

FCC PART 15.407

TEST REPORT

For

Wallys Communications Technologies Co.,Ltd

Room 2723, Le Jia building, Jia Rui Xiang No.8, Suzhou Industrial Park, Suzhou, P.R 215000 China

FCC ID: 2AG7VDR900VX

Report Type: Original Report	Product Type: Dual Band 11AC wireless Module
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Report Number: <u>RKSA191022001-00B</u>	
Report Date: <u>2019-11-18</u>	
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FINAL

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Wallys Communications Technologies Co.,Ltd
Test Model	DR900VX
Series Model	DR900VX-4.9,DR600VX,DR600VX-4.9,DR900VX-MX,DR600VX-MX
Model Difference	Model name
Product Type:	Dual Band 11AC wireless Module
Power Supply:	DC 3.3V
RF Function:	2.4GHz; 5GHz
Operating Band/Frequency:	2.4GHz: 2412MHz ~ 2462MHz 5GHz: 4940~4990MHz、 5150~5250MHz、 5725~ 5850MHz
Channel Number:	2.4GHz: 11 5GHz: 4940~4990MHz: 7 5150~5250MHz: 7 5725~ 5850MHz: 8
Channel Separation:	2.4GHz: 5 MHz 5GHz: 4940~4990MHz: 5 MHz 5150~5250MHz/5725~ 5850MHz: 802.11a/802.11ac20/802.11n-HT20 :20 MHz, 802.11ac40/802.11n-HT40: 40 MHz, 802.11ac80:80 MHz

*All measurement and test data in this report was gathered from production sample serial number: 20191022001. (Assigned by the BACL). The EUT supplied by the applicant was received on 2019-10-22.

Objective

This type approval report is prepared on behalf of *Wallys Communications Technologies Co.,Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communication Commissions' rules.

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

Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS and Part 90 TNB submissions with FCC ID: 2AG7VDR900VX.

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.

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

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19 dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0°C
Humidity		6%

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01), the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

For **5150~5250 MHz** band, test channel list is as below,

802.11a/ac20/n20 mode Channel 36, 40, 48 were tested.

802.11ac40/n40 mode Channel 38, 46 were tested.

802.11ac80 mode Channel 42 was tested.

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

For **5725~5850 MHz** band,

802.11a/ac20/n20 mode Channel 149, 157, 165 were tested.

802.11ac40/n40 mode Channel 151, 159 were tested.

802.11ac80 mode Channel 155 was tested.

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

For Conducted Test:

802.11a: each transmit chain was tested

802.11ac: each transmit chain was tested

802.11n: each transmit chain was tested

For Radiated Test:

For 802.11a: SISO for each transmit chain

For 802.11ac: MIMO for three transmit chains

For 802.11n: MIMO for three transmit chains

EUT Exercise Software

RF test tool: Cart.exe

The worst case was performed under:

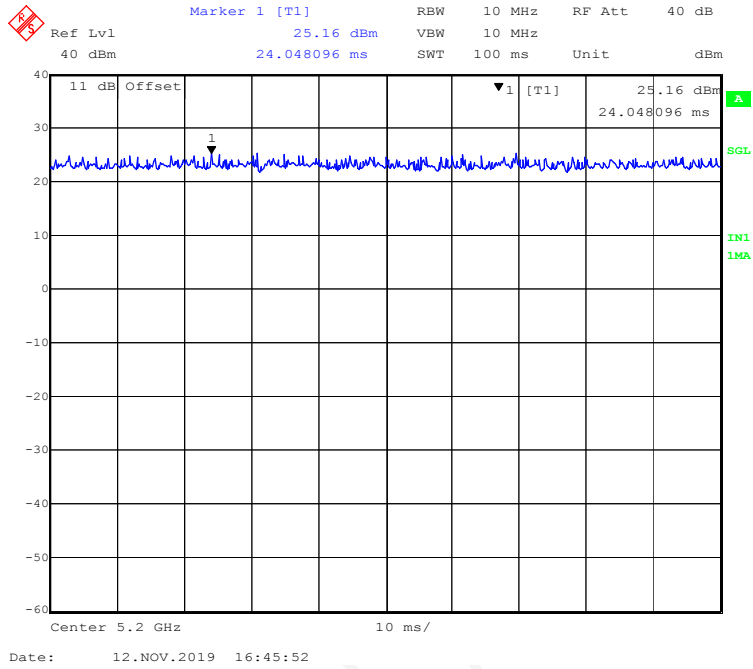
Mode	Data rate	Power Setting					
		5150-5250 Band			5725-5850 Band		
		ANT 1	ANT 2	ANT 3	ANT 1	ANT 2	ANT 3
802.11a	6 Mbps	18	18	18	18	18	18
802.11ac20	MCS0	17	17	17	17	17	17
802.11n-HT20	MCS0	17	17	17	17	17	17
802.11ac40	MCS0	13	13	13	13	13	13
802.11n-HT40	MCS0	13	13	13	13	13	13
802.11ac80	MCS0	11	11	11	11	11	11

Duty Cycle:

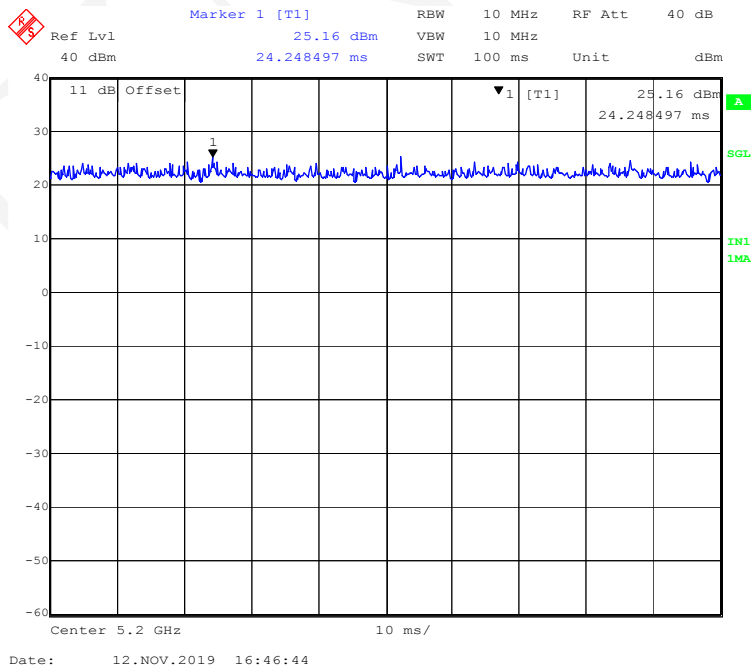
ANT 1:

5150MHz-5250MHz Band:

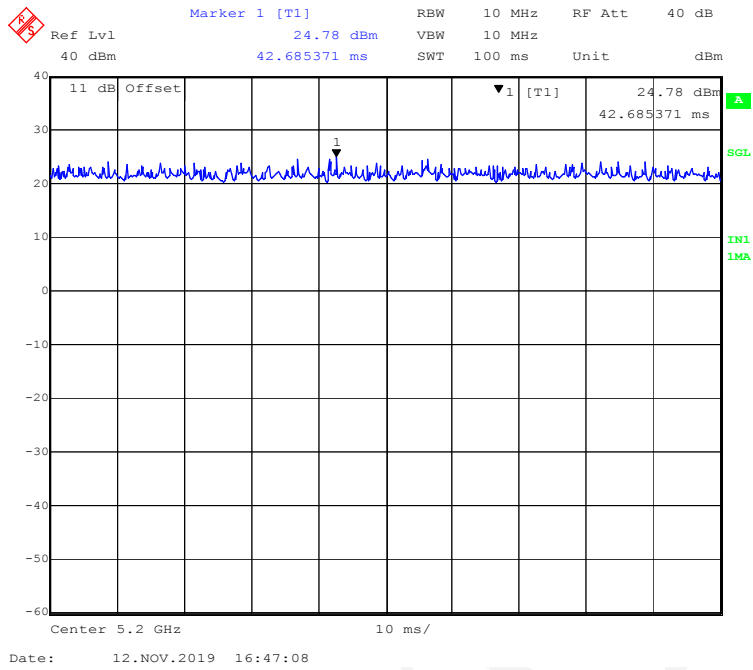
802.11a mode



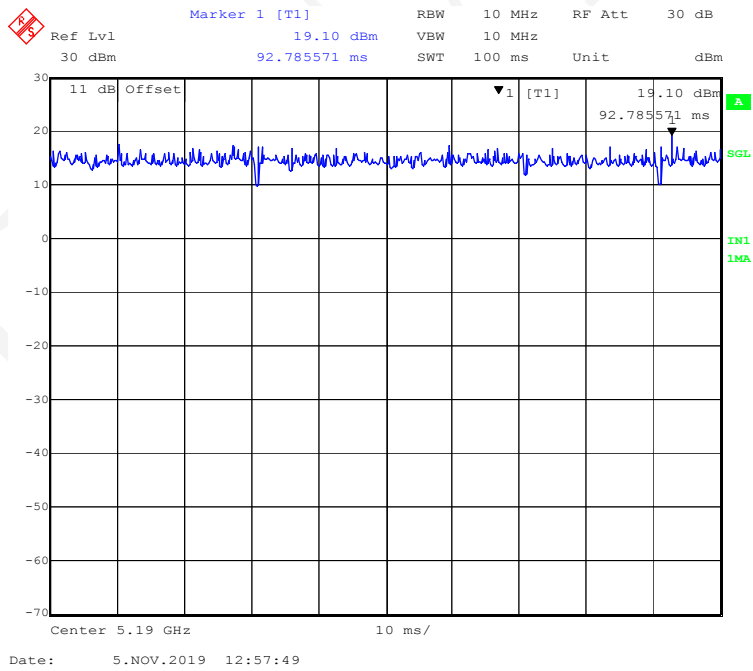
802.11ac20 mode



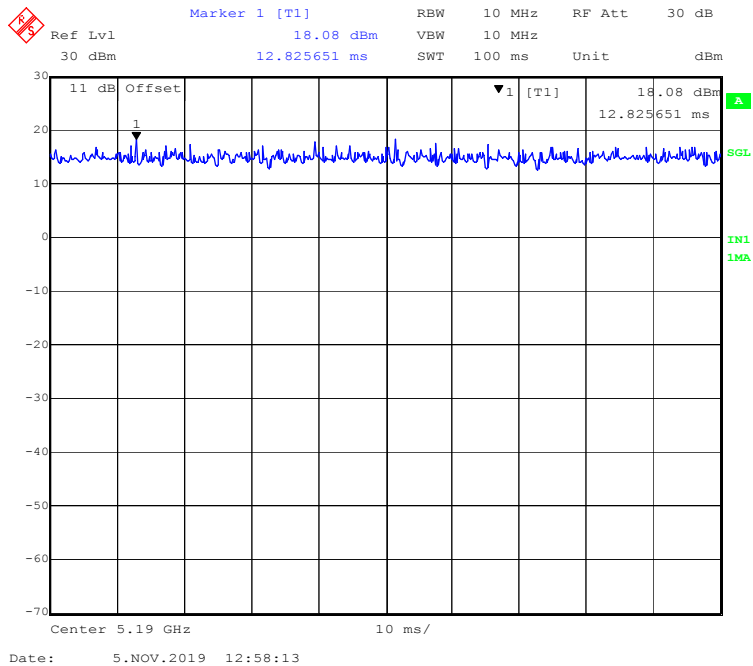
802.11n-HT20 mode



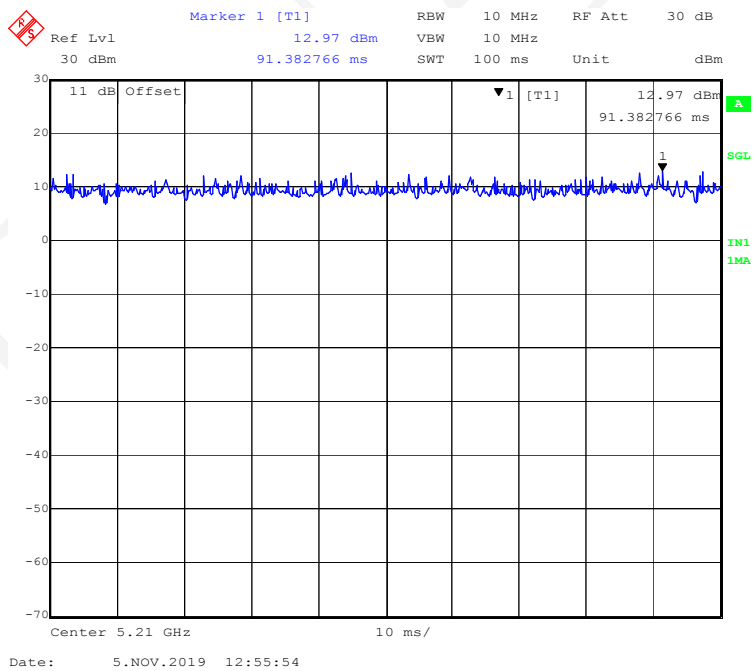
802.11ac40 mode



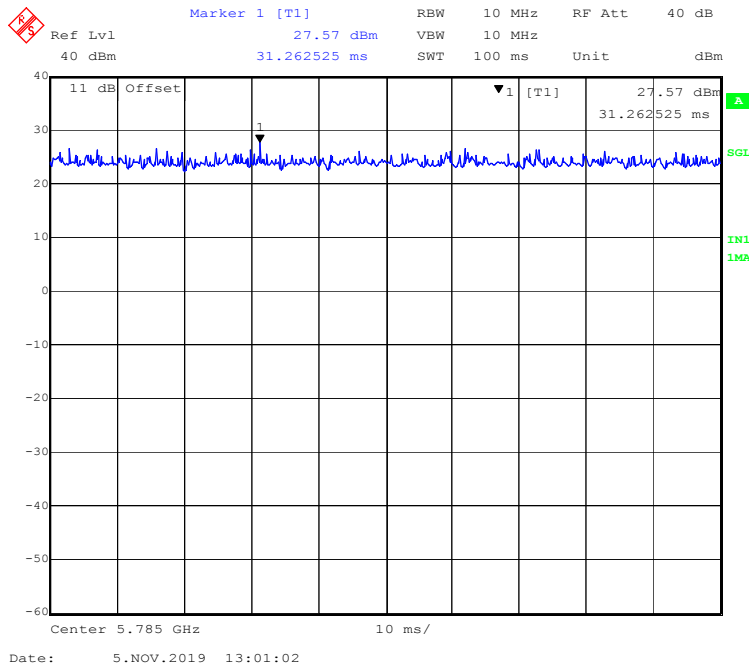
802.11n-HT40 mode



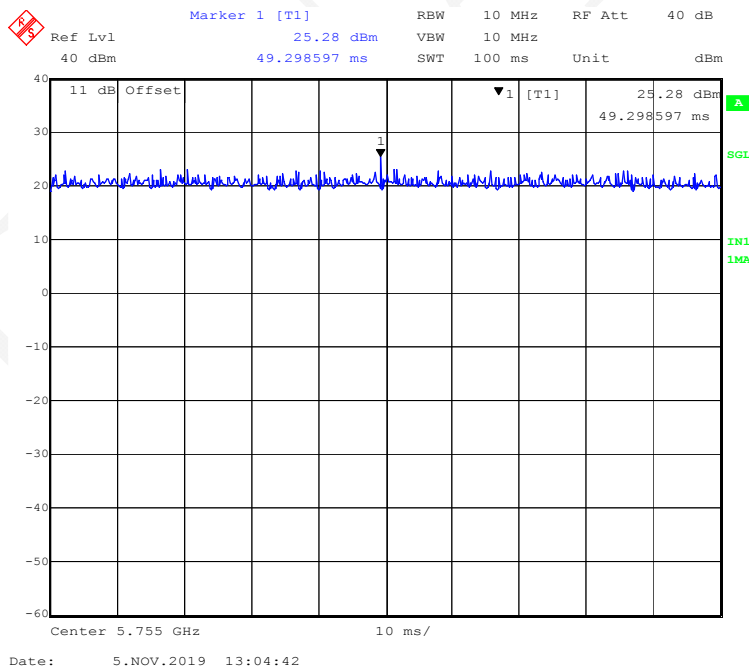
802.11ac80 mode



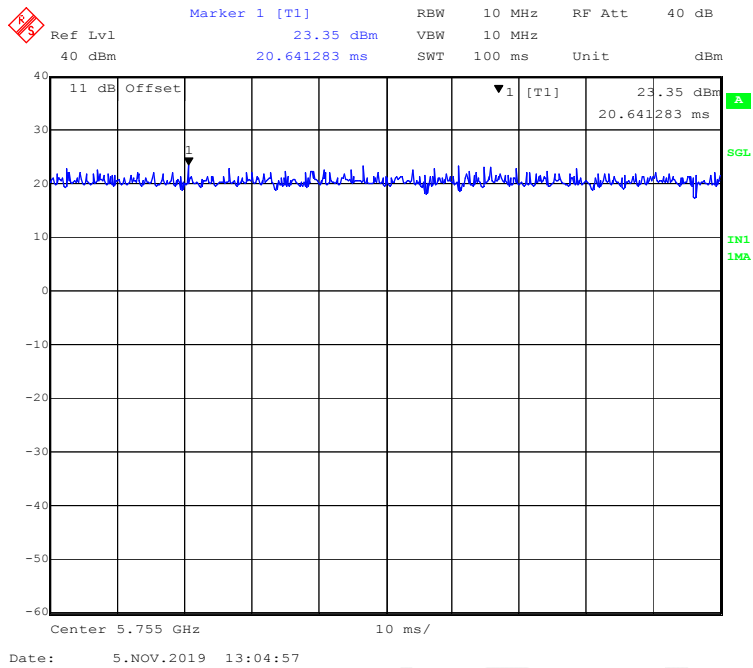
802.11n-HT20 mode



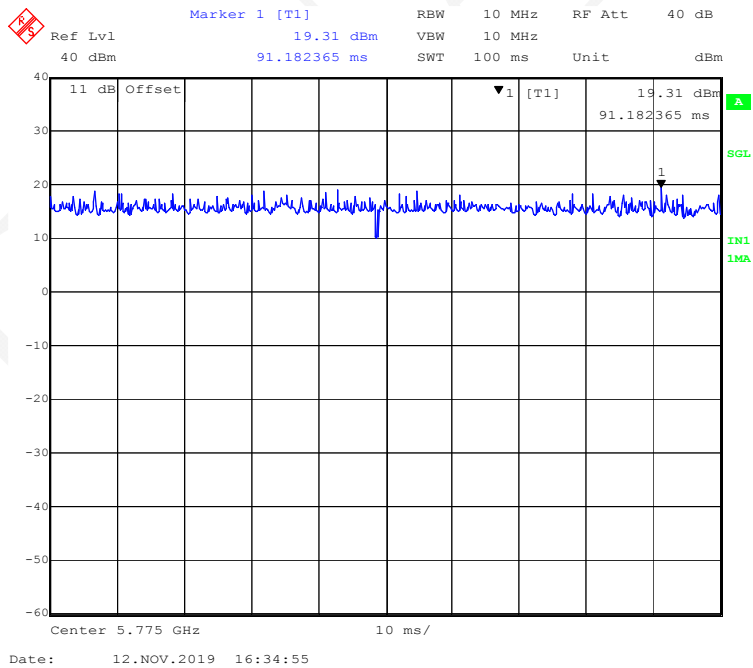
802.11ac40 mode



802.11n-HT40 mode

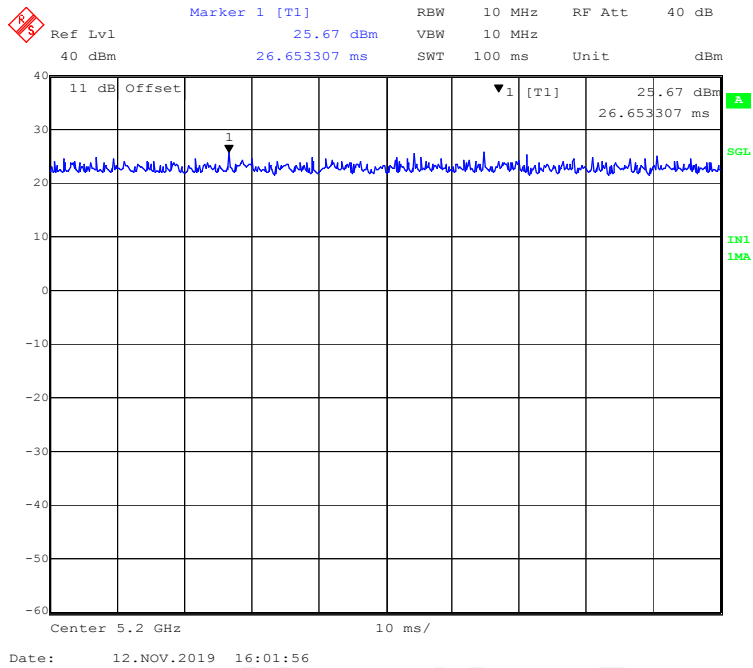


802.11ac80 mode

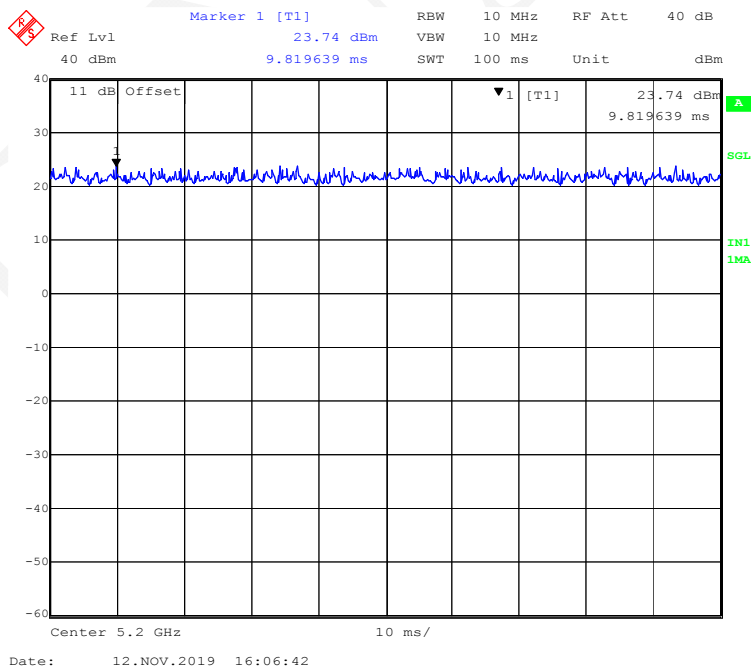


ANT 2:
5150MHz-5250MHz Band:

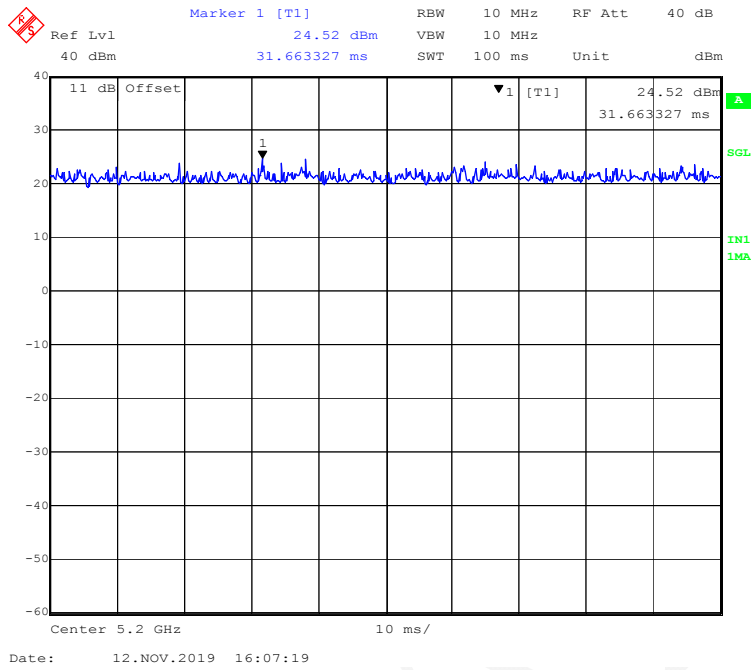
802.11a mode



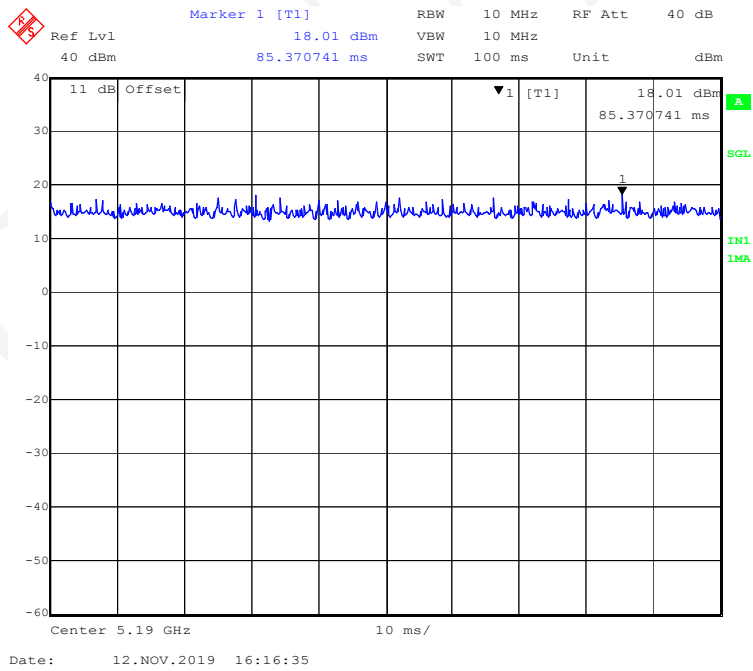
802.11ac20 mode



802.11n-HT20 mode

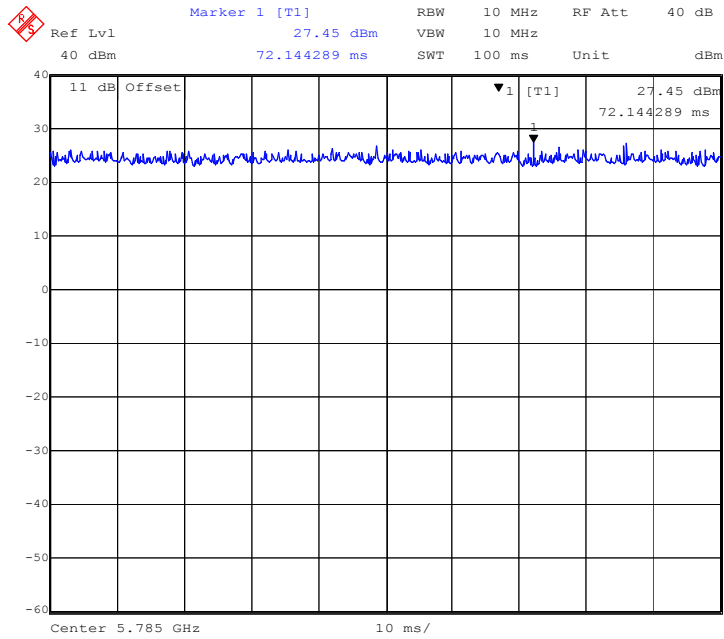


802.11ac40 mode



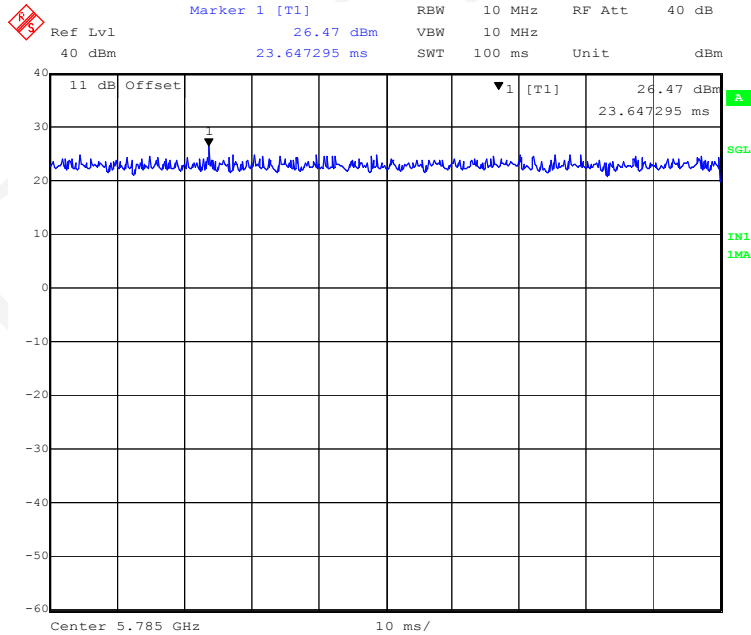
5725MHz-5850MHz Band:

802.11a mode



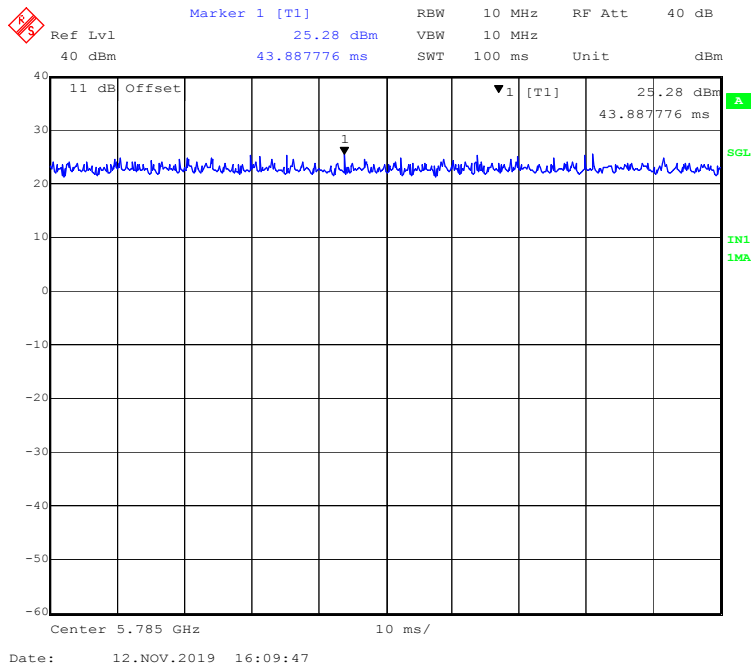
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802.11ac20 mode

