TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 15.407

TEST REPORT

For

Fujian LANDI Commercial Equipment Co., Ltd.

Building 17, Section A, Software Park, No. 89 Software Road, Gulou District, Fuzhou Municipality, Fujian Province, P.R. China.

FCC ID: 2AG6N-C10-BLWF

Report Type:	**Product Name:**
Original Report	AECR C10

Report Number:	RXM171225067-00C
Report Date:	2018-04-04
Reviewed By:	Jerry Zhang EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		AECR C10
EUT Model Note**:**		AECR C10 configuration 1: C10-S197A1-0001(LED touch screen) configuration 2: C10-S39B1-0001(LED digital tube)
FCC ID:		2AG6N-C10-BLWF
Rated Input Voltage:		DC 19/19.5V from Adapter
Adapter #1 Information	**Model:**	PA-1650-90
	Input:	AC 100-240V~50/60Hz ,1.6A
	Output:	DC 19V, 3.42A
Adapter #2 Information	**Model:**	HKA06519034-6J
	Input:	AC 100-240V~50/60Hz ,1.5A
	Output:	DC 19V, 3.42A
Adapter #3 Information	**Model:**	A14-065N1A
	Input:	AC 100-240V~50/60Hz ,1.7A
	Output:	DC 19.5V, 3.33A
External Dimension:		LED touch screen:Length (403mm)*Width (225mm)*High (390mm) LED digital tube: Length (403mm)*Width (225mm)*High (380mm)
Serial Number:		171225067-1(C10-S197A1-0001), 171225067-2(C10-S39B1-0001)
EUT Received Date:		2017.12.25

Note: this model of device has two different configurations, 15.6-inch LED touch screen and LED digital tube. Both configurations have identical circuit board and software, and the only difference is the customer display, we selected 15.6'' Dual Monitor for fully testing. The difference between them was explained in the declaration letter.

Objective

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

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

Related Submittal(s)/Grant(s)

FCC Part 15C DTS submissions with FCC ID: 2AG6N-C10-BLWF.
FCC Part 15C DSS submissions with FCC ID: 2AG6N-C10-BLWF.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~40GHz: 5.23 dB
Unwanted Emissions,conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218,the FCC Designation No. : CN1220.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062D.

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 supports 802.11a/n ht20/n ht40/ac vht 20/40/80 modes. The vh20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.

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

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

For 802.11a, 802.11n ht20 Channel 36, 40 and 48 were tested, for 802.11n ht40 Channel 38, 46 were tested, for 802.11ac vht 80, channel 42 was tested.

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

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

For 802.11a, 802.11n ht20 Channel 52, 56 and 64 were tested, for 802.11n ht40 Channel 54, 62 were tested. For 802.11ac vht80, channel 58 was tested.

For 5470~5725 MHz band, 18 channels are provided:

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

For 802.11a, 802.11n ht20 Channel 100, 116 and 140 were tested, for 802.11n ht40 Channel 102, 110 and 134 were tested, for 802.11ac vht80 channel 106, 122 were tested.

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

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

For 802.11a, 802.11n ht20 Channel 149, 157 and 165 was tested, for 802.11n ht40 Channel 151, 159 was tested, for 802.11ac vht80, channel 155 was tested.

EUT Exercise Software

The software "QSPR.exe" was used for testing, which was provided by manufacturer. The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all date rates bandwidths, and modulations. The maximum power was configured as below table, that provided by the manufacturer:

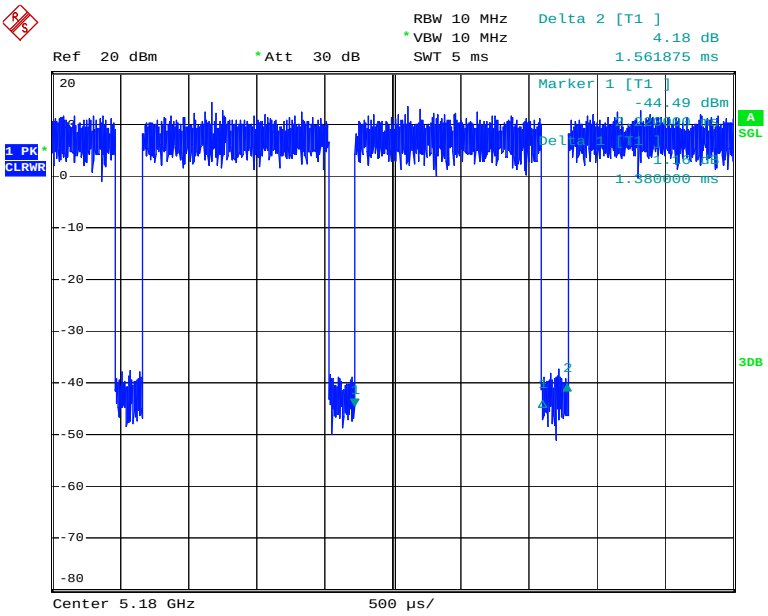
Band	Mode	Channel	Frequency (MHz)	Data rate	Power level Setting
5150-5250 MHz	802.11a	Low	5180	6Mbps	16.5
		Middle	5200	6Mbps	19
		High	5240	6Mbps	19
	802.11n ht20	Low	5180	MCS0	16.5
		Middle	5200	MCS0	19
		High	5240	MCS0	19
	802.11n ht40	Low	5190	MCS0	13
		High	5230	MCS0	16
	802.11ac80	Middle	5210	MCS0	14.5
5250-5350 MHz	802.11a	Low	5260	6Mbps	19
		Middle	5280	6Mbps	19
		High	5320	6Mbps	16.5
	802.11n ht20	Low	5260	MCS0	19
		Middle	5280	MCS0	19
		High	5320	MCS0	16.5
	802.11n Ht40	Low	5270	MCS0	15
		High	5310	MCS0	13.5
	802.11ac80	Middle	5290	MCS0	14

Band	Mode	Channel	Frequency (MHz)	Data rate	Power level Setting
5470-5725 MHz	802.11a	Low	5500	6Mbps	17
		Middle	5580	6Mbps	19
		High	5700	6Mbps	17
	802.11n ht20	Low	5500	MCS0	17
		Middle	5580	MCS0	18
		High	5700	MCS0	16
	802.11n ht40	Low	5510	MCS0	14.5
		Middle	5590	MCS0	16
		High	5670	MCS0	15
	802.11ac80	Low	5530	MCS0	16
		High	5610	MCS0	16
5725-5850 MHz	802.11a	Low	5745	6Mbps	19
		Middle	5785	6Mbps	19
		High	5825	6Mbps	19
	802.11n ht20	Low	5745	MCS0	19
		Middle	5785	MCS0	19
		High	5825	MCS0	19
	802.11n ht40	Low	5755	MCS0	19
		High	5795	MCS0	19
	802.11ac80	Middle	5775	MCS0	17

The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle(x) (%)	Duty cycle Factor (10*lg(1/x))
802.11a	1.380	1.562	88.35	0.54
802.11n ht20	1.288	1.472	87.50	0.58
802.11n ht40	0.646	0.835	77.37	1.11
802.11ac80	0.258	0.450	57.33	2.42

802.11a mode



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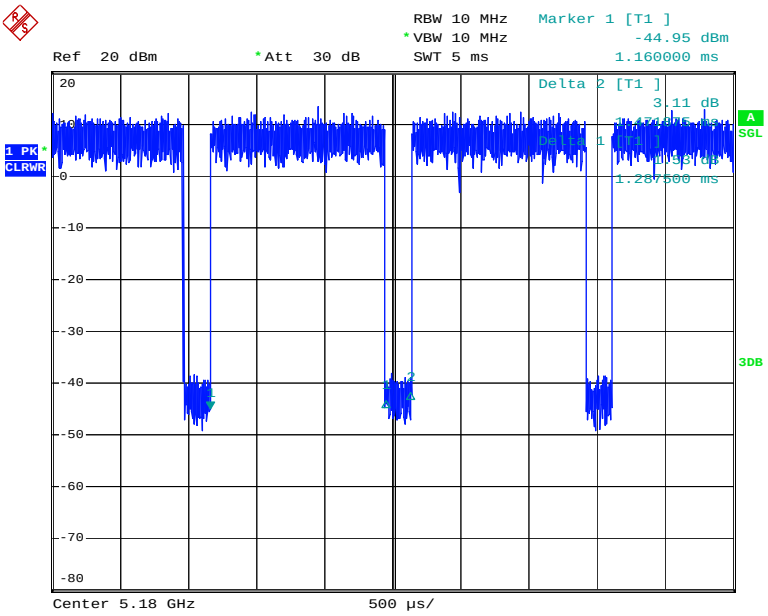
802.11n ht20 mode



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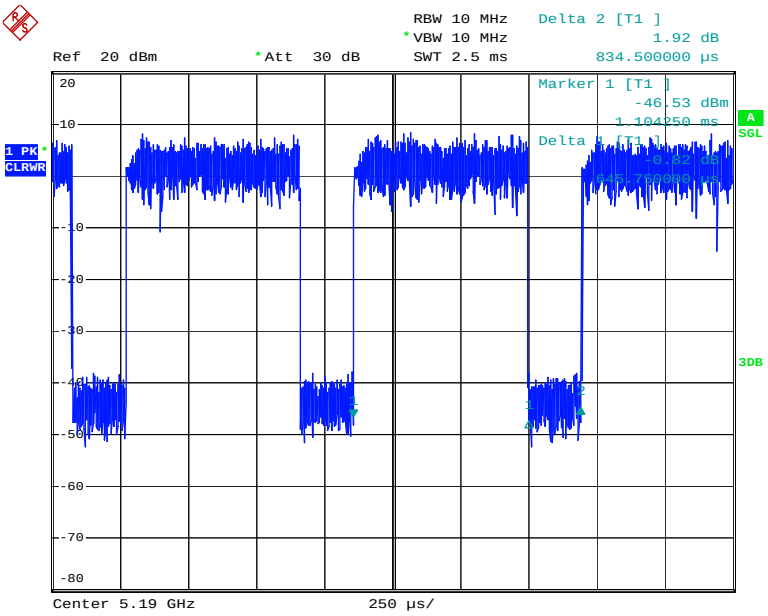
802.11n ht40 mode



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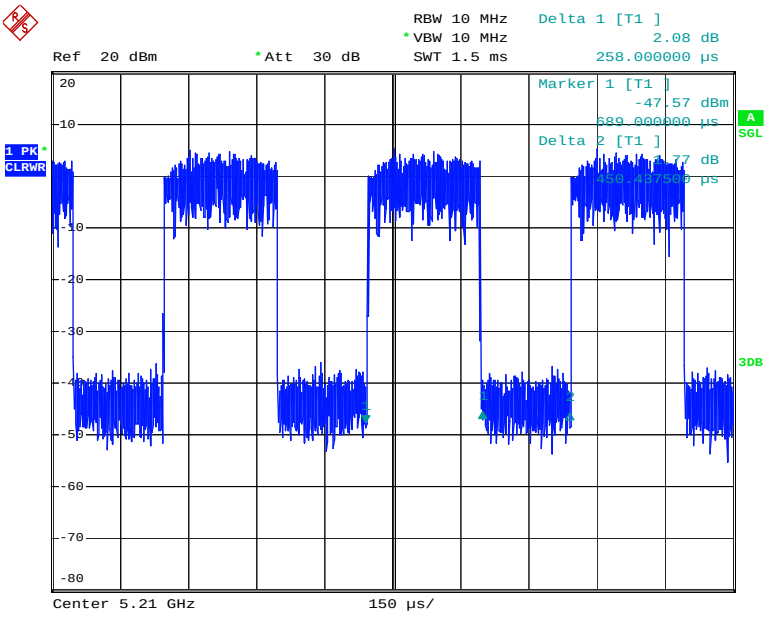
802.11ac80 mode



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Equipment Modifications

No modification was made to the EUT.

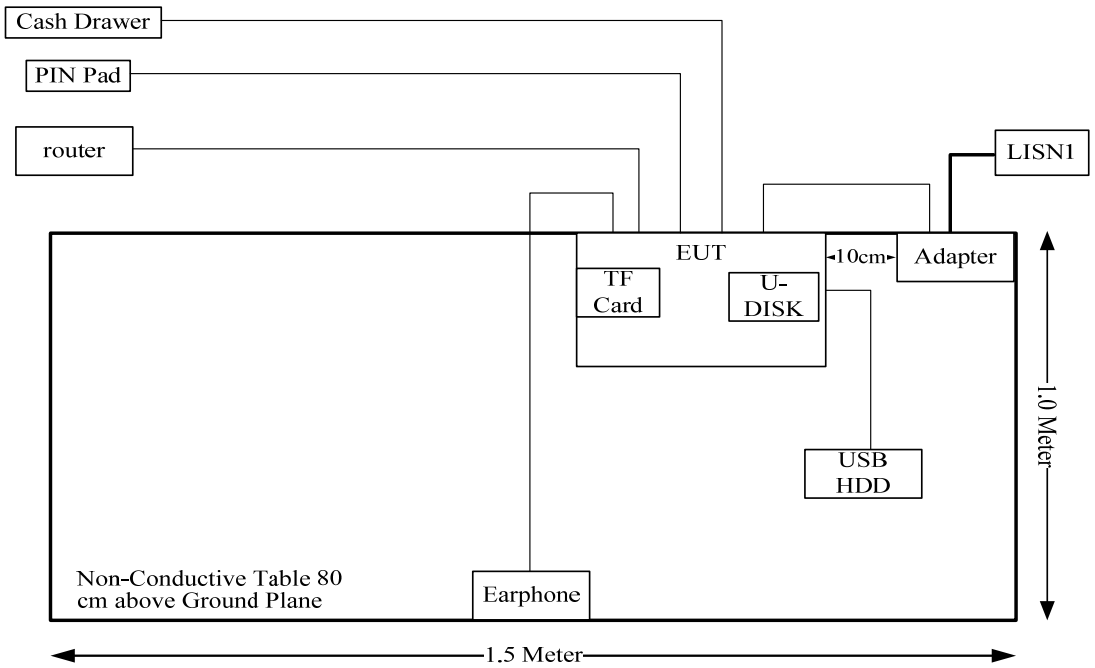
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HUAWEI	Earphone	/	/
TOSHIBA	USB HDD	v63700-A	V123212
Sandisk	U-DISK	4GB	S4766
Tenda	Router	D301	/
MAKEN	Cash Drawer	MT-350T	MT-350T
YD	PIN Pad	YD511DA-RJ	YD511DA-RJ
Sandisk	TF Card	4GB	2142231

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	0.45	EUT USB Port	USB HDD
RJ45 Cable	No	No	2.00	Router	EUT
RJ11 Cable	No	No	2.00	EUT	Cash Drawer
RS232 Cable	No	No	2.00	EUT	PIN Pad
Earphone Cable	No	No	1.5	EUT	Earphone
DC Power Cable	No	No	1.2	Adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

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

Note:
Compliance*: please refer to the DFS test report: RXM171225067-00D.

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

Applicable Standard

According to subpart 15.407(f)and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

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

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Frequency Range	**Antenna Gain**		**Max. Target Power including Tolerance**		**Evaluation Distance (cm)**	**Power Density (W/m^2)**	**MPE Limit (W/m^2)**
	(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
5150-5850	3.5	2.24	17	50.12	20.00	0.022	1.0

Note: the Max. Target Power including Tolerance was declared by manufacturer.
The5GHz WIFI can`t transmit simultaneously with 2.4G WIFI or Bluetooth.

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

FCC §15.203– ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the 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.

Antenna Connector Construction

The EUT has one internal antenna arrangement for WIFI, and the antenna gain is 3.5 dBi@5GHz band, fulfill the requirement of this section. Please refer to the EUT photos.

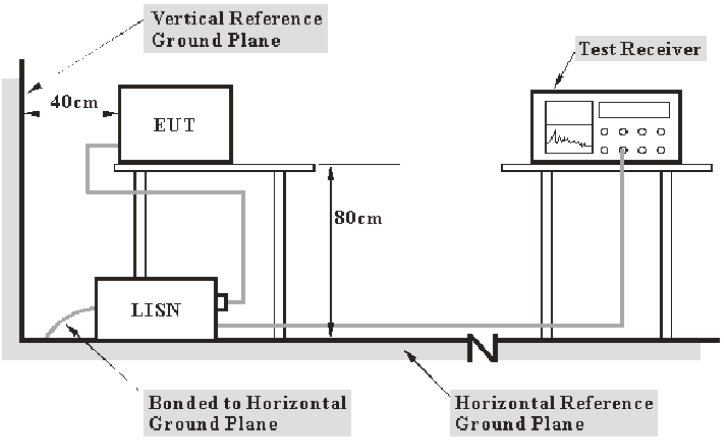
Result: Compliance.

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

Applicable Standard

FCC §15.207(a), §15.407(b) (6)

EUT Setup



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

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to 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
R&S	EMI Test Receiver	ESCS 30	830245/006	2017-12-11	2018-12-11
R&S	Two-line V-network	ENV 216	101614	2017-12-08	2018-12-08
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
N/A	Coaxial Cable	C-NJNJ-50	C-0200-01	2017-09-05	2018-09-05

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

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

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

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

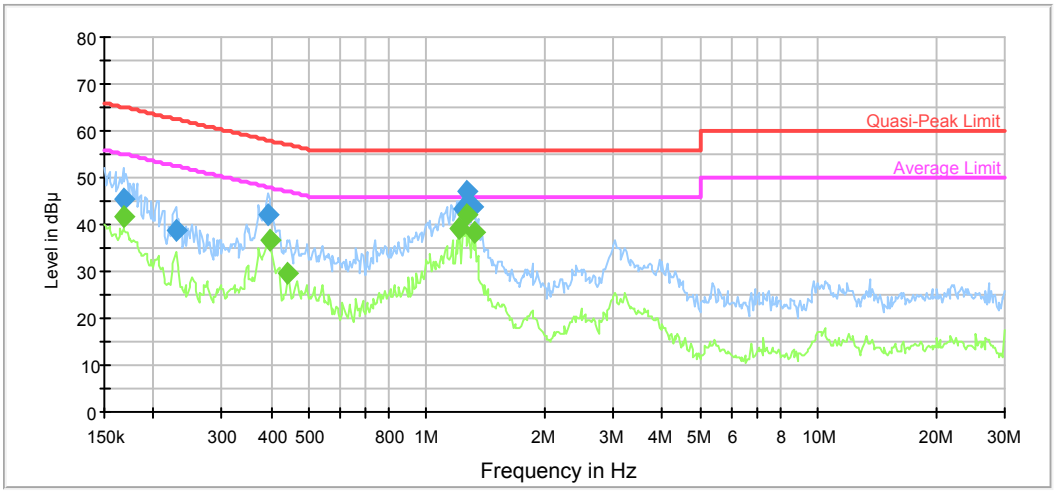
Test Data

Environmental Conditions

Temperature:	24.3 °C
Relative Humidity:	42 %
ATM Pressure:	101.2 kPa

The testing was performed by Alex You on 2018-01-26.
Test Mode: Transmitting

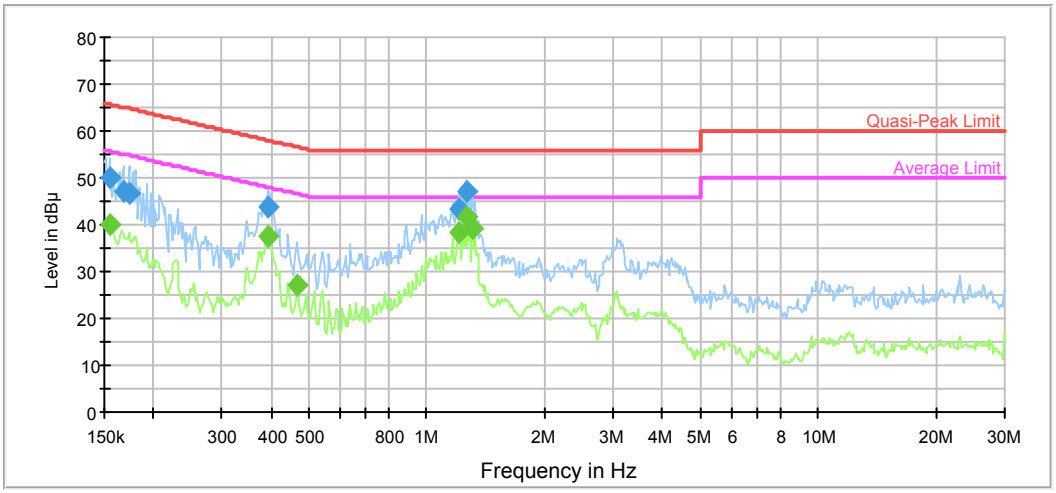
Adapter#1(C10-S197A1-0001):
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.167702	45.6	9.000	L1	10.9	19.5	65.1	Compliance
0.228823	38.9	9.000	L1	10.4	23.6	62.5	Compliance
0.393383	42.1	9.000	L1	10.0	15.9	58.0	Compliance
1.239175	43.3	9.000	L1	9.8	12.7	56.0	Compliance
1.259081	47.1	9.000	L1	9.8	8.9	56.0	Compliance
1.310256	43.9	9.000	L1	9.8	12.1	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.167702	41.7	9.000	L1	10.9	13.4	55.1	Compliance
0.396530	36.7	9.000	L1	10.0	11.2	47.9	Compliance
0.443327	29.4	9.000	L1	9.9	17.6	47.0	Compliance
1.209904	39.1	9.000	L1	9.8	6.9	46.0	Compliance
1.259081	42.0	9.000	L1	9.8	4.0	46.0	Compliance
1.331304	38.5	9.000	L1	9.7	7.5	46.0	Compliance

AC120 V, 60 Hz, Neutral:

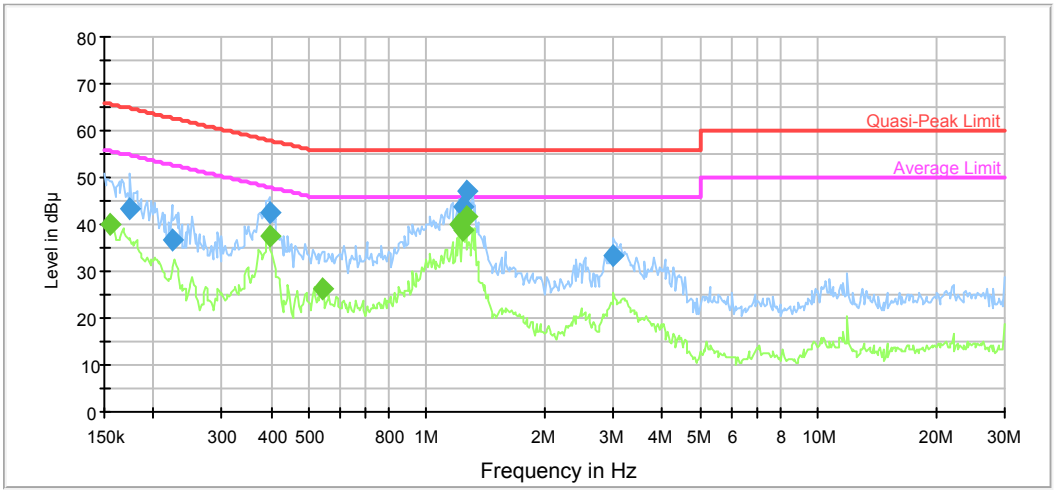


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154858	50.0	9.000	N	11.1	15.7	65.7	Compliance
0.167702	47.2	9.000	N	10.9	17.9	65.1	Compliance
0.173134	46.8	9.000	N	10.9	18.0	64.8	Compliance
0.393383	43.7	9.000	N	10.0	14.3	58.0	Compliance
1.209904	43.3	9.000	N	9.8	12.7	56.0	Compliance
1.259081	47.1	9.000	N	9.8	8.9	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.154858	40.0	9.000	N	11.1	15.7	55.7	Compliance
0.393383	37.6	9.000	N	10.0	10.4	48.0	Compliance
0.468757	27.2	9.000	N	9.9	19.3	46.5	Compliance
1.209904	38.5	9.000	N	9.8	7.5	46.0	Compliance
1.259081	41.8	9.000	N	9.8	4.2	46.0	Compliance
1.310256	39.1	9.000	N	9.8	6.9	46.0	Compliance

Adapter#1(C10-S397B1-0001):

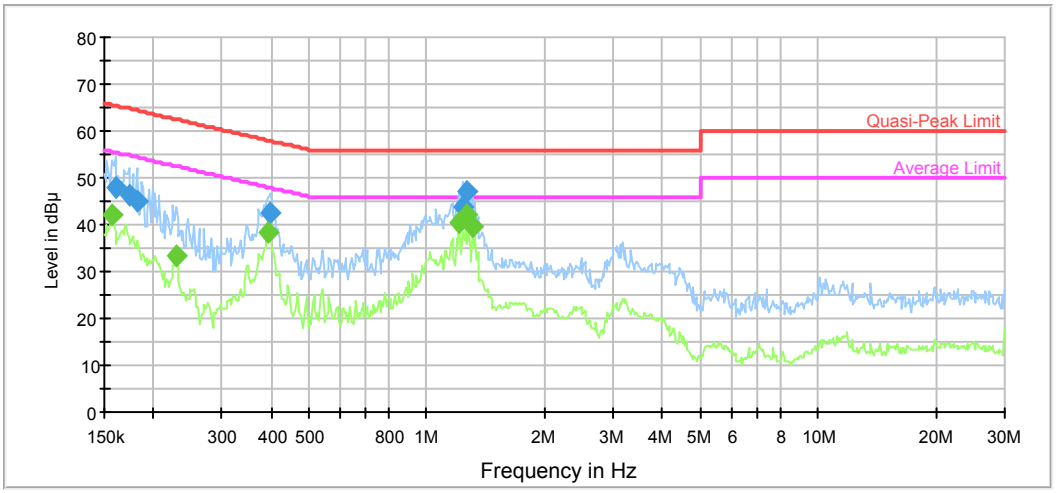
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.174519	43.3	9.000	L1	10.9	21.4	64.7	Compliance
0.223418	36.8	9.000	L1	10.5	25.9	62.7	Compliance
0.396530	42.4	9.000	L1	10.0	15.5	57.9	Compliance
1.239175	43.9	9.000	L1	9.8	12.1	56.0	Compliance
1.259081	47.0	9.000	L1	9.8	9.0	56.0	Compliance
3.000901	33.5	9.000	L1	9.8	22.5	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.156097	39.9	9.000	L1	11.1	15.8	55.7	Compliance
0.396530	37.4	9.000	L1	10.0	10.5	47.9	Compliance
0.541050	26.3	9.000	L1	9.9	19.7	46.0	Compliance
1.209904	40.1	9.000	L1	9.8	5.9	46.0	Compliance
1.239175	38.9	9.000	L1	9.8	7.1	46.0	Compliance
1.259081	41.7	9.000	L1	9.8	4.3	46.0	Compliance

AC120 V, 60 Hz, Neutral:

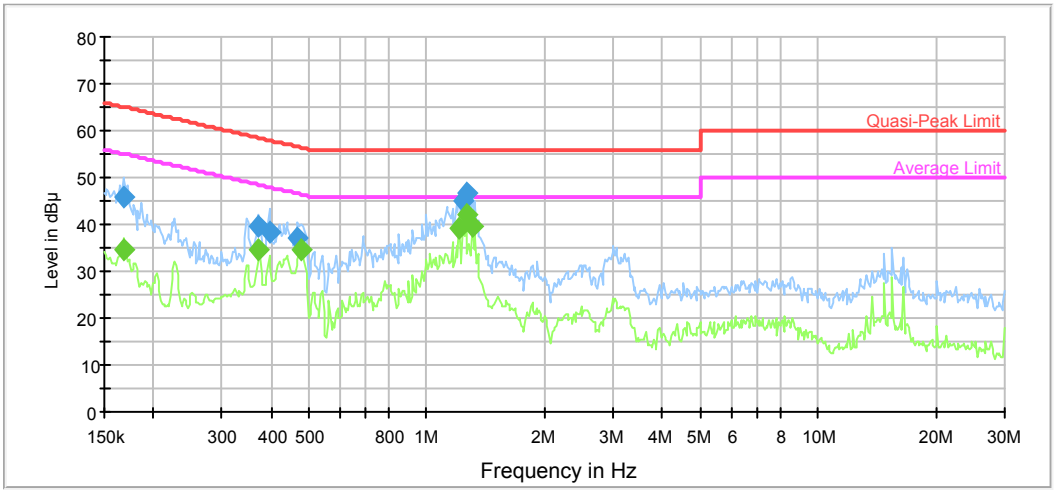


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.159873	47.8	9.000	N	11.0	17.7	65.5	Compliance
0.173134	46.2	9.000	N	10.9	18.6	64.8	Compliance
0.181612	44.8	9.000	N	10.8	19.6	64.4	Compliance
0.399703	42.5	9.000	N	10.0	15.4	57.9	Compliance
1.239175	43.6	9.000	N	9.8	12.4	56.0	Compliance
1.259081	47.1	9.000	N	9.8	8.9	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.157346	42.3	9.000	N	11.1	13.3	55.6	Compliance
0.228823	33.3	9.000	N	10.4	19.2	52.5	Compliance
0.393383	38.1	9.000	N	10.0	9.9	48.0	Compliance
1.209904	40.6	9.000	N	9.8	5.4	46.0	Compliance
1.259081	42.0	9.000	N	9.8	4.0	46.0	Compliance
1.310256	39.8	9.000	N	9.8	6.2	46.0	Compliance

Adapter#2(C10-S197A1-0001):

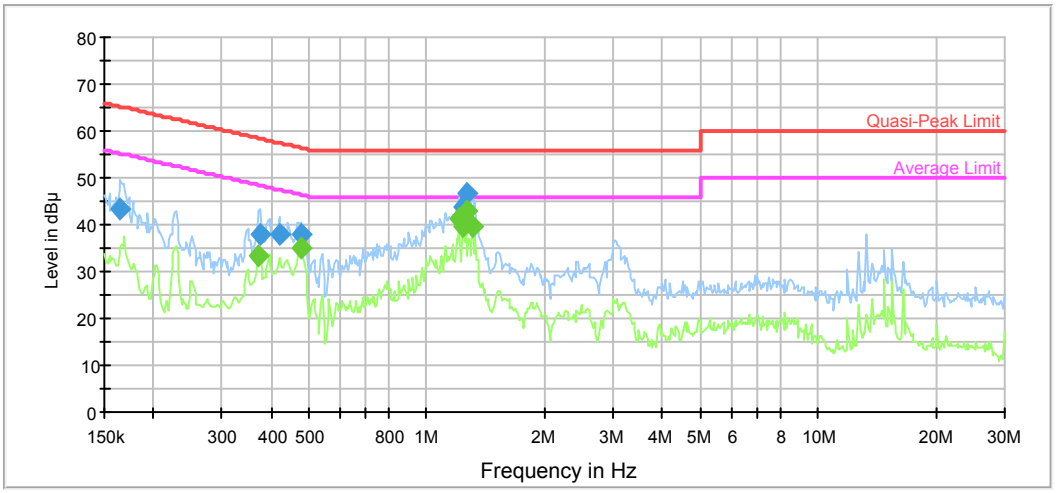
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.167702	45.8	9.000	L1	10.9	19.3	65.1	Compliance
0.372042	39.5	9.000	L1	10.0	19.0	58.5	Compliance
0.396530	38.3	9.000	L1	10.0	19.6	57.9	Compliance
0.468757	37.0	9.000	L1	9.9	19.5	56.5	Compliance
1.239175	45.0	9.000	L1	9.8	11.0	56.0	Compliance
1.259081	46.7	9.000	L1	9.8	9.3	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.169044	34.7	9.000	L1	10.9	20.3	55.0	Compliance
0.372042	34.6	9.000	L1	10.0	13.9	48.5	Compliance
0.476287	34.7	9.000	L1	9.9	11.7	46.4	Compliance
1.209904	39.3	9.000	L1	9.8	6.7	46.0	Compliance
1.259081	42.0	9.000	L1	9.8	4.0	46.0	Compliance
1.310256	39.5	9.000	L1	9.8	6.5	46.0	Compliance

AC120 V, 60 Hz, Neutral:

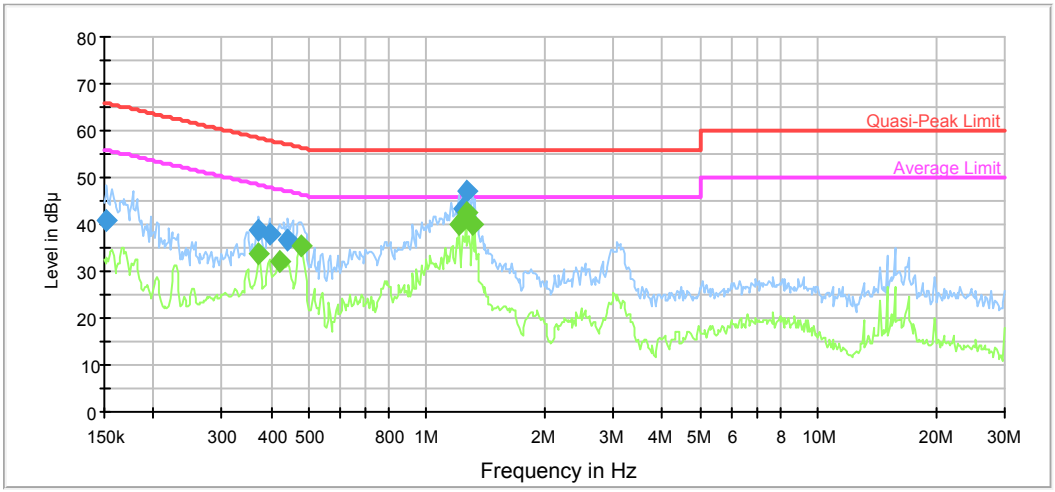


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.165051	43.3	9.000	N	11.0	21.9	65.2	Compliance
0.375019	38.0	9.000	N	10.0	20.4	58.4	Compliance
0.419276	38.1	9.000	N	10.0	19.4	57.5	Compliance
0.480097	37.8	9.000	N	9.9	18.5	56.3	Compliance
1.239175	43.9	9.000	N	9.8	12.1	56.0	Compliance
1.259081	46.8	9.000	N	9.8	9.2	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	33.3	9.000	N	10.0	15.1	48.5	Compliance
0.476287	35.0	9.000	N	9.9	11.4	46.4	Compliance
1.209904	41.1	9.000	N	9.8	4.9	46.0	Compliance
1.239175	39.7	9.000	N	9.8	6.3	46.0	Compliance
1.259081	42.9	9.000	N	9.8	3.1	46.0	Compliance
1.310256	39.6	9.000	N	9.8	6.4	46.0	Compliance

Adapter#2(C10-S397B1-0001):

