



FCC PART 15.247

TEST REPORT

For

Skspruce Technologies Inc.

1732 North 1st St Suite 220, San Jose, CA

FCC ID: 2ACKD-WIA3200

| | |
|--|---|
| Report Type: Original Report | Product Name: Indoor Access Point |
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| Report Number: RSC140417002 | |
| Report Date: 2014-09-18 | |
| Reviewed By: Henry Ding <i>Henry Ding</i> | |
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Skspruce Technologies Inc.*'s product, model number: *WIA3200 (FCC ID: 2ACKD-WIA3200)* (the "EUT") in this report was an Indoor Access Point, which was measured approximately: 19.6cm (W) x 16.6cm (D) x 3.4cm (H), rated input voltage: DC 48 V.

Adapter:
Manufacturer: PoE Injector
Model: PSE801
Input: AC 100--240V 50/60Hz
Output: DC 48--56V

**All measurement and test data in this report were gathered from final production sample, serial number: 8112013110600150 (provided by Applicant). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2014-04-11, and EUT complied with test requirement.*

Objective

This report is prepared on behalf of *Skspruce Technologies Inc.* accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 15.407 submissions with FCC ID: 2ACKD-WIA3200.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Chengdu). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

The uncertainty of any RF tests which use conducted method measurement is ± 3.17 dB, the uncertainty of any radiation on emissions measurement is:

30M~200MHz: ± 4.7 dB;
200M~1GHz: ± 6.0 dB;
1G-6GHz: ± 5.13 dB;
6G~25GHz: ± 5.47 dB;

And the uncertainty will not be taken into consideration for all test data recorded in the report.

Test Facility

The test site used by BACL to collect test data is located in the 5040, HuiLongWan Plaza, No. 1, ShaWan Road, JinNiu District, ChengDu, China

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on July 31, 2009. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 560332. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for test in testing mode, which was provided by manufacturer. 11 channels are provided to testing:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|
| 1 | 2412 | 7 | 2442 |
| 2 | 2417 | 8 | 2447 |
| 3 | 2422 | 9 | 2452 |
| 4 | 2427 | 10 | 2457 |
| 5 | 2432 | 11 | 2462 |
| 6 | 2437 | / | / |

For 802.11b, 802.11g, and 802.11n HT20 modes were tested with Channel 1, 6 and 11.
For 802.11n HT40 mode were tested with Channel 3, 6 and 9.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power, PSD across all data rates bandwidths and modulations.

EUT Exercise Software

The software “art2_ver_2_28_6BIN, SecureCRT & SecureCRT_3987” was used for testing, which was provided by manufacturer.

| Test Mode | Test Software Version | art2_ver_2_28_6BIN, SecureCRT & SecureCRT_3987 | | |
|--------------|-------------------------------|--|---------|---------|
| 802.11b | Test Frequency | 2412MHz | 2437MHz | 2462MHz |
| | Data Rate | CCK 1M | CCK 1M | CCK 1M |
| | Power Level Setting Antenna 0 | 15 | 15 | 15 |
| | Power Level Setting Antenna 1 | 15 | 15 | 15 |
| 802.11g | Test Frequency | 2412MHz | 2437MHz | 2462MHz |
| | Data Rate | OFDM 6M | OFDM 6M | OFDM 6M |
| | Power Level Setting Antenna 0 | 10 | 10 | 10 |
| | Power Level Setting Antenna 1 | 10 | 10 | 10 |
| 802.11n HT20 | Test Frequency | 2412MHz | 2437MHz | 2462MHz |
| | Data Rate | MCS0 | MCS0 | MCS0 |
| | Power Level Setting Antenna 0 | 6.5 | 6.5 | 6.5 |
| | Power Level Setting Antenna 1 | 6.5 | 6.5 | 6.5 |
| 802.11n HT40 | Test Frequency | 2422MHz | 2437MHz | 2452MHz |
| | Data Rate | MCS0 | MCS0 | MCS0 |
| | Power Level Setting Antenna 0 | 6.5 | 6.5 | 6.5 |
| | Power Level Setting Antenna 1 | 6.5 | 6.5 | 6.5 |

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

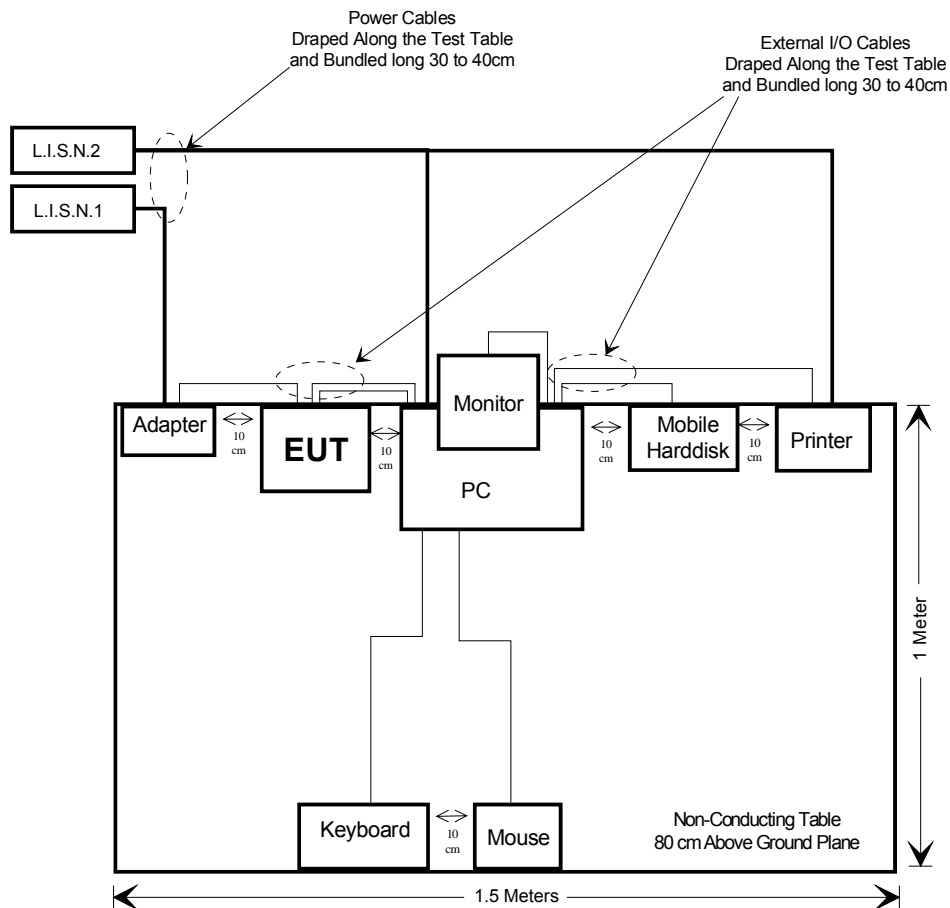
| Manufacturer | Description | Model | Serial Number |
|--------------|------------------|------------|---------------|
| IBM | PC | 8176 | 99Y7315 |
| DELL | Monitor | SK-8815 | 9161649 |
| IBM | Keyboard | KM-110X | XBK133000993 |
| Logitech | Mouse | M-U0004 | 810-001808 |
| TOSHIBA | Mobile Hard Disk | V6700-A500 | 1297FH0YSRE8 |
| EPSON | Printer | B261A | GXSK285854 |

External I/O Cable

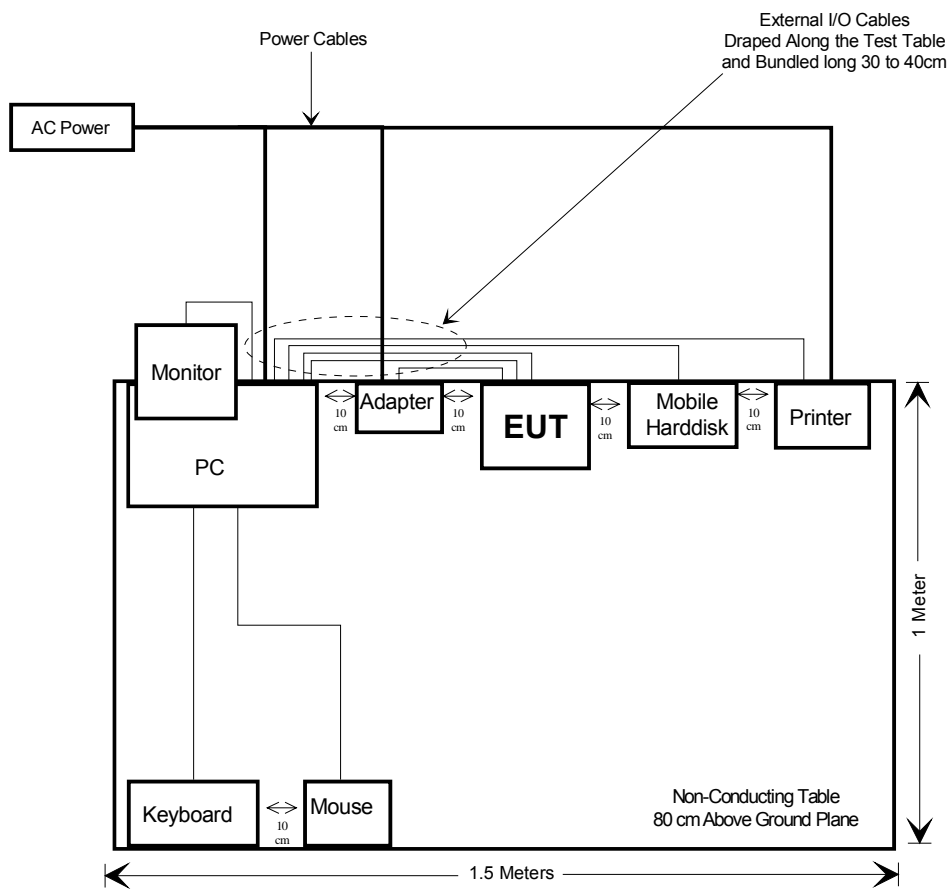
| Cable Description | Length (m) | From | To |
|-------------------------|------------|------|------------------|
| Shielded VGA cable | 1.5 | PC | Monitor |
| Unshielded LAN cable | 1.0 | PC | EUT |
| Shielded RS232 cable | 2.5 | PC | EUT |
| Shielded Mouse cable | 1.5 | PC | Mouse |
| Shielded Keyboard cable | 1.5 | PC | Keyboard |
| Shielded RS232 Cable | 1.5 | PC | Printer |
| Shielded USB Cable | 0.5 | PC | Mobile Hard Disk |

Block Diagram of Test Setup

For AC Line Conducted Emissions:



For Spurious Emissions:



SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|-------------------------------------|--|------------|
| §15.247(i), §2.1091 & §1.1307(b)(1) | Maximum Permissible exposure (MPE) | Compliance |
| §15.203 | Antenna Requirement | Compliance |
| §15.207(a) | AC Line Conducted Emissions | Compliance |
| §15.247(d) | Conducted Spurious Emissions at Antenna Port | Compliance |
| §15.205, §15.209, §15.247(d) | Spurious Emissions | Compliance |
| §15.247 (a)(2) | 6 dB Emission Bandwidth | Compliance |
| §15.247(b)(3) | Maximum Peak Output Power | Compliance |
| §15.247(d) | 100 kHz Bandwidth of Frequency Band Edge | Compliance |
| §15.247(e) | Power Spectral Density | Compliance |

FCC §15.247 (i), §2.1091 & §1.1307(b)(1)- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

| (B) Limits for General Population/Uncontrolled Exposure | | | | |
|---|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Averaging Time (minutes) |
| 0.3–1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34–30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30–300 | 27.5 | 0.073 | 0.2 | 30 |
| 300–1500 | - | - | f/1500 | 30 |
| 1500–100,000 | - | - | 1.0 | 30 |

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = PG/4\pi R^2$$

Where:

S = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

DTS Band:

| Mode | Frequency (MHz) | Antenna Gain | | Conducted Power | | Evaluation Distance (cm) | Power Density (mW/cm ²) | MPE Limit (mW/cm ²) |
|--------------|-----------------|--------------|-----------|-----------------|--------|--------------------------|-------------------------------------|---------------------------------|
| | | (dBi) | (numeric) | (dBm) | (mW) | | | |
| 802.11b | 2412 | 3 | 2.00 | 20.44 | 110.66 | 20 | 0.044 | 1.0 |
| 802.11g | 2412 | 3 | 2.00 | 20.19 | 104.47 | 20 | 0.041 | 1.0 |
| 802.11n HT20 | 2412 | 3 | 2.00 | 20.05 | 101.16 | 20 | 0.040 | 1.0 |
| 802.11n HT40 | 2437 | 3 | 2.00 | 19.99 | 99.77 | 20 | 0.040 | 1.0 |

UNII Band:

5150-5250 MHz

| Mode | Frequency (MHz) | Antenna Gain | | Conducted Power | | Evaluation Distance (cm) | Power Density (mW/cm ²) | MPE Limit (mW/cm ²) |
|--------------|-----------------|--------------|-----------|-----------------|--------|--------------------------|-------------------------------------|---------------------------------|
| | | (dBi) | (numeric) | (dBm) | (mW) | | | |
| 802.11a | 5240 | 3 | 2.00 | 20.82 | 120.78 | 20 | 0.048 | 1.0 |
| 802.11n HT20 | 5180 | 3 | 2.00 | 20.66 | 116.41 | 20 | 0.046 | 1.0 |
| 802.11n HT40 | 5190 | 3 | 2.00 | 20.20 | 104.71 | 20 | 0.042 | 1.0 |

5725-5850 MHz

| Mode | Frequency (MHz) | Antenna Gain | | Conducted Power | | Evaluation Distance (cm) | Power Density (mW/cm ²) | MPE Limit (mW/cm ²) |
|--------------|-----------------|--------------|-----------|-----------------|--------|--------------------------|-------------------------------------|---------------------------------|
| | | (dBi) | (numeric) | (dBm) | (mW) | | | |
| 802.11a | 5825 | 3 | 2.00 | 17.43 | 55.34 | 20 | 0.022 | 1.0 |
| 802.11n HT20 | 5745 | 3 | 2.00 | 20.33 | 107.89 | 20 | 0.043 | 1.0 |
| 802.11n HT40 | 5755 | 3 | 2.00 | 20.34 | 108.14 | 20 | 0.043 | 1.0 |

According to KDB 447498 D01 General RF exposure guidance v05r02, EUT has 5GHz and 2.4GHz transmitting simultaneously. So the sum of MPE ratio for four antennas is 0.092 which is less than 1.0, So the collocation exposure exclusion applies.

Result: The device meet FCC MPE at 20 cm distance.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Antenna Connector Construction

The EUT has four PCB antennas, which were attached to the EUT, and complied with 15.203, the maximum gain is 3.0 dBi in 2400-2483.5MHz, 5150-5250MHz and 5725-5850MHz band, please refer to the EUT internal photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:

–compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
 –non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 1, then:

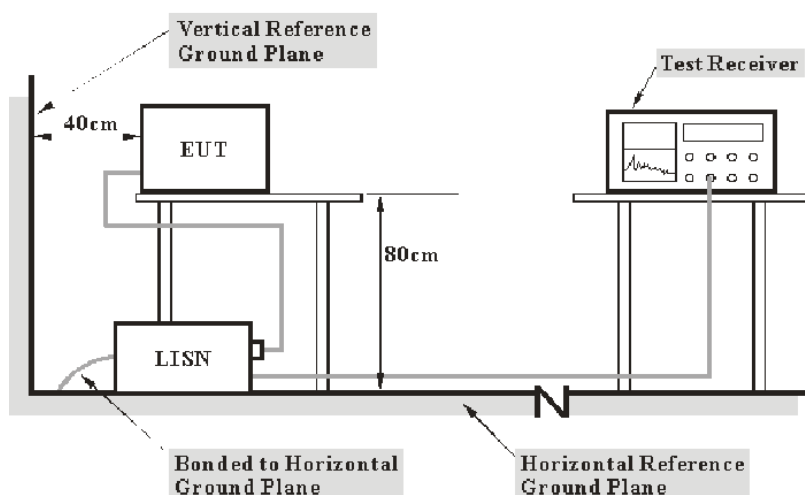
–compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
 –non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Chengdu) is ± 3.17 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

| Measurement | U_{cispr} |
|---|-------------|
| Conducted disturbance at mains port using AMN (150 kHz to 30 MHz) | 3.4 dB |

EUT Setup



Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT was according to ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The power cables and external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

DC 48V was used by the EUT through AC adapter.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

| Frequency Range | IF B/W |
|------------------|--------|
| 150 kHz – 30 MHz | 9 kHz |

Test Procedure

During the conducted emission test, the EUT's adapter was connected to the outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

Herein,

V_C : corrected voltage amplitude

V_R : reading voltage amplitude

A_C : attenuation caused by cable loss

VDF : voltage division factor of AMN or ISN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Equipment List and Details

| Manufacturer | Description | Model Number | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------------|---------------|------------------|----------------------|
| Rohde & Schwarz | EMI Test Receiver | ESCI | 100028 | 2013-08-22 | 2014-08-21 |
| Rohde & Schwarz | L.I.S.N. | ENV216 | 3560.6550.06 | 2013-07-31 | 2014-07-30 |
| Rohde & Schwarz | L.I.S.N. | ENV216 | 3560.6550.12 | 2014-02-08 | 2015-02-07 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

0.5 dB at **18.677000 MHz** in the **Line** conducted mode.

Test Data

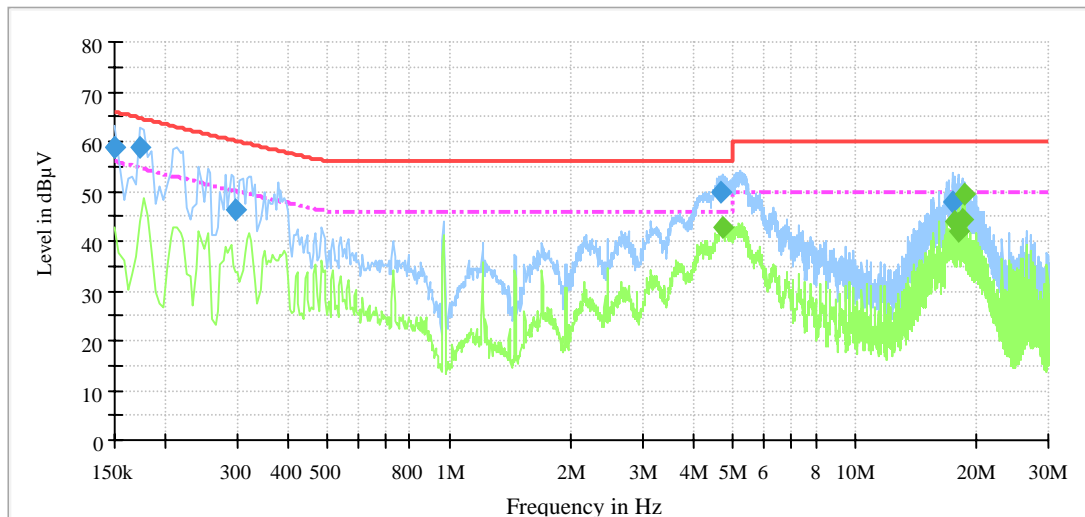
Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 31 °C |
| Relative Humidity: | 46 % |
| ATM Pressure: | 100.0 kPa |

The testing was performed by Fidel Zhou on 2014-06-19.

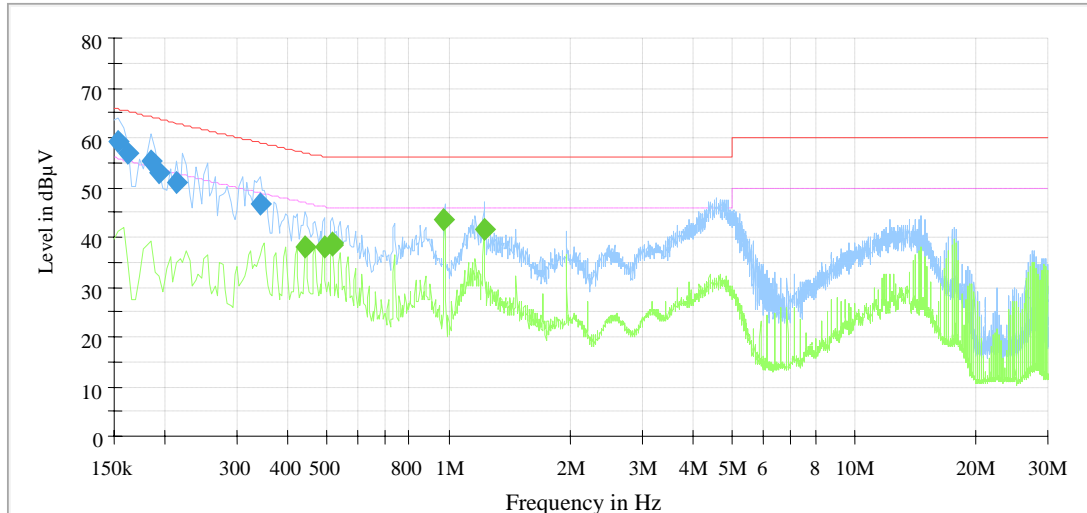
Test Mode: Transmitting

AC 120V/60 Hz, Line



| AC Line Conducted Emissions | | | | Limit dBμV | Margin dB |
|-----------------------------|----------------------------------|---------------------|-------------------------|---------------|--------------|
| Frequency MHz | Corrected Amplitude (dBμV) | Detector (QP/AV) | Phase (Line/Neutral) | | |
| 0.150000 | 58.7 | QP | Line | 66.0 | 7.3 |
| 0.150000 | 58.7 | QP | Line | 66.0 | 7.3 |
| 0.173000 | 59.0 | QP | Line | 64.7 | 5.7 |
| 0.297000 | 46.4 | QP | Line | 60.1 | 13.8 |
| 4.685000 | 49.6 | QP | Line | 56.0 | 6.4 |
| 17.465000 | 47.8 | QP | Line | 60.0 | 12.2 |
| 4.721000 | 42.7 | AV | Line | 46.0 | 3.3 |
| 17.709000 | 43.9 | AV | Line | 50.0 | 6.1 |
| 17.949000 | 42.1 | AV | Line | 50.0 | 7.9 |
| 18.057000 | 43.5 | AV | Line | 50.0 | 6.5 |
| 18.437000 | 44.3 | AV | Line | 50.0 | 5.7 |
| 18.677000 | 49.5 | AV | Line | 50.0 | *0.5 |

AC 120V/60 Hz, Neutral



| AC Line Conducted Emissions | | | | Limit dBμV | Margin dB |
|-----------------------------|----------------------------------|---------------------|-------------------------|---------------|--------------|
| Frequency MHz | Corrected Amplitude (dBμV) | Detector (QP/AV) | Phase (Line/Neutral) | | |
| 0.154000 | 59.3 | QP | Neutral | 65.8 | 6.4 |
| 0.162000 | 56.7 | QP | Neutral | 65.3 | 8.6 |
| 0.185000 | 55.3 | QP | Neutral | 64.1 | 8.8 |
| 0.193000 | 52.8 | QP | Neutral | 63.8 | 11.0 |
| 0.213000 | 50.8 | QP | Neutral | 62.9 | 12.1 |
| 0.345000 | 46.5 | QP | Neutral | 58.9 | 12.4 |
| 0.445000 | 38.2 | AV | Neutral | 46.9 | 8.7 |
| 0.493000 | 38.1 | AV | Neutral | 46.1 | 8.0 |
| 0.517000 | 38.9 | AV | Neutral | 46.0 | 7.1 |
| 0.530000 | 38.4 | AV | Neutral | 46.0 | 7.6 |
| 0.977000 | 43.6 | AV | Neutral | 46.0 | *2.4 |
| 1.225000 | 41.7 | AV | Neutral | 46.0 | 4.3 |

*Within measurement uncertainty!

Note: EUT transmitting simultaneously with 2.4G and 5G radio frequency and supports intelligent radio frequency management functionalities.

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 2, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 2, then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Chengdu) is:

30M~200MHz: ± 4.7 dB ;

200M~1GHz: ± 6.0 dB ;

1G-6GHz: ± 5.13 dB;

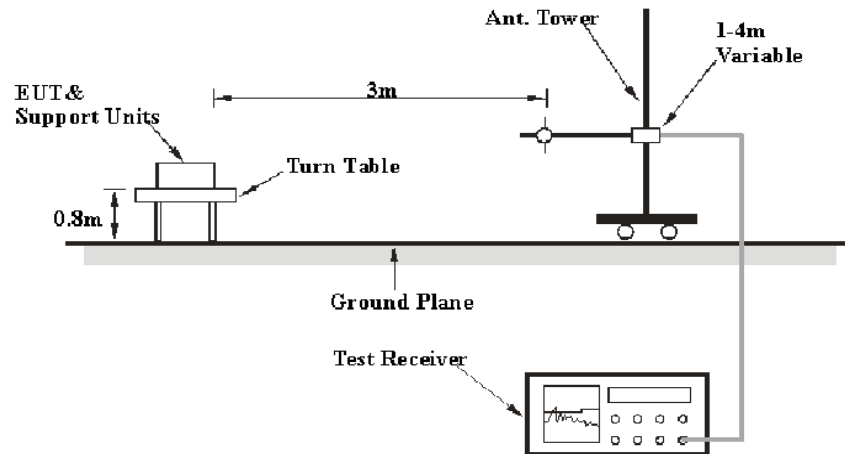
6G~25GHz: ± 5.47 dB;

Table 2 – Values of U_{cispr}

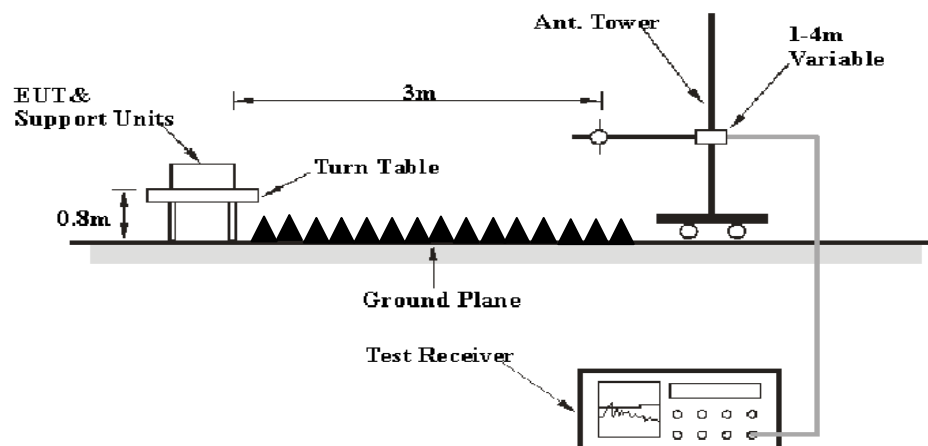
| Measurement | U_{cispr} |
|--|-------------|
| Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz) | 6.3 dB |
| Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz) | 5.2 dB |
| Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz) | 5.5 dB |

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters Semi-Anechoic Chamber, using the setup in accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209 and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

DC 48V used by the EUT through AC adapter.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

| Frequency Range | RBW | Video B/W | IF B/W | Detector |
|-------------------|---------|-----------|---------|----------|
| 30 MHz – 1000 MHz | 120 kHz | 300 kHz | 120 kHz | QP |
| Above 1 GHz | 1 MHz | 3 MHz | / | PK |
| | 1 MHz | 10 Hz | / | Ave. |

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Receiver Reading + Cable loss + Antenna Factor – Amplifier Gain

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

Margin = Limit-Corrected Amplitude

The distance between EUT and receiving antenna is for 1 m.

Extrapolation result = Corrected Amplitude-9.54

Margin = Limit- Extrapolation result

Test Equipment List and Details

| Manufacturer | Description | Model Number | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-----------------------|--------------|---------------|------------------|----------------------|
| Agilent | Amplifier | 8447D | 2944A10442 | 2013-07-23 | 2014-07-22 |
| Rohde & Schwarz | EMI Test Receiver | ESCI | 100028 | 2013-08-22 | 2014-08-21 |
| Sunol Sciences | Broadband Antenna | JB3 | A101808 | 2014-04-10 | 2015-04-09 |
| Rohde & Schwarz | Spectrum Analyzer | FSL18 | 100180 | 2014-06-23 | 2015-06-22 |
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2013-10-17 | 2014-10-16 |
| EM TEST | Horn Antenna | 3115 | 003-6076 | 2014-04-09 | 2015-04-08 |
| HP | Amplifier | 8449B | 3008A00277 | 2013-07-31 | 2014-07-30 |
| EMCT | Semi-Anechoic Chamber | 966 | N/A | 2013-03-13 | 2016-03-12 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Section 15.205, 15.209 and 15.247, with the worst margin reading of:

6.44 dB at 17235 MHz in the Vertical polarization

Test Data

Environmental Conditions

| | |
|--------------------|-----------|
| Temperature: | 30 °C |
| Relative Humidity: | 42 % |
| ATM Pressure: | 100.7 kPa |

The testing was performed by Fidel Zhou on 2014-07-18.

