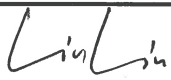
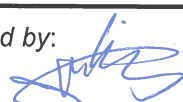


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                           |                                                                                                                              |                             |                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------|
| <b>Prüfbericht-Nr.:</b><br><i>Test Report No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>17049474 001</b>                                                                                                                       | <b>Auftrags-Nr.:</b><br><i>Order No.:</i>                                                                                    | <b>164035067</b>            | Seite 1 von 133<br>Page 1 of 133                 |
| <b>Kunden-Referenz-Nr.:</b><br><i>Client Reference No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                         | N/A                                                                                                                                       | <b>Auftragsdatum:</b><br><i>Order date:</i>                                                                                  | 28.04.2015                  |                                                  |
| <b>Auftraggeber:</b><br><i>Client:</i>                                                                                                                                                                                                                                                                                                                                                                                                                              | Lightcomm Technology Co., Ltd.<br>RM1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP STREET, KWUN TONG, HONG KONG                           |                                                                                                                              |                             |                                                  |
| <b>Prüfgegenstand:</b><br><i>Test item:</i>                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.85" Android HD Tablet                                                                                                                   |                                                                                                                              |                             |                                                  |
| <b>Bezeichnung / Typ-Nr.:</b><br><i>Identification / Type No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                  | NS-P16AT785HD, MID7802-RA                                                                                                                 |                                                                                                                              |                             |                                                  |
| <b>Auftrags-Inhalt:</b><br><i>Order content:</i>                                                                                                                                                                                                                                                                                                                                                                                                                    | FCC Certification                                                                                                                         |                                                                                                                              |                             |                                                  |
| <b>Prüfgrundlage:</b><br><i>Test specification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                 | CFR47 FCC Part 15: Subpart C Section 15.407<br>CFR47 FCC Part 15: Subpart C Section 15.207<br>CFR47 FCC Part 15: Subpart C Section 15.209 |                                                                                                                              |                             |                                                  |
| <b>Wareneingangsdatum:</b><br><i>Date of receipt:</i>                                                                                                                                                                                                                                                                                                                                                                                                               | 18.04.2015                                                                                                                                |                                                                                                                              |                             |                                                  |
| <b>Prüfmuster-Nr.:</b><br><i>Test sample No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                   | A000212113-002, A000212113-003                                                                                                            |                                                                                                                              |                             |                                                  |
| <b>Prüfzeitraum:</b><br><i>Testing period:</i>                                                                                                                                                                                                                                                                                                                                                                                                                      | 18.04.2015 - 18.06.2015                                                                                                                   |                                                                                                                              |                             |                                                  |
| <b>Ort der Prüfung:</b><br><i>Place of testing:</i>                                                                                                                                                                                                                                                                                                                                                                                                                 | Shenzhen EMTEK Co., Ltd.                                                                                                                  |                                                                                                                              |                             |                                                  |
| <b>Prüflaboratorium:</b><br><i>Testing laboratory:</i>                                                                                                                                                                                                                                                                                                                                                                                                              | TÜV Rheinland (Shenzhen) Co., Ltd.                                                                                                        |                                                                                                                              |                             |                                                  |
| <b>Prüfergebnis*:</b><br><i>Test result*:</i>                                                                                                                                                                                                                                                                                                                                                                                                                       | Pass                                                                                                                                      |                                                                                                                              |                             |                                                  |
| <b>geprüft von / tested by:</b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                           | <b>kontrolliert von / reviewed by:</b>  |                             |                                                  |
| 25.06.2015                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Lin Lin/Project Manager                                                                                                                   | 25.06.2015                                                                                                                   | Sam Lin/Technical Certifier |                                                  |
| <b>Datum</b><br><i>Date</i>                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Name / Stellung</b><br><i>Name / Position</i>                                                                                          | <b>Unterschrift</b><br><i>Signature</i>                                                                                      | <b>Datum</b><br><i>Date</i> | <b>Name / Stellung</b><br><i>Name / Position</i> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                           |                                                                                                                              |                             | <b>Unterschrift</b><br><i>Signature</i>          |
| <b>Sonstiges / Other:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                           | FCC ID: XMF-MID7802                                                                                                          |                             |                                                  |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br><i>Condition of the test item at delivery:</i>                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                           | Prüfmuster vollständig und unbeschädigt<br><i>Test item complete and undamaged</i>                                           |                             |                                                  |
| <p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft<br/> P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor<br/> P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>                    |                                                                                                                                           |                                                                                                                              |                             |                                                  |
| <p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b><br/> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p> |                                                                                                                                           |                                                                                                                              |                             |                                                  |

## TEST SUMMARY

**5.1.1 ANTENNA REQUIREMENT**

RESULT: Pass

**5.1.2 MAX CONDUCTED TX POWER AND MAX EIRP**

RESULT: Pass

**5.1.3 26dB BANDWIDTH AND 99% BANDWIDTH**

RESULT: Pass

**5.1.4 6dB BANDWIDTH**

RESULT: Pass

**5.1.5 POWER SPECTRAL DENSITY**

RESULT: Pass

**5.1.6 SPURIOUS EMISSION**

RESULT: Pass

**5.1.7 CONDUCTED EMISSIONS**

RESULT: Pass

**5.1.8 FREQUENCY STABILITY**

RESULT: Pass

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## 1. General Remarks

### 1.1 Complementary Materials

None.

## 2. Test Sites

### 2.1 Test Facilities

Shenzhen EMTEK Co., Ltd.

**(FCC Registration No.: 709623)**

Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**
**Radio Frequency Test Equipment**

| Equipment                         | Manufacturer | Model No.  | Serial No. | Last Cal.  | Cal. Interval |
|-----------------------------------|--------------|------------|------------|------------|---------------|
| Signal Analyzer                   | Agilent      | N9010A     | My53470879 | 05/17/2014 | 1 Year        |
| Power Analyzer                    | Agilent      | PS-X10-200 | N/A        | 05/17/2014 | 1 Year        |
| Cable                             | Agilent      | N/A        | 5#         | 05/17/2014 | 1 Year        |
| Temperature&Humidity test chamber | ESPEC        | EL-02KA    | 12107166   | 05/17/2014 | 1 Year        |

**For 3m Radiated Emission Measurement 30M-1G**

| Equipment         | Manufacturer    | Model No. | Serial No.   | Last Cal.    | Cal. Interval |
|-------------------|-----------------|-----------|--------------|--------------|---------------|
| EMI Test Receiver | Rohde & Schwarz | ESU       | 1302.6005.26 | May 17, 2015 | 1 Year        |
| Pre-Amplifier     | HP              | 8447F     | 2944A07999   | May 17, 2015 | 1 Year        |
| Bilog Antenna     | Schwarzbeck     | VULB9163  | 142          | May 17, 2015 | 1 Year        |
| Cable             | Schwarzbeck     | AK9513    | ACRX1        | May 17, 2015 | 1 Year        |
| Cable             | Rosenberger     | N/A       | FP2RX2       | May 17, 2015 | 1 Year        |
| Cable             | Schwarzbeck     | AK9513    | CRPX1        | May 17, 2015 | 1 Year        |
| Cable             | Schwarzbeck     | AK9513    | CRRX2        | May 17, 2015 | 1 Year        |

**For 3m Radiated Emission Measurement 1G-18G**

| Equipment         | Manufacturer    | Model No.          | Serial No.   | Last Cal.    | Cal. Interval |
|-------------------|-----------------|--------------------|--------------|--------------|---------------|
| EMI Test Receiver | Rohde & Schwarz | ESU                | 1302.6005.26 | May 17, 2015 | 1 Year        |
| Pre-Amplifier     | A.H.            | PAM-0126           | 1415261      | May 17, 2015 | 1 Year        |
| Horn Antenna      | Schwarzbeck     | BBHA 9120          | 707          | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 0.5M<br>SF104-26.5 | 289147/4     | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 3M SF104-26.5      | 295838/4     | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 6M SF104-26.5      | 295840/4     | May 17, 2015 | 1 Year        |

**For 3m Radiated Emission Measurement 18G-26.5G**

| Equipment         | Manufacturer    | Model No.          | Serial No.   | Last Cal.    | Cal. Interval |
|-------------------|-----------------|--------------------|--------------|--------------|---------------|
| EMI Test Receiver | Rohde & Schwarz | ESU                | 1302.6005.26 | May 17, 2015 | 1 Year        |
| Pre-Amplifier     | A.H.            | PAM-0126           | 1415261      | May 17, 2015 | 1 Year        |
| Horn Antenna      | Schwarzbeck     | BBHA 9170          | BBHA9170399  | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 0.5M<br>SF104-26.5 | 289147/4     | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 3M SF104-26.5      | 295838/4     | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 6M SF104-26.5      | 295840/4     | May 17, 2015 | 1 Year        |

**For 3m Radiated Emission Measurement 26.5G-40G**

| Equipment         | Manufacturer    | Model No.          | Serial No.              | Last Cal.    | Cal. Interval |
|-------------------|-----------------|--------------------|-------------------------|--------------|---------------|
| EMI Test Receiver | Rohde & Schwarz | FSV40              | 132.1-3008K39-100967-AP | May 17, 2015 | 1 Year        |
| Pre-Amplifier     | Lunar EM        | LNA26G40-40        | J1013131028001          | May 17, 2015 | 1 Year        |
| Horn Antenna      | AHS/USA         | SAS-573            | 184                     | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 0.5M<br>SF104-26.5 | 289147/4                | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 3M SF104-26.5      | 295838/4                | May 17, 2015 | 1 Year        |
| Cable             | H+B             | 6M SF104-26.5      | 295840/4                | May 17, 2015 | 1 Year        |

**Conducted Emission Test Equipment**

| Equipment          | Manufacturer    | Model No. | Serial No.   | Last Cal.  | Cal. Interval |
|--------------------|-----------------|-----------|--------------|------------|---------------|
| Test Receiver      | Rohde & Schwarz | ESCS30    | 828985/018   | 05/17/2014 | 1 Year        |
| L.I.S.N.           | Schwarzbeck     | NNLK8129  | 8129203      | 05/17/2014 | 1 Year        |
| 50Ω Coaxial Switch | Anritsu         | MP59B     | M20531       | N/A        | 1 Year        |
| Pulse Limiter      | Rohde & Schwarz | ESH3-Z2   | 100006       | 05/17/2014 | 1 Year        |
| Voltage Probe      | Rohde & Schwarz | TK9416    | N/A          | 05/17/2014 | 1 Year        |
| I.S.N              | Rohde & Schwarz | ENY22     | 1109.9508.02 | 05/17/2014 | 1 Year        |

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

| Parameter                      | Uncertainty             |
|--------------------------------|-------------------------|
| Radio Frequency                | $\pm 1 \times 10^{-5}$  |
| Maximum Peak Output Power Test | $\pm 1.0\text{dB}$      |
| Conducted Emissions Test       | $\pm 2.0\text{dB}$      |
| Radiated Emission Test         | $\pm 2.0\text{dB}$      |
| Power Density                  | $\pm 2.0\text{dB}$      |
| Occupied Bandwidth Test        | $\pm 1.0\text{dB}$      |
| Band Edge Test                 | $\pm 3\text{dB}$        |
| All emission, radiated         | $\pm 3\text{dB}$        |
| Antenna Port Emission          | $\pm 3\text{dB}$        |
| Temperature                    | $\pm 0.5^\circ\text{C}$ |
| Humidity                       | $\pm 3\%$               |

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

## **2.7 Status of Facility Used for Testing**

Shenzhen EMTEK Co., Ltd. test facility located at Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3. General Product Information

#### 3.1 Product Function and Intended Use

The EUTs are 7.85" tablet with Wi-Fi, Bluetooth & GPS function.  
 Two models are identical except the model name.  
 For details refer to the User Manual and Circuit Diagram.

#### 3.2 Ratings and System Details

**Table 3: Technical Specification of EUT**

| Technical Specification   | Value                          |
|---------------------------|--------------------------------|
| Kind of Equipment         | 7.85" Android HD Tablet        |
| Type Designation          | NS-P16AT785HD, MID7802-RA      |
| FCC ID                    | XMF-MID7802                    |
| Extreme Temperature Range | -20~+50°C                      |
| Operation Voltage         | DC 3.7V (via built in battery) |
|                           | DC 5V (via AC/DC adapter)      |

**Table 4: Technical Specification of 5GHz, 802.11a/n**

| Operating mode(s) / Wi-Fi:                   | IEEE 802.11a                      | IEEE 802.11n HT20 ANT1            | IEEE 802.11n HT20 ANT1+ANT2       | IEEE 802.11n HT40 ANT1            | IEEE 802.11n HT40 ANT1+ANT2       |
|----------------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Test modulation                              | OFDM (BPSK, QPSK, 16-QAM, 64-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM) |
| Transmit Frequency Range (MHz):              | 5180 - 5240, 5745 - 5825          | 5180 - 5240, 5745 - 5825          | 5180 - 5240, 5745 - 5825          | 5190 - 5230, 5755 - 5795          | 5190 - 5230, 5755 - 5795          |
| Channel Number                               | 9                                 | 9                                 | 9                                 | 4                                 | 4                                 |
| Data Rate (Mbps)                             | 6, 9, 12, 18, 24, 36, 48, 54      | MCS0 ~ MCS7                       | MCS0 ~ MCS15                      | MCS0 ~ MCS7                       | MCS0 ~ MCS15                      |
| Maximum tune-up average output power setting | default                           | default                           | default                           | default                           | default                           |
| Antenna type:                                | Integrated antenna                |                                   |                                   |                                   |                                   |
| Antenna Gain                                 | 1.1dBi                            |                                   |                                   |                                   |                                   |

**Table 5: Technical Specification of 5GHz, 802.11ac**

|                                             |                                            |                                            |                                            |                                            |                                            |                                            |
|---------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Operating mode(s) / WiFi:                   | IEEE 802.11ac VHT20 ANT1                   | IEEE 802.11ac VHT20 ANT1+ANT2              | IEEE 802.11ac VHT40 ANT1                   | IEEE 802.11ac VHT40 ANT1+ANT2              | IEEE 802.11ac VHT80 ANT1                   | IEEE 802.11ac VHT80 ANT1+ANT2              |
| Test modulation                             | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) | OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) |
| Transmit Frequency Range (MHz):             | 5180 - 5240, 5745 - 5825                   | 5180 - 5240, 5745 - 5825                   | 5190 - 5230, 5755 - 5795                   | 5190 - 5230, 5755 - 5795                   | 5210, 5775                                 | 5210, 5775                                 |
| Channel Number                              | 9                                          | 9                                          | 4                                          | 4                                          | 2                                          | 2                                          |
| Data Rate (Mbps)                            | MCS0 ~ MCS8                                | MCS0 ~ MCS8                                | MCS0 ~ MCS8                                | MCS0 ~ MCS8                                | MCS0 ~ MCS8                                | MCS0 ~ MCS9                                |
| Maximum tune-up average output power (dBm): | default                                    | default                                    | default                                    | default                                    | default                                    | default                                    |
| Antenna type:                               | Integrated antenna                         |                                            |                                            |                                            |                                            |                                            |
| Antenna Gain                                | 1.1dBi                                     |                                            |                                            |                                            |                                            |                                            |

**Table 6: List of WLAN Channel of 5GHz 802.11a/n**

| 802.11a        |                 | 802.11n HT20   |                 | 802.11n HT40   |                 |
|----------------|-----------------|----------------|-----------------|----------------|-----------------|
| Channel Number | Frequency (MHz) | Channel Number | Frequency (MHz) | Channel Number | Frequency (MHz) |
| 36             | 5180            | 36             | 5180            | 38             | 5190            |
| 40             | 5200            | 40             | 5200            | 46             | 5230            |
| 44             | 5220            | 44             | 5220            | 151            | 5755            |
| 48             | 5240            | 48             | 5240            | 159            | 5795            |
| 149            | 5745            | 149            | 5745            |                |                 |
| 153            | 5765            | 153            | 5765            |                |                 |
| 157            | 5785            | 157            | 5785            |                |                 |
| 161            | 5805            | 161            | 5805            |                |                 |
| 165            | 5825            | 165            | 5825            |                |                 |

**Table 7: List of WLAN Channel of 5GHz 802.11ac**

| 802.11ac VHT20 |                 | 802.11ac VHT40 |                 | 802.11ac VHT80 |                 |
|----------------|-----------------|----------------|-----------------|----------------|-----------------|
| Channel Number | Frequency (MHz) | Channel Number | Frequency (MHz) | Channel Number | Frequency (MHz) |
| 36             | 5180            | 38             | 5190            | 42             | 5210            |
| 40             | 5200            | 46             | 5230            | 155            | 5775            |
| 44             | 5220            | 151            | 5755            |                |                 |
| 48             | 5240            | 159            | 5795            |                |                 |
| 149            | 5745            |                |                 |                |                 |
| 153            | 5765            |                |                 |                |                 |
| 157            | 5785            |                |                 |                |                 |
| 161            | 5805            |                |                 |                |                 |
| 165            | 5825            |                |                 |                |                 |

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wi-Fi mode
  - 1. Transmitting
    - a. 802.11a
    - b. 802.11n HT20
    - c. 802.11n HT40
    - d. 802.11ac HT20
    - e. 802.11ac HT40
    - f. 802.11ac HT80
  - 2. Receiving
- B. Standby
- C. Off

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

### 3.5 Submitted Documents

- Bill of Material
- Constructional Drawing
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003 for FCC.  
According to clause 3.1, all tests were applied on model NS-P16AT785HD only.

### 4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

| Description   | Manufacturer | Part No.          | Rating              |
|---------------|--------------|-------------------|---------------------|
| AC/DC Adapter | TEKA         | TEKA012-0502000UK | 100-240Vac, 50/60Hz |

The EUT was tested with following cables:

| Interface(s)/Port(s): | Max. cable length, shielding          | Cable classification |
|-----------------------|---------------------------------------|----------------------|
| USB Cable             | Shielding USB cable with ferrite ring | Type B USB cable     |

### 4.4 Countermeasures to Achieve ERM Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF). No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

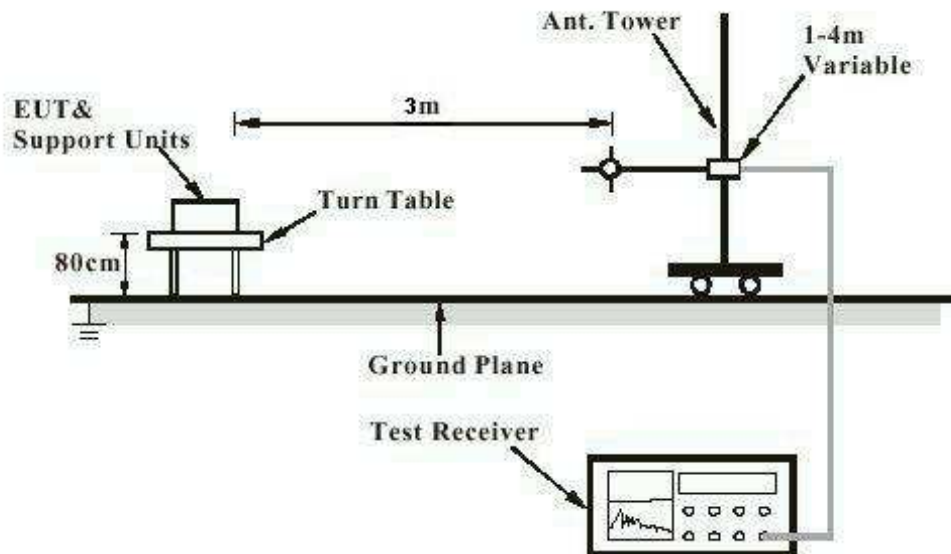
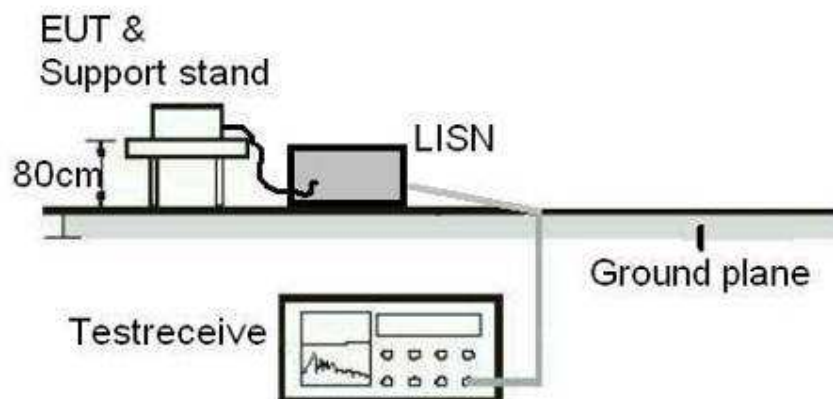
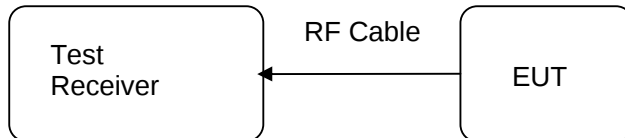


Diagram of Measurement Equipment Configuration for Conduction Measurement



**Diagram of Measurement Equipment Configuration for Transmitter Measurement**



## 5. Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**RESULT:****Pass**

Test standard : FCC Part 15.203  
Limit The use of antennas with directional gains that do not exceed 6dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna 1 is 1.1dBi, antenna 2 is 1.1dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.



**Table 10: Test result of Peak Output Power of 802.11n HT20 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |       | Limit |
|---------|----------------------------|-------------------|------|-------|-------|
|         |                            | (dBm)             |      |       | (dBm) |
|         |                            | Ant1              | Ant2 | Total |       |
| 36      | 5180                       | 8.48              | 8.59 | 11.55 | 24    |
| 44      | 5220                       | 8.42              | 8.55 | 11.50 | 24    |
| 48      | 5240                       | 8.45              | 8.52 | 11.50 | 24    |
| 149     | 5745                       | 8.45              | 8.53 | 11.50 | 30    |
| 157     | 5785                       | 8.44              | 8.58 | 11.52 | 30    |
| 165     | 5825                       | 8.37              | 8.58 | 11.49 | 30    |

**Table 11: Test result of Peak Output Power of 802.11n HT40 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Limit |
|---------|----------------------------|-------------------|-------|
|         |                            | (dBm)             | (dBm) |
| 38      | 5190                       | 8.59              | 24    |
| 46      | 5230                       | 8.58              | 24    |
| 151     | 5755                       | 8.60              | 30    |
| 159     | 5795                       | 8.61              | 30    |

**Table 12: Test result of Peak Output Power of 802.11n HT40 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |       | Limit |
|---------|----------------------------|-------------------|------|-------|-------|
|         |                            | (dBm)             |      |       | (dBm) |
|         |                            | Ant1              | Ant2 | Total |       |
| 38      | 5190                       | 8.45              | 8.44 | 11.46 | 24    |
| 46      | 5230                       | 8.47              | 8.46 | 11.48 | 24    |
| 151     | 5755                       | 8.45              | 8.47 | 11.47 | 30    |
| 159     | 5795                       | 8.49              | 8.49 | 11.50 | 30    |

**Table 13: Test result of Peak Output Power of 802.11ac HT20 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Limit |
|---------|----------------------------|-------------------|-------|
|         |                            | (dBm)             | (dBm) |
| 36      | 5180                       | 8.49              | 24    |
| 44      | 5220                       | 8.48              | 24    |
| 48      | 5240                       | 8.48              | 24    |
| 149     | 5745                       | 8.50              | 30    |
| 157     | 5785                       | 8.49              | 30    |
| 165     | 5825                       | 8.48              | 30    |

**Table 14: Test result of Peak Output Power of 802.11ac HT20 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |       | Limit |
|---------|----------------------------|-------------------|------|-------|-------|
|         |                            | (dBm)             |      |       | (dBm) |
|         |                            | Ant1              | Ant2 | Total |       |
| 36      | 5180                       | 8.51              | 8.55 | 11.54 | 24    |
| 44      | 5220                       | 8.50              | 8.57 | 11.55 | 24    |
| 48      | 5240                       | 8.52              | 8.55 | 11.55 | 24    |

|     |      |      |      |       |    |
|-----|------|------|------|-------|----|
| 149 | 5745 | 8.53 | 8.53 | 11.54 | 30 |
| 157 | 5785 | 8.55 | 8.52 | 11.55 | 30 |
| 165 | 5825 | 8.57 | 8.53 | 11.56 | 30 |

**Table 15: Test result of Peak Output Power of 802.11ac HT40 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Limit |
|---------|----------------------------|-------------------|-------|
|         |                            | (dBm)             | (dBm) |
| 38      | 5190                       | 8.60              | 24    |
| 46      | 5230                       | 8.54              | 24    |
| 151     | 5755                       | 8.55              | 30    |
| 159     | 5795                       | 8.57              | 30    |

**Table 16: Test result of Peak Output Power of 802.11ac HT40 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |       | Limit |
|---------|----------------------------|-------------------|------|-------|-------|
|         |                            | (dBm)             |      |       | (dBm) |
|         |                            | Ant1              | Ant2 | Total |       |
| 38      | 5190                       | 8.52              | 8.57 | 11.56 | 24    |
| 46      | 5230                       | 8.53              | 8.57 | 11.56 | 24    |
| 151     | 5755                       | 8.53              | 8.53 | 11.54 | 30    |
| 159     | 5795                       | 8.50              | 8.55 | 11.54 | 30    |

**Table 17: Test result of Peak Output Power of 802.11ac HT80 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Limit |
|---------|----------------------------|-------------------|-------|
|         |                            | (dBm)             | (dBm) |
| 42      | 5210                       | 8.75              | 24    |
| 155     | 5775                       | 8.55              | 30    |

**Table 18: Test result of Peak Output Power of 802.11ac HT80 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |       | Limit<br>(dBm) |
|---------|----------------------------|-------------------|------|-------|----------------|
|         |                            | (dBm)             |      |       |                |
|         |                            | Ant1              | Ant2 | Total |                |
| 42      | 5210                       | 8.70              | 8.72 | 11.72 | 24             |
| 155     | 5775                       | 8.77              | 8.65 | 11.72 | 30             |

**Max EIRP**

Note: 1, Ant1 Gain: 1.1dBi, Ant2 Gain: 1.1dBi;

2, As according with KDB 662911 v02r01, the MIMO mode directional antenna gain is 4.1dBi, so the Peak Output Power limit is 36dBm for band 5725~5850MHz as antenna gain less than 6dBi.

