQUIPMENT MODIFICATIONS**

Not available for this EUT intended for grant.

### 3. MEASUREMENT UNCERTAINTY

| Test                                    | Measurement Uncertainty | Notes |
|-----------------------------------------|-------------------------|-------|
| Transmitter power conducted             | ±0.57 dB                | (1)   |
| Transmitter power Radiated              | ±2.20 dB                | (1)   |
| Conducted spurious emission 9KHz-40 GHz | ±2.20 dB                | (1)   |
| Occupied Bandwidth                      | ±0.01ppm                | (1)   |
| Radiated Emission 30~1000MHz            | ±4.10dB                 | (1)   |
| Radiated Emission Above 1GHz            | ±4.32dB                 | (1)   |
| Conducted Disturbance0.15~30MHz         | ±3.20dB                 | (1)   |

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

#### 4. DESCRIPTION OF TEST MODES

| NO.                                                                                                                                                                                                                                                                                  | TEST MODE DESCRIPTION |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1                                                                                                                                                                                                                                                                                    | Low channel TX        |
| 2                                                                                                                                                                                                                                                                                    | Middle channel TX     |
| 3                                                                                                                                                                                                                                                                                    | High channel TX       |
| 4                                                                                                                                                                                                                                                                                    | Normal operating      |
| Note:<br>Transmit by 802.11b with Data rate (1/2/5.5/11)<br>Transmit by 802.11g with Data rate (6/9/12/18/24/36/48/54)<br>Transmit by 802.11n (20MHz) with Data rate (6.5/13/19.5/26/39/52/58.5/65)<br>Transmit by 802.11n (40MHz) with Data rate (13.5/27/40.5/54/81/108/121.5/135) |                       |

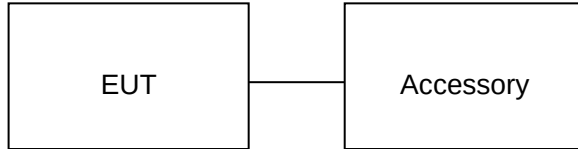
**Note:**

1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the eut is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

## 5 SYSTEM TEST CONFIGURATION

### 5.1. CONFIGURATION OF EUT SYSTEM

Configure:



### 5.2. EQUIPMENT USED IN EUT SYSTEM

| Item | Equipment   | Model No.      | ID or Specification | Remark    |
|------|-------------|----------------|---------------------|-----------|
| 1    | Smart phone | JAX M          | 2AOGVJAXMV50JM      | EUT       |
| 2    | Adapter     | TPA-97070070VM | DC 5.0V 1A          | Accessory |
| 3    | Battery     | V50JM          | DC3.7V/ 2150mAh     | Accessory |
| 4    | USB         | N/A            | N/A                 | Accessory |

Note: All the accessories have been used during the test in conduction emission test.

### 5.3. SUMMARY OF TEST RESULTS

| FCC RULES | DESCRIPTION OF TEST                             | RESULT    |
|-----------|-------------------------------------------------|-----------|
| §15.247   | Output Power                                    | Compliant |
| §15.247   | 6 dB Bandwidth                                  | Compliant |
| §15.247   | Conducted Spurious Emission                     | Compliant |
| §15.247   | Maximum Conducted Output Power SPECTRAL Density | Compliant |
| §15.209   | Radiated Emission                               | Compliant |
| §15.247   | Band Edges                                      | Compliant |
| §15.207   | Line Conduction Emission                        | Compliant |

## 6. TEST FACILITY

|                           |                                                                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Site</b>          | Attestation of Global Compliance (Shenzhen) Co., Ltd                                                                                     |
| <b>Location</b>           | 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China |
| <b>Designation Number</b> | CN1259                                                                                                                                   |
| <b>A2LA Cert. No.</b>     | 5054.02                                                                                                                                  |
| <b>Description</b>        | Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA                                                                |

## ALL TEST EQUIPMENT LIST

| Equipment                      | Manufacturer   | Model             | S/N        | Cal. Date     | Cal. Due      |
|--------------------------------|----------------|-------------------|------------|---------------|---------------|
| TEST RECEIVER                  | R&S            | ESCI              | 10096      | Jun. 12, 2018 | Jun. 11, 2019 |
| EXA Signal Analyzer            | Aglient        | N9010A            | MY53470504 | Dec. 20, 2018 | Dec. 19, 2019 |
| Power sensor                   | Aglient        | U2021XA           | MY54110007 | Sep. 20, 2018 | Sep. 19, 2019 |
| 2.4GHz Fliter                  | Micro-tronics  | 087               | N/A        | Jun. 12, 2018 | Jun. 11, 2019 |
| Attenuator                     | Weinachel Corp | 58-30-33          | N/A        | Jun. 12, 2018 | Jun. 11, 2019 |
| Horn antenna                   | SCHWARZBECK    | BBHA 9170         | #768       | Sep. 21, 2017 | Sep. 20, 2020 |
| Active loop antenna (9K-30MHz) | ZHINAN         | ZN30900C          | 18051      | Jun. 14, 2018 | Jun. 13, 2020 |
| Double-Ridged Waveguide Horn   | ETS LINDGREN   | 3117              | 00034609   | May. 26, 2018 | May. 25, 2020 |
| Broadband Preamplifier         | ETS LINDGREN   | 3117PA            | 00225134   | Oct. 25, 2018 | Oct. 24, 2019 |
| ANTENNA                        | SCHWARZBECK    | VULB9168          | D69250     | Sep. 28, 2017 | Sep. 27, 2019 |
| Horn Ant (18G-40GHz)           | Schwarzbeck    | BBHA 9170         | /          | Mar.01,2018   | Feb. 28, 2020 |
| Horn Ant (18G-40GHz)           | ETS            | QWH_SL_18_40_K_SG | /          | Mar.01,2018   | Feb. 28, 2020 |

## 7. OUTPUT POWER

### 7.1. MEASUREMENT PROCEDURE

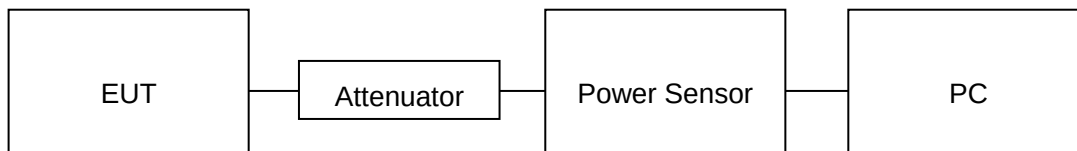
For max average conducted output power test:

1. Connect EUT RF output port to power probe through an RF attenuator.
2. Connect the power probe to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.

