# FCC TEST REPORT

According to

## FCC Rules and Regulations Part 15 Subpart C

| | | |
|---|---|---|
| Applicant | : | Ubiquiti Networks Inc. |
| Address | : | 12F, No. 105, Song Ren Rd., Sin Yi District, Taipei 110, Taiwan |
| Equipment | : | UAP AC |
| Model No. | : | UAP-AC Outdoor, UAP-AC |
| Trade Name | : | Ubiquiti |
| FCC ID | : | SWX-UAPAC |

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **Cerpass Technology Corp.,** the test report shall not be reproduced except in full.
- The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

# Contents

**History of this test report**

☐ ORIGINAL.

■ Additional attachment as following record:

| Attachment No. | Issue Date | Description |
|---|---|---|
| TEFI1301045 | Mar. 22, 2013 | Original. |
| TEFI1301045-A | May 09, 2013 | Alternate antenna gain to 8dBi for model UAP-AC Outdoor. |
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# CERTIFICATE OF COMPLIANCE

According to

## FCC Rules and Regulations

## Part 15 Subpart C

| | | |
|---|---|---|
| Applicant | : | Ubiquiti Networks Inc. |
| Address | : | 12F, No. 105, Song Ren Rd., Sin Yi District, Taipei 110, Taiwan |
| Equipment | : | UAP AC |
| Model No. | : | UAP-AC Outdoor, UAP-AC |
| FCC ID | : | SWX-UAPAC |

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 2009, KDB558074 & KDB662911** The equipment was ***passed*** the test performed according to **FCC Rules and Regulations Part 15 Subpart C (2010).**

The test was carried out on Apr. 26, 2013 at Cerpass Technology Corp.

Approved by:

Hill Chen
EMC/RF B.U. Assistant Manager

Tested by:

Ben Lu
Engineer

# 1. Report of Measurements and Examinations

## 1.1 List of Measurements and Examinations

| FCC Rule | . Description of Test | Result |
|---|---|---|
| 15.203 | . Antenna Requirement | Pass |
| 15.247(b) | . Maximum Peak Output Power | Pass |
| 15.247(e) | . Power Spectral Density | Pass |

# 2. Test Configuration of Equipment under Test

## 2.1 Feature of Equipment under Test

| | |
|---|---|
| Frequency Range | IEEE 802.11b/g: 2412-2462MHz |
| | IEEE 802.11n HT20: 2412-2462MHz |
| | IEEE 802.11n HT40: 2422-2452MHz |
| | IEEE 802.11ac U-NII Band: 5150-5250MHz/ 5725-5825MHz |
| Type of Modulation | DSSS, OFDM |
| Channel of Bandwidth | 20MHz/ 40MHz/ 80MHz |
| Channel Control | Auto |
| Antenna Delivery | 3TX+3RX |
| Type of Antenna | Internal |
| Antenna Gain | 6 dBi(model: UAP-AC)<br>8 dBi(model: UAP-AC Outdoor) |

## 2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***01** | **2412** | 07 | 2442 |
| 02 | 2417 | 08 | 2447 |
| 03 | 2422 | 09 | 2452 |
| 04 | 2427 | 10 | 2457 |
| 05 | 2432 | ***11** | **2462** |
| ***06** | **2437** | --- | --- |

802.11n, HT 40

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***03** | **2422** | 07 | 2442 |
| 04 | 2427 | 08 | 2447 |
| 05 | 2432 | ***09** | **2452** |
| ***06** | **2437** | --- | --- |

802.11ac VHT20

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***149** | **5745** | 161 | 5805 |
| 153 | 5765 | ***165** | **5825** |
| ***157** | **5785** | --- | --- |

802.11ac VHT 40

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***151** | **5755** | ***159** | **5795** |

802.11ac VHT80

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---|---|---|---|
| ***155** | **5775** | --- | --- |

Note: Channels remarked * are selected to perform test.

## 2.3 Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
b. The complete test system included Notebook, Mouse, and EUT for RF test.
c. An executive program" MTool" under XP was executed to keep transmitting and receiving data via Wireless.
d. Power output of data rate

| 802.11b | | 802.11g | | 802.11n HT20 | | 802.11n HT40 | |
|---|---|---|---|---|---|---|---|
| Data Rate (Mbps) | Power output (dBm) | Data Rate (Mbps) | Power output (dBm) | Data Rate (Mbps) | Power output (dBm) | Data Rate (Mbps) | Power output (dBm) |
| 11 | 12.32 | 54 | 10.35 | 195/23 | 21.18 | 405/23 | 20.68 |
| 5.5 | 12.33 | 48 | 10.40 | 175.5/22 | 21.18 | 364.5/22 | 20.71 |
| 2 | 12.35 | 36 | 10.37 | 156/21 | 21.20 | 324/21 | 20.71 |
| 1 | 12.37 | 24 | 10.39 | 117/20 | 21.21 | 243/20 | 20.72 |
| --- | --- | 18 | 10.40 | 78/19 | 21.23 | 162/19 | 20.73 |
| --- | --- | 12 | 10.43 | 58.5/18 | 21.23 | 121.5/18 | 20.73 |
| --- | --- | 9 | 10.44 | 39/17 | 21.27 | 81/17 | 20.72 |
| --- | --- | --- | --- | 19.5/16 | 21.25 | 40.5/16 | 20.74 |
| --- | --- | --- | --- | 130/15 | 21.24 | 270/15 | 20.74 |
| --- | --- | --- | --- | 117/14 | 21.27 | 243/14 | 20.78 |
| --- | --- | --- | --- | 104/13 | 21.26 | 216/13 | 20.76 |
| --- | --- | --- | --- | 78/12 | 21.23 | 162/12 | 20.73 |
| --- | --- | --- | --- | 52/11 | 21.25 | 108/11 | 20.73 |
| --- | --- | --- | --- | 39/10 | 21.29 | 81/10 | 20.79 |
| --- | --- | --- | --- | 26/9 | 21.27 | 54/9 | 20.79 |
| --- | --- | --- | --- | 13/8 | 21.26 | 27/8 | 20.75 |
| --- | --- | --- | --- | 65/7 | 21.25 | 135/7 | 20.76 |
| --- | --- | --- | --- | 58.5/6 | 21.27 | 121.5/6 | 20.79 |
| --- | --- | --- | --- | 52/5 | 21.26 | 108/5 | 20.75 |
| --- | --- | --- | --- | 39/4 | 21.27 | 81/4 | 20.75 |
| --- | --- | --- | --- | 26/3 | 21.30 | 54/3 | 20.76 |
| --- | --- | --- | --- | 19.5/2 | 21.33 | 40.5/2 | 20.78 |
| --- | --- | --- | --- | 13/1 | 21.32 | 27/1 | 20.82 |
| --- | --- | --- | --- | 6.5/0 | 21.35 | 13.5/0 | 20.88 |

| Spatial Streams | 802.11ac VHT20 | | 802.11ac VHT40 | | 802.11ac VHT80 | |
|---|---|---|---|---|---|---|
| | Data Rate (Mbps) | Power output (dBm) | Data Rate (Mbps) | Power output (dBm) | Data Rate (Mbps) | Power output (dBm) |
| 1 | --- | --- | 180/9 | 20.13 | 390/9 | 20.05 |
| | 78/8 | 20.45 | 162/8 | 20.15 | 351/8 | 20.07 |
| | 65/7 | 20.46 | 135/7 | 20.17 | 292.5/7 | 20.08 |
| | 58.5/6 | 20.48 | 121.5/6 | 20.19 | 263.3/6 | 20.11 |
| | 52/5 | 20.48 | 108/5 | 20.18 | 234/5 | 20.11 |
| | 39/4 | 20.50 | 81/4 | 20.20 | 175.5/4 | 20.10 |
| | 26/3 | 20.52 | 54/3 | 20.21 | 117/3 | 20.12 |
| | 19.5/2 | 20.52 | 40.5/2 | 20.23 | 87.8/2 | 20.12 |
| | 13/1 | 20.53 | 27/1 | 20.22 | 58.5/1 | 20.14 |
| | 6/0 | 20.55 | 13.5/0 | 20.24 | 29.3/0 | 20.15 |
| 2 | --- | --- | 360/9 | 20.13 | 780/9 | 20.02 |
| | 156/8 | 20.45 | 324/8 | 20.13 | 702/8 | 20.05 |
| | 130/7 | 20.48 | 270/7 | 20.15 | 585/7 | 20.07 |
| | 117/6 | 20.47 | 243/6 | 20.16 | 526.6/6 | 20.08 |
| | 104/5 | 20.47 | 216/5 | 20.18 | 468/5 | 20.09 |
| | 78/4 | 20.49 | 162/4 | 20.18 | 351/4 | 20.11 |
| | 52/3 | 20.50 | 108/3 | 20.20 | 234/3 | 20.11 |
| | 39/2 | 20.51 | 81/2 | 20.19 | 175.6/2 | 20.12 |
| | 26/1 | 20.52 | 54/1 | 20.21 | 117/1 | 20.12 |
| | 13/0 | 20.53 | 27/0 | 20.22 | 58.6/0 | 20.14 |
| 3 | --- | --- | 540/9 | 20.11 | 1170/9 | 20.01 |
| | 234/8 | 20.41 | 486/8 | 20.10 | 1053/8 | 20.01 |
| | 195/7 | 20.43 | 405/7 | 20.12 | 877.5/7 | 20.04 |
| | 175.5/6 | 20.45 | 364.5/6 | 20.14 | 789.9/6 | 20.05 |
| | 156/5 | 20.46 | 324/5 | 20.15 | 702/5 | 20.07 |
| | 117/4 | 20.48 | 243/4 | 20.16 | 526.5/4 | 20.09 |
| | 78/3 | 20.50 | 162/3 | 20.19 | 351/3 | 20.08 |
| | 58.5/2 | 20.52 | 121.5/2 | 20.18 | 263.4/2 | 20.11 |
| | 39/1 | 20.51 | 81/1 | 20.20 | 175.5/1 | 20.11 |
| | 19.5/0 | 20.53 | 40.5/0 | 20.21 | 87.9/0 | 20.12 |

## 2.4 Description of Test System

| Device | Manufacturer | Model No. | Description |
|---|---|---|---|
| Notebook | ASUS | A8J | Power Cable, Non-Shielded, 1.8m |
| Mouse | DELL | MOC5UO | Data Cable, USB Shielding 1.85m |

## 2.5 General Information of Test

| | |
|---|---|
| Test Site : | Cerpass Technology Corp.<br>2F-11, No. 3, Yuan Qu St., (Nankang Software Park),<br>Taipei, Taiwan 115, R.O.C. |
| Test Site Location<br>(OATS2-SD) : | No.68-1, Shihbachongsi, Shihding Township,<br>Taipei City 223, Taiwan, R.O.C. |
| FCC Registration Number : | TW1049, TW1061, 488071, 390316 |
| IC Registration Number : | 4934B-1, 4934D-1 |
| VCCI Registration Number : | T-1173 for Telecommunication Test<br>C-4139 for Conducted emission test<br>R-3428 for Radiated emission test<br>G-97 for radiated disturbance above 1GHz |
| Frequency Range Investigated: | Conducted: from 150kHz to 30MHz<br>Radiation: from 30MHz to 40,000MHz |
| Test Distance: | The test distance of radiated emission from antenna to EUT is 3 M. |
| Laboratory Accreditation | TAF Testing Laboratory 1439 |

## 2.6 Measurement Uncertainty

| **Measurement Item** | **Uncertainty** |
|---|---|
| Radiated emission | ±4.11dB |
| Peak Output Power(conducted) | ±1.38dB |
| Peak Output Power(Radiated) | ±1.70dB |
| Power Spectral Density | ±1.39dB |
| Radiated emission(3m) | ±4.11dB |
| Radiated emission(10m) | ±3.89dB |

# 3. Antenna Requirements

## 3.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

## 3.2 Antenna Construction and Directional Gain

**Model: UAP-AC**
**802.11b/g/n:**
ANT R, ANT M, ANT L
Antenna Type: PIFA Antenna
Antenna Gain: 6 dBi
Note: directional antenna gain for N mode = 6+10 log(3)=10.77

**802.11ac:**
ANT R, ANT M, ANT L
Antenna Type: PIFA Antenna
Antenna Gain: 6 dBi
Note: directional antenna gain for N mode = 6+10 log(3)=10.77

**Model: UAP-AC Outdoor**
**802.11b/g/n:**
ANT R, ANT M, ANT L
Antenna Type: PIFA Antenna
Antenna Gain: 8 dBi
Note: directional antenna gain for N mode = 8+10 log(3)=12.77

**802.11ac:**
ANT R, ANT M, ANT L
Antenna Type: PIFA Antenna
Antenna Gain: 8 dBi
Note: directional antenna gain for N mode = 8+10 log(3)=12.77

# 4. Test of Radiated Emission

## 4.1 Test Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

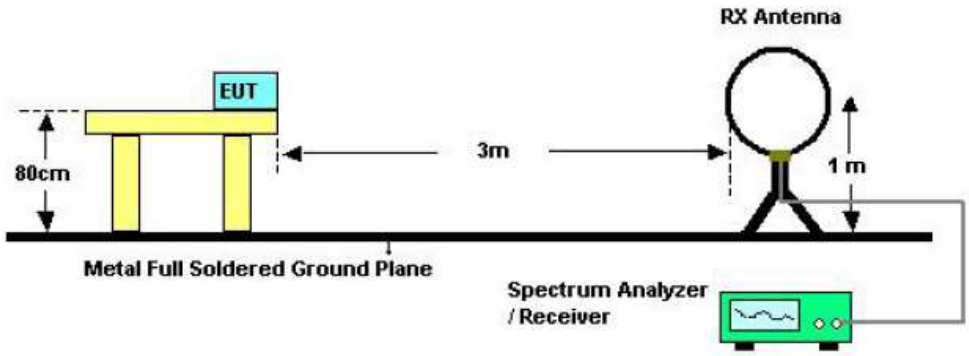
| Frequencies (MHz) | Field Strength (micorvolts/meter) | Measurement Distance (meters) |
|---|---|---|
| 0.009-0.490 | 2400/F(KHz) | 300 |
| 0.490~1.705 | 24000/F(KHz) | 30 |
| 1.705~30.0 | 30 | 30 |
| 30~88 | 100 | 3 |
| 88~216 | 150 | 3 |
| 216~960 | 200 | 3 |
| Above 960 | 500 | 3 |

## 4.2 Test Procedures

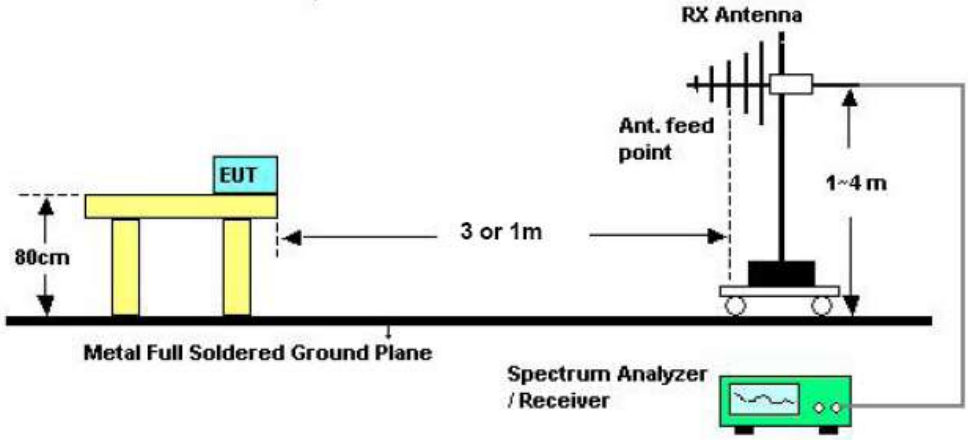
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

## 4.3 Typical Test Setup

For radiated emissions below 30MHz




For radiated emissions above 30MHz




Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

## 4.4 Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| EMI Receiver | R&S | ESCI | 100443 | 2013/01/15 | 2014/01/14 |
| Bilog Antenna | Schwarzbeck | VULB 9168 | 369 | 2013/03/06 | 2014/03/05 |
| Amplifier | QuieTek | AP/0100A | CHM0906075 | 2013/01/15 | 2014/01/14 |
| SPECTRUM ANALYZER | R&S | FSP40 | 100219 | 2012/09/13 | 2013/09/12 |
| HORN ANTENNA | EMCO | 3115 | 31601 | 2012/09/13 | 2013/09/12 |
| PREAMPLIFIER | EMC | EMC012635 | 980029 | 2012/09/12 | 2013/09/11 |

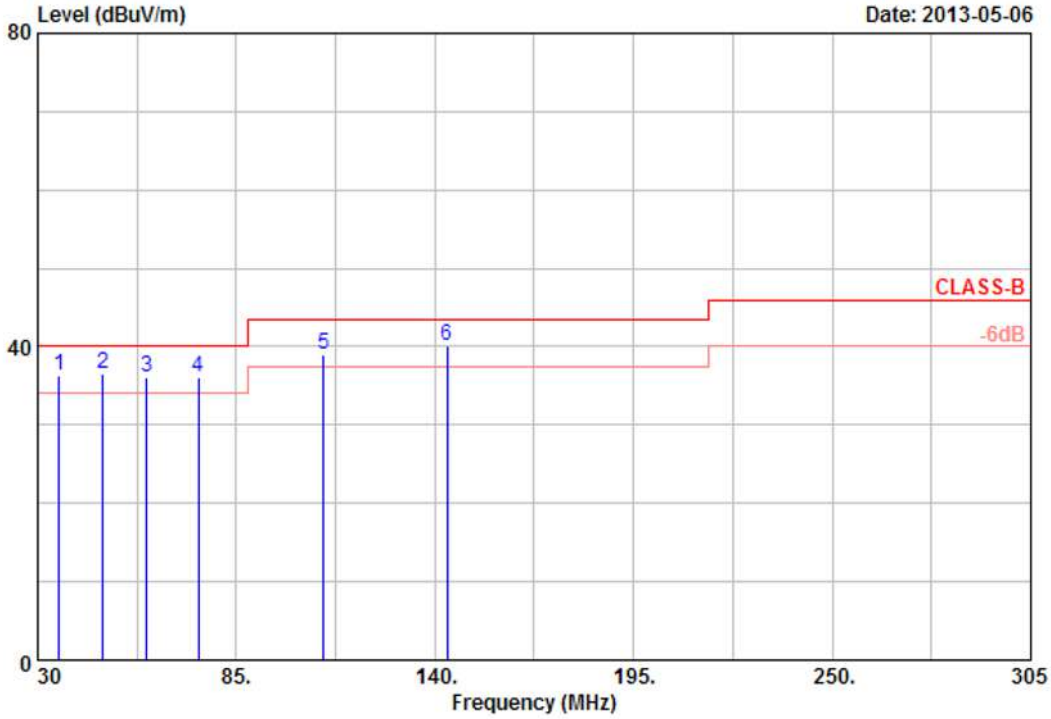
Note: The following test modes were selected the worst case of the original report (TEFI1301045), the results in the original test report is worse than this test report.

## 4.1 Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

## 4.2 Test Result and Data (30MHz ~ 1GHz)

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

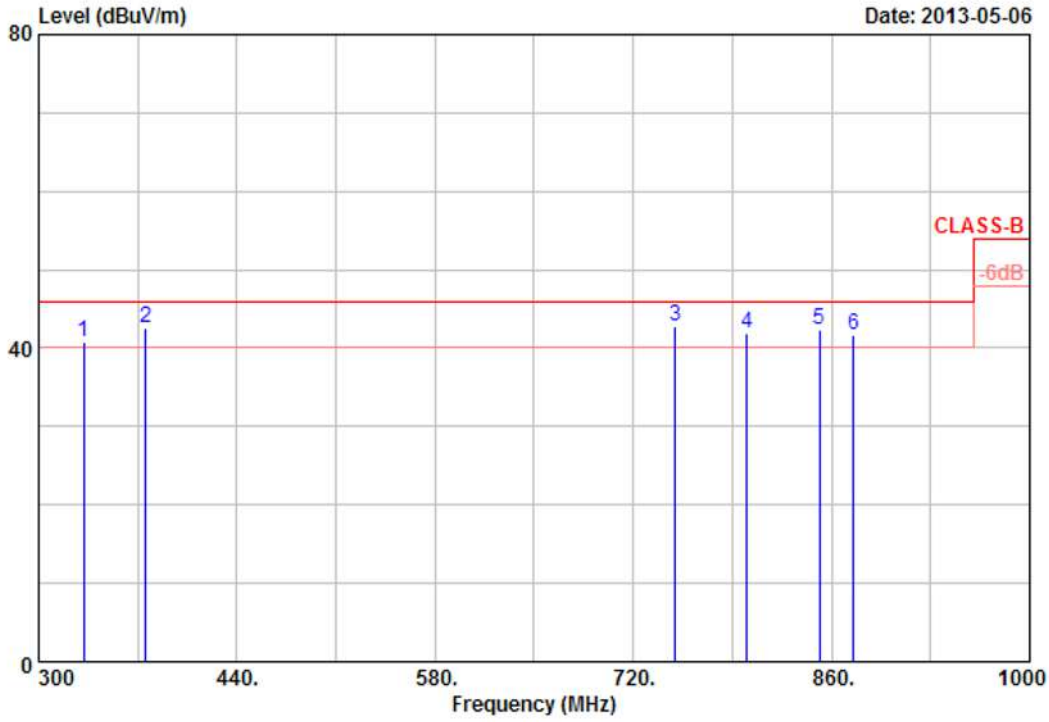



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 36.05 | 38.36 | -1.94 | 36.42 | 40.00 | -3.58 | QP | 100 | 360 |
| 2 | 48.15 | 41.40 | -4.74 | 36.66 | 40.00 | -3.34 | QP | 100 | 360 |
| 3 | 60.25 | 47.03 | -10.86 | 36.17 | 40.00 | -3.83 | QP | 100 | 360 |
| 4 | 74.55 | 46.12 | -10.11 | 36.01 | 40.00 | -3.99 | QP | 100 | 360 |
| 5 | 109.20 | 46.30 | -7.26 | 39.04 | 43.50 | -4.46 | QP | 100 | 360 |
| 6 | 143.30 | 48.63 | -8.50 | 40.13 | 43.50 | -3.37 | QP | 100 | 360 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All below 1GHz configurations are pretested among available 802.11b/g/n modes and found that the worst cases are on channel 1 of 802.11g & n20 mode and Channel 3 for n40 mode.Only worst case data concluded above were presented in this test report.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

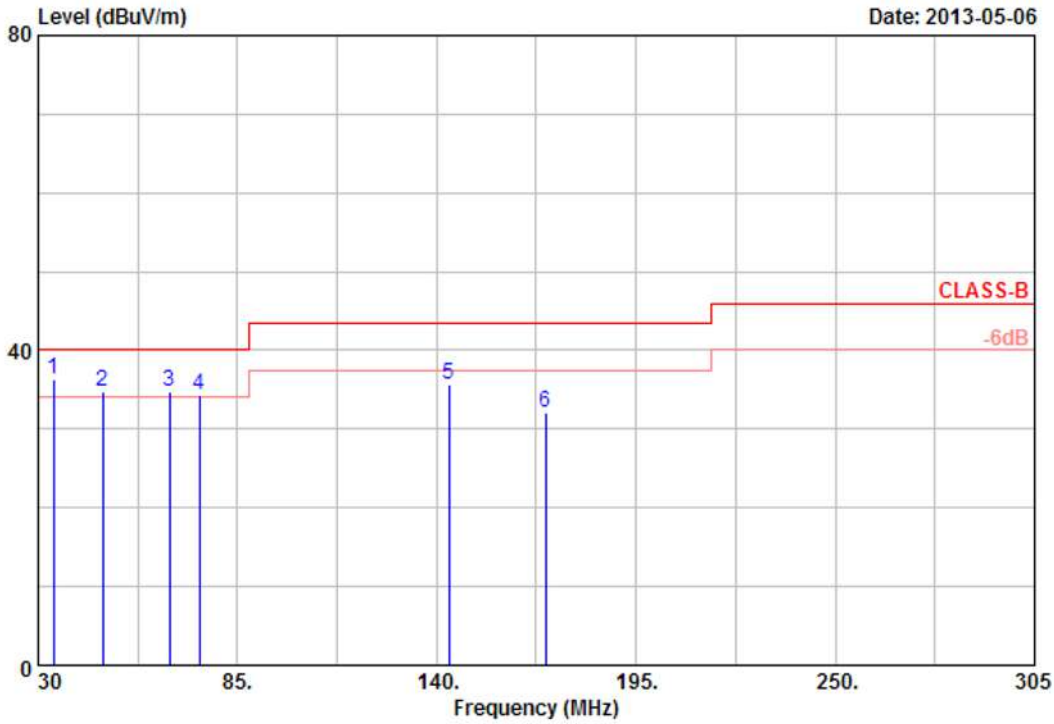



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 331.50 | 48.35 | -7.64 | 40.71 | 46.00 | -5.29 | QP | 100 | 0 |
| 2 | 375.60 | 50.50 | -7.95 | 42.55 | 46.00 | -3.45 | QP | 100 | 0 |
| 3 | 749.40 | 37.66 | 5.06 | 42.72 | 46.00 | -3.28 | QP | 100 | 0 |
| 4 | 800.50 | 36.32 | 5.56 | 41.88 | 46.00 | -4.12 | QP | 100 | 0 |
| 5 | 851.60 | 32.85 | 9.47 | 42.32 | 46.00 | -3.68 | QP | 100 | 0 |
| 6 | 875.40 | 32.21 | 9.53 | 41.74 | 46.00 | -4.26 | QP | 100 | 0 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All below 1GHz configurations are pretested among available 802.11b/g/n modes and found that the worst cases are on channel 1 of 802.11g & n20 mode and Channel 3 for n40 mode.Only worst case data concluded above were presented in this test report.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

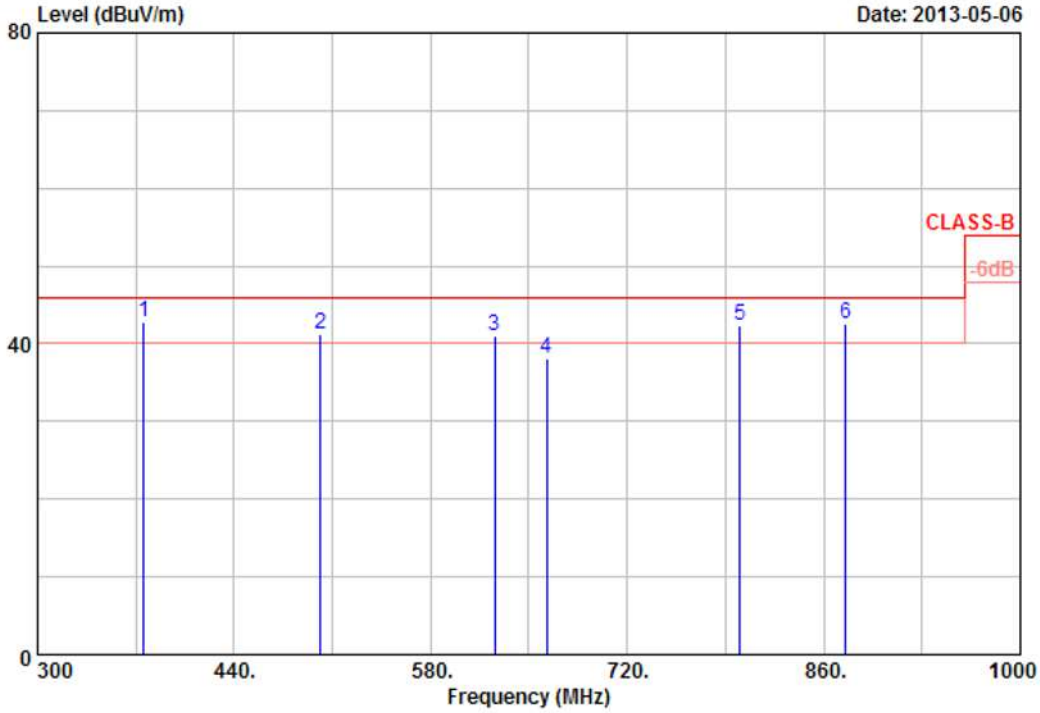



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 34.13 | 42.81 | -6.47 | 36.34 | 40.00 | -3.66 | QP | 100 | 360 |
| 2 | 47.88 | 43.47 | -8.70 | 34.77 | 40.00 | -5.23 | QP | 100 | 360 |
| 3 | 66.30 | 54.65 | -19.96 | 34.69 | 40.00 | -5.31 | QP | 100 | 360 |
| 4 | 74.55 | 55.32 | -20.94 | 34.38 | 40.00 | -5.62 | QP | 100 | 360 |
| 5 | 143.30 | 50.39 | -14.65 | 35.74 | 43.50 | -7.76 | Peak | 100 | 360 |
| 6 | 169.98 | 43.13 | -10.97 | 32.16 | 43.50 | -11.34 | Peak | 100 | 360 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All below 1GHz configurations are pretested among available 802.11b/g/n modes and found that the worst cases are on channel 1 of 802.11g & n20 mode and Channel 3 for n40 mode.Only worst case data concluded above were presented in this test report.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

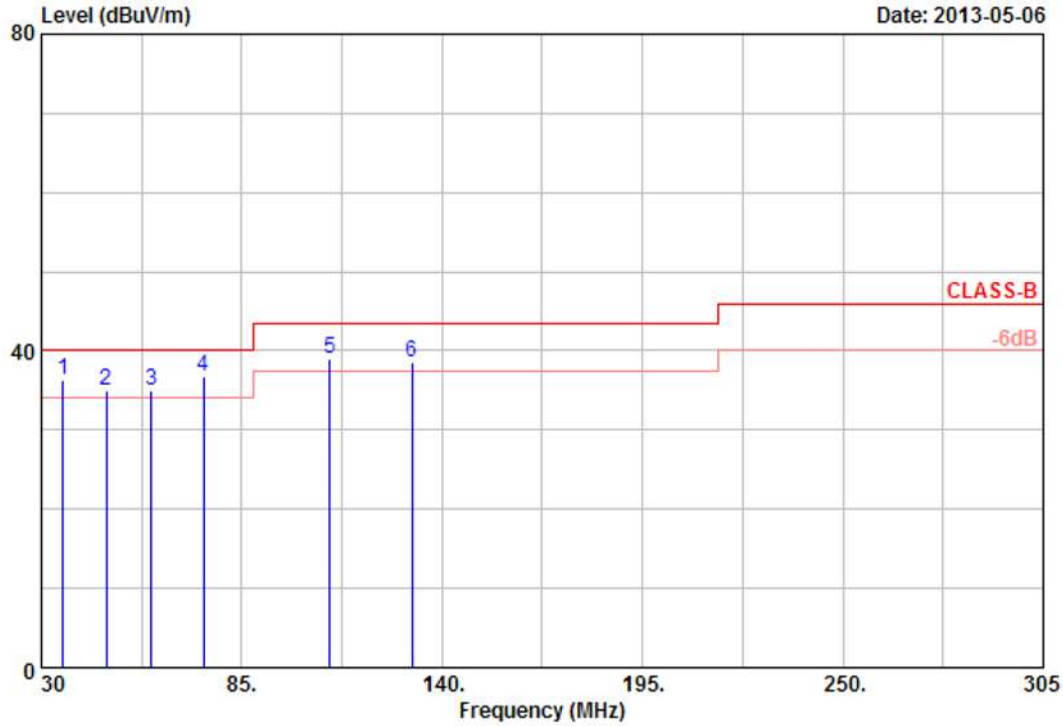



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 375.60 | 54.56 | -11.68 | 42.88 | 46.00 | -3.12 | QP | 100 | 0 |
| 2 | 501.60 | 41.05 | 0.10 | 41.15 | 46.00 | -4.85 | QP | 100 | 0 |
| 3 | 625.50 | 36.66 | 4.23 | 40.89 | 46.00 | -5.11 | QP | 100 | 0 |
| 4 | 662.60 | 38.35 | -0.27 | 38.08 | 46.00 | -7.92 | Peak | 100 | 0 |
| 5 | 800.50 | 36.20 | 6.14 | 42.34 | 46.00 | -3.66 | QP | 100 | 0 |
| 6 | 875.40 | 37.68 | 4.88 | 42.56 | 46.00 | -3.44 | QP | 100 | 0 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. All below 1GHz configurations are pretested among available 802.11b/g/n modes and found that the worst cases are on channel 1 of 802.11g & n20 mode and Channel 3 for n40 mode.Only worst case data concluded above were presented in this test report.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 2 | : | 802.11ac VHT20, CH149 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

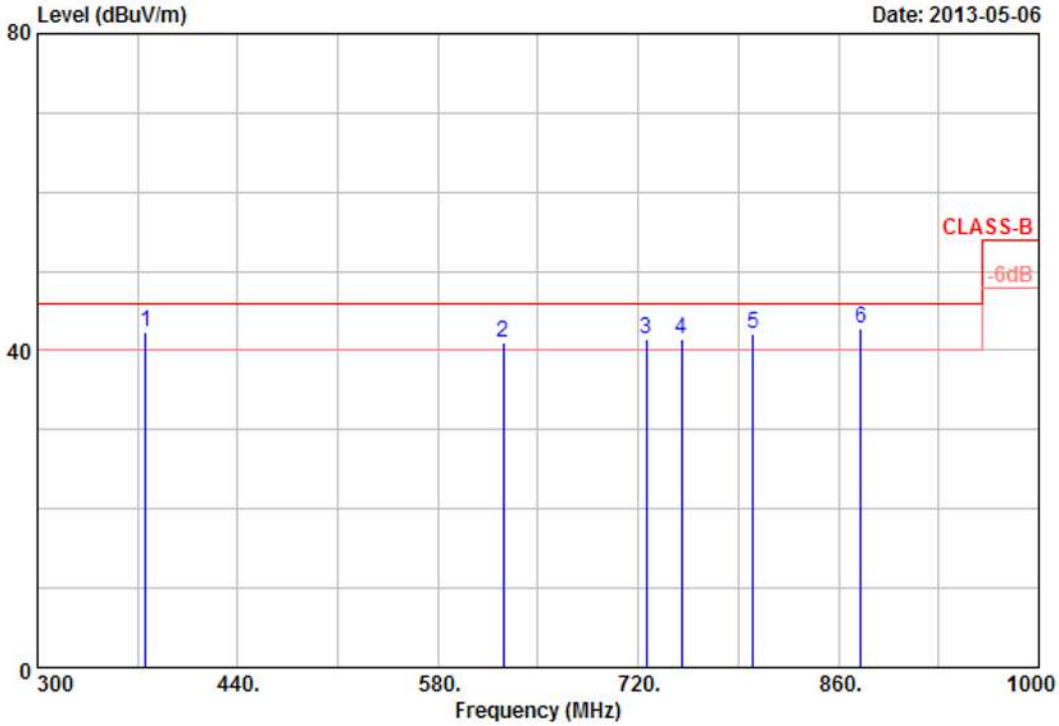



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 36.05 | 38.22 | -1.94 | 36.28 | 40.00 | -3.72 | QP | 100 | 360 |
| 2 | 47.88 | 39.33 | -4.42 | 34.91 | 40.00 | -5.09 | QP | 100 | 360 |
| 3 | 60.25 | 45.88 | -10.86 | 35.02 | 40.00 | -4.98 | QP | 100 | 360 |
| 4 | 74.55 | 46.85 | -10.11 | 36.74 | 40.00 | -3.26 | QP | 100 | 360 |
| 5 | 109.20 | 46.36 | -7.26 | 39.10 | 43.50 | -4.40 | QP | 100 | 360 |
| 6 | 131.75 | 46.08 | -7.47 | 38.61 | 43.50 | -4.89 | QP | 100 | 360 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. According to technical experiences,all spurious emission of 802.11a/an mode at Band1~4 channel are almost the same below 1GHz,so that the channel 36 or 38(for HT40),channel 149 or 151(for HT40) was chosen as representative in final test.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 2 | : | 802.11ac VHT20, CH149 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

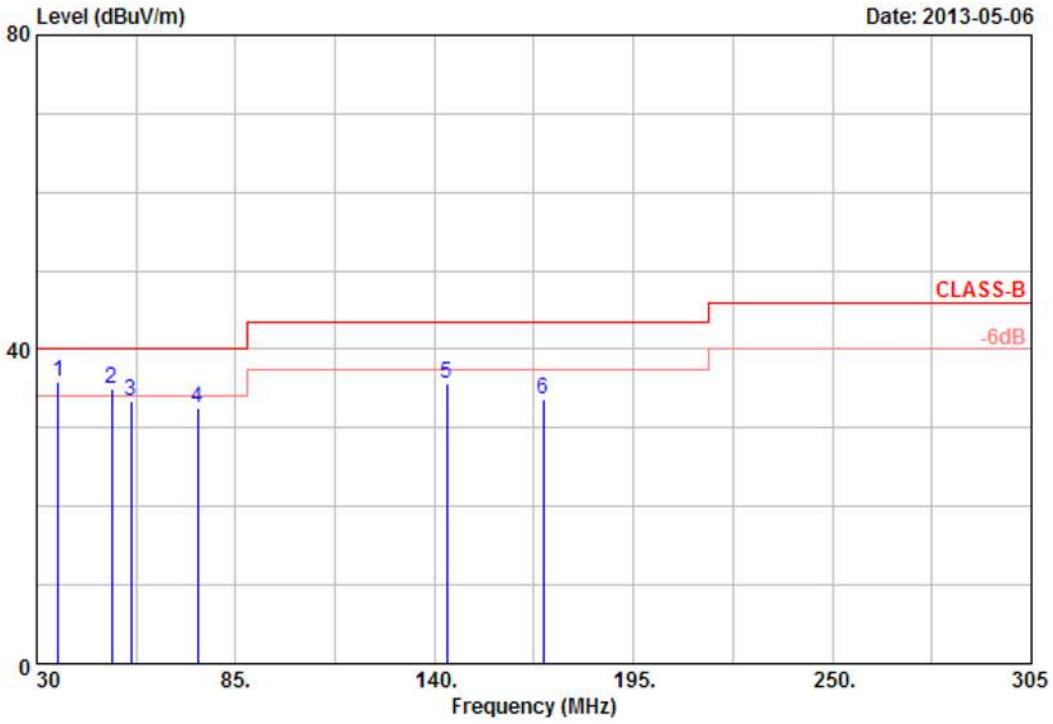



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 375.60 | 50.38 | -7.95 | 42.43 | 46.00 | -3.57 | QP | 100 | 0 |
| 2 | 625.50 | 40.46 | 0.57 | 41.03 | 46.00 | -4.97 | QP | 100 | 0 |
| 3 | 725.60 | 35.39 | 6.12 | 41.51 | 46.00 | -4.49 | QP | 100 | 0 |
| 4 | 750.10 | 36.42 | 5.11 | 41.53 | 46.00 | -4.47 | QP | 100 | 0 |
| 5 | 800.50 | 36.62 | 5.56 | 42.18 | 46.00 | -3.82 | QP | 100 | 0 |
| 6 | 875.40 | 33.35 | 9.53 | 42.88 | 46.00 | -3.12 | QP | 100 | 0 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. According to technical experiences,all spurious emission of 802.11a/an mode at Band1~4 channel are almost the same below 1GHz,so that the channel 36 or 38(for HT40),channel 149 or 151(for HT40) was chosen as representative in final test.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 2 | : | 802.11ac VHT20, CH149 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

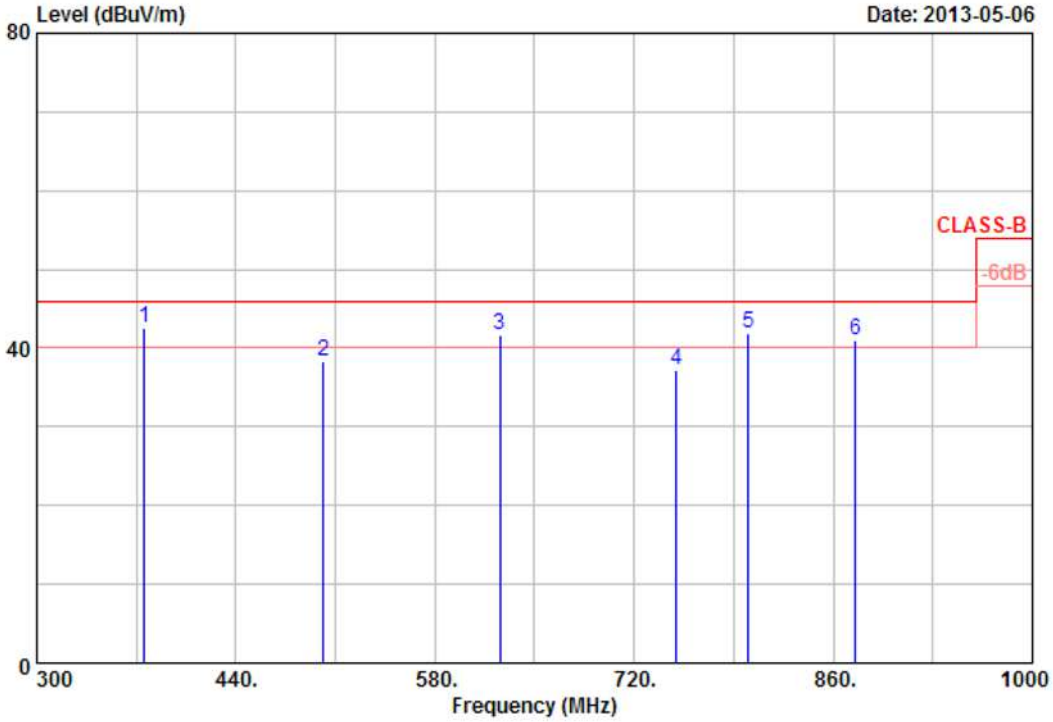



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 36.05 | 42.74 | -6.78 | 35.96 | 40.00 | -4.04 | QP | 100 | 360 |
| 2 | 50.63 | 44.35 | -9.38 | 34.97 | 40.00 | -5.03 | QP | 100 | 360 |
| 3 | 56.13 | 46.51 | -12.99 | 33.52 | 40.00 | -6.48 | Peak | 100 | 360 |
| 4 | 74.55 | 53.44 | -20.94 | 32.50 | 40.00 | -7.50 | Peak | 100 | 360 |
| 5 | 143.30 | 50.30 | -14.65 | 35.65 | 43.50 | -7.85 | Peak | 100 | 360 |
| 6 | 169.98 | 44.57 | -10.97 | 33.60 | 43.50 | -9.90 | Peak | 100 | 360 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. According to technical experiences,all spurious emission of 802.11a/an mode at Band1~4 channel are almost the same below 1GHz,so that the channel 36 or 38(for HT40),channel 149 or 151(for HT40) was chosen as representative in final test.
5. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 2 | : | 802.11ac VHT20, CH149 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



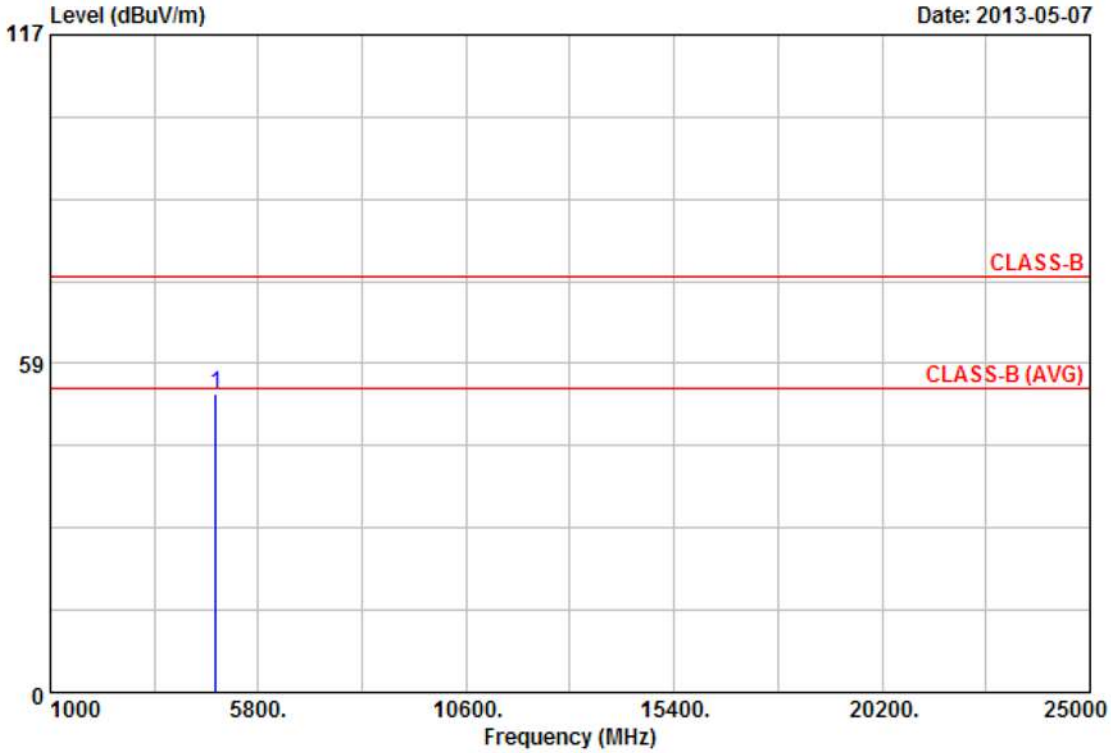

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 375.60 | 54.31 | -11.68 | 42.63 | 46.00 | -3.37 | QP | 100 | 0 |
| 2 | 501.60 | 38.13 | 0.10 | 38.23 | 46.00 | -7.77 | Peak | 100 | 0 |
| 3 | 625.50 | 37.37 | 4.23 | 41.60 | 46.00 | -4.40 | QP | 100 | 0 |
| 4 | 749.40 | 34.63 | 2.67 | 37.30 | 46.00 | -8.70 | Peak | 100 | 0 |
| 5 | 800.50 | 35.68 | 6.14 | 41.82 | 46.00 | -4.18 | QP | 100 | 0 |
| 6 | 875.40 | 36.17 | 4.88 | 41.05 | 46.00 | -4.95 | QP | 100 | 0 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. According to technical experiences,all spurious emission of 802.11a/an mode at Band1~4 channel are almost the same below 1GHz,so that the channel 36 or 38(for HT40),channel 149 or 151(for HT40) was chosen as representative in final test.
5. The data is worse case.

