FCC PART 15.407

TEST REPORT

For

SHENZHEN IP-COM NETWORKS CO.,LTD

Unit A, First Floor, Tower E3, No. 1001, Zhongshanyuan Road,Nanshan District, Shenzhen, China

FCC ID: 2ABZMAP375

Report Type:	**Product Name:**
Original Report	Wireless Access Point

Test Engineer:	*Kevin Hu*
Report Number:	RDG170314002B
Report Date:	2017-05-04
Reviewed By:	Henry Ding EMC Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Chengdu) No.5040, Huilongwan Plaza, No.1, Shawan Road, Jinniu District, Chengdu, Sichuan, China Tel: 028-65525123, Fax: 028-65525125 www.baclcorp.com

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The ***SHENZHEN IP-COM NETWORKS CO.,LTD***'s product, model number: ***AP375 (FCC ID: 2ABZMAP375)*** (the "EUT") in this report was a ***Wireless Access Point,*** which was measured approximately: 23.3 cm (L) x 23.3 cm (W) x 5.2 cm (H), rated input voltage: DC 51V from POE Port.

Adapter Information:
MODEL: BN031-A65051
INPUT: AC 100-240V, 50/60Hz, 1.5A
OUTPUT: DC 51V, 1.25A

**All measurement and test data in this report was gathered from final production sample, serial number: 170314002 (assigned by the BACL, Chengdu). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2017-03-14, and EUT conformed to test requirement.*

Objective

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

The tests were performed in order to determine compliance with FCC Rules 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: 2ABZMAP375.

Test Methodology

All measurements detailed in this Test Report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices".

All of the measurements detailed in this Test Report were performed by Bay Area Compliance Laboratories Corp. (Chengdu).

The Bay Area Compliance Laboratories Corp. Chengdu's measurement Uncertainties (calculated for a k=2 Coverage Factor corresponding to approximately 95% Coverage) were as follows:

-For all of the AC Line Conducted Emissions Tests reported herein: ±3.17 dB.
-For of all of the Direct Antenna Conducted Emissions Tests reported herein: ±0.56 dB.

-For of all of the direct Radiated Emissions Tests reported herein are:
30 MHz to 200 MHz: ±4.7 dB;
200 MHz to 1 GHz: ±6.0 dB;
1 GHz to 6 GHz: ±5.13dB; and,
6 GHz to 40 GHz: ±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 device has 3 identical WLAN modules, which supports 2.4GHz and 5GHz bands. For this device, manufacturer only enabled 2.4GHz band for module 1, enabled 5150-5250 MHz and 5725-5850 MHz band for module 2. Module 3 enabled 2.4GHz, 5150-5250 MHz and 5725-5850 MHz, other bands were disabled by software. Per pre-test, the related frequency band`s RF parameters and setting for module 1 and module 2 were identical with module 3, So all conducted test performed at module 3.

The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80, the vht20/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	/	/

802.11a and 802.11n ht20 modes were tested with Channel 36, 40 and 48, 802.11n ht40 mode was tested with Channel 38 and 46.

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

802.11a and 802.11n ht20 modes were tested with Channel 149, 157 and 165, 802.11n ht40 mode was tested with Channel 151 and 159.

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.

EUT Exercise Software

The software “MTool _2.0.0.3” was used for testing, and the commands were provided by manufacturer. The maximum power and duty cycle was set by commands as following table:

5150-5250MHz Band:

Test Mode	Test Software Version	MTool _2.0.0.3		
802.11a	Test Frequency	5180MHz	5200MHz	5240MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting	80	80	80
802.11ht20	Test Frequency	5180MHz	5200MHz	5240MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting	80	80	80
802.11n ht40	Test Frequency	5190MHz	/	5230MHz
	Data Rate	MCS0	/	MCS0
	Power Level Setting	70	/	70
802.11ac vht80	Test Frequency	/	5210MHz	/
	Data Rate	/	MCS0	/
	Power Level Setting	/	52	/

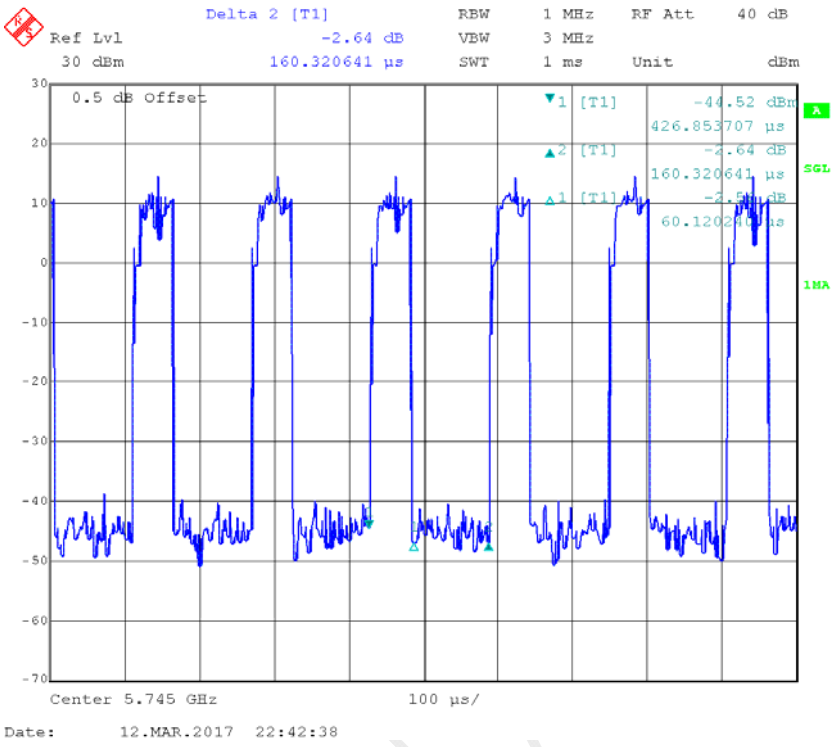
5470-5850MHz Band:

Test Mode	Test Software Version	MTool _2.0.0.3		
802.11a	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting	78	78	78
802.11ht20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting	78	78	78
802.11n ht40	Test Frequency	5755MHz	/	5795MHz
	Data Rate	MCS0	/	MCS0
	Power Level Setting	70	/	70
802.11ac vht80	Test Frequency	/	5775MHz	/
	Data Rate	/	MCS0	/
	Power Level Setting	/	64	/

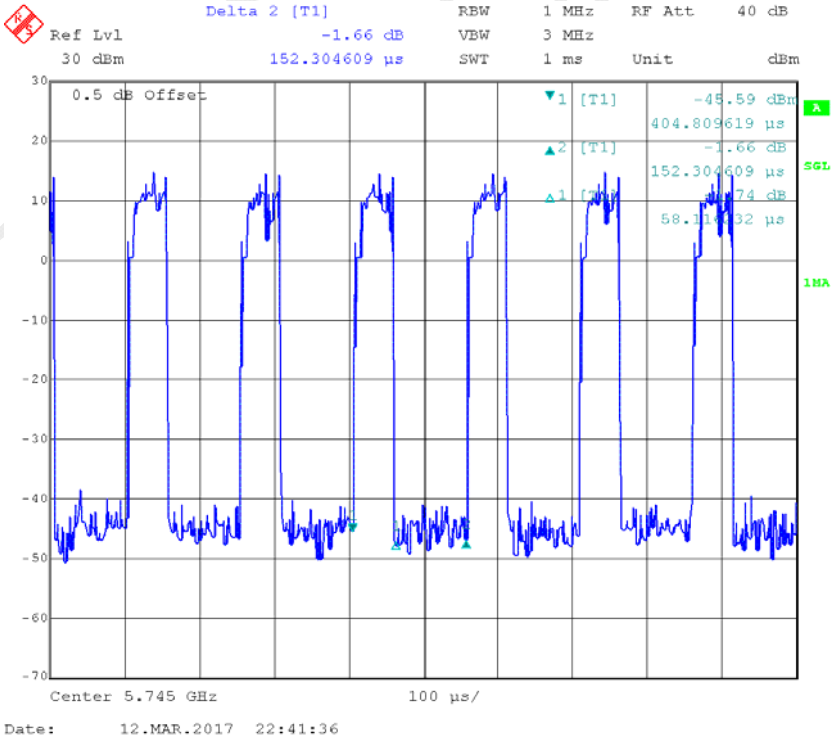
The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)	Minimum Transmission Duration (T) (ms)	Duty cycle Corrected Factor (10*log(1/x)) (dB)
802.11 a	0.060	0.160	37.50%	0.060	4.26
802.11n ht20	0.058	0.152	38.16%	0.058	4.18
802.11n ht40	0.062	0.148	41.89%	0.062	3.78
802.11ac vht80	0.050	0.080	62.50%	0.050	2.04

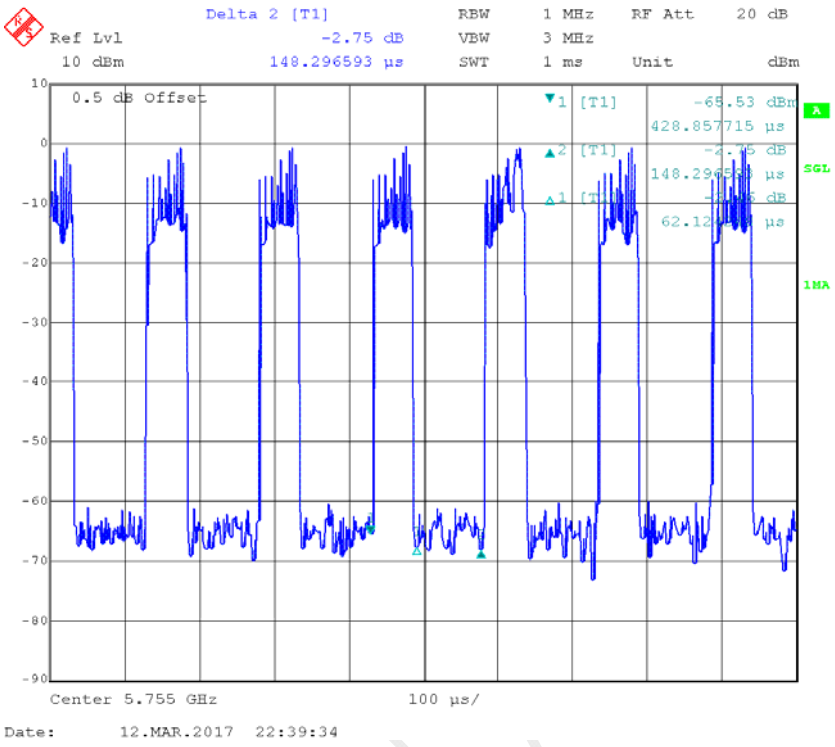
802.11a



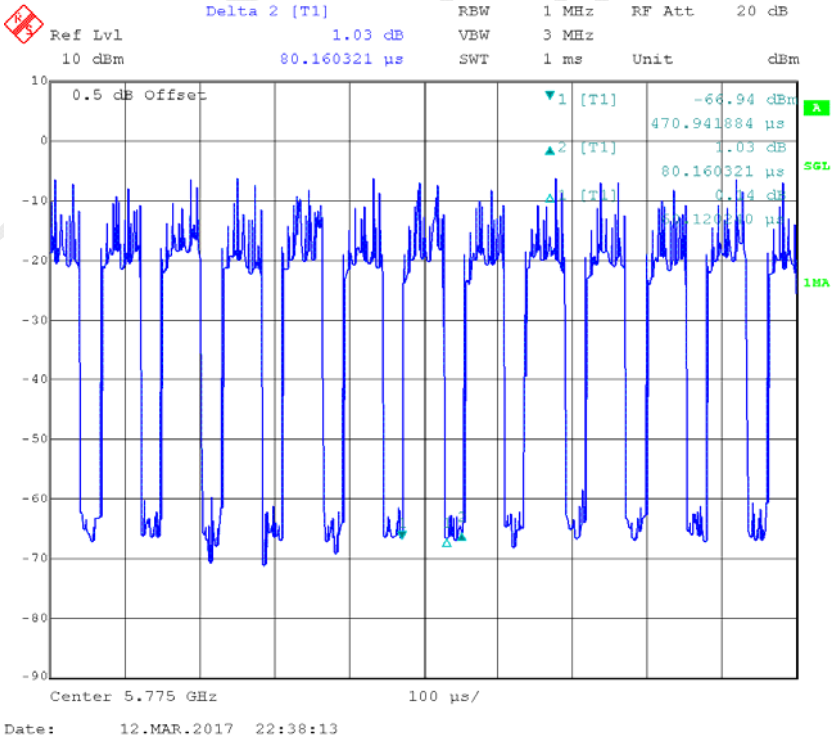
802.11 n20



802.11 n40



802.11 ac80



Equipment Modifications

No modification was made to the EUT.

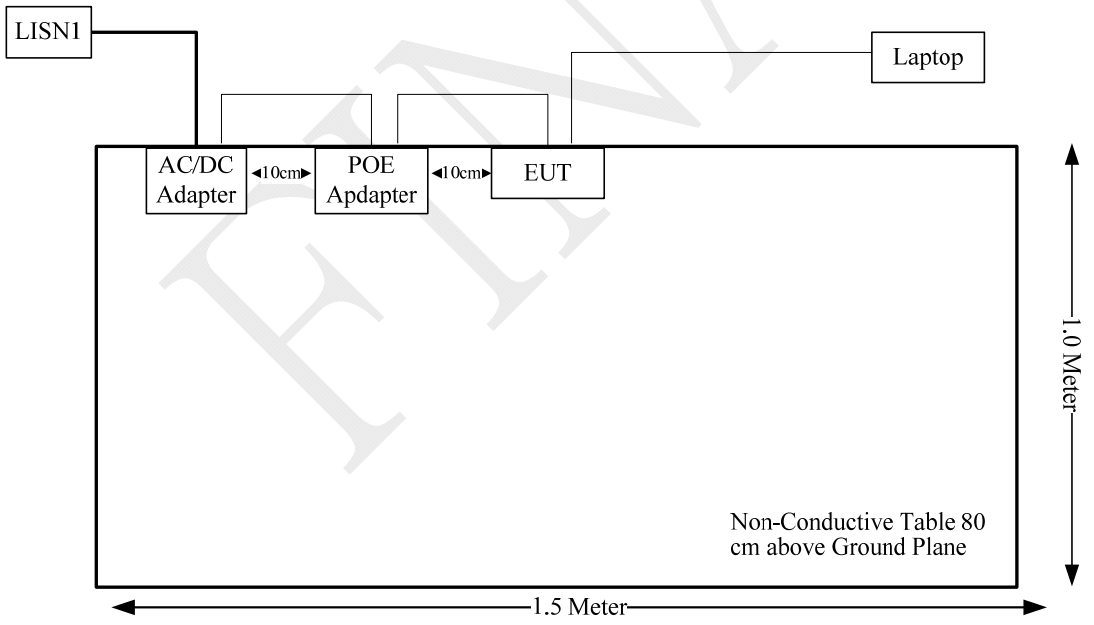
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
IBM	PC	8176	99Y7315

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 cable	Yes	No	1.0	POE Adapter	EUT
RJ45 Cable	Yes	No	10	EUT	PC
DC Cable	No	No	1.0	AC/DC Adapter	POE Adapter

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.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = 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:

Modules	Frequency (MHz)	Antenna Gain		Conducted average output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
1	2412-2462	3.9	2.45	24	251.19	20.00	0.12	1.0
2	5180-5240	2.6	1.82	23	199.53	20.00	0.07	1.0
	5745-5825	4.4	2.75	23	199.53	20.00	0.11	1.0
3	2412-2462	4.7	2.95	24	251.19	20.00	0.15	1.0
	5180-5240	4.6	2.88	23	199.53	20.00	0.11	1.0
	5745-5825	4.7	2.95	23	199.53	20.00	0.12	1.0

The module 1, 2 and 3 can transmit simultaneously, module 3 5G and 2.4G can`t transmit simultaneously :

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

$=S_{mod1}/S_{limit-\ mod1} + S_{mod2}/S_{limit-\ mod2} + S_{mod3}/S_{limit-\ mod3}$

=0.12/1+0.11/1+0.15/1

=0.38

< 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 internal antennas permanently attached to the unit, module 1 and 2 use same antenna 1 and antenna 2, the antenna gain is 3.9dBi in 2.4GHz band, 2.6dBi in 5.2GHz band, 4.4dBi in 5.8GHz band, antenna 3 and antenna 4 are for module 3, the antenna gain is 4.7dBi in 2.4GHz band, 4.6dBi in 5.2GHz band, 4.7dBi in 5.8GHz band,fulfill the requirement of this section. Please refer to the EUT photos.

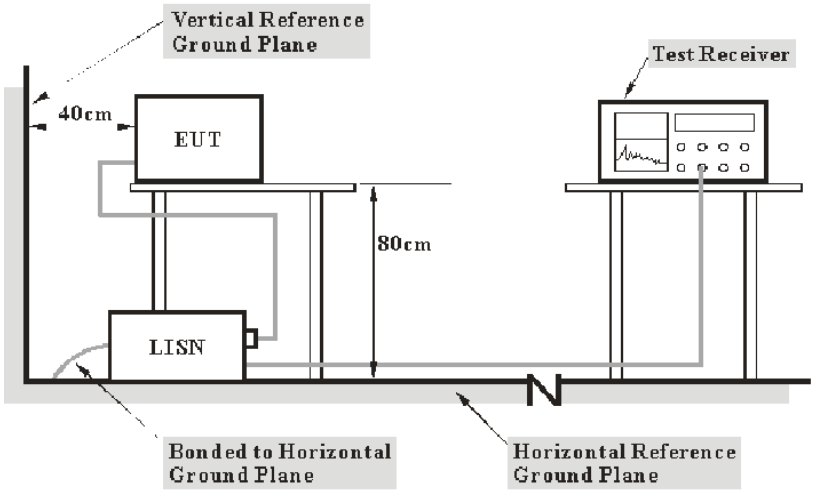
Result: Compliance.

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

Applicable Standard

FCC §15.207(a), §15.407(b) (6).

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	100018	2016-12-02	2017-12-01
SOLAR ELECTRONICS	L.I.S.N.	9252-50-24-BNC	984413	2016-12-02	2017-12-01
Rohde & Schwarz	PULSE LIMITER	ESH3Z2	DE14781	2016-10-31	2017-10-30
Unknown	Conducted Cable	Unknown	NO.5	2016-11-10	2017-11-09
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B "Implementation of traceability policy in accredited laboratories".

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

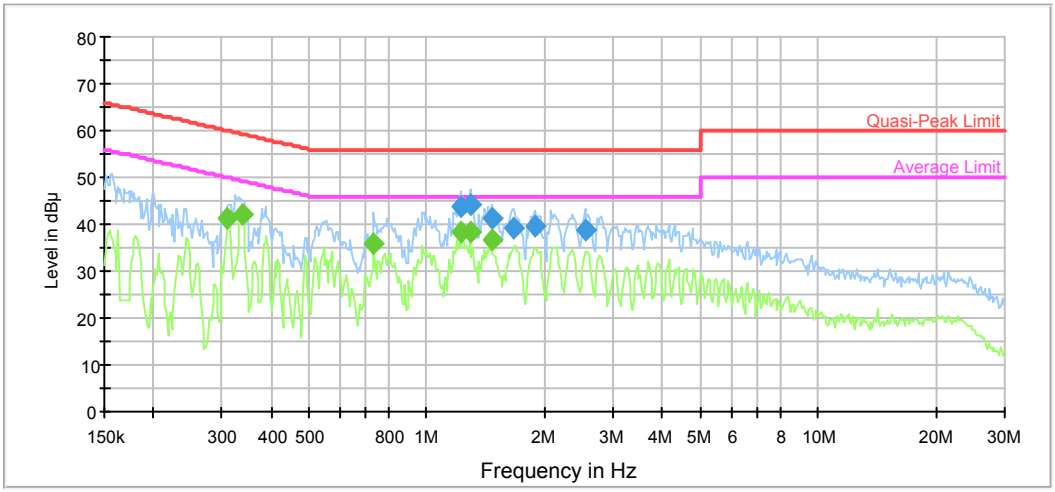
Environmental Conditions

Temperature:	19 °C
Relative Humidity:	58 %
ATM Pressure:	95.6 kPa

The testing was performed by Kevin Hu on 2017-03-16.

Test Mode: Transmitting

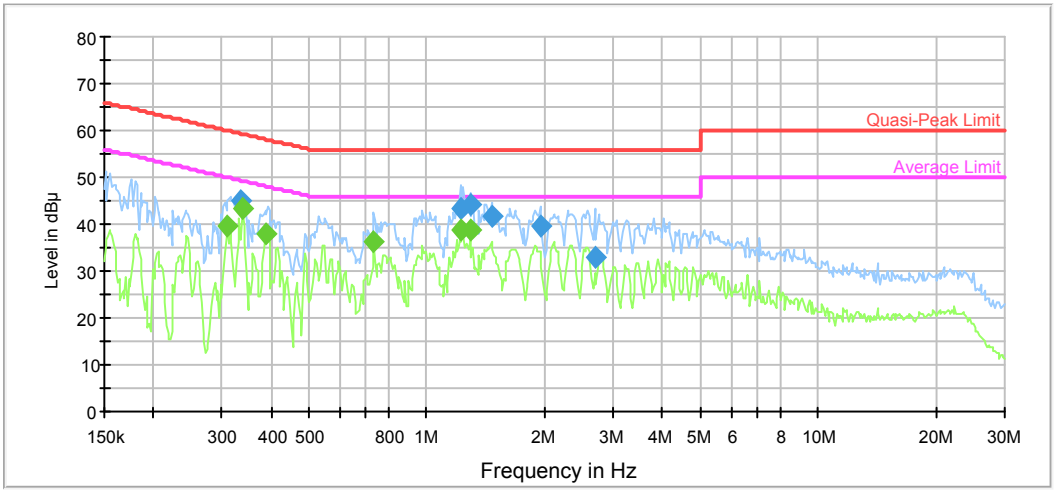
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
1.219583	43.9	9.000	L1	19.7	12.1	56.0	Compliance
1.289541	44.1	9.000	L1	19.7	11.9	56.0	Compliance
1.464886	41.4	9.000	L1	19.7	14.6	56.0	Compliance
1.664073	39.3	9.000	L1	19.7	16.7	56.0	Compliance
1.890344	39.4	9.000	L1	19.8	16.6	56.0	Compliance
2.538519	38.9	9.000	L1	19.7	17.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.309742	41.1	9.000	L1	19.7	8.9	50.0	Compliance
0.338116	41.9	9.000	L1	19.7	7.3	49.2	Compliance
0.732382	36.0	9.000	L1	19.7	10.0	46.0	Compliance
1.219583	38.2	9.000	L1	19.7	7.8	46.0	Compliance
1.289541	38.3	9.000	L1	19.7	7.7	46.0	Compliance
1.464886	36.6	9.000	L1	19.7	9.4	46.0	Compliance

AC120 V, 60 Hz, Neutral:



requency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.335433	44.8	9.000	N	19.6	14.5	59.3	Compliance
1.219583	43.5	9.000	N	19.6	12.5	56.0	Compliance
1.289541	44.1	9.000	N	19.6	11.9	56.0	Compliance
1.464886	41.7	9.000	N	19.7	14.3	56.0	Compliance
1.951564	39.6	9.000	N	19.7	16.4	56.0	Compliance
2.684134	32.9	9.000	N	19.7	23.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.309742	39.4	9.000	N	19.6	10.6	50.0	Compliance
0.338116	43.3	9.000	N	19.6	5.9	49.2	Compliance
0.387164	38.0	9.000	N	19.6	10.1	48.1	Compliance
0.732382	36.3	9.000	N	19.6	9.7	46.0	Compliance
1.219583	38.8	9.000	N	19.6	7.2	46.0	Compliance
1.289541	38.7	9.000	N	19.6	7.3	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.

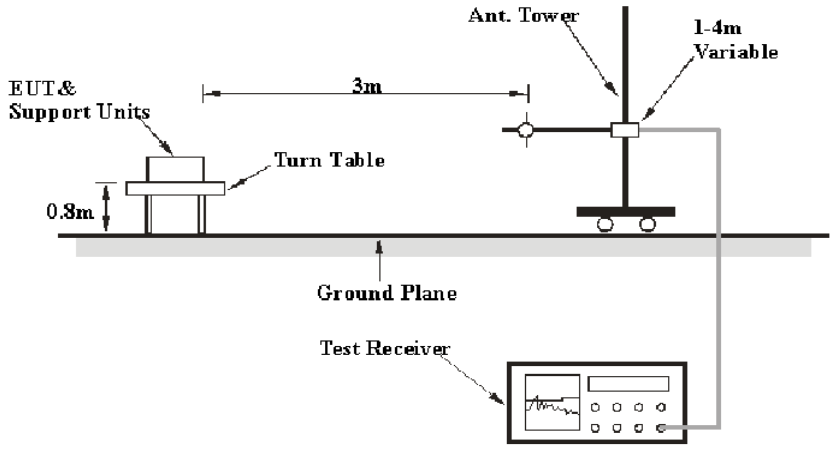
(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(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.

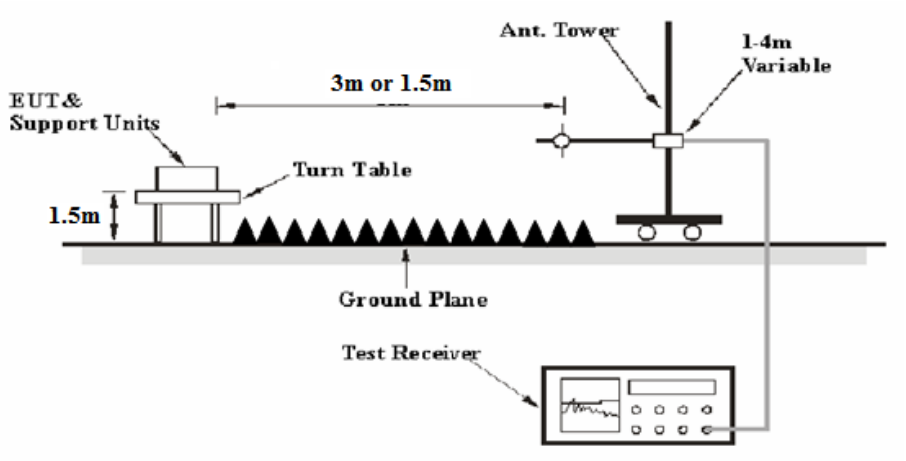
(7) The provisions of §15.205 apply to intentional radiators operating under this section.

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	A121808	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	966-1	2015-04-24	2018-04-23
Unknown	RF Cable (below 1GHz)	Unknown	NO.1	2016-11-10	2017-11-09
Unknown	RF Cable (below 1GHz)	Unknown	NO.4	2016-11-10	2017-11-09
Unknown	RF Cable (above 1GHz)	Unknown	NO.2	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) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B “Implementation of traceability policy in accredited laboratories”.

Test Data

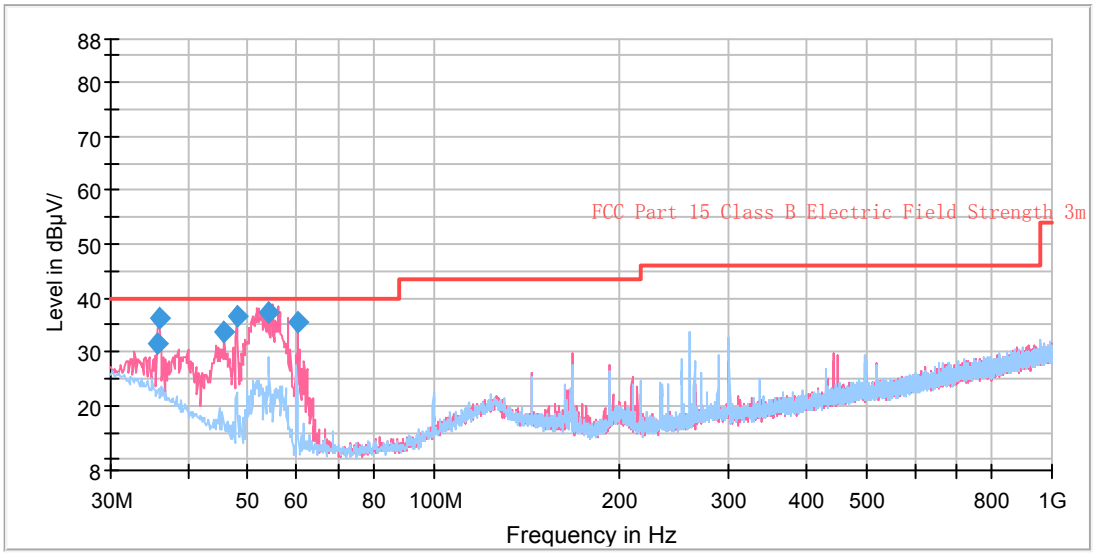
Environmental Conditions

Temperature:	25.0 °C
Relative Humidity:	36.4%
ATM Pressure:	100.9 kPa

** The testing was performed by Kevin Hu on 2017-04-20.*

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

1) **30MHz-1GHz**(Worst is Module 1 n20 middle channel+ Module 2 n20 mode Low channel+ module 3 n20 mode middle channel transmitting simultaneously):



Frequency (MHz)	QuasiPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
35.698750	31.7	100.0	V	253.0	-2.9	8.3	40.0
35.941250	36.3	100.0	V	279.0	-3.1	3.7	40.0
45.762500	33.6	100.0	V	183.0	-10.5	6.4	40.0
47.945000	36.6	100.0	V	210.0	-11.6	3.4	40.0
53.886250	37.4	200.0	V	177.0	-13.5	3.4	40.0
60.191250	35.6	200.0	V	41.0	-13.9	4.4	40.0

2) 1GHz-40GHz:

Module 2:
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	70.74	PK	H	31.72	5.21	0.00	107.67	101.67	N/A	N/A
5180	56.90	AV	H	31.72	5.21	0.00	93.83	87.83	N/A	N/A
5180	77.79	PK	V	31.72	5.21	0.00	114.72	108.72	N/A	N/A
5180	61.46	AV	V	31.72	5.21	0.00	98.39	92.39	N/A	N/A
5150	40.57	PK	V	31.67	5.18	0.00	77.42	71.42	74	2.58
5150	20.65	AV	V	31.67	5.18	0.00	57.5	51.5	54	2.5
10360	43.38	PK	V	37.37	7.76	26.37	62.14	56.14	74	17.86
10360	30.62	AV	V	37.37	7.76	26.37	49.38	43.38	54	10.62
15540	41.15	PK	V	39.41	10.22	25.32	65.46	59.46	74	14.54
15540	28.41	AV	V	39.41	10.22	25.32	52.72	46.72	54	7.28
3352	40.87	PK	V	26.17	3.96	26.54	44.46	38.46	74	35.54
3352	29.00	AV	V	26.17	3.96	26.54	32.59	26.59	54	27.41
1458	31.08	PK	V	23.99	2.61	26.37	31.31	25.31	74	48.69
1458	19.16	AV	V	23.99	2.61	26.37	19.39	13.39	54	40.61
Middle Channel:5200 MHz										
5200	71.18	PK	H	31.76	5.23	0.00	108.17	102.17	N/A	N/A
5200	57.50	AV	H	31.76	5.23	0.00	94.49	88.49	N/A	N/A
5200	78.38	PK	V	31.76	5.23	0.00	115.37	109.37	N/A	N/A
5200	61.65	AV	V	31.76	5.23	0.00	98.64	92.64	N/A	N/A
10400	45.77	PK	V	37.38	7.79	26.36	64.58	58.58	74	15.42
10400	33.01	AV	V	37.38	7.79	26.36	51.82	45.82	54	8.18
15600	34.97	PK	V	39.42	10.22	25.31	59.3	53.3	74	20.7
15600	23.51	AV	V	39.42	10.22	25.31	47.84	41.84	54	12.16
3387	41.55	PK	V	26.37	4.01	26.55	45.38	39.38	74	34.62
3387	28.15	AV	V	26.37	4.01	26.55	31.98	25.98	54	28.02
1489	31.96	PK	V	24.07	2.65	26.34	32.34	26.34	74	47.66
1489	20.23	AV	V	24.07	2.65	26.34	20.61	14.61	54	39.39
High Channel:5240 MHz										
5240	71.56	PK	H	31.83	5.27	0.00	108.66	102.66	N/A	N/A
5240	57.61	AV	H	31.83	5.27	0.00	94.71	88.71	N/A	N/A
5240	78.69	PK	V	31.83	5.27	0.00	115.79	109.79	N/A	N/A
5240	61.87	AV	V	31.83	5.27	0.00	98.97	92.97	N/A	N/A
5350	29.62	PK	V	32.03	5.37	0.00	67.02	61.02	74	12.98
5350	14.06	AV	V	32.03	5.37	0.00	51.46	45.46	54	8.54
10480	46.50	PK	V	37.40	7.84	26.35	65.39	59.39	74	14.61
10480	32.97	AV	V	37.40	7.84	26.35	51.86	45.86	54	8.14
15720	44.78	PK	V	39.44	10.24	25.30	69.16	63.16	74	10.84
15720	30.37	AV	V	39.44	10.24	25.30	54.75	48.75	54	5.25
3416	40.32	PK	V	26.53	4.05	26.56	44.34	38.34	74	35.66
3416	28.13	AV	V	26.53	4.05	26.56	32.15	26.15	54	27.85
1534	31.70	PK	V	24.15	2.70	26.36	32.19	26.19	74	47.81
1534	19.52	AV	V	24.15	2.70	26.36	20.01	14.01	54	39.99

802.11n ht20 mode(2TX 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	77.40	PK	H	31.72	5.21	0.00	114.33	108.33	N/A	N/A
5180	62.82	AV	H	31.72	5.21	0.00	99.75	93.75	N/A	N/A
5180	81.05	PK	V	31.72	5.21	0.00	117.98	111.98	N/A	N/A
5180	66.57	AV	V	31.72	5.21	0.00	103.5	97.5	N/A	N/A
5150	37.65	PK	V	31.67	5.18	0.00	74.5	68.5	74	5.5
5150	22.23	AV	V	31.67	5.18	0.00	59.08	53.08	54	0.92
10360	46.14	PK	V	37.37	7.76	26.37	64.9	58.9	74	15.1
10360	33.76	AV	V	37.37	7.76	26.37	52.52	46.52	54	7.48
15540	42.21	PK	V	39.41	10.22	25.32	66.52	60.52	74	13.48
15540	29.47	AV	V	39.41	10.22	25.32	53.78	47.78	54	6.22
3352	41.30	PK	V	26.17	3.96	26.54	44.89	38.89	74	35.11
3352	28.78	AV	V	26.17	3.96	26.54	32.37	26.37	54	27.63
1458	31.71	PK	V	23.99	2.61	26.37	31.94	25.94	74	48.06
1458	19.06	AV	V	23.99	2.61	26.37	19.29	13.29	54	40.71
Middle Channel:5200 MHz										
5200	84.01	PK	H	31.76	5.23	0.00	121	115	N/A	N/A
5200	69.07	AV	H	31.76	5.23	0.00	106.06	100.06	N/A	N/A
5200	81.66	PK	V	31.76	5.23	0.00	118.65	112.65	N/A	N/A
5200	72.62	AV	V	31.76	5.23	0.00	109.61	103.61	N/A	N/A
10400	45.18	PK	H	37.38	7.79	26.36	63.99	57.99	74	10.01
10400	32.52	AV	H	37.38	7.79	26.36	51.33	45.33	54	2.67
15600	34.90	PK	H	39.42	10.22	25.31	59.23	53.23	74	14.77
15600	22.98	AV	H	39.42	10.22	25.31	47.31	41.31	54	6.69
3387	41.05	PK	H	26.37	4.01	26.55	44.88	38.88	74	29.12
3387	28.14	AV	H	26.37	4.01	26.55	31.97	25.97	54	22.03
1489	31.96	PK	H	24.07	2.65	26.34	32.34	26.34	74	41.66
1489	19.63	AV	H	24.07	2.65	26.34	20.01	14.01	54	33.99
High Channel:5240 MHz										
5240	77.55	PK	H	31.83	5.27	0.00	114.65	108.65	N/A	N/A
5240	62.70	AV	H	31.83	5.27	0.00	99.8	93.8	N/A	N/A
5240	87.06	PK	V	31.83	5.27	0.00	124.16	118.16	N/A	N/A
5240	66.45	AV	V	31.83	5.27	0.00	103.55	97.55	N/A	N/A
5350	29.57	PK	V	32.03	5.37	0.00	66.97	60.97	74	13.03
5350	13.94	AV	V	32.03	5.37	0.00	51.34	45.34	54	8.66
10480	49.96	PK	V	37.40	7.84	26.35	68.85	62.85	74	11.15
10480	35.81	AV	V	37.40	7.84	26.35	54.7	48.7	54	5.3
15720	44.79	PK	V	39.44	10.24	25.30	69.17	63.17	74	10.83
15720	30.34	AV	V	39.44	10.24	25.30	54.72	48.72	54	5.28
3416	40.54	PK	V	26.53	4.05	26.56	44.56	38.56	74	35.44
3416	28.38	AV	V	26.53	4.05	26.56	32.4	26.4	54	27.6
1534	31.68	PK	V	24.15	2.70	26.36	32.17	26.17	74	47.83
1534	19.84	AV	V	24.15	2.70	26.36	20.33	14.33	54	39.67

802.11n ht40 mode(2TX 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	72.01	PK	H	31.74	5.22	0.00	108.97	102.97	N/A	N/A
5190	57.17	AV	H	31.74	5.22	0.00	94.13	88.13	N/A	N/A
5190	75.48	PK	V	31.74	5.22	0.00	112.44	106.44	N/A	N/A
5190	60.81	AV	V	31.74	5.22	0.00	97.77	91.77	N/A	N/A
5150	40.41	PK	V	31.67	5.18	0.00	77.26	71.26	74	2.74
5150	22.24	AV	V	31.67	5.18	0.00	59.09	53.09	54	0.91
10380	45.04	PK	V	37.38	7.78	26.37	63.83	57.83	74	16.17
10380	32.47	AV	V	37.38	7.78	26.37	51.26	45.26	54	8.74
15570	34.25	PK	V	39.41	10.22	25.31	58.57	52.57	74	21.43
15570	22.81	AV	V	39.41	10.22	25.31	47.13	41.13	54	12.87
3352	40.78	PK	V	26.17	3.96	26.54	44.37	38.37	74	35.63
3352	28.57	AV	V	26.17	3.96	26.54	32.16	26.16	54	27.84
1458	31.32	PK	V	23.99	2.61	26.37	31.55	25.55	74	48.45
1458	18.98	AV	V	23.99	2.61	26.37	19.21	13.21	54	40.79
High Channel:5230 MHz										
5230	76.46	PK	H	31.81	5.26	0.00	113.53	107.53	N/A	N/A
5230	61.25	AV	H	31.81	5.26	0.00	98.32	92.32	N/A	N/A
5230	79.72	PK	V	31.81	5.26	0.00	116.79	110.79	N/A	N/A
5230	64.74	AV	V	31.81	5.26	0.00	101.81	95.81	N/A	N/A
5350	35.40	PK	V	32.03	5.37	0.00	72.8	66.8	74	7.2
5350	19.67	AV	V	32.03	5.37	0.00	57.07	51.07	54	2.93
10460	45.87	PK	V	37.39	7.83	26.36	64.73	58.73	74	15.27
10460	33.05	AV	V	37.39	7.83	26.36	51.91	45.91	54	8.09
15690	34.53	PK	V	39.44	10.24	25.30	58.91	52.91	74	21.09
15690	23.24	AV	V	39.44	10.24	25.30	47.62	41.62	54	12.38
3416	40.74	PK	V	26.53	4.05	26.56	44.76	38.76	74	35.24
3416	28.37	AV	V	26.53	4.05	26.56	32.39	26.39	54	27.61
1534	31.94	PK	V	24.15	2.70	26.36	32.43	26.43	74	47.57
1534	19.32	AV	V	24.15	2.70	26.36	19.81	13.81	54	40.19

802.11n ac80 mode(2TX 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	69.49	PK	H	31.78	5.24	0.00	106.51	100.51	N/A	N/A
5210	56.57	AV	H	31.78	5.24	0.00	93.59	87.59	N/A	N/A
5210	73.18	PK	V	31.78	5.24	0.00	110.2	104.2	N/A	N/A
5210	60.94	AV	V	31.78	5.24	0.00	97.96	91.96	N/A	N/A
5150	38.17	PK	V	31.67	5.18	0.00	75.02	69.02	74	4.98
5150	20.65	AV	V	31.67	5.18	0.00	57.5	51.5	54	2.5
5350	34.60	PK	V	32.03	5.37	0.00	72	66	74	8
5350	18.68	AV	V	32.03	5.37	0.00	56.08	50.08	54	3.92
10420	45.46	PK	V	37.38	7.80	26.36	64.28	58.28	74	15.72
10420	32.78	AV	V	37.38	7.80	26.36	51.6	45.6	54	8.4
15630	34.73	PK	V	39.43	10.23	25.31	59.08	53.08	74	20.92
15630	23.00	AV	V	39.43	10.23	25.31	47.35	41.35	54	12.65
1665	33.16	PK	V	24.36	2.80	26.49	33.83	27.83	74	46.17
1665	20.54	AV	V	24.36	2.80	26.49	21.21	15.21	54	38.79

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	75.44	PK	H	32.59	5.74	0.00	113.77	107.77	N/A	N/A
5745	64.08	AV	H	32.59	5.74	0.00	102.41	96.41	N/A	N/A
5745	75.82	PK	V	32.59	5.74	0.00	114.15	108.15	N/A	N/A
5745	65.34	AV	V	32.59	5.74	0.00	103.67	97.67	N/A	N/A
5725	37.14	PK	V	32.57	5.72	0.00	75.43	69.43	122.2	52.77
5720	29.80	PK	V	32.56	5.71	0.00	68.07	62.07	110.8	48.73
5700	26.14	PK	V	32.54	5.70	0.00	64.38	58.38	105.2	46.82
5650	25.92	PK	V	32.48	5.65	0.00	64.05	58.05	68.2	10.15
11490	38.01	PK	V	37.99	8.22	26.02	58.2	52.2	74	21.8
11490	24.72	AV	V	37.99	8.22	26.02	44.91	38.91	54	15.09
17235	30.80	PK	V	42.98	10.82	25.99	58.61	52.61	74	21.39
17235	17.19	AV	V	42.98	10.82	25.99	45	39	54	15
4070	35.34	PK	V	29.11	4.97	26.59	42.83	36.83	74	37.17
4070	23.18	AV	V	29.11	4.97	26.59	30.67	24.67	54	29.33
4372	35.74	PK	V	29.60	5.18	26.77	43.75	37.75	74	36.25
4372	22.99	AV	V	29.60	5.18	26.77	31	25	54	29
Middle Channel:5785 MHz										
5785	74.92	PK	H	32.64	5.77	0.00	113.33	107.33	N/A	N/A
5785	63.65	AV	H	32.64	5.77	0.00	102.06	96.06	N/A	N/A
5785	76.32	PK	V	32.64	5.77	0.00	114.73	108.73	N/A	N/A
5785	65.53	AV	V	32.64	5.77	0.00	103.94	97.94	N/A	N/A
11570	37.64	PK	V	38.03	8.21	26.00	57.88	51.88	74	22.12
11570	24.96	AV	V	38.03	8.21	26.00	45.2	39.2	54	14.8
17355	29.95	PK	V	43.53	11.03	26.16	58.35	52.35	74	21.65
17355	17.31	AV	V	43.53	11.03	26.16	45.71	39.71	54	14.29
4555	34.69	PK	V	29.98	5.24	26.85	43.06	37.06	74	36.94
4555	21.58	AV	V	29.98	5.24	26.85	29.95	23.95	54	30.05
3868	37.56	PK	V	28.47	4.72	26.56	44.19	38.19	74	35.81
3868	24.18	AV	V	28.47	4.72	26.56	30.81	24.81	54	29.19
High Channel:5825 MHz										
5825	71.21	PK	H	32.69	5.81	0.00	109.71	103.71	N/A	N/A
5825	60.70	AV	H	32.69	5.81	0.00	99.2	93.2	N/A	N/A
5825	75.34	PK	V	32.69	5.81	0.00	113.84	107.84	N/A	N/A
5825	65.09	AV	V	32.69	5.81	0.00	103.59	97.59	N/A	N/A
5850	29.91	PK	V	32.72	5.83	0.00	68.46	62.46	122.2	59.74
5855	26.76	PK	V	32.73	5.83	0.00	65.32	59.32	110.8	51.48
5875	26.57	PK	V	32.75	5.85	0.00	65.17	59.17	105.2	46.03
5925	26.08	PK	V	32.81	5.89	0.00	64.78	58.78	68.2	9.42
11650	38.40	PK	V	38.06	8.20	25.98	58.68	52.68	74	21.32
11650	24.97	AV	V	38.06	8.20	25.98	45.25	39.25	54	14.75
17475	29.87	PK	V	44.09	11.23	26.33	58.86	52.86	74	21.14
17475	17.10	AV	V	44.09	11.23	26.33	46.09	40.09	54	13.91
3977	36.31	PK	V	28.91	4.89	26.55	43.56	37.56	74	36.44
3977	23.09	AV	V	28.91	4.89	26.55	30.34	24.34	54	29.66
4170	35.12	PK	V	29.27	5.04	26.65	42.78	36.78	74	37.22
4170	22.98	AV	V	29.27	5.04	26.65	30.64	24.64	54	29.36