**Table 19: Test result of Max EIRP of 802.11a**

| Channel | Channel Frequency (MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|-------------------------|-------------------|--------------|-------|-------|
|         |                         | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 36      | 5180                    | 8.53              | 1.1          | 9.63  | 36    |
| 44      | 5220                    | 8.52              | 1.1          | 9.62  | 36    |
| 48      | 5240                    | 8.51              | 1.1          | 9.61  | 36    |
| 149     | 5745                    | 8.49              | 1.1          | 9.59  | 36    |
| 157     | 5785                    | 8.48              | 1.1          | 9.58  | 36    |
| 165     | 5825                    | 8.51              | 1.1          | 9.61  | 36    |

**Table 20: Test result of Max EIRP of 802.11n HT20 SISO**

| Channel | Channel Frequency (MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|-------------------------|-------------------|--------------|-------|-------|
|         |                         | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 36      | 5180                    | 8.47              | 1.1          | 9.57  | 36    |
| 44      | 5220                    | 8.51              | 1.1          | 9.61  | 36    |
| 48      | 5240                    | 8.48              | 1.1          | 9.58  | 36    |
| 149     | 5745                    | 8.49              | 1.1          | 9.59  | 36    |
| 157     | 5785                    | 8.45              | 1.1          | 9.55  | 36    |
| 165     | 5825                    | 8.50              | 1.1          | 9.60  | 36    |

**Table 21: Test result of Max EIRP of 802.11n HT20 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |          | Total | Limit |
|---------|----------------------------|-------------------|------|----------|-------|-------|
|         |                            | (dBm)             |      |          | (dBm) | (dBm) |
|         |                            | Ant1              | Ant2 | Ant Gain |       |       |
| 36      | 5180                       | 8.48              | 8.59 | 4.1      | 15.65 | 36    |
| 44      | 5220                       | 8.42              | 8.55 | 4.1      | 15.60 | 36    |
| 48      | 5240                       | 8.45              | 8.52 | 4.1      | 15.60 | 36    |
| 149     | 5745                       | 8.45              | 8.53 | 4.1      | 15.60 | 36    |
| 157     | 5785                       | 8.44              | 8.58 | 4.1      | 15.62 | 36    |
| 165     | 5825                       | 8.37              | 8.58 | 4.1      | 15.59 | 36    |

**Table 22: Test result of Max EIRP of 802.11n HT40 SISO**

| Channel | Channel Frequency (MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|-------------------------|-------------------|--------------|-------|-------|
|         |                         | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 38      | 5190                    | 8.59              | 1.1          | 9.69  | 36    |
| 46      | 5230                    | 8.58              | 1.1          | 9.68  | 36    |
| 151     | 5755                    | 8.60              | 1.1          | 9.70  | 36    |
| 159     | 5795                    | 8.61              | 1.1          | 9.71  | 36    |

**Table 23: Test result of Max EIRP of 802.11n HT40 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power<br>(dBm) |      |          | Total<br>(dBm) | Limit<br>(dBm) |
|---------|----------------------------|----------------------------|------|----------|----------------|----------------|
|         |                            | Ant1                       | Ant2 | Ant Gain |                |                |
| 38      | 5190                       | 8.45                       | 8.44 | 4.1      | 15.56          | 36             |
| 46      | 5230                       | 8.47                       | 8.46 | 4.1      | 15.58          | 36             |
| 151     | 5755                       | 8.45                       | 8.47 | 4.1      | 15.57          | 36             |
| 159     | 5795                       | 8.49                       | 8.49 | 4.1      | 15.60          | 36             |

**Table 24: Test result of Max EIRP of 802.11ac HT20 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|----------------------------|-------------------|--------------|-------|-------|
|         |                            | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 36      | 5180                       | 8.49              | 1.1          | 9.59  | 36    |
| 44      | 5220                       | 8.48              | 1.1          | 9.58  | 36    |
| 48      | 5240                       | 8.48              | 1.1          | 9.58  | 36    |
| 149     | 5745                       | 8.50              | 1.1          | 9.60  | 36    |
| 157     | 5785                       | 8.49              | 1.1          | 9.59  | 36    |
| 165     | 5825                       | 8.48              | 1.1          | 9.58  | 36    |

**Table 25: Test result of Max EIRP of 802.11ac HT20 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power<br>(dBm) |      |          | Total<br>(dBm) | Limit<br>(dBm) |
|---------|----------------------------|----------------------------|------|----------|----------------|----------------|
|         |                            | Ant1                       | Ant2 | Ant Gain |                |                |
| 36      | 5180                       | 8.51                       | 8.55 | 4.1      | 15.64          | 36             |
| 44      | 5220                       | 8.50                       | 8.57 | 4.1      | 15.65          | 36             |
| 48      | 5240                       | 8.52                       | 8.55 | 4.1      | 15.65          | 36             |
| 149     | 5745                       | 8.53                       | 8.53 | 4.1      | 15.64          | 36             |
| 157     | 5785                       | 8.55                       | 8.52 | 4.1      | 15.65          | 36             |
| 165     | 5825                       | 8.57                       | 8.53 | 4.1      | 15.66          | 36             |

**Table 26: Test result of Max EIRP of 802.11ac HT40 SISO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|----------------------------|-------------------|--------------|-------|-------|
|         |                            | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 38      | 5190                       | 8.60              | 1.1          | 9.70  | 36    |
| 46      | 5230                       | 8.54              | 1.1          | 9.64  | 36    |
| 151     | 5755                       | 8.55              | 1.1          | 9.65  | 36    |
| 159     | 5795                       | 8.57              | 1.1          | 9.67  | 36    |

**Table 27: Test result of Max EIRP of 802.11ac HT40 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power | Total | Limit |
|---------|----------------------------|-------------------|-------|-------|
|         |                            | (dBm)             | (dBm) | (dBm) |

|     |      | Ant1 | Ant2 | Ant Gain |       |    |
|-----|------|------|------|----------|-------|----|
| 38  | 5190 | 8.52 | 8.57 | 4.1      | 15.66 | 36 |
| 46  | 5230 | 8.53 | 8.57 | 4.1      | 15.66 | 36 |
| 151 | 5755 | 8.53 | 8.53 | 4.1      | 15.64 | 36 |
| 159 | 5795 | 8.50 | 8.55 | 4.1      | 15.64 | 36 |

**Table 28: Test result of Max EIRP of 802.11ac HT80 SISO**

| Channel | Channel Frequency (MHz) | Peak Output Power | Antenna Gain | Total | Limit |
|---------|-------------------------|-------------------|--------------|-------|-------|
|         |                         | (dBm)             | (dBi)        | (dBm) | (dBm) |
| 42      | 5210                    | 8.75              | 1.1          | 9.75  | 36    |
| 155     | 5775                    | 8.55              | 1.1          | 9.65  | 36    |

**Table 29: Test result of Max EIRP of 802.11ac HT80 MIMO**

| Channel | Channel Frequency<br>(MHz) | Peak Output Power |      |          | Total | Limit |
|---------|----------------------------|-------------------|------|----------|-------|-------|
|         |                            | (dBm)             |      |          | (dBm) | (dBm) |
|         |                            | Ant1              | Ant2 | Ant Gain |       |       |
| 42      | 5210                       | 8.70              | 8.72 | 4.1      | 15.82 | 36    |
| 155     | 5775                       | 8.77              | 8.65 | 4.1      | 15.82 | 36    |

### 5.1.3 26dB Bandwidth and 99% Bandwidth

**RESULT:**
**Pass**

Date of testing : 2015-05-27  
 Test standard : KDB 905462 D06  
                   : KDB 789033 D02 v01  
 Basic standard : ANSI C63.4: 2003  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A.1  
 Ambient temperature : 25°C  
 Relative humidity : 52%  
 Atmospheric pressure : 101kPa

**Table 30: Test result of 26dB & 99% Bandwidth of 802.11a**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 36      | 5180                    | 21.48                | 16.772              |
| 44      | 5220                    | 21.57                | 16.782              |
| 48      | 5240                    | 21.56                | 16.779              |
| 149     | 5745                    | 21.45                | 16.786              |
| 157     | 5785                    | 21.49                | 16.786              |
| 165     | 5825                    | 21.57                | 16.785              |

**Table 31: Test result of 26dB & 99% Bandwidth of 802.11n HT20 Ant1**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 36      | 5180                    | 21.65                | 17.933              |
| 44      | 5220                    | 21.67                | 17.936              |
| 48      | 5240                    | 21.71                | 17.927              |
| 149     | 5745                    | 21.53                | 17.927              |
| 157     | 5785                    | 21.80                | 17.935              |
| 165     | 5825                    | 21.83                | 17.932              |

**Table 32: Test result of 26dB & 99% Bandwidth of 802.11n HT20 Ant2**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 36      | 5180                    | 21.71                | 17.909              |
| 44      | 5220                    | 21.76                | 17.922              |
| 48      | 5240                    | 21.61                | 17.878              |

|     |      |       |        |
|-----|------|-------|--------|
| 149 | 5745 | 21.81 | 17.901 |
| 157 | 5785 | 21.66 | 17.894 |
| 165 | 5825 | 21.67 | 17.938 |

**Table 33: Test result of 26dB & 99% Bandwidth of 802.11n HT40 Ant1**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 38      | 5190                    | 40.09                | 36.342              |
| 46      | 5230                    | 39.94                | 36.314              |
| 151     | 5755                    | 40.04                | 36.344              |
| 159     | 5795                    | 40.22                | 36.340              |

**Table 34: Test result of 26dB & 99% Bandwidth of 802.11n HT40 Ant2**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 38      | 5190                    | 39.58                | 36.283              |
| 46      | 5230                    | 39.60                | 36.275              |
| 151     | 5755                    | 39.92                | 36.298              |
| 159     | 5795                    | 39.59                | 36.331              |

**Table 35: Test result of 26dB & 99% Bandwidth of 802.11ac HT20 Ant1**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 36      | 5180                    | 21.60                | 17.930              |
| 44      | 5220                    | 21.77                | 17.902              |
| 48      | 5240                    | 21.79                | 17.926              |
| 149     | 5745                    | 21.56                | 17.910              |
| 157     | 5785                    | 21.77                | 17.943              |
| 165     | 5825                    | 21.83                | 17.925              |

**Table 36: Test result of 26dB & 99% Bandwidth of 802.11ac HT20 Ant2**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 36      | 5180                    | 21.74                | 17.884              |
| 44      | 5220                    | 21.80                | 17.897              |
| 48      | 5240                    | 21.72                | 17.878              |
| 149     | 5745                    | 21.68                | 17.900              |
| 157     | 5785                    | 21.66                | 17.890              |
| 165     | 5825                    | 21.66                | 17.897              |

**Table 37: Test result of 26dB & 99% Bandwidth of 802.11ac HT40 Ant1**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
|---------|-------------------------|----------------------|---------------------|

|     |      |       |        |
|-----|------|-------|--------|
| 38  | 5190 | 40.10 | 36.350 |
| 46  | 5230 | 40.18 | 36.326 |
| 151 | 5755 | 40.12 | 36.367 |
| 159 | 5795 | 39.97 | 36.340 |

**Table 38: Test result of 26dB & 99% Bandwidth of 802.11ac HT40 Ant2**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 38      | 5190                    | 39.77                | 36.261              |
| 46      | 5230                    | 39.44                | 36.293              |
| 151     | 5755                    | 39.64                | 36.292              |
| 159     | 5795                    | 39.56                | 36.313              |

**Table 39: Test result of 26dB & 99% Bandwidth of 802.11ac HT80 Ant1**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 42      | 5210                    | 81.72                | 75.853              |
| 155     | 5775                    | 81.84                | 75.885              |

**Table 40: Test result of 26dB & 99% Bandwidth of 802.11ac HT80 Ant2**

| Channel | Channel Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---------|-------------------------|----------------------|---------------------|
| 42      | 5210                    | 80.86                | 75.663              |
| 155     | 5775                    | 81.31                | 75.875              |

### Test Plot of 26dB Bandwidth and 99% Bandwidth

802.11a







802.11n-HT20 Ant1







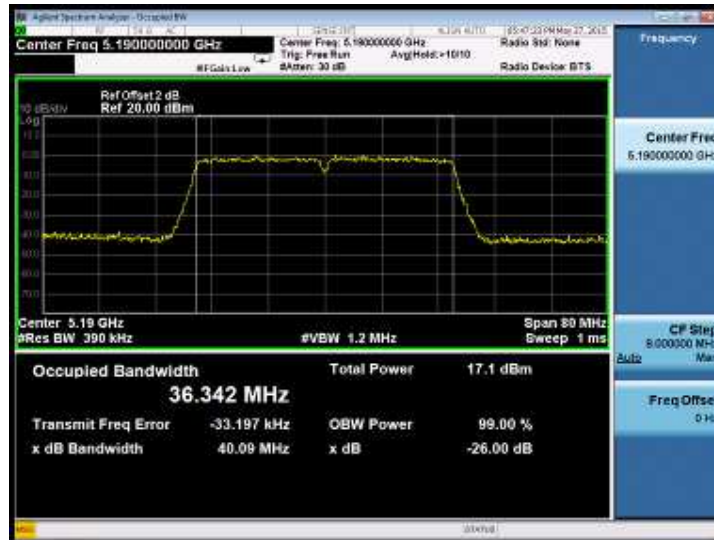
802.11n-HT20 Ant2





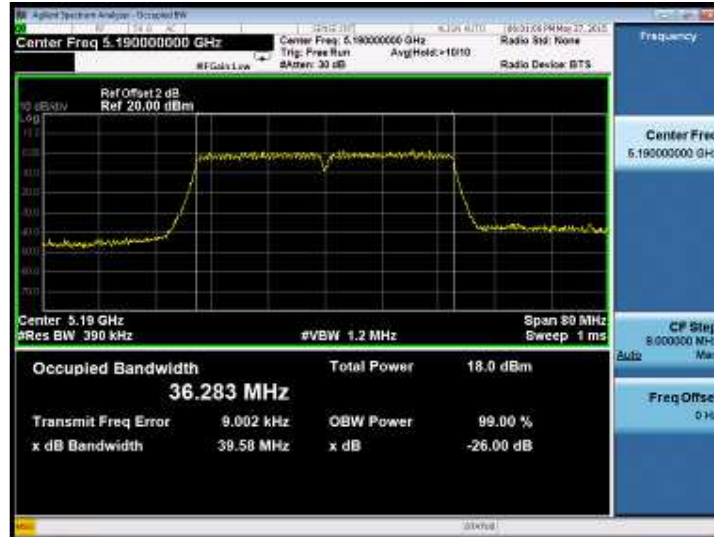


802.11n-HT40 Ant1



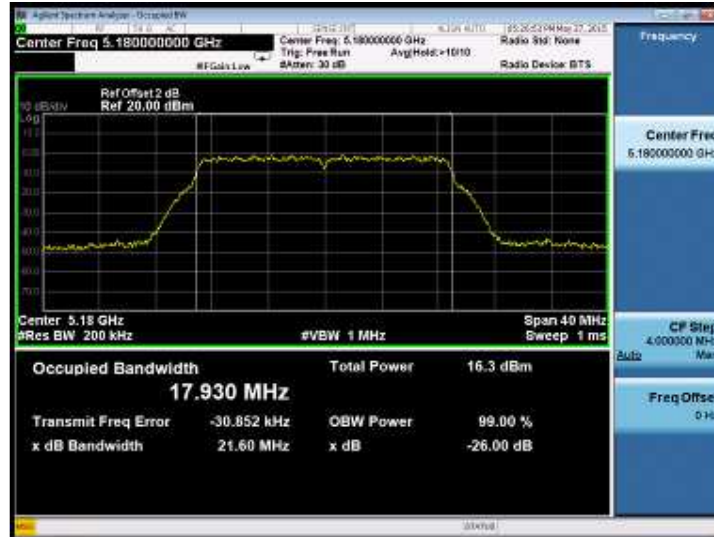


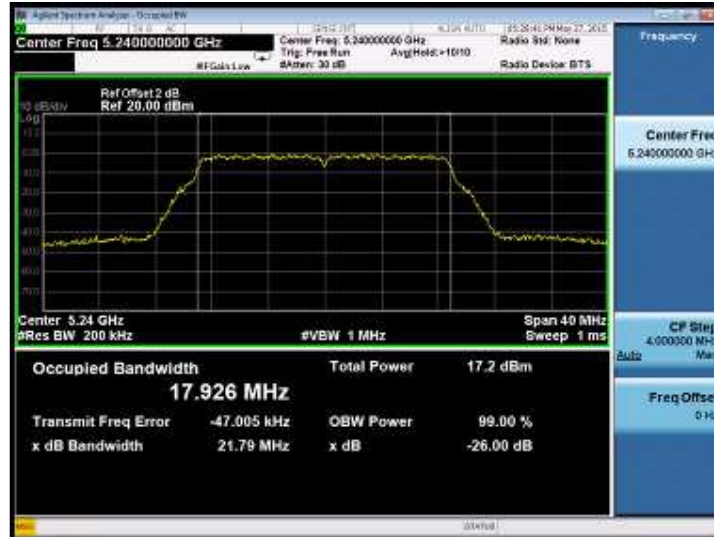
802.11n-HT40 Ant2





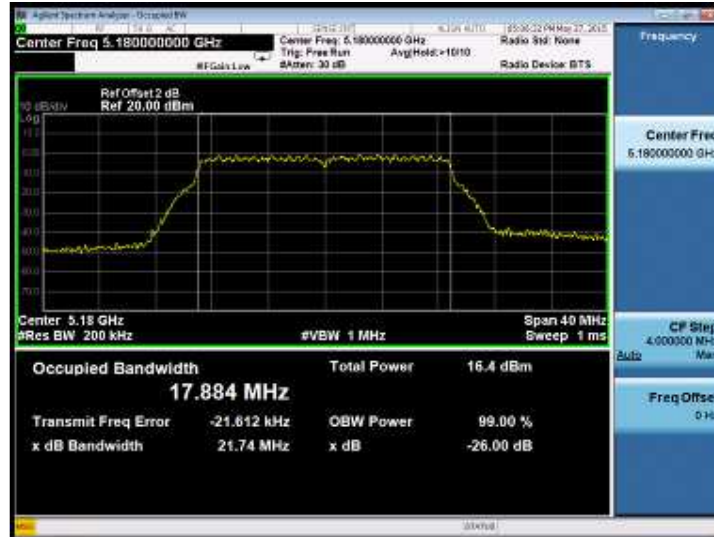
802.11ac n20MHz Ant1







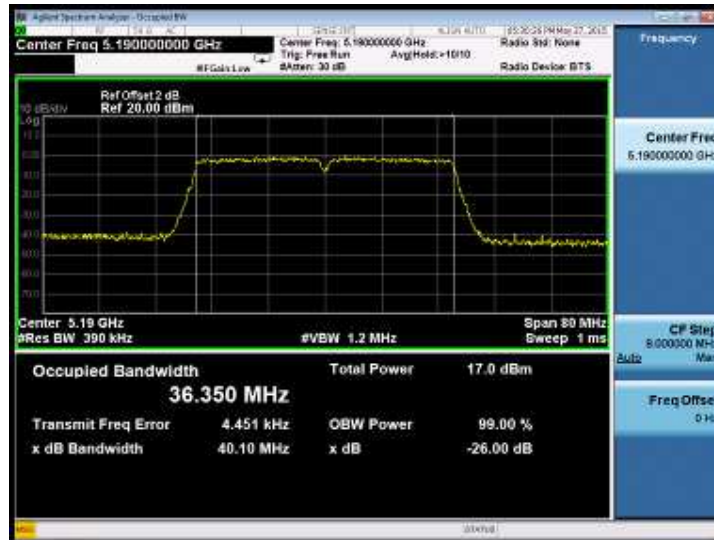
802.11ac n20MHz Ant2







802.11ac n40MHz Ant1



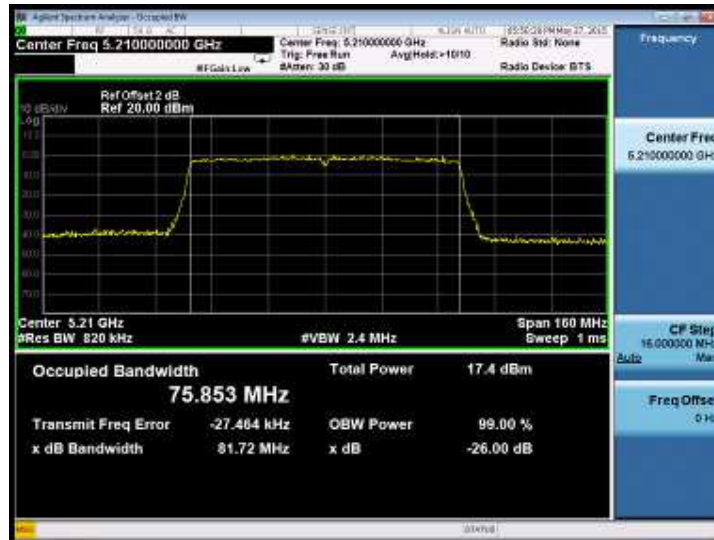


802.11ac n40MHz Ant2





802.11ac n80MHz Ant1



802.11ac n80MHz Ant2



### 5.1.4 6dB Bandwidth

**RESULT:**
**Pass**

Date of testing : 2015-05-27  
 Test standard : KDB 905462 D06 v01  
                   : KDB 789033 D02 v01  
 Basic standard : ANSI C63.4: 2003  
 Limit : 500kHz  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A.1  
 Ambient temperature : 25°C  
 Relative humidity : 52%  
 Atmospheric pressure : 101kPa

**Table 41: Test result of 6dB Bandwidth of 802.11a**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 149     | 5745                    | 16.37               | 0.5         |
| 157     | 5785                    | 18.38               | 0.5         |
| 165     | 5825                    | 16.39               | 0.5         |

**Table 42: Test result of 6dB Bandwidth of 802.11n HT20 Ant1**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 149     | 5745                    | 17.59               | 0.5         |
| 157     | 5785                    | 17.62               | 0.5         |
| 165     | 5825                    | 17.63               | 0.5         |

**Table 43: Test result of 6dB Bandwidth of 802.11n HT20 Ant2**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 149     | 5745                    | 17.65               | 0.5         |
| 157     | 5785                    | 17.66               | 0.5         |
| 165     | 5825                    | 17.65               | 0.5         |

**Table 44: Test result of 6dB Bandwidth of 802.11n HT40 Ant1**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 151     | 5755                    | 36.39               | 0.5         |
| 159     | 5795                    | 36.38               | 0.5         |

**Table 45: Test result of 6dB Bandwidth of 802.11n HT40 Ant2**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 151     | 5755                    | 36.43               | 0.5         |
| 159     | 5795                    | 36.42               | 0.5         |

**Table 46: Test result of 6dB Bandwidth of 802.11ac HT20 Ant1**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 149     | 5745                    | 17.65               | 0.5         |
| 157     | 5785                    | 17.62               | 0.5         |
| 165     | 5825                    | 17.62               | 0.5         |

**Table 47: Test result of 6dB Bandwidth of 802.11ac HT20 Ant2**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 149     | 5745                    | 17.67               | 0.5         |
| 157     | 5785                    | 17.64               | 0.5         |
| 165     | 5825                    | 17.68               | 0.5         |

**Table 48: Test result of 6dB Bandwidth of 802.11ac HT40 Ant1**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 151     | 5755                    | 36.39               | 0.5         |
| 159     | 5795                    | 36.35               | 0.5         |

**Table 49: Test result of 6dB Bandwidth of 802.11ac HT40 Ant2**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 151     | 5755                    | 36.41               | 0.5         |
| 159     | 5795                    | 36.41               | 0.5         |

**Table 50: Test result of 6dB Bandwidth of 802.11ac HT80 Ant1**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 155     | 5775                    | 75.75               | 0.5         |

**Table 51: Test result of 6dB Bandwidth of 802.11ac HT80 Ant2**

| Channel | Channel Frequency (MHz) | 6dB Bandwidth (MHz) | Limit (MHz) |
|---------|-------------------------|---------------------|-------------|
| 155     | 5775                    | 76.38               | 0.5         |