## 4.3 Test Result and Data (Above 1GHz)

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

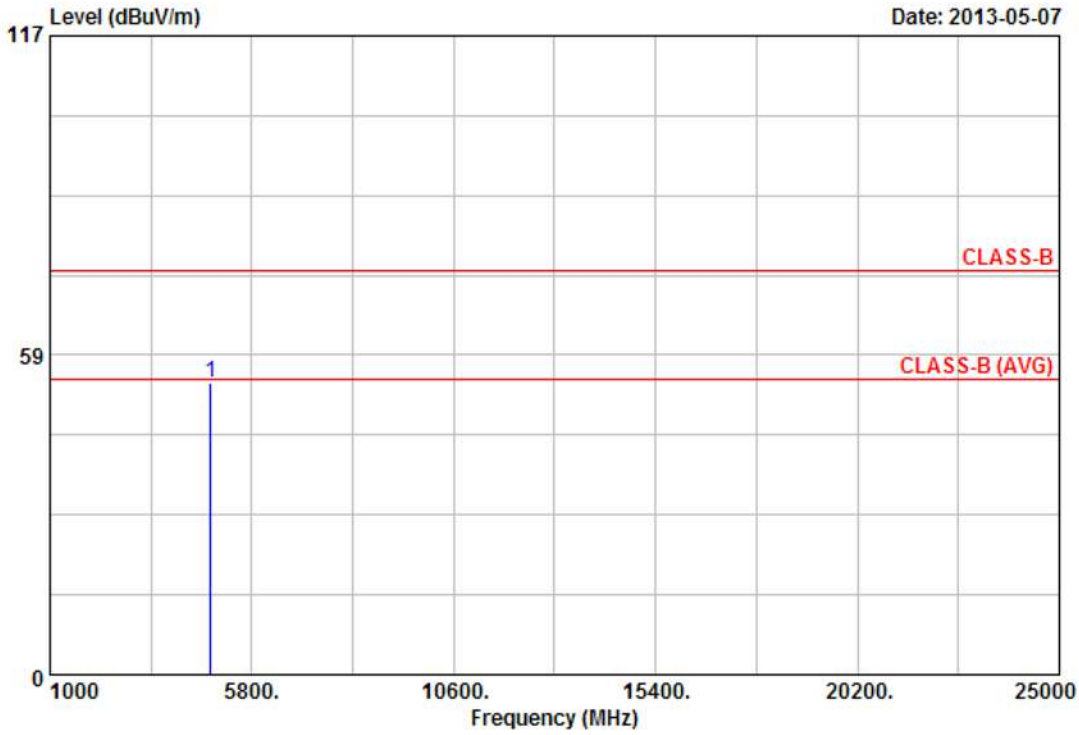



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4824.53 | 47.63 | 5.62 | 53.25 | 74.00 | -20.75 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 1 | : | 802.11g, CH1 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

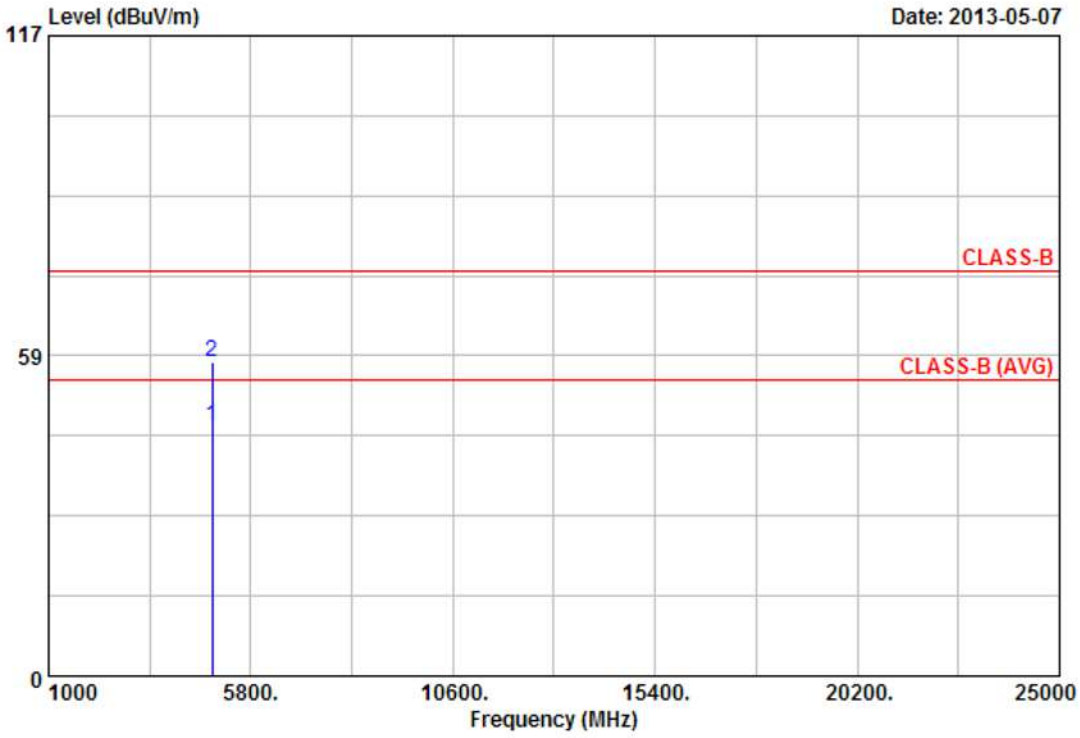



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4823.80 | 49.63 | 3.94 | 53.57 | 74.00 | -20.43 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 1 | : | 802.11g, CH6 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

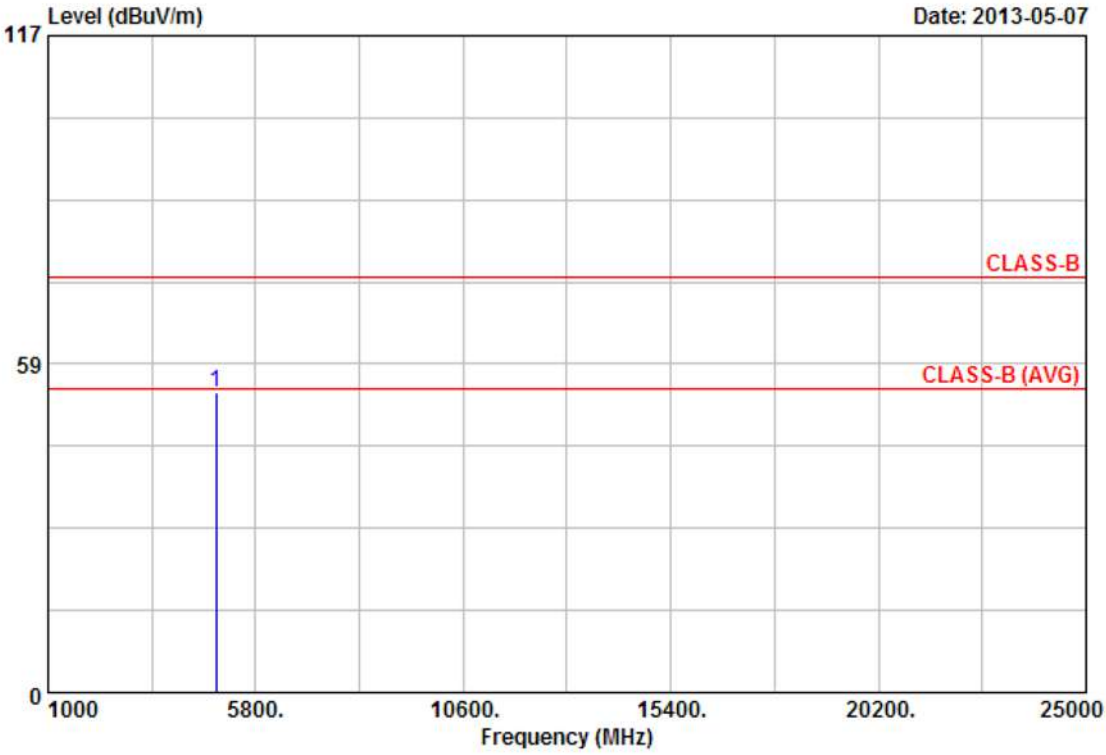



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4873.73 | 39.16 | 6.58 | 45.74 | 54.00 | -8.26 | Average | 100 | 290 |
| 2 | 4873.73 | 50.73 | 6.58 | 57.31 | 74.00 | -16.69 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 1 | : | 802.11g, CH6 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

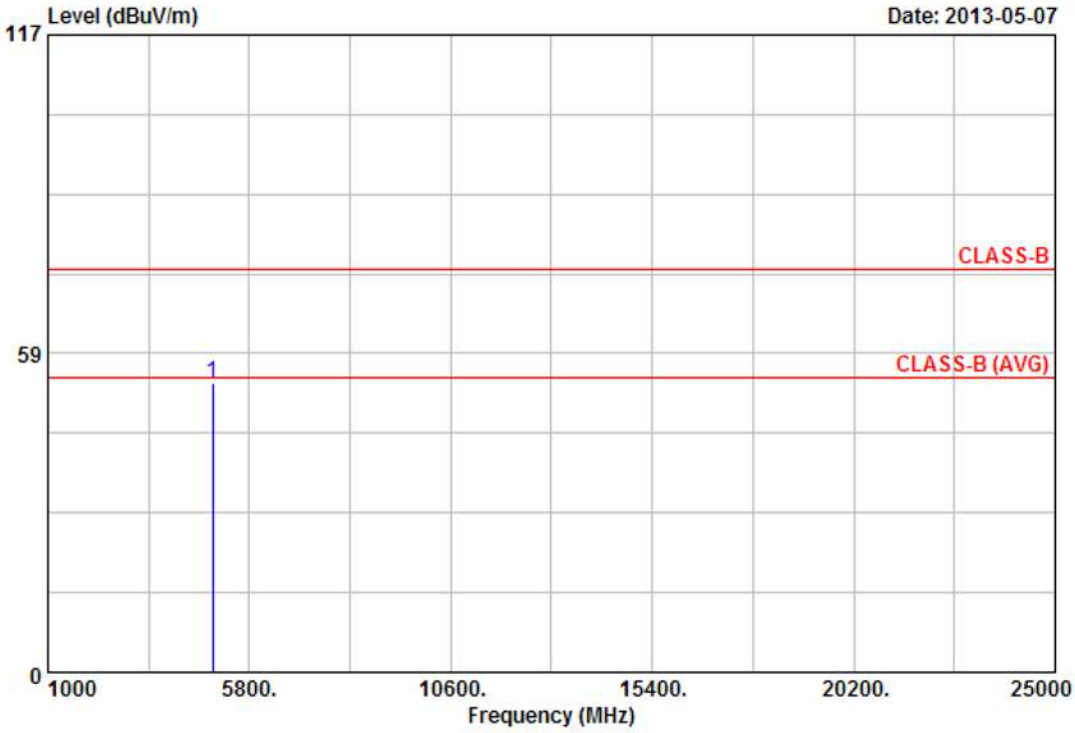



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4874.35 | 48.61 | 4.73 | 53.34 | 74.00 | -20.66 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 1 | : | 802.11g, CH11 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

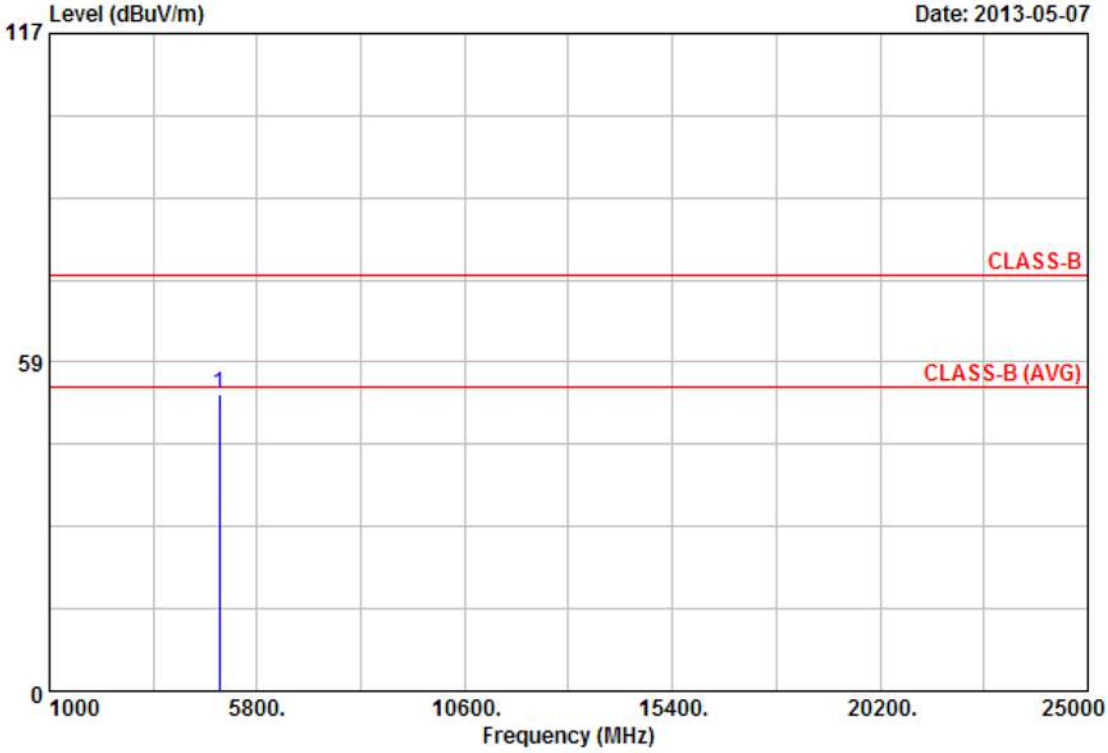



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4924.40 | 45.86 | 7.16 | 53.02 | 74.00 | -20.98 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 1 | : | 802.11g, CH11 | Temperature | : | 25 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |

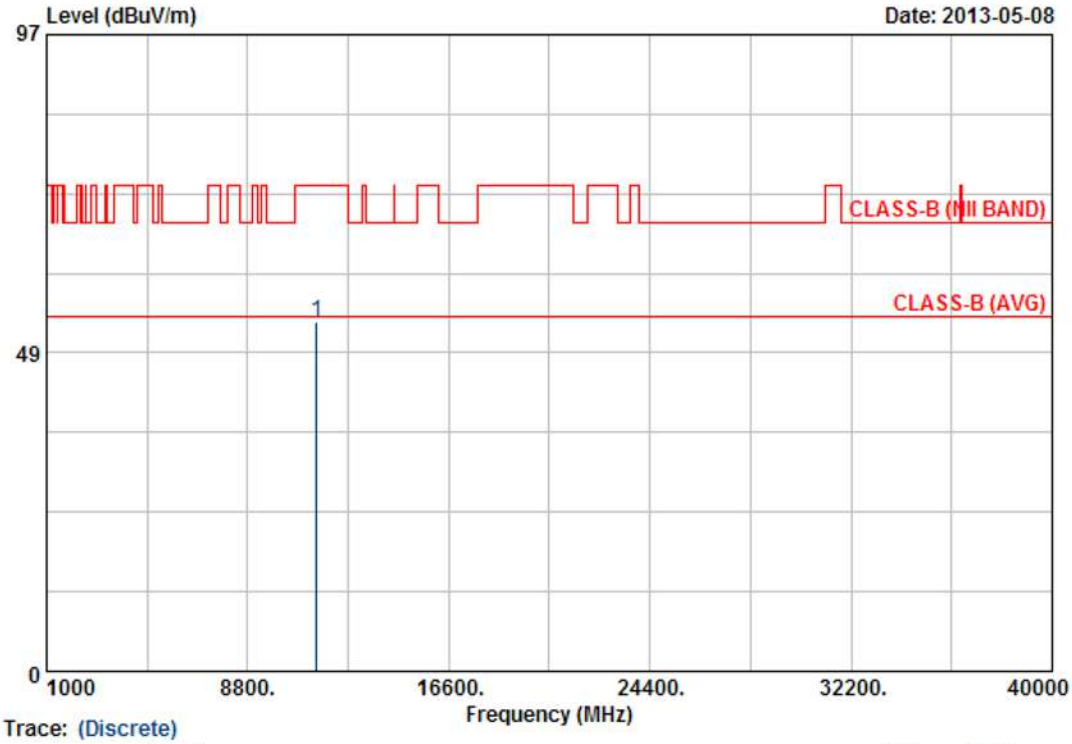



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4921.60 | 47.80 | 5.15 | 52.95 | 74.00 | -21.05 | Peak | 100 | 290 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



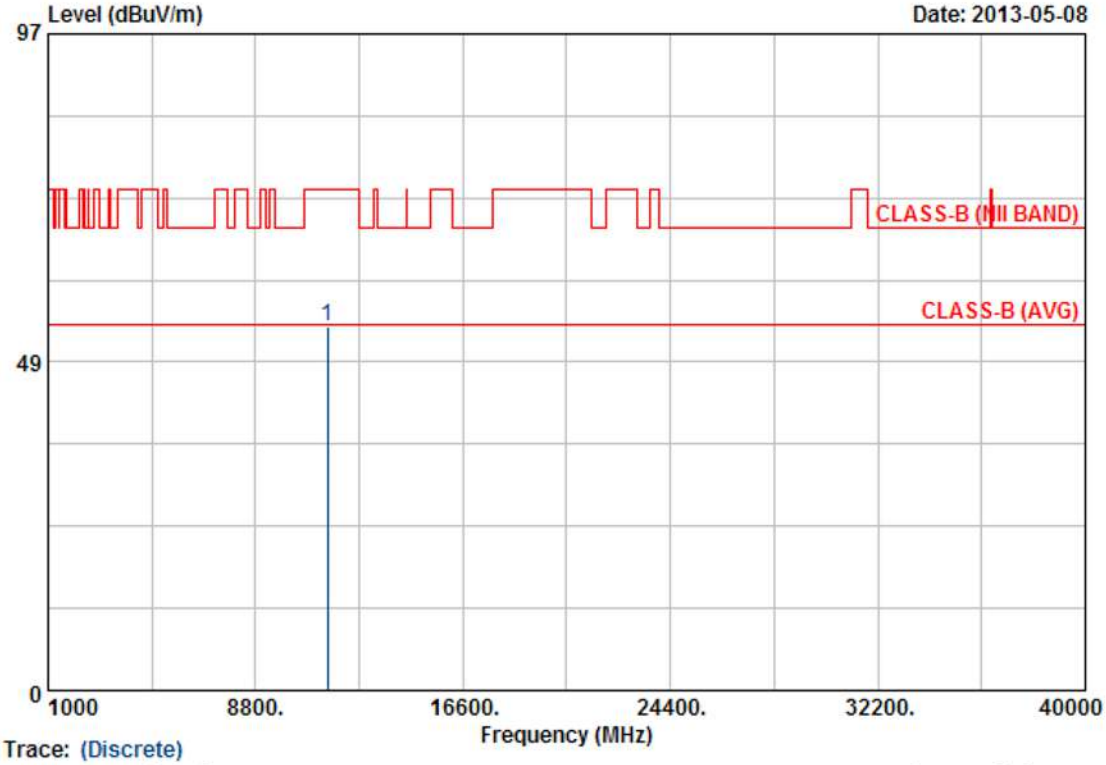

Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11489.18 | 45.49 | 7.71 | 53.20 | 74.00 | -20.80 | Peak | 100 | 216 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



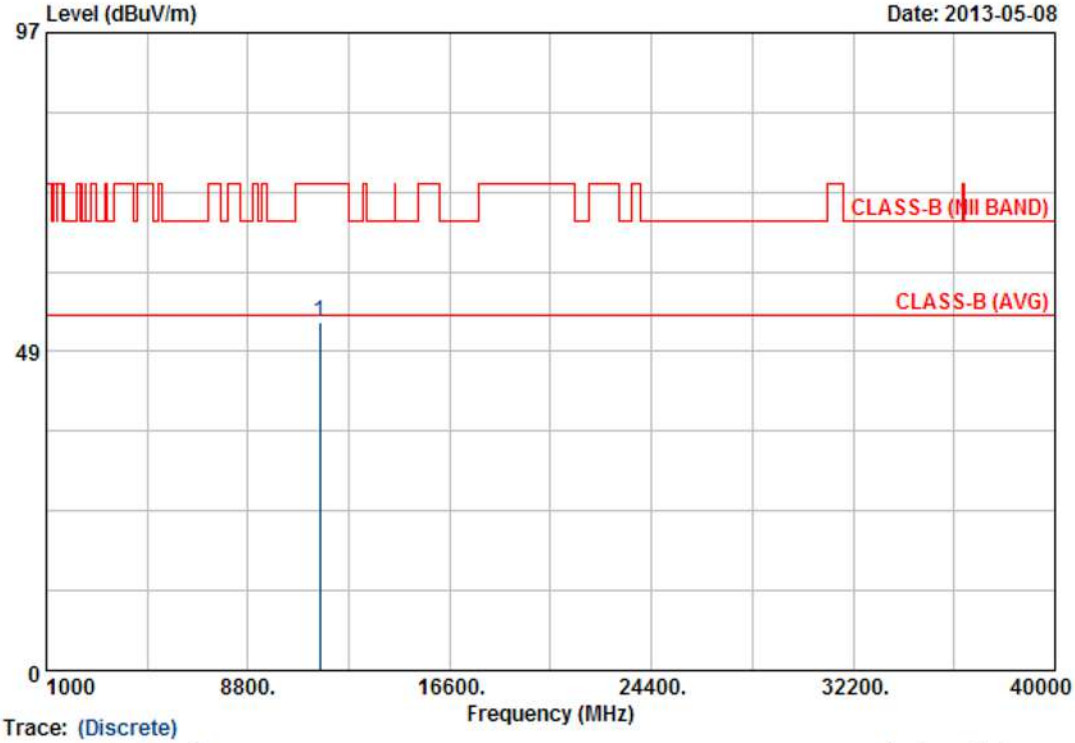

Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11492.58 | 43.62 | 10.03 | 53.65 | 74.00 | -20.35 | Peak | 100 | 208 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



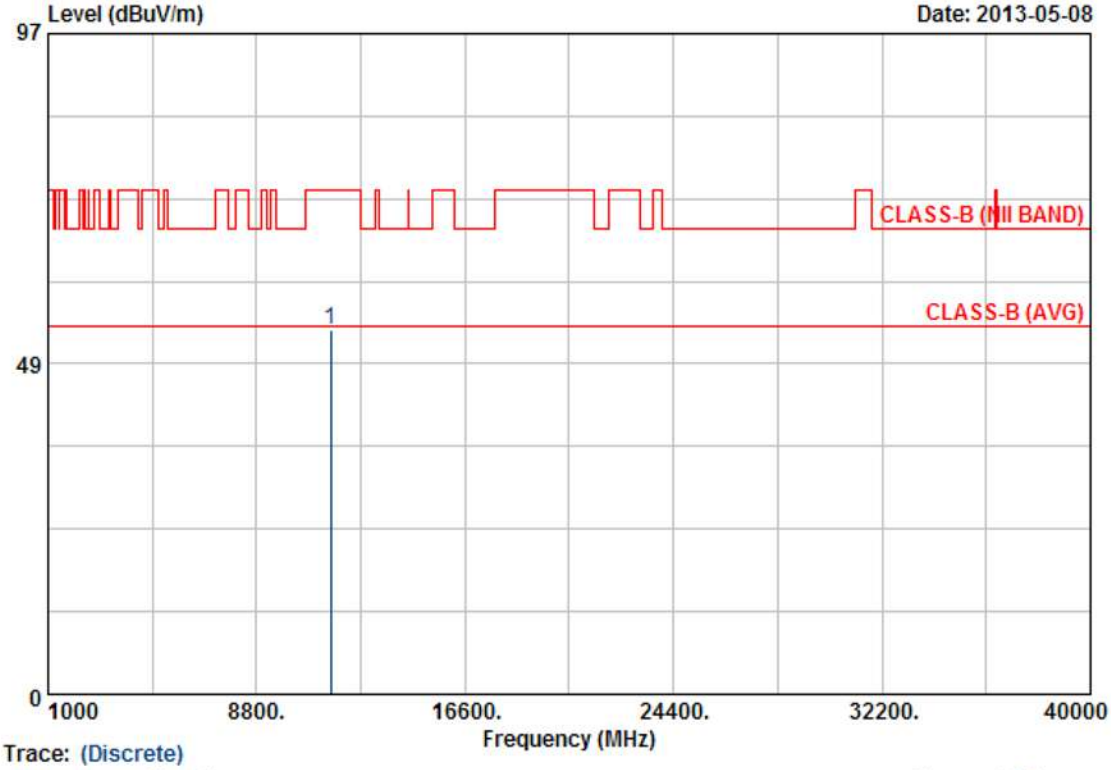

Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11571.47 | 45.47 | 7.52 | 52.99 | 74.00 | -21.01 | Peak | 100 | 250 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



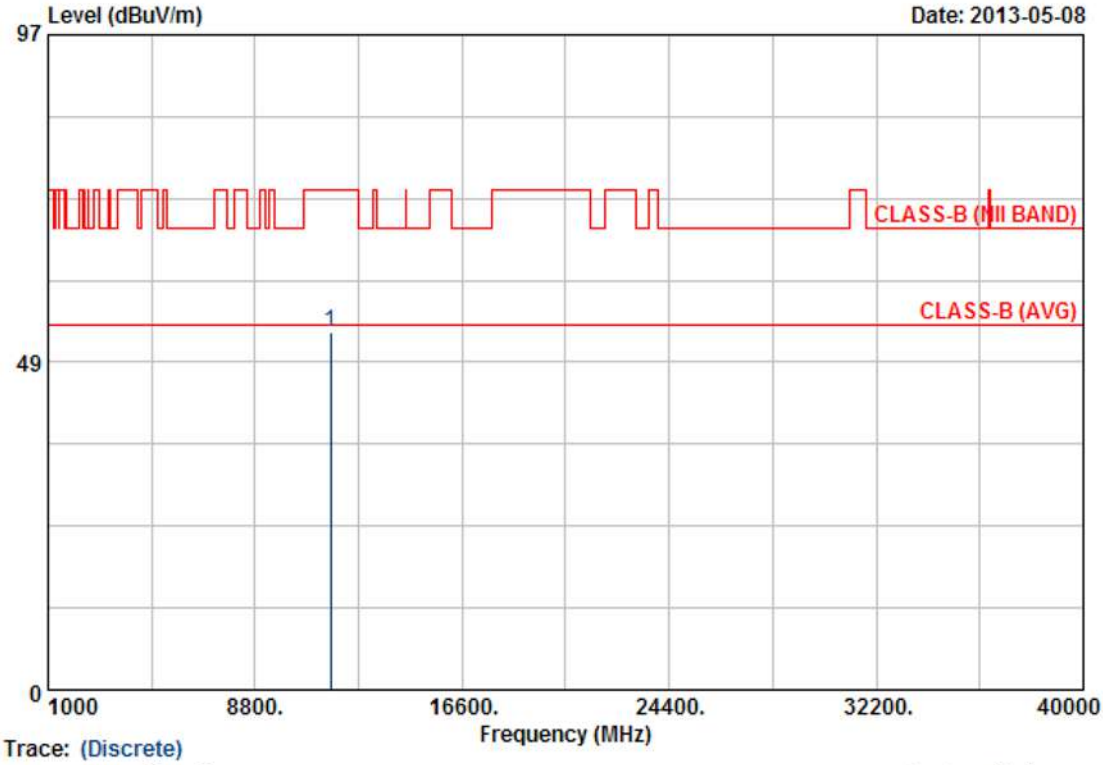

Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11571.79 | 44.27 | 9.29 | 53.56 | 74.00 | -20.44 | Peak | 100 | 162 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | VERTICAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |



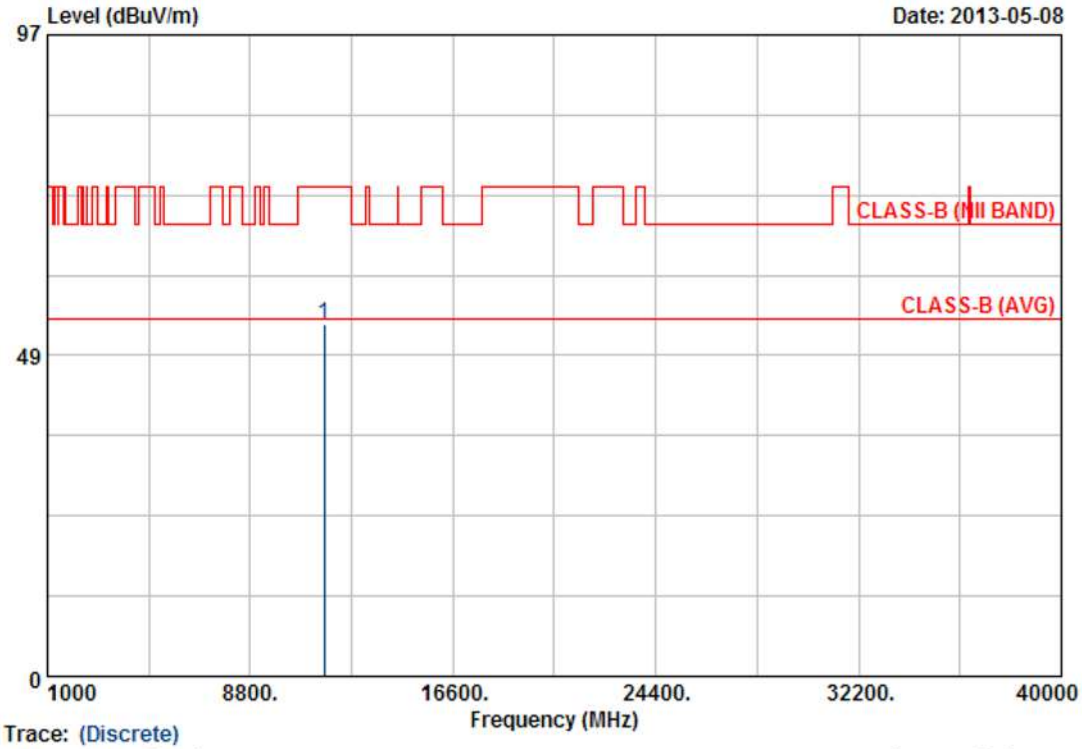

Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11652.98 | 45.62 | 7.21 | 52.83 | 74.00 | -21.17 | Peak | 100 | 232 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | DC 48V from PoE | Pol/Phase | : | HORIZONTAL |
| Test Mode 2 | : | 802.11VHT20, CH149 | Temperature | : | 22 °C |
| Memo | : | Model No. UAP-AC Outdoor | Humidity | : | 65 % |




Trace: (Discrete)

| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 11645.02 | 44.40 | 8.85 | 53.25 | 74.00 | -20.75 | Peak | 100 | 282 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz (detector sample mode) for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

# 5. Maximum Peak and Average Output Power

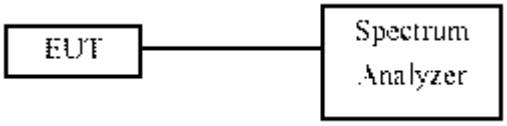
## 5.1 Test Limit

The Maximum Peak Output Power Measurement is 25.23dBm (model: UAP-AC) and 23.23dBm (model: UAP-AC Outdoor).
(Limit= 30dBm-(10.77dBi - 6dBi) = 25.23dBm, 30dBm-(12.77dBi - 6dBi) = 23.23dBm)

## 5.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz.
c. Set detector mode to peak (for peak output power) or set detector mode to RMS (for average output power).
d. Use the spectrum analyzer's integrated band power measurement function with band limits set equal to the EBW band edges.
e. The maximum peak and average output power was measured and recorded.

## 5.3 Test Setup Layout




## 5.4 Measurement Equipment

Test Mode1: Model No.: UAP-AC

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP40 | 100047 | 2012/03/01 | 2013/02/28 |
| SERIES POWER METER | ANRITSU | ML2495A | 1224005 | 2012/06/22 | 2013/06/21 |
| POWER SENSOR | ANRITSU | MA2411B | 1207295 | 2012/07/09 | 2013/07/08 |

Test Mode2 Model No.: UAP-AC Outdoor

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP40 | 100047 | 2013/03/15 | 2014/03/14 |
| SERIES POWER METER | ANRITSU | ML2495A | 1224005 | 2013/03/21 | 2014/03/20 |
| POWER SENSOR | ANRITSU | MA2411B | 1207295 | 2013/03/21 | 2014/03/20 |

## 5.5 Test Result and Data

Model: UAP-AC
Test Date: Jan. 13, 2013 Temperature: 22℃
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11b (1Mbps) | 01 | 2412 | 16.60 | 16.48 | 16.44 | 21.28 | 134.23 |
| | 06 | 2437 | 16.44 | 16.36 | 16.46 | 21.19 | 131.57 |
| | 11 | 2462 | 16.70 | 16.55 | 16.30 | 21.29 | 134.62 |
| 802.11g (6Mbps) | 01 | 2412 | 19.86 | 19.80 | 20.40 | 24.80 | 301.97 |
| | 06 | 2437 | 19.88 | 19.75 | 20.30 | 24.75 | 298.83 |
| | 11 | 2462 | 19.92 | 19.60 | 20.25 | 24.70 | 295.30 |

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | 19.90 | 18.03 | 21.35 | 24.74 | 297.72 |
| | 06 | 2437 | 20.50 | 19.05 | 20.14 | 24.71 | 295.83 |
| | 11 | 2462 | 18.22 | 19.00 | 20.06 | 23.93 | 247.20 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | 19.05 | 19.50 | 20.88 | 24.65 | 291.94 |
| | 06 | 2437 | 19.14 | 19.45 | 20.69 | 24.58 | 287.36 |
| | 09 | 2452 | 19.01 | 19.30 | 20.99 | 24.63 | 290.33 |

Test Date: Jan. 22, 2013 Temperature: 22℃
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11ac VHT20 (6Mbps) | 149 | 5745 | 20.34 | 20.30 | 20.55 | 25.17 | 328.80 |
| | 157 | 5785 | 20.00 | 20.24 | 20.30 | 24.95 | 312.83 |
| | 165 | 5825 | 20.02 | 20.30 | 20.04 | 24.89 | 308.54 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | 19.85 | 19.54 | 20.24 | 24.66 | 292.24 |
| | 159 | 5795 | 19.95 | 19.64 | 20.10 | 24.67 | 293.23 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | 19.20 | 19.89 | 20.15 | 24.54 | 284.19 |

Test Date: Jan. 13, 2013 Temperature: 22℃

Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Average Power Output (dBm) | | | | Average Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11b (1Mbps) | 01 | 2412 | 12.48 | 12.44 | 12.37 | 17.20 | 52.60 |
| | 06 | 2437 | 12.51 | 12.35 | 12.42 | 17.20 | 52.46 |
| | 11 | 2462 | 12.60 | 12.57 | 12.27 | 17.25 | 53.13 |
| 802.11g (6Mbps) | 01 | 2412 | 9.88 | 9.91 | 10.46 | 14.86 | 30.64 |
| | 06 | 2437 | 9.99 | 9.88 | 10.43 | 14.88 | 30.75 |
| | 11 | 2462 | 9.99 | 9.90 | 10.43 | 14.88 | 30.79 |

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | 10.13 | 8.07 | 11.40 | 14.85 | 30.52 |
| | 06 | 2437 | 10.51 | 9.06 | 10.19 | 14.73 | 29.75 |
| | 11 | 2462 | 8.30 | 8.95 | 10.15 | 13.97 | 24.96 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | 9.02 | 9.40 | 10.67 | 14.53 | 28.36 |
| | 06 | 2437 | 9.02 | 9.28 | 10.59 | 14.46 | 27.91 |
| | 09 | 2452 | 8.86 | 9.42 | 11.01 | 14.63 | 29.06 |

Test Date: Jan. 22, 2013 Temperature: 22℃

Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11ac VHT20 (6Mbps) | 149 | 5745 | 10.79 | 10.70 | 10.95 | 15.59 | 36.19 |
| | 157 | 5785 | 10.51 | 10.47 | 10.65 | 15.32 | 34.00 |
| | 165 | 5825 | 10.54 | 10.61 | 10.45 | 15.31 | 33.92 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | 10.17 | 9.87 | 10.38 | 14.92 | 31.02 |
| | 159 | 5795 | 10.12 | 10.10 | 10.26 | 14.93 | 31.13 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | 11.96 | 11.83 | 11.93 | 16.68 | 46.54 |

Model: UAP-AC Outdoor
Test Date: Apr. 26, 2013 Temperature: 25℃
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11b (1Mbps) | 01 | 2412 | 16.37 | 16.63 | 16.57 | 21.30 | 134.77 |
| | 06 | 2437 | 16.45 | 16.55 | 16.62 | 21.31 | 135.26 |
| | 11 | 2462 | 16.45 | 16.67 | 16.74 | 21.39 | 137.81 |
| 802.11g (6Mbps) | 01 | 2412 | 17.93 | 17.92 | 17.83 | 22.66 | 184.70 |
| | 06 | 2437 | 18.08 | 17.91 | 17.79 | 22.70 | 186.19 |
| | 11 | 2462 | 18.35 | 17.84 | 17.95 | 22.82 | 191.58 |

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | 16.92 | 13.42 | 16.92 | 20.81 | 120.39 |
| | 06 | 2437 | 19.85 | 13.11 | 17.10 | 22.26 | 168.36 |
| | 11 | 2462 | 16.76 | 13.35 | 17.00 | 20.76 | 119.17 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | 18.11 | 18.12 | 16.90 | 22.52 | 178.56 |
| | 06 | 2437 | 18.15 | 18.00 | 16.75 | 22.45 | 175.72 |
| | 09 | 2452 | 18.05 | 17.77 | 19.13 | 23.13 | 205.51 |

Test Date: Apr. 26, 2013 Temperature: 25℃
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11ac VHT20 (6Mbps) | 149 | 5745 | 16.71 | 18.02 | 18.55 | 22.60 | 181.88 |
| | 157 | 5785 | 16.55 | 18.04 | 18.45 | 22.52 | 178.85 |
| | 165 | 5825 | 17.08 | 17.99 | 19.05 | 22.89 | 194.35 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | 17.25 | 17.70 | 18.65 | 22.68 | 185.26 |
| | 159 | 5795 | 17.63 | 18.08 | 18.95 | 23.03 | 200.74 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | 17.16 | 18.31 | 18.86 | 22.94 | 196.68 |

Test Date: Apr. 26, 2013 Temperature: 25℃

Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Average Power Output (dBm) | | | | Average Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11b (1Mbps) | 01 | 2412 | 12.35 | 12.57 | 12.29 | 17.18 | 52.19 |
| | 06 | 2437 | 12.30 | 12.51 | 12.44 | 17.19 | 52.35 |
| | 11 | 2462 | 12.38 | 12.52 | 12.59 | 17.27 | 53.32 |
| 802.11g (6Mbps) | 01 | 2412 | 7.00 | 6.91 | 6.67 | 11.63 | 14.57 |
| | 06 | 2437 | 6.93 | 6.95 | 6.64 | 11.61 | 14.50 |
| | 11 | 2462 | 7.21 | 6.84 | 6.76 | 11.71 | 14.83 |

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | 5.83 | 2.43 | 6.06 | 9.83 | 9.61 |
| | 06 | 2437 | 9.20 | 2.28 | 6.23 | 11.52 | 14.21 |
| | 11 | 2462 | 5.98 | 2.57 | 6.19 | 9.97 | 9.93 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | 7.28 | 7.28 | 5.97 | 11.66 | 14.64 |
| | 06 | 2437 | 7.28 | 7.08 | 5.84 | 11.55 | 14.29 |
| | 09 | 2452 | 7.20 | 7.00 | 8.54 | 12.41 | 17.40 |

Test Date: Apr. 26, 2013 Temperature: 25℃

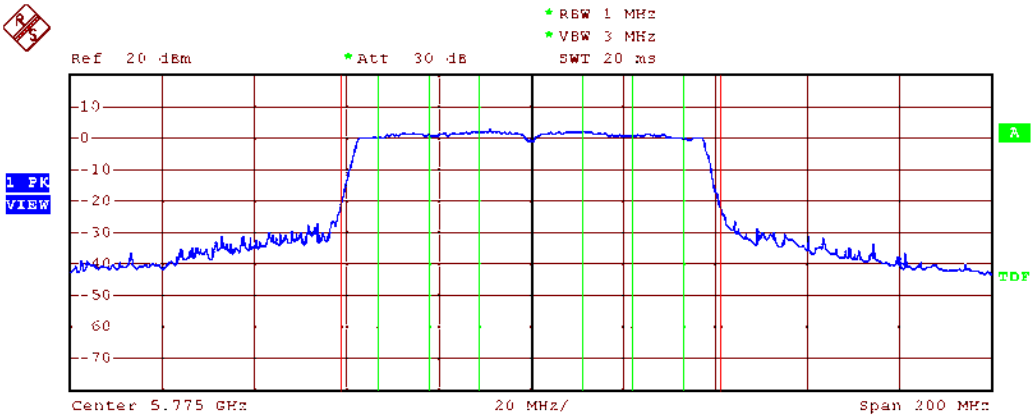
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | | | | Peak Power Output (mW) |
|---|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total | Total |
| 802.11ac VHT20 (6Mbps) | 149 | 5745 | 6.91 | 7.48 | 7.84 | 12.20 | 16.59 |
| | 157 | 5785 | 6.86 | 7.55 | 7.81 | 12.20 | 16.58 |
| | 165 | 5825 | 7.29 | 7.57 | 7.98 | 12.39 | 17.35 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | 6.90 | 7.25 | 7.86 | 12.13 | 16.32 |
| | 159 | 5795 | 6.99 | 7.57 | 8.12 | 12.36 | 17.20 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | 9.33 | 10.12 | 10.26 | 14.69 | 29.47 |

Model: UAP-AC

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R, Peak Output Power

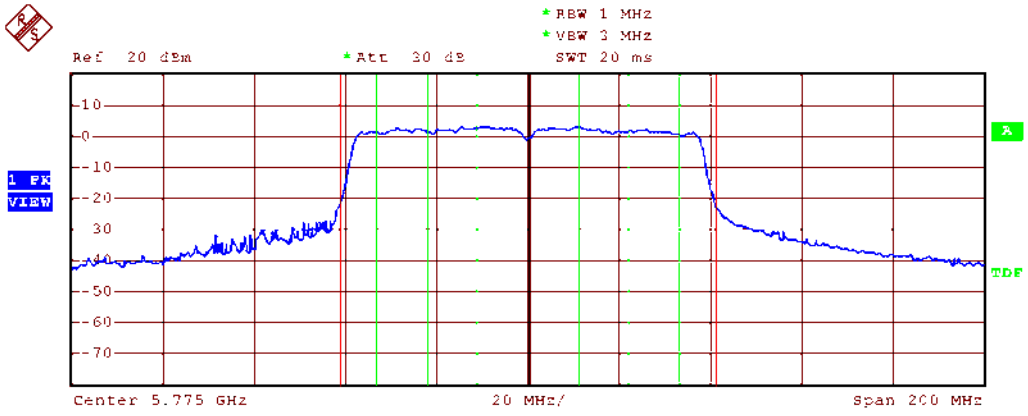
Channel: 155




| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 19.20 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.13 dB |
| Spacing | 16.5 MHz | Upper | -8.26 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.50 dB |
| Spacing | 27.5 MHz | Upper | -8.76 dB |

