# FCC PART 15.407

# TEST REPORT

For

# Iconnect

No.9, Aly. 58, Ln. 112, Ruiguang Rd., Neihu Dist.,Taipei City,Taiwan

## FCC ID: 2AB878814

| **Report Type:** | **Product Name:** |
|---|---|
| Original Report | 802.11ac Long-Range USB Adapter Dual-Band 2.4GHz/5GHz |

| | |
|---|---|
| **Test Engineer:** | *Tom Tang* |
| **Report Number:** | RDG170103003B |
| **Report Date:** | 2017-03-31 |
| **Reviewed By:** | Henry Ding<br>EMC Leader |
| **Test Laboratory:** | Bay Area Compliance Laboratories Corp. (Chengdu)<br>No.5040, Huilongwan Plaza, No.1, Shawan Road,<br>Jinniu District, Chengdu, Sichuan, China<br>Tel: 028-65523123, Fax: 028-65525125<br>www.baclcorp.com |

# TABLE OF CONTENTS

# GENERAL INFORMATION

## Product Description for Equipment under Test (EUT)

The ***Iconnect***'s product, model number: ***AWUS1900 (FCC ID: 2AB878814)*** (the "EUT") in this report was a ***802.11ac Long-Range USB Adapter Dual-Band 2.4GHz/5GHz***, which was measured approximately: 8.5 cm (L) × 6.2 cm (W) × 2 cm (H), rated input voltage: DC 5V from USB port.

*Note: The series product, model AWUS1900, AC1900U, AC1900UH, AWUS1900H, NU1900, UBDo-1900, AWUS036AC-1900, Tube-UAC, ID-1900AC, ID-1900ACH, AWUS036ACM, AWUS036ACHM are electrically identical, the difference between them is the model name, we selected AWUS1900 for fully testing, the details was explained in the attached declaration letter.*

**All measurement and test data in this report was gathered from final production sample, serial number: 170103003 (assigned by the BACL, Chengdu). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2017-01-04, and EUT conformed to test requirement.*

## Objective

This type approval report is prepared on behalf of ***Iconnect*** in accordance with Part 2-Subpart J, Part 15-Subparts A, B and E of the Federal Communications Commission's rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

## Related Submittal(s)/Grant(s)

FCC Part 15C DTS submissions with FCC ID: 2AB878814.

## Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

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: ±5.13dB;
6G~25GHz: ±5.47dB;

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 No.5040, Huilongwan Plaza, No.1, Shawan Road, Jinniu District, Chengdu, Sichuan, 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 April 24, 2015. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

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 EUT was configured for testing in an engineering mode which was provided by the manufacturer.

The system support 802.11a/n ht20/n ht40/ac vht80, the vh20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.

For 5150~5250 MHz band, 7 channels are provided to testing:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|
| 36 | 5180 | 44 | 5220 |
| 38 | 5190 | 46 | 5230 |
| 40 | 5200 | 48 | 5240 |
| 42 | 5210 | / | / |

For 5725~5850MHz band, 8 channels are provided to testing:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|
| 149 | 5745 | 157 | 5785 |
| 151 | 5755 | 159 | 5795 |
| 153 | 5765 | 161 | 5805 |
| 155 | 5775 | 165 | 5825 |

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.Preliminary tests were perfrmed in difference data rate and all the possible configurations, the worst cases as below table and shown in the report.

| Configurations | Test Mode | Data Rate | Channel | Antenna Chain |
|---|---|---|---|---|
| SISO | 802.11a | 6Mbps | 36,40,48,149, 157, 165 | 0, 1, 2 |
| | 802.11n ht20 | MCS0 | 36,40,48,149, 157, 165 | 0, 1, 2 |
| | 802.11n ht40 | MCS0 | 38,46,151, 159 | 0, 1, 2 |
| | 802.11ac 80 | Nss1-MCS0 | 42, 155 | 0, 1, 2 |
| 2*2 MIMO | 802.11n ht20 | MCS8 | 36,40,48,149, 157, 165 | 0+1 |
| | 802.11n ht40 | MCS8 | 38,46,151, 159 | 0+1 |
| | 802.11ac 80 | Nss2-MCS8 | 42, 155 | 0+1 |
| 3*3 MIMO | 802.11n ht20 | MCS16 | 36,40,48,149, 157, 165 | 0+1+2 |
| | 802.11n ht40 | MCS16 | 38,46,151, 159 | 0+1+2 |
| | 802.11ac 80 | Nss3-MCS16 | 42, 155 | 0+1+2 |

## EUT Exercise Software

The software "MP_Kit_RTL11ac_8814AU_USB_v2.24_20151117(BETA)" was used for testing, and the commands were provided by manufacturer. The maximum power and duty cycle was set by commands as following table:

**SISO:**

| UNII Band | Mode | Channel | Frequency (MHz) | Data Rate (Mbps) | Power Level | | |
|---|---|---|---|---|---|---|---|
| | | | | | Chain 0 | Chain 1 | Chain 2 |
| 5150-5250MHz | 802.11 a | Low | 5180 | 6 | 41 | 46 | 45 |
| | | Middle | 5200 | 6 | 41 | 48 | 47 |
| | | High | 5240 | 6 | 41 | 50 | 47 |
| | 802.11n ht20 | Low | 5180 | MCS0 | 40 | 43 | 42 |
| | | Middle | 5200 | MCS0 | 40 | 48 | 46 |
| | | High | 5240 | MCS0 | 40 | 51 | 48 |
| | 802.11n ht40 | Low | 5190 | MCS0 | 39 | 43 | 42 |
| | | High | 5230 | MCS0 | 39 | 46 | 43 |
| | 802.11 ac80 | Middle | 5210 | Nss1MCS0 | 38 | 41 | 41 |
| 5725-5850MHz | 802.11 a | Low | 5745 | 6 | 52 | 53 | 45 |
| | | Middle | 5785 | 6 | 52 | 53 | 45 |
| | | High | 5825 | 6 | 52 | 53 | 45 |
| | 802.11n ht20 | Low | 5745 | MCS0 | 52 | 53 | 45 |
| | | Middle | 5785 | MCS0 | 52 | 53 | 45 |
| | | High | 5825 | MCS0 | 52 | 53 | 45 |
| | 802.11n ht40 | Low | 5755 | MCS0 | 52 | 53 | 45 |
| | | High | 5795 | MCS0 | 52 | 53 | 45 |
| | 802.11 ac80 | Middle | 5775 | Nss1MCS0 | 52 | 53 | 45 |

**MIMO 2TX:**

| UNII Band | Mode | Channel | Frequency (MHz) | Data Rate (Mbps) | Power Level |
|---|---|---|---|---|---|
| | | | | | Chain 0&Chain 1 |
| 5150-5250MHz | 802.11n ht20 | Low | 5180 | MCS8 | 43 |
| | | Middle | 5200 | MCS8 | 43 |
| | | High | 5240 | MCS8 | 43 |
| | 802.11n ht40 | Low | 5190 | MCS8 | 43 |
| | | High | 5230 | MCS8 | 43 |
| | 802.11 ac80 | Middle | 5210 | Nss2MCS0 | 41 |
| 5725-5850MHz | 802.11n ht20 | Low | 5745 | MCS8 | 56 |
| | | Middle | 5785 | MCS8 | 56 |
| | | High | 5825 | MCS8 | 56 |
| | 802.11n ht40 | Low | 5755 | MCS8 | 54 |
| | | High | 5795 | MCS8 | 54 |
| | 802.11 ac80 | Middle | 5775 | Nss2MCS0 | 54 |

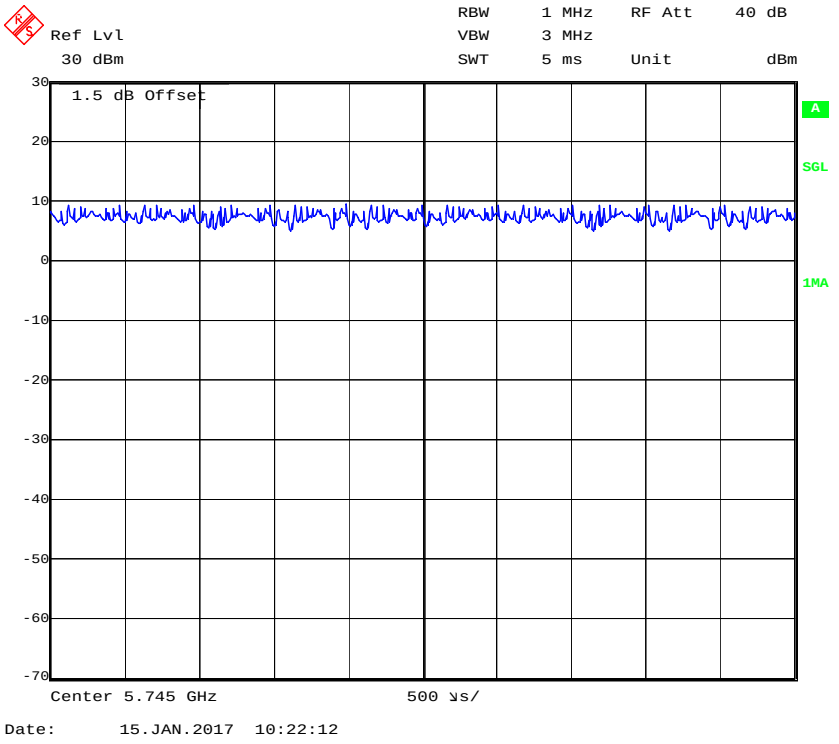
**MIMO 3TX:**

| Software and version | | | MP_Kit_RTL11ac_8814AU_USB_v2.24_20151117(BETA) | | |
|---|---|---|---|---|---|
| UNII Band | Mode | Channel | Frequency (MHz) | Data Rate (Mbps) | Power Level |
| | | | | | Chain 0&Chain 1&Chain 2 |
| 5150-5250MHz | 802.11n ht20 | Low | 5180 | MCS16 | 38 |
| | | Middle | 5200 | MCS16 | 38 |
| | | High | 5240 | MCS16 | 38 |
| | 802.11n ht40 | Low | 5190 | MCS16 | 38 |
| | | High | 5230 | MCS16 | 38 |
| | 802.11 ac80 | Middle | 5210 | Nss3MCS0 | 38 |
| 5725-5850MHz | 802.11n ht20 | Low | 5745 | MCS16 | 60 |
| | | Middle | 5785 | MCS16 | 60 |
| | | High | 5825 | MCS16 | 60 |
| | 802.11n ht40 | Low | 5755 | MCS16 | 62 |
| | | High | 5795 | MCS16 | 62 |
| | 802.11 ac80 | Middle | 5775 | Nss3MCS0 | 62 |

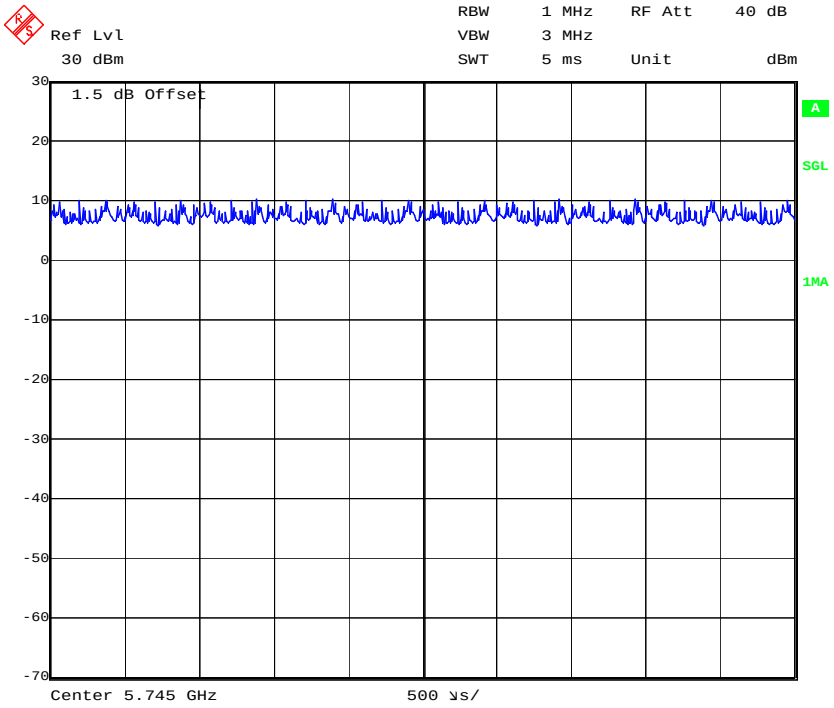
The duty cycle as below:

| Mode | $T_{on}$ (ms) | $T_{on+off}$ (ms) | Duty Cycle (%) | Minimum Transmission Duration (T) (ms) |
|---|---|---|---|---|
| 802.11 a | 5 | 5 | 100 | / |
| 802.11n ht20 | 5 | 5 | 100 | / |
| 802.11n ht40 | 5 | 5 | 100 | / |
| 802.11 ac80 | 5 | 5 | 100 | / |
| 802.11n ht20_MCS8 | 5 | 5 | 100 | / |
| 802.11n ht40_MCS8 | 5 | 5 | 100 | / |
| 802.11 ac80_Nss2 MCS0 | 5 | 5 | 100 | / |
| 802.11n ht20_MCS16 | 5 | 5 | 100 | / |
| 802.11n ht40_MCS16 | 5 | 5 | 100 | / |
| 802.11 ac80_Nss3 MCS0 | 5 | 5 | 100 | / |

**802.11a**

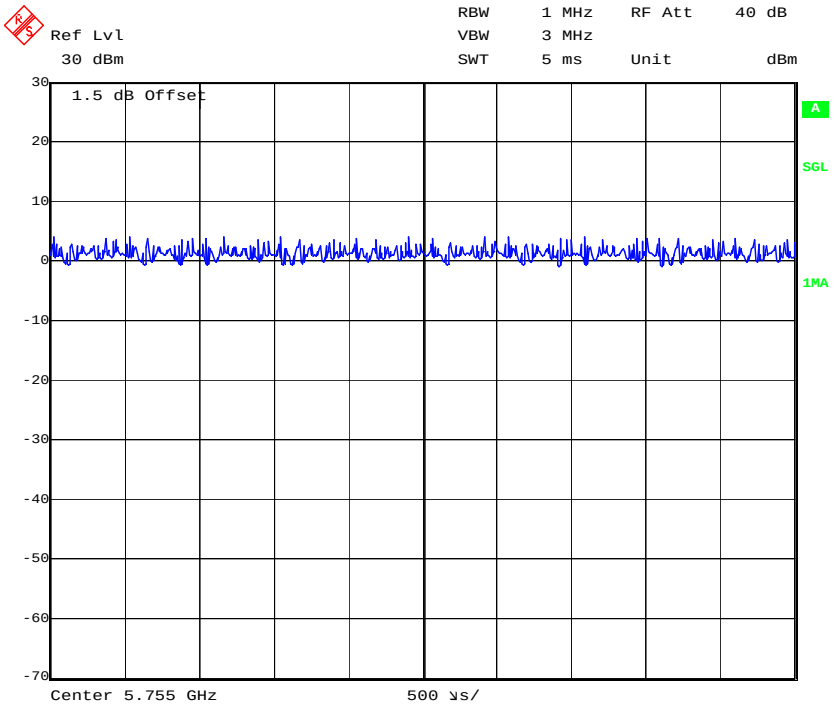


## 802.11 n20




Date: 15.JAN.2017 10:23:41

## 802.11 n40

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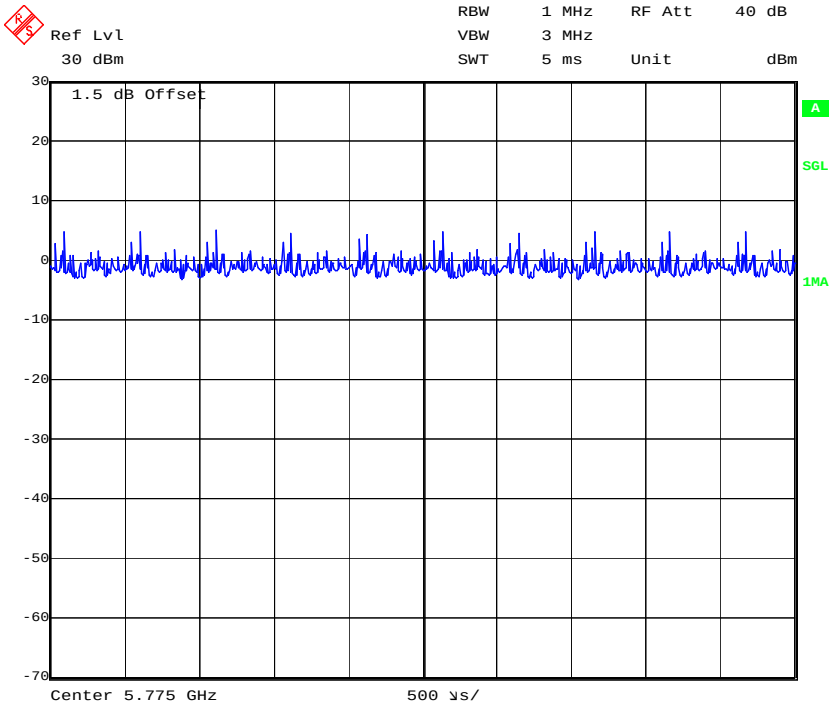
## 802.11 ac80

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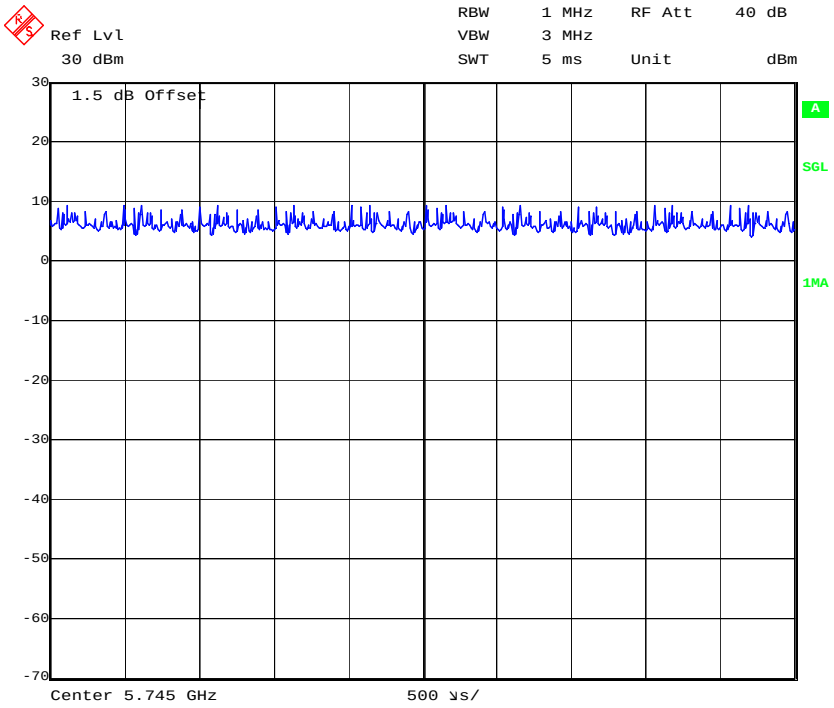
## 802.11 n20_MCS8

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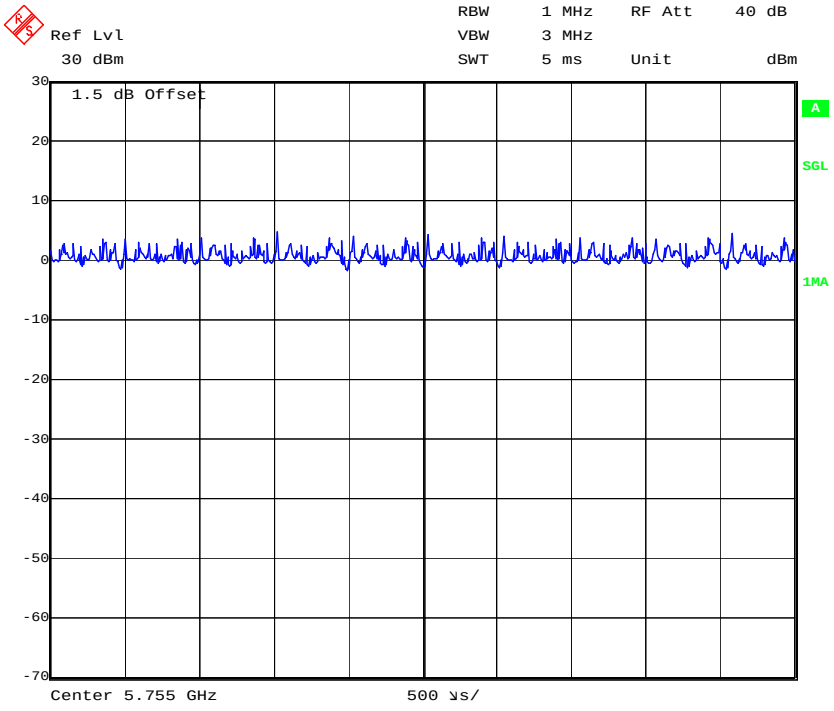
## 802.11 n40_MCS8

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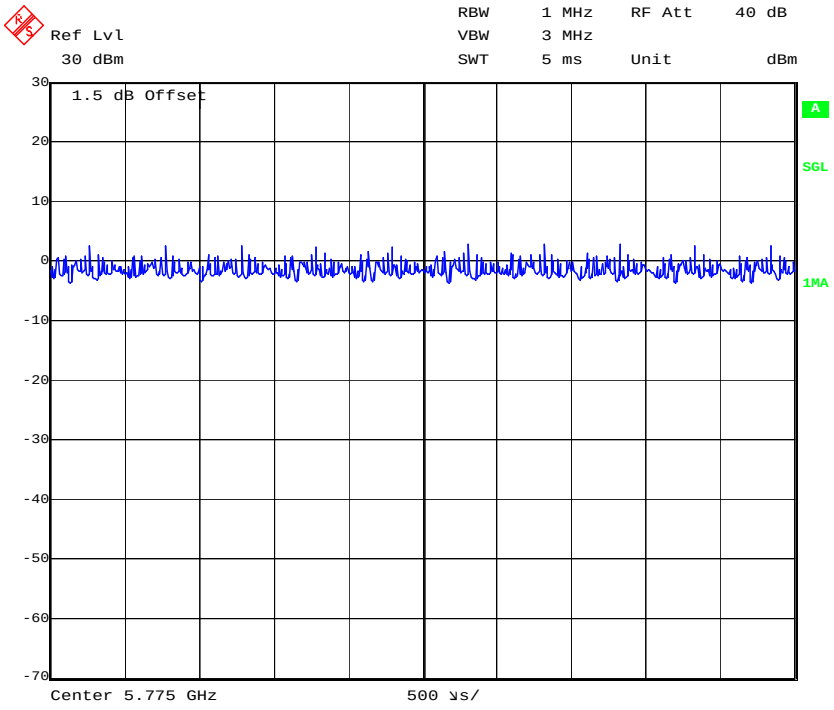
## 802.11 ac80_Nss2 MCS0

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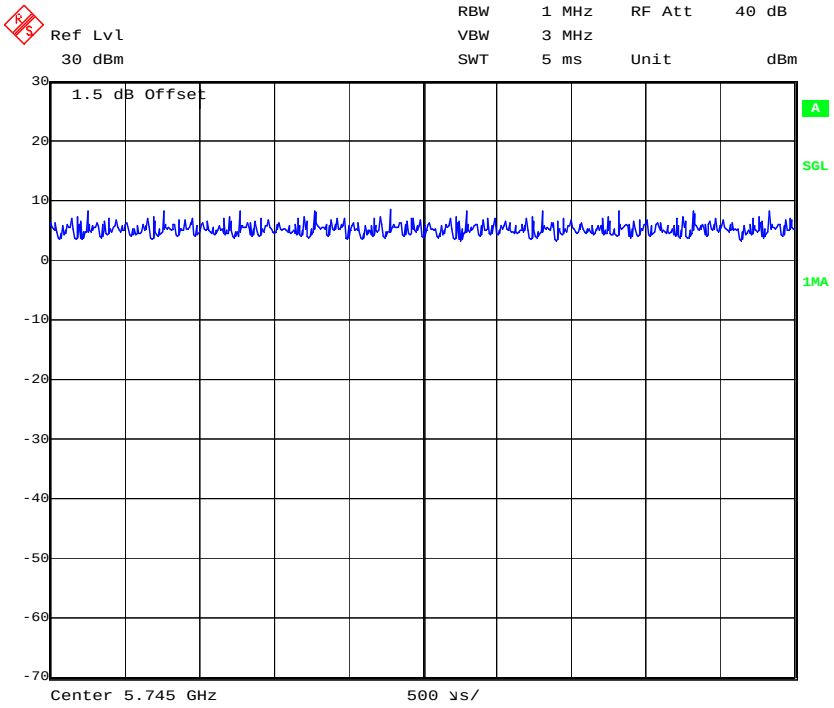
## 802.11 n20_MCS16

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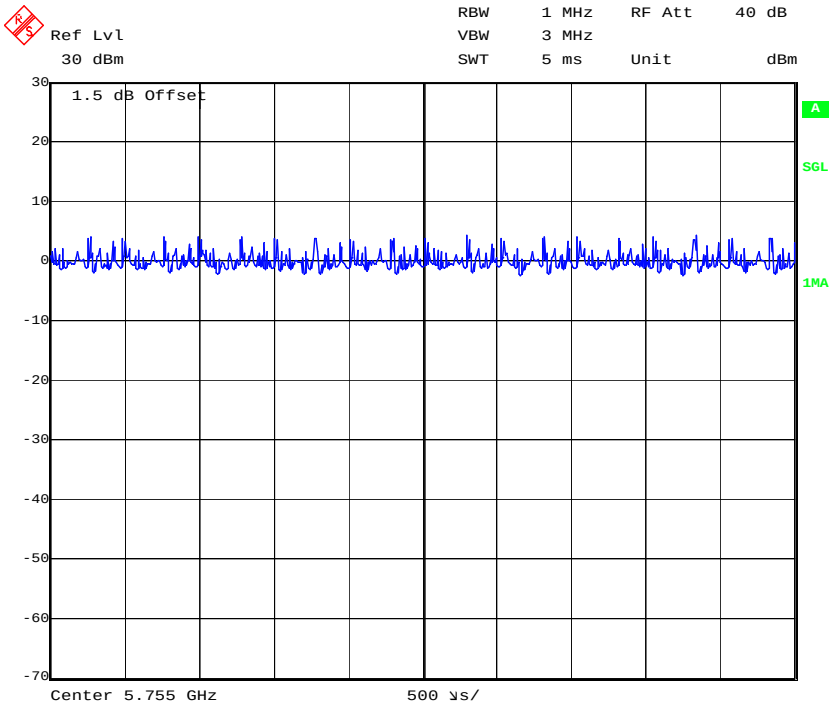
## 802.11 n40_MCS16

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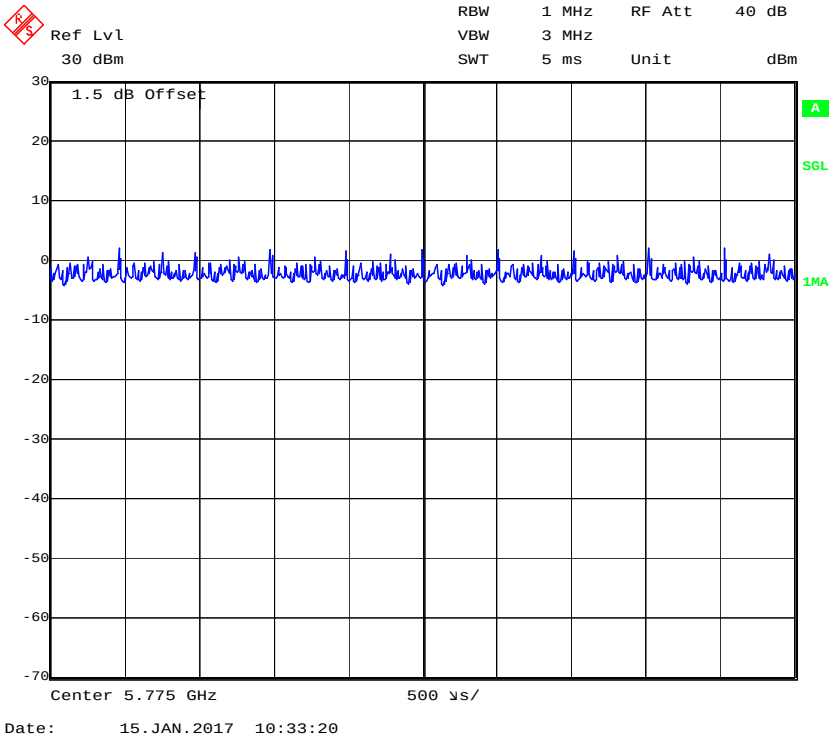
**802.11 ac80_Nss3 MCS0**




## Equipment Modifications

No modification was made to the EUT.

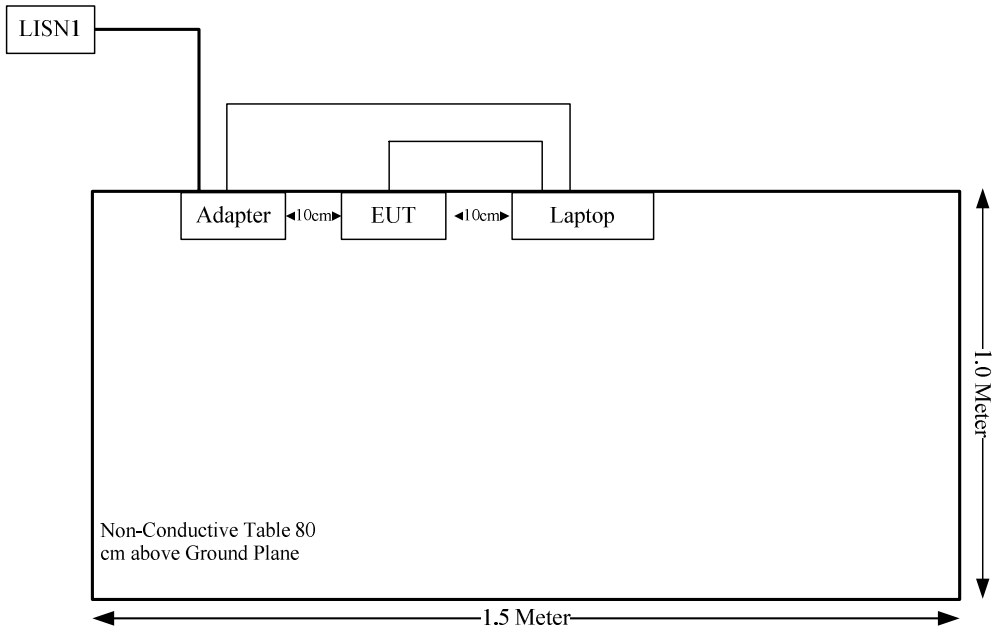
## Local Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number |
|---|---|---|---|
| DELL | Laptop | Inspiron | DD6SX23112221 |

## Support Cable List and Details

| Cable Description | Shielding Type | Ferrite Core | Length (m) | From Port | To |
|---|---|---|---|---|---|
| DC Cable | yes | No | 1.3 | Adapter | Laptop |
| USB Cable | yes | No | 1.0 | USB Port of PC | EUT |

## Block Diagram of Test Setup



# SUMMARY OF TEST RESULTS

| FCC Rules | Description of Test | Result |
|---|---|---|
| FCC §15.407 (f) & §1.1310 & §2.1091 | Maximum Permissable Exposure (MPE) | Compliance |
| §15.203 | Antenna Requirement | Compliance |
| §15.407(b)(6)& §15.207(a) | Conducted Emissions | Compliance |
| §15.205& §15.209 &§15.407(b) | Undesirable Emission& Restricted Bands | Compliance |
| §15.407(b) | Out Of Band Emissions | Compliance |
| §15.407(a) (1) | 6 dB Emission Bandwidth | Compliance |
| §15.407(g) | Frequency Stability | Compliance |
| §15.407(a)(1), | Conducted Transmitter Output Power | Compliance |
| §15.407 (a)(1),(5) | Power Spectral Density | Compliance |

# FCC §15.407 (f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

## Applicable Standard

According to subpart 15.407(f)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/f²) | 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
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. $mW/cm^2$);
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);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

**Calculated Data:**

| Frequency (MHz) | Antenna Gain | | Tune-up Power | | Evaluation Distance (cm) | Power Density ($mW/cm^2$) | MPE Limit ($mW/cm^2$) |
|---|---|---|---|---|---|---|---|
| | (dBi) | (numeric) | (dBm) | (mW) | | | |
| 2400-2483.5 | 3 | 2.00 | 27 | 501.19 | 20.00 | 0.20 | 1.0 |
| 5150-5850 | 4 | 2.51 | 22 | 158.49 | 20.00 | 0.08 | 1.0 |

The 2.4GHz and 5GHz band can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{2.4}/S_{limit-2.4} + S_5/S_{limit-5}$

=0.20/1+0.08/1

=0.28

< 1.0

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

# FCC §15.203 – ANTENNA REQUIREMENT

## Applicable Standard

According to § 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.
And according to FCC 47 CFR section 15.407 (a)(1),if transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

## Antenna Connector Construction

The EUT have 4 dipole antennas with RP-SMA connector, all the antenna gains are 3.0 dBi in 2.4G band, 4dBi in 5GHz bands, fulfill the requirement of this section. Please refer to the EUT photos.

**Result:** Compliance.

# FCC §15.407 (b) (6) §15.207 (a) – CONDUCTED EMISSIONS

## Applicable Standard

FCC §15.207(a), §15.407(b) (6).

## Measurement Uncertainty

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

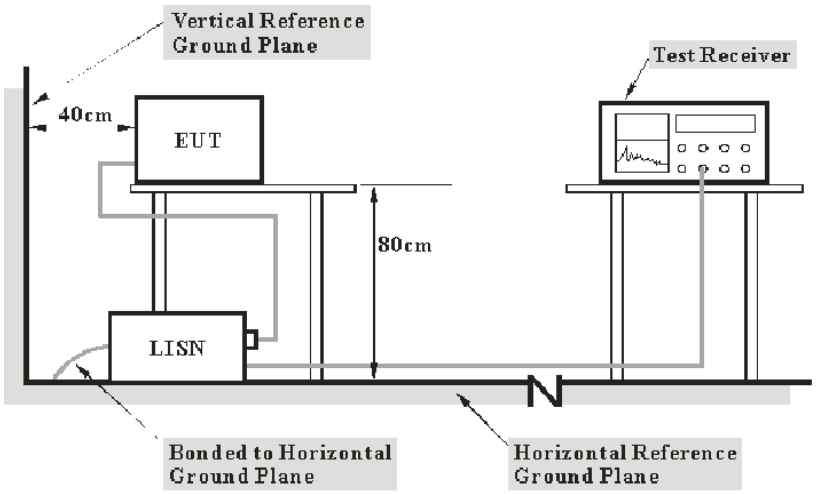
If $U_{lab}$ is less than or equal to $U_{cispr}$ of Table 1, then:
–compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If $U_{lab}$ is greater than $U_{cispr}$ 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 is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 V/60 Hz AC power source.

## 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 |

## Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
$V_C$ (cord. Reading): corrected voltage amplitude
$V_R$: reading voltage amplitude
$A_c$: attenuation caused by cable loss
VDF: voltage division factor of AMN
$C_f$: Correction Factor

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:

Margin = Limit – Corrected Amplitude

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Rohde & Schwarz | EMI Test Receiver | ESCS 30 | 836858/0016 | 2016-12-02 | 2017-12-01 |
| Rohde & Schwarz | L.I.S.N. | ENV216 | 3560.6550.06 | 2016-12-02 | 2017-12-01 |
| Rohde & Schwarz | PULSE LIMITER | ESH3Z2 | 357.8810.52 | 2016-10-31 | 2017-10-30 |
| N/A | Conducted Cable | NO.5 | N/A | 2016-11-10 | 2017-11-09 |
| R&S | Test Software | EMC32 | Version8.53.0 | N/A | N/A |

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

## Test Procedure

During the conducted emission test, the adapter was connected to the first 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.

## Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

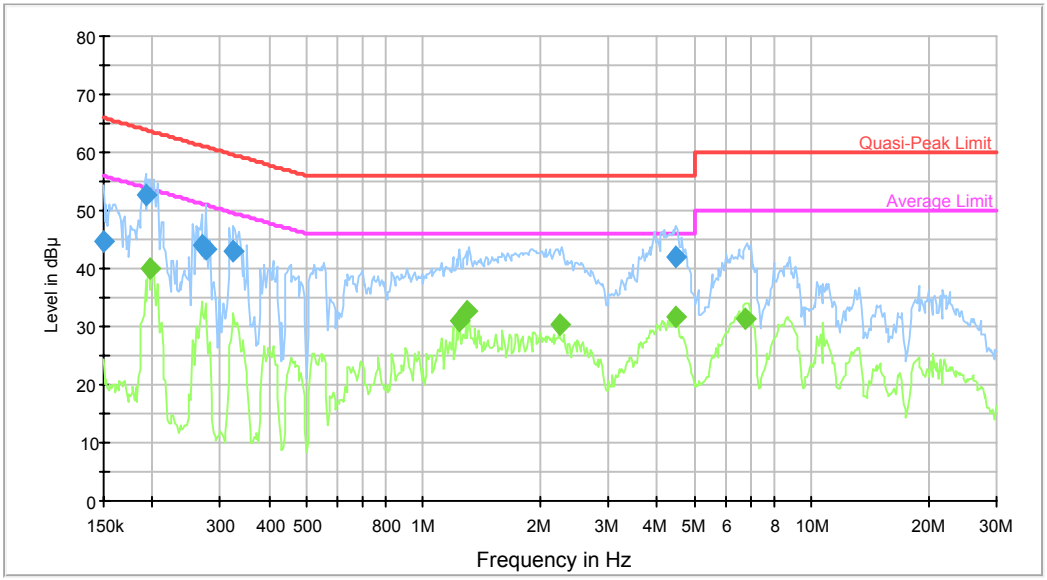
## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 23 °C |
| **Relative Humidity:** | 41 % |
| **ATM Pressure:** | 95.6 kPa |

*The testing was performed by Tom Tang on 2017-01-14.*

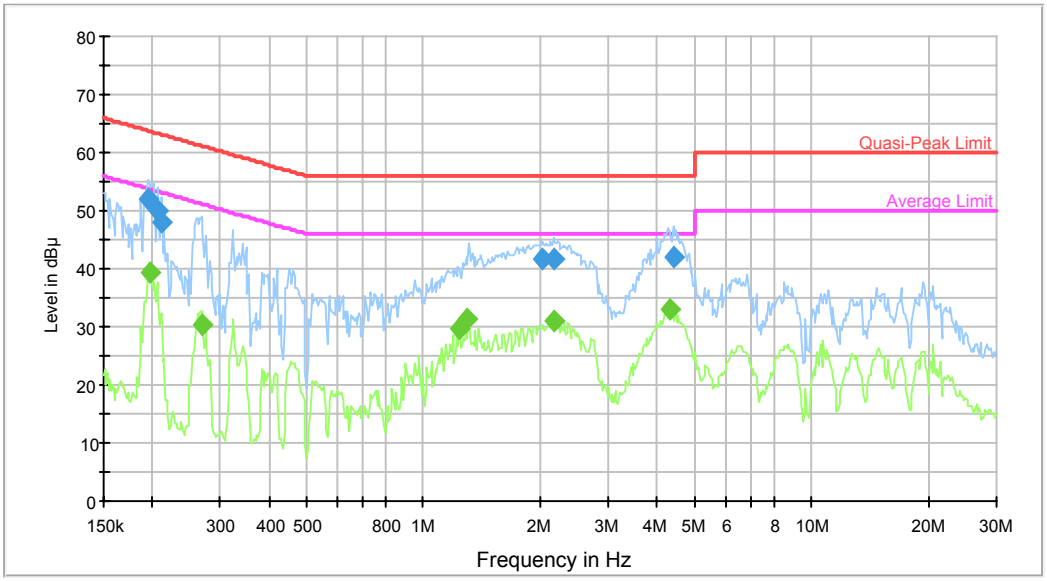
**AC120 V, 60 Hz, Line:**




| Frequency (MHz) | QuasiPeak (dBµV) | Bandwidth (kHz) | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|
| 0.150000 | 44.7 | 9.000 | L1 | 19.7 | 21.3 | 66.0 | Compliance |
| 0.192030 | 52.7 | 9.000 | L1 | 19.7 | 11.2 | 63.9 | Compliance |
| 0.268355 | 43.9 | 9.000 | L1 | 19.7 | 17.3 | 61.2 | Compliance |
| 0.274848 | 43.4 | 9.000 | L1 | 19.7 | 17.6 | 61.0 | Compliance |
| 0.324910 | 42.9 | 9.000 | L1 | 19.7 | 16.7 | 59.6 | Compliance |
| 4.469698 | 42.1 | 9.000 | L1 | 19.7 | 13.9 | 56.0 | Compliance |

| Frequency (MHz) | Average (dBµV) | Bandwidth (kHz) | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|
| 0.196675 | 39.9 | 9.000 | L1 | 19.7 | 13.8 | 53.7 | Compliance |
| 1.239175 | 31.2 | 9.000 | L1 | 19.7 | 14.8 | 46.0 | Compliance |
| 1.289541 | 32.5 | 9.000 | L1 | 19.7 | 13.5 | 46.0 | Compliance |
| 2.234662 | 30.2 | 9.000 | L1 | 19.7 | 15.8 | 46.0 | Compliance |
| 4.469698 | 31.6 | 9.000 | L1 | 19.7 | 14.4 | 46.0 | Compliance |
| 6.764347 | 31.2 | 9.000 | L1 | 19.8 | 18.8 | 50.0 | Compliance |

**AC120 V, 60 Hz, Neutral:**




| requency (MHz) | QuasiPeak (dBµV) | Bandwidth (kHz) | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|
| 0.195114 | 52.0 | 9.000 | N | 19.6 | 11.8 | 63.8 | Compliance |
| 0.207957 | 50.0 | 9.000 | N | 19.6 | 13.3 | 63.3 | Compliance |
| 0.211298 | 48.2 | 9.000 | N | 19.6 | 15.0 | 63.2 | Compliance |
| 2.030886 | 41.7 | 9.000 | N | 19.7 | 14.3 | 56.0 | Compliance |
| 2.164561 | 41.7 | 9.000 | N | 19.7 | 14.3 | 56.0 | Compliance |
| 4.399032 | 42.0 | 9.000 | N | 19.7 | 14.0 | 56.0 | Compliance |

| Frequency (MHz) | Average (dBµV) | Bandwidth (kHz) | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|
| 0.198249 | 39.2 | 9.000 | N | 19.6 | 14.5 | 53.7 | Compliance |
| 0.268355 | 30.3 | 9.000 | N | 19.6 | 20.9 | 51.2 | Compliance |
| 1.239175 | 29.6 | 9.000 | N | 19.6 | 16.4 | 46.0 | Compliance |
| 1.289541 | 31.3 | 9.000 | N | 19.6 | 14.7 | 46.0 | Compliance |
| 2.164561 | 31.0 | 9.000 | N | 19.7 | 15.0 | 46.0 | Compliance |
| 4.329484 | 32.9 | 9.000 | N | 19.7 | 13.1 | 46.0 | Compliance |

# FCC §15.209, §15.205 & §15.407(b) –UNWANTED EMISSION

## Applicable Standard

FCC §15.407; §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) 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 e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

## 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.

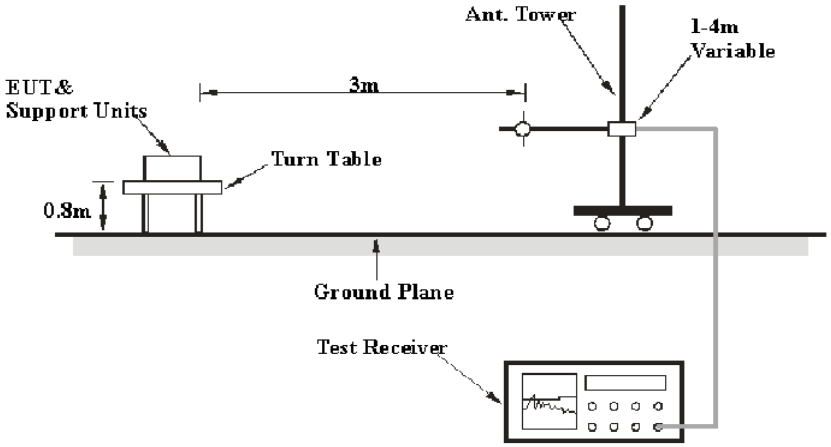
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Chengdu) is:
30M~200MHz: ±4.7 dB;
200M~1GHz: ±6.0 dB;
1G~6GHz: ±5.13dB;
6G~25GHz: ±5.47 dB;

Table 2 – Values of $U_{cispr}$

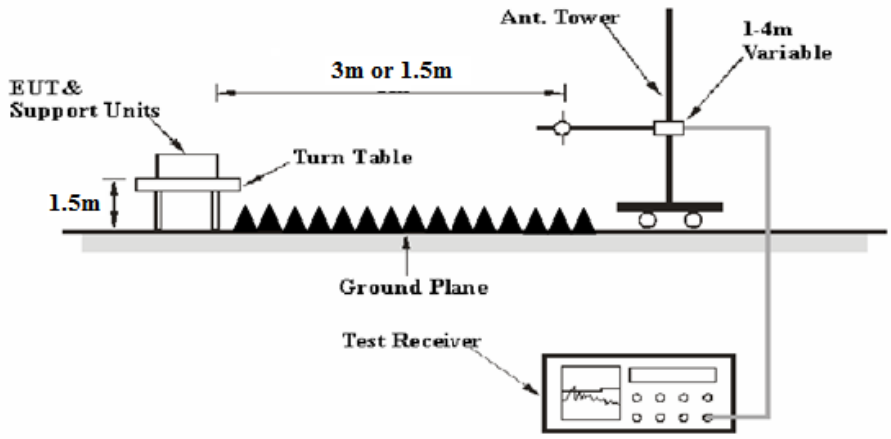
| Measurement | $U_{cispr}$ |
|---|---|
| Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz) | 6.3 dB |
| Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz) | 5.2 dB |
| Radiated disturbance (electric field strength in a FAR) (6 GHz to 18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

## EUT Setup

### Below 1 GHz:




### Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.407 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.

## EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

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

30-1000MHz:

| Frequency Range | RBW | Video B/W | IF B/W | Detector |
|---|---|---|---|---|
| 30 MHz – 1000 MHz | 120 kHz | 300 kHz | 120 kHz | QP |

1GHz- 40GHz:

| Detector | Duty cycle | RBW | Video B/W |
|---|---|---|---|
| PK | Any | 1MHz | 3 MHz |
| Ave. | >98% | 1MHz | 10 Hz |
| | <98% | 1MHz | 1/T |

## Test Procedure

During the radiated emission test, the laptop was connected to the first AC floor outlet.

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-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m
Distance extrapolation factor =20 log (specific distance [3m]/test distance [1.5m]) dB
Extrapolation result = Corrected Amplitude (dBμV/m) - distance extrapolation factor (6dB)

## Corrected Amplitude & Margin Calculation

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

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - 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 = Extrapolation result -Limit

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Agilent | Amplifier | 8447D | 2944A10442 | 2016-12-02 | 2017-12-01 |
| Rohde & Schwarz | EMI Test Receiver | ESCI | 100028 | 2016-12-02 | 2017-12-01 |
| Sunol Sciences | Broadband Antenna | JB3 | A101808 | 2016-04-10 | 2019-04-09 |
| Rohde & Schwarz | Spectrum Analyzer | FSEM30 | 100018 | 2016-12-02 | 2017-12-01 |
| ETS | Horn Antenna | 3115 | 003-6076 | 2016-12-02 | 2017-12-01 |
| Ducommun Technologies | Horn Antenna | ARH-4223-02 | 1007726-0113024 | 2014-06-16 | 2017-06-15 |
| Mini-circuits | Amplifier | ZVA-183-S+ | 771001215 | 2016-05-20 | 2017-05-19 |
| EMCT | Semi-Anechoic Chamber | 966 | N/A | 2015-04-24 | 2018-04-23 |
| N/A | RF Cable (below 1GHz) | NO.1 | N/A | 2016-11-10 | 2017-11-09 |
| N/A | RF Cable (below 1GHz) | NO.4 | N/A | 2016-11-10 | 2017-11-09 |
| N/A | RF Cable (above 1GHz) | NO.2 | N/A | 2016-11-10 | 2017-11-09 |
| Ducommun Technolagies | Horn Antenna | ARH-2823-02 | 1007726-01 1312 | 2016-08-18 | 2017-08-18 |
| Quinstar | Amplifier | QLW-18405536-JO | 15964001032 | 2016-08-18 | 2017-08-18 |
| Agilent | Spectrum Analyzer | 8564E | 5943A01752 | 2016-08-18 | 2017-08-18 |

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

## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 20.9~22.3 °C |
| **Relative Humidity:** | 47~49 % |
| **ATM Pressure:** | 94.8~95.2 kPa |

** The testing was performed by Tom Tang from 2017-01-15 to 2017-02-23.*

*Test Mode: Transmitting(Above 1GHz test performed at distance 1.5m from EUT to Antenna)*

**SISO mode:**

**5150-5250MHz:**
802.11a mode(Chain 0 was the worst)

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5180 MHz | | | | | | | | | | |
| 5180 | 67.31 | PK | H | 31.72 | 5.21 | 0.00 | 104.24 | 98.24 | N/A | N/A |
| 5180 | 58.46 | AV | H | 31.72 | 5.21 | 0.00 | 95.39 | 89.39 | N/A | N/A |
| 5180 | 77.03 | PK | V | 31.72 | 5.21 | 0.00 | 113.96 | 107.96 | N/A | N/A |
| 5180 | 68.24 | AV | V | 31.72 | 5.21 | 0.00 | 105.17 | 99.17 | N/A | N/A |
| 5150 | 31.80 | PK | V | 31.67 | 5.18 | 0.00 | 68.65 | 62.65 | 74 | 11.35 |
| 5150 | 17.33 | AV | V | 31.67 | 5.18 | 0.00 | 54.18 | 48.18 | 54 | 5.82 |
| 10360 | 34.76 | PK | V | 37.37 | 7.76 | 26.37 | 53.52 | 47.52 | 74 | 26.48 |
| 10360 | 22.10 | AV | V | 37.37 | 7.76 | 26.37 | 40.86 | 34.86 | 54 | 19.14 |
| 15540 | 36.95 | PK | V | 39.41 | 10.22 | 25.32 | 61.26 | 55.26 | 74 | 18.74 |
| 15540 | 23.80 | AV | V | 39.41 | 10.22 | 25.32 | 48.11 | 42.11 | 54 | 11.89 |
| 1692 | 29.00 | PK | V | 24.41 | 2.82 | 26.52 | 29.71 | 23.71 | 74 | 50.29 |
| 1692 | 17.65 | AV | V | 24.41 | 2.82 | 26.52 | 18.36 | 12.36 | 54 | 41.64 |
| 3621 | 33.54 | PK | V | 27.48 | 4.36 | 26.58 | 38.8 | 32.8 | 74 | 41.2 |
| 3621 | 20.32 | AV | V | 27.48 | 4.36 | 26.58 | 25.58 | 19.58 | 54 | 34.42 |
| 298.69 | 52.33 | QP | H | 14.09 | 1.04 | 27.54 | 39.92 | 39.92 | 46.00 | 6.08 |
| 506.27 | 45.23 | QP | H | 18.16 | 1.63 | 28.82 | 36.20 | 36.20 | 46.00 | 9.80 |
| Middle Channel:5200 MHz | | | | | | | | | | |
| 5200 | 67.15 | PK | H | 31.76 | 5.23 | 0.00 | 104.14 | 98.14 | N/A | N/A |
| 5200 | 58.43 | AV | H | 31.76 | 5.23 | 0.00 | 95.42 | 89.42 | N/A | N/A |
| 5200 | 77.82 | PK | V | 31.76 | 5.23 | 0.00 | 114.81 | 108.81 | N/A | N/A |
| 5200 | 68.24 | AV | V | 31.76 | 5.23 | 0.00 | 105.23 | 99.23 | N/A | N/A |
| 10400 | 34.54 | PK | V | 37.38 | 7.79 | 26.36 | 53.35 | 47.35 | 74 | 26.65 |
| 10400 | 22.03 | AV | V | 37.38 | 7.79 | 26.36 | 40.84 | 34.84 | 54 | 19.16 |
| 15600 | 36.76 | PK | V | 39.42 | 10.22 | 25.31 | 61.09 | 55.09 | 74 | 18.91 |
| 15600 | 23.79 | AV | V | 39.42 | 10.22 | 25.31 | 48.12 | 42.12 | 54 | 11.88 |
| 2009 | 30.38 | PK | V | 24.87 | 3.05 | 26.82 | 31.48 | 25.48 | 74 | 48.52 |
| 2009 | 18.17 | AV | V | 24.87 | 3.05 | 26.82 | 19.27 | 13.27 | 54 | 40.73 |
| 3147 | 36.95 | PK | V | 25.02 | 3.65 | 26.46 | 39.16 | 33.16 | 74 | 40.84 |
| 3147 | 24.47 | AV | V | 25.02 | 3.65 | 26.46 | 26.68 | 20.68 | 54 | 33.32 |
| 298.69 | 51.86 | QP | H | 14.09 | 1.04 | 27.54 | 39.45 | 39.45 | 46.00 | 6.55 |
| 506.27 | 45.67 | QP | H | 18.16 | 1.63 | 28.82 | 36.64 | 36.64 | 46.00 | 9.36 |
| High Channel:5240 MHz | | | | | | | | | | |
| 5240 | 67.30 | PK | H | 31.83 | 5.27 | 0.00 | 104.4 | 98.4 | N/A | N/A |
| 5240 | 58.09 | AV | H | 31.83 | 5.27 | 0.00 | 95.19 | 89.19 | N/A | N/A |
| 5240 | 77.78 | PK | V | 31.83 | 5.27 | 0.00 | 114.88 | 108.88 | N/A | N/A |
| 5240 | 69.15 | AV | V | 31.83 | 5.27 | 0.00 | 106.25 | 100.25 | N/A | N/A |
| 5350 | 27.64 | PK | V | 32.03 | 5.37 | 0.00 | 65.04 | 59.04 | 74 | 14.96 |
| 5350 | 14.90 | AV | V | 32.03 | 5.37 | 0.00 | 52.3 | 46.3 | 54 | 7.7 |
| 10480 | 33.87 | PK | V | 37.40 | 7.84 | 26.35 | 52.76 | 46.76 | 74 | 27.24 |
| 10480 | 21.85 | AV | V | 37.40 | 7.84 | 26.35 | 40.74 | 34.74 | 54 | 19.26 |
| 15720 | 35.87 | PK | V | 39.44 | 10.24 | 25.30 | 60.25 | 54.25 | 74 | 19.75 |
| 15720 | 23.26 | AV | V | 39.44 | 10.24 | 25.30 | 47.64 | 41.64 | 54 | 12.36 |
| 1810 | 29.58 | PK | V | 24.60 | 2.91 | 26.63 | 30.46 | 24.46 | 74 | 49.54 |
| 1810 | 17.87 | AV | V | 24.60 | 2.91 | 26.63 | 18.75 | 12.75 | 54 | 41.25 |
| 3264 | 35.59 | PK | V | 25.68 | 3.83 | 26.51 | 38.59 | 32.59 | 74 | 41.41 |
| 3264 | 23.07 | AV | V | 25.68 | 3.83 | 26.51 | 26.07 | 20.07 | 54 | 33.93 |
| 298.69 | 51.39 | QP | H | 14.09 | 1.04 | 27.54 | 38.98 | 38.98 | 46.00 | 7.02 |
| 506.27 | 46.11 | QP | H | 18.16 | 1.63 | 28.82 | 37.08 | 37.08 | 46.00 | 8.92 |

802.11n ht20 mode(Chain 0 was the worst)

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5180 MHz | | | | | | | | | | |
| 5180 | 65.96 | PK | H | 31.72 | 5.21 | 0.00 | 102.89 | 96.89 | N/A | N/A |
| 5180 | 57.20 | AV | H | 31.72 | 5.21 | 0.00 | 94.13 | 88.13 | N/A | N/A |
| 5180 | 76.21 | PK | V | 31.72 | 5.21 | 0.00 | 113.14 | 107.14 | N/A | N/A |
| 5180 | 67.79 | AV | V | 31.72 | 5.21 | 0.00 | 104.72 | 98.72 | N/A | N/A |
| 5150 | 31.56 | PK | V | 31.67 | 5.18 | 0.00 | 68.41 | 62.41 | 74 | 11.59 |
| 5150 | 17.50 | AV | V | 31.67 | 5.18 | 0.00 | 54.35 | 48.35 | 54 | 5.65 |
| 10360 | 34.94 | PK | V | 37.37 | 7.76 | 26.37 | 53.7 | 47.7 | 74 | 26.3 |
| 10360 | 22.00 | AV | V | 37.37 | 7.76 | 26.37 | 40.76 | 34.76 | 54 | 19.24 |
| 15540 | 36.61 | PK | V | 39.41 | 10.22 | 25.32 | 60.92 | 54.92 | 74 | 19.08 |
| 15540 | 24.64 | AV | V | 39.41 | 10.22 | 25.32 | 48.95 | 42.95 | 54 | 11.05 |
| 2113 | 30.92 | PK | V | 24.52 | 3.04 | 26.84 | 31.64 | 25.64 | 74 | 48.36 |
| 2113 | 19.20 | AV | V | 24.52 | 3.04 | 26.84 | 19.92 | 13.92 | 54 | 40.08 |
| 2936 | 37.41 | PK | V | 24.07 | 3.37 | 26.47 | 38.38 | 32.38 | 74 | 41.62 |
| 2936 | 24.41 | AV | V | 24.07 | 3.37 | 26.47 | 25.38 | 19.38 | 54 | 34.62 |
| 298.69 | 51.61 | QP | H | 14.09 | 1.04 | 27.54 | 39.20 | 39.20 | 46.00 | 6.80 |
| 506.27 | 44.29 | QP | H | 18.16 | 1.63 | 28.82 | 35.26 | 35.26 | 46.00 | 10.74 |
| Middle Channel:5200 MHz | | | | | | | | | | |
| 5200 | 67.22 | PK | H | 31.76 | 5.23 | 0.00 | 104.21 | 98.21 | N/A | N/A |
| 5200 | 58.41 | AV | H | 31.76 | 5.23 | 0.00 | 95.4 | 89.4 | N/A | N/A |
| 5200 | 78.13 | PK | V | 31.76 | 5.23 | 0.00 | 115.12 | 109.12 | N/A | N/A |
| 5200 | 59.86 | AV | V | 31.76 | 5.23 | 0.00 | 96.85 | 90.85 | N/A | N/A |
| 10400 | 35.23 | PK | V | 37.38 | 7.79 | 26.36 | 54.04 | 48.04 | 74 | 19.96 |
| 10400 | 22.14 | AV | V | 37.38 | 7.79 | 26.36 | 40.95 | 34.95 | 54 | 13.05 |
| 15600 | 36.39 | PK | V | 39.42 | 10.22 | 25.31 | 60.72 | 54.72 | 74 | 13.28 |
| 15600 | 24.59 | AV | V | 39.42 | 10.22 | 25.31 | 48.92 | 42.92 | 54 | 5.08 |
| 1670 | 29.31 | PK | V | 24.37 | 2.80 | 26.50 | 29.98 | 23.98 | 74 | 44.02 |
| 1670 | 17.79 | AV | V | 24.37 | 2.80 | 26.50 | 18.46 | 12.46 | 54 | 35.54 |
| 2897 | 36.25 | PK | V | 23.99 | 3.34 | 26.51 | 37.07 | 31.07 | 74 | 36.93 |
| 2897 | 23.24 | AV | V | 23.99 | 3.34 | 26.51 | 24.06 | 18.06 | 54 | 29.94 |
| 298.69 | 51.88 | QP | H | 14.09 | 1.04 | 27.54 | 39.47 | 39.47 | 46.00 | 6.53 |
| 506.27 | 44.43 | QP | H | 18.16 | 1.63 | 28.82 | 35.40 | 35.40 | 46.00 | 10.60 |
| High Channel:5240 MHz | | | | | | | | | | |
| 5240 | 67.61 | PK | H | 31.83 | 5.27 | 0.00 | 104.71 | 98.71 | N/A | N/A |
| 5240 | 58.02 | AV | H | 31.83 | 5.27 | 0.00 | 95.12 | 89.12 | N/A | N/A |
| 5240 | 78.30 | PK | V | 31.83 | 5.27 | 0.00 | 115.4 | 109.4 | N/A | N/A |
| 5240 | 69.73 | AV | V | 31.83 | 5.27 | 0.00 | 106.83 | 100.83 | N/A | N/A |
| 5350 | 27.74 | PK | V | 32.03 | 5.37 | 0.00 | 65.14 | 59.14 | 74 | 14.86 |
| 5350 | 15.19 | AV | V | 32.03 | 5.37 | 0.00 | 52.59 | 46.59 | 54 | 7.41 |
| 10480 | 33.61 | PK | V | 37.40 | 7.84 | 26.35 | 52.5 | 46.5 | 74 | 27.5 |
| 10480 | 21.72 | AV | V | 37.40 | 7.84 | 26.35 | 40.61 | 34.61 | 54 | 19.39 |
| 15720 | 36.21 | PK | V | 39.44 | 10.24 | 25.30 | 60.59 | 54.59 | 74 | 19.41 |
| 15720 | 22.85 | AV | V | 39.44 | 10.24 | 25.30 | 47.23 | 41.23 | 54 | 12.77 |
| 1625 | 29.23 | PK | V | 24.30 | 2.77 | 26.45 | 29.85 | 23.85 | 74 | 50.15 |
| 1625 | 16.73 | AV | V | 24.30 | 2.77 | 26.45 | 17.35 | 11.35 | 54 | 42.65 |
| 3452 | 34.16 | PK | V | 26.73 | 4.11 | 26.57 | 38.43 | 32.43 | 74 | 41.57 |
| 3452 | 21.18 | AV | V | 26.73 | 4.11 | 26.57 | 25.45 | 19.45 | 54 | 34.55 |
| 298.69 | 52.72 | QP | H | 14.09 | 1.04 | 27.54 | 40.31 | 40.31 | 46.00 | 5.69 |
| 506.27 | 44.85 | QP | H | 18.16 | 1.63 | 28.82 | 35.82 | 35.82 | 46.00 | 10.18 |

802.11n ht40 mode(Chain 0 was the worst)

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5190 MHz | | | | | | | | | | |
| 5190 | 62.07 | PK | H | 31.74 | 5.22 | 0.00 | 99.03 | 93.03 | N/A | N/A |
| 5190 | 53.43 | AV | H | 31.74 | 5.22 | 0.00 | 90.39 | 84.39 | N/A | N/A |
| 5190 | 72.00 | PK | V | 31.74 | 5.22 | 0.00 | 108.96 | 102.96 | N/A | N/A |
| 5190 | 63.51 | AV | V | 31.74 | 5.22 | 0.00 | 100.47 | 94.47 | N/A | N/A |
| 5150 | 32.72 | PK | V | 31.67 | 5.18 | 0.00 | 69.57 | 63.57 | 74 | 10.43 |
| 5150 | 18.30 | AV | V | 31.67 | 5.18 | 0.00 | 55.15 | 49.15 | 54 | 4.85 |
| 10380 | 34.71 | PK | V | 37.38 | 7.78 | 26.37 | 53.5 | 47.5 | 74 | 26.5 |
| 10380 | 22.37 | AV | V | 37.38 | 7.78 | 26.37 | 41.16 | 35.16 | 54 | 18.84 |
| 15570 | 36.84 | PK | V | 39.41 | 10.22 | 25.31 | 61.16 | 55.16 | 74 | 18.84 |
| 15570 | 23.71 | AV | V | 39.41 | 10.22 | 25.31 | 48.03 | 42.03 | 54 | 11.97 |
| 2005 | 30.37 | PK | V | 24.88 | 3.05 | 26.82 | 31.48 | 25.48 | 74 | 48.52 |
| 2005 | 18.26 | AV | V | 24.88 | 3.05 | 26.82 | 19.37 | 13.37 | 54 | 40.63 |
| 3147 | 37.51 | PK | V | 25.02 | 3.65 | 26.46 | 39.72 | 33.72 | 74 | 40.28 |
| 3147 | 24.16 | AV | V | 25.02 | 3.65 | 26.46 | 26.37 | 20.37 | 54 | 33.63 |
| 298.69 | 52.25 | QP | H | 14.09 | 1.04 | 27.54 | 39.84 | 39.84 | 46.00 | 6.16 |
| 506.27 | 45.29 | QP | H | 18.16 | 1.63 | 28.82 | 36.26 | 36.26 | 46.00 | 9.74 |
| High Channel:5230 MHz | | | | | | | | | | |
| 5230 | 61.68 | PK | H | 31.81 | 5.26 | 0.00 | 98.75 | 92.75 | N/A | N/A |
| 5230 | 52.73 | AV | H | 31.81 | 5.26 | 0.00 | 89.8 | 83.8 | N/A | N/A |
| 5230 | 72.63 | PK | V | 31.81 | 5.26 | 0.00 | 109.7 | 103.7 | N/A | N/A |
| 5230 | 63.96 | AV | V | 31.81 | 5.26 | 0.00 | 101.03 | 95.03 | N/A | N/A |
| 5350 | 27.99 | PK | V | 32.03 | 5.37 | 0.00 | 65.39 | 59.39 | 74 | 14.61 |
| 5350 | 15.24 | AV | V | 32.03 | 5.37 | 0.00 | 52.64 | 46.64 | 54 | 7.36 |
| 10460 | 34.72 | PK | V | 37.39 | 7.83 | 26.36 | 53.58 | 47.58 | 74 | 26.42 |
| 10460 | 21.45 | AV | V | 37.39 | 7.83 | 26.36 | 40.31 | 34.31 | 54 | 19.69 |
| 15690 | 36.22 | PK | V | 39.44 | 10.24 | 25.30 | 60.6 | 54.6 | 74 | 19.4 |
| 15690 | 23.37 | AV | V | 39.44 | 10.24 | 25.30 | 47.75 | 41.75 | 54 | 12.25 |
| 1342 | 30.36 | PK | V | 23.69 | 2.45 | 26.48 | 30.02 | 24.02 | 74 | 49.98 |
| 1342 | 18.45 | AV | V | 23.69 | 2.45 | 26.48 | 18.11 | 12.11 | 54 | 41.89 |
| 2693 | 35.69 | PK | V | 23.59 | 3.16 | 26.70 | 35.74 | 29.74 | 74 | 44.26 |
| 2693 | 22.76 | AV | V | 23.59 | 3.16 | 26.70 | 22.81 | 16.81 | 54 | 37.19 |
| 298.69 | 51.78 | QP | H | 14.09 | 1.04 | 27.54 | 39.37 | 39.37 | 46.00 | 6.63 |
| 506.27 | 45.73 | QP | H | 18.16 | 1.63 | 28.82 | 36.70 | 36.70 | 46.00 | 9.30 |

802.11n ac80 mode(chain 0 was the worst):

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5210 MHz | | | | | | | | | | |
| 5210 | 57.97 | PK | H | 31.78 | 5.24 | 0.00 | 94.99 | 88.99 | N/A | N/A |
| 5210 | 49.48 | AV | H | 31.78 | 5.24 | 0.00 | 86.5 | 80.5 | N/A | N/A |
| 5210 | 68.97 | PK | V | 31.78 | 5.24 | 0.00 | 105.99 | 99.99 | N/A | N/A |
| 5210 | 60.45 | AV | V | 31.78 | 5.24 | 0.00 | 97.47 | 91.47 | N/A | N/A |
| 5150 | 31.13 | PK | V | 31.67 | 5.18 | 0.00 | 67.98 | 61.98 | 74 | 12.02 |
| 5150 | 18.33 | AV | V | 31.67 | 5.18 | 0.00 | 55.18 | 49.18 | 54 | 4.82 |
| 5350 | 28.42 | PK | V | 32.03 | 5.37 | 0.00 | 65.82 | 59.82 | 74 | 14.18 |
| 5350 | 15.40 | AV | V | 32.03 | 5.37 | 0.00 | 52.8 | 46.8 | 54 | 7.2 |
| 10420 | 35.08 | PK | V | 37.38 | 7.80 | 26.36 | 53.9 | 47.9 | 74 | 26.1 |
| 10420 | 22.51 | AV | V | 37.38 | 7.80 | 26.36 | 41.33 | 35.33 | 54 | 18.67 |
| 15630 | 34.03 | PK | V | 39.43 | 10.23 | 25.31 | 58.38 | 52.38 | 74 | 21.62 |
| 15630 | 22.12 | AV | V | 39.43 | 10.23 | 25.31 | 46.47 | 40.47 | 54 | 13.53 |
| 3720 | 33.41 | PK | V | 27.88 | 4.51 | 26.57 | 39.23 | 33.23 | 74 | 40.77 |
| 3720 | 20.46 | AV | V | 27.88 | 4.51 | 26.57 | 26.28 | 20.28 | 54 | 33.72 |
| 298.69 | 52.72 | QP | H | 14.09 | 1.04 | 27.54 | 40.31 | 40.31 | 46.00 | 5.69 |
| 506.27 | 44.85 | QP | H | 18.16 | 1.63 | 28.82 | 35.82 | 35.82 | 46.00 | 10.18 |

**5725-5850MHz:**
802.11a mode(chain 0 was the worst):

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5745 MHz | | | | | | | | | | |
| 5745 | 67.46 | PK | H | 32.59 | 5.74 | 0.00 | 105.79 | 99.79 | N/A | N/A |
| 5745 | 59.72 | AV | H | 32.59 | 5.74 | 0.00 | 98.05 | 92.05 | N/A | N/A |
| 5745 | 74.67 | PK | V | 32.59 | 5.74 | 0.00 | 113 | 107 | N/A | N/A |
| 5745 | 66.53 | AV | V | 32.59 | 5.74 | 0.00 | 104.86 | 98.86 | N/A | N/A |
| 5725 | 43.83 | PK | V | 32.57 | 5.72 | 0.00 | 82.12 | 76.12 | 122.2 | 46.08 |
| 5720 | 37.03 | PK | V | 32.56 | 5.71 | 0.00 | 75.3 | 69.3 | 110.8 | 41.5 |
| 5700 | 26.34 | PK | V | 32.54 | 5.70 | 0.00 | 64.58 | 58.58 | 105.2 | 46.62 |
| 5650 | 25.47 | PK | V | 32.48 | 5.65 | 0.00 | 63.6 | 57.6 | 68.2 | 10.6 |
| 11490 | 33.12 | PK | V | 37.99 | 8.22 | 26.02 | 53.31 | 47.31 | 74 | 26.69 |
| 11490 | 21.37 | AV | V | 37.99 | 8.22 | 26.02 | 41.56 | 35.56 | 54 | 18.44 |
| 17235 | 32.61 | PK | V | 42.98 | 10.82 | 25.99 | 60.42 | 54.42 | 74 | 19.58 |
| 17235 | 21.52 | AV | V | 42.98 | 10.82 | 25.99 | 49.33 | 43.33 | 54 | 10.67 |
| 4123 | 33.35 | PK | V | 29.20 | 5.01 | 26.62 | 40.94 | 34.94 | 74 | 39.06 |
| 4123 | 21.64 | AV | V | 29.20 | 5.01 | 26.62 | 29.23 | 23.23 | 54 | 30.77 |
| 298.69 | 51.27 | QP | H | 14.09 | 1.04 | 27.54 | 38.86 | 38.86 | 46.00 | 7.14 |
| 506.27 | 42.64 | QP | H | 18.16 | 1.63 | 28.82 | 33.61 | 33.61 | 46.00 | 12.39 |
| Middle Channel:5785 MHz | | | | | | | | | | |
| 5785 | 67.80 | PK | H | 32.64 | 5.77 | 0.00 | 106.21 | 100.21 | N/A | N/A |
| 5785 | 60.11 | AV | H | 32.64 | 5.77 | 0.00 | 98.52 | 92.52 | N/A | N/A |
| 5785 | 74.33 | PK | V | 32.64 | 5.77 | 0.00 | 112.74 | 106.74 | N/A | N/A |
| 5785 | 66.97 | AV | V | 32.64 | 5.77 | 0.00 | 105.38 | 99.38 | N/A | N/A |
| 11570 | 32.16 | PK | V | 38.03 | 8.21 | 26.00 | 52.4 | 46.4 | 74 | 27.6 |
| 11570 | 21.47 | AV | V | 38.03 | 8.21 | 26.00 | 41.71 | 35.71 | 54 | 18.29 |
| 17355 | 31.99 | PK | V | 43.53 | 11.03 | 26.16 | 60.39 | 54.39 | 74 | 19.61 |
| 17355 | 20.80 | AV | V | 43.53 | 11.03 | 26.16 | 49.2 | 43.2 | 54 | 10.8 |
| 4176 | 32.72 | PK | V | 29.28 | 5.04 | 26.66 | 40.38 | 34.38 | 74 | 39.62 |
| 4176 | 21.97 | AV | V | 29.28 | 5.04 | 26.66 | 29.63 | 23.63 | 54 | 30.37 |
| 298.69 | 51.54 | QP | H | 14.09 | 1.04 | 27.54 | 39.13 | 39.13 | 46.00 | 6.87 |
| 506.27 | 42.78 | QP | H | 18.16 | 1.63 | 28.82 | 33.75 | 33.75 | 46.00 | 12.25 |
| High Channel:5825 MHz | | | | | | | | | | |
| 5825 | 67.57 | PK | H | 32.69 | 5.81 | 0.00 | 106.07 | 100.07 | N/A | N/A |
| 5825 | 59.32 | AV | H | 32.69 | 5.81 | 0.00 | 97.82 | 91.82 | N/A | N/A |
| 5825 | 74.91 | PK | V | 32.69 | 5.81 | 0.00 | 113.41 | 107.41 | N/A | N/A |
| 5825 | 66.65 | AV | V | 32.69 | 5.81 | 0.00 | 105.15 | 99.15 | N/A | N/A |
| 5850 | 37.99 | PK | V | 32.72 | 5.83 | 0.00 | 76.54 | 70.54 | 122.2 | 51.66 |
| 5855 | 35.12 | PK | V | 32.73 | 5.83 | 0.00 | 73.68 | 67.68 | 110.8 | 43.12 |
| 5875 | 25.84 | PK | V | 32.75 | 5.85 | 0.00 | 64.44 | 58.44 | 105.2 | 46.76 |
| 5925 | 26.06 | PK | V | 32.81 | 5.89 | 0.00 | 64.76 | 58.76 | 68.2 | 9.44 |
| 11650 | 32.30 | PK | V | 38.06 | 8.20 | 25.98 | 52.58 | 46.58 | 74 | 27.42 |
| 11650 | 22.71 | AV | V | 38.06 | 8.20 | 25.98 | 42.99 | 36.99 | 54 | 17.01 |
| 17475 | 32.35 | PK | V | 44.09 | 11.23 | 26.33 | 61.34 | 55.34 | 74 | 18.66 |
| 17475 | 20.86 | AV | V | 44.09 | 11.23 | 26.33 | 49.85 | 43.85 | 54 | 10.15 |
| 4258 | 32.75 | PK | V | 29.41 | 5.10 | 26.70 | 40.56 | 34.56 | 74 | 39.44 |
| 4258 | 21.47 | AV | V | 29.41 | 5.10 | 26.70 | 29.28 | 23.28 | 54 | 30.72 |
| 298.69 | 52.38 | QP | H | 14.09 | 1.04 | 27.54 | 39.97 | 39.97 | 46.00 | 6.03 |
| 506.27 | 43.2 | QP | H | 18.16 | 1.63 | 28.82 | 34.17 | 34.17 | 46.00 | 11.83 |

802.11n ht20 mode(chain 0 was the worst):

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5745 MHz | | | | | | | | | | |
| 5745 | 63.06 | PK | H | 32.59 | 5.74 | 0.00 | 101.39 | 95.39 | N/A | N/A |
| 5745 | 54.33 | AV | H | 32.59 | 5.74 | 0.00 | 92.66 | 86.66 | N/A | N/A |
| 5745 | 74.00 | PK | V | 32.59 | 5.74 | 0.00 | 112.33 | 106.33 | N/A | N/A |
| 5745 | 65.02 | AV | V | 32.59 | 5.74 | 0.00 | 103.35 | 97.35 | N/A | N/A |
| 5725 | 33.38 | PK | V | 32.57 | 5.72 | 0.00 | 71.67 | 65.67 | 122.2 | 56.53 |
| 5720 | 31.04 | PK | V | 32.56 | 5.71 | 0.00 | 69.31 | 63.31 | 110.8 | 47.49 |
| 5700 | 26.73 | PK | V | 32.54 | 5.70 | 0.00 | 64.97 | 58.97 | 105.2 | 46.23 |
| 5650 | 25.81 | PK | V | 32.48 | 5.65 | 0.00 | 63.94 | 57.94 | 68.2 | 10.26 |
| 11490 | 33.12 | PK | V | 37.99 | 8.22 | 26.02 | 53.31 | 47.31 | 74 | 26.69 |
| 11490 | 22.37 | AV | V | 37.99 | 8.22 | 26.02 | 42.56 | 36.56 | 54 | 17.44 |
| 17235 | 32.41 | PK | V | 42.98 | 10.82 | 25.99 | 60.22 | 54.22 | 74 | 19.78 |
| 17235 | 21.29 | AV | V | 42.98 | 10.82 | 25.99 | 49.1 | 43.1 | 54 | 10.9 |
| 4055 | 33.26 | PK | V | 29.09 | 4.96 | 26.58 | 40.73 | 34.73 | 74 | 39.27 |
| 4055 | 21.33 | AV | V | 29.09 | 4.96 | 26.58 | 28.8 | 22.8 | 54 | 31.2 |
| 298.69 | 51.91 | QP | H | 14.09 | 1.04 | 27.54 | 39.50 | 39.50 | 46.00 | 6.50 |
| 506.27 | 43.64 | QP | H | 18.16 | 1.63 | 28.82 | 34.61 | 34.61 | 46.00 | 11.39 |
| Middle Channel:5785 MHz | | | | | | | | | | |
| 5785 | 67.86 | PK | H | 32.64 | 5.77 | 0.00 | 106.27 | 100.27 | N/A | N/A |
| 5785 | 60.13 | AV | H | 32.64 | 5.77 | 0.00 | 98.54 | 92.54 | N/A | N/A |
| 5785 | 75.45 | PK | V | 32.64 | 5.77 | 0.00 | 113.86 | 107.86 | N/A | N/A |
| 5785 | 67.03 | AV | V | 32.64 | 5.77 | 0.00 | 105.44 | 99.44 | N/A | N/A |
| 11570 | 33.04 | PK | V | 38.03 | 8.21 | 26.00 | 53.28 | 47.28 | 74 | 26.72 |
| 11570 | 21.93 | AV | V | 38.03 | 8.21 | 26.00 | 42.17 | 36.17 | 54 | 17.83 |
| 17355 | 32.47 | PK | V | 43.53 | 11.03 | 26.16 | 60.87 | 54.87 | 74 | 19.13 |
| 17355 | 20.91 | AV | V | 43.53 | 11.03 | 26.16 | 49.31 | 43.31 | 54 | 10.69 |
| 4106 | 32.75 | PK | V | 29.17 | 4.99 | 26.61 | 40.3 | 34.3 | 74 | 39.7 |
| 4106 | 21.44 | AV | V | 29.17 | 4.99 | 26.61 | 28.99 | 22.99 | 54 | 31.01 |
| 298.69 | 51.44 | QP | H | 14.09 | 1.04 | 27.54 | 39.03 | 39.03 | 46.00 | 6.97 |
| 506.27 | 44.08 | QP | H | 18.16 | 1.63 | 28.82 | 35.05 | 35.05 | 46.00 | 10.95 |
| High Channel:5825 MHz | | | | | | | | | | |
| 5825 | 60.79 | PK | H | 32.69 | 5.81 | 0.00 | 99.29 | 93.29 | N/A | N/A |
| 5825 | 51.91 | AV | H | 32.69 | 5.81 | 0.00 | 90.41 | 84.41 | N/A | N/A |
| 5825 | 74.34 | PK | V | 32.69 | 5.81 | 0.00 | 112.84 | 106.84 | N/A | N/A |
| 5825 | 65.51 | AV | V | 32.69 | 5.81 | 0.00 | 104.01 | 98.01 | N/A | N/A |
| 5850 | 32.68 | PK | V | 32.72 | 5.83 | 0.00 | 71.23 | 65.23 | 122.2 | 56.97 |
| 5855 | 30.52 | PK | V | 32.73 | 5.83 | 0.00 | 69.08 | 63.08 | 110.8 | 47.72 |
| 5875 | 26.84 | PK | V | 32.75 | 5.85 | 0.00 | 65.44 | 59.44 | 105.2 | 45.76 |
| 5925 | 27.37 | PK | V | 32.81 | 5.89 | 0.00 | 66.07 | 60.07 | 68.2 | 8.13 |
| 11650 | 32.80 | PK | V | 38.06 | 8.20 | 25.98 | 53.08 | 47.08 | 74 | 26.92 |
| 11650 | 21.67 | AV | V | 38.06 | 8.20 | 25.98 | 41.95 | 35.95 | 54 | 18.05 |
| 17475 | 31.37 | PK | V | 44.09 | 11.23 | 26.33 | 60.36 | 54.36 | 74 | 19.64 |
| 17475 | 20.78 | AV | V | 44.09 | 11.23 | 26.33 | 49.77 | 43.77 | 54 | 10.23 |
| 4156 | 32.63 | PK | V | 29.25 | 5.03 | 26.64 | 40.27 | 34.27 | 74 | 39.73 |
| 4156 | 22.00 | AV | V | 29.25 | 5.03 | 26.64 | 29.64 | 23.64 | 54 | 30.36 |
| 298.69 | 52.01 | QP | H | 14.09 | 1.04 | 27.54 | 39.60 | 39.60 | 46.00 | 6.40 |
| 506.27 | 43.09 | QP | H | 18.16 | 1.63 | 28.82 | 34.06 | 34.06 | 46.00 | 11.94 |

