



FCC PART 15.407

TEST REPORT

For

SHENZHEN TENDA TECHNOLOGY CO.,LTD

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518052

FCC ID: V7TMESH6X


Report Type: Original Report	Product Name: AX1800 Whole Home Mesh Wi-Fi 6 System
Report Number:	DG2210618-23911E-00C
Report Date:	2021-07-19
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	AX1800 Whole Home Mesh Wi-Fi 6 System
EUT Model:	Mesh6X
Multiple Models:	MX6,EX6,Mesh6E
Operation Frequency:	5180-5240 MHz (802.11a/n ht20/ac vht20/ax hew20) 5190-5230 MHz(802.11n ht40/ac vht40/ax hew40) 5210 MHz(802.11ac vht80/ax hew80) 5745-5825 MHz (802.11a/n ht20/ac vht20/ax hew20) 5755-5795 MHz(802.11n ht40/ac vht40/ax hew40) 5775 MHz(802.11ac vht80/ax hew80)
Maximum Peak Output Power (Conducted):	5150-5250 MHz: 25.17 dBm 5725-5850 MHz: 26.64 dBm
Modulation Type:	802.11a/n/ac:OFDM-BPSK, QPSK, 16QAM, 64QAM,256QAM 802.11ax: OFDMA- BPSK, QPSK, 16QAM, 64QAM,256QAM, 1024QAM
Antenna Gain :	3.8 dBi
Rated Input Voltage:	DC 12 V from Adapter
Adapter Information	Model: BN067-A18012U
	Input: AC100~240V~50/60Hz 0.6A
	Output: DC12V 1.5A
Serial Number:	DG2210618-23910E-RF-S10
EUT Received Date:	2021.06.21
EUT Received Status:	Good

Note: The series product, models Mesh6X, MX6,EX6,Mesh6E are electrically identical, the model Mesh6X was fully tested. The difference between them please refer to the declaration letter for details.

Objective

This type approval report is prepared on behalf of **SHENZHEN TENDA TECHNOLOGY 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.

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: 4.55 dB,200M~1GHz: 5.92 dB,1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions,conducted	±1.5 dB
Temperature	±1 °C
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)

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage Factor K with the 95% confidence interval.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab 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 lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system support 802.11a/n ht20/n ht40/ac vht20/40/80/ax hew 20/40/80.

The system supports Beamforming and Non-beamforming modes at 802.11n,802.11ac and 802.11ax modes. The two modes have same output power, and the Beamforming gain is 3 dBi, which are declared by manufacturer. Therefore, the all RF conducted test were performed at Non-beamforming mode only.

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, 802.11ac vht20,802.11ax hew20 channel 36, 40 and 48 was tested, for 802.11n ht40, 802.11ac vht40, 802.11ax hew40 channel 38, 46 were tested, for 802.11ac vht80, 802.11ax hew80 channel 42 was tested.

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

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

For 802.11a, 802.11n ht20, 802.11ax hew20 channel 149, 157 and 165 was tested, for 802.11n ht40, 802.11ax hew40 channel 151, 159 were tested, for 802.11ac vht80,802.11ax hew80 channel 155 was tested.

Equipment Modifications

No modification was made to the EUT.

EUT Exercise Software

The software “accessMtool” 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 data rates, bandwidths, and modulations. The device supports SISO and MIMO at 802.11n/ac/ax mode, per pre-test, MIMO 2TX mode was the worst and reported. The maximum power was configured as below table, that provided by the Manufacturer▲:

5150-5250 MHz:

Mode	Channel	Frequency (MHz)	Data Rate	Power level Setting	
				Chain 0	Chain1
802.11a	Low	5180	6 Mbps	90	88
	Middle	5200	6 Mbps	90	88
	High	5240	6 Mbps	90	88
802.11n ht20	Low	5180	MCS8	78	69
	Middle	5200	MCS8	78	69
	High	5240	MCS8	78	69
802.11n ht40	Low	5190	MCS8	82	82
	High	5230	MCS8	82	82
802.11ac vht20	Low	5180	MCS8	78	69
	Middle	5200	MCS8	78	69
	High	5240	MCS8	78	69
802.11ac vht40	Low	5190	MCS8	82	82
	High	5230	MCS8	82	82
802.11ac vht80	Middle	5210	MCS8	82	82
802.11ax hew20	Low	5180	MCS8	68	64
	Middle	5200	MCS8	68	64
	High	5240	MCS8	68	64
802.11ax hew40	Low	5190	MCS8	80	80
	High	5230	MCS8	80	80
802.11 ax hew80	Middle	5210	MCS9	80	80

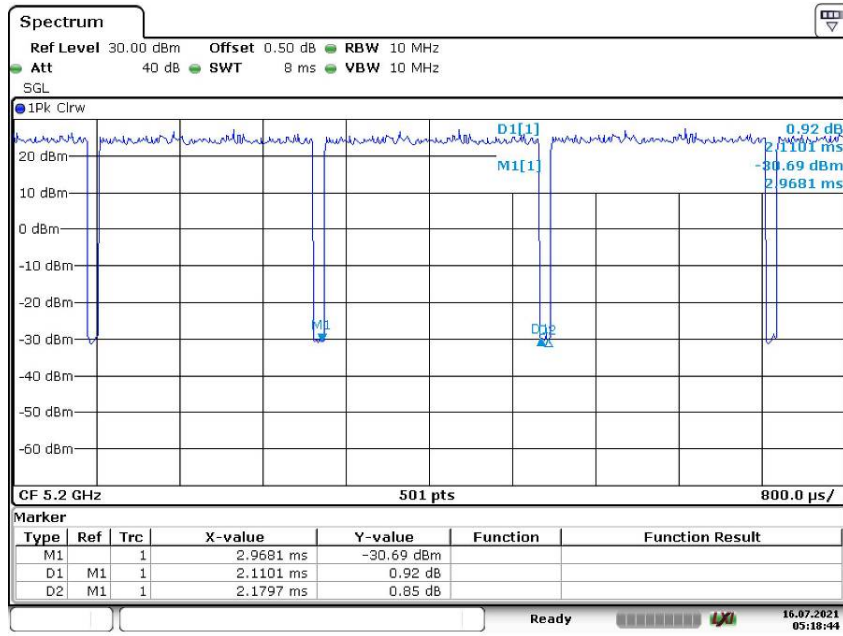
5725-5850 MHz:

Mode	Channel	Frequency (MHz)	Data Rate	Power level Setting	
				Chain 0	Chain1
802.11a	Low	5745	6 Mbps	95	95
	Middle	5785	6 Mbps	95	95
	High	5825	6 Mbps	95	95
802.11n ht20	Low	5745	MCS8	100	100
	Middle	5785	MCS8	100	100
	High	5825	MCS8	105	105
802.11n ht40	Low	5755	MCS8	95	95
	High	5795	MCS8	100	100
802.11ac vht20	Low	5745	MCS8	100	100
	Middle	5785	MCS8	100	100
	High	5825	MCS8	105	105
802.11ac vht40	Low	5755	MCS8	95	95
	High	5795	MCS8	100	100
802.11ac vht80	Middle	5775	MCS8	85	85
802.11ax hew20	Low	5745	MCS8	95	95
	Middle	5785	MCS8	95	95
	High	5825	MCS8	95	95
802.11ax hew40	Low	5755	MCS8	90	90
	High	5795	MCS8	95	95
802.11 ax hew80	Middle	5775	MCS9	80	80

The duty cycle as below:

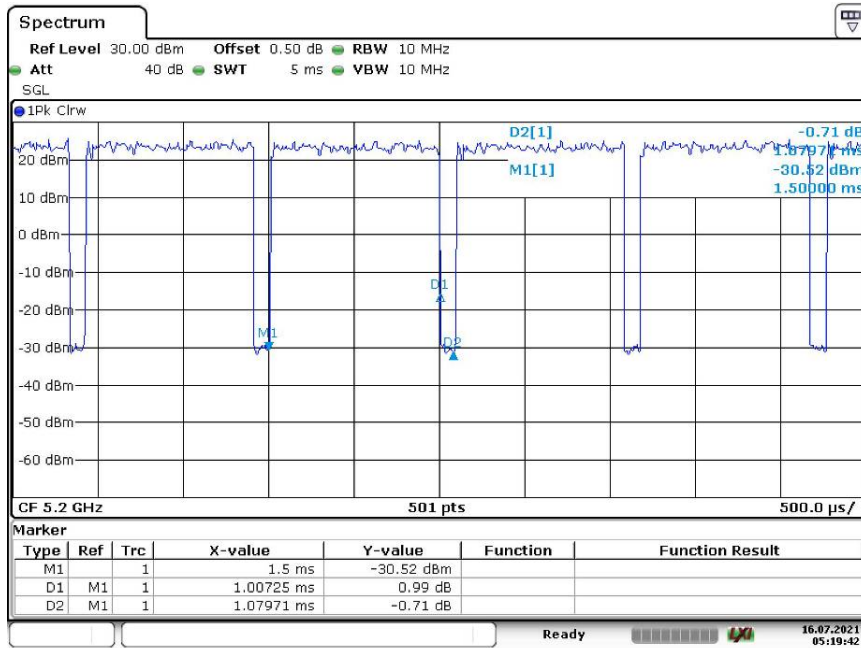
Mode	T _{on} (ms)	T _{on+off} (ms)	Duty Cycle (%)
802.11 a	2.110	2.180	96.79
802.11n ht20	1.007	1.080	93.24
802.11n ht40	0.515	0.597	86.26
802.11ac vht20	1.017	1.029	98.83
802.11ac vht40	0.509	0.526	96.77
802.11ac vht80	0.264	0.288	91.67
802.11ax hew20	0.819	0.826	99.15
802.11ax hew40	0.453	0.468	96.79
802.11 ax hew80	0.251	0.277	90.61

802.11a



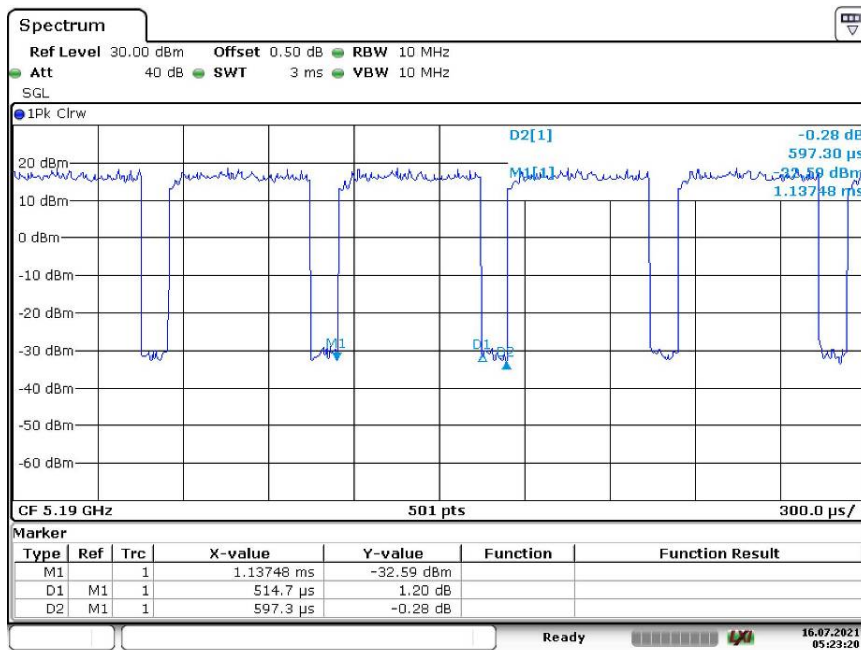
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802.11n ht20



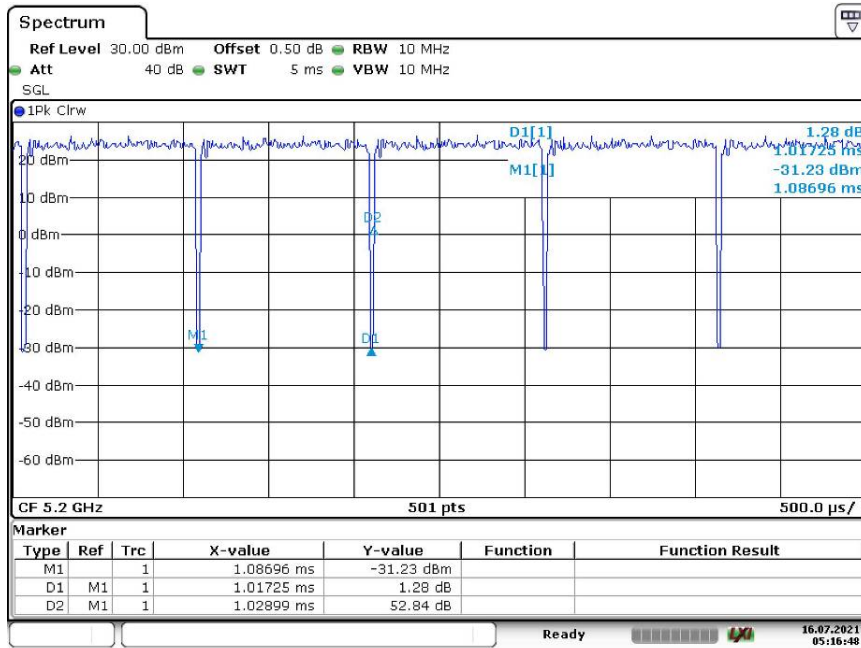
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802.11n ht40



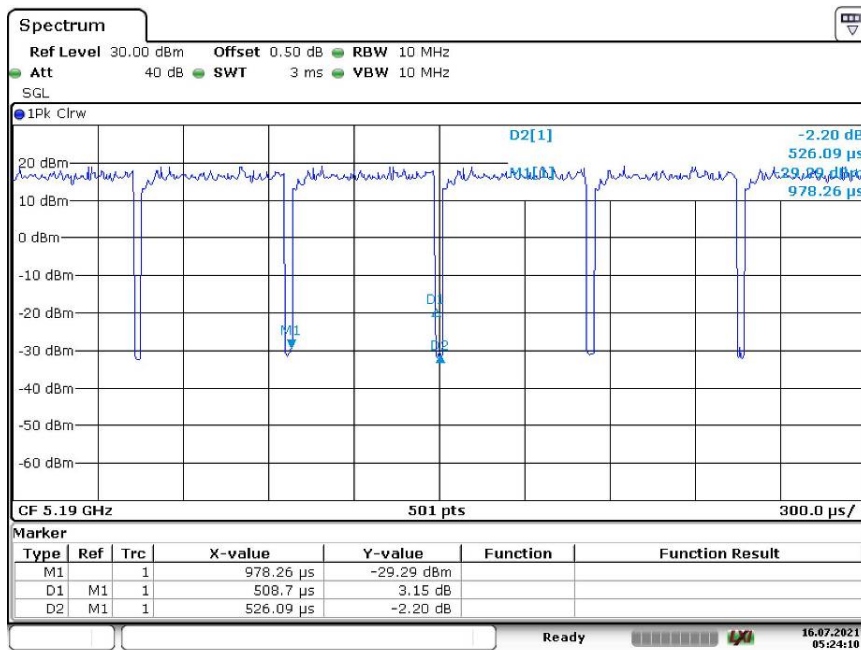
Date: 16.JUL.2021 05:23:21

802.11ac vht20



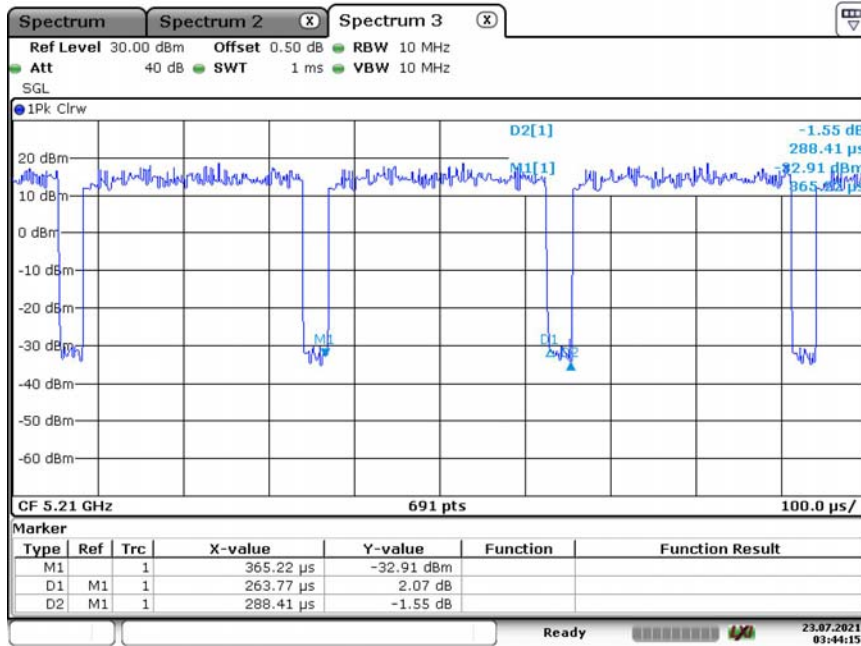
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802.11ac vht40



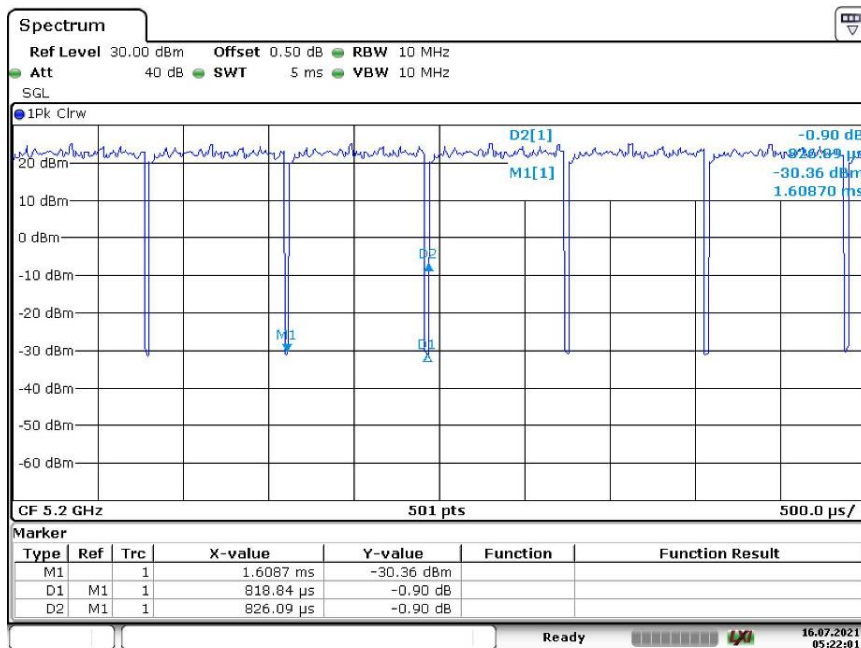
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802.11ac vht80



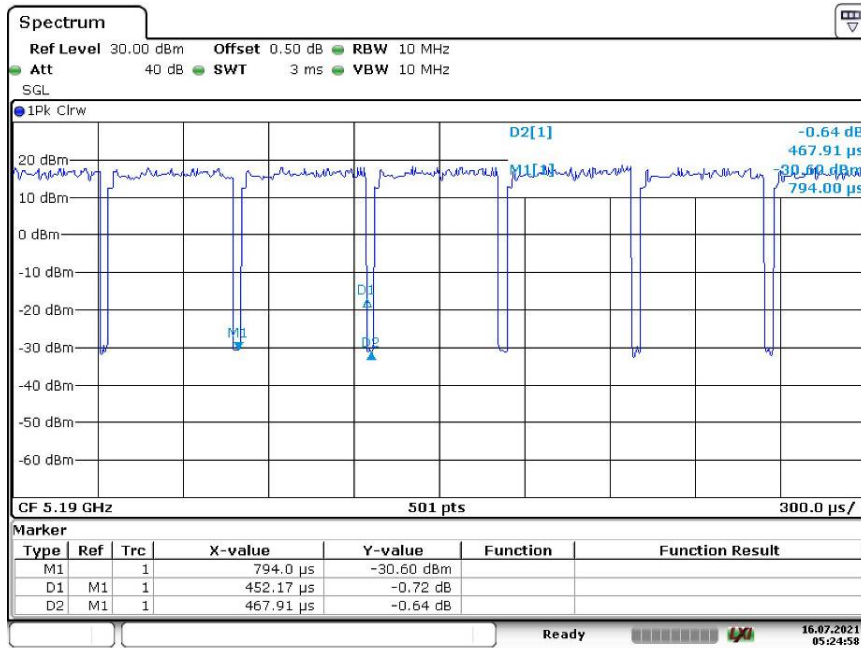
Date: 23.JUL.2021 03:44:16

802.11ax hew20



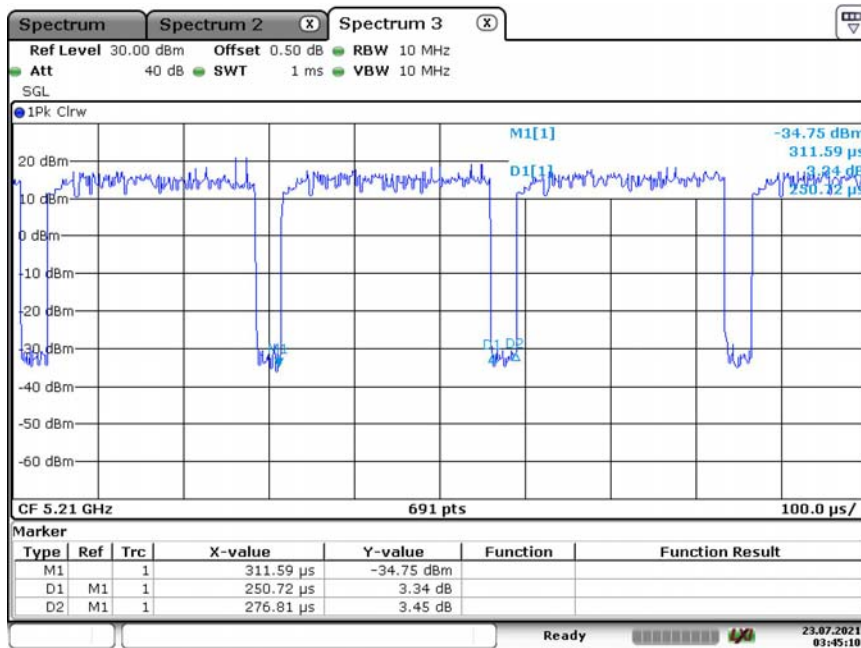
Date: 16.JUL.2021 05:22:01

802.11 ax hew40



Date: 16.JUL.2021 05:24:59

802.11 ax hew80



Date: 23.JUL.2021 03:45:11

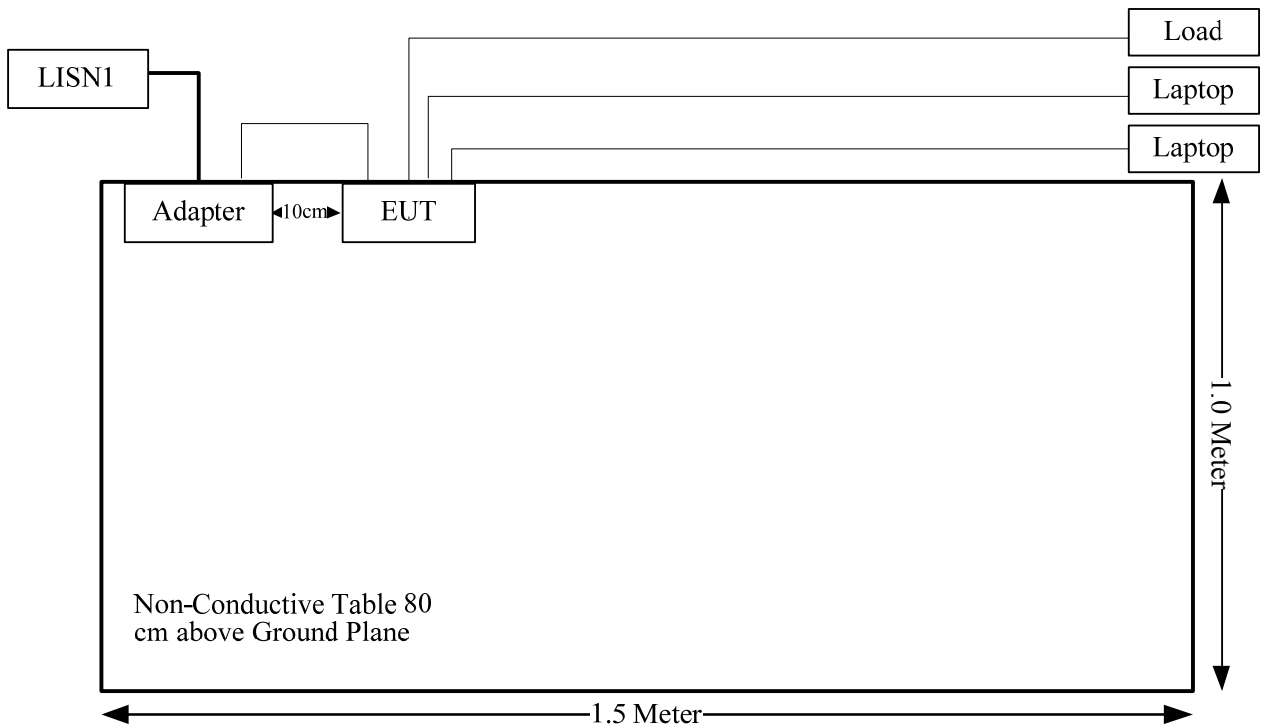
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Laptop	PP11L	QDS-BRCM1232
DELL	Laptop	PP11L	QDS-BRCM1012
Unknown	Load	RJ45 Load	0078

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45	Cable*3	Yes	No	10	EUT
Power	Cable	Yes	No	0.8	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC §15.407 (f) & §1.1310 & §2.1091	Maximum Permissible 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
FCC§15.407(a) (e)	Emission Bandwidth	Compliance
FCC§15.407(a)	Conducted Transmitter Output Power	Compliance
FCC§15.407 (a)	Power Spectral Density	Compliance

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

Applicable Standard

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

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

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

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

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/cm²);

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

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

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

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

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

Calculated Data:

Mode	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
WLAN	2412-2462	7	5.01	28	630.96	25.00	0.40	1.0
WLAN	5150-5250	6.8	4.79	26	398.11	25.00	0.24	1.0
WLAN	5725-5850	6.8	4.79	27	501.19	25.00	0.31	1.0

Note: the antenna gain is added beamforming gain. The maximum EIRP was used for calculation.