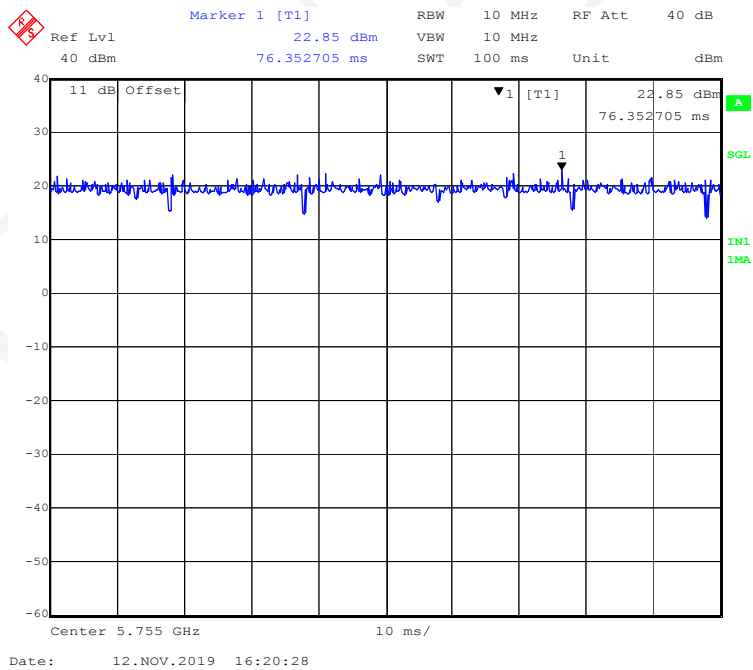


Date: 12.NOV.2019 16:09:27

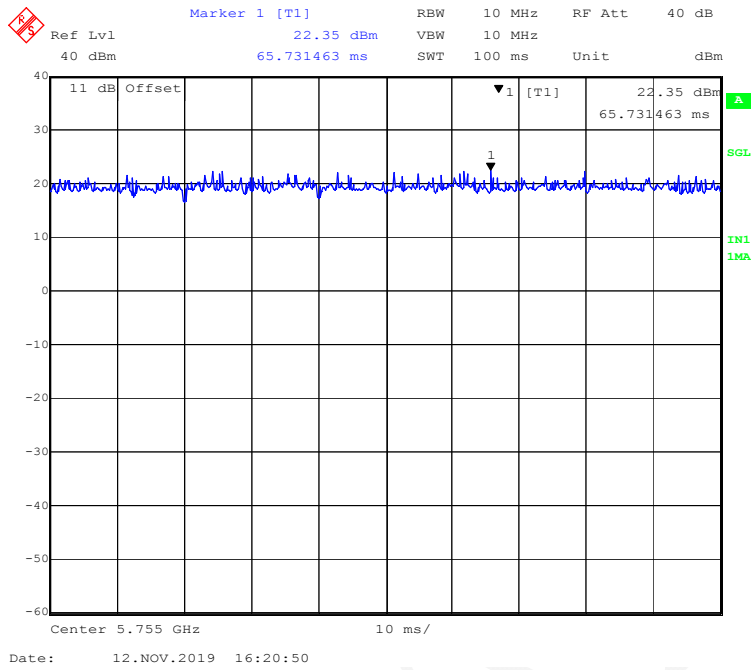
802.11n-HT20 mode



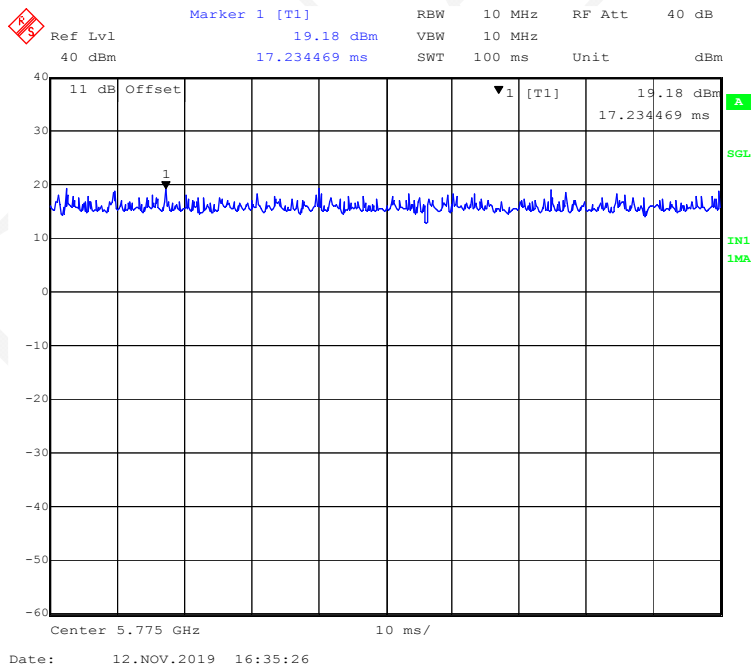
802.11ac40 mode



802.11n-HT40 mode

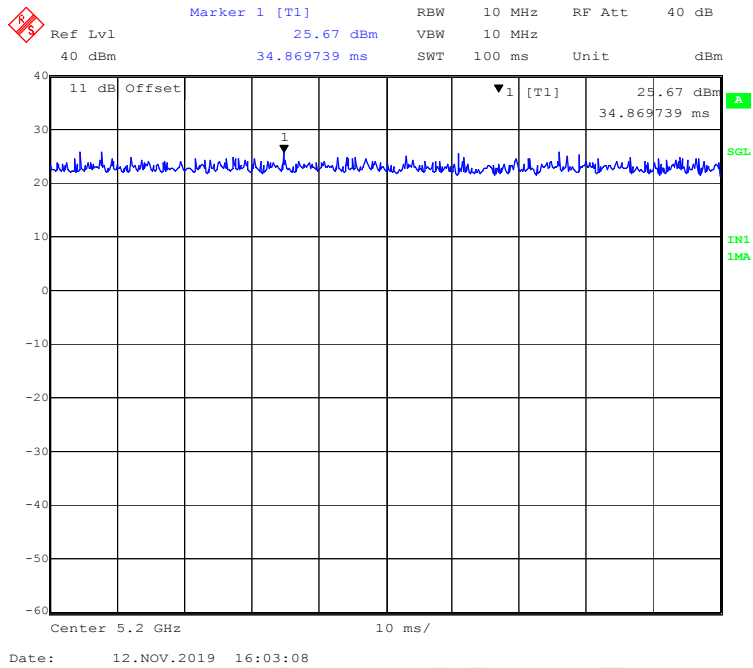


802.11ac80 mode

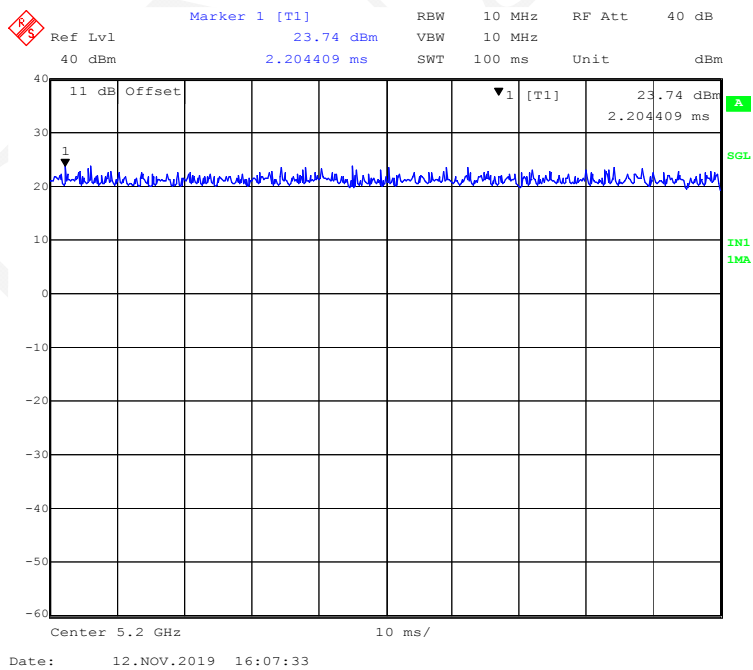


ANT 3:
5150MHz-5250MHz Band:

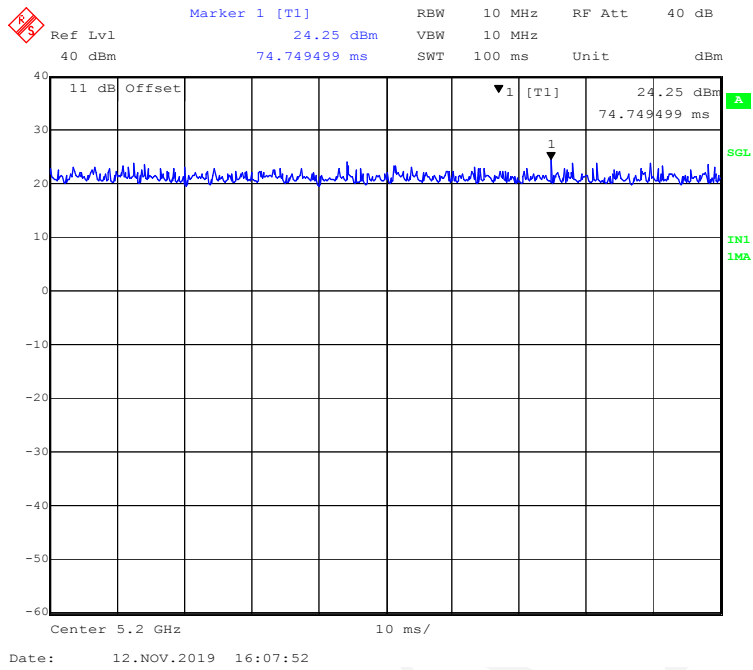
802.11a mode



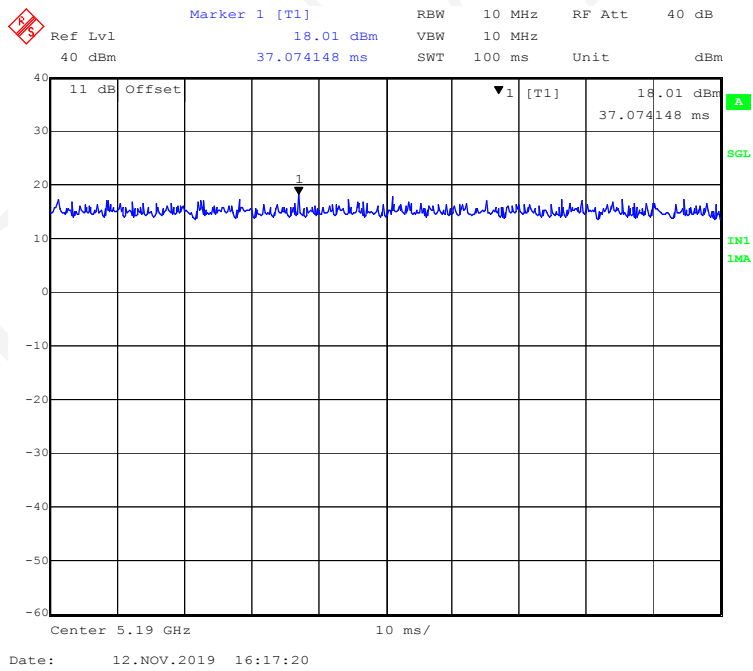
802.11ac20 mode



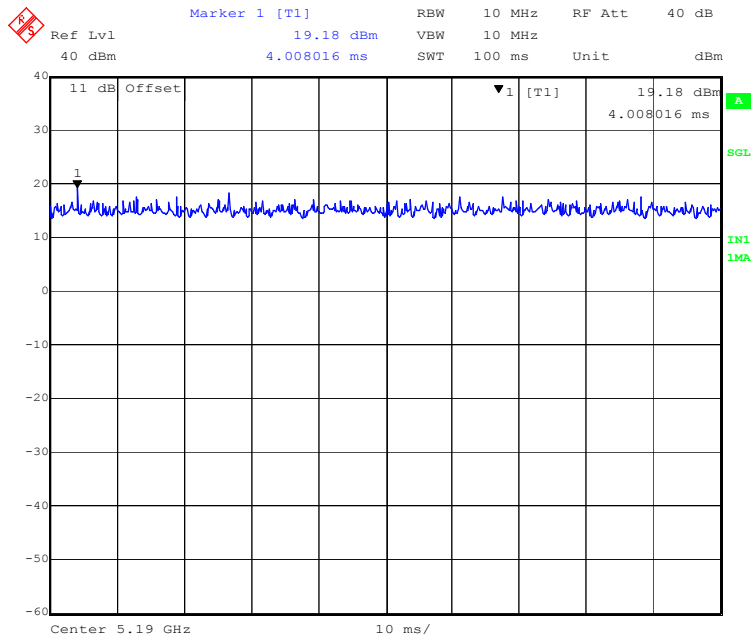
802.11n-HT20 mode



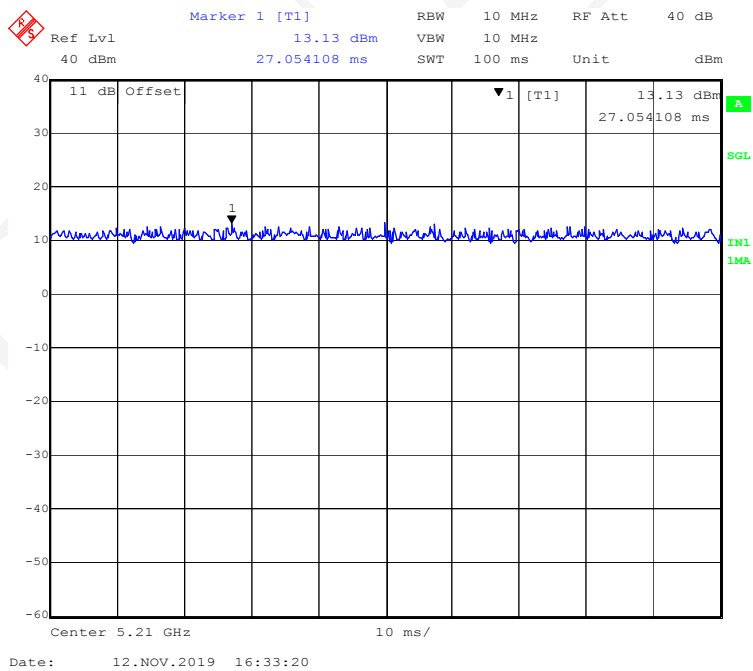
802.11ac40 mode



802.11n-HT40 mode

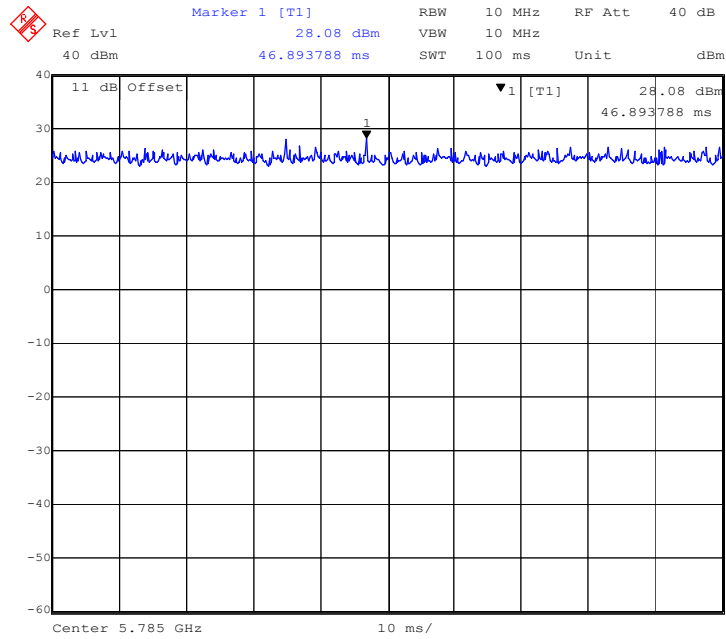


802.11ac80 mode



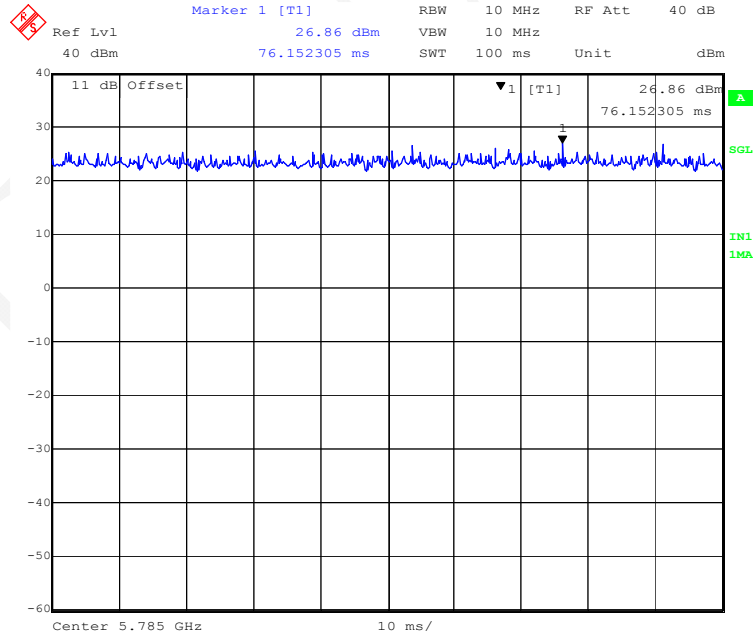
5725MHz-5850MHz Band:

802.11a mode



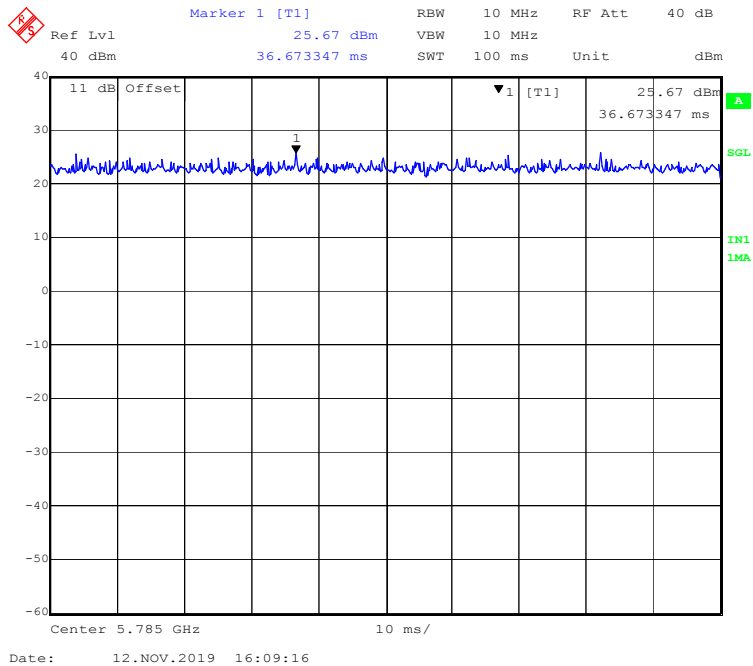
Date: 12.NOV.2019 16:04:09

802.11ac20 mode

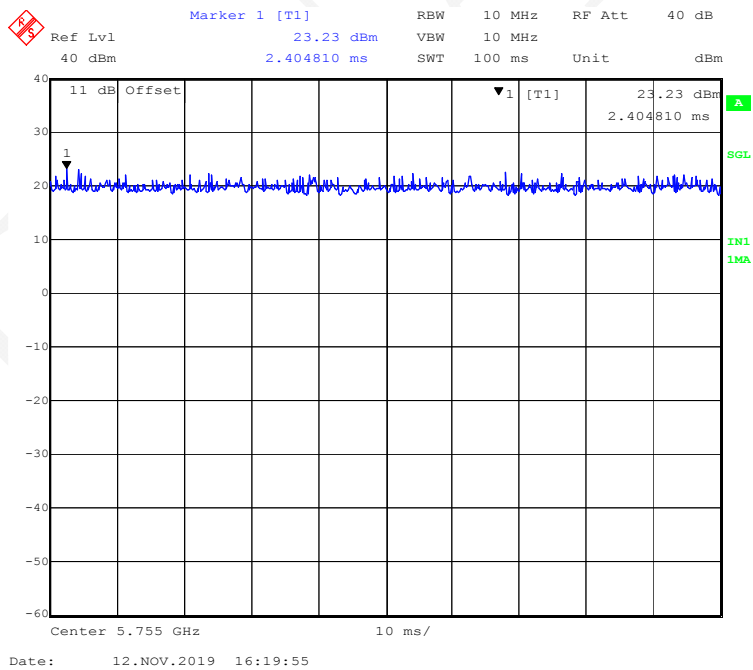


Date: 12.NOV.2019 16:08:59

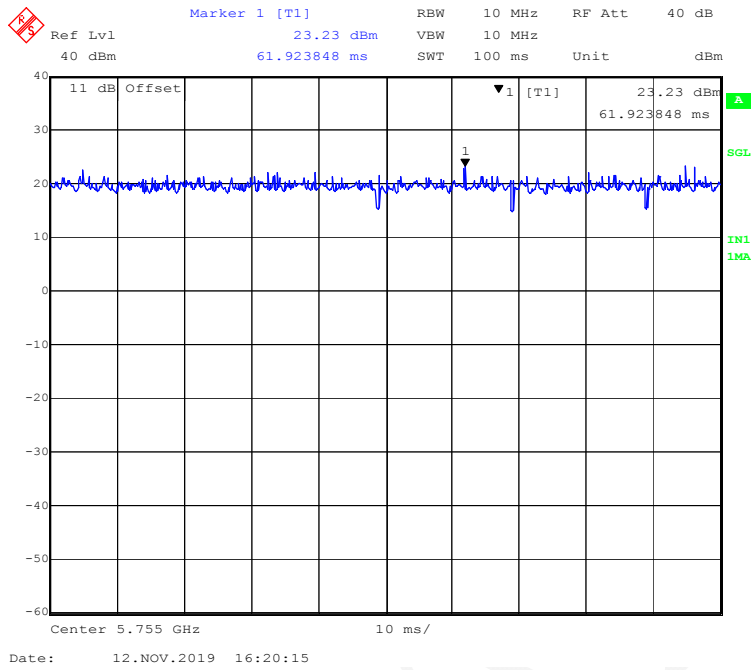
802.11n-HT20 mode



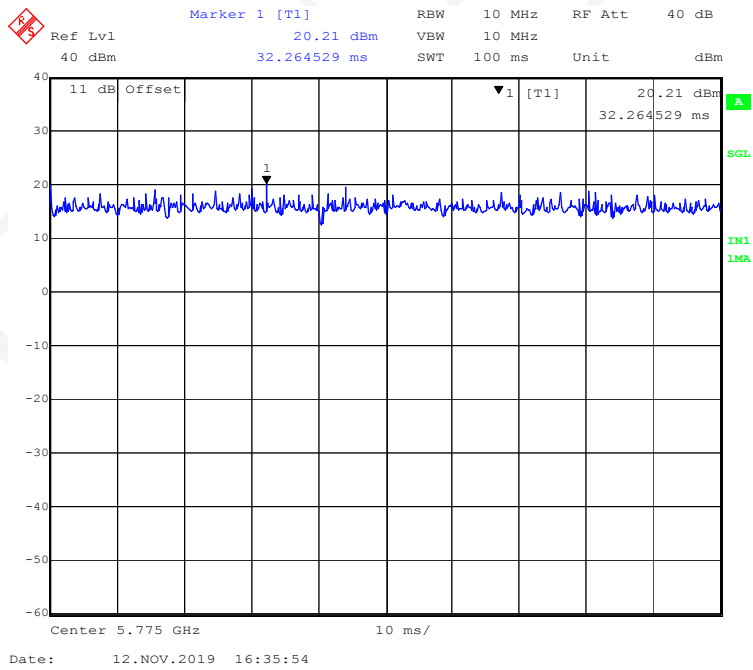
802.11ac40 mode



802.11n-HT40 mode



802.11ac80 mode



Frequency Range (MHz)	Mode	Duty Cycle (%)	T (ms)	1/T (kHz)	10log(1/x)
5150-5250	802.11a	100	/	/	0
	802.11ac20	100	/	/	0
	802.11n-HT20	100	/	/	0
	802.11ac40	100	/	/	0
	802.11n-HT40	100	/	/	0
	802.11ac80	100	/	/	0
5725-5850	802.11a	100	/	/	0
	802.11ac20	100	/	/	0
	802.11n-HT20	100	/	/	0
	802.11ac40	100	/	/	0
	802.11n-HT40	100	/	/	0
	802.11ac80	100	/	/	0

Note: "x" means duty cycle.

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

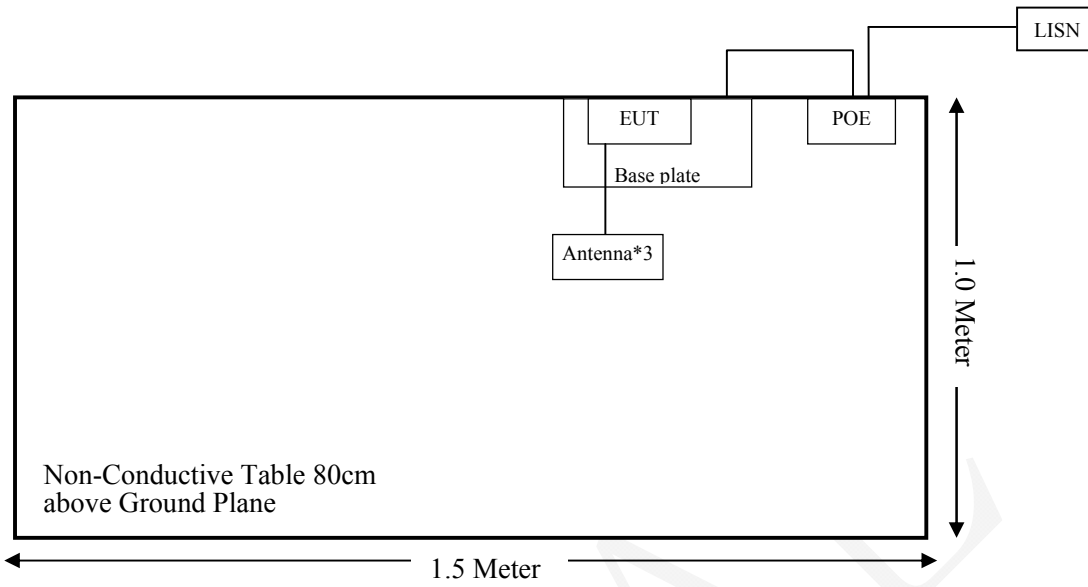
Manufacturer	Description	Model	Serial Number
Wallys	Base plate	DR344-NAS_Ver_MP3A	/
Wallys	POE	GRT-POE15-240100	/
Wallys	Antenna*3	/	/

External I/O Cable

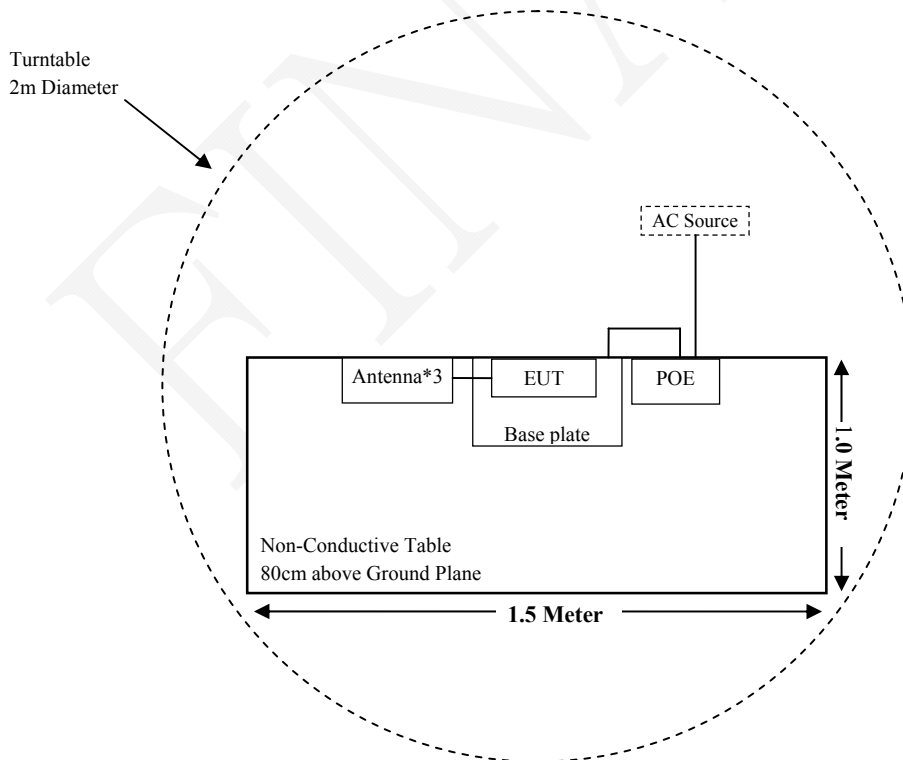
Cable Description	Length (m)	From Port	To
RJ45 Cable	1.0	Base plate	POE
Antenna Cable*3	0.3	EUT	Antenna

