TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 15.407
RSS-GEN, ISSUE 5, AMENDMENT 1, MARCH 2019
RSS-247, ISSUE 2, FEBRUARY 2017
TEST REPORT

For

Hammerhead Navigation Inc.

19 Morris Avenue Building 128, Brooklyn Navy Yard Brooklyn, NY 11205 United States

FCC ID: 2ADMX-HK2
IC: 12534A-HK2

Report Type:	**Product Name:**
Original Report	KAROO 2

Report Number:	RDG200827001-00C
Report Date:	2020-10-14
Reviewed By:	Ivan Cao Assistant Manager
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	KAROO 2
EUT Name:	KAROO 2
Operation Frequency:	5180-5240MHz(802.11a/n ht20), 5190-5230MHz(802.11n ht40) 5745-5825MHz(802.11a/n ht20), 5755-5795MHz(802.11n ht40)
Maximum Peak Output Power (Conducted):	5150-5250 MHz: 14.82 dBm 5725-5850 MHz: 15.25 dBm
FVIN:	SMT_K2_00_012_EQ3001_HW01
Modulation Type:	OFDM
Rated Input Voltage:	DC 3.8V from battery or DC 5V from USB port
Serial Number:	RDG200827001-RF-S1
EUT Received Date:	2020.08.27
EUT Received Status:	Good

Objective

This type approval report is prepared on behalf of ***Hammerhead Navigation Inc.*** in accordance with Part 2-Subpart J, Part 15-Subparts A, and E of the Federal Communications Commission's rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

The tests were performed in order to determine compliance with FCC Rules Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

Related Submittal(s)/Grant(s)

FCC Part 15C DSS/DTS, Part 22H/24E/27 PCB submissions with FCC ID: 2ADMX-HK2
RSS-247 FHSs/DTSs , RSS-132, 133, 199 submissions with IC: 12534A-HK2

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, and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

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℃
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.69 Pulongcun, Puxinhu Industry Area, Tangxia, 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 was configured for testing in an engineering mode (which was selected by manufacturer).
The system supports 802.11a/n ht20/n ht40.

For 5150~5250 MHz band, 6 channels are provided:

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

For 802.11a, 802.11n ht20 Channel 36, 40 and 48 was tested;
For 802.11n ht40 Channel 38, 46 were tested;

For 5725~5850MHz band, 7 channels are provided to testing:

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

For 802.11a, 802.11n ht20 Channel 149, 157 and 165 was tested; for 802.11n ht40 Channel 151, 159 was tested.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.

EUT Exercise Software

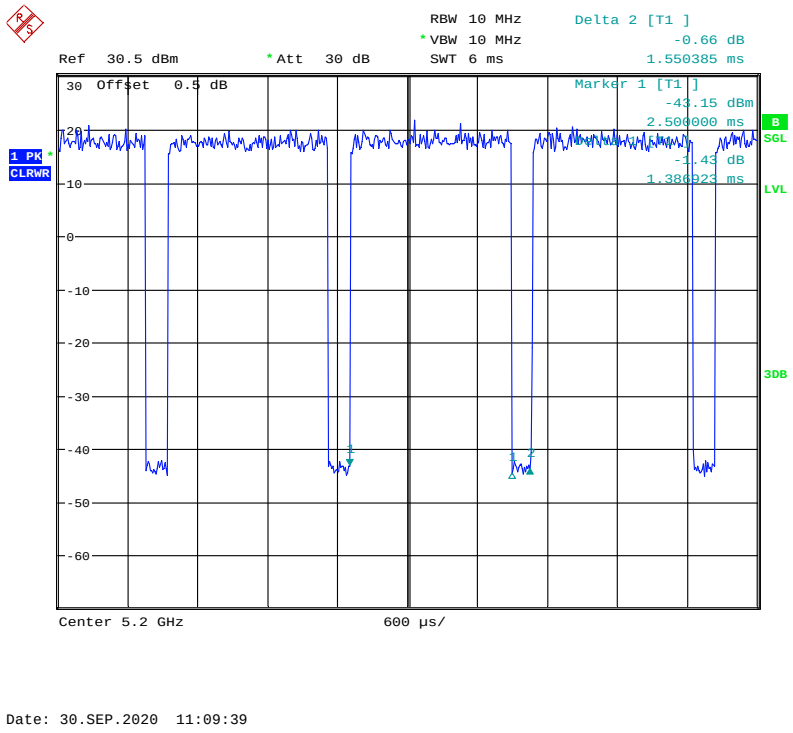
▵ Software " QRCT " was used during test, which was provided by manufacturer and the maximum power was configured as below:

Frequency Bands	Mode	Channel	Frequency (MHz)	Data rate	Power level Setting
5150 - 5250 MHz	802.11 a	Low	5180	6Mbps	15
		Middle	5200	6Mbps	15
		High	5240	6Mbps	15
	802.11n ht20	Low	5180	MCS0	13
		Middle	5200	MCS0	13
		High	5240	MCS0	13
	802.11n ht40	Low	5190	MCS0	12
		High	5230	MCS0	13
5725 - 5850 MHz	802.11 a	Low	5745	6Mbps	15
		Middle	5785	6Mbps	15
		High	5825	MCS0	12
	802.11n ht20	Low	5745	MCS0	13
		Middle	5785	MCS0	13
		High	5825	MCS0	12
	802.11n ht40	Low	5755	MCS0	13
		High	5795	MCS0	15

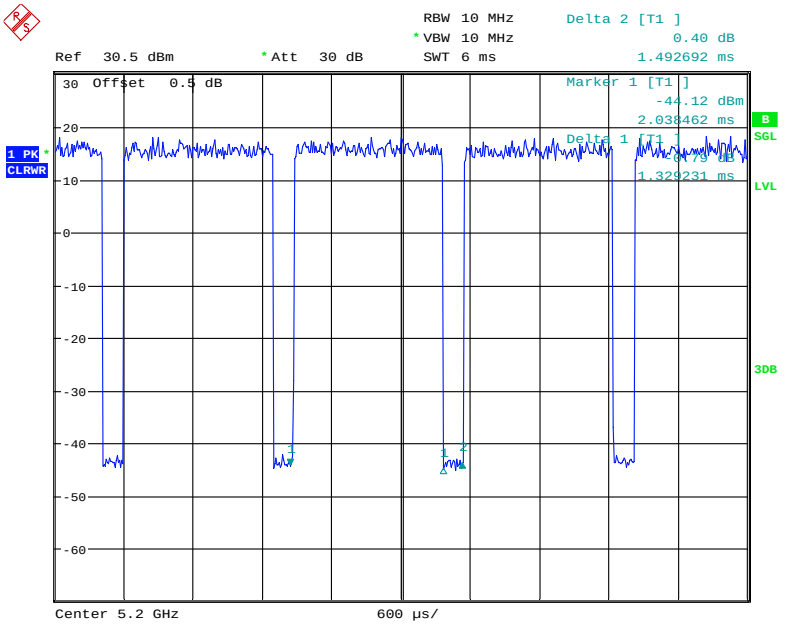
The maximum duty cycle as following table:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle(x) (%)
802.11 a	1.387	1.550	89.48
802.11n ht20	1.325	1.493	88.75
802.11n ht40	0.674	0.833	80.91

802.11a

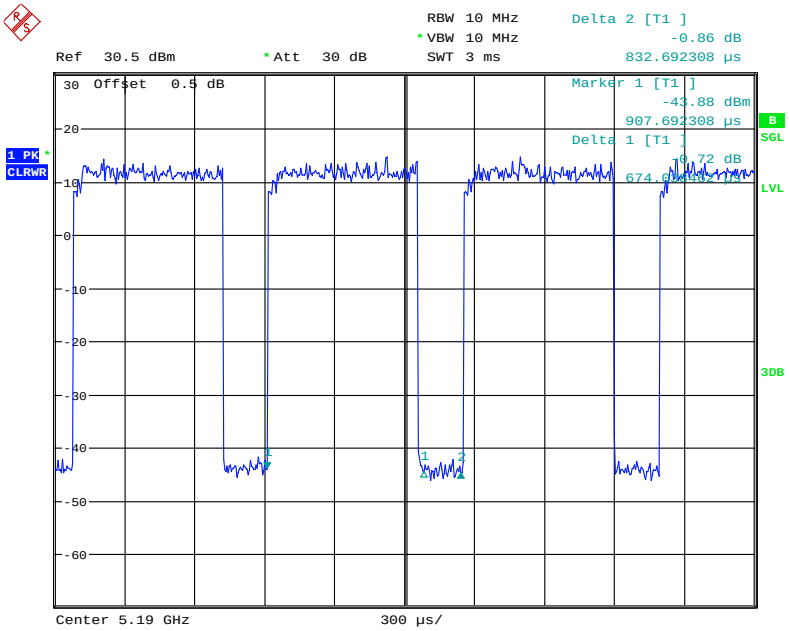


802.11n ht20



Date: 30.SEP.2020 11:15:22

802.11n ht40



Date: 30.SEP.2020 11:17:21

Equipment Modifications

No modification was made to the EUT.

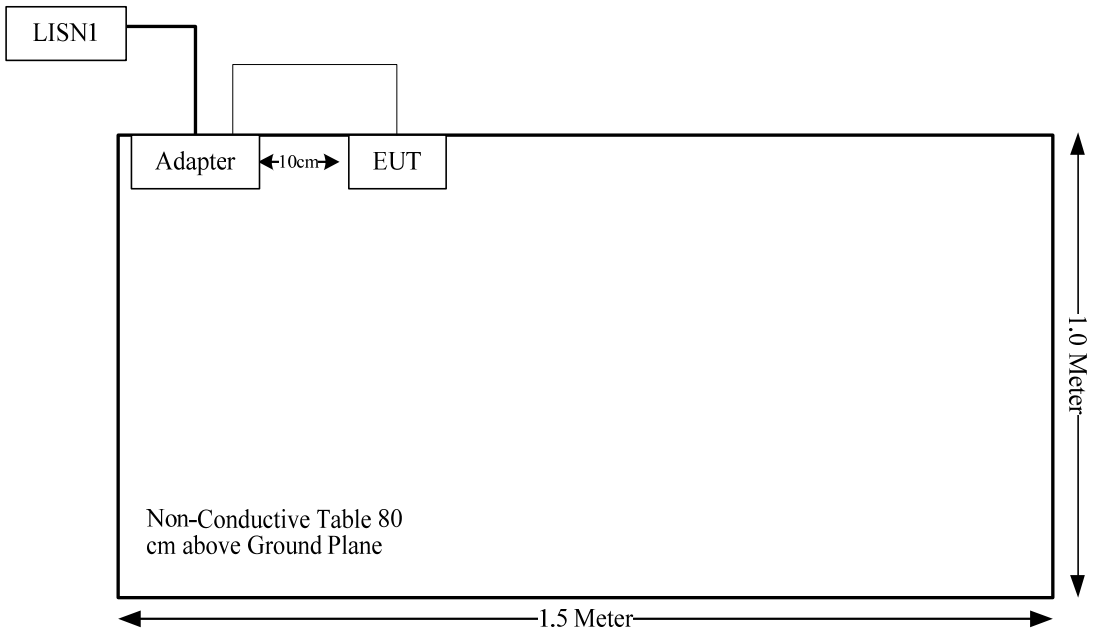
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Shenzhen Honor Electronic CO., LTD	Adapter	ADS-12CG-06	EG193LB190493013K

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	Yes	No	0.8	Adaper	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC §15.407 (f) & §1.1310 & §2.1093 RSS-102 Clause 4	RF Exposure	Compliance
FCC§15.203, RSS-Gen Clause 6.8	Antenna Requirement	Compliance
FCC§15.407(b)(6)& §15.207(a), RSS-Gen Clause 8.8	Conducted Emissions	Compliance
FCC§15.205& §15.209 &§15.407(b), RSS-247 Clause 6.2	Undesirable Emission& Restricted Bands	Compliance
FCC§15.407(a) (e), RSS-247 Clause 6.2 RSS-Gen Clause 6.7	Emission Bandwidth	Compliance
FCC§15.407(a) RSS-247 Clause 6.2	Conducted Transmitter Output Power	Compliance
FCC§15.407 (a), RSS-247 Clause 6.2	Power Spectral Density	Compliance

FCC §15.407 (f) & §1.1310 & §2.1093, RSS-102 CLAUSE 4- RF EXPOSURE

Applicable Standard

According to§15.407(f),§1.1310 and §2.1093.

According to RSS-102 Clause 4 Table 3, SAR limits for device used by the general public

Body Region	Average SAR (W/Kg)	Averaging Time (minutes)	Mass Average (g)
Whole Body	0.08	6	Whole Body
Localized Head, Neck and Trunk	1.6	6	1
Localized Limbs	4	6	10

Test Result

Compliant, please refer to the SAR report: RDG200827001-20.

FCC §15.203& RSS-GEN CLAUSE 6.8 - 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.

According to RSS-Gen Clause 6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.
For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).
When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.
For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:
This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

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 one internal antennas arrangement for 5G Wi-Fi, fulfill the requirement of this section. Please refer to the EUT photos.

Usage	Antenna Chain	Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range
5G Wi-Fi	0	PCB	50	0.5 dBi/5.15~5.85GHz

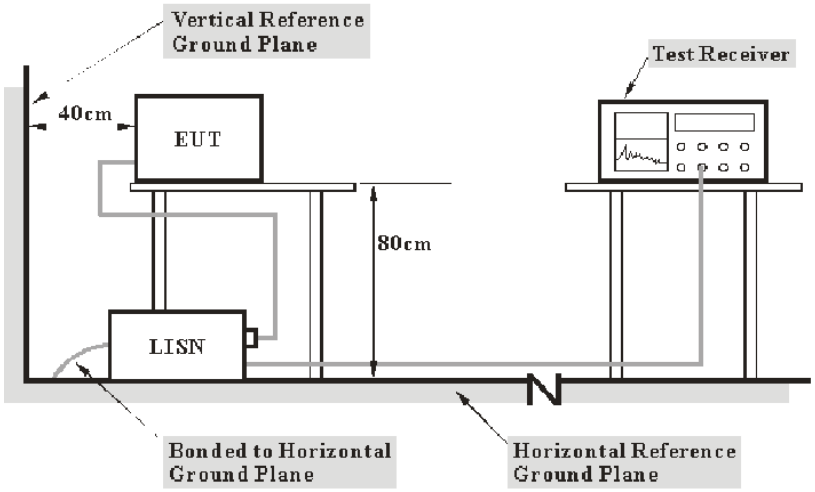
Result: Compliance.

FCC §15.207(a) RSS-GEN CLAUSE 8.8– CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a), §15.407(b) (6), RSS-GEN CLAUSE 8.8.

EUT Setup



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

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits and RSS-Gen clause 8.8 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	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 EUT 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.

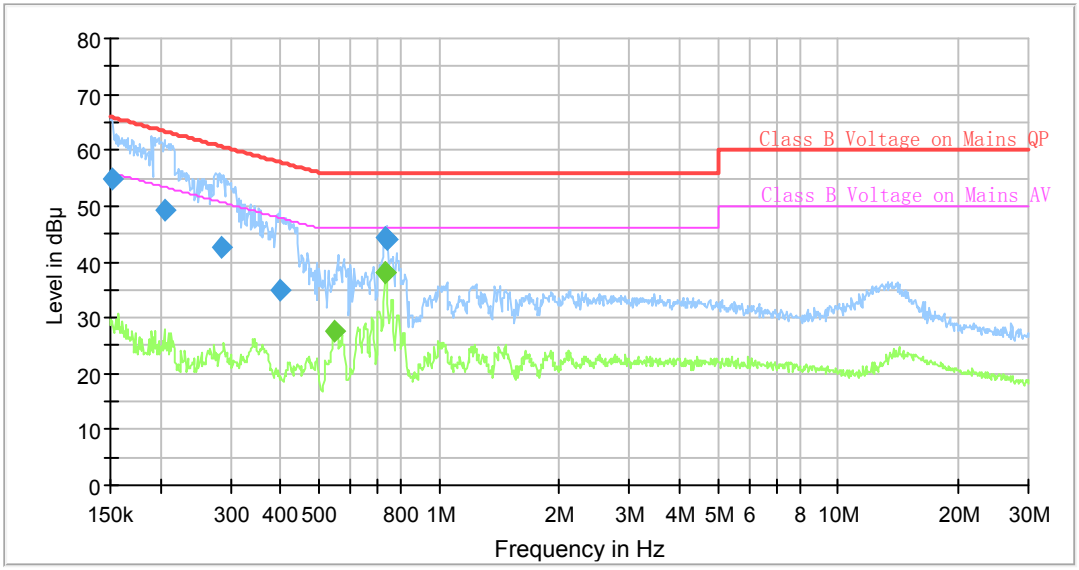
Test Data

Environmental Conditions

Temperature:	26.6℃
Relative Humidity:	64 %
ATM Pressure:	100.8 kPa
Tester:	Barry Yang
Test Date:	2020-09-21

Test Mode: Transmitting (802.11n ht20 5825MHz was the worst)

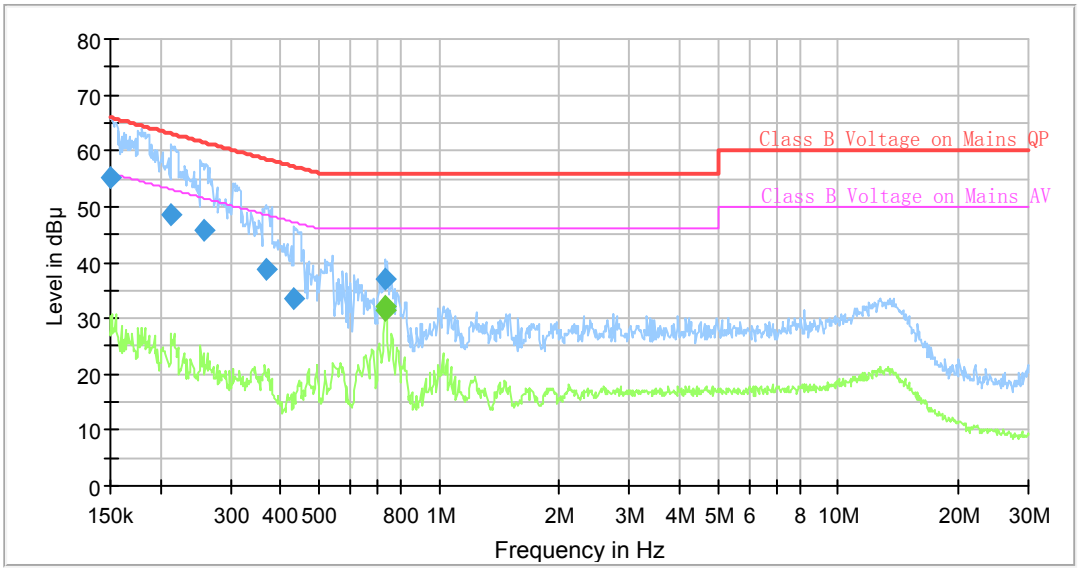
AC120 V, 60 Hz, Line:



Final_Result

Frequency (MHz)	QuasiPeak (dB µ V)	Average (dB µ V)	Limit (dB µ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.151504	54.82	---	65.92	11.10	9.000	L1	9.6
0.205378	49.28	---	63.39	14.11	9.000	L1	9.6
0.285439	42.71	---	60.66	17.95	9.000	L1	9.6
0.398694	34.85	---	57.88	23.03	9.000	L1	9.6
0.545885	---	27.59	46.00	18.41	9.000	L1	9.6
0.732654	---	38.21	46.00	7.79	9.000	L1	9.7
0.732654	44.25	---	56.00	11.75	9.000	L1	9.7
0.736317	---	37.98	46.00	8.02	9.000	L1	9.7
0.739999	44.11	---	56.00	11.89	9.000	L1	9.7

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)
0.150750	55.26	---	65.96	10.70	9.000	N	9.6
0.212675	48.43	---	63.10	14.67	9.000	N	9.6
0.257055	45.71	---	61.53	15.82	9.000	N	9.6
0.368114	38.83	---	58.54	19.71	9.000	N	9.6
0.433973	33.46	---	57.18	23.72	9.000	N	9.6
0.732654	---	32.04	46.00	13.96	9.000	N	9.6
0.732654	37.08	---	56.00	18.92	9.000	N	9.6
0.736317	---	31.55	46.00	14.45	9.000	N	9.6

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

According to RSS-247 Clause 6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

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

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

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

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

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

6.2.3.2 Unwanted emission limits

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

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

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

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

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

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

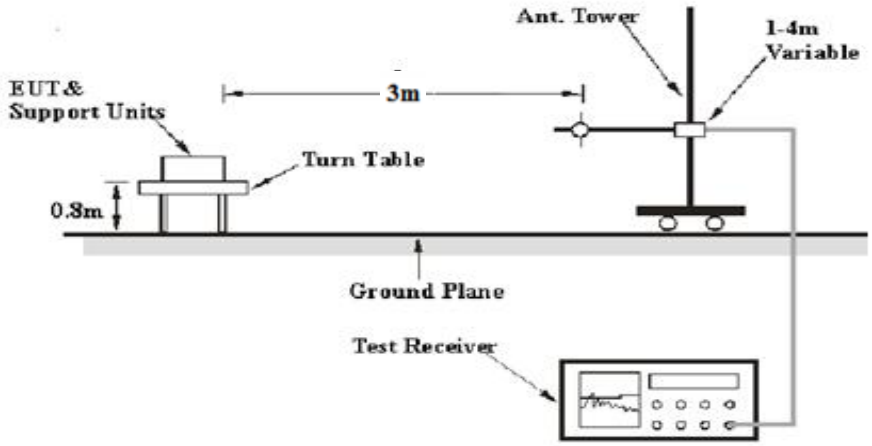
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

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

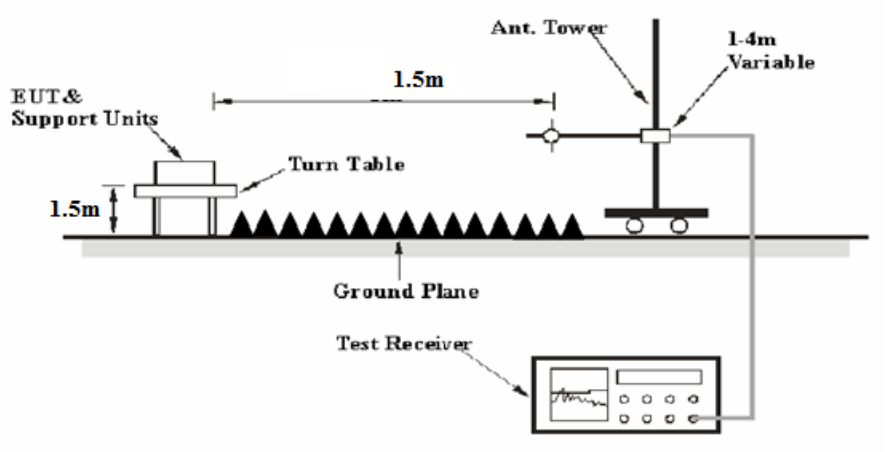
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

EUT Setup

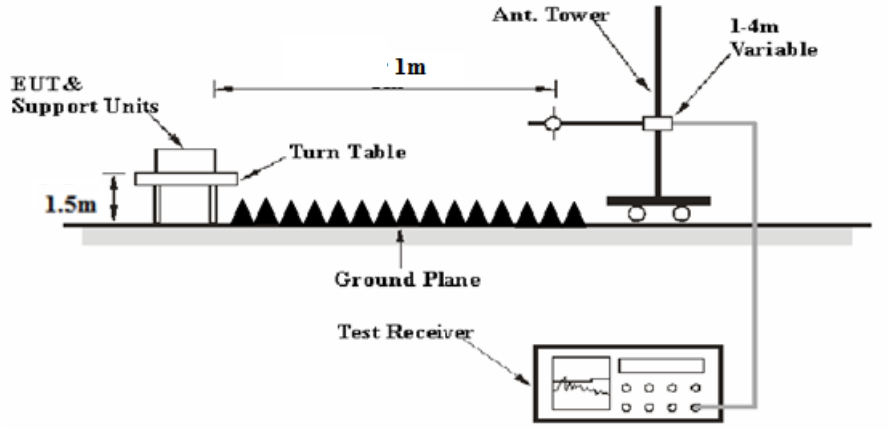
Below 1 GHz:



1-26.5 GHz:



26.5-40 GHz:



The radiated emission Below 1GHz tests were performed in the 3 meters chamber test site A , above 1GHz tests were performed in the 3 meters chamber test site B, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.407 limits and RSS-247, RSS-Gen limits.

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

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

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

30-1000MHz:

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 [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 or 1m
Distance extrapolation factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB
or
Distance extrapolation factor =20 log (specific distance [3m]/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:

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

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

Margin = Limit - 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:

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 = Limit- Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1GHz					
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	2019-10-13	2020-10-13
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Radiation Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technolagies	Horn Antenna	ARH-2823-02	1007726-01 1302	2017-12-06	2020-12-05
R&S	Spectrum Analyzer	FSP 38	100478	2020-07-07	2021-07-07
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2020-06-27	2021-06-27
Mini-Circuit	Amplifier	ZVA-213-S+	54201245	2020-09-05	2021-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2020-06-27	2021-06-27
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sinoscite	Bandstop Filters	BSF5150-5850MN-0899-003	0899003	2020-05-06	2021-05-06
Micro-tronics	High Pass Filter	HPM50111	S/N-G217	2020-06-16	2021-06-16

*** 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

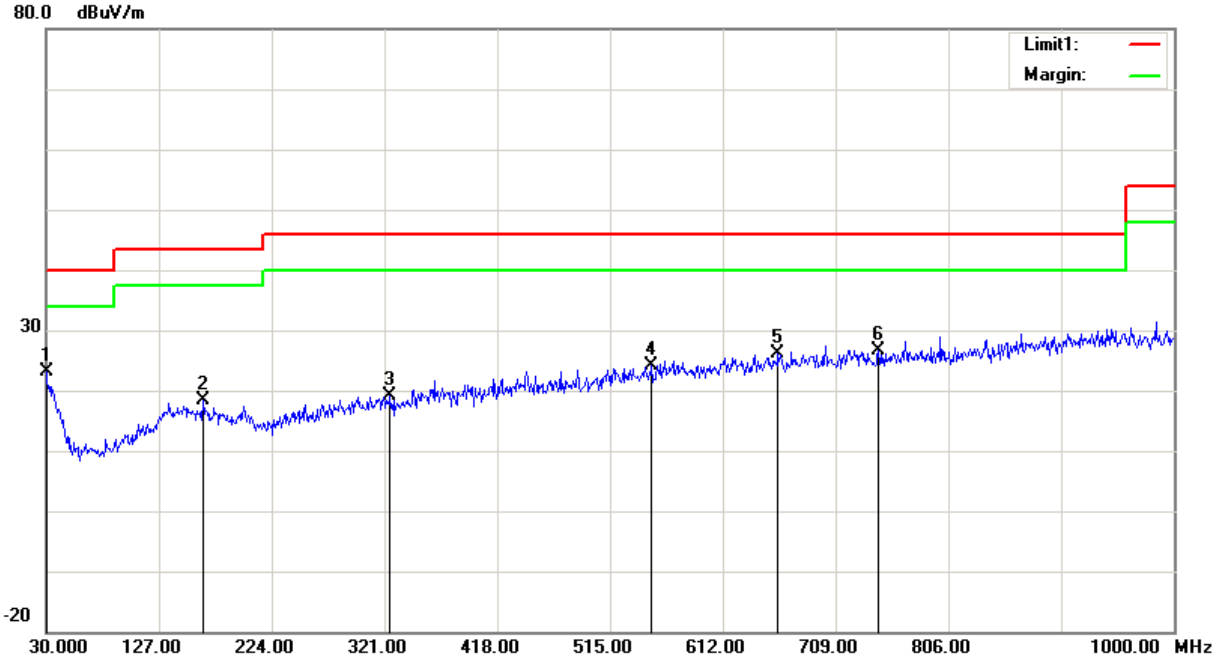
Environmental Conditions

Test Items	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	24.5℃	29℃
Relative Humidity:	36%	38%
ATM Pressure:	100.6kPa	100.4 kPa
Tester:	*Asa Chen*	*Felix Wang*
Test Date:	*2020-09-24*	*2020-09-18*

Test Mode: Transmitting

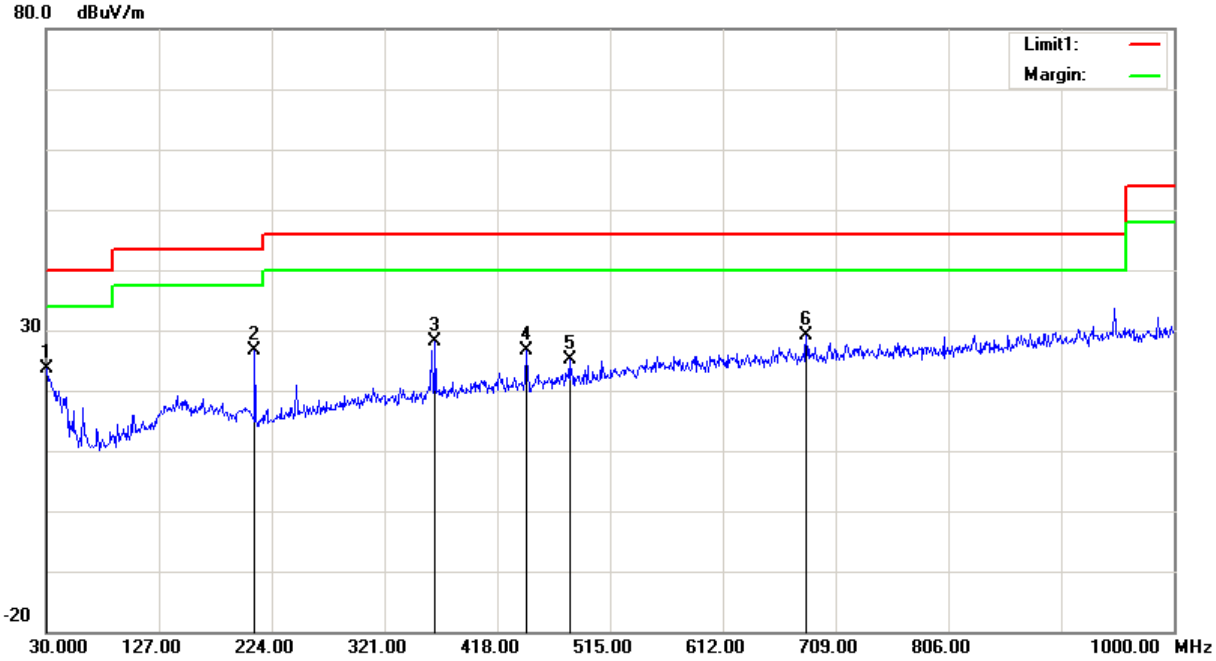
1) **Below 1GHz***(802.11n ht20 5825MHz was the worst)*

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	27.13	peak	-4.10	23.03	40.00	16.97
164.8300	27.80	peak	-9.40	18.40	43.50	25.10
325.8500	26.30	peak	-7.05	19.25	46.00	26.75
550.8900	25.82	peak	-1.79	24.03	46.00	21.97
659.5300	26.30	peak	-0.24	26.06	46.00	19.94
745.8600	26.07	peak	0.58	26.65	46.00	19.35

Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.9700	28.38	peak	-4.66	23.72	40.00	16.28
209.4500	37.82	peak	-11.16	26.66	43.50	16.84
364.6500	34.28	peak	-6.13	28.15	46.00	17.85
443.2200	30.97	peak	-4.43	26.54	46.00	19.46
480.0800	28.96	peak	-3.82	25.14	46.00	20.86
683.7800	28.88	peak	0.28	29.16	46.00	16.84

2) 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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	70.05	PK	H	33.59	3.58	0.00	107.22	101.2	N/A	N/A
5180.00	60.11	AV	H	33.59	3.58	0.00	97.28	91.26	N/A	N/A
5180.00	58.87	PK	V	33.59	3.58	0.00	96.04	90.02	N/A	N/A
5180.00	48.65	AV	V	33.59	3.58	0.00	85.82	79.8	N/A	N/A
5150.00	31.58	PK	H	33.54	3.56	0.00	68.68	62.66	74.00	11.34
5150.00	16.21	AV	H	33.54	3.56	0.00	53.31	47.29	54.00	6.71
10360.00	35.64	PK	H	38.17	6.29	25.46	54.64	48.62	68.20	19.58
15540.00	35.61	PK	H	38.06	8.85	24.27	58.25	52.23	74.00	21.77
15540.00	23.53	AV	H	38.06	8.85	24.27	46.17	40.15	54.00	13.85
Middle Channel: 5200 MHz										
5200.00	70.18	PK	H	33.62	3.60	0.00	107.40	101.38	N/A	N/A
5200.00	60.45	AV	H	33.62	3.60	0.00	97.67	91.65	N/A	N/A
5200.00	59.16	PK	V	33.62	3.60	0.00	96.38	90.36	N/A	N/A
5200.00	49.03	AV	V	33.62	3.60	0.00	86.25	80.23	N/A	N/A
10400.00	35.65	PK	H	38.18	6.32	25.46	54.69	48.67	68.20	19.53
15600.00	36.46	PK	H	38.00	8.83	24.31	58.98	52.96	74.00	21.04
15600.00	24.25	AV	H	38.00	8.83	24.31	46.77	40.75	54.00	13.25
High Channel: 5240 MHz										
5240.00	68.81	PK	H	33.68	3.52	0.00	106.01	99.99	N/A	N/A
5240.00	59.38	AV	H	33.68	3.52	0.00	96.58	90.56	N/A	N/A
5240.00	56.72	PK	V	33.68	3.52	0.00	93.92	87.9	N/A	N/A
5240.00	47.29	AV	V	33.68	3.52	0.00	84.49	78.47	N/A	N/A
5350.00	28.12	PK	H	33.86	3.52	0.00	65.50	59.48	74.00	14.52
5350.00	15.48	AV	H	33.86	3.52	0.00	52.86	46.84	54.00	7.16
10480.00	34.48	PK	H	38.20	6.37	25.47	53.58	47.56	68.20	20.64
15720.00	36.26	PK	H	37.88	8.79	24.39	58.54	52.52	74.00	21.48
15720.00	24.12	AV	H	37.88	8.79	24.39	46.40	40.38	54.00	13.62

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5180 MHz										
5180.00	68.04	PK	H	33.59	3.58	0.00	105.21	99.19	N/A	N/A
5180.00	58.00	AV	H	33.59	3.58	0.00	95.17	89.15	N/A	N/A
5180.00	58.46	PK	V	33.59	3.58	0.00	95.63	89.61	N/A	N/A
5180.00	48.32	AV	V	33.59	3.58	0.00	85.49	79.47	N/A	N/A
5150.00	28.10	PK	H	33.54	3.56	0.00	65.20	59.18	74.00	14.82
5150.00	15.92	AV	H	33.54	3.56	0.00	53.02	47	54.00	7.00
10360.00	35.25	PK	H	38.17	6.29	25.46	54.25	48.23	68.20	19.97
15540.00	35.89	PK	H	38.06	8.85	24.27	58.53	52.51	74.00	21.49
15540.00	23.75	AV	H	38.06	8.85	24.27	46.39	40.37	54.00	13.63
Middle Channel: 5200 MHz										
5200.00	67.31	PK	H	33.62	3.60	0.00	104.53	98.51	N/A	N/A
5200.00	57.94	AV	H	33.62	3.60	0.00	95.16	89.14	N/A	N/A
5200.00	57.19	PK	V	33.62	3.60	0.00	94.41	88.39	N/A	N/A
5200.00	47.57	AV	V	33.62	3.60	0.00	84.79	78.77	N/A	N/A
10400.00	35.60	PK	H	38.18	6.32	25.46	54.64	48.62	68.20	19.58
15600.00	36.33	PK	H	38.00	8.83	24.31	58.85	52.83	74.00	21.17
15600.00	24.19	AV	H	38.00	8.83	24.31	46.71	40.69	54.00	13.31
High Channel: 5240 MHz										
5240.00	66.45	PK	H	33.68	3.52	0.00	103.65	97.63	N/A	N/A
5240.00	57.03	AV	H	33.68	3.52	0.00	94.23	88.21	N/A	N/A
5240.00	56.69	PK	V	33.68	3.52	0.00	93.89	87.87	N/A	N/A
5240.00	47.55	AV	V	33.68	3.52	0.00	84.75	78.73	N/A	N/A
5350.00	27.37	PK	H	33.86	3.52	0.00	64.75	58.73	74.00	15.27
5350.00	15.53	AV	H	33.86	3.52	0.00	52.91	46.89	54.00	7.11
10480.00	35.61	PK	H	38.20	6.37	25.47	54.71	48.69	68.20	19.51
15720.00	36.00	PK	H	37.88	8.79	24.39	58.28	52.26	74.00	21.74
15720.00	23.85	AV	H	37.88	8.79	24.39	46.13	40.11	54.00	13.89