The WLAN 2.4G and 5G can transmit simultaneously:

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

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

$$=0.40/1+0.31/1$$

$$=0.71$$

$$< 1.0$$

Result: The device meet FCC MPE at 25 cm distance

FCC §15.203- ANTENNA REQUIREMENT

Applicable Standard

According to FCC§ 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the 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.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

Antenna Connector Construction

The EUT has two internal antennas permanently attached to the unit for 5G WLAN, fulfill the requirement of this section. Please refer to the EUT photos:

Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range
PCB	50	3.8dBi/5.15-5.85GHz

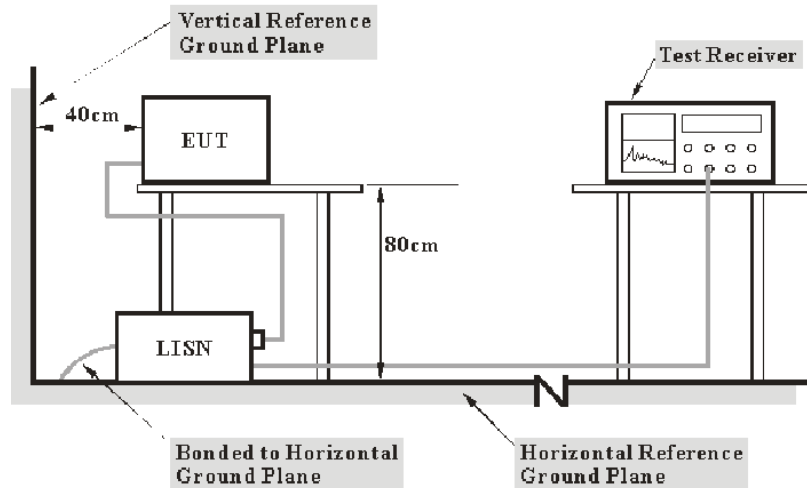
Result: Compliance.

FCC §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 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:

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV 216	101614	2020-09-12	2021-09-12
R&S	EMI Test Receiver	ESCI	101121	2020-07-07	2021-07-07
MICRO-COAX	Coaxial Cable	C-NJNJ-50	C-0200-01	2020-09-05	2021-09-05
R&S	Test Software	EMC32	Version 9.10.00	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 Procedure

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

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase (“hot”) line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

Test Data

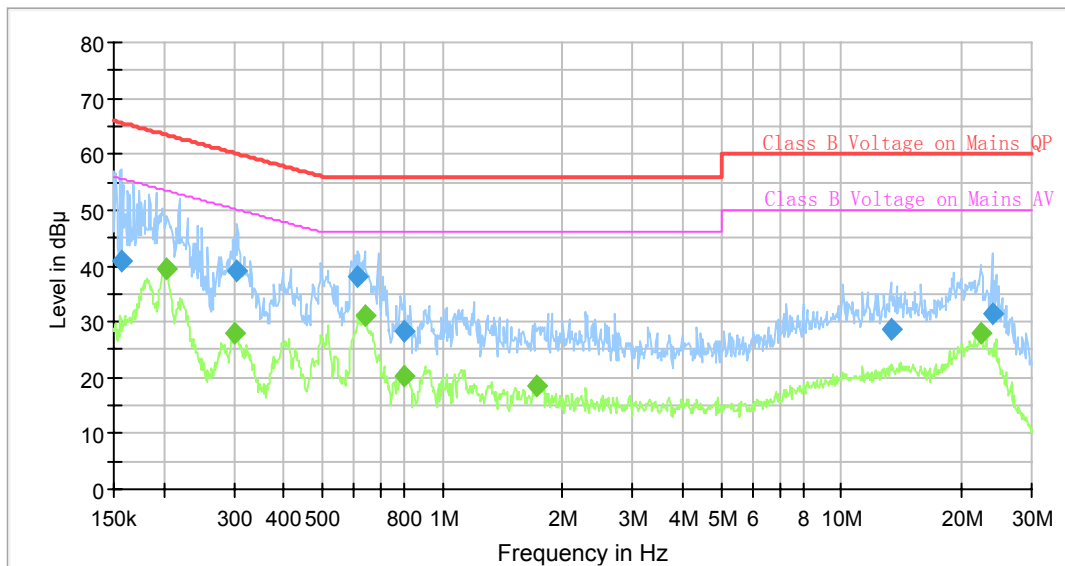
Environmental Conditions

Temperature:	25.7 °C
Relative Humidity:	70%
ATM Pressure:	100.3 kPa
Tester:	Mia Huang
Test Date:	2021-06-28

Test Result: Compliance.

Test Mode: Transmitting (802.11a 5200MHz was the worst)

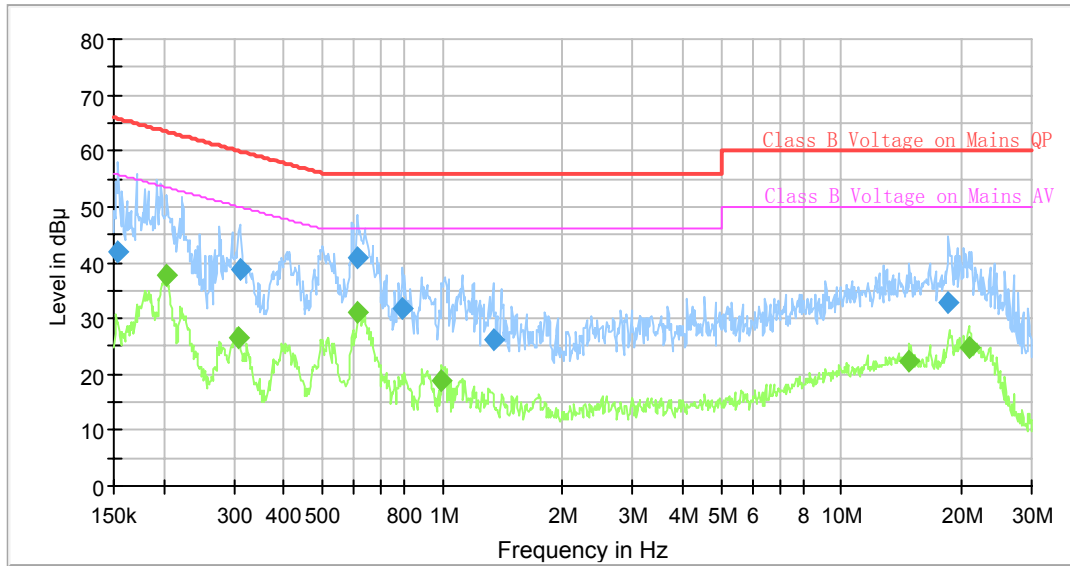
AC120 V, 60 Hz, Line:



Final Result

Frequency (MHz)	QuasiPeak (dB µV)	Average (dB µV)	Limit (dB µV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.156106	40.95	---	65.67	24.72	9.000	L1	9.6
0.203339	---	39.39	53.47	14.08	9.000	L1	9.6
0.301537	---	27.78	50.20	22.42	9.000	L1	9.6
0.306082	39.29	---	60.08	20.79	9.000	L1	9.6
0.615300	38.21	---	56.00	17.79	9.000	L1	9.6
0.637161	---	31.13	46.00	14.87	9.000	L1	9.6
0.801471	---	20.18	46.00	25.82	9.000	L1	9.7
0.805479	28.19	---	56.00	27.81	9.000	L1	9.7
1.727673	---	18.50	46.00	27.50	9.000	L1	9.7
13.285588	28.49	---	60.00	31.51	9.000	L1	10.1
22.317791	---	27.86	50.00	22.14	9.000	L1	10.0
23.931839	31.45	---	60.00	28.55	9.000	L1	10.0

AC120 V, 60 Hz, Neutral:



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.153788	41.90	---	65.79	23.89	9.000	N	9.6
0.202328	---	37.77	53.51	15.74	9.000	N	9.6
0.309151	---	26.44	49.99	23.55	9.000	N	9.6
0.310696	38.95	---	59.95	21.00	9.000	N	9.6
0.609193	41.03	---	56.00	14.97	9.000	N	9.6
0.615300	---	31.06	46.00	14.94	9.000	N	9.6
0.793516	31.94	---	56.00	24.06	9.000	N	9.6
0.998148	---	18.79	46.00	27.21	9.000	N	9.6
1.339653	26.19	---	56.00	29.81	9.000	N	9.6
14.826346	---	22.45	50.00	27.55	9.000	N	9.9
18.556964	32.72	---	60.00	27.28	9.000	N	9.9
20.916663	---	24.87	50.00	25.13	9.000	N	9.9

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 manufac vhturing, 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 manufac vhturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

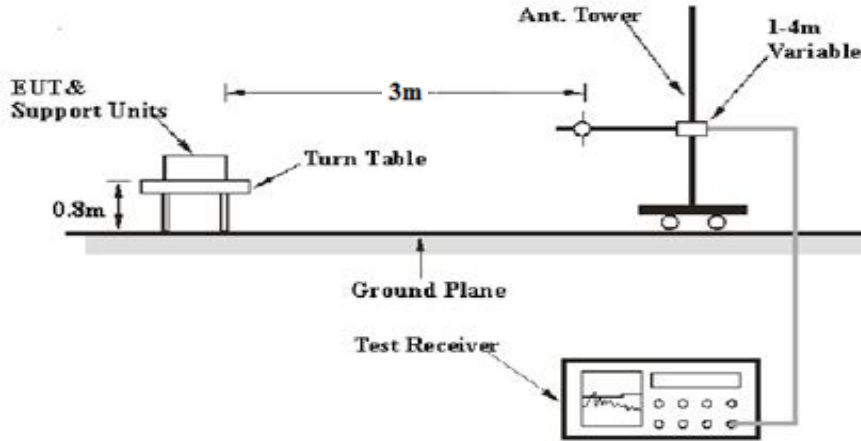
(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(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.

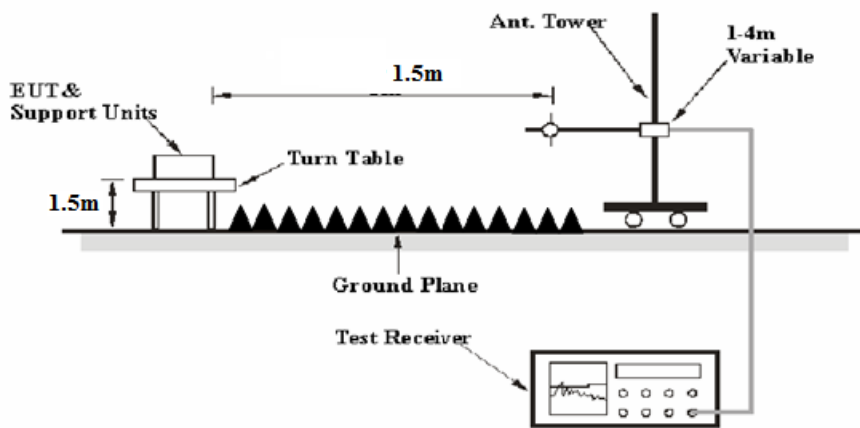
(7) The provisions of §15.205 apply to intentional radiators operating under this section.

EUT Setup

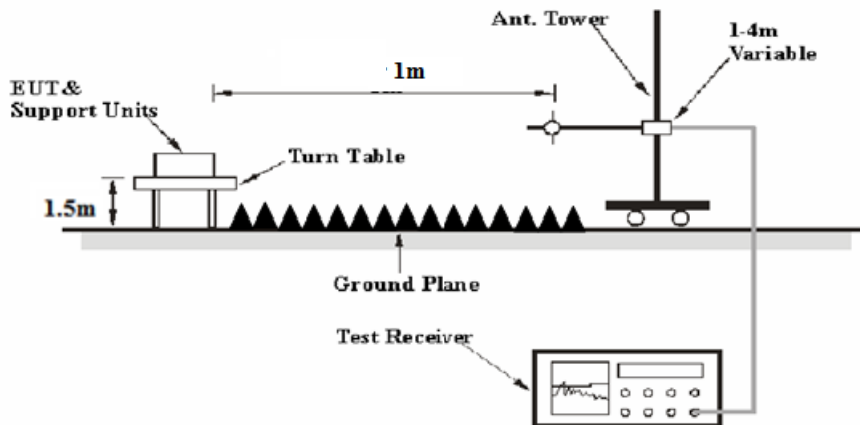
Below 1 GHz:



1-26.5 GHz:



26.5-40 GHz:



The radiated emission Below 1GHz tests were performed in the 10 meters chamber test site, above 1GHz tests were performed in the 3 meters chamber test site A, 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

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

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

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

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: $E [dB\mu V/m] = EIRP[dBm] + 95.2$, 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 or 1m

Distance extrapolation Factor = $20 \log (\text{specific distance } [3m]/\text{test distance } [1.5m])$ dB= 6.02 dB

or

Distance extrapolation Factor = $20 \log (\text{specific distance } [3m]/\text{test distance } [1m])$ dB= 9.54 dB

All emissions under the average limit and under the noise floor have not recorded in the report.

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:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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

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

For the range 1GHz-40GHz, Test performed at 1.5m or 1m, 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:

$$\begin{aligned} &\text{Corrected Amplitude} \\ &= \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain} - \text{Distance extrapolation factor} \end{aligned}$$

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:

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1GHz Test					
Sunol Sciences	Antenna	JB3	A060611-2	2020-08-25	2023-08-25
R&S	EMI Test Receiver	ESCI	100224	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2020-09-24	2021-09-24
Sonoma	Amplifier	310N	185914	2020-10-13	2021-10-13
Radiation Above 1GHz Test					
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2020-12-05	2023-12-04
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2020-12-05	2023-12-04
R&S	Spectrum Analyzer	FSP 38	100478	2021-07-07	2022-07-07
Agilent	Spectrum Analyzer	E4440A	MY44303352	2021-04-25	2022-04-24
HUBER+SUHNER	Coaxial Cable	SUCOFLEX 126EA	MY369/26/26E A	2020-09-25	2021-09-25
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2020-09-05	2021-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2021-06-27	2022-06-26
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sinoscite	Bandstop Filters	BSF5150-5850MN- 0899-003	0899003	2021-05-06	2022-05-05
Mini Circuits	High Pass Filter	VHF-6010+	31118	2021-06-16	2022-06-15

* **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).

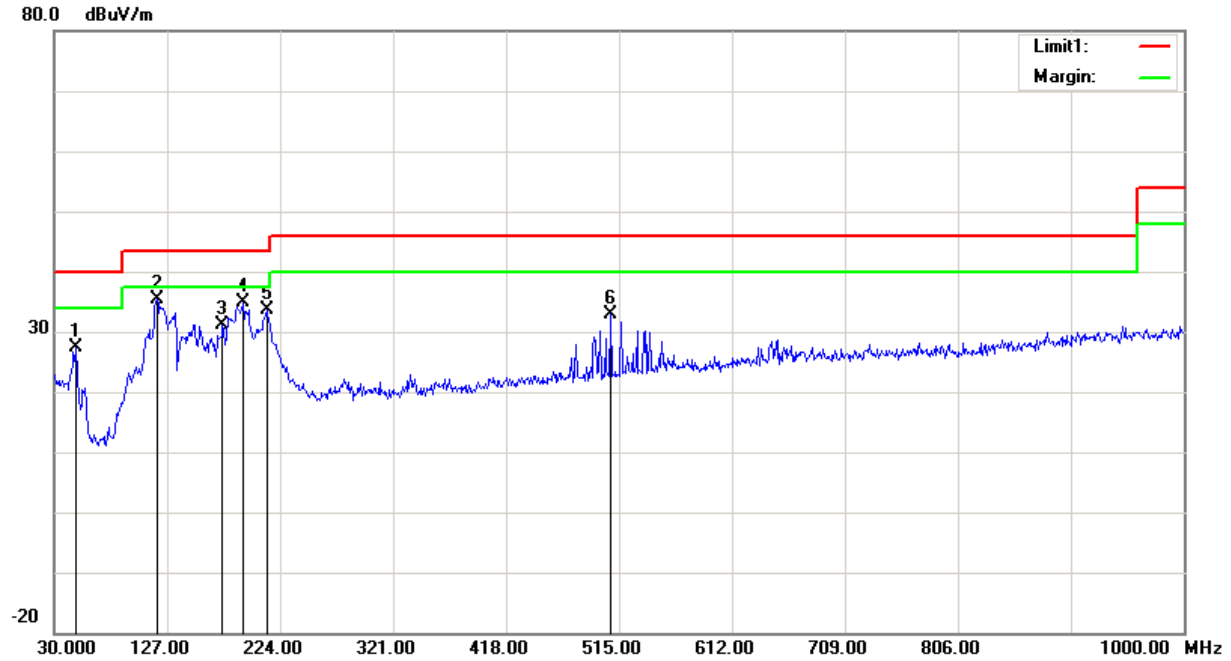
Test Data**Environmental Conditions**

Test Items	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	21.4°C	28.4 °C
Relative Humidity:	53 %	47 %
ATM Pressure:	100.2kPa	100.3kPa
Tester:	Burt Hu	Joker Chen
Test Date:	2021-07-06	2021-07-13

Test Mode: Transmitting

1) Below 1GHz(802.11a 5745 MHz was the worst):

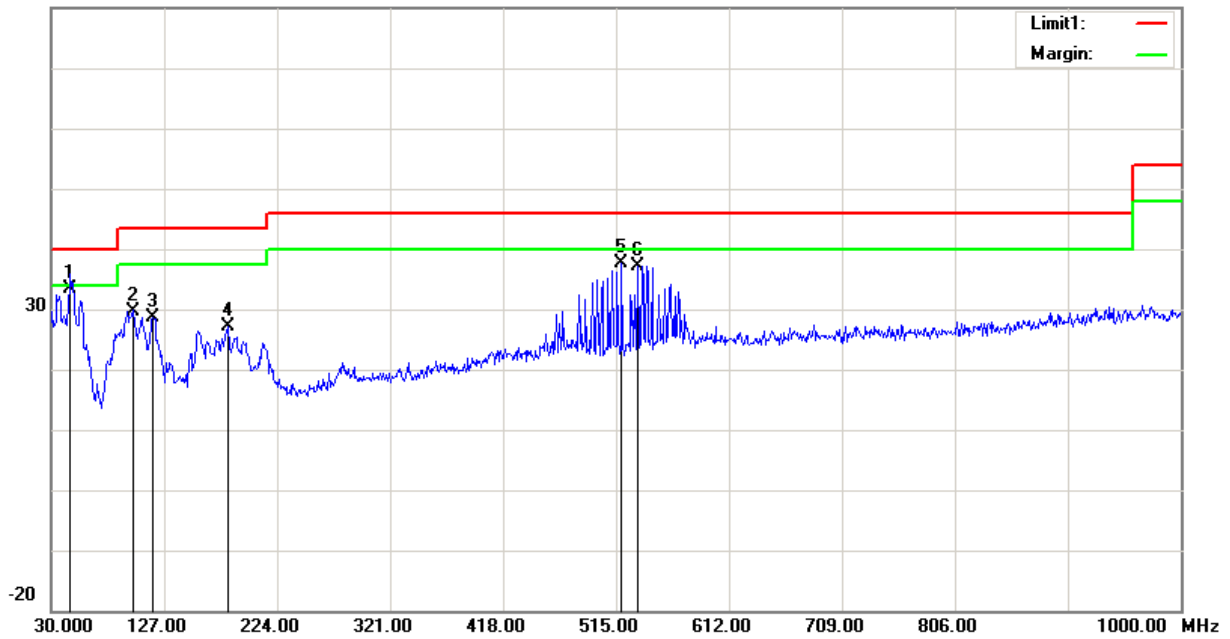
Horizontal:



Frequency (MHz)	Receiver Reading (dBμV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
48.4300	42.48	peak	-15.12	27.36	40.00	12.64
118.2700	47.95	peak	-12.69	35.26	43.50	8.24
174.5300	40.79	peak	-9.74	31.05	43.50	12.45
191.9900	45.21	peak	-10.32	34.89	43.50	8.61
212.3600	44.58	peak	-11.06	33.52	43.50	9.98
508.2100	35.87	peak	-3.09	32.78	46.00	13.22

Vertical:

80.0 dB μ V/m



Frequency (MHz)	Receiver Reading (dB μ V)	Detector	Correction Factor (dB/m)	Cord. Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
46.4900	47.31	QP	-13.81	33.50	40.00	6.50
99.8400	43.75	peak	-14.00	29.75	43.50	13.75
117.3000	41.37	peak	-12.71	28.66	43.50	14.84
182.2900	37.05	peak	-9.91	27.14	43.50	16.36
519.8500	40.18	peak	-2.66	37.52	46.00	8.48
533.4300	39.63	peak	-2.41	37.22	46.00	8.78