Block Diagram of Test Setup

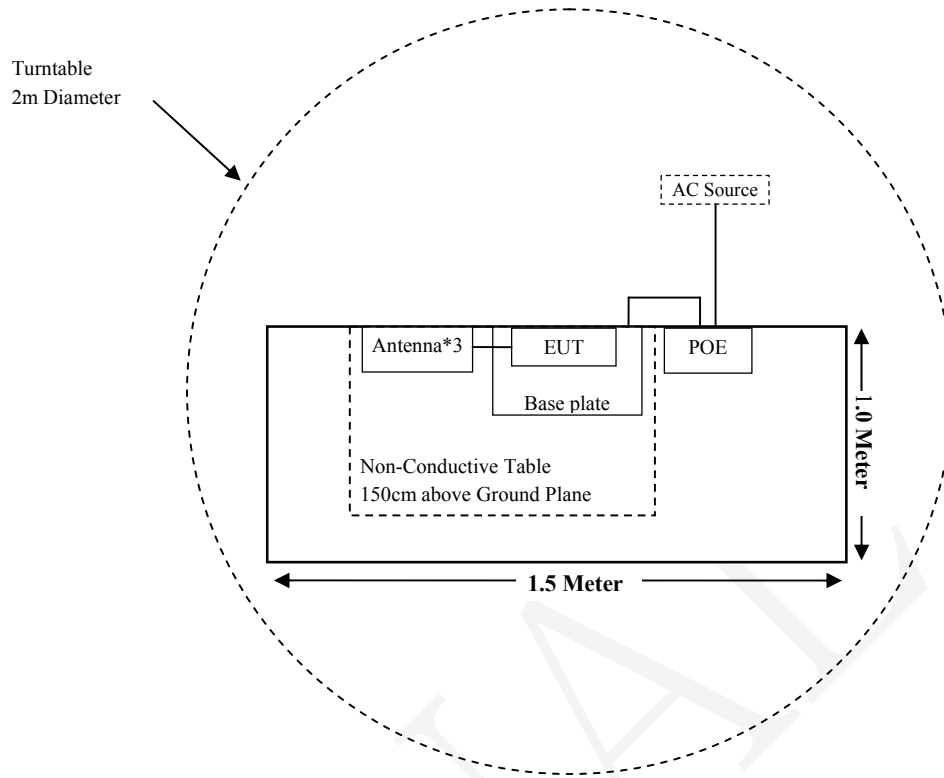
For Conducted Emissions:



For Radiated Emissions(Below 1GHz):



For Radiated Emissions(Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 & §15.407(b) (6)	AC Power Line Conducted Emissions	Compliant
§ 15.205 & §15.209 & §15.407(b) (1), (2), (3),(6),(7)	Undesirable Emission & Restricted Bands	Compliant
§§15.407(a) &§15.407(e)	Emission Bandwidth	Compliant
§15.407(a) (1) (2) (3)	Conducted Transmitter Output Power	Compliant
§15.407(a) (1) (2) (3)	Power Spectral Density	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber 1#)					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2019-07-11	2020-07-10
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2016-12-26	2019-12-25
Sonoma Instrument	Pre-amplifier	310N	171205	2019-08-14	2020-08-13
Audix	Test Software	e3	V9	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2019-08-15	2020-08-14
Radiated Emission Test (Chamber 2#)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2019-08-27	2020-08-26
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2017-07-15	2020-07-14
ETS-LINDGREN	Horn Antenna	3116	00084159	2016-12-12	2019-12-11
A.H.Systems, inc	Amplifier	2641-1	491	2019-02-20	2020-02-19
Mini-Circuits	Amplifier	ZVA-183W-S+	220701818	2019-05-20	2020-05-19
SELECTOR	Amplifier	EM18G40G	060726	2019-03-22	2020-03-21
MICRO-TRONICS	Band Reject Filter	BRC50703	G094	2019-08-05	2020-08-04
MICRO-TRONICS	Band Reject Filter	BRC50705	G085	2019-08-05	2020-08-04
Narda	Attenuator	10dB	010	2019-08-15	2020-08-14
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-6	006	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-11	011	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2019-08-15	2020-08-14
RF Conducted Test					
Rohde & Schwarz	EMI Test Receiver	ESIB26	100146	2018-11-30	2019-11-29
Agilent	Power Meter	N1912A	MY5000492	2018-11-18	2019-11-17
Agilent	Power Sensor	N1921A	MY54210024	2018-11-18	2019-11-17
Narda	Attenuator	10dB	010	2019-08-15	2020-08-14
BACL	Temperature & Humidity Chamber	BTH-150	30023	2018-12-20	2019-12-19
Wallys	RF Cable	Wallys C01	C01	Each Time	/
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2019-07-11	2020-07-10
Rohde & Schwarz	LISN	ENV216	3560655016	2018-11-30	2019-11-29
Audix	Test Software	e3	V9	--	--
Narda	Attenuator/6dB	10690812-2	26850-6	2019-01-10	2020-01-09
MICRO-COAX	Coaxial Cable	Cable-15	015	2019-08-15	2020-08-14

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

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

Applicable Standard

According to subpart 1.1310, 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

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

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

Calculated Formulary:

Predication of MPE limit at a given distance

S = PG/4πR² = 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);

Calculated Data:**For worst case:**

Mode	Frequency Range (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
802.11b	2412~2462	2	1.58	25.00	316.23	20	0.0994	1.0
802.11g		2	1.58	23.50	223.87	20	0.0704	1.0
802.11n-HT20		2	1.58	28.00	630.96	20	0.1983	1.0
802.11n-HT40	2422~2452	2	1.58	24.50	281.84	20	0.0886	1.0
802.11a	5150~5250	2	1.58	17.50	56.23	20	0.0177	1.0
	5725~5850	2	1.58	20.50	112.20	20	0.0354	1.0
802.11ac20	5150~5250	2	1.58	21.00	125.89	20	0.0396	1.0
	5725~5850	2	1.58	24.00	251.19	20	0.0789	1.0
802.11n-HT20	5150~5250	2	1.58	21.00	125.89	20	0.0396	1.0
	5725~5850	2	1.58	24.00	251.19	20	0.0789	1.0
802.11ac40	5150~5250	2	1.58	17.00	50.12	20	0.0158	1.0
	5725~5850	2	1.58	23.00	199.53	20	0.0627	1.0
802.11n-HT40	5150~5250	2	1.58	17.00	50.12	20	0.0158	1.0
	5725~5850	2	1.58	23.00	199.53	20	0.0627	1.0
802.11ac80	5150~5250	2	1.58	15.00	31.62	20	0.0099	1.0
	5725~5850	2	1.58	23.00	199.53	20	0.0627	1.0
20MHz	4950-4980	2	1.58	22.50	117.83	20	0.0559	1.0

Note:

- (1) The tune-up output power was declared by the manufacturer.
- (2) 2.4G Wi-Fi ,4.9G,5G Wi-Fi can not transmit simultaneously.

Conclusion: The EUT meets exemption requirement - RF exposure evaluation greater than 20cm distance specified in § 2.1091. If the device built into a host as a portable usage, the additional RF exposure evaluation may be required as specified by§ 2.1093.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407, if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has been tested with three external antennas for 5G Wi-Fi and each antenna gain is 2 dBi with IPEX connector which use a unique type of connector to attach to the EUT, fulfill the requirement of this section. Please refer to the EUT photos.

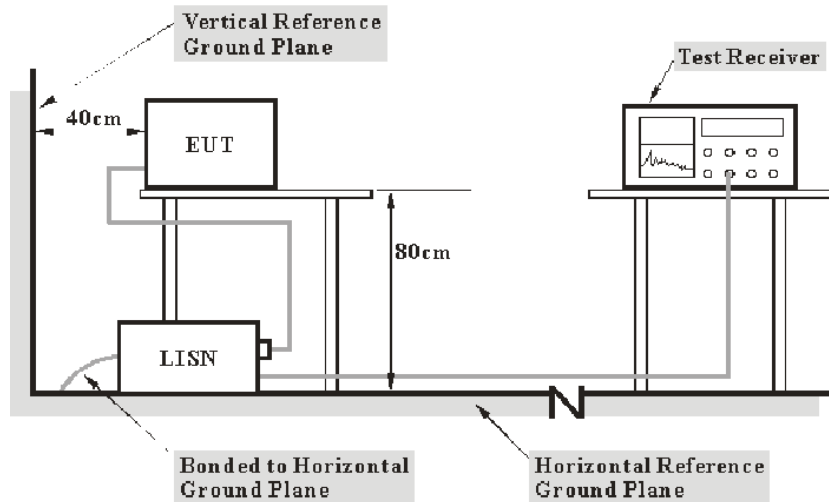
Result: Compliant.

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

Applicable Standard

FCC §15.207(a), §15.407(b) (6)

EUT Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 30 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.

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

Test Procedure

During the conducted emission test, the POE was connected to the outlet of the LISN.

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

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

Factor & Over Limit Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of 7dB means the emission is 7 dB above the limit. The equation for over oimit calculation is as follows:

Over Limit (dB) = Read level (dBμV) + Factor (dB) - Limit (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data

Environmental Conditions

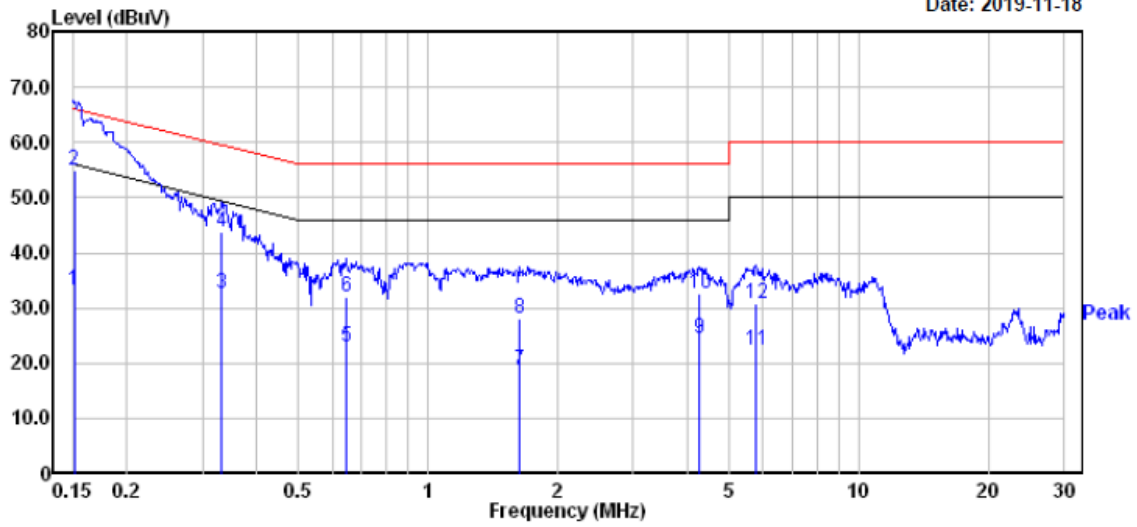
Temperature:	24.2 °C
Relative Humidity:	50 %
ATM Pressure:	101.5 kPa

The testing was performed by Carry Cai on 2019-11-18.

EUT operation mode: Transmitting in 802.11ac20 mode middle channel of 5725-5850MHz (worst case)

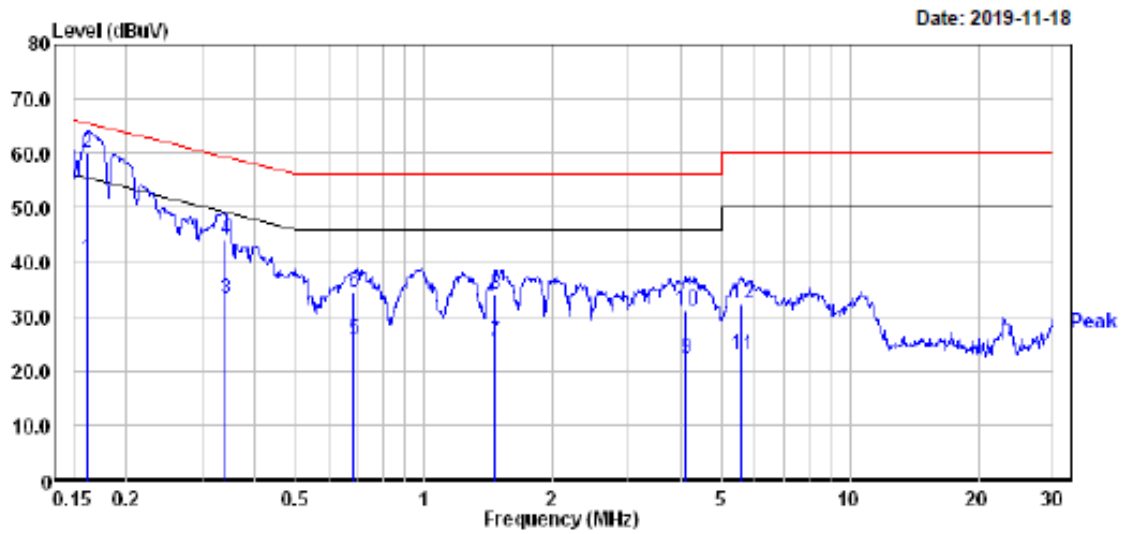
AC 120V/60 Hz, Line

Date: 2019-11-18



	Freq	Read	Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.151	13.30	19.82	33.12	55.96	-22.84	Average
2	0.151	35.10	19.82	54.92	65.96	-11.04	QP
3	0.332	12.69	19.82	32.51	49.40	-16.89	Average
4	0.332	24.09	19.82	43.91	59.40	-15.49	QP
5	0.644	3.30	19.75	23.05	46.00	-22.95	Average
6	0.644	12.10	19.75	31.85	56.00	-24.15	QP
7	1.628	-1.00	19.84	18.84	46.00	-27.16	Average
8	1.628	8.10	19.84	27.94	56.00	-28.06	QP
9	4.269	5.01	19.47	24.48	46.00	-21.52	Average
10	4.269	13.01	19.47	32.48	56.00	-23.52	QP
11	5.774	2.80	19.50	22.30	50.00	-27.70	Average
12	5.774	11.40	19.50	30.90	60.00	-29.10	QP

AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.162	20.70	19.83	40.53	55.38	-14.85	Average
2	0.162	40.30	19.83	60.13	65.38	-5.25	QP
3	0.341	13.50	19.81	33.31	49.18	-15.87	Average
4	0.341	24.20	19.81	44.01	59.18	-15.17	QP
5	0.679	6.00	19.75	25.75	46.00	-20.25	Average
6	0.679	14.80	19.75	34.55	56.00	-21.45	QP
7	1.472	5.40	19.84	25.24	46.00	-20.76	Average
8	1.472	14.40	19.84	34.24	56.00	-21.76	QP
9	4.114	2.80	19.47	22.27	46.00	-23.73	Average
10	4.114	11.70	19.47	31.17	56.00	-24.83	QP
11	5.564	3.40	19.50	22.90	50.00	-27.10	Average
12	5.564	12.80	19.50	32.30	60.00	-27.70	QP

Note:

- 1) Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
- 2) Over Limit (dB) = Read level (dBμV) + Factor (dB) - Limit (dBμV)

§15.205 & §15.209 & §15.407(B) (1), (2), (3),(6),(7) – UNDESIRABLE EMISSION & RESTRICTED BANDS

Applicable Standard

FCC §15.407 (b) (1), (2), (3), (6), (7); §15.209; §15.205;

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.