Test Mode: Transmitting

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result (dBμV/m) | FCC 15.247 | |
|--|-------------------|------------------------|----------------|----------------|-----------------------|---------------------------|------------------------------------|-------------------------------------|-------------------|----------------|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | Limit (dBμV/m) | Margin (dB) |
| 802.11b mode, Low Channel: 2412 MHz | | | | | | | | | | |
| 2412 | 79.15 | PK | H | 23.20 | 2.56 | 0.00 | 104.91 | - | N/A | N/A |
| 2412 | 74.31 | AV | H | 23.20 | 2.56 | 0.00 | 99.07 | - | N/A | N/A |
| 2412 | 82.48 | PK | V | 23.20 | 2.56 | 0.00 | 108.24 | - | N/A | N/A |
| 2412 | 76.16 | AV | V | 23.20 | 2.56 | 0.00 | 101.92 | - | N/A | N/A |
| a) 4824 | 47.42 | PK | V | 31.40 | 4.50 | 26.82 | 56.50 | 46.96 | 74.00 | 27.04 |
| a) 4824 | 34.48 | AV | V | 31.40 | 4.50 | 26.82 | 43.56 | 34.02 | 54.00 | 19.98 |
| a) 7236 | 47.24 | PK | V | 35.30 | 5.15 | 27.00 | 60.69 | 51.15 | 74.00 | 22.85 |
| a) 7236 | 34.48 | AV | V | 35.30 | 5.15 | 27.00 | 47.93 | 38.39 | 54.00 | 15.61 |
| a) 9648 | 47.86 | PK | V | 37.00 | 6.25 | 25.65 | 65.46 | 55.92 | 74.00 | 18.08 |
| a) 9648 | 34.48 | AV | V | 37.00 | 6.25 | 25.65 | 52.08 | 42.54 | 54.00 | 11.46 |
| 280 | 45.28 | QP | V | 13.37 | 0.26 | 26.20 | 32.71 | - | 46.00 | 13.29 |
| 2399.95 | 58.38 | PK | V | 23.20 | 2.56 | 26.85 | 57.29 | - | 74.00 | 16.71 |
| 2399.95 | 44.18 | AV | V | 23.20 | 2.56 | 26.85 | 43.09 | - | 54.00 | 10.91 |
| 2483.55 | 47.54 | PK | V | 23.20 | 2.57 | 26.85 | 46.46 | - | 74.00 | 27.54 |
| 2483.55 | 34.28 | AV | V | 23.20 | 2.57 | 26.85 | 33.20 | - | 54.00 | 20.80 |
| 802.11b mode, Middle Channel: 2437 MHz | | | | | | | | | | |
| 2437 | 77.49 | PK | H | 23.20 | 2.56 | 0.00 | 103.25 | - | N/A | N/A |
| 2437 | 73.39 | AV | H | 23.20 | 2.56 | 0.00 | 99.15 | - | N/A | N/A |
| 2437 | 81.62 | PK | V | 23.20 | 2.56 | 0.00 | 107.38 | - | N/A | N/A |
| 2437 | 76.82 | AV | V | 23.20 | 2.56 | 0.00 | 102.58 | - | N/A | N/A |
| a) 4874 | 48.26 | PK | V | 31.40 | 4.50 | 26.82 | 57.34 | 47.80 | 74.00 | 26.20 |
| a) 4874 | 35.51 | AV | V | 31.40 | 4.50 | 26.82 | 44.59 | 35.05 | 54.00 | 18.95 |
| a) 7311 | 48.29 | PK | V | 35.30 | 5.15 | 27.00 | 61.74 | 52.20 | 74.00 | 21.80 |
| a) 7311 | 35.34 | AV | V | 35.30 | 5.15 | 27.00 | 48.79 | 39.25 | 54.00 | 14.75 |
| a) 9748 | 48.16 | PK | V | 37.00 | 6.25 | 25.65 | 65.76 | 56.22 | 74.00 | 17.78 |
| a) 9748 | 35.26 | AV | V | 37.00 | 6.25 | 25.65 | 52.86 | 43.32 | 54.00 | 10.68 |
| 280 | 46.27 | PK | V | 13.37 | 0.26 | 26.20 | 33.70 | - | 46.00 | 12.30 |
| 2399.95 | 48.21 | AV | V | 23.20 | 2.56 | 26.85 | 47.12 | - | 74.00 | 26.88 |
| 2399.95 | 36.33 | PK | V | 23.20 | 2.56 | 26.85 | 35.24 | - | 54.00 | 18.76 |
| 2483.55 | 48.47 | AV | V | 23.20 | 2.57 | 26.85 | 47.39 | - | 74.00 | 26.61 |
| 2483.55 | 35.67 | QP | V | 23.20 | 2.57 | 26.85 | 34.59 | - | 54.00 | 19.41 |
| 802.11b mode, High Channel: 2462 MHz | | | | | | | | | | |
| 2462 | 79.49 | PK | H | 23.20 | 2.56 | 0.00 | 105.25 | - | N/A | N/A |
| 2462 | 69.41 | AV | H | 23.20 | 2.56 | 0.00 | 100.17 | - | N/A | N/A |
| 2462 | 83.56 | PK | V | 23.20 | 2.56 | 0.00 | 109.32 | - | N/A | N/A |
| 2462 | 77.28 | AV | V | 23.20 | 2.56 | 0.00 | 103.04 | - | N/A | N/A |
| a) 4924 | 51.14 | PK | V | 31.40 | 4.50 | 26.82 | 60.22 | 50.68 | 74.00 | 23.32 |
| a) 4924 | 39.23 | AV | V | 31.40 | 4.50 | 26.82 | 48.31 | 38.77 | 54.00 | 15.23 |
| a) 7386 | 50.27 | PK | V | 35.30 | 5.15 | 27.00 | 63.72 | 54.18 | 74.00 | 19.82 |
| a) 7386 | 38.74 | AV | V | 35.30 | 5.15 | 27.00 | 52.19 | 42.65 | 54.00 | 11.35 |
| a) 9848 | 50.38 | PK | V | 37.00 | 6.25 | 25.65 | 67.98 | 58.44 | 74.00 | 15.56 |
| a) 9848 | 38.16 | AV | V | 37.00 | 6.25 | 25.65 | 55.76 | 46.22 | 54.00 | 7.78 |
| 280 | 45.62 | PK | V | 13.37 | 0.26 | 26.20 | 33.05 | - | 46.00 | 12.95 |
| 2399.95 | 47.29 | AV | V | 23.20 | 2.56 | 26.85 | 46.20 | - | 74.00 | 27.80 |
| 2399.95 | 35.33 | PK | V | 23.20 | 2.56 | 26.85 | 34.24 | - | 54.00 | 19.76 |
| 2483.55 | 55.37 | AV | V | 23.20 | 2.57 | 26.85 | 54.29 | - | 74.00 | 19.71 |
| 2483.55 | 39.88 | QP | V | 23.20 | 2.57 | 26.85 | 38.80 | - | 54.00 | 15.20 |

a): See Note of Page 28.

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBµV/m) | Extrapolation Result (dBµV/m) | FCC 15.247 | |
|--|-------------------|------------------------|----------------|----------------|-----------------------|---------------------------|------------------------------------|-------------------------------------|-------------------|----------------|
| | Reading (dBµV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | Limit (dBµV/m) | Margin (dB) |
| 802.11g mode, Low Channel: 2412 MHz | | | | | | | | | | |
| 2412 | 74.28 | PK | H | 23.20 | 2.56 | 0.00 | 100.04 | - | N/A | N/A |
| 2412 | 68.86 | AV | H | 23.20 | 2.56 | 0.00 | 94.62 | - | N/A | N/A |
| 2412 | 77.36 | PK | V | 23.20 | 2.56 | 0.00 | 103.12 | - | N/A | N/A |
| 2412 | 70.32 | AV | V | 23.20 | 2.56 | 0.00 | 96.08 | - | N/A | N/A |
| a) 4824 | 49.64 | PK | V | 31.40 | 4.50 | 26.82 | 58.72 | 49.18 | 74.00 | 24.82 |
| a) 4824 | 36.33 | AV | V | 31.40 | 4.50 | 26.82 | 45.41 | 35.87 | 54.00 | 18.13 |
| a) 7236 | 49.32 | PK | V | 35.30 | 5.15 | 27.00 | 62.77 | 53.23 | 74.00 | 20.77 |
| a) 7236 | 36.27 | AV | V | 35.30 | 5.15 | 27.00 | 49.72 | 40.18 | 54.00 | 13.82 |
| a) 9648 | 49.56 | PK | V | 37.00 | 6.25 | 25.65 | 67.16 | 57.62 | 74.00 | 16.38 |
| a) 9648 | 36.55 | AV | V | 37.00 | 6.25 | 25.65 | 54.15 | 44.61 | 54.00 | 9.39 |
| 280 | 44.33 | PK | V | 13.37 | 0.26 | 26.20 | 31.76 | - | 46.00 | 14.24 |
| 2399.95 | 55.96 | AV | V | 23.20 | 2.56 | 26.85 | 54.87 | - | 74.00 | 19.13 |
| 2399.95 | 44.65 | PK | V | 23.20 | 2.56 | 26.85 | 43.56 | - | 54.00 | 10.44 |
| 2483.55 | 45.86 | AV | V | 23.20 | 2.57 | 26.85 | 44.78 | - | 74.00 | 29.22 |
| 2483.55 | 35.82 | QP | V | 23.20 | 2.57 | 26.85 | 34.74 | - | 54.00 | 19.26 |
| 802.11g mode, Middle Channel: 2437 MHz | | | | | | | | | | |
| 2437 | 73.18 | PK | H | 23.20 | 2.56 | 0.00 | 98.94 | - | N/A | N/A |
| 2437 | 69.63 | AV | H | 23.20 | 2.56 | 0.00 | 95.39 | - | N/A | N/A |
| 2437 | 76.41 | PK | V | 23.20 | 2.56 | 0.00 | 102.17 | - | N/A | N/A |
| 2437 | 71.26 | AV | V | 23.20 | 2.56 | 0.00 | 97.02 | - | N/A | N/A |
| a) 4874 | 49.52 | PK | V | 31.40 | 4.50 | 26.82 | 58.60 | 49.06 | 74.00 | 24.94 |
| a) 4874 | 36.54 | AV | V | 31.40 | 4.50 | 26.82 | 45.62 | 36.08 | 54.00 | 17.92 |
| a) 7311 | 49.72 | PK | V | 35.30 | 5.15 | 27.00 | 63.17 | 53.63 | 74.00 | 20.37 |
| a) 7311 | 36.63 | AV | V | 35.30 | 5.15 | 27.00 | 50.08 | 40.54 | 54.00 | 13.46 |
| a) 9748 | 49.27 | PK | V | 37.00 | 6.25 | 25.65 | 66.87 | 57.33 | 74.00 | 16.67 |
| a) 9748 | 36.56 | AV | V | 37.00 | 6.25 | 25.65 | 54.16 | 44.62 | 54.00 | 9.38 |
| 280 | 44.52 | PK | V | 13.37 | 0.26 | 26.20 | 31.95 | - | 46.00 | 14.05 |
| 2399.95 | 45.49 | AV | V | 23.20 | 2.56 | 26.85 | 44.40 | - | 74.00 | 29.60 |
| 2399.95 | 35.27 | PK | V | 23.20 | 2.56 | 26.85 | 34.18 | - | 54.00 | 19.82 |
| 2483.55 | 45.36 | AV | V | 23.20 | 2.57 | 26.85 | 44.28 | - | 74.00 | 29.72 |
| 2483.55 | 35.19 | QP | V | 23.20 | 2.57 | 26.85 | 34.11 | - | 54.00 | 19.89 |
| 802.11g mode, High Channel: 2462 MHz | | | | | | | | | | |
| 2462 | 73.38 | PK | H | 23.20 | 2.56 | 0.00 | 99.14 | - | N/A | N/A |
| 2462 | 68.86 | AV | H | 23.20 | 2.56 | 0.00 | 94.62 | - | N/A | N/A |
| 2462 | 77.46 | PK | V | 23.20 | 2.56 | 0.00 | 103.22 | - | N/A | N/A |
| 2462 | 71.29 | AV | V | 23.20 | 2.56 | 0.00 | 97.05 | - | N/A | N/A |
| a) 4924 | 49.85 | PK | V | 31.40 | 4.50 | 26.82 | 58.93 | 49.39 | 74.00 | 24.61 |
| a) 4924 | 36.64 | AV | V | 31.40 | 4.50 | 26.82 | 45.72 | 36.18 | 54.00 | 17.82 |
| a) 7386 | 48.67 | PK | V | 35.30 | 5.15 | 27.00 | 62.12 | 52.58 | 74.00 | 21.42 |
| a) 7386 | 36.16 | AV | V | 35.30 | 5.15 | 27.00 | 49.61 | 40.07 | 54.00 | 13.93 |
| a) 9848 | 48.35 | PK | V | 37.00 | 6.25 | 25.65 | 65.95 | 56.41 | 74.00 | 17.59 |
| a) 9848 | 36.17 | AV | V | 37.00 | 6.25 | 25.65 | 53.77 | 44.23 | 54.00 | 9.77 |
| 280 | 44.73 | PK | V | 13.37 | 0.26 | 26.20 | 32.16 | - | 46.00 | 13.84 |
| 2399.95 | 45.63 | AV | V | 23.20 | 2.56 | 26.85 | 44.54 | - | 74.00 | 29.46 |
| 2399.95 | 35.61 | PK | V | 23.20 | 2.56 | 26.85 | 34.52 | - | 54.00 | 19.48 |
| 2483.55 | 53.28 | AV | V | 23.20 | 2.57 | 26.85 | 52.20 | - | 74.00 | 21.80 |
| 2483.55 | 42.21 | QP | V | 23.20 | 2.57 | 26.85 | 41.13 | - | 54.00 | 12.87 |

a): See **Note** of Page 28.

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBµV/m) | Extrapolation Result (dBµV/m) | FCC 15.247 | |
|--|-------------------|------------------------|----------------|----------------|-----------------------|---------------------------|------------------------------------|-------------------------------------|-------------------|----------------|
| | Reading (dBµV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | Limit (dBµV/m) | Margin (dB) |
| 802.11n HT20 mode, Low Channel: 2412 MHz | | | | | | | | | | |
| 2412 | 71.12 | PK | H | 23.20 | 2.56 | 0.00 | 96.88 | - | N/A | N/A |
| 2412 | 63.25 | AV | H | 23.20 | 2.56 | 0.00 | 89.01 | - | N/A | N/A |
| 2412 | 73.29 | PK | V | 23.20 | 2.56 | 0.00 | 99.05 | - | N/A | N/A |
| 2412 | 64.43 | AV | V | 23.20 | 2.56 | 0.00 | 90.19 | - | N/A | N/A |
| a) 4824 | 48.16 | PK | V | 31.40 | 4.50 | 26.82 | 57.24 | 47.70 | 74.00 | 26.30 |
| a) 4824 | 39.83 | AV | V | 31.40 | 4.50 | 26.82 | 48.91 | 39.37 | 54.00 | 14.63 |
| a) 7236 | 49.17 | PK | V | 35.30 | 5.15 | 27.00 | 62.62 | 53.08 | 74.00 | 20.92 |
| a) 7236 | 39.23 | AV | V | 35.30 | 5.15 | 27.00 | 52.68 | 43.14 | 54.00 | 10.86 |
| a) 9648 | 48.38 | PK | V | 37.00 | 6.25 | 25.65 | 65.98 | 56.44 | 74.00 | 17.56 |
| a) 9648 | 38.52 | AV | V | 37.00 | 6.25 | 25.65 | 56.12 | 46.58 | 54.00 | 7.42 |
| 280 | 46.42 | PK | V | 13.37 | 0.26 | 26.20 | 33.85 | - | 46.00 | 12.15 |
| 2399.95 | 54.35 | AV | V | 23.20 | 2.56 | 26.85 | 53.26 | - | 74.00 | 20.74 |
| 2399.95 | 42.01 | PK | V | 23.20 | 2.56 | 26.85 | 40.92 | - | 54.00 | 13.08 |
| 2483.55 | 45.51 | AV | V | 23.20 | 2.57 | 26.85 | 44.43 | - | 74.00 | 29.57 |
| 2483.55 | 34.52 | QP | V | 23.20 | 2.57 | 26.85 | 33.44 | - | 54.00 | 20.56 |
| 802.11n HT20mode, Middle Channel: 2437 MHz | | | | | | | | | | |
| 2437 | 69.28 | PK | H | 23.20 | 2.56 | 0.00 | 95.04 | - | N/A | N/A |
| 2437 | 64.39 | AV | H | 23.20 | 2.56 | 0.00 | 90.15 | - | N/A | N/A |
| 2437 | 72.52 | PK | V | 23.20 | 2.56 | 0.00 | 98.28 | - | N/A | N/A |
| 2437 | 65.31 | AV | V | 23.20 | 2.56 | 0.00 | 91.07 | - | N/A | N/A |
| a) 4874 | 49.55 | PK | V | 31.40 | 4.50 | 26.82 | 58.63 | 49.09 | 74.00 | 24.91 |
| a) 4874 | 38.24 | AV | V | 31.40 | 4.50 | 26.82 | 47.32 | 37.78 | 54.00 | 16.22 |
| a) 7311 | 49.28 | PK | V | 35.30 | 5.15 | 27.00 | 62.73 | 53.19 | 74.00 | 20.81 |
| a) 7311 | 39.17 | AV | V | 35.30 | 5.15 | 27.00 | 52.62 | 43.08 | 54.00 | 10.92 |
| a) 9748 | 49.54 | PK | V | 37.00 | 6.25 | 25.65 | 67.14 | 57.60 | 74.00 | 16.40 |
| a) 9748 | 39.63 | AV | V | 37.00 | 6.25 | 25.65 | 57.23 | 47.69 | 54.00 | 6.31 |
| 280 | 45.82 | PK | V | 13.37 | 0.26 | 26.20 | 33.25 | - | 46.00 | 12.75 |
| 2399.95 | 45.61 | AV | V | 23.20 | 2.56 | 26.85 | 44.52 | - | 74.00 | 29.48 |
| 2399.95 | 35.19 | PK | V | 23.20 | 2.56 | 26.85 | 34.10 | - | 54.00 | 19.90 |
| 2483.55 | 45.33 | AV | V | 23.20 | 2.57 | 26.85 | 44.25 | - | 74.00 | 29.75 |
| 2483.55 | 35.21 | QP | V | 23.20 | 2.57 | 26.85 | 34.13 | - | 54.00 | 19.87 |
| 802.11n HT20 mode, High Channel: 2462 MHz | | | | | | | | | | |
| 2462 | 70.26 | PK | H | 23.20 | 2.56 | 0.00 | 96.02 | - | N/A | N/A |
| 2462 | 65.52 | AV | H | 23.20 | 2.56 | 0.00 | 91.28 | - | N/A | N/A |
| 2462 | 72.11 | PK | V | 23.20 | 2.56 | 0.00 | 97.87 | - | N/A | N/A |
| 2462 | 67.92 | AV | V | 23.20 | 2.56 | 0.00 | 93.68 | - | N/A | N/A |
| a) 4924 | 50.33 | PK | V | 31.40 | 4.50 | 26.82 | 59.41 | 49.87 | 74.00 | 24.13 |
| a) 4924 | 39.83 | AV | V | 31.40 | 4.50 | 26.82 | 48.91 | 39.37 | 54.00 | 14.63 |
| a) 7386 | 50.52 | PK | V | 35.30 | 5.15 | 27.00 | 63.97 | 54.43 | 74.00 | 19.57 |
| a) 7386 | 39.67 | AV | V | 35.30 | 5.15 | 27.00 | 53.12 | 43.58 | 54.00 | 10.42 |
| a) 9848 | 50.46 | PK | V | 37.00 | 6.25 | 25.65 | 68.06 | 58.52 | 74.00 | 15.48 |
| a) 9848 | 39.48 | AV | V | 37.00 | 6.25 | 25.65 | 57.08 | 47.54 | 54.00 | 6.46 |
| 280 | 44.62 | PK | V | 13.37 | 0.26 | 26.20 | 32.05 | - | 46.00 | 13.95 |
| 2399.95 | 45.83 | AV | V | 23.20 | 2.56 | 26.85 | 44.74 | - | 74.00 | 29.26 |
| 2399.95 | 35.63 | PK | V | 23.20 | 2.56 | 26.85 | 34.54 | - | 54.00 | 19.46 |
| 2483.55 | 52.29 | AV | V | 23.20 | 2.57 | 26.85 | 51.21 | - | 74.00 | 22.79 |
| 2483.55 | 41.98 | QP | V | 23.20 | 2.57 | 26.85 | 40.90 | - | 54.00 | 13.10 |

a): See **Note** of Page 28.

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result (dBμV/m) | FCC 15.247 | |
|---|-------------------|------------------------|----------------|----------------|-----------------------|---------------------------|------------------------------------|-------------------------------------|-------------------|----------------|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | Limit (dBμV/m) | Margin (dB) |
| 802.11n HT40 mode, Low Channel: 2422 MHz | | | | | | | | | | |
| 2422 | 68.64 | PK | H | 23.20 | 2.56 | 0.00 | 94.40 | - | N/A | N/A |
| 2422 | 64.29 | AV | H | 23.20 | 2.56 | 0.00 | 90.05 | - | N/A | N/A |
| 2422 | 70.53 | PK | V | 23.20 | 2.56 | 0.00 | 96.29 | - | N/A | N/A |
| 2422 | 66.38 | AV | V | 23.20 | 2.56 | 0.00 | 92.14 | - | N/A | N/A |
| a) 4844 | 49.52 | PK | V | 31.40 | 4.50 | 26.82 | 58.60 | 49.06 | 74.00 | 24.94 |
| a) 4844 | 36.47 | AV | V | 31.40 | 4.50 | 26.82 | 45.55 | 36.01 | 54.00 | 17.99 |
| a) 7266 | 49.26 | PK | V | 35.30 | 5.15 | 27.00 | 62.71 | 53.17 | 74.00 | 20.83 |
| a) 7266 | 36.68 | AV | V | 35.30 | 5.15 | 27.00 | 50.13 | 40.59 | 54.00 | 13.41 |
| a) 9688 | 49.62 | PK | V | 37.00 | 6.25 | 25.65 | 67.22 | 57.68 | 74.00 | 16.32 |
| a) 9688 | 36.59 | AV | V | 37.00 | 6.25 | 25.65 | 54.19 | 44.65 | 54.00 | 9.35 |
| 280 | 47.64 | PK | V | 13.37 | 0.26 | 26.20 | 35.07 | - | 46.00 | 10.93 |
| 2399.95 | 52.35 | AV | V | 23.20 | 2.56 | 26.85 | 51.26 | - | 74.00 | 22.74 |
| 2399.95 | 39.95 | PK | V | 23.20 | 2.56 | 26.85 | 38.86 | - | 54.00 | 15.14 |
| 2483.55 | 43.59 | AV | V | 23.20 | 2.57 | 26.85 | 42.51 | - | 74.00 | 31.49 |
| 2483.55 | 33.28 | QP | V | 23.20 | 2.57 | 26.85 | 32.20 | - | 54.00 | 21.80 |
| 802.11n HT40 mode, Middle Channel: 2437 MHz | | | | | | | | | | |
| 2437 | 67.82 | PK | H | 23.20 | 2.56 | 0.00 | 93.58 | - | N/A | N/A |
| 2437 | 64.33 | AV | H | 23.20 | 2.56 | 0.00 | 90.09 | - | N/A | N/A |
| 2437 | 70.49 | PK | V | 23.20 | 2.56 | 0.00 | 96.25 | - | N/A | N/A |
| 2437 | 66.18 | AV | V | 23.20 | 2.56 | 0.00 | 91.94 | - | N/A | N/A |
| a) 4874 | 49.48 | PK | V | 31.40 | 4.50 | 26.82 | 58.56 | 49.02 | 74.00 | 24.98 |
| a) 4874 | 36.66 | AV | V | 31.40 | 4.50 | 26.82 | 45.74 | 36.20 | 54.00 | 17.80 |
| a) 7311 | 49.51 | PK | V | 35.30 | 5.15 | 27.00 | 62.96 | 53.42 | 74.00 | 20.58 |
| a) 7311 | 36.26 | AV | V | 35.30 | 5.15 | 27.00 | 49.71 | 40.17 | 54.00 | 13.83 |
| a) 9748 | 49.64 | PK | V | 37.00 | 6.25 | 25.65 | 67.24 | 57.70 | 74.00 | 16.30 |
| a) 9748 | 36.73 | AV | V | 37.00 | 6.25 | 25.65 | 54.33 | 44.79 | 54.00 | 9.21 |
| 280 | 48.27 | PK | V | 13.37 | 0.26 | 26.20 | 35.70 | - | 46.00 | 10.30 |
| 2399.95 | 43.28 | AV | V | 23.20 | 2.56 | 26.85 | 42.19 | - | 74.00 | 31.81 |
| 2399.95 | 33.49 | PK | V | 23.20 | 2.56 | 26.85 | 32.40 | - | 54.00 | 21.60 |
| 2483.55 | 43.85 | AV | V | 23.20 | 2.57 | 26.85 | 42.77 | - | 74.00 | 31.23 |
| 2483.55 | 33.76 | QP | V | 23.20 | 2.57 | 26.85 | 32.68 | - | 54.00 | 21.32 |
| 802.11n HT40 mode, High Channel: 2452 MHz | | | | | | | | | | |
| 2452 | 69.18 | PK | H | 23.20 | 2.56 | 0.00 | 94.94 | - | N/A | N/A |
| 2452 | 64.29 | AV | H | 23.20 | 2.56 | 0.00 | 90.05 | - | N/A | N/A |
| 2452 | 71.38 | PK | V | 23.20 | 2.56 | 0.00 | 97.14 | - | N/A | N/A |
| 2452 | 66.07 | AV | V | 23.20 | 2.56 | 0.00 | 91.83 | - | N/A | N/A |
| a) 4904 | 48.49 | PK | V | 31.40 | 4.50 | 26.82 | 57.57 | 48.03 | 74.00 | 25.97 |
| a) 4904 | 35.95 | AV | V | 31.40 | 4.50 | 26.82 | 45.03 | 35.49 | 54.00 | 18.51 |
| a) 7356 | 48.62 | PK | V | 35.30 | 5.15 | 27.00 | 62.07 | 52.53 | 74.00 | 21.47 |
| a) 7356 | 35.24 | AV | V | 35.30 | 5.15 | 27.00 | 48.69 | 39.15 | 54.00 | 14.85 |
| a) 9808 | 48.36 | PK | V | 37.00 | 6.25 | 25.65 | 65.96 | 56.42 | 74.00 | 17.58 |
| a) 9808 | 35.29 | AV | V | 37.00 | 6.25 | 25.65 | 52.89 | 43.35 | 54.00 | 10.65 |
| 280 | 46.76 | PK | V | 13.37 | 0.26 | 26.20 | 34.19 | - | 46.00 | 11.81 |
| 2399.95 | 43.64 | AV | V | 23.20 | 2.56 | 26.85 | 42.55 | - | 74.00 | 31.45 |
| 2399.95 | 34.52 | PK | V | 23.20 | 2.56 | 26.85 | 33.43 | - | 54.00 | 20.57 |
| 2483.55 | 52.83 | AV | V | 23.20 | 2.57 | 26.85 | 51.75 | - | 74.00 | 22.25 |
| 2483.55 | 40.19 | QP | V | 23.20 | 2.57 | 26.85 | 39.11 | - | 54.00 | 14.89 |

a): See **Note** of Page 28.

For co-location evaluation data (2.4 GHz & 5GHz work simultaneously)

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result (dBμV/m) | FCC 15.247 | |
|--------------------|-------------------|------------------------|----------------|----------------|-----------------------|---------------------------|------------------------------------|-------------------------------------|-------------------|----------------|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | Limit (dBμV/m) | Margin (dB) |
| a) 4824 | 47.62 | PK | V | 31.40 | 4.50 | 26.82 | 56.70 | 47.16 | 74.00 | 26.84 |
| a) 4824 | 35.14 | AV | V | 31.40 | 4.50 | 26.82 | 44.22 | 34.68 | 54.00 | 19.32 |
| a) 7236 | 47.52 | PK | V | 35.30 | 5.15 | 27.00 | 60.97 | 51.43 | 74.00 | 22.57 |
| a) 7236 | 34.33 | AV | V | 35.30 | 5.15 | 27.00 | 47.78 | 38.24 | 54.00 | 15.76 |
| a) 9648 | 47.48 | PK | V | 37.00 | 6.25 | 25.65 | 65.08 | 55.54 | 74.00 | 18.46 |
| a) 9648 | 34.81 | AV | V | 37.00 | 6.25 | 25.65 | 52.41 | 42.87 | 54.00 | 11.13 |
| 2399.95 | 58.28 | AV | V | 23.20 | 2.56 | 26.85 | 57.19 | - | 74.00 | 16.81 |
| 2399.95 | 44.86 | PK | V | 23.20 | 2.56 | 26.85 | 43.77 | - | 54.00 | 10.23 |
| 2483.55 | 47.36 | AV | V | 23.20 | 2.57 | 26.85 | 46.28 | - | 74.00 | 27.72 |
| 2483.55 | 33.59 | QP | V | 23.20 | 2.57 | 26.85 | 32.51 | - | 54.00 | 21.49 |
| a) 11490 | 44.82 | PK | V | 38.00 | 6.34 | 23.80 | 65.36 | 55.82 | 68.20 | 12.38 |
| a) 11490 | 32.66 | AV | V | 38.00 | 6.34 | 23.80 | 53.20 | 43.66 | 54.00 | 10.34 |
| a) 17235 | 38.41 | PK | V | 43.00 | 6.45 | 22.40 | 65.46 | 55.92 | 68.20 | 12.28 |
| a) 17235 | 30.05 | AV | V | 43.00 | 6.45 | 22.40 | 57.10 | 47.56 | 54.00 | 6.44 |
| 280 | 44.63 | QP | V | 13.37 | 0.26 | 26.20 | 32.06 | - | 46.00 | 13.94 |
| 5724.95 | 45.52 | PK | V | 32.50 | 4.10 | 26.55 | 55.57 | - | 78.20 | 22.63 |
| 5724.95 | 35.17 | AV | V | 32.50 | 4.10 | 26.55 | 45.22 | - | 54.00 | 8.78 |
| 5850.25 | 40.89 | PK | V | 32.50 | 4.20 | 26.55 | 51.04 | - | 78.20 | 27.16 |
| 5850.25 | 32.68 | AV | V | 32.50 | 4.20 | 26.55 | 42.83 | - | 54.00 | 11.17 |

Note a):

The distance between EUT and receiving antenna is for 1 m.