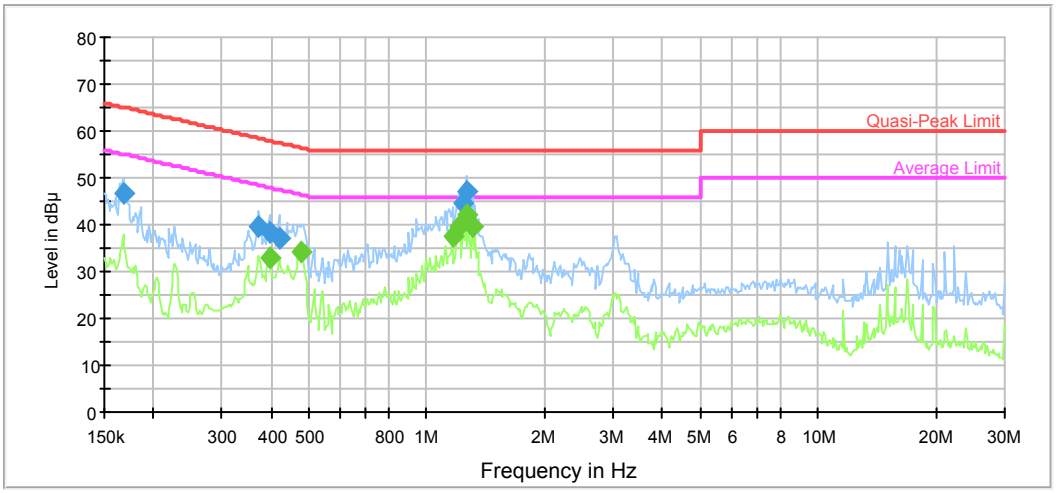
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	40.7	9.000	L1	11.2	25.2	65.9	Compliance
0.372042	38.8	9.000	L1	10.0	19.7	58.5	Compliance
0.396530	38.0	9.000	L1	10.0	19.9	57.9	Compliance
0.443327	36.7	9.000	L1	9.9	20.3	57.0	Compliance
1.239175	43.5	9.000	L1	9.8	12.5	56.0	Compliance
1.259081	47.0	9.000	L1	9.8	9.0	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	33.9	9.000	L1	10.0	14.6	48.5	Compliance
0.419276	32.0	9.000	L1	10.0	15.5	47.5	Compliance
0.476287	35.4	9.000	L1	9.9	11.0	46.4	Compliance
1.209904	40.0	9.000	L1	9.8	6.0	46.0	Compliance
1.259081	42.6	9.000	L1	9.8	3.4	46.0	Compliance
1.310256	39.8	9.000	L1	9.8	6.2	46.0	Compliance

AC120 V, 60 Hz, Neutral:

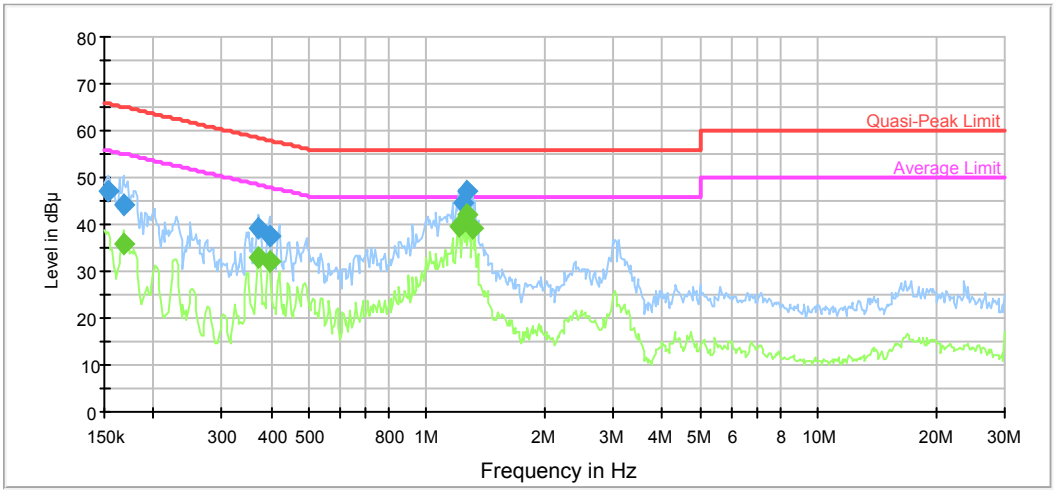


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.167702	46.5	9.000	N	10.9	18.6	65.1	Compliance
0.372042	39.5	9.000	N	10.0	19.0	58.5	Compliance
0.396530	38.5	9.000	N	10.0	19.4	57.9	Compliance
0.419276	37.0	9.000	N	10.0	20.5	57.5	Compliance
1.239175	44.5	9.000	N	9.8	11.5	56.0	Compliance
1.259081	47.2	9.000	N	9.8	8.8	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.396530	32.9	9.000	N	10.0	15.1	47.9	Compliance
0.476287	34.1	9.000	N	9.9	12.3	46.4	Compliance
1.162648	37.6	9.000	N	9.8	8.4	46.0	Compliance
1.209904	39.7	9.000	N	9.8	6.3	46.0	Compliance
1.259081	42.0	9.000	N	9.8	4.0	46.0	Compliance
1.310256	39.4	9.000	N	9.8	6.6	46.0	Compliance

Adapter#3(C10-S197A1-0001):

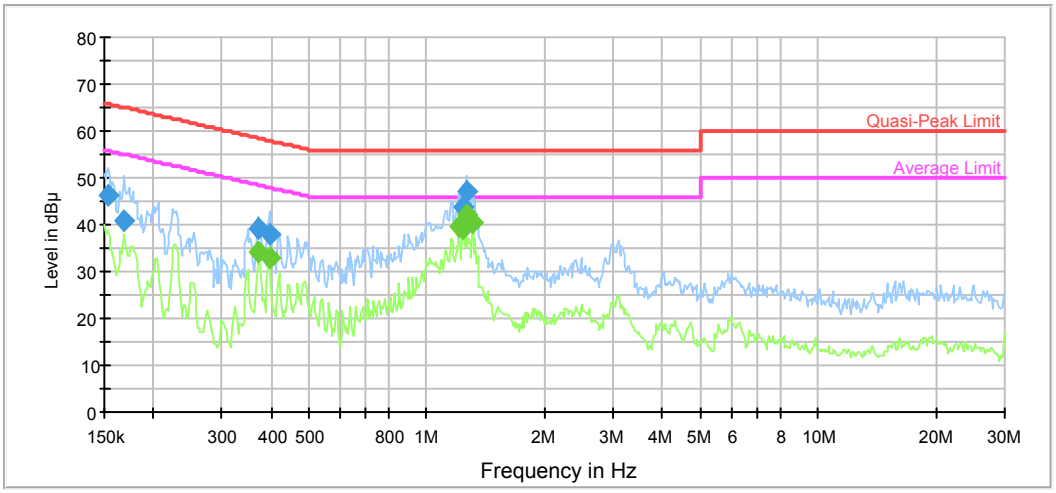
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.153629	47.0	9.000	L1	11.1	18.8	65.8	Compliance
0.167702	44.4	9.000	L1	10.9	20.7	65.1	Compliance
0.372042	39.0	9.000	L1	10.0	19.5	58.5	Compliance
0.396530	37.7	9.000	L1	10.0	20.2	57.9	Compliance
1.239175	44.4	9.000	L1	9.8	11.6	56.0	Compliance
1.259081	47.0	9.000	L1	9.8	9.0	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.167702	35.8	9.000	L1	10.9	19.3	55.1	Compliance
0.372042	33.0	9.000	L1	10.0	15.5	48.5	Compliance
0.396530	32.0	9.000	L1	10.0	15.9	47.9	Compliance
1.209904	39.5	9.000	L1	9.8	6.5	46.0	Compliance
1.259081	42.2	9.000	L1	9.8	3.8	46.0	Compliance
1.310256	39.2	9.000	L1	9.8	6.8	46.0	Compliance

AC120 V, 60 Hz, Neutral:

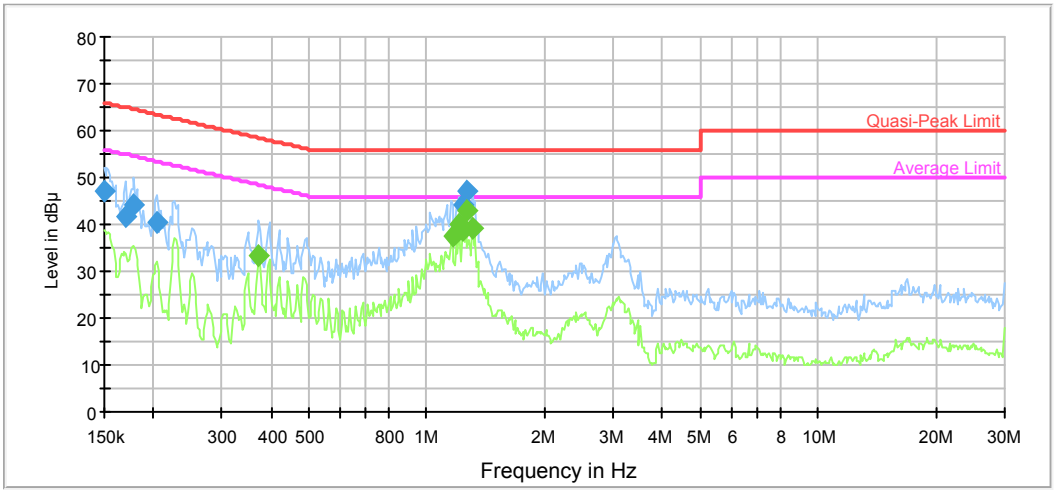


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.153629	46.4	9.000	N	11.1	19.4	65.8	Compliance
0.169044	41.0	9.000	N	10.9	24.0	65.0	Compliance
0.372042	39.2	9.000	N	10.0	19.3	58.5	Compliance
0.396530	38.0	9.000	N	10.0	20.0	58.0	Compliance
1.239175	43.9	9.000	N	9.8	12.1	56.0	Compliance
1.259081	47.1	9.000	N	9.8	8.9	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	34.3	9.000	N	10.0	14.2	48.5	Compliance
0.396530	32.8	9.000	N	10.0	15.1	47.9	Compliance
1.209904	39.5	9.000	N	9.8	6.5	46.0	Compliance
1.239175	39.0	9.000	N	9.8	7.0	46.0	Compliance
1.259081	42.0	9.000	N	9.8	4.0	46.0	Compliance
1.310256	40.5	9.000	N	9.8	5.5	46.0	Compliance

Adapter#3(C10-S397B1-0001):

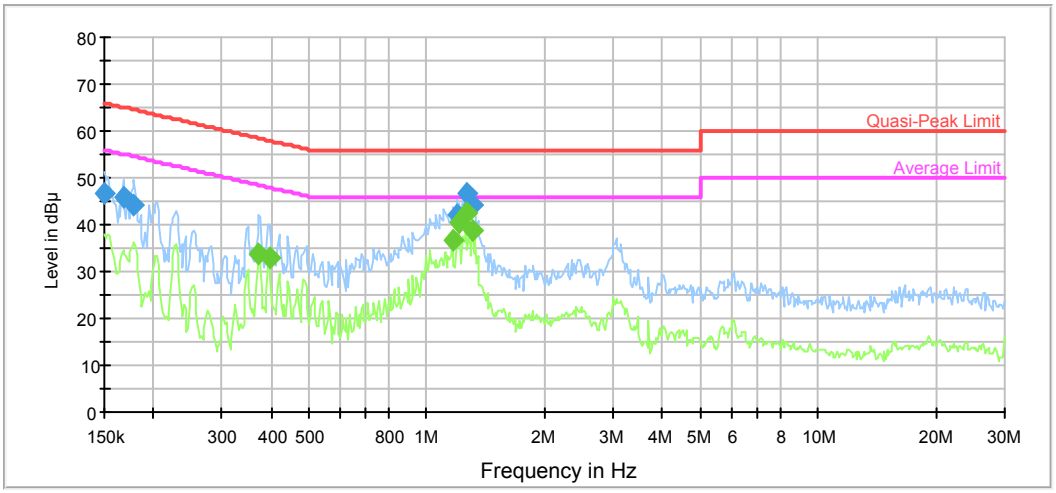
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	47.2	9.000	L1	11.2	18.8	66.0	Compliance
0.170396	41.6	9.000	L1	10.9	23.3	64.9	Compliance
0.178741	44.3	9.000	L1	10.8	20.2	64.5	Compliance
0.204669	40.4	9.000	L1	10.6	23.0	63.4	Compliance
1.239175	44.0	9.000	L1	9.8	12.0	56.0	Compliance
1.259081	47.0	9.000	L1	9.8	9.0	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	33.2	9.000	L1	10.0	15.3	48.5	Compliance
1.162648	37.4	9.000	L1	9.8	8.6	46.0	Compliance
1.209904	39.9	9.000	L1	9.8	6.1	46.0	Compliance
1.239175	38.6	9.000	L1	9.8	7.4	46.0	Compliance
1.259081	42.8	9.000	L1	9.8	3.2	46.0	Compliance
1.310256	39.2	9.000	L1	9.8	6.8	46.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	46.6	9.000	N	11.2	19.4	66.0	Compliance
0.167702	46.0	9.000	N	10.9	19.1	65.1	Compliance
0.178741	44.1	9.000	N	10.8	20.4	64.5	Compliance
1.190776	42.1	9.000	N	9.8	13.9	56.0	Compliance
1.259081	46.8	9.000	N	9.8	9.2	56.0	Compliance
1.310256	44.2	9.000	N	9.8	11.8	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.372042	33.9	9.000	N	10.0	14.6	48.5	Compliance
0.396530	33.0	9.000	N	10.0	15.0	48.0	Compliance
1.162648	36.8	9.000	N	9.8	9.2	46.0	Compliance
1.209904	40.3	9.000	N	9.8	5.7	46.0	Compliance
1.259081	42.3	9.000	N	9.8	3.7	46.0	Compliance
1.310256	38.9	9.000	N	9.8	7.1	46.0	Compliance

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

Applicable Standard

FCC §15.407; §15.209; §15.205;

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

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

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

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

(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.

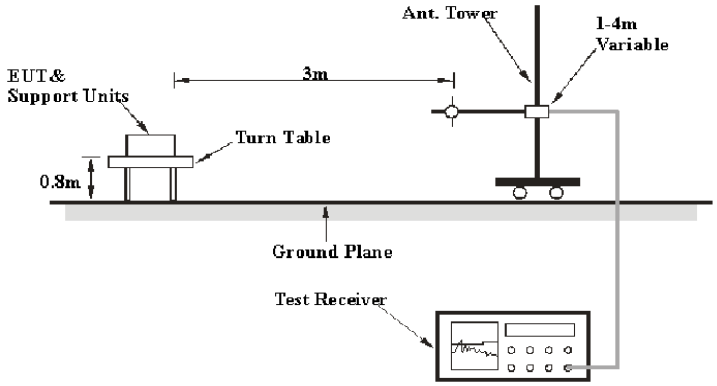
(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(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.

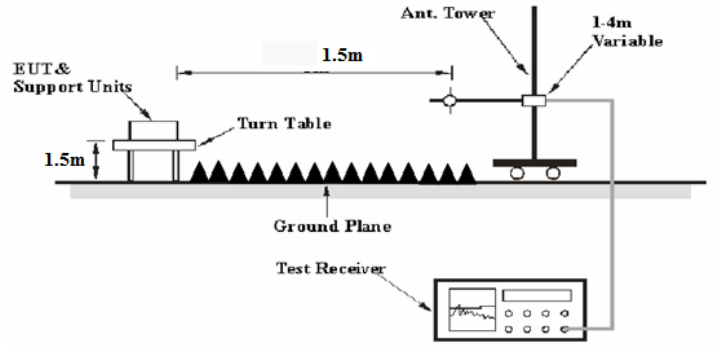
(7) The provisions of §15.205 apply to intentional radiators operating under this section.

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, and FCC 15.407 limits.

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

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

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

30-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 40GHz:

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

Note: T is minimum transmission duration

Test Procedure

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

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

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

According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, 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= 6.02 dB

Corrected Amplitude & Margin Calculation

For the range 30MHz-1GHz, 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

For the range 1GHz-40GHz, Test performed at 1.5m, the Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading and the Distance extrapolation factor. The basic equation is as follows:

Corrected Amplitude
= Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain-Distance extrapolation factor

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 = Corrected Amplitude -Limit

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2017-09-01	2018-09-01
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2018-11-10
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
N/A	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2017-12-08	2018-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-05
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2017-09-05	2018-09-05
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-02 1304	2016-11-18	2019-11-18
Ducommun Technolagies	Horn Antenna	ARH-2823-02	1007726-01 1302	2016-11-18	2019-11-18
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2017-06-27	2018-06-27
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2017-09-05	2018-09-05
R&S	Spectrum Analyzer	FSP 38	100478	2017-12-08	2018-12-08
Chengdu OuLi	Band rejector Filter	5470-5850	005	2017-09-05	2018-09-05
Chengdu OuLi	Bandrejector Filter	5150-5350	004	2017-09-05	2018-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

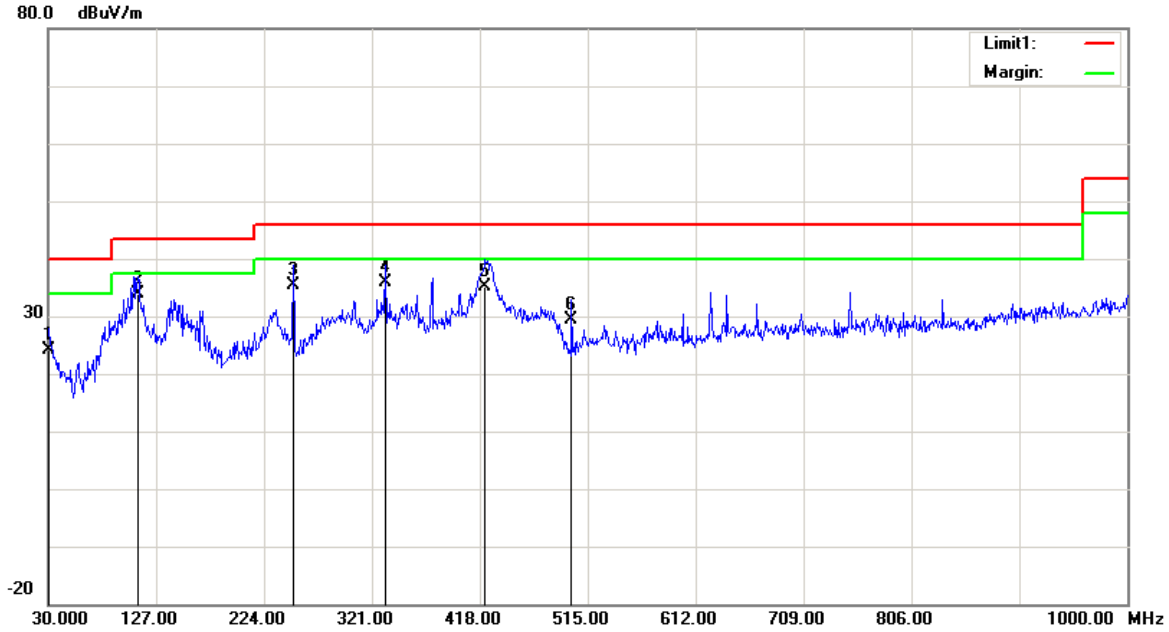
Temperature:	22.7 °C
Relative Humidity:	52 %
ATM Pressure:	100.7 kPa

** The testing was performed by Eric Xiao and Steven Zuo on 2018-03-15.*

Test Mode: Transmitting(per pretest, C10-S197A1-0001 +Adapter #1 was the worst)

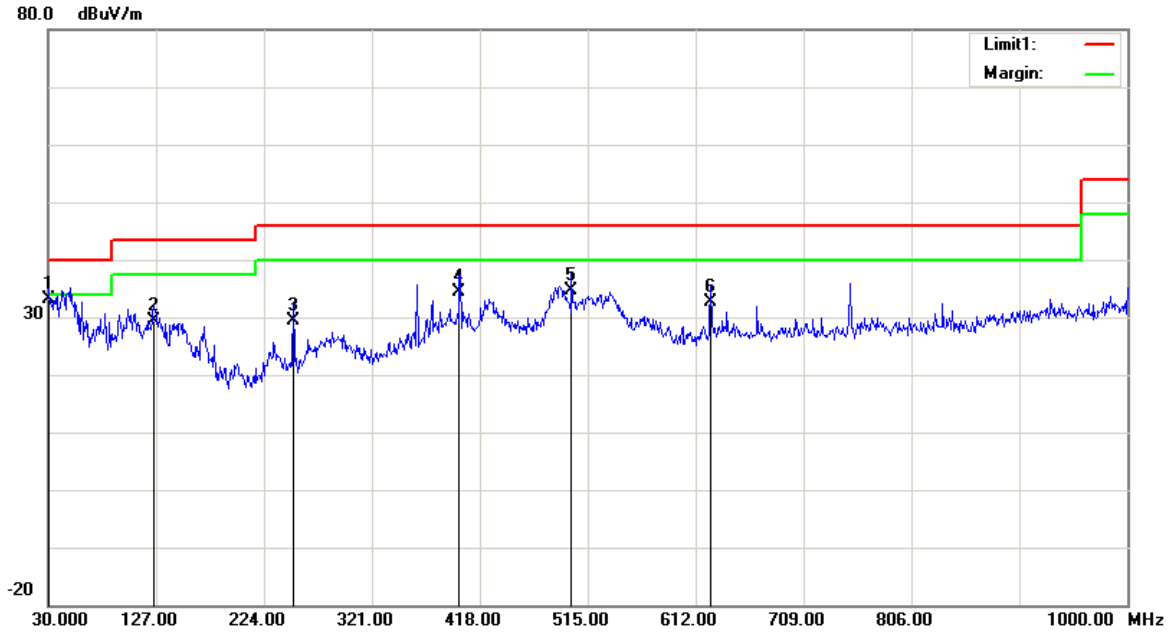
1) Below 1GHz(802.11n ht20 5240MHz was the worst):

Horizontal



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.9700	23.75	QP	0.35	24.10	40.00	15.90
110.5100	39.83	QP	-6.03	33.80	43.50	9.70
250.1900	41.72	QP	-6.42	35.30	46.00	10.70
332.6400	39.55	QP	-3.65	35.90	46.00	10.10
422.8500	37.08	QP	-1.98	35.10	46.00	10.90
500.4500	30.37	QP	-1.07	29.30	46.00	16.70

Vertical



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	32.12	QP	1.08	33.20	40.00	6.80
125.0600	34.13	QP	-4.83	29.30	43.50	14.20
250.1900	35.92	QP	-6.42	29.50	46.00	16.50
399.5700	36.51	QP	-2.21	34.30	46.00	11.70
500.4500	35.67	QP	-1.07	34.60	46.00	11.40
625.5800	31.64	QP	1.06	32.70	46.00	13.30

1GHz-40GHz:
5150-5250MHz
802.11a

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/m)						
Low Channel: 5180 MHz										
5180.00	71.56	PK	H	33.59	3.58	0.00	108.73	102.71	N/A	N/A
5180.00	61.63	AV	H	33.59	3.58	0.00	98.80	92.78	N/A	N/A
5180.00	67.29	PK	V	33.59	3.58	0.00	104.46	98.44	N/A	N/A
5180.00	57.39	AV	V	33.59	3.58	0.00	94.56	88.54	N/A	N/A
5150.00	29.84	PK	H	33.54	3.56	0.00	66.94	60.92	74.00	13.08
5150.00	14.87	AV	H	33.54	3.56	0.00	51.97	45.95	54.00	8.05
10360.00	46.84	PK	H	38.17	6.29	36.85	54.45	48.43	74.00	25.57
10360.00	35.52	AV	H	38.17	6.29	36.85	43.13	37.11	54.00	16.89
15540.00	45.27	PK	H	38.06	8.85	39.04	53.14	47.12	74.00	26.88
15540.00	34.42	AV	H	38.06	8.85	39.04	42.29	36.27	54.00	17.73
Middle Channel: 5200 MHz										
5200.00	72.65	PK	H	33.62	3.60	0.00	109.87	103.85	N/A	N/A
5200.00	62.73	AV	H	33.62	3.60	0.00	99.95	93.93	N/A	N/A
5200.00	67.36	PK	V	33.62	3.60	0.00	104.58	98.56	N/A	N/A
5200.00	57.45	AV	V	33.62	3.60	0.00	94.67	88.65	N/A	N/A
10400.00	45.62	PK	H	38.18	6.32	36.86	53.26	47.24	74.00	26.76
10400.00	35.17	AV	H	38.18	6.32	36.86	42.81	36.79	54.00	17.21
15600.00	44.46	PK	H	38.00	8.83	39.09	52.20	46.18	74.00	27.82
15600.00	34.28	AV	H	38.00	8.83	39.09	42.02	36	54.00	18.00
High Channel: 5240 MHz										
5240.00	72.57	PK	H	33.68	3.52	0.00	109.77	103.75	N/A	N/A
5240.00	62.49	AV	H	33.68	3.52	0.00	99.69	93.67	N/A	N/A
5240.00	67.53	PK	V	33.68	3.52	0.00	104.73	98.71	N/A	N/A
5240.00	57.28	AV	V	33.68	3.52	0.00	94.48	88.46	N/A	N/A
5350.00	26.43	PK	H	33.86	3.52	0.00	63.81	57.79	74.00	16.21
5350.00	14.36	AV	H	33.86	3.52	0.00	51.74	45.72	54.00	8.28
10480.00	46.53	PK	H	38.20	6.37	36.88	54.22	48.2	74.00	25.80
10480.00	35.45	AV	H	38.20	6.37	36.88	43.14	37.12	54.00	16.88
15720.00	45.24	PK	H	37.88	8.79	39.18	52.73	46.71	74.00	27.29
15720.00	34.29	AV	H	37.88	8.79	39.18	41.78	35.76	54.00	18.24

802.11n ht20

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/m)						
Low Channel: 5180 MHz										
5180.00	71.52	PK	H	33.59	3.58	0.00	108.69	102.67	N/A	N/A
5180.00	61.57	AV	H	33.59	3.58	0.00	98.74	92.72	N/A	N/A
5180.00	66.98	PK	V	33.59	3.58	0.00	104.15	98.13	N/A	N/A
5180.00	56.73	AV	V	33.59	3.58	0.00	93.90	87.88	N/A	N/A
5150.00	28.34	PK	H	33.54	3.56	0.00	65.44	59.42	74.00	14.58
5150.00	14.85	AV	H	33.54	3.56	0.00	51.95	45.93	54.00	8.07
10360.00	46.96	PK	H	38.17	6.29	36.85	54.57	48.55	74.00	25.45
10360.00	35.78	AV	H	38.17	6.29	36.85	43.39	37.37	54.00	16.63
15540.00	45.53	PK	H	38.06	8.85	39.04	53.40	47.38	74.00	26.62
15540.00	34.27	AV	H	38.06	8.85	39.04	42.14	36.12	54.00	17.88
Middle Channel: 5200 MHz										
5200.00	71.43	PK	H	33.62	3.60	0.00	108.65	102.63	N/A	N/A
5200.00	61.52	AV	H	33.62	3.60	0.00	98.74	92.72	N/A	N/A
5200.00	67.16	PK	V	33.62	3.60	0.00	104.38	98.36	N/A	N/A
5200.00	57.34	AV	V	33.62	3.60	0.00	94.56	88.54	N/A	N/A
10400.00	46.75	PK	H	38.18	6.32	36.86	54.39	48.37	74.00	25.63
10400.00	35.26	AV	H	38.18	6.32	36.86	42.90	36.88	54.00	17.12
15600.00	45.48	PK	H	38.00	8.83	39.09	53.22	47.2	74.00	26.80
15600.00	34.17	AV	H	38.00	8.83	39.09	41.91	35.89	54.00	18.11
High Channel: 5240 MHz										
5240.00	71.37	PK	H	33.68	3.52	0.00	108.57	102.55	N/A	N/A
5240.00	61.42	AV	H	33.68	3.52	0.00	98.62	92.6	N/A	N/A
5240.00	67.53	PK	V	33.68	3.52	0.00	104.73	98.71	N/A	N/A
5240.00	57.69	AV	V	33.68	3.52	0.00	94.89	88.87	N/A	N/A
5350.00	26.38	PK	H	33.86	3.52	0.00	63.76	57.74	74.00	16.26
5350.00	14.25	AV	H	33.86	3.52	0.00	51.63	45.61	54.00	8.39
10480.00	46.53	PK	H	38.20	6.37	36.88	54.22	48.2	74.00	25.80
10480.00	34.46	AV	H	38.20	6.37	36.88	42.15	36.13	54.00	17.87
15720.00	45.27	PK	H	37.88	8.79	39.18	52.76	46.74	74.00	27.26
15720.00	34.31	AV	H	37.88	8.79	39.18	41.80	35.78	54.00	18.22

802.11n ht40

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/m)						
Low Channel: 5190 MHz										
5190.00	69.78	PK	H	33.60	3.59	0.00	106.97	100.95	N/A	N/A
5190.00	59.36	AV	H	33.60	3.59	0.00	96.55	90.53	N/A	N/A
5190.00	64.53	PK	V	33.60	3.59	0.00	101.72	95.7	N/A	N/A
5190.00	54.39	AV	V	33.60	3.59	0.00	91.58	85.56	N/A	N/A
5150.00	35.16	PK	H	33.54	3.56	0.00	72.26	66.24	74.00	7.76
5150.00	16.85	AV	H	33.54	3.56	0.00	53.95	47.93	54.00	6.07
10380.00	46.52	PK	H	38.18	6.31	36.85	54.16	48.14	74.00	25.86
10380.00	35.48	AV	H	38.18	6.31	36.85	43.12	37.1	54.00	16.90
15570.00	45.26	PK	H	38.03	8.84	39.06	53.07	47.05	74.00	26.95
15570.00	34.37	AV	H	38.03	8.84	39.06	42.18	36.16	54.00	17.84
High Channel: 5230 MHz										
5230.00	70.43	PK	H	33.67	3.54	0.00	107.64	101.62	N/A	N/A
5230.00	60.57	AV	H	33.67	3.54	0.00	97.78	91.76	N/A	N/A
5230.00	65.35	PK	V	33.67	3.54	0.00	102.56	96.54	N/A	N/A
5230.00	55.48	AV	V	33.67	3.54	0.00	92.69	86.67	N/A	N/A
5350.00	26.25	PK	H	33.86	3.52	0.00	63.63	57.61	74.00	16.39
5350.00	14.19	AV	H	33.86	3.52	0.00	51.57	45.55	54.00	8.45
10460.00	46.54	PK	H	38.19	6.36	36.87	54.22	48.2	74.00	25.80
10460.00	35.28	AV	H	38.19	6.36	36.87	42.96	36.94	54.00	17.06
15690.00	45.37	PK	H	37.91	8.80	39.15	52.93	46.91	74.00	27.09
15690.00	34.42	AV	H	37.91	8.80	39.15	41.98	35.96	54.00	18.04

802.11 ac80

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/m)						
Middle Channel: 5210 MHz										
5210.00	65.35	PK	H	33.64	3.58	0.00	102.57	96.55	N/A	N/A
5210.00	54.69	AV	H	33.64	3.58	0.00	91.91	85.89	N/A	N/A
5210.00	61.85	PK	V	33.64	3.58	0.00	99.07	93.05	N/A	N/A
5210.00	50.76	AV	V	33.64	3.58	0.00	87.98	81.96	N/A	N/A
5150.00	31.37	PK	H	33.54	3.56	0.00	68.47	62.45	74.00	11.55
5150.00	15.76	AV	H	33.54	3.56	0.00	52.86	46.84	54.00	7.16
5350.00	28.56	PK	H	33.86	3.52	0.00	65.94	59.92	74.00	14.08
5350.00	15.72	AV	H	33.86	3.52	0.00	53.10	47.08	54.00	6.92
10420.00	46.53	PK	H	38.18	6.33	36.86	54.18	48.16	74.00	25.84
10420.00	35.48	AV	H	38.18	6.33	36.86	43.13	37.11	54.00	16.89
15630.00	45.46	PK	H	37.97	8.82	39.11	53.14	47.12	74.00	26.88
15630.00	34.39	AV	H	37.97	8.82	39.11	42.07	36.05	54.00	17.95

5250-5350MHz
802.11a

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/m)						
Low Channel: 5260 MHz										
5260.00	72.59	PK	H	33.72	3.49	0.00	109.80	103.78	N/A	N/A
5260.00	62.63	AV	H	33.72	3.49	0.00	99.84	93.82	N/A	N/A
5260.00	58.34	PK	V	33.72	3.49	0.00	95.55	89.53	N/A	N/A
5260.00	48.57	AV	V	33.72	3.49	0.00	85.78	79.76	N/A	N/A
5150.00	26.24	PK	H	33.54	3.56	0.00	63.34	57.32	74.00	16.68
5150.00	14.53	AV	H	33.54	3.56	0.00	51.63	45.61	54.00	8.39
10520.00	46.38	PK	H	38.21	6.39	36.89	54.09	48.07	74.00	25.93
10520.00	35.42	AV	H	38.21	6.39	36.89	43.13	37.11	54.00	16.89
15780.00	45.76	PK	H	37.82	8.76	39.22	53.12	47.1	74.00	26.90
15780.00	34.13	AV	H	37.82	8.76	39.22	41.49	35.47	54.00	18.53
Middle Channel: 5280 MHz										
5280.00	72.98	PK	H	33.75	3.45	0.00	110.18	104.16	N/A	N/A
5280.00	62.67	AV	H	33.75	3.45	0.00	99.87	93.85	N/A	N/A
5280.00	68.34	PK	V	33.75	3.45	0.00	105.54	99.52	N/A	N/A
5280.00	58.46	AV	V	33.75	3.45	0.00	95.66	89.64	N/A	N/A
10560.00	46.37	PK	H	38.24	6.40	36.90	54.11	48.09	74.00	25.91
10560.00	35.42	AV	H	38.24	6.40	36.90	43.16	37.14	54.00	16.86
15840.00	45.62	PK	H	37.76	8.74	39.27	52.85	46.83	74.00	27.17
15840.00	34.38	AV	H	37.76	8.74	39.27	41.61	35.59	54.00	18.41
High Channel: 5320 MHz										
5320.00	71.92	PK	H	33.81	3.45	0.00	109.18	103.16	N/A	N/A
5320.00	61.54	AV	H	33.81	3.45	0.00	98.80	92.78	N/A	N/A
5320.00	67.58	PK	V	33.81	3.45	0.00	104.84	98.82	N/A	N/A
5320.00	57.43	AV	V	33.81	3.45	0.00	94.69	88.67	N/A	N/A
5350.00	27.18	PK	H	33.86	3.52	0.00	64.56	58.54	74.00	15.46
5350.00	14.65	AV	H	33.86	3.52	0.00	52.03	46.01	54.00	7.99
10640.00	46.84	PK	H	38.28	6.43	36.93	54.62	48.6	74.00	25.40
10640.00	35.77	AV	H	38.28	6.43	36.93	43.55	37.53	54.00	16.47
15960.00	45.42	PK	H	37.64	8.70	39.36	52.40	46.38	74.00	27.62
15960.00	34.63	AV	H	37.64	8.70	39.36	41.61	35.59	54.00	18.41