802.11n ht20 mode(2TX 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	74.52	PK	H	32.59	5.74	0.00	112.85	106.85	N/A	N/A
5745	63.88	AV	H	32.59	5.74	0.00	102.21	96.21	N/A	N/A
5745	77.75	PK	V	32.59	5.74	0.00	116.08	110.08	N/A	N/A
5745	67.93	AV	V	32.59	5.74	0.00	106.26	100.26	N/A	N/A
5725	40.49	PK	V	32.57	5.72	0.00	78.78	72.78	122.2	49.42
5720	33.25	PK	V	32.56	5.71	0.00	71.52	65.52	110.8	45.28
5700	27.08	PK	V	32.54	5.70	0.00	65.32	59.32	105.2	45.88
5650	26.28	PK	V	32.48	5.65	0.00	64.41	58.41	68.2	9.79
11490	38.07	PK	V	37.99	8.22	26.02	58.26	52.26	74	21.74
11490	24.62	AV	V	37.99	8.22	26.02	44.81	38.81	54	15.19
17235	30.86	PK	V	42.98	10.82	25.99	58.67	52.67	74	21.33
17235	17.31	AV	V	42.98	10.82	25.99	45.12	39.12	54	14.88
4313	34.60	PK	V	29.50	5.14	26.74	42.5	36.5	74	37.5
4313	21.55	AV	V	29.50	5.14	26.74	29.45	23.45	54	30.55
3903	36.78	PK	V	28.61	4.78	26.56	43.61	37.61	74	36.39
3903	23.44	AV	V	28.61	4.78	26.56	30.27	24.27	54	29.73
Middle Channel:5785 MHz										
5785	74.27	PK	H	32.64	5.77	0.00	112.68	106.68	N/A	N/A
5785	64.19	AV	H	32.64	5.77	0.00	102.6	96.6	N/A	N/A
5785	78.18	PK	V	32.64	5.77	0.00	116.59	110.59	N/A	N/A
5785	68.14	AV	V	32.64	5.77	0.00	106.55	100.55	N/A	N/A
11570	38.22	PK	V	38.03	8.21	26.00	58.46	52.46	74	21.54
11570	24.74	AV	V	38.03	8.21	26.00	44.98	38.98	54	15.02
17355	30.61	PK	V	43.53	11.03	26.16	59.01	53.01	74	20.99
17355	17.04	AV	V	43.53	11.03	26.16	45.44	39.44	54	14.56
4234	33.98	PK	V	29.37	5.08	26.69	41.74	35.74	74	38.26
4234	21.59	AV	V	29.37	5.08	26.69	29.35	23.35	54	30.65
3923	36.55	PK	V	28.69	4.81	26.56	43.49	37.49	74	36.51
3923	23.78	AV	V	28.69	4.81	26.56	30.72	24.72	54	29.28
High Channel:5825 MHz										
5825	73.21	PK	H	32.69	5.81	0.00	111.71	105.71	N/A	N/A
5825	62.28	AV	H	32.69	5.81	0.00	100.78	94.78	N/A	N/A
5825	76.20	PK	V	32.69	5.81	0.00	114.7	108.7	N/A	N/A
5825	64.61	AV	V	32.69	5.81	0.00	103.11	97.11	N/A	N/A
5850	30.08	PK	V	32.72	5.83	0.00	68.63	62.63	122.2	59.57
5855	27.75	PK	V	32.73	5.83	0.00	66.31	60.31	110.8	50.49
5875	26.57	PK	V	32.75	5.85	0.00	65.17	59.17	105.2	46.03
5925	25.56	PK	V	32.81	5.89	0.00	64.26	58.26	68.2	9.94
11650	38.15	PK	V	38.06	8.20	25.98	58.43	52.43	74	21.57
11650	25.13	AV	V	38.06	8.20	25.98	45.41	39.41	54	14.59
17475	30.54	PK	V	44.09	11.23	26.33	59.53	53.53	74	20.47
17475	17.20	AV	V	44.09	11.23	26.33	46.19	40.19	54	13.81
3896	35.92	PK	V	28.58	4.77	26.56	42.71	36.71	74	37.29
3896	23.26	AV	V	28.58	4.77	26.56	30.05	24.05	54	29.95
4242	35.33	PK	V	29.39	5.09	26.70	43.11	37.11	74	36.89
4242	22.56	AV	V	29.39	5.09	26.70	30.34	24.34	54	29.66

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	71.43	PK	H	32.61	5.74	0.00	109.78	103.78	N/A	N/A
5755	61.67	AV	H	32.61	5.74	0.00	100.02	94.02	N/A	N/A
5755	73.57	PK	V	32.61	5.74	0.00	111.92	105.92	N/A	N/A
5755	64.63	AV	V	32.61	5.74	0.00	102.98	96.98	N/A	N/A
5725	40.88	PK	V	32.57	5.72	0.00	79.17	73.17	122.2	49.03
5720	43.69	PK	V	32.56	5.71	0.00	81.96	75.96	110.8	34.84
5700	31.42	PK	V	32.54	5.70	0.00	69.66	63.66	105.2	41.54
5650	29.29	PK	V	32.48	5.65	0.00	67.42	61.42	68.2	6.78
11510	37.79	PK	V	38.00	8.22	26.02	57.99	51.99	74	22.01
11510	24.79	AV	V	38.00	8.22	26.02	44.99	38.99	54	15.01
17265	30.41	PK	V	43.12	10.88	26.04	58.37	52.37	74	21.63
17265	18.07	AV	V	43.12	10.88	26.04	46.03	40.03	54	13.97
4254	34.72	PK	V	29.41	5.10	26.70	42.53	36.53	74	37.47
4254	22.19	AV	V	29.41	5.10	26.70	30	24	54	30
3808	36.89	PK	V	28.23	4.64	26.57	43.19	37.19	74	36.81
3808	24.36	AV	V	28.23	4.64	26.57	30.66	24.66	54	29.34
High Channel:5795 MHz										
5795	69.37	PK	H	32.65	5.78	0.00	107.8	101.8	N/A	N/A
5795	59.82	AV	H	32.65	5.78	0.00	98.25	92.25	N/A	N/A
5795	73.56	PK	V	32.65	5.78	0.00	111.99	105.99	N/A	N/A
5795	63.53	AV	V	32.65	5.78	0.00	101.96	95.96	N/A	N/A
5850	28.63	PK	V	32.72	5.83	0.00	67.18	61.18	122.2	61.02
5855	26.76	PK	V	32.73	5.83	0.00	65.32	59.32	110.8	51.48
5875	25.58	PK	V	32.75	5.85	0.00	64.18	58.18	105.2	47.02
5925	25.63	PK	V	32.81	5.89	0.00	64.33	58.33	68.2	9.87
11590	37.58	PK	V	38.04	8.21	25.99	57.84	51.84	74	22.16
11590	24.75	AV	V	38.04	8.21	25.99	45.01	39.01	54	14.99
17385	29.98	PK	V	43.67	11.08	26.21	58.52	52.52	74	21.48
17385	17.31	AV	V	43.67	11.08	26.21	45.85	39.85	54	14.15
3915	35.64	PK	V	28.66	4.79	26.56	42.53	36.53	74	37.47
3915	23.01	AV	V	28.66	4.79	26.56	29.9	23.9	54	30.1
4380	34.98	PK	V	29.61	5.19	26.78	43	37	74	37
4380	22.57	AV	V	29.61	5.19	26.78	30.59	24.59	54	29.41

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	64.81	PK	H	32.63	5.76	0.00	103.2	97.2	N/A	N/A
5775	54.56	AV	H	32.63	5.76	0.00	92.95	86.95	N/A	N/A
5775	67.58	PK	V	32.63	5.76	0.00	105.97	99.97	N/A	N/A
5775	56.96	AV	V	32.63	5.76	0.00	95.35	89.35	N/A	N/A
5725	35.30	PK	V	32.57	5.72	0.00	73.59	67.59	122.2	54.61
5720	35.81	PK	V	32.56	5.71	0.00	74.08	68.08	110.8	42.72
5700	32.01	PK	V	32.54	5.70	0.00	70.25	64.25	105.2	40.95
5650	28.11	PK	V	32.48	5.65	0.00	66.24	60.24	68.2	7.96
5850	34.87	PK	V	32.72	5.83	0.00	73.42	67.42	122.2	54.78
5855	31.99	PK	V	32.73	5.83	0.00	70.55	64.55	110.8	46.25
5875	30.30	PK	V	32.75	5.85	0.00	68.9	62.9	105.2	42.3
5925	27.88	PK	V	32.81	5.89	0.00	66.58	60.58	68.2	7.62
11550	38.26	PK	V	38.02	8.21	26.01	58.48	52.48	74	21.52
11550	26.52	AV	V	38.02	8.21	26.01	46.74	40.74	54	13.26
17325	30.11	PK	V	43.40	10.98	26.12	58.37	52.37	74	21.63
17325	17.58	AV	V	43.40	10.98	26.12	45.84	39.84	54	14.16
4138	34.53	PK	V	29.22	5.02	26.63	42.14	36.14	74	37.86
4138	22.34	AV	V	29.22	5.02	26.63	29.95	23.95	54	30.05

Module 3:
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	77.63	PK	H	31.72	5.21	0.00	114.56	108.56	N/A	N/A
5180	62.35	AV	H	31.72	5.21	0.00	99.28	93.28	N/A	N/A
5180	64.92	PK	V	31.72	5.21	0.00	101.85	95.85	N/A	N/A
5180	49.54	AV	V	31.72	5.21	0.00	86.47	80.47	N/A	N/A
5150	40.69	PK	H	31.67	5.18	0.00	77.54	71.54	74	2.46
5150	20.07	AV	H	31.67	5.18	0.00	56.92	50.92	54	3.08
10360	43.19	PK	H	37.37	7.76	26.37	61.95	55.95	74	18.05
10360	30.07	AV	H	37.37	7.76	26.37	48.83	42.83	54	11.17
15540	33.19	PK	H	39.41	10.22	25.32	57.5	51.5	74	22.5
15540	20.92	AV	H	39.41	10.22	25.32	45.23	39.23	54	14.77
1906	30.84	PK	H	24.75	2.98	26.73	31.84	25.84	74	48.16
1906	18.35	AV	H	24.75	2.98	26.73	19.35	13.35	54	40.65
3211	41.11	PK	H	25.38	3.75	26.49	43.75	37.75	74	36.25
3211	29.79	AV	H	25.38	3.75	26.49	32.43	26.43	54	27.57
Middle Channel:5200 MHz										
5200	76.52	PK	H	31.76	5.23	0.00	113.51	107.51	N/A	N/A
5200	61.98	AV	H	31.76	5.23	0.00	98.97	92.97	N/A	N/A
5200	65.33	PK	V	31.76	5.23	0.00	102.32	96.32	N/A	N/A
5200	49.93	AV	V	31.76	5.23	0.00	86.92	80.92	N/A	N/A
10400	42.57	PK	H	37.38	7.79	26.36	61.38	55.38	74	18.62
10400	30.09	AV	H	37.38	7.79	26.36	48.9	42.9	54	11.1
15600	30.60	PK	H	39.42	10.22	25.31	54.93	48.93	74	25.07
15600	18.51	AV	H	39.42	10.22	25.31	42.84	36.84	54	17.16
1508	32.11	PK	H	24.11	2.68	26.34	32.56	26.56	74	47.44
1508	18.68	AV	H	24.11	2.68	26.34	19.13	13.13	54	40.87
3456	39.75	PK	H	26.75	4.11	26.57	44.04	38.04	74	35.96
3456	27.15	AV	H	26.75	4.11	26.57	31.44	25.44	54	28.56
High Channel:5240 MHz										
5240	77.71	PK	H	31.83	5.27	0.00	114.81	108.81	N/A	N/A
5240	62.23	AV	H	31.83	5.27	0.00	99.33	93.33	N/A	N/A
5240	65.15	PK	V	31.83	5.27	0.00	102.25	96.25	N/A	N/A
5240	49.45	AV	V	31.83	5.27	0.00	86.55	80.55	N/A	N/A
5350	28.36	PK	H	32.03	5.37	0.00	65.76	59.76	74	14.24
5350	14.58	AV	H	32.03	5.37	0.00	51.98	45.98	54	8.02
10480	42.91	PK	H	37.40	7.84	26.35	61.8	55.8	74	18.2
10480	30.65	AV	H	37.40	7.84	26.35	49.54	43.54	54	10.46
15720	33.04	PK	H	39.44	10.24	25.30	57.42	51.42	74	22.58
15720	20.44	AV	H	39.44	10.24	25.30	44.82	38.82	54	15.18
2547	38.44	PK	H	23.29	3.03	26.84	37.92	31.92	74	42.08
2547	25.46	AV	H	23.29	3.03	26.84	24.94	18.94	54	35.06
4029	36.94	PK	H	29.05	4.94	26.57	44.36	38.36	74	35.64
4029	25.27	AV	H	29.05	4.94	26.57	32.69	26.69	54	27.31

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	80.03	PK	H	31.72	5.21	0.00	116.96	110.96	N/A	N/A
5180	64.45	AV	H	31.72	5.21	0.00	101.38	95.38	N/A	N/A
5180	71.20	PK	V	31.72	5.21	0.00	108.13	102.13	N/A	N/A
5180	56.25	AV	V	31.72	5.21	0.00	93.18	87.18	N/A	N/A
5150	39.43	PK	H	31.67	5.18	0.00	76.28	70.28	74	3.72
5150	20.28	AV	H	31.67	5.18	0.00	57.13	51.13	54	2.87
10360	43.64	PK	H	37.37	7.76	26.37	62.4	56.4	74	17.6
10360	30.25	AV	H	37.37	7.76	26.37	49.01	43.01	54	10.99
15540	32.53	PK	H	39.41	10.22	25.32	56.84	50.84	74	23.16
15540	21.17	AV	H	39.41	10.22	25.32	45.48	39.48	54	14.52
2342	35.41	PK	H	23.74	3.01	26.87	35.29	29.29	74	44.71
2342	22.88	AV	H	23.74	3.01	26.87	22.76	16.76	54	37.24
3623	37.27	PK	H	27.49	4.36	26.58	42.54	36.54	74	37.46
3623	25.14	AV	H	27.49	4.36	26.58	30.41	24.41	54	29.59
Middle Channel:5200 MHz										
5200	79.44	PK	H	31.76	5.23	0.00	116.43	110.43	N/A	N/A
5200	64.80	AV	H	31.76	5.23	0.00	101.79	95.79	N/A	N/A
5200	71.09	PK	V	31.76	5.23	0.00	108.08	102.08	N/A	N/A
5200	56.83	AV	V	31.76	5.23	0.00	93.82	87.82	N/A	N/A
10400	41.60	PK	H	37.38	7.79	26.36	60.41	54.41	74	13.59
10400	29.36	AV	H	37.38	7.79	26.36	48.17	42.17	54	5.83
15600	30.21	PK	H	39.42	10.22	25.31	54.54	48.54	74	19.46
15600	19.27	AV	H	39.42	10.22	25.31	43.6	37.6	54	10.4
1512	32.08	PK	H	24.12	2.68	26.34	32.54	26.54	74	41.46
1512	19.67	AV	H	24.12	2.68	26.34	20.13	14.13	54	33.87
2936	39.38	PK	H	24.07	3.37	26.47	40.35	34.35	74	33.65
2936	27.34	AV	H	24.07	3.37	26.47	28.31	22.31	54	25.69
High Channel:5240 MHz										
5240	78.45	PK	H	31.83	5.27	0.00	115.55	109.55	N/A	N/A
5240	63.42	AV	H	31.83	5.27	0.00	100.52	94.52	N/A	N/A
5240	65.76	PK	V	31.83	5.27	0.00	102.86	96.86	N/A	N/A
5240	51.66	AV	V	31.83	5.27	0.00	88.76	82.76	N/A	N/A
5350	27.24	PK	H	32.03	5.37	0.00	64.64	58.64	74	15.36
5350	14.47	AV	H	32.03	5.37	0.00	51.87	45.87	54	8.13
10480	43.89	PK	H	37.40	7.84	26.35	62.78	56.78	74	17.22
10480	30.54	AV	H	37.40	7.84	26.35	49.43	43.43	54	10.57
15720	33.06	PK	H	39.44	10.24	25.30	57.44	51.44	74	22.56
15720	20.97	AV	H	39.44	10.24	25.30	45.35	39.35	54	14.65
2355	36.84	PK	H	23.69	3.01	26.87	36.67	30.67	74	43.33
2355	23.77	AV	H	23.69	3.01	26.87	23.6	17.6	54	36.4
4462	36.32	PK	H	29.74	5.24	26.83	44.47	38.47	74	35.53
4462	24.90	AV	H	29.74	5.24	26.83	33.05	27.05	54	26.95

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	73.89	PK	H	31.74	5.22	0.00	110.85	104.85	N/A	N/A
5190	58.85	AV	H	31.74	5.22	0.00	95.81	89.81	N/A	N/A
5190	65.59	PK	V	31.74	5.22	0.00	102.55	96.55	N/A	N/A
5190	55.23	AV	V	31.74	5.22	0.00	92.19	86.19	N/A	N/A
5150	39.88	PK	H	31.67	5.18	0.00	76.73	70.73	74	3.27
5150	19.69	AV	H	31.67	5.18	0.00	56.54	50.54	54	3.46
10380	43.92	PK	H	37.38	7.78	26.37	62.71	56.71	74	17.29
10380	30.66	AV	H	37.38	7.78	26.37	49.45	43.45	54	10.55
15570	32.77	PK	H	39.41	10.22	25.31	57.09	51.09	74	22.91
15570	20.65	AV	H	39.41	10.22	25.31	44.97	38.97	54	15.03
2711	37.79	PK	H	23.62	3.18	26.69	37.9	31.9	74	42.1
2711	25.29	AV	H	23.62	3.18	26.69	25.4	19.4	54	34.6
3756	37.80	PK	H	28.02	4.56	26.57	43.81	37.81	74	36.19
3756	25.15	AV	H	28.02	4.56	26.57	31.16	25.16	54	28.84
High Channel:5230 MHz										
5230	80.13	PK	H	31.81	5.26	0.00	117.2	111.2	N/A	N/A
5230	64.72	AV	H	31.81	5.26	0.00	101.79	95.79	N/A	N/A
5230	70.16	PK	V	31.81	5.26	0.00	107.23	101.23	N/A	N/A
5230	59.58	AV	V	31.81	5.26	0.00	96.65	90.65	N/A	N/A
5350	30.38	PK	H	32.03	5.37	0.00	67.78	61.78	74	12.22
5350	16.22	AV	H	32.03	5.37	0.00	53.62	47.62	54	6.38
10460	42.81	PK	H	37.39	7.83	26.36	61.67	55.67	74	18.33
10460	30.34	AV	H	37.39	7.83	26.36	49.2	43.2	54	10.8
15690	33.16	PK	H	39.44	10.24	25.30	57.54	51.54	74	22.46
15690	20.88	AV	H	39.44	10.24	25.30	45.26	39.26	54	14.74
1624	32.87	PK	H	24.30	2.76	26.45	33.48	27.48	74	46.52
1624	19.36	AV	H	24.30	2.76	26.45	19.97	13.97	54	40.03
4105	36.75	PK	H	29.17	4.99	26.61	44.3	38.3	74	35.7
4105	24.87	AV	H	29.17	4.99	26.61	32.42	26.42	54	27.58

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	73.92	PK	H	31.78	5.24	0.00	110.94	104.94	N/A	N/A
5210	61.29	AV	H	31.78	5.24	0.00	98.31	92.31	N/A	N/A
5210	65.79	PK	V	31.78	5.24	0.00	102.81	96.81	N/A	N/A
5210	53.69	AV	V	31.78	5.24	0.00	90.71	84.71	N/A	N/A
5150	37.98	PK	H	31.67	5.18	0.00	74.83	68.83	74	5.17
5150	19.24	AV	H	31.67	5.18	0.00	56.09	50.09	54	3.91
5350	28.46	PK	H	32.03	5.37	0.00	65.86	59.86	74	14.14
5350	14.88	AV	H	32.03	5.37	0.00	52.28	46.28	54	7.72
10420	38.89	PK	H	37.38	7.80	26.36	57.71	51.71	74	22.29
10420	26.83	AV	H	37.38	7.80	26.36	45.65	39.65	54	14.35
15630	31.17	PK	H	39.43	10.23	25.31	55.52	49.52	74	24.48
15630	18.88	AV	H	39.43	10.23	25.31	43.23	37.23	54	16.77
2185	34.85	PK	H	24.27	3.03	26.85	35.3	29.3	74	44.7
2185	22.39	AV	H	24.27	3.03	26.85	22.84	16.84	54	37.16

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	76.61	PK	H	32.59	5.74	0.00	114.94	108.94	N/A	N/A
5745	66.94	AV	H	32.59	5.74	0.00	105.27	99.27	N/A	N/A
5745	66.02	PK	V	32.59	5.74	0.00	104.35	98.35	N/A	N/A
5745	56.32	AV	V	32.59	5.74	0.00	94.65	88.65	N/A	N/A
5725	36.08	PK	H	32.57	5.72	0.00	74.37	68.37	122.2	53.83
5720	31.82	PK	H	32.56	5.71	0.00	70.09	64.09	110.8	46.71
5700	25.11	PK	H	32.54	5.70	0.00	63.35	57.35	105.2	47.85
5650	25.11	PK	H	32.48	5.65	0.00	63.24	57.24	68.2	10.96
11490	36.56	PK	H	37.99	8.22	26.02	56.75	50.75	74	23.25
11490	24.32	AV	H	37.99	8.22	26.02	44.51	38.51	54	15.49
17235	28.97	PK	H	42.98	10.82	25.99	56.78	50.78	74	23.22
17235	16.79	AV	H	42.98	10.82	25.99	44.6	38.6	54	15.4
4512	34.89	PK	H	29.84	5.26	26.85	43.14	37.14	74	36.86
4512	22.08	AV	H	29.84	5.26	26.85	30.33	24.33	54	29.67
4029	36.59	PK	H	29.05	4.94	26.57	44.01	38.01	74	35.99
4029	24.09	AV	H	29.05	4.94	26.57	31.51	25.51	54	28.49
Middle Channel:5785 MHz										
5785	76.72	PK	H	32.64	5.77	0.00	115.13	109.13	N/A	N/A
5785	66.75	AV	H	32.64	5.77	0.00	105.16	99.16	N/A	N/A
5785	65.84	PK	V	32.64	5.77	0.00	104.25	98.25	N/A	N/A
5785	56.18	AV	V	32.64	5.77	0.00	94.59	88.59	N/A	N/A
11570	36.16	PK	H	38.03	8.21	26.00	56.4	50.4	74	23.6
11570	23.74	AV	H	38.03	8.21	26.00	43.98	37.98	54	16.02
17355	29.86	PK	H	43.53	11.03	26.16	58.26	52.26	74	21.74
17355	17.50	AV	H	43.53	11.03	26.16	45.9	39.9	54	14.1
4836	34.78	PK	H	30.88	5.11	26.87	43.9	37.9	74	36.1
4836	22.49	AV	H	30.88	5.11	26.87	31.61	25.61	54	28.39
3678	36.41	PK	H	27.71	4.44	26.58	41.98	35.98	74	38.02
3678	23.61	AV	H	27.71	4.44	26.58	29.18	23.18	54	30.82
High Channel:5825 MHz										
5825	75.48	PK	H	32.69	5.81	0.00	113.98	107.98	N/A	N/A
5825	65.78	AV	H	32.69	5.81	0.00	104.28	98.28	N/A	N/A
5825	65.37	PK	V	32.69	5.81	0.00	103.87	97.87	N/A	N/A
5825	55.62	AV	V	32.69	5.81	0.00	94.12	88.12	N/A	N/A
5850	27.75	PK	H	32.72	5.83	0.00	66.3	60.3	122.2	61.9
5855	27.29	PK	H	32.73	5.83	0.00	65.85	59.85	110.8	50.95
5875	25.07	PK	H	32.75	5.85	0.00	63.67	57.67	105.2	47.53
5925	24.61	PK	H	32.81	5.89	0.00	63.31	57.31	68.2	10.89
11650	37.79	PK	H	38.06	8.20	25.98	58.07	52.07	74	21.93
11650	24.12	AV	H	38.06	8.20	25.98	44.4	38.4	54	15.6
17475	29.59	PK	H	44.09	11.23	26.33	58.58	52.58	74	21.42
17475	16.91	AV	H	44.09	11.23	26.33	45.9	39.9	54	14.1
4525	34.19	PK	H	29.88	5.26	26.85	42.48	36.48	74	37.52
4525	21.40	AV	H	29.88	5.26	26.85	29.69	23.69	54	30.31
3264	40.21	PK	H	25.68	3.83	26.51	43.21	37.21	74	36.79
3264	27.73	AV	H	25.68	3.83	26.51	30.73	24.73	54	29.27

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	79.59	PK	H	32.59	5.74	0.00	117.92	111.92	N/A	N/A
5745	69.99	AV	H	32.59	5.74	0.00	108.32	102.32	N/A	N/A
5745	71.06	PK	V	32.59	5.74	0.00	109.39	103.39	N/A	N/A
5745	60.86	AV	V	32.59	5.74	0.00	99.19	93.19	N/A	N/A
5725	39.98	PK	H	32.57	5.72	0.00	78.27	72.27	122.2	49.93
5720	35.31	PK	H	32.56	5.71	0.00	73.58	67.58	110.8	43.22
5700	26.57	PK	H	32.54	5.70	0.00	64.81	58.81	105.2	46.39
5650	26.01	PK	H	32.48	5.65	0.00	64.14	58.14	68.2	10.06
11490	37.57	PK	H	37.99	8.22	26.02	57.76	51.76	74	22.24
11490	24.35	AV	H	37.99	8.22	26.02	44.54	38.54	54	15.46
17235	29.79	PK	H	42.98	10.82	25.99	57.6	51.6	74	22.4
17235	17.16	AV	H	42.98	10.82	25.99	44.97	38.97	54	15.03
4602	35.00	PK	H	30.13	5.22	26.86	43.49	37.49	74	36.51
4602	21.93	AV	H	30.13	5.22	26.86	30.42	24.42	54	29.58
6234	36.03	PK	H	33.13	6.04	26.60	48.6	42.6	74	31.4
6234	23.28	AV	H	33.13	6.04	26.60	35.85	29.85	54	24.15
Middle Channel:5785 MHz										
5785	79.32	PK	H	32.64	5.77	0.00	117.73	111.73	N/A	N/A
5785	69.79	AV	H	32.64	5.77	0.00	108.2	102.2	N/A	N/A
5785	71.41	PK	V	32.64	5.77	0.00	109.82	103.82	N/A	N/A
5785	60.33	AV	V	32.64	5.77	0.00	98.74	92.74	N/A	N/A
11570	36.47	PK	H	38.03	8.21	26.00	56.71	50.71	74	23.29
11570	23.58	AV	H	38.03	8.21	26.00	43.82	37.82	54	16.18
17355	29.13	PK	H	43.53	11.03	26.16	57.53	51.53	74	22.47
17355	17.28	AV	H	43.53	11.03	26.16	45.68	39.68	54	14.32
3612	35.46	PK	H	27.45	4.35	26.58	40.68	34.68	74	39.32
3612	23.16	AV	H	27.45	4.35	26.58	28.38	22.38	54	31.62
4026	36.42	PK	H	29.04	4.94	26.57	43.83	37.83	74	36.17
4026	23.51	AV	H	29.04	4.94	26.57	30.92	24.92	54	29.08
High Channel:5825 MHz										
5825	80.03	PK	H	32.69	5.81	0.00	118.53	112.53	N/A	N/A
5825	70.14	AV	H	32.69	5.81	0.00	108.64	102.64	N/A	N/A
5825	71.58	PK	V	32.69	5.81	0.00	110.08	104.08	N/A	N/A
5825	61.50	AV	V	32.69	5.81	0.00	100	94	N/A	N/A
5850	34.74	PK	H	32.72	5.83	0.00	73.29	67.29	122.2	54.91
5855	31.01	PK	H	32.73	5.83	0.00	69.57	63.57	110.8	47.23
5875	25.64	PK	H	32.75	5.85	0.00	64.24	58.24	105.2	46.96
5925	24.91	PK	H	32.81	5.89	0.00	63.61	57.61	68.2	10.59
11650	36.94	PK	H	38.06	8.20	25.98	57.22	51.22	74	22.78
11650	24.69	AV	H	38.06	8.20	25.98	44.97	38.97	54	15.03
17475	28.99	PK	H	44.09	11.23	26.33	57.98	51.98	74	22.02
17475	16.23	AV	H	44.09	11.23	26.33	45.22	39.22	54	14.78
4663	34.92	PK	H	30.32	5.19	26.86	43.57	37.57	74	36.43
4663	22.45	AV	H	30.32	5.19	26.86	31.1	25.1	54	28.9
3915	36.72	PK	H	28.66	4.79	26.56	43.61	37.61	74	36.39
3915	24.14	AV	H	28.66	4.79	26.56	31.03	25.03	54	28.97

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	72.71	PK	H	32.61	5.74	0.00	111.06	105.06	N/A	N/A
5755	63.53	AV	H	32.61	5.74	0.00	101.88	95.88	N/A	N/A
5755	63.51	PK	V	32.61	5.74	0.00	101.86	95.86	N/A	N/A
5755	53.75	AV	V	32.61	5.74	0.00	92.1	86.1	N/A	N/A
5725	33.64	PK	H	32.57	5.72	0.00	71.93	65.93	122.2	56.27
5720	32.98	PK	H	32.56	5.71	0.00	71.25	65.25	110.8	45.55
5700	25.34	PK	H	32.54	5.70	0.00	63.58	57.58	105.2	47.62
5650	25.66	PK	H	32.48	5.65	0.00	63.79	57.79	68.2	10.41
11510	36.89	PK	H	38.00	8.22	26.02	57.09	51.09	74	22.91
11510	24.80	AV	H	38.00	8.22	26.02	45	39	54	15
17265	29.65	PK	H	43.12	10.88	26.04	57.61	51.61	74	22.39
17265	16.80	AV	H	43.12	10.88	26.04	44.76	38.76	54	15.24
3804	35.99	PK	H	28.22	4.63	26.57	42.27	36.27	74	37.73
3804	23.83	AV	H	28.22	4.63	26.57	30.11	24.11	54	29.89
4576	35.94	PK	H	30.04	5.23	26.85	44.36	38.36	74	35.64
4576	22.61	AV	H	30.04	5.23	26.85	31.03	25.03	54	28.97
High Channel:5795 MHz										
5795	76.81	PK	H	32.65	5.78	0.00	115.24	109.24	N/A	N/A
5795	67.50	AV	H	32.65	5.78	0.00	105.93	99.93	N/A	N/A
5795	67.79	PK	V	32.65	5.78	0.00	106.22	100.22	N/A	N/A
5795	58.12	AV	V	32.65	5.78	0.00	96.55	90.55	N/A	N/A
5850	29.33	PK	H	32.72	5.83	0.00	67.88	61.88	122.2	60.32
5855	28.95	PK	H	32.73	5.83	0.00	67.51	61.51	110.8	49.29
5875	27.23	PK	H	32.75	5.85	0.00	65.83	59.83	105.2	45.37
5925	26.23	PK	H	32.81	5.89	0.00	64.93	58.93	68.2	9.27
11590	36.66	PK	H	38.04	8.21	25.99	56.92	50.92	74	23.08
11590	23.89	AV	H	38.04	8.21	25.99	44.15	38.15	54	15.85
17385	29.29	PK	H	43.67	11.08	26.21	57.83	51.83	74	22.17
17385	17.20	AV	H	43.67	11.08	26.21	45.74	39.74	54	14.26
4413	34.71	PK	H	29.66	5.21	26.80	42.78	36.78	74	37.22
4413	22.17	AV	H	29.66	5.21	26.80	30.24	24.24	54	29.76
3852	36.84	PK	H	28.41	4.70	26.56	43.39	37.39	74	36.61
3852	24.41	AV	H	28.41	4.70	26.56	30.96	24.96	54	29.04

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	68.00	PK	H	32.63	5.76	0.00	106.39	100.39	N/A	N/A
5775	58.48	AV	H	32.63	5.76	0.00	96.87	90.87	N/A	N/A
5775	59.22	PK	V	32.63	5.76	0.00	97.61	91.61	N/A	N/A
5775	49.33	AV	V	32.63	5.76	0.00	87.72	81.72	N/A	N/A
5725	33.69	PK	H	32.57	5.72	0.00	71.98	65.98	122.2	56.22
5720	32.55	PK	H	32.56	5.71	0.00	70.82	64.82	110.8	45.98
5700	31.78	PK	H	32.54	5.70	0.00	70.02	64.02	105.2	41.18
5650	26.06	PK	H	32.48	5.65	0.00	64.19	58.19	68.2	10.01
5850	27.81	PK	H	32.72	5.83	0.00	66.36	60.36	122.2	61.84
5855	27.31	PK	H	32.73	5.83	0.00	65.87	59.87	110.8	50.93
5875	25.53	PK	H	32.75	5.85	0.00	64.13	58.13	105.2	47.07
5925	25.26	PK	H	32.81	5.89	0.00	63.96	57.96	68.2	10.24
11550	37.72	PK	H	38.02	8.21	26.01	57.94	51.94	74	22.06
11550	25.63	AV	H	38.02	8.21	26.01	45.85	39.85	54	14.15
17325	29.56	PK	H	43.40	10.98	26.12	57.82	51.82	74	22.18
17325	16.73	AV	H	43.40	10.98	26.12	44.99	38.99	54	15.01
3944	36.71	PK	H	28.78	4.84	26.55	43.78	37.78	74	36.22
3944	23.84	AV	H	28.78	4.84	26.55	30.91	24.91	54	29.09

Transmitting simultaneously(Test at 3m distance):

(Worst is Module 1 n20 mode 2437MHz+ Module 2 n20 mode 5745MHz+ module 3 n20 mode 2412MHz transmitting simultaneously)

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
4824	41.21	PK	V	30.84	5.11	26.87	50.29	74.00	23.71
4824	29.37	AV	V	30.84	5.11	26.87	38.45	54.00	15.55
7236	42.65	PK	V	34.77	6.18	26.36	57.24	74.00	16.76
7236	30.01	AV	V	34.77	6.18	26.36	44.60	54.00	9.40
1338	36.16	PK	V	23.68	2.45	26.49	35.80	74.00	38.20
1338	24.43	AV	V	23.68	2.45	26.49	24.07	54.00	29.93
4874	38.95	PK	H	31.00	5.09	26.87	48.17	74.00	25.83
4874	27.34	AV	H	31.00	5.09	26.87	36.56	54.00	17.44
7311	41.72	PK	H	34.92	6.21	26.40	56.45	74.00	17.55
7311	28.97	AV	H	34.92	6.21	26.40	43.70	54.00	10.30
11490	35.41	PK	H	37.99	8.22	26.02	55.60	74.00	18.40
11490	25.69	AV	H	37.99	8.22	26.02	45.88	54.00	8.12
17235	30.22	PK	H	42.98	10.82	25.99	58.03	74.00	15.97
17235	17.96	AV	H	42.98	10.82	25.99	45.77	54.00	8.23
4512	36.66	PK	V	29.84	5.26	26.85	44.91	74.00	29.09
4512	22.08	AV	V	29.84	5.26	26.85	30.33	54.00	23.67
11490	35.41	PK	H	37.99	8.22	26.02	55.60	74.00	18.40
11490	25.69	AV	H	37.99	8.22	26.02	45.88	54.00	8.12

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
Unknown	RF Cable	Unknown	C-5	Each Time	/

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B "Implementation of traceability policy in accredited laboratories".

Test Data

Environmental Conditions

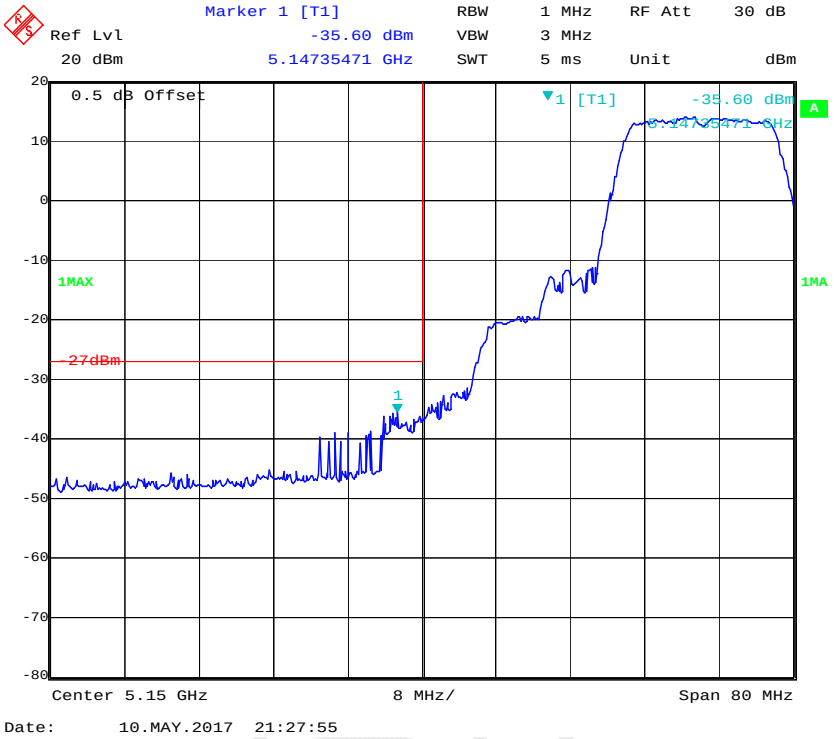
Temperature:	20.1~ 20.2 °C
Relative Humidity:	50.0~50.1 %
ATM Pressure:	100.1~100.4 kPa

The testing was performed by Kevin Hu on 2017-04-22 and 2017-05-10.

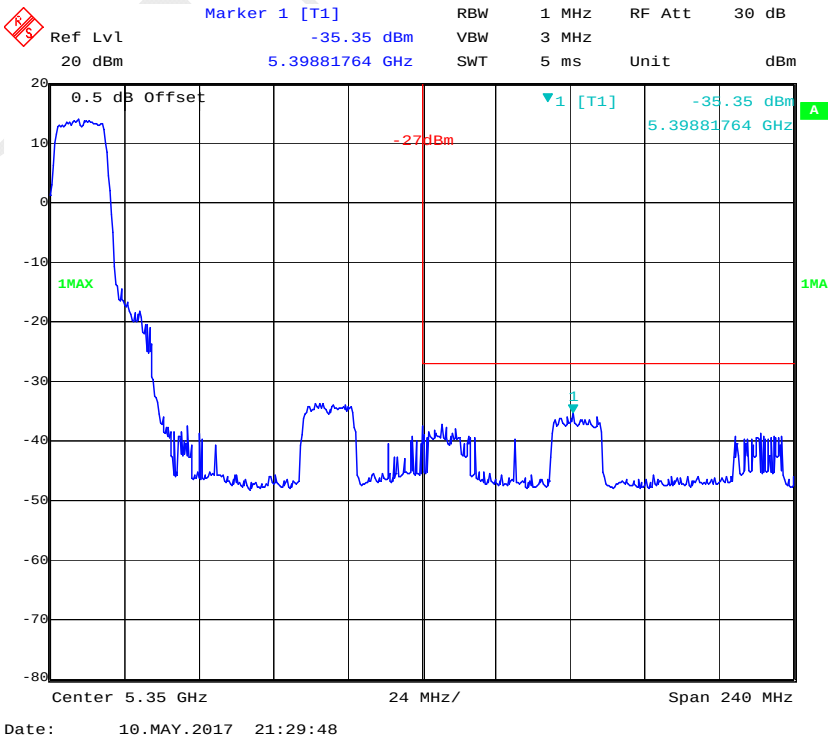
Test Result: Pass.
Please refer to the following tables and plots.