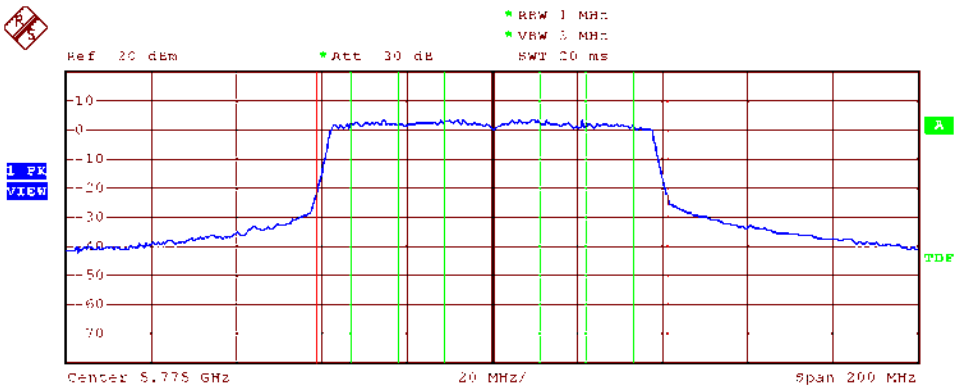
Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M, Peak Output Power

Channel: 155



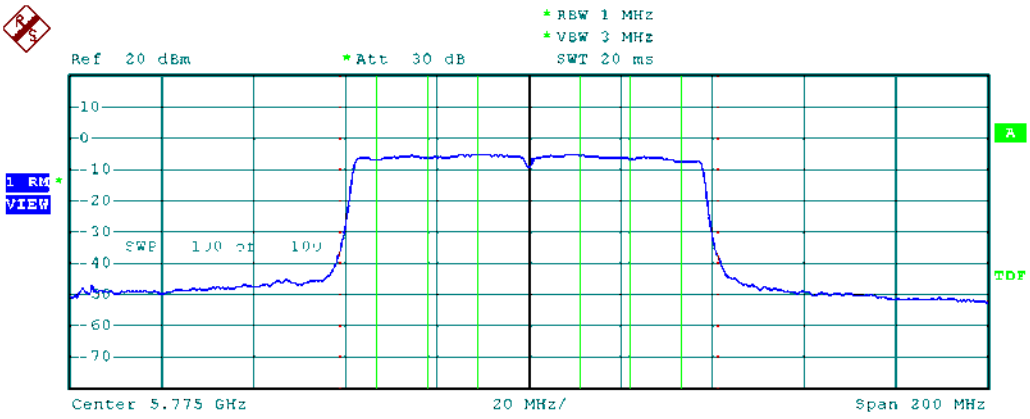

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 19.89 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.14 dB |
| Spacing | 16.5 MHz | Upper | -8.40 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.42 dB |
| Spacing | 27.5 MHz | Upper | -8.76 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT L, Peak Output Power
Channel: 155



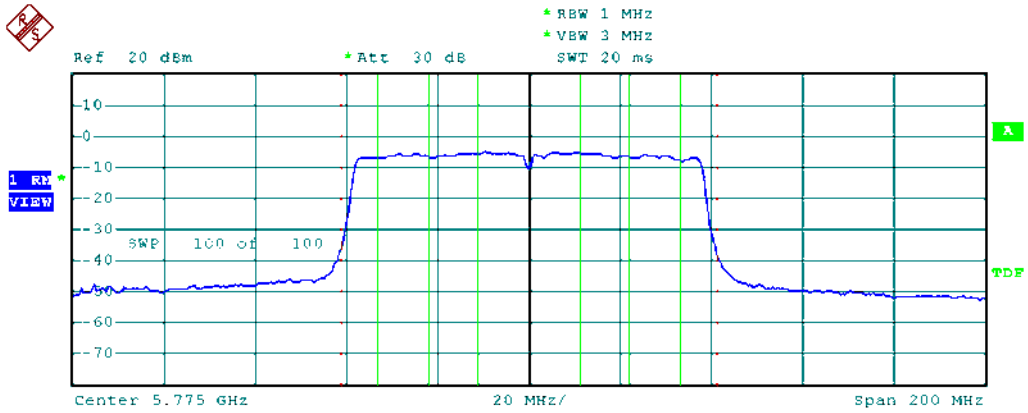

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 20.15 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.20 dB |
| Spacing | 16.5 MHz | Upper | -8.49 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.22 dB |
| Spacing | 27.5 MHz | Upper | -8.89 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R, Average Output Power
Channel: 155



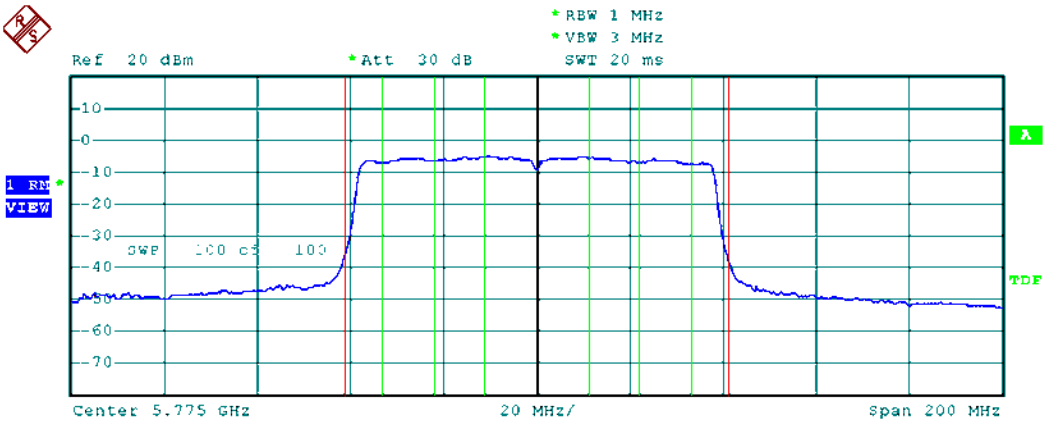

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 11.96 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.08 dB |
| Spacing | 16.5 MHz | Upper | -8.41 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.36 dB |
| Spacing | 27.5 MHz | Upper | -8.89 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M, Average Output Power
Channel: 155



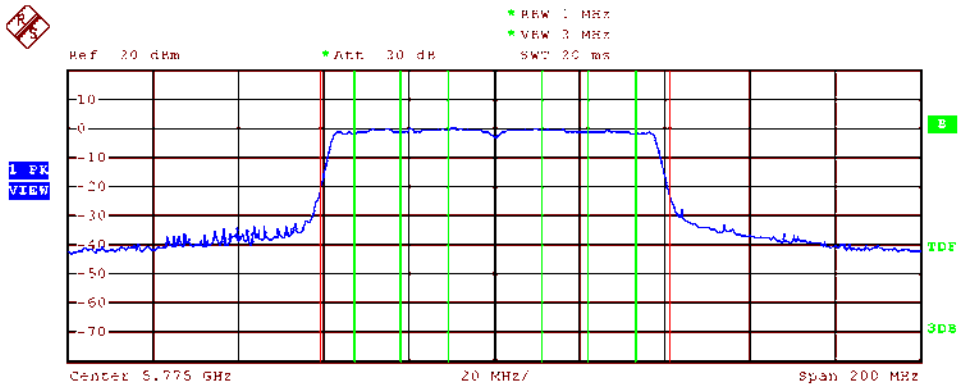

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 11.83 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.20 dB |
| Spacing | 16.5 MHz | Upper | -8.28 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.47 dB |
| Spacing | 27.5 MHz | Upper | -8.78 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT L, Average Output Power
Channel: 155



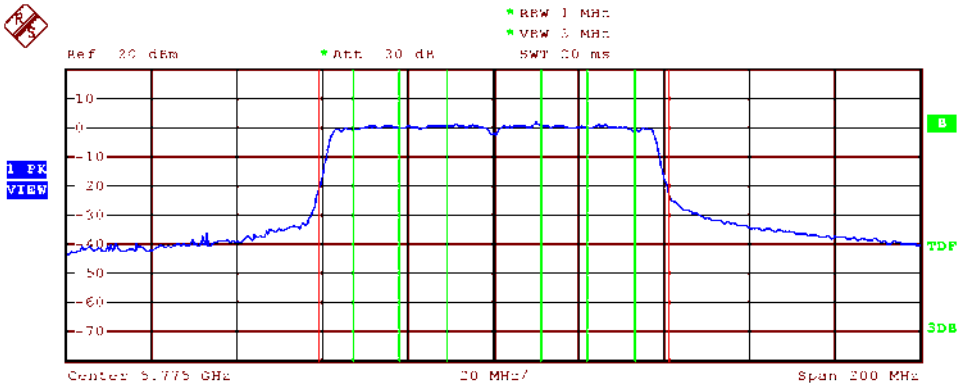

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 11.93 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.05 dB |
| Spacing | 16.5 MHz | Upper | -8.41 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.38 dB |
| Spacing | 27.5 MHz | Upper | -8.90 dB |

Model: UAP-AC Outdoor
Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R, Peak Output Power
Channel: 155



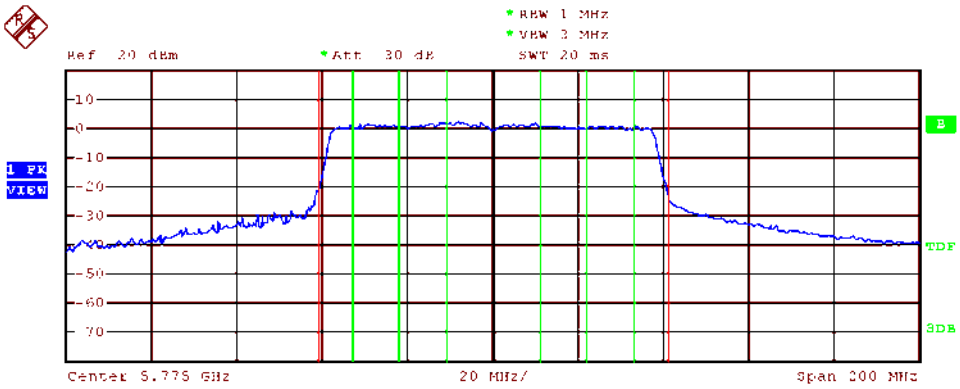

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 17.16 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.10 dB |
| Spacing | 16.5 MHz | Upper | -8.40 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.38 dB |
| Spacing | 27.5 MHz | Upper | -8.71 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M, Peak Output Power
Channel: 155



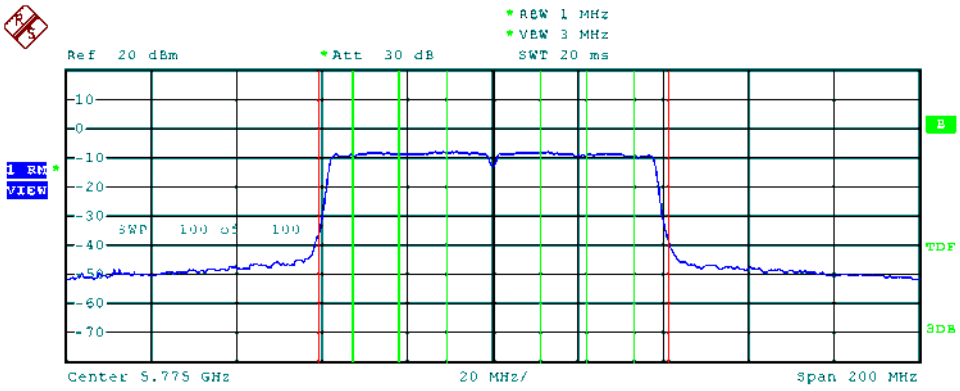

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 18.31 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.36 dB |
| Spacing | 16.5 MHz | Upper | -8.23 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.52 dB |
| Spacing | 27.5 MHz | Upper | -8.42 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT L, Peak Output Power
Channel: 155



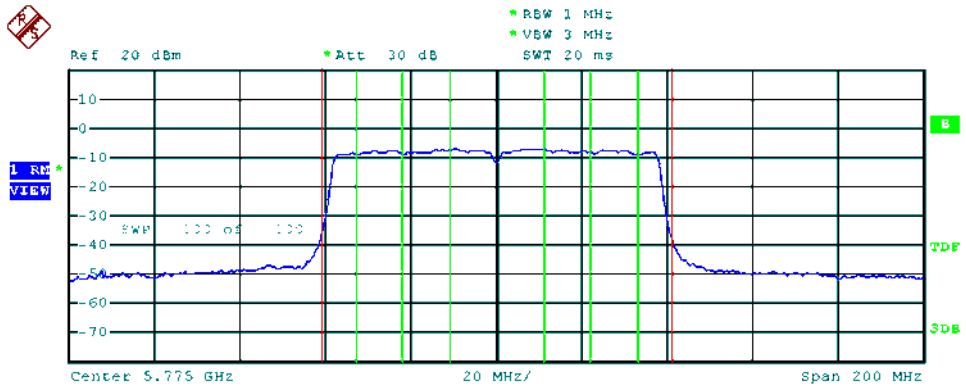

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 18.86 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.16 dB |
| Spacing | 16.5 MHz | Upper | -8.73 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.42 dB |
| Spacing | 27.5 MHz | Upper | -8.78 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R, Average Output Power
Channel: 155



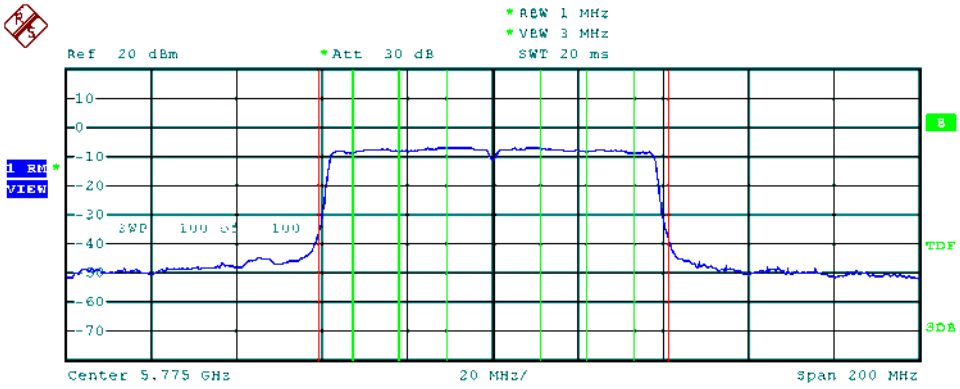

| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 9.33 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.24 dB |
| Spacing | 16.5 MHz | Upper | -8.37 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.36 dB |
| Spacing | 27.5 MHz | Upper | -8.65 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M, Average Output Power
Channel: 155




| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 10.12 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.37 dB |
| Spacing | 16.5 MHz | Upper | -8.23 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.67 dB |
| Spacing | 27.5 MHz | Upper | -8.37 dB |

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT L, Average Output Power
Channel: 155




| | | | |
|---|---|---|---|
| **Tx Channel** | | | |
| Bandwidth | 82 MHz | Power | 10.26 dBm |
| **Adjacent Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.21 dB |
| Spacing | 16.5 MHz | Upper | -8.38 dB |
| **Alternate Channel** | | | |
| Bandwidth | 11 MHz | Lower | -8.42 dB |
| Spacing | 27.5 MHz | Upper | -8.65 dB |

# 6. Power Spectral Density

## 6.1 Test Limit

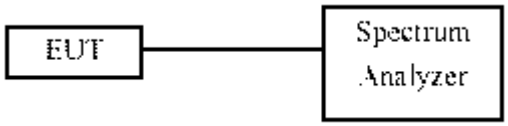
The Maximum of Power Spectral Density Measurement is 3.23dBm(model: UAP-AC), and 1.23dBm(model: UAP-AC Outdoor)

(Limit= 8dBm-(10.77dBi - 6dBi) = 3.23dBm, 8dBm-(12.77dBi - 6dBi) = 1.23dBm)

## 6.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.
b. The spectrum analyzer's resolution bandwidth were set at 100KHz RBW and 300KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
c. The power spectral density was measured and recorded.

## 6.3 Test Setup Layout




## 6.4 Measurement Equipment

Test Mode1: Model No.: UAP-AC

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP40 | 100047 | 2012/03/01 | 2013/02/28 |

Test Mode2 Model No.: UAP-AC Outdoor

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSP40 | 100047 | 2013/03/15 | 2014/03/14 |

## 6.5 Test Result and Data

Model: UAP-AC

Test Date: Jan. 23, 2013 Temperature: 22℃

Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | |
|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L |
| 802.11b (1Mbps) | 01 | 2412 | -12.63 | -10.61 | -11.43 |
| | 06 | 2437 | -12.32 | -10.95 | -11.99 |
| | 11 | 2462 | -11.74 | -11.07 | -12.27 |
| 802.11g (6Mbps) | 01 | 2412 | -14.82 | -14.99 | -14.48 |
| | 06 | 2437 | -15.21 | -15.02 | -16.87 |
| | 11 | 2462 | -15.45 | -14.05 | -15.63 |

| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | -14.88 | -16.52 | -15.16 | -10.69 |
| | 06 | 2437 | -15.17 | -16.90 | -15.16 | -10.90 |
| | 11 | 2462 | -16.95 | -16.77 | -15.50 | -11.59 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | -17.51 | -16.78 | -14.67 | -11.38 |
| | 06 | 2437 | -15.84 | -18.24 | -16.09 | -11.83 |
| | 09 | 2452 | -17.02 | -20.31 | -15.65 | -12.49 |

Test Date: Jan. 22, 2013 Temperature: 22℃

Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total |
| 802.11ac VHT20 (6.5Mbps) | 149 | 5745 | -16.15 | -14.90 | -11.84 | -9.13 |
| | 157 | 5785 | -15.43 | -15.32 | -11.11 | -8.68 |
| | 165 | 5825 | -15.45 | -15.00 | -13.94 | -9.98 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | -17.33 | -19.09 | -12.80 | -10.79 |
| | 159 | 5795 | -18.49 | -19.52 | -13.67 | -11.66 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | -19.92 | -18.84 | -15.09 | -12.66 |

Model: UAP-AC Outdoor
Test Date: Apr. 26, 2013 Temperature: 25℃
Atmospheric pressure: 1020 hPa Humidity: 65%

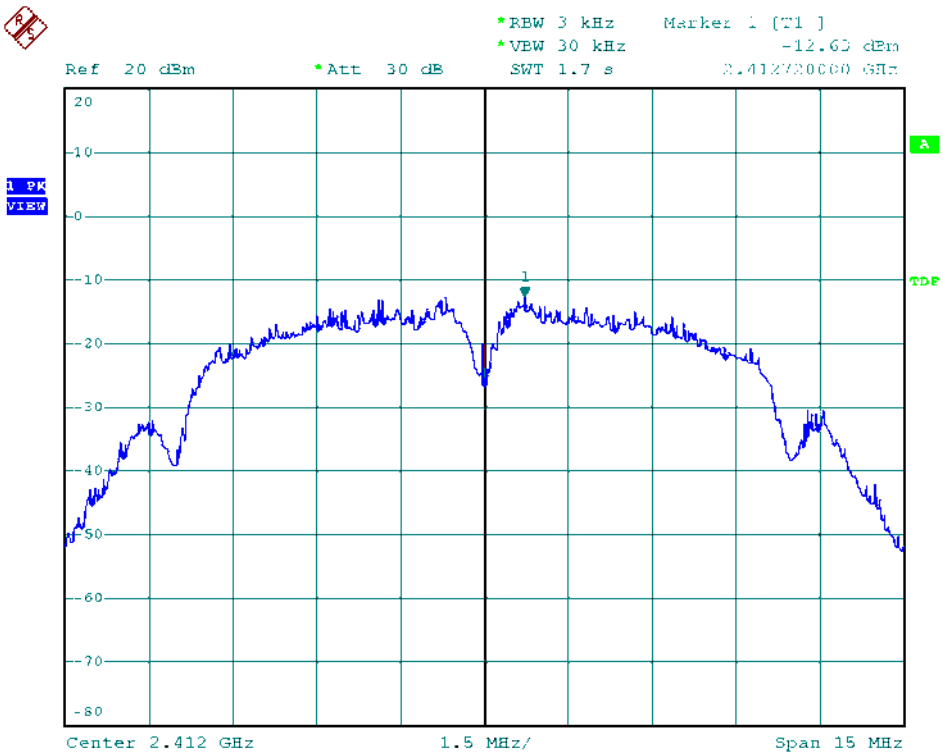
| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | |
|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L |
| 802.11b (1Mbps) | 01 | 2412 | -10.99 | -10.50 | -10.60 |
| | 06 | 2437 | -11.04 | -10.50 | -10.52 |
| | 11 | 2462 | -11.14 | -10.99 | -9.85 |
| 802.11g (6Mbps) | 01 | 2412 | -18.04 | -19.24 | -19.61 |
| | 06 | 2437 | -18.71 | -19.89 | -20.00 |
| | 11 | 2462 | -19.34 | -18.68 | -19.89 |

| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total |
| 802.11n HT20 (6.5Mbps) | 01 | 2412 | -17.94 | -18.52 | -20.00 | -13.97 |
| | 06 | 2437 | -16.74 | -18.15 | -20.59 | -13.45 |
| | 11 | 2462 | -17.81 | -24.79 | -20.64 | -15.45 |
| 802.11n HT40 (13.5Mbps) | 03 | 2422 | -18.89 | -21.50 | -22.03 | -15.81 |
| | 06 | 2437 | -21.77 | -21.59 | -21.52 | -16.85 |
| | 09 | 2452 | -20.01 | -21.06 | -21.66 | -16.08 |

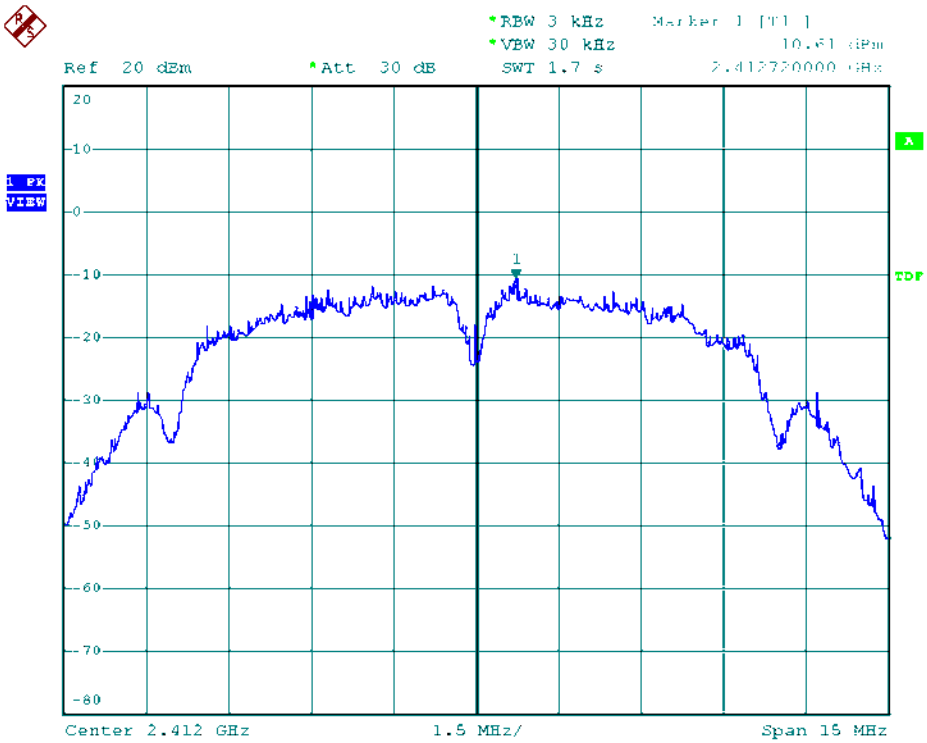
Test Date: Apr. 26, 2013 Temperature: 25℃
Atmospheric pressure: 1020 hPa Humidity: 65%

| Modulation Standard | Channel | Frequency (MHz) | Maximum Power Density of 3 kHz Bandwidth (dBm) | | | |
|---|---|---|---|---|---|---|
| | | | ANT R | ANT M | ANT L | Total |
| 802.11ac VHT20 (6.5Mbps) | 149 | 5745 | -17.92 | -19.44 | -11.84 | -10.32 |
| | 157 | 5785 | -18.90 | -18.60 | -13.01 | -11.15 |
| | 165 | 5825 | -16.77 | -16.96 | -13.99 | -10.91 |
| 802.11ac VHT40 (13.5Mbps) | 151 | 5755 | -21.09 | -19.89 | -14.16 | -12.49 |
| | 159 | 5795 | -21.49 | -21.84 | -15.66 | -13.89 |
| 802.11ac VHT80 (29.3Mbps) | 155 | 5775 | -21.30 | -23.25 | -14.74 | -13.40 |

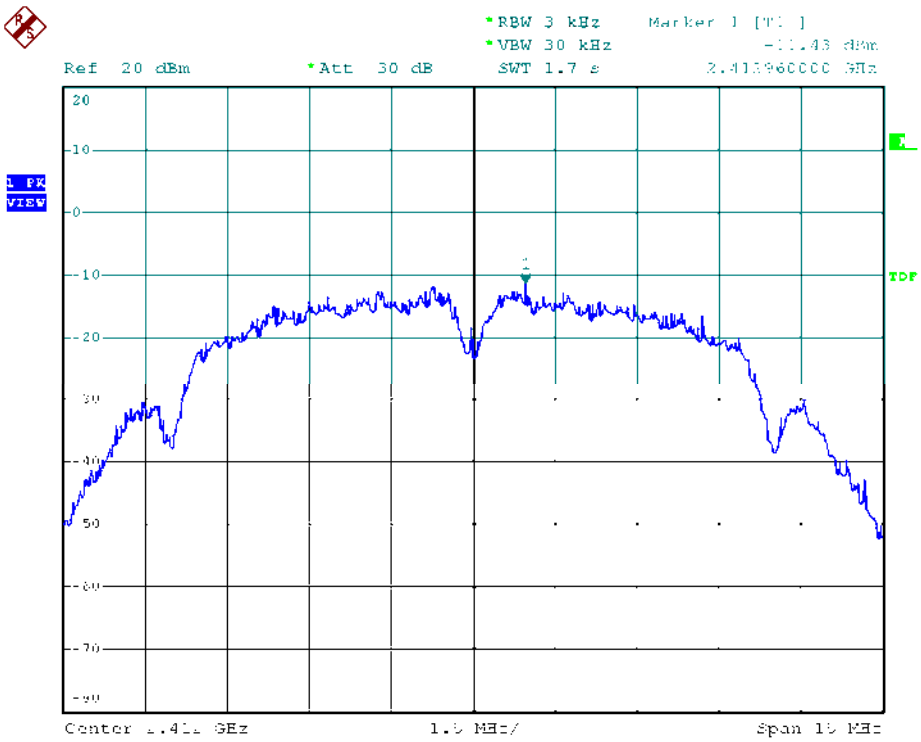
Model: UAP-AC
Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 01



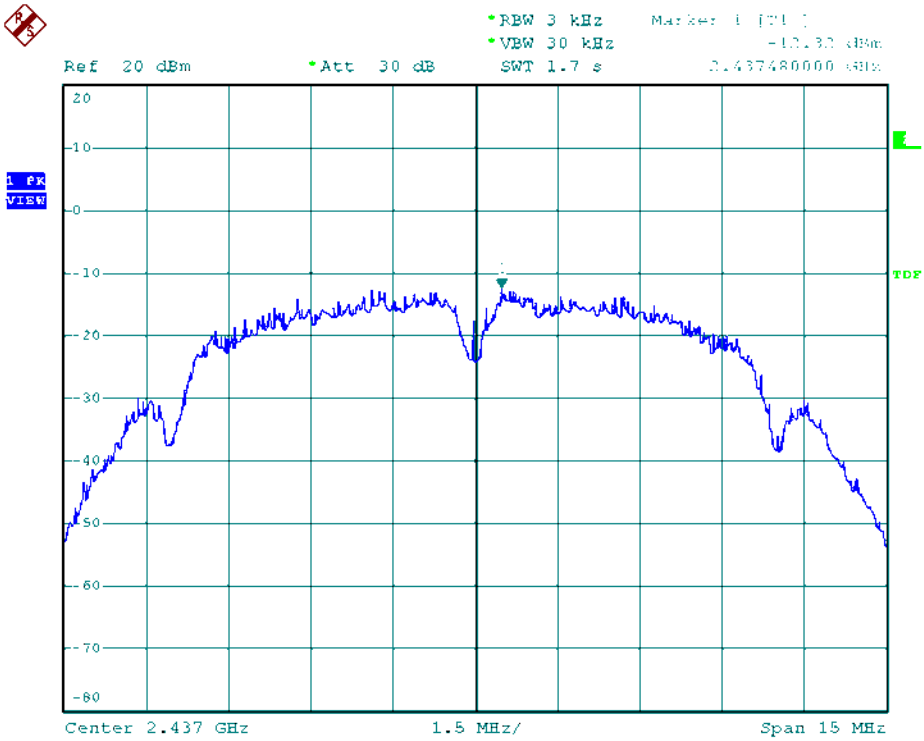

Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 01



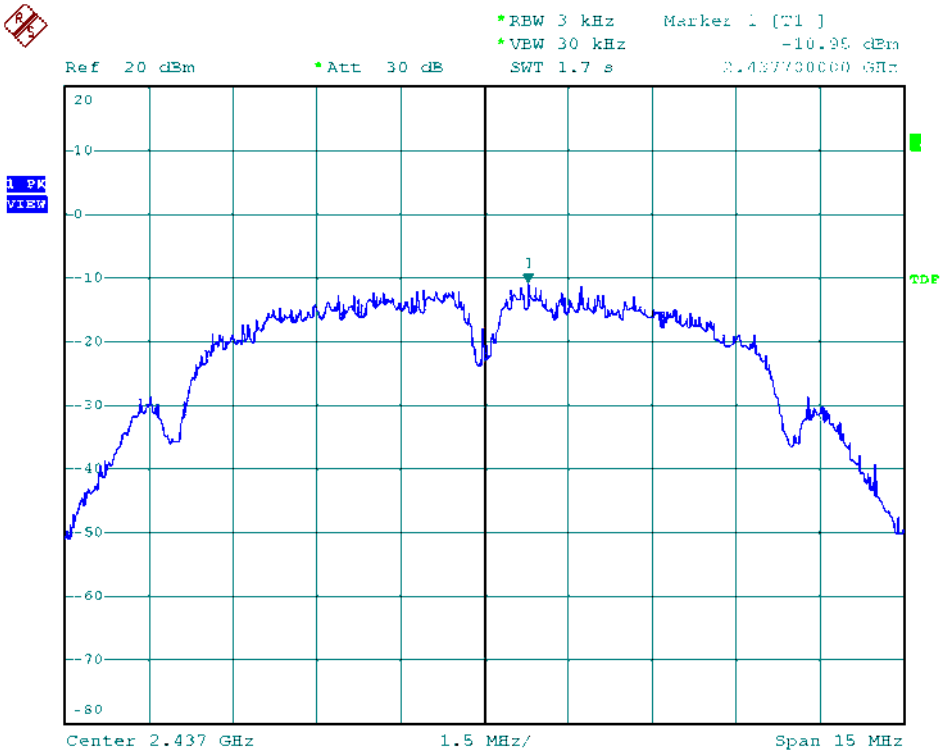
Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 01



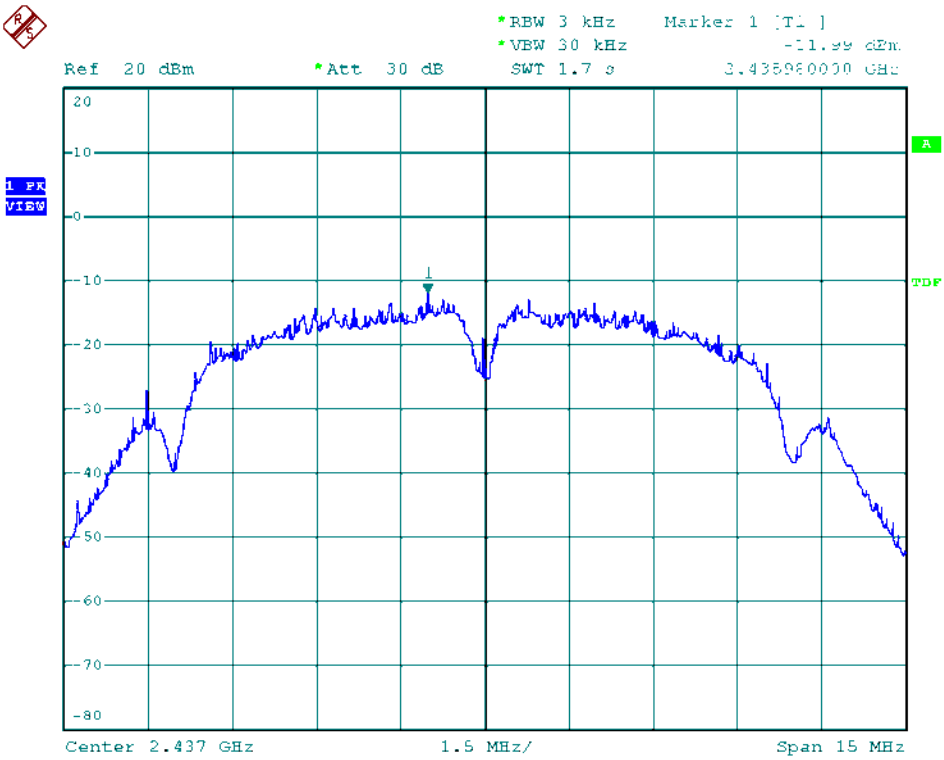

Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 06



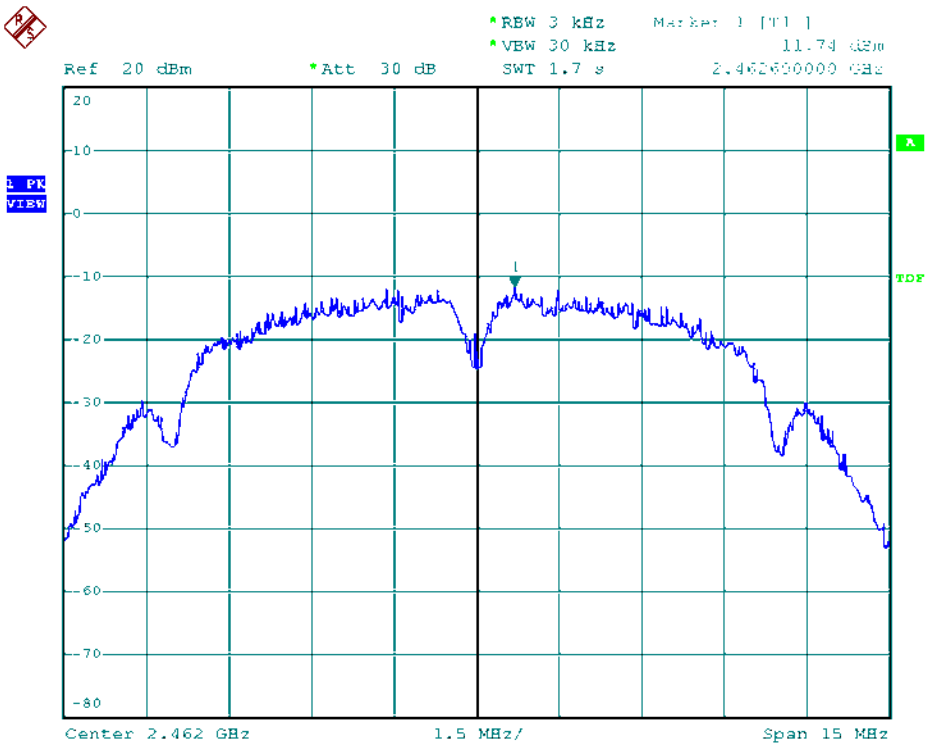
Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 06



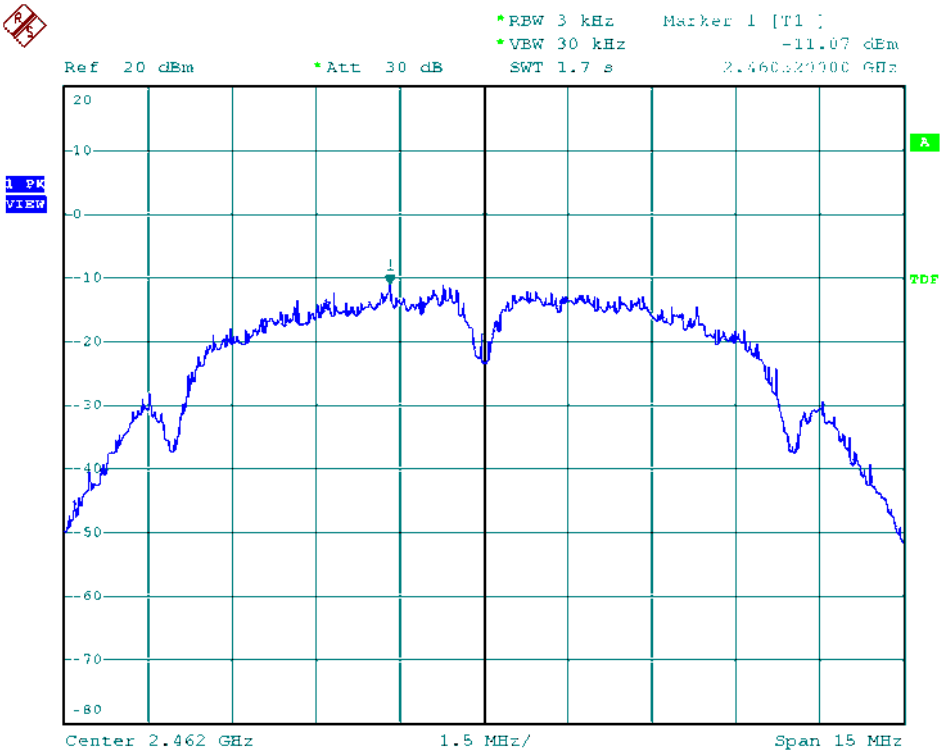

Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 06



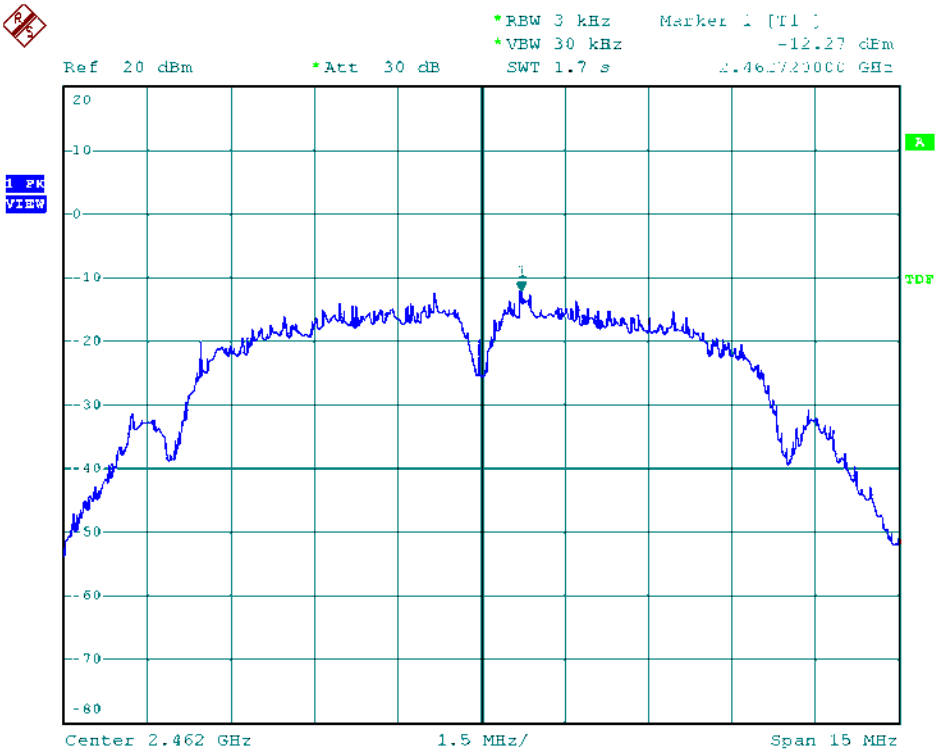
Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 11



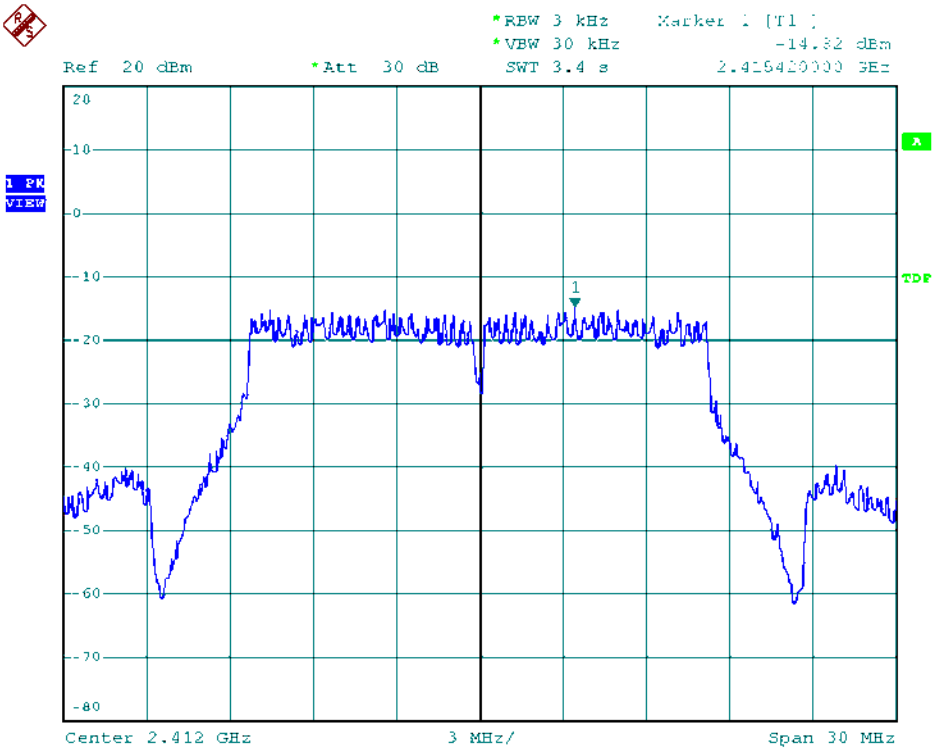

Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 11



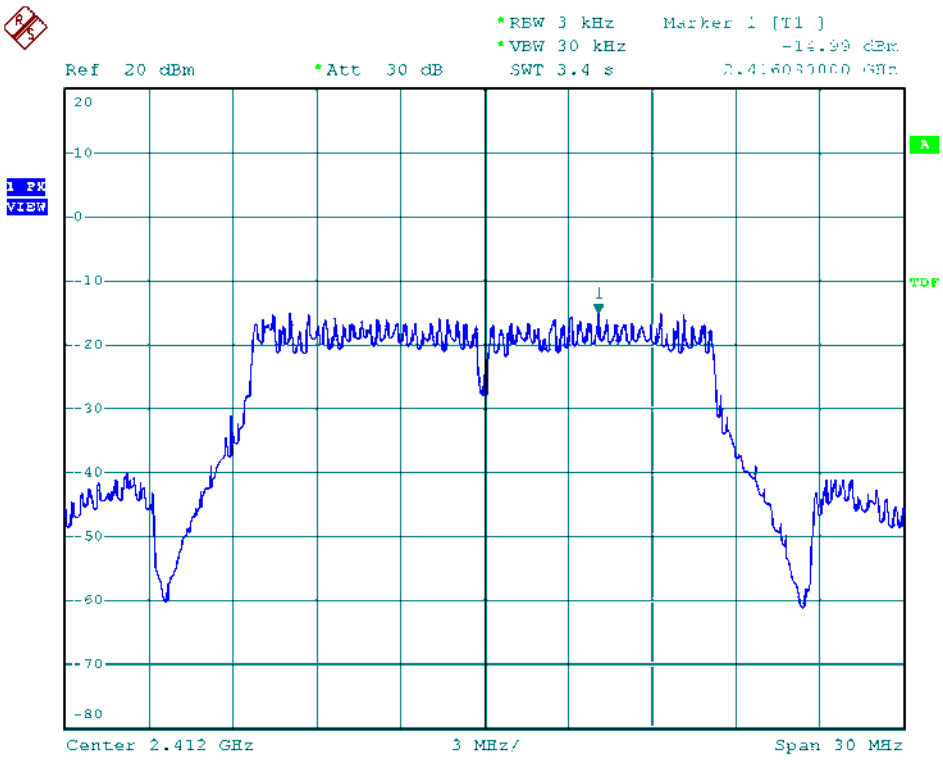
Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 11