Extrapolation result = Corrected Amplitude-9.54

Margin = Limit- Extrapolation result

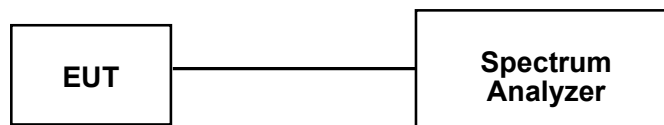
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------|---------------|------------------|----------------------|
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2013-10-17 | 2014-10-16 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

| | |
|---------------------------|-----------------------|
| Temperature: | 27 °C & 22 °C |
| Relative Humidity: | 56 % & 53 % |
| ATM Pressure: | 100.7 kPa & 100.7 kPa |

The testing was performed by Fidel Zhou on 2014-07-08 & 2014-07-10.

| | |
|---------------------------|-----------|
| Temperature: | 27 °C |
| Relative Humidity: | 57 % |
| ATM Pressure: | 100.9 kPa |

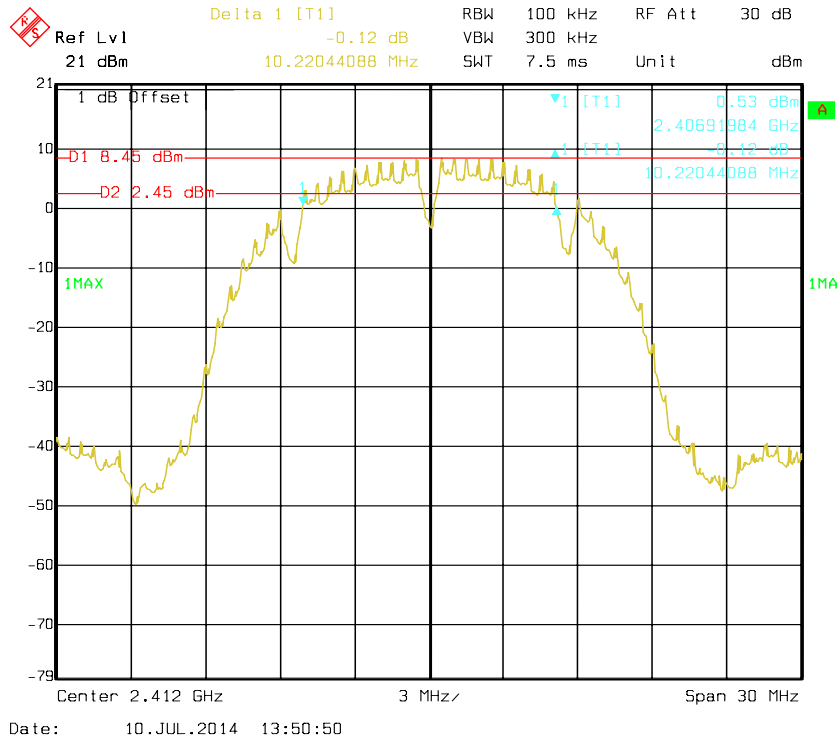
The testing was performed by Fidel Zhou on 2014-07-17.

Test Mode: Transmitting

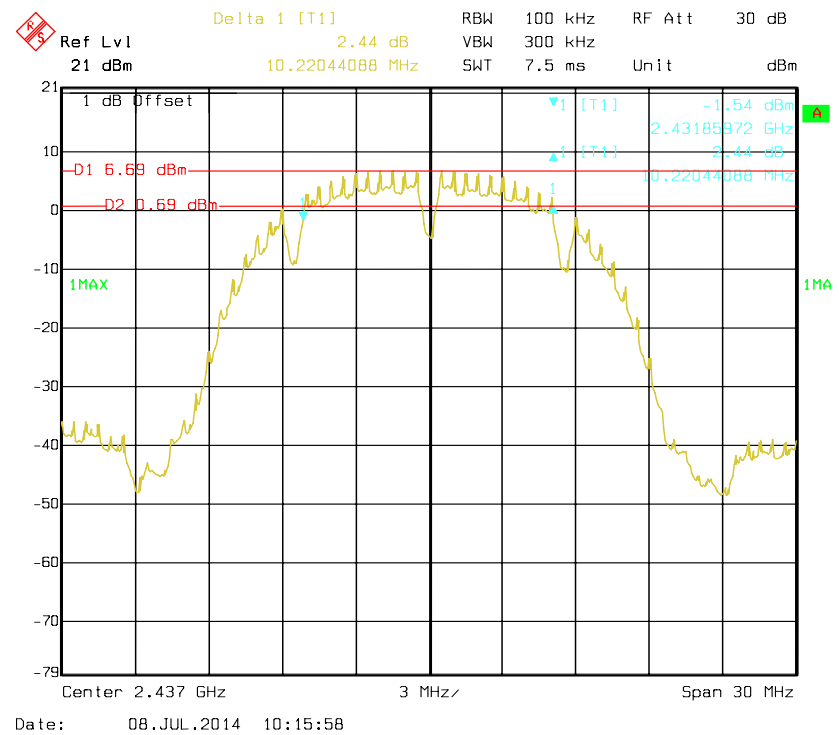
| Mode | Channel | Frequency (MHz) | 6 dB Bandwidth (MHz) | | FCC Limit (kHz) |
|------------------------|---------|-----------------|----------------------|-----------|-----------------|
| | | | Antenna 0 | Antenna 1 | |
| 2.4G band 802.11b | Low | 2412 | 10.22 | 10.22 | > 500 |
| | Middle | 2437 | 10.22 | 10.22 | > 500 |
| | High | 2462 | 10.22 | 10.22 | > 500 |
| 2.4G band 802.11g | Low | 2412 | 16.59 | 16.65 | > 500 |
| | Middle | 2437 | 16.71 | 16.63 | > 500 |
| | High | 2462 | 16.59 | 16.65 | > 500 |
| 2.4G band 802.11n HT20 | Low | 2412 | 17.91 | 17.91 | > 500 |
| | Middle | 2437 | 17.91 | 17.97 | > 500 |
| | High | 2462 | 17.91 | 17.91 | > 500 |
| 2.4G band 802.11n HT40 | Low | 2422 | 36.79 | 36.79 | > 500 |
| | Middle | 2437 | 36.79 | 36.91 | > 500 |
| | High | 2452 | 36.79 | 36.73 | > 500 |

Please refer to the following plots:

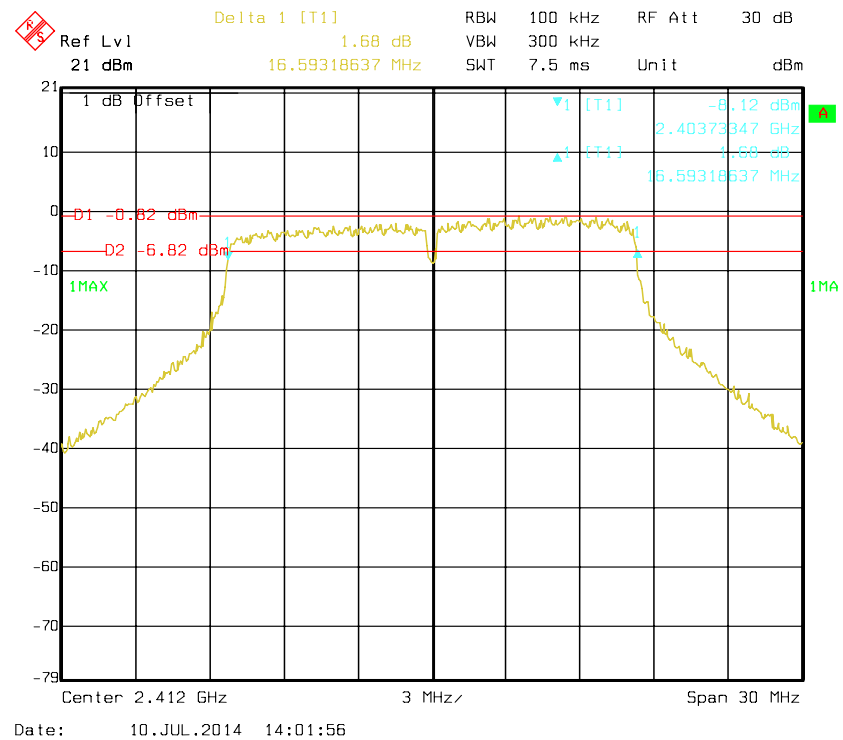
802.11b Low Channel for Antenna 0



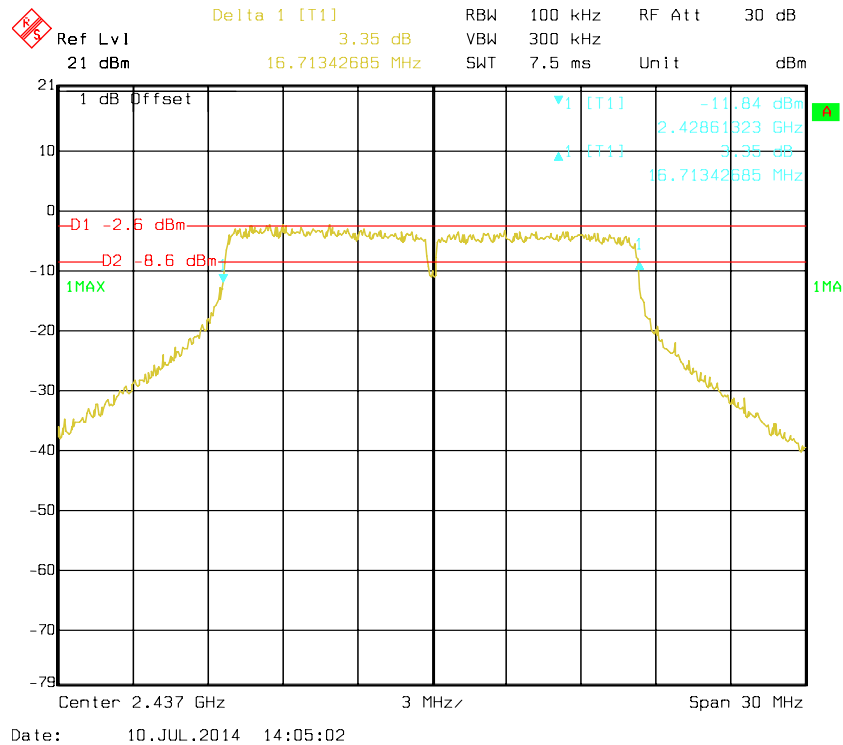
802.11b Middle Channel for Antenna 0



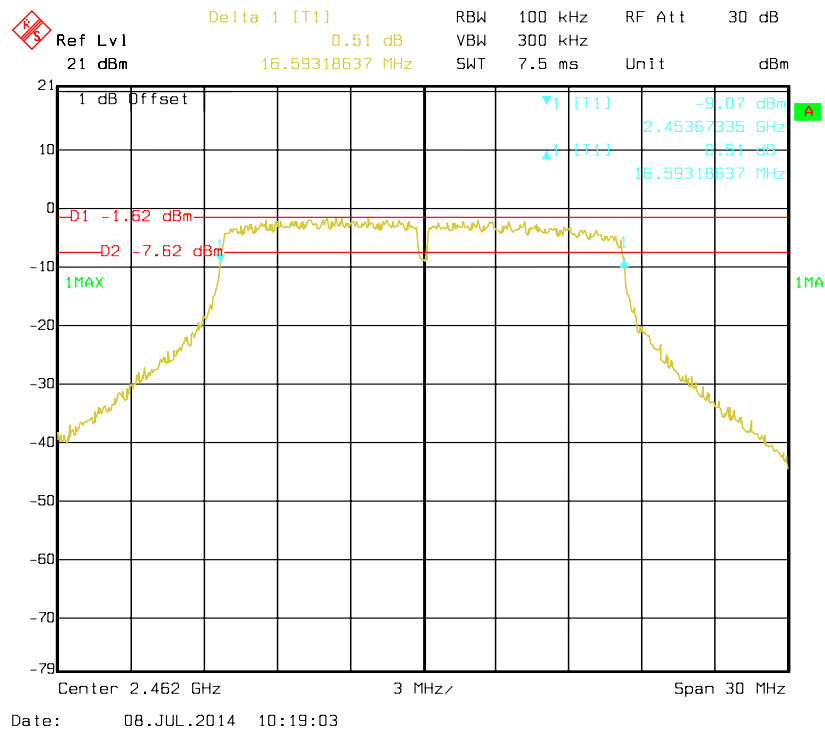
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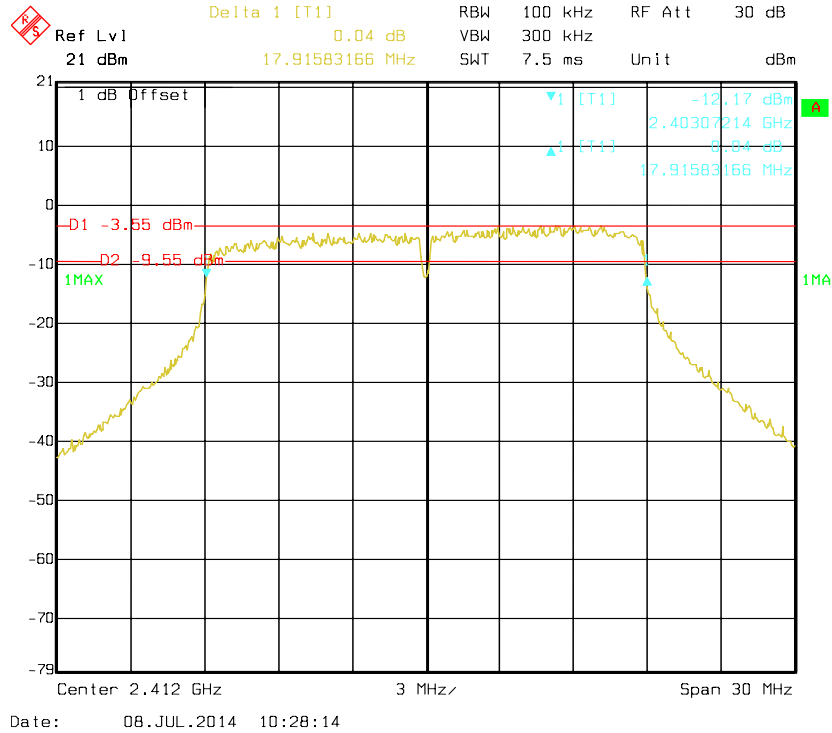
802.11g Middle Channel for Antenna 0



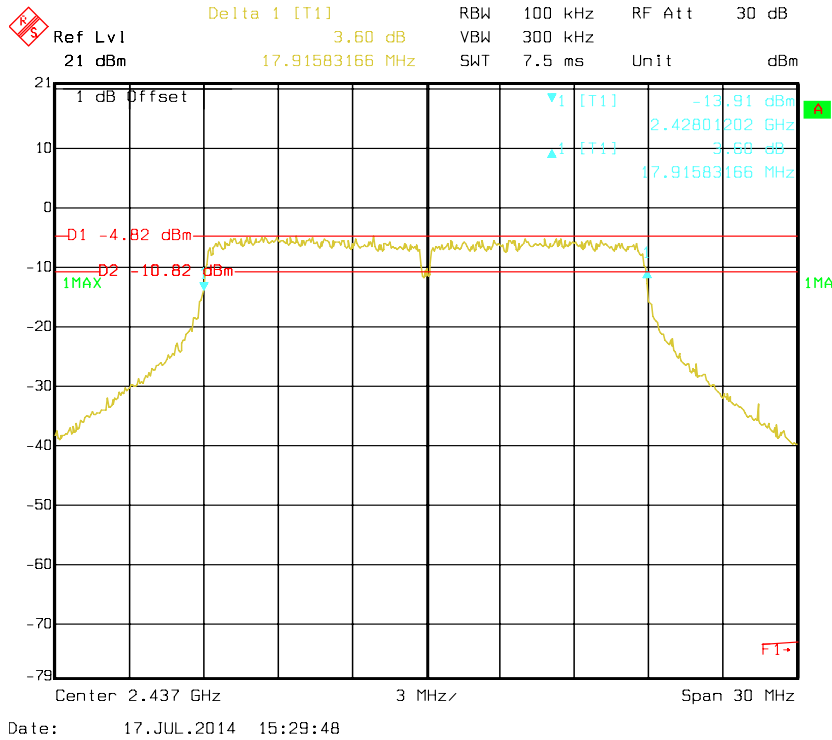
802.11g High Channel for Antenna 0



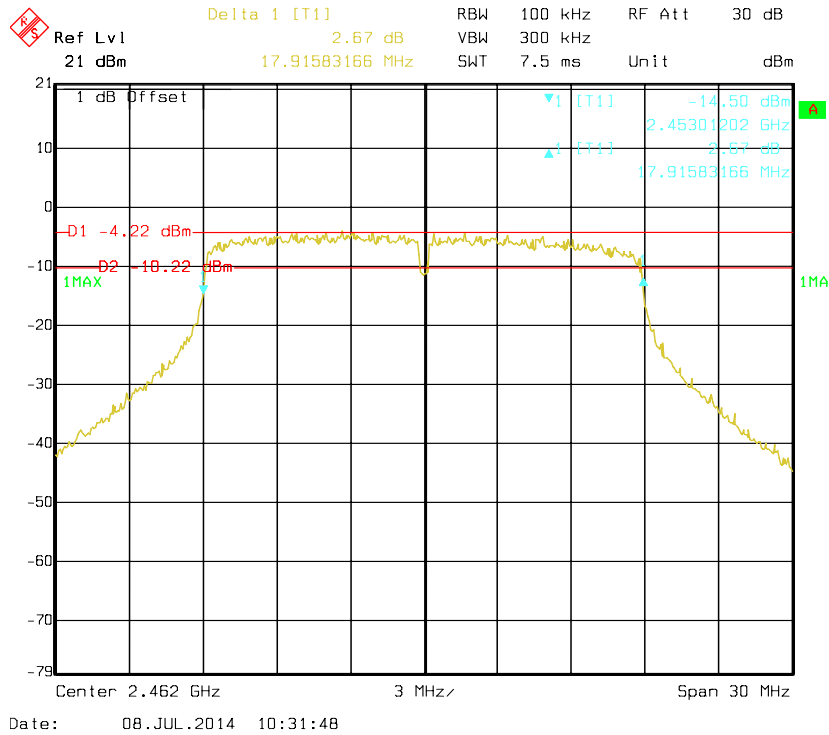
802.11n HT20 Low Channel for Antenna 0



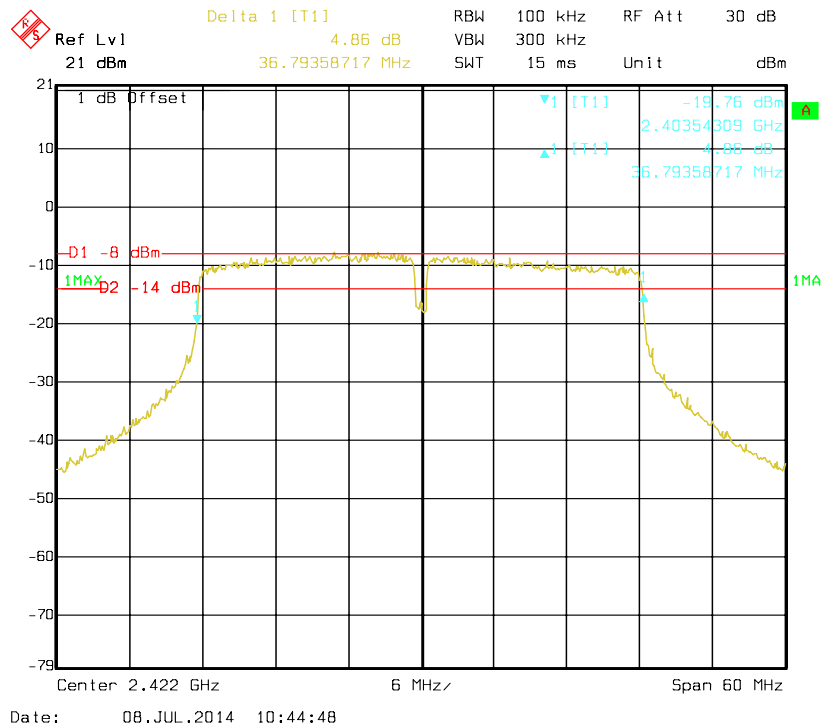
802.11n HT20 Middle Channel for Antenna 0



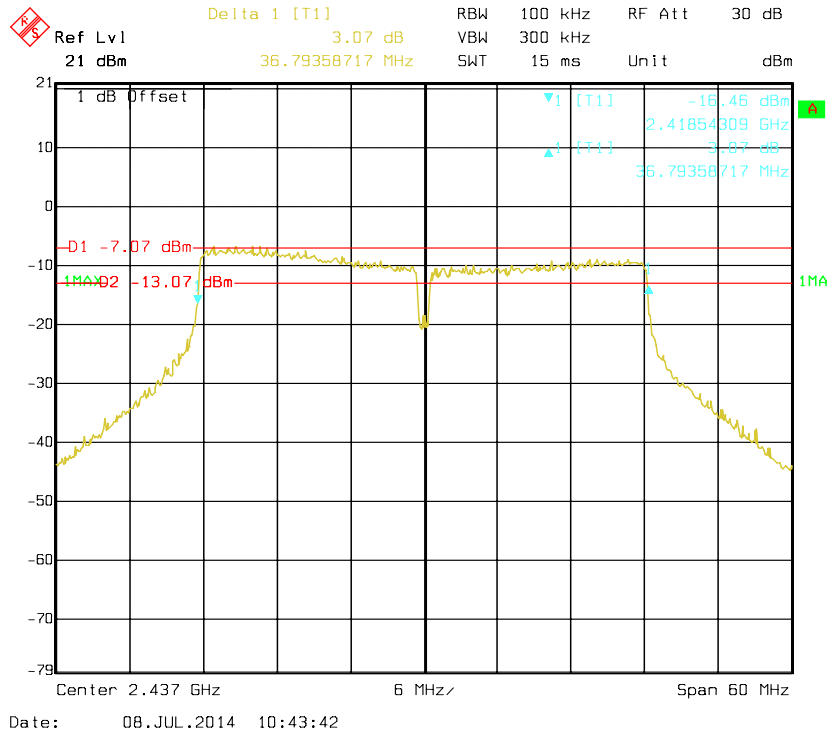
802.11n HT20 High Channel for Antenna 0



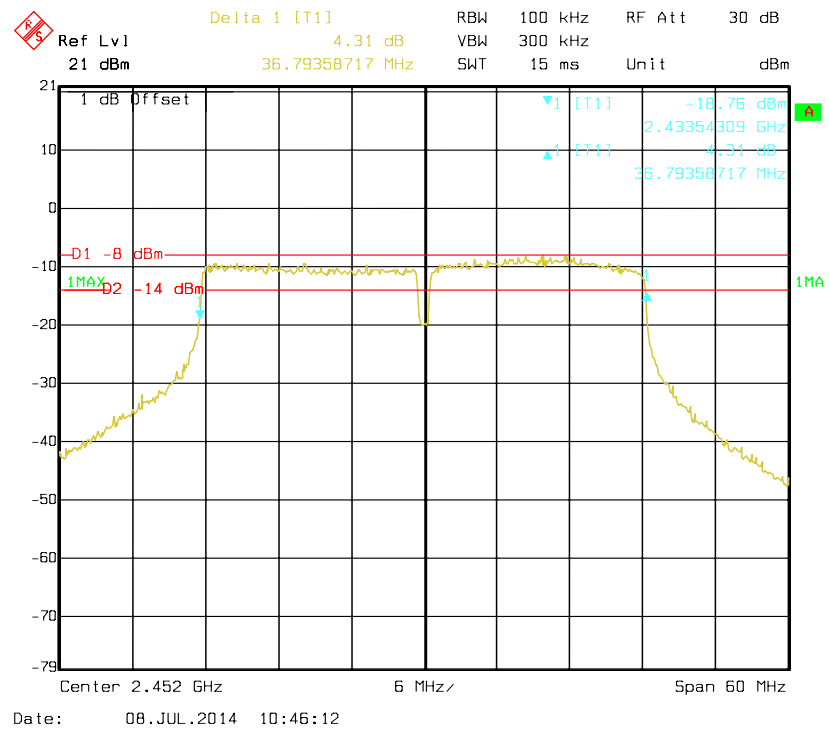
802.11n HT40 Low Channel for Antenna 0



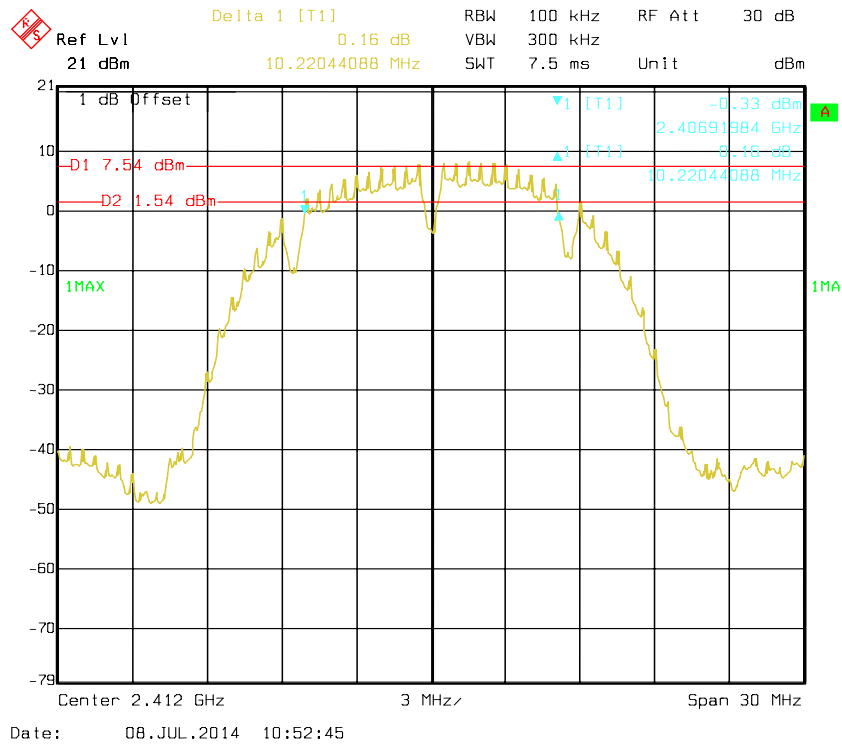
802.11n HT40 Middle Channel for Antenna 0