5150-5250MHz(all emissions under limit -27dBm more than 8dBc, combined two chain and added the antenna gain are compliance the requirements, please refer to the below plots)
Chain 0:

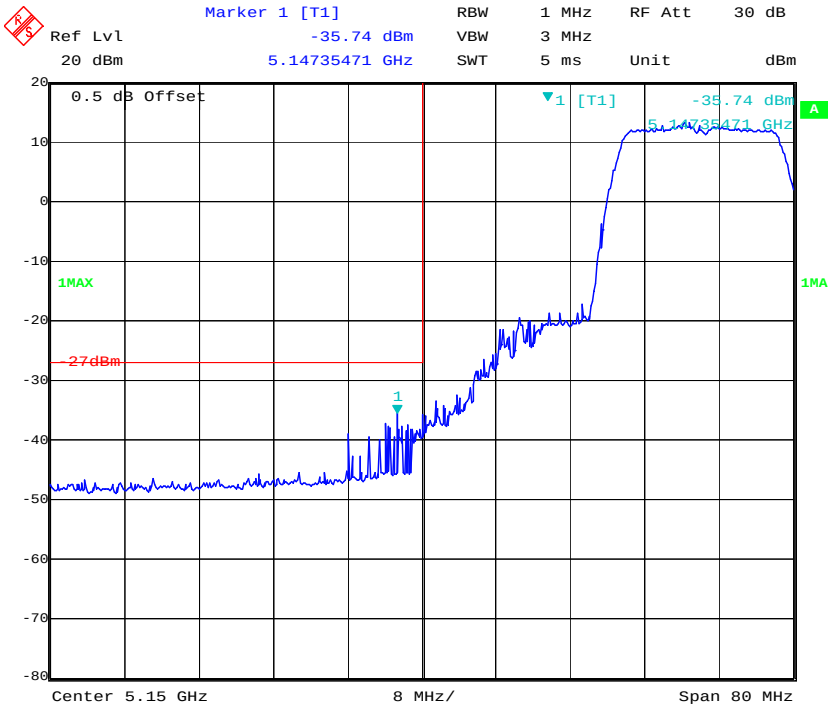
802.11a Low Channel



802.11a High Channel



802.11n ht20 Low Channel

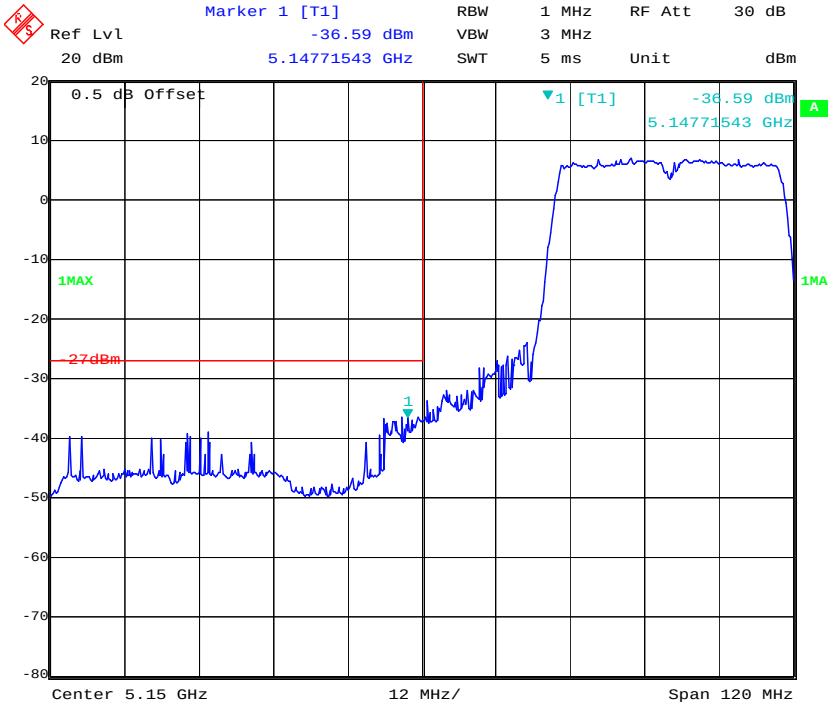


Date: 10.MAY.2017 21:49:07

802.11n ht20 High Channel

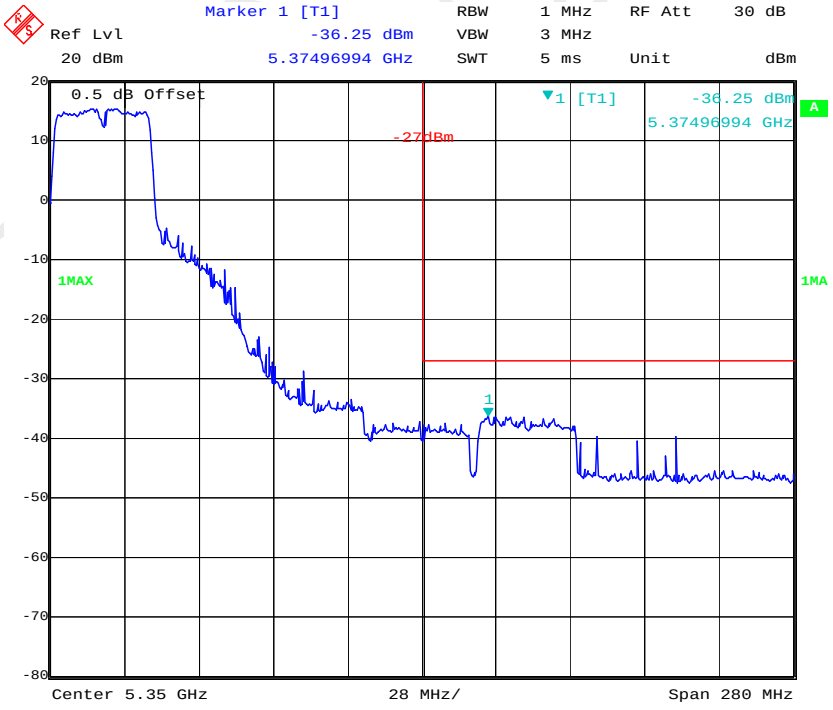
Date: 10.MAY.2017 21:46:55

802.11n ht40 Low Channel



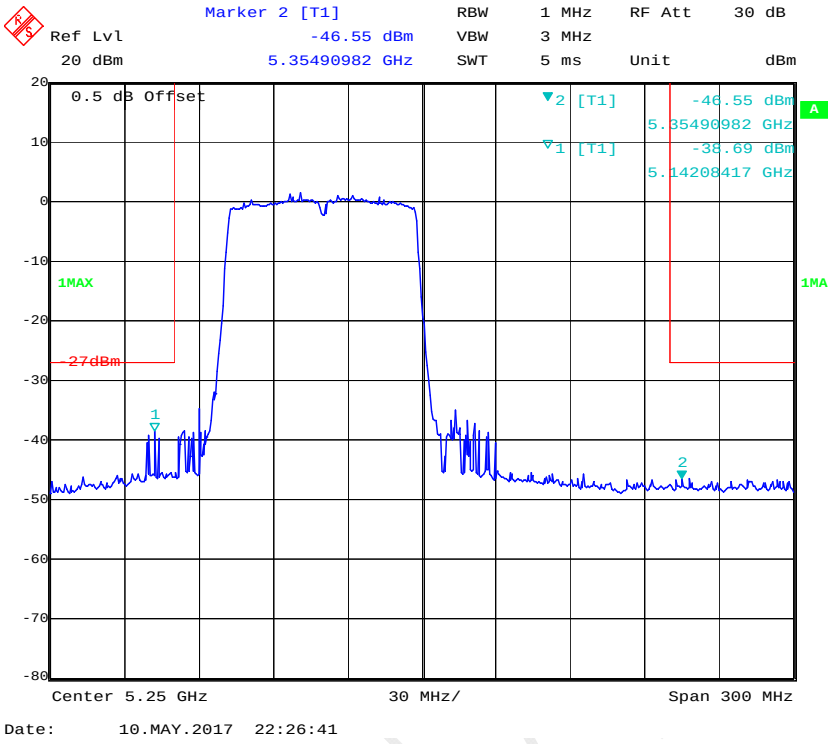
Date: 10.MAY.2017 22:09:07

8802.11n ht40 High Channel



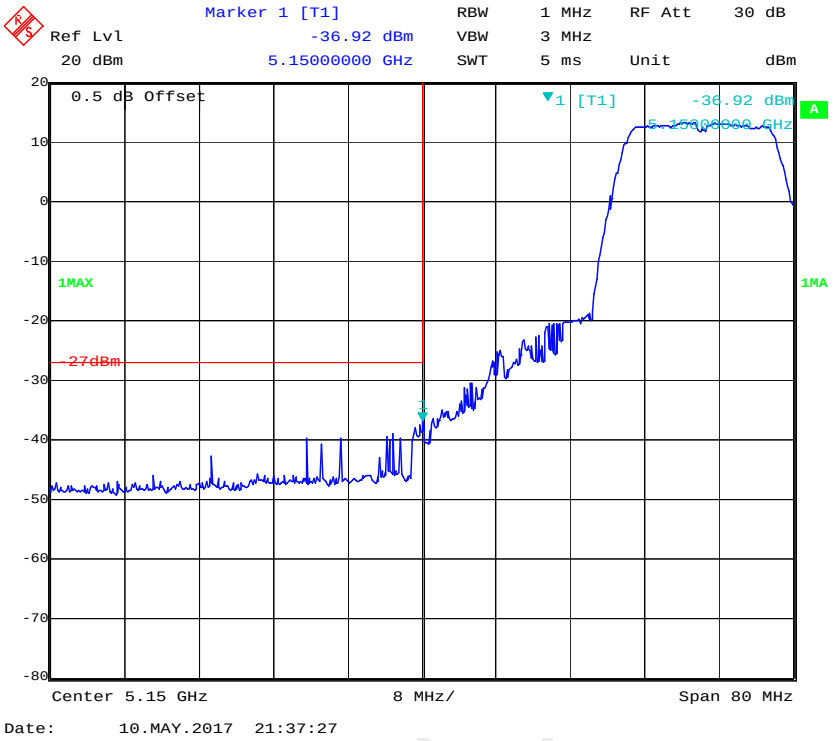
Date: 10.MAY.2017 22:11:45

802.11n ac80 Middle Channel

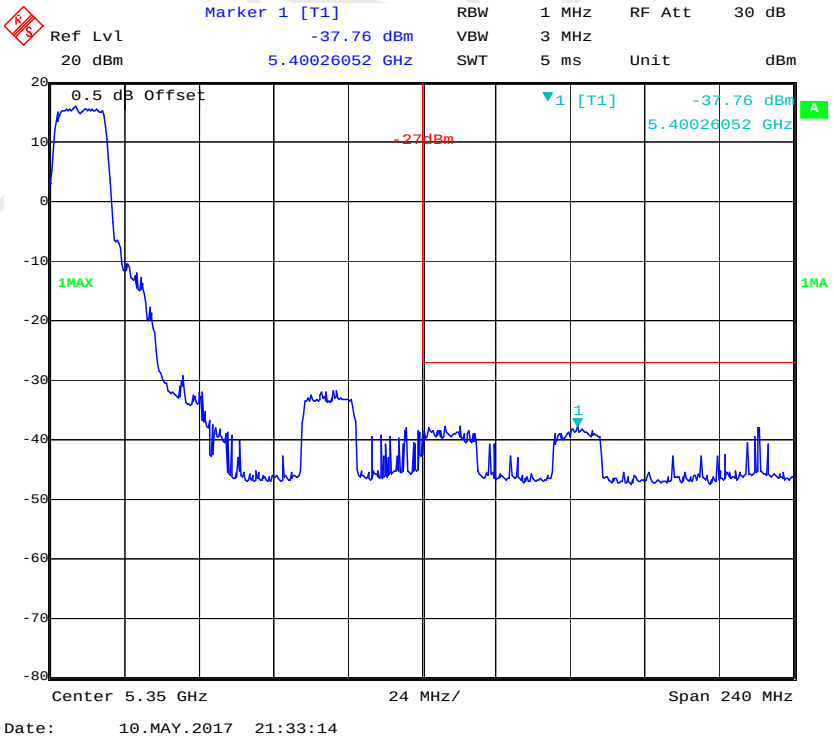


Chain 1:

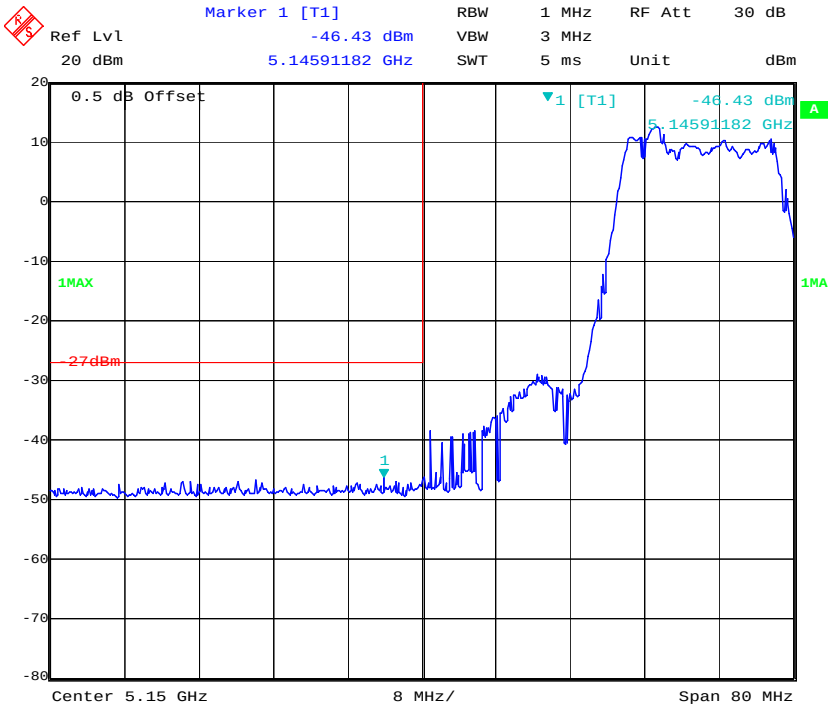
802.11a Low Channel



802.11a High Channel



802.11n ht20 Low Channel

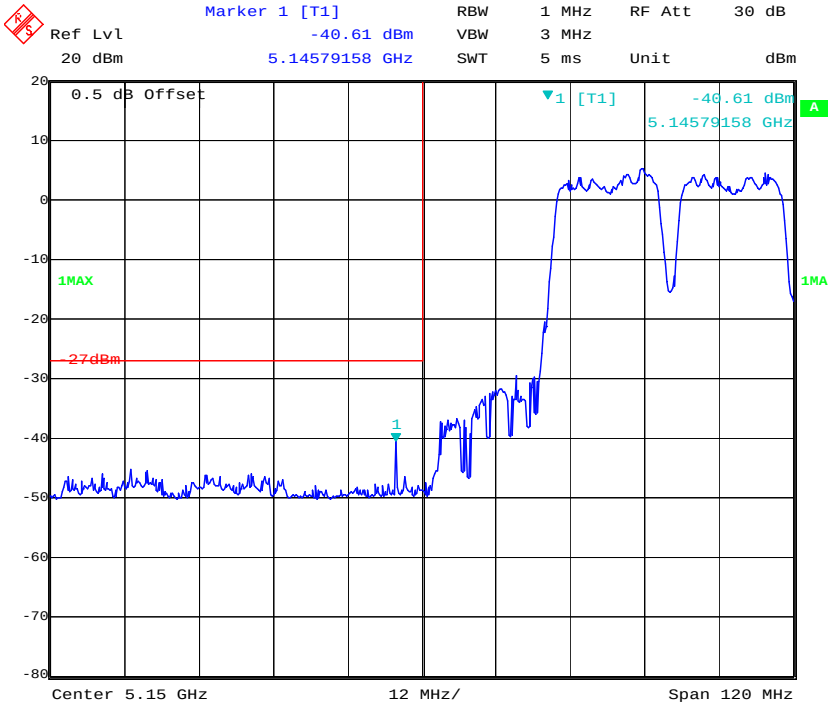


Date: 10.MAY.2017 21:50:45

802.11n ht20 High Channel

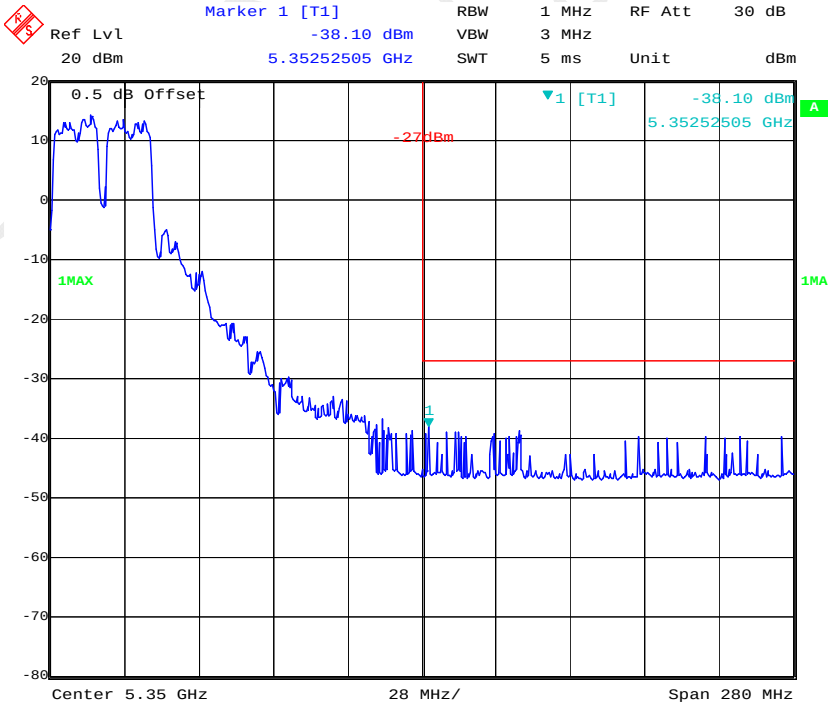
Date: 10.MAY.2017 21:52:47

802.11n ht40 Low Channel



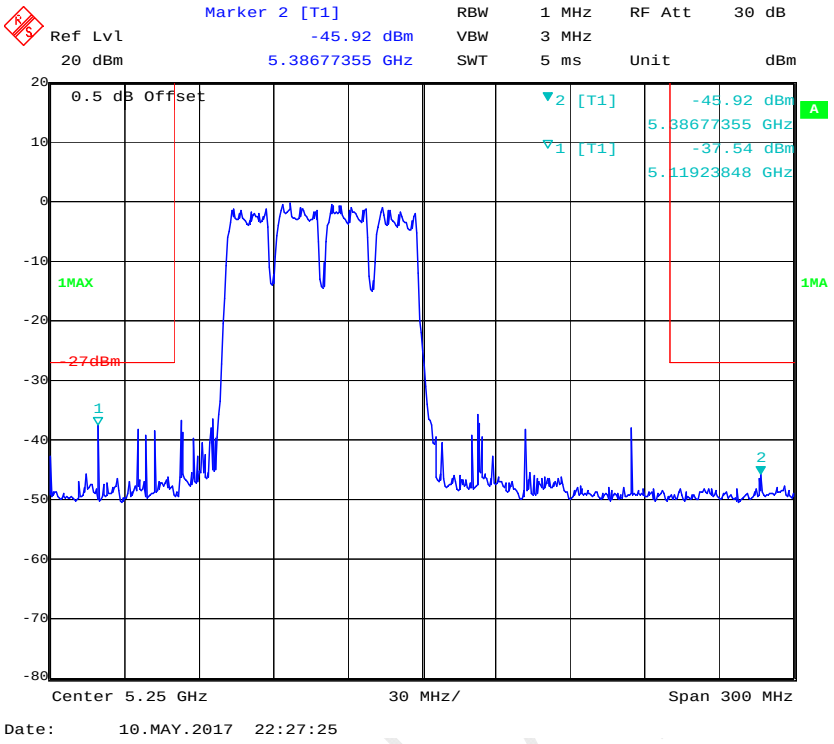
Date: 10.MAY.2017 22:10:23

8802.11n ht40 High Channel



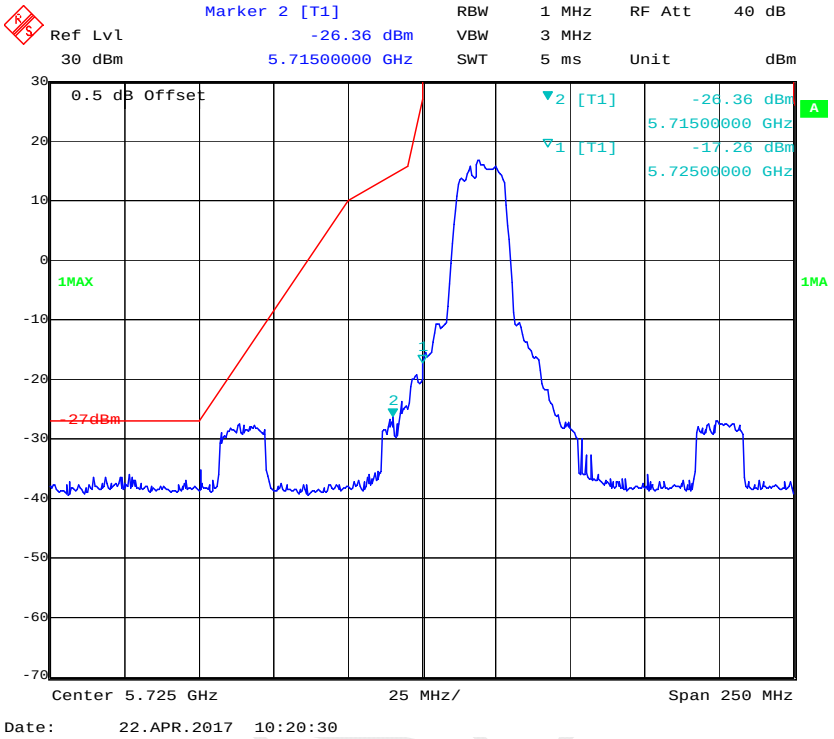
Date: 10.MAY.2017 21:58:57

802.11n ac80 Middle Channel

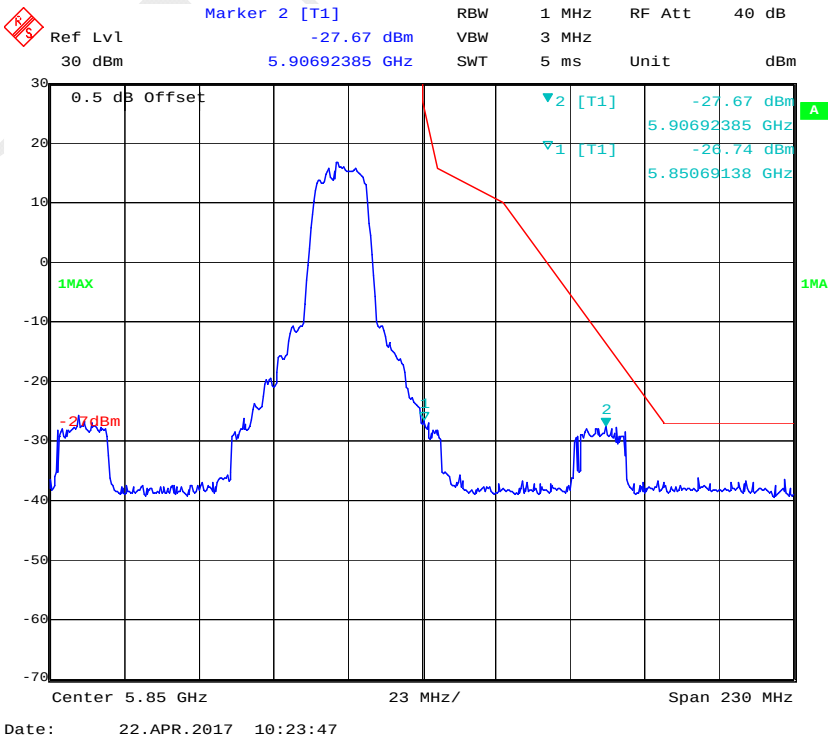


5725-5850MHz(all emissions under limit more than 8dBc, combined two chain and added the antenna gain are compliance the requirements, please refer to the below plots)
Chain 0

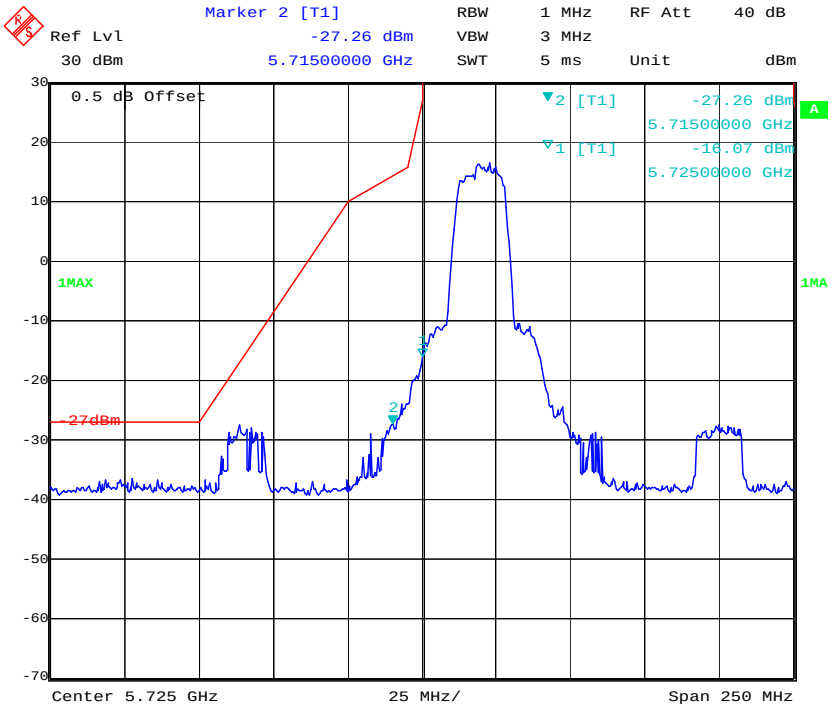
802.11a Low Channel



802.11a High Channel

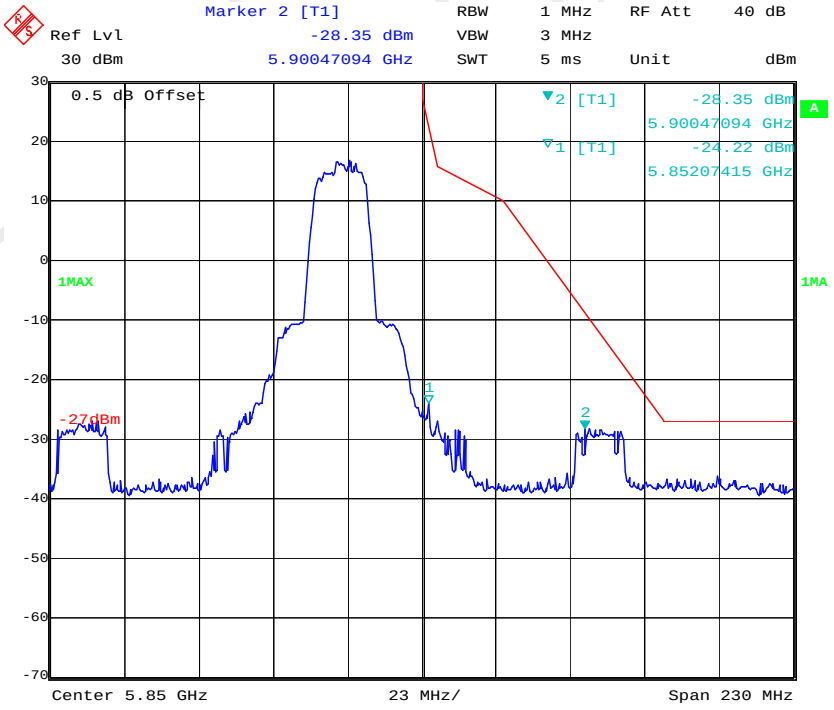


802.11n ht20 Low Channel



Date: 22.APR.2017 09:29:55

802.11n ht20 High Channel

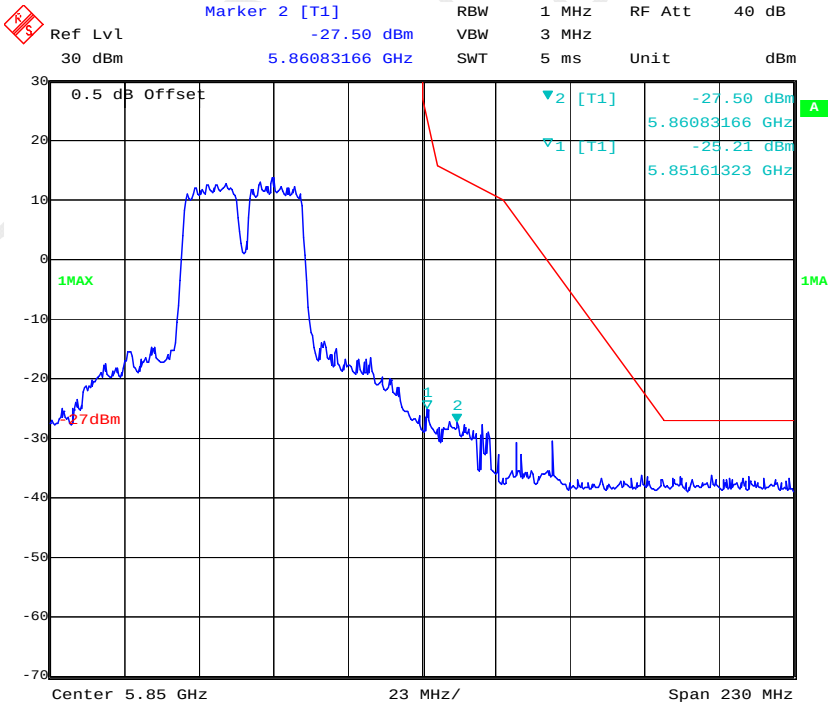


Date: 22.APR.2017 09:28:00

802.11n ht40 Low Channel

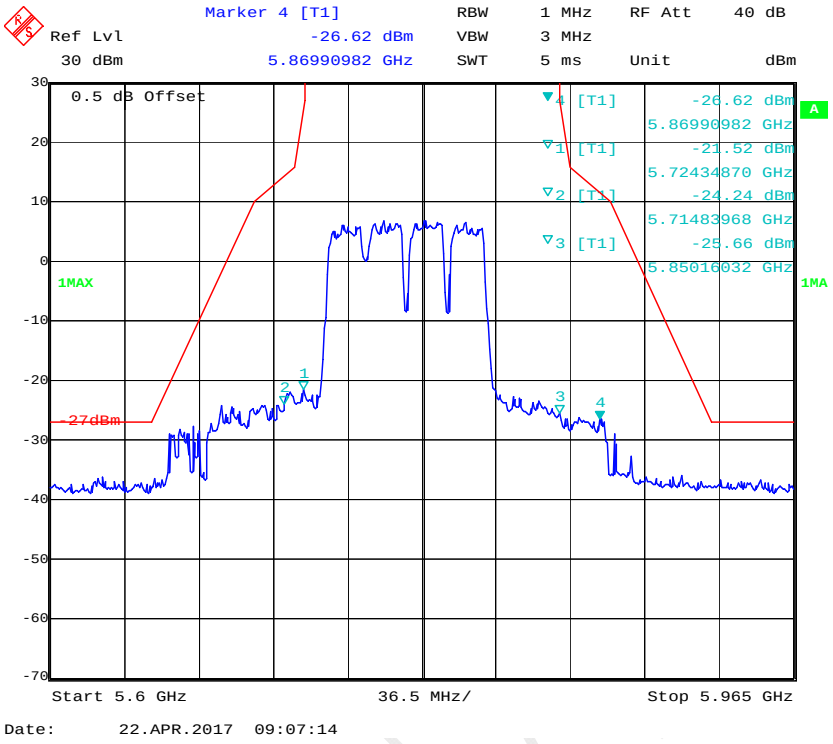
Date: 22.APR.2017 08:49:33

8802.11n ht40 High Channel



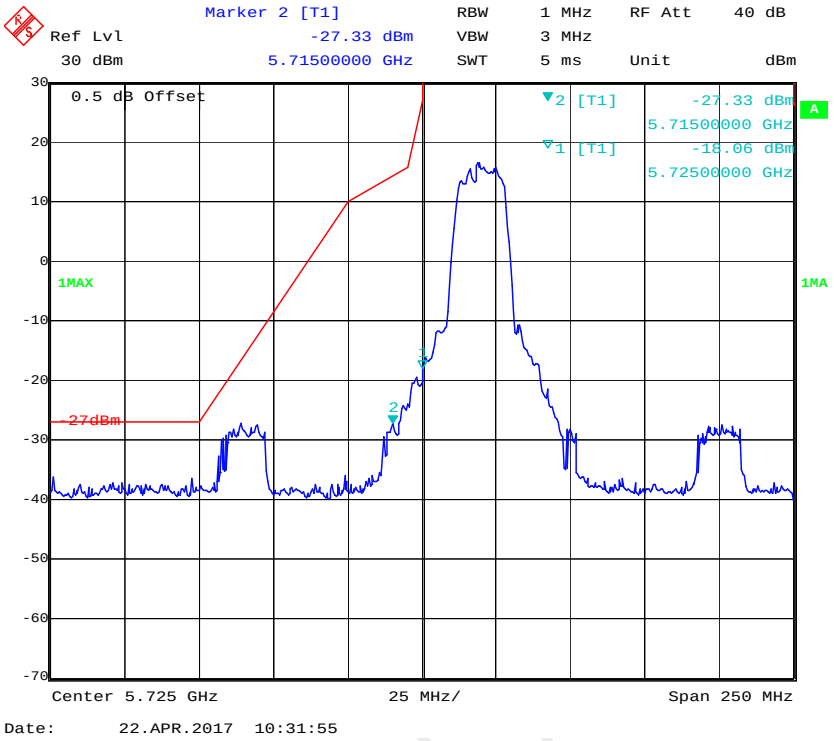
Date: 22.APR.2017 08:42:48

802.11n ac80 Middle Channel



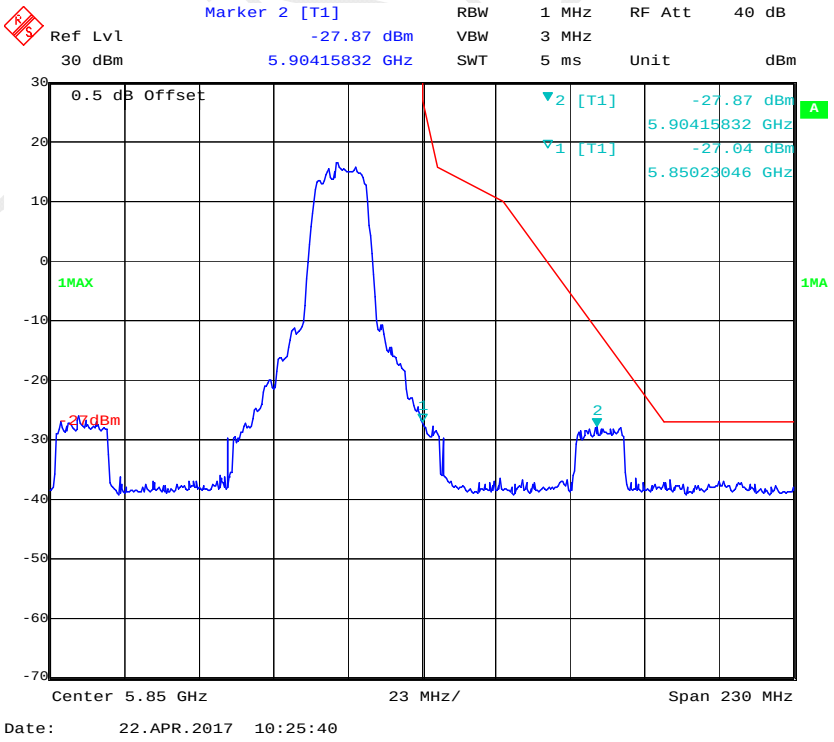
Chain 1:

802.11a Low Channel



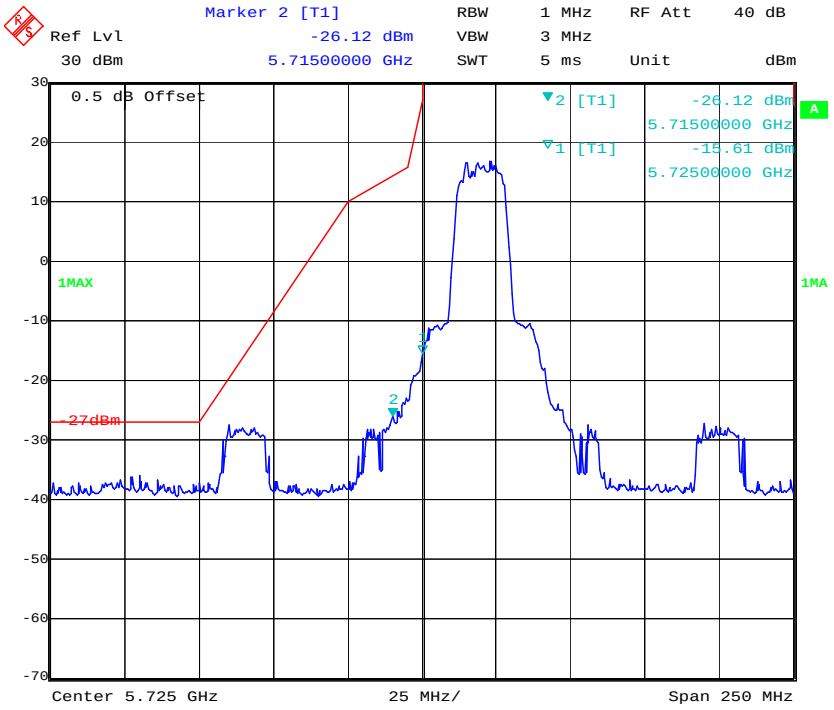
Date: 22.APR.2017 10:31:55

802.11a High Channel



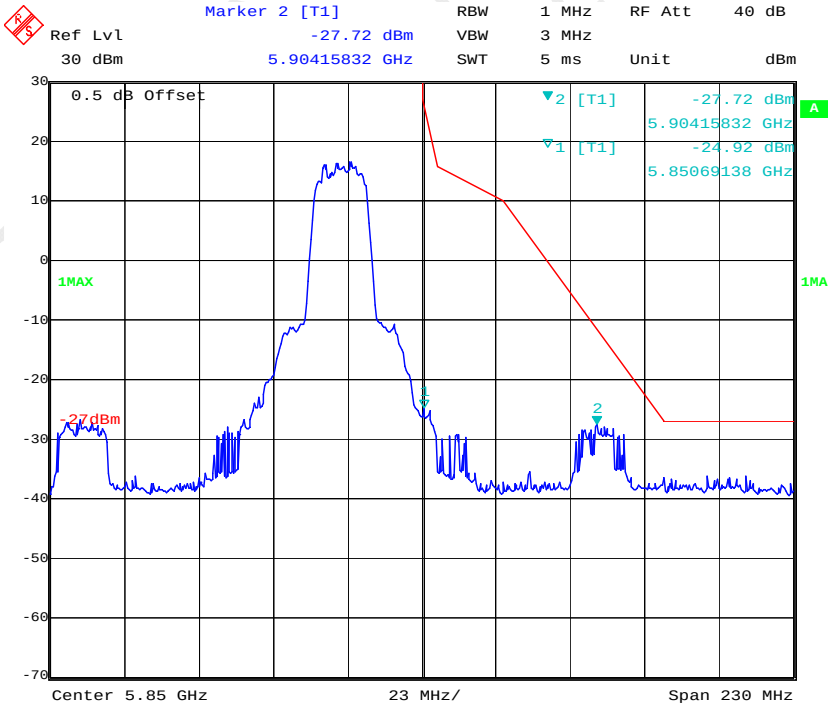
Date: 22.APR.2017 10:25:40

802.11n ht20 Low Channel



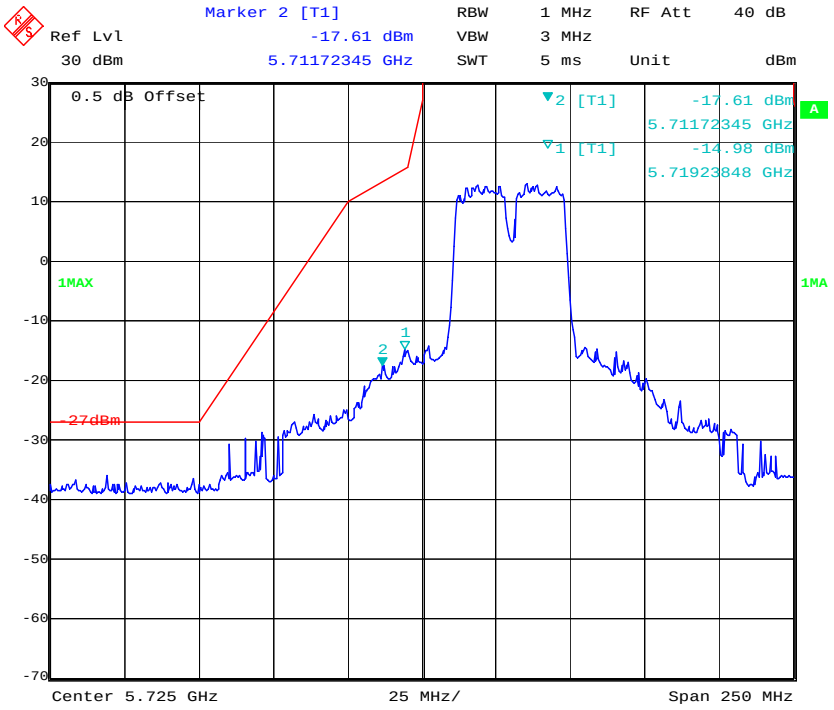
Date: 22.APR.2017 09:14:45

802.11n ht20 High Channel



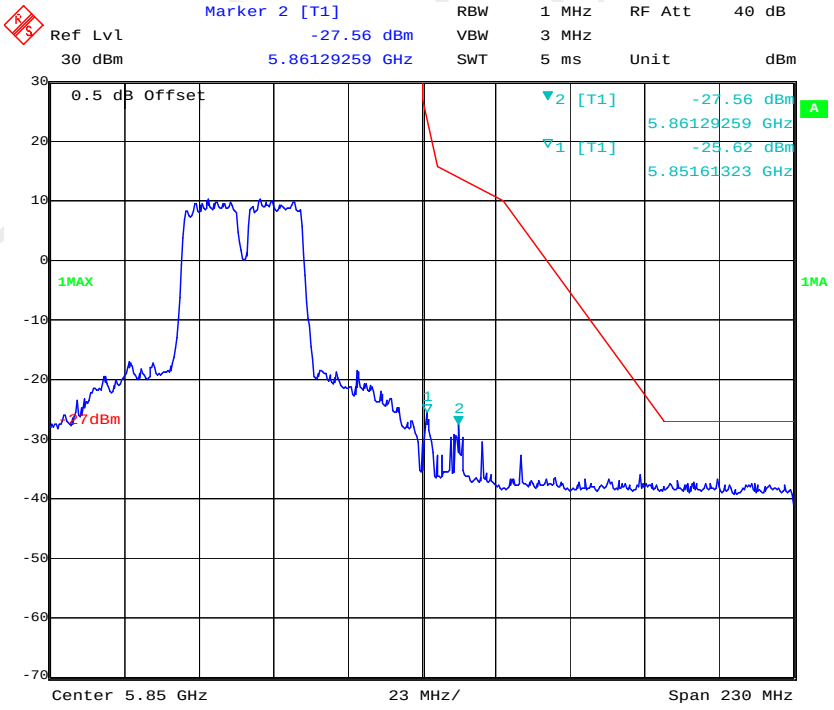
Date: 22.APR.2017 09:22:04

802.11n ht40 Low Channel



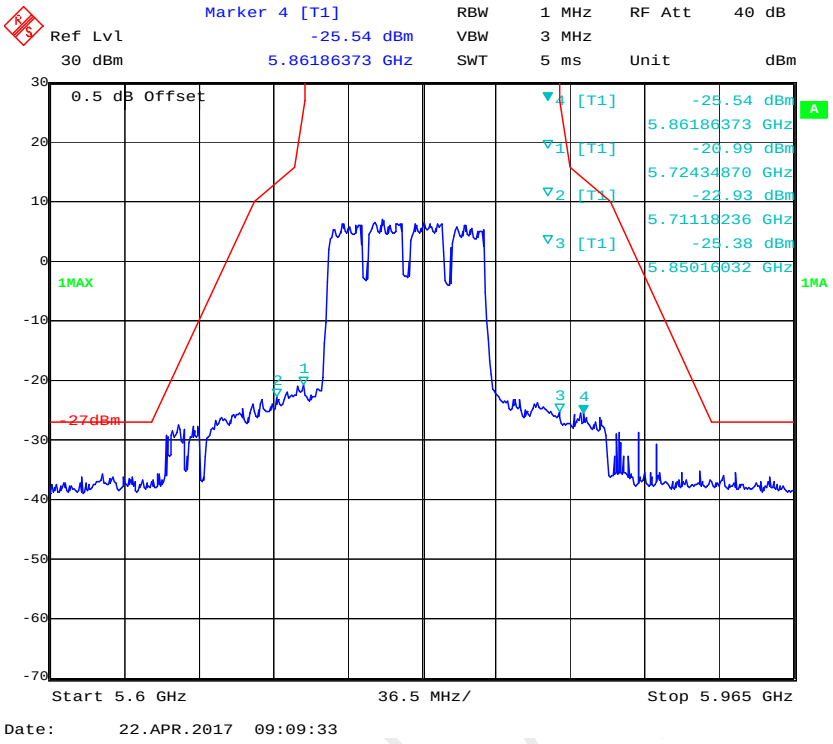
Date: 22.APR.2017 08:47:11

802.11n ht40 High Channel



Date: 22.APR.2017 08:38:39

802.11 ac80 Middle 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
Unknown	RF Cable	Unknown	C-5	Each Time	/

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B "Implementation of traceability policy in accredited laboratories".

Test Procedure

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

Test Data

Environmental Conditions

Temperature:	20.2 °C
Relative Humidity:	50.1 %
ATM Pressure:	100.4 kPa

The testing was performed by Kevin Hu on 2017-04-22.