**Note :** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

### 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

#### AVERAGE POWER SETUP



### 7.3. LIMITS AND MEASUREMENT RESULT

|           |                          |
|-----------|--------------------------|
| TEST ITEM | OUTPUT POWER             |
| TEST MODE | 802.11b with data rate 1 |

| Frequency (GHz) | Average Power (dBm) | Applicable Limits (dBm) | Pass or Fail |
|-----------------|---------------------|-------------------------|--------------|
| 2.412           | <b>13.65</b>        | 30                      | Pass         |
| 2.437           | 13.62               | 30                      | Pass         |
| 2.462           | 13.59               | 30                      | Pass         |

|           |                          |
|-----------|--------------------------|
| TEST ITEM | OUTPUT POWER             |
| TEST MODE | 802.11g with data rate 6 |

| Frequency (GHz) | Average Power (dBm) | Applicable Limits (dBm) | Pass or Fail |
|-----------------|---------------------|-------------------------|--------------|
| 2.412           | 9.44                | 30                      | Pass         |
| 2.437           | 11.26               | 30                      | Pass         |
| 2.462           | <b>11.28</b>        | 30                      | Pass         |

|           |                               |
|-----------|-------------------------------|
| TEST ITEM | OUTPUT POWER                  |
| TEST MODE | 802.11n 20 with data rate 6.5 |

| Frequency (GHz) | Average Power (dBm) | Applicable Limits (dBm) | Pass or Fail |
|-----------------|---------------------|-------------------------|--------------|
| 2.412           | 9.40                | 30                      | Pass         |
| 2.437           | <b>11.28</b>        | 30                      | Pass         |
| 2.462           | 11.23               | 30                      | Pass         |

|           |                                |
|-----------|--------------------------------|
| TEST ITEM | OUTPUT POWER                   |
| TEST MODE | 802.11n 40 with data rate 13.5 |

| Frequency<br>(GHz) | Average Power<br>(dBm) | Applicable Limits<br>(dBm) | Pass or Fail |
|--------------------|------------------------|----------------------------|--------------|
| 2.422              | 8.69                   | 30                         | Pass         |
| 2.437              | 8.84                   | 30                         | Pass         |
| 2.452              | 8.89                   | 30                         | Pass         |



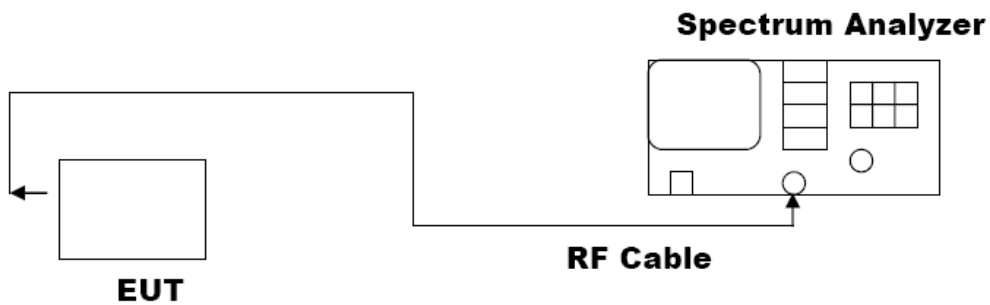
## 8. 6dB BANDWIDTH

### 8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW $\geq 3 \times$  RBW.
4. Set SPA Trace 1 Max hold, then View.

**Note:** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

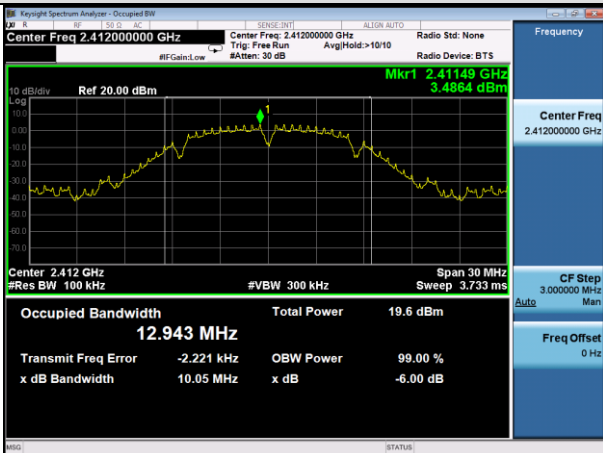
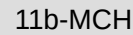
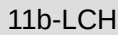
### 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



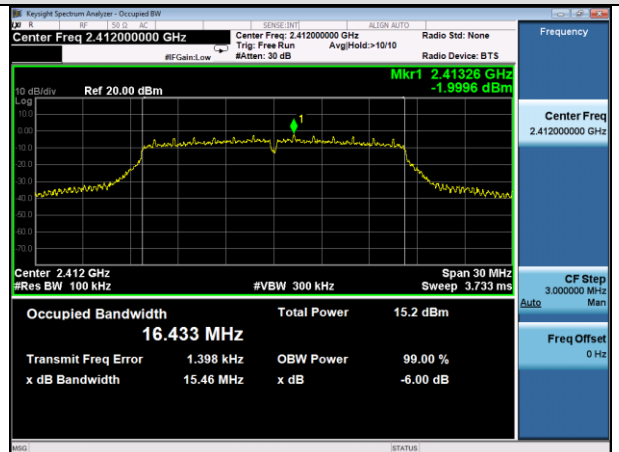
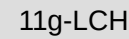
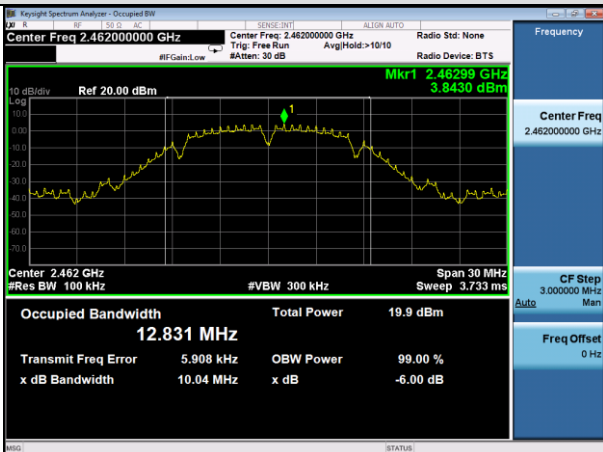
### 8.3. LIMITS AND MEASUREMENT RESULTS

| Mode    | Channel | 6dB Bandwidth [MHz] | Verdict |
|---------|---------|---------------------|---------|
| 11b     | LCH     | 10.05               | PASS    |
|         | MCH     | 10.04               | PASS    |
|         | HCH     | 10.04               | PASS    |
| 11g     | LCH     | 15.46               | PASS    |
|         | MCH     | 15.32               | PASS    |
|         | HCH     | 15.32               | PASS    |
| 11nHT20 | LCH     | 15.94               | PASS    |
|         | MCH     | 15.94               | PASS    |
|         | HCH     | 15.63               | PASS    |
| 11nHT40 | LCH     | 35.36               | PASS    |
|         | MCH     | 35.47               | PASS    |
|         | HCH     | 35.36               | PASS    |

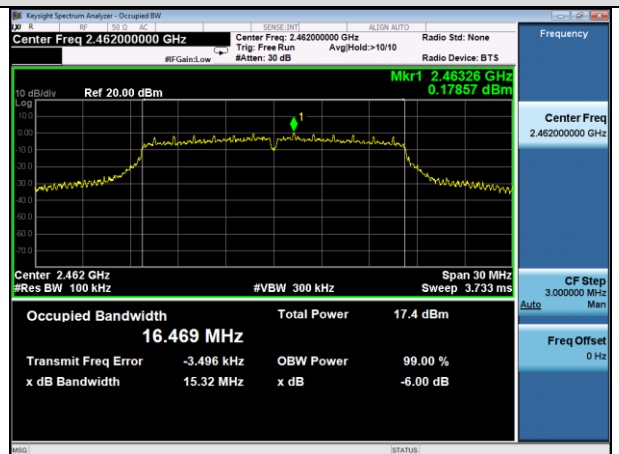
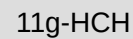
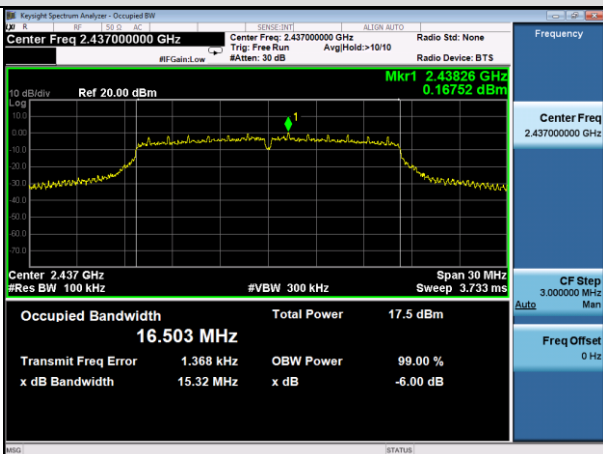
## Test Graph



