



**FCC PART 15  
TEST REPORT  
No. I14Z45356-SRD03**

**for**

**Sony Mobile Communications AB**

**GSM/WCDMA/LTE mobile phone**

**With**

**FCC ID: PY7PM-0611**

**Hardware Version: A**

**Software Version: s\_atp\_1\_32\_2\_18\_a**

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**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

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## 1. TEST LATORATORY

### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No 52 Hua Yuanbei Road, Haidian District, Beijing, P.R.China  
Postal Code: 100191  
Telephone: 008610623046332561  
Fax: 008610623046332504

### 1.2. Project data

Testing Start Date: 2013-09-24  
Testing End Date: 2014-03-24

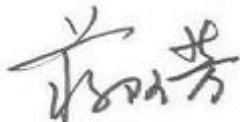
### 1.3. Signature



---

Xu Zhongfei

(Prepared this test report)



---

Jiang Afang

(Reviewed this test report)



---

Xiao Li

Deputy Director of the laboratory

(Approved this test report)



## **2. CLIENT INFORMATION**

### **2.1. Applicant Information**

Company Name: Sony Mobile Communications (China) Co. Ltd  
Address /Post: Sony Mobile R&D Center, No. 16, Guangshun South Street,  
Chaoyang District  
City: Beijing  
Postal Code: 100102  
Country: China  
Contact Person: Ma, Gang  
Telephone: +86-10-58656312  
Fax: +86-10-58659049

### **2.2. Manufacturer Information**

Company Name: Sony Mobile Communications AB  
Address /Post: Mobilvägen, 22188 Lund, Sweden  
City: Lund  
Postal Code: 22188  
Country: Sweden  
Contact Person: Nilsson, Mikael  
Telephone: +46 703 227503  
Fax: +46 706 127385

### 3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY

#### EQUIPMENT(AE)

##### 3.1. About EUT

|                      |  |
|----------------------|--|
| Description          | GSM 850/900/1800/1900 quad bands, GPRS, EDGE, WCDMA FDD bands 1/5/6/19, HSDPA, HSUPA, LTE FDD bands 1/3/19/21, Bluetooth (EDR and 4.0), ANT+, WLAN ( 802.11 a/ac/b/g/n), NFC, FM, GPS mobile phone |
| FCC ID               | PY7PM-0611   |
| WLAN Frequency Range | ISM Bands:<br>-5150MHz~5250MHz<br>-5250MHz~5350MHz<br>-5470MHz~5725MHz   |
| Type of modulation   | OFDM   |
| Antenna              | Integral Antenna   |
| MAX Conducted Power  | 14.19dBm(OFDM)   |
| MAX Radiated Power   | 13.47dBm(OFDM)   |
| Extreme Temperature  | -30/+55°C  |
| Extreme vol. Limits  | 3.6VDC to 4.2VDC (nominal: 4.2VDC)   |

Note: Photographs of EUT are shown in ANNEX C of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

##### 3.2. Internal Identification of EUT used during the test

| EUT ID* | S/N        | IMEI            | HW Version | SW Version        |
|---------|------------|-----------------|------------|-------------------|
| EUT1    | CB5A1XBH3F | 004402541458406 | A          | s_atp_1_32_2_18_a |
| EUT2    | CB5A1UTAMM | 004402541005371 | A          | s_atp_1_32_2_18_a |

\*EUT ID: is used to identify the test sample in the lab internally.

##### 3.3. Internal Identification of AE used during the test

| AE ID* | Description    | Type       | SN              |
|--------|----------------|------------|-----------------|
| AE1    | Travel Charger | AC-0400-EU | 8512W19 200056  |
| AE2    | USB Cable      | AI-0401    | 123307DD003654E |

\*AE ID: is used to identify the test sample in the lab internally.

##### 3.4. General Description

The Equipment Under Test (EUT) is a model of GSM/WCDMA/LTE mobile phone with integrated

antenna and inbuilt battery.

The EUT supports GSM 850/900/1800/1900MHz bands, WCDMA FDD band 1/5/6/19 and LTE FDD bands 1/3/19/21. It supports GPRS service with multi-slots class 33 and EGPRS service with multi-slots class 33. The HSDPA and HSUPA features are also supported.

It has MP3, camera, USB memory, Mobile High-Definition Link (MHL), FM radio, GPS receiver, NFC, Bluetooth (EDR and Bluetooth 4.0), ANT+, WLAN (802.11 a/ac/b/g/n) and Wi-Fi hotspot functions. For WLAN 802.11n, it supports 20MHz bandwidth on 2.4GHz band and 20MHz/40MHz bandwidths on 5GHz/5.8GHz band. For WLAN 802.11 ac, it supports 20MHz/40MHz/80MHz bandwidths.

It consists of normal options: battery and travel charger.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

## **4. REFERENCE DOCUMENTS**

### **4.1. Documents supplied by applicant**

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

### **4.2. Reference Documents for testing**

The following documents listed in this section are referred for testing.

|                  |  |              |
|------------------|--|--------------|
| FCC Part15       | Title 47 of the Code of Federal Regulations; Chapter I<br>Part 15 - Radio frequency devices                                    | Oct,<br>2012 |
| UNII: KDB 789033 | Guidelines for Compliance Testing of Unlicensed National<br>Information Infrastructure (U-NII) Devices - Part 15,<br>Subpart E | 2012-09      |

## **5. LABORATORY ENVIRONMENT**

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of Test Results

| SUMMARY OF MEASUREMENT RESULTS          | Sub-clause of Part15E | Sub-clause of IC | Verdict   |
|---|-----------------------|------------------|-----------|
| Maximum Output Power                    | 15.407                | /                | <b>P</b>  |
| Power Spectral Density                  | 15.407                | /                | <b>P</b>  |
| Occupied 26dB Bandwidth                 | 15.403                | /                | <b>P</b>  |
| Band edge compliance                    | 15.407                | /                | <b>P</b>  |
| Transmitter spurious emissions radiated | 15.407                | /                | <b>P</b>  |
| Spurious emissions radiated < 30 MHz    | 15.407                | /                | <b>P</b>  |
| Spurious emissions conducted < 30 MHz   | 15.407                | /                | <b>P</b>  |
| Peak Excursion                          | 15.407                | /                | <b>P</b>  |
| Frequency Stability                     | 15.407                | /                | <b>NA</b> |
| Transmit Power Control                  | 15.407                | /                | <b>NA</b> |

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

|    |   |
|----|---|
| P  | Pass, The EUT complies with the essential requirements in the standard.       |
| NM | Not measured, The test was not measured by TMC                                |
| NA | Not Applicable, The test was not applicable                                   |
| F  | Fail, The EUT does not comply with the essential requirements in the standard |

### 6.2. Statements

TMC has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

This model is a variant product which type number is PM-0610-BV; all the test result has been derived from test report of PM-0610-BV besides Radiated Transmitter Spurious Emission and AC Powerline Conducted Emission.

### 6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

|             |      |
|-------------|------|
| Temperature | 26°C |
| Voltage     | 4.2V |
| Humidity    | 44%  |

## 7. TEST EQUIPMENTS UTILIZED

### Conducted test system

| No. | Equipment              | Model   | Serial Number | Manufacturer    | Calibration date | Calibration Due date |
|-----|------------------------|---------|---------------|-----------------|------------------|----------------------|
| 1   | Vector Signal Analyzer | FSQ40   | 200089        | Rohde & Schwarz | 2013-07-08       | 2014-07-07           |
| 2   | Test Receiver          | ESS     | 847151/015    | Rohde & Schwarz | 2013-11-29       | 2014-11-28           |
| 3   | LISN                   | ESH2-Z5 | 829991/012    | Rohde & Schwarz | 2013-4-15        | 2014-4-14            |
| 4   | Shielding Room         | S81     | /             | ETS-Lindgren    | /                | /                    |

### Radiated emission test system

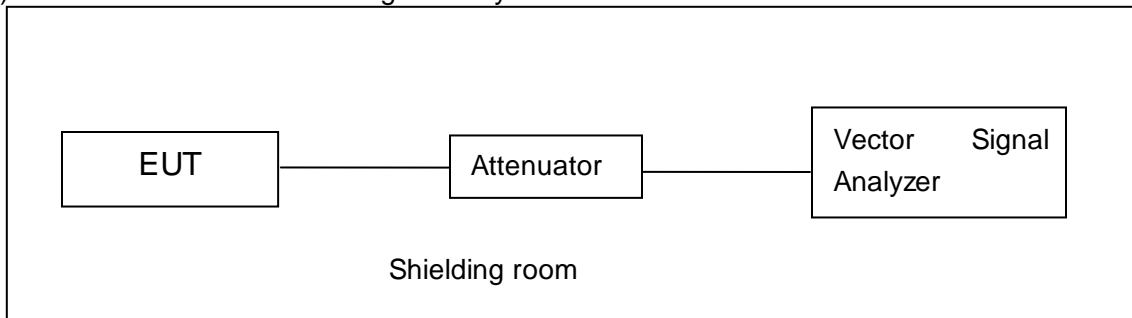
| No. | Equipment                         | Model    | Serial Number | Manufacturer     | Calibration date | Calibration Due date |
|-----|-----------------------------------|----------|---------------|------------------|------------------|----------------------|
| 1   | Test Receiver                     | ESU26    | 100376        | Rohde & Schwarz  | 2013-11-6        | 2014-11-5            |
| 2   | BiLog Antenna                     | VULB9163 | 9163-514      | Schwarzbeck      | 2011-11-11       | 2014-11-10           |
| 3   | Dual-Ridge Waveguide Horn Antenna | 3117     | 00119024      | ETS-Lindgren     | 2011-4-20        | 2014-4-19            |
| 4   | Dual-Ridge Waveguide Horn Antenna | 3116     | 2661          | EMCO             | 2011-7-1         | 2014-06-30           |
| 5   | Loop antenna                      | HFH2-Z2  | 829324/007    | Rohde & Schwarz  | 2011-12-21       | 2014-12-20           |
| 6   | Semi-anechoic chamber             | /        | CT000332-1074 | Frankonia German | /                | /                    |

## ANNEX A: MEASUREMENT RESULTS

### A.1. Measurement Method

#### A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer

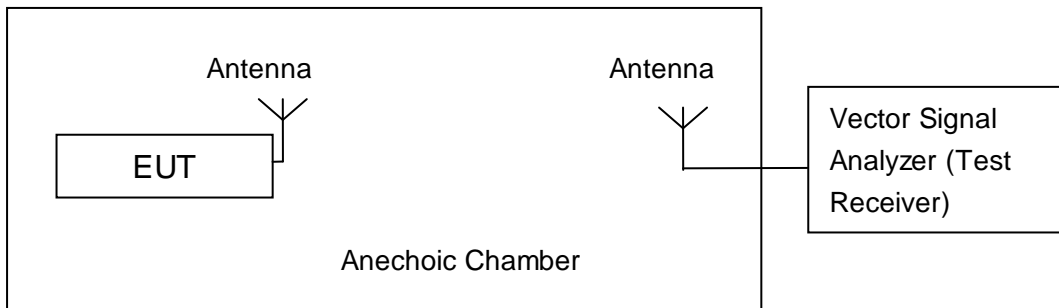


#### A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to KDB 789033

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

## A.2. Maximum output Power

### Measurement Limit and Method:

| Standard               | Frequency (MHz) | Limit (dBm)        |
|------------------------|-----------------|--------------------|
| FCC CRF Part 15.407(a) | 5150MHz~5250MHz | 17dBm or 4+10logB  |
|                        | 5250MHz~5350MHz | 24dBm or 11+10logB |
|                        | 5470MHz~5725MHz | 24dBm or 11+10logB |

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-1 is made according to KDB 789033

### Measurement Uncertainty:

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

### A.2.1. Output Power Verification

This test is only for mode verification, and the selected mode will be used for the future measurement.

### Measurement Results:

| OFDM/a mode      | Maximum Conducted Power (dBm) |       |       |       |      |      |      |      |
|------------------|-------------------------------|-------|-------|-------|------|------|------|------|
| data rate (Mbps) | 6                             | 9     | 12    | 18    | 24   | 36   | 48   | 54   |
| 36 (5180 MHz)    | 12.73                         | 12.72 | 12.71 | 12.68 | 6.99 | 6.94 | 6.90 | 6.89 |

| OFDM/n-HT20 mode | Maximum Conducted Power (dBm) |       |       |      |      |      |      |      |
|------------------|-------------------------------|-------|-------|------|------|------|------|------|
| data rate (Mbps) | MCS0                          | MCS1  | MCS2  | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 |
| 36 (5180 MHz)    | 13.16                         | 13.14 | 13.12 | 6.98 | 6.97 | 7.01 | 6.99 | 6.96 |

| OFDM/n-HT40 mode  | Maximum Conducted Power (dBm) |      |      |      |      |      |      |      |
|-------------------|-------------------------------|------|------|------|------|------|------|------|
| data rate (Index) | MCS0                          | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 |
| 38 (5190 MHz)     | 9.55                          | 9.54 | 9.53 | 7.53 | 7.54 | 7.51 | 7.50 | 7.49 |

| OFDM/ac-HT80 mode | Maximum Conducted Power (dBm) |      |      |      |      |      |      |      |
|-------------------|-------------------------------|------|------|------|------|------|------|------|
| data rate (Index) | MCS0                          | MCS1 | MCS2 | MCS3 | MCS4 | MCS5 | MCS6 | MCS7 |
| 42 (5210 MHz)     | 7.05                          | 6.92 | 6.85 | 5.82 | 6.14 | 6.19 | 6.11 | 6.14 |

Selected data rate for all measurement:

OFDM /a-mode: 6Mbps

OFDM /n-HT20 mode: MCS0

OFDM /n-HT40 mode: MCS0

OFDM /ac-HT80 mode: MCS0



### A.2.2. Antenna Gain

The antenna gain of the complete system is calculated by the difference of radiated power and the conducted power of the EUT.