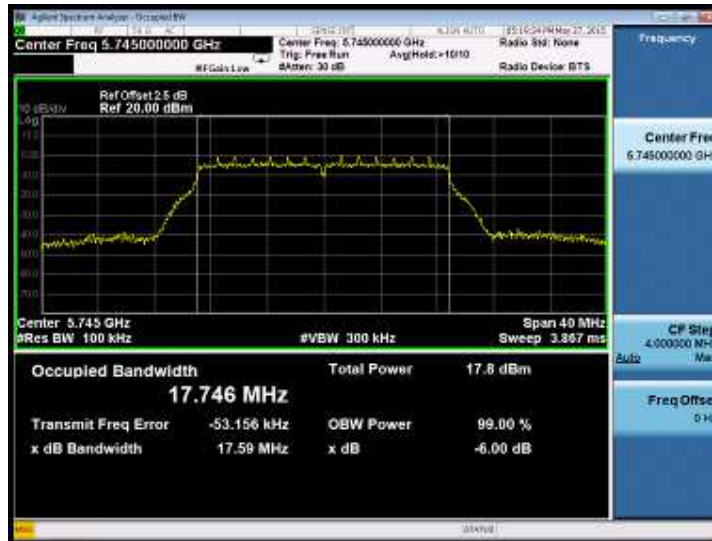
## Test Plot of 6dB Bandwidth

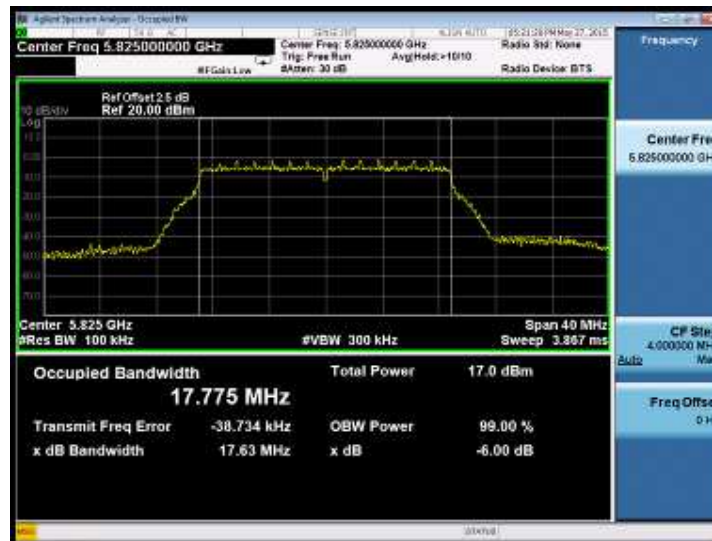
802.11a



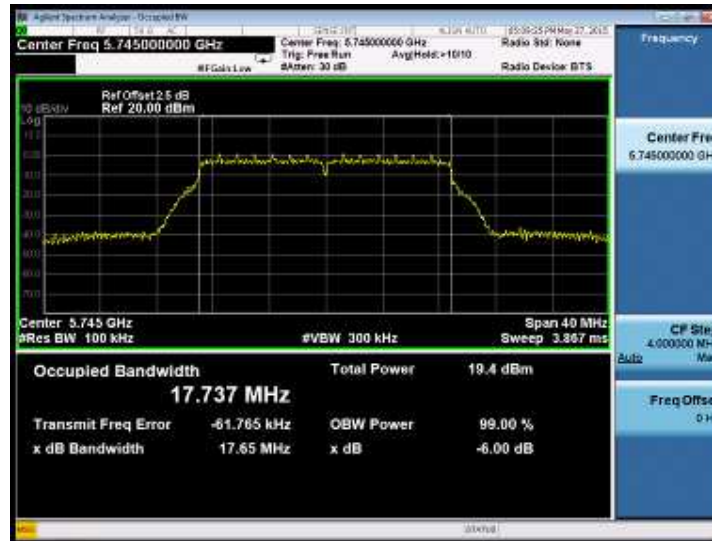


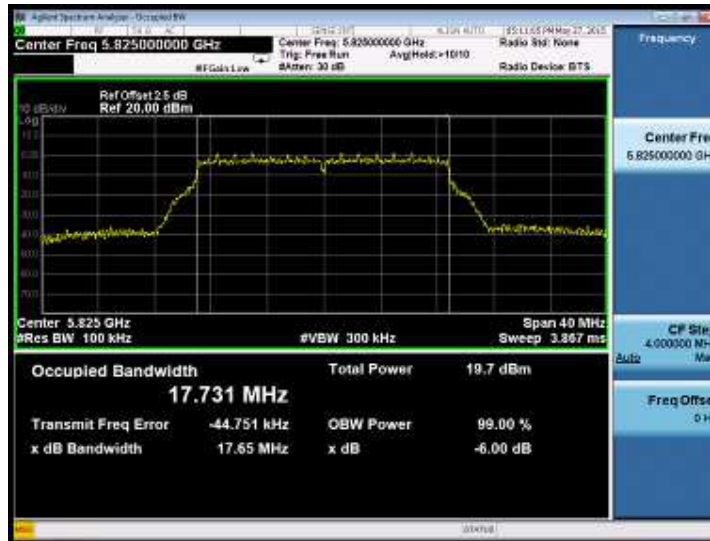
802.11n-HT20 Ant1



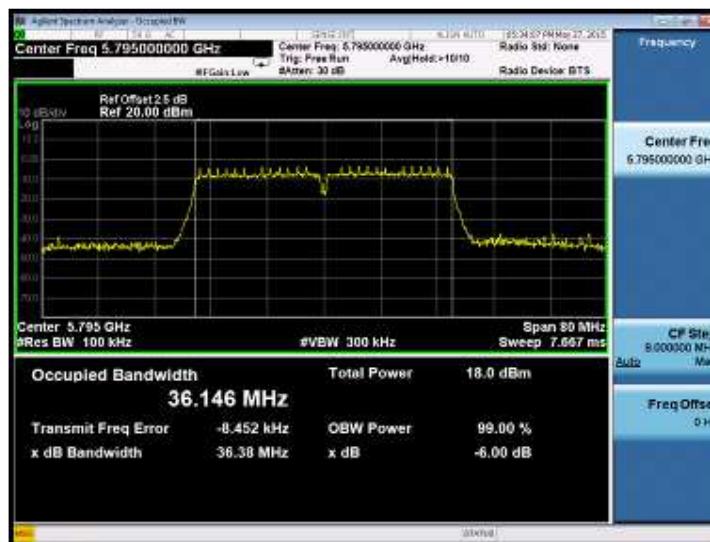
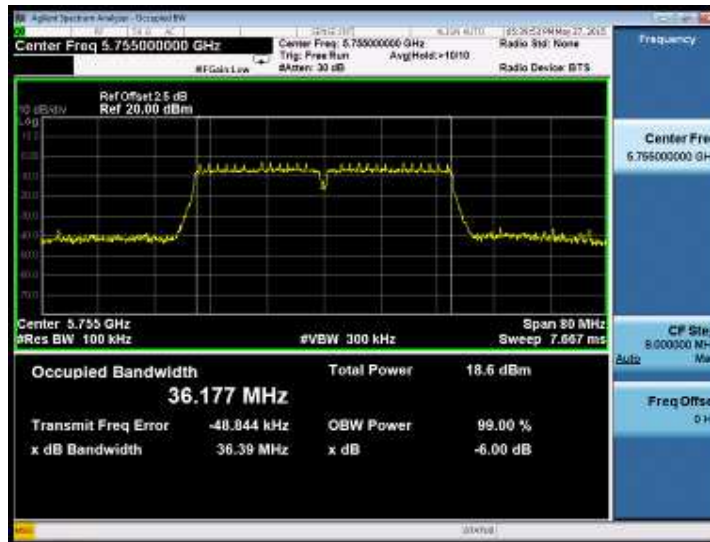


802.11n-HT20 Ant2

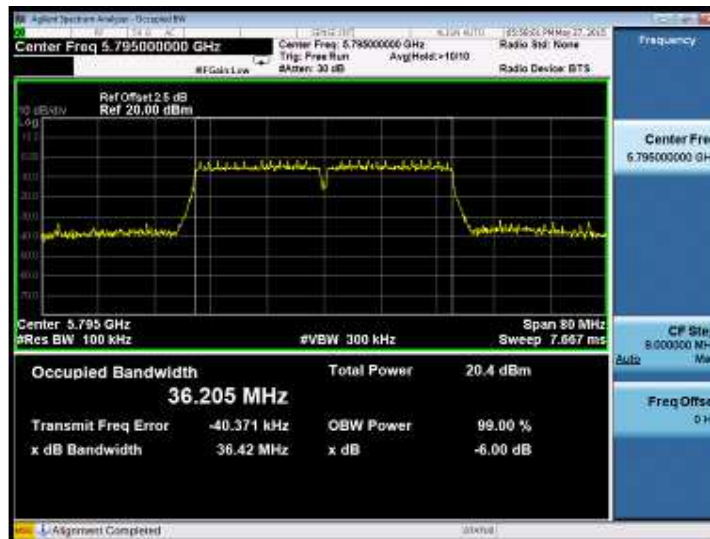
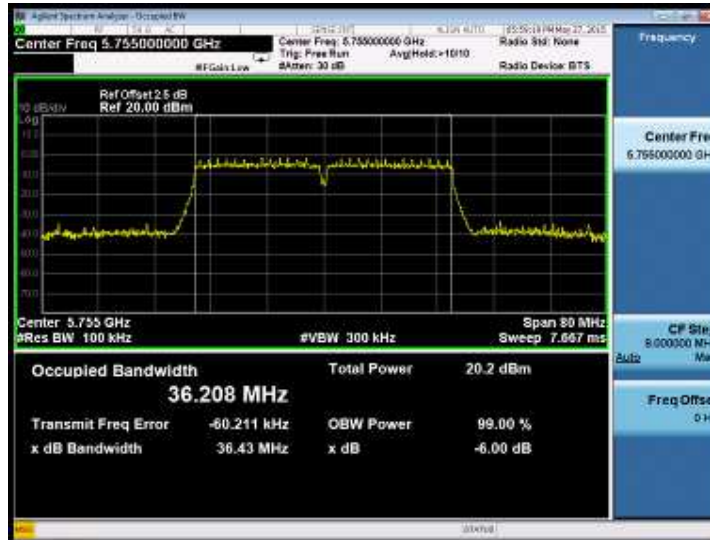




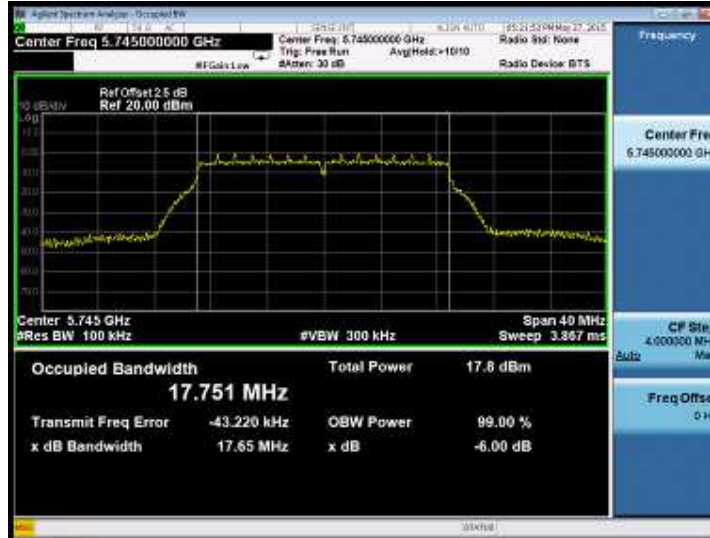
802.11n-HT40 Ant1

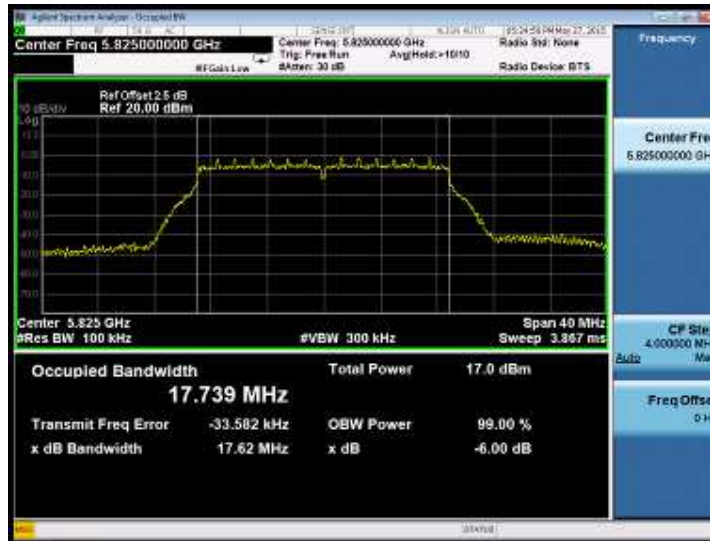


802.11n-HT40 Ant2



802.11ac n20MHz Ant1



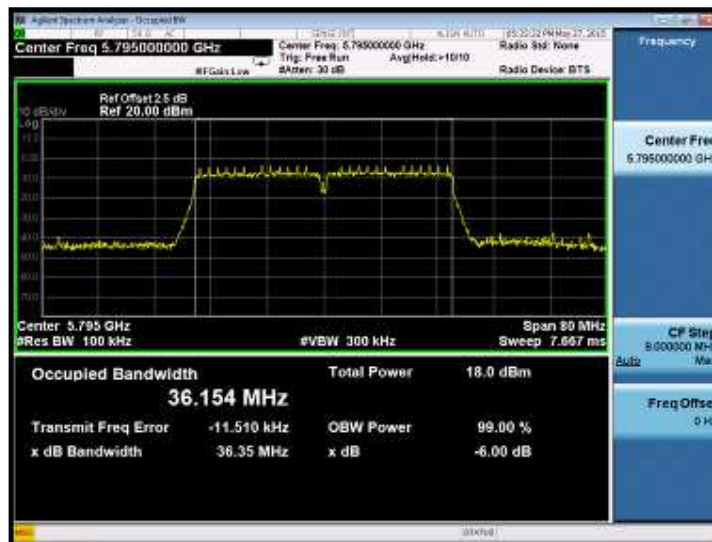


802.11ac n20MHz Ant2

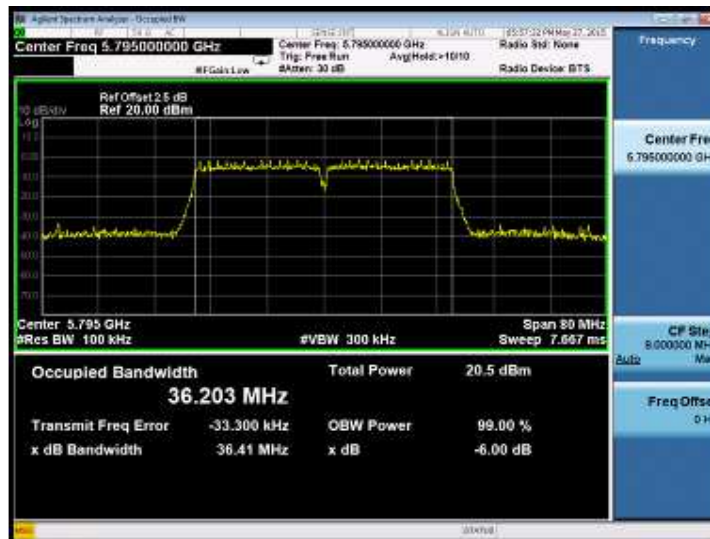
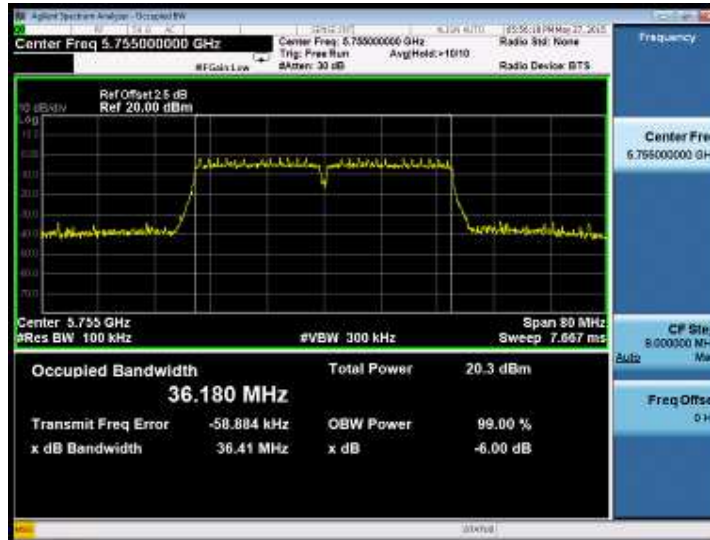




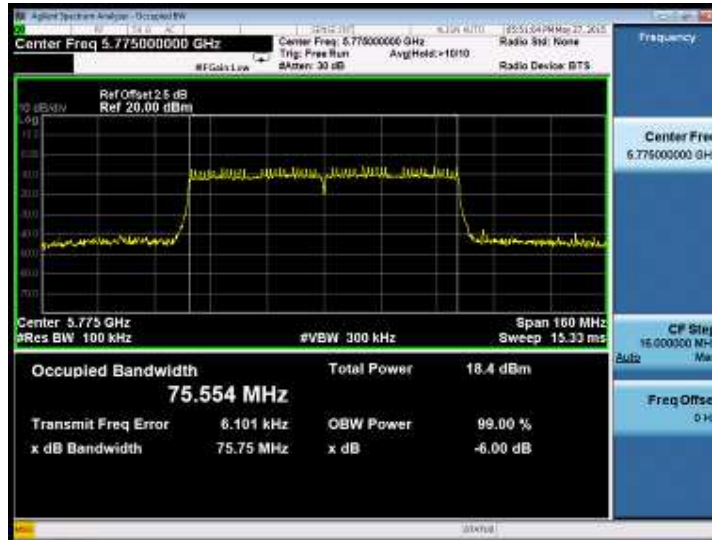
802.11ac n40MHz Ant1



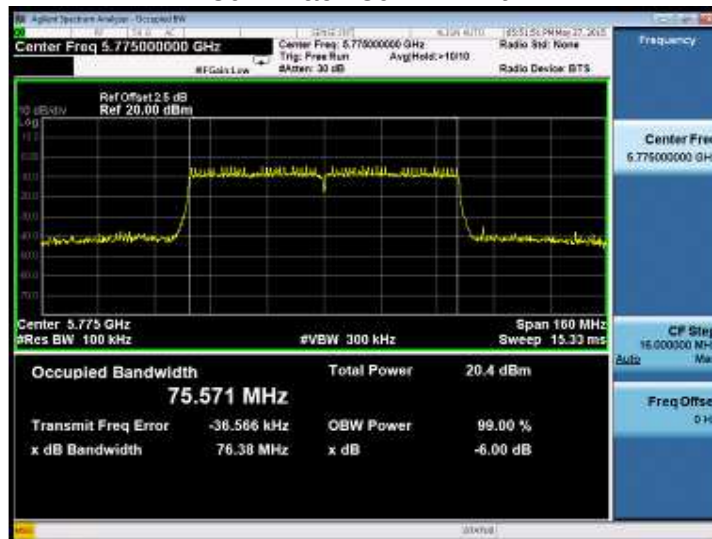
802.11ac n40MHz Ant2



### 802.11ac n80MHz Ant1



### 802.11ac n80MHz Ant2





**Table 55: Test result of power spectral density for 802.11n HT40 ANT1**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 38      | 5190          | 4.103 dBm/MHz    | 11dBm/MHz    | Pass       |
| 46      | 5230          | 5.149 dBm/MHz    | 11dBm/MHz    | Pass       |
| 151     | 5755          | 1.368 dBm/500KHz | 30dBm/500kHz | Pass       |
| 159     | 5795          | 1.003 dBm/500KHz | 30dBm/500kHz | Pass       |

**Table 56: Test result of power spectral density for 802.11n HT40 ANT2**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 38      | 5190          | 6.002 dBm/MHz    | 11dBm/MHz    | Pass       |
| 46      | 5230          | 6.824 dBm/MHz    | 11dBm/MHz    | Pass       |
| 151     | 5755          | 4.502 dBm/500KHz | 30dBm/500kHz | Pass       |
| 159     | 5795          | 4.165 dBm/500KHz | 30dBm/500kHz | Pass       |

**Table 57: Test result of power spectral density for 802.11ac HT20 ANT1**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 36      | 5180          | 6.237 dBm/MHz    | 11dBm/MHz    | Pass       |
| 44      | 5220          | 7.192 dBm/MHz    | 11dBm/MHz    | Pass       |
| 48      | 5240          | 8.072 dBm/MHz    | 11dBm/MHz    | Pass       |
| 149     | 5745          | 3.635 dBm/500KHz | 30dBm/500kHz | Pass       |
| 157     | 5785          | 2.672 dBm/500KHz | 30dBm/500kHz | Pass       |
| 165     | 5825          | 2.568 dBm/500KHz | 30dBm/500kHz | Pass       |

**Table 58: Test result of power spectral density for 802.11ac HT20 ANT2**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 36      | 5180          | 7.427 dBm/MHz    | 11dBm/MHz    | Pass       |
| 44      | 5220          | 8.038 dBm/MHz    | 11dBm/MHz    | Pass       |
| 48      | 5240          | 8.448 dBm/MHz    | 11dBm/MHz    | Pass       |
| 149     | 5745          | 6.352 dBm/500KHz | 30dBm/500kHz | Pass       |
| 157     | 5785          | 6.676 dBm/500KHz | 30dBm/500kHz | Pass       |
| 165     | 5825          | 6.450 dBm/500KHz | 30dBm/500kHz | Pass       |

**Table 59: Test result of power spectral density for 802.11ac HT40 ANT1**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 38      | 5190          | 4.434 dBm/MHz    | 11dBm/MHz    | Pass       |
| 46      | 5230          | 5.754 dBm/MHz    | 11dBm/MHz    | Pass       |
| 151     | 5755          | 1.495 dBm/500KHz | 30dBm/500kHz | Pass       |
| 159     | 5795          | 0.304 dBm/500KHz | 30dBm/500kHz | Pass       |

**Table 60: Test result of power spectral density for 802.11ac HT40 ANT2**

| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 38      | 5190          | 5.500 dBm/MHz    | 11dBm/MHz    | Pass       |
| 46      | 5230          | 6.397 dBm/MHz    | 11dBm/MHz    | Pass       |
| 151     | 5755          | 4.754 dBm/500KHz | 30dBm/500kHz | Pass       |
| 159     | 5795          | 4.725 dBm/500KHz | 30dBm/500kHz | Pass       |

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**Table 61: Test result of power spectral density for 802.11ac HT80 ANT1**

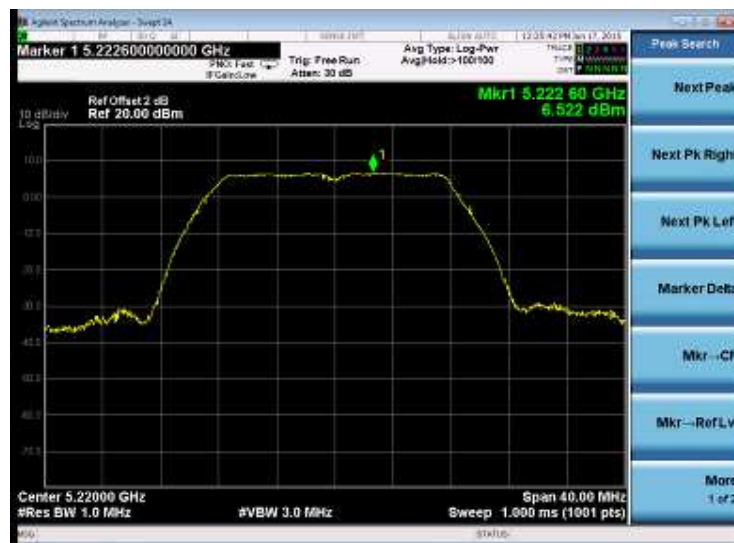
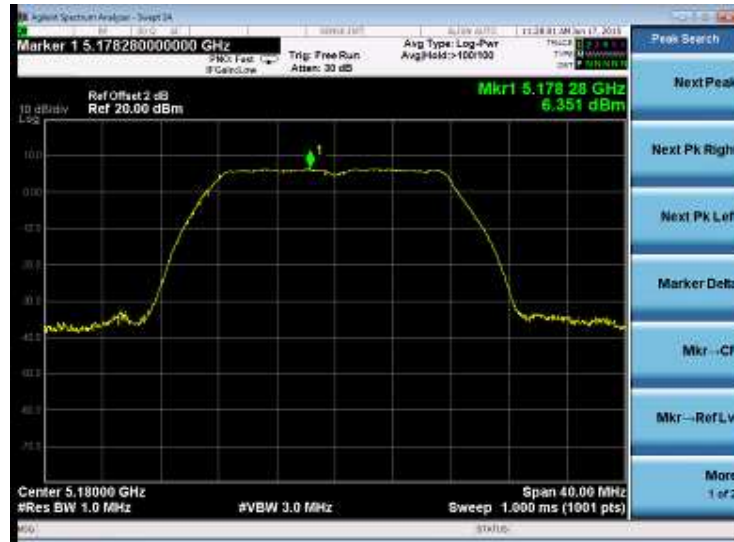
| Channel | Channel (MHz) | Result               | Limit        | Conclusion |
|---------|---------------|----------------------|--------------|------------|
| 42      | 5210          | 1.271 dBm/MHz        | 11dBm/MHz    | Pass       |
| 155     | 5775          | -2.340<br>dBm/500KHz | 30dBm/500kHz | Pass       |