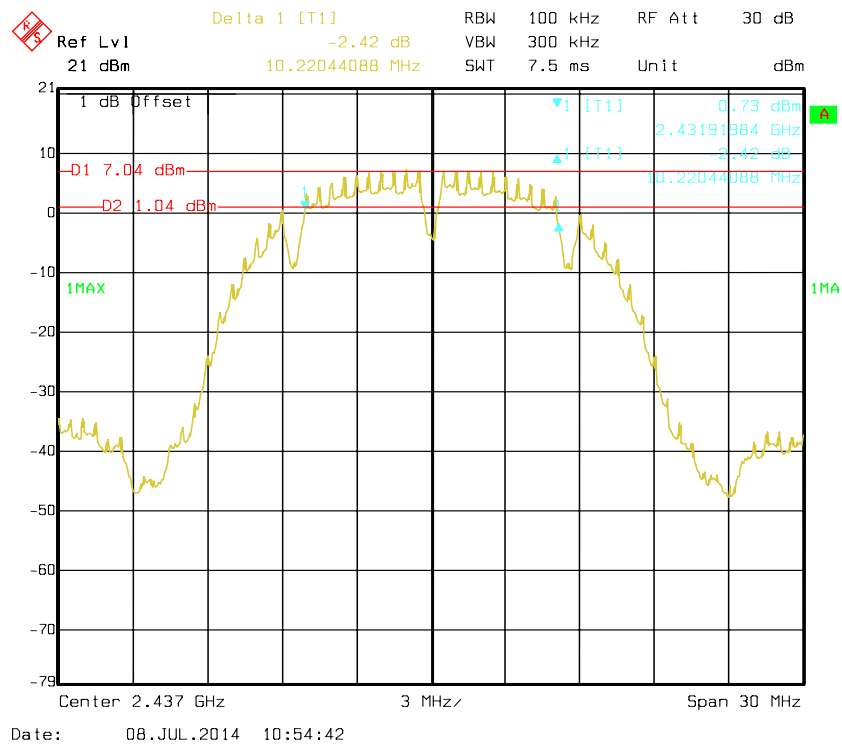
802.11n HT40 High Channel for Antenna 0



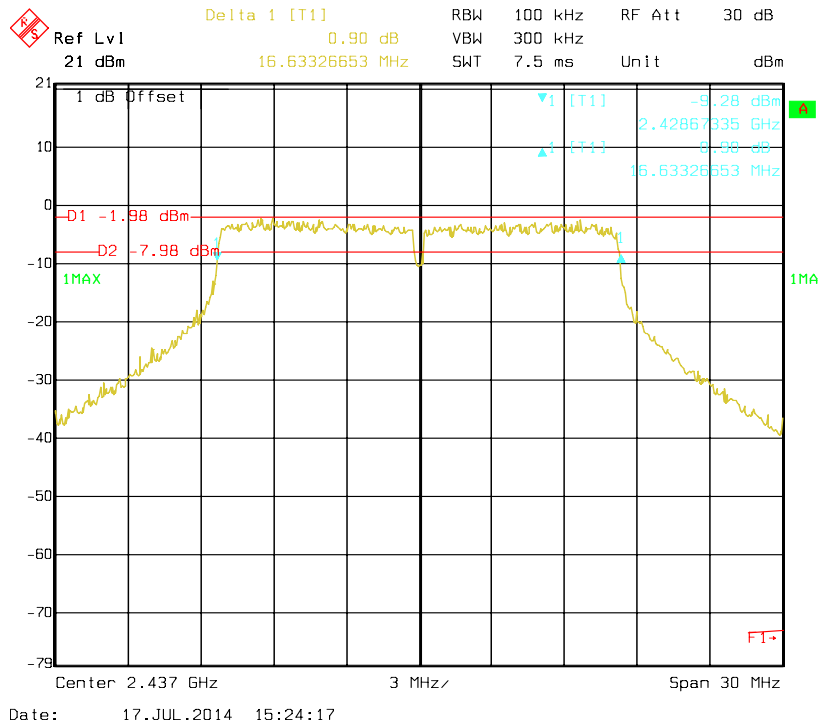
802.11b Low Channel for Antenna 1



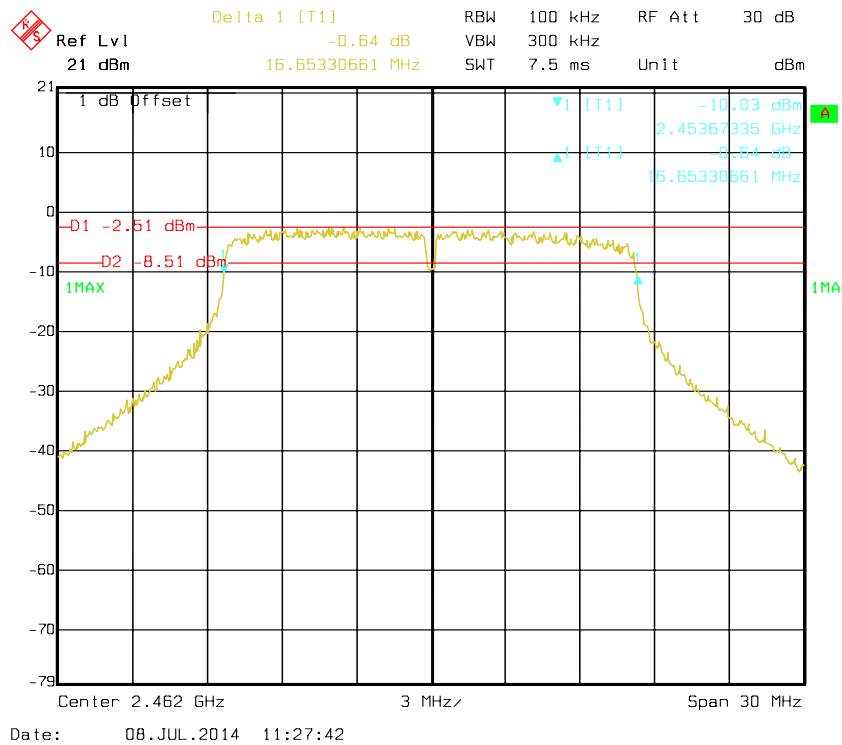
802.11b Middle Channel for Antenna 1



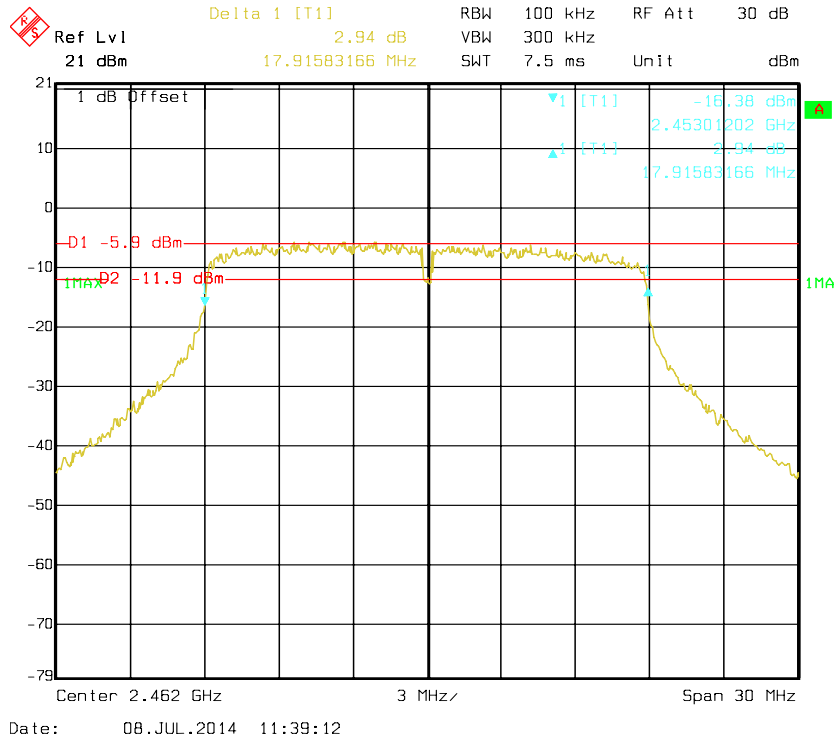
802.11g Middle Channel for Antenna 1



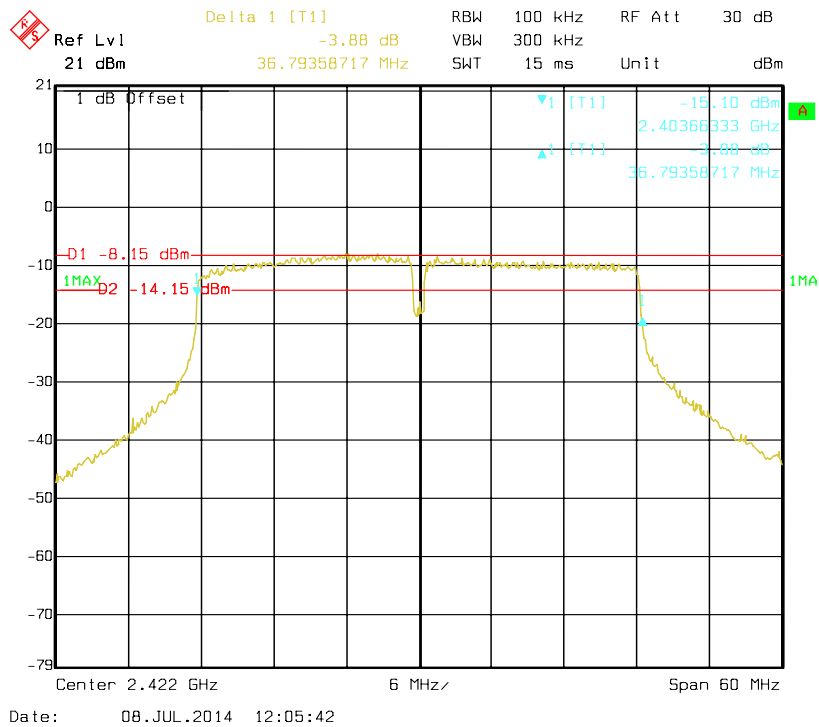
802.11g High Channel for Antenna 1



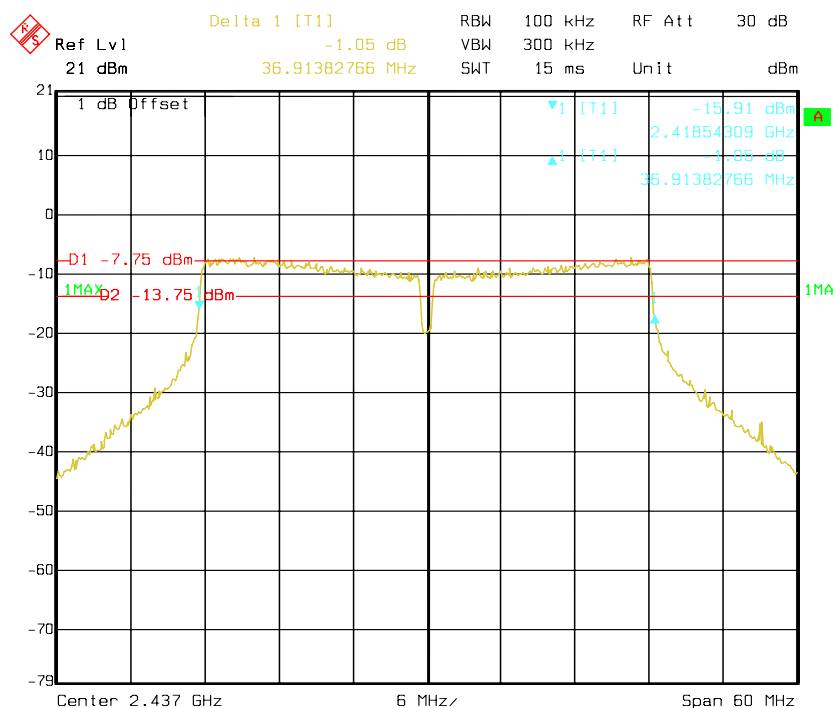
802.11n HT20 High Channel for Antenna 1



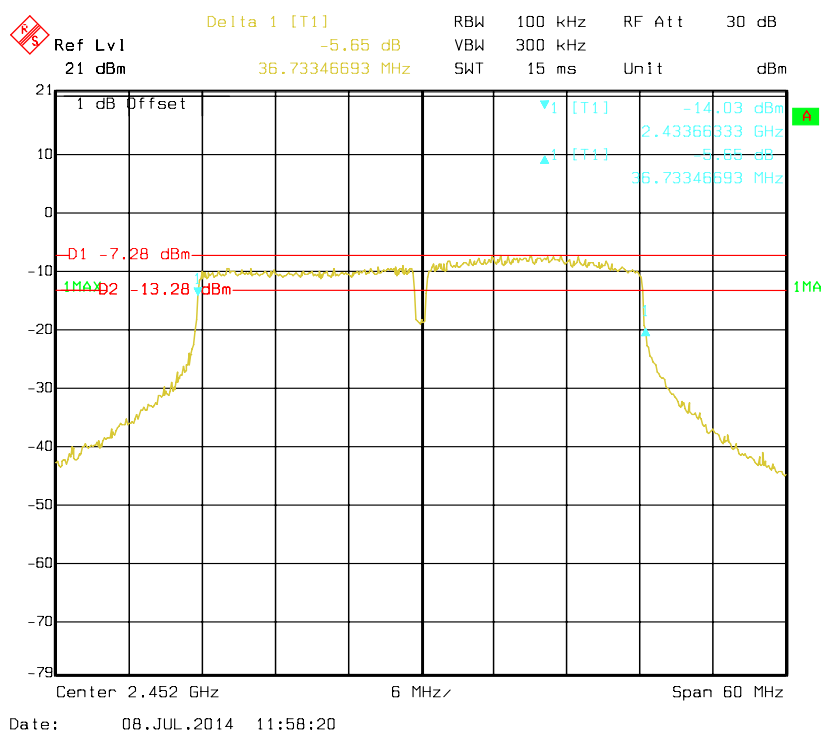
802.11n HT40 Low Channel for Antenna 1



802.11n HT40 Middle Channel for Antenna 1



802.11n HT40 High Channel for Antenna 1



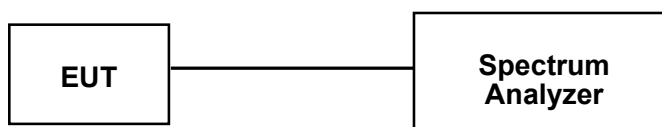
FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a spectrum analyzer.
3. Add a correction factor to the display.



Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------|---------------|------------------|----------------------|
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2013-10-17 | 2014-10-16 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

| | |
|---------------------------|-----------------------|
| Temperature: | 25 °C & 24 °C |
| Relative Humidity: | 49 % & 57 % |
| ATM Pressure: | 100.7 kPa & 100.5 kPa |

The testing was performed by Fidel Zhou on 2014-07-08 & 2014-07-10.

| | |
|---------------------------|-----------------------|
| Temperature: | 28 °C & 24 °C |
| Relative Humidity: | 56 % & 60 % |
| ATM Pressure: | 100.5 kPa & 101.6 kPa |

The testing was performed by Fidel Zhou on 2014-07-21 & 2014-09-18.

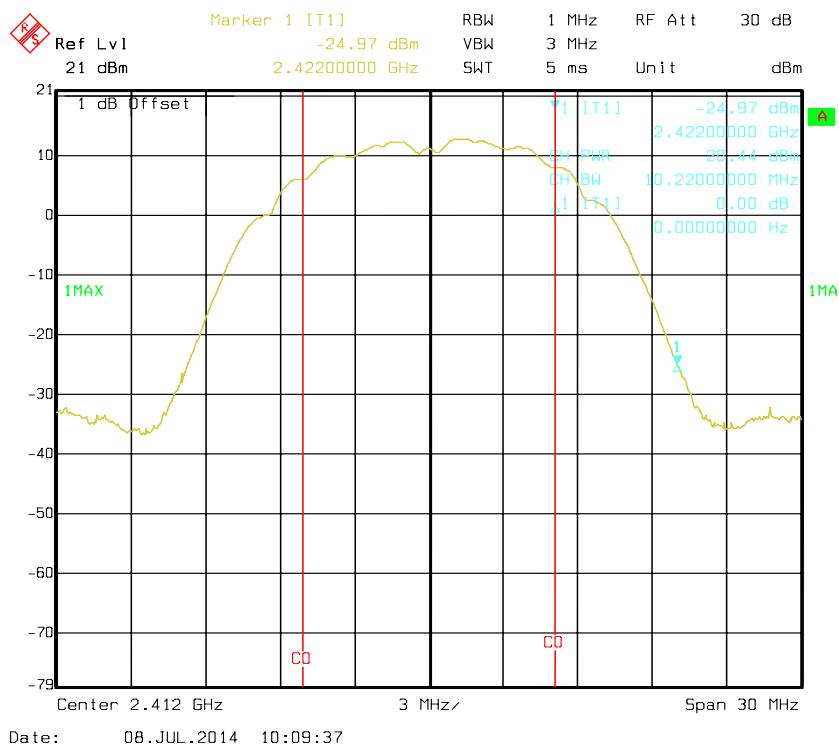
Test Mode: Transmitting

| Mode | Channel | Frequency (MHz) | Conducted Output Power (dBm) | | | Limit (dBm) | Result |
|------------------------|---------|-----------------|------------------------------|-----------|-------|-------------|--------|
| | | | Antenna 0 | Antenna 1 | Total | | |
| 2.4G band 802.11b | Low | 2412 | 20.44 | 19.20 | / | 30 | Pass |
| | Middle | 2437 | 19.08 | 19.19 | / | 30 | Pass |
| | High | 2462 | 19.98 | 18.44 | / | 30 | Pass |
| 2.4G band 802.11 g | Low | 2412 | 20.19 | 19.81 | / | 30 | Pass |
| | Middle | 2437 | 19.06 | 19.57 | / | 30 | Pass |
| | High | 2462 | 19.95 | 19.09 | / | 30 | Pass |
| 2.4G band 802.11n HT20 | Low | 2412 | 17.22 | 16.86 | 20.05 | 30 | Pass |
| | Middle | 2437 | 16.55 | 16.67 | 19.62 | 30 | Pass |
| | High | 2462 | 17.12 | 16.01 | 19.61 | 30 | Pass |
| 2.4G band 802.11n HT40 | Low | 2422 | 16.76 | 16.49 | 19.64 | 30 | Pass |
| | Middle | 2437 | 16.72 | 17.23 | 19.99 | 30 | Pass |
| | High | 2452 | 16.29 | 17.49 | 19.94 | 30 | Pass |

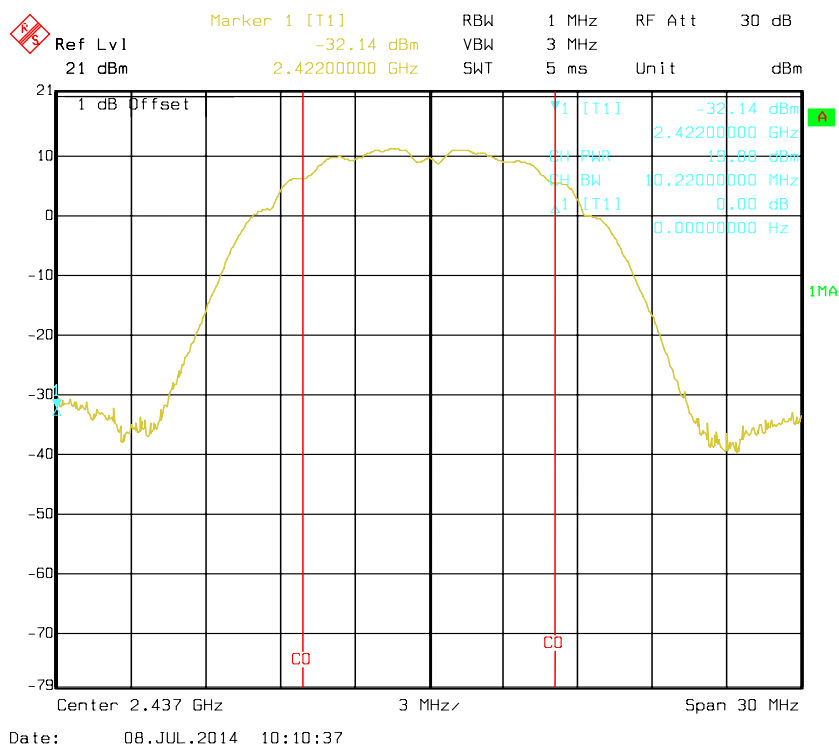
Note: Duty cycle is more than 98%.

Please refer to the following plots

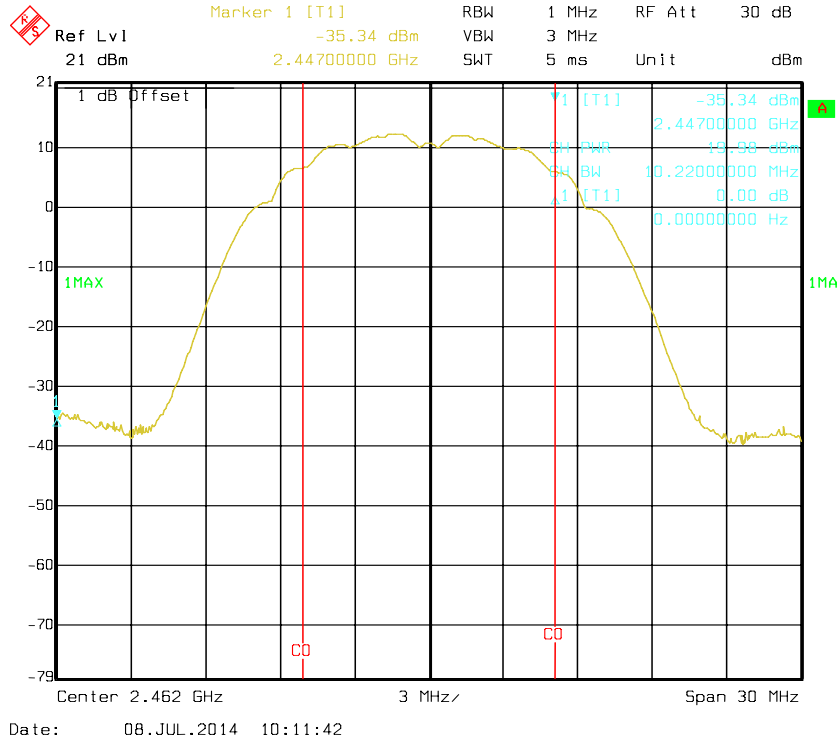
802.11b RF Output Power, Low Channel for Antenna 0



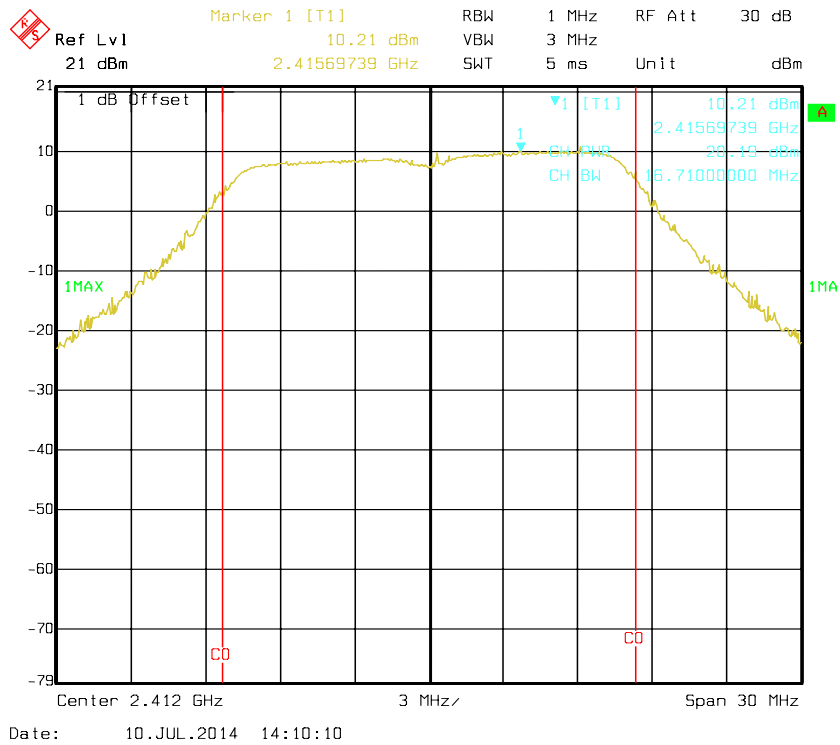
802.11b RF Output Power, Middle Channel for Antenna 0



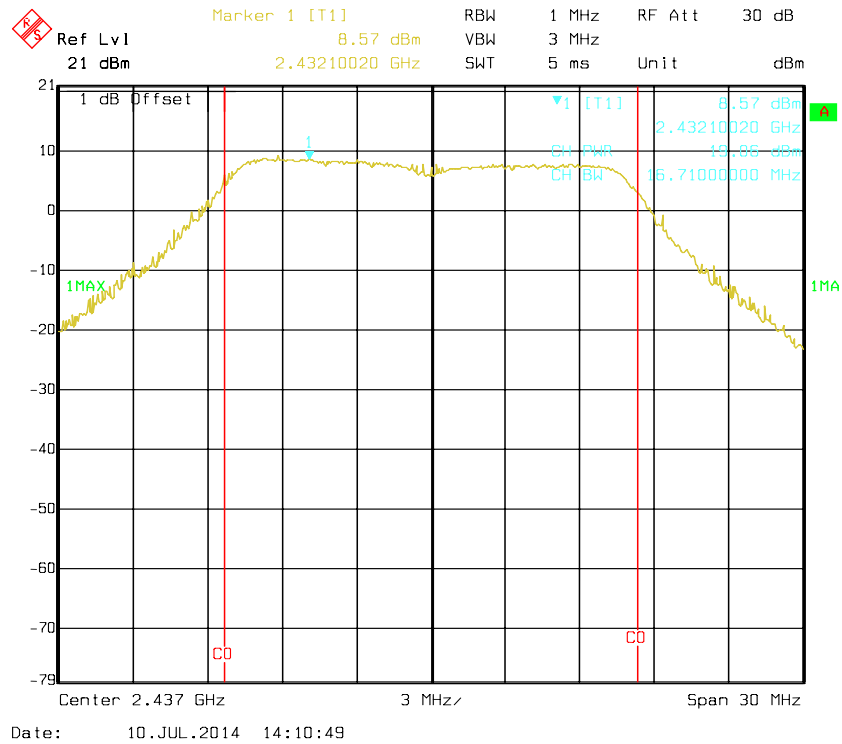
802.11b RF Output Power, High Channel for Antenna 0



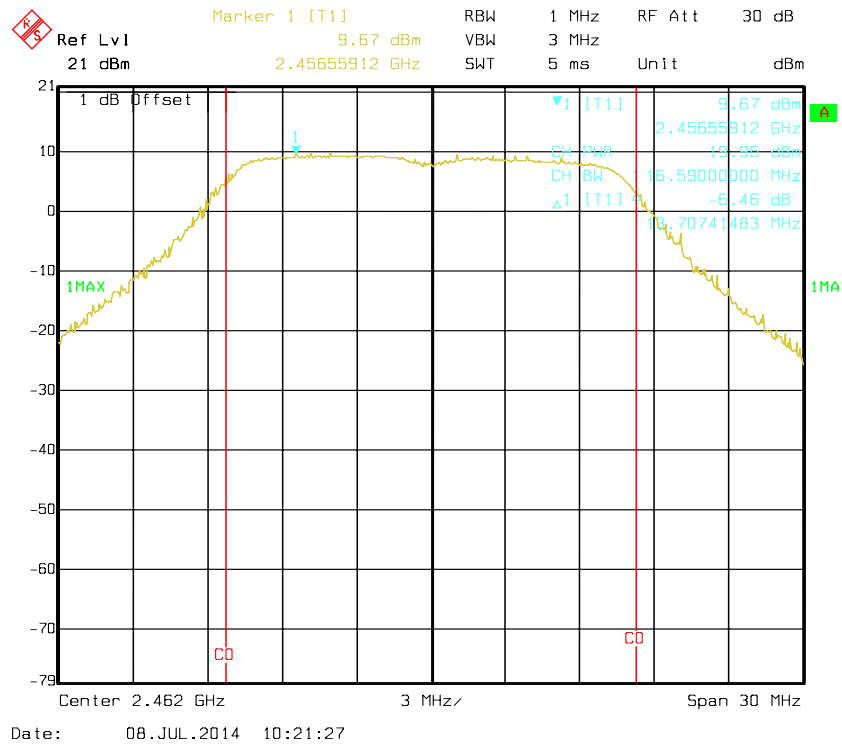
802.11g RF Output Power, Low Channel for Antenna 0



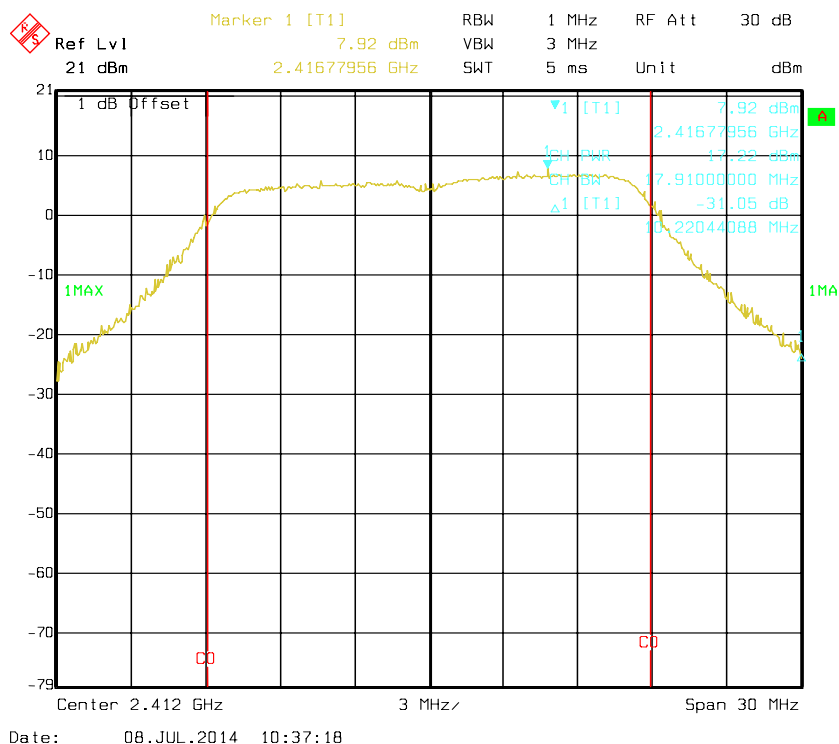
802.11g RF Output Power, Middle Channel for Antenna 0