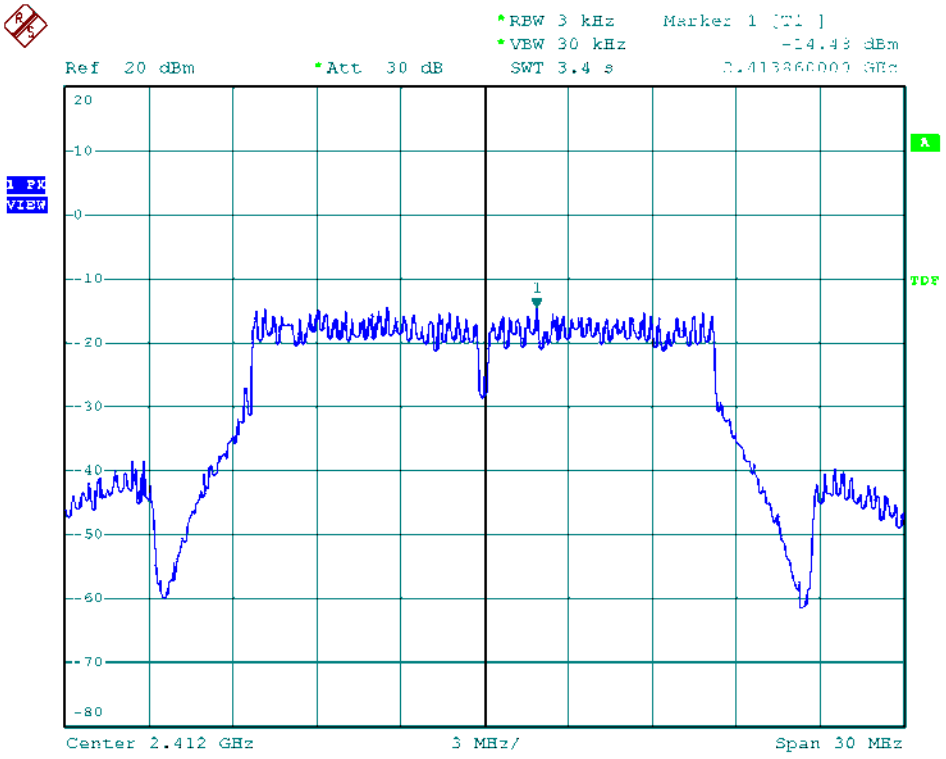

Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 01



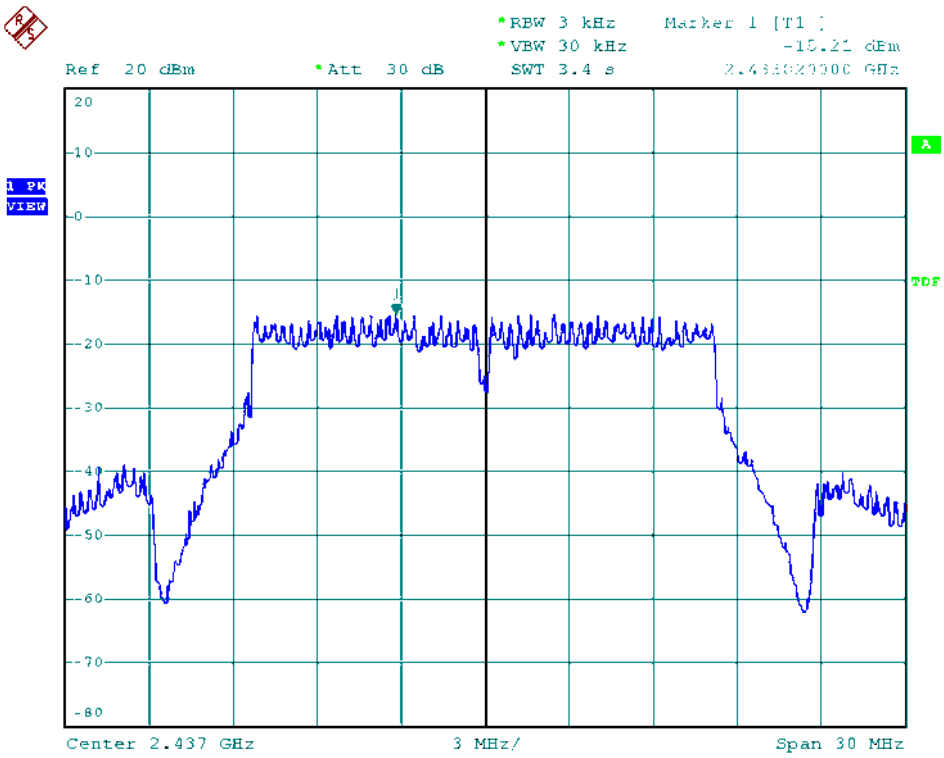
Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 01



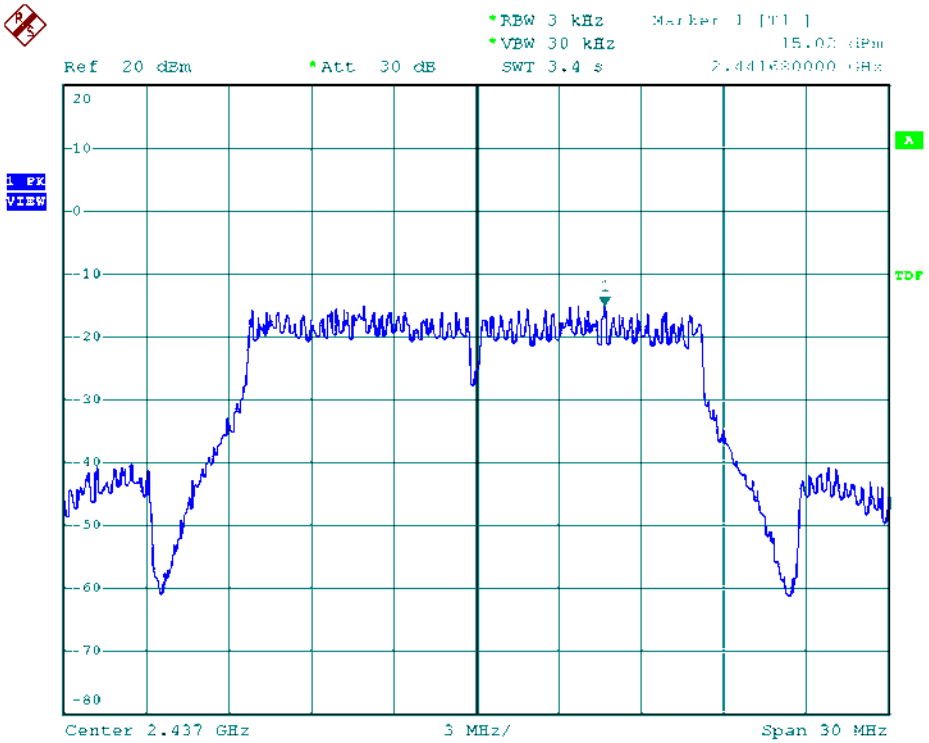

Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 01



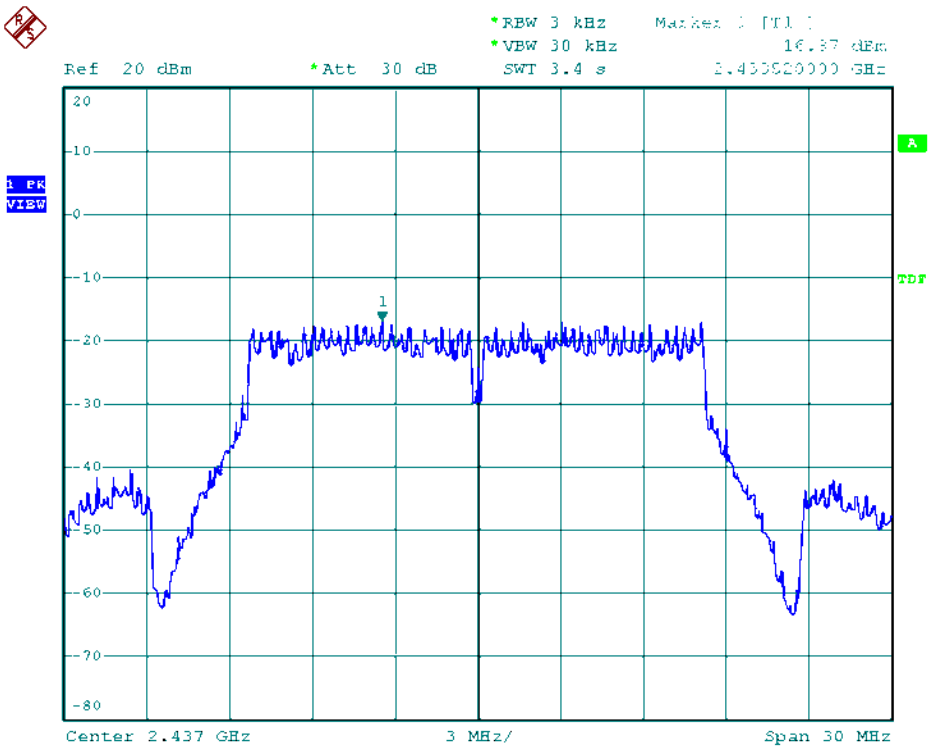
Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 06



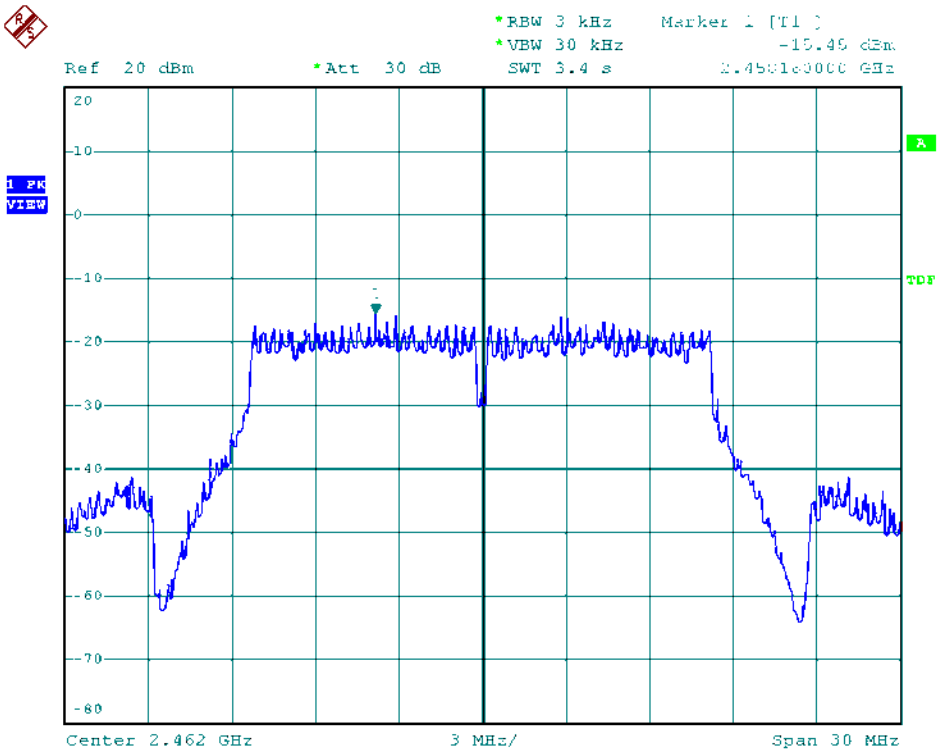

Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 06



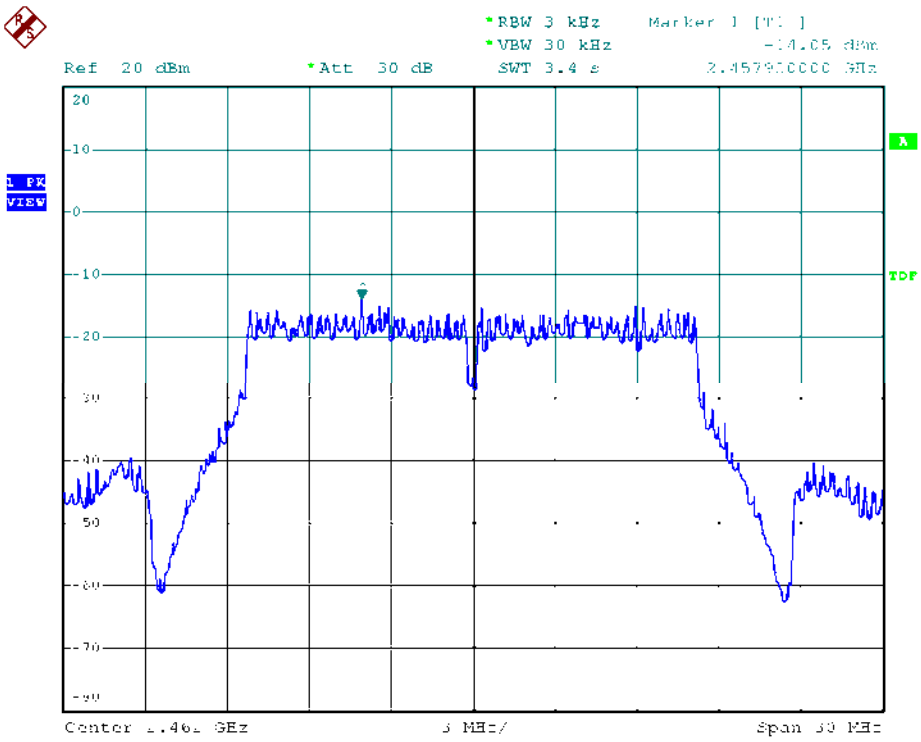
Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 06



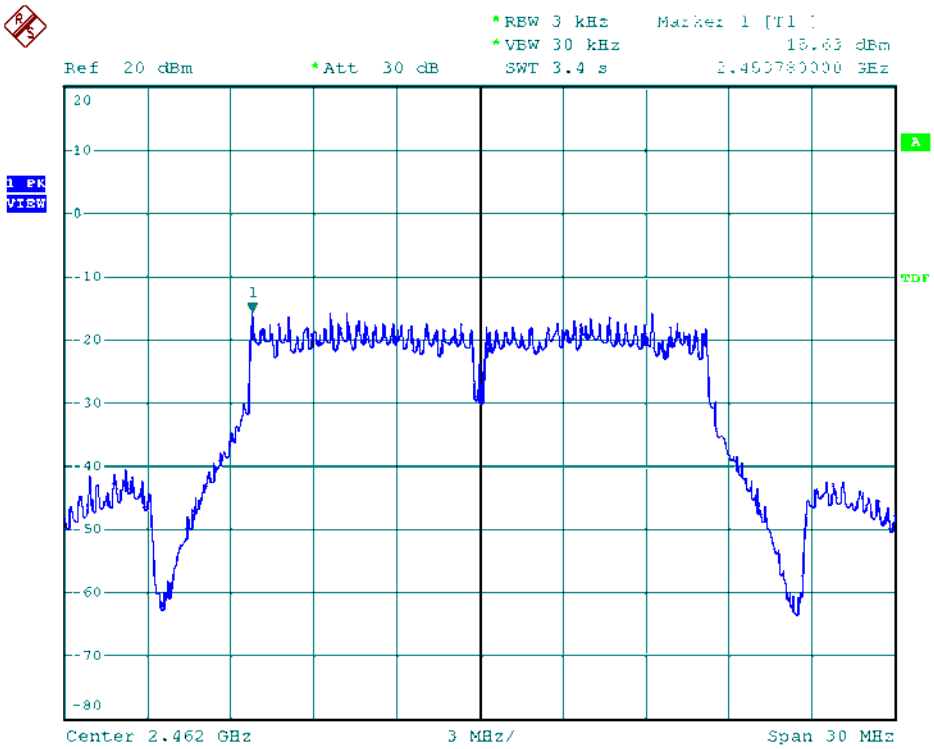

Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 11



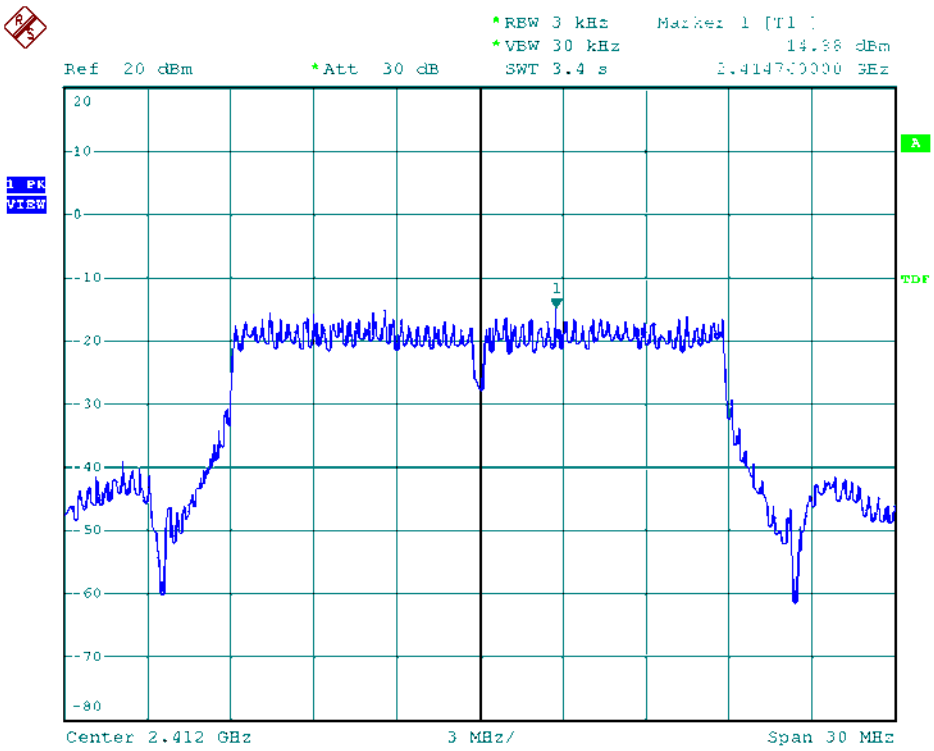
Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 11



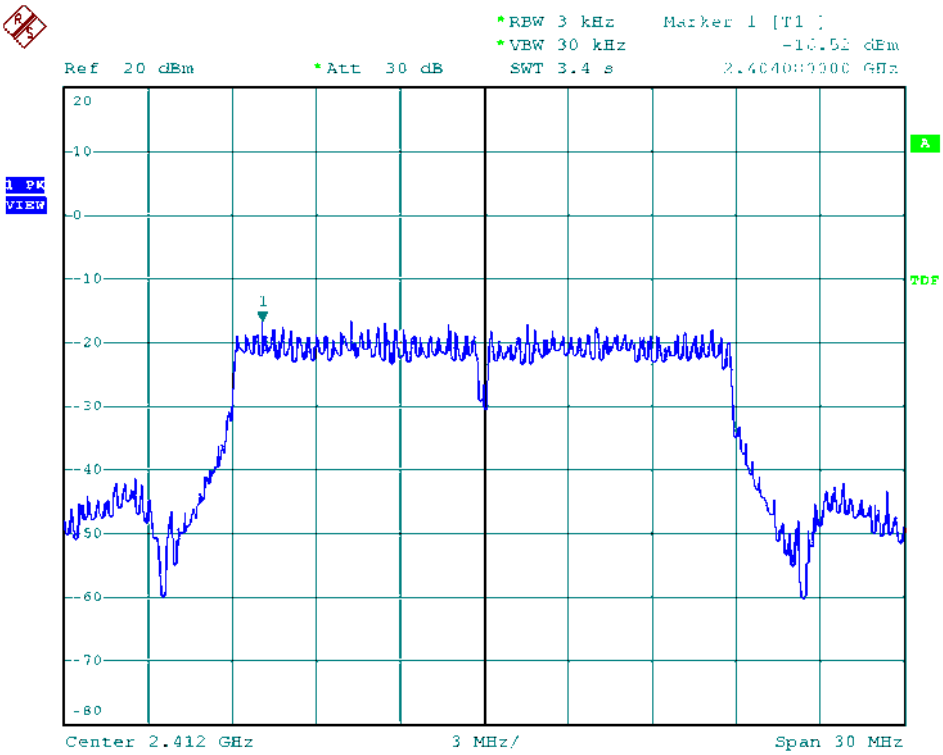

Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 11



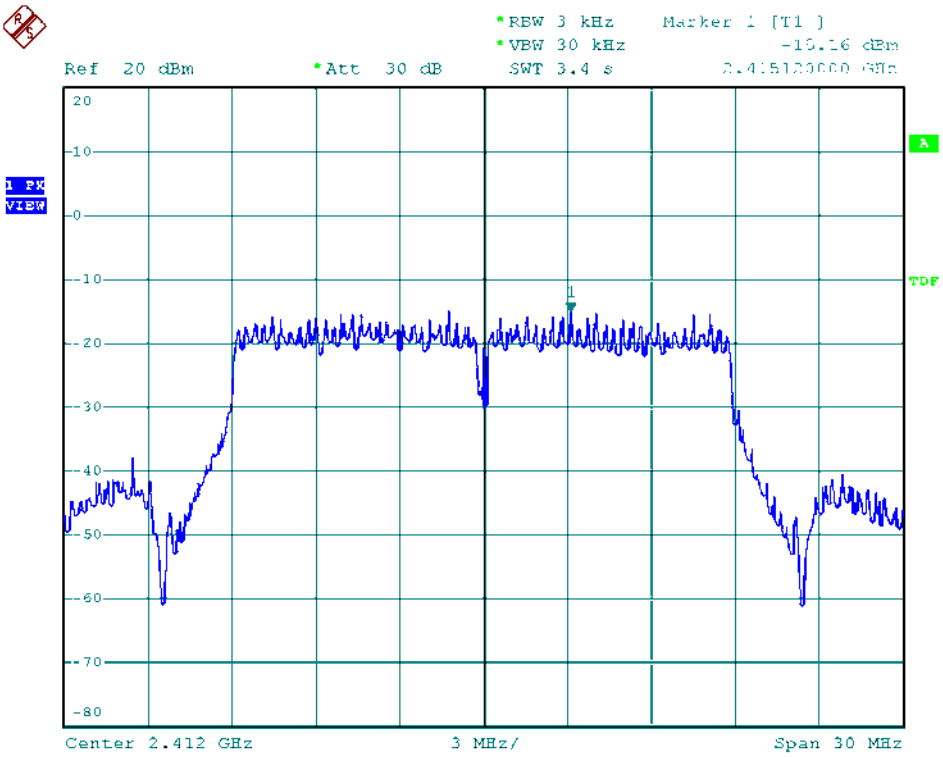
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 01



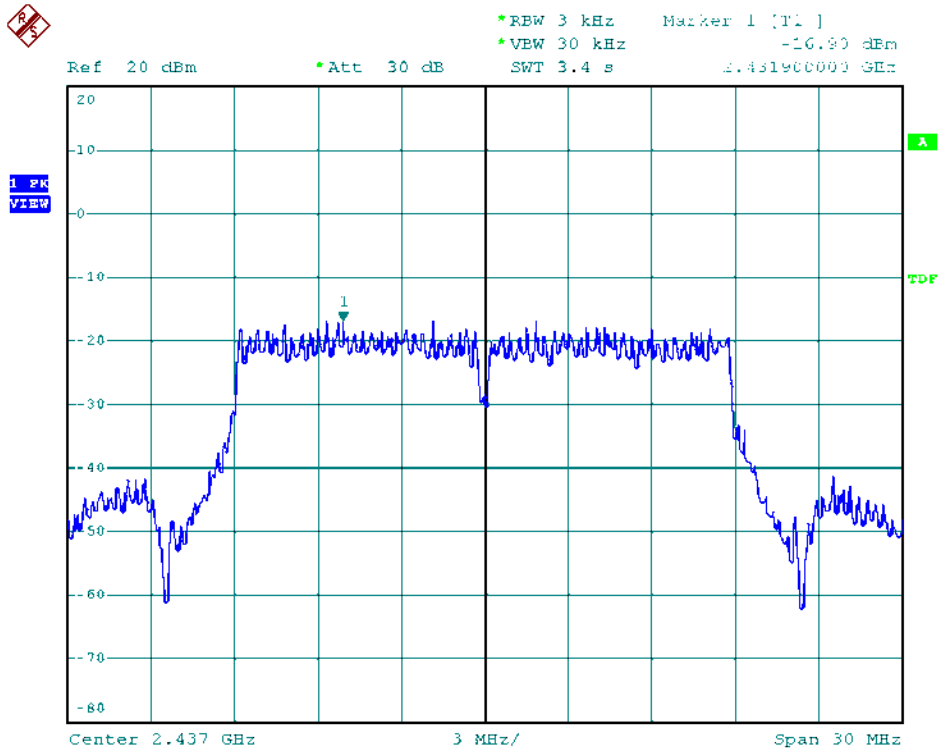

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 01



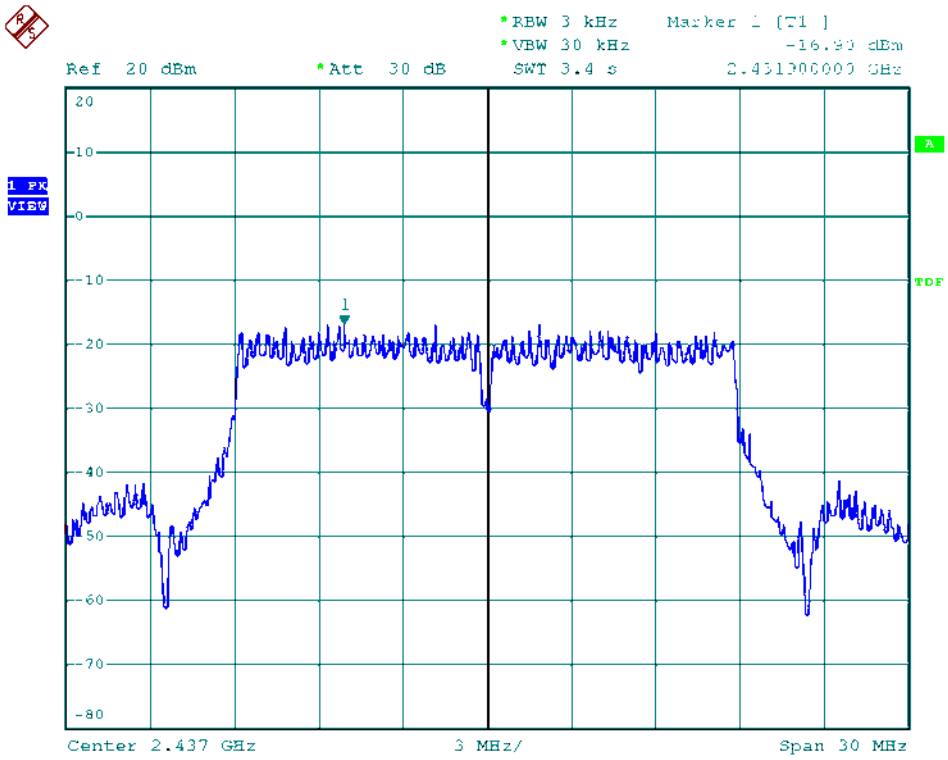
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 01



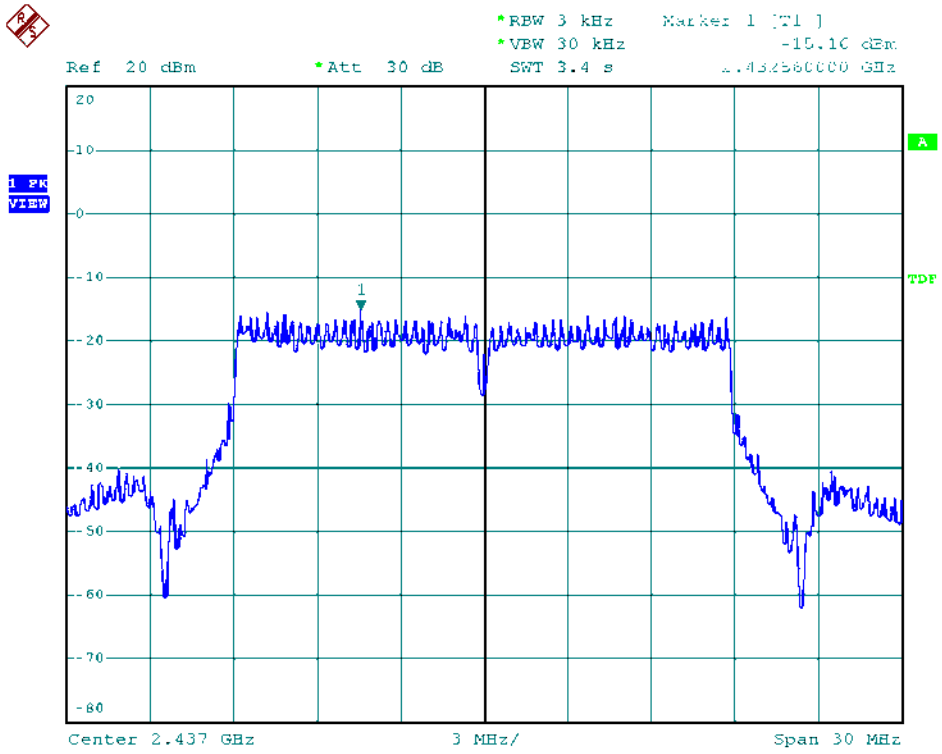

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 06



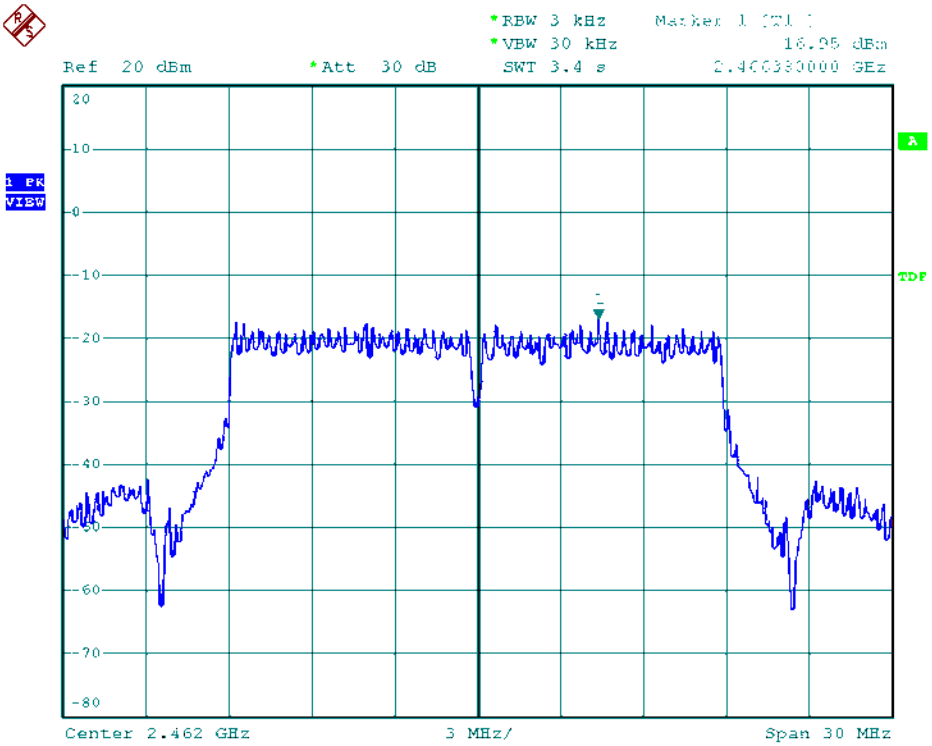
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 06



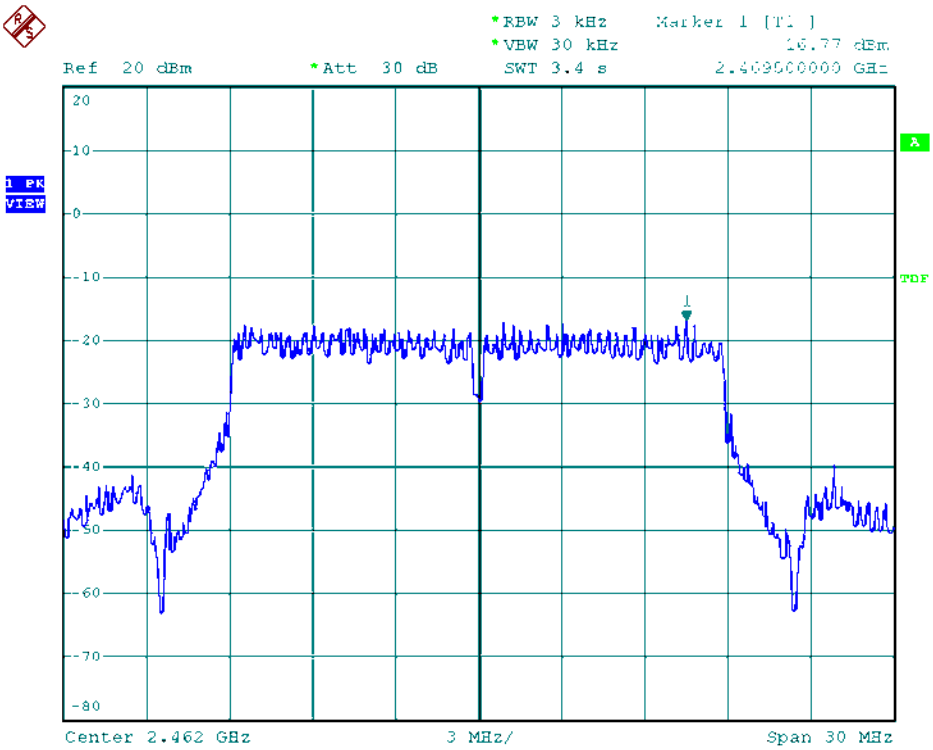

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 06



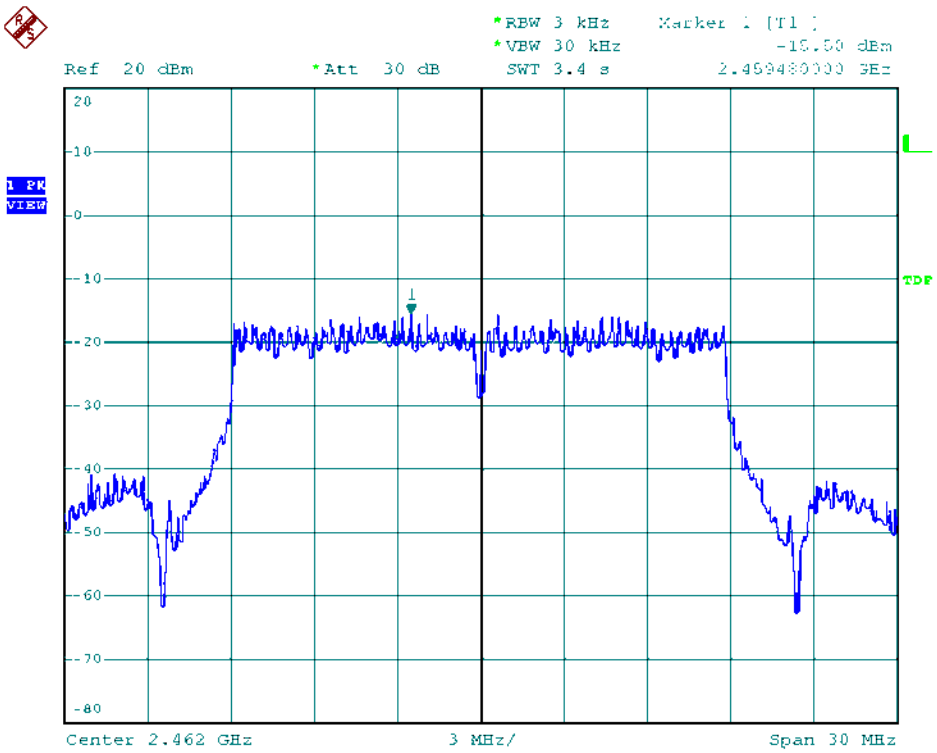
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 11



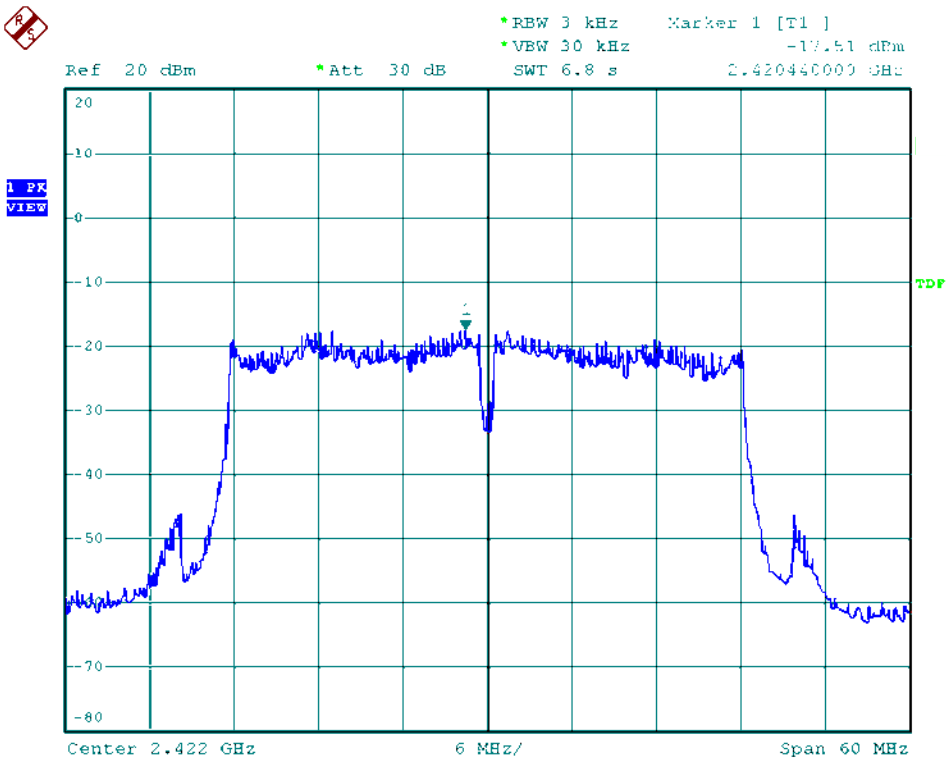

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 11



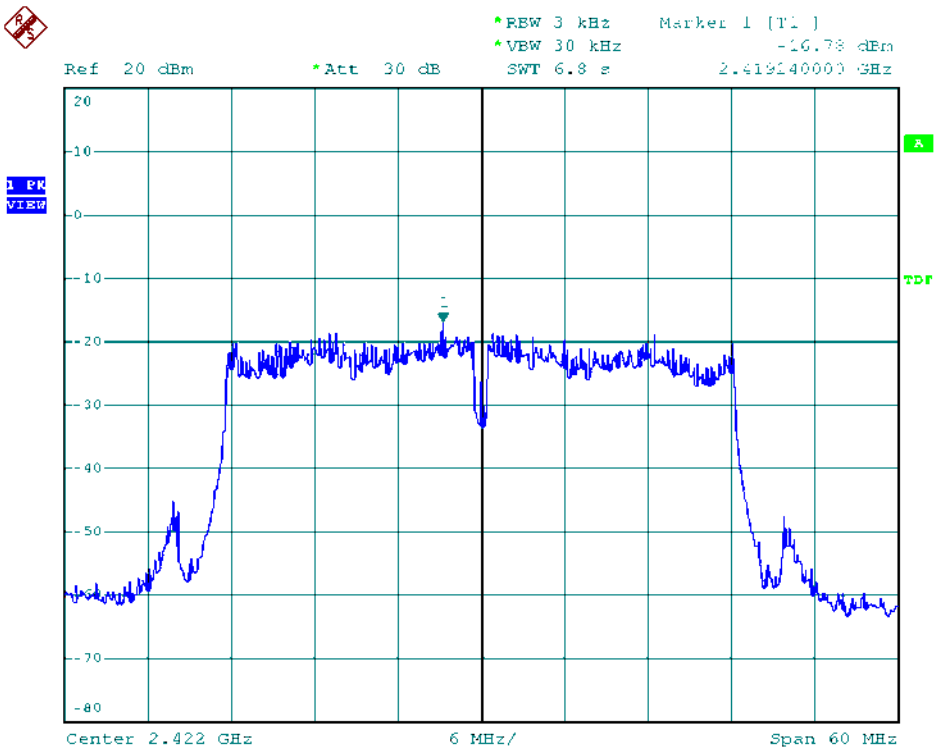
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 11



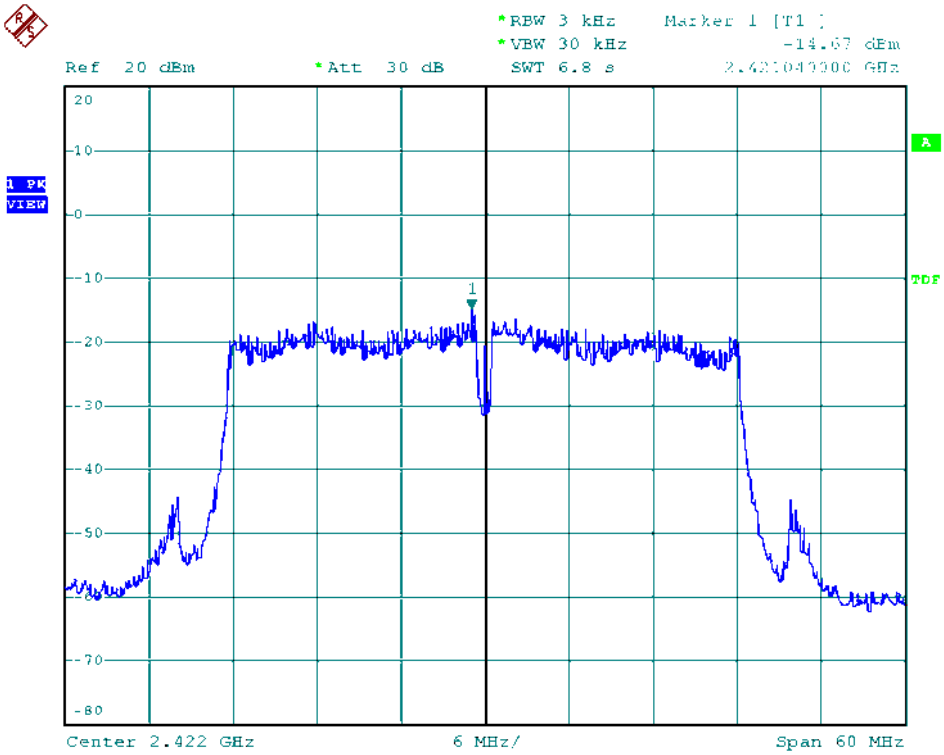

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 03



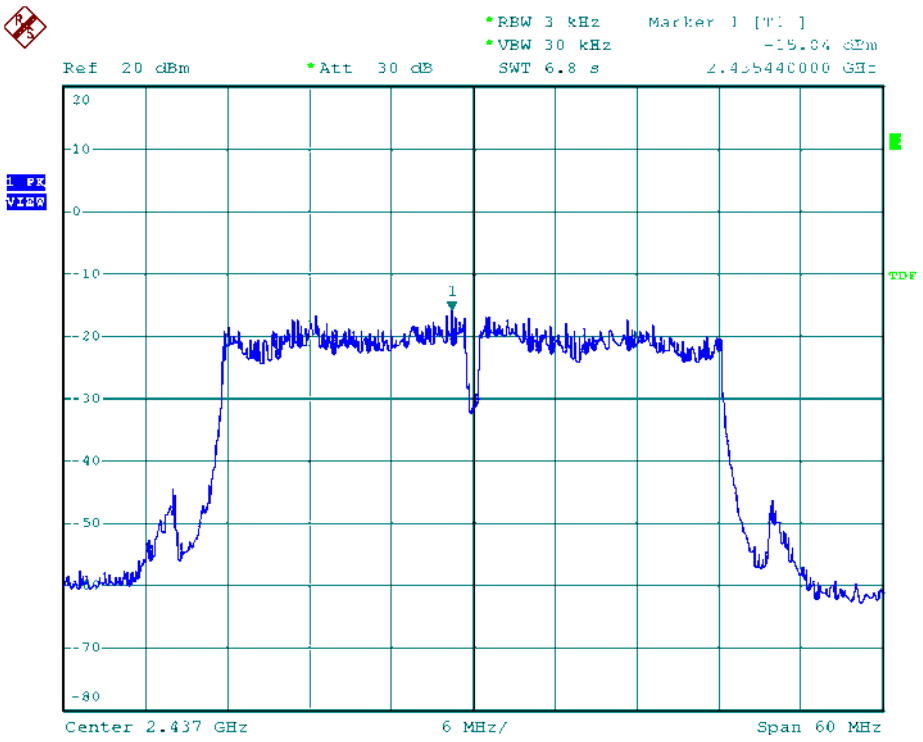
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 03