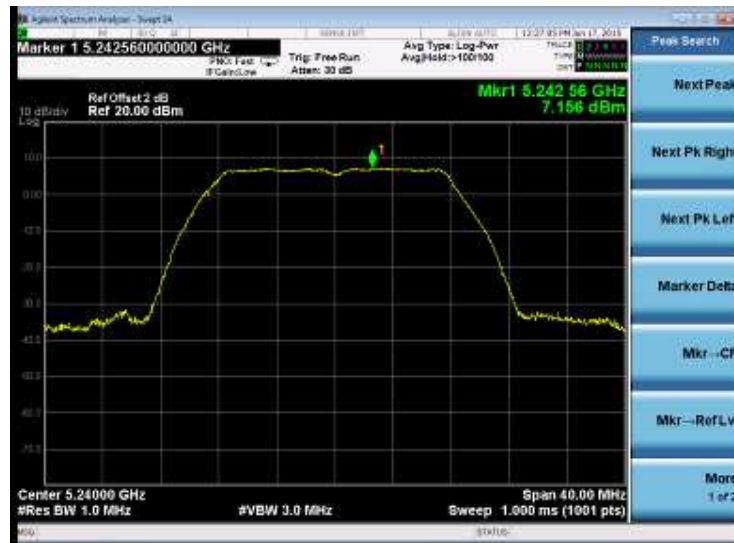
**Table 62: Test result of power spectral density for 802.11ac HT80 ANT2**

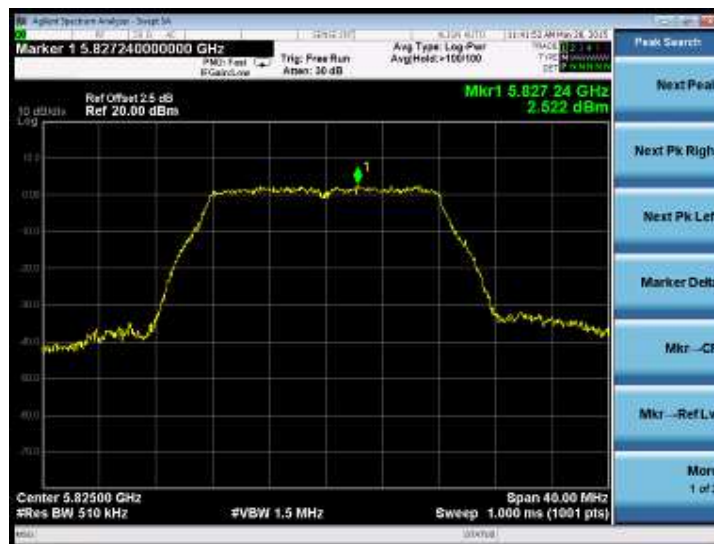
| Channel | Channel (MHz) | Result           | Limit        | Conclusion |
|---------|---------------|------------------|--------------|------------|
| 42      | 5210          | 2.281 dBm/MHz    | 11dBm/MHz    | Pass       |
| 155     | 5775          | 1.161 dBm/500KHz | 30dBm/500kHz | Pass       |

## Test Plot of Power spectral density

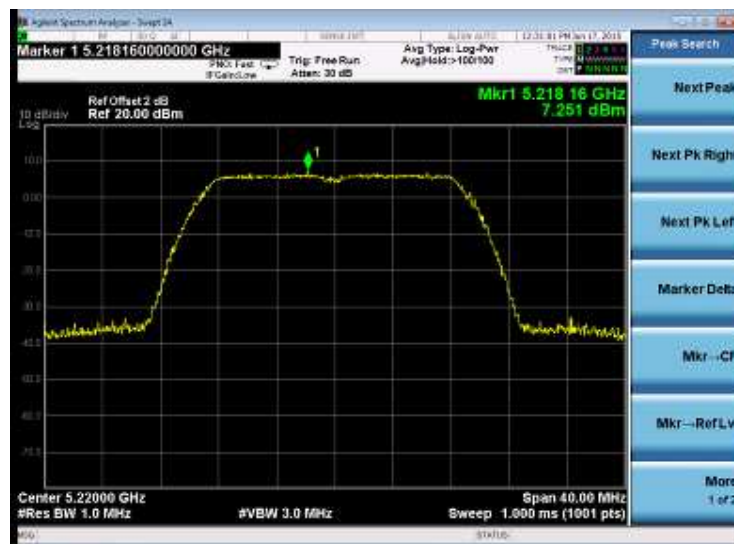
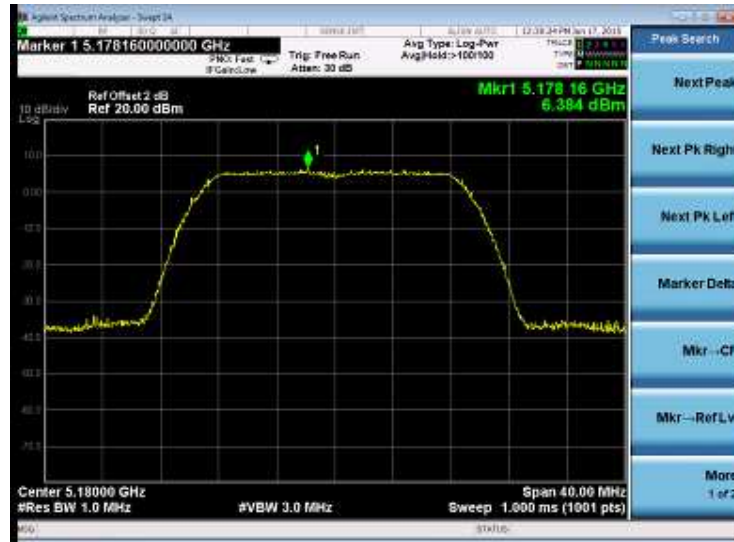
802.11a

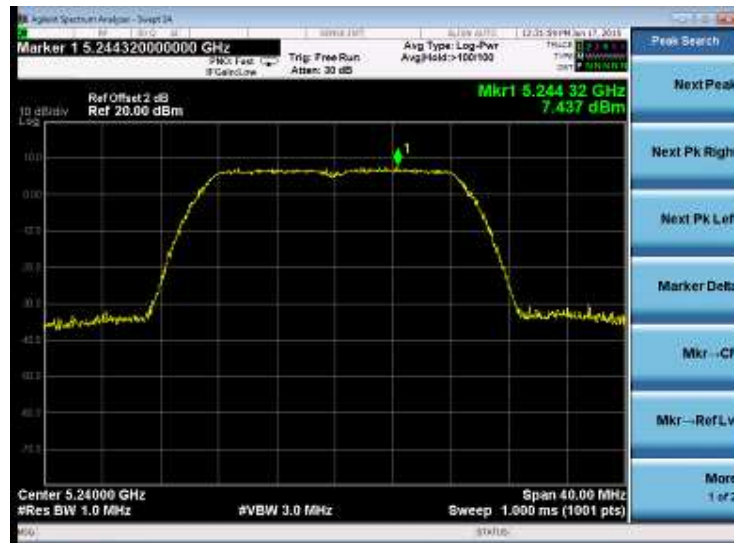


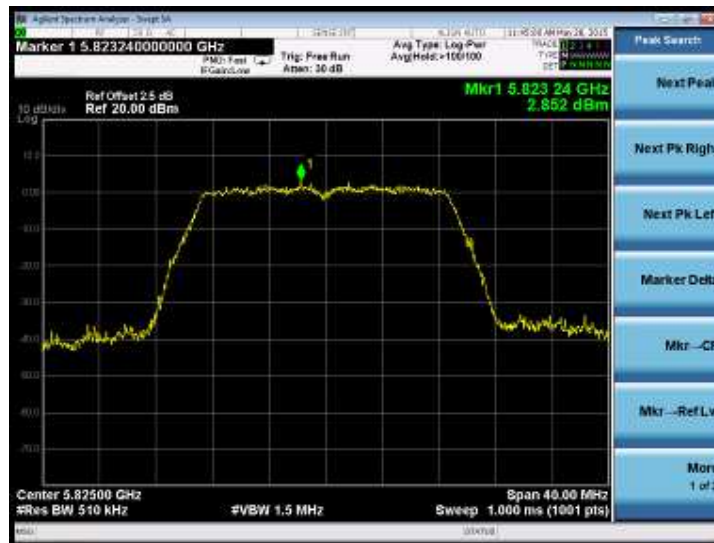




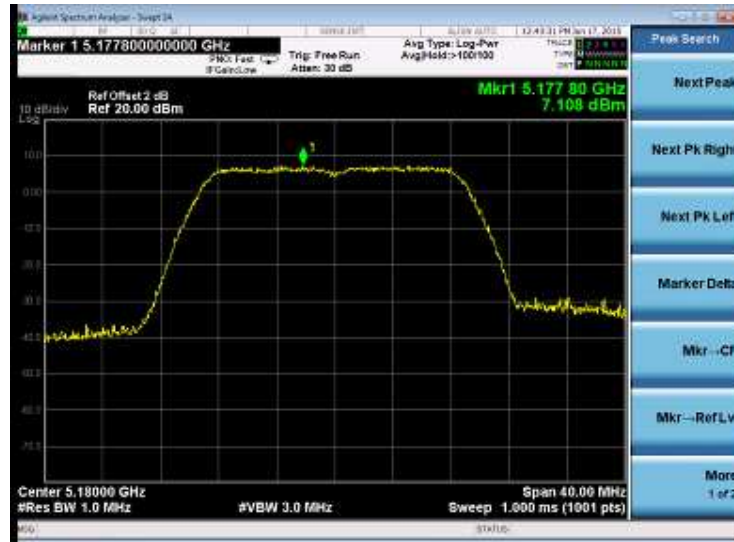
802.11n-HT20 Ant1



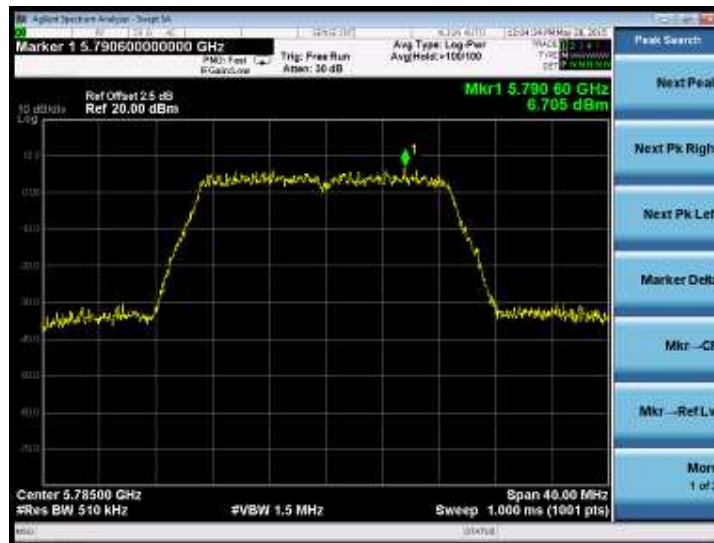




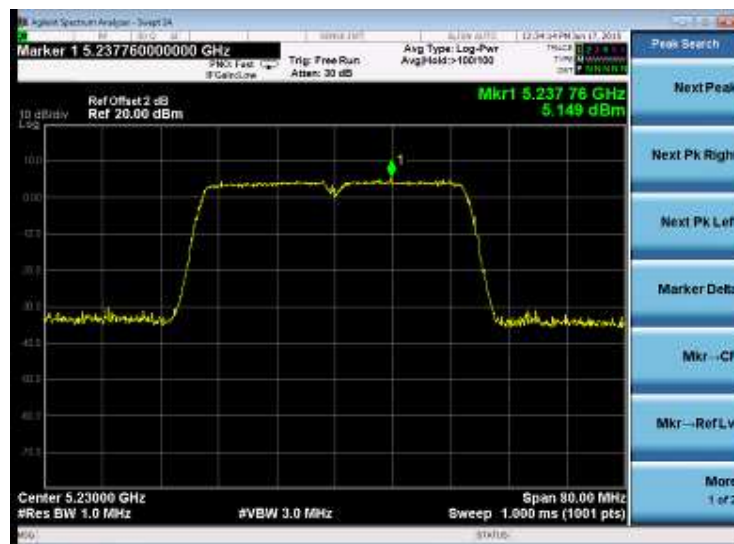
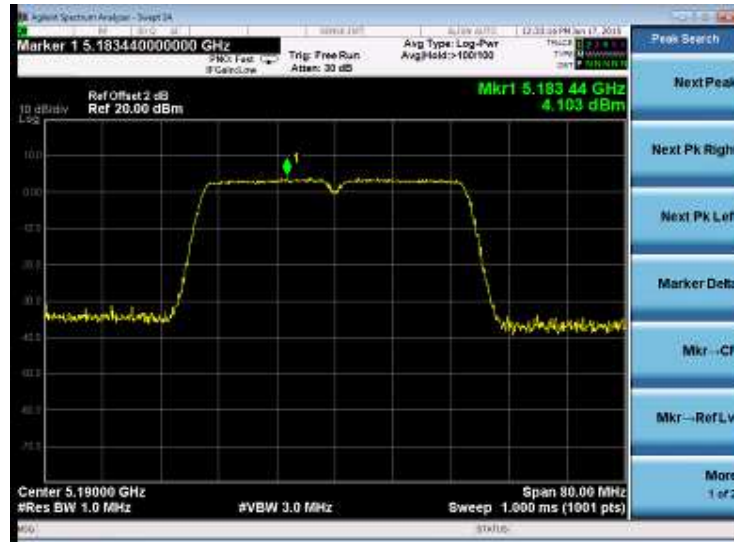
802.11n-HT20 Ant2

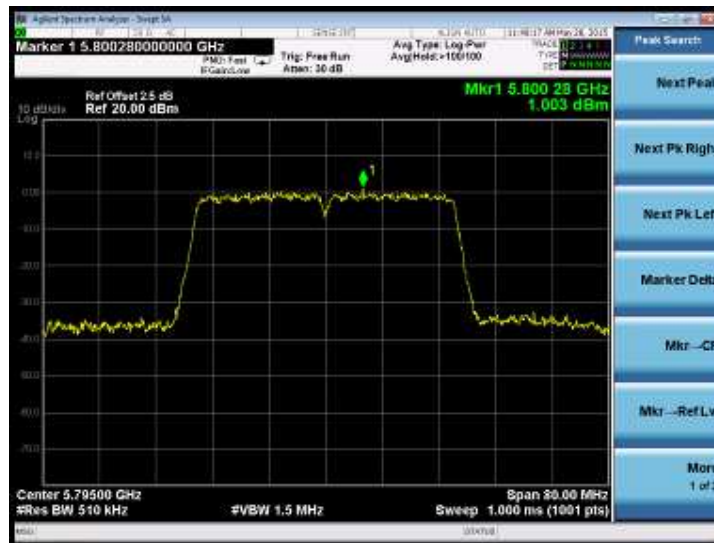
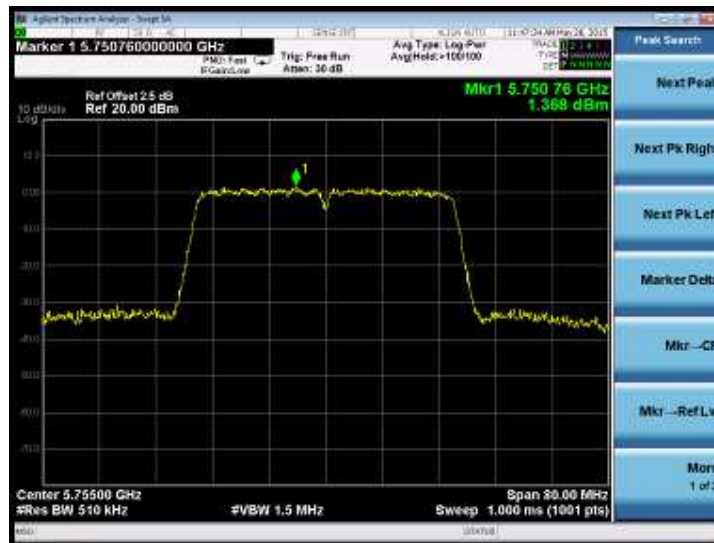




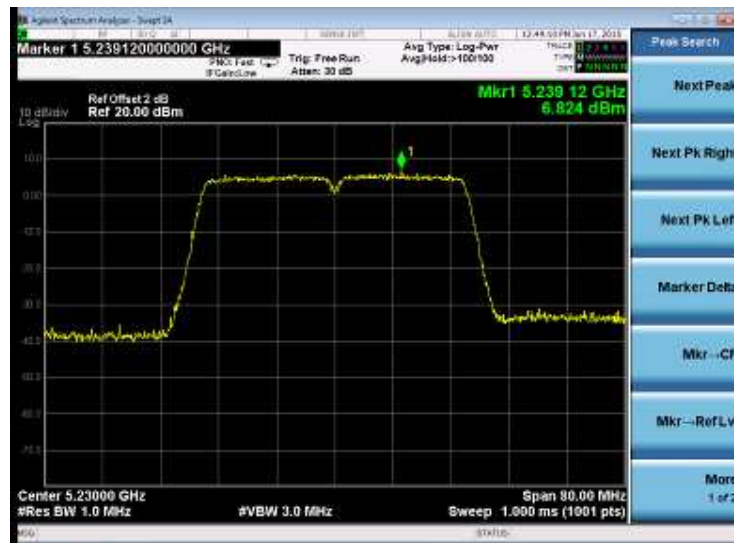
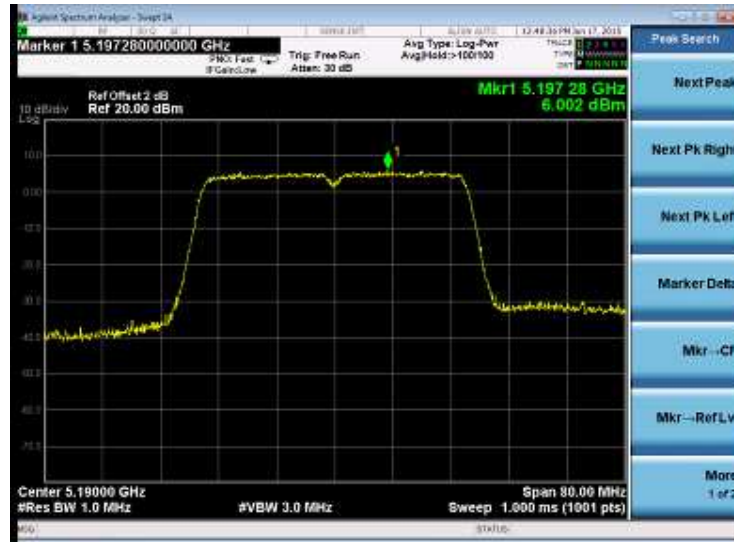


802.11n-HT40 Ant1



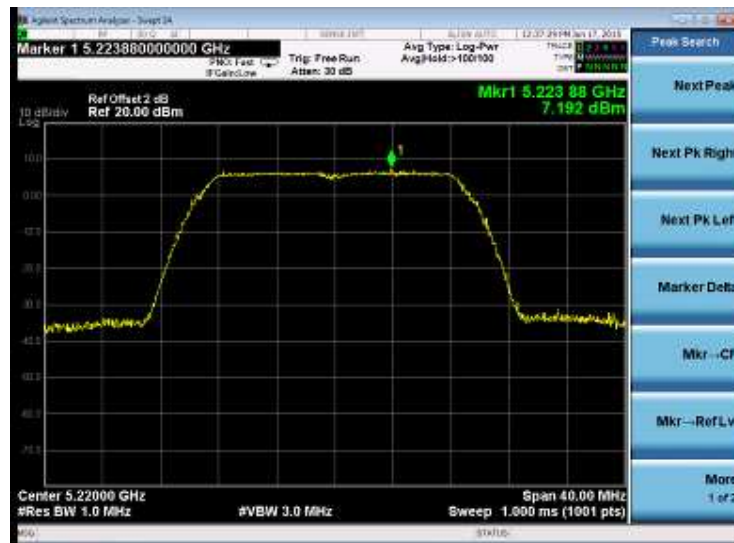


802.11n-HT40 Ant2

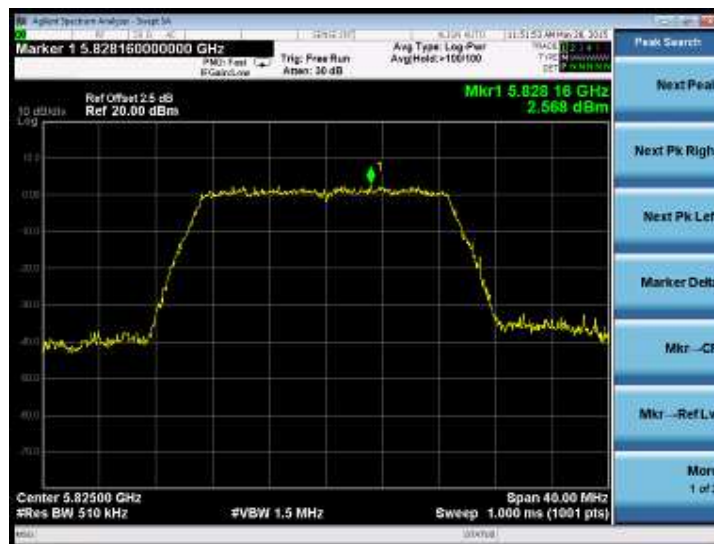




802.11ac n20MHz Ant1







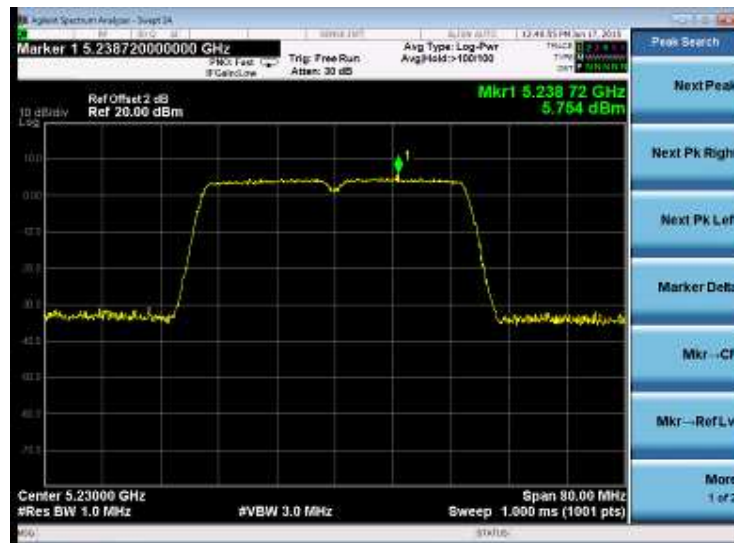
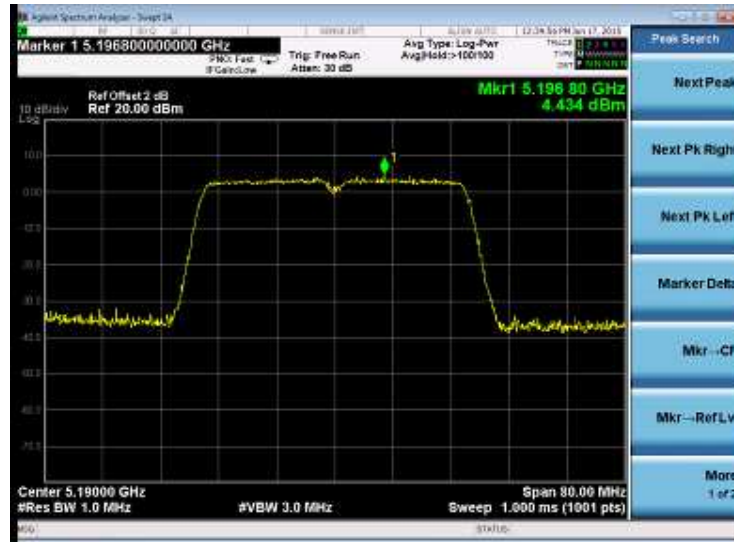
802.11ac n20MHz Ant2