**2) 1GHz-40GHz:
5150-5250MHz
802.11a, Chain 0:**

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	77.63	PK	H	33.52	3.76	0.00	114.91	108.89	N/A	N/A
5180.00	66.56	AV	H	33.52	3.76	0.00	103.84	97.82	N/A	N/A
5180.00	85.12	PK	V	33.52	3.76	0.00	122.40	116.38	N/A	N/A
5180.00	74.13	AV	V	33.52	3.76	0.00	111.41	105.39	N/A	N/A
5150.00	41.39	PK	V	33.47	3.74	0.00	78.60	72.58	74.00	1.42
5150.00	19.78	AV	V	33.47	3.74	0.00	56.99	50.97	54.00	3.03
10360.00	36.50	PK	V	37.93	5.53	26.86	53.10	47.08	68.20	21.12
15540.00	35.20	PK	V	37.96	6.83	25.66	54.33	48.31	74.00	25.69
15540.00	23.42	AV	V	37.96	6.83	25.66	42.55	36.53	54.00	17.47
Middle Channel: 5200 MHz										
5200.00	77.44	PK	H	33.56	3.78	0.00	114.78	108.76	N/A	N/A
5200.00	66.98	AV	H	33.56	3.78	0.00	104.32	98.3	N/A	N/A
5200.00	86.49	PK	V	33.56	3.78	0.00	123.83	117.81	N/A	N/A
5200.00	75.63	AV	V	33.56	3.78	0.00	112.97	106.95	N/A	N/A
10400.00	36.69	PK	V	37.92	5.57	26.84	53.34	47.32	68.20	20.88
15600.00	35.77	PK	V	37.90	6.79	25.97	54.49	48.47	74.00	25.53
15600.00	23.14	AV	V	37.90	6.79	25.97	41.86	35.84	54.00	18.16
High Channel: 5240 MHz										
5240.00	78.05	PK	H	33.63	3.95	0.00	115.63	109.61	N/A	N/A
5240.00	67.28	AV	H	33.63	3.95	0.00	104.86	98.84	N/A	N/A
5240.00	86.16	PK	V	33.63	3.95	0.00	123.74	117.72	N/A	N/A
5240.00	75.12	AV	V	33.63	3.95	0.00	112.70	106.68	N/A	N/A
5350.00	30.24	PK	V	33.83	4.11	0.00	68.18	62.16	74.00	11.84
5350.00	18.68	AV	V	33.83	4.11	0.00	56.62	50.6	54.00	3.40
10480.00	36.35	PK	V	37.90	5.63	27.02	52.86	46.84	68.20	21.36
15720.00	35.56	PK	V	37.78	6.73	25.68	54.39	48.37	74.00	25.63
15720.00	23.07	AV	V	37.78	6.73	25.68	41.90	35.88	54.00	18.12

Chain 1:

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	75.07	PK	H	33.52	3.76	0.00	112.35	106.33	N/A	N/A
5180.00	64.41	AV	H	33.52	3.76	0.00	101.69	95.67	N/A	N/A
5180.00	86.84	PK	V	33.52	3.76	0.00	124.12	118.1	N/A	N/A
5180.00	76.33	AV	V	33.52	3.76	0.00	113.61	107.59	N/A	N/A
5150.00	41.15	PK	V	33.47	3.74	0.00	78.36	72.34	74.00	1.66
5150.00	20.34	AV	V	33.47	3.74	0.00	57.55	51.53	54.00	2.47
10360.00	37.15	PK	V	37.93	5.53	26.86	53.75	47.73	68.20	20.47
15540.00	36.51	PK	V	37.96	6.83	25.66	55.64	49.62	74.00	24.38
15540.00	23.16	AV	V	37.96	6.83	25.66	42.29	36.27	54.00	17.73
Middle Channel: 5200 MHz										
5200.00	76.42	PK	H	33.56	3.78	0.00	113.76	107.74	N/A	N/A
5200.00	66.29	AV	H	33.56	3.78	0.00	103.63	97.61	N/A	N/A
5200.00	86.75	PK	V	33.56	3.78	0.00	124.09	118.07	N/A	N/A
5200.00	76.52	AV	V	33.56	3.78	0.00	113.86	107.84	N/A	N/A
10400.00	38.02	PK	V	37.92	5.57	26.84	54.67	48.65	68.20	19.55
15600.00	36.00	PK	V	37.90	6.79	25.97	54.72	48.7	74.00	25.30
15600.00	23.08	AV	V	37.90	6.79	25.97	41.80	35.78	54.00	18.22
High Channel: 5240 MHz										
5240.00	78.05	PK	H	33.63	3.95	0.00	115.63	109.61	N/A	N/A
5240.00	68.28	AV	H	33.63	3.95	0.00	105.86	99.84	N/A	N/A
5240.00	87.58	PK	V	33.63	3.95	0.00	125.16	119.14	N/A	N/A
5240.00	77.39	AV	V	33.63	3.95	0.00	114.97	108.95	N/A	N/A
5350.00	29.52	PK	V	33.83	4.11	0.00	67.46	61.44	74.00	12.56
5350.00	18.81	AV	V	33.83	4.11	0.00	56.75	50.73	54.00	3.27
10480.00	37.93	PK	V	37.90	5.63	27.02	54.44	48.42	68.20	19.78
15720.00	36.31	PK	V	37.78	6.73	25.68	55.14	49.12	74.00	24.88
15720.00	23.10	AV	V	37.78	6.73	25.68	41.93	35.91	54.00	18.09

802.11n20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	80.06	PK	H	33.52	3.76	0.00	117.34	111.32	N/A	N/A
5180.00	69.05	AV	H	33.52	3.76	0.00	106.33	100.31	N/A	N/A
5180.00	89.88	PK	V	33.52	3.76	0.00	127.16	121.14	N/A	N/A
5180.00	78.12	AV	V	33.52	3.76	0.00	115.40	109.38	N/A	N/A
5150.00	37.19	PK	V	33.47	3.74	0.00	74.40	68.38	74.00	5.62
5150.00	20.88	AV	V	33.47	3.74	0.00	58.09	52.07	54.00	1.93
10360.00	36.68	PK	V	37.93	5.53	26.86	53.28	47.26	68.20	20.94
15540.00	36.07	PK	V	37.96	6.83	25.66	55.20	49.18	74.00	24.82
15540.00	23.11	AV	V	37.96	6.83	25.66	42.24	36.22	54.00	17.78
Middle Channel: 5200 MHz										
5200.00	80.12	PK	H	33.56	3.78	0.00	117.46	111.44	N/A	N/A
5200.00	69.26	AV	H	33.56	3.78	0.00	106.60	100.58	N/A	N/A
5200.00	90.97	PK	V	33.56	3.78	0.00	128.31	122.29	N/A	N/A
5200.00	80.03	AV	V	33.56	3.78	0.00	117.37	111.35	N/A	N/A
10400.00	37.53	PK	V	37.92	5.57	26.84	54.18	48.16	68.20	20.04
15600.00	35.71	PK	V	37.90	6.79	25.97	54.43	48.41	74.00	25.59
15600.00	23.04	AV	V	37.90	6.79	25.97	41.76	35.74	54.00	18.26
High Channel: 5240 MHz										
5240.00	80.21	PK	H	33.63	3.95	0.00	117.79	111.77	N/A	N/A
5240.00	69.65	AV	H	33.63	3.95	0.00	107.23	101.21	N/A	N/A
5240.00	90.98	PK	V	33.63	3.95	0.00	128.56	122.54	N/A	N/A
5240.00	80.42	AV	V	33.63	3.95	0.00	118.00	111.98	N/A	N/A
5350.00	30.27	PK	V	33.83	4.11	0.00	68.21	62.19	74.00	11.81
5350.00	19.14	AV	V	33.83	4.11	0.00	57.08	51.06	54.00	2.94
10480.00	37.06	PK	V	37.90	5.63	27.02	53.57	47.55	68.20	20.65
15720.00	35.64	PK	V	37.78	6.73	25.68	54.47	48.45	74.00	25.55
15720.00	23.09	AV	V	37.78	6.73	25.68	41.92	35.9	54.00	18.10

802.11n40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5190 MHz										
5190.00	74.50	PK	H	33.54	3.77	0.00	111.81	105.79	N/A	N/A
5190.00	63.04	AV	H	33.54	3.77	0.00	100.35	94.33	N/A	N/A
5190.00	84.78	PK	V	33.54	3.77	0.00	122.09	116.07	N/A	N/A
5190.00	73.33	AV	V	33.54	3.77	0.00	110.64	104.62	N/A	N/A
5150.00	40.09	PK	V	33.47	3.74	0.00	77.30	71.28	74.00	2.72
5150.00	22.04	AV	V	33.47	3.74	0.00	59.25	53.23	54.00	0.77
10380.00	35.89	PK	V	37.92	5.55	26.85	52.51	46.49	68.20	21.71
15570.00	35.03	PK	V	37.93	6.81	25.82	53.95	47.93	74.00	26.07
15570.00	23.13	AV	V	37.93	6.81	25.82	42.05	36.03	54.00	17.97
High Channel: 5230 MHz										
5230.00	75.10	PK	H	33.61	3.91	0.00	112.62	106.6	N/A	N/A
5230.00	64.35	AV	H	33.61	3.91	0.00	101.87	95.85	N/A	N/A
5230.00	85.51	PK	V	33.61	3.91	0.00	123.03	117.01	N/A	N/A
5230.00	73.90	AV	V	33.61	3.91	0.00	111.42	105.4	N/A	N/A
5350.00	30.48	PK	V	33.83	4.11	0.00	68.42	62.4	74.00	11.60
5350.00	19.08	AV	V	33.83	4.11	0.00	57.02	51	54.00	3.00
10460.00	36.28	PK	V	37.91	5.62	26.98	52.83	46.81	68.20	21.39
15690.00	35.27	PK	V	37.81	6.74	25.71	54.11	48.09	74.00	25.91
15690.00	23.05	AV	V	37.81	6.74	25.71	41.89	35.87	54.00	18.13

802.11ac vht20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	79.95	PK	H	33.52	3.76	0.00	117.23	111.21	N/A	N/A
5180.00	69.01	AV	H	33.52	3.76	0.00	106.29	100.27	N/A	N/A
5180.00	89.76	PK	V	33.52	3.76	0.00	127.04	121.02	N/A	N/A
5180.00	78.18	AV	V	33.52	3.76	0.00	115.46	109.44	N/A	N/A
5150.00	37.26	PK	V	33.47	3.74	0.00	74.47	68.45	74.00	5.55
5150.00	20.74	AV	V	33.47	3.74	0.00	57.95	51.93	54.00	2.07
10360.00	36.92	PK	V	37.93	5.53	26.86	53.52	47.5	68.20	20.70
15540.00	35.30	PK	V	37.96	6.83	25.66	54.43	48.41	74.00	25.59
15540.00	23.16	AV	V	37.96	6.83	25.66	42.29	36.27	54.00	17.73
Middle Channel: 5200 MHz										
5200.00	80.21	PK	H	33.56	3.78	0.00	117.55	111.53	N/A	N/A
5200.00	69.43	AV	H	33.56	3.78	0.00	106.77	100.75	N/A	N/A
5200.00	90.45	PK	V	33.56	3.78	0.00	127.79	121.77	N/A	N/A
5200.00	80.10	AV	V	33.56	3.78	0.00	117.44	111.42	N/A	N/A
10400.00	36.69	PK	V	37.92	5.57	26.84	53.34	47.32	68.20	20.88
15600.00	35.42	PK	V	37.90	6.79	25.97	54.14	48.12	74.00	25.88
15600.00	23.18	AV	V	37.90	6.79	25.97	41.90	35.88	54.00	18.12
High Channel: 5240 MHz										
5240.00	80.33	PK	H	33.63	3.95	0.00	117.91	111.89	N/A	N/A
5240.00	69.85	AV	H	33.63	3.95	0.00	107.43	101.41	N/A	N/A
5240.00	90.47	PK	V	33.63	3.95	0.00	128.05	122.03	N/A	N/A
5240.00	79.86	AV	V	33.63	3.95	0.00	117.44	111.42	N/A	N/A
5350.00	30.36	PK	V	33.83	4.11	0.00	68.30	62.28	74.00	11.72
5350.00	19.28	AV	V	33.83	4.11	0.00	57.22	51.2	54.00	2.80
10480.00	36.77	PK	V	37.90	5.63	27.02	53.28	47.26	68.20	20.94
15720.00	35.30	PK	V	37.78	6.73	25.68	54.13	48.11	74.00	25.89
15720.00	23.12	AV	V	37.78	6.73	25.68	41.95	35.93	54.00	18.07

802.11ac vht40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5190 MHz										
5190.00	74.72	PK	H	33.54	3.77	0.00	112.03	106.01	N/A	N/A
5190.00	63.28	AV	H	33.54	3.77	0.00	100.59	94.57	N/A	N/A
5190.00	84.67	PK	V	33.54	3.77	0.00	121.98	115.96	N/A	N/A
5190.00	73.26	AV	V	33.54	3.77	0.00	110.57	104.55	N/A	N/A
5150.00	40.27	PK	V	33.47	3.74	0.00	77.48	71.46	74.00	2.54
5150.00	21.79	AV	V	33.47	3.74	0.00	59.00	52.98	54.00	1.02
10380.00	36.71	PK	V	37.92	5.55	26.85	53.33	47.31	68.20	20.89
15570.00	35.52	PK	V	37.93	6.81	25.82	54.44	48.42	74.00	25.58
15570.00	23.13	AV	V	37.93	6.81	25.82	42.05	36.03	54.00	17.97
High Channel: 5230 MHz										
5230.00	75.35	PK	H	33.61	3.91	0.00	112.87	106.85	N/A	N/A
5230.00	64.47	AV	H	33.61	3.91	0.00	101.99	95.97	N/A	N/A
5230.00	85.63	PK	V	33.61	3.91	0.00	123.15	117.13	N/A	N/A
5230.00	74.16	AV	V	33.61	3.91	0.00	111.68	105.66	N/A	N/A
5350.00	30.65	PK	V	33.83	4.11	0.00	68.59	62.57	74.00	11.43
5350.00	19.21	AV	V	33.83	4.11	0.00	57.15	51.13	54.00	2.87
10460.00	36.82	PK	V	37.91	5.62	26.98	53.37	47.35	68.20	20.85
15690.00	35.67	PK	V	37.81	6.74	25.71	54.51	48.49	74.00	25.51
15690.00	23.20	AV	V	37.81	6.74	25.71	42.04	36.02	54.00	17.98

802.11ac vht80 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (Db)	Amplifier Gain (Db)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (Db)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (Db/m)						
Middle Channel: 5210 MHz										
5210.00	71.36	PK	H	33.58	3.82	0.00	108.76	102.74	N/A	N/A
5210.00	60.05	AV	H	33.58	3.82	0.00	97.45	91.43	N/A	N/A
5210.00	83.48	PK	V	33.58	3.82	0.00	120.88	114.86	N/A	N/A
5210.00	72.01	AV	V	33.58	3.82	0.00	109.41	103.39	N/A	N/A
5150.00	38.08	PK	V	33.47	3.74	0.00	75.29	69.27	74.00	4.73
5150.00	20.08	AV	V	33.47	3.74	0.00	57.29	51.27	54.00	2.73
5350.00	32.78	PK	V	33.83	4.11	0.00	70.72	64.7	74.00	9.30
5350.00	20.51	AV	V	33.83	4.11	0.00	58.45	52.43	54.00	1.57
10420.00	36.42	PK	V	37.92	5.58	26.89	53.03	47.01	68.20	21.19
15630.00	35.71	PK	V	37.87	6.78	25.88	54.48	48.46	74.00	25.54
15630.00	23.24	AV	V	37.87	6.78	25.88	42.01	35.99	54.00	18.01

802.11ax hew20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	79.88	PK	H	33.52	3.76	0.00	117.16	111.14	N/A	N/A
5180.00	68.02	AV	H	33.52	3.76	0.00	105.30	99.28	N/A	N/A
5180.00	89.39	PK	V	33.52	3.76	0.00	126.67	120.65	N/A	N/A
5180.00	77.91	AV	V	33.52	3.76	0.00	115.19	109.17	N/A	N/A
5150.00	37.65	PK	V	33.47	3.74	0.00	74.86	68.84	74.00	5.16
5150.00	20.99	AV	V	33.47	3.74	0.00	58.20	52.18	54.00	1.82
10360.00	36.82	PK	V	37.93	5.53	26.86	53.42	47.4	68.20	20.80
15540.00	35.63	PK	V	37.96	6.83	25.66	54.76	48.74	74.00	25.26
15540.00	23.15	AV	V	37.96	6.83	25.66	42.28	36.26	54.00	17.74
Middle Channel: 5200 MHz										
5200.00	79.02	PK	H	33.56	3.78	0.00	116.36	110.34	N/A	N/A
5200.00	68.51	AV	H	33.56	3.78	0.00	105.85	99.83	N/A	N/A
5200.00	89.86	PK	V	33.56	3.78	0.00	127.20	121.18	N/A	N/A
5200.00	79.58	AV	V	33.56	3.78	0.00	116.92	110.9	N/A	N/A
10400.00	38.01	PK	V	37.92	5.57	26.84	54.66	48.64	68.20	19.56
15600.00	36.12	PK	V	37.90	6.79	25.97	54.84	48.82	74.00	25.18
15600.00	23.07	AV	V	37.90	6.79	25.97	41.79	35.77	54.00	18.23
High Channel: 5240 MHz										
5240.00	78.05	PK	H	33.63	3.95	0.00	115.63	109.61	N/A	N/A
5240.00	67.76	AV	H	33.63	3.95	0.00	105.34	99.32	N/A	N/A
5240.00	90.69	PK	V	33.63	3.95	0.00	128.27	122.25	N/A	N/A
5240.00	79.24	AV	V	33.63	3.95	0.00	116.82	110.8	N/A	N/A
5350.00	31.09	PK	V	33.83	4.11	0.00	69.03	63.01	74.00	10.99
5350.00	18.95	AV	V	33.83	4.11	0.00	56.89	50.87	54.00	3.13
10480.00	37.24	PK	V	37.90	5.63	27.02	53.75	47.73	68.20	20.47
15720.00	36.15	PK	V	37.78	6.73	25.68	54.98	48.96	74.00	25.04
15720.00	23.09	AV	V	37.78	6.73	25.68	41.92	35.9	54.00	18.10

802.11ax hew40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5190 MHz										
5190.00	74.72	PK	H	33.54	3.77	0.00	112.03	106.01	N/A	N/A
5190.00	63.28	AV	H	33.54	3.77	0.00	100.59	94.57	N/A	N/A
5190.00	86.02	PK	V	33.54	3.77	0.00	123.33	117.31	N/A	N/A
5190.00	74.92	AV	V	33.54	3.77	0.00	112.23	106.21	N/A	N/A
5150.00	38.77	PK	V	33.47	3.74	0.00	75.98	69.96	74.00	4.04
5150.00	21.71	AV	V	33.47	3.74	0.00	58.92	52.9	54.00	1.10
10380.00	36.58	PK	V	37.92	5.55	26.85	53.20	47.18	68.20	21.02
15570.00	35.44	PK	V	37.93	6.81	25.82	54.36	48.34	74.00	25.66
15570.00	23.02	AV	V	37.93	6.81	25.82	41.94	35.92	54.00	18.08
High Channel: 5230 MHz										
5230.00	74.23	PK	H	33.61	3.91	0.00	111.75	105.73	N/A	N/A
5230.00	63.76	AV	H	33.61	3.91	0.00	101.28	95.26	N/A	N/A
5230.00	86.41	PK	V	33.61	3.91	0.00	123.93	117.91	N/A	N/A
5230.00	74.99	AV	V	33.61	3.91	0.00	112.51	106.49	N/A	N/A
5350.00	30.49	PK	V	33.83	4.11	0.00	68.43	62.41	74.00	11.59
5350.00	18.94	AV	V	33.83	4.11	0.00	56.88	50.86	54.00	3.14
10460.00	36.52	PK	V	37.91	5.62	26.98	53.07	47.05	68.20	21.15
15690.00	35.53	PK	V	37.81	6.74	25.71	54.37	48.35	74.00	25.65
15690.00	23.01	AV	V	37.81	6.74	25.71	41.85	35.83	54.00	18.17

802.11ax hew80 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (Db)	Amplifier Gain (Db)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (Db)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (Db/m)						
Middle Channel: 5210 MHz										
5210.00	70.84	PK	H	33.58	3.82	0.00	108.24	102.22	N/A	N/A
5210.00	59.65	AV	H	33.58	3.82	0.00	97.05	91.03	N/A	N/A
5210.00	83.51	PK	V	33.58	3.82	0.00	120.91	114.89	N/A	N/A
5210.00	72.24	AV	V	33.58	3.82	0.00	109.64	103.62	N/A	N/A
5150.00	36.90	PK	V	33.47	3.74	0.00	74.11	68.09	74.00	5.91
5150.00	20.43	AV	V	33.47	3.74	0.00	57.64	51.62	54.00	2.38
5350.00	33.39	PK	V	33.83	4.11	0.00	71.33	65.31	74.00	8.69
5350.00	20.77	AV	V	33.83	4.11	0.00	58.71	52.69	54.00	1.31
10420.00	37.01	PK	V	37.92	5.58	26.89	53.62	47.6	68.20	20.60
15630.00	36.62	PK	V	37.87	6.78	25.88	55.39	49.37	74.00	24.63
15630.00	23.18	AV	V	37.87	6.78	25.88	41.95	35.93	54.00	18.07

5725-5850MHz
802.11a Chain 0:

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5745 MHz										
5745.00	84.34	PK	H	34.20	4.01	0.00	122.55	116.53	N/A	N/A
5745.00	74.58	AV	H	34.20	4.01	0.00	112.79	106.77	N/A	N/A
5745.00	89.93	PK	V	34.20	4.01	0.00	128.14	122.12	N/A	N/A
5745.00	80.08	AV	V	34.20	4.01	0.00	118.29	112.27	N/A	N/A
5725.00	67.71	PK	V	34.19	3.91	0.00	105.81	99.79	122.20	22.41
5720.00	60.84	PK	V	34.19	3.88	0.00	98.91	92.89	110.80	17.91
5700.00	48.18	PK	V	34.18	3.77	0.00	86.13	80.11	105.20	25.09
5650.00	31.59	PK	V	34.16	3.75	0.00	69.50	63.48	68.20	4.72
11490.00	37.21	PK	V	38.89	5.76	26.57	55.29	49.27	74.00	24.73
11490.00	25.42	AV	V	38.89	5.76	26.57	43.50	37.48	54.00	16.52
17235.00	36.85	PK	V	41.56	7.00	25.11	60.30	54.28	68.20	13.92
6280.00	43.46	PK	V	34.24	4.20	26.47	55.43	49.41	68.20	18.79
Middle Channel: 5785 MHz										
5785.00	83.36	PK	H	34.21	4.23	0.00	121.80	115.78	N/A	N/A
5785.00	73.45	AV	H	34.21	4.23	0.00	111.89	105.87	N/A	N/A
5785.00	89.43	PK	V	34.21	4.23	0.00	127.87	121.85	N/A	N/A
5785.00	79.46	AV	V	34.21	4.23	0.00	117.90	111.88	N/A	N/A
11570.00	37.43	PK	V	38.94	5.77	26.97	55.17	49.15	74.00	24.85
11570.00	25.09	AV	V	38.94	5.77	26.97	42.83	36.81	54.00	17.19
17355.00	36.40	PK	V	42.30	6.99	25.16	60.53	54.51	68.20	13.69
6264.00	42.34	PK	V	34.25	4.20	26.45	54.34	48.32	68.20	19.88
High Channel: 5825 MHz										
5825.00	83.31	PK	H	34.23	4.28	0.00	121.82	115.8	N/A	N/A
5825.00	73.24	AV	H	34.23	4.28	0.00	111.75	105.73	N/A	N/A
5825.00	89.15	PK	V	34.23	4.28	0.00	127.66	121.64	N/A	N/A
5825.00	79.20	AV	V	34.23	4.28	0.00	117.71	111.69	N/A	N/A
5850.00	55.42	PK	V	34.24	4.24	0.00	93.90	87.88	122.20	34.32
5855.00	54.98	PK	V	34.24	4.23	0.00	93.45	87.43	110.80	23.37
5875.00	45.03	PK	V	34.25	4.21	0.00	83.49	77.47	105.20	27.73
5925.00	30.79	PK	V	34.27	4.19	0.00	69.25	63.23	68.20	4.97
11650.00	37.23	PK	V	38.99	5.77	26.84	55.15	49.13	74.00	24.87
11650.00	24.98	AV	V	38.99	5.77	26.84	42.90	36.88	54.00	17.12
17475.00	36.41	PK	V	43.05	6.97	24.55	61.88	55.86	68.20	12.34
6312.00	42.46	PK	V	34.24	4.19	26.49	54.40	48.38	68.20	19.82