802.11n ht20

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/m)						
Low Channel: 5260 MHz										
5260.00	72.44	PK	H	33.72	3.49	0.00	109.65	103.63	N/A	N/A
5260.00	62.53	AV	H	33.72	3.49	0.00	99.74	93.72	N/A	N/A
5260.00	68.29	PK	V	33.72	3.49	0.00	105.50	99.48	N/A	N/A
5260.00	58.35	AV	V	33.72	3.49	0.00	95.56	89.54	N/A	N/A
5150.00	26.48	PK	H	33.54	3.56	0.00	63.58	57.56	74.00	16.44
5150.00	14.23	AV	H	33.54	3.56	0.00	51.33	45.31	54.00	8.69
10520.00	46.53	PK	H	38.21	6.39	36.89	54.24	48.22	74.00	25.78
10520.00	34.84	AV	H	38.21	6.39	36.89	42.55	36.53	54.00	17.47
15780.00	35.26	PK	H	37.82	8.76	39.22	42.62	36.6	74.00	37.40
15780.00	34.15	AV	H	37.82	8.76	39.22	41.51	35.49	54.00	18.51
Middle Channel: 5280 MHz										
5280.00	72.85	PK	H	33.75	3.45	0.00	110.05	104.03	N/A	N/A
5280.00	62.56	AV	H	33.75	3.45	0.00	99.76	93.74	N/A	N/A
5280.00	68.34	PK	V	33.75	3.45	0.00	105.54	99.52	N/A	N/A
5280.00	58.62	AV	V	33.75	3.45	0.00	95.82	89.8	N/A	N/A
10560.00	46.54	PK	H	38.24	6.40	36.90	54.28	48.26	74.00	25.74
10560.00	35.29	AV	H	38.24	6.40	36.90	43.03	37.01	54.00	16.99
15840.00	45.48	PK	H	37.76	8.74	39.27	52.71	46.69	74.00	27.31
15840.00	34.16	AV	H	37.76	8.74	39.27	41.39	35.37	54.00	18.63
High Channel: 5320 MHz										
5320.00	71.54	PK	H	33.81	3.45	0.00	108.80	102.78	N/A	N/A
5320.00	61.49	AV	H	33.81	3.45	0.00	98.75	92.73	N/A	N/A
5320.00	67.38	PK	V	33.81	3.45	0.00	104.64	98.62	N/A	N/A
5320.00	57.46	AV	V	33.81	3.45	0.00	94.72	88.7	N/A	N/A
5350.00	28.85	PK	H	33.86	3.52	0.00	66.23	60.21	74.00	13.79
5350.00	14.92	AV	H	33.86	3.52	0.00	52.30	46.28	54.00	7.72
10640.00	46.79	PK	H	38.28	6.43	36.93	54.57	48.55	74.00	25.45
10640.00	35.46	AV	H	38.28	6.43	36.93	43.24	37.22	54.00	16.78
15960.00	45.28	PK	H	37.64	8.70	39.36	52.26	46.24	74.00	27.76
15960.00	34.32	AV	H	37.64	8.70	39.36	41.30	35.28	54.00	18.72

802.11n ht40

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/m)						
Low Channel: 5270 MHz										
5270.00	67.24	PK	H	33.73	3.47	0.00	104.44	98.42	N/A	N/A
5270.00	57.38	AV	H	33.73	3.47	0.00	94.58	88.56	N/A	N/A
5270.00	61.79	PK	V	33.73	3.47	0.00	98.99	92.97	N/A	N/A
5270.00	51.64	AV	V	33.73	3.47	0.00	88.84	82.82	N/A	N/A
5150.00	26.45	PK	H	33.54	3.56	0.00	63.55	57.53	74.00	16.47
5150.00	14.21	AV	H	33.54	3.56	0.00	51.31	45.29	54.00	8.71
10540.00	46.49	PK	H	38.22	6.40	36.89	54.22	48.2	74.00	25.80
10540.00	35.36	AV	H	38.22	6.40	36.89	43.09	37.07	54.00	16.93
15810.00	45.27	PK	H	37.79	8.75	39.25	52.56	46.54	74.00	27.46
15810.00	34.18	AV	H	37.79	8.75	39.25	41.47	35.45	54.00	18.55
High Channel: 5310 MHz										
5310.00	70.49	PK	H	33.80	3.43	0.00	107.72	101.7	N/A	N/A
5310.00	60.32	AV	H	33.80	3.43	0.00	97.55	91.53	N/A	N/A
5310.00	65.87	PK	V	33.80	3.43	0.00	103.10	97.08	N/A	N/A
5310.00	55.69	AV	V	33.80	3.43	0.00	92.92	86.9	N/A	N/A
5350.00	37.28	PK	H	33.86	3.52	0.00	74.66	68.64	74.00	5.36
5350.00	17.42	AV	H	33.86	3.52	0.00	54.80	48.78	54.00	5.22
10620.00	46.39	PK	H	38.27	6.43	36.92	54.17	48.15	74.00	25.85
10620.00	35.47	AV	H	38.27	6.43	36.92	43.25	37.23	54.00	16.77
15930.00	45.62	PK	H	37.67	8.71	39.34	52.66	46.64	74.00	27.36
15930.00	34.45	AV	H	37.67	8.71	39.34	41.49	35.47	54.00	18.53

802.11 ac80

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/m)						
Middle Channel: 5290 MHz										
5290.00	64.84	PK	H	33.76	3.43	0.00	102.03	96.01	N/A	N/A
5290.00	53.75	AV	H	33.76	3.43	0.00	90.94	84.92	N/A	N/A
5290.00	59.73	PK	V	33.76	3.43	0.00	96.92	90.9	N/A	N/A
5290.00	48.58	AV	V	33.76	3.43	0.00	85.77	79.75	N/A	N/A
5150.00	26.17	PK	H	33.54	3.56	0.00	63.27	57.25	74.00	16.75
5150.00	14.23	AV	H	33.54	3.56	0.00	51.33	45.31	54.00	8.69
5350.00	28.64	PK	H	33.86	3.52	0.00	66.02	60	74.00	14.00
5350.00	15.49	AV	H	33.86	3.52	0.00	52.87	46.85	54.00	7.15
10580.00	46.37	PK	H	38.25	6.41	36.91	54.12	48.1	74.00	25.90
10580.00	35.42	AV	H	38.25	6.41	36.91	43.17	37.15	54.00	16.85
15870.00	45.43	PK	H	37.73	8.73	39.29	52.60	46.58	74.00	27.42
15870.00	35.02	AV	H	37.73	8.73	39.29	42.19	36.17	54.00	17.83

5470-5725MHz
802.11a

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/m)						
Low Channel: 5500 MHz										
5500.00	69.86	PK	H	34.10	3.54	0.00	107.50	101.48	N/A	N/A
5500.00	59.62	AV	H	34.10	3.54	0.00	97.26	91.24	N/A	N/A
5500.00	67.59	PK	V	34.10	3.54	0.00	105.23	99.21	N/A	N/A
5500.00	57.46	AV	V	34.10	3.54	0.00	95.10	89.08	N/A	N/A
5470.00	26.98	PK	H	34.05	3.56	0.00	64.59	58.57	74.00	15.43
5470.00	14.79	AV	H	34.05	3.56	0.00	52.40	46.38	54.00	7.62
11000.00	45.59	PK	H	38.50	6.57	37.06	53.60	47.58	74.00	26.42
11000.00	35.24	AV	H	38.50	6.57	37.06	43.25	37.23	54.00	16.77
16500.00	44.63	PK	H	38.20	8.63	39.30	52.16	46.14	74.00	27.86
16500.00	34.18	AV	H	38.20	8.63	39.30	41.71	35.69	54.00	18.31
Middle Channel: 5580 MHz										
5580.00	72.68	PK	H	34.14	3.57	0.00	110.39	104.37	N/A	N/A
5580.00	62.49	AV	H	34.14	3.57	0.00	100.20	94.18	N/A	N/A
5580.00	68.54	PK	V	34.14	3.57	0.00	106.25	100.23	N/A	N/A
5580.00	58.37	AV	V	34.14	3.57	0.00	96.08	90.06	N/A	N/A
11200.00	46.25	PK	H	38.70	6.58	37.18	54.35	48.33	74.00	25.67
11200.00	35.34	AV	H	38.70	6.58	37.18	43.44	37.42	54.00	16.58
16800.00	45.42	PK	H	39.40	8.68	38.98	54.52	48.5	74.00	25.50
16800.00	34.13	AV	H	39.40	8.68	38.98	43.23	37.21	54.00	16.79
High Channel: 5700 MHz										
5700.00	71.53	PK	H	34.18	3.68	0.00	109.39	103.37	N/A	N/A
5700.00	61.68	AV	H	34.18	3.68	0.00	99.54	93.52	N/A	N/A
5700.00	67.65	PK	V	34.18	3.68	0.00	105.51	99.49	N/A	N/A
5700.00	57.23	AV	V	34.18	3.68	0.00	95.09	89.07	N/A	N/A
5725.00	29.26	PK	H	34.19	3.69	0.00	67.14	61.12	74.00	12.88
5725.00	15.68	AV	H	34.19	3.69	0.00	53.56	47.54	54.00	6.46
11400.00	46.75	PK	H	38.90	6.59	37.30	54.94	48.92	74.00	25.08
11400.00	35.38	AV	H	38.90	6.59	37.30	43.57	37.55	54.00	16.45
17100.00	45.62	PK	H	40.78	8.75	38.70	56.45	50.43	74.00	23.57
17100.00	34.49	AV	H	40.78	8.75	38.70	45.32	39.3	54.00	14.70

802.11n ht20

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/m)						
Low Channel: 5500 MHz										
5500.00	70.36	PK	H	34.10	3.54	0.00	108.00	101.98	N/A	N/A
5500.00	60.54	AV	H	34.10	3.54	0.00	98.18	92.16	N/A	N/A
5500.00	67.27	PK	V	34.10	3.54	0.00	104.91	98.89	N/A	N/A
5500.00	57.34	AV	V	34.10	3.54	0.00	94.98	88.96	N/A	N/A
5470.00	27.92	PK	H	34.05	3.56	0.00	65.53	59.51	74.00	14.49
5470.00	14.78	AV	H	34.05	3.56	0.00	52.39	46.37	54.00	7.63
11000.00	46.52	PK	H	38.50	6.57	37.06	54.53	48.51	74.00	25.49
11000.00	35.39	AV	H	38.50	6.57	37.06	43.40	37.38	54.00	16.62
16500.00	45.28	PK	H	38.20	8.63	39.30	52.81	46.79	74.00	27.21
16500.00	34.16	AV	H	38.20	8.63	39.30	41.69	35.67	54.00	18.33
Middle Channel: 5580 MHz										
5580.00	72.28	PK	H	34.14	3.57	0.00	109.99	103.97	N/A	N/A
5580.00	62.34	AV	H	34.14	3.57	0.00	100.05	94.03	N/A	N/A
5580.00	68.15	PK	V	34.14	3.57	0.00	105.86	99.84	N/A	N/A
5580.00	58.23	AV	V	34.14	3.57	0.00	95.94	89.92	N/A	N/A
11200.00	46.37	PK	H	38.70	6.58	37.18	54.47	48.45	74.00	25.55
11200.00	35.45	AV	H	38.70	6.58	37.18	43.55	37.53	54.00	16.47
16800.00	45.29	PK	H	39.40	8.68	38.98	54.39	48.37	74.00	25.63
16800.00	34.31	AV	H	39.40	8.68	38.98	43.41	37.39	54.00	16.61
High Channel: 5700 MHz										
5700.00	71.75	PK	H	34.18	3.68	0.00	109.61	103.59	N/A	N/A
5700.00	61.54	AV	H	34.18	3.68	0.00	99.40	93.38	N/A	N/A
5700.00	67.62	PK	V	34.18	3.68	0.00	105.48	99.46	N/A	N/A
5700.00	57.54	AV	V	34.18	3.68	0.00	95.40	89.38	N/A	N/A
5725.00	29.45	PK	H	34.19	3.69	0.00	67.33	61.31	74.00	12.69
5725.00	15.18	AV	H	34.19	3.69	0.00	53.06	47.04	54.00	6.96
11400.00	46.57	PK	H	38.90	6.59	37.30	54.76	48.74	74.00	25.26
11400.00	35.43	AV	H	38.90	6.59	37.30	43.62	37.6	54.00	16.40
17100.00	45.62	PK	H	40.78	8.75	38.70	56.45	50.43	74.00	23.57
17100.00	34.37	AV	H	40.78	8.75	38.70	45.20	39.18	54.00	14.82

802.11n ht40

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/m)						
Low Channel: 5510 MHz										
5510.00	65.48	PK	H	34.10	3.54	0.00	103.12	97.1	N/A	N/A
5510.00	55.63	AV	H	34.10	3.54	0.00	93.27	87.25	N/A	N/A
5510.00	60.54	PK	V	34.10	3.54	0.00	98.18	92.16	N/A	N/A
5510.00	50.76	AV	V	34.10	3.54	0.00	88.40	82.38	N/A	N/A
5470.00	29.29	PK	H	34.05	3.56	0.00	66.90	60.88	74.00	13.12
5470.00	15.24	AV	H	34.05	3.56	0.00	52.85	46.83	54.00	7.17
11020.00	46.63	PK	H	38.52	6.57	37.07	54.65	48.63	74.00	25.37
11020.00	35.42	AV	H	38.52	6.57	37.07	43.44	37.42	54.00	16.58
16530.00	45.54	PK	H	38.32	8.64	39.27	53.23	47.21	74.00	26.79
16530.00	34.49	AV	H	38.32	8.64	39.27	42.18	36.16	54.00	17.84
Middle Channel: 5550 MHz										
5550.00	65.95	PK	H	34.14	3.57	0.00	103.66	97.64	N/A	N/A
5550.00	55.78	AV	H	34.14	3.57	0.00	93.49	87.47	N/A	N/A
5550.00	60.86	PK	V	34.14	3.57	0.00	98.57	92.55	N/A	N/A
5550.00	50.49	AV	V	34.14	3.57	0.00	88.20	82.18	N/A	N/A
11180.00	45.26	PK	H	38.68	6.58	37.17	53.35	47.33	74.00	26.67
11180.00	34.23	AV	H	38.68	6.58	37.17	42.32	36.3	54.00	17.70
16770.00	45.18	PK	H	39.28	8.68	39.01	54.13	48.11	74.00	25.89
16770.00	34.05	AV	H	39.28	8.68	39.01	43.00	36.98	54.00	17.02
High Channel: 5670 MHz										
5670.00	65.37	PK	H	34.17	3.65	0.00	103.19	97.17	N/A	N/A
5670.00	55.28	AV	H	34.17	3.65	0.00	93.10	87.08	N/A	N/A
5670.00	60.68	PK	V	34.17	3.65	0.00	98.50	92.48	N/A	N/A
5670.00	50.54	AV	V	34.17	3.65	0.00	88.36	82.34	N/A	N/A
5725.00	28.67	PK	H	34.19	3.69	0.00	66.55	60.53	74.00	13.47
5725.00	15.24	AV	H	34.19	3.69	0.00	53.12	47.1	54.00	6.90
11340.00	46.56	PK	H	38.84	6.58	37.26	54.72	48.7	74.00	25.30
11340.00	35.39	AV	H	38.84	6.58	37.26	43.55	37.53	54.00	16.47
17010.00	45.26	PK	H	40.26	8.72	38.76	55.48	49.46	74.00	24.54
17010.00	34.27	AV	H	40.26	8.72	38.76	44.49	38.47	54.00	15.53

802.11 ac80

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/m)						
Low Channel: 5530 MHz										
5530.00	63.82	PK	H	34.11	3.55	0.00	101.48	95.46	N/A	N/A
5530.00	52.46	AV	H	34.11	3.55	0.00	90.12	84.1	N/A	N/A
5530.00	58.79	PK	V	34.11	3.55	0.00	96.45	90.43	N/A	N/A
5530.00	47.65	AV	V	34.11	3.55	0.00	85.31	79.29	N/A	N/A
5470.00	31.72	PK	H	34.05	3.56	0.00	69.33	63.31	74.00	10.69
5470.00	15.83	AV	H	34.05	3.56	0.00	53.44	47.42	54.00	6.58
11060.00	46.62	PK	H	38.56	6.57	37.10	54.65	48.63	74.00	25.37
11060.00	35.37	AV	H	38.56	6.57	37.10	43.40	37.38	54.00	16.62
16590.00	45.62	PK	H	38.56	8.65	39.20	53.63	47.61	74.00	26.39
16590.00	34.46	AV	H	38.56	8.65	39.20	42.47	36.45	54.00	17.55
High Channel: 5610 MHz										
5610.00	63.79	PK	H	34.14	3.58	0.00	101.51	95.49	N/A	N/A
5610.00	52.54	AV	H	34.14	3.58	0.00	90.26	84.24	N/A	N/A
5610.00	59.46	PK	V	34.14	3.58	0.00	97.18	91.16	N/A	N/A
5610.00	48.83	AV	V	34.14	3.58	0.00	86.55	80.53	N/A	N/A
5725.00	26.75	PK	H	34.19	3.69	0.00	64.63	58.61	74.00	15.39
5725.00	14.53	AV	H	34.19	3.69	0.00	52.41	46.39	54.00	7.61
11220.00	45.37	PK	H	38.72	6.58	37.19	53.48	47.46	74.00	26.54
11220.00	34.28	AV	H	38.72	6.58	37.19	42.39	36.37	54.00	17.63
16830.00	44.52	PK	H	39.52	8.69	38.95	53.78	47.76	74.00	26.24
16830.00	34.13	AV	H	39.52	8.69	38.95	43.39	37.37	54.00	16.63

5725-5850MHz:
802.11a

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/m)						
Low Channel: 5745MHz										
5745.00	71.75	PK	H	34.20	3.69	0.00	109.64	103.62	N/A	N/A
5745.00	61.53	AV	H	34.20	3.69	0.00	99.42	93.4	N/A	N/A
5745.00	65.78	PK	V	34.20	3.69	0.00	103.67	97.65	N/A	N/A
5745.00	55.84	AV	V	34.20	3.69	0.00	93.73	87.71	N/A	N/A
5725.00	37.56	PK	H	34.19	3.69	0.00	75.44	69.42	122.20	52.78
5720.00	29.24	PK	H	34.19	3.69	0.00	67.12	61.1	110.80	49.70
5700.00	27.35	PK	H	34.18	3.68	0.00	65.21	59.19	105.20	46.01
5650.00	26.48	PK	H	34.16	3.63	0.00	64.27	58.25	68.20	9.95
11490.00	46.54	PK	H	38.99	6.59	37.35	54.77	48.75	74.00	25.25
11490.00	35.27	AV	H	38.99	6.59	37.35	43.50	37.48	54.00	16.52
17235.00	45.26	PK	H	41.56	8.78	38.61	56.99	50.97	74.00	23.03
17235.00	34.18	AV	H	41.56	8.78	38.61	45.91	39.89	54.00	14.11
Middle Channel: 5785 MHz										
5785.00	71.89	PK	H	34.21	3.71	0.00	109.81	103.79	N/A	N/A
5785.00	61.68	AV	H	34.21	3.71	0.00	99.60	93.58	N/A	N/A
5785.00	65.82	PK	V	34.21	3.71	0.00	103.74	97.72	N/A	N/A
5785.00	55.57	AV	V	34.21	3.71	0.00	93.49	87.47	N/A	N/A
11570.00	46.48	PK	H	39.00	6.61	37.44	54.65	48.63	74.00	25.37
11570.00	35.23	AV	H	39.00	6.61	37.44	43.40	37.38	54.00	16.62
17355.00	45.18	PK	H	42.26	8.81	38.52	57.73	51.71	74.00	22.29
17355.00	34.29	AV	H	42.26	8.81	38.52	46.84	40.82	54.00	13.18
High Channel: 5825 MHz										
5825.00	70.58	PK	H	34.23	3.73	0.00	108.54	102.52	N/A	N/A
5825.00	60.49	AV	H	34.23	3.73	0.00	98.45	92.43	N/A	N/A
5825.00	65.17	PK	V	34.23	3.73	0.00	103.13	97.11	N/A	N/A
5825.00	55.23	AV	V	34.23	3.73	0.00	93.19	87.17	N/A	N/A
5850.00	28.64	PK	H	34.24	3.75	0.00	66.63	60.61	122.20	61.59
5855.00	28.13	PK	H	34.24	3.75	0.00	66.12	60.1	110.80	50.70
5875.00	27.54	PK	H	34.25	3.77	0.00	65.56	59.54	105.20	45.66
5925.00	26.38	PK	H	34.27	3.80	0.00	64.45	58.43	68.20	9.77
11650.00	46.23	PK	H	39.00	6.64	37.53	54.34	48.32	74.00	25.68
11650.00	35.17	AV	H	39.00	6.64	37.53	43.28	37.26	54.00	16.74
17475.00	45.42	PK	H	42.96	8.84	38.44	58.78	52.76	74.00	21.24
17475.00	34.26	AV	H	42.96	8.84	38.44	47.62	41.6	54.00	12.40

802.11n ht20

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/m)						
Low Channel: 5745MHz										
5745.00	70.81	PK	H	34.20	3.69	0.00	108.70	102.68	N/A	N/A
5745.00	60.75	AV	H	34.20	3.69	0.00	98.64	92.62	N/A	N/A
5745.00	65.12	PK	V	34.20	3.69	0.00	103.01	96.99	N/A	N/A
5745.00	55.34	AV	V	34.20	3.69	0.00	93.23	87.21	N/A	N/A
5725.00	37.45	PK	H	34.19	3.69	0.00	75.33	69.31	122.20	52.89
5720.00	30.54	PK	H	34.19	3.69	0.00	68.42	62.4	110.80	48.40
5700.00	27.13	PK	H	34.18	3.68	0.00	64.99	58.97	105.20	46.23
5650.00	26.42	PK	H	34.16	3.63	0.00	64.21	58.19	68.20	10.01
11490.00	45.53	PK	H	38.99	6.59	37.35	53.76	47.74	74.00	26.26
11490.00	35.17	AV	H	38.99	6.59	37.35	43.40	37.38	54.00	16.62
17235.00	45.28	PK	H	41.56	8.78	38.61	57.01	50.99	74.00	23.01
17235.00	34.39	AV	H	41.56	8.78	38.61	46.12	40.1	54.00	13.90
Middle Channel: 5785 MHz										
5785.00	71.26	PK	H	34.21	3.71	0.00	109.18	103.16	N/A	N/A
5785.00	61.55	AV	H	34.21	3.71	0.00	99.47	93.45	N/A	N/A
5785.00	65.49	PK	V	34.21	3.71	0.00	103.41	97.39	N/A	N/A
5785.00	55.34	AV	V	34.21	3.71	0.00	93.26	87.24	N/A	N/A
11570.00	46.57	PK	H	39.00	6.61	37.44	54.74	48.72	74.00	25.28
11570.00	35.28	AV	H	39.00	6.61	37.44	43.45	37.43	54.00	16.57
17355.00	45.42	PK	H	42.26	8.81	38.52	57.97	51.95	74.00	22.05
17355.00	34.36	AV	H	42.26	8.81	38.52	46.91	40.89	54.00	13.11
High Channel: 5825 MHz										
5825.00	70.96	PK	H	34.23	3.73	0.00	108.92	102.9	N/A	N/A
5825.00	60.88	AV	H	34.23	3.73	0.00	98.84	92.82	N/A	N/A
5825.00	65.42	PK	V	34.23	3.73	0.00	103.38	97.36	N/A	N/A
5825.00	55.37	AV	V	34.23	3.73	0.00	93.33	87.31	N/A	N/A
5850.00	29.48	PK	H	34.24	3.75	0.00	67.47	61.45	122.20	60.75
5855.00	28.23	PK	H	34.24	3.75	0.00	66.22	60.2	110.80	50.60
5875.00	27.56	PK	H	34.25	3.77	0.00	65.58	59.56	105.20	45.64
5925.00	26.13	PK	H	34.27	3.80	0.00	64.20	58.18	68.20	10.02
11650.00	46.19	PK	H	39.00	6.64	37.53	54.30	48.28	74.00	25.72
11650.00	35.57	AV	H	39.00	6.64	37.53	43.68	37.66	54.00	16.34
17475.00	45.26	PK	H	42.96	8.84	38.44	58.62	52.6	74.00	21.40
17475.00	34.43	AV	H	42.96	8.84	38.44	47.79	41.77	54.00	12.23

802.11n ht40

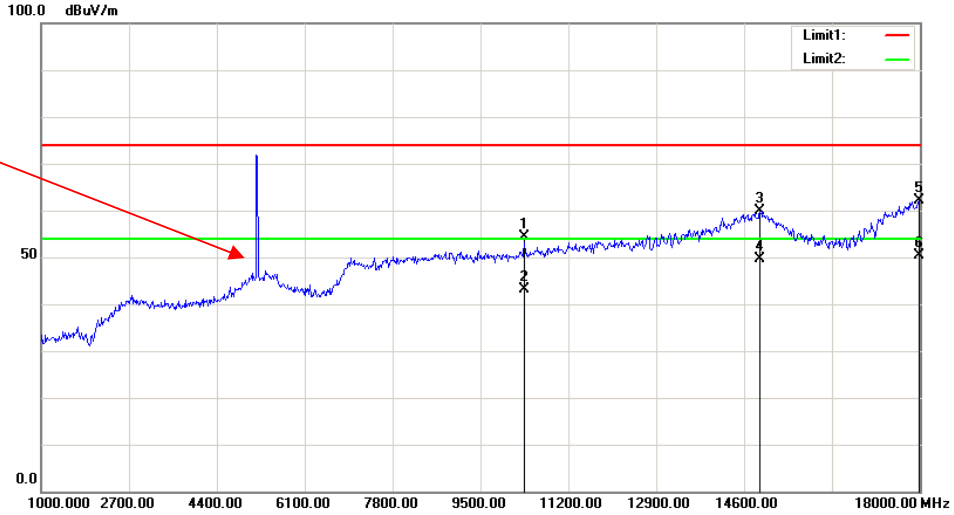
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB/m)						
Low Channel: 5755MHz										
5755.00	69.42	PK	H	34.20	3.70	0.00	107.32	101.3	N/A	N/A
5755.00	59.37	AV	H	34.20	3.70	0.00	97.27	91.25	N/A	N/A
5755.00	63.96	PK	V	34.20	3.70	0.00	101.86	95.84	N/A	N/A
5755.00	53.75	AV	V	34.20	3.70	0.00	91.65	85.63	N/A	N/A
5725.00	38.84	PK	H	34.19	3.69	0.00	76.72	70.7	122.20	51.50
5720.00	38.26	PK	H	34.19	3.69	0.00	76.14	70.12	110.80	40.68
5700.00	27.43	PK	H	34.18	3.68	0.00	65.29	59.27	105.20	45.93
5650.00	26.15	PK	H	34.16	3.63	0.00	63.94	57.92	68.20	10.28
11510.00	46.48	PK	H	39.00	6.59	37.37	54.70	48.68	74.00	25.32
11510.00	35.26	AV	H	39.00	6.59	37.37	43.48	37.46	54.00	16.54
17265.00	45.19	PK	H	41.74	8.79	38.58	57.14	51.12	74.00	22.88
17265.00	34.24	AV	H	41.74	8.79	38.58	46.19	40.17	54.00	13.83
High Channel: 5795 MHz										
5795.00	69.42	PK	H	34.22	3.71	0.00	107.35	101.33	N/A	N/A
5795.00	59.56	AV	H	34.22	3.71	0.00	97.49	91.47	N/A	N/A
5795.00	64.13	PK	V	34.22	3.71	0.00	102.06	96.04	N/A	N/A
5795.00	53.83	AV	V	34.22	3.71	0.00	91.76	85.74	N/A	N/A
5850.00	29.92	PK	H	34.24	3.75	0.00	67.91	61.89	122.20	60.31
5855.00	28.31	PK	H	34.24	3.75	0.00	66.30	60.28	110.80	50.52
5875.00	27.49	PK	H	34.25	3.77	0.00	65.51	59.49	105.20	45.71
5925.00	26.29	PK	H	34.27	3.80	0.00	64.36	58.34	68.20	9.86
11590.00	46.47	PK	H	39.00	6.62	37.46	54.63	48.61	74.00	25.39
11590.00	35.31	AV	H	39.00	6.62	37.46	43.47	37.45	54.00	16.55
17385.00	45.36	PK	H	42.43	8.82	38.50	58.11	52.09	74.00	21.91
17385.00	34.23	AV	H	42.43	8.82	38.50	46.98	40.96	54.00	13.04

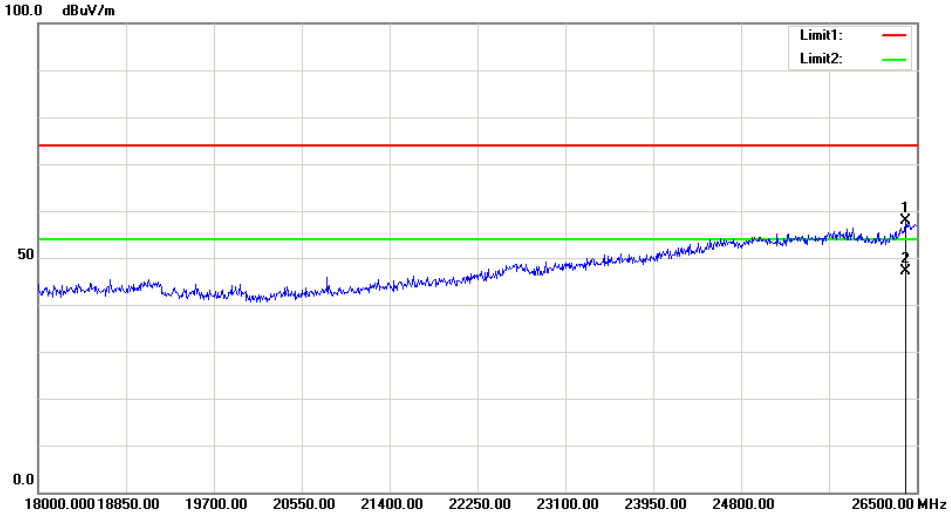
802.11 ac80

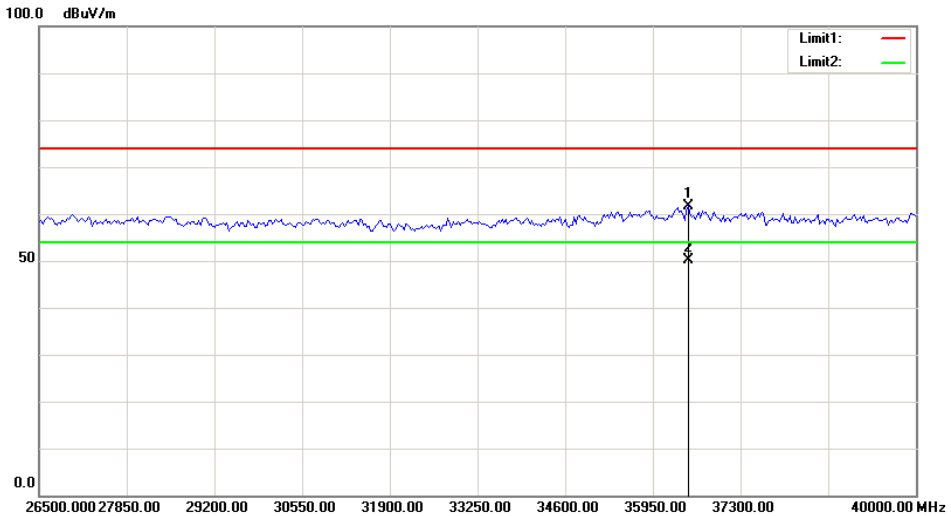
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB/m)						
Middle Channel: 5775 MHz										
5775.00	64.13	PK	H	34.21	3.70	0.00	102.04	96.02	N/A	N/A
5775.00	53.22	AV	H	34.21	3.70	0.00	91.13	85.11	N/A	N/A
5775.00	59.38	PK	V	34.21	3.70	0.00	97.29	91.27	N/A	N/A
5775.00	48.65	AV	V	34.21	3.70	0.00	86.56	80.54	N/A	N/A
5725.00	29.27	PK	H	34.19	3.69	0.00	67.15	61.13	122.20	61.07
5720.00	28.46	PK	H	34.19	3.69	0.00	66.34	60.32	110.80	50.48
5700.00	27.53	PK	H	34.18	3.68	0.00	65.39	59.37	105.20	45.83
5650.00	26.34	PK	H	34.16	3.63	0.00	64.13	58.11	68.20	10.09
5850.00	27.65	PK	H	34.24	3.75	0.00	65.64	59.62	122.20	62.58
5855.00	27.37	PK	H	34.24	3.75	0.00	65.36	59.34	110.80	51.46
5875.00	27.19	PK	H	34.25	3.77	0.00	65.21	59.19	105.20	46.01
5925.00	26.13	PK	H	34.27	3.80	0.00	64.20	58.18	68.20	10.02
11550.00	45.68	PK	H	39.00	6.61	37.42	53.87	47.85	74.00	26.15
11550.00	34.54	AV	H	39.00	6.61	37.42	42.73	36.71	54.00	17.29
17325.00	44.26	PK	H	42.09	8.80	38.54	56.61	50.59	74.00	23.41
17325.00	34.08	AV	H	42.09	8.80	38.54	46.43	40.41	54.00	13.59

Worst Test Plots(802.11a 5200MHz)
Horizontal:

Fundamental Test with Band Rejection Filter

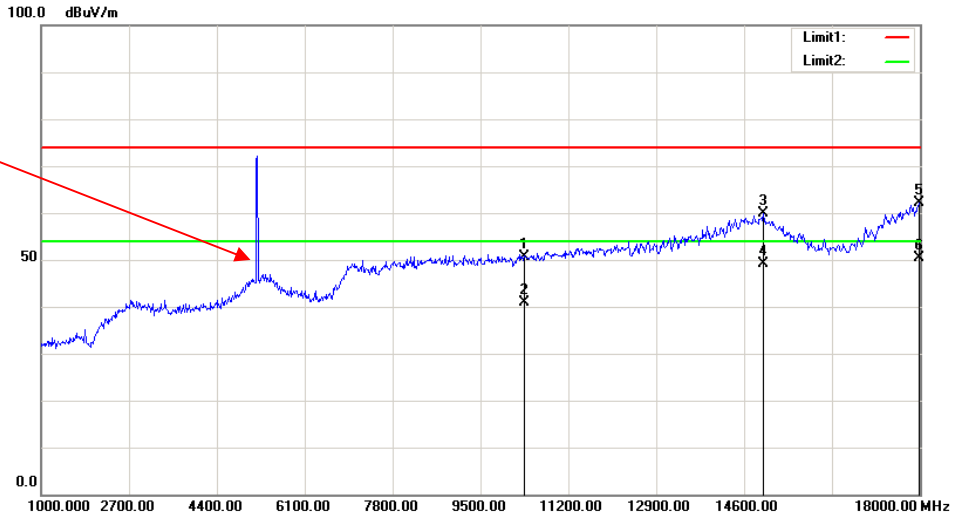


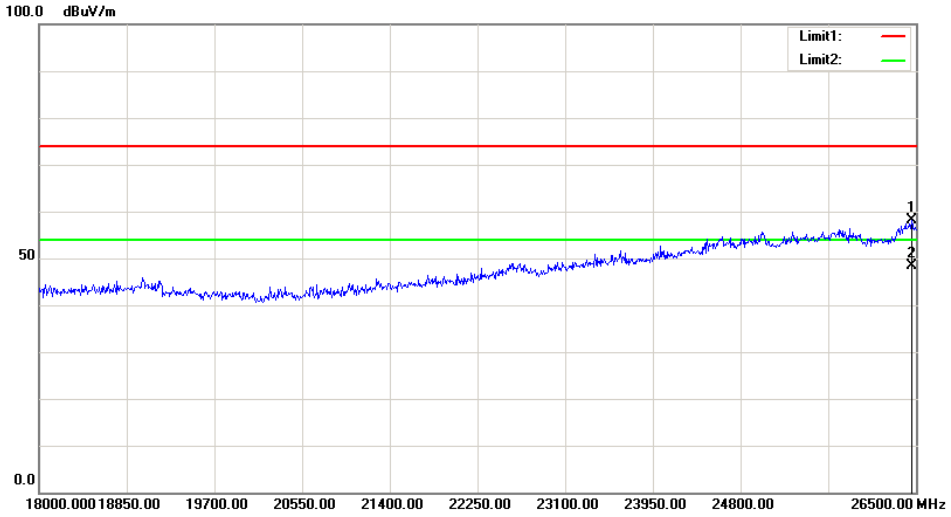


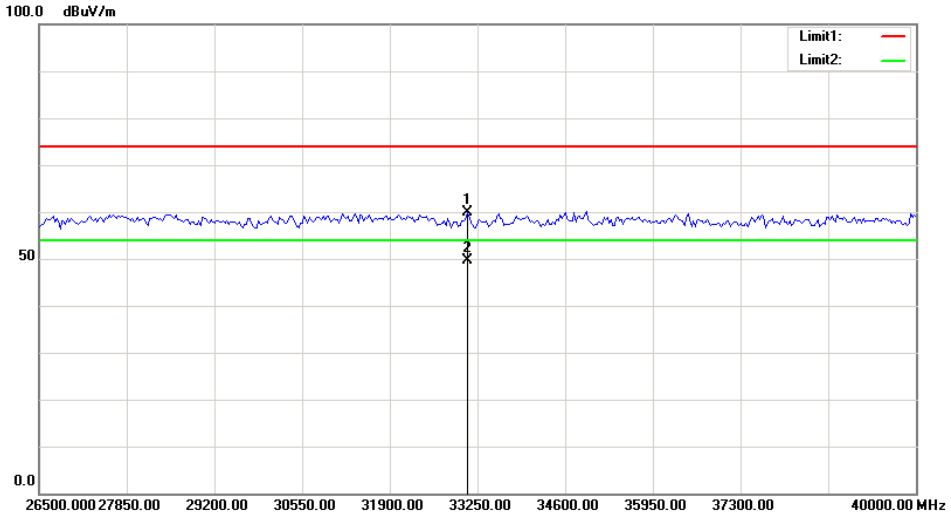


Vertical:

Fundamental Test with Band Rejection Filter







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

Applicable Standard

FCC §15.407

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

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

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

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

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

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

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

Test Procedure

According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2017-12-08	2018-12-08
N/A	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	22.2~26.4°C
Relative Humidity:	59~60 %
ATM Pressure:	100.8~102 kPa

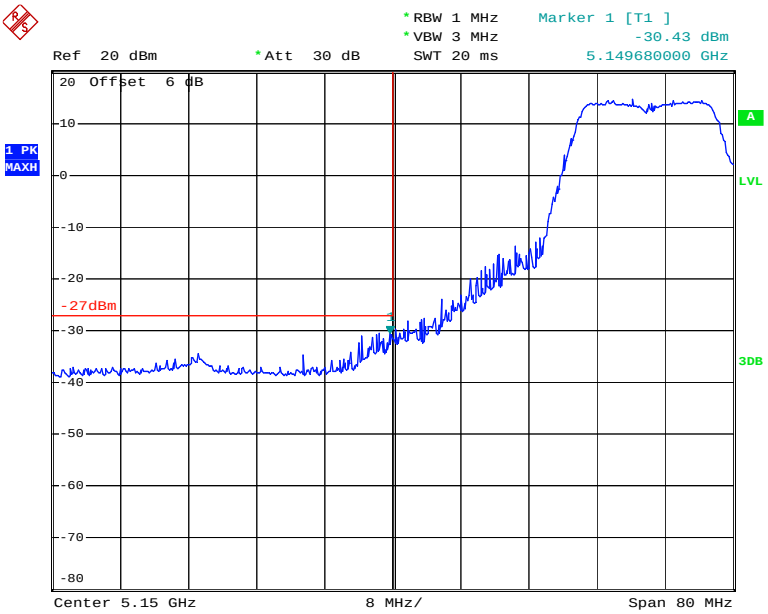
The testing was performed by Harry Yang on 2018-02-26 and 2018-03-20

Test Result: Pass.

Please refer to the following plots.

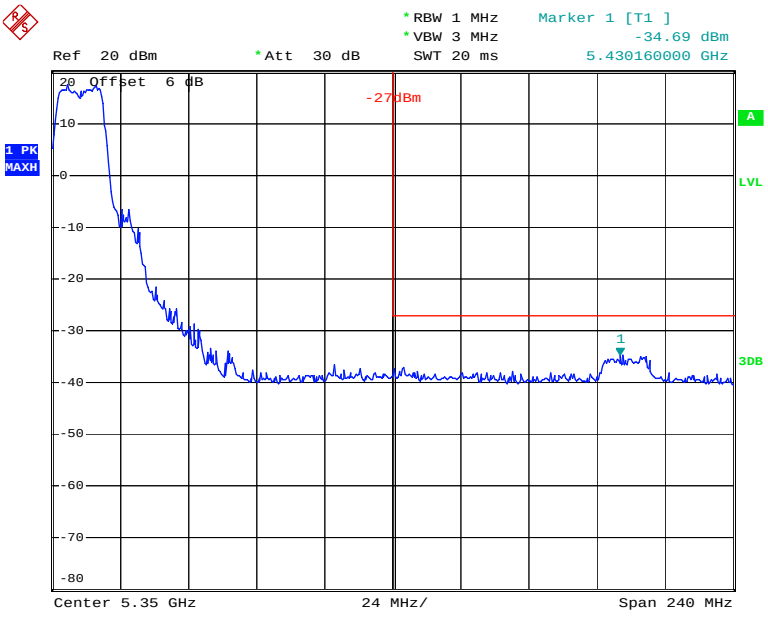
5150-5250MHz

802.11a Low Channel



Date: 20.MAR.2018 18:47:29

802.11a High Channel



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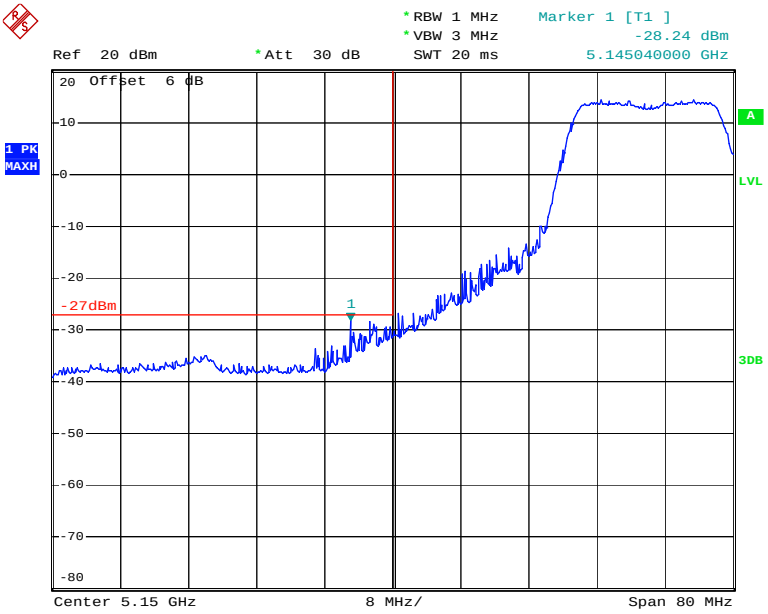
802.11n ht20 Low Channel



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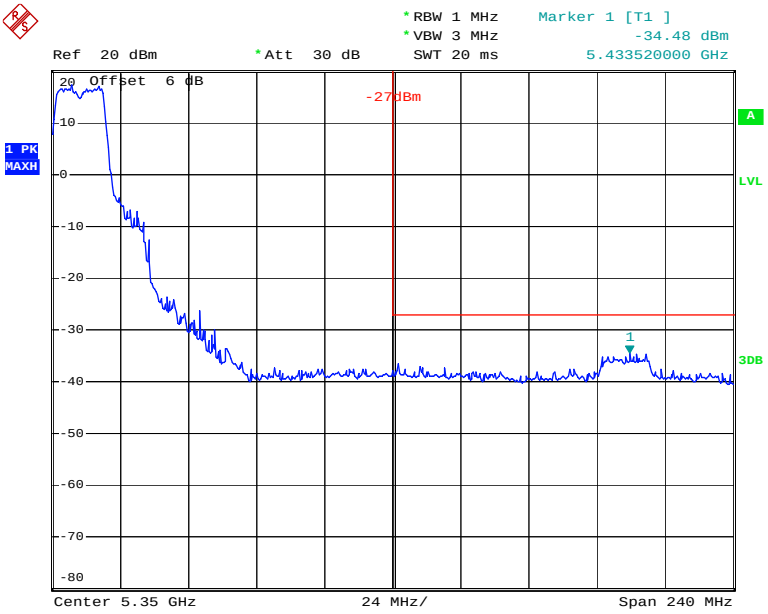

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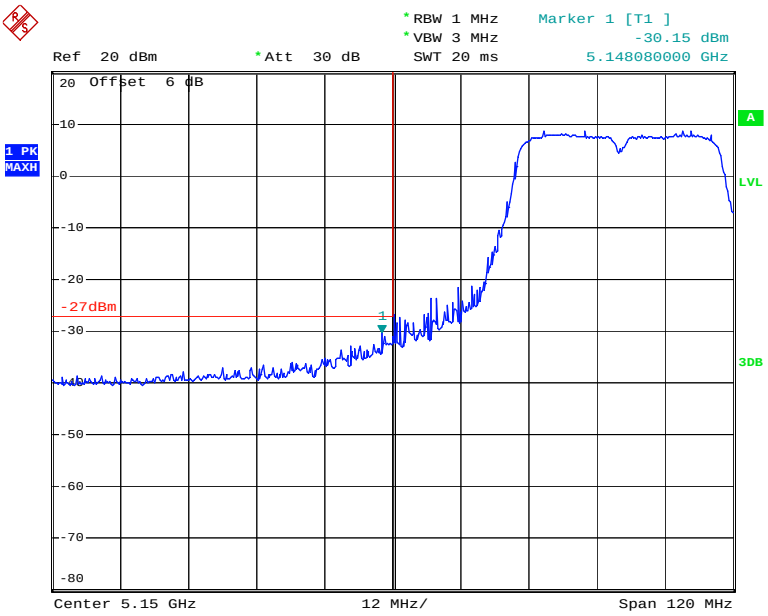
802.11n ht40 Low Channel



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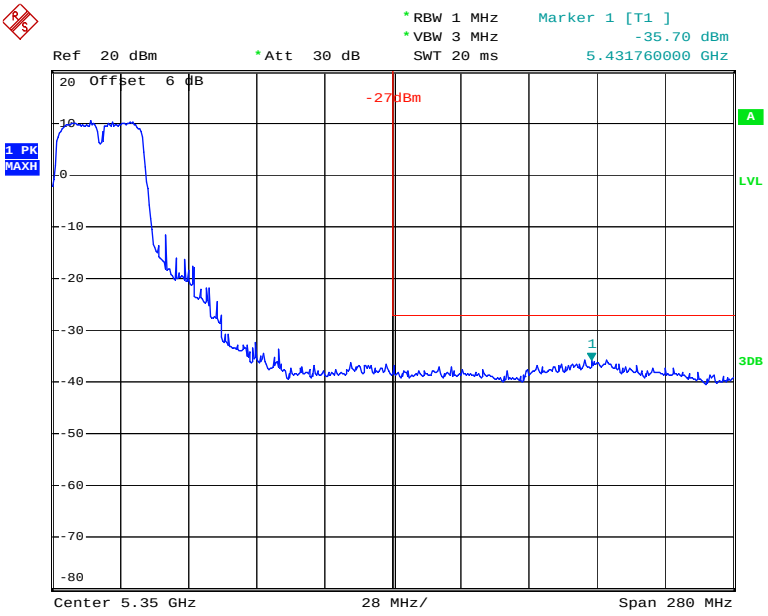
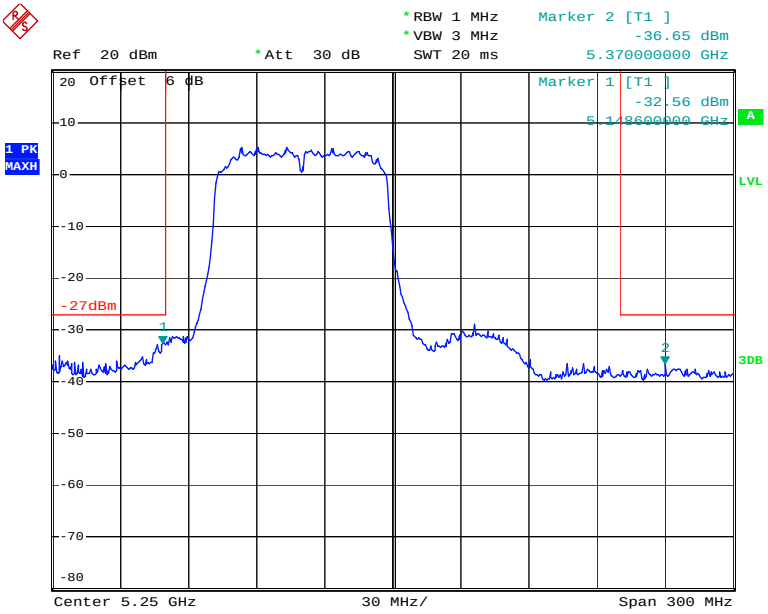
802.11n ht40 High Channel



Date: 20.MAR.2018 21:19:20

802.11n ac80 Middle Channel



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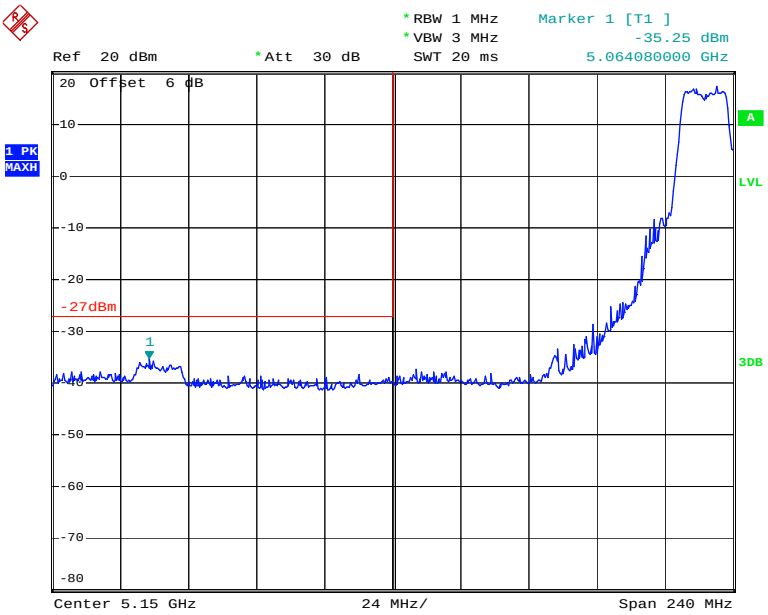
5250-5350MHz

802.11a Low Channel



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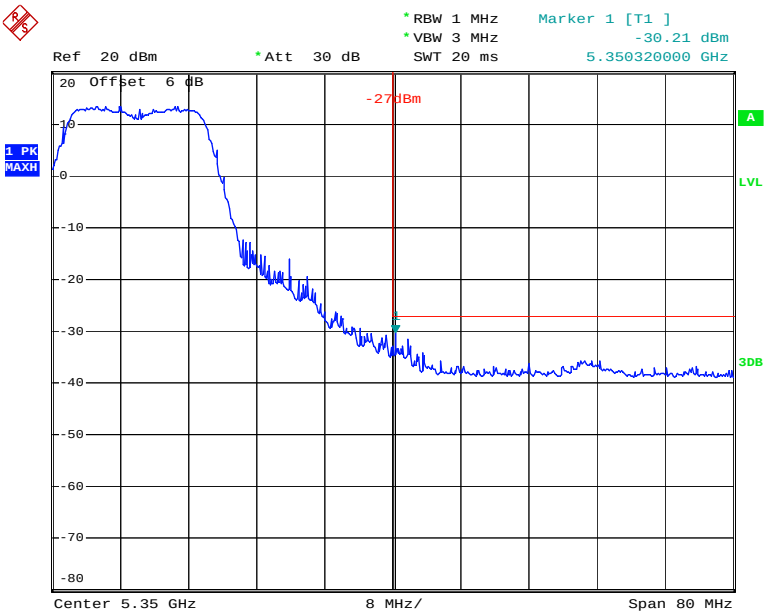
802.11a High Channel



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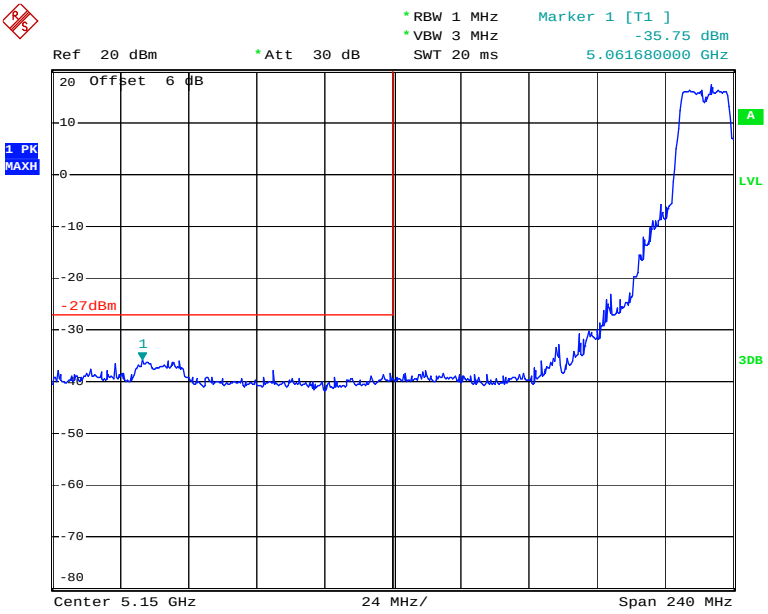
802.11n ht20 Low Channel



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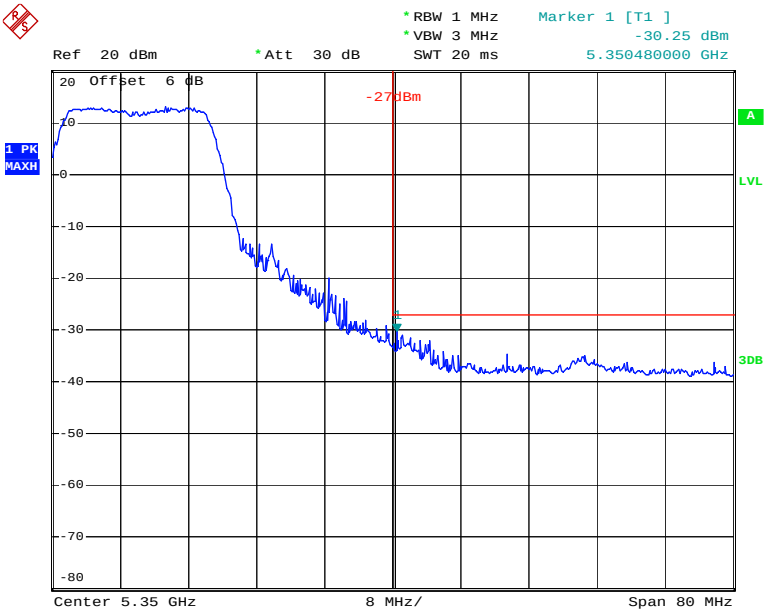
802.11n ht20 High Channel



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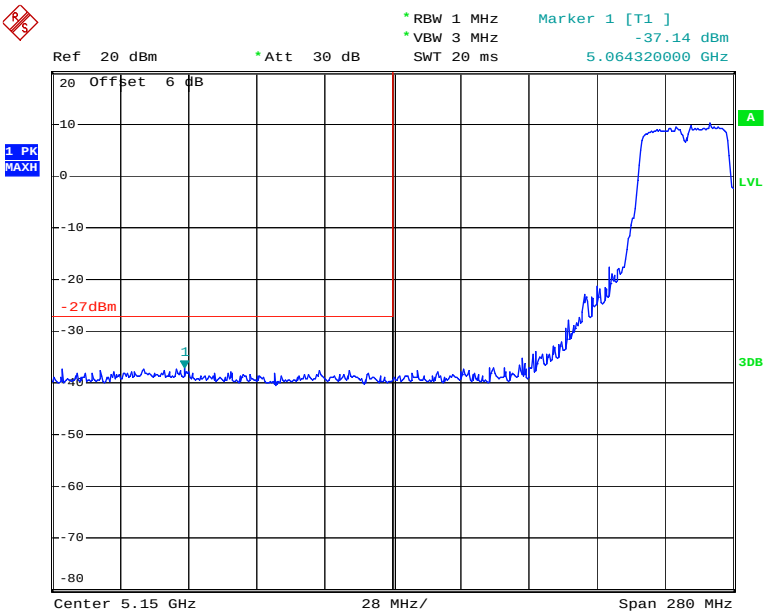
802.11n ht40 Low Channel



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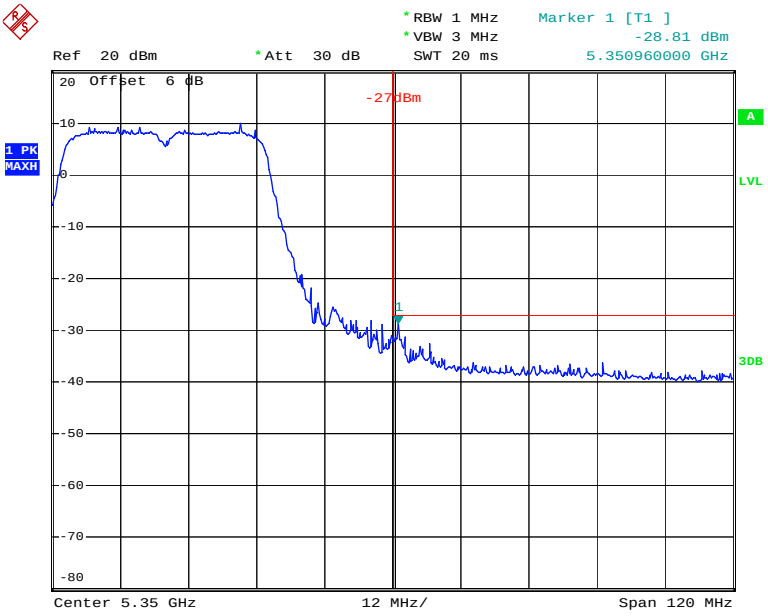
802.11n ht40 High Channel



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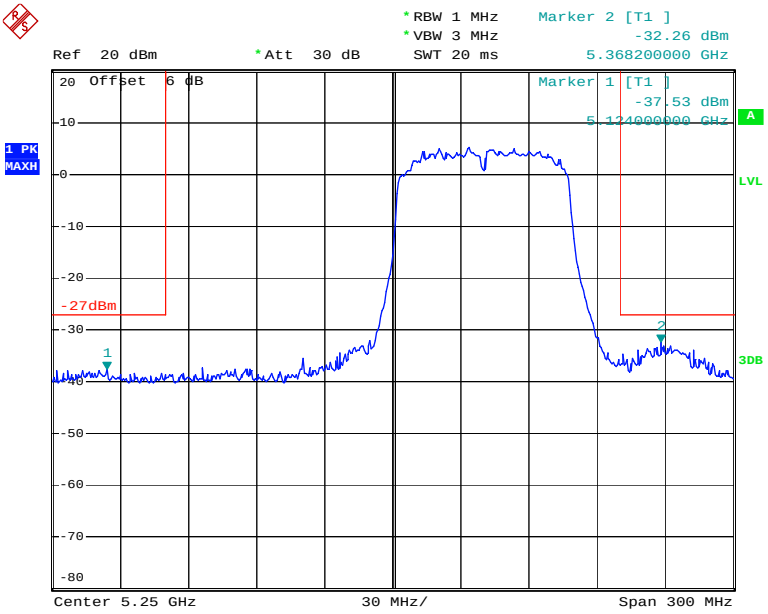
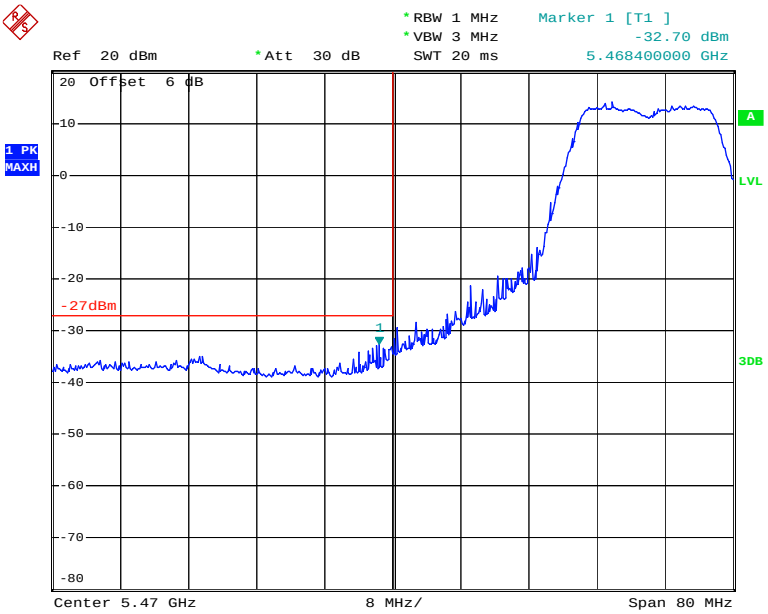
802.11n ac80 Middle Channel



Date: 20.MAR.2018 20:19:09

5470-5725MHz

802.11a Low Channel



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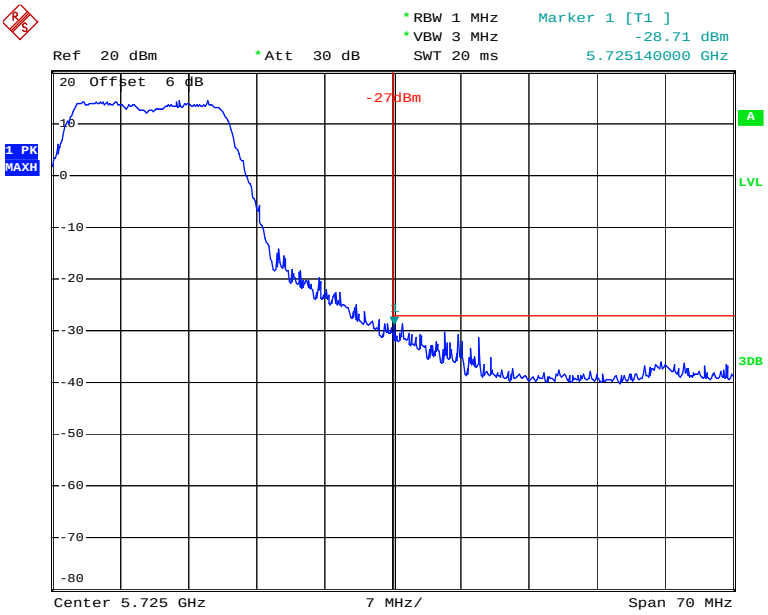
802.11a High Channel



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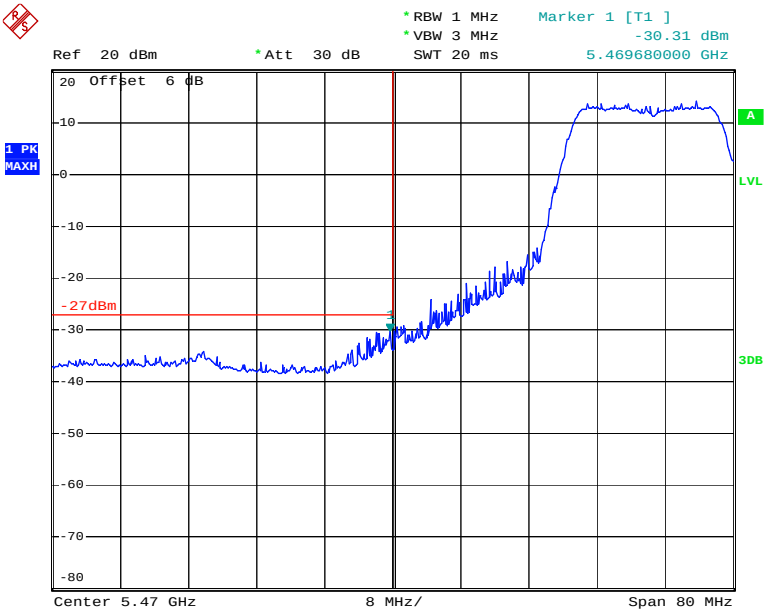
802.11n ht20 Low Channel



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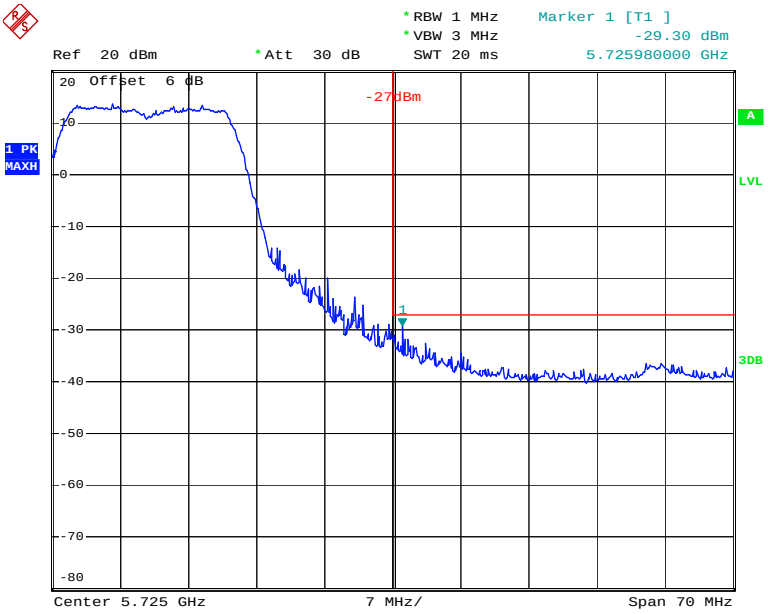
802.11n ht20 High Channel



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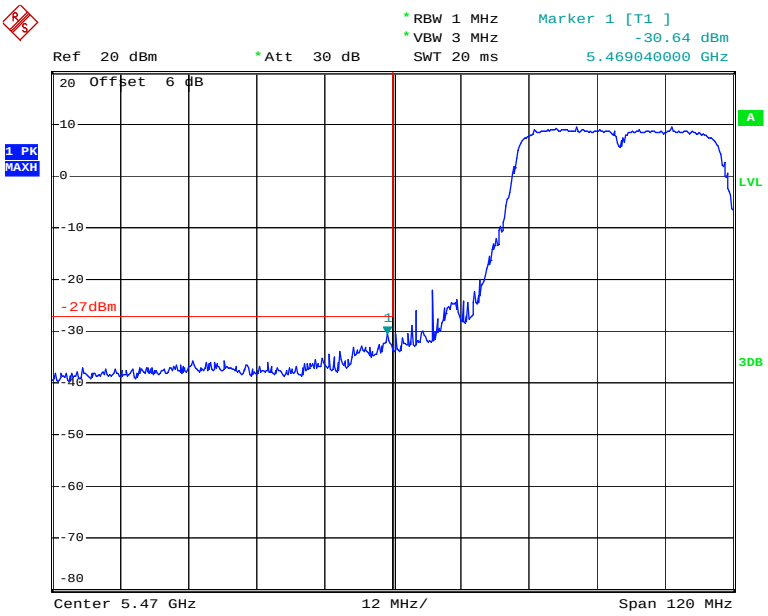
802.11n ht40 Low Channel



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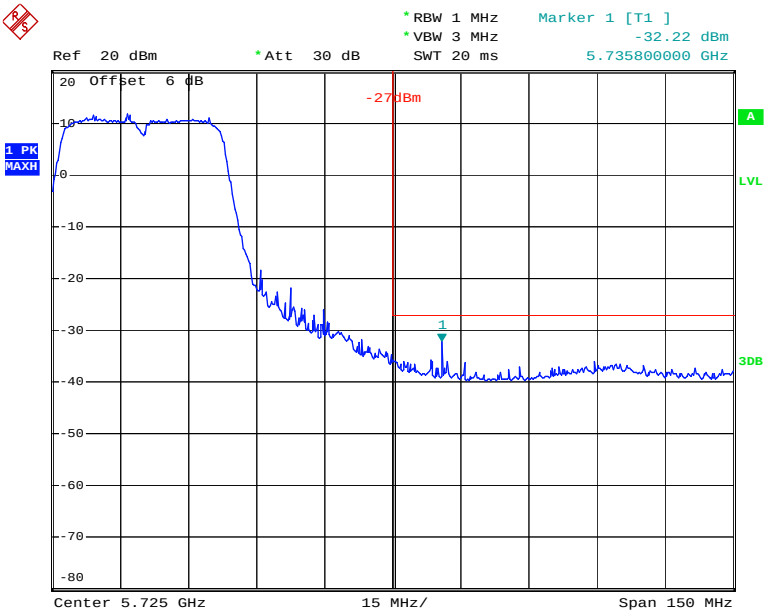
802.11n ht40 High Channel