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting
5150-5250MHz:

Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)		99% Occupied Bandwidth (MHz)	
			Chain 0	Chain 1	Chain 0	Chain 1
802.11 a	Low	5180	21.88	21.8	17.15	17.15
	Middle	5200	21.96	21.80	17.23	17.31
	High	5240	21.88	21.96	17.31	17.31
802.11n ht20	Low	5180	21.72	21.4	17.15	16.83
	Middle	5200	21.88	21.8	17.23	16.91
	High	5240	22.61	22.61	17.31	16.91
802.11n ht40	Low	5190	40.24	39.92	36.87	36.71
	High	5230	40.56	40.4	37.03	37.03
802.11ac vht80	Middle	5210	83.37	82.4	76.31	75.99

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

5725-5850MHz:

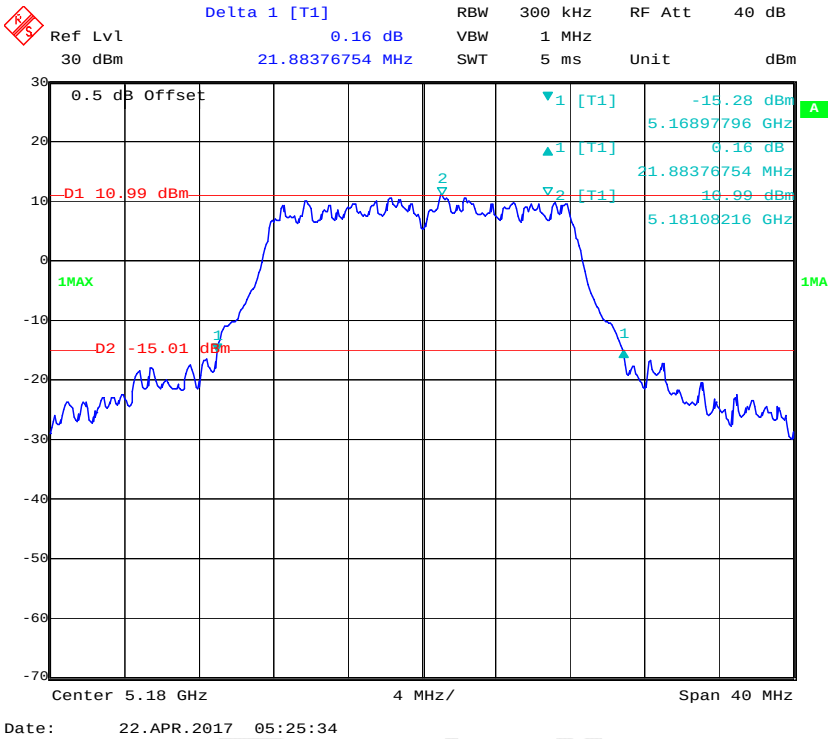
Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	
			Chain 0	Chain 1
802.11 a	Low	5745	21.8	21.88
	Middle	5785	21.8	21.88
	High	5825	21.88	21.8
802.11n ht20	Low	5745	21.88	21.8
	Middle	5785	21.8	21.48
	High	5825	21.88	21.88
802.11n ht40	Low	5755	41.04	40.4
	High	5795	41.04	40.56
802.11ac vht80	Middle	5775	83.69	82.4

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

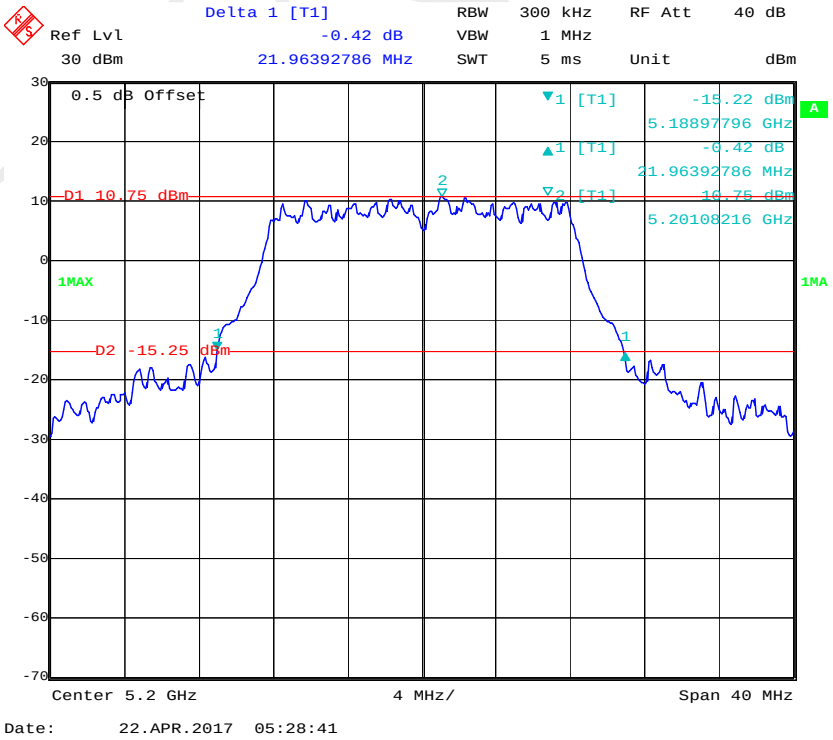
Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)			Result
			Chain 0	Chain 1	Limits	
802.11 a	Low	5745	16.03	16.03	≥0.5	PASS
	Middle	5785	16.03	16.03	≥0.5	PASS
	High	5825	16.03	16.03	≥0.5	PASS
802.11n ht20	Low	5745	15.87	15.55	≥0.5	PASS
	Middle	5785	15.87	16.03	≥0.5	PASS
	High	5825	15.87	16.03	≥0.5	PASS
802.11n ht40	Low	5755	36.39	36.23	≥0.5	PASS
	High	5795	36.23	36.23	≥0.5	PASS
802.11ac vht80	Middle	5775	76.31	75.99	≥0.5	PASS