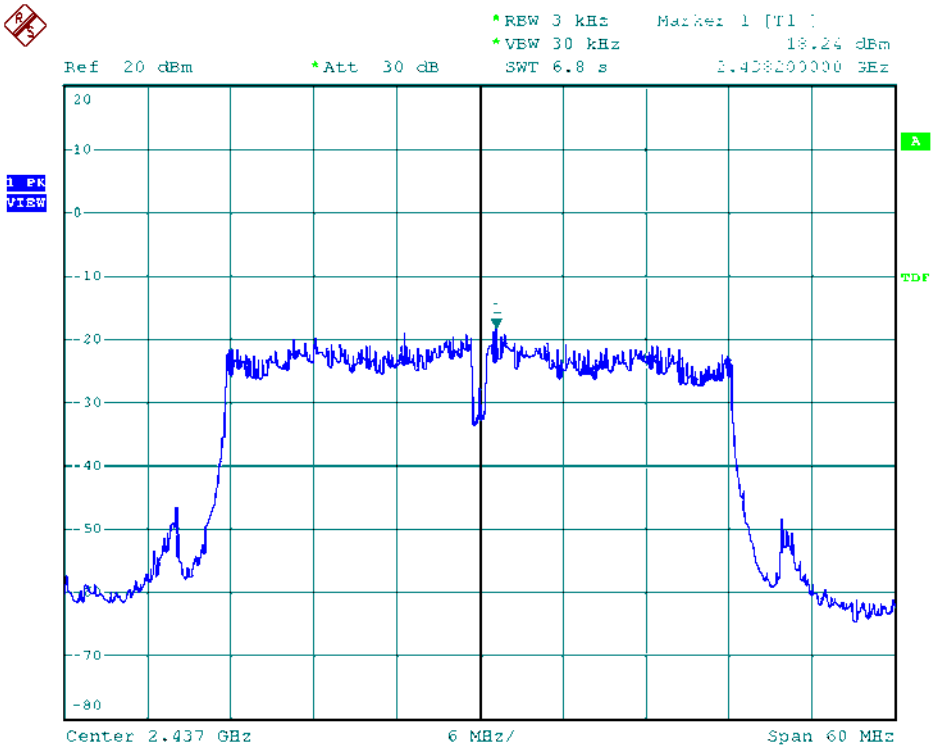

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 03



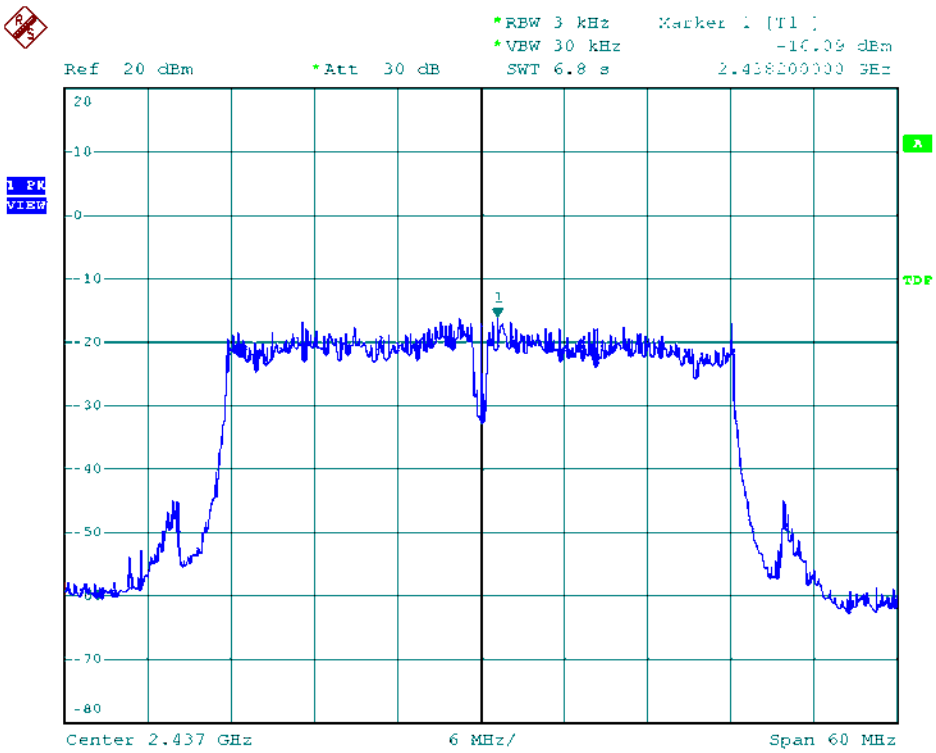
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 06



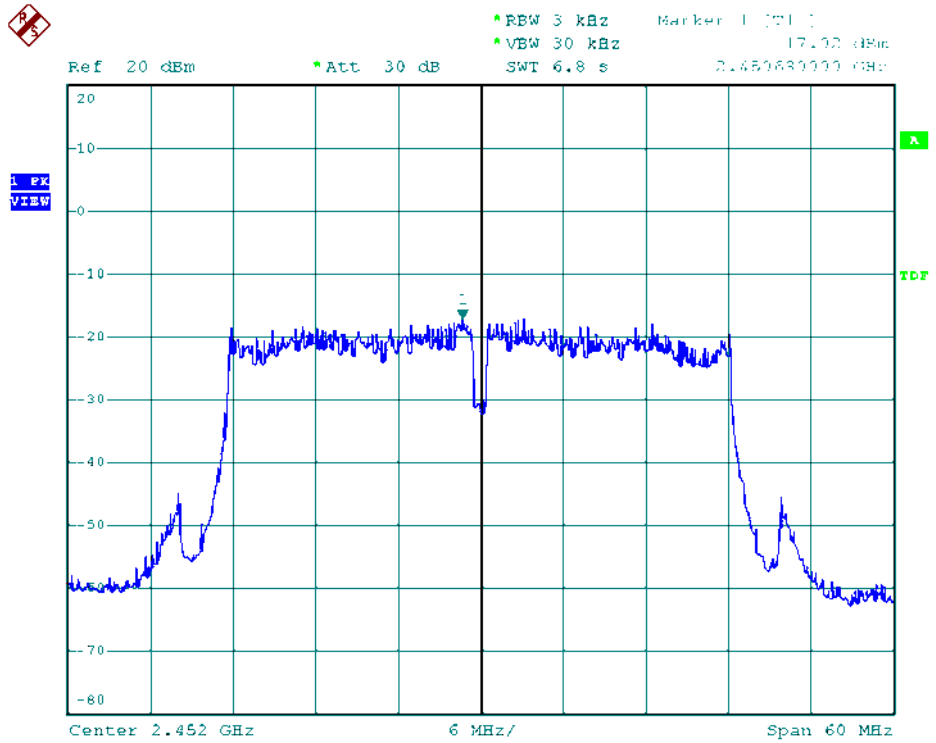

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 06



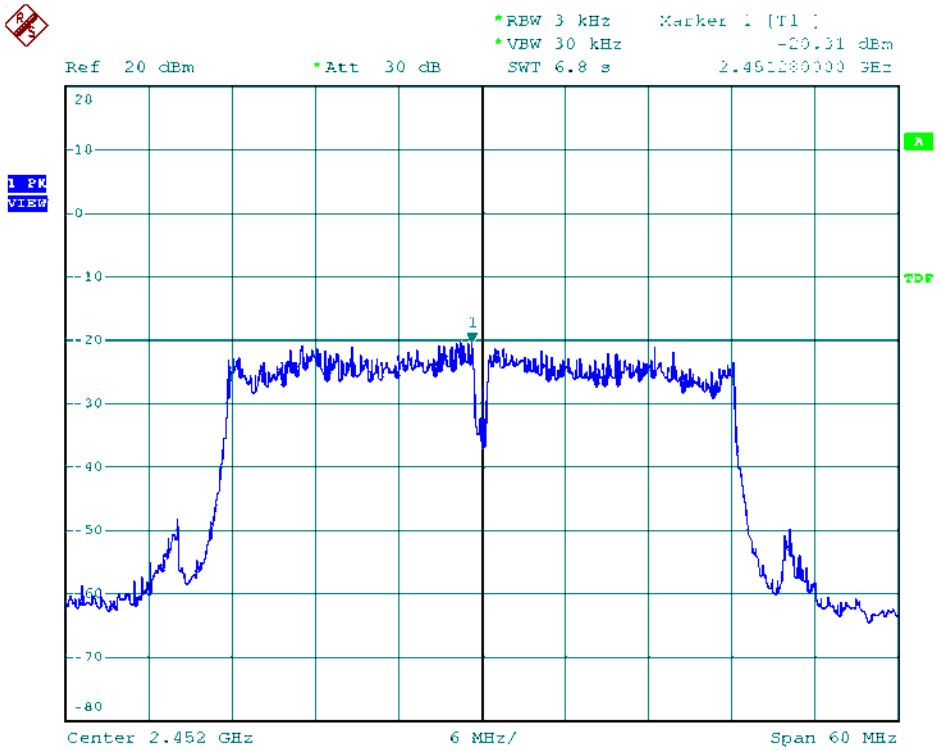
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 06



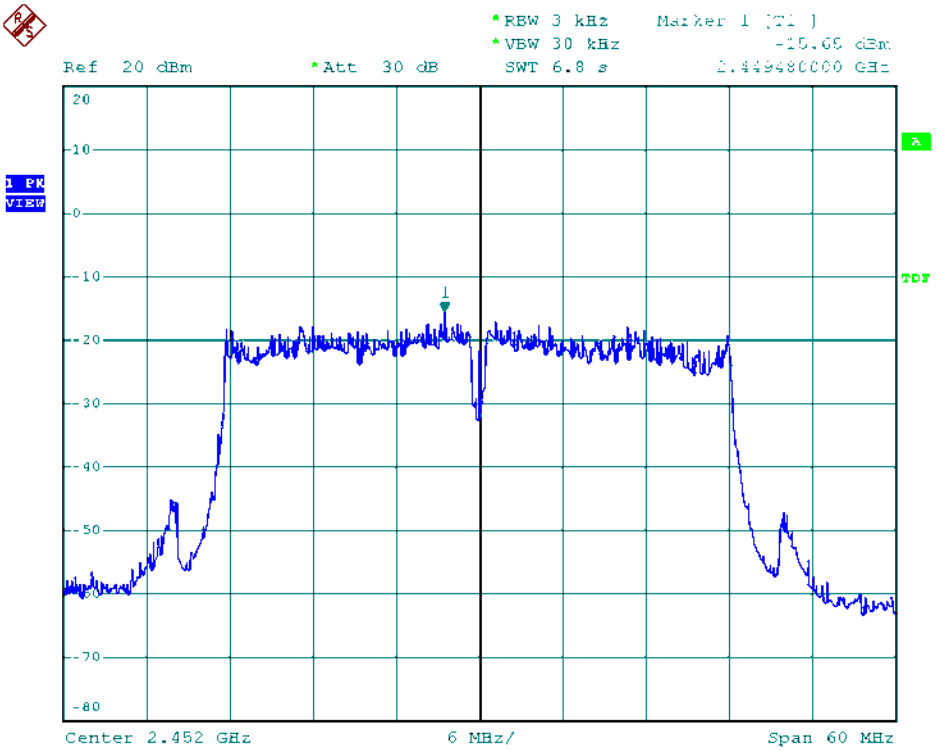

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 09



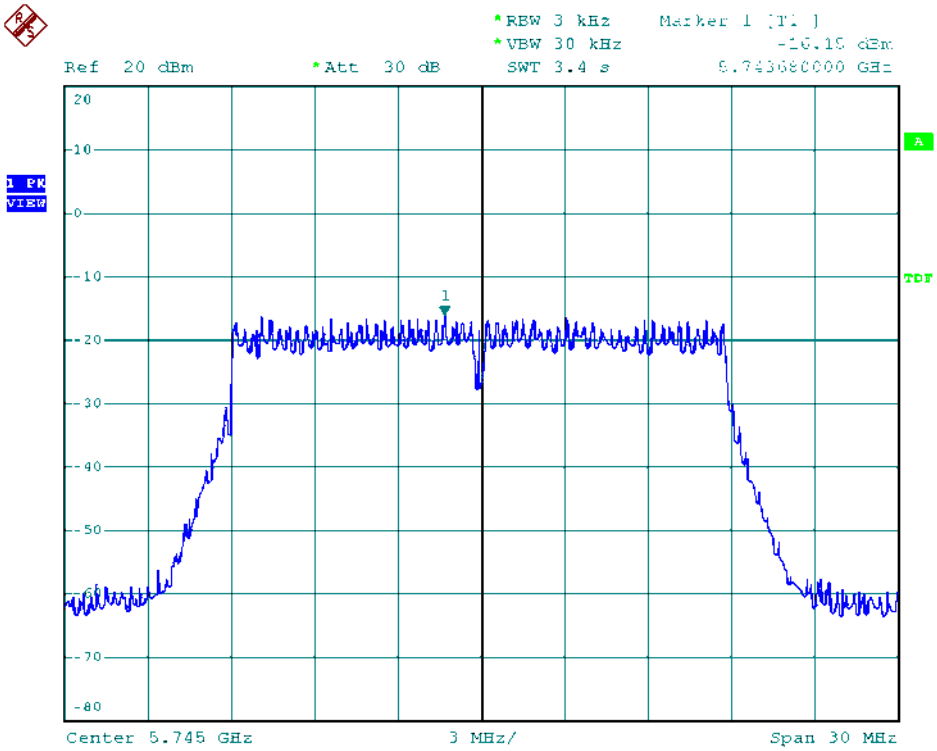
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 09



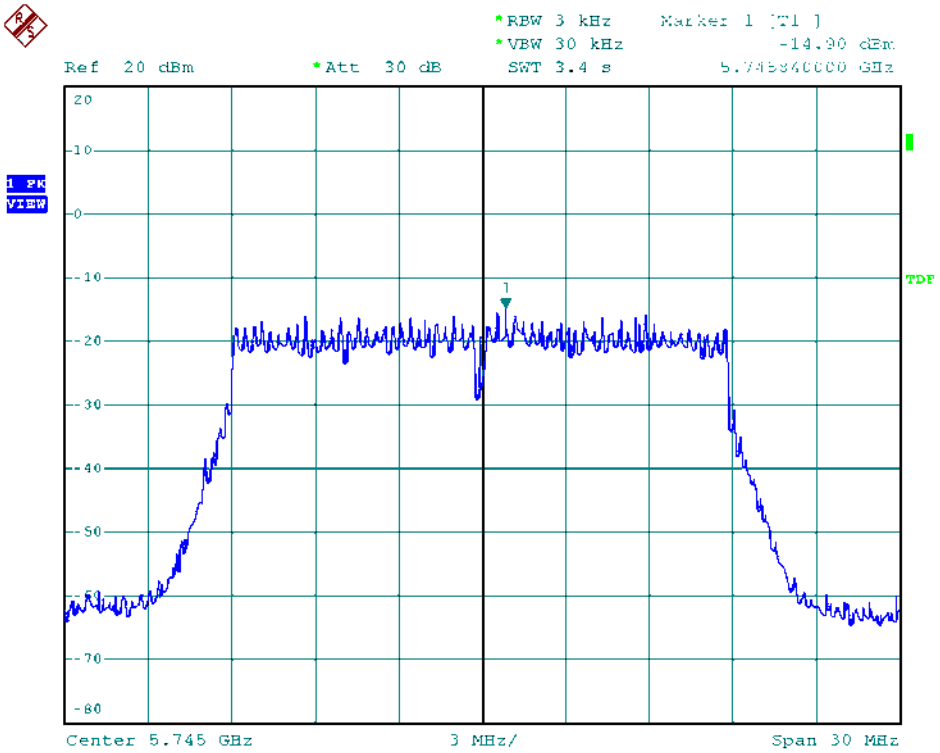

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 09



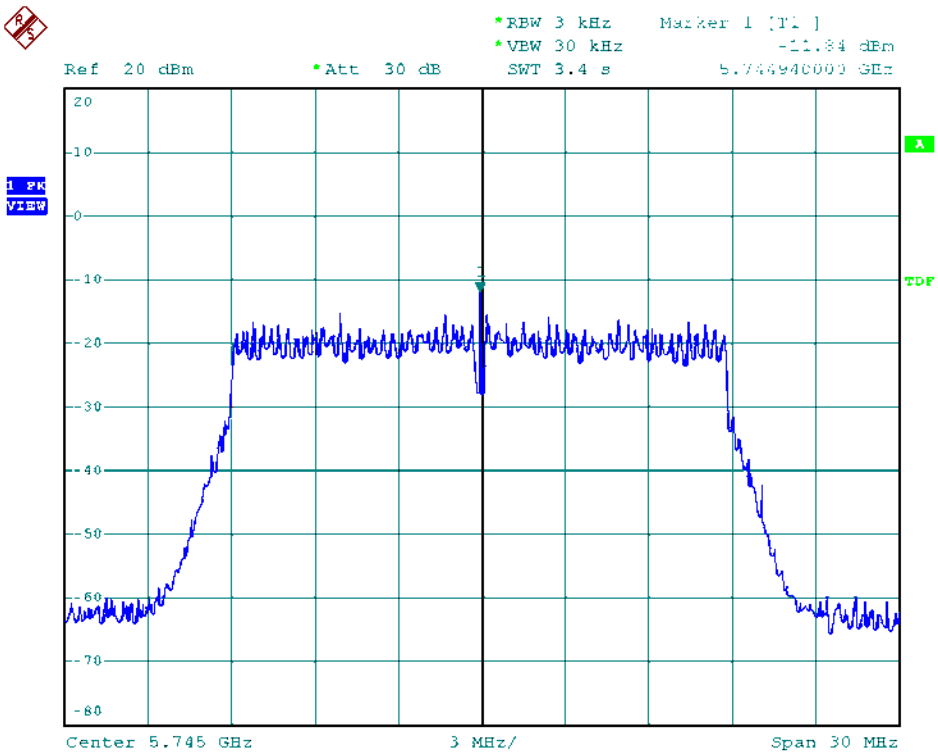
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 149



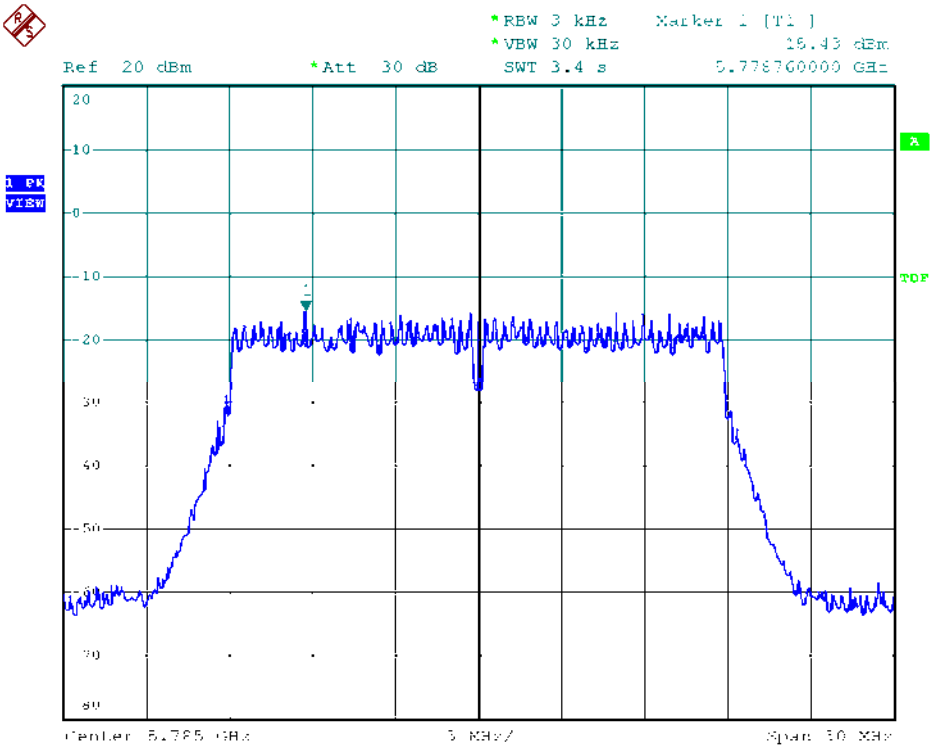

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 149



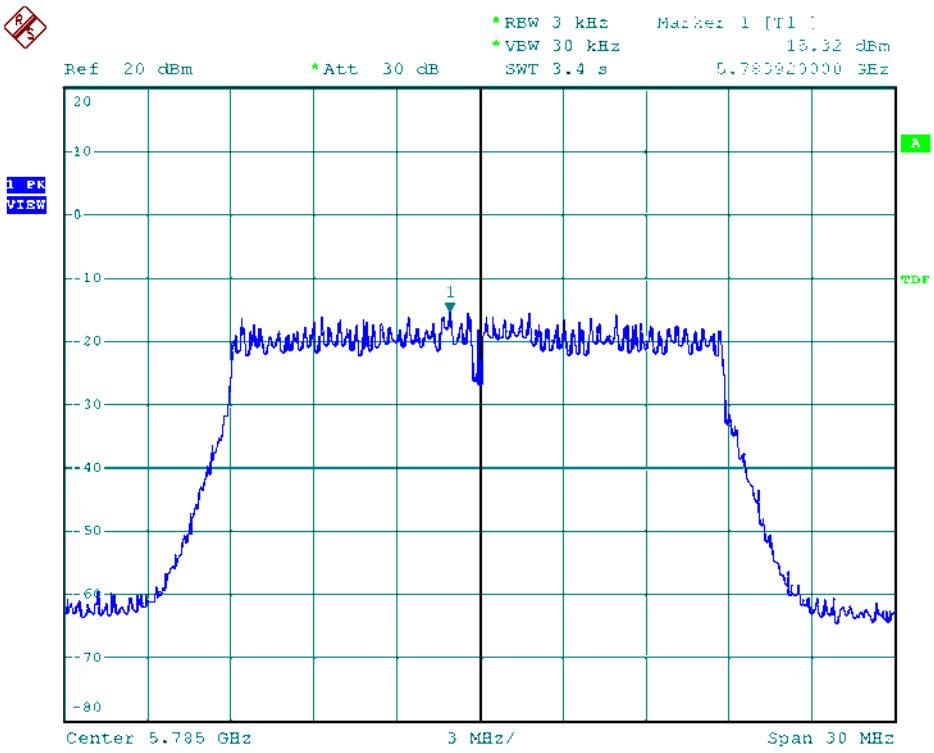
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 149



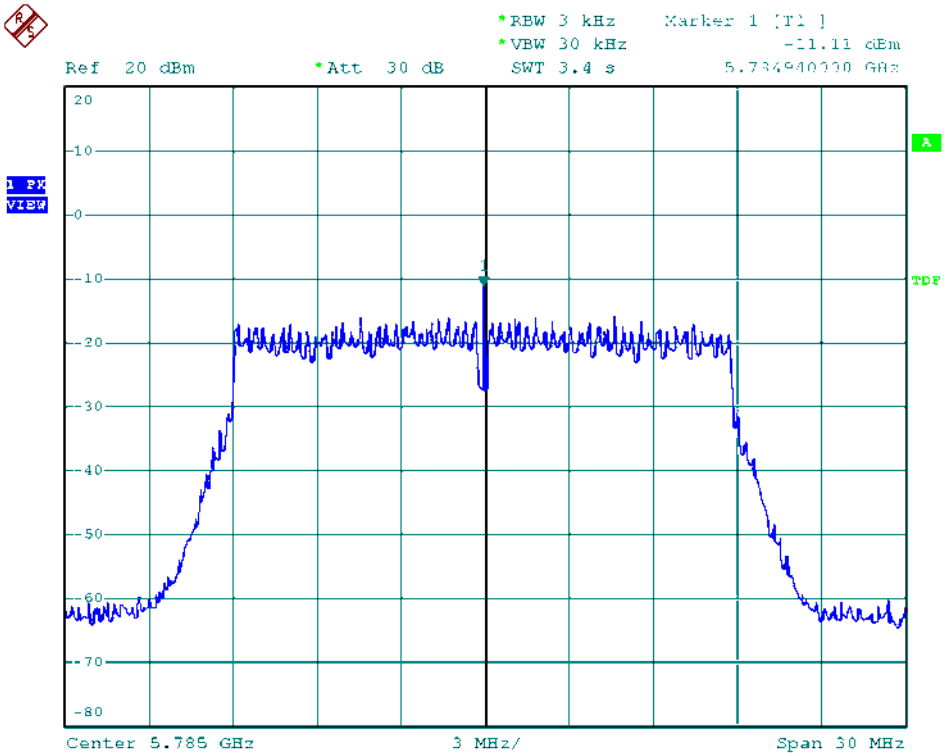

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 157



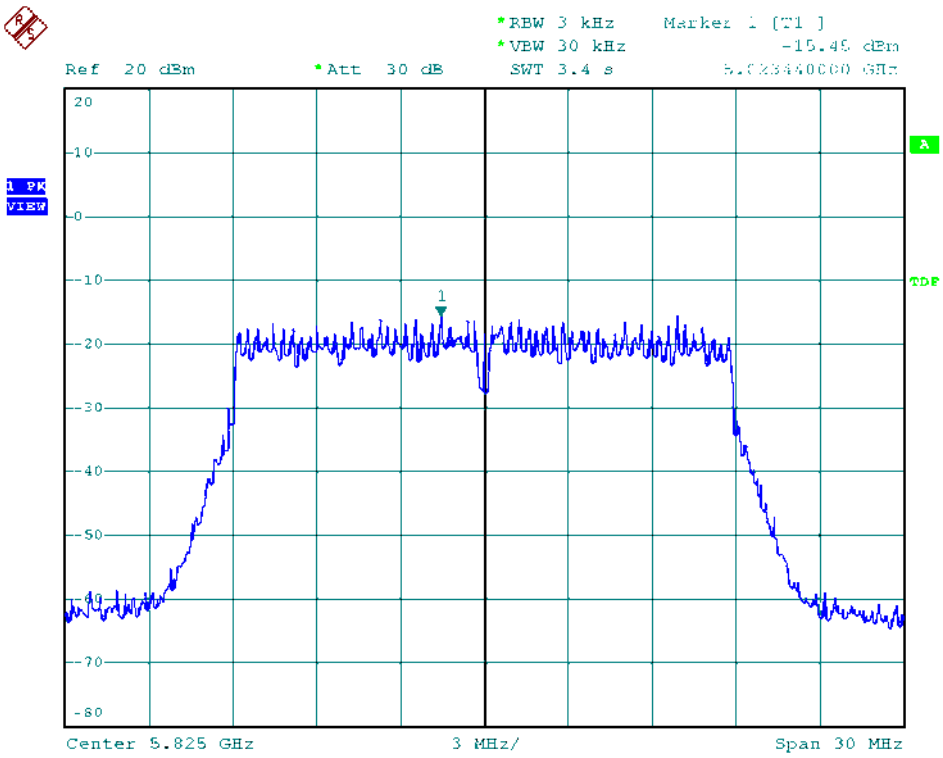
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 157



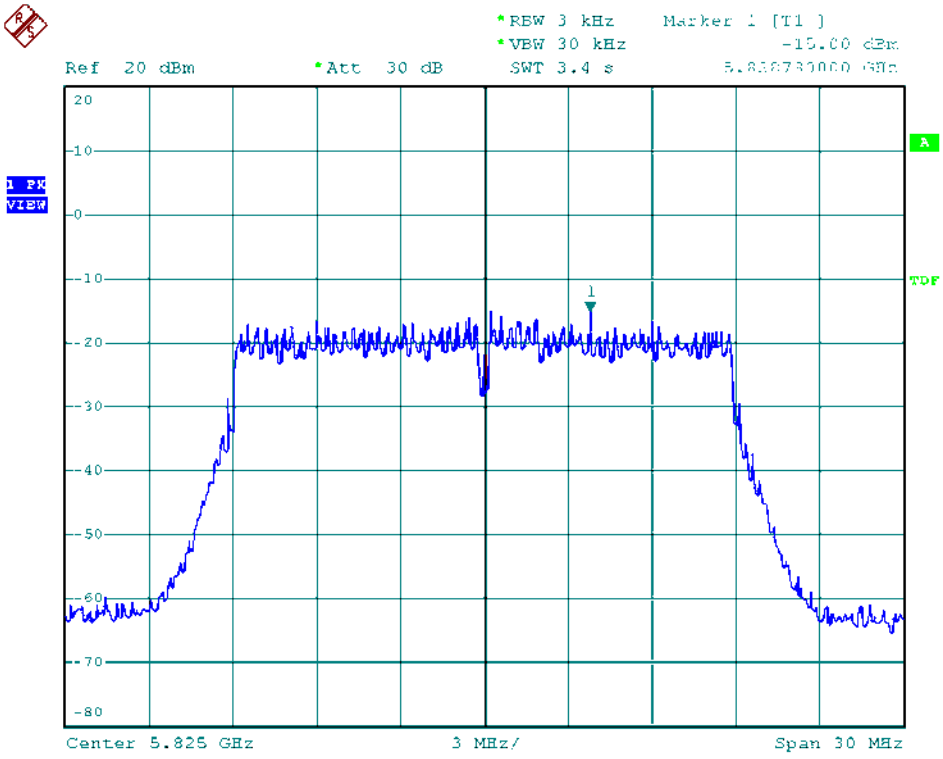

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 157



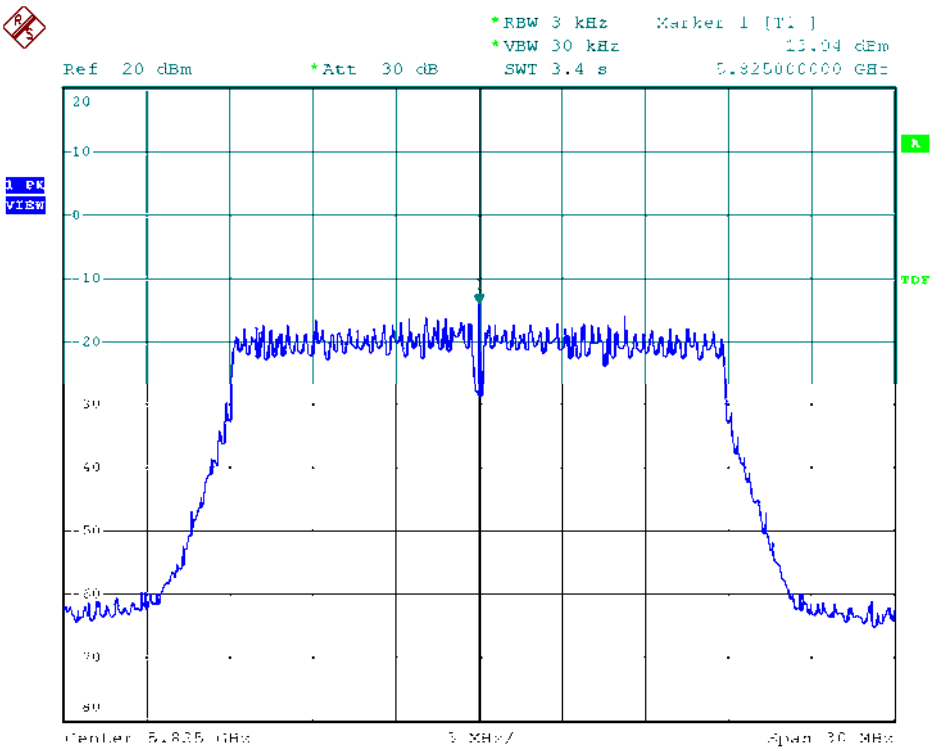
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 165



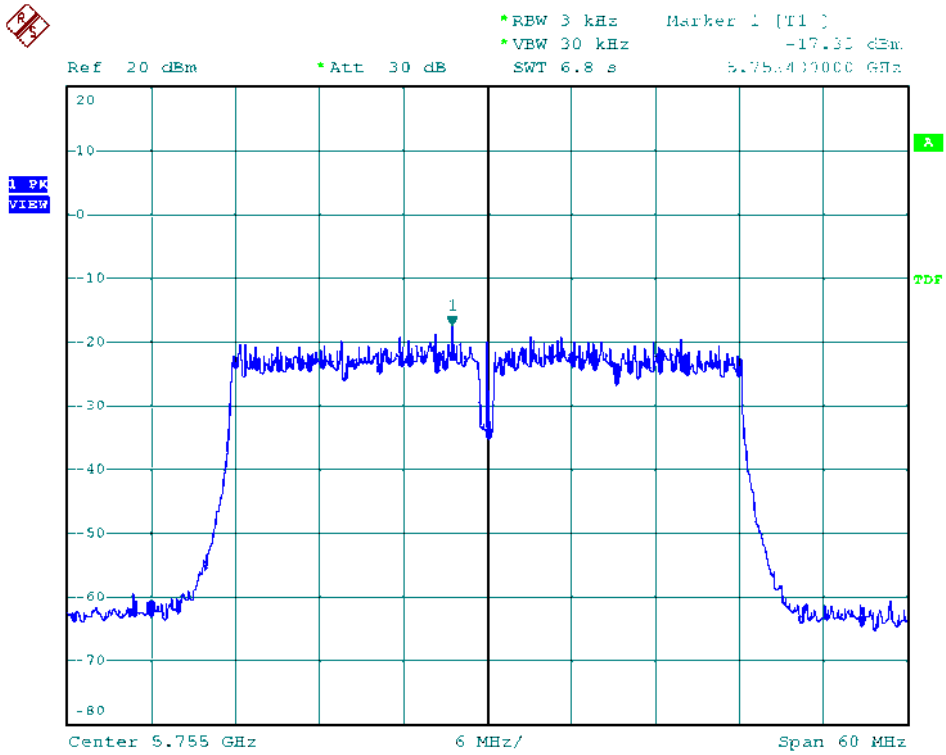

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 165



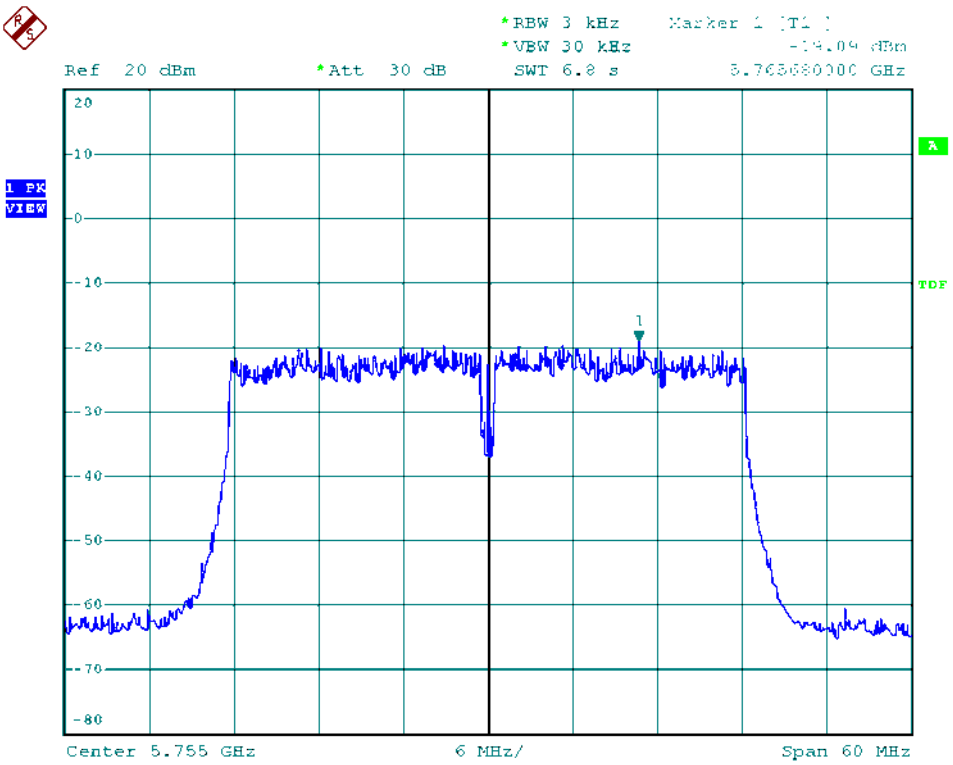
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 165



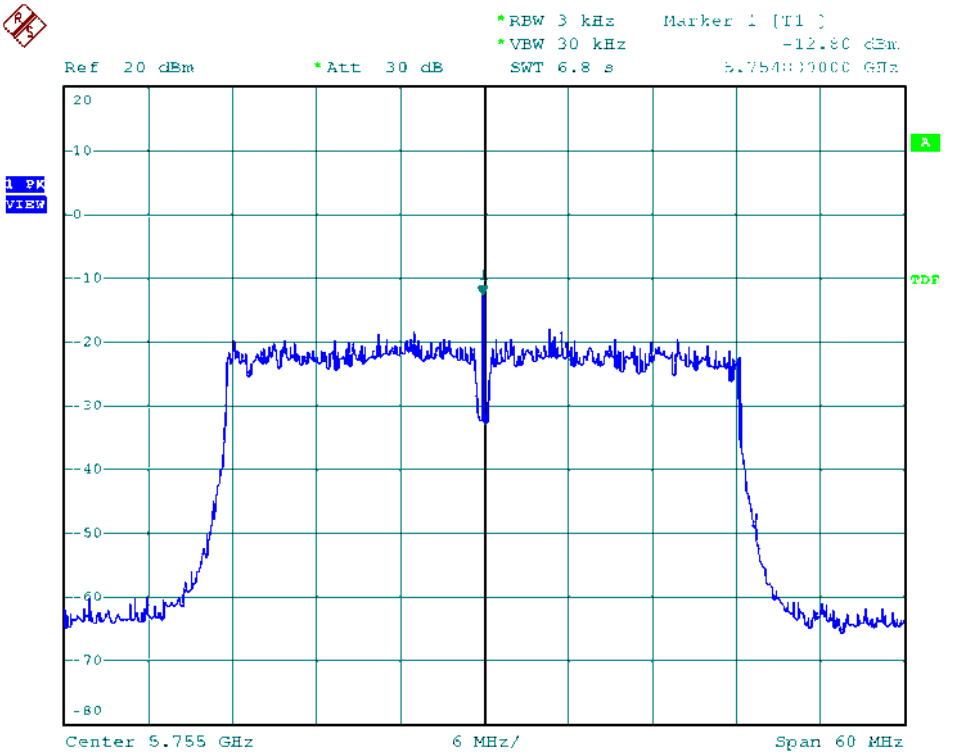

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT R
Channel: 151



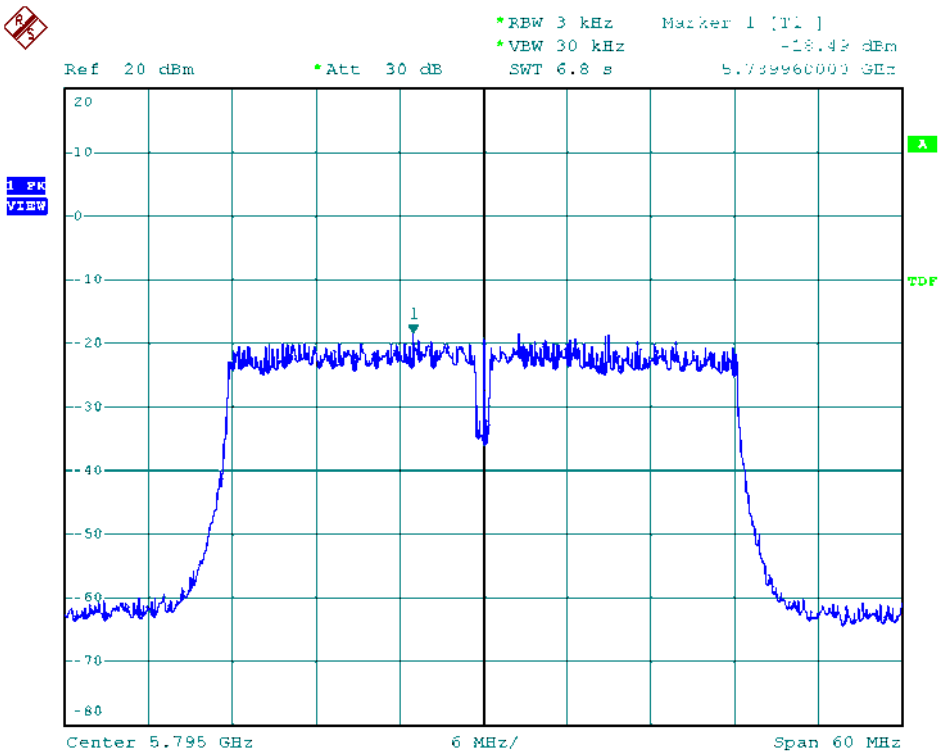
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT M
Channel: 151



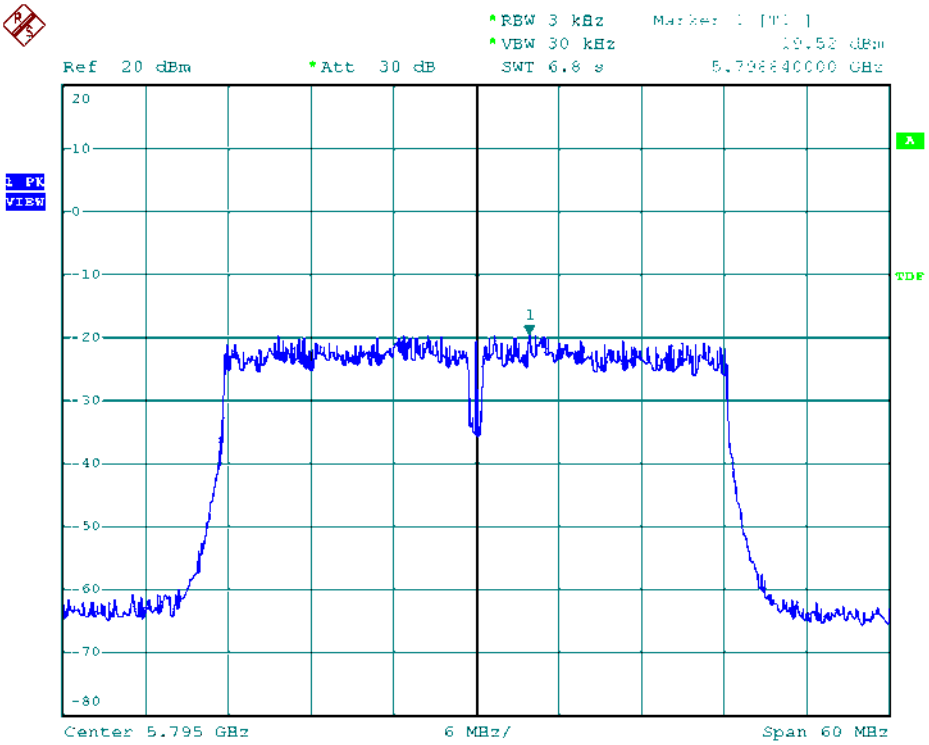

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT L
Channel: 151



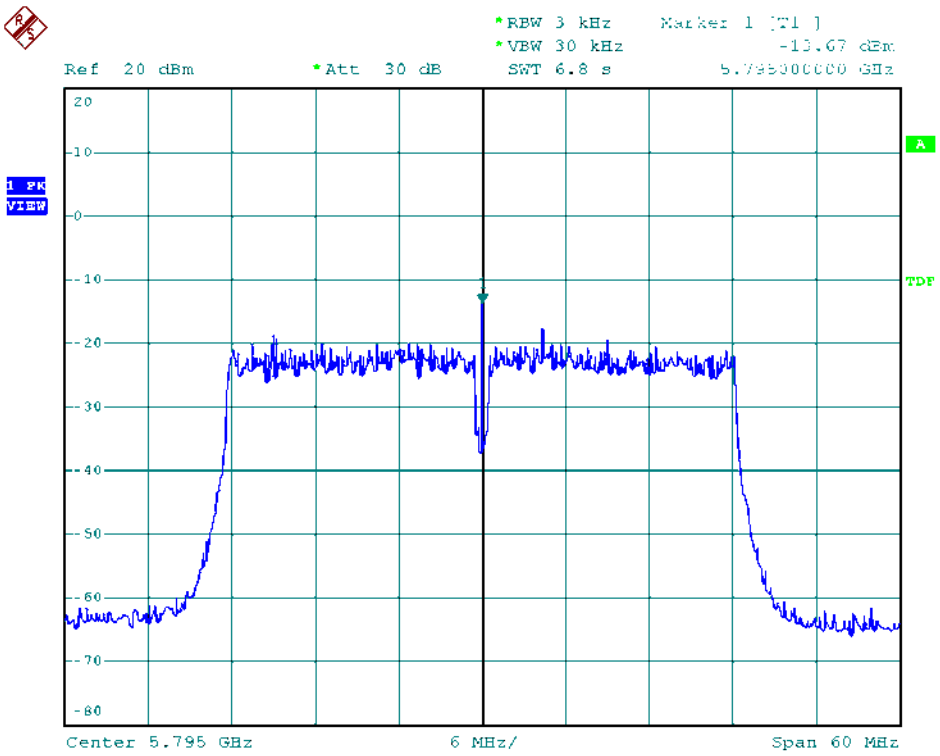
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT R
Channel: 159