Band 5150MHz to 5350MHz,

| Test                        | Channel      |               |              |               |
|-----------------------------|--------------|---------------|--------------|---------------|
|                             | Low(5180MHz) | High(5240MHz) | Low(5260MHz) | High(5320MHz) |
| Tnom,Vnom                   |              |               |              |               |
| <b>Conducted Power(dBm)</b> | 17.86        | 17.41         | 18.02        | 17.12         |
| <b>Radiated Power(dBm)</b>  | 16.62        | 17.12         | 17.30        | 16.54         |
| <b>Gain(dBi)</b>            | -1.24        | -0.29         | -0.72        | -0.58         |

Band 5470MHz to 5725MHz,

| Test                        | Channel      |                 |               |
|-----------------------------|--------------|-----------------|---------------|
|                             | Low(5500MHz) | Middle(5600MHz) | High(5700MHz) |
| Tnom,Vnom                   |              |                 |               |
| <b>Conducted Power(dBm)</b> | 17.70        | 17.77           | 17.46         |
| <b>Radiated Power(dBm)</b>  | 14.70        | 14.56           | 14.27         |
| <b>Gain(dBi)</b>            | -3.00        | -3.21           | -3.19         |

Antenna Gain = Radiated value (with radiated sample) - Conducted values (with conducted samples)

### A.2.3. Maximum Output Power

#### Measurement Results:

#### 802.11a mode

| Type           | Test Result       |                   |                   |                   |                   |                    |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                | 5180MHz<br>(Ch36) | 5200MHz<br>(Ch40) | 5240MHz<br>(Ch48) | 5260MHz<br>(Ch52) | 5280MHz<br>(Ch56) | 5320 MHz<br>(Ch64) |
| Conducted(dBm) | 12.73             | 12.88             | 12.88             | 14.18             | 12.87             | 12.61              |
| radiated(dBm)  | 11.49             | 11.64             | 12.59             | 13.46             | 12.15             | 12.03              |

| Type           | Test Result        |                    |                    |
|----------------|--------------------|--------------------|--------------------|
|                | 5500MHz<br>(Ch100) | 5600MHz<br>(Ch120) | 5700MHz<br>(Ch140) |
| conducted(dBm) | 12.76              | 13.57              | 12.52              |
| radiated(dBm)  | 9.76               | 10.36              | 9.33               |

**802.11n-HT20 mode**

| Type           | Test Result       |                   |                   |                   |                   |                    |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                | 5180MHz<br>(Ch36) | 5200MHz<br>(Ch40) | 5240MHz<br>(Ch48) | 5260MHz<br>(Ch52) | 5280MHz<br>(Ch56) | 5320 MHz<br>(Ch64) |
| conducted(dBm) | 13.16             | 13.19             | 13.27             | 14.19             | 12.86             | 13.03              |
| radiated(dBm)  | 11.92             | 11.95             | 12.98             | 13.47             | 12.14             | 12.45              |

| Type           | Test Result        |                    |                    |
|----------------|--------------------|--------------------|--------------------|
|                | 5500MHz<br>(Ch100) | 5600MHz<br>(Ch120) | 5700MHz<br>(Ch140) |
| conducted(dBm) | 12.85              | 13.65              | 12.83              |
| radiated(dBm)  | 9.85               | 10.44              | 9.64               |

**802.11n-HT40 mode**

| Type           | Test Result       |                   |                   |                    |
|----------------|-------------------|-------------------|-------------------|--------------------|
|                | 5190MHz<br>(Ch38) | 5230MHz<br>(Ch46) | 5270MHz<br>(Ch55) | 5310 MHz<br>(Ch63) |
| conducted(dBm) | 9.55              | 9.32              | 10.12             | 9.04               |
| radiated(dBm)  | 8.31              | 9.03              | 9.40              | 8.46               |

| Type           | Test Result        |                    |                    |
|----------------|--------------------|--------------------|--------------------|
|                | 5510MHz<br>(Ch102) | 5590MHz<br>(Ch118) | 5670MHz<br>(Ch134) |
| conducted(dBm) | 9.24               | 9.48               | 8.91               |
| radiated(dBm)  | 6.24               | 6.27               | 5.72               |

**802.11ac-HT80 mode**

| Type           | Test Result       |                   |                    |
|----------------|-------------------|-------------------|--------------------|
|                | 5210MHz<br>(Ch42) | 5290MHz<br>(Ch58) | 5530MHz<br>(Ch106) |
| conducted(dBm) | 7.05              | 7.61              | 7.12               |
| radiated(dBm)  | 5.81              | 6.89              | 4.12               |

**Conclusion: PASS**

### A.3. Peak Power Spectral Density (conducted)

**Measurement Limit:**

| Standard               | Frequency (MHz) | Limit (dBm/MHz) |
|------------------------|-----------------|-----------------|
| FCC CRF Part 15.407(a) | 5150MHz~5250MHz | 4               |
|                        | 5250MHz~5350MHz | 11              |
|                        | 5470MHz~5725MHz | 11              |

The output power measurement method SA-1 is made according to KDB 789033

**Measurement Uncertainty:**

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

**Measurement Results:**

| Mode             | Channel  | Power Spectral Density (dBm/MHz) | Conclusion |
|------------------|----------|----------------------------------|------------|
| 802.11a          | 5180 MHz | -13.97                           | P          |
|                  | 5200 MHz | -14.13                           | P          |
|                  | 5240 MHz | -14.77                           | P          |
|                  | 5260 MHz | -12.42                           | P          |
|                  | 5280 MHz | -13.00                           | P          |
|                  | 5320 MHz | -14.04                           | P          |
|                  | 5500 MHz | -13.06                           | P          |
|                  | 5600 MHz | -13.30                           | P          |
|                  | 5700 MHz | -13.27                           | P          |
| 802.11n<br>HT20  | 5180 MHz | -14.03                           | P          |
|                  | 5200 MHz | -14.01                           | P          |
|                  | 5240 MHz | -14.23                           | P          |
|                  | 5260 MHz | -12.01                           | P          |
|                  | 5280 MHz | -13.23                           | P          |
|                  | 5320 MHz | -13.99                           | P          |
|                  | 5500 MHz | -14.28                           | P          |
|                  | 5600 MHz | -13.19                           | P          |
|                  | 5700 MHz | -14.25                           | P          |
| 802.11n<br>HT40  | 5190 MHz | -19.05                           | P          |
|                  | 5230 MHz | -20.35                           | P          |
|                  | 5270 MHz | -19.99                           | P          |
|                  | 5310 MHz | -20.49                           | P          |
|                  | 5510 MHz | -19.76                           | P          |
|                  | 5590 MHz | -17.44                           | P          |
|                  | 5670 MHz | -20.04                           | P          |
| 802.11ac<br>HT80 | 5210 MHz | -26.03                           | P          |
|                  | 5290 MHz | -24.52                           | P          |
|                  | 5530 MHz | -25.55                           | P          |

**Conclusion: PASS**

#### A.4. Occupied 26dB Bandwidth(conducted)

##### Measurement Limit:

| Standard                   | Limit (kHz) |
|----------------------------|-------------|
| FCC 47 CFR Part 15.403 (i) | /           |

The measurement is made according to KDB 789033

##### Measurement Uncertainty:

|                         |         |
|-------------------------|---------|
| Measurement Uncertainty | 60.80Hz |
|-------------------------|---------|

##### Measurement Result:

| Mode             | Channel  | Occupied 26dB Bandwidth ( kHz) |       | conclusion |
|------------------|----------|--------------------------------|-------|------------|
|                  |          | Fig.                           | Value |            |
| 802.11a          | 5180 MHz | Fig.1                          | 29500 | P          |
|                  | 5200 MHz | Fig.2                          | 29450 | P          |
|                  | 5240 MHz | Fig.3                          | 31850 | P          |
|                  | 5260 MHz | Fig.4                          | 34150 | P          |
|                  | 5280 MHz | Fig.5                          | 31500 | P          |
|                  | 5320 MHz | Fig.6                          | 31450 | P          |
|                  | 5500 MHz | Fig.7                          | 36950 | P          |
|                  | 5600 MHz | Fig.8                          | 42450 | P          |
| 802.11n<br>HT20  | 5700 MHz | Fig.9                          | 41250 | P          |
|                  | 5180 MHz | Fig.10                         | 36850 | P          |
|                  | 5200 MHz | Fig.11                         | 37850 | P          |
|                  | 5240 MHz | Fig.12                         | 36550 | P          |
|                  | 5260 MHz | Fig.13                         | 39950 | P          |
|                  | 5280 MHz | Fig.14                         | 36750 | P          |
|                  | 5320 MHz | Fig.15                         | 33600 | P          |
|                  | 5500 MHz | Fig.16                         | 40600 | P          |
| 802.11n<br>HT40  | 5600 MHz | Fig.17                         | 46550 | P          |
|                  | 5700 MHz | Fig.18                         | 46100 | P          |
|                  | 5190 MHz | Fig.19                         | 46160 | P          |
|                  | 5230 MHz | Fig.20                         | 48080 | P          |
|                  | 5270 MHz | Fig.21                         | 52160 | P          |
|                  | 5310 MHz | Fig.22                         | 46720 | P          |
|                  | 5510 MHz | Fig.23                         | 47200 | P          |
| 802.11ac<br>HT80 | 5590 MHz | Fig.24                         | 48080 | P          |
|                  | 5670 MHz | Fig.25                         | 48320 | P          |
|                  | 5210 MHz | Fig.26                         | 85760 | P          |
| 802.11ac<br>HT80 | 5290 MHz | Fig.27                         | 85920 | P          |
|                  | 5530 MHz | Fig.28                         | 86400 | P          |

**Conclusion: PASS**

Test graphs as below:

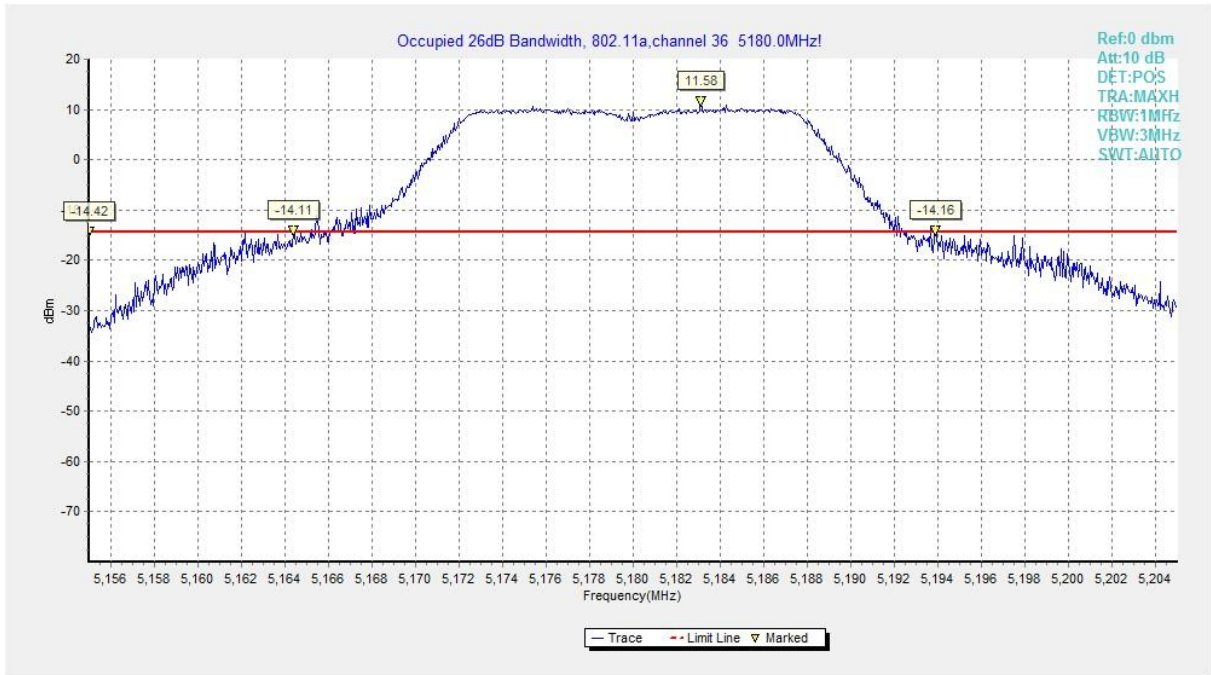


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

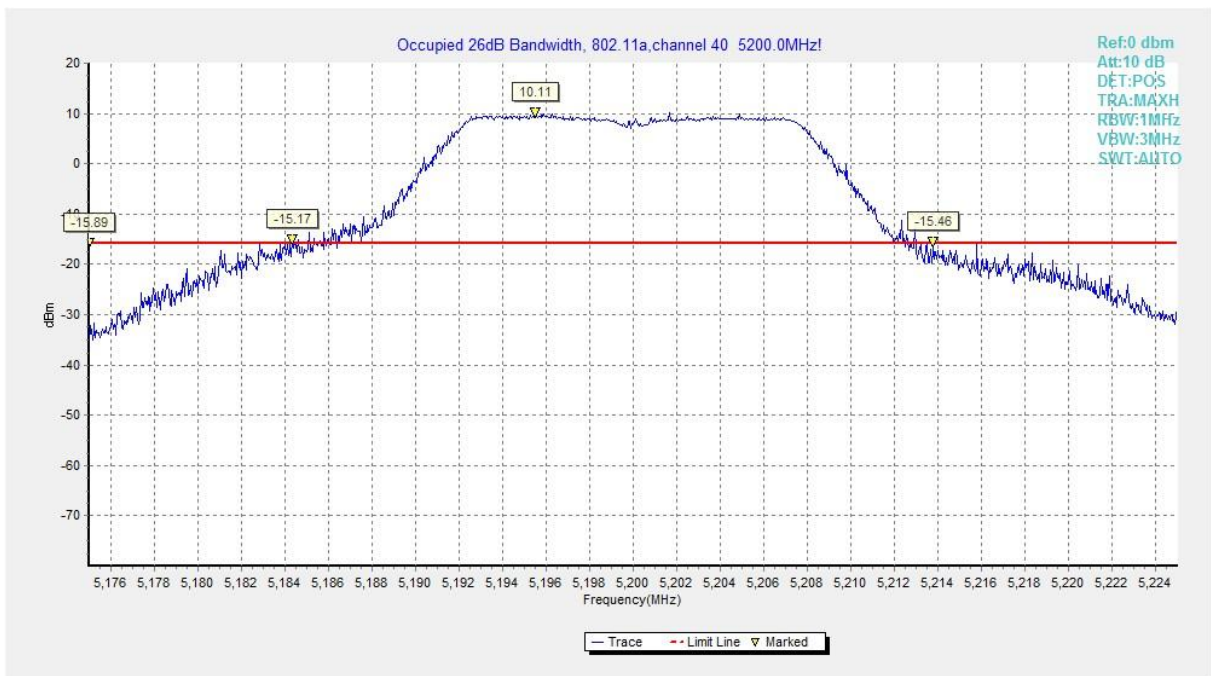


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)

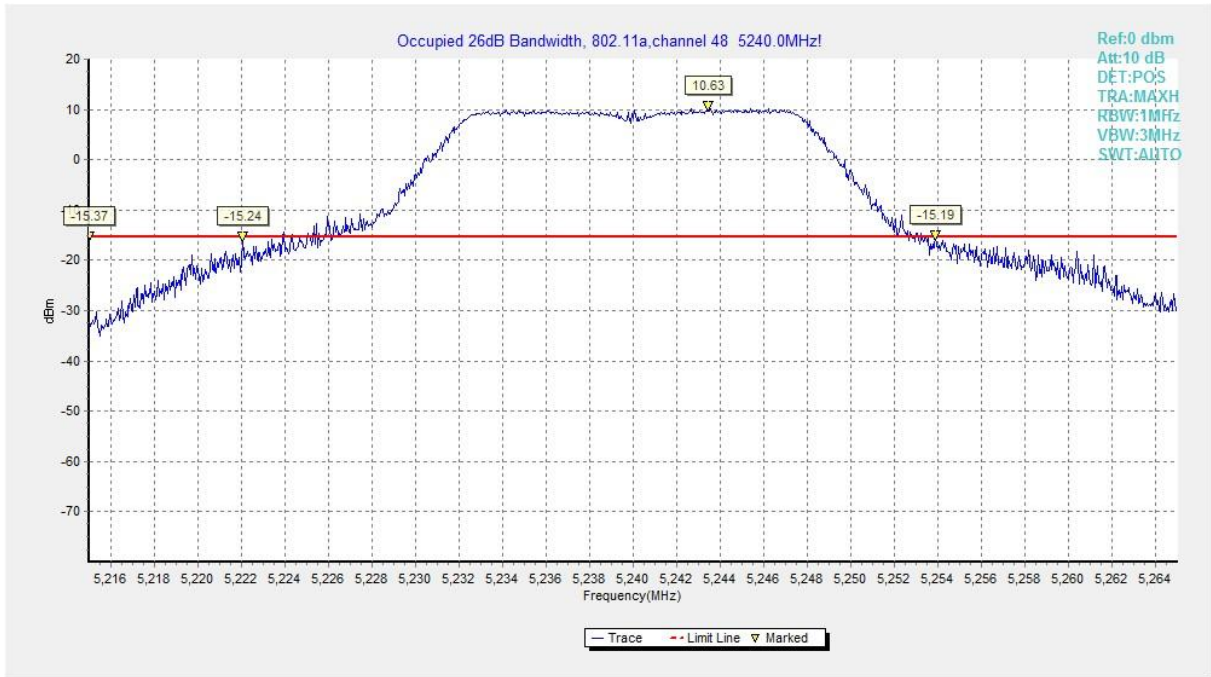


Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

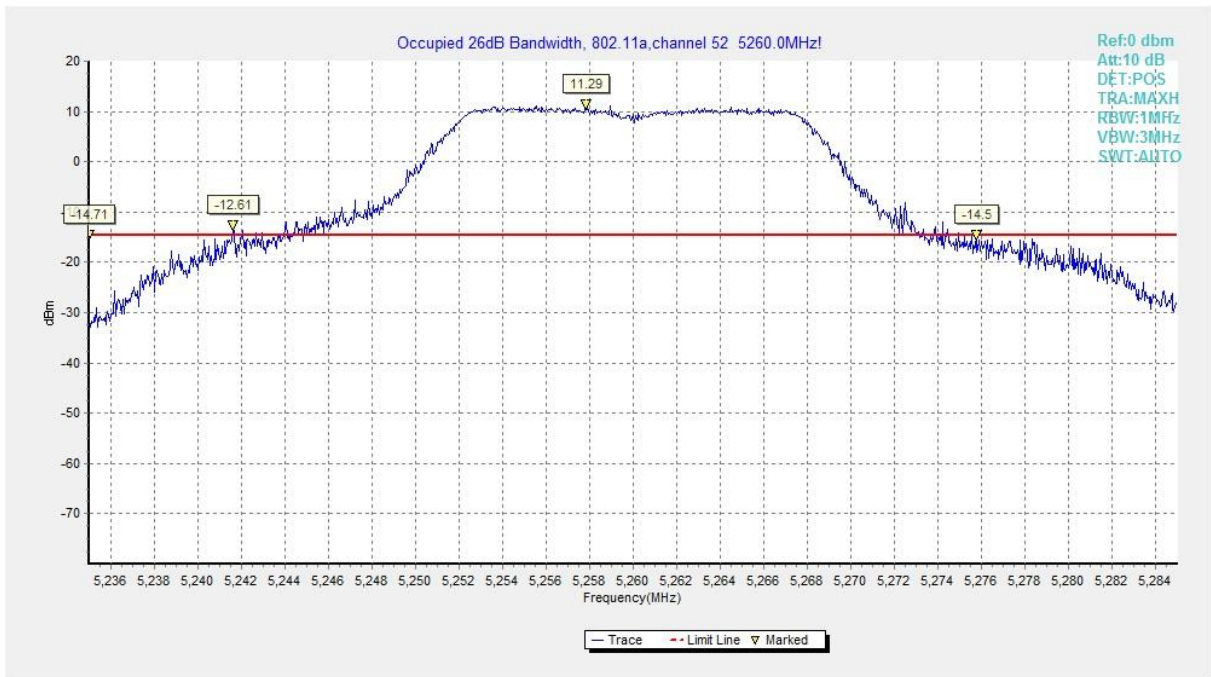


Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)



