FCC PART 15.407
RSS-GEN, ISSUE 4, NOVEMBER 2014
RSS-247, ISSUE 2, FEBRUARY 2017

TEST REPORT

For

Huawei Technologies Co.,Ltd

Administration Building,Headquarters of Huawei Technologies Co.,Ltd., Bantian,Longgang District, Shenzhen, 518129, P.R.C

Test Model: eA280-135
FCC ID: QISEA280-135
IC: 6369A-EA280135

Report Type:	**Product Name:**
Original Report	LTE CPE

Test Engineer:	Lorin Bian
Report Number:	RDG161201012C
Report Date:	2017-06-28
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

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The ***Huawei Technologies Co.,Ltd***'s product, model number: ***eA280-135 (FCC ID: QISEA280-135, IC: 6369A-EA280135)*** (the "EUT") in this report was a ***LTE CPE,*** which was measured approximately: 9.5 cm (D) x 21 cm (H), rated input voltage: DC12.0V from adapter.

Switching power adapter information:
MODEL: HW-120200U6W
INPUT: 100-240V~50/60Hz, 0.8A
OUTPUT: DC12.0V 2.0A

**All measurement and test data in this report was gathered from final production sample, serial number: 161201012 (assigned by the BACL, Chengdu). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2016-12-01, and EUT conformed to test requirement.*

Objective

This type approval report is prepared on behalf of ***Huawei Technologies Co.,Ltd*** in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communications Commission's rules. And RSS-247, ISSUE 2, February 2017, RSS-GeN ISSUE 4, November 2014 of the Innovation, Science and Economic Development Canada.

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, and RSS-247, ISSUE 2, February 2017, RSS-GeN ISSUE 4, November 2014 of the Innovation, Science and Economic Development Canada.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP/15C DTS/Part 27 TNB/Part 90 TNB submissions with FCC ID: QISEA280-135.
RSS-195/ RSS-197/ RSS-199/RSS-247 DTSs submissions with IC: 6369A-EA280135.

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”, 789033 D02 General U-NII Test Procedures New Rules v01r04 and RSS-247, ISSUE 2, February 2017, RSS-Gen ISSUE 4, November 2014 of the Innovation, Science and Economic Development Canada.

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 system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80, the vh20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.

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

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

For 5250~5350 MHz band, 7 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
54	5270	62	5310
56	5280	64	5320
58	5290	/	/

For 5470~5725MHz band, 21 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
102	5510	126	5630
104	5520	128	5640
106	5530	132	5660
108	5540	134	5670
110	5550	136	5680
112	5560	138	5690
116	5580	140	5700
118	5590	142	5710
120	5600	144	5720
122	5610	/	/

Channel 144 for 802.11a, n ht20,ac vht20, 142 for 802.11n ht40, ac vht40, 138 for ac80 crossed the band U-NII 2C to U-NII 3, were chosed to test for compliance requirement.

For Canada RSS-247, channels 118 to 128 were disabled by software since the frequency occupied the frequency band 5600-5650MHz.

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

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

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

Test Mode	Data Rate	Channel	Antenna Chain
802.11a	6Mbps	36, 40, 48, 52, 56, 64,100, 116, 140, 144, 149,157, 165	0, 1
802.11n ht20	MCS0_20	36, 40, 48, 52, 56, 64,100, 116, 140, 144, 149,157, 165	0+1
802.11n ht40	MCS0_40	38, 46, 54, 62, 102, 110, 118, 134, 142, 151, 159	0+1
802.11ac 80	AC-MCS0_80	42, 58, 106, 122, 138, 155	0+1

EUT Exercise Software

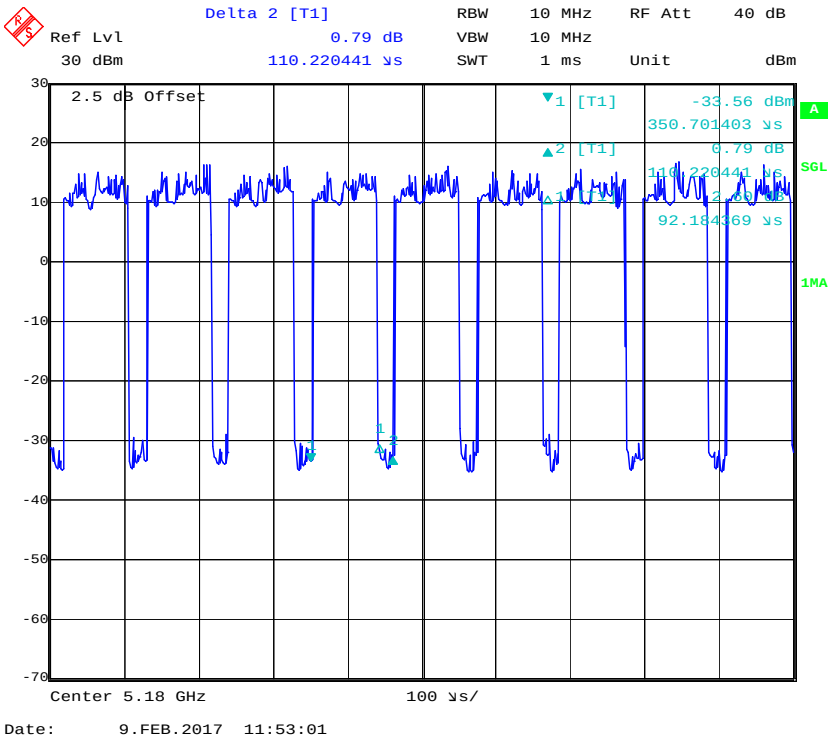
The software “IPOP_V40” was used for testing, and the commands were provided by manufacturer. The maximum power and duty cycle was set by commands as following table:

Software and version				IPOR&QSPR		
UNII Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Power Level	
					Chain 0	Chain 1
5150-5250MHz	802.11 a	Low	5180	6	14	14
		Middle	5200	6	14	14
		High	5240	6	14	14
	802.11 n20	Low	5180	MCS8	48	48
		Middle	5200	MCS8	48	48
		High	5240	MCS8	48	48
	802.11 n40	Low	5190	MCS8	53	53
		High	5230	MCS8	53	53
	802.11 ac80	Middle	5210	MCS8	48	48
5250-5350MHz	802.11 a	Low	5260	6	14	14
		Middle	5280	6	14	14
		High	5320	6	14	14
	802.11 n20	Low	5260	MCS8	48	48
		Middle	5280	MCS8	48	48
		High	5320	MCS8	48	48
	802.11 n40	Low	5270	MCS8	53	53
		High	5310	MCS8	53	53
	802.11 ac80	Middle	5290	MCS8	48	48
5470-5725MHz	802.11 a	Low	5500	6	14	14
		Middle	5580	6	14	14
		High	5700	6	14	14
		crossed	5720	6	14	14
	802.11 n20	Low	5500	MCS8	48	48
		Middle	5580	MCS8	48	48
		High	5700	MCS8	48	48
		crossed	5720	MCS8	48	48
	802.11 n40	Low	5510	MCS8	53	53
		Middle	5550	MCS8	53	53
		High	5670	MCS8	53	53
		crossed	5710	MCS8	53	53
	802.11 ac80	Low	5530	MCS8	48	48
		Middle	5610	MCS8	48	48
		crossed	5690	MCS8	48	48
5725-5850MHz	802.11 a	Low	5745	6	14	14
		Middle	5785	6	14	14
		High	5825	6	14	14
	802.11 n20	Low	5745	MCS8	48	48
		Middle	5785	MCS8	48	48
		High	5825	MCS8	48	48
	802.11 n40	Low	5755	MCS8	53	53
		High	5795	MCS8	53	53
	802.11 ac80	Middle	5775	MCS8	48	48

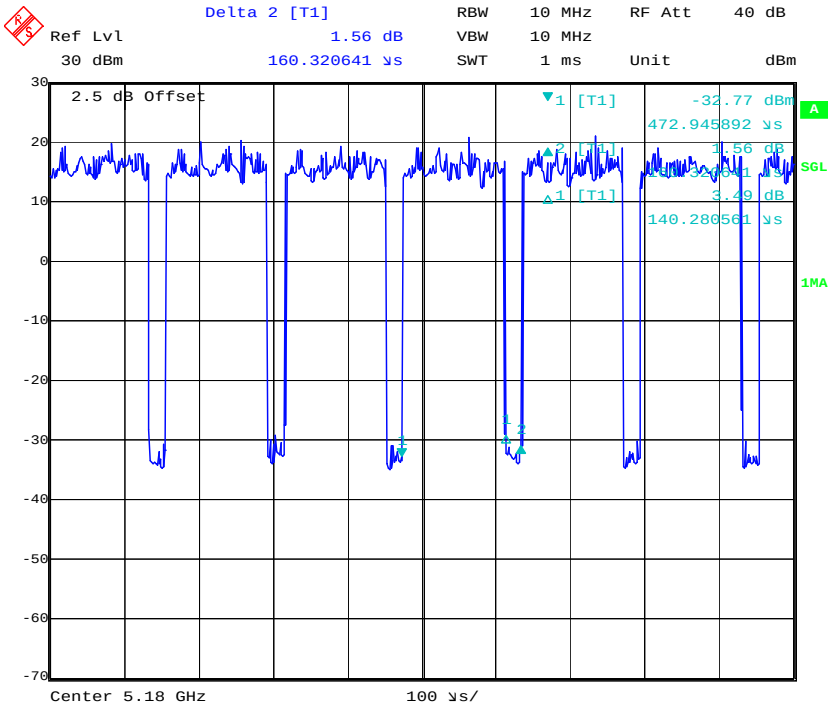
The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)	Minimum Transmission Duration (T) (ms)
802.11 a	0.092	0.11	84	0.092
802.11n ht20	0.14	0.16	88	0.14
802.11n ht40	0.092	0.11	84	0.092
802.11 ac80	0.261	0.285	92	0.261

802.11 a

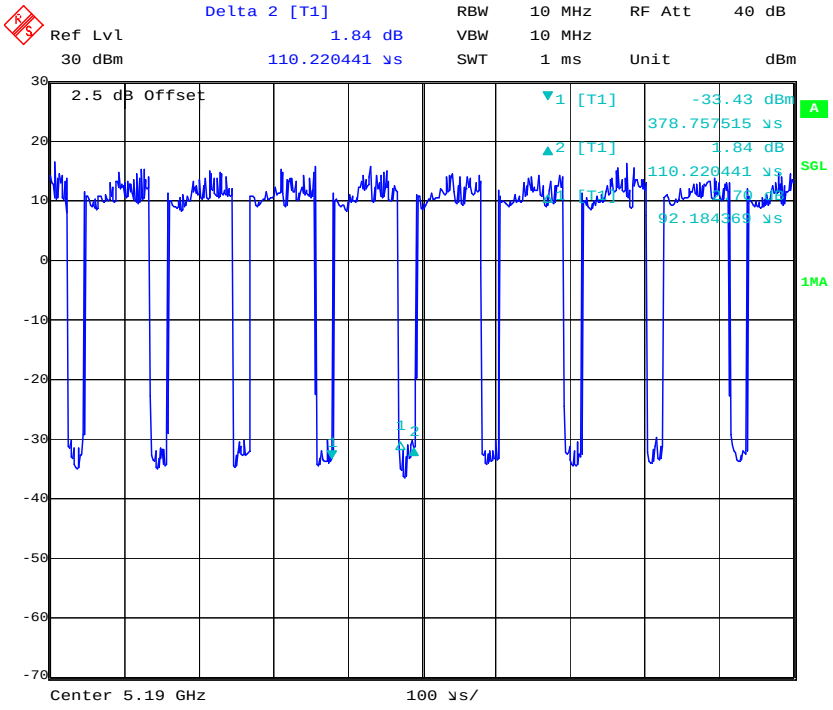


802.11n ht20



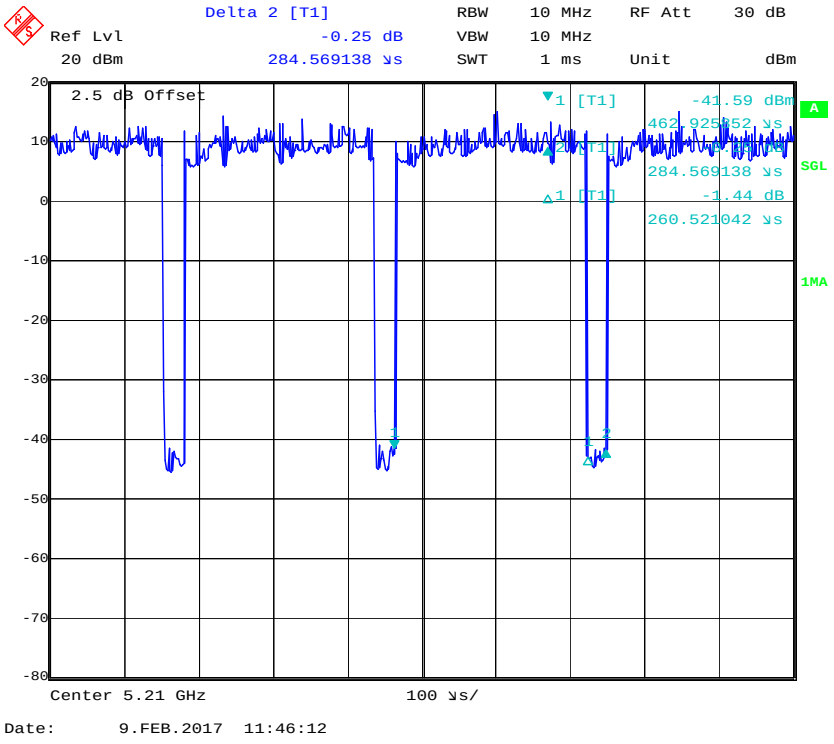
Date: 9.FEB.2017 11:48:43

802.11n ht40



Date: 9.FEB.2017 11:50:07

802.11ac80


Delta 2 [T1]
RBW 10 MHz
RF Att 30 dB
Ref Lvl
-0.25 dB
VBW 10 MHz
20 dBm
284.569138 µs
SWT 1 ms
Unit dBm
2.5 dB Offset
1 [T1]
-41.59 dBm
462.925852 µs
2 [T1]
-40.15 dBm
284.569138 µs
Δ1 [T1]
-1.44 dB
260.521042 µs
A
SGL
1MA
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.21 GHz
100 µs/
Date: 9.FEB.2017 11:46:12

Equipment Modifications

No modification was made to the EUT.

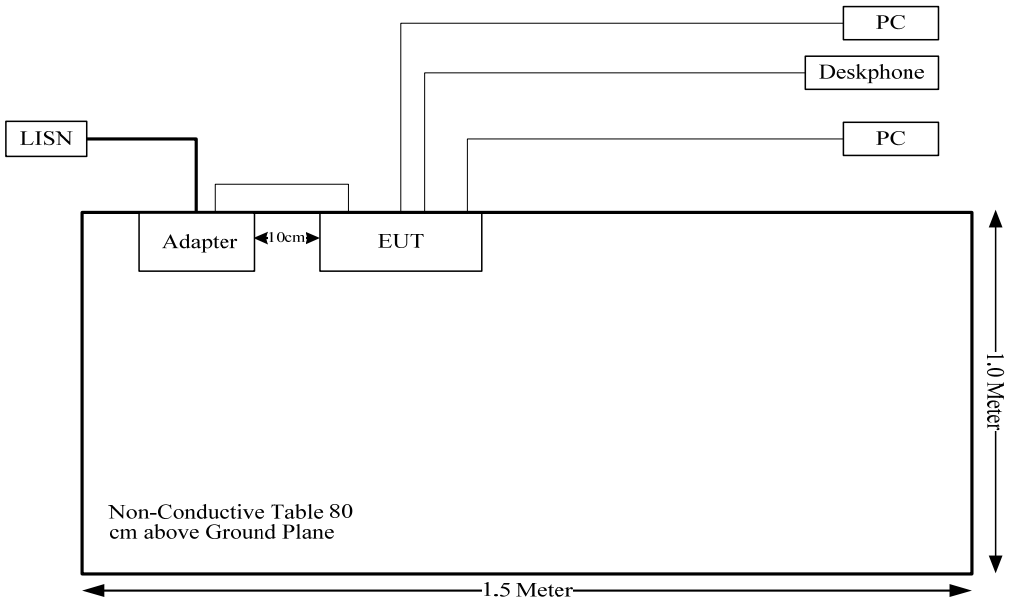
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
IBM	PC	8176	99Y7315
AVAYA	Deskphone	6408D+	041654712819
IBM	PC	8176	99Y7872

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ11 Cable	No	No	10	EUT	Deskphone
RJ45 Cable*2	No	No	10	EUT	PC
DC Cable	No	No	1.5	Adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1091 RSS-102§4	Maximum Permissable Exposure (MPE)	Compliance
FCC§15.203 RSS-GEN§8.3	Antenna Requirement	Compliance
FCC§15.207 (a) RSS-Gen §8.8	AC Line Conducted Emissions	Compliance
FCC§15.205& §15.209 &§15.407(b) RSS-247§6.2	Undesirable Emission& Restricted Bands	Compliance
FCC§15.407(b) (1),(2),(3),(4) RSS-247§6.2	Out Of Band Emissions	Compliance
FCC§15.407(a) RSS-247 §6.2 RSS-Gen§6.6	Emission Bandwidth	Compliance
FCC§15.407(a) RSS-247 §6.2	Conducted Transmitter Output Power	Compliance
FCC§15.407 (a) RSS-247 §6.2	Power Spectral Density	Compliance
FCC§15.407(g)	Frequency stability	Compliance
FCC§15.407(H)	Dynamic Frequency Selection (DFS)	Compliance*

Note:
Compliance*: please refer to the DFS test report: RDG161201012-00.

FCC §15.407 (f) , §1.1310 , §2.1091& RSS-102 § 4- 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	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

According to §1.1310 and §2.1091 RF exposure is calculated.
According to RSS-102 § 4Table 4, RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
$0.003\text{-}10^{21}$	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142f^{0.3417}$	$0.008335f^{0.3417}$	$0.02619f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158f^{0.5}$	$4.21 \times 10^{-4}f^{0.5}$	$6.67 \times 10^{-5}f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
*Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

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:

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

Calculated Data:

Mode	Frequency (MHz)	Antenna Gain		Tune-up Power		Evaluation Distance (cm)	Power Density		MPE Limit	
		(dBi)	(numeric)	(dBm)	(mW)		(mW/cm^2)	(W/m^2)	FCC (mW/cm^2)	RSS-102 (W/m^2)
WLAN 2.4GHz	2412-2462	2	1.58	28	630.96	20.00	0.1990	1.99	1.0	5.37
WLAN 5GHz	5150-5850	2	1.58	18	63.10	20.00	0.02	0.2	1.0	9.05
LTE Band 7	2500-2570	3	2.00	24	251.19	20.00	0.10	1.0	1.0	5.50
LTE Band 40	2305-2315	3	2.00	19	79.43	20.00	0.032	0.32	1.0	5.20
	2350-2360	3	2.00	19	79.43	20.00	0.032	0.32	1.0	5.27
LTE Band 41	2500-2690	3	2.00	25	316.23	20.00	0.1256	1.256	1.0	5.49
LTE Band 43	3650-3700	3	2.00	23	199.53	20.00	0.0792	0.792	1.0	7.12

The WLAN 2.4GHz, 5GHz and LTE can transmit simultaneously:

For FCC:

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

$=S_{2.4}/S_{limit\text{-}2.4} + S_5/S_{limit\text{-}5} + S_{LTE}/S_{limit\text{-}LTE}$
$=0.199/1+0.02/1+0.1256/1$
$=0.3446$
< 1.0

For RSS-102:

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

$=S_{2.4}/S_{limit\text{-}2.4} + S_5/S_{limit\text{-}5} + S_{LTE}/S_{limit\text{-}LTE}$
=1.99/5.37+0.2/9.05+1.256/5.49
=0.621
< 1.0

Result: Compliance, The device meets MPE requirement for Devices Used by the General Public (Uncontrolled Environment) at distance ≥20 cm.

FCC §15.203 ,RSS-GEN§8.3- 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

According to RSS-Gen §8.3, The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.
Licence-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the licence-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level.9 When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

Antenna Information And Connector Construction

Ant.	Manufacturer	Model	Antenna Type	Connector	Frequency Range/Antenna Gain
Chain 0	HI-tronics	N/A	Internal PCB	IPEX	2.4GHz Band/2.0dBi 5GHz Band/2.0dBi
Chain 1	HI-tronics	N/A	Internal PCB	IPEX	2.4GHz Band/2.0dBi 5GHz Band/2.0dBi

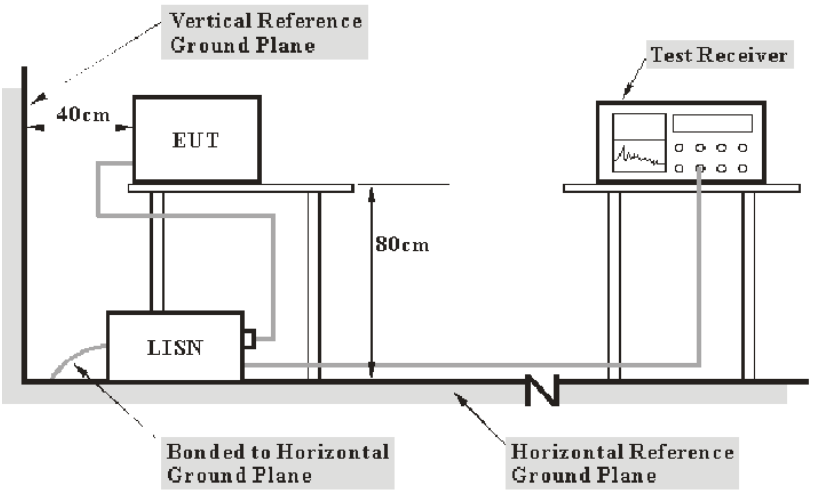
Result: Compliance. Please refer to the EUT photos.

FCC §15.407 (b) (6) §15.207 (a) &RSS-Gen §8.8– CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a), §15.407(b) (6)& RSS-Gen §8.8.

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 and RSS-Gen limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to the main LISN with 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 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
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 Data

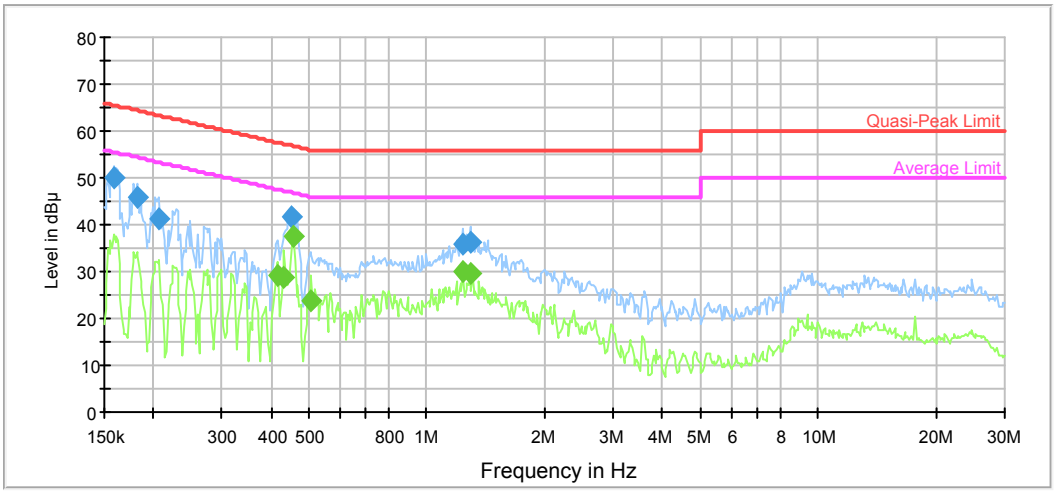
Environmental Conditions

Temperature:	17 °C
Relative Humidity:	52 %
ATM Pressure:	96.8 kPa

The testing was performed by Lorin Bian on 2017-02-08.

Test Mode: Transmitting

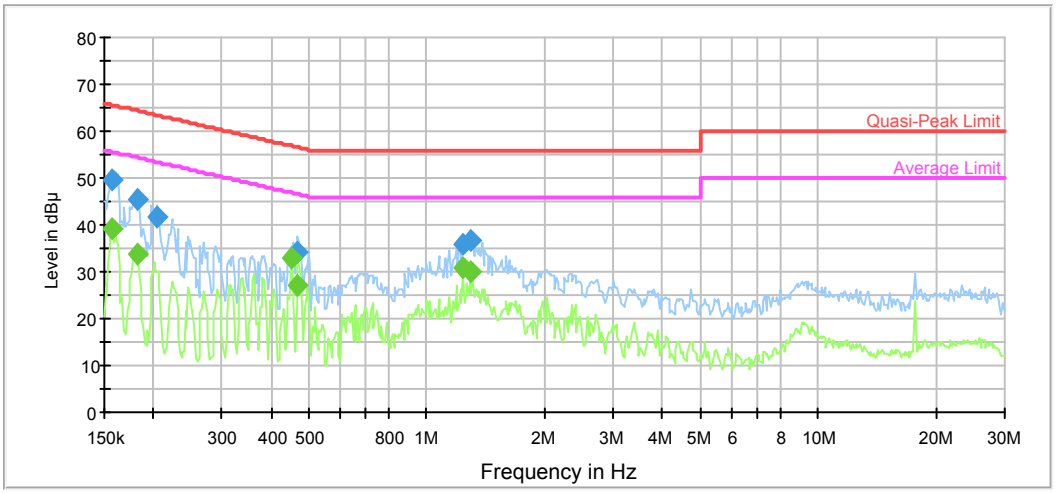
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.158604	50.1	9.000	L1	19.7	15.4	65.5	Compliance
0.181612	45.9	9.000	L1	19.7	18.5	64.4	Compliance
0.206306	41.3	9.000	L1	19.7	22.1	63.4	Compliance
0.450448	41.7	9.000	L1	19.7	15.2	56.9	Compliance
1.239175	36.0	9.000	L1	19.7	20.0	56.0	Compliance
1.289541	36.2	9.000	L1	19.7	19.8	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.415949	29.3	9.000	L1	19.8	18.2	47.5	Compliance
0.432855	28.6	9.000	L1	19.7	18.6	47.2	Compliance
0.454052	37.4	9.000	L1	19.7	9.4	46.8	Compliance
0.507637	23.6	9.000	L1	19.7	22.4	46.0	Compliance
1.239175	30.0	9.000	L1	19.7	16.0	46.0	Compliance
1.289541	29.6	9.000	L1	19.7	16.4	46.0	Compliance

AC120 V, 60 Hz, Neutral:



requency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.157346	49.4	9.000	N	19.7	16.2	65.6	Compliance
0.181612	45.3	9.000	N	19.7	19.1	64.4	Compliance
0.204669	41.8	9.000	N	19.6	21.6	63.4	Compliance
0.468757	34.3	9.000	N	19.6	22.2	56.5	Compliance
1.239175	35.7	9.000	N	19.6	20.3	56.0	Compliance
1.289541	36.5	9.000	N	19.6	19.5	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.157346	39.2	9.000	N	19.7	16.4	55.6	Compliance
0.181612	33.7	9.000	N	19.7	20.7	54.4	Compliance
0.450448	32.9	9.000	N	19.6	14.0	46.9	Compliance
0.468757	27.2	9.000	N	19.6	19.3	46.5	Compliance
1.239175	31.0	9.000	N	19.6	15.0	46.0	Compliance
1.289541	30.1	9.000	N	19.6	15.9	46.0	Compliance

FCC §15.209, §15.205 , §15.407(b) &RSS-247 §6.2, RSS-GEN§8.10– UNWANTED EMISSION

Applicable Standard

According to 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:

(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.

(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.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

According to RSS-247§6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or

b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text "for indoor use only."

Frequency bands 5470-5600 MHz and 5650-5725 MHz:

6.2.3.2 Unwanted emission limits

Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

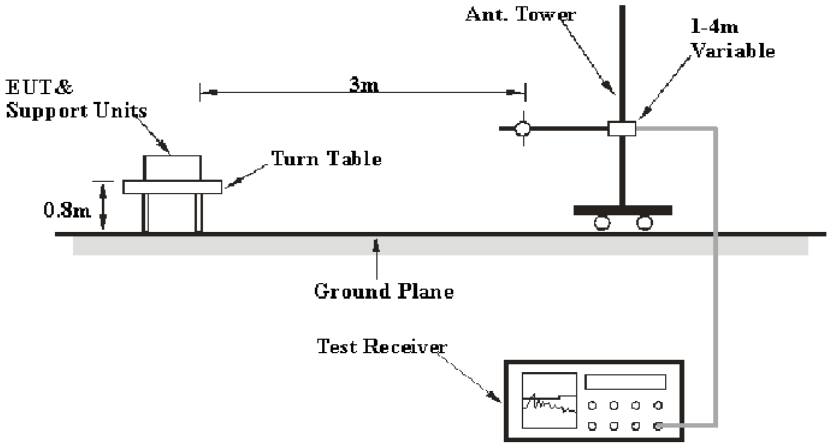
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

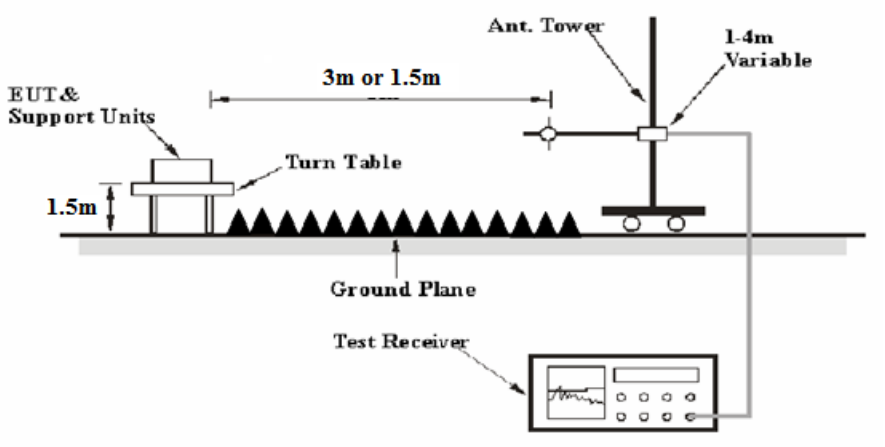
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

EUT Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, FCC 15.407 and RSS-247, RSS-Gen 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:

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

Test Procedure

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

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average measurement for frequencies above 1 GHz according to 789033 D02 General U-NII Test Procedures New Rules v01r04.

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04, 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 Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + 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
Mini-circuits	Amplifier	ZVA-183-S+	771001215	2017-05-20	2018-05-19
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:	19.6~23.7 °C
Relative Humidity:	52~56 %
ATM Pressure:	96.8~97.8 kPa

** The testing was performed by Lorin Bian on 2017-02-19&2017-05-23.*

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

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	61.98	PK	H	31.72	5.21	0.00	98.91	92.91	N/A	N/A
5180	53.89	AV	H	31.72	5.21	0.00	90.82	84.82	N/A	N/A
5180	72.35	PK	V	31.72	5.21	0.00	109.28	103.28	N/A	N/A
5180	64.82	AV	V	31.72	5.21	0.00	101.75	95.75	N/A	N/A
5150	29.48	PK	V	31.67	5.18	0.00	66.33	60.33	74	13.67
5150	15.07	AV	V	31.67	5.18	0.00	51.92	45.92	54	8.08
10360	35.55	PK	V	37.37	7.76	26.37	54.31	48.31	74	25.69
10360	23.67	AV	V	37.37	7.76	26.37	42.43	36.43	54	17.57
15540	35.29	PK	V	39.41	10.22	25.32	59.6	53.6	74	20.4
15540	24.01	AV	V	39.41	10.22	25.32	48.32	42.32	54	11.68
1406	34.57	PK	V	23.86	2.54	26.42	34.55	28.55	74	45.45
1406	22.66	AV	V	23.86	2.54	26.42	22.64	16.64	54	37.36
2022	33.23	PK	V	24.83	3.05	26.82	34.29	28.29	74	45.71
2022	21.49	AV	V	24.83	3.05	26.82	22.55	16.55	54	37.45
273.47	46.58	QP	H	13.77	1.28	27.49	34.14	34.14	46.00	11.86
291.9	47.25	QP	H	14.02	1.09	27.53	34.83	34.83	46.00	11.17
Middle Channel:5200 MHz										
5200	59.64	PK	H	31.76	5.23	0.00	96.63	90.63	N/A	N/A
5200	51.25	AV	H	31.76	5.23	0.00	88.24	82.24	N/A	N/A
5200	71.05	PK	V	31.76	5.23	0.00	108.04	102.04	N/A	N/A
5200	62.65	AV	V	31.76	5.23	0.00	99.64	93.64	N/A	N/A
10400	35.08	PK	V	37.38	7.79	26.36	53.89	47.89	74	26.11
10400	23.32	AV	V	37.38	7.79	26.36	42.13	36.13	54	17.87
15600	36.45	PK	V	39.42	10.22	25.31	60.78	54.78	74	19.22
15600	25.24	AV	V	39.42	10.22	25.31	49.57	43.57	54	10.43
1447	34.72	PK	V	23.96	2.60	26.38	34.9	28.9	74	45.1
1447	22.45	AV	V	23.96	2.60	26.38	22.63	16.63	54	37.37
2064	33.94	PK	V	24.68	3.04	26.83	34.83	28.83	74	45.17
2064	22.49	AV	V	24.68	3.04	26.83	23.38	17.38	54	36.62
273.47	46.85	QP	H	13.77	1.28	27.49	34.41	34.41	46.00	11.59
291.9	47.39	QP	H	14.02	1.09	27.53	34.97	34.97	46.00	11.03
High Channel:5240 MHz										
5240	56.67	PK	H	31.83	5.27	0.00	93.77	87.77	N/A	N/A
5240	49.08	AV	H	31.83	5.27	0.00	86.18	80.18	N/A	N/A
5240	67.12	PK	V	31.83	5.27	0.00	104.22	98.22	N/A	N/A
5240	59.35	AV	V	31.83	5.27	0.00	96.45	90.45	N/A	N/A
5350	26.80	PK	V	32.03	5.37	0.00	64.2	58.2	74	15.8
5350	14.29	AV	V	32.03	5.37	0.00	51.69	45.69	54	8.31
10480	34.63	PK	V	37.40	7.84	26.35	53.52	47.52	74	26.48
10480	22.98	AV	V	37.40	7.84	26.35	41.87	35.87	54	18.13
15720	34.41	PK	V	39.44	10.24	25.30	58.79	52.79	74	21.21
15720	23.34	AV	V	39.44	10.24	25.30	47.72	41.72	54	12.28
1506	33.93	PK	V	24.11	2.67	26.34	34.37	28.37	74	45.63
1506	22.08	AV	V	24.11	2.67	26.34	22.52	16.52	54	37.48
2115	33.74	PK	V	24.51	3.04	26.84	34.45	28.45	74	45.55
2115	22.37	AV	V	24.51	3.04	26.84	23.08	17.08	54	36.92
273.47	47.69	QP	H	13.77	1.28	27.49	35.25	35.25	46.00	10.75
291.9	47.81	QP	H	14.02	1.09	27.53	35.39	35.39	46.00	10.61

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	62.76	PK	H	31.72	5.21	0.00	99.69	93.69	N/A	N/A
5180	51.07	AV	H	31.72	5.21	0.00	88	82	N/A	N/A
5180	75.18	PK	V	31.72	5.21	0.00	112.11	106.11	N/A	N/A
5180	63.09	AV	V	31.72	5.21	0.00	100.02	94.02	N/A	N/A
5150	31.75	PK	V	31.67	5.18	0.00	68.6	62.6	74	11.4
5150	16.02	AV	V	31.67	5.18	0.00	52.87	46.87	54	7.13
10360	35.80	PK	V	37.37	7.76	26.37	54.56	48.56	74	25.44
10360	22.97	AV	V	37.37	7.76	26.37	41.73	35.73	54	18.27
15540	35.65	PK	V	39.41	10.22	25.32	59.96	53.96	74	20.04
15540	23.91	AV	V	39.41	10.22	25.32	48.22	42.22	54	11.78
2012	34.06	PK	V	24.86	3.05	26.82	35.15	29.15	74	44.85
2012	22.91	AV	V	24.86	3.05	26.82	24	18	54	36
3945	33.73	PK	V	28.78	4.84	26.55	40.8	34.8	74	39.2
3945	22.80	AV	V	28.78	4.84	26.55	29.87	23.87	54	30.13
273.47	47.22	QP	H	13.77	1.28	27.49	34.78	34.78	46.00	11.22
291.9	48.25	QP	H	14.02	1.09	27.53	35.83	35.83	46.00	10.17
Middle Channel:5200 MHz										
5200	63.89	PK	H	31.76	5.23	0.00	100.88	94.88	N/A	N/A
5200	51.29	AV	H	31.76	5.23	0.00	88.28	82.28	N/A	N/A
5200	74.68	PK	V	31.76	5.23	0.00	111.67	105.67	N/A	N/A
5200	62.37	AV	V	31.76	5.23	0.00	99.36	93.36	N/A	N/A
10400	35.08	PK	V	37.38	7.79	26.36	53.89	47.89	74	20.11
10400	23.66	AV	V	37.38	7.79	26.36	42.47	36.47	54	11.53
15600	35.89	PK	V	39.42	10.22	25.31	60.22	54.22	74	13.78
15600	24.24	AV	V	39.42	10.22	25.31	48.57	42.57	54	5.43
2065	35.05	PK	V	24.68	3.04	26.83	35.94	29.94	74	38.06
2065	23.20	AV	V	24.68	3.04	26.83	24.09	18.09	54	29.91
4032	33.65	PK	V	29.05	4.94	26.57	41.07	35.07	74	32.93
4032	22.23	AV	V	29.05	4.94	26.57	29.65	23.65	54	24.35
273.47	46.75	QP	H	13.77	1.28	27.49	34.31	34.31	46.00	11.69
291.9	48.69	QP	H	14.02	1.09	27.53	36.27	36.27	46.00	9.73
High Channel:5240 MHz										
5240	62.07	PK	H	31.83	5.27	0.00	99.17	93.17	N/A	N/A
5240	50.34	AV	H	31.83	5.27	0.00	87.44	81.44	N/A	N/A
5240	73.62	PK	V	31.83	5.27	0.00	110.72	104.72	N/A	N/A
5240	62.73	AV	V	31.83	5.27	0.00	99.83	93.83	N/A	N/A
5350	28.08	PK	V	32.03	5.37	0.00	65.48	59.48	74	14.52
5350	14.73	AV	V	32.03	5.37	0.00	52.13	46.13	54	7.87
10480	34.62	PK	V	37.40	7.84	26.35	53.51	47.51	74	26.49
10480	22.90	AV	V	37.40	7.84	26.35	41.79	35.79	54	18.21
15720	34.73	PK	V	39.44	10.24	25.30	59.11	53.11	74	20.89
15720	23.49	AV	V	39.44	10.24	25.30	47.87	41.87	54	12.13
2116	35.33	PK	V	24.51	3.04	26.84	36.04	30.04	74	43.96
2116	23.50	AV	V	24.51	3.04	26.84	24.21	18.21	54	35.79
4074	34.56	PK	V	29.12	4.97	26.59	42.06	36.06	74	37.94
4074	22.23	AV	V	29.12	4.97	26.59	29.73	23.73	54	30.27
273.47	45.95	QP	H	13.77	1.28	27.49	33.51	33.51	46.00	12.49
291.9	46.14	QP	H	14.02	1.09	27.53	33.72	33.72	46.00	12.28

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	62.44	PK	H	31.74	5.22	0.00	99.4	93.4	N/A	N/A
5190	51.69	AV	H	31.74	5.22	0.00	88.65	82.65	N/A	N/A
5190	72.80	PK	V	31.74	5.22	0.00	109.76	103.76	N/A	N/A
5190	61.28	AV	V	31.74	5.22	0.00	98.24	92.24	N/A	N/A
5150	39.93	PK	V	31.67	5.18	0.00	76.78	70.78	74	3.22
5150	21.48	AV	V	31.67	5.18	0.00	58.33	52.33	54	1.67
10380	35.24	PK	V	37.38	7.78	26.37	54.03	48.03	74	25.97
10380	23.49	AV	V	37.38	7.78	26.37	42.28	36.28	54	17.72
15570	35.90	PK	V	39.41	10.22	25.31	60.22	54.22	74	19.78
15570	23.87	AV	V	39.41	10.22	25.31	48.19	42.19	54	11.81
2078	35.06	PK	V	24.63	3.04	26.83	35.9	29.9	74	44.1
2078	23.41	AV	V	24.63	3.04	26.83	24.25	18.25	54	35.75
3824	34.54	PK	V	28.30	4.66	26.56	40.94	34.94	74	39.06
3824	22.56	AV	V	28.30	4.66	26.56	28.96	22.96	54	31.04
273.47	46.22	QP	H	13.77	1.28	27.49	33.78	33.78	46.00	12.22
291.9	46.28	QP	H	14.02	1.09	27.53	33.86	33.86	46.00	12.14
High Channel:5230 MHz										
5230	55.30	PK	H	31.81	5.26	0.00	92.37	86.37	N/A	N/A
5230	43.76	AV	H	31.81	5.26	0.00	80.83	74.83	N/A	N/A
5230	68.41	PK	V	31.81	5.26	0.00	105.48	99.48	N/A	N/A
5230	55.92	AV	V	31.81	5.26	0.00	92.99	86.99	N/A	N/A
5350	26.80	PK	V	32.03	5.37	0.00	64.2	58.2	74	15.8
5350	14.63	AV	V	32.03	5.37	0.00	52.03	46.03	54	7.97
10460	34.15	PK	V	37.39	7.83	26.36	53.01	47.01	74	26.99
10460	22.47	AV	V	37.39	7.83	26.36	41.33	35.33	54	18.67
15690	34.62	PK	V	39.44	10.24	25.30	59	53	74	21
15690	23.30	AV	V	39.44	10.24	25.30	47.68	41.68	54	12.32
2153	35.05	PK	V	24.38	3.03	26.84	35.62	29.62	74	44.38
2153	24.18	AV	V	24.38	3.03	26.84	24.75	18.75	54	35.25
3879	34.16	PK	V	28.52	4.74	26.56	40.86	34.86	74	39.14
3879	22.53	AV	V	28.52	4.74	26.56	29.23	23.23	54	30.77
273.47	47.06	QP	H	13.77	1.28	27.49	34.62	34.62	46.00	11.38
291.9	46.7	QP	H	14.02	1.09	27.53	34.28	34.28	46.00	11.72

802.11 ac 80 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	45.01	PK	H	31.78	5.24	0.00	82.03	76.03	N/A	N/A
5210	33.09	AV	H	31.78	5.24	0.00	70.11	64.11	N/A	N/A
5210	58.78	PK	V	31.78	5.24	0.00	95.8	89.8	N/A	N/A
5210	46.96	AV	V	31.78	5.24	0.00	83.98	77.98	N/A	N/A
5150	28.44	PK	V	31.67	5.18	0.00	65.29	59.29	74	14.71
5150	14.72	AV	V	31.67	5.18	0.00	51.57	45.57	54	8.43
5350	27.33	PK	V	32.03	5.37	0.00	64.73	58.73	74	15.27
5350	14.56	AV	V	32.03	5.37	0.00	51.96	45.96	54	8.04
10420	35.15	PK	V	37.38	7.80	26.36	53.97	47.97	74	26.03
10420	22.86	AV	V	37.38	7.80	26.36	41.68	35.68	54	18.32
15630	35.21	PK	V	39.43	10.23	25.31	59.56	53.56	74	20.44
15630	23.76	AV	V	39.43	10.23	25.31	48.11	42.11	54	11.89
3065	39.53	PK	V	24.56	3.53	26.43	41.19	35.19	74	38.81
3065	27.35	AV	V	24.56	3.53	26.43	29.01	23.01	54	30.99
273.47	46.59	QP	H	13.77	1.28	27.49	34.15	34.15	46.00	11.85
291.9	47.14	QP	H	14.02	1.09	27.53	34.72	34.72	46.00	11.28

5250-5350MHz

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:5260 MHz										
5260	58.47	PK	H	31.62	5.24	0.00	95.33	89.33	N/A	N/A
5260	46.39	AV	H	31.62	5.24	0.00	83.25	77.25	N/A	N/A
5260	69.29	PK	V	31.62	5.24	0.00	106.15	100.15	N/A	N/A
5260	57.12	AV	V	31.62	5.24	0.00	93.98	87.98	N/A	N/A
5150	27.88	PK	V	31.40	5.26	0.00	64.54	58.54	74.00	15.46
5150	14.52	AV	V	31.40	5.26	0.00	51.18	45.18	54.00	8.82
10520	34.24	PK	V	37.02	8.21	26.27	53.20	47.20	74.00	26.80
10520	22.45	AV	V	37.02	8.21	26.27	41.41	35.41	54.00	18.59
15780	32.67	PK	V	37.00	13.95	25.04	58.58	52.58	74.00	21.42
15780	21.13	AV	V	37.00	13.95	25.04	47.04	41.04	54.00	12.96
1516	35.26	PK	V	23.63	2.61	27.47	34.03	28.03	74.00	45.97
1516	23.70	AV	V	23.63	2.61	27.47	22.47	16.47	54.00	37.53
2209	33.92	PK	V	25.14	3.34	27.29	35.11	29.11	74.00	44.89
2209	22.66	AV	V	25.14	3.34	27.29	23.85	17.85	54.00	36.15
273.47	46.14	QP	H	13.77	1.28	27.49	33.70	33.70	46.00	12.30
291.9	47.26	QP	H	14.02	1.09	27.53	34.84	34.84	46.00	11.16
Middle Channel:5280 MHz										
5280	58.14	PK	H	31.66	5.25	0.00	95.05	89.05	N/A	N/A
5280	46.31	AV	H	31.66	5.25	0.00	83.22	77.22	N/A	N/A
5280	68.92	PK	V	31.66	5.25	0.00	105.83	99.83	N/A	N/A
5280	56.47	AV	V	31.66	5.25	0.00	93.38	87.38	N/A	N/A
10560	33.84	PK	V	37.05	8.22	26.52	52.59	46.59	74.00	27.41
10560	22.46	AV	V	37.05	8.22	26.52	41.21	35.21	54.00	18.79
15840	32.74	PK	V	36.89	13.71	24.99	58.35	52.35	74.00	21.65
15840	21.52	AV	V	36.89	13.71	24.99	47.13	41.13	54.00	12.87
1543	34.80	PK	V	23.69	2.65	27.58	33.56	27.56	74.00	46.44
1543	23.63	AV	V	23.69	2.65	27.58	22.39	16.39	54.00	37.61
2252	33.39	PK	V	25.26	3.44	27.30	34.79	28.79	74.00	45.21
2252	22.28	AV	V	25.26	3.44	27.30	23.68	17.68	54.00	36.32
273.47	46.41	QP	H	13.77	1.28	27.49	33.97	33.97	46.00	12.03
291.9	47.4	QP	H	14.02	1.09	27.53	34.98	34.98	46.00	11.02
High Channel:5320 MHz										
5320	57.54	PK	H	31.74	5.40	0.00	94.68	88.68	N/A	N/A
5320	45.10	AV	H	31.74	5.40	0.00	82.24	76.24	N/A	N/A
5320	69.10	PK	V	31.74	5.40	0.00	106.24	100.24	N/A	N/A
5320	56.38	AV	V	31.74	5.40	0.00	93.52	87.52	N/A	N/A
5350	27.46	PK	V	31.80	5.61	0.00	64.87	58.87	74.00	15.13
5350	14.32	AV	V	31.80	5.61	0.00	51.73	45.73	54.00	8.27
10640	34.08	PK	V	37.11	8.24	26.78	52.65	46.65	74.00	27.35
10640	22.40	AV	V	37.11	8.24	26.78	40.97	34.97	54.00	19.03
15960	32.62	PK	V	36.67	13.21	24.70	57.80	51.80	74.00	22.20
15960	21.39	AV	V	36.67	13.21	24.70	46.57	40.57	54.00	13.43
1597	34.53	PK	V	23.79	2.55	27.80	33.07	27.07	74.00	46.93
1597	23.66	AV	V	23.79	2.55	27.80	22.20	16.20	54.00	37.80
2294	34.17	PK	V	25.36	3.40	27.30	35.63	29.63	74.00	44.37
2294	22.20	AV	V	25.36	3.40	27.30	23.66	17.66	54.00	36.34
273.47	47.25	QP	H	13.77	1.28	27.49	34.81	34.81	46.00	11.19
291.9	47.82	QP	H	14.02	1.09	27.53	35.40	35.40	46.00	10.60

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:5260 MHz										
5260	57.48	PK	H	31.87	5.28	0.00	94.63	88.63	N/A	N/A
5260	45.18	AV	H	31.87	5.28	0.00	82.33	76.33	N/A	N/A
5260	70.95	PK	V	31.87	5.28	0.00	108.1	102.1	N/A	N/A
5260	59.47	AV	V	31.87	5.28	0.00	96.62	90.62	N/A	N/A
5150	27.06	PK	V	31.67	5.18	0.00	63.91	57.91	74	16.09
5150	13.99	AV	V	31.67	5.18	0.00	50.84	44.84	54	9.16
10520	34.62	PK	V	37.41	7.86	26.34	53.55	47.55	74	26.45
10520	22.49	AV	V	37.41	7.86	26.34	41.42	35.42	54	18.58
15780	34.84	PK	V	39.46	10.25	25.30	59.25	53.25	74	20.75
15780	22.78	AV	V	39.46	10.25	25.30	47.19	41.19	54	12.81
1384	34.19	PK	V	23.80	2.51	26.44	34.06	28.06	74	45.94
1384	22.56	AV	V	23.80	2.51	26.44	22.43	16.43	54	37.57
4033	33.70	PK	V	29.05	4.94	26.57	41.12	35.12	74	38.88
4033	21.83	AV	V	29.05	4.94	26.57	29.25	23.25	54	30.75
273.47	46.78	QP	H	13.77	1.28	27.49	34.34	34.34	46.00	11.66
291.9	48.26	QP	H	14.02	1.09	27.53	35.84	35.84	46.00	10.16
Middle Channel:5280 MHz										
5280	56.55	PK	H	31.90	5.30	0.00	93.75	87.75	N/A	N/A
5280	44.24	AV	H	31.90	5.30	0.00	81.44	75.44	N/A	N/A
5280	70.91	PK	V	31.90	5.30	0.00	108.11	102.11	N/A	N/A
5280	58.74	AV	V	31.90	5.30	0.00	95.94	89.94	N/A	N/A
10560	33.65	PK	V	37.42	7.89	26.32	52.64	46.64	74	27.36
10560	21.90	AV	V	37.42	7.89	26.32	40.89	34.89	54	19.11
15840	34.33	PK	V	39.47	10.26	25.29	58.77	52.77	74	21.23
15840	22.69	AV	V	39.47	10.26	25.29	47.13	41.13	54	12.87
1406	34.47	PK	V	23.86	2.54	26.42	34.45	28.45	74	45.55
1406	22.86	AV	V	23.86	2.54	26.42	22.84	16.84	54	37.16
4098	33.69	PK	V	29.16	4.99	26.61	41.23	35.23	74	38.77
4098	22.02	AV	V	29.16	4.99	26.61	29.56	23.56	54	30.44
273.47	46.31	QP	H	13.77	1.28	27.49	33.87	33.87	46.00	12.13
291.9	48.7	QP	H	14.02	1.09	27.53	36.28	36.28	46.00	9.72
High Channel:5320 MHz										
5320	56.00	PK	H	31.98	5.34	0.00	93.32	87.32	N/A	N/A
5320	43.89	AV	H	31.98	5.34	0.00	81.21	75.21	N/A	N/A
5320	70.44	PK	V	31.98	5.34	0.00	107.76	101.76	N/A	N/A
5320	58.81	AV	V	31.98	5.34	0.00	96.13	90.13	N/A	N/A
5350	27.41	PK	V	32.03	5.37	0.00	64.81	58.81	74	15.19
5350	14.69	AV	V	32.03	5.37	0.00	52.09	46.09	54	7.91
10640	33.83	PK	V	37.46	7.95	26.27	52.97	46.97	74	27.03
10640	22.19	AV	V	37.46	7.95	26.27	41.33	35.33	54	18.67
15960	33.28	PK	V	39.49	10.27	25.28	57.76	51.76	74	22.24
15960	22.27	AV	V	39.49	10.27	25.28	46.75	40.75	54	13.25
1426	33.67	PK	V	23.91	2.57	26.40	33.75	27.75	74	46.25
1426	21.99	AV	V	23.91	2.57	26.40	22.07	16.07	54	37.93
4119	34.05	PK	V	29.19	5.00	26.62	41.62	35.62	74	38.38
4119	22.51	AV	V	29.19	5.00	26.62	30.08	24.08	54	29.92
273.47	46.48	QP	H	13.77	1.28	27.49	34.04	34.04	46.00	11.96
291.9	47.69	QP	H	14.02	1.09	27.53	35.27	35.27	46.00	10.73

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:5270 MHz										
5270	51.83	PK	H	31.89	5.29	0.00	89.01	83.01	N/A	N/A
5270	39.03	AV	H	31.89	5.29	0.00	76.21	70.21	N/A	N/A
5270	65.80	PK	V	31.89	5.29	0.00	102.98	96.98	N/A	N/A
5270	53.97	AV	V	31.89	5.29	0.00	91.15	85.15	N/A	N/A
5150	27.63	PK	V	31.67	5.18	0.00	64.48	58.48	74	15.52
5150	15.15	AV	V	31.67	5.18	0.00	52	46	54	8
10540	33.97	PK	V	37.42	7.88	26.33	52.94	46.94	74	27.06
10540	22.21	AV	V	37.42	7.88	26.33	41.18	35.18	54	18.82
15810	34.39	PK	V	39.46	10.25	25.30	58.8	52.8	74	21.2
15810	22.92	AV	V	39.46	10.25	25.30	47.33	41.33	54	12.67
1345	34.12	PK	V	23.70	2.46	26.48	33.8	27.8	74	46.2
1345	22.20	AV	V	23.70	2.46	26.48	21.88	15.88	54	38.12
4127	34.45	PK	V	29.20	5.01	26.63	42.03	36.03	74	37.97
4127	22.93	AV	V	29.20	5.01	26.63	30.51	24.51	54	29.49
273.47	46.75	QP	H	13.77	1.28	27.49	34.31	34.31	46.00	11.69
291.9	47.83	QP	H	14.02	1.09	27.53	35.41	35.41	46.00	10.59
High Channel:5310 MHz										
5310	51.60	PK	H	31.96	5.33	0.00	88.89	82.89	N/A	N/A
5310	38.71	AV	H	31.96	5.33	0.00	76	70	N/A	N/A
5310	66.19	PK	V	31.96	5.33	0.00	103.48	97.48	N/A	N/A
5310	53.43	AV	V	31.96	5.33	0.00	90.72	84.72	N/A	N/A
5350	29.08	PK	V	32.03	5.37	0.00	66.48	60.48	74	13.52
5350	15.37	AV	V	32.03	5.37	0.00	52.77	46.77	54	7.23
10620	33.26	PK	V	37.45	7.93	26.28	52.36	46.36	74	27.64
10620	20.61	AV	V	37.45	7.93	26.28	39.71	33.71	54	20.29
15930	34.19	PK	V	39.49	10.27	25.29	58.66	52.66	74	21.34
15930	22.26	AV	V	39.49	10.27	25.29	46.73	40.73	54	13.27
1387	34.42	PK	V	23.81	2.51	26.44	34.3	28.3	74	45.7
1387	23.14	AV	V	23.81	2.51	26.44	23.02	17.02	54	36.98
4165	34.04	PK	V	29.26	5.04	26.65	41.69	35.69	74	38.31
4165	22.19	AV	V	29.26	5.04	26.65	29.84	23.84	54	30.16
273.47	47.59	QP	H	13.77	1.28	27.49	35.15	35.15	46.00	10.85
291.9	48.25	QP	H	14.02	1.09	27.53	35.83	35.83	46.00	10.17

802.11 ac 80 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:5290 MHz										
5290	49.56	PK	H	31.92	5.31	0.00	86.79	80.79	N/A	N/A
5290	38.43	AV	H	31.92	5.31	0.00	75.66	69.66	N/A	N/A
5290	61.63	PK	V	31.92	5.31	0.00	98.86	92.86	N/A	N/A
5290	49.17	AV	V	31.92	5.31	0.00	86.4	80.4	N/A	N/A
5150	26.48	PK	V	31.67	5.18	0.00	63.33	57.33	74	16.67
5150	13.94	AV	V	31.67	5.18	0.00	50.79	44.79	54	9.21
5350	27.12	PK	V	32.03	5.37	0.00	64.52	58.52	74	15.48
5350	14.66	AV	V	32.03	5.37	0.00	52.06	46.06	54	7.94
10580	33.85	PK	V	37.43	7.91	26.30	52.89	46.89	74	27.11
10580	21.58	AV	V	37.43	7.91	26.30	40.62	34.62	54	19.38
15870	34.47	PK	V	39.47	10.26	25.29	58.91	52.91	74	21.09
15870	22.61	AV	V	39.47	10.26	25.29	47.05	41.05	54	12.95
3118	39.52	PK	V	24.86	3.61	26.45	41.54	35.54	74	38.46
3118	28.73	AV	V	24.86	3.61	26.45	30.75	24.75	54	29.25
273.47	47.12	QP	H	13.77	1.28	27.49	34.68	34.68	46.00	11.32
291.9	48.69	QP	H	14.02	1.09	27.53	36.27	36.27	46.00	9.73

5470-5725MHz(For Canada RSS-247, channels 118 to 128 were disabled by software)

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:5500 MHz										
5500	59.83	PK	H	32.30	5.52	0.00	97.65	91.65	N/A	N/A
5500	47.28	AV	H	32.30	5.52	0.00	85.1	79.1	N/A	N/A
5500	71.13	PK	V	32.30	5.52	0.00	108.95	102.95	N/A	N/A
5500	59.73	AV	V	32.30	5.52	0.00	97.55	91.55	N/A	N/A
5470	30.21	PK	V	32.25	5.49	0.00	67.95	61.95	74	12.05
5470	16.03	AV	V	32.25	5.49	0.00	53.77	47.77	54	6.23
11000	33.41	PK	V	37.60	8.20	26.06	53.15	47.15	74	26.85
11000	21.90	AV	V	37.60	8.20	26.06	41.64	35.64	54	18.36
16500	34.32	PK	V	40.30	10.44	25.48	59.58	53.58	74	20.42
16500	23.05	AV	V	40.30	10.44	25.48	48.31	42.31	54	11.69
1426	33.80	PK	V	23.91	2.57	26.40	33.88	27.88	74	46.12
1426	23.06	AV	V	23.91	2.57	26.40	23.14	17.14	54	36.86
3418	36.00	PK	V	26.54	4.06	26.56	40.04	34.04	74	39.96
3418	23.85	AV	V	26.54	4.06	26.56	27.89	21.89	54	32.11
273.47	46.65	QP	H	13.77	1.28	27.49	34.21	34.21	46.00	11.79
291.9	49.13	QP	H	14.02	1.09	27.53	36.71	36.71	46.00	9.29
Middle Channel:5580 MHz										
5580	58.68	PK	H	32.40	5.59	0.00	96.67	90.67	N/A	N/A
5580	46.06	AV	H	32.40	5.59	0.00	84.05	78.05	N/A	N/A
5580	71.29	PK	V	32.40	5.59	0.00	109.28	103.28	N/A	N/A
5580	59.04	AV	V	32.40	5.59	0.00	97.03	91.03	N/A	N/A
11160	34.40	PK	V	37.73	8.21	26.05	54.29	48.29	74	25.71
11160	22.65	AV	V	37.73	8.21	26.05	42.54	36.54	54	17.46
16740	35.66	PK	V	41.07	10.44	25.57	61.6	55.6	74	18.4
16740	24.38	AV	V	41.07	10.44	25.57	50.32	44.32	54	9.68
1467	33.16	PK	V	24.01	2.62	26.36	33.43	27.43	74	46.57
1467	21.92	AV	V	24.01	2.62	26.36	22.19	16.19	54	37.81
3452	35.70	PK	V	26.73	4.11	26.57	39.97	33.97	74	40.03
3452	23.99	AV	V	26.73	4.11	26.57	28.26	22.26	54	31.74
273.47	46.88	QP	H	13.77	1.28	27.49	34.44	46.00	11.56	273.47
291.9	47.21	QP	H	14.02	1.09	27.53	34.79	46.00	11.21	291.9
High Channel:5700 MHz										
5700	58.23	PK	H	32.54	5.70	0.00	96.47	90.47	N/A	N/A
5700	46.41	AV	H	32.54	5.70	0.00	84.65	78.65	N/A	N/A
5700	71.35	PK	V	32.54	5.70	0.00	109.59	103.59	N/A	N/A
5700	59.62	AV	V	32.54	5.70	0.00	97.86	91.86	N/A	N/A
5725	29.85	PK	V	32.57	5.72	0.00	68.14	62.14	74	11.86
5725	16.20	AV	V	32.57	5.72	0.00	54.49	48.49	54	5.51
11400	34.94	PK	V	37.92	8.22	26.03	55.05	49.05	74	24.95
11400	23.17	AV	V	37.92	8.22	26.03	43.28	37.28	54	16.72
17100	34.85	PK	V	42.36	10.60	25.80	62.01	56.01	74	17.99
17100	23.39	AV	V	42.36	10.60	25.80	50.55	44.55	54	9.45
1524	32.68	PK	V	24.14	2.69	26.35	33.16	27.16	74	46.84
1524	21.51	AV	V	24.14	2.69	26.35	21.99	15.99	54	38.01
3506	35.23	PK	V	27.02	4.19	26.59	39.85	33.85	74	40.15
3506	23.38	AV	V	27.02	4.19	26.59	28	22	54	32
273.47	47.15	QP	H	13.77	1.28	27.49	34.71	46.00	11.29	273.47
291.9	47.35	QP	H	14.02	1.09	27.53	34.93	46.00	11.07	291.9

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)						
Crossed Channel:5720 MHz										
5720	59.16	PK	H	32.56	5.71	0.00	97.43	91.43	N/A	N/A
5720	46.73	AV	H	32.56	5.71	0.00	85	79	N/A	N/A
5720	72.41	PK	V	32.56	5.71	0.00	110.68	104.68	N/A	N/A
5720	59.96	AV	V	32.56	5.71	0.00	98.23	92.23	N/A	N/A
11440	34.32	PK	V	37.95	8.22	26.02	54.47	48.47	74	25.53
11440	22.64	AV	V	37.95	8.22	26.02	42.79	36.79	54	17.21
17160	34.26	PK	V	42.64	10.70	25.89	61.71	55.71	74	18.29
17160	23.15	AV	V	42.64	10.70	25.89	50.6	44.6	54	9.4
1565	32.98	PK	V	24.20	2.72	26.39	33.51	27.51	74	46.49
1565	21.41	AV	V	24.20	2.72	26.39	21.94	15.94	54	38.06
3537	34.88	PK	V	27.15	4.23	26.59	39.67	33.67	74	40.33
3537	24.13	AV	V	27.15	4.23	26.59	28.92	22.92	54	31.08
273.47	47.99	QP	H	13.77	1.28	27.49	35.55	35.55	46.00	10.45
291.9	47.77	QP	H	14.02	1.09	27.53	35.35	35.35	46.00	10.65

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:5500 MHz										
5500	59.04	PK	H	32.30	5.52	0.00	96.86	90.86	N/A	N/A
5500	47.29	AV	H	32.30	5.52	0.00	85.11	79.11	N/A	N/A
5500	71.83	PK	V	32.30	5.52	0.00	109.65	103.65	N/A	N/A
5500	59.30	AV	V	32.30	5.52	0.00	97.12	91.12	N/A	N/A
5470	27.96	PK	V	32.25	5.49	0.00	65.7	59.7	74	14.3
5470	14.47	AV	V	32.25	5.49	0.00	52.21	46.21	54	7.79
11000	33.98	PK	V	37.60	8.20	26.06	53.72	47.72	74	26.28
11000	22.38	AV	V	37.60	8.20	26.06	42.12	36.12	54	17.88
16500	34.12	PK	V	40.30	10.44	25.48	59.38	53.38	74	20.62
16500	23.01	AV	V	40.30	10.44	25.48	48.27	42.27	54	11.73
1434	33.67	PK	V	23.93	2.58	26.39	33.79	27.79	74	46.21
1434	22.92	AV	V	23.93	2.58	26.39	23.04	17.04	54	36.96
3276	37.55	PK	V	25.75	3.84	26.51	40.63	34.63	74	39.37
3276	25.52	AV	V	25.75	3.84	26.51	28.6	22.6	54	31.4
273.47	47.52	QP	H	13.77	1.28	27.49	35.08	35.08	46.00	10.92
291.9	48.21	QP	H	14.02	1.09	27.53	35.79	35.79	46.00	10.21
Middle Channel:5580 MHz										
5580	60.58	PK	H	32.40	5.59	0.00	98.57	92.57	N/A	N/A
5580	48.33	AV	H	32.40	5.59	0.00	86.32	80.32	N/A	N/A
5580	71.16	PK	V	32.40	5.59	0.00	109.15	103.15	N/A	N/A
5580	58.92	AV	V	32.40	5.59	0.00	96.91	90.91	N/A	N/A
11160	34.27	PK	V	37.73	8.21	26.05	54.16	48.16	74	25.84
11160	22.76	AV	V	37.73	8.21	26.05	42.65	36.65	54	17.35
16740	35.80	PK	V	41.07	10.44	25.57	61.74	55.74	74	18.26
16740	24.48	AV	V	41.07	10.44	25.57	50.42	44.42	54	9.58
1487	33.33	PK	V	24.07	2.65	26.34	33.71	27.71	74	46.29
1487	22.28	AV	V	24.07	2.65	26.34	22.66	16.66	54	37.34
3305	36.30	PK	V	25.91	3.89	26.52	39.58	33.58	74	40.42
3305	25.07	AV	V	25.91	3.89	26.52	28.35	22.35	54	31.65
273.47	47.05	QP	H	13.77	1.28	27.49	34.61	34.61	46.00	11.39
291.9	48.65	QP	H	14.02	1.09	27.53	36.23	36.23	46.00	9.77
High Channel:5700 MHz										
5700	60.96	PK	H	32.54	5.70	0.00	99.2	93.2	N/A	N/A
5700	49.30	AV	H	32.54	5.70	0.00	87.54	81.54	N/A	N/A
5700	69.86	PK	V	32.54	5.70	0.00	108.1	102.1	N/A	N/A
5700	57.50	AV	V	32.54	5.70	0.00	95.74	89.74	N/A	N/A
5725	29.11	PK	V	32.57	5.72	0.00	67.4	61.4	74	12.6
5725	14.29	AV	V	32.57	5.72	0.00	52.58	46.58	54	7.42
11400	34.29	PK	V	37.92	8.22	26.03	54.4	48.4	74	25.6
11400	22.35	AV	V	37.92	8.22	26.03	42.46	36.46	54	17.54
17100	35.01	PK	V	42.36	10.60	25.80	62.17	56.17	74	17.83
17100	23.82	AV	V	42.36	10.60	25.80	50.98	44.98	54	9.02
1510	32.93	PK	V	24.12	2.68	26.34	33.39	27.39	74	46.61
1510	21.48	AV	V	24.12	2.68	26.34	21.94	15.94	54	38.06
3342	35.94	PK	V	26.12	3.94	26.53	39.47	33.47	74	40.53
3342	24.60	AV	V	26.12	3.94	26.53	28.13	22.13	54	31.87
273.47	45.71	QP	H	13.77	1.28	27.49	33.27	33.27	46.00	12.73
291.9	46	QP	H	14.02	1.09	27.53	33.58	33.58	46.00	12.42

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)						
Crossed Channel:5720 MHz										
5720	59.97	PK	H	32.56	5.71	0.00	98.24	92.24	N/A	N/A
5720	47.72	AV	H	32.56	5.71	0.00	85.99	79.99	N/A	N/A
5720	71.84	PK	V	32.56	5.71	0.00	110.11	104.11	N/A	N/A
5720	59.59	AV	V	32.56	5.71	0.00	97.86	91.86	N/A	N/A
11440	34.20	PK	V	37.95	8.22	26.02	54.35	48.35	74	25.65
11440	22.29	AV	V	37.95	8.22	26.02	42.44	36.44	54	17.56
17160	34.95	PK	V	42.64	10.70	25.89	62.4	56.4	74	17.6
17160	22.97	AV	V	42.64	10.70	25.89	50.42	44.42	54	9.58
1538	33.34	PK	V	24.16	2.70	26.37	33.83	27.83	74	46.17
1538	22.08	AV	V	24.16	2.70	26.37	22.57	16.57	54	37.43
3379	36.47	PK	V	26.32	4.00	26.55	40.24	34.24	74	39.76
3379	25.18	AV	V	26.32	4.00	26.55	28.95	22.95	54	31.05
273.47	45.98	QP	H	13.77	1.28	27.49	33.54	33.54	46.00	12.46
291.9	46.14	QP	H	14.02	1.09	27.53	33.72	33.72	46.00	12.28

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:5510 MHz										
5510	58.13	PK	H	32.31	5.53	0.00	95.97	89.97	N/A	N/A
5510	47.66	AV	H	32.31	5.53	0.00	85.5	79.5	N/A	N/A
5510	69.87	PK	V	32.31	5.53	0.00	107.71	101.71	N/A	N/A
5510	58.82	AV	V	32.31	5.53	0.00	96.66	90.66	N/A	N/A
5470	29.24	PK	V	32.25	5.49	0.00	66.98	60.98	74	13.02
5470	16.30	AV	V	32.25	5.49	0.00	54.04	48.04	54	5.96
11020	33.43	PK	V	37.62	8.20	26.06	53.19	47.19	74	26.81
11020	22.14	AV	V	37.62	8.20	26.06	41.9	35.9	54	18.1
16530	34.94	PK	V	40.40	10.44	25.49	60.29	54.29	74	19.71
16530	23.05	AV	V	40.40	10.44	25.49	48.4	42.4	54	11.6
1434	33.63	PK	V	23.93	2.58	26.39	33.75	27.75	74	46.25
1434	22.92	AV	V	23.93	2.58	26.39	23.04	17.04	54	36.96
3276	37.14	PK	V	25.75	3.84	26.51	40.22	34.22	74	39.78
3276	25.48	AV	V	25.75	3.84	26.51	28.56	22.56	54	31.44
273.47	46.82	QP	H	13.77	1.28	27.49	34.38	34.38	46.00	11.62
291.9	46.56	QP	H	14.02	1.09	27.53	34.14	34.14	46.00	11.86
Middle Channel:5590 MHz										
5590	57.41	PK	H	32.41	5.60	0.00	95.42	89.42	N/A	N/A
5590	46.48	AV	H	32.41	5.60	0.00	84.49	78.49	N/A	N/A
5590	69.19	PK	V	32.41	5.60	0.00	107.2	101.2	N/A	N/A
5590	58.04	AV	V	32.41	5.60	0.00	96.05	90.05	N/A	N/A
11180	34.22	PK	V	37.74	8.21	26.05	54.12	48.12	74	25.88
11180	22.31	AV	V	37.74	8.21	26.05	42.21	36.21	54	17.79
16770	35.24	PK	V	41.16	10.43	25.58	61.25	55.25	74	18.75
16770	23.91	AV	V	41.16	10.43	25.58	49.92	43.92	54	10.08
1487	32.84	PK	V	24.07	2.65	26.34	33.22	27.22	74	46.78
1487	22.11	AV	V	24.07	2.65	26.34	22.49	16.49	54	37.51
3305	36.58	PK	V	25.91	3.89	26.52	39.86	33.86	74	40.14
3305	25.29	AV	V	25.91	3.89	26.52	28.57	22.57	54	31.43
273.47	46.35	QP	H	13.77	1.28	27.49	33.91	33.91	46.00	12.09
291.9	47	QP	H	14.02	1.09	27.53	34.58	34.58	46.00	11.42
High Channel:5670 MHz										
5670	57.23	PK	H	32.50	5.67	0.00	95.4	89.4	N/A	N/A
5670	45.85	AV	H	32.50	5.67	0.00	84.02	78.02	N/A	N/A
5670	68.97	PK	V	32.50	5.67	0.00	107.14	101.14	N/A	N/A
5670	57.82	AV	V	32.50	5.67	0.00	95.99	89.99	N/A	N/A
5725	29.24	PK	V	32.57	5.72	0.00	67.53	61.53	74	12.47
5725	14.49	AV	V	32.57	5.72	0.00	52.78	46.78	54	7.22
11340	34.69	PK	V	37.87	8.21	26.03	54.74	48.74	74	25.26
11340	22.47	AV	V	37.87	8.21	26.03	42.52	36.52	54	17.48
17010	35.36	PK	V	41.95	10.45	25.67	62.09	56.09	74	17.91
17010	23.49	AV	V	41.95	10.45	25.67	50.22	44.22	54	9.78
1510	32.75	PK	V	24.12	2.68	26.34	33.21	27.21	74	46.79
1510	21.88	AV	V	24.12	2.68	26.34	22.34	16.34	54	37.66
3342	35.64	PK	V	26.12	3.94	26.53	39.17	33.17	74	40.83
3342	24.92	AV	V	26.12	3.94	26.53	28.45	22.45	54	31.55
273.47	45.88	QP	H	13.77	1.28	27.49	33.44	33.44	46.00	12.56
291.9	47.44	QP	H	14.02	1.09	27.53	35.02	35.02	46.00	10.98