Chain 1:

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5745 MHz										
5745.00	81.58	PK	H	34.20	4.01	0.00	119.79	113.77	N/A	N/A
5745.00	72.09	AV	H	34.20	4.01	0.00	110.30	104.28	N/A	N/A
5745.00	89.33	PK	V	34.20	4.01	0.00	127.54	121.52	N/A	N/A
5745.00	79.75	AV	V	34.20	4.01	0.00	117.96	111.94	N/A	N/A
5725.00	66.53	PK	V	34.19	3.91	0.00	104.63	98.61	122.20	23.59
5720.00	57.73	PK	V	34.19	3.88	0.00	95.80	89.78	110.80	21.02
5700.00	46.15	PK	V	34.18	3.77	0.00	84.10	78.08	105.20	27.12
5650.00	32.11	PK	V	34.16	3.75	0.00	70.02	64	68.20	4.20
11490.00	37.22	PK	V	38.89	5.76	26.57	55.30	49.28	74.00	24.72
11490.00	24.95	AV	V	38.89	5.76	26.57	43.03	37.01	54.00	16.99
17235.00	37.19	PK	V	41.56	7.00	25.11	60.64	54.62	68.20	13.58
6296.00	38.31	PK	V	34.24	4.19	26.48	50.26	44.24	68.20	23.96
Middle Channel: 5785 MHz										
5785.00	82.27	PK	H	34.21	4.23	0.00	120.71	114.69	N/A	N/A
5785.00	72.62	AV	H	34.21	4.23	0.00	111.06	105.04	N/A	N/A
5785.00	90.30	PK	V	34.21	4.23	0.00	128.74	122.72	N/A	N/A
5785.00	80.74	AV	V	34.21	4.23	0.00	119.18	113.16	N/A	N/A
11570.00	36.84	PK	V	38.94	5.77	26.97	54.58	48.56	74.00	25.44
11570.00	24.76	AV	V	38.94	5.77	26.97	42.50	36.48	54.00	17.52
17355.00	36.80	PK	V	42.30	6.99	25.16	60.93	54.91	68.20	13.29
6248.00	40.28	PK	V	34.25	4.21	26.44	52.30	46.28	68.20	21.92
High Channel: 5825 MHz										
5825.00	81.97	PK	H	34.23	4.28	0.00	120.48	114.46	N/A	N/A
5825.00	72.12	AV	H	34.23	4.28	0.00	110.63	104.61	N/A	N/A
5825.00	89.81	PK	V	34.23	4.28	0.00	128.32	122.3	N/A	N/A
5825.00	80.52	AV	V	34.23	4.28	0.00	119.03	113.01	N/A	N/A
5850.00	54.49	PK	V	34.24	4.24	0.00	92.97	86.95	122.20	35.25
5855.00	53.84	PK	V	34.24	4.23	0.00	92.31	86.29	110.80	24.51
5875.00	45.41	PK	V	34.25	4.21	0.00	83.87	77.85	105.20	27.35
5925.00	32.50	PK	V	34.27	4.19	0.00	70.96	64.94	68.20	3.26
11650.00	37.16	PK	V	38.99	5.77	26.84	55.08	49.06	74.00	24.94
11650.00	24.90	AV	V	38.99	5.77	26.84	42.82	36.8	54.00	17.20
17475.00	36.41	PK	V	43.05	6.97	24.55	61.88	55.86	68.20	12.34
6264.00	38.89	PK	V	34.25	4.20	26.45	50.89	44.87	68.20	23.33

802.11n20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5745 MHz										
5745.00	79.01	PK	H	34.20	4.01	0.00	117.22	111.2	N/A	N/A
5745.00	67.63	AV	H	34.20	4.01	0.00	105.84	99.82	N/A	N/A
5745.00	90.61	PK	V	34.20	4.01	0.00	128.82	122.8	N/A	N/A
5745.00	79.41	AV	V	34.20	4.01	0.00	117.62	111.6	N/A	N/A
5725.00	61.60	PK	V	34.19	3.91	0.00	99.70	93.68	122.20	28.52
5720.00	53.37	PK	V	34.19	3.88	0.00	91.44	85.42	110.80	25.38
5700.00	40.69	PK	V	34.18	3.77	0.00	78.64	72.62	105.20	32.58
5650.00	33.27	PK	V	34.16	3.75	0.00	71.18	65.16	68.20	3.04
11490.00	37.21	PK	V	38.89	5.76	26.57	55.29	49.27	74.00	24.73
11490.00	24.87	AV	V	38.89	5.76	26.57	42.95	36.93	54.00	17.07
17235.00	36.82	PK	V	41.56	7.00	25.11	60.27	54.25	68.20	13.95
6280.00	41.84	PK	V	34.24	4.20	26.47	53.81	47.79	68.20	20.41
Middle Channel: 5785 MHz										
5785.00	78.43	PK	H	34.21	4.23	0.00	116.87	110.85	N/A	N/A
5785.00	66.99	AV	H	34.21	4.23	0.00	105.43	99.41	N/A	N/A
5785.00	90.17	PK	V	34.21	4.23	0.00	128.61	122.59	N/A	N/A
5785.00	78.97	AV	V	34.21	4.23	0.00	117.41	111.39	N/A	N/A
11570.00	36.88	PK	V	38.94	5.77	26.97	54.62	48.6	74.00	25.40
11570.00	24.79	AV	V	38.94	5.77	26.97	42.53	36.51	54.00	17.49
17355.00	36.77	PK	V	42.30	6.99	25.16	60.90	54.88	68.20	13.32
6296.00	40.70	PK	V	34.24	4.19	26.48	52.65	46.63	68.20	21.57
High Channel: 5825 MHz										
5825.00	79.11	PK	H	34.23	4.28	0.00	117.62	111.6	N/A	N/A
5825.00	67.95	AV	H	34.23	4.28	0.00	106.46	100.44	N/A	N/A
5825.00	90.56	PK	V	34.23	4.28	0.00	129.07	123.05	N/A	N/A
5825.00	79.23	AV	V	34.23	4.28	0.00	117.74	111.72	N/A	N/A
5850.00	53.67	PK	V	34.24	4.24	0.00	92.15	86.13	122.20	36.07
5855.00	51.17	PK	V	34.24	4.23	0.00	89.64	83.62	110.80	27.18
5875.00	45.79	PK	V	34.25	4.21	0.00	84.25	78.23	105.20	26.97
5925.00	31.38	PK	V	34.27	4.19	0.00	69.84	63.82	68.20	4.38
11650.00	37.05	PK	V	38.99	5.77	26.84	54.97	48.95	74.00	25.05
11650.00	24.81	AV	V	38.99	5.77	26.84	42.73	36.71	54.00	17.29
17475.00	36.69	PK	V	43.05	6.97	24.55	62.16	56.14	68.20	12.06
6264.00	42.62	PK	V	34.25	4.20	26.45	54.62	48.6	68.20	19.60

802.11n40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5755 MHz										
5755.00	74.92	PK	H	34.20	4.07	0.00	113.19	107.17	N/A	N/A
5755.00	63.46	AV	H	34.20	4.07	0.00	101.73	95.71	N/A	N/A
5755.00	86.76	PK	V	34.20	4.07	0.00	125.03	119.01	N/A	N/A
5755.00	75.55	AV	V	34.20	4.07	0.00	113.82	107.8	N/A	N/A
5725.00	56.66	PK	V	34.19	3.91	0.00	94.76	88.74	122.20	33.46
5720.00	54.81	PK	V	34.19	3.88	0.00	92.88	86.86	110.80	23.94
5700.00	44.43	PK	V	34.18	3.77	0.00	82.38	76.36	105.20	28.84
5650.00	32.38	PK	V	34.16	3.75	0.00	70.29	64.27	68.20	3.93
11510.00	37.98	PK	V	38.91	5.77	26.58	56.08	50.06	74.00	23.94
11510.00	25.47	AV	V	38.91	5.77	26.58	43.57	37.55	54.00	16.45
17265.00	37.54	PK	V	41.74	7.00	24.84	61.44	55.42	68.20	12.78
6264.00	39.82	PK	V	34.25	4.20	26.45	51.82	45.8	68.20	22.40
High Channel: 5795 MHz										
5795.00	75.85	PK	H	34.22	4.28	0.00	114.35	108.33	N/A	N/A
5795.00	64.35	AV	H	34.22	4.28	0.00	102.85	96.83	N/A	N/A
5795.00	87.53	PK	V	34.22	4.28	0.00	126.03	120.01	N/A	N/A
5795.00	76.12	AV	V	34.22	4.28	0.00	114.62	108.6	N/A	N/A
5850.00	47.15	PK	V	34.24	4.24	0.00	85.63	79.61	122.20	42.59
5855.00	45.56	PK	V	34.24	4.23	0.00	84.03	78.01	110.80	32.79
5875.00	44.24	PK	V	34.25	4.21	0.00	82.70	76.68	105.20	28.52
5925.00	32.27	PK	V	34.27	4.19	0.00	70.73	64.71	68.20	3.49
11590.00	37.22	PK	V	38.95	5.77	27.10	54.84	48.82	74.00	25.18
11590.00	24.91	AV	V	38.95	5.77	27.10	42.53	36.51	54.00	17.49
17385.00	36.47	PK	V	42.49	6.98	25.51	60.43	54.41	68.20	13.79
6280.00	38.97	PK	V	34.24	4.20	26.47	50.94	44.92	68.20	23.28

802.11ac vht20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5745 MHz										
5745.00	80.59	PK	H	34.20	4.01	0.00	118.80	112.78	N/A	N/A
5745.00	68.51	AV	H	34.20	4.01	0.00	106.72	100.7	N/A	N/A
5745.00	91.68	PK	V	34.20	4.01	0.00	129.89	123.87	N/A	N/A
5745.00	80.04	AV	V	34.20	4.01	0.00	118.25	112.23	N/A	N/A
5725.00	64.56	PK	V	34.19	3.91	0.00	102.66	96.64	122.20	25.56
5720.00	57.00	PK	V	34.19	3.88	0.00	95.07	89.05	110.80	21.75
5700.00	43.83	PK	V	34.18	3.77	0.00	81.78	75.76	105.20	29.44
5650.00	32.34	PK	V	34.16	3.75	0.00	70.25	64.23	68.20	3.97
11490.00	37.23	PK	V	38.89	5.76	26.57	55.31	49.29	74.00	24.71
11490.00	24.86	AV	V	38.89	5.76	26.57	42.94	36.92	54.00	17.08
17235.00	36.75	PK	V	41.56	7.00	25.11	60.20	54.18	68.20	14.02
6280.00	41.64	PK	V	34.24	4.20	26.47	53.61	47.59	68.20	20.61
Middle Channel: 5785 MHz										
5785.00	80.23	PK	H	34.21	4.23	0.00	118.67	112.65	N/A	N/A
5785.00	68.20	AV	H	34.21	4.23	0.00	106.64	100.62	N/A	N/A
5785.00	91.21	PK	V	34.21	4.23	0.00	129.65	123.63	N/A	N/A
5785.00	79.25	AV	V	34.21	4.23	0.00	117.69	111.67	N/A	N/A
11570.00	36.83	PK	V	38.94	5.77	26.97	54.57	48.55	74.00	25.45
11570.00	24.76	AV	V	38.94	5.77	26.97	42.50	36.48	54.00	17.52
17355.00	36.72	PK	V	42.30	6.99	25.16	60.85	54.83	68.20	13.37
6296.00	41.02	PK	V	34.24	4.19	26.48	52.97	46.95	68.20	21.25
High Channel: 5825 MHz										
5825.00	79.82	PK	H	34.23	4.28	0.00	118.33	112.31	N/A	N/A
5825.00	68.22	AV	H	34.23	4.28	0.00	106.73	100.71	N/A	N/A
5825.00	91.18	PK	V	34.23	4.28	0.00	129.69	123.67	N/A	N/A
5825.00	79.33	AV	V	34.23	4.28	0.00	117.84	111.82	N/A	N/A
5850.00	56.26	PK	V	34.24	4.24	0.00	94.74	88.72	122.20	33.48
5855.00	51.54	PK	V	34.24	4.23	0.00	90.01	83.99	110.80	26.81
5875.00	46.28	PK	V	34.25	4.21	0.00	84.74	78.72	105.20	26.48
5925.00	32.36	PK	V	34.27	4.19	0.00	70.82	64.8	68.20	3.40
11650.00	37.21	PK	V	38.99	5.77	26.84	55.13	49.11	74.00	24.89
11650.00	24.73	AV	V	38.99	5.77	26.84	42.65	36.63	54.00	17.37
17475.00	36.78	PK	V	43.05	6.97	24.55	62.25	56.23	68.20	11.97
6240.00	42.37	PK	V	34.25	4.21	26.44	54.39	48.37	68.20	19.83

802.11ac vht40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5755 MHz										
5755.00	75.35	PK	H	34.20	4.07	0.00	113.62	107.6	N/A	N/A
5755.00	63.60	AV	H	34.20	4.07	0.00	101.87	95.85	N/A	N/A
5755.00	86.71	PK	V	34.20	4.07	0.00	124.98	118.96	N/A	N/A
5755.00	75.28	AV	V	34.20	4.07	0.00	113.55	107.53	N/A	N/A
5725.00	59.27	PK	V	34.19	3.91	0.00	97.37	91.35	122.20	30.85
5720.00	56.70	PK	V	34.19	3.88	0.00	94.77	88.75	110.80	22.05
5700.00	47.00	PK	V	34.18	3.77	0.00	84.95	78.93	105.20	26.27
5650.00	32.93	PK	V	34.16	3.75	0.00	70.84	64.82	68.20	3.38
11510.00	37.16	PK	V	38.91	5.77	26.58	55.26	49.24	74.00	24.76
11510.00	24.87	AV	V	38.91	5.77	26.58	42.97	36.95	54.00	17.05
17265.00	36.43	PK	V	41.74	7.00	24.84	60.33	54.31	68.20	13.89
6264.00	40.02	PK	V	34.25	4.20	26.45	52.02	46	68.20	22.20
High Channel: 5795 MHz										
5795.00	75.50	PK	H	34.22	4.28	0.00	114.00	107.98	N/A	N/A
5795.00	63.84	AV	H	34.22	4.28	0.00	102.34	96.32	N/A	N/A
5795.00	87.20	PK	V	34.22	4.28	0.00	125.70	119.68	N/A	N/A
5795.00	75.56	AV	V	34.22	4.28	0.00	114.06	108.04	N/A	N/A
5850.00	48.63	PK	V	34.24	4.24	0.00	87.11	81.09	122.20	41.11
5855.00	46.17	PK	V	34.24	4.23	0.00	84.64	78.62	110.80	32.18
5875.00	43.93	PK	V	34.25	4.21	0.00	82.39	76.37	105.20	28.83
5925.00	32.11	PK	V	34.27	4.19	0.00	70.57	64.55	68.20	3.65
11590.00	37.22	PK	V	38.95	5.77	27.10	54.84	48.82	74.00	25.18
11590.00	24.91	AV	V	38.95	5.77	27.10	42.53	36.51	54.00	17.49
17385.00	36.47	PK	V	42.49	6.98	25.51	60.43	54.41	68.20	13.79
6280.00	38.97	PK	V	34.24	4.20	26.47	50.94	44.92	68.20	23.28

802.11ac vht80 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Middle Channel: 5775 MHz										
5775.00	69.60	PK	H	34.21	4.18	0.00	107.99	101.97	N/A	N/A
5775.00	57.87	AV	H	34.21	4.18	0.00	96.26	90.24	N/A	N/A
5775.00	81.73	PK	V	34.21	4.18	0.00	120.12	114.1	N/A	N/A
5775.00	69.75	AV	V	34.21	4.18	0.00	108.14	102.12	N/A	N/A
5725.00	41.55	PK	V	34.19	3.91	0.00	79.65	73.63	122.20	48.57
5720.00	38.90	PK	V	34.19	3.88	0.00	76.97	70.95	110.80	39.85
5700.00	38.59	PK	V	34.18	3.77	0.00	76.54	70.52	105.20	34.68
5650.00	33.61	PK	V	34.16	3.75	0.00	71.52	65.5	68.20	2.70
5850.00	39.08	PK	V	34.24	4.24	0.00	77.56	71.54	122.20	50.66
5855.00	38.93	PK	V	34.24	4.23	0.00	77.40	71.38	110.80	39.42
5875.00	37.05	PK	V	34.25	4.21	0.00	75.51	69.49	105.20	35.71
5925.00	30.97	PK	V	34.27	4.19	0.00	69.43	63.41	68.20	4.79
11550.00	36.80	PK	V	38.93	5.77	26.84	54.66	48.64	74.00	25.36
11550.00	24.54	AV	V	38.93	5.77	26.84	42.40	36.38	54.00	17.62
17325.00	37.20	PK	V	42.12	6.99	24.81	61.50	55.48	68.20	12.72
6264.00	39.46	PK	V	34.25	4.20	26.45	51.46	45.44	68.20	22.76

802.11ax hew20 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5745 MHz										
5745.00	80.78	PK	H	34.20	4.01	0.00	118.99	112.97	N/A	N/A
5745.00	68.53	AV	H	34.20	4.01	0.00	106.74	100.72	N/A	N/A
5745.00	91.55	PK	V	34.20	4.01	0.00	129.76	123.74	N/A	N/A
5745.00	79.15	AV	V	34.20	4.01	0.00	117.36	111.34	N/A	N/A
5725.00	63.66	PK	V	34.19	3.91	0.00	101.76	95.74	122.20	26.46
5720.00	62.20	PK	V	34.19	3.88	0.00	100.27	94.25	110.80	16.55
5700.00	45.49	PK	V	34.18	3.77	0.00	83.44	77.42	105.20	27.78
5650.00	32.85	PK	V	34.16	3.75	0.00	70.76	64.74	68.20	3.46
11490.00	37.12	PK	V	38.89	5.76	26.57	55.20	49.18	74.00	24.82
11490.00	24.78	AV	V	38.89	5.76	26.57	42.86	36.84	54.00	17.16
17235.00	36.57	PK	V	41.56	7.00	25.11	60.02	54	68.20	14.20
6280.00	41.35	PK	V	34.24	4.20	26.47	53.32	47.3	68.20	20.90
Middle Channel: 5785 MHz										
5785.00	79.88	PK	H	34.21	4.23	0.00	118.32	112.3	N/A	N/A
5785.00	67.74	AV	H	34.21	4.23	0.00	106.18	100.16	N/A	N/A
5785.00	91.13	PK	V	34.21	4.23	0.00	129.57	123.55	N/A	N/A
5785.00	78.71	AV	V	34.21	4.23	0.00	117.15	111.13	N/A	N/A
11570.00	36.70	PK	V	38.94	5.77	26.97	54.44	48.42	74.00	25.58
11570.00	24.69	AV	V	38.94	5.77	26.97	42.43	36.41	54.00	17.59
17355.00	36.66	PK	V	42.30	6.99	25.16	60.79	54.77	68.20	13.43
6296.00	40.95	PK	V	34.24	4.19	26.48	52.90	46.88	68.20	21.32
High Channel: 5825 MHz										
5825.00	80.65	PK	H	34.23	4.28	0.00	119.16	113.14	N/A	N/A
5825.00	68.17	AV	H	34.23	4.28	0.00	106.68	100.66	N/A	N/A
5825.00	91.75	PK	V	34.23	4.28	0.00	130.26	124.24	N/A	N/A
5825.00	79.46	AV	V	34.23	4.28	0.00	117.97	111.95	N/A	N/A
5850.00	59.57	PK	V	34.24	4.24	0.00	98.05	92.03	122.20	30.17
5855.00	52.08	PK	V	34.24	4.23	0.00	90.55	84.53	110.80	26.27
5875.00	46.14	PK	V	34.25	4.21	0.00	84.60	78.58	105.20	26.62
5925.00	31.75	PK	V	34.27	4.19	0.00	70.21	64.19	68.20	4.01
11650.00	37.05	PK	V	38.99	5.77	26.84	54.97	48.95	74.00	25.05
11650.00	24.62	AV	V	38.99	5.77	26.84	42.54	36.52	54.00	17.48
17475.00	36.57	PK	V	43.05	6.97	24.55	62.04	56.02	68.20	12.18
6240.00	42.51	PK	V	34.25	4.21	26.44	54.53	48.51	68.20	19.69

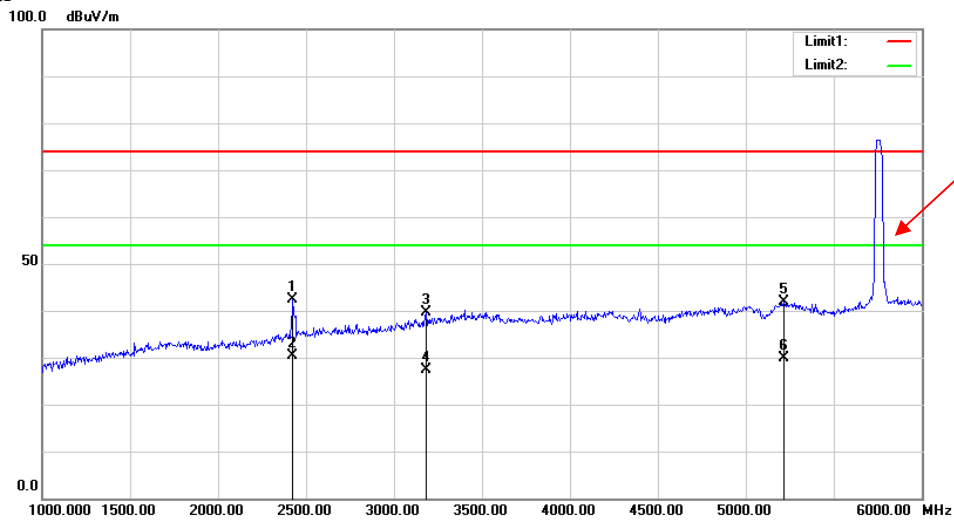
802.11ax hew40 (2Tx Beamforming mode was the worst):

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
Low Channel: 5755 MHz										
5755.00	75.46	PK	H	34.20	4.07	0.00	113.73	107.71	N/A	N/A
5755.00	63.00	AV	H	34.20	4.07	0.00	101.27	95.25	N/A	N/A
5755.00	86.74	PK	V	34.20	4.07	0.00	125.01	118.99	N/A	N/A
5755.00	74.44	AV	V	34.20	4.07	0.00	112.71	106.69	N/A	N/A
5725.00	53.63	PK	V	34.19	3.91	0.00	91.73	85.71	122.20	36.49
5720.00	52.72	PK	V	34.19	3.88	0.00	90.79	84.77	110.80	26.03
5700.00	42.38	PK	V	34.18	3.77	0.00	80.33	74.31	105.20	30.89
5650.00	32.42	PK	V	34.16	3.75	0.00	70.33	64.31	68.20	3.89
11510.00	37.07	PK	V	38.91	5.77	26.58	55.17	49.15	74.00	24.85
11510.00	24.72	AV	V	38.91	5.77	26.58	42.82	36.8	54.00	17.20
17265.00	36.24	PK	V	41.74	7.00	24.84	60.14	54.12	68.20	14.08
6264.00	40.13	PK	V	34.25	4.20	26.45	52.13	46.11	68.20	22.09
Middle Channel: 5795 MHz										
5795.00	75.65	PK	H	34.22	4.28	0.00	114.15	108.13	N/A	N/A
5795.00	63.19	AV	H	34.22	4.28	0.00	101.69	95.67	N/A	N/A
5795.00	86.95	PK	V	34.22	4.28	0.00	125.45	119.43	N/A	N/A
5795.00	74.57	AV	V	34.22	4.28	0.00	113.07	107.05	N/A	N/A
5850.00	44.11	PK	V	34.24	4.24	0.00	82.59	76.57	122.20	45.63
5855.00	42.69	PK	V	34.24	4.23	0.00	81.16	75.14	110.80	35.66
5875.00	39.45	PK	V	34.25	4.21	0.00	77.91	71.89	105.20	33.31
5925.00	31.73	PK	V	34.27	4.19	0.00	70.19	64.17	68.20	4.03
11590.00	37.35	PK	V	38.95	5.77	27.10	54.97	48.95	74.00	25.05
11590.00	24.94	AV	V	38.95	5.77	27.10	42.56	36.54	54.00	17.46
17385.00	36.27	PK	V	42.49	6.98	25.51	60.23	54.21	68.20	13.99
6280.00	39.26	PK	V	34.24	4.20	26.47	51.23	45.21	68.20	22.99