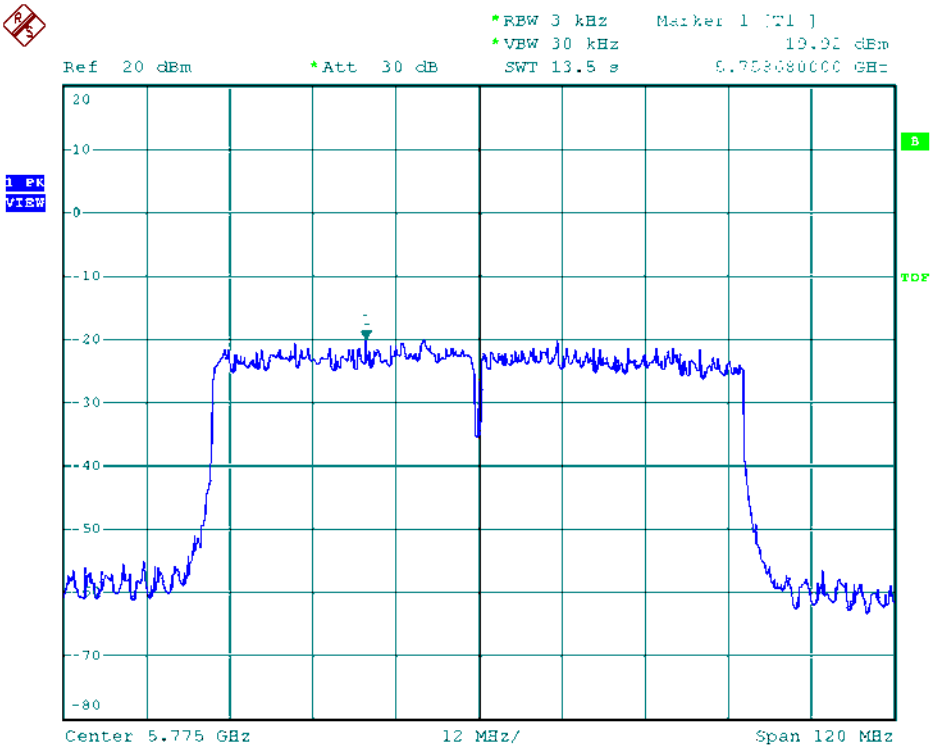

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT M
Channel: 159



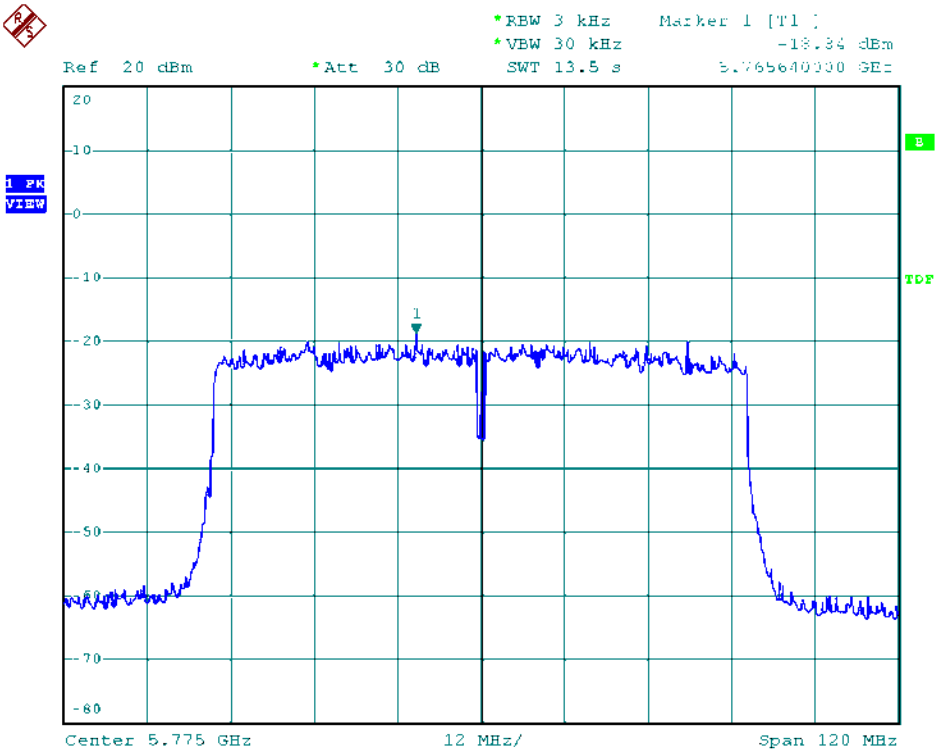
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT L
Channel: 159



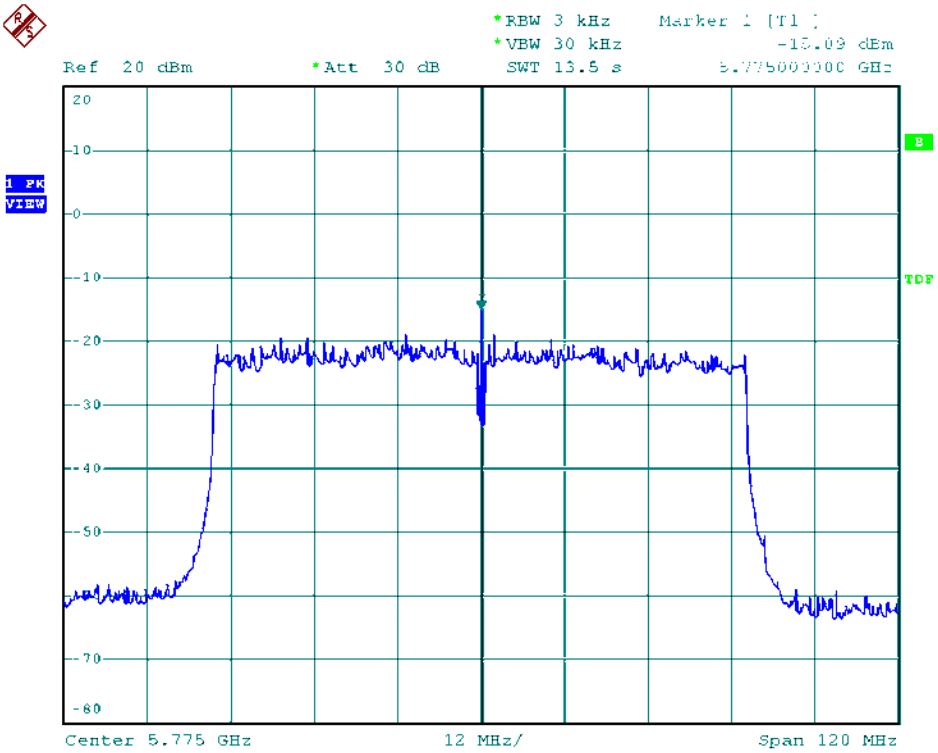

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R
Channel: 155



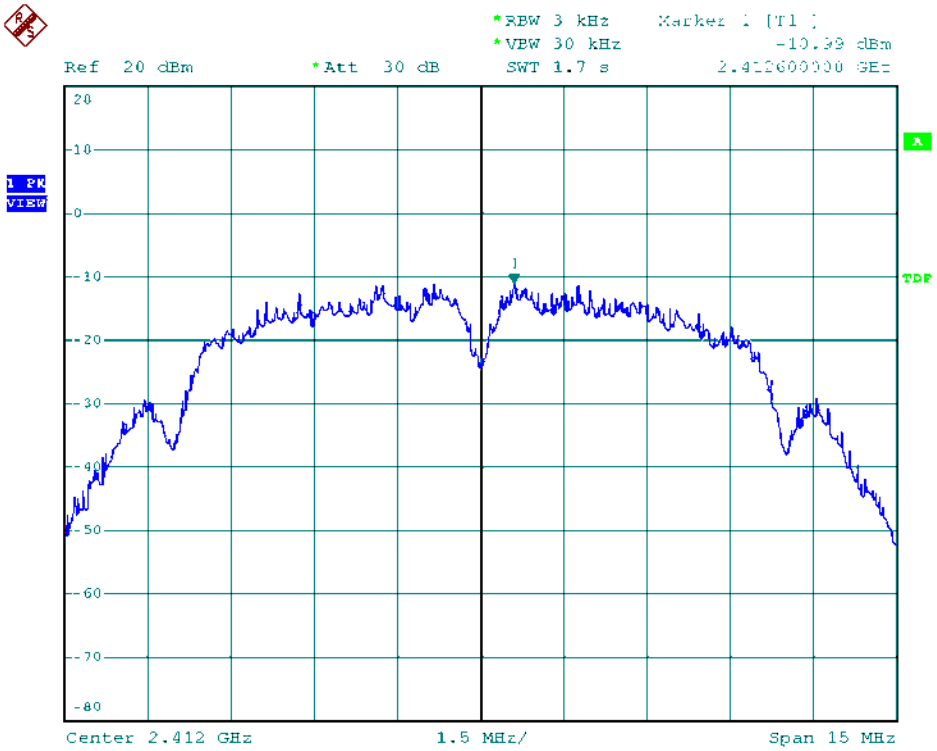
Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M
Channel: 155



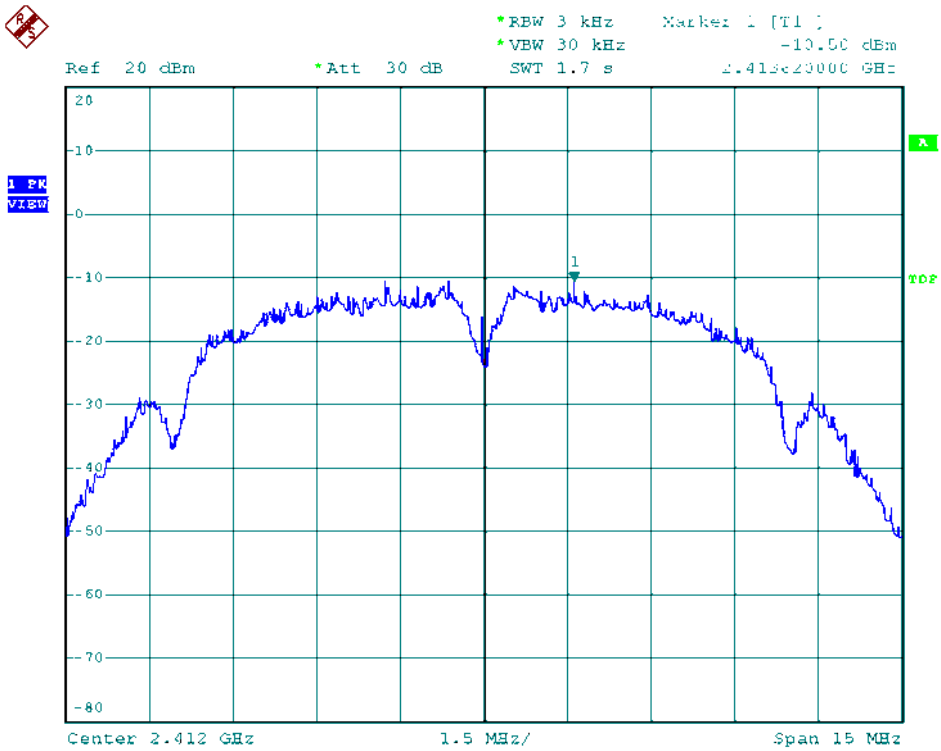

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R
Channel: 155



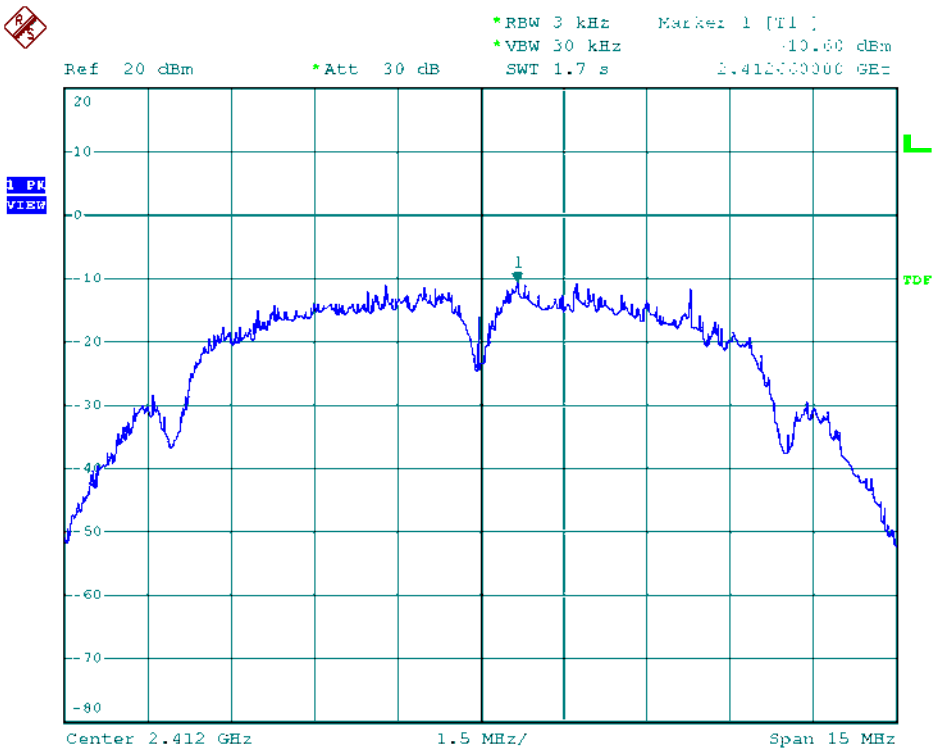
Model: UAP-AC Outdoor
Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 01



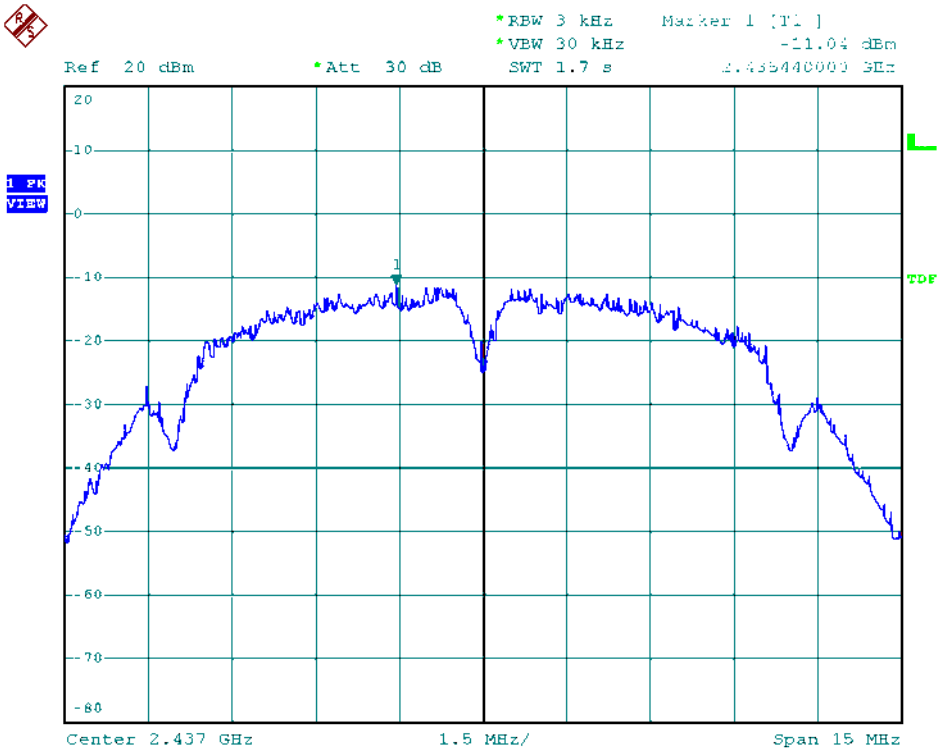

Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 01



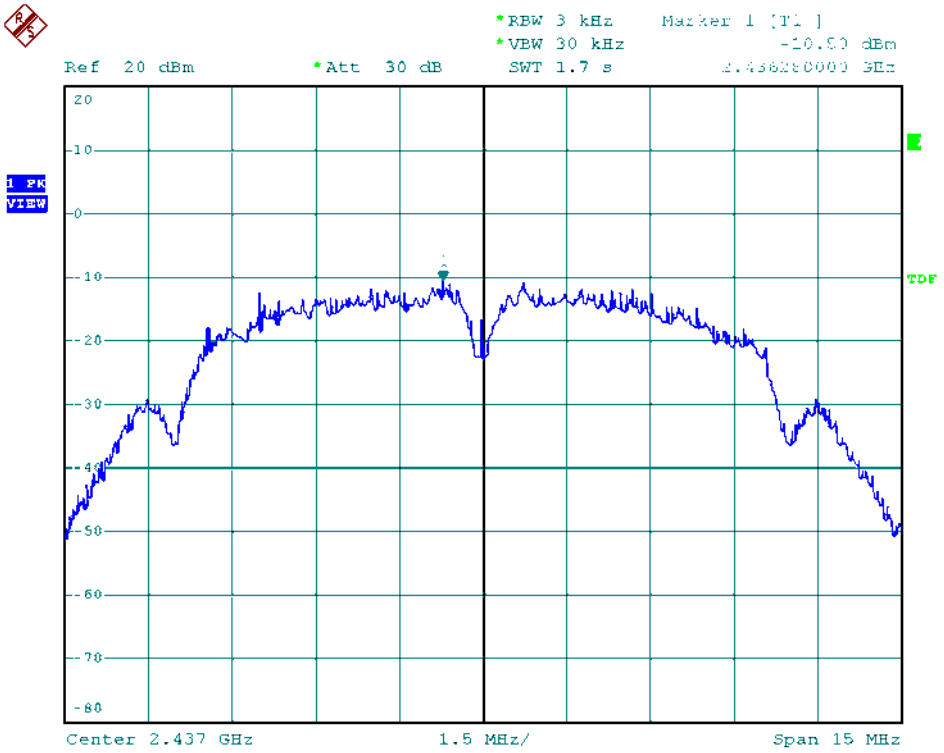
Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 01



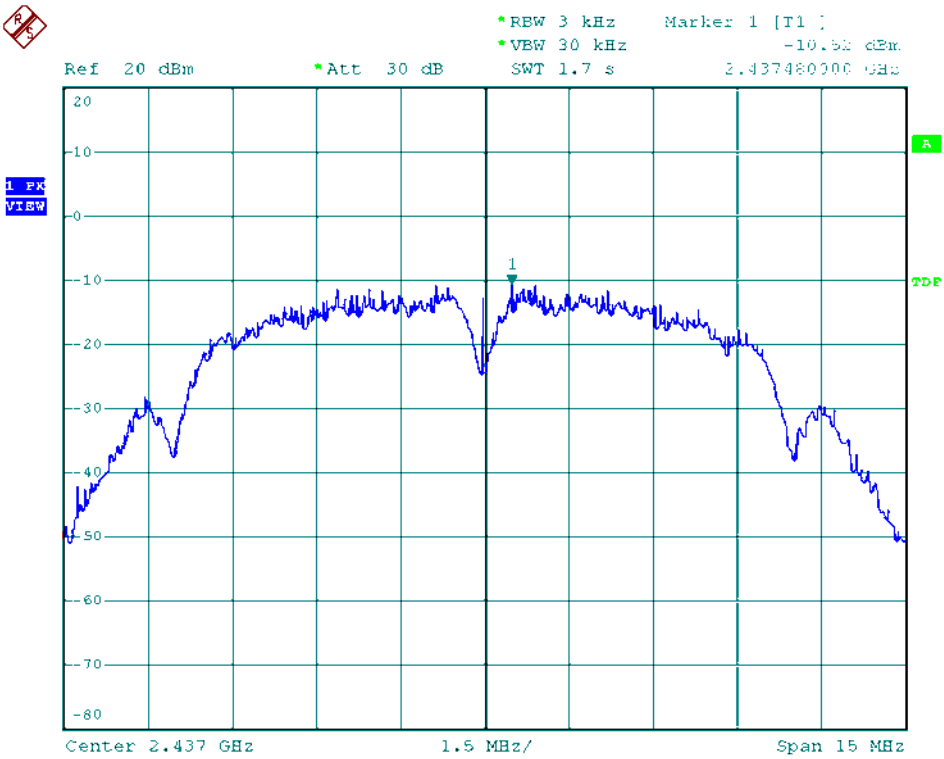

Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 06



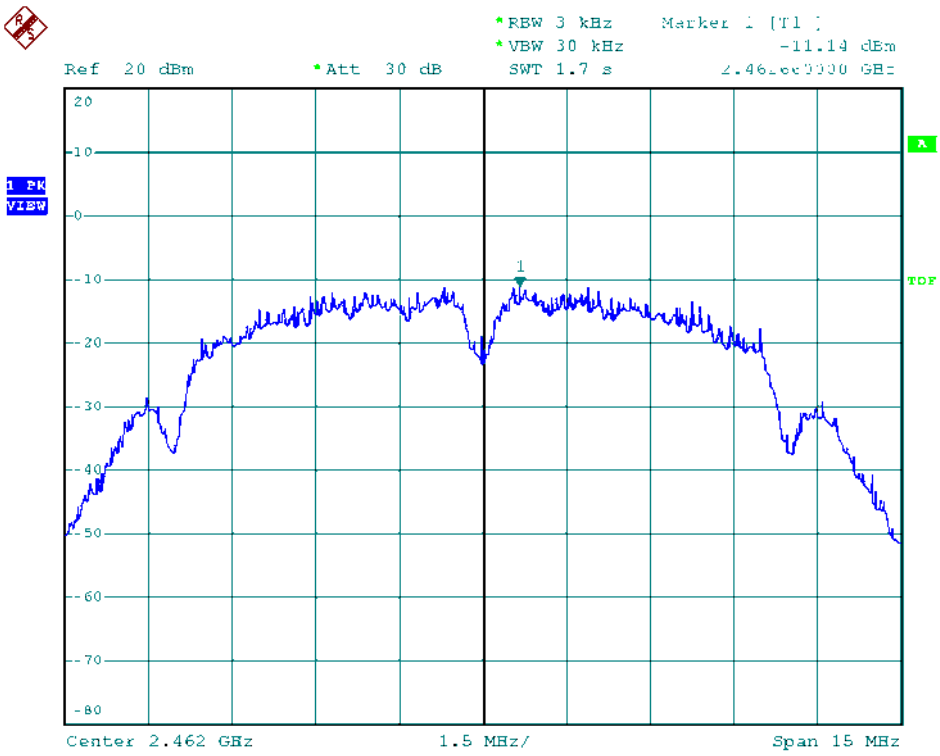
Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 06



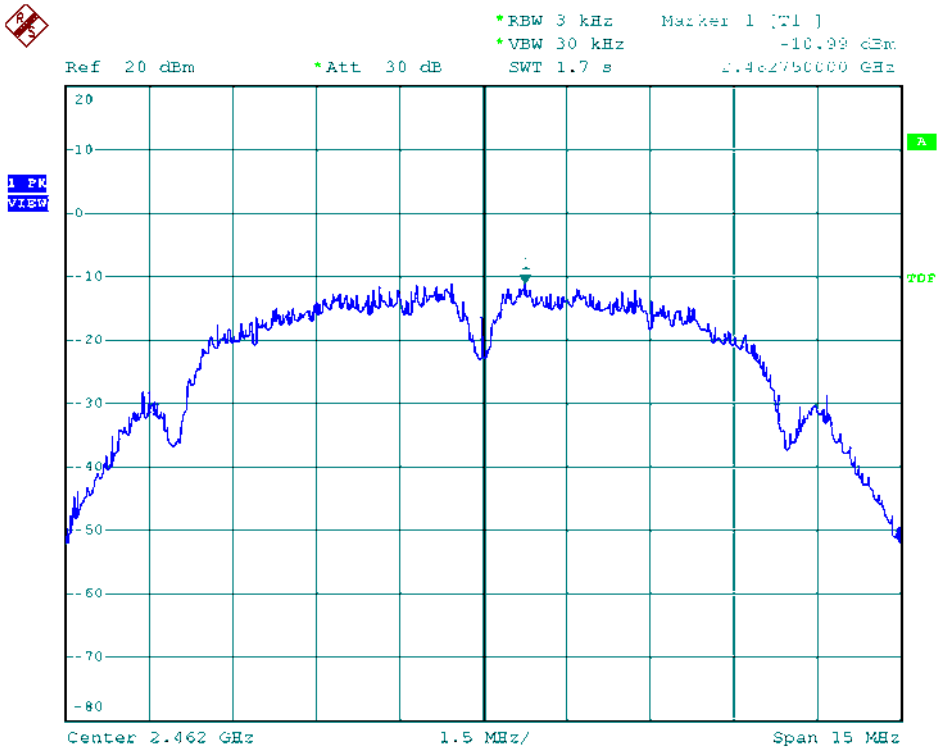

Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 06



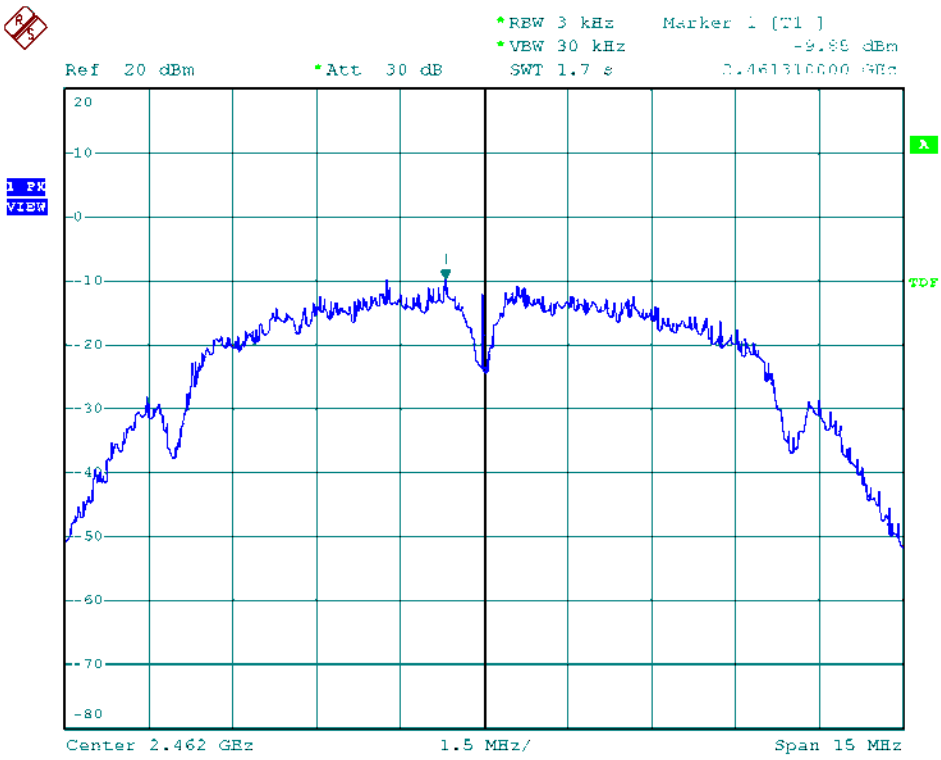
Modulation Standard: 802.11b (1Mbps), ANT R
Channel: 11



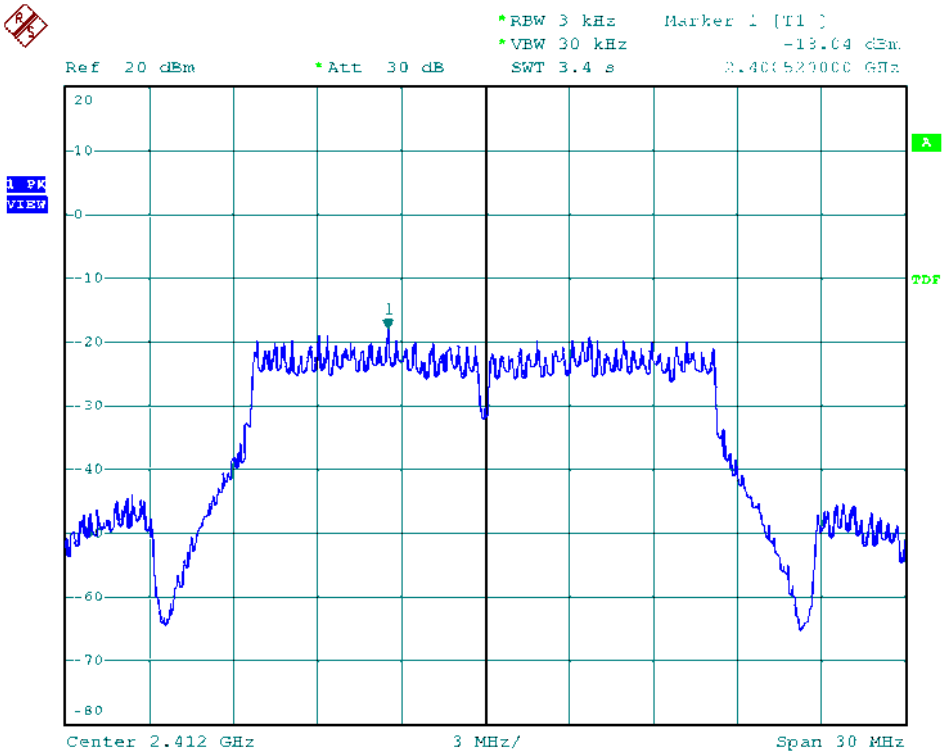

Modulation Standard: 802.11b (1Mbps), ANT M
Channel: 11



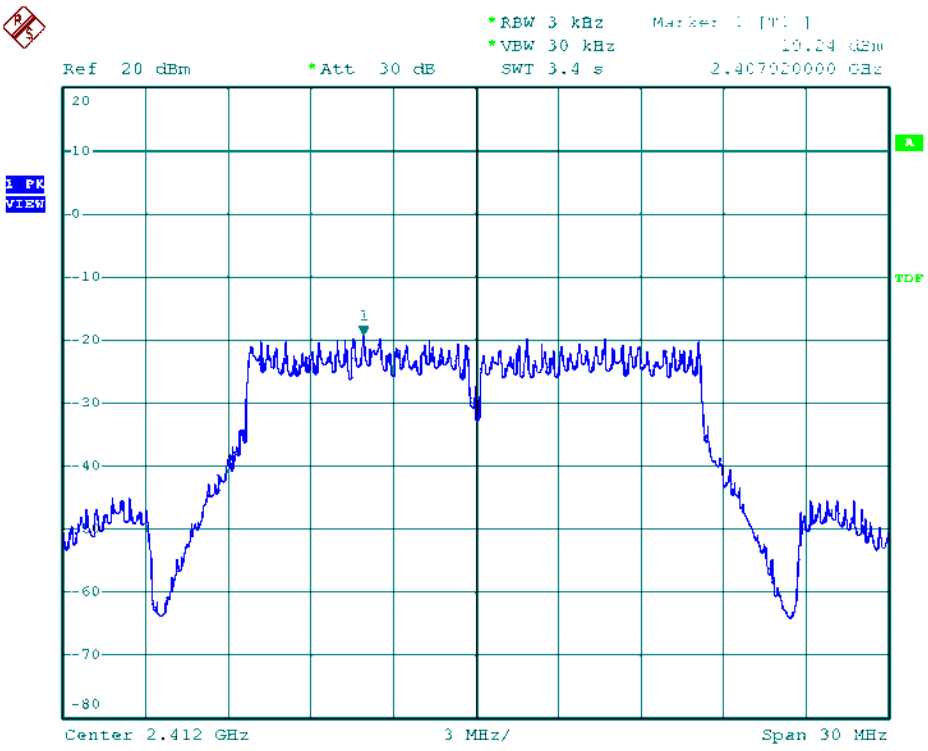
Modulation Standard: 802.11b (1Mbps), ANT L
Channel: 11



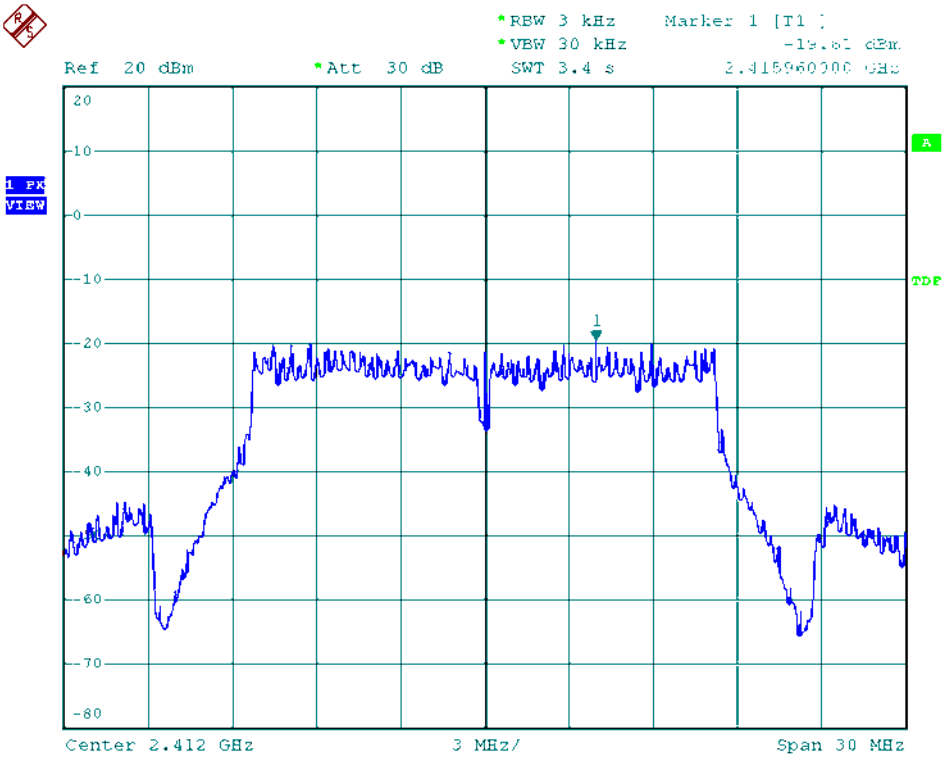

Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 01



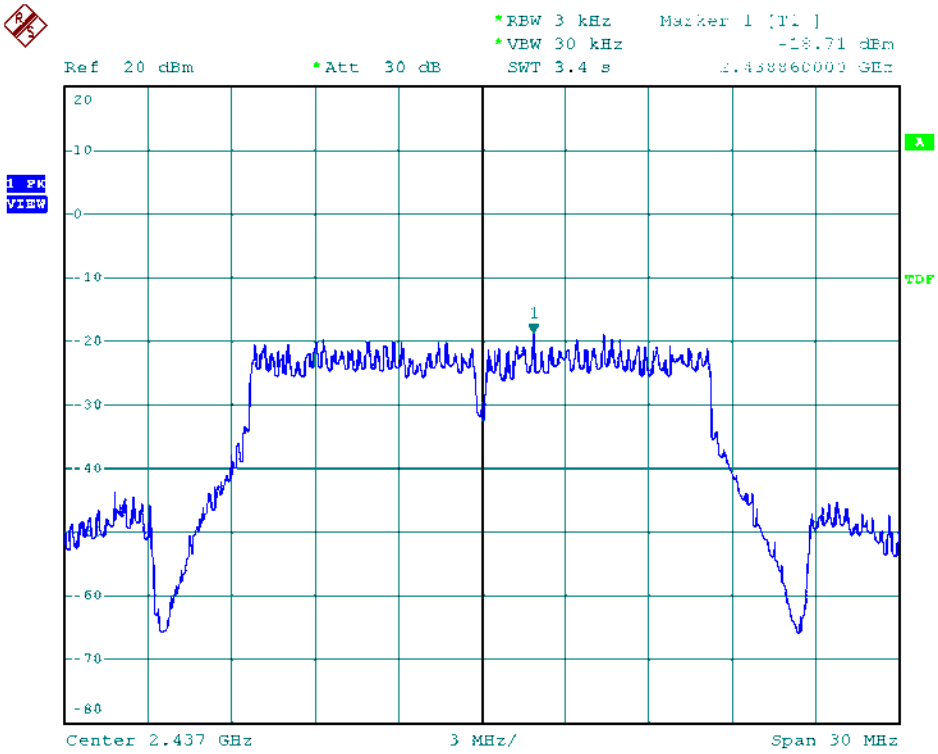
Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 01



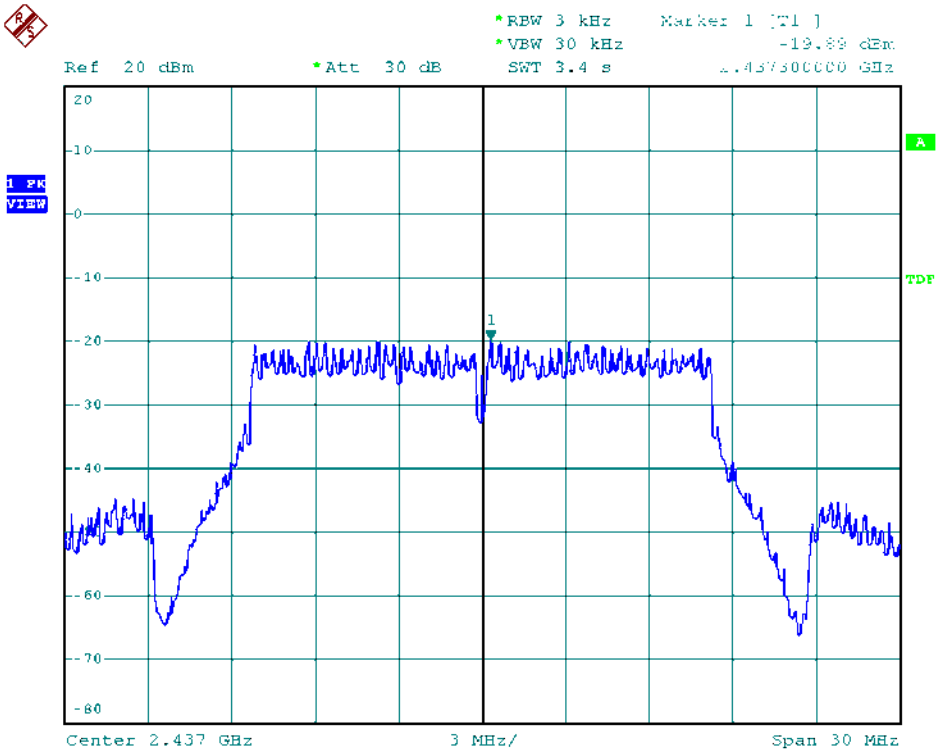

Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 01



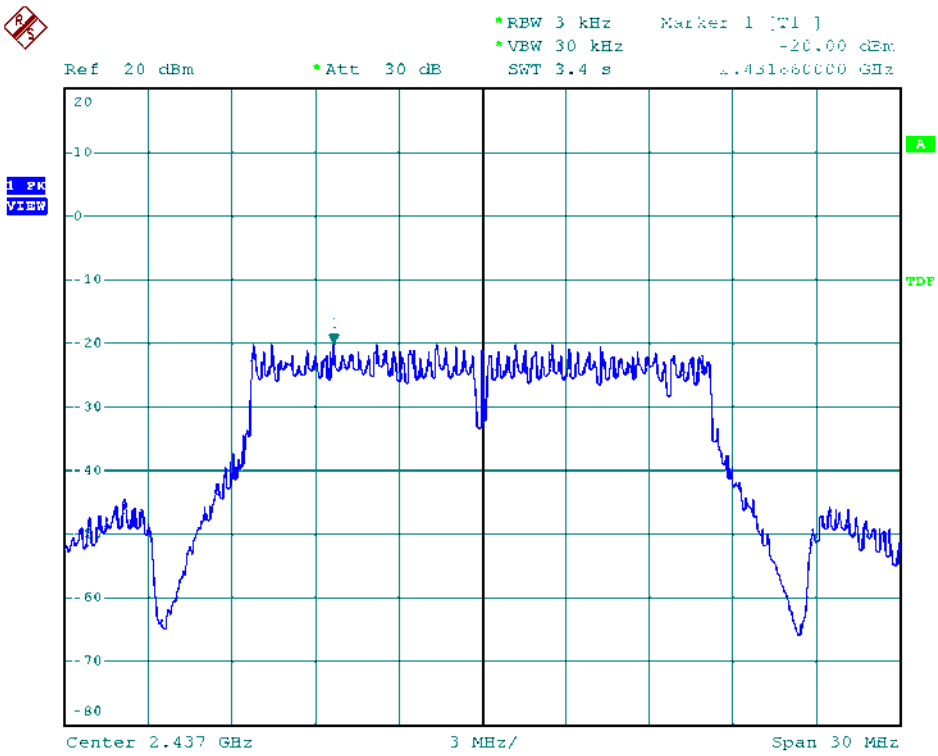
Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 06



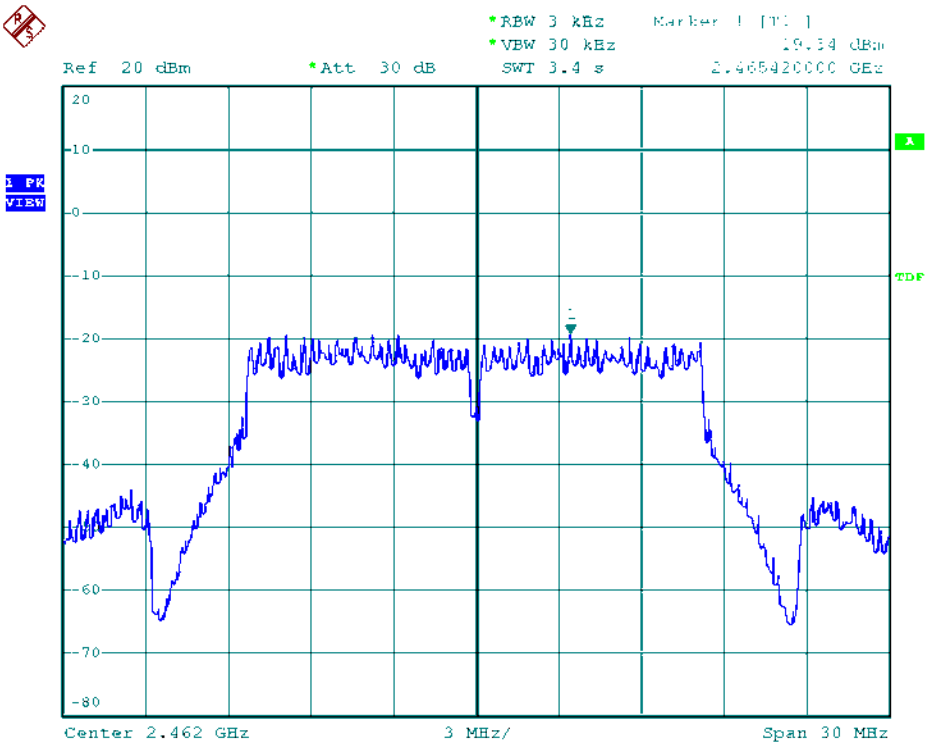

Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 06



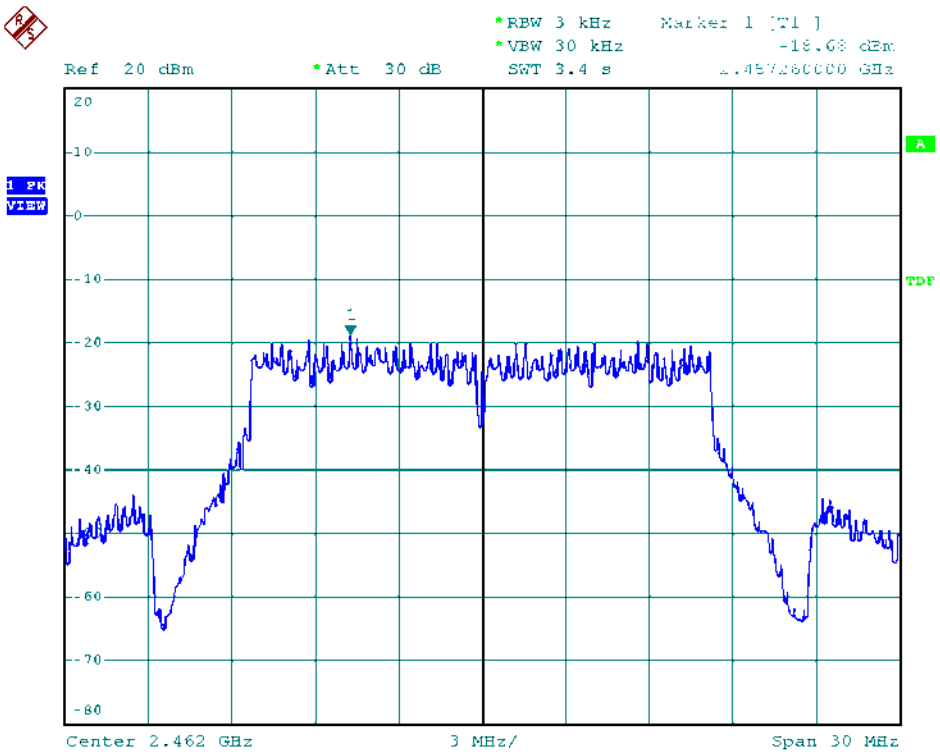
Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 06