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)						
Crossed Channel:5710 MHz										
5710	58.19	PK	H	32.55	5.70	0.00	96.44	90.44	N/A	N/A
5710	46.86	AV	H	32.55	5.70	0.00	85.11	79.11	N/A	N/A
5710	69.75	PK	V	32.55	5.70	0.00	108	102	N/A	N/A
5710	58.97	AV	V	32.55	5.70	0.00	97.22	91.22	N/A	N/A
11420	34.48	PK	V	37.94	8.22	26.03	54.61	48.61	74	25.39
11420	22.69	AV	V	37.94	8.22	26.03	42.82	36.82	54	17.18
17130	35.12	PK	V	42.50	10.65	25.84	62.43	56.43	74	17.57
17130	23.50	AV	V	42.50	10.65	25.84	50.81	44.81	54	9.19
1538	32.79	PK	V	24.16	2.70	26.37	33.28	27.28	74	46.72
1538	21.63	AV	V	24.16	2.70	26.37	22.12	16.12	54	37.88
3379	36.63	PK	V	26.32	4.00	26.55	40.4	34.4	74	39.6
3379	25.22	AV	V	26.32	4.00	26.55	28.99	22.99	54	31.01
273.47	47.14	QP	H	13.77	1.28	27.49	34.70	34.70	46.00	11.30
291.9	47.09	QP	H	14.02	1.09	27.53	34.67	34.67	46.00	11.33
Middle Channel for RSS-247:5550 MHz										
5550	58.33	PK	H	32.36	5.56	0.00	96.25	90.25	N/A	N/A
5550	47.22	AV	H	32.36	5.56	0.00	85.14	79.14	N/A	N/A
5550	70.85	PK	V	32.36	5.56	0.00	108.77	102.77	N/A	N/A
5550	59.13	AV	V	32.36	5.56	0.00	97.05	91.05	N/A	N/A
11100	34.53	PK	V	37.68	8.20	26.05	54.36	48.36	74	25.64
11100	23.25	AV	V	37.68	8.20	26.05	43.08	37.08	54	16.92
16650	35.19	PK	V	40.78	10.44	25.53	60.88	54.88	74	19.12
16650	25.00	AV	V	40.78	10.44	25.53	50.69	44.69	54	9.31
1487	33.31	PK	V	24.07	2.65	26.34	33.69	27.69	74	46.31
1487	22.66	AV	V	24.07	2.65	26.34	23.04	17.04	54	36.96
3305	35.46	PK	V	25.91	3.89	26.52	38.74	32.74	74	41.26
3305	26.53	AV	V	25.91	3.89	26.52	29.81	23.81	54	30.19
273.47	47.41	QP	H	13.77	1.28	27.49	34.97	34.97	46.00	11.03
291.9	47.23	QP	H	14.02	1.09	27.53	34.81	34.81	46.00	11.19

802.11 ac 80 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:5530 MHz										
5530	51.14	PK	H	32.34	5.55	0.00	89.03	83.03	N/A	N/A
5530	39.89	AV	H	32.34	5.55	0.00	77.78	71.78	N/A	N/A
5530	61.81	PK	V	32.34	5.55	0.00	99.7	93.7	N/A	N/A
5530	49.97	AV	V	32.34	5.55	0.00	87.86	81.86	N/A	N/A
5470	26.13	PK	V	32.25	5.49	0.00	63.87	57.87	74	16.13
5470	14.01	AV	V	32.25	5.49	0.00	51.75	45.75	54	8.25
11060	33.37	PK	V	37.65	8.20	26.06	53.16	47.16	74	26.84
11060	21.98	AV	V	37.65	8.20	26.06	41.77	35.77	54	18.23
16590	35.25	PK	V	40.59	10.44	25.51	60.77	54.77	74	19.23
16590	23.83	AV	V	40.59	10.44	25.51	49.35	43.35	54	10.65
2143	35.11	PK	V	24.41	3.03	26.84	35.71	29.71	74	44.29
2143	23.48	AV	V	24.41	3.03	26.84	24.08	18.08	54	35.92
273.47	48.25	QP	H	13.77	1.28	27.49	35.81	35.81	46.00	10.19
291.9	47.65	QP	H	14.02	1.09	27.53	35.23	35.23	46.00	10.77
High Channel:5610 MHz										
5610	51.30	PK	H	32.43	5.62	0.00	89.35	83.35	N/A	N/A
5610	39.05	AV	H	32.43	5.62	0.00	77.1	71.1	N/A	N/A
5610	62.23	PK	V	32.43	5.62	0.00	100.28	94.28	N/A	N/A
5610	50.18	AV	V	32.43	5.62	0.00	88.23	82.23	N/A	N/A
5725	25.91	PK	V	32.57	5.72	0.00	64.2	58.2	74	15.8
5725	13.82	AV	V	32.57	5.72	0.00	52.11	46.11	54	7.89
11220	34.07	PK	V	37.78	8.21	26.04	54.02	48.02	74	25.98
11220	22.60	AV	V	37.78	8.21	26.04	42.55	36.55	54	17.45
16830	36.02	PK	V	41.36	10.43	25.60	62.21	56.21	74	17.79
16830	24.48	AV	V	41.36	10.43	25.60	50.67	44.67	54	9.33
2197	35.51	PK	V	24.23	3.03	26.85	35.92	29.92	74	44.08
2197	24.09	AV	V	24.23	3.03	26.85	24.5	18.5	54	35.5
273.47	47.78	QP	H	13.77	1.28	27.49	35.34	35.34	46.00	10.66
291.9	48.09	QP	H	14.02	1.09	27.53	35.67	35.67	46.00	10.33
Crossed Channel:5690 MHz										
5690	50.95	PK	H	32.53	5.69	0.00	89.17	83.17	N/A	N/A
5690	39.17	AV	H	32.53	5.69	0.00	77.39	71.39	N/A	N/A
5690	61.39	PK	V	32.53	5.69	0.00	99.61	93.61	N/A	N/A
5690	49.58	AV	V	32.53	5.69	0.00	87.8	81.8	N/A	N/A
11380	34.69	PK	V	37.90	8.22	26.03	54.78	48.78	74	25.22
11380	23.13	AV	V	37.90	8.22	26.03	43.22	37.22	54	16.78
17070	35.73	PK	V	42.22	10.55	25.76	62.74	56.74	74	17.26
17070	24.35	AV	V	42.22	10.55	25.76	51.36	45.36	54	8.64
2236	35.48	PK	V	24.10	3.02	26.85	35.75	29.75	74	44.25
2236	24.73	AV	V	24.10	3.02	26.85	25	19	54	35
273.47	47.31	QP	H	13.77	1.28	27.49	34.87	34.87	46.00	11.13
291.9	48.53	QP	H	14.02	1.09	27.53	36.11	36.11	46.00	9.89

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	57.46	PK	H	32.59	5.74	0.00	95.79	89.79	N/A	N/A
5745	45.62	AV	H	32.59	5.74	0.00	83.95	77.95	N/A	N/A
5745	69.29	PK	V	32.59	5.74	0.00	107.62	101.62	N/A	N/A
5745	57.41	AV	V	32.59	5.74	0.00	95.74	89.74	N/A	N/A
5725	36.34	PK	V	32.57	5.72	0.00	74.63	68.63	122.2	53.57
5720	28.93	PK	V	32.56	5.71	0.00	67.2	61.2	110.8	49.6
5700	27.81	PK	V	32.54	5.70	0.00	66.05	60.05	105.2	45.15
5650	25.14	PK	V	32.48	5.65	0.00	63.27	57.27	68.2	10.93
11490	34.29	PK	V	37.99	8.22	26.02	54.48	48.48	74	25.52
11490	23.35	AV	V	37.99	8.22	26.02	43.54	37.54	54	16.46
17235	33.76	PK	V	42.98	10.82	25.99	61.57	55.57	74	18.43
17235	22.57	AV	V	42.98	10.82	25.99	50.38	44.38	54	9.62
1435	33.67	PK	V	23.93	2.58	26.39	33.79	27.79	74	46.21
1435	22.83	AV	V	23.93	2.58	26.39	22.95	16.95	54	37.05
3304	36.83	PK	V	25.90	3.89	26.52	40.1	34.1	74	39.9
3304	25.11	AV	V	25.90	3.89	26.52	28.38	22.38	54	31.62
273.47	45.88	QP	H	13.77	1.28	27.49	33.44	33.44	46.00	12.56
291.9	44.21	QP	H	14.02	1.09	27.53	31.79	31.79	46.00	14.21
Middle Channel:5785 MHz										
5785	58.15	PK	H	32.64	5.77	0.00	96.56	90.56	N/A	N/A
5785	45.53	AV	H	32.64	5.77	0.00	83.94	77.94	N/A	N/A
5785	68.48	PK	V	32.64	5.77	0.00	106.89	100.89	N/A	N/A
5785	56.36	AV	V	32.64	5.77	0.00	94.77	88.77	N/A	N/A
11570	34.76	PK	V	38.03	8.21	26.00	55	49	74	25
11570	22.97	AV	V	38.03	8.21	26.00	43.21	37.21	54	16.79
17355	33.17	PK	V	43.53	11.03	26.16	61.57	55.57	74	18.43
17355	21.76	AV	V	43.53	11.03	26.16	50.16	44.16	54	9.84
1472	33.07	PK	V	24.03	2.63	26.36	33.37	27.37	74	46.63
1472	22.43	AV	V	24.03	2.63	26.36	22.73	16.73	54	37.27
3365	35.84	PK	V	26.24	3.98	26.54	39.52	33.52	74	40.48
3365	25.12	AV	V	26.24	3.98	26.54	28.8	22.8	54	31.2
273.47	46.15	QP	H	13.77	1.28	27.49	33.71	33.71	46.00	12.29
291.9	44.35	QP	H	14.02	1.09	27.53	31.93	31.93	46.00	14.07

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)						
High Channel:5825 MHz										
5825	57.88	PK	H	32.69	5.81	0.00	96.38	90.38	N/A	N/A
5825	45.41	AV	H	32.69	5.81	0.00	83.91	77.91	N/A	N/A
5825	68.58	PK	V	32.69	5.81	0.00	107.08	101.08	N/A	N/A
5825	55.97	AV	V	32.69	5.81	0.00	94.47	88.47	N/A	N/A
5850	29.14	PK	V	32.72	5.83	0.00	67.69	61.69	122.2	60.51
5855	27.71	PK	V	32.73	5.83	0.00	66.27	60.27	110.8	50.53
5875	26.93	PK	V	32.75	5.85	0.00	65.53	59.53	105.2	45.67
5925	26.24	PK	V	32.81	5.89	0.00	64.94	58.94	68.2	9.26
11650	34.72	PK	V	38.06	8.20	25.98	55	49	74	25
11650	23.37	AV	V	38.06	8.20	25.98	43.65	37.65	54	16.35
17475	33.00	PK	V	44.09	11.23	26.33	61.99	55.99	74	18.01
17475	21.69	AV	V	44.09	11.23	26.33	50.68	44.68	54	9.32
1507	32.88	PK	V	24.11	2.68	26.34	33.33	27.33	74	46.67
1507	21.57	AV	V	24.11	2.68	26.34	22.02	16.02	54	37.98
3416	36.48	PK	V	26.53	4.05	26.56	40.5	34.5	74	39.5
3416	24.77	AV	V	26.53	4.05	26.56	28.79	22.79	54	31.21
273.47	46.99	QP	H	13.77	1.28	27.49	34.55	34.55	46.00	11.45
291.9	44.77	QP	H	14.02	1.09	27.53	32.35	32.35	46.00	13.65

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	57.92	PK	H	32.59	5.74	0.00	96.25	90.25	N/A	N/A
5745	46.87	AV	H	32.59	5.74	0.00	85.2	79.2	N/A	N/A
5745	70.29	PK	V	32.59	5.74	0.00	108.62	102.62	N/A	N/A
5745	57.61	AV	V	32.59	5.74	0.00	95.94	89.94	N/A	N/A
5725	33.32	PK	V	32.57	5.72	0.00	71.61	65.61	122.2	56.59
5720	28.02	PK	V	32.56	5.71	0.00	66.29	60.29	110.8	50.51
5700	26.32	PK	V	32.54	5.70	0.00	64.56	58.56	105.2	46.64
5650	25.63	PK	V	32.48	5.65	0.00	63.76	57.76	68.2	10.44
11490	34.15	PK	V	37.99	8.22	26.02	54.34	48.34	74	25.66
11490	22.24	AV	V	37.99	8.22	26.02	42.43	36.43	54	17.57
17235	34.05	PK	V	42.98	10.82	25.99	61.86	55.86	74	18.14
17235	22.22	AV	V	42.98	10.82	25.99	50.03	44.03	54	9.97
1452	33.63	PK	V	23.98	2.60	26.38	33.83	27.83	74	46.17
1452	22.12	AV	V	23.98	2.60	26.38	22.32	16.32	54	37.68
3265	37.29	PK	V	25.68	3.83	26.51	40.29	34.29	74	39.71
3265	26.07	AV	V	25.68	3.83	26.51	29.07	23.07	54	30.93
273.47	46.52	QP	H	13.77	1.28	27.49	34.08	34.08	46.00	11.92
291.9	45.21	QP	H	14.02	1.09	27.53	32.79	32.79	46.00	13.21
Middle Channel:5785 MHz										
5785	57.48	PK	H	32.64	5.77	0.00	95.89	89.89	N/A	N/A
5785	45.96	AV	H	32.64	5.77	0.00	84.37	78.37	N/A	N/A
5785	69.84	PK	V	32.64	5.77	0.00	108.25	102.25	N/A	N/A
5785	58.65	AV	V	32.64	5.77	0.00	97.06	91.06	N/A	N/A
11570	34.36	PK	V	38.03	8.21	26.00	54.6	48.6	74	25.4
11570	22.80	AV	V	38.03	8.21	26.00	43.04	37.04	54	16.96
17355	33.67	PK	V	43.53	11.03	26.16	62.07	56.07	74	17.93
17355	21.27	AV	V	43.53	11.03	26.16	49.67	43.67	54	10.33
1487	33.32	PK	V	24.07	2.65	26.34	33.7	27.7	74	46.3
1487	21.97	AV	V	24.07	2.65	26.34	22.35	16.35	54	37.65
3279	36.74	PK	V	25.76	3.85	26.51	39.84	33.84	74	40.16
3279	25.97	AV	V	25.76	3.85	26.51	29.07	23.07	54	30.93
273.47	46.05	QP	H	13.77	1.28	27.49	33.61	33.61	46.00	12.39
291.9	45.65	QP	H	14.02	1.09	27.53	33.23	33.23	46.00	12.77

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)						
High Channel:5825 MHz										
5825	57.11	PK	H	32.69	5.81	0.00	95.61	89.61	N/A	N/A
5825	45.44	AV	H	32.69	5.81	0.00	83.94	77.94	N/A	N/A
5825	69.65	PK	V	32.69	5.81	0.00	108.15	102.15	N/A	N/A
5825	58.54	AV	V	32.69	5.81	0.00	97.04	91.04	N/A	N/A
5850	27.03	PK	V	32.72	5.83	0.00	65.58	59.58	122.2	62.62
5855	26.46	PK	V	32.73	5.83	0.00	65.02	59.02	110.8	51.78
5875	26.16	PK	V	32.75	5.85	0.00	64.76	58.76	105.2	46.44
5925	28.69	PK	V	32.81	5.89	0.00	67.39	61.39	68.2	6.81
11650	34.81	PK	V	38.06	8.20	25.98	55.09	49.09	74	24.91
11650	23.07	AV	V	38.06	8.20	25.98	43.35	37.35	54	16.65
17475	33.02	PK	V	44.09	11.23	26.33	62.01	56.01	74	17.99
17475	21.44	AV	V	44.09	11.23	26.33	50.43	44.43	54	9.57
1526	33.03	PK	V	24.14	2.69	26.36	33.5	27.5	74	46.5
1526	21.64	AV	V	24.14	2.69	26.36	22.11	16.11	54	37.89
3314	36.23	PK	V	25.96	3.90	26.52	39.57	33.57	74	40.43
3314	24.89	AV	V	25.96	3.90	26.52	28.23	22.23	54	31.77
273.47	45.92	QP	H	13.77	1.28	27.49	33.48	33.48	46.00	12.52
291.9	46.21	QP	H	14.02	1.09	27.53	33.79	33.79	46.00	12.21

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:5755 MHz										
5755	54.08	PK	H	32.61	5.74	0.00	92.43	86.43	N/A	N/A
5755	39.48	AV	H	32.61	5.74	0.00	77.83	71.83	N/A	N/A
5755	65.73	PK	V	32.61	5.74	0.00	104.08	98.08	N/A	N/A
5755	51.56	AV	V	32.61	5.74	0.00	89.91	83.91	N/A	N/A
5725	30.72	PK	V	32.57	5.72	0.00	69.01	63.01	122.2	59.19
5720	31.95	PK	V	32.56	5.71	0.00	70.22	64.22	110.8	46.58
5700	27.77	PK	V	32.54	5.70	0.00	66.01	60.01	105.2	45.19
5650	27.01	PK	V	32.48	5.65	0.00	65.14	59.14	68.2	9.06
11510	34.60	PK	V	38.00	8.22	26.02	54.8	48.8	74	25.2
11510	22.48	AV	V	38.00	8.22	26.02	42.68	36.68	54	17.32
17265	33.92	PK	V	43.12	10.88	26.04	61.88	55.88	74	18.12
17265	22.79	AV	V	43.12	10.88	26.04	50.75	44.75	54	9.25
1553	33.07	PK	V	24.18	2.71	26.38	33.58	27.58	74	46.42
1553	21.68	AV	V	24.18	2.71	26.38	22.19	16.19	54	37.81
3518	34.94	PK	V	27.07	4.21	26.59	39.63	33.63	74	40.37
3518	24.13	AV	V	27.07	4.21	26.59	28.82	22.82	54	31.18
273.47	46.19	QP	H	13.77	1.28	27.49	33.75	33.75	46.00	12.25
291.9	46.35	QP	H	14.02	1.09	27.53	33.93	33.93	46.00	12.07
High Channel:5795 MHz										
5795	52.85	PK	H	32.65	5.78	0.00	91.28	85.28	N/A	N/A
5795	39.20	AV	H	32.65	5.78	0.00	77.63	71.63	N/A	N/A
5795	64.98	PK	V	32.65	5.78	0.00	103.41	97.41	N/A	N/A
5795	51.12	AV	V	32.65	5.78	0.00	89.55	83.55	N/A	N/A
5850	26.85	PK	V	32.72	5.83	0.00	65.4	59.4	122.2	62.8
5855	26.35	PK	V	32.73	5.83	0.00	64.91	58.91	110.8	51.89
5875	26.02	PK	V	32.75	5.85	0.00	64.62	58.62	105.2	46.58
5925	26.17	PK	V	32.81	5.89	0.00	64.87	58.87	68.2	9.33
11590	34.75	PK	V	38.04	8.21	25.99	55.01	49.01	74	24.99
11590	23.14	AV	V	38.04	8.21	25.99	43.4	37.4	54	16.6
17385	33.38	PK	V	43.67	11.08	26.21	61.92	55.92	74	18.08
17385	21.92	AV	V	43.67	11.08	26.21	50.46	44.46	54	9.54
1594	32.71	PK	V	24.25	2.74	26.42	33.28	27.28	74	46.72
1594	21.46	AV	V	24.25	2.74	26.42	22.03	16.03	54	37.97
3547	34.54	PK	V	27.19	4.25	26.59	39.39	33.39	74	40.61
3547	23.38	AV	V	27.19	4.25	26.59	28.23	22.23	54	31.77
273.47	47.03	QP	H	13.77	1.28	27.49	34.59	34.59	46.00	11.41
291.9	46.77	QP	H	14.02	1.09	27.53	34.35	34.35	46.00	11.65

802.11 ac 80 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)						
5775 MHz										
5775	49.62	PK	H	32.63	5.76	0.00	88.01	82.01	N/A	N/A
5775	38.04	AV	H	32.63	5.76	0.00	76.43	70.43	N/A	N/A
5775	60.79	PK	V	32.63	5.76	0.00	99.18	93.18	N/A	N/A
5775	48.97	AV	V	32.63	5.76	0.00	87.36	81.36	N/A	N/A
5725	30.98	PK	V	32.57	5.72	0.00	69.27	63.27	122.2	58.93
5720	32.28	PK	V	32.56	5.71	0.00	70.55	64.55	110.8	46.25
5700	27.52	PK	V	32.54	5.70	0.00	65.76	59.76	105.2	45.44
5650	26.81	PK	V	32.48	5.65	0.00	64.94	58.94	68.2	9.26
5850	27.36	PK	V	32.72	5.83	0.00	65.91	59.91	122.2	62.29
5855	26.98	PK	V	32.73	5.83	0.00	65.54	59.54	110.8	51.26
5875	26.22	PK	V	32.75	5.85	0.00	64.82	58.82	105.2	46.38
5925	26.26	PK	V	32.81	5.89	0.00	64.96	58.96	68.2	9.24
11550	35.39	PK	V	38.02	8.21	26.01	55.61	49.61	74	24.39
11550	23.77	AV	V	38.02	8.21	26.01	43.99	37.99	54	16.01
17325	34.16	PK	V	43.40	10.98	26.12	62.42	56.42	74	17.58
17325	22.67	AV	V	43.40	10.98	26.12	50.93	44.93	54	9.07
2165	35.17	PK	V	24.34	3.03	26.84	35.7	29.7	74	44.3
2165	23.76	AV	V	24.34	3.03	26.84	24.29	18.29	54	35.71
273.47	46.56	QP	H	13.77	1.28	27.49	34.12	34.12	46.00	11.88
291.9	47.21	QP	H	14.02	1.09	27.53	34.79	34.79	46.00	11.21

FCC §15.407(a)& RSS-247 §6.2,RSS-Gen §6.6– EMISSION BANDWIDTH

Applicable Standard

15.407(a), RSS-247 §6.2 and RSS-Gen §6.6

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-2	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 v01r04.

Test Data

Environmental Conditions

Temperature:	17~18 °C
Relative Humidity:	50~55 %
ATM Pressure:	96.8~97 kPa

The testing was performed by Lorin Bian from 2017-02-08 to 2017-02-10.

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting (Test performed at Chain 0)

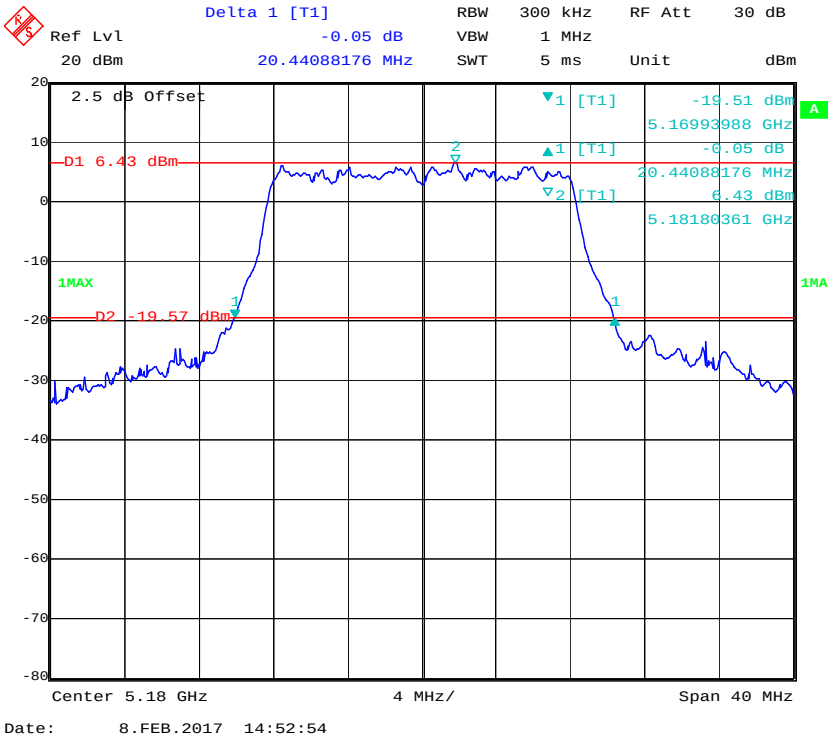
UNII Band	Mode	Channel	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5150-5250MHz	802.11 a	Low	5180	20.44	16.83
		Middle	5200	20.44	16.83
		High	5240	20.44	16.83
	802.11n ht20	Low	5180	21	18.04
		Middle	5200	22.2	18.04
		High	5240	22.28	17.96
	802.11n ht40	Low	5190	39.6	37.03
		High	5230	43.13	36.87
	802.11 ac80	Middle	5210	82.73	75.67
5250-5350MHz	802.11 a	Low	5260	20.44	16.83
		Middle	5280	20.44	16.83
		High	5320	20.44	16.83
	802.11n ht20	Low	5260	21.24	17.96
		Middle	5280	21.96	18.04
		High	5320	20.76	18.04
	802.11n ht40	Low	5270	39.6	37.03
		High	5310	39.44	37.03
	802.11 ac80	Middle	5290	83.05	75.99
5470-5725MHz	802.11 a	Low	5500	20.68	16.83
		Middle	5580	20.52	16.91
		High	5700	23.49	16.99
		Crossed	5720	20.52	16.83
	802.11n ht20	Low	5500	22.12	18.12
		Middle	5580	24.13	18.20
		High	5700	29.18	18.12
		Crossed	5720	24.85	18.92
	802.11n ht40	Low	5510	39.6	36.87
		Middle	5550	39.60	37.03
		Middle	5590	46.49	36.87
		High	5670	41.84	37.03
		Crossed	5710	45.37	36.87
	802.11 ac80	Low	5530	83.05	75.99
		High	5610	84.13	75.99
		Crossed	5690	94.59	76.31
5725-5850MHz	802.11 a	Low	5745	23.33	16.83
		Middle	5785	21.88	16.83
		High	5825	23.33	16.91
	802.11n ht20	Low	5745	24.37	18.12
		Middle	5785	23.41	18.04
		High	5825	24.21	18.12
	802.11n ht40	Low	5755	39.6	36.87
		High	5795	39.76	37.03
	802.11 ac80	Middle	5775	83.05	75.99

Note: For 5150-5250MHz and 5725-5850MHz bands, the 99% Occupied bandwidth have not fall into 5250-5350MHz or 5470-5725MHz band. Please refer to the test plots.
For Canada RSS-247, channels 118 to 128 were disabled by software.

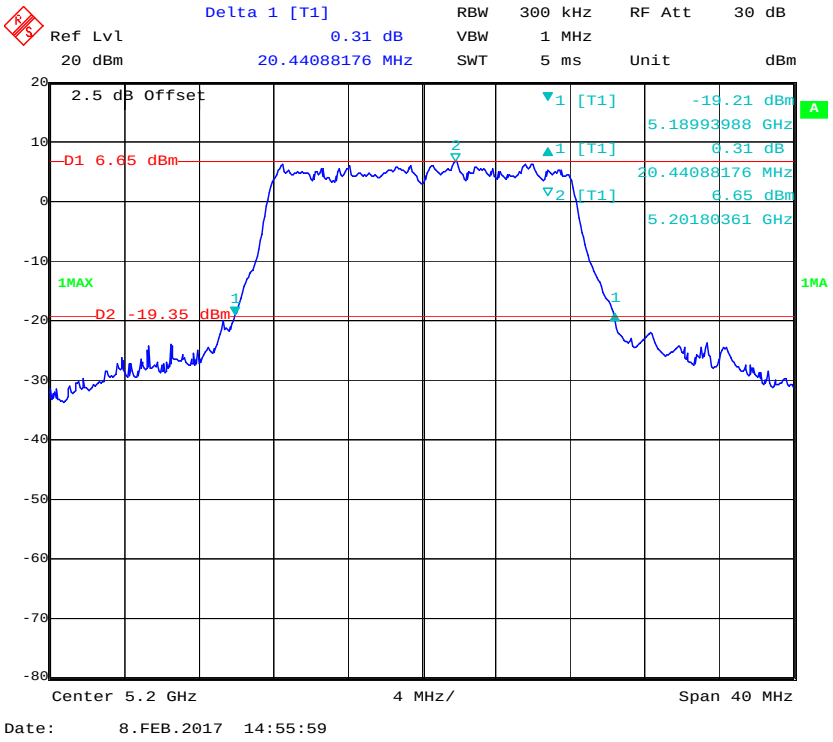
UNII Band	Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	6 dB Emission Bandwidth Limits (MHz)
5725-5850MHz	802.11 a	Low	5745	16.35	≥0.5
		Middle	5785	16.43	≥0.5
		High	5825	16.43	≥0.5
	802.11n ht20	Low	5745	17.8	≥0.5
		Middle	5785	17.8	≥0.5
		High	5825	17.8	≥0.5
	802.1n ht40	Low	5755	36.55	≥0.5
		High	5795	36.55	≥0.5
	802.11 ac80	Middle	5775	76.31	≥0.5