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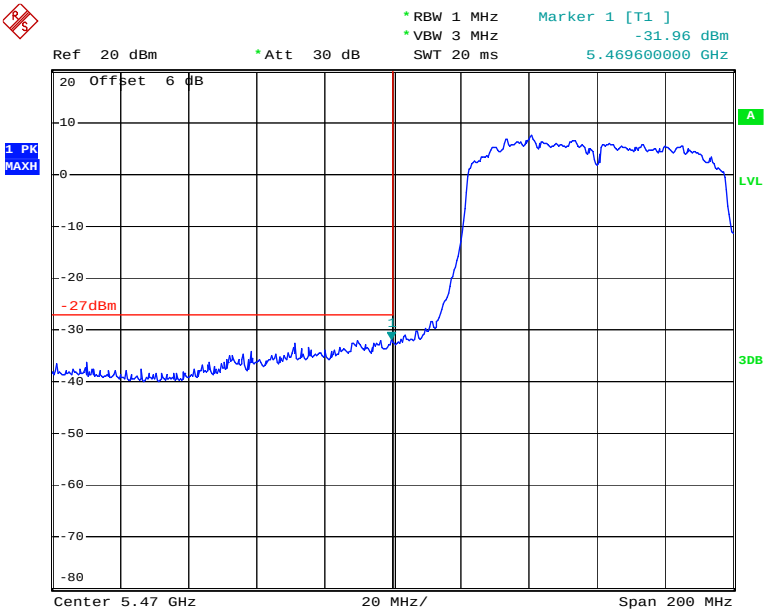
802.11n ac80 Low Channel



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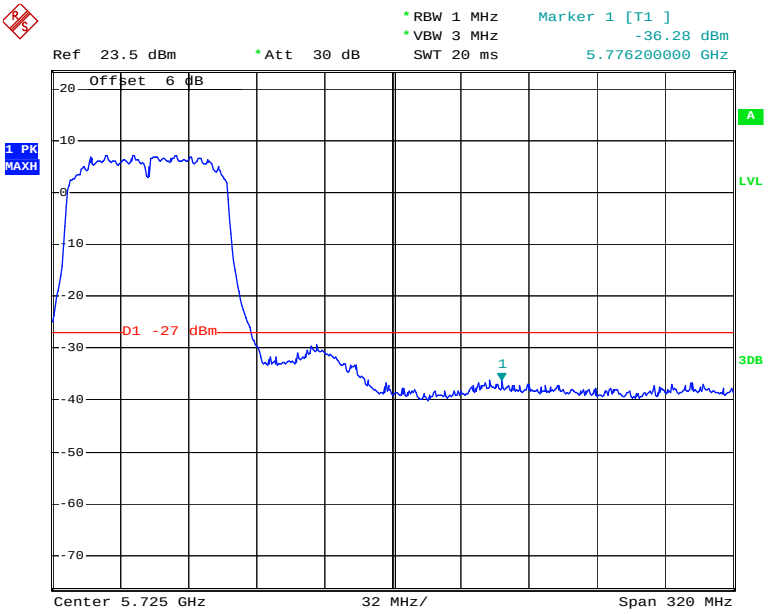
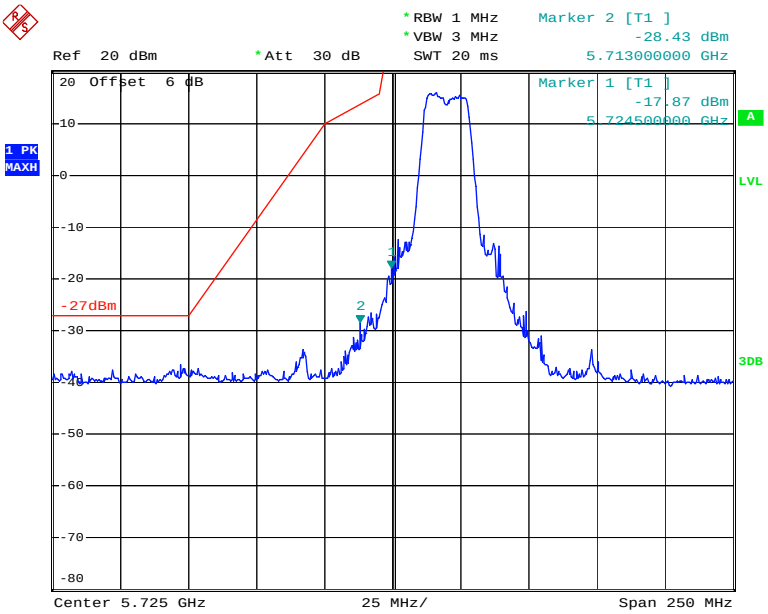
802.11n ac80 High Channel



Date: 20.MAR.2018 21:14:27

5725-5850MHz

802.11a Low Channel



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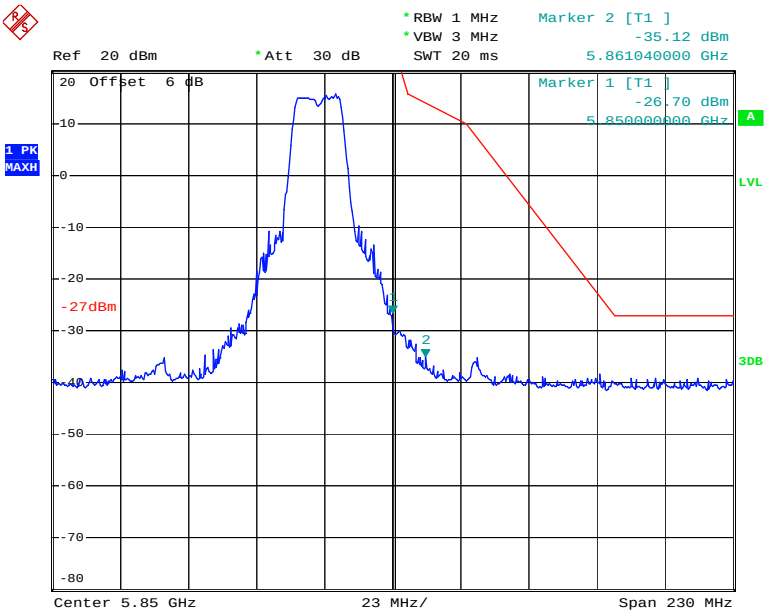
802.11a High Channel



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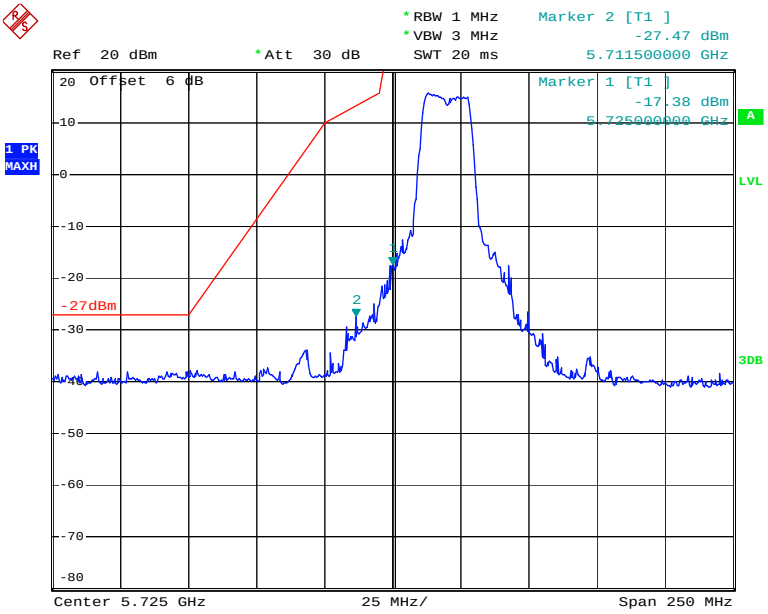

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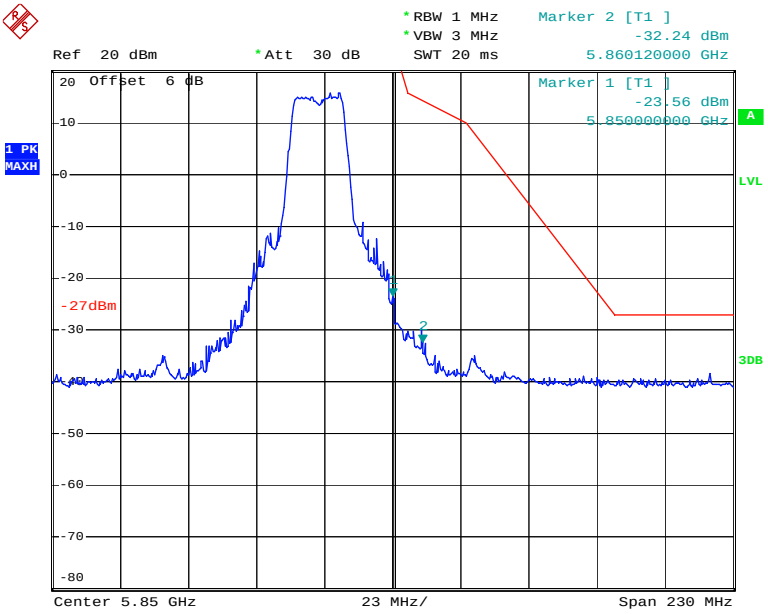
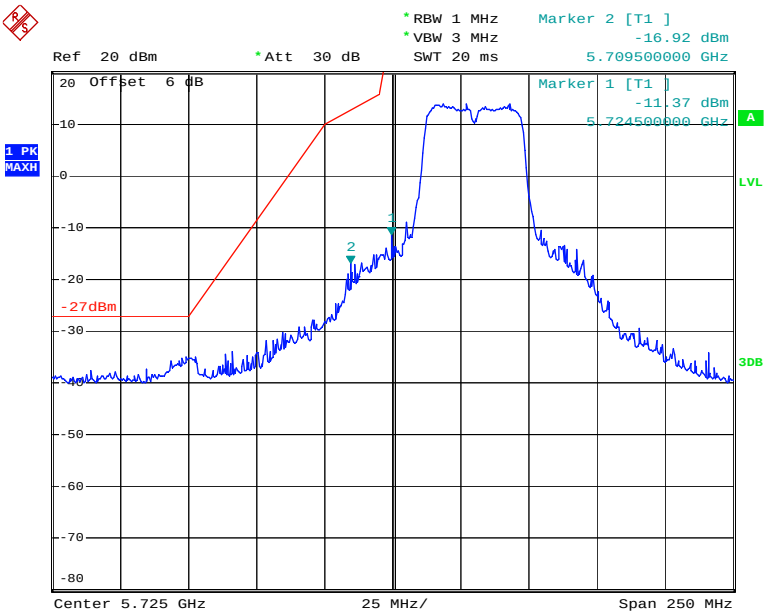
802.11n ht20 High Channel



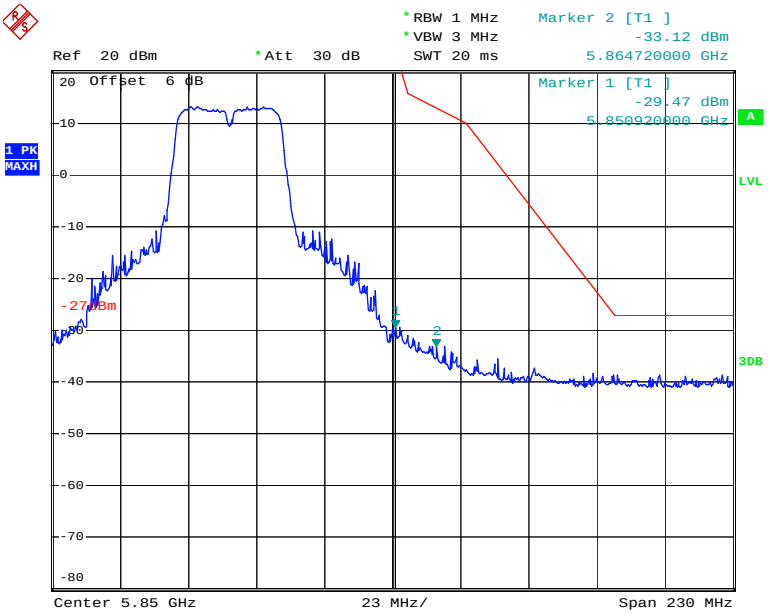
Date: 26.FEB.2018 20:55:25

802.11n ht40 Low Channel



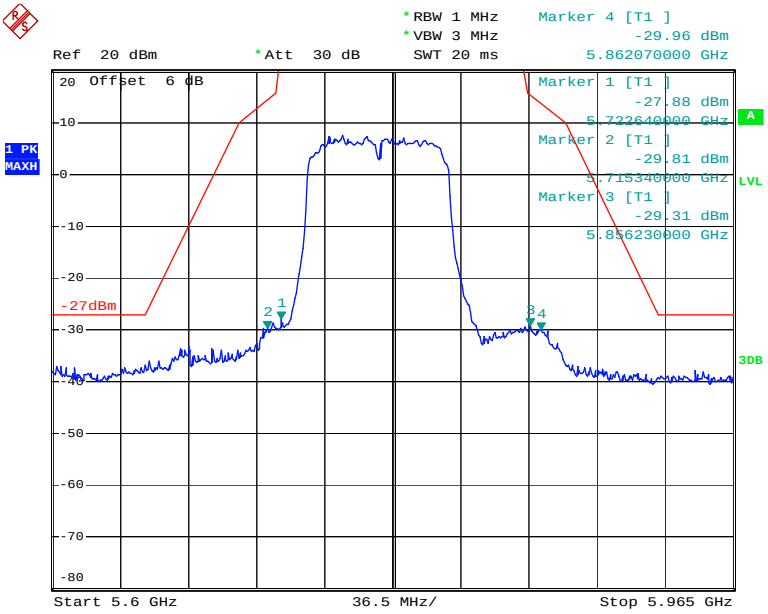
Date: 26.FEB.2018 21:59:50

802.11n ht40 High Channel



Date: 26.FEB.2018 22:02:42

802.11n ac80 Middle Channel



Date: 20.MAR.2018 21:36:39

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

Applicable Standard

15.407(a) (e)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2017-12-08	2018-12-08
N/A	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

Test Data

Environmental Conditions

Temperature:	22.2~26.4°C
Relative Humidity:	59~60 %
ATM Pressure:	100.8~102kPa

The testing was performed by Harry Yang on 2018-02-26 and 2018-03-20.

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting

UNII Band	Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)
5150-5250 MHz	802.11a	5180	22.64
		5200	28.16
		5240	29.60
	802.11n ht20	5180	22.88
		5200	30.64
		5240	30.48
	802.11n ht40	5190	42.88
		5230	45.92
	802.11 ac80	5210	85.44
5250-5350 MHz	802.11a	5260	28.8
		5280	26.08
		5320	22.64
	802.11n ht20	5260	29.04
		5280	28.8
		5320	22.96
	802.11n ht40	5270	47.2
		5310	43.2
	802.11 ac80	5290	84.8
5470-5725 MHz	802.11a	5500	22.56
		5580	23.2
		5700	22.56
	802.11n ht20	5500	23.04
		5580	22.96
		5700	22.88
	802.11n ht40	5510	43.2
		5550	43.36
		5670	43.04
	802.11 ac80	5530	84.16
		5610	85.76

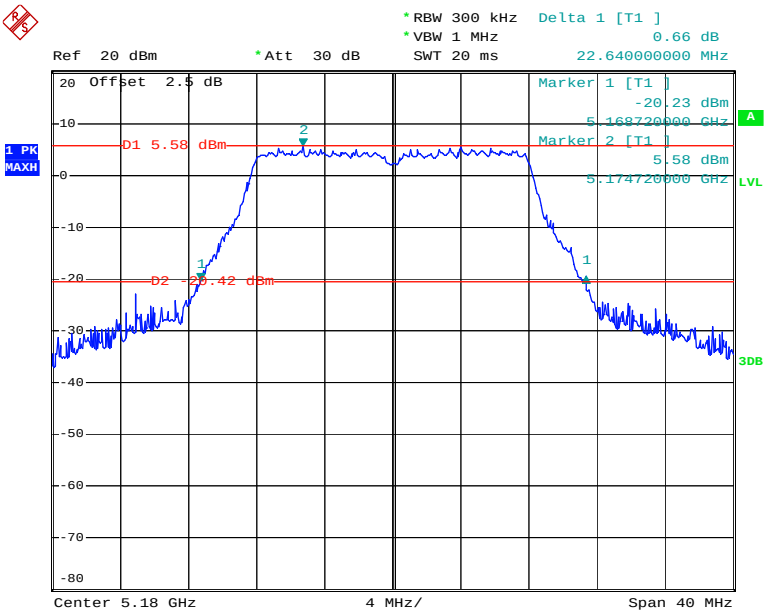
5725-5850MHz:

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)
802.11 a	Low	5745	16.48
	Middle	5785	16.48
	High	5825	16.48
802.11 n20	Low	5745	17.68
	Middle	5785	17.68
	High	5825	17.68
802.11 n40	Low	5755	35.68
	High	5795	35.52
802.11 ac80	Middle	5775	75.52

26dB Emission Bandwidth:

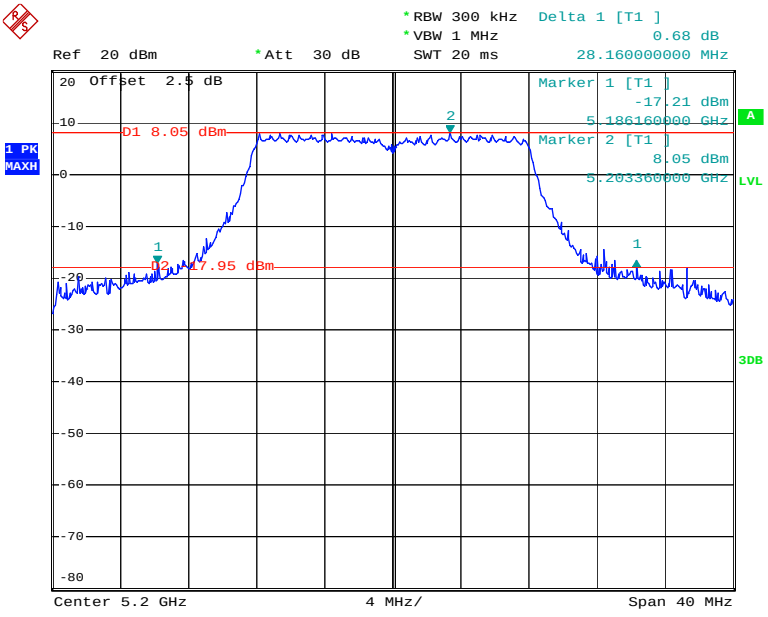
5150-5250MHz:

802.11a Low Channel



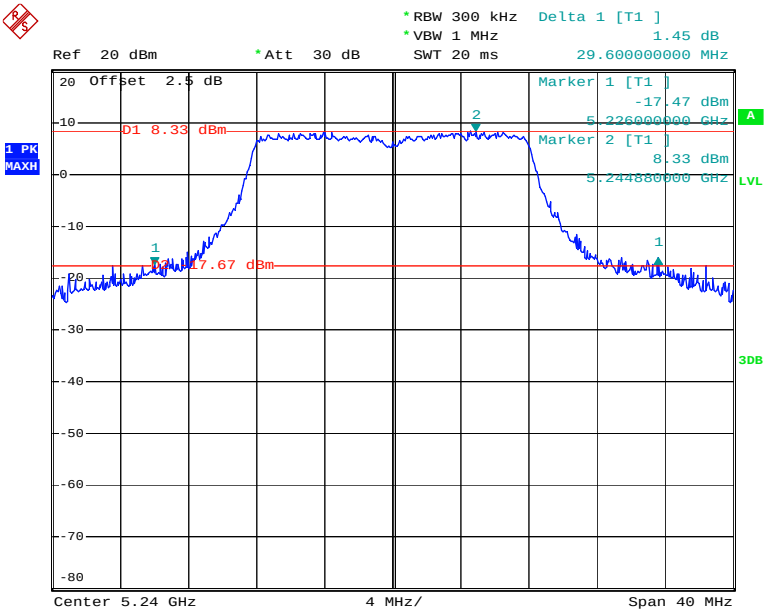
Date: 20.MAR.2018 18:46:43

802.11a Middle Channel



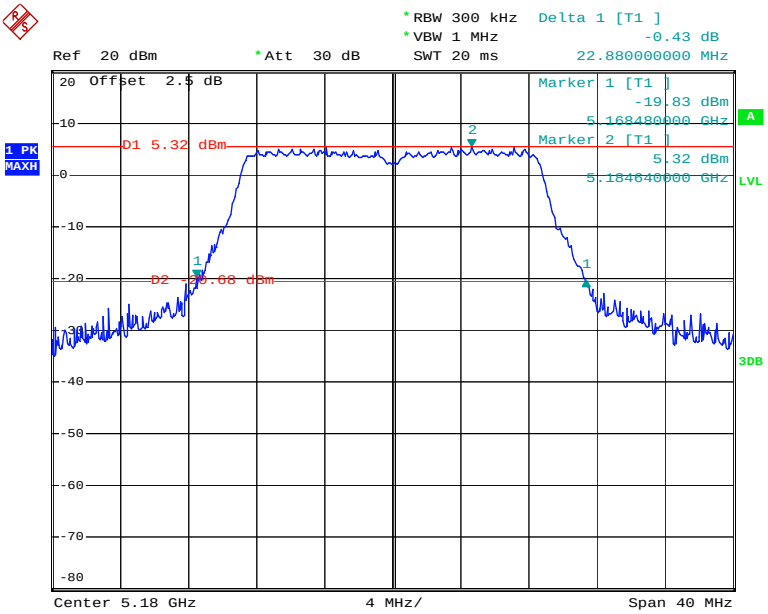
Date: 26.FEB.2018 20:28:18

802.11a High Channel



Date: 26.FEB.2018 20:30:38

802.11n ht20 Low Channel



Date: 20.MAR.2018 18:48:40

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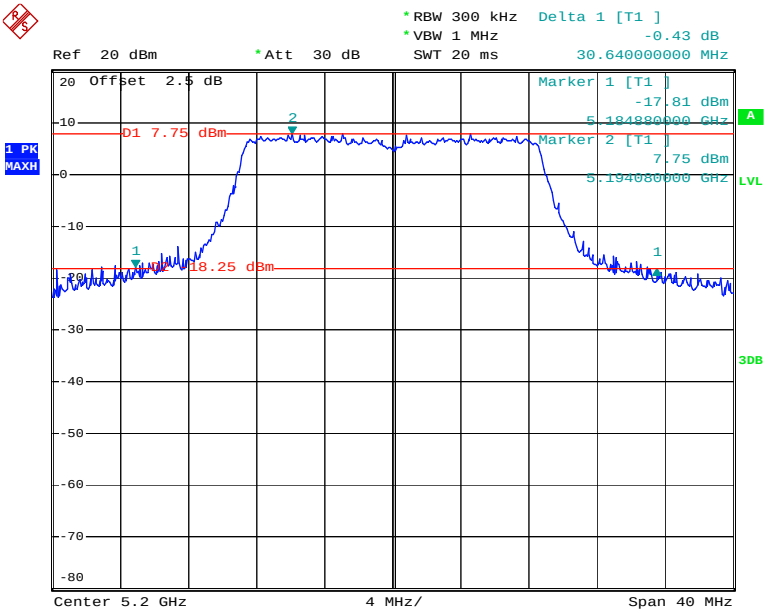
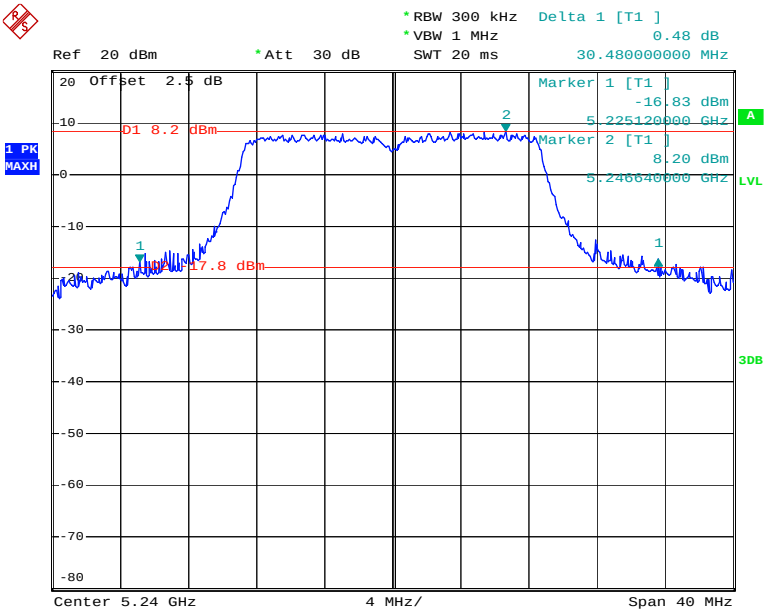


Date: 26.FEB.2018 21:18:33

802.11n ht20 High Channel



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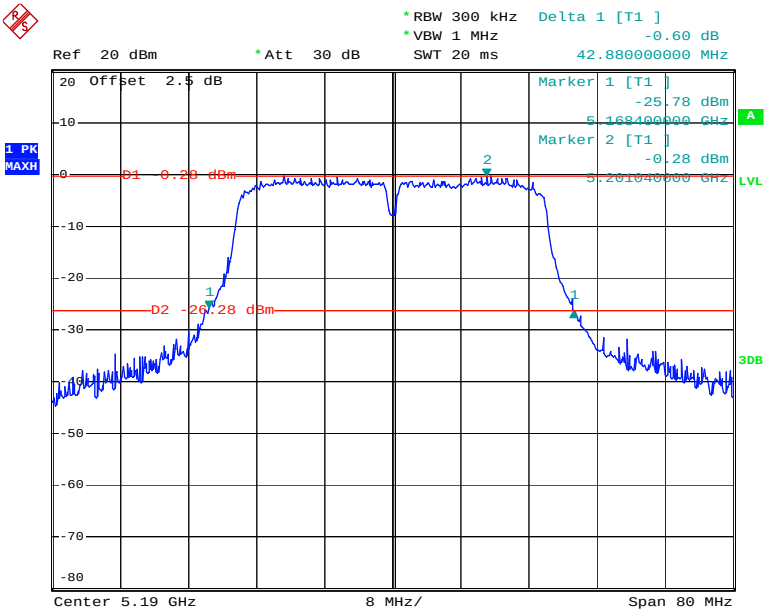
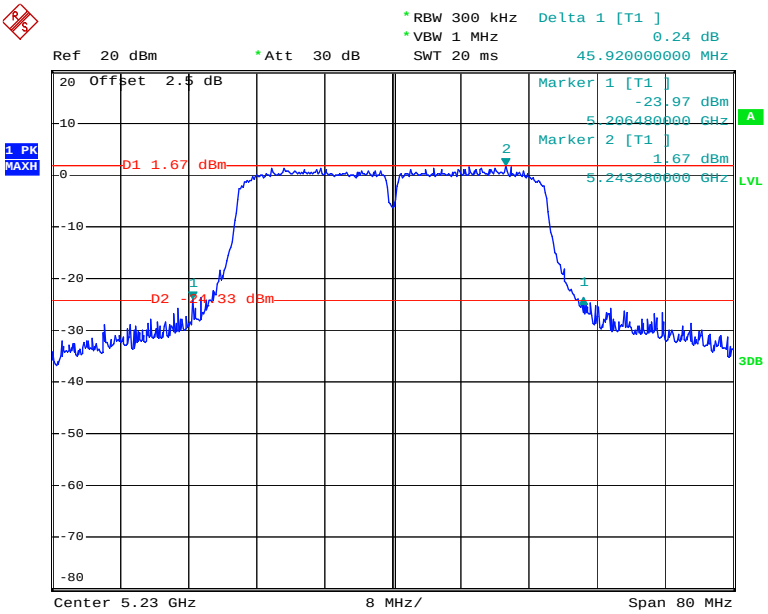
802.11n ht40 Low Channel



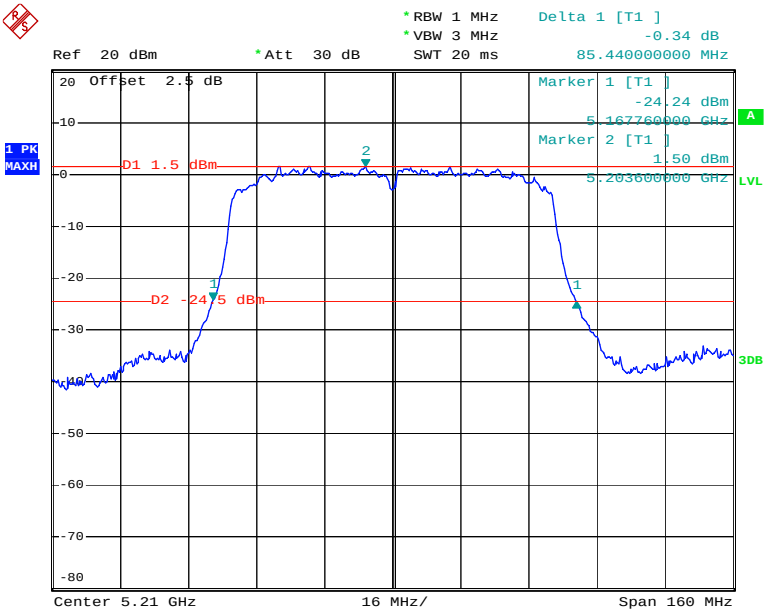
Date: 20.MAR.2018 19:49:07

802.11n ht40 High Channel



Date: 20.MAR.2018 21:18:28

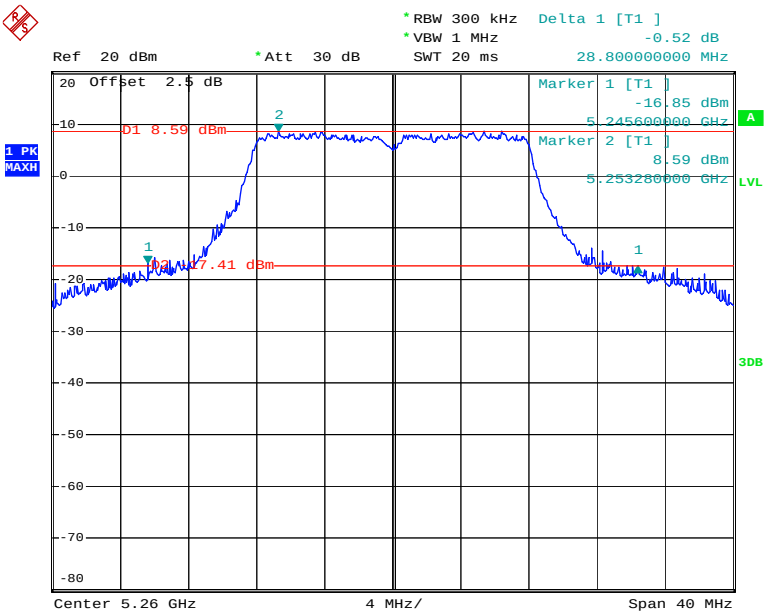
802.11n ac80 Middle Channel



Date: 20.MAR.2018 19:51:49

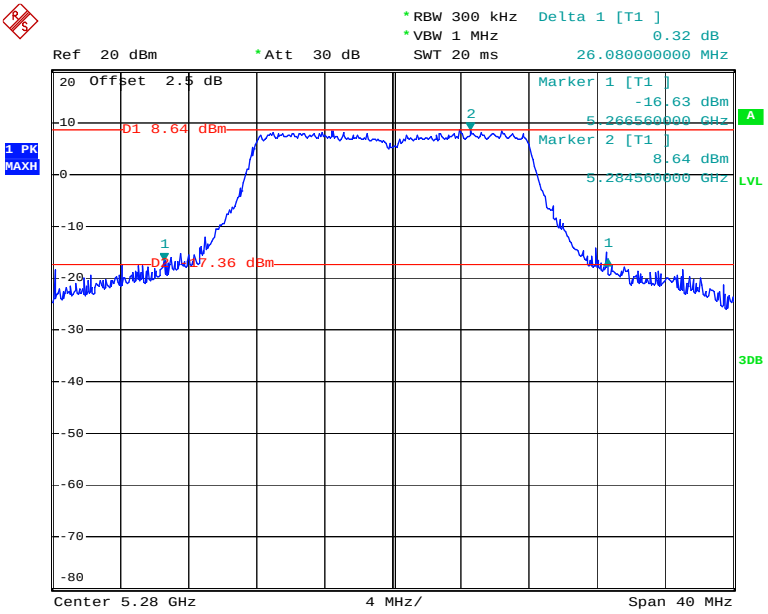
5250-5350MHz:

802.11a Low Channel



Date: 26.FEB.2018 20:33:04

802.11a Middle Channel



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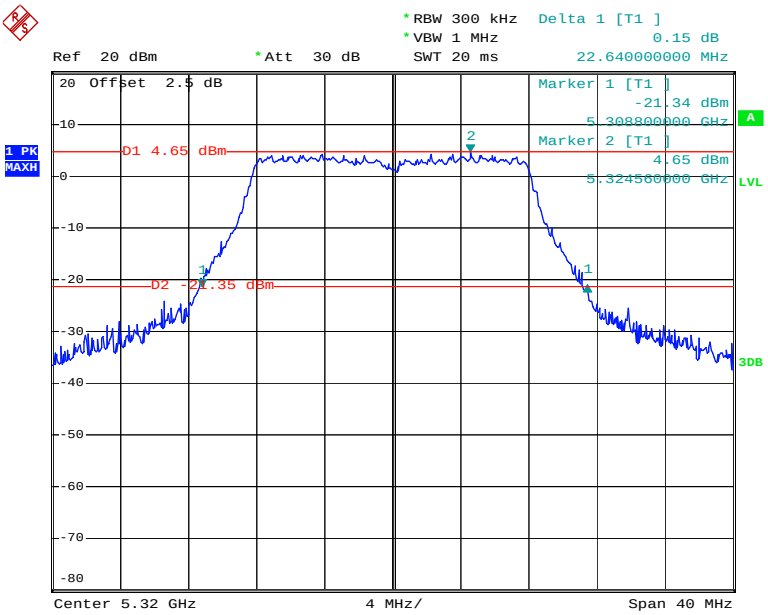
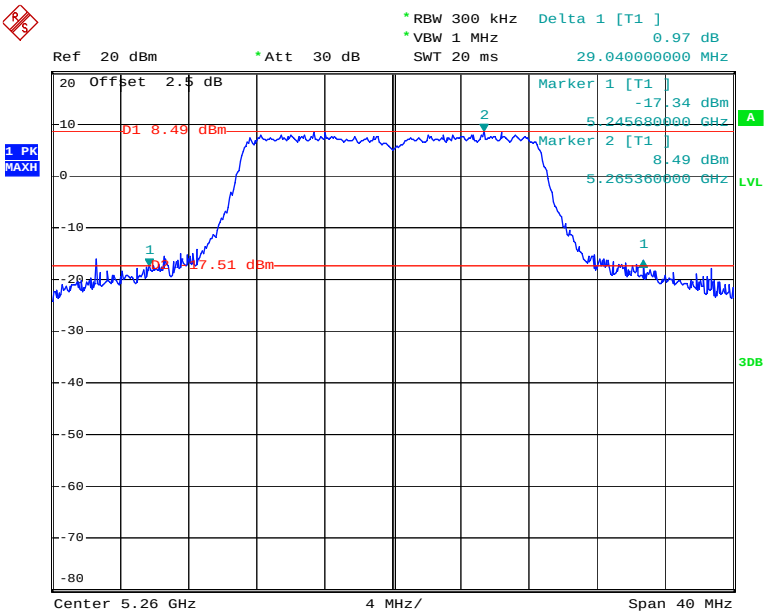
802.11a High Channel