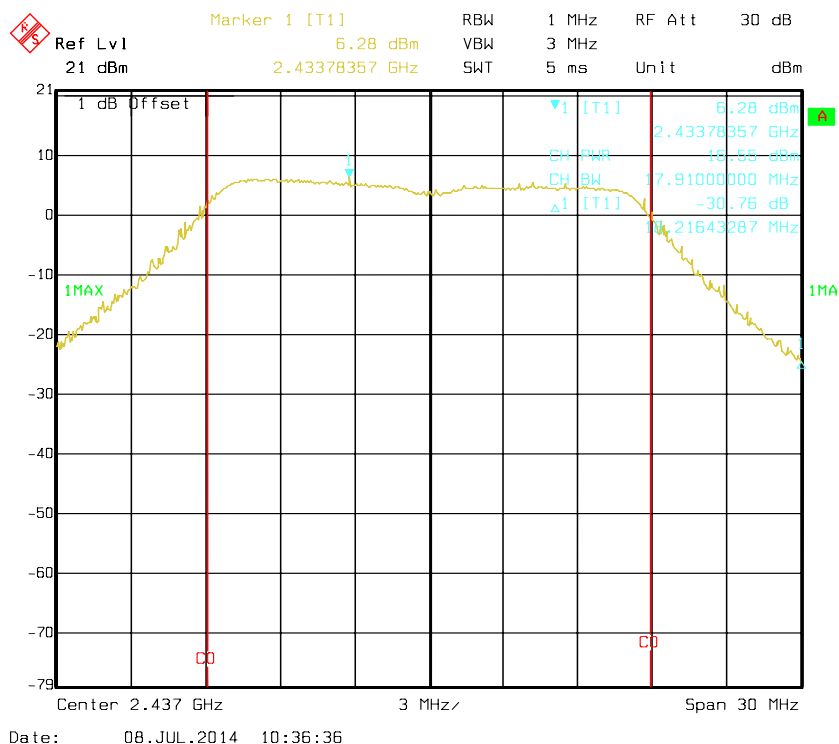
802.11g RF Output Power, High Channel for Antenna 0



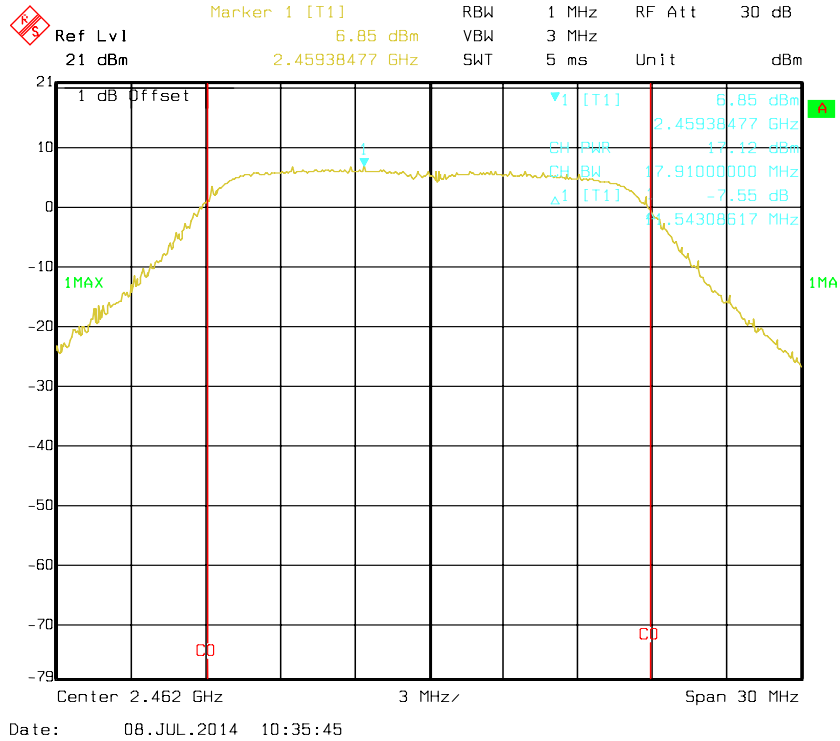
802.11n HT20 RF Output Power, Low Channel for Antenna 0



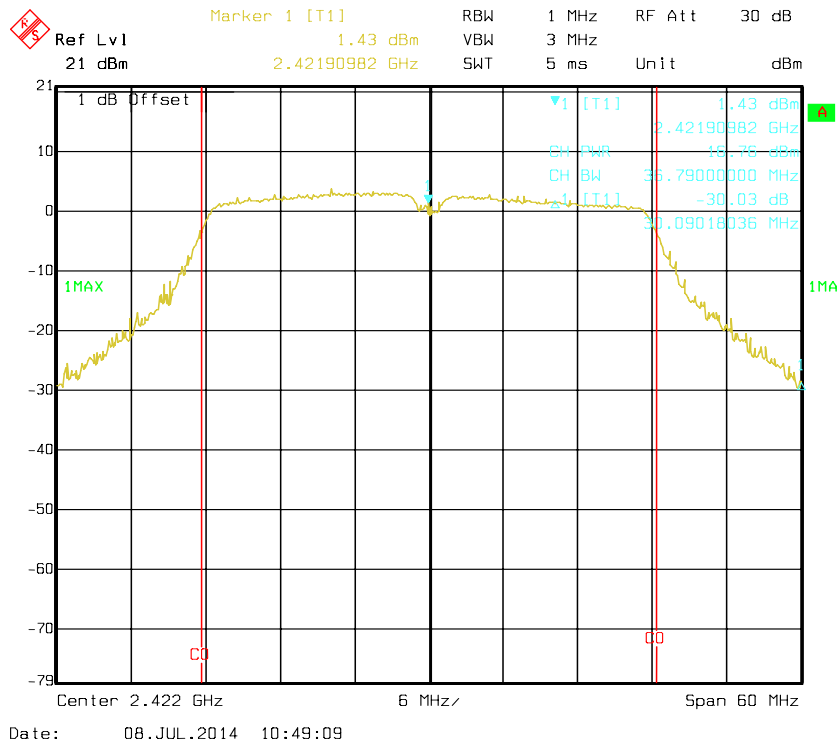
802.11n HT20 RF Output Power, Middle Channel for Antenna 0



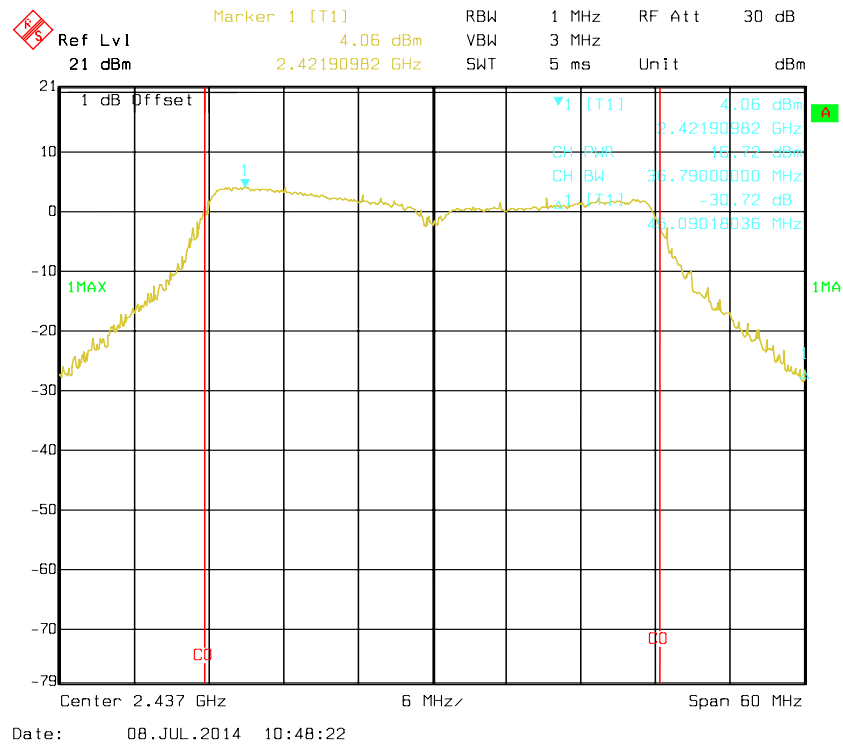
802.11n HT20 RF Output Power, High Channel for Antenna 0



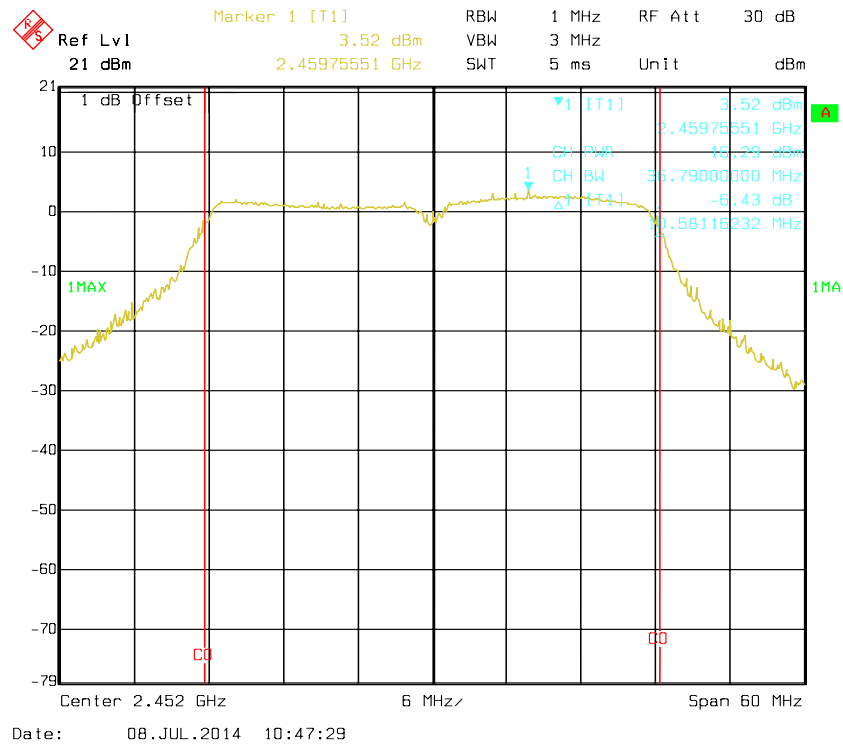
802.11n HT40 RF Output Power, Low Channel for Antenna 0



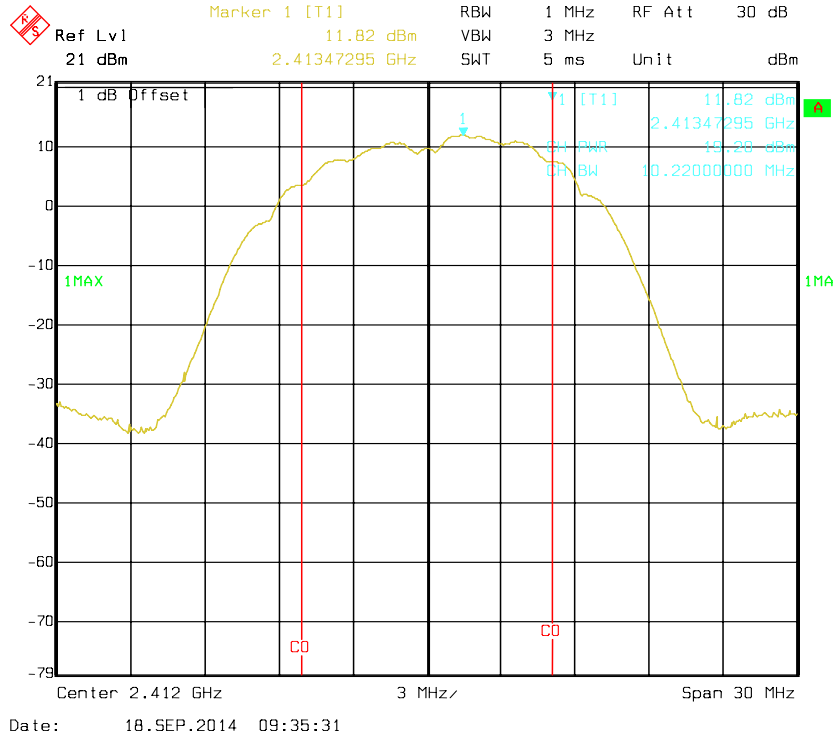
802.11n HT40 RF Output Power, Middle Channel for Antenna 0



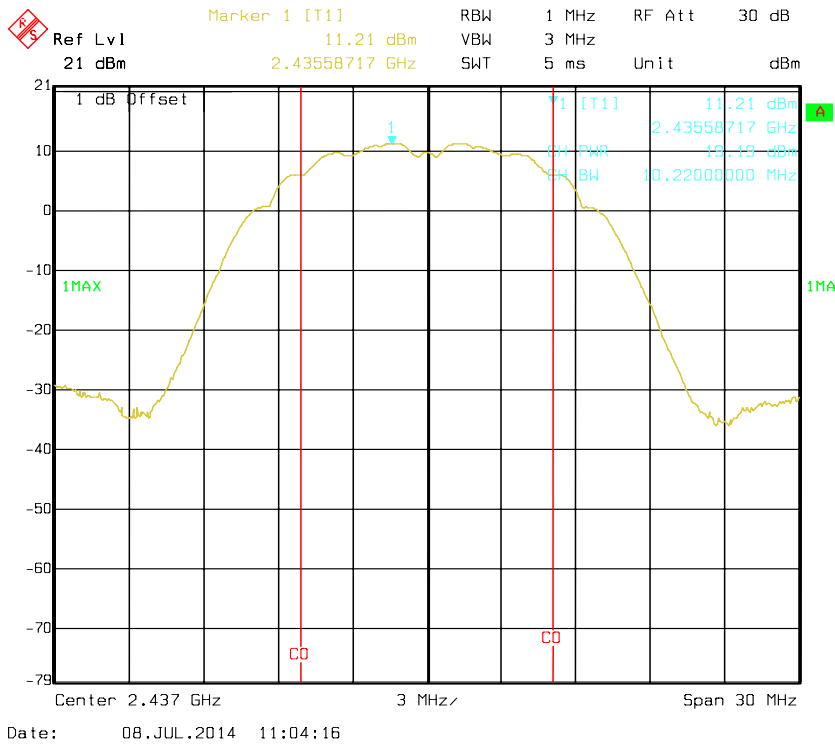
802.11n HT40 RF Output Power, High Channel for Antenna 0



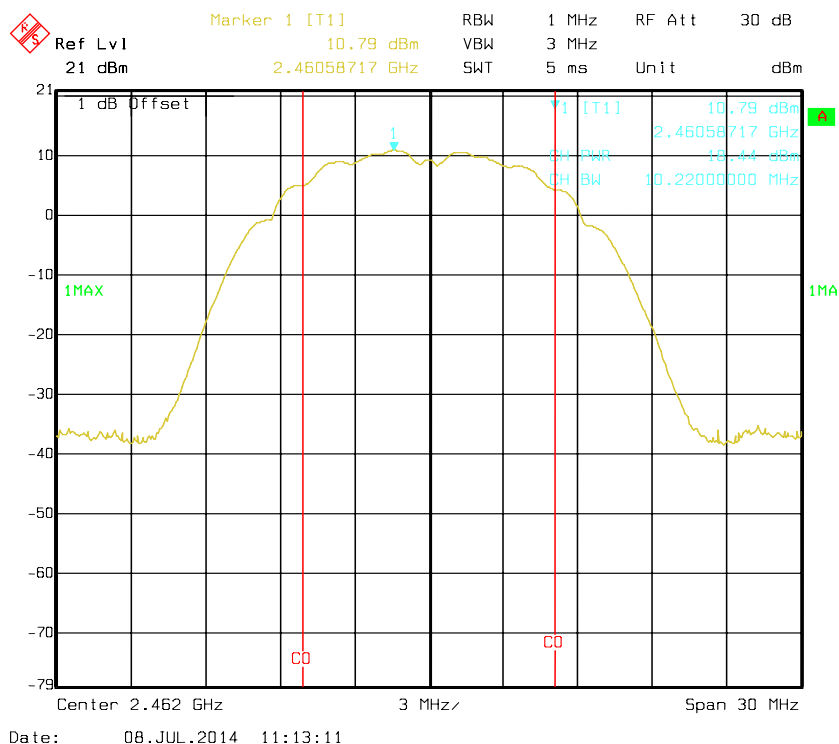
802.11b RF Output Power, Low Channel for Antenna 1



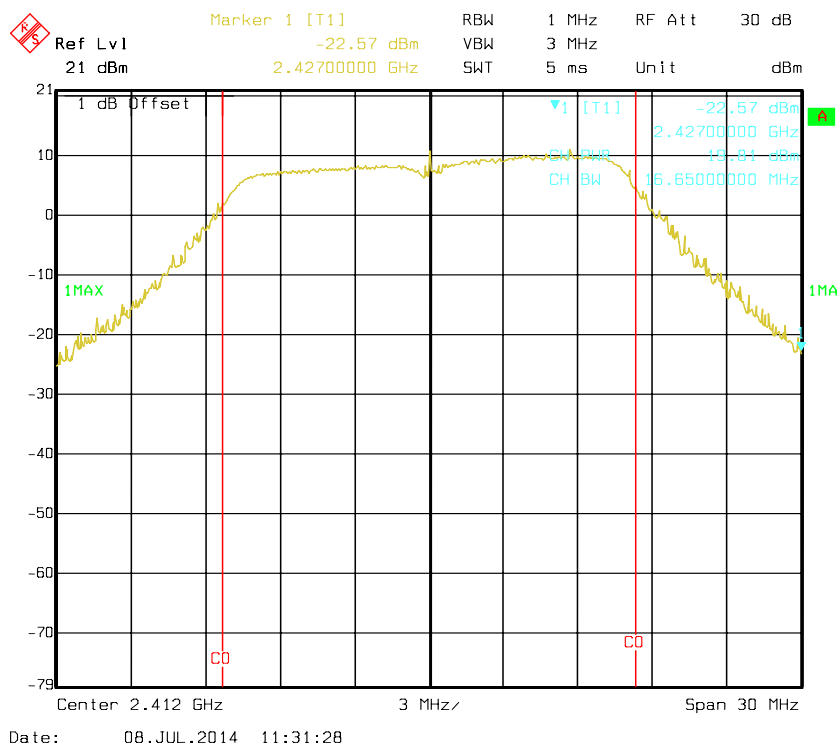
802.11b RF Output Power, Middle Channel for Antenna 1



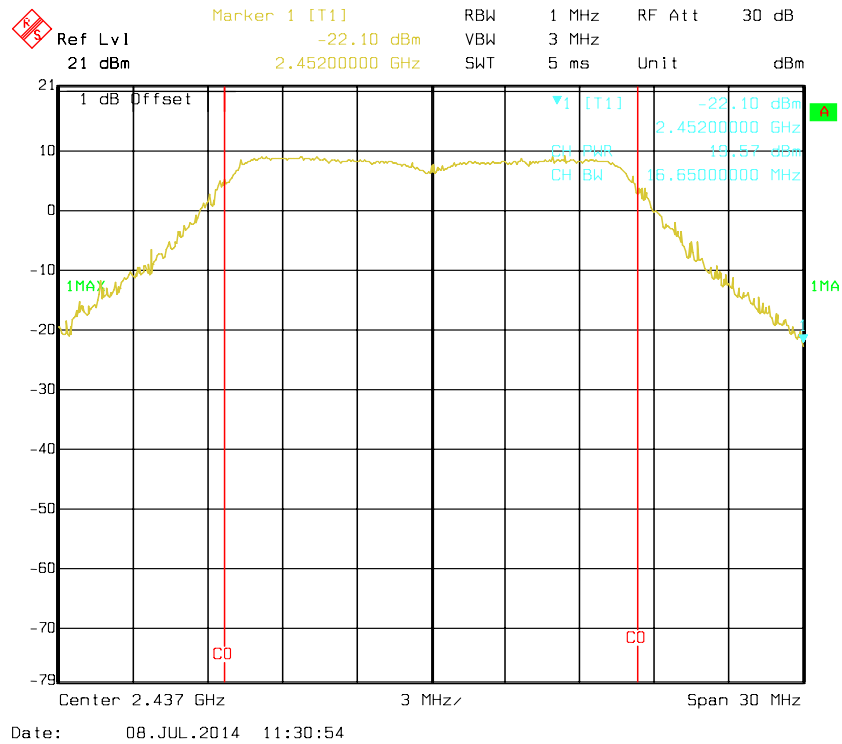
802.11b RF Output Power, High Channel for Antenna 1



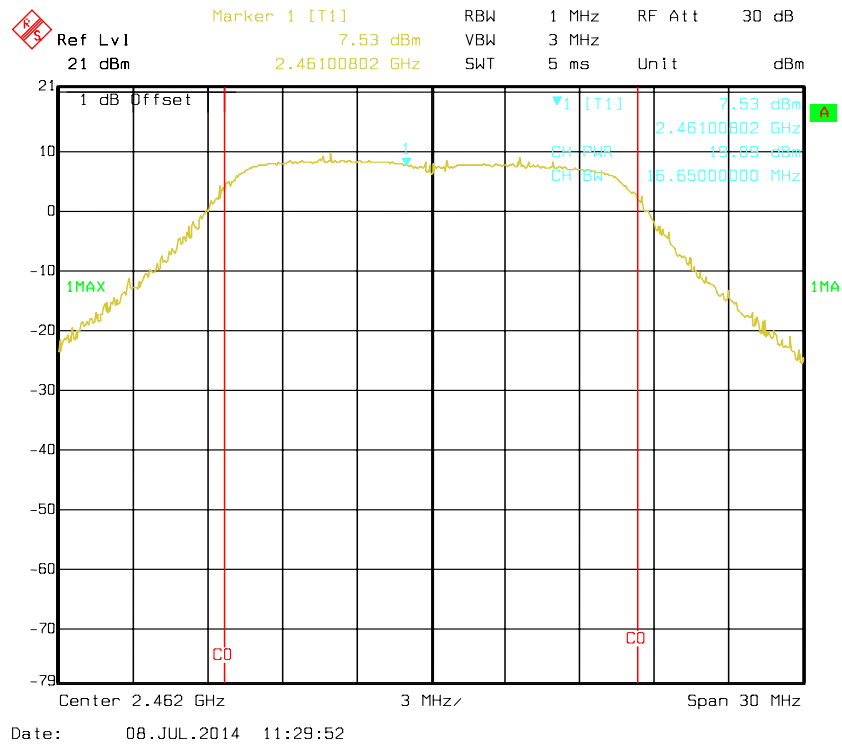
802.11g RF Output Power, Low Channel for Antenna 1



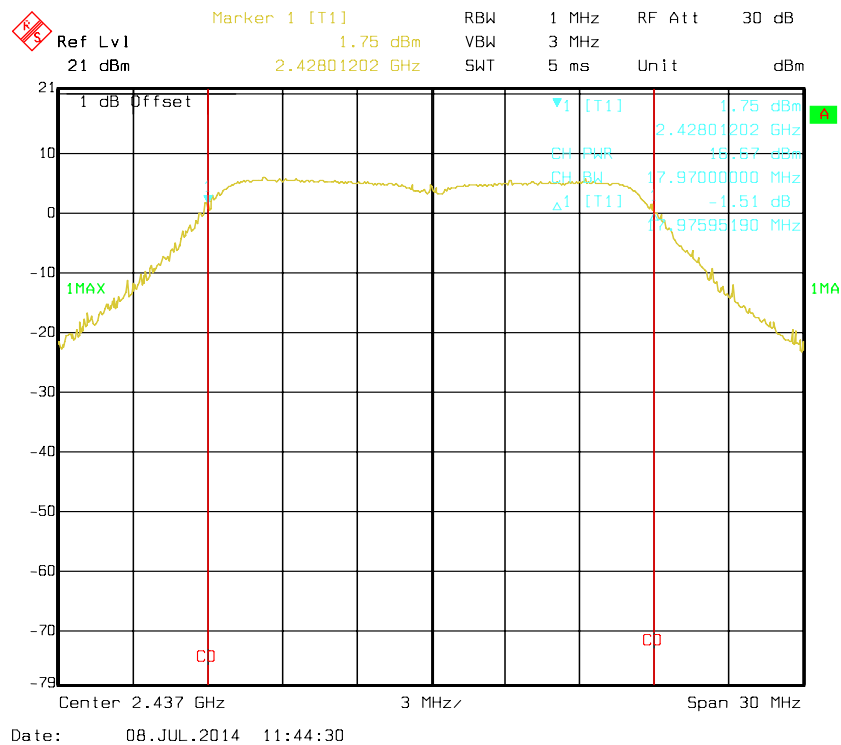
802.11g RF Output Power, Middle Channel for Antenna 1



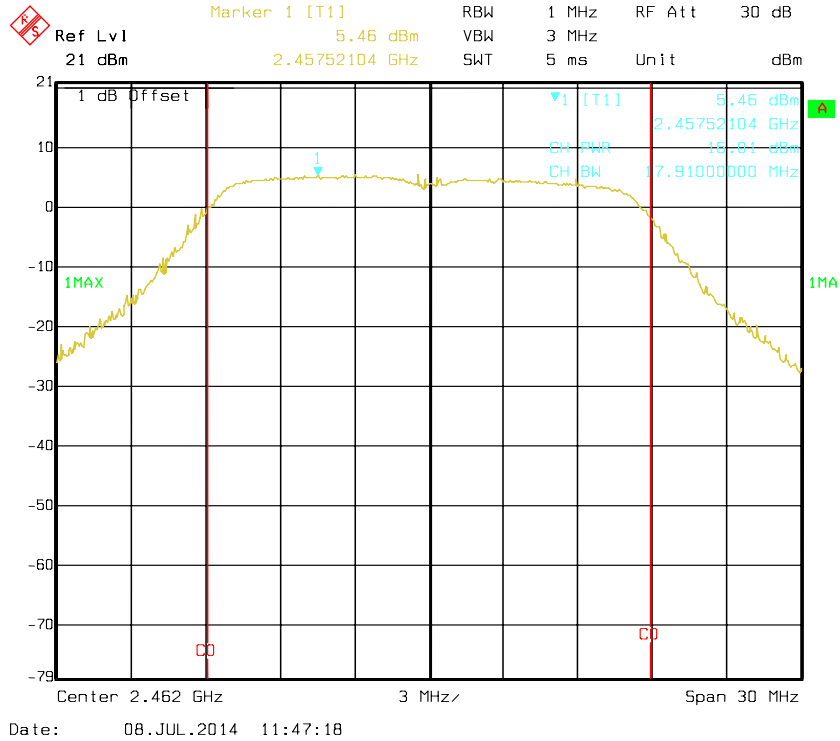
802.11g RF Output Power, High Channel for Antenna 1



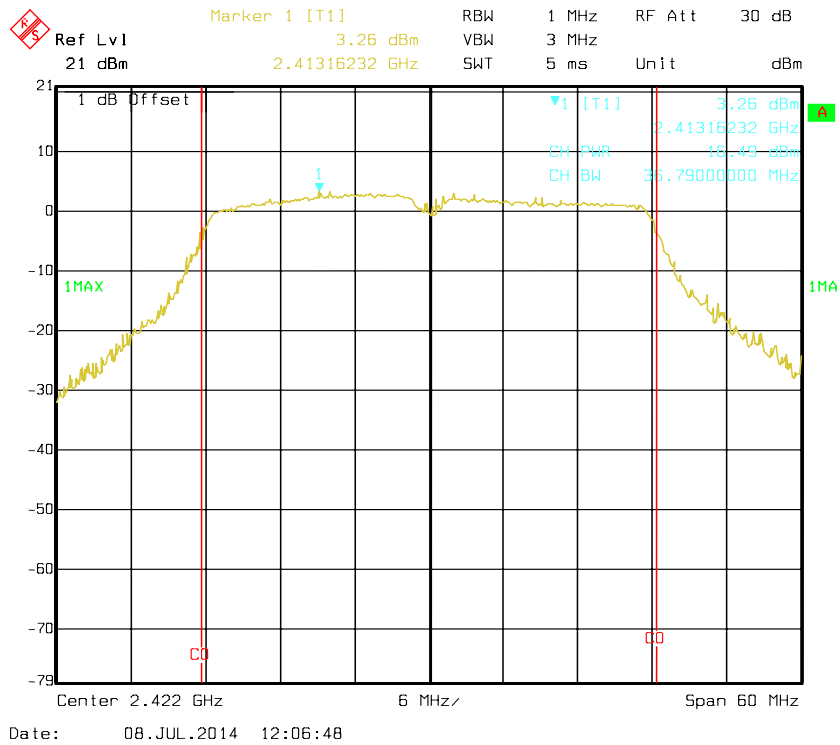
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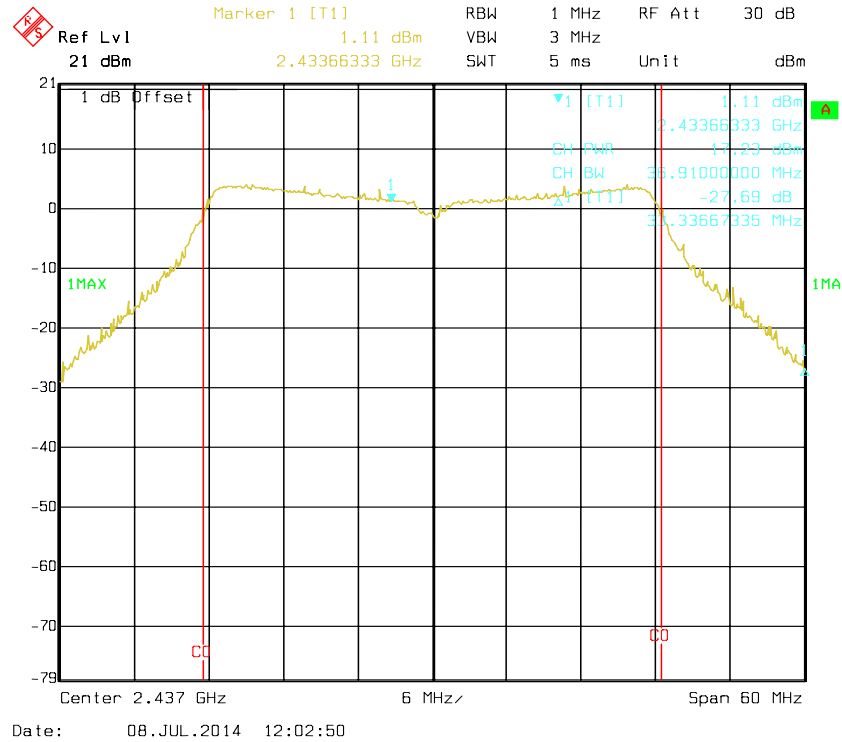
802.11n HT20 RF Output Power, High Channel for Antenna 1