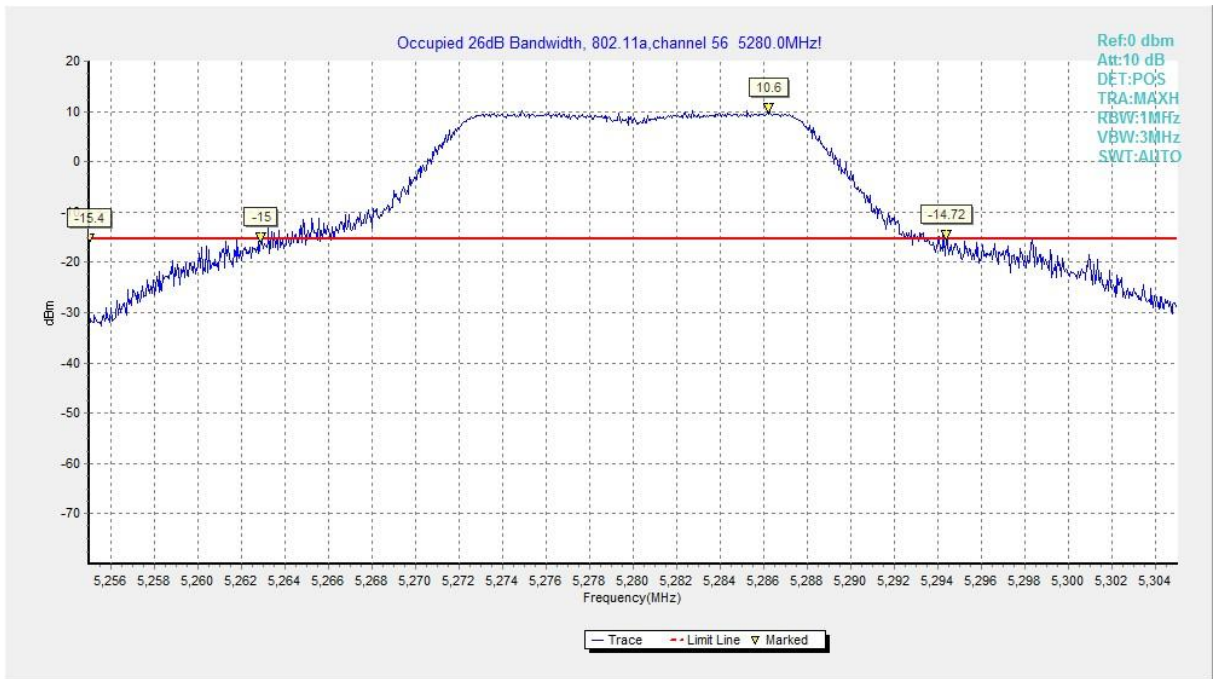


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

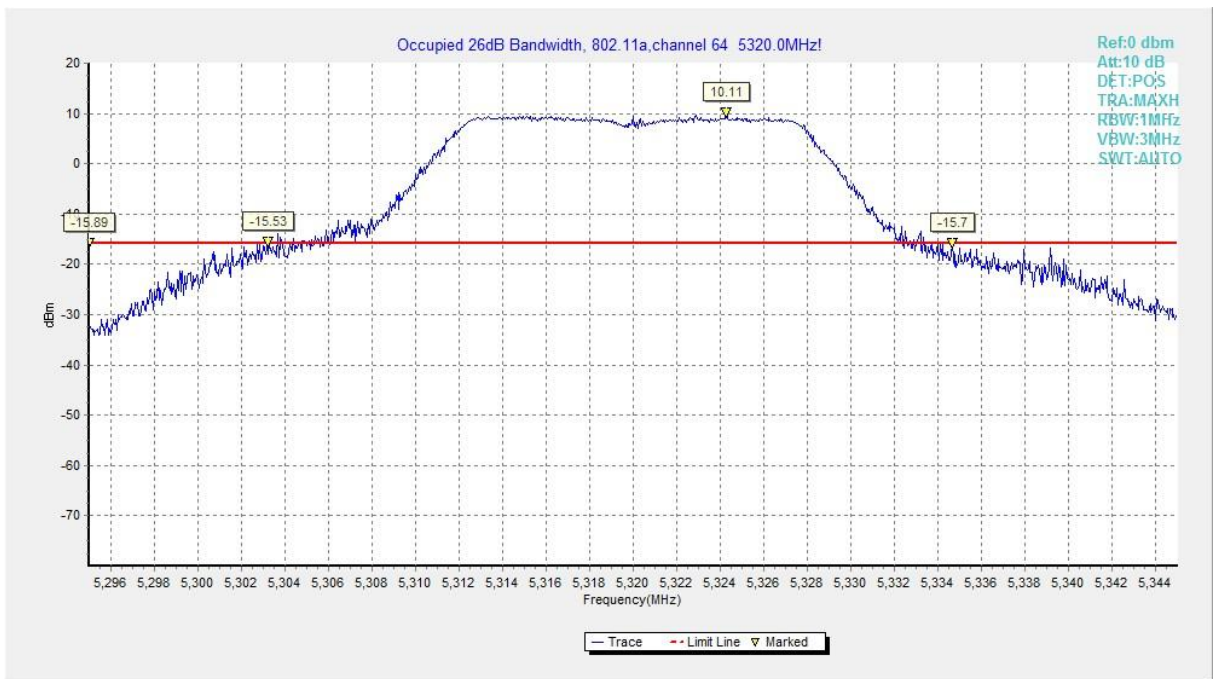


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)



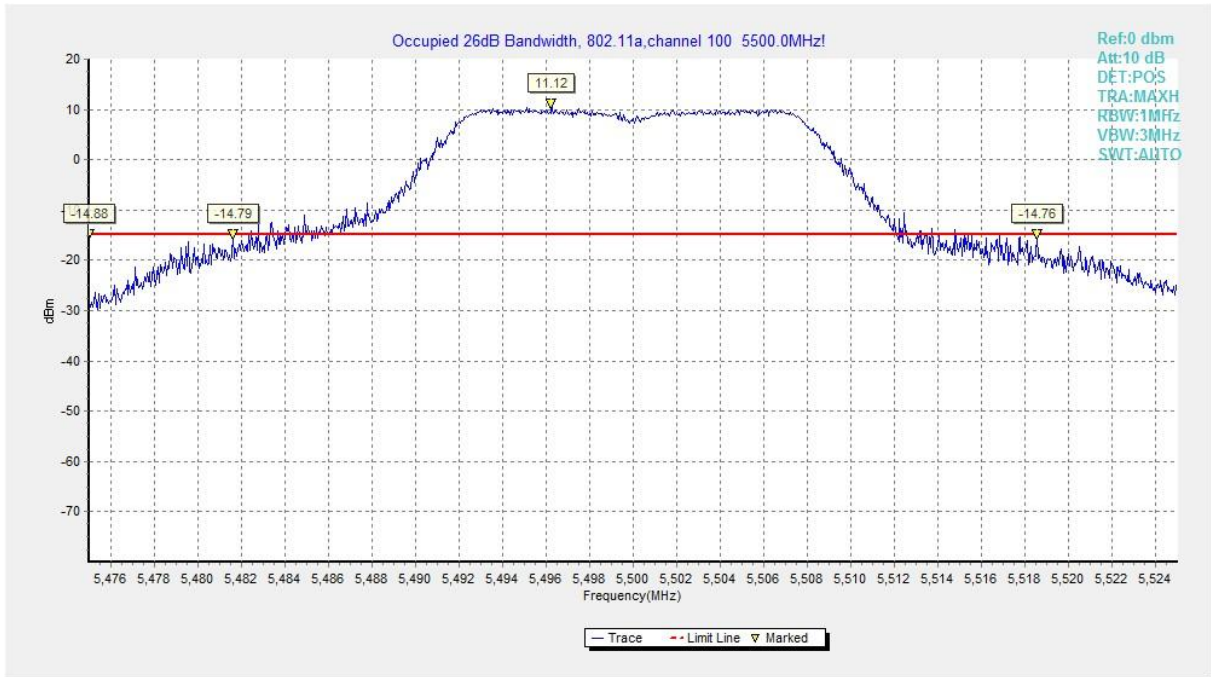


Fig. 7 Occupied 26dB Bandwidth (802.11a, 5500MHz)

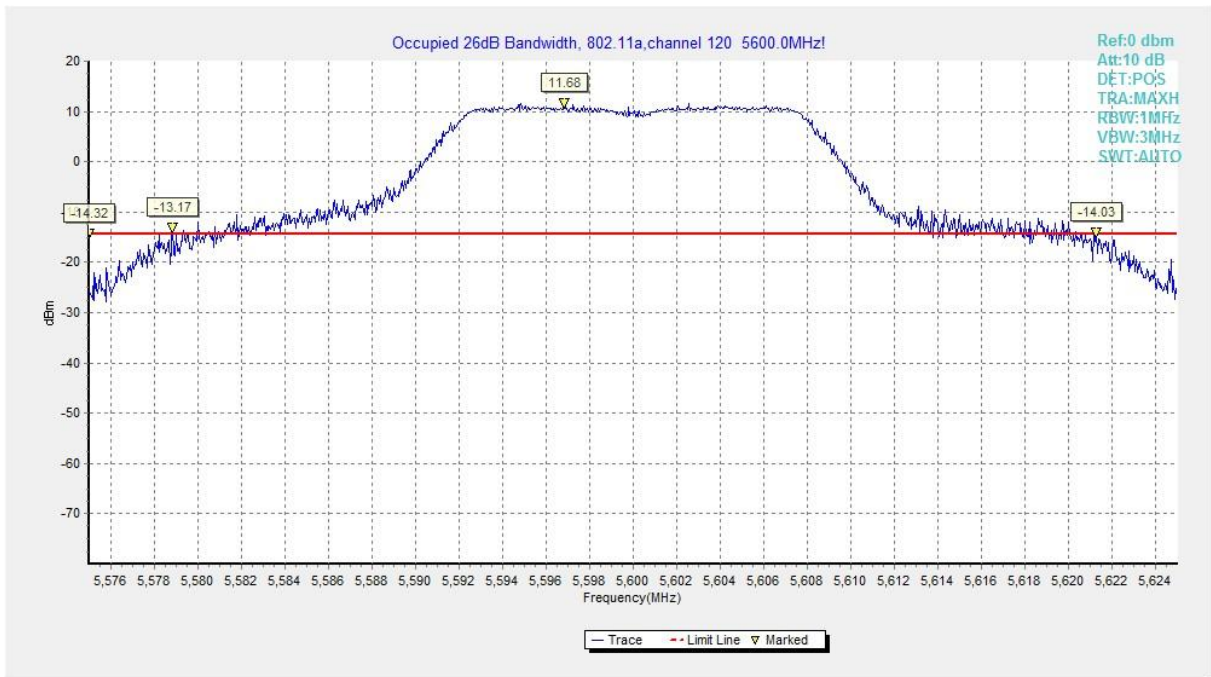


Fig. 8 Occupied 26dB Bandwidth (802.11a, 5600MHz)

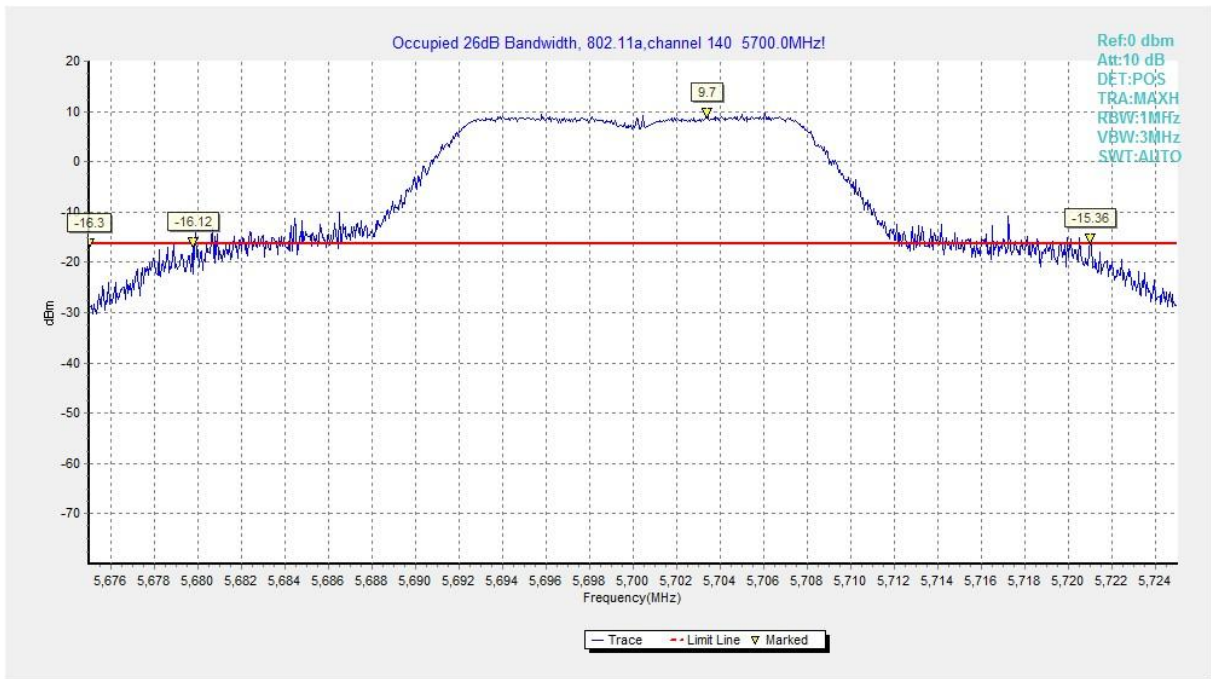


Fig. 9 Occupied 26dB Bandwidth (802.11a, 5700MHz)