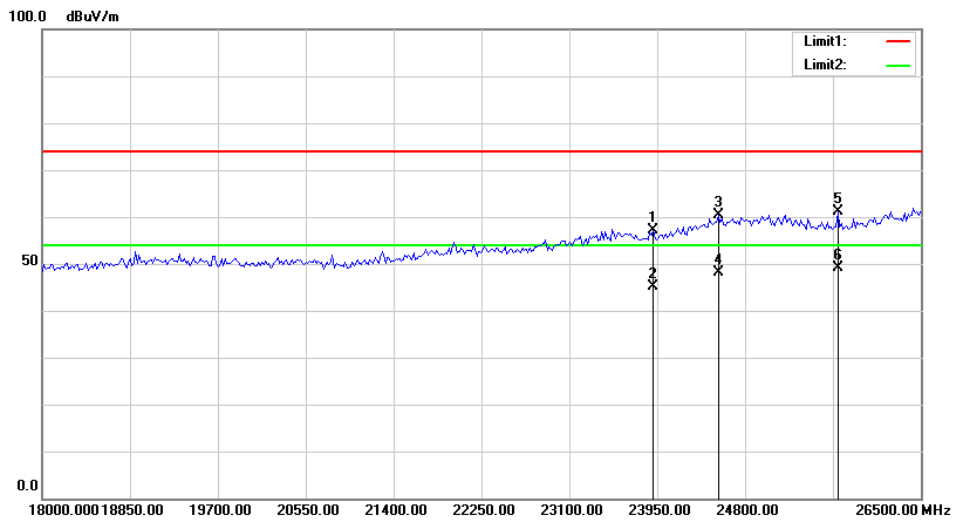
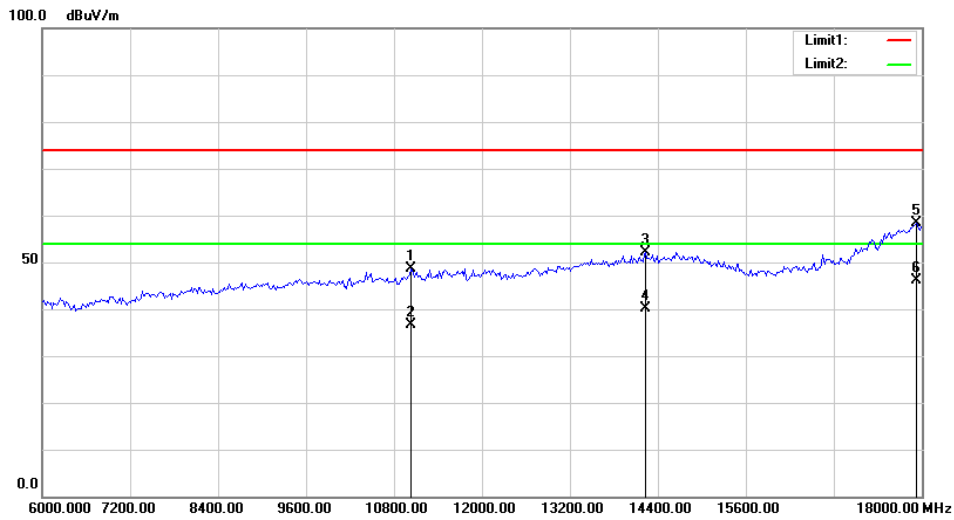
802.11ax hew80 (2Tx Beamforming mode was the worst):

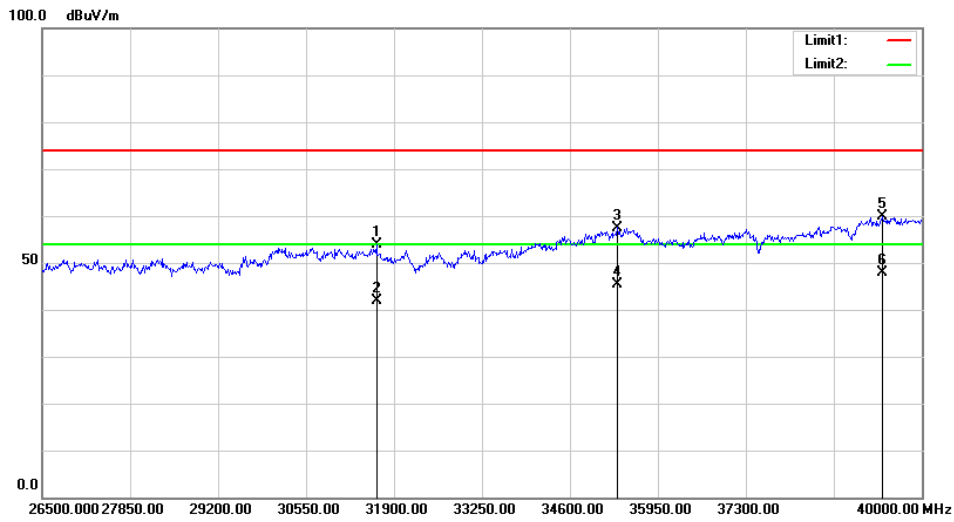
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Extrapolation result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector	Polar (H/V)	Factor (dB/m)						
High Channel: 5775 MHz										
5775.00	68.62	PK	H	34.21	4.18	0.00	107.01	100.99	N/A	N/A
5775.00	56.33	AV	H	34.21	4.18	0.00	94.72	88.7	N/A	N/A
5775.00	81.03	PK	V	34.21	4.18	0.00	119.42	113.4	N/A	N/A
5775.00	68.80	AV	V	34.21	4.18	0.00	107.19	101.17	N/A	N/A
5725.00	41.99	PK	V	34.19	3.91	0.00	80.09	74.07	122.20	48.13
5720.00	40.36	PK	V	34.19	3.88	0.00	78.43	72.41	110.80	38.39
5700.00	38.27	PK	V	34.18	3.77	0.00	76.22	70.2	105.20	35.00
5650.00	32.48	PK	V	34.16	3.75	0.00	70.39	64.37	68.20	3.83
5850.00	32.54	PK	V	34.24	4.24	0.00	71.02	65	122.20	57.20
5855.00	34.87	PK	V	34.24	4.23	0.00	73.34	67.32	110.80	43.48
5875.00	32.75	PK	V	34.25	4.21	0.00	71.21	65.19	105.20	40.01
5925.00	29.34	PK	V	34.27	4.19	0.00	67.80	61.78	68.20	6.42
11550.00	36.54	PK	V	38.93	5.77	26.84	54.40	48.38	74.00	25.62
11550.00	24.42	AV	V	38.93	5.77	26.84	42.28	36.26	54.00	17.74
17475.00	36.78	PK	V	43.05	6.97	24.55	62.25	56.23	68.20	11.97
6240.00	42.37	PK	V	34.25	4.21	26.44	54.39	48.37	68.20	19.83

Test Plots(802.11ax mode 5775MHz was the worst)
Horizontal

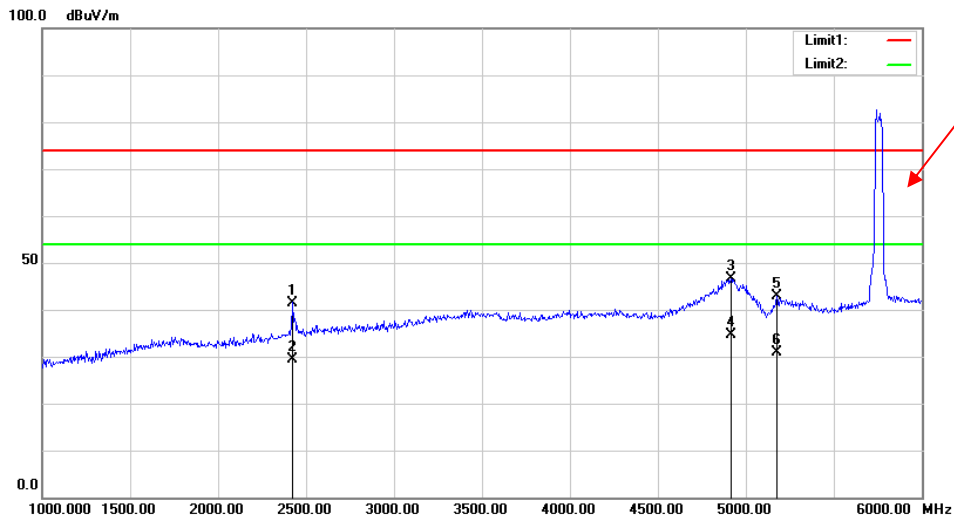


Fundamental Test with Band Rejection Filter

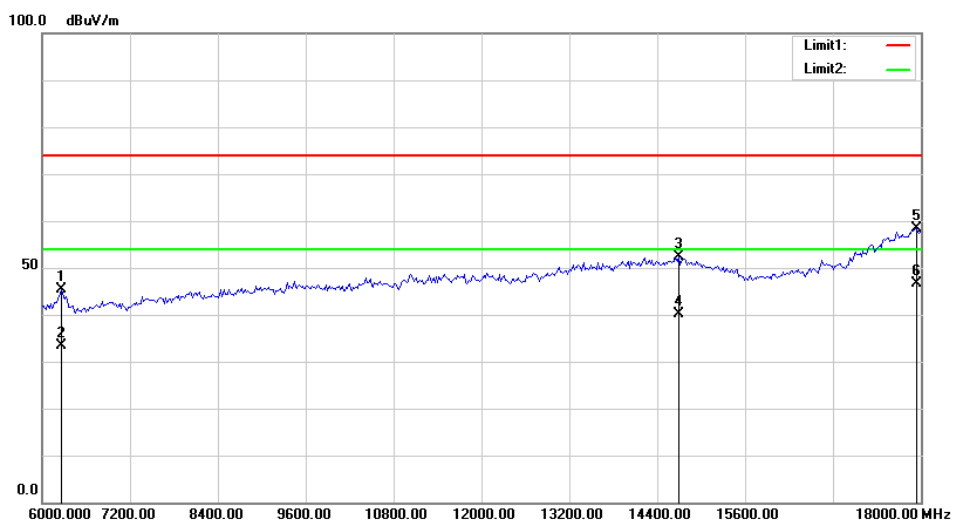


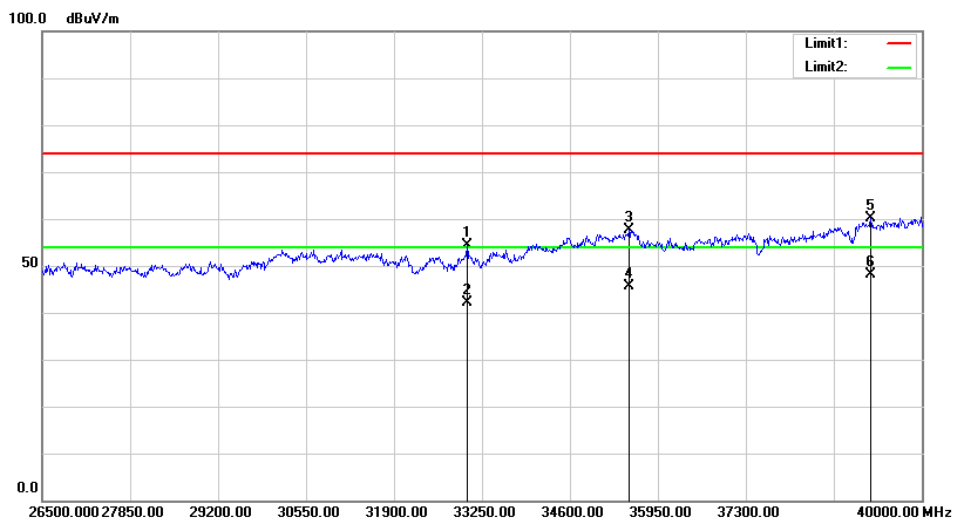
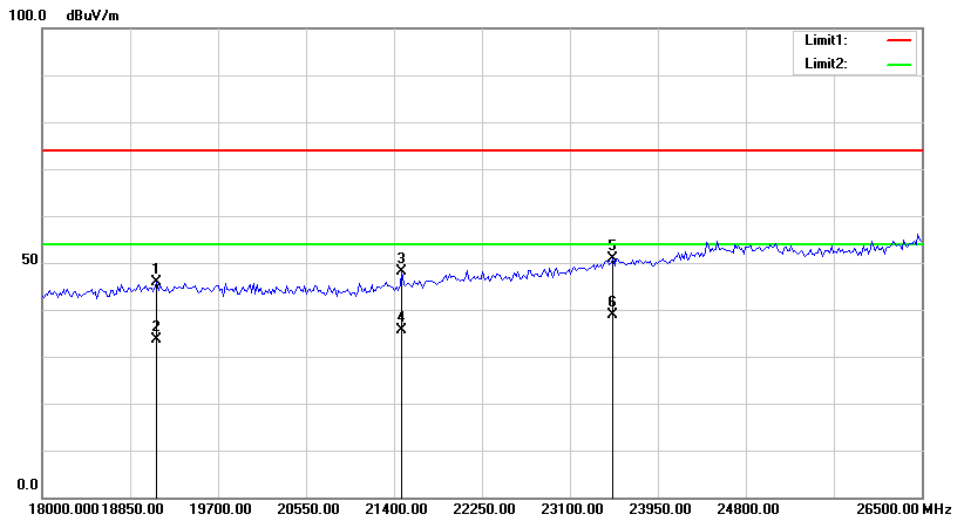


Vertical:



Fundamental Test with Band Rejection Filter





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	FSV40	101591	2020-06-29	2021-06-28
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	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 Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Test Data

Environmental Conditions

Temperature:	26.2 °C
Relative Humidity:	47 %
ATM Pressure:	100.3 kPa
Test by:	Tiger Mo
Test Date:	2021-07-16

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

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

5150-5250MHz:

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11 a	5180	21.680	17.086
	5200	21.680	17.086
	5240	21.680	17.086
802.11n ht20	5180	21.920	18.044
	5200	21.840	18.044
	5240	21.760	17.964
802.11n ht40	5190	39.680	36.727
	5230	39.840	36.727
802.11ac vht20	5180	21.920	18.124
	5200	22.000	18.204
	5240	22.000	18.124
802.11ac vht40	5190	39.520	36.727
	5230	39.520	36.727
802.11ac vht80	5210	82.240	76.008
802.11ax hew20	5180	21.680	19.162
	5200	21.680	19.162
	5240	21.520	19.162
802.11ax hew40	5190	39.840	37.844
	5230	39.840	37.685
802.11ax hew80	5210	81.920	76.966

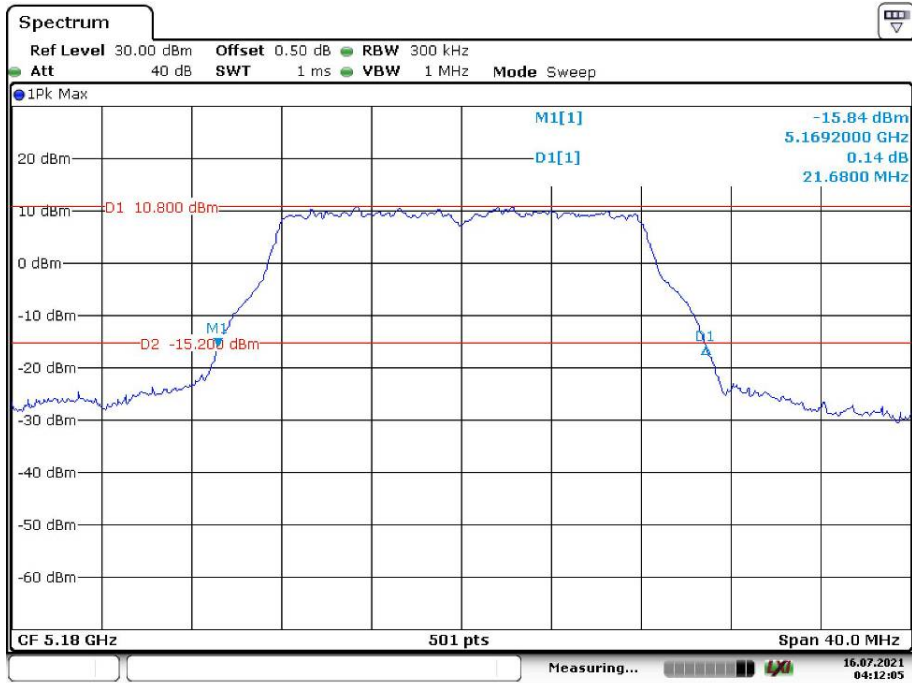
5725-5850MHz:

Mode	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11 a	5745	16.400	17.325
	5785	16.400	17.166
	5825	16.400	17.166
802.11n ht20	5745	17.520	18.443
	5785	17.600	18.283
	5825	17.520	18.523
802.11n ht40	5755	36.160	36.886
	5795	36.160	37.046
802.11ac vht20	5745	17.520	18.683
	5785	17.520	18.443
	5825	17.520	18.683
802.11ac vht40	5755	36.320	36.886
	5795	36.320	36.886
802.11ac vht80	5775	76.160	76.008
802.11ax hew20	5745	18.880	19.401
	5785	18.880	19.321
	5825	19.040	19.401
802.11ax hew40	5755	37.440	37.844
	5795	37.600	38.004
802.11ax hew80	5775	76.160	77.285

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

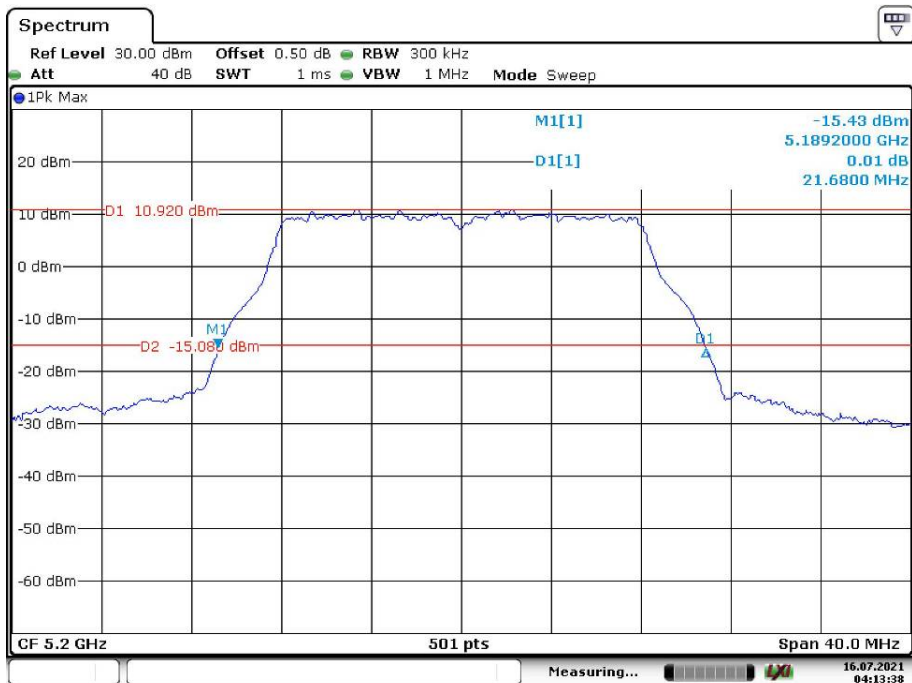
5150-5250MHz:
26dB Emission Bandwidth:

802.11a Low Channel



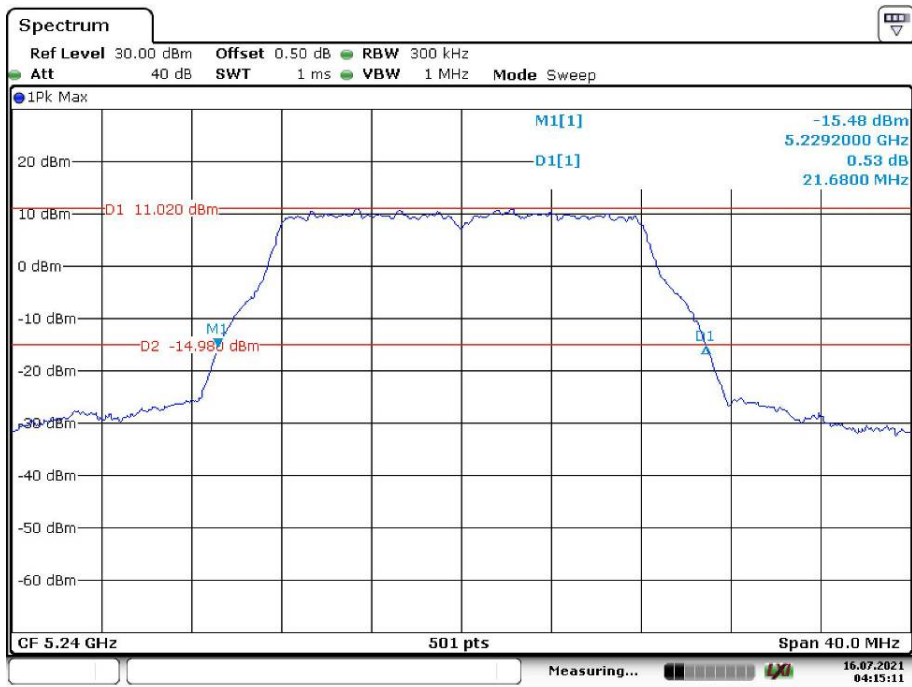
Date: 16.JUL.2021 04:12:06

802.11a Middle Channel



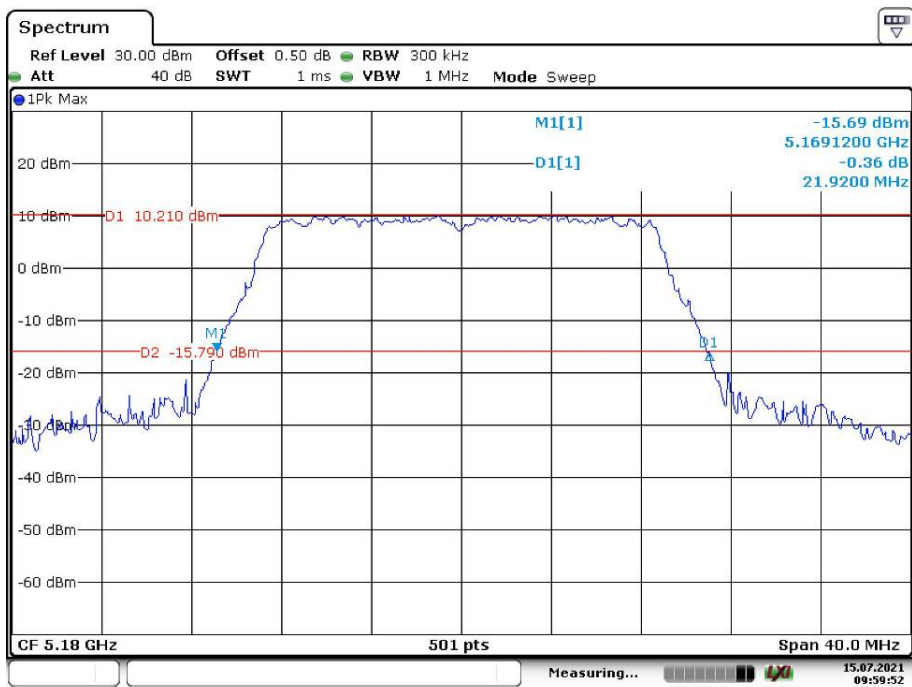
Date: 16.JUL.2021 04:13:39

802.11a High Channel



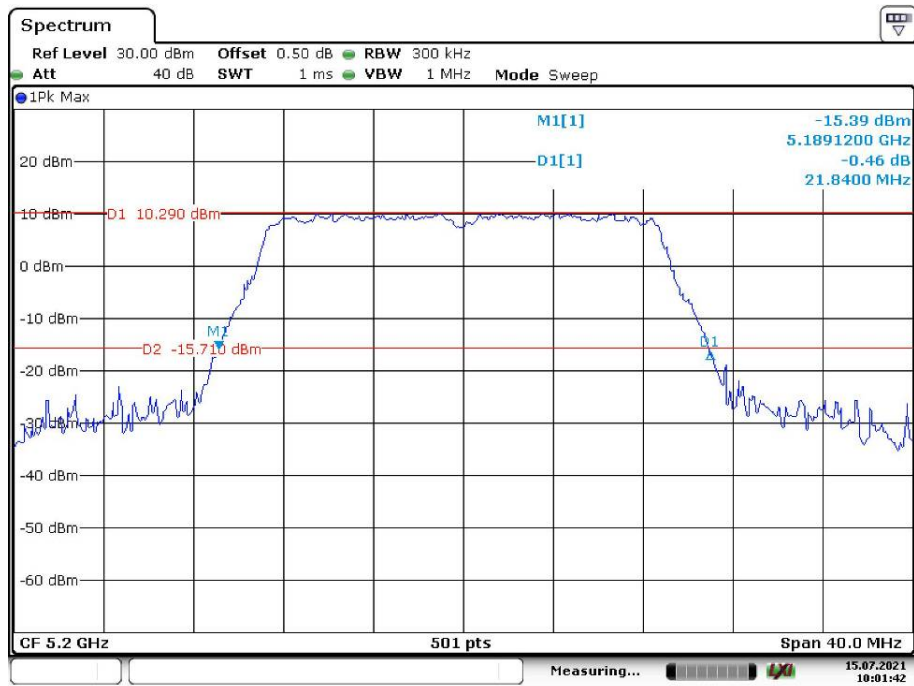
Date: 16.JUL.2021 04:15:12

802.11n ht20 Low Channel

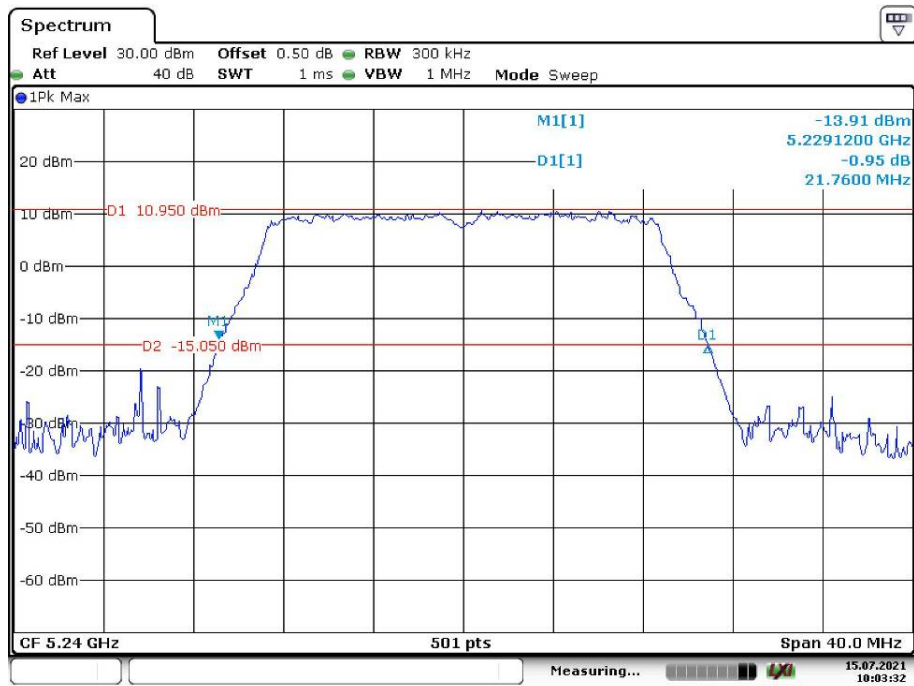


Date: 15.JUL.2021 09:59:52

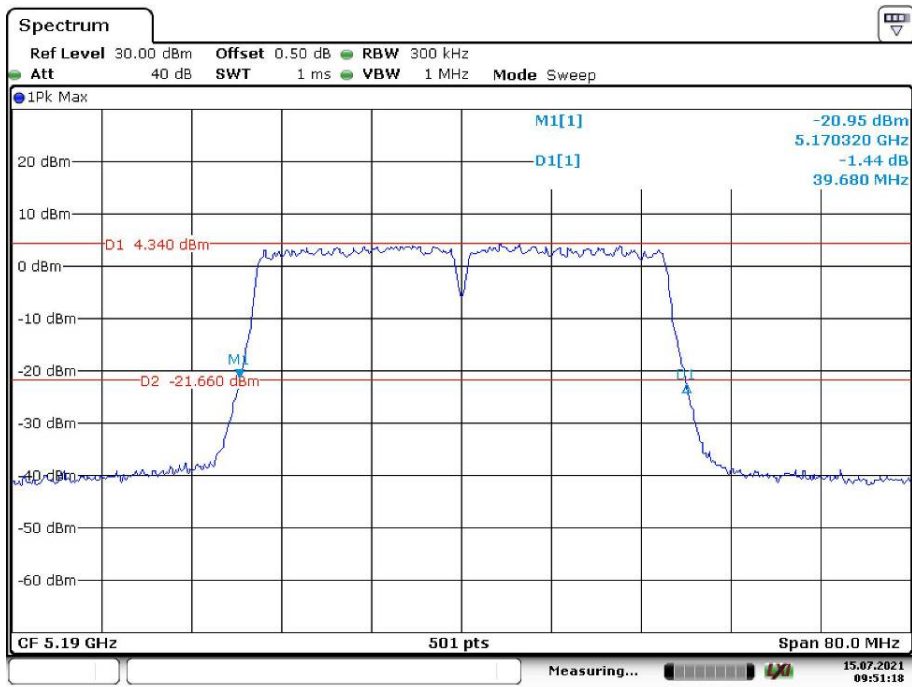
802.11n ht20 Middle Channel



802.11n ht20 High Channel

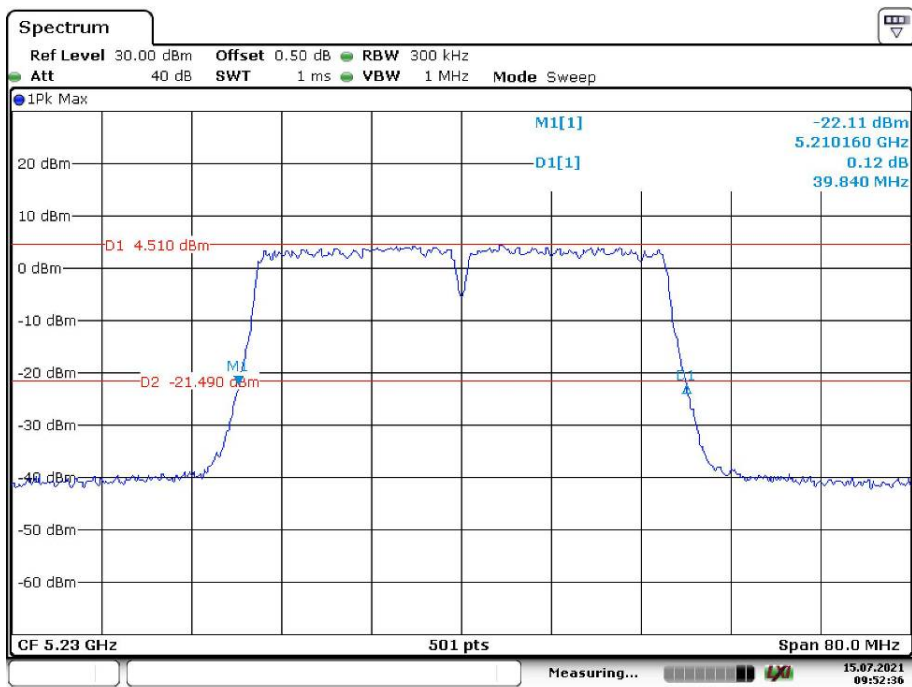


802.11n ht40 Low Channel



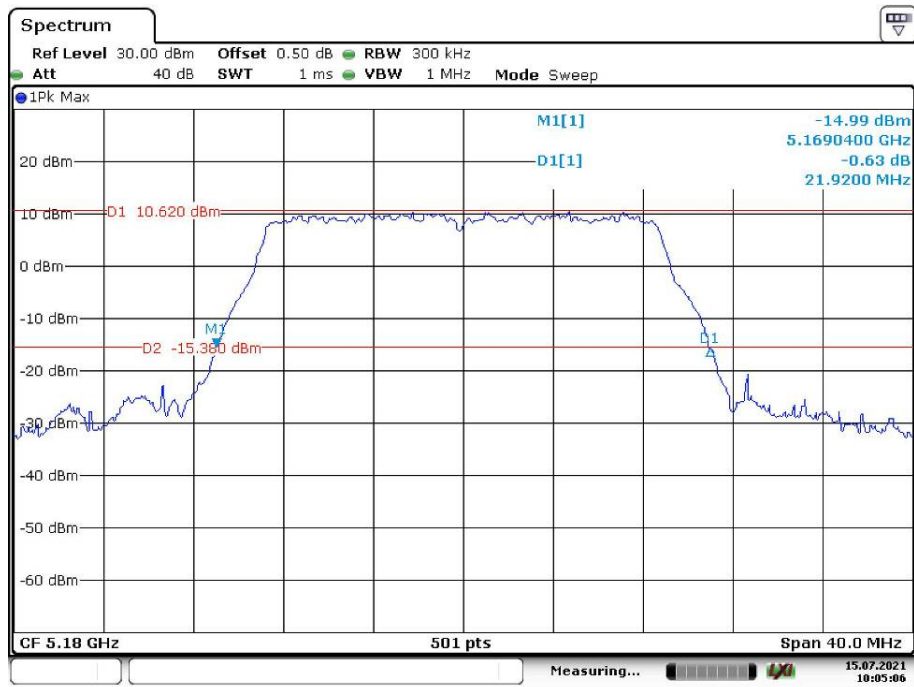
Date: 15.JUL.2021 09:51:18

802.11n ht40 High Channel



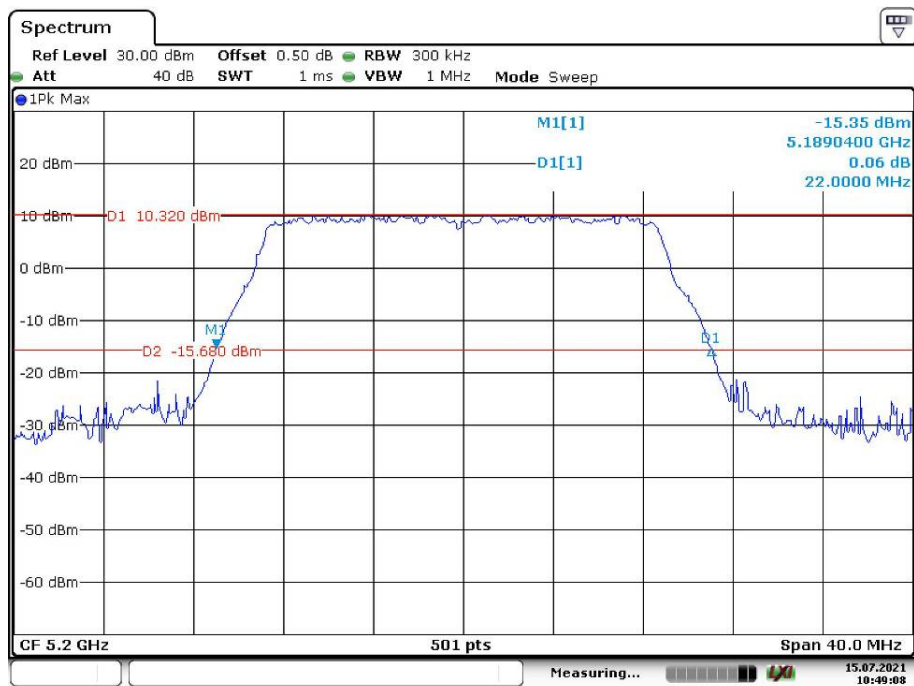
Date: 15.JUL.2021 09:52:36

802.11ac vht20 Low Channel



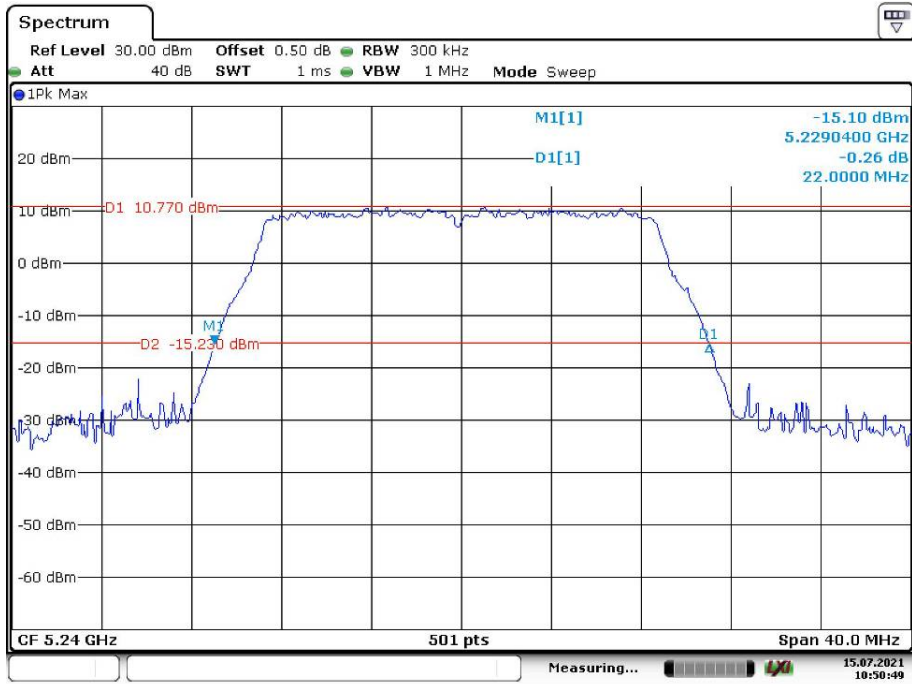
Date: 15.JUL.2021 10:05:06

802.11ac vht20 Middle Channel



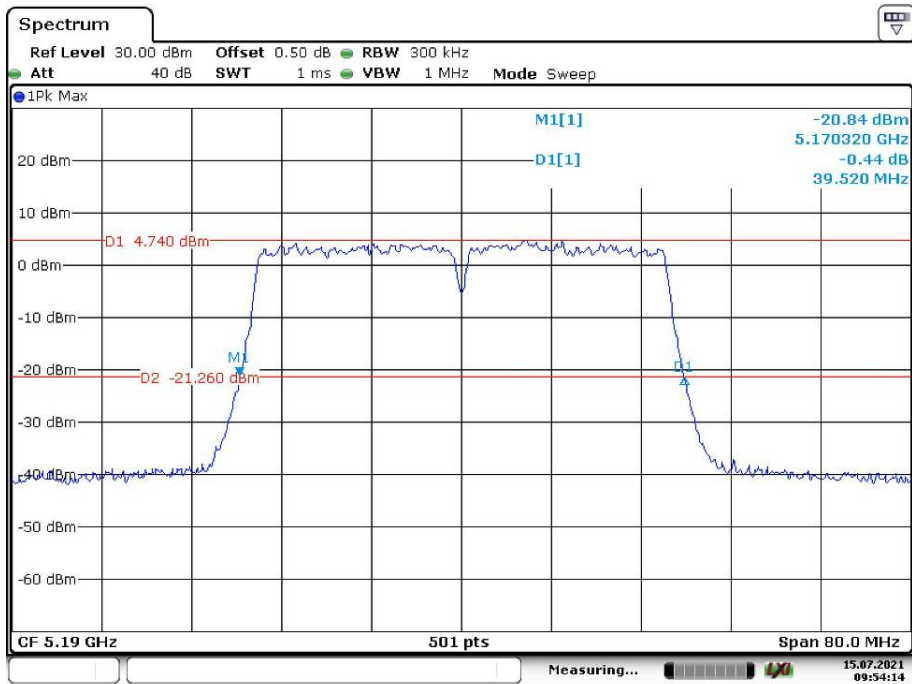
Date: 15.JUL.2021 10:49:07

802.11ac vht20 High Channel