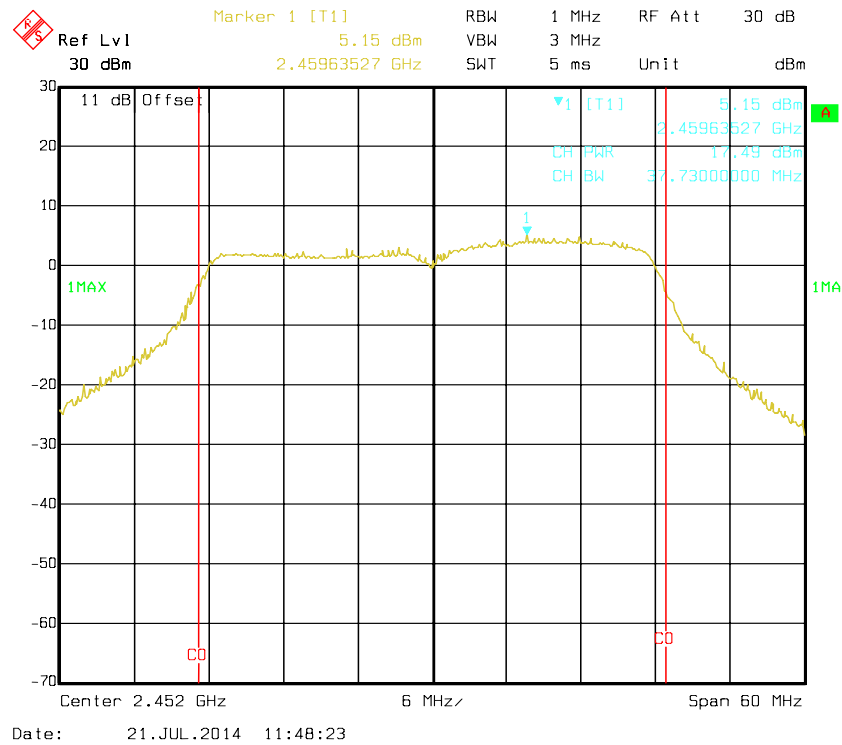
802.11n HT40 RF Output Power, Low Channel for Antenna 1



802.11n HT40 RF Output Power, Middle Channel for Antenna 1



802.11n HT40 RF Output Power, High Channel for Antenna 1



FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

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

Test Procedure

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

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------|---------------|------------------|----------------------|
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2013-10-17 | 2014-10-16 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

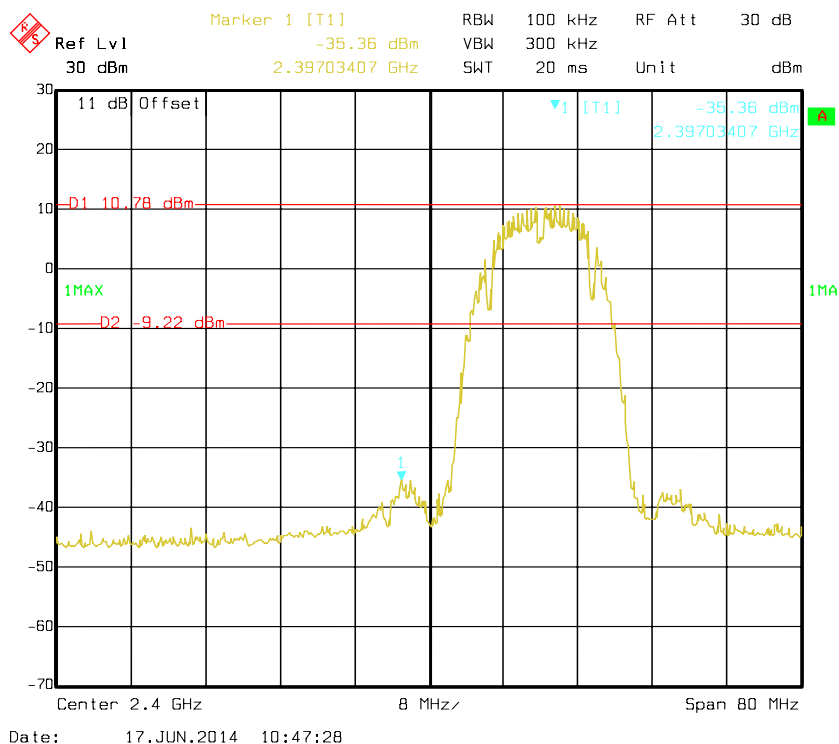
| | |
|---------------------------|-----------------------|
| Temperature: | 28 °C & 24 °C |
| Relative Humidity: | 51 % & 57 % |
| ATM Pressure: | 100.8 kPa & 100.5 kPa |

The testing was performed by Fidel Zhou on 2014-06-17 & 2014-07-10.

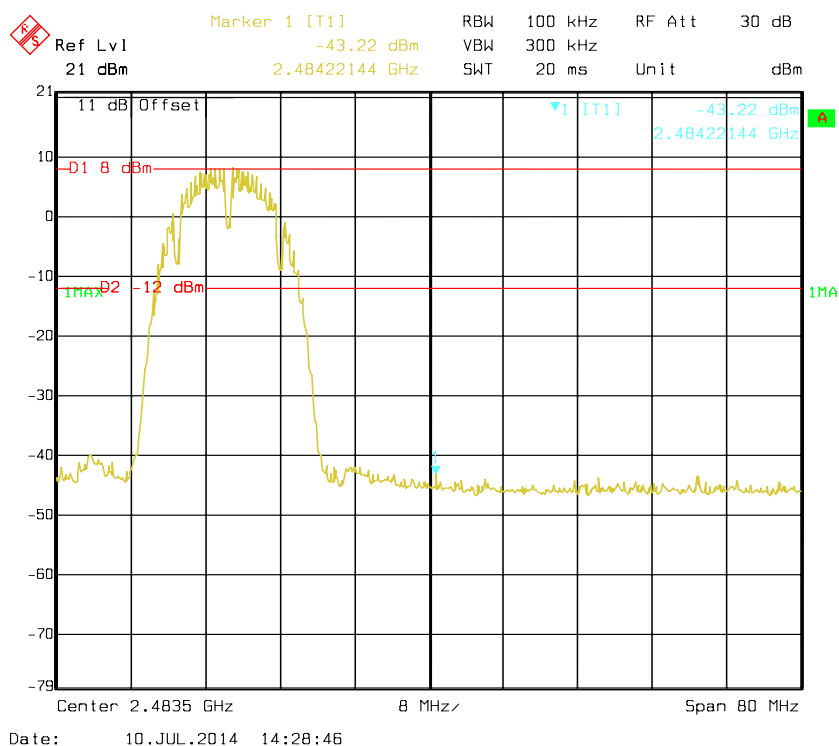
Test Mode: Transmitting

Test Result: Compliance, Please refer to following table and plots.

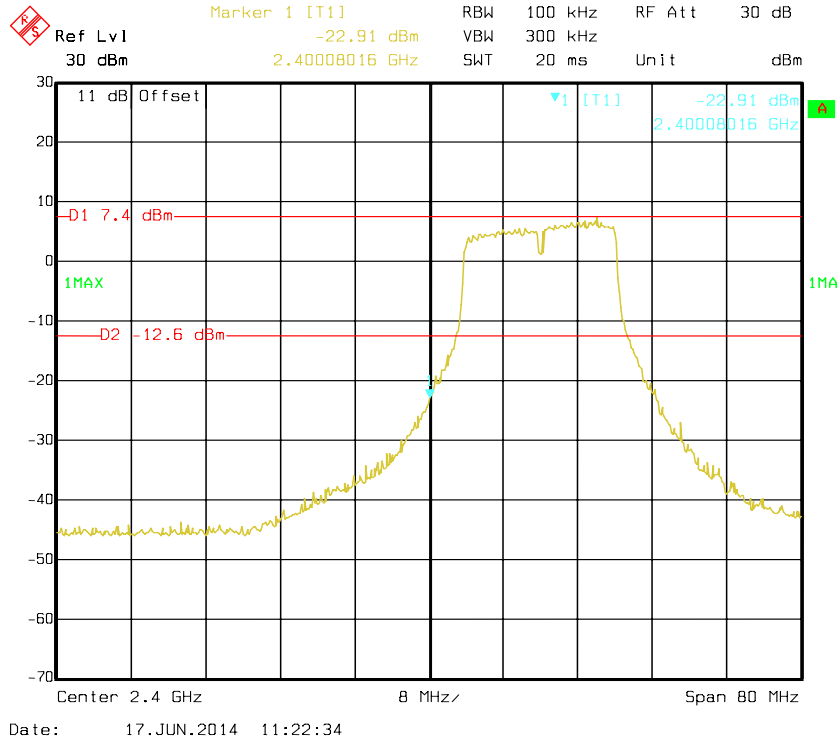
802.11b: Band Edge, Left Side for Antenna 0



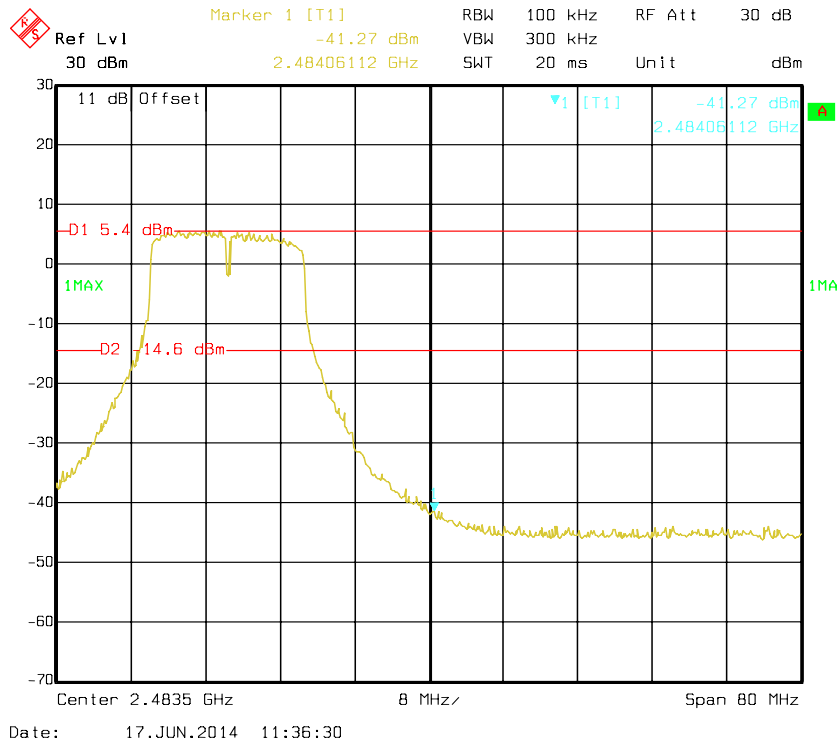
802.11b: Band Edge, Right Side for Antenna 0



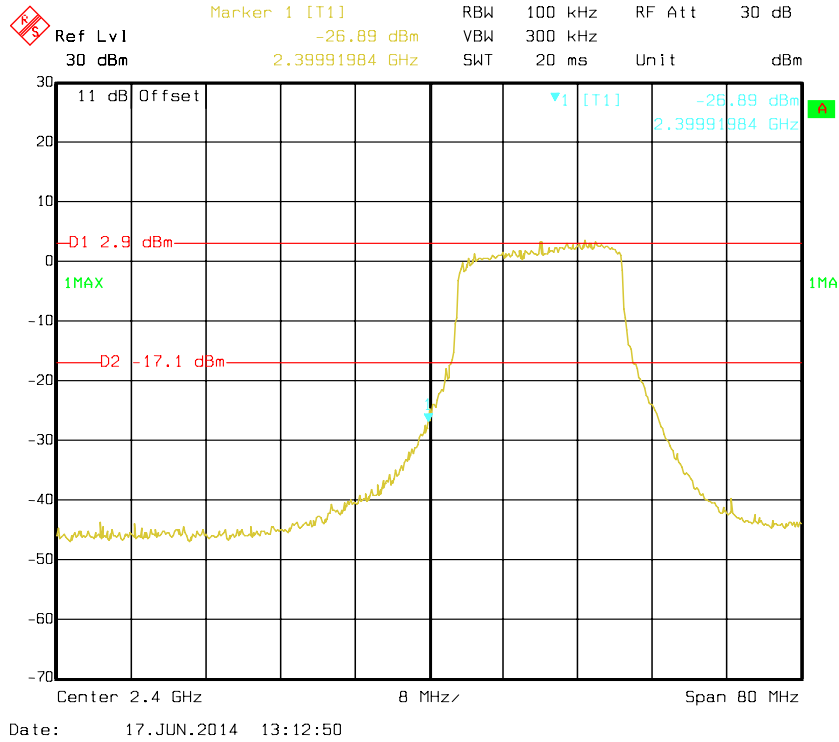
802.11g: Band Edge, Left Side for Antenna 0



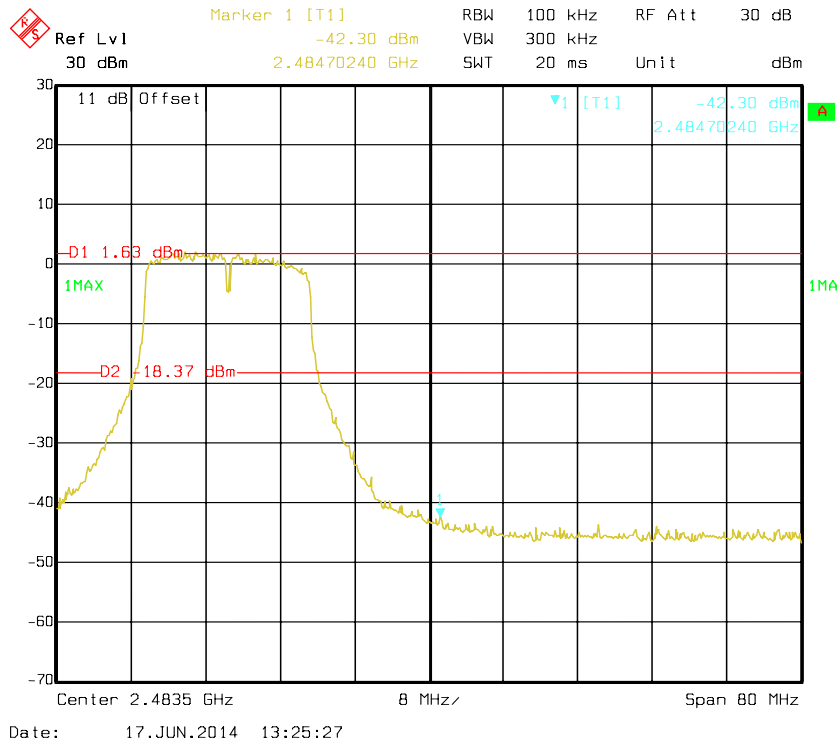
802.11g: Band Edge, Right Side for Antenna 0



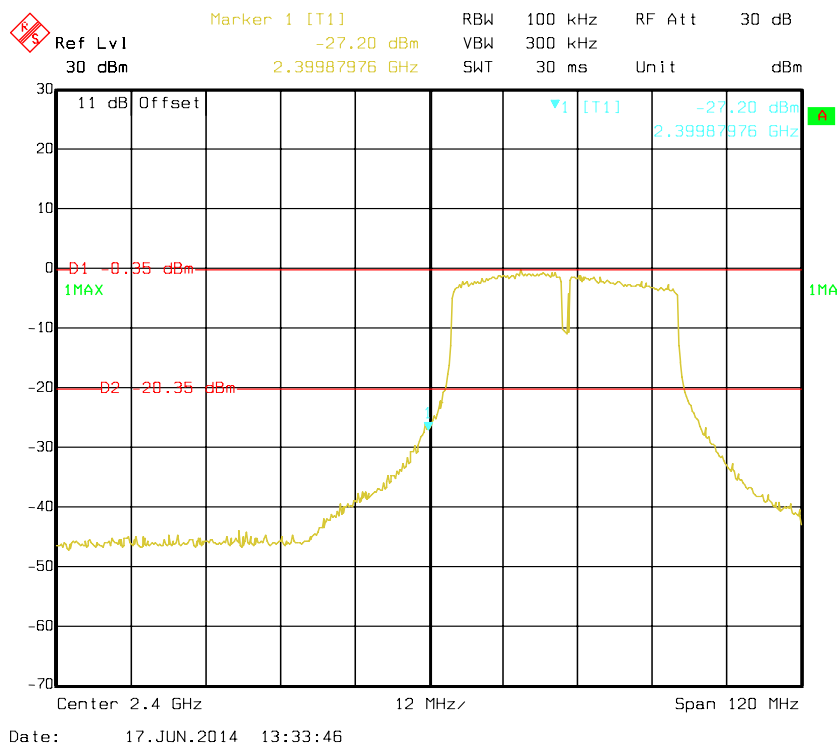
802.11n HT20 Band Edge, Left Side for Antenna 0



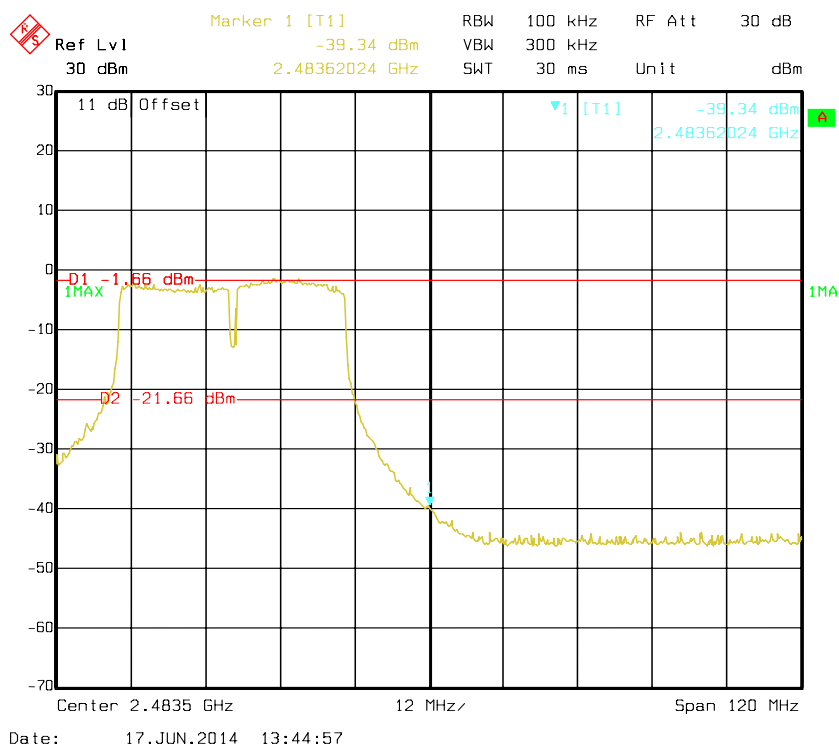
802.11n HT20 Band Edge, Right Side for Antenna 0



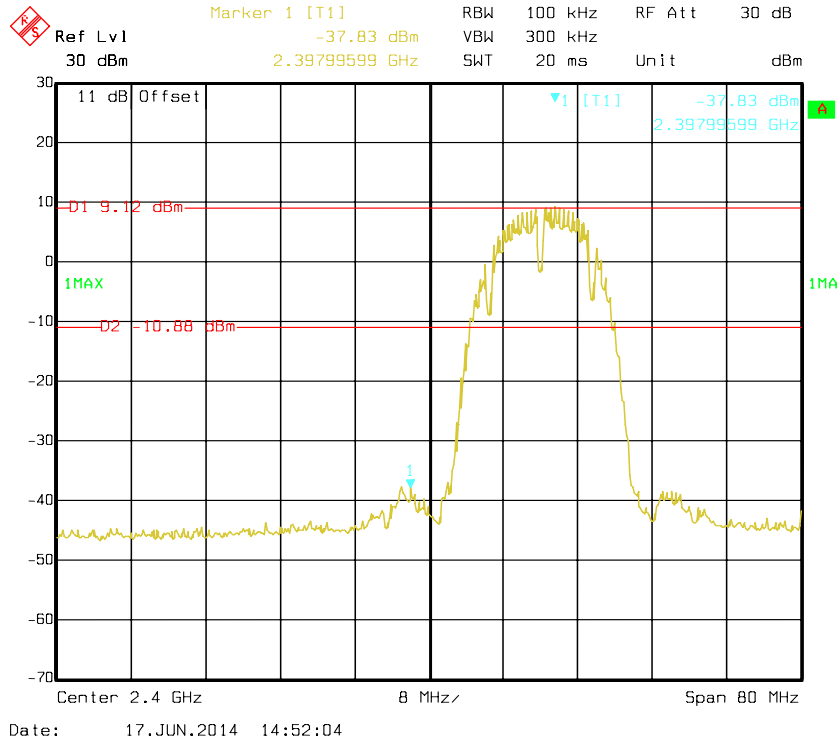
802.11n HT40 Band Edge, Left Side for Antenna 0



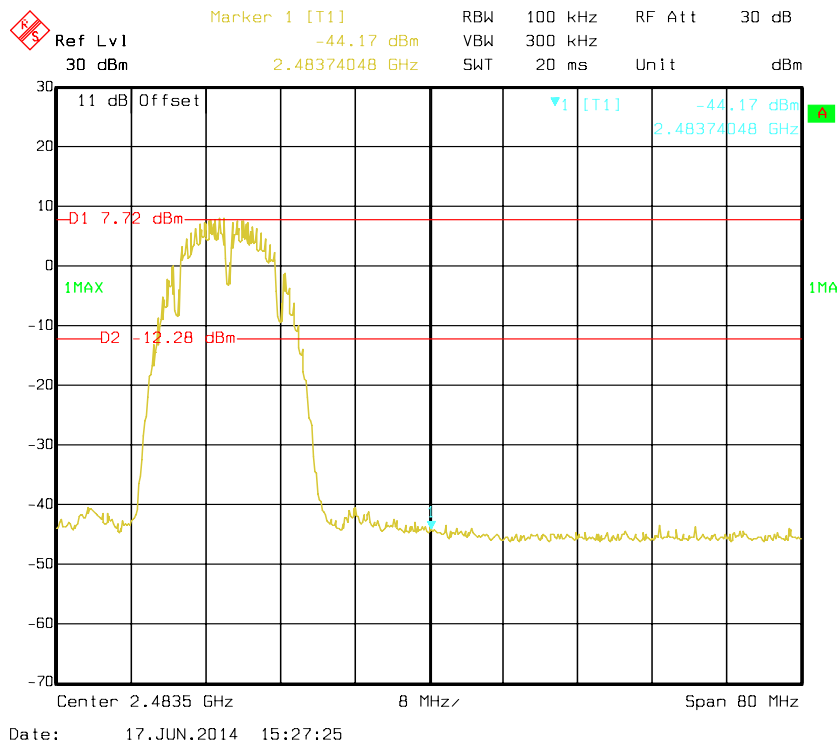
802.11n HT40 Band Edge, Right Side for Antenna 0



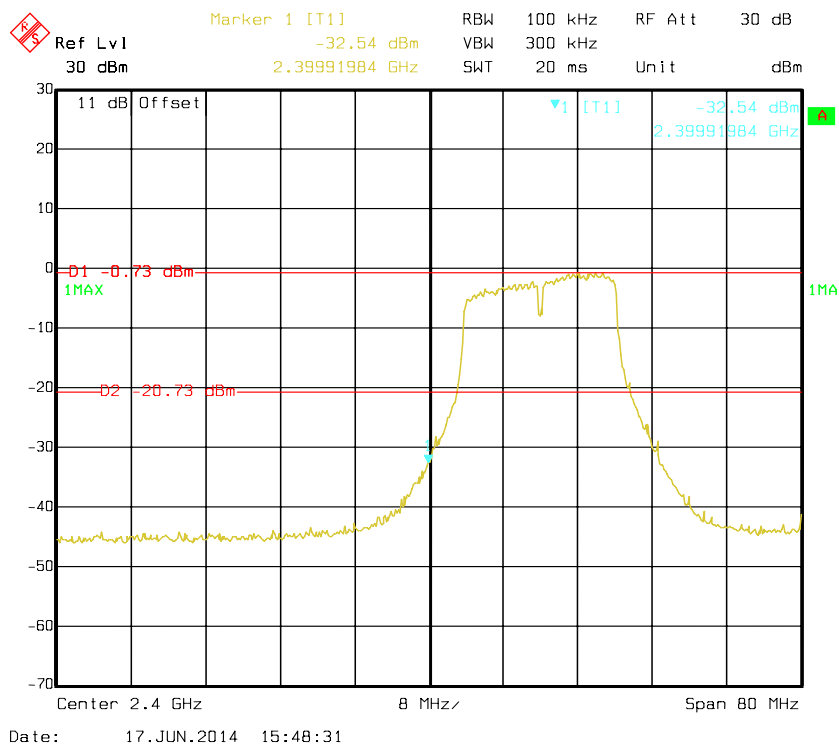
802.11b: Band Edge, Left Side for Antenna 1



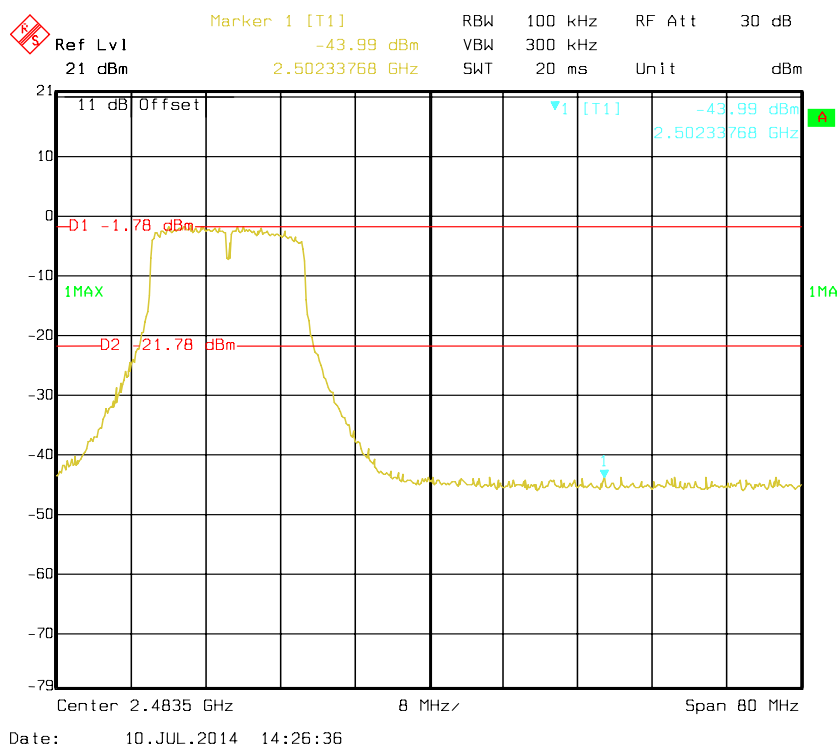
802.11b: Band Edge, Right Side for Antenna 1