802.11n ht40 mode(chain 0 was the worst):

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5755 MHz | | | | | | | | | | |
| 5755 | 59.41 | PK | H | 32.61 | 5.74 | 0.00 | 97.76 | 91.76 | N/A | N/A |
| 5755 | 50.90 | AV | H | 32.61 | 5.74 | 0.00 | 89.25 | 83.25 | N/A | N/A |
| 5755 | 70.43 | PK | V | 32.61 | 5.74 | 0.00 | 108.78 | 102.78 | N/A | N/A |
| 5755 | 62.00 | AV | V | 32.61 | 5.74 | 0.00 | 100.35 | 94.35 | N/A | N/A |
| 5725 | 31.41 | PK | V | 32.57 | 5.72 | 0.00 | 69.7 | 63.7 | 122.2 | 58.5 |
| 5720 | 30.43 | PK | V | 32.56 | 5.71 | 0.00 | 68.7 | 62.7 | 110.8 | 48.1 |
| 5700 | 27.25 | PK | V | 32.54 | 5.70 | 0.00 | 65.49 | 59.49 | 105.2 | 45.71 |
| 5650 | 26.65 | PK | V | 32.48 | 5.65 | 0.00 | 64.78 | 58.78 | 68.2 | 9.42 |
| 11510 | 32.81 | PK | V | 38.00 | 8.22 | 26.02 | 53.01 | 47.01 | 74 | 26.99 |
| 11510 | 21.75 | AV | V | 38.00 | 8.22 | 26.02 | 41.95 | 35.95 | 54 | 18.05 |
| 17265 | 32.85 | PK | V | 43.12 | 10.88 | 26.04 | 60.81 | 54.81 | 74 | 19.19 |
| 17265 | 21.60 | AV | V | 43.12 | 10.88 | 26.04 | 49.56 | 43.56 | 54 | 10.44 |
| 4155 | 33.12 | PK | V | 29.25 | 5.03 | 26.64 | 40.76 | 34.76 | 74 | 39.24 |
| 4155 | 21.95 | AV | V | 29.25 | 5.03 | 26.64 | 29.59 | 23.59 | 54 | 30.41 |
| 298.69 | 52.28 | QP | H | 14.09 | 1.04 | 27.54 | 39.87 | 39.87 | 46.00 | 6.13 |
| 506.27 | 43.23 | QP | H | 18.16 | 1.63 | 28.82 | 34.20 | 34.20 | 46.00 | 11.80 |
| High Channel:5795 MHz | | | | | | | | | | |
| 5795 | 60.27 | PK | H | 32.65 | 5.78 | 0.00 | 98.7 | 92.7 | N/A | N/A |
| 5795 | 51.54 | AV | H | 32.65 | 5.78 | 0.00 | 89.97 | 83.97 | N/A | N/A |
| 5795 | 70.55 | PK | V | 32.65 | 5.78 | 0.00 | 108.98 | 102.98 | N/A | N/A |
| 5795 | 61.86 | AV | V | 32.65 | 5.78 | 0.00 | 100.29 | 94.29 | N/A | N/A |
| 5850 | 28.00 | PK | V | 32.72 | 5.83 | 0.00 | 66.55 | 60.55 | 122.2 | 61.65 |
| 5855 | 27.21 | PK | V | 32.73 | 5.83 | 0.00 | 65.77 | 59.77 | 110.8 | 51.03 |
| 5875 | 27.16 | PK | V | 32.75 | 5.85 | 0.00 | 65.76 | 59.76 | 105.2 | 45.44 |
| 5925 | 26.96 | PK | V | 32.81 | 5.89 | 0.00 | 65.66 | 59.66 | 68.2 | 8.54 |
| 11590 | 32.64 | PK | V | 38.04 | 8.21 | 25.99 | 52.9 | 46.9 | 74 | 27.1 |
| 11590 | 21.77 | AV | V | 38.04 | 8.21 | 25.99 | 42.03 | 36.03 | 54 | 17.97 |
| 17385 | 31.92 | PK | V | 43.67 | 11.08 | 26.21 | 60.46 | 54.46 | 74 | 19.54 |
| 17385 | 21.01 | AV | V | 43.67 | 11.08 | 26.21 | 49.55 | 43.55 | 54 | 10.45 |
| 4156 | 33.59 | PK | V | 29.25 | 5.03 | 26.64 | 41.23 | 35.23 | 74 | 38.77 |
| 4156 | 21.85 | AV | V | 29.25 | 5.03 | 26.64 | 29.49 | 23.49 | 54 | 30.51 |
| 298.69 | 53.12 | QP | H | 14.09 | 1.04 | 27.54 | 40.71 | 40.71 | 46.00 | 5.29 |
| 506.27 | 43.65 | QP | H | 18.16 | 1.63 | 28.82 | 34.62 | 34.62 | 46.00 | 11.38 |

802.11n ac80 mode(chain 0 was the worst):

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5775 MHz | | | | | | | | | | |
| 5775 | 68.55 | PK | H | 32.63 | 5.76 | 0.00 | 106.94 | 100.94 | N/A | N/A |
| 5775 | 59.58 | AV | H | 32.63 | 5.76 | 0.00 | 97.97 | 91.97 | N/A | N/A |
| 5775 | 68.77 | PK | V | 32.63 | 5.76 | 0.00 | 107.16 | 101.16 | N/A | N/A |
| 5775 | 59.80 | AV | V | 32.63 | 5.76 | 0.00 | 98.19 | 92.19 | N/A | N/A |
| 5725 | 32.57 | PK | V | 32.57 | 5.72 | 0.00 | 70.86 | 64.86 | 122.2 | 57.34 |
| 5720 | 30.84 | PK | V | 32.56 | 5.71 | 0.00 | 69.11 | 63.11 | 110.8 | 47.69 |
| 5700 | 30.50 | PK | V | 32.54 | 5.70 | 0.00 | 68.74 | 62.74 | 105.2 | 42.46 |
| 5650 | 27.05 | PK | V | 32.48 | 5.65 | 0.00 | 65.18 | 59.18 | 68.2 | 9.02 |
| 5850 | 31.67 | PK | V | 32.72 | 5.83 | 0.00 | 70.22 | 64.22 | 122.2 | 57.98 |
| 5855 | 30.52 | PK | V | 32.73 | 5.83 | 0.00 | 69.08 | 63.08 | 110.8 | 47.72 |
| 5875 | 28.30 | PK | V | 32.75 | 5.85 | 0.00 | 66.9 | 60.9 | 105.2 | 44.3 |
| 5925 | 26.78 | PK | V | 32.81 | 5.89 | 0.00 | 65.48 | 59.48 | 68.2 | 8.72 |
| 11550 | 32.53 | PK | V | 38.02 | 8.21 | 26.01 | 52.75 | 46.75 | 74 | 27.25 |
| 11550 | 21.78 | AV | V | 38.02 | 8.21 | 26.01 | 42 | 36 | 54 | 18 |
| 17325 | 33.18 | PK | V | 43.40 | 10.98 | 26.12 | 61.44 | 55.44 | 74 | 18.56 |
| 17325 | 22.07 | AV | V | 43.40 | 10.98 | 26.12 | 50.33 | 44.33 | 54 | 9.67 |
| 2243 | 34.53 | PK | V | 24.07 | 3.02 | 26.85 | 34.77 | 28.77 | 74 | 45.23 |
| 2243 | 23.79 | AV | V | 24.07 | 3.02 | 26.85 | 24.03 | 18.03 | 54 | 35.97 |
| 298.69 | 52.65 | QP | H | 14.09 | 1.04 | 27.54 | 40.24 | 40.24 | 46.00 | 5.76 |
| 506.27 | 44.09 | QP | H | 18.16 | 1.63 | 28.82 | 35.06 | 35.06 | 46.00 | 10.94 |

**MIMO mode (Chain 0 & Chain 1):**

**5150-5250MHz**
802.11n ht20 mode

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5180 MHz | | | | | | | | | | |
| 5180 | 64.79 | PK | H | 31.72 | 5.21 | 0.00 | 101.72 | 95.72 | N/A | N/A |
| 5180 | 54.76 | AV | H | 31.72 | 5.21 | 0.00 | 91.69 | 85.69 | N/A | N/A |
| 5180 | 76.90 | PK | V | 31.72 | 5.21 | 0.00 | 113.83 | 107.83 | N/A | N/A |
| 5180 | 66.16 | AV | V | 31.72 | 5.21 | 0.00 | 103.09 | 97.09 | N/A | N/A |
| 5150 | 30.13 | PK | V | 31.67 | 5.18 | 0.00 | 66.98 | 60.98 | 74 | 13.02 |
| 5150 | 16.87 | AV | V | 31.67 | 5.18 | 0.00 | 53.72 | 47.72 | 54 | 6.28 |
| 10360 | 34.94 | PK | V | 37.37 | 7.76 | 26.37 | 53.7 | 47.7 | 74 | 26.3 |
| 10360 | 22.40 | AV | V | 37.37 | 7.76 | 26.37 | 41.16 | 35.16 | 54 | 18.84 |
| 15540 | 36.96 | PK | V | 39.41 | 10.22 | 25.32 | 61.27 | 55.27 | 74 | 18.73 |
| 15540 | 24.26 | AV | V | 39.41 | 10.22 | 25.32 | 48.57 | 42.57 | 54 | 11.43 |
| 1627 | 29.32 | PK | V | 24.30 | 2.77 | 26.45 | 29.94 | 23.94 | 74 | 50.06 |
| 1627 | 16.64 | AV | V | 24.30 | 2.77 | 26.45 | 17.26 | 11.26 | 54 | 42.74 |
| 3119 | 36.99 | PK | V | 24.87 | 3.61 | 26.45 | 39.02 | 33.02 | 74 | 40.98 |
| 3119 | 24.17 | AV | V | 24.87 | 3.61 | 26.45 | 26.2 | 20.2 | 54 | 33.8 |
| 298.69 | 52.28 | QP | H | 14.09 | 1.04 | 27.54 | 39.87 | 39.87 | 46.00 | 6.13 |
| 506.27 | 44.73 | QP | H | 18.16 | 1.63 | 28.82 | 35.70 | 35.70 | 46.00 | 10.30 |
| Middle Channel:5200 MHz | | | | | | | | | | |
| 5200 | 65.99 | PK | H | 31.76 | 5.23 | 0.00 | 102.98 | 96.98 | N/A | N/A |
| 5200 | 55.71 | AV | H | 31.76 | 5.23 | 0.00 | 92.7 | 86.7 | N/A | N/A |
| 5200 | 76.58 | PK | V | 31.76 | 5.23 | 0.00 | 113.57 | 107.57 | N/A | N/A |
| 5200 | 66.23 | AV | V | 31.76 | 5.23 | 0.00 | 103.22 | 97.22 | N/A | N/A |
| 10400 | 34.93 | PK | V | 37.38 | 7.79 | 26.36 | 53.74 | 47.74 | 74 | 20.26 |
| 10400 | 22.51 | AV | V | 37.38 | 7.79 | 26.36 | 41.32 | 35.32 | 54 | 12.68 |
| 15600 | 36.36 | PK | V | 39.42 | 10.22 | 25.31 | 60.69 | 54.69 | 74 | 13.31 |
| 15600 | 24.53 | AV | V | 39.42 | 10.22 | 25.31 | 48.86 | 42.86 | 54 | 5.14 |
| 1406 | 30.12 | PK | V | 23.86 | 2.54 | 26.42 | 30.1 | 24.1 | 74 | 43.9 |
| 1406 | 18.72 | AV | V | 23.86 | 2.54 | 26.42 | 18.7 | 12.7 | 54 | 35.3 |
| 3389 | 34.31 | PK | V | 26.38 | 4.01 | 26.55 | 38.15 | 32.15 | 74 | 35.85 |
| 3389 | 21.33 | AV | V | 26.38 | 4.01 | 26.55 | 25.17 | 19.17 | 54 | 28.83 |
| 298.69 | 53.12 | QP | H | 14.09 | 1.04 | 27.54 | 40.71 | 40.71 | 46.00 | 5.29 |
| 506.27 | 45.15 | QP | H | 18.16 | 1.63 | 28.82 | 36.12 | 36.12 | 46.00 | 9.88 |
| High Channel:5240 MHz | | | | | | | | | | |
| 5240 | 64.14 | PK | H | 31.83 | 5.27 | 0.00 | 101.24 | 95.24 | N/A | N/A |
| 5240 | 54.05 | AV | H | 31.83 | 5.27 | 0.00 | 91.15 | 85.15 | N/A | N/A |
| 5240 | 76.31 | PK | V | 31.83 | 5.27 | 0.00 | 113.41 | 107.41 | N/A | N/A |
| 5240 | 66.73 | AV | V | 31.83 | 5.27 | 0.00 | 103.83 | 97.83 | N/A | N/A |
| 5350 | 27.37 | PK | V | 32.03 | 5.37 | 0.00 | 64.77 | 58.77 | 74 | 15.23 |
| 5350 | 15.49 | AV | V | 32.03 | 5.37 | 0.00 | 52.89 | 46.89 | 54 | 7.11 |
| 10480 | 33.95 | PK | V | 37.40 | 7.84 | 26.35 | 52.84 | 46.84 | 74 | 27.16 |
| 10480 | 21.86 | AV | V | 37.40 | 7.84 | 26.35 | 40.75 | 34.75 | 54 | 19.25 |
| 15720 | 35.44 | PK | V | 39.44 | 10.24 | 25.30 | 59.82 | 53.82 | 74 | 20.18 |
| 15720 | 23.64 | AV | V | 39.44 | 10.24 | 25.30 | 48.02 | 42.02 | 54 | 11.98 |
| 1657 | 28.82 | PK | V | 24.35 | 2.79 | 26.48 | 29.48 | 23.48 | 74 | 50.52 |
| 1657 | 17.33 | AV | V | 24.35 | 2.79 | 26.48 | 17.99 | 11.99 | 54 | 42.01 |
| 3149 | 36.73 | PK | V | 25.03 | 3.65 | 26.46 | 38.95 | 32.95 | 74 | 41.05 |
| 3149 | 24.33 | AV | V | 25.03 | 3.65 | 26.46 | 26.55 | 20.55 | 54 | 33.45 |
| 298.69 | 52.65 | QP | H | 14.09 | 1.04 | 27.54 | 40.24 | 40.24 | 46.00 | 5.76 |
| 506.27 | 45.59 | QP | H | 18.16 | 1.63 | 28.82 | 36.56 | 36.56 | 46.00 | 9.44 |

802.11n ht40 mode

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5190 MHz | | | | | | | | | | |
| 5190 | 60.47 | PK | H | 31.74 | 5.22 | 0.00 | 97.43 | 91.43 | N/A | N/A |
| 5190 | 50.83 | AV | H | 31.74 | 5.22 | 0.00 | 87.79 | 81.79 | N/A | N/A |
| 5190 | 71.80 | PK | V | 31.74 | 5.22 | 0.00 | 108.76 | 102.76 | N/A | N/A |
| 5190 | 62.36 | AV | V | 31.74 | 5.22 | 0.00 | 99.32 | 93.32 | N/A | N/A |
| 5150 | 30.14 | PK | V | 31.67 | 5.18 | 0.00 | 66.99 | 60.99 | 74 | 13.01 |
| 5150 | 17.09 | AV | V | 31.67 | 5.18 | 0.00 | 53.94 | 47.94 | 54 | 6.06 |
| 10380 | 46.69 | PK | V | 37.38 | 7.78 | 26.37 | 65.48 | 59.48 | 74 | 14.52 |
| 10380 | 33.55 | AV | V | 37.38 | 7.78 | 26.37 | 52.34 | 46.34 | 54 | 7.66 |
| 15570 | 37.02 | PK | V | 39.41 | 10.22 | 25.31 | 61.34 | 55.34 | 74 | 18.66 |
| 15570 | 23.31 | AV | V | 39.41 | 10.22 | 25.31 | 47.63 | 41.63 | 54 | 12.37 |
| 1385 | 31.92 | PK | V | 23.80 | 2.51 | 26.44 | 31.79 | 25.79 | 74 | 48.21 |
| 1385 | 18.15 | AV | V | 23.80 | 2.51 | 26.44 | 18.02 | 12.02 | 54 | 41.98 |
| 2864 | 37.76 | PK | V | 23.93 | 3.31 | 26.54 | 38.46 | 32.46 | 74 | 41.54 |
| 2864 | 24.88 | AV | V | 23.93 | 3.31 | 26.54 | 25.58 | 19.58 | 54 | 34.42 |
| 298.69 | 52.18 | QP | H | 14.09 | 1.04 | 27.54 | 39.77 | 39.77 | 46.00 | 6.23 |
| 506.27 | 46.03 | QP | H | 18.16 | 1.63 | 28.82 | 37.00 | 37.00 | 46.00 | 9.00 |
| High Channel:5230 MHz | | | | | | | | | | |
| 5230 | 60.24 | PK | H | 31.81 | 5.26 | 0.00 | 97.31 | 91.31 | N/A | N/A |
| 5230 | 50.19 | AV | H | 31.81 | 5.26 | 0.00 | 87.26 | 81.26 | N/A | N/A |
| 5230 | 72.21 | PK | V | 31.81 | 5.26 | 0.00 | 109.28 | 103.28 | N/A | N/A |
| 5230 | 62.12 | AV | V | 31.81 | 5.26 | 0.00 | 99.19 | 93.19 | N/A | N/A |
| 5350 | 27.96 | PK | V | 32.03 | 5.37 | 0.00 | 65.36 | 59.36 | 74 | 14.64 |
| 5350 | 15.18 | AV | V | 32.03 | 5.37 | 0.00 | 52.58 | 46.58 | 54 | 7.42 |
| 10460 | 33.91 | PK | V | 37.39 | 7.83 | 26.36 | 52.77 | 46.77 | 74 | 27.23 |
| 10460 | 21.24 | AV | V | 37.39 | 7.83 | 26.36 | 40.1 | 34.1 | 54 | 19.9 |
| 15690 | 36.03 | PK | V | 39.44 | 10.24 | 25.30 | 60.41 | 54.41 | 74 | 19.59 |
| 15690 | 23.53 | AV | V | 39.44 | 10.24 | 25.30 | 47.91 | 41.91 | 54 | 12.09 |
| 1995 | 30.25 | PK | V | 24.89 | 3.05 | 26.82 | 31.37 | 25.37 | 74 | 48.63 |
| 1995 | 17.50 | AV | V | 24.89 | 3.05 | 26.82 | 18.62 | 12.62 | 54 | 41.38 |
| 3614 | 33.37 | PK | V | 27.46 | 4.35 | 26.58 | 38.6 | 32.6 | 74 | 41.4 |
| 3614 | 19.90 | AV | V | 27.46 | 4.35 | 26.58 | 25.13 | 19.13 | 54 | 34.87 |
| 298.69 | 51.22 | QP | H | 14.09 | 1.04 | 27.54 | 38.81 | 38.81 | 46.00 | 7.19 |
| 506.27 | 44.67 | QP | H | 18.16 | 1.63 | 28.82 | 35.64 | 35.64 | 46.00 | 10.36 |

802.11n ac80 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5210 MHz | | | | | | | | | | |
| 5210 | 56.55 | PK | H | 31.78 | 5.24 | 0.00 | 93.57 | 87.57 | N/A | N/A |
| 5210 | 45.50 | AV | H | 31.78 | 5.24 | 0.00 | 82.52 | 76.52 | N/A | N/A |
| 5210 | 68.47 | PK | V | 31.78 | 5.24 | 0.00 | 105.49 | 99.49 | N/A | N/A |
| 5210 | 57.33 | AV | V | 31.78 | 5.24 | 0.00 | 94.35 | 88.35 | N/A | N/A |
| 5150 | 29.19 | PK | V | 31.67 | 5.18 | 0.00 | 66.04 | 60.04 | 74 | 13.96 |
| 5150 | 16.75 | AV | V | 31.67 | 5.18 | 0.00 | 53.6 | 47.6 | 54 | 6.4 |
| 5350 | 28.06 | PK | V | 32.03 | 5.37 | 0.00 | 65.46 | 59.46 | 74 | 14.54 |
| 5350 | 14.74 | AV | V | 32.03 | 5.37 | 0.00 | 52.14 | 46.14 | 54 | 7.86 |
| 10420 | 34.57 | PK | V | 37.38 | 7.80 | 26.36 | 53.39 | 47.39 | 74 | 26.61 |
| 10420 | 21.80 | AV | V | 37.38 | 7.80 | 26.36 | 40.62 | 34.62 | 54 | 19.38 |
| 15630 | 33.89 | PK | V | 39.43 | 10.23 | 25.31 | 58.24 | 52.24 | 74 | 21.76 |
| 15630 | 21.50 | AV | V | 39.43 | 10.23 | 25.31 | 45.85 | 39.85 | 54 | 14.15 |
| 3190 | 36.40 | PK | V | 25.26 | 3.72 | 26.48 | 38.9 | 32.9 | 74 | 41.1 |
| 3190 | 23.83 | AV | V | 25.26 | 3.72 | 26.48 | 26.33 | 20.33 | 54 | 33.67 |
| 298.69 | 51.49 | QP | H | 14.09 | 1.04 | 27.54 | 39.08 | 39.08 | 46.00 | 6.92 |
| 506.27 | 44.81 | QP | H | 18.16 | 1.63 | 28.82 | 35.78 | 35.78 | 46.00 | 10.22 |

**5725-5850MHz**
802.11n ht20 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5745 MHz | | | | | | | | | | |
| 5745 | 66.81 | PK | H | 32.59 | 5.74 | 0.00 | 105.14 | 99.14 | N/A | N/A |
| 5745 | 56.92 | AV | H | 32.59 | 5.74 | 0.00 | 95.25 | 89.25 | N/A | N/A |
| 5745 | 78.65 | PK | V | 32.59 | 5.74 | 0.00 | 116.98 | 110.98 | N/A | N/A |
| 5745 | 68.99 | AV | V | 32.59 | 5.74 | 0.00 | 107.32 | 101.32 | N/A | N/A |
| 5725 | 41.74 | PK | V | 32.57 | 5.72 | 0.00 | 80.03 | 74.03 | 122.2 | 48.17 |
| 5720 | 36.35 | PK | V | 32.56 | 5.71 | 0.00 | 74.62 | 68.62 | 110.8 | 42.18 |
| 5700 | 26.83 | PK | V | 32.54 | 5.70 | 0.00 | 65.07 | 59.07 | 105.2 | 46.13 |
| 5650 | 26.20 | PK | V | 32.48 | 5.65 | 0.00 | 64.33 | 58.33 | 68.2 | 9.87 |
| 11490 | 32.82 | PK | V | 37.99 | 8.22 | 26.02 | 53.01 | 47.01 | 74 | 26.99 |
| 11490 | 21.81 | AV | V | 37.99 | 8.22 | 26.02 | 42 | 36 | 54 | 18 |
| 17235 | 32.45 | PK | V | 42.98 | 10.82 | 25.99 | 60.26 | 54.26 | 74 | 19.74 |
| 17235 | 21.23 | AV | V | 42.98 | 10.82 | 25.99 | 49.04 | 43.04 | 54 | 10.96 |
| 3025 | 37.66 | PK | V | 24.34 | 3.47 | 26.42 | 39.05 | 33.05 | 74 | 40.95 |
| 3025 | 26.93 | AV | V | 24.34 | 3.47 | 26.42 | 28.32 | 22.32 | 54 | 31.68 |
| 298.69 | 52.18 | QP | H | 14.09 | 1.04 | 27.54 | 39.77 | 39.77 | 46.00 | 6.23 |
| 506.27 | 44.53 | QP | H | 18.16 | 1.63 | 28.82 | 35.50 | 35.50 | 46.00 | 10.50 |
| Middle Channel:5785 MHz | | | | | | | | | | |
| 5785 | 66.62 | PK | H | 32.64 | 5.77 | 0.00 | 105.03 | 99.03 | N/A | N/A |
| 5785 | 56.67 | AV | H | 32.64 | 5.77 | 0.00 | 95.08 | 89.08 | N/A | N/A |
| 5785 | 78.73 | PK | V | 32.64 | 5.77 | 0.00 | 117.14 | 111.14 | N/A | N/A |
| 5785 | 69.29 | AV | V | 32.64 | 5.77 | 0.00 | 107.7 | 101.7 | N/A | N/A |
| 11570 | 32.82 | PK | V | 38.03 | 8.21 | 26.00 | 53.06 | 47.06 | 74 | 26.94 |
| 11570 | 21.96 | AV | V | 38.03 | 8.21 | 26.00 | 42.2 | 36.2 | 54 | 17.8 |
| 17355 | 32.35 | PK | V | 43.53 | 11.03 | 26.16 | 60.75 | 54.75 | 74 | 19.25 |
| 17355 | 20.80 | AV | V | 43.53 | 11.03 | 26.16 | 49.2 | 43.2 | 54 | 10.8 |
| 3104 | 38.53 | PK | V | 24.78 | 3.59 | 26.45 | 40.45 | 34.45 | 74 | 39.55 |
| 3104 | 27.49 | AV | V | 24.78 | 3.59 | 26.45 | 29.41 | 23.41 | 54 | 30.59 |
| 298.69 | 52.17 | QP | H | 14.09 | 1.04 | 27.54 | 39.76 | 39.76 | 46.00 | 6.24 |
| 506.27 | 43.26 | QP | H | 18.16 | 1.63 | 28.82 | 34.23 | 34.23 | 46.00 | 11.77 |
| High Channel:5825 MHz | | | | | | | | | | |
| 5825 | 66.71 | PK | H | 32.69 | 5.81 | 0.00 | 105.21 | 99.21 | N/A | N/A |
| 5825 | 57.24 | AV | H | 32.69 | 5.81 | 0.00 | 95.74 | 89.74 | N/A | N/A |
| 5825 | 78.32 | PK | V | 32.69 | 5.81 | 0.00 | 116.82 | 110.82 | N/A | N/A |
| 5825 | 68.74 | AV | V | 32.69 | 5.81 | 0.00 | 107.24 | 101.24 | N/A | N/A |
| 5850 | 34.72 | PK | V | 32.72 | 5.83 | 0.00 | 73.27 | 67.27 | 122.2 | 54.93 |
| 5855 | 31.92 | PK | V | 32.73 | 5.83 | 0.00 | 70.48 | 64.48 | 110.8 | 46.32 |
| 5875 | 26.40 | PK | V | 32.75 | 5.85 | 0.00 | 65 | 59 | 105.2 | 46.2 |
| 5925 | 27.26 | PK | V | 32.81 | 5.89 | 0.00 | 65.96 | 59.96 | 68.2 | 8.24 |
| 11650 | 32.92 | PK | V | 38.06 | 8.20 | 25.98 | 53.2 | 47.2 | 74 | 26.8 |
| 11650 | 21.69 | AV | V | 38.06 | 8.20 | 25.98 | 41.97 | 35.97 | 54 | 18.03 |
| 17475 | 32.40 | PK | V | 44.09 | 11.23 | 26.33 | 61.39 | 55.39 | 74 | 18.61 |
| 17475 | 20.51 | AV | V | 44.09 | 11.23 | 26.33 | 49.5 | 43.5 | 54 | 10.5 |
| 3158 | 37.30 | PK | V | 25.08 | 3.67 | 26.47 | 39.58 | 33.58 | 74 | 40.42 |
| 3158 | 27.37 | AV | V | 25.08 | 3.67 | 26.47 | 29.65 | 23.65 | 54 | 30.35 |
| 298.69 | 52.44 | QP | H | 14.09 | 1.04 | 27.54 | 40.03 | 40.03 | 46.00 | 5.97 |
| 506.27 | 43.4 | QP | H | 18.16 | 1.63 | 28.82 | 34.37 | 34.37 | 46.00 | 11.63 |

802.11n ht40 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5755 MHz | | | | | | | | | | |
| 5755 | 61.96 | PK | H | 32.61 | 5.74 | 0.00 | 100.31 | 94.31 | N/A | N/A |
| 5755 | 53.11 | AV | H | 32.61 | 5.74 | 0.00 | 91.46 | 85.46 | N/A | N/A |
| 5755 | 74.20 | PK | V | 32.61 | 5.74 | 0.00 | 112.55 | 106.55 | N/A | N/A |
| 5755 | 64.58 | AV | V | 32.61 | 5.74 | 0.00 | 102.93 | 96.93 | N/A | N/A |
| 5725 | 35.27 | PK | V | 32.57 | 5.72 | 0.00 | 73.56 | 67.56 | 122.2 | 54.64 |
| 5720 | 33.81 | PK | V | 32.56 | 5.71 | 0.00 | 72.08 | 66.08 | 110.8 | 44.72 |
| 5700 | 28.26 | PK | V | 32.54 | 5.70 | 0.00 | 66.5 | 60.5 | 105.2 | 44.7 |
| 5650 | 27.47 | PK | V | 32.48 | 5.65 | 0.00 | 65.6 | 59.6 | 68.2 | 8.6 |
| 11510 | 32.66 | PK | V | 38.00 | 8.22 | 26.02 | 52.86 | 46.86 | 74 | 27.14 |
| 11510 | 22.15 | AV | V | 38.00 | 8.22 | 26.02 | 42.35 | 36.35 | 54 | 17.65 |
| 17265 | 32.76 | PK | V | 43.12 | 10.88 | 26.04 | 60.72 | 54.72 | 74 | 19.28 |
| 17265 | 21.82 | AV | V | 43.12 | 10.88 | 26.04 | 49.78 | 43.78 | 54 | 10.22 |
| 1558 | 31.64 | PK | V | 24.19 | 2.71 | 26.39 | 32.15 | 26.15 | 74 | 47.85 |
| 1558 | 20.79 | AV | V | 24.19 | 2.71 | 26.39 | 21.3 | 15.3 | 54 | 38.7 |
| 3025 | 37.76 | PK | V | 24.34 | 3.47 | 26.42 | 39.15 | 33.15 | 74 | 40.85 |
| 3025 | 26.39 | AV | V | 24.34 | 3.47 | 26.42 | 27.78 | 21.78 | 54 | 32.22 |
| 298.69 | 53.28 | QP | H | 14.09 | 1.04 | 27.54 | 40.87 | 40.87 | 46.00 | 5.13 |
| 506.27 | 43.82 | QP | H | 18.16 | 1.63 | 28.82 | 34.79 | 34.79 | 46.00 | 11.21 |
| High Channel:5795 MHz | | | | | | | | | | |
| 5795 | 62.38 | PK | H | 32.65 | 5.78 | 0.00 | 100.81 | 94.81 | N/A | N/A |
| 5795 | 53.27 | AV | H | 32.65 | 5.78 | 0.00 | 91.7 | 85.7 | N/A | N/A |
| 5795 | 74.12 | PK | V | 32.65 | 5.78 | 0.00 | 112.55 | 106.55 | N/A | N/A |
| 5795 | 64.71 | AV | V | 32.65 | 5.78 | 0.00 | 103.14 | 97.14 | N/A | N/A |
| 5850 | 27.86 | PK | V | 32.72 | 5.83 | 0.00 | 66.41 | 60.41 | 122.2 | 61.79 |
| 5855 | 27.00 | PK | V | 32.73 | 5.83 | 0.00 | 65.56 | 59.56 | 110.8 | 51.24 |
| 5875 | 26.52 | PK | V | 32.75 | 5.85 | 0.00 | 65.12 | 59.12 | 105.2 | 46.08 |
| 5925 | 26.06 | PK | V | 32.81 | 5.89 | 0.00 | 64.76 | 58.76 | 68.2 | 9.44 |
| 11590 | 32.95 | PK | V | 38.04 | 8.21 | 25.99 | 53.21 | 47.21 | 74 | 26.79 |
| 11590 | 22.33 | AV | V | 38.04 | 8.21 | 25.99 | 42.59 | 36.59 | 54 | 17.41 |
| 17385 | 32.23 | PK | V | 43.67 | 11.08 | 26.21 | 60.77 | 54.77 | 74 | 19.23 |
| 17385 | 20.98 | AV | V | 43.67 | 11.08 | 26.21 | 49.52 | 43.52 | 54 | 10.48 |
| 1605 | 31.49 | PK | V | 24.27 | 2.75 | 26.43 | 32.08 | 26.08 | 74 | 47.92 |
| 1605 | 20.16 | AV | V | 24.27 | 2.75 | 26.43 | 20.75 | 14.75 | 54 | 39.25 |
| 3158 | 37.88 | PK | V | 25.08 | 3.67 | 26.47 | 40.16 | 34.16 | 74 | 39.84 |
| 3158 | 27.70 | AV | V | 25.08 | 3.67 | 26.47 | 29.98 | 23.98 | 54 | 30.02 |
| 298.69 | 52.81 | QP | H | 14.09 | 1.04 | 27.54 | 40.40 | 40.40 | 46.00 | 5.60 |
| 506.27 | 44.26 | QP | H | 18.16 | 1.63 | 28.82 | 35.23 | 35.23 | 46.00 | 10.77 |

802.11n ac80 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5775 MHz | | | | | | | | | | |
| 5775 | 63.11 | PK | H | 32.63 | 5.76 | 0.00 | 101.5 | 95.5 | N/A | N/A |
| 5775 | 52.72 | AV | H | 32.63 | 5.76 | 0.00 | 91.11 | 85.11 | N/A | N/A |
| 5775 | 73.39 | PK | V | 32.63 | 5.76 | 0.00 | 111.78 | 105.78 | N/A | N/A |
| 5775 | 63.27 | AV | V | 32.63 | 5.76 | 0.00 | 101.66 | 95.66 | N/A | N/A |
| 5725 | 42.61 | PK | V | 32.57 | 5.72 | 0.00 | 80.9 | 74.9 | 122.2 | 47.3 |
| 5720 | 40.55 | PK | V | 32.56 | 5.71 | 0.00 | 78.82 | 72.82 | 110.8 | 37.98 |
| 5700 | 36.88 | PK | V | 32.54 | 5.70 | 0.00 | 75.12 | 69.12 | 105.2 | 36.08 |
| 5650 | 28.75 | PK | V | 32.48 | 5.65 | 0.00 | 66.88 | 60.88 | 68.2 | 7.32 |
| 5850 | 40.16 | PK | V | 32.72 | 5.83 | 0.00 | 78.71 | 72.71 | 122.2 | 49.49 |
| 5855 | 40.38 | PK | V | 32.73 | 5.83 | 0.00 | 78.94 | 72.94 | 110.8 | 37.86 |
| 5875 | 32.82 | PK | V | 32.75 | 5.85 | 0.00 | 71.42 | 65.42 | 105.2 | 39.78 |
| 5925 | 29.20 | PK | V | 32.81 | 5.89 | 0.00 | 67.9 | 61.9 | 68.2 | 6.3 |
| 11550 | 32.57 | PK | V | 38.02 | 8.21 | 26.01 | 52.79 | 46.79 | 74 | 27.21 |
| 11550 | 22.38 | AV | V | 38.02 | 8.21 | 26.01 | 42.6 | 36.6 | 54 | 17.4 |
| 17325 | 32.74 | PK | V | 43.40 | 10.98 | 26.12 | 61 | 55 | 74 | 19 |
| 17325 | 21.37 | AV | V | 43.40 | 10.98 | 26.12 | 49.63 | 43.63 | 54 | 10.37 |
| 1655 | 31.91 | PK | V | 24.35 | 2.79 | 26.48 | 32.57 | 26.57 | 74 | 47.43 |
| 1655 | 20.60 | AV | V | 24.35 | 2.79 | 26.48 | 21.26 | 15.26 | 54 | 38.74 |
| 298.69 | 52.34 | QP | H | 14.09 | 1.04 | 27.54 | 39.93 | 39.93 | 46.00 | 6.07 |
| 506.27 | 44.7 | QP | H | 18.16 | 1.63 | 28.82 | 35.67 | 35.67 | 46.00 | 10.33 |

**MIMO mode (Chain 0 & Chain 1 & Chain 2):**

**5150-5250MHz**
802.11n ht20 mode

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5180 MHz | | | | | | | | | | |
| 5180 | 62.18 | PK | H | 31.72 | 5.21 | 0.00 | 99.11 | 93.11 | N/A | N/A |
| 5180 | 51.27 | AV | H | 31.72 | 5.21 | 0.00 | 88.2 | 82.2 | N/A | N/A |
| 5180 | 74.49 | PK | V | 31.72 | 5.21 | 0.00 | 111.42 | 105.42 | N/A | N/A |
| 5180 | 62.67 | AV | V | 31.72 | 5.21 | 0.00 | 99.6 | 93.6 | N/A | N/A |
| 5150 | 28.02 | PK | V | 31.67 | 5.18 | 0.00 | 64.87 | 58.87 | 74 | 15.13 |
| 5150 | 15.18 | AV | V | 31.67 | 5.18 | 0.00 | 52.03 | 46.03 | 54 | 7.97 |
| 10360 | 34.48 | PK | V | 37.37 | 7.76 | 26.37 | 53.24 | 47.24 | 74 | 26.76 |
| 10360 | 21.94 | AV | V | 37.37 | 7.76 | 26.37 | 40.7 | 34.7 | 54 | 19.3 |
| 15540 | 36.63 | PK | V | 39.41 | 10.22 | 25.32 | 60.94 | 54.94 | 74 | 19.06 |
| 15540 | 24.64 | AV | V | 39.41 | 10.22 | 25.32 | 48.95 | 42.95 | 54 | 11.05 |
| 1396 | 29.82 | PK | V | 23.83 | 2.53 | 26.43 | 29.75 | 23.75 | 74 | 50.25 |
| 1396 | 18.81 | AV | V | 23.83 | 2.53 | 26.43 | 18.74 | 12.74 | 54 | 41.26 |
| 2768 | 35.76 | PK | V | 23.74 | 3.23 | 26.63 | 36.1 | 30.1 | 74 | 43.9 |
| 2768 | 21.93 | AV | V | 23.74 | 3.23 | 26.63 | 22.27 | 16.27 | 54 | 37.73 |
| 298.69 | 52.34 | QP | H | 14.09 | 1.04 | 27.54 | 39.93 | 39.93 | 46.00 | 6.07 |
| 506.27 | 44.7 | QP | H | 18.16 | 1.63 | 28.82 | 35.67 | 35.67 | 46.00 | 10.33 |
| Middle Channel:5200 MHz | | | | | | | | | | |
| 5200 | 62.38 | PK | H | 31.76 | 5.23 | 0.00 | 99.37 | 93.37 | N/A | N/A |
| 5200 | 51.49 | AV | H | 31.76 | 5.23 | 0.00 | 88.48 | 82.48 | N/A | N/A |
| 5200 | 74.27 | PK | V | 31.76 | 5.23 | 0.00 | 111.26 | 105.26 | N/A | N/A |
| 5200 | 63.11 | AV | V | 31.76 | 5.23 | 0.00 | 100.1 | 94.1 | N/A | N/A |
| 10400 | 34.30 | PK | V | 37.38 | 7.79 | 26.36 | 53.11 | 47.11 | 74 | 20.89 |
| 10400 | 22.56 | AV | V | 37.38 | 7.79 | 26.36 | 41.37 | 35.37 | 54 | 12.63 |
| 15600 | 36.72 | PK | V | 39.42 | 10.22 | 25.31 | 61.05 | 55.05 | 74 | 12.95 |
| 15600 | 24.30 | AV | V | 39.42 | 10.22 | 25.31 | 48.63 | 42.63 | 54 | 5.37 |
| 1422 | 29.56 | PK | V | 23.90 | 2.56 | 26.40 | 29.62 | 23.62 | 74 | 44.38 |
| 1422 | 18.28 | AV | V | 23.90 | 2.56 | 26.40 | 18.34 | 12.34 | 54 | 35.66 |
| 3190 | 36.60 | PK | V | 25.26 | 3.72 | 26.48 | 39.1 | 33.1 | 74 | 34.9 |
| 3190 | 23.66 | AV | V | 25.26 | 3.72 | 26.48 | 26.16 | 20.16 | 54 | 27.84 |
| 298.69 | 52.61 | QP | H | 14.09 | 1.04 | 27.54 | 40.20 | 40.20 | 46.00 | 5.80 |
| 506.27 | 44.84 | QP | H | 18.16 | 1.63 | 28.82 | 35.81 | 35.81 | 46.00 | 10.19 |
| High Channel:5240 MHz | | | | | | | | | | |
| 5240 | 61.90 | PK | H | 31.83 | 5.27 | 0.00 | 99 | 93 | N/A | N/A |
| 5240 | 51.08 | AV | H | 31.83 | 5.27 | 0.00 | 88.18 | 82.18 | N/A | N/A |
| 5240 | 73.82 | PK | V | 31.83 | 5.27 | 0.00 | 110.92 | 104.92 | N/A | N/A |
| 5240 | 62.22 | AV | V | 31.83 | 5.27 | 0.00 | 99.32 | 93.32 | N/A | N/A |
| 5350 | 27.49 | PK | V | 32.03 | 5.37 | 0.00 | 64.89 | 58.89 | 74 | 15.11 |
| 5350 | 14.84 | AV | V | 32.03 | 5.37 | 0.00 | 52.24 | 46.24 | 54 | 7.76 |
| 10480 | 34.41 | PK | V | 37.40 | 7.84 | 26.35 | 53.3 | 47.3 | 74 | 26.7 |
| 10480 | 21.18 | AV | V | 37.40 | 7.84 | 26.35 | 40.07 | 34.07 | 54 | 19.93 |
| 15720 | 36.16 | PK | V | 39.44 | 10.24 | 25.30 | 60.54 | 54.54 | 74 | 19.46 |
| 15720 | 23.22 | AV | V | 39.44 | 10.24 | 25.30 | 47.6 | 41.6 | 54 | 12.4 |
| 2005 | 29.49 | PK | V | 24.88 | 3.05 | 26.82 | 30.6 | 24.6 | 74 | 49.4 |
| 2005 | 17.79 | AV | V | 24.88 | 3.05 | 26.82 | 18.9 | 12.9 | 54 | 41.1 |
| 3527 | 33.14 | PK | V | 27.11 | 4.22 | 26.59 | 37.88 | 31.88 | 74 | 42.12 |
| 3527 | 20.44 | AV | V | 27.11 | 4.22 | 26.59 | 25.18 | 19.18 | 54 | 34.82 |
| 298.69 | 53.45 | QP | H | 14.09 | 1.04 | 27.54 | 41.04 | 41.04 | 46.00 | 4.96 |
| 506.27 | 45.26 | QP | H | 18.16 | 1.63 | 28.82 | 36.23 | 36.23 | 46.00 | 9.77 |

802.11n ht40 mode

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5190 MHz | | | | | | | | | | |
| 5190 | 57.79 | PK | H | 31.74 | 5.22 | 0.00 | 94.75 | 88.75 | N/A | N/A |
| 5190 | 47.18 | AV | H | 31.74 | 5.22 | 0.00 | 84.14 | 78.14 | N/A | N/A |
| 5190 | 70.05 | PK | V | 31.74 | 5.22 | 0.00 | 107.01 | 101.01 | N/A | N/A |
| 5190 | 59.58 | AV | V | 31.74 | 5.22 | 0.00 | 96.54 | 90.54 | N/A | N/A |
| 5150 | 27.92 | PK | V | 31.67 | 5.18 | 0.00 | 64.77 | 58.77 | 74 | 15.23 |
| 5150 | 15.52 | AV | V | 31.67 | 5.18 | 0.00 | 52.37 | 46.37 | 54 | 7.63 |
| 10380 | 48.58 | PK | V | 37.38 | 7.78 | 26.37 | 67.37 | 61.37 | 74 | 12.63 |
| 10380 | 35.21 | AV | V | 37.38 | 7.78 | 26.37 | 54 | 48 | 54 | 6 |
| 15570 | 36.53 | PK | V | 39.41 | 10.22 | 25.31 | 60.85 | 54.85 | 74 | 19.15 |
| 15570 | 23.74 | AV | V | 39.41 | 10.22 | 25.31 | 48.06 | 42.06 | 54 | 11.94 |
| 1756 | 29.53 | PK | V | 24.51 | 2.86 | 26.58 | 30.32 | 24.32 | 74 | 49.68 |
| 1756 | 17.30 | AV | V | 24.51 | 2.86 | 26.58 | 18.09 | 12.09 | 54 | 41.91 |
| 3005 | 37.69 | PK | V | 24.23 | 3.44 | 26.41 | 38.95 | 32.95 | 74 | 41.05 |
| 3005 | 24.88 | AV | V | 24.23 | 3.44 | 26.41 | 26.14 | 20.14 | 54 | 33.86 |
| 298.69 | 52.98 | QP | H | 14.09 | 1.04 | 27.54 | 40.57 | 40.57 | 46.00 | 5.43 |
| 506.27 | 45.7 | QP | H | 18.16 | 1.63 | 28.82 | 36.67 | 36.67 | 46.00 | 9.33 |
| High Channel:5230 MHz | | | | | | | | | | |
| 5230 | 57.69 | PK | H | 31.81 | 5.26 | 0.00 | 94.76 | 88.76 | N/A | N/A |
| 5230 | 47.37 | AV | H | 31.81 | 5.26 | 0.00 | 84.44 | 78.44 | N/A | N/A |
| 5230 | 69.48 | PK | V | 31.81 | 5.26 | 0.00 | 106.55 | 100.55 | N/A | N/A |
| 5230 | 59.61 | AV | V | 31.81 | 5.26 | 0.00 | 96.68 | 90.68 | N/A | N/A |
| 5350 | 27.64 | PK | V | 32.03 | 5.37 | 0.00 | 65.04 | 59.04 | 74 | 14.96 |
| 5350 | 14.78 | AV | V | 32.03 | 5.37 | 0.00 | 52.18 | 46.18 | 54 | 7.82 |
| 10460 | 46.64 | PK | V | 37.39 | 7.83 | 26.36 | 65.5 | 59.5 | 74 | 14.5 |
| 10460 | 34.08 | AV | V | 37.39 | 7.83 | 26.36 | 52.94 | 46.94 | 54 | 7.06 |
| 15690 | 35.62 | PK | V | 39.44 | 10.24 | 25.30 | 60 | 54 | 74 | 20 |
| 15690 | 23.70 | AV | V | 39.44 | 10.24 | 25.30 | 48.08 | 42.08 | 54 | 11.92 |
| 2689 | 34.06 | PK | V | 23.58 | 3.16 | 26.71 | 34.09 | 28.09 | 74 | 45.91 |
| 2689 | 22.09 | AV | V | 23.58 | 3.16 | 26.71 | 22.12 | 16.12 | 54 | 37.88 |
| 3326 | 35.04 | PK | V | 26.03 | 3.92 | 26.53 | 38.46 | 32.46 | 74 | 41.54 |
| 3326 | 21.86 | AV | V | 26.03 | 3.92 | 26.53 | 25.28 | 19.28 | 54 | 34.72 |
| 298.69 | 52.51 | QP | H | 14.09 | 1.04 | 27.54 | 40.10 | 40.10 | 46.00 | 5.90 |
| 506.27 | 46.14 | QP | H | 18.16 | 1.63 | 28.82 | 37.11 | 37.11 | 46.00 | 8.89 |

802.11n ac80 mode

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5210 MHz | | | | | | | | | | |
| 5210 | 57.30 | PK | H | 31.78 | 5.24 | 0.00 | 94.32 | 88.32 | N/A | N/A |
| 5210 | 45.49 | AV | H | 31.78 | 5.24 | 0.00 | 82.51 | 76.51 | N/A | N/A |
| 5210 | 67.82 | PK | V | 31.78 | 5.24 | 0.00 | 104.84 | 98.84 | N/A | N/A |
| 5210 | 56.31 | AV | V | 31.78 | 5.24 | 0.00 | 93.33 | 87.33 | N/A | N/A |
| 5150 | 28.15 | PK | V | 31.67 | 5.18 | 0.00 | 65 | 59 | 74 | 15 |
| 5150 | 16.53 | AV | V | 31.67 | 5.18 | 0.00 | 53.38 | 47.38 | 54 | 6.62 |
| 5350 | 27.30 | PK | V | 32.03 | 5.37 | 0.00 | 64.7 | 58.7 | 74 | 15.3 |
| 5350 | 15.25 | AV | V | 32.03 | 5.37 | 0.00 | 52.65 | 46.65 | 54 | 7.35 |
| 10420 | 45.22 | PK | V | 37.38 | 7.80 | 26.36 | 64.04 | 58.04 | 74 | 15.96 |
| 10420 | 33.26 | AV | V | 37.38 | 7.80 | 26.36 | 52.08 | 46.08 | 54 | 7.92 |
| 15630 | 37.22 | PK | V | 39.43 | 10.23 | 25.31 | 61.57 | 55.57 | 74 | 18.43 |
| 15630 | 24.32 | AV | V | 39.43 | 10.23 | 25.31 | 48.67 | 42.67 | 54 | 11.33 |
| 3648 | 35.72 | PK | V | 27.59 | 4.40 | 26.58 | 41.13 | 35.13 | 74 | 38.87 |
| 3648 | 23.14 | AV | V | 27.59 | 4.40 | 26.58 | 28.55 | 22.55 | 54 | 31.45 |
| 298.69 | 52.01 | QP | H | 14.09 | 1.04 | 27.54 | 39.60 | 39.60 | 46.00 | 6.40 |
| 506.27 | 44.59 | QP | H | 18.16 | 1.63 | 28.82 | 35.56 | 35.56 | 46.00 | 10.44 |

**5725-5850MHz**
802.11n ht20 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5745 MHz | | | | | | | | | | |
| 5745 | 70.67 | PK | H | 32.59 | 5.74 | 0.00 | 109 | 103 | N/A | N/A |
| 5745 | 60.89 | AV | H | 32.59 | 5.74 | 0.00 | 99.22 | 93.22 | N/A | N/A |
| 5745 | 80.05 | PK | V | 32.59 | 5.74 | 0.00 | 118.38 | 112.38 | N/A | N/A |
| 5745 | 69.33 | AV | V | 32.59 | 5.74 | 0.00 | 107.66 | 101.66 | N/A | N/A |
| 5725 | 44.93 | PK | V | 32.57 | 5.72 | 0.00 | 83.22 | 77.22 | 122.2 | 44.98 |
| 5720 | 38.93 | PK | V | 32.56 | 5.71 | 0.00 | 77.2 | 71.2 | 110.8 | 39.6 |
| 5700 | 28.05 | PK | V | 32.54 | 5.70 | 0.00 | 66.29 | 60.29 | 105.2 | 44.91 |
| 5650 | 27.77 | PK | V | 32.48 | 5.65 | 0.00 | 65.9 | 59.9 | 68.2 | 8.3 |
| 11490 | 32.59 | PK | V | 37.99 | 8.22 | 26.02 | 52.78 | 46.78 | 74 | 27.22 |
| 11490 | 21.84 | AV | V | 37.99 | 8.22 | 26.02 | 42.03 | 36.03 | 54 | 17.97 |
| 17235 | 32.45 | PK | V | 42.98 | 10.82 | 25.99 | 60.26 | 54.26 | 74 | 19.74 |
| 17235 | 21.62 | AV | V | 42.98 | 10.82 | 25.99 | 49.43 | 43.43 | 54 | 10.57 |
| 3215 | 38.25 | PK | V | 25.40 | 3.75 | 26.49 | 40.91 | 34.91 | 74 | 39.09 |
| 3215 | 26.80 | AV | V | 25.40 | 3.75 | 26.49 | 29.46 | 23.46 | 54 | 30.54 |
| 298.69 | 52.26 | QP | H | 14.09 | 1.04 | 27.54 | 39.85 | 39.85 | 46.00 | 6.15 |
| 506.27 | 43.07 | QP | H | 18.16 | 1.63 | 28.82 | 34.04 | 34.04 | 46.00 | 11.96 |
| Middle Channel:5785 MHz | | | | | | | | | | |
| 5785 | 70.79 | PK | H | 32.64 | 5.77 | 0.00 | 109.2 | 103.2 | N/A | N/A |
| 5785 | 61.04 | AV | H | 32.64 | 5.77 | 0.00 | 99.45 | 93.45 | N/A | N/A |
| 5785 | 80.35 | PK | V | 32.64 | 5.77 | 0.00 | 118.76 | 112.76 | N/A | N/A |
| 5785 | 68.77 | AV | V | 32.64 | 5.77 | 0.00 | 107.18 | 101.18 | N/A | N/A |
| 11570 | 32.21 | PK | V | 38.03 | 8.21 | 26.00 | 52.45 | 46.45 | 74 | 27.55 |
| 11570 | 21.73 | AV | V | 38.03 | 8.21 | 26.00 | 41.97 | 35.97 | 54 | 18.03 |
| 17355 | 32.45 | PK | V | 43.53 | 11.03 | 26.16 | 60.85 | 54.85 | 74 | 19.15 |
| 17355 | 20.96 | AV | V | 43.53 | 11.03 | 26.16 | 49.36 | 43.36 | 54 | 10.64 |
| 3284 | 37.12 | PK | V | 25.79 | 3.86 | 26.51 | 40.26 | 34.26 | 74 | 39.74 |
| 3284 | 26.74 | AV | V | 25.79 | 3.86 | 26.51 | 29.88 | 23.88 | 54 | 30.12 |
| 298.69 | 52.53 | QP | H | 14.09 | 1.04 | 27.54 | 40.12 | 40.12 | 46.00 | 5.88 |
| 506.27 | 43.21 | QP | H | 18.16 | 1.63 | 28.82 | 34.18 | 34.18 | 46.00 | 11.82 |
| High Channel:5825 MHz | | | | | | | | | | |
| 5825 | 69.61 | PK | H | 32.69 | 5.81 | 0.00 | 108.11 | 102.11 | N/A | N/A |
| 5825 | 58.96 | AV | H | 32.69 | 5.81 | 0.00 | 97.46 | 91.46 | N/A | N/A |
| 5825 | 80.84 | PK | V | 32.69 | 5.81 | 0.00 | 119.34 | 113.34 | N/A | N/A |
| 5825 | 69.91 | AV | V | 32.69 | 5.81 | 0.00 | 108.41 | 102.41 | N/A | N/A |
| 5850 | 38.98 | PK | V | 32.72 | 5.83 | 0.00 | 77.53 | 71.53 | 122.2 | 50.67 |
| 5855 | 34.21 | PK | V | 32.73 | 5.83 | 0.00 | 72.77 | 66.77 | 110.8 | 44.03 |
| 5875 | 28.62 | PK | V | 32.75 | 5.85 | 0.00 | 67.22 | 61.22 | 105.2 | 43.98 |
| 5925 | 27.11 | PK | V | 32.81 | 5.89 | 0.00 | 65.81 | 59.81 | 68.2 | 8.39 |
| 11650 | 32.99 | PK | V | 38.06 | 8.20 | 25.98 | 53.27 | 47.27 | 74 | 26.73 |
| 11650 | 22.15 | AV | V | 38.06 | 8.20 | 25.98 | 42.43 | 36.43 | 54 | 17.57 |
| 17475 | 31.41 | PK | V | 44.09 | 11.23 | 26.33 | 60.4 | 54.4 | 74 | 19.6 |
| 17475 | 20.58 | AV | V | 44.09 | 11.23 | 26.33 | 49.57 | 43.57 | 54 | 10.43 |
| 3358 | 36.92 | PK | V | 26.20 | 3.97 | 26.54 | 40.55 | 34.55 | 74 | 39.45 |
| 3358 | 24.67 | AV | V | 26.20 | 3.97 | 26.54 | 28.3 | 22.3 | 54 | 31.7 |
| 298.69 | 53.37 | QP | H | 14.09 | 1.04 | 27.54 | 40.96 | 40.96 | 46.00 | 5.04 |
| 506.27 | 43.63 | QP | H | 18.16 | 1.63 | 28.82 | 34.60 | 34.60 | 46.00 | 11.40 |

802.11n ht40 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Low Channel:5755 MHz | | | | | | | | | | |
| 5755 | 64.60 | PK | H | 32.61 | 5.74 | 0.00 | 102.95 | 96.95 | N/A | N/A |
| 5755 | 54.52 | AV | H | 32.61 | 5.74 | 0.00 | 92.87 | 86.87 | N/A | N/A |
| 5755 | 76.92 | PK | V | 32.61 | 5.74 | 0.00 | 115.27 | 109.27 | N/A | N/A |
| 5755 | 67.37 | AV | V | 32.61 | 5.74 | 0.00 | 105.72 | 99.72 | N/A | N/A |
| 5725 | 46.01 | PK | V | 32.57 | 5.72 | 0.00 | 84.3 | 78.3 | 122.2 | 43.9 |
| 5720 | 42.70 | PK | V | 32.56 | 5.71 | 0.00 | 80.97 | 74.97 | 110.8 | 35.83 |
| 5700 | 31.59 | PK | V | 32.54 | 5.70 | 0.00 | 69.83 | 63.83 | 105.2 | 41.37 |
| 5650 | 28.01 | PK | V | 32.48 | 5.65 | 0.00 | 66.14 | 60.14 | 68.2 | 8.06 |
| 11510 | 32.25 | PK | V | 38.00 | 8.22 | 26.02 | 52.45 | 46.45 | 74 | 27.55 |
| 11510 | 22.00 | AV | V | 38.00 | 8.22 | 26.02 | 42.2 | 36.2 | 54 | 17.8 |
| 17265 | 32.20 | PK | V | 43.12 | 10.88 | 26.04 | 60.16 | 54.16 | 74 | 19.84 |
| 17265 | 21.41 | AV | V | 43.12 | 10.88 | 26.04 | 49.37 | 43.37 | 54 | 10.63 |
| 3215 | 38.59 | PK | V | 25.40 | 3.75 | 26.49 | 41.25 | 35.25 | 74 | 38.75 |
| 3215 | 26.64 | AV | V | 25.40 | 3.75 | 26.49 | 29.3 | 23.3 | 54 | 30.7 |
| 1667 | 32.17 | PK | V | 24.37 | 2.80 | 26.49 | 32.85 | 26.85 | 74 | 47.15 |
| 1667 | 20.28 | AV | V | 24.37 | 2.80 | 26.49 | 20.96 | 14.96 | 54 | 39.04 |
| 298.69 | 52.9 | QP | H | 14.09 | 1.04 | 27.54 | 40.49 | 40.49 | 46.00 | 5.51 |
| 506.27 | 44.07 | QP | H | 18.16 | 1.63 | 28.82 | 35.04 | 35.04 | 46.00 | 10.96 |
| High Channel:5795 MHz | | | | | | | | | | |
| 5795 | 66.22 | PK | H | 32.65 | 5.78 | 0.00 | 104.65 | 98.65 | N/A | N/A |
| 5795 | 56.31 | AV | H | 32.65 | 5.78 | 0.00 | 94.74 | 88.74 | N/A | N/A |
| 5795 | 77.26 | PK | V | 32.65 | 5.78 | 0.00 | 115.69 | 109.69 | N/A | N/A |
| 5795 | 67.43 | AV | V | 32.65 | 5.78 | 0.00 | 105.86 | 99.86 | N/A | N/A |
| 5850 | 32.60 | PK | V | 32.72 | 5.83 | 0.00 | 71.15 | 65.15 | 122.2 | 57.05 |
| 5855 | 30.78 | PK | V | 32.73 | 5.83 | 0.00 | 69.34 | 63.34 | 110.8 | 47.46 |
| 5875 | 28.24 | PK | V | 32.75 | 5.85 | 0.00 | 66.84 | 60.84 | 105.2 | 44.36 |
| 5925 | 27.18 | PK | V | 32.81 | 5.89 | 0.00 | 65.88 | 59.88 | 68.2 | 8.32 |
| 11590 | 32.94 | PK | V | 38.04 | 8.21 | 25.99 | 53.2 | 47.2 | 74 | 26.8 |
| 11590 | 21.75 | AV | V | 38.04 | 8.21 | 25.99 | 42.01 | 36.01 | 54 | 17.99 |
| 17385 | 32.37 | PK | V | 43.67 | 11.08 | 26.21 | 60.91 | 54.91 | 74 | 19.09 |
| 17385 | 21.03 | AV | V | 43.67 | 11.08 | 26.21 | 49.57 | 43.57 | 54 | 10.43 |
| 3358 | 36.14 | PK | V | 26.20 | 3.97 | 26.54 | 39.77 | 33.77 | 74 | 40.23 |
| 3358 | 25.06 | AV | V | 26.20 | 3.97 | 26.54 | 28.69 | 22.69 | 54 | 31.31 |
| 1689 | 32.00 | PK | V | 24.40 | 2.81 | 26.52 | 32.69 | 26.69 | 74 | 47.31 |
| 1689 | 20.76 | AV | V | 24.40 | 2.81 | 26.52 | 21.45 | 15.45 | 54 | 38.55 |
| 298.69 | 52.43 | QP | H | 14.09 | 1.04 | 27.54 | 40.02 | 40.02 | 46.00 | 5.98 |
| 506.27 | 44.51 | QP | H | 18.16 | 1.63 | 28.82 | 35.48 | 35.48 | 46.00 | 10.52 |

802.11n ac80 mode:

| Frequency (MHz) | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Extrapolation Result dBμV/m | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | | |
| Middle Channel:5775 MHz | | | | | | | | | | |
| 5775 | 63.10 | PK | H | 32.63 | 5.76 | 0.00 | 101.49 | 95.49 | N/A | N/A |
| 5775 | 53.00 | AV | H | 32.63 | 5.76 | 0.00 | 91.39 | 85.39 | N/A | N/A |
| 5775 | 75.81 | PK | V | 32.63 | 5.76 | 0.00 | 114.2 | 108.2 | N/A | N/A |
| 5775 | 63.96 | AV | V | 32.63 | 5.76 | 0.00 | 102.35 | 96.35 | N/A | N/A |
| 5725 | 40.19 | PK | V | 32.57 | 5.72 | 0.00 | 78.48 | 72.48 | 122.2 | 49.72 |
| 5720 | 39.74 | PK | V | 32.56 | 5.71 | 0.00 | 78.01 | 72.01 | 110.8 | 38.79 |
| 5700 | 34.65 | PK | V | 32.54 | 5.70 | 0.00 | 72.89 | 66.89 | 105.2 | 38.31 |
| 5650 | 29.24 | PK | V | 32.48 | 5.65 | 0.00 | 67.37 | 61.37 | 68.2 | 6.83 |
| 5850 | 39.91 | PK | V | 32.72 | 5.83 | 0.00 | 78.46 | 72.46 | 122.2 | 49.74 |
| 5855 | 36.56 | PK | V | 32.73 | 5.83 | 0.00 | 75.12 | 69.12 | 110.8 | 41.68 |
| 5875 | 33.08 | PK | V | 32.75 | 5.85 | 0.00 | 71.68 | 65.68 | 105.2 | 39.52 |
| 5925 | 27.87 | PK | V | 32.81 | 5.89 | 0.00 | 66.57 | 60.57 | 68.2 | 7.63 |
| 11550 | 32.54 | PK | V | 38.02 | 8.21 | 26.01 | 52.76 | 46.76 | 74 | 27.24 |
| 11550 | 21.86 | AV | V | 38.02 | 8.21 | 26.01 | 42.08 | 36.08 | 54 | 17.92 |
| 17325 | 32.30 | PK | V | 43.40 | 10.98 | 26.12 | 60.56 | 54.56 | 74 | 19.44 |
| 17325 | 21.22 | AV | V | 43.40 | 10.98 | 26.12 | 49.48 | 43.48 | 54 | 10.52 |
| 3369 | 36.55 | PK | V | 26.27 | 3.98 | 26.54 | 40.26 | 34.26 | 74 | 39.74 |
| 3369 | 25.13 | AV | V | 26.27 | 3.98 | 26.54 | 28.84 | 22.84 | 54 | 31.16 |
| 298.69 | 52.22 | QP | H | 14.09 | 1.04 | 27.54 | 39.81 | 39.81 | 46.00 | 6.19 |
| 506.27 | 43.02 | QP | H | 18.16 | 1.63 | 28.82 | 33.99 | 33.99 | 46.00 | 12.01 |

**2.4GHz band and 5 GHz band transmit simultaneously**

(2.4GHz 3x3 N20 2437MHz + 5.8GHz 2x2 AC80 5775MHz was the worst, Test at 3m distance):

| Frequency | Receiver | | Rx Antenna | | Cable loss (dB) | Amplifier Gain (dB) | Corrected Amplitude (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|---|
| (MHz) | Reading (dBμV) | Detector (PK/QP/AV) | Polar (H/V) | Factor (dB) | | | | | |
| 11550 | 33.29 | PK | H | 38.02 | 8.21 | 26.01 | 53.51 | 74.00 | 20.49 |
| 11550 | 22.18 | AV | H | 38.02 | 8.21 | 26.01 | 42.40 | 54.00 | 11.60 |
| 17325 | 30.74 | PK | H | 43.40 | 10.98 | 26.12 | 59.00 | 74.00 | 15.00 |
| 17325 | 21.69 | AV | H | 43.40 | 10.98 | 26.12 | 49.95 | 54.00 | 4.05 |
| 4874 | 34.59 | PK | V | 31.00 | 5.09 | 26.87 | 43.81 | 74.00 | 30.19 |
| 4874 | 22.15 | AV | V | 31.00 | 5.09 | 26.87 | 31.37 | 54.00 | 22.63 |
| 7311 | 32.47 | PK | V | 34.92 | 6.21 | 26.40 | 47.20 | 74.00 | 26.80 |
| 7311 | 19.82 | AV | V | 34.92 | 6.21 | 26.40 | 34.55 | 54.00 | 19.45 |
| 3254 | 43.26 | PK | H | 25.62 | 3.81 | 26.50 | 46.19 | 74.00 | 27.81 |
| 3254 | 34.77 | AV | H | 25.62 | 3.81 | 26.50 | 37.70 | 54.00 | 16.30 |
| 506.27 | 46.69 | QP | V | 18.16 | 1.63 | 28.82 | 37.66 | 46.00 | 8.34 |

# FCC §15.407(b)–OUT- OF-BAND EMISSIONS

## Applicable Standard

FCC §15.407

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) 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 e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

## Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 831929/005 | 2016-09-21 | 2017-09-20 |
| N/A | RF Cable | N/A | N/A | Each Time | / |

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

## Test Data

### Environmental Conditions

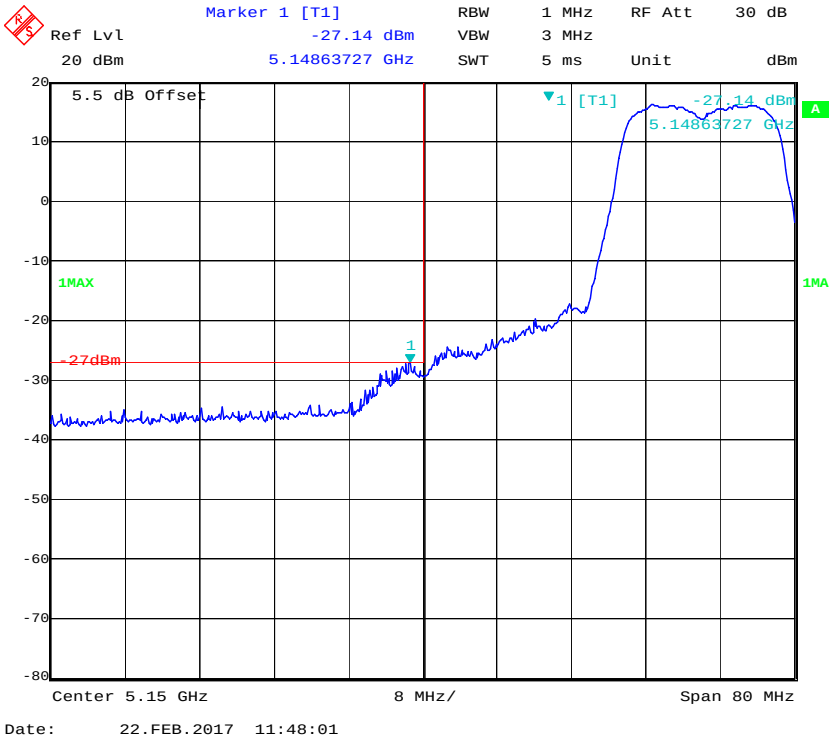
| | |
|---|---|
| **Temperature:** | 19~21 °C |
| **Relative Humidity:** | 56~58 % |
| **ATM Pressure:** | 95.2~96 kPa |

*The testing was performed by Tom Tang from 2017-02-22 to 2017-03-31.*

**Test Result:** Pass.
Please refer to the following tables and plots.

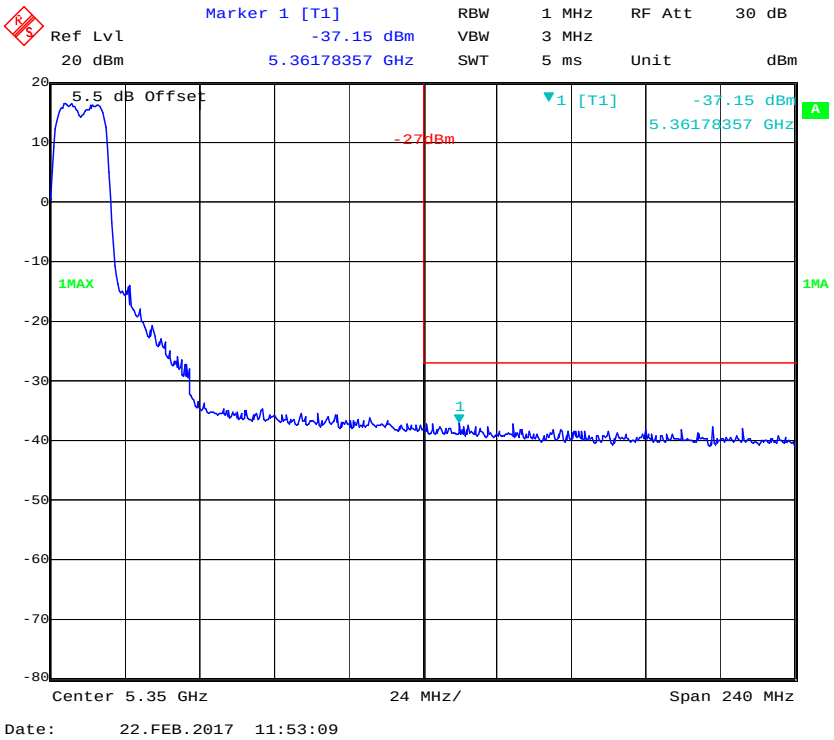
**1TX**
**5150-5250MHz**(the atenna gain was offset in the display)
Chain 0:

**802.11a Low Channel**



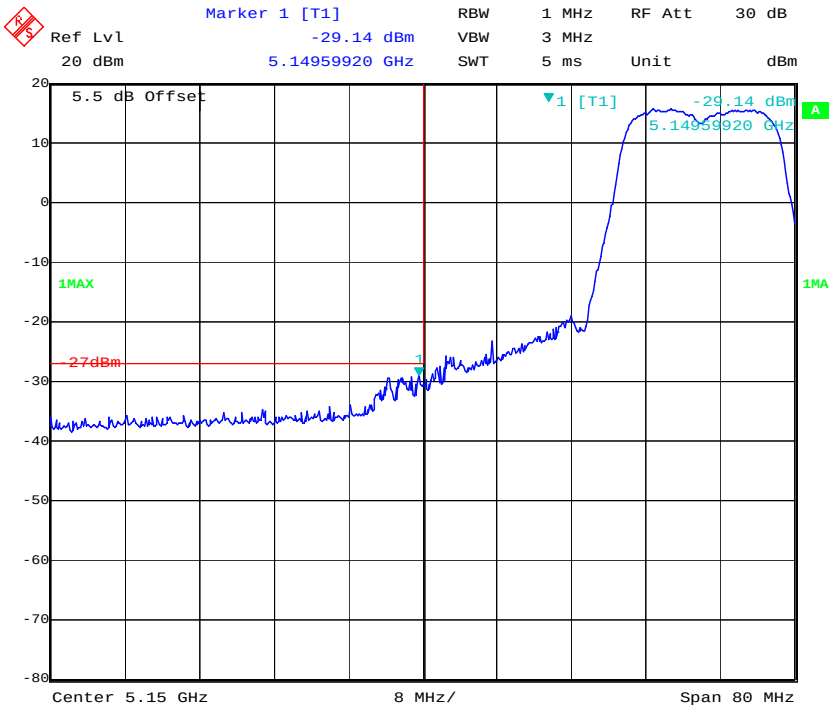

Date: 22.FEB.2017 11:48:01

**802.11a High Channel**



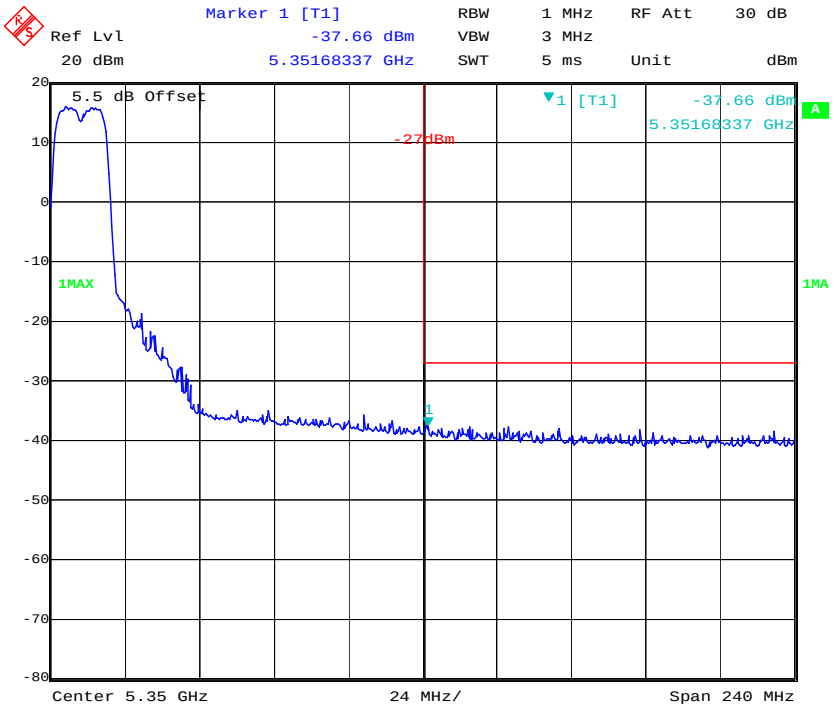

Date: 22.FEB.2017 11:53:09

## 802.11n ht20 Low Channel



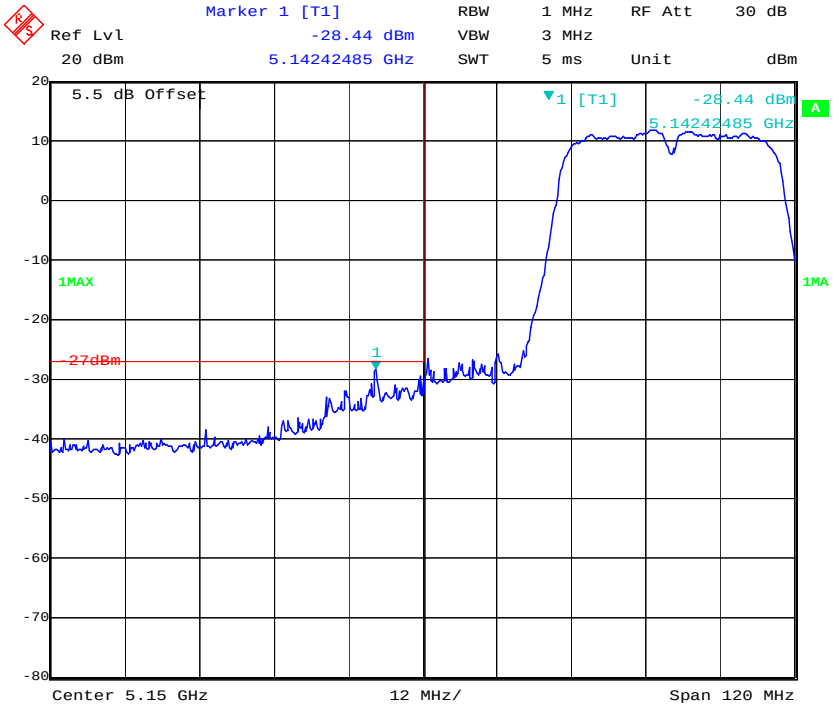

Date: 22.FEB.2017 11:35:52

## 802.11n ht20 High Channel



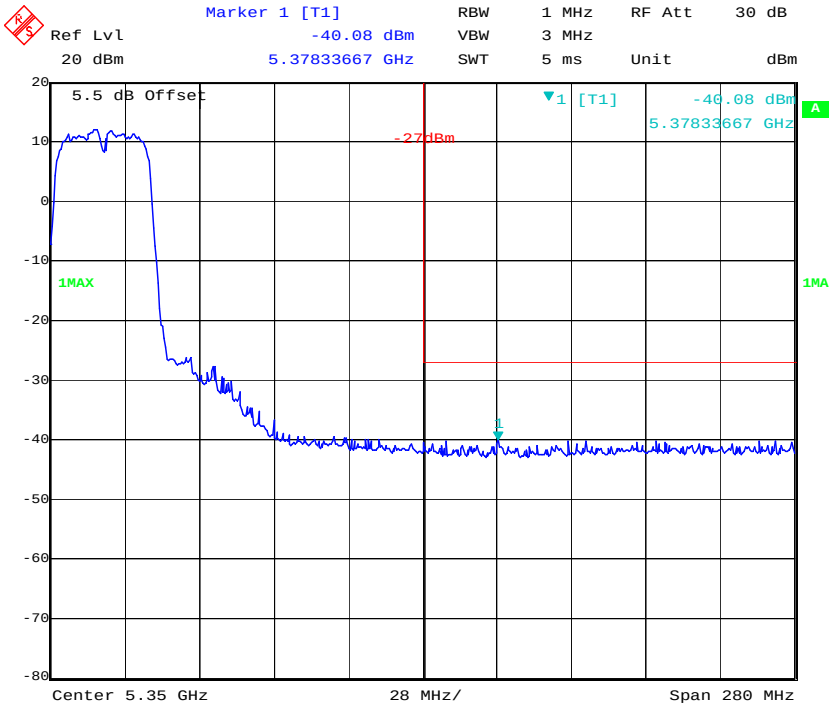

Date: 22.FEB.2017 11:42:14

## 802.11n ht40 Low Channel



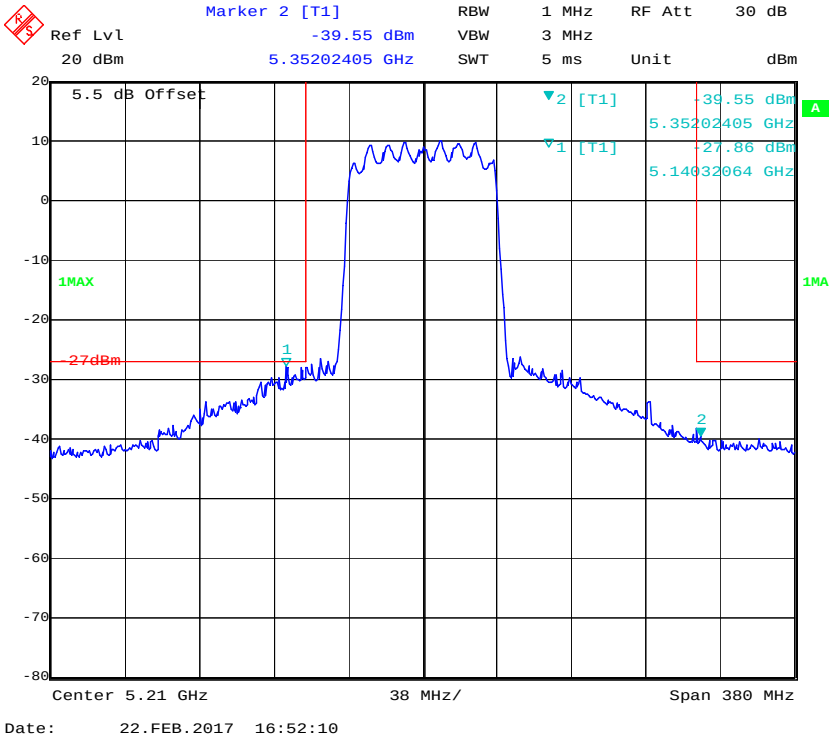

Date: 22.FEB.2017 11:25:38

## 8802.11n ht40 High Channel



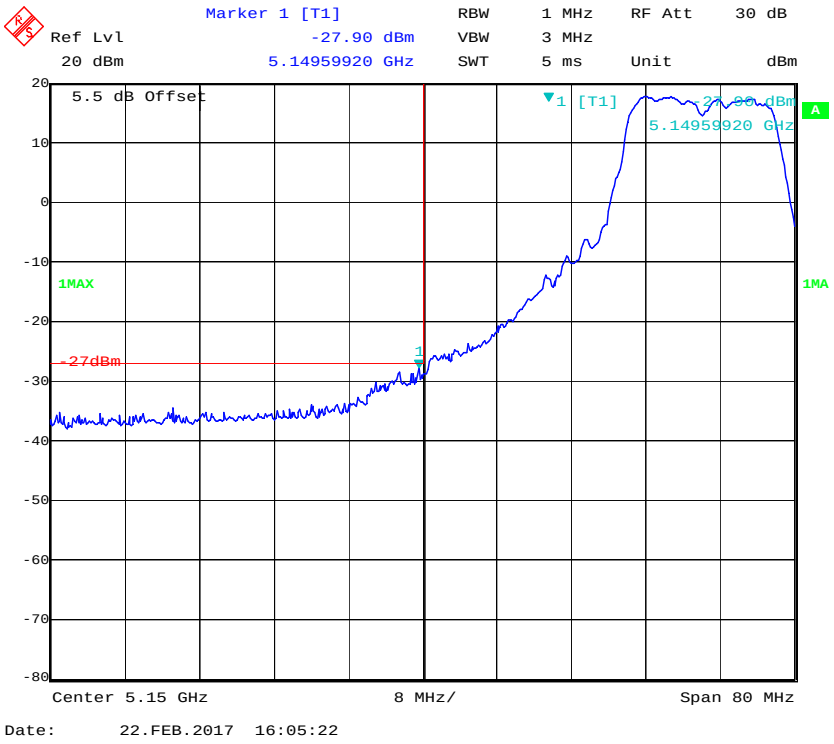

Date: 22.FEB.2017 11:30:19

## 802.11n ac80 Middle Channel



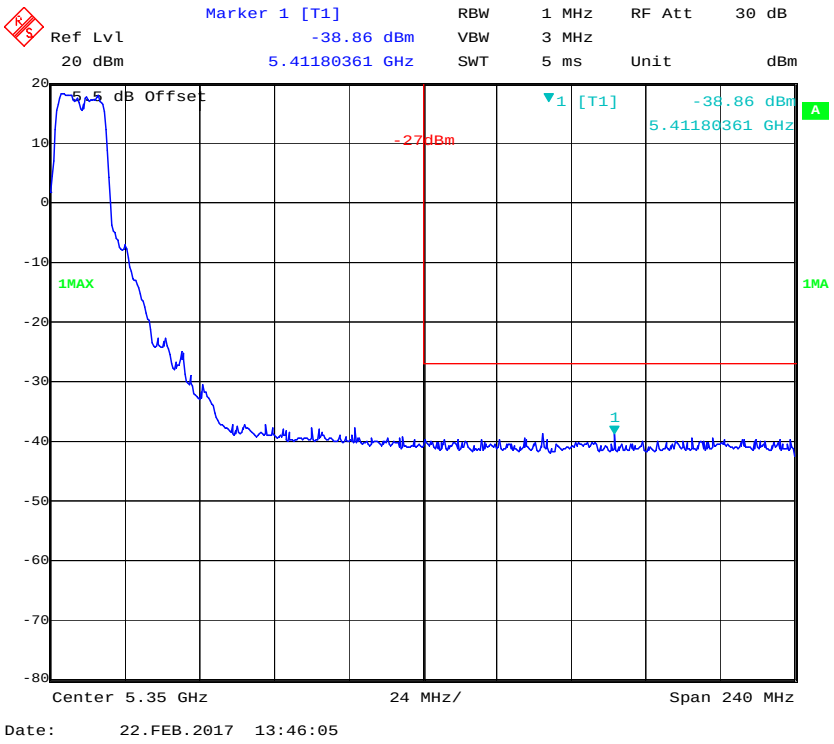
Chain 1:

**802.11a Low Channel**



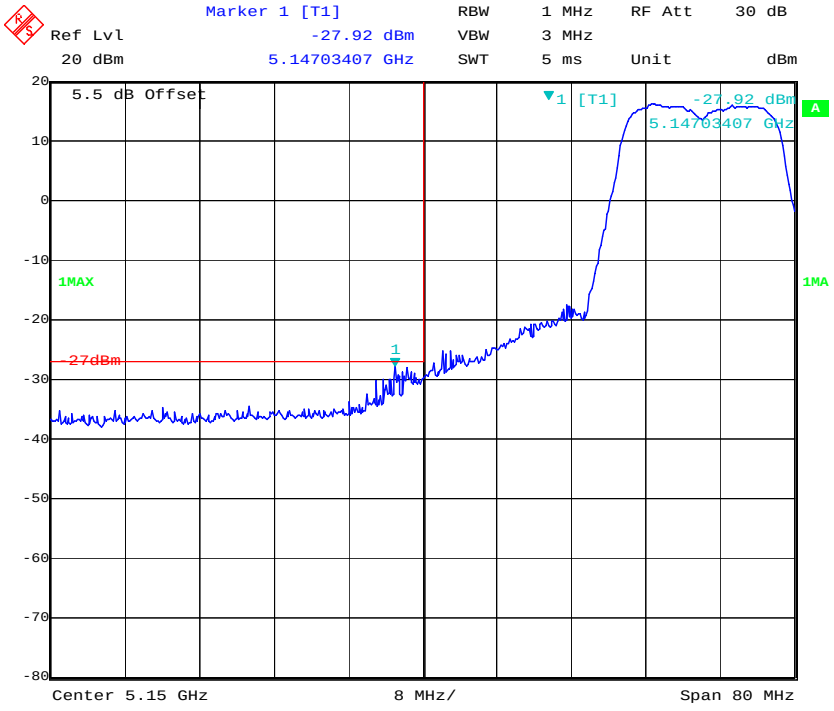

Date: 22.FEB.2017 16:05:22

**802.11a High Channel**



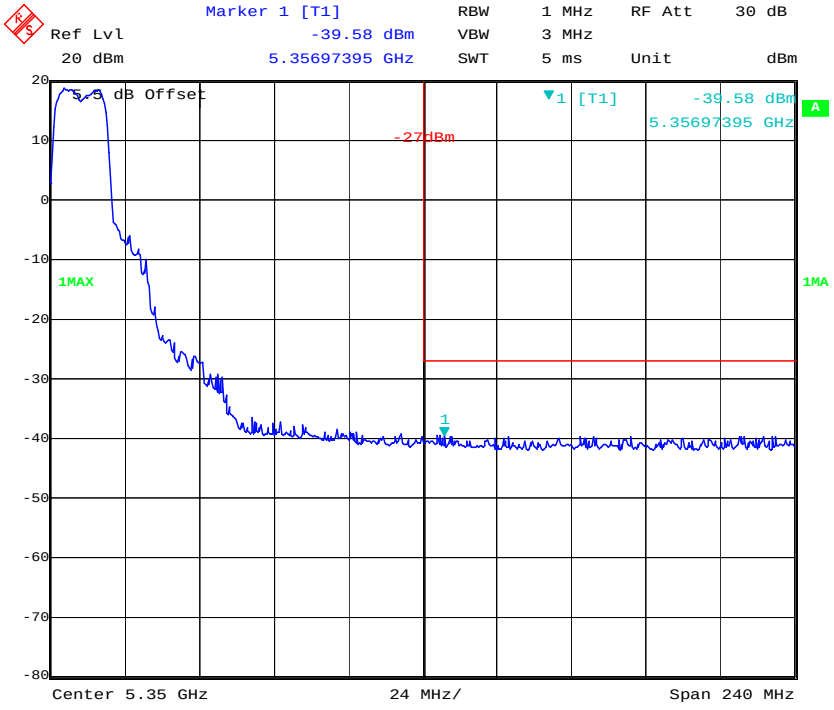

Date: 22.FEB.2017 13:46:05

## 802.11n ht20 Low Channel



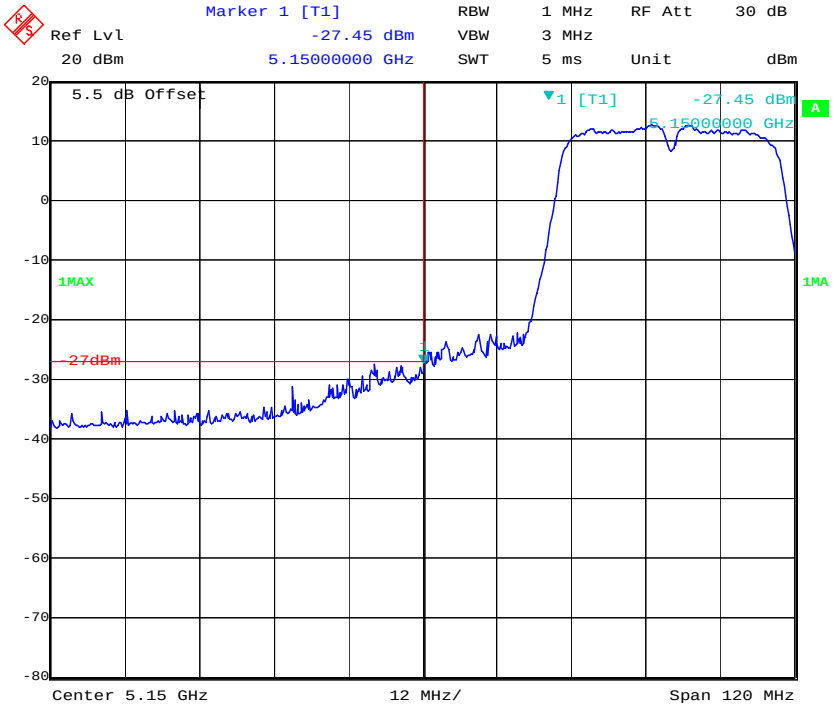

Date: 22.FEB.2017 14:00:53

## 802.11n ht20 High Channel



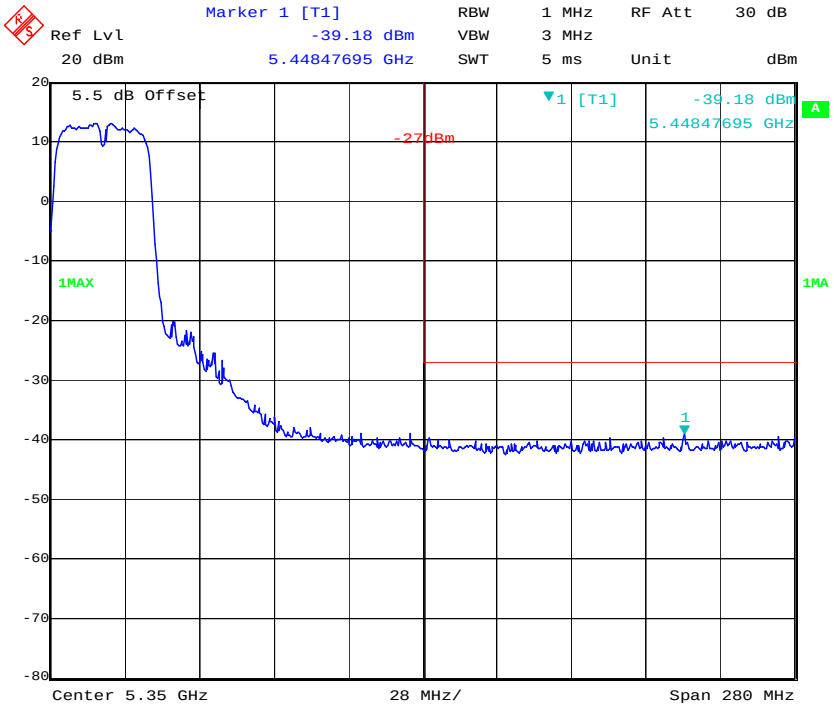

Date: 22.FEB.2017 14:09:23

## 802.11n ht40 Low Channel



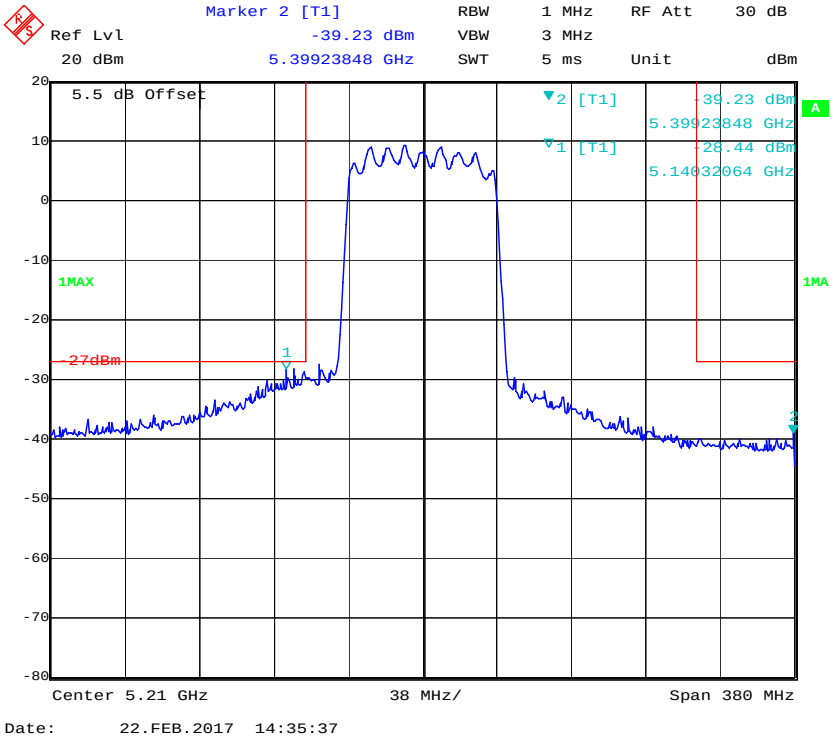

Date: 22.FEB.2017 14:19:57

## 8802.11n ht40 High Channel



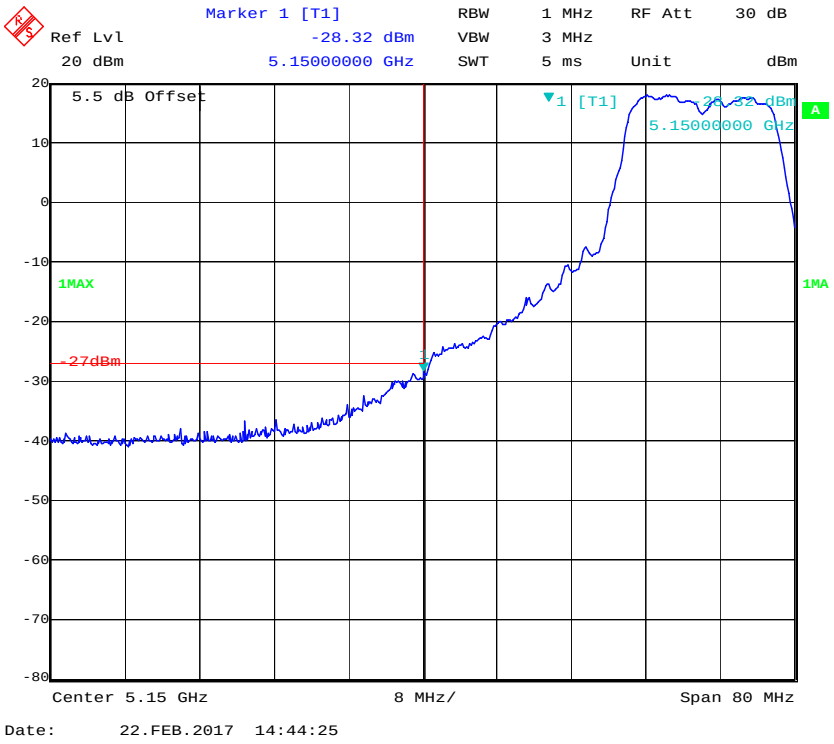

Date: 22.FEB.2017 14:24:40

## 802.11n ac80 Middle Channel



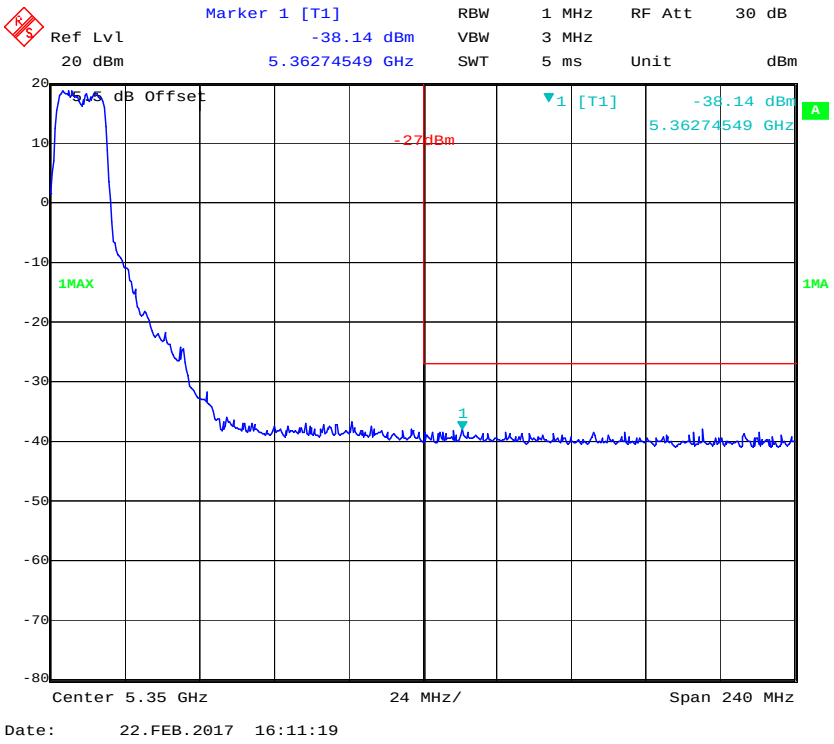
Chain 2:

**802.11a Low Channel**



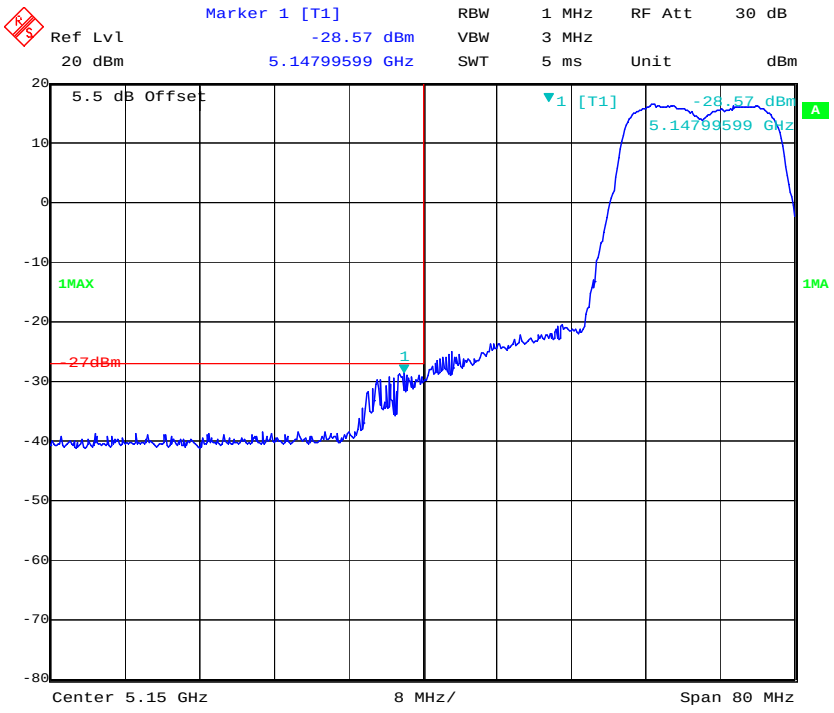

Date: 22.FEB.2017 14:44:25

**802.11a High Channel**



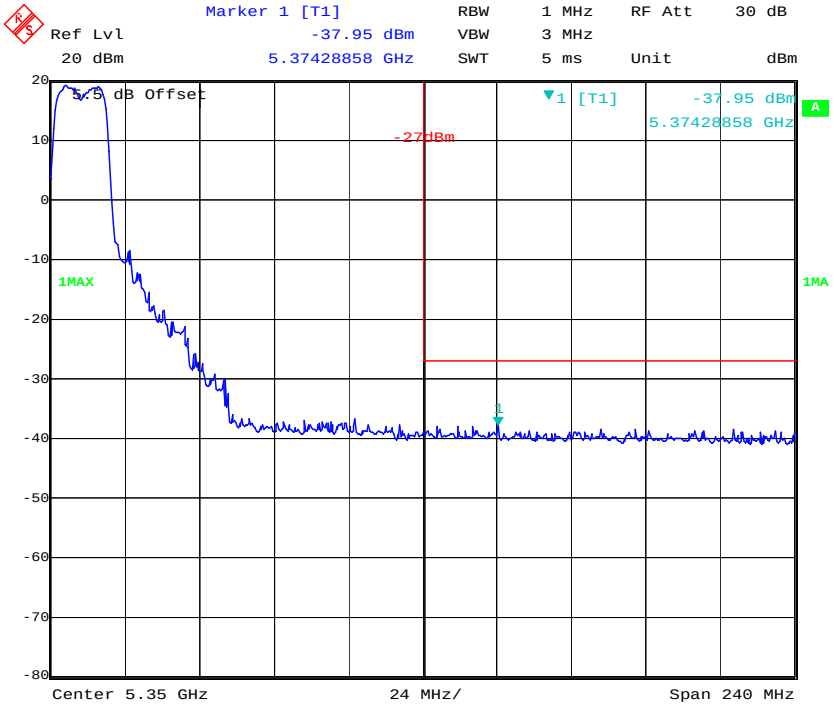

Date: 22.FEB.2017 16:11:19

## 802.11n ht20 Low Channel



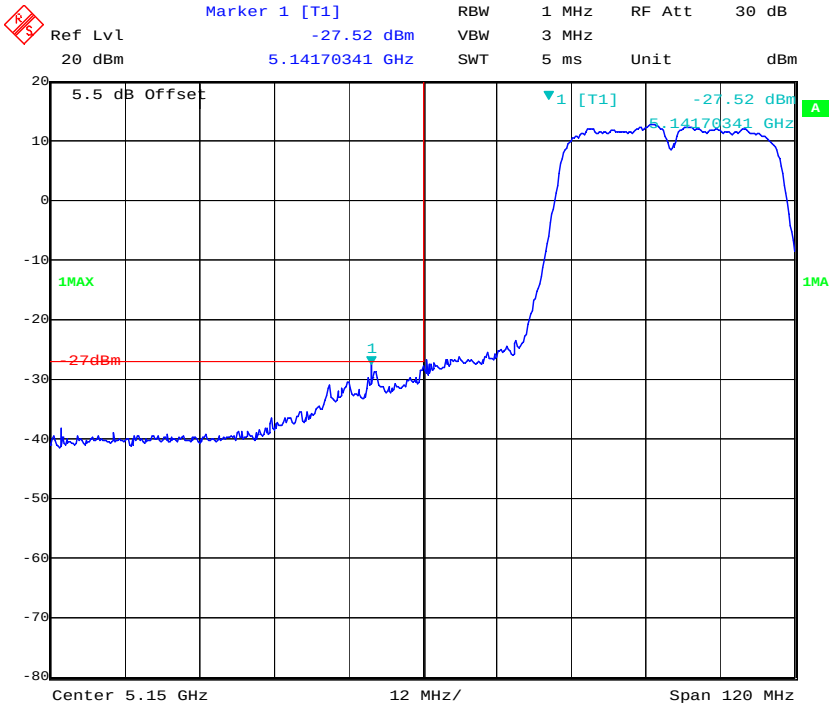

Date: 22.FEB.2017 16:17:11

## 802.11n ht20 High Channel



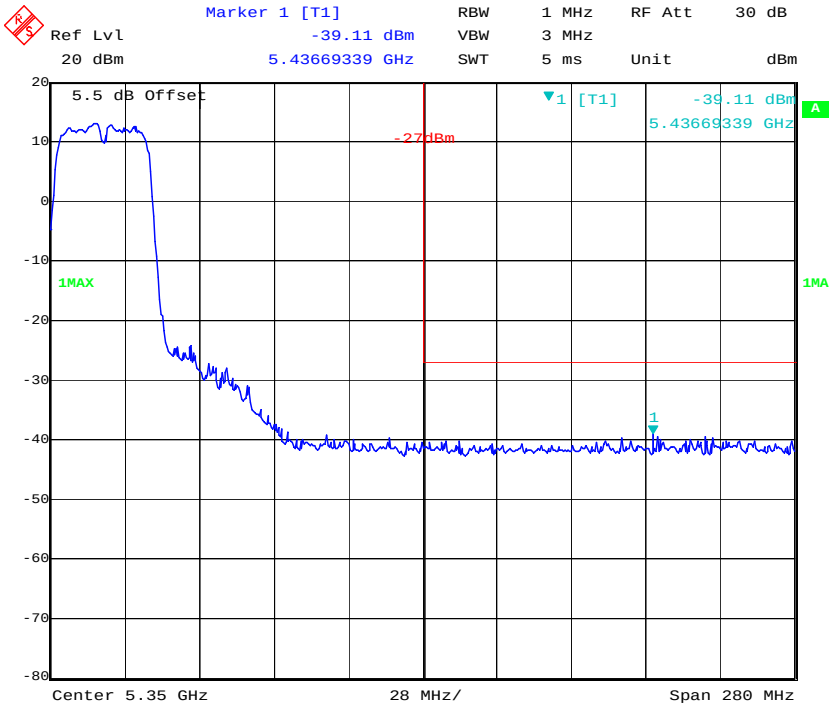

Date: 22.FEB.2017 16:24:18

## 802.11n ht40 Low Channel



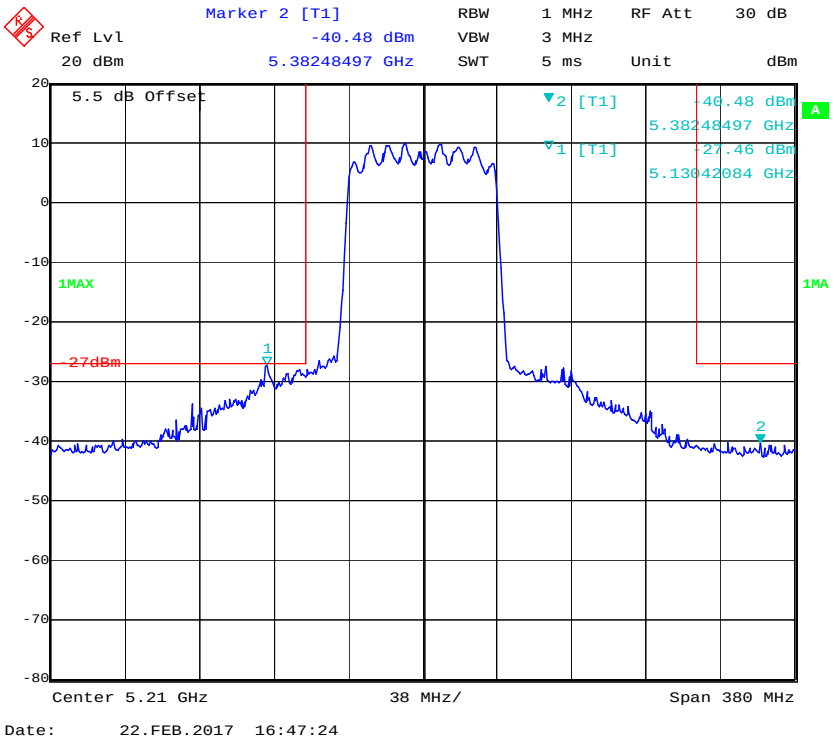

Date: 22.FEB.2017 16:33:58

## 8802.11n ht40 High Channel



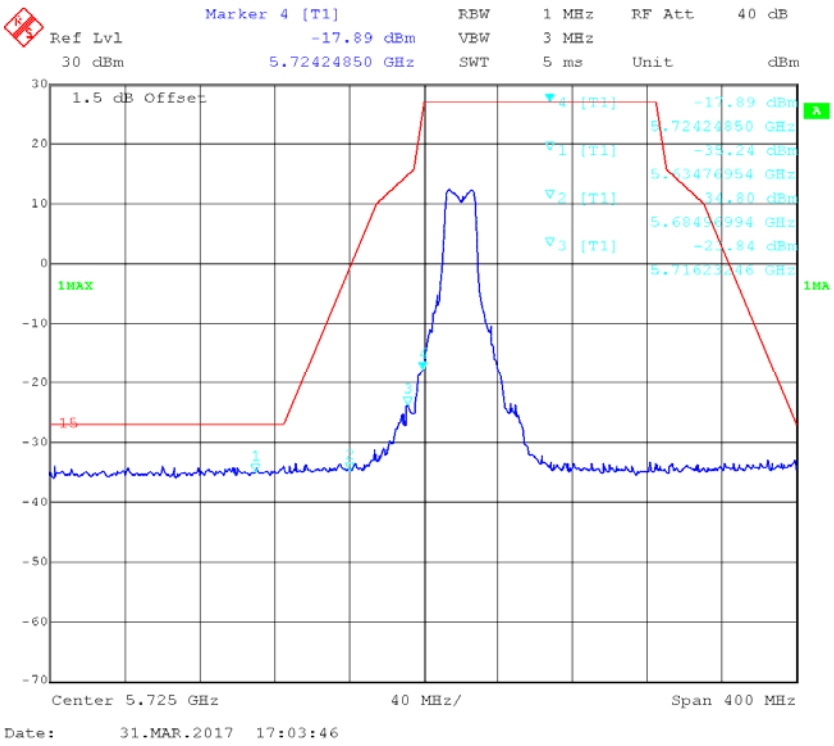

Date: 22.FEB.2017 16:38:54

## 802.11n ac80 Middle Channel

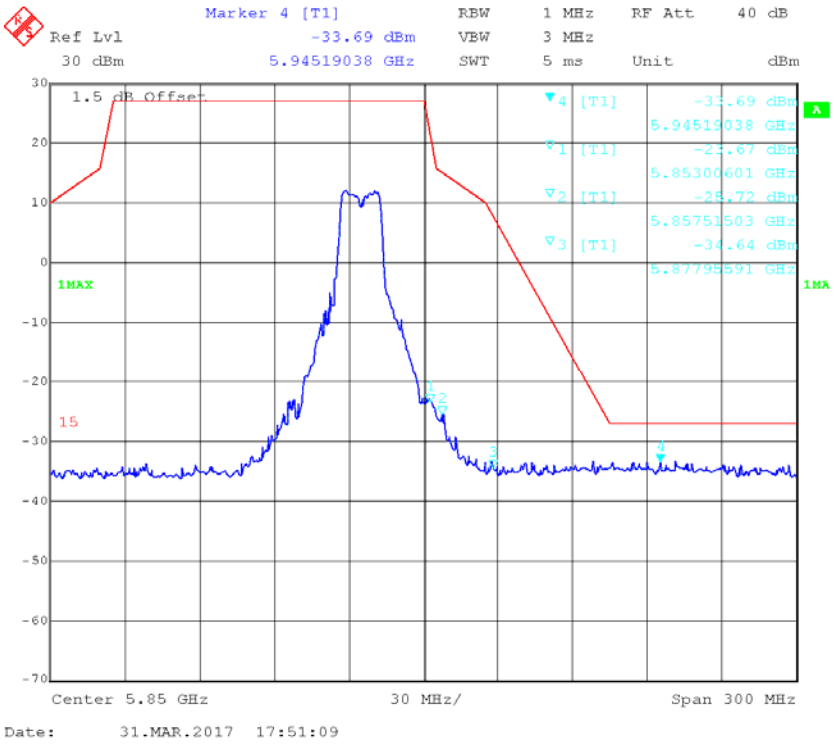


**5725-5850MHz**(all emissions under limit 4dB, so the EIRP meet the requirement)
Chain 0:

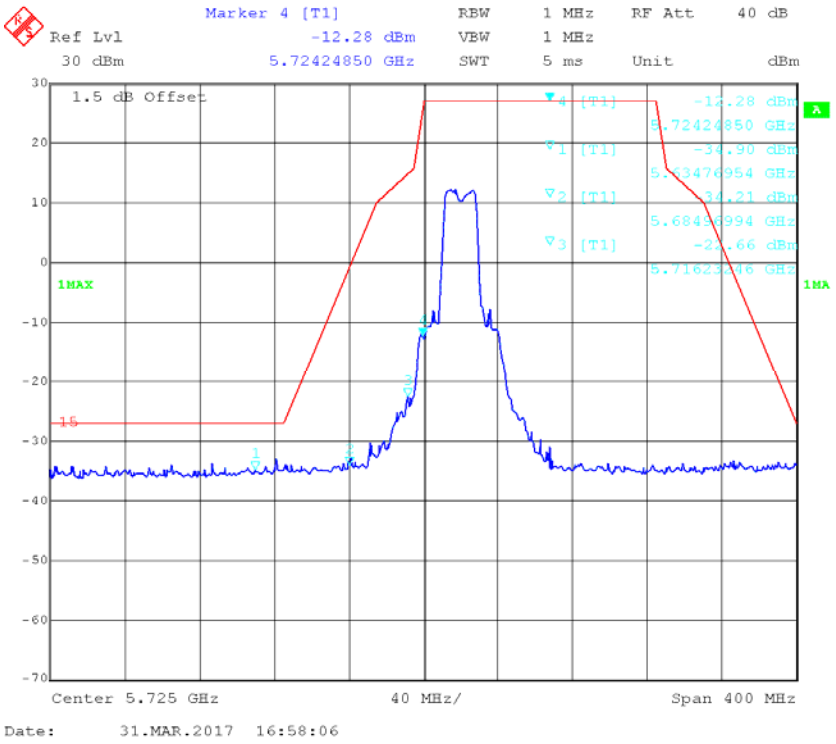
**802.11a Low Channel**



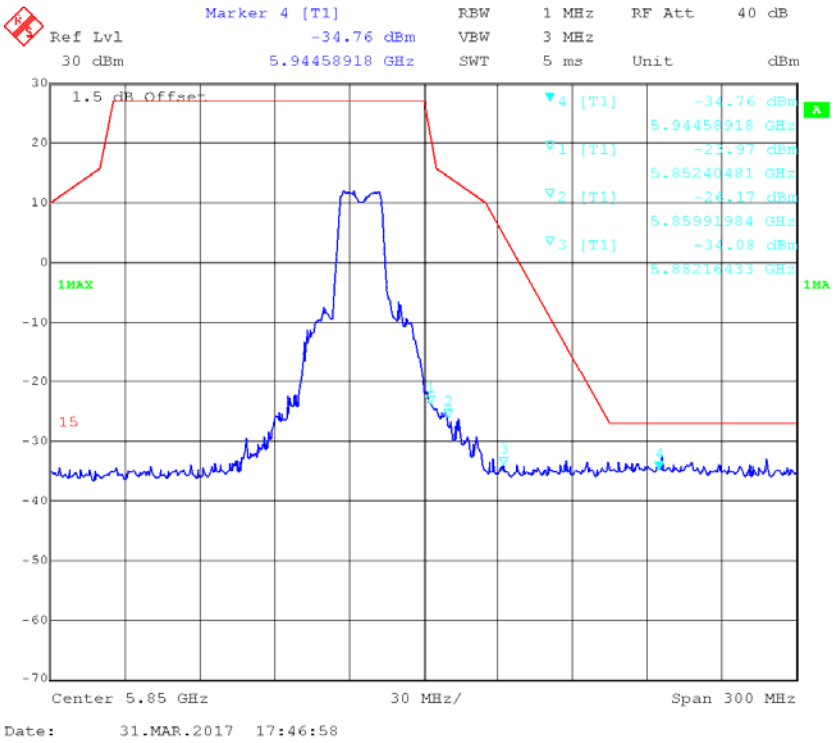

**802.11a High Channel**



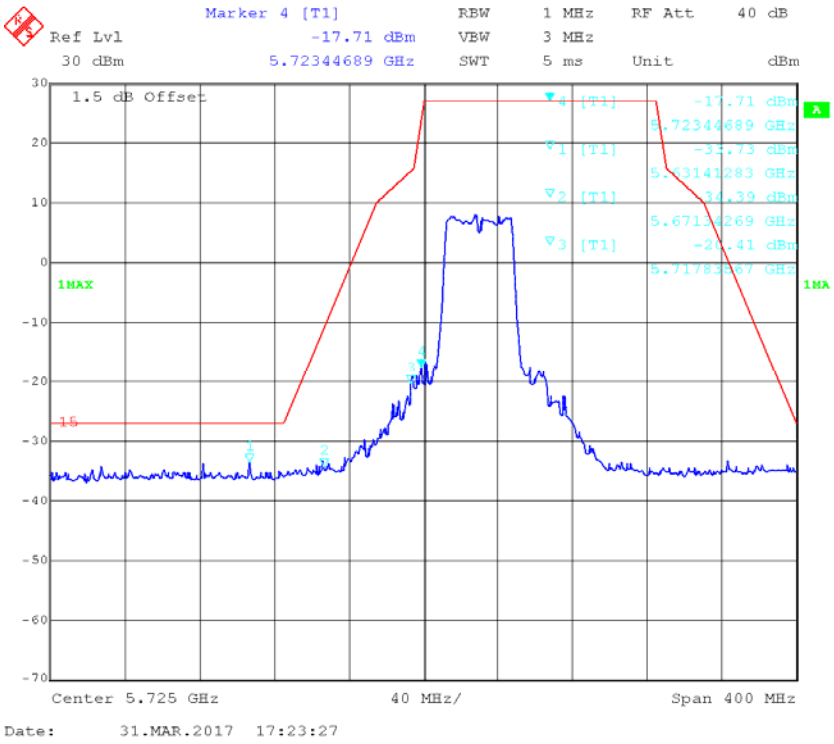
## 802.11n ht20 Low Channel



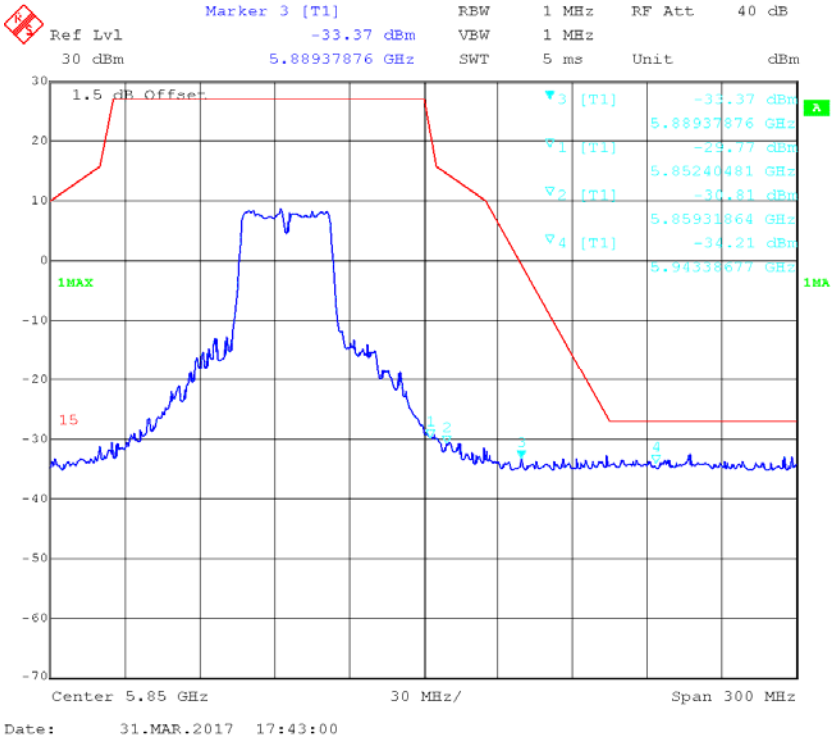

## 802.11n ht20 High Channel



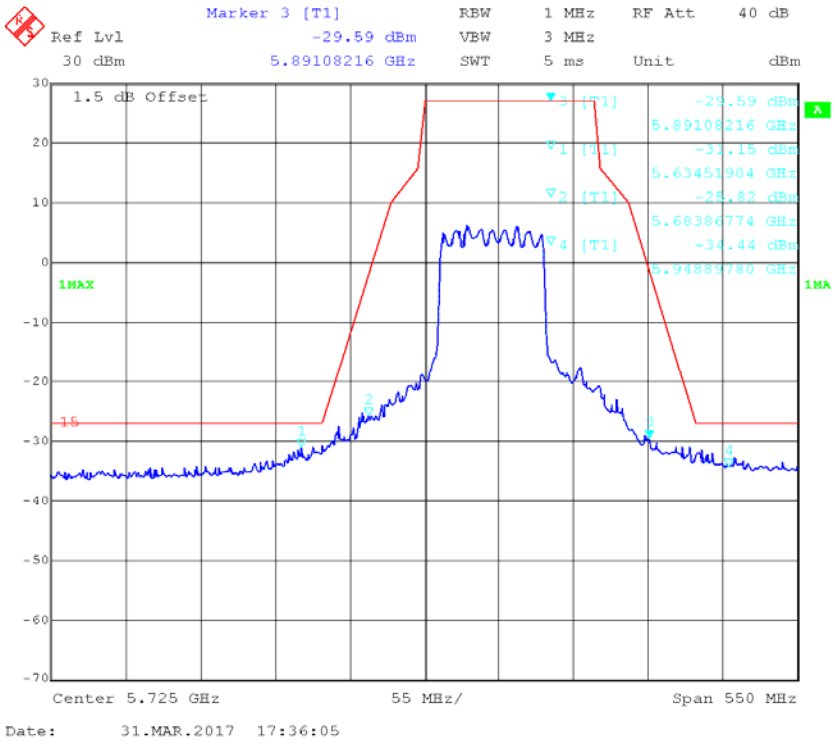
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel

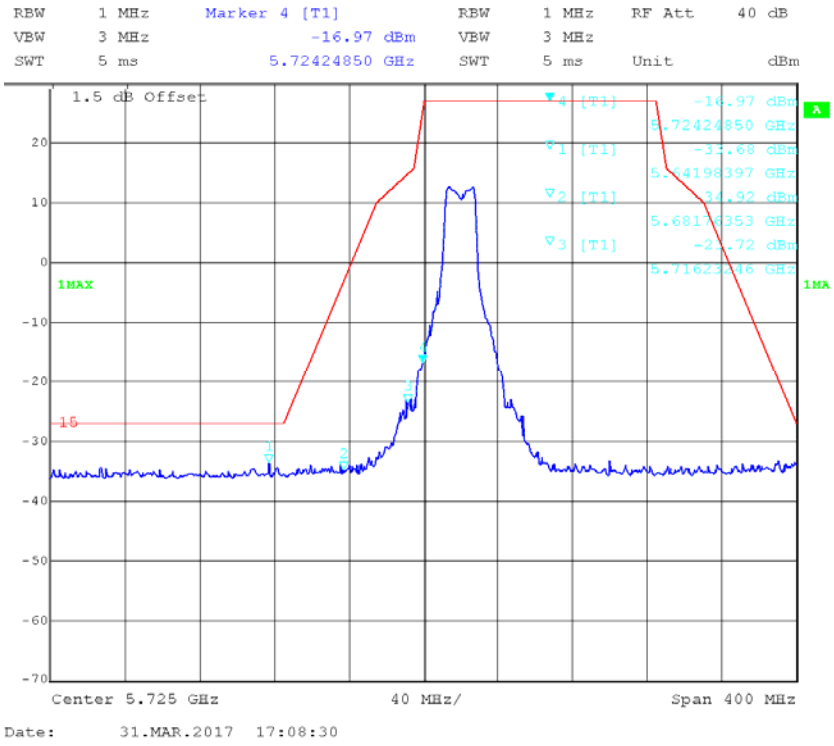


## 802.11 ac80 Low Channel

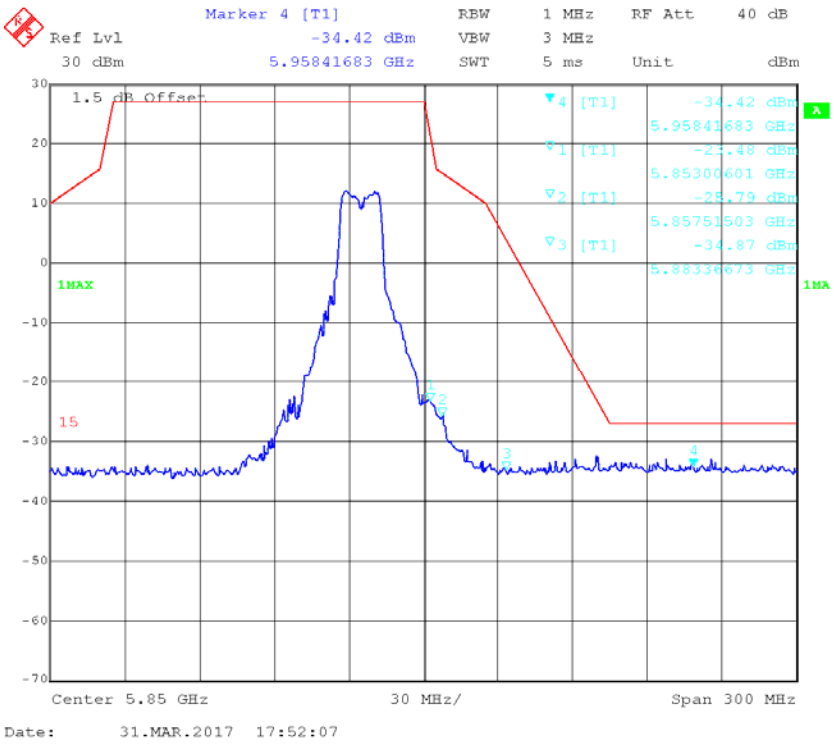


Chain 1:

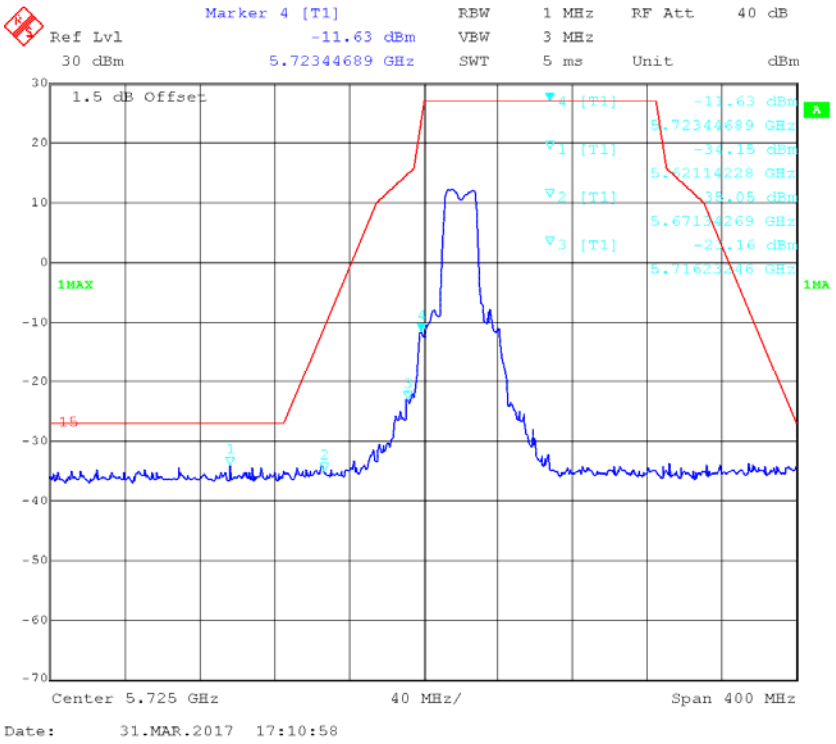
**802.11a Low Channel**



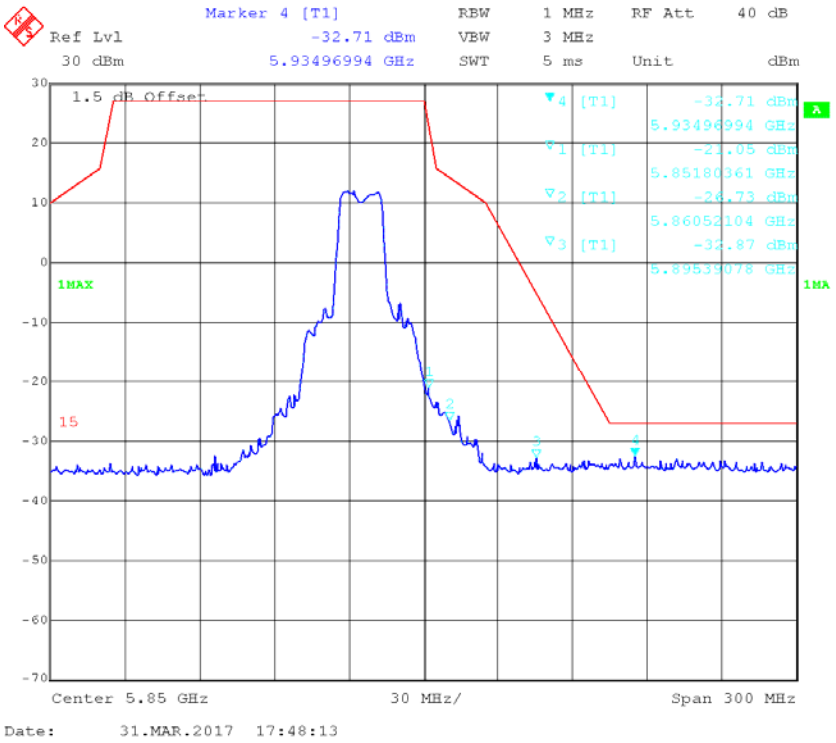

**802.11a High Channel**



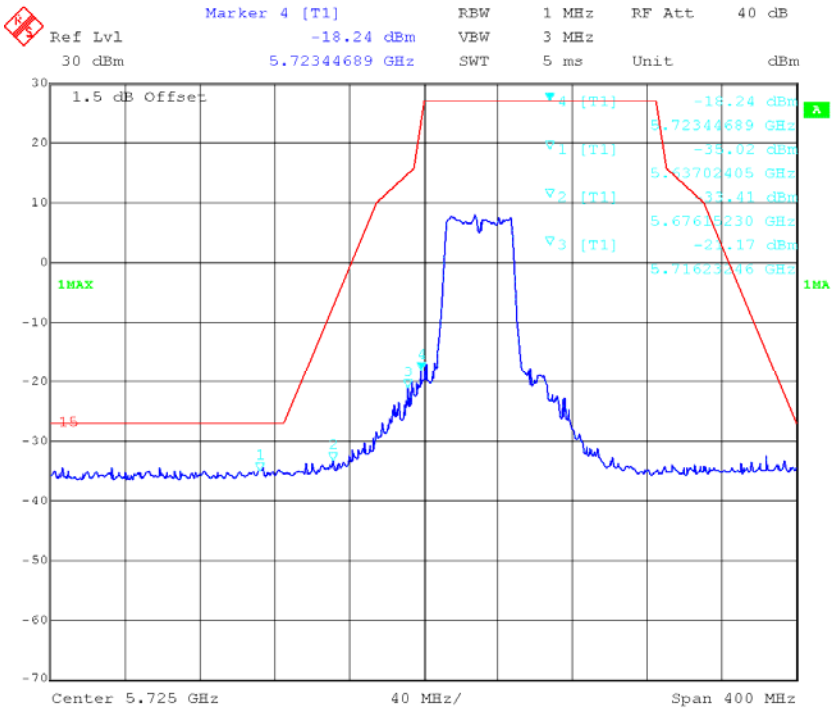
**802.11n ht20 Low Channel**



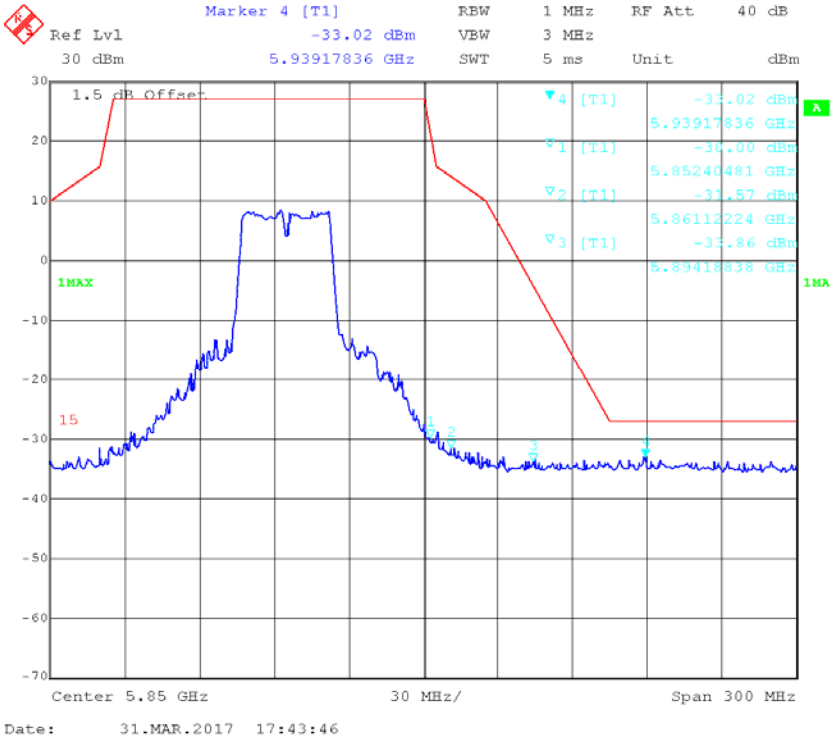

**802.11n ht20 High Channel**



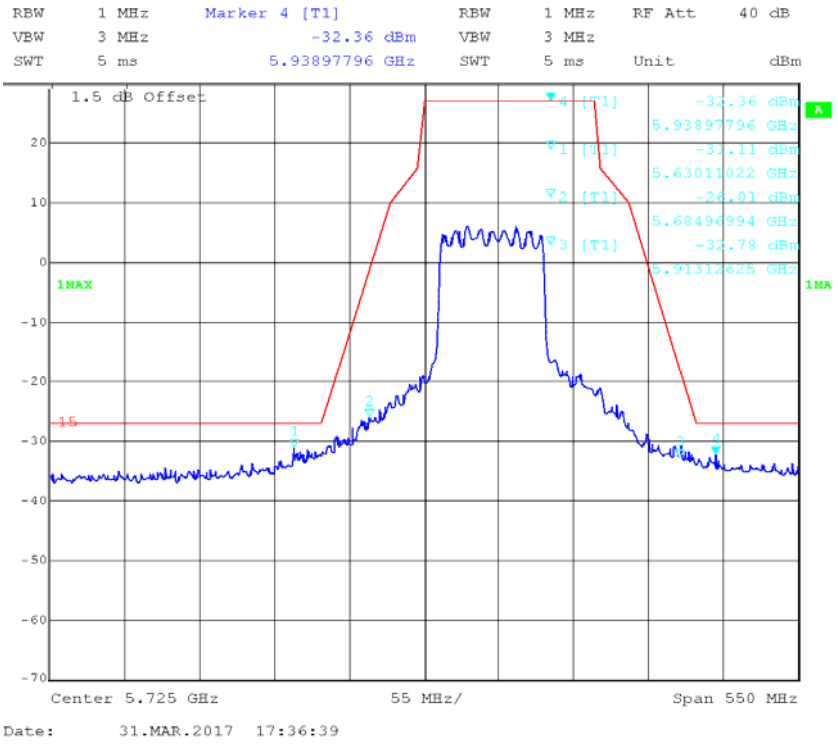
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel

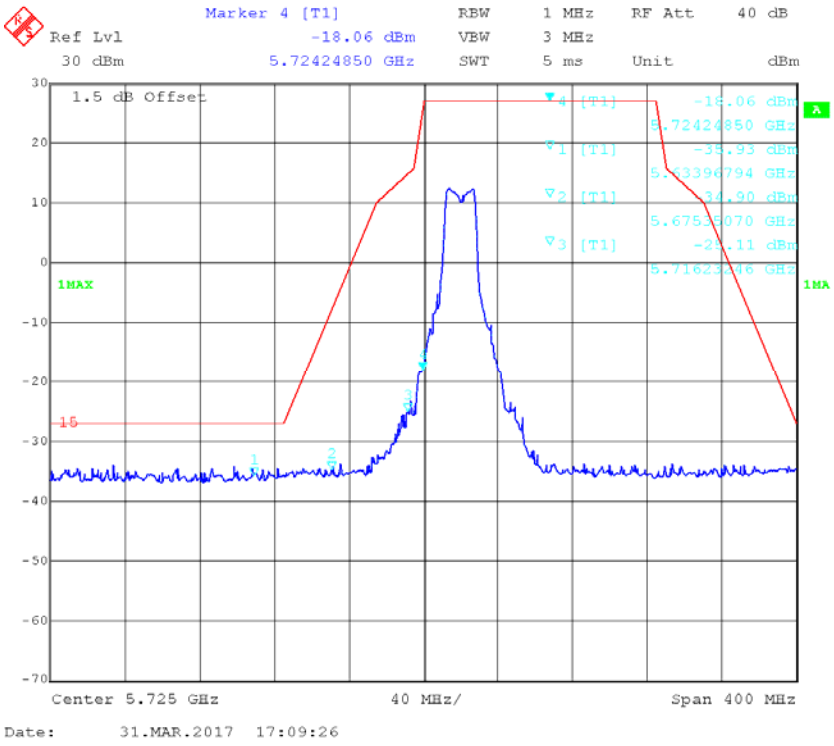


## 802.11 ac80 Low Channel

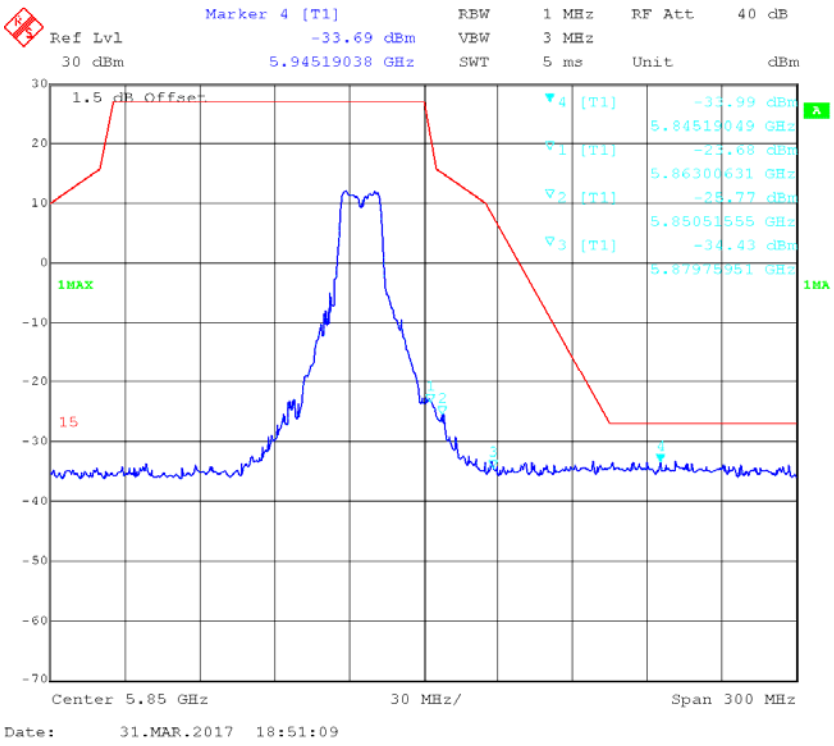


Chain 2:

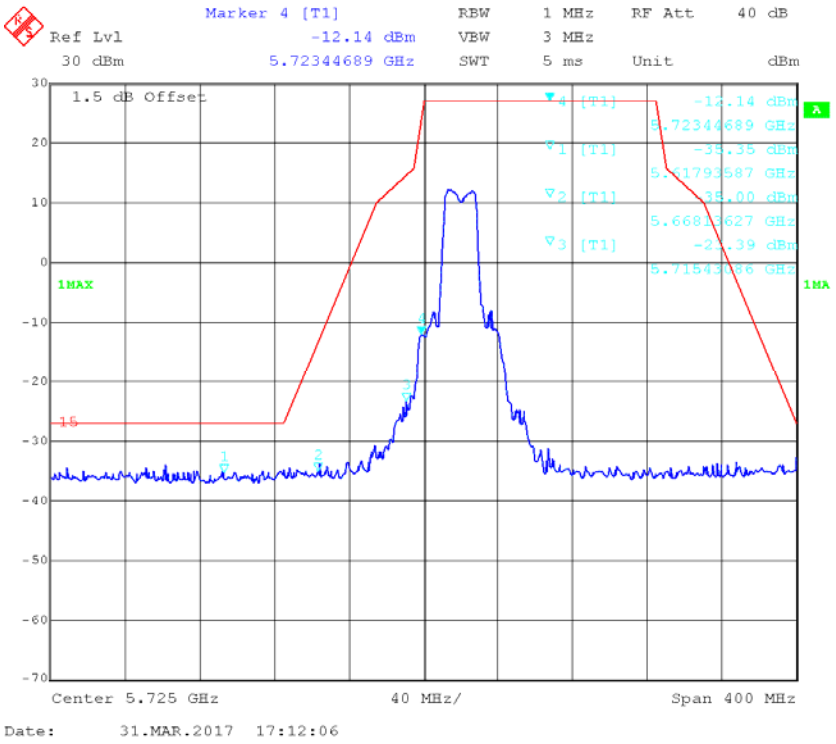
**802.11a Low Channel**



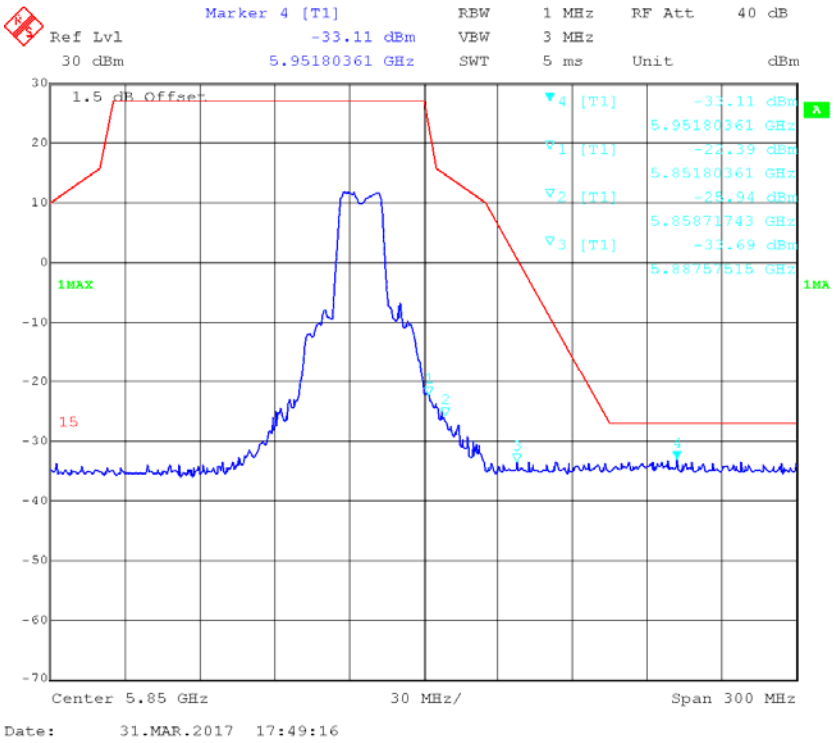

**802.11a High Channel**



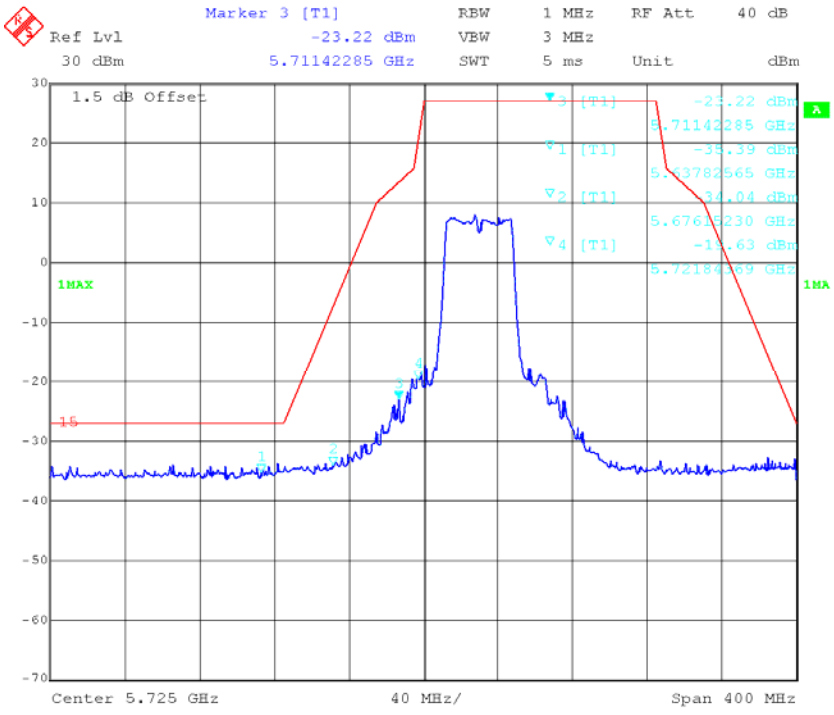
**802.11n ht20 Low Channel**



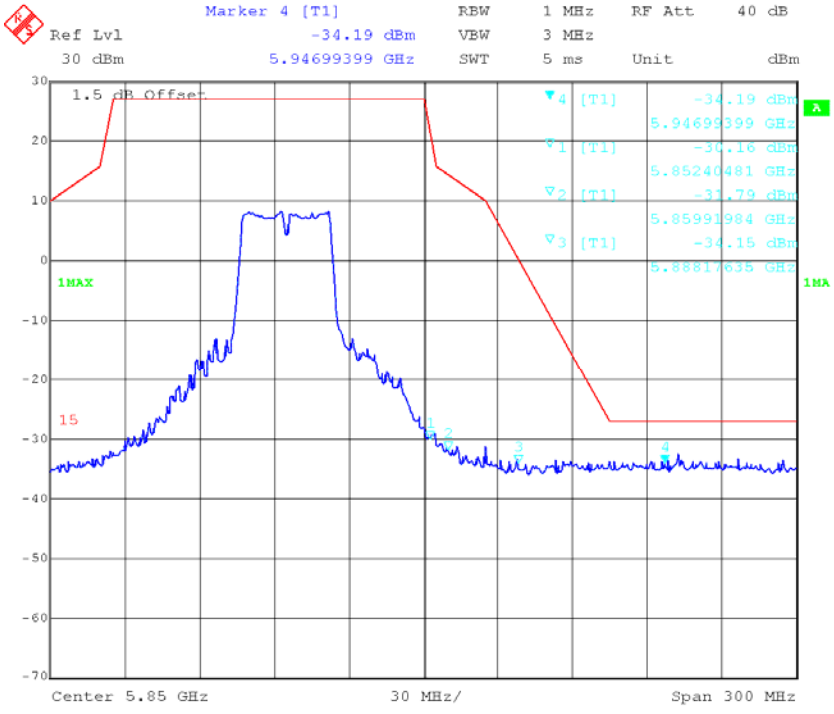

**802.11n ht20 High Channel**



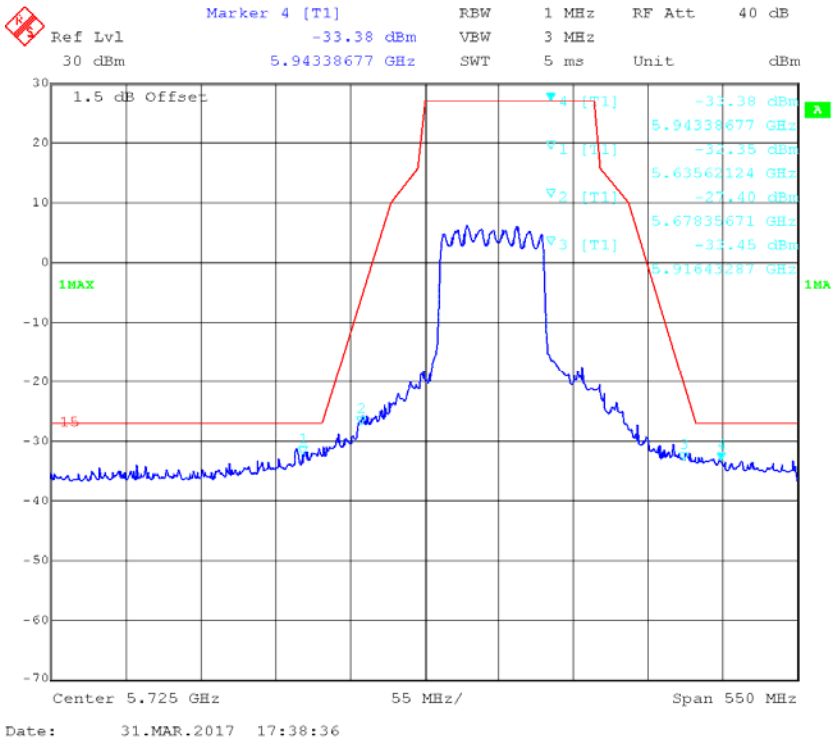
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel



**802.11 ac80 Low Channel**

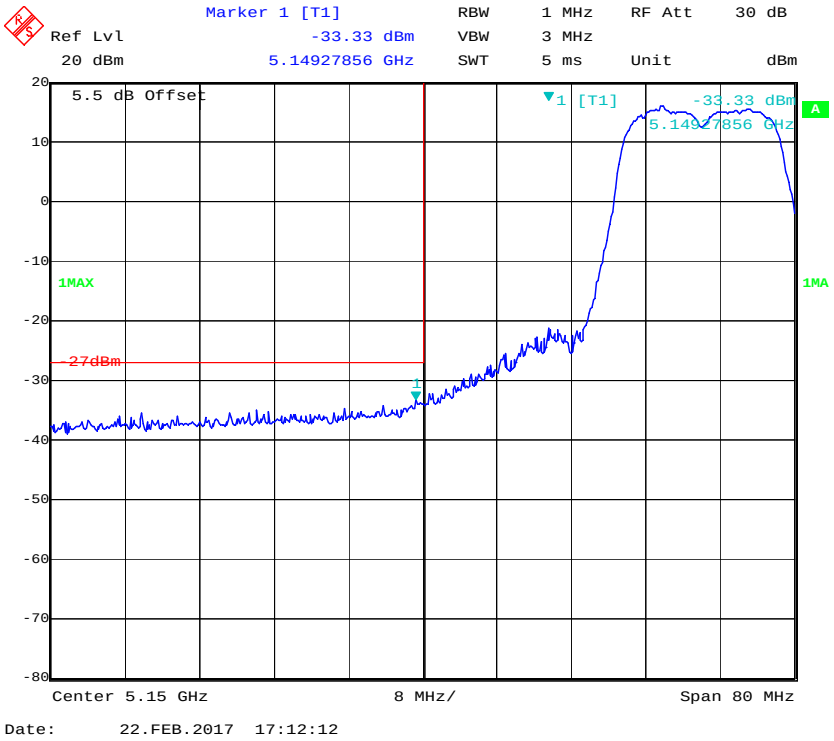


**2TX**

**5150-5250MHz**(the atenna gain was offset in the display, all emissions under limit 3dB, so combined results meet the requirement)

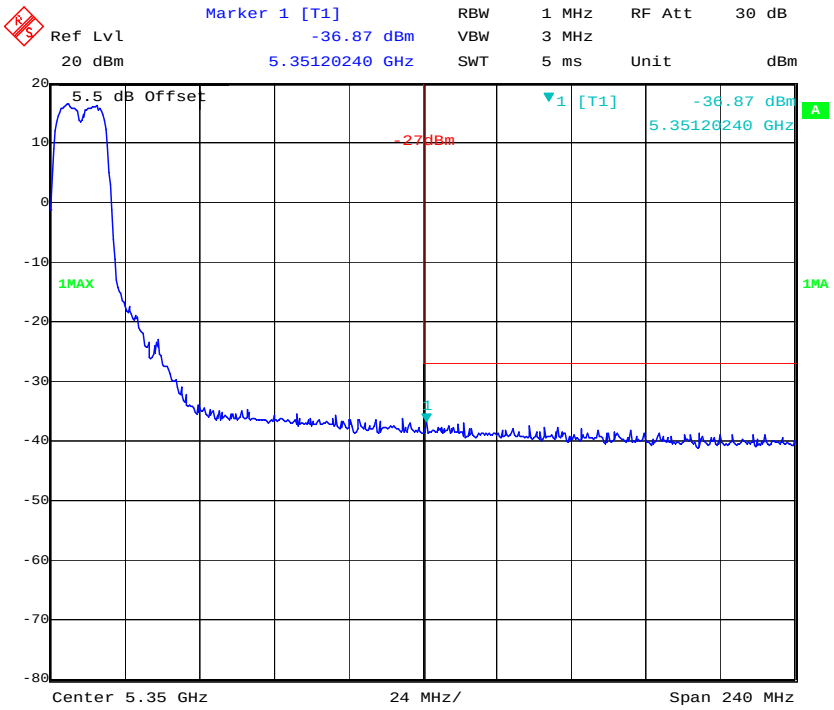
Chain 0:

**802.11n ht20 Low Channel**



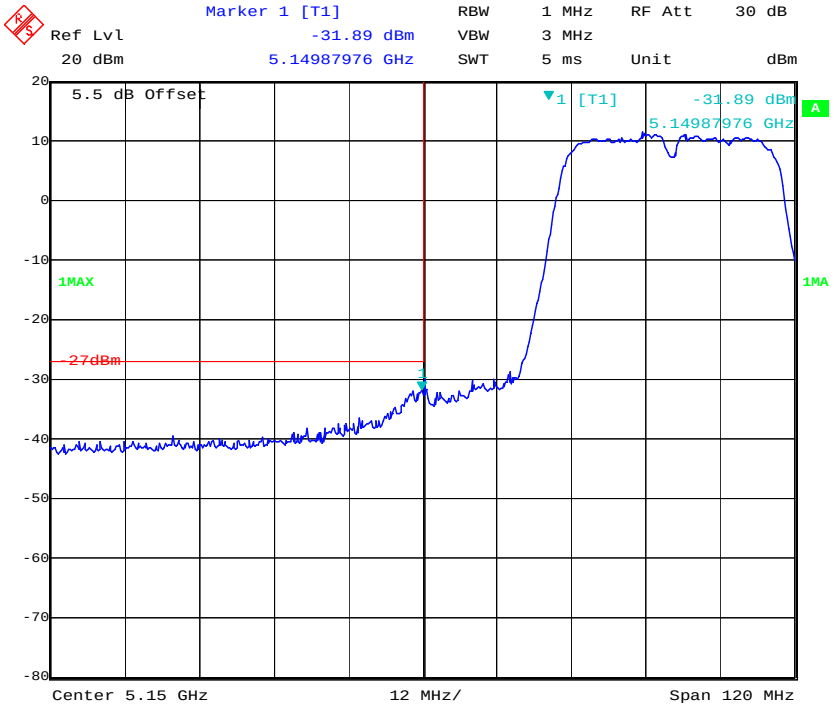

Date: 22.FEB.2017 17:12:12

**802.11n ht20 High Channel**



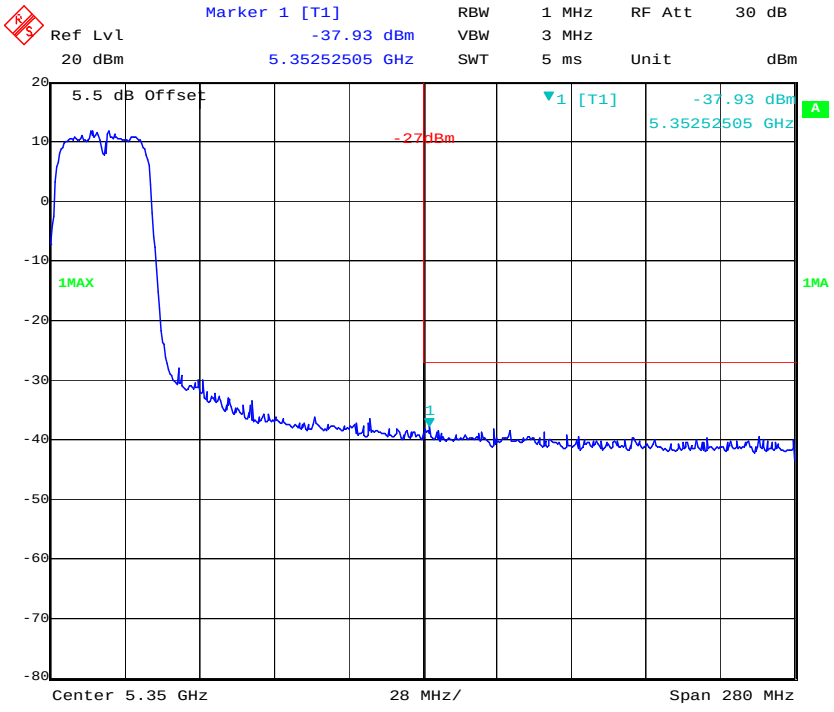

Date: 22.FEB.2017 17:20:27

## 802.11n ht40 Low Channel



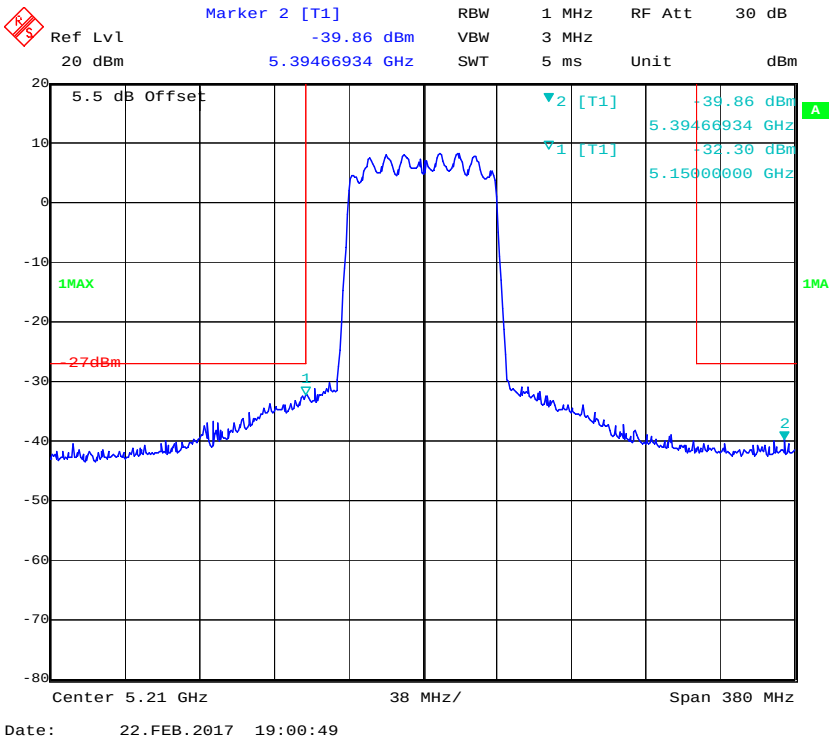

Date: 22.FEB.2017 18:56:50

## 8802.11n ht40 High Channel



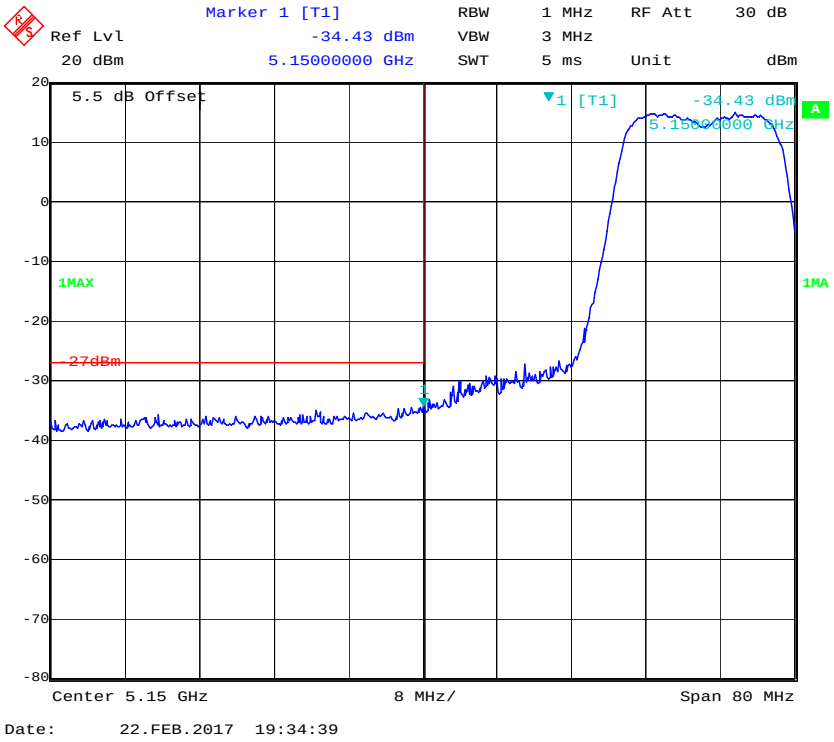

Date: 22.FEB.2017 18:08:12

## 802.11n ac80 Middle Channel



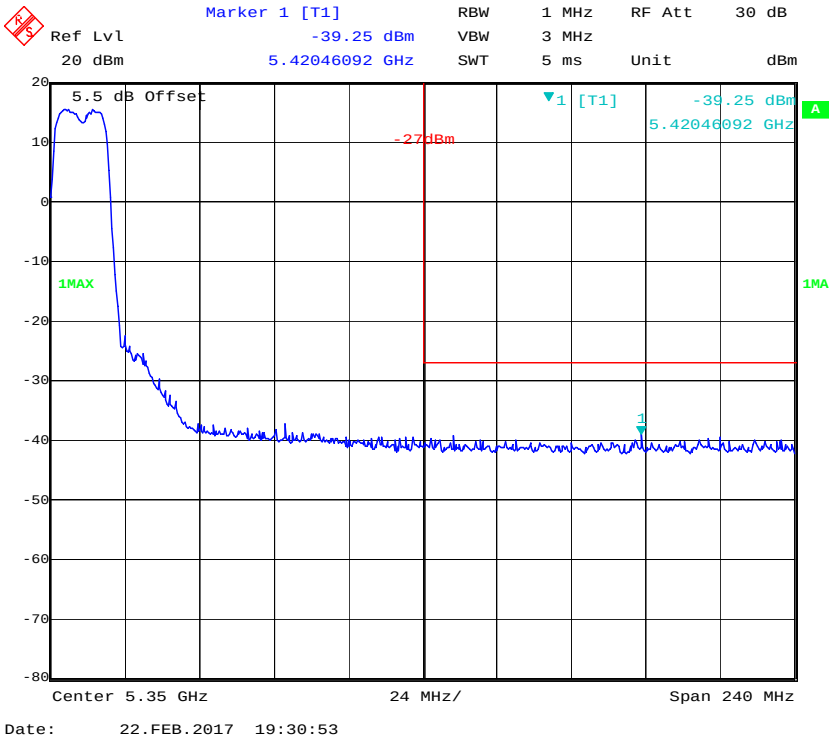
Chain 1:

**802.11n ht20 Low Channel**



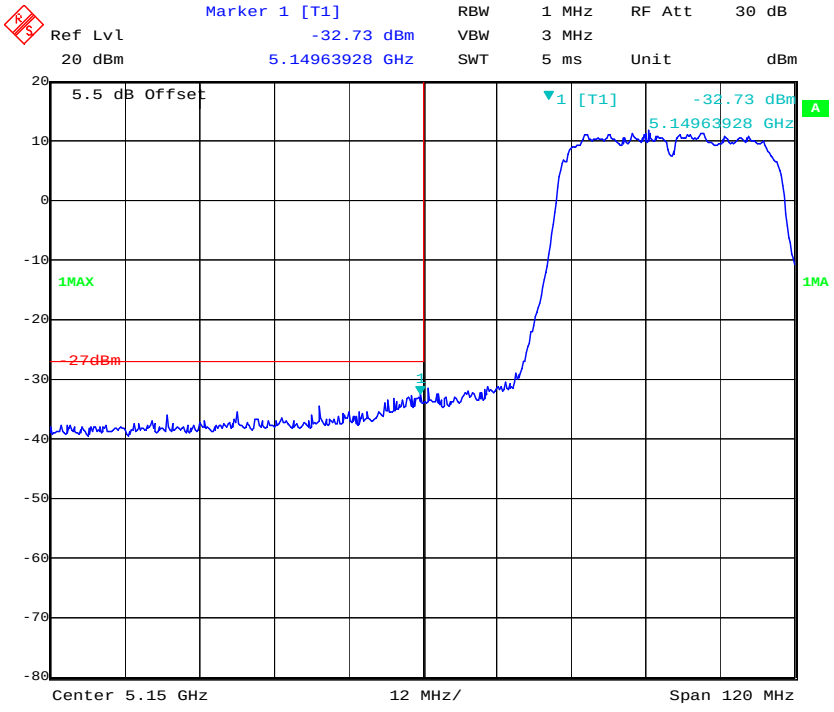

Date: 22.FEB.2017 19:34:39

**802.11n ht20 High Channel**



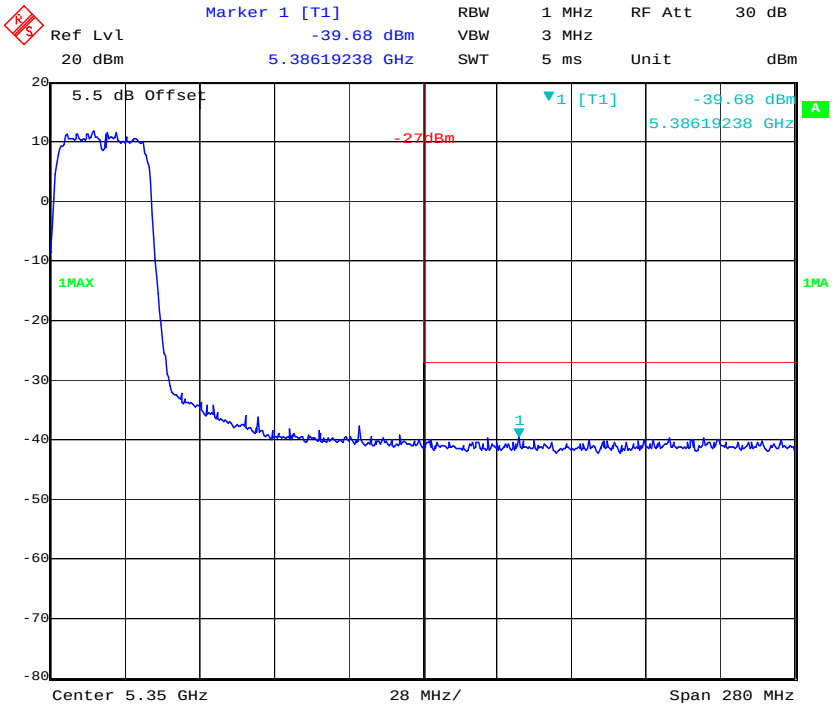

Date: 22.FEB.2017 19:30:53

## 802.11n ht40 Low Channel



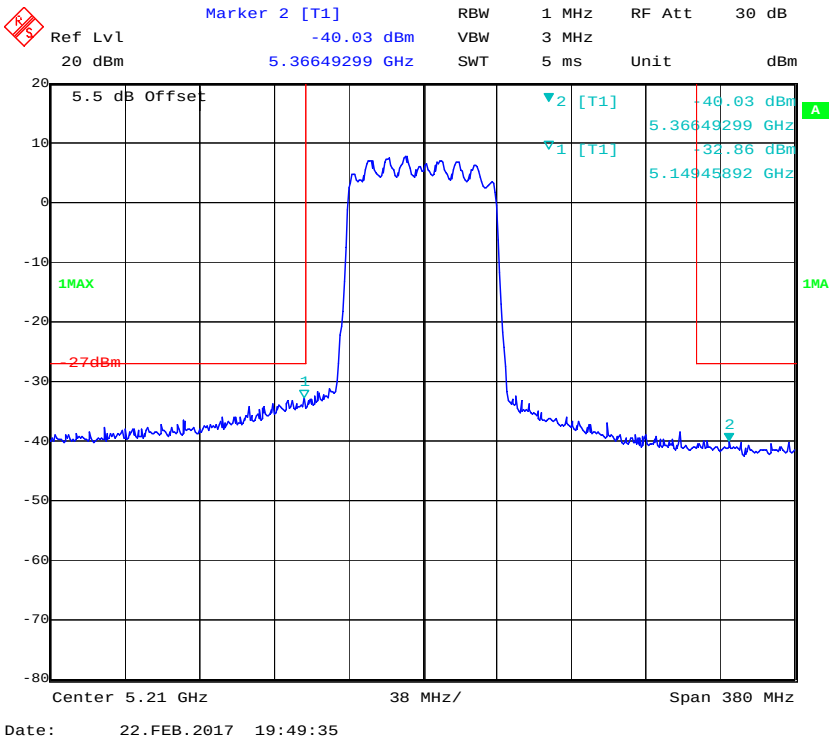

Date: 22.FEB.2017 19:41:05

## 8802.11n ht40 High Channel



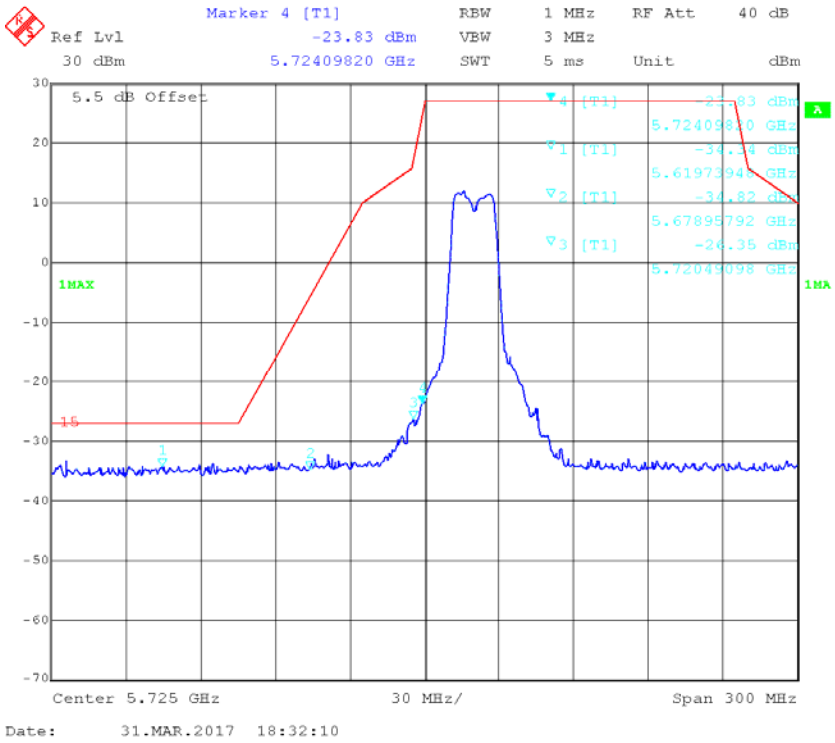

Date: 22.FEB.2017 19:45:51

## 802.11n ac80 Middle Channel

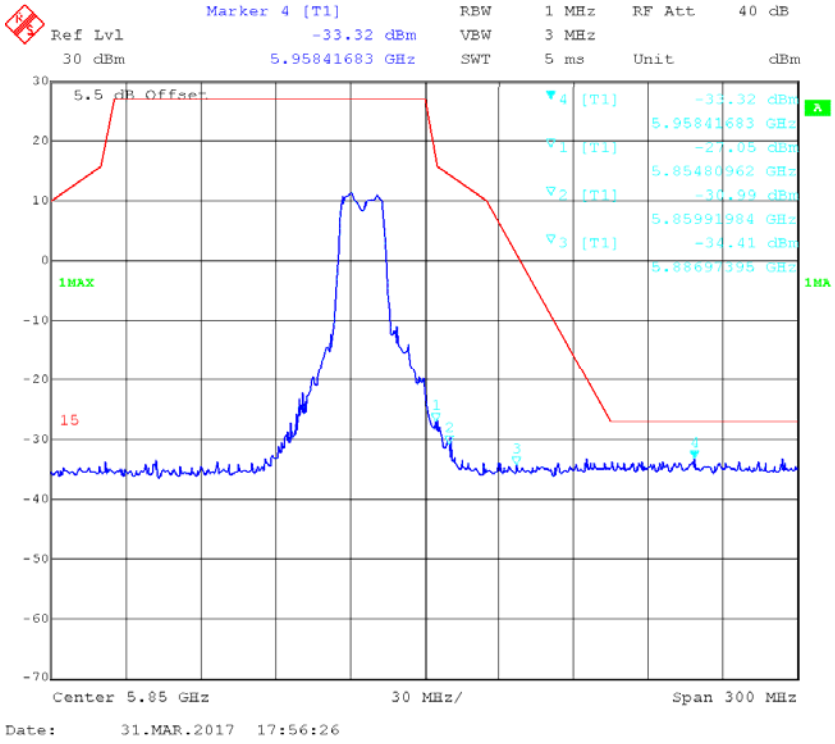


**5725-5850MHz**(the atenna gain was offset in the display, all emissions under limit 3dB, so combined results meet the requirement)
Chain 0:

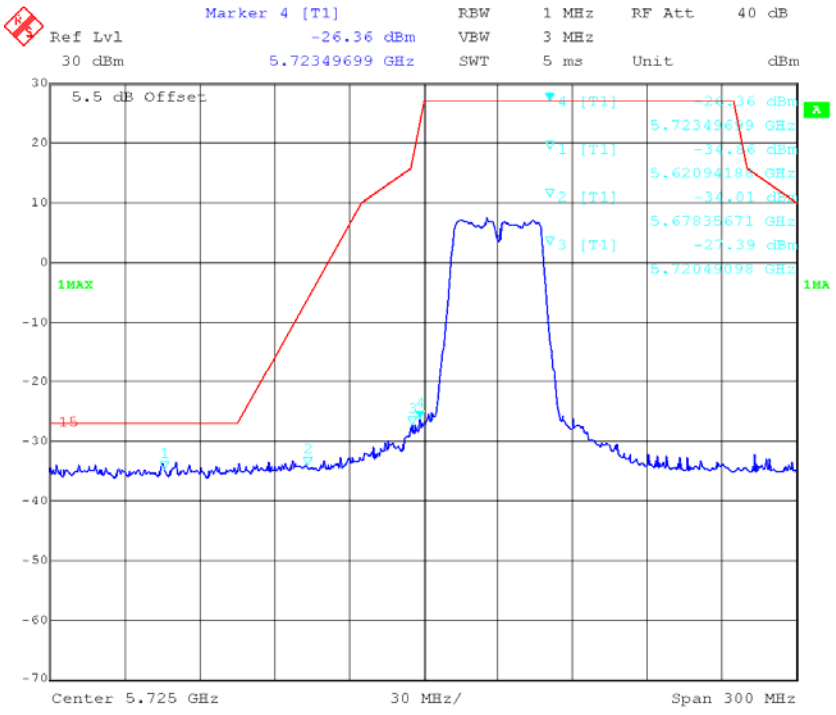
**802.11n ht20 Low Channel**



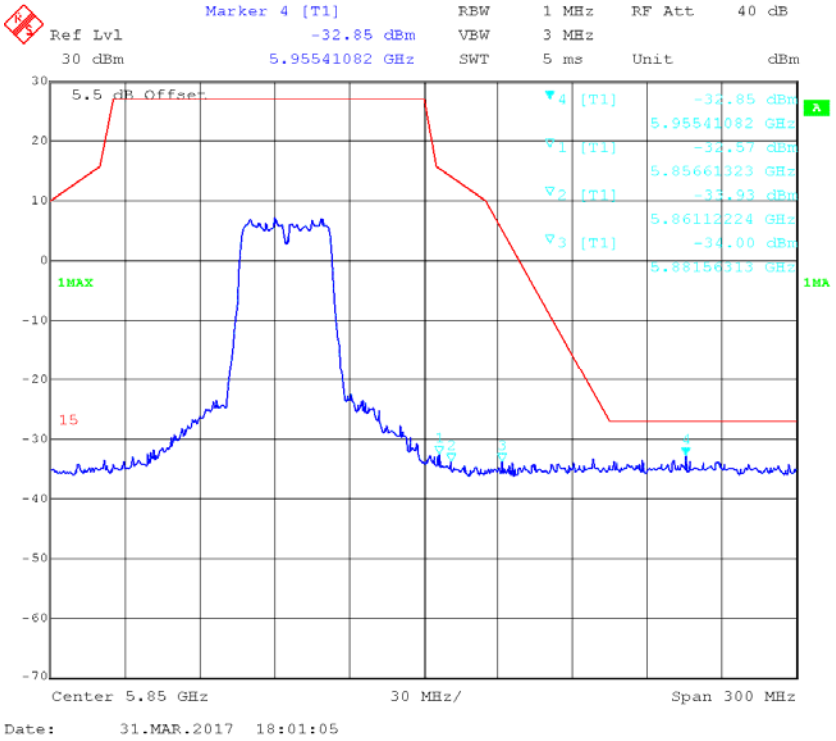

**802.11n ht20 High Channel**



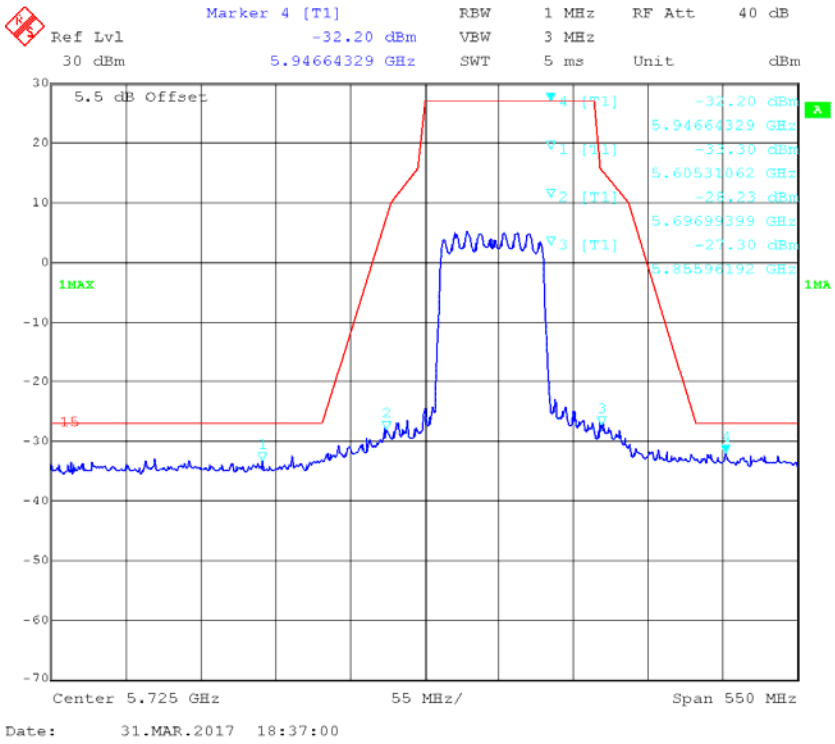
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel

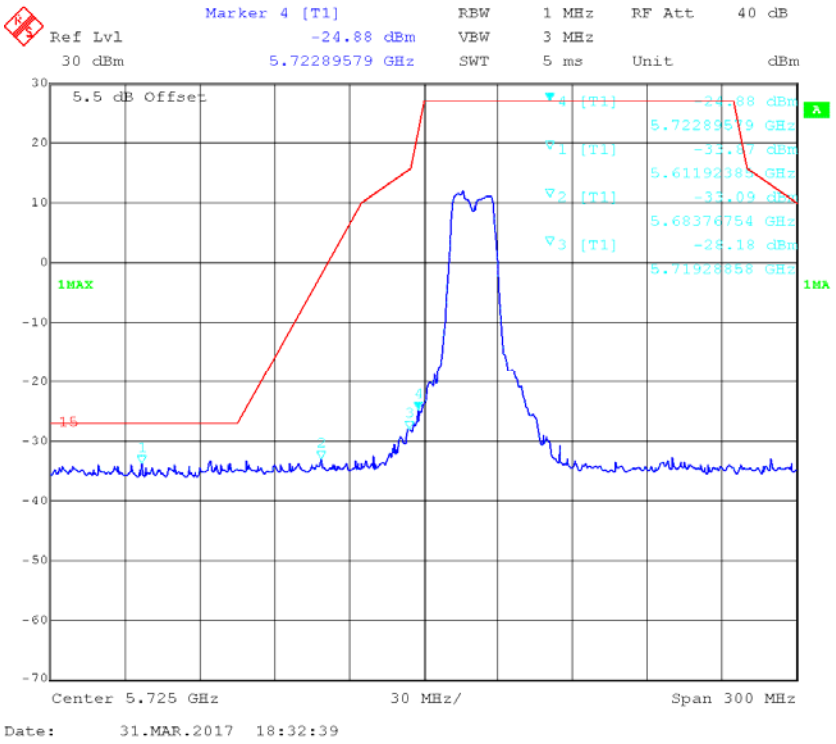


**802.11 ac80 Low Channel**

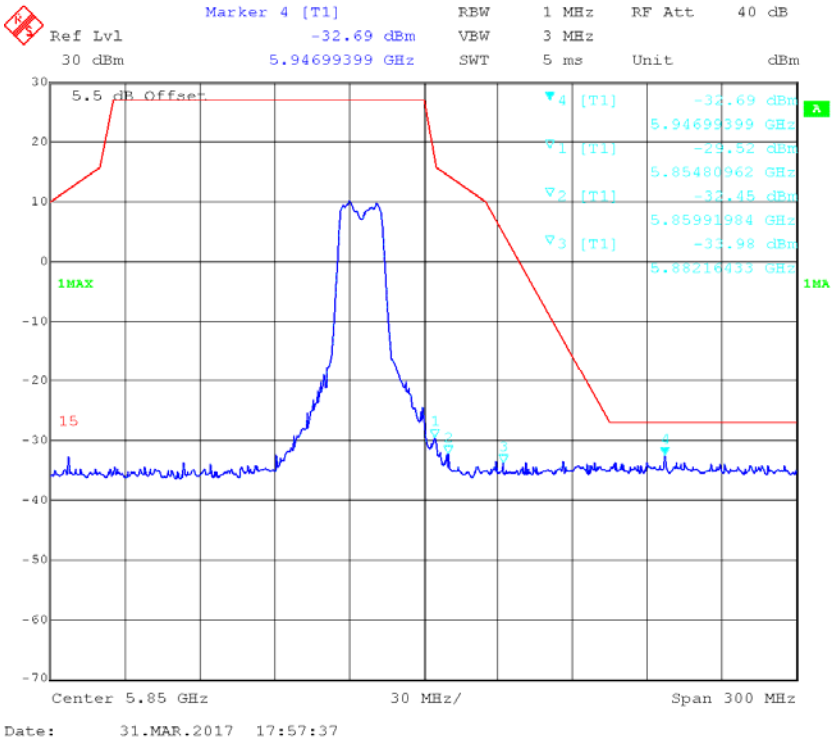


5725-5850MHz Chain 1:

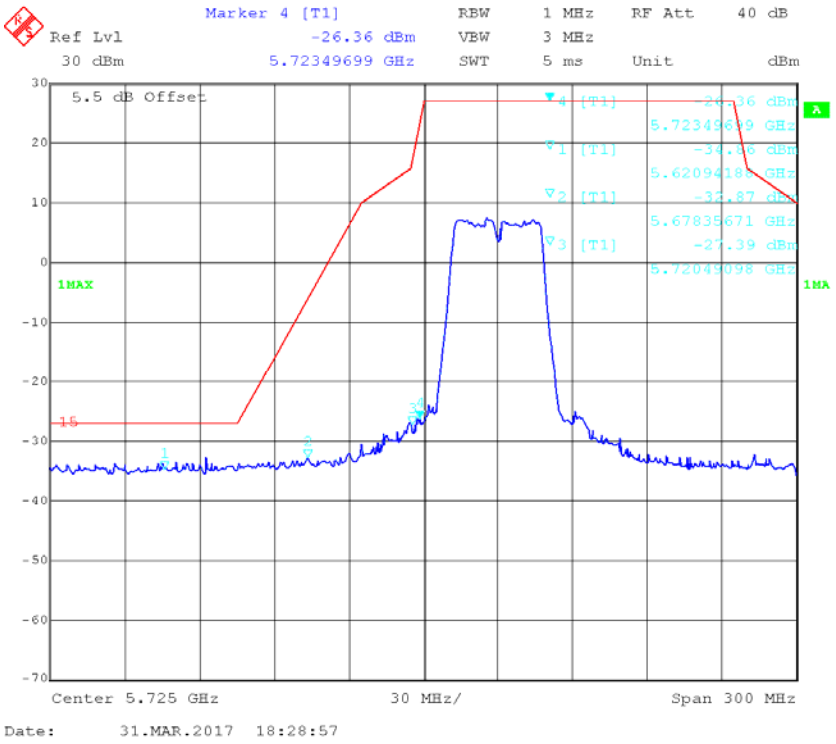
**802.11n ht20 Low Channel**



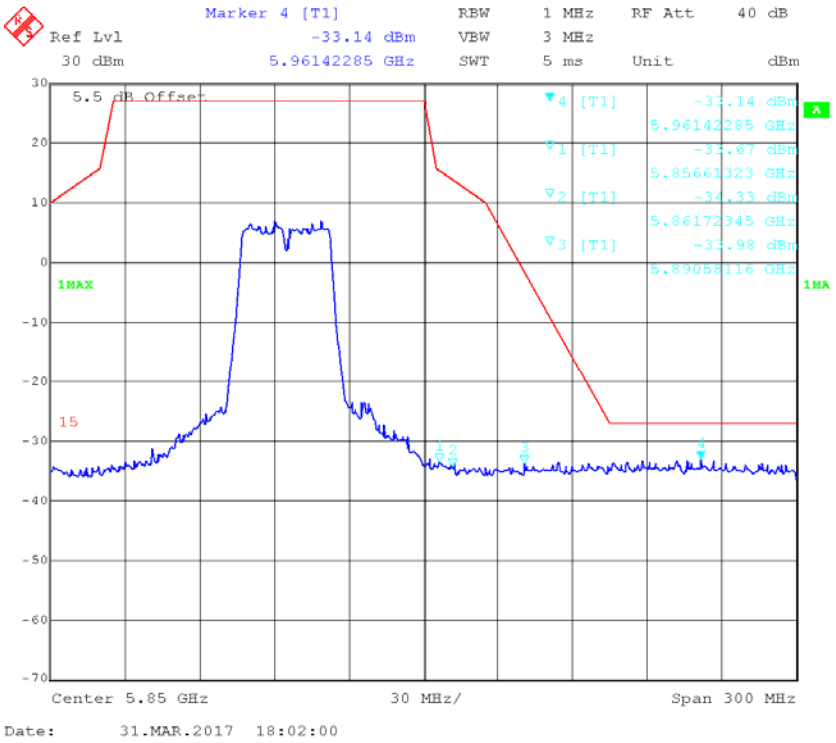

**802.11n ht20 High Channel**



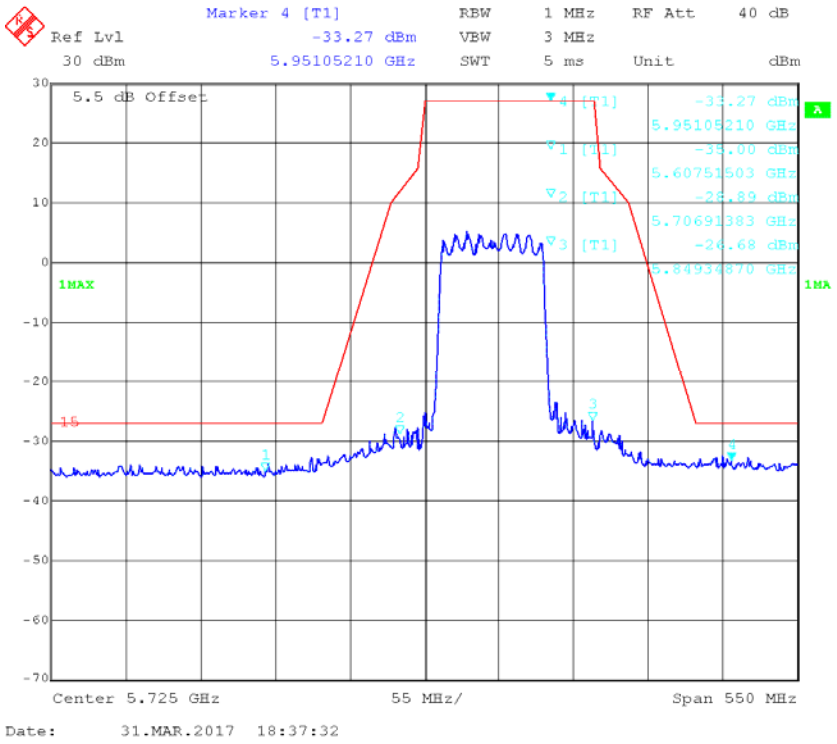
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel



## 802.11 ac80 Low Channel

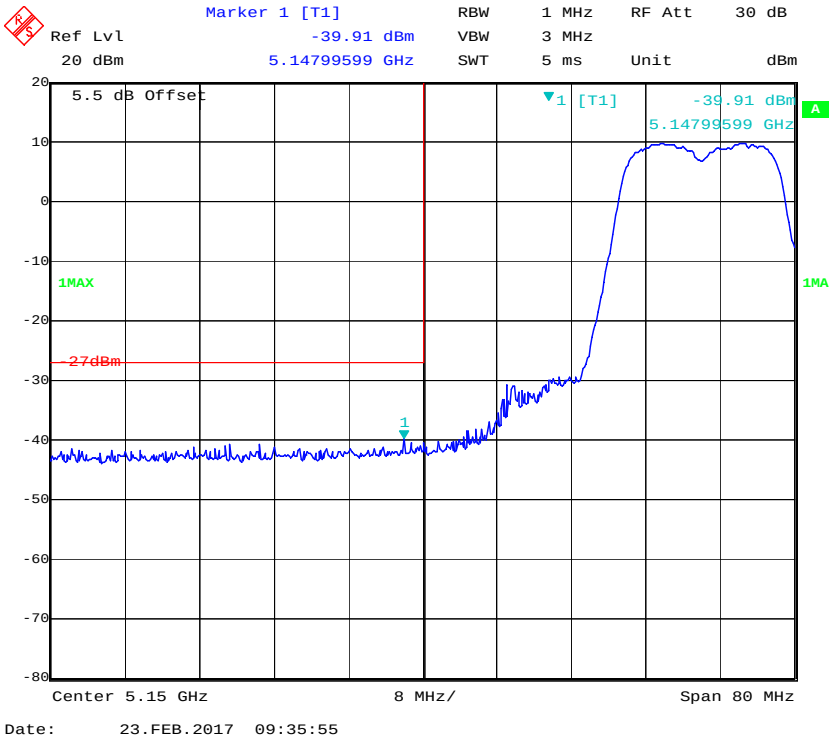


**3TX**

**5150-5250MHz**(the atenna gain was offset in the display, all emissions under limits 4.77dB, so combined results meet the EIRP results)

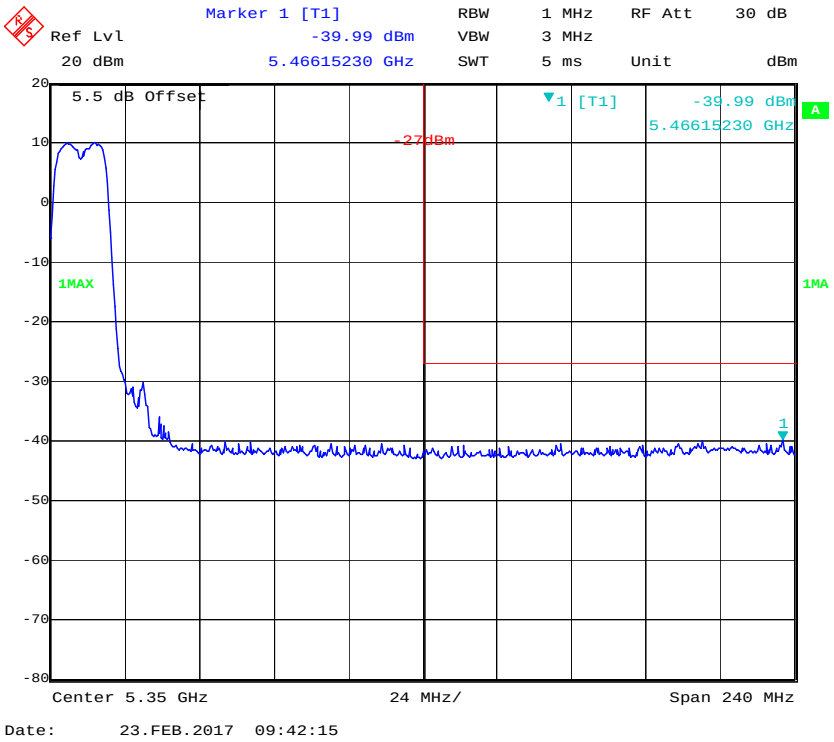
Chain 0:

**802.11n ht20 Low Channel**



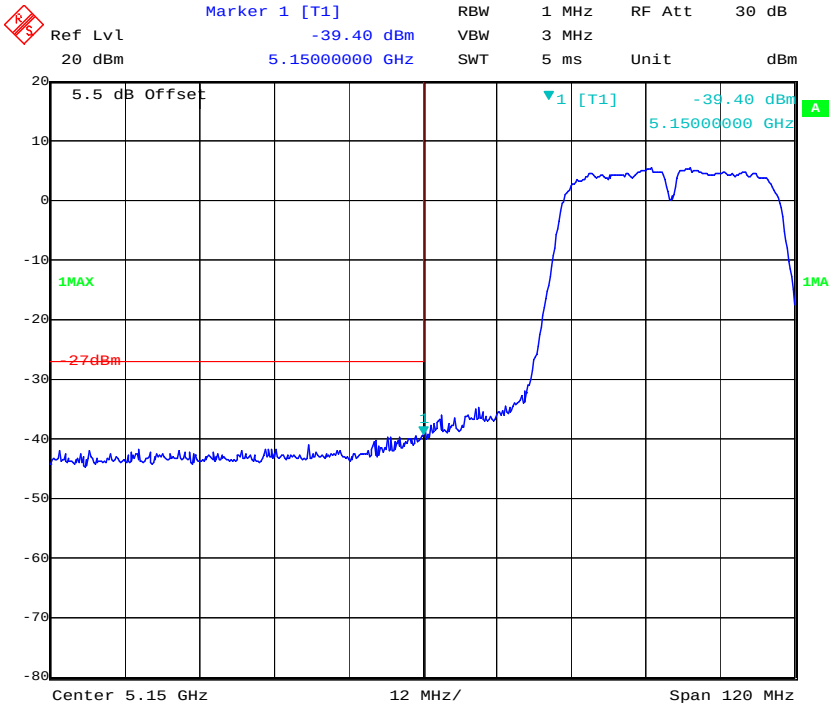

Date: 23.FEB.2017 09:35:55

**802.11n ht20 High Channel**



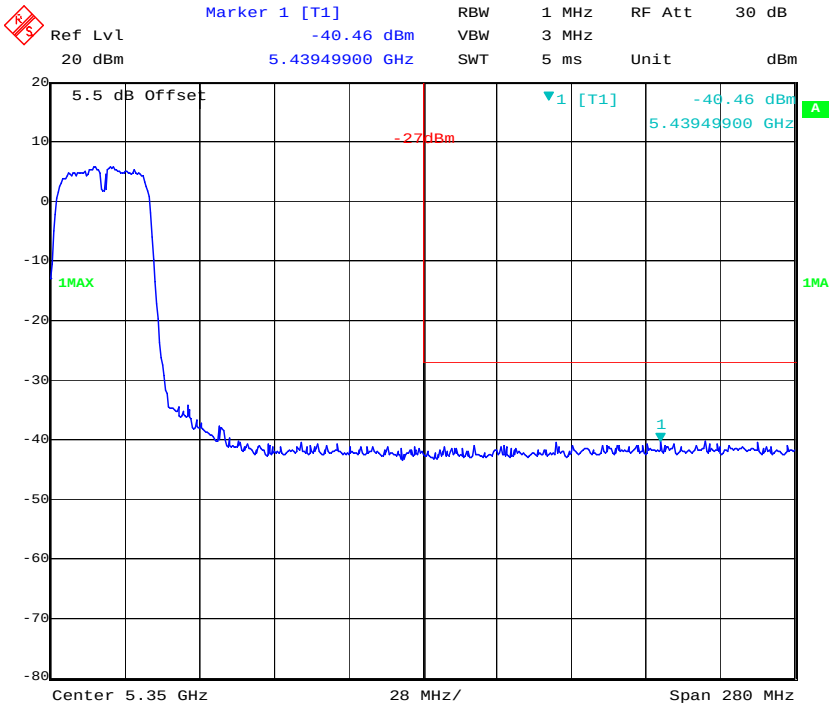

Date: 23.FEB.2017 09:42:15

## 802.11n ht40 Low Channel



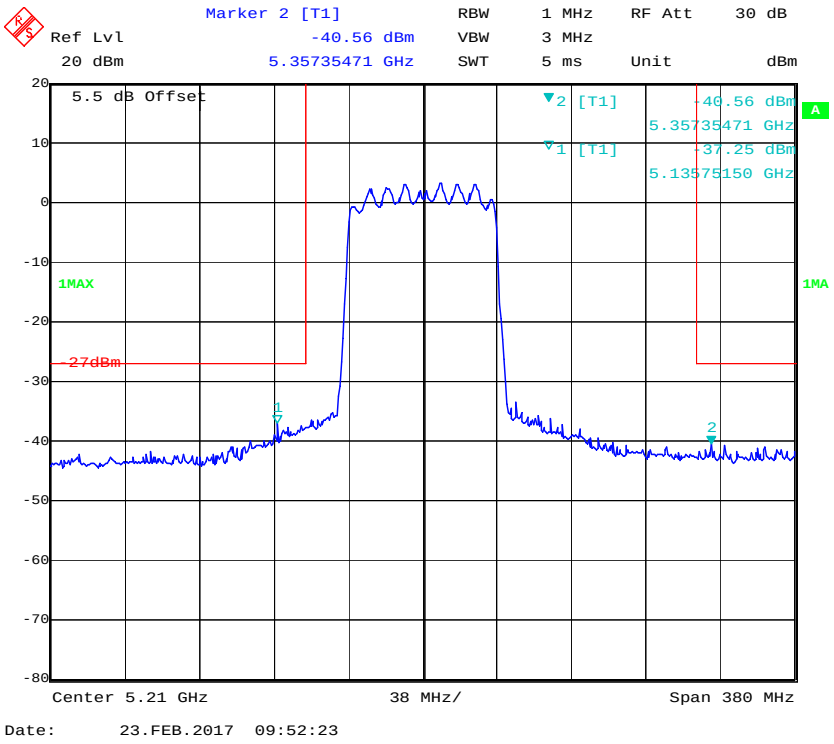

Date: 23.FEB.2017 09:46:15

## 8802.11n ht40 High Channel



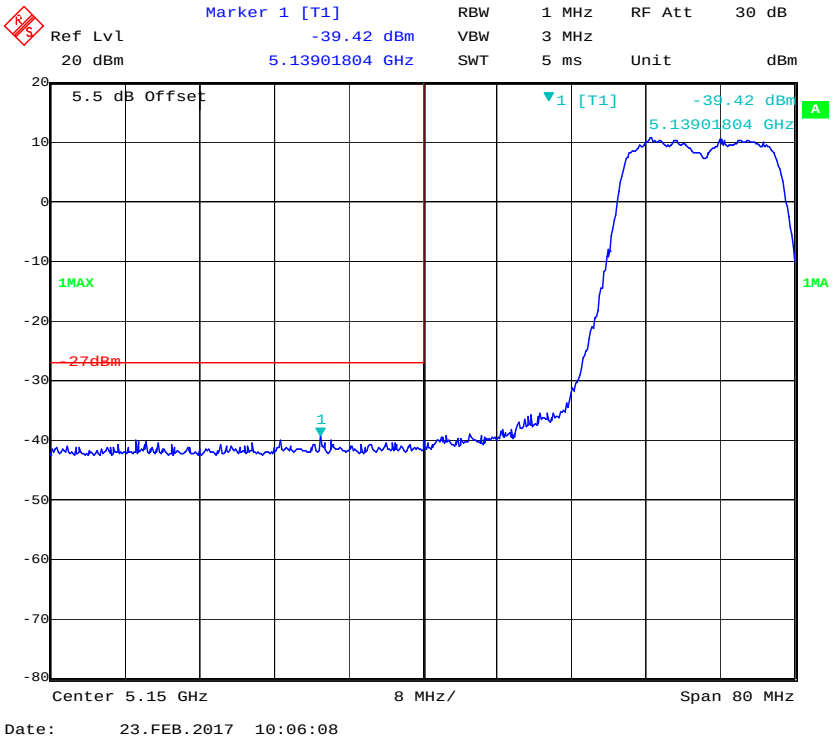

Date: 23.FEB.2017 09:49:11

## 802.11n ac80 Middle Channel



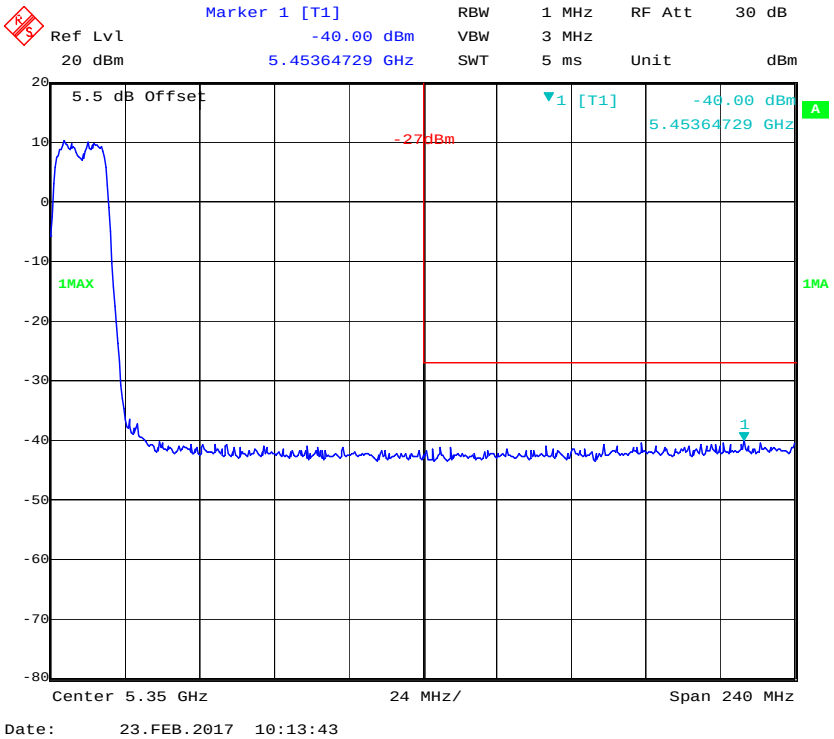
Chain 1:

**802.11n ht20 Low Channel**



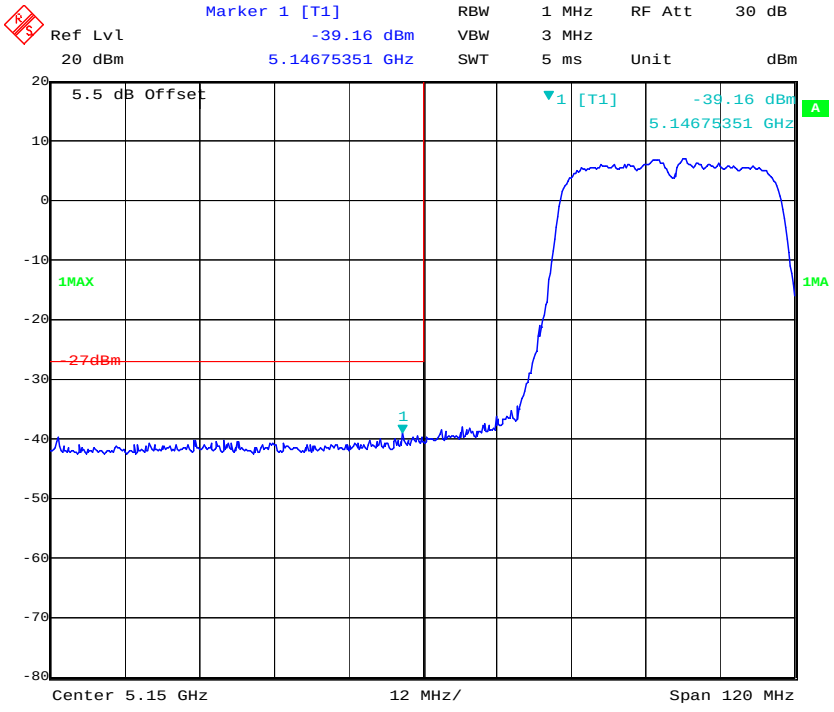

Date: 23.FEB.2017 10:06:08

**802.11n ht20 High Channel**



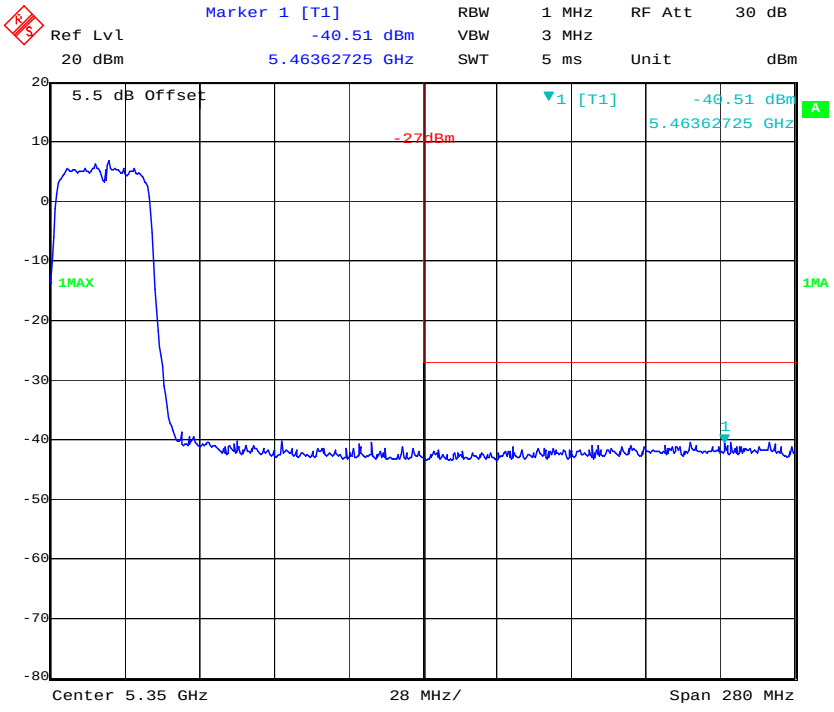

Date: 23.FEB.2017 10:13:43

## 802.11n ht40 Low Channel



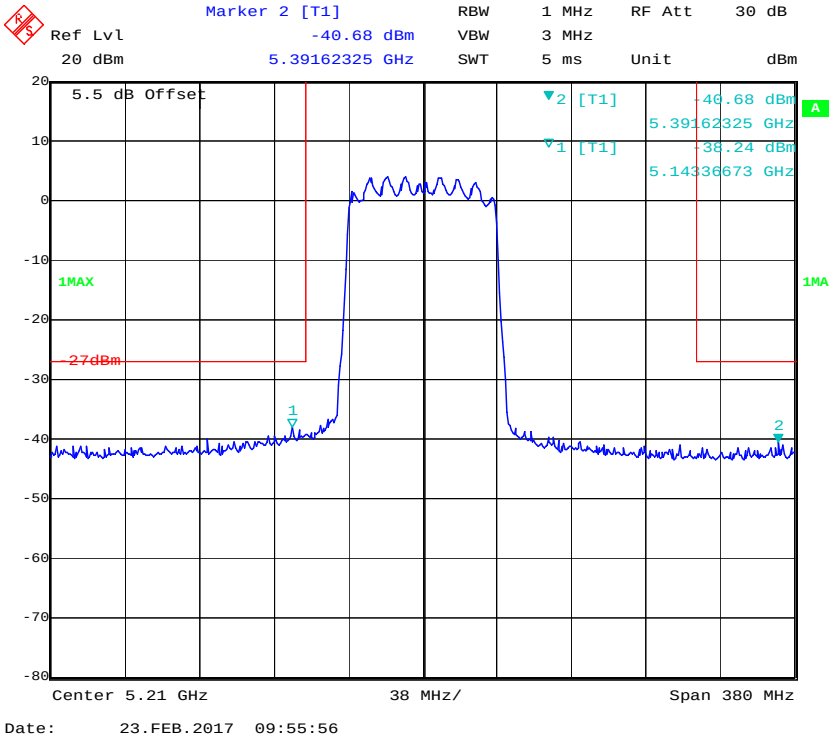

Date: 23.FEB.2017 09:59:07

## 802.11n ht40 High Channel



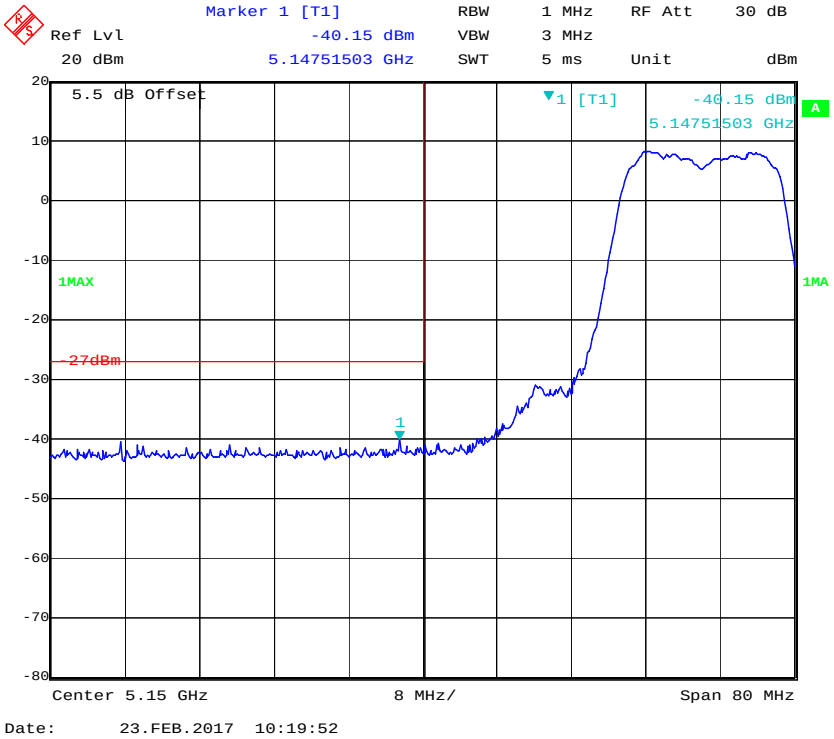

Date: 23.FEB.2017 10:01:51

## 802.11n ac80 Middle Channel



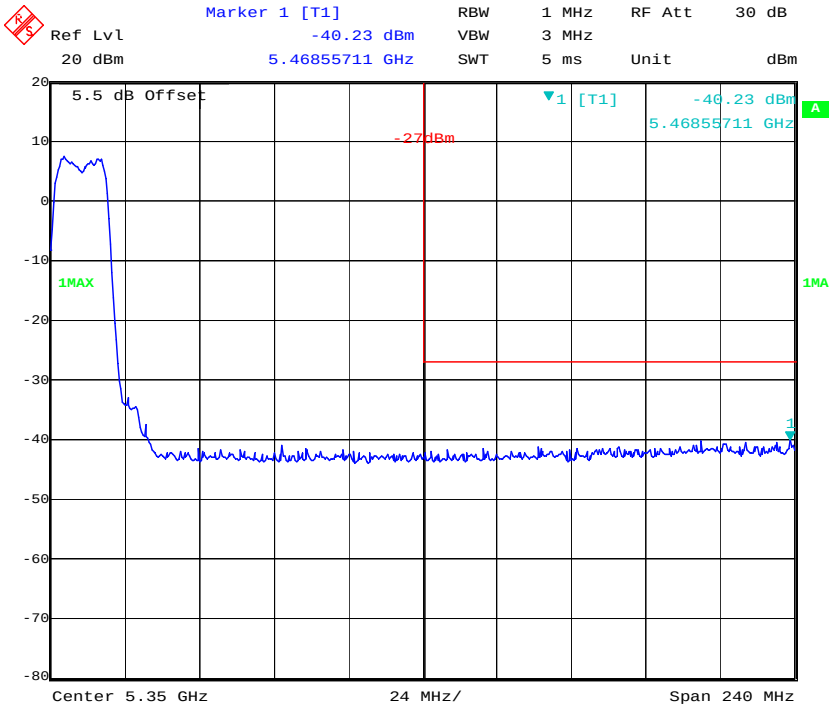
Chain 2:

**802.11n ht20 Low Channel**



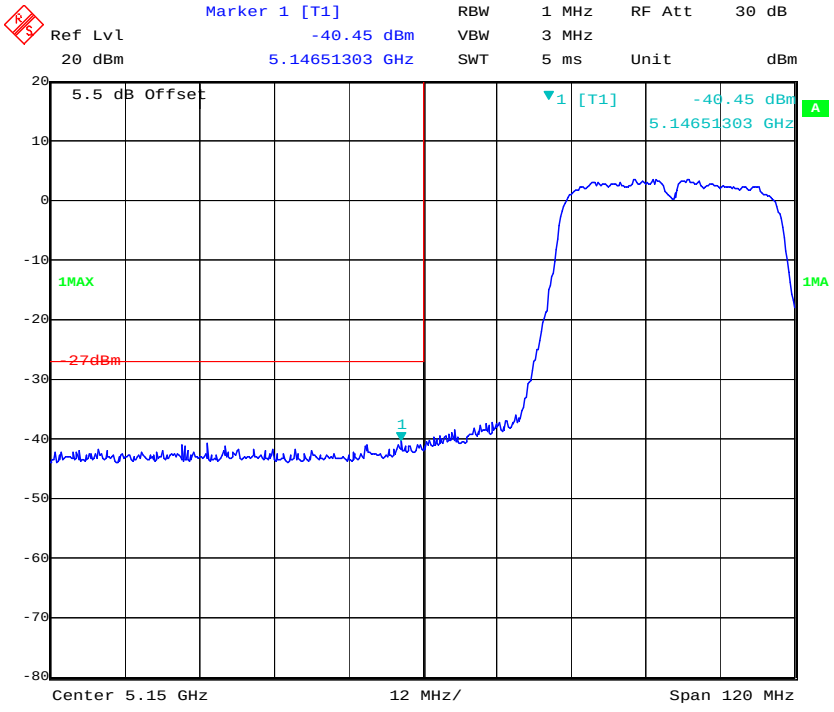

Date: 23.FEB.2017 10:19:52

**802.11n ht20 High Channel**



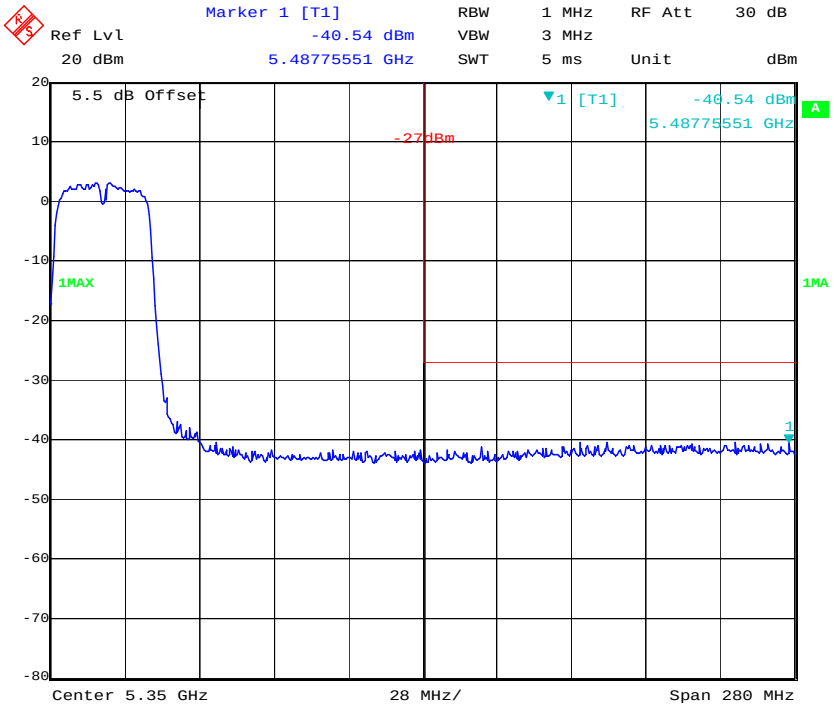

Date: 23.FEB.2017 10:25:20

## 802.11n ht40 Low Channel



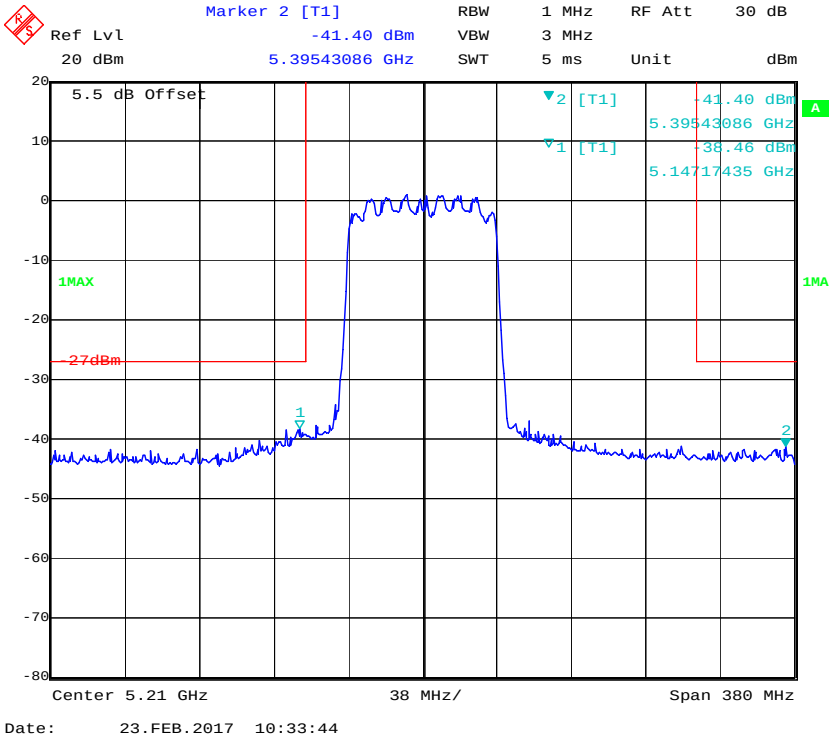

Date: 23.FEB.2017 10:28:11

## 8802.11n ht40 High Channel



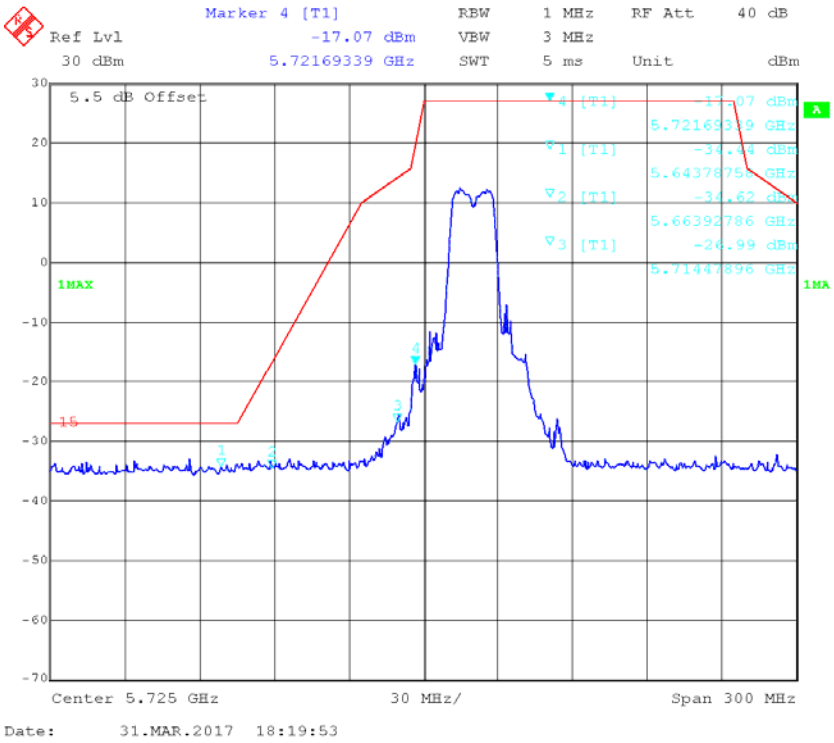

Date: 23.FEB.2017 10:30:51

## 802.11n ac80 Middle Channel

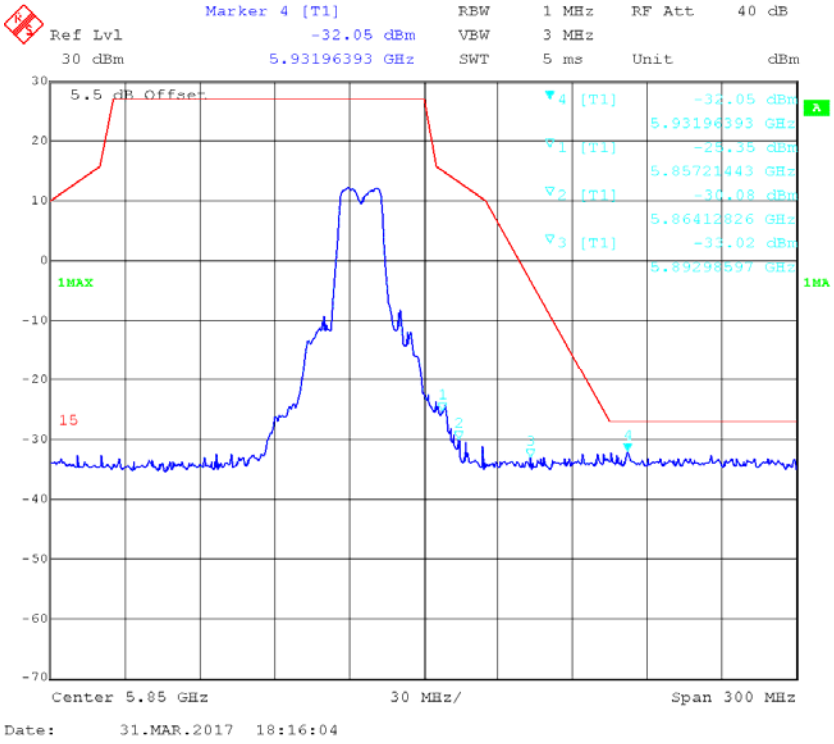


**5725-5850MHz**(the atenna gain was offset in the display, all emissions under limits 4.77dB, so combined results meet the EIRP results)
Chain 0:

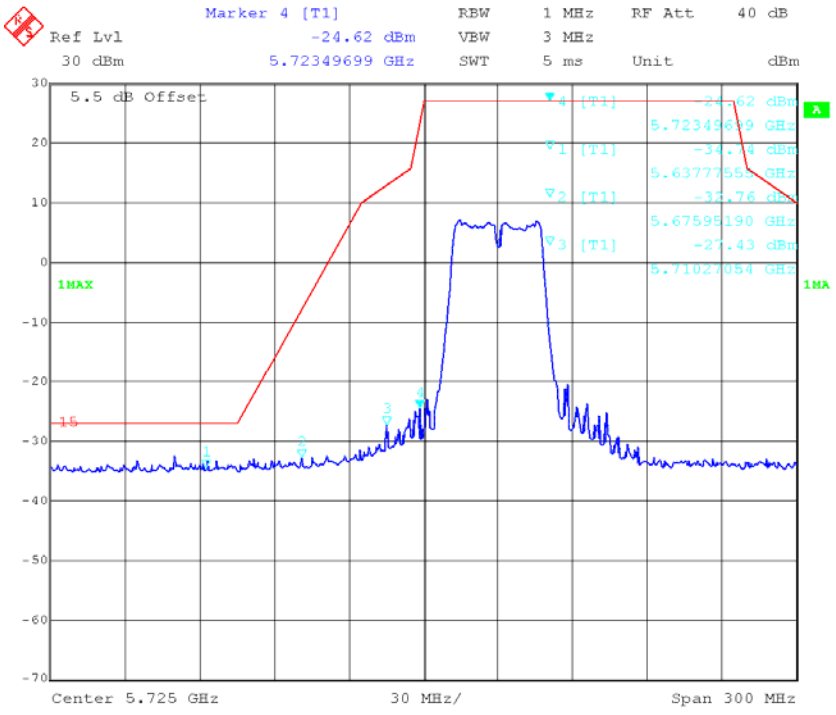
**802.11n ht20 Low Channel**



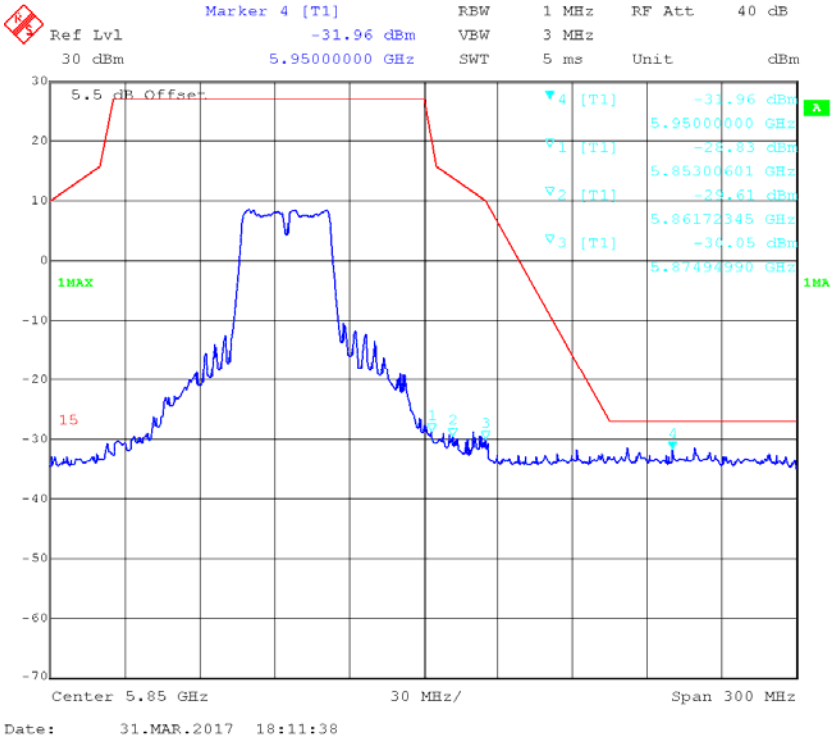

**802.11n ht20 High Channel**



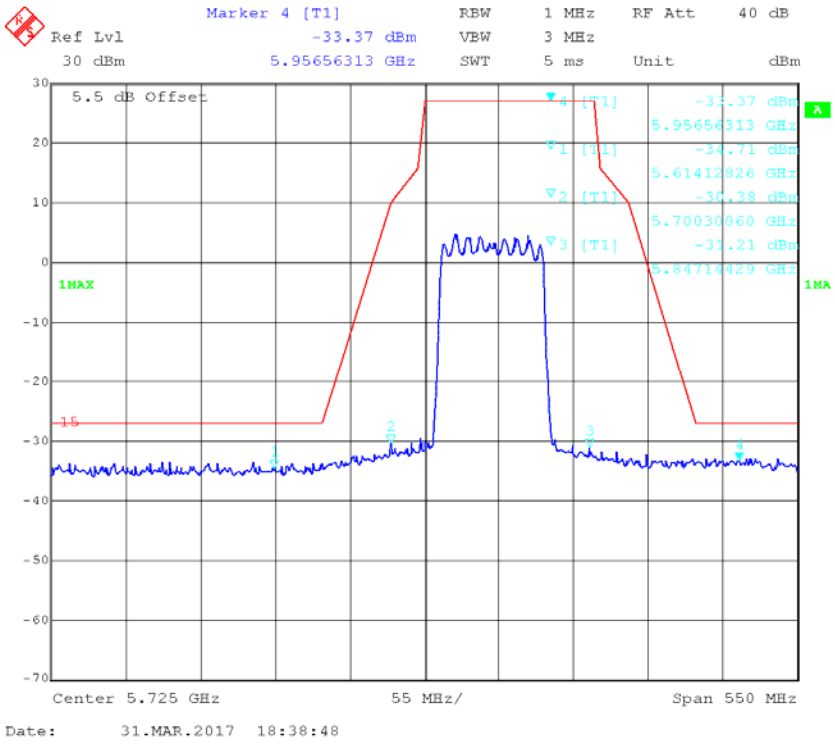
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel

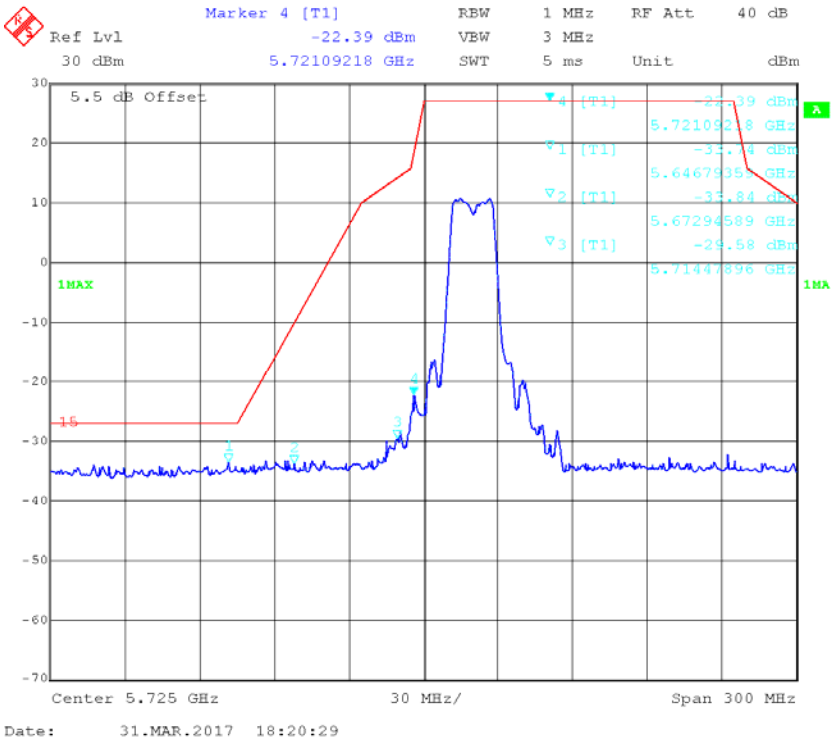


## 802.11 ac80 Low Channel

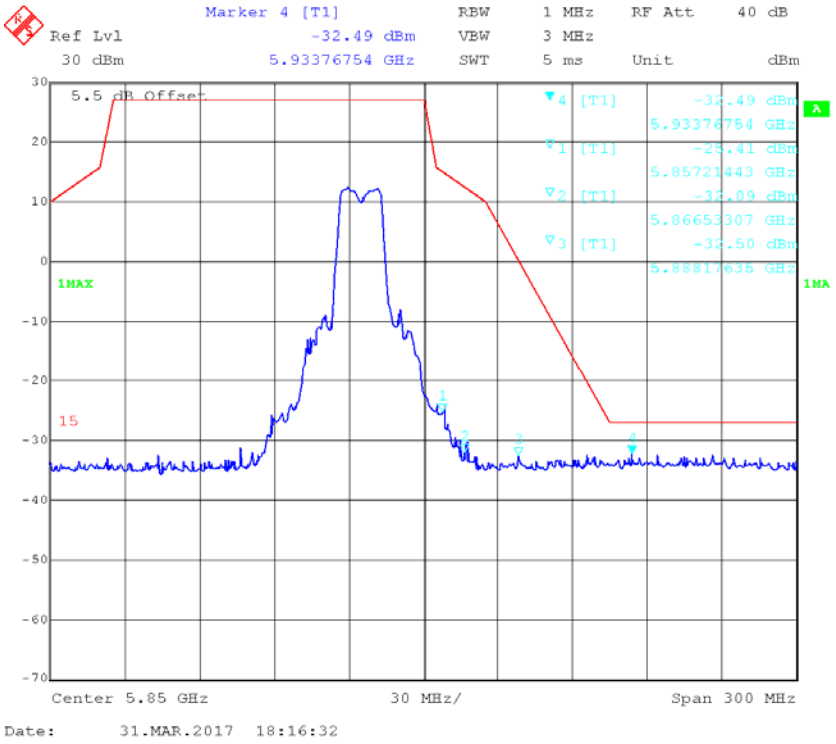


Chain 1:

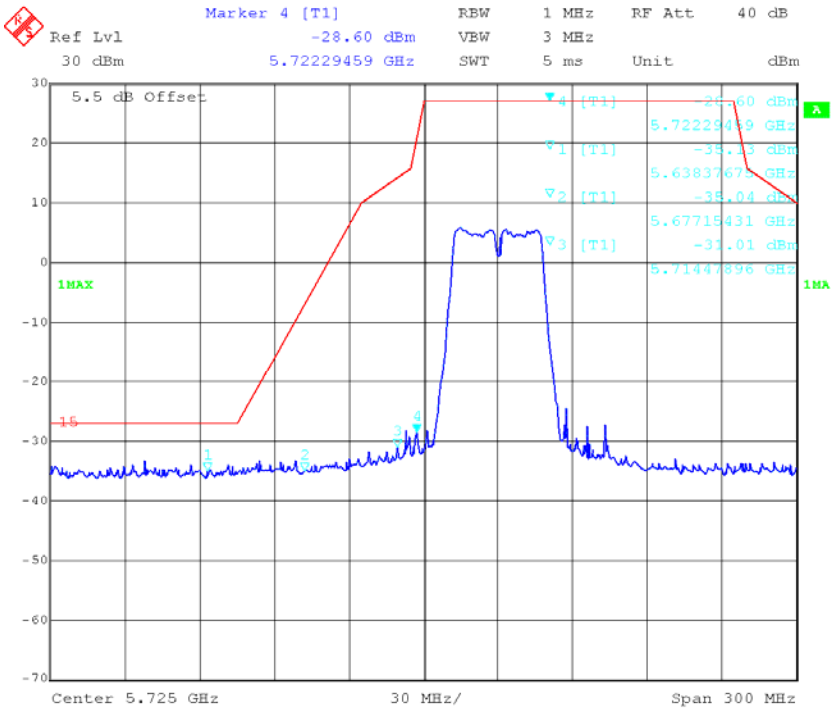
**802.11n ht20 Low Channel**



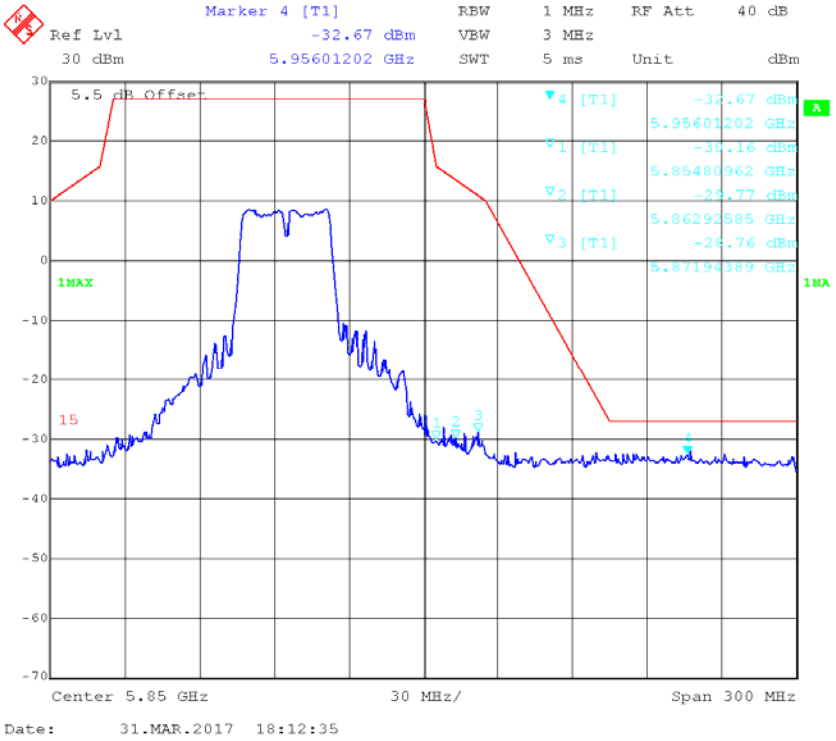

**802.11n ht20 High Channel**



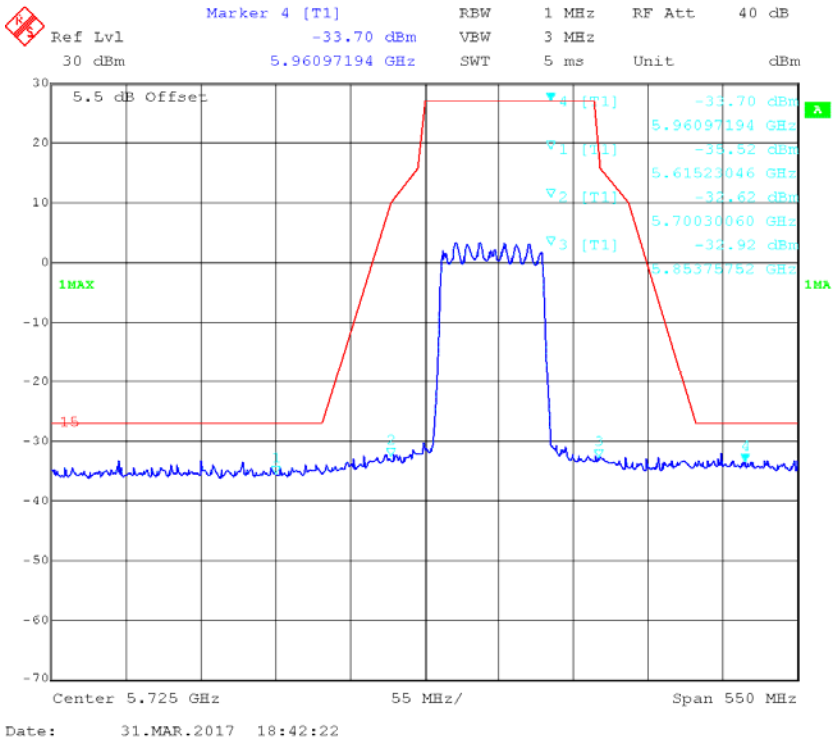
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel

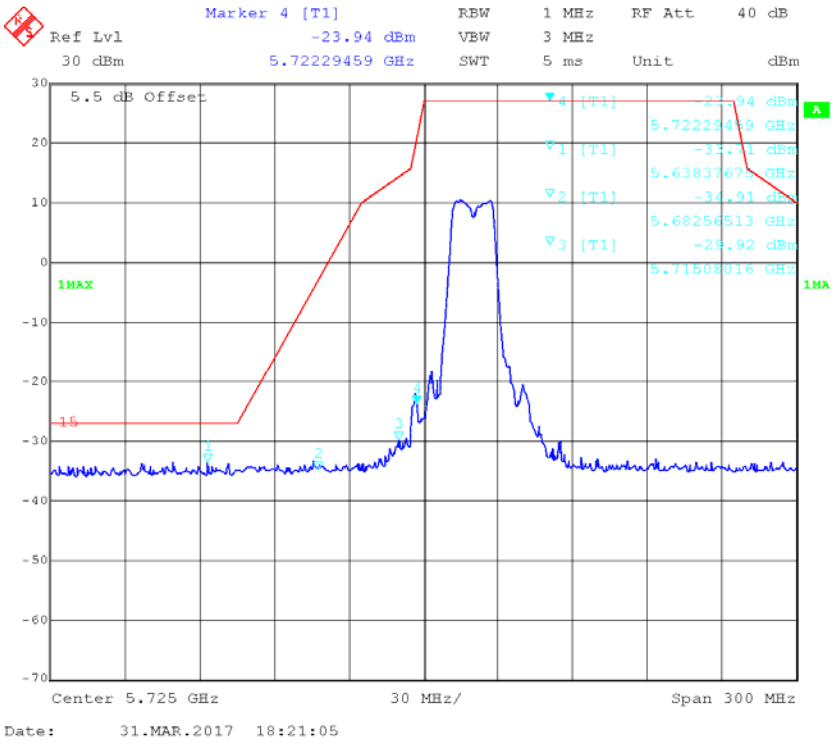


**802.11 ac80 Low Channel**

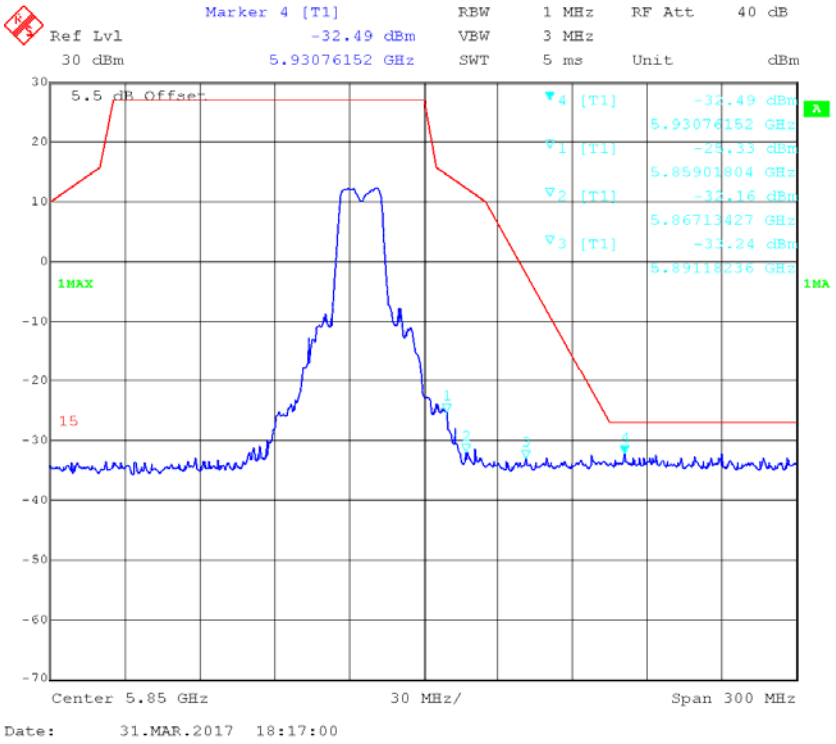


5725-5850MHz Chain 2:

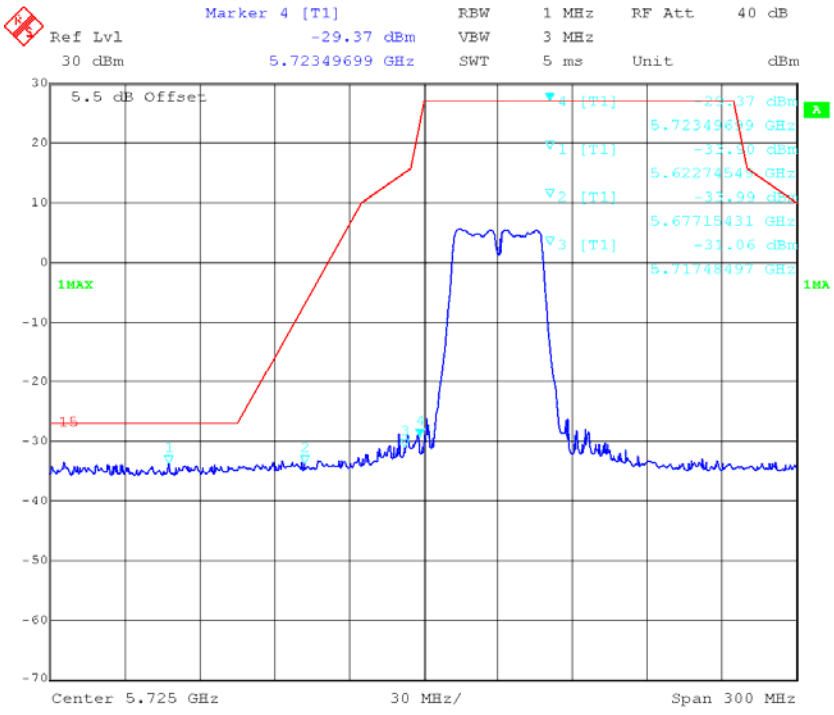
**802.11n ht20 Low Channel**



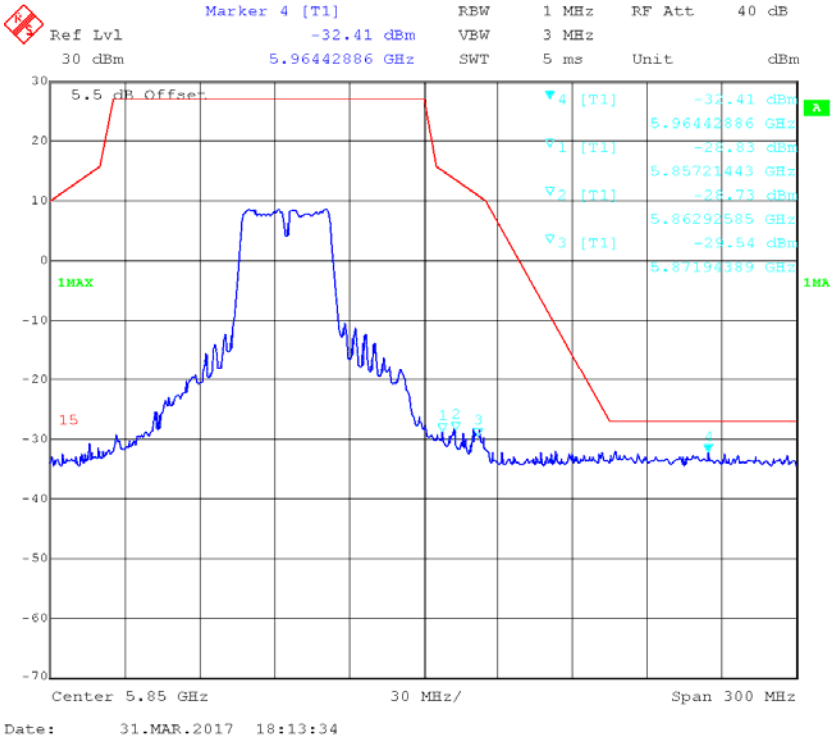

**802.11n ht20 High Channel**



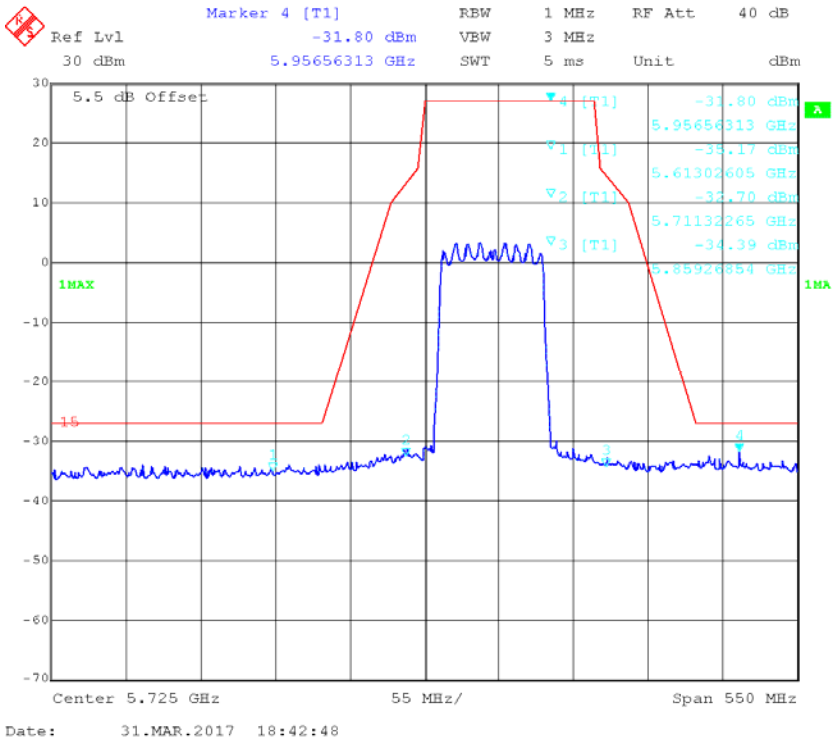
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel



**802.11 ac80 Low Channel**



# FCC §15.407(a) –EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

## Applicable Standard

15.407(a) (e)

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 831929/005 | 2016-09-21 | 2017-09-20 |
| N/A | RF Cable | N/A | N/A | Each Time | / |

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

## Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 22.5~25 °C |
| **Relative Humidity:** | 35~41 % |
| **ATM Pressure:** | 95.6~96.8 kPa |

*The testing was performed by Tom Tang from 2017-01-14 to 2017-02-22.*

**Test Result:** Pass.

Please refer to the following tables and plots.