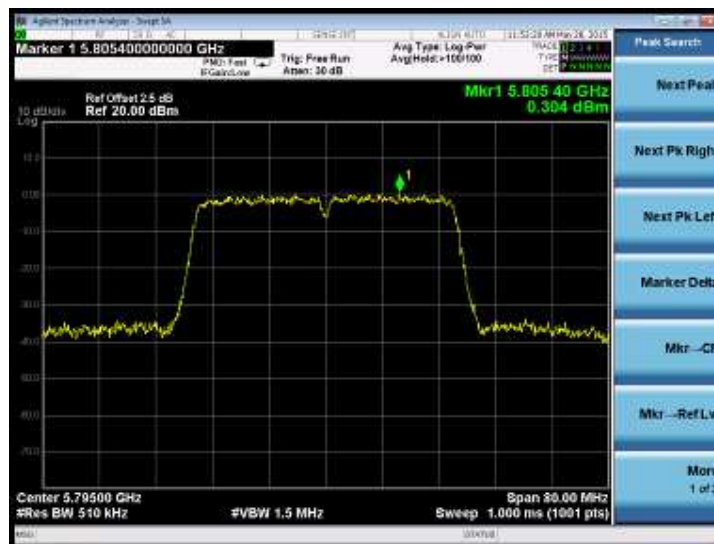
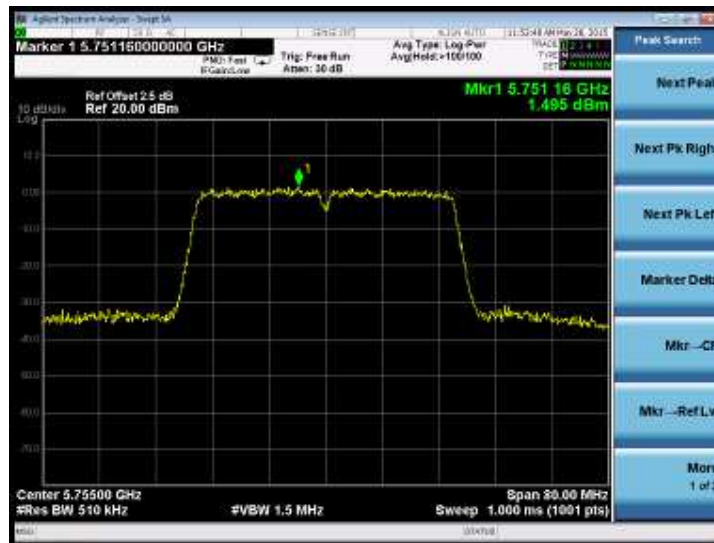




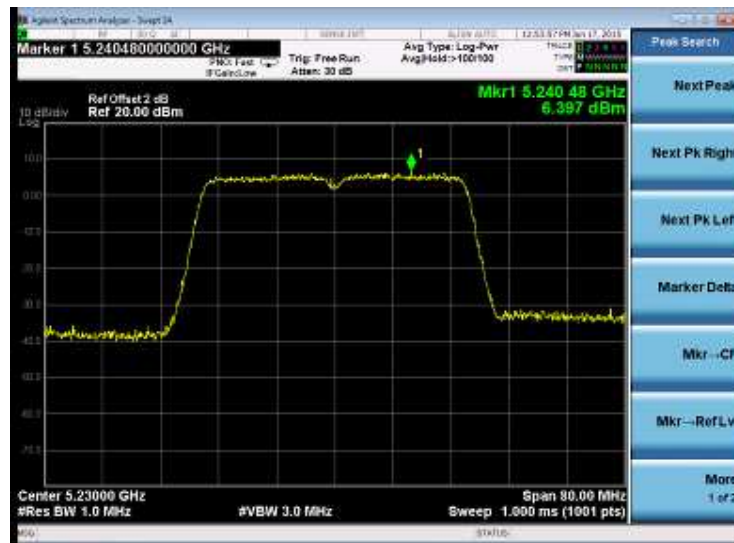
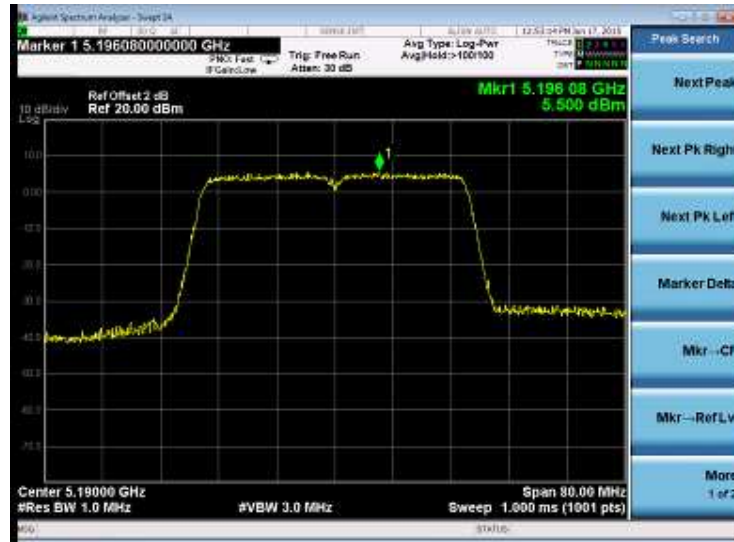


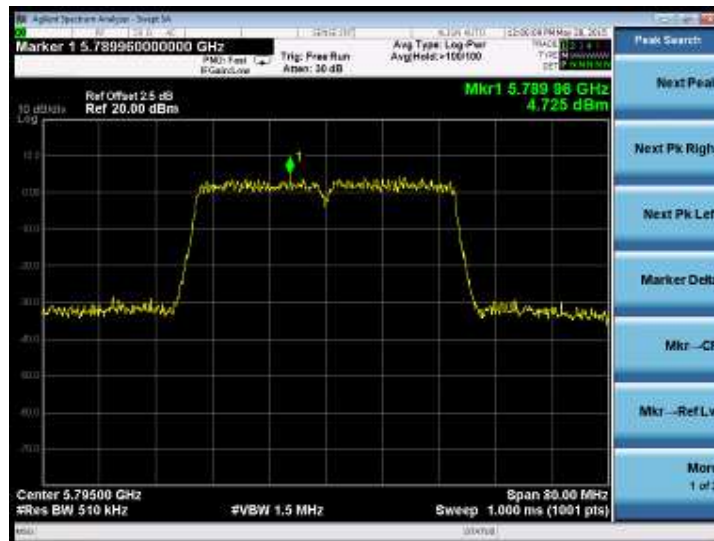
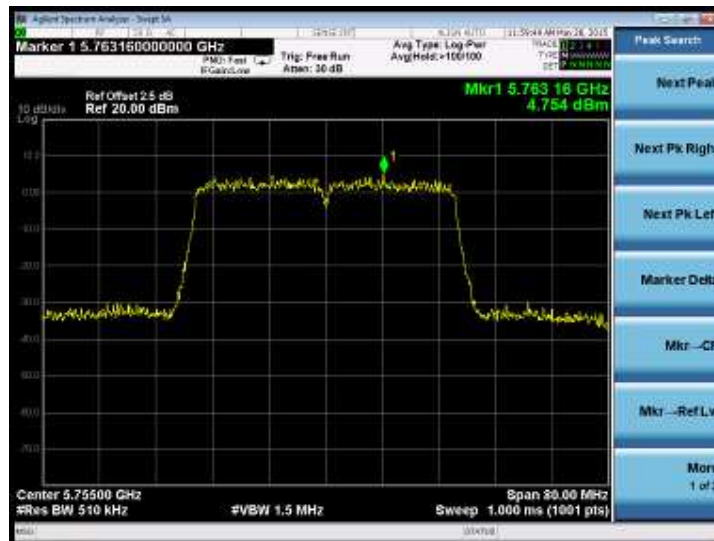
802.11ac n40MHz Ant1



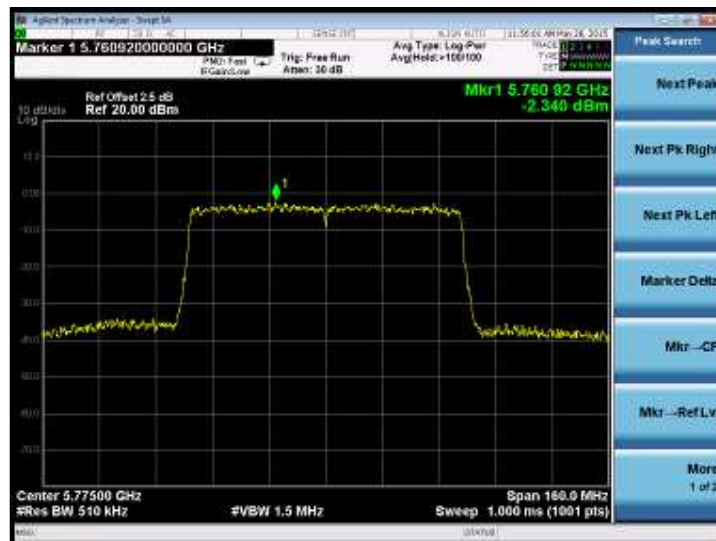
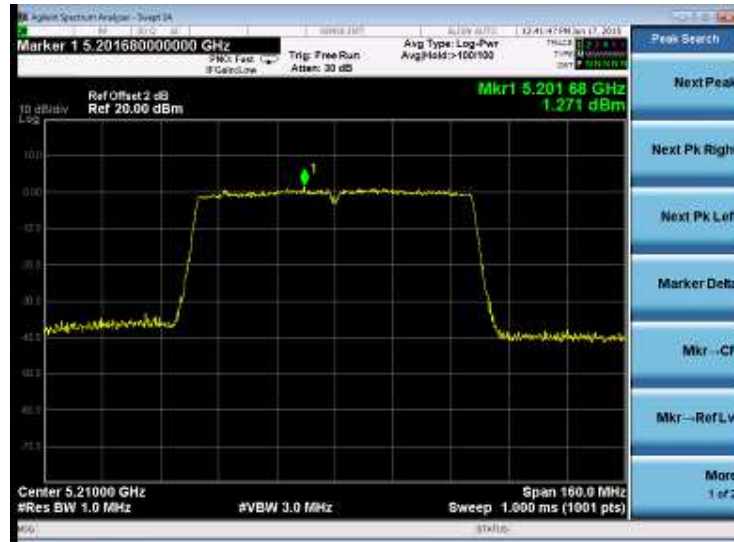


802.11ac n40MHz Ant2

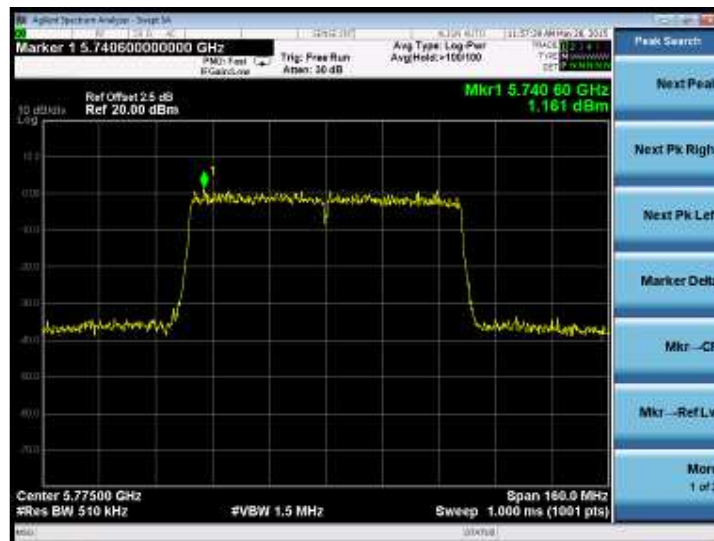
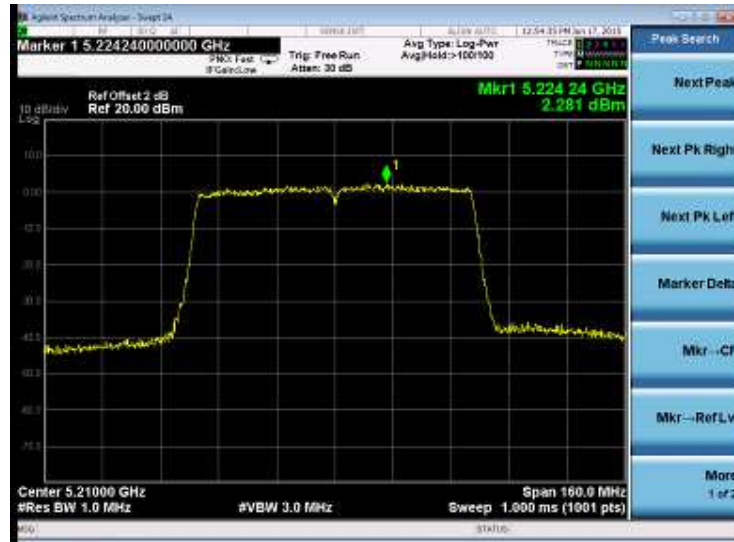




802.11ac n80MHz Ant1



802.11ac n80MHz Ant2



### 5.1.6 Spurious Emission

**RESULT:****Pass**

Date of testing : 2015-05-09 to 2015-06-18  
Test standard : KDB 905462 D06 v01  
KDB 789033 D02 v01  
Basic standard : ANSI C63.4: 2003  
ANSI C63.10: 2013  
Limits : FCC part 15.209(a)  
Kind of test site : 3m Semi-Anechoic Chamber

**Test setup**

Test Channel : Low/ Middle/ High  
Operation mode : A.1, A.2  
Ambient temperature : 23°C  
Relative humidity : 48%  
Atmospheric pressure : 101kPa

**Notes:**

1, All emission out-side of the 5.15-5.35GHz & 5.47-5.725GHz band shall not exceed an EIRP of -27dBm/MHz (68.2dBuV/m, test distance: 3 meter), for band 5.725-5.85GHz shall not exceed  $\leq -17$ dBm/MHz (78.2dBuV/m, test distance: 3 meter) within 5715-5725MHz and 5850-5860MHz,  $\leq -27$ dBm/MHz (68.2dBuV/m, test distance: 3 meter) outside 5715-5860MHz.

2, The spectrum is measured from 9KHz to the 10<sup>th</sup> harmonic of the fundamental frequency of the transmitter using QP detector below 1GHz, above 1GHz, average & peak measurements were taken using for test. The worst-case emission are reported however emission whose levels were not within 20dB of the respective limited were not reported.

3, The test was performed on EUT under 802.11a/n-HT20/n-HT40/ac continuously transmitting mode.

Please refer Appendix A for Spurious emission.

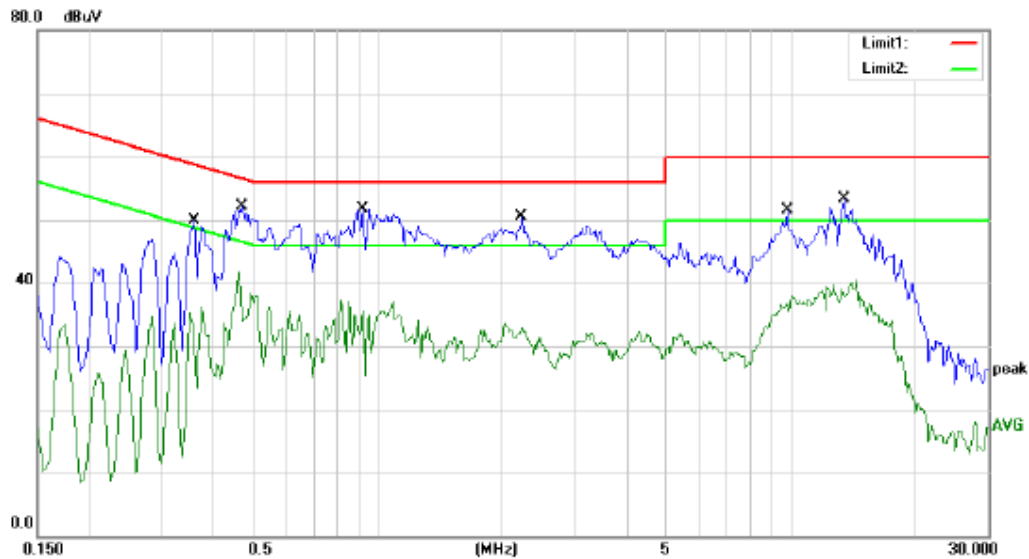
**5.1.7 Conducted emissions****RESULT:****Pass**

Date of testing : 2015-05-16  
Test standard : FCC Part 15.207  
FCC part 15.407(b)(6)  
Basic standard : ANSI C63.4: 2003  
ANSI C63.10: 2013  
Frequency range : 0.15 – 30MHz  
Limits : FCC Part 15.207  
Kind of test site : Shield room

**Test setup**

Input Voltage : AC 120V, 60Hz  
Operation Mode : A  
Earthing : Not Connected  
Ambient temperature : 25°C  
Relative humidity : 52%  
Atmospheric pressure : 101kPa

For details refer to following test plot.



Site Conducted #3

 Phase: **N**

Temperature: 26

Limit: (CE)FCC PART 15 class B\_QP

Power: AC 120V/60Hz

Humidity: 60 %

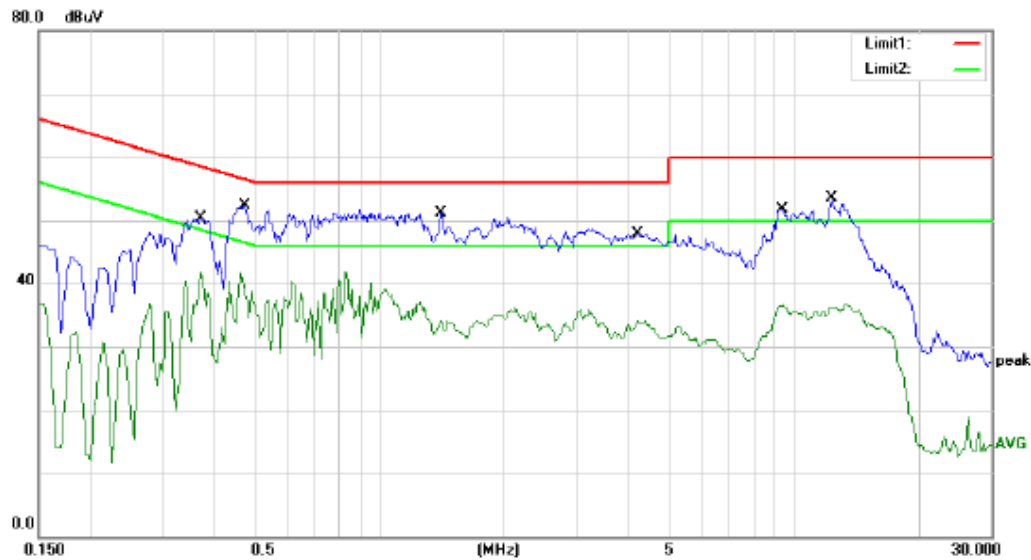
EUT: Tablet PAD

M/N: NS-P16AT785HD

Mode: ON

Note:

| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     |          |         |
| 1   |     | 0.3600  | 49.87         | 0.00           | 49.87       | 58.73 | -8.86  | QP       |         |
| 2   |     | 0.3600  | 36.37         | 0.00           | 36.37       | 48.73 | -12.36 | AVG      |         |
| 3   |     | 0.4700  | 51.00         | 0.00           | 51.00       | 56.51 | -5.51  | QP       |         |
| 4   | *   | 0.4700  | 41.95         | 0.00           | 41.95       | 46.51 | -4.56  | AVG      |         |
| 5   |     | 0.9200  | 50.00         | 0.00           | 50.00       | 56.00 | -6.00  | QP       |         |
| 6   |     | 0.9200  | 37.24         | 0.00           | 37.24       | 46.00 | -8.76  | AVG      |         |
| 7   |     | 2.2350  | 50.44         | 0.00           | 50.44       | 56.00 | -5.56  | QP       |         |
| 8   |     | 2.2350  | 32.97         | 0.00           | 32.97       | 46.00 | -13.03 | AVG      |         |
| 9   |     | 9.7700  | 51.52         | 0.00           | 51.52       | 60.00 | -8.48  | QP       |         |
| 10  |     | 9.7700  | 38.18         | 0.00           | 38.18       | 50.00 | -11.82 | AVG      |         |
| 11  |     | 13.4750 | 53.24         | 0.00           | 53.24       | 60.00 | -6.76  | QP       |         |
| 12  |     | 13.4750 | 36.73         | 0.00           | 36.73       | 50.00 | -13.27 | AVG      |         |



Site Conducted #3

Phase: **L1**

Temperature: 26

Limit: (CE)FCC PART 15 class B\_QP

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Tablet PAD

M/N: NS-P16AT785HD

Mode: ON

Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   |     | 0.3700       | 50.32                    | 0.00                    | 50.32                    | 58.50         | -8.18      | QP       |         |
| 2   |     | 0.3700       | 41.64                    | 0.00                    | 41.64                    | 48.50         | -6.86      | AVG      |         |
| 3   | *   | 0.4711       | 52.29                    | 0.00                    | 52.29                    | 56.49         | -4.20      | QP       |         |
| 4   |     | 0.4711       | 41.82                    | 0.00                    | 41.82                    | 46.49         | -4.67      | AVG      |         |
| 5   |     | 1.4100       | 51.09                    | 0.00                    | 51.09                    | 56.00         | -4.91      | QP       |         |
| 6   |     | 1.4100       | 38.41                    | 0.00                    | 38.41                    | 46.00         | -7.59      | AVG      |         |
| 7   |     | 4.1900       | 47.98                    | 0.00                    | 47.98                    | 56.00         | -8.02      | QP       |         |
| 8   |     | 4.1900       | 35.84                    | 0.00                    | 35.84                    | 46.00         | -10.16     | AVG      |         |
| 9   |     | 9.4300       | 51.72                    | 0.00                    | 51.72                    | 60.00         | -8.28      | QP       |         |
| 10  |     | 9.4300       | 36.63                    | 0.00                    | 36.63                    | 50.00         | -13.37     | AVG      |         |
| 11  |     | 12.3750      | 53.54                    | 0.00                    | 53.54                    | 60.00         | -6.46      | QP       |         |
| 12  |     | 12.3750      | 35.76                    | 0.00                    | 35.76                    | 50.00         | -14.24     | AVG      |         |

### 5.1.8 Frequency Stability

**RESULT:****Pass**

|                   |   |                                                                                               |
|-------------------|---|-----------------------------------------------------------------------------------------------|
| Date of testing   | : | 2015-05-16                                                                                    |
| Test standard     | : | FCC part 15.407(b)(6)                                                                         |
| Basic standard    | : | ANSI C63.10: 2013                                                                             |
| Limits            | : | Ensuring frequency stability such that an emission is maintained within the band of operation |
| Kind of test site | : | Shield room                                                                                   |

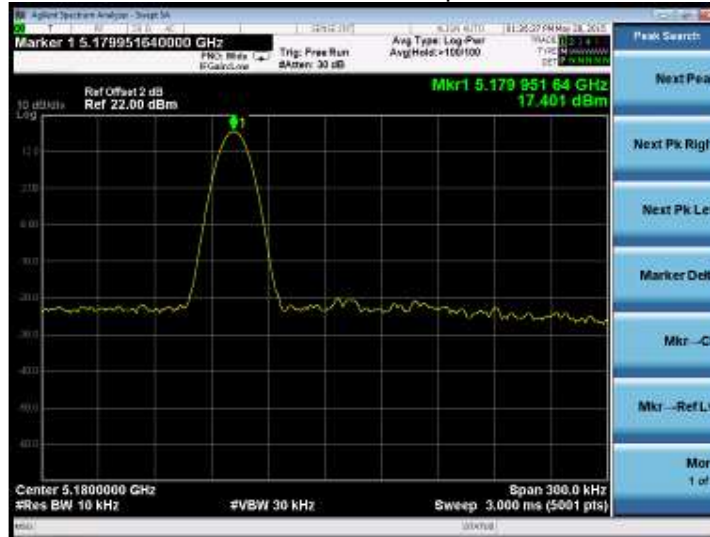
**Test setup**

|                      |   |               |
|----------------------|---|---------------|
| Input Voltage        | : | AC 120V, 60Hz |
| Operation Mode       | : | A             |
| Earthing             | : | Not Connected |
| Ambient temperature  | : | 25°C          |
| Relative humidity    | : | 52%           |
| Atmospheric pressure | : | 101kPa        |

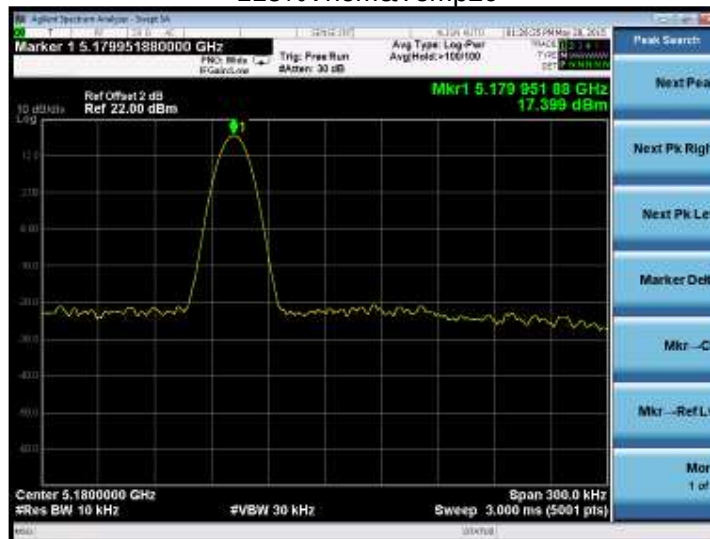
For details refer to following test plot.

\*Note: 802.11n-HT20 test mode was selected to evaluation of Frequency Stability.