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	Polar (H/V)	Factor (dB/m)						
Low Channel: 5190 MHz										
5190.00	67.72	PK	H	33.60	3.59	0.00	104.91	98.89	N/A	N/A
5190.00	57.88	AV	H	33.60	3.59	0.00	95.07	89.05	N/A	N/A
5190.00	58.18	PK	V	33.60	3.59	0.00	95.37	89.35	N/A	N/A
5190.00	48.26	AV	V	33.60	3.59	0.00	85.45	79.43	N/A	N/A
5150.00	28.11	PK	H	33.54	3.56	0.00	65.21	59.19	74.00	14.81
5150.00	15.71	AV	H	33.54	3.56	0.00	52.81	46.79	54.00	7.21
10380.00	35.88	PK	H	38.18	6.31	25.46	54.91	48.89	68.20	19.31
15570.00	35.65	PK	H	38.03	8.84	24.29	58.23	52.21	74.00	21.79
15570.00	23.49	AV	H	38.03	8.84	24.29	46.07	40.05	54.00	13.95
High Channel: 5230 MHz										
5230.00	66.15	PK	H	33.67	3.54	0.00	103.36	97.34	N/A	N/A
5230.00	56.98	AV	H	33.67	3.54	0.00	94.19	88.17	N/A	N/A
5230.00	57.39	PK	V	33.67	3.54	0.00	94.60	88.58	N/A	N/A
5230.00	47.66	AV	V	33.67	3.54	0.00	84.87	78.85	N/A	N/A
5350.00	27.58	PK	H	33.86	3.52	0.00	64.96	58.94	74.00	15.06
5350.00	15.59	AV	H	33.86	3.52	0.00	52.97	46.95	54.00	7.05
10460.00	35.60	PK	H	38.19	6.36	25.47	54.68	48.66	68.20	19.54
15690.00	35.87	PK	H	37.91	8.80	24.37	58.21	52.19	74.00	21.81
15690.00	23.59	AV	H	37.91	8.80	24.37	45.93	39.91	54.00	14.09

5725-5850MHz
802.11a

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBµV	PK/QP/AV	H/V	dB/m	dB	dB	dBµV/m	dBµV/m	dBµV/m	dB
Low Channel: 5745 MHz										
5745.00	65.69	PK	V	34.20	3.69	0.00	103.58	97.56	N/A	N/A
5745.00	56.78	AV	V	34.20	3.69	0.00	94.67	88.65	N/A	N/A
5745.00	70.04	PK	H	34.20	3.69	0.00	107.93	101.91	N/A	N/A
5745.00	60.82	AV	H	34.20	3.69	0.00	98.71	92.69	N/A	N/A
5725.00	40.03	PK	H	34.19	3.69	0.00	77.91	71.89	122.20	50.31
5720.00	28.90	PK	H	34.19	3.69	0.00	66.78	60.76	110.80	50.04
5700.00	28.00	PK	H	34.18	3.68	0.00	65.86	59.84	105.20	45.36
5650.00	28.02	PK	H	34.16	3.63	0.00	65.81	59.79	68.20	8.41
11490.00	36.24	PK	H	38.99	6.59	25.51	56.31	50.29	74.00	23.71
11490.00	25.71	AV	H	38.99	6.59	25.51	45.78	39.76	54.00	14.24
17235.00	35.89	PK	H	41.56	8.78	23.72	62.51	56.49	68.20	11.71
Middle Channel: 5785 MHz										
5785.00	65.89	PK	V	34.21	3.71	0.00	103.81	97.79	N/A	N/A
5785.00	56.23	AV	V	34.21	3.71	0.00	94.15	88.13	N/A	N/A
5785.00	70.30	PK	H	34.21	3.71	0.00	108.22	102.2	N/A	N/A
5785.00	60.61	AV	H	34.21	3.71	0.00	98.53	92.51	N/A	N/A
11570.00	36.31	PK	H	39.00	6.61	25.46	56.46	50.44	74.00	23.56
11570.00	25.83	AV	H	39.00	6.61	25.46	45.98	39.96	54.00	14.04
17355.00	35.59	PK	H	42.26	8.81	23.60	63.06	57.04	68.20	11.16
High Channel: 5825 MHz										
5825.00	64.32	PK	V	34.23	3.73	0.00	102.28	96.26	N/A	N/A
5825.00	54.46	AV	V	34.23	3.73	0.00	92.42	86.4	N/A	N/A
5825.00	69.51	PK	H	34.23	3.73	0.00	107.47	101.45	N/A	N/A
5825.00	59.98	AV	H	34.23	3.73	0.00	97.94	91.92	N/A	N/A
5850.00	28.25	PK	H	34.24	3.75	0.00	66.24	60.22	122.20	61.98
5855.00	26.74	PK	H	34.24	3.75	0.00	64.73	58.71	110.80	52.09
5875.00	28.07	PK	H	34.25	3.77	0.00	66.09	60.07	105.20	45.13
5925.00	27.71	PK	H	34.27	3.80	0.00	65.78	59.76	68.20	8.44
11650.00	35.87	PK	H	39.00	6.64	25.41	56.10	50.08	74.00	23.92
11650.00	24.55	AV	H	39.00	6.64	25.41	44.78	38.76	54.00	15.24
17475.00	35.62	PK	H	42.96	8.84	23.48	63.94	57.92	68.20	10.28

802.11n ht20

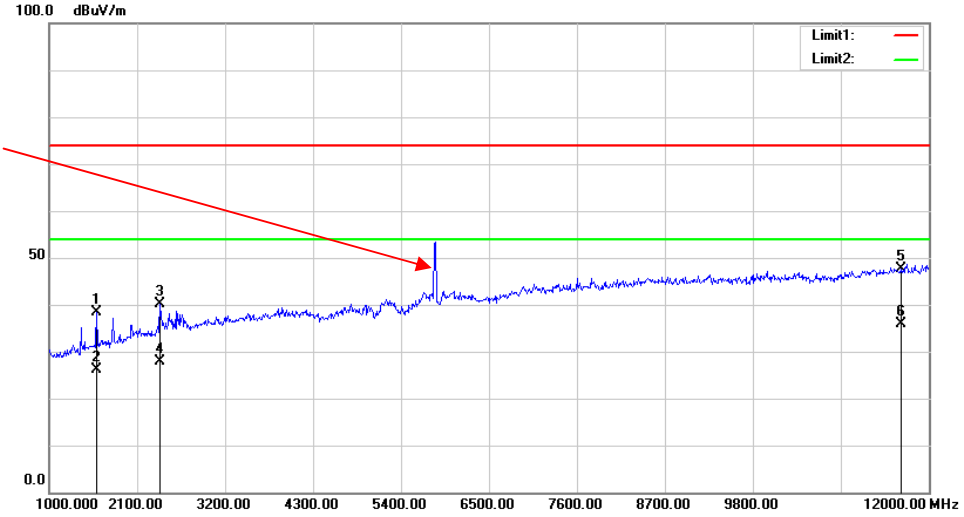
Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBµV	PK/QP/AV	H/V	dB/m	dB	dB	dBµV/m	dBµV/m	dBµV/m	dB
Low Channel: 5745 MHz										
5745.00	63.68	PK	V	34.20	3.69	0.00	101.57	95.55	N/A	N/A
5745.00	53.77	AV	V	34.20	3.69	0.00	91.66	85.64	N/A	N/A
5745.00	68.15	PK	H	34.20	3.69	0.00	106.04	100.02	N/A	N/A
5745.00	58.64	AV	H	34.20	3.69	0.00	96.53	90.51	N/A	N/A
5725.00	30.13	PK	H	34.19	3.69	0.00	68.01	61.99	122.20	60.21
5720.00	27.12	PK	H	34.19	3.69	0.00	65.00	58.98	110.80	51.82
5700.00	27.71	PK	H	34.18	3.68	0.00	65.57	59.55	105.20	45.65
5650.00	27.32	PK	H	34.16	3.63	0.00	65.11	59.09	68.20	9.11
11490.00	36.32	PK	H	38.99	6.59	25.51	56.39	50.37	74.00	23.63
11490.00	25.58	AV	H	38.99	6.59	25.51	45.65	39.63	54.00	14.37
17235.00	35.23	PK	H	41.56	8.78	23.72	61.85	55.83	68.20	12.37
Middle Channel: 5785 MHz										
5785.00	63.79	PK	V	34.21	3.71	0.00	101.71	95.69	N/A	N/A
5785.00	53.66	AV	V	34.21	3.71	0.00	91.58	85.56	N/A	N/A
5785.00	68.19	PK	H	34.21	3.71	0.00	106.11	100.09	N/A	N/A
5785.00	58.13	AV	H	34.21	3.71	0.00	96.05	90.03	N/A	N/A
11570.00	36.46	PK	H	39.00	6.61	25.46	56.61	50.59	74.00	23.41
11570.00	25.75	AV	H	39.00	6.61	25.46	45.90	39.88	54.00	14.12
17355.00	35.62	PK	H	42.26	8.81	23.60	63.09	57.07	68.20	11.13
High Channel: 5825 MHz										
5825.00	61.72	PK	V	34.23	3.73	0.00	99.68	93.66	N/A	N/A
5825.00	52.65	AV	V	34.23	3.73	0.00	90.61	84.59	N/A	N/A
5825.00	66.81	PK	H	34.23	3.73	0.00	104.77	98.75	N/A	N/A
5825.00	57.49	AV	H	34.23	3.73	0.00	95.45	89.43	N/A	N/A
5850.00	31.38	PK	H	34.24	3.75	0.00	69.37	63.35	122.20	58.85
5855.00	25.97	PK	H	34.24	3.75	0.00	63.96	57.94	110.80	52.86
5875.00	28.06	PK	H	34.25	3.77	0.00	66.08	60.06	105.20	45.14
5925.00	27.56	PK	H	34.27	3.80	0.00	65.63	59.61	68.20	8.59
11650.00	35.50	PK	H	39.00	6.64	25.41	55.73	49.71	74.00	24.29
11650.00	24.31	AV	H	39.00	6.64	25.41	44.54	38.52	54.00	15.48
17475.00	35.86	PK	H	42.96	8.84	23.48	64.18	58.16	68.20	10.04

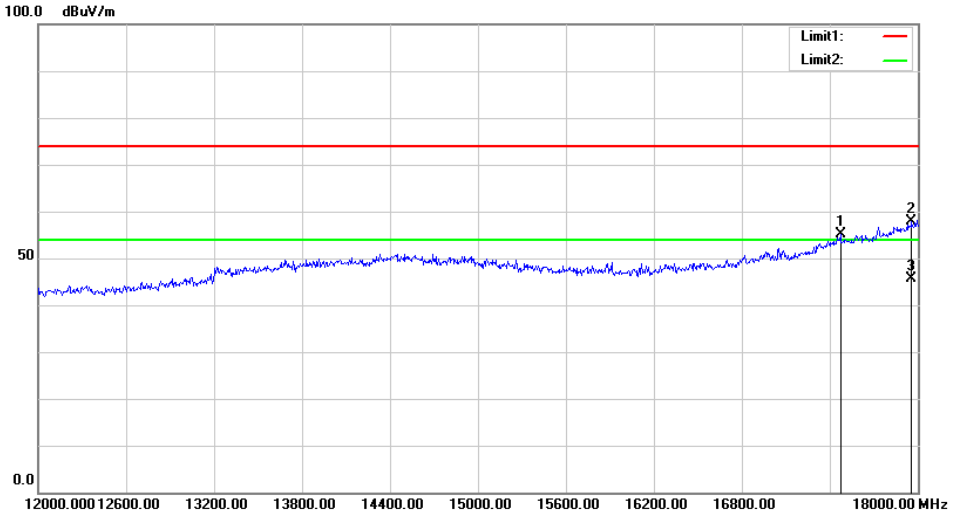
802.11n ht40

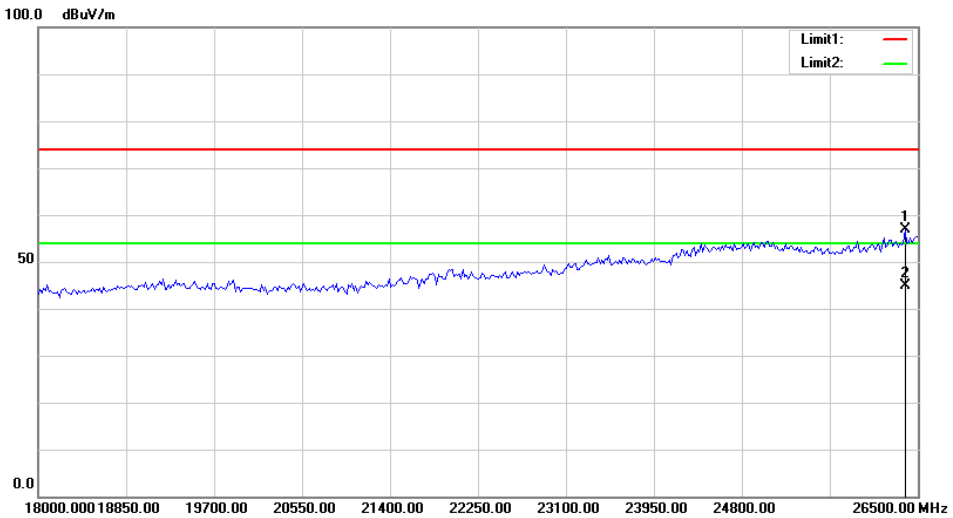
Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBµV	PK/QP/AV	H/V	dB(1/m)	dB	dB	dBµV/m	dBµV/m	dBµV/m	dB
Low Channel: 5755 MHz										
5755.00	63.32	PK	V	34.20	3.70	0.00	101.22	95.2	N/A	N/A
5755.00	53.46	AV	V	34.20	3.70	0.00	91.36	85.34	N/A	N/A
5755.00	69.29	PK	H	34.20	3.70	0.00	107.19	101.17	N/A	N/A
5755.00	59.52	AV	H	34.20	3.70	0.00	97.42	91.4	N/A	N/A
5725.00	26.75	PK	H	34.19	3.69	0.00	64.63	58.61	122.20	63.59
5720.00	27.57	PK	H	34.19	3.69	0.00	65.45	59.43	110.80	51.37
5700.00	28.12	PK	H	34.18	3.68	0.00	65.98	59.96	105.20	45.24
5650.00	28.15	PK	H	34.16	3.63	0.00	65.94	59.92	68.20	8.28
11510.00	36.02	PK	H	39.00	6.59	25.50	56.11	50.09	74.00	23.91
11510.00	25.19	AV	H	39.00	6.59	25.50	45.28	39.26	54.00	14.74
17265.00	35.93	PK	H	41.74	8.79	23.69	62.77	56.75	68.20	11.45
High Channel: 5795 MHz										
5795.00	62.18	PK	V	34.22	3.71	0.00	100.11	94.09	N/A	N/A
5795.00	52.33	AV	V	34.22	3.71	0.00	90.26	84.24	N/A	N/A
5795.00	68.04	PK	H	34.22	3.71	0.00	105.97	99.95	N/A	N/A
5795.00	58.52	AV	H	34.22	3.71	0.00	96.45	90.43	N/A	N/A
5850.00	27.60	PK	H	34.24	3.75	0.00	65.59	59.57	122.20	62.63
5855.00	28.05	PK	H	34.24	3.75	0.00	66.04	60.02	110.80	50.78
5875.00	27.98	PK	H	34.25	3.77	0.00	66.00	59.98	105.20	45.22
5925.00	28.53	PK	H	34.27	3.80	0.00	66.60	60.58	68.20	7.62
11590.00	36.43	PK	H	39.00	6.62	25.45	56.60	50.58	74.00	23.42
11590.00	25.58	AV	H	39.00	6.62	25.45	45.75	39.73	54.00	14.27
17385.00	35.48	PK	H	42.43	8.82	23.57	63.16	57.14	68.20	11.06

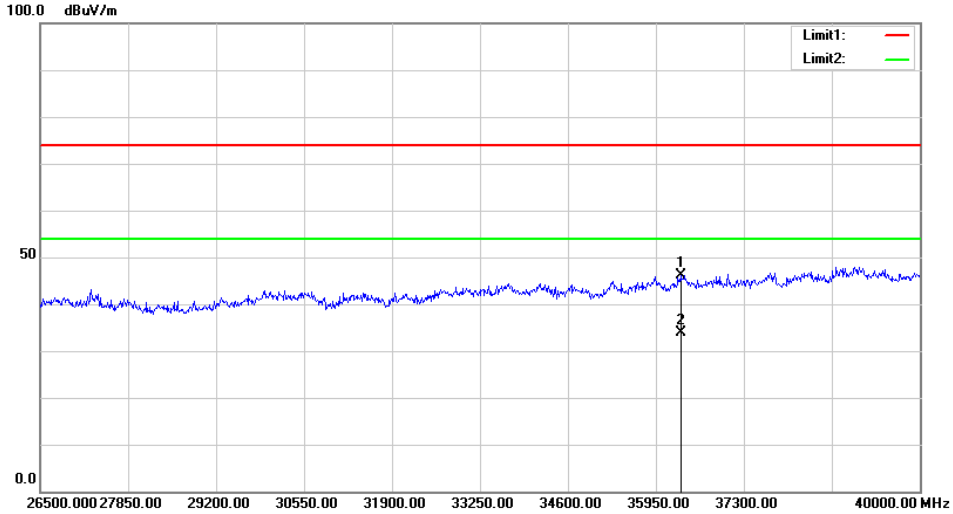
Test Plots(For worst mode 802.11n ht20 5825MHz)
Horizontal