5150-5250MHz

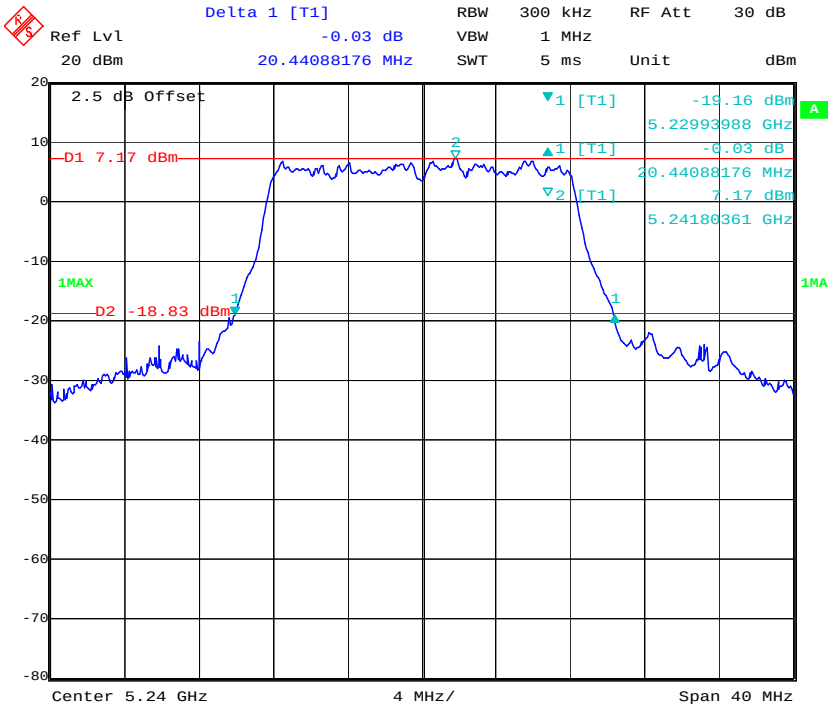
802.11a Low Channel



802.11a Middle Channel

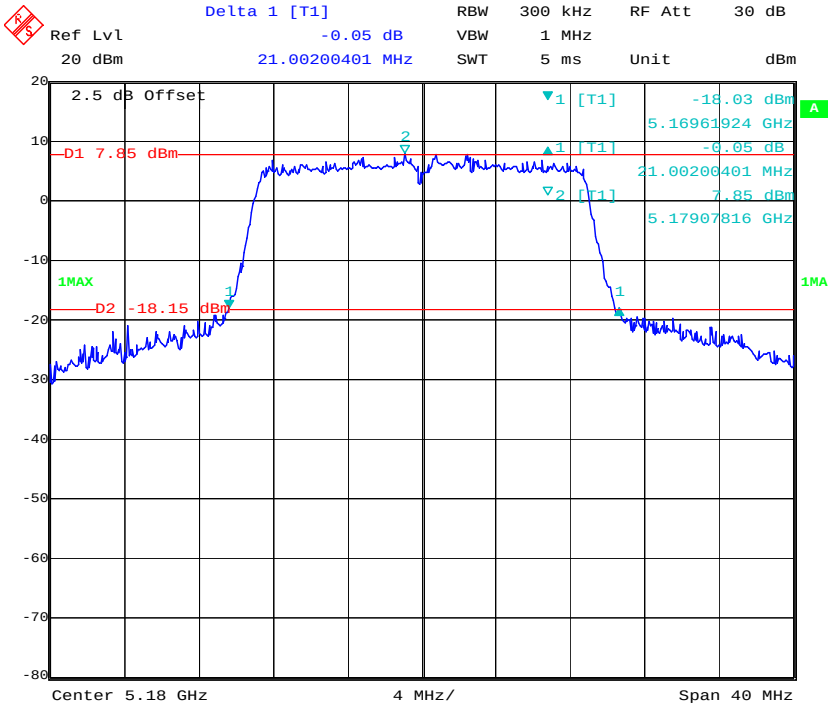


802.11a High Channel



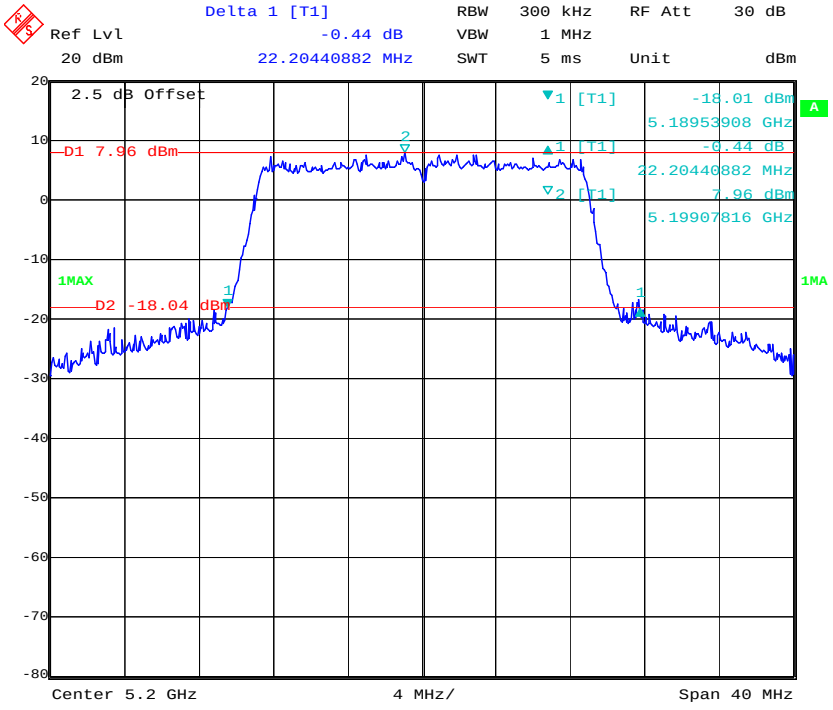
Date: 8.FEB.2017 14:58:11

802.11n ht20 Low Channel



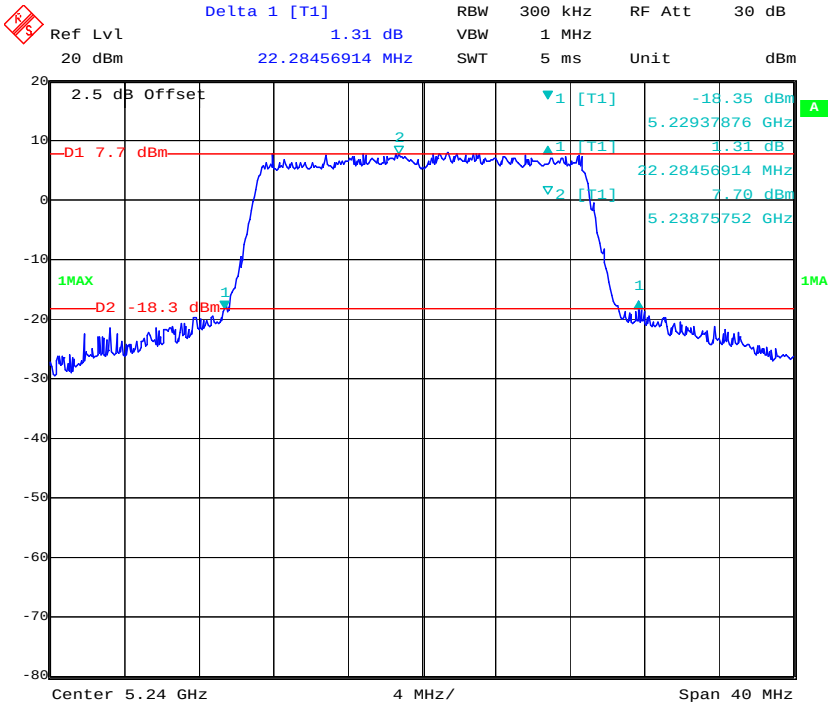
Date: 8.FEB.2017 16:51:14

802.11n ht20 Middle Channel



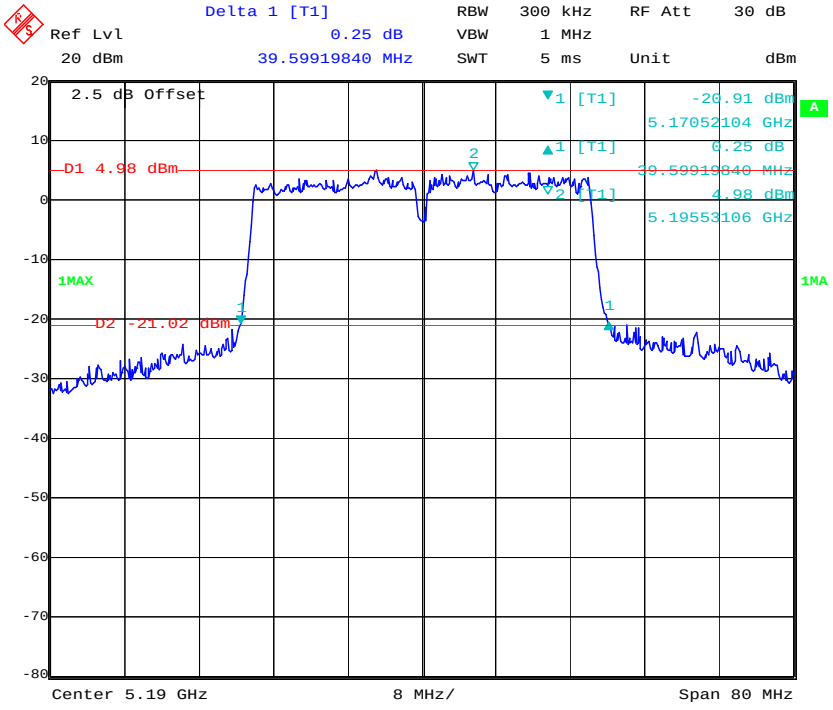
Date: 8.FEB.2017 16:54:22

802.11n ht20 High Channel



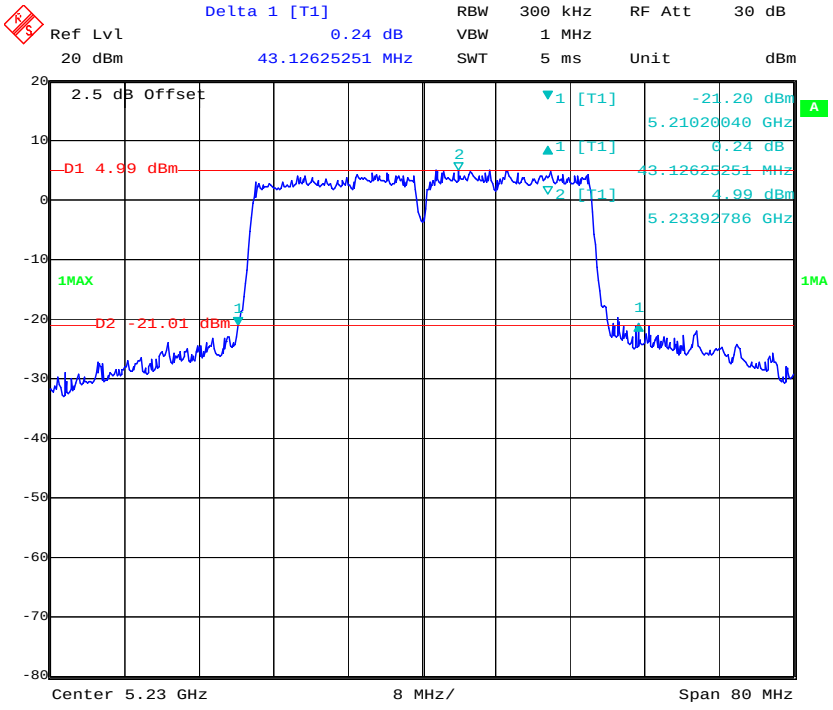
Date: 8.FEB.2017 16:57:01

802.11n ht40 Low Channel



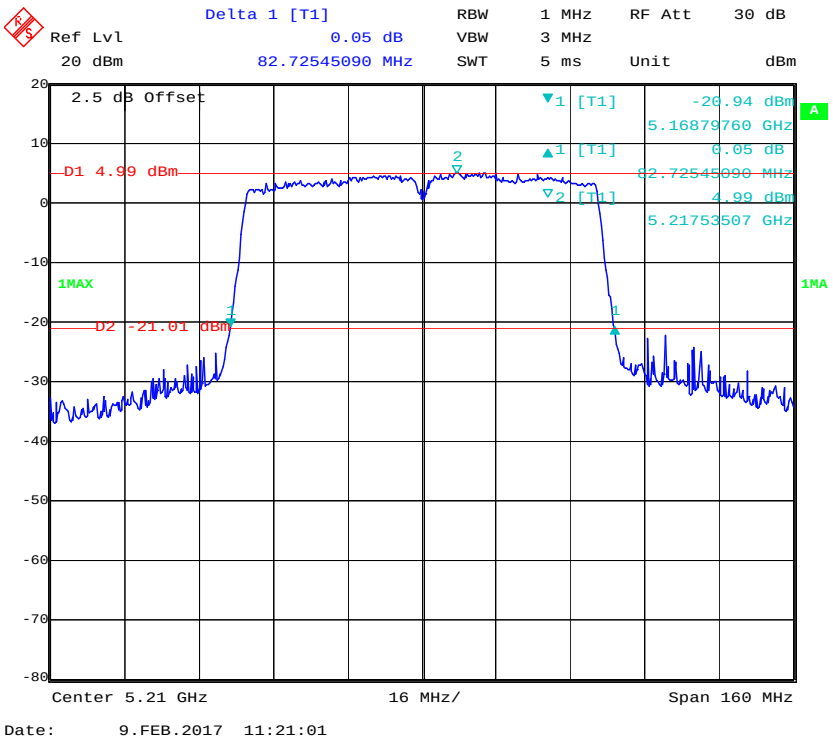
Date: 8.FEB.2017 17:35:06

802.11n ht40 High Channel



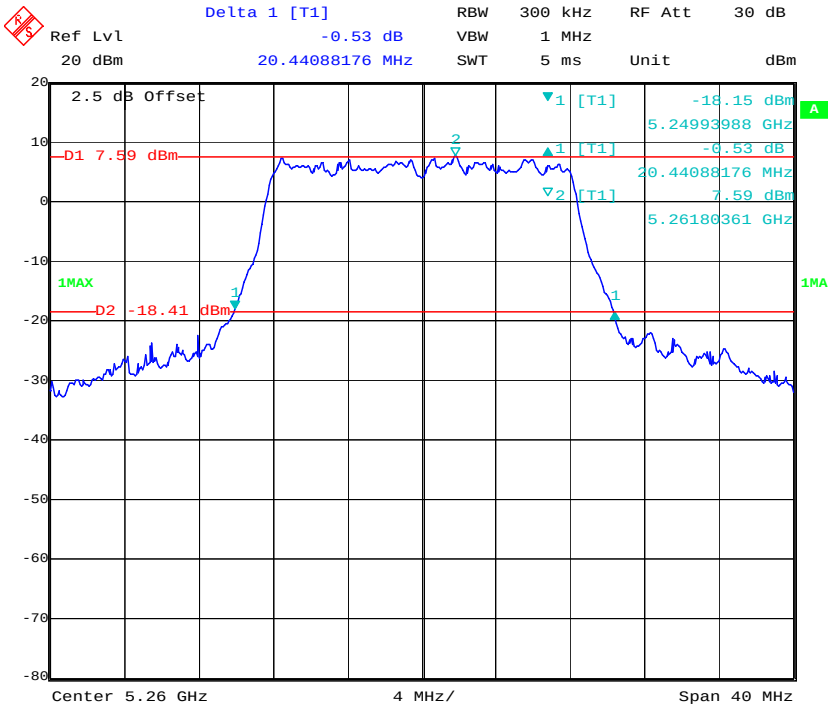
Date: 8.FEB.2017 17:38:08

802.11ac80 Middle Channel

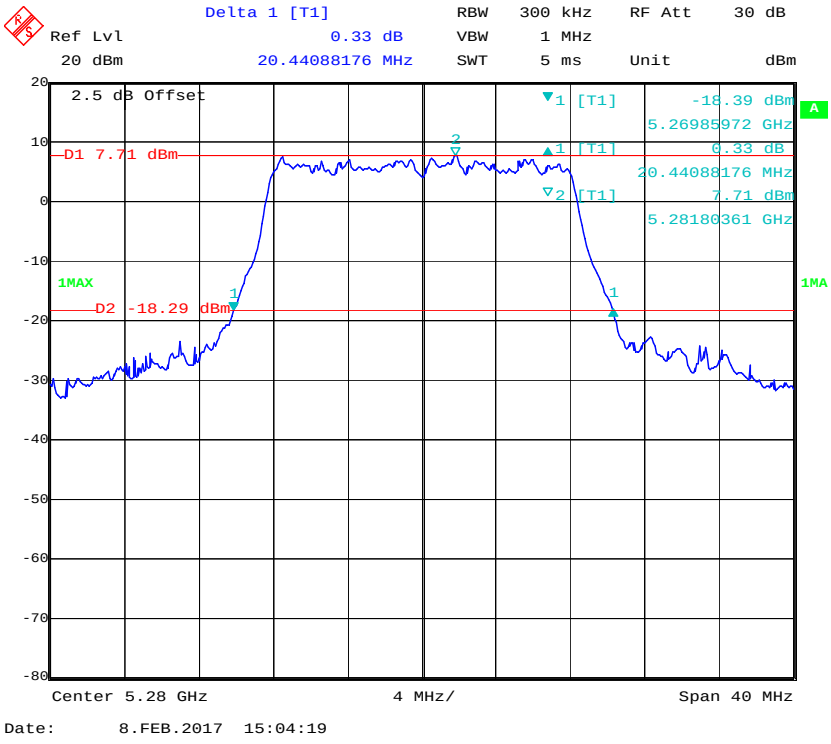


5250-5350MHz

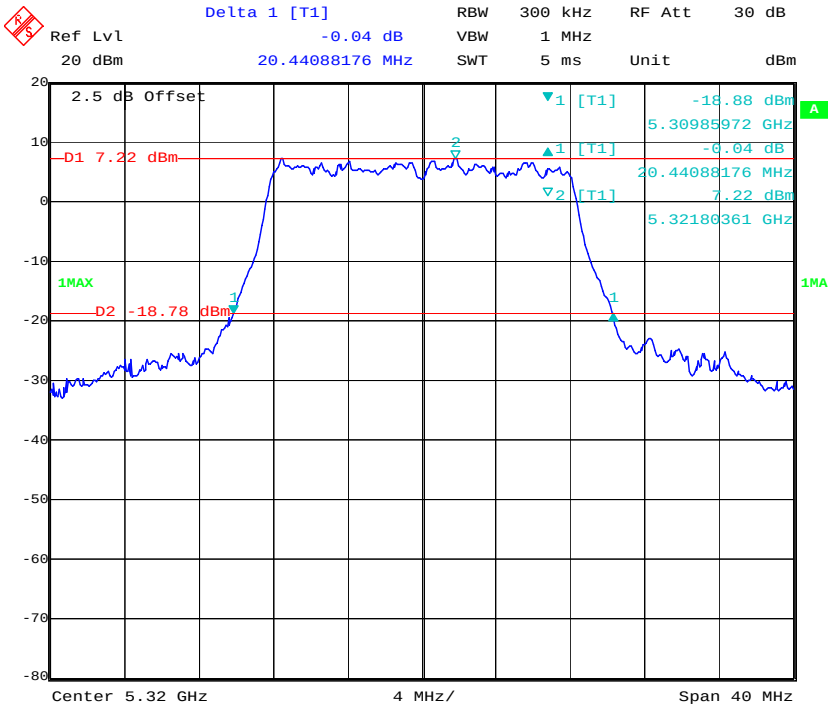
802.11a Low Channel



802.11a Middle Channel

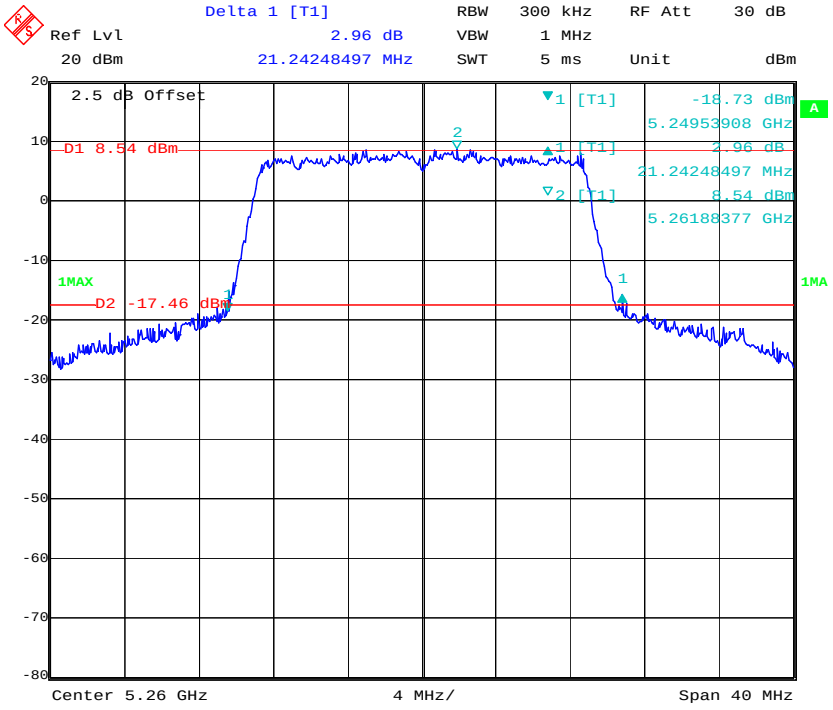


802.11a High Channel



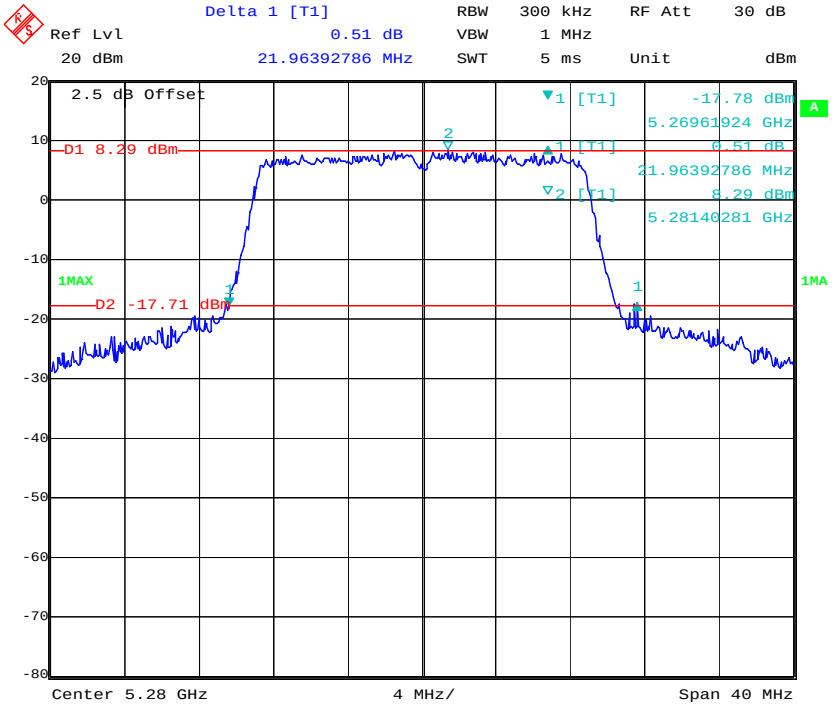
Date: 8.FEB.2017 15:07:38

802.11n ht20 Low Channel



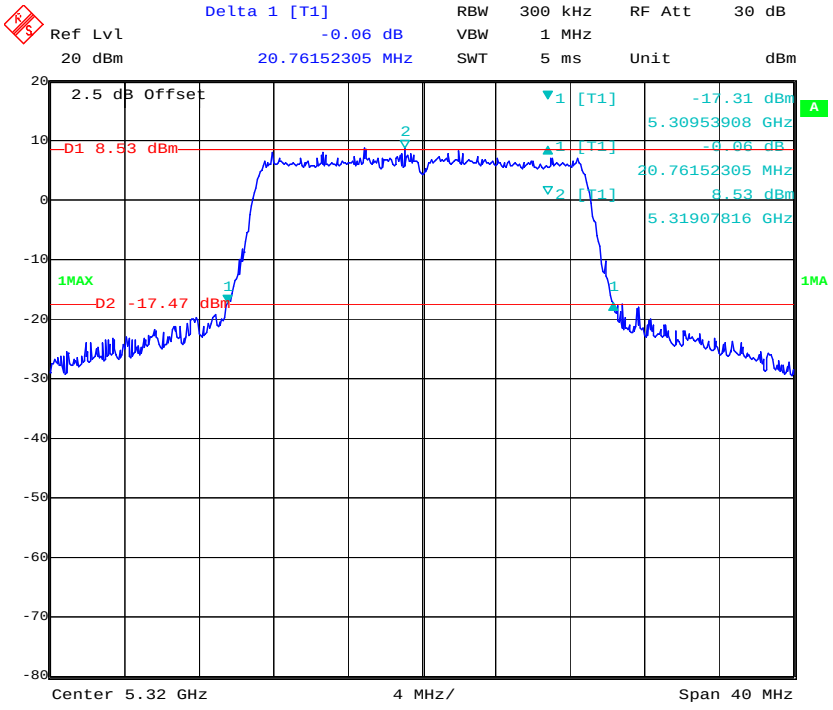
Date: 8.FEB.2017 17:01:36

802.11n ht20 Middle Channel



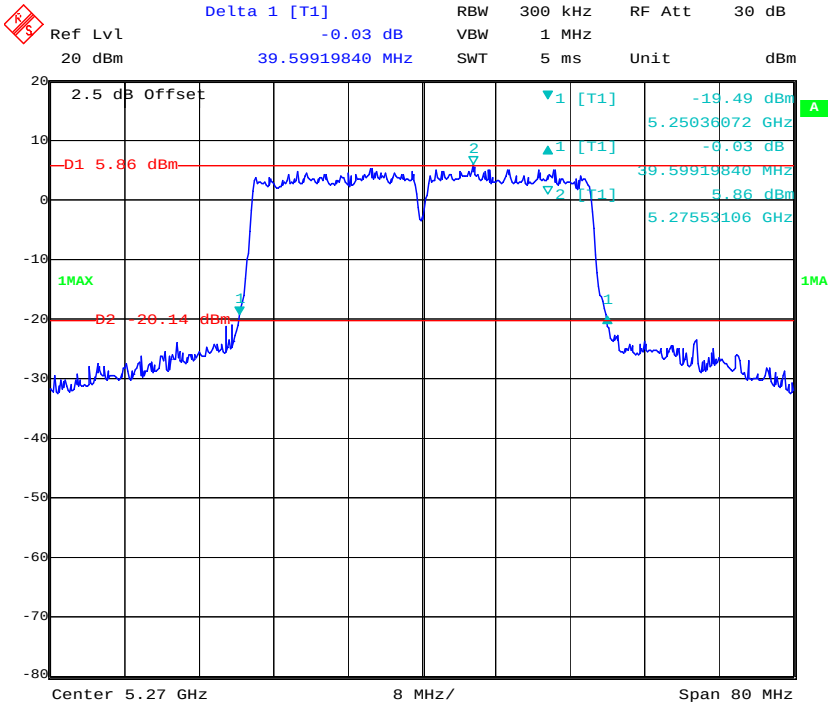
Date: 8.FEB.2017 17:05:34

802.11n ht20 High Channel



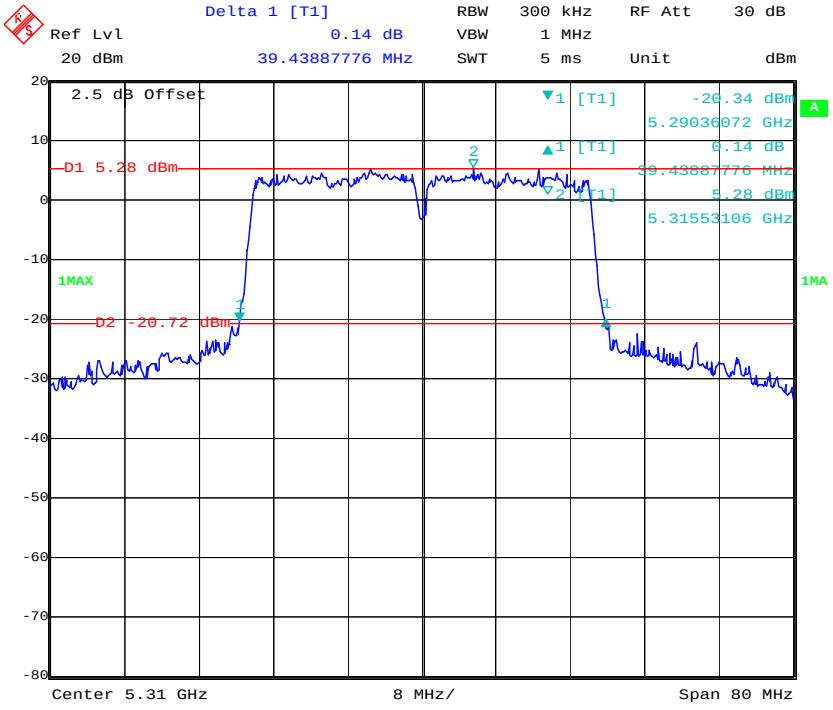
Date: 8.FEB.2017 17:07:55

802.11n ht40 Low Channel



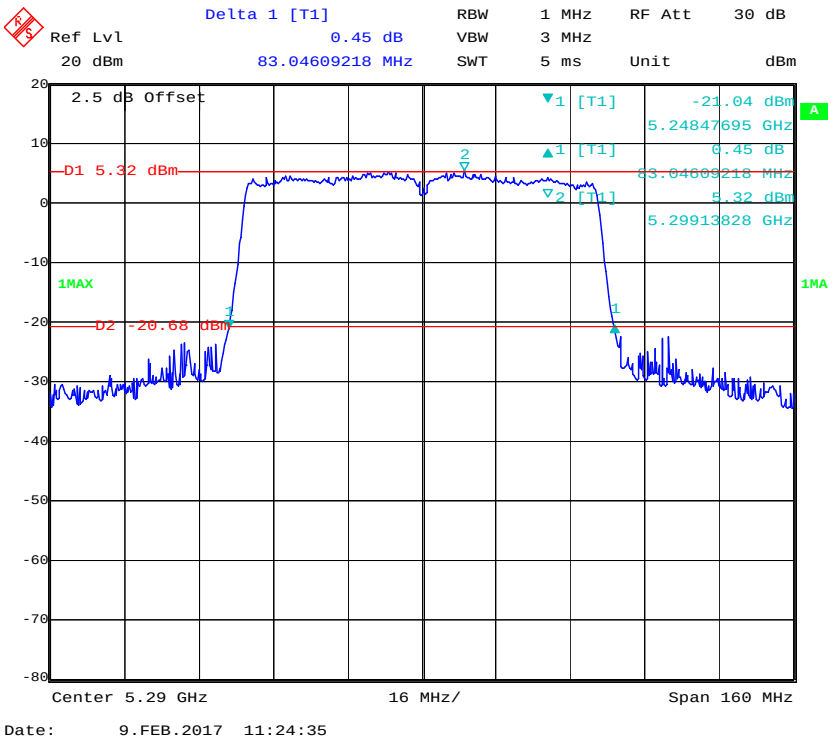
Date: 8.FEB.2017 17:51:58

802.11n ht40 High Channel



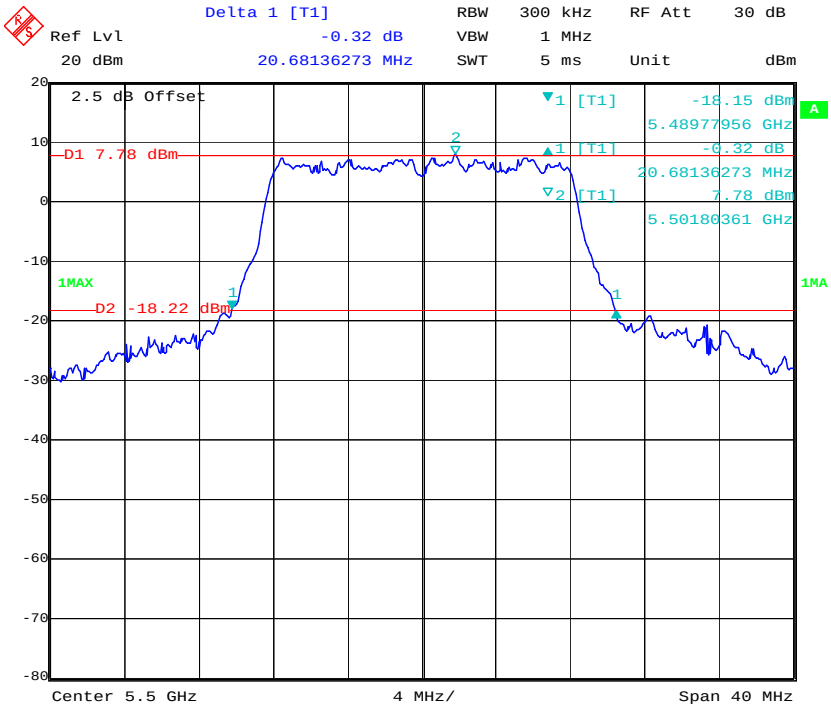
Date: 8.FEB.2017 17:56:44

802.11ac80 Middle Channel

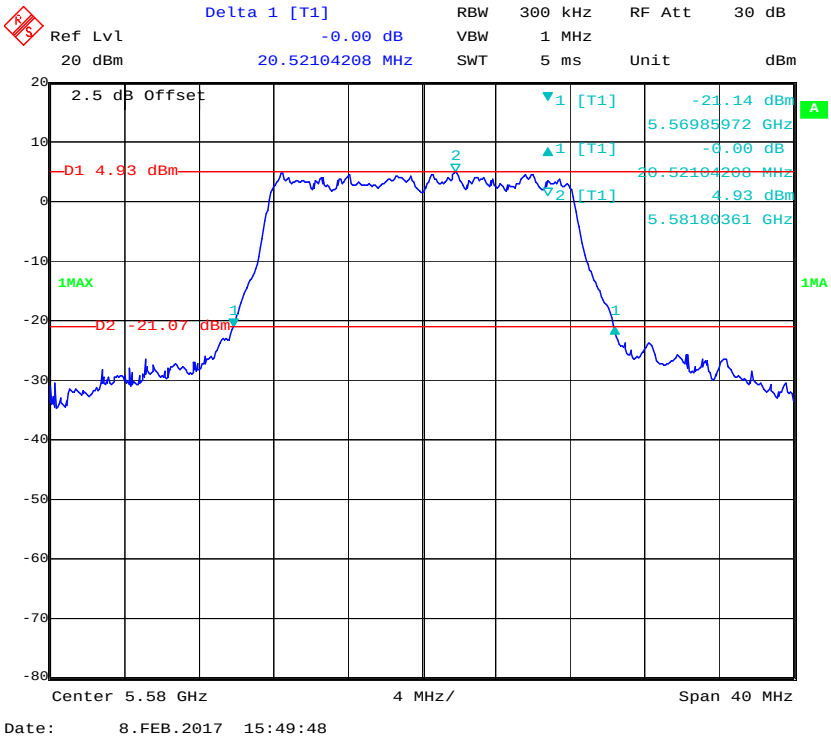


5470-5725MHz

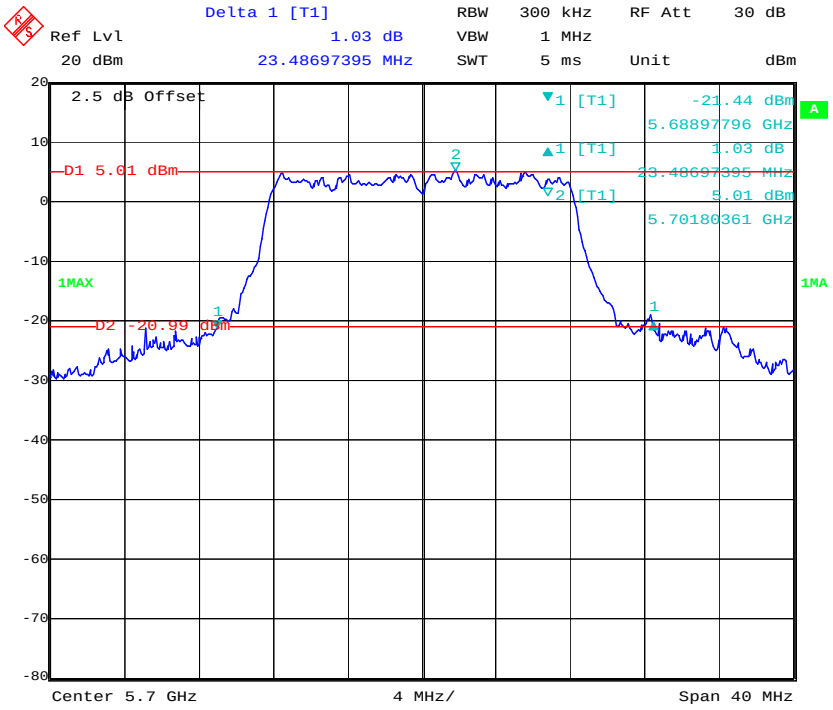
802.11a 5500MHz



802.11a 5580MHz

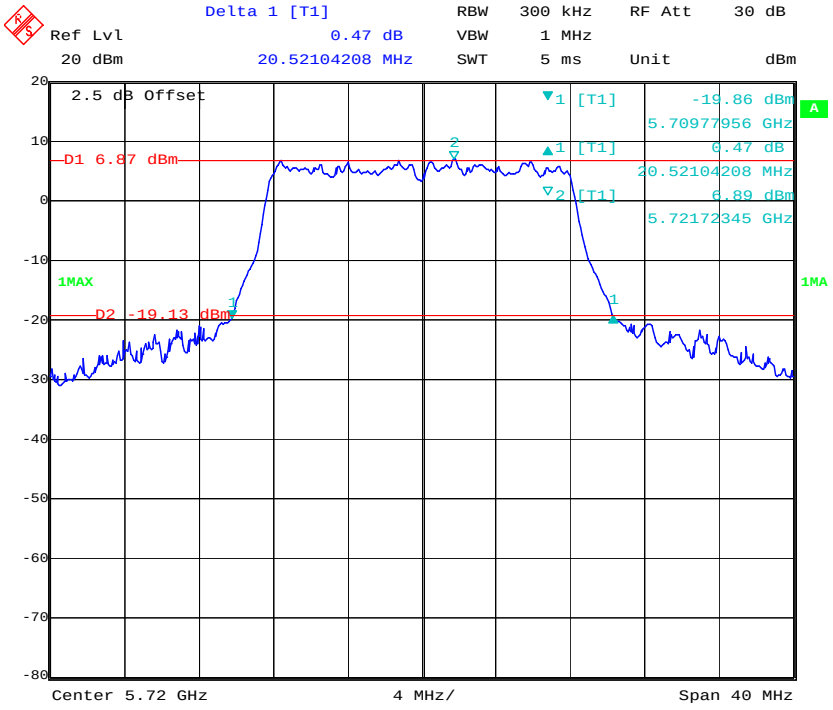


802.11a 5700MHz



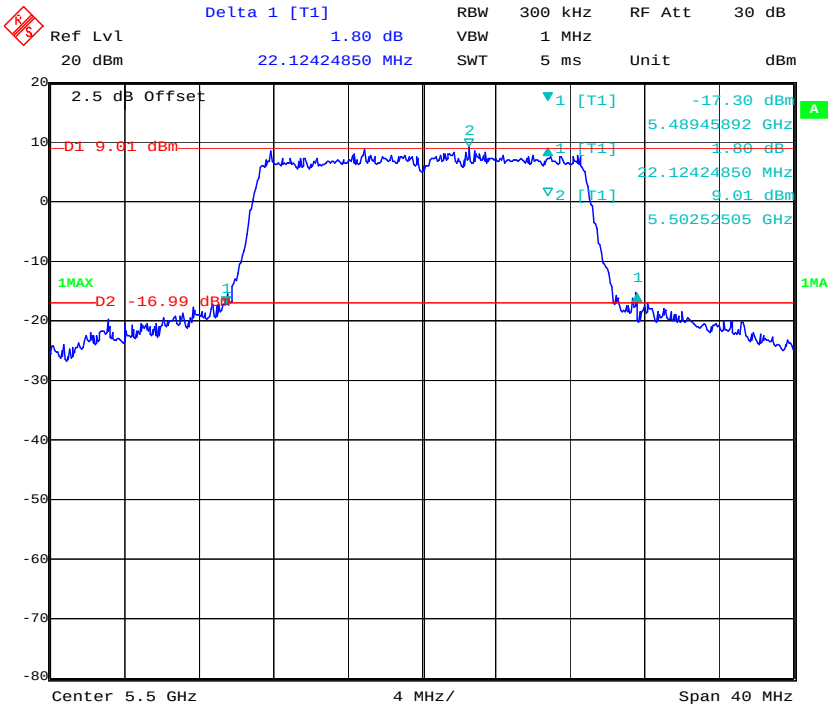
Date: 8.FEB.2017 15:16:03

802.11a 5720MHz

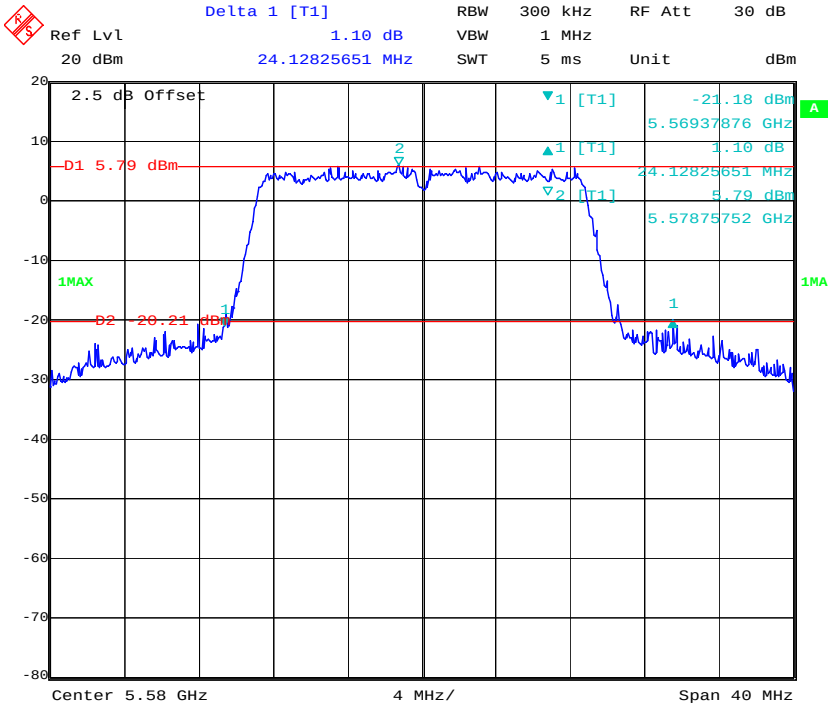


Date: 8.FEB.2017 17:46:07

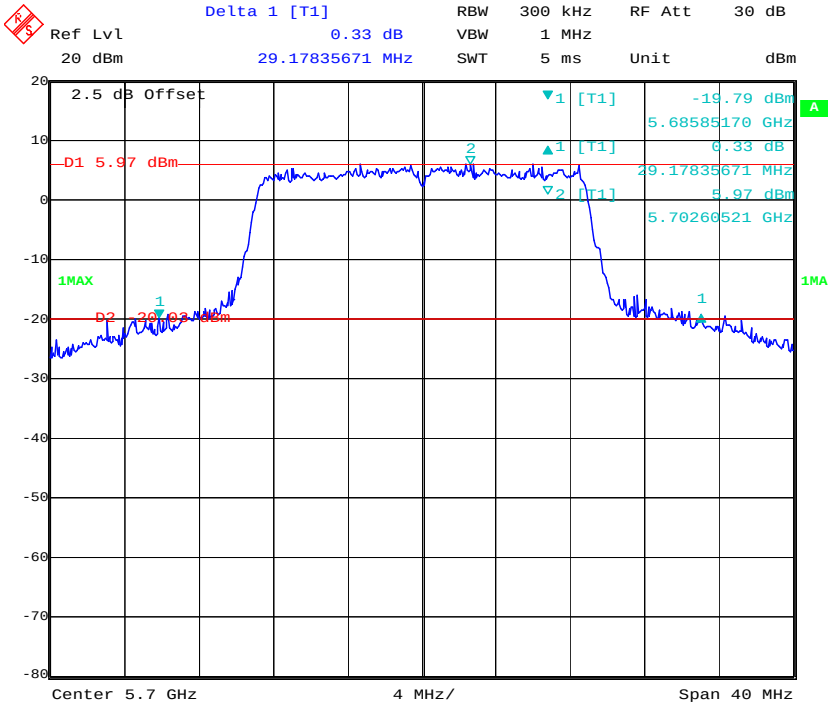
802.11n ht20 5500MHz



802.11n ht20 5580MHz

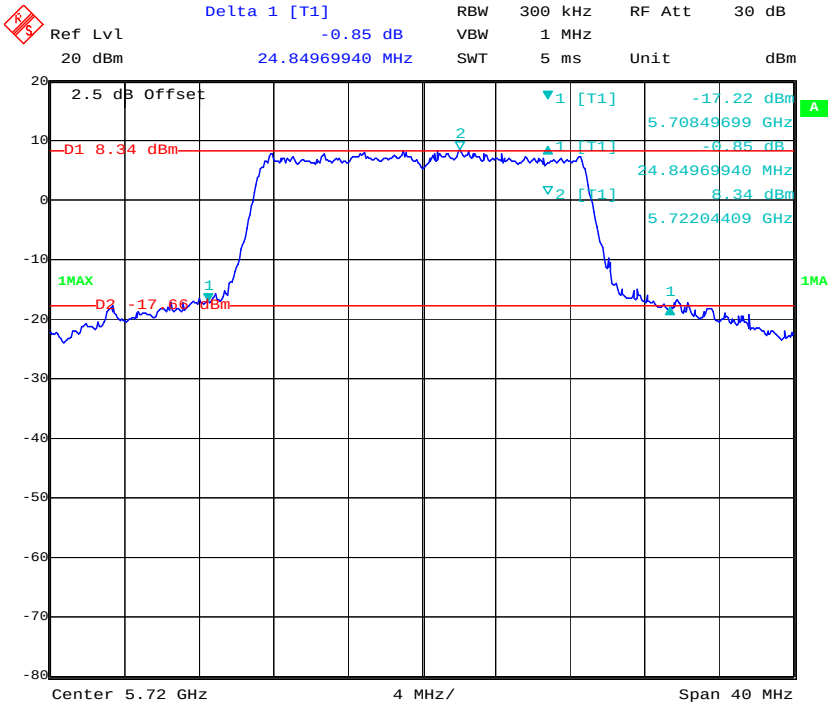


802.11n ht20 5700MHz



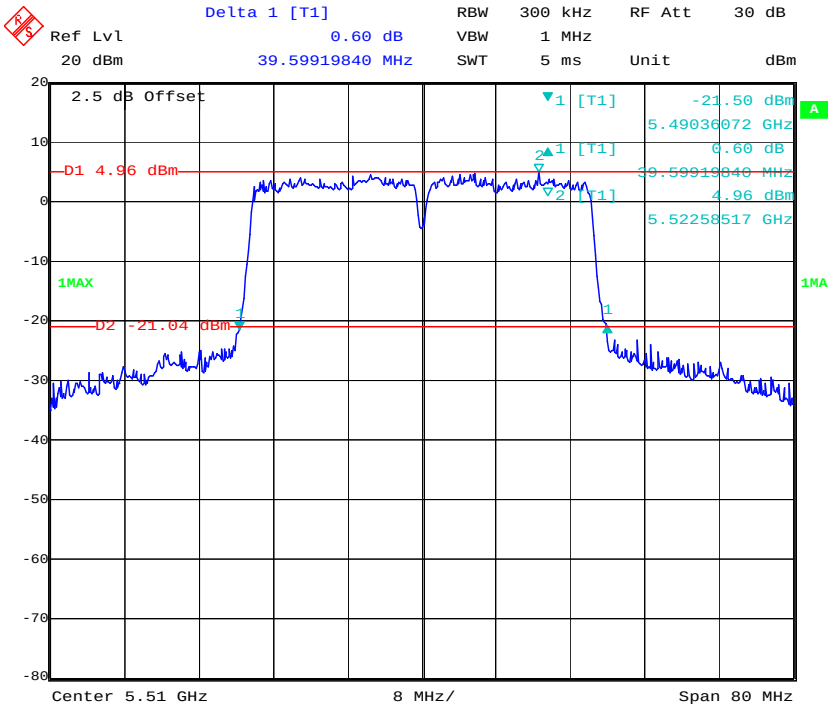
Date: 8.FEB.2017 17:17:45

802.11n ht20 5720MHz



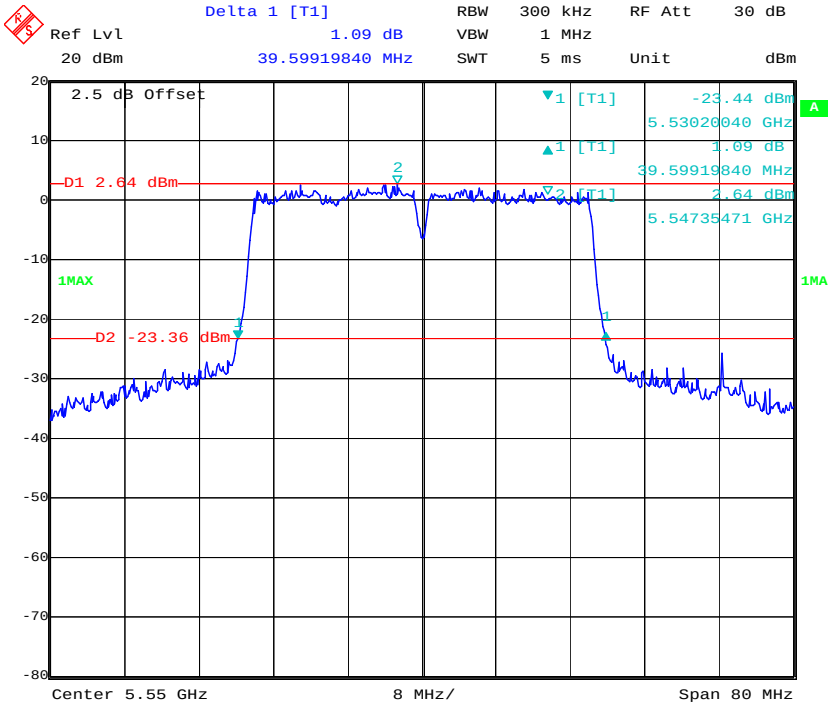
Date: 10.FEB.2017 15:16:24

802.11n ht40 5510MHz



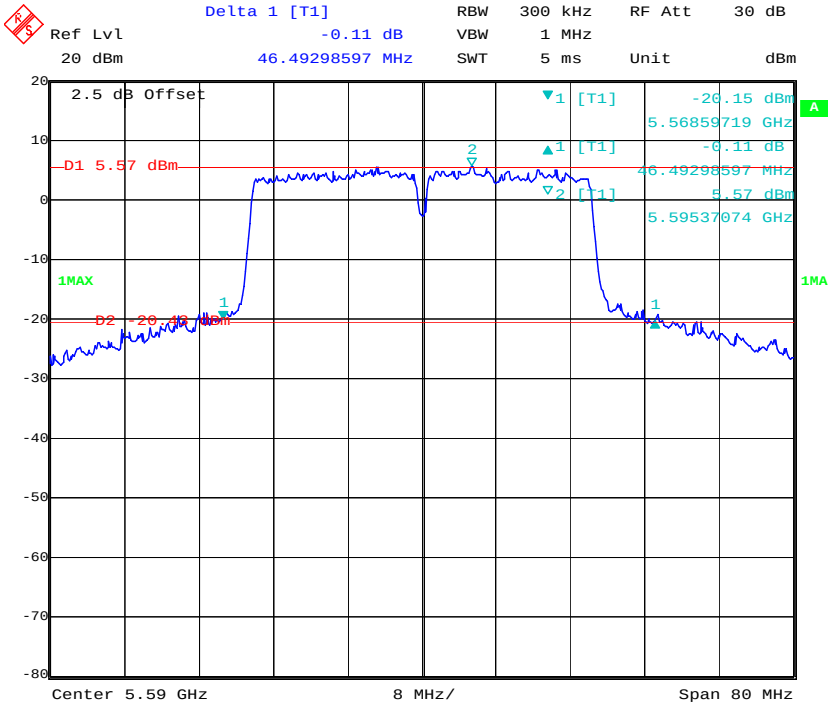
Date: 9.FEB.2017 09:56:01

802.11n ht40 5550MHz



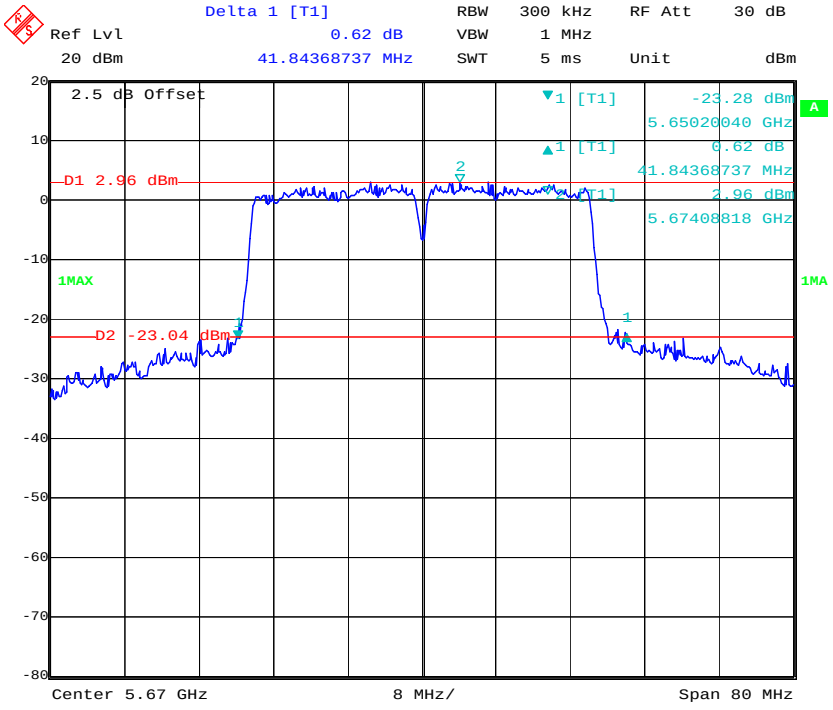
Date: 9.FEB.2017 10:41:26

802.11n ht40 5590MHz



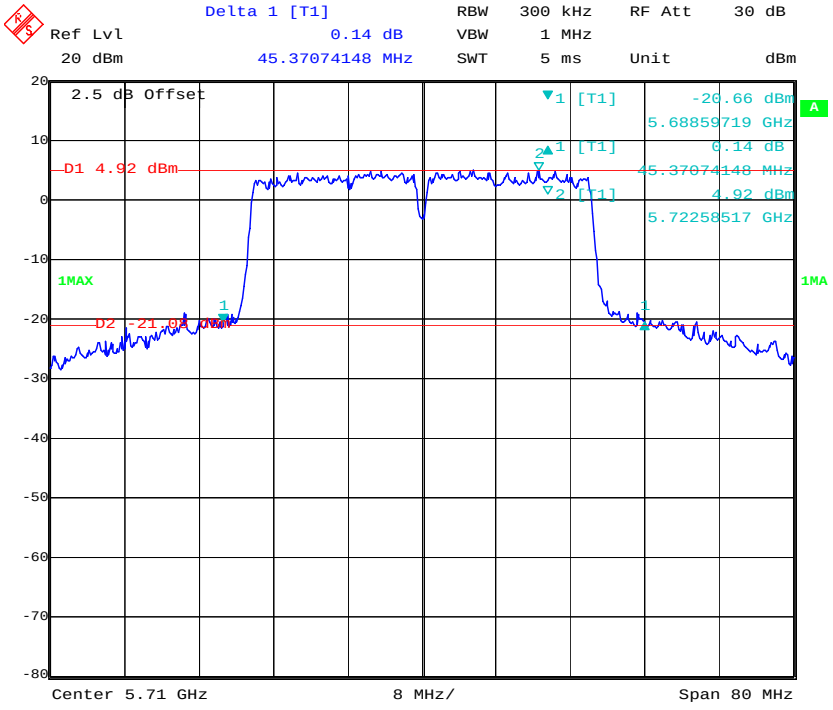
Date: 10.FEB.2017 15:34:37

802.11n ht40 5670MHz



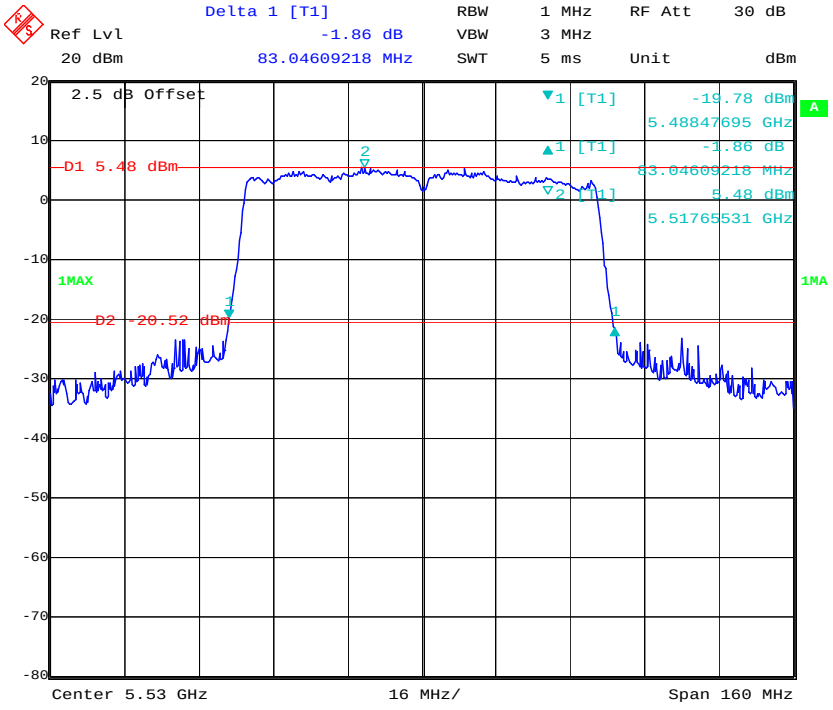
Date: 9.FEB.2017 10:02:02

802.11n ht40 5710MHz



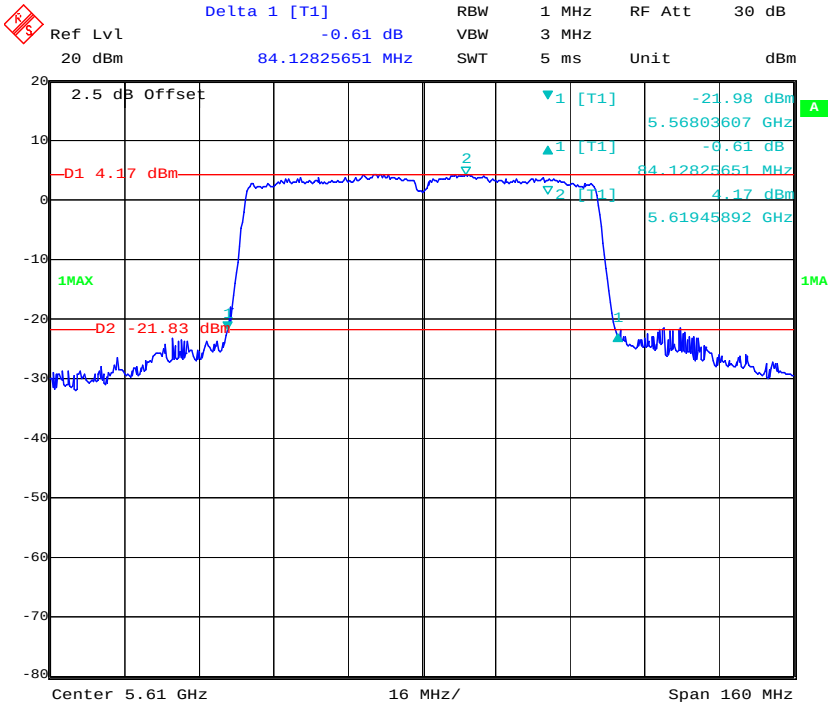
Date: 10.FEB.2017 15:48:43

802.11 ac80 5530MHz



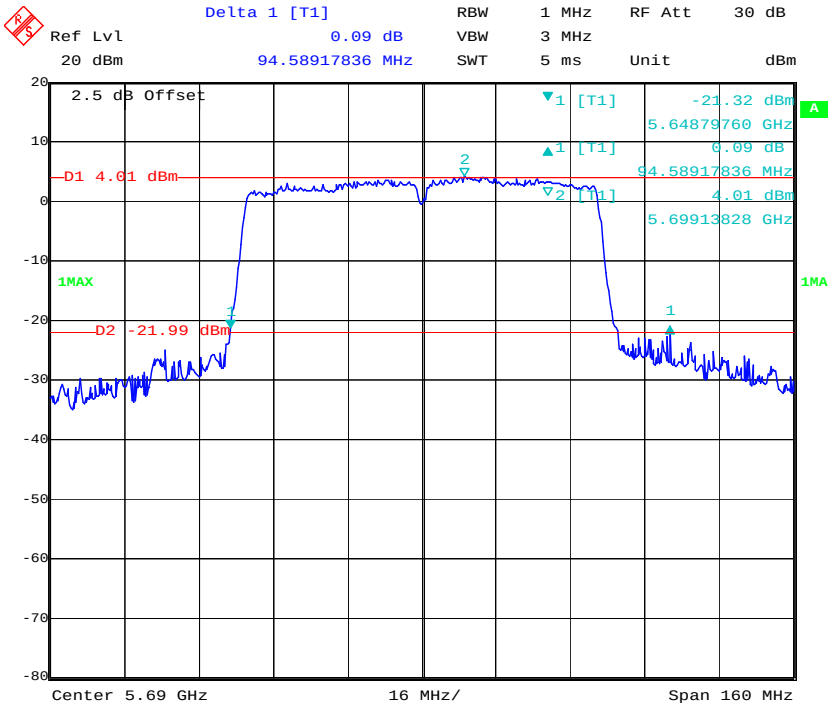
Date: 9.FEB.2017 11:27:35

802.11 ac80 5610MHz



Date: 10.FEB.2017 16:28:22

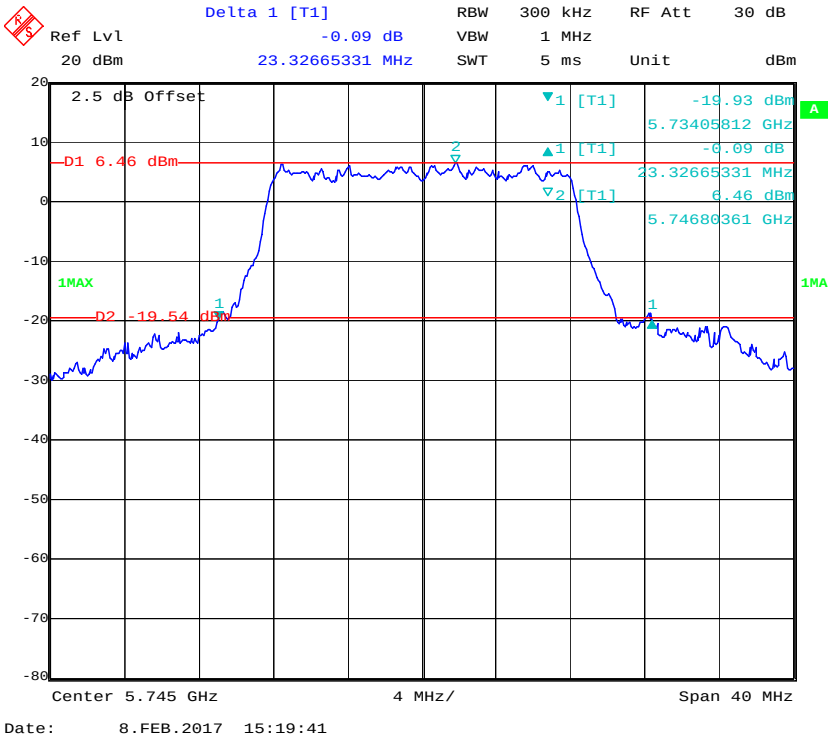
802.11 ac80 5690MHz



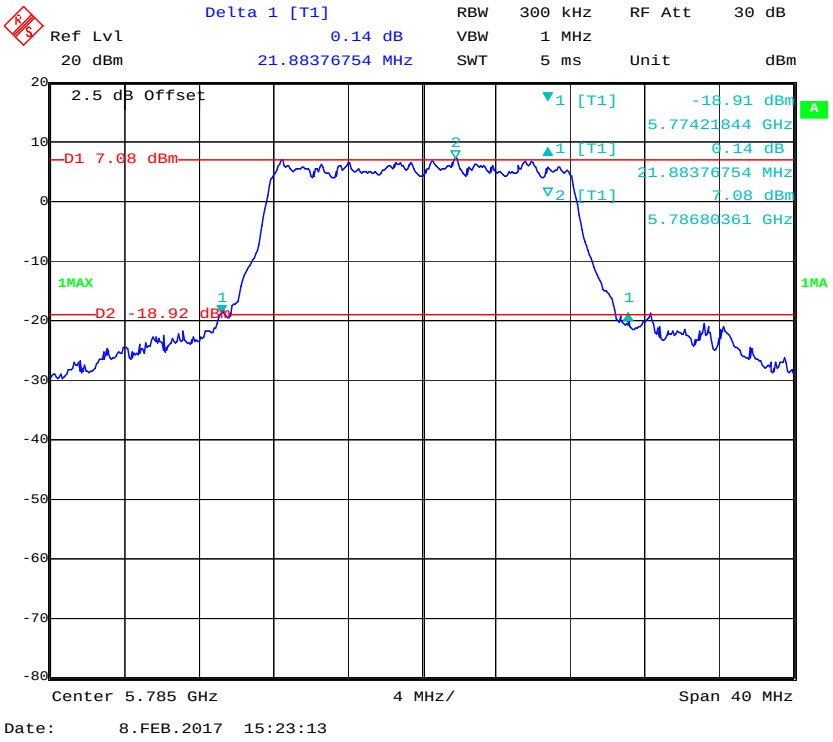
Date: 9.FEB.2017 11:30:10

5725-5850MHz

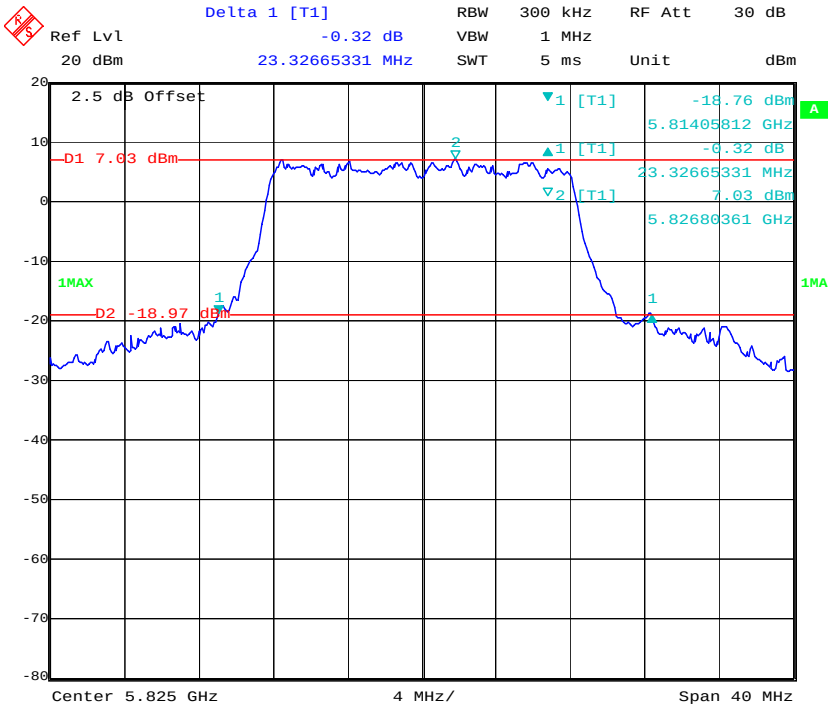
802.11a Low Channel



802.11a Middle Channel

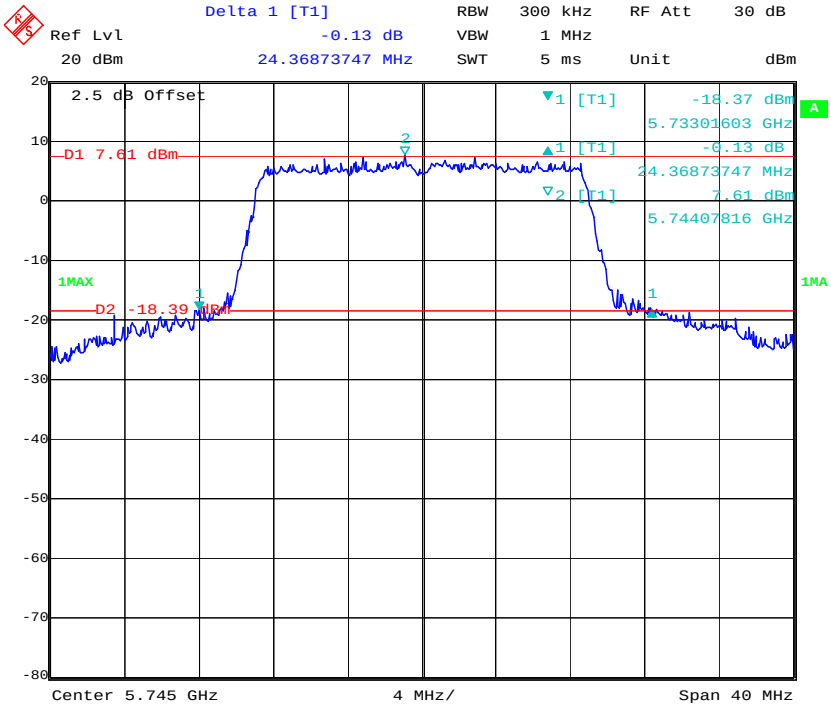


802.11a High Channel



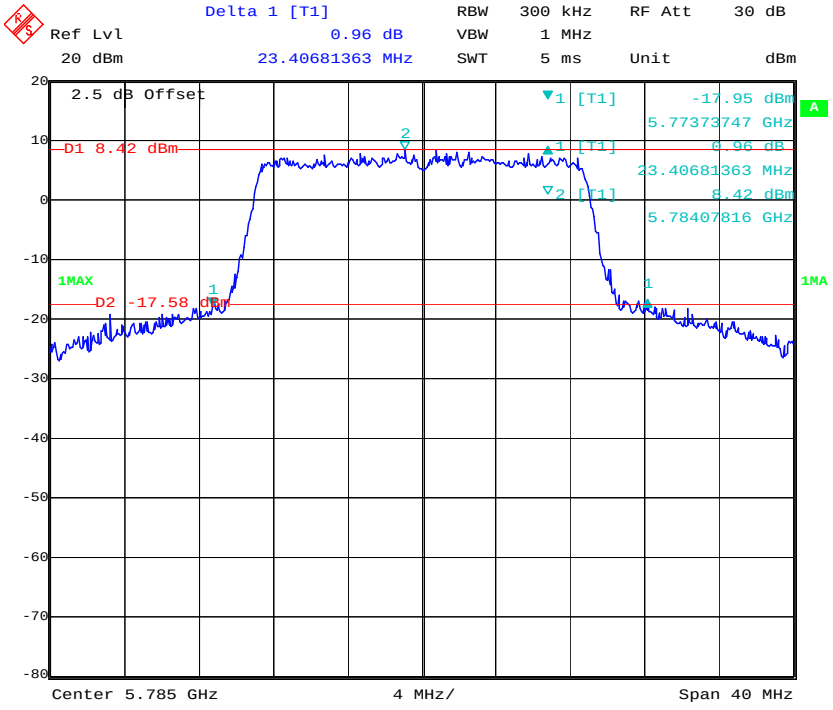
Date: 8.FEB.2017 15:26:04

802.11n ht20 Low Channel



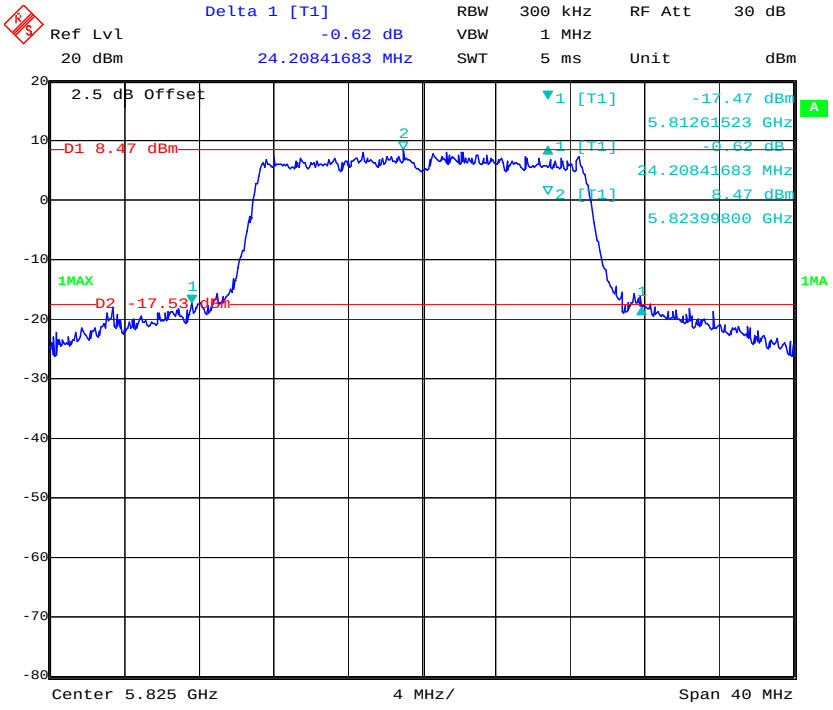
Date: 8.FEB.2017 17:20:45

802.11n ht20 Middle Channel



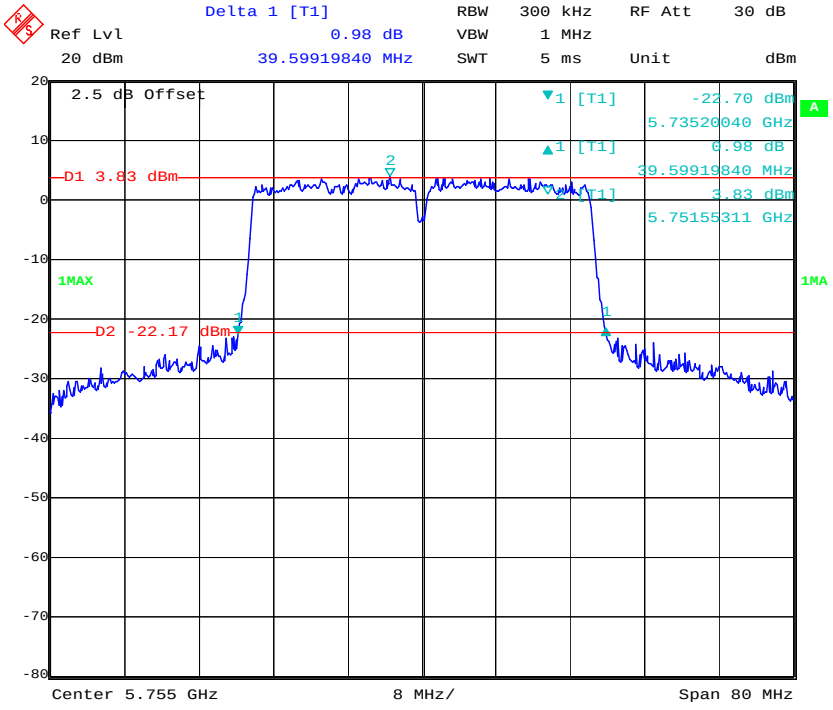
Date: 8.FEB.2017 17:24:47

802.11n ht20 High Channel



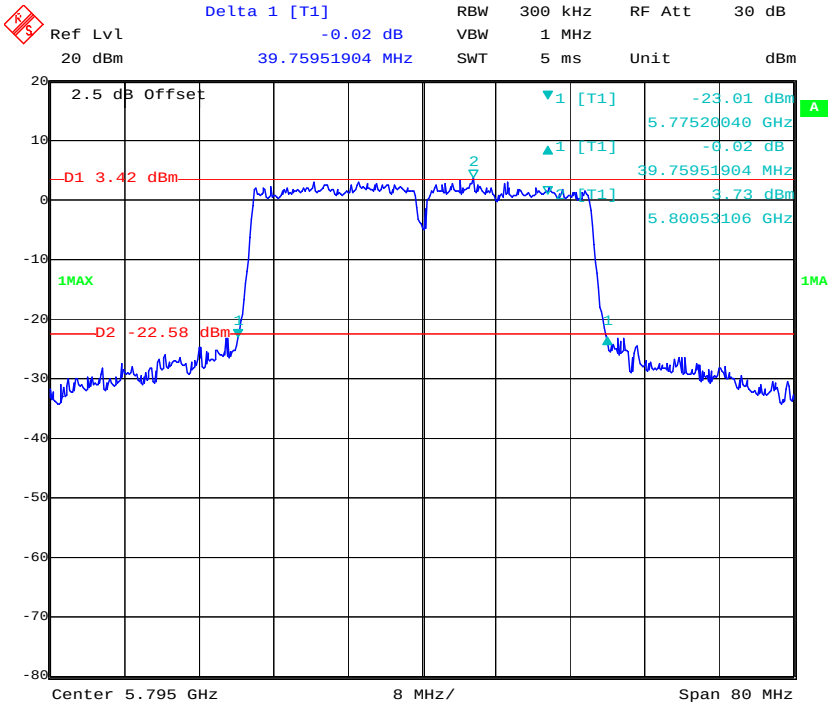
Date: 8.FEB.2017 17:30:41

802.11n ht40 Low Channel



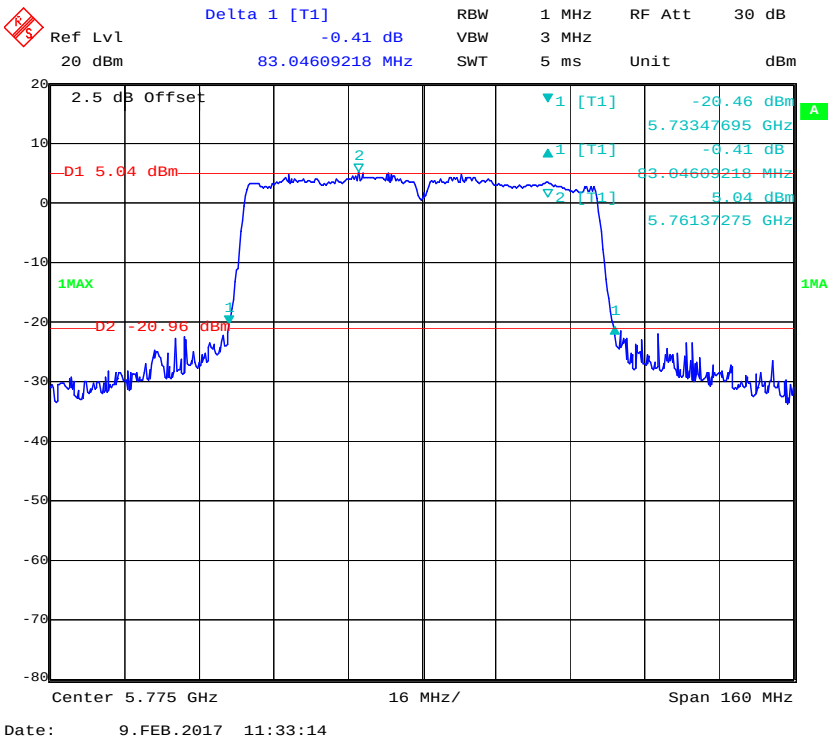
Date: 9.FEB.2017 10:06:51

802.11n ht40 High Channel



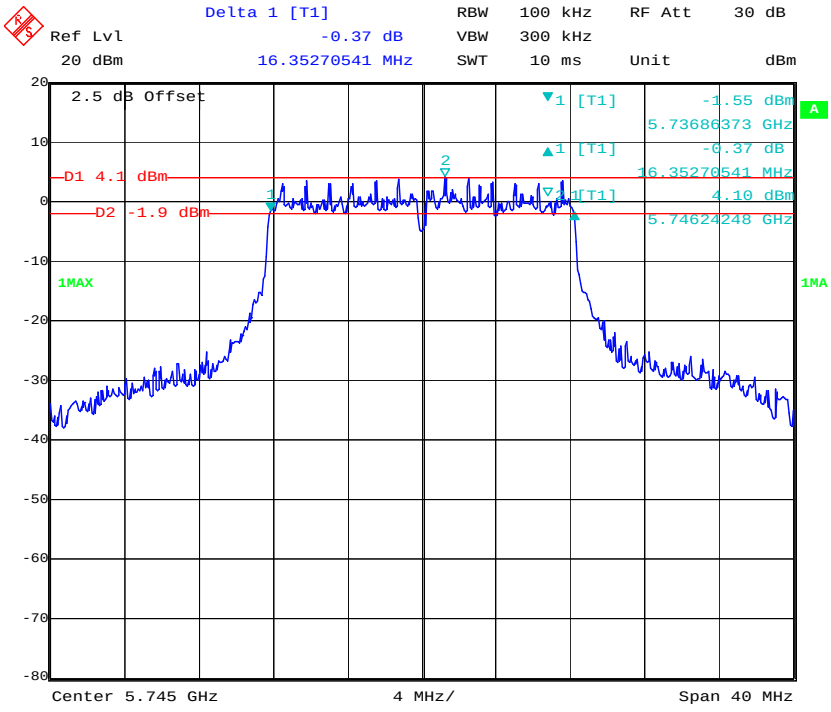
Date: 9.FEB.2017 10:10:27

802.11ac80 Middle Channel

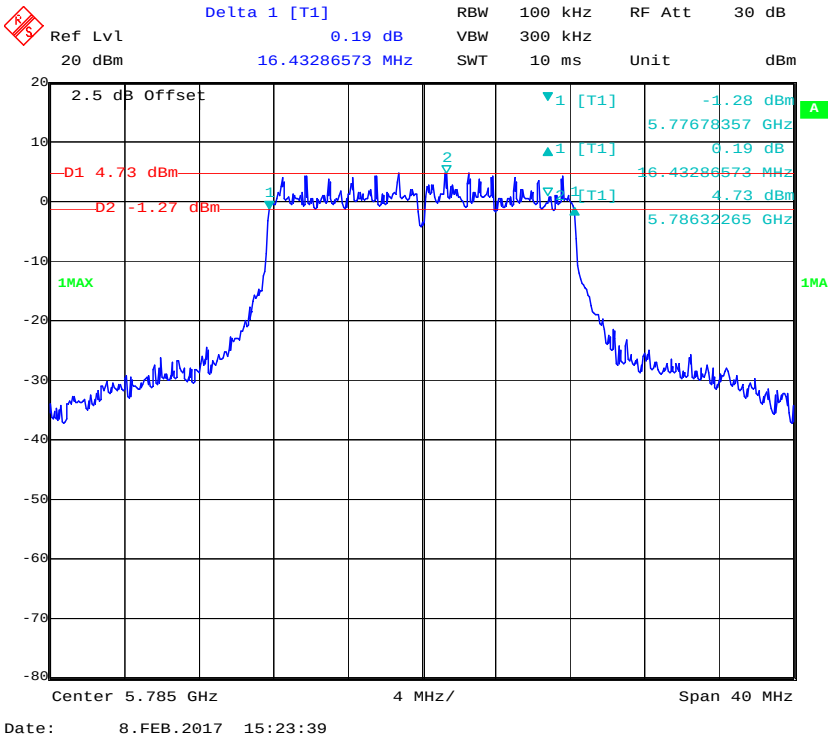


6dB Bandwidth:

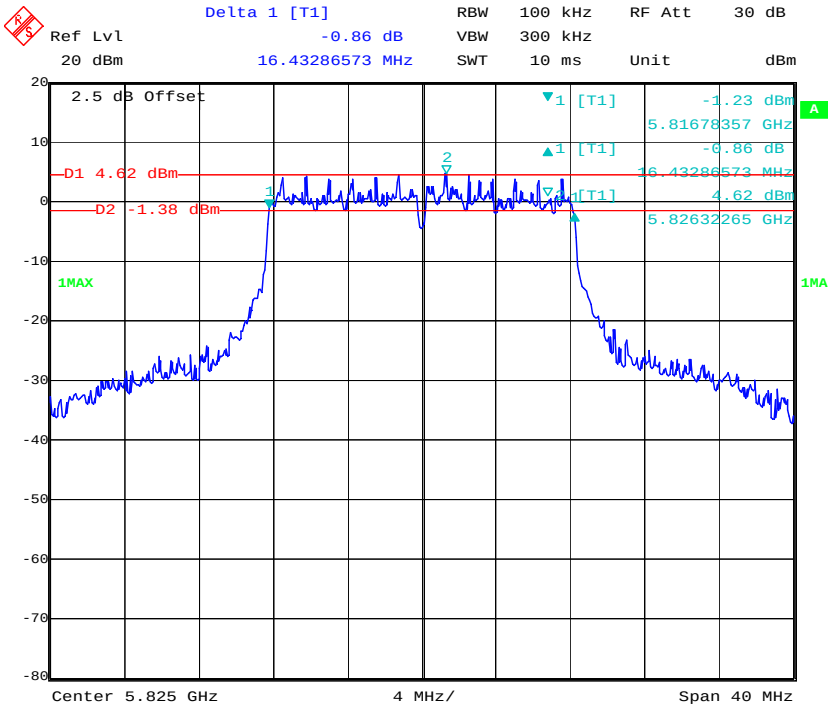
802.11a Low Channel



802.11a Middle Channel

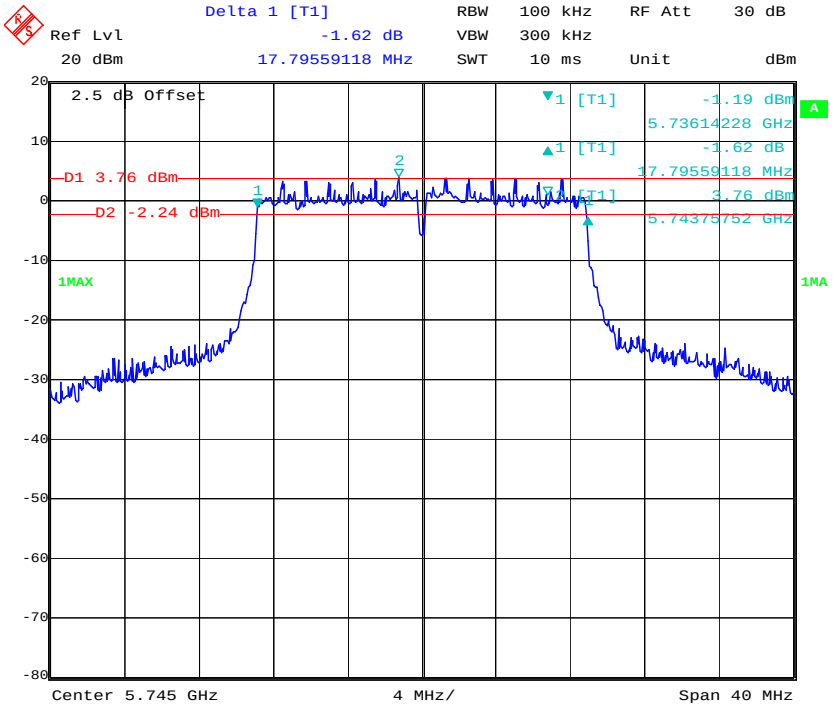


802.11a High Channel



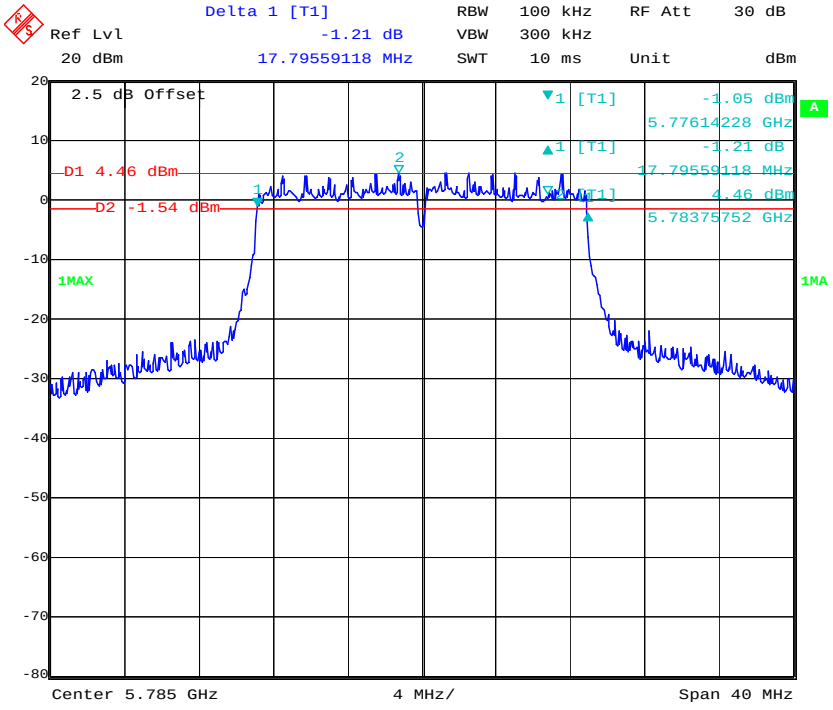
Date: 8.FEB.2017 15:26:24

802.11n ht20 Low Channel



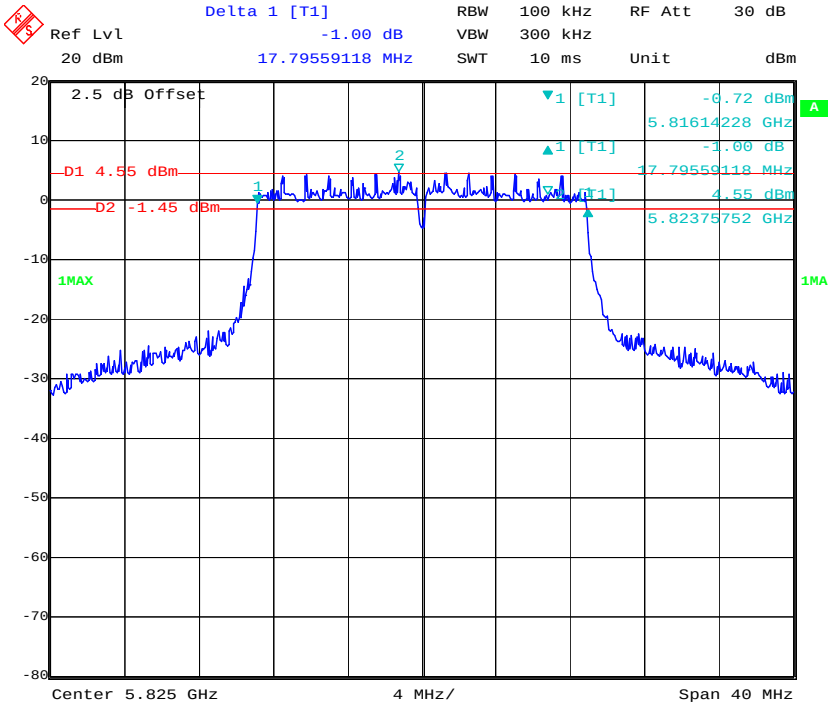
Date: 8.FEB.2017 17:21:10

802.11n ht20 Middle Channel



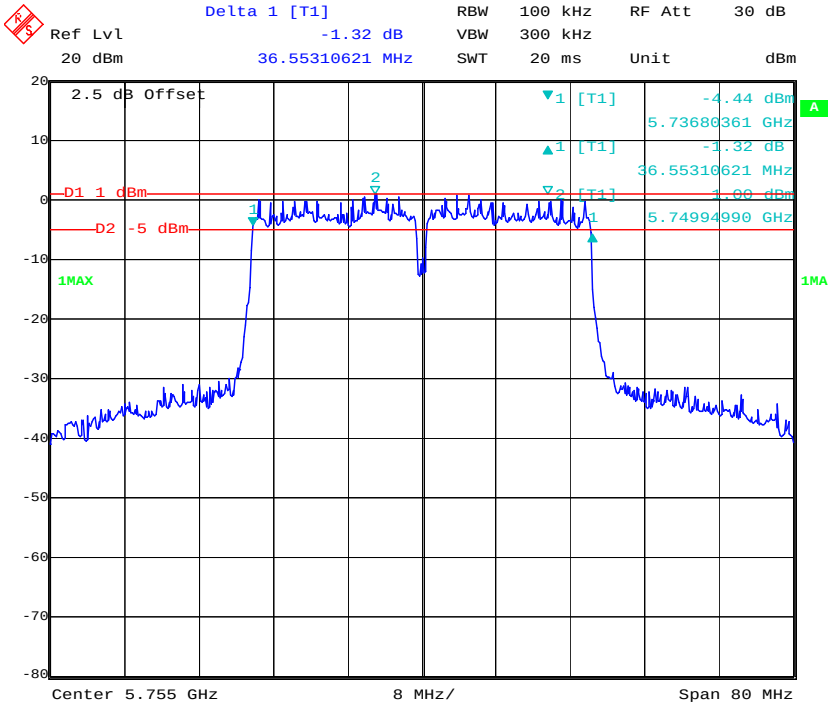
Date: 8.FEB.2017 17:25:19

802.11n ht20 High Channel



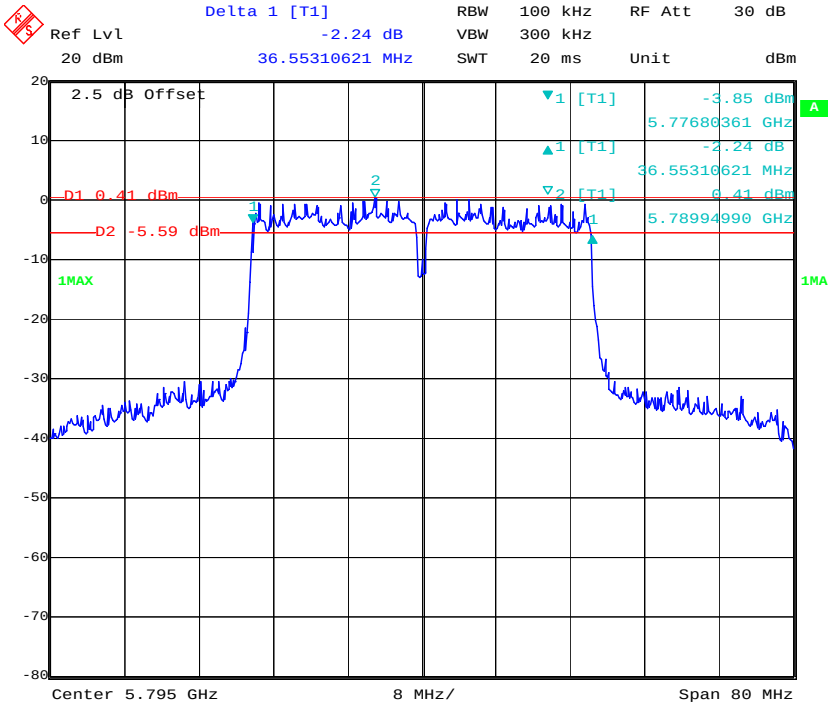
Date: 8.FEB.2017 17:31:06

802.11n ht40 Low Channel



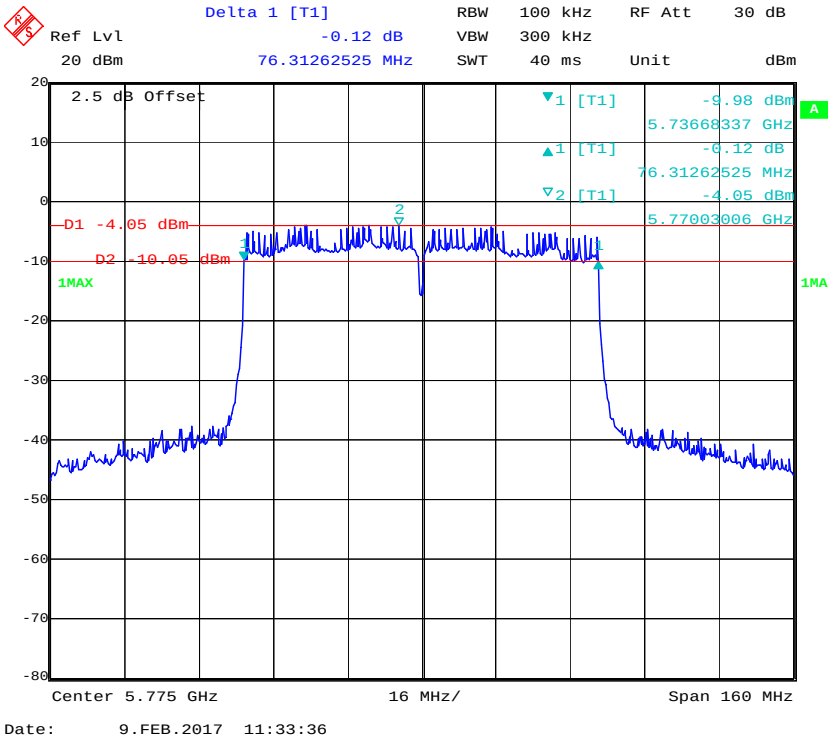
Date: 9.FEB.2017 10:07:16

802.11n ht40 High Channel



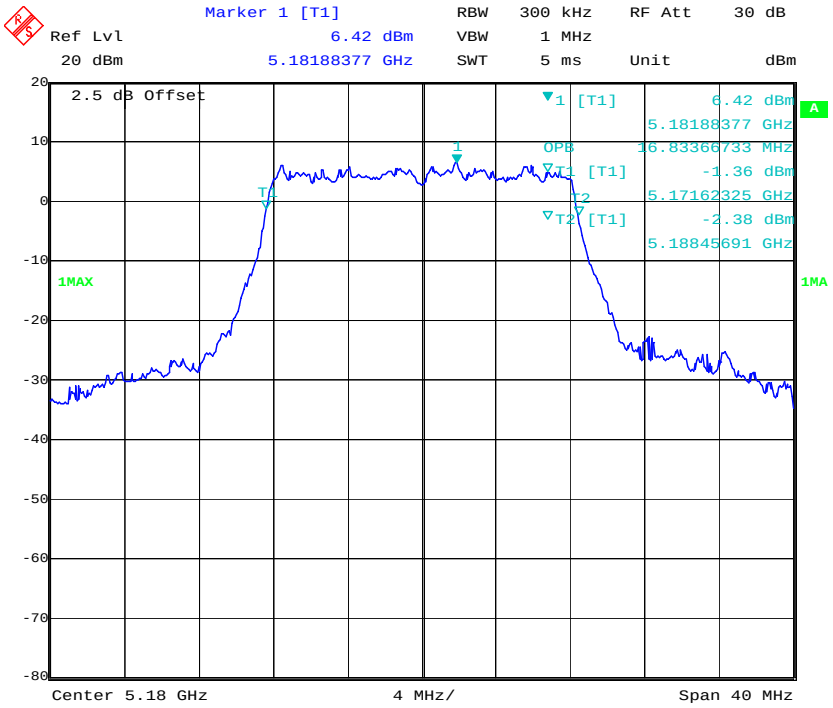
Date: 9.FEB.2017 10:10:57

802.11n ac80 Middle Channel

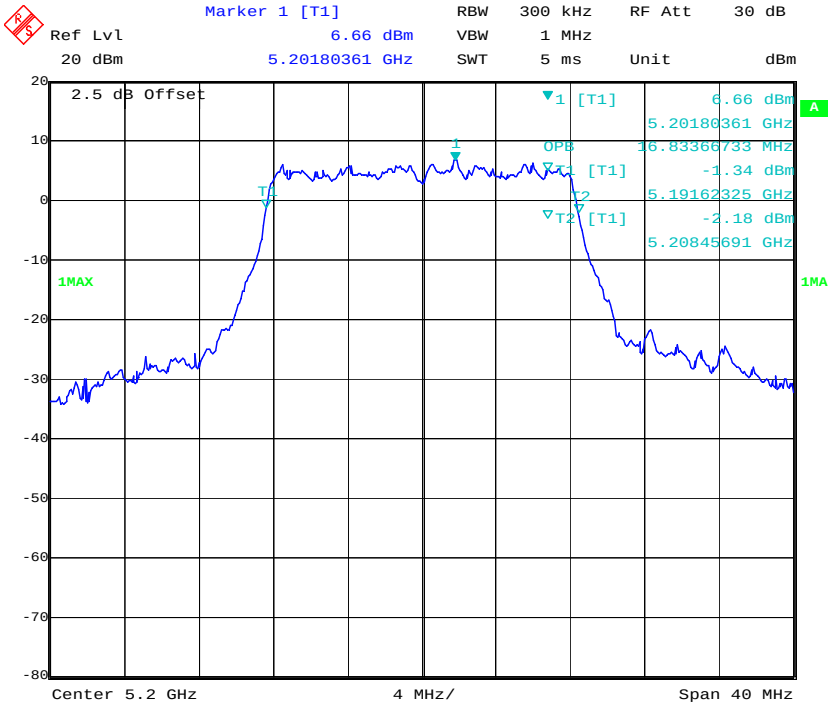


99% Occupied Bandwidth:
5150-5250MHz

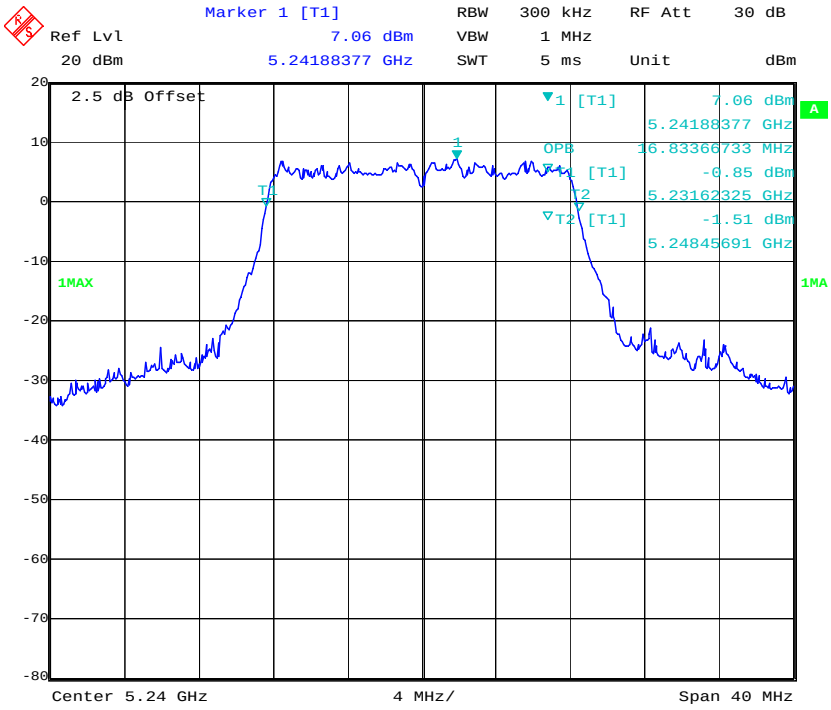
802.11a Low Channel



802.11a Middle Channel

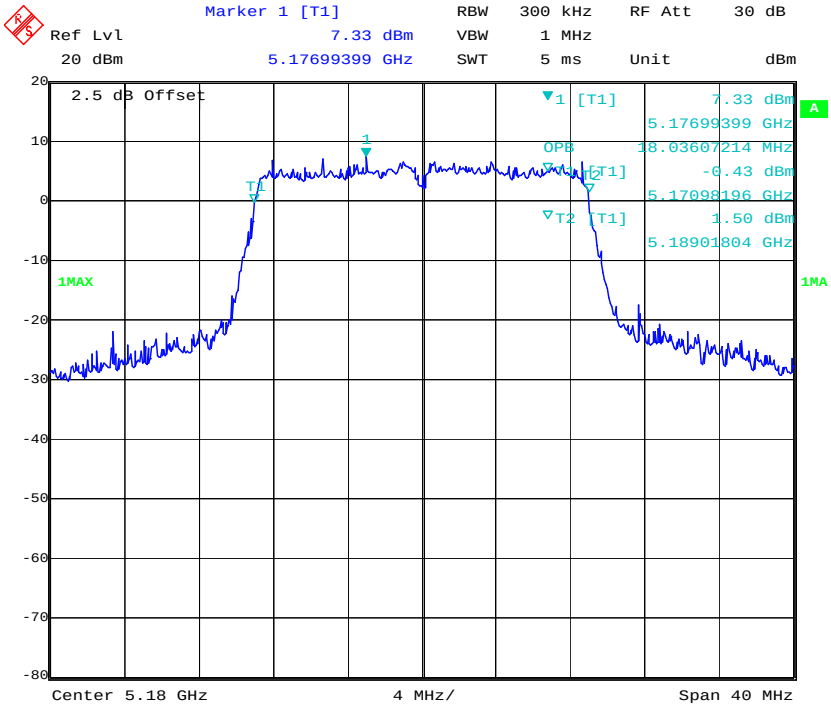


802.11a High Channel



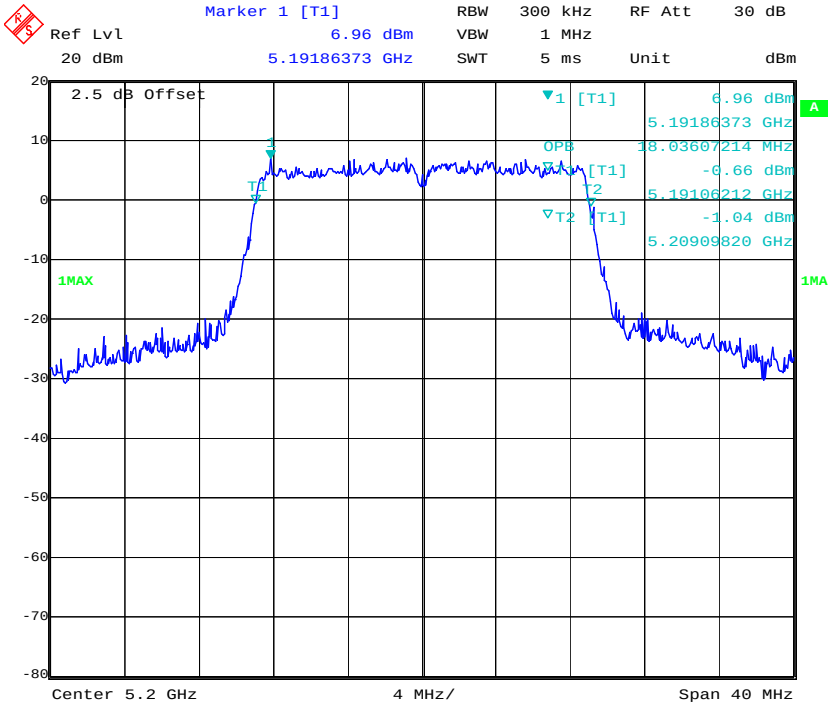
Date: 8.FEB.2017 14:58:28

802.11n ht20 Low Channel



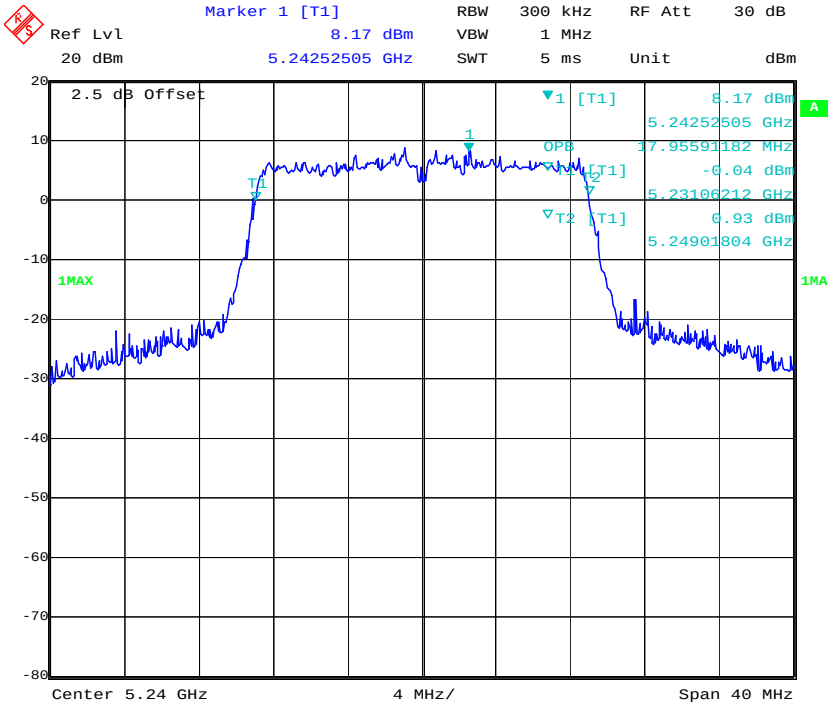
Date: 8.FEB.2017 16:51:33

802.11n ht20 Middle Channel



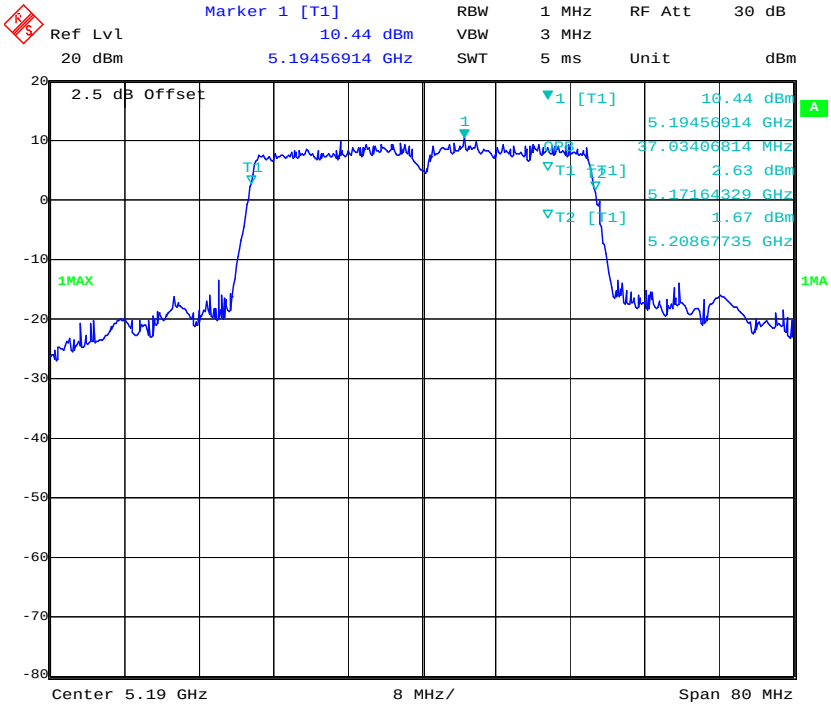
Date: 8.FEB.2017 16:54:39

802.11n ht20 High Channel

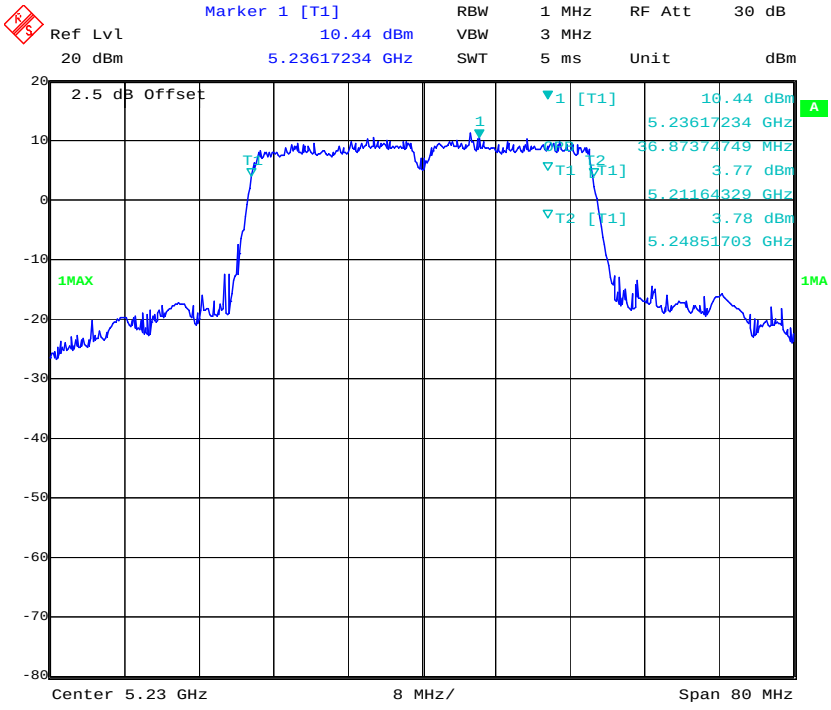


Date: 8.FEB.2017 16:57:20

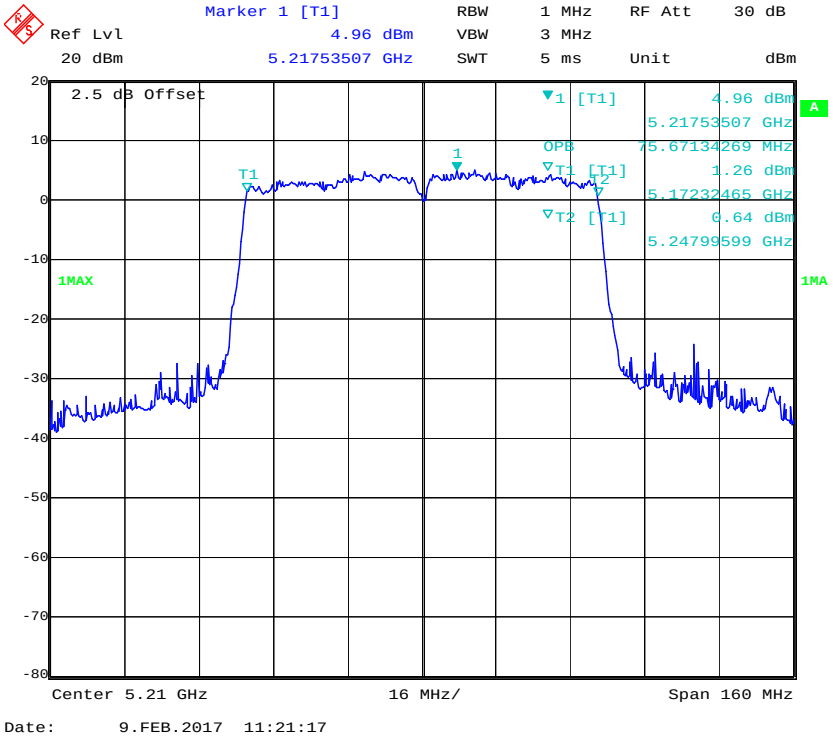
802.11n ht40 Low Channel



802.11n ht40 High Channel

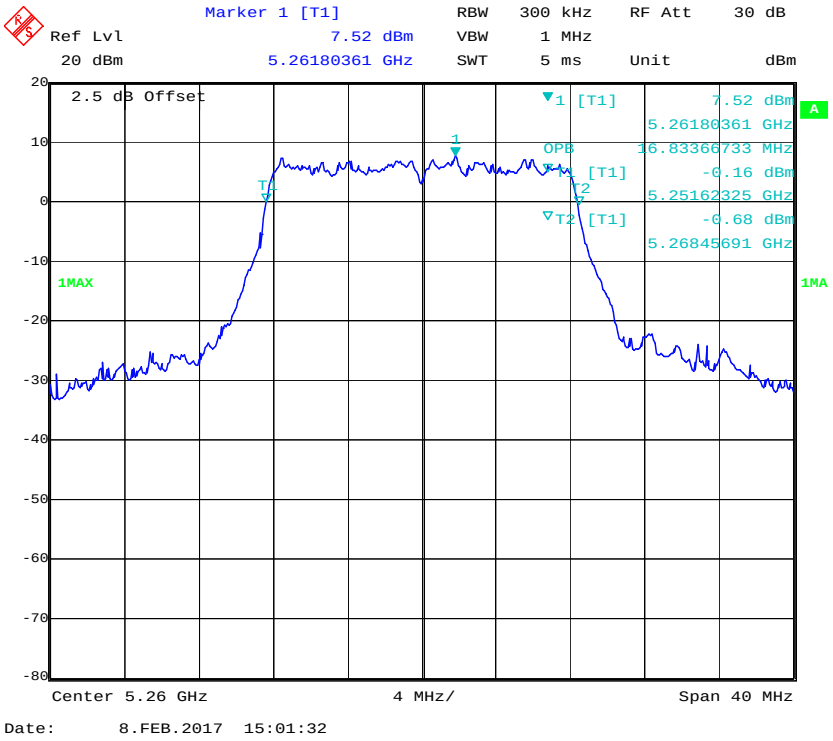


802.11ac80 Middle Channel



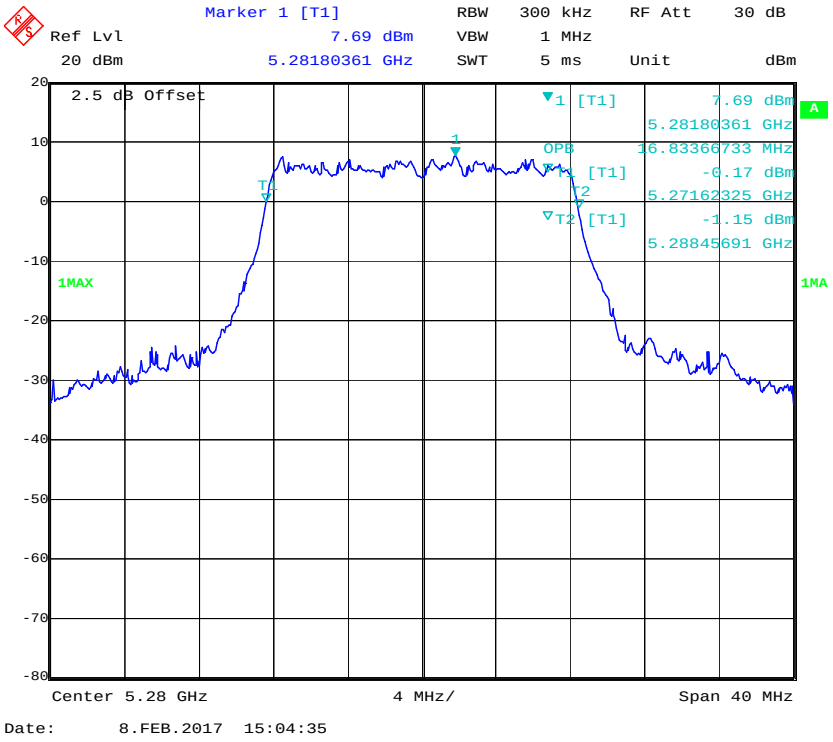
5250-5350MHz

802.11a Low Channel



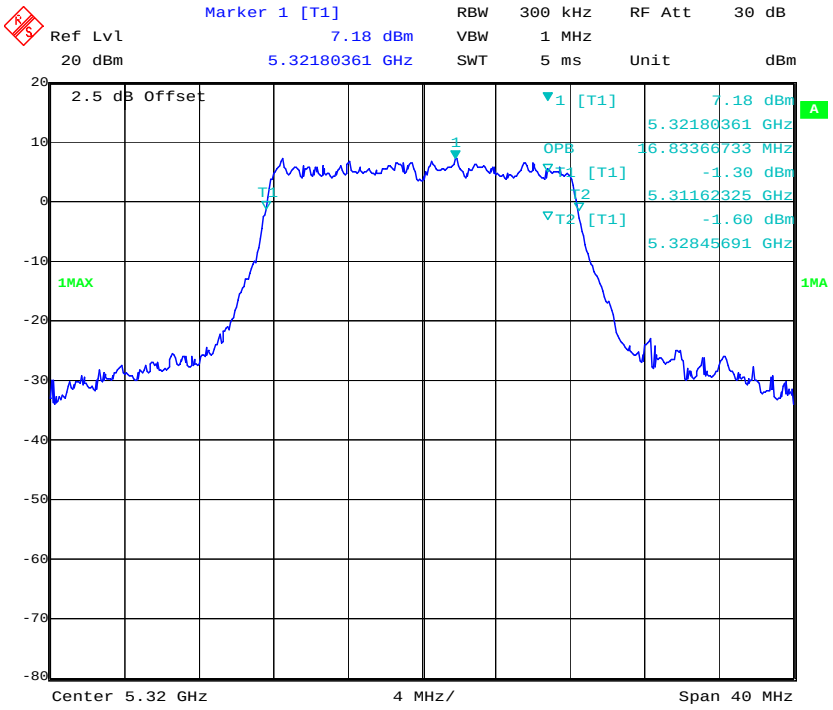
Date: 8.FEB.2017 15:01:32

802.11a Middle Channel

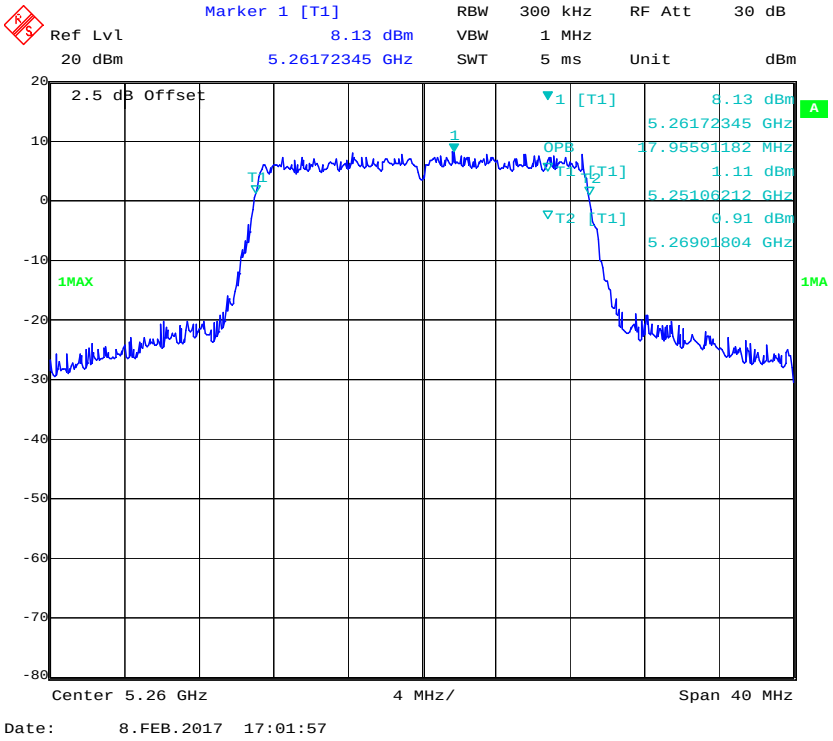


Date: 8.FEB.2017 15:04:35

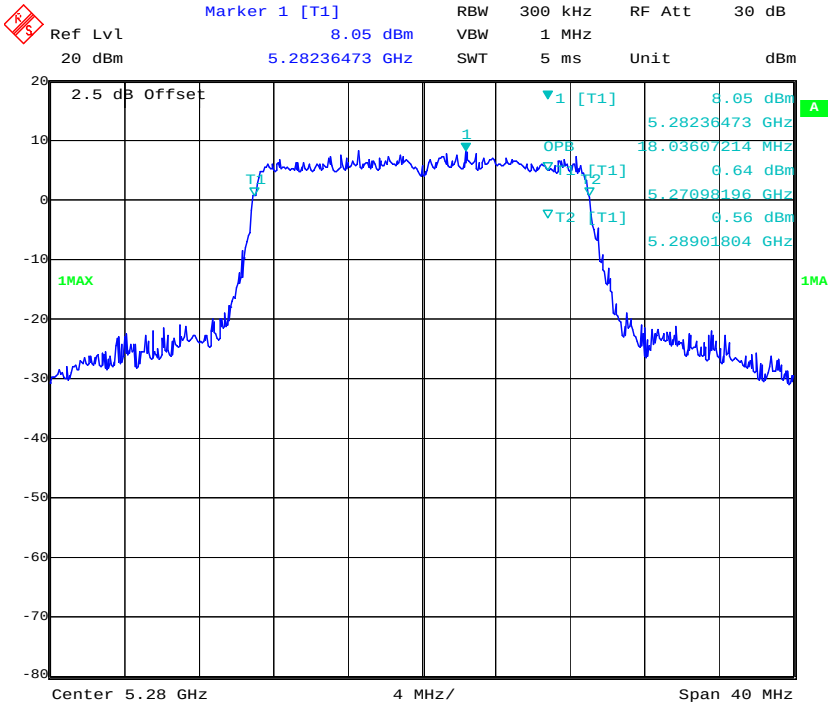
802.11a High Channel



802.11n ht20 Low Channel

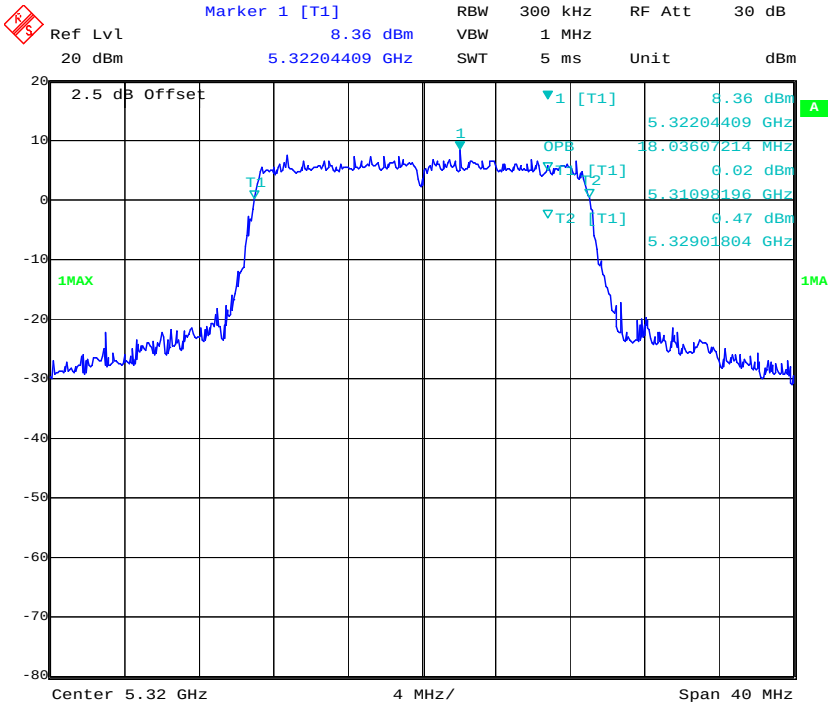


802.11n ht20 Middle Channel



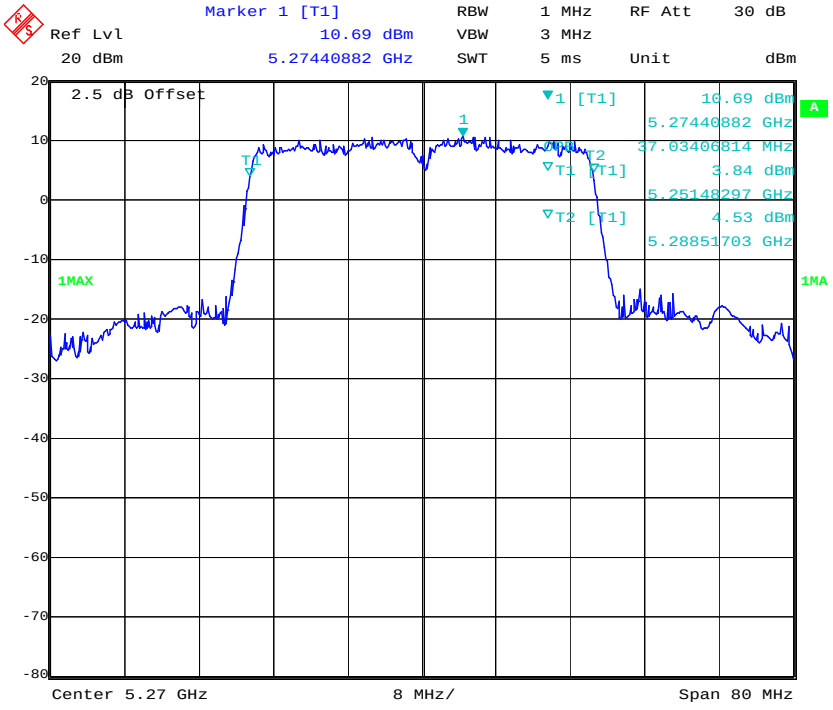
Date: 8.FEB.2017 17:05:51

802.11n ht20 High Channel



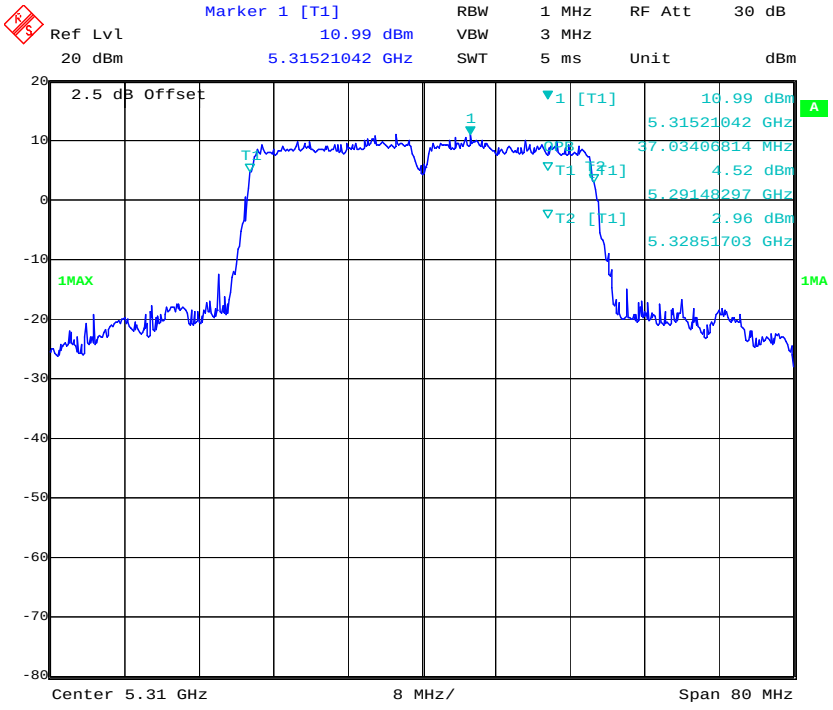
Date: 8.FEB.2017 17:08:12

802.11n ht40 Low Channel



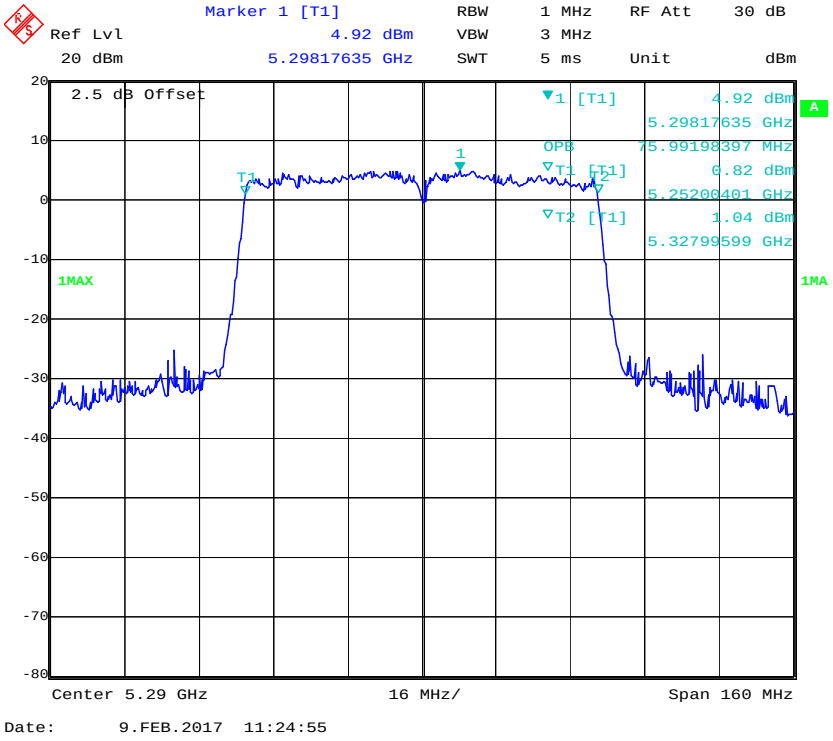
Date: 8.FEB.2017 17:52:18

802.11n ht40 High Channel



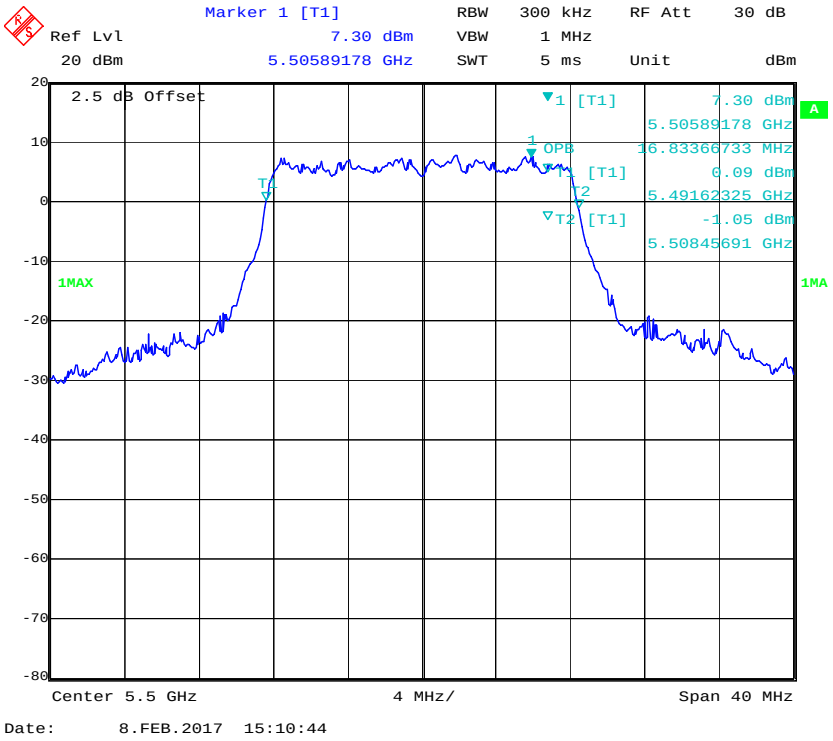
Date: 8.FEB.2017 17:57:01

802.11ac80 Middle Channel

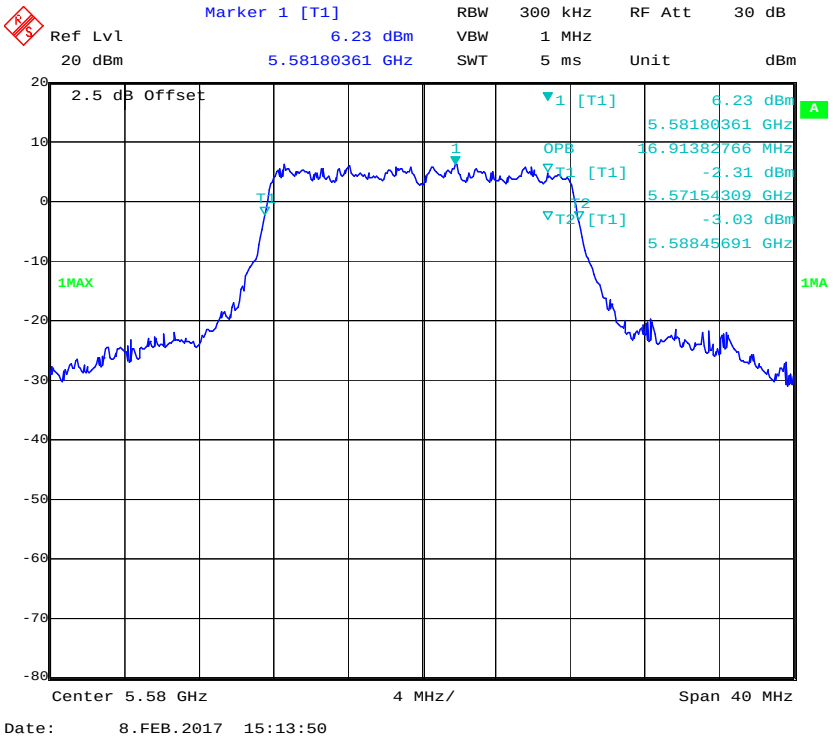


5470-5725MHz

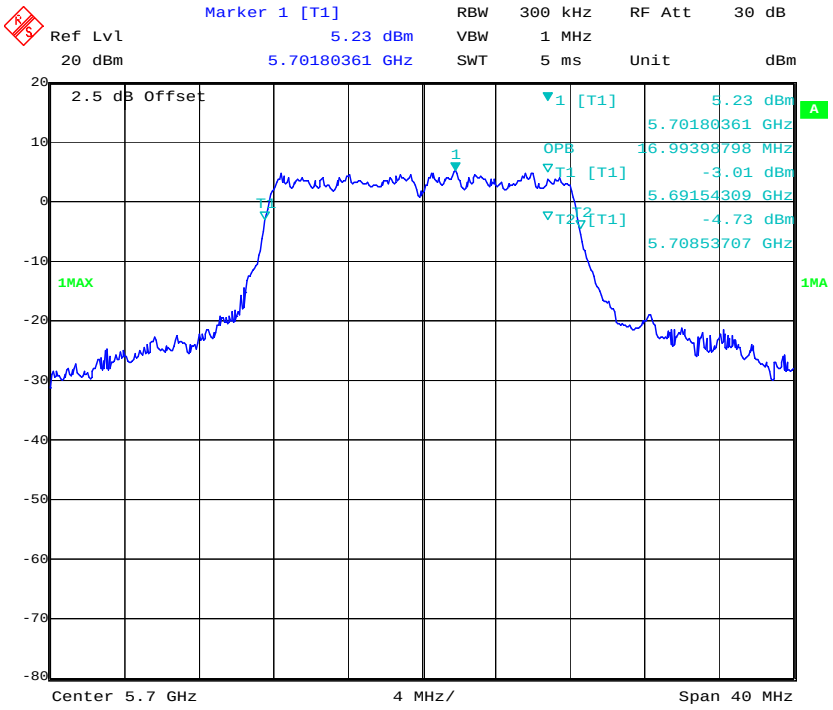
802.11a 5500MHz



802.11a 5580MHz

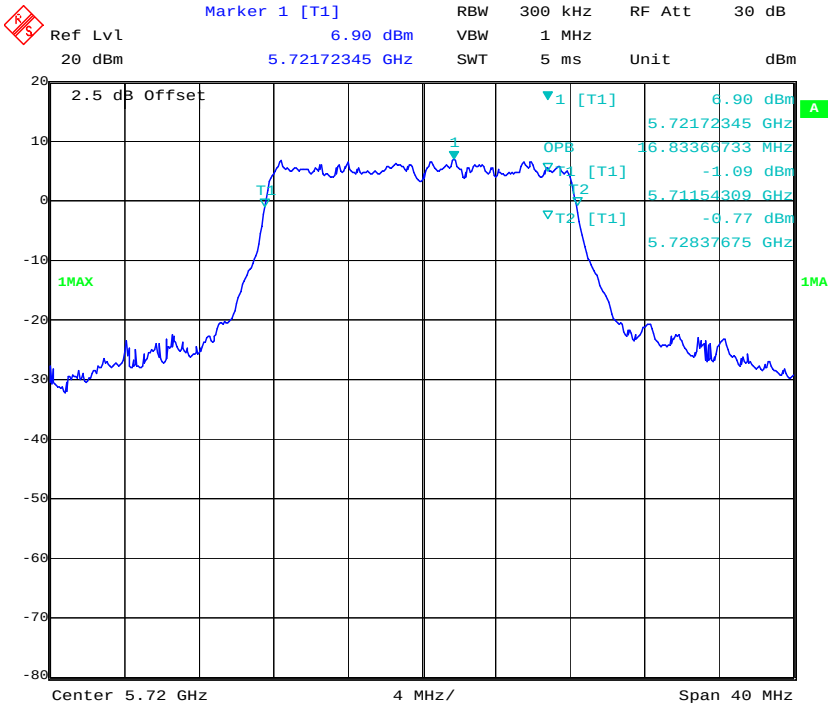


802.11a 5700MHz



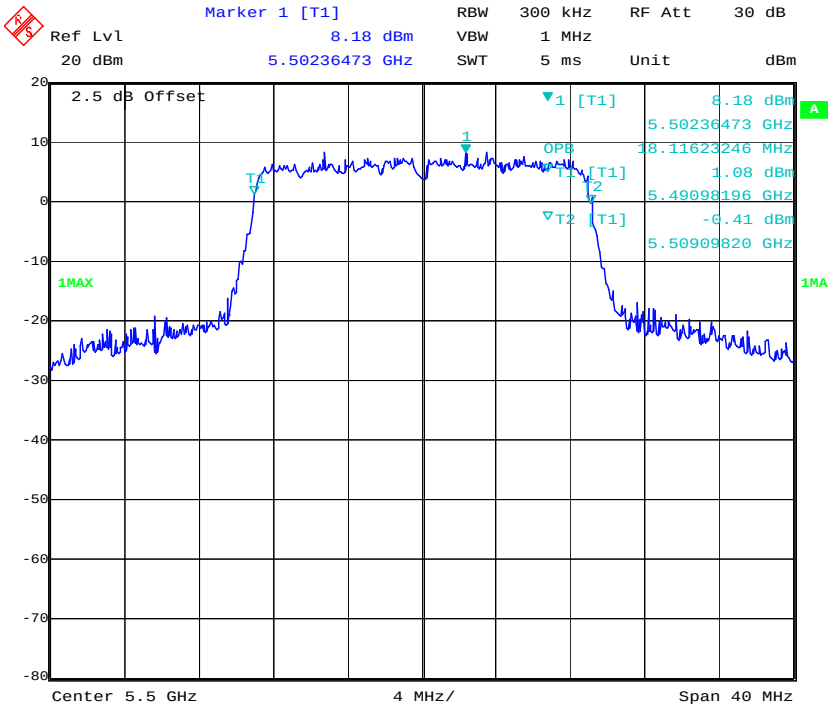
Date: 8.FEB.2017 15:16:19

802.11a 5720MHz



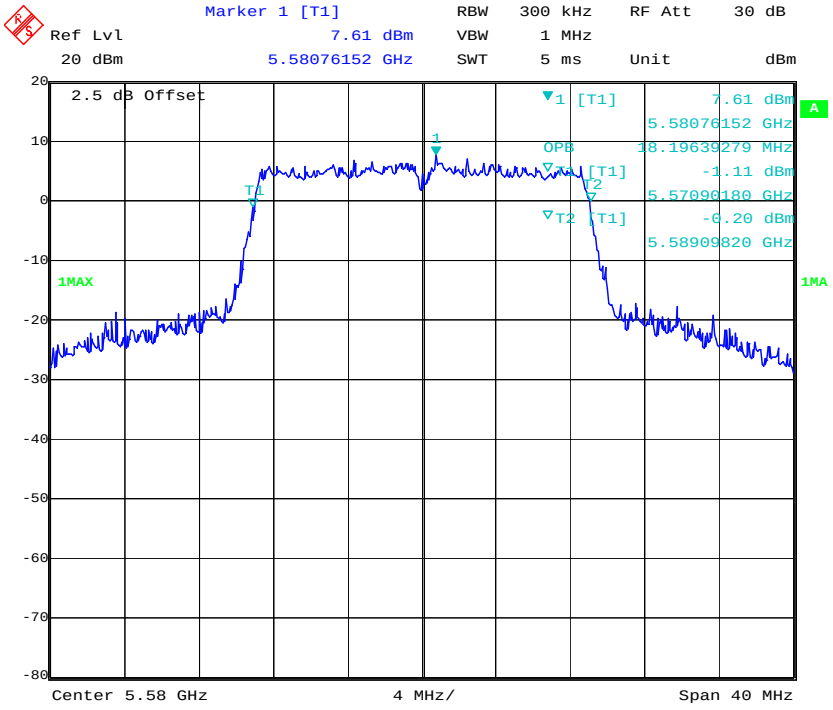
Date: 8.FEB.2017 17:41:47

802.11n ht20 5500MHz



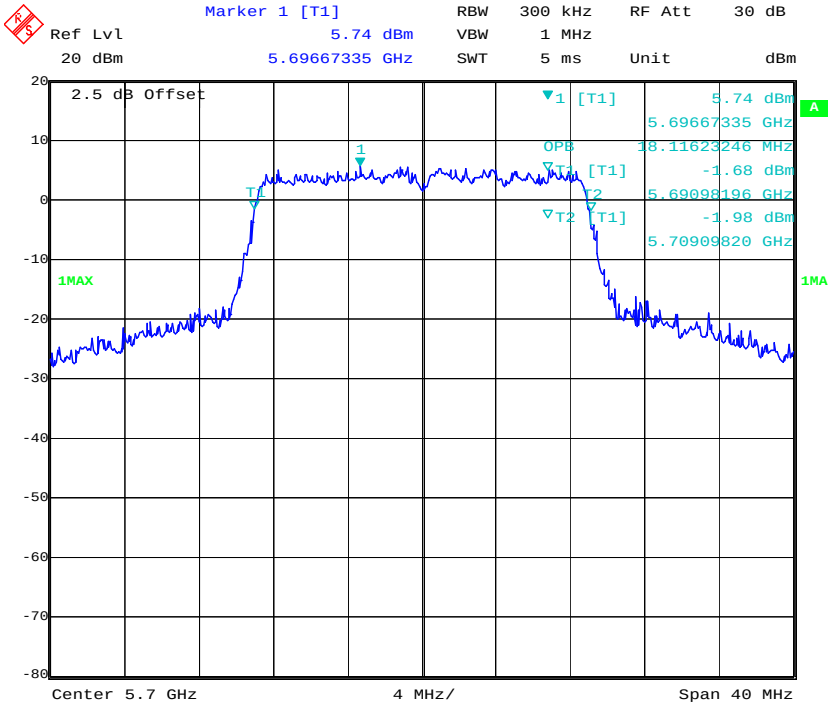
Date: 8.FEB.2017 17:11:20

802.11n ht20 5580MHz



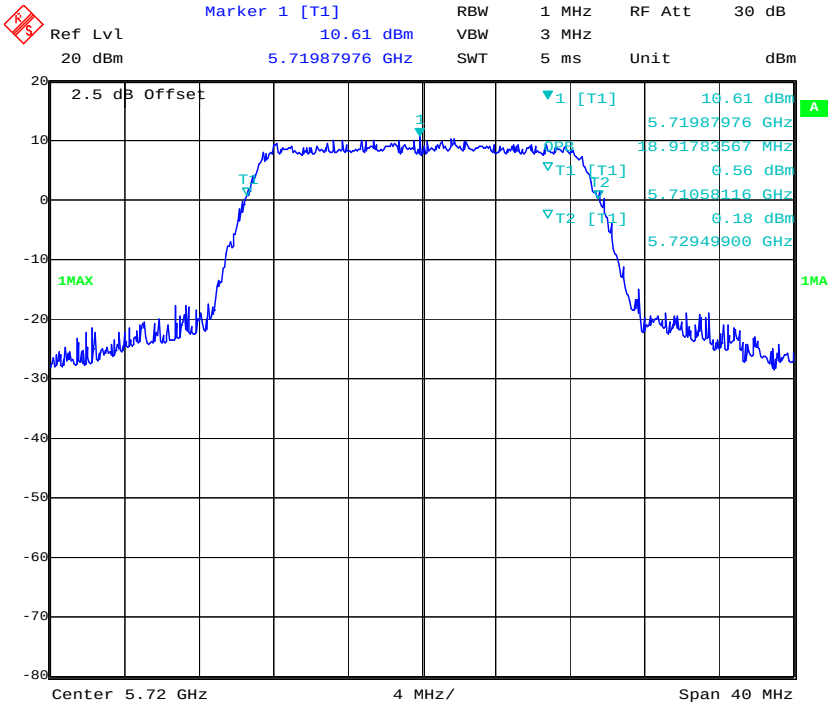
Date: 8.FEB.2017 17:15:26

802.11n ht20 5700MHz



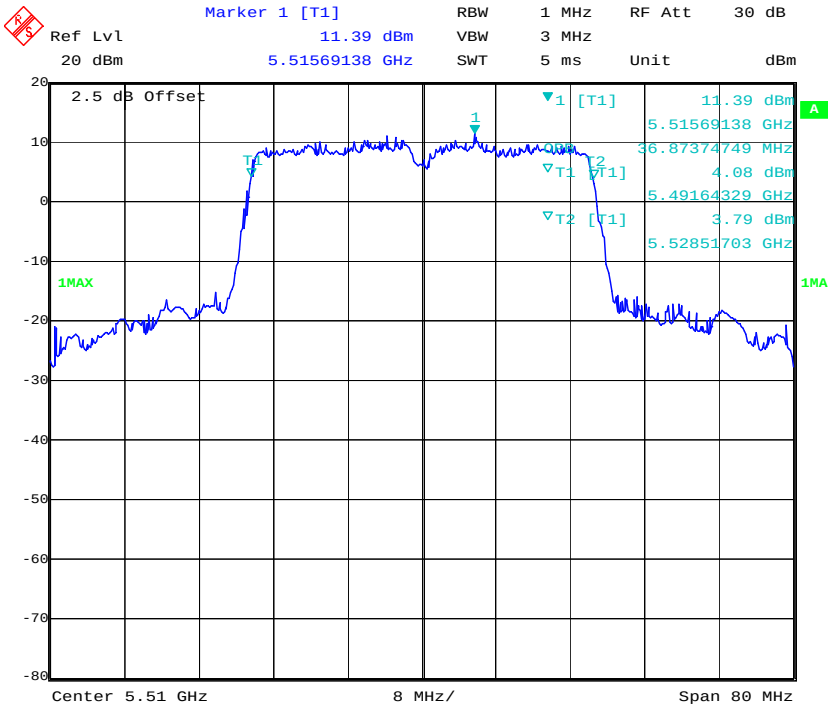
Date: 8.FEB.2017 17:18:03

802.11n ht20 5720MHz



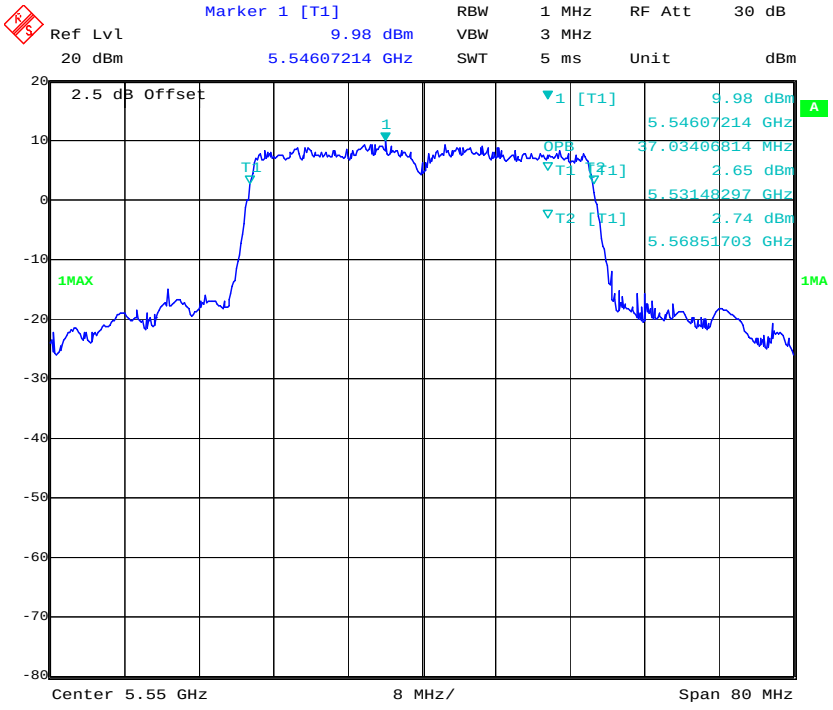
Date: 10.FEB.2017 16:41:44

802.11n ht40 5510MHz



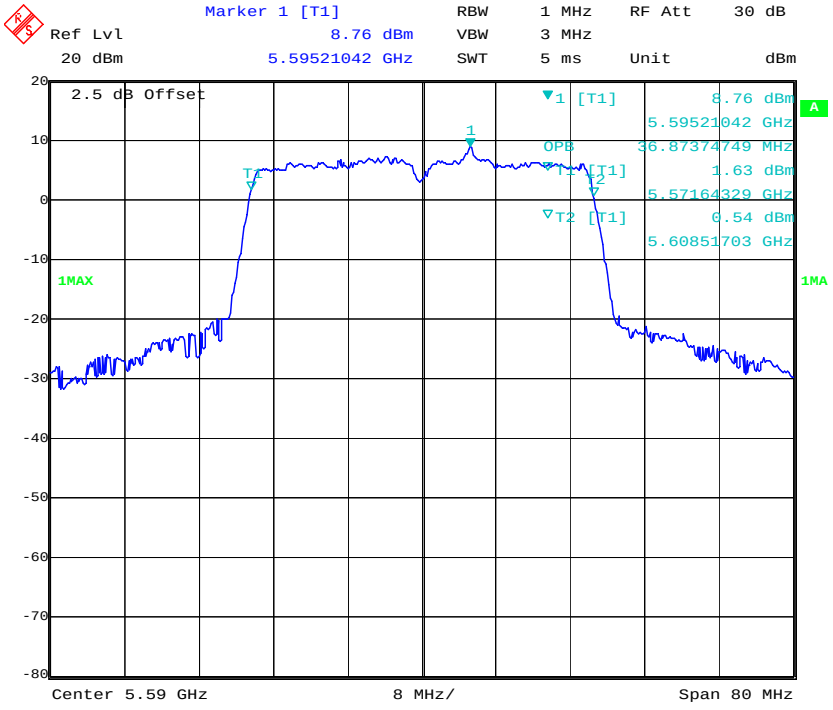
Date: 9.FEB.2017 09:56:21

802.11n ht40 5550MHz



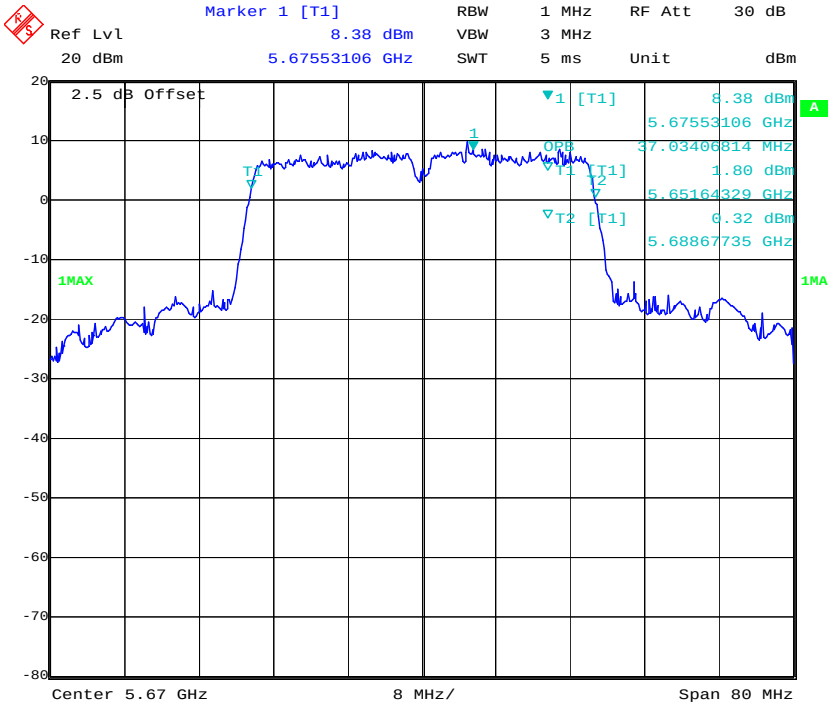
Date: 9.FEB.2017 09:59:32

802.11n ht40 5590MHz



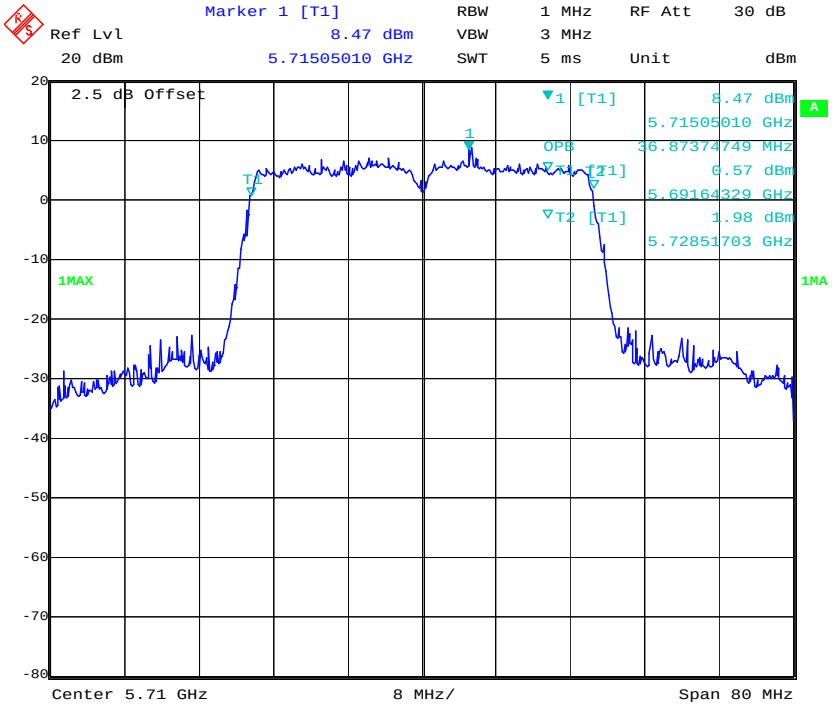
Date: 10.FEB.2017 16:38:45

802.11n ht40 5670MHz



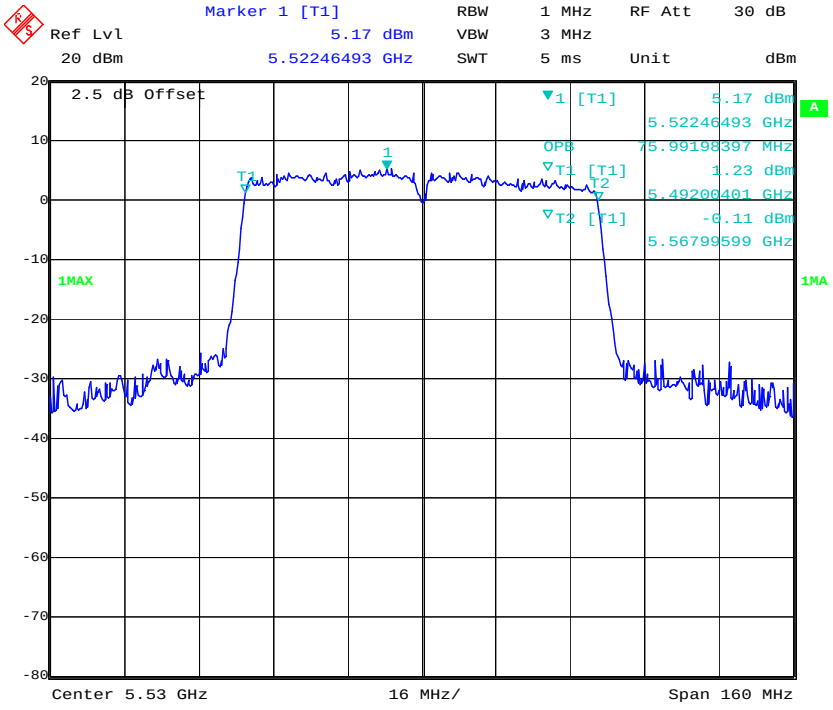
Date: 9.FEB.2017 10:02:18

802.11n ht40 5710MHz



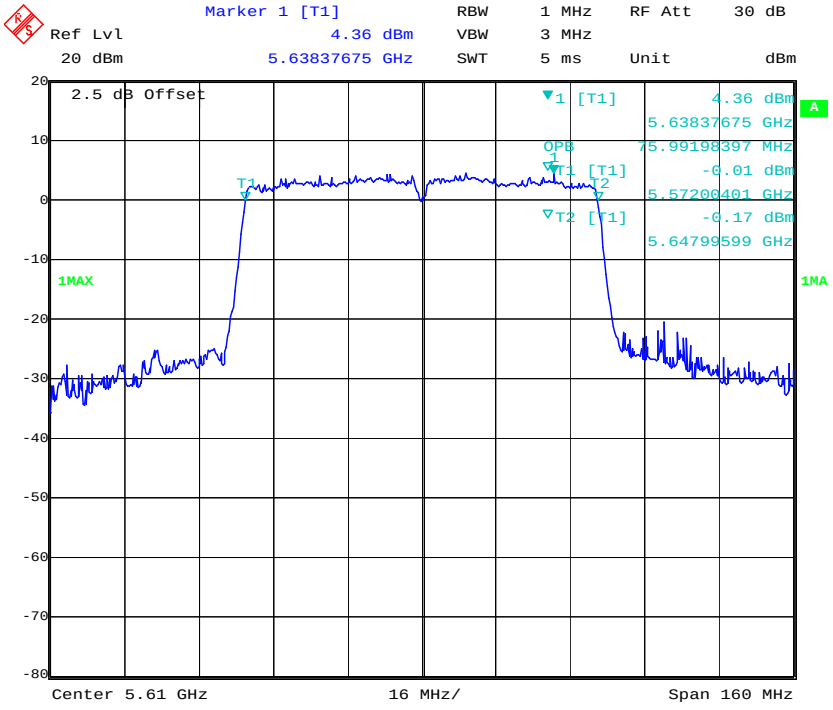
Date: 10.FEB.2017 16:39:21

802.11 ac80 5530MHz



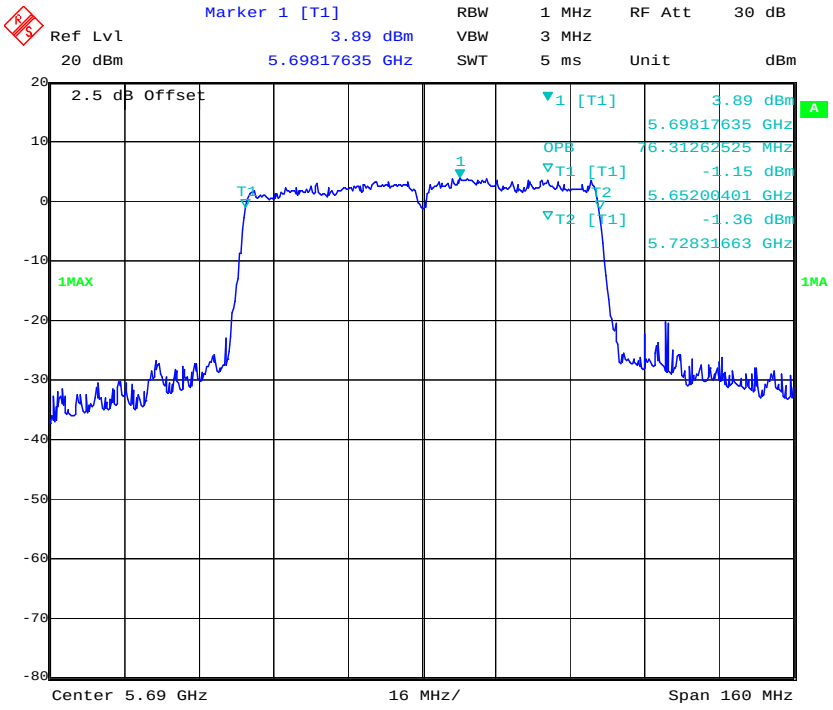
Date: 9.FEB.2017 11:27:51

802.11 ac80 5610MHz



Date: 10.FEB.2017 16:32:38

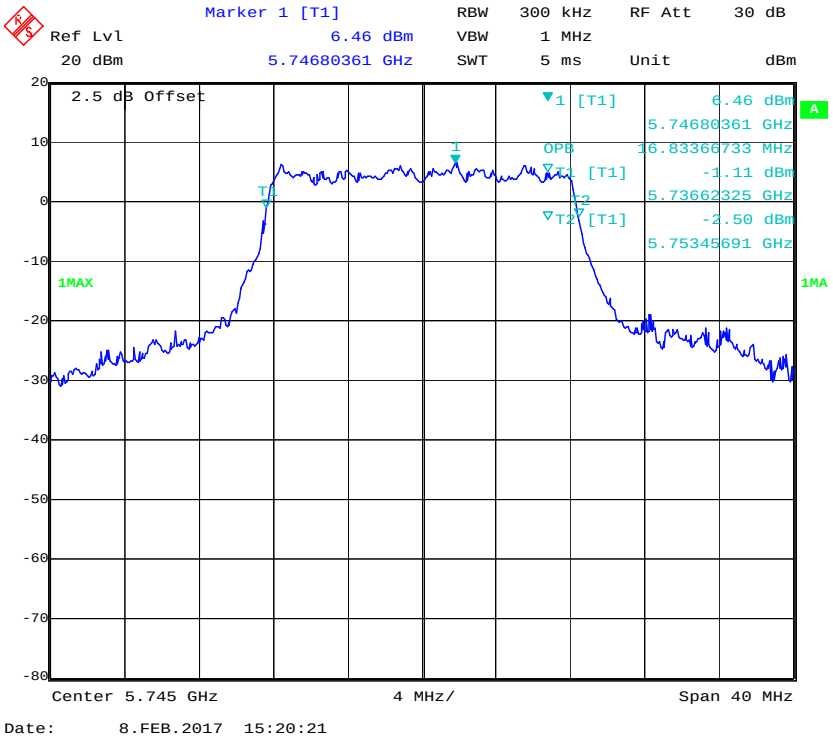
802.11 ac80 5690MHz



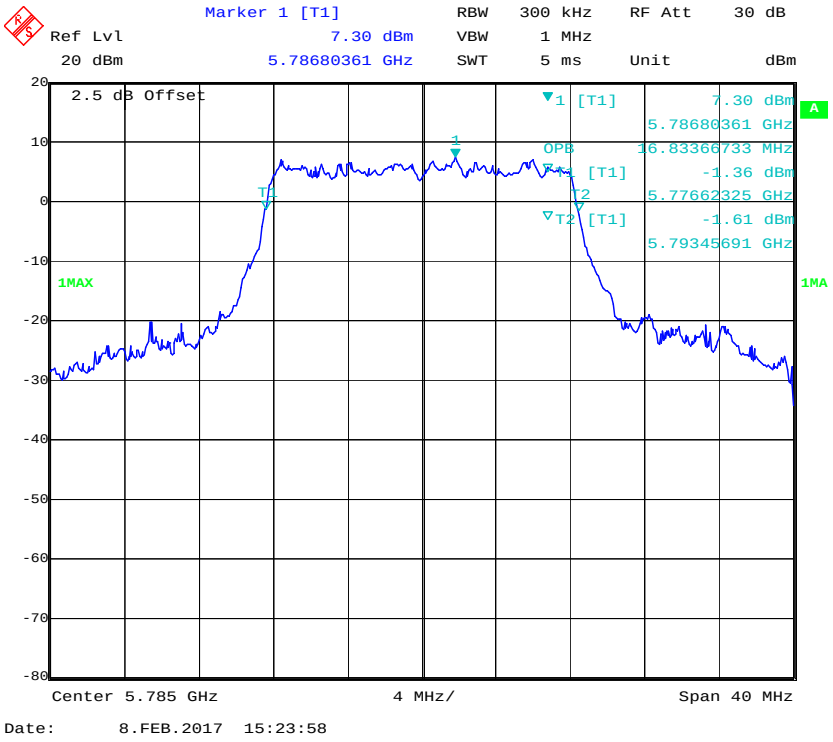
Date: 9.FEB.2017 11:30:26

5725-5850MHz

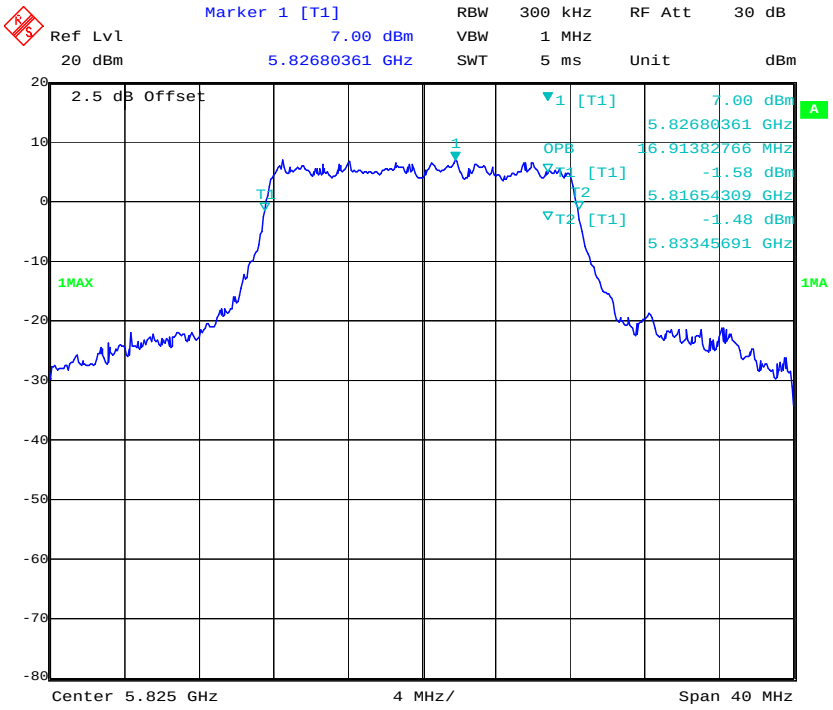
802.11a Low Channel



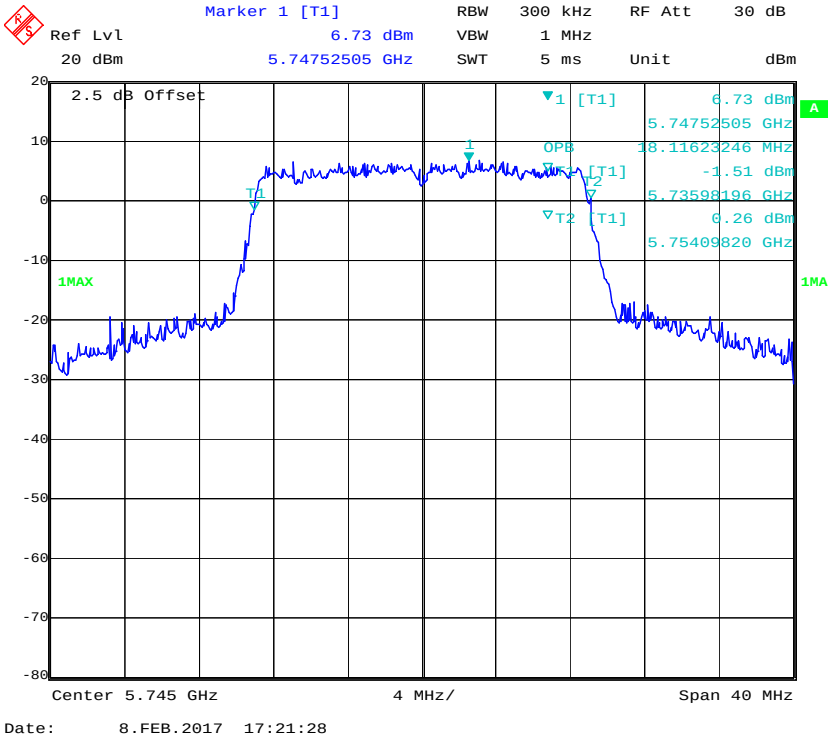
802.11a Middle Channel



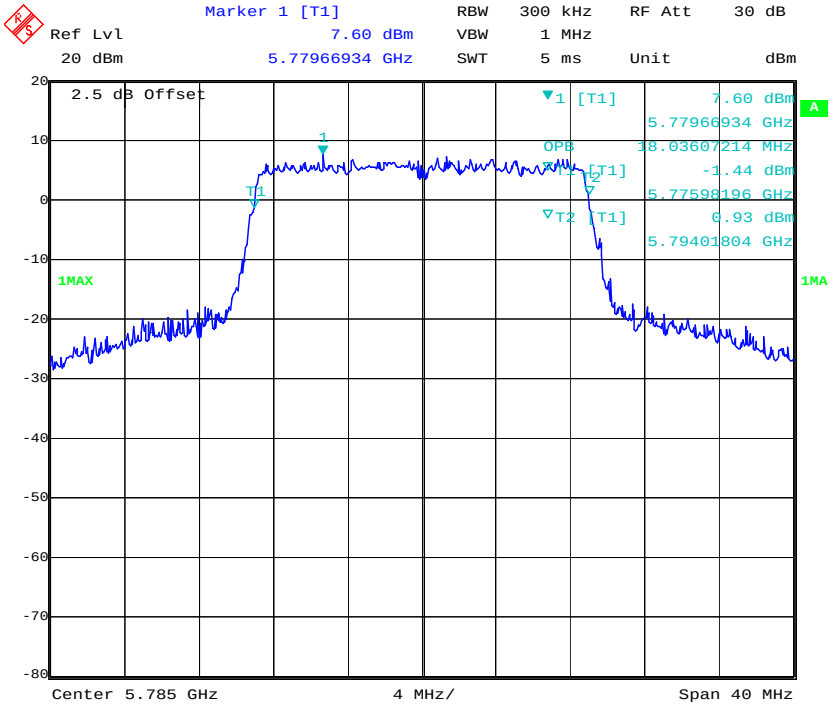
802.11a High Channel



802.11n ht20 Low Channel

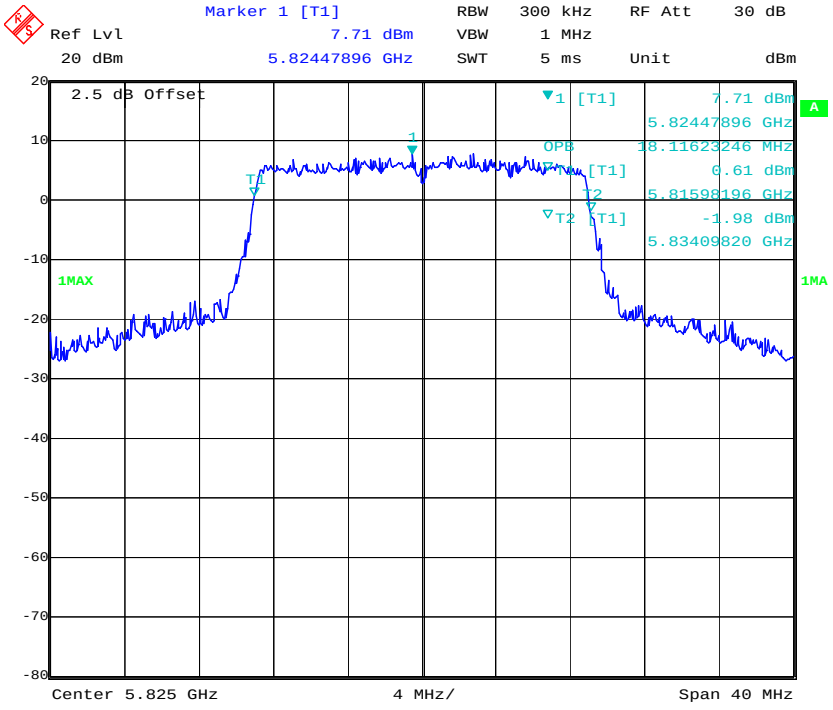


802.11n ht20 Middle Channel



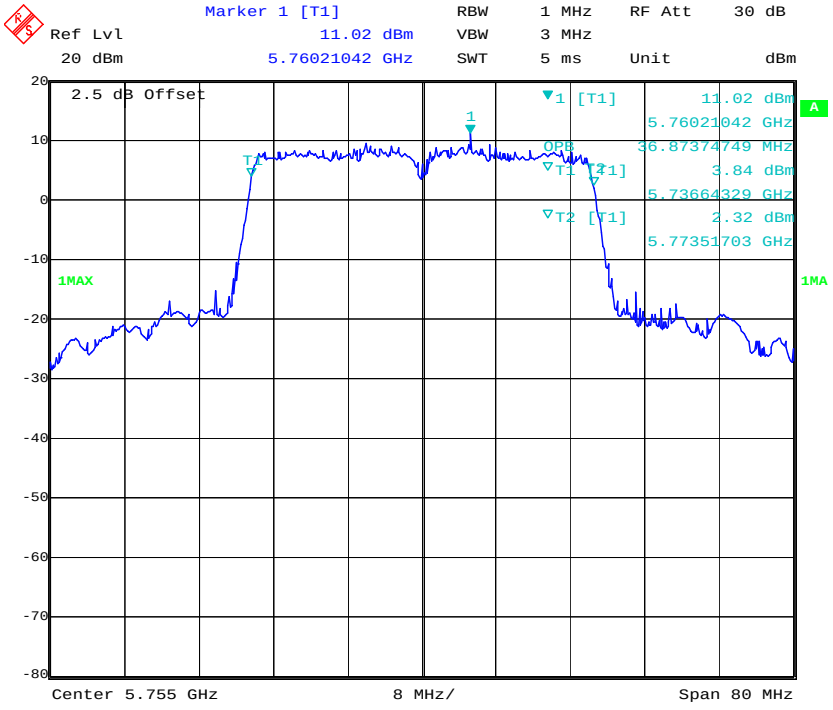
Date: 8.FEB.2017 17:25:36

802.11n ht20 High Channel



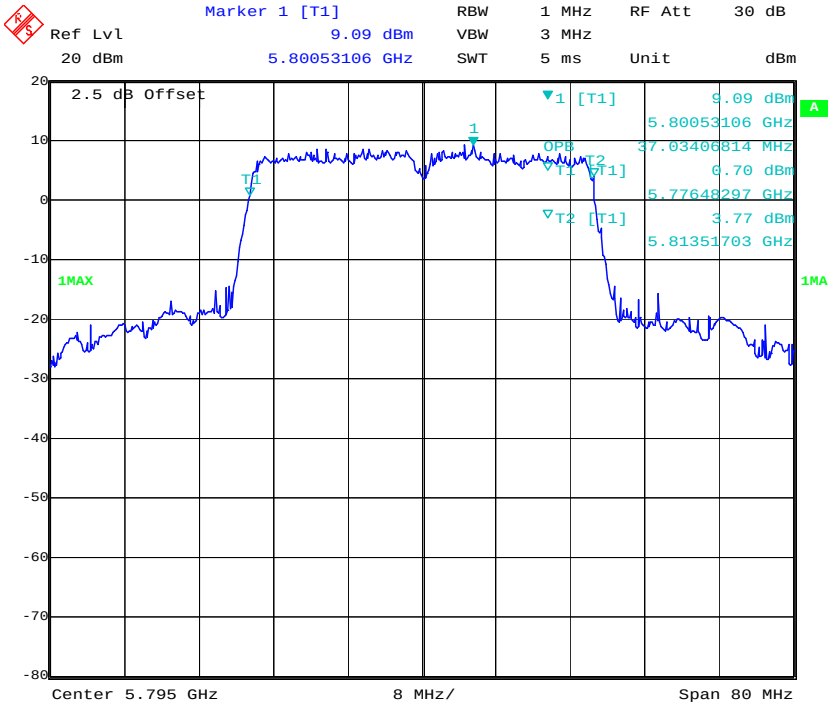
Date: 8.FEB.2017 17:31:26

802.11n ht40 Low Channel



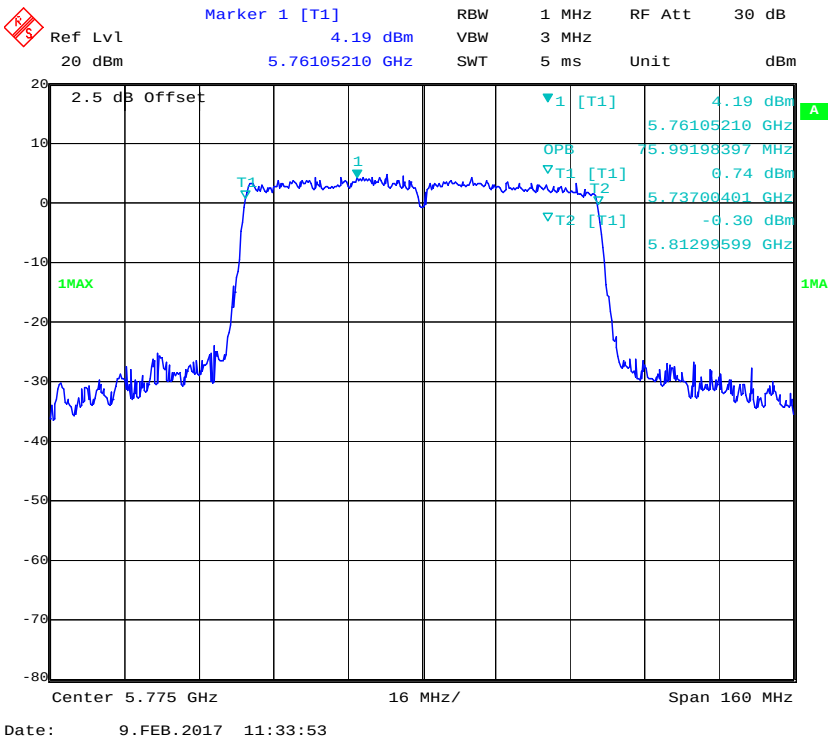
Date: 9.FEB.2017 10:07:33

802.11n ht40 High Channel



Date: 9.FEB.2017 10:11:13

802.11ac80 Middle Channel



FCC §15.407(a) & RSS-247 §6.2– MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.407(a)

(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.

According to RSS-247 §6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

The maximum conducted output power shall not exceed 1 W. The output 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 output 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 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[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

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-2	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 v01r04.

Test Data

Environmental Conditions

Temperature:	18 °C
Relative Humidity:	55 %
ATM Pressure:	97 kPa

The testing was performed by Lorin Bian on 2017-02-10.

Test Mode: Transmitting

Note: duty cycle factor was added in the result

5150-5250MHz:

Mode	Channel	Frequency (MHz)	RMS Conducted output Power (dBm)			FCC Conducted Limit (dBm)	Maximum E.I.R.P (dBm)	RSS-247 E.I.R.P Limits (dBm)	Result
			Chain 0	Chain 1	Total				
802.11a	Low	5180	13.46	13.47	/	30	15.47	22.26	PASS
	Middle	5200	13.61	13.48	/	30	15.61	22.26	PASS
	High	5240	13.56	13.57	/	30	15.57	22.26	PASS
802.11nht20	Low	5180	14.26	13.38	16.85	30	18.85	22.56	PASS
	Middle	5200	14.27	13.32	16.83	30	18.83	22.56	PASS
	High	5240	14.34	13.41	16.91	30	18.91	22.54	PASS
802.11nht40	Low	5190	12.86	13.23	16.06	30	18.06	23.00	PASS
	High	5230	12.68	13.22	15.97	30	17.97	23.00	PASS
802.11ac80	Middle	5210	11.63	12.48	15.09	30	17.09	23.00	PASS

Note: For RSS-247, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz, the antenna gain is 2dBi.

5250-5350MHz:

Mode	Channel	Frequency (MHz)	RMS Conducted output Power (dBm)			Conducted Limit (dBm)		Max. E.I.R.P (dBm)	RSS-247 E.I.R.P Limits (dBm)	Result
			Chain 0	Chain 1	Total	FCC	RSS-247			
802.11 a	Low	5260	13.07	13.53	/	24.00	23.26	15.53	29.26	PASS
	Middle	5280	13.33	13.56	/	24.00	23.26	15.56	29.26	PASS
	High	5320	13.53	13.3	/	24.00	23.26	15.53	29.26	PASS
802.11n ht20	Low	5260	14.2	13.95	17.09	24.00	23.54	19.09	29.54	PASS
	Middle	5280	14.18	14.08	17.14	24.00	23.56	19.14	29.56	PASS
	High	5320	14.07	14.38	17.24	24.00	23.56	19.24	29.56	PASS
802.11n ht40	Low	5270	12.6	13.4	16.03	24.00	24.00	18.03	30.00	PASS
	High	5310	12.64	13.18	15.93	24.00	24.00	17.93	30.00	PASS
802.11 ac80	Middle	5290	11.83	12.54	15.21	24.00	24.00	17.21	30.00	PASS

Note:
For FCC, 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.
For RSS-247, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. The antenna gain is 2dBi.

5470-5725MHz:

Mode	Channel	Frequency (MHz)	RMS Conducted output Power (dBm)			Conducted Limit (dBm)		Max. E.I.R.P (dBm)	RSS-247 E.I.R.P Limits (dBm)	Result
			Chain 0	Chain 1	Total	FCC	RSS-247			
802.11 a	Low	5500	13.11	13.76	/	24.00	23.26	15.76	29.26	PASS
	Middle	5580	13.77	12.98	/	24.00	23.28	15.77	29.28	PASS
	High	5700	13.25	13.71	/	24.00	23.30	15.71	29.30	PASS
	Crossed	5720	13.41	13.82	/	24.00	23.26	15.82	29.26	PASS
802.11n ht20	Low	5500	14.17	13.81	17.00	24.00	23.58	19.00	29.58	PASS
	Middle	5580	14.41	14.57	17.50	24.00	23.60	19.5	29.60	PASS
	High	5700	14.47	13.92	17.21	24.00	23.58	19.21	29.58	PASS
	Crossed	5720	14.55	14.39	17.48	24.00	23.77	19.48	29.77	PASS
802.11n ht40	Low	5510	12.42	12.81	15.63	24.00	24.00	17.63	30.00	PASS
	Middle	5550	12.56	12.99	15.79	24.00	24.00	17.79	30.00	PASS
	Middle	5590	12.52	12.06	15.31	24.00	24.00	17.31	30.00	PASS
	High	5670	11.98	13.11	15.59	24.00	24.00	17.59	30.00	PASS
	Crossed	5710	12.12	13.54	15.90	24.00	24.00	17.9	30.00	PASS
802.11 ac80	Low	5530	11.5	11.93	14.73	24.00	24.00	16.73	30.00	PASS
	High	5610	11.05	11.16	14.12	24.00	24.00	16.12	30.00	PASS
	Crossed	5690	10.87	12.06	14.52	24.00	24.00	16.52	30.00	PASS

Note:
For FCC, 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.
For RSS-247, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. The antenna gain is 2dBi.
For cross channels, the maximum test result meets the requirements of 5470-5725MHz, which is stricter than the requirements of 5725-5850MHz band.
For Canada RSS-247, channels 118 to 128 were disabled by software

5725-5850MHz:

Mode	Channel	Frequency (MHz)	RMS Conducted output Power (dBm)		Total (dBm)	Limit (dBm)	Result
			Chain 0	Chain 1			
802.11 a	Low	5745	13.32	13.14	/	30	PASS
	Middle	5785	13.15	13.22	/	30	PASS
	High	5825	13.42	13.67	/	30	PASS
802.11n ht20	Low	5745	13.92	12.92	16.46	30	PASS
	Middle	5785	14.00	13.46	16.75	30	PASS
	High	5825	14.44	14.24	17.35	30	PASS
802.11n ht40	Low	5755	11.58	12.16	14.89	30	PASS
	High	5795	11.84	12.28	15.08	30	PASS
802.11 ac80	Middle	5775	10.93	11.54	14.26	30	PASS

FCC §15.407(a)& RSS-247 §6.2 - POWER SPECTRAL DENSITY

Applicable Standard

According to FCC §15.407(a)

(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.