5150-5250MHz: 26dB Emission Bandwidth:
Chain 0

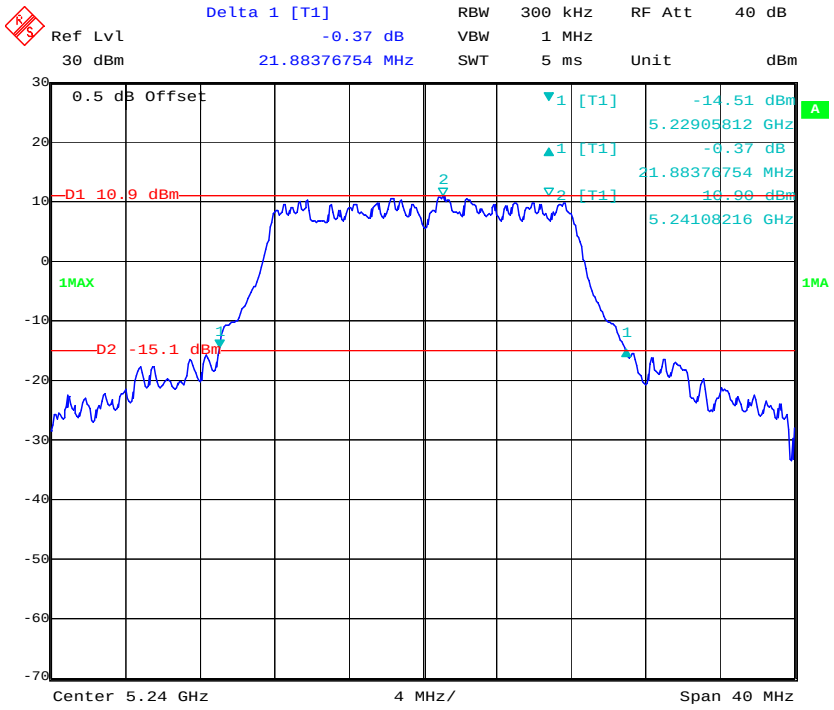
802.11a Low Channel



802.11a Middle Channel

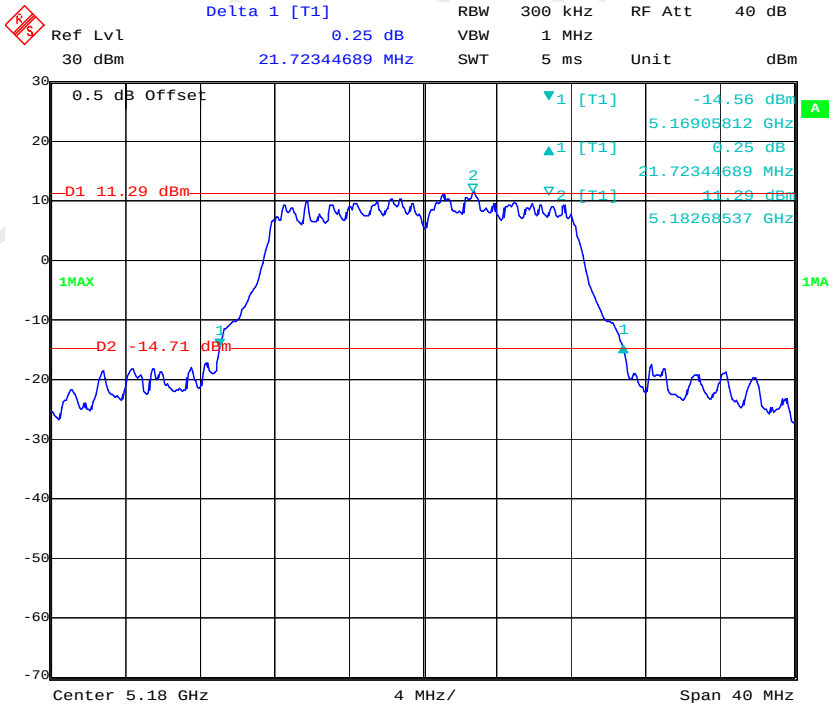


802.11a High Channel



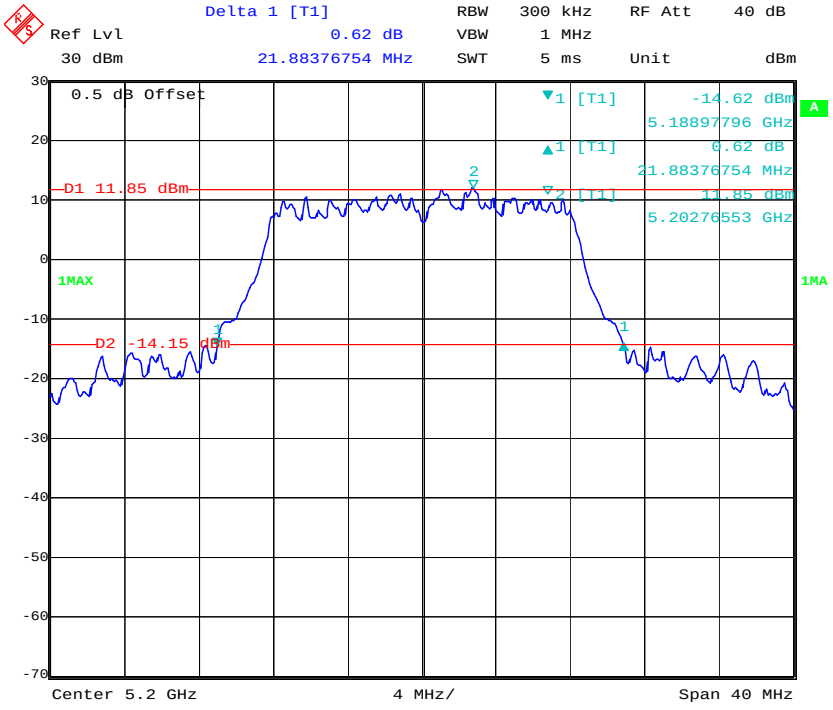
Date: 22.APR.2017 12:18:12

802.11n ht20 Low Channel



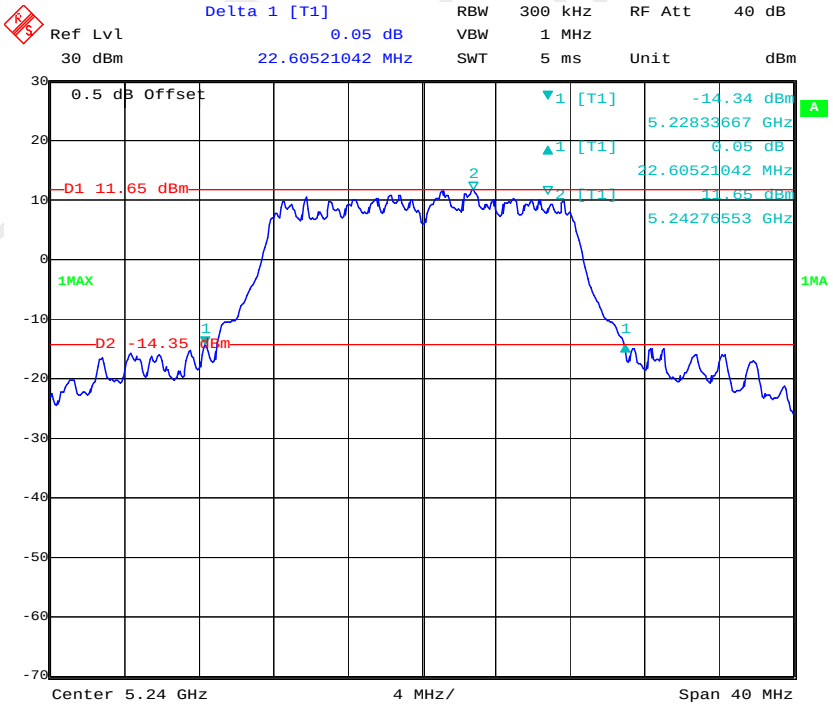
Date: 22.APR.2017 06:50:53

802.11n ht20 Middle Channel



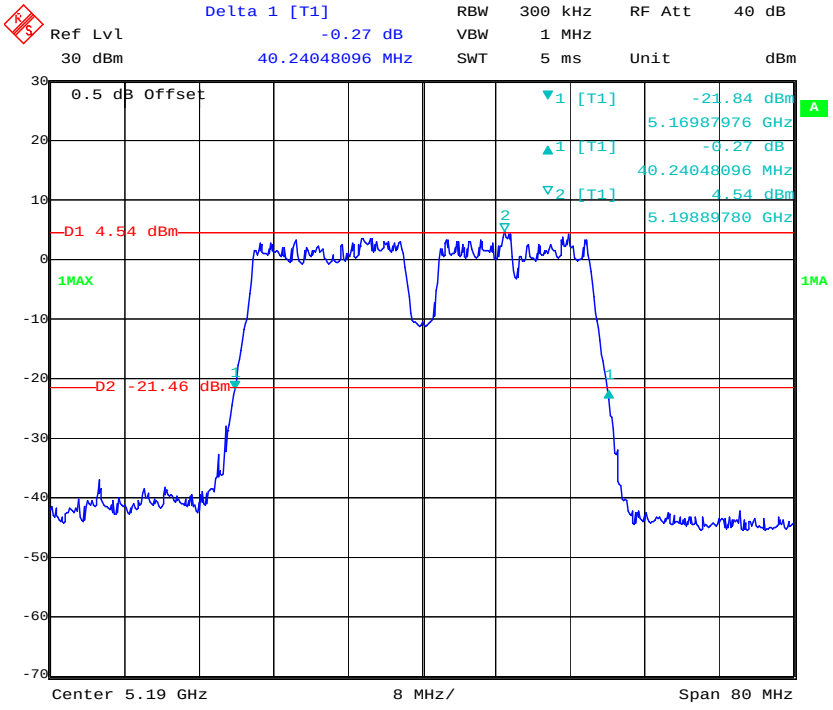
Date: 22.APR.2017 06:49:45

802.11n ht20 High Channel



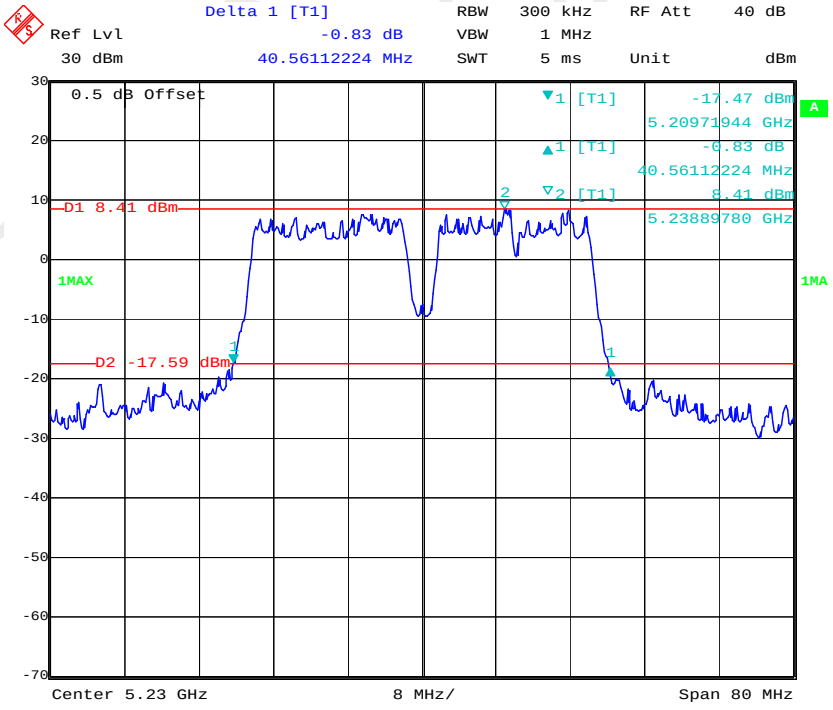
Date: 22.APR.2017 06:48:08

802.11n ht40 Low Channel



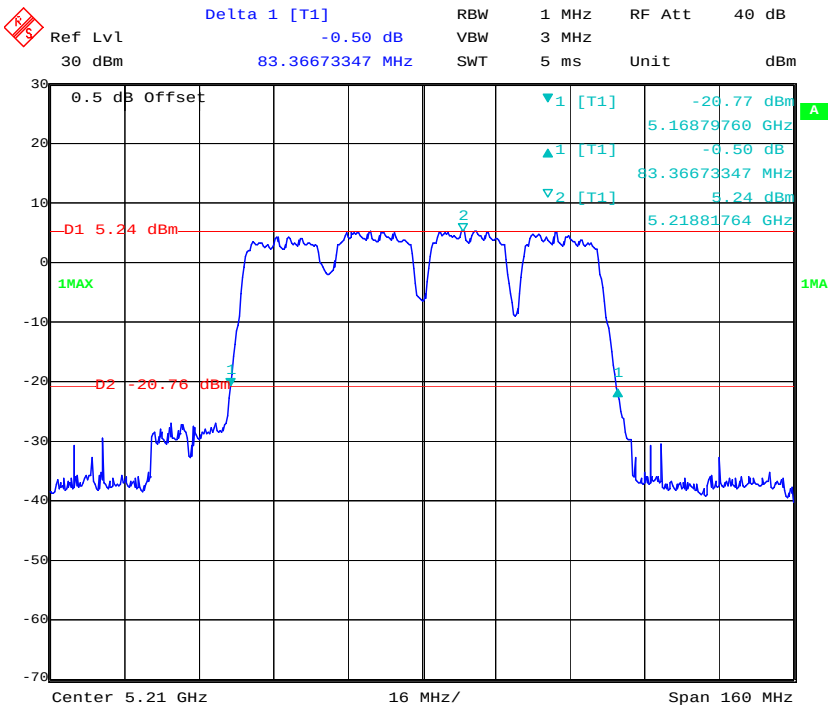
Date: 22.APR.2017 06:57:30

802.11n ht40 High Channel



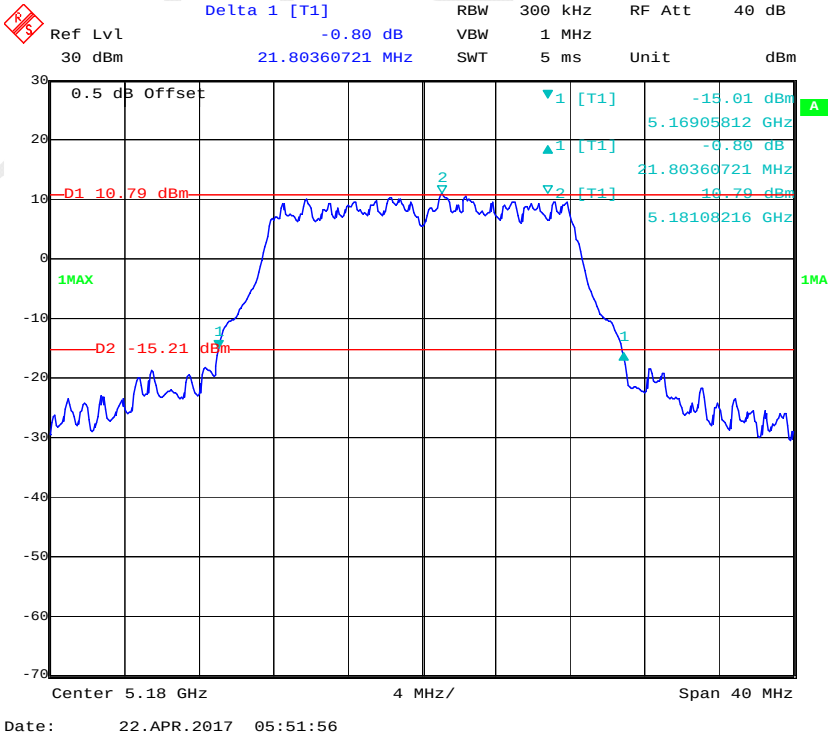
Date: 22.APR.2017 06:59:39

802.11ac80 Middle Channel

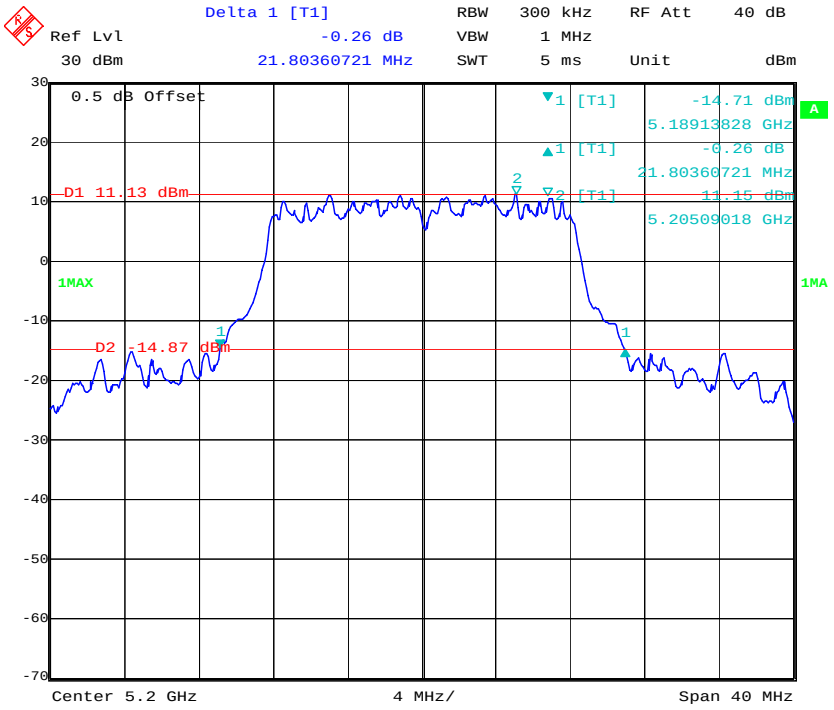


Chain 1

802.11a Low Channel

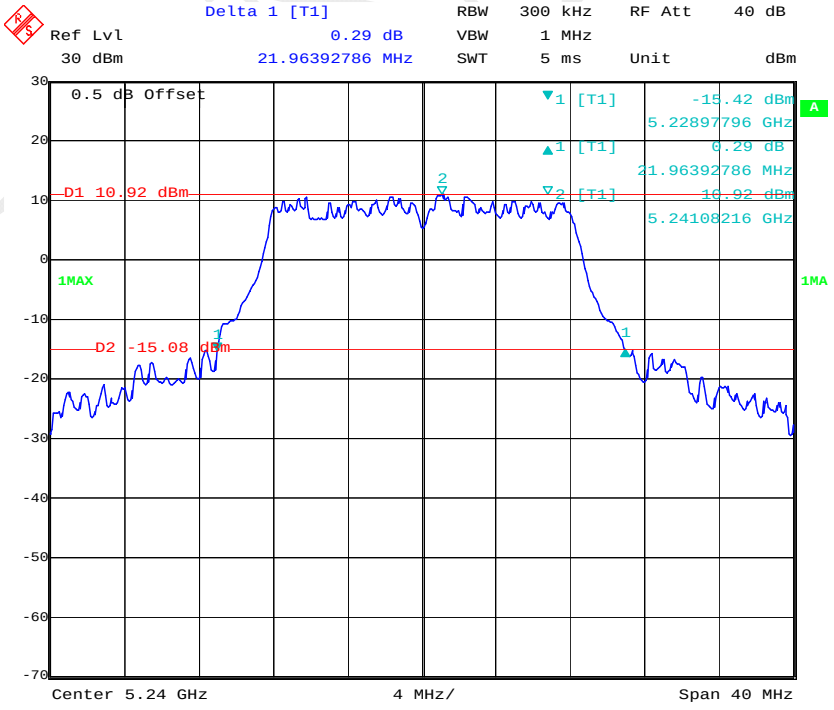


802.11a Middle Channel



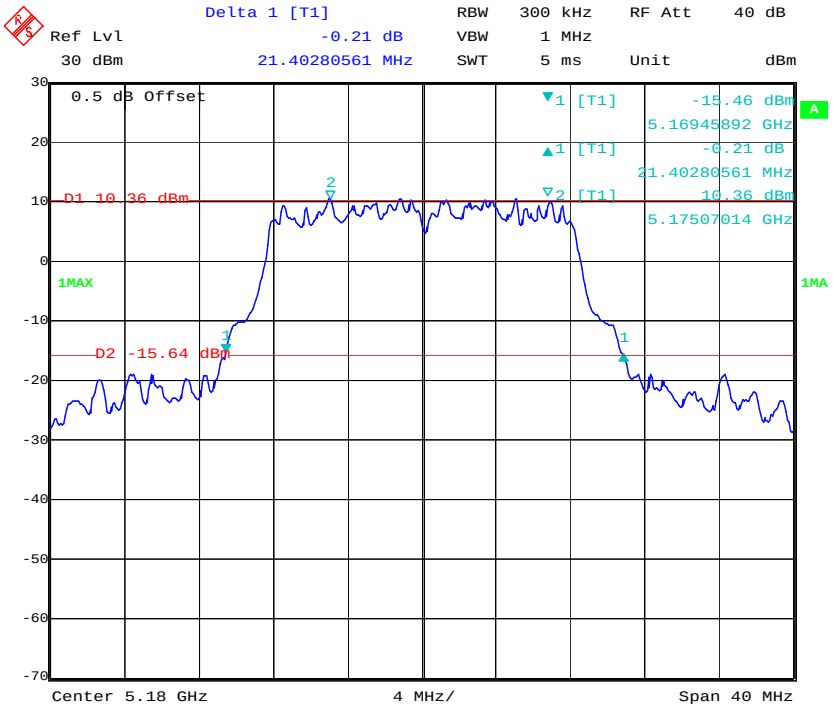
Date: 22.APR.2017 06:06:05

802.11a High Channel



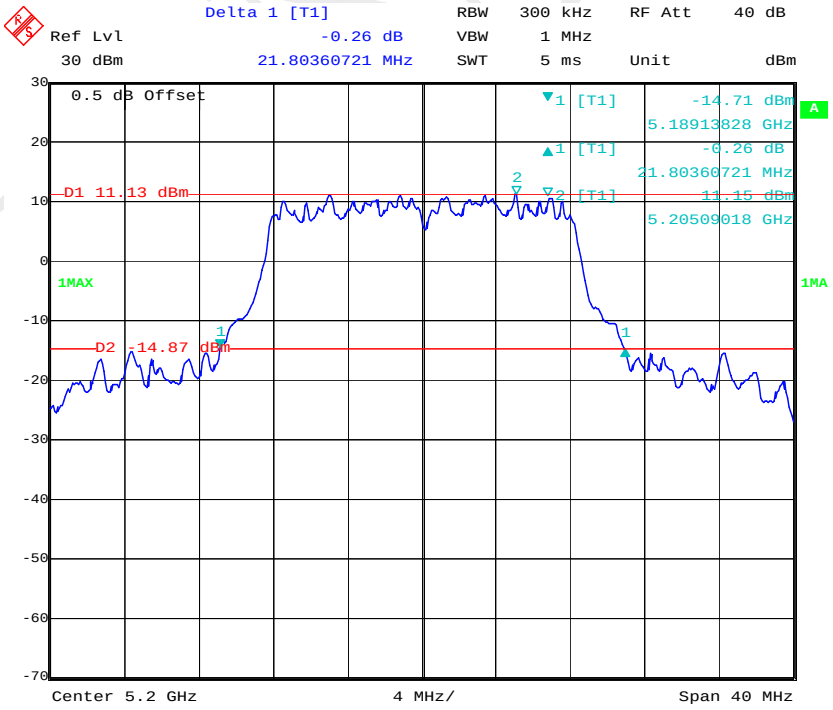
Date: 22.APR.2017 12:13:34

802.11n ht20 Low Channel



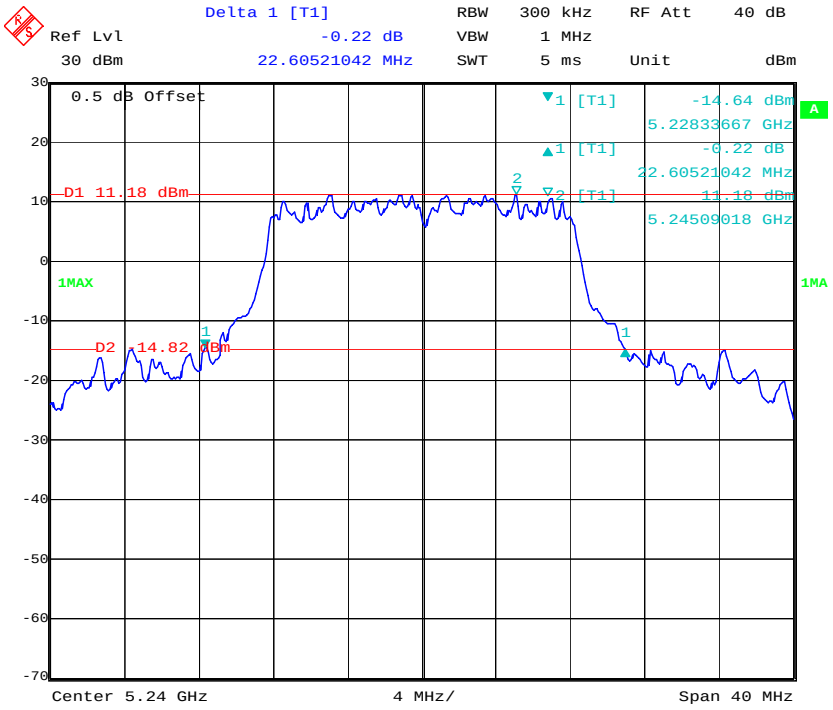
Date: 22.APR.2017 06:04:51

802.11n ht20 Middle Channel



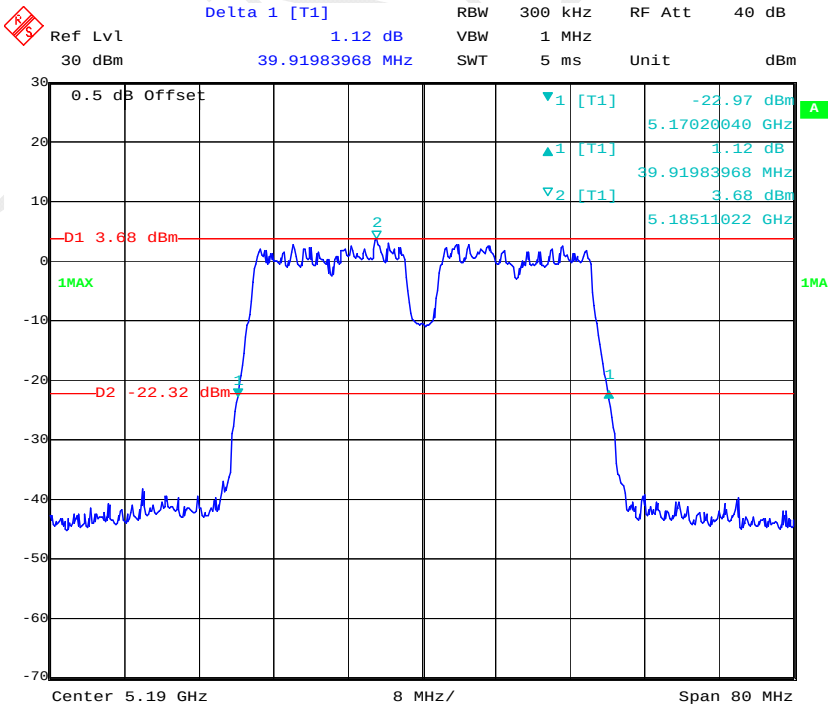
Date: 22.APR.2017 06:06:05

802.11n ht20 High Channel



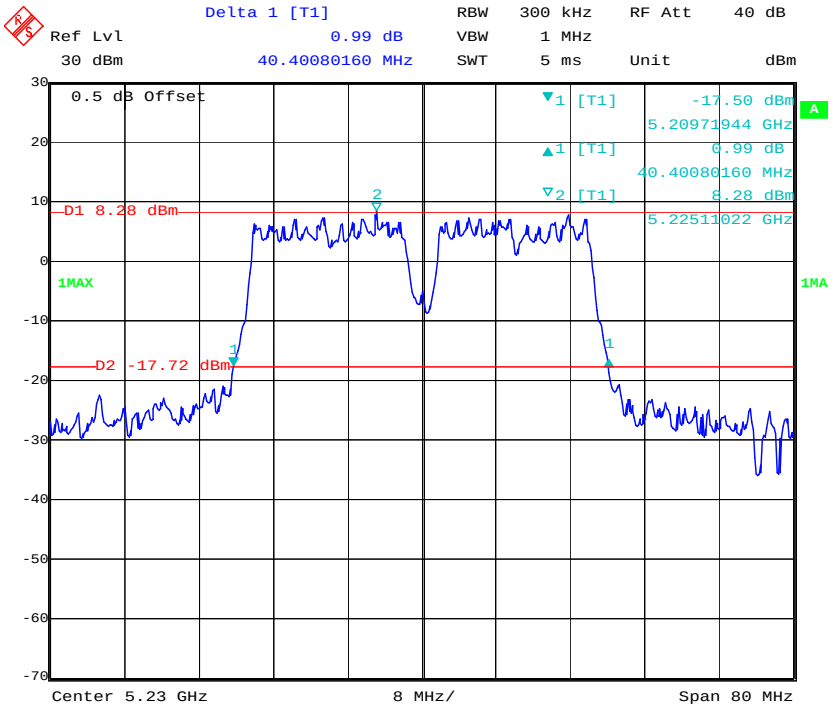
Date: 22.APR.2017 06:46:06

802.11n ht40 Low Channel



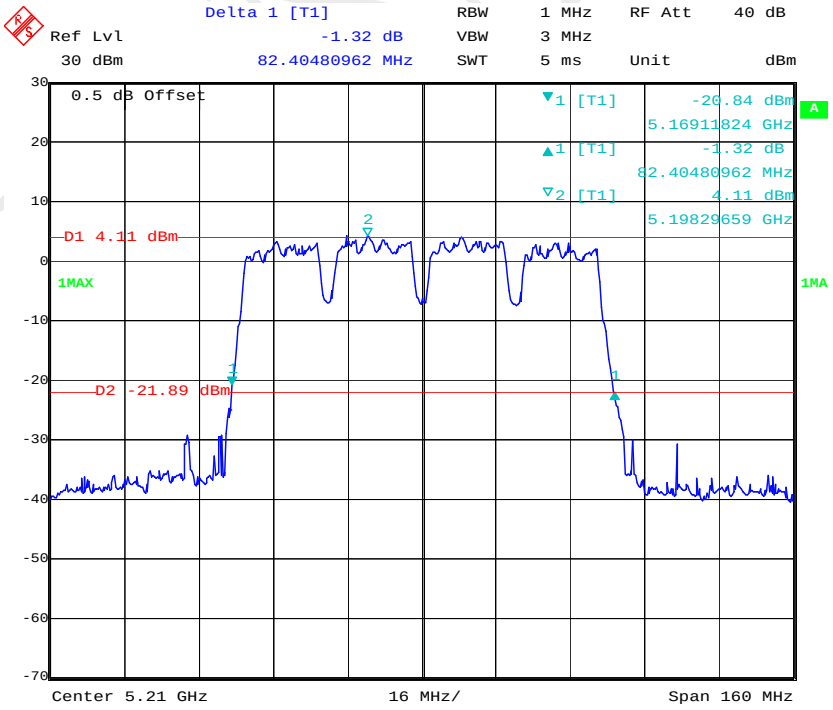
Date: 22.APR.2017 07:02:40

802.11n ht40 High Channel



Date: 22.APR.2017 07:01:08

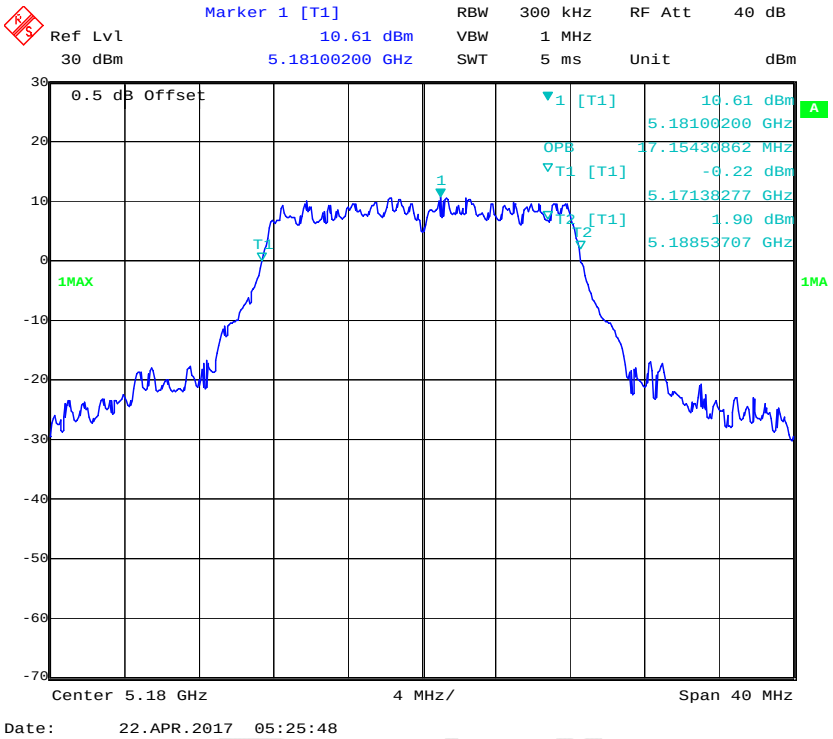
802.11ac80 Middle Channel



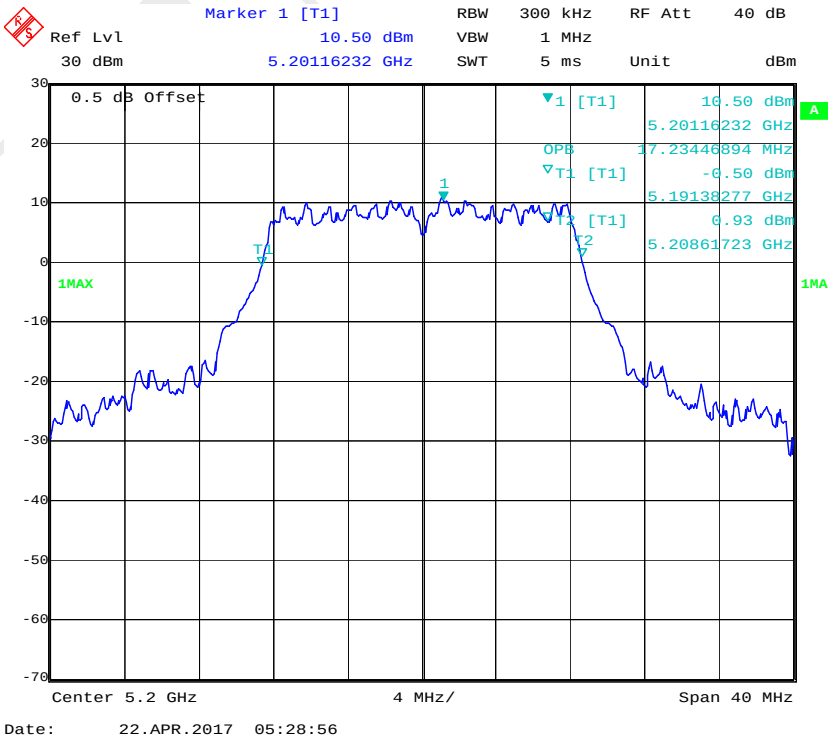
Date: 22.APR.2017 07:19:09

99% Occupied Bandwidth
Chain 0

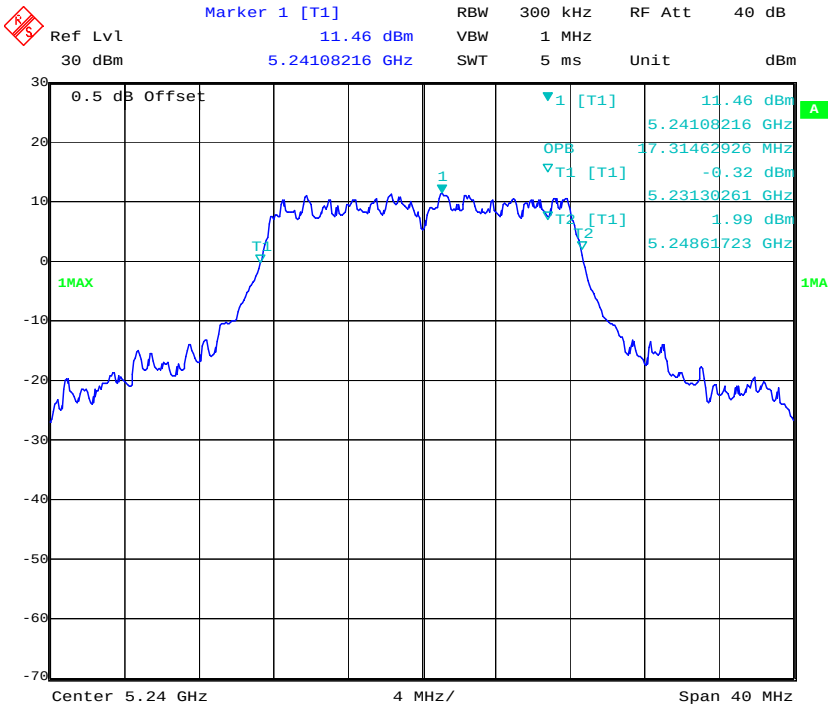
802.11a Low Channel



802.11a Middle Channel

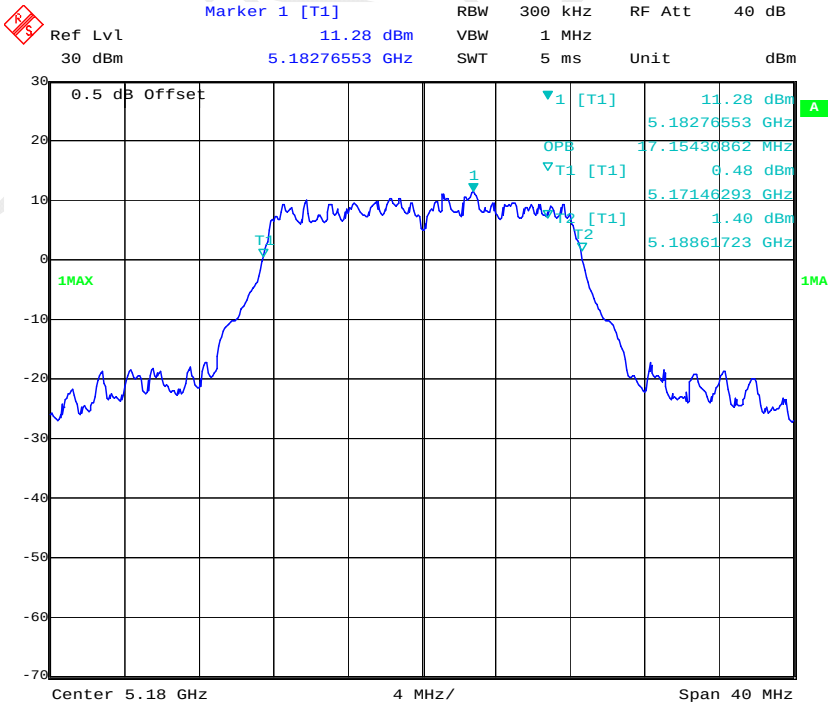


802.11a High Channel



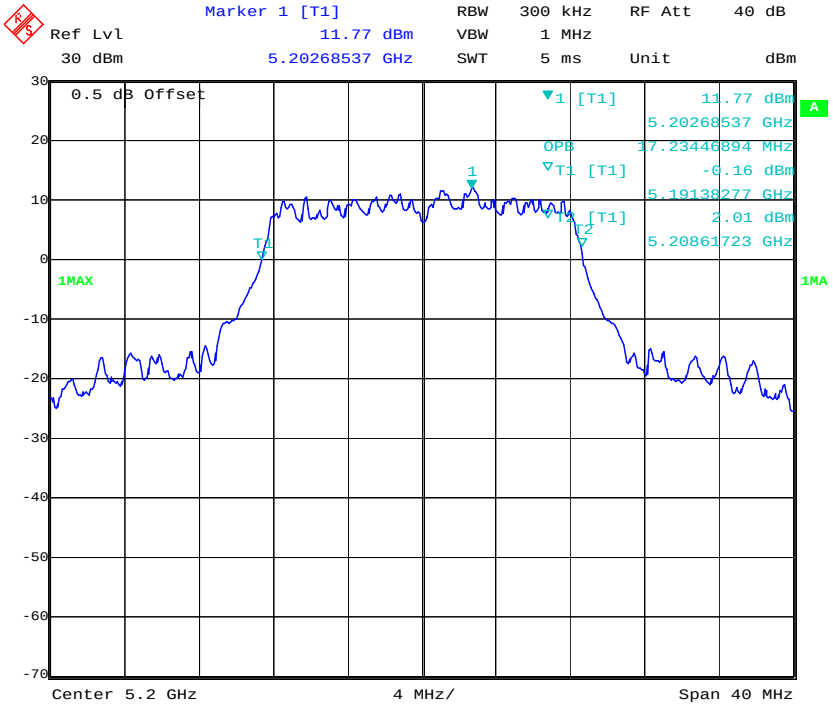
Date: 22.APR.2017 05:33:36

802.11n ht20 Low Channel



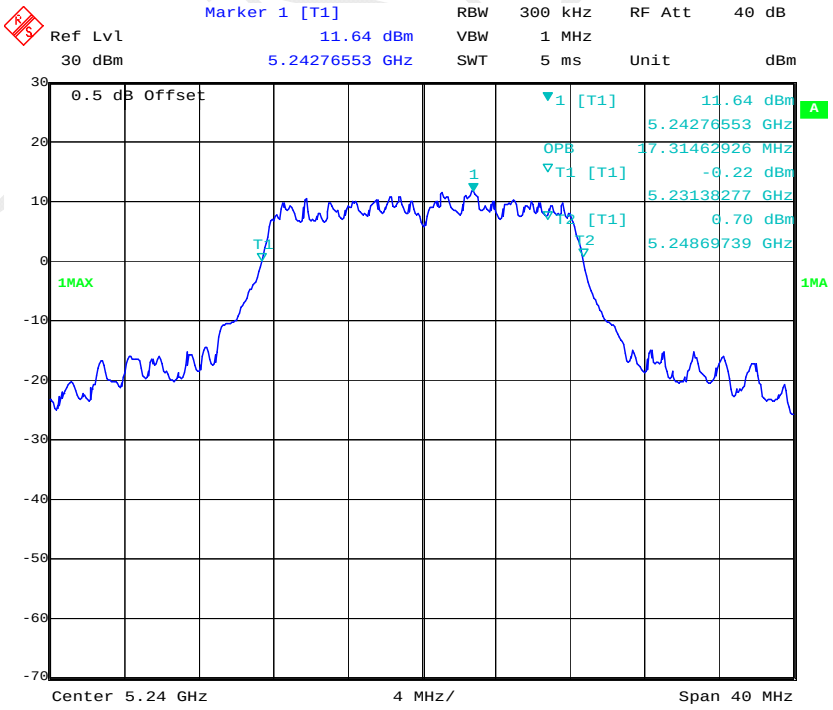
Date: 22.APR.2017 06:51:08

802.11n ht20 Middle Channel



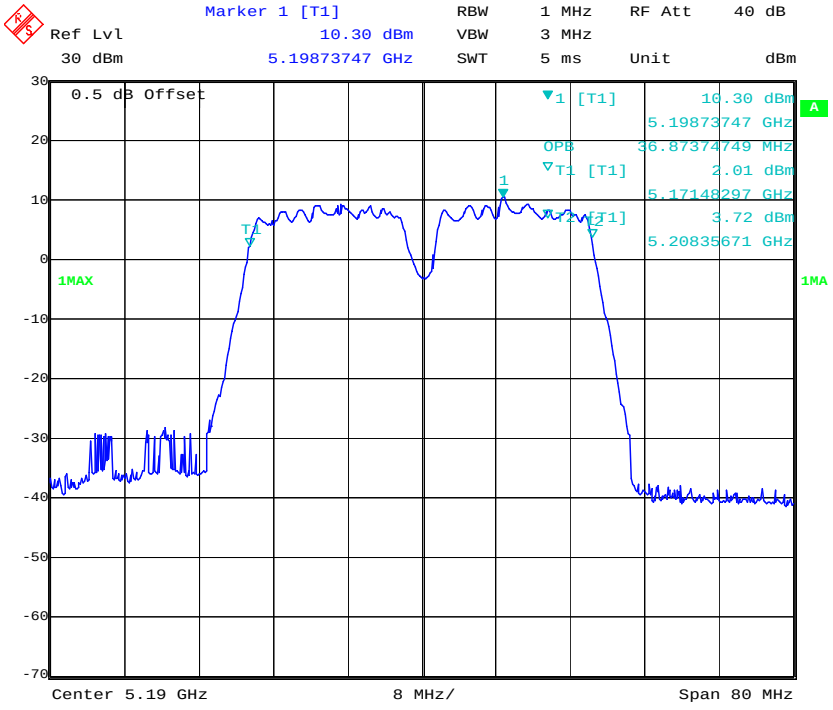
Date: 22.APR.2017 06:50:01

802.11n ht20 High Channel



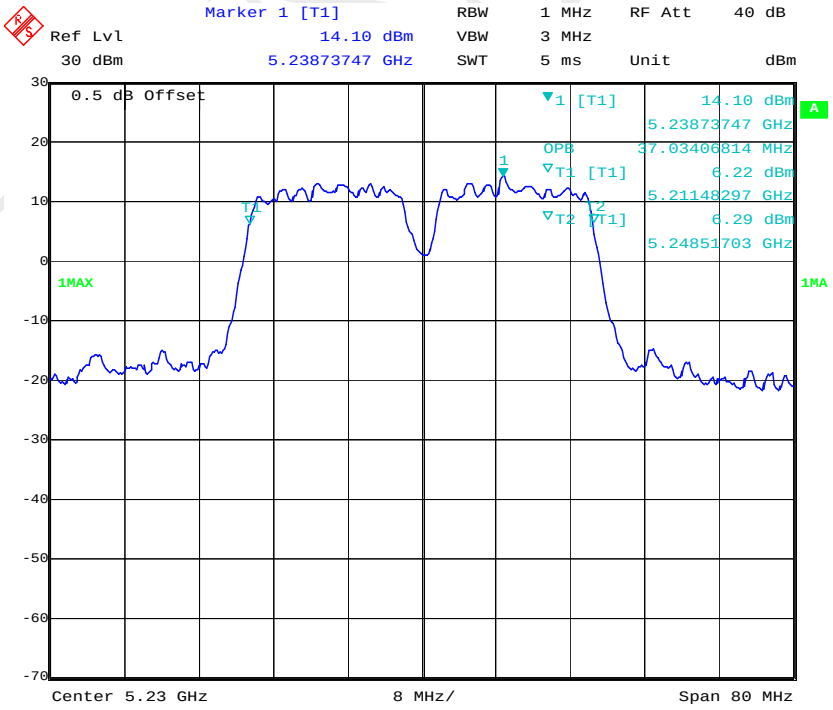
Date: 22.APR.2017 06:48:25

802.11n ht40 Low Channel



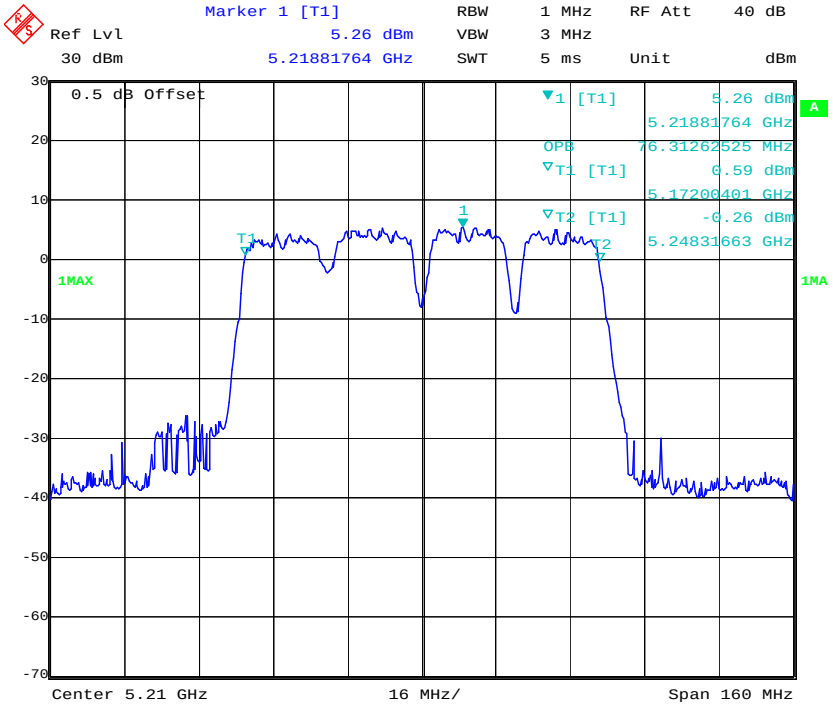
Date: 22.APR.2017 06:57:45

802.11n ht40 High Channel



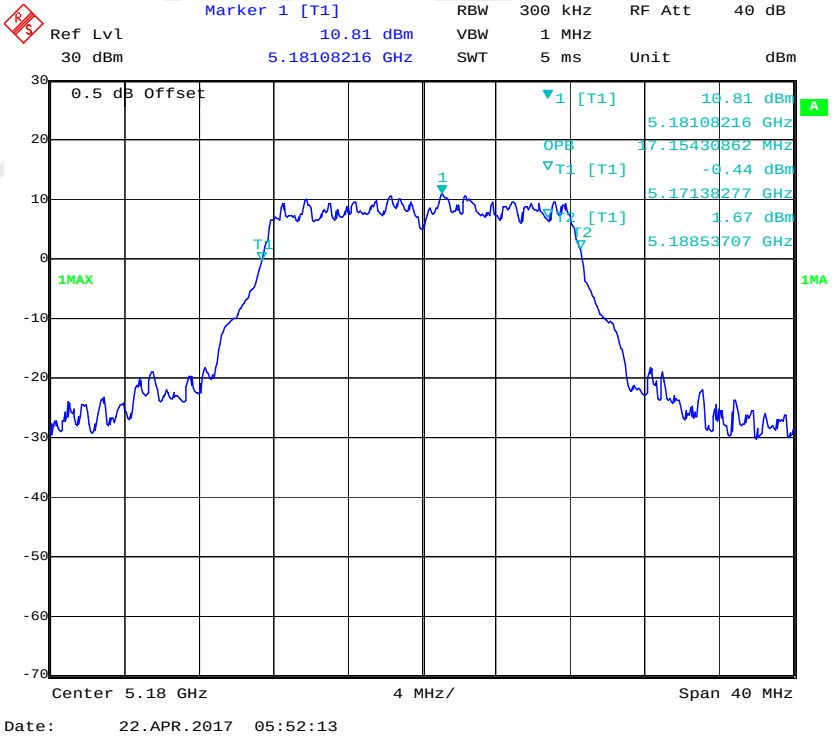
Date: 22.APR.2017 06:59:56

802.11ac80 Middle Channel

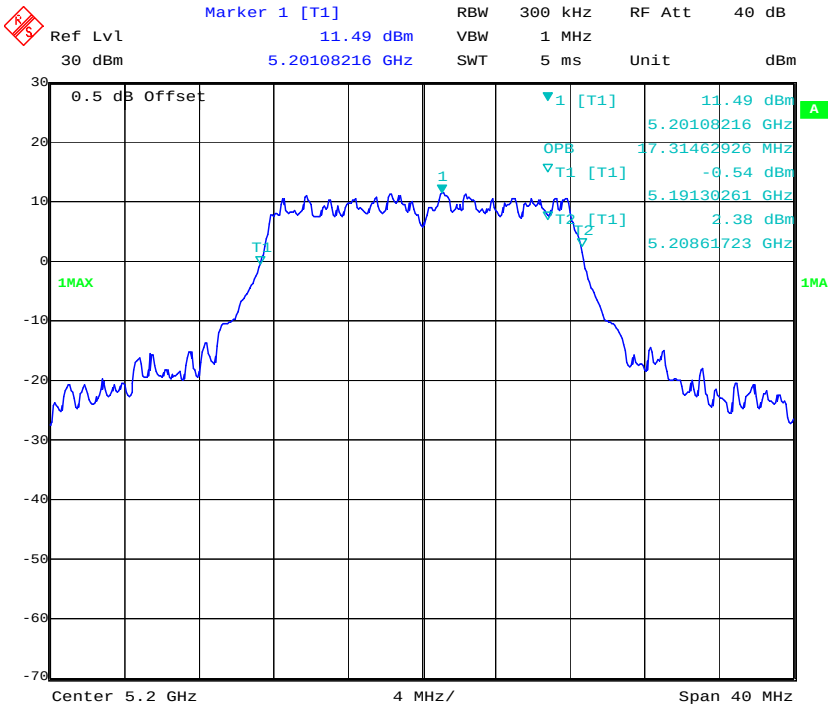


Chain 1

802.11a Low Channel

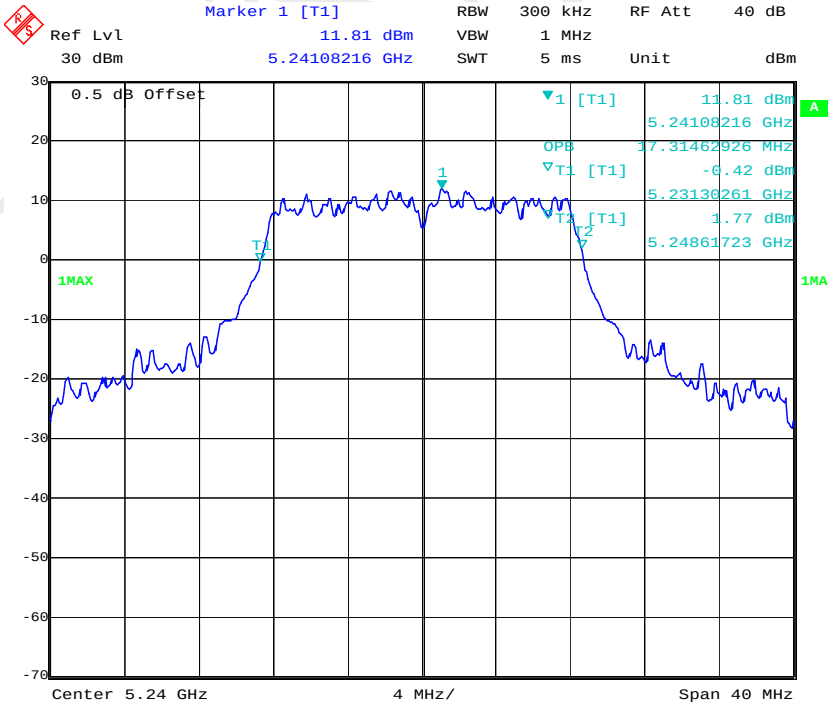


802.11a Middle Channel



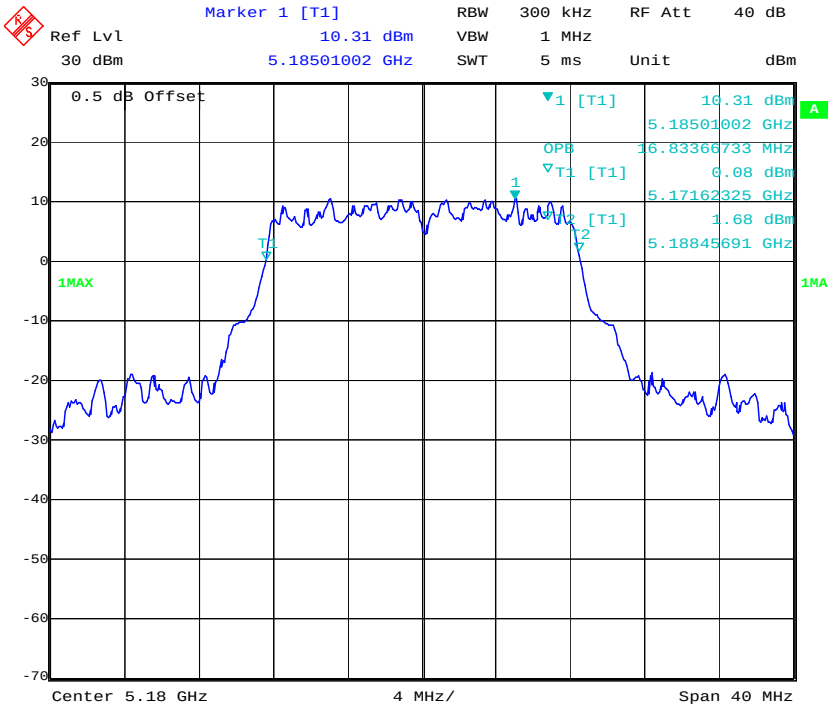
Date: 22.APR.2017 06:00:17

802.11a High Channel



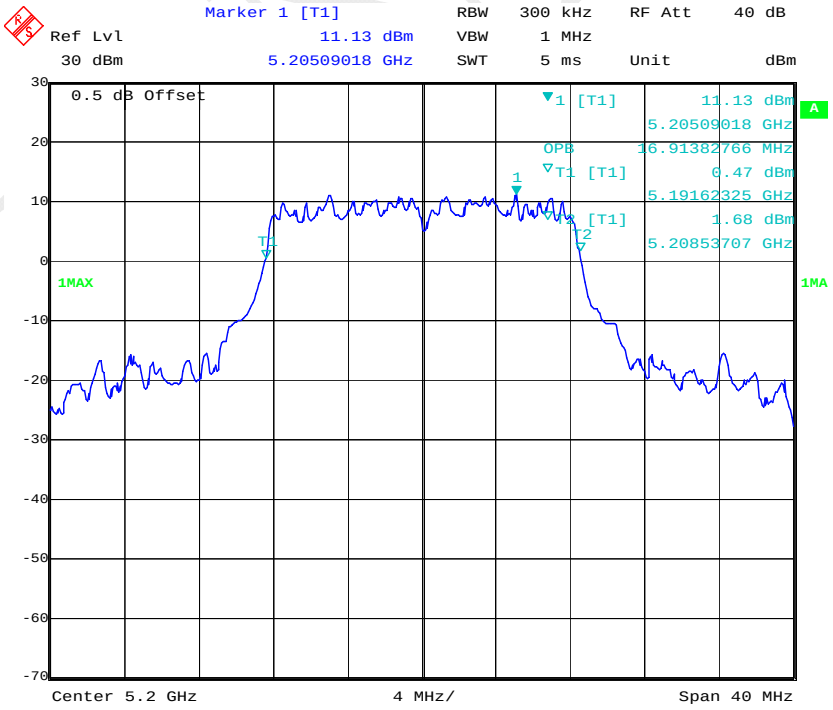
Date: 22.APR.2017 06:02:14

802.11n ht20 Low Channel



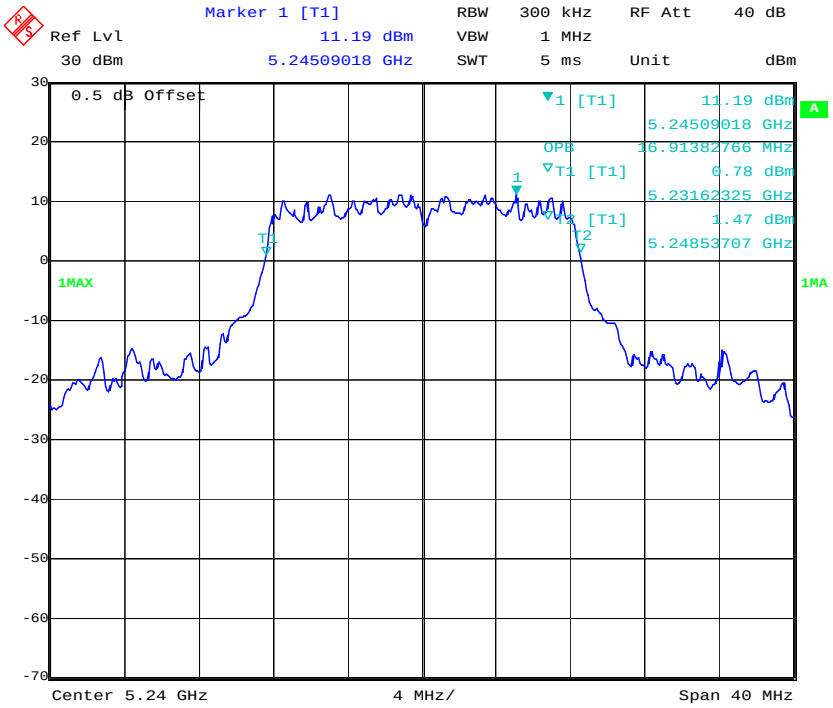
Date: 22.APR.2017 06:05:06

802.11n ht20 Middle Channel



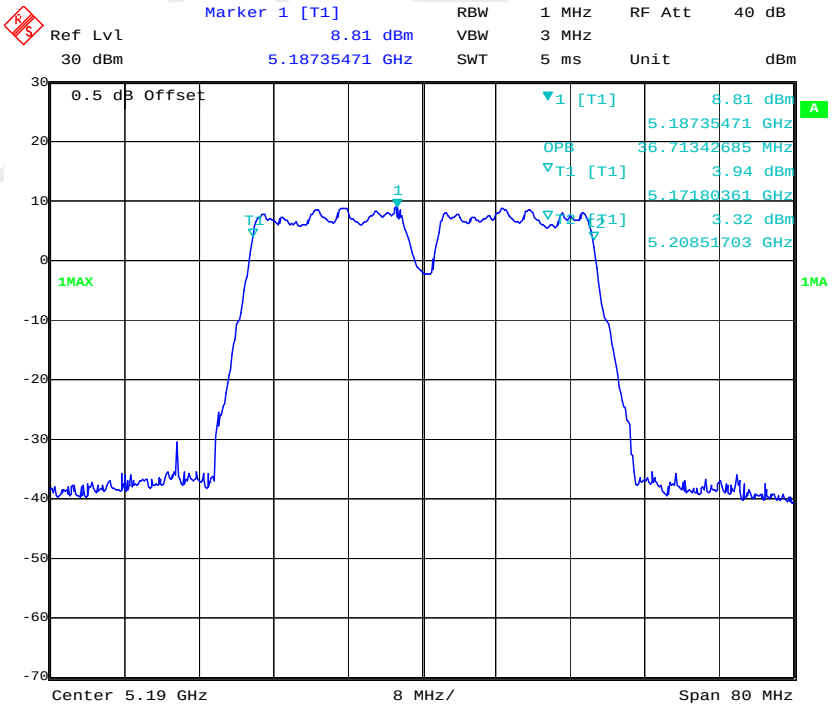
Date: 22.APR.2017 06:06:20

802.11n ht20 High Channel



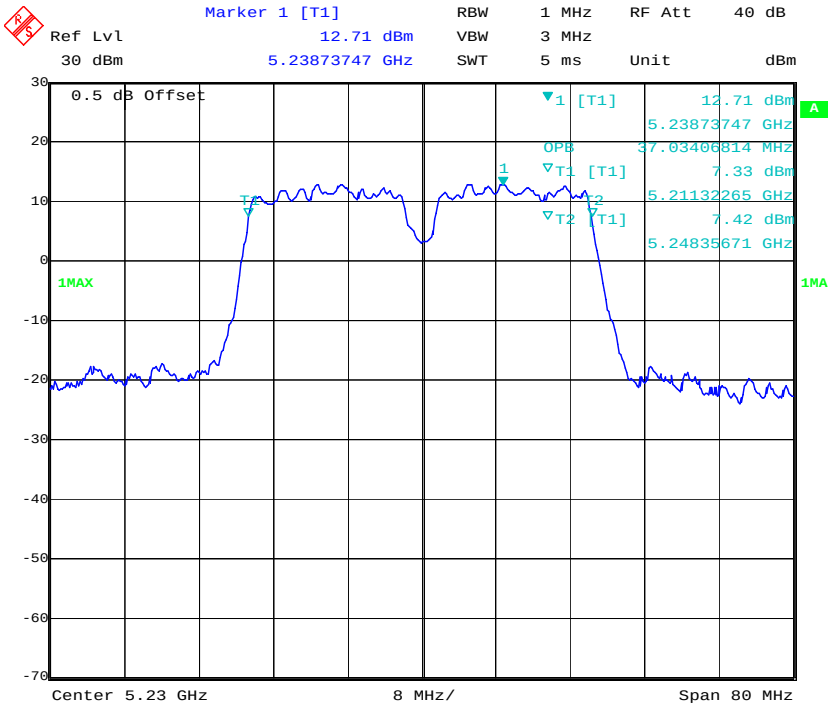
Date: 22.APR.2017 06:46:20

802.11n ht40 Low Channel



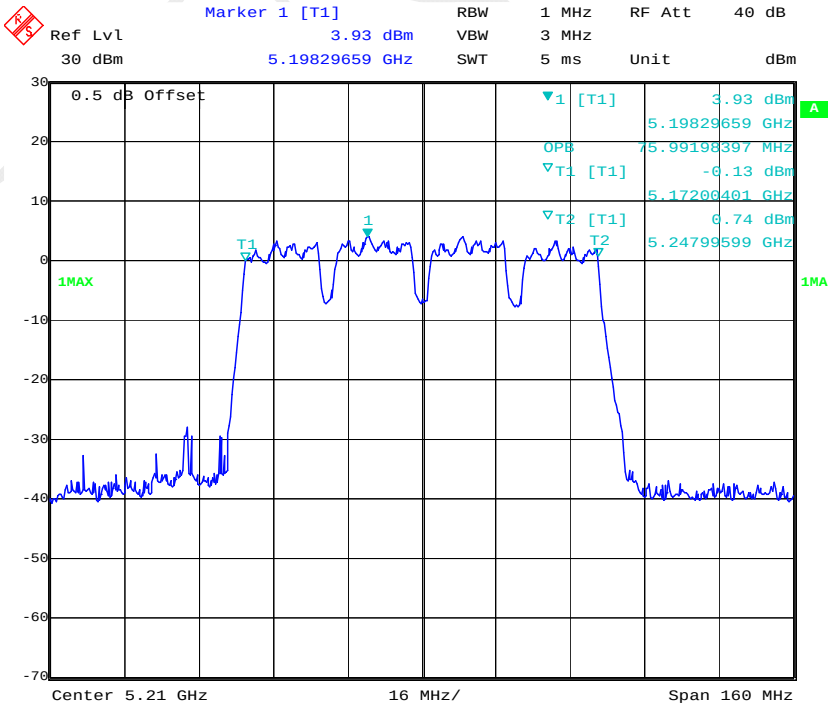
Date: 22.APR.2017 07:02:55

802.11n ht40 High Channel



Date: 22.APR.2017 07:01:23

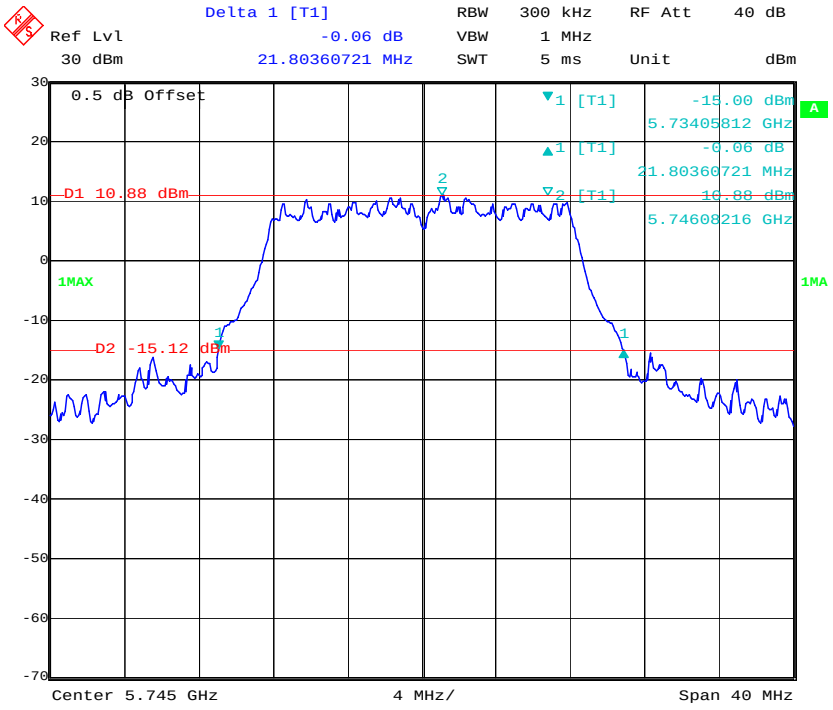
802.11ac80 Middle Channel



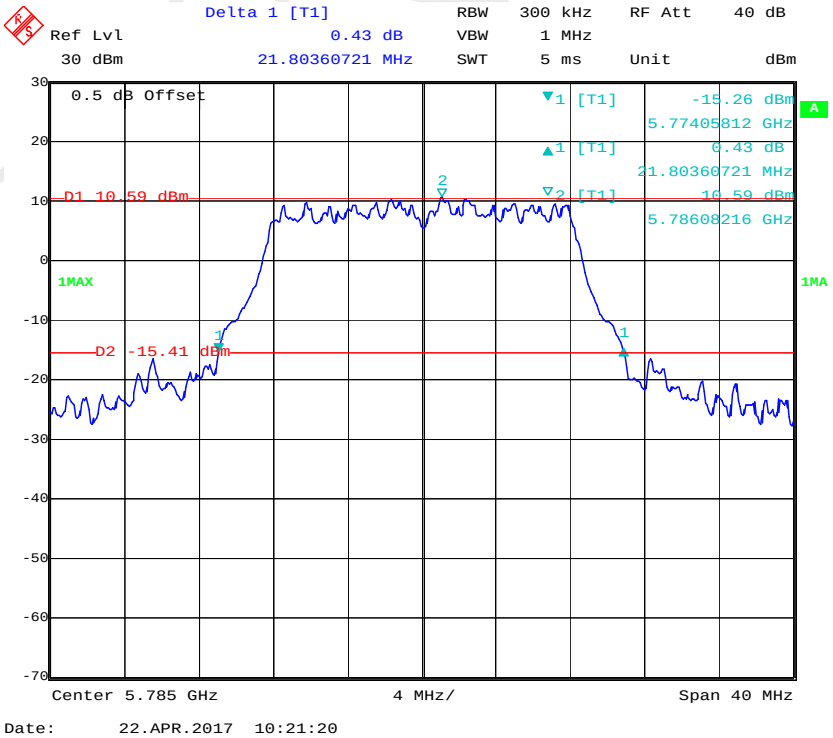
Date: 22.APR.2017 07:19:26

5725-5850MHz:26dB bandwidth
Chain 0

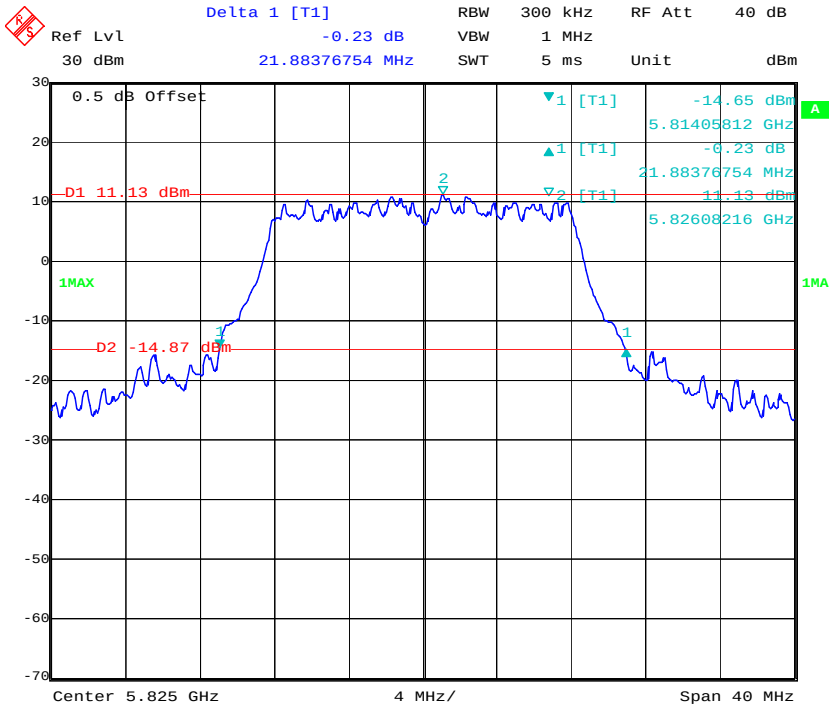
802.11a Low Channel



802.11a Middle Channel

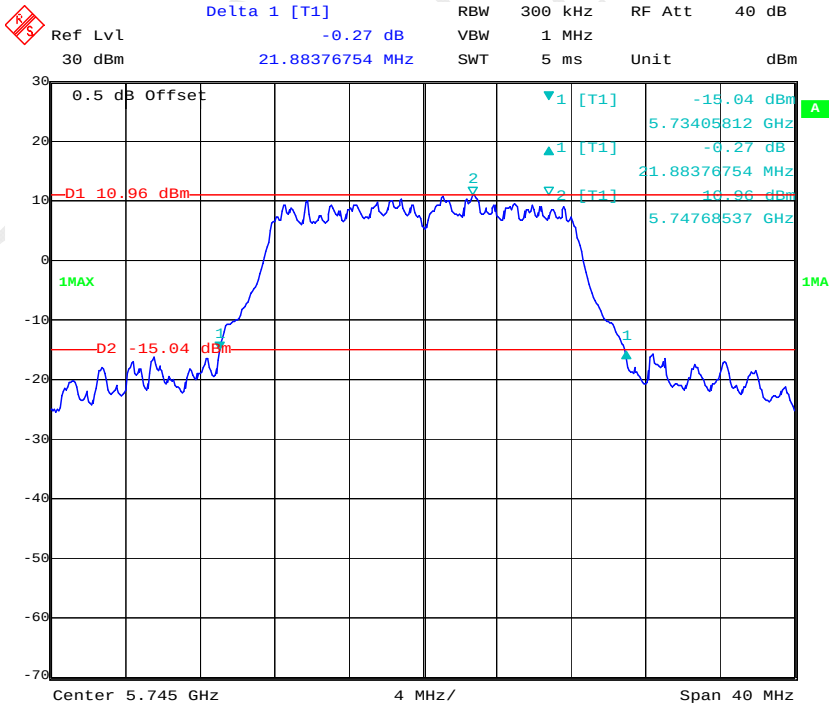


802.11a High Channel



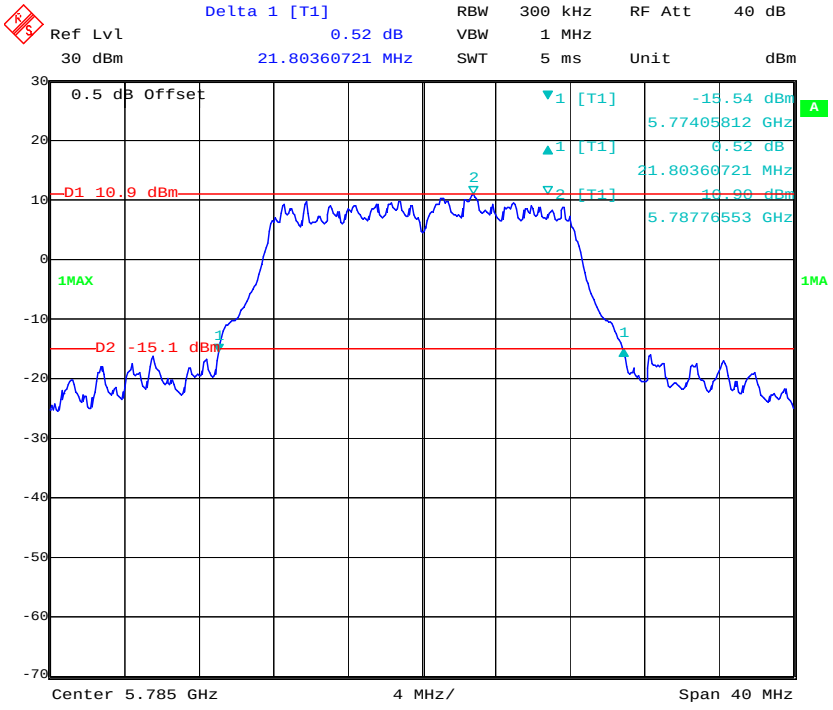
Date: 22.APR.2017 10:22:39

802.11n ht20 Low Channel



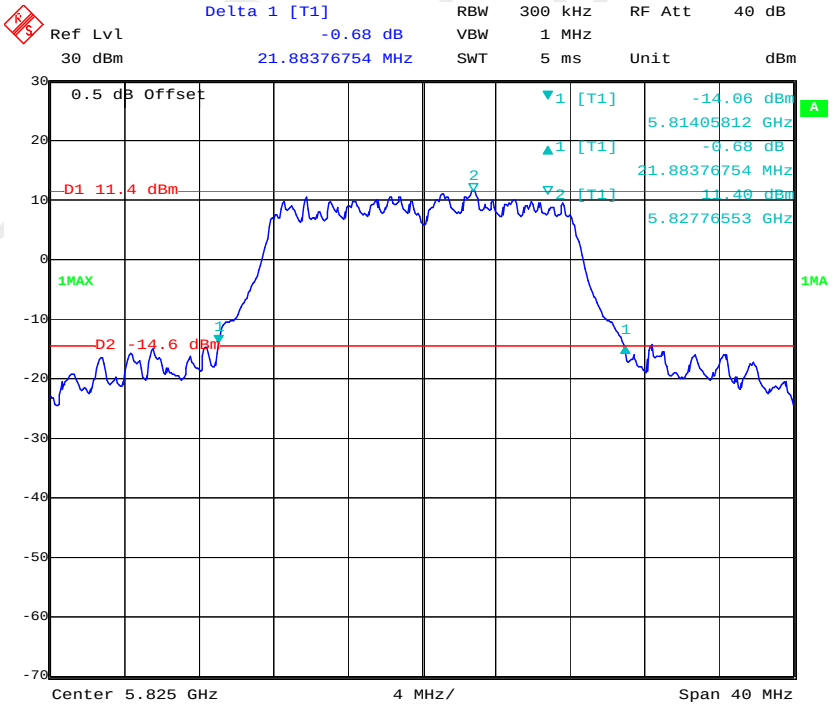
Date: 22.APR.2017 09:28:35

802.11n ht20 Middle Channel



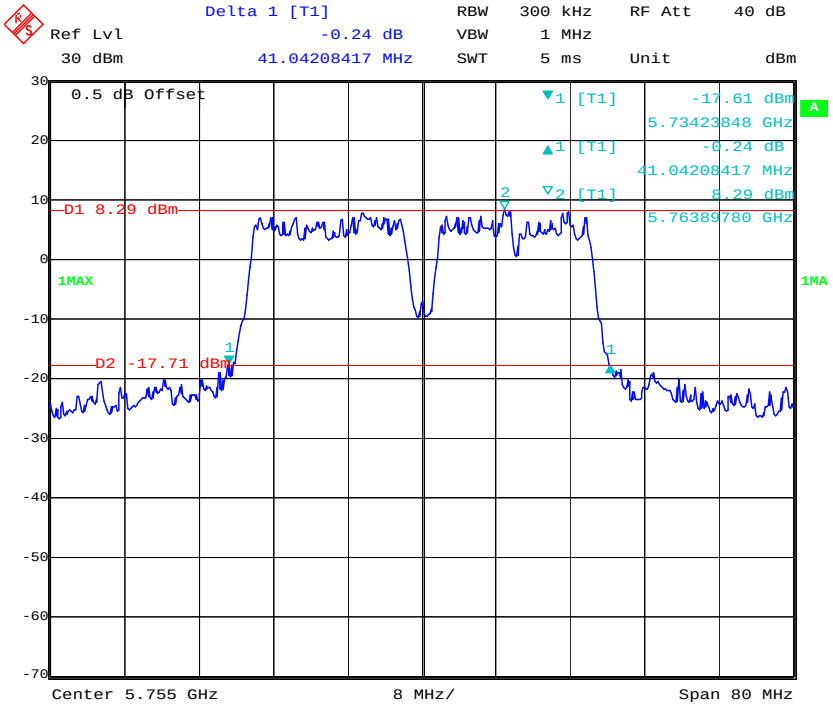
Date: 22.APR.2017 09:25:25

802.11n ht20 High Channel



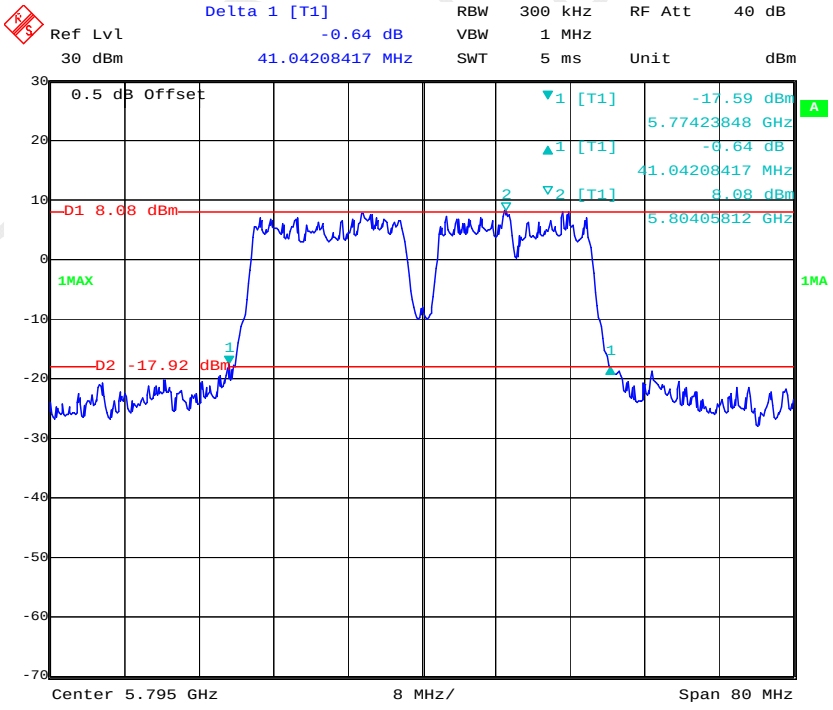
Date: 22.APR.2017 09:26:52

802.11n ht40 Low Channel



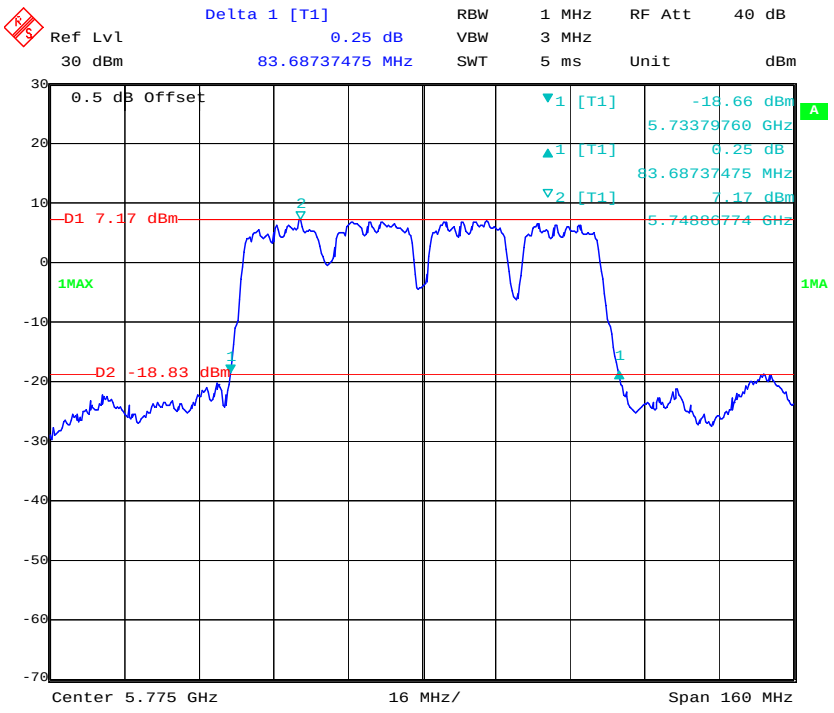
Date: 22.APR.2017 08:48:09

802.11n ht40 High Channel



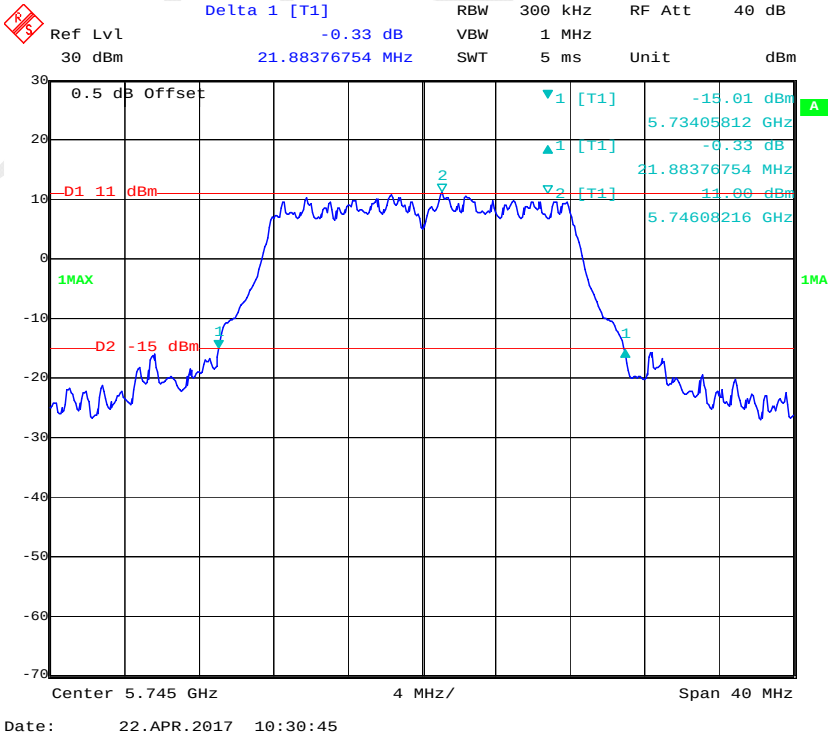
Date: 22.APR.2017 08:41:38

802.11ac80 Middle Channel

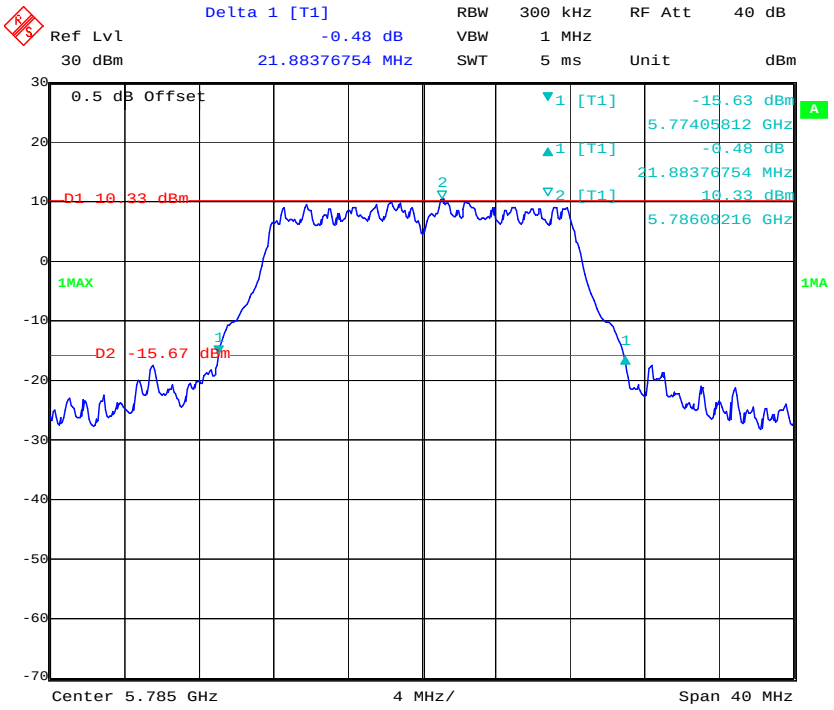


Chain 1

802.11a Low Channel

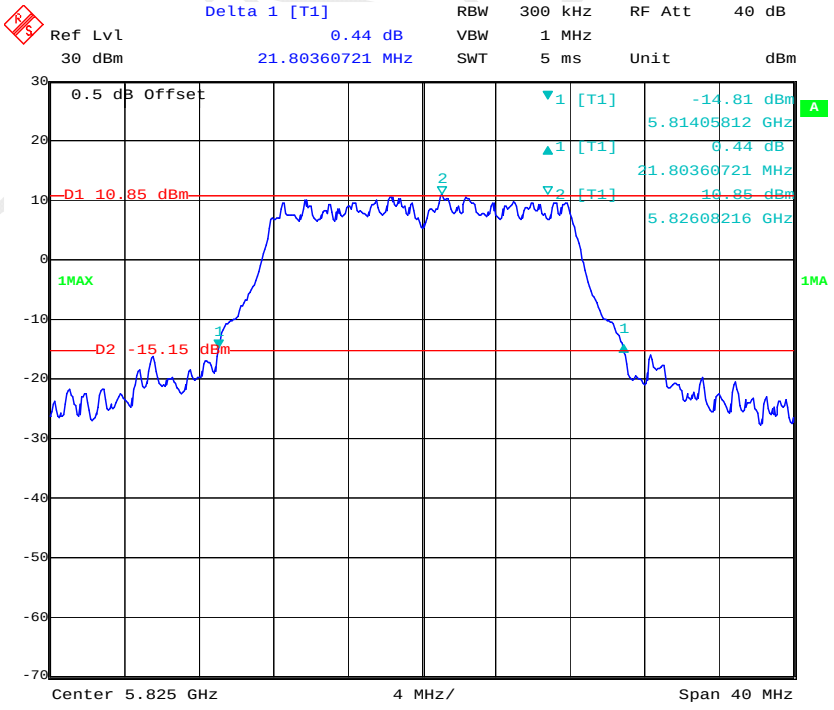


802.11a Middle Channel



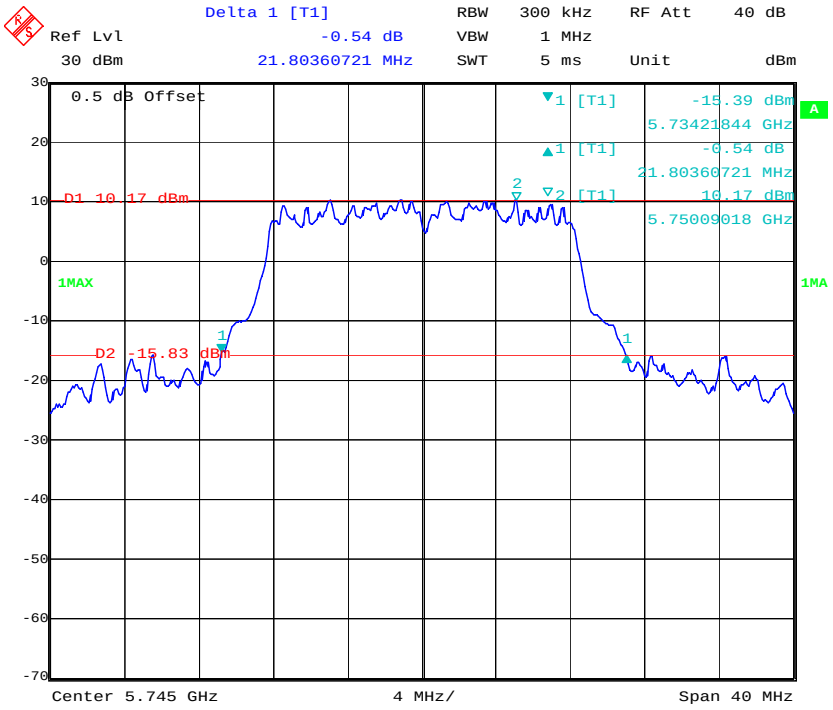
Date: 22.APR.2017 10:26:17

802.11a High Channel



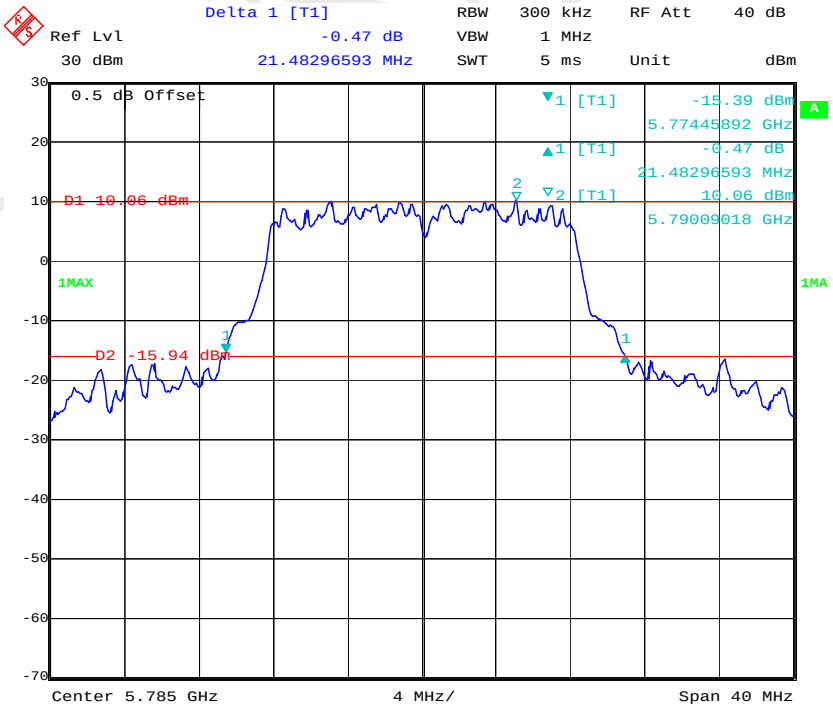
Date: 22.APR.2017 10:24:25

802.11n ht20 Low Channel



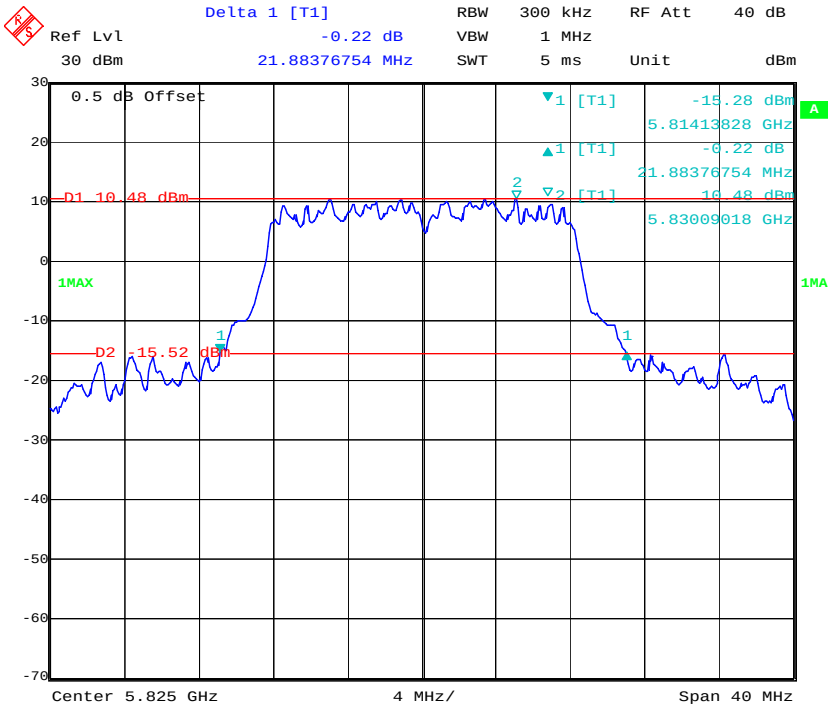
Date: 22.APR.2017 09:19:44

802.11n ht20 Middle Channel



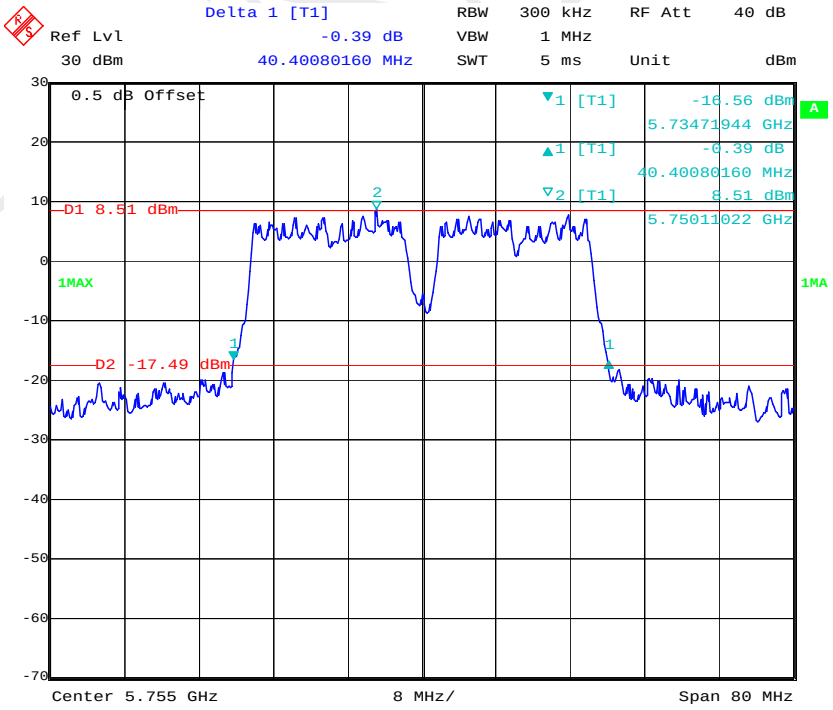
Date: 22.APR.2017 09:23:55

802.11n ht20 High Channel



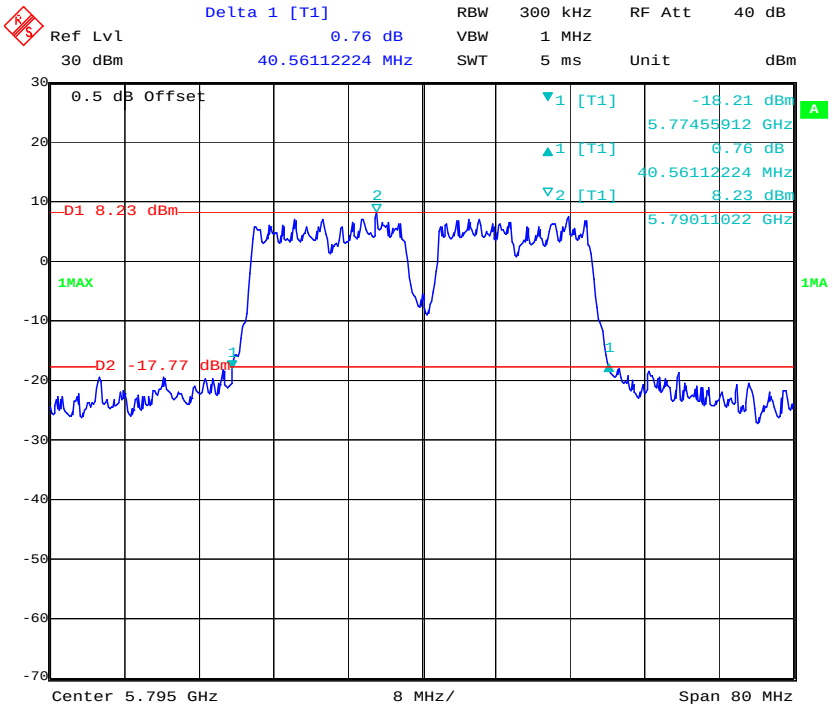
Date: 22.APR.2017 09:20:41

802.11n ht40 Low Channel

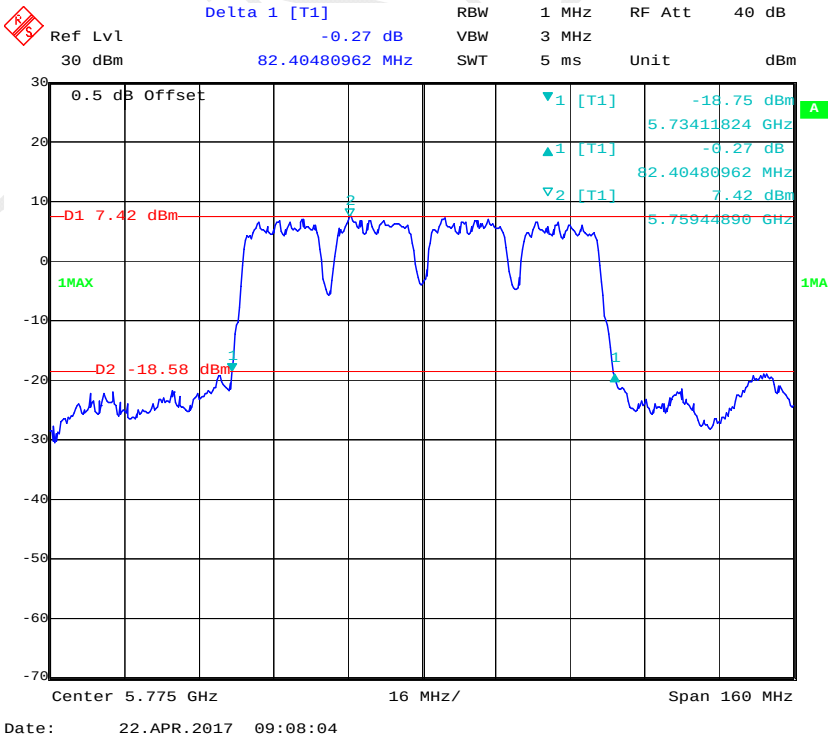


Date: 22.APR.2017 08:45:54

802.11n ht40 High Channel

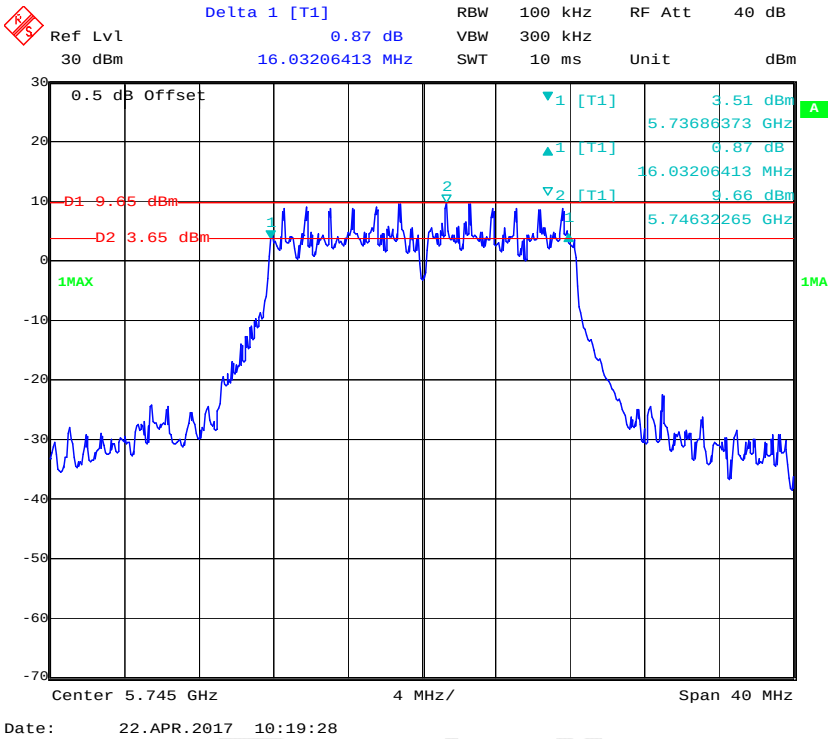