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.

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.

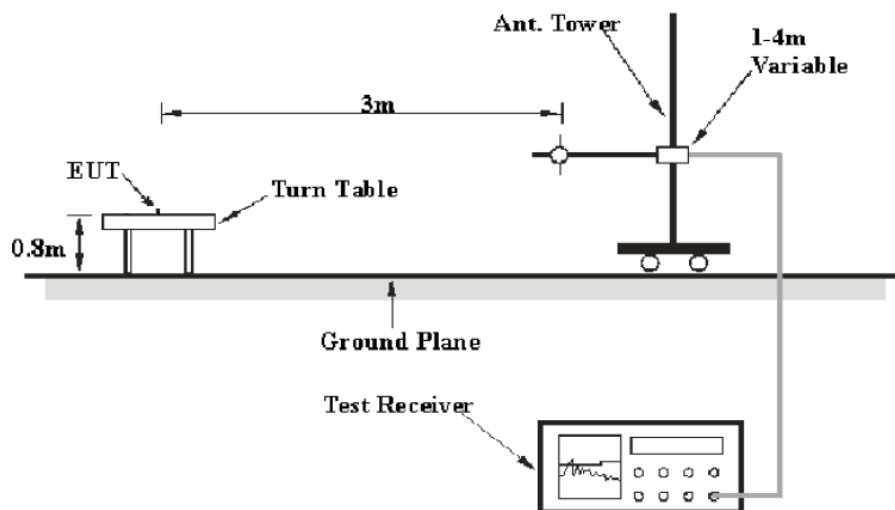
For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to 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.

As per FCC §15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000MHz shall be performed using a minimum resolution bandwidth of 1MHz.

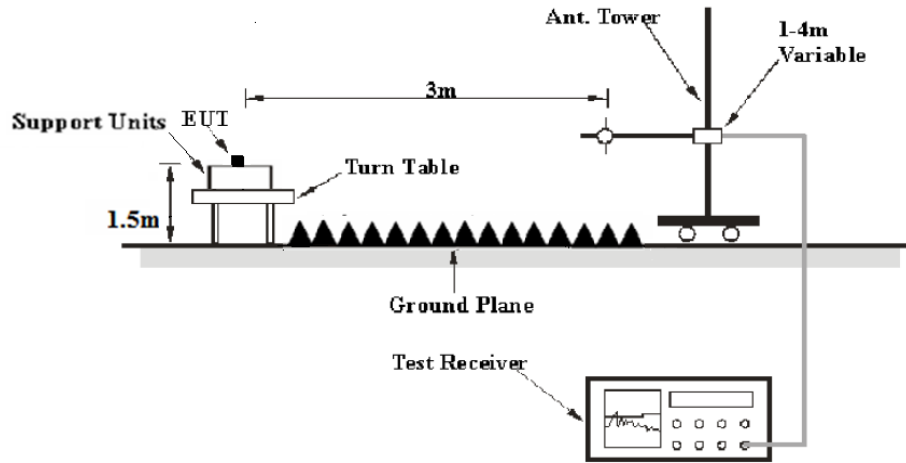
According to 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: $E [dB\mu V/m] = EIRP [dBm] + 95.2$, for $d = 3$ meters.

EUT Setup

Below 1 GHz:



Above 1GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with 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 Setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	PK
	1MHz	3 MHz	/	Ave.

Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

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

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

Factor & Over Limit Calculation – for Below 1GHz

The Factor 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:

$$\text{Factor (dB)} = \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Amplifier Gain (dB)}$$

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of 7 dB means the emission is 7 dB above the limit. The equation for over limit calculation is as follows:

$$\text{Over Limit (dB)} = \text{Read level (dB}\mu\text{V)} + \text{Factor (dB)} - \text{Limit (dB}\mu\text{V)}$$

Corrected Amplitude & Margin Calculation – for Above 1GHz

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

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

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:

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

Test Data

Environmental Conditions

Temperature:	20.2-22.3 °C
Relative Humidity:	49-51 %
ATM Pressure:	101.3-101.6 kPa

The testing was performed by Carry Cai from 2019-10-28 to 2019-11-07.

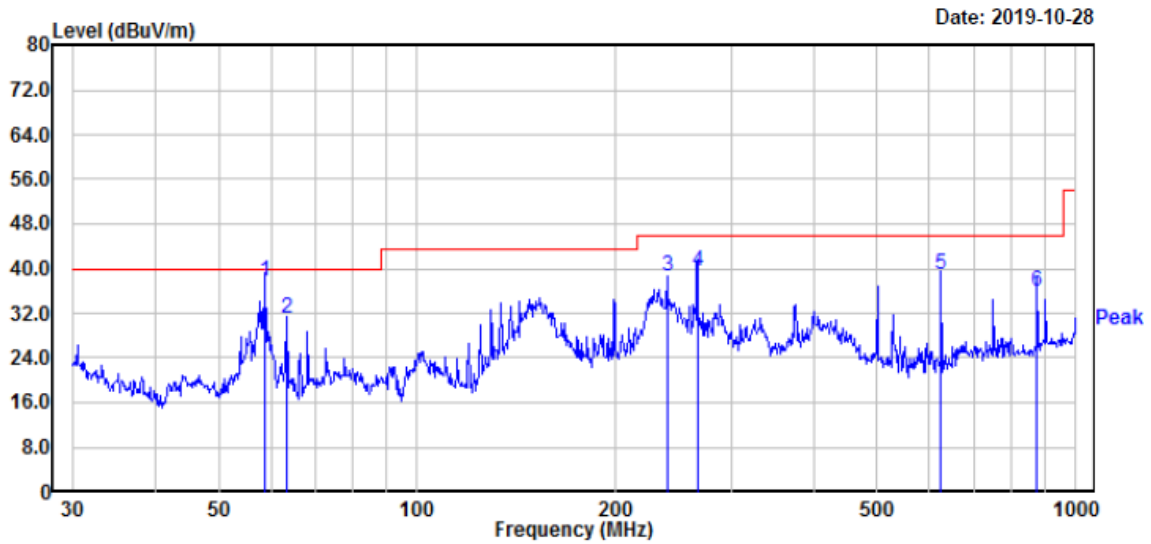
Test Mode: Transmitting

Spurious Emission Test:

30MHz-1GHz(5150-5250MHz Band):

Horizontal:

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case **802.11ac20 mode in channel 5200** in Z-axis of orientation was recorded

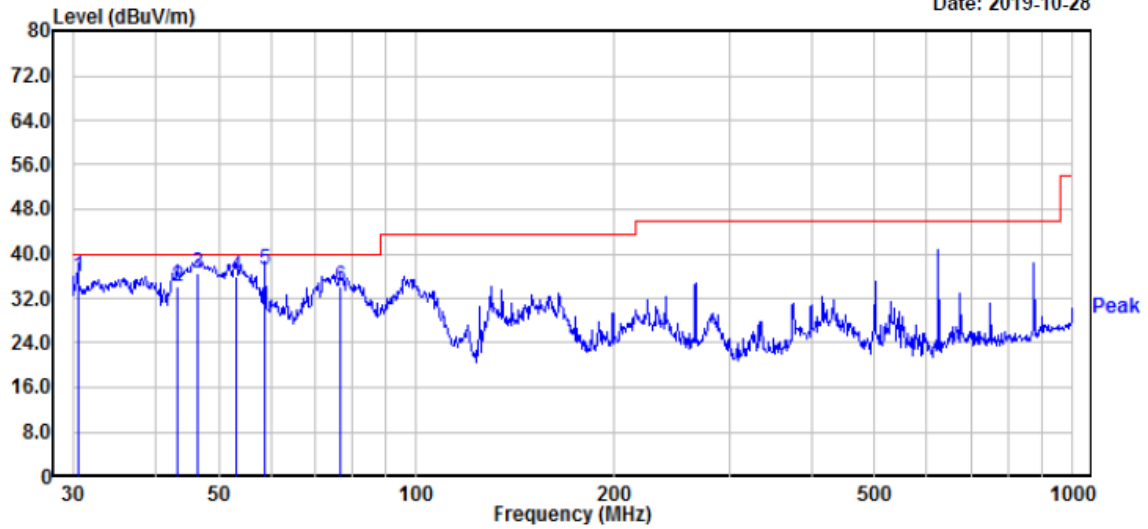


	Read Freq	Read Level	Limit Level	Over Limit	APos	TPos	Remark	Factor
	MHz	dBuV	dBuV/m	dBuV/m	dB	cm	deg	dB/m
1	58.82	55.30	37.81	40.00	-2.19	200	209 QP	-17.49
2	63.54	48.51	31.18	40.00	-8.82	200	203 QP	-17.33
3	239.99	51.50	38.76	46.00	-7.24	100	245 QP	-12.74
4	266.61	50.80	39.52	46.00	-6.48	100	257 QP	-11.28
5	625.08	42.49	38.97	46.00	-7.03	200	315 QP	-3.52
6	875.25	35.51	36.03	46.00	-9.97	100	70 QP	0.52

Vertical:

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case **802.11ac20 mode in channel 5200** in Z-axis of orientation was recorded

Date: 2019-10-28



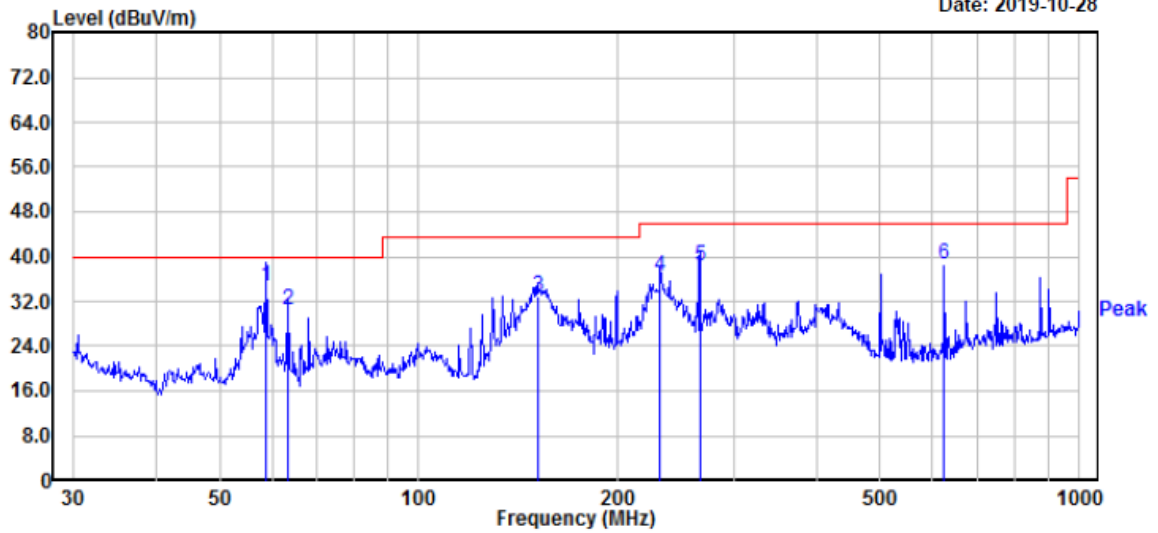
	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	APos	TPos	Remark	Factor
	MHz	dBuV	dBuV/m	dBuV/m	dB	cm	deg		dB/m
1	30.53	39.40	35.83	40.00	-4.17	100	6	QP	-3.57
2	43.20	47.21	34.00	40.00	-6.00	100	298	QP	-13.21
3	46.34	51.40	36.47	40.00	-3.53	100	317	QP	-14.93
4	53.13	53.10	35.97	40.00	-4.03	100	335	QP	-17.13
5	58.82	54.50	37.01	40.00	-2.99	200	149	QP	-17.49
6	76.51	51.30	34.23	40.00	-5.77	100	95	QP	-17.07

30MHz-1GHz(5725-5850MHz Band):

Horizontal:

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case **802.11ac20 mode in channel 5785** in Z-axis of orientation was recorded

Date: 2019-10-28

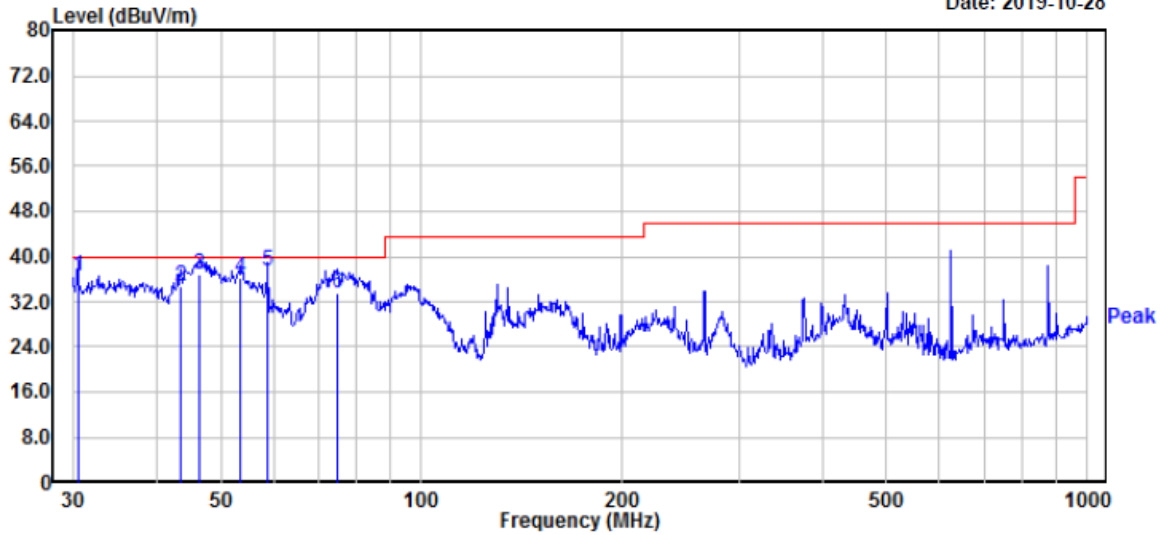


	Read Freq	Read Level	Level	Limit Line	Over Limit	APos	TPos	Remark	Factor
	MHz	dBuV	dBuV/m	dBuV/m	dB	cm	deg		dB/m
1	58.82	52.10	34.61	40.00	-5.39	200	202	QP	-17.49
2	63.54	47.71	30.38	40.00	-9.62	200	177	QP	-17.33
3	151.60	44.80	32.89	43.50	-10.61	200	239	QP	-11.91
4	232.53	49.69	36.66	46.00	-9.34	100	266	QP	-13.03
5	266.61	49.70	38.42	46.00	-7.58	100	284	QP	-11.28
6	625.08	42.19	38.67	46.00	-7.33	200	295	QP	-3.52