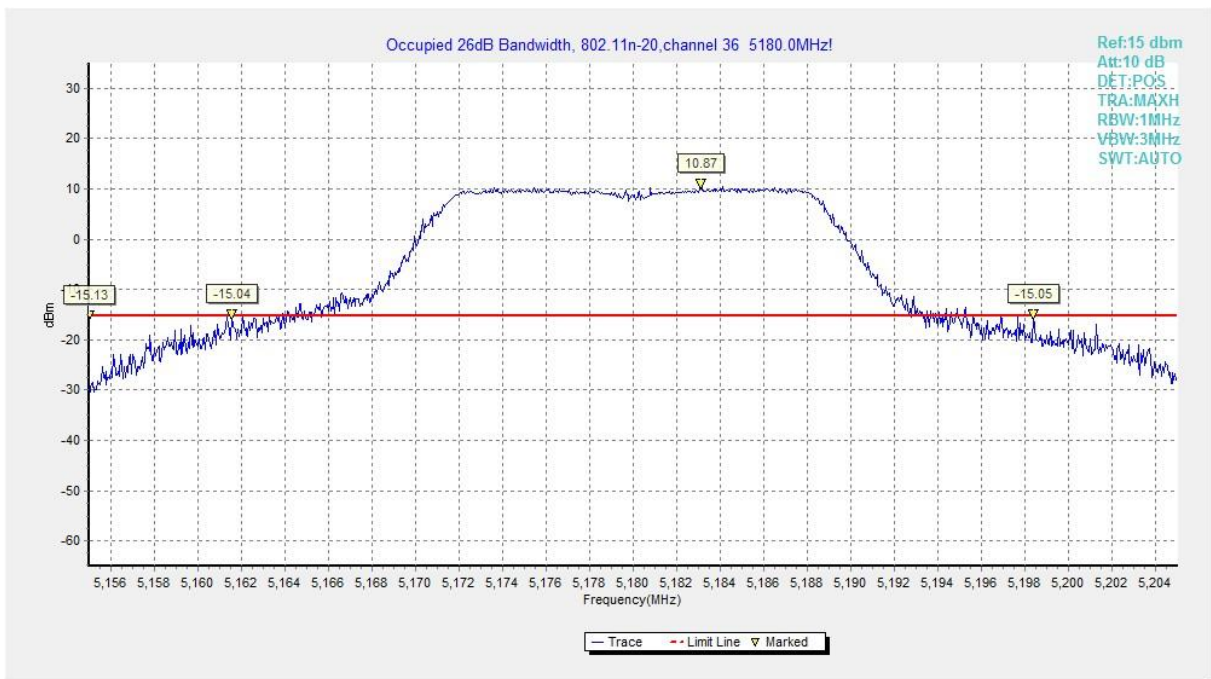


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)



Fig. 11 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

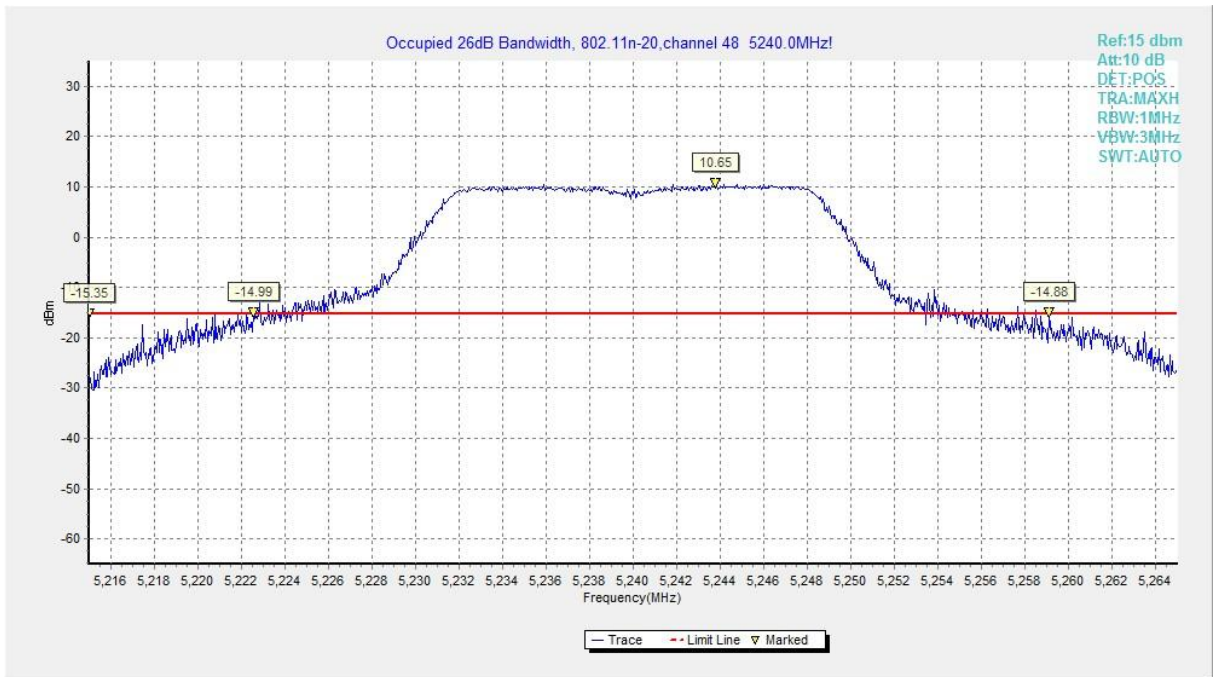


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

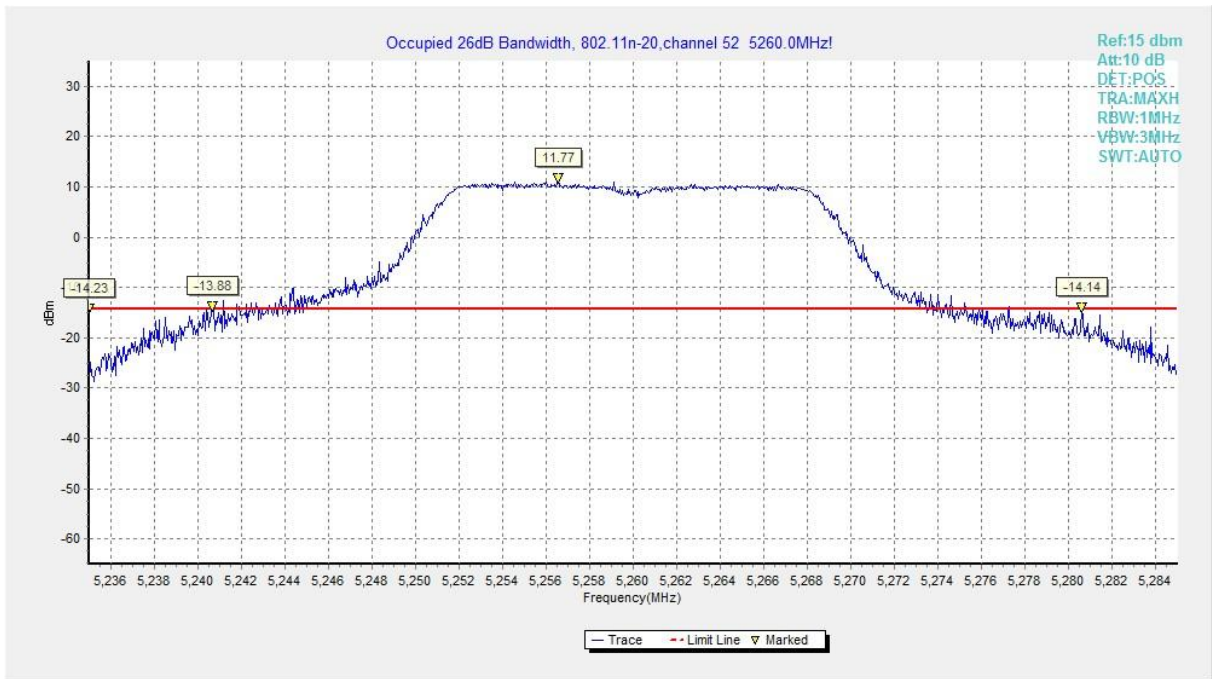


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

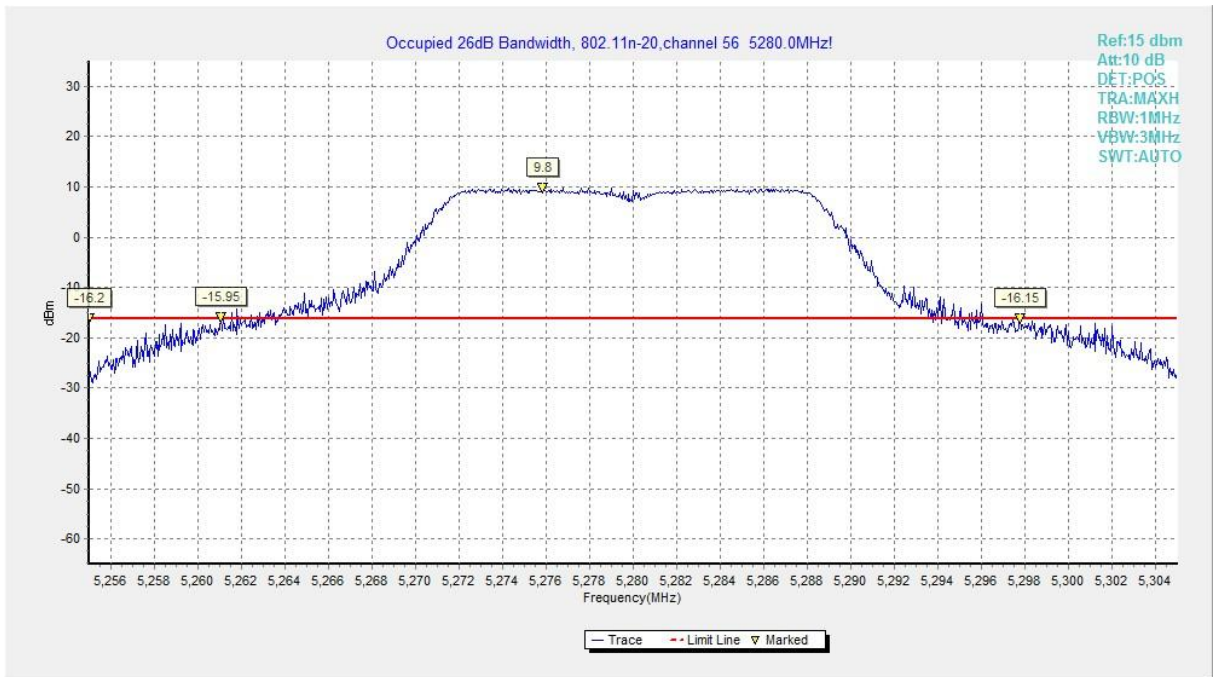


Fig. 14 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)



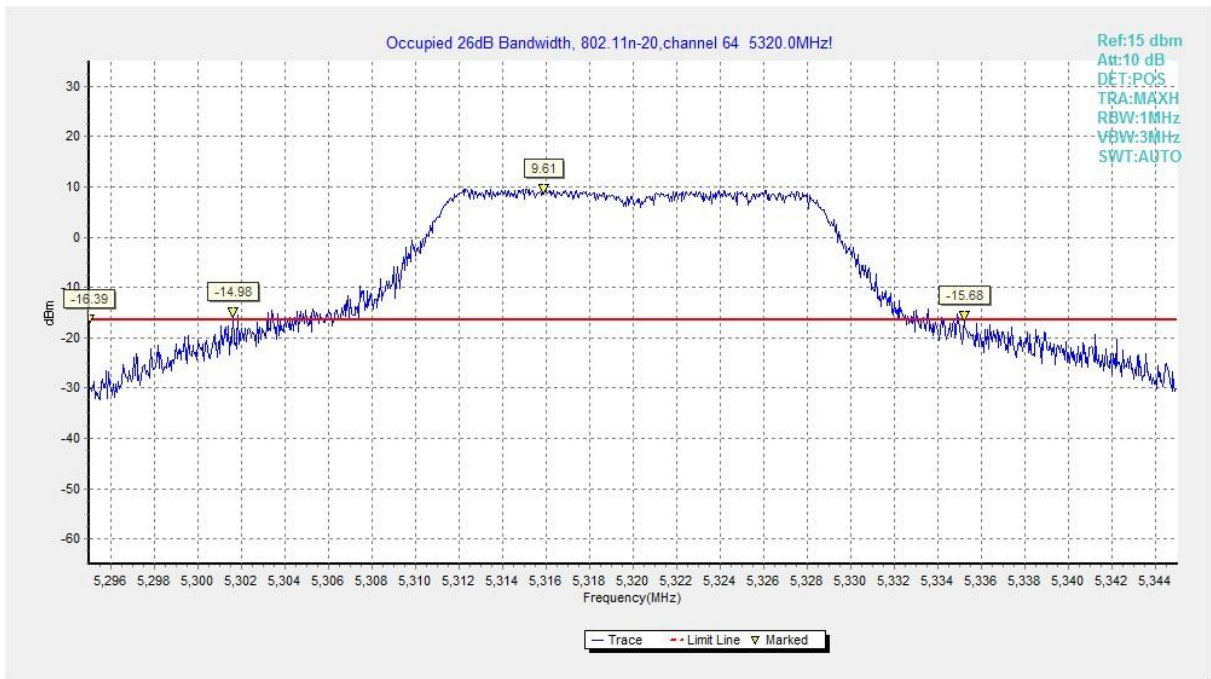


Fig. 15 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)

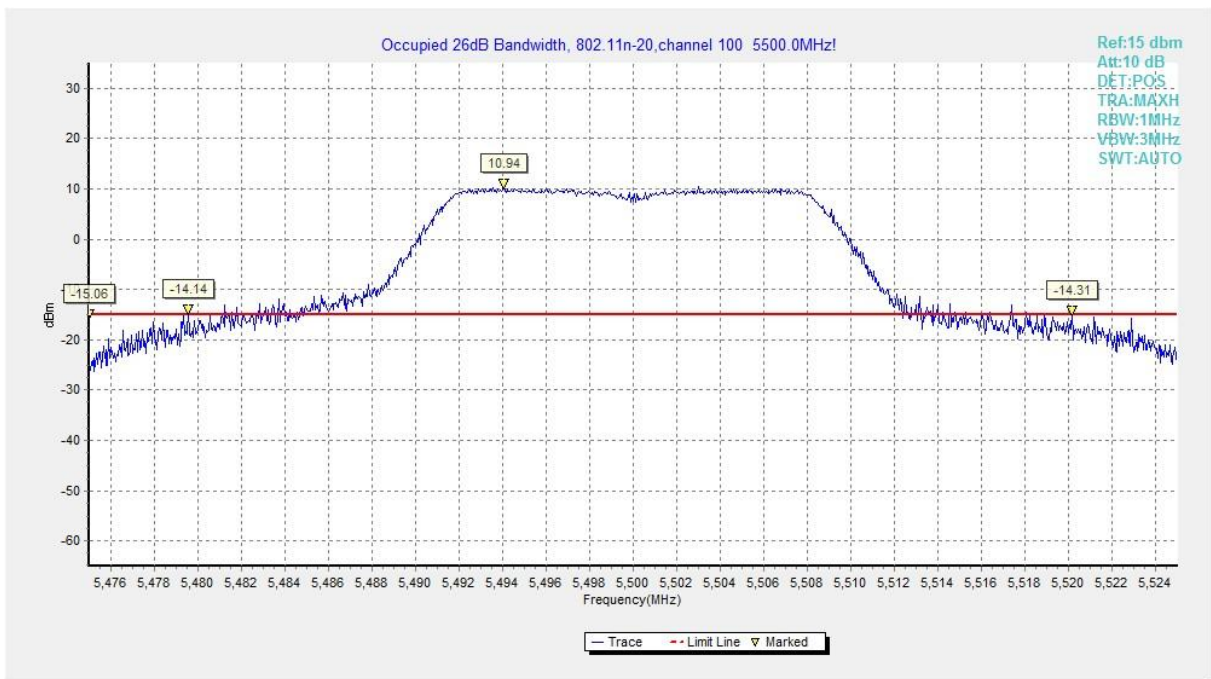


Fig. 16 Occupied 26dB Bandwidth (802.11n-HT20, 5500MHz)