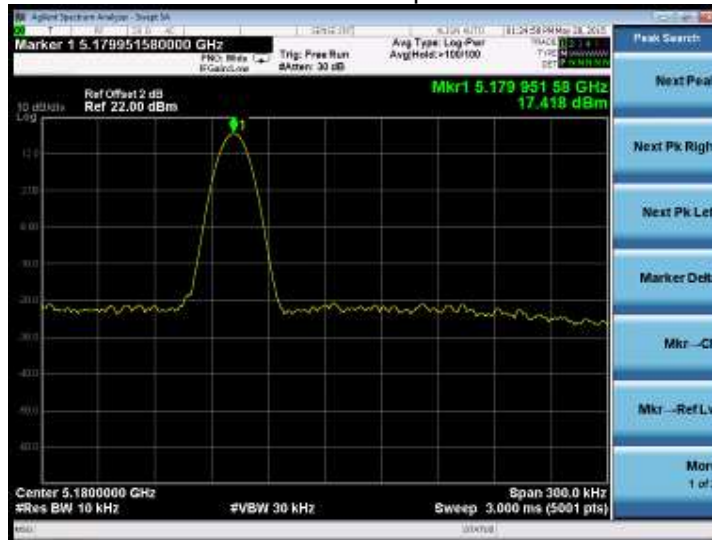
Model: 802.11n-HT20, Operation frequency: 5180MHz  
85%Vnom&Temp20



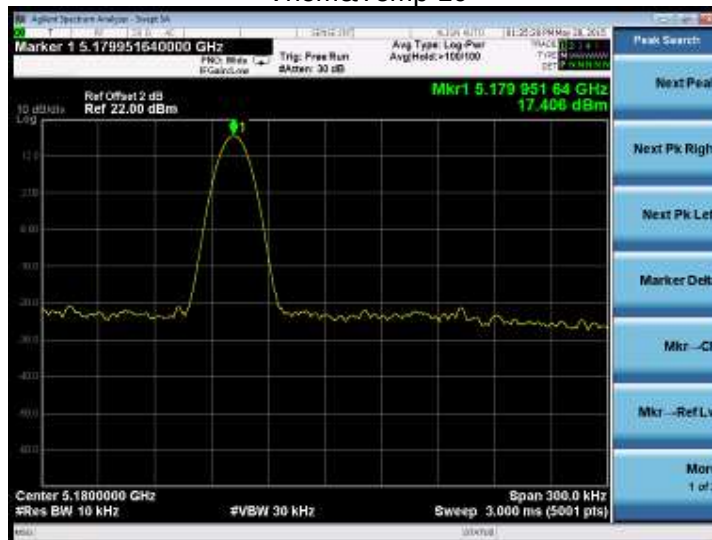
115%Vnom&Temp20



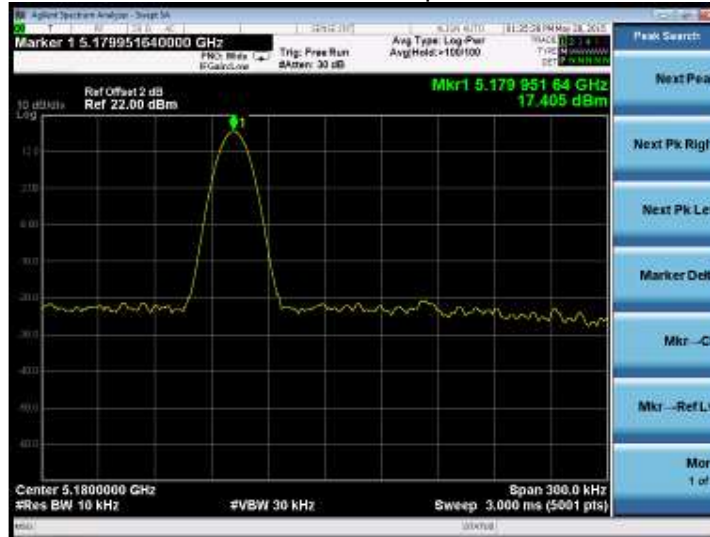
Vnom&Temp-20



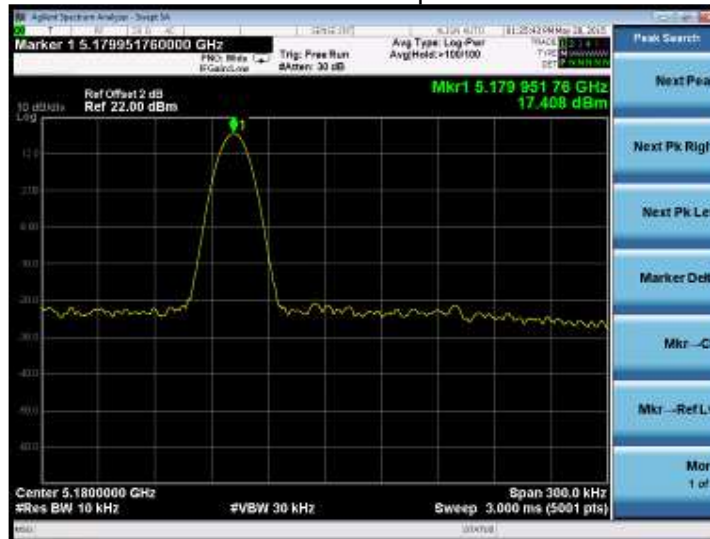
Vnom&Temp-10



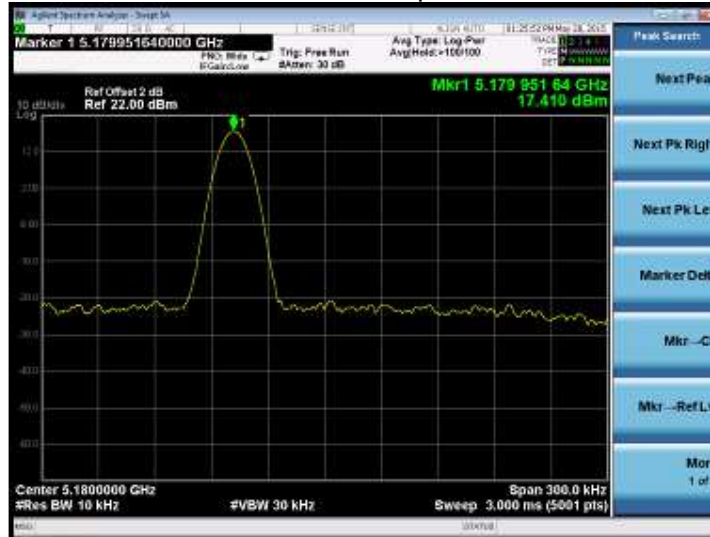
Vnom&Temp0



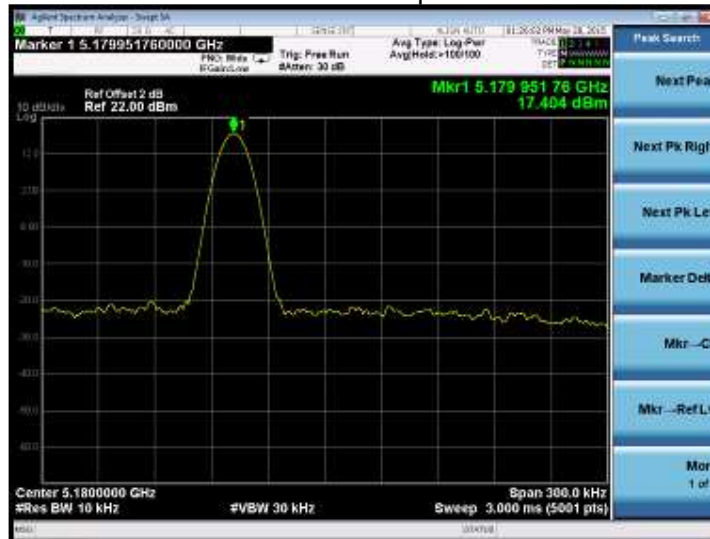
Vnom&Temp10



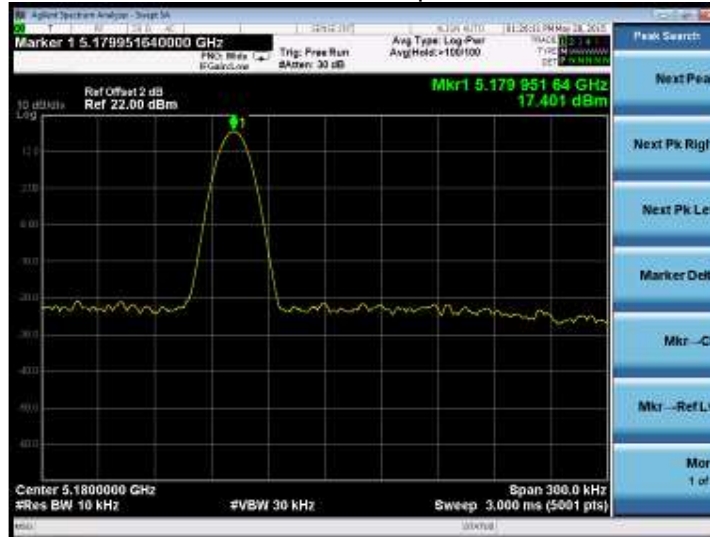
Vnom&Temp20



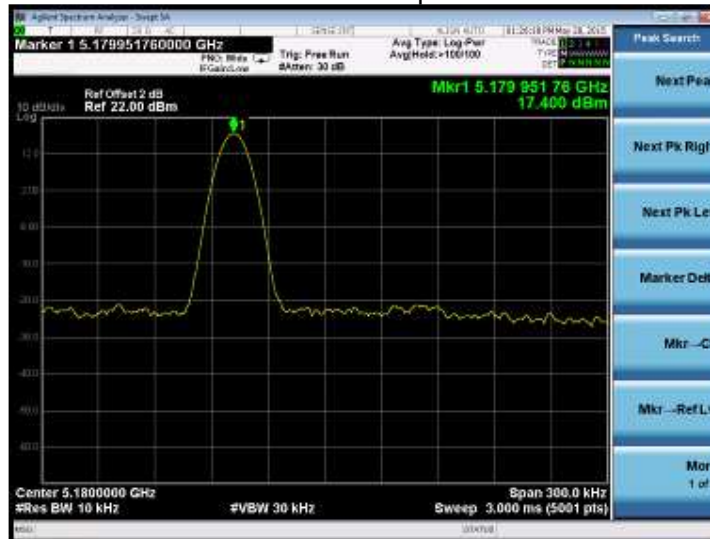
Vnom&Temp30



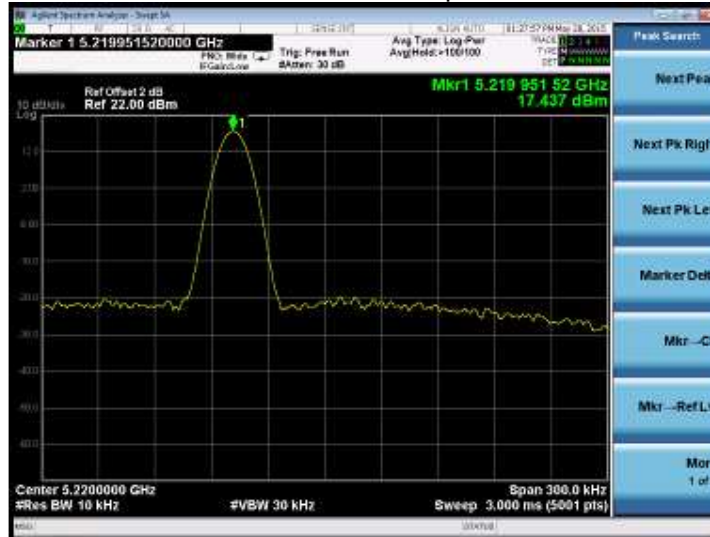
Vnom&Temp40



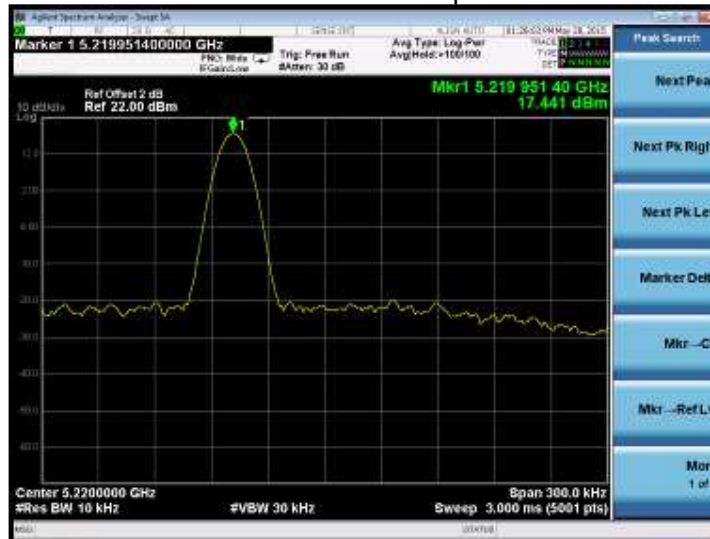
Vnom&Temp50



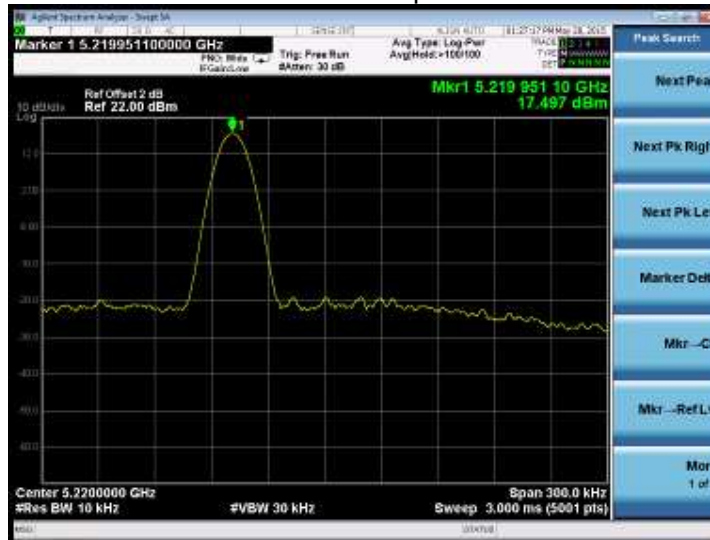
Model: 802.11n-HT20, Operation frequency: 5220MHz  
85%Vnom&Temp20



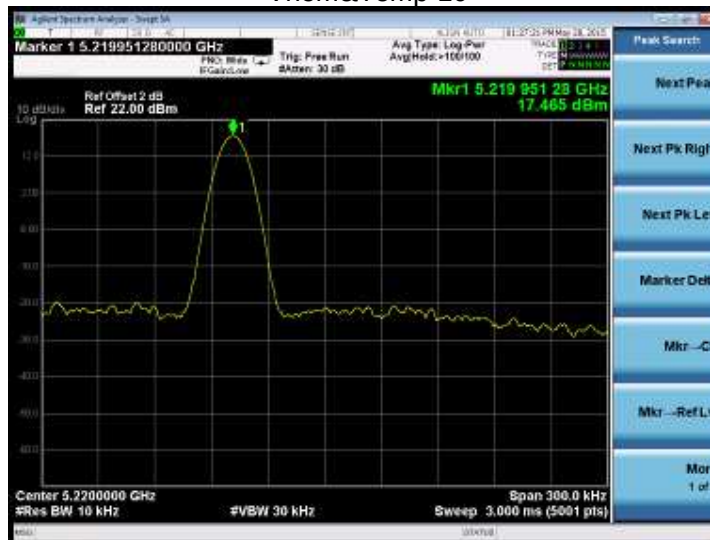
115%Vnom&Temp20



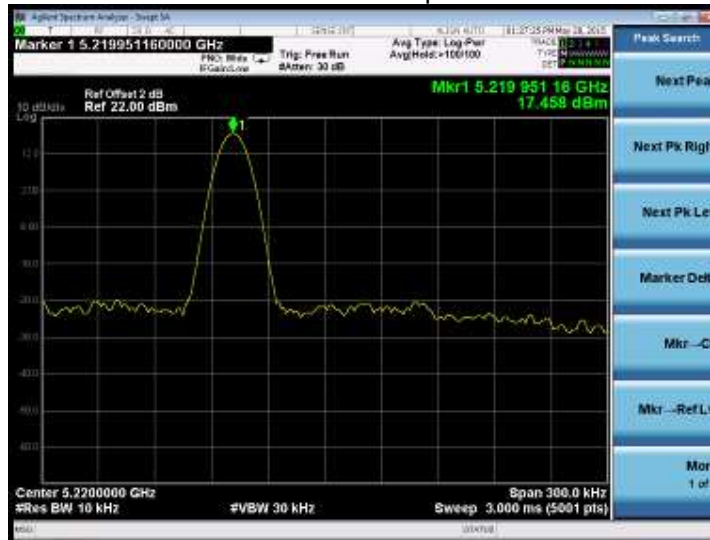
Vnom&Temp-20



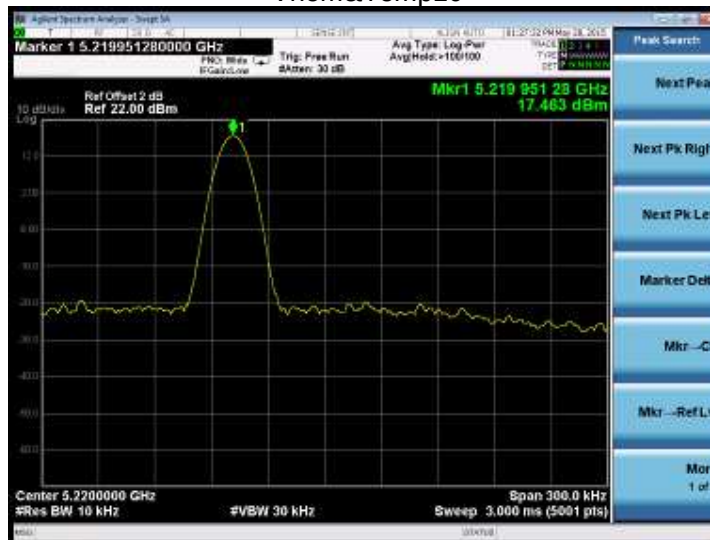
Vnom&Temp-10



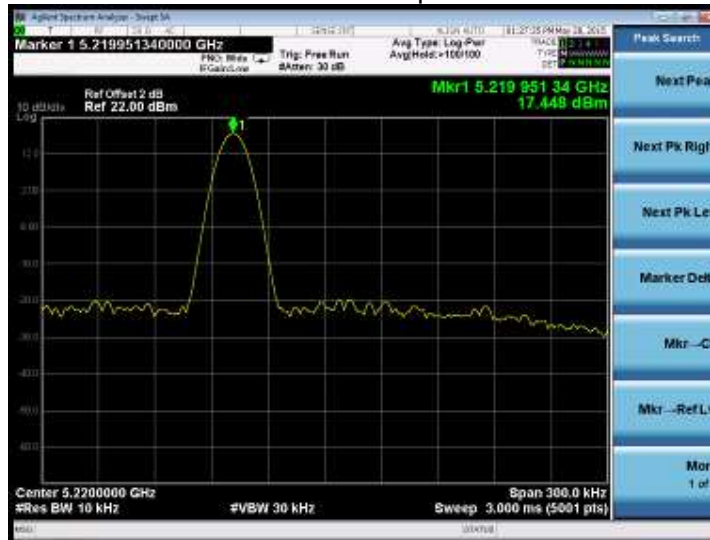
Vnom&Temp0



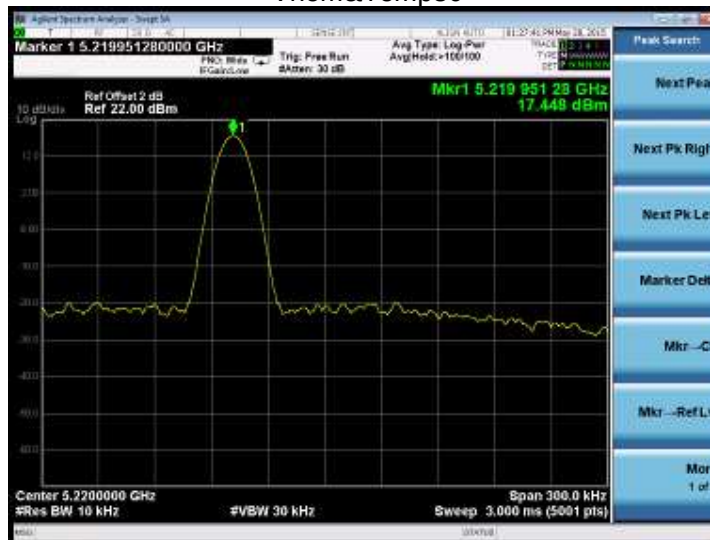
Vnom&Temp10



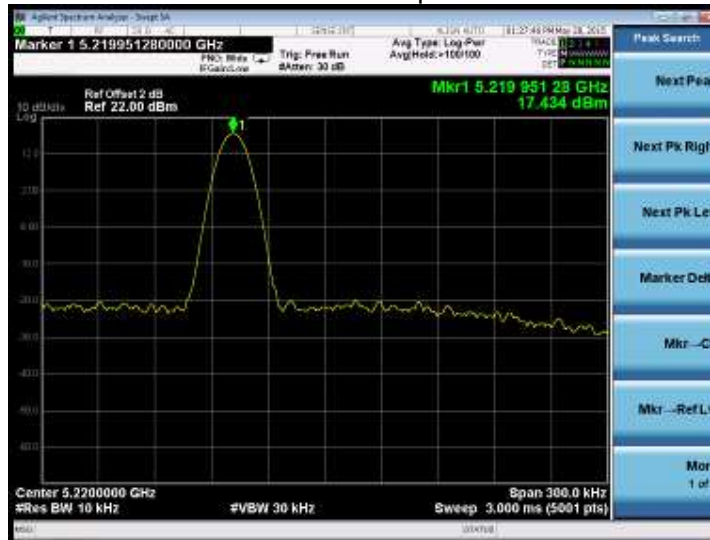
Vnom&Temp20



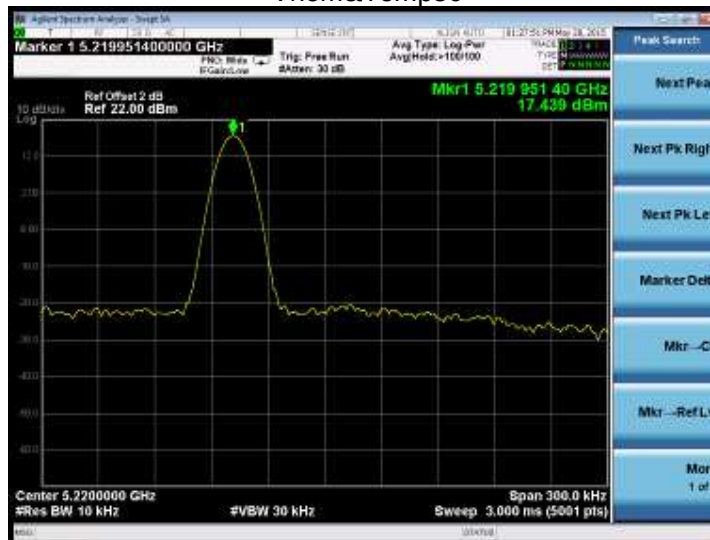
Vnom&Temp30



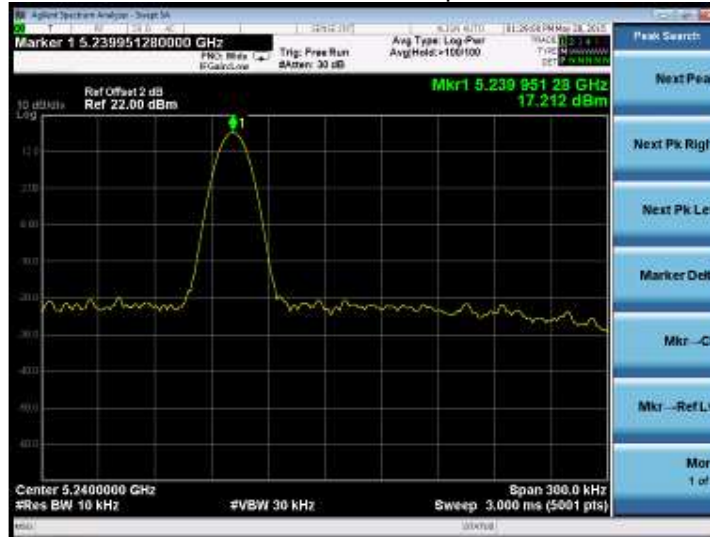
Vnom&Temp40



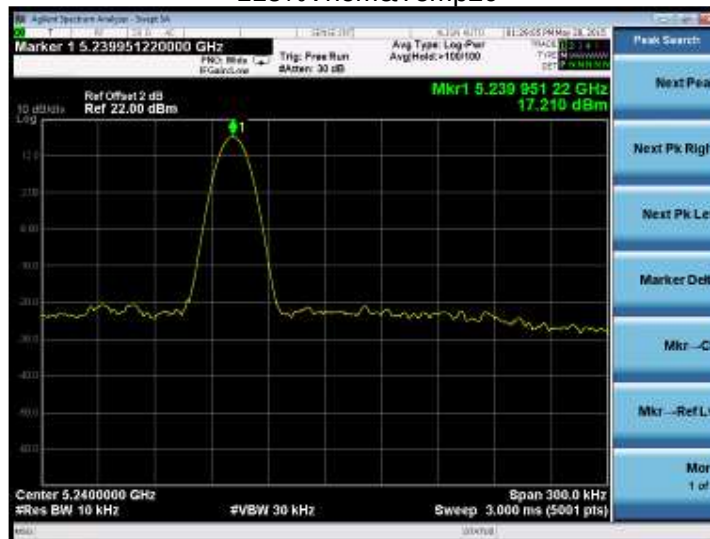
Vnom&Temp50



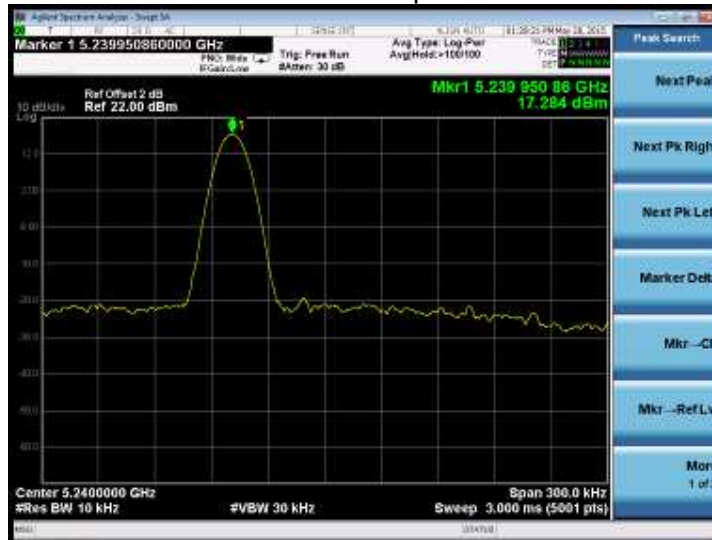
Model: 802.11n-HT20, Operation frequency: 5240MHz  
85%Vnom&Temp20