Date: 20.MAR.2018 19:54:37

802.11n ht20 Low Channel



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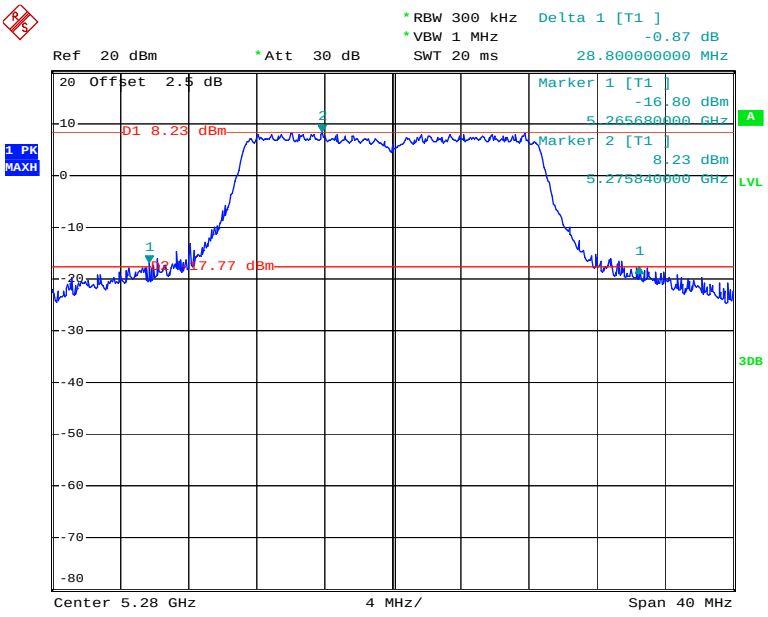
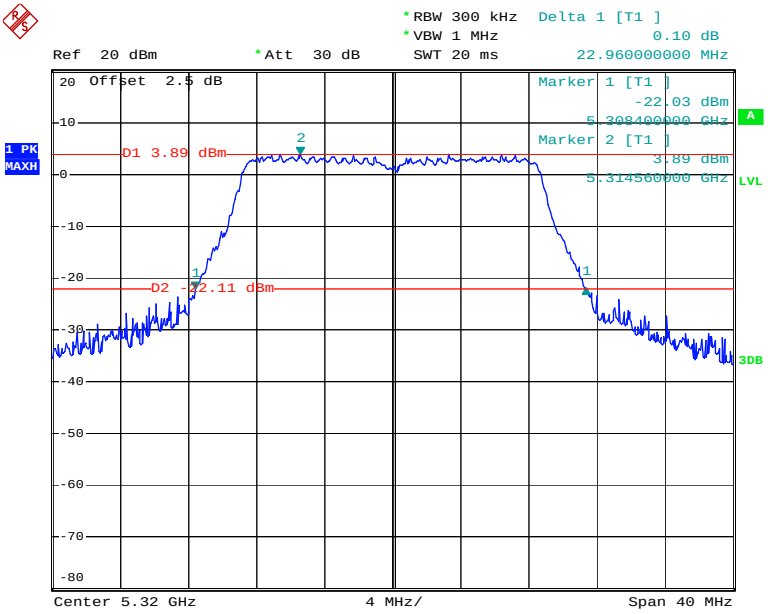
802.11n ht20 Middle Channel



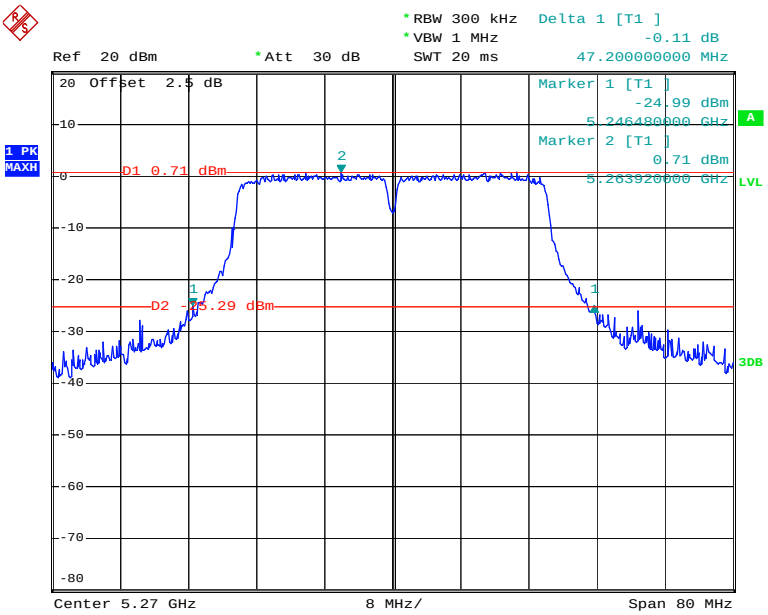
Date: 26.FEB.2018 21:11:11

802.11n ht20 High Channel



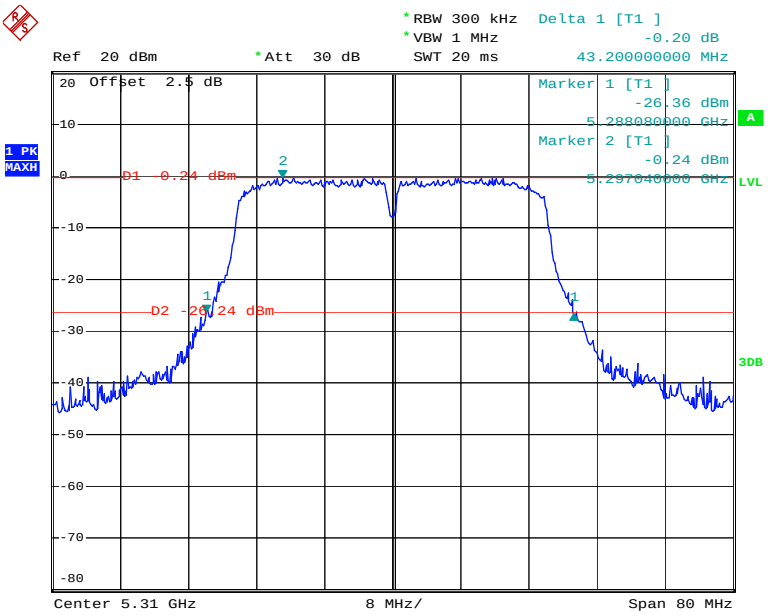
Date: 20.MAR.2018 19:56:25

802.11n ht40 Low Channel



Date: 20.MAR.2018 20:09:01

802.11n ht40 High Channel



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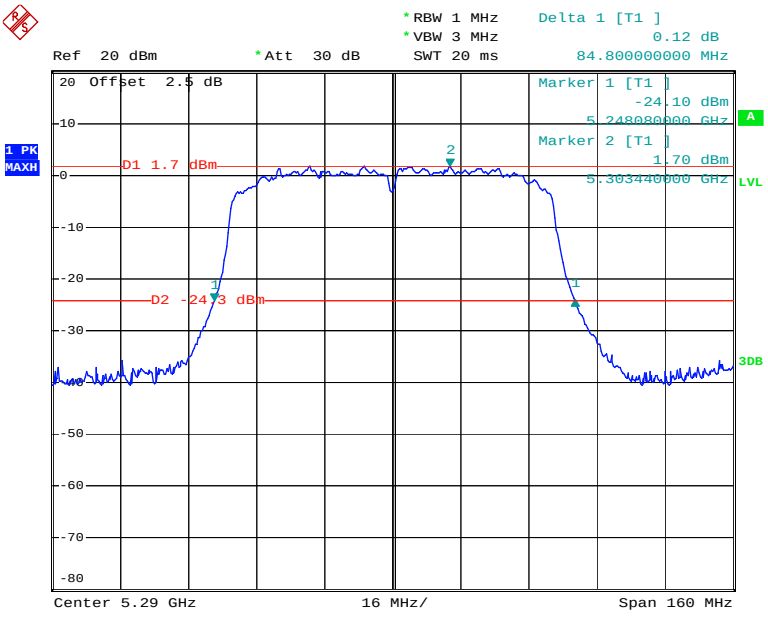
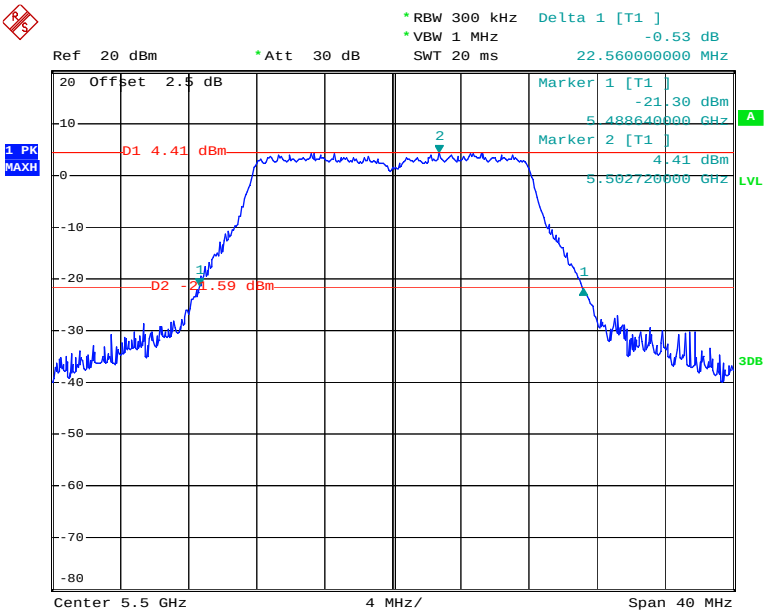
802.11n ac80 Middle Channel



Date: 20.MAR.2018 20:18:21

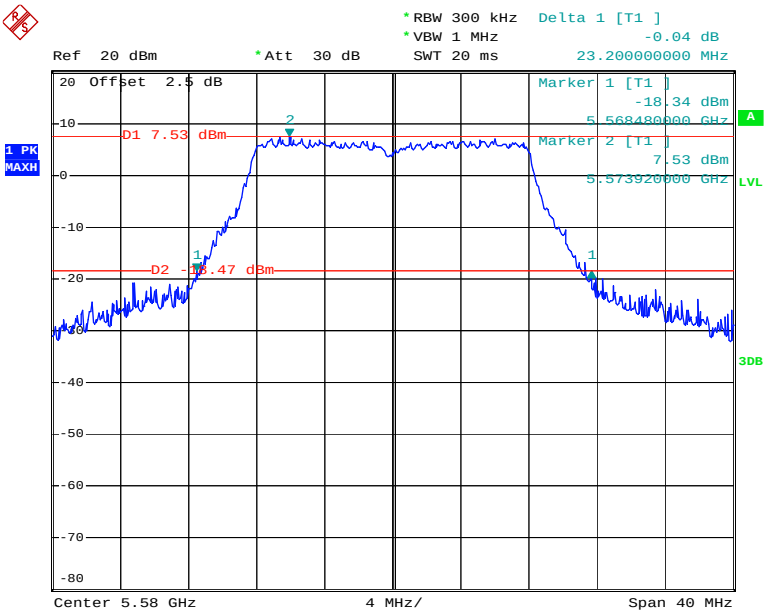
5470-5725MHz:

802.11a Low Channel



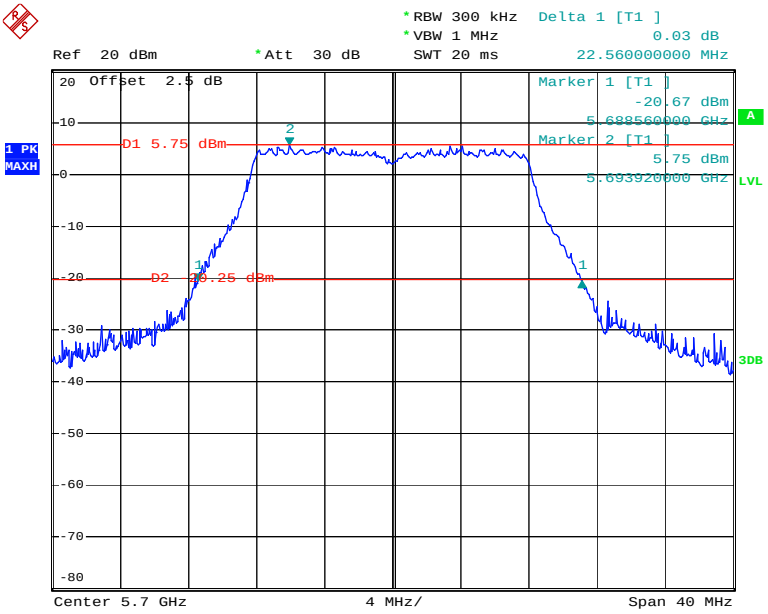
Date: 20.MAR.2018 20:20:36

802.11a Middle Channel



Date: 26.FEB.2018 20:41:39

802.11a High Channel



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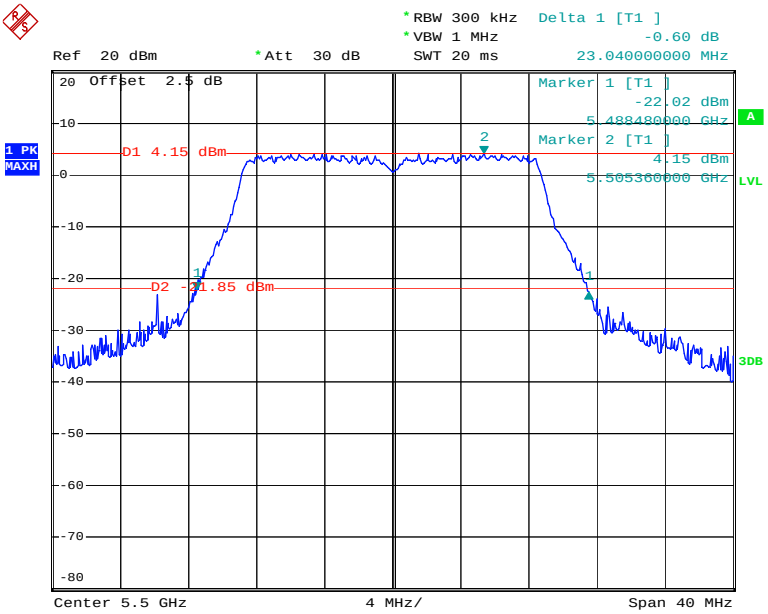
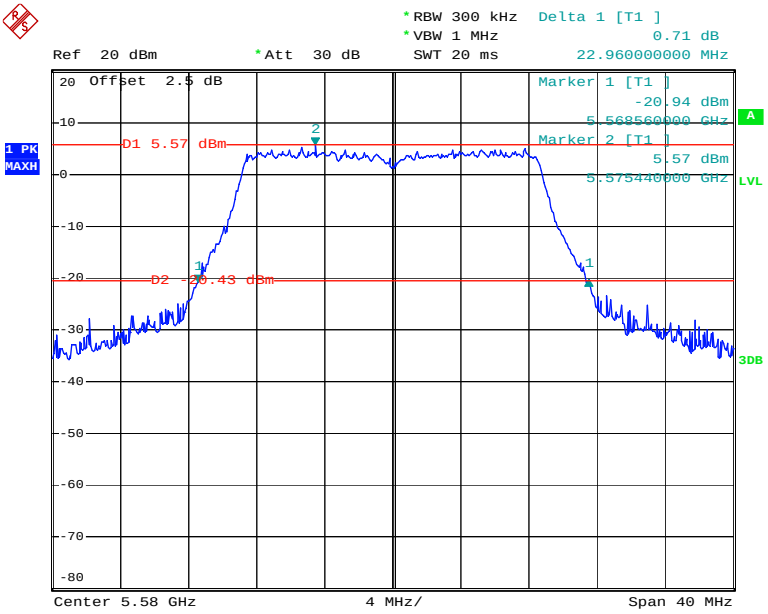
802.11n ht20 Low Channel



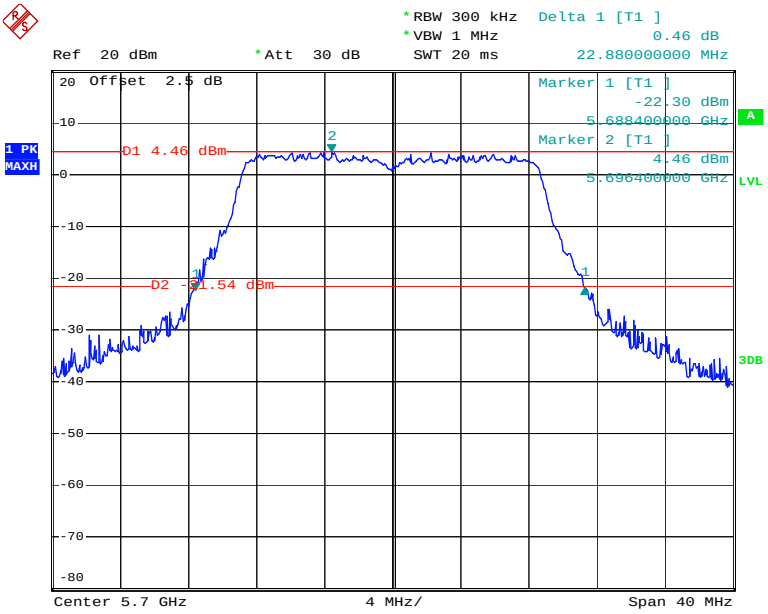
Date: 20.MAR.2018 20:22:25

802.11n ht20 Middle Channel



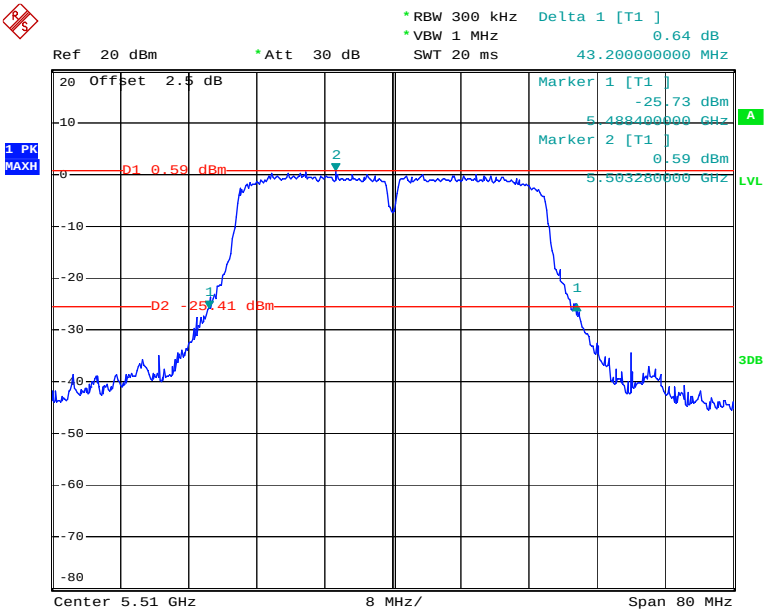
Date: 20.MAR.2018 20:24:40

802.11n ht20 High Channel



Date: 20.MAR.2018 20:28:21

802.11n ht40 Low Channel



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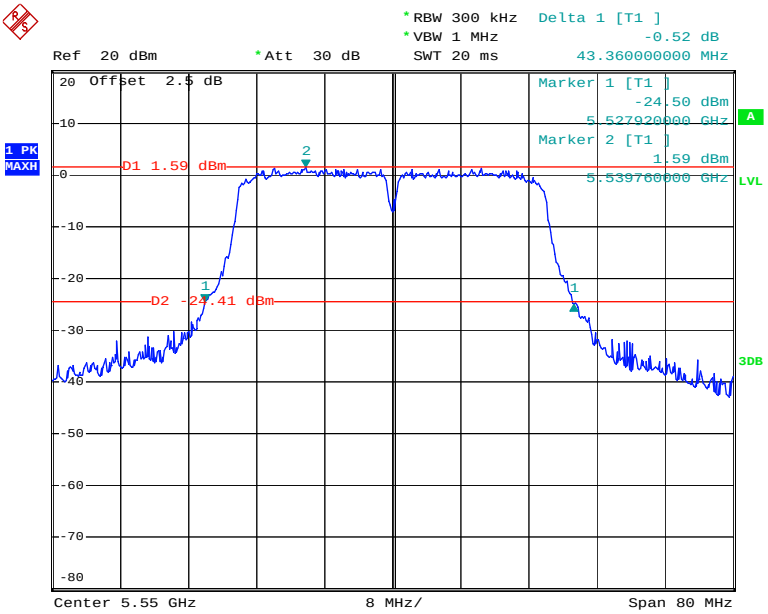
802.11n ht40 Middle Channel



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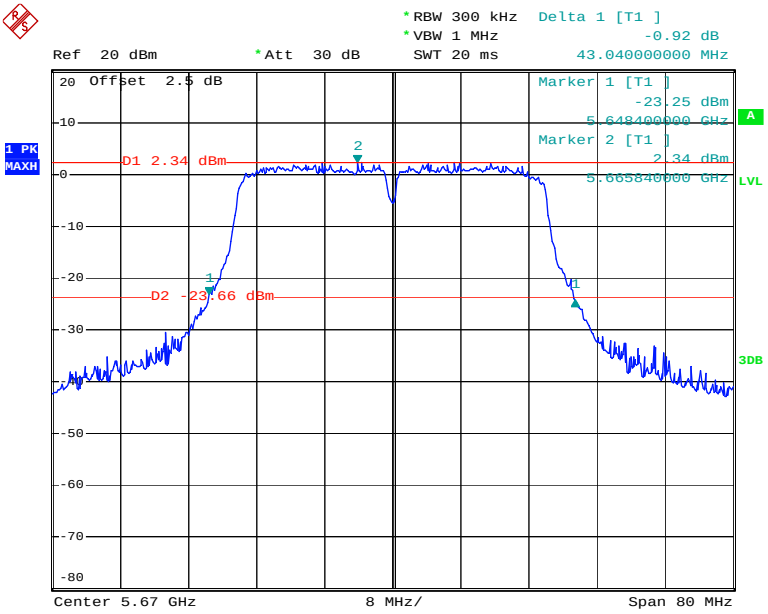
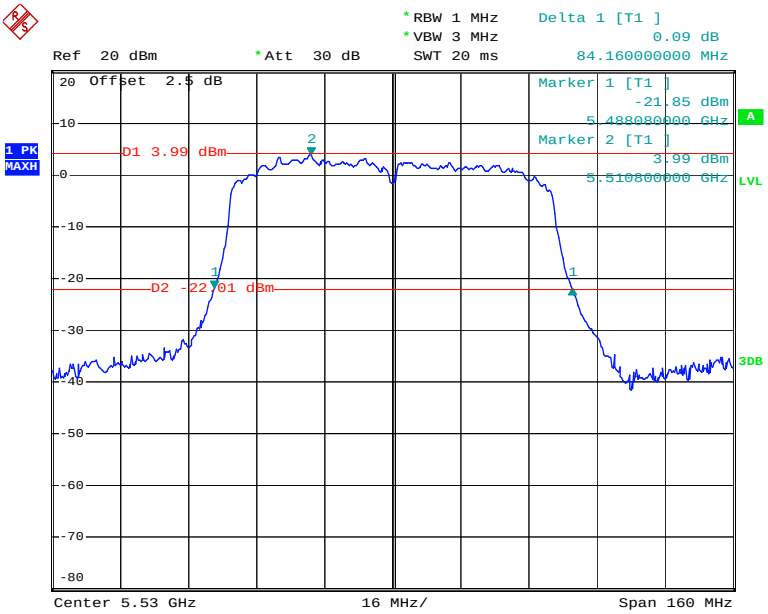
802.11n ht40 High Channel



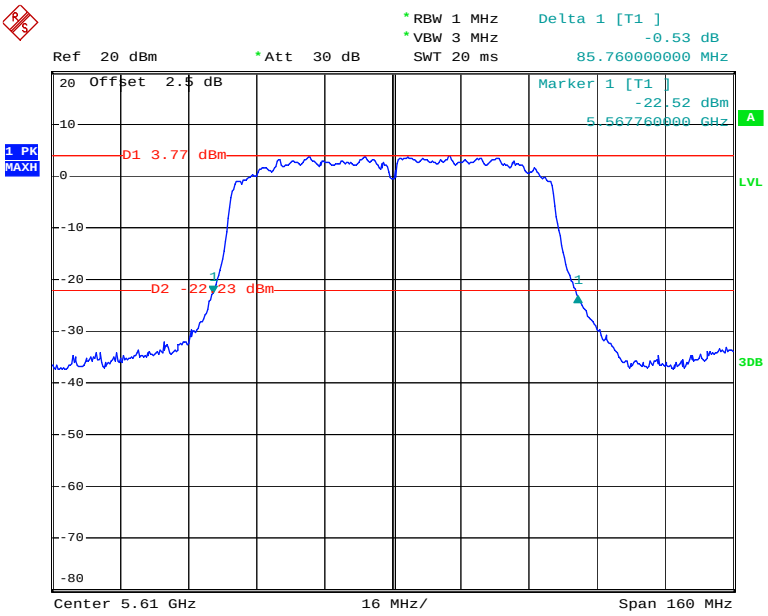
Date: 20.MAR.2018 20:41:12

802.11n ac80 Low Channel



Date: 20.MAR.2018 20:44:02

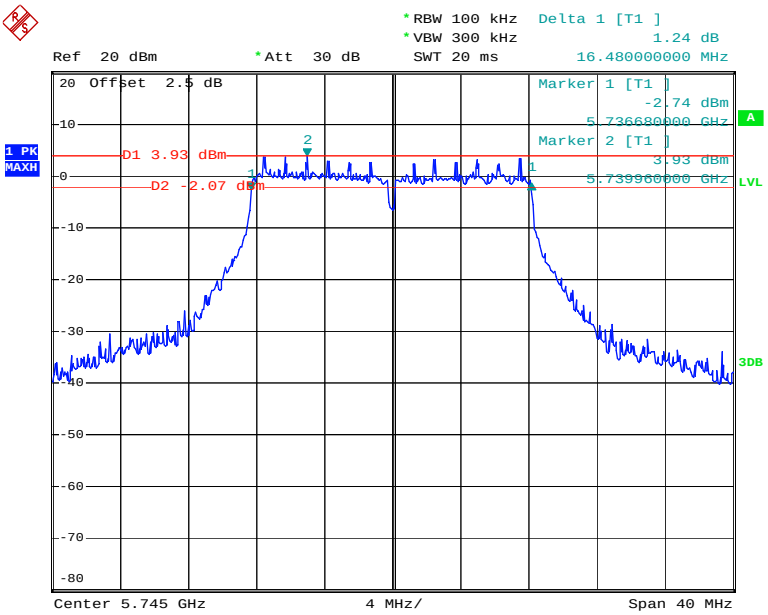
802.11n ac80 High Channel



Date: 20.MAR.2018 21:12:04

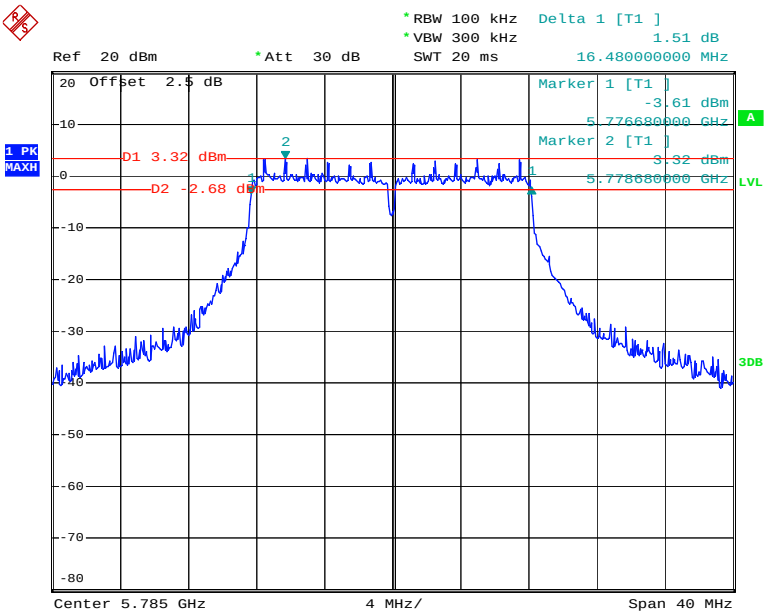
5725-5850MHz
6dB Minimum Emission Bandwidth:

802.11a Low Channel



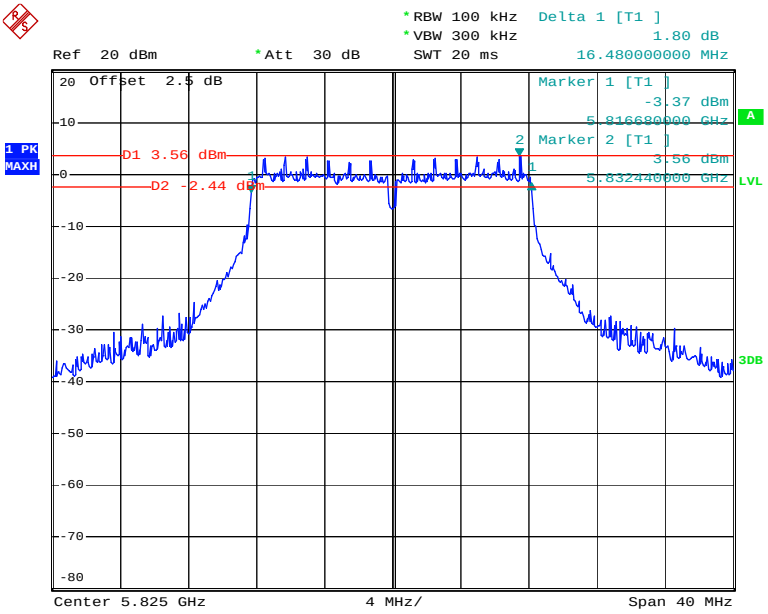
Date: 26.FEB.2018 20:46:56

802.11a Middle Channel



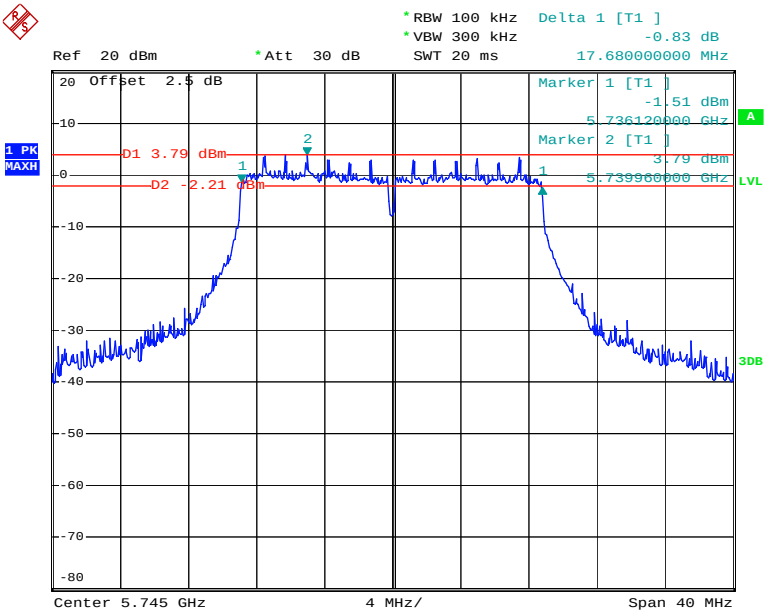
Date: 26.FEB.2018 20:49:27

802.11a High Channel



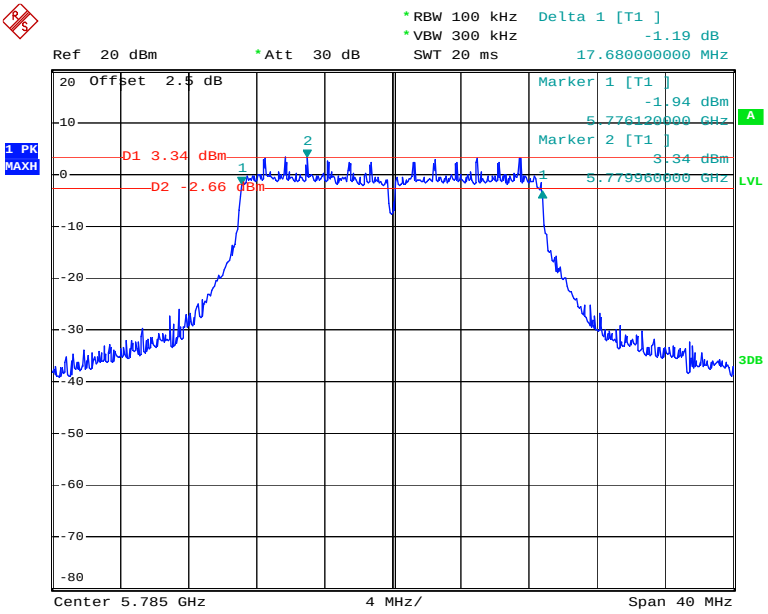
Date: 26.FEB.2018 20:51:29

802.11n ht20 Low Channel



Date: 26.FEB.2018 20:59:11

802.11n ht20 Middle Channel



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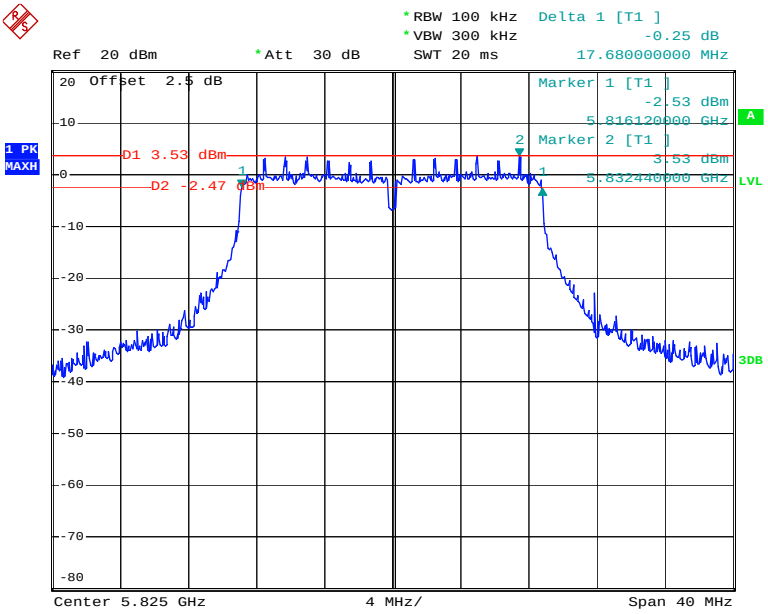
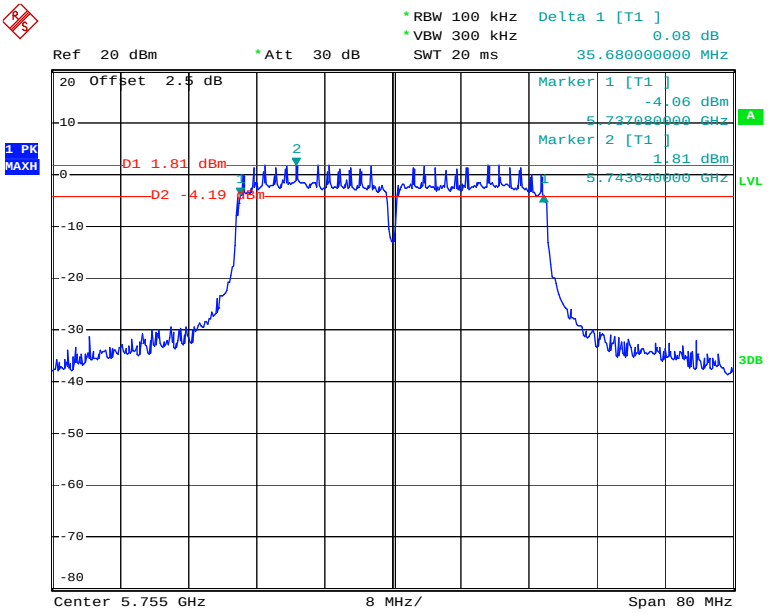
802.11n ht20 High Channel