According to RSS-247 §6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

The maximum conducted output power shall not exceed 1 W. The output 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 output 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 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[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04

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-2	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:	17~18 °C
Relative Humidity:	50~55 %
ATM Pressure:	96.8~97 kPa

The testing was performed by Lorin Bian from 2017-02-08 to 2017-02-10.

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	Conducted PSD (dBm/MHz)			FCC Conducted Limit (dBm/ MHz)	Max. E.I.R.P PSD (dBm/MHz)	RSS-247 E.I.R.P PSD Limit (dBm/MHz)	Result
		Chain 0	Chain 1	dB	Chain 0	Chain 1	Total				
802.11 a	5180	5.45	6.68	0.76	6.21	7.44	/	17	9.44	10	Pass
	5200	5.81	6.64	0.76	6.57	7.4	/	17	9.4	10	Pass
	5240	6.25	6.47	0.76	7.01	7.23	/	17	9.23	10	Pass
802.11n ht20	5180	4.36	4.44	0.56	4.92	5.00	7.97	17	9.97	10	Pass
	5200	4.43	4.21	0.56	4.99	4.77	7.89	17	9.89	10	Pass
	5240	4.32	4.40	0.56	4.88	4.96	7.93	17	9.93	10	Pass
802.11n ht40	5190	2.96	2.74	0.76	3.72	3.5	6.62	17	8.62	10	Pass
	5230	3.34	2.98	0.76	4.1	3.74	6.93	17	8.93	10	Pass
802.11 ac80	5210	-2.72	-2.5	0.36	-2.36	-2.14	0.76	17	2.76	10	Pass

Note: the antenna maximum gain are 2.0dBi in 5GHz band, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

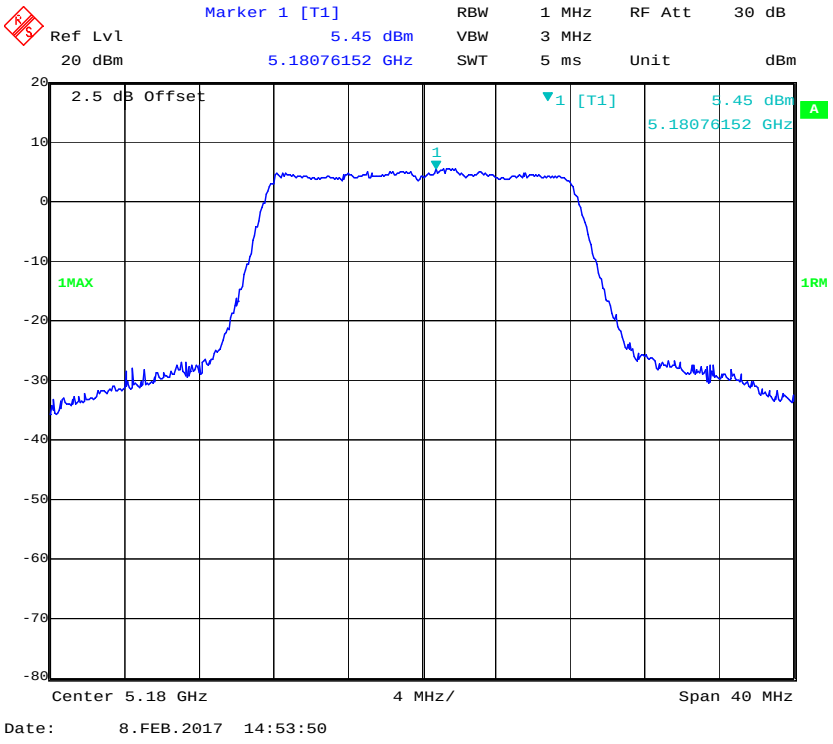
Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 2+10*log(2) =5 dBi

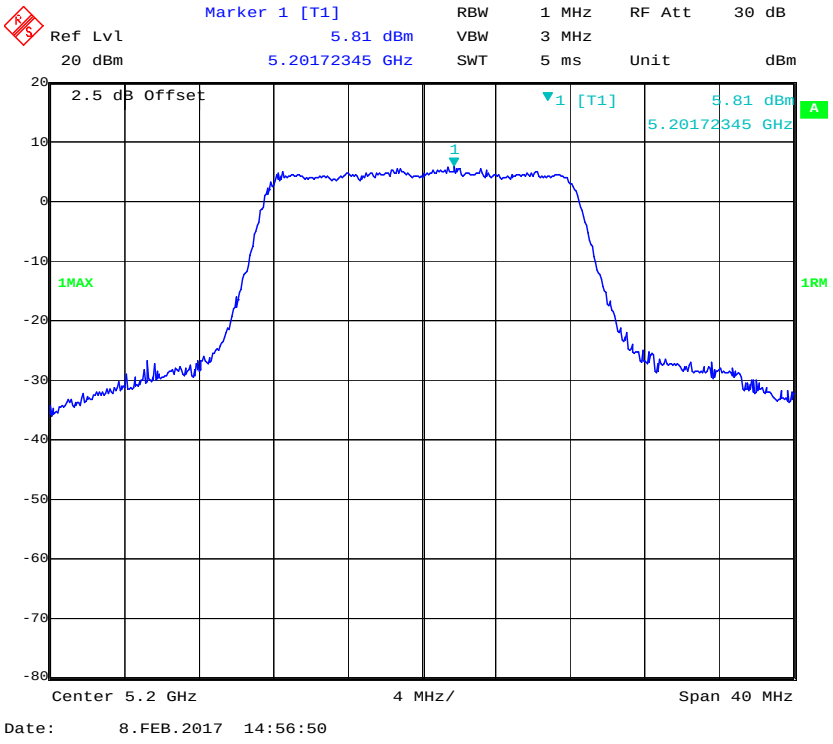
5150MHz-5250MHz:

802.11a Low Channel – Chain0



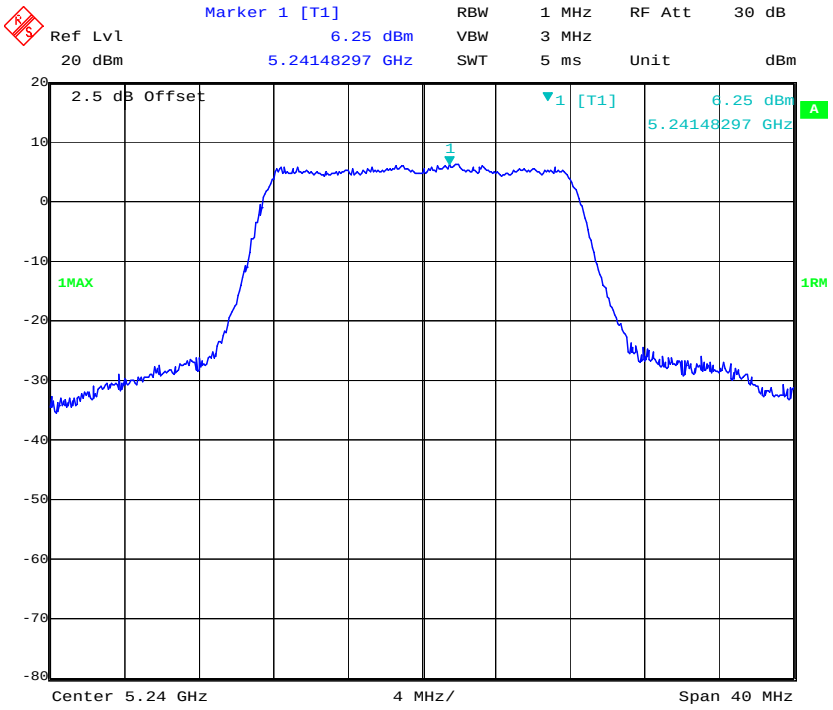
Date: 8.FEB.2017 14:53:50

802.11a Middle Channel – Chain0

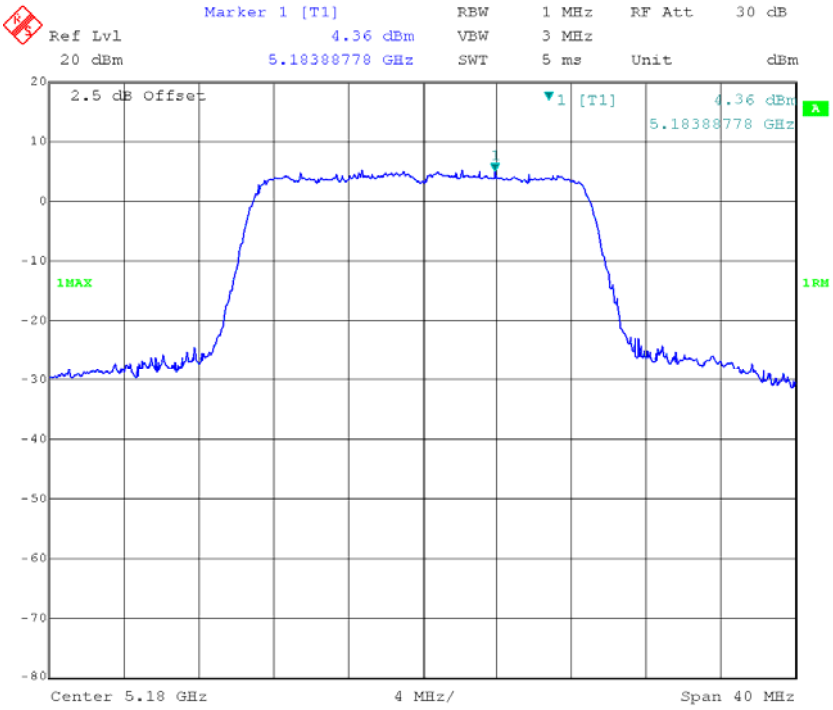


Date: 8.FEB.2017 14:56:50

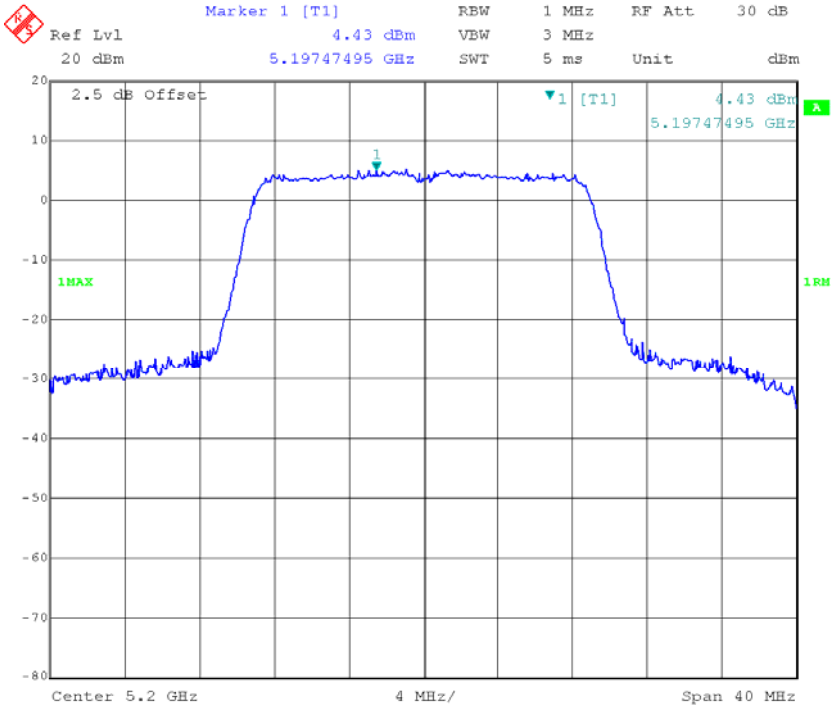
802.11a High Channel – Chain0



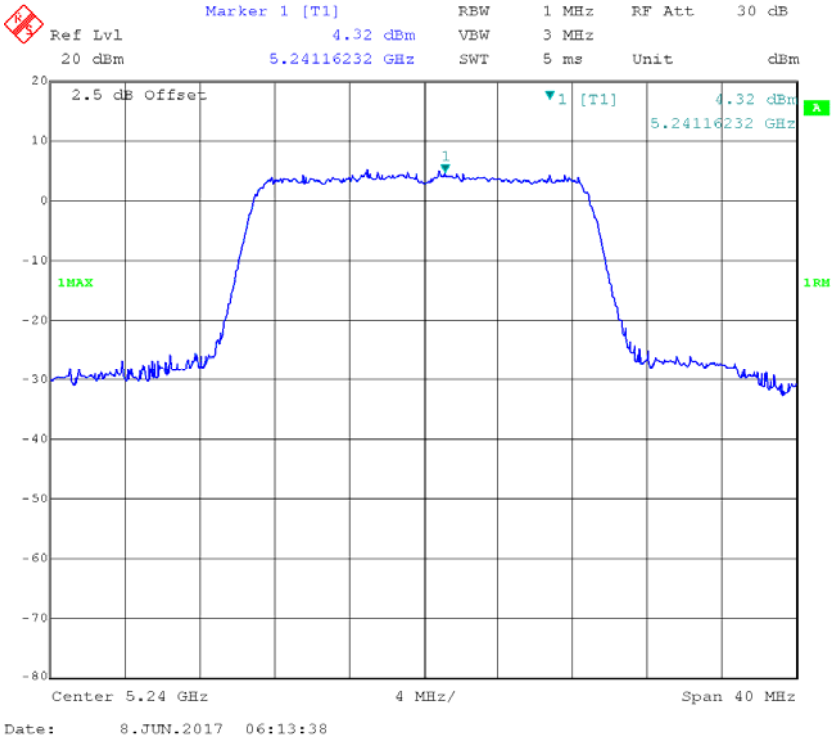
802.11n ht20 Low Channel – Chain0



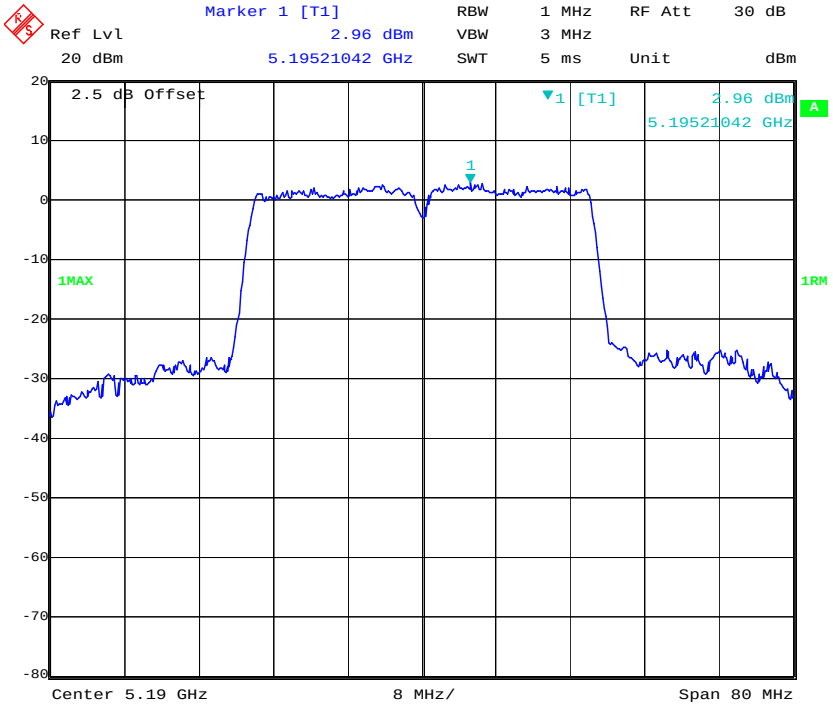
802.11n ht20 Middle Channel – Chain0



802.11n ht20 High Channel – Chain0

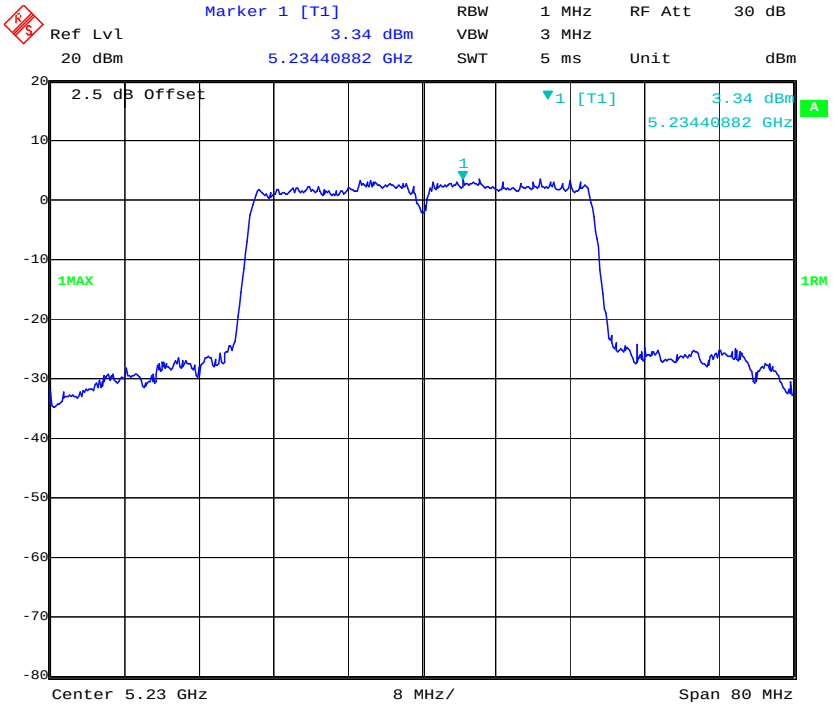


802.11n ht40 Low Channel – Chain0



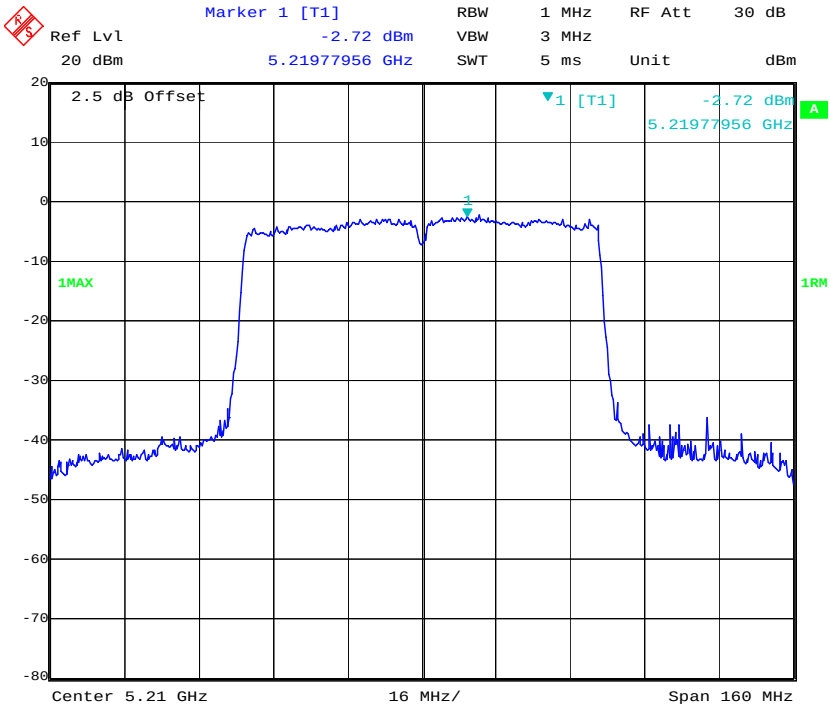
Date: 8.FEB.2017 17:35:59

802.11n ht40 High Channel – Chain0



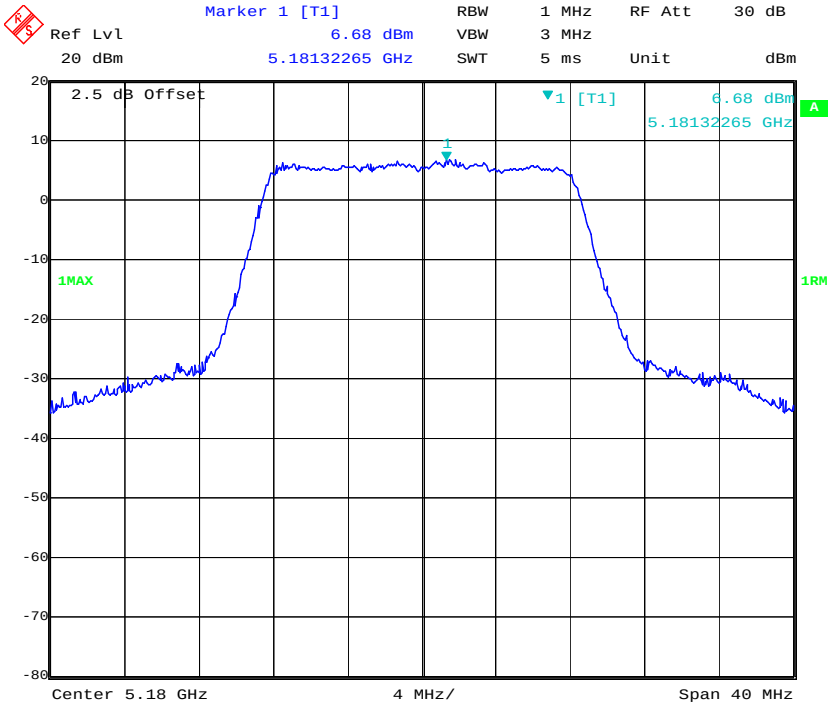
Date: 8.FEB.2017 17:39:02

802.11 ac80 Middle Channel – Chain0



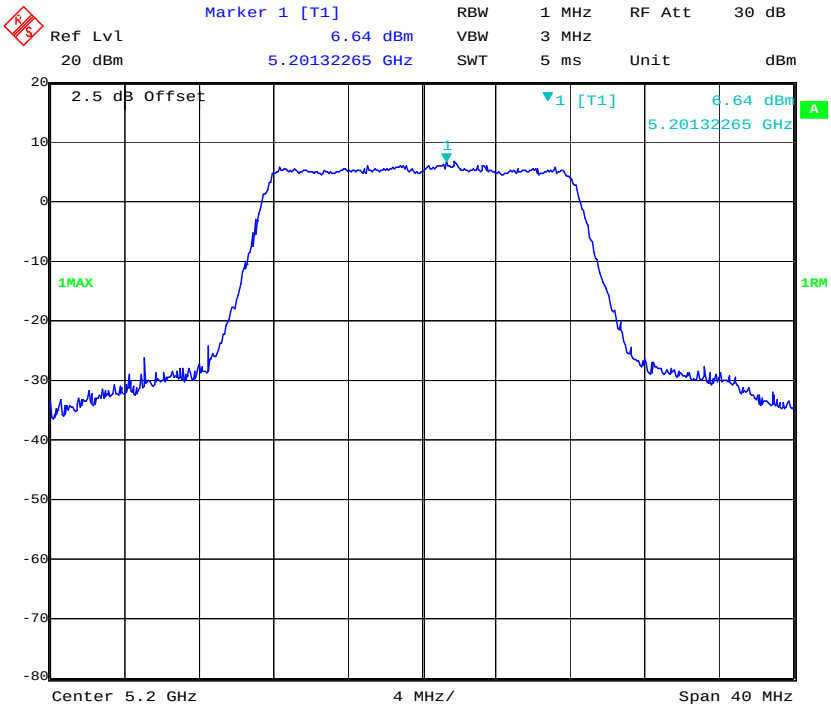
Date: 9.FEB.2017 11:21:53

802.11a Low Channel – Chain1



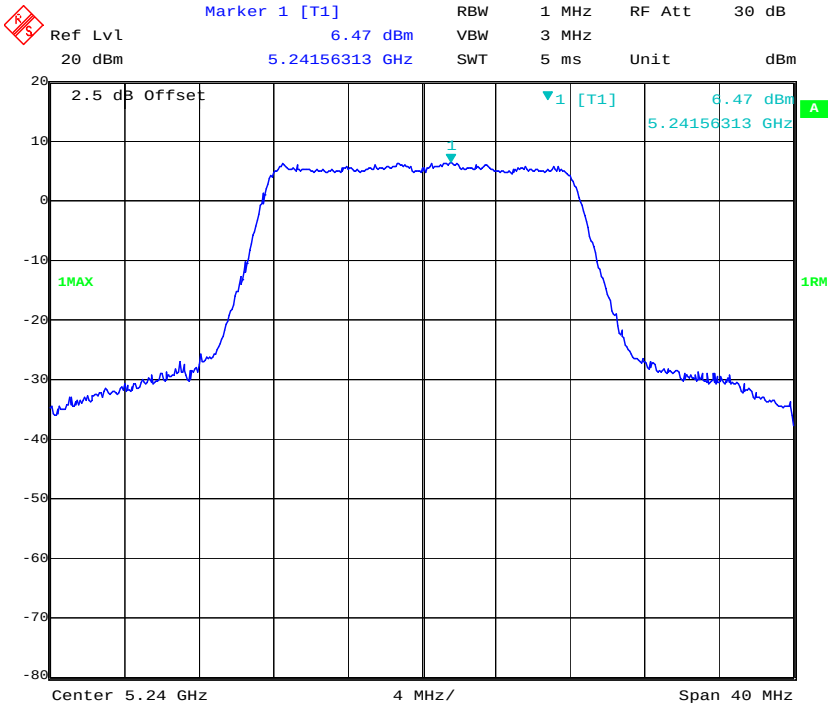
Date: 8.FEB.2017 15:30:49

802.11a Middle Channel – Chain1



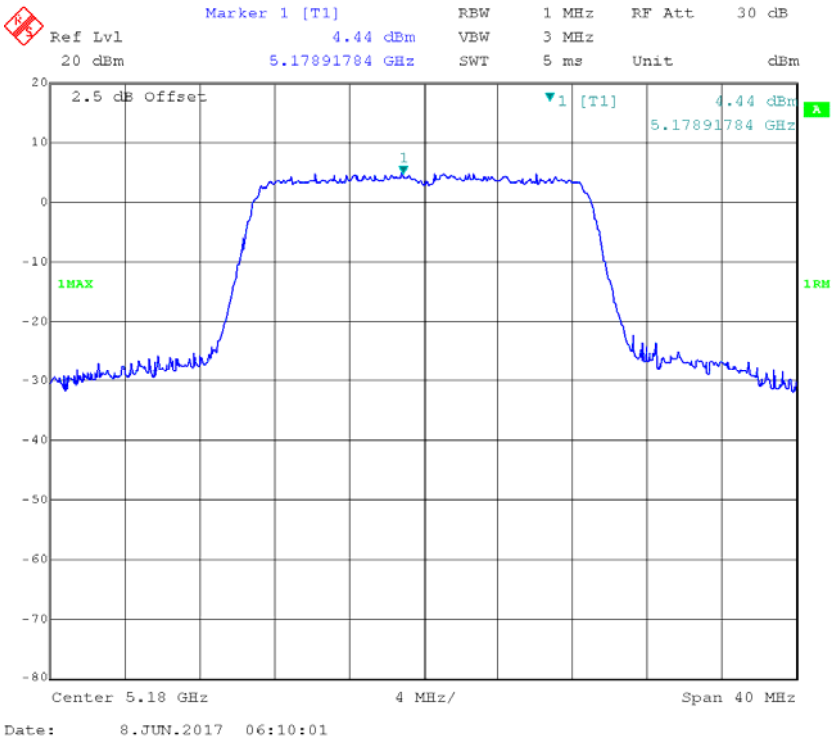
Date: 8.FEB.2017 15:33:57

802.11a High Channel – Chain1

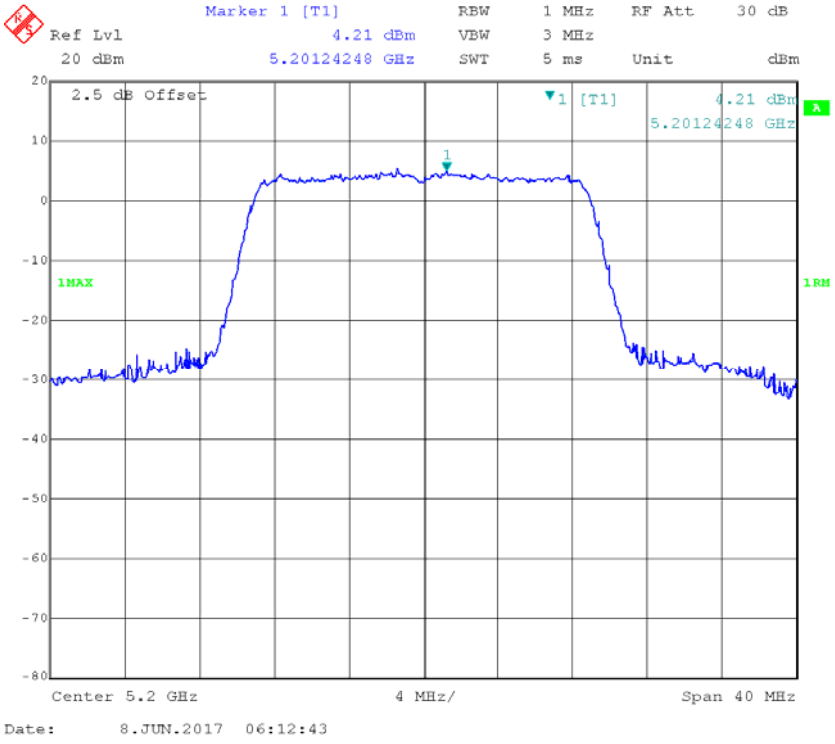


Date: 8.FEB.2017 15:36:19

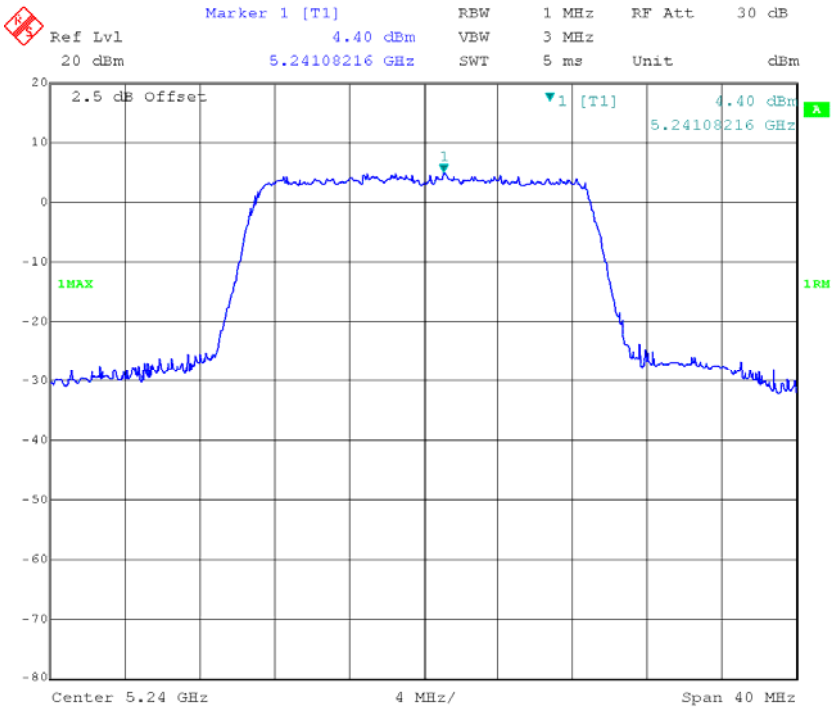
802.11n ht20 Low Channel – Chain1



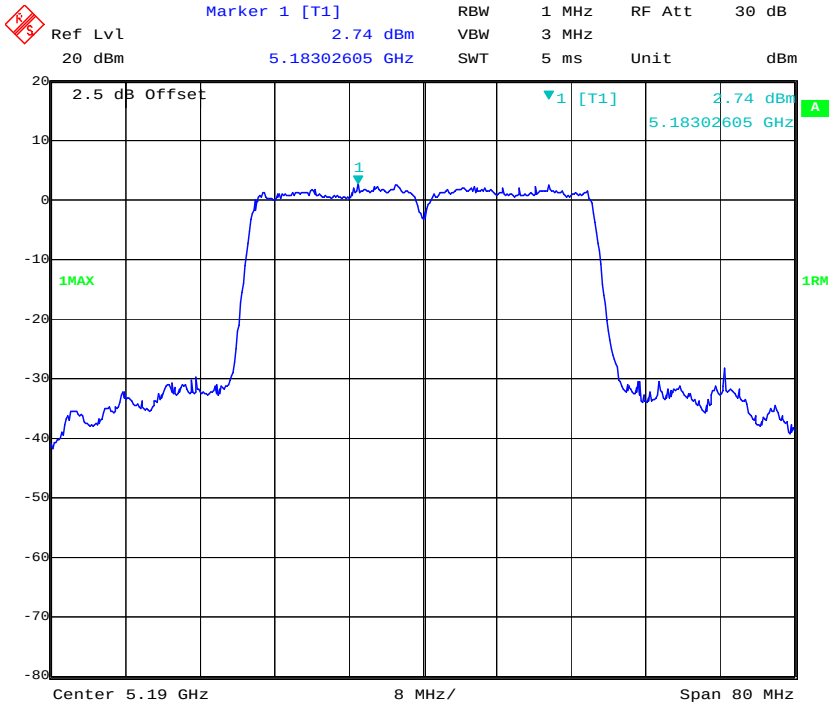
802.11n ht20 Middle Channel – Chain1



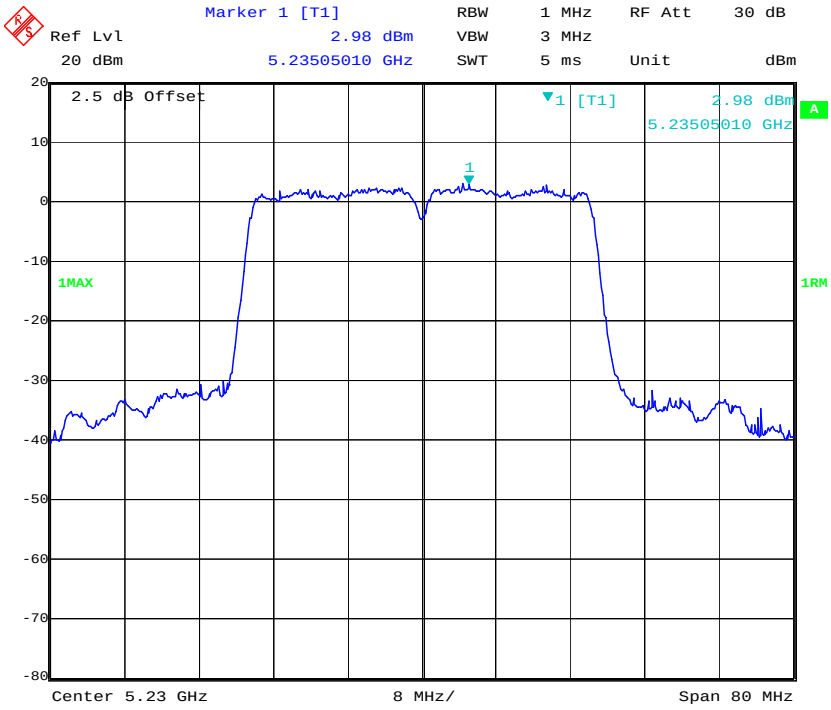
802.11n ht20 High Channel – Chain1



802.11n ht40 Low Channel – Chain1

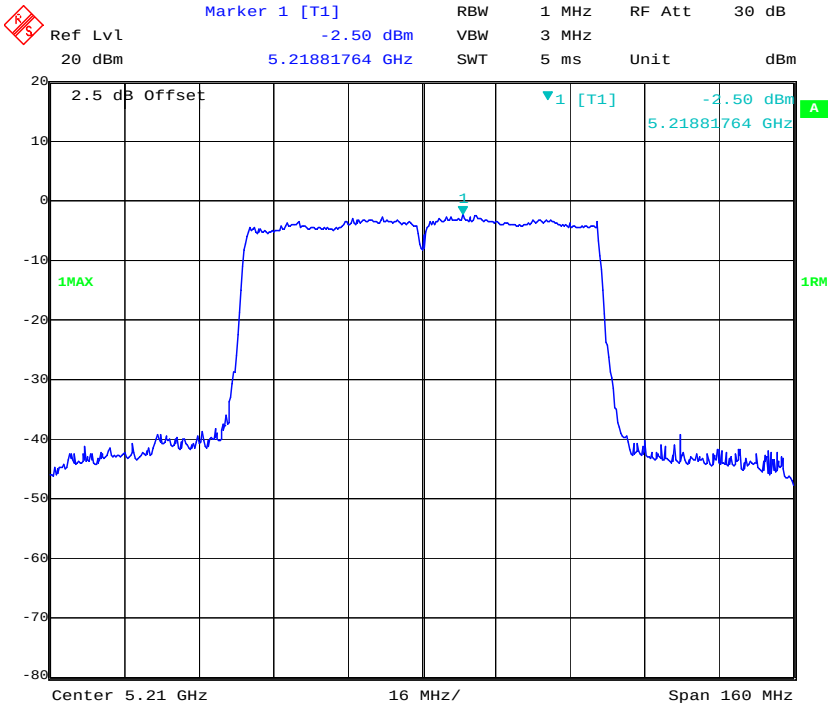


802.11n ht40 High Channel – Chain1



Date: 9.FEB.2017 10:18:47

802.11 ac80 Middle Channel – Chain1



Date: 9.FEB.2017 11:04:09

5250-5350MHz

Mode	Frequency (MHz)	Reading (dBm/MHz)		Duty Cycle Factor	Conducted PSD (dBm/MHz)			FCC/RSS-247 PSD Limit (dBm/ MHz)	Result
		Chain 0	Chain 1	dB	Chain 0	Chain 1	Total		
802.11 a	5260	6.61	6.27	0.76	7.37	7.03	/	11	Pass
	5280	6.7	6.19	0.76	7.46	6.95	/	11	Pass
	5320	6.21	6.07	0.76	6.97	6.83	/	11	Pass
802.11n ht20	5260	7.38	6.17	0.56	7.94	6.73	10.39	11	Pass
	5280	6.71	6.23	0.56	7.27	6.79	10.05	11	Pass
	5320	6.9	5.84	0.56	7.46	6.4	9.97	11	Pass
802.11n ht40	5270	3.61	2.68	0.76	4.37	3.44	6.94	11	Pass
	5310	3.29	2.46	0.76	4.05	3.22	6.67	11	Pass
802.11 ac80	5290	-2.55	-2.81	0.36	-2.19	-2.45	0.69	11	Pass

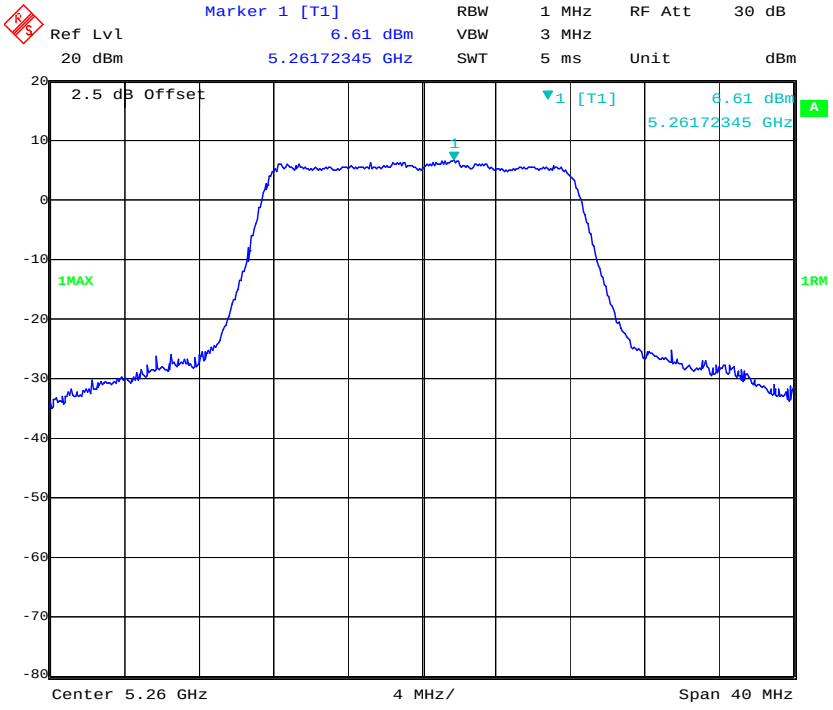
Note: the antenna maximum gain are 2.0dBi in 5GHz band, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

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

So:

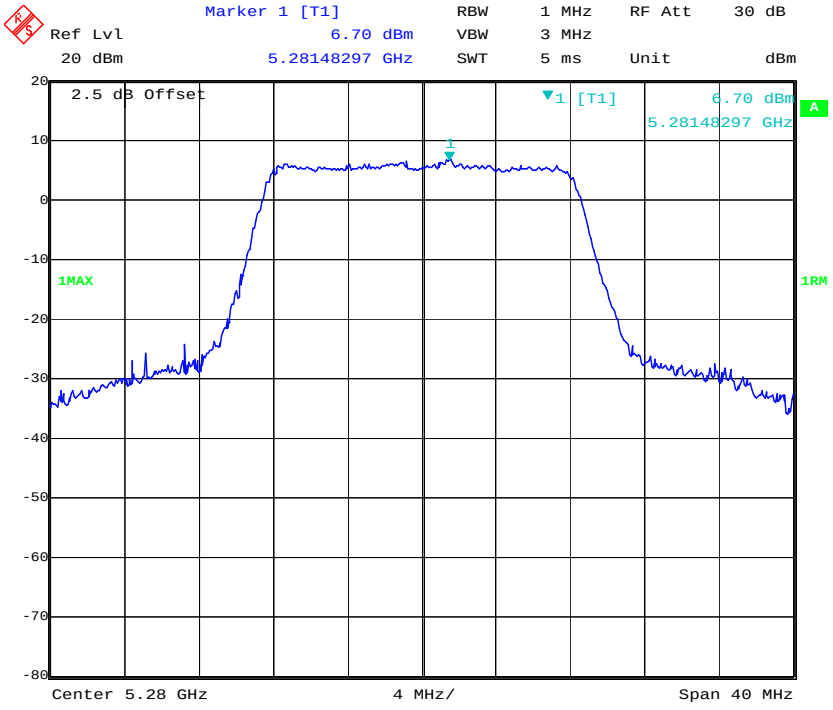
Directional gain = GANT + Array Gain = 2+10*log(2) =5 dBi

802.11a Low Channel – Chain0



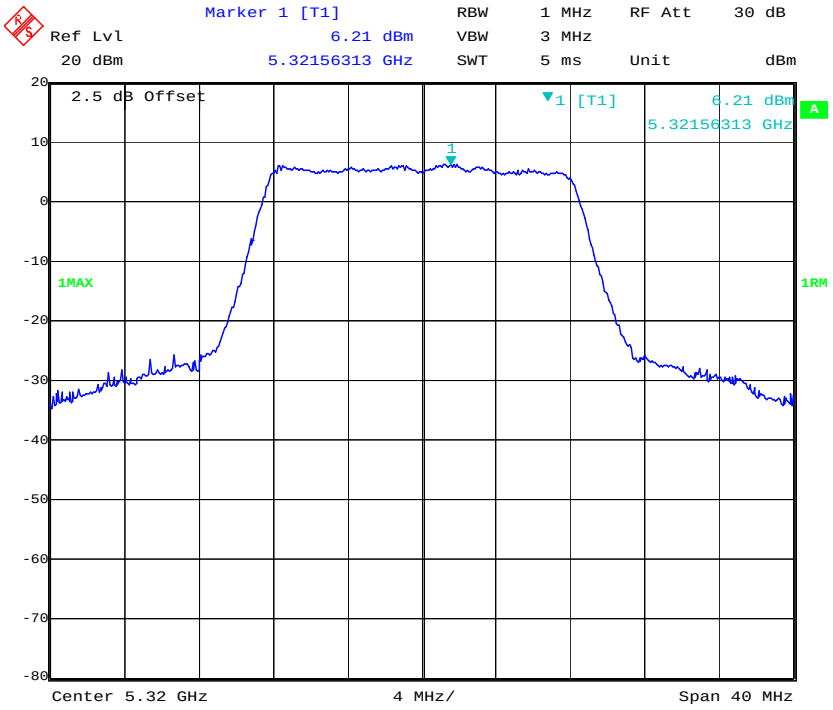
Date: 8.FEB.2017 15:02:16

802.11a Middle Channel – Chain0



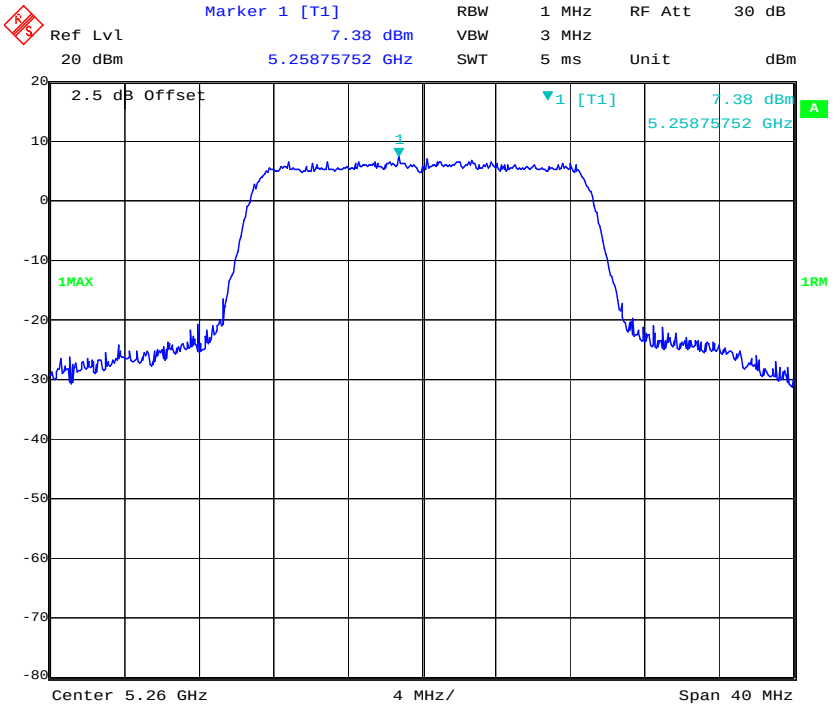
Date: 8.FEB.2017 15:05:10

802.11a High Channel – Chain0



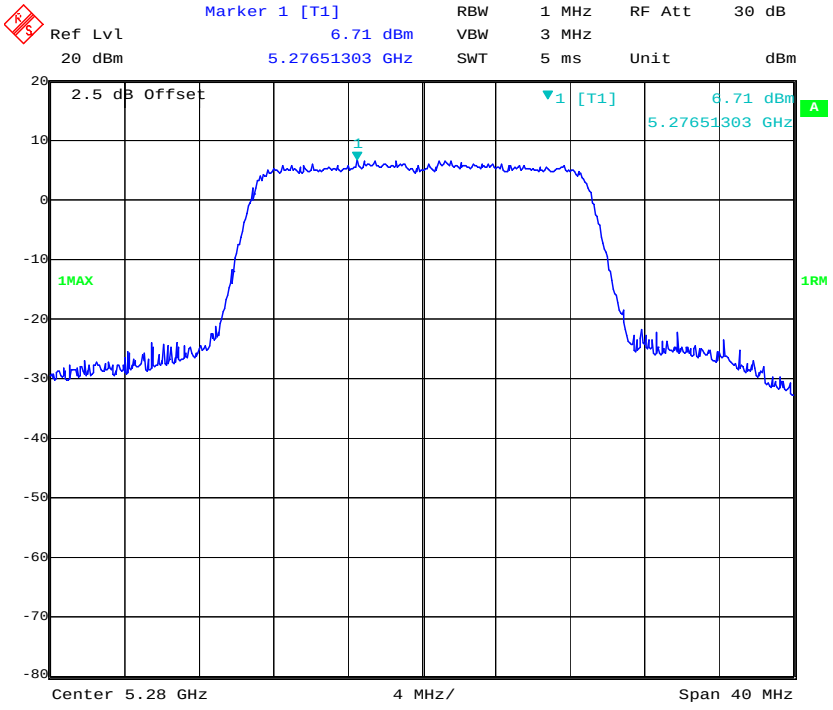
Date: 8.FEB.2017 15:08:35

802.11n ht20 Low Channel – Chain0



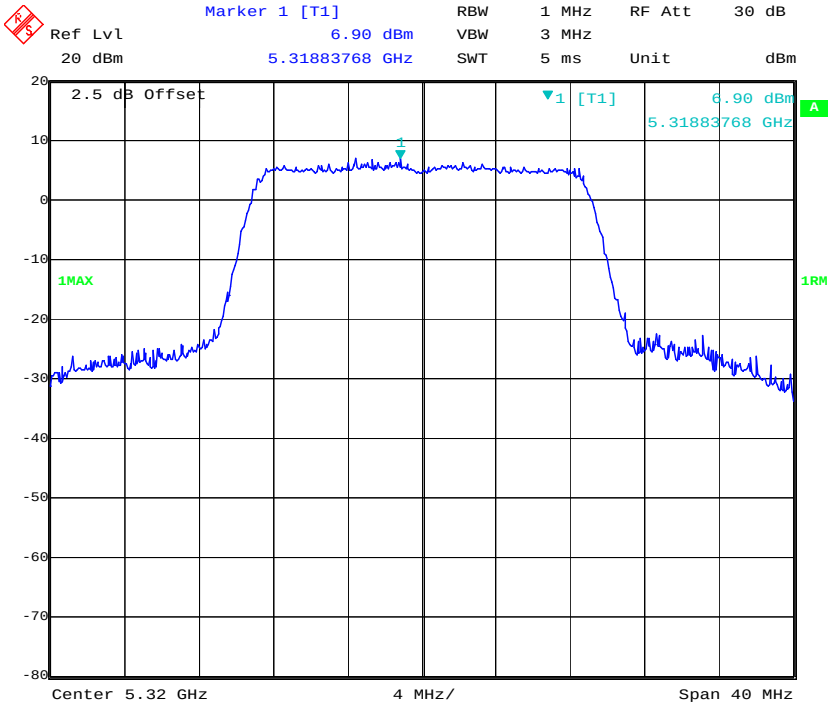
Date: 8.FEB.2017 17:02:41

802.11n ht20 Middle Channel – Chain0



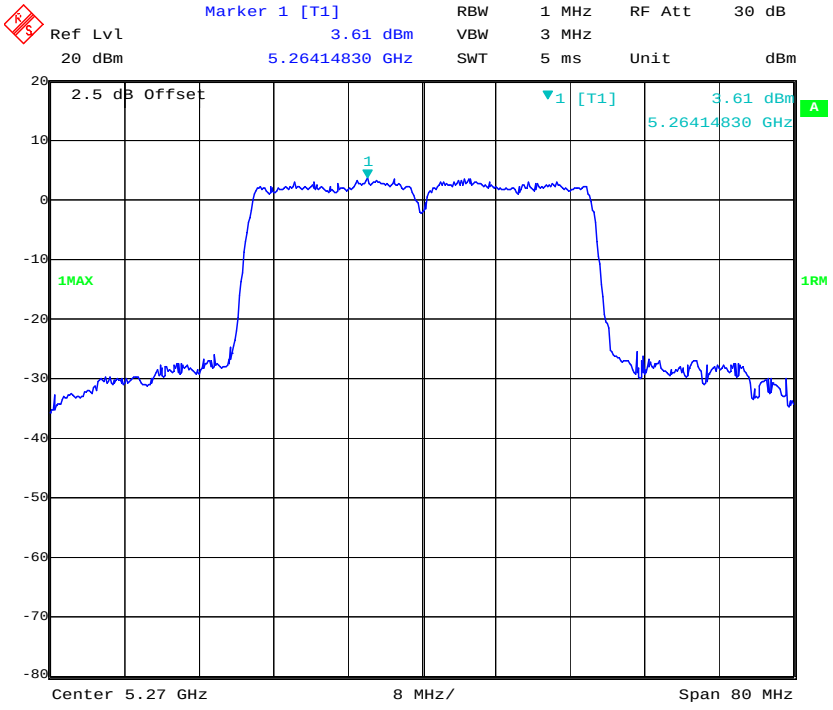
Date: 8.FEB.2017 17:06:28

802.11n ht20 High Channel – Chain0



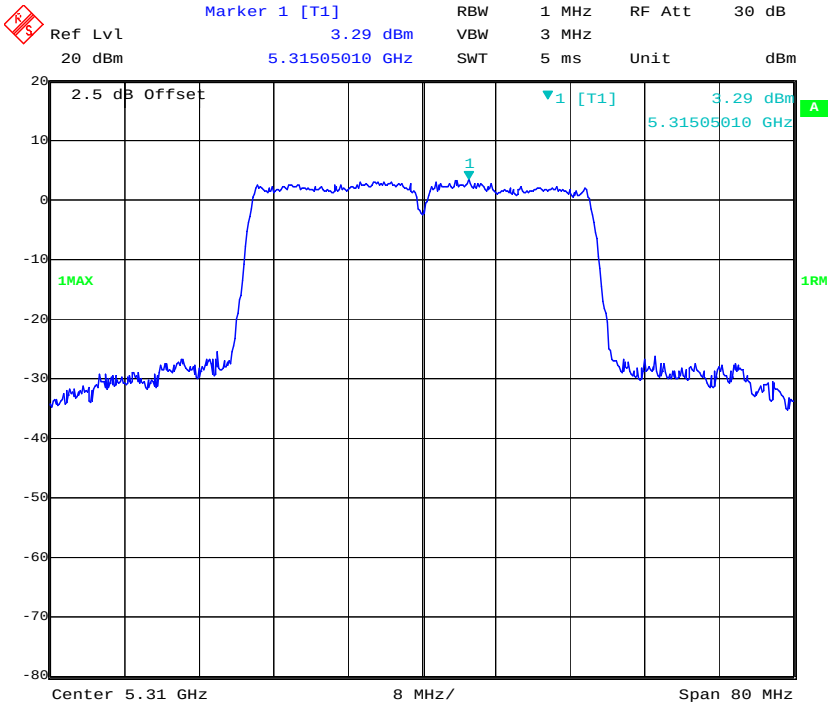
Date: 8.FEB.2017 17:08:51

802.11n ht40 Low Channel – Chain0



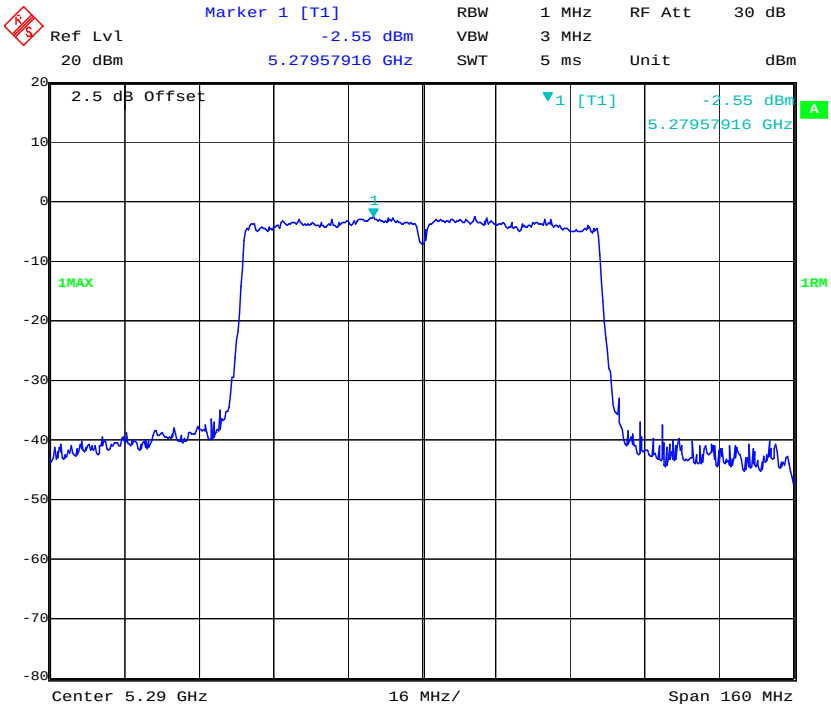
Date: 8.FEB.2017 17:52:58

802.11n ht40 High Channel – Chain0



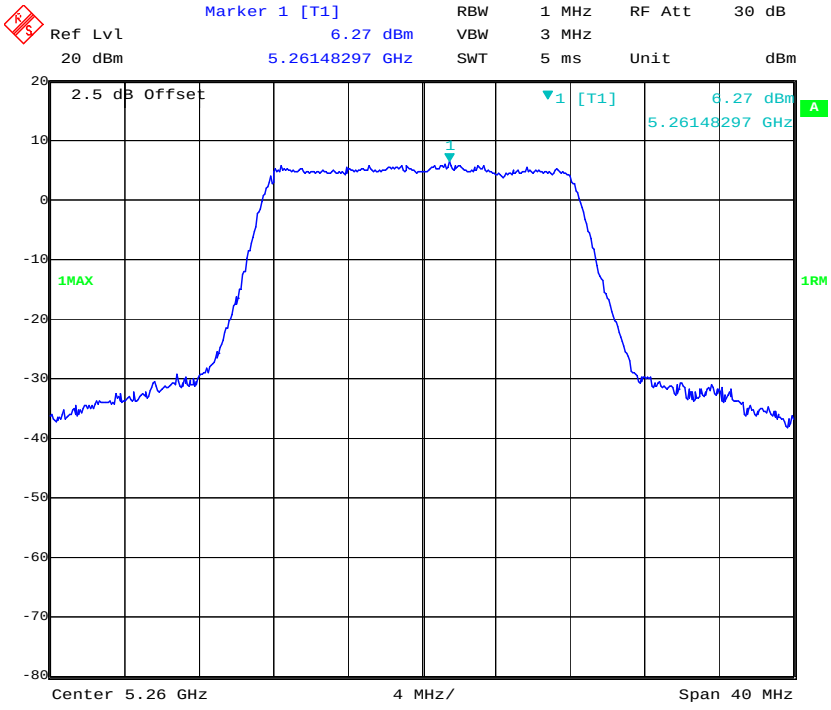
Date: 8.FEB.2017 17:57:38

802.11 ac80 Middle Channel – Chain0



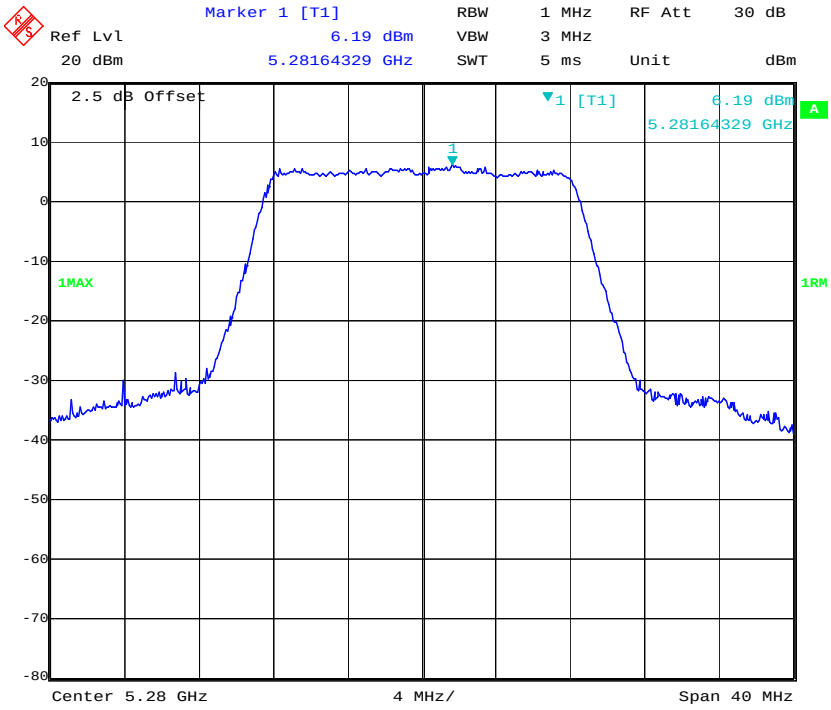
Date: 9.FEB.2017 11:25:34

802.11a Low Channel – Chain1



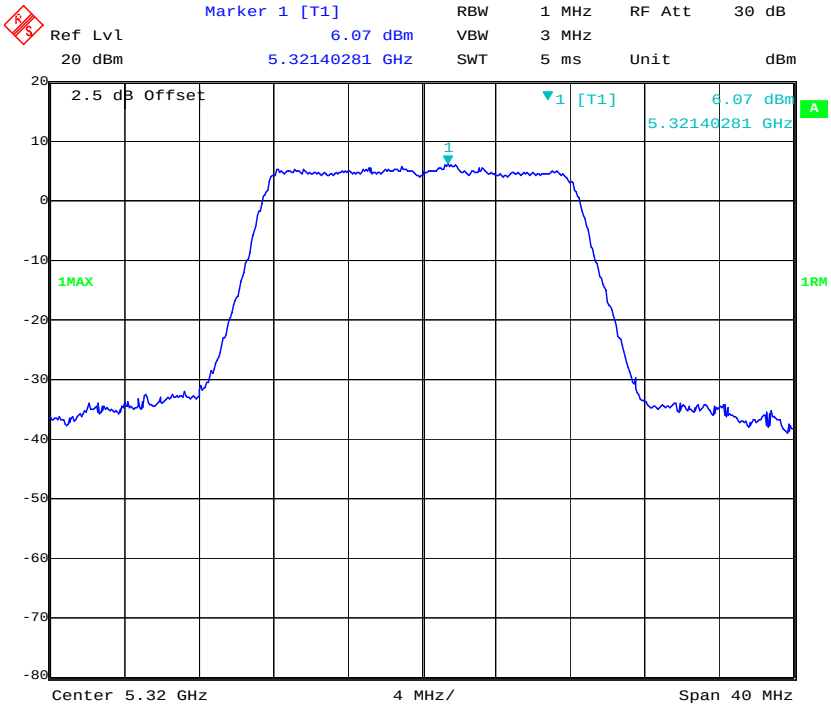
Date: 8.FEB.2017 15:39:54

802.11a Middle Channel – Chain1



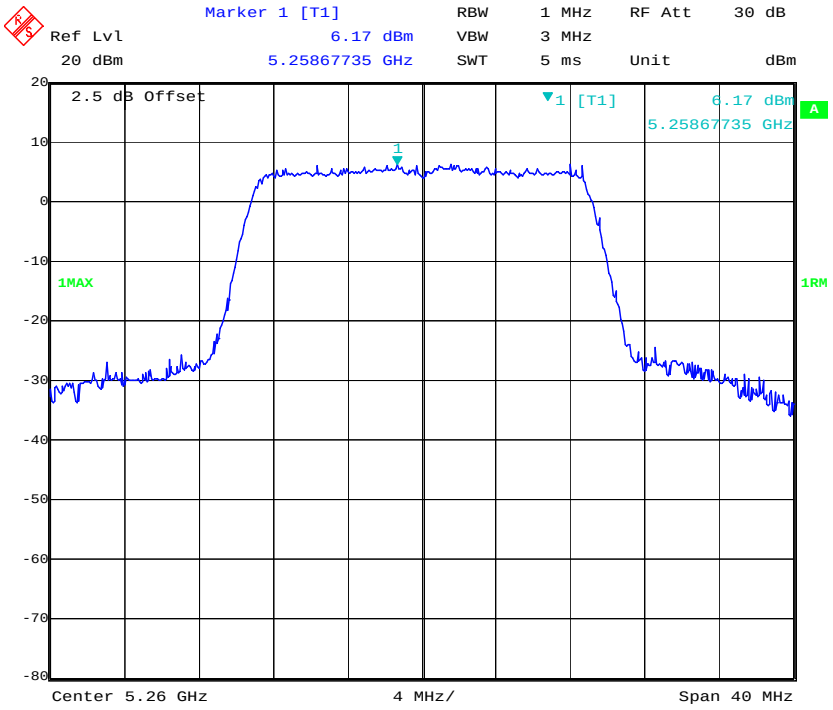
Date: 8.FEB.2017 15:42:47

802.11a High Channel – Chain1



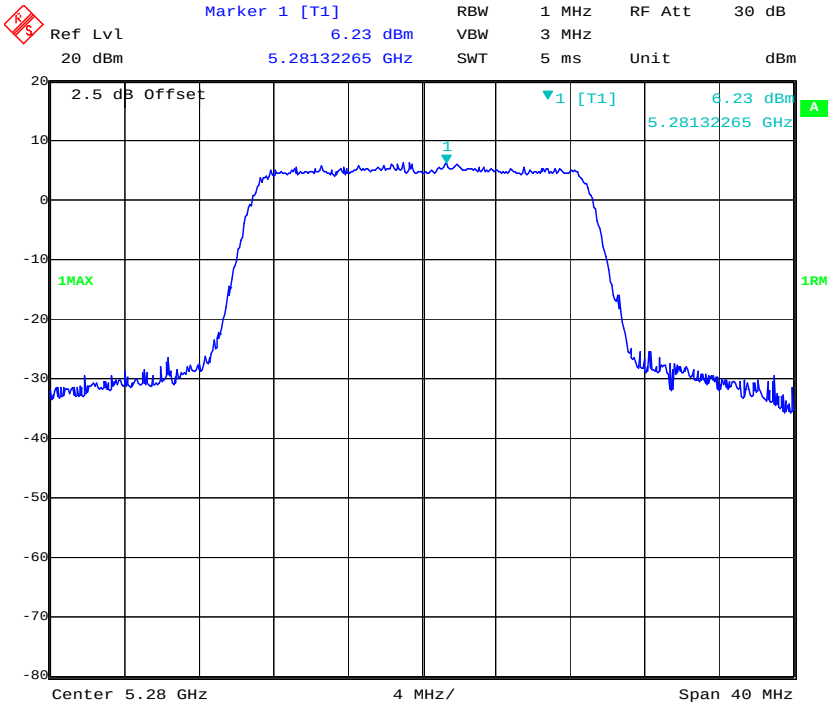
Date: 8.FEB.2017 15:45:09

802.11n ht20 Low Channel – Chain1



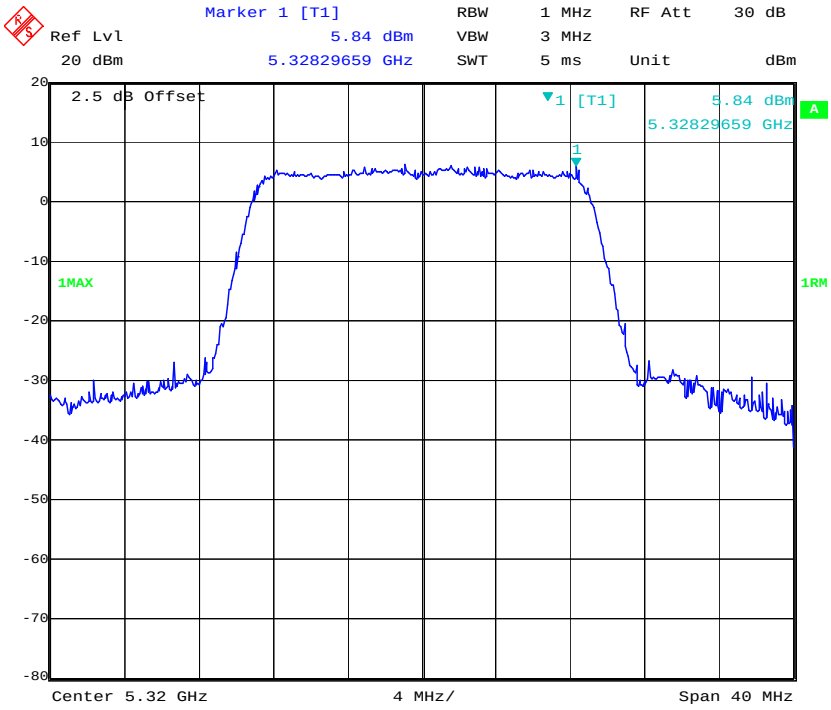
Date: 8.FEB.2017 16:23:16

802.11n ht20 Middle Channel – Chain1



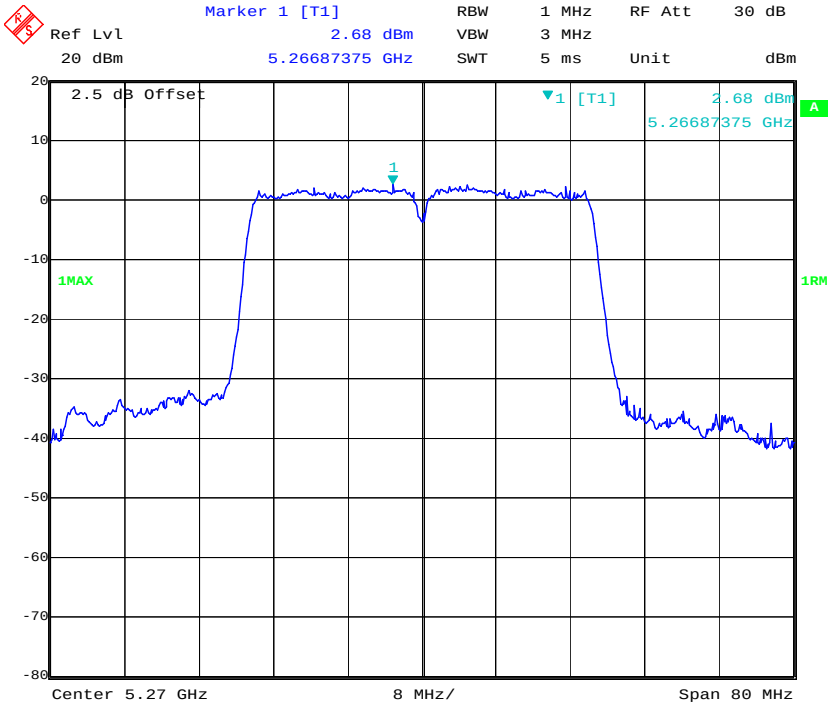
Date: 8.FEB.2017 16:27:13

802.11n ht20 High Channel – Chain1



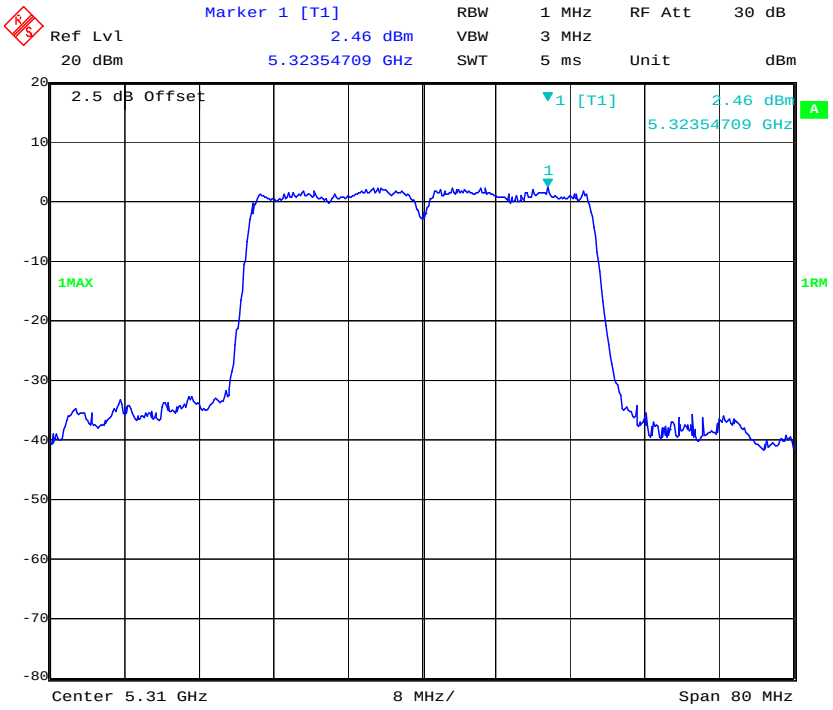
Date: 8.FEB.2017 16:29:42

802.11n ht40 Low Channel – Chain1

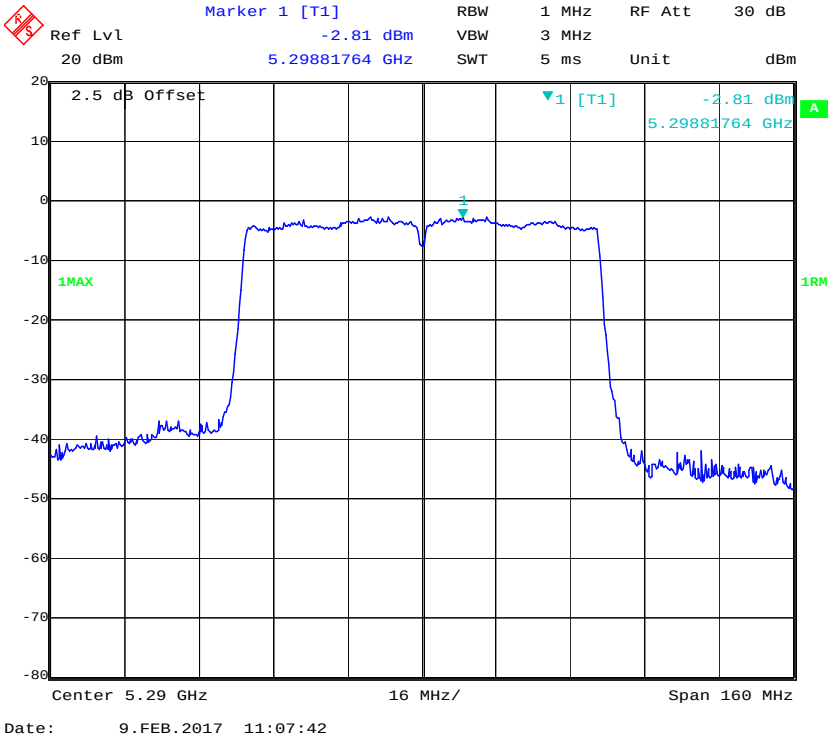


Date: 9.FEB.2017 10:26:15

802.11n ht40 High Channel – Chain1



802.11 ac80 Middle Channel – Chain1



5470-5725MHz:

Mode	Frequency (MHz)	Reading (dBm/MHz)		Duty Cycle Factor	Conducted PSD (dBm/MHz)			FCC/RSS-247 PSD Limit (dBm/MHz)	Result
		Chain 0	Chain 1	dB	Chain 0	Chain 1	Total		
802.11 a	5500	6.9	6.55	0.76	7.66	7.31	/	11	Pass
	5580	5.32	4.04	0.76	6.08	4.8	/	11	Pass
	5700	5.72	5.77	0.76	6.48	6.53	/	11	Pass
	5720	5.87	5.93	0.76	6.97	6.83	/	11	Pass
802.11n ht20	5500	6.87	6.86	0.56	7.43	7.42	10.44	11	Pass
	5580	5.69	3.78	0.56	6.25	4.34	8.41	11	Pass
	5700	4.47	5.70	0.56	5.03	6.26	8.70	11	Pass
	5720	5.37	5.85	0.56	5.93	6.41	9.19	11	Pass
802.11n ht40	5510	3.24	2.55	0.76	4.00	3.31	6.68	11	Pass
	5550	2.27	0.84	0.76	3.03	1.6	5.38	11	Pass
	5590	1.88	2.49	0.76	2.64	3.25	5.97	11	Pass
	5670	1.57	2.40	0.76	2.33	3.16	5.78	11	Pass
802.11 ac80	5530	2.90	3.22	0.36	3.26	3.58	6.43	11	Pass
	5610	-4.14	-4.10	0.36	-3.78	-3.74	-0.75	11	Pass
	5690	-3.59	-3.16	0.36	-3.23	-2.8	0.00	11	Pass

Note 1: the antenna maximum gain are 2.0dBi in 5GHz band, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

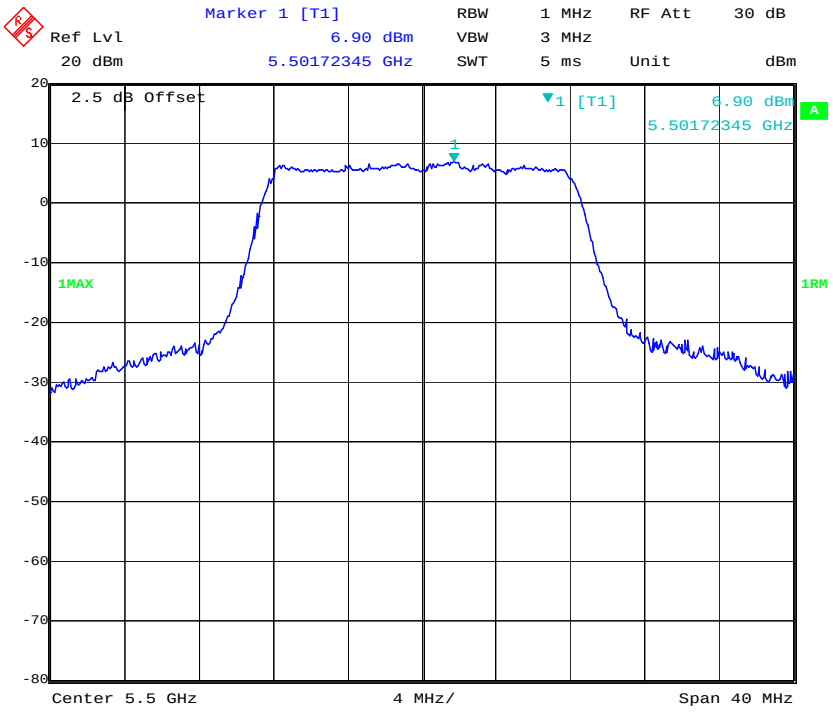
Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 2+10*log(2) =5 dBi

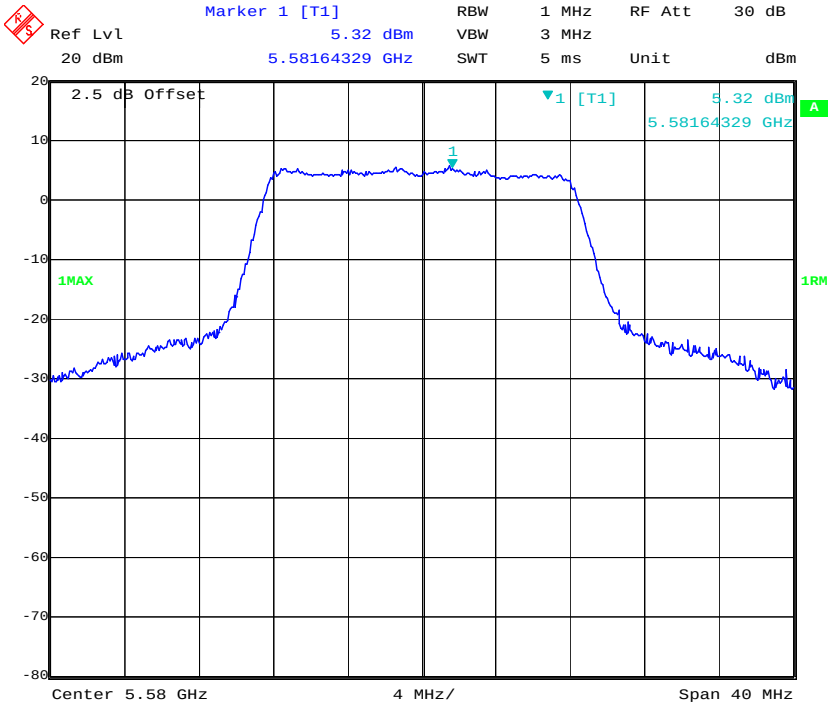
Note 2: for across channels, the limits for 5470-5725MHz are more strict, so those channels also meet the requirement for 5725-5850MHz.
For Canada RSS-247, channels 118 to 128 were disabled by software

802.11a 5500MHz – Chain 0



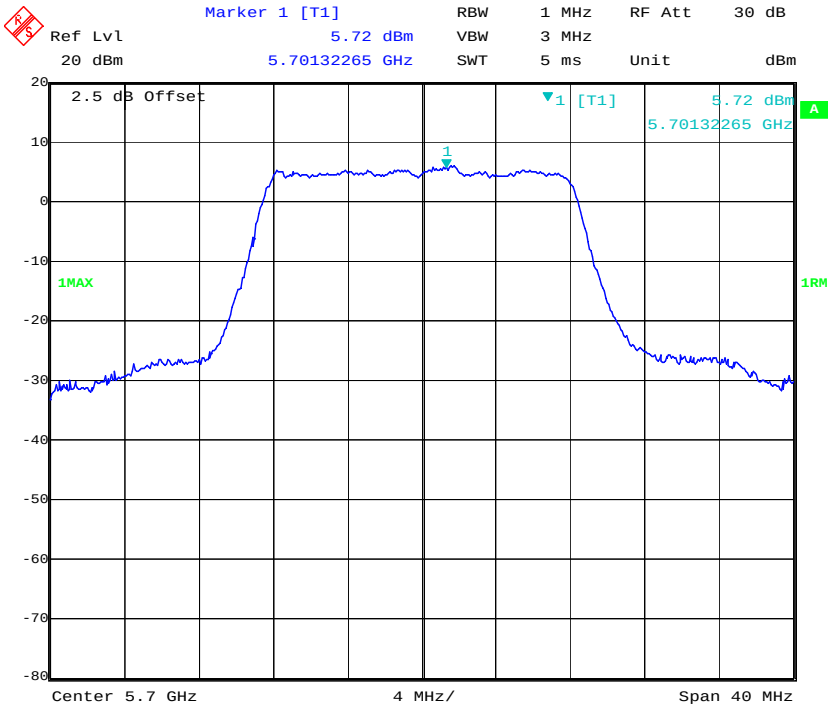
Date: 8.FEB.2017 15:11:21

802.11a 5580MHz – Chain 0



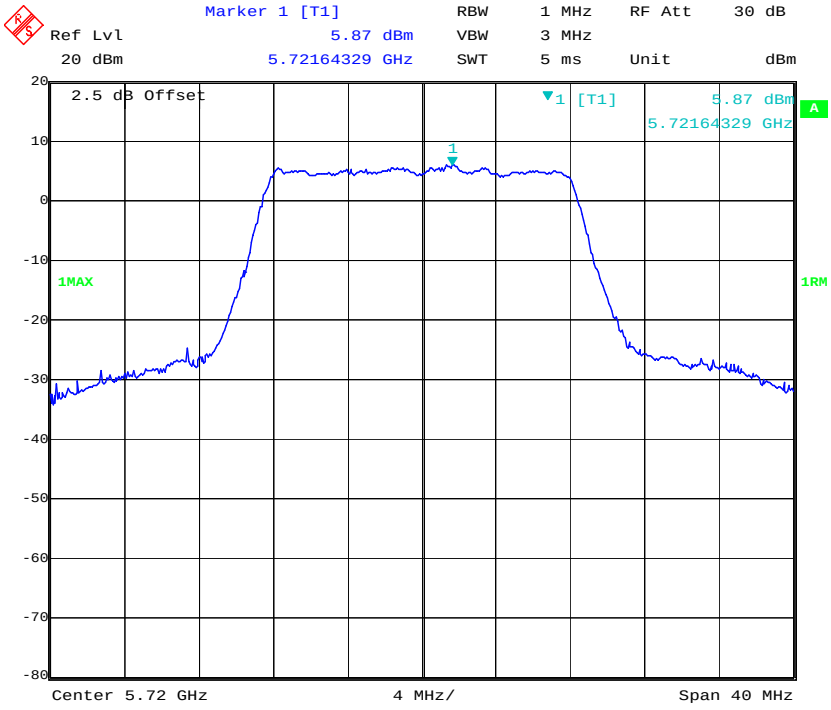
Date: 8.FEB.2017 15:14:27

802.11a 5700MHz – Chain 0



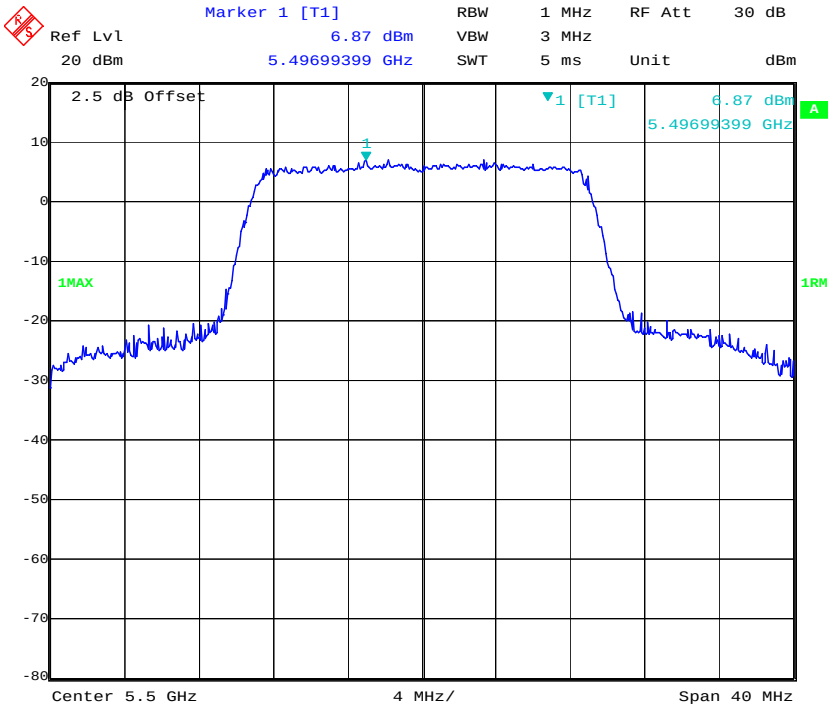
Date: 8.FEB.2017 18:03:12

802.11a 5720MHz – Chain 0



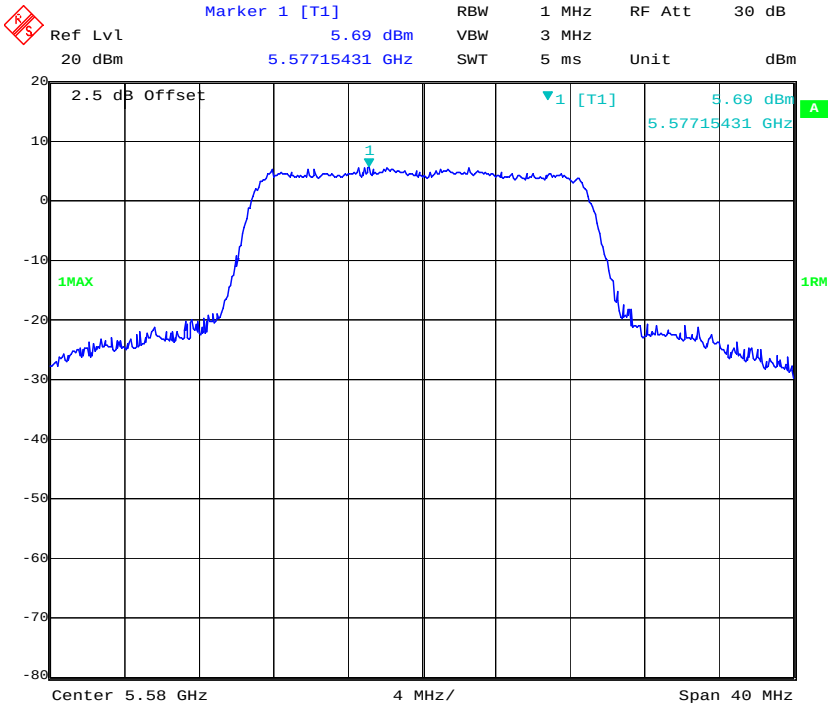
Date: 8.FEB.2017 17:52:13

802.11n ht20 5500MHz– Chain0



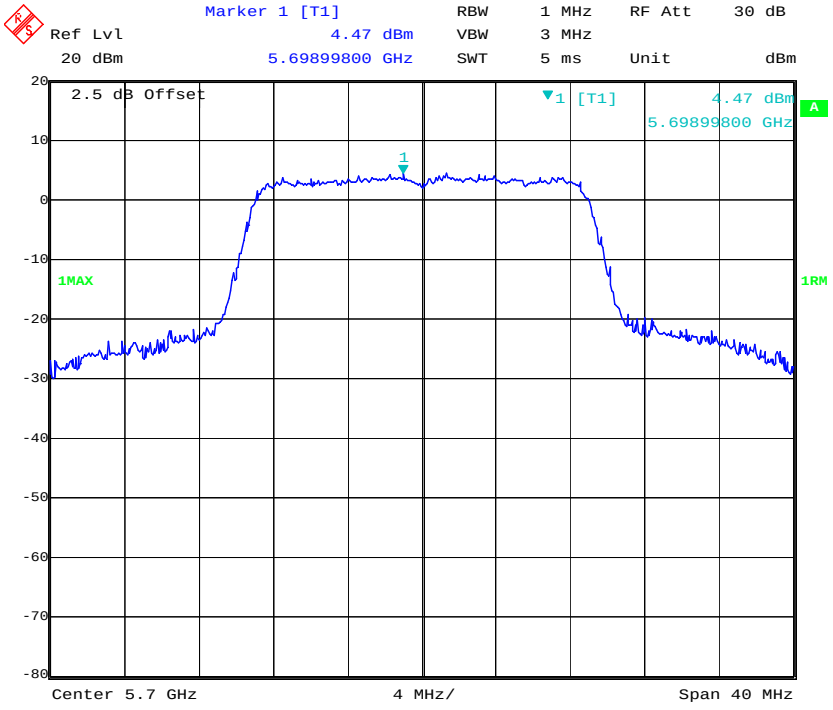
Date: 8.FEB.2017 17:12:03

802.11n ht20 5580MHz– Chain 0



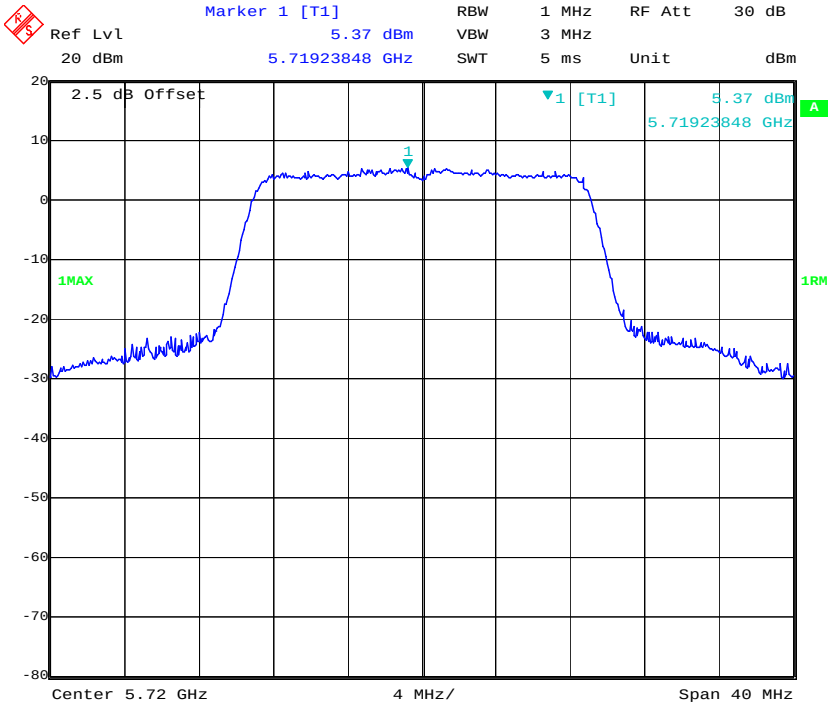
Date: 8.FEB.2017 17:16:04

802.11n ht20 5700MHz – Chain 0



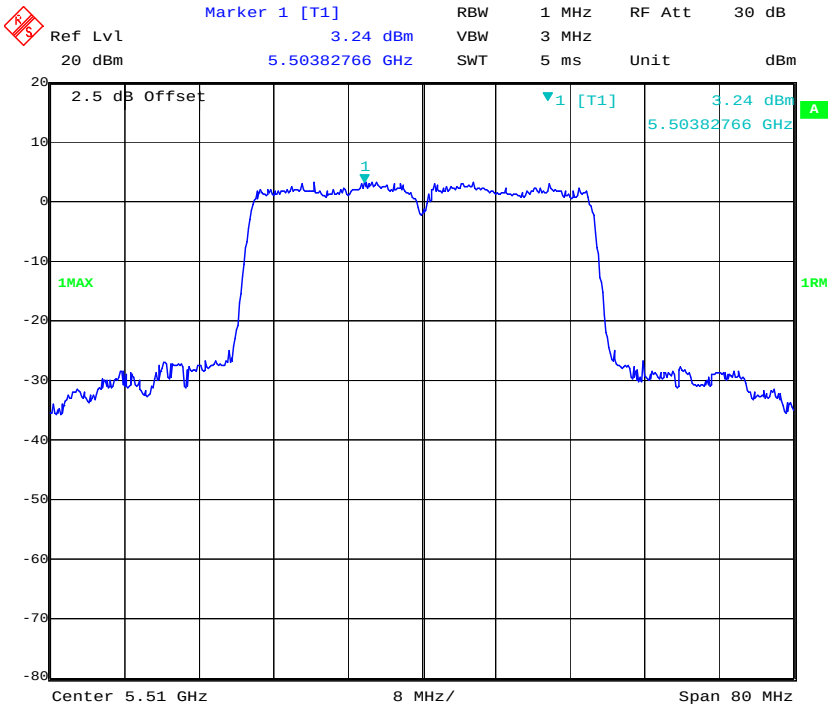
Date: 8.FEB.2017 17:18:40

802.11n ht20 5720MHz – Chain 0



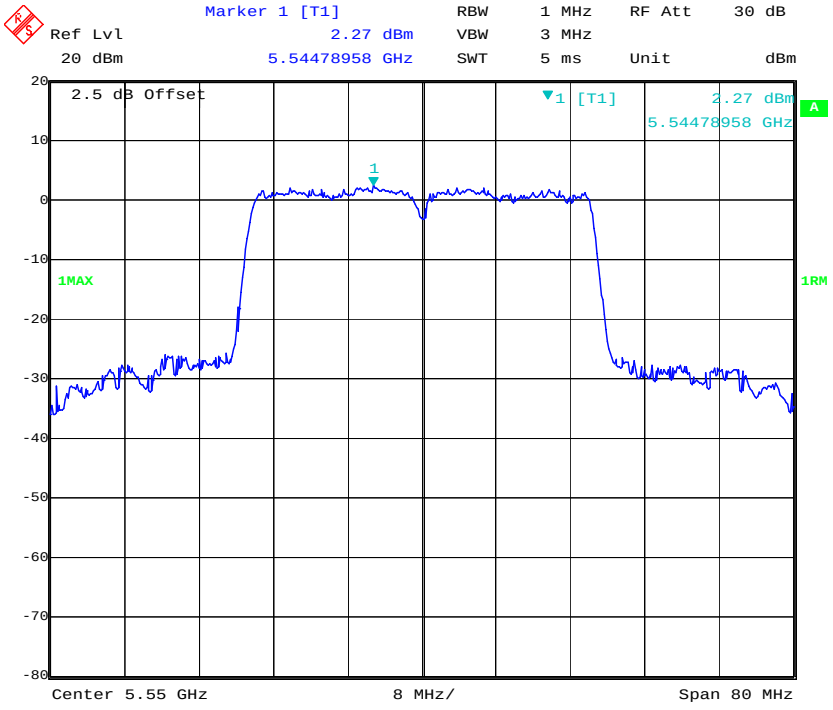
Date: 10.FEB.2017 17:19:00

802.11n ht40 5510MHz – Chain 0



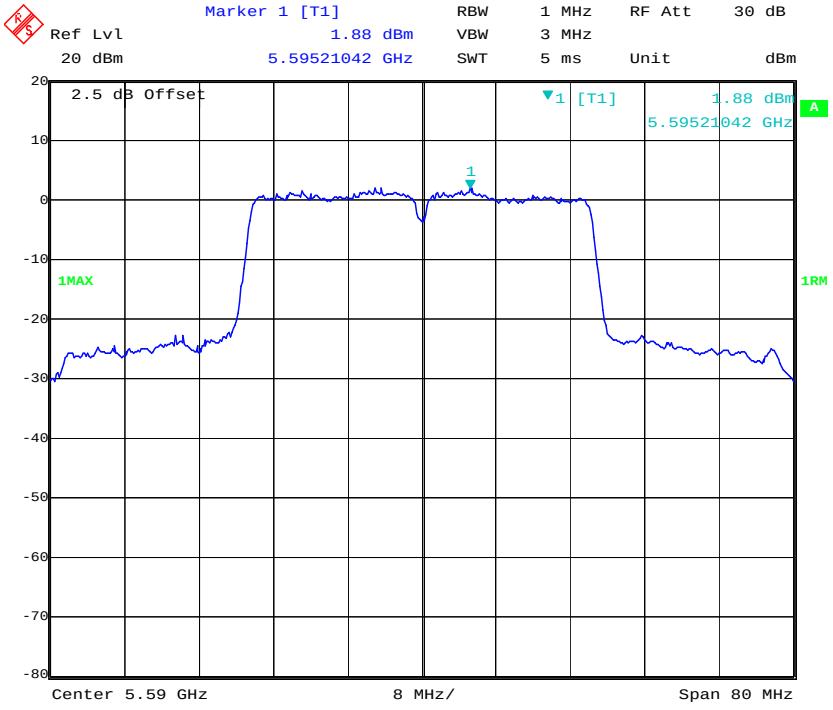
Date: 9.FEB.2017 09:56:59

802.11n ht40 5550MHz – Chain 0



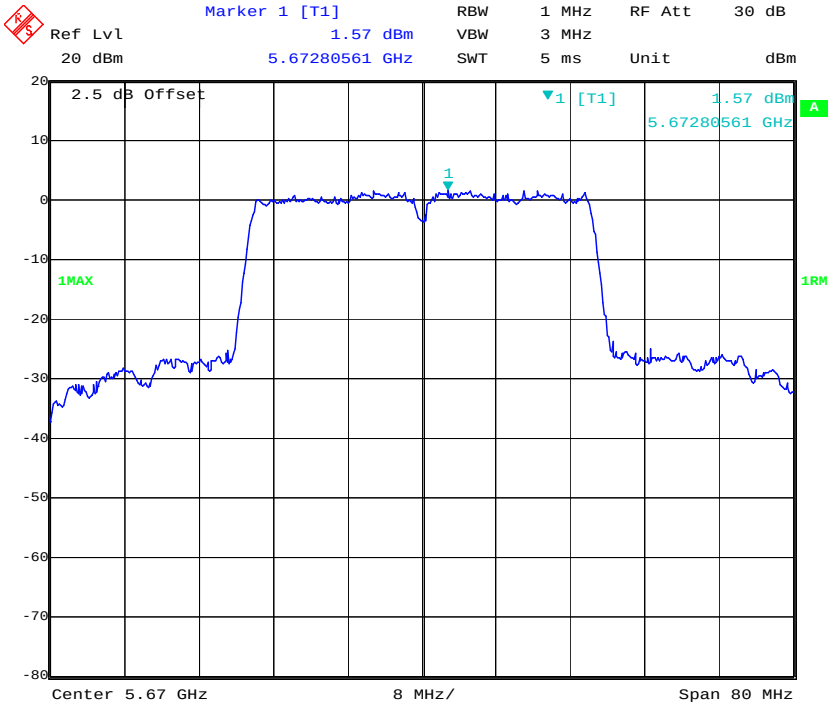
Date: 9.FEB.2017 10:00:07

802.11n ht40 5590MHz – Chain 0



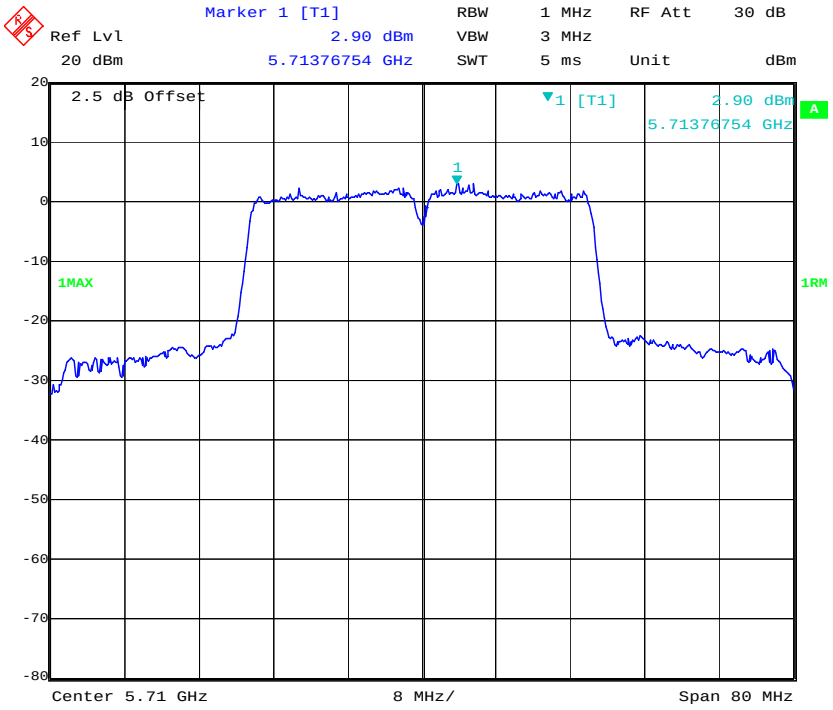
Date: 8.FEB.2017 18:16:01

802.11n ht40 5670MHz – Chain 0



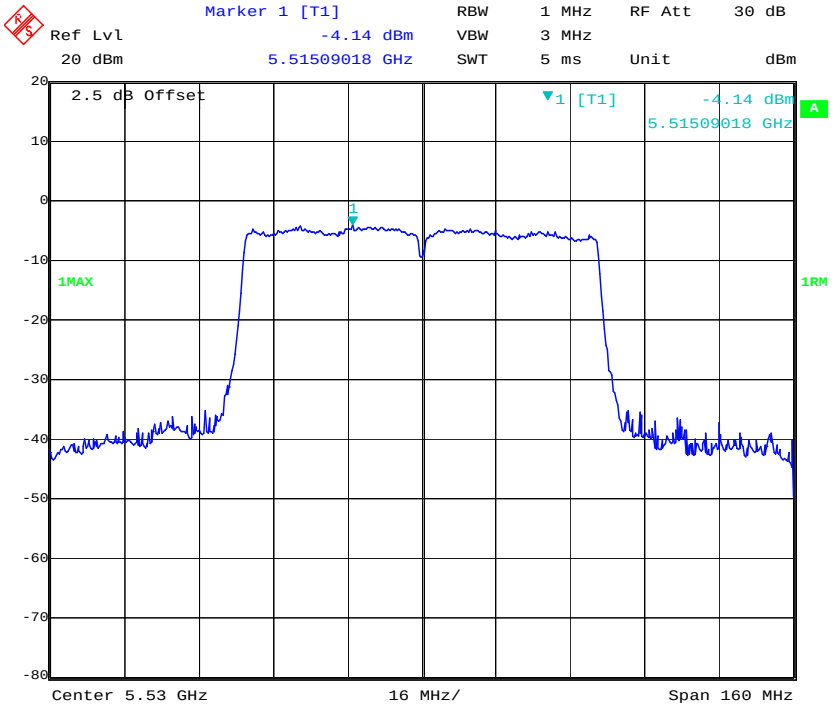
Date: 9.FEB.2017 10:02:55

802.11n ht40 5710MHz – Chain 0



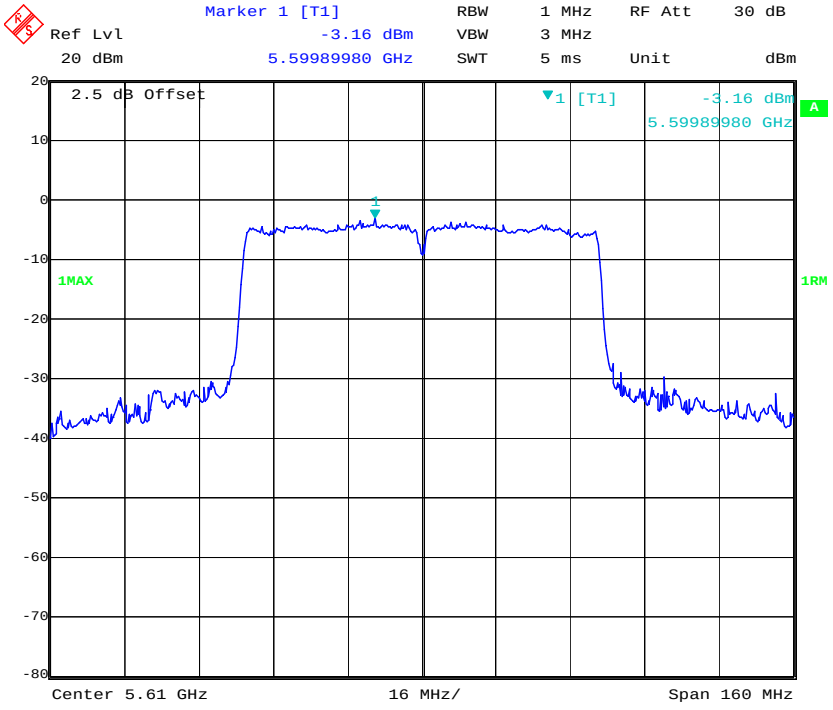
Date: 8.FEB.2017 18:20:43

802.11 ac80 5530MHz – Chain 0



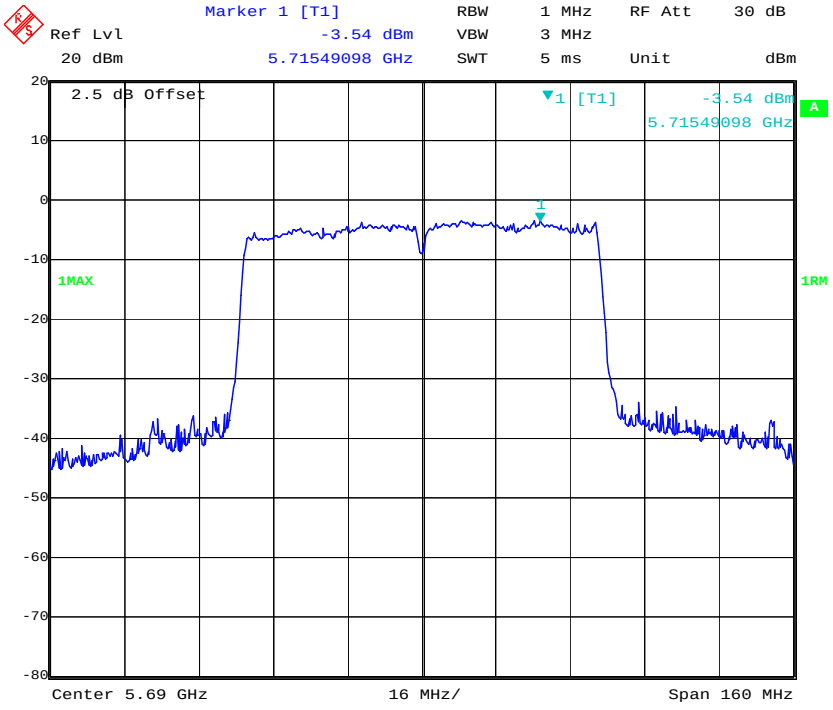
Date: 8.FEB.2017 18:32:10

802.11 ac80 5610MHz – Chain 0



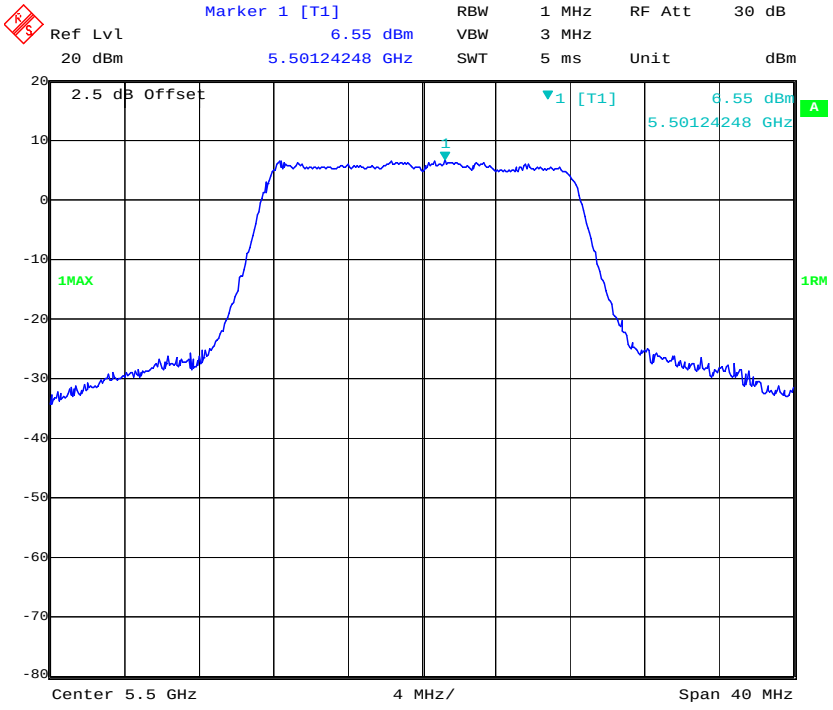
Date: 8.FEB.2017 18:27:37

802.11 ac80 5690MHz – Chain 0



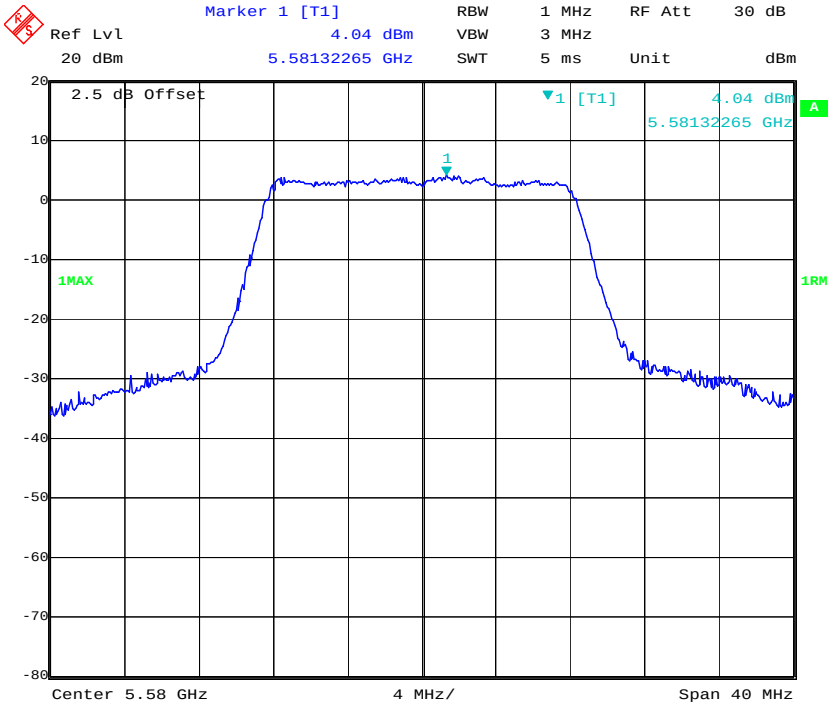
Date: 9.FEB.2017 11:31:02

802.11a 5500MHz – Chain 1



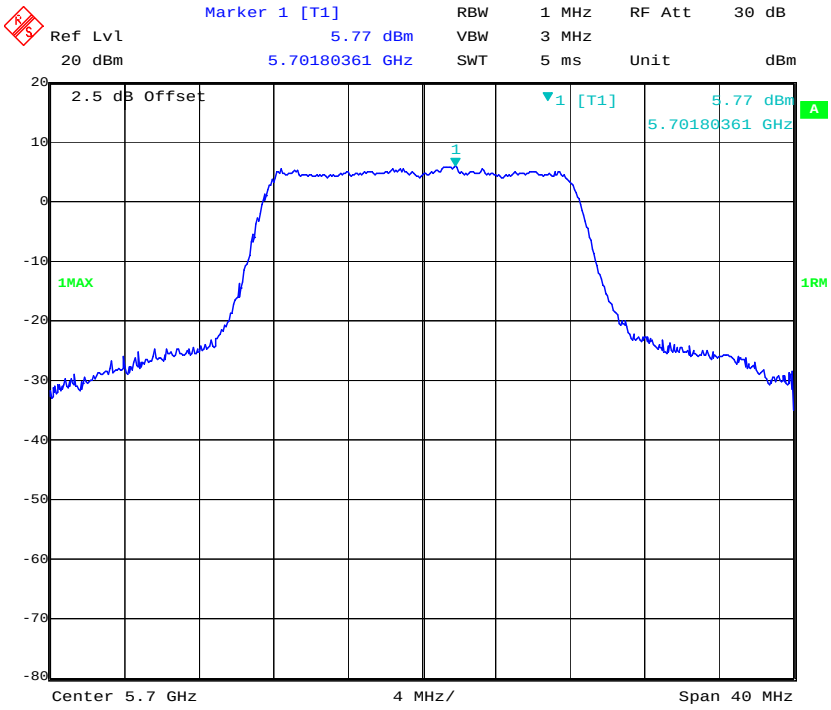
Date: 8.FEB.2017 15:48:06

802.11a 5580MHz – Chain 1



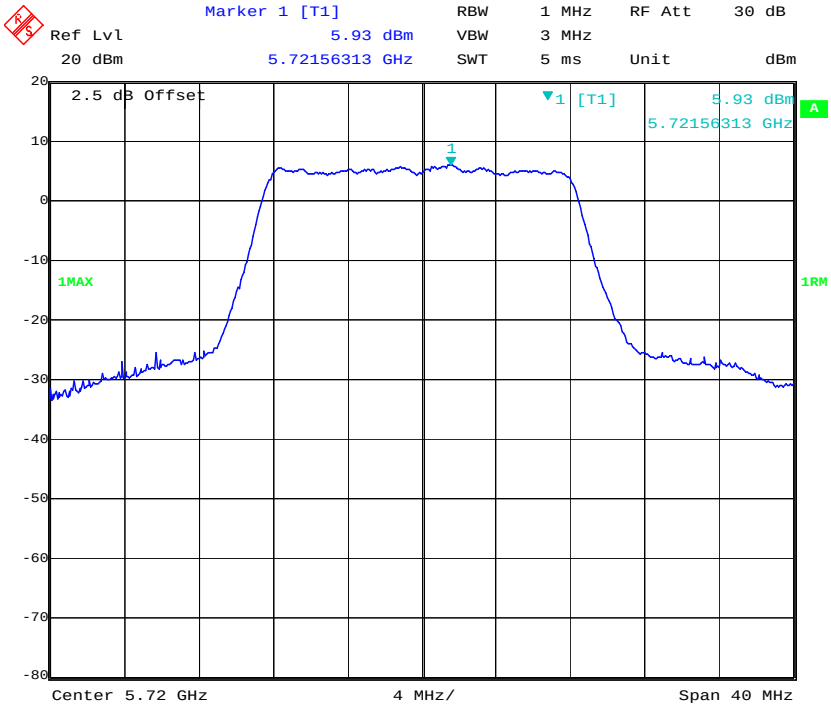
Date: 8.FEB.2017 15:50:45

802.11a 5700MHz – Chain 1



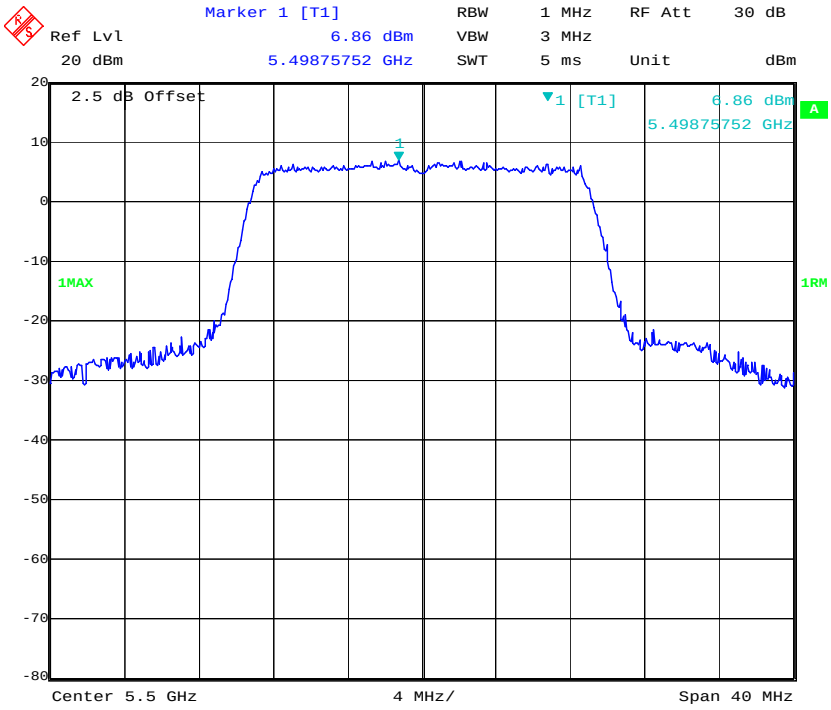
Date: 8.FEB.2017 15:53:29

802.11a 5720MHz – Chain 1



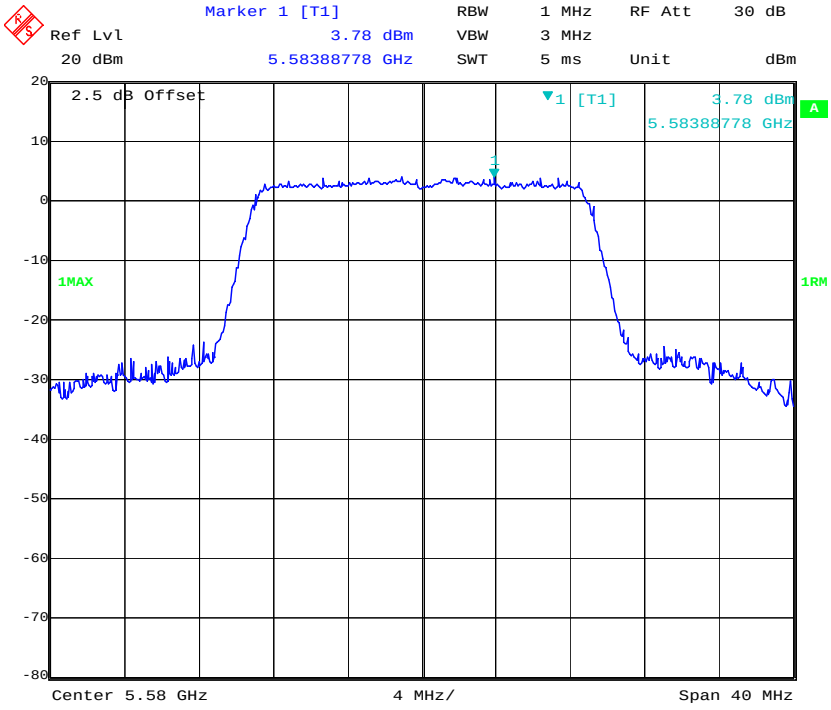
Date: 8.FEB.2017 17:49:01

802.11n ht20 5500MHz – Chain 1



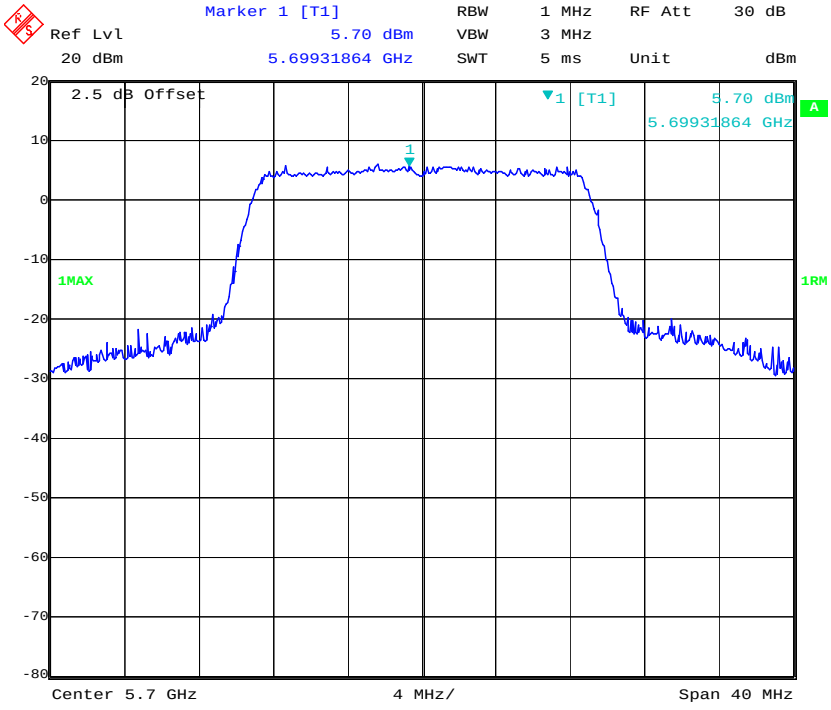
Date: 8.FEB.2017 16:32:55

802.11n ht20 5580MHz – Chain 1



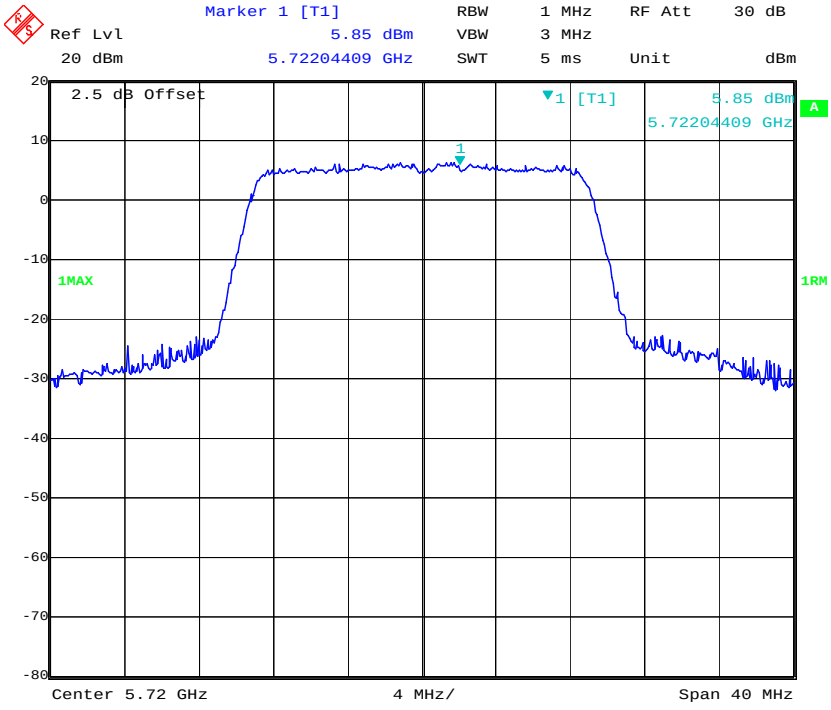
Date: 8.FEB.2017 16:35:58

802.11n ht20 5700MHz – Chain 1



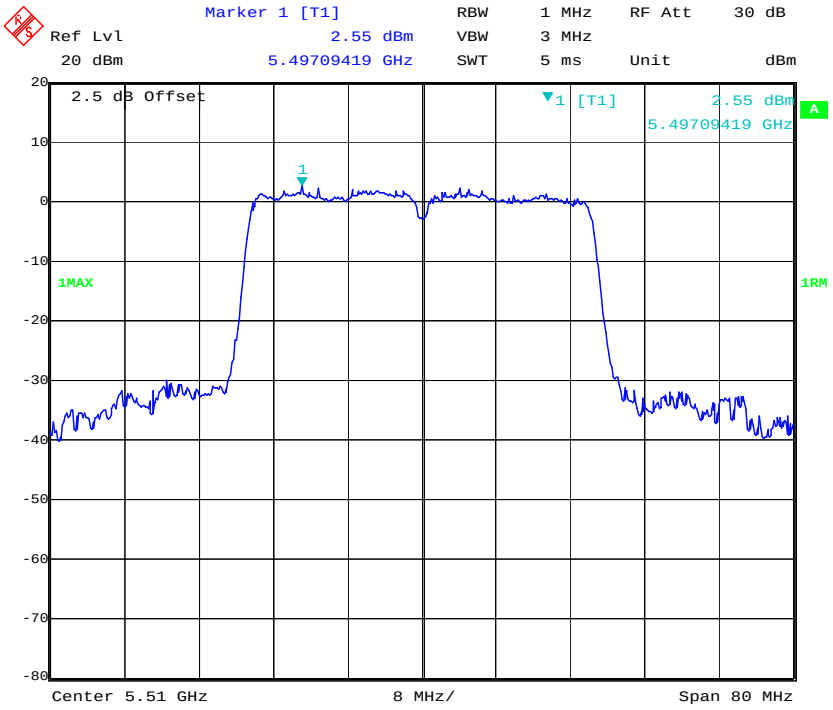
Date: 8.FEB.2017 16:38:31

802.11n ht20 5720MHz – Chain 1



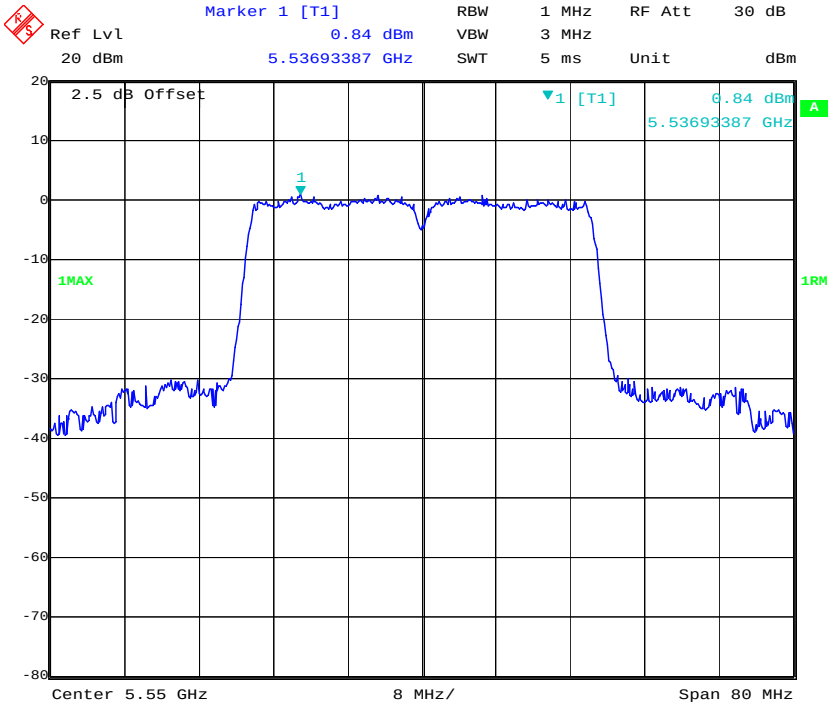
Date: 10.FEB.2017 17:19:39

802.11n ht40 5510MHz – Chain 1



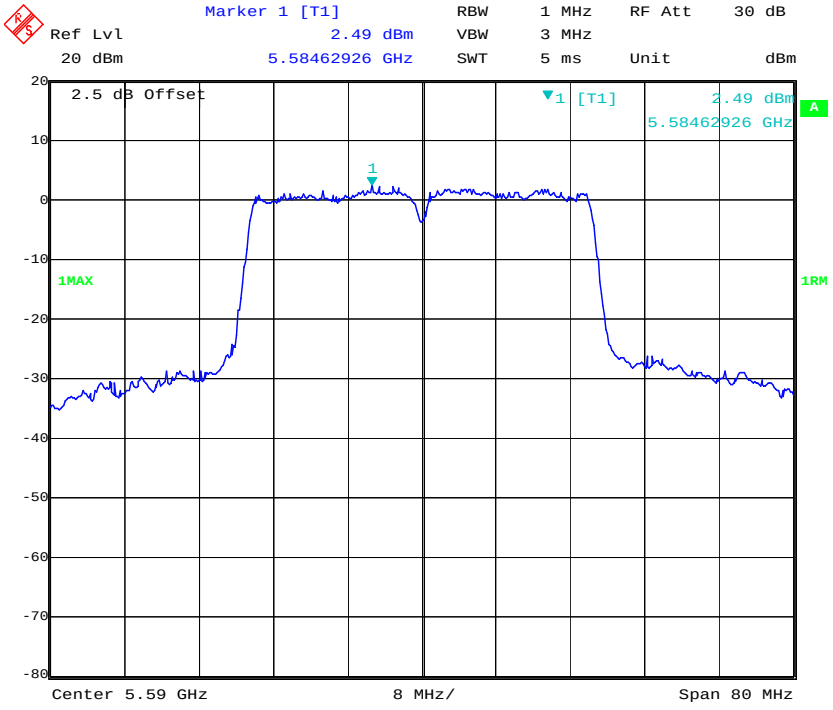
Date: 9.FEB.2017 10:33:21

802.11n ht40 5550MHz – Chain 1

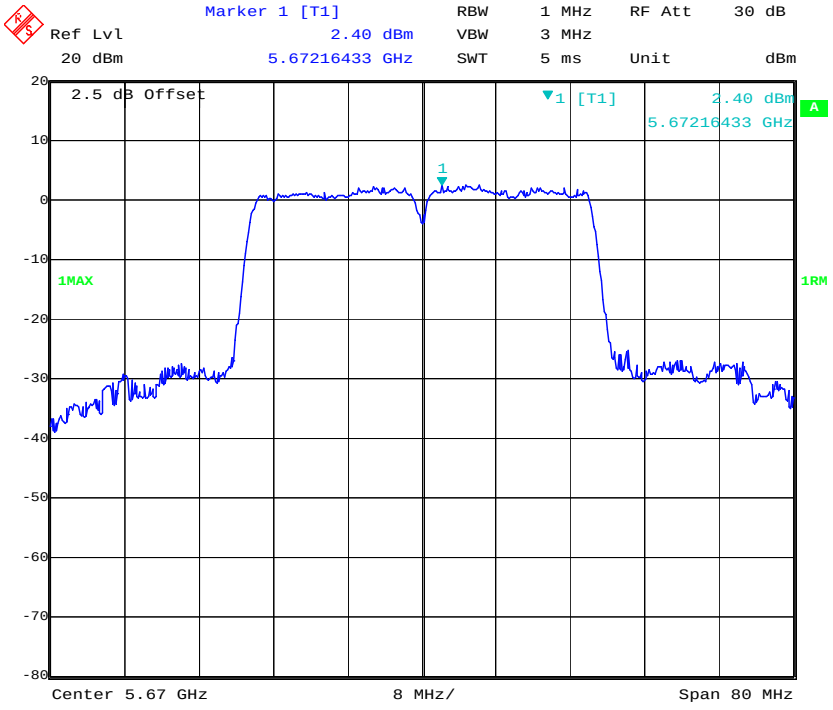


Date: 9.FEB.2017 10:42:19

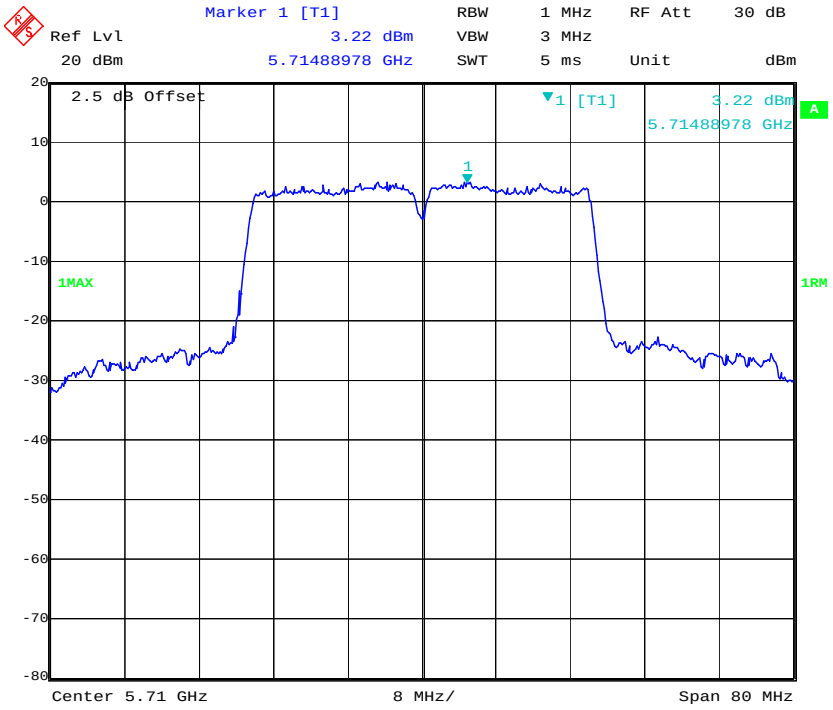
802.11n ht40 5590MHz – Chain 1



802.11n ht40 5670MHz – Chain 1

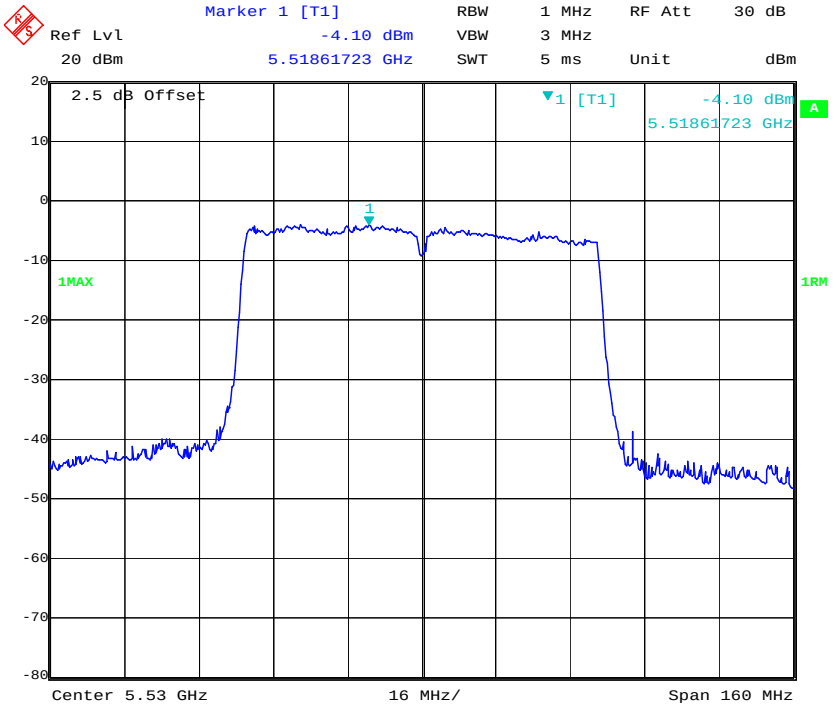


802.11n ht40 5710MHz – Chain 1



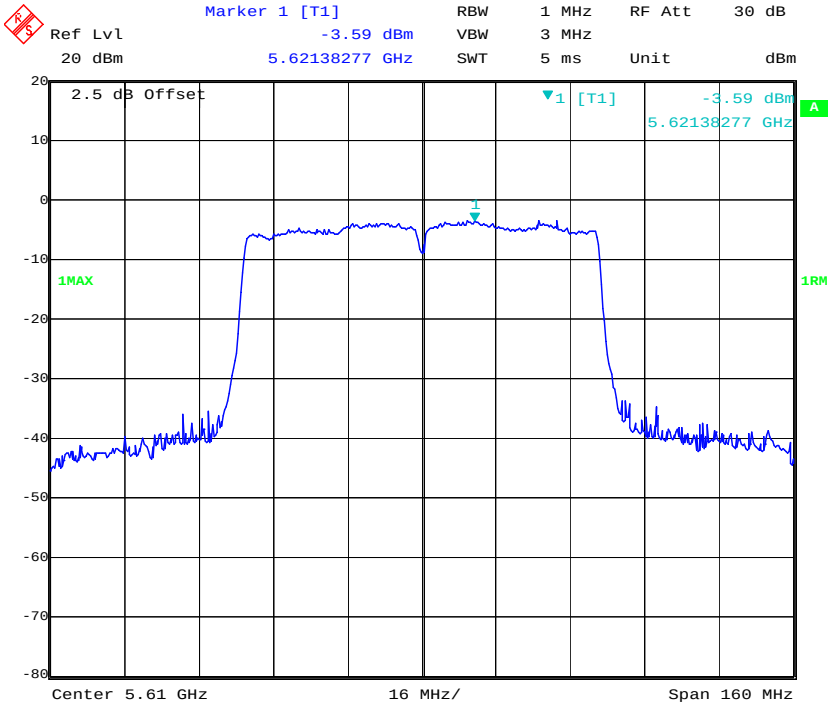
Date: 8.FEB.2017 18:20:23

802.11 ac80 5530MHz – Chain 1



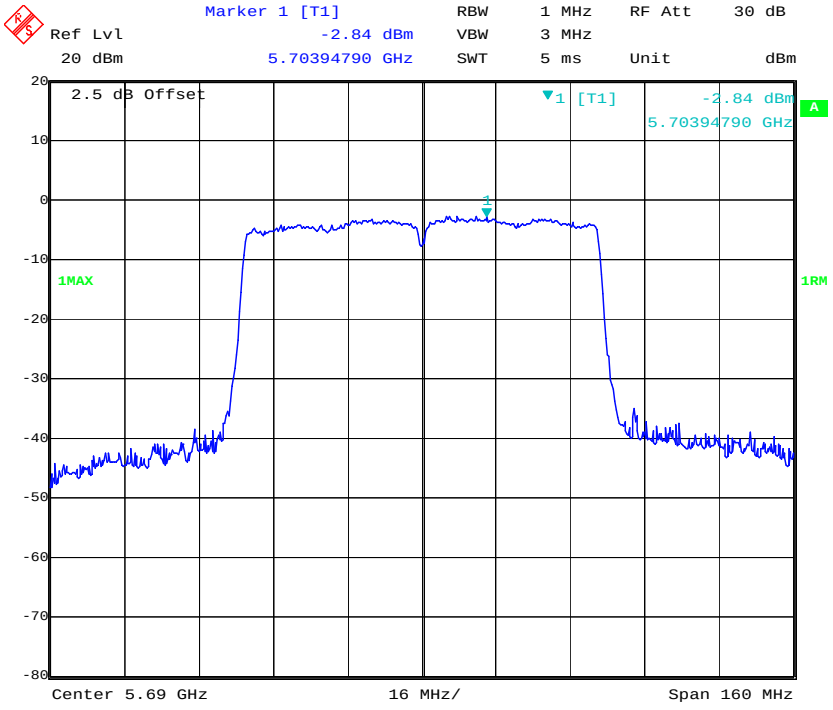
Date: 9.FEB.2017 11:38:26

802.11 ac80 5610MHz – Chain 1



Date: 8.FEB.2017 18:28:49

802.11 ac80 5690MHz – Chain 1



Date: 9.FEB.2017 11:13:47

5725-5850MHz

Mode	Frequency (MHz)	Reading (dBm/300kHz)		Duty Cycle Factor	Conducted PSD (dBm/500kHz)			FCC/RSS-247 PSD Limit (dBm/ 500kHz)	Result
		Chain 0	Chain 1	dB	Chain 0	Chain 1	Total		
802.11 a	5745	3.52	3.55	0.76	6.48	6.51	/	30	Pass
	5785	4.22	4.44	0.76	7.18	7.40	/	30	Pass
	5825	4.2	4.49	0.76	7.16	7.45	/	30	Pass
802.11n ht20	5745	3.33	3.67	0.56	6.09	6.43	9.27	30	Pass
	5785	4.12	4.94	0.56	6.88	7.7	10.32	30	Pass
	5825	3.92	4.37	0.56	6.68	7.13	9.92	30	Pass
802.11n ht40	5755	0.16	0.32	0.76	3.12	3.28	6.21	30	Pass
	5795	-0.13	0.07	0.76	2.83	3.03	5.94	30	Pass
802.11 ac80	5775	-4.85	-5.05	0.36	-2.29	-2.49	0.62	30	Pass

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 antenna maximum gain are 2.0dBi in 5GHz band, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

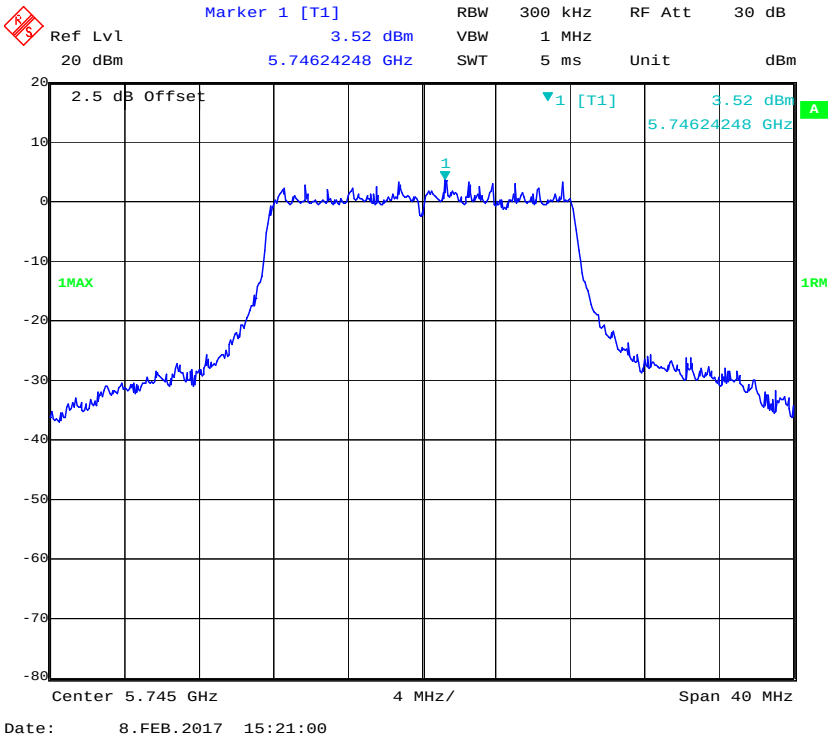
Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 2+10*log(2) =5 dBi

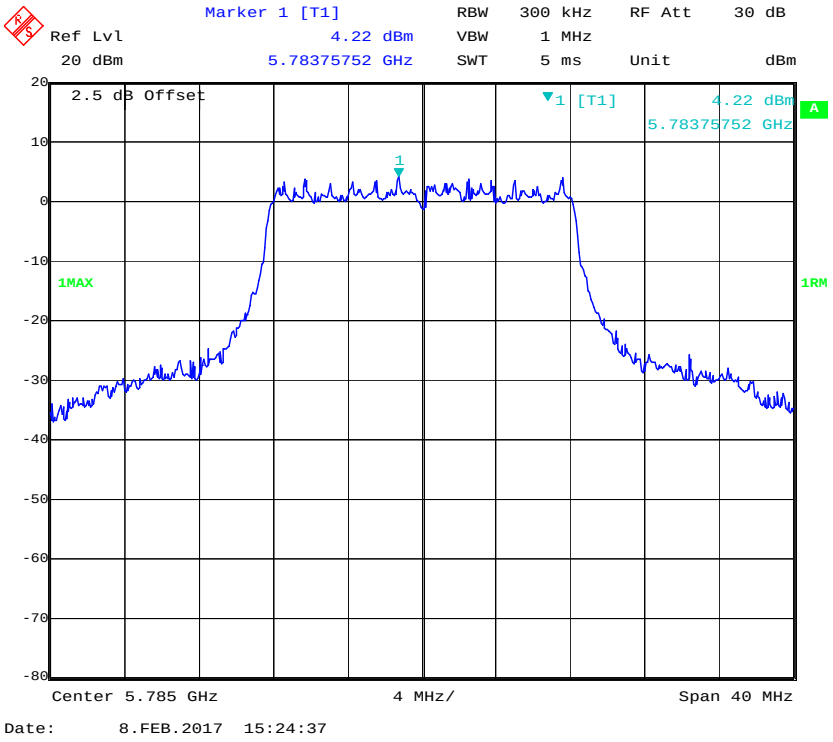
5725MHz-5850MHz:

802.11a Low Channel – Chain 0



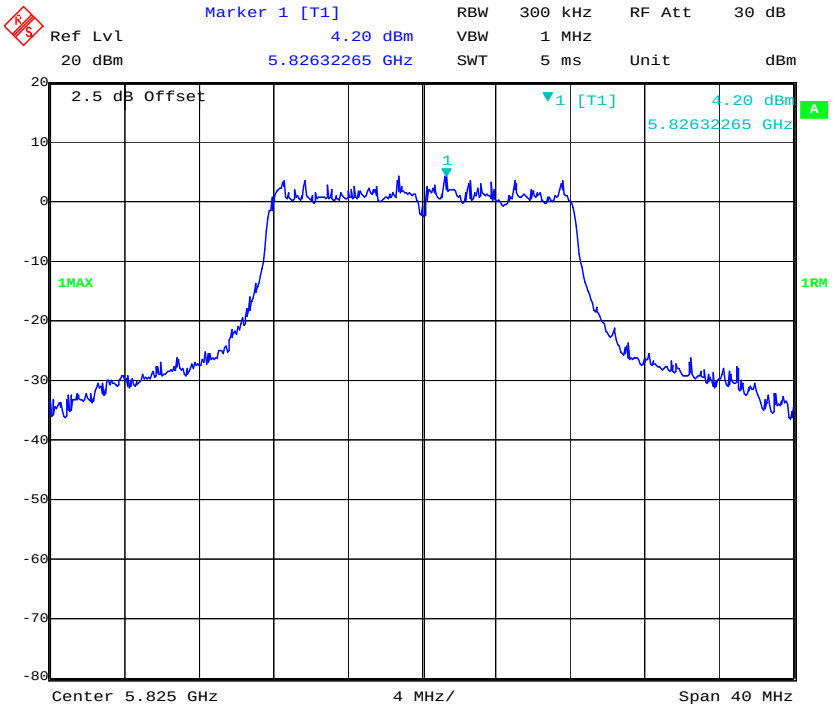
Date: 8.FEB.2017 15:21:00

802.11a Middle Channel – Chain 0



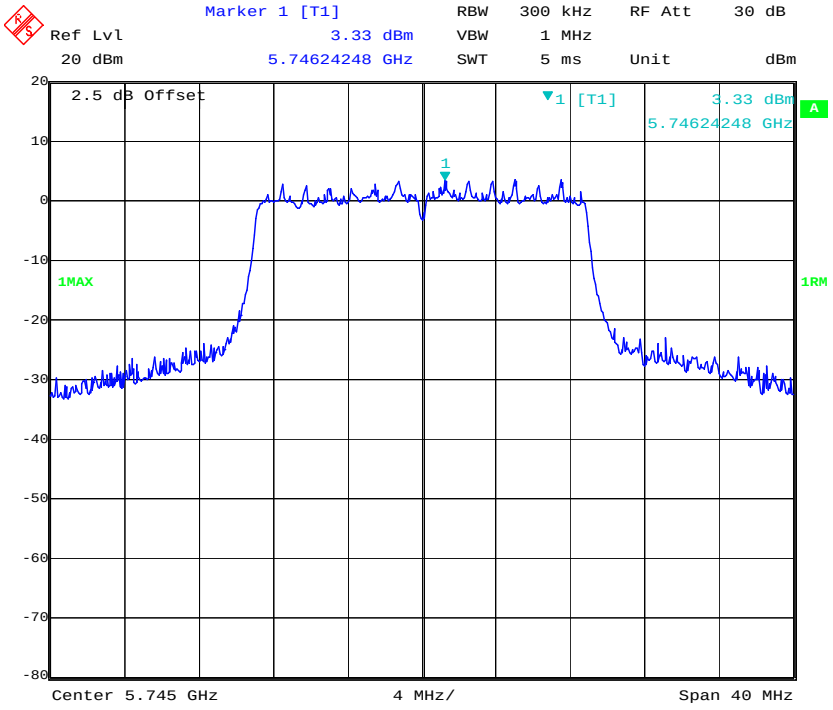
Date: 8.FEB.2017 15:24:37

802.11a High Channel – Chain 0



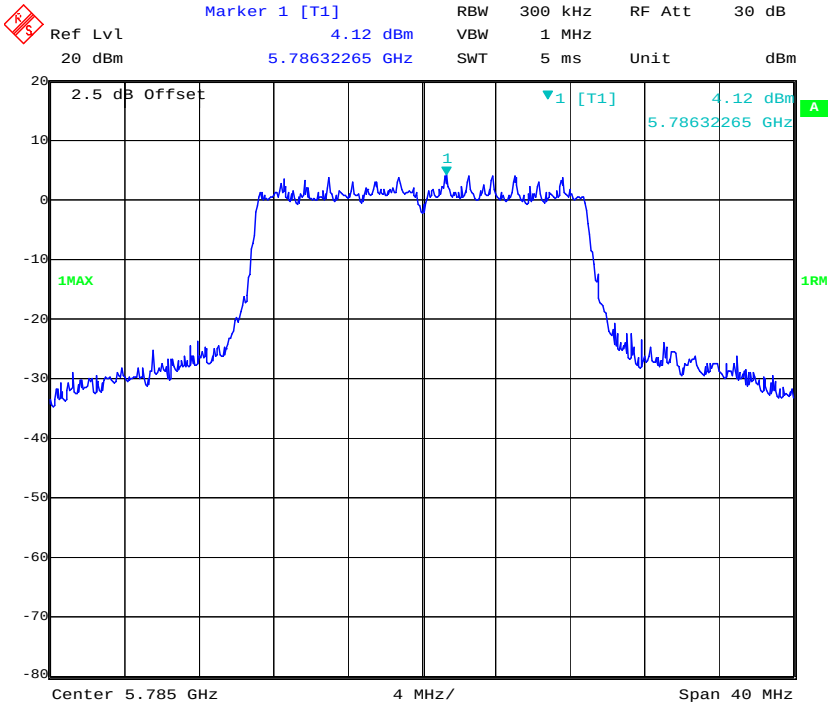
Date: 8.FEB.2017 15:27:20

802.11n ht20 Low Channel – Chain 0



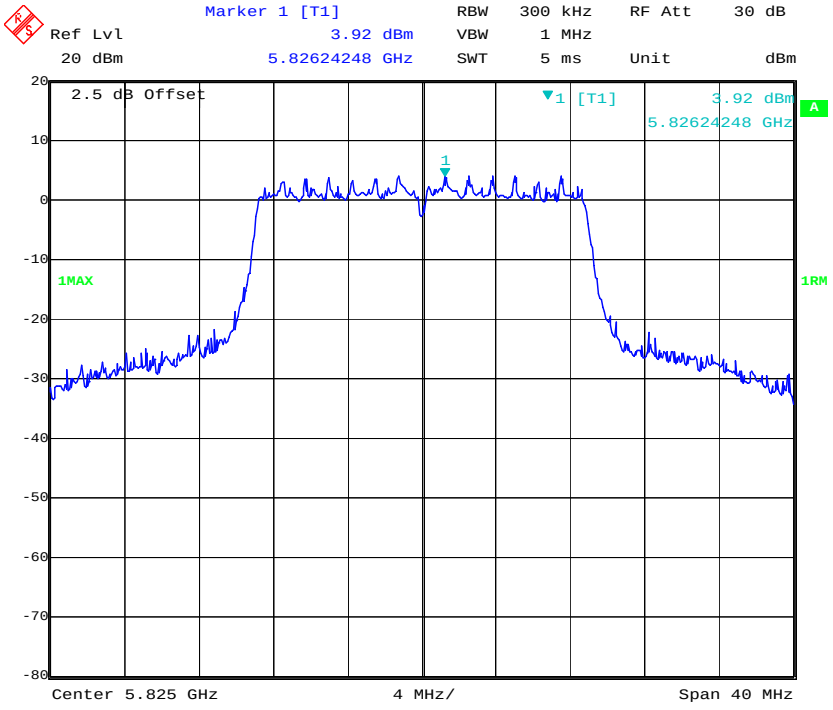
Date: 8.FEB.2017 17:22:13

802.11n ht20 Middle Channel – Chain 0



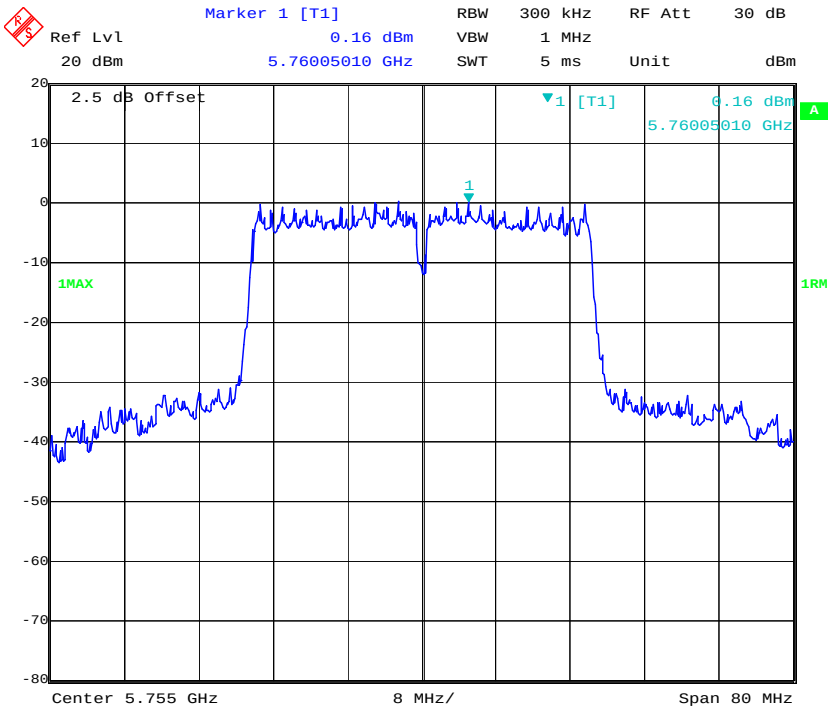
Date: 8.FEB.2017 17:26:14

802.11n ht20 High Channel – Chain 0

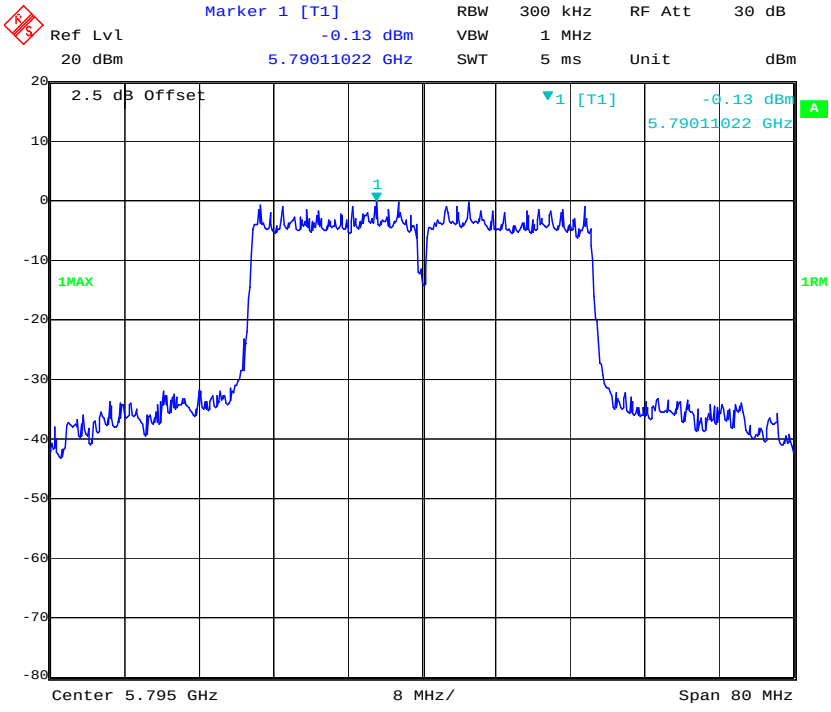


Date: 8.FEB.2017 17:32:11

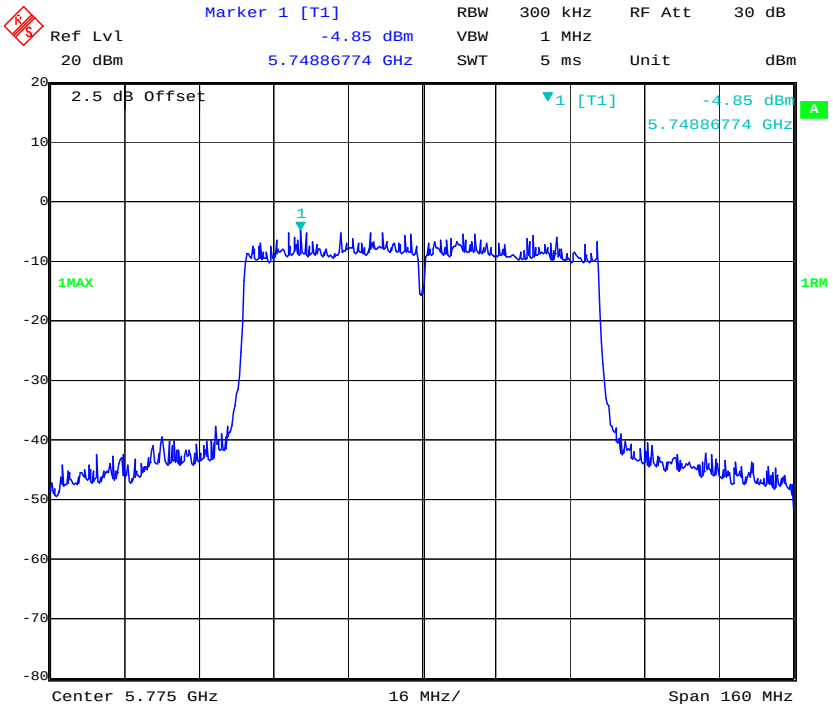
802.11n ht40 Low Channel – Chain0



802.11n ht40 High Channel – Chain 0

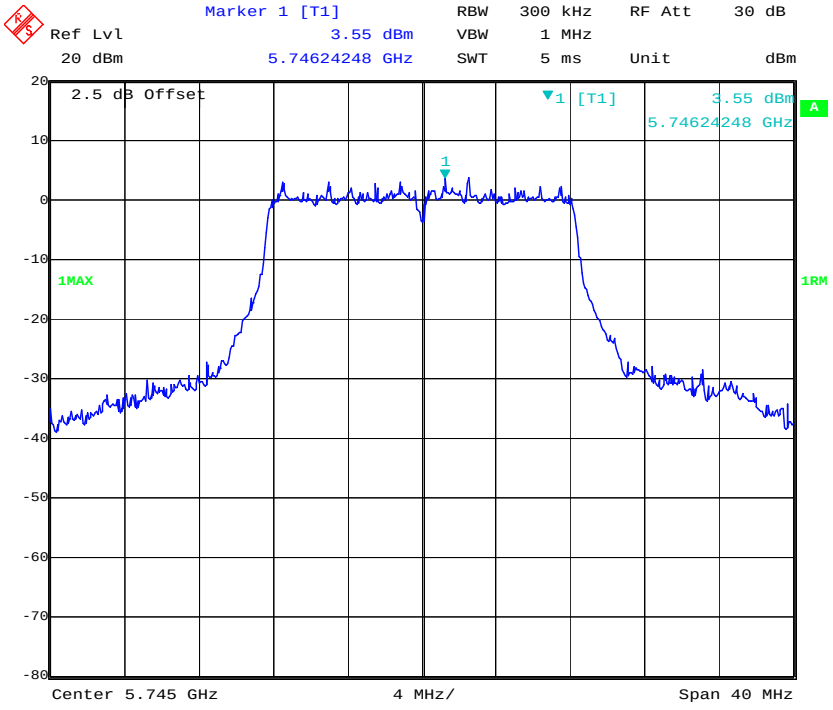


802.11 ac80 Middle Channel – Chain0



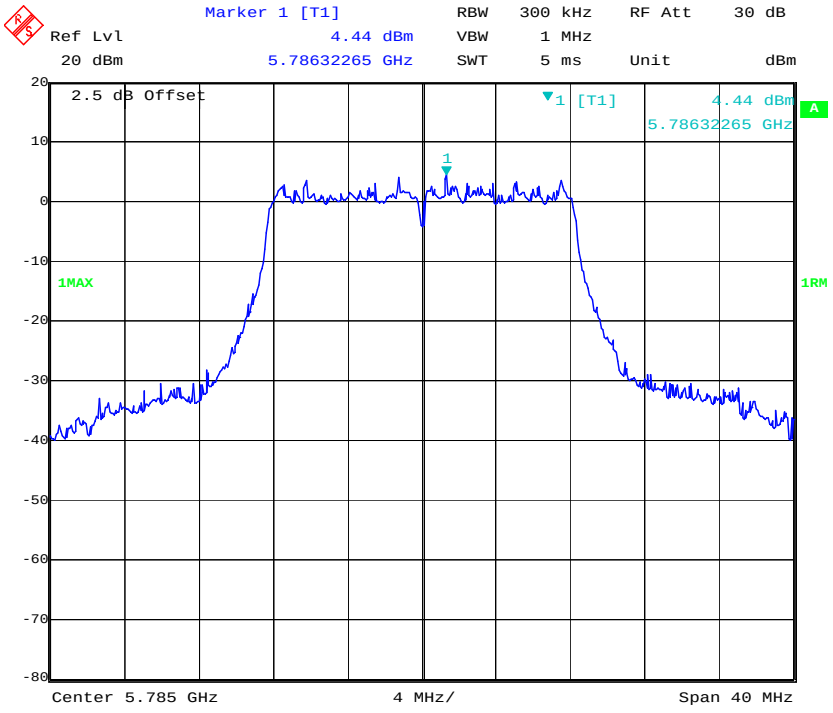
Date: 9.FEB.2017 11:34:29

802.11a Low Channel – Chain 1



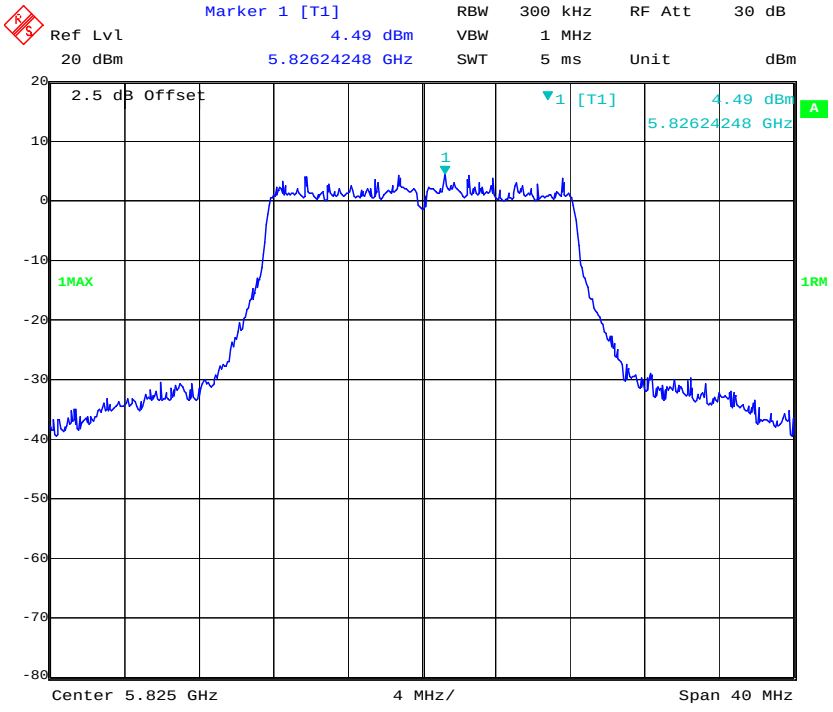
Date: 8.FEB.2017 15:56:47

802.11a Middle Channel – Chain 1



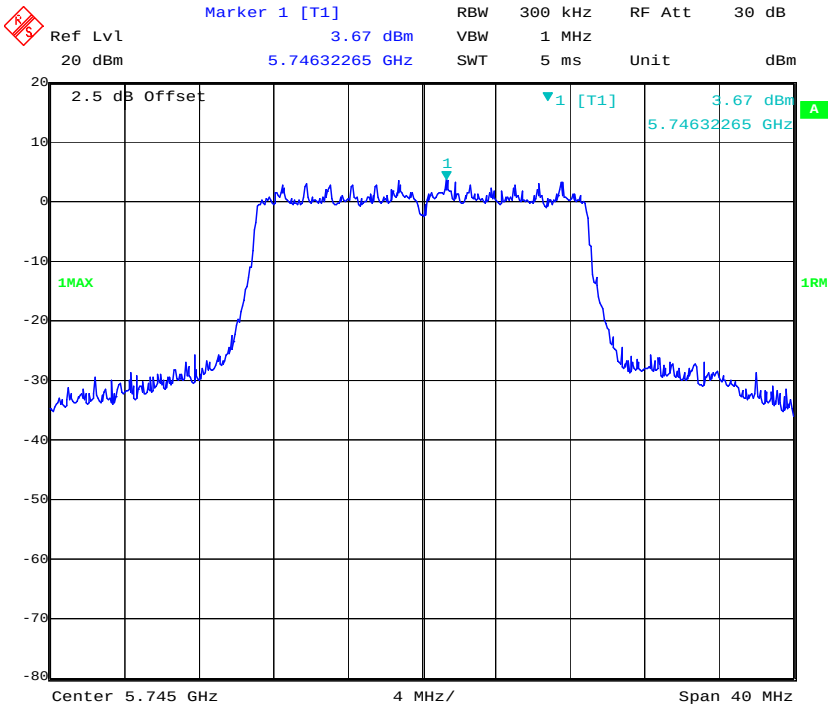
Date: 8.FEB.2017 16:00:25

802.11a High Channel – Chain 1



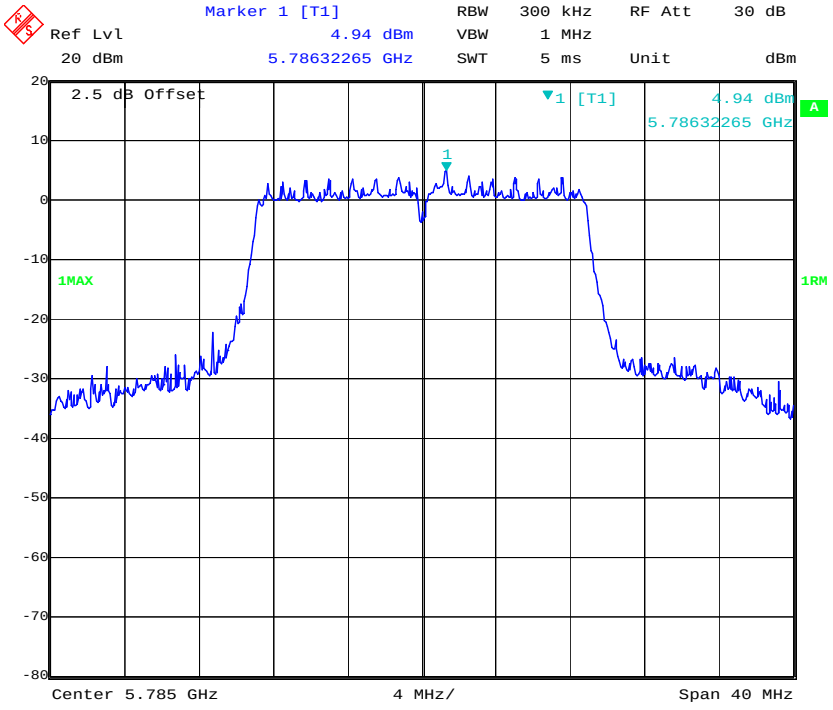
Date: 8.FEB.2017 16:04:12

802.11n ht20 Low Channel – Chain 1



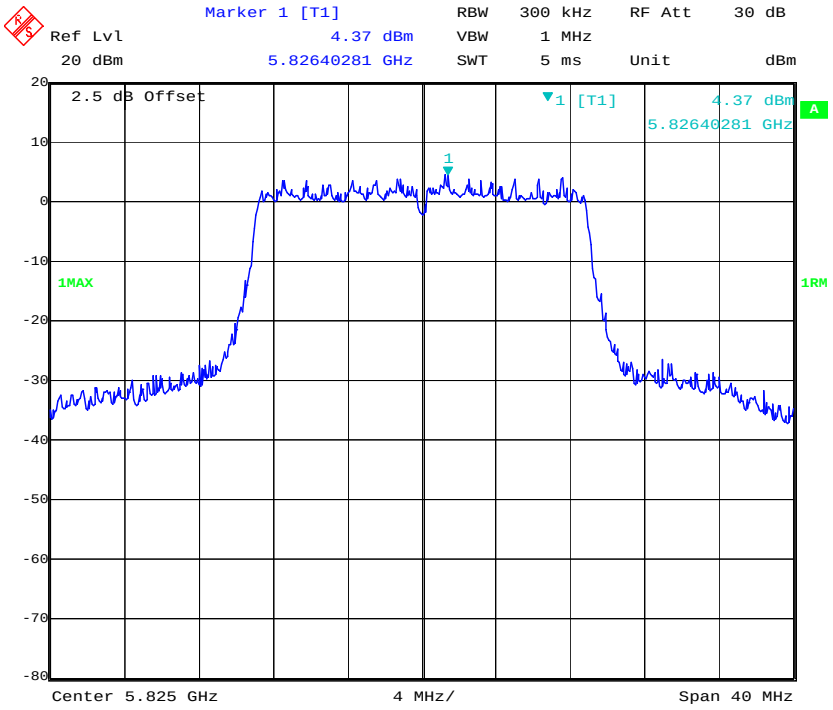
Date: 8.FEB.2017 16:42:15

802.11n ht20 Middle Channel – Chain 1



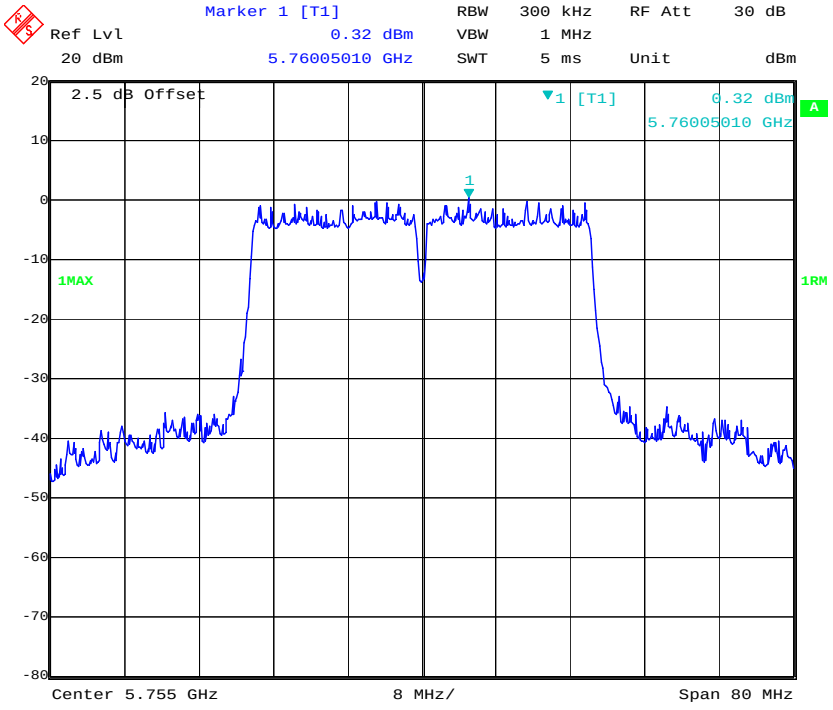
Date: 8.FEB.2017 16:45:43

802.11n ht20 High Channel – Chain 1



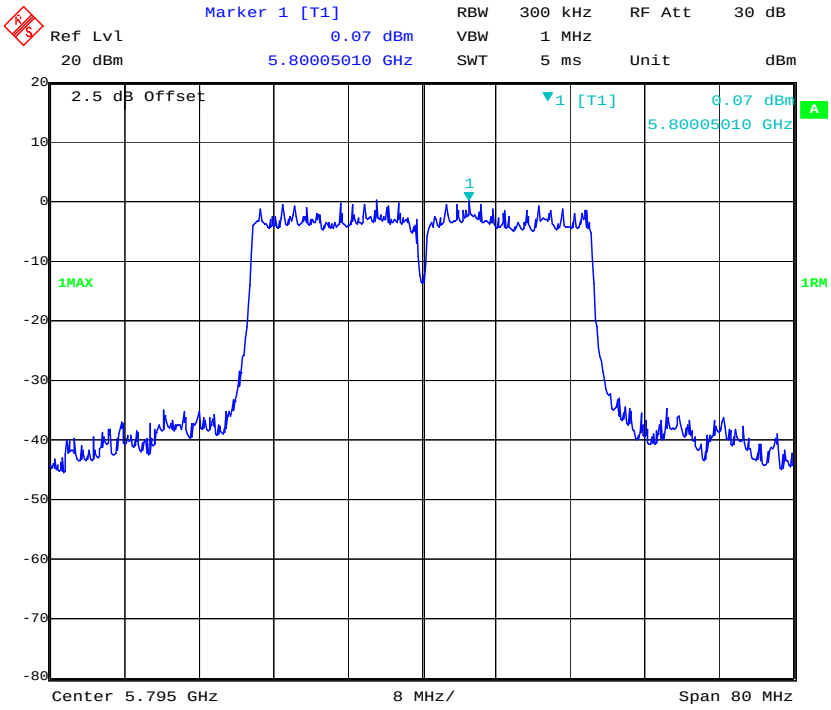
Date: 8.FEB.2017 16:48:42

802.11n ht40 Low Channel – Chain 1



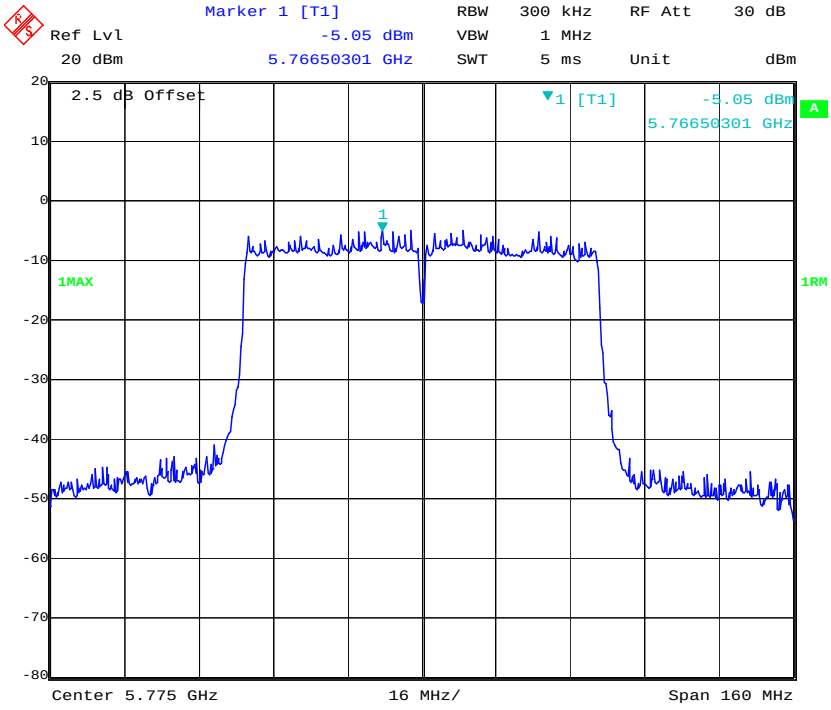
Date: 9.FEB.2017 10:53:51

802.11n ht40 High Channel – Chain 1



Date: 9.FEB.2017 10:57:04

802.11 ac80 Middle Channel – Chain 1



Date: 9.FEB.2017 11:18:29

FCC §15.407(b)& RSS-247 §6.2 – 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.

According to RSS-247§6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or

b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text "for indoor use only."

Frequency bands 5470-5600 MHz and 5650-5725 MHz:

6.2.3.2 Unwanted emission limits

Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

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-2	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:	17 °C
Relative Humidity:	50 %
ATM Pressure:	96.8 kPa

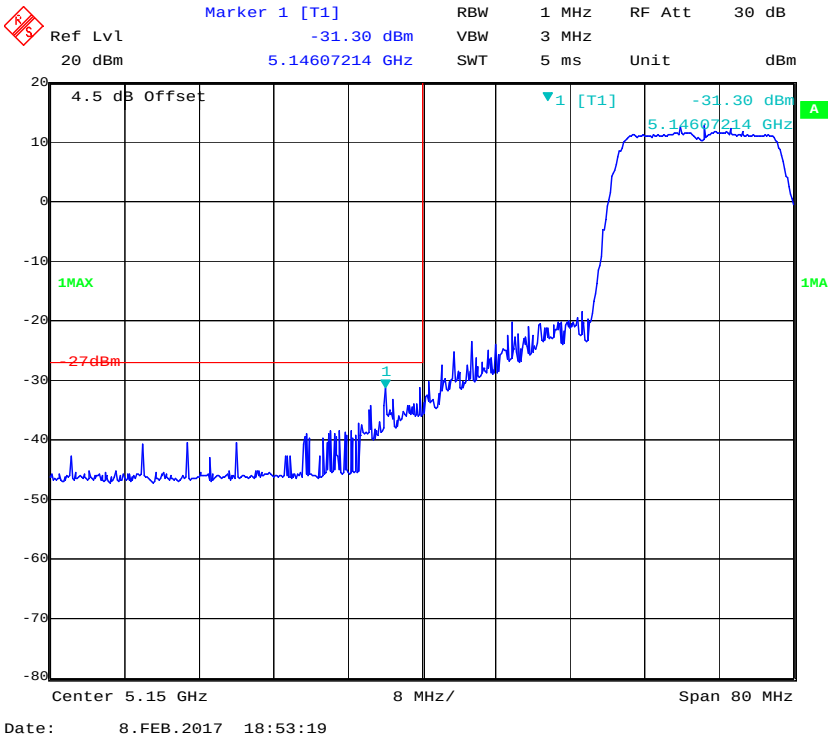
The testing was performed by Lorin Bian on 2017-02-08.

Test Result: Pass.

The antenna gain was offset in the display, and all emissions under limit 3dBc, Please refer to the following tables and plots.

5150-5250MHz:

802.11a Low Channel – Chain 0

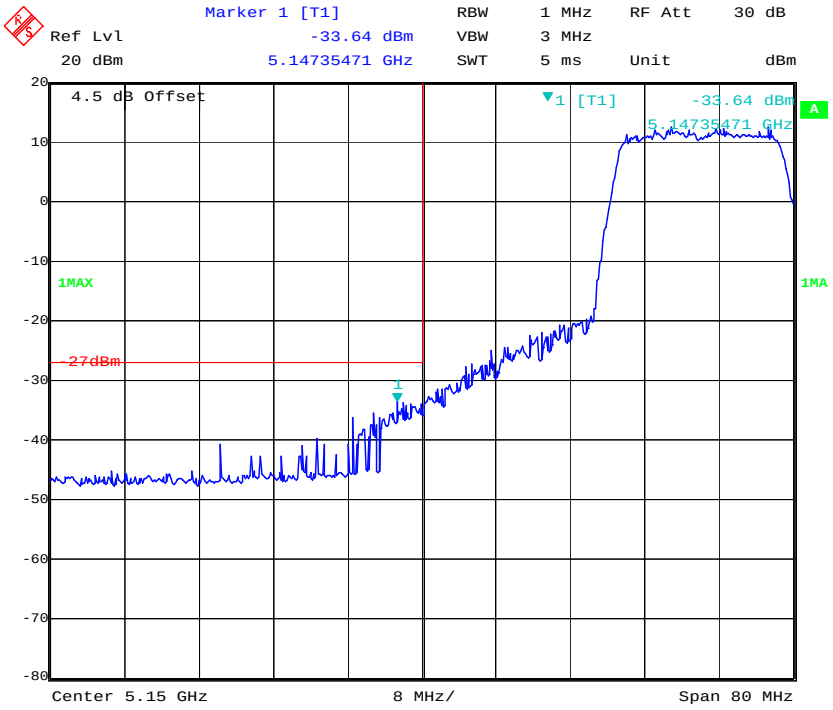


Date: 8.FEB.2017 18:53:19

802.11a High Channel – Chain 0

Date: 8.FEB.2017 18:58:08

802.11n ht20 Low Channel – Chain 0

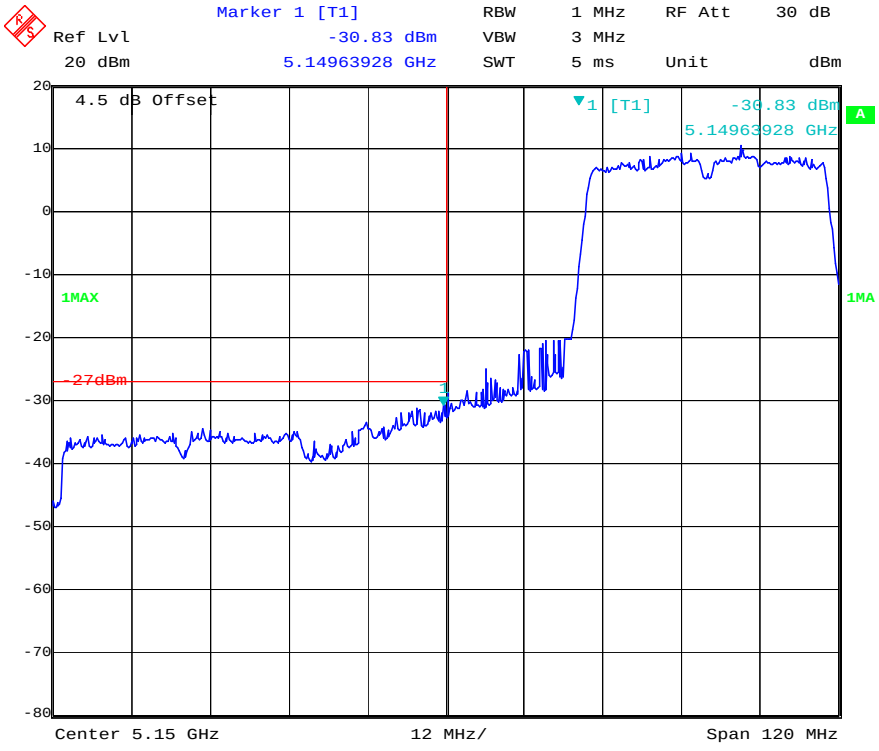


Date: 8.FEB.2017 19:19:22

802.11n ht20 High Channel – Chain 0

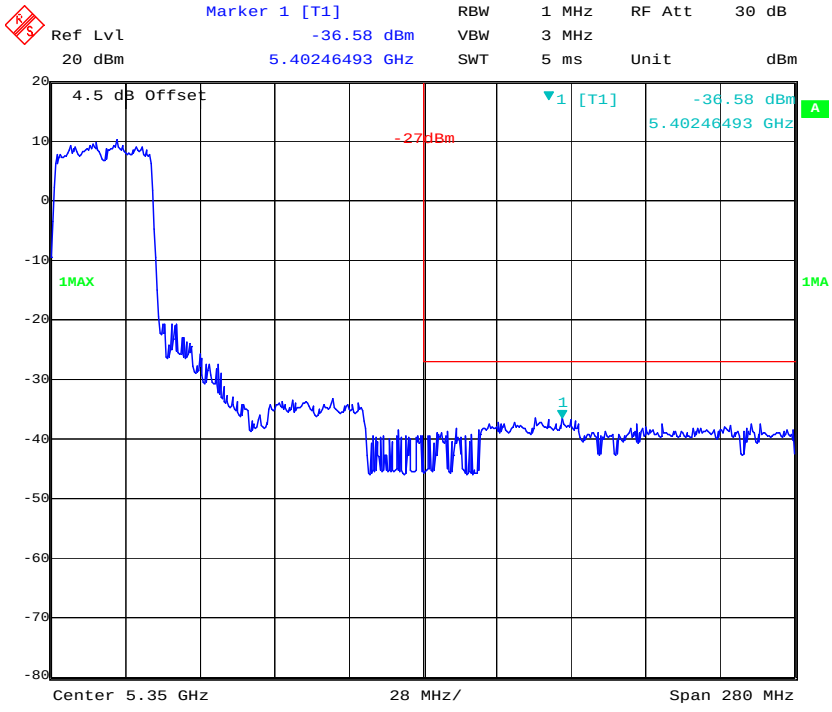
Date: 8.FEB.2017 19:22:38

802.11n ht40 Low Channel – Chain0



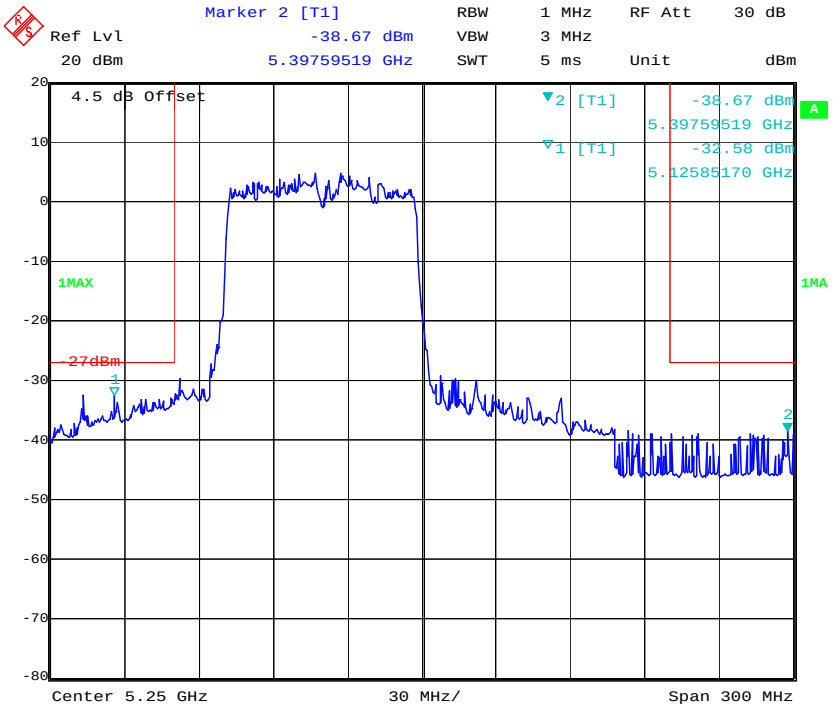
Date: 8.FEB.2017 19:48:29

802.11n ht40 High Channel – Chain 0



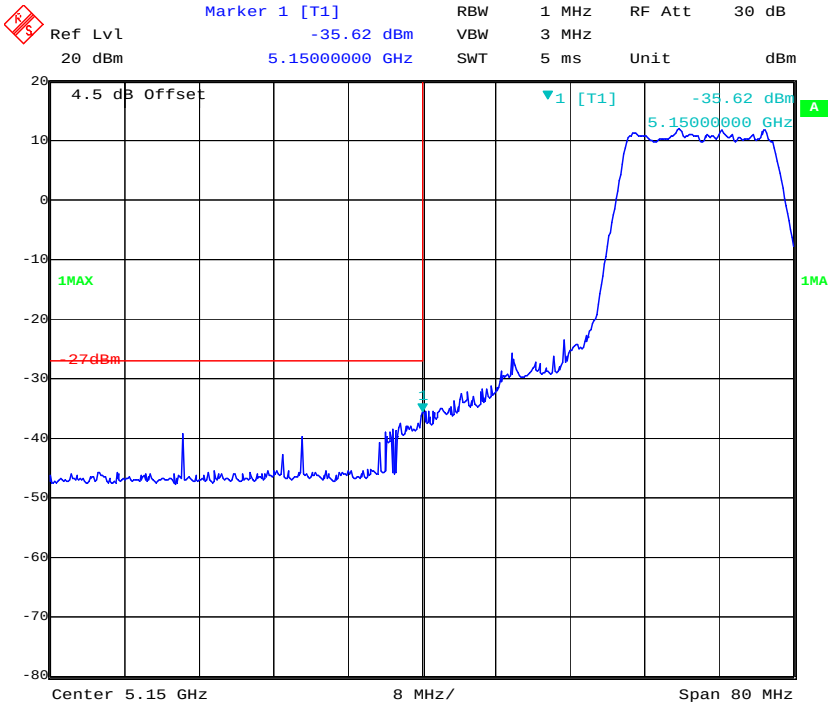
Date: 8.FEB.2017 19:51:38

802.11 ac80 Middle Channel – Chain0



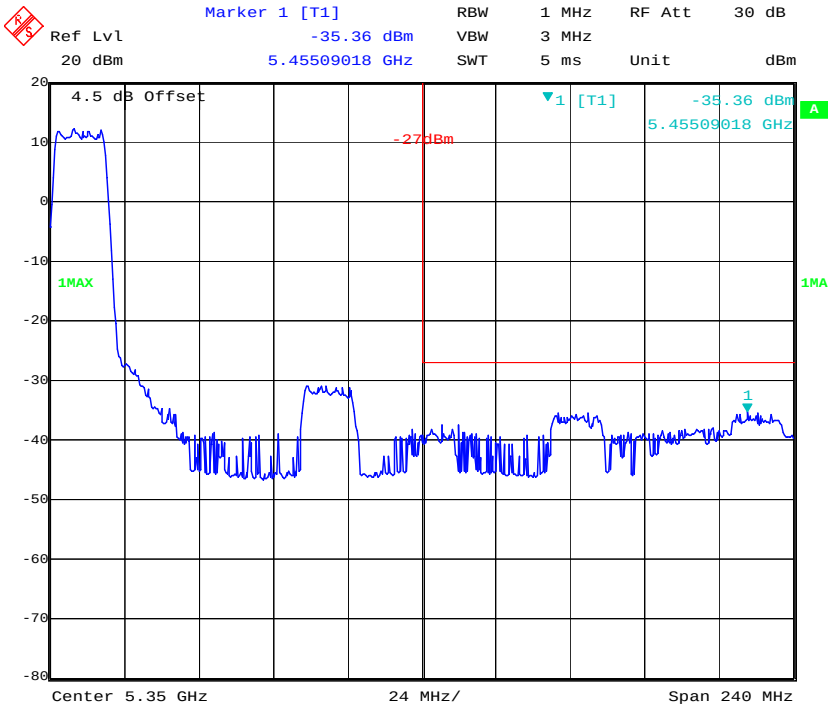
Date: 8.FEB.2017 20:27:51

802.11a Low Channel – Chain 1



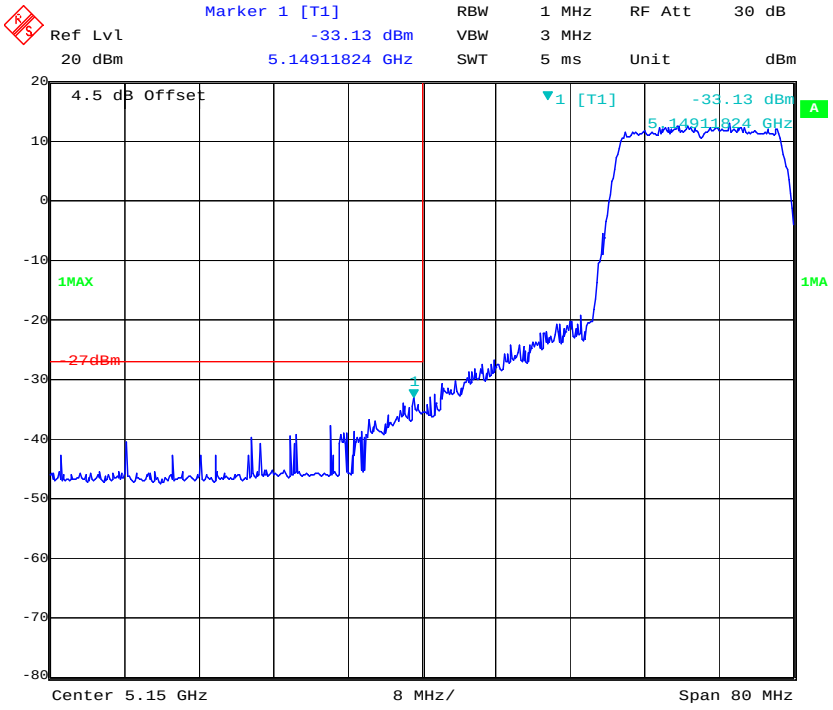
Date: 8.FEB.2017 18:54:41

802.11a High Channel – Chain 1



Date: 8.FEB.2017 18:56:38

802.11n ht20 Low Channel – Chain 1

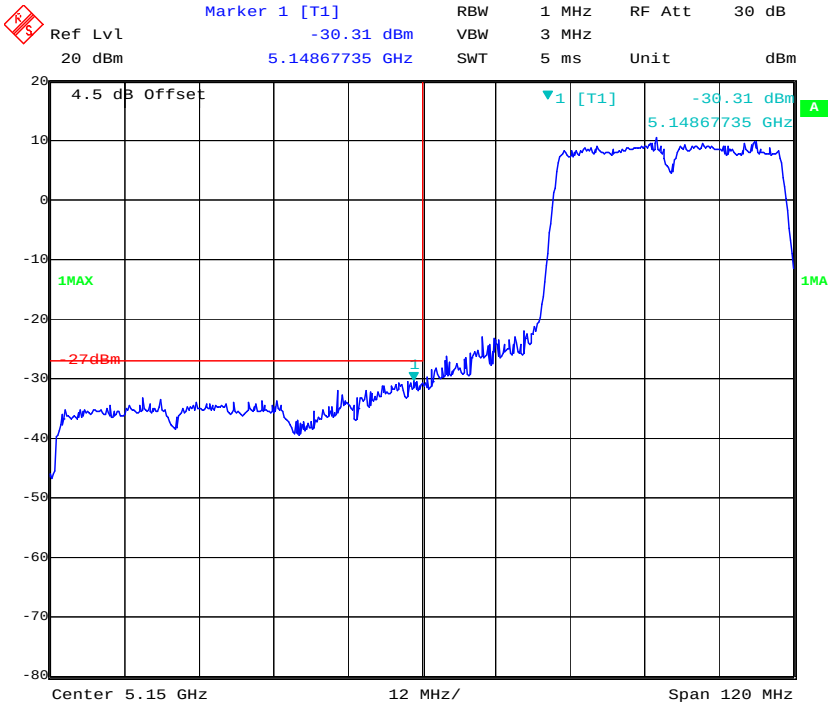


Date: 8.FEB.2017 19:20:11

802.11n ht20 High Channel – Chain 1

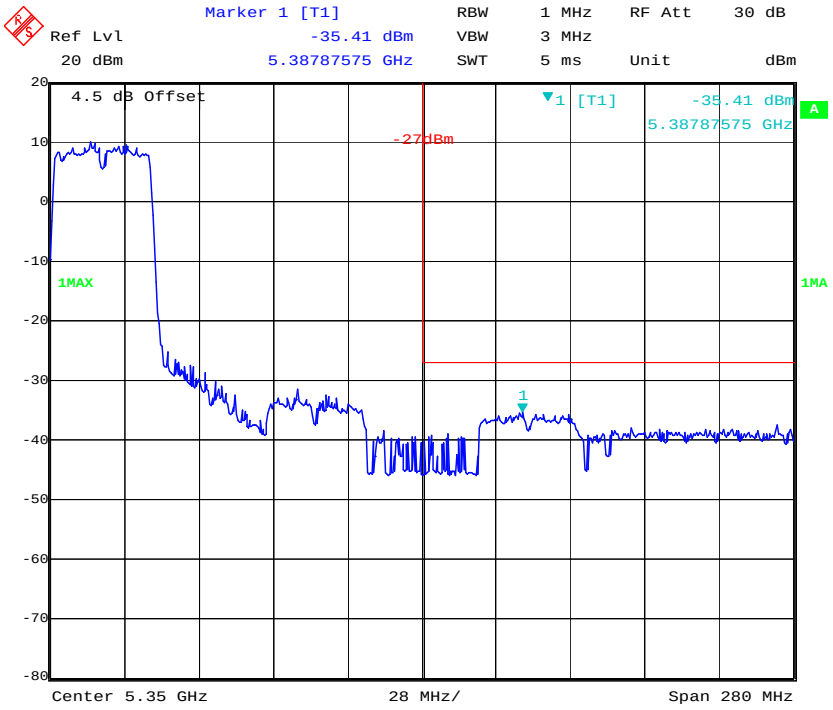
Date: 8.FEB.2017 19:21:28

802.11n ht40 Low Channel – Chain 1



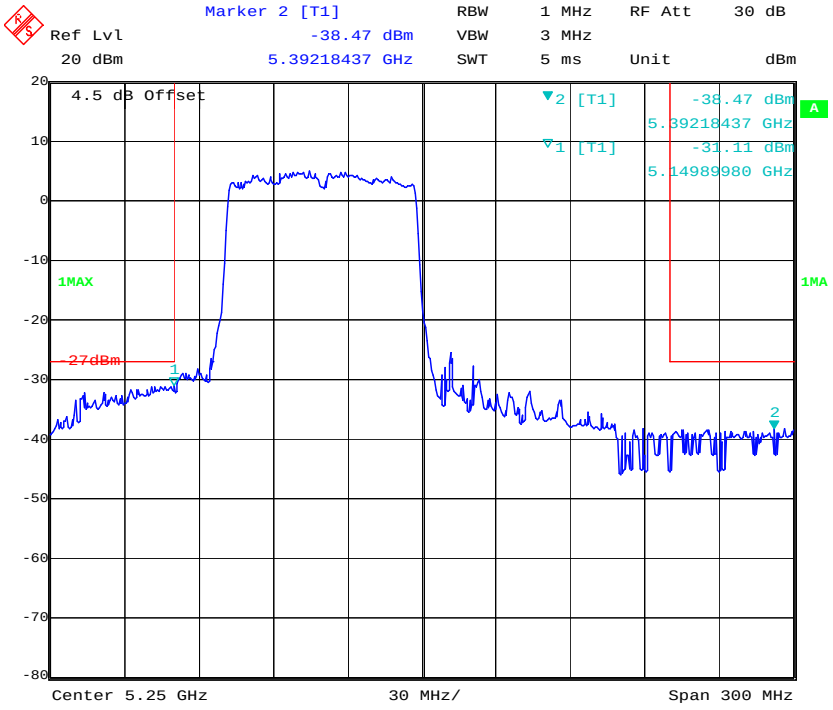
Date: 8.FEB.2017 19:47:41

802.11n ht40 High Channel – Chain 1



Date: 8.FEB.2017 19:52:32

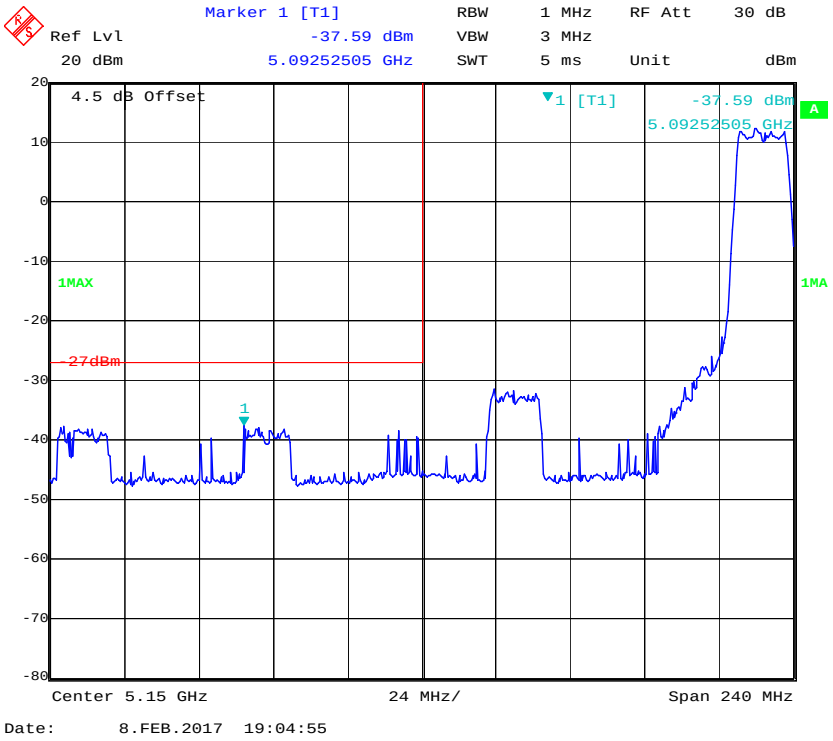
802.11 ac80 Middle Channel – Chain 1



Date: 8.FEB.2017 20:25:12

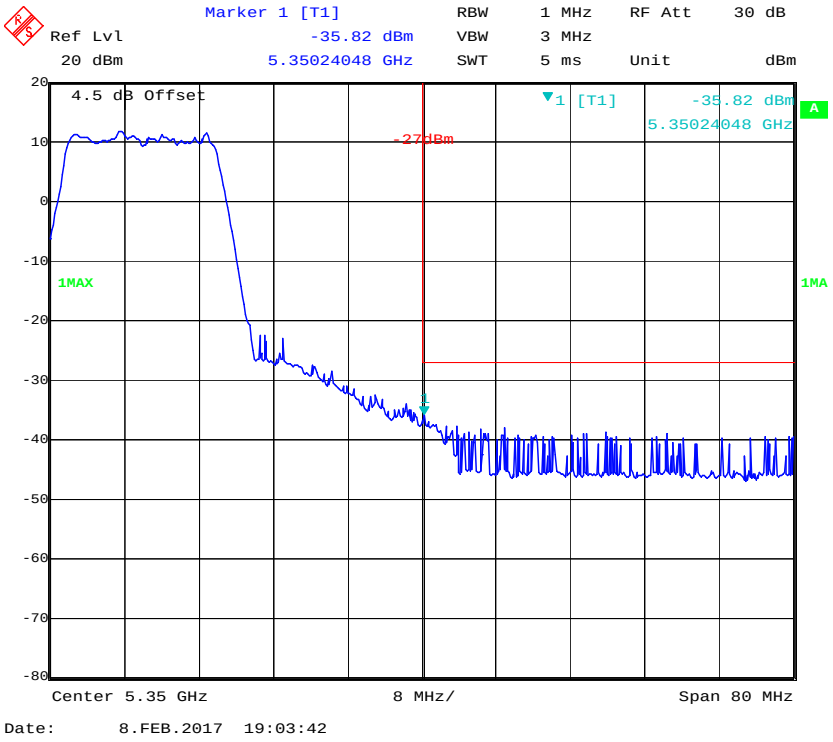
5250-5350MHz:

802.11a Low Channel – Chain 0



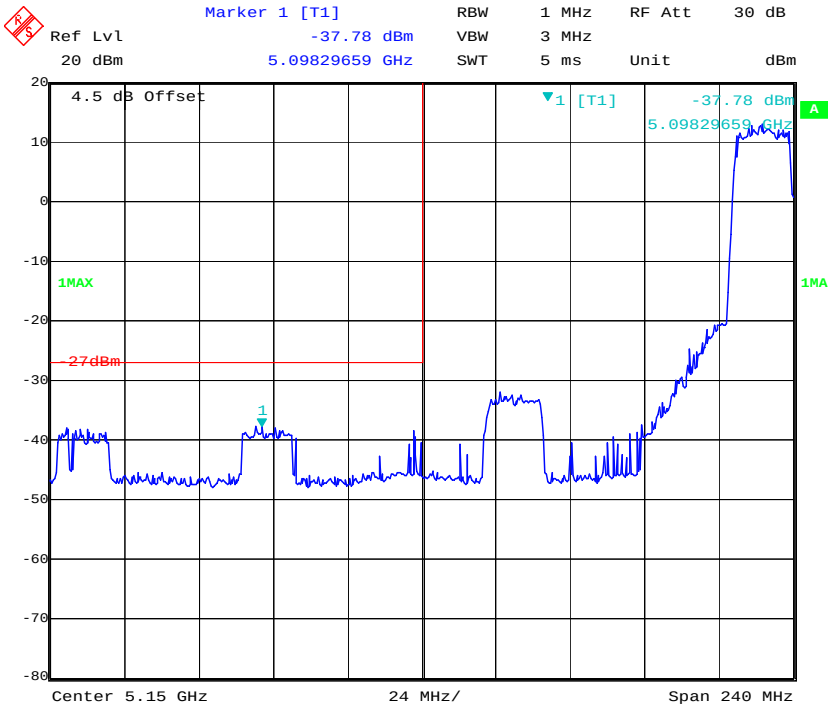
Date: 8.FEB.2017 19:04:55

802.11a High Channel – Chain 0



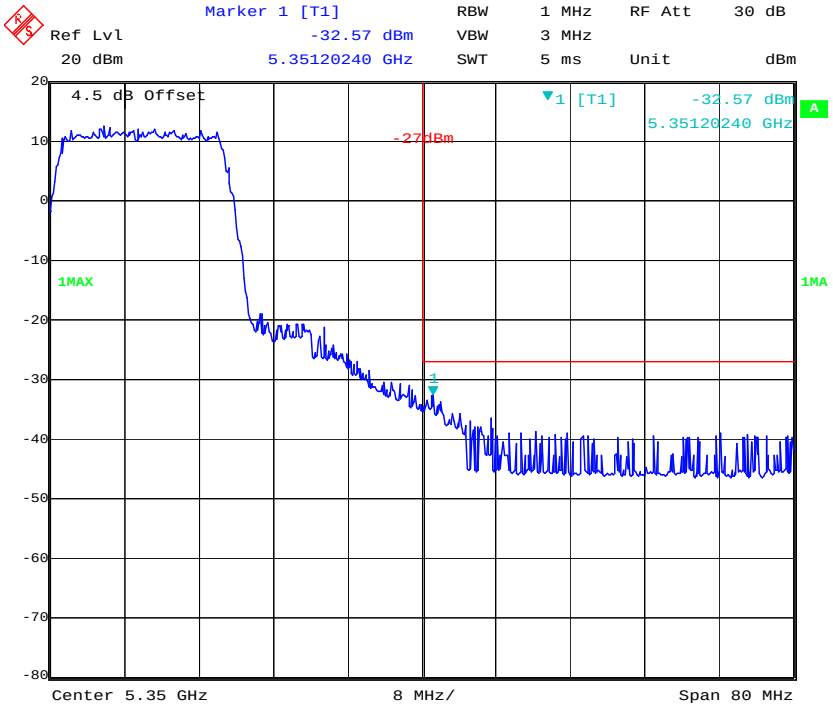
Date: 8.FEB.2017 19:03:42

802.11n ht20 Low Channel – Chain 0



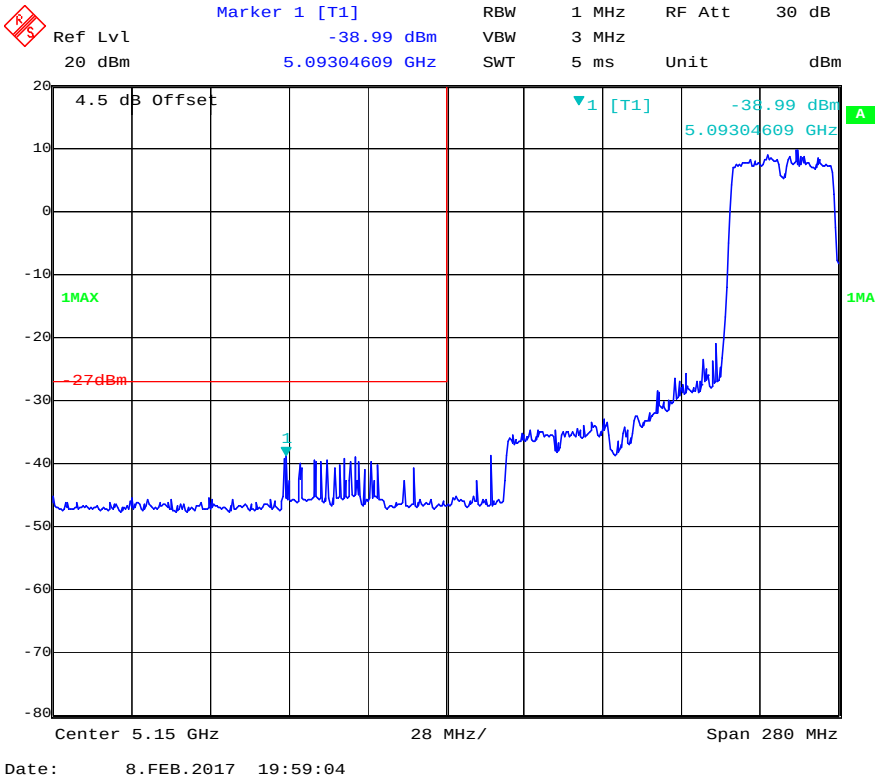
Date: 8.FEB.2017 19:26:41

802.11n ht20 High Channel – Chain 0

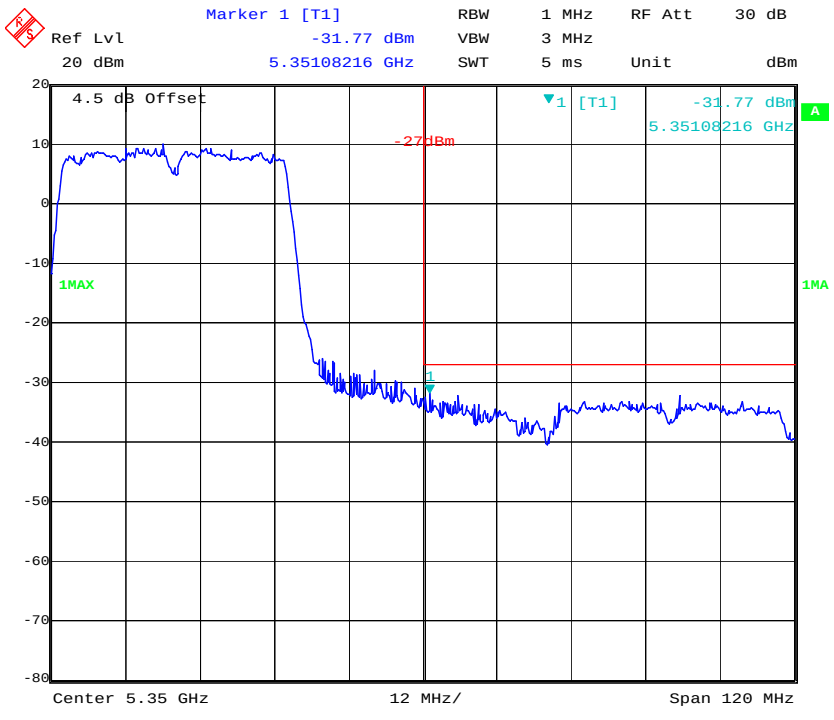


Date: 8.FEB.2017 19:23:52

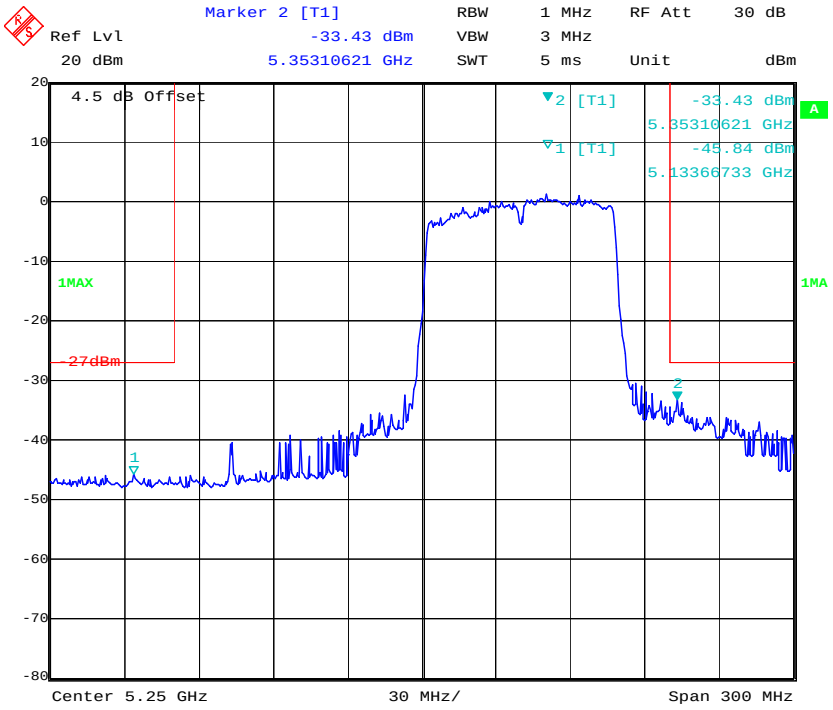
802.11n ht40 Low Channel – Chain0



802.11n ht40 High Channel – Chain 0

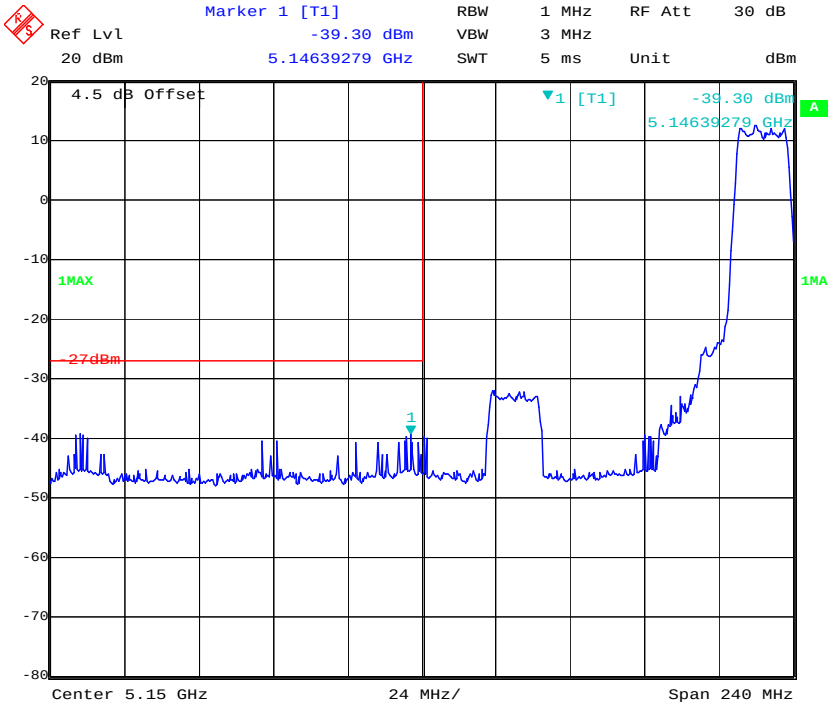


802.11 ac80 Middle Channel – Chain0



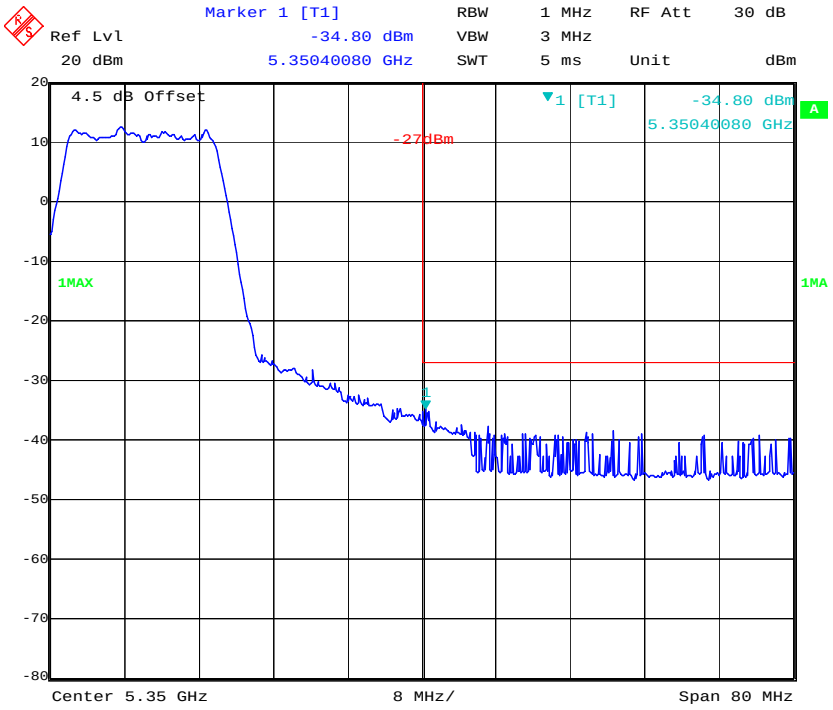
Date: 8.FEB.2017 20:29:18

802.11a Low Channel – Chain 1



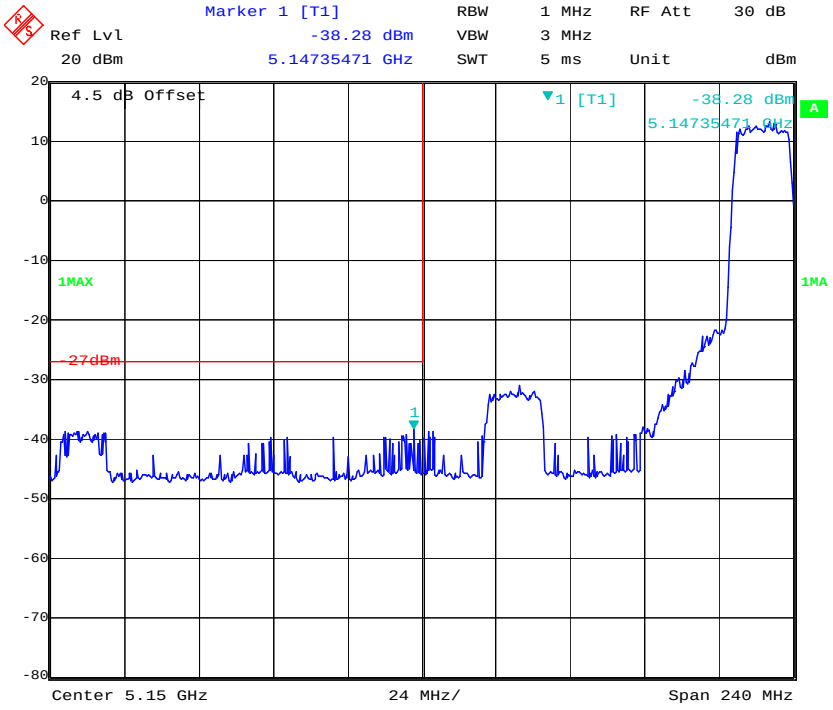
Date: 8.FEB.2017 19:06:52

802.11a High Channel – Chain 1



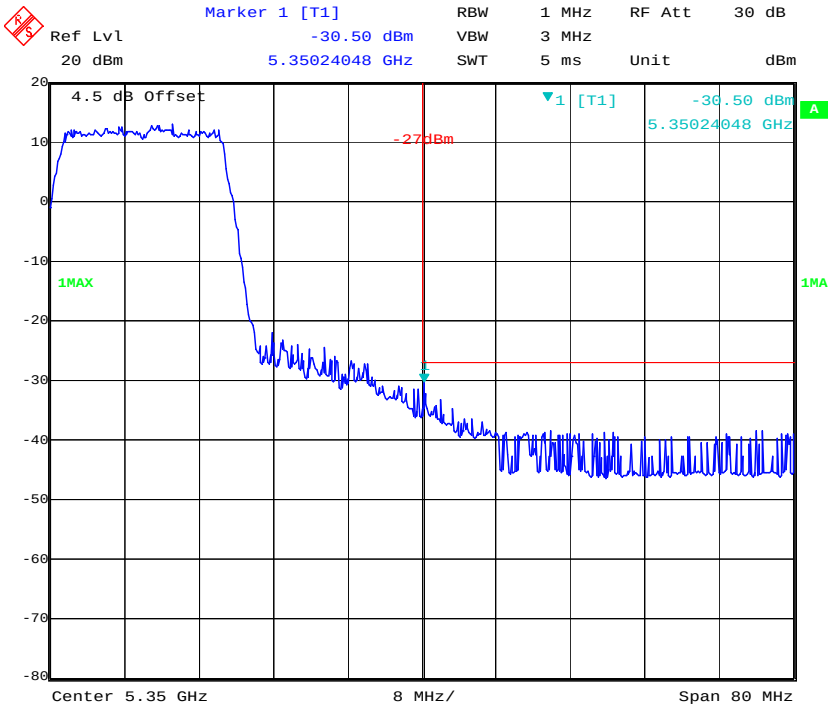
Date: 8.FEB.2017 19:02:36

802.11n ht20 Low Channel – Chain 1



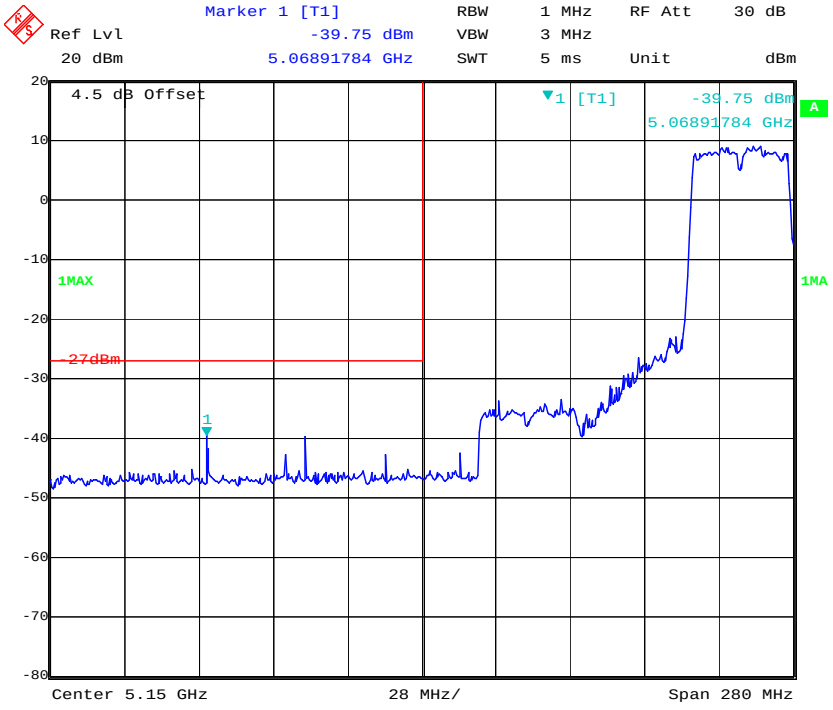
Date: 8.FEB.2017 19:26:04

802.11n ht20 High Channel – Chain 1



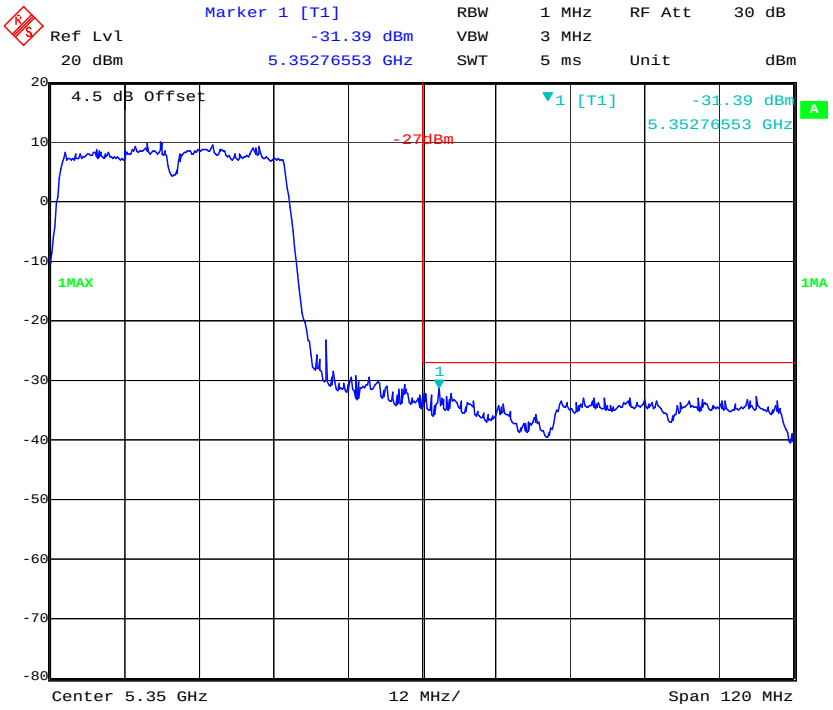
Date: 8.FEB.2017 19:24:37

802.11n ht40 Low Channel – Chain 1



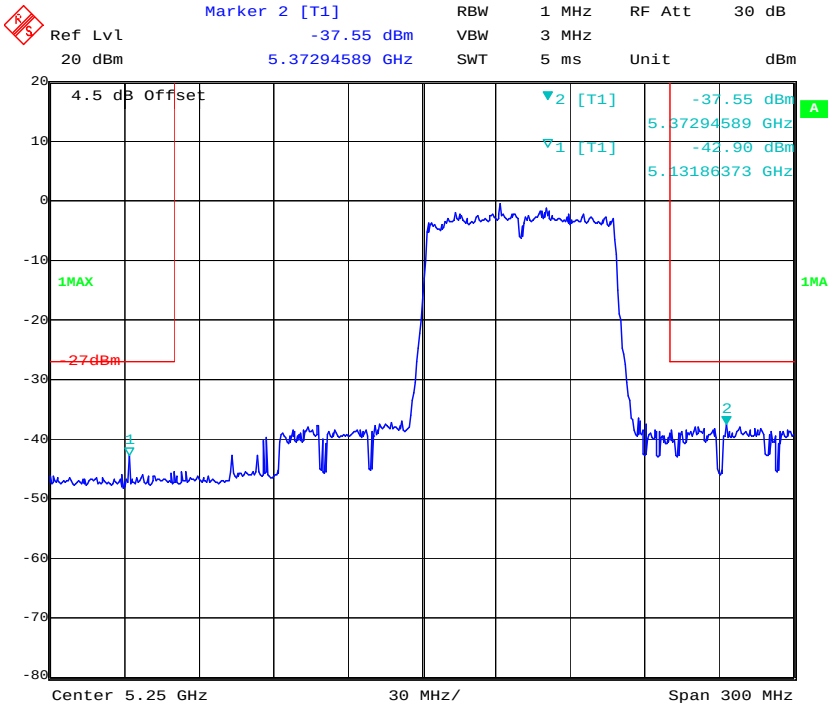
Date: 8.FEB.2017 19:58:19

802.11n ht40 High Channel – Chain 1



Date: 8.FEB.2017 19:54:39

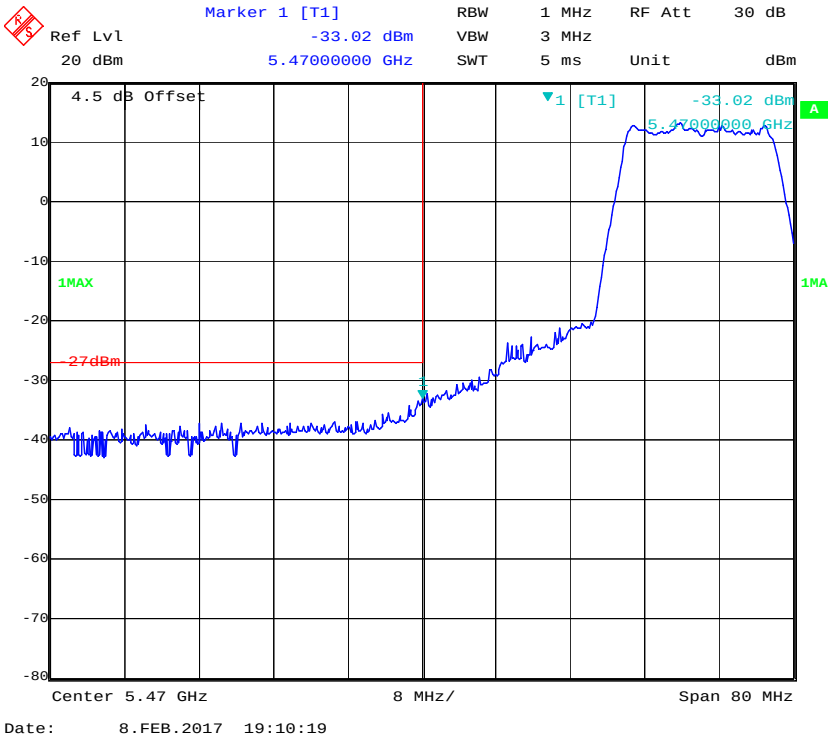
802.11 ac80 Middle Channel – Chain 1



Date: 8.JUN.2017 06:31:30

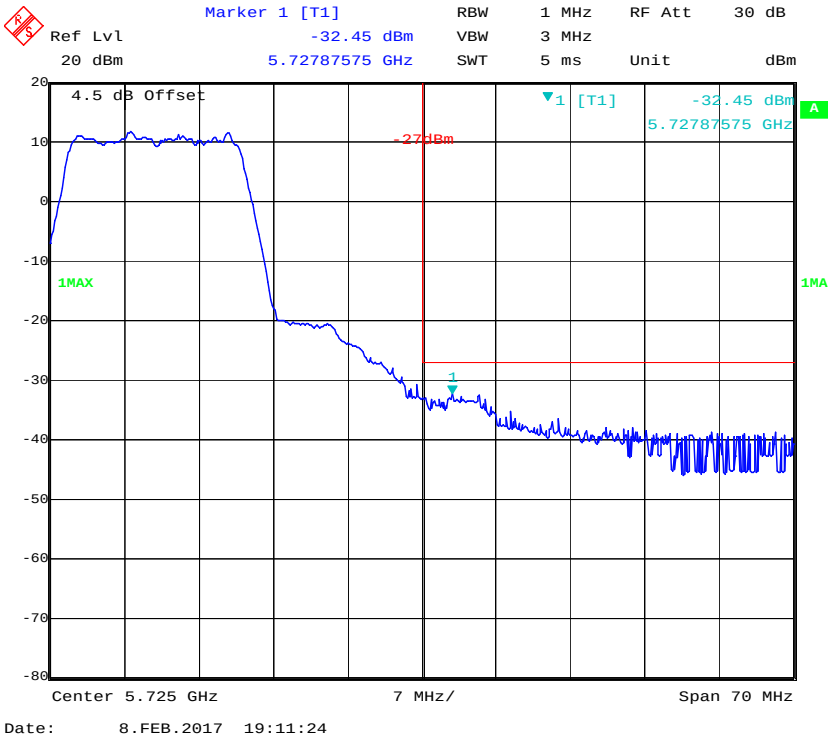
5470-5725MHz:

802.11a Low Channel – Chain 0



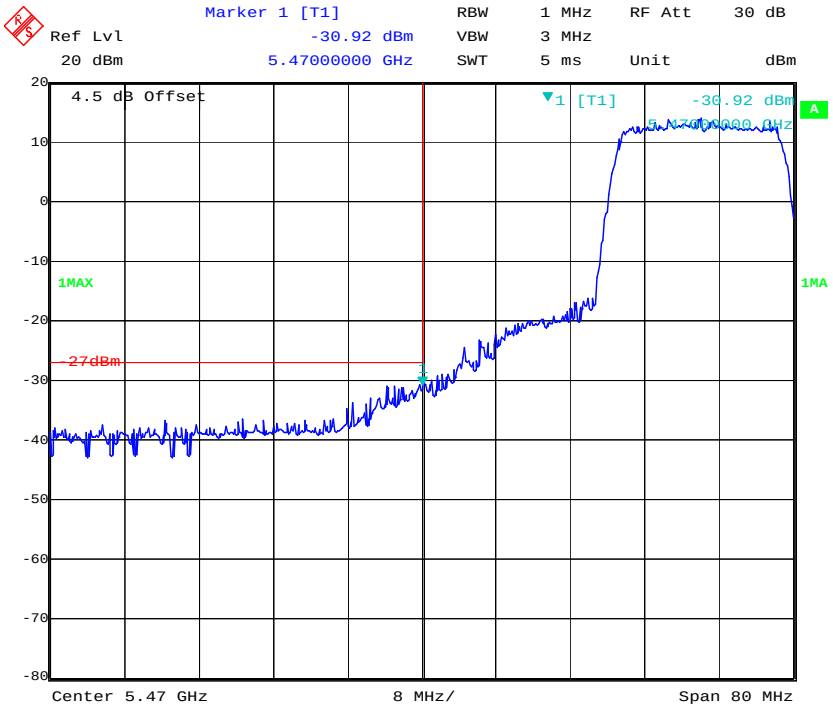
Date: 8.FEB.2017 19:10:19

802.11a High Channel – Chain 0



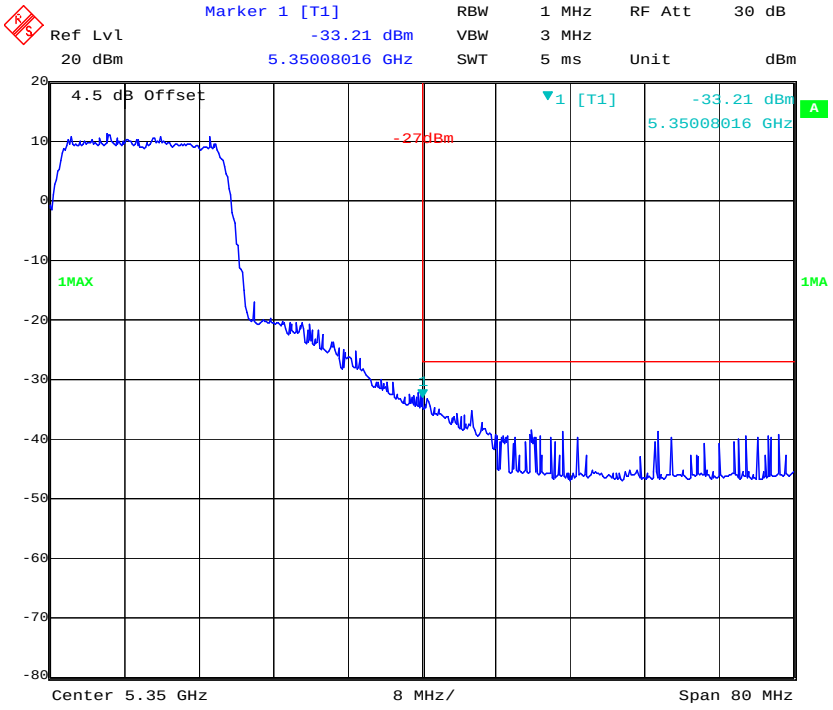
Date: 8.FEB.2017 19:11:24

802.11n ht20 Low Channel – Chain 0



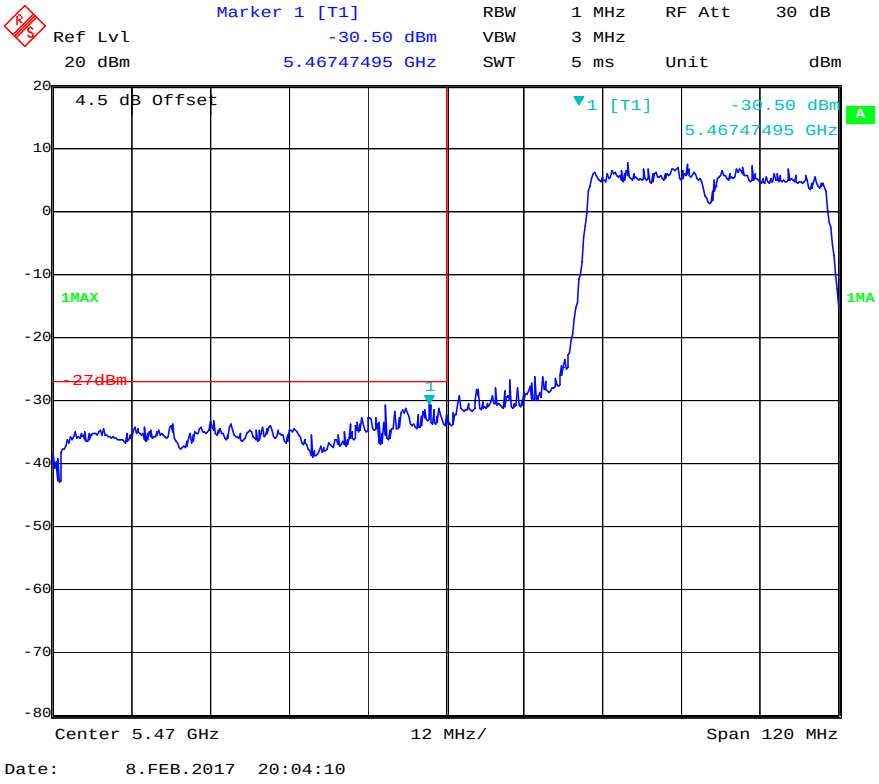
Date: 8.FEB.2017 19:27:55

802.11n ht20 High Channel – Chain 0

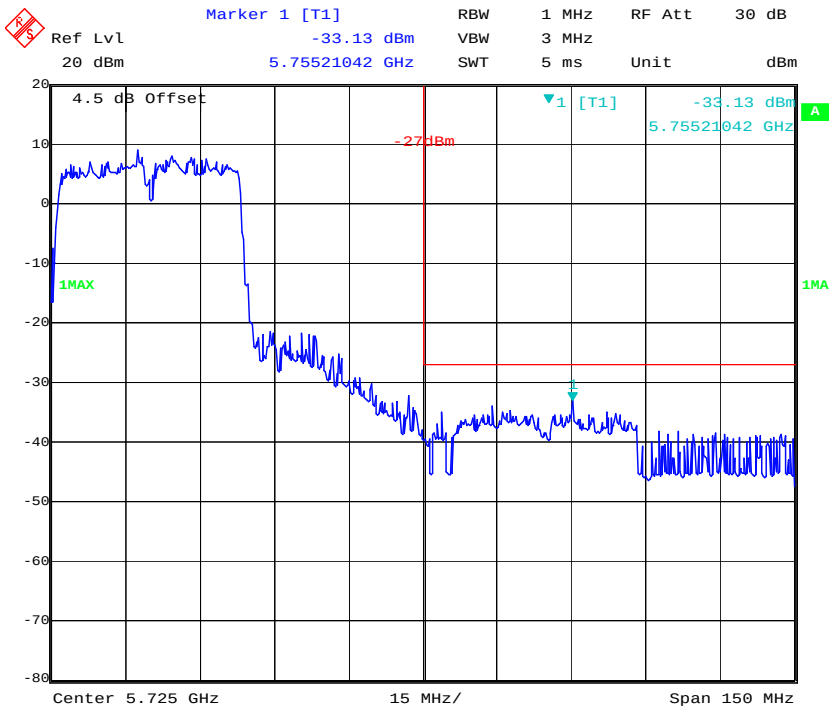


Date: 8.JUN.2017 06:28:26

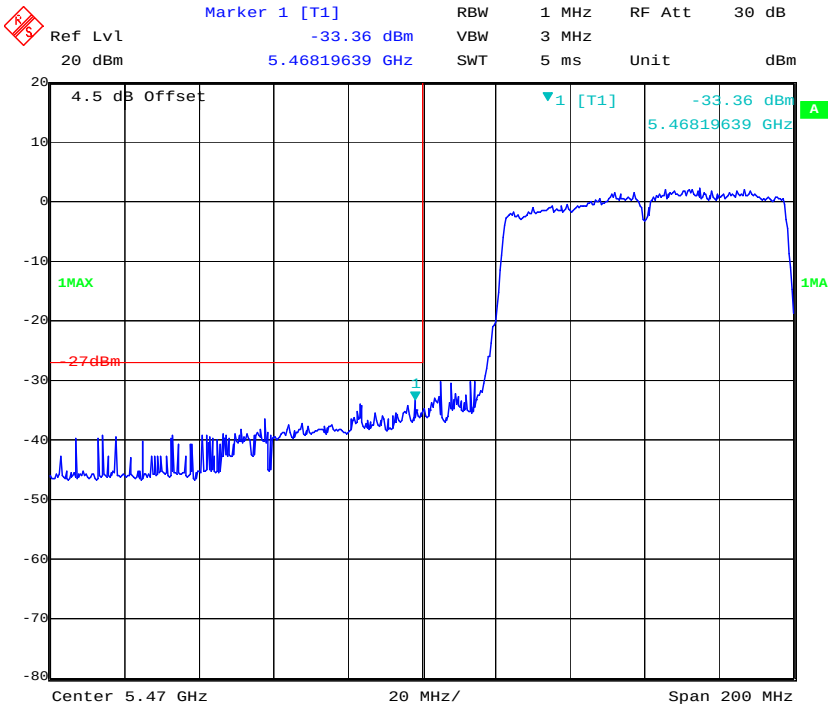
802.11n ht40 Low Channel – Chain0



802.11n ht40 High Channel – Chain 0

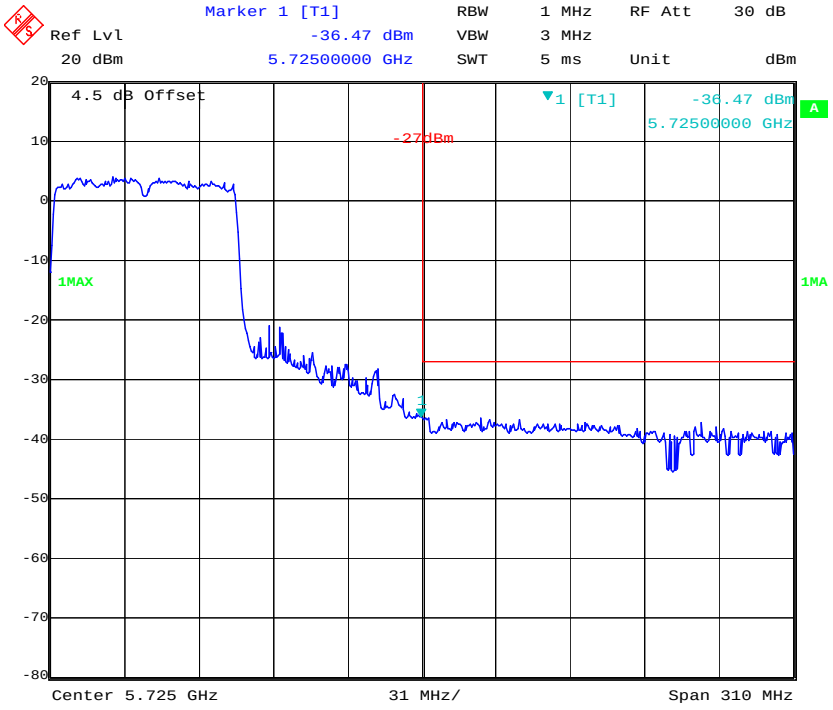


802.11 ac80 Low Channel – Chain0



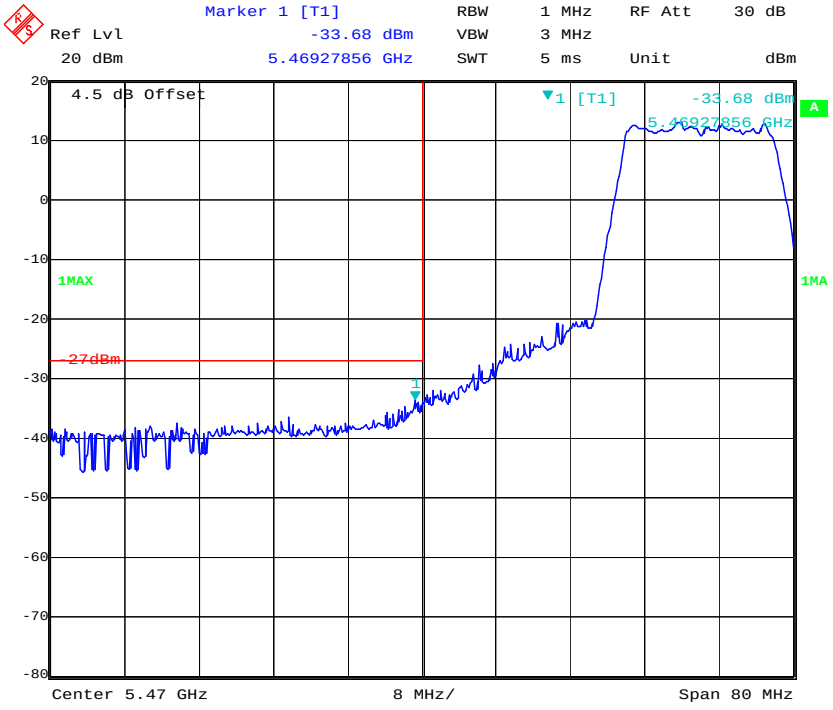
Date: 8.FEB.2017 20:36:04

802.11 ac80 High Channel – Chain0



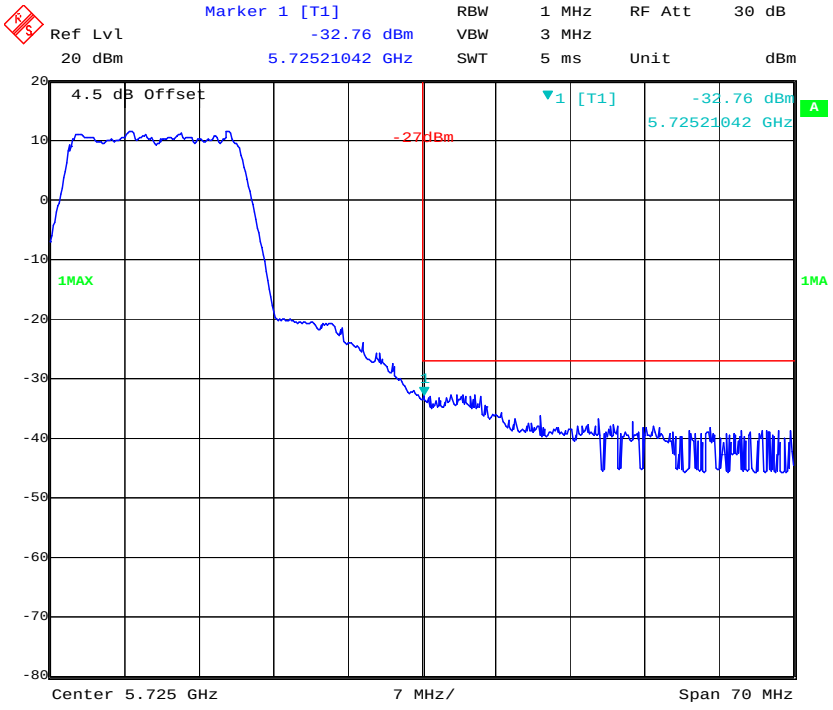
Date: 8.FEB.2017 20:42:57

802.11a Low Channel – Chain 1



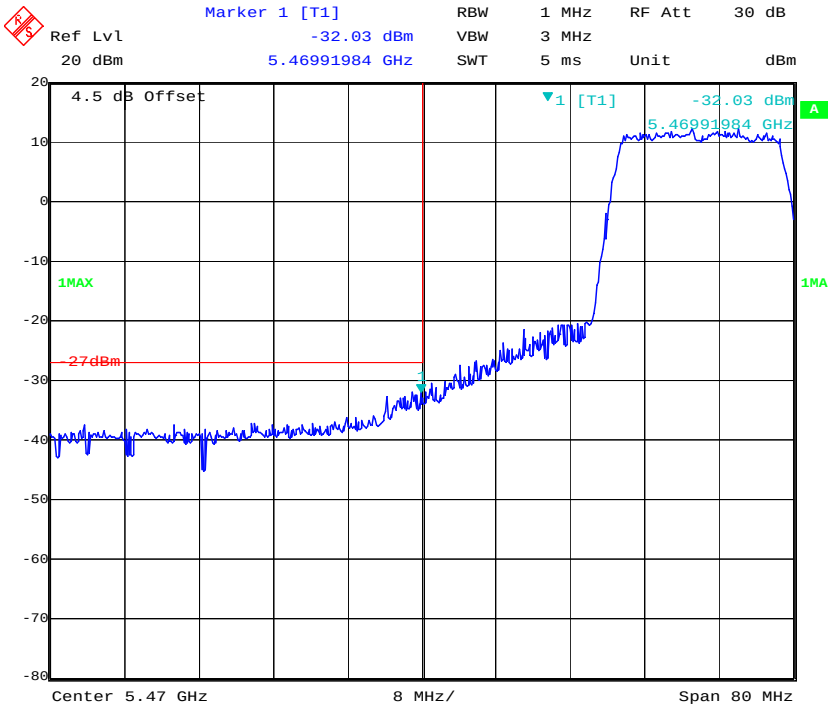
Date: 8.FEB.2017 19:09:06

802.11a High Channel – Chain 1



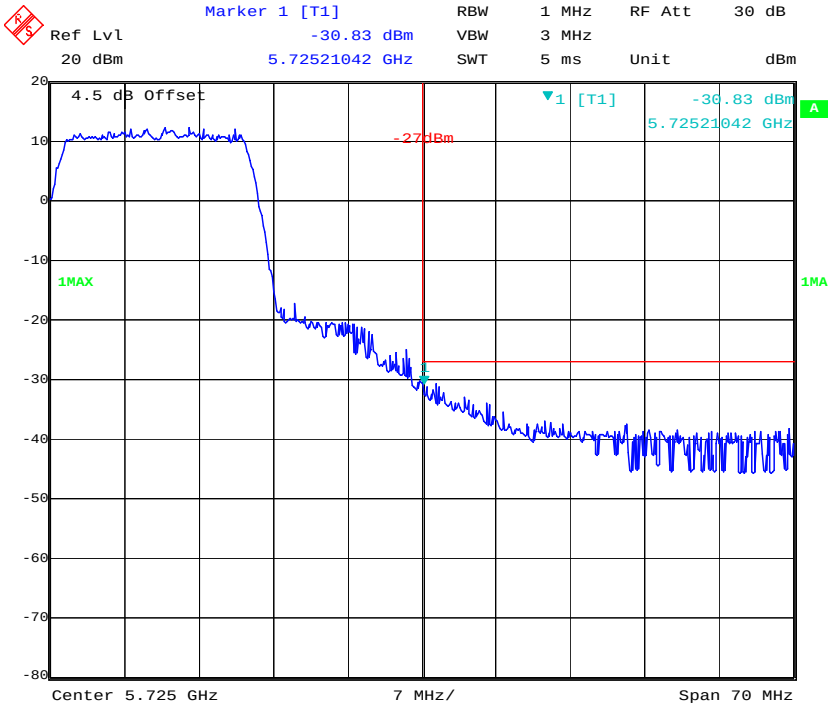
Date: 8.FEB.2017 19:11:58

802.11n ht20 Low Channel – Chain 1



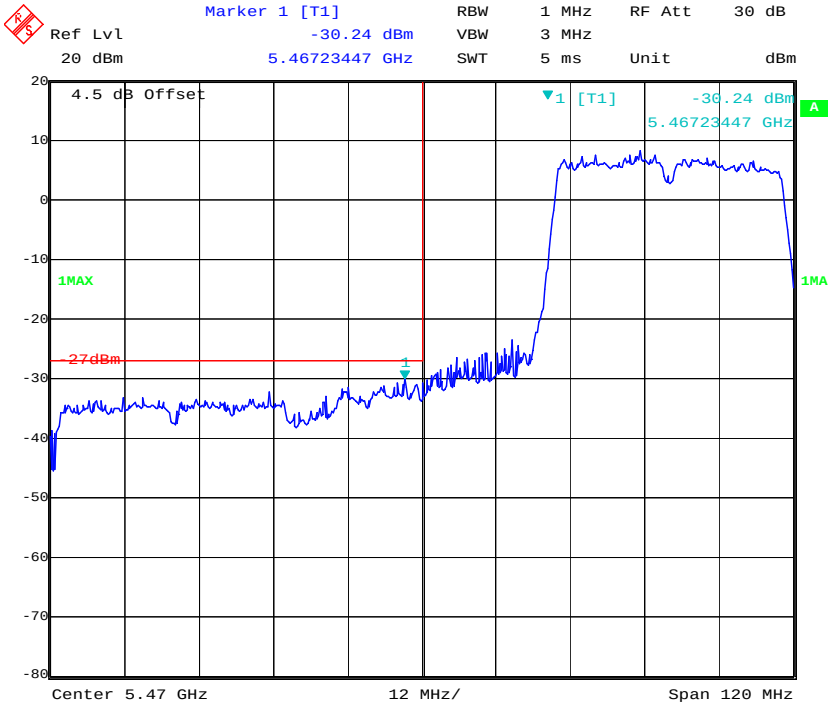
Date: 8.FEB.2017 19:28:41

802.11n ht20 High Channel – Chain 1



Date: 8.FEB.2017 19:40:07

802.11n ht40 Low Channel – Chain 1

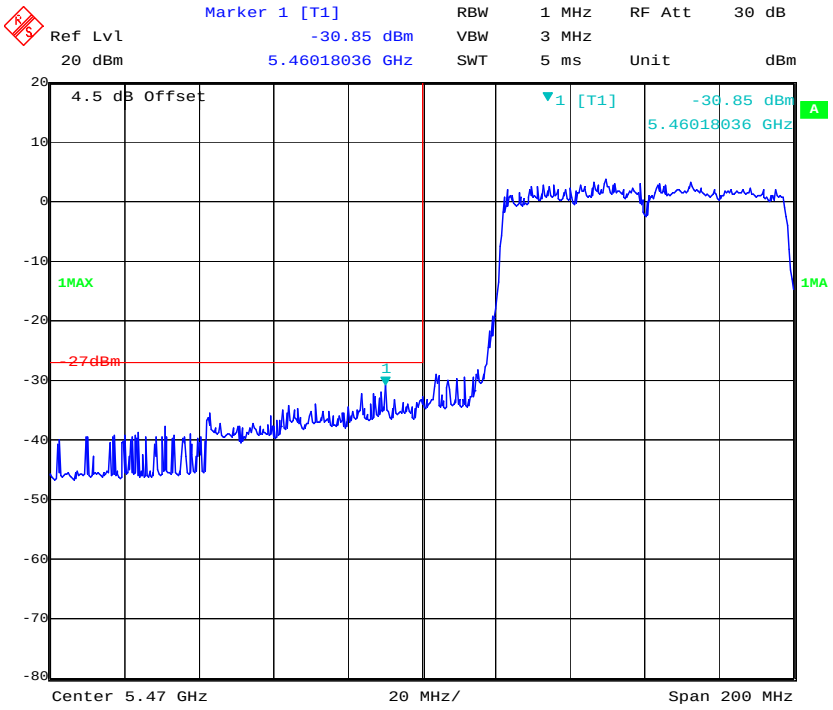


Date: 8.FEB.2017 20:05:16

802.11n ht40 High Channel – Chain 1

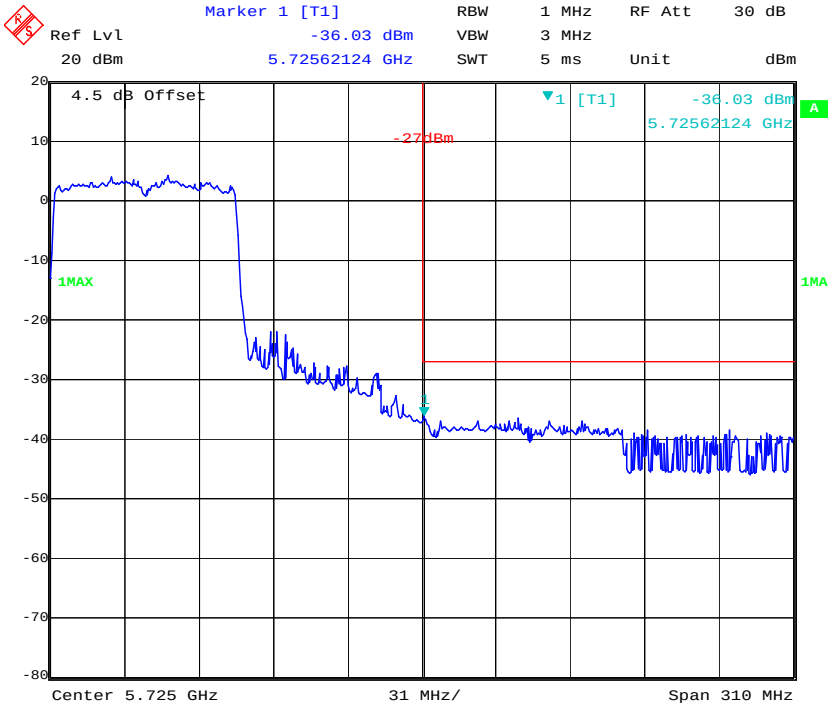
Date: 8.FEB.2017 20:06:31

802.11 ac80 Low Channel – Chain 1



Date: 8.FEB.2017 20:35:34

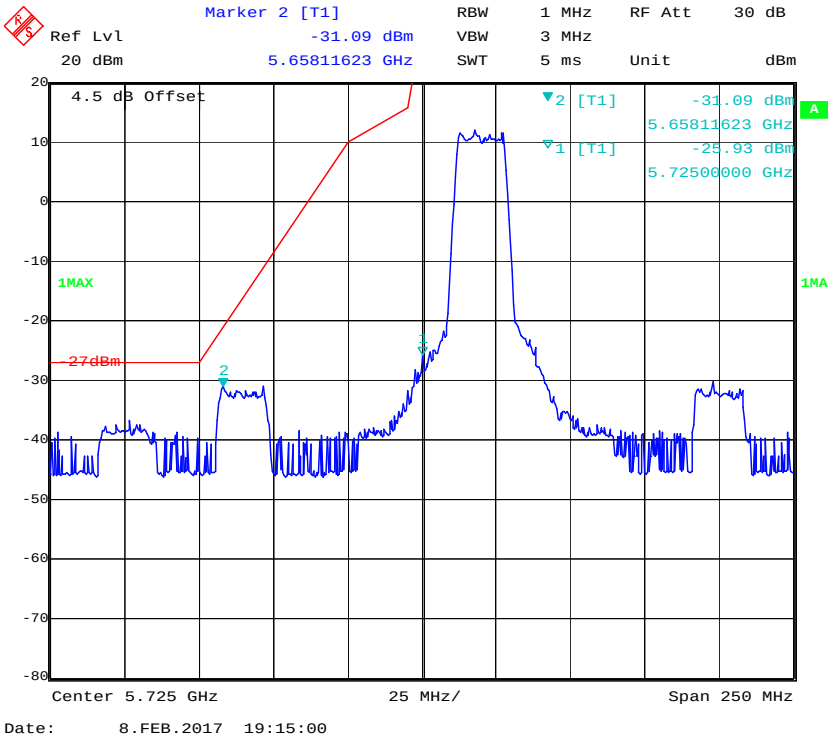
802.11 ac80 High Channel – Chain 1



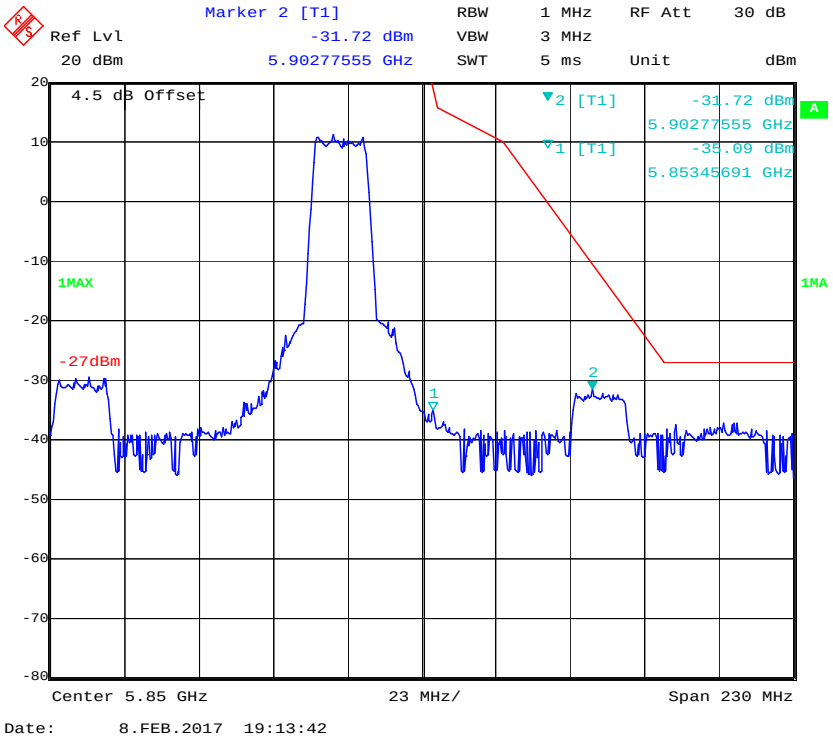
Date: 8.FEB.2017 20:43:37

5725-5850MHz:

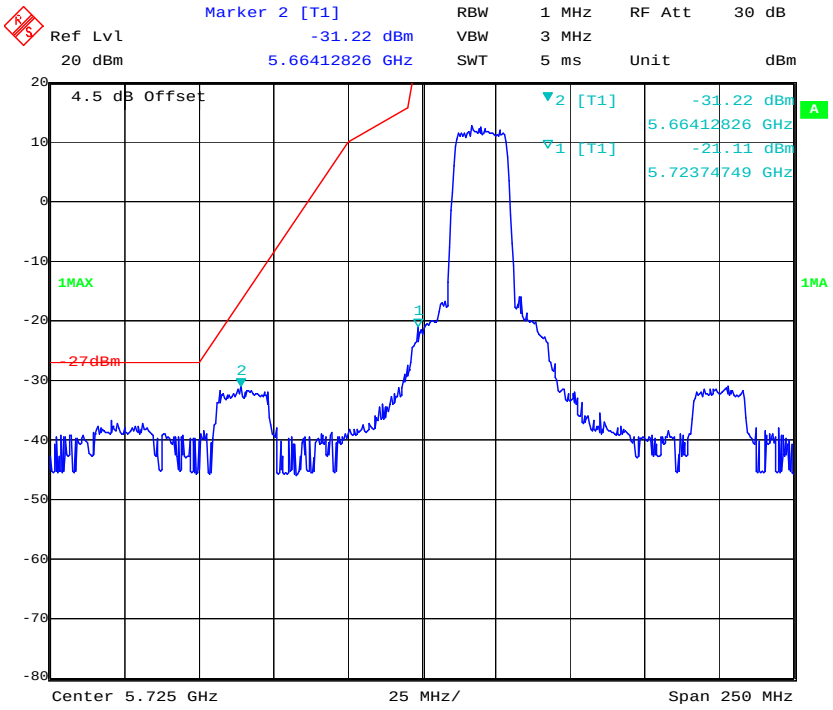
802.11a Low Channel – Chain 0



802.11a High Channel – Chain 0

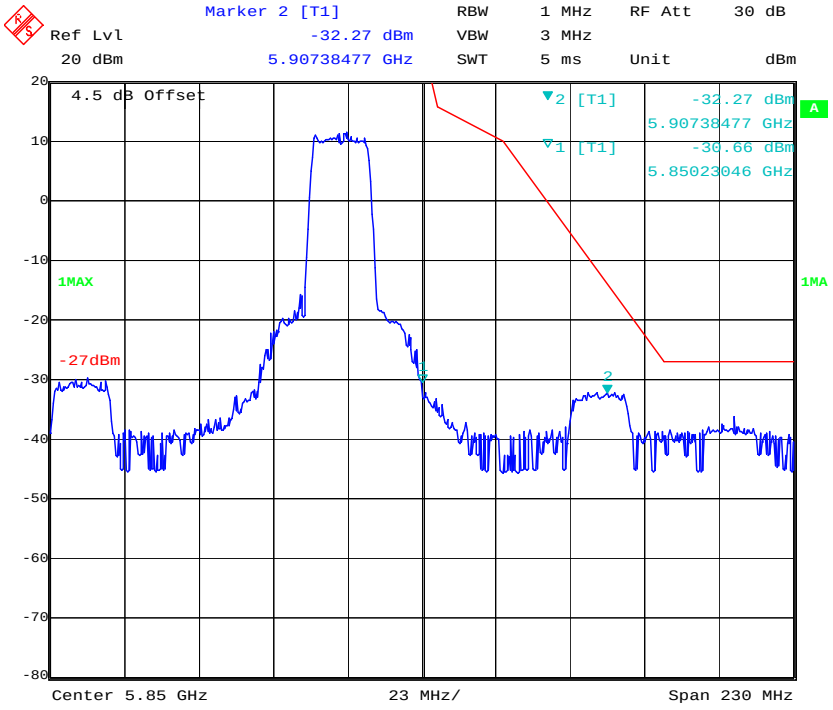


802.11n ht20 Low Channel – Chain 0



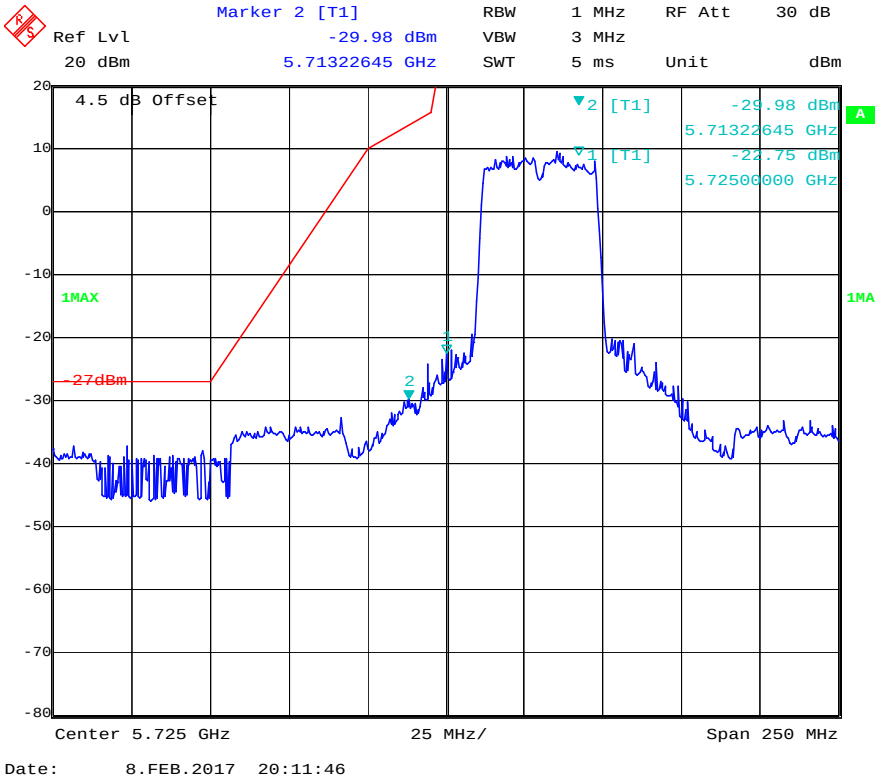
Date: 8.FEB.2017 19:43:16

802.11n ht20 High Channel – Chain 0

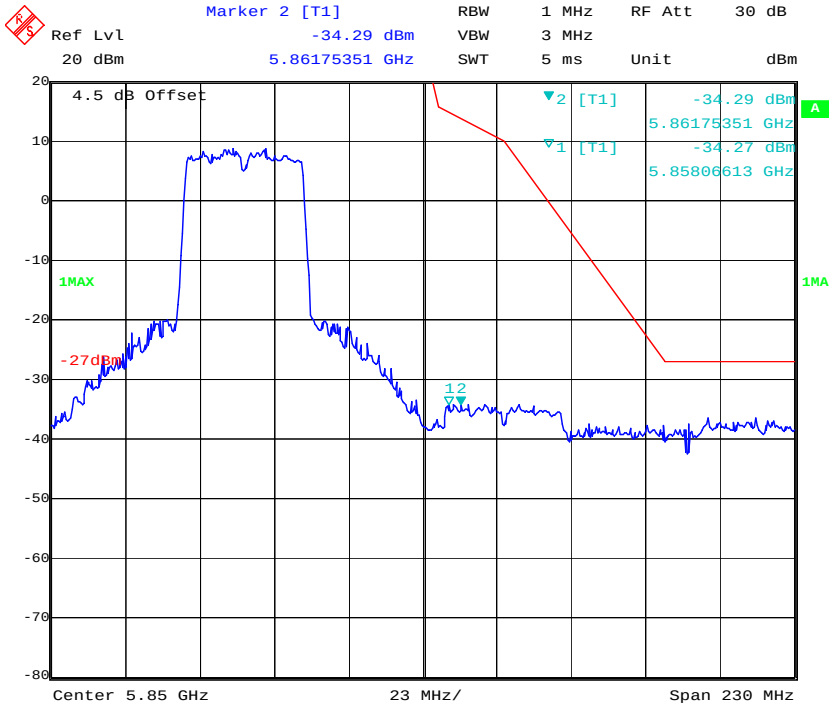


Date: 8.FEB.2017 19:44:31

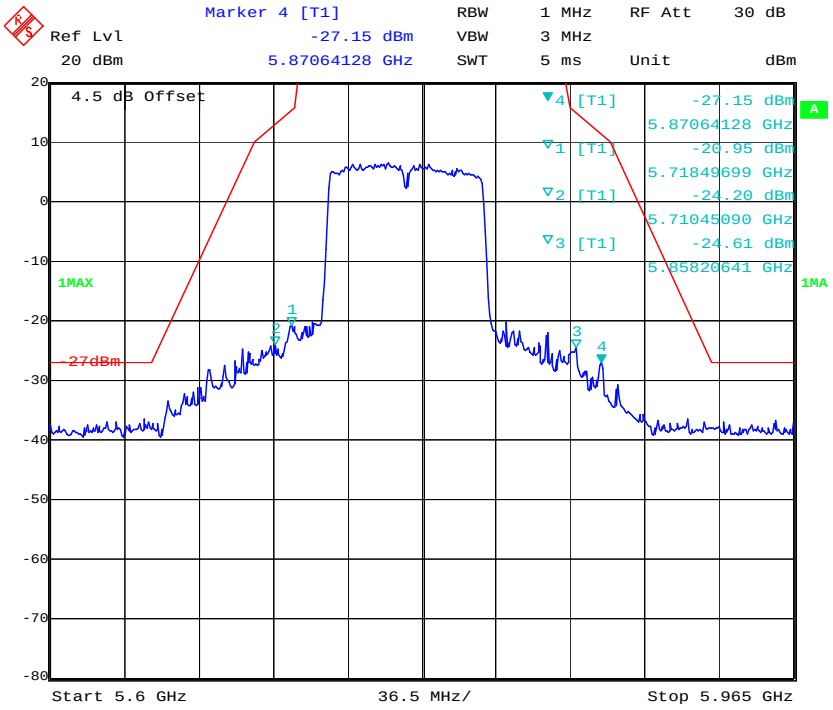
802.11n ht40 Low Channel – Chain0



802.11n ht40 High Channel – Chain 0

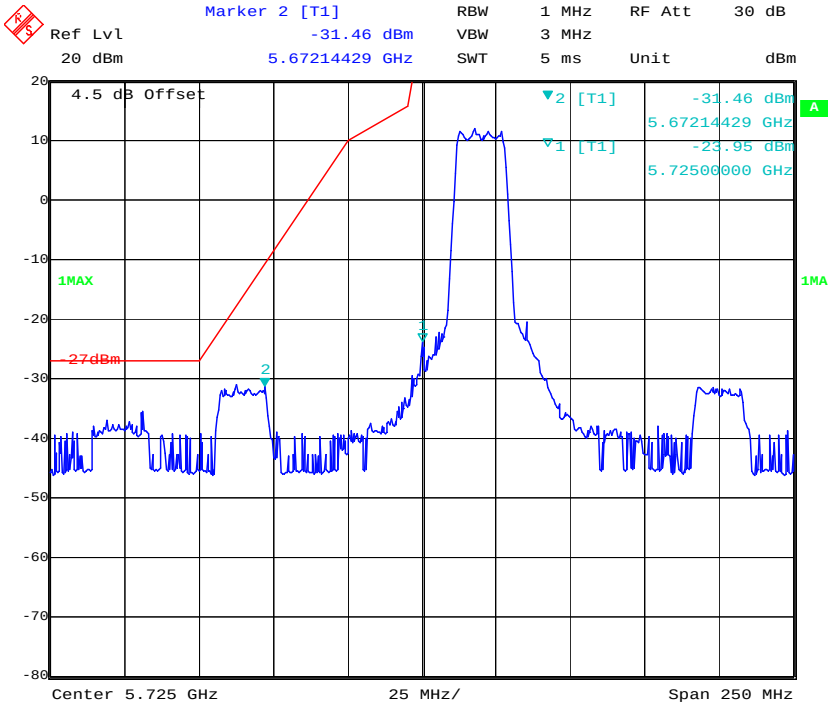


802.11 ac80 Middle Channel – Chain0



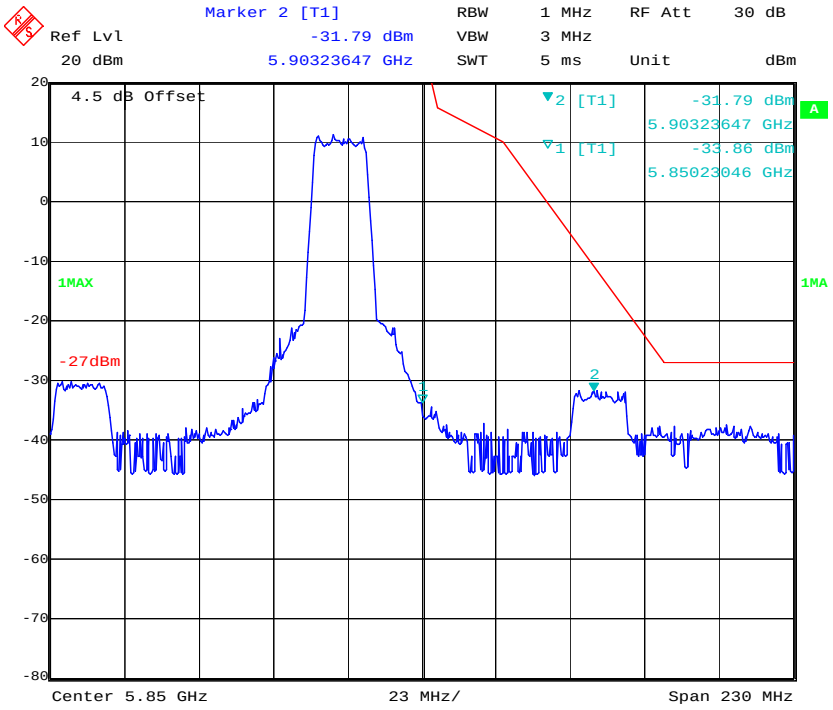
Date: 8.FEB.2017 20:14:18

802.11a Low Channel – Chain 1



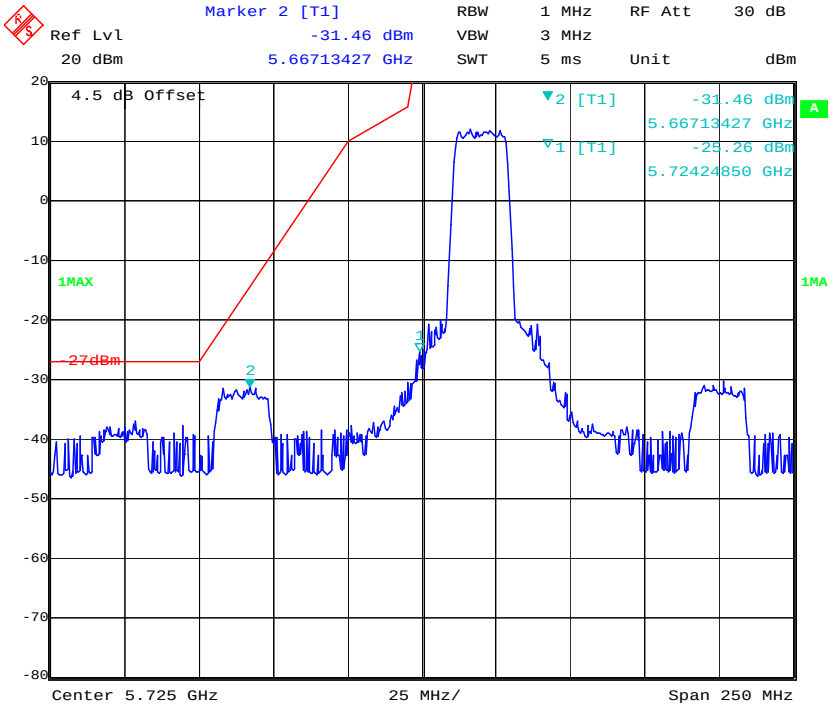
Date: 8.FEB.2017 19:15:56

802.11a High Channel – Chain 1



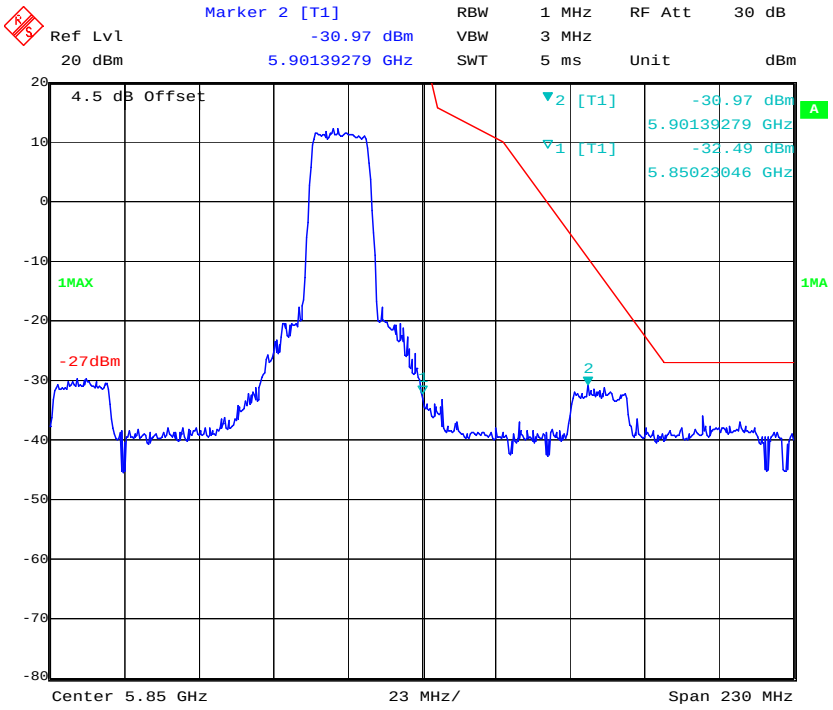
Date: 8.FEB.2017 19:13:06

802.11n ht20 Low Channel – Chain 1



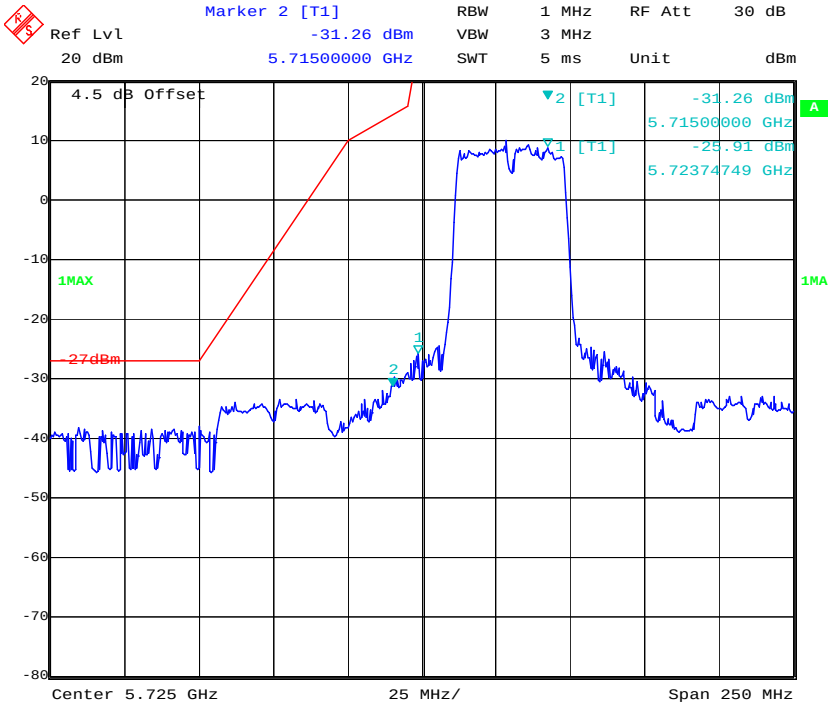
Date: 8.FEB.2017 19:42:19

802.11n ht20 High Channel – Chain 1



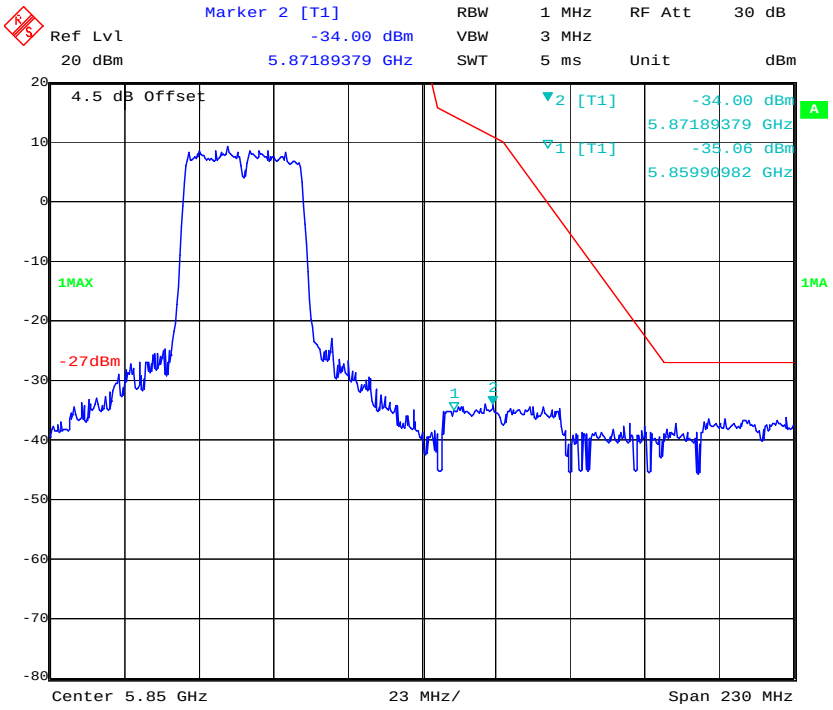
Date: 8.FEB.2017 19:45:31

802.11n ht40 Low Channel – Chain 1



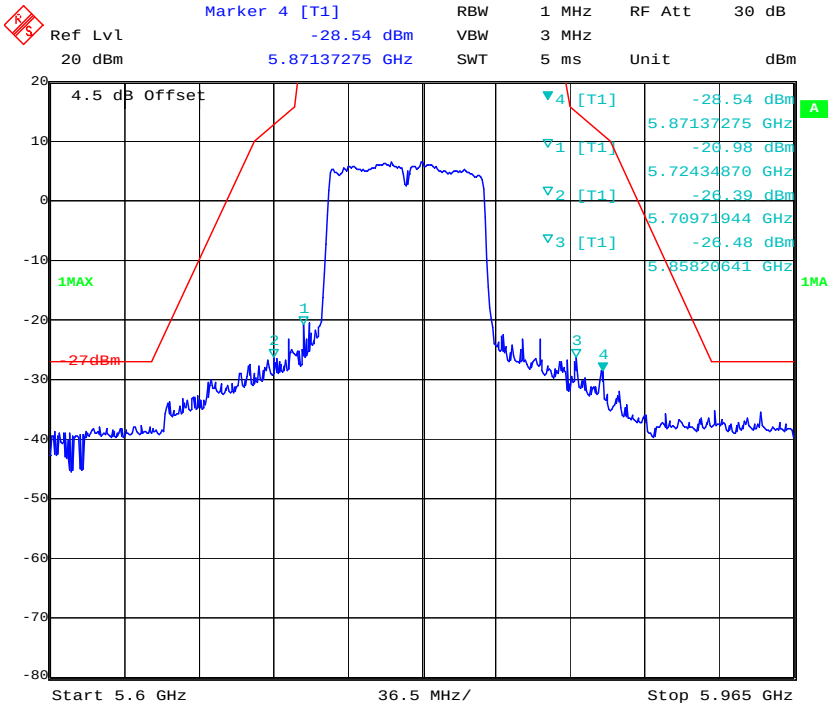
Date: 8.FEB.2017 20:11:08

802.11n ht40 High Channel – Chain 1



Date: 8.FEB.2017 20:09:37

802.11 ac80 Middle Channel – Chain 1



Date: 8.FEB.2017 20:15:49

FCC §15.407(g) – FREQUENCY STABILITY

Applicable Standard

FCC §15.407

(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 C63.10-2013 clause 6.8.

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-2	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:	22.6 °C
Relative Humidity:	58 %
ATM Pressure:	98.6 kPa

The testing was performed by Lorin Bian on 2017-05-23.

Test mode: Transmitting(Test was performed at chain 0)

Test Result: Compaint

5150-5250MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5171.6232	5248.4579	f_L and f_H Within 5150~5250MHz range
10		5171.6234	5248.4562	
20		5171.6241	5248.4564	
30		5171.6234	5248.4561	
40		5171.6237	5248.4563	
25	102	5171.6239	5248.4562	
25	138	5171.6230	5248.4572	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5170.9819	5249.0171	f_L and f_H Within 5150~5250MHz range
10		5170.9813	5249.0180	
20		5170.9812	5249.0178	
30		5170.9811	5249.0183	
40		5170.9814	5249.0182	
25	102	5170.9816	5249.0185	
25	138	5170.9812	5249.0186	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5171.6432	5248.5168	f_L and f_H Within 5150~5250MHz range
10		5171.6439	5248.5173	
20		5171.6433	5248.5171	
30		5171.6434	5248.5170	
40		5171.6431	5248.5172	
25	102	5171.6434	5248.5179	
25	138	5171.6422	5248.5177	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5172.3246	5247.9965	f_L and f_H Within 5150~5250MHz range
10		5172.3241	5247.9959	
20		5172.3249	5247.9943	
30		5172.3242	5247.9942	
40		5172.3232	5247.9953	
25	102	5172.3236	5247.9952	
25	138	5172.3243	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.

5250-5350MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5251.6232	5328.4576	f_L and f_H Within 5250~5350MHz range
10		5251.6234	5328.4568	
20		5251.6222	5328.4564	
30		5251.6236	5328.4558	
40		5251.6239	5328.4573	
25	102	5251.6242	5328.4561	
25	138	5251.6227	5328.4562	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5251.0621	5329.0187	f_L and f_H Within 5250~5350MHz range
10		5251.0625	5329.0182	
20		5251.0622	5329.0185	
30		5251.0631	5329.0181	
40		5251.0621	5329.0189	
25	102	5251.0625	5329.0182	
25	138	5251.0623	5329.0183	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5251.4829	5328.5170	f_L and f_H Within 5250~5350MHz range
10		5251.4822	5328.5171	
20		5251.4824	5328.5177	
30		5251.4821	5328.5173	
40		5251.4822	5328.5174	
25	102	5251.4825	5328.5177	
25	138	5251.4826	5328.5172	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5252.0040	5327.9954	f_L and f_H Within 5250~5350MHz range
10		5252.0043	5327.9951	
20		5252.0041	5327.9959	
30		5252.0046	5327.9965	
40		5252.0042	5327.9959	
25	102	5252.0030	5327.9975	
25	138	5252.0022	5327.9939	

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.

5470-5725MHz:

802.11a

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5491.6232	5708.5371	f_L and f_H Within 5470~5725MHz range
10		5491.6237	5708.5376	
20		5491.6222	5708.5360	
30		5491.6215	5708.5374	
40		5491.6224	5708.5364	
25	102	5491.6232	5708.5362	
25	138	5491.6236	5708.5366	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5490.9819	5709.0998	f_L and f_H Within 5470~5725MHz range
10		5490.9833	5709.0982	
20		5490.9812	5709.0986	
30		5490.9813	5709.0988	
40		5490.9818	5709.0992	
25	102	5490.9822	5709.0999	
25	138	5490.9825	5709.0967	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5491.6432	5688.6779	f_L and f_H Within 5470~5725MHz range
10		5491.6434	5688.6773	
20		5491.6439	5688.6771	
30		5491.6422	5688.6763	
40		5491.6423	5688.6760	
25	102	5491.6425	5688.6787	
25	138	5491.6445	5688.6777	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5492.0040	5647.9959	f_L and f_H Within 5470~5725MHz range
10		5492.0047	5647.9967	
20		5492.0042	5647.9944	
30		5492.0044	5647.9965	
40		5492.0045	5647.9977	
25	102	5492.0020	5647.9973	
25	138	5492.0056	5647.9965	

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	
0	120	5736.6232	5833.4559	f_L and f_H Within 5725~5850MHz range
10		5736.6255	5833.4569	
20		5736.6233	5833.4565	
30		5736.6239	5833.4561	
40		5736.6242	5833.4564	
25	102	5736.6246	5833.4565	
25	138	5736.6249	5833.4563	

802.11n ht20:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5735.9819	5834.0987	f_L and f_H Within 5725~5850MHz range
10		5735.9812	5834.0972	
20		5735.9811	5834.0987	
30		5735.9812	5834.0967	
40		5735.9811	5834.0982	
25	102	5735.9809	5834.0981	
25	138	5735.9843	5834.0983	

802.11n ht40:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5736.6432	5813.5166	f_L and f_H Within 5725~5850MHz range
10		5736.6445	5813.5154	
20		5736.6454	5813.5165	
30		5736.6452	5813.5157	
40		5736.6433	5813.5177	
25	102	5736.6434	5813.5174	
25	138	5736.6432	5813.5171	

802.11ac80:

Temperature	Voltage	f_L at Low Test Channel	F_H at High Test Channel	Limit
℃	V_{AC}	MHz	MHz	
0	120	5737.0040	5812.9951	f_L and f_H Within 5725~5850MHz range
10		5737.0047	5812.9954	
20		5737.0044	5812.9952	
30		5737.0041	5812.9959	
40		5737.0047	5812.9954	
25	102	5737.0044	5812.9953	
25	138	5737.0067	5812.9952	

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.

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