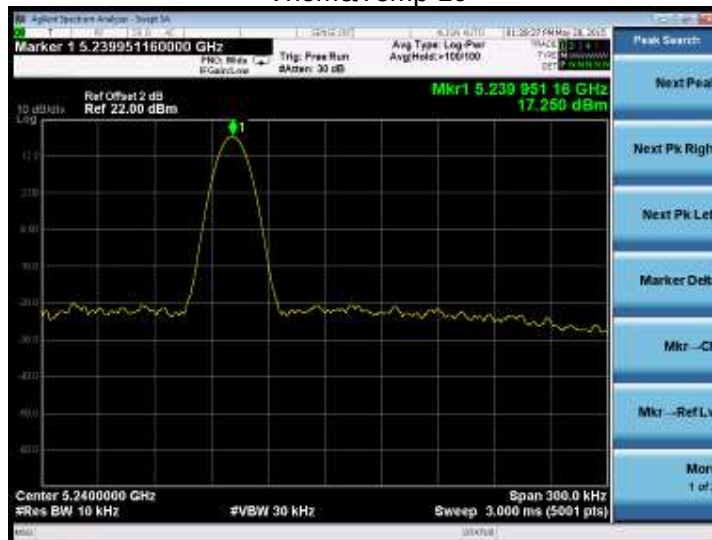
115%Vnom&Temp20



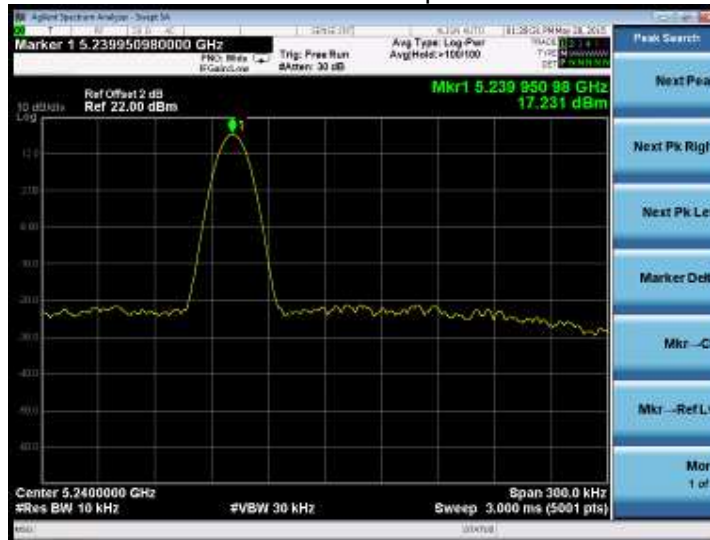
Vnom&Temp-20



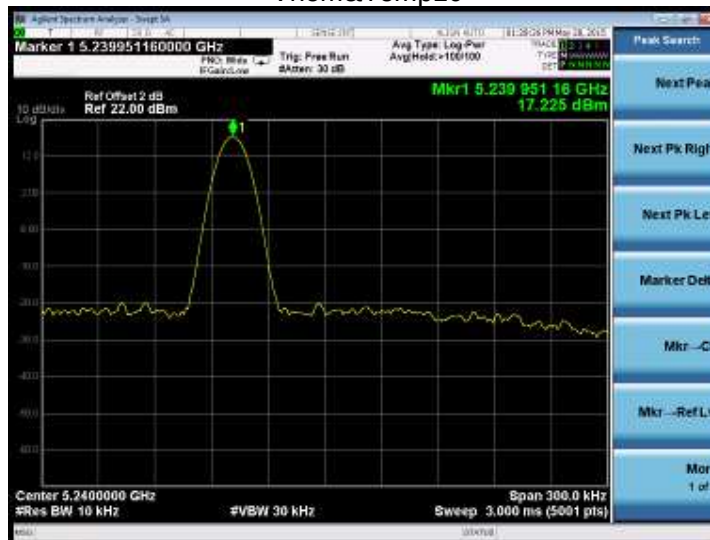
Vnom&Temp-10



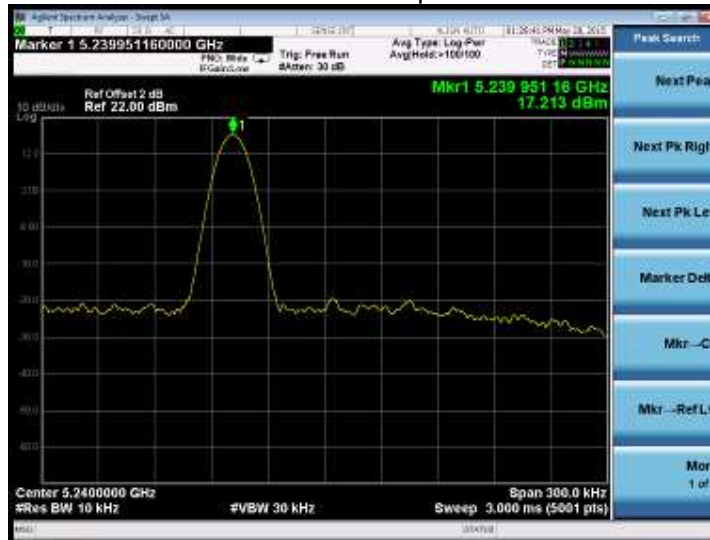
Vnom&Temp0



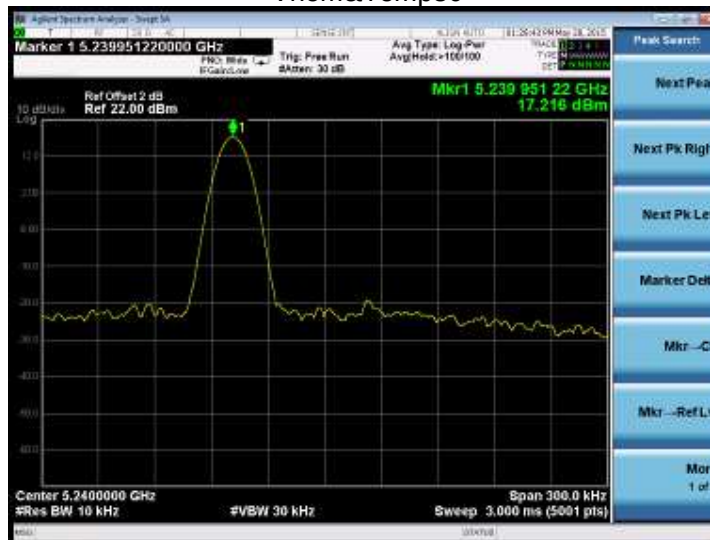
Vnom&Temp10



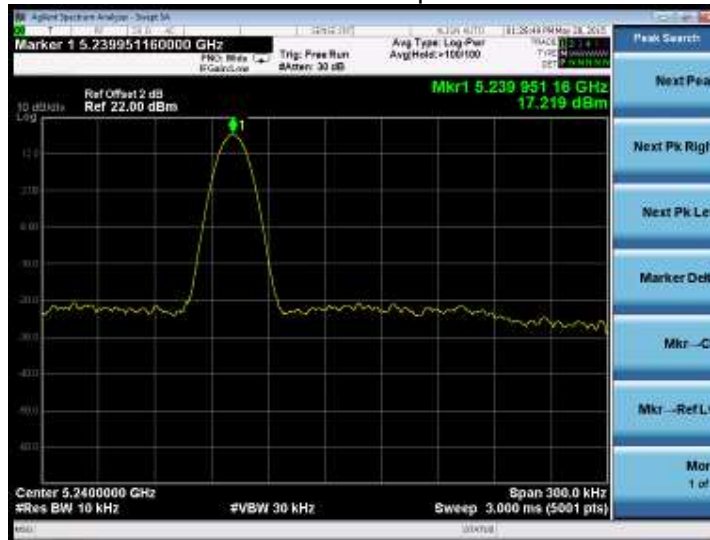
Vnom&Temp20



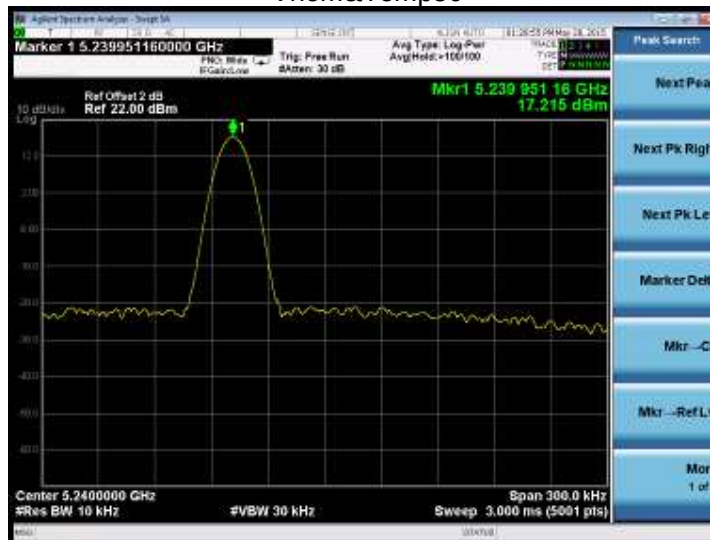
Vnom&Temp30



Vnom&Temp40

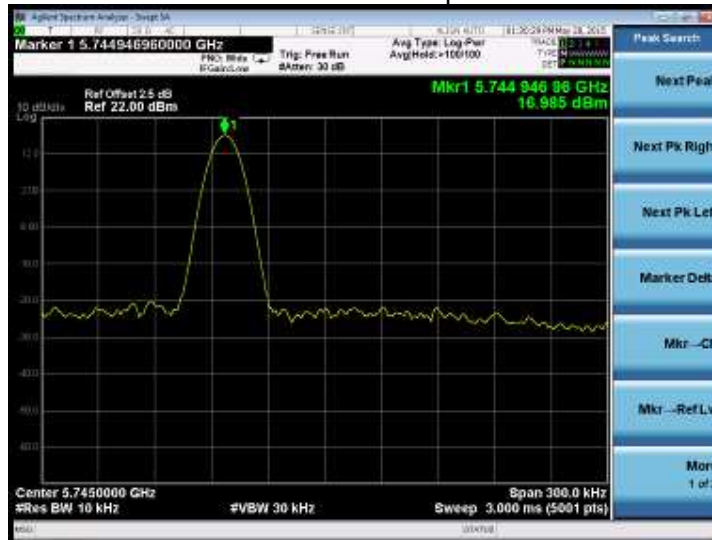


Vnom&Temp50

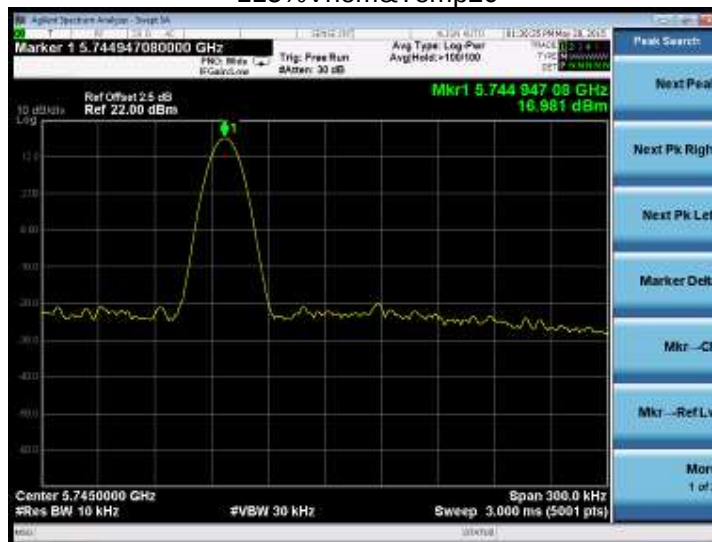


Model: 802.11n-HT20, Operation frequency: 5745MHz

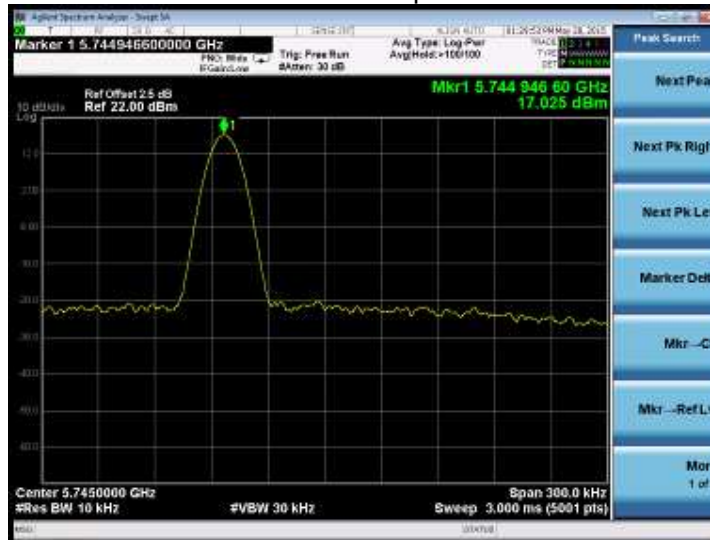
85%Vnom&Temp20



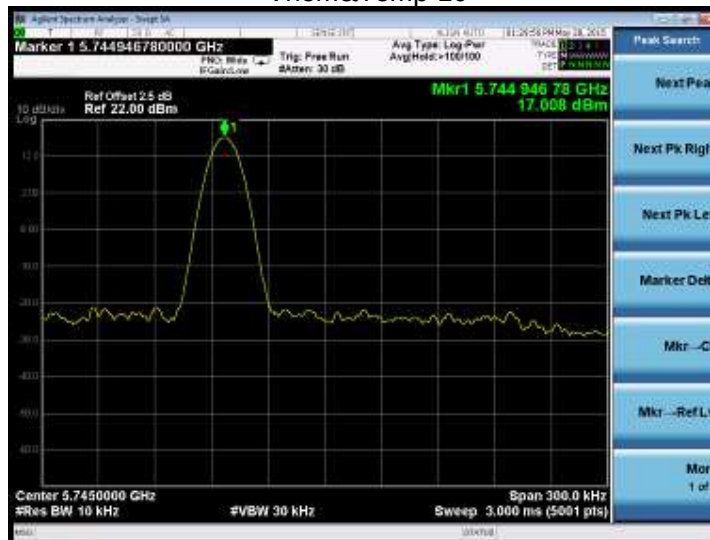
115%Vnom&Temp20



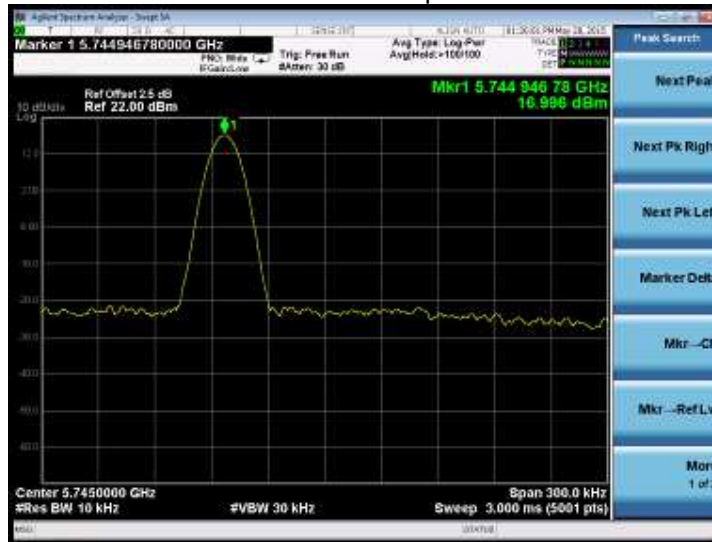
Vnom&Temp-20



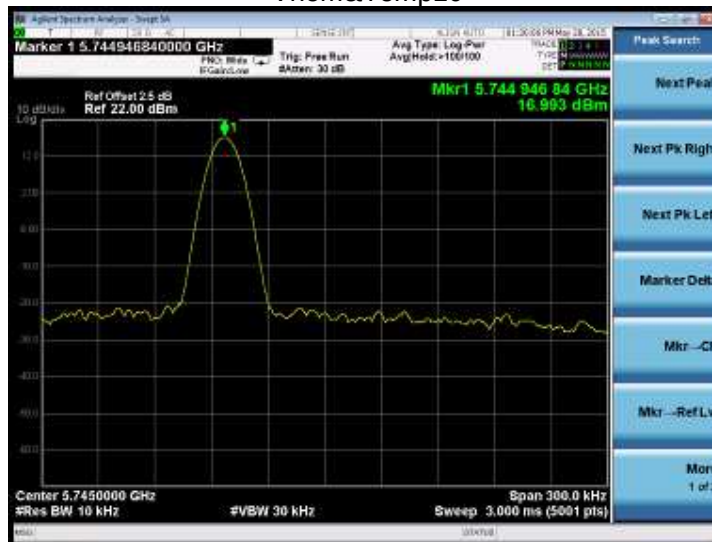
Vnom&Temp-10



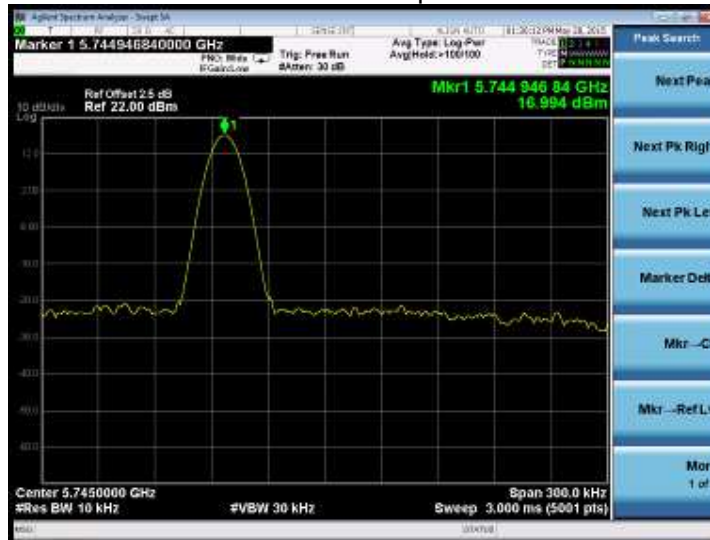
Vnom&Temp0



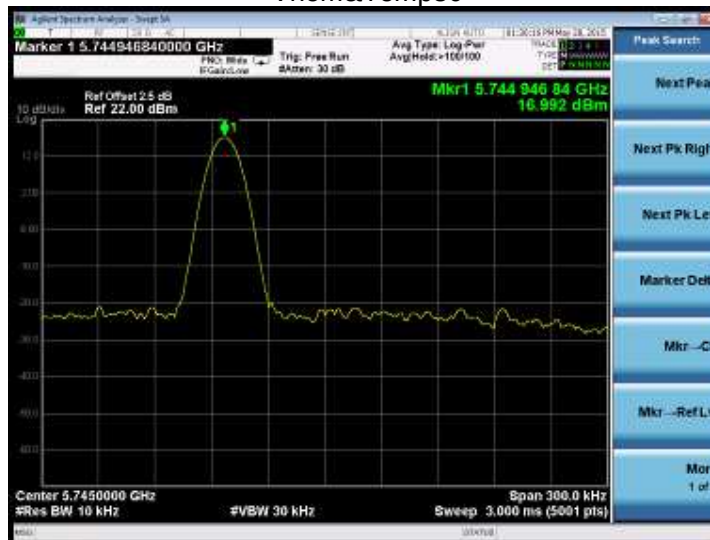
Vnom&Temp10



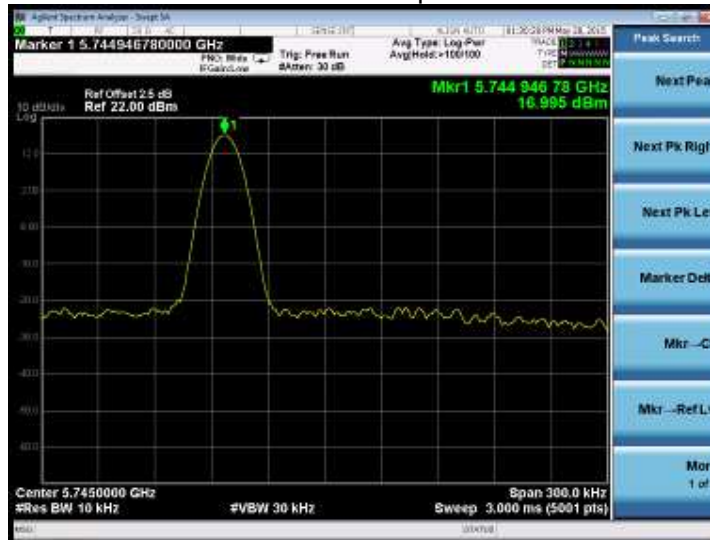
Vnom&Temp20



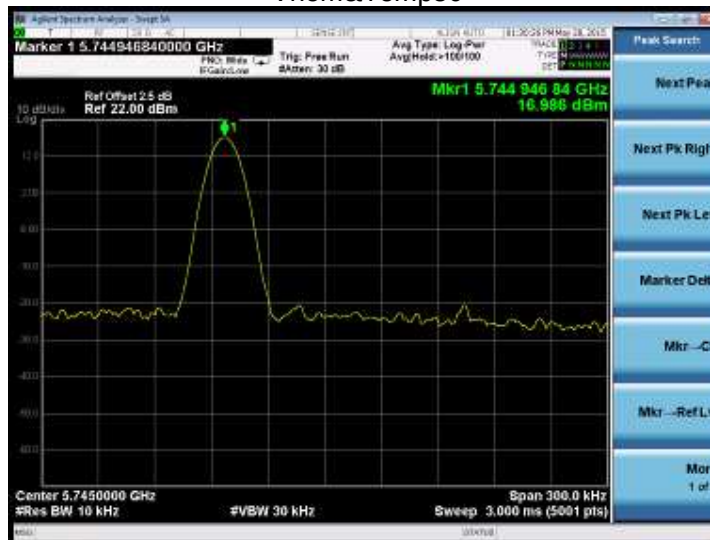
Vnom&Temp30



Vnom&Temp40

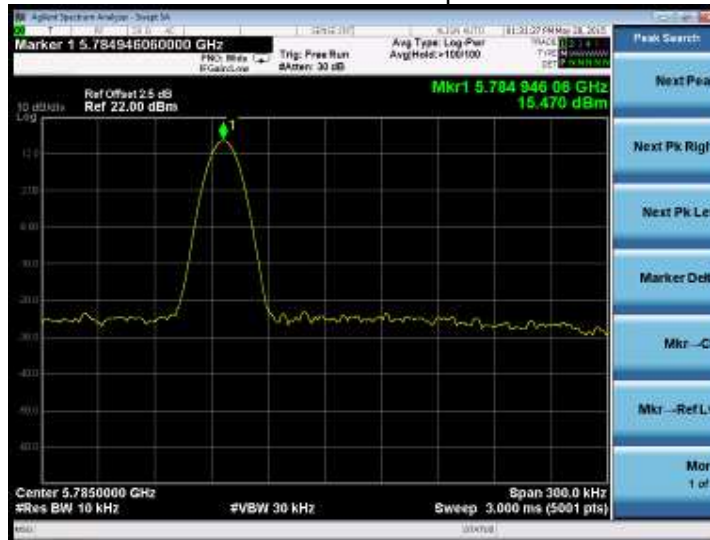


Vnom&Temp50

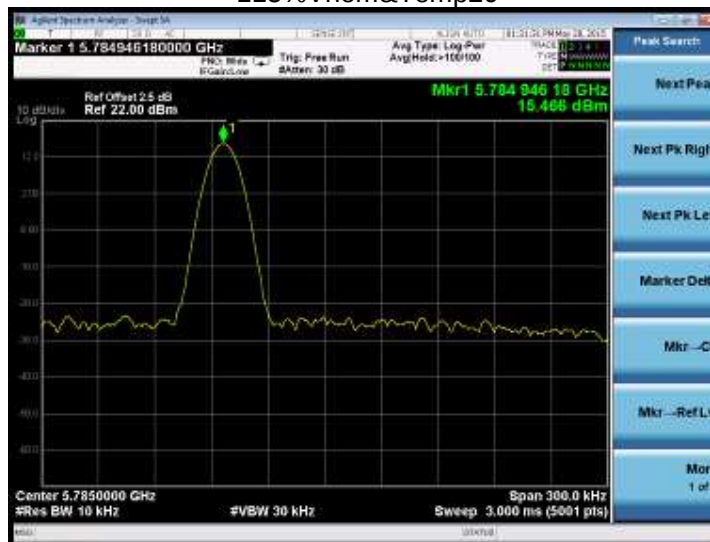


Model: 802.11n-HT20, Operation frequency: 5785MHz

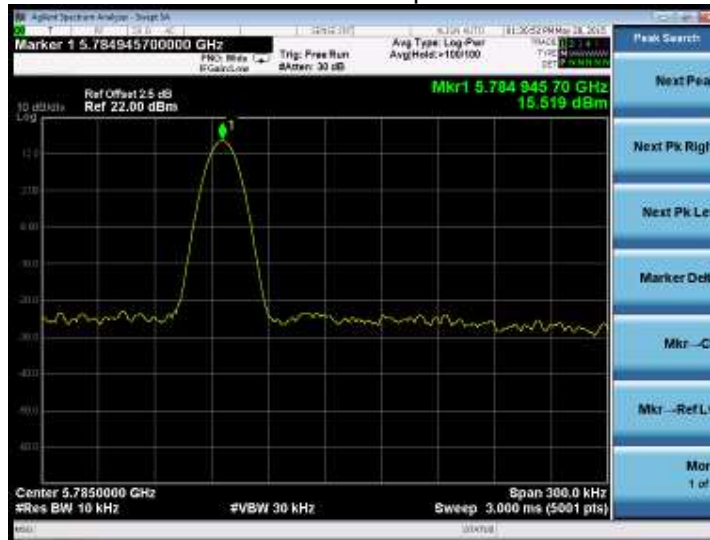
85%Vnom&Temp20