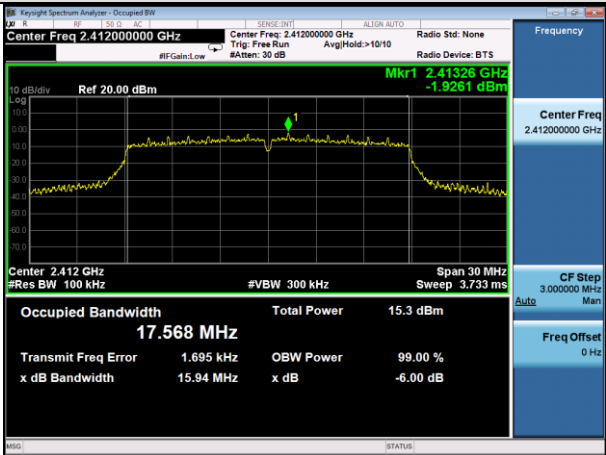
## 11b-HCH



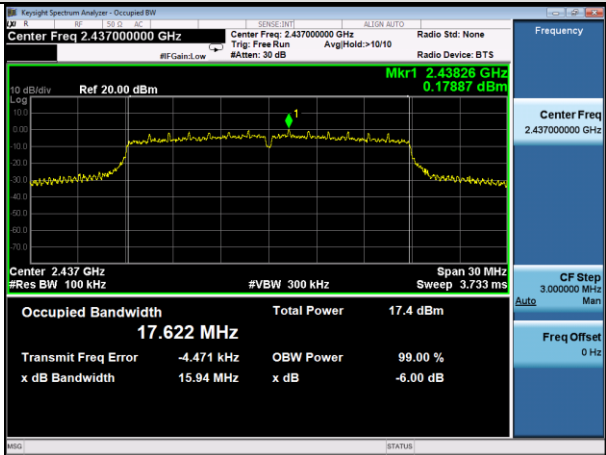
## 11g-MCH



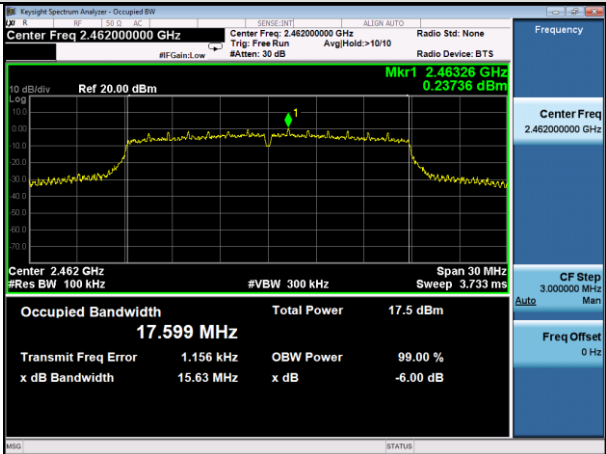
11nHT20-LCH



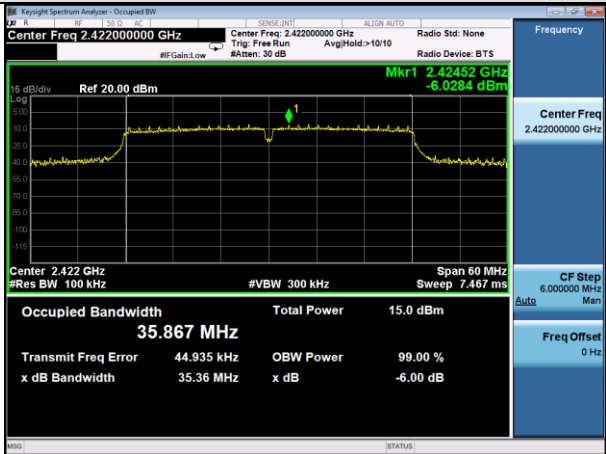
11nHT20-MCH



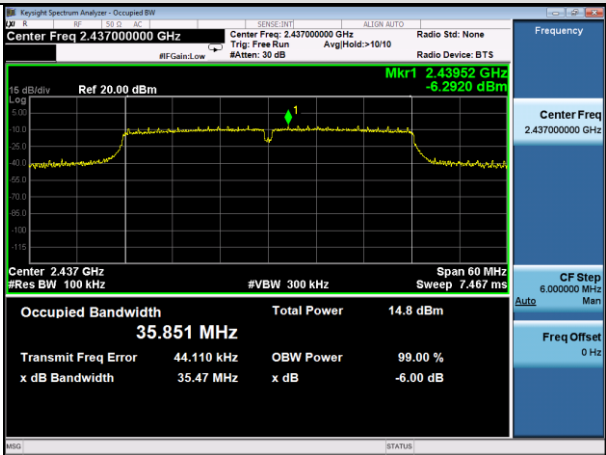
11nHT20-HCH



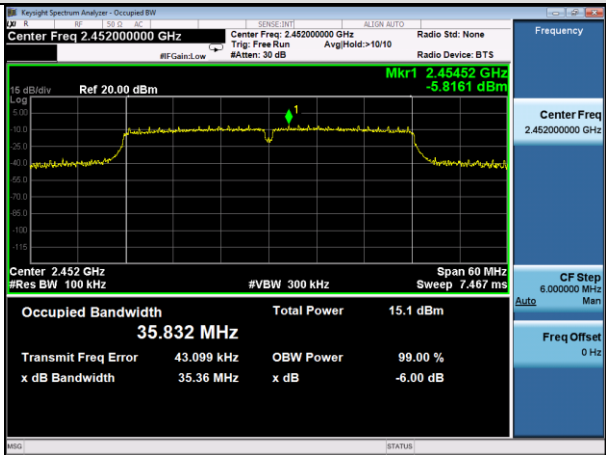
11nHT40-LCH



11nHT40-MCH



11nHT40-HCH



## 9. CONDUCTED SPURIOUS EMISSION

### 9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

**Note:** The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW>RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW>RBW) are conform to the requirement.