Vertical:

Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case **802.11ac20 mode in channel 5785** in Z-axis of orientation was recorded

Date: 2019-10-28



	Freq	Read Level	Level	Limit Line	Over Limit	APos	TPos	Remark	Factor
	MHz	dBuV	dBuV/m	dBuV/m	dB	cm	deg		dB/m
1	30.53	40.10	36.53	40.00	-3.47	100	168	QP	-3.57
2	43.51	48.21	34.83	40.00	-5.17	100	363	QP	-13.38
3	46.50	51.70	36.68	40.00	-3.32	100	343	QP	-15.02
4	53.51	53.50	36.34	40.00	-3.66	100	306	QP	-17.16
5	58.82	54.90	37.41	40.00	-2.59	100	6	QP	-17.49
6	74.92	50.61	33.57	40.00	-6.43	100	63	QP	-17.04

1GHz-18GHz (5150-5250MHz Band):

802.11a Mode (ANT 1):

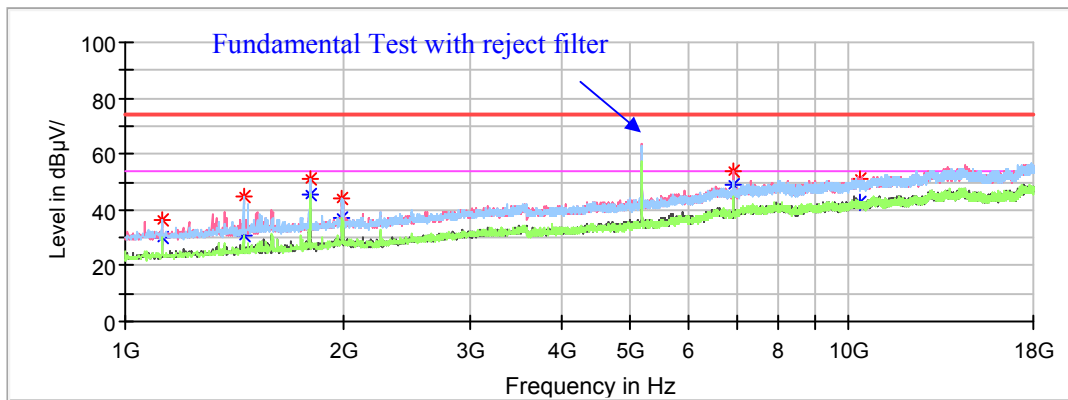
(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.)

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

Low Channel: 5180MHz

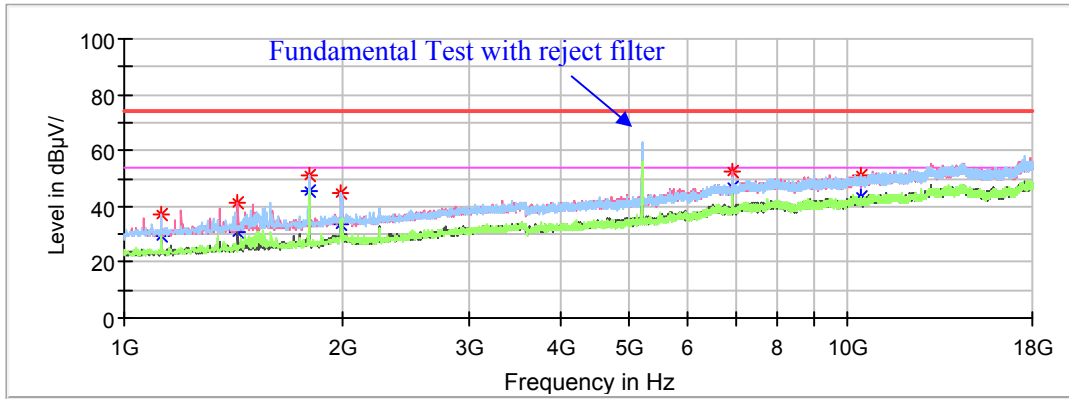
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	---	30.34	200.0	H	110.0	-12.0	54.00	23.66
1124.10	36.23	---	200.0	H	110.0	-12.0	74.00	37.77
1455.60	---	30.62	150.0	H	10.0	-10.2	54.00	23.38
1455.60	44.78	---	150.0	H	10.0	-10.2	74.00	29.22
1799.00	50.97	---	150.0	H	20.0	-8.9	68.20	17.23
1996.20	44.10	---	150.0	H	3.0	-8.3	68.20	24.10
6905.80	53.62	---	100.0	V	351.0	5.2	68.20	14.58
10360.00	50.84	---	150.0	V	155.0	8.8	68.20	17.36

Middle Channel: 5200MHz

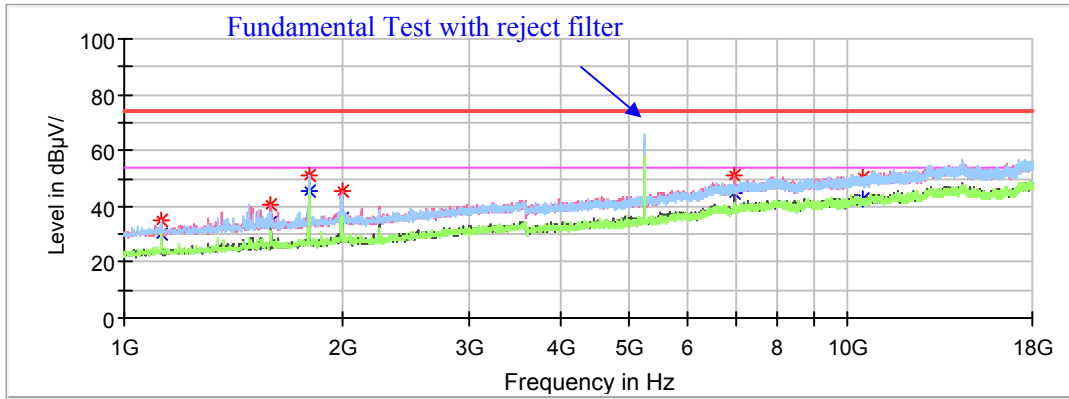
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	---	29.54	200	H	118.0	-12.0	54.00	23.66
1124.10	36.78	---	200	H	118.0	-12.0	74.00	37.22
1436.90	---	30.56	100	V	37.0	-10.3	54.00	23.38
1436.90	41.03	---	100	V	37.0	-10.3	74.00	32.97
1799.00	51.40	---	100	H	32.0	-8.9	68.20	16.80
1996.20	44.71	---	100	H	0.0	-8.3	68.20	23.49
6933.00	52.70	---	150	V	182.0	5.2	68.20	15.50
10400.00	50.89	---	100	H	133.0	8.8	68.20	17.31

High Channel: 5240MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	---	30.21	200	H	103.0	-12.0	54.00	23.66
1124.10	34.85	---	200	H	103.0	-12.0	74.00	39.15
1596.70	---	34.56	200	V	37.0	-9.6	54.00	23.38
1596.70	40.72	---	200	V	37.0	-9.6	74.00	33.28
1799.00	50.85	---	100	H	26.0	-8.9	68.20	17.35
1997.90	45.62	---	200	V	0.0	-8.2	68.20	22.58
6985.70	50.84	---	100	V	342.0	5.3	68.20	17.36
10480.00	50.51	---	200	V	23.0	9.0	68.20	17.69

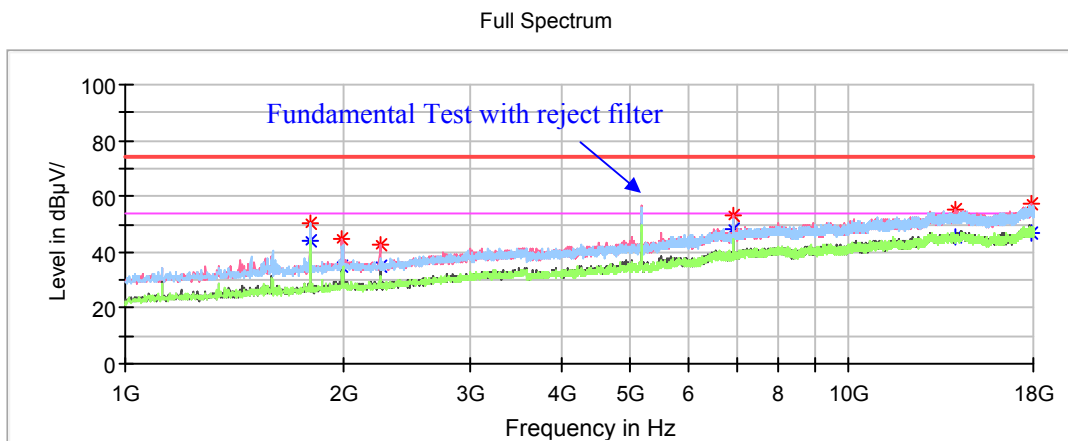
802.11a Mode (ANT 2):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

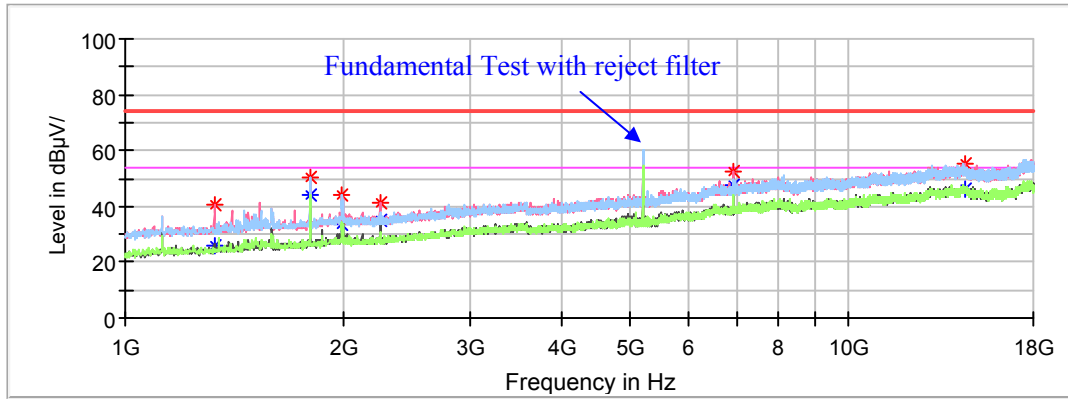
Low Channel: 5180MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	50.45	---	150	H	47.0	-8.9	68.20	17.75
1996.20	44.46	---	200	V	9.0	-8.3	68.20	23.74
2249.50	---	34.94	150	V	39.0	-7.6	54.00	19.06
2249.50	42.58	---	150	V	39.0	-7.6	74.00	31.42
6905.80	53.23	---	150	V	99.0	5.2	68.20	14.97
14032.20	55.38	---	150	V	312.0	12.5	68.20	12.82
17899.70	---	47.10	150	V	24.0	13.6	54.00	6.90
17899.70	57.11	---	150	V	24.0	13.6	74.00	16.89

Middle Channel: 5200MHz

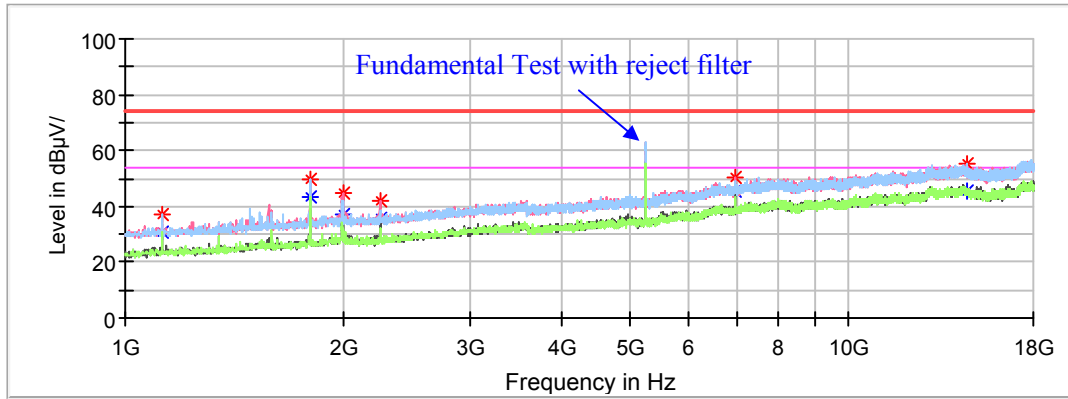
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1328.10	---	25.80	200	V	259.0	-10.9	54.00	28.20
1328.10	40.62	---	200	V	259.0	-10.9	74.00	33.38
1799.00	50.30	---	150	H	40.0	-8.9	68.20	17.90
1994.50	44.34	---	200	H	259.0	-8.3	68.20	23.86
2249.50	---	35.11	150	V	39.0	-7.6	54.00	18.89
2249.50	41.00	---	150	V	0.0	-7.6	74.00	33.00
6933.00	52.35	---	200	V	243.0	5.2	68.20	15.85
14501.40	55.12	---	200	V	243.0	12.7	68.20	13.08

High Channel: 5240MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	---	30.70	150	V	80.0	-12.0	54.00	23.30
1124.10	37.05	---	150	V	80.0	-12.0	74.00	36.95
1799.00	49.94	---	150	H	39.0	-8.9	68.20	18.26
1997.90	44.43	---	200	V	3.0	-8.2	68.20	23.77
2249.50	---	35.61	150	V	33.0	-7.6	54.00	18.39
2249.50	42.02	---	150	V	33.0	-7.6	74.00	31.98
6985.70	50.43	---	150	V	64.0	5.3	68.20	17.77
14562.60	54.90	---	200	H	235.0	12.6	68.20	13.30

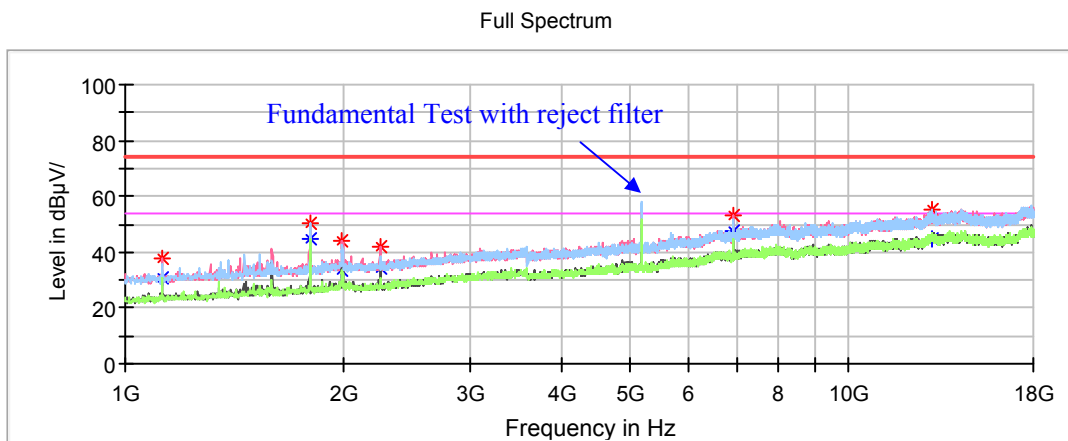
802.11a Mode (ANT 3):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