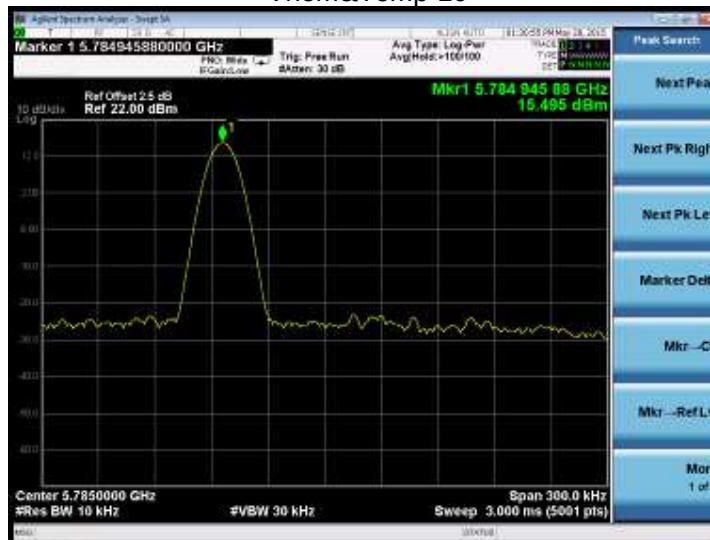
115%Vnom&Temp20



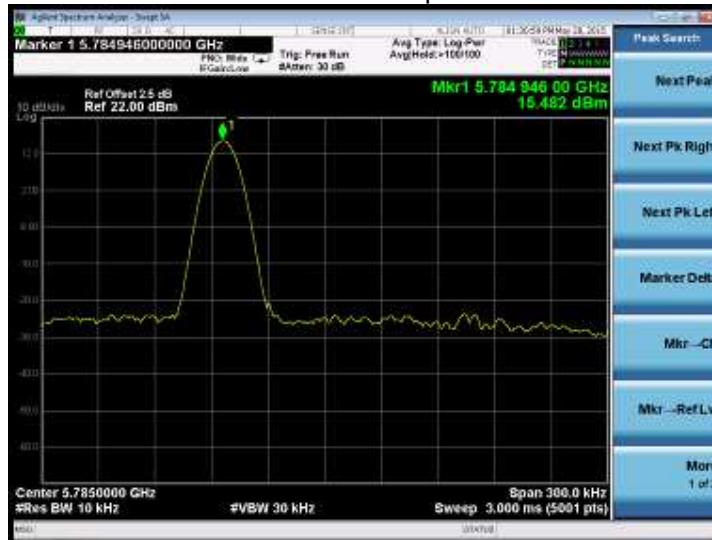
Vnom&Temp-20



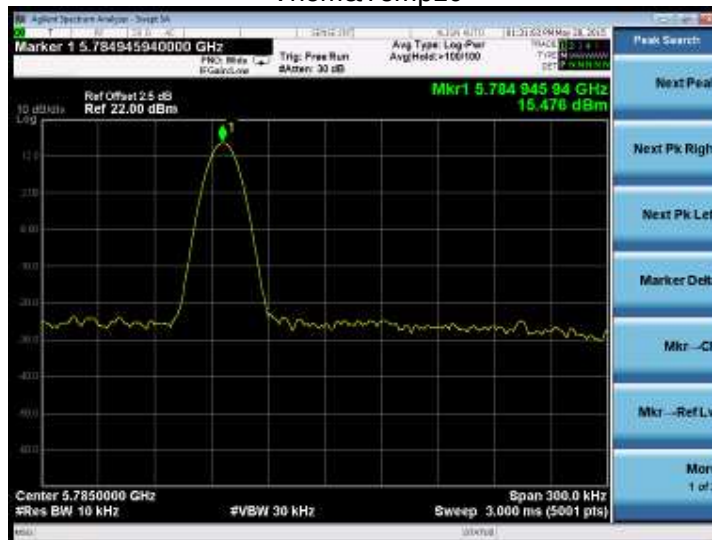
Vnom&Temp-10



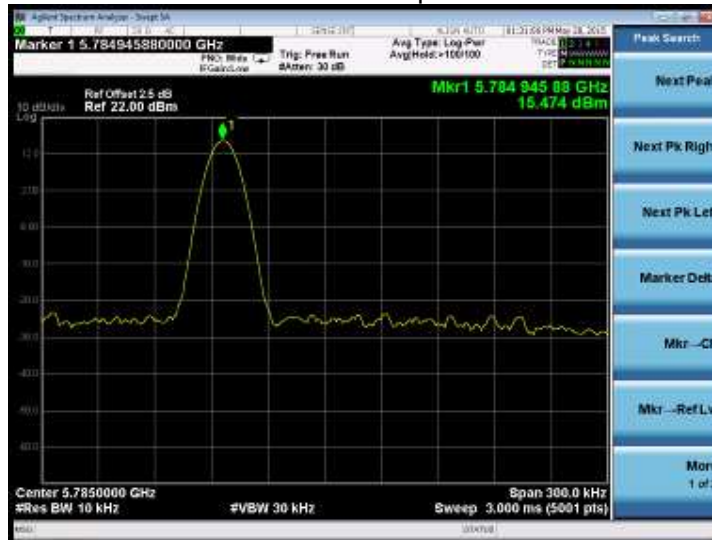
Vnom&Temp0



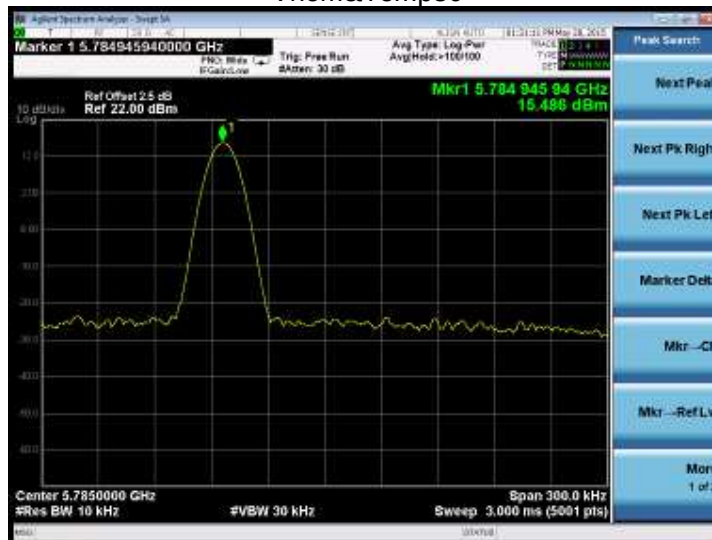
Vnom&Temp10



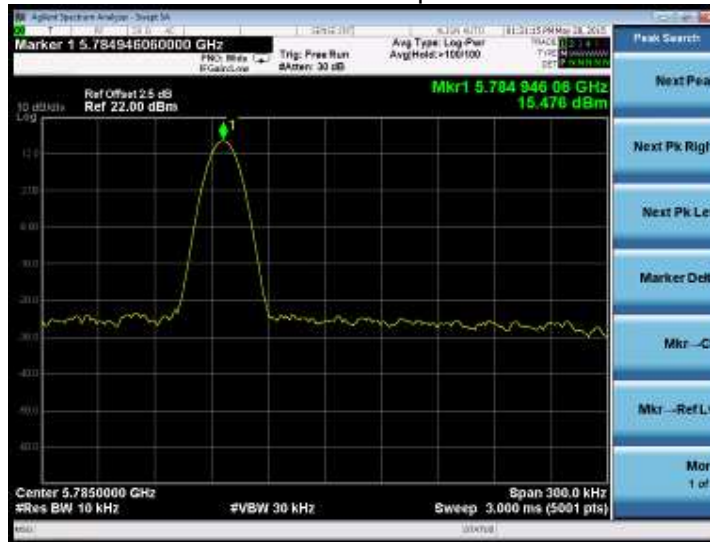
Vnom&Temp20



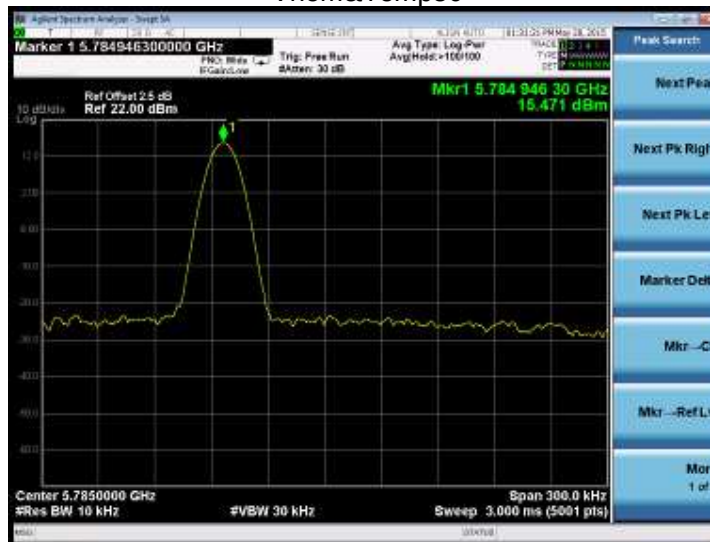
Vnom&Temp30



Vnom&Temp40

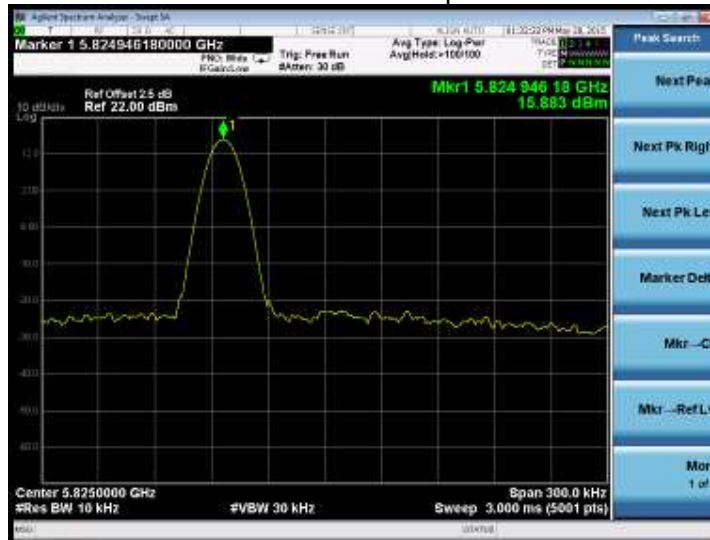


Vnom&Temp50

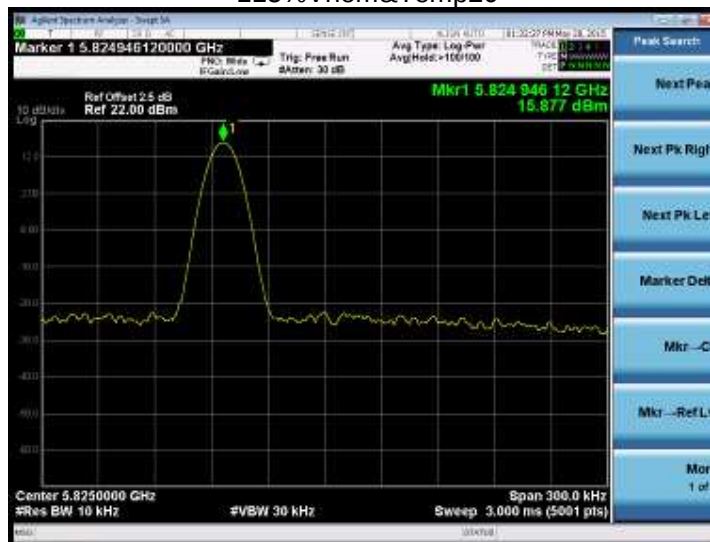


Model: 802.11n-HT20, Operation frequency: 5825MHz

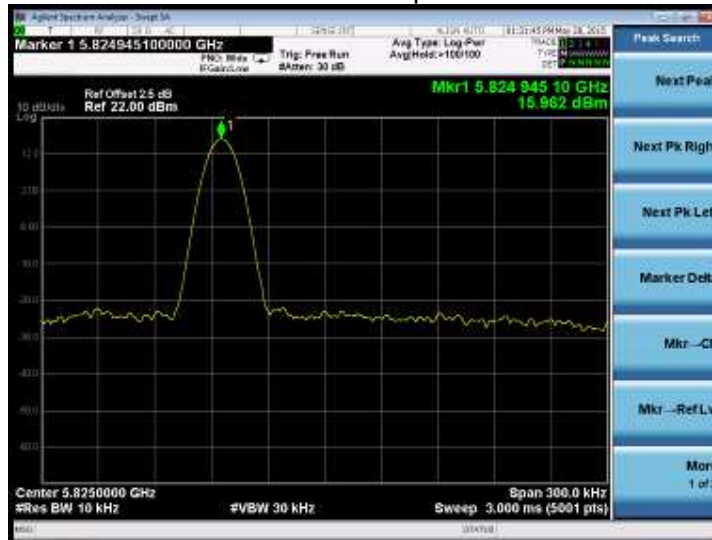
85%Vnom&Temp20



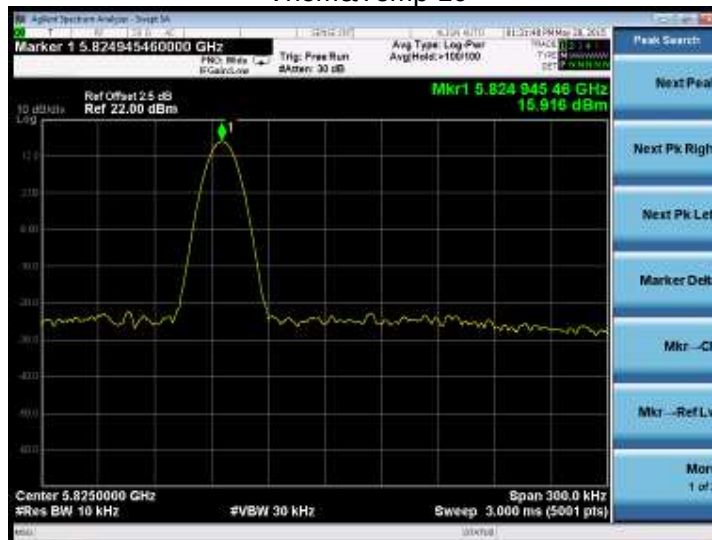
115%Vnom&Temp20



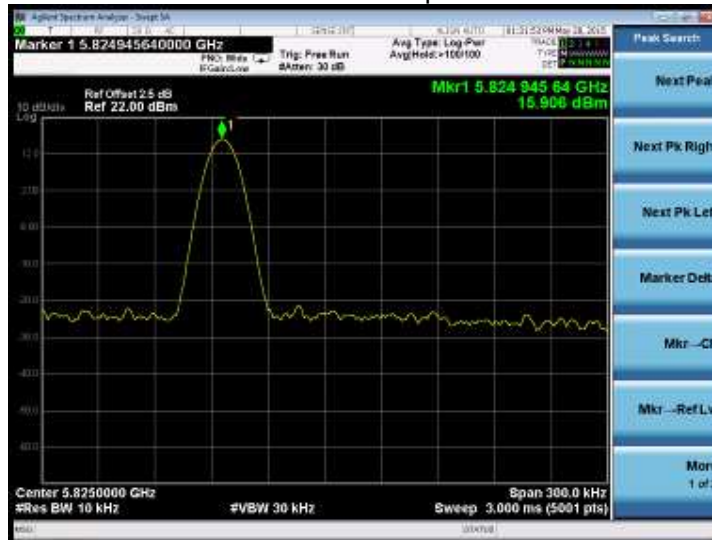
Vnom&Temp-20



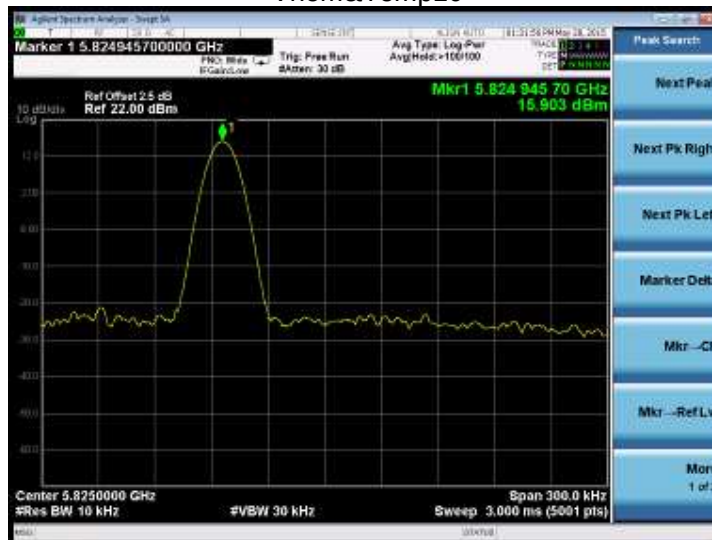
Vnom&Temp-10



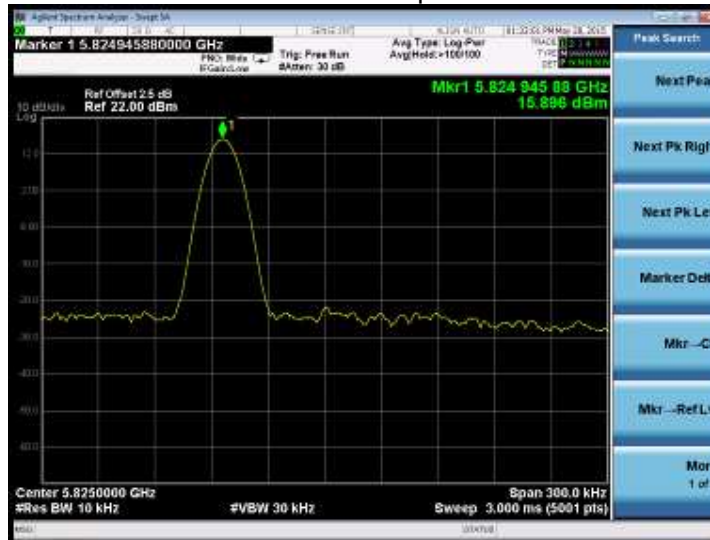
Vnom&Temp0



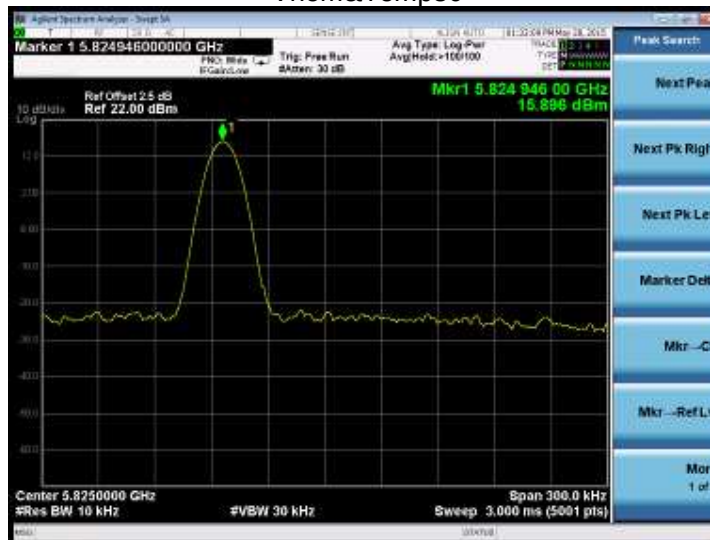
Vnom&Temp10



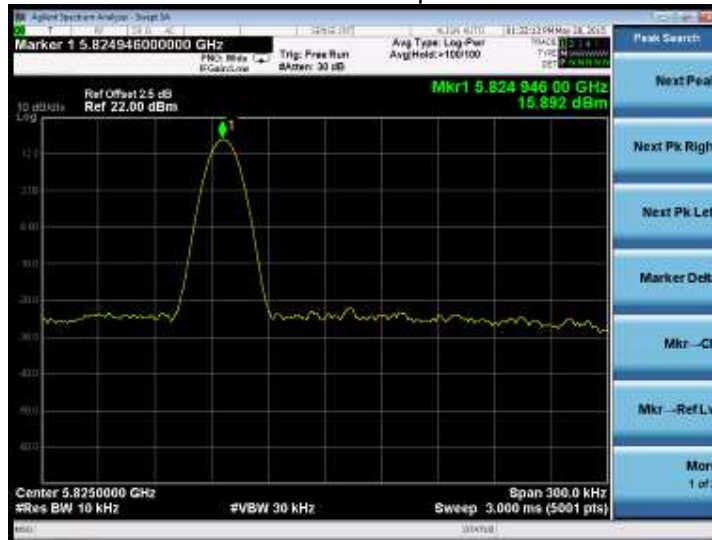
Vnom&Temp20



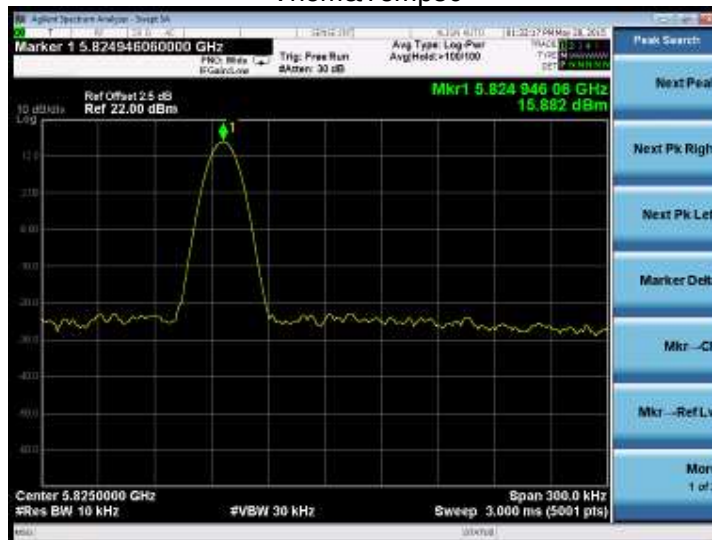
Vnom&Temp30



Vnom&Temp40



Vnom&Temp50



## 6. Photographs of the Test Set-Up

**Photograph 1: Set-up for Conducted Emissions**



**Photograph 2: Set-up for Spurious Emissions**



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