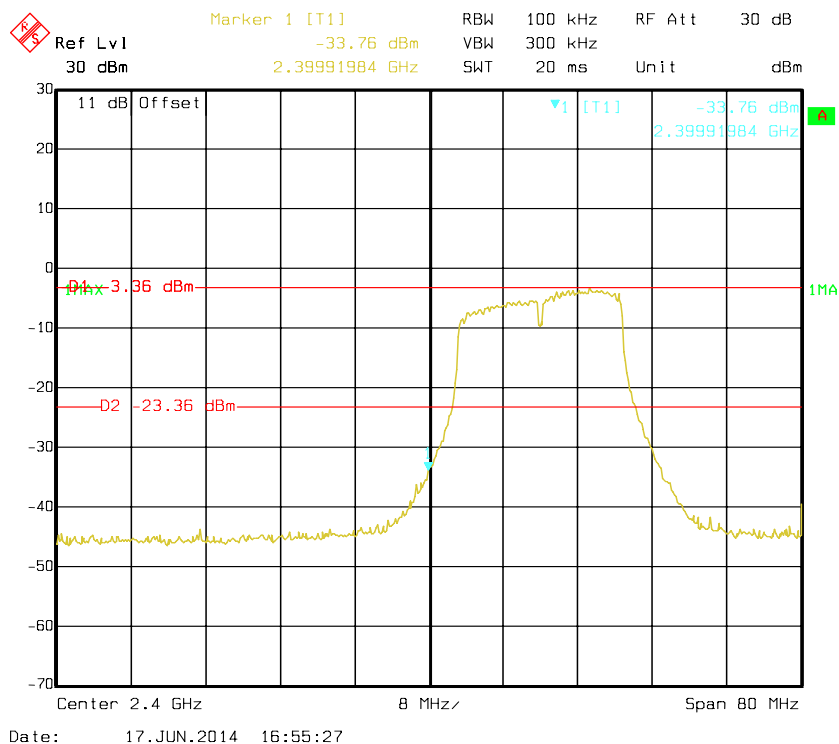
802.11g: Band Edge, Left Side for Antenna 1



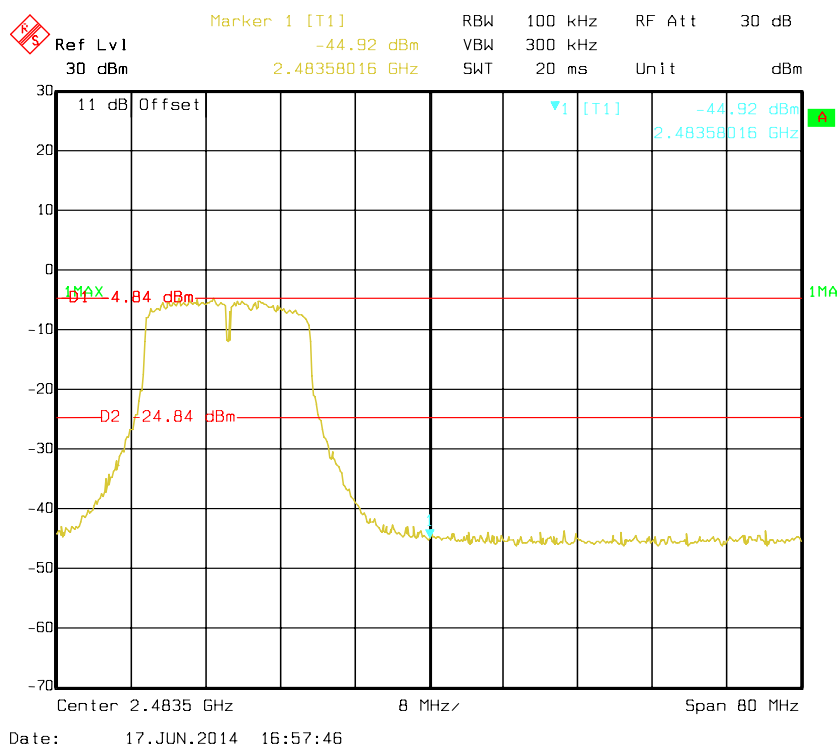
802.11g: Band Edge, Right Side for Antenna 1



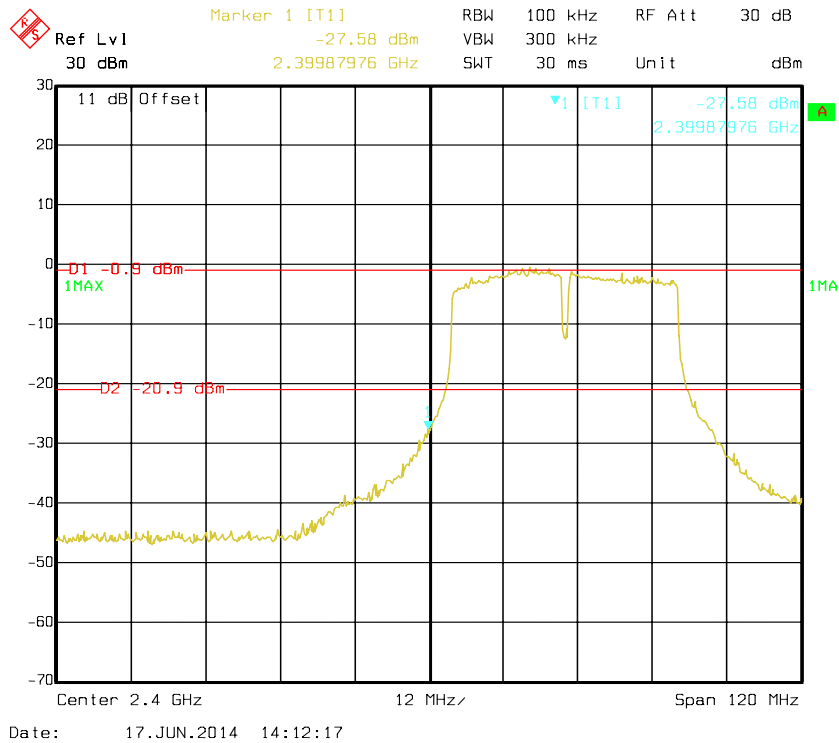
802.11n HT20 Band Edge, Left Side for Antenna 1



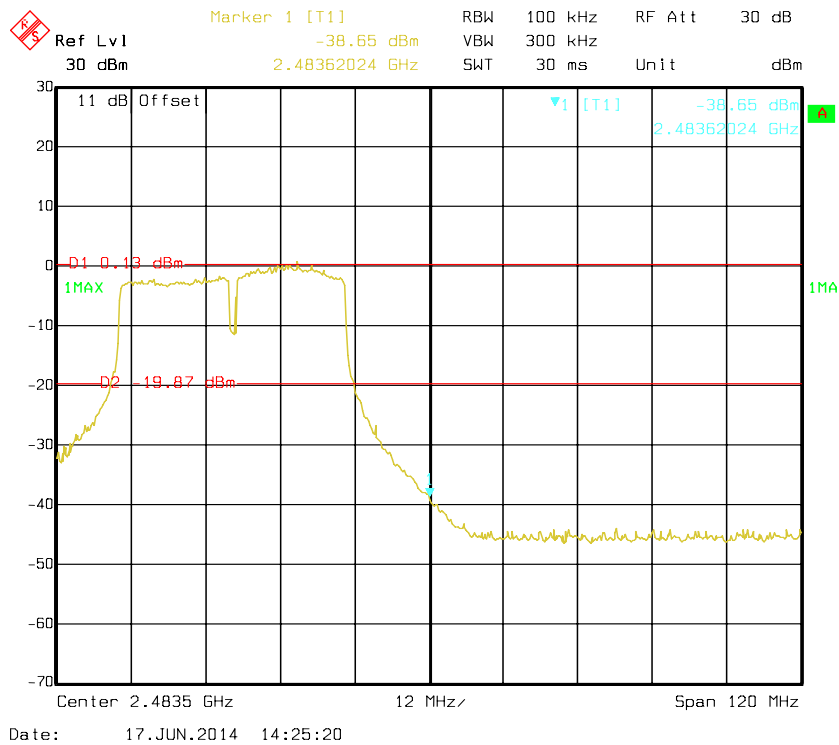
802.11n HT20 Band Edge, Right Side for Antenna 1



802.11n HT40 Band Edge, Left Side for Antenna 1



802.11n HT40 Band Edge, Right Side for Antenna 1



FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. According to KDB 558074 D01 DTS Meas Guidance v03v02, set the RBW = 3 kHz, VBW = 10 kHz, Set the span to 1.5 times the DTS channel bandwidth.
4. Use the peak marker function to determine the maximum power level in any 3 kHz band segment within the fundamental EBW.

Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------|-------------------|--------|---------------|------------------|----------------------|
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2013-10-17 | 2014-10-16 |

* **Statement of Traceability:** BACL (Chengdu) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

| | |
|---------------------------|-----------------------|
| Temperature: | 30 °C & 24 °C |
| Relative Humidity: | 54 % & 57 % |
| ATM Pressure: | 100.8 kPa & 100.5 kPa |

The testing was performed by Fidel Zhou on 2014-06-17 & 2014-07-10.

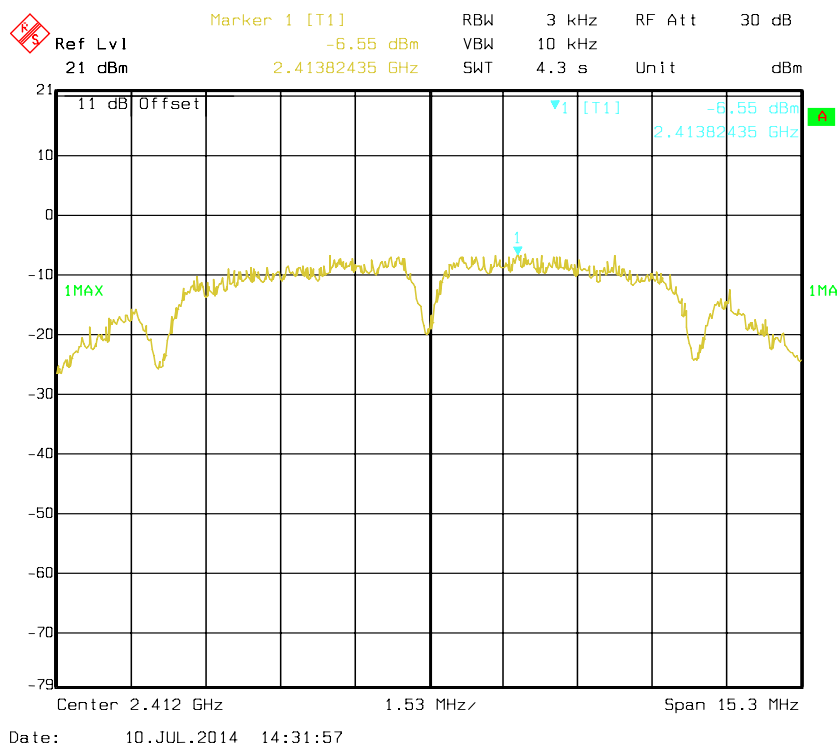
Test Mode: Transmitting

| Mode | Channel | Frequency (MHz) | Conducted Output Power (dBm) | | | Limit (dBm) | Result |
|------------------------|---------|-----------------|------------------------------|-----------|--------|-------------|--------|
| | | | Antenna 0 | Antenna 1 | Total | | |
| 2.4G band 802.11b | Low | 2412 | -6.65 | -6.75 | / | 8 | Pass |
| | Middle | 2437 | -7.23 | -6.91 | / | 8 | Pass |
| | High | 2462 | -6.83 | -6.65 | / | 8 | Pass |
| 2.4G band 802.11 g | Low | 2412 | -12.02 | -12.85 | / | 8 | Pass |
| | Middle | 2437 | -13.22 | -13.54 | / | 8 | Pass |
| | High | 2462 | -13.06 | -13.89 | / | 8 | Pass |
| 2.4G band 802.11n HT20 | Low | 2412 | -16.91 | -15.96 | -13.40 | 8 | Pass |
| | Middle | 2437 | -17.66 | -14.46 | -12.76 | 8 | Pass |
| | High | 2462 | -16.86 | -16.87 | -13.85 | 8 | Pass |
| 2.4G band 802.11n HT40 | Low | 2422 | -19.87 | -19.31 | -16.57 | 8 | Pass |
| | Middle | 2437 | -17.59 | -18.85 | -15.16 | 8 | Pass |
| | High | 2452 | -20.45 | -19.07 | -16.70 | 8 | Pass |

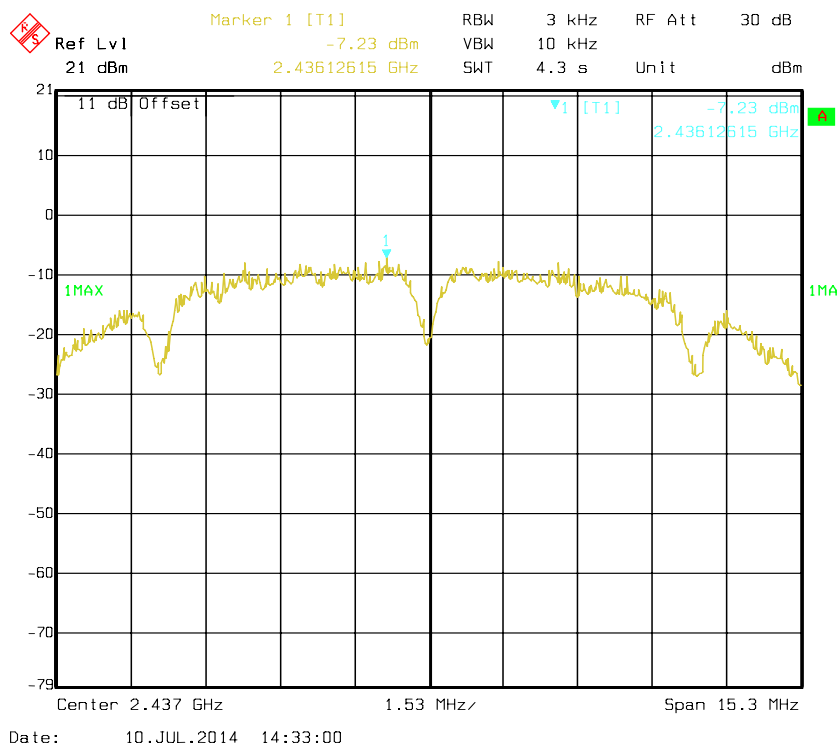
Note: Duty cycle is more than 98%.

Please refer to the following plots.

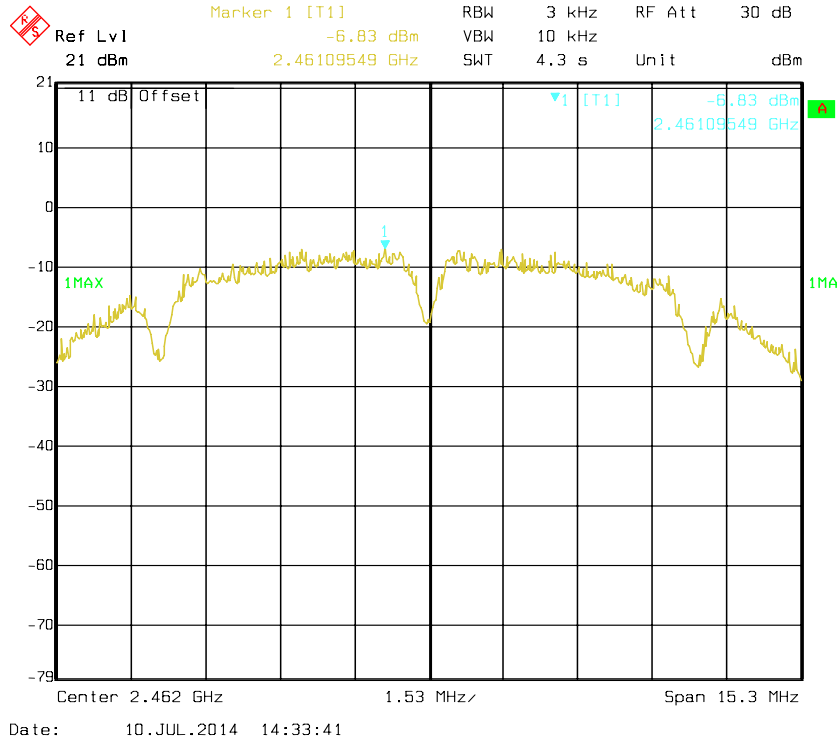
Power Spectral Density, 802.11b Low Channel for Antenna 0



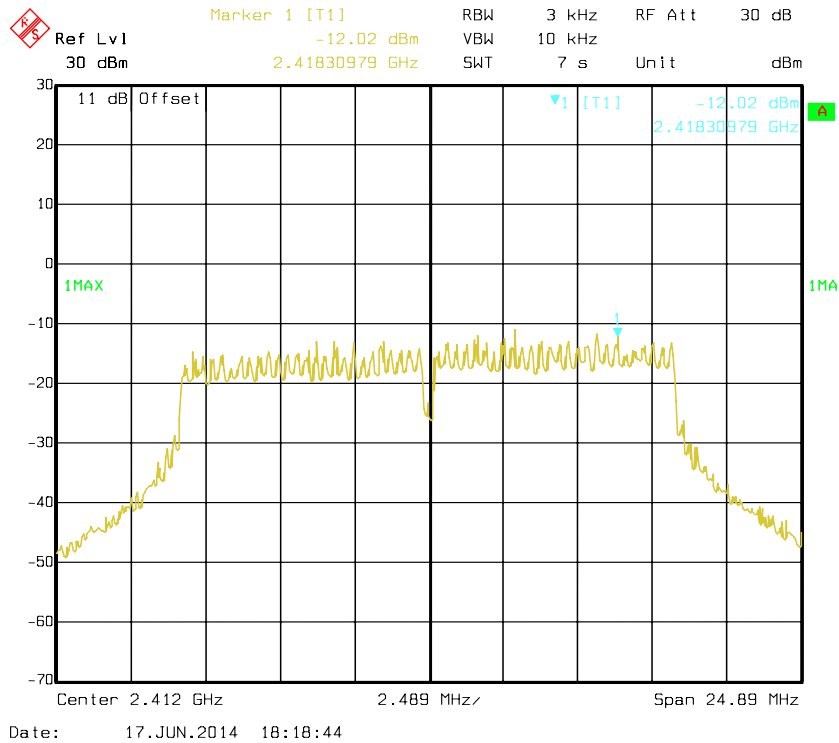
Power Spectral Density, 802.11b Middle Channel for Antenna 0



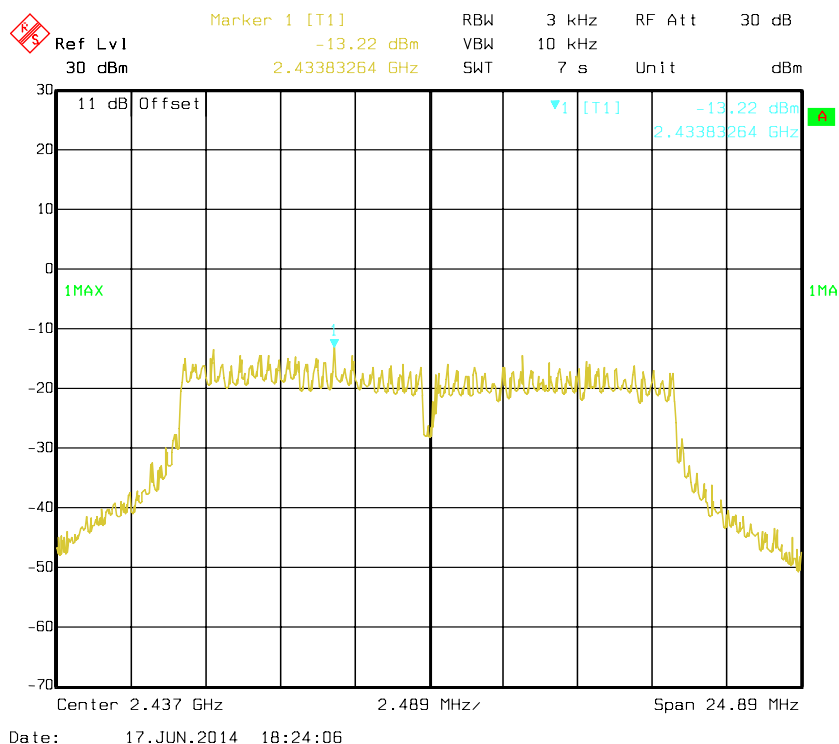
Power Spectral Density, 802.11b High Channel for Antenna 0



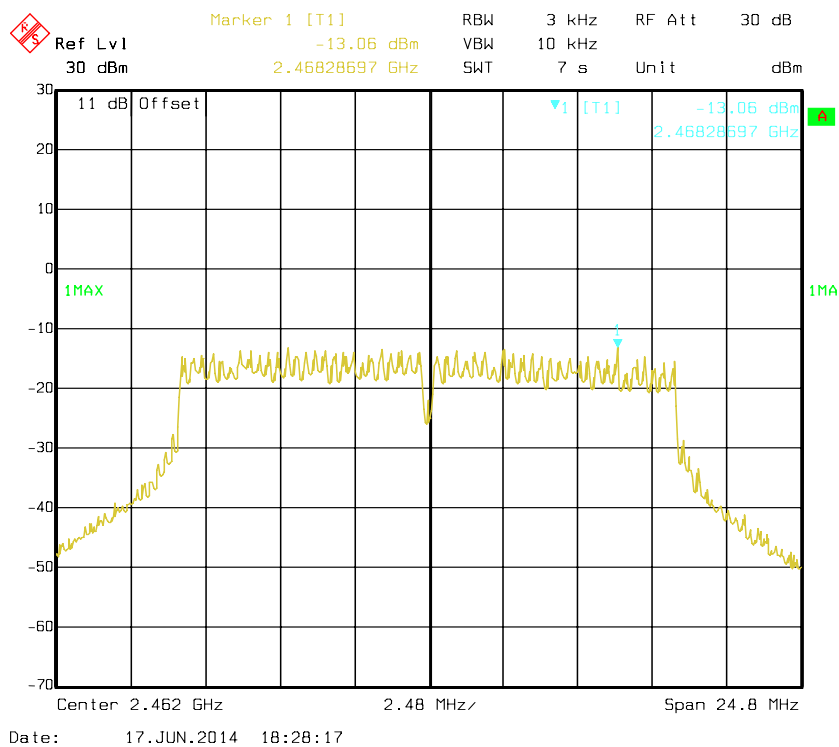
Power Spectral Density, 802.11g Low Channel for Antenna 0



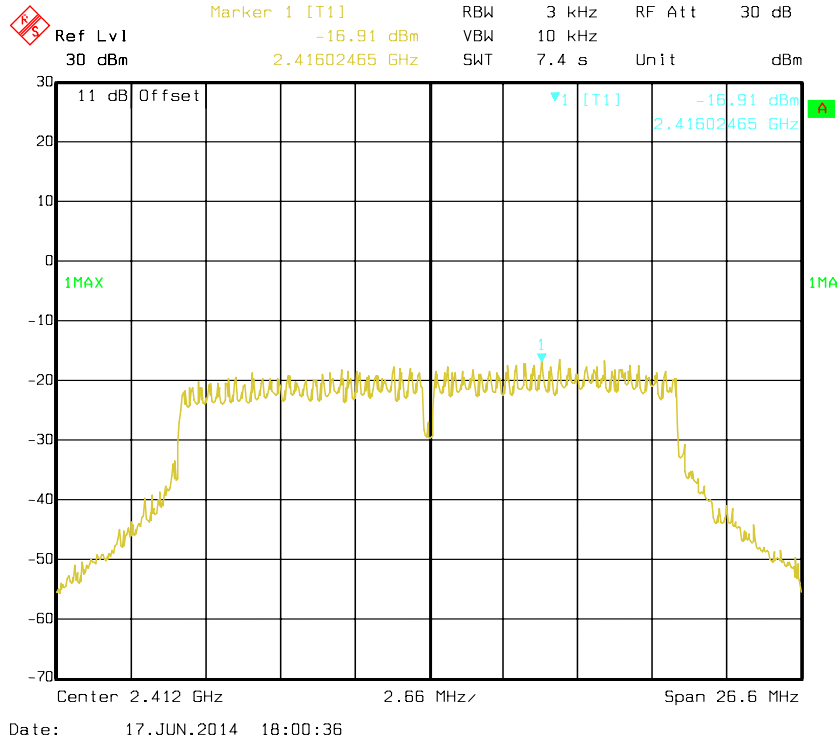
Power Spectral Density, 802.11g Middle Channel for Antenna 0



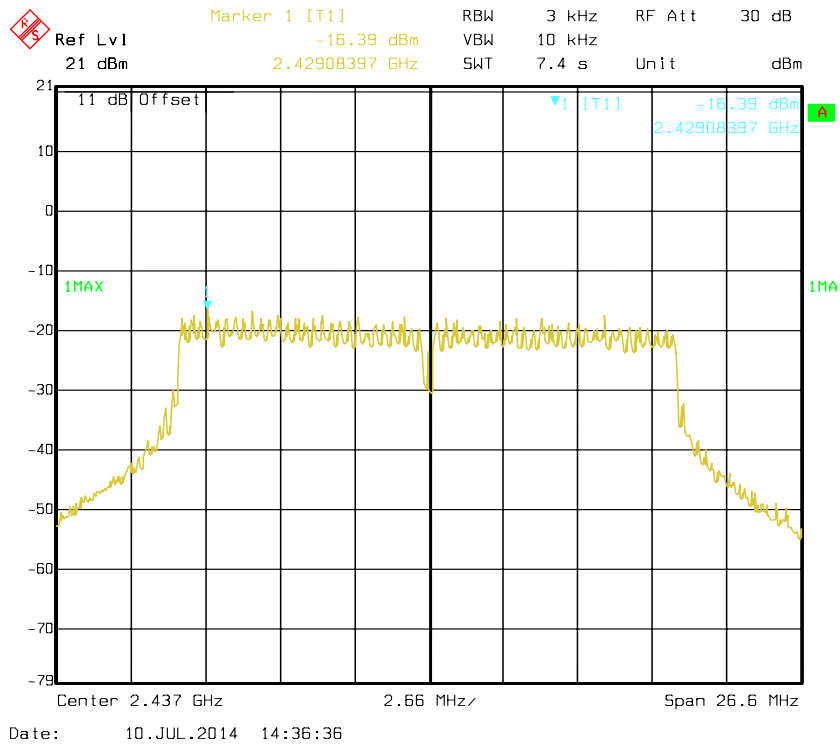
Power Spectral Density, 802.11g High Channel for Antenna 0



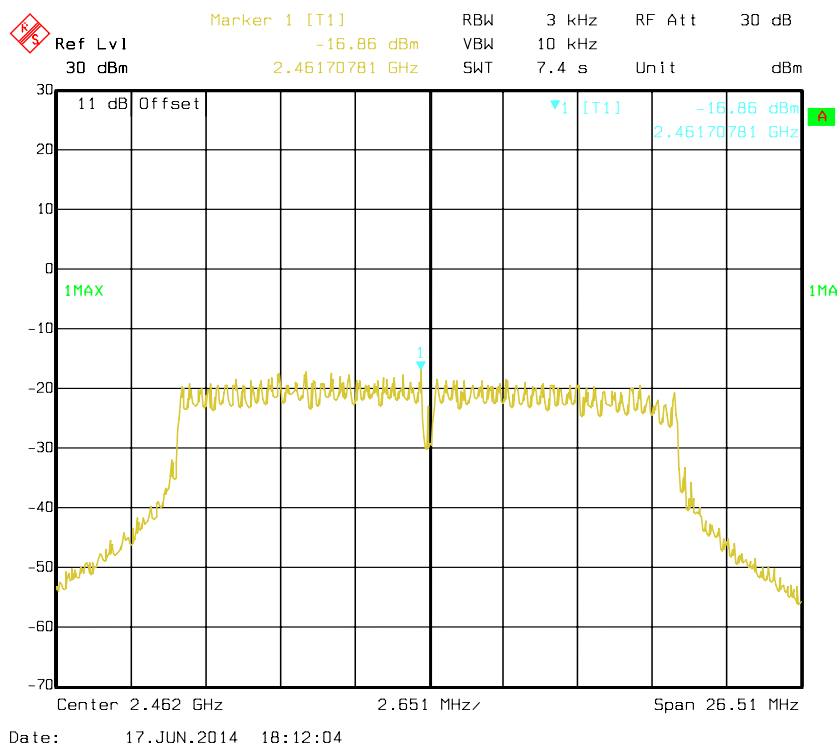
Power Spectral Density, 802.11n HT20 Low Channel for Antenna 0



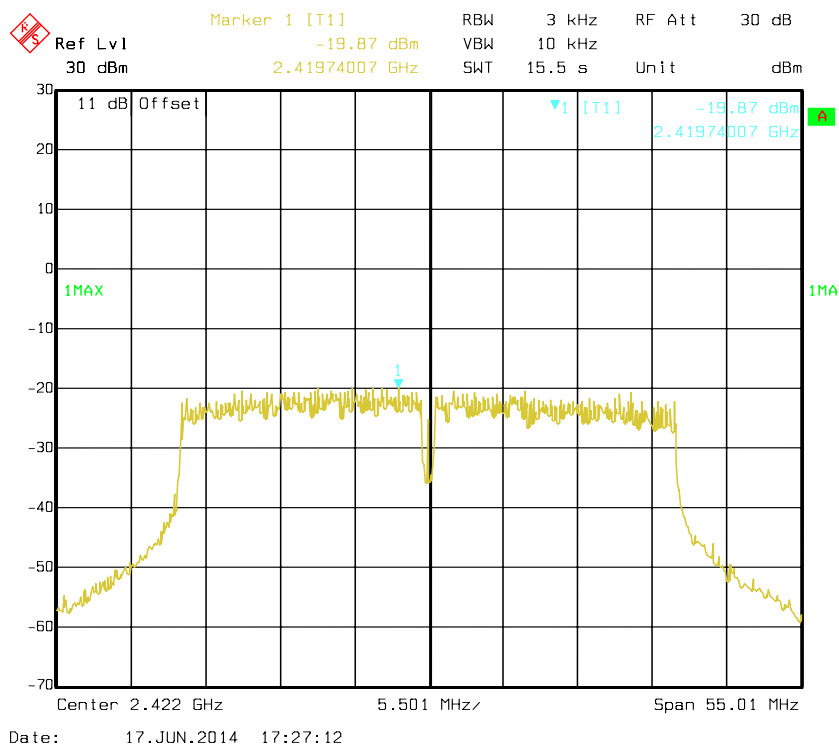
Power Spectral Density, 802.11n HT20 Middle Channel for Antenna 0