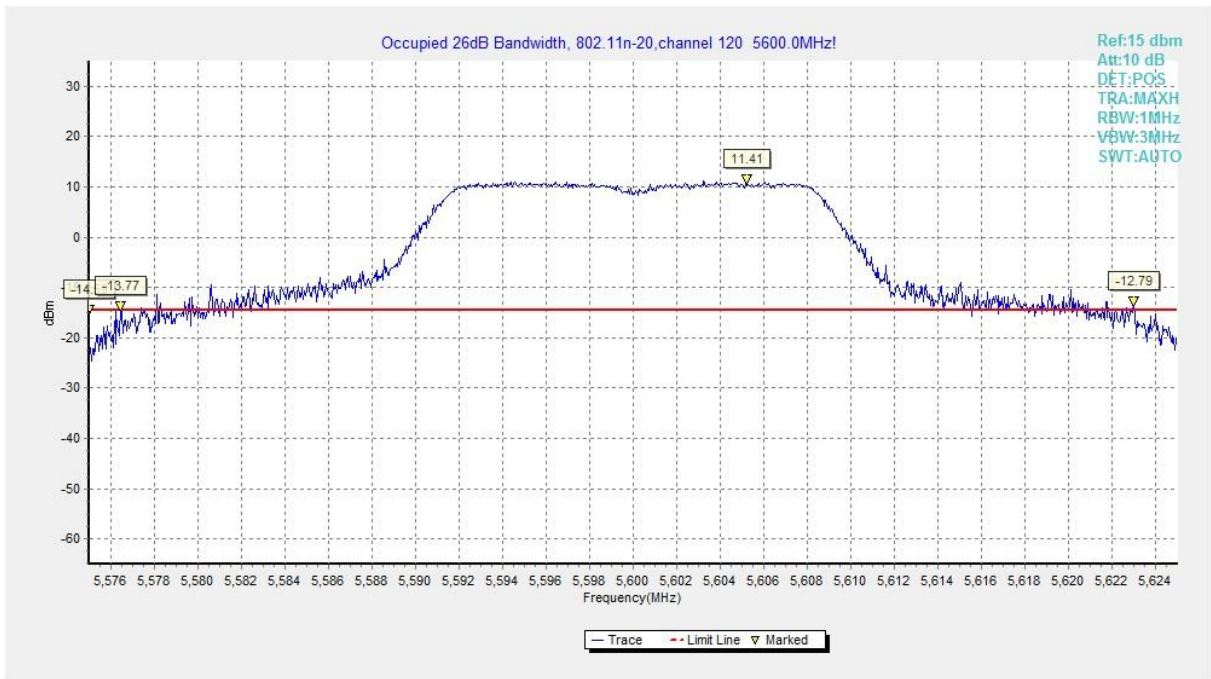


Fig. 17 Occupied 26dB Bandwidth (802. 11n-HT20, 5600MHz)

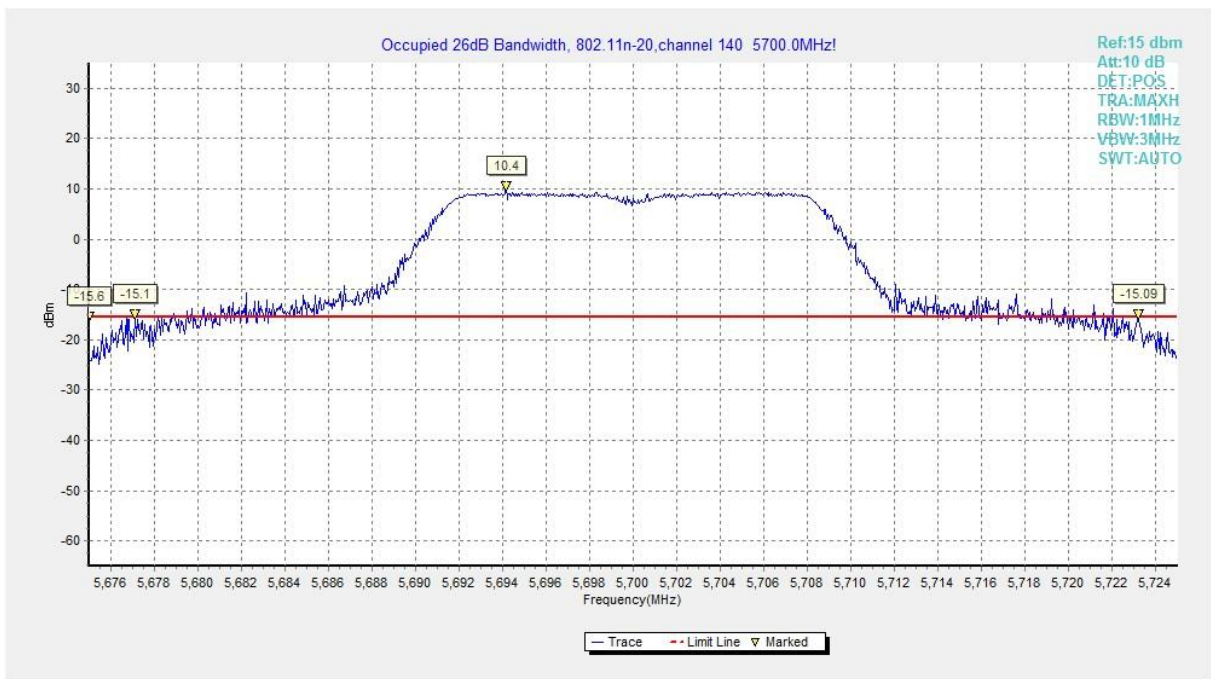


Fig. 18 Occupied 26dB Bandwidth (802. 11n-HT20, 5700MHz)

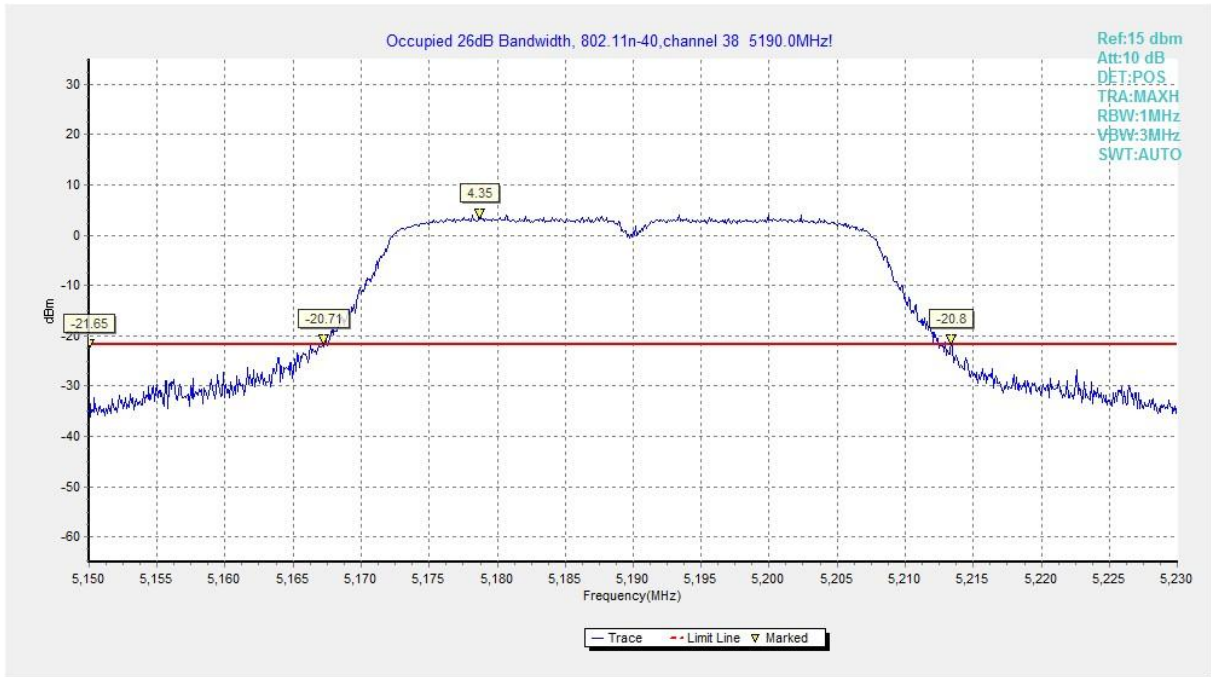


Fig. 19 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)

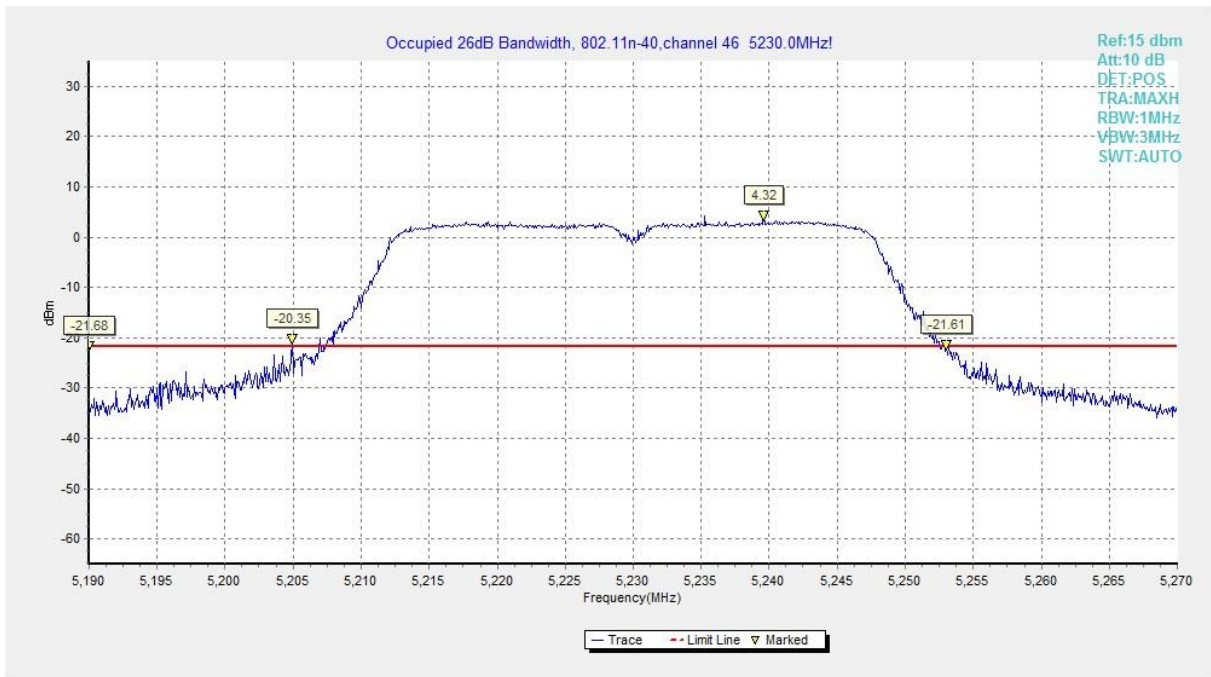


Fig. 20 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)



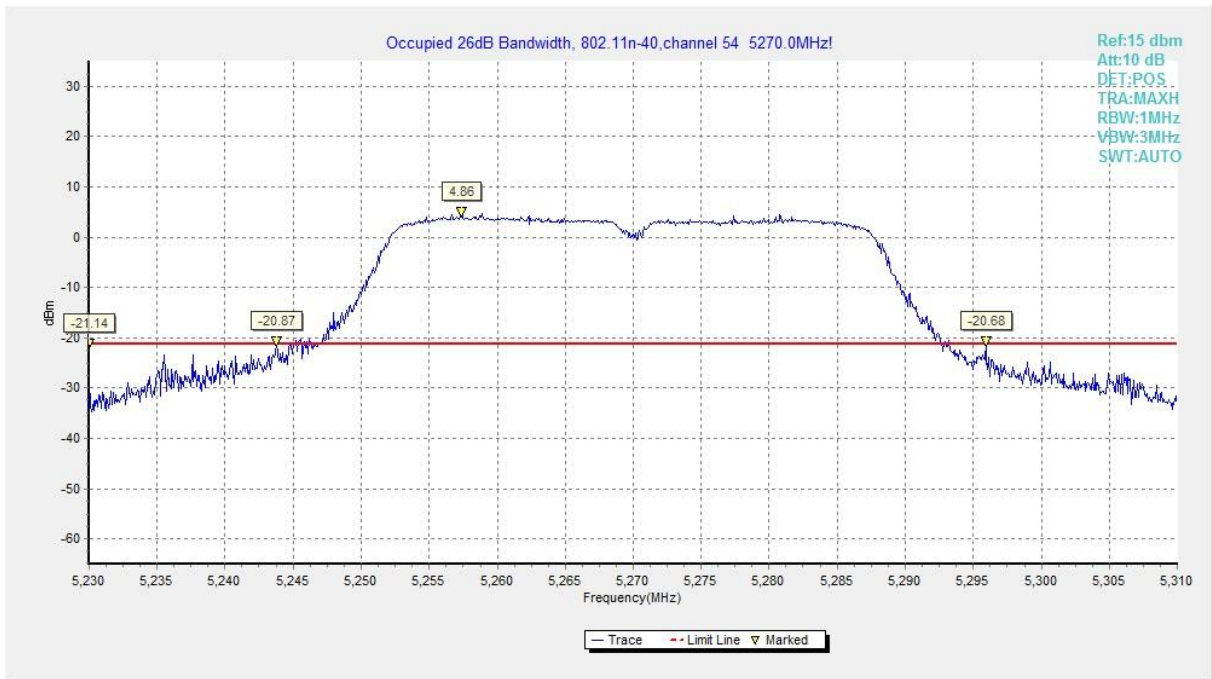


Fig. 21 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)

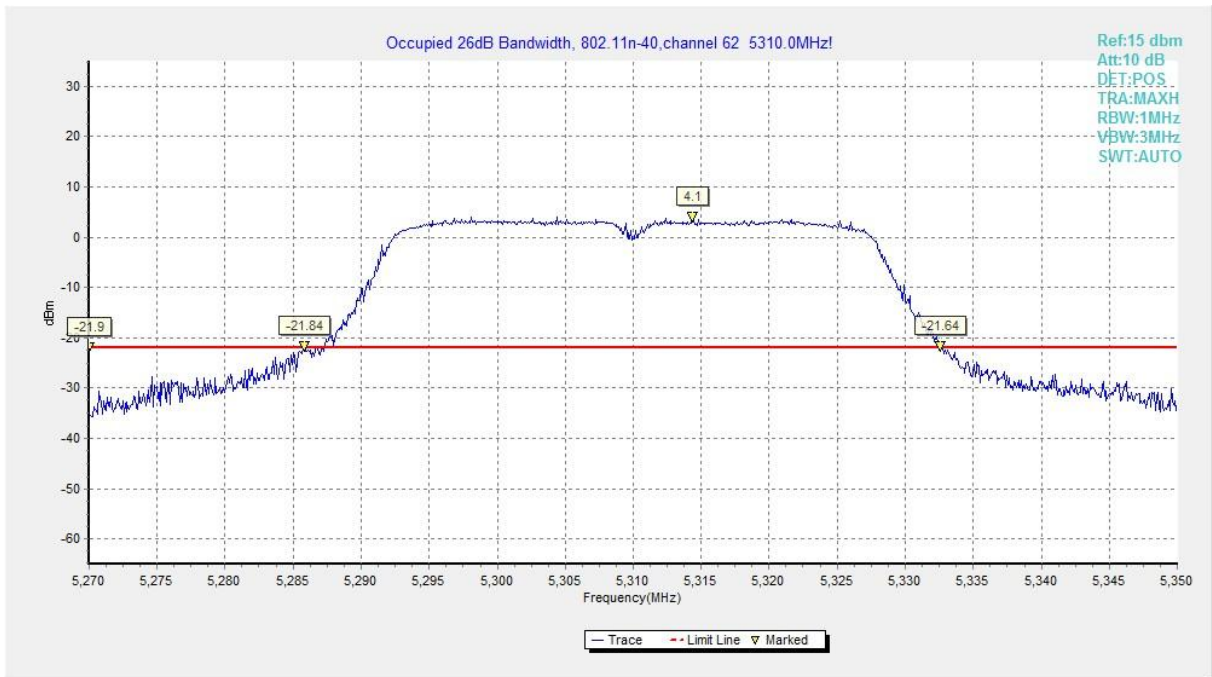


Fig. 22 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)