802.11ac80 Middle Channel

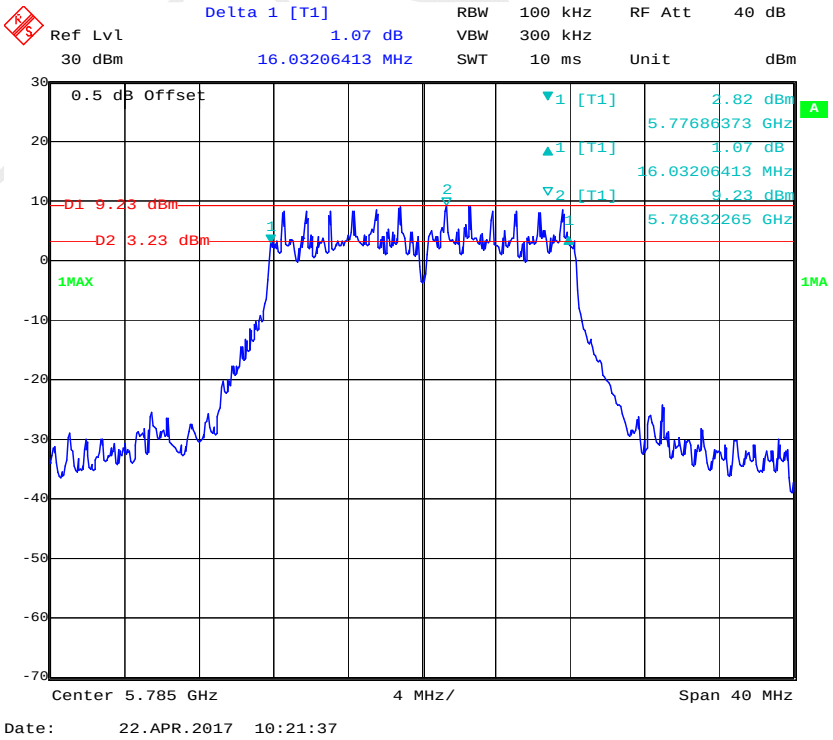


6dB Bandwidth:
Chain 0

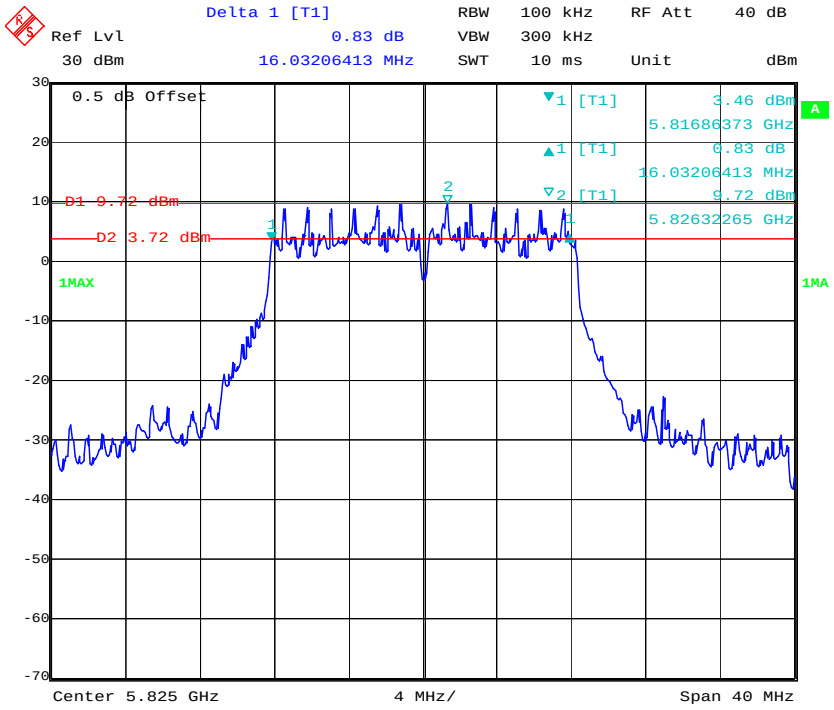
802.11a Low Channel



802.11a Middle Channel

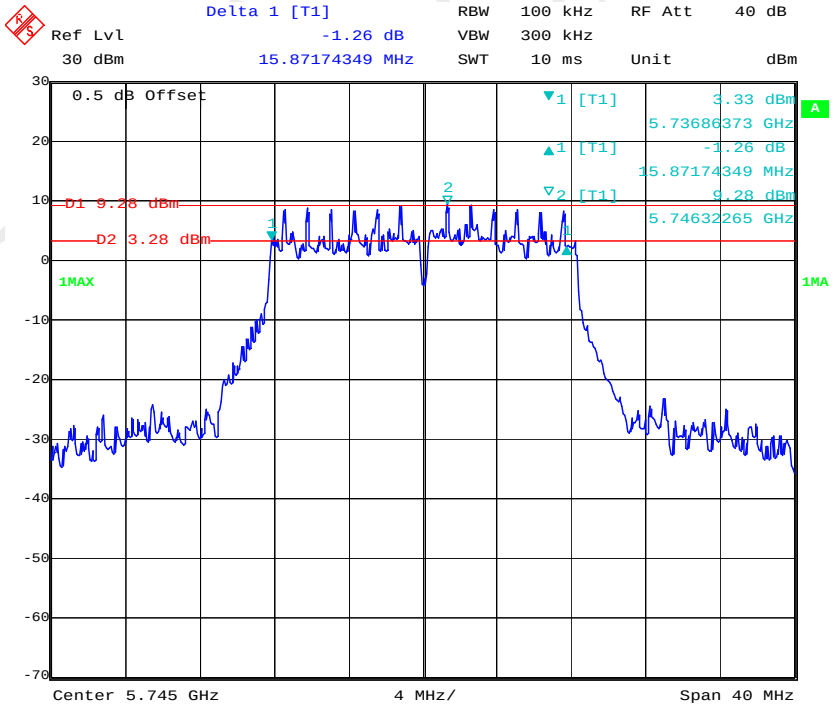


802.11a High Channel



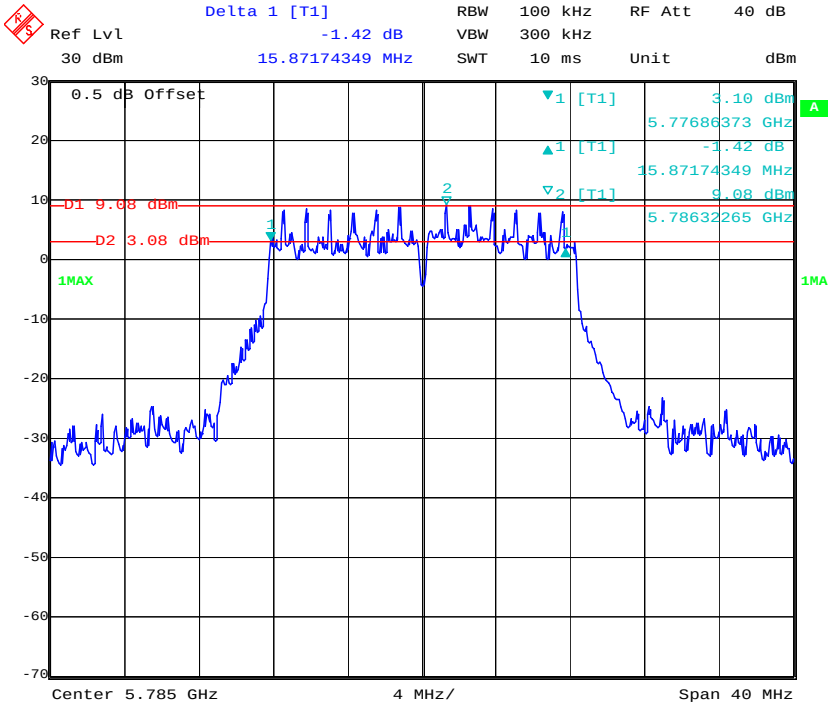
Date: 22.APR.2017 10:22:58

802.11n ht20 Low Channel



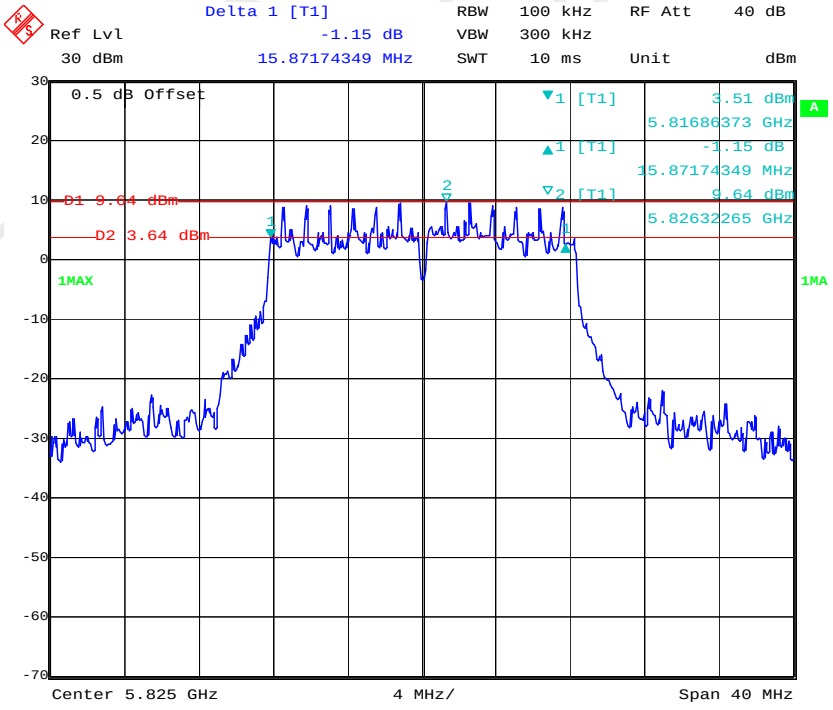
Date: 22.APR.2017 09:28:52

802.11n ht20 Middle Channel



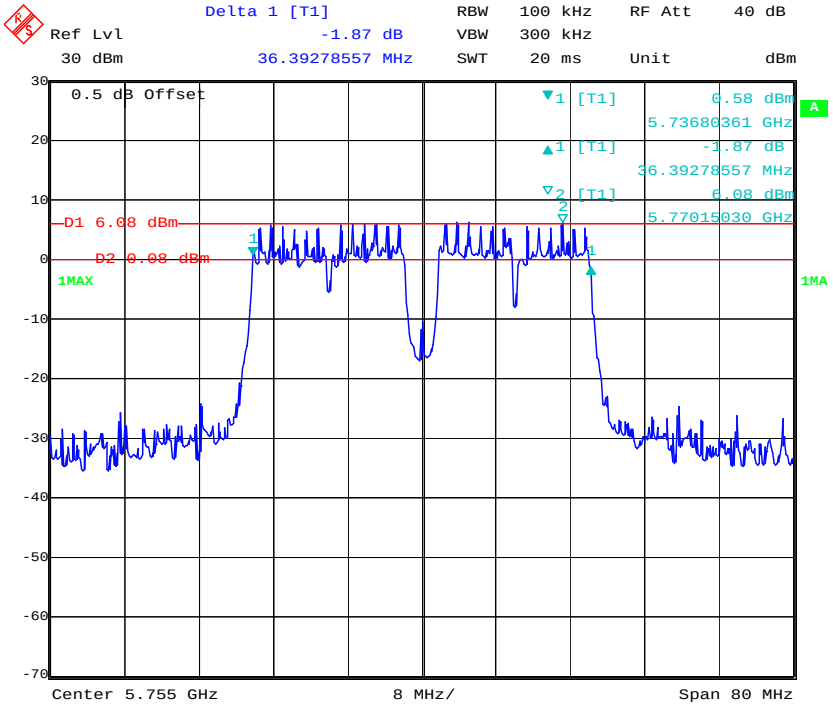
Date: 22.APR.2017 09:25:46

802.11n ht20 High Channel



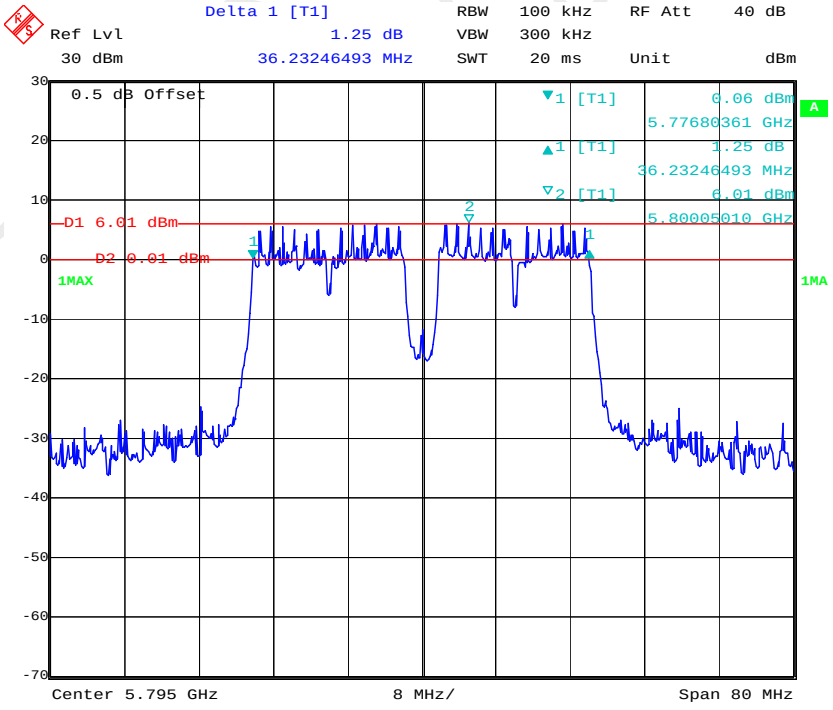
Date: 22.APR.2017 09:27:08

802.11n ht40 Low Channel



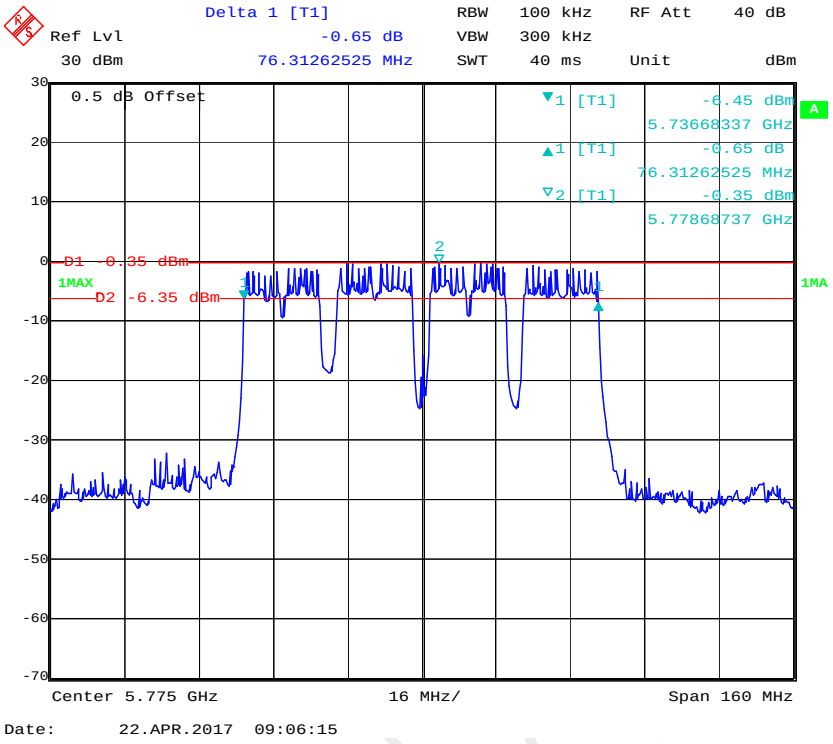
Date: 22.APR.2017 08:48:29

802.11n ht40 High Channel



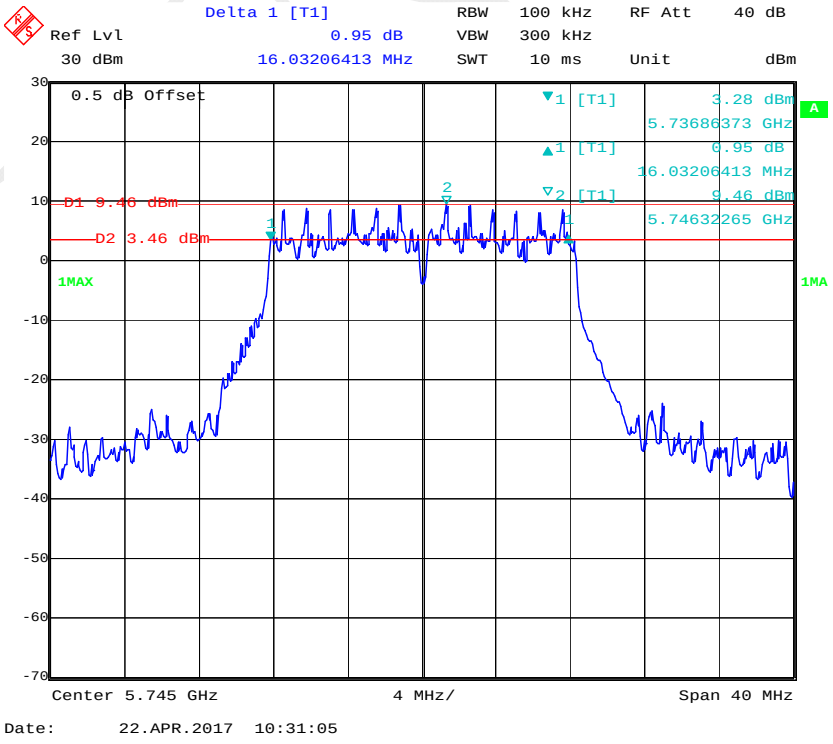
Date: 22.APR.2017 08:41:58

802.11n ac80 Middle Channel

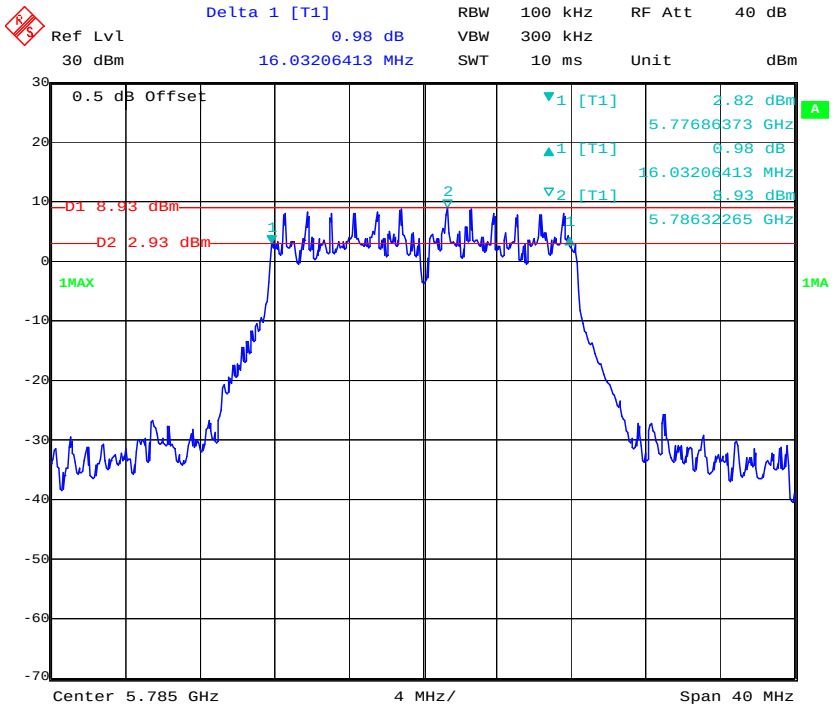


Chain 1

802.11a Low Channel

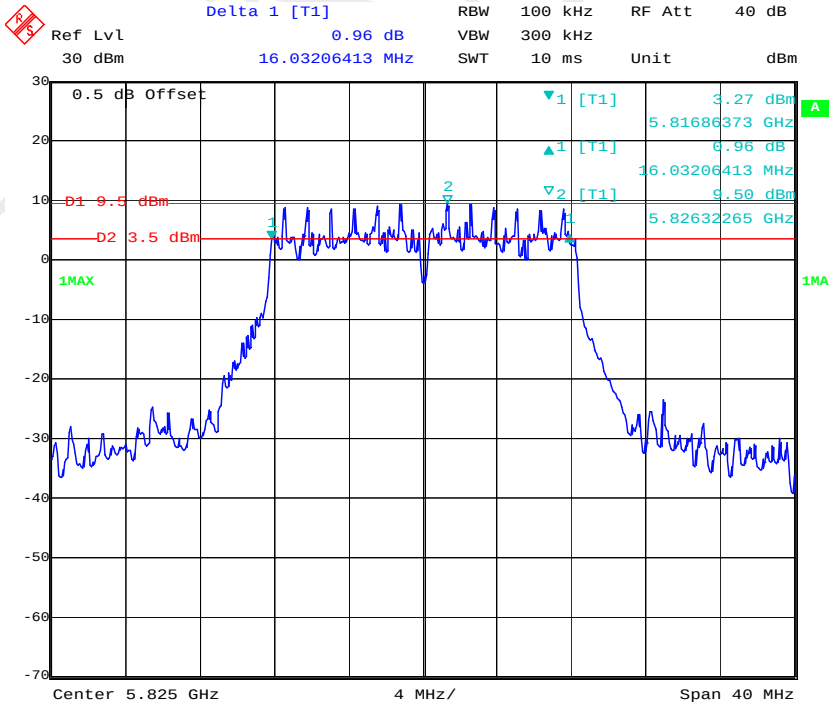


802.11a Middle Channel



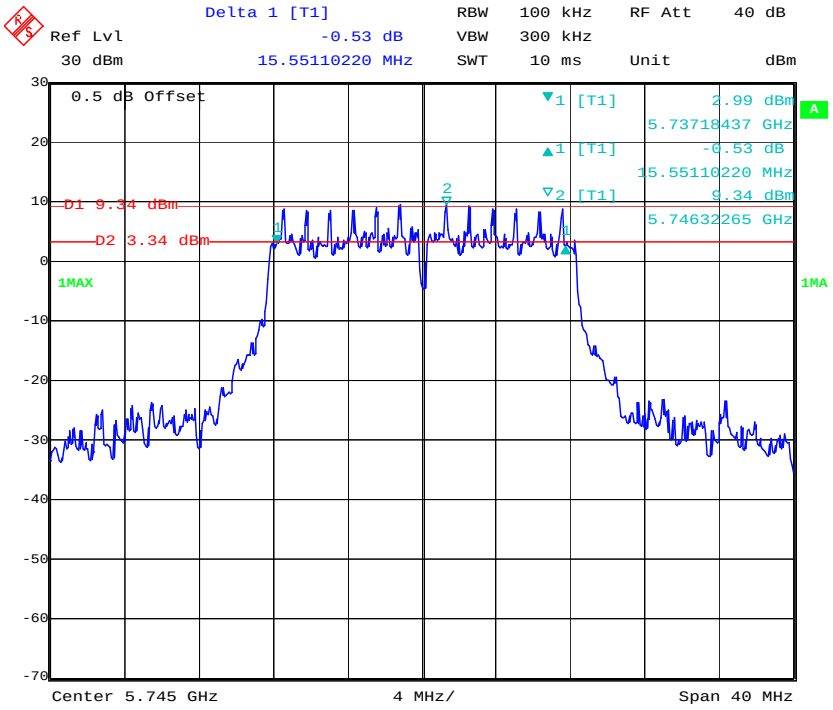
Date: 22.APR.2017 10:26:37

802.11a High Channel



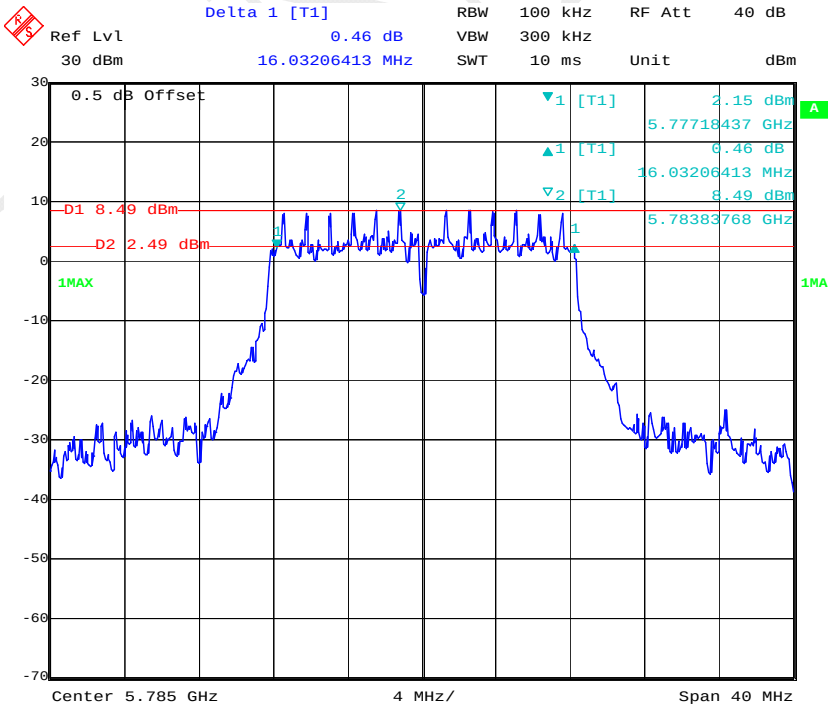
Date: 22.APR.2017 10:24:46

802.11n ht20 Low Channel



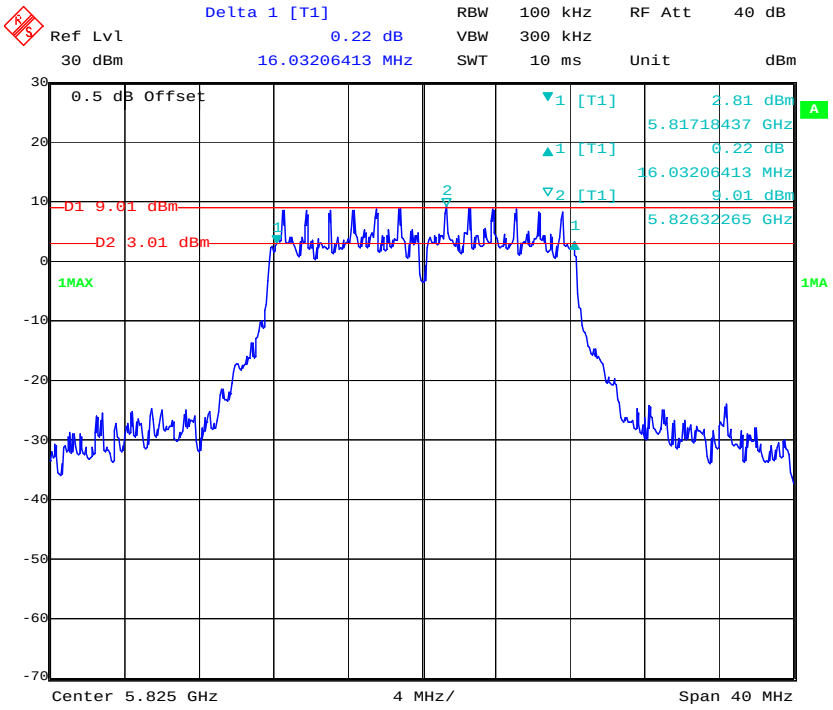
Date: 22.APR.2017 09:18:48

802.11n ht20 Middle Channel

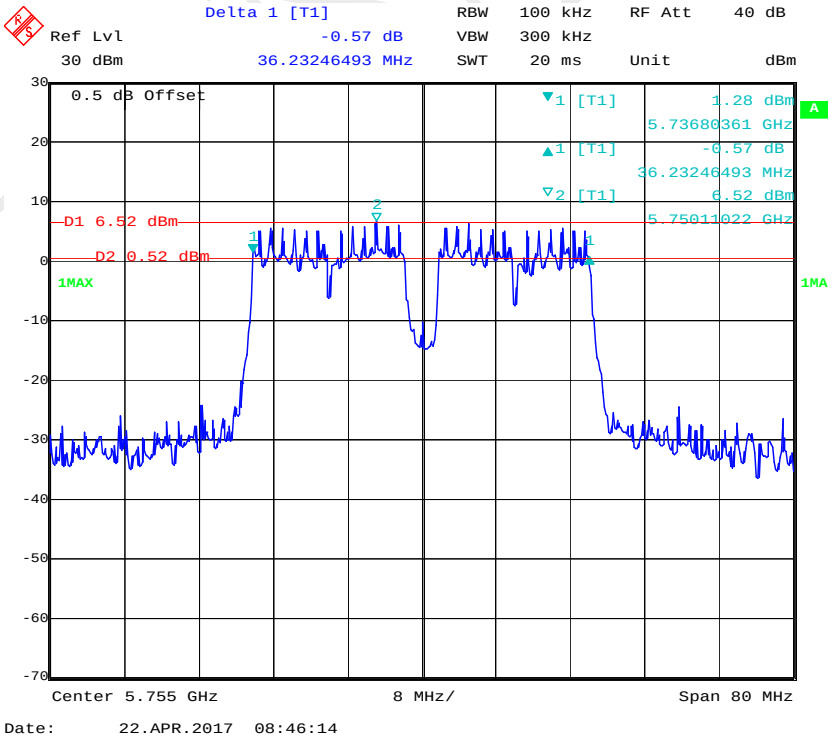


Date: 22.APR.2017 09:24:13

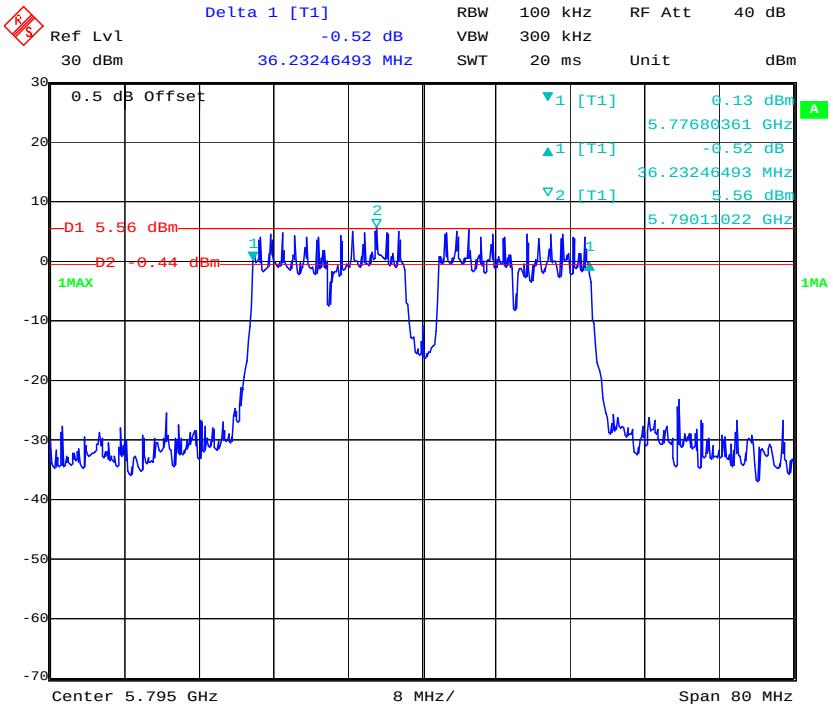
802.11n ht20 High Channel



802.11n ht40 Low Channel

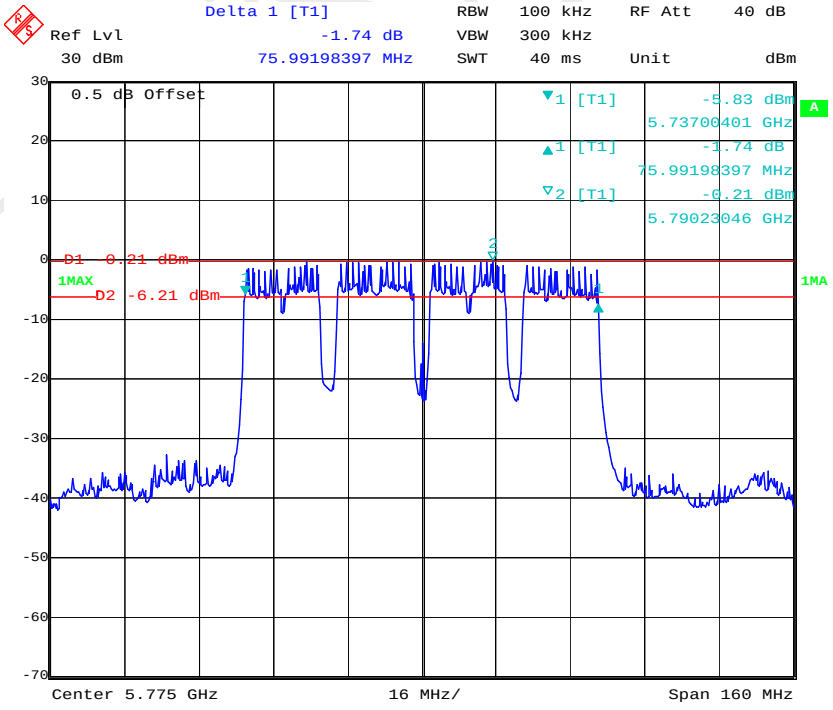


802.11n ht40 High Channel



Date: 22.APR.2017 08:37:50

802.11n ac80 Middle Channel



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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
Unknown	RF Cable	Unknown	C-5	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) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B “Implementation of traceability policy in accredited laboratories”.

Test Data

Environmental Conditions

Temperature:	20.2 °C
Relative Humidity:	50.1 %
ATM Pressure:	100.4 kPa

The testing was performed by Kevin Hu on 2017-04-22.

Test Mode: Transmitting(Test performed at module 3 Chain 0)

Test Result: Pass.

5150-5250MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5171.3829	5248.6172	f_L and f_H Within 5150~5250MHz range
-10		5171.3827	5248.6174	
0		5171.3823	5248.6176	
10		5171.3823	5248.6174	
20		5171.3827	5248.6179	
30		5171.3826	5248.6175	
40		5171.3822	5248.6174	
25	102	5171.3823	5248.6175	
25	138	5171.3822	5248.6176	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5171.4629	5248.6974	f_L and f_H Within 5150~5250MHz range
-10		5171.4627	5248.6975	
0		5171.4625	5248.6976	
10		5171.4628	5248.6978	
20		5171.4625	5248.6975	
30		5171.4625	5248.6974	
40		5171.4621	5248.6977	
25	102	5171.4626	5248.6975	
25	138	5171.4625	5248.6975	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5171.4823	5248.5173	f_L and f_H Within 5150~5250MHz range
-10		5171.4824	5248.5173	
0		5171.4829	5248.5170	
10		5171.4828	5248.5172	
20		5171.4827	5248.5170	
30		5171.4826	5248.5174	
40		5171.4825	5248.5172	
25	102	5171.4827	5248.5174	
25	138	5171.4825	5248.5172	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5172.0040	5247.9965	f_L and f_H Within 5150~5250MHz range
-10		5172.0043	5247.9962	
0		5172.0043	5247.9963	
10		5172.0042	5247.9959	
20		5172.0045	5247.9965	
30		5172.0042	5247.9951	
40		5172.0041	5247.9952	
25	102	5172.0042	5247.9958	
25	138	5172.0044	5247.9959	

Note: the f_L and f_H determined by 99% Occupied bandwidth low edge at Low test channel and High edge at High test channel.

5725-5850MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5736.3827	5833.6172	f_L and f_H Within 5725~5850MHz range
-10		5736.3828	5833.6171	
0		5736.3822	5833.6177	
10		5736.3823	5833.6172	
20		5736.3825	5833.6176	
30		5736.3827	5833.6173	
40		5736.3825	5833.6172	
25	102	5736.3823	5833.6173	
25	138	5736.3826	5833.6172	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5736.6233	5833.5372	f_L and f_H Within 5725~5850MHz range
-10		5736.6235	5833.5376	
0		5736.6233	5833.5373	
10		5736.6236	5833.5376	
20		5736.6237	5833.5371	
30		5736.6233	5833.5373	
40		5736.6231	5833.5376	
25	102	5736.6232	5833.5377	
25	138	5736.6236	5833.5373	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5736.3227	5813.5170	f_L and f_H Within 5725~5850MHz range
-10		5736.3221	5813.5172	
0		5736.3223	5813.5174	
10		5736.3225	5813.5172	
20		5736.3227	5813.5170	
30		5736.3223	5813.5175	
40		5736.3223	5813.5177	
25	102	5736.3221	5813.5178	
25	138	5736.3224	5813.5176	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
-20	120	5737.0040	5813.3167	f_L and f_H Within 5725~5850MHz range
-10		5737.0042	5813.3166	
0		5737.0043	5813.3168	
10		5737.0043	5813.3166	
20		5737.0044	5813.3166	
30		5737.0043	5813.3167	
40		5737.0045	5813.3164	
25	102	5737.0043	5813.3165	
25	138	5737.0040	5813.3163	