### 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

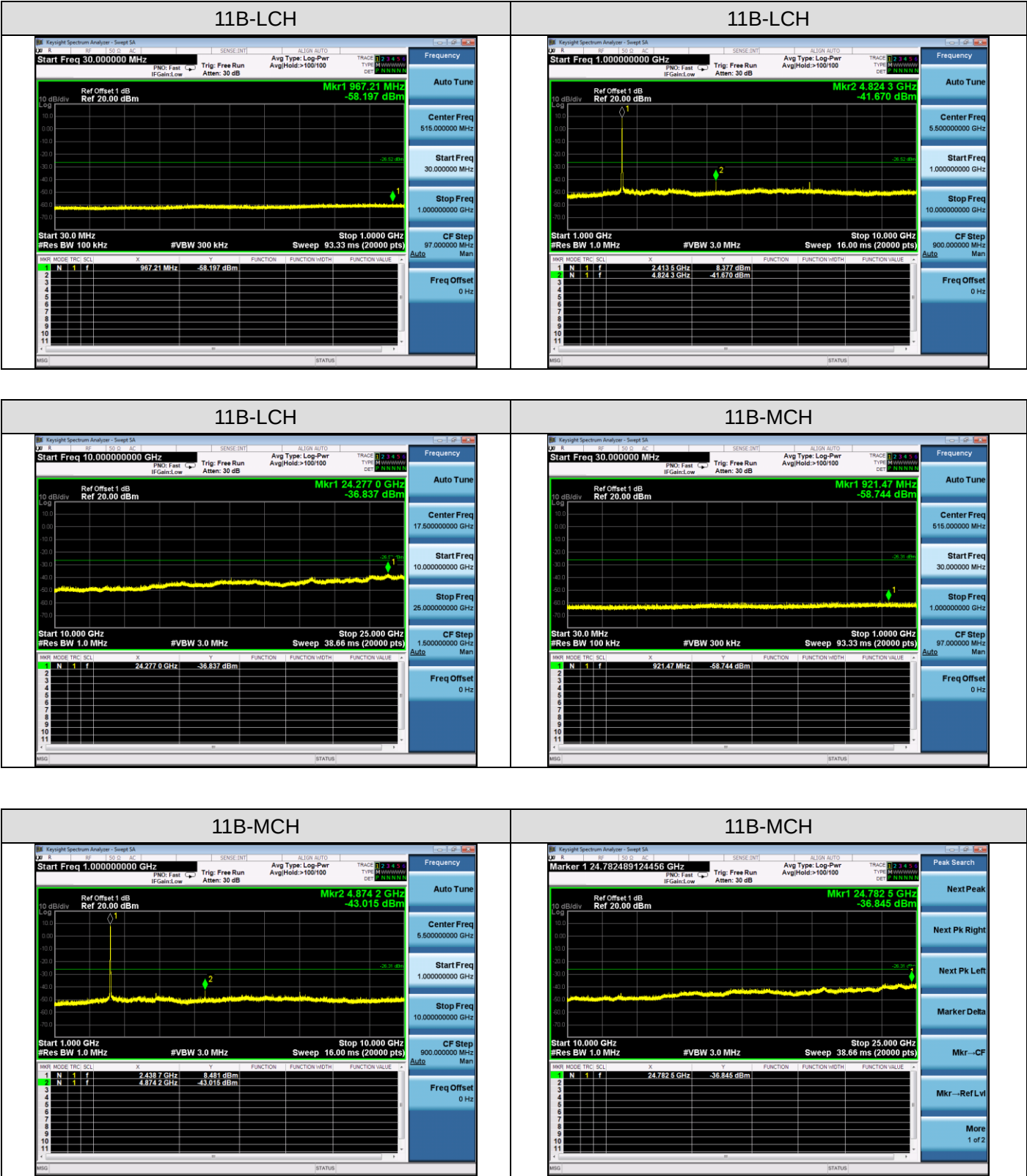
### 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

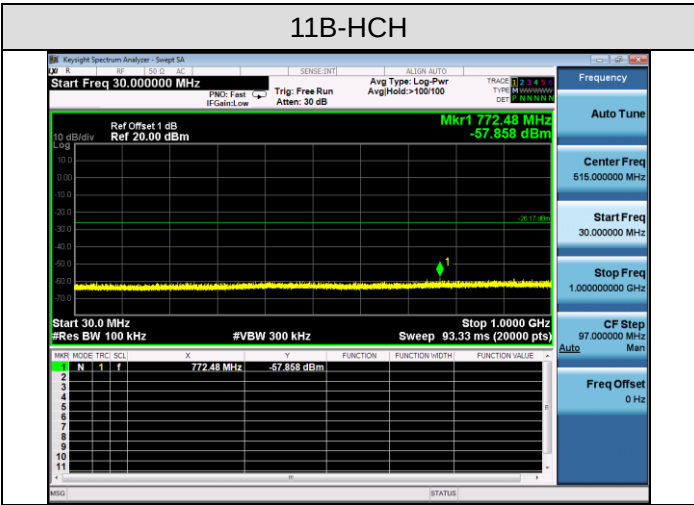
#### 9.4. LIMITS AND MEASUREMENT RESULT

| LIMITS AND MEASUREMENT RESULT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Applicable Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Measurement Result |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Test Data          | Criteria |
| <p>In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 30 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.</p> <p>In addition, radiation 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))</p> | Refer Test Graph   | PASS     |