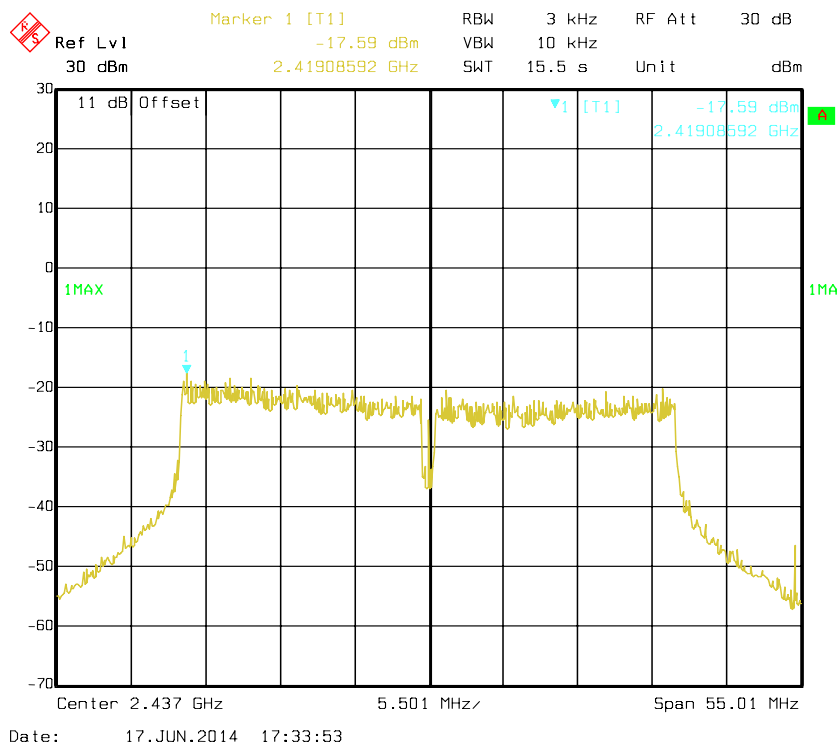
Power Spectral Density, 802.11n HT20 High Channel for Antenna 0



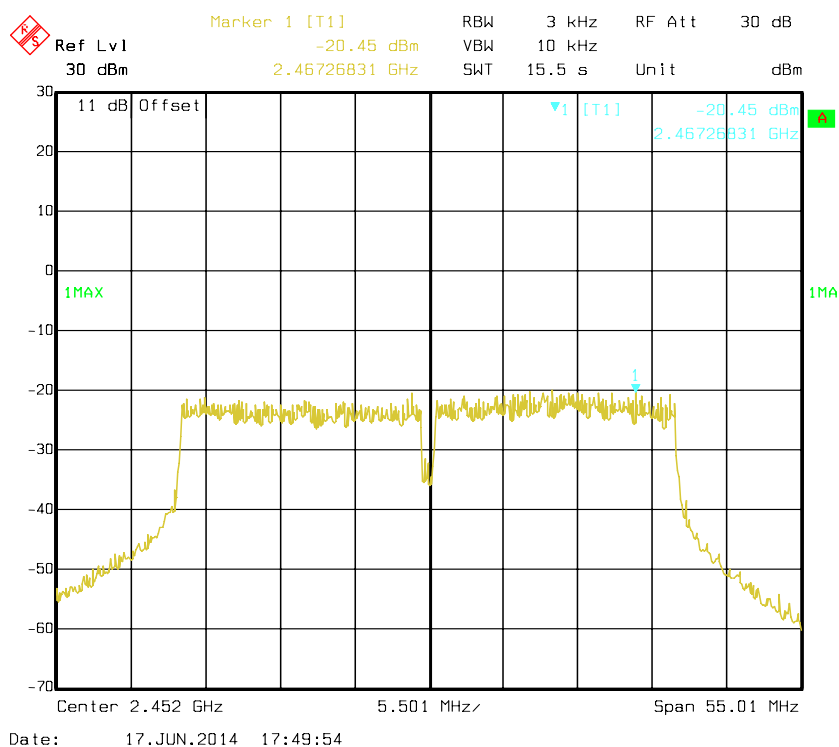
Power Spectral Density, 802.11n HT40 Low Channel for Antenna 0



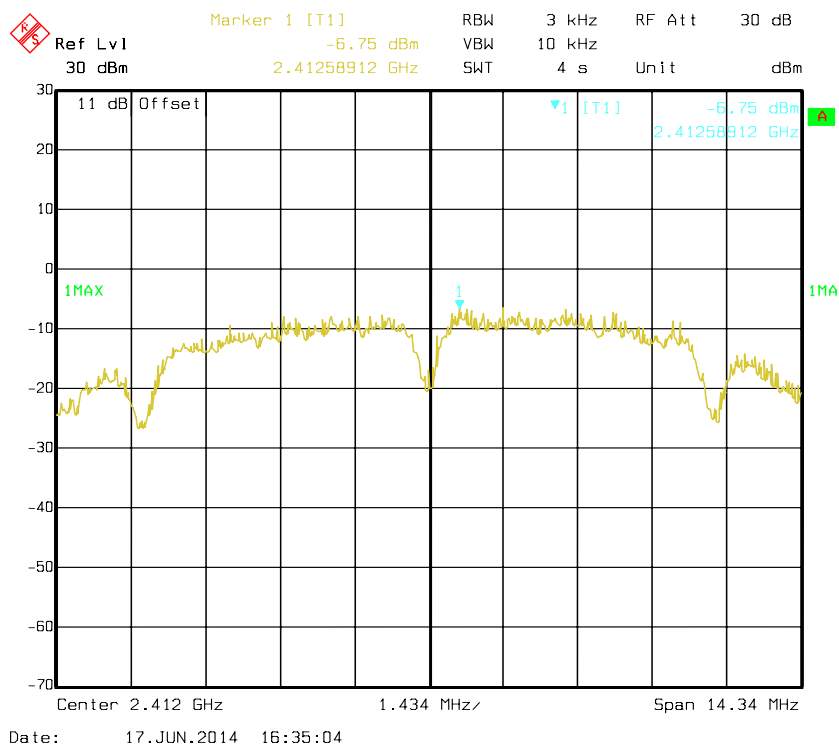
Power Spectral Density, 802.11n HT40 Middle Channel for Antenna 0



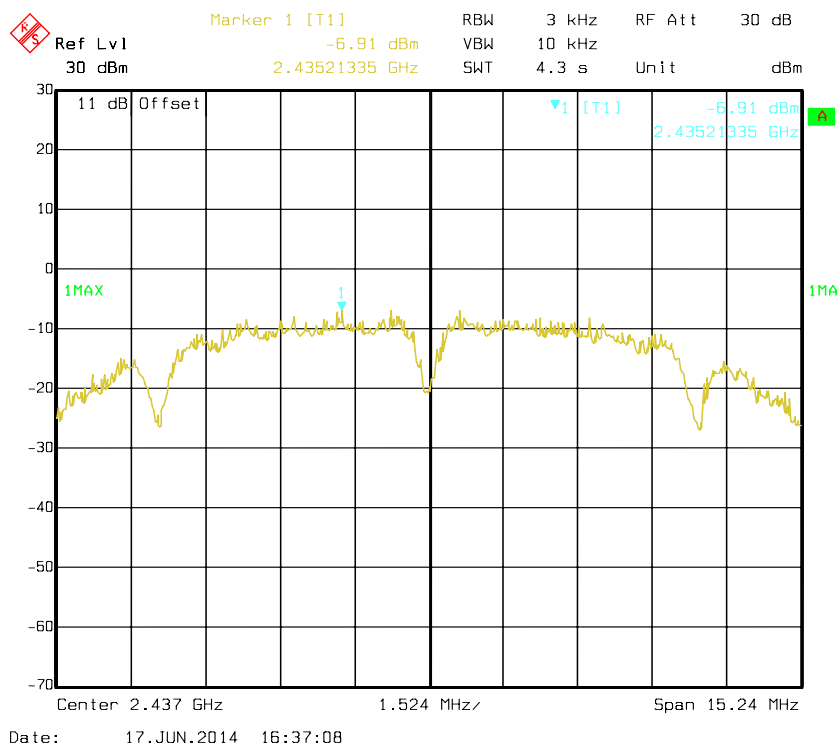
Power Spectral Density, 802.11n HT40 High Channel for Antenna 0



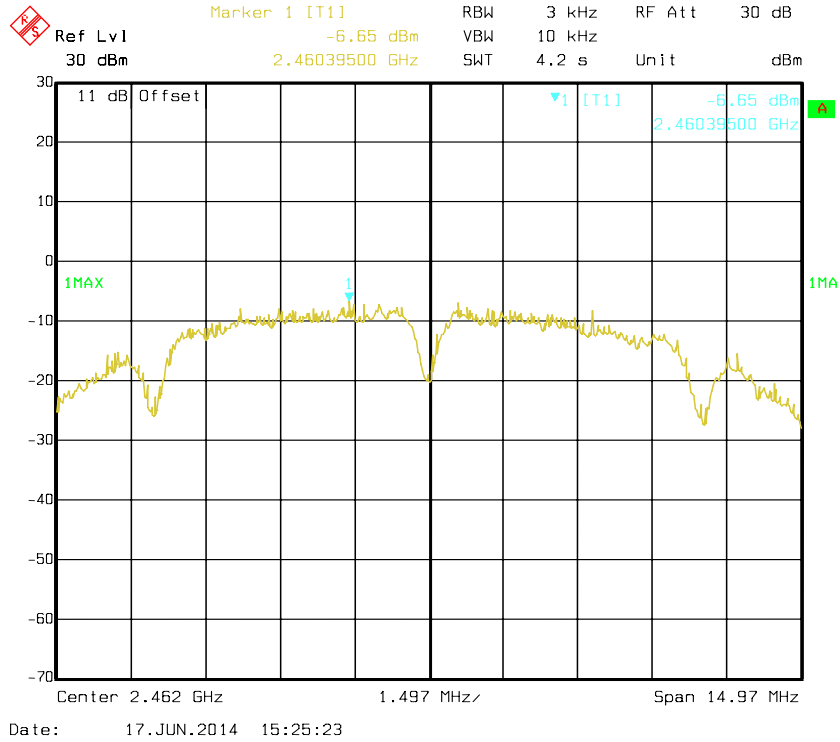
Power Spectral Density, 802.11b Low Channel for Antenna 1



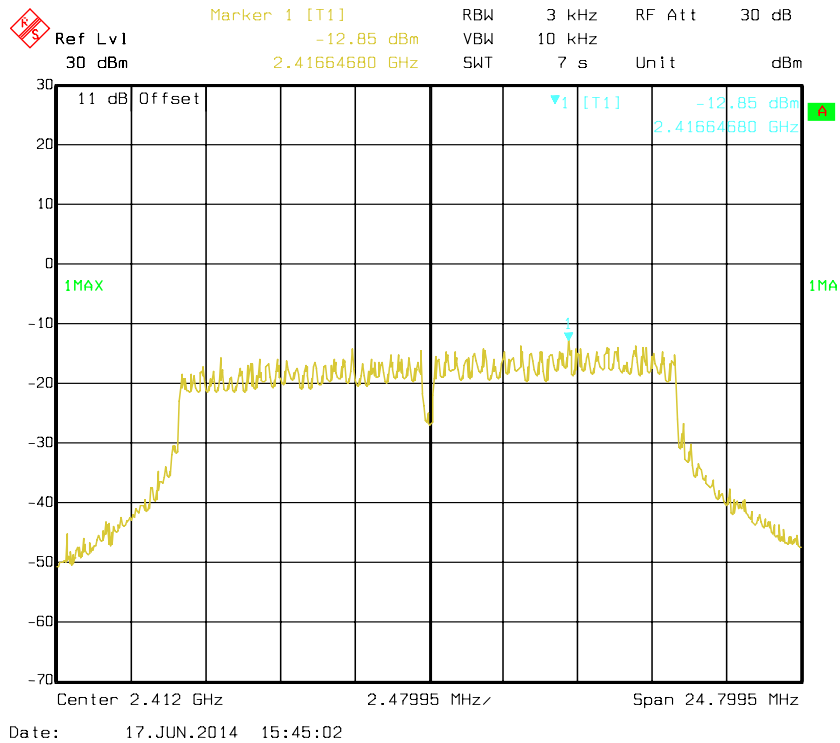
Power Spectral Density, 802.11b Middle Channel for Antenna 1



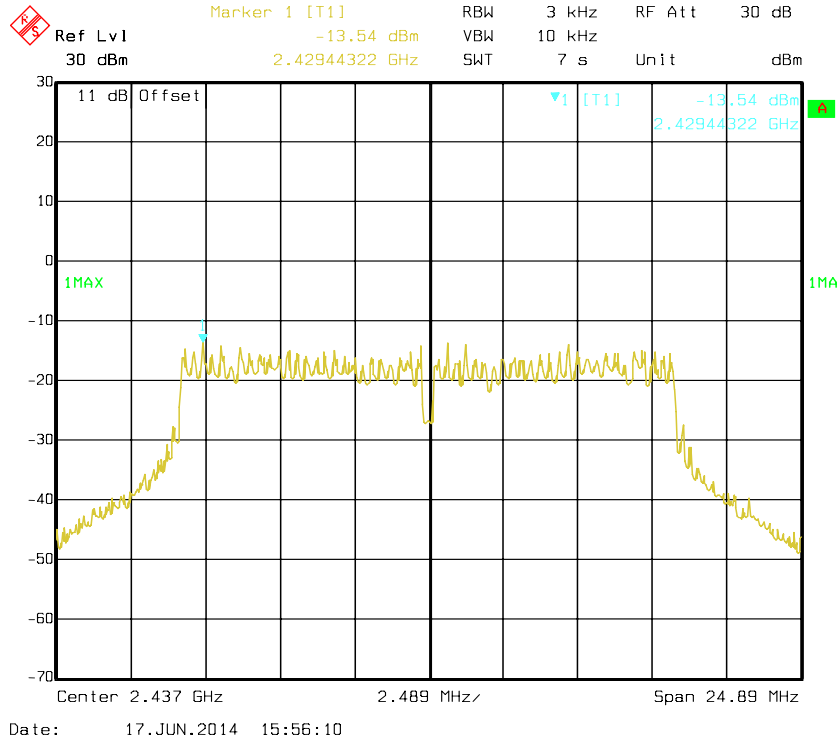
Power Spectral Density, 802.11b High Channel for Antenna 1



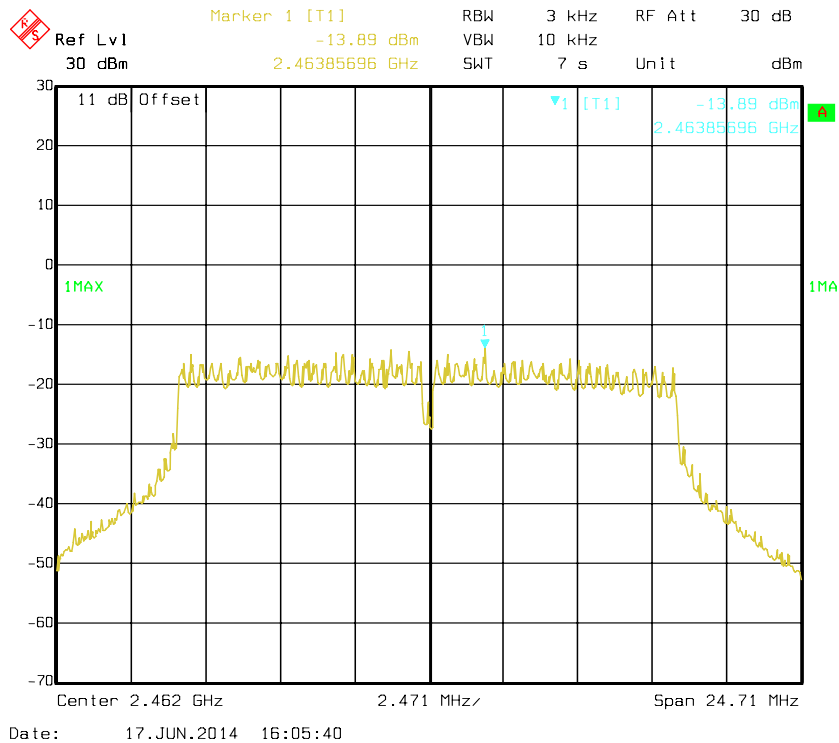
Power Spectral Density, 802.11g Low Channel for Antenna 1



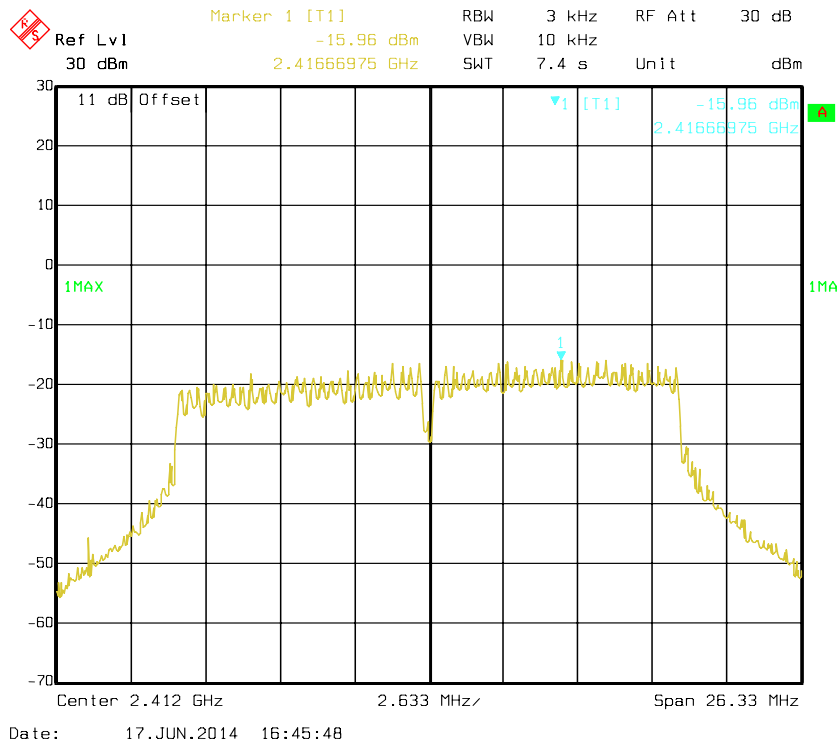
Power Spectral Density, 802.11g Middle Channel for Antenna 1



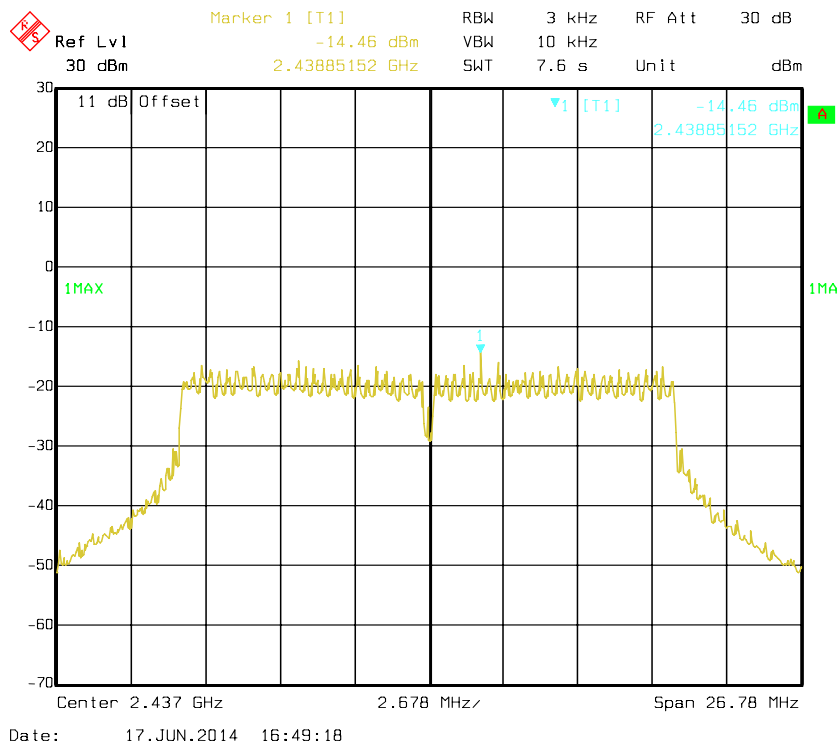
Power Spectral Density, 802.11g High Channel for Antenna 1



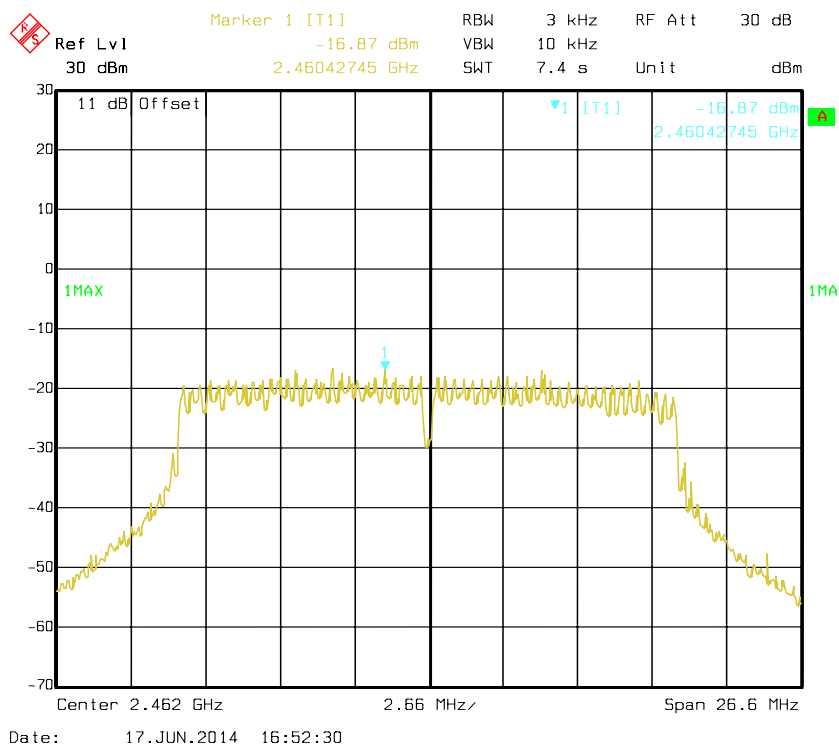
Power Spectral Density, 802.11n HT20 Low Channel for Antenna 1



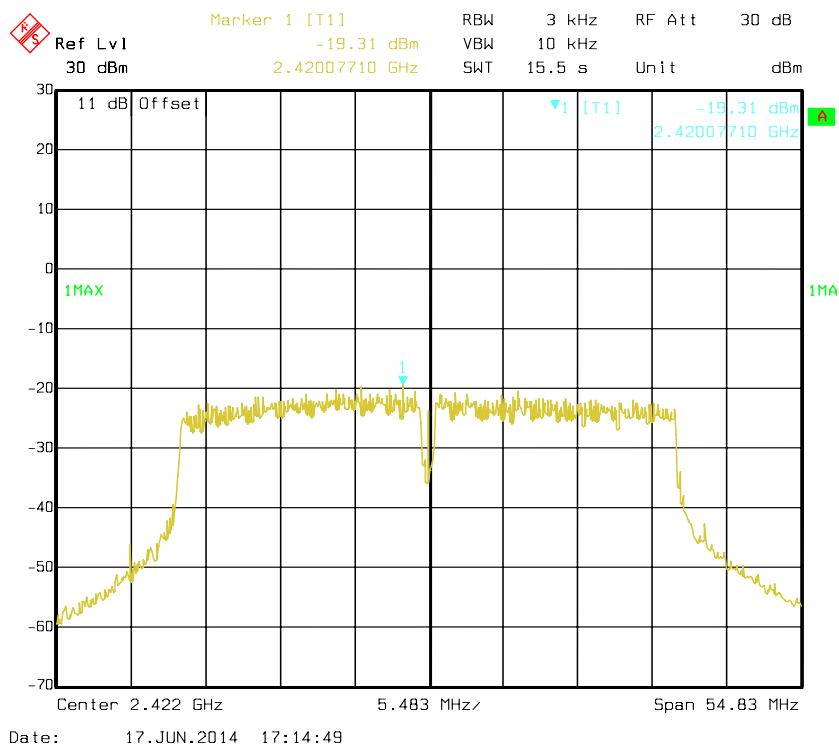
Power Spectral Density, 802.11n HT20 Middle Channel for Antenna 1



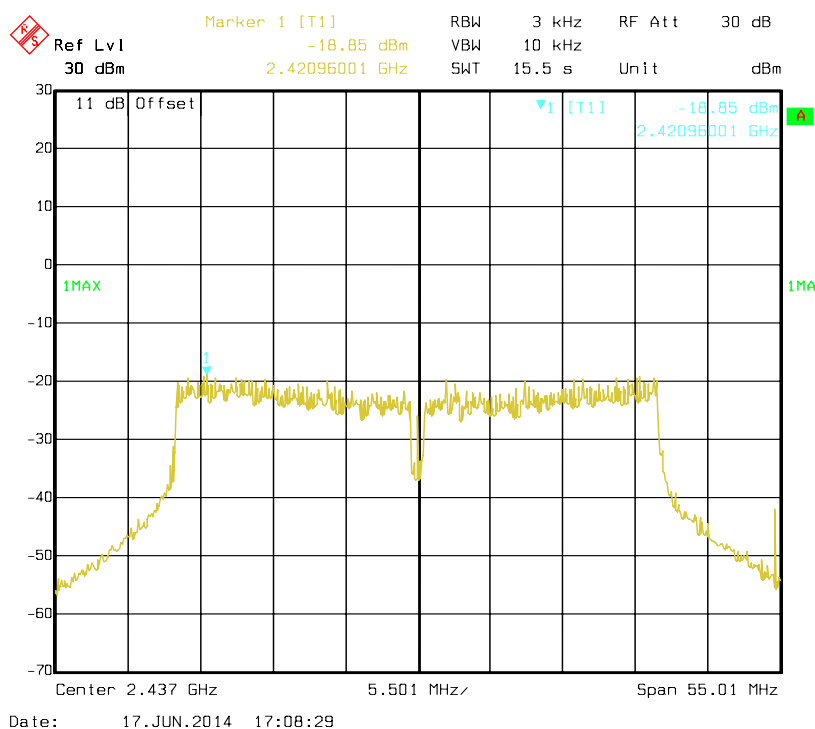
Power Spectral Density, 802.11n HT20 High Channel for Antenna 1



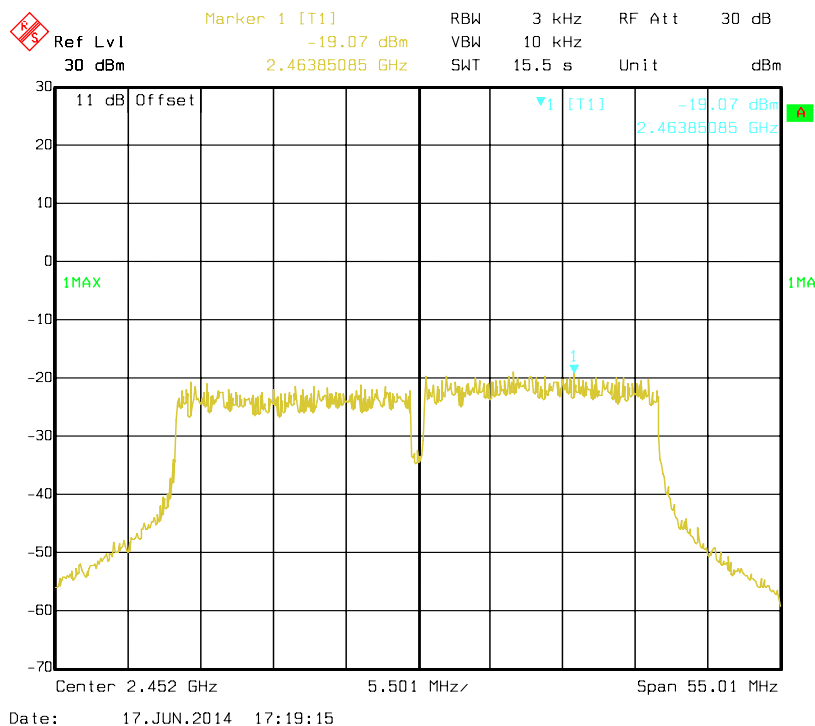
Power Spectral Density, 802.11n HT40 Low Channel for Antenna 1



Power Spectral Density, 802.11n HT40 Middle Channel for Antenna 1



Power Spectral Density, 802.11n HT40 High Channel for Antenna 1



***** **END OF REPORT** *****