*Test mode: Transmitting (Test performed at SISO mode Chain 0)*

***5150-5250MHz:***

| Mode | Channel | Frequency (MHz) | 26 dB Emission Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|---|---|---|---|---|
| 802.11 a | Low | 5180 | 20.28 | 17.39 |
| | Middle | 5200 | 20.36 | 17.39 |
| | High | 5240 | 20.36 | 17.39 |
| 802.11n ht20 | Low | 5180 | 20.28 | 17.39 |
| | Middle | 5200 | 20.2 | 17.39 |
| | High | 5240 | 20.28 | 17.39 |
| 802.11n ht40 | Low | 5190 | 39.92 | 35.75 |
| | High | 5230 | 39.76 | 35.75 |
| 802.11 ac80 | Middle | 5210 | 82.4 | 75.03 |

Note: the 99% Occupied Bandwidth have not fall into the band 5250-5350MHz and 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

***5725-5850MHz:***

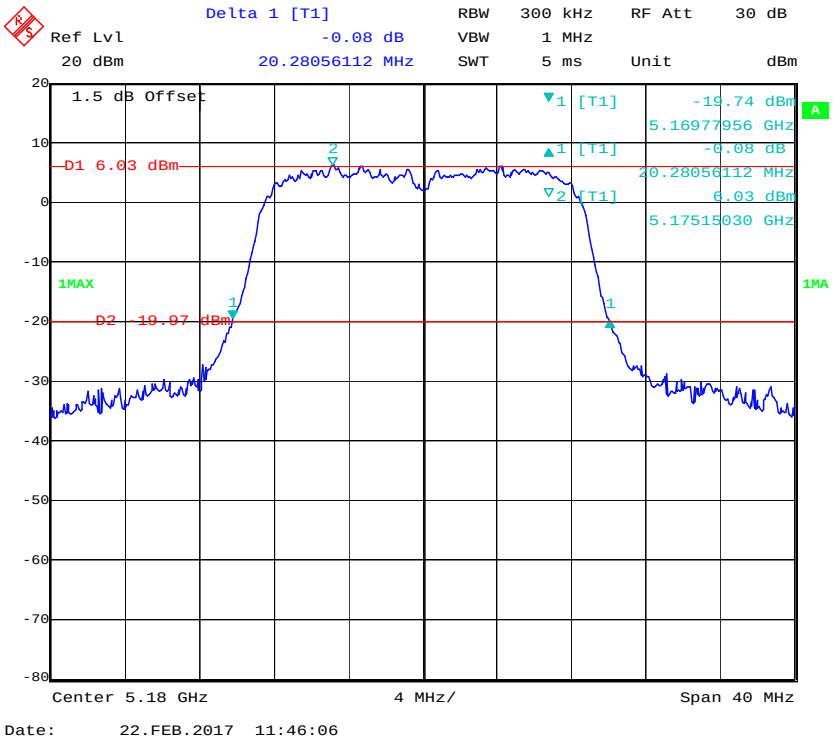
| Mode | Channel | Frequency (MHz) | 26 dB Emission Bandwidth (MHz) |
|---|---|---|---|
| 802.11 a | Low | 5745 | 28.94 |
| | Middle | 5785 | 31.34 |
| | High | 5825 | 31.34 |
| 802.11n ht20 | Low | 5745 | 27.66 |
| | Middle | 5785 | 28.3 |
| | High | 5825 | 29.9 |
| 802.11n ht40 | Low | 5755 | 48.9 |
| | High | 5795 | 42.16 |
| 802.11 ac80 | Middle | 5775 | 117.03 |

Note: For 5725-5850MHz band, 26dB bandwidth have not fall into the band 5470-5725MHz.

| Mode | Channel | Frequency (MHz) | 6 dB Emission Bandwidth (MHz) | Result |
|---|---|---|---|---|
| 802.11 a | Low | 5745 | 16.43 | PASS |
| | Middle | 5785 | 16.35 | PASS |
| | High | 5825 | 16.43 | PASS |
| 802.11n ht20 | Low | 5745 | 17.15 | PASS |
| | Middle | 5785 | 17.23 | PASS |
| | High | 5825 | 17.15 | PASS |
| 802.11n ht40 | Low | 5755 | 35.59 | PASS |
| | High | 5795 | 35.75 | PASS |
| 802.11 ac80 | Middle | 5775 | 76.31 | PASS |

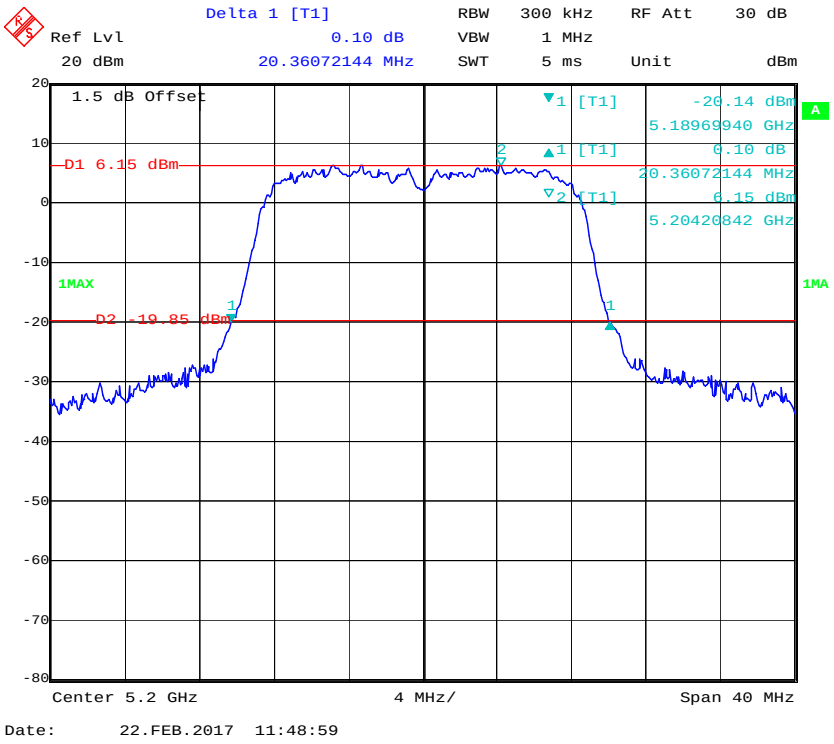
## 5150-5250MHz: 26dB Emission Bandwidth:

### 802.11a Low Channel



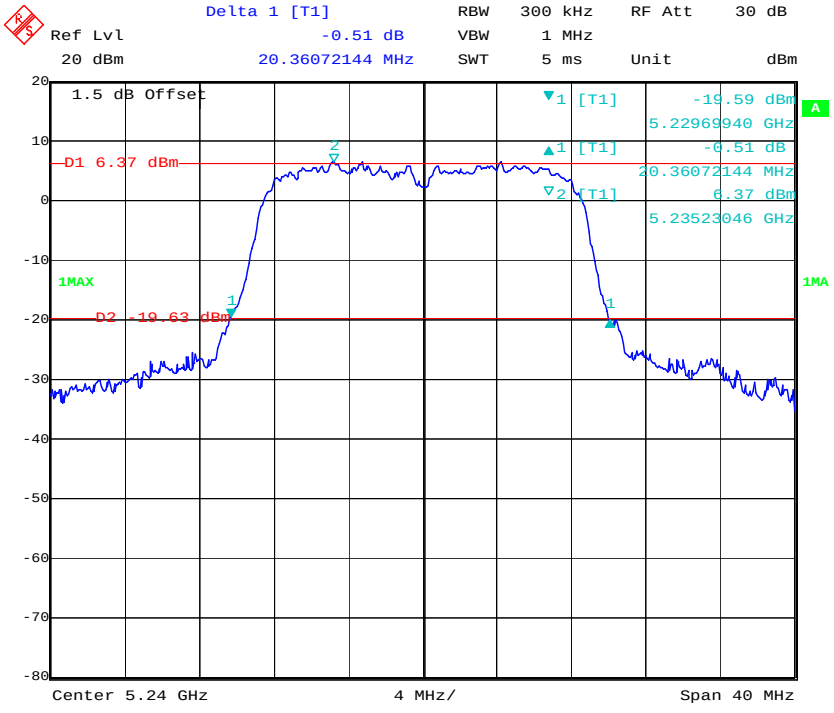

Date: 22.FEB.2017 11:46:06

### 802.11a Middle Channel



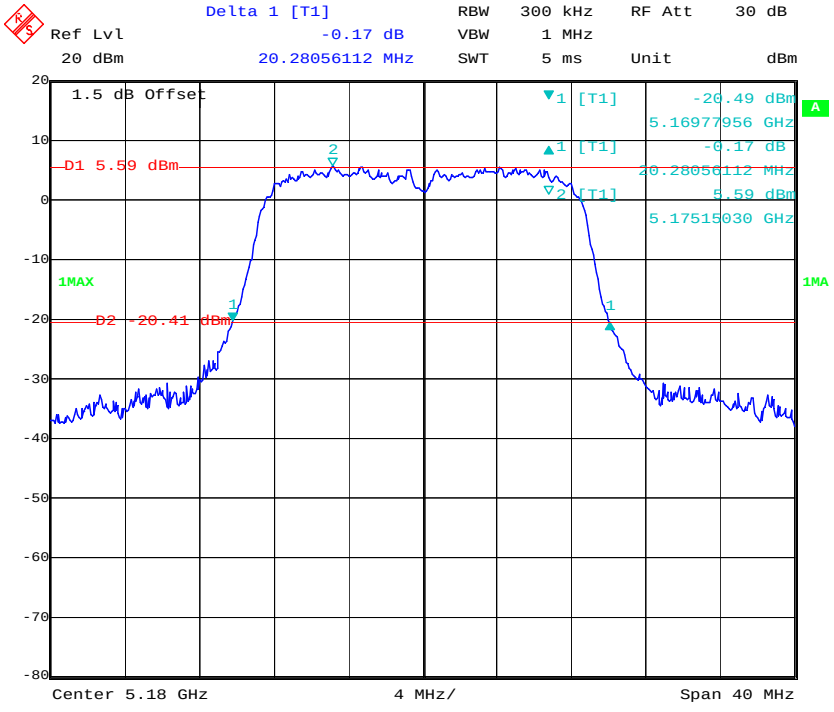

Date: 22.FEB.2017 11:48:59

## 802.11a High Channel



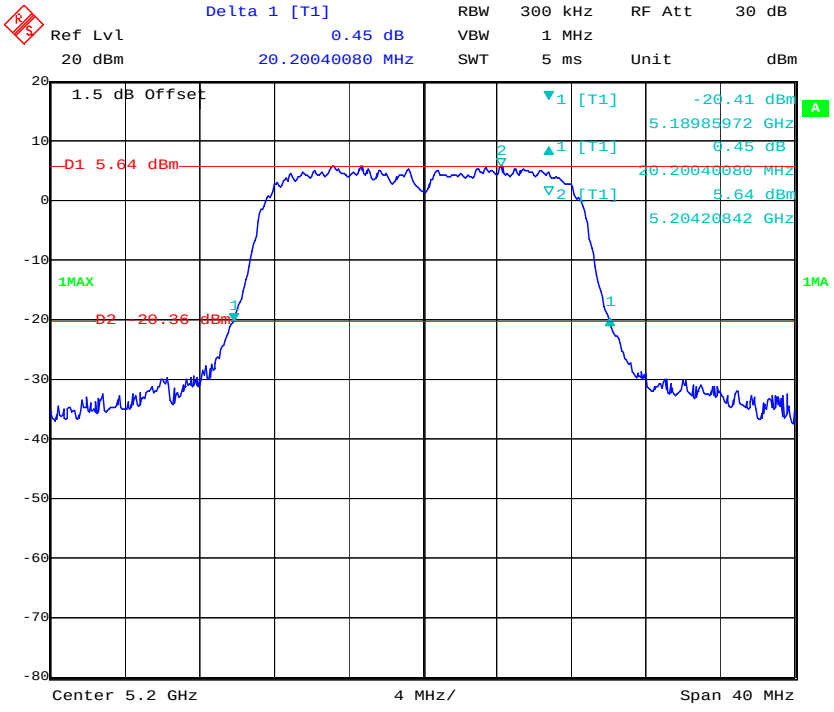

Date: 22.FEB.2017 11:51:15

## 802.11n ht20 Low Channel



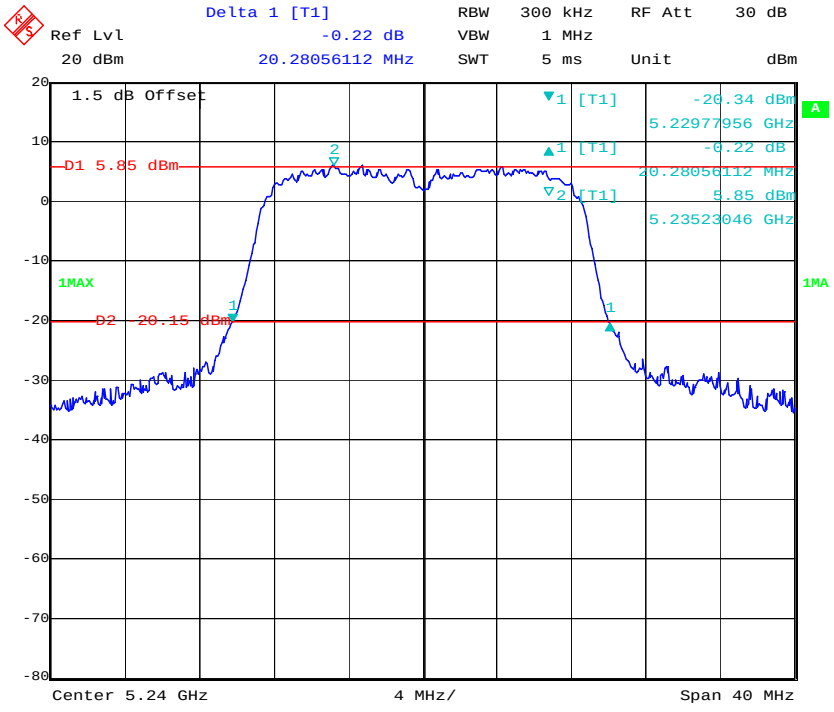

Date: 22.FEB.2017 11:34:03

## 802.11n ht20 Middle Channel



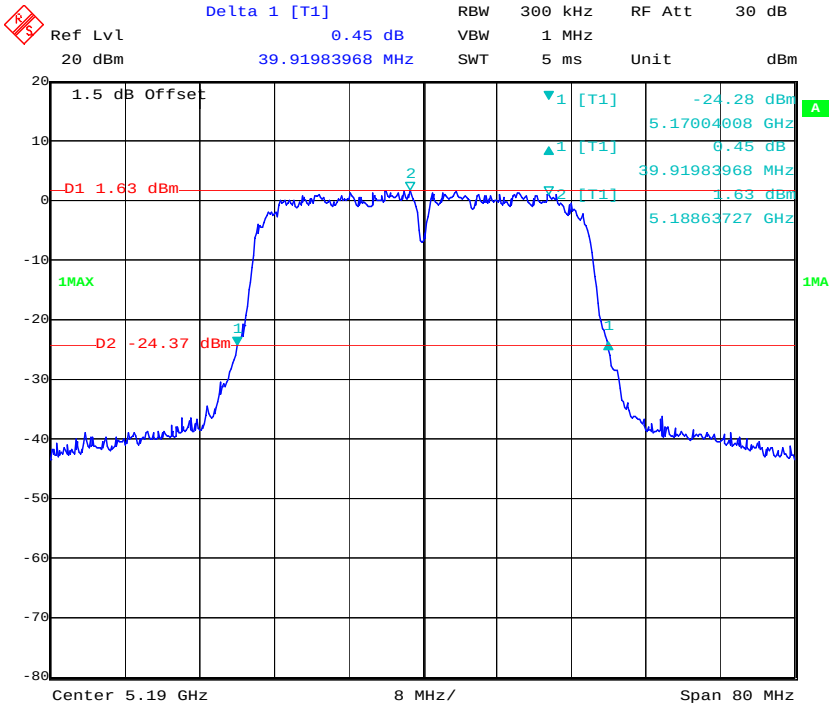

Date: 22.FEB.2017 11:37:39

## 802.11n ht20 High Channel



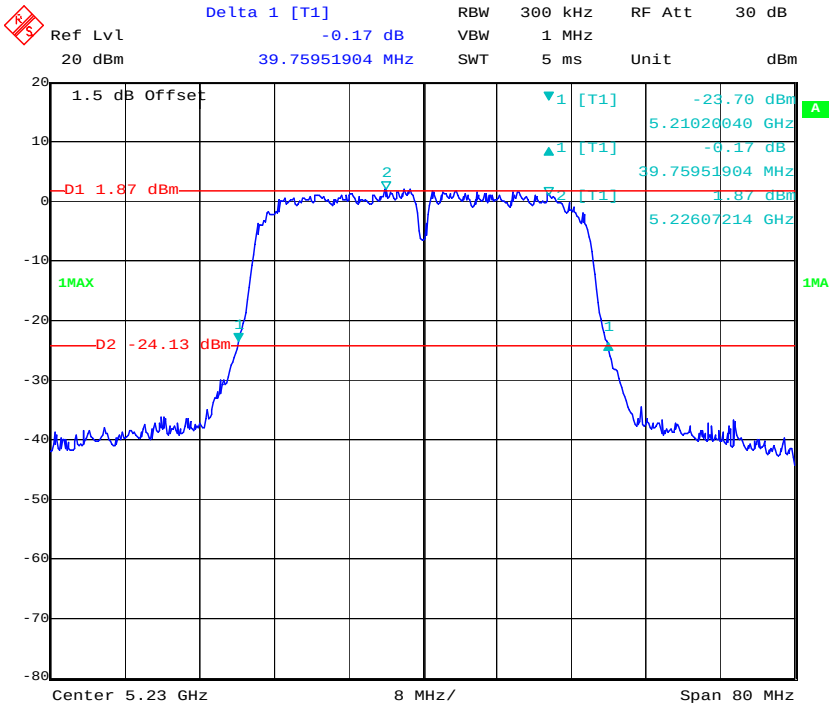

Date: 22.FEB.2017 11:40:33

## 802.11n ht40 Low Channel



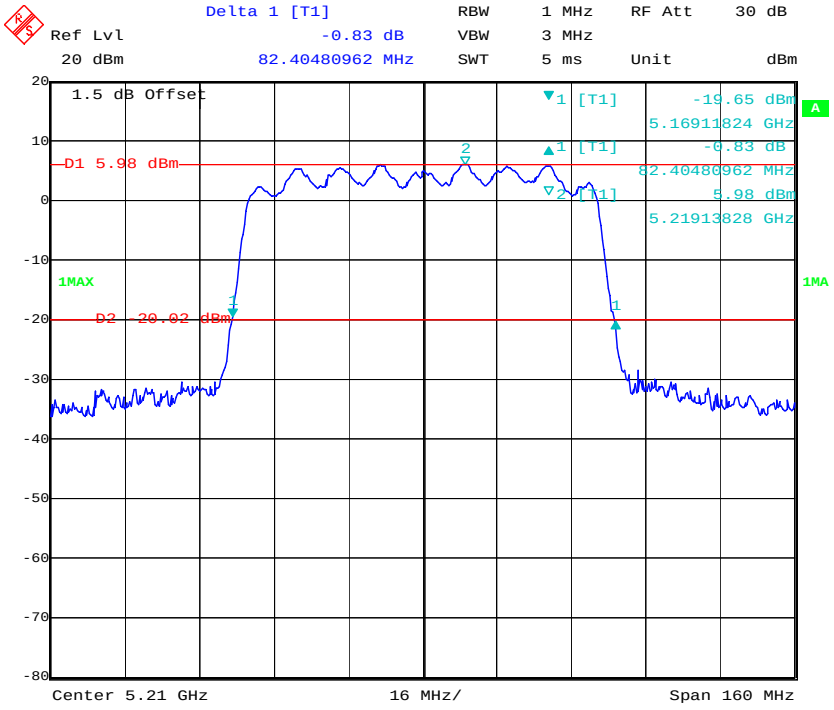

Date: 22.FEB.2017 11:23:56

## 802.11n ht40 High Channel



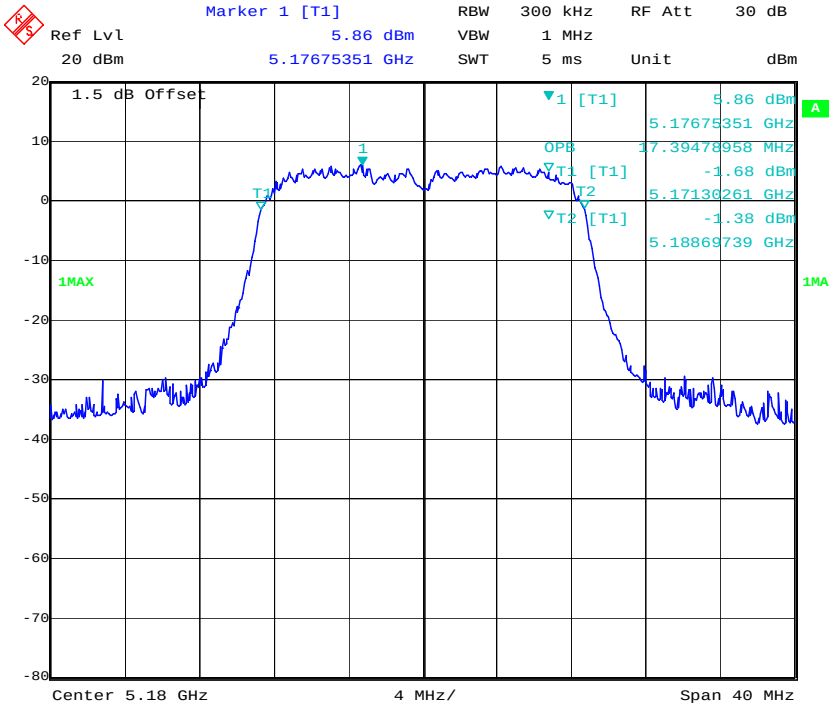

Date: 22.FEB.2017 11:28:34

## 802.11ac80 Middle Channel

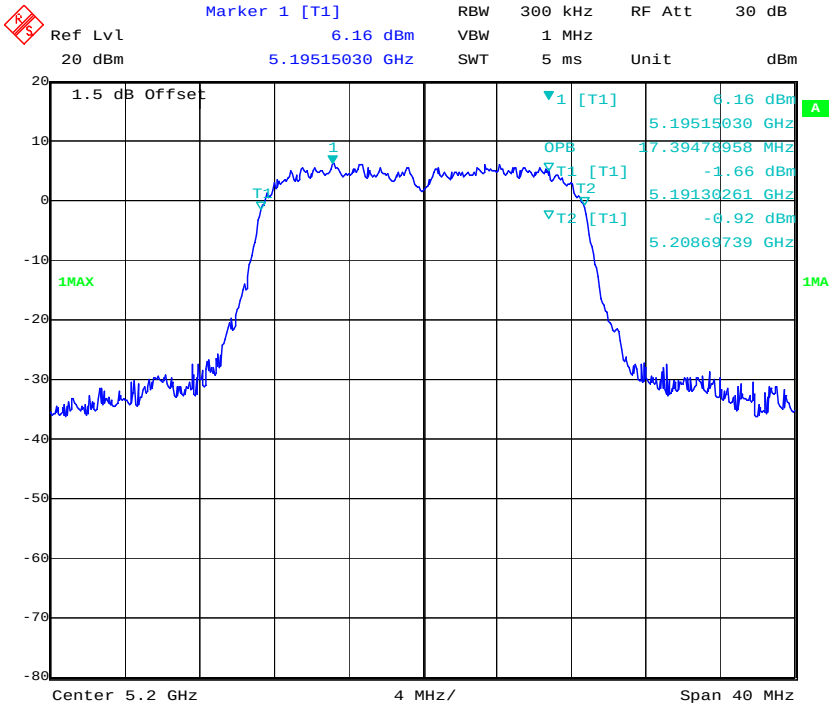



## 99% Occupied Bandwidth

## 802.11a Low Channel

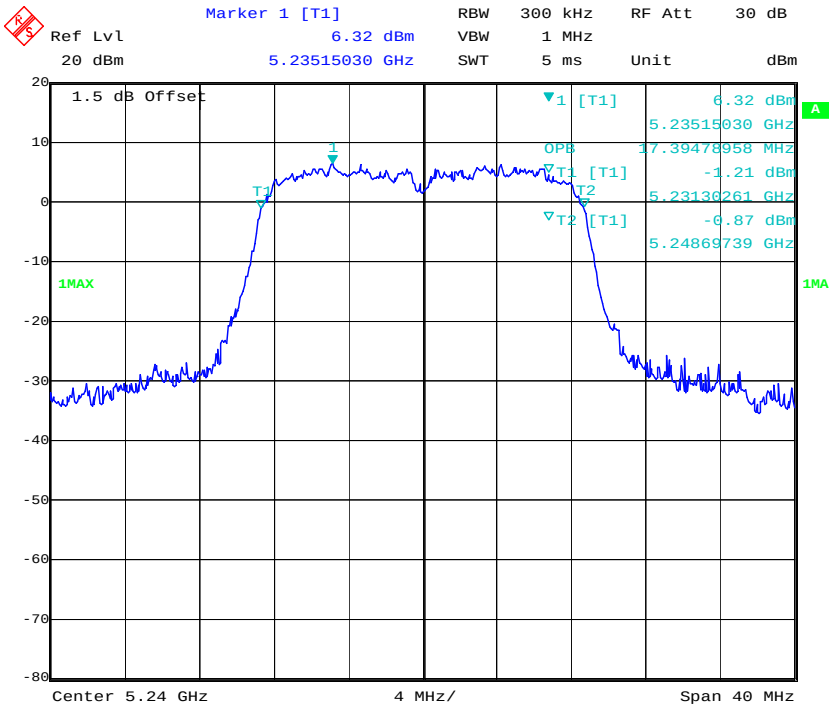


## 802.11a Middle Channel



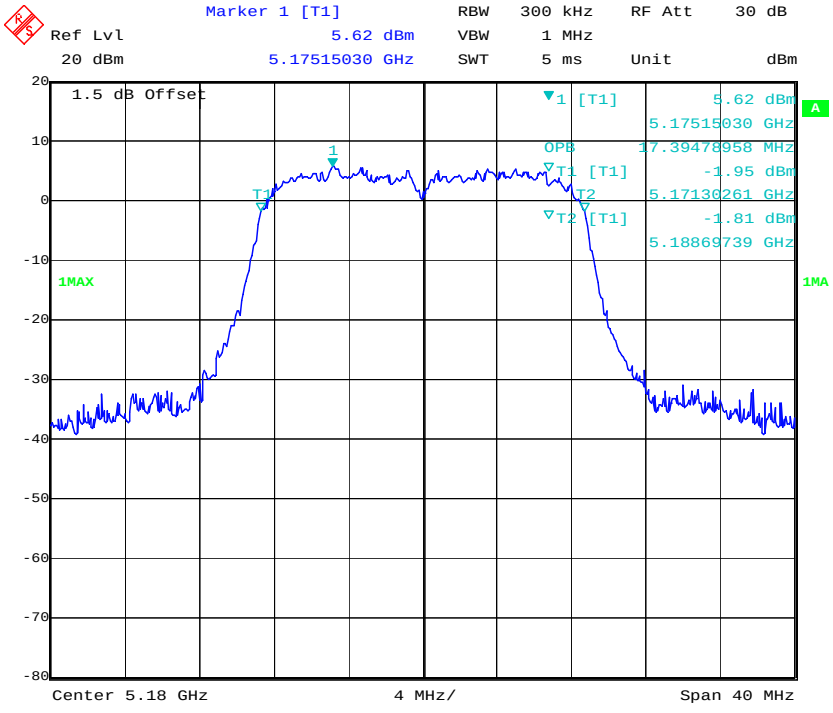

Date: 22.FEB.2017 11:49:15

## 802.11a High Channel



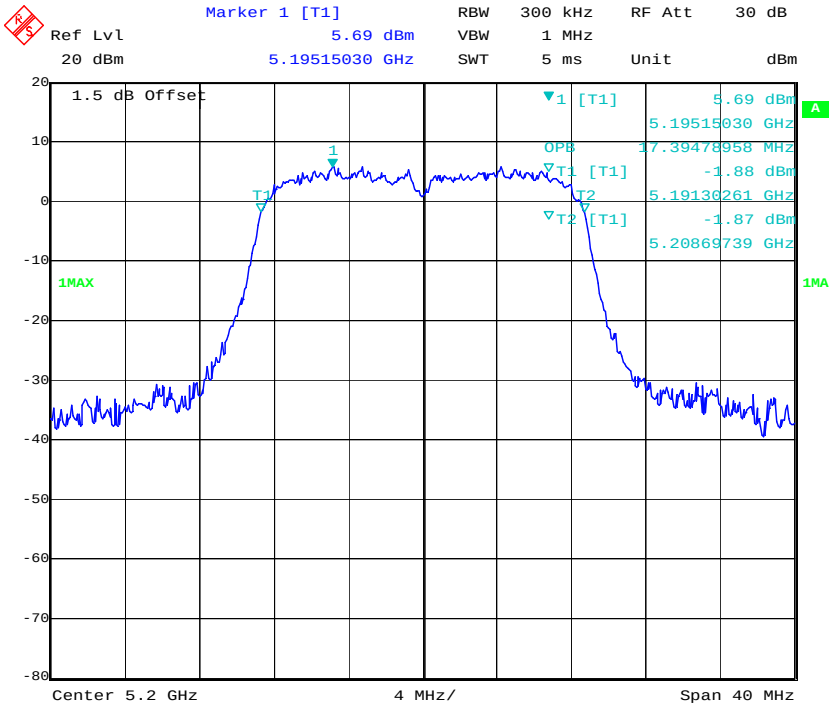

Date: 22.FEB.2017 11:51:30

## 802.11n ht20 Low Channel



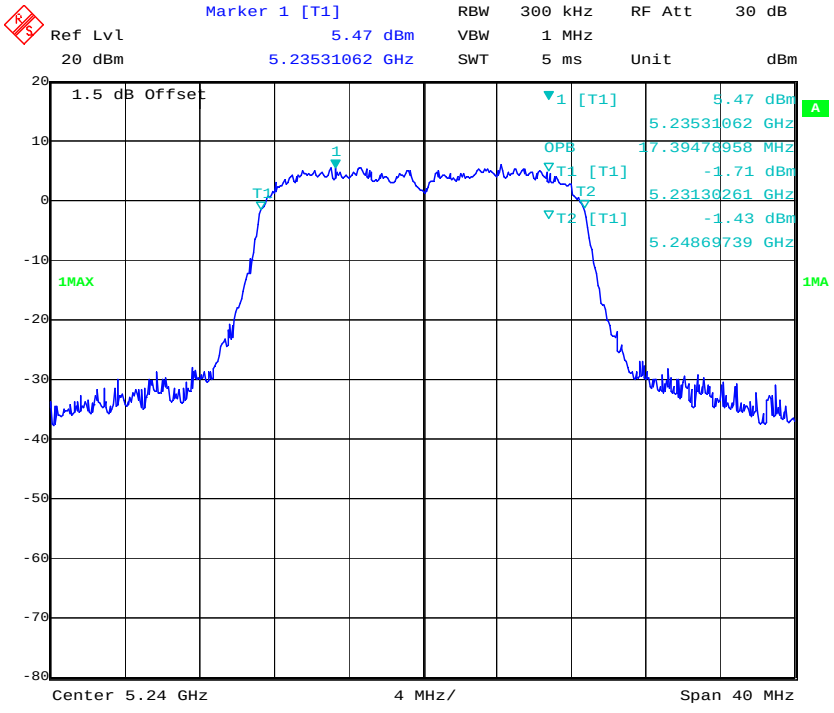

Date: 22.FEB.2017 11:34:18

## 802.11n ht20 Middle Channel



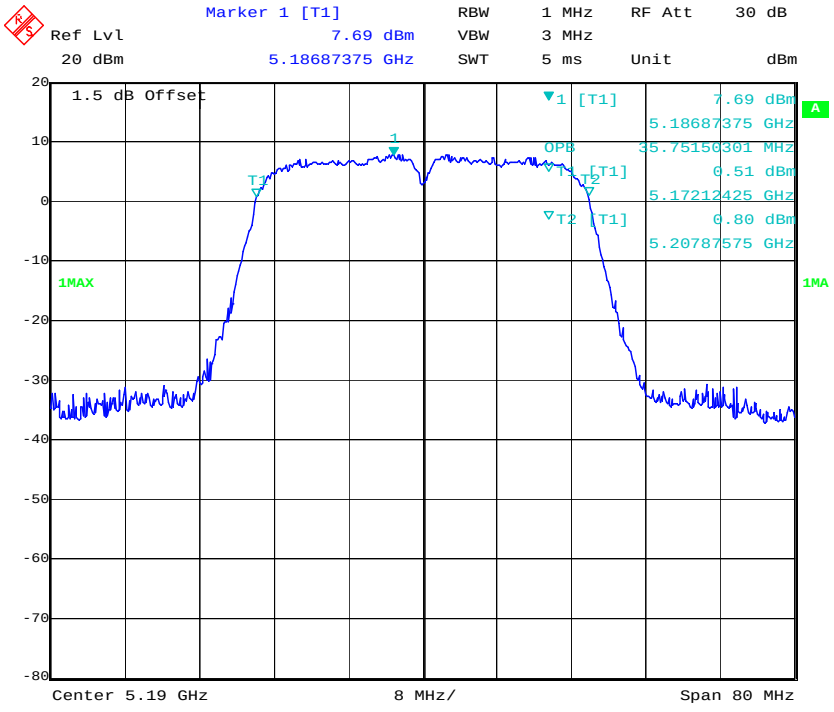

Date: 22.FEB.2017 11:37:55

## 802.11n ht20 High Channel



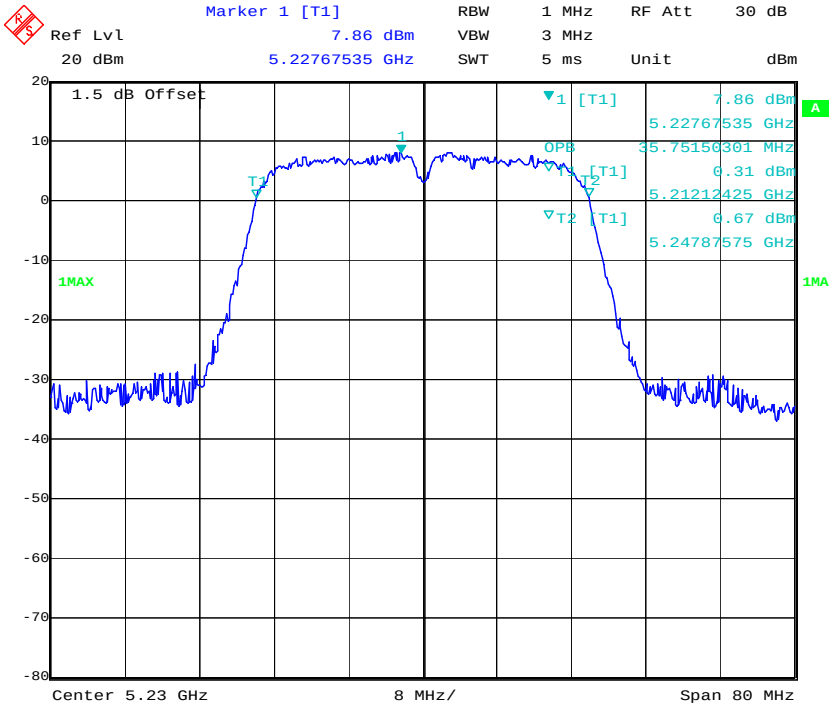

Date: 22.FEB.2017 11:40:49

## 802.11n ht40 Low Channel



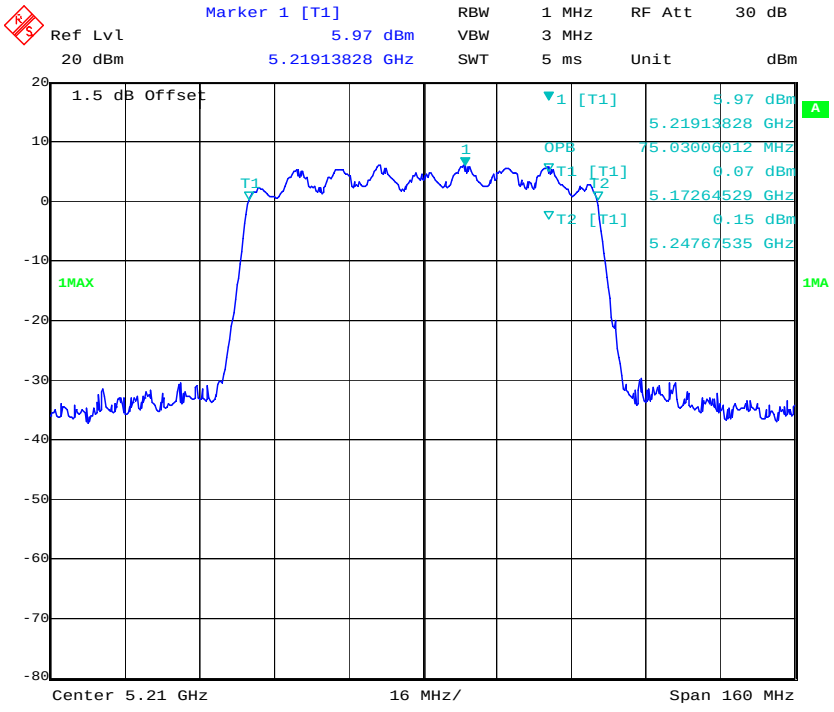

Date: 22.FEB.2017 11:24:12

## 802.11n ht40 High Channel




Date: 22.FEB.2017 11:28:50

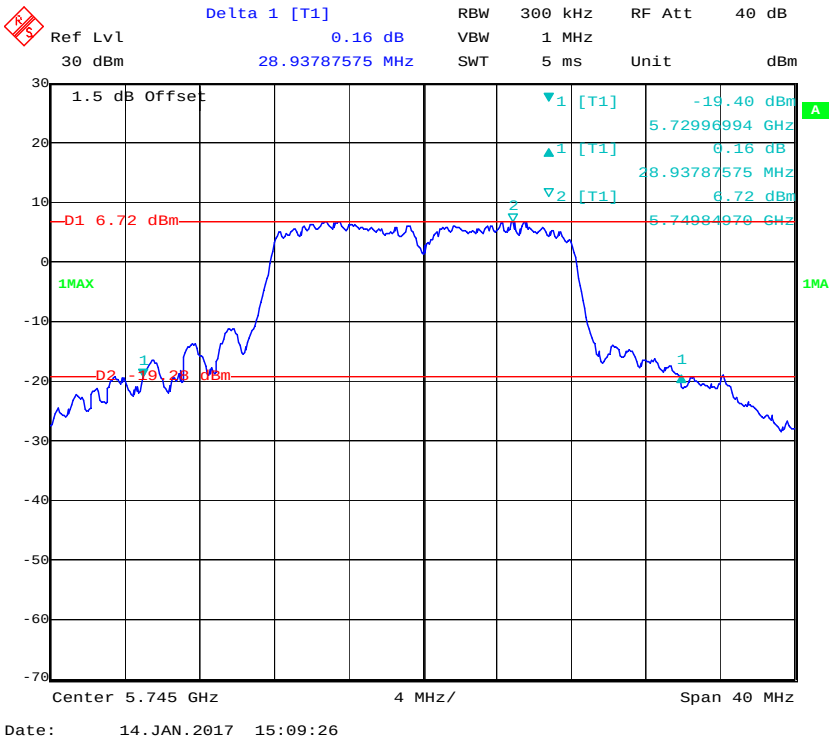
## 802.11ac80 Middle Channel




Date: 22.FEB.2017 16:53:08

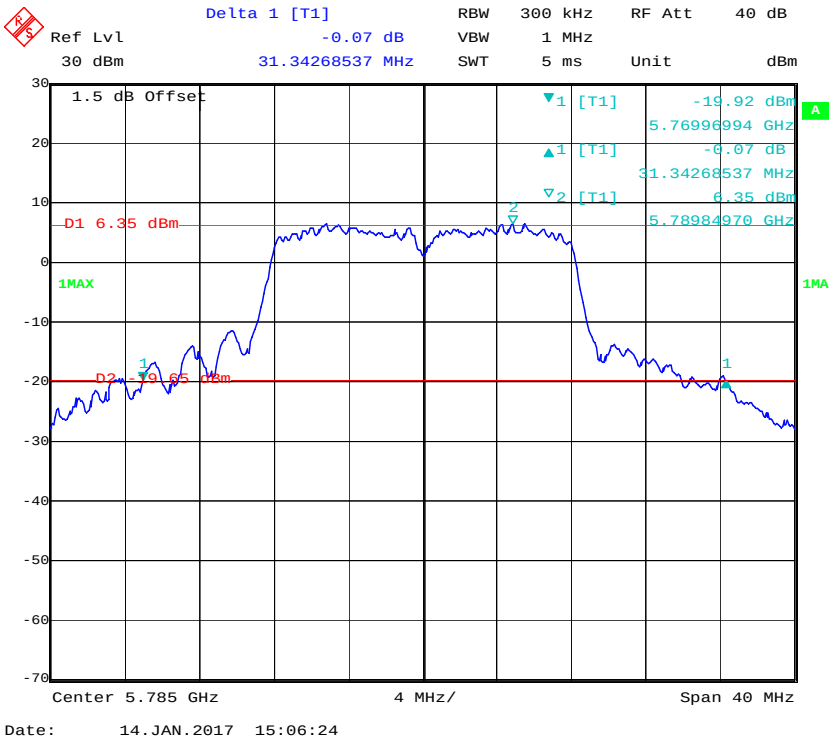
## 5725-5850MHz:26dB bandwidth

### 802.11a Low Channel



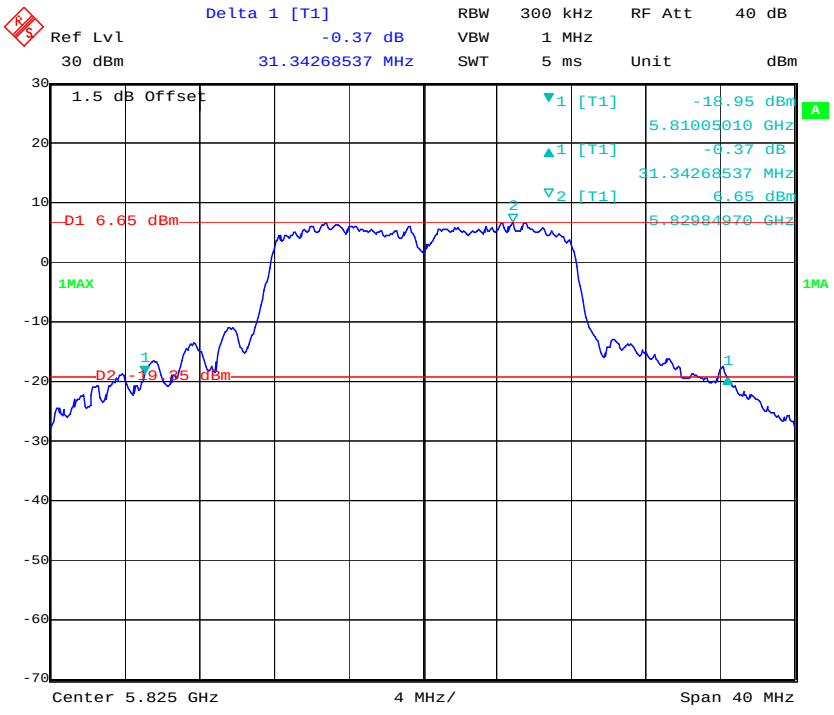

Date: 14.JAN.2017 15:09:26

### 802.11a Middle Channel

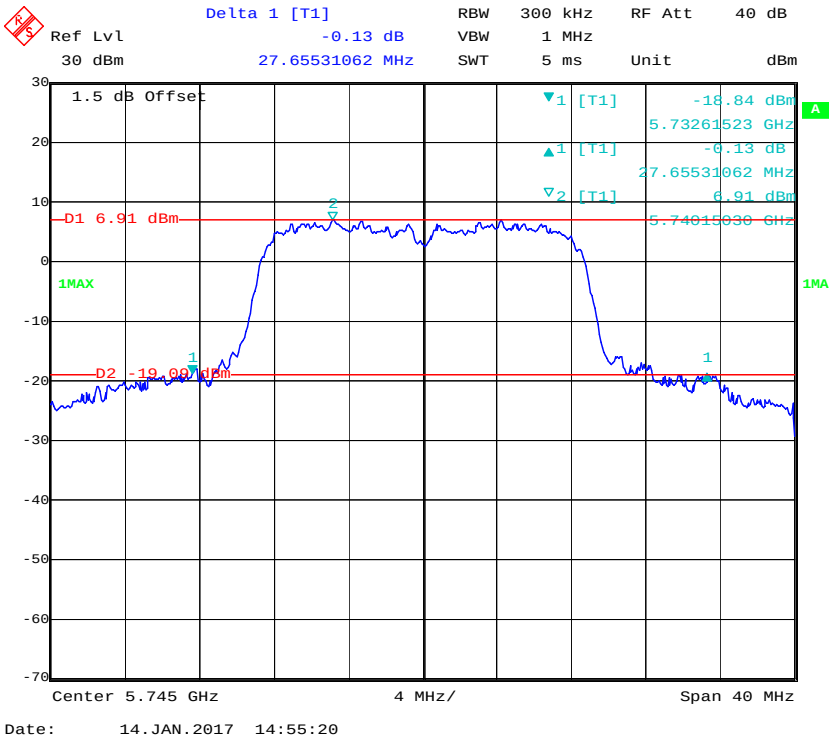



Date: 14.JAN.2017 15:06:24

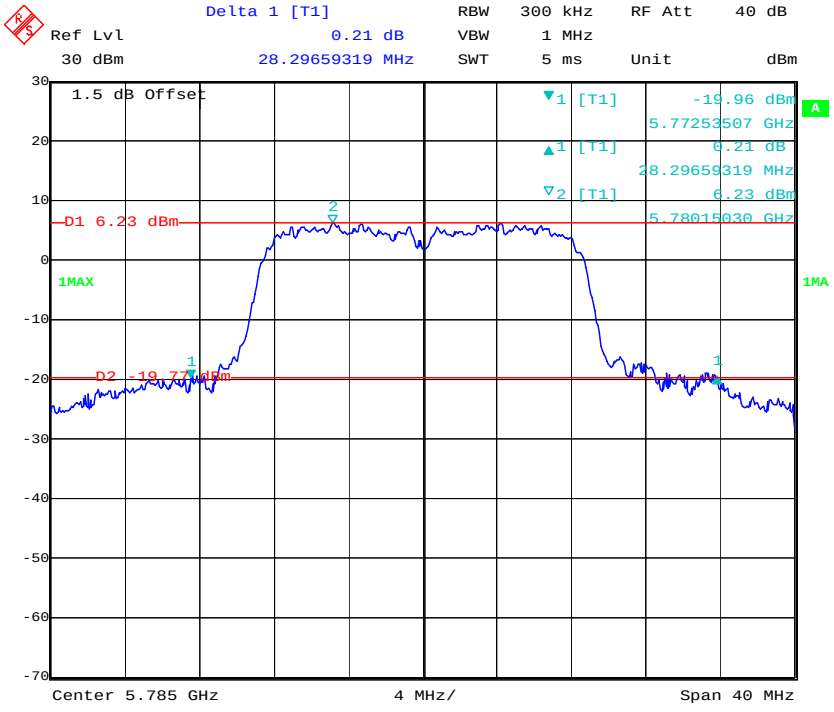
## 802.11a High Channel




## 802.11n ht20 Low Channel

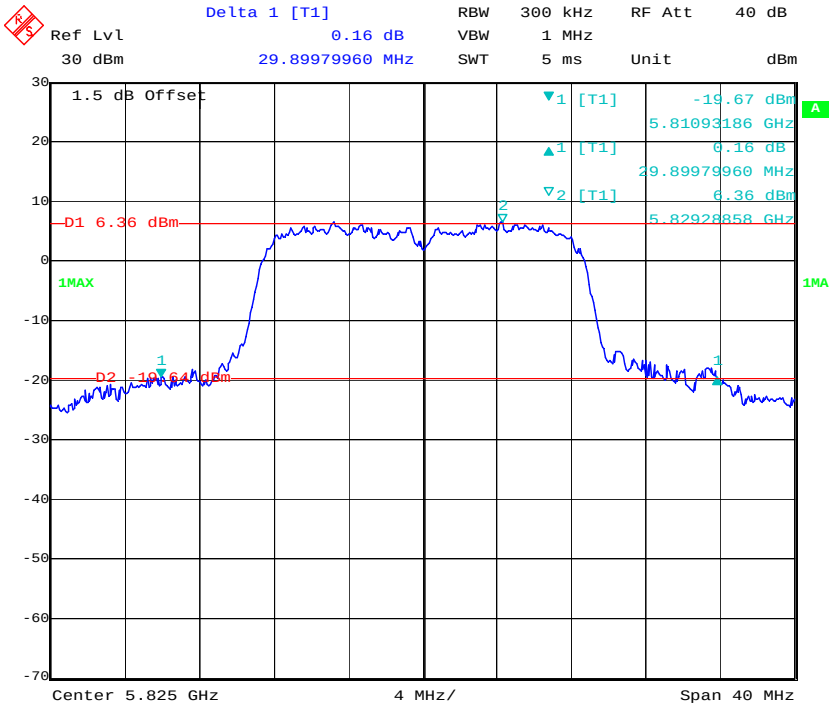


## 802.11n ht20 Middle Channel



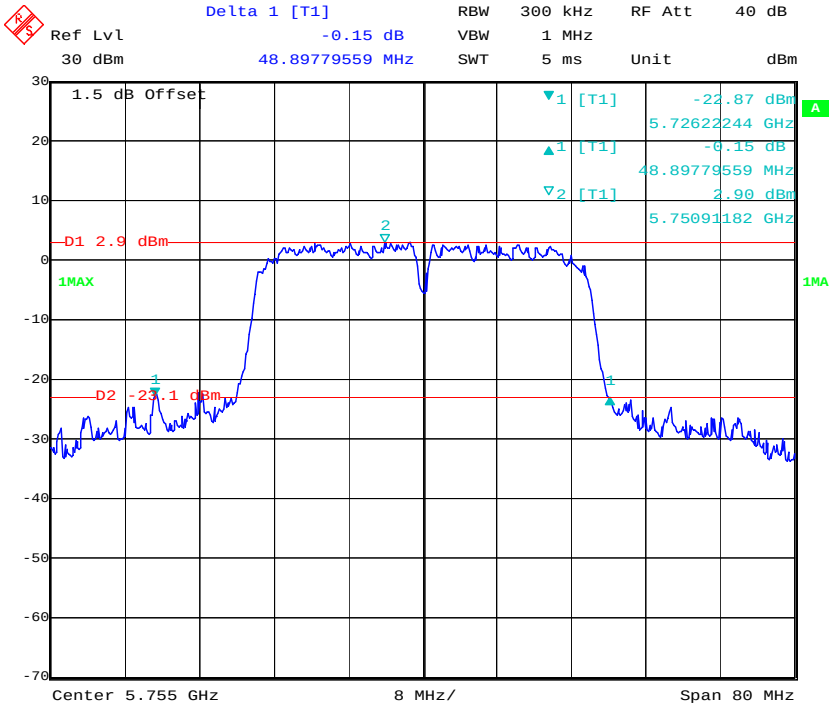

Date: 14.JAN.2017 14:57:55

## 802.11n ht20 High Channel



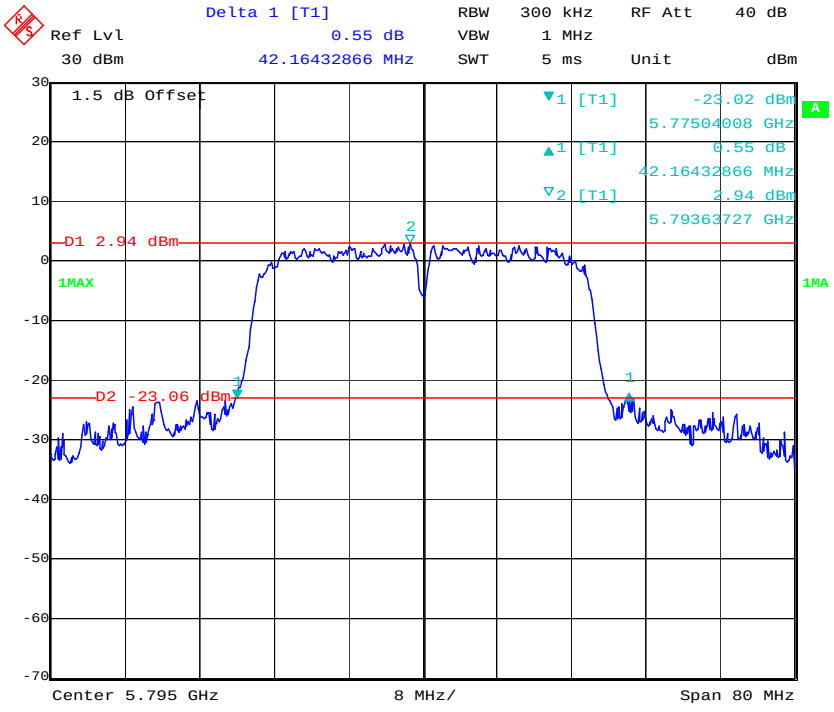

Date: 14.JAN.2017 15:00:29

## 802.11n ht40 Low Channel



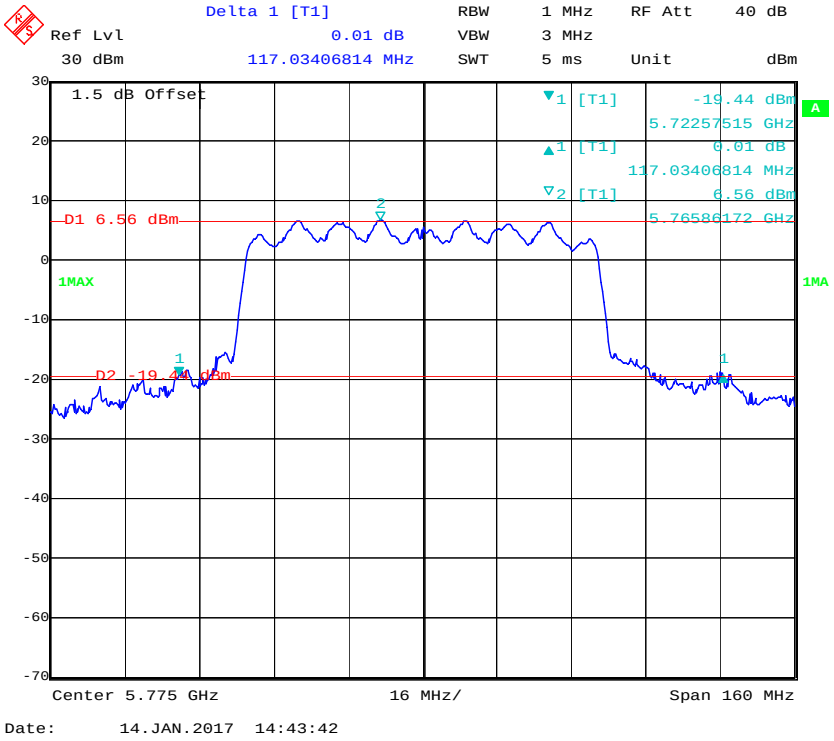

Date: 14.JAN.2017 14:52:51

## 802.11n ht40 High Channel



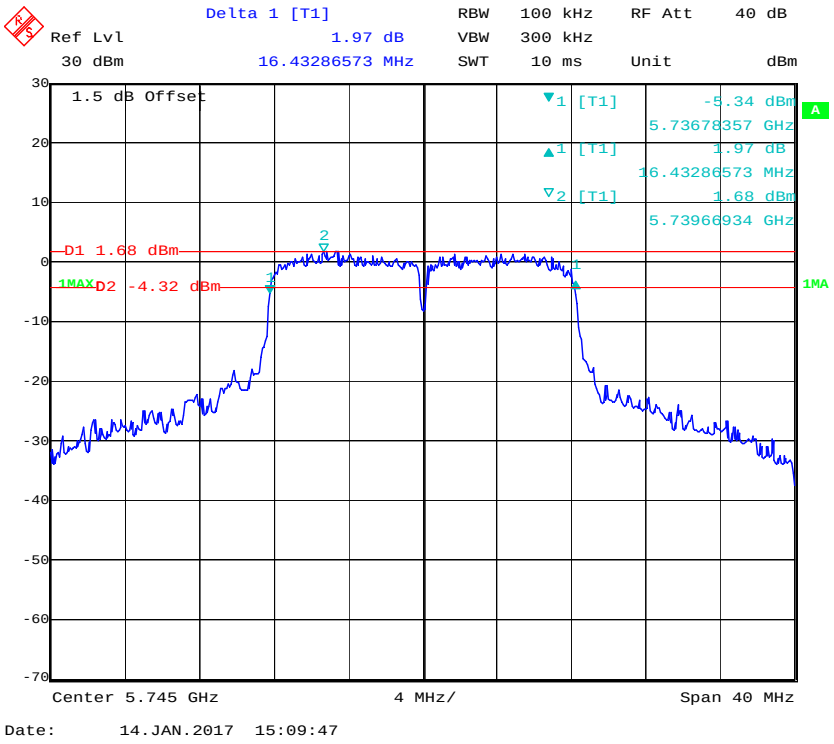

Date: 14.JAN.2017 14:50:45

## 802.11ac80 Middle Channel

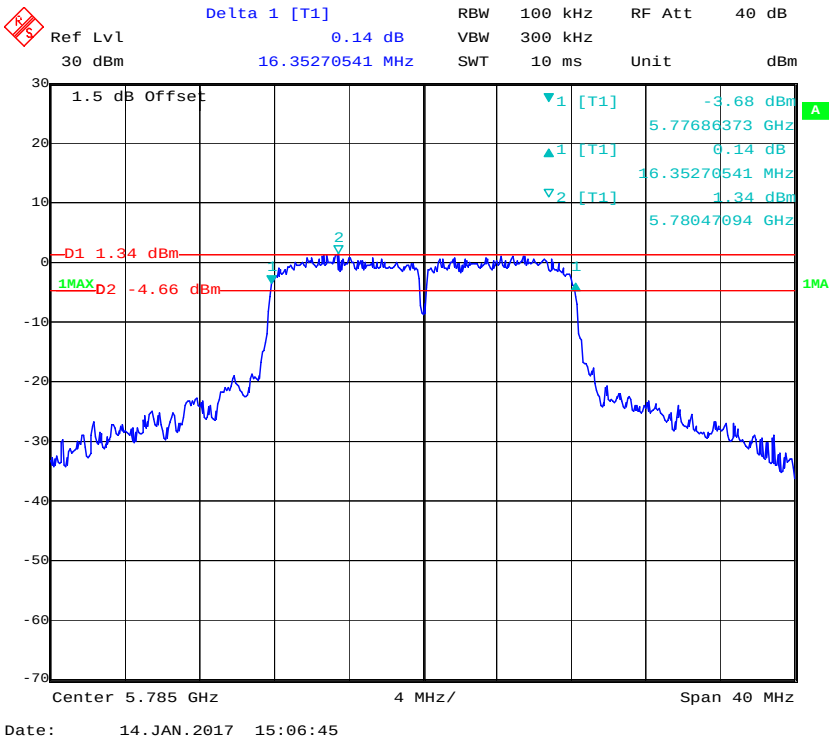


## 6dB Bandwidth:

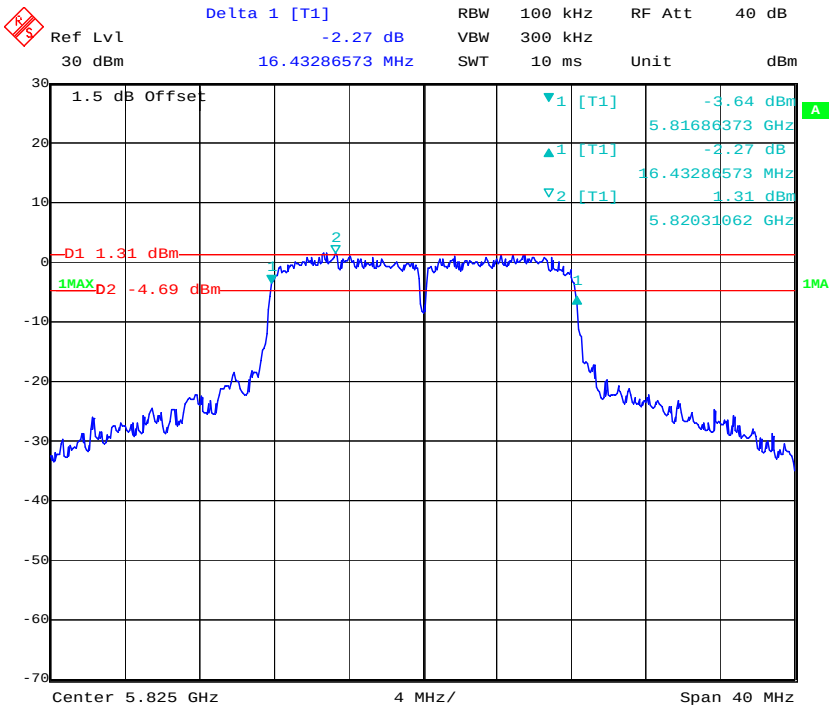
### 802.11a Low Channel




### 802.11a Middle Channel

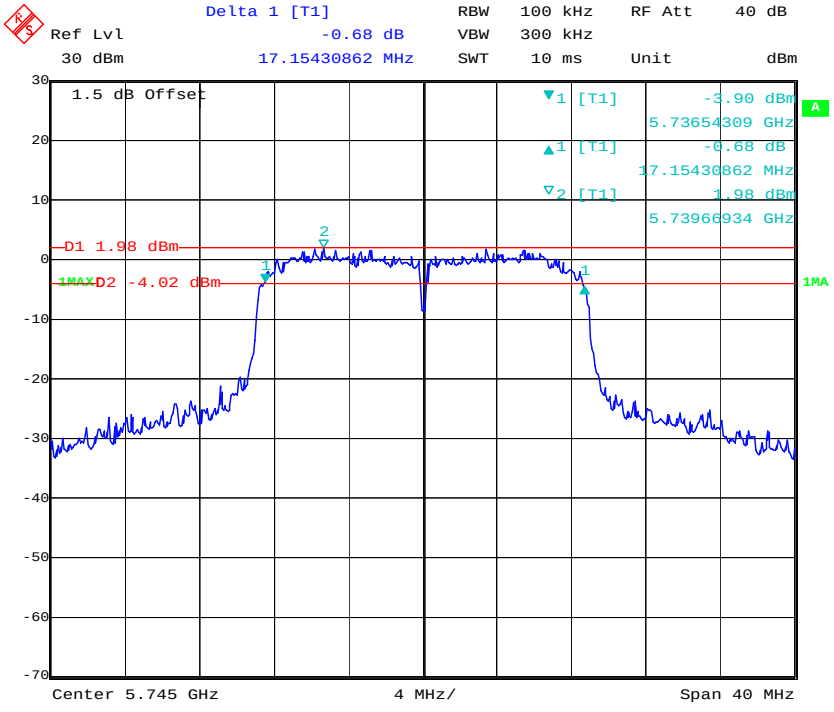


## 802.11a High Channel



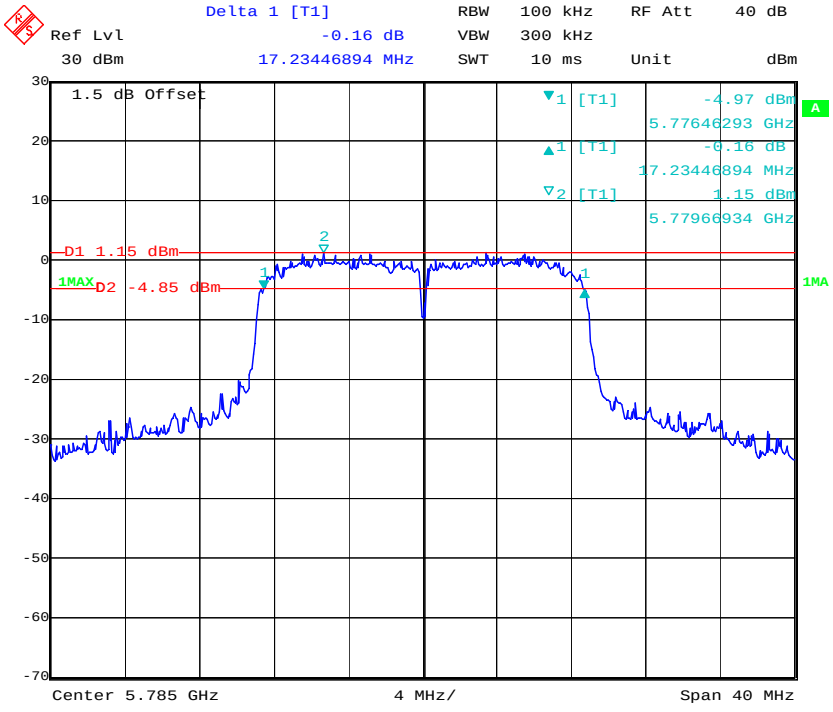

Date: 14.JAN.2017 15:03:42

## 802.11n ht20 Low Channel



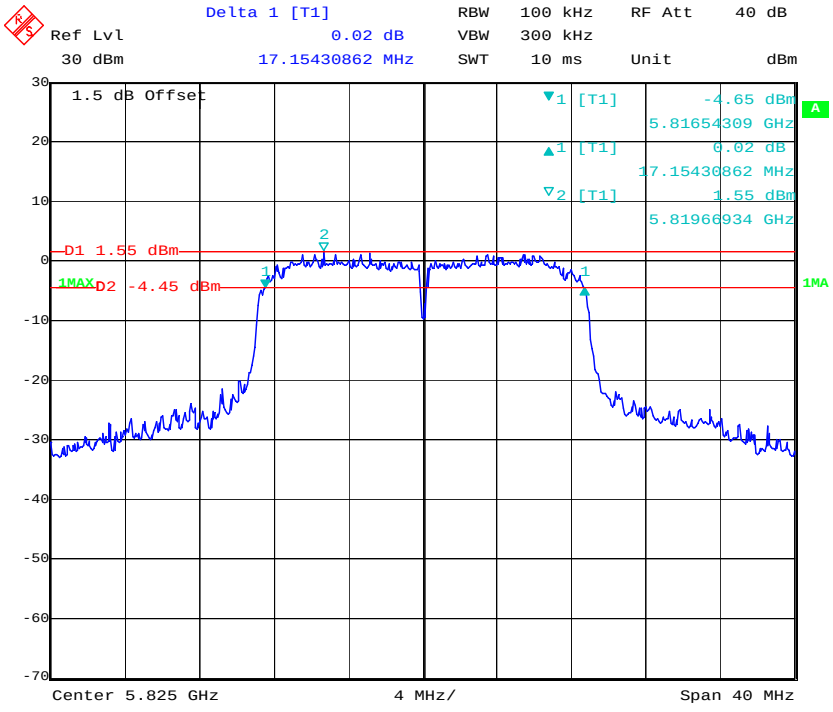

Date: 14.JAN.2017 14:55:40

## 802.11n ht20 Middle Channel



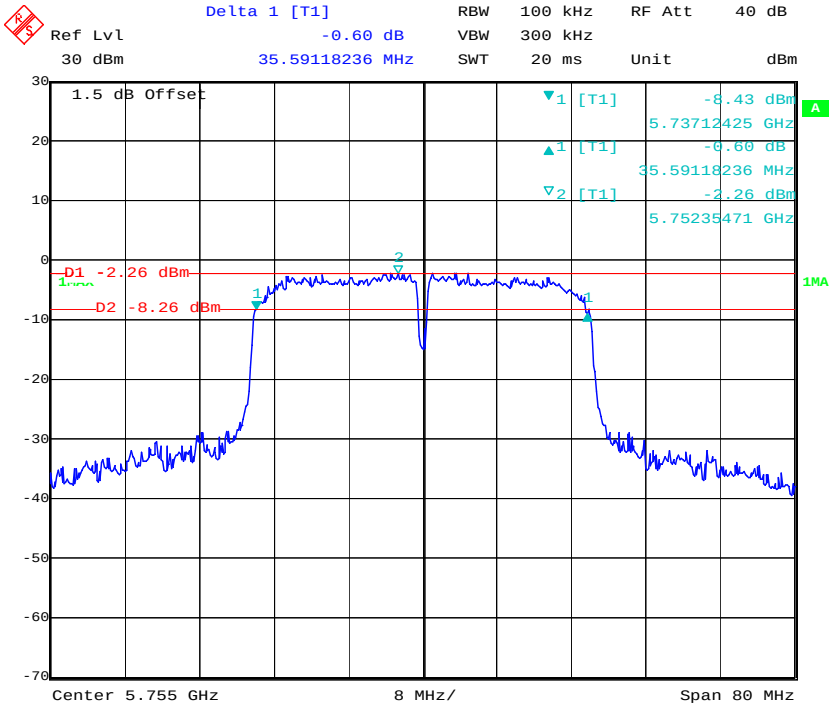

Date: 14.JAN.2017 14:58:18

## 802.11n ht20 High Channel

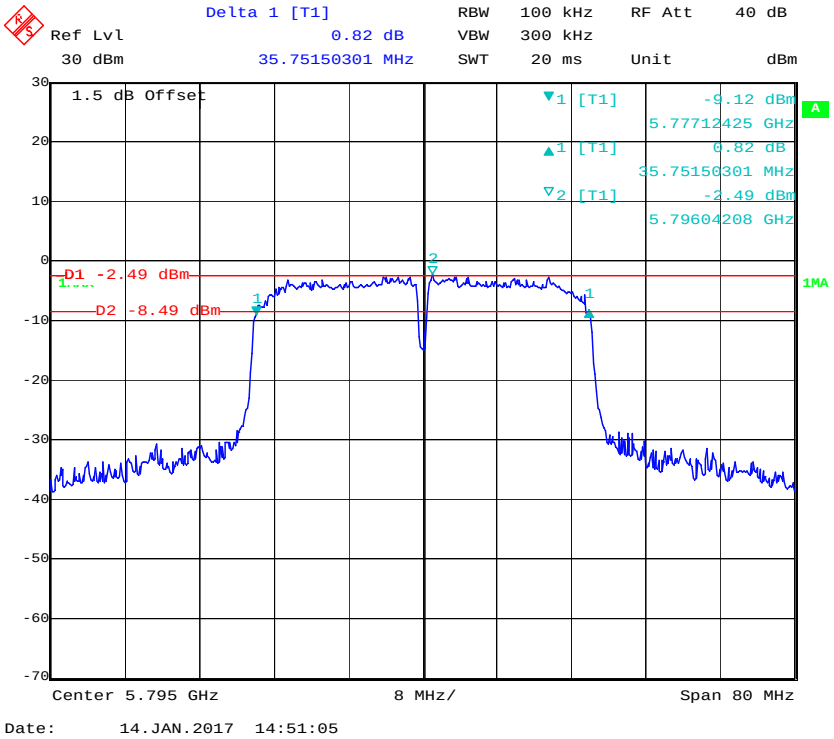



Date: 14.JAN.2017 15:00:50

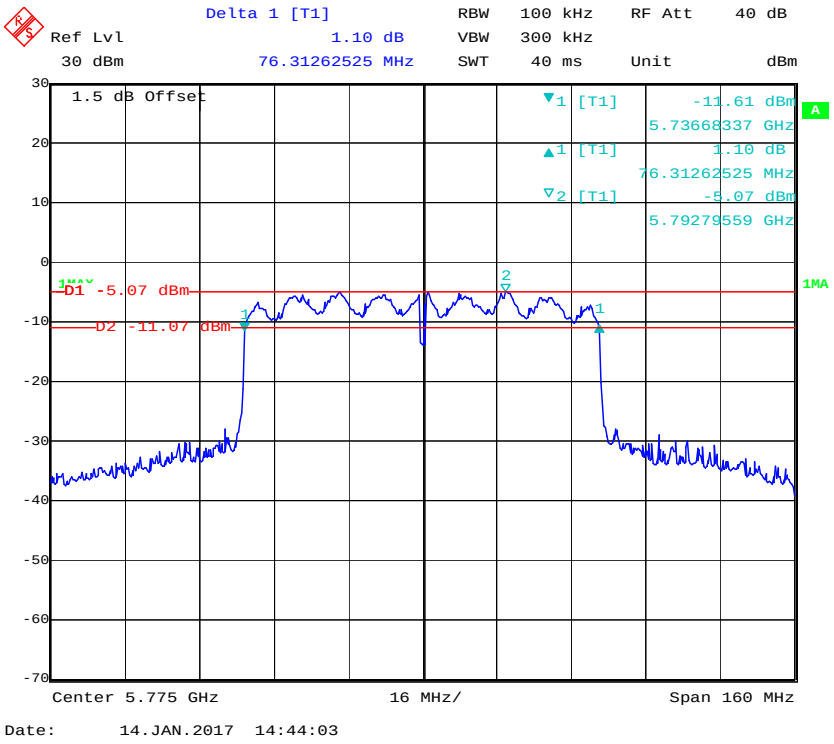
## 802.11n ht40 Low Channel




## 802.11n ht40 High Channel



## 802.11n ac80 Middle Channel



# FCC §15.407(g)–FREQUENCY STABILITY

## Applicable Standard

FCC §15.407(g)

(g) Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

## Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 831929/005 | 2016-09-21 | 2017-09-20 |
| N/A | RF Cable | N/A | N/A | Each Time | / |
| FLUKE | Multimeter | 1587 | 27870099 | 2016-12-30 | 2017-12-29 |
| BACL | High Temperature Test Chamber | BTH-150 | 30024 | 2016-12-02 | 2017-12-01 |

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

## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 26.3 °C |
| **Relative Humidity:** | 39 % |
| **ATM Pressure:** | 95.5 kPa |

*The testing was performed by Tom Tang from 2017-01-14 to 2017-02-23.*

**Test Result:** Pass.

| Un-modulation, channel 5180MHz | | | |
|---|---|---|---|
| **Temperature** | **Voltage** | **Measured Frequency** | **Result** |
| ℃ | **$V_{DC}$** | **MHz** | |
| -20 | 5 | 5180.001 | Pass |
| -10 | | 5180.006 | |
| 10 | | 5180.004 | |
| 20 | | 5180.002 | |
| 30 | | 5180.002 | |
| 40 | | 5180.004 | |

| Un-modulation, channel 5745MHz | | | |
|---|---|---|---|
| **Temperature** | **Voltage** | **Measured Frequency** | **Result** |
| ℃ | **$V_{DC}$** | **MHz** | |
| -20 | 5 | 5745.002 | Pass |
| -10 | | 5745.006 | |
| 10 | | 5745.010 | |
| 20 | | 5745.002 | |
| 30 | | 5745.002 | |
| 40 | | 5745.012 | |

Note: the frequency stability range plus the operation bandwidth edge within the operation band.