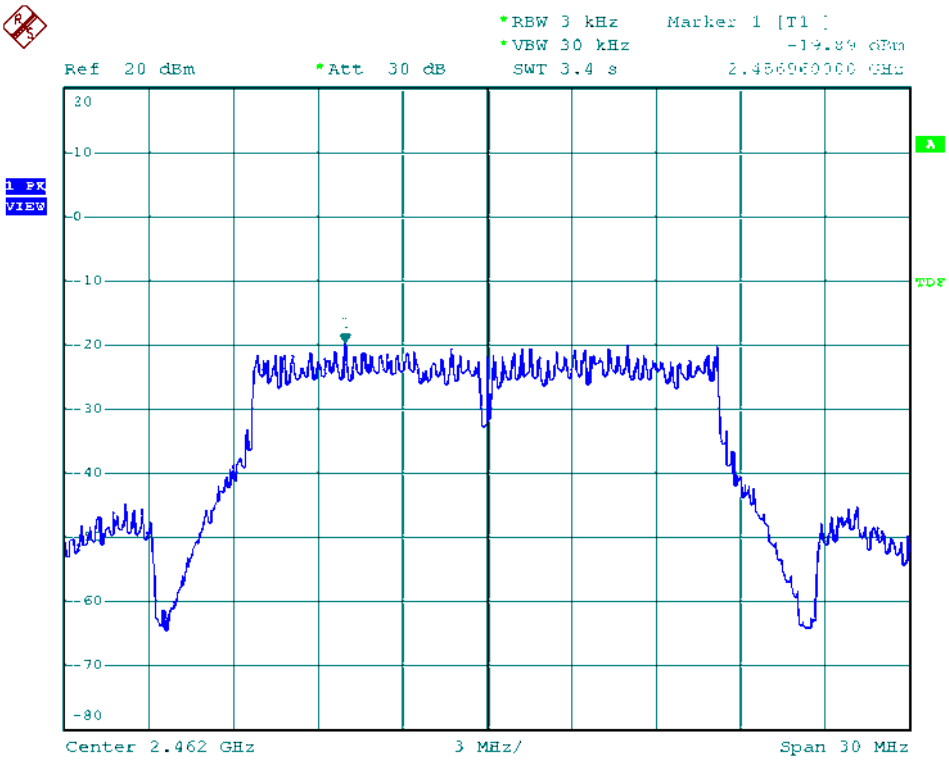

Modulation Standard: 802.11g (6Mbps), ANT R
Channel: 11



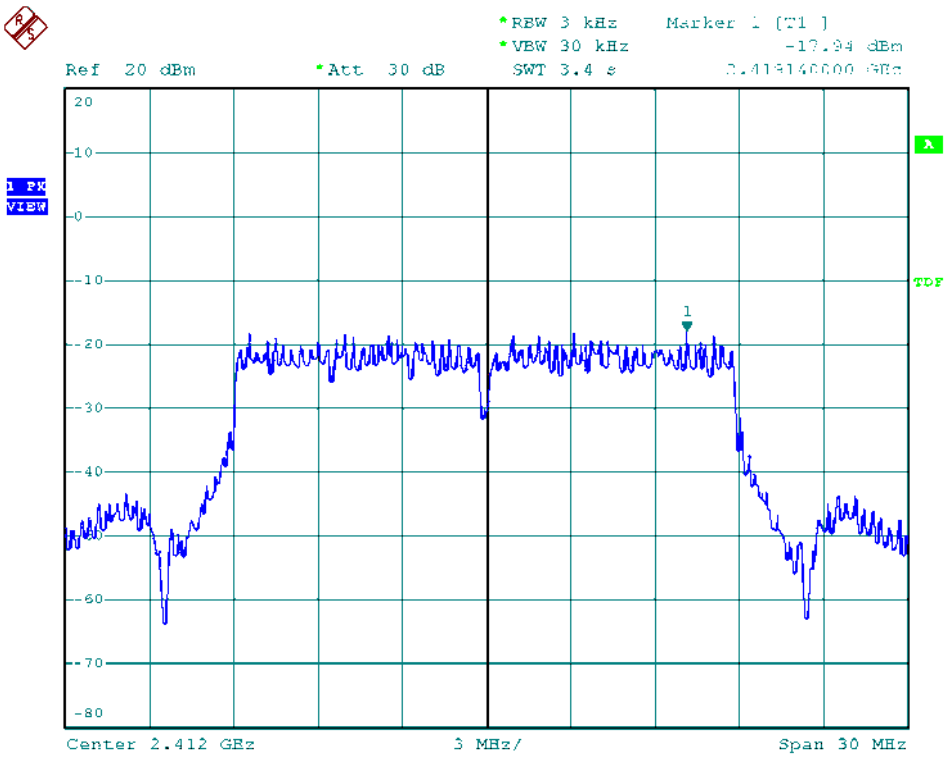
Modulation Standard: 802.11g (6Mbps), ANT M
Channel: 11



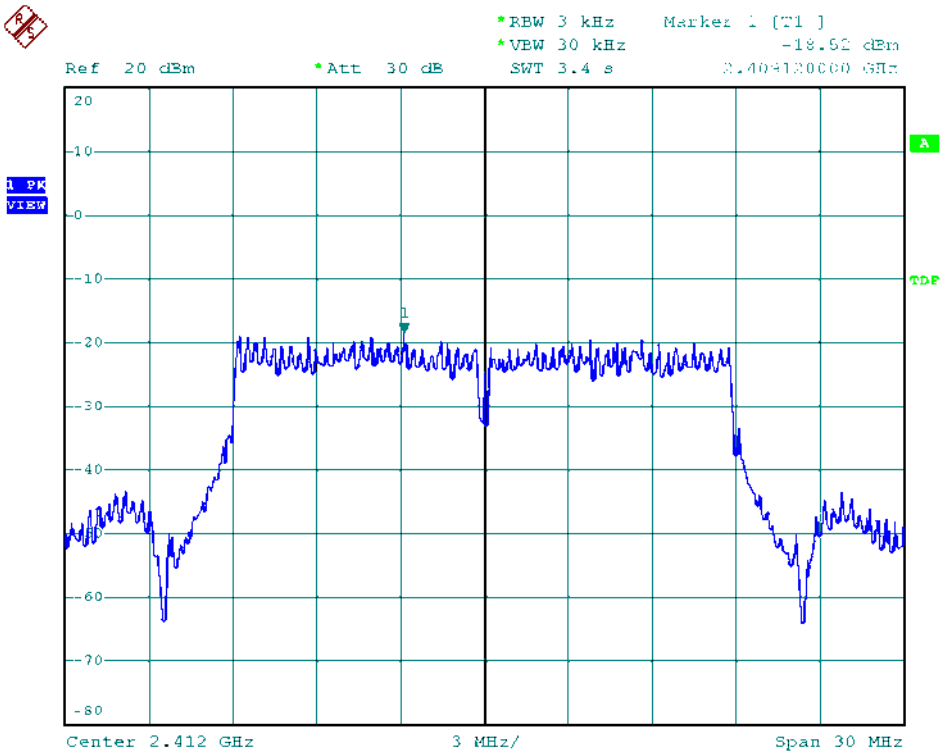

Modulation Standard: 802.11g (6Mbps), ANT L
Channel: 11



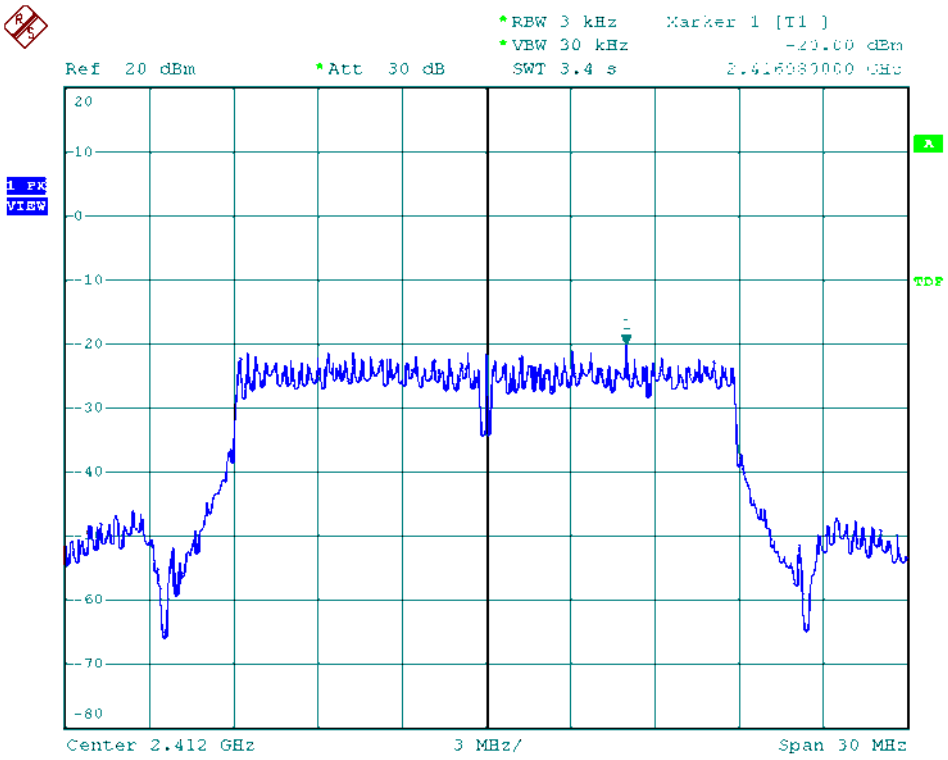
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 01



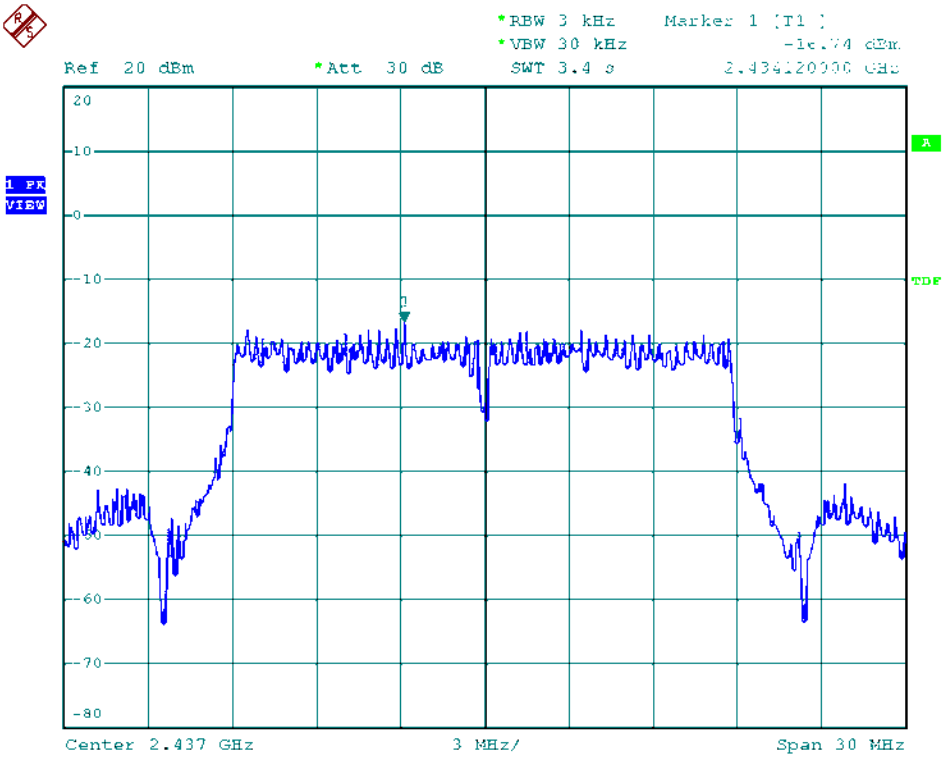

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 01



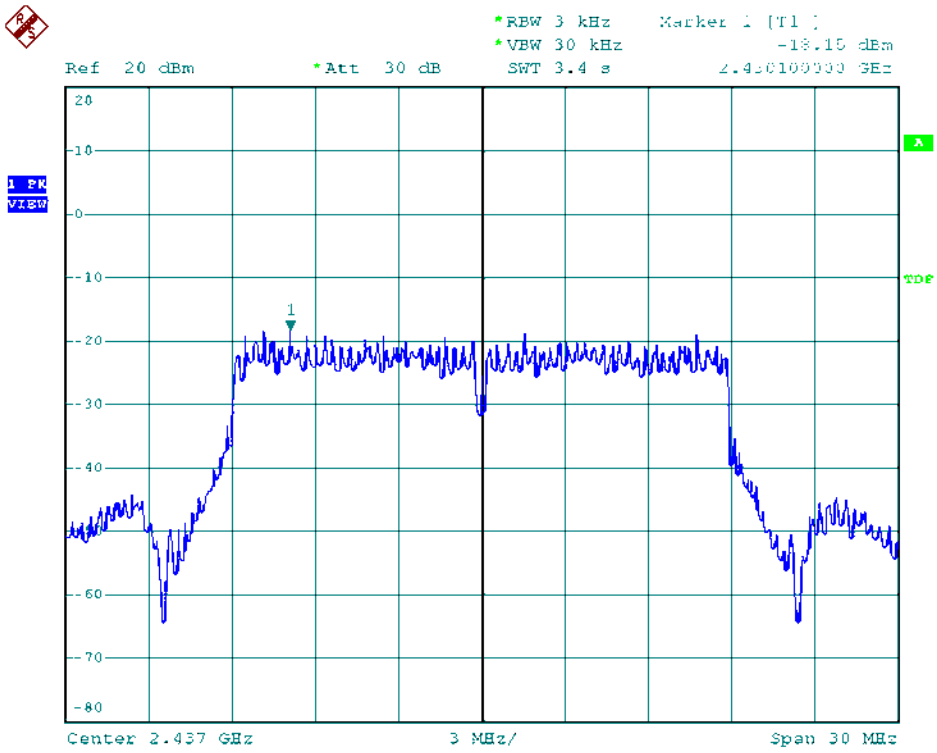
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 01



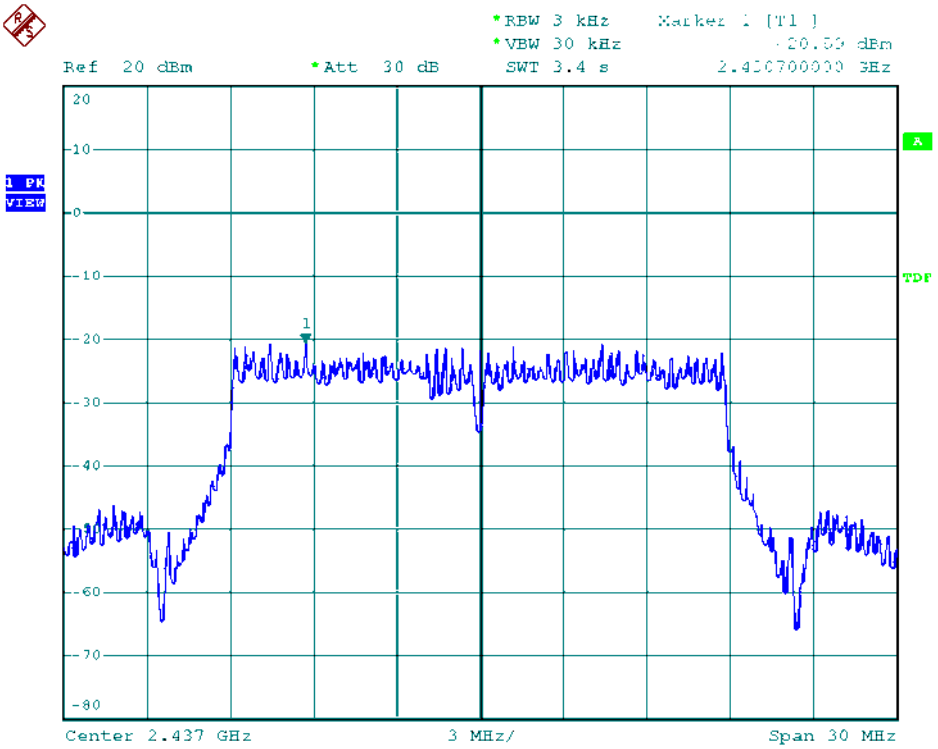

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 06



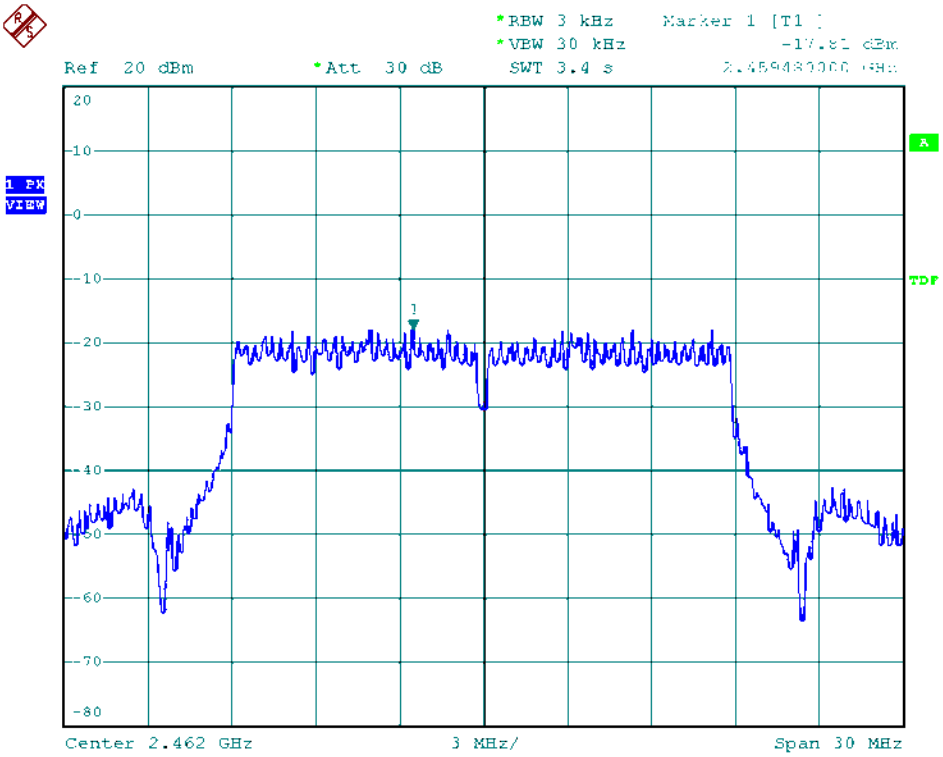
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 06



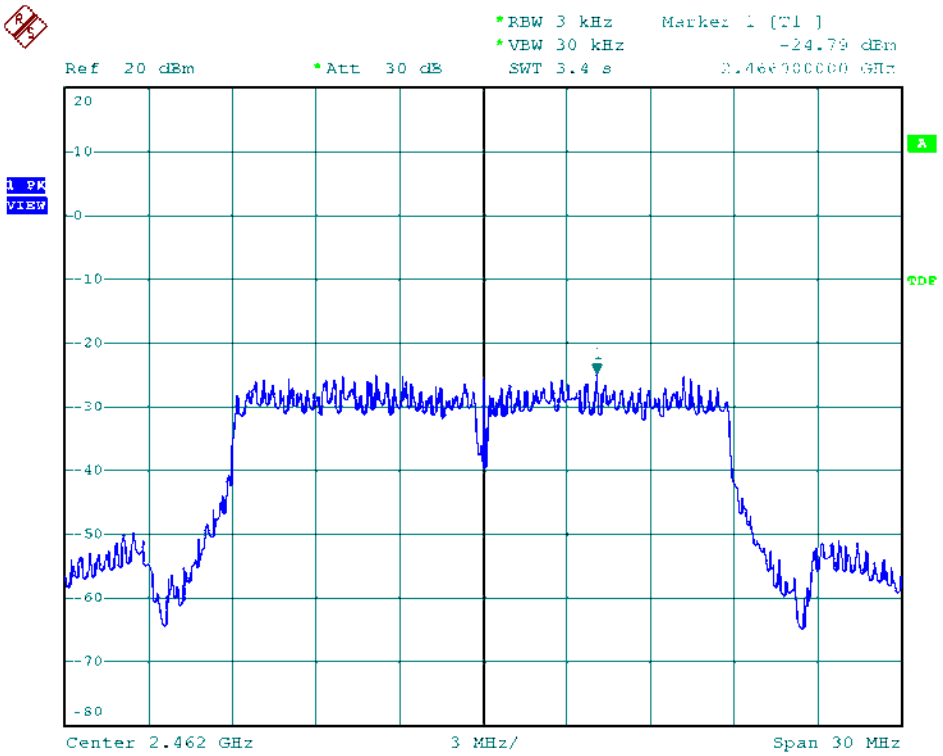

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 06



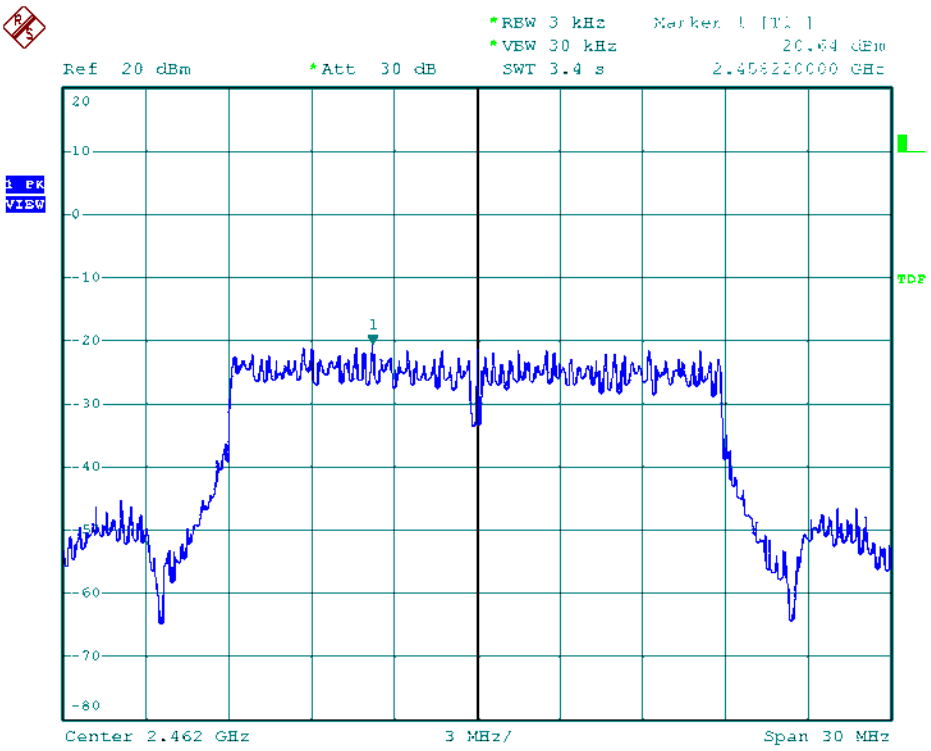
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT R
Channel: 11



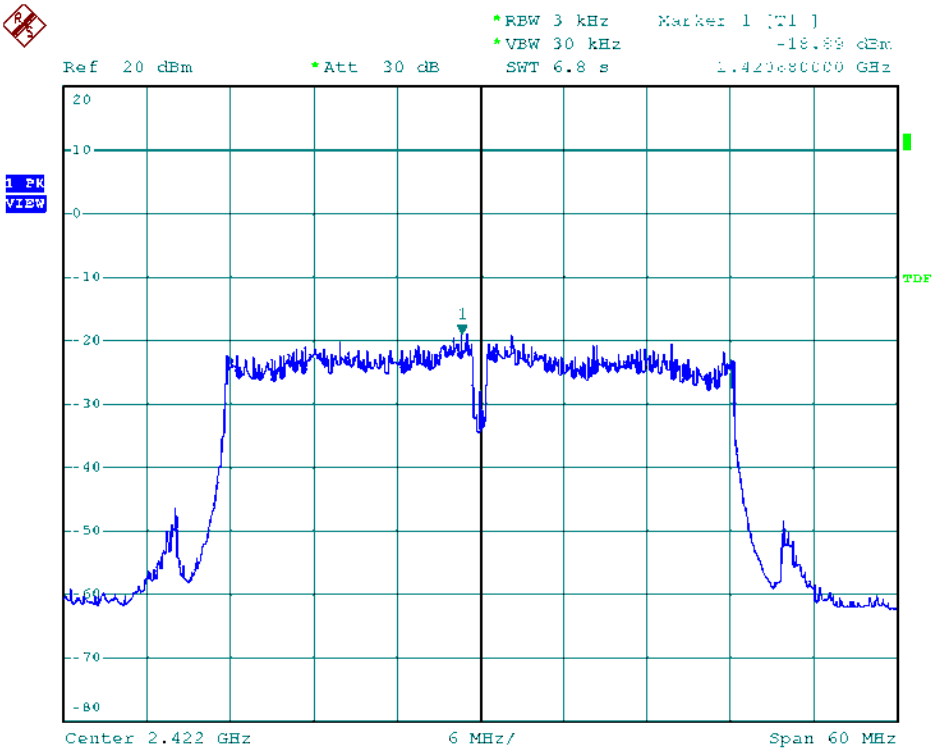

Modulation Standard: 802.11n HT20 (6.5Mbps), ANT M
Channel: 11



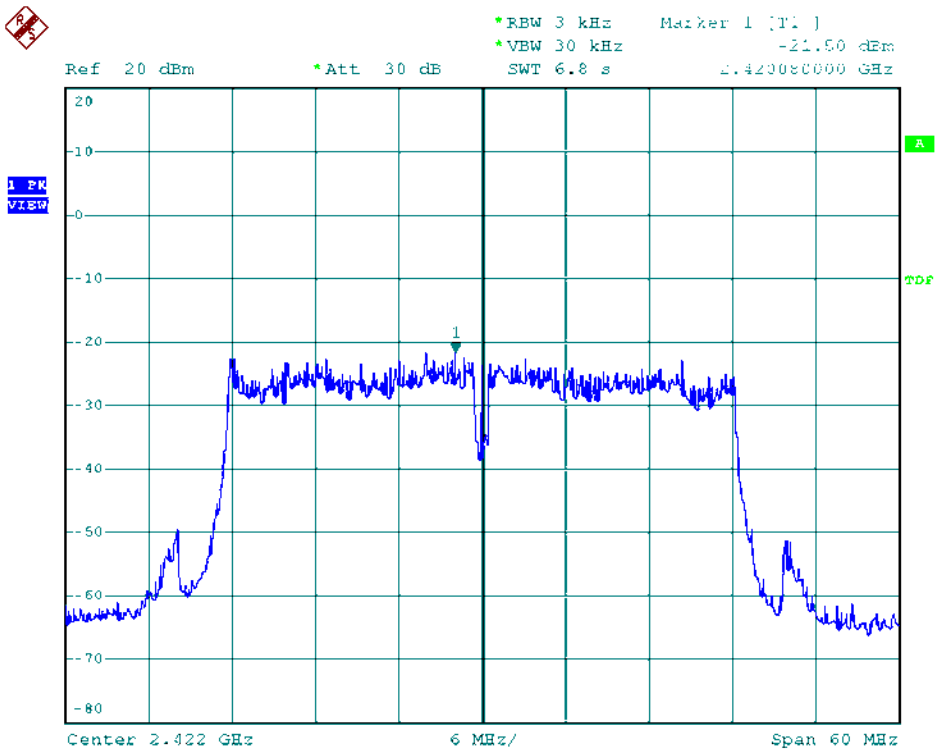
Modulation Standard: 802.11n HT20 (6.5Mbps), ANT L
Channel: 11



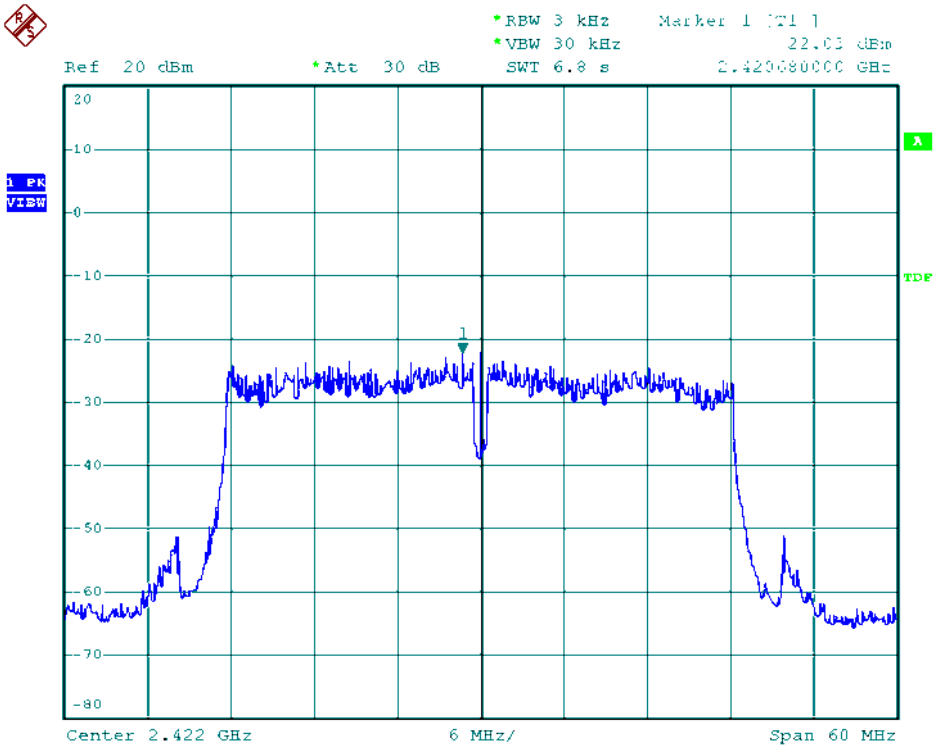

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 03



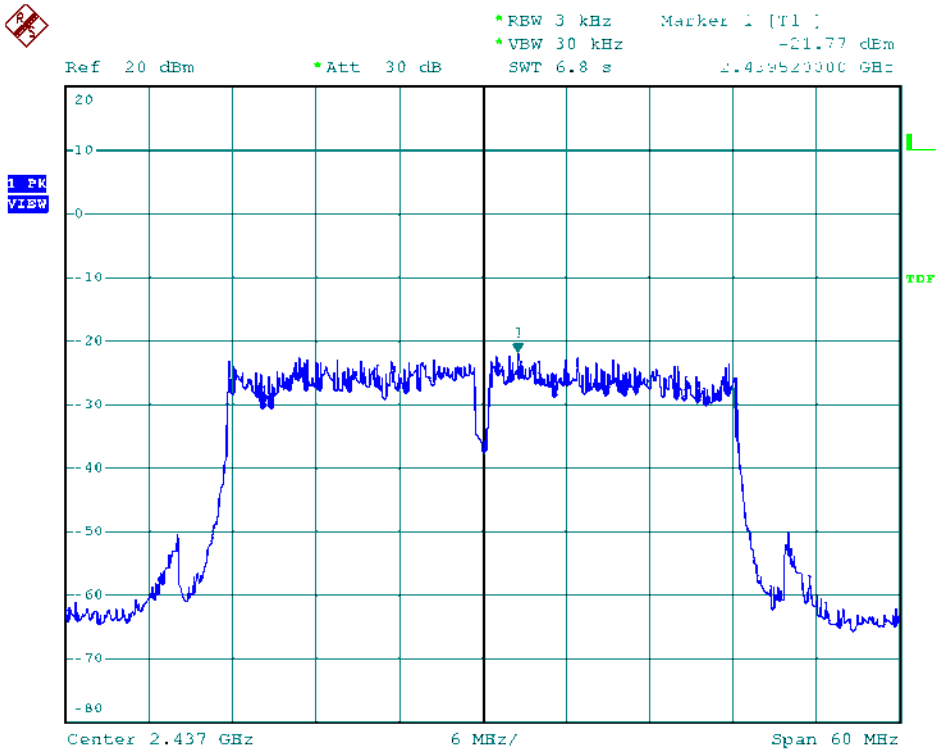
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 03



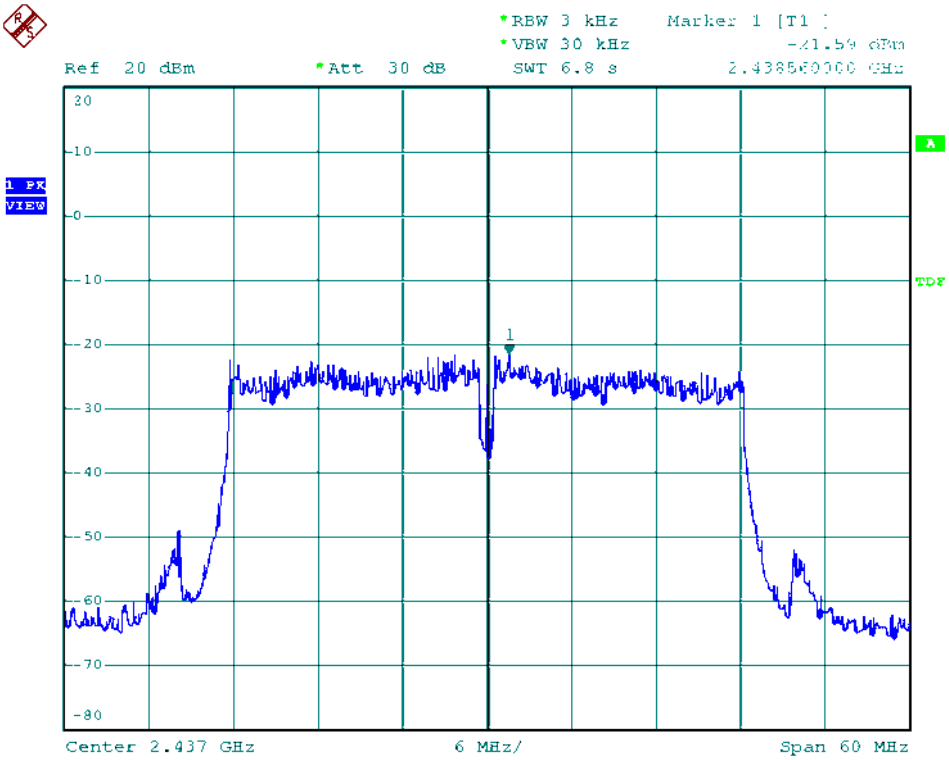

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 03



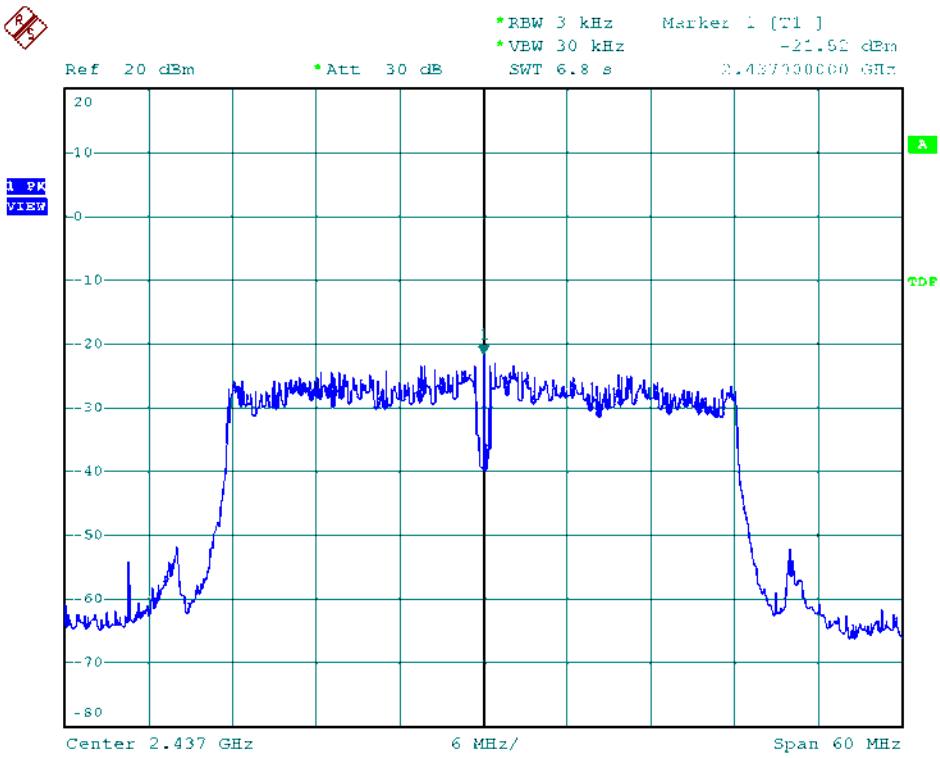
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 06



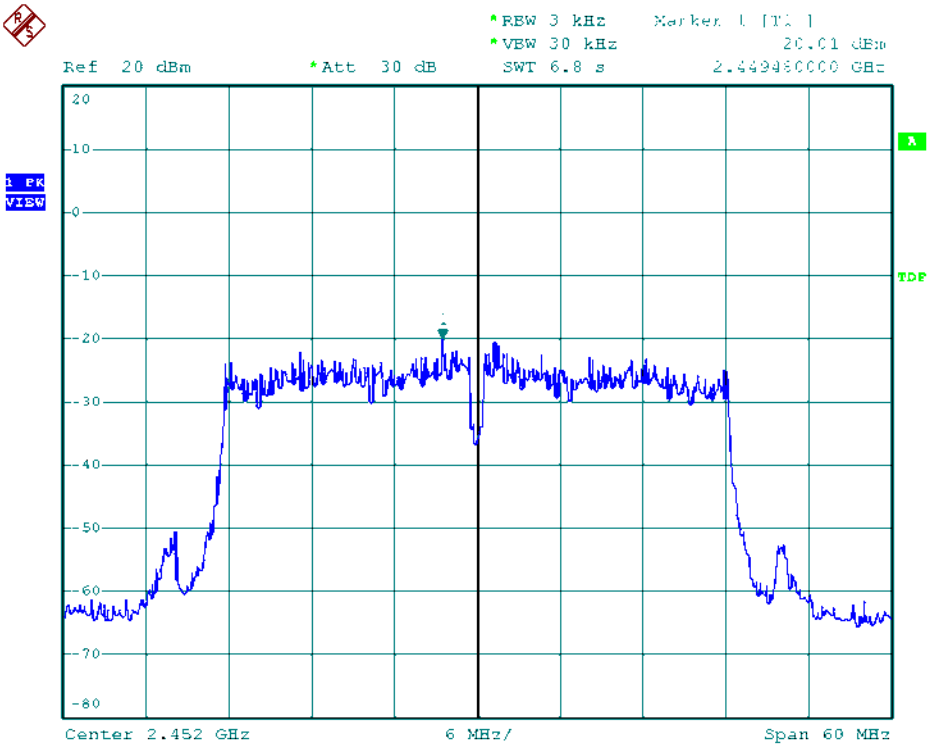

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 06



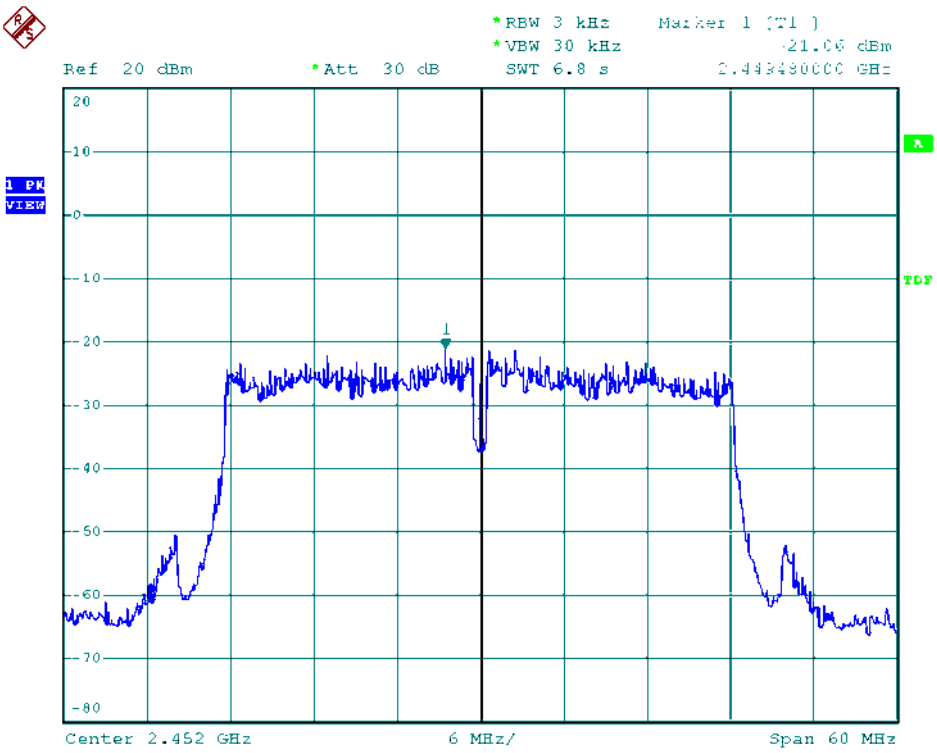
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 06