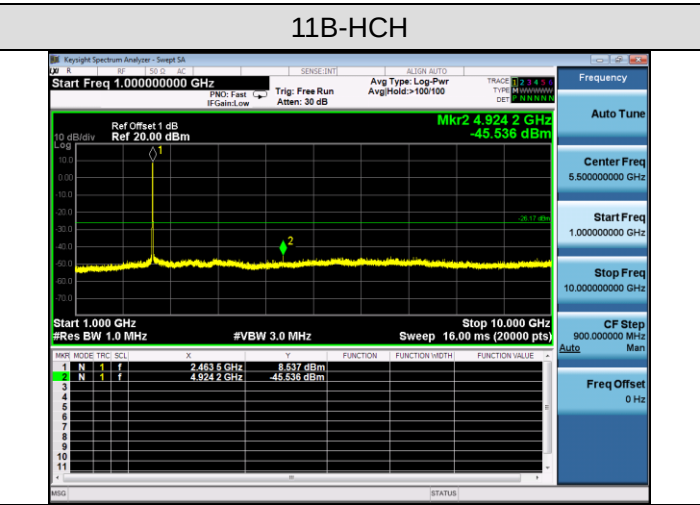
Test Graph



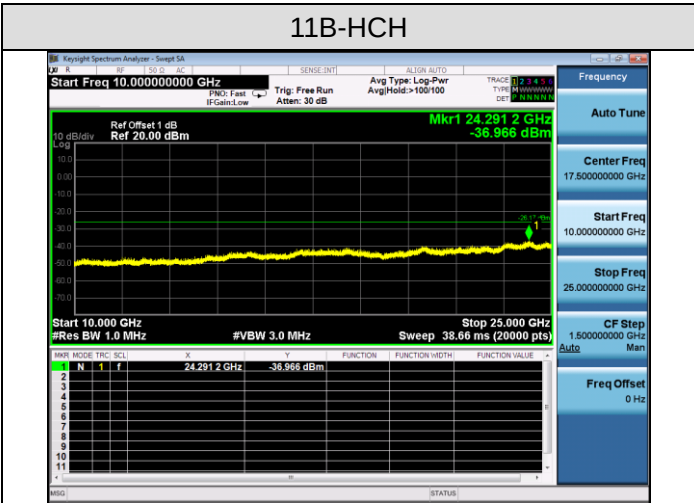
11B-HCH



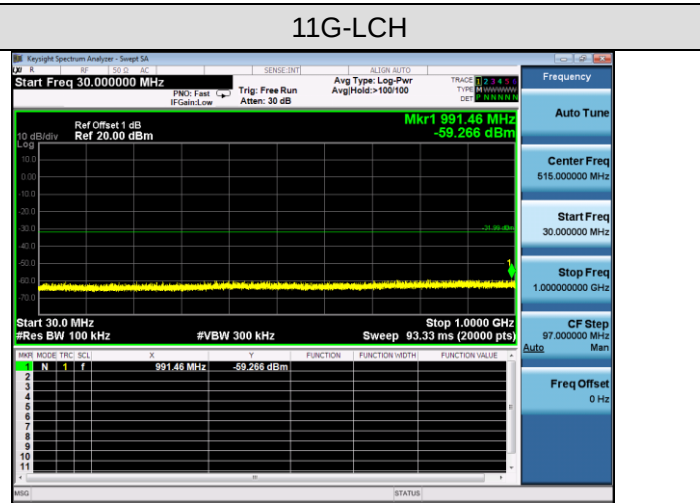
11B-HCH



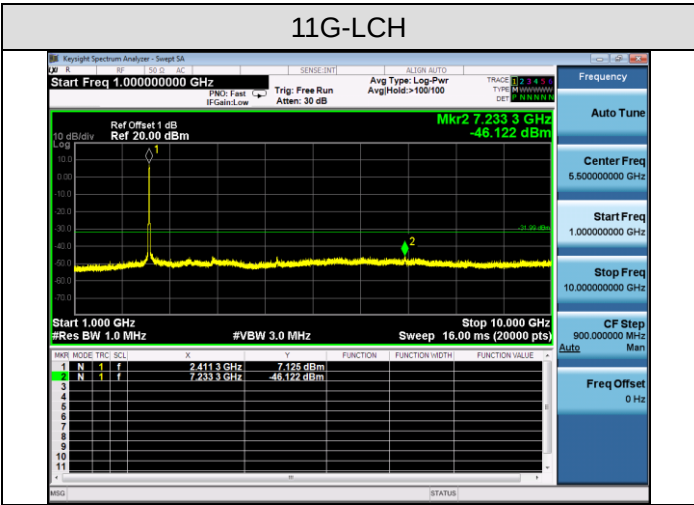
11B-HCH



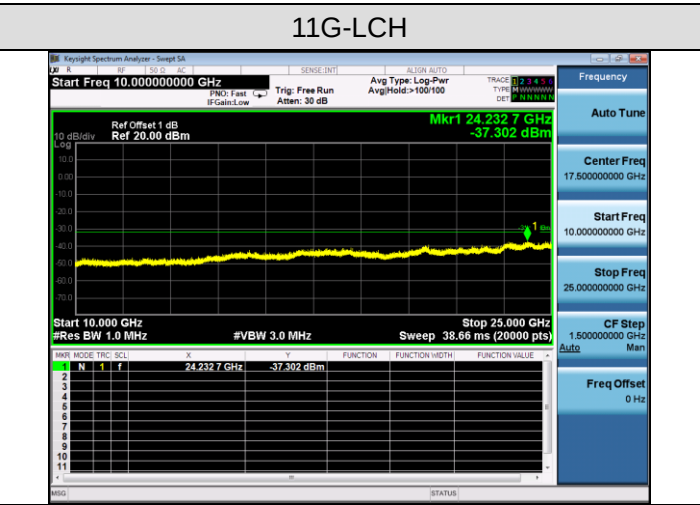
11G-LCH



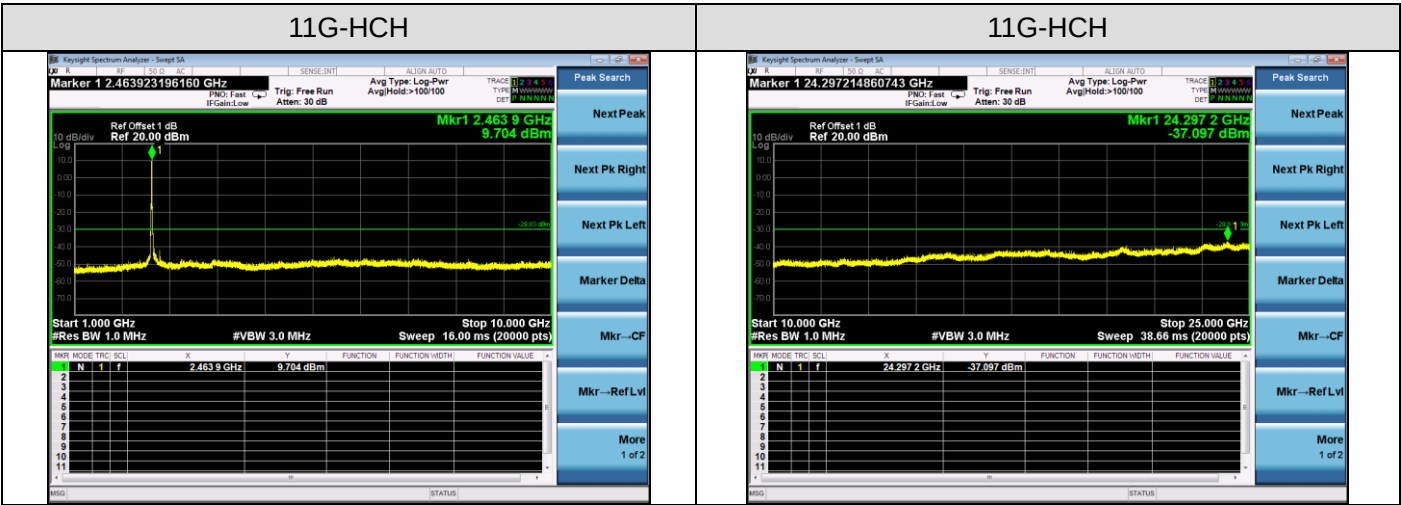
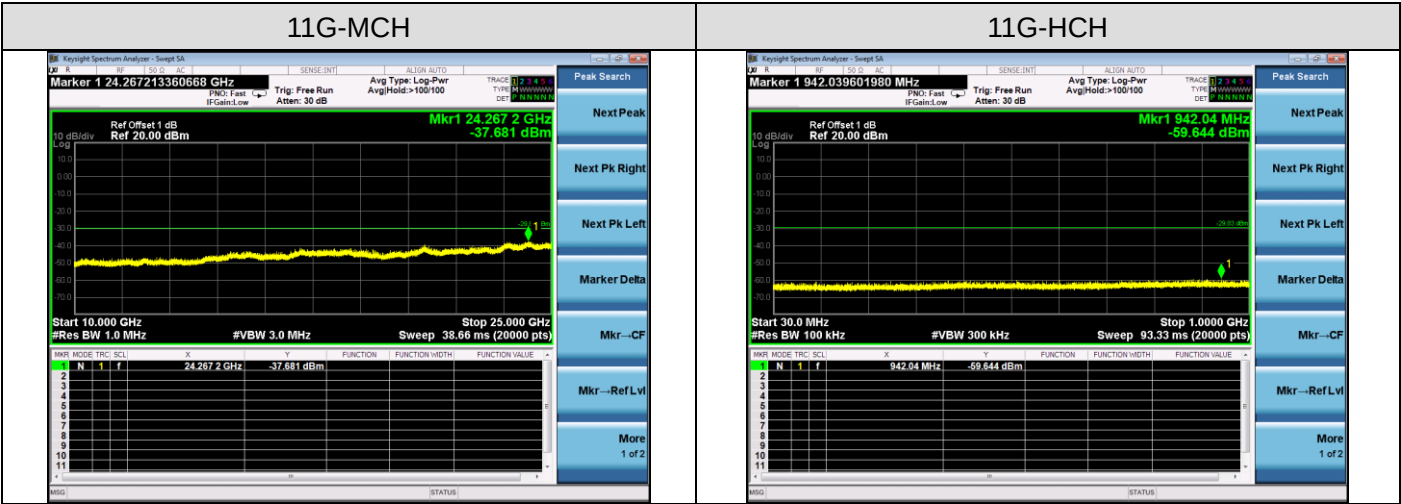
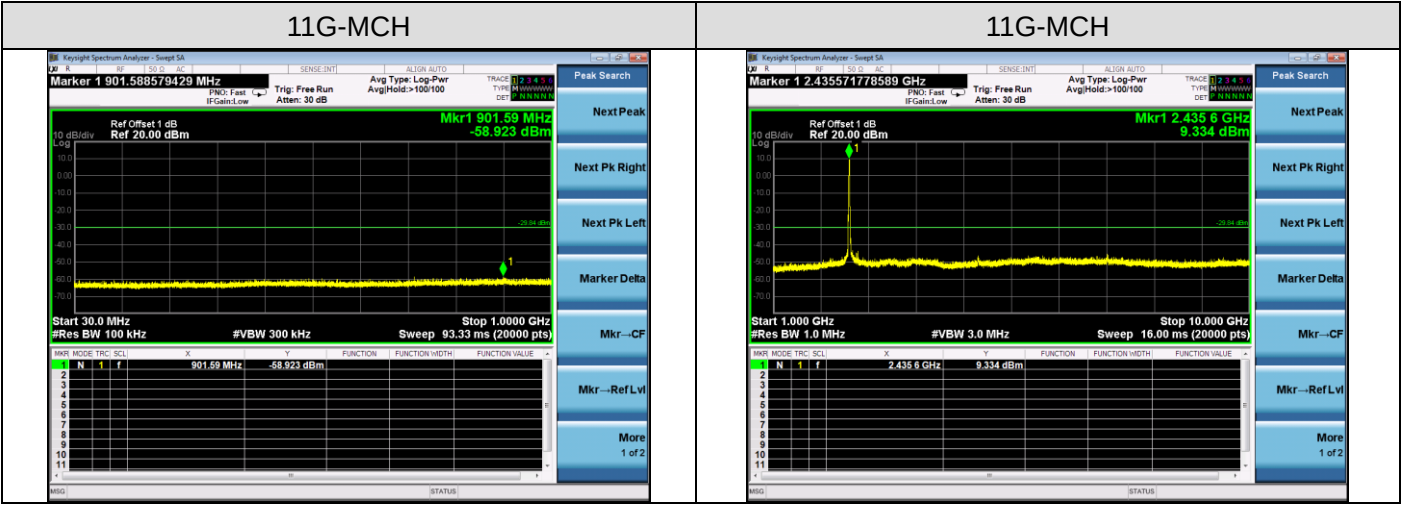
11G-LCH