# FCC §15.407(a) –MAXIMUM CONDUCTED OUTPUT POWER

## Applicable Standard

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output

power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(4) The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Agilent | Wideband Power Sensor | N1921A | MY54170074 | 2017-01-03 | 2018-01-03 |
| Agilent | P-Series Power Meter | N1912A | MY5000798 | 2017-01-03 | 2018-01-03 |
| N/A | RF Cable | N/A | N/A | Each Time | / |

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

## Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 24.6~25 °C |
| **Relative Humidity:** | 32~35 % |
| **ATM Pressure:** | 95.6~95.8 kPa |

*The testing was performed by Tom Tang from 2017-01-14 to 2017-02-23.*

*Test Mode: Transmitting*

***1TX:***

| UNII Band | Mode | Channel | Frequency (MHz) | RMS Channel Power (dBm) | | | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| | | | | Chain 0 | Chain 1 | Chain 2 | | |
| 5150-5250MHz | 802.11 a | Low | 5180 | 15.52 | 17.31 | 17.36 | 24 | PASS |
| | | Middle | 5200 | 15.7 | 17.75 | 18.22 | 24 | PASS |
| | | High | 5240 | 15.86 | 17.89 | 18.27 | 24 | PASS |
| | 802.11n ht20 | Low | 5180 | 15.09 | 15.62 | 15.74 | 24 | PASS |
| | | Middle | 5200 | 15.18 | 17.73 | 17.71 | 24 | PASS |
| | | High | 5240 | 15.34 | 18.25 | 18.61 | 24 | PASS |
| | 802.11n ht40 | Low | 5190 | 14.16 | 15 | 14.95 | 24 | PASS |
| | | High | 5230 | 14.39 | 15.61 | 15.35 | 24 | PASS |
| | 802.11 ac80 | Middle | 5210 | 14.68 | 13.66 | 14.62 | 24 | PASS |
| 5725-5850MHz | 802.11 a | Low | 5745 | 16.09 | 15.28 | 16.34 | 30 | PASS |
| | | Middle | 5785 | 15.65 | 15.22 | 16.3 | 30 | PASS |
| | | High | 5825 | 15.84 | 15.68 | 16.72 | 30 | PASS |
| | 802.11n ht20 | Low | 5745 | 16.21 | 15.2 | 16.41 | 30 | PASS |
| | | Middle | 5785 | 15.61 | 15.1 | 16.14 | 30 | PASS |
| | | High | 5825 | 15.7 | 15.61 | 16.53 | 30 | PASS |
| | 802.11n ht40 | Low | 5755 | 15.4 | 14.49 | 15.56 | 30 | PASS |
| | | High | 5795 | 15.06 | 14.63 | 15.97 | 30 | PASS |
| | 802.11 ac80 | Middle | 5775 | 14.98 | 14.53 | 16.01 | 30 | PASS |

**2TX:**

| UNII Band | Mode | Channel | Frequency (MHz) | RMS Channel Power (dBm) | | Total (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| | | | | Chain 0 | Chain 1 | | | |
| 5150-5250MHz | 802.11n ht20 | Low | 5180 | 14.97 | 14.64 | 17.82 | 24 | PASS |
| | | Middle | 5200 | 15.44 | 15.73 | 18.6 | 24 | PASS |
| | | High | 5240 | 15.7 | 15.44 | 18.58 | 24 | PASS |
| | 802.11n ht40 | Low | 5190 | 13.5 | 13.79 | 16.66 | 24 | PASS |
| | | High | 5230 | 13.86 | 13.89 | 16.89 | 24 | PASS |
| | 802.11 ac80 | Middle | 5210 | 13.19 | 12.57 | 15.9 | 24 | PASS |
| 5725-5850MHz | 802.11n ht20 | Low | 5745 | 18.16 | 17.24 | 20.73 | 30 | PASS |
| | | Middle | 5785 | 17.3 | 17.48 | 20.4 | 30 | PASS |
| | | High | 5825 | 17.07 | 18.17 | 20.67 | 30 | PASS |
| | 802.11n ht40 | Low | 5755 | 15.87 | 14.45 | 18.23 | 30 | PASS |
| | | High | 5795 | 14.02 | 14.74 | 17.41 | 30 | PASS |
| | 802.11 ac80 | Middle | 5775 | 14.07 | 14.24 | 17.17 | 30 | PASS |

**3TX:**

| UNII Band | Mode | Channel | Frequency (MHz) | RMS Channel Power (dBm) | | | Total (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Chain 0 | Chain 1 | Chain 2 | | | |
| 5150-5250MHz | 802.11n ht20 | Low | 5180 | 9.24 | 10.21 | 7.8 | 13.96 | 24 | PASS |
| | | Middle | 5200 | 9.11 | 10.03 | 7.11 | 13.68 | 24 | PASS |
| | | High | 5240 | 9.4 | 9.48 | 6.76 | 13.49 | 24 | PASS |
| | 802.11n ht40 | Low | 5190 | 8.07 | 9.55 | 6.36 | 12.96 | 24 | PASS |
| | | High | 5230 | 8.42 | 8.88 | 5.79 | 12.66 | 24 | PASS |
| | 802.11 ac80 | Middle | 5210 | 8.14 | 9.41 | 6.34 | 12.91 | 24 | PASS |
| 5725-5850MHz | 802.11n ht20 | Low | 5745 | 15.58 | 16.6 | 16.76 | 21.12 | 30 | PASS |
| | | Middle | 5785 | 15.01 | 15.44 | 16.69 | 20.54 | 30 | PASS |
| | | High | 5825 | 15.11 | 15.47 | 16.47 | 20.49 | 30 | PASS |
| | 802.11n ht40 | Low | 5755 | 14.86 | 14.56 | 16.17 | 20.03 | 30 | PASS |
| | | High | 5795 | 14.53 | 14.42 | 16.33 | 19.96 | 30 | PASS |
| | 802.11 ac80 | Middle | 5775 | 14.93 | 14.37 | 16.41 | 20.1 | 30 | PASS |

Note: the 3 antenna maximum atenna gains are 4dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

So:

Directional gain = GANT + Array Gain = 4dBi < 6dBi

# FCC §15.407(a) - POWER SPECTRAL DENSITY

## Applicable Standard

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output

power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

## Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

## Test Equipment List and Details

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Rohde & Schwarz | Signal Analyzer | FSIQ26 | 831929/005 | 2016-09-21 | 2017-09-20 |
| N/A | RF Cable | N/A | N/A | Each Time | / |

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

## Test Data

### Environmental Conditions

| | |
|---|---|
| **Temperature:** | 24.6~25 °C |
| **Relative Humidity:** | 32~35 % |
| **ATM Pressure:** | 95.6~95.8 kPa |

*The testing was performed by Tom Tang from 2017-01-14 to 2017-02-23.*

*Test Mode: Transmitting*

*Test Result:Compliance.Please refer to the following table and plot.*

**5150-5250MHz**

**1Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/MHz) | | | Limits (dBm/MHz) |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | |
| 802.11a | 5180 | 4.68 | 6.65 | 6.79 | 11 |
| | 5200 | 5.06 | 7.04 | 7.38 | 11 |
| | 5240 | 5.13 | 7.29 | 7.52 | 11 |
| 802.11n ht20 | 5180 | 4.38 | 4.81 | 4.95 | 11 |
| | 5200 | 4.34 | 7.12 | 6.89 | 11 |
| | 5240 | 4.65 | 7.4 | 7.8 | 11 |
| 802.11n ht40 | 5190 | 0.47 | 1.14 | 1.21 | 11 |
| | 5230 | 0.64 | 1.82 | 1.67 | 11 |
| 802.11 ac80 | 5210 | -1.12 | 0.07 | -1.39 | 11 |

**2Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/MHz) | | Total (dBm/MHz) | Limits (dBm/MHz) |
|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | | |
| 802.11n ht20 | 5180 | 3.84 | 3.77 | 6.82 | 10 |
| | 5200 | 4.69 | 4.83 | 7.77 | 10 |
| | 5240 | 4.89 | 4.43 | 7.68 | 10 |
| 802.11n ht40 | 5190 | -0.37 | 0.23 | 2.95 | 10 |
| | 5230 | 1.47 | 0.38 | 3.97 | 10 |
| 802.11 ac80 | 5210 | -3.01 | -3.52 | -0.25 | 10 |

Note: the 2 antenna maximum atenna gain are 4dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 4+10*log(2) =7 dBi > 6dBi
Power density Limit = 11 – (7-6) = 10dBm

**3Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/MHz) | | | Total (dBm/MHz) | Limits (dBm/MHz) |
|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | | |
| 802.11n ht20 | 5180 | -2.23 | -0.74 | -2.98 | 2.89 | 8.23 |
| | 5200 | -1.85 | -0.72 | -4.15 | 2.75 | 8.23 |
| | 5240 | -1.66 | -1.45 | -4.13 | 2.52 | 8.23 |
| 802.11n ht40 | 5190 | -6.09 | -3.82 | -7.65 | -0.79 | 8.23 |
| | 5230 | -5.6 | -4.31 | -7.85 | -0.91 | 8.23 |
| 802.11 ac80 | 5210 | -8.07 | -7.03 | -10.18 | -3.47 | 8.23 |

Note 2:. the 3 antenna maximum atenna gain are 4dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

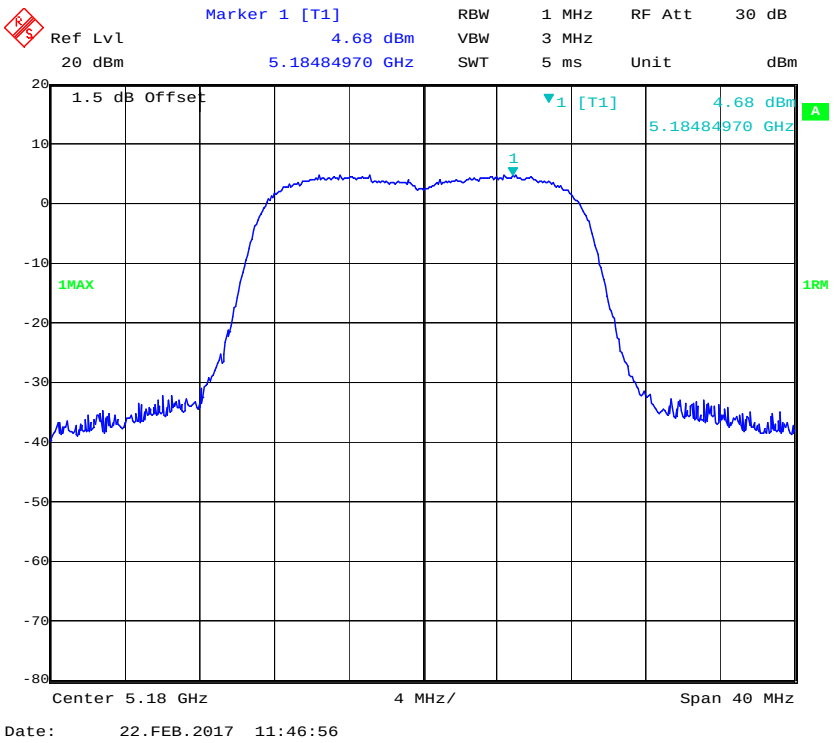
Array Gain = 10 log(NANT/NSS) dB.

So:

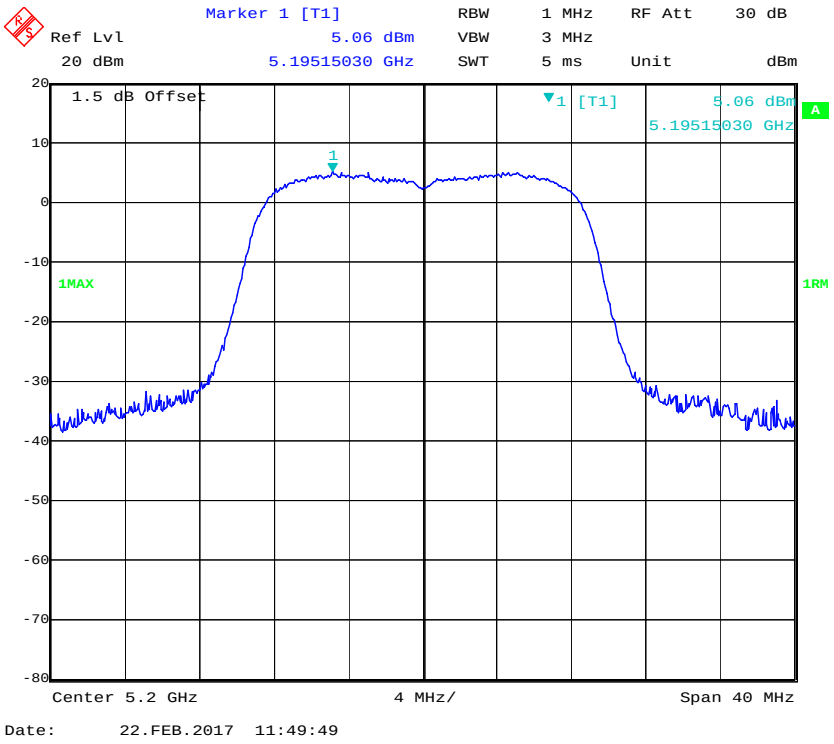
Directional gain = GANT + Array Gain = 4+10*log(3) =8.77 dBi > 6dBi
Power density Limit = 11– (8.77-6) = 8.23dBm

1TX:

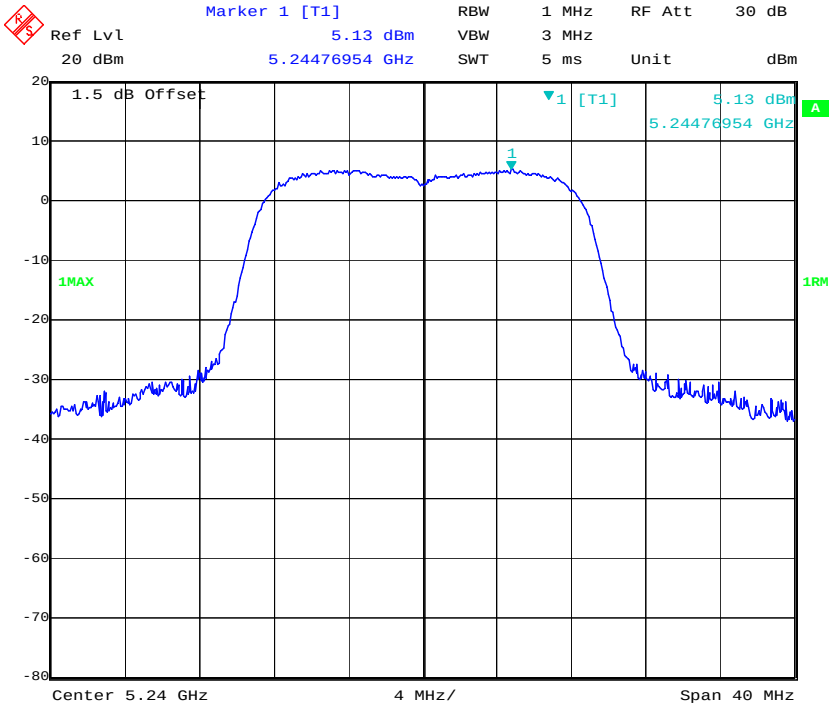
**802.11a Low Channel – Chain0**




**802.11a Middle Channel – Chain0**

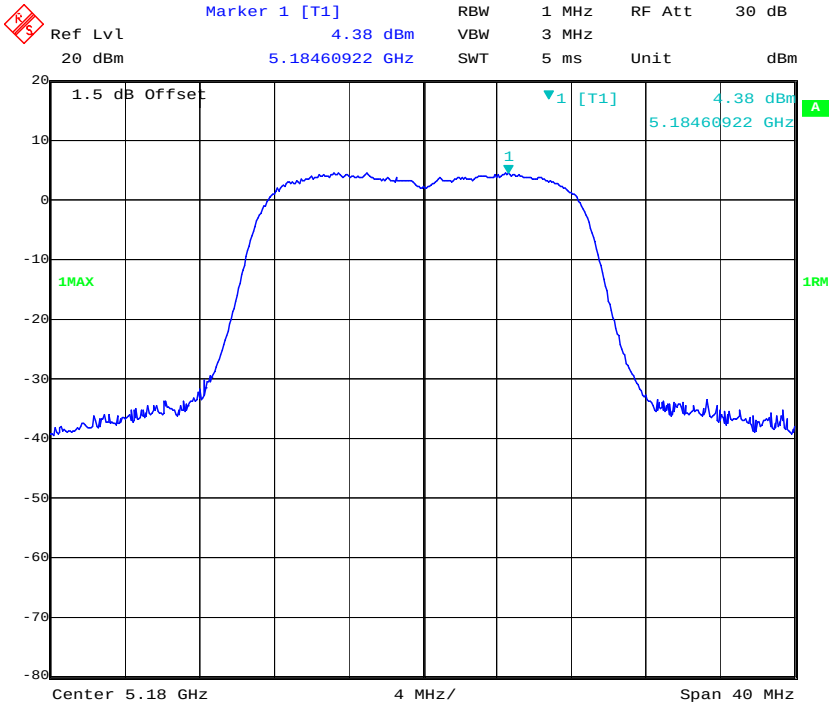


## 802.11a High Channel – Chain0



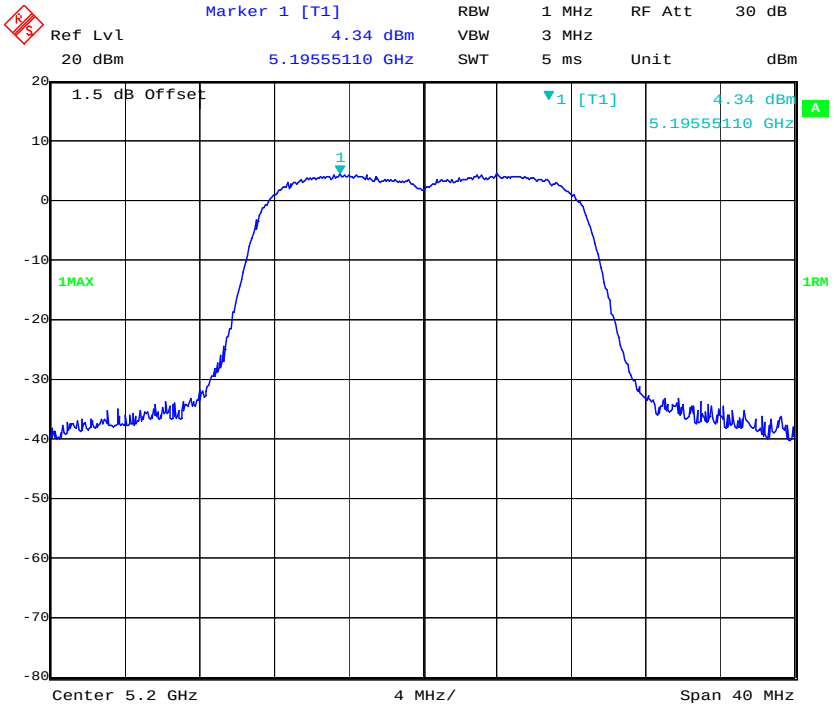

Date: 22.FEB.2017 11:52:06

## 802.11n ht20 Low Channel – Chain0



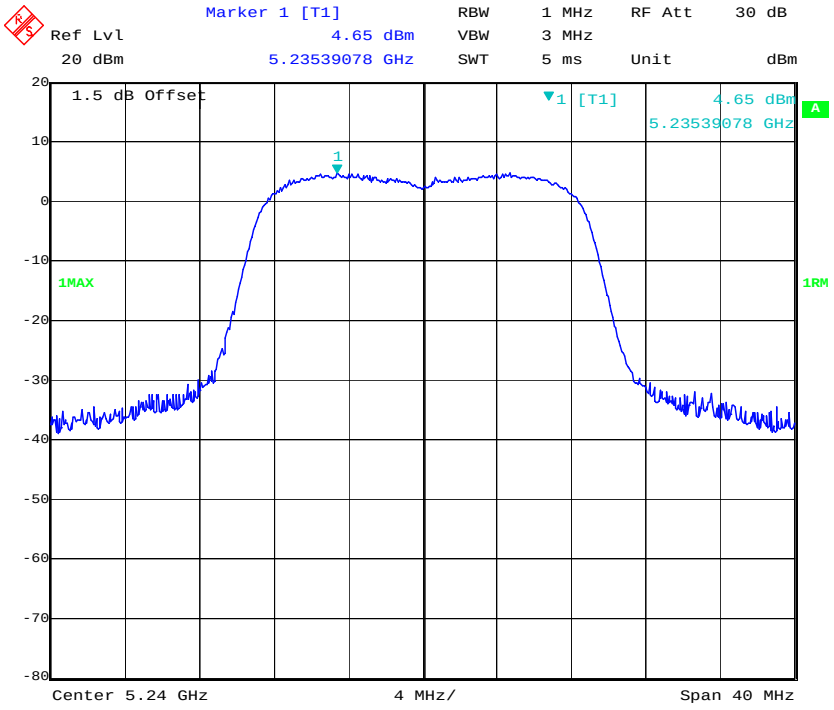

Date: 22.FEB.2017 11:35:00

## 802.11n ht20 Middle Channel – Chain0



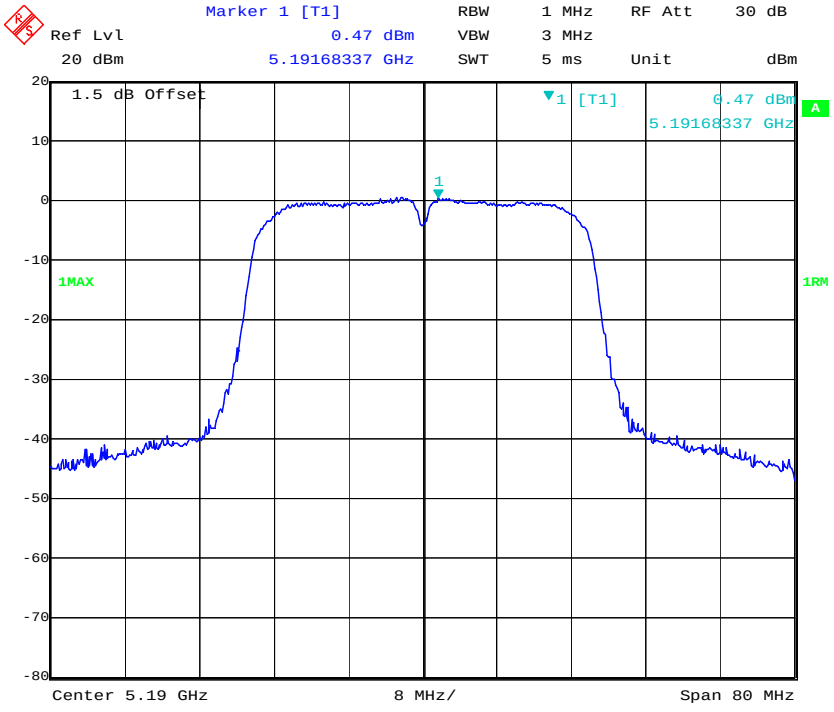

Date: 22.FEB.2017 11:38:31

## 802.11n ht20 High Channel – Chain0



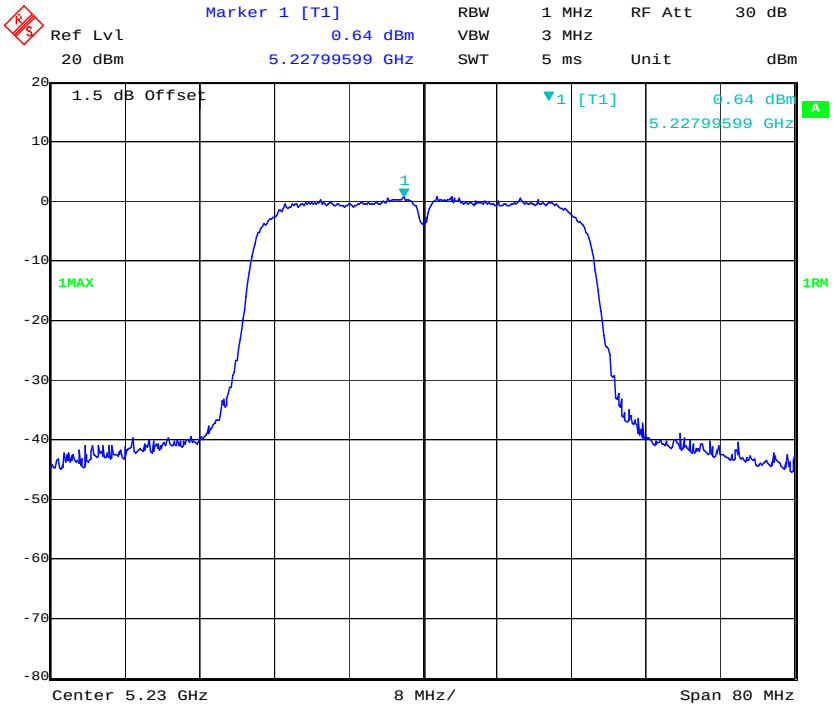

Date: 22.FEB.2017 11:41:23

## 802.11n ht40 Low Channel – Chain0



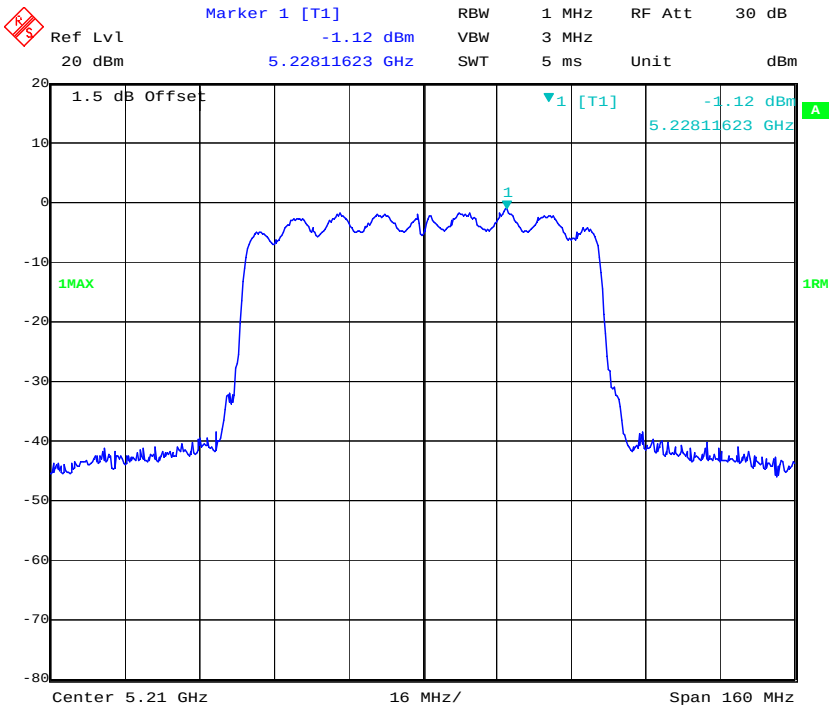

Date: 22.FEB.2017 11:24:46

## 802.11n ht40 High Channel – Chain0



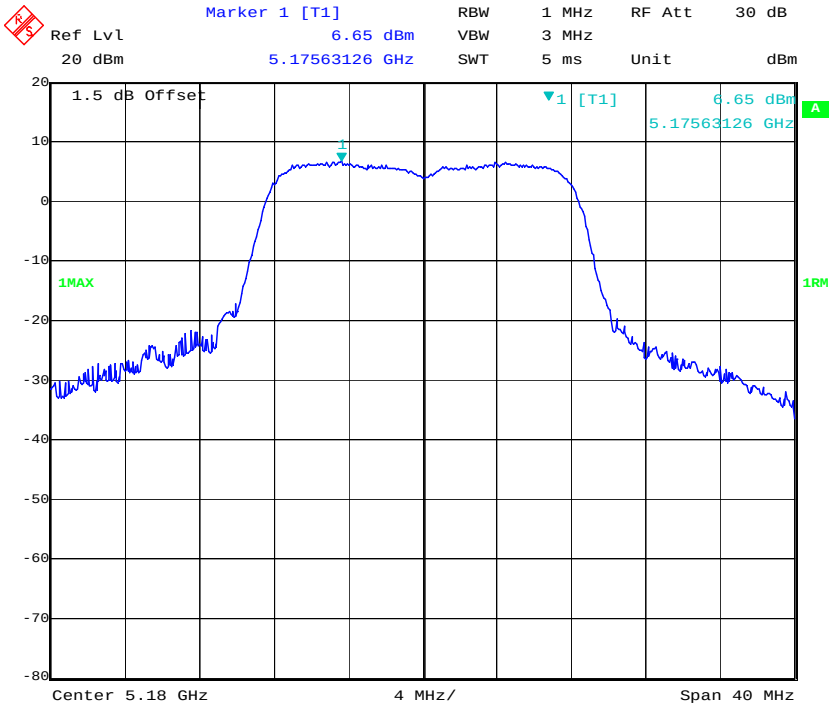

Date: 22.FEB.2017 11:29:24

## 802.11 ac80 Middle Channel – Chain0



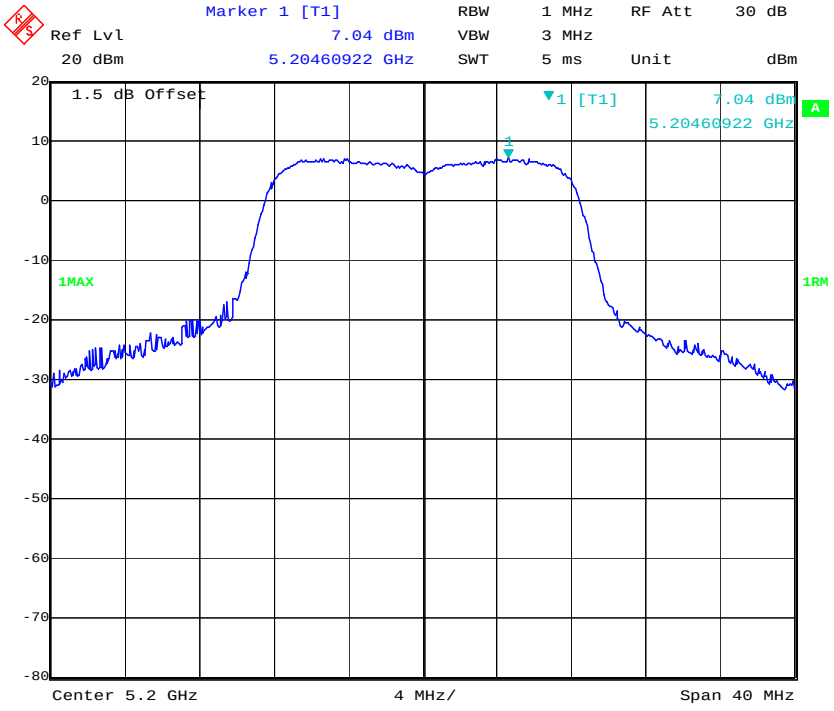

Date: 22.FEB.2017 16:53:42

## 802.11a Low Channel – Chain1



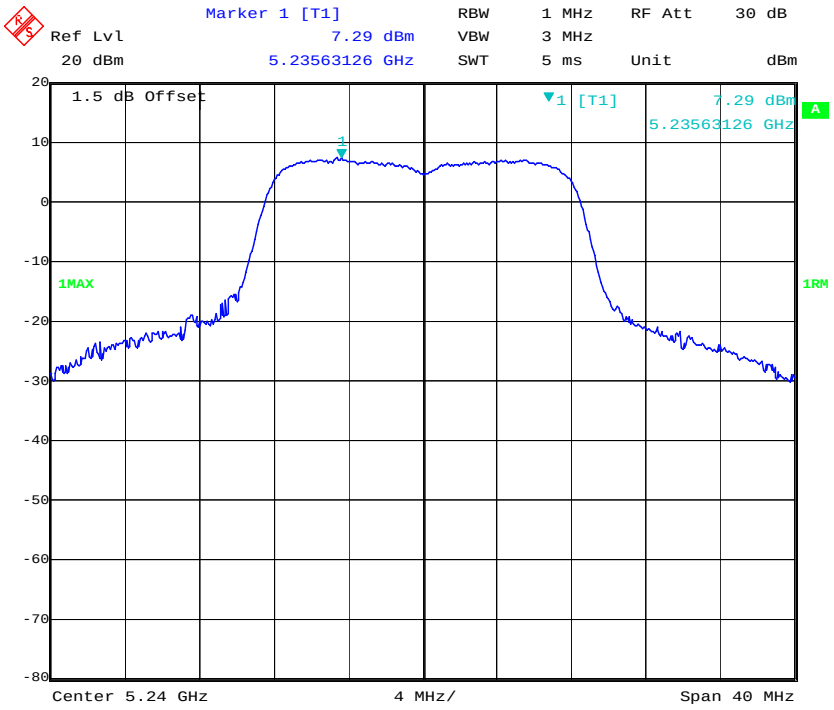

Date: 22.FEB.2017 16:06:01

## 802.11a Middle Channel – Chain1



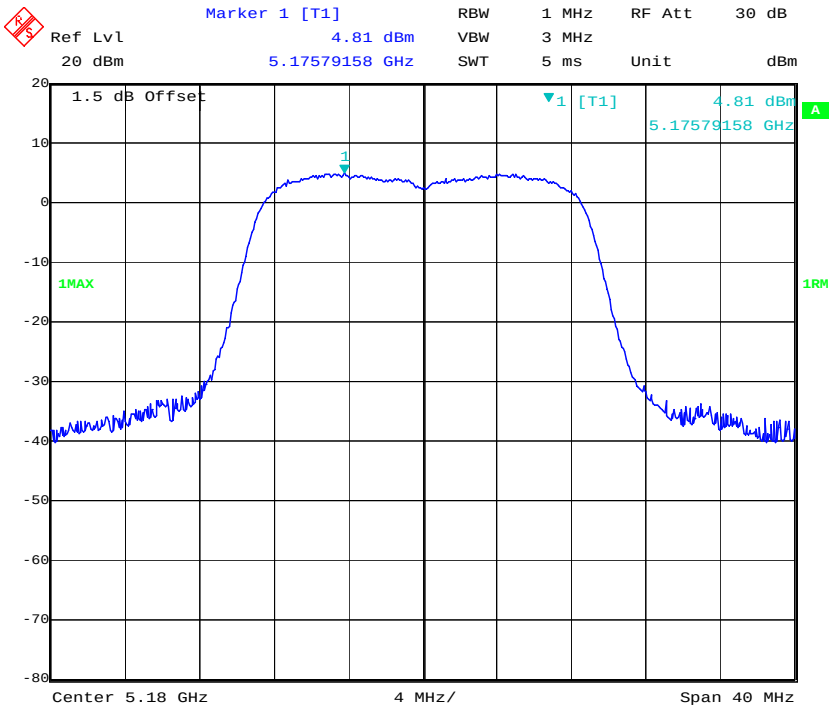

Date: 22.FEB.2017 13:50:58

## 802.11a High Channel – Chain1



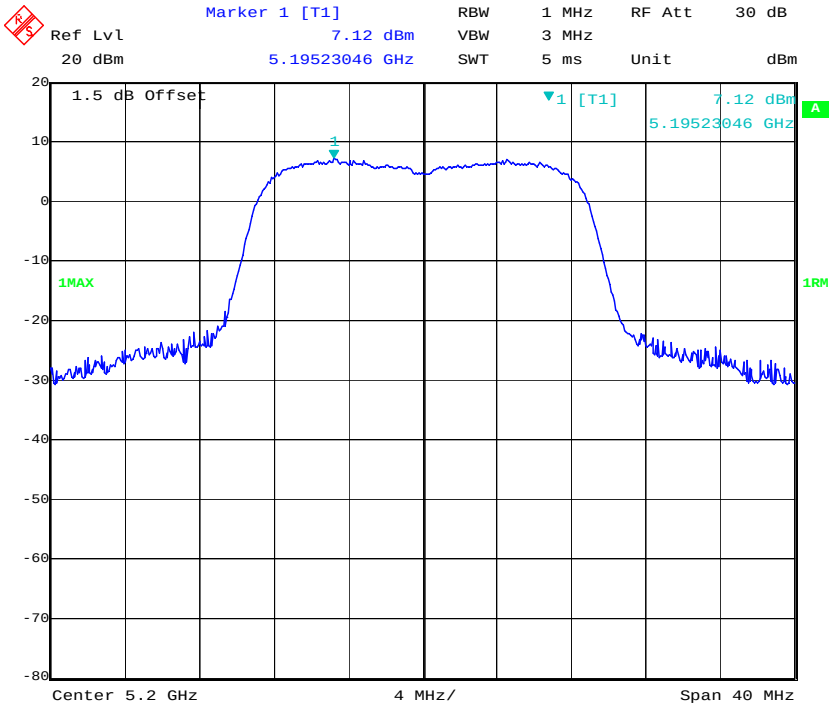

Date: 22.FEB.2017 13:46:47

## 802.11n ht20 Low Channel – Chain1



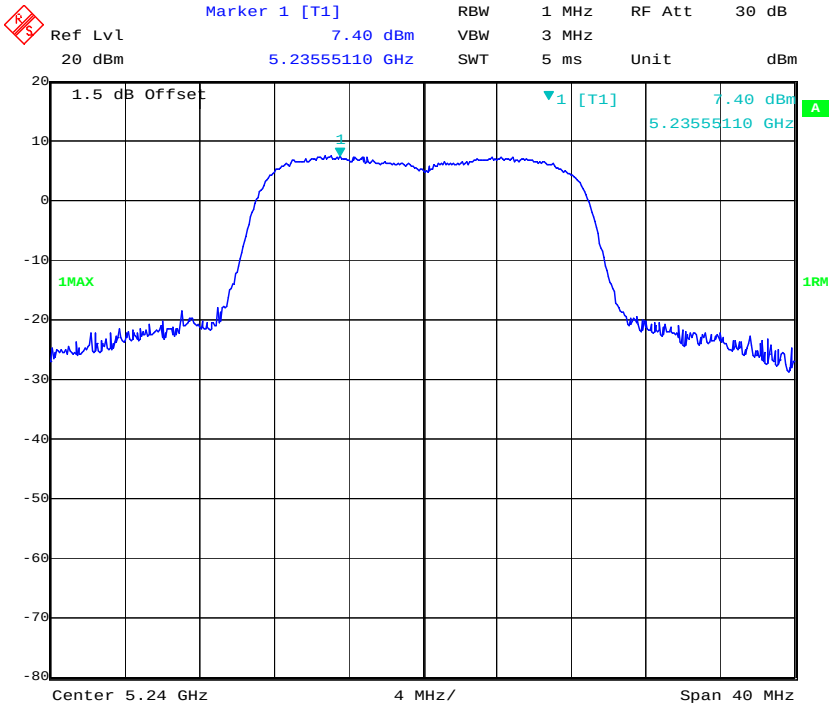

Date: 22.FEB.2017 14:01:44

## 802.11n ht20 Middle Channel – Chain1



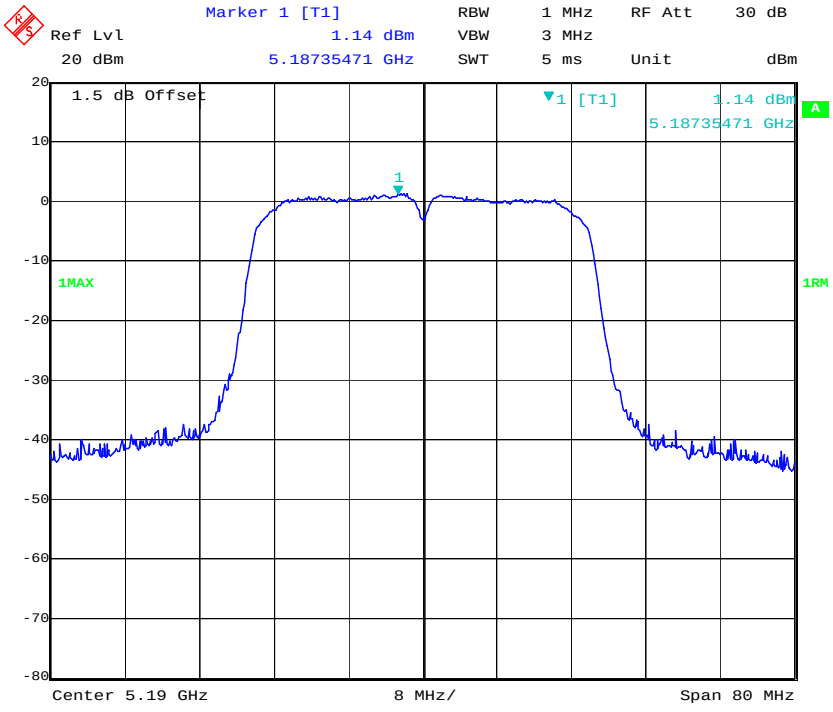

Date: 22.FEB.2017 14:04:56

## 802.11n ht20 High Channel – Chain1



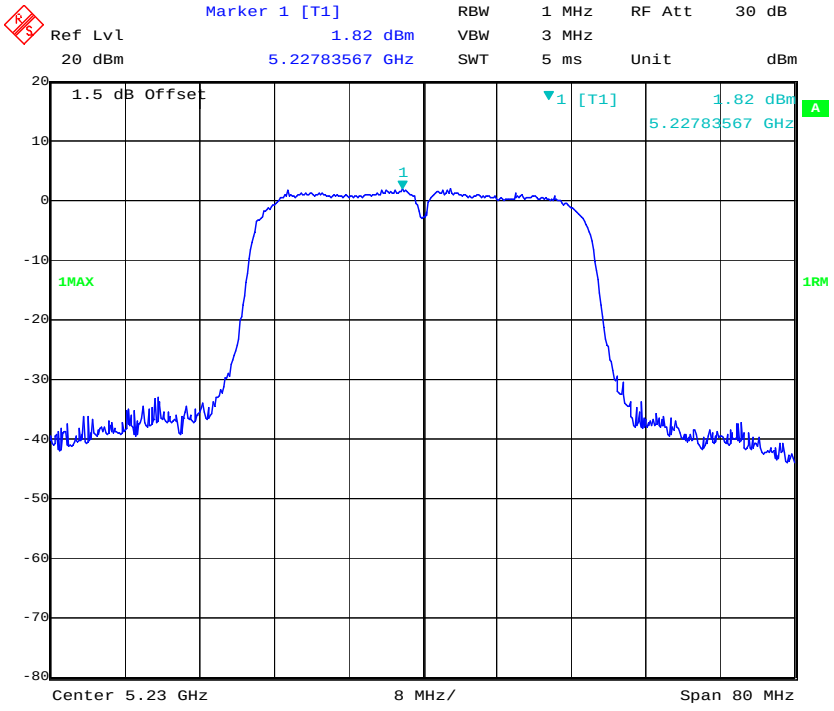

Date: 22.FEB.2017 14:10:07

## 802.11n ht40 Low Channel – Chain1



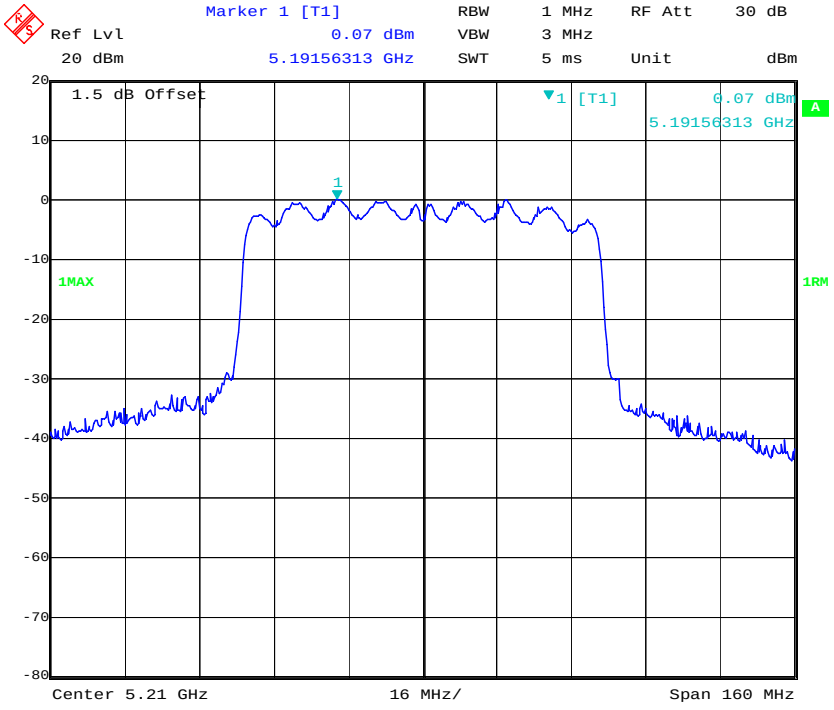

Date: 22.FEB.2017 14:20:41

## 802.11n ht40 High Channel – Chain1



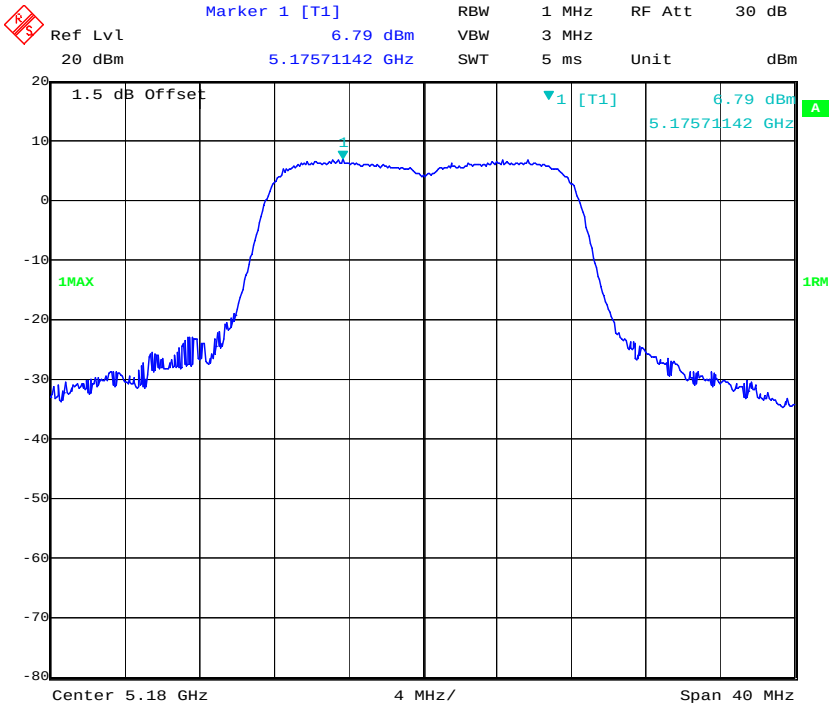

Date: 22.FEB.2017 14:25:31

## 802.11 ac80 Middle Channel – Chain1

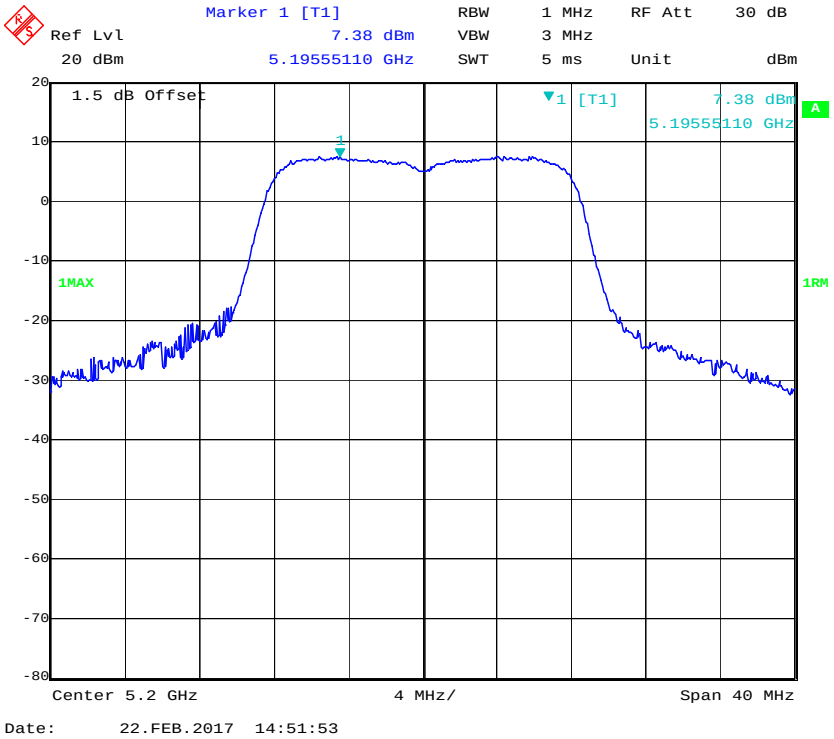



Date: 22.FEB.2017 14:30:38

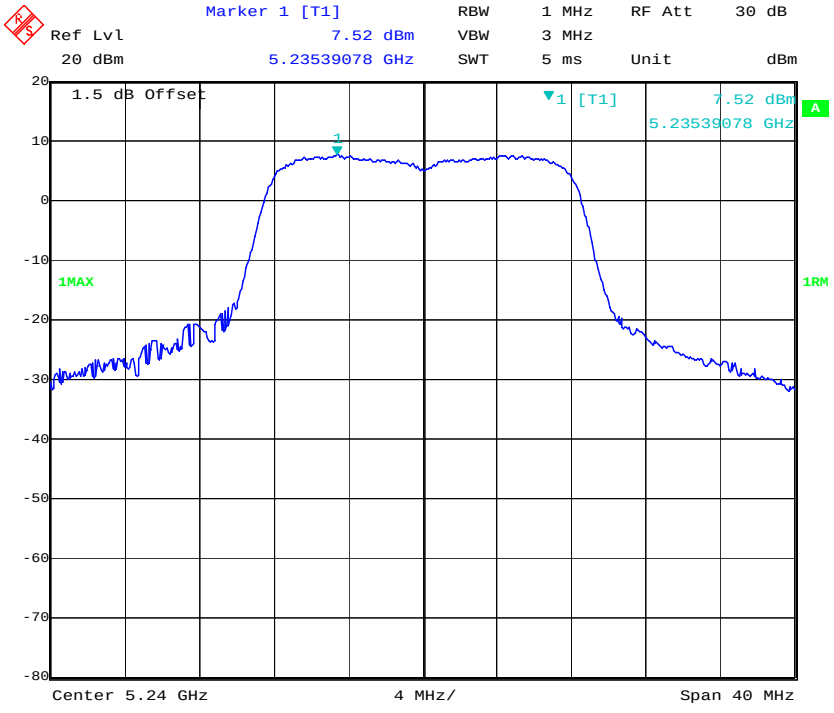
## 802.11a Low Channel – Chain2




## 802.11a Middle Channel – Chain2

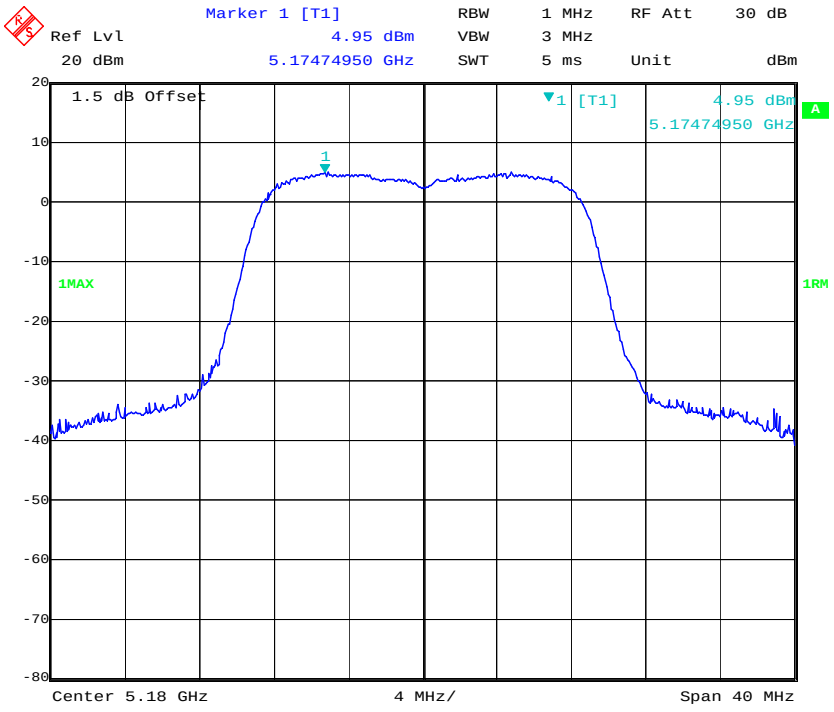


## 802.11a High Channel – Chain2



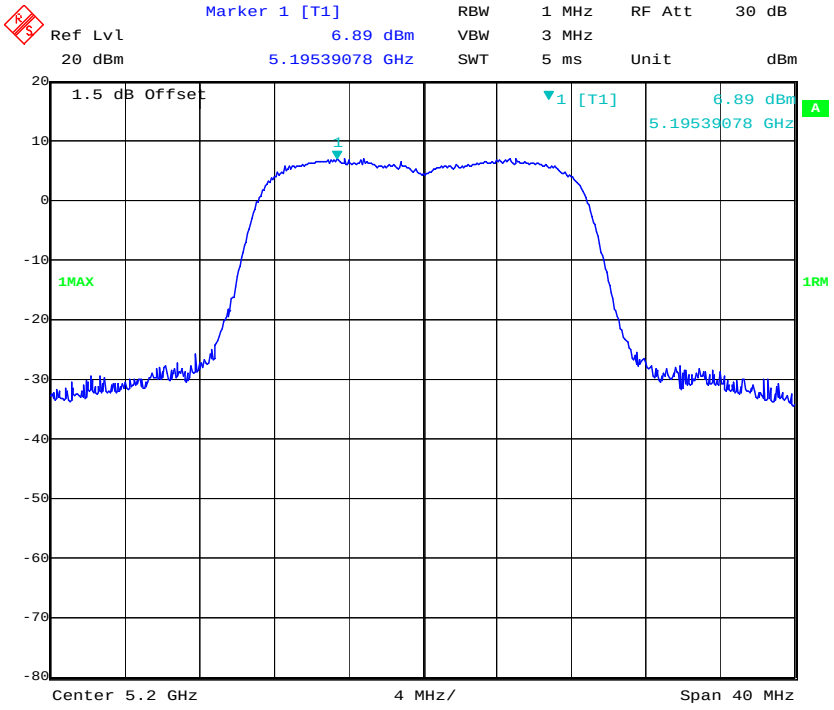

Date: 22.FEB.2017 16:12:02

## 802.11n ht20 Low Channel – Chain2



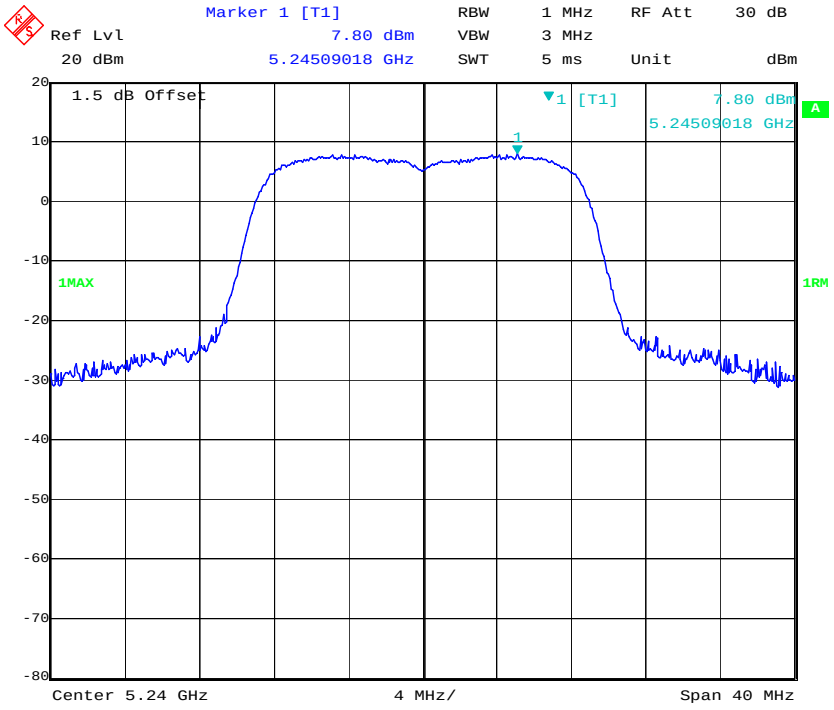

Date: 22.FEB.2017 16:20:15

## 802.11n ht20 Middle Channel – Chain2



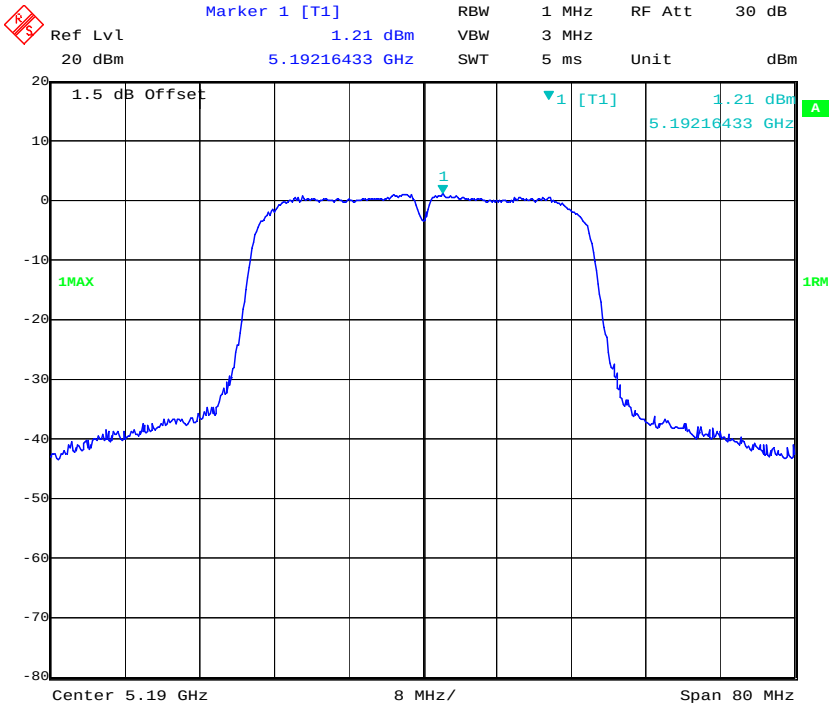

Date: 22.FEB.2017 16:29:17

## 802.11n ht20 High Channel – Chain2



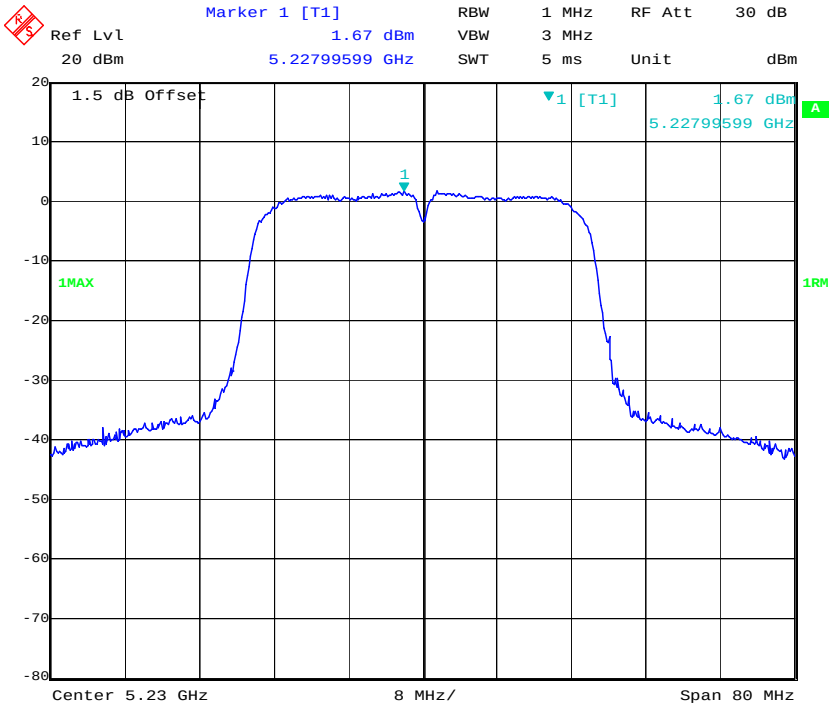

Date: 22.FEB.2017 16:26:09

## 802.11n ht40 Low Channel – Chain2



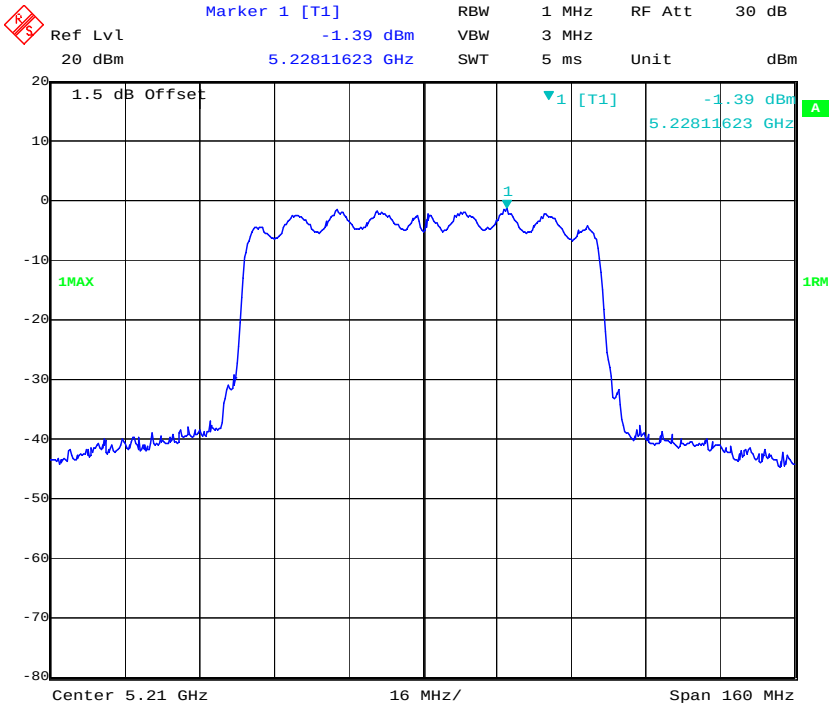

Date: 22.FEB.2017 16:34:39

## 802.11n ht40 High Channel – Chain2



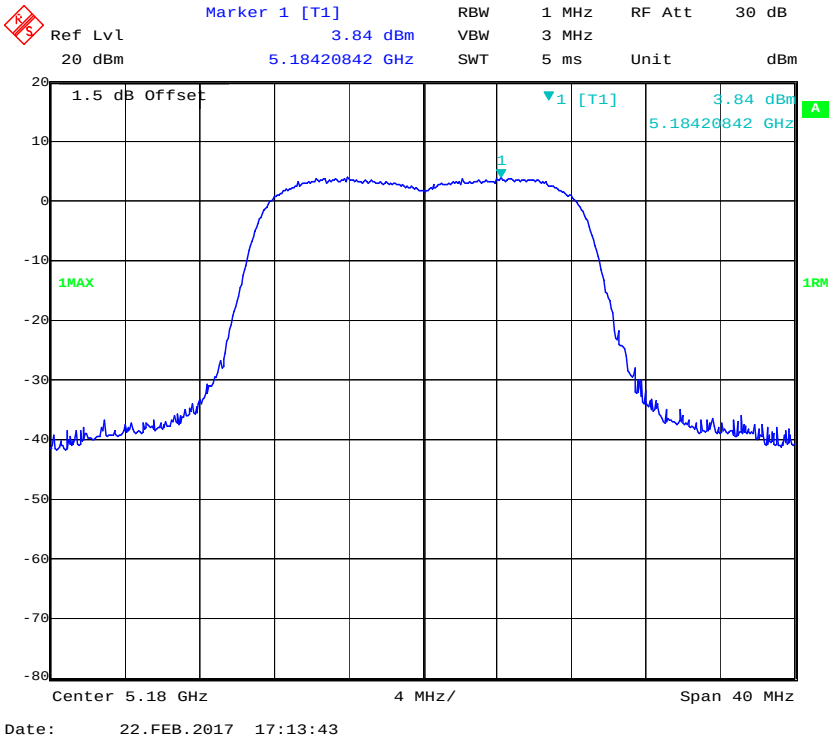

Date: 22.FEB.2017 16:39:33

**802.11 ac80 Middle Channel – Chain2**

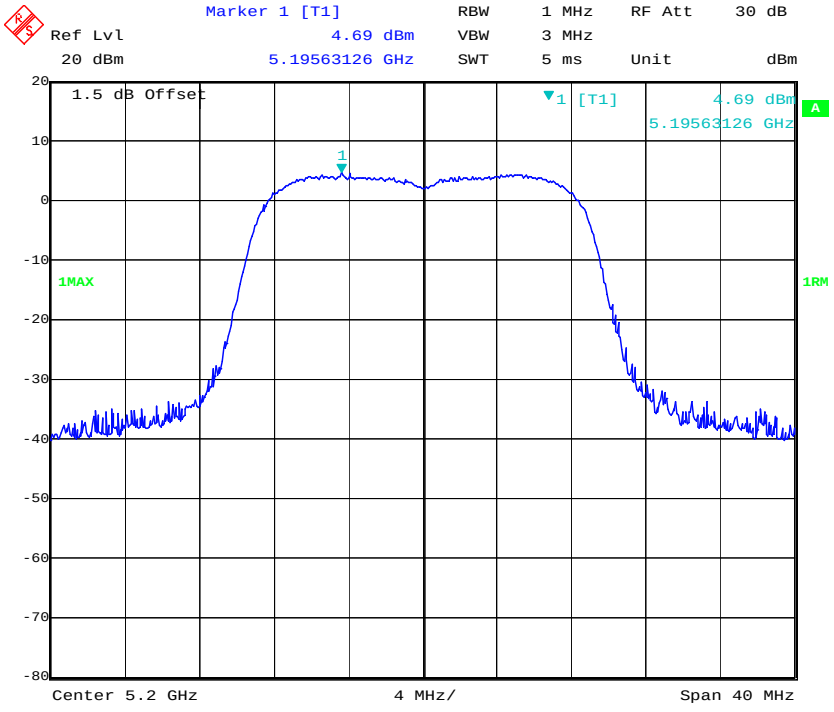



2TX:

**802.11n ht20 Low Channel – Chain0**

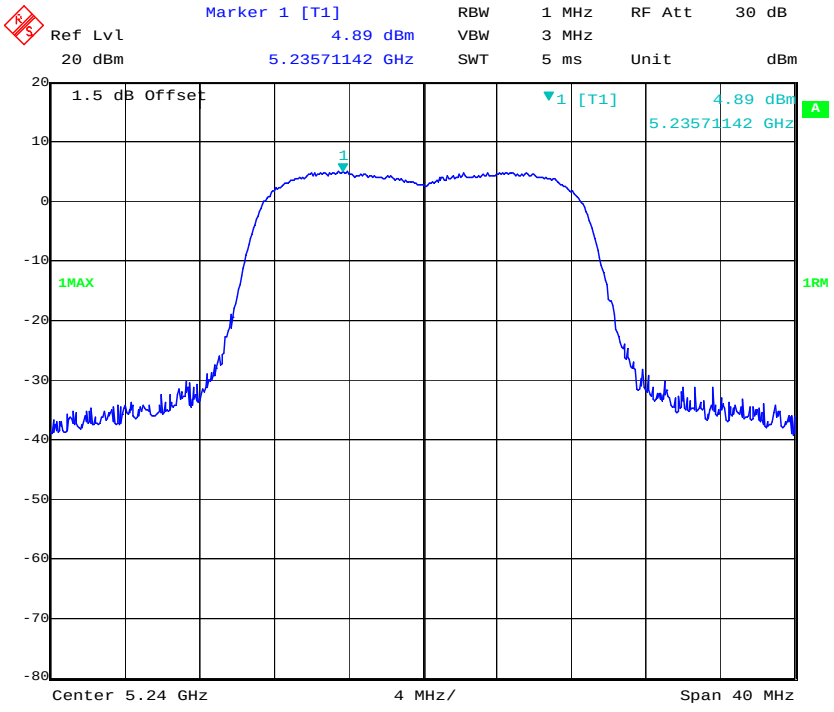


## 802.11n ht20 Middle Channel – Chain0



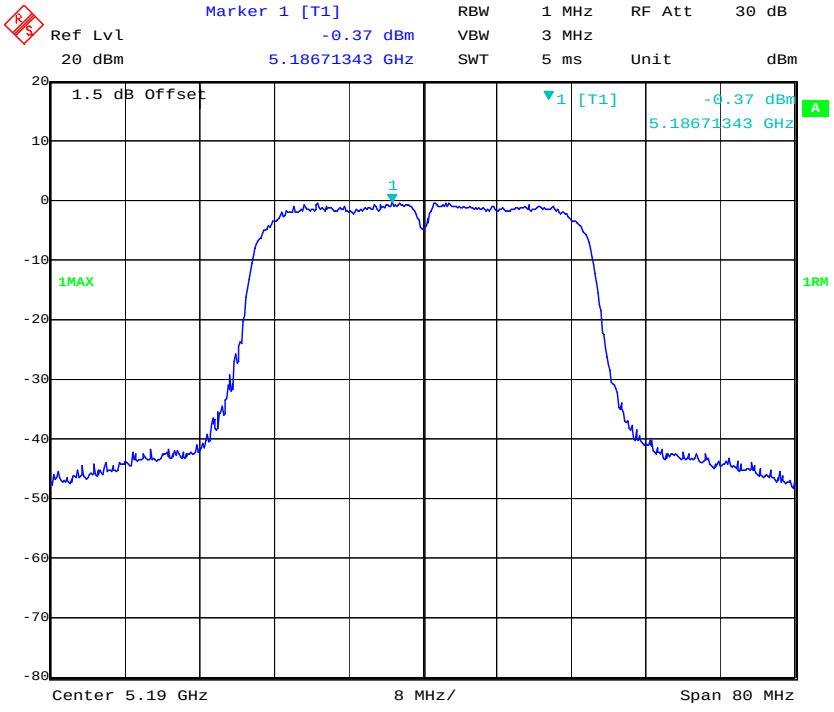

Date: 22.FEB.2017 17:23:36

## 802.11n ht20 High Channel – Chain0



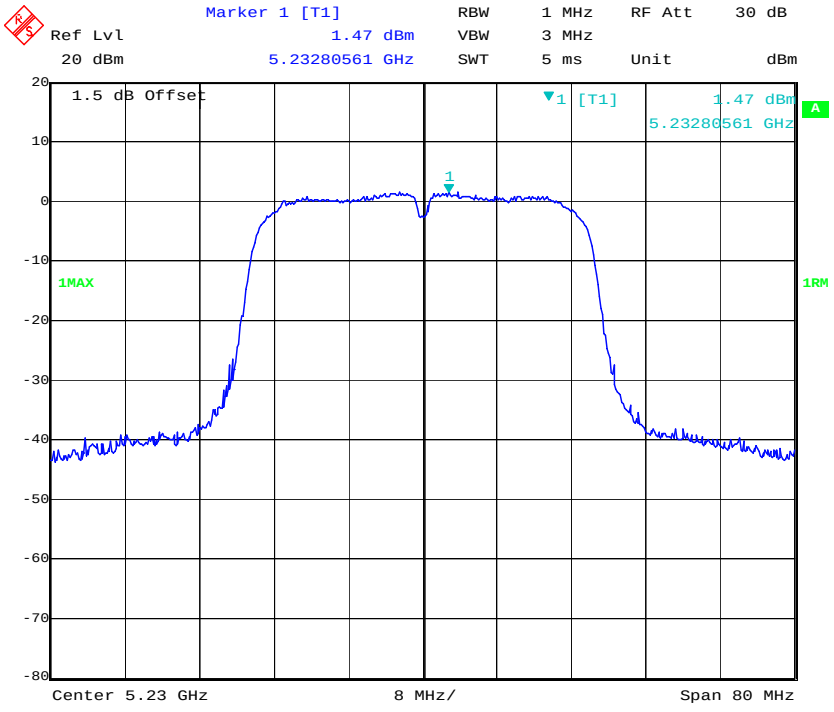

Date: 22.FEB.2017 19:03:17

## 802.11n ht40 Low Channel – Chain0



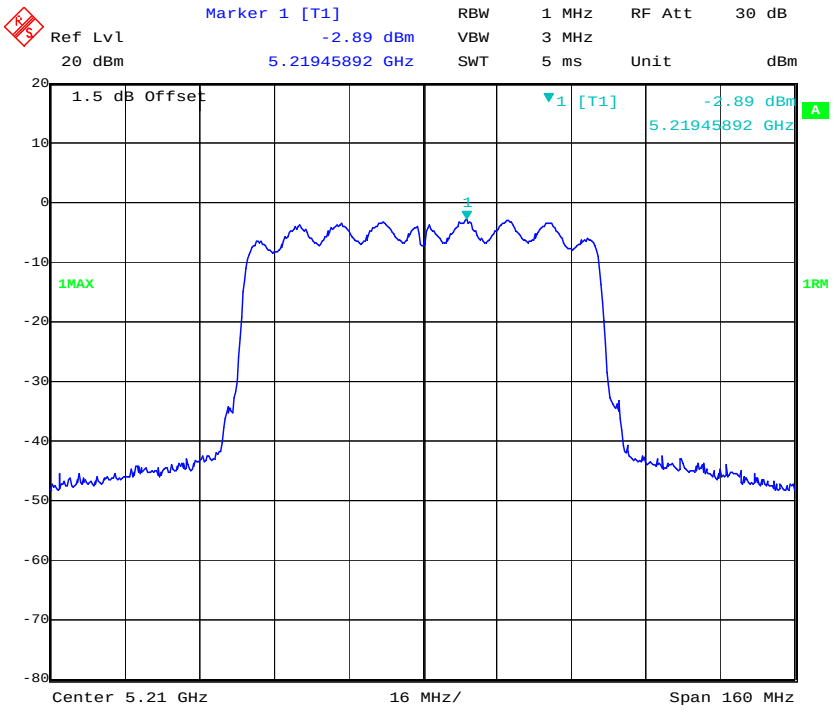

Date: 22.FEB.2017 18:55:51

## 802.11n ht40 High Channel – Chain0



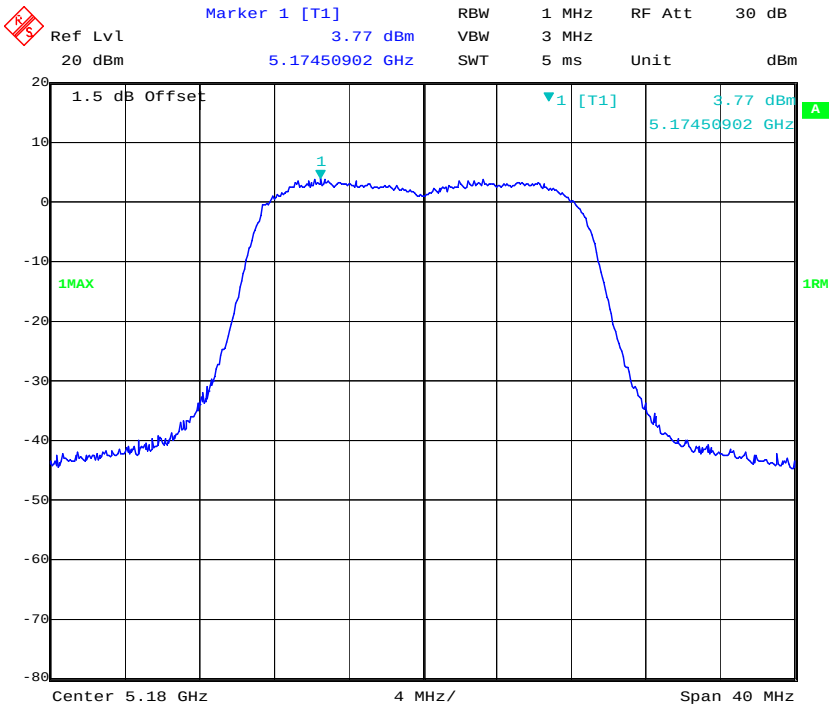

Date: 22.FEB.2017 18:52:32

## 802.11 ac80 Middle Channel – Chain0



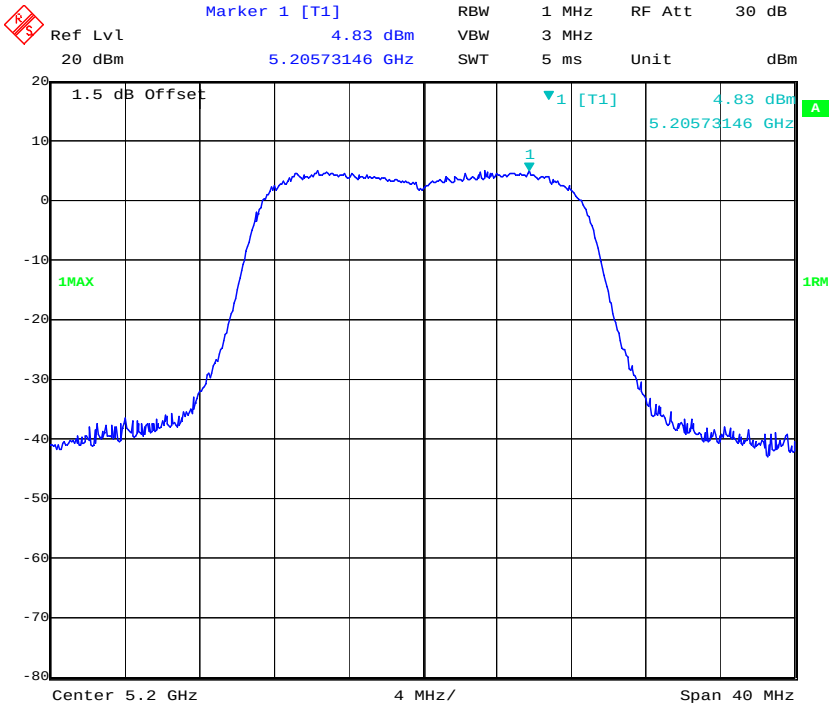

Date: 22.FEB.2017 19:01:20

## 802.11n ht20 Low Channel – Chain1



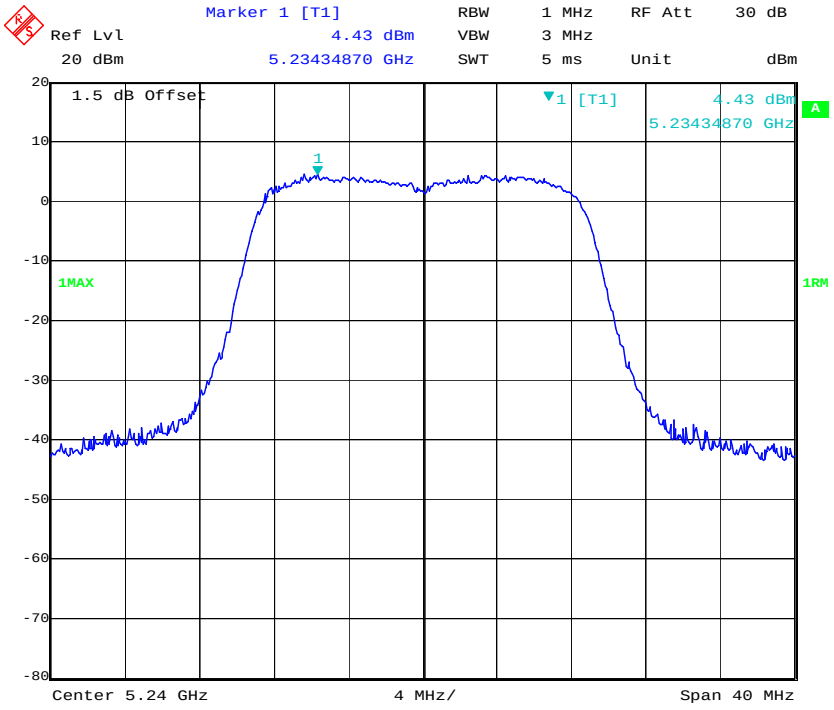

Date: 22.FEB.2017 19:35:17

## 802.11n ht20 Middle Channel – Chain1



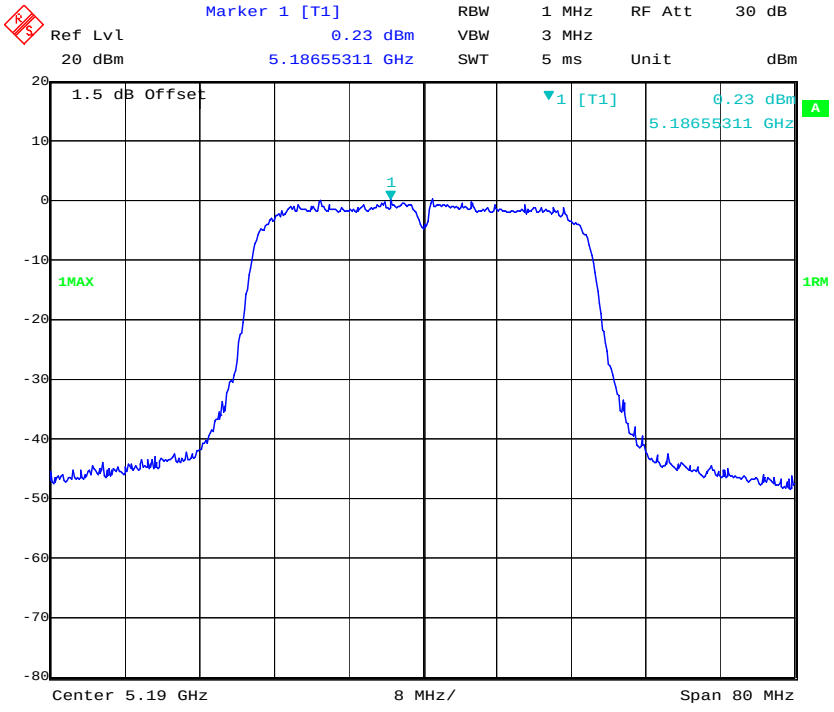

Date: 22.FEB.2017 19:38:04

## 802.11n ht20 High Channel – Chain1



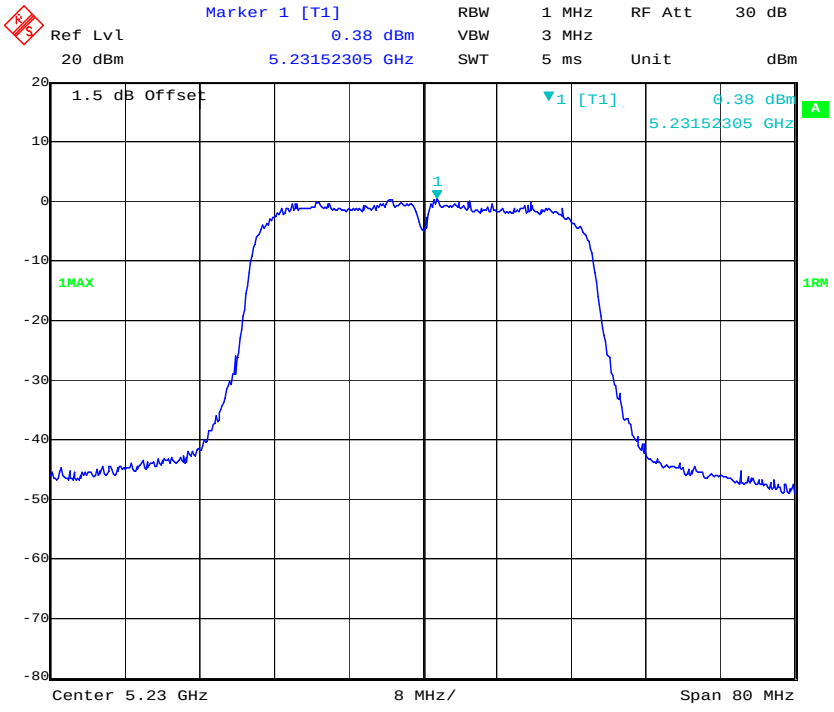

Date: 22.FEB.2017 19:31:15

## 802.11n ht40 Low Channel – Chain1



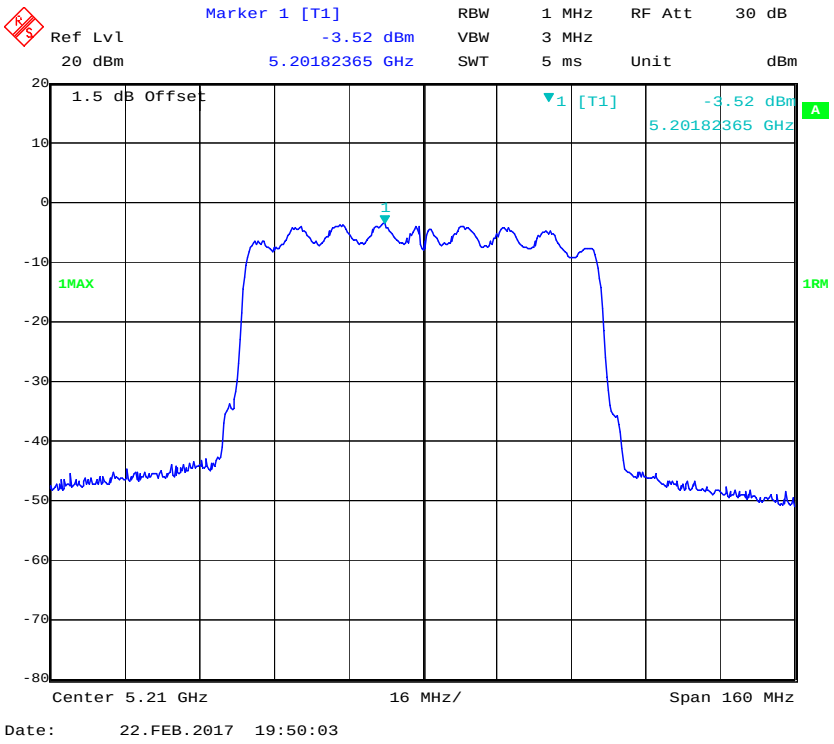

Date: 22.FEB.2017 19:41:26

## 802.11n ht40 High Channel – Chain1



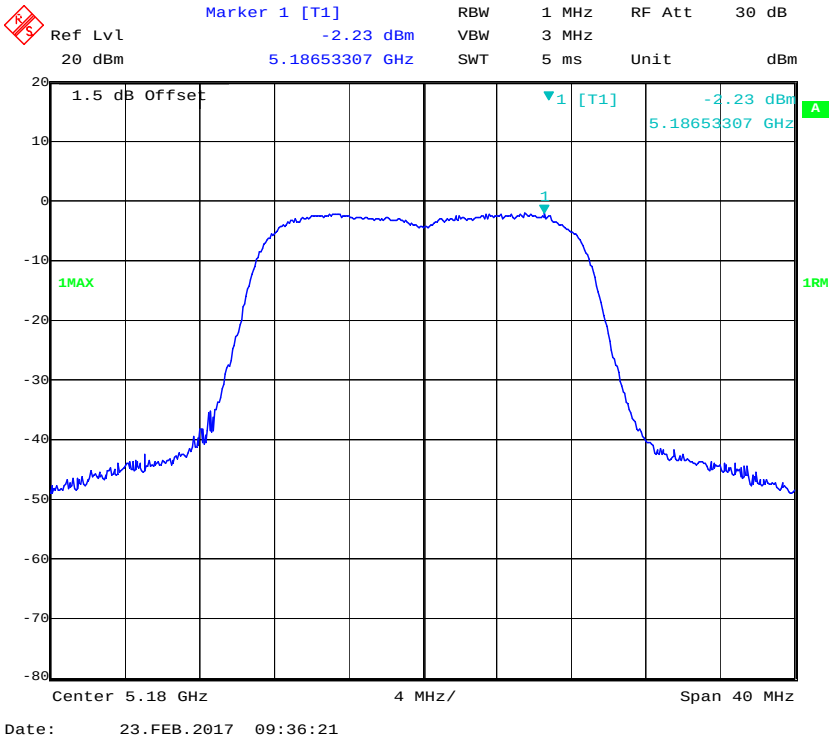

Date: 22.FEB.2017 19:46:12

**802.11 ac80 Middle Channel – Chain1**

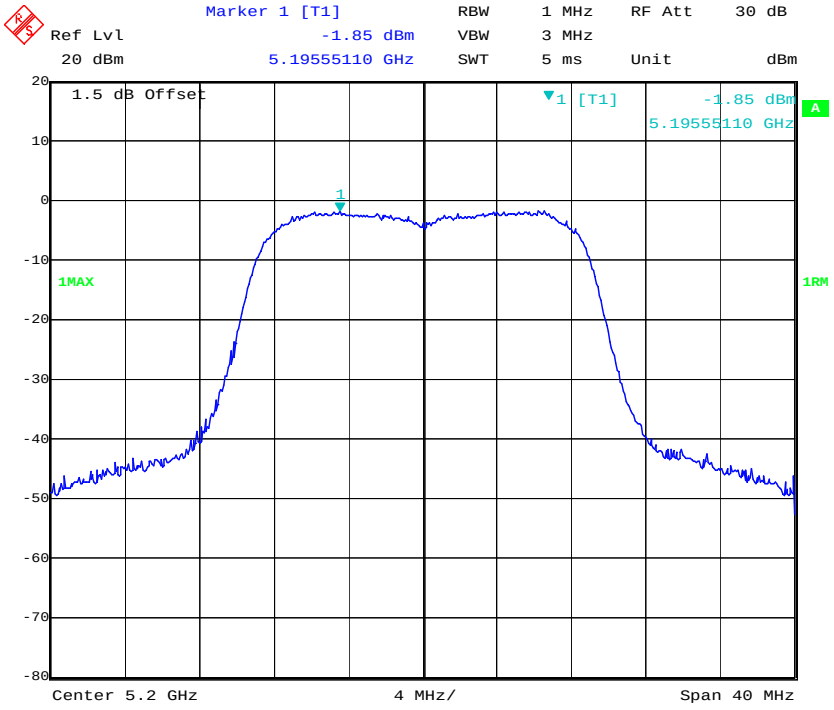



3TX:

**802.11n ht20 Low Channel – Chain0**

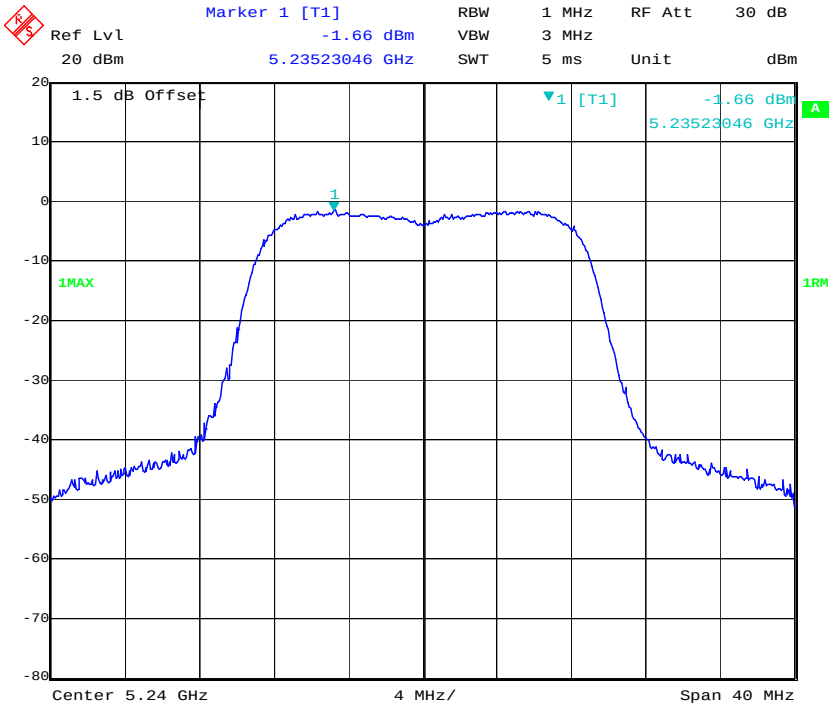


## 802.11n ht20 Middle Channel – Chain0



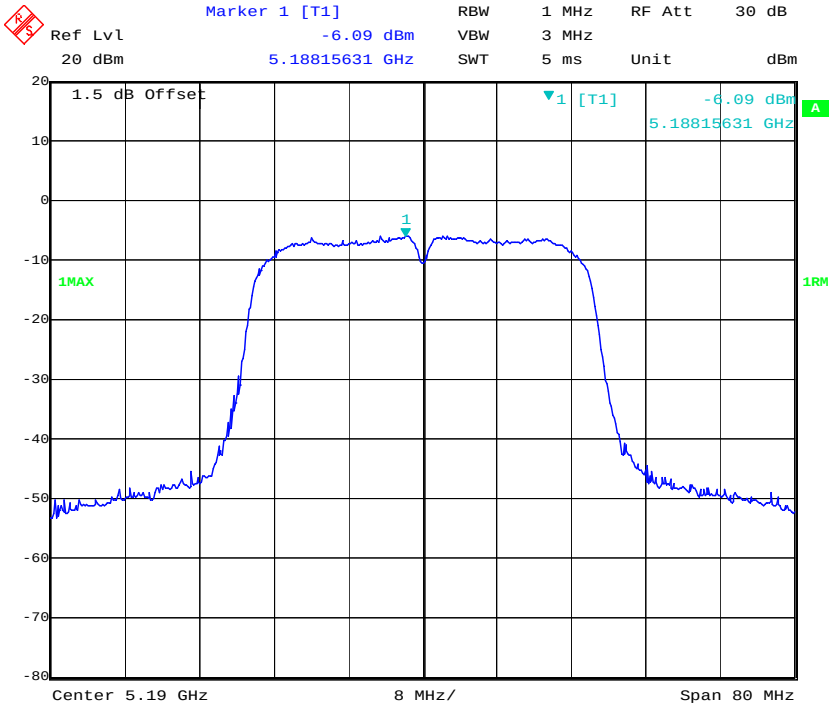

Date: 23.FEB.2017 09:38:39

## 802.11n ht20 High Channel – Chain0

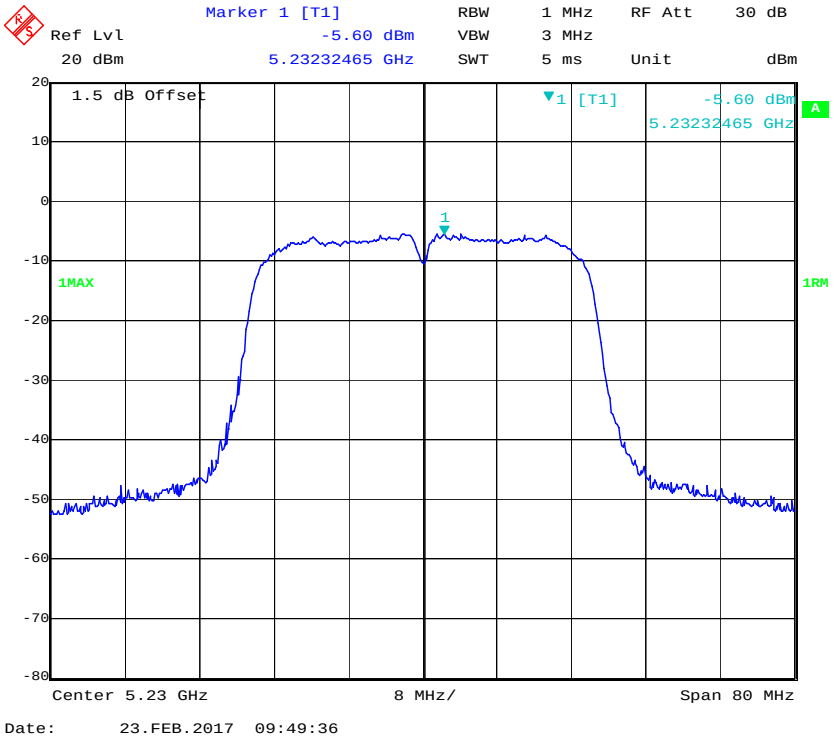



Date: 23.FEB.2017 09:42:35

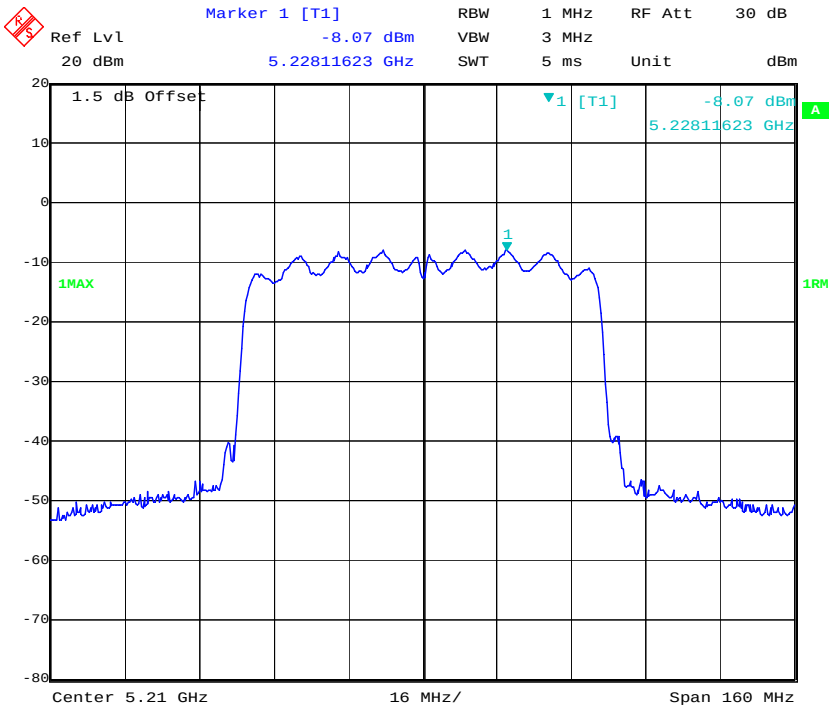
## 802.11n ht40 Low Channel – Chain0




## 802.11n ht40 High Channel – Chain0

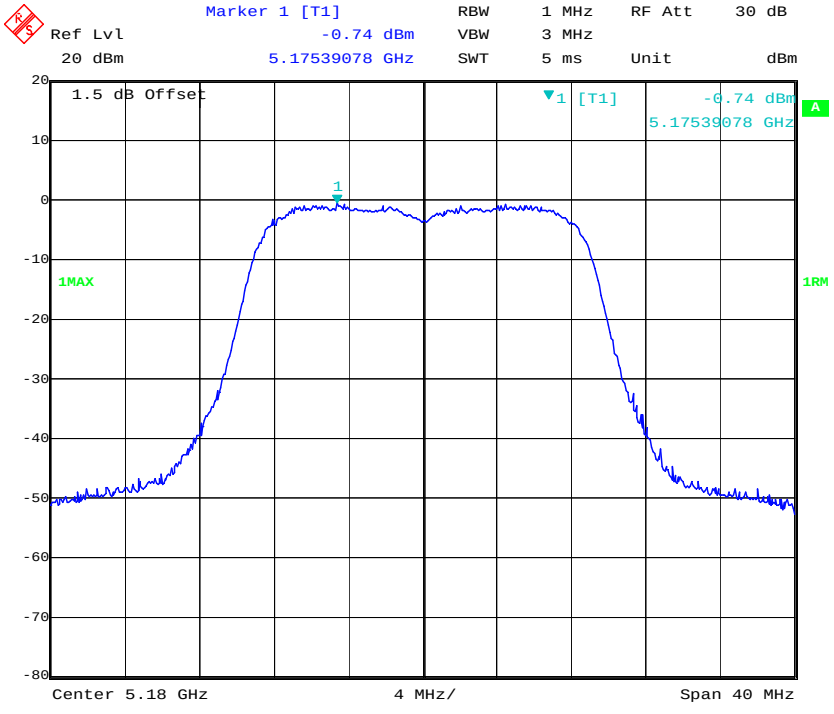


## 802.11 ac80 Middle Channel – Chain0



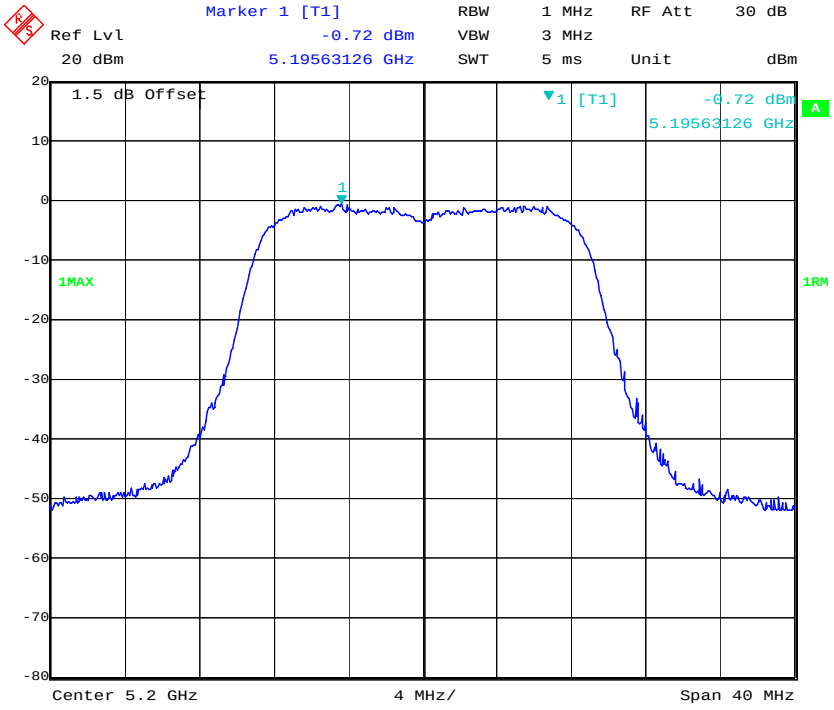

Date: 23.FEB.2017 09:52:46

## 802.11n ht20 Low Channel – Chain1



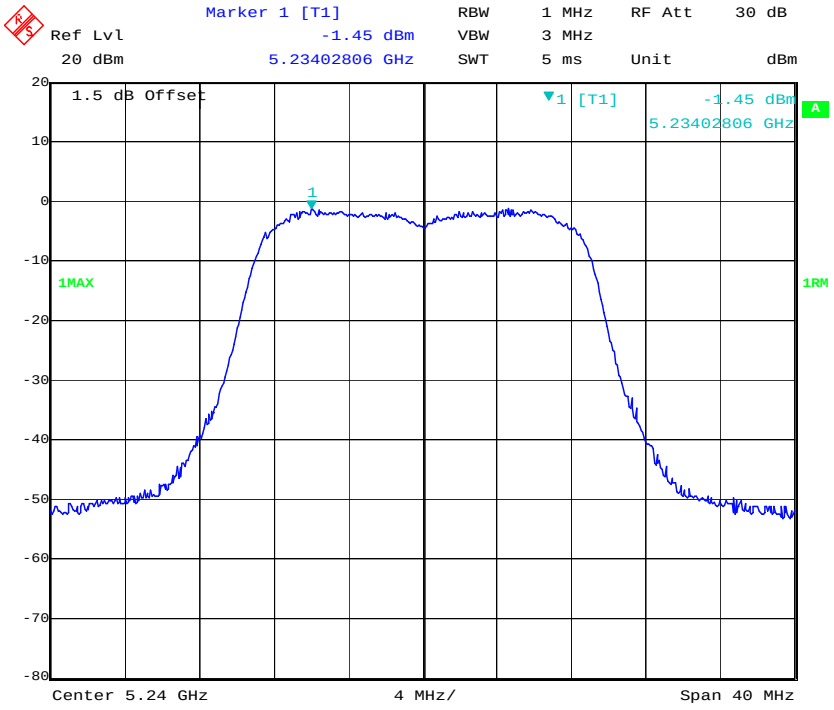

Date: 23.FEB.2017 10:05:17

## 802.11n ht20 Middle Channel – Chain1



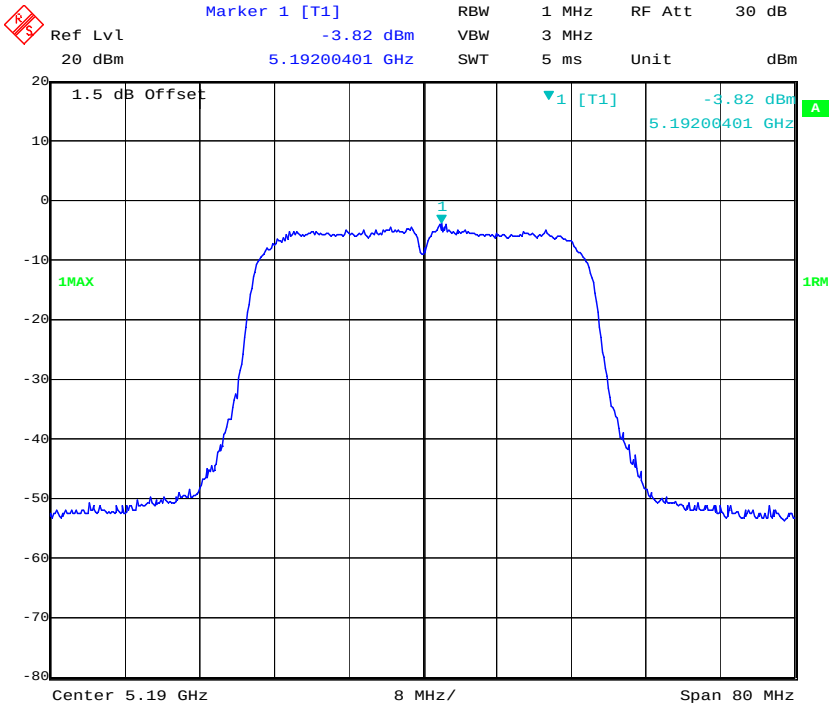

Date: 23.FEB.2017 10:09:41

## 802.11n ht20 High Channel – Chain1



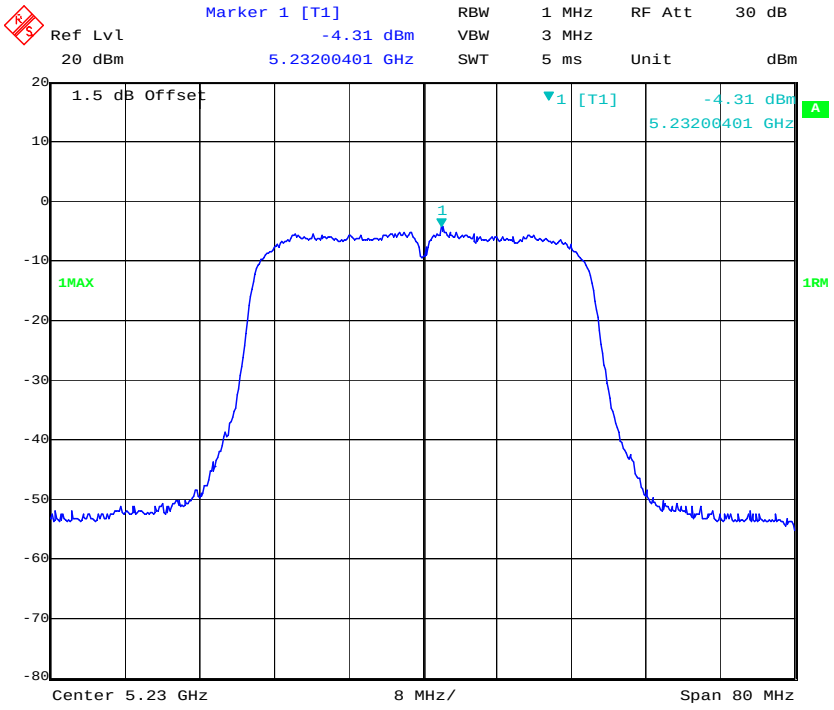

Date: 23.FEB.2017 10:12:45

## 802.11n ht40 Low Channel – Chain1



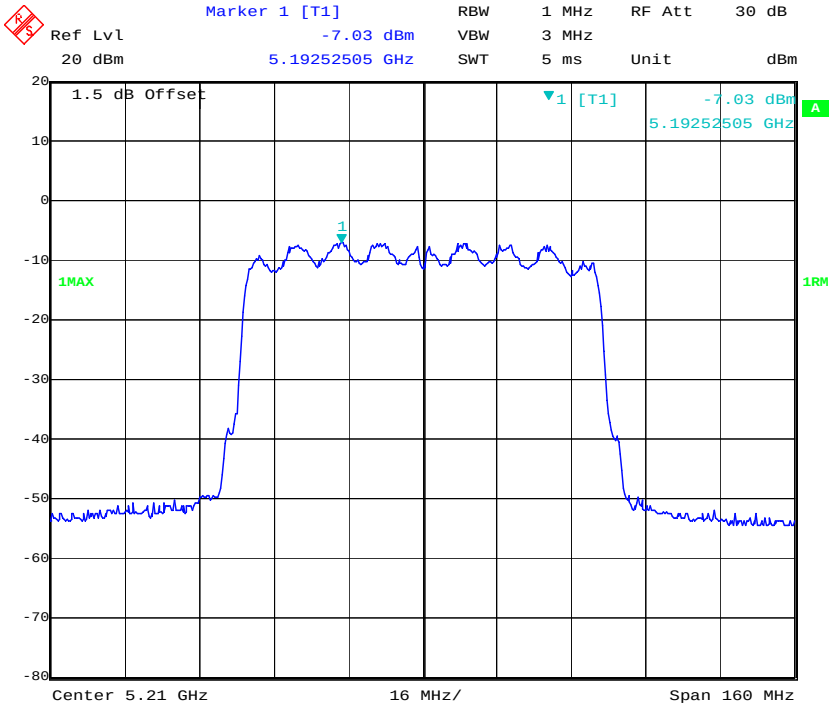

Date: 23.FEB.2017 09:59:32

## 802.11n ht40 High Channel – Chain1



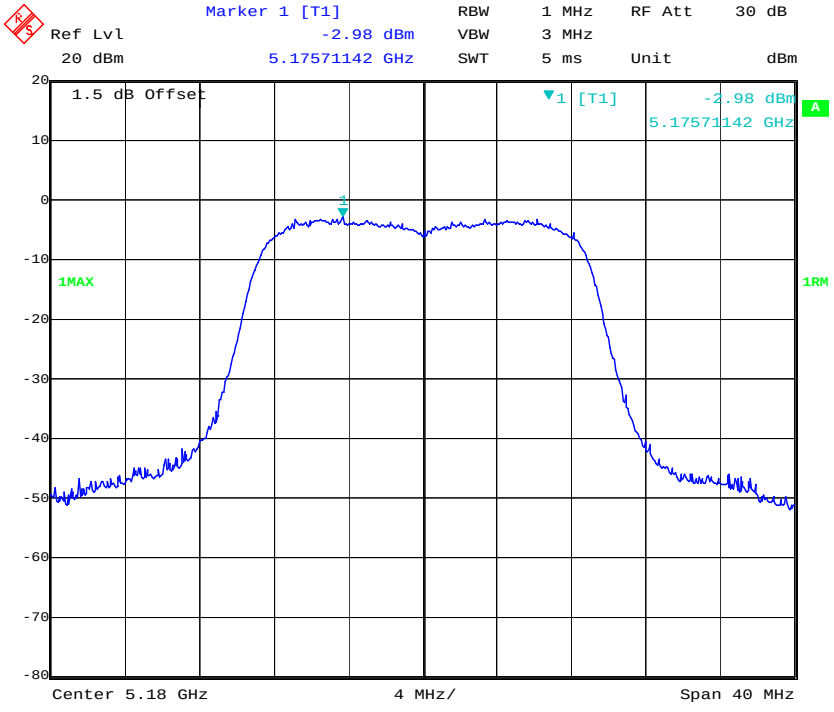

Date: 23.FEB.2017 10:02:13

## 802.11 ac80 Middle Channel – Chain1



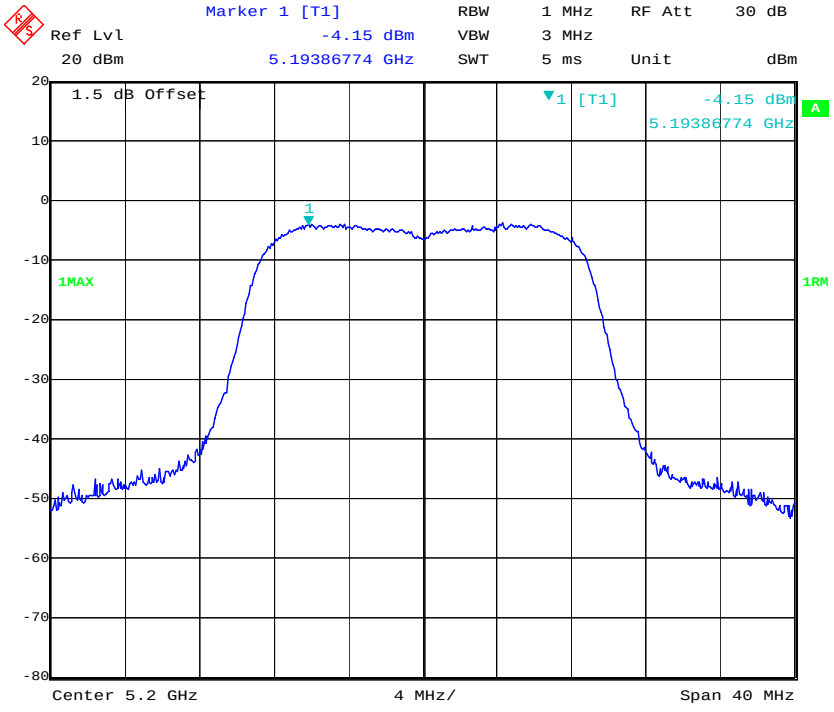

Date: 23.FEB.2017 09:56:19

## 802.11n ht20 Low Channel – Chain2



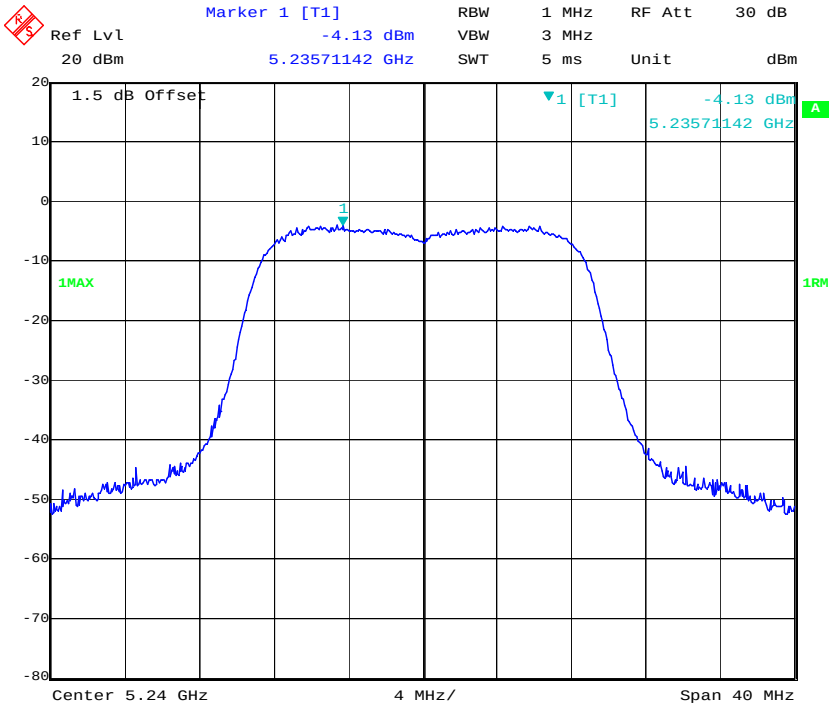

Date: 23.FEB.2017 10:18:49

## 802.11n ht20 Middle Channel – Chain2



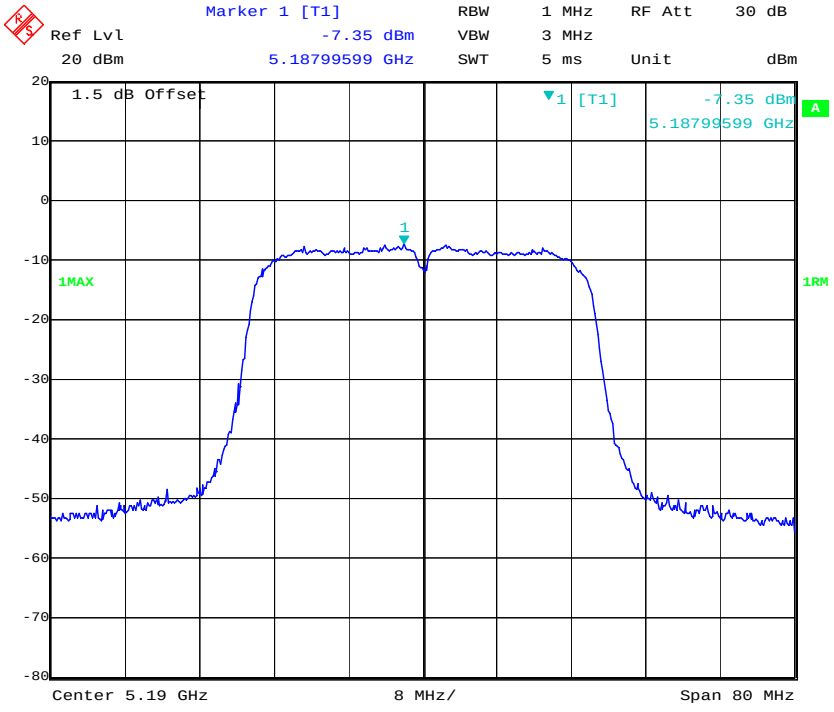

Date: 23.FEB.2017 10:22:10

## 802.11n ht20 High Channel – Chain2



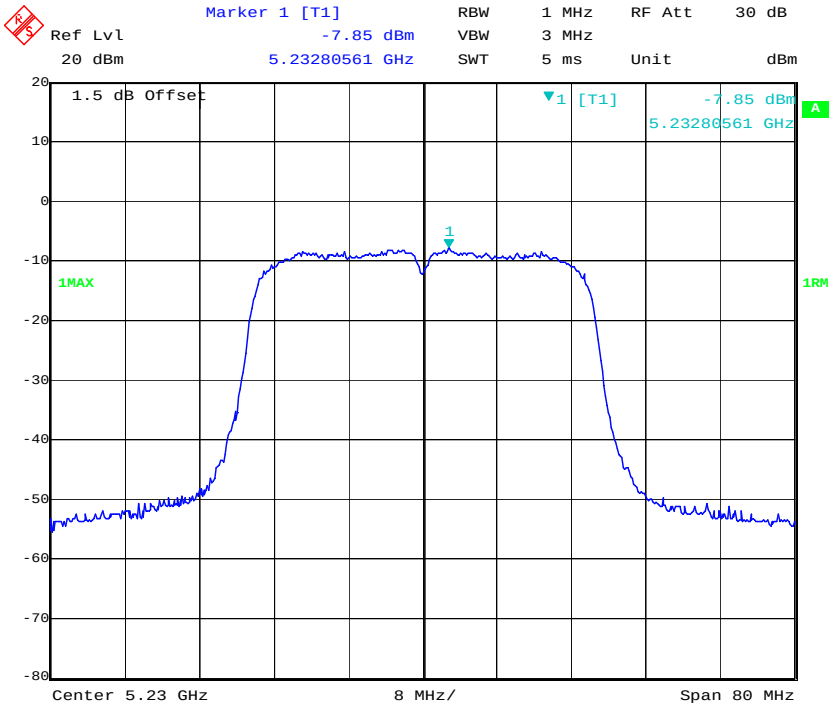

Date: 23.FEB.2017 10:24:24

## 802.11n ht40 Low Channel – Chain2



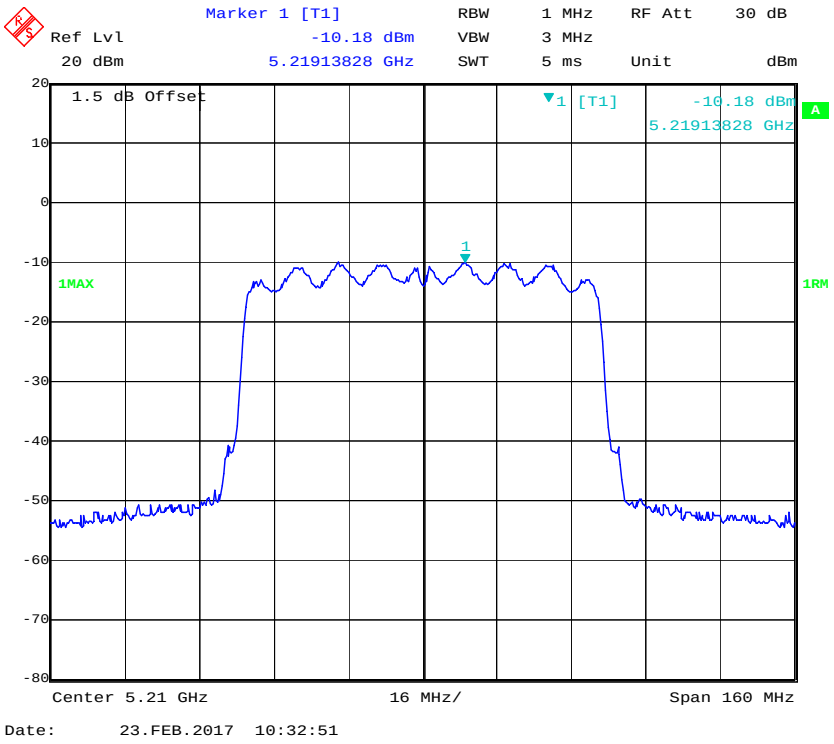

Date: 23.FEB.2017 10:27:17

## 802.11n ht40 High Channel – Chain2




Date: 23.FEB.2017 10:29:52

## 802.11 ac80 Middle Channel – Chain2



**5725-5850MHz**

**1Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/300kHz) | | | Power Spectral Density (dBm/500kHz) | | | |
|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 0 | Chain 1 | Chain 2 | Limits |
| 802.11a | 5745 | 1.62 | 0.68 | 1.91 | 3.82 | 2.88 | 4.11 | 30 |
| | 5785 | 1.01 | 0.87 | 1.82 | 3.21 | 3.07 | 4.02 | 30 |
| | 5825 | 1.24 | 1.05 | 1.93 | 3.44 | 3.25 | 4.13 | 30 |
| 802.11n ht20 | 5745 | 1.58 | 0.79 | 1.92 | 3.78 | 2.99 | 4.12 | 30 |
| | 5785 | 1.22 | 0.6 | 1.55 | 3.42 | 2.8 | 3.75 | 30 |
| | 5825 | 1.15 | 1.09 | 1.95 | 3.35 | 3.29 | 4.15 | 30 |
| 802.11n ht40 | 5755 | -2.1 | -3.29 | -1.81 | 0.1 | -1.09 | 0.39 | 30 |
| | 5795 | -2.59 | -2.91 | -1.23 | -0.39 | -0.71 | 0.97 | 30 |
| 802.11 ac80 | 5775 | -4.57 | -5.31 | -3.76 | -2.37 | -3.11 | -1.56 | 30 |

Note 1: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

**2Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/300kHz) | | Power Spectral Density (dBm/500kHz) | | | |
|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 0 | Chain 1 | Total | Limits |
| 802.11n ht20 | 5745 | 3.69 | 2.83 | 5.89 | 5.03 | 8.49 | 29 |
| | 5785 | 2.77 | 2.98 | 4.97 | 5.18 | 8.09 | 29 |
| | 5825 | 2.52 | 3.82 | 4.72 | 6.02 | 8.43 | 29 |
| 802.11n ht40 | 5755 | -1.69 | -2.28 | 0.51 | -0.08 | 3.24 | 29 |
| | 5795 | -3.66 | -1.13 | -1.46 | 1.07 | 3.00 | 29 |
| 802.11 ac80 | 5775 | -5.64 | -5.87 | -3.44 | -3.67 | -0.54 | 29 |

Note 1: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
Note 2:. the 2 antenna maximum atenna gain are 4dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 4+10*log(2) =7 dBi > 6dBi
Power density Limit = 30 – (7-6) = 29dBm

**3Tx:**

| Mode | Frequency (MHz) | Power Spectral Density (dBm/300kHz) | | | Power Spectral Density (dBm/500kHz) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Chain 0 | Chain 1 | Chain 2 | Chain 0 | Chain 1 | Chain 2 | Total | Limits |
| 802.11n ht20 | 5745 | 1.21 | 2.65 | 2.23 | 3.41 | 4.85 | 4.43 | 11.24 | 27.23 |
| | 5785 | 0.41 | 1.1 | 2.54 | 2.61 | 3.3 | 4.74 | 10.61 | 27.23 |
| | 5825 | 0.55 | 0.99 | 1.41 | 2.75 | 3.19 | 3.61 | 10.17 | 27.23 |
| 802.11n ht40 | 5755 | -2.27 | -2.15 | -1.27 | -0.07 | 0.05 | 0.93 | 7.30 | 27.23 |
| | 5795 | -2.74 | -3.26 | -1.5 | -0.54 | -1.06 | 0.7 | 6.74 | 27.23 |
| 802.11 ac80 | 5775 | -5.00 | -5.45 | -1.31 | -2.80 | -3.25 | 0.89 | 5.67 | 27.23 |

Note 1: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
Note 2:. the 3 antenna maximum atenna gain are 4dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

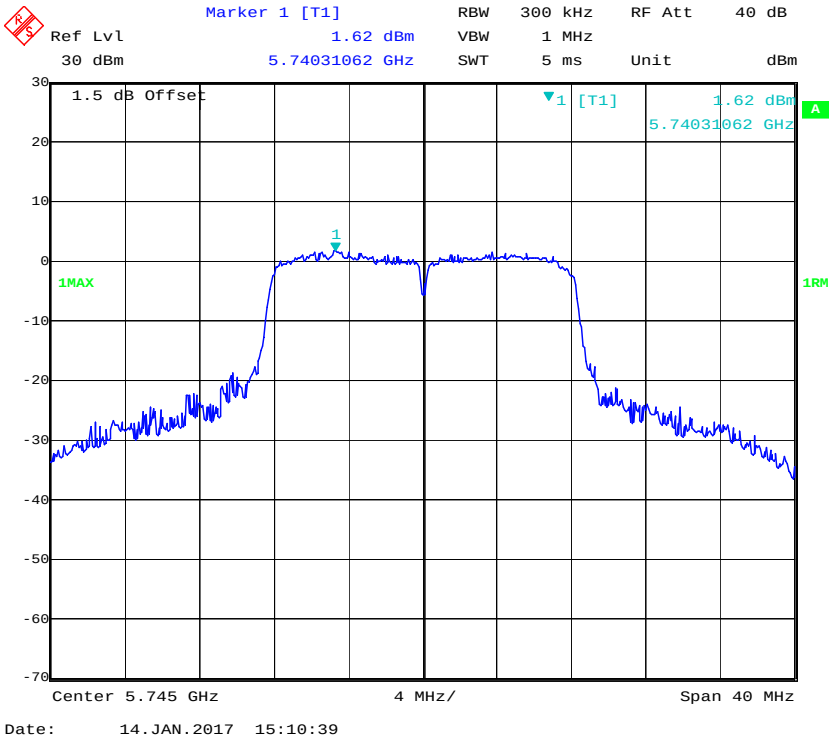
Array Gain = 10 log(NANT/NSS) dB.

So:

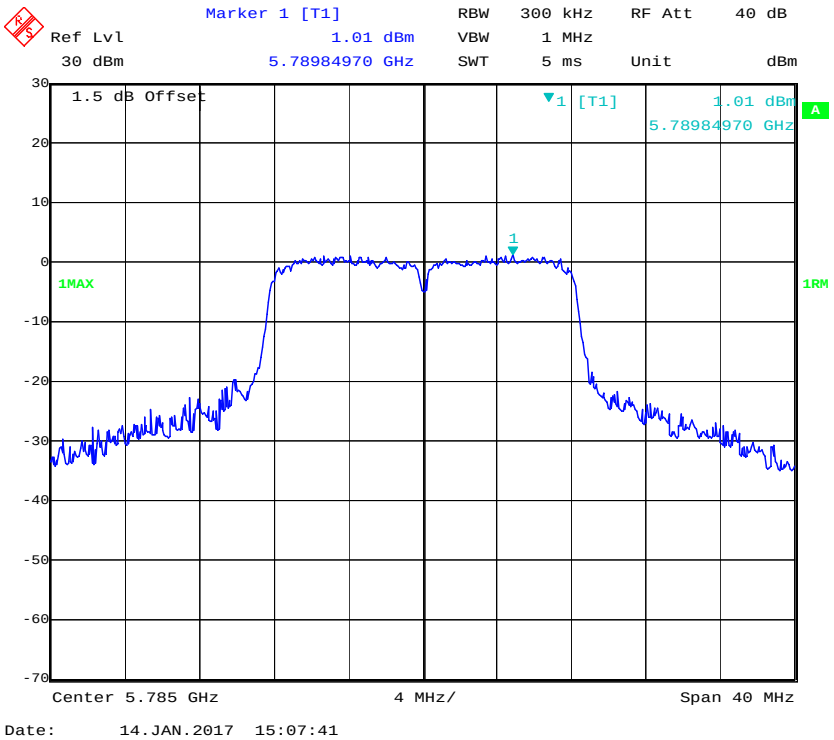
Directional gain = GANT + Array Gain = 4+10*log(3) =8.77 dBi > 6dBi
Power density Limit = 30 – (8.77-6) = 27.23dBm

1TX:

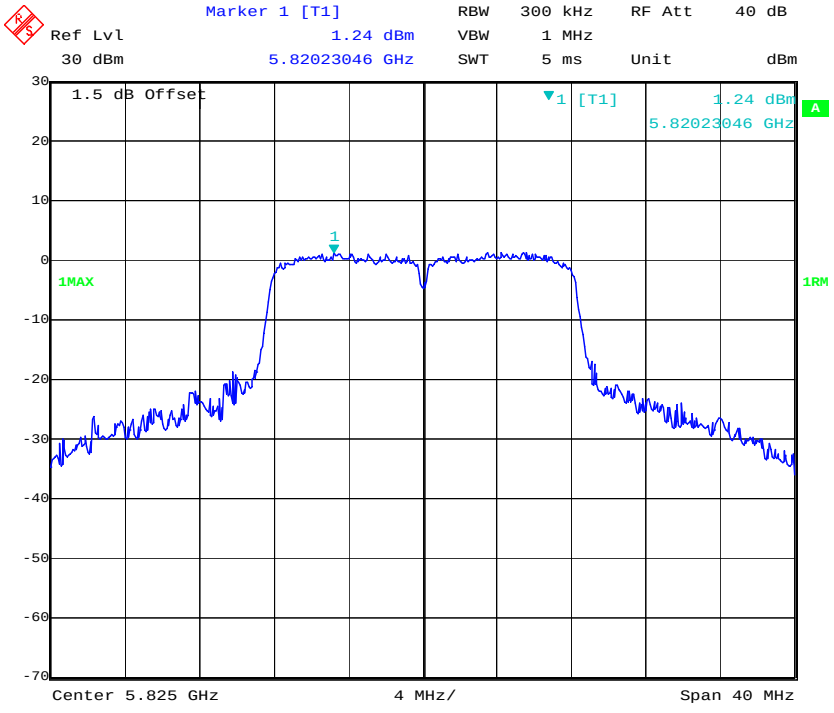
**802.11a Low Channel – Chain0**




**802.11a Middle Channel – Chain0**

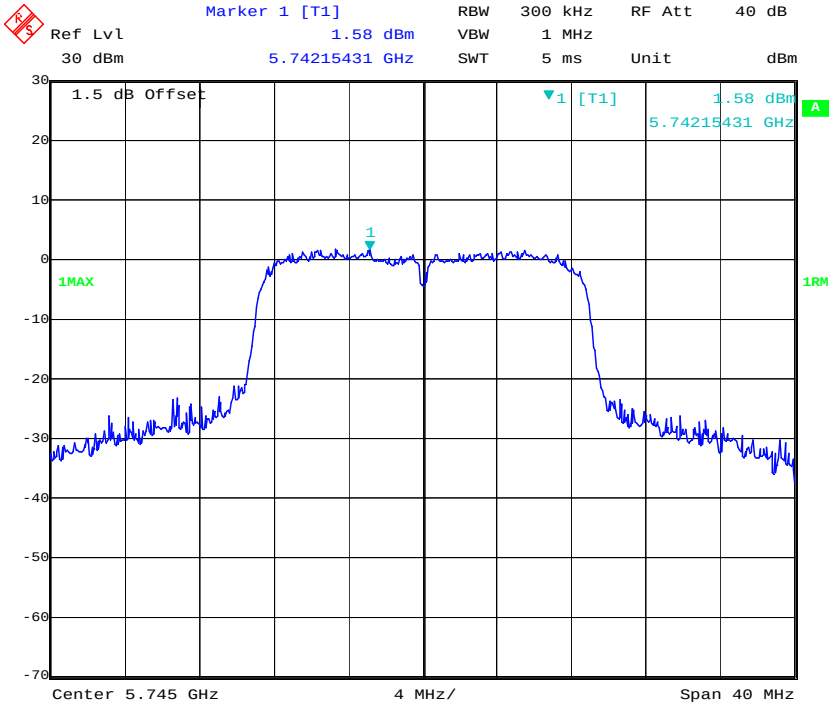


## 802.11a High Channel – Chain0



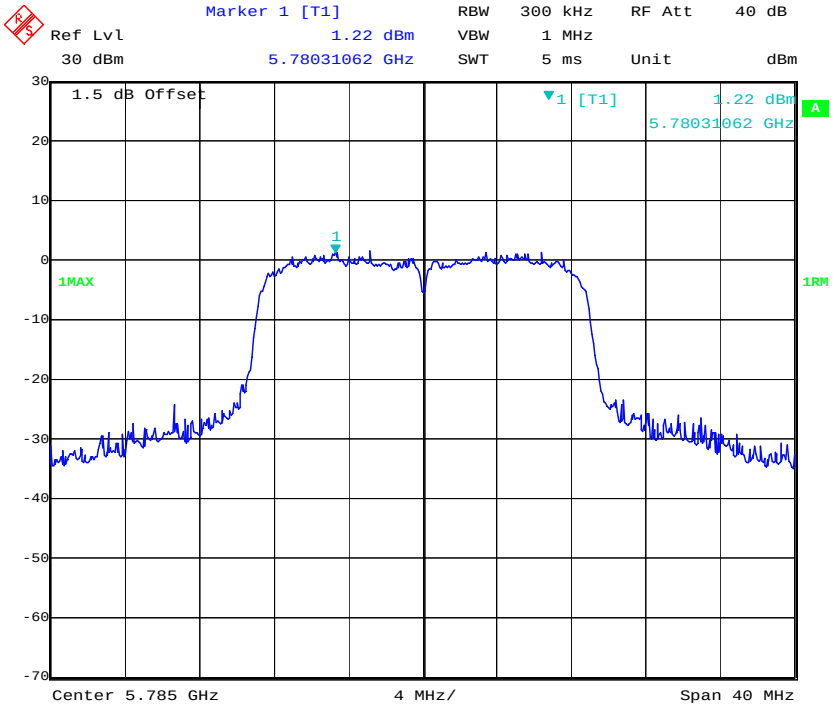

Date: 14.JAN.2017 15:04:36

## 802.11n ht20 Low Channel – Chain0



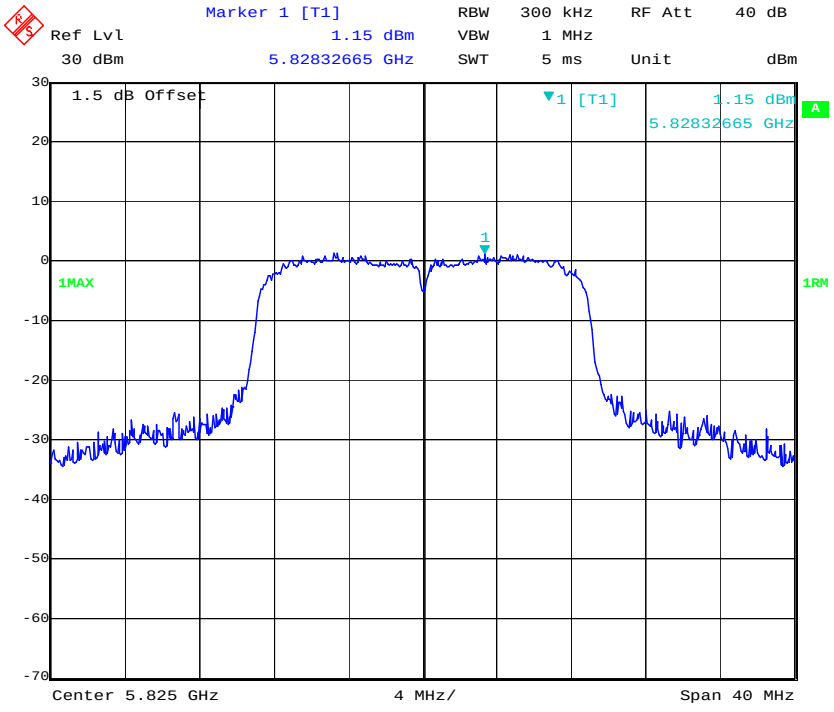

Date: 14.JAN.2017 14:56:32

## 802.11n ht20 Middle Channel – Chain0



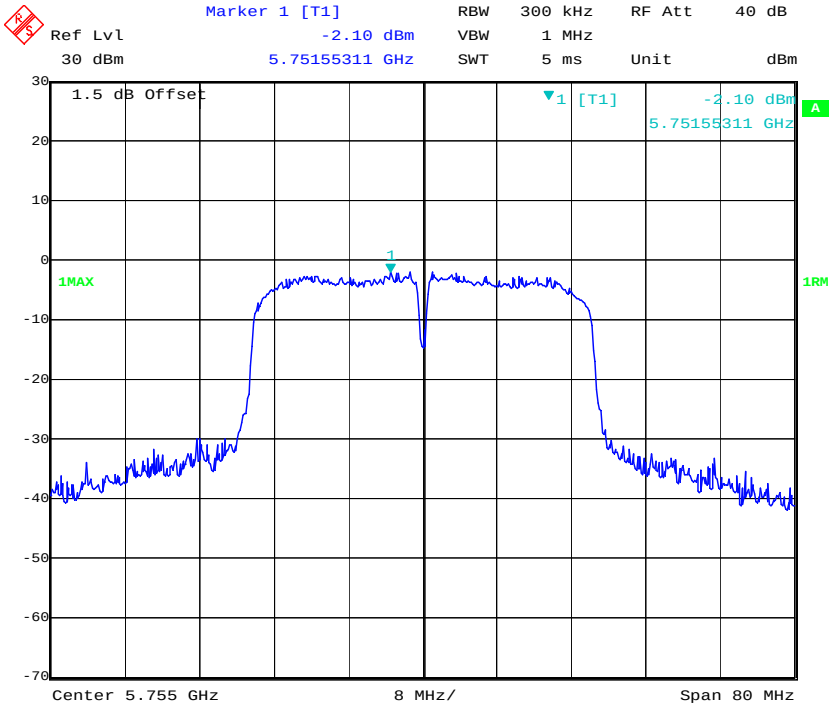

Date: 14.JAN.2017 14:59:15

## 802.11n ht20 High Channel – Chain0



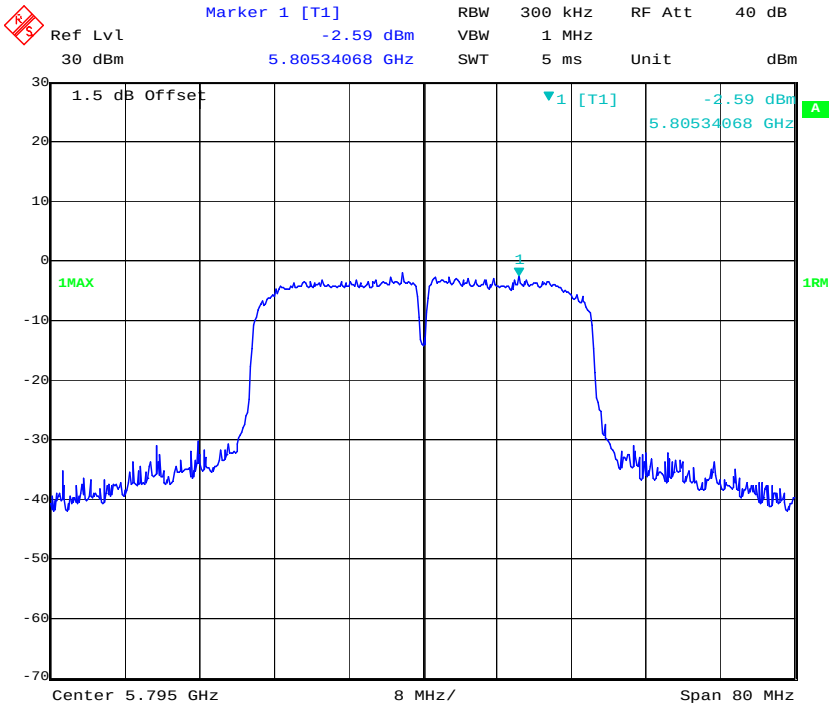

Date: 14.JAN.2017 15:01:42

## 802.11n ht40 Low Channel – Chain0



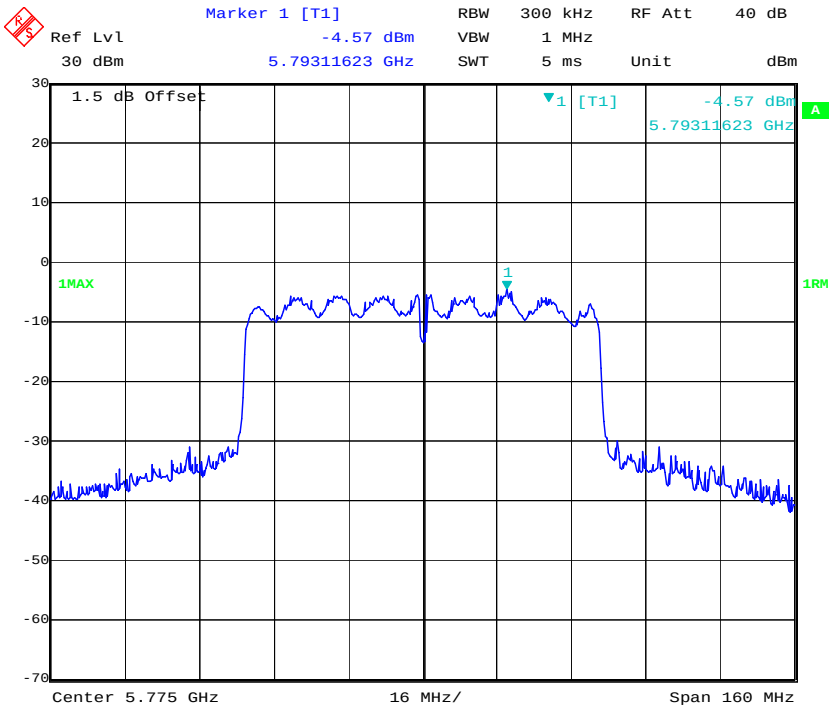

Date: 14.JAN.2017 14:54:03

## 802.11n ht40 High Channel – Chain0



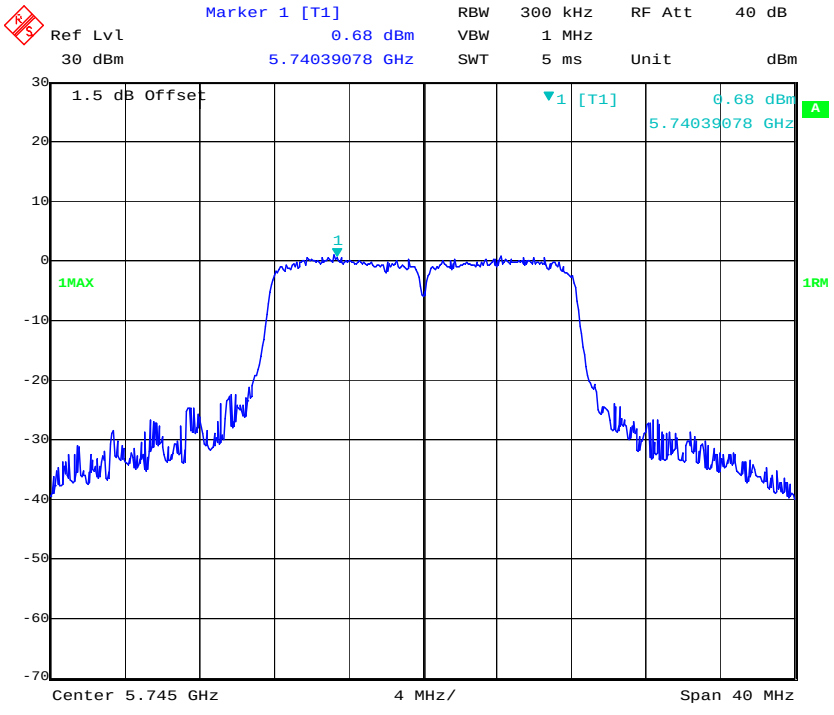

Date: 14.JAN.2017 14:51:58

## 802.11 ac80 Middle Channel – Chain0



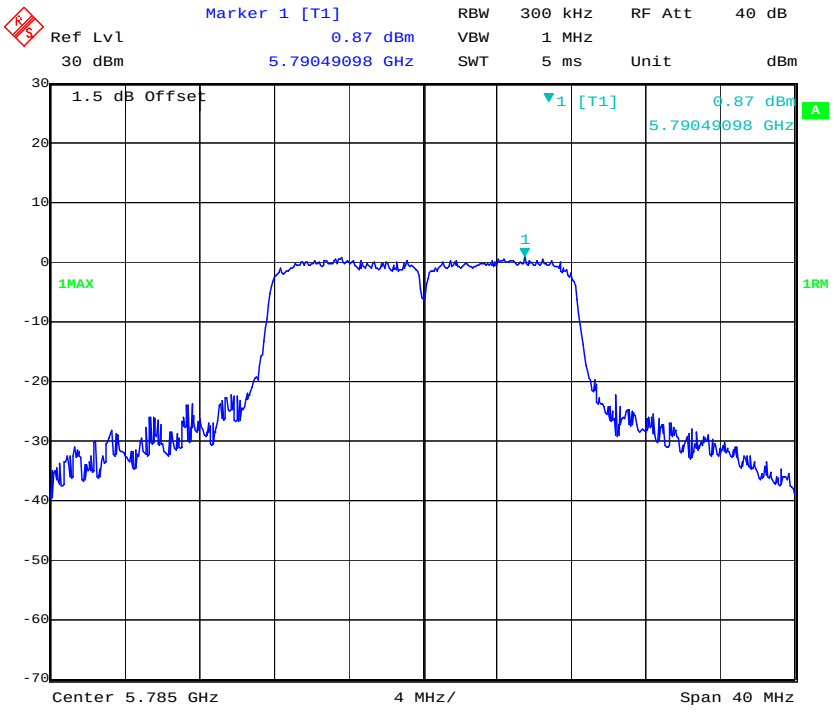

Date: 14.JAN.2017 14:44:56

## 802.11a Low Channel – Chain1



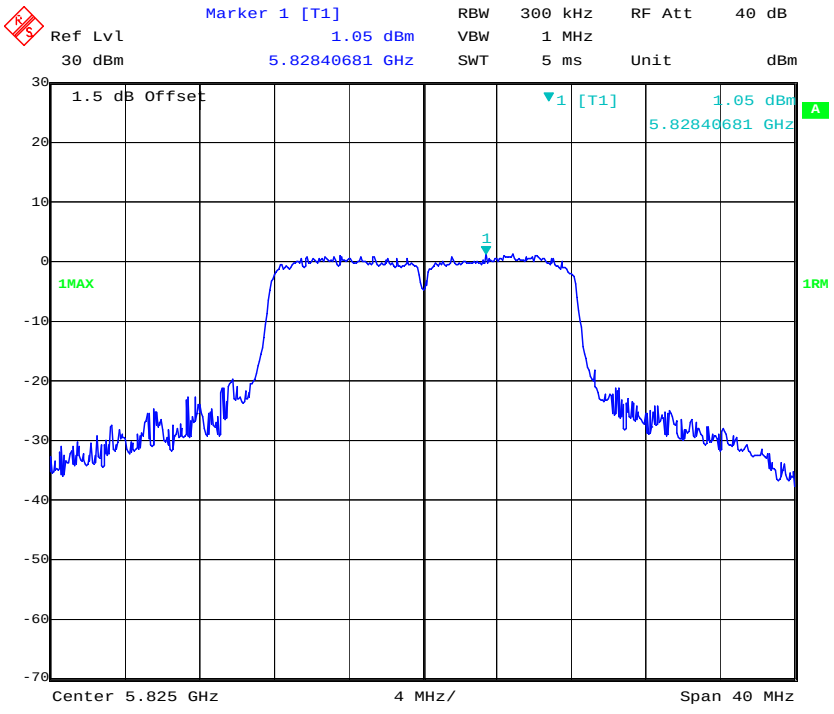

Date: 14.JAN.2017 15:17:08

## 802.11a Middle Channel – Chain1



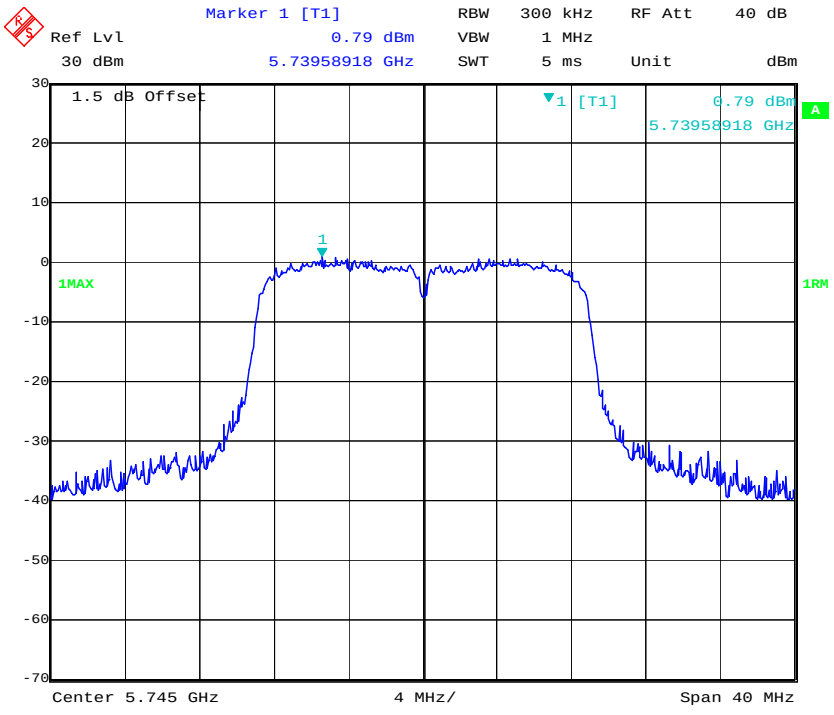

Date: 14.JAN.2017 15:21:17

## 802.11a High Channel – Chain1



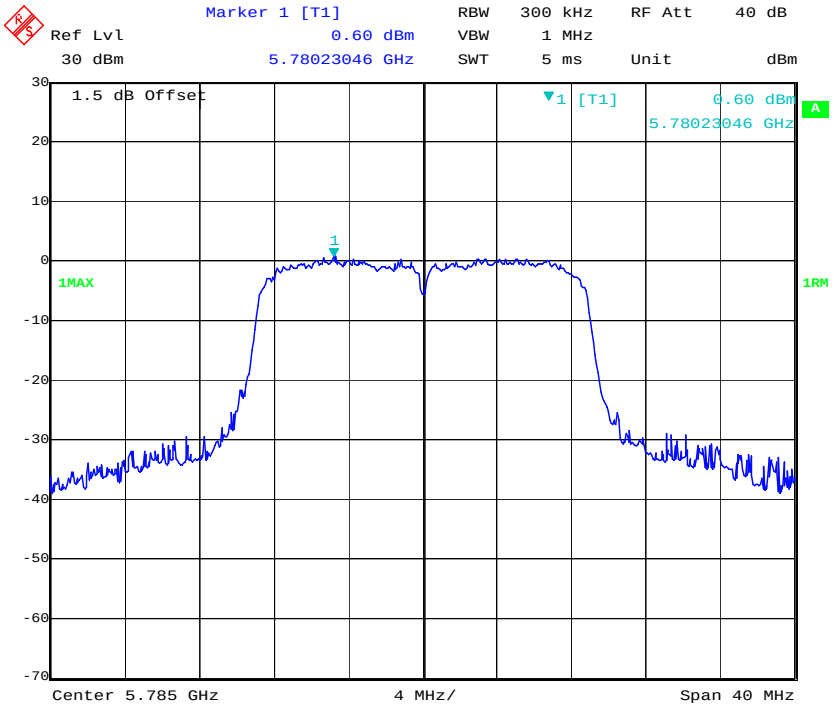

Date: 14.JAN.2017 15:24:31

## 802.11n ht20 Low Channel – Chain1



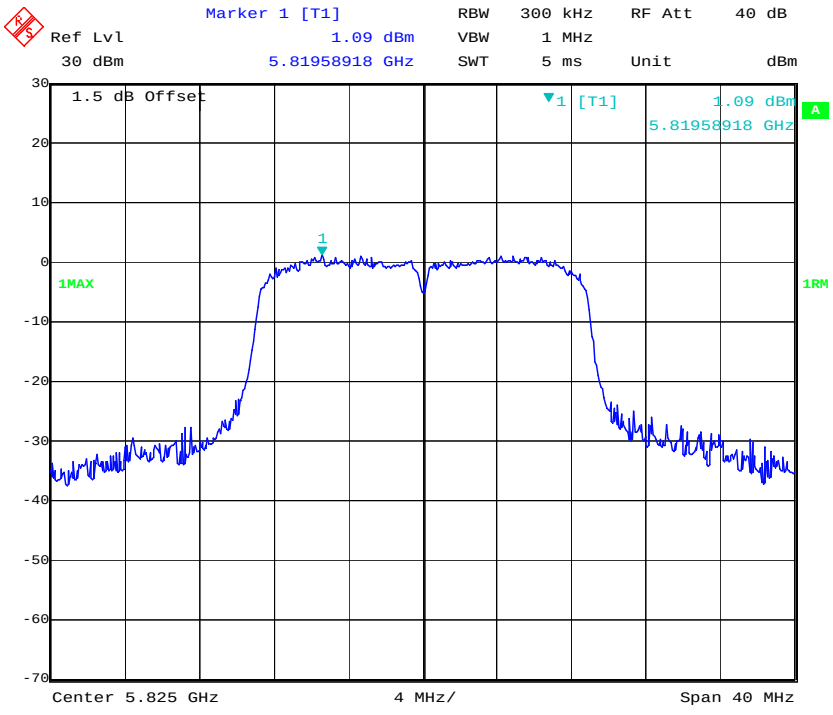

Date: 14.JAN.2017 15:36:31

## 802.11n ht20 Middle Channel – Chain1



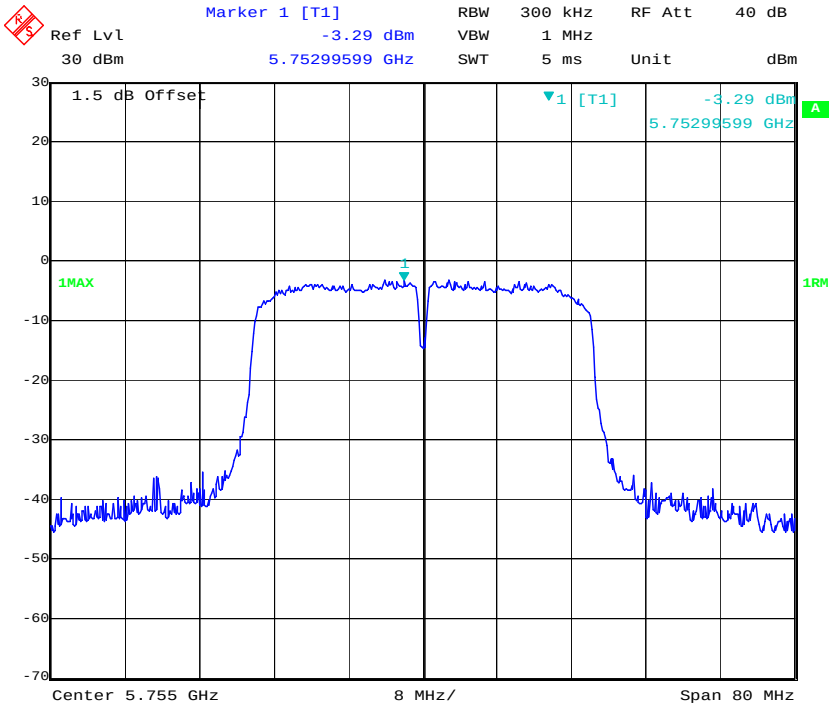

Date: 14.JAN.2017 15:34:10

## 802.11n ht20 High Channel – Chain1



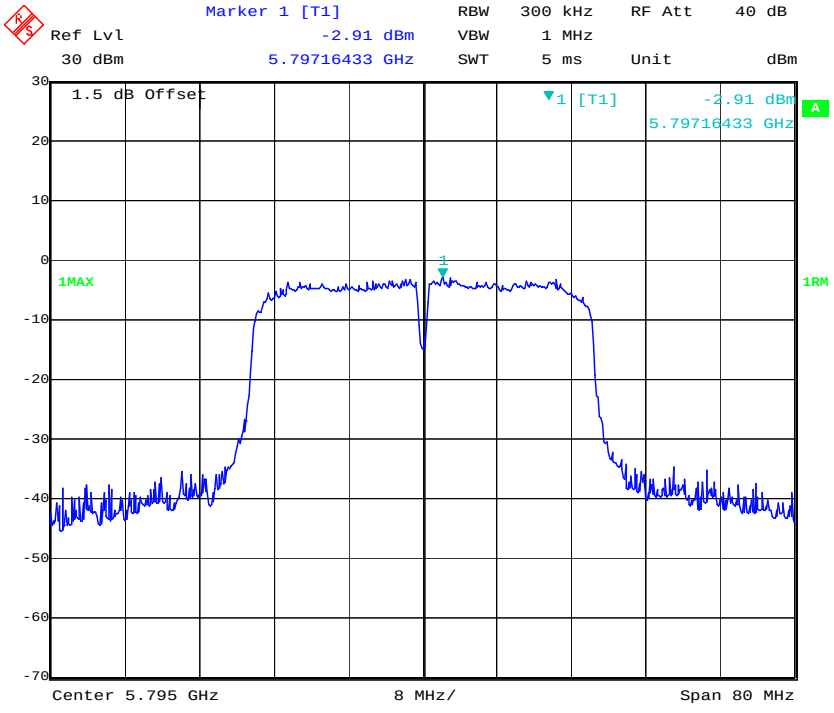

Date: 14.JAN.2017 15:32:03

## 802.11n ht40 Low Channel – Chain1



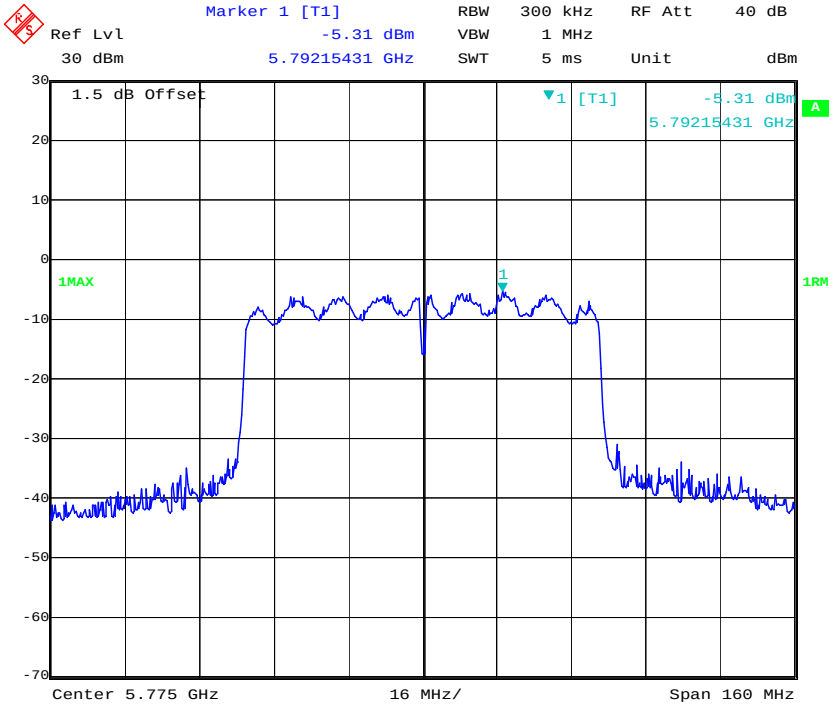

Date: 14.JAN.2017 15:40:28

## 802.11n ht40 High Channel – Chain1



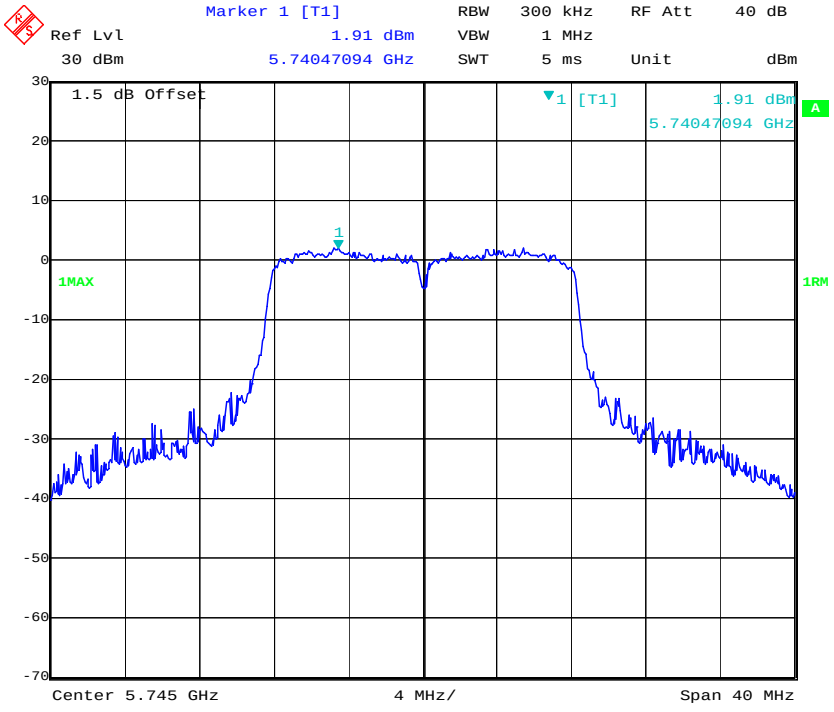

Date: 14.JAN.2017 15:43:28

## 802.11 ac80 Middle Channel – Chain1



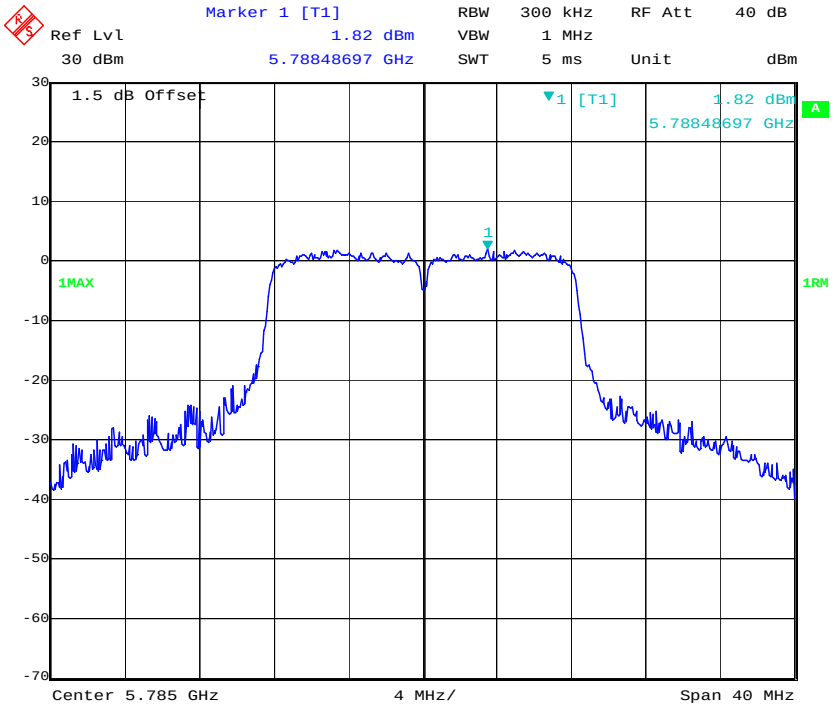

Date: 14.JAN.2017 15:46:12

## 802.11a Low Channel – Chain2



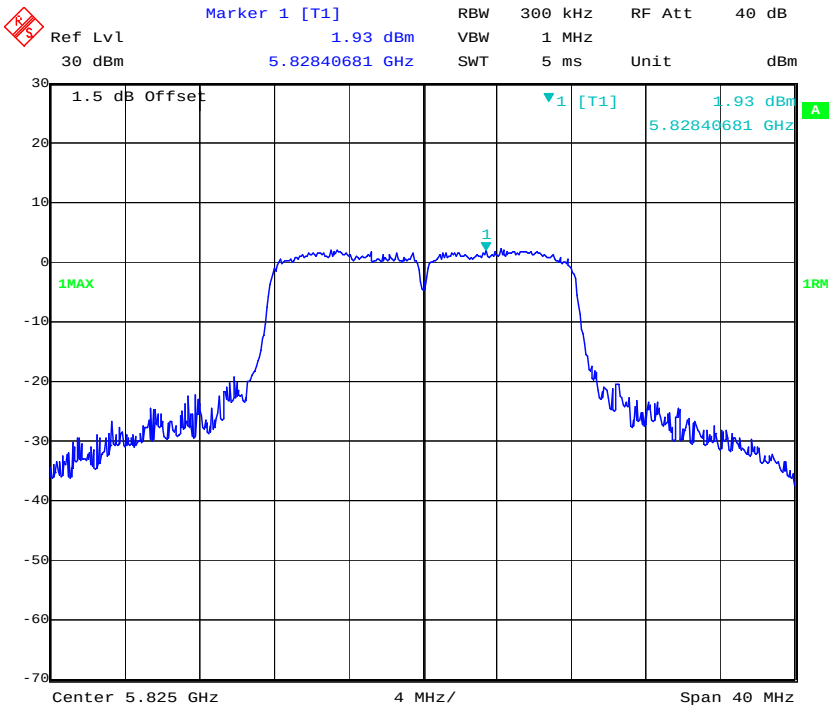

Date: 14.JAN.2017 16:27:12

## 802.11a Middle Channel – Chain2



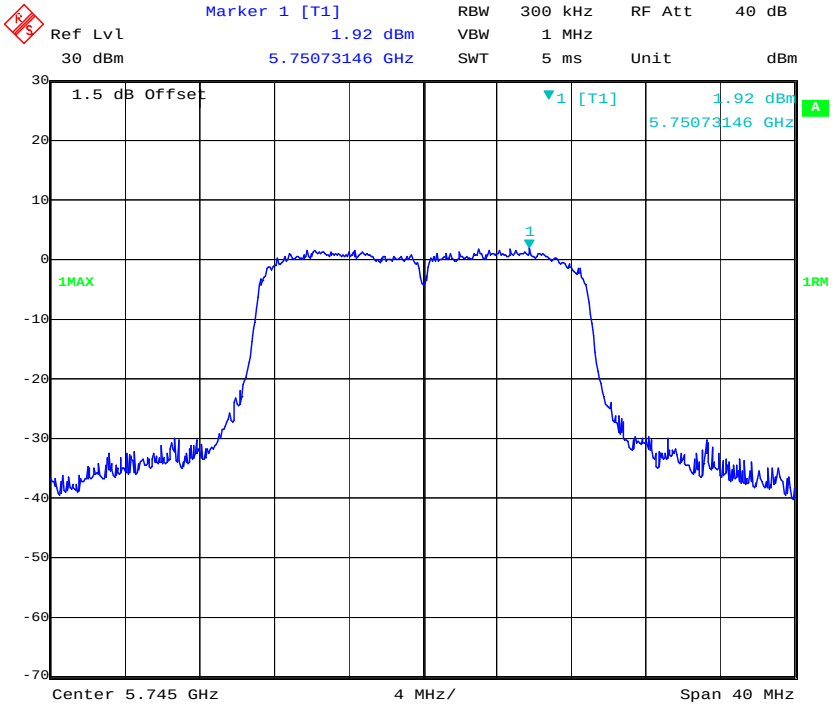

Date: 14.JAN.2017 16:25:02

## 802.11a High Channel – Chain2



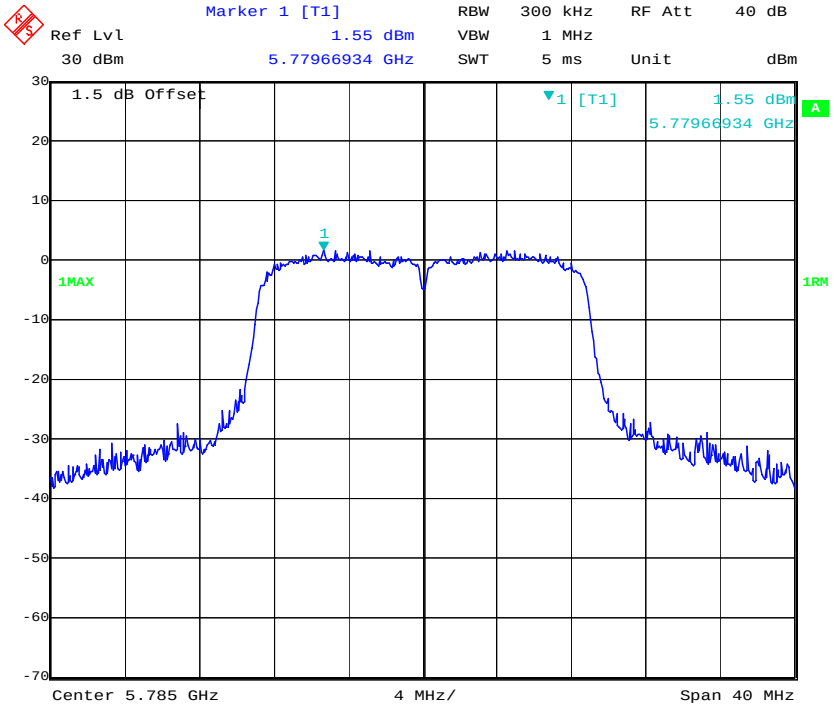

Date: 14.JAN.2017 16:22:57

## 802.11n ht20 Low Channel – Chain2



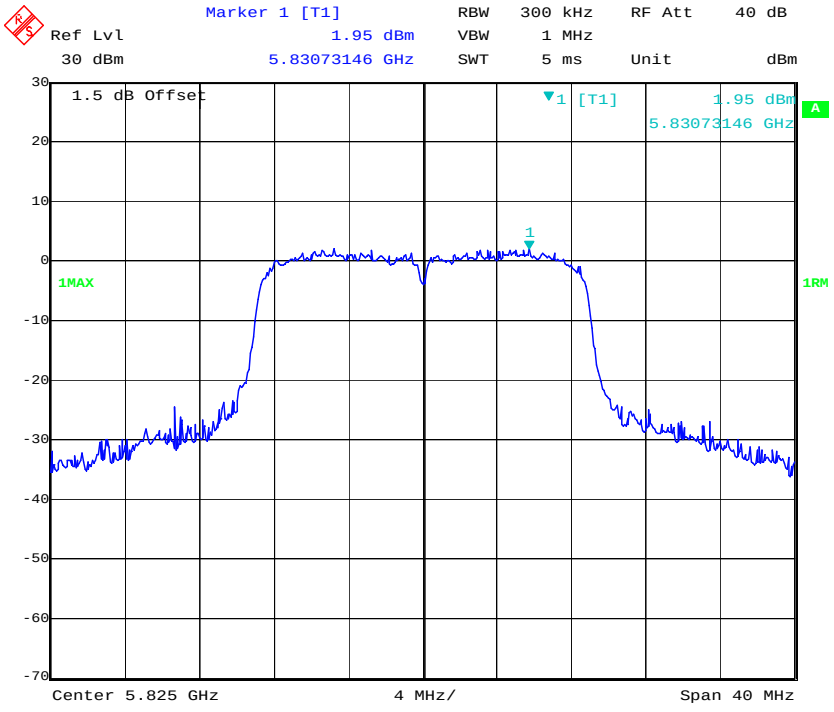

Date: 14.JAN.2017 16:12:03

## 802.11n ht20 Middle Channel – Chain2



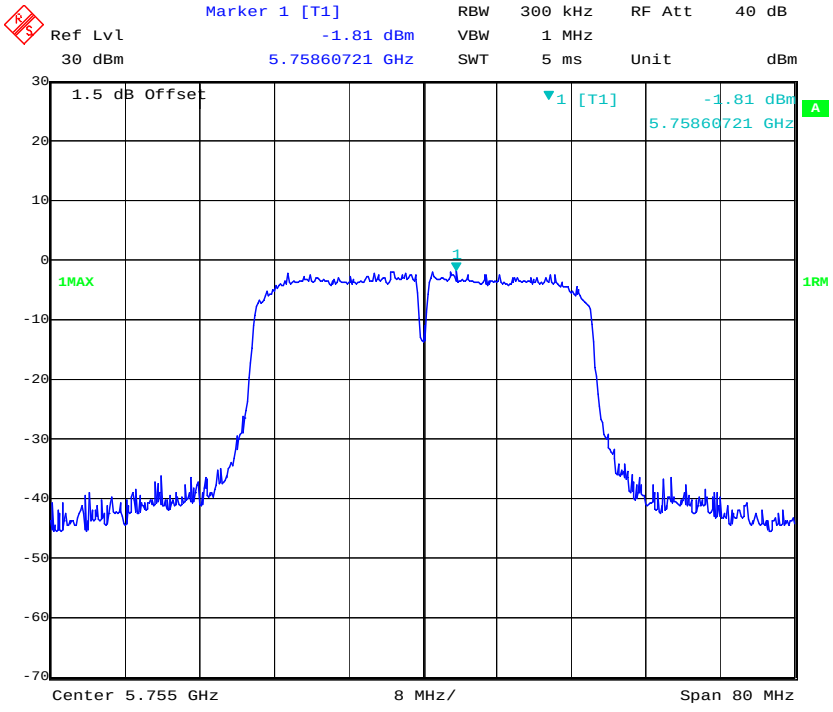

Date: 14.JAN.2017 16:14:42

## 802.11n ht20 High Channel – Chain2



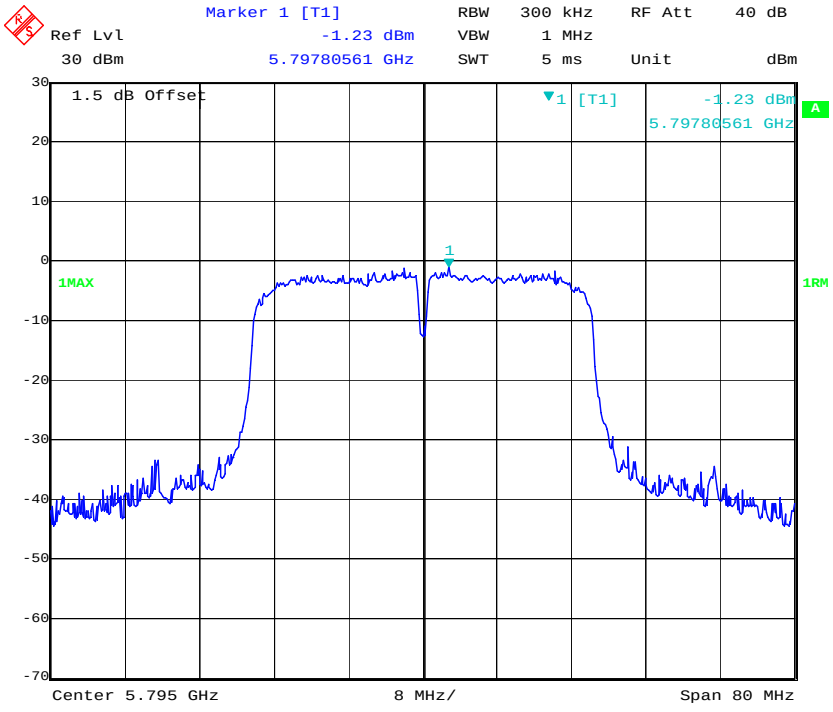

Date: 14.JAN.2017 16:18:21

## 802.11n ht40 Low Channel – Chain2



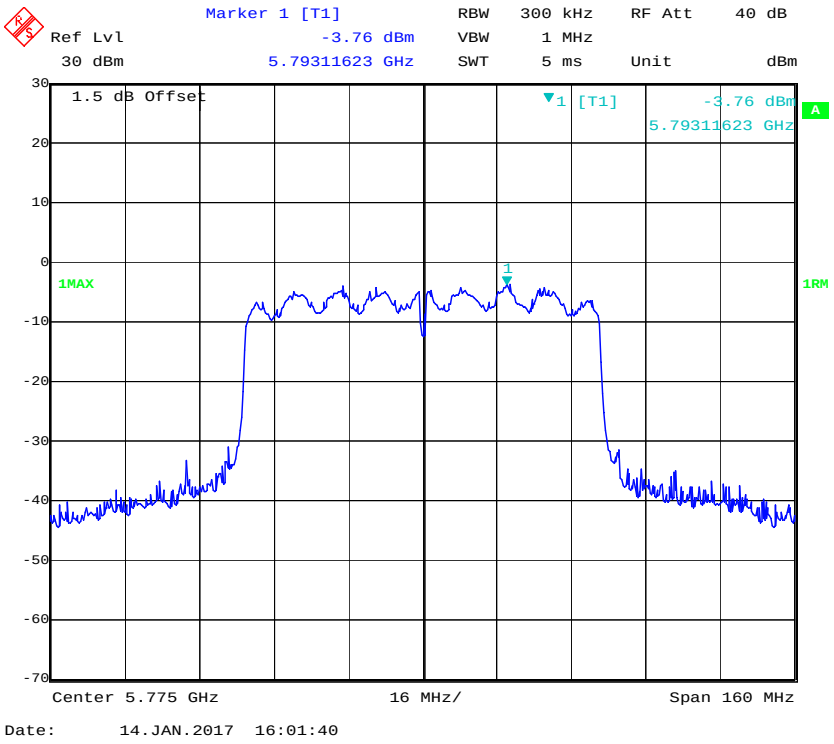

Date: 14.JAN.2017 16:05:12

## 802.11n ht40 High Channel – Chain2



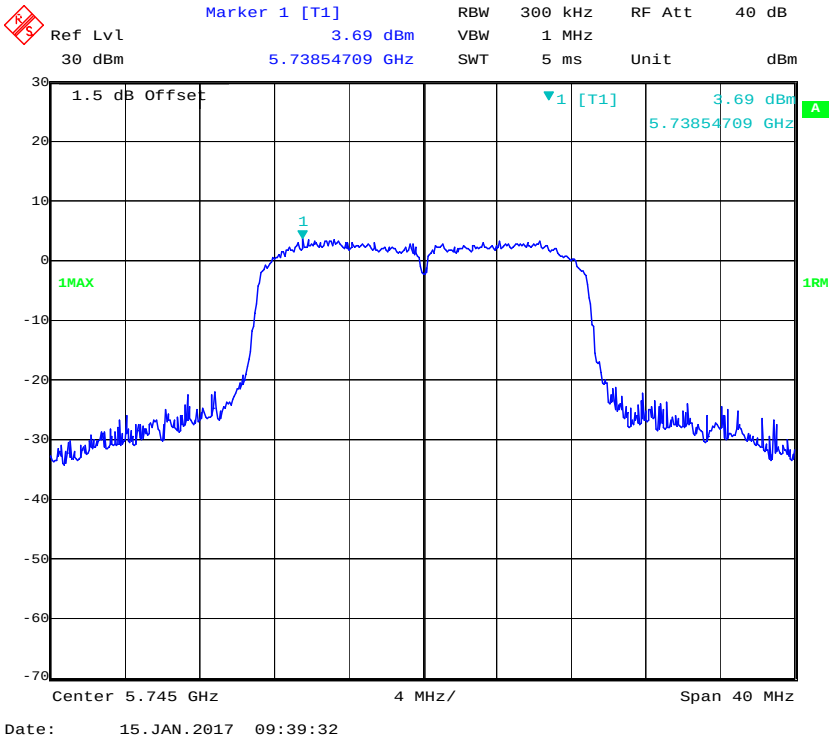

Date: 14.JAN.2017 16:09:43

## 802.11 ac80 Middle Channel – Chain2

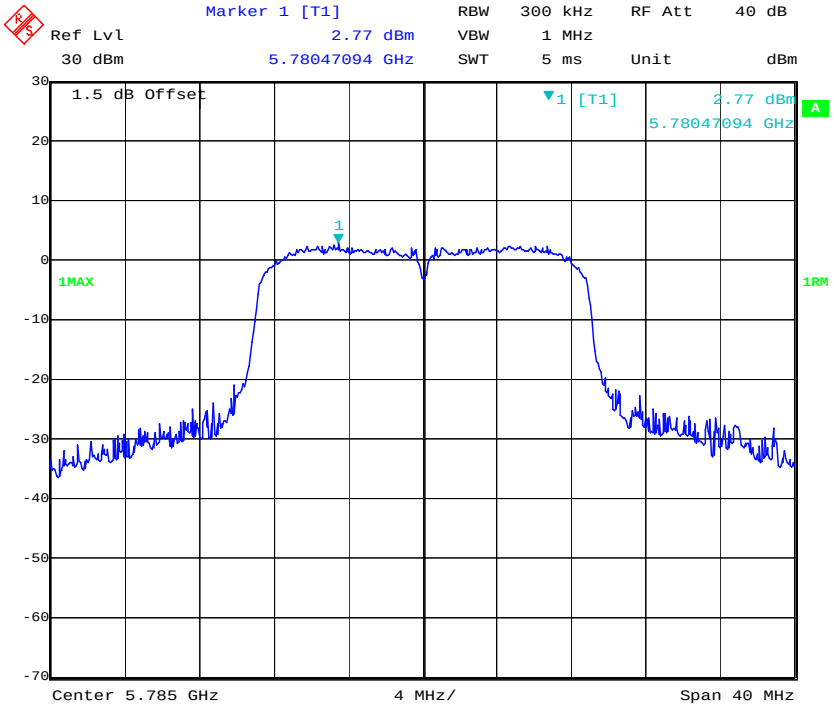



2TX:

## 802.11n ht20 Low Channel – Chain0

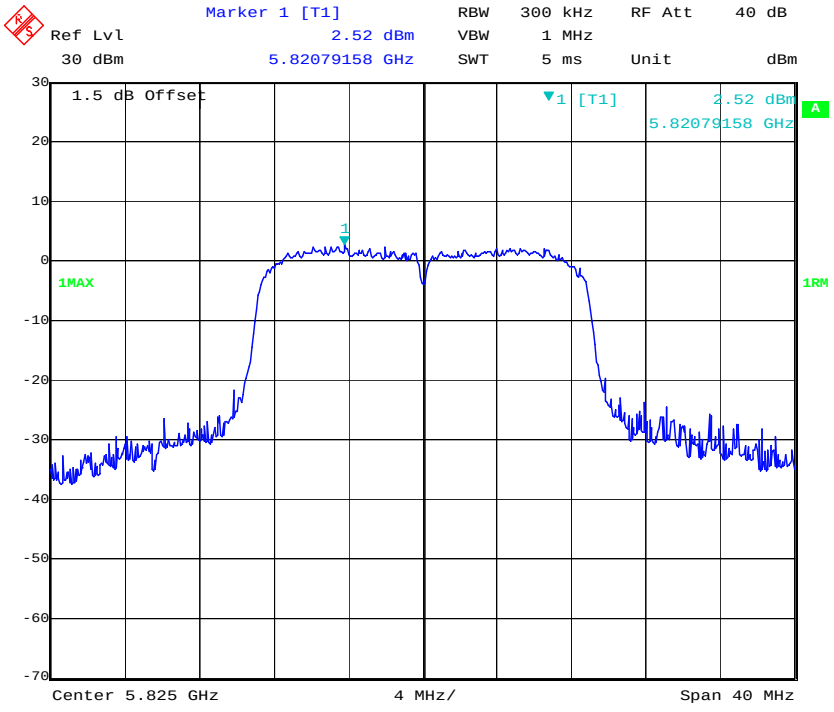


## 802.11n ht20 Middle Channel – Chain0



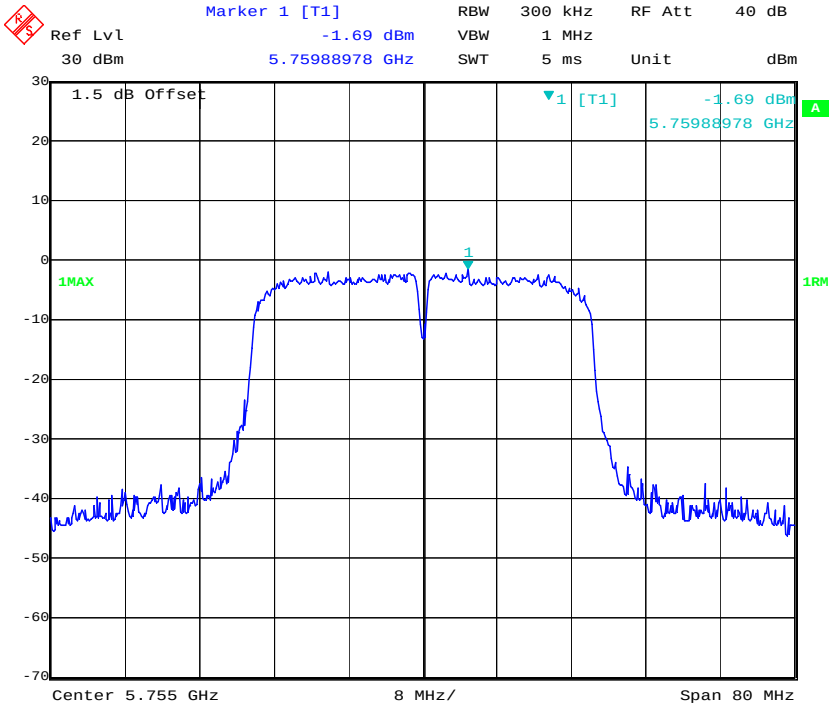

Date: 15.JAN.2017 09:41:11

## 802.11n ht20 High Channel – Chain0



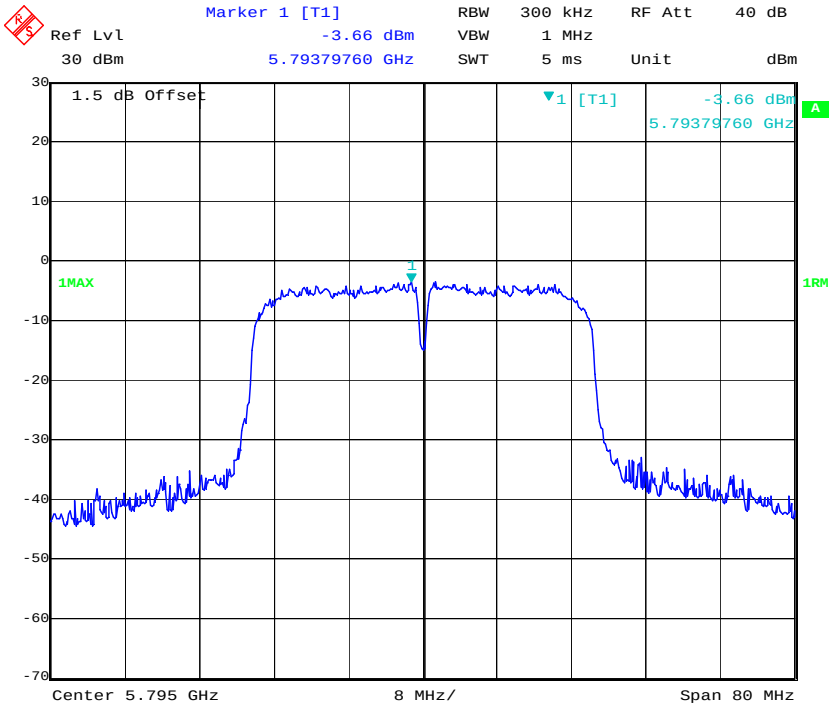

Date: 15.JAN.2017 09:43:52

## 802.11n ht40 Low Channel – Chain0



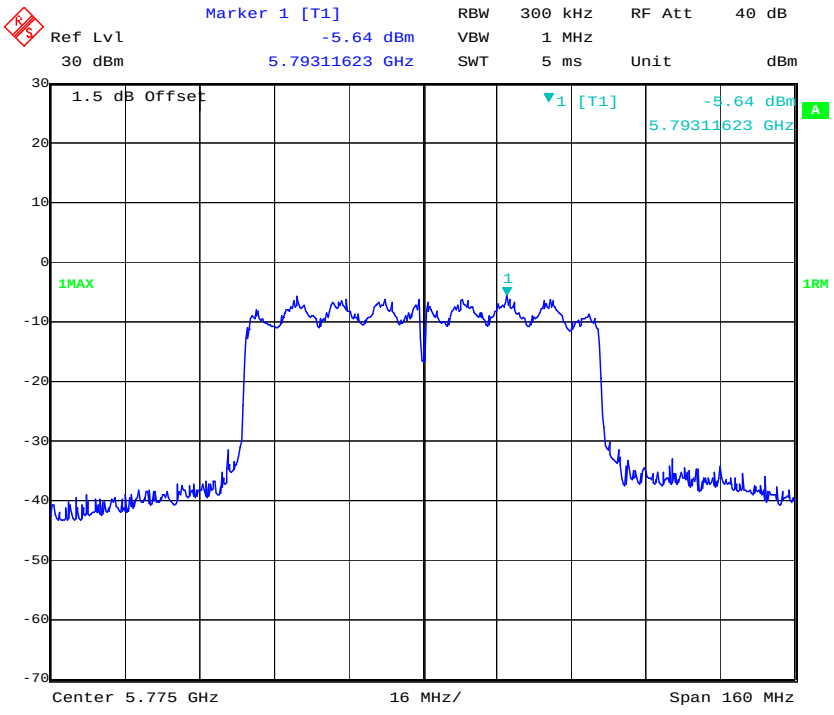

Date: 15.JAN.2017 09:45:29

## 802.11n ht40 High Channel – Chain0



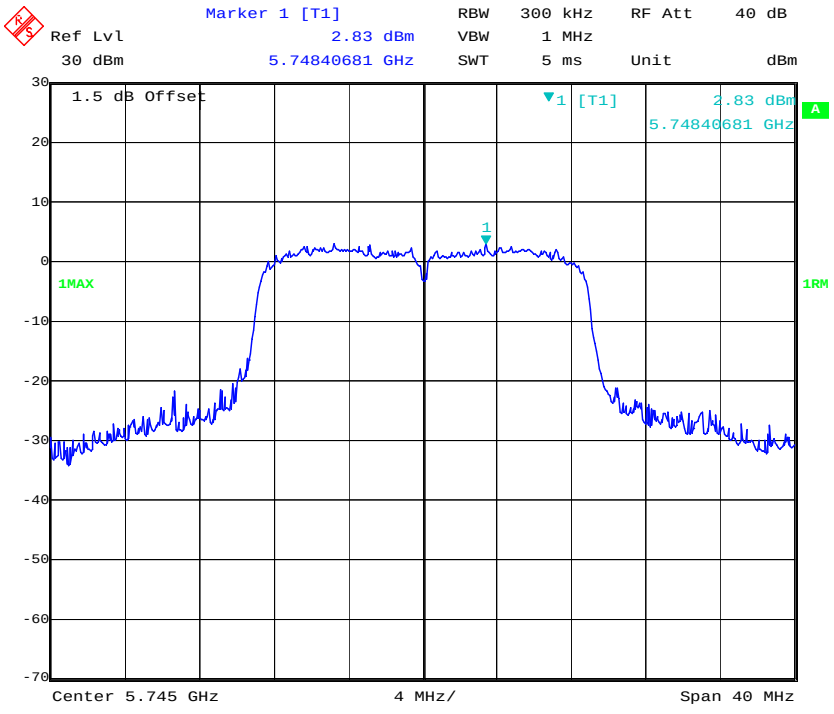

Date: 15.JAN.2017 09:51:01

## 802.11 ac80 Middle Channel – Chain0



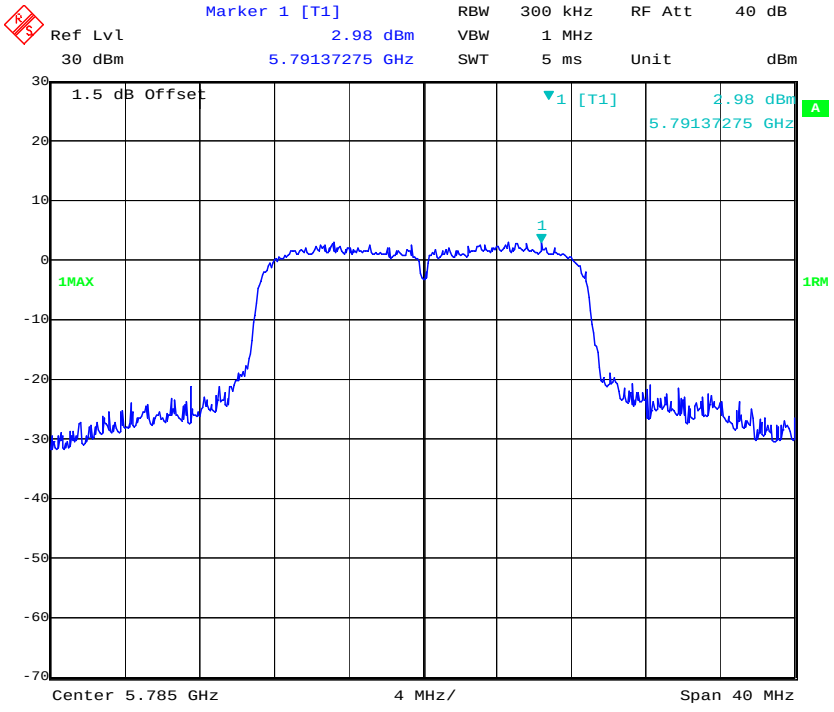

Date: 15.JAN.2017 09:55:07

## 802.11n ht20 Low Channel – Chain1



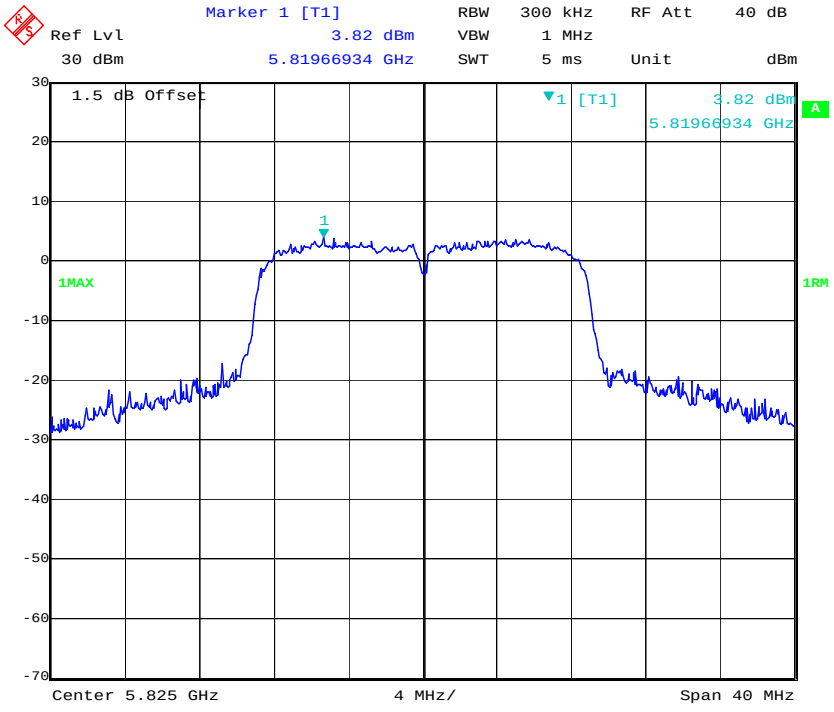

Date: 15.JAN.2017 10:11:06

## 802.11n ht20 Middle Channel – Chain1



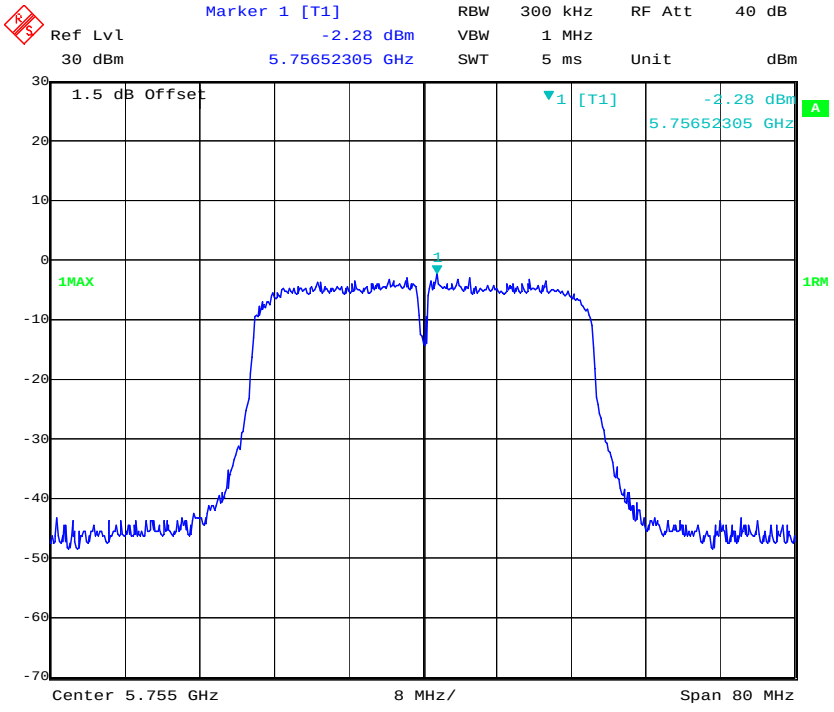

Date: 15.JAN.2017 10:12:34

## 802.11n ht20 High Channel – Chain1



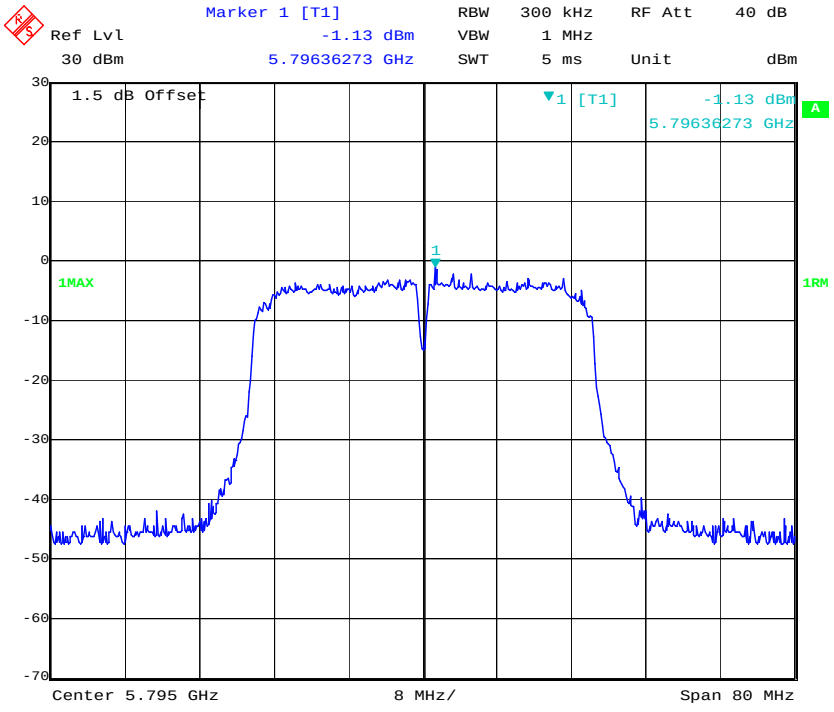

Date: 15.JAN.2017 10:14:08

## 802.11n ht40 Low Channel – Chain1



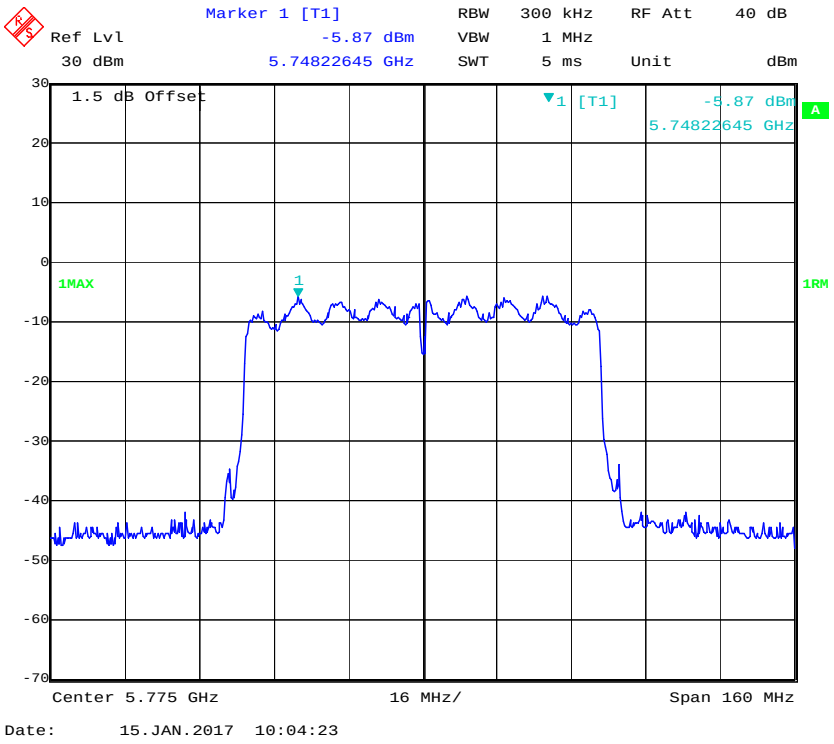

Date: 15.JAN.2017 10:06:40

## 802.11n ht40 High Channel – Chain1



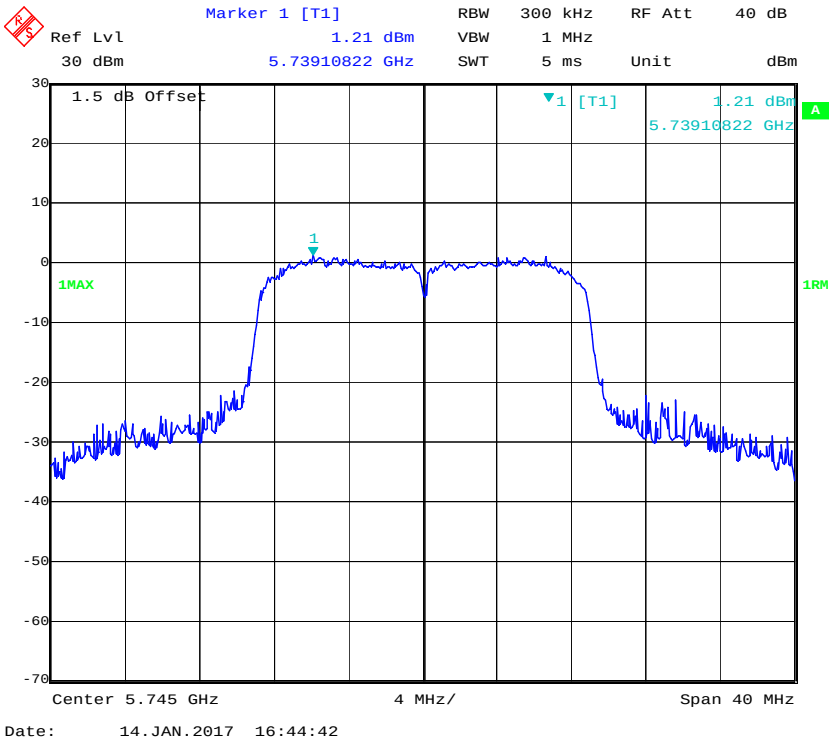

Date: 15.JAN.2017 10:08:07

**802.11 ac80 Middle Channel – Chain1**

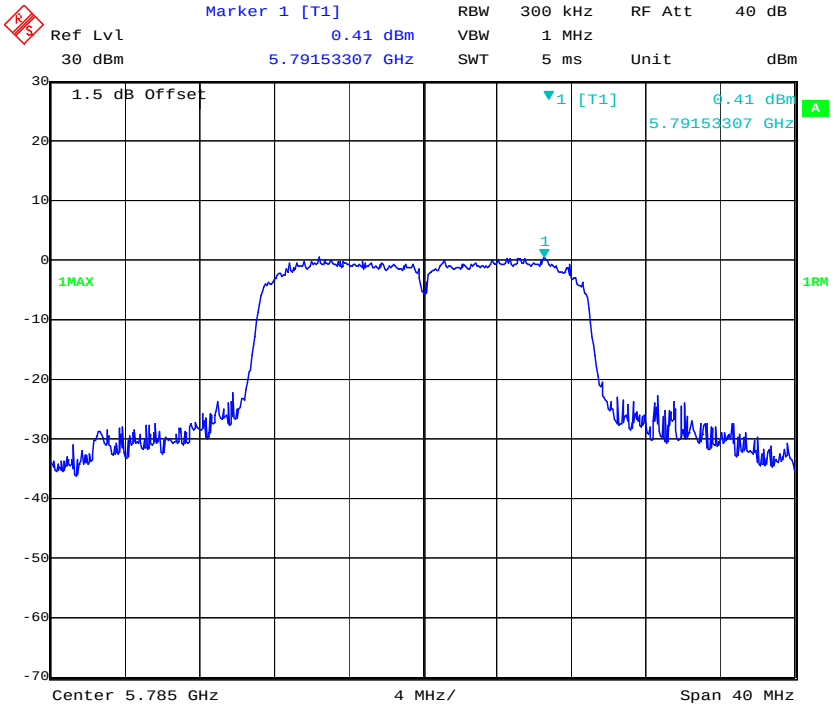



3TX:

**802.11n ht20 Low Channel – Chain0**

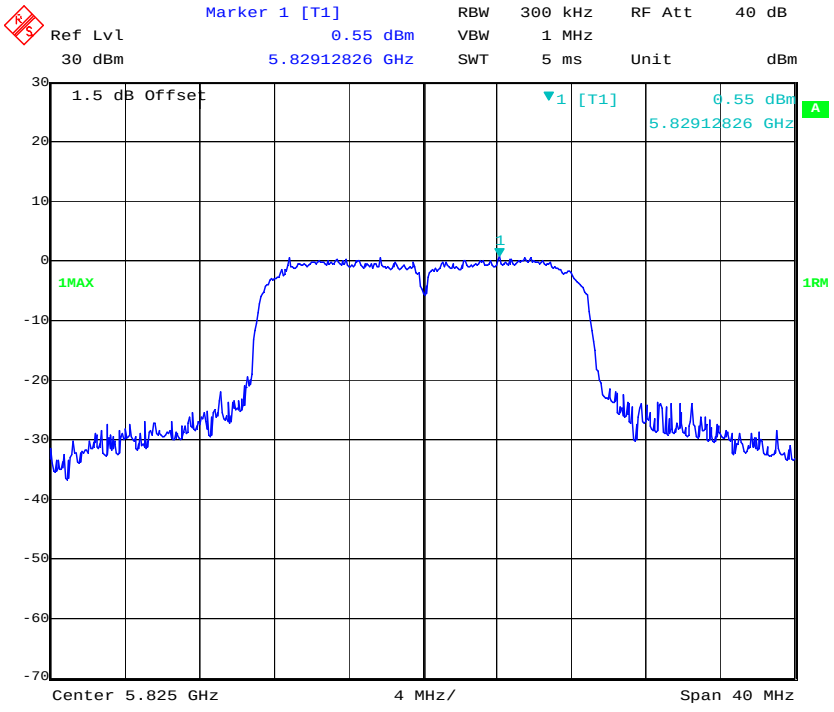


## 802.11n ht20 Middle Channel – Chain0



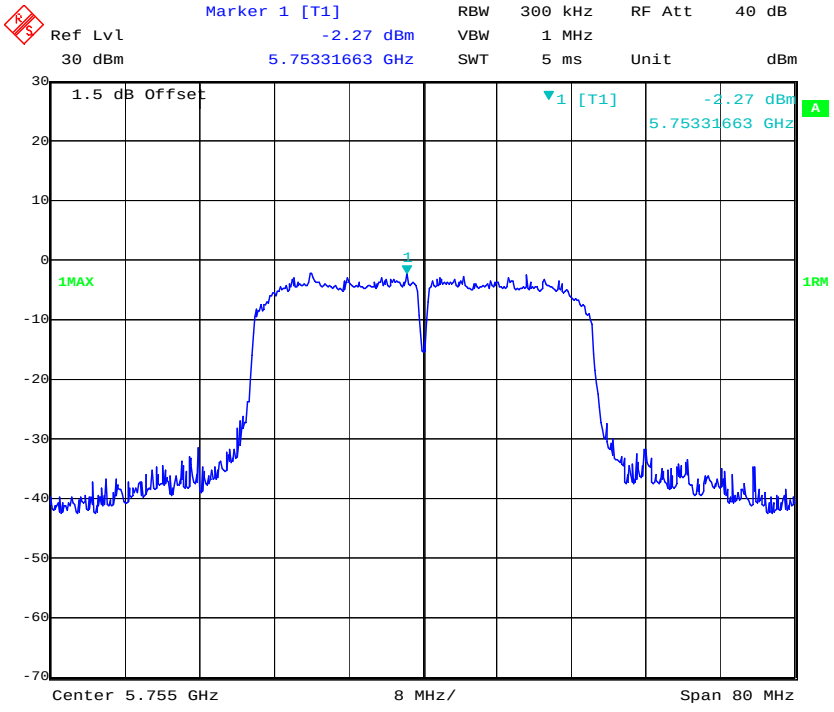

Date: 14.JAN.2017 16:47:16

## 802.11n ht20 High Channel – Chain0



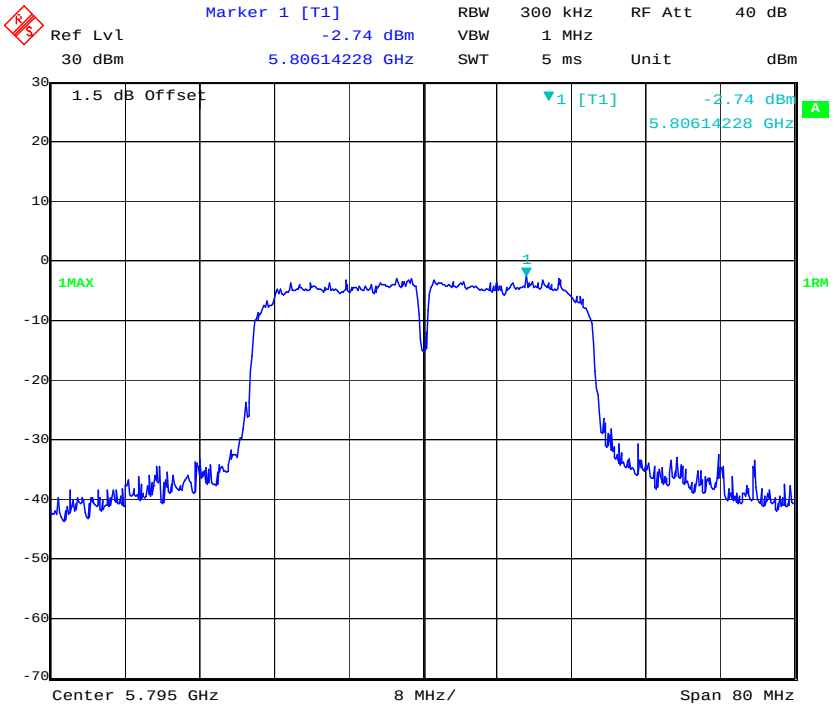

Date: 14.JAN.2017 16:50:05

## 802.11n ht40 Low Channel – Chain0



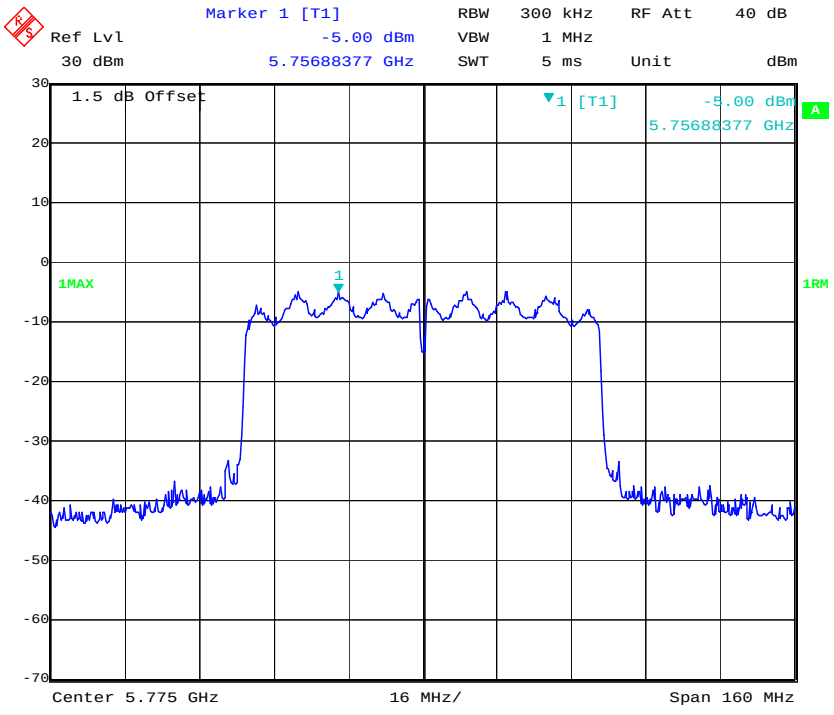

Date: 14.JAN.2017 16:54:02

## 802.11n ht40 High Channel – Chain0



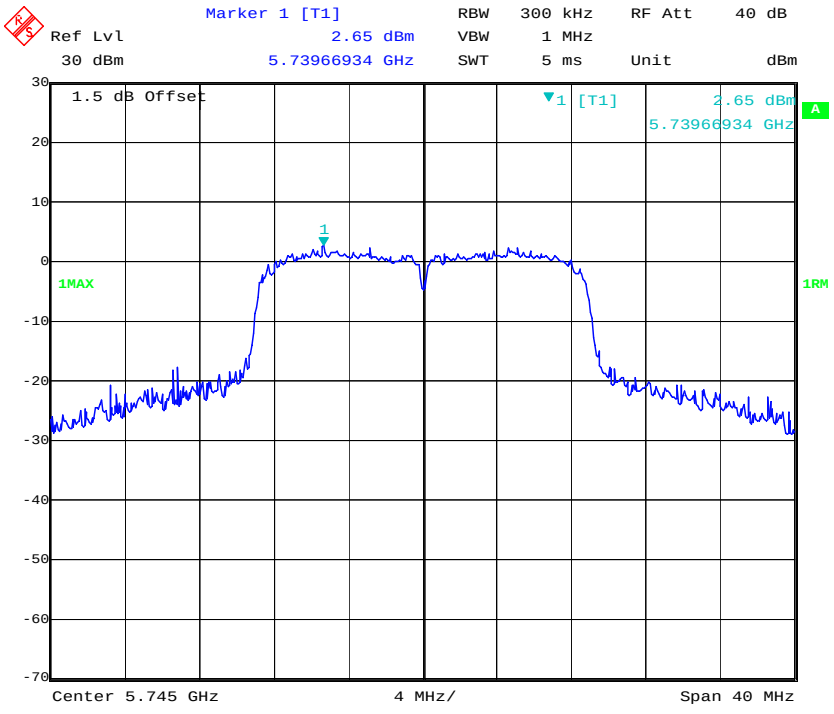

Date: 14.JAN.2017 16:55:37

## 802.11 ac80 Middle Channel – Chain0



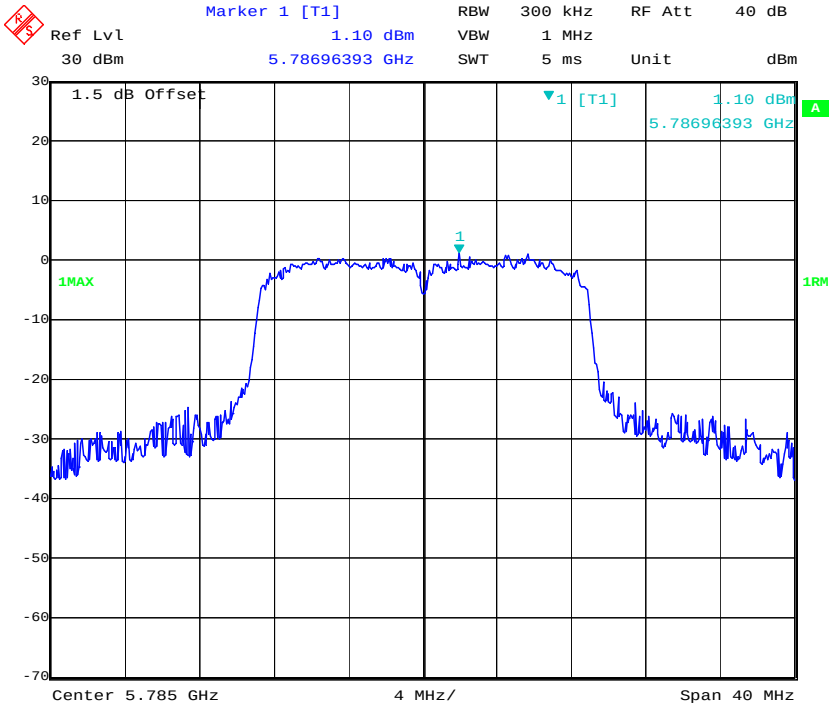

Date: 14.JAN.2017 16:57:43

## 802.11n ht20 Low Channel – Chain1



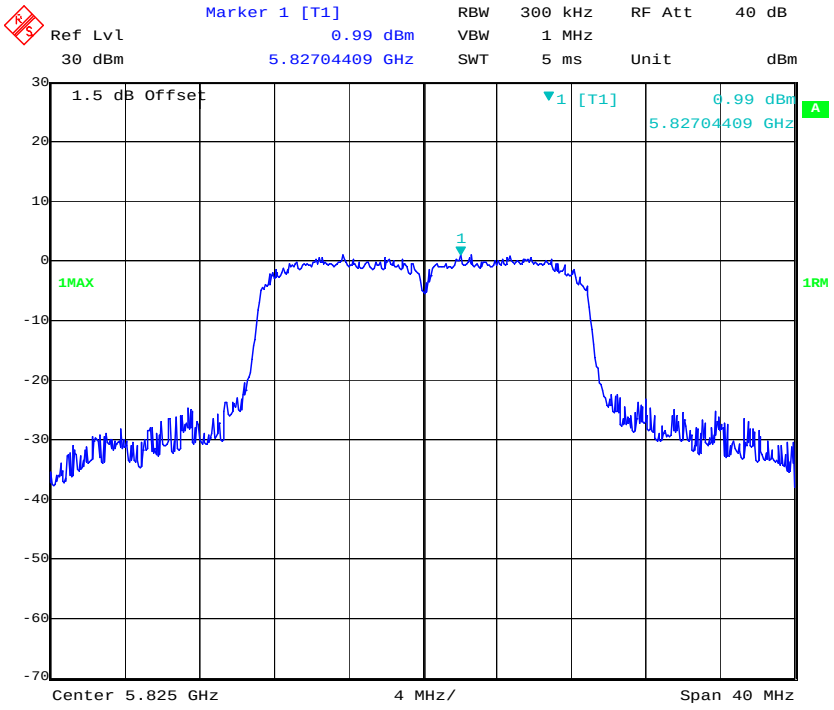

Date: 14.JAN.2017 17:12:57

## 802.11n ht20 Middle Channel – Chain1



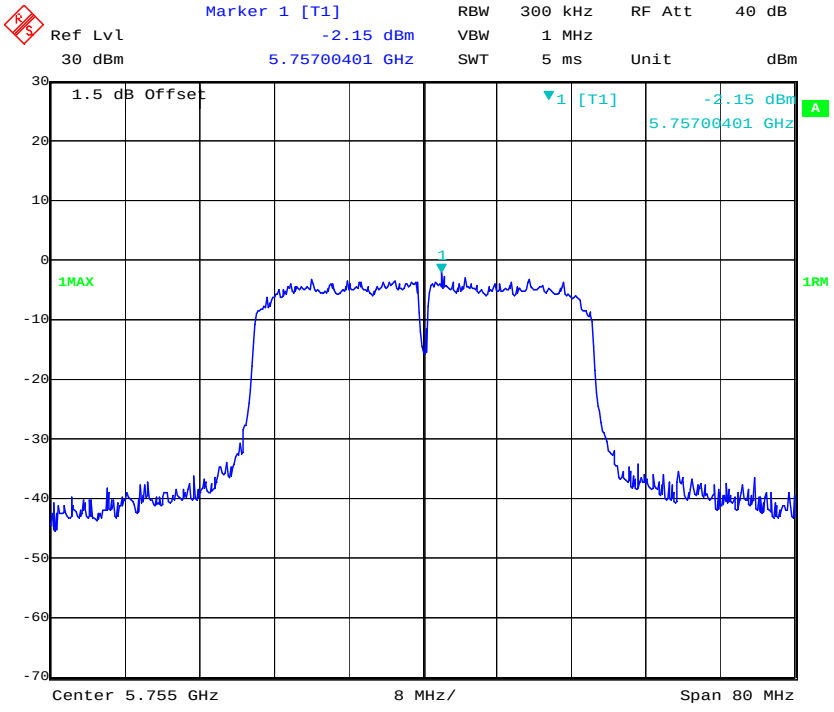

Date: 14.JAN.2017 17:15:16

## 802.11n ht20 High Channel – Chain1



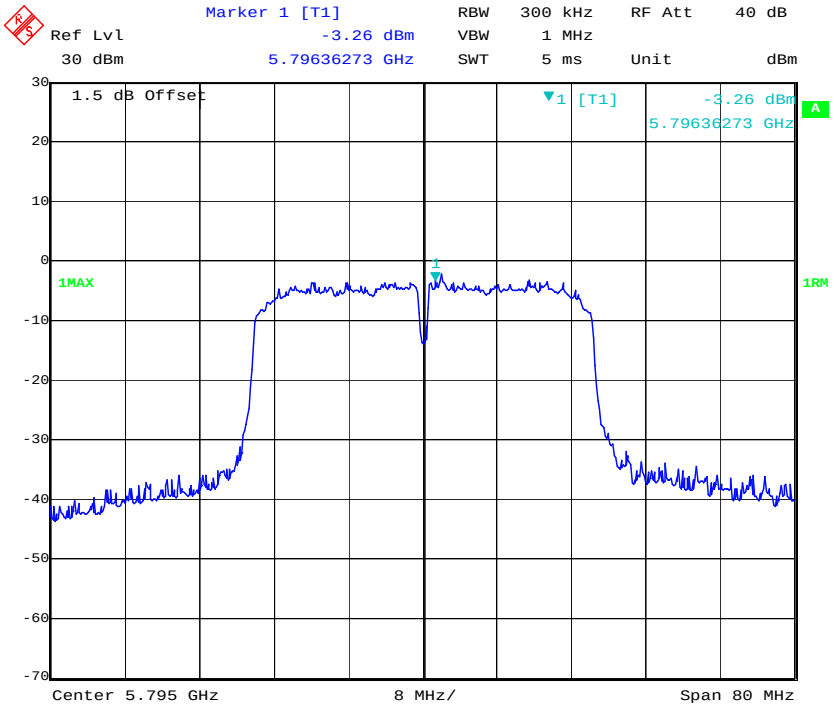

Date: 14.JAN.2017 17:17:01

## 802.11n ht40 Low Channel – Chain1



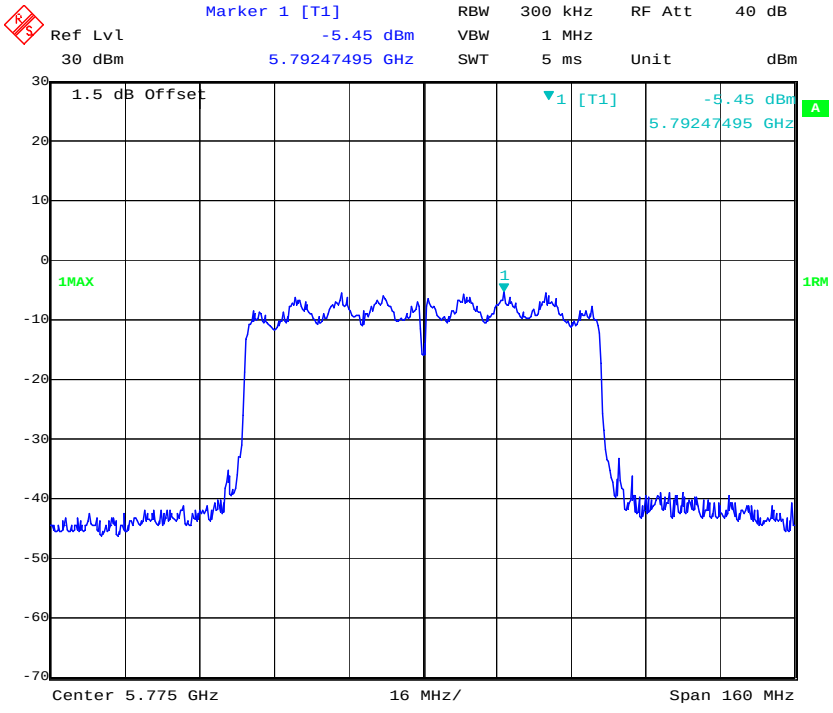

Date: 14.JAN.2017 17:06:37

## 802.11n ht40 High Channel – Chain1



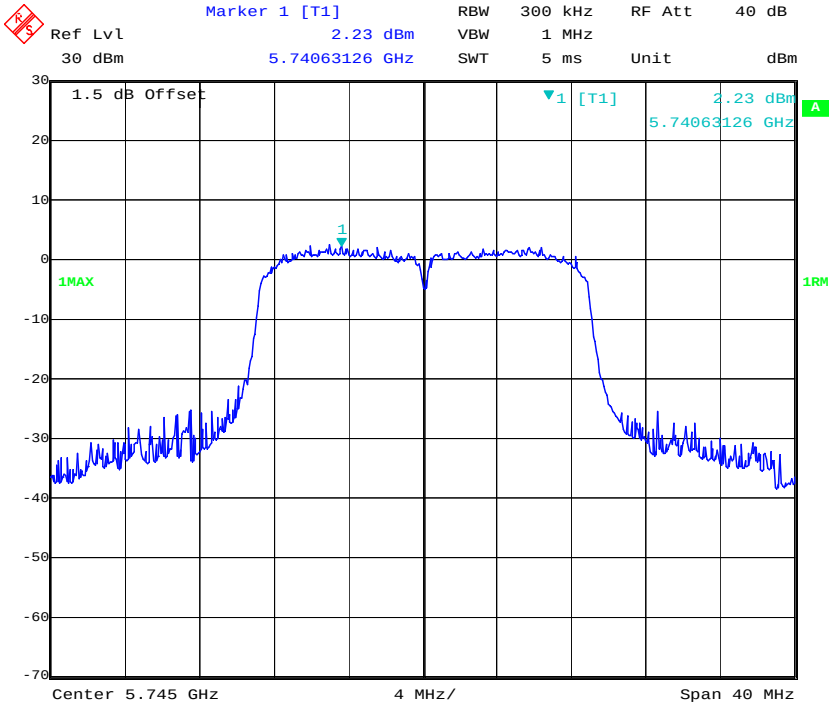

Date: 14.JAN.2017 17:08:18

## 802.11 ac80 Middle Channel – Chain1



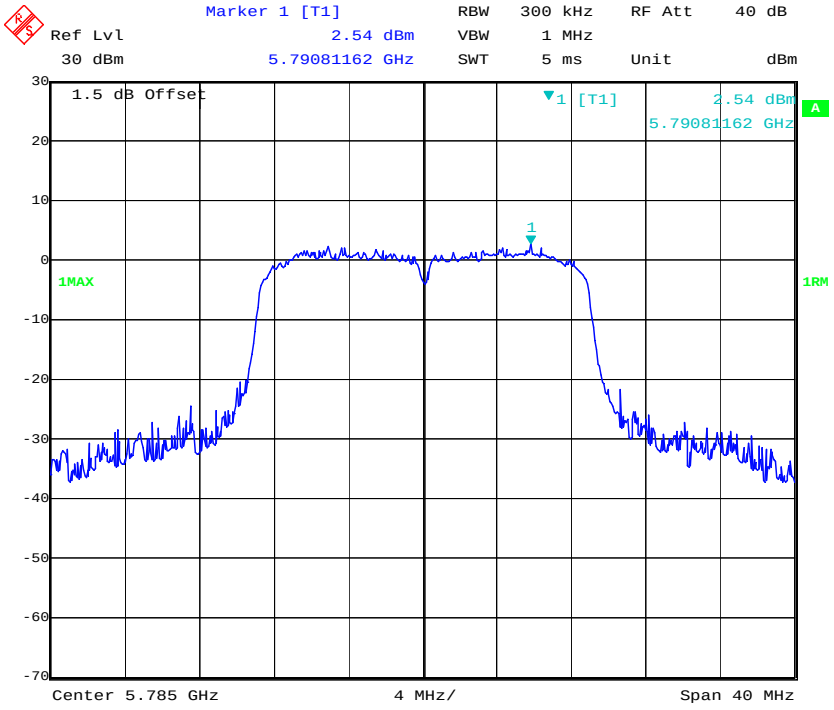

Date: 14.JAN.2017 17:04:38

## 802.11n ht20 Low Channel – Chain2



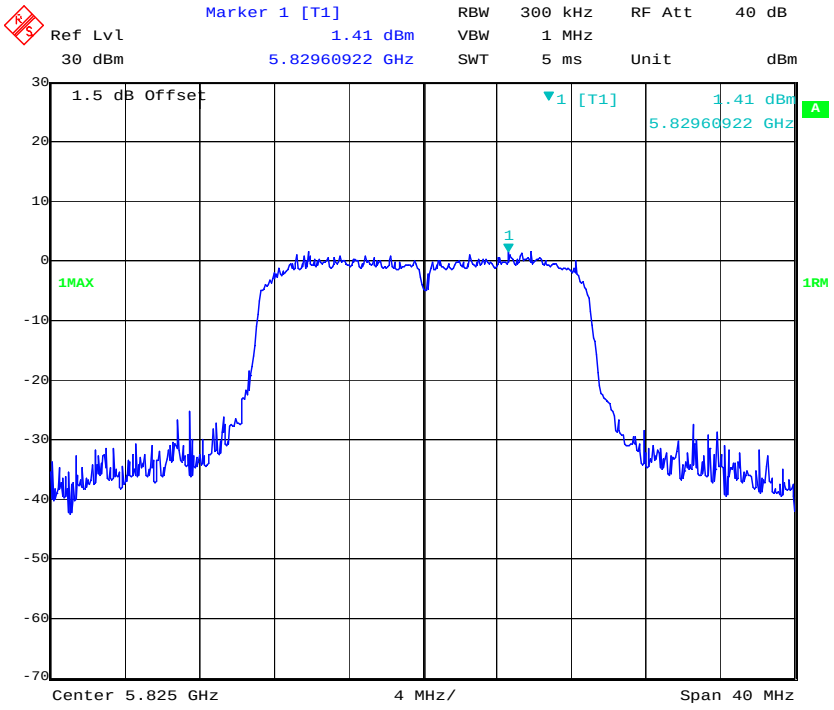

Date: 14.JAN.2017 17:28:23

## 802.11n ht20 Middle Channel – Chain2



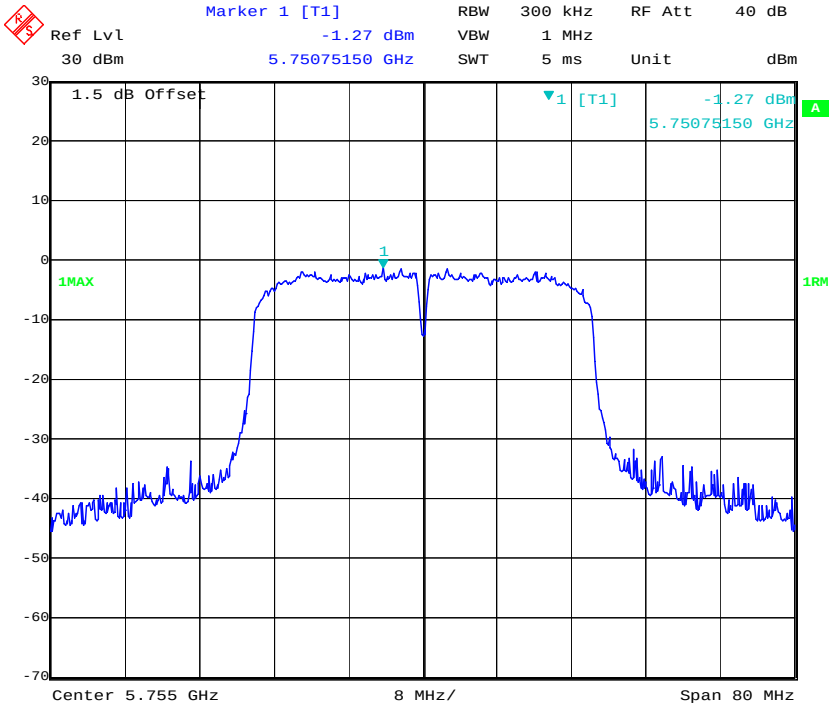

Date: 14.JAN.2017 17:26:46

## 802.11n ht20 High Channel – Chain2



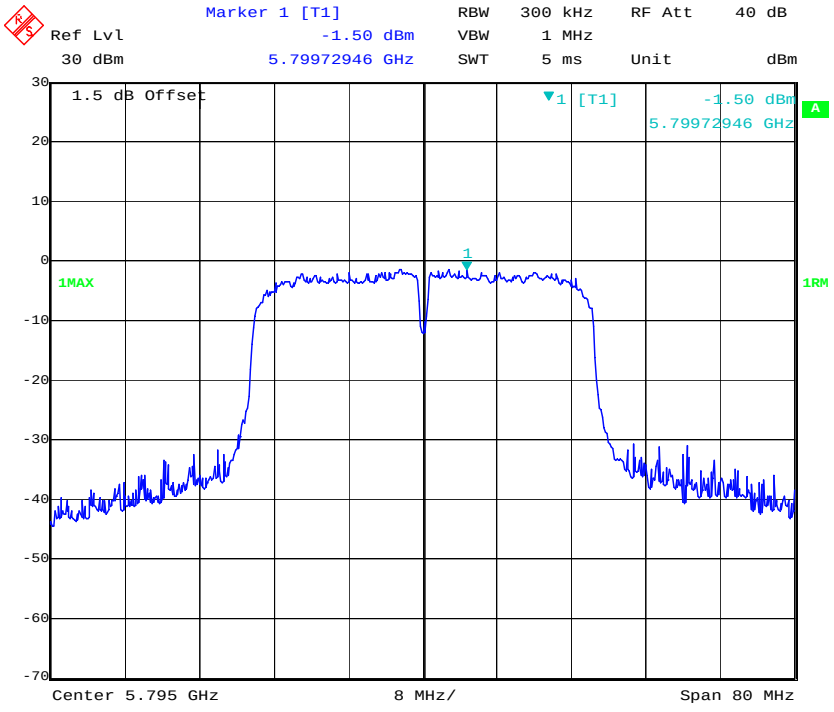

Date: 14.JAN.2017 17:22:14

## 802.11n ht40 Low Channel – Chain2



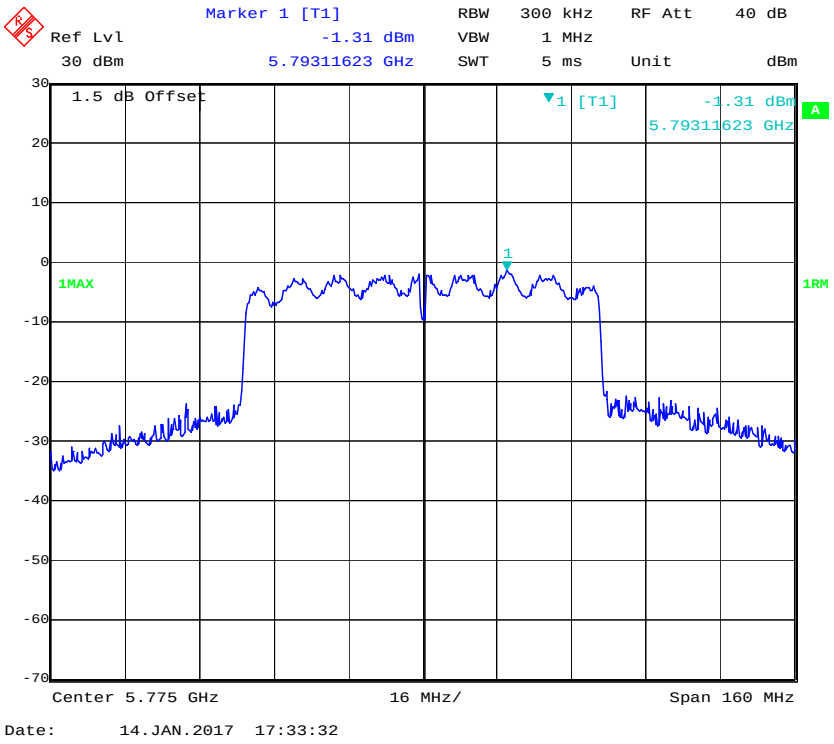

Date: 14.JAN.2017 17:30:21

## 802.11n ht40 High Channel – Chain2




Date: 14.JAN.2017 17:31:46

## 802.11 ac80 Middle Channel – Chain2




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