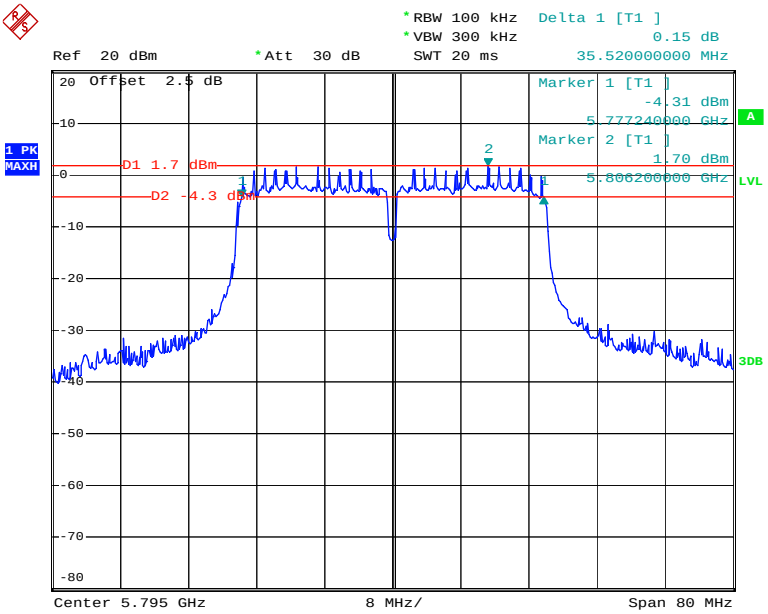
Date: 26.FEB.2018 20:54:29

802.11n ht40 Low Channel



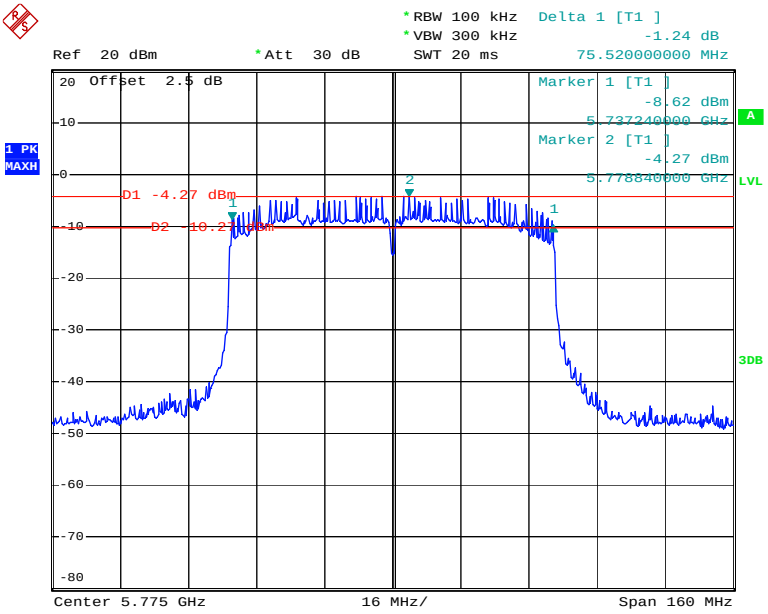
Date: 26.FEB.2018 21:58:55

802.11n ht40 High Channel



Date: 26.FEB.2018 22:01:53

802.11n ac80 Middle Channel



Date: 20.MAR.2018 21:35:46

FCC §15.407(a) –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.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2017-11-03	2018-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2017-11-03	2018-11-03
N/A	Coaxial Cable	C-SJ00-0010	C0010/01	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

Test Data

Environmental Conditions

Temperature:	22.2°C
Relative Humidity:	59 %
ATM Pressure:	102 kPa

The testing was performed by Harry Yang on 2018-02-26.

Test Mode: Transmitting

Band	Mode	Channel	Frequency (MHz)	Conducted RMS Output Power (dBm)	Limit (dBm)
5150-5250MHz	802.11a	Low	5180	13.13	24
		Middle	5200	15.7	
		High	5240	16.07	
	802.11n ht20	Low	5180	13.11	
		Middle	5200	15.73	
		High	5240	16.13	
	802.11n ht40	Low	5190	11.15	
		High	5230	14.18	
	802.11ac80	Middle	5210	11.97	
5250-5350MHz	802.11a	Low	5260	16.39	24
		Middle	5280	16.06	
		High	5320	13.16	
	802.11n ht20	Low	5260	16.36	
		Middle	5280	16.13	
		High	5320	13.36	
	802.11n ht40	Low	5270	13.29	
		High	5310	11.34	
	802.11ac80	Middle	5290	10.98	
5470-5725MHz	802.11a	Low	5500	12.99	24
		Middle	5580	14.96	
		High	5700	13.51	
	802.11n ht20	Low	5500	13.08	
		Middle	5580	14.3	
		High	5700	12.8	
	802.11n ht40	Low	5510	12.07	
		Middle	5550	13.49	
		High	5670	12.78	
	802.11ac80	Low	5530	12.62	
		High	5610	12.89	
5725-5850MHz	802.11a	Low	5745	14.62	30
		Middle	5785	14.22	
		High	5825	14.46	
	802.11n ht20	Low	5745	14.65	
		Middle	5785	14.2	
		High	5825	14.44	
	802.11n ht40	Low	5755	15.63	
		High	5795	15.43	
	802.11ac80	Middle	5775	13.1	

FCC §15.407(a) - 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.

Test Procedure

According to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2017-12-08	2018-12-08
N/A	Coaxial Cable	C-SJ00-0010	C0010/01	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	22.2~26.4°C
Relative Humidity:	60 %
ATM Pressure:	100.8~102 kPa

The testing was performed by Harry Yang on 2018-02-26 and 2018-03-20.

Test Result:Compliance

Test Mode: Transmitting

Band	Mode	Frequency (MHz)	Maximum Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)
5150-5250MHz	802.11a	5180	2.6	11
		5200	5.27	
		5240	5.42	
	802.11n ht20	5180	2.32	
		5200	4.9	
		5240	5.2	
	802.11n ht40	5190	-3.53	
		5230	-1.38	
	802.11ac80	5210	-6.29	
5250-5350MHz	802.11a	5260	5.83	11
		5280	5.6	
		5320	1.35	
	802.11n ht20	5260	5.46	
		5280	5.14	
		5320	1.03	
	802.11n ht40	5270	-1.89	
		5310	-3.2	
	802.11ac80	5290	-6.11	
5470-5725MHz	802.11a	5500	1.56	11
		5580	4.39	
		5700	2.65	
	802.11n ht20	5500	1.15	
		5580	2.26	
		5700	1.42	
	802.11n ht40	5510	-2.51	
		5550	-1.23	
		5670	-0.69	
	802.11ac80	5530	-4.76	
		5610	-4.14	

Band	Mode	Frequency (MHz)	Maximum Power Spectral Density (dBm/300Hz)	Maximum Power Spectral Density (dBm/500Hz)	Limit (dBm/500Hz)
5725-5850MHz	802.11a	5745	0.21	2.43	30
		5785	-0.05	2.17	
		5825	0.35	2.57	
	802.11n ht20	5745	0.92	3.14	
		5785	0.6	2.82	
		5825	0.58	2.8	
	802.11n ht40	5755	-1.08	1.14	
		5795	-1.37	0.85	
	802.11ac80	5775	-7.93	-5.71	

Note:
For 5.8GHz band, 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.

5150-5250MHz:

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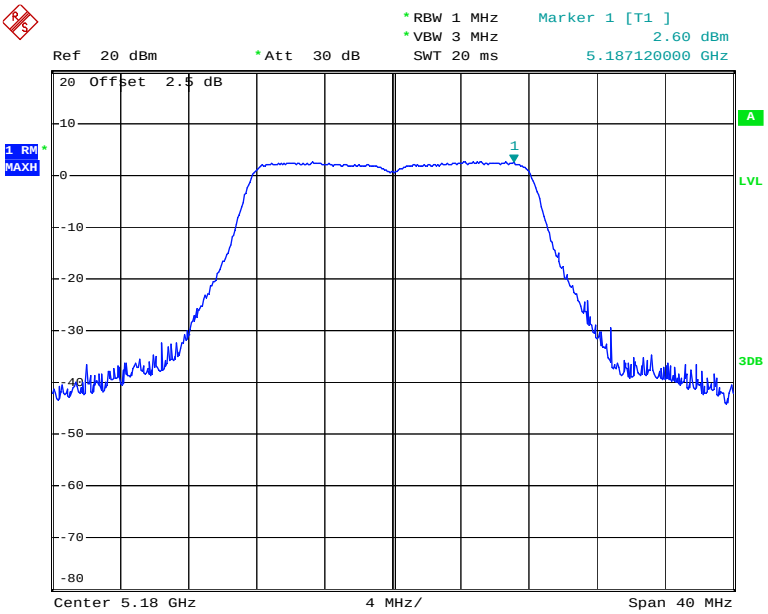
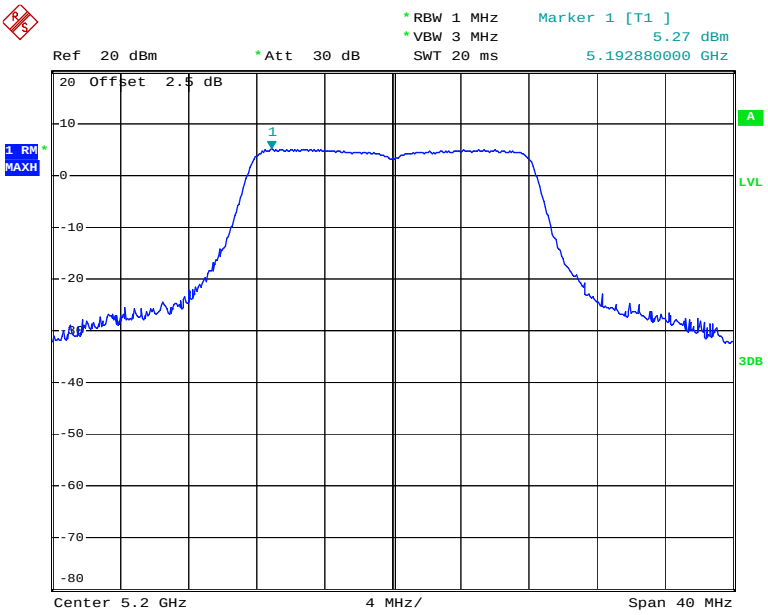


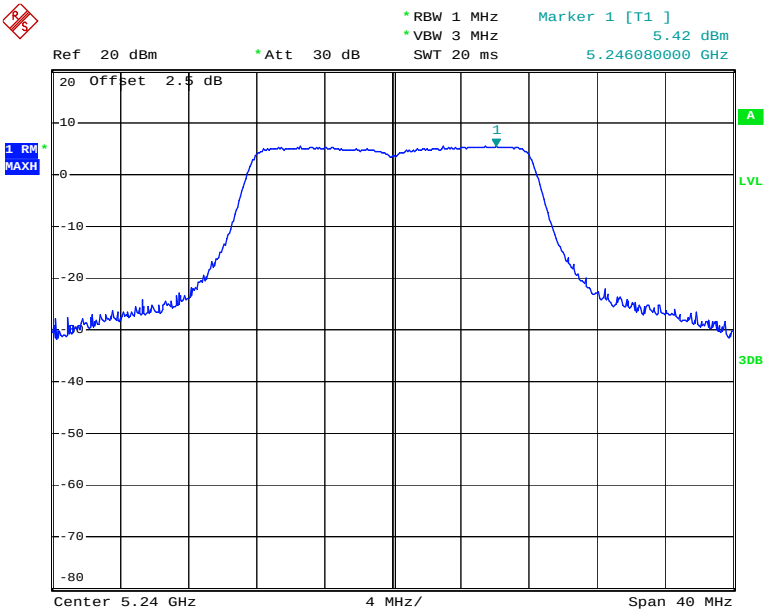
Date: 20.MAR.2018 18:47:10

Power Spectral Density, 802.11a Middle Channel



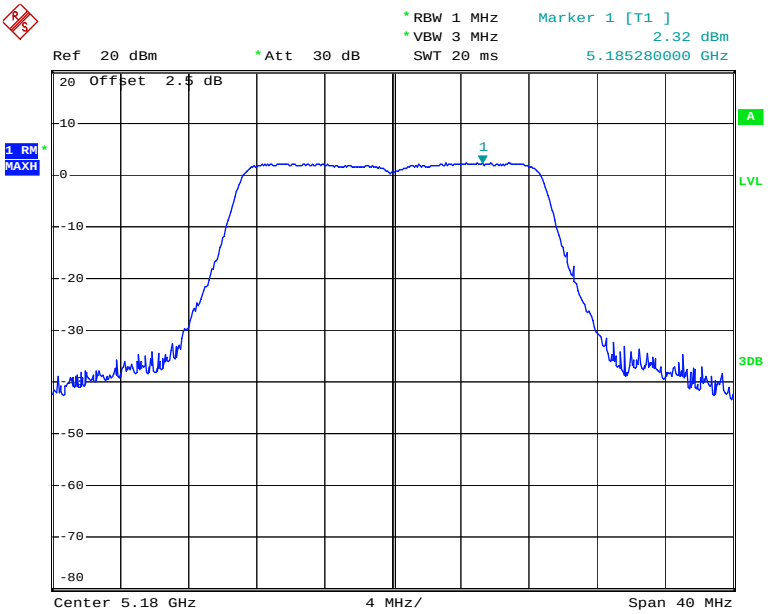
Date: 26.FEB.2018 20:28:45

Power Spectral Density, 802.11a High Channel



Date: 26.FEB.2018 20:31:05

Power Spectral Density, 802.11n ht20 Low Channel



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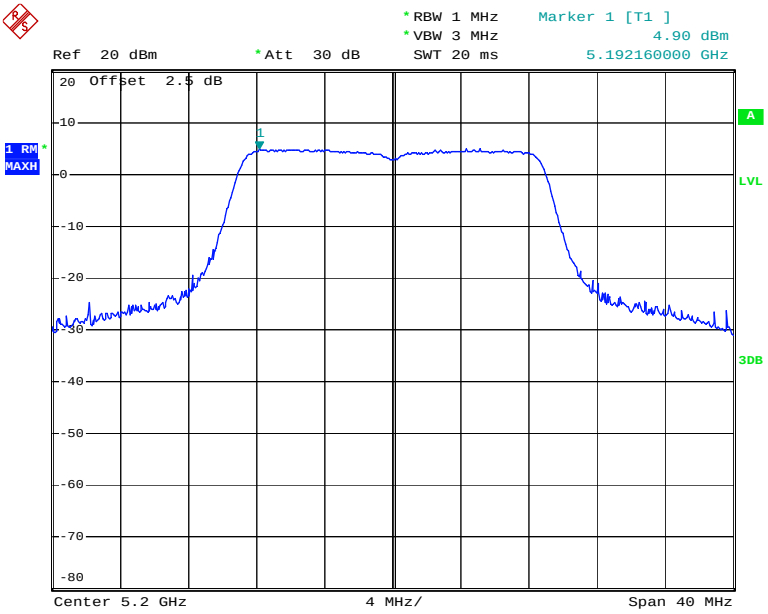
Power Spectral Density, 802.11n ht20 Middle Channel



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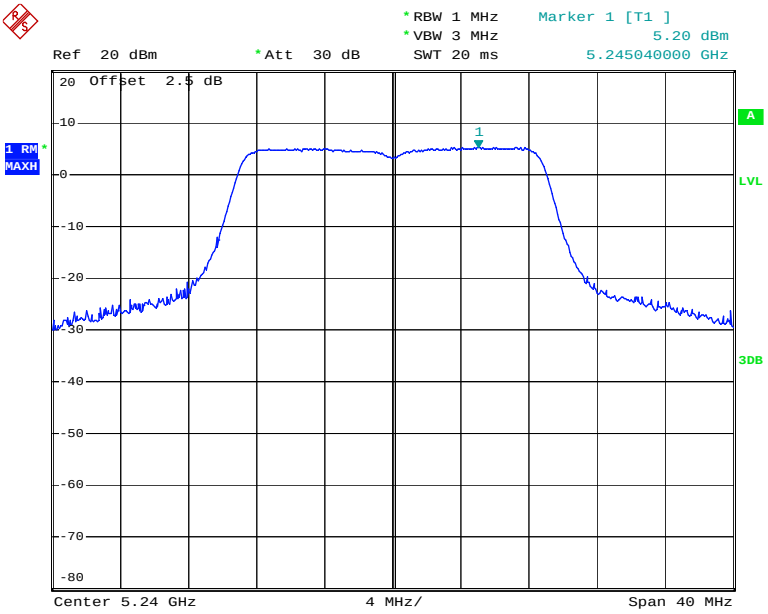
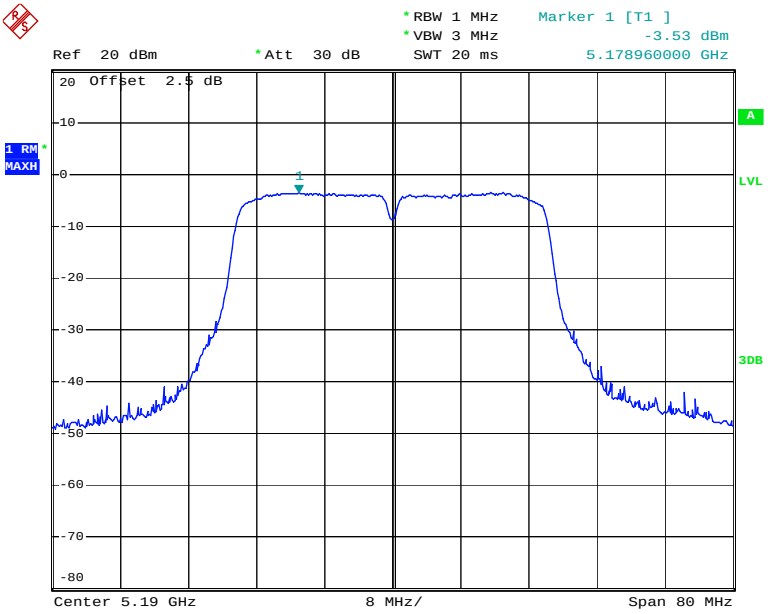
Power Spectral Density, 802.11n ht20 High Channel



Date: 26.FEB.2018 21:16:34

Power Spectral Density, 802.11n ht40 Low Channel



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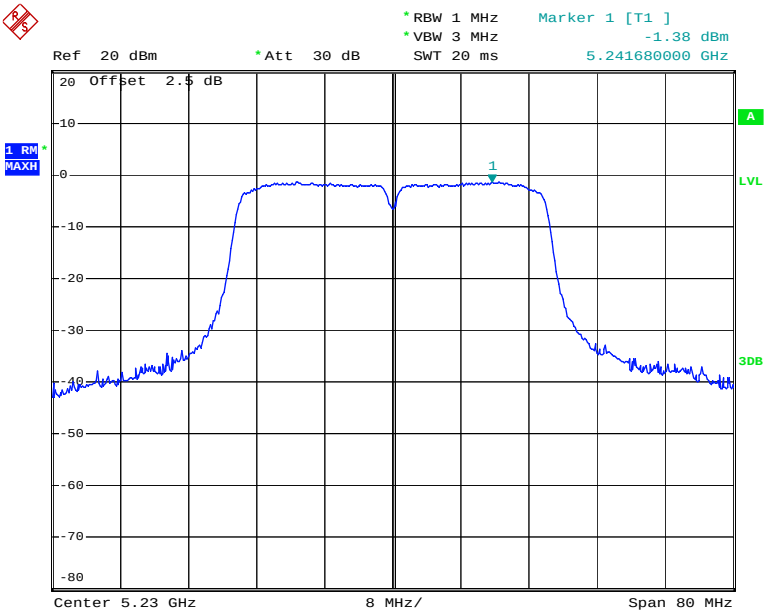
Power Spectral Density, 802.11n ht40 High Channel



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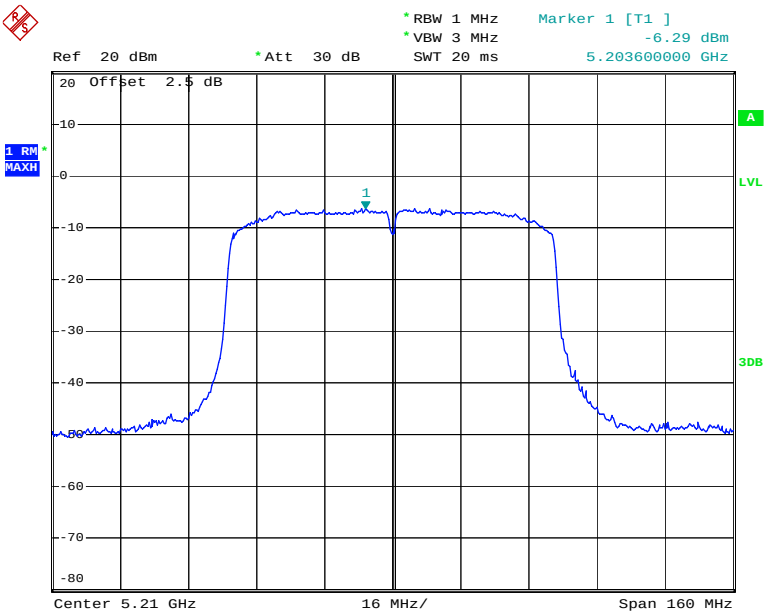
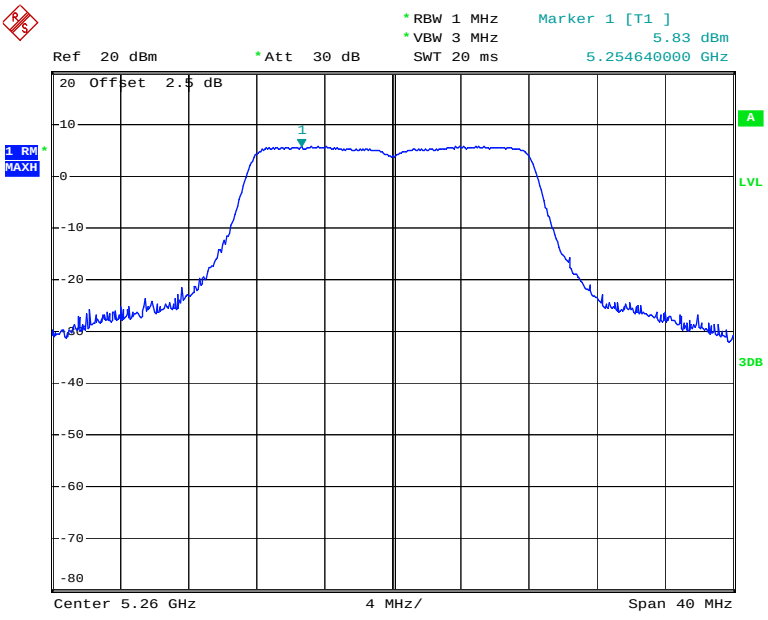
Power Spectral Density, 802.11n ac80 Middle Channel



Date: 20.MAR.2018 19:52:17

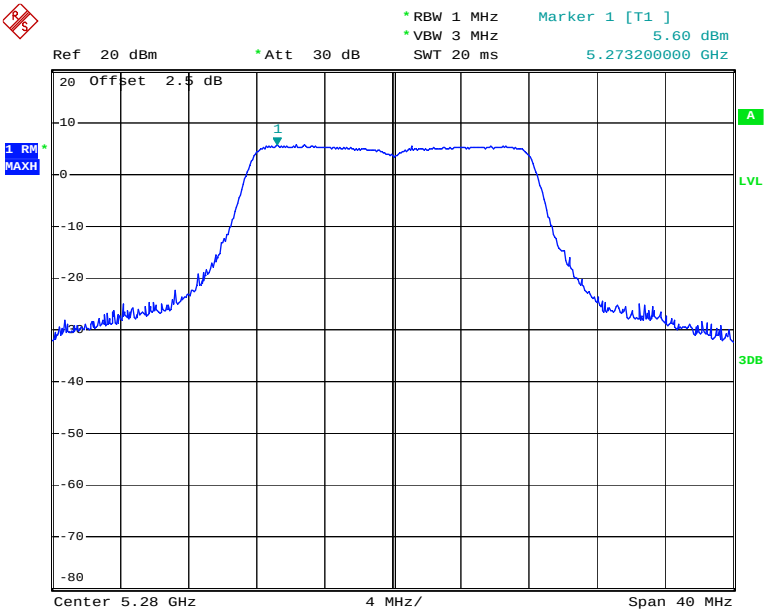
5250-5350MHz:

Power Spectral Density, 802.11a Low Channel



Date: 26.FEB.2018 20:33:31

Power Spectral Density, 802.11a Middle Channel



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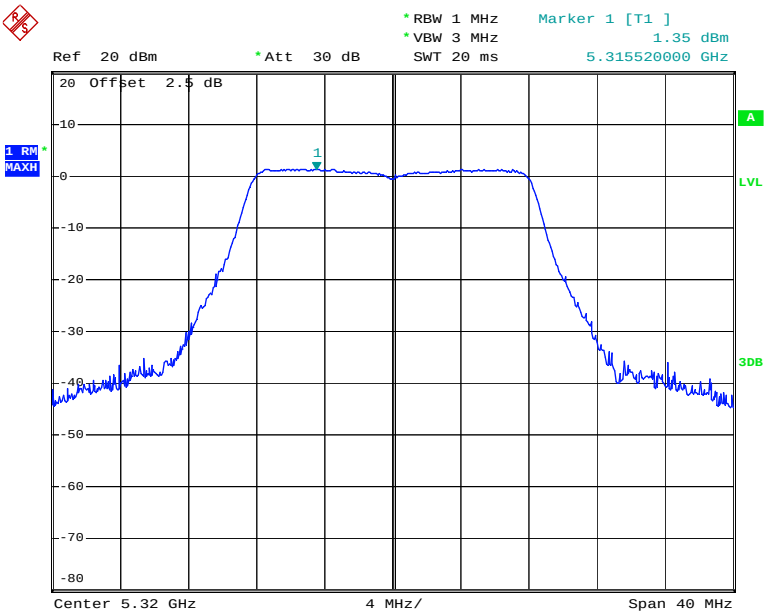
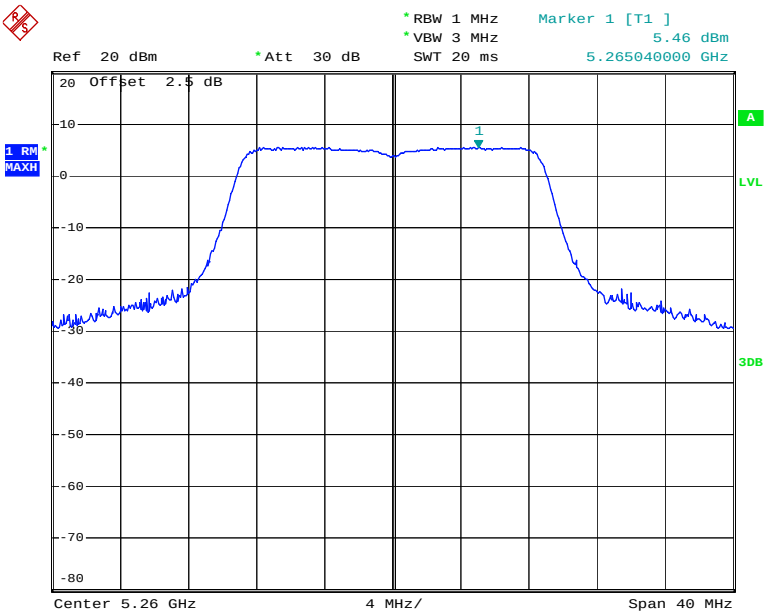
Power Spectral Density, 802.11a High Channel



Date: 20.MAR.2018 19:55:05

Power Spectral Density, 802.11n ht20 Low Channel



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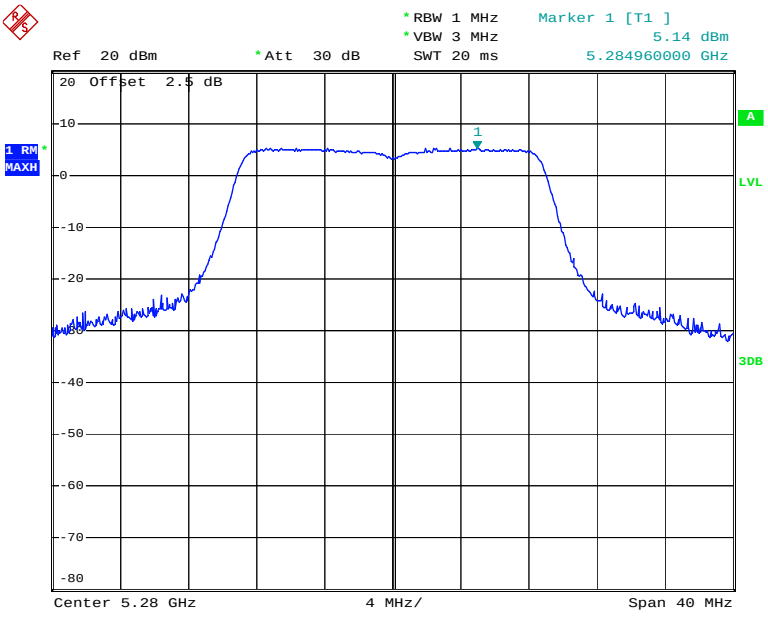
Power Spectral Density, 802.11n ht20 Middle Channel



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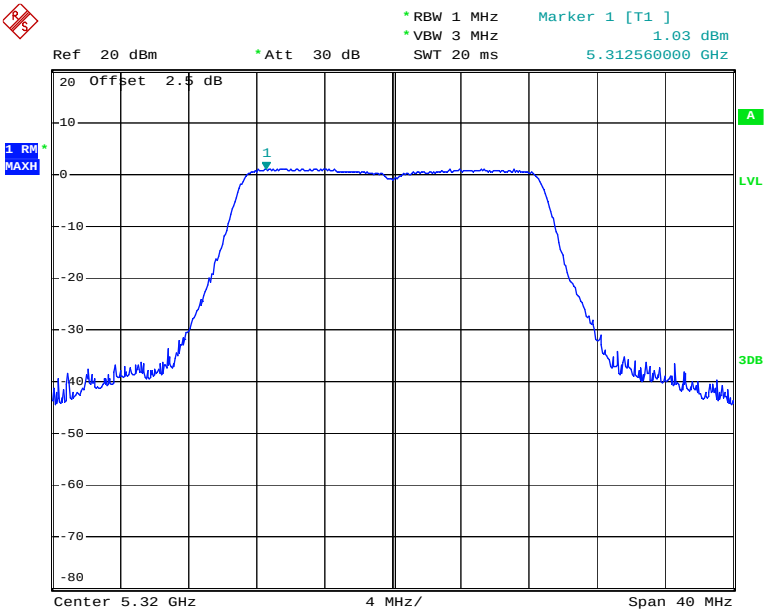
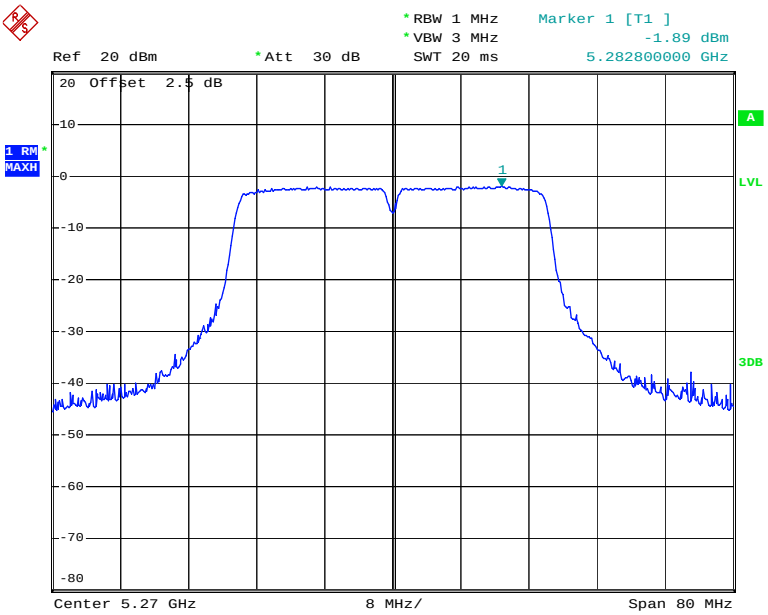
Power Spectral Density, 802.11n ht20 High Channel