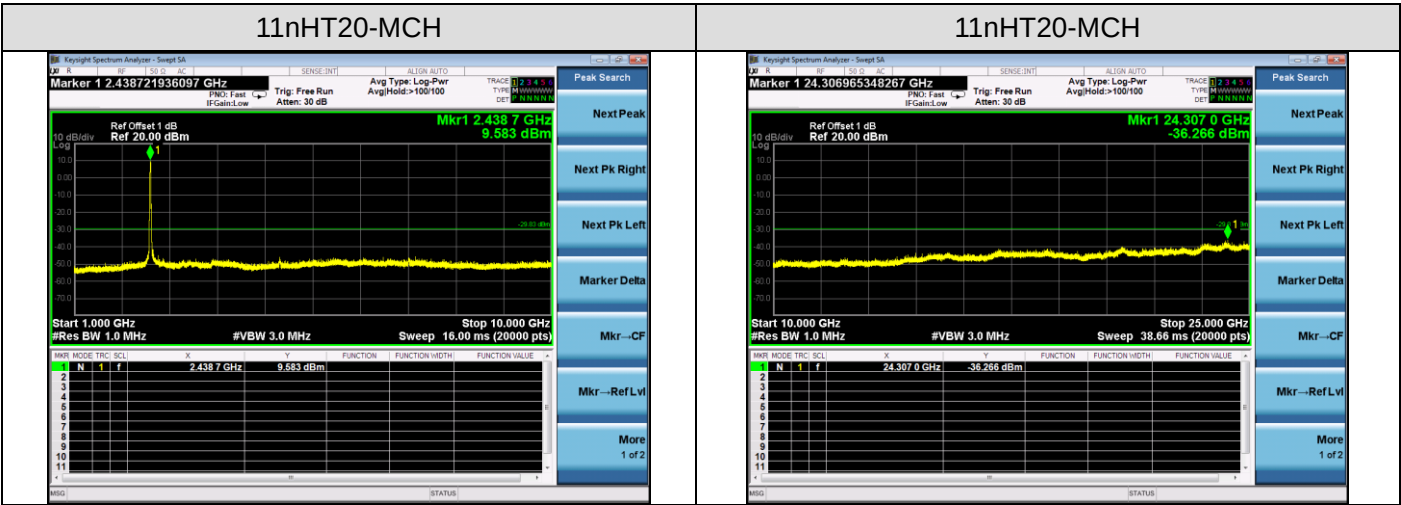
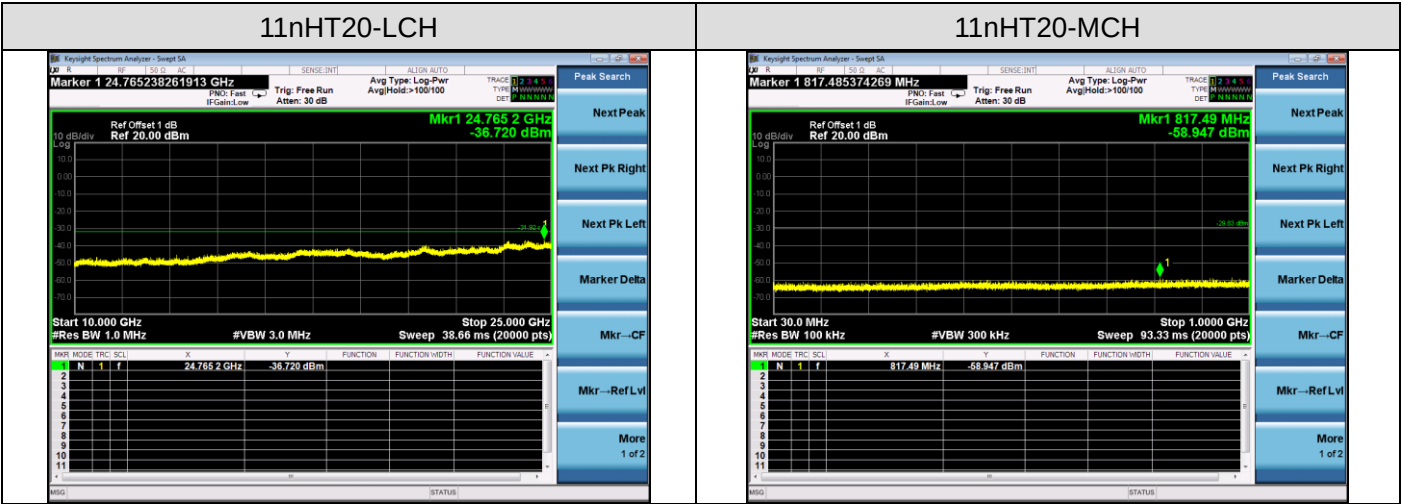
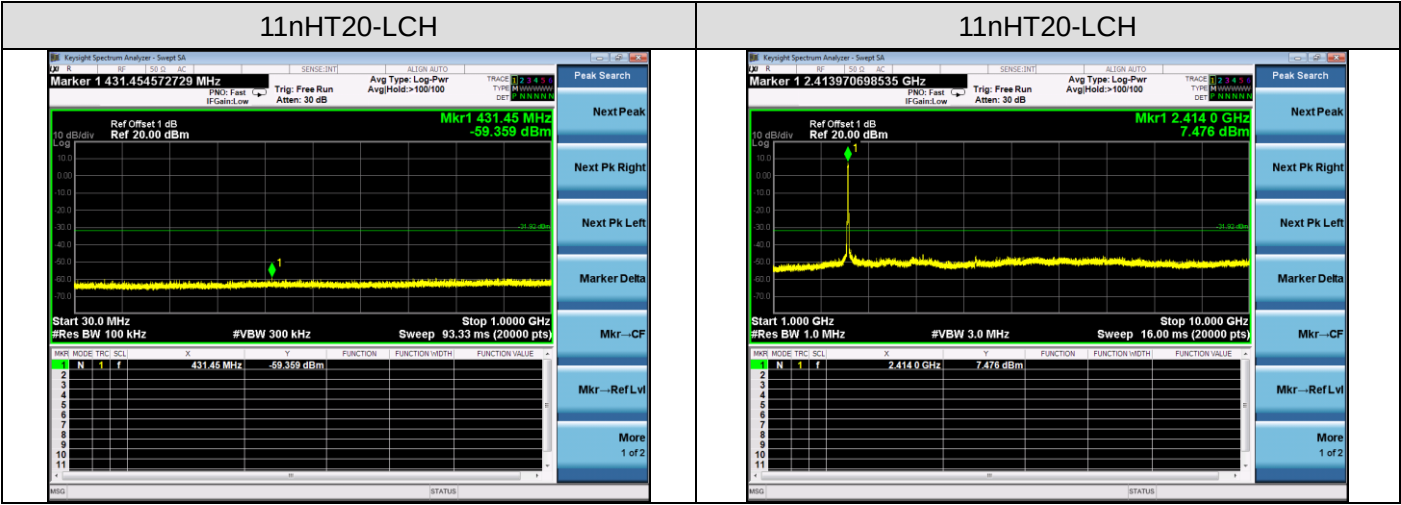