Fundamental Test with Band Rejection Filter



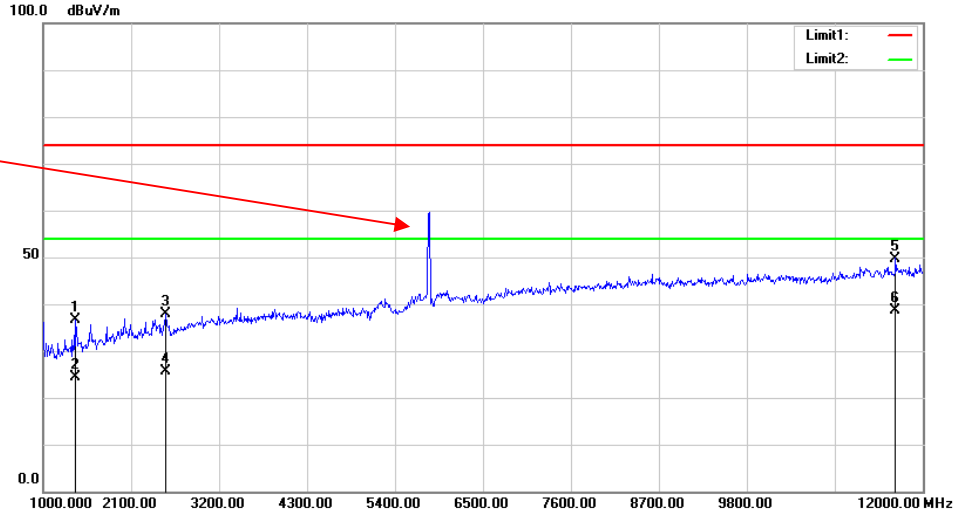


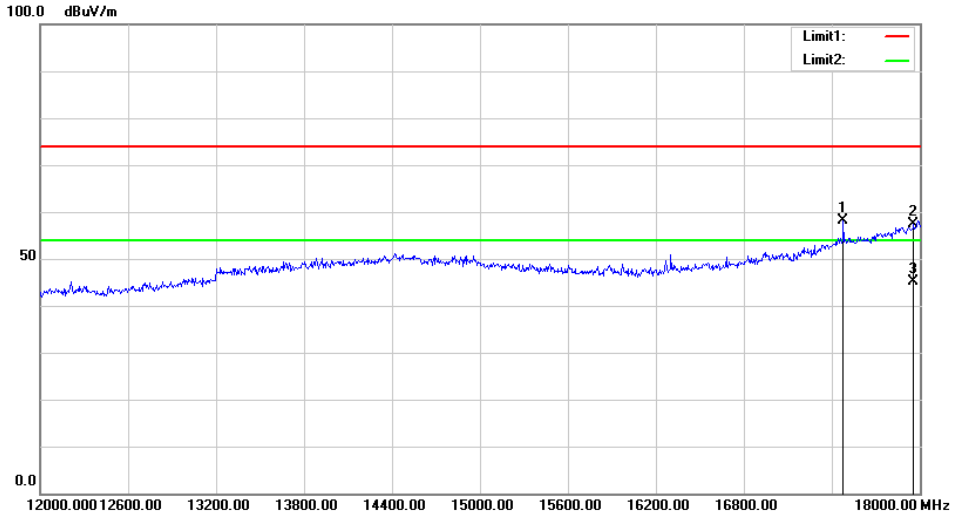


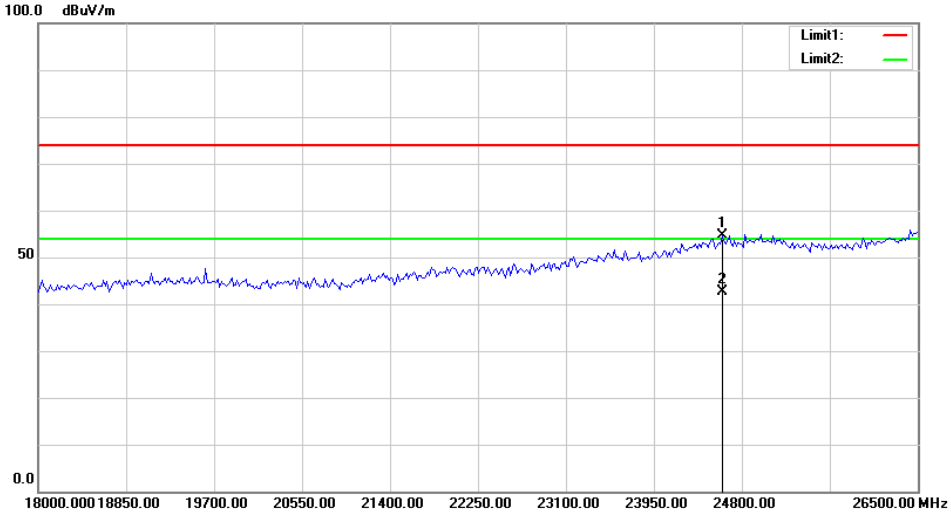


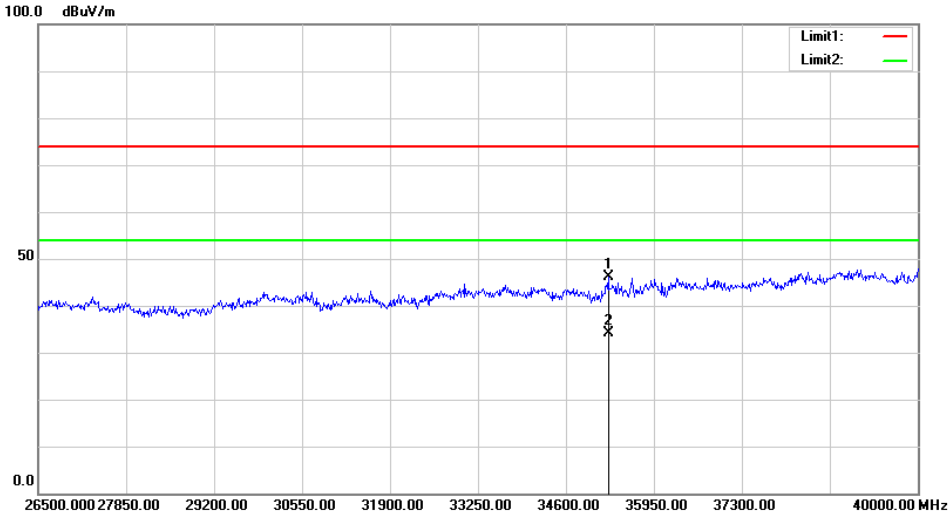
Vertical

Fundamental Test with Band Rejection Filter






100.0 dBuV/m
Limit1:
Limit2:
50
0.0
18000.000 18850.00 19700.00 20550.00 21400.00 22250.00 23100.00 23950.00 24800.00 26500.00 MHz


100.0 dBuV/m
Limit1:
Limit2:
50
0.0
26500.000 27850.00 29200.00 30550.00 31900.00 33250.00 34600.00 35950.00 37300.00 40000.00 MHz

FCC §15.407(a)(e) & RSS-247 CLAUSE 6.2,RSS-Gen CLAUSE 6.7– EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

Applicable Standard

15.407(a) (e), RSS-247 Clause 6.2 and RSS-Gen Clause 6.7

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJ00-0010	C0010/02	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:	27.8°C
Relative Humidity:	50 %
ATM Pressure:	100.2kPa
Tester:	Rita Huang
Test Date:	2020-09-30

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting

5150-5250MHz:

Mode	Frequency (MHz)	26 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11 a	5180	22.800	17.440
	5200	22.640	17.440
	5240	22.720	17.520
802.11n ht20	5180	23.120	18.400
	5200	23.040	18.320
	5240	23.280	18.320
802.11n ht40	5190	44.000	36.640
	5230	42.880	36.640

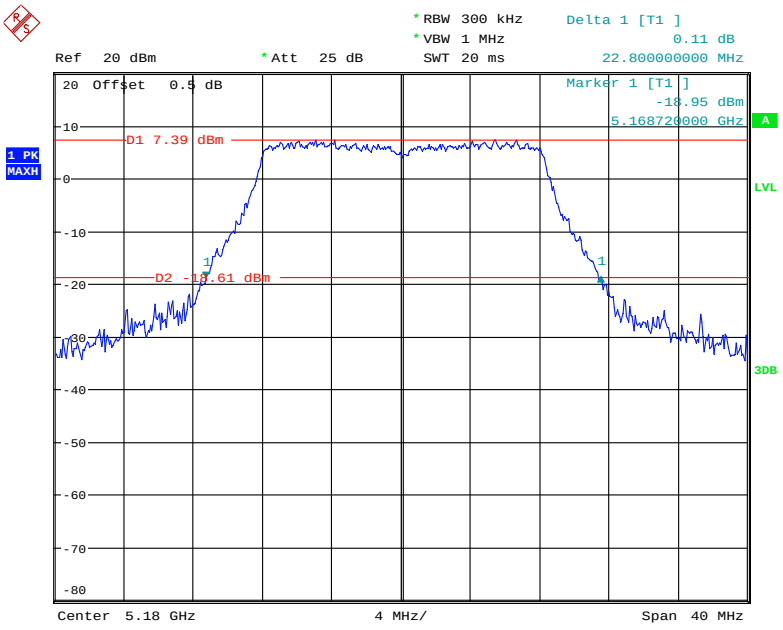
5725-5850MHz:

Mode	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11 a	5745	16.480	17.440
	5785	16.560	17.440
	5825	16.480	17.440
802.11n ht20	5745	17.680	18.320
	5785	17.680	18.320
	5825	17.680	18.320
802.11n ht40	5755	35.680	36.640
	5795	35.520	36.640

Note: the 99% Occupied Bandwidth has not fallen into the band 5250-5350MHz or 5470-5725MHz.

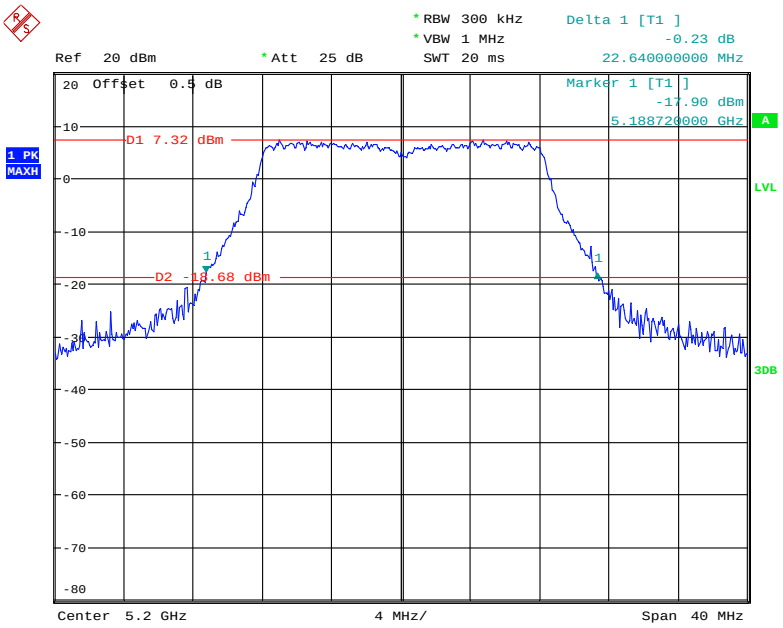
5150-5250MHz:
26dB Emission Bandwidth:

802.11a Low Channel



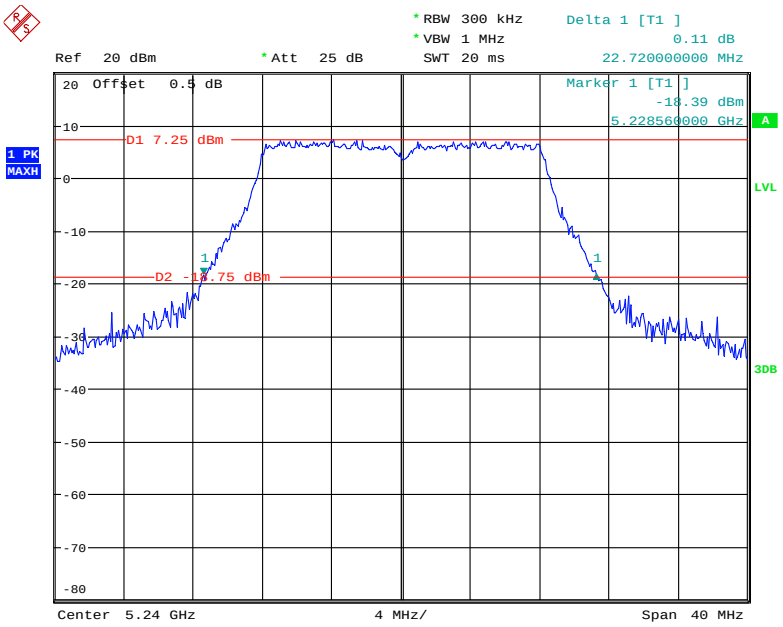
Date: 30.SEP.2020 11:04:35

802.11a Middle Channel



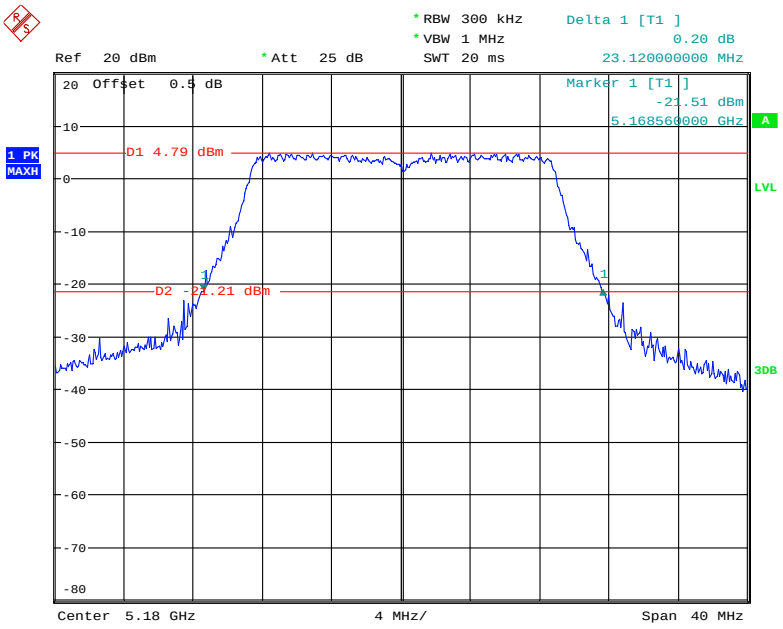
Date: 30.SEP.2020 11:05:49

802.11a High Channel



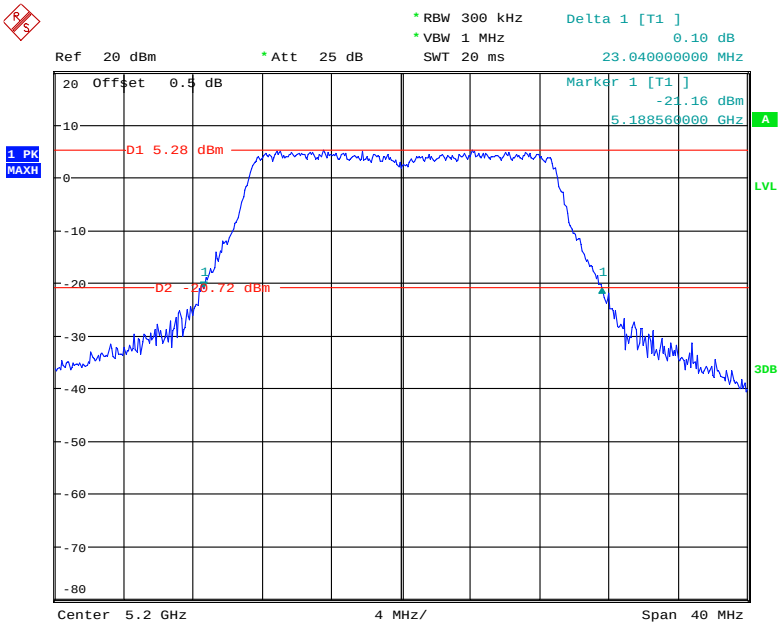
Date: 30.SEP.2020 11:10:29

802.11n ht20 Low Channel



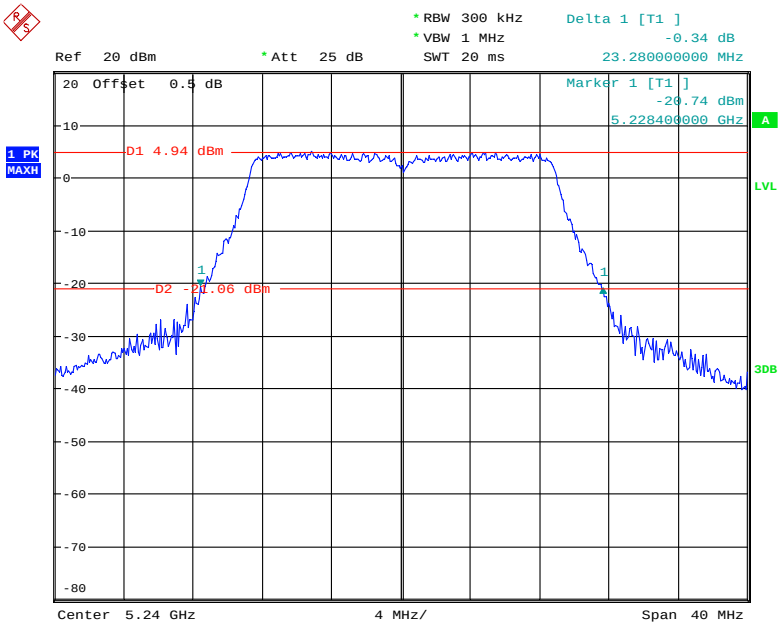
Date: 30.SEP.2020 11:12:50

802.11n ht20 Middle Channel



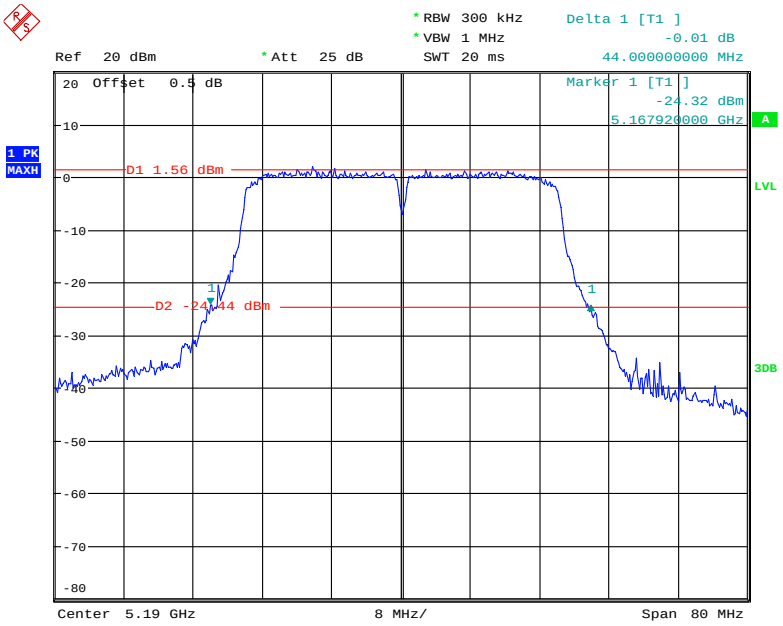
Date: 30.SEP.2020 11:13:57

802.11n ht20 High Channel



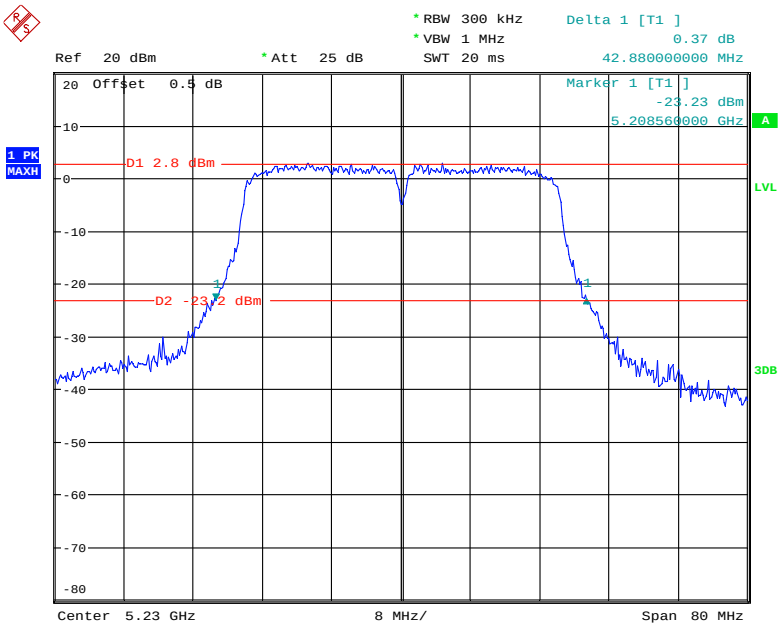
Date: 30.SEP.2020 11:11:40

802.11n ht40 Low Channel



Date: 30.SEP.2020 11:17:49

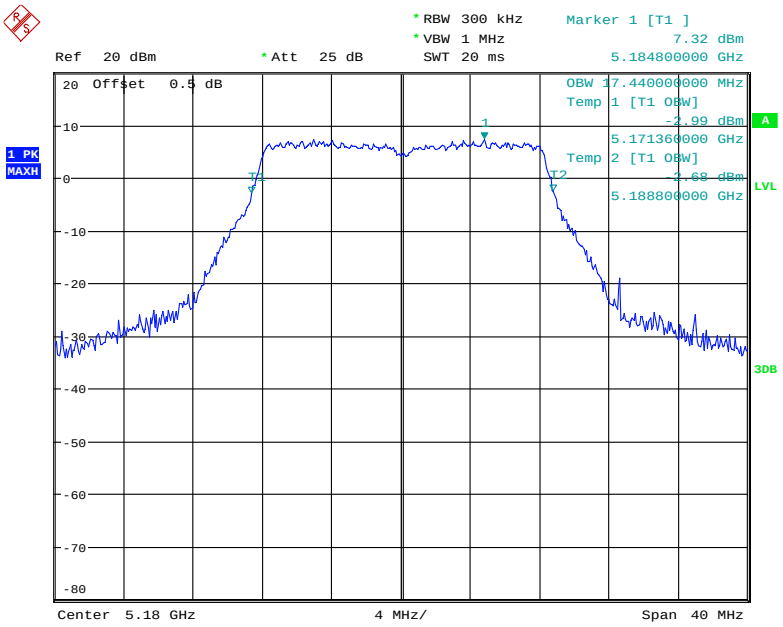
802.11n ht40 High Channel



Date: 30.SEP.2020 11:18:58

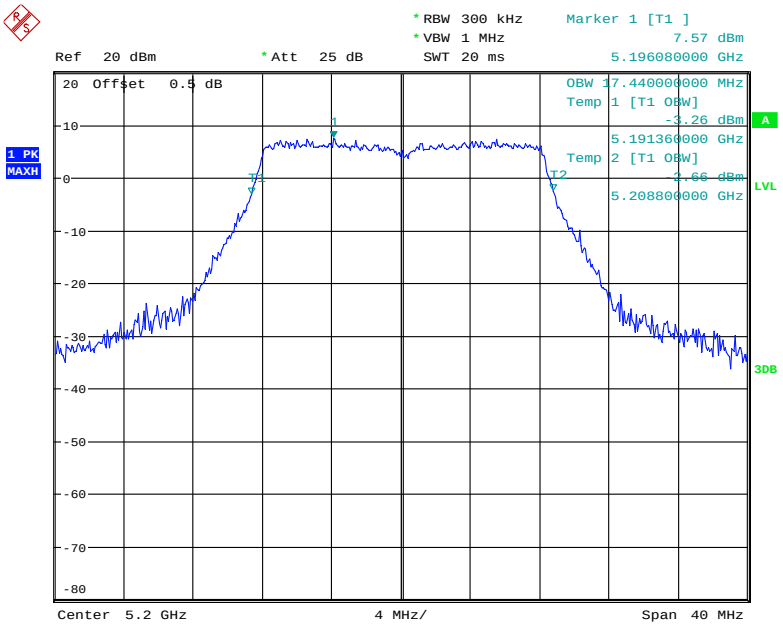
99% Occupied Bandwidth:

802.11a Low Channel



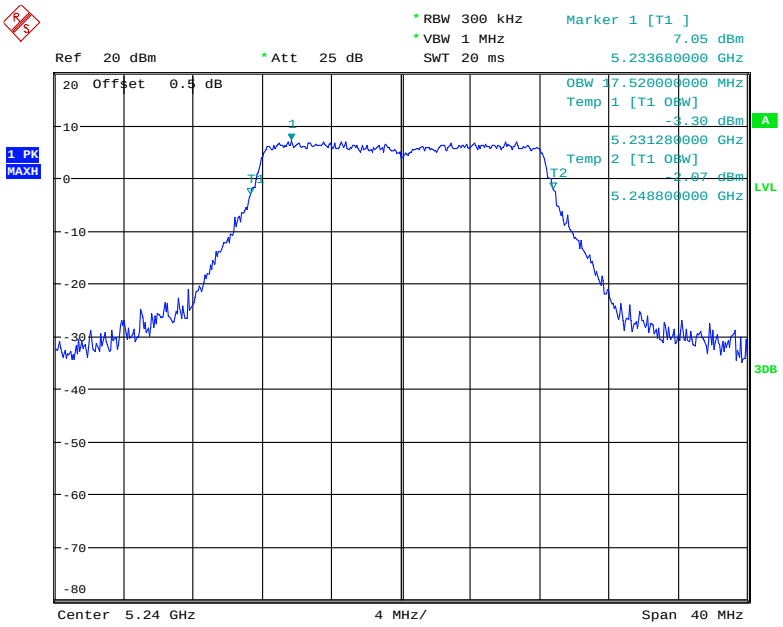
Date: 30.SEP.2020 11:04:53

802.11a Middle Channel



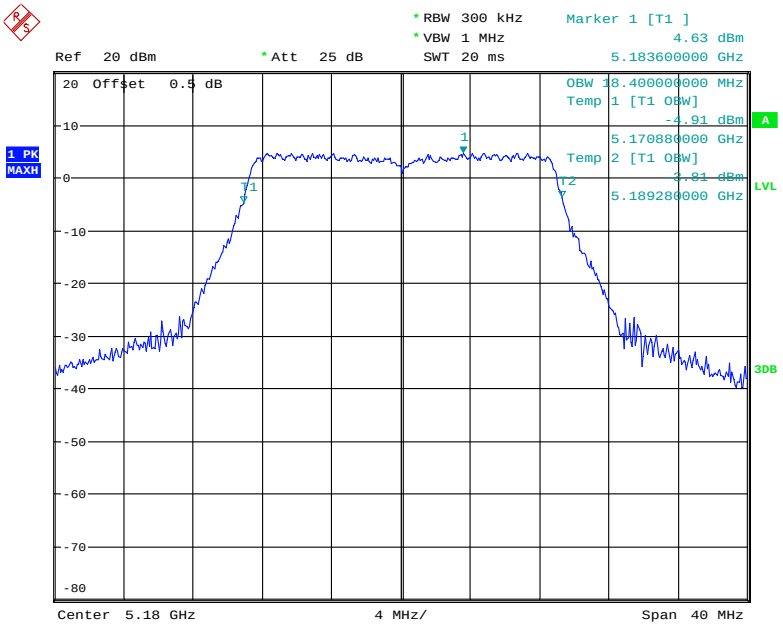
Date: 30.SEP.2020 11:06:04

802.11a High Channel



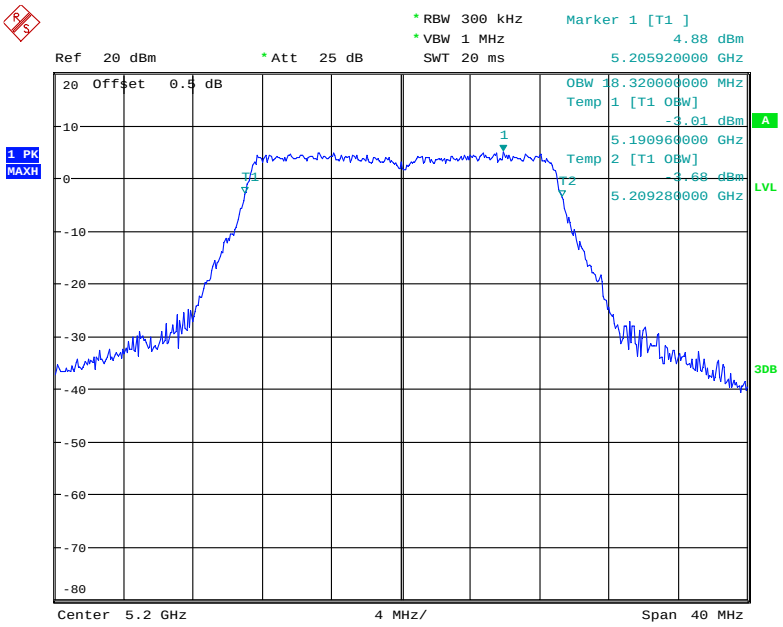
Date: 30.SEP.2020 11:10:47

802.11n ht20 Low Channel



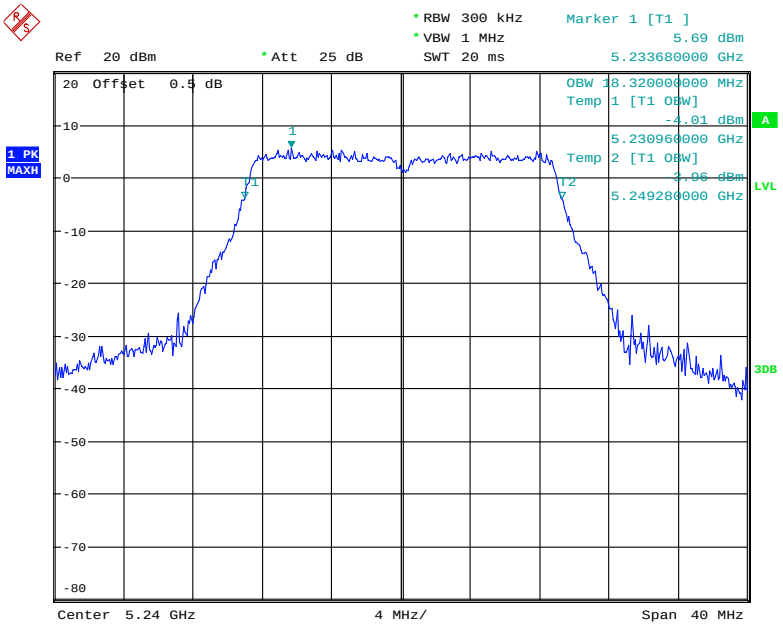
Date: 30.SEP.2020 11:13:09

802.11n ht20 Middle Channel



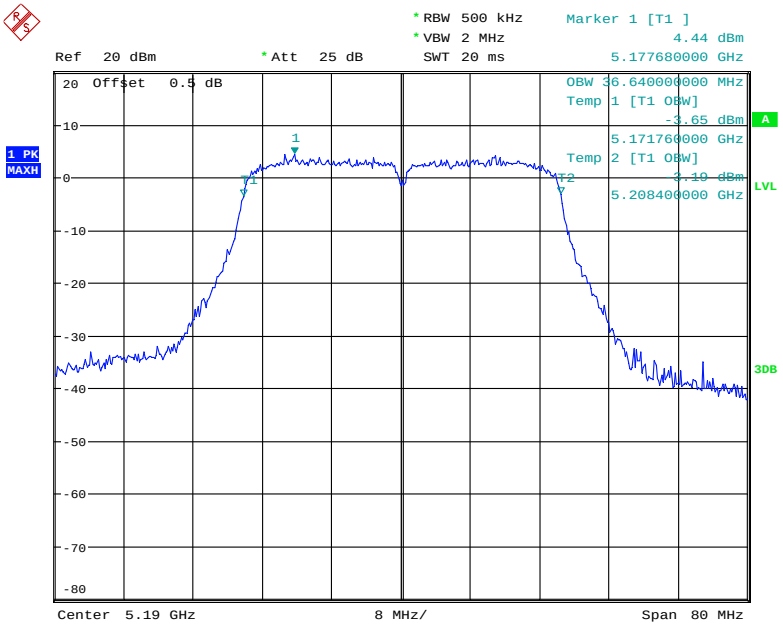
Date: 30.SEP.2020 11:14:12

802.11n ht20 High Channel



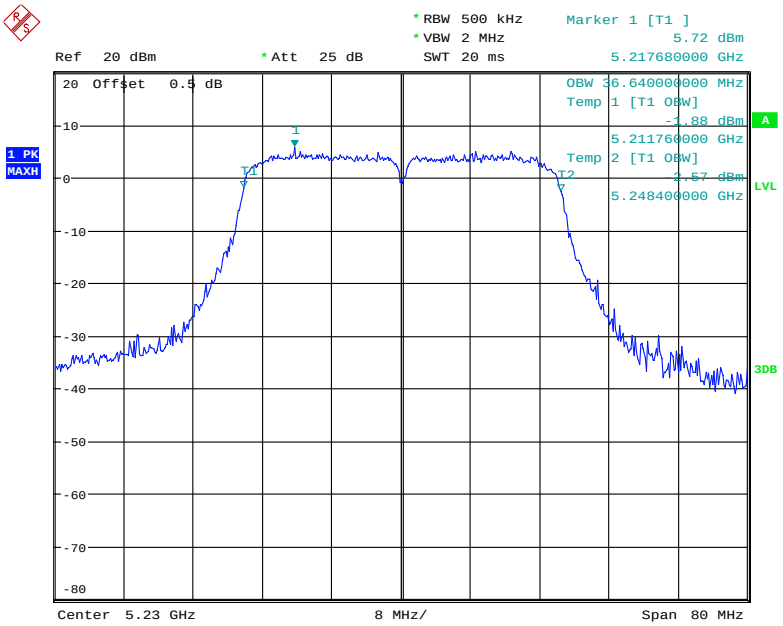
Date: 30.SEP.2020 11:11:55

802.11n ht40 Low Channel



Date: 30.SEP.2020 11:18:03

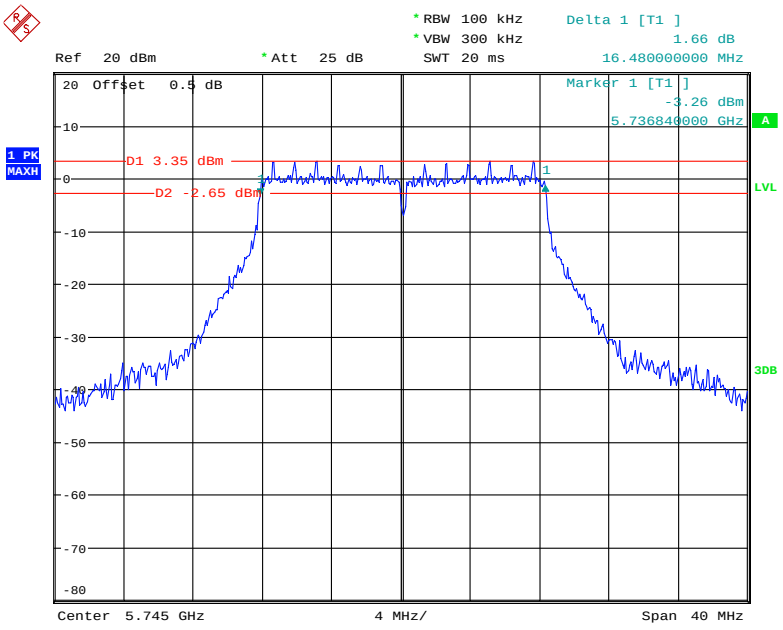
802.11n ht40 High Channel



Date: 30.SEP.2020 11:19:14

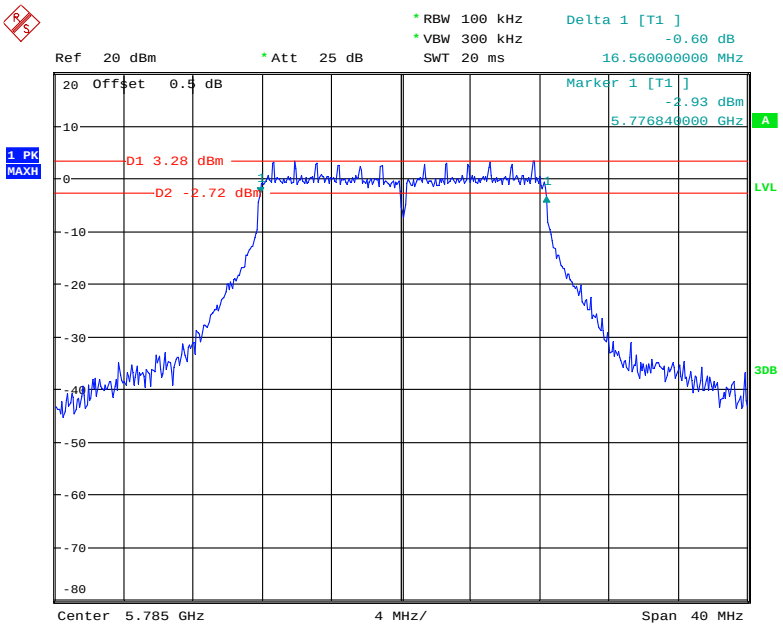
5725-5850MHz:
6dB Emission Bandwidth:

802.11a Low Channel



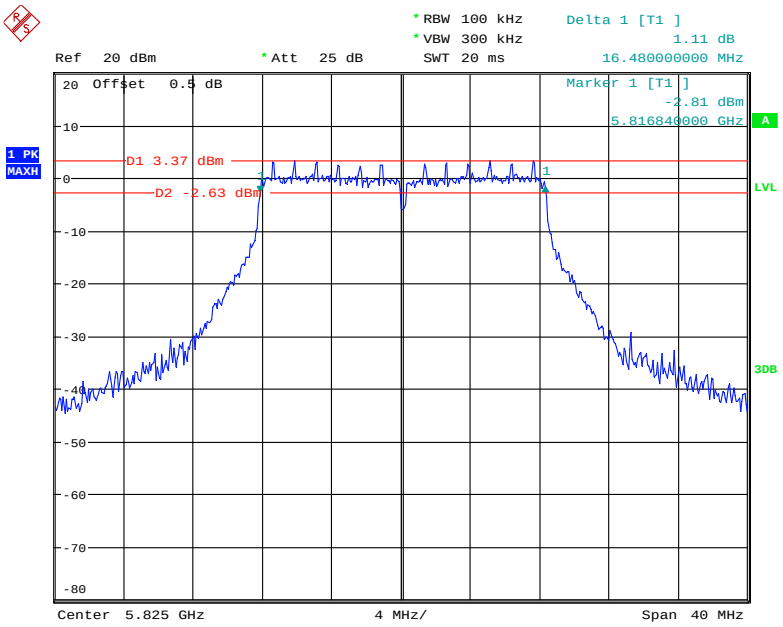
Date: 30.SEP.2020 11:30:02

802.11a Middle Channel



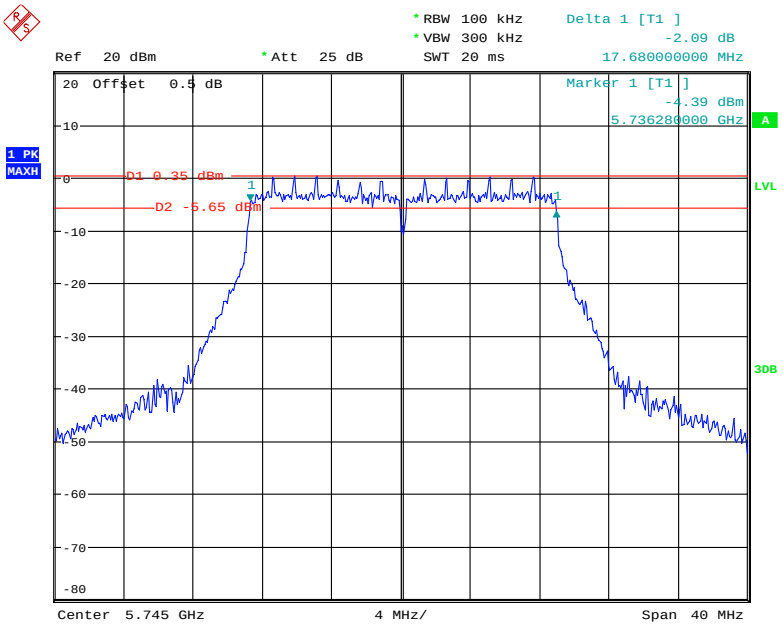
Date: 30.SEP.2020 11:32:29

802.11a High Channel



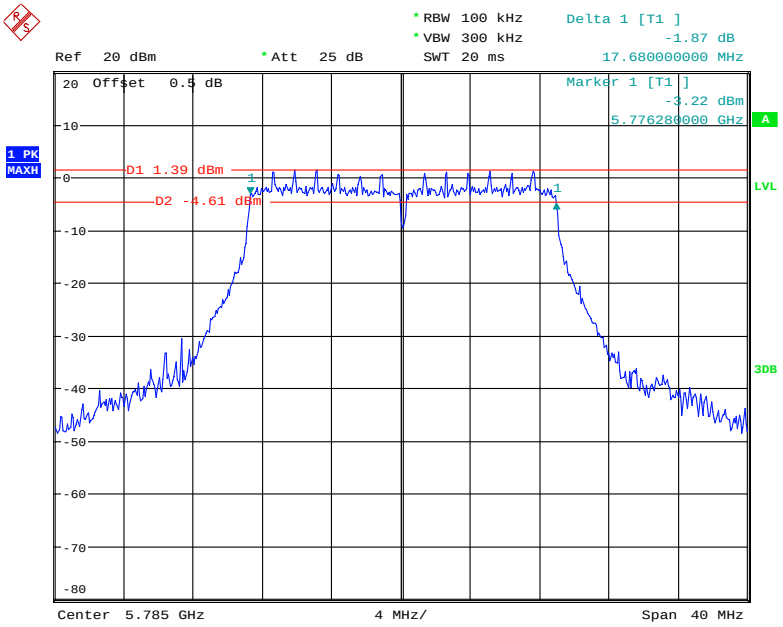
Date: 30.SEP.2020 11:31:21

802.11n ht20 Low Channel



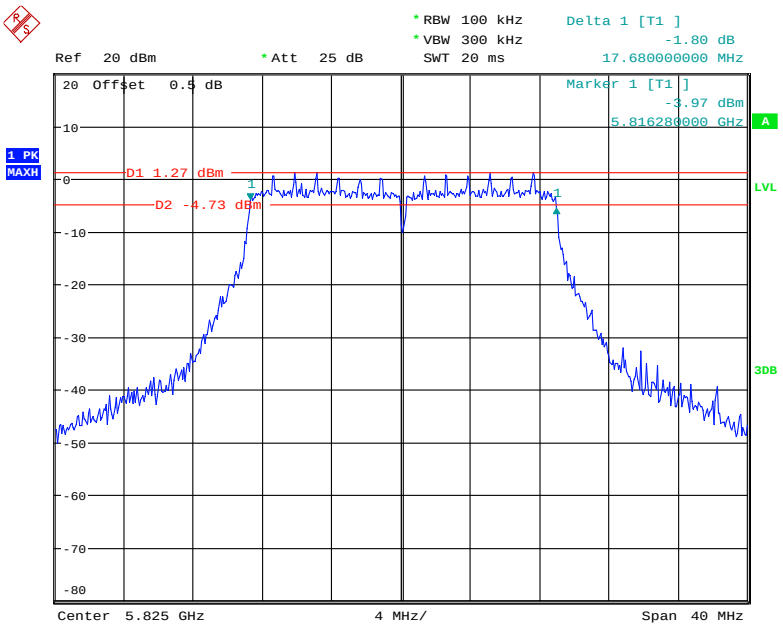
Date: 30.SEP.2020 11:28:58

802.11n ht20 Middle Channel



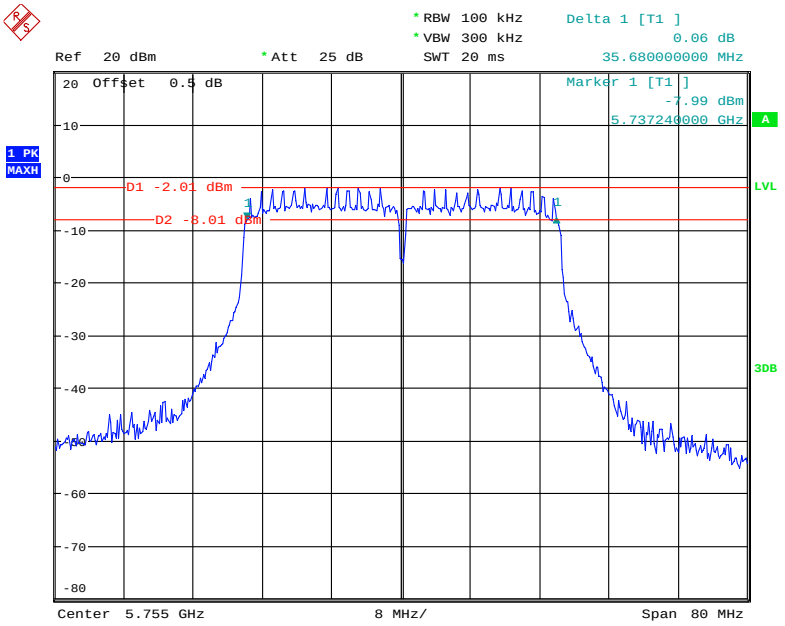
Date: 30.SEP.2020 11:26:38

802.11n ht20 High Channel



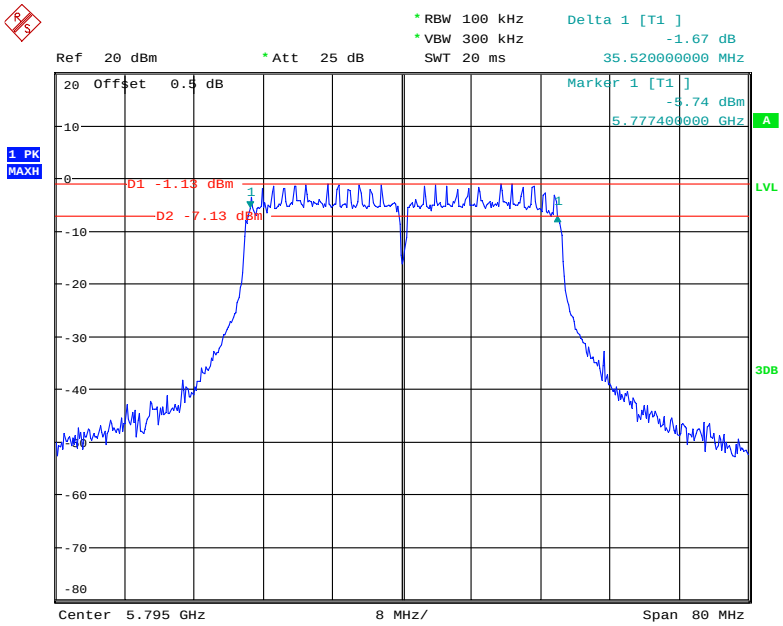
Date: 30.SEP.2020 11:27:51

802.11n ht40 Low Channel



Date: 30.SEP.2020 11:23:09

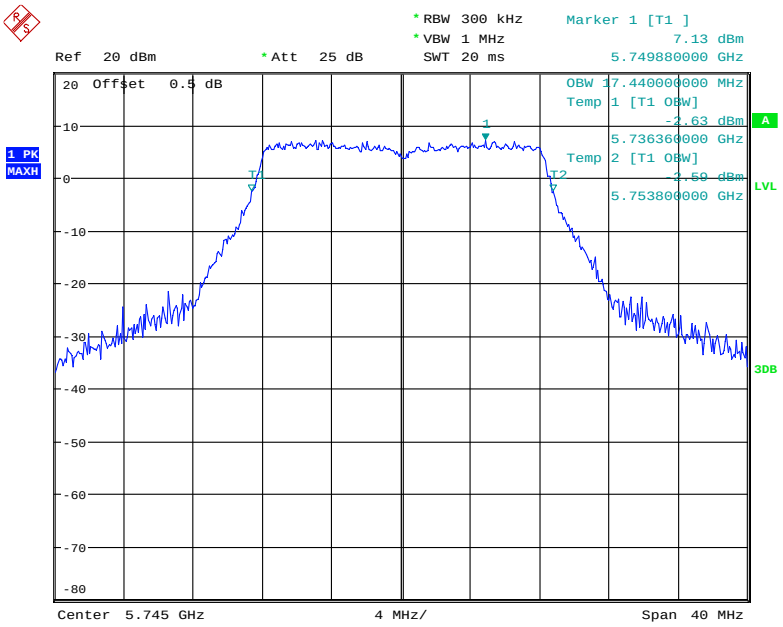
802.11n ht40 High Channel



Date: 30.SEP.2020 11:21:55

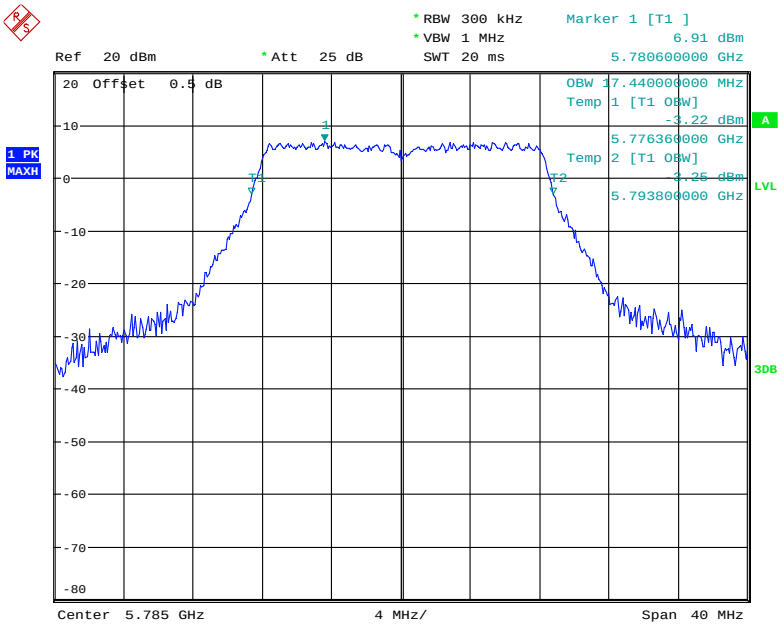
99% Occupied Bandwidth:

802.11a Low Channel



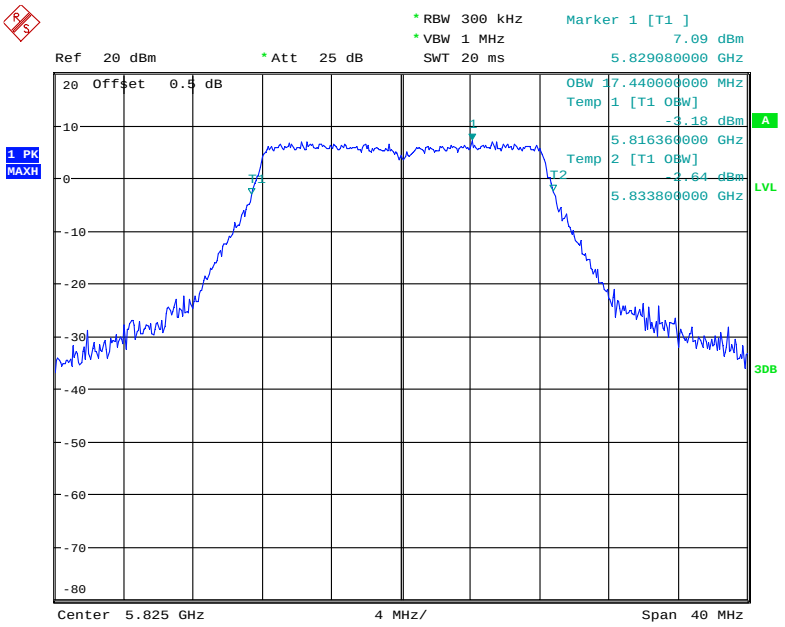
Date: 30.SEP.2020 11:30:20

802.11a Middle Channel



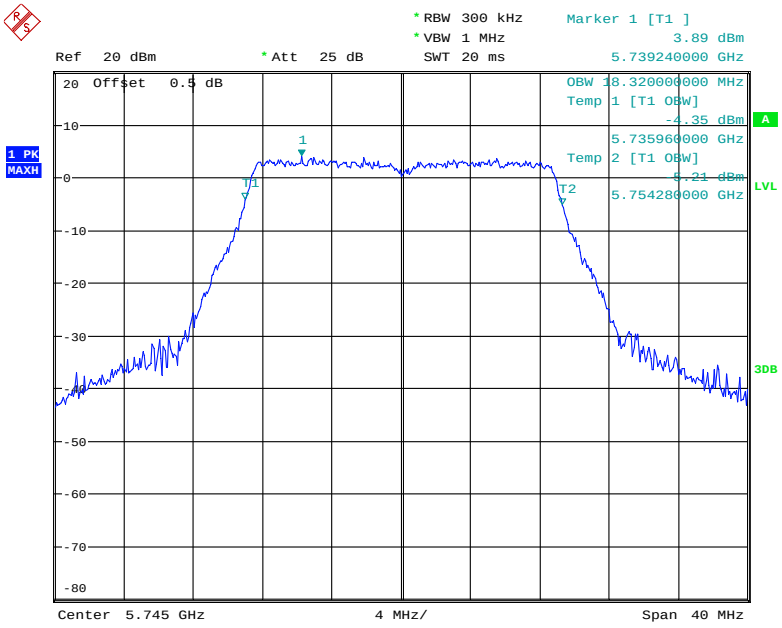
Date: 30.SEP.2020 11:32:46

802.11a High Channel



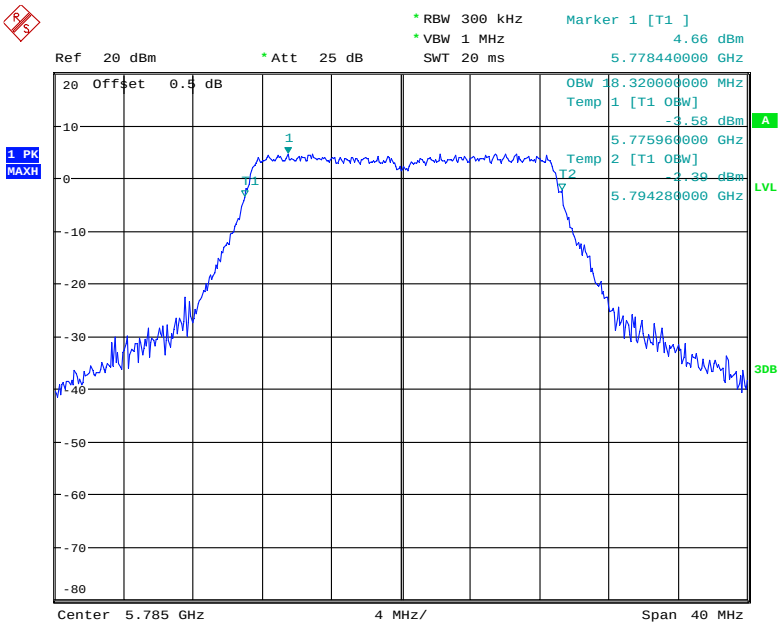
Date: 30.SEP.2020 11:31:37

802.11n ht20 Low Channel



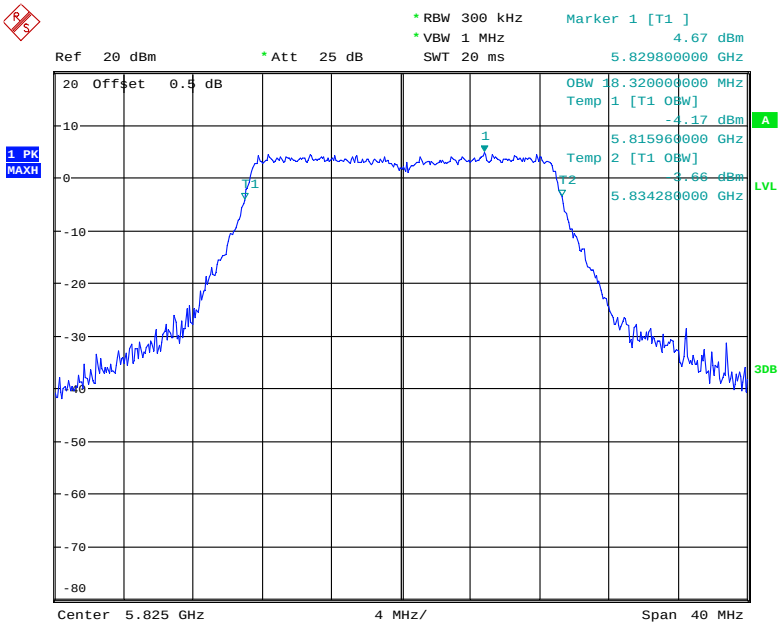
Date: 30.SEP.2020 11:29:13

802.11n ht20 Middle Channel



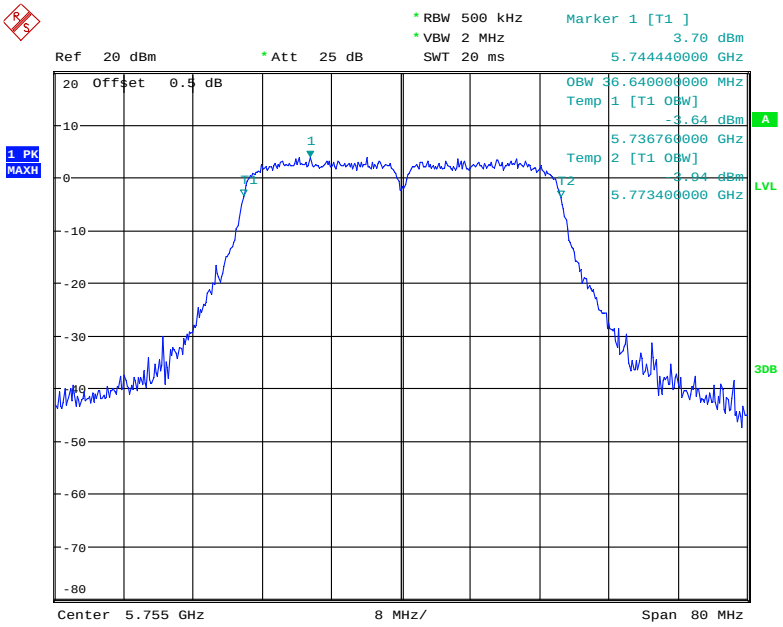
Date: 30.SEP.2020 11:26:56

802.11n ht20 High Channel



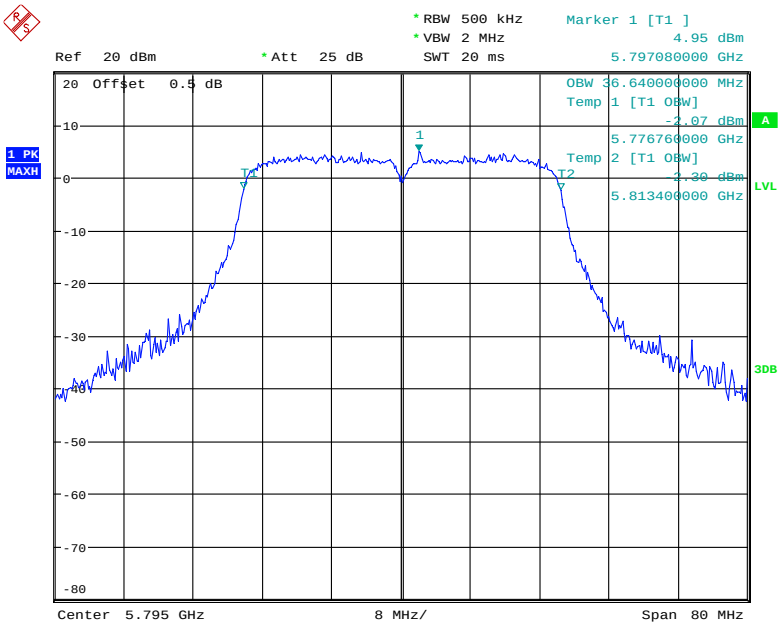
Date: 30.SEP.2020 11:28:09

802.11n ht40 Low Channel



Date: 30.SEP.2020 11:23:26

802.11n ht40 High Channel



Date: 30.SEP.2020 11:22:16

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

Applicable Standard

According to FCC §15.407(a)

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

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

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

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

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

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

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

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

According to RSS-247 Clause 6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

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

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

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

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

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

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

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

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

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

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

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

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

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Unknown	Coaxial Cable	C-SJ00-0010	C0010/02	Each time	N/A
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	Each time	N/A
Agilent	USB Wideband Power Sensor	U2021XA	MY5425009	2020-09-12	2021-09-12

*** 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:	27.8°C
Relative Humidity:	50 %
ATM Pressure:	100.2kPa
Tester:	Rita Huang
Test Date:	2020-09-30

Test Mode: Transmitting

5150-5250 MHz:

Mode	Frequency (MHz)	Conducted Average Output Power (dBm)	FCC Conducted Average Output Power Limit (dBm)	EIRP (dBm)	RSS-247 EIRP Limit (dBm)
802.11a	5180	14.82	24.00	15.32	22.42
	5200	14.68	24.00	15.18	22.42
	5240	14.55	24.00	15.05	22.44
802.11n ht20	5180	12.82	24.00	13.32	22.65
	5200	12.69	24.00	13.19	22.63
	5240	12.67	24.00	13.17	22.63
802.11n ht40	5190	12.35	24.00	12.85	23.00
	5230	12.88	24.00	13.38	23.00

5725-5850MHz:

Mode	Frequency (MHz)	Conducted Average Output Power(dBm)	Limit (dBm)
802.11a	5745	15.25	30.00
	5785	14.96	30.00
	5825	14.57	30.00
802.11n ht20	5745	12.44	30.00
	5785	12.93	30.00
	5825	12.37	30.00
802.11n ht40	5755	14.47	30.00
	5795	12.94	30.00

Note: the duty cycle factor have been calculated into the Conducted power result. Antenna gain is 0.5dBi @ 5150-5850MHz.

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

Applicable Standard

According to FCC §15.407(a)

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

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

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

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

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

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

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

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

According to RSS-247 Clause 6.2:

Frequency band 5150-5250 MHz

6.2.1.1 Power limits

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

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

Frequency band 5250-5350 MHz

6.2.2.1 Power limits

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

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

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

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

Frequency bands 5470-5600 MHz and 5650-5725 MHz

6.2.3.1 Power limits

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

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

Frequency band 5725-5850 MHz

6.2.4.1 Power limits

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

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint[3] systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

Test Procedure

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJ00-0010	C0010/02	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 Data

Environmental Conditions

Temperature:	27.8°C
Relative Humidity:	50 %
ATM Pressure:	100.2kPa
Tester:	Rita Huang
Test Date:	2020-09-30

Test Mode: Transmitting

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

5150-5250 MHz:

Mode	Frequency (MHz)	Conducted Maximum Power Spectral Density (dBm/MHz)		EIRP Power Spectral Density (dBm/MHz)	
		Result	FCC Limit	Result	RSS-247 Limit
802.11a	5180	4.48	11.00	4.98	10.00
	5200	4.49	11.00	4.99	10.00
	5240	4.52	11.00	5.02	10.00
802.11n ht20	5180	2.08	11.00	2.58	10.00
	5200	2.22	11.00	2.72	10.00
	5240	2.27	11.00	2.77	10.00
802.11n ht40	5190	-1.02	11.00	-0.52	10.00
	5230	0.10	11.00	0.6	10.00

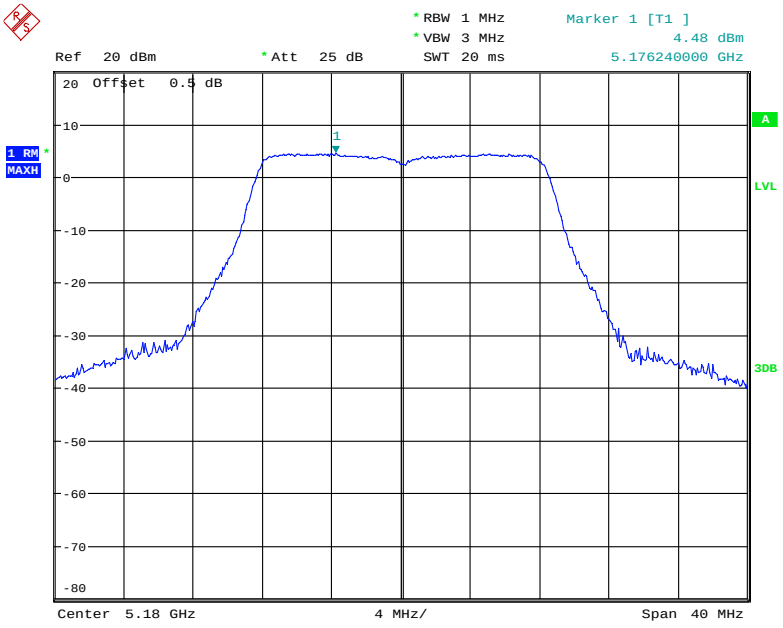
5725-5850MHz:

Mode	Frequency (MHz)	Reading (dBm/300kHz)	Maximum Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)
802.11a	5745	0.14	2.36	30
	5785	0.53	2.75	30
	5825	0.29	2.51	30
802.11n ht20	5745	-2.30	-0.08	30
	5785	-0.89	1.33	30
	5825	-1.44	0.78	30
802.11n ht40	5755	-4.61	-2.39	30
	5795	-3.40	-1.18	30

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.
Method SA-3 in KDB 789033 D02 General UNII Test Procedures New Rules v02r01was used for PSD test.

5150-5250MHz:

802.11a Low Channel



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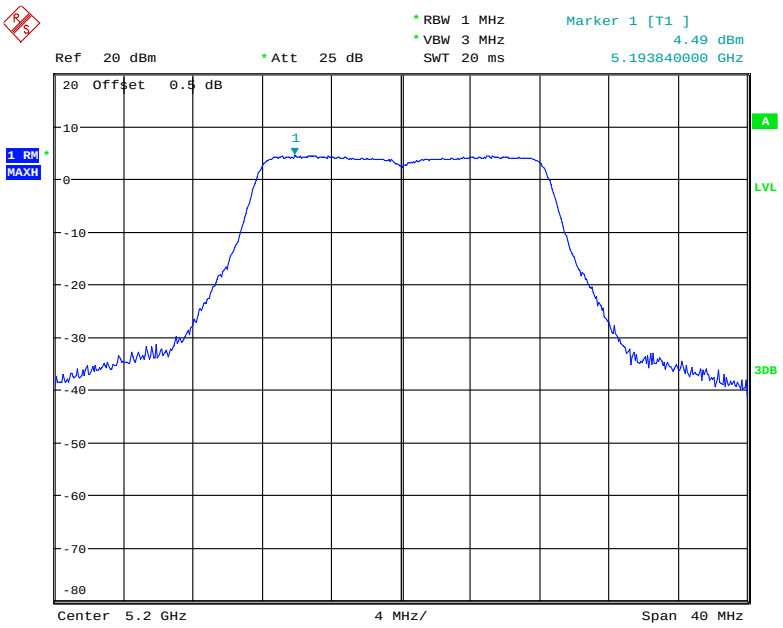
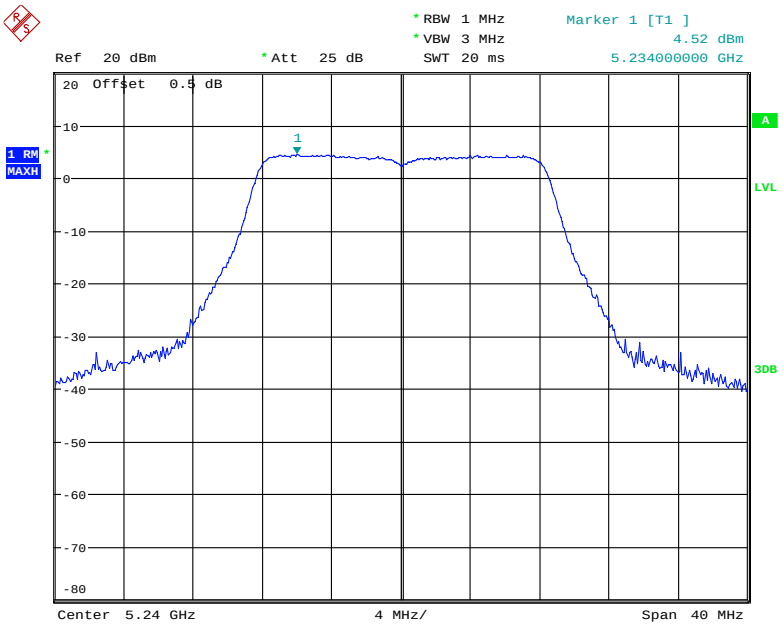
802.11a Middle Channel



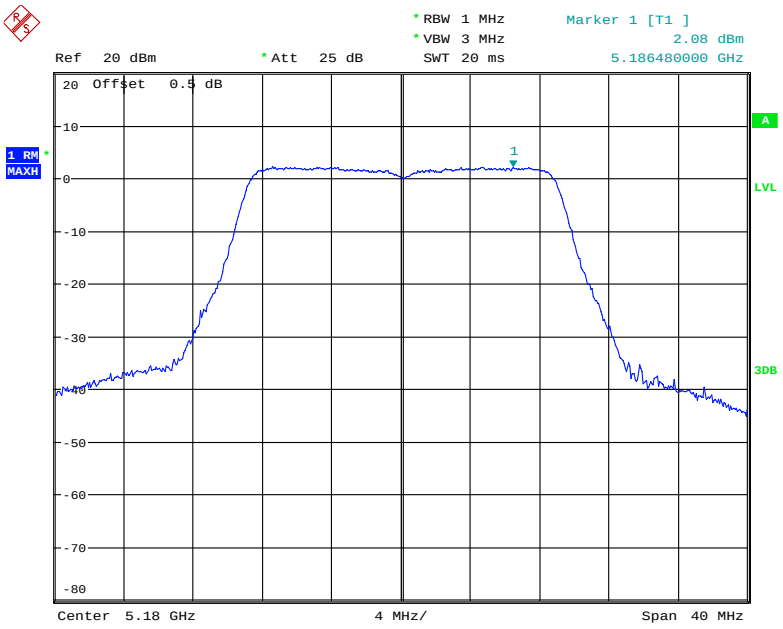
Date: 30.SEP.2020 11:06:16

802.11a High Channel



Date: 30.SEP.2020 11:11:01

802.11n ht20 Low Channel



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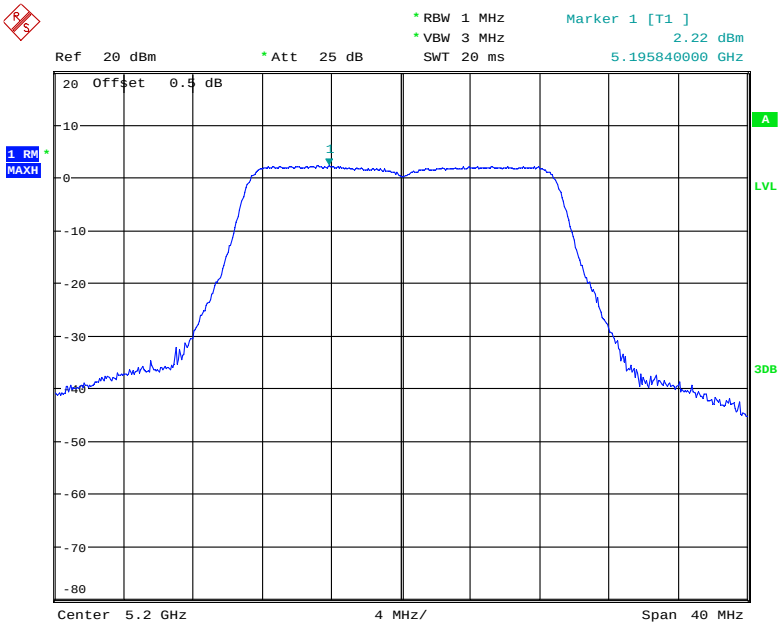
802.11n ht20 Middle Channel