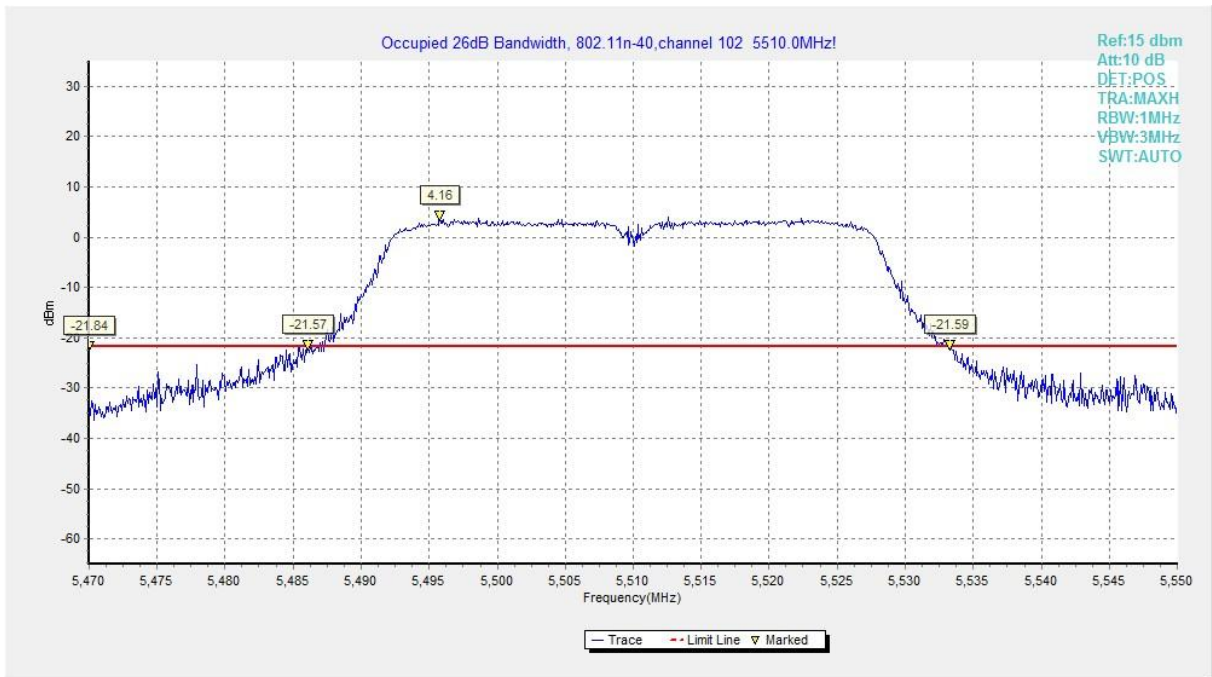


Fig. 23 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)

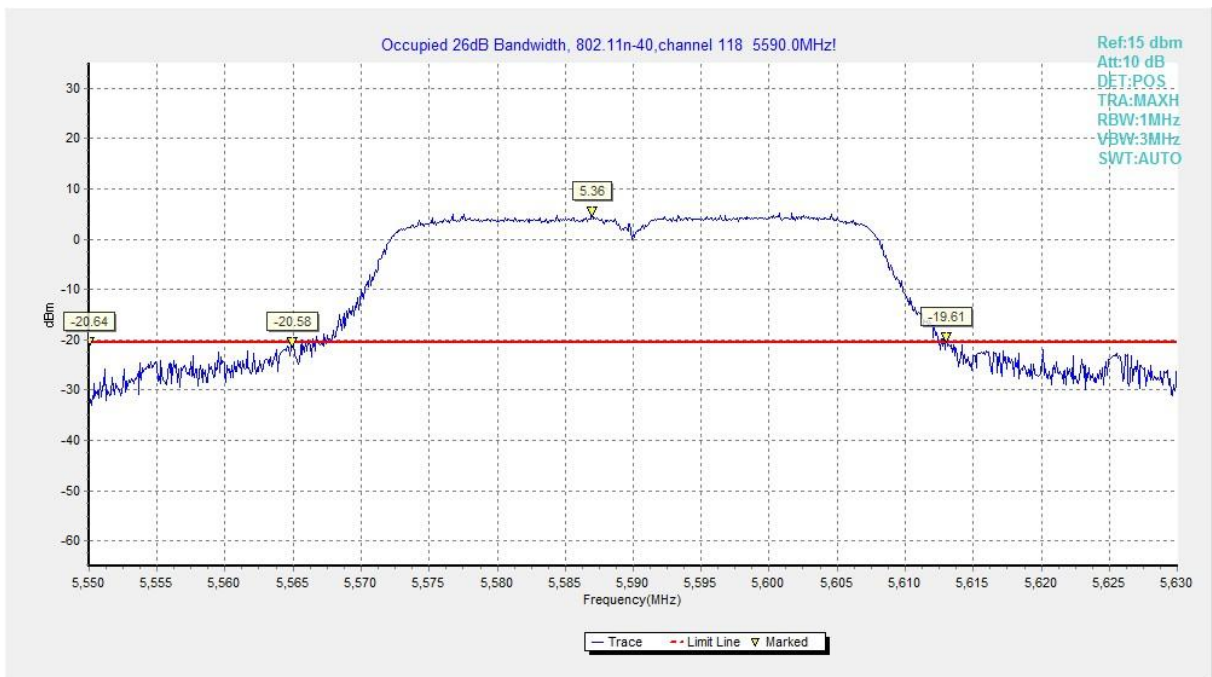


Fig. 24 Occupied 26dB Bandwidth (802. 11n-HT40, 5590MHz)

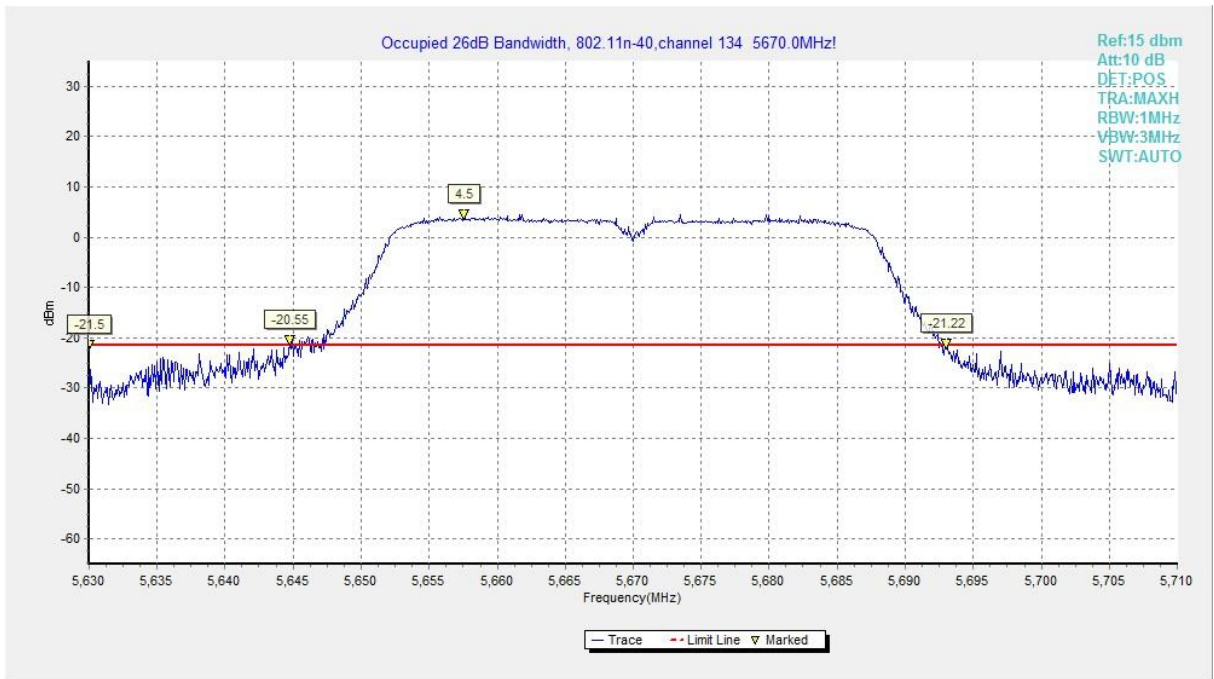


Fig. 25 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

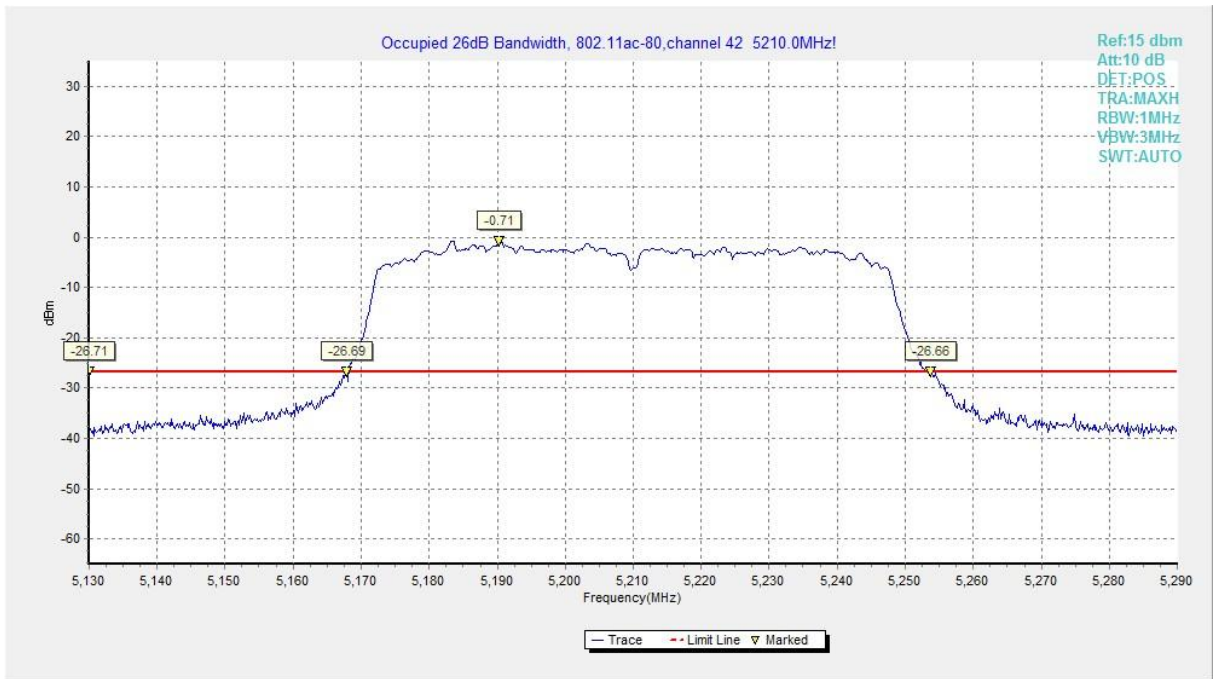


Fig. 26 Occupied 26dB Bandwidth (802. 11ac-HT80, 5210MHz)

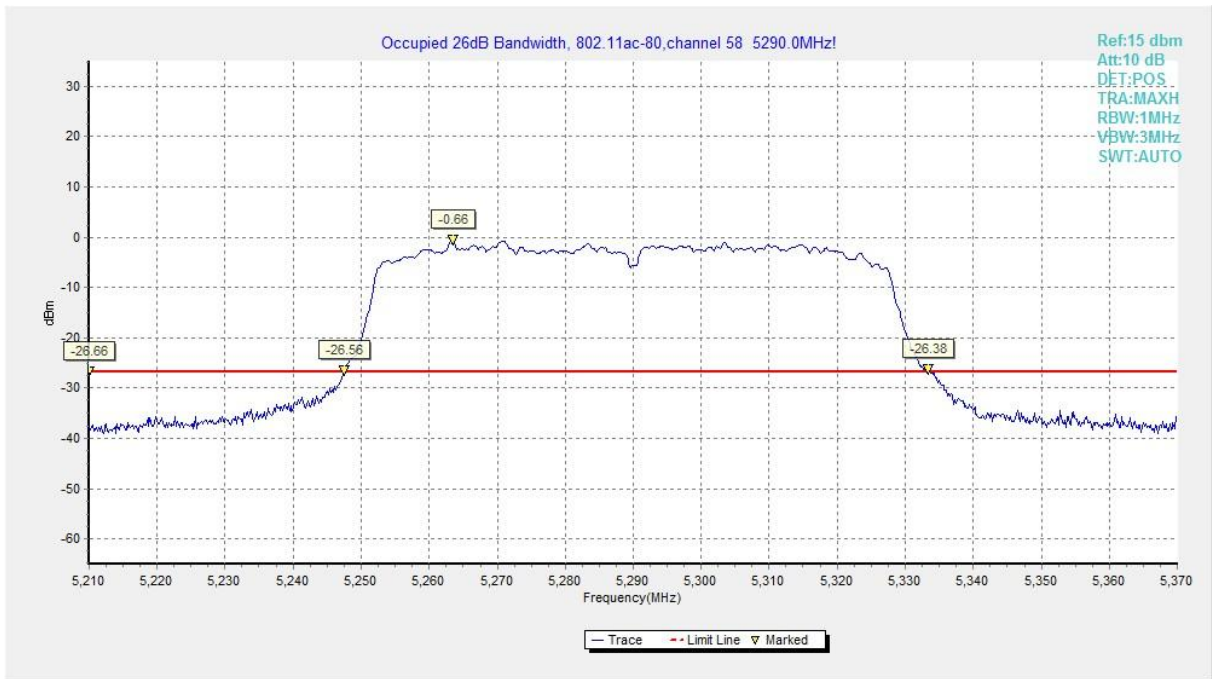


Fig. 27 Occupied 26dB Bandwidth (802. 11ac-HT80, 5290MHz)

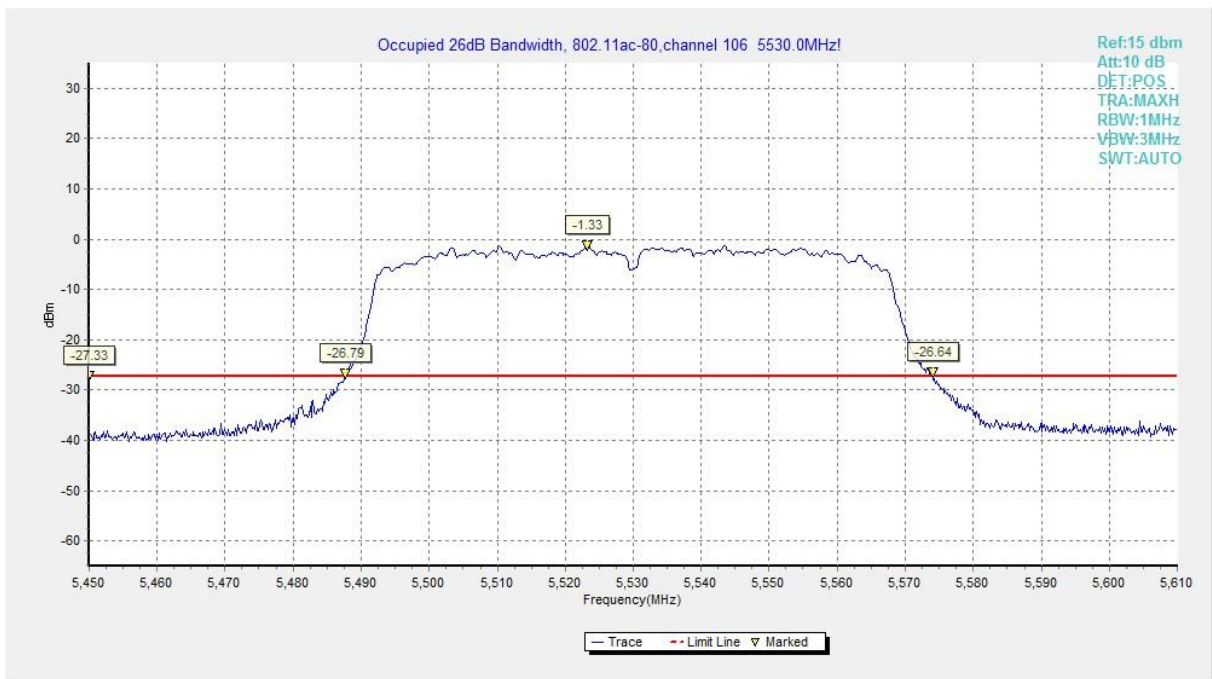


Fig. 28 Occupied 26dB Bandwidth (802. 11ac-HT80, 5530MHz)