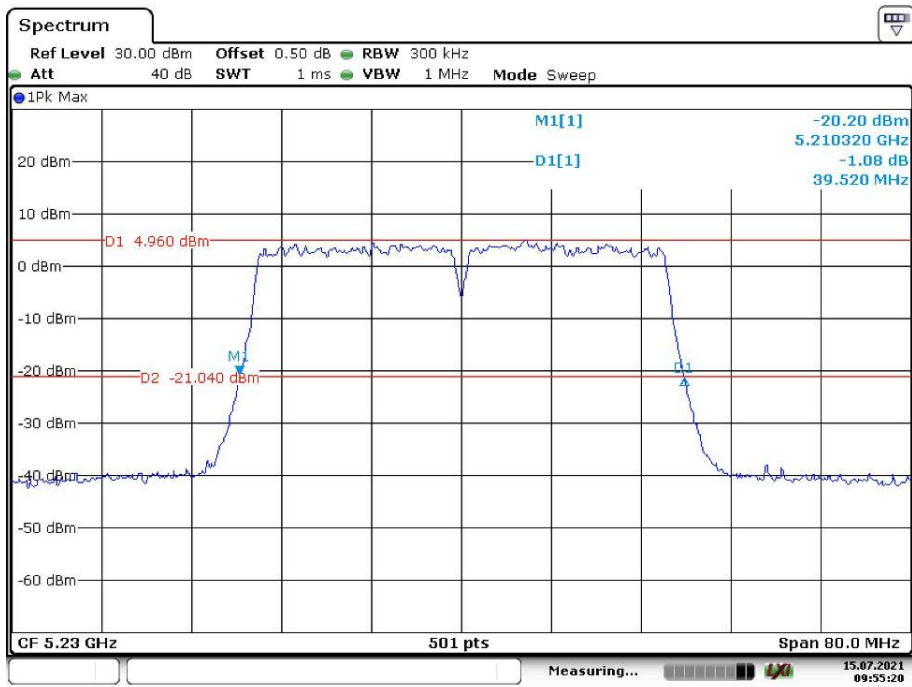
Date: 15.JUL.2021 10:50:48

802.11ac vht40 Low Channel

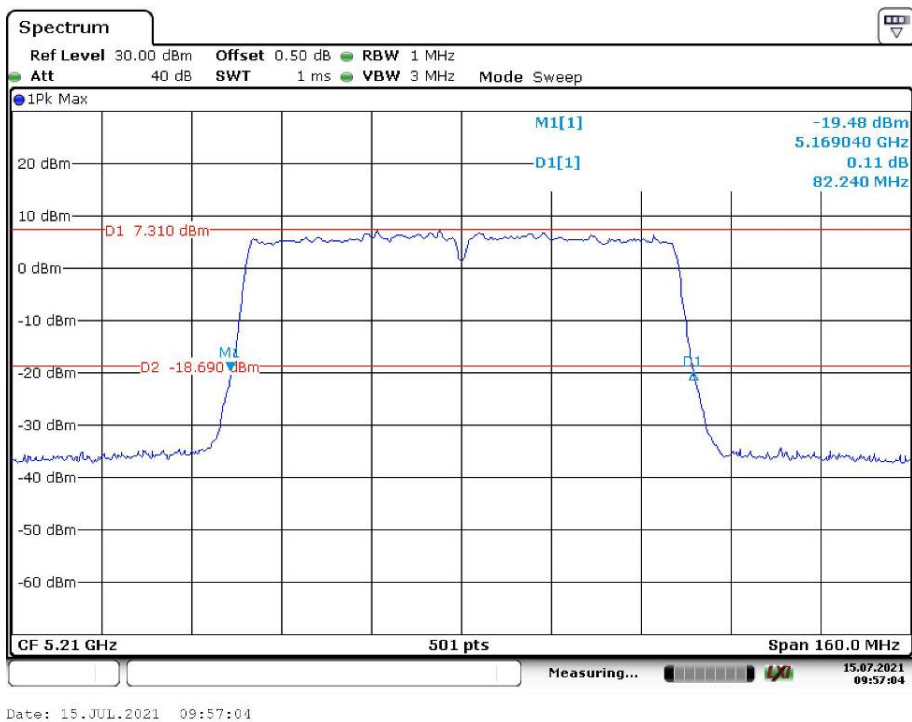


Date: 15.JUL.2021 09:54:13

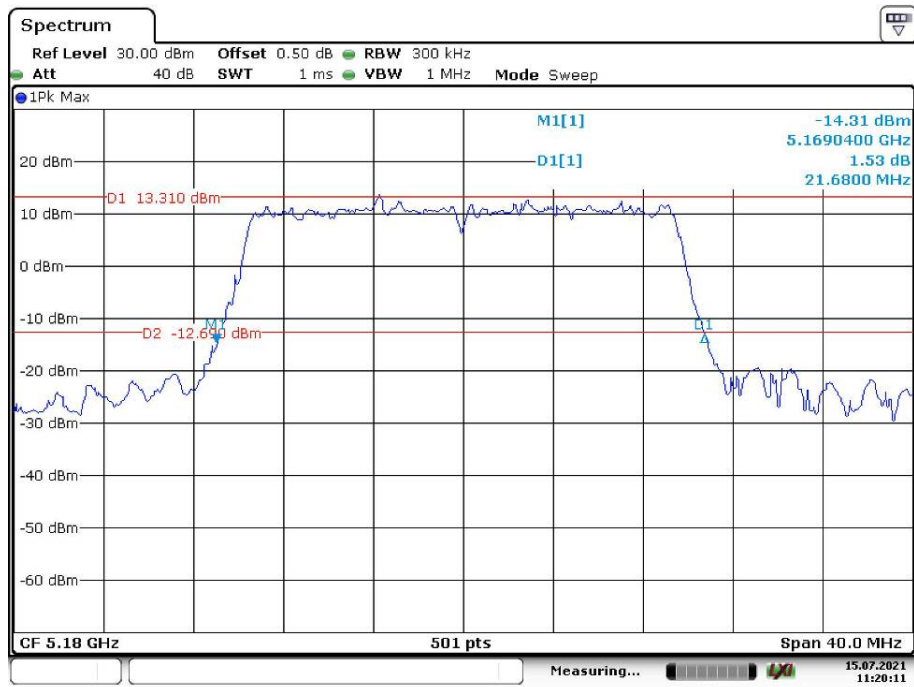
802.11ac vht40 High Channel



802.11ac vht80 Middle Channel

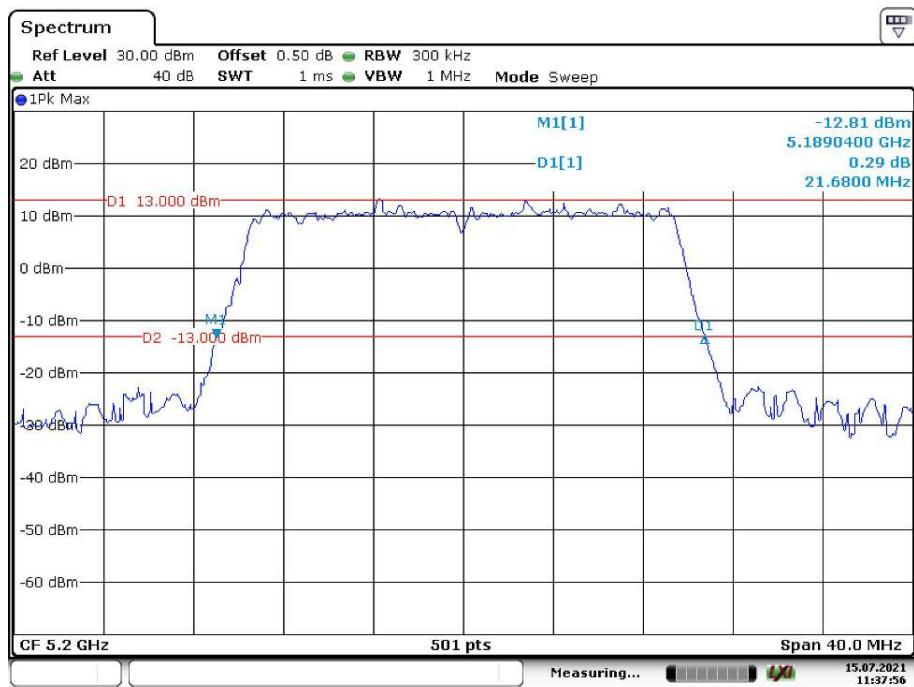


802.11ax hew20 Low Channel



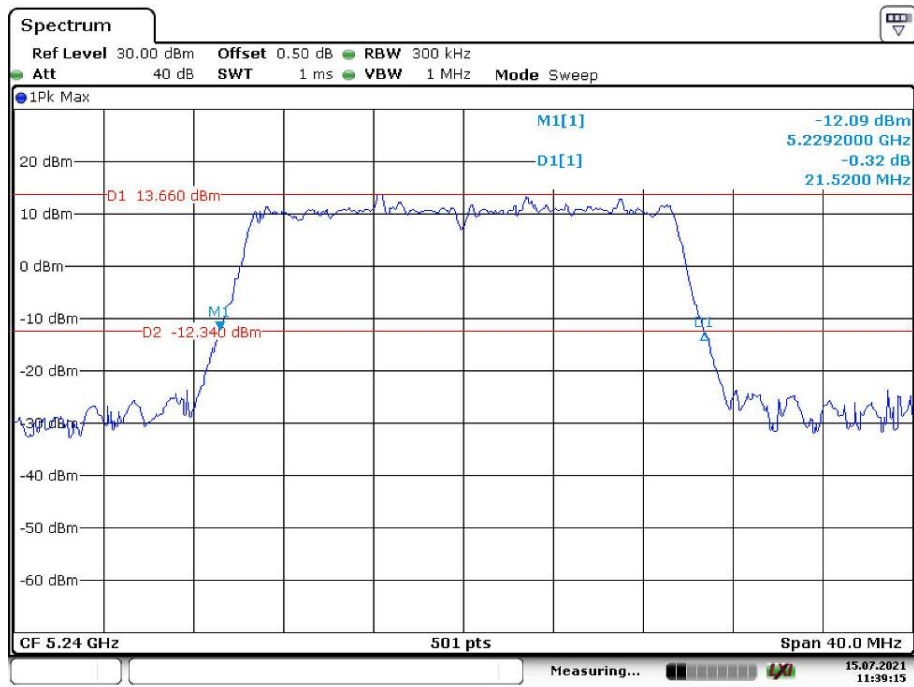
Date: 15.JUL.2021 11:20:11

802.11ax hew20 Middle Channel



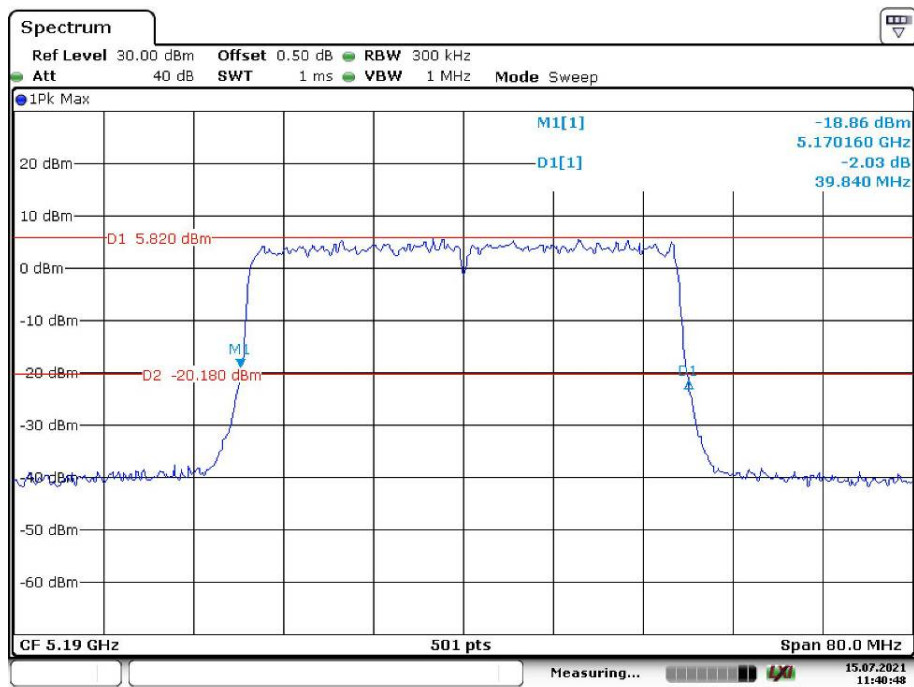
Date: 15.JUL.2021 11:37:56

802.11ax hew20 High Channel



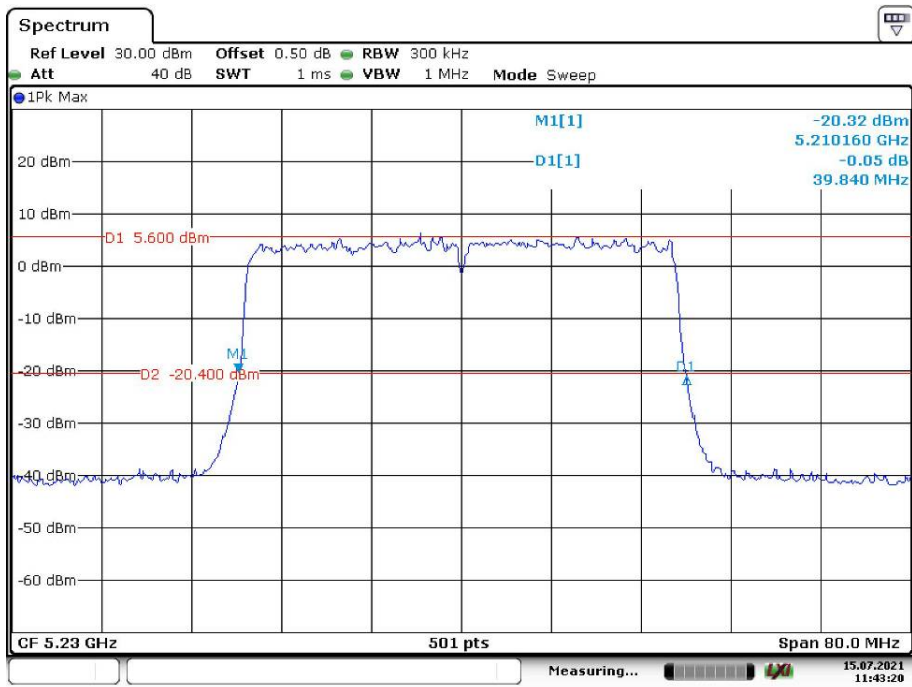
Date: 15.JUL.2021 11:39:15

802.11ax hew40 Low Channel



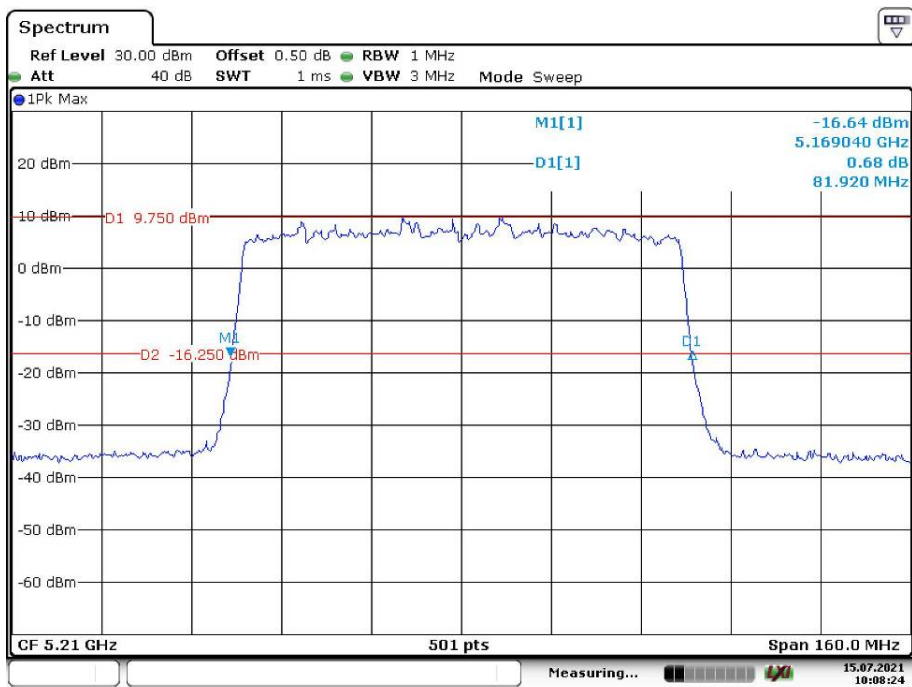
Date: 15.JUL.2021 11:40:48

802.11 ax hew40 High Channel



Date: 15.JUL.2021 11:43:20

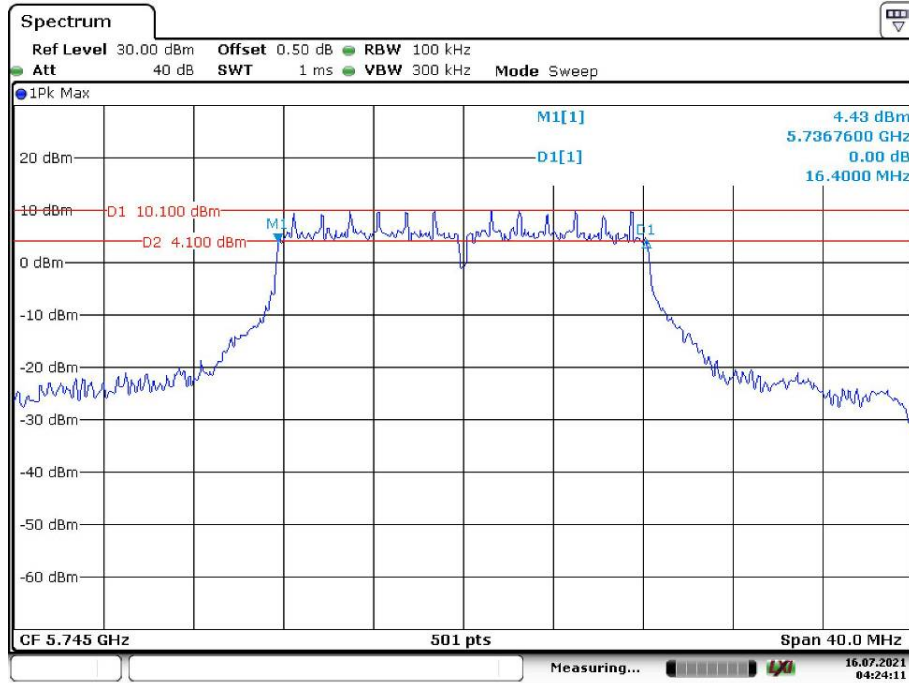
802.11 ax hew80 Middle Channel



Date: 15.JUL.2021 10:08:24

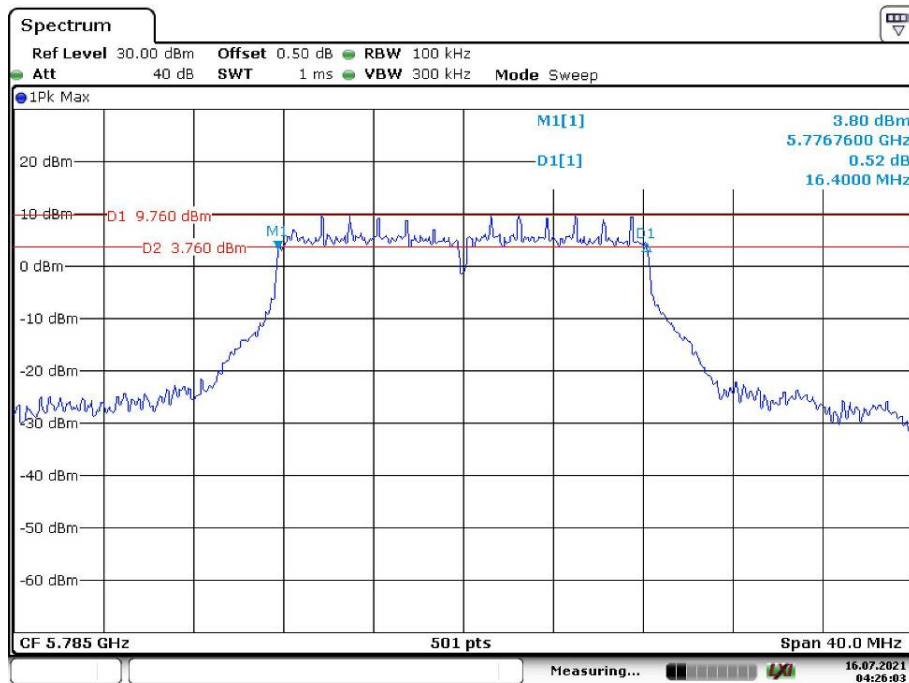
5725-5850MHz:
6dB Emission Bandwidth:

802.11a Low Channel



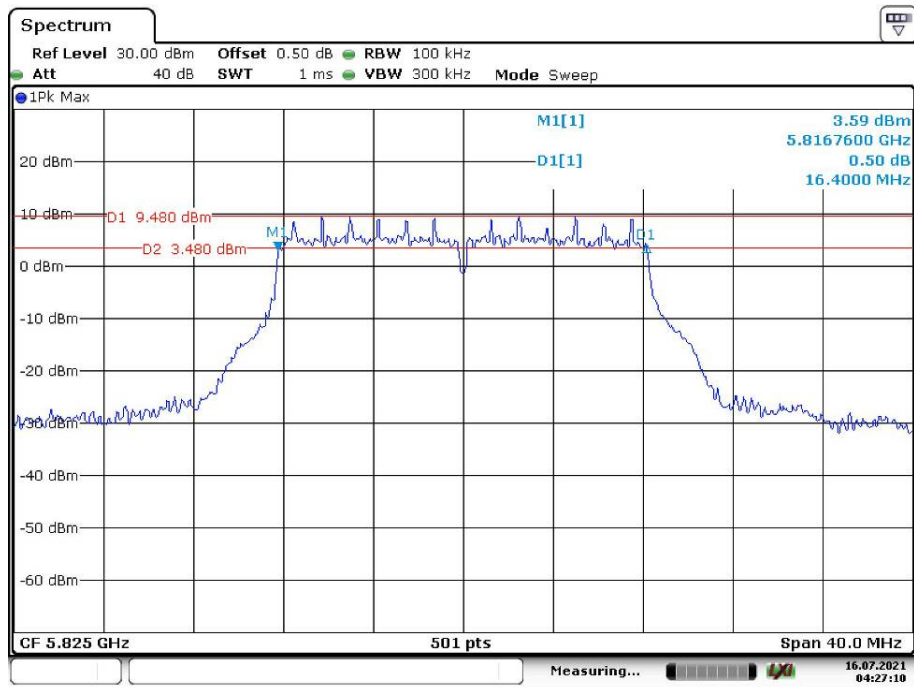
Date: 16.JUL.2021 04:24:12

802.11a Middle Channel



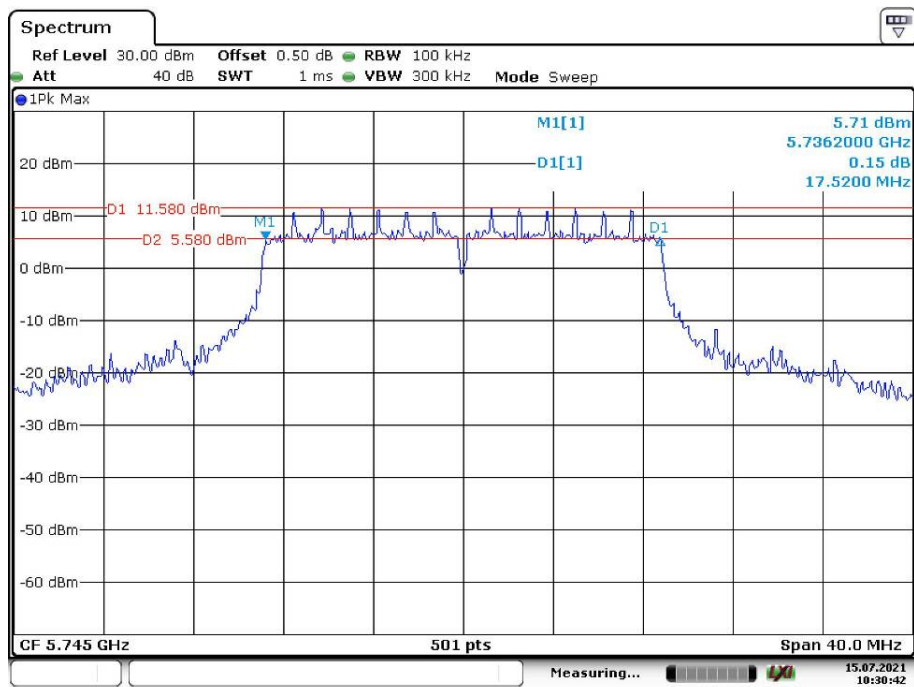
Date: 16.JUL.2021 04:26:04

802.11a High Channel



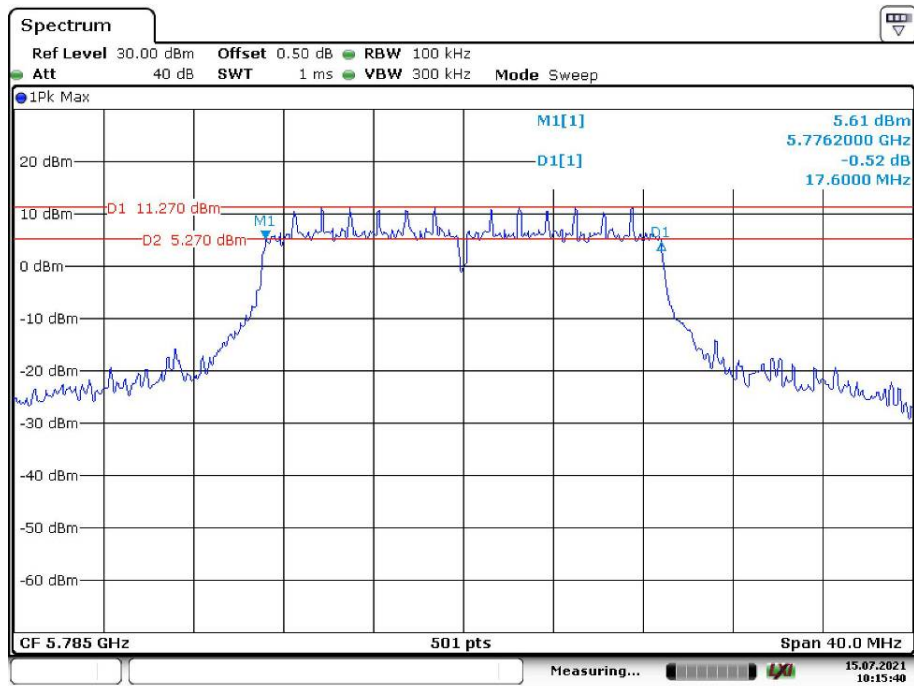
Date: 16.JUL.2021 04:27:10

802.11n ht20 Low Channel



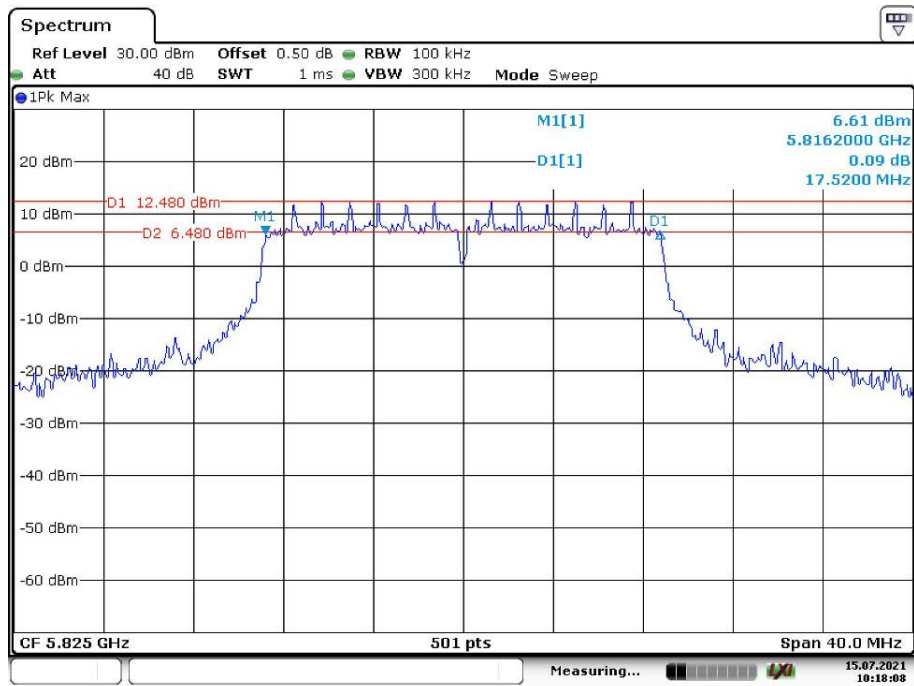
Date: 15.JUL.2021 10:30:42

802.11n ht20 Middle Channel



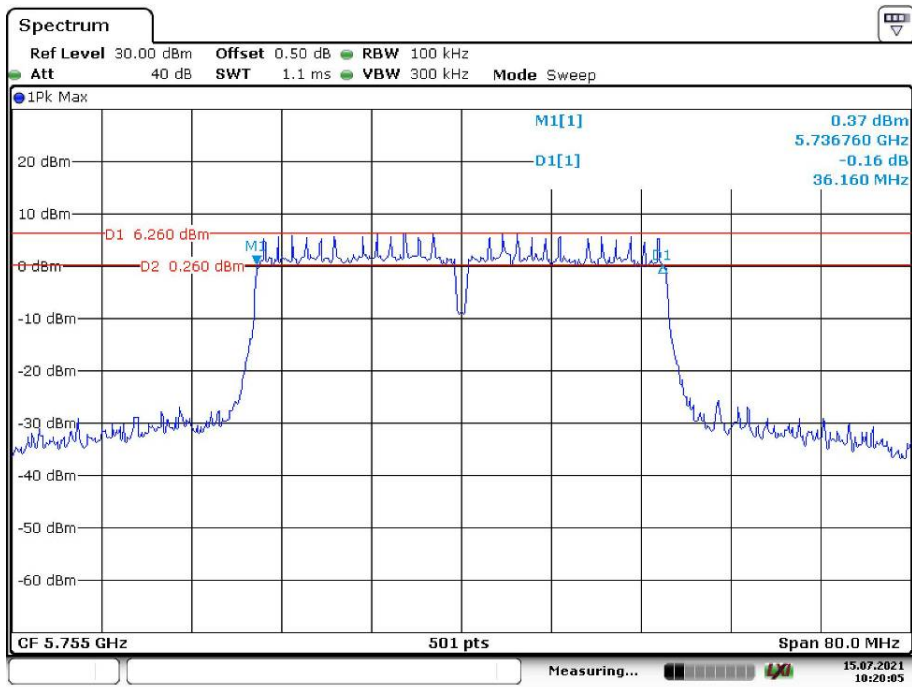
Date: 15.JUL.2021 10:15:40

802.11n ht20 High Channel



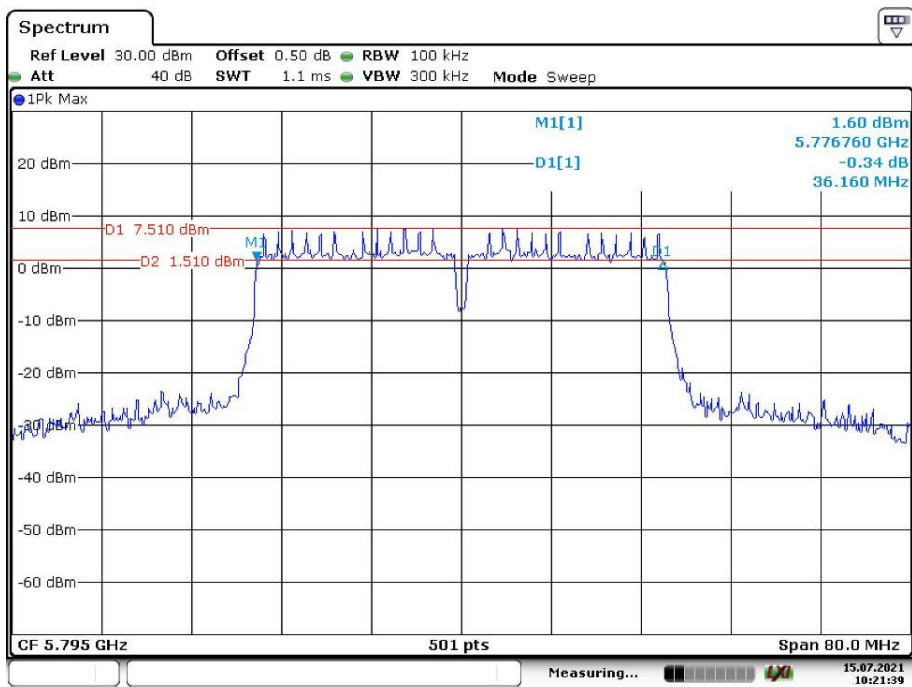
Date: 15.JUL.2021 10:18:08

802.11n ht40 Low Channel



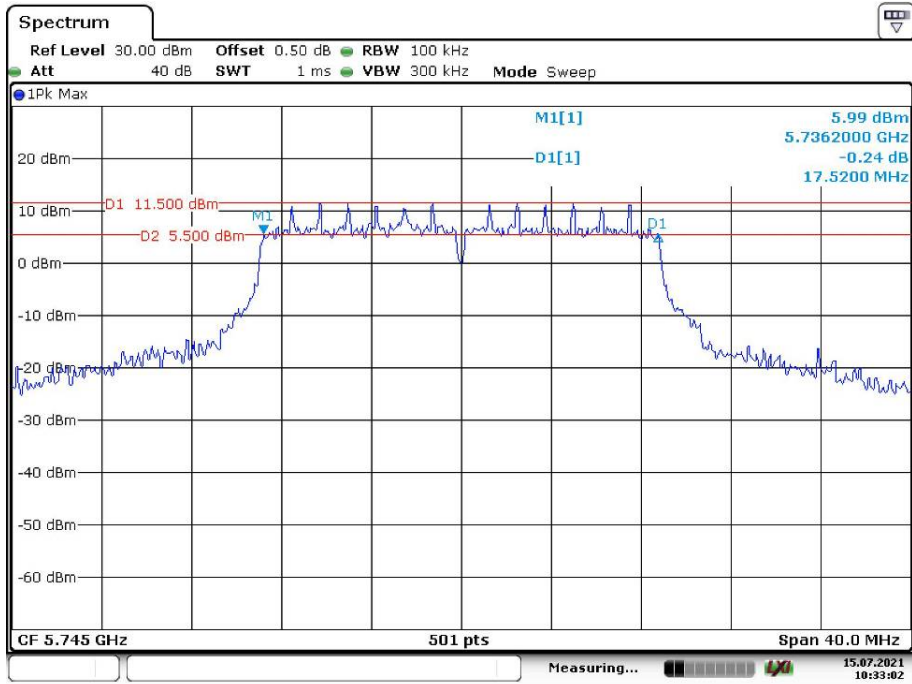
Date: 15.JUL.2021 10:20:05

802.11n ht40 High Channel



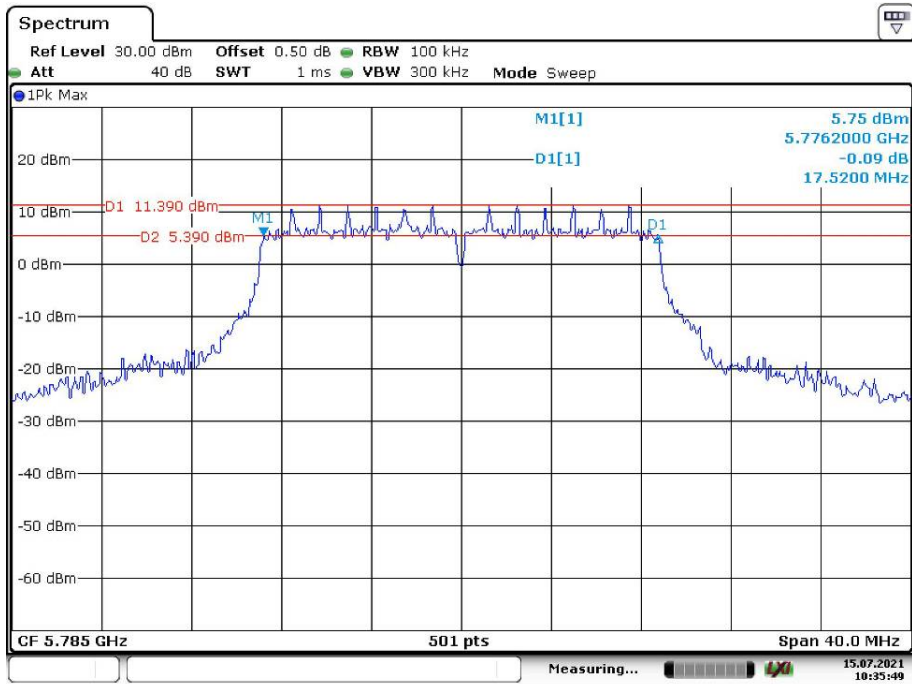
Date: 15.JUL.2021 10:21:39

802.11ac vht20 Low Channel



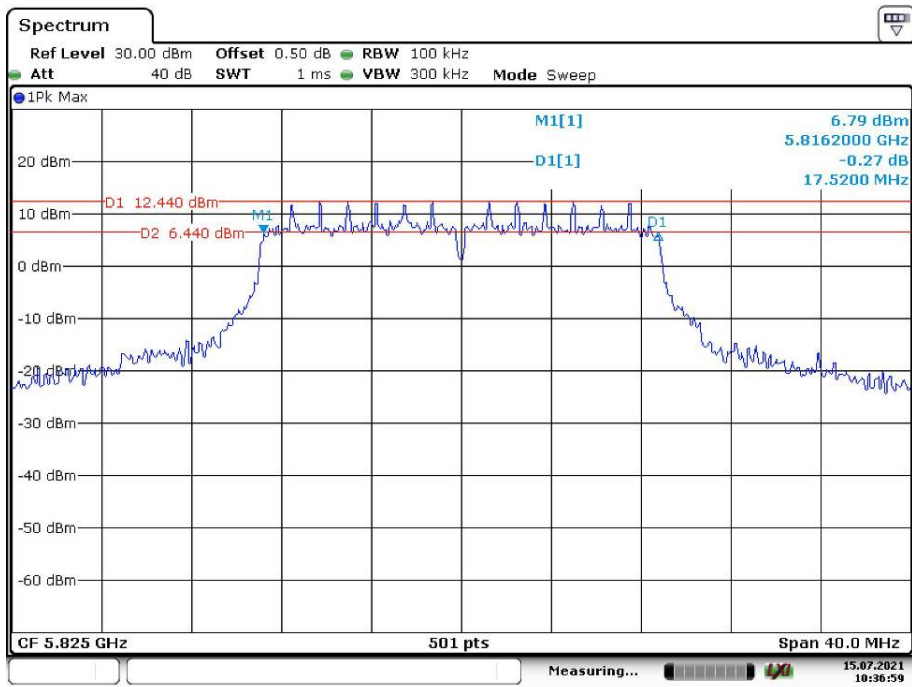
Date: 15.JUL.2021 10:33:02

802.11ac vht20 Middle Channel



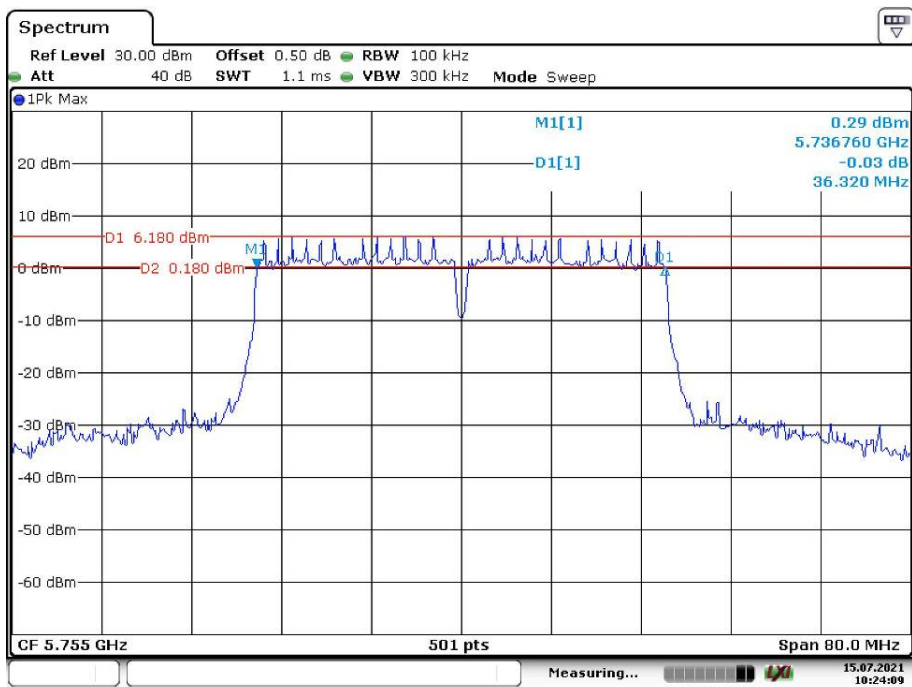
Date: 15.JUL.2021 10:35:49

802.11ac vht20 High Channel



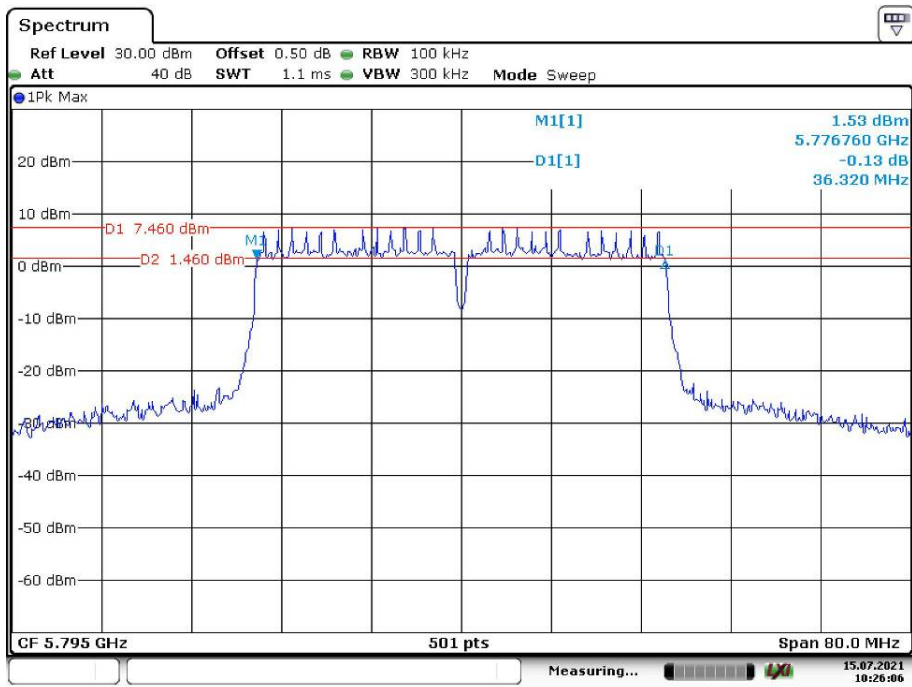
Date: 15.JUL.2021 10:36:58

802.11ac vht40 Low Channel



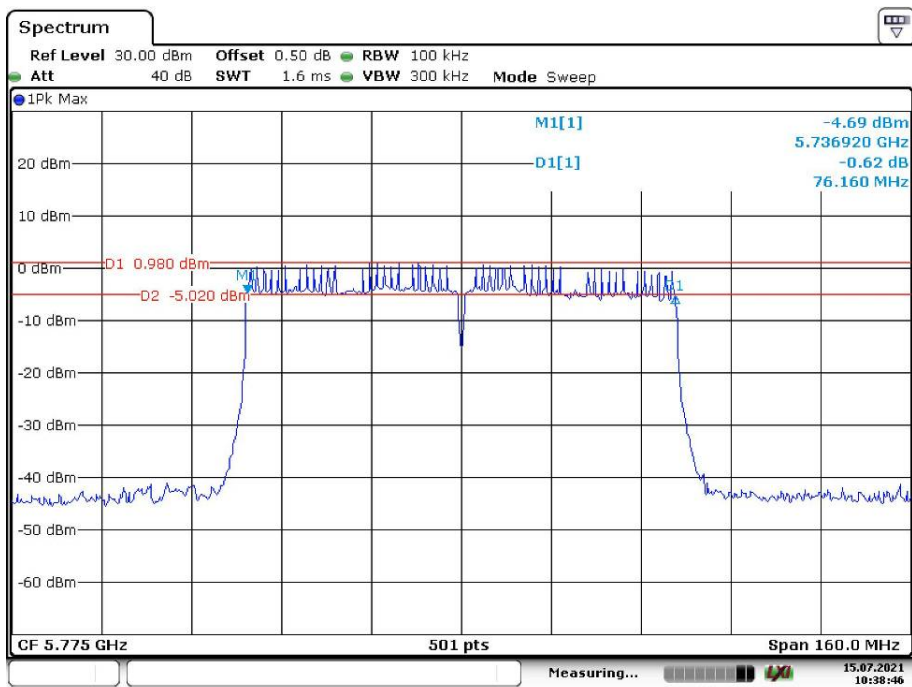
Date: 15.JUL.2021 10:24:09

802.11ac vht40 High Channel



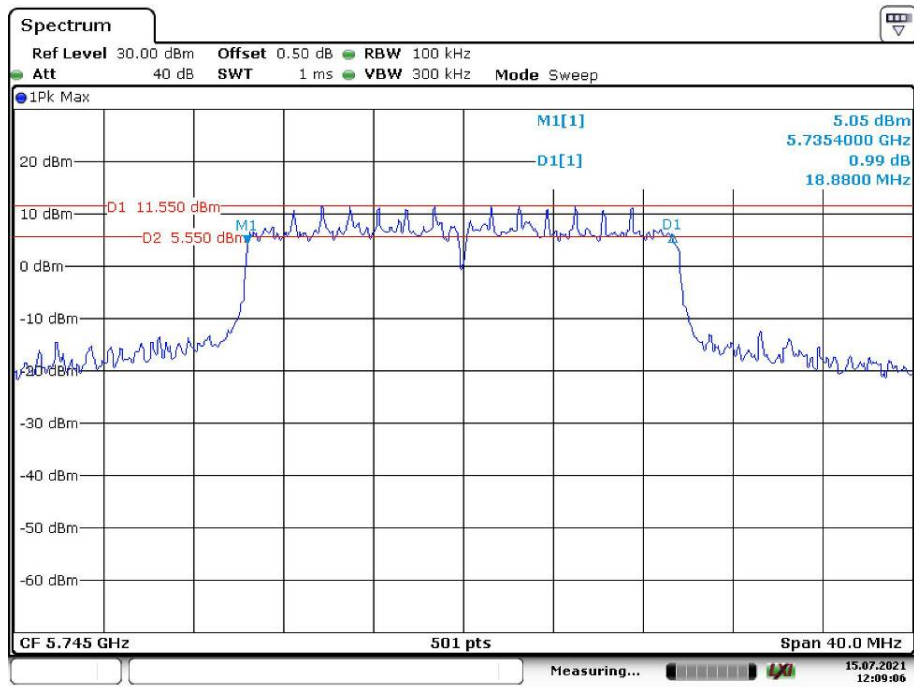
Date: 15.JUL.2021 10:26:06

802.11ac vht80 Middle Channel



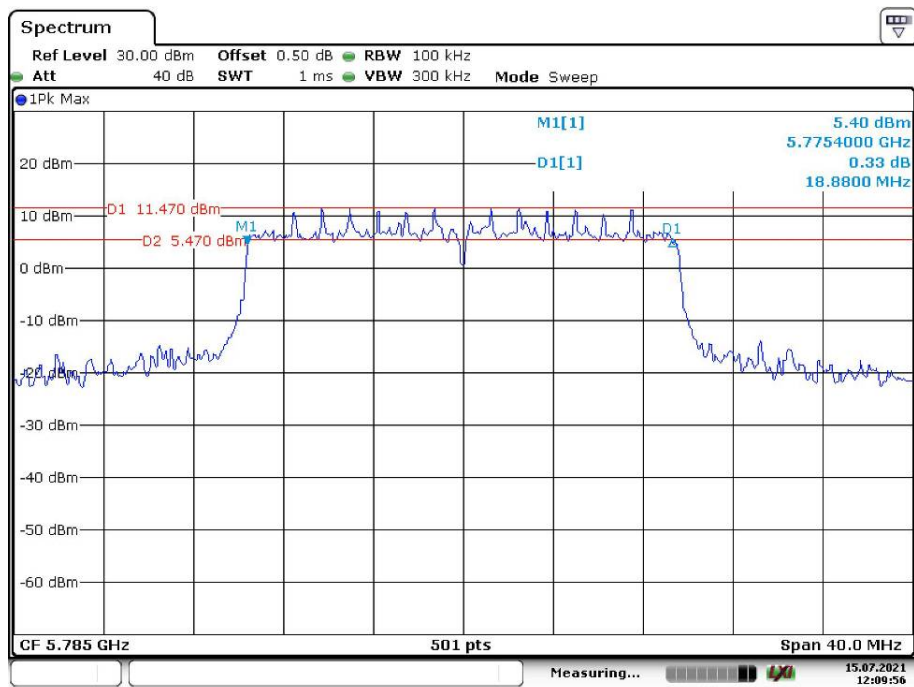
Date: 15.JUL.2021 10:38:45

802.11ax hew20 Low Channel



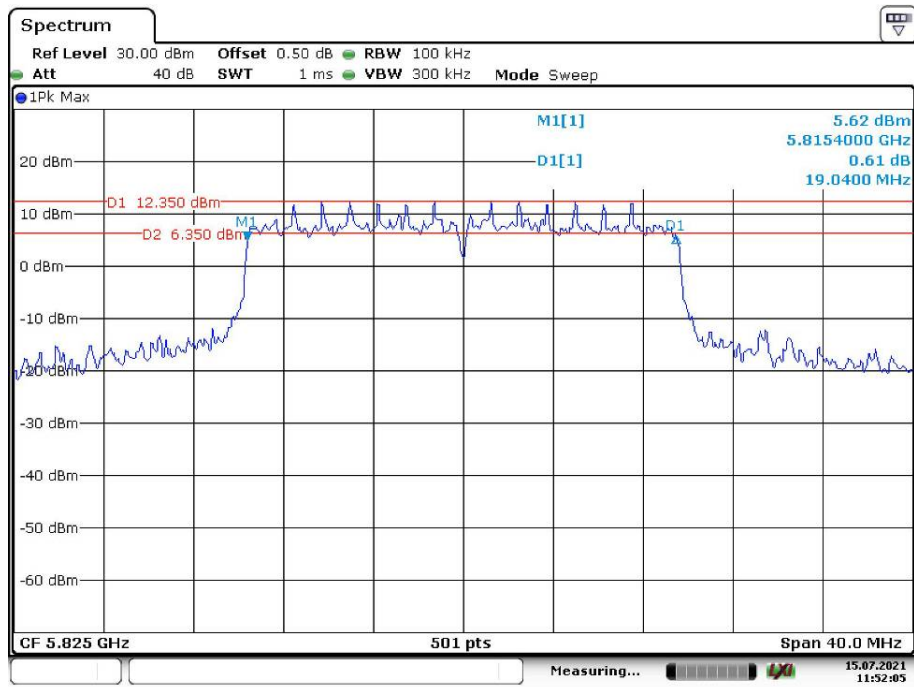
Date: 15.JUL.2021 12:09:06

802.11ax hew20 Middle Channel



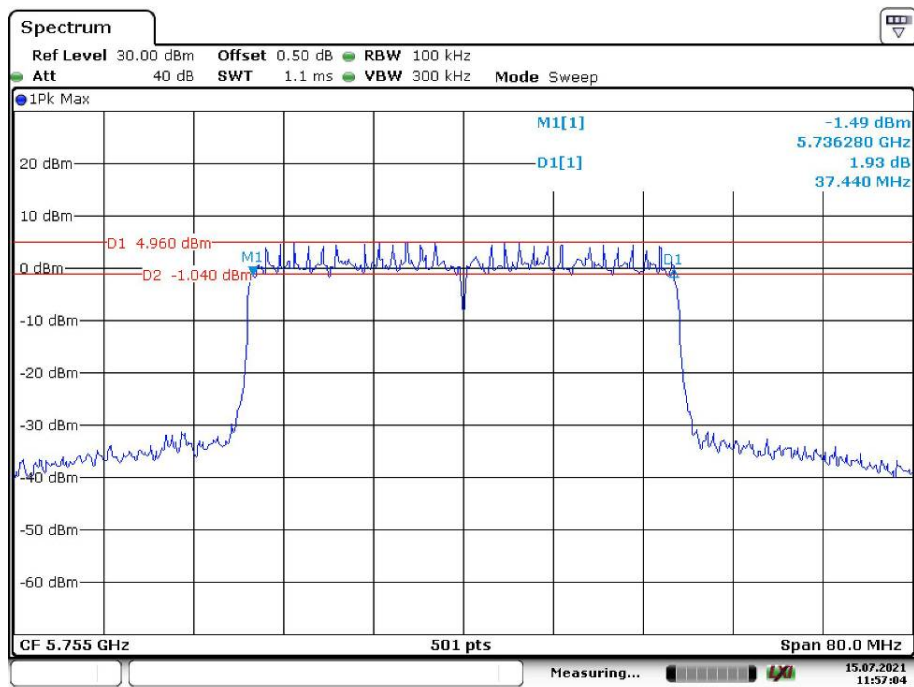
Date: 15.JUL.2021 12:09:56

802.11ax hew20 High Channel



Date: 15.JUL.2021 11:52:05

802.11ax hew40 Low Channel



Date: 15.JUL.2021 11:57:04