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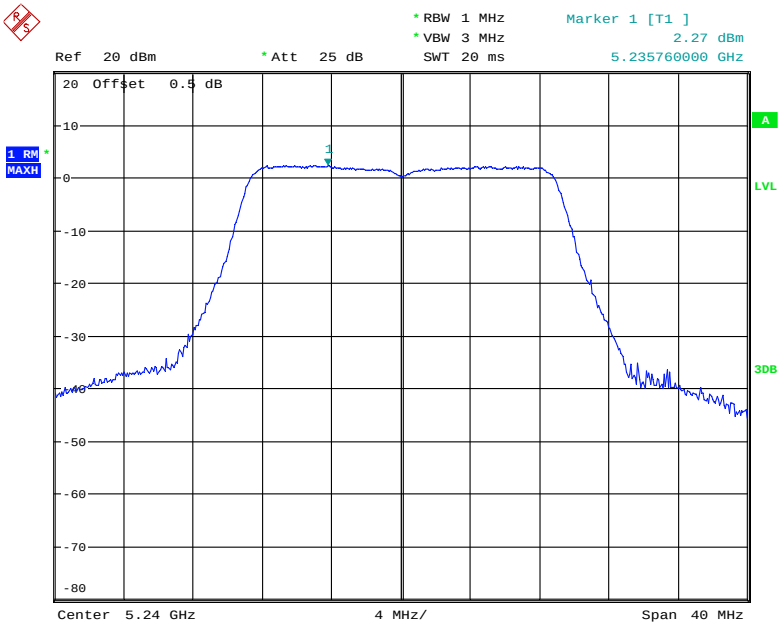
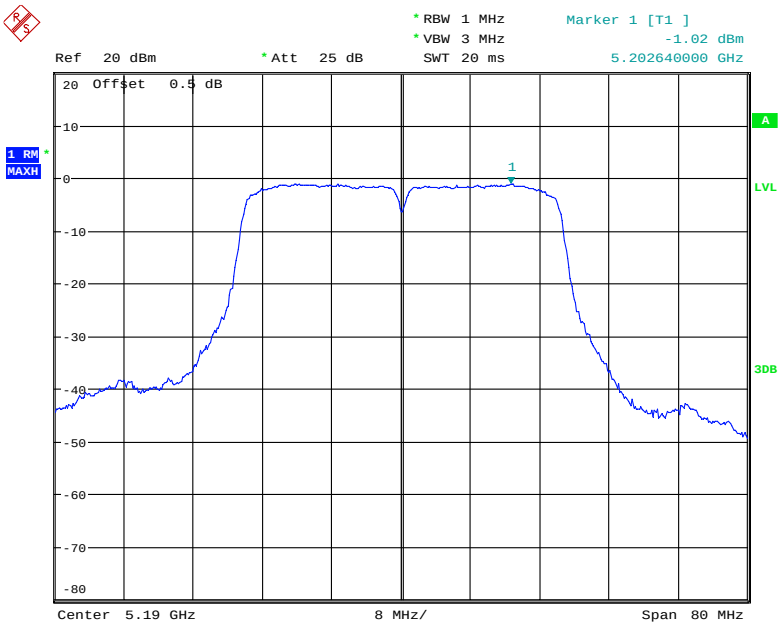
802.11n ht20 High Channel



Date: 30.SEP.2020 11:12:09

802.11n ht40 Low Channel



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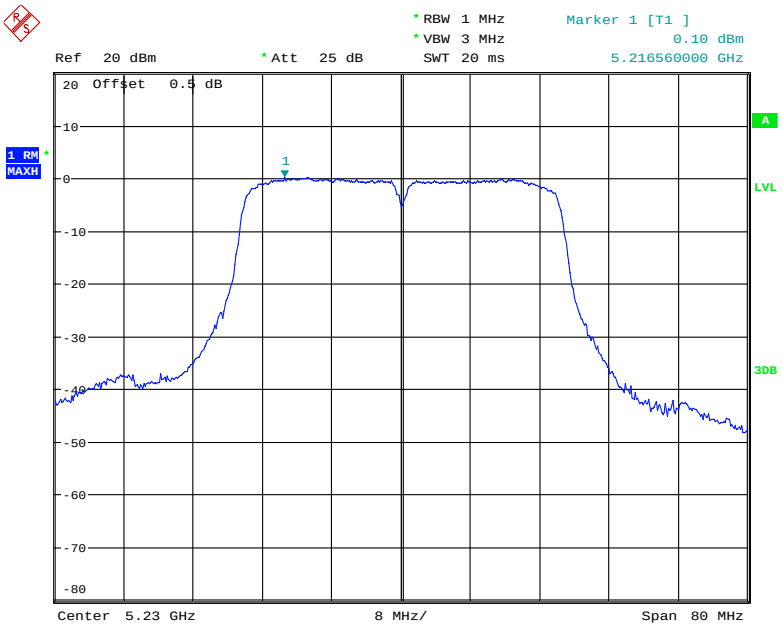
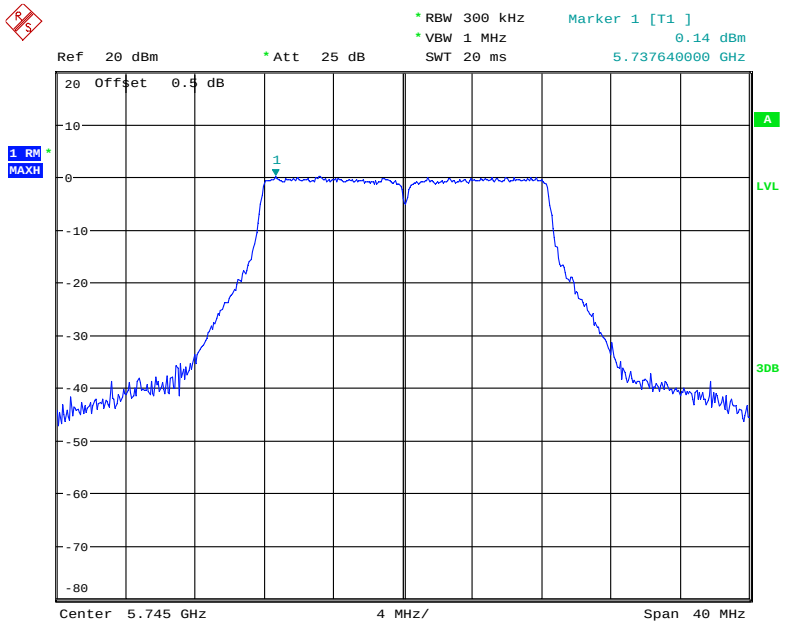
802.11n ht40 High Channel



Date: 30.SEP.2020 11:19:24

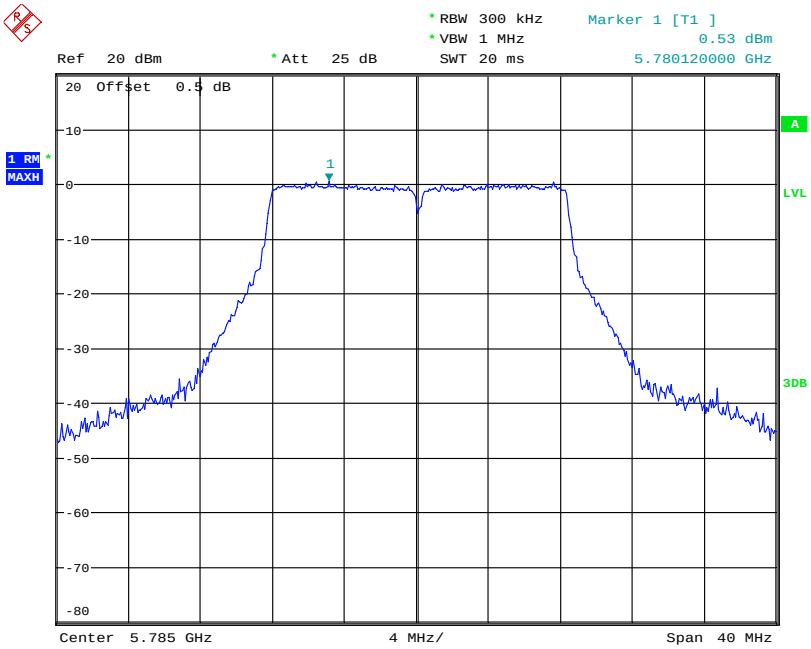
5725-5850MHz

802.11a Low Channel



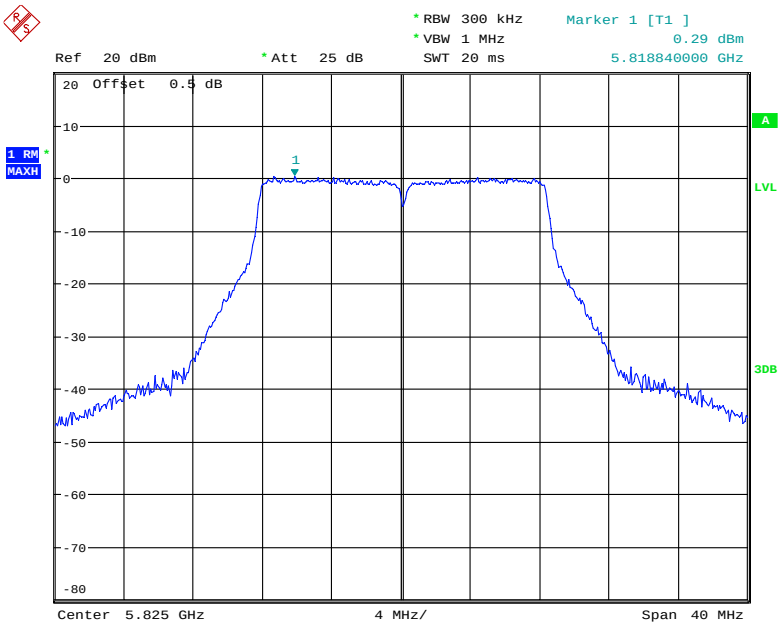
Date: 30.SEP.2020 11:30:35

802.11a Middle Channel



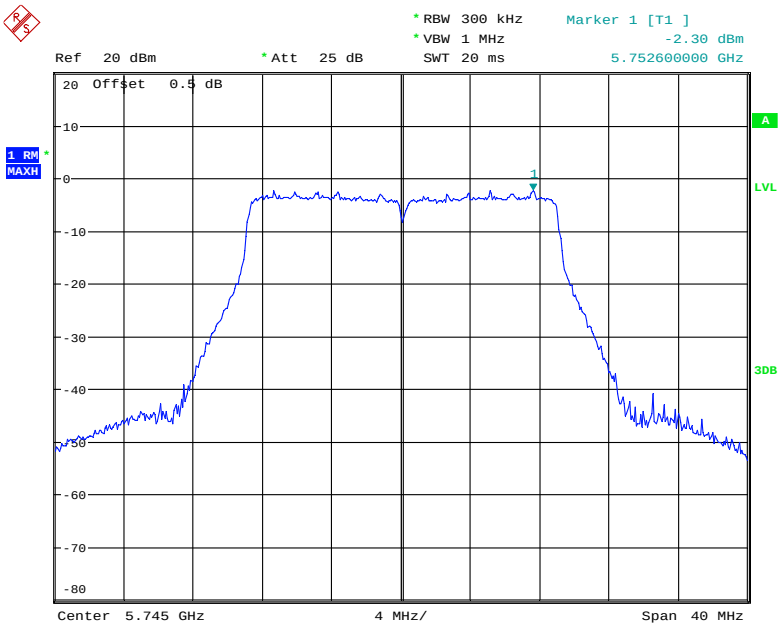
Date: 30.SEP.2020 11:33:00

802.11a High Channel



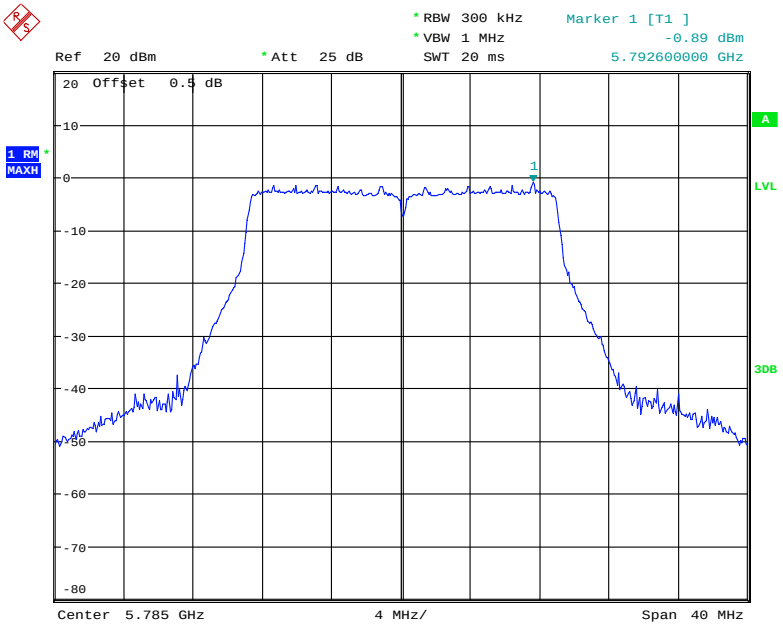
Date: 30.SEP.2020 11:31:51

802.11n ht20 Low Channel



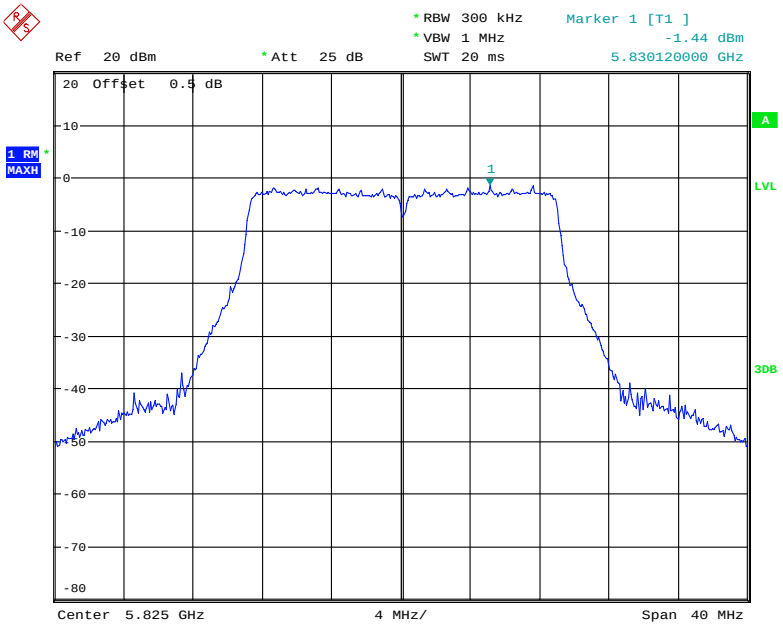
Date: 30.SEP.2020 11:29:27

802.11n ht20 Middle Channel



Date: 30.SEP.2020 11:27:09

802.11n ht20 High Channel



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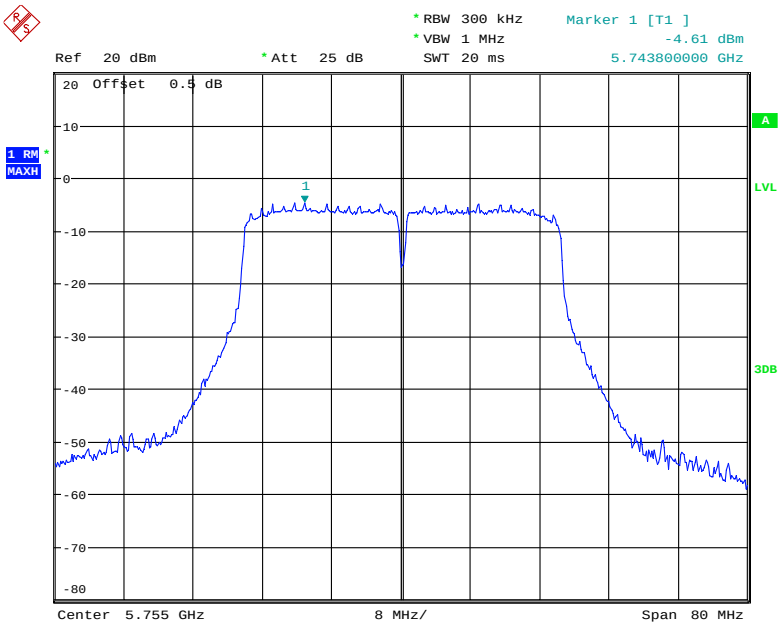
802.11n ht40 Low Channel



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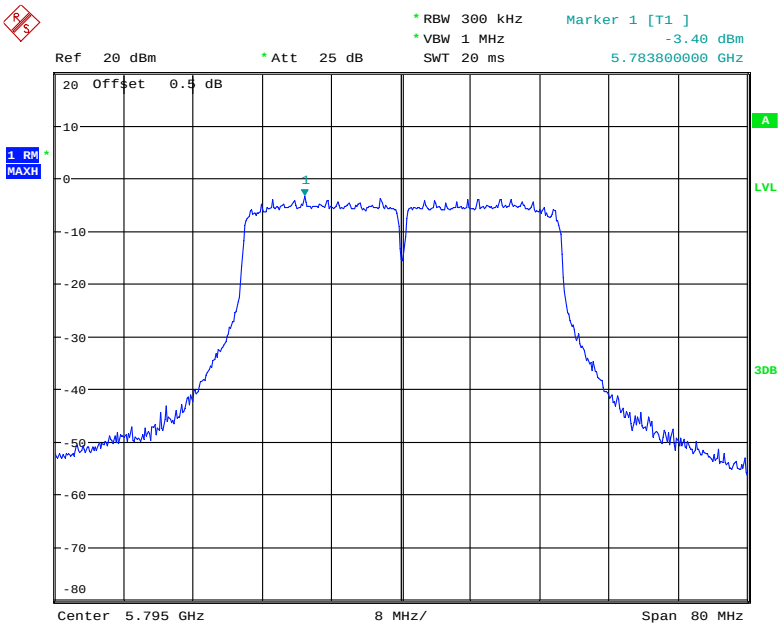
802.11n ht40 High Channel



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