## A.5. Band Edges Compliance

### A5.1 Band Edges - conducted

#### Measurement Limit:

| Standard               | Limit (dBc) |
|------------------------|-------------|
| FCC 47 CFR Part 15.407 | > 20        |

The measurement is made according to KDB 789033

#### Measurement Uncertainty:

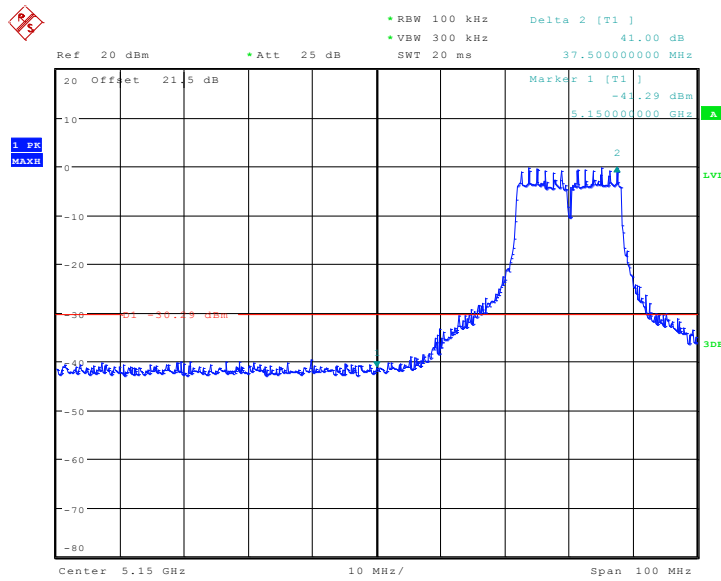
|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

#### Measurement Result:

| Mode             | Channel  | Test Results | Conclusion |
|------------------|----------|--------------|------------|
| 802.11a          | 5180 MHz | Fig.29       | P          |
|                  | 5320 MHz | Fig.30       | P          |
|                  | 5500 MHz | Fig.31       | P          |
| 802.11n<br>HT20  | 5180 MHz | Fig.32       | P          |
|                  | 5320 MHz | Fig.33       | P          |
|                  | 5500 MHz | Fig.34       | P          |
| 802.11n<br>HT40  | 5190 MHz | Fig.35       | P          |
|                  | 5310 MHz | Fig.36       | P          |
|                  | 5510 MHz | Fig.37       | P          |
| 802.11ac<br>HT80 | 5210 MHz | Fig.38       | P          |
|                  | 5290 MHz | Fig.39       | P          |
|                  | 5530 MHz | Fig.40       | P          |

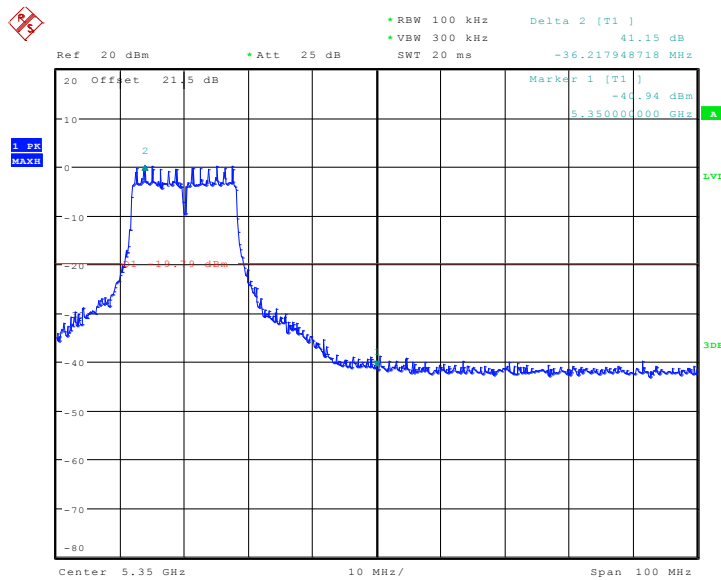
**Conclusion: PASS**

Test graphs as below:



Date: 27.SEP.2013 17:06:48

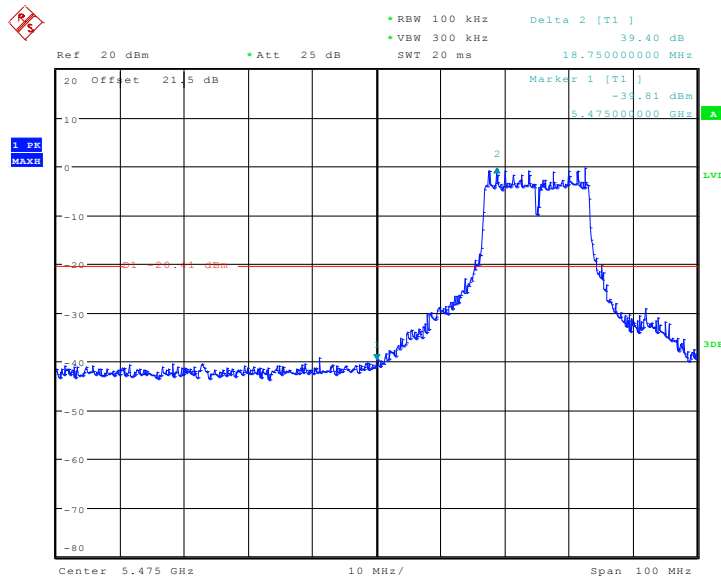
**Fig. 29 Band Edges (802.11a, 5180MHz)**



Date: 27.SEP.2013 17:08:39

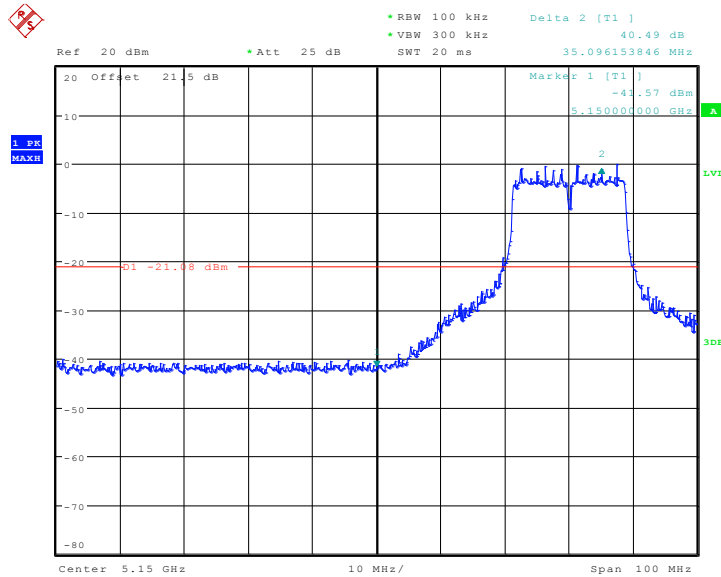
**Fig. 30 Band Edges (802.11a, 5320MHz)**





Date: 27.SEP.2013 17:10:02

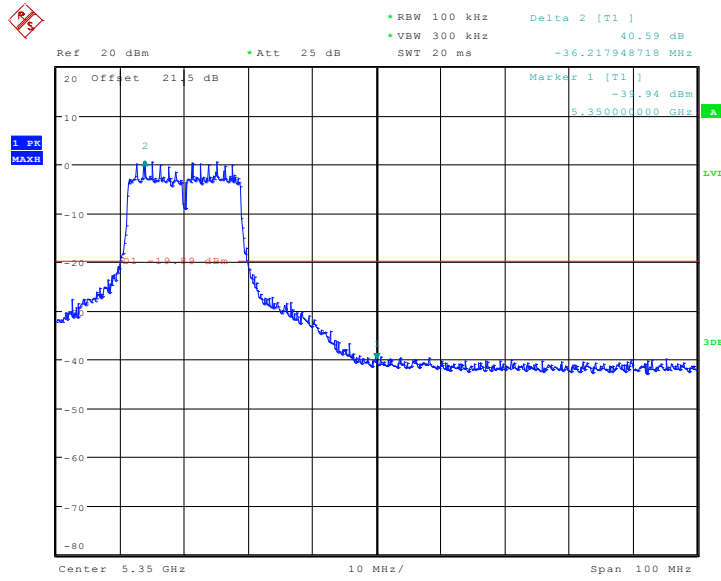
**Fig. 31 Band Edges (802.11a, 5500MHz)**



Date: 27.SEP.2013 17:11:31

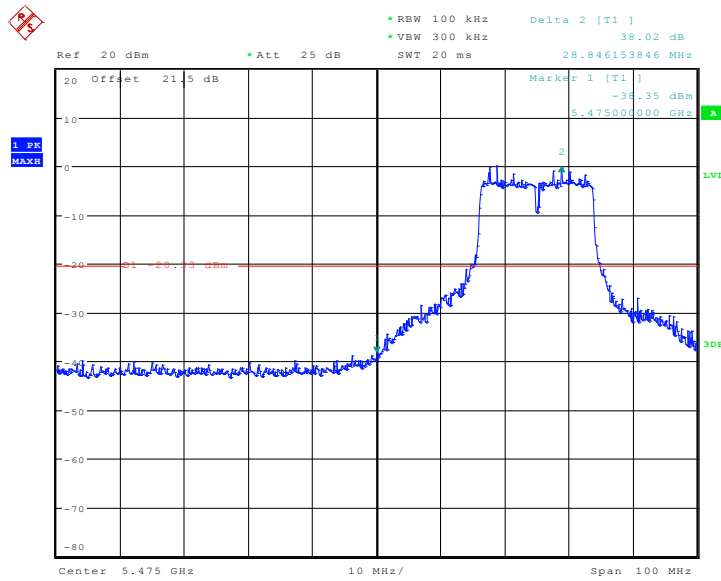
**Fig. 32 Band Edges (802.11n-HT20, 5180MHz)**