Date: 20.MAR.2018 19:56:52

Power Spectral Density, 802.11n ht40 Low Channel



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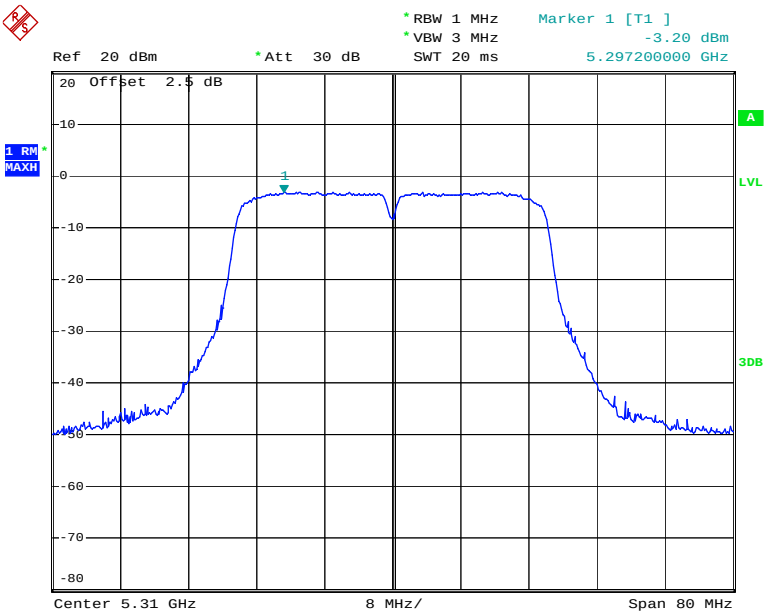
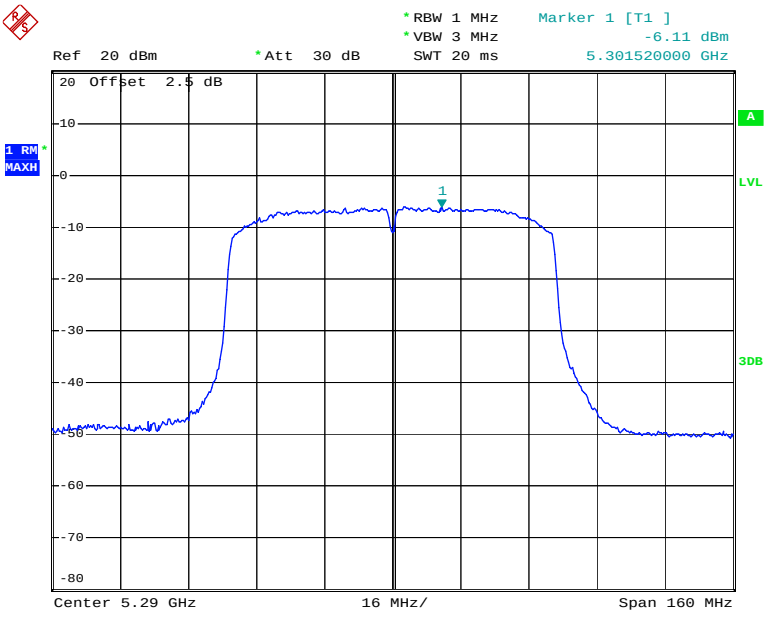
Power Spectral Density, 802.11n ht40 High Channel



Date: 20.MAR.2018 20:16:40

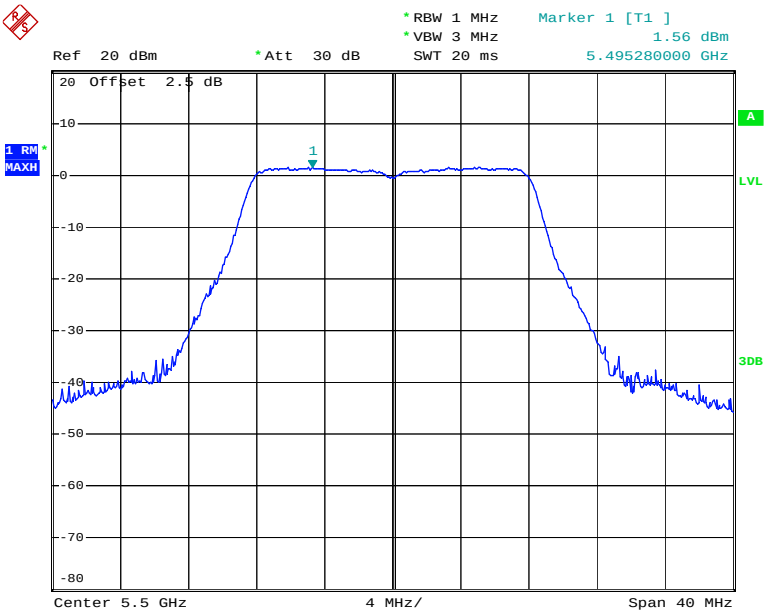
Power Spectral Density, 802.11n ac80 Middle Channel



Date: 20.MAR.2018 20:18:48

5470-5725MHz:

Power Spectral Density, 802.11a Low Channel



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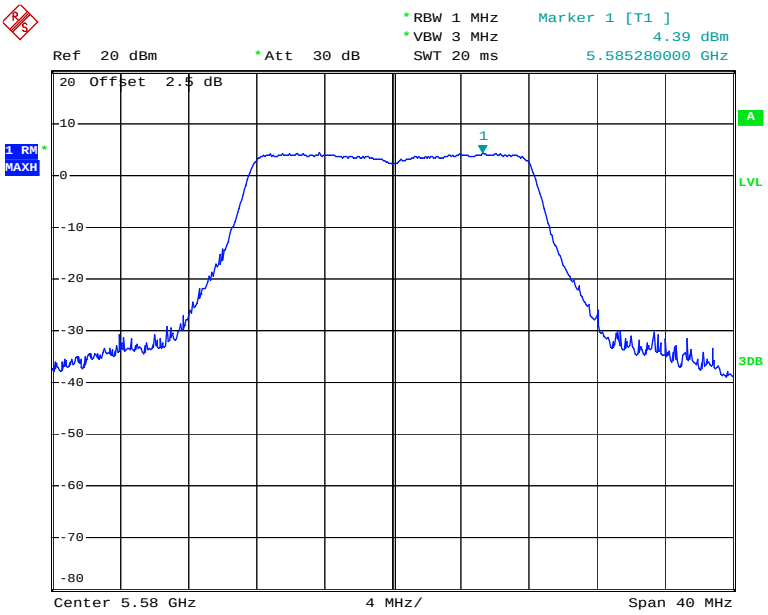

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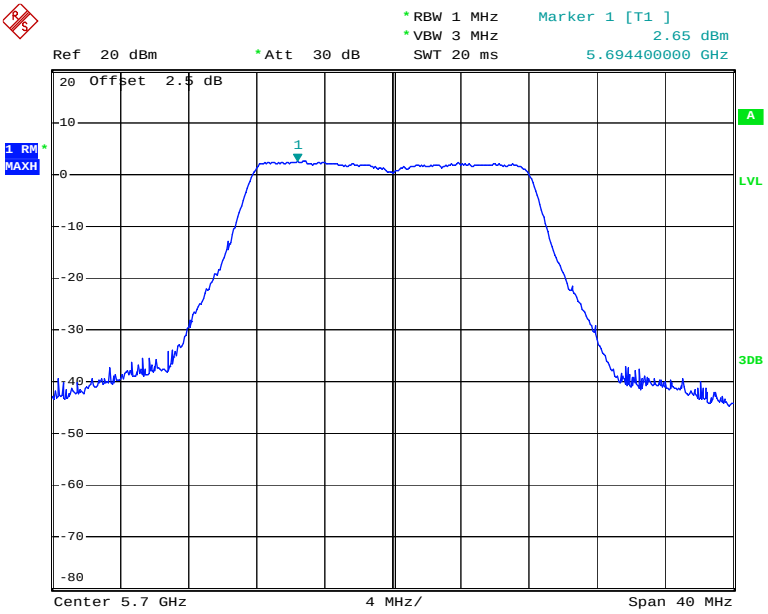
Power Spectral Density, 802.11a High Channel



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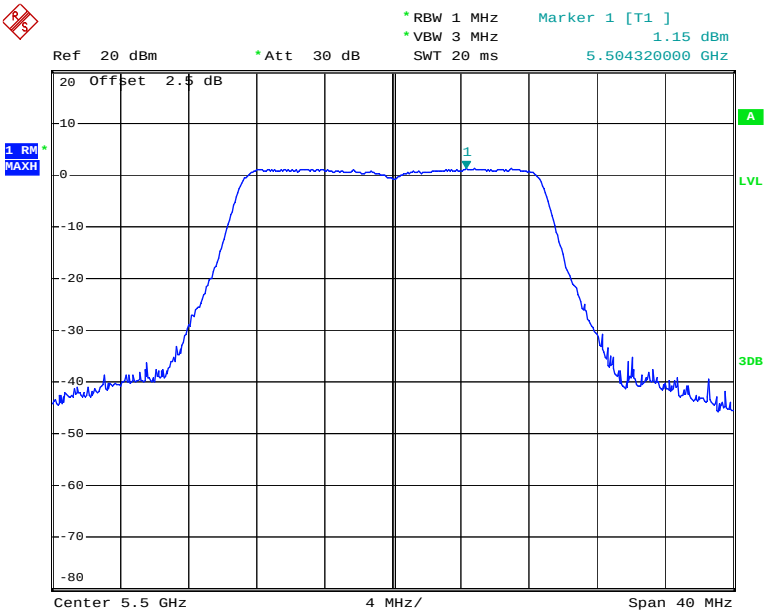
Power Spectral Density, 802.11n ht20 Low Channel



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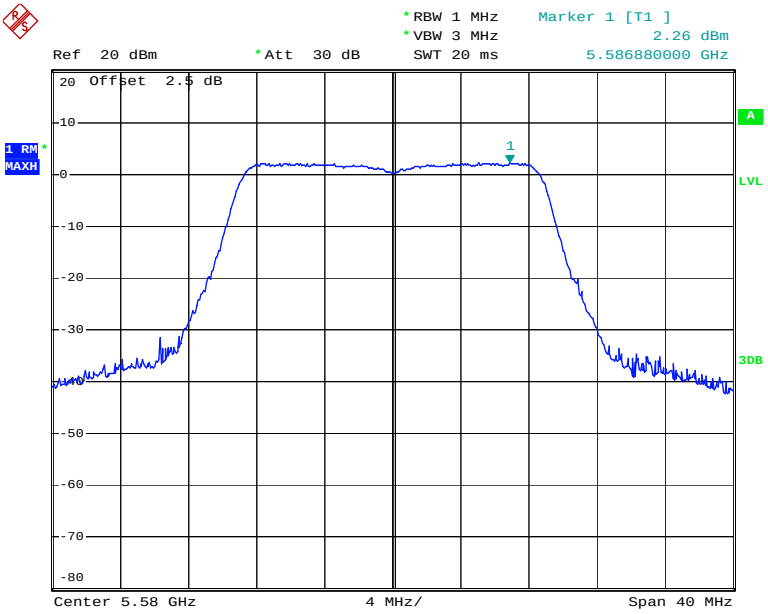
Power Spectral Density, 802.11n ht20 Middle Channel



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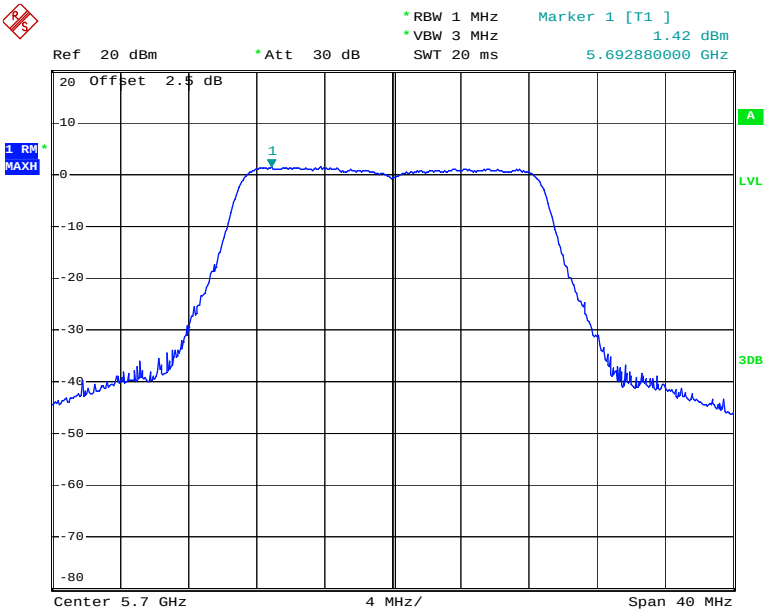
Power Spectral Density, 802.11n ht20 High Channel



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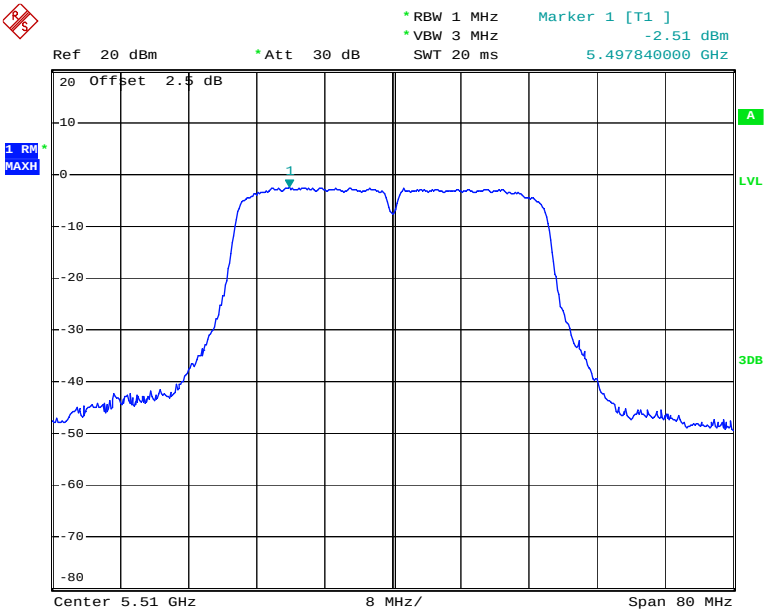
Power Spectral Density, 802.11n ht40 Low Channel



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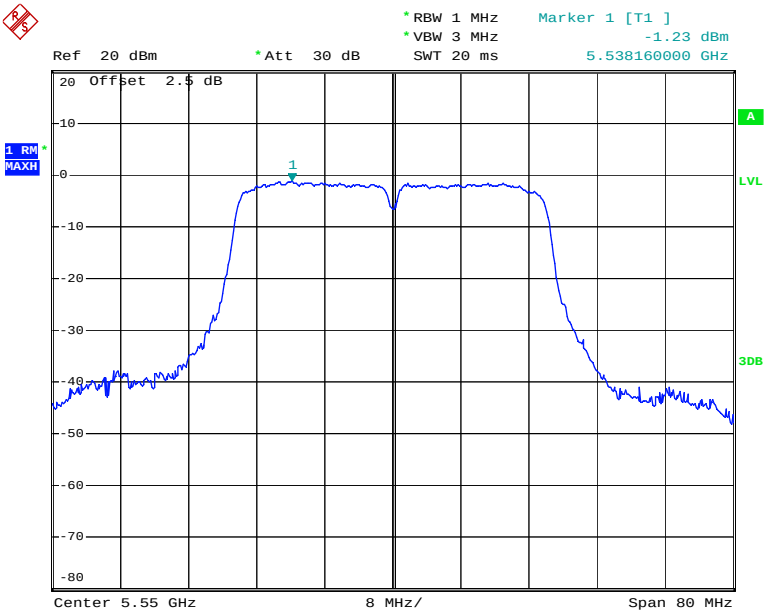
Power Spectral Density, 802.11n ht40 Middle Channel



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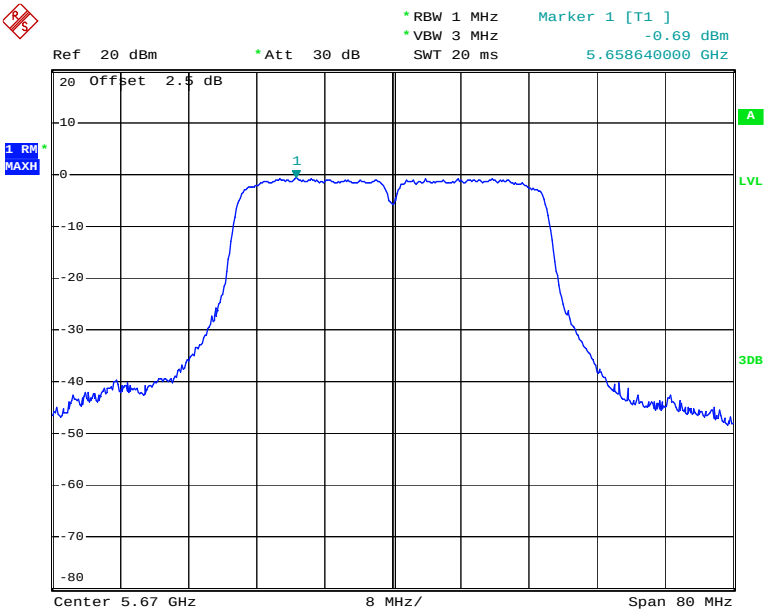
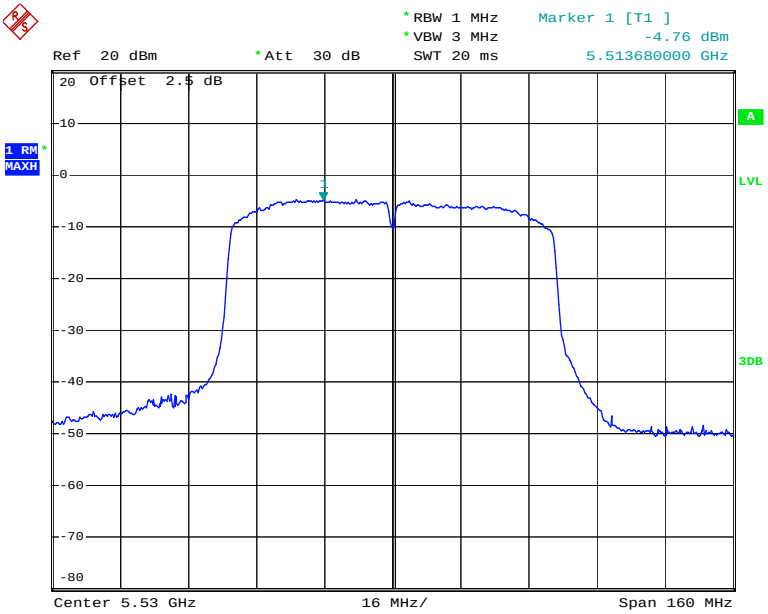
Power Spectral Density, 802.11n ht40 High Channel



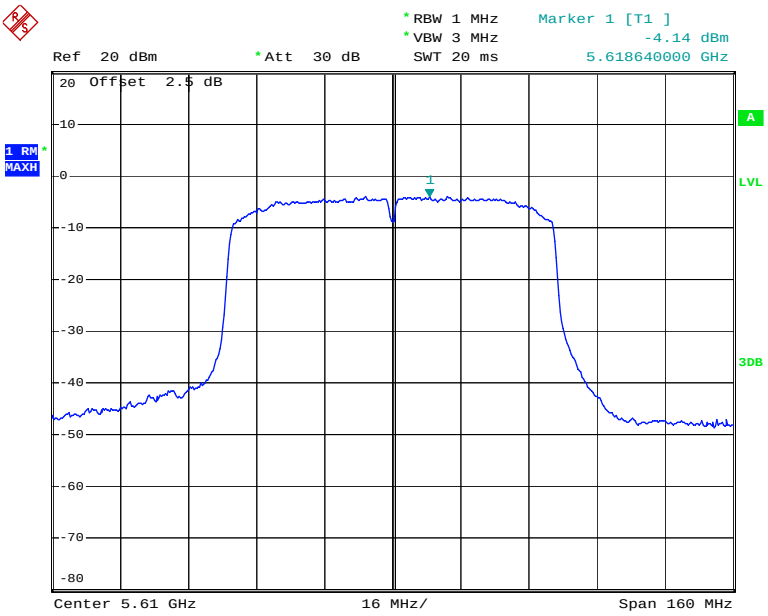
Date: 20.MAR.2018 20:41:42

Power Spectral Density, 802.11n ac80 Low Channel



Date: 20.MAR.2018 20:44:29

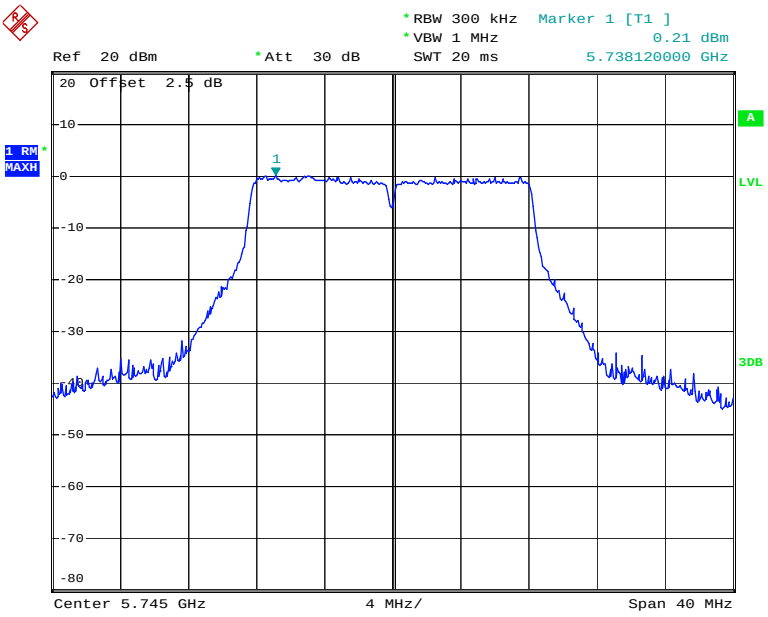
Power Spectral Density, 802.11n ac80 High Channel



Date: 20.MAR.2018 21:15:41

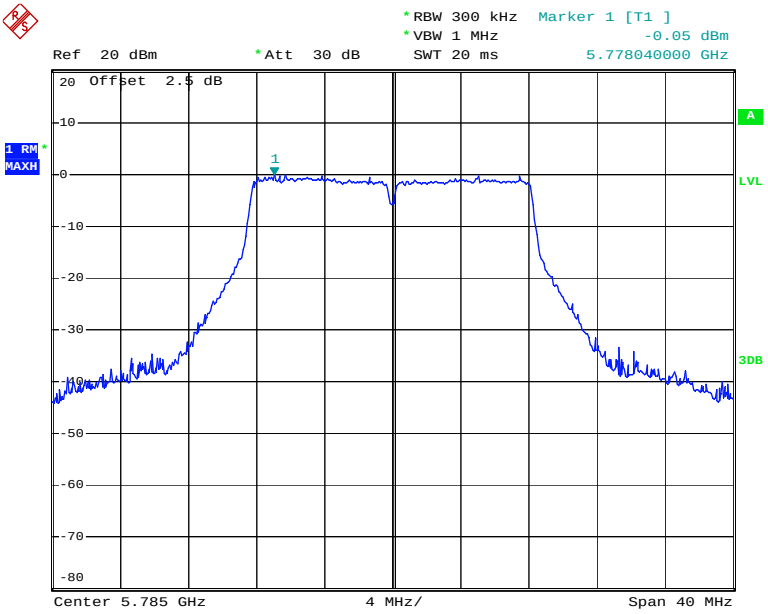
5725-5850MHz:

Power Spectral Density, 802.11a Low Channel



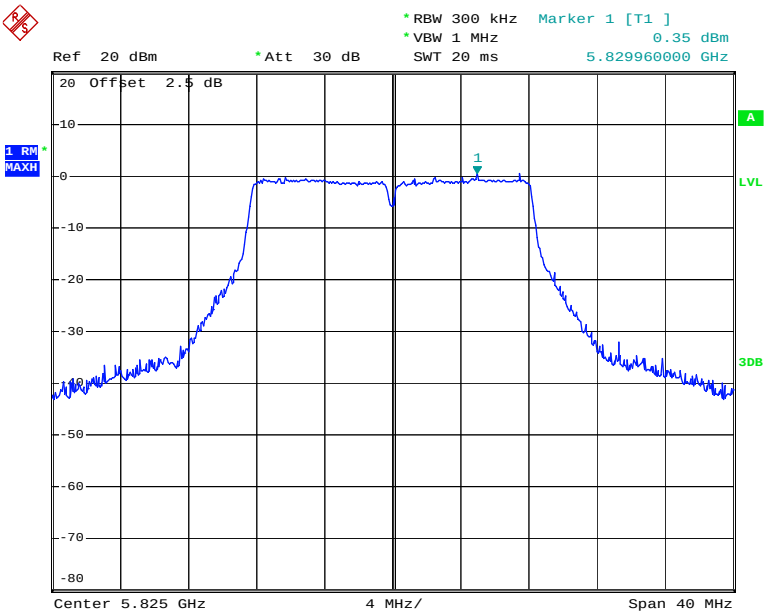
Date: 26.FEB.2018 20:47:22

Power Spectral Density, 802.11a Middle Channel



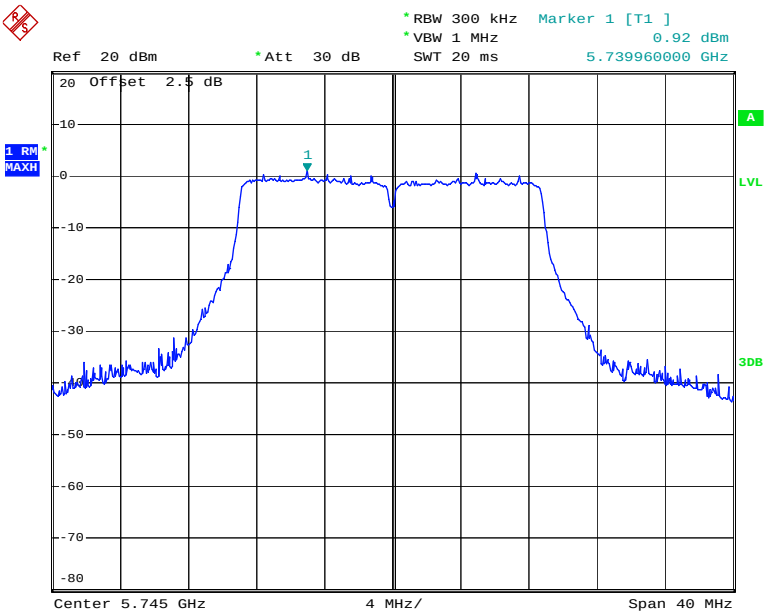
Date: 26.FEB.2018 20:49:53

Power Spectral Density, 802.11a High Channel



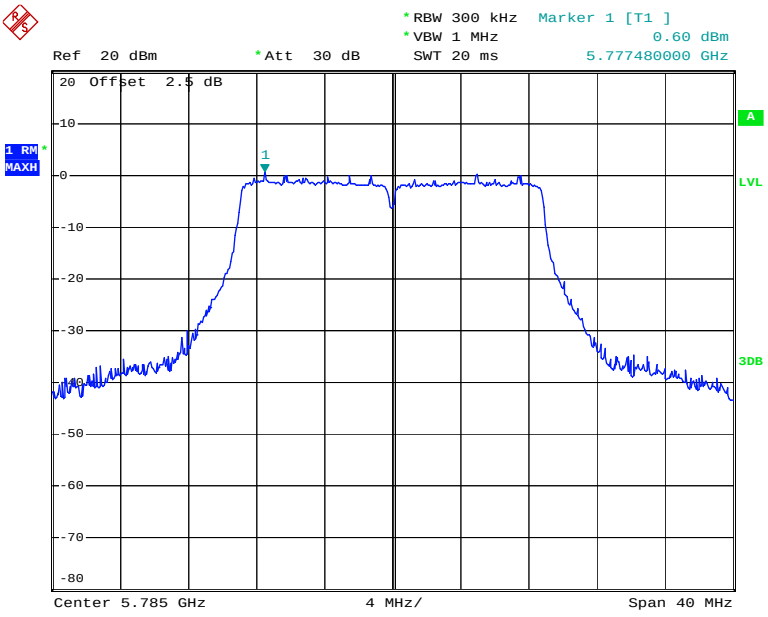
Date: 26.FEB.2018 20:51:55

Power Spectral Density, 802.11n ht20 Low Channel



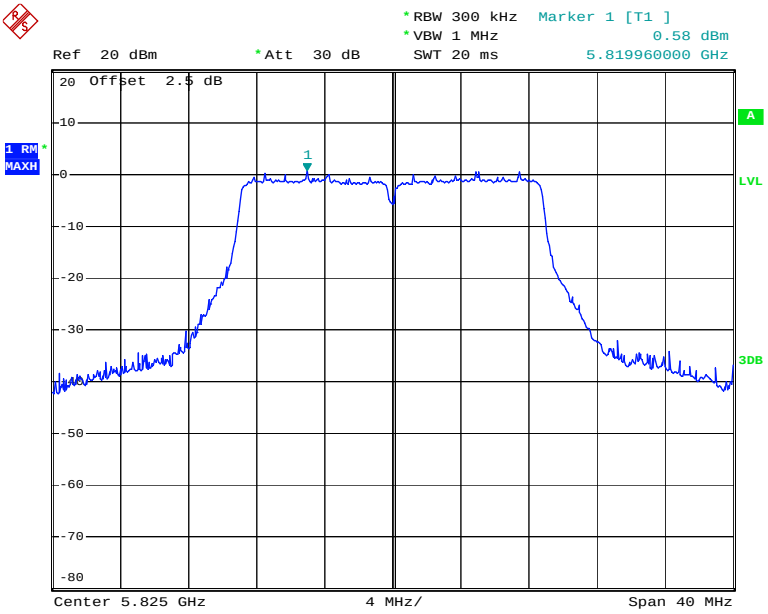
Date: 26.FEB.2018 20:59:36

Power Spectral Density, 802.11n ht20 Middle Channel



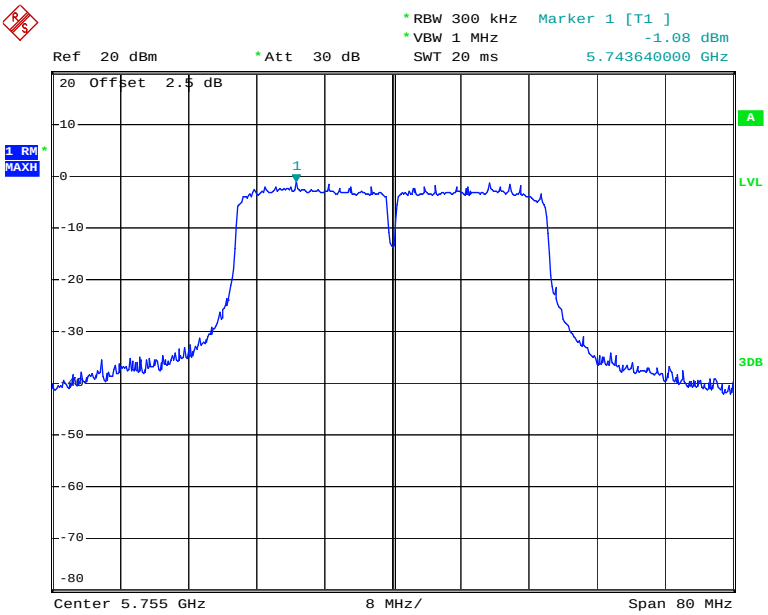
Date: 26.FEB.2018 20:57:31

Power Spectral Density, 802.11n ht20 High Channel



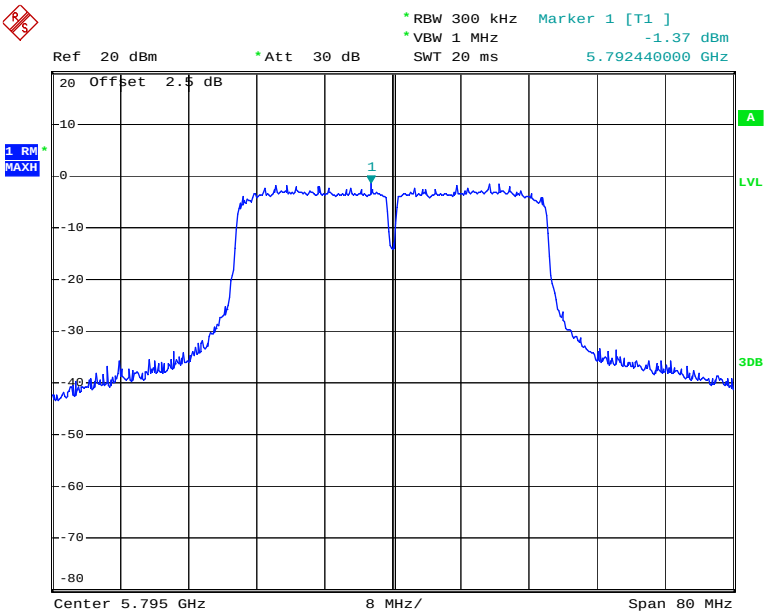
Date: 26.FEB.2018 20:54:58

Power Spectral Density, 802.11n ht40 Low Channel



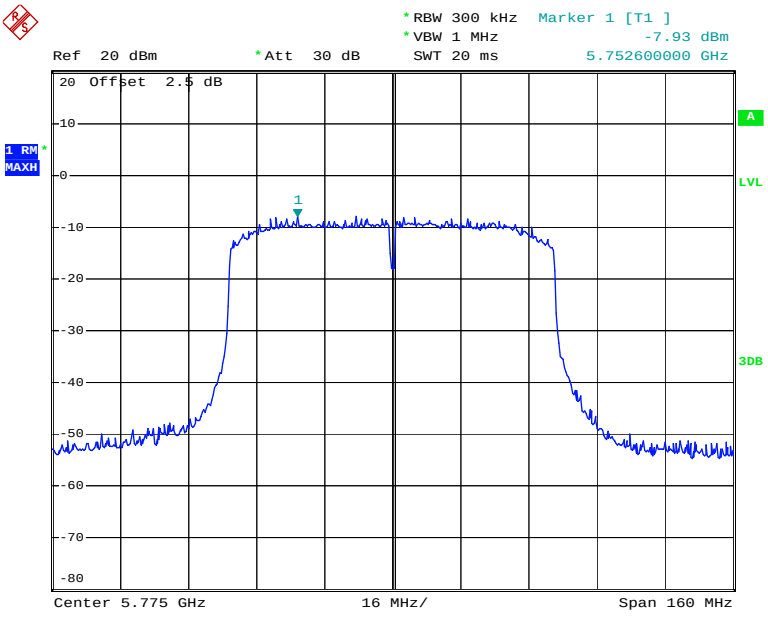
Date: 26.FEB.2018 21:59:24

Power Spectral Density, 802.11n ht40 High Channel



Date: 26.FEB.2018 22:02:21

Power Spectral Density, 802.11n ac80 Middle Channel



Date: 20.MAR.2018 21:36:12

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