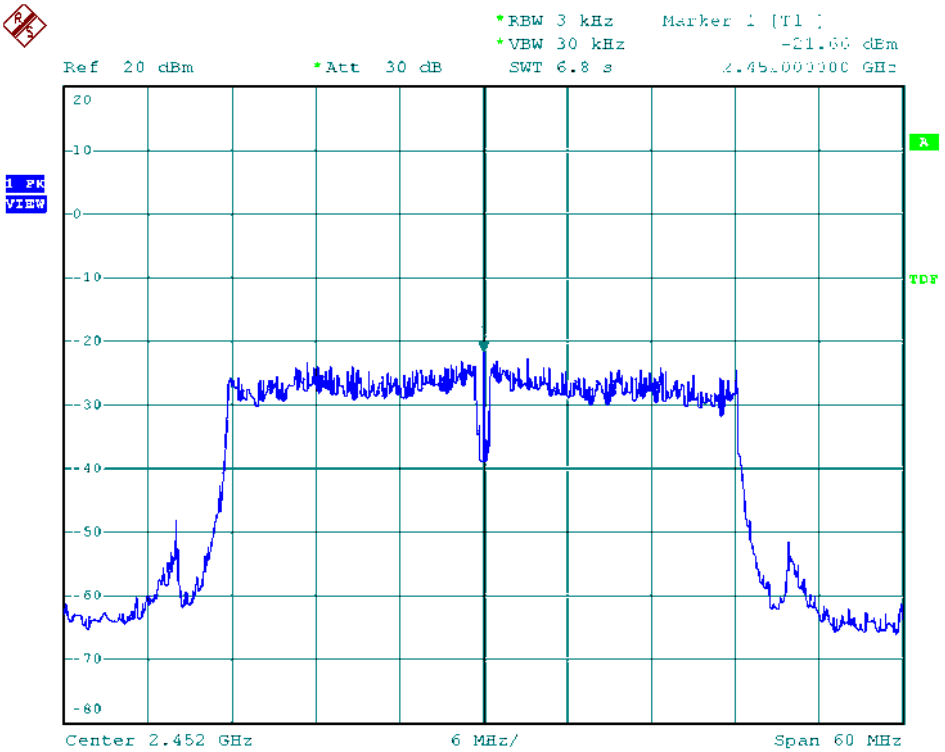

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT R
Channel: 09



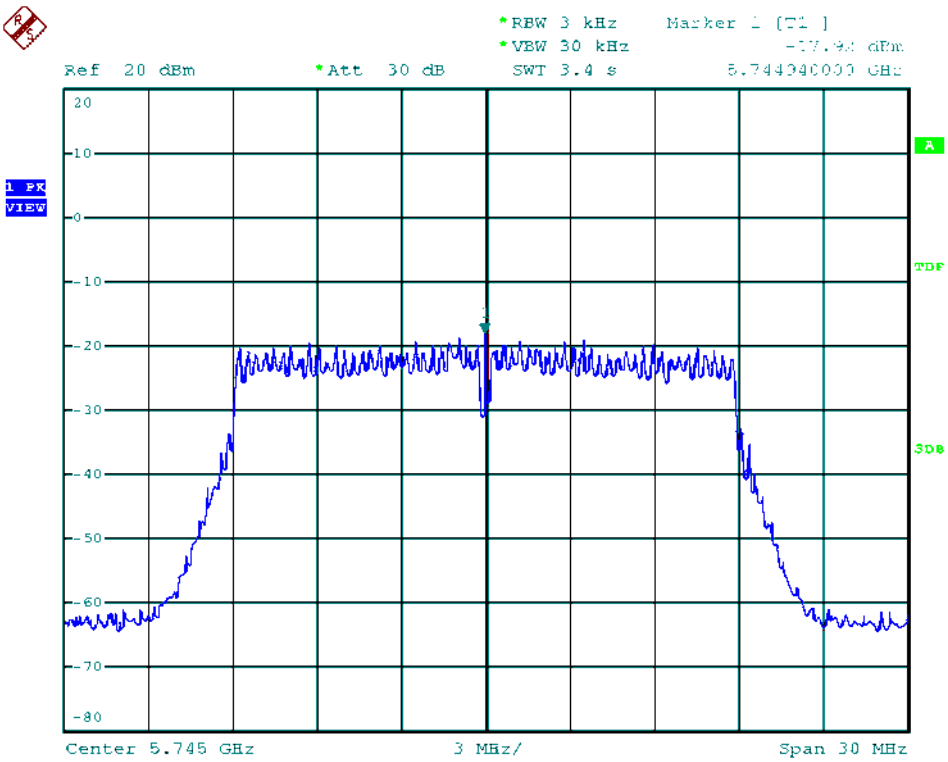
Modulation Standard: 802.11n HT40 (13.5Mbps), ANT M
Channel: 09



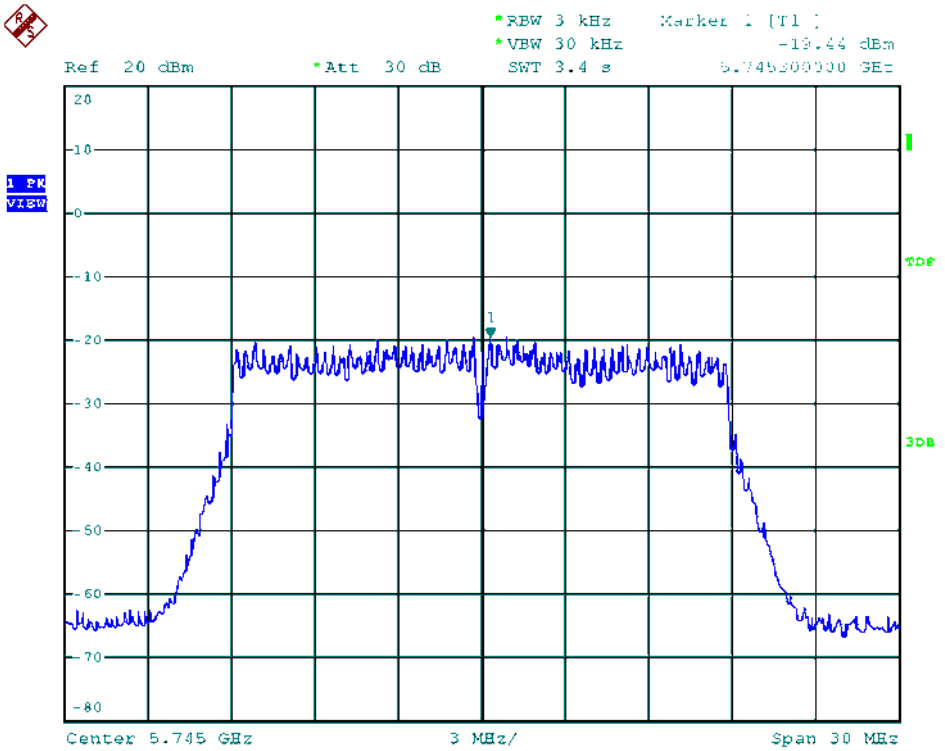

Modulation Standard: 802.11n HT40 (13.5Mbps), ANT L
Channel: 09



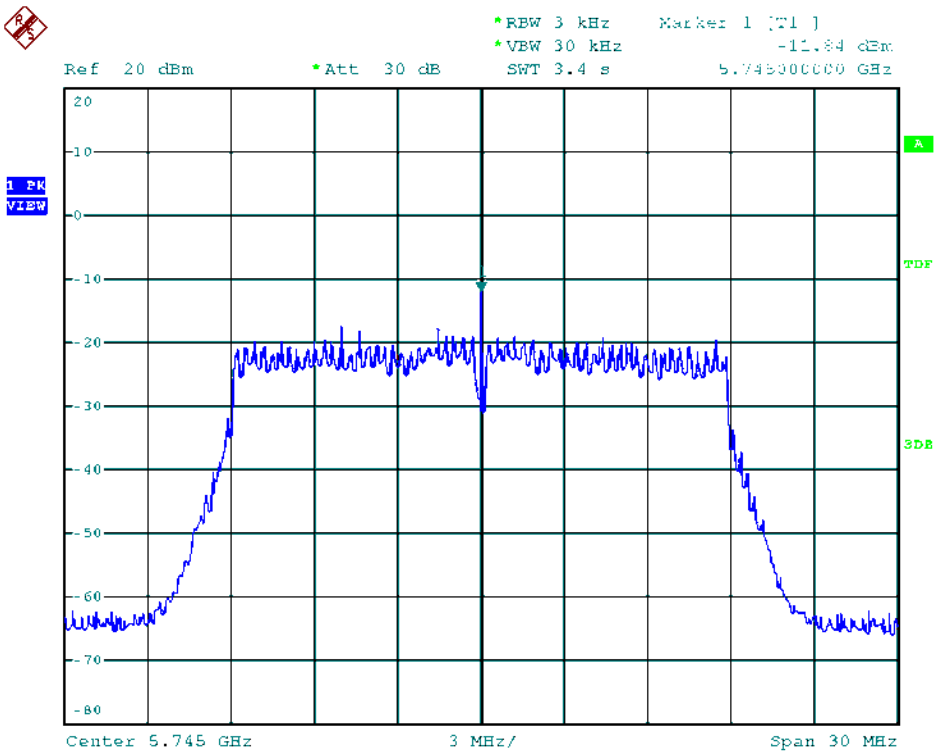
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 149



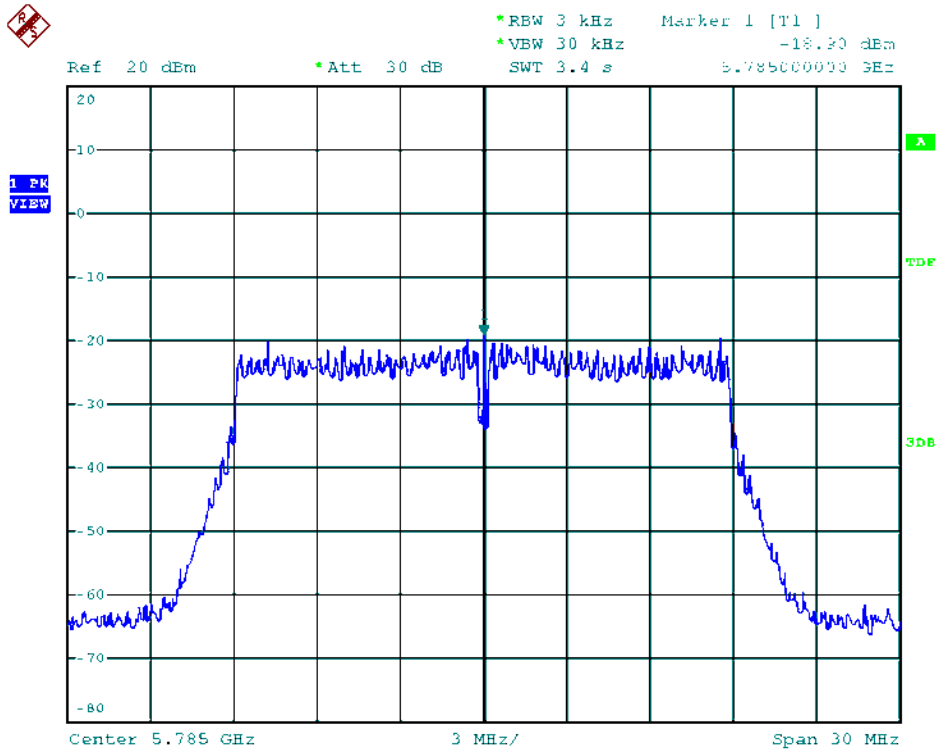

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 149



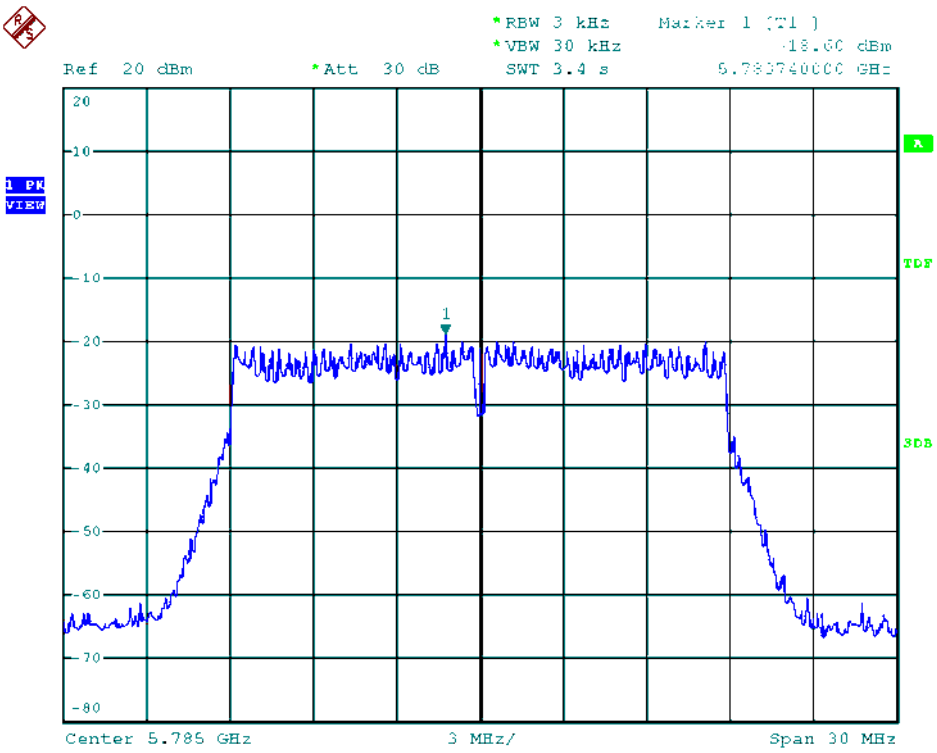
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 149



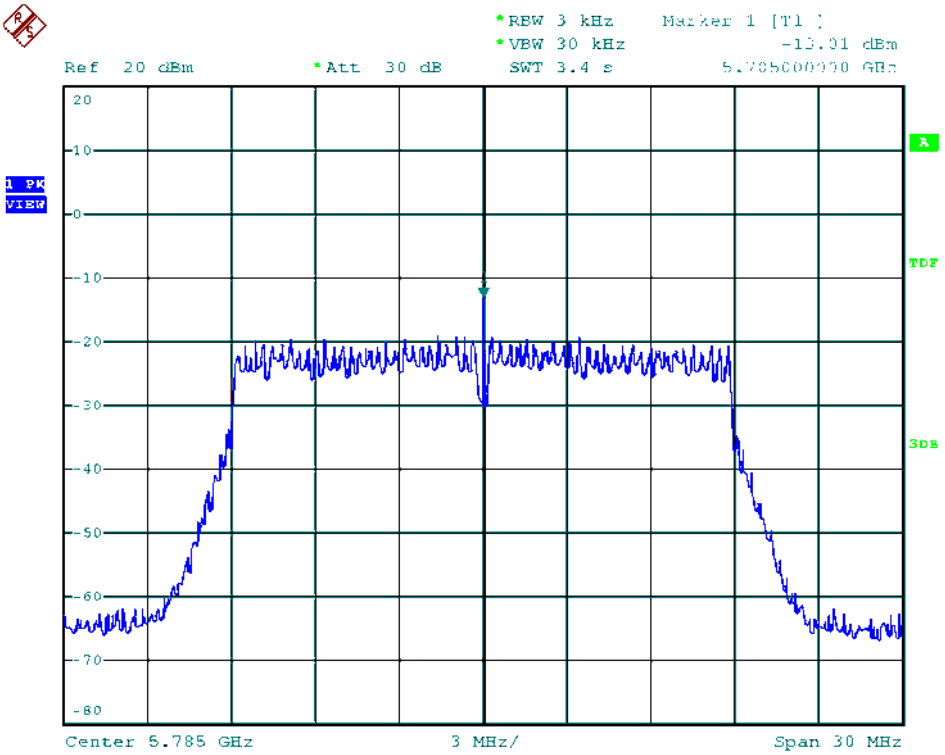

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 157



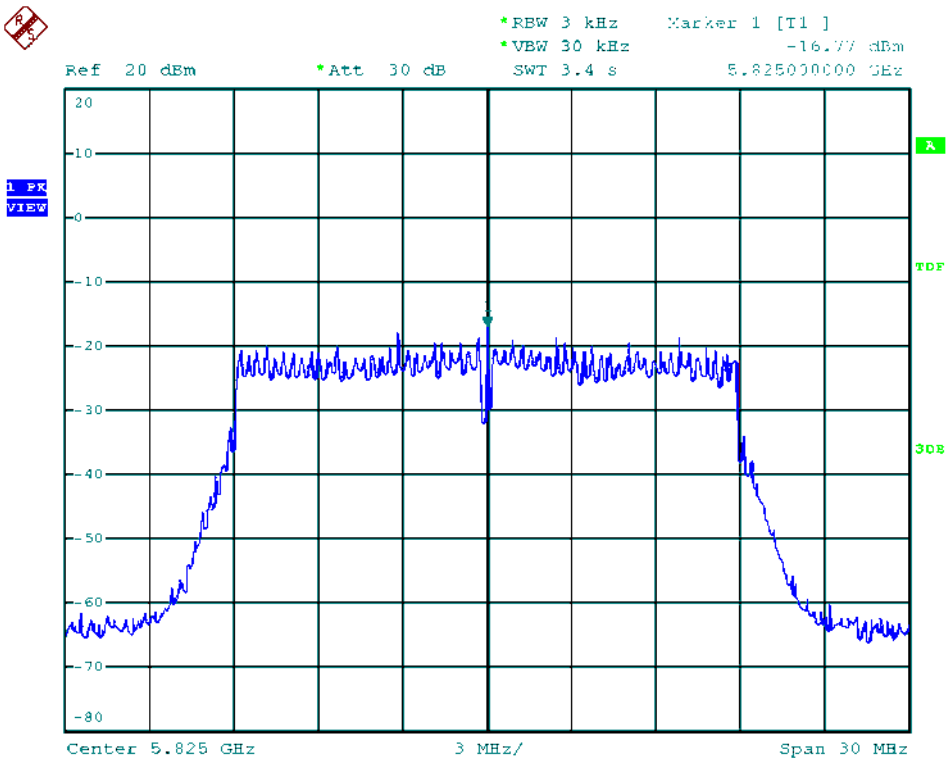
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 157



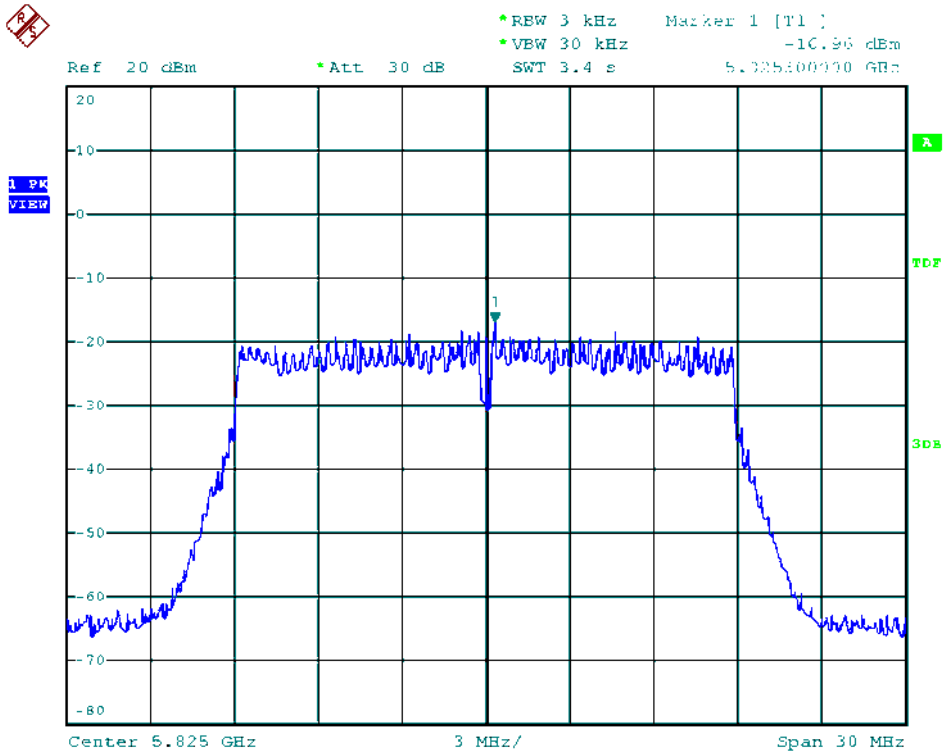

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 157



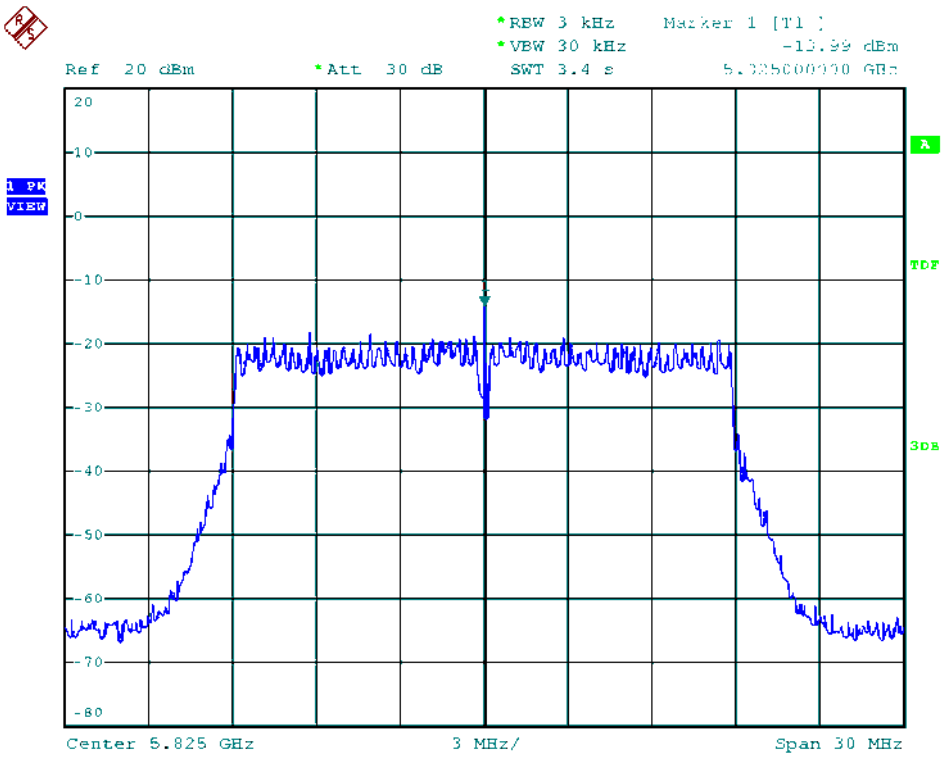
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT R
Channel: 165



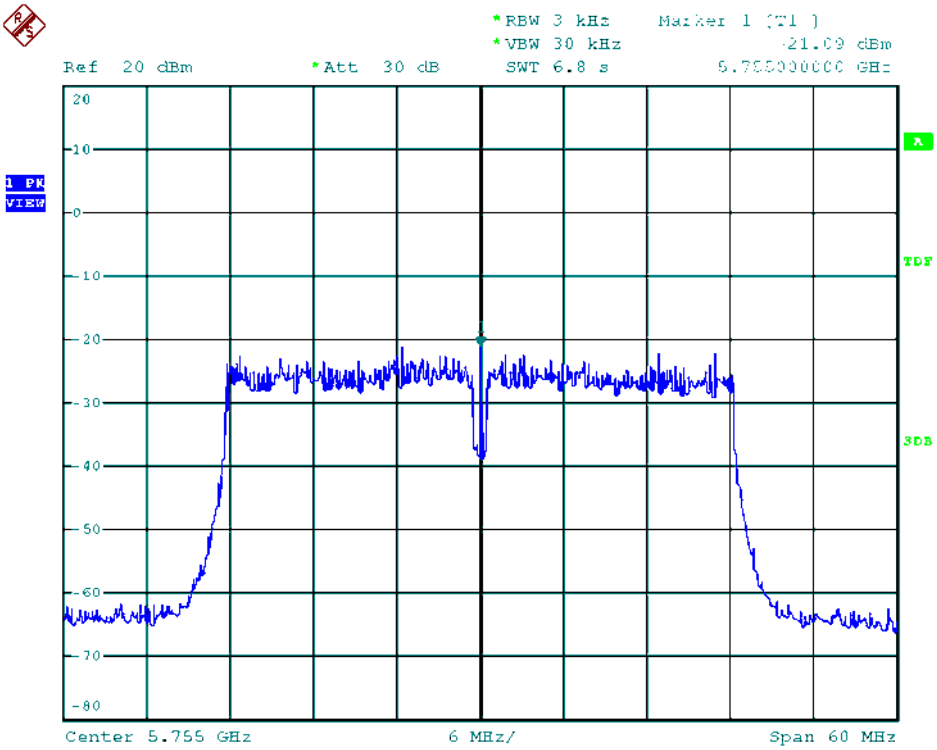

Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT M
Channel: 165



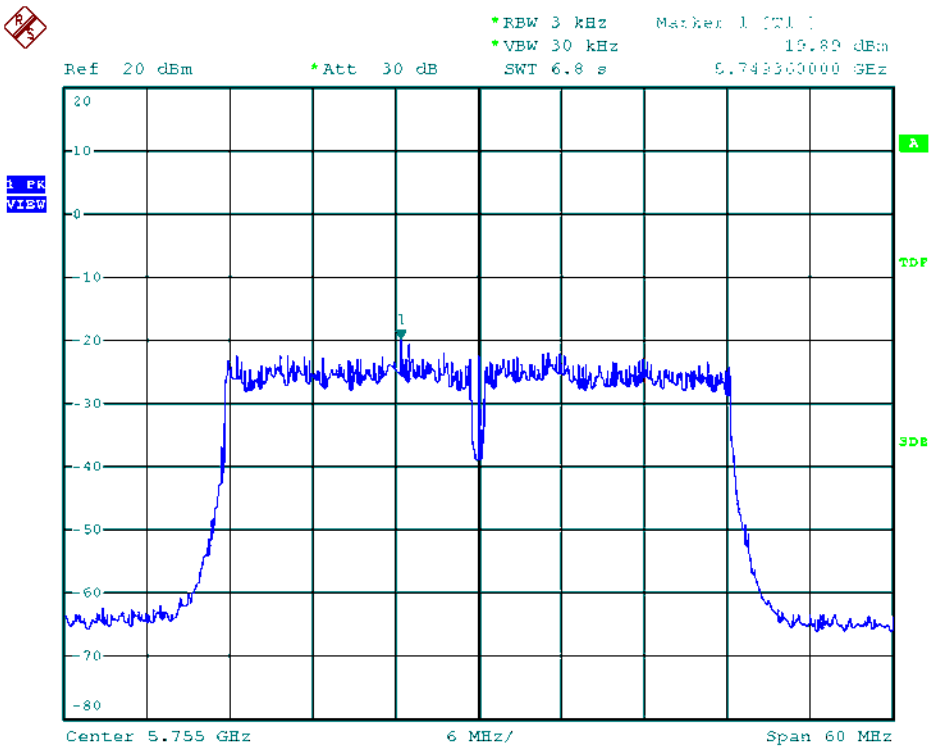
Modulation Standard: 802.11ac VHT20 (6.5Mbps), ANT L
Channel: 165



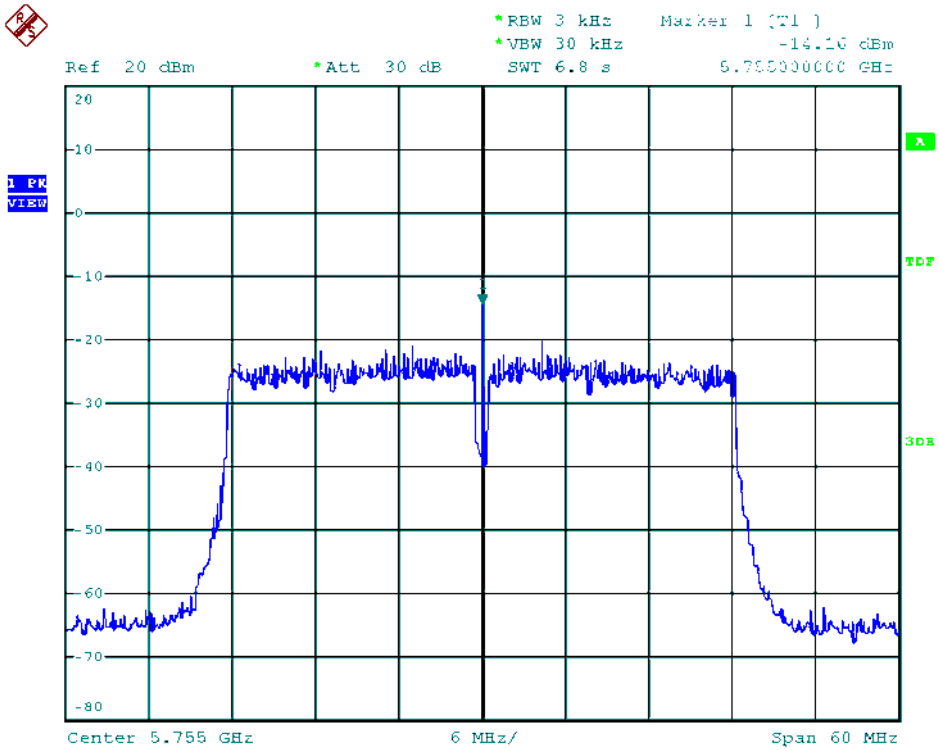

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT R
Channel: 151



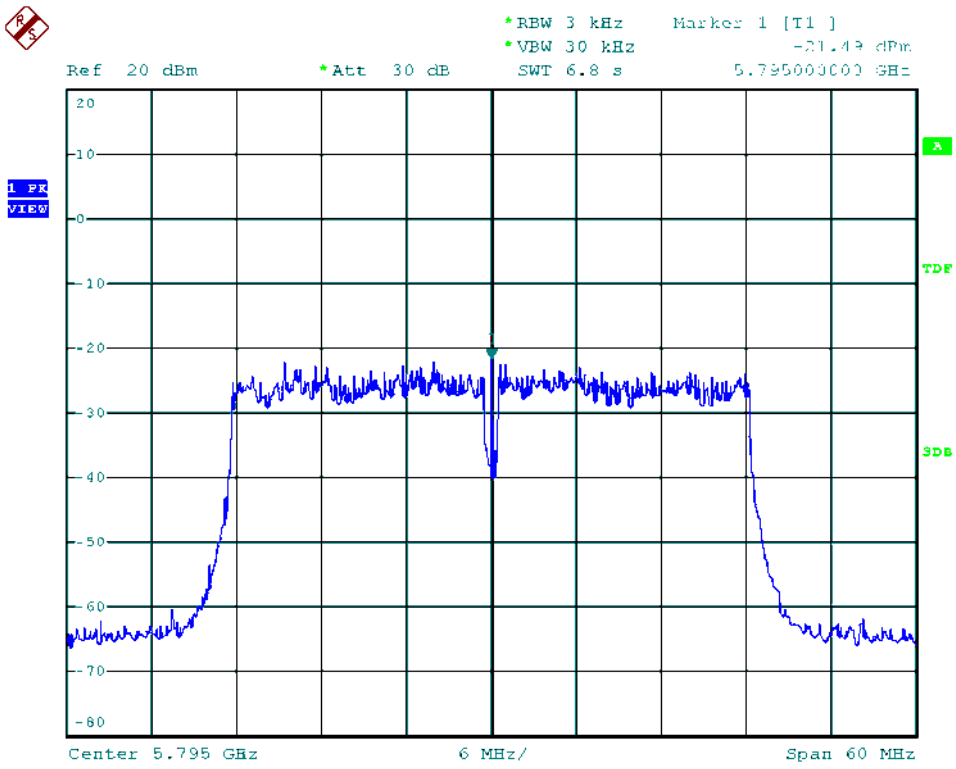
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT M
Channel: 151



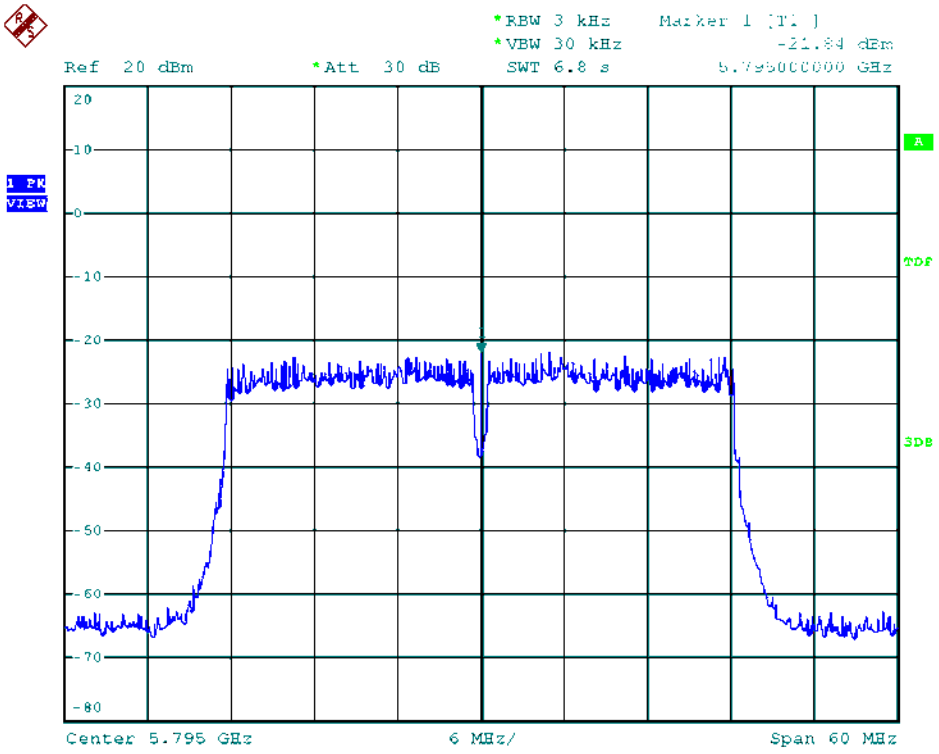

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT L
Channel: 151



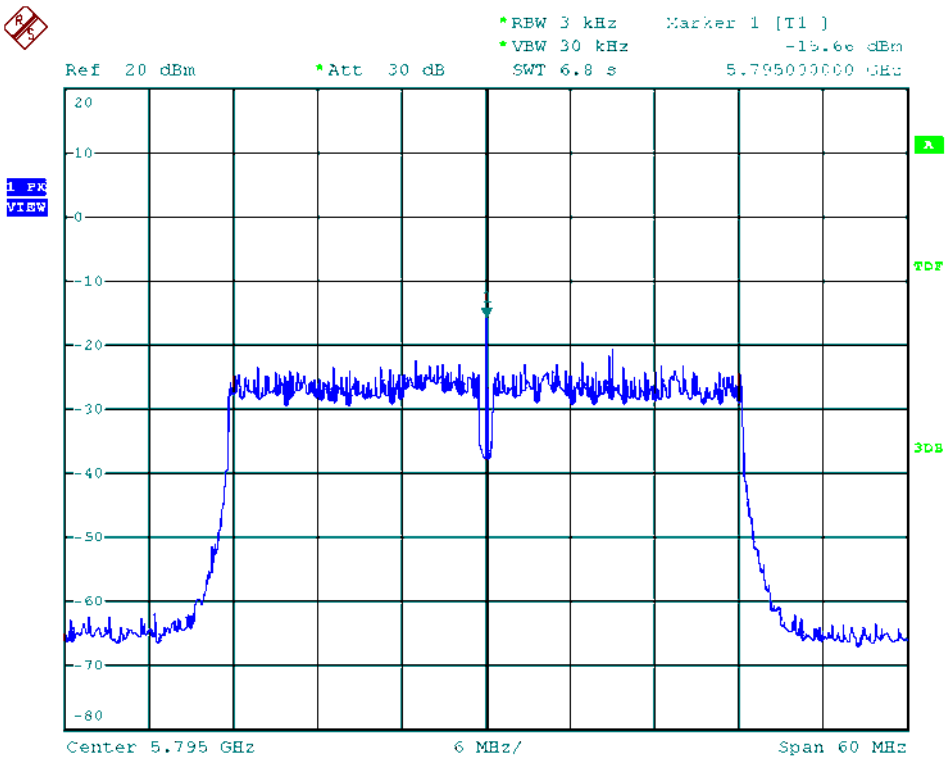
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT R
Channel: 159



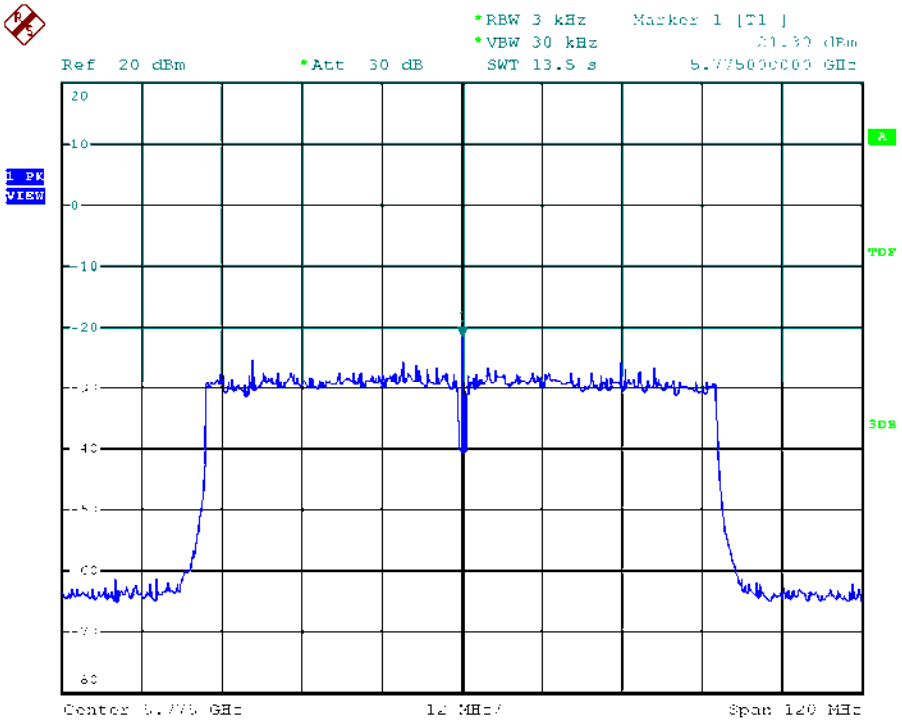

Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT M
Channel: 159



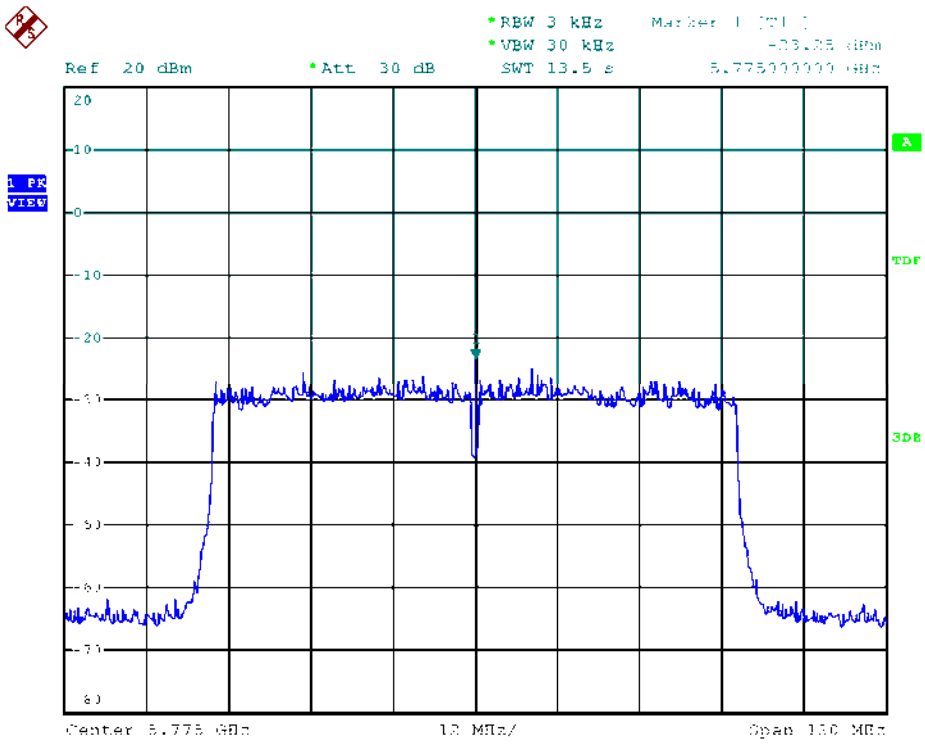
Modulation Standard: 802.11ac VHT40 (13.5Mbps), ANT L
Channel: 159



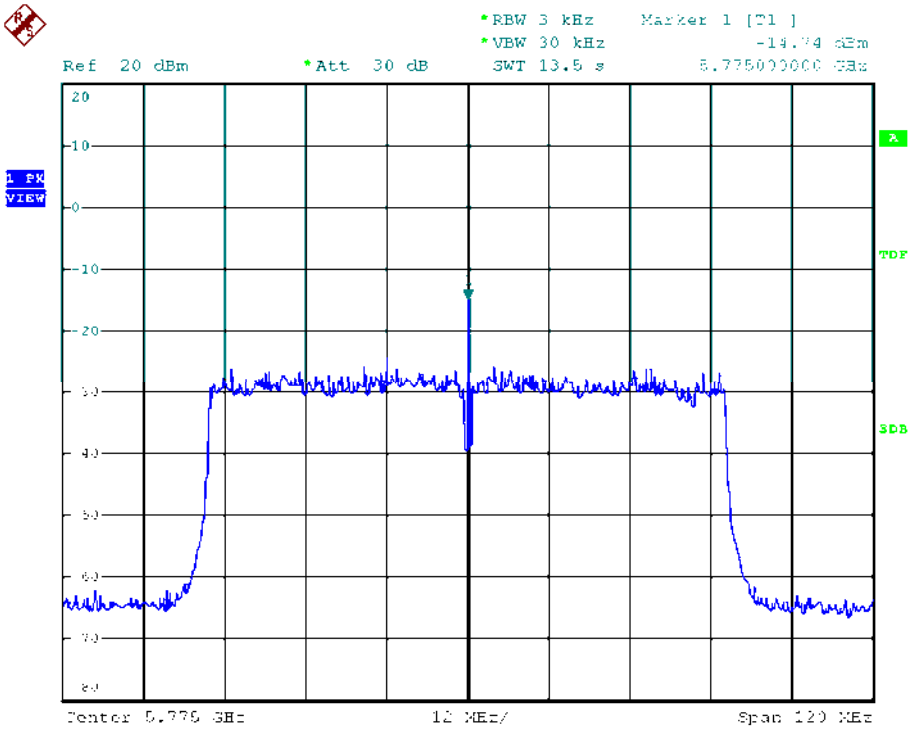

Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R
Channel: 155



Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT M
Channel: 155




Modulation Standard: 802.11ac VHT80 (29.3Mbps), ANT R
Channel: 155



# 7. Restrict Band Emission Measurement Data

Test Date: May 09, 2013 Temperature: 25 ℃

Atmospheric pressure: 1020 hPa Humidity: 65 %

Model No.: UAP-AC

Modulation Standard: IEEE 802.11n HT40 (13.5Mbps)

| Channel 3 | | | | | | | | | | Fundamental Frequency: 2422 MHz |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m) | | Margin (dB) | Table Deg. | Ant High (m) |
| | | | | | | Peak | Ave | | | |
| 2383.82 | H | 56.32 | 1.46 | 57.78 | Peak | 74 | 54 | -16.22 | 141 | 1.00 |
| 2385.70 | H | 41.26 | 1.45 | 42.71 | Ave | 74 | 54 | -11.29 | 141 | 1.00 |
| 2388.74 | V | 65.53 | 2.10 | 67.63 | Peak | 74 | 54 | -6.37 | 183 | 1.00 |
| 2384.86 | V | 48.27 | 2.15 | 50.42 | Ave | 74 | 54 | -3.58 | 183 | 1.00 |
| Channel 9 | | | | | | | | | | Fundamental Frequency: 2452 MHz |
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m) | | Margin (dB) | Table Deg. | Ant High (m) |
| | | | | | | Peak | Ave | | | |
| 2491.35 | H | 53.73 | -0.02 | 53.71 | Peak | 74 | 54 | -20.49 | 200 | 1.00 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2485.10 | V | 65.66 | -2.63 | 63.03 | Peak | 74 | 54 | -10.97 | 116 | 1.00 |
| 2488.18 | V | 46.52 | -2.78 | 43.74 | Ave | 74 | 54 | -10.26 | 116 | 1.00 |

Notes:

1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz (detector peak mode) for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz (detector sample mode) for Average detection at frequency above 1GHz.

Test Date: May 09, 2013 Temperature: 25 ℃

Atmospheric pressure: 1020 hPa Humidity: 65 %

Model No.: UAP-AC Outdoor

Modulation Standard: IEEE 802.11n HT40 (13.5Mbps)

| Channel 3 | | | | | | | | | | Fundamental Frequency: 2422 MHz |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m) | | Margin (dB) | Table Deg. | Ant High (m) |
| | | | | | | Peak | Ave | | | |
| 2387.34 | H | 63.98 | 1.44 | 65.42 | Peak | 74 | 54 | -8.58 | 157 | 1.00 |
| 2385.50 | H | 47.33 | 1.45 | 48.78 | Ave | 74 | 54 | -5.22 | 157 | 1.00 |
| 2384.25 | V | 62.78 | 2.16 | 64.94 | Peak | 74 | 54 | -9.06 | 238 | 1.00 |
| 2383.90 | V | 40.55 | 2.17 | 42.72 | Ave | 74 | 54 | -11.28 | 238 | 1.00 |
| Channel 9 | | | | | | | | | | Fundamental Frequency: 2452 MHz |
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m) | | Margin (dB) | Table Deg. | Ant High (m) |
| | | | | | | Peak | Ave | | | |
| 2483.58 | H | 69.50 | 0.11 | 69.61 | Peak | 74 | 54 | -4.39 | 150 | 1.00 |
| 2488.82 | H | 50.78 | 0.03 | 50.81 | Ave | 74 | 54 | -3.19 | 150 | 1.00 |
| 2485.60 | V | 69.56 | -2.66 | 66.90 | Peak | 74 | 54 | -7.10 | 175 | 1.00 |
| 2487.46 | V | 49.85 | -2.76 | 47.09 | Ave | 74 | 54 | -6.91 | 175 | 1.00 |

Notes:

1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz (detector peak mode) for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3 MHz (detector sample mode) for Average detection at frequency above 1GHz.