11G-LCH

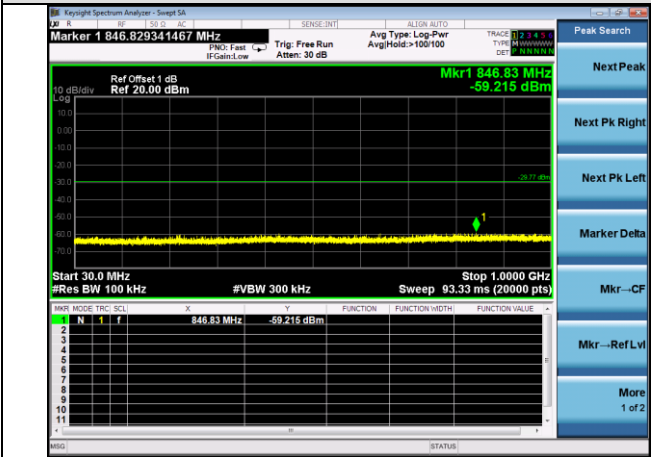




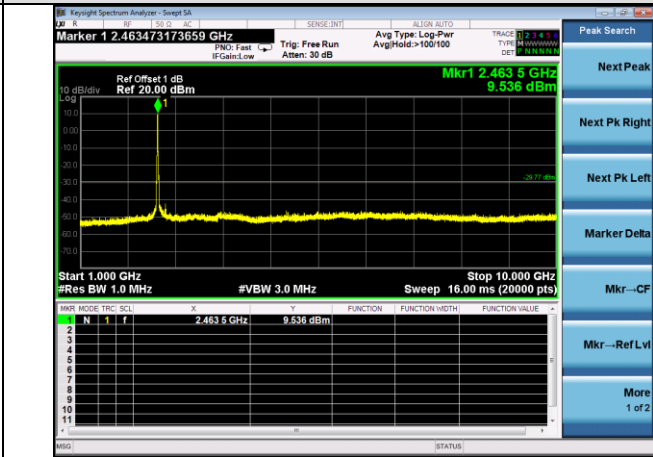




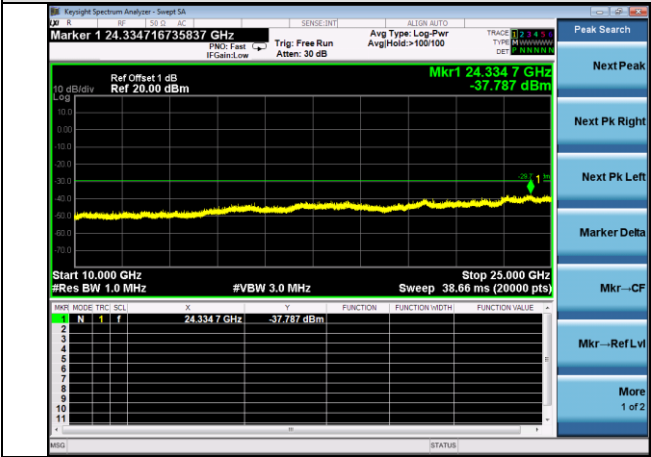
11nHT20-HCH



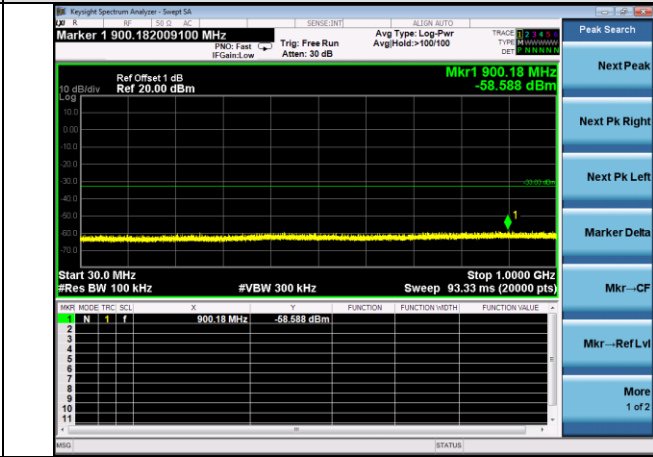
11nHT20-HCH



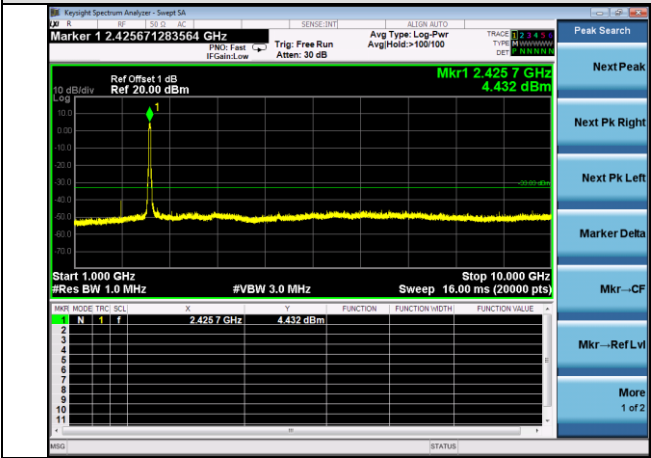
11nHT20-HCH



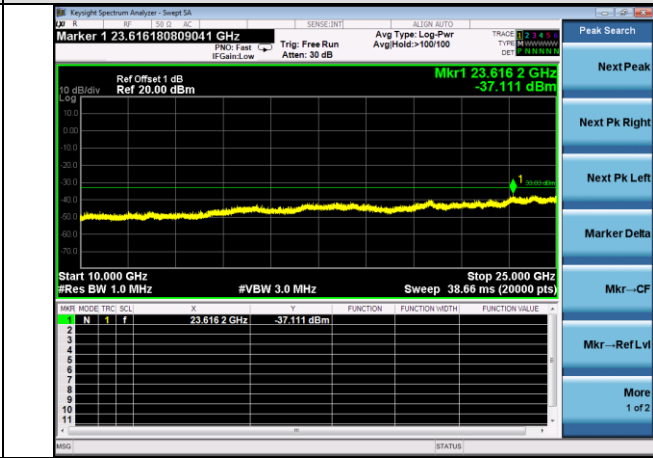
11nHT40-LCH

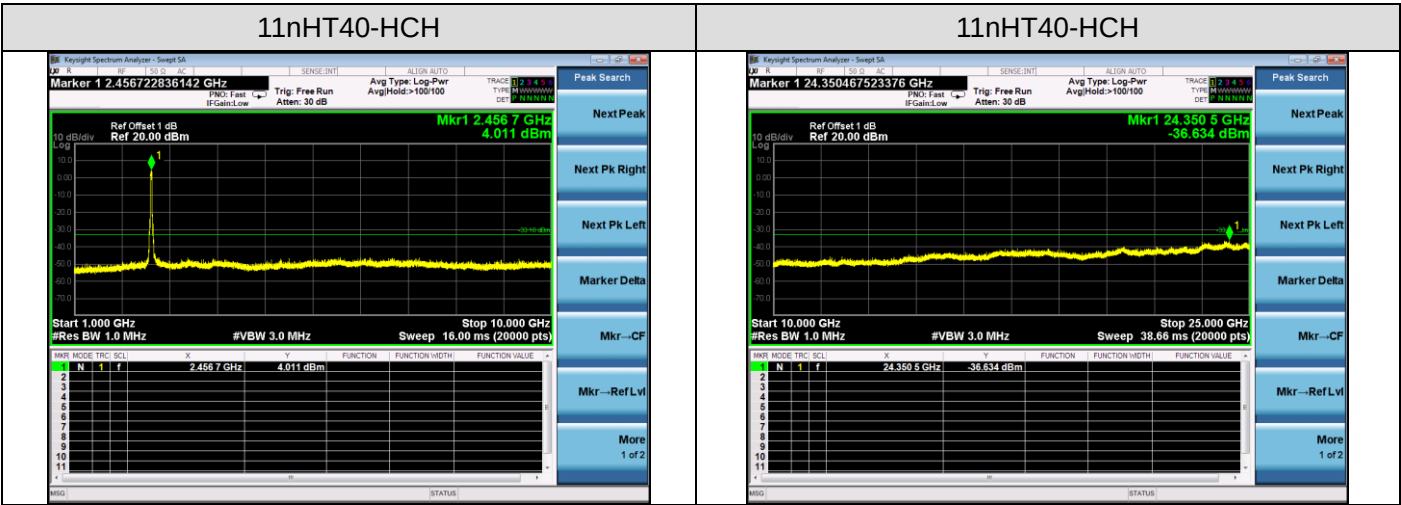
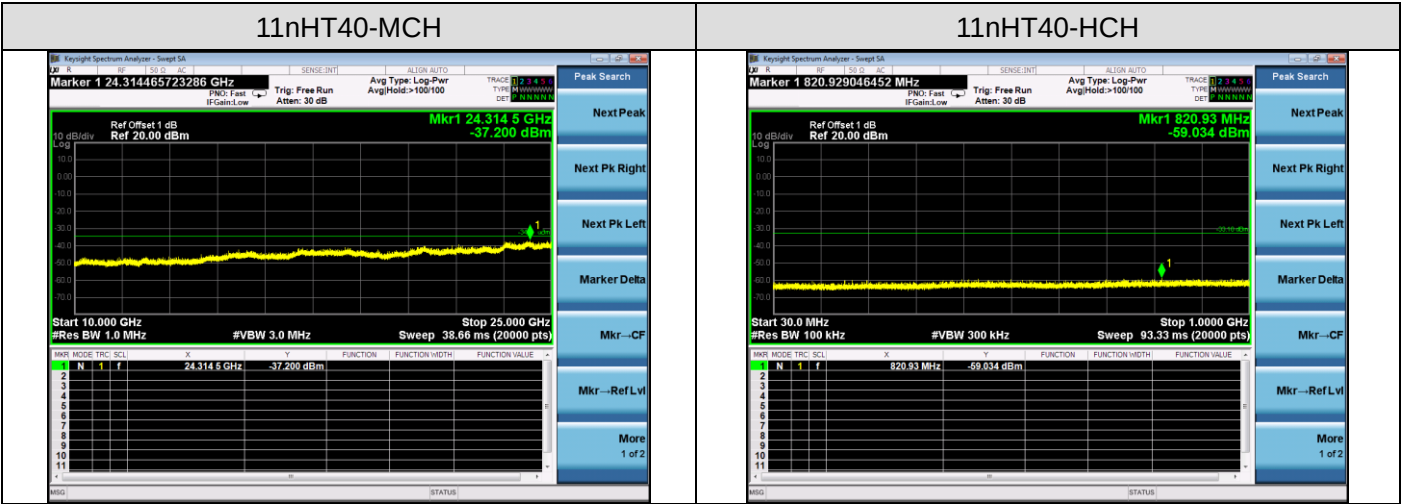
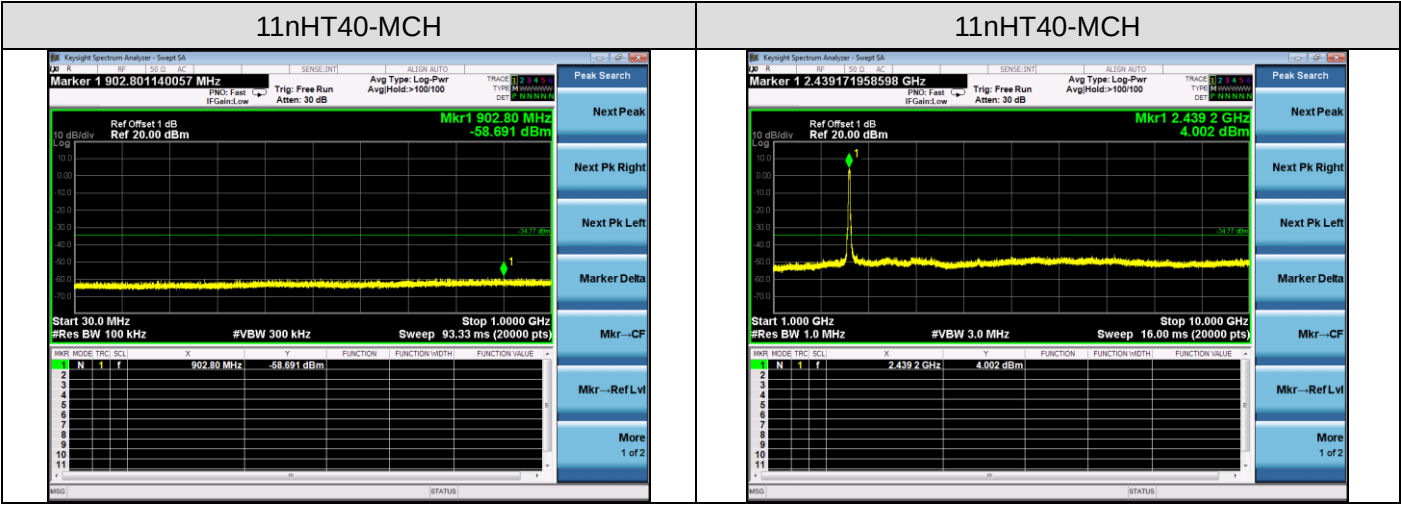


11nHT40-LCH



11nHT40-LCH





## **10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY**

### **10.1 MEASUREMENT PROCEDURE**

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of AVGPS-1 in the ANSI C63.10 (2013) item 11.10 was used in this testing.

### **10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)**

Refer To Section 8.2.

### **10.3 MEASUREMENT EQUIPMENT USED**

Refer To Section 6.

#### 10.4 LIMITS AND MEASUREMENT RESULT

| Mode    | Channel | PSD [dBm/20kHz] | Limit[dBm/3kHz] | Verdict |
|---------|---------|-----------------|-----------------|---------|
| 11b     | LCH     | 0.084           | 8               | PASS    |
|         | MCH     | 0.050           | 8               | PASS    |
|         | HCH     | -0.014          | 8               | PASS    |
| 11g     | LCH     | -4.995          | 8               | PASS    |
|         | MCH     | -4.196          | 8               | PASS    |
|         | HCH     | -4.084          | 8               | PASS    |
| 11nHT20 | LCH     | -4.840          | 8               | PASS    |
|         | MCH     | -3.588          | 8               | PASS    |
|         | HCH     | -3.643          | 8               | PASS    |
| 11NHT40 | LCH     | -9.658          | 8               | PASS    |
|         | MCH     | -9.223          | 8               | PASS    |
|         | HCH     | -8.899          | 8               | PASS    |