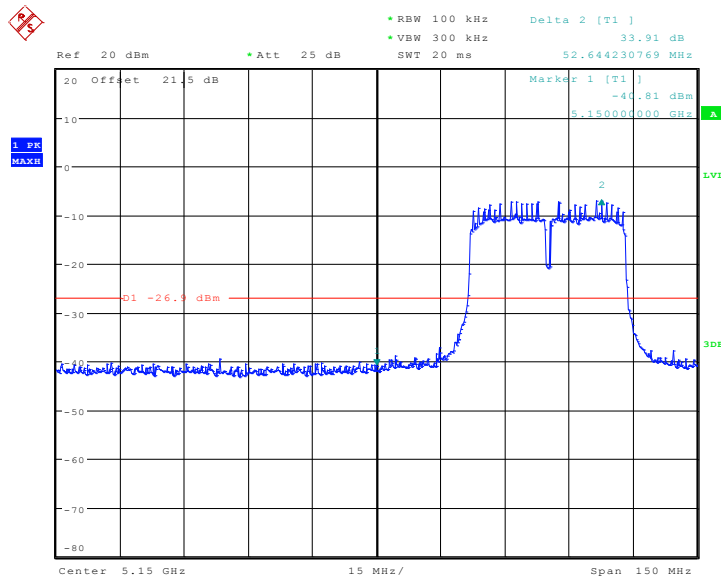
Date: 27.SEP.2013 17:13:52

**Fig. 33 Band Edges (802.11n-HT20, 5320MHz)**



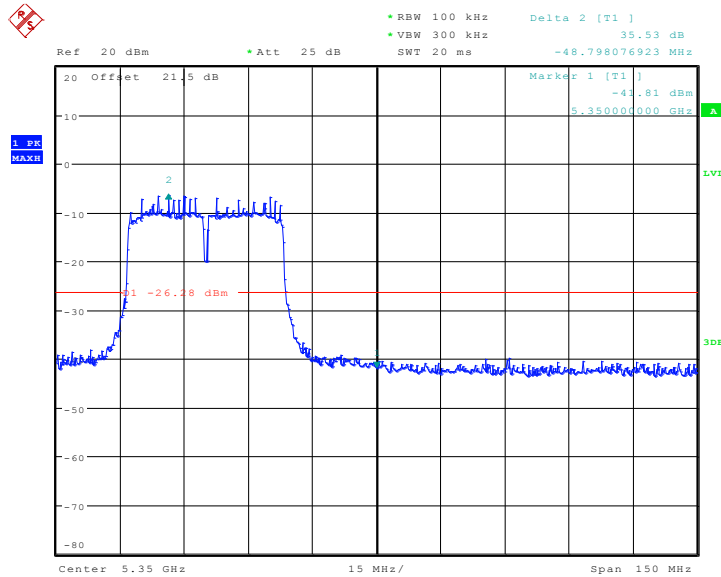
Date: 27.SEP.2013 17:15:00

**Fig. 34 Band Edges (802.11n-HT20, 5500MHz)**



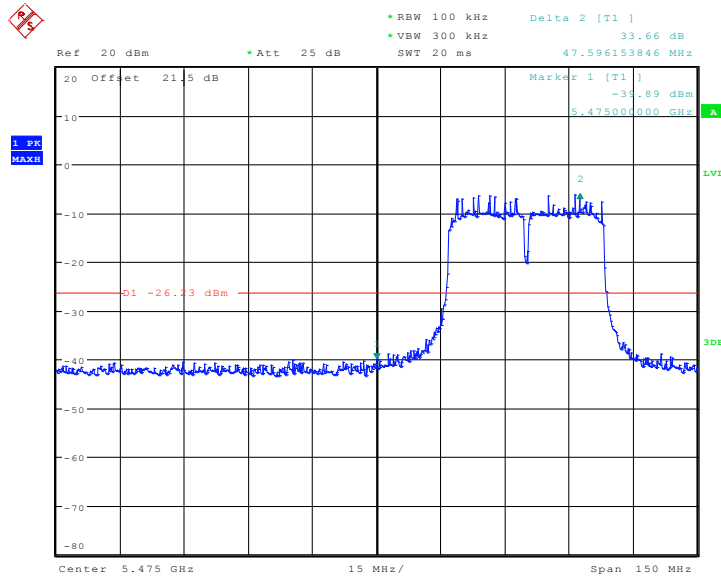
Date: 27.SEP.2013 17:16:32

**Fig. 35 Band Edges (802.11n-HT40, 5190MHz)**



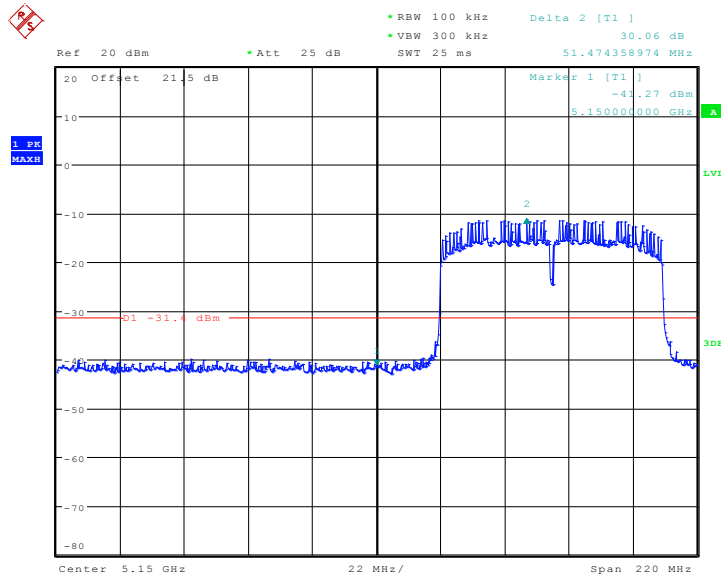
Date: 27.SEP.2013 17:17:21

**Fig. 36 Band Edges (802.11n-HT40, 5310MHz)**



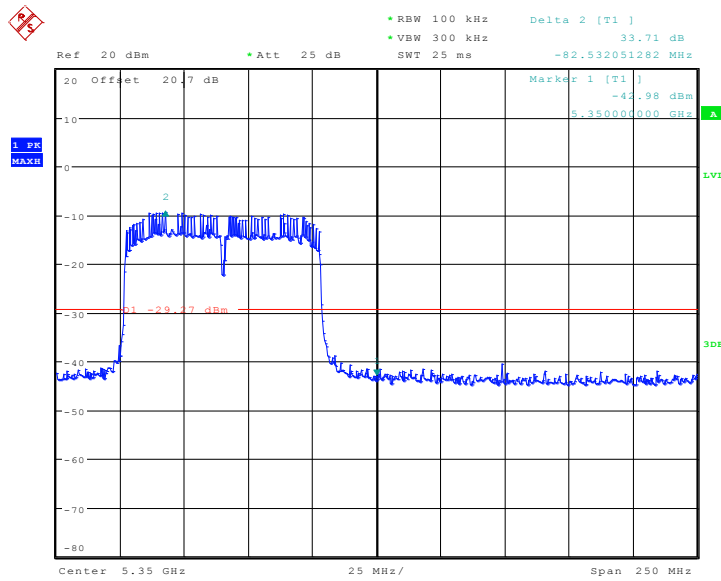
Date: 27.SEP.2013 17:18:10

**Fig. 37 Band Edges (802.11n-HT40, 5510MHz)**



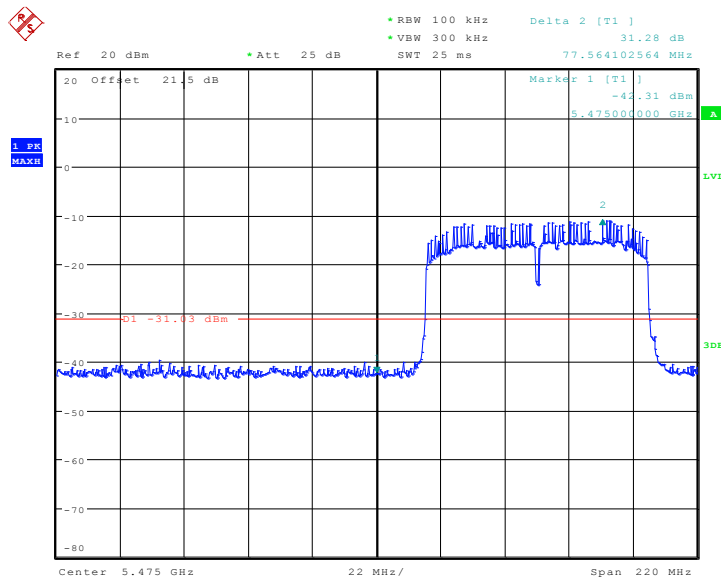
Date: 27.SEP.2013 17:20:03

**Fig. 38 Band Edges (802.11ac-HT80, 5210MHz)**



Date: 29.SEP.2013 11:15:20

**Fig. 39 Band Edges (802.11ac-HT80, 5290MHz)**



Date: 27.SEP.2013 17:21:28

**Fig. 40 Band Edges (802.11ac-HT80, 5530MHz)**

### A5.2 Band Edges - Radiated

#### Measurement Limit:

| Standard               | Limit (dBc) |
|------------------------|-------------|
| FCC 47 CFR Part 15.407 | > 20        |

The measurement is made according to KDB 789033

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

#### Measurement Uncertainty:

|                         |        |
|-------------------------|--------|
| Measurement Uncertainty | 0.75dB |
|-------------------------|--------|

#### Measurement Result:

| Mode             | Channel  | Test Results | Conclusion |
|------------------|----------|--------------|------------|
| 802.11a          | 5180 MHz | Fig.41       | P          |
|                  | 5320 MHz | Fig.42       | P          |
|                  | 5500 MHz | Fig.43       | P          |
| 802.11n<br>HT20  | 5180 MHz | Fig.44       | P          |
|                  | 5320 MHz | Fig.45       | P          |
|                  | 5500 MHz | Fig.46       | P          |
| 802.11n<br>HT40  | 5190 MHz | Fig.47       | P          |
|                  | 5310 MHz | Fig.48       | P          |
|                  | 5510 MHz | Fig.49       | P          |
| 802.11ac<br>HT80 | 5210 MHz | Fig.50       | P          |
|                  | 5290 MHz | Fig.51       | P          |
|                  | 5530 MHz | Fig.52       | P          |

**Conclusion: PASS**

**Test graphs as below:**

RE-Power\_5.125G-5.175GHz

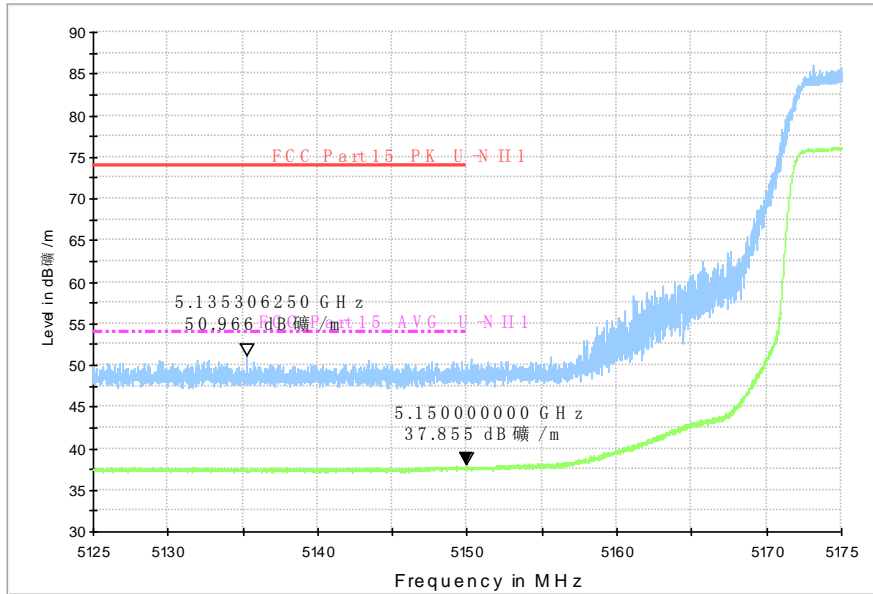


Fig. 41 Band Edges (802.11a, 5180MHz)

RE-Power\_5.325G-5.375GHz

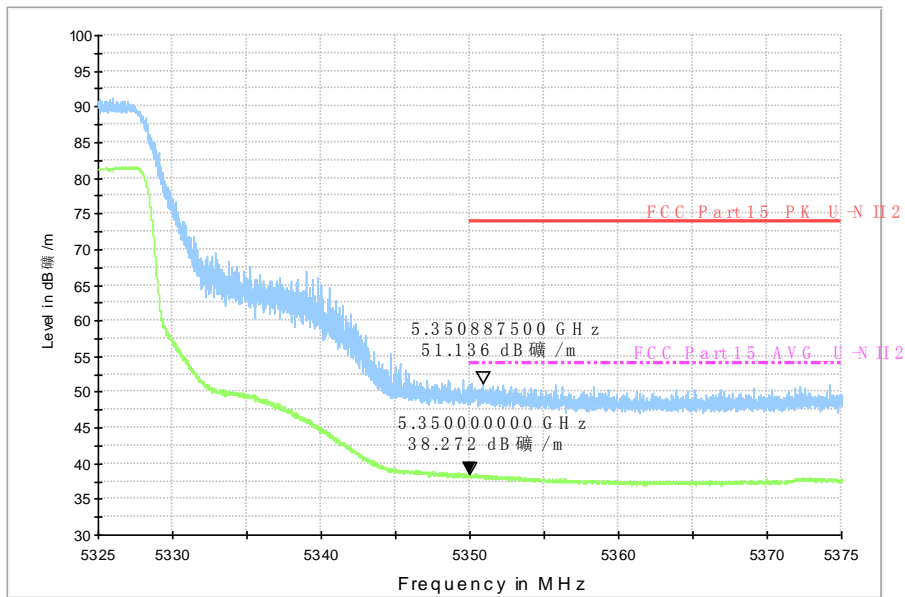
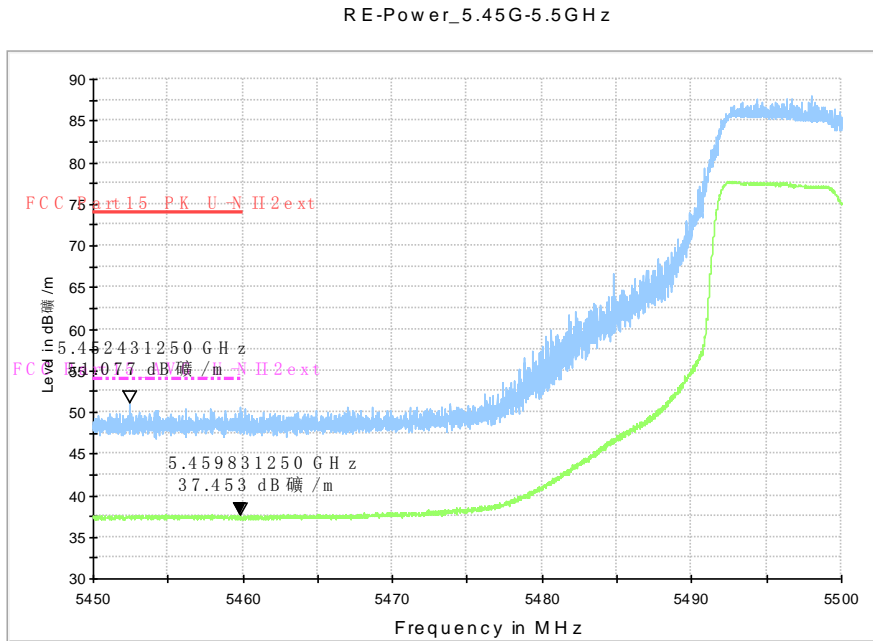
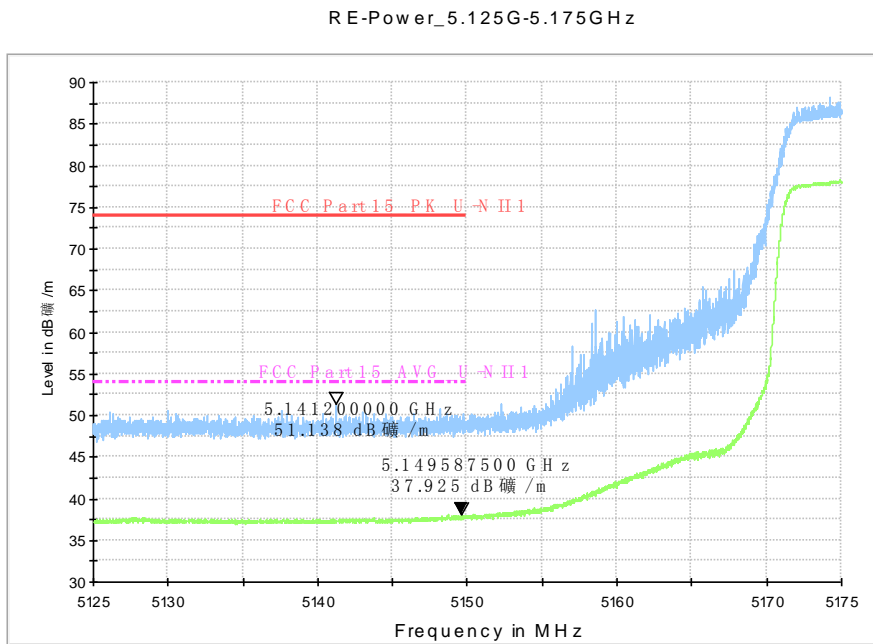


Fig. 42 Band Edges (802.11a, 5320MHz)



**Fig. 43 Band Edges (802.11a, 5550MHz)**



**Fig. 44 Band Edges (802.11n-HT20, 5180MHz)**

RE-Power\_5.325G-5.375GHz

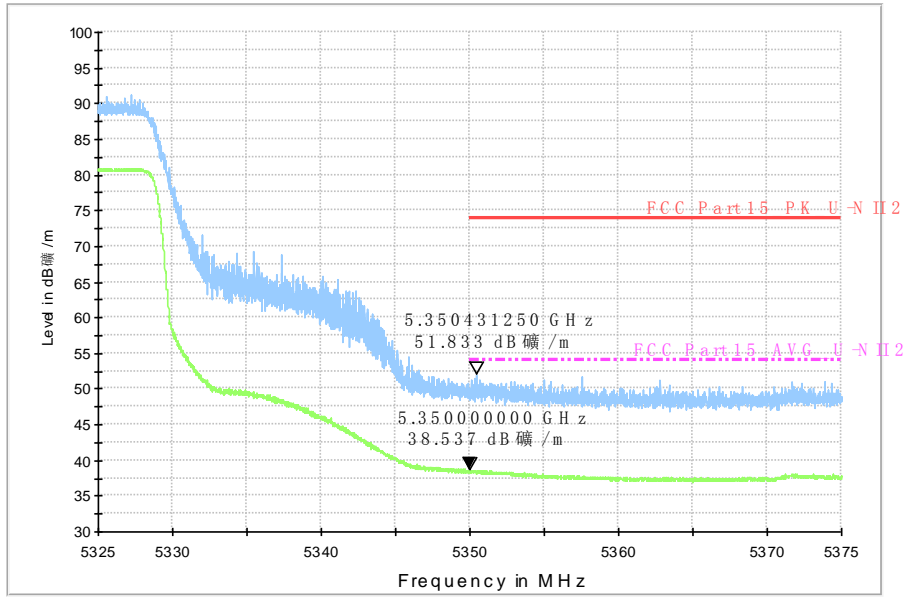


Fig. 45 Band Edges (802.11n-HT20, 5320MHz)

RE-Power\_5.45G-5.5GHz

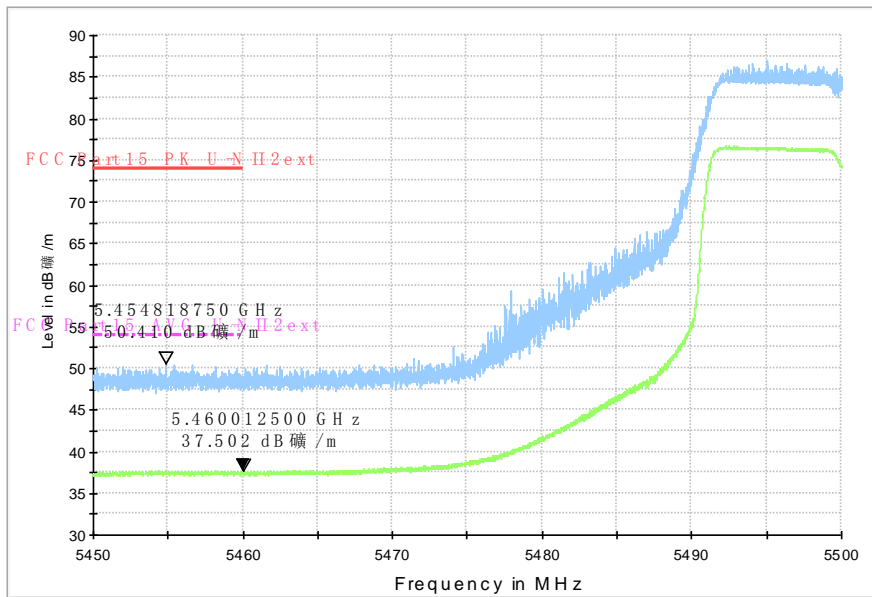


Fig. 46 Band Edges (802.11n-HT20, 5500MHz)