Note: the f_L and f_H determined by 99% Occupied bandwidth low edge at Low test channel and High edge at High test channel.

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
Unknown	RF Cable	Unknown	C-5	Each Time	/

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B “Implementation of traceability policy in accredited laboratories”.

Test Procedure

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

Test Data

Environmental Conditions

Temperature:	20.2 °C
Relative Humidity:	50.1 %
ATM Pressure:	100.4 kPa

The testing was performed by Kevin Hu on 2017-04-22

Test Mode: Transmitting

UNII Band	Mode	Channel	Frequency (MHz)	Conducted Average Output Power (dBm)			Limit (dBm)	Result
				Chain 0	Chain 1	Total		
5150-5250MHz	802.11 a	Low	5180	18.67	18.42	/	30	PASS
		Middle	5200	19.11	19.16	/	30	PASS
		High	5240	19.12	19.06	/	30	PASS
	802.11n ht20	Low	5180	18.64	18.56	21.61	30	PASS
		Middle	5200	19.28	19.10	22.20	30	PASS
		High	5240	19.06	19.00	22.04	30	PASS
	802.11n ht40	Low	5190	14.61	13.91	17.28	30	PASS
		High	5230	18.57	17.89	21.25	30	PASS
	802.11 ac80	Middle	5210	12.92	12.37	15.66	30	PASS
5725-5850MHz	802.11 a	Low	5745	18.09	18.13	/	30	PASS
		Middle	5785	17.94	18.04	/	30	PASS
		High	5825	18.26	18.25	/	30	PASS
	802.11n ht20	Low	5745	19.38	19.47	22.44	30	PASS
		Middle	5785	19.22	19.07	22.16	30	PASS
		High	5825	18.57	18.34	21.47	30	PASS
	802.11n ht40	Low	5755	18.89	18.98	21.95	30	PASS
		High	5795	19.07	19.15	22.12	30	PASS
	802.11 ac80	Middle	5775	13.19	13.13	16.17	30	PASS

Note 1: the dutycycle factor have be added in the results.
Note 2:The maximum antenna gain is 2.6dBi in 5.2GHz band, 4.4dBi in 5.8GHz band for module 2, 4.6dBi in 5.2GHz band, 4.7dBi in 5.8GHz band for module 3. The device 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:

For module 2 5.2G band: Directional gain = G_{ANT} + Array Gain = 2.6dBi < 6dBi
For module 2 5.8G band: Directional gain = G_{ANT} + Array Gain = 4.4dBi < 6dBi
For module 3 5.2G band: Directional gain = G_{ANT} + Array Gain = 4.6dBi < 6dBi
For module 3 5.8G band: Directional gain = G_{ANT} + Array Gain = 4.7dBi < 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
Unknown	RF Cable	Unknown	C-5	Each Time	/

*** Statement of Traceability:** BACL(Chengdu) attests that all of the calibrations on the equipment items listed above were traceable to NIM or to another internationally recognized National Metrology Institute (NMI), and were compliant with the NIST HB 150-2016 Normative Annex B “Implementation of traceability policy in accredited laboratories”.

Test Data

Environmental Conditions

Temperature:	20.1 °C ~20.2 °C
Relative Humidity:	50.0 %~50.1 %
ATM Pressure:	100.2 kPa~100.4 kPa

The testing was performed by Kevin Hu on 2017-04-22 and 2017-05-10.

Test Mode: Transmitting

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

5150-5250MHz

Mode	Frequency (MHz)	Reading (dBm/MHz)		Duty Cycle Factor	Power Spectral Density (dBm/MHz)		Limits (dBm/MHz)
		Chain 0	Chain 1	(dB)	Chain 0	Chain 1	
802.11a	5180	10.15	9.75	4.26	14.41	14.01	17
	5200	9.67	10.76	4.26	13.93	15.02	17
	5240	10.64	11.01	4.26	14.9	15.27	17

Mode	Frequency (MHz)	Reading (dBm/MHz)		Duty Cycle Factor	Power Spectral Density (dBm/MHz)	Limits (dBm/MHz)
		Chain 0	Chain 1	(dB)	Total	
802.11n ht20	5180	5.70	5.29	4.18	12.69	15.4
	5200	5.82	5.36	4.18	12.79	15.4
	5240	6.15	5.56	4.18	13.06	15.4
802.11n ht40	5190	3.52	2.29	3.78	9.74	15.4
	5230	7.43	6.48	3.78	13.77	15.4
802.11 ac80	5210	-1.24	-2.65	2.04	3.16	15.4

Note:The maximum antenna gain is 2.6dBi in 5.2GHz band, 4.4dBi in 5.8GHz band for module 2, 4.6dBi in 5.2GHz band, 4.7dBi in 5.8GHz band for module 3. The device 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(N_{ANT}/N_{SS}) dB.

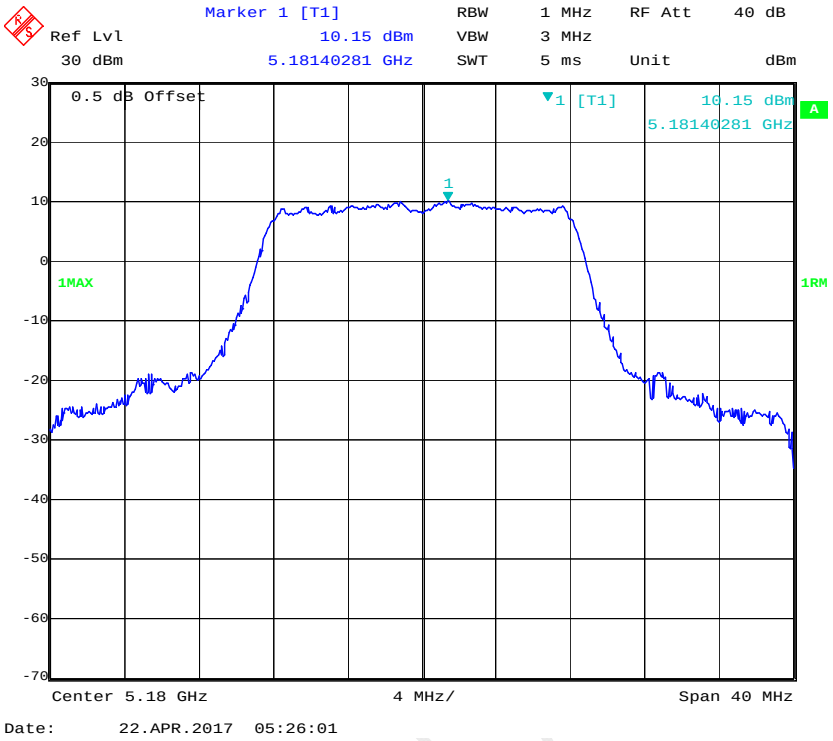
So:

For module 2 5.2G band: Directional gain = G_{ANT} + Array Gain = 2.6dBi+10*log(2)=5.6dBi< 6dBi

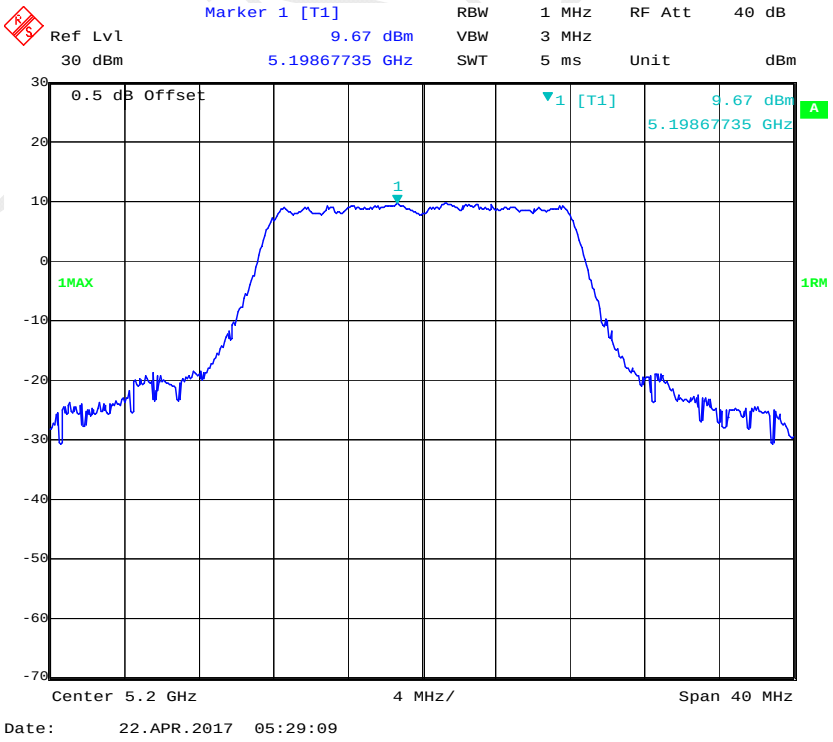
For module 3 5.2G band: Directional gain = G_{ANT} + Array Gain = 4.6dBi+10*log(2)=7.6dBi> 6dBi

Chain 0:

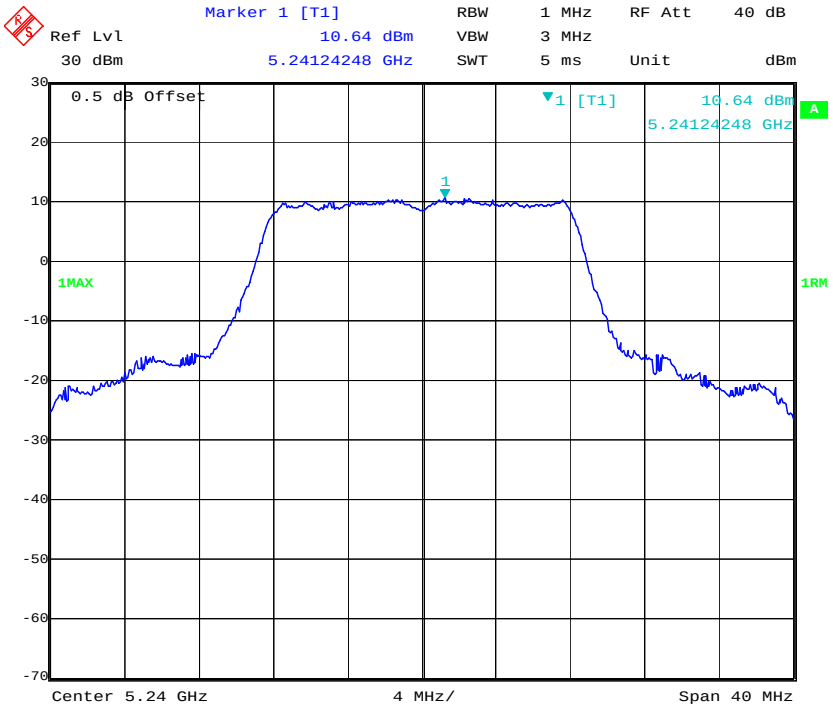
802.11a Low Channel



802.11a Middle Channel



802.11a High Channel



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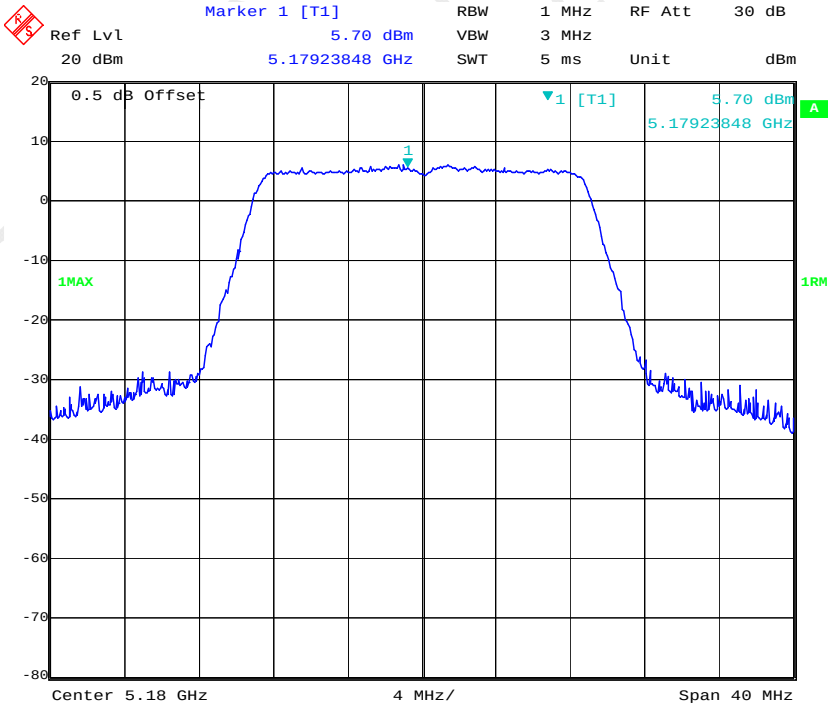
802.11n ht20 Low Channel



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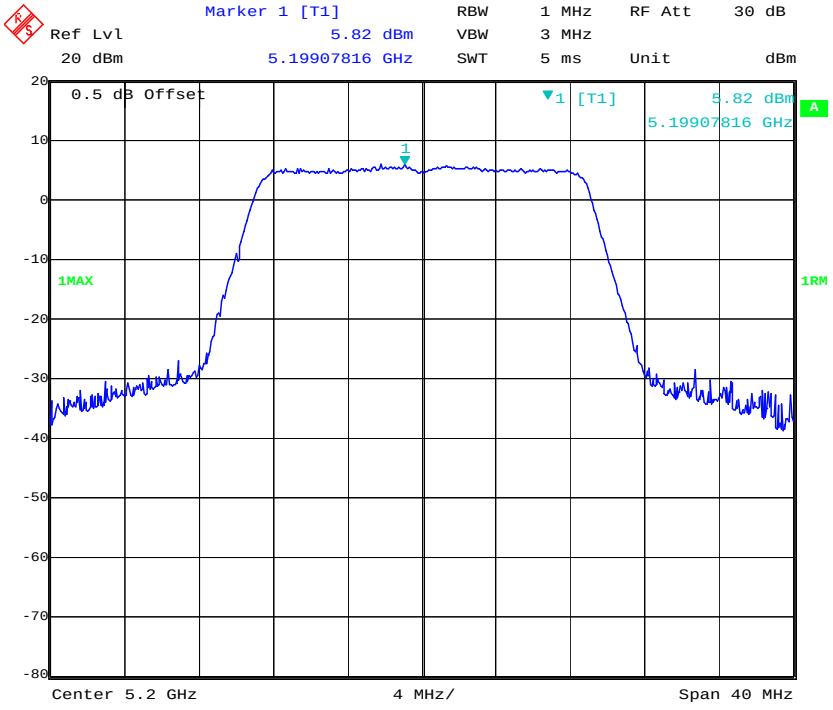
802.11n ht20 Middle Channel



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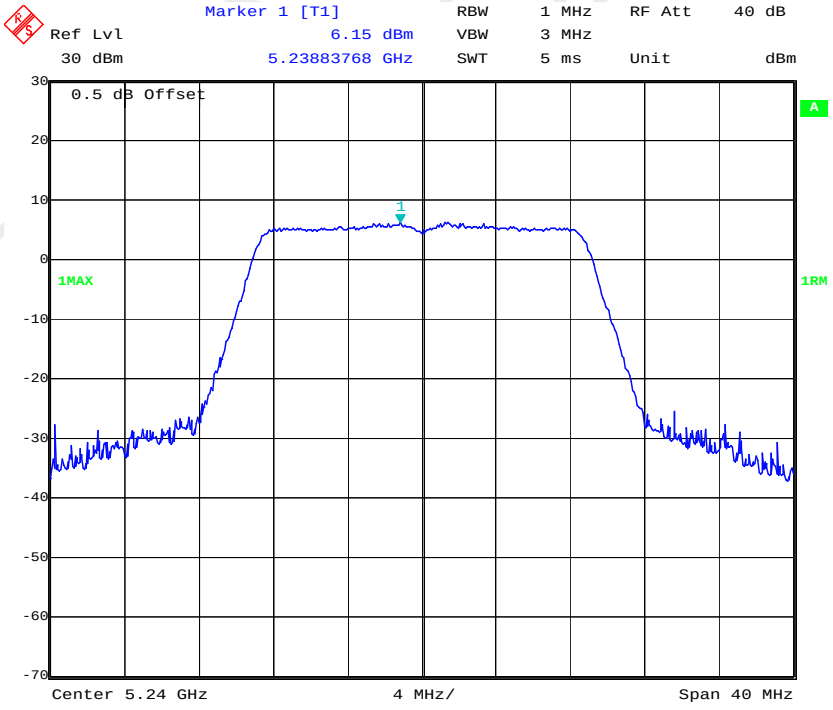
802.11n ht20 High Channel



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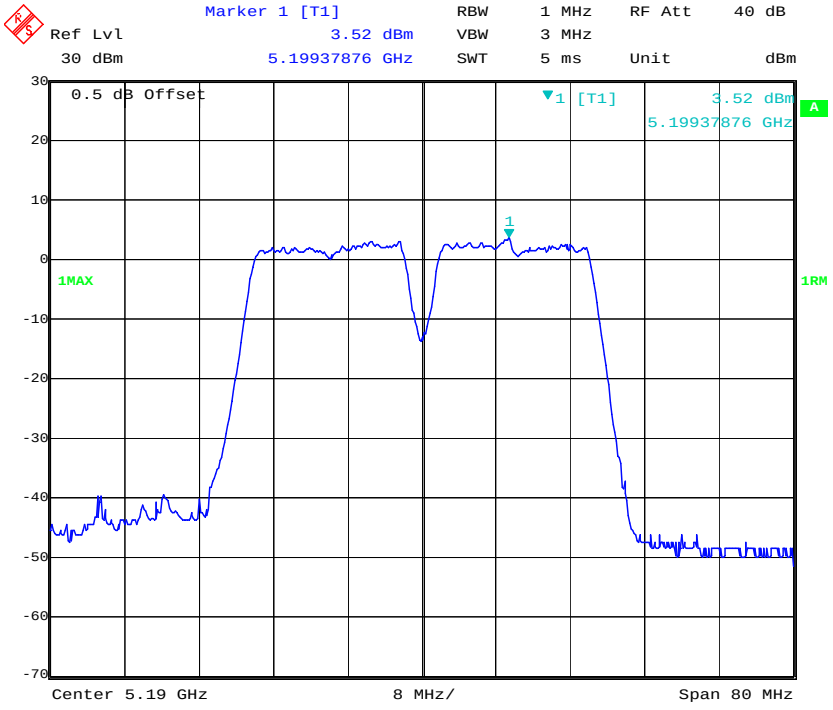
802.11n ht40 Low Channel



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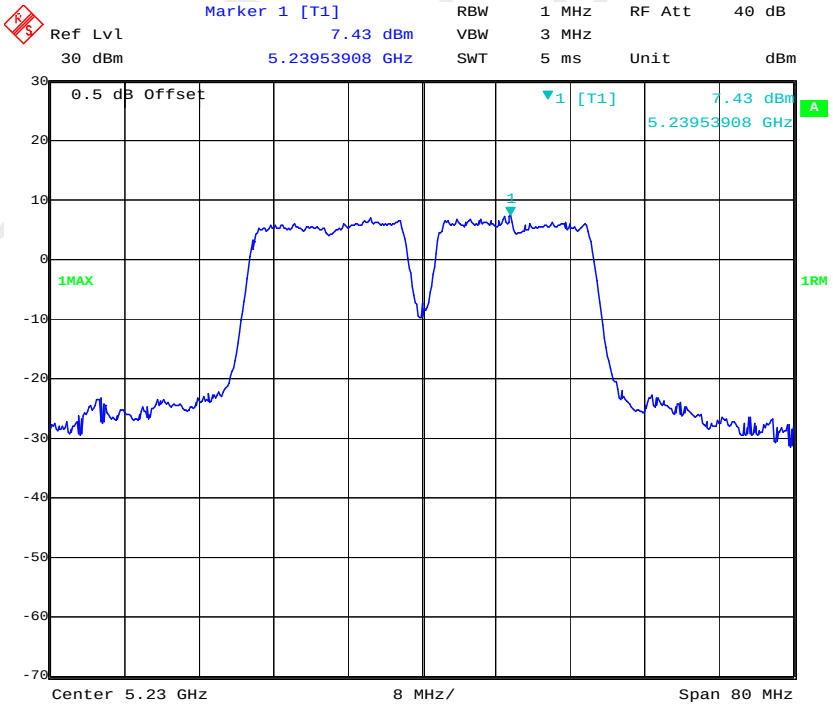
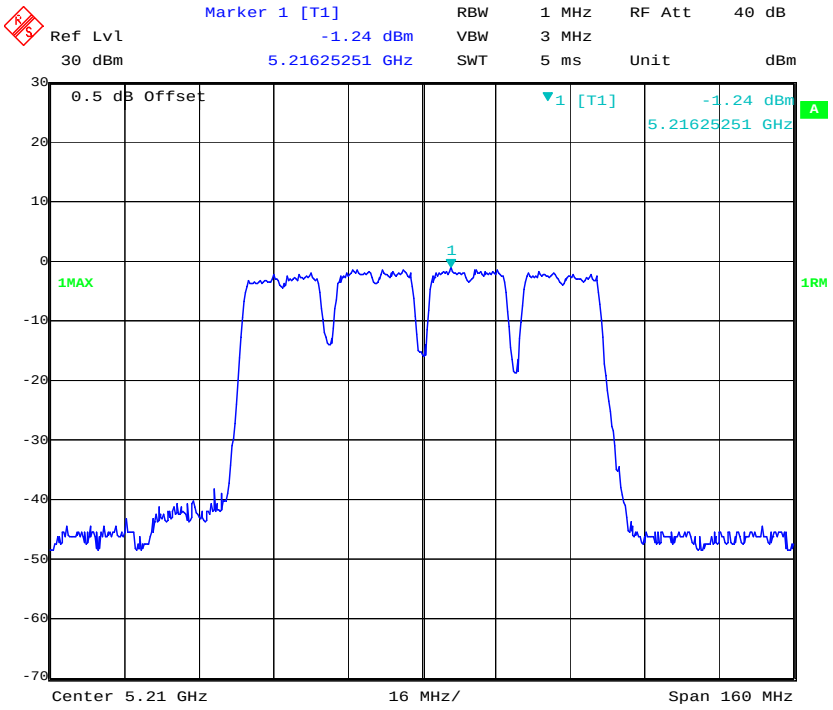
802.11n ht40 High Channel



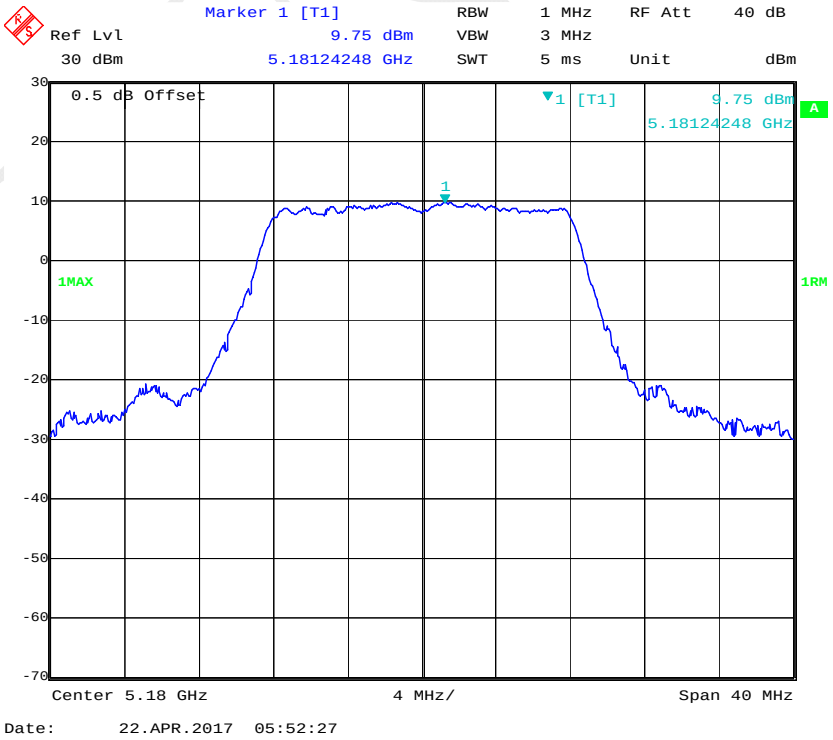
Date: 22.APR.2017 07:00:09

802.11 ac80 Middle Channel

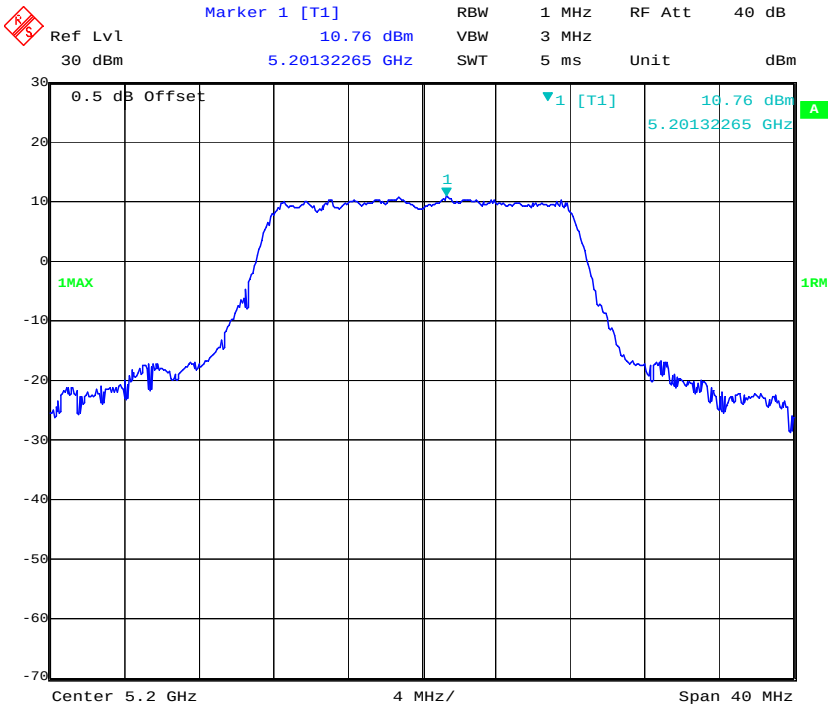


Chain 1:

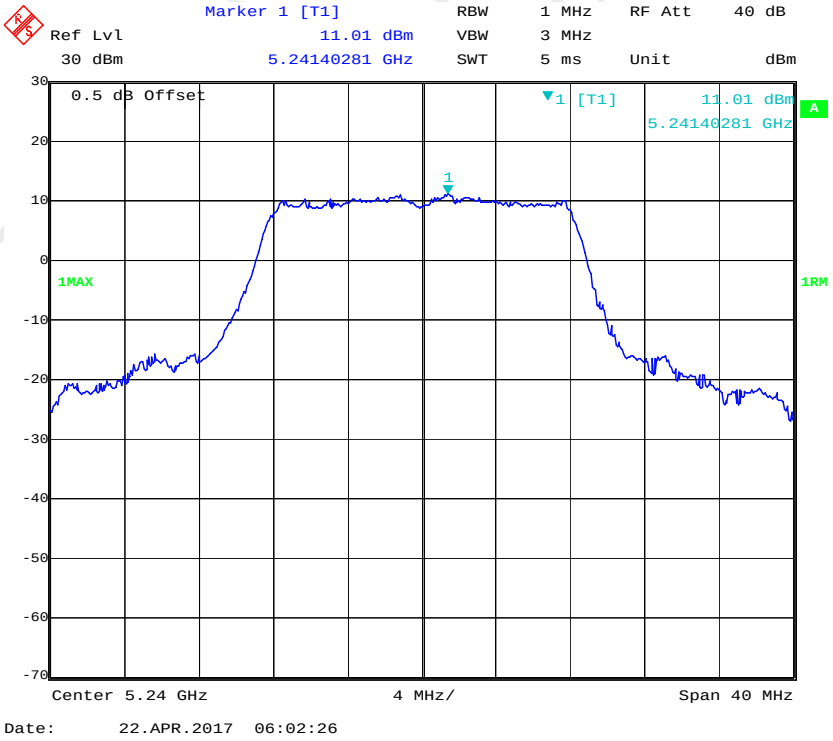
802.11a Low Channel



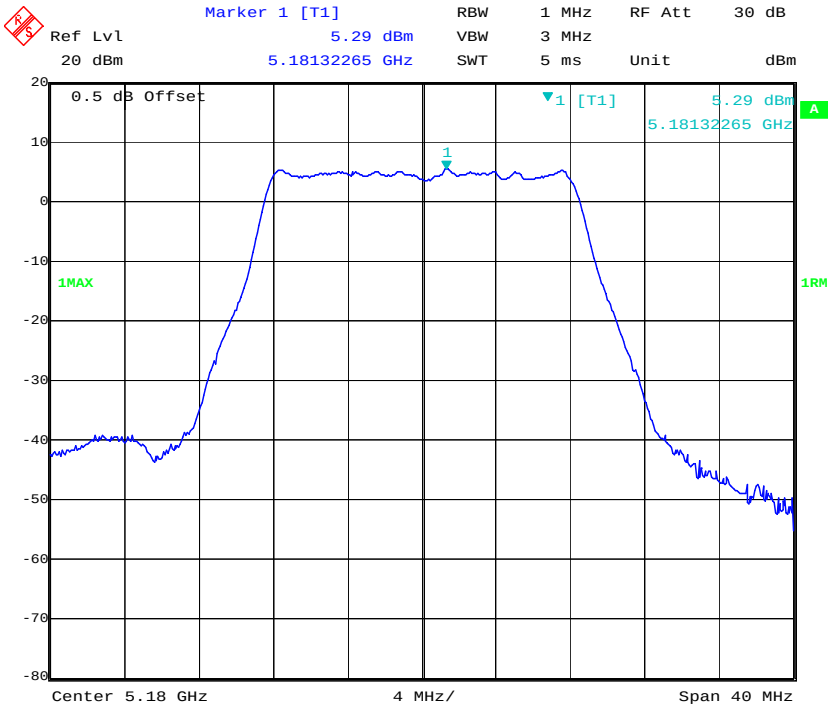
802.11a Middle Channel



802.11a High Channel

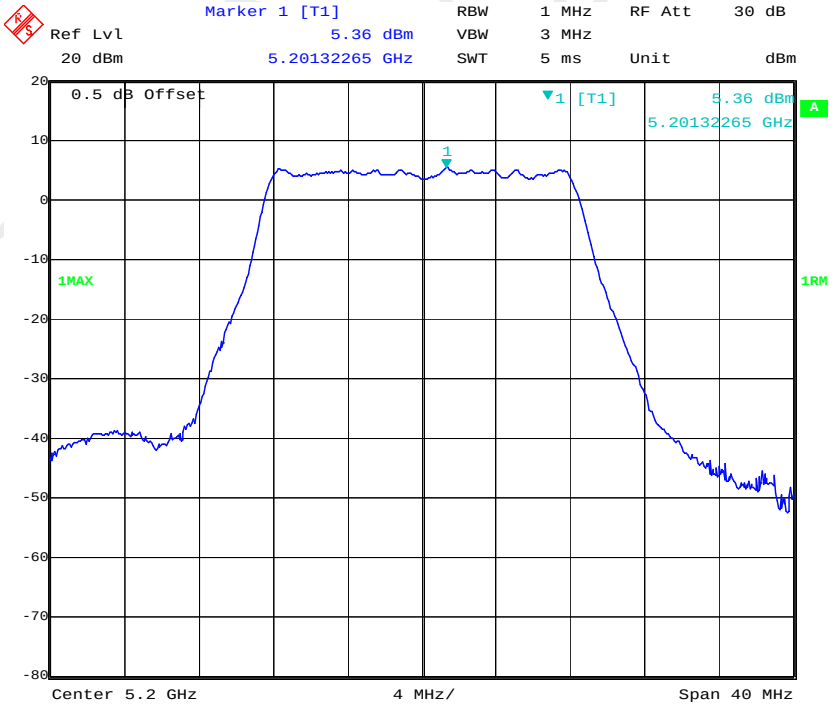


802.11n ht20 Low Channel



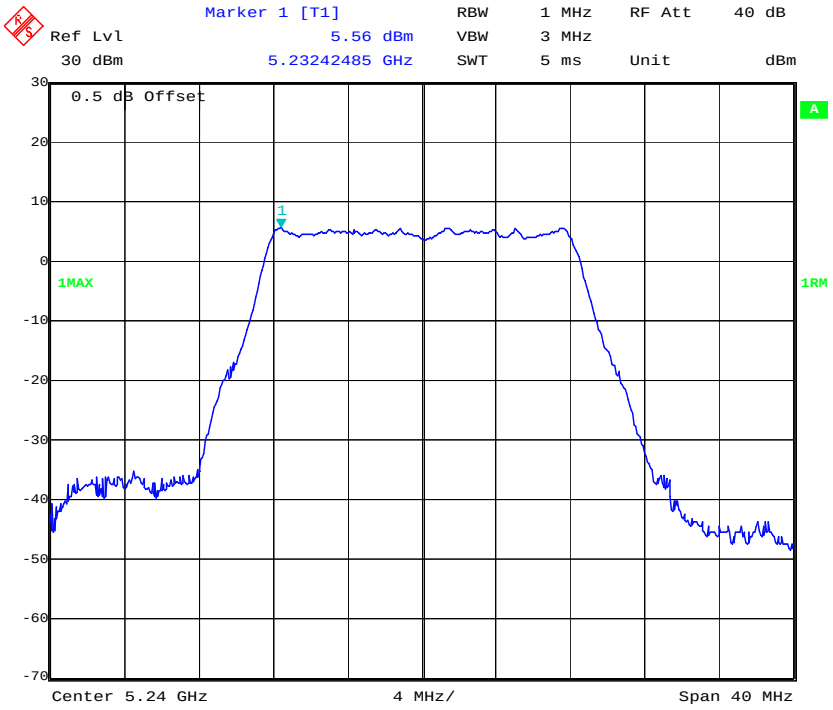
Date: 10.MAY.2017 22:43:41

802.11n ht20 Middle Channel



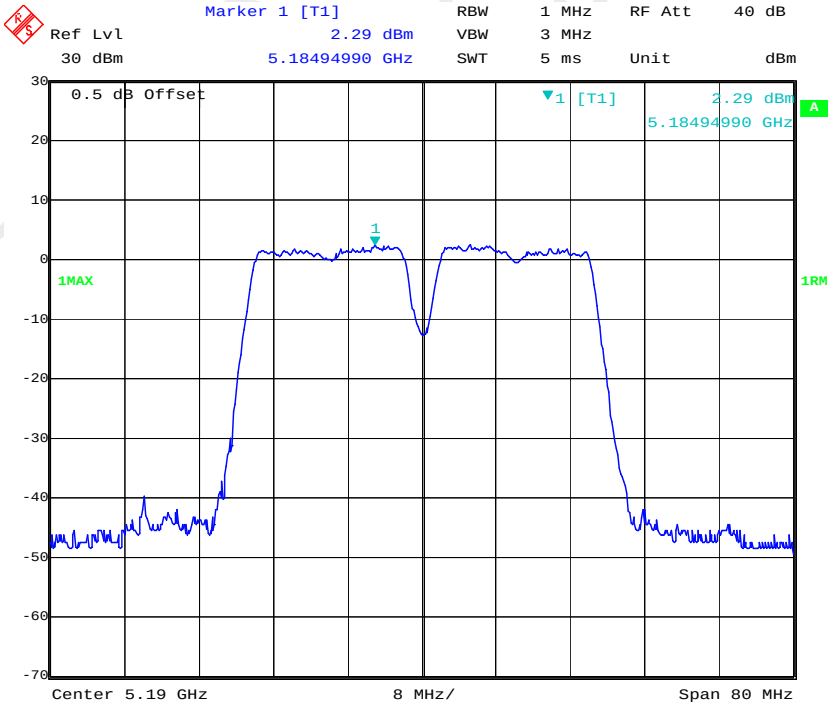
Date: 10.MAY.2017 22:47:37

802.11n ht20 High Channel



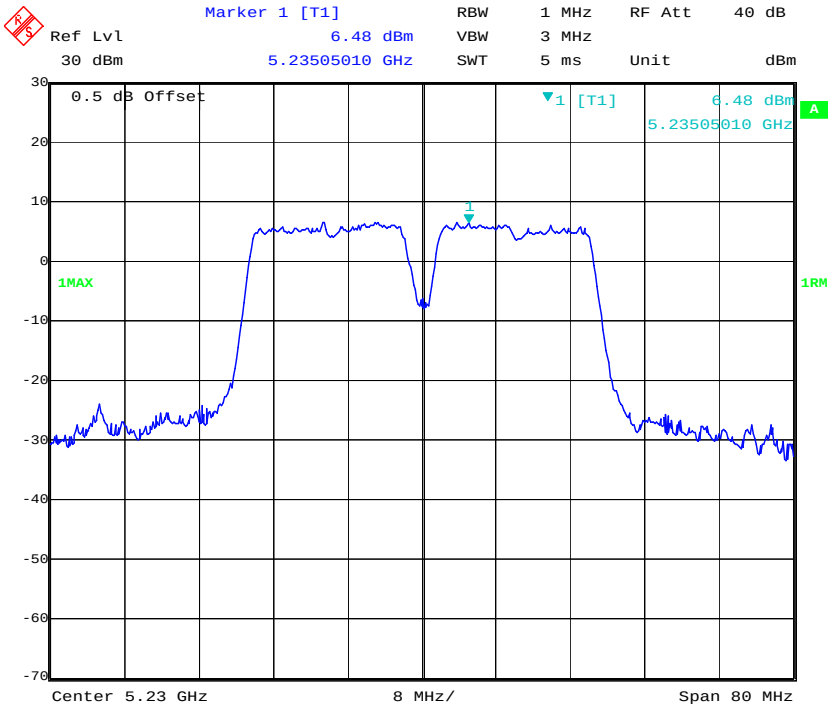
Date: 10.MAY.2017 22:56:50

802.11n ht40 Low Channel



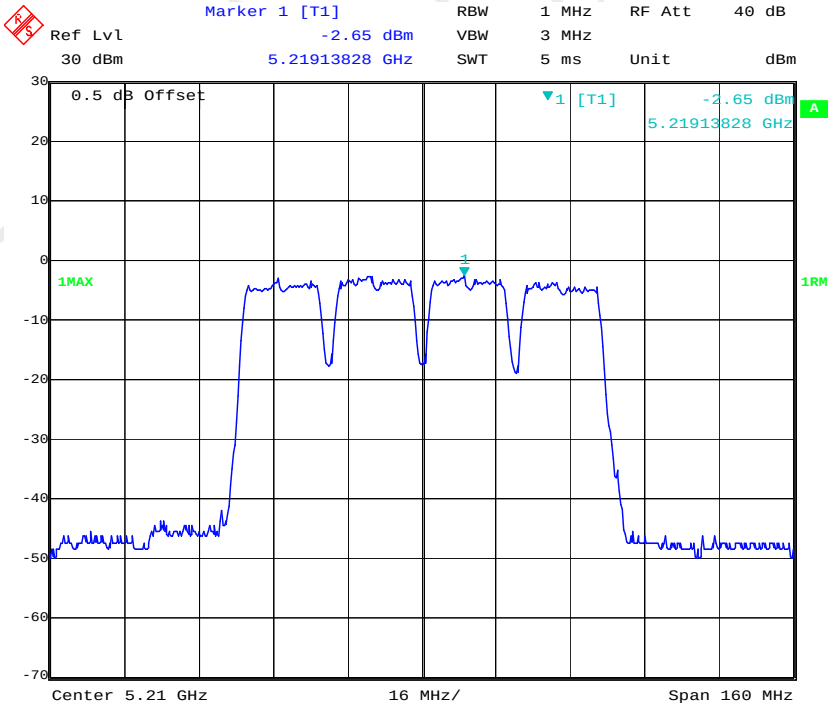
Date: 22.APR.2017 07:03:07

802.11n ht40 High Channel



Date: 22.APR.2017 07:01:35

802.11 ac80 Middle Channel



Date: 22.APR.2017 07:19:38

5725-5850MHz

Mode	Frequency (MHz)	Power Spectral Density (dBm/300kHz)		Duty cycle Factor	Power Spectral Density (dBm/500kHz)		
		Chain 0	Chain 1	(dB)	Chain 0	Chain 1	Limits
802.11a	5745	9.25	9.07	4.26	15.71	15.53	30
	5785	8.36	7.42	4.26	14.82	13.88	30
	5825	9.13	9	4.26	15.59	15.46	30

Mode	Frequency (MHz)	Power Spectral Density (dBm/300kHz)		Duty cycle Factor	Power Spectral Density (dBm/500kHz)	
		Chain 0	Chain 1	(dB)	Total	Limits
802.11n ht20	5745	8.3	8.93	4.18	18.02	28.3
	5785	8.74	8.01	4.18	17.78	28.3
	5825	9.14	8.46	4.18	18.20	28.3
802.11n ht40	5755	5.28	5.82	3.78	14.55	28.3
	5795	5.33	4.72	3.78	14.03	28.3
802.11 ac80	5775	-1.27	-1.44	2.04	5.90	28.3

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 maximum antenna gain is 2.6dBi in 5.2GHz band, 4.4dBi in 5.8GHz band for module 2, 4.6dBi in 5.2GHz band, 4.7dBi in 5.8GHz band for module 3. The device 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:

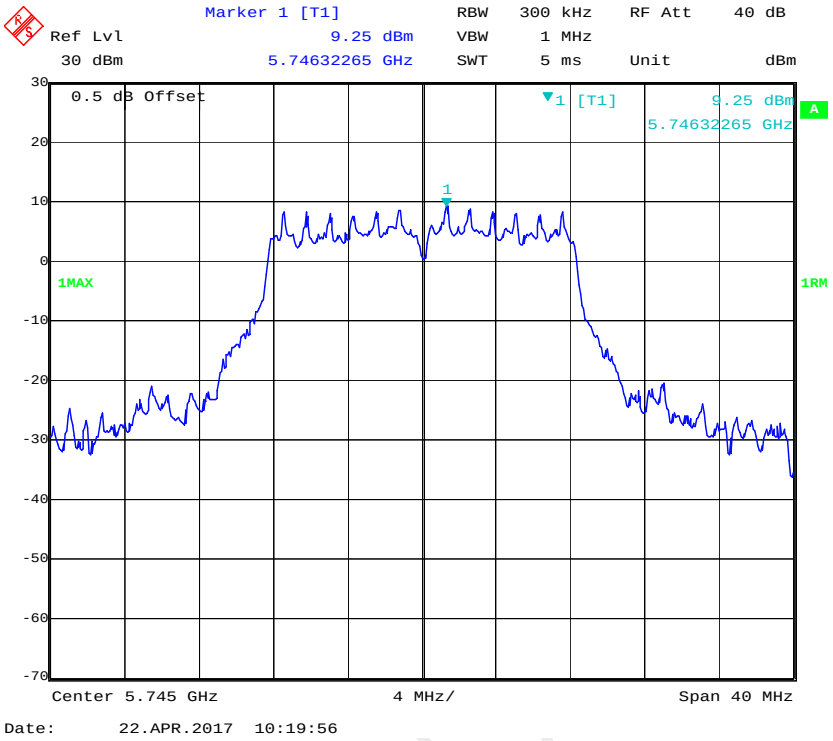
Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

So:

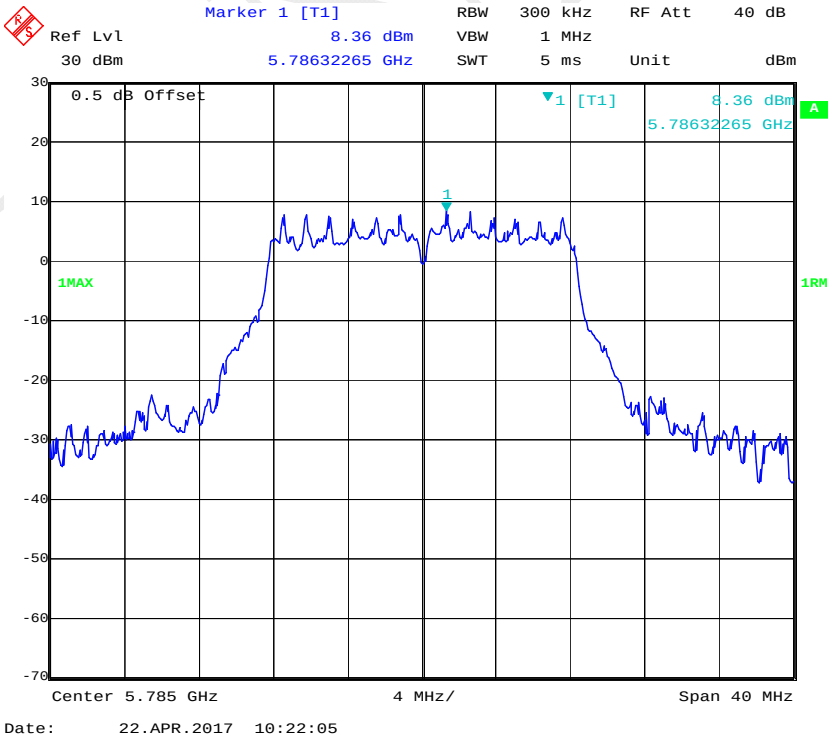
For module 2 5.8G band: Directional gain = G_{ANT} + Array Gain = 4.4dBi +10*log(2)=7.4dBi> 6dBi

For module 3 5.8G band: Directional gain = G_{ANT} + Array Gain = 4.7dBi+10*log(2)=7.7dBi> 6dBi

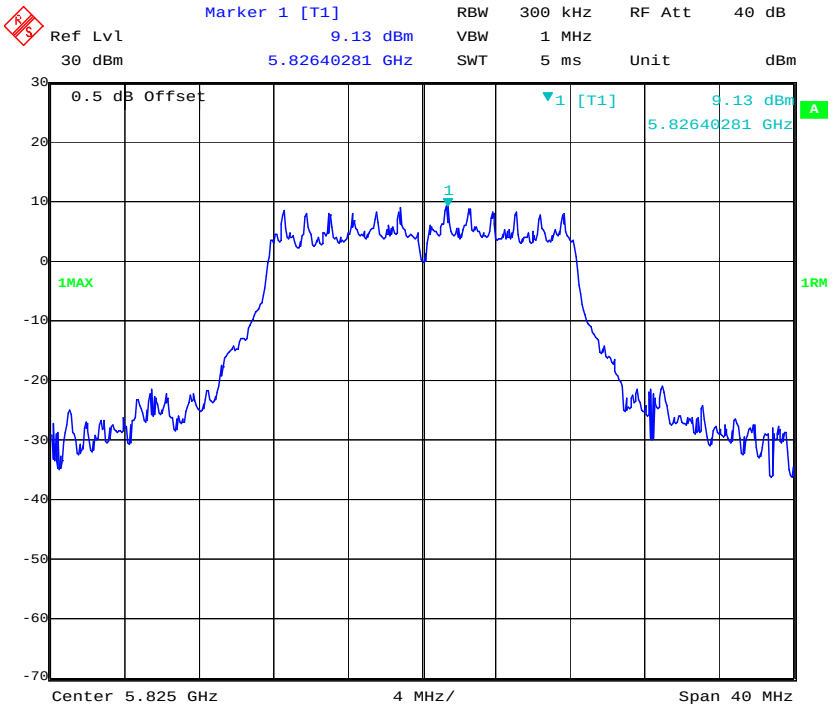
802.11a Low Channel – Chain0



802.11a Middle Channel – Chain0

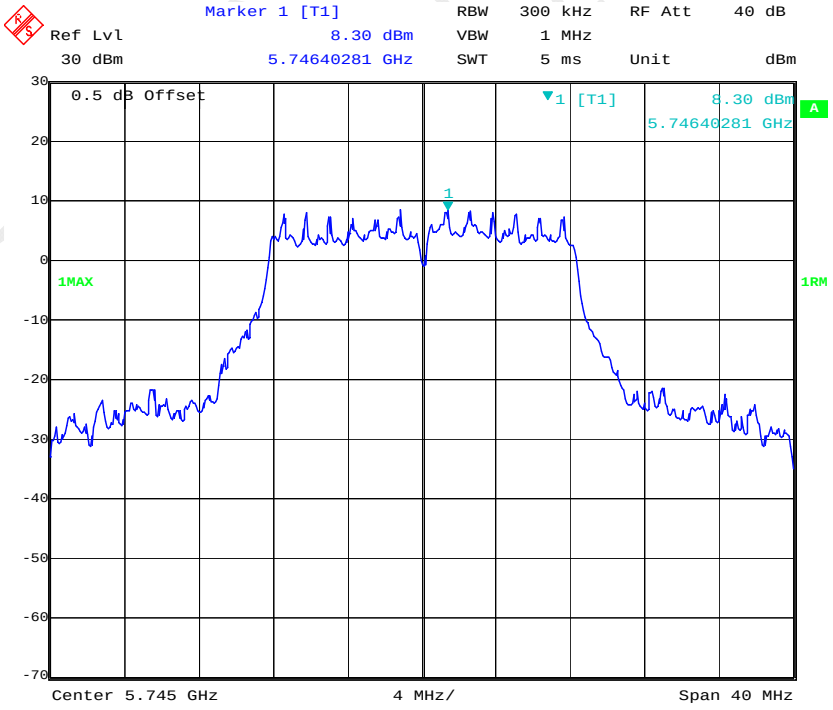


802.11a High Channel – Chain0



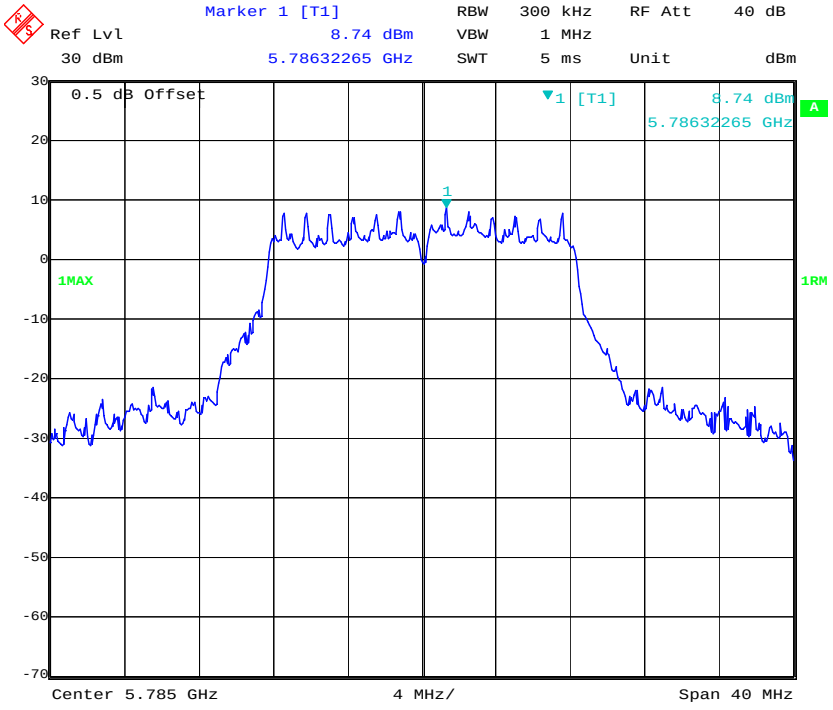
Date: 22.APR.2017 10:23:26

802.11n ht20 Low Channel – Chain0



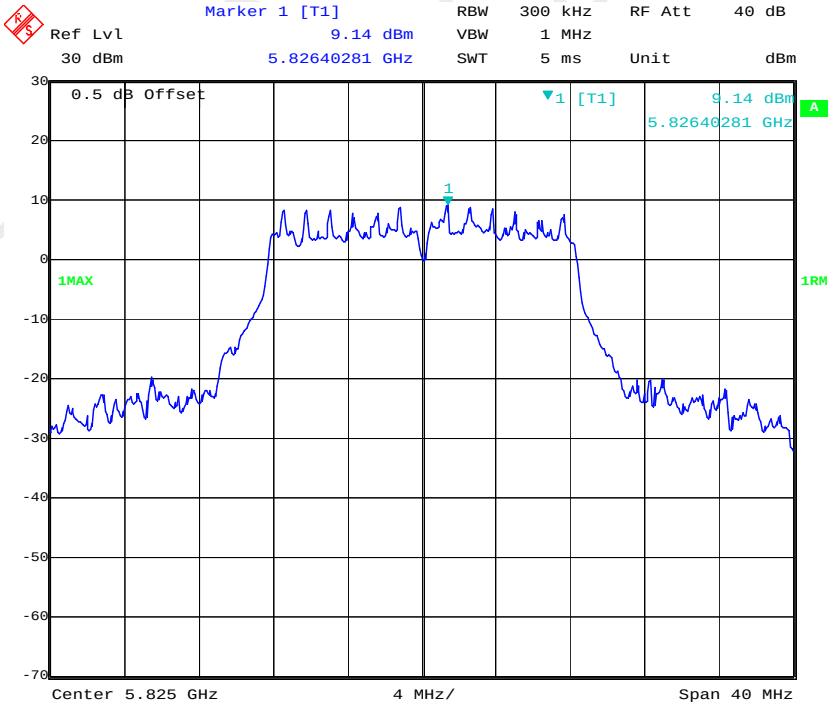
Date: 22.APR.2017 09:29:20

802.11n ht20 Middle Channel – Chain0



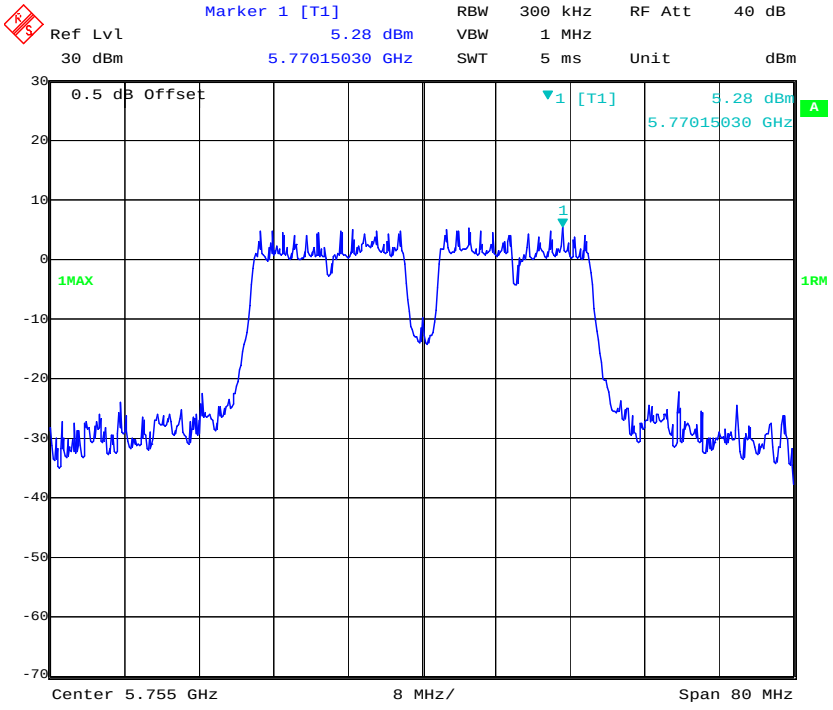
Date: 22.APR.2017 09:26:15

802.11n ht20 High Channel – Chain0



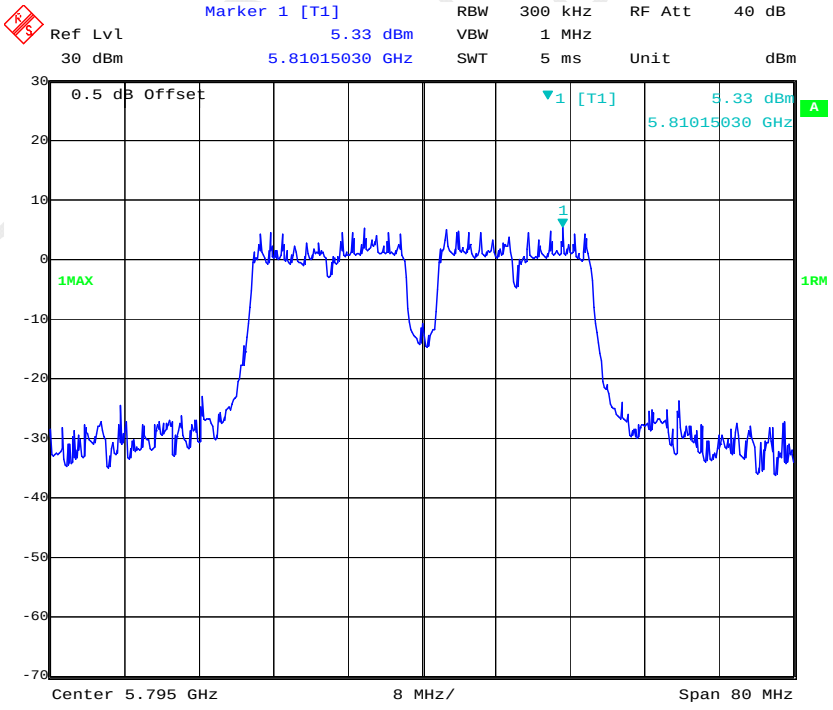
Date: 22.APR.2017 09:27:37

802.11n ht40 Low Channel – Chain0



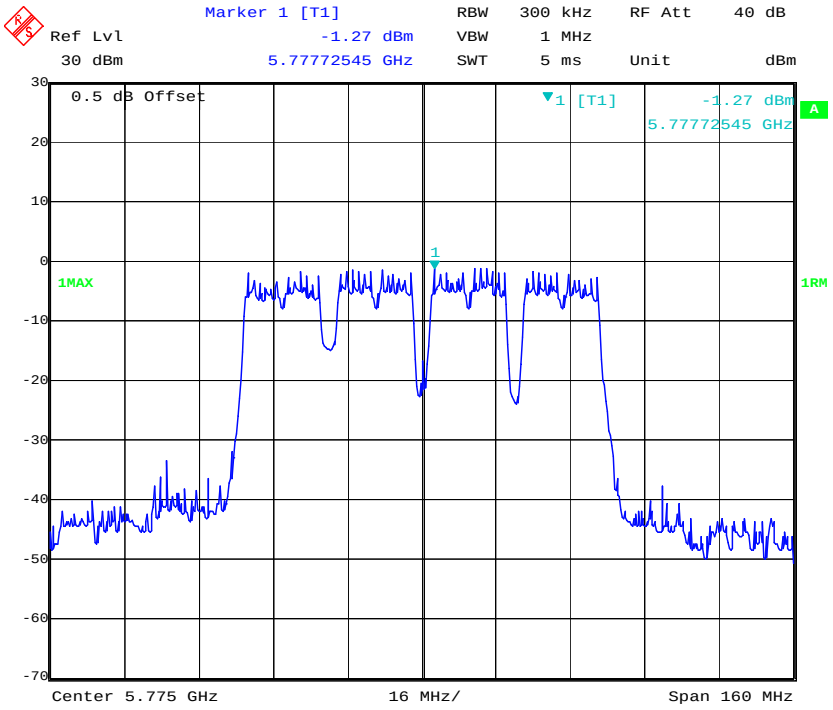
Date: 22.APR.2017 08:48:58

802.11n ht40 High Channel – Chain0



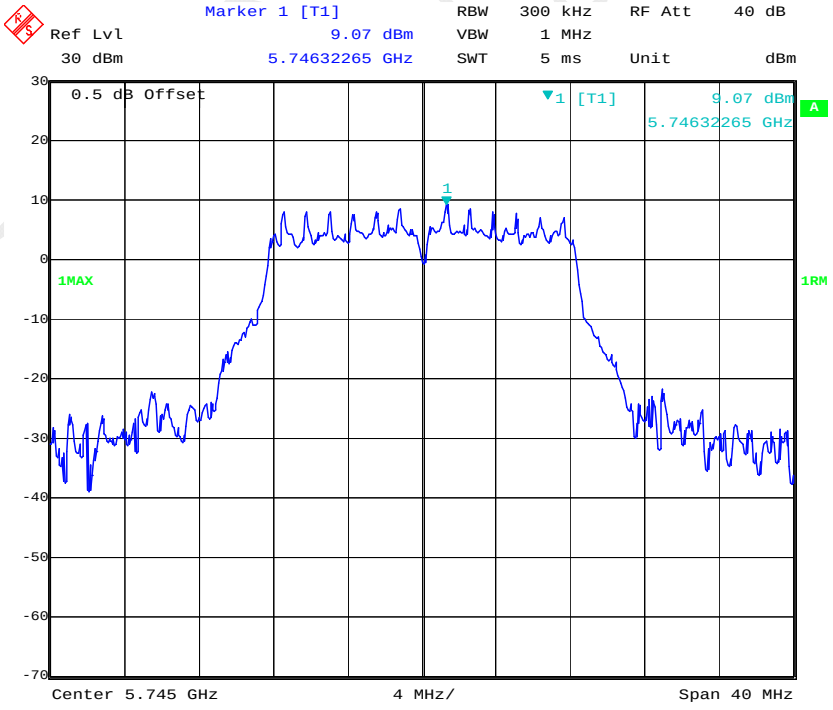
Date: 22.APR.2017 08:42:26

802.11 ac80 Middle Channel – Chain0



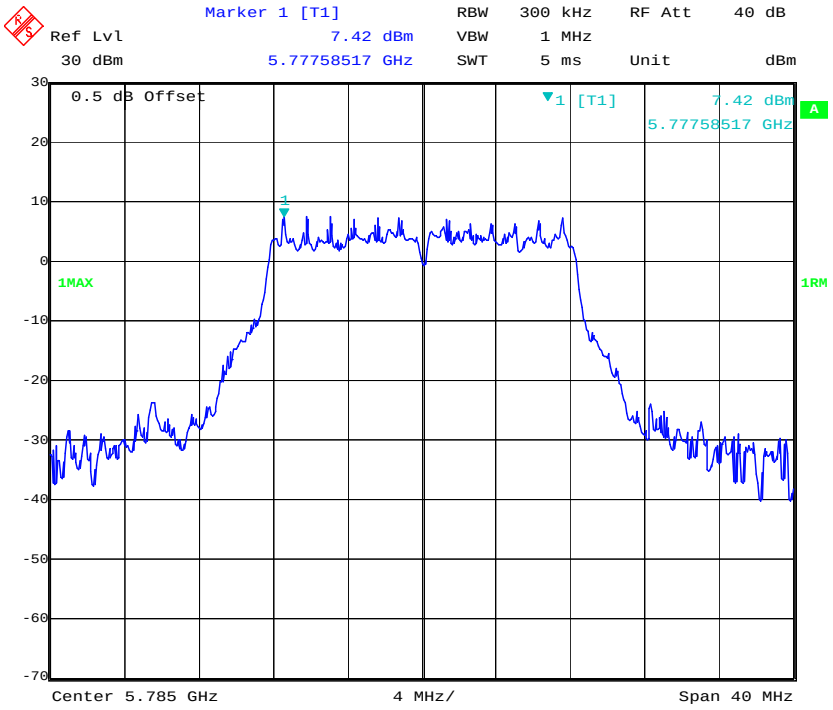
Date: 22.APR.2017 09:06:44

802.11a Low Channel – Chain1



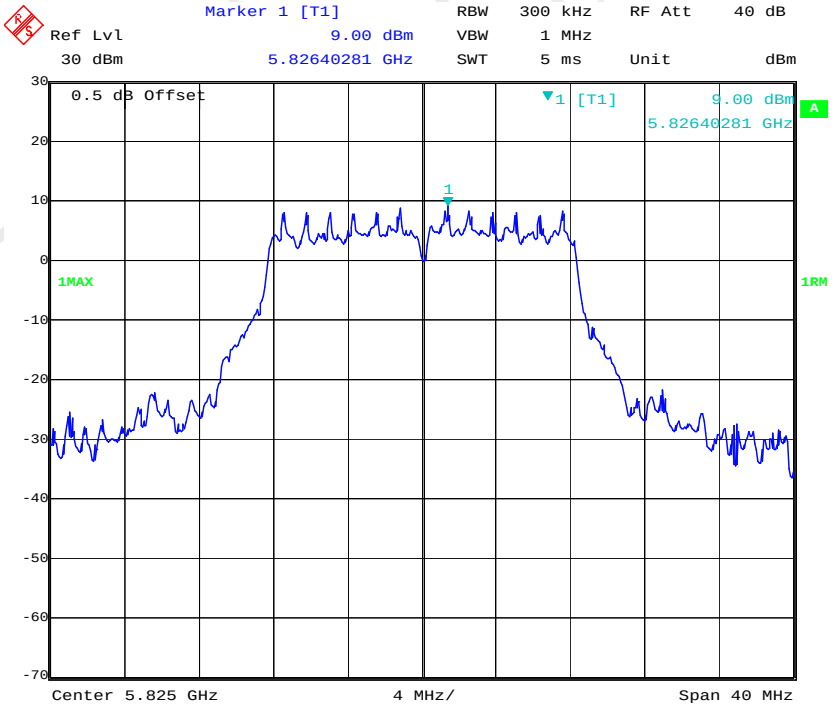
Date: 22.APR.2017 10:31:34

802.11a Middle Channel – Chain1



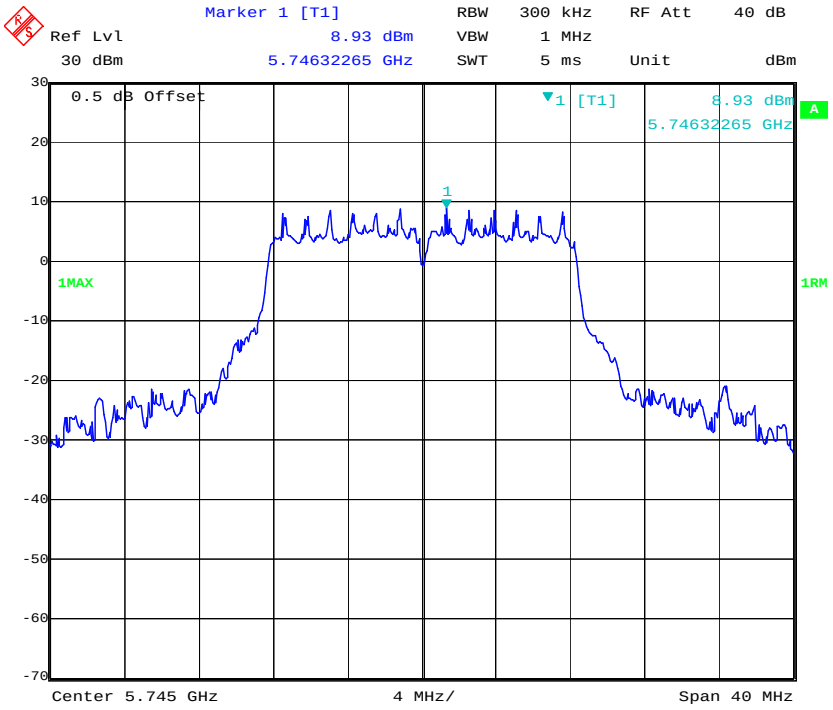
Date: 22.APR.2017 10:27:05

802.11a High Channel – Chain1



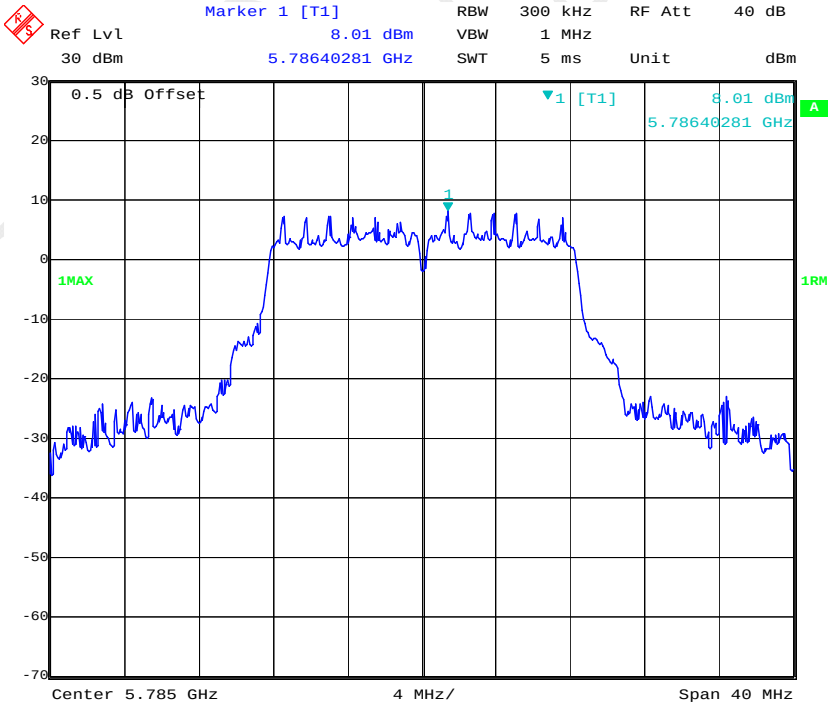
Date: 22.APR.2017 10:25:18

802.11n ht20 Low Channel – Chain1



Date: 22.APR.2017 09:14:17

802.11n ht20 Middle Channel – Chain1



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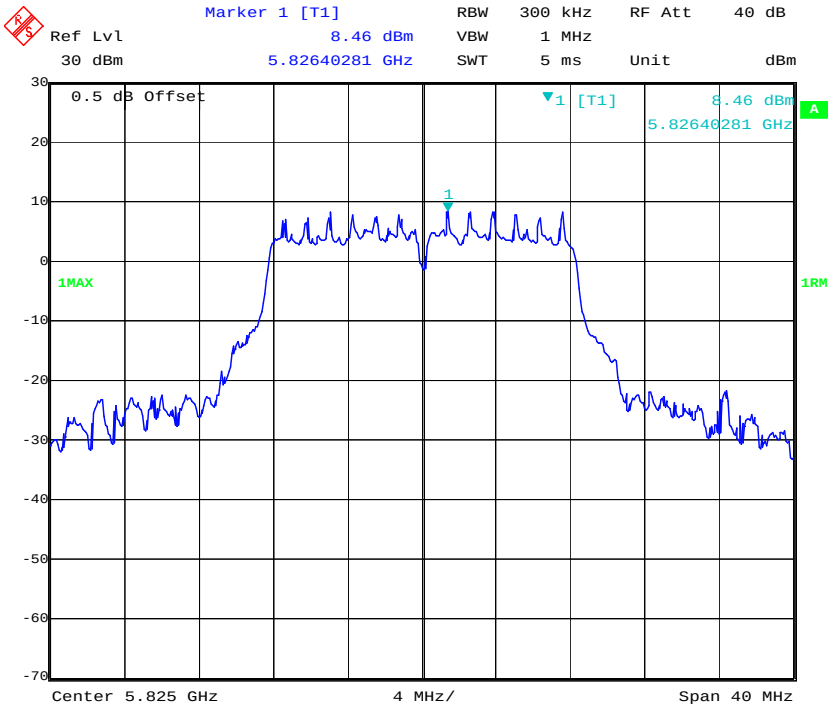
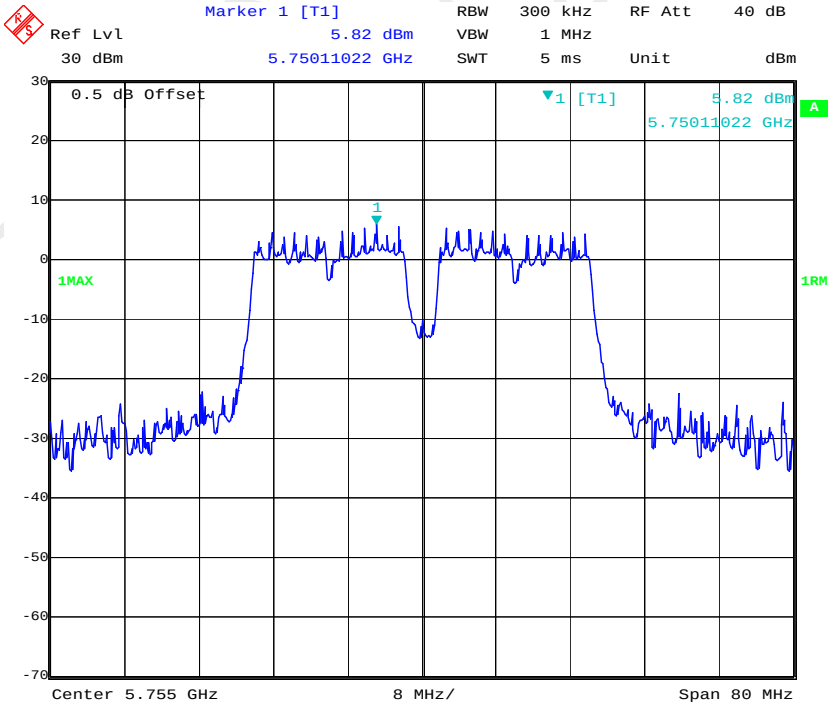
802.11n ht20 High Channel – Chain1



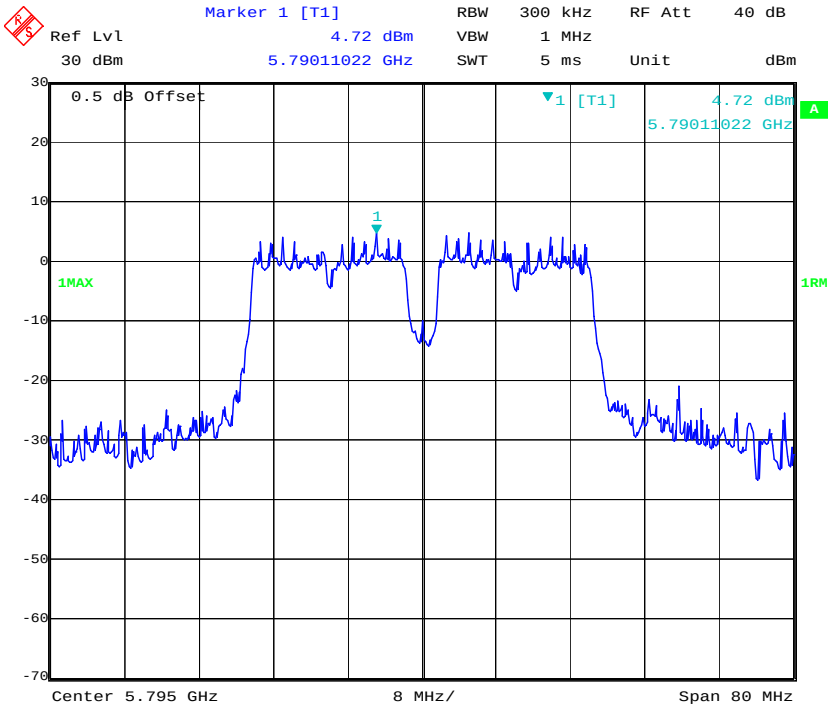
Date: 22.APR.2017 09:21:43

802.11n ht40 Low Channel – Chain1



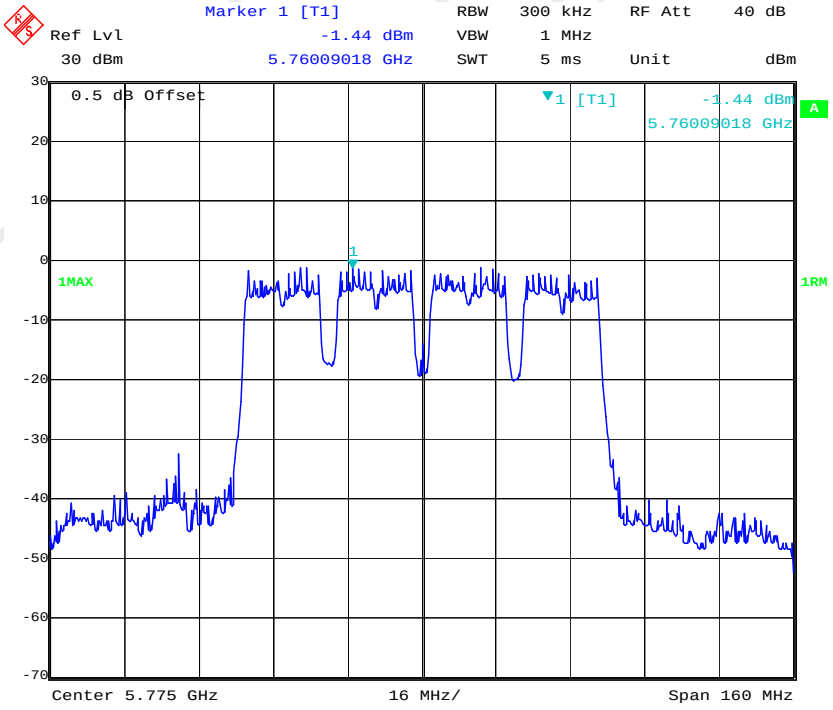
Date: 22.APR.2017 08:46:42

802.11n ht40 High Channel – Chain1



Date: 22.APR.2017 08:38:18

802.11 ac80 Middle Channel – Chain1



Date: 22.APR.2017 09:08:53

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