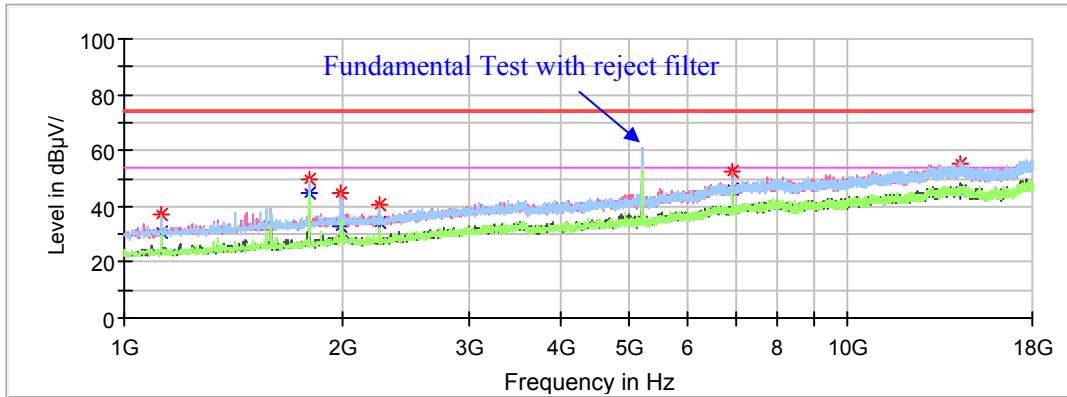
Low Channel: 5180MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	---	31.02	150	V	88.0	-12.0	54.00	22.98
1124.10	37.43	---	150	V	88.0	-12.0	74.00	36.57
1799.00	50.39	---	150	H	48.0	-8.9	68.20	17.81
1994.50	43.84	---	200	V	0.0	-8.3	68.20	24.36
2249.50	42.18	---	150	V	25.0	-7.6	68.20	26.02
6905.80	53.00	---	200	V	251.0	5.2	68.20	15.20
13029.20	54.92	---	200	H	340.0	12.1	68.20	13.28

Middle Channel: 5200MHz

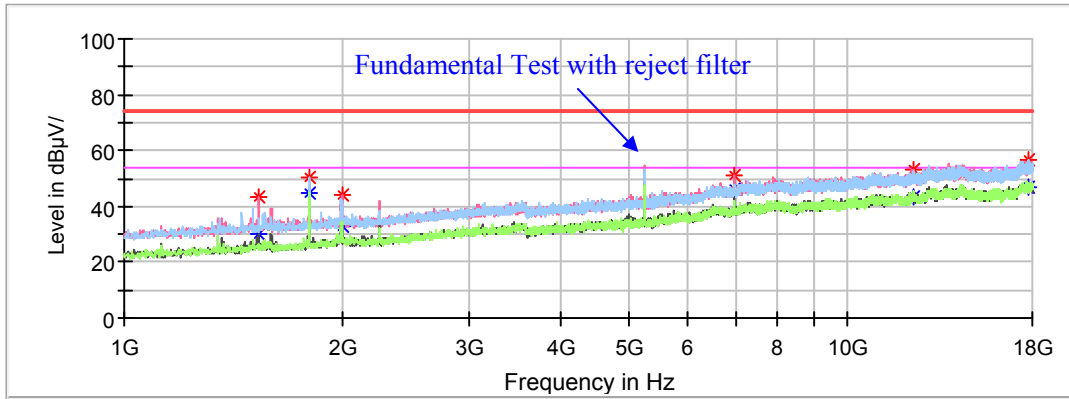
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	36.77	---	150	V	84.0	-12.0	74.00	37.23
1124.10	---	30.85	150	V	84.0	-12.0	54.00	23.15
1799.00	49.95	---	150	H	44.0	-8.9	68.20	18.25
1994.50	44.55	---	200	V	0.0	-8.3	68.20	23.65
2249.50	40.59	---	150	V	36.0	-7.6	74.00	33.41
2249.50	---	34.54	150	V	36.0	-7.6	54.00	19.46
6933.00	52.50	---	200	V	235.0	5.2	68.20	15.70
14350.10	55.48	---	150	V	262.0	12.6	68.20	12.72

High Channel: 5240MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1532.10	43.01	---	150	V	47.0	-9.8	74.00	30.99
1532.10	---	30.22	150	V	47.0	-9.8	54.00	23.78
1799.00	50.20	---	150	H	33.0	-8.9	68.20	18.00
1997.90	43.87	---	150	V	32.0	-8.2	68.20	24.33
6985.70	51.01	---	150	V	47.0	5.3	68.20	17.19
12354.30	---	43.08	150	V	262.0	10.3	54.00	10.92
12354.30	53.35	---	150	V	262.0	10.3	74.00	20.65
17741.60	---	46.69	150	H	323.0	13.9	54.00	7.31
17741.60	56.79	---	150	H	323.0	13.9	74.00	17.21

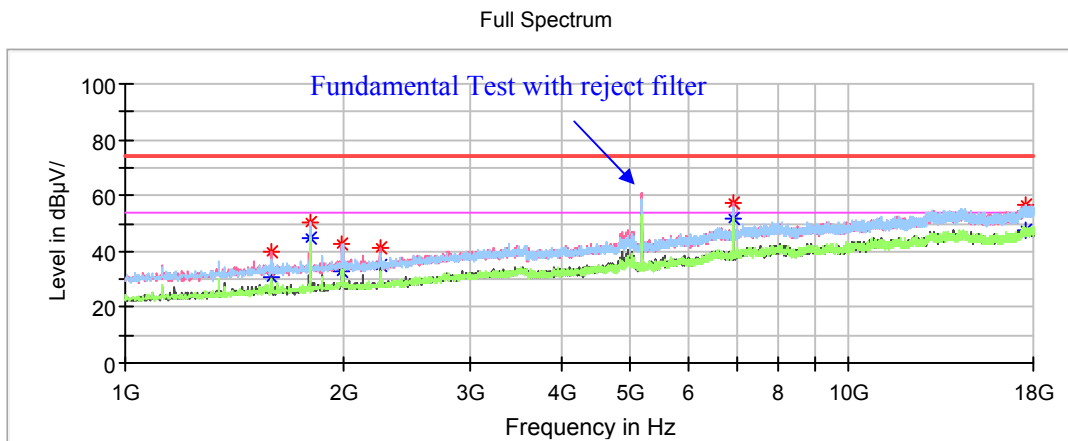
802.11ac20 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

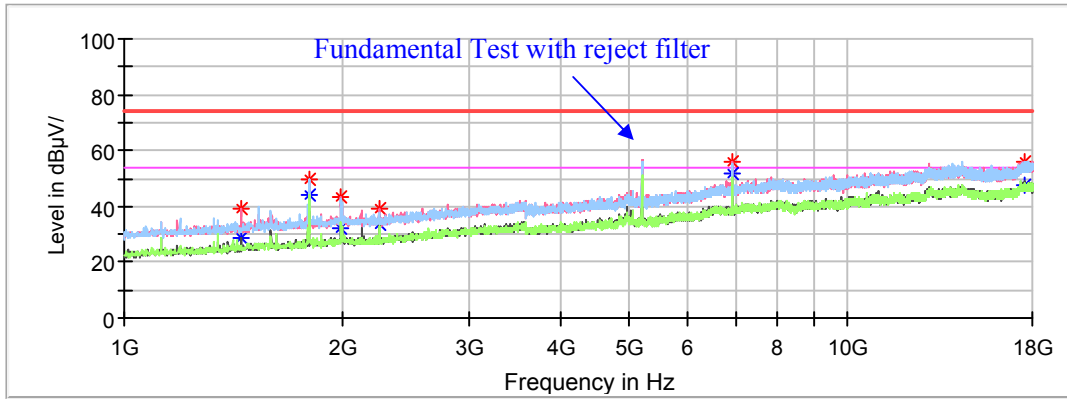
Low Channel: 5180MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1591.60	---	30.56	200	V	68.0	-9.6	54.00	23.44
1591.60	40.00	---	200	V	68.0	-9.6	74.00	34.00
1799.00	50.59	---	200	H	9.0	-8.9	68.20	17.61
1994.50	42.81	---	150	V	347.0	-8.3	68.20	25.39
2249.50	---	34.86	150	V	20.0	-7.6	54.00	19.14
2249.50	41.00	---	150	V	20.0	-7.6	74.00	33.00
6905.80	57.06	---	150	V	319.0	5.2	68.20	11.14
17585.20	56.37	---	150	H	158.0	14.1	68.20	11.83

Middle Channel: 5200MHz

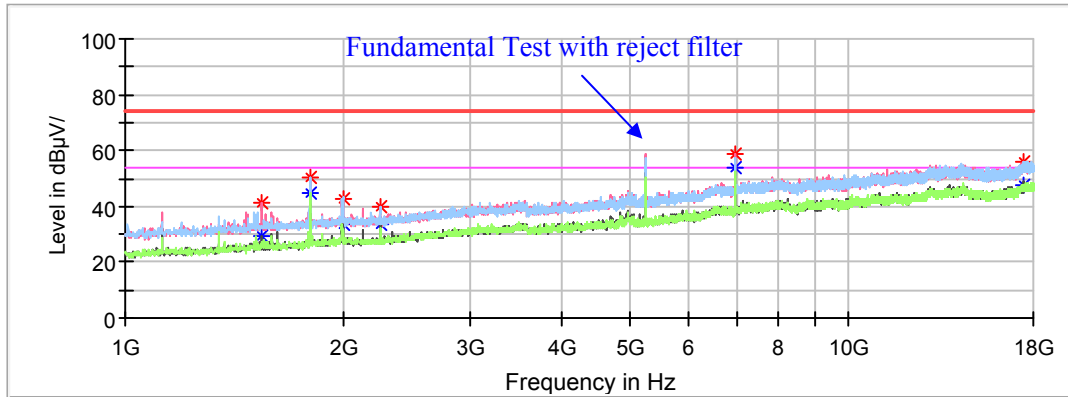
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1448.80	---	28.89	200	V	38.0	-10.2	54.00	25.11
1448.80	39.29	---	200	V	38.0	-10.2	74.00	34.71
1799.00	49.88	---	150	H	52.0	-8.9	68.20	18.32
1994.50	43.24	---	150	V	340.0	-8.3	68.20	24.96
2249.50	---	33.25	200	V	24.0	-7.6	54.00	20.75
2249.50	39.42	---	200	V	24.0	-7.6	74.00	34.58
6933.00	55.62	---	200	V	262.0	5.2	68.20	12.58
17597.10	56.22	---	200	V	97.0	14.1	68.20	11.98

High Channel: 5240MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1542.30	---	29.19	150	V	0.0	-9.8	54.00	24.81
1542.30	41.23	---	150	V	0.0	-9.8	74.00	32.77
1799.00	50.16	---	200	H	20.0	-8.9	68.20	18.04
1997.90	42.89	---	200	H	350.0	-8.2	68.20	25.31
2249.50	---	33.81	200	V	31.0	-7.6	54.00	20.19
2249.50	39.75	---	200	V	31.0	-7.6	74.00	34.25
6985.70	58.57	---	150	V	249.0	5.3	68.20	9.63
17449.20	56.10	---	200	V	17.0	14.0	68.20	12.10

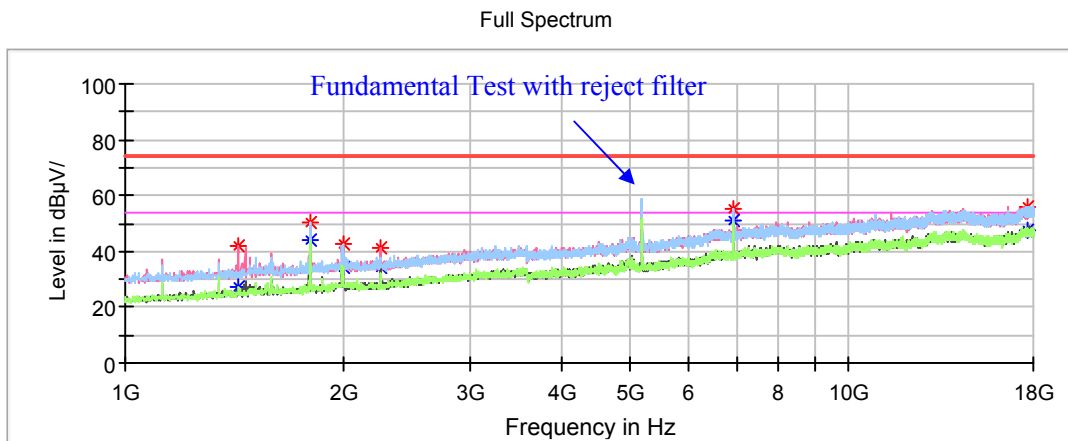
802.11n-HT20 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

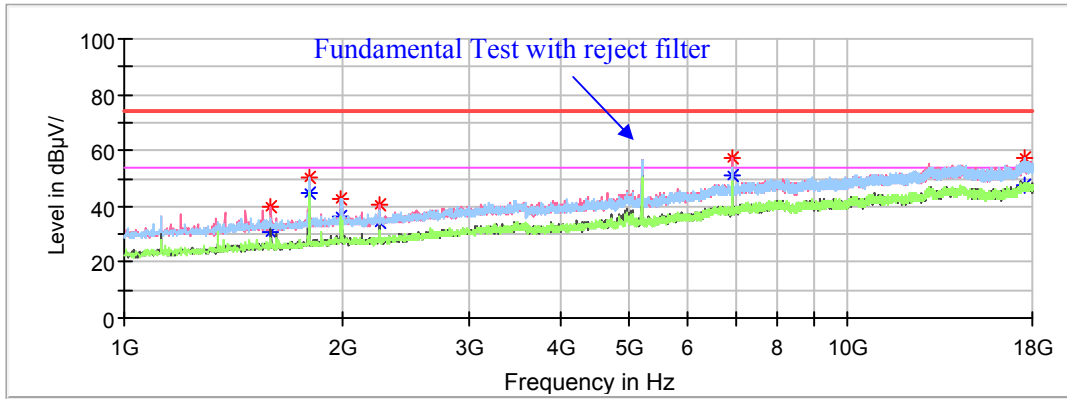
Low Channel: 5180MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1435.20	---	27.33	200	V	224.0	-10.3	54.00	26.67
1435.20	42.28	---	200	V	224.0	-10.3	74.00	31.72
1799.00	50.06	---	200	H	20.0	-8.9	68.20	18.14
1997.90	42.87	---	150	H	310.0	-8.2	68.20	25.33
2249.50	---	34.29	150	V	32.0	-7.6	54.00	19.71
2249.50	41.05	---	150	V	32.0	-7.6	74.00	32.95
6905.80	55.47	---	150	V	19.0	5.2	68.20	12.73
17626.00	56.13	---	150	H	224.0	14.1	68.20	12.07

Middle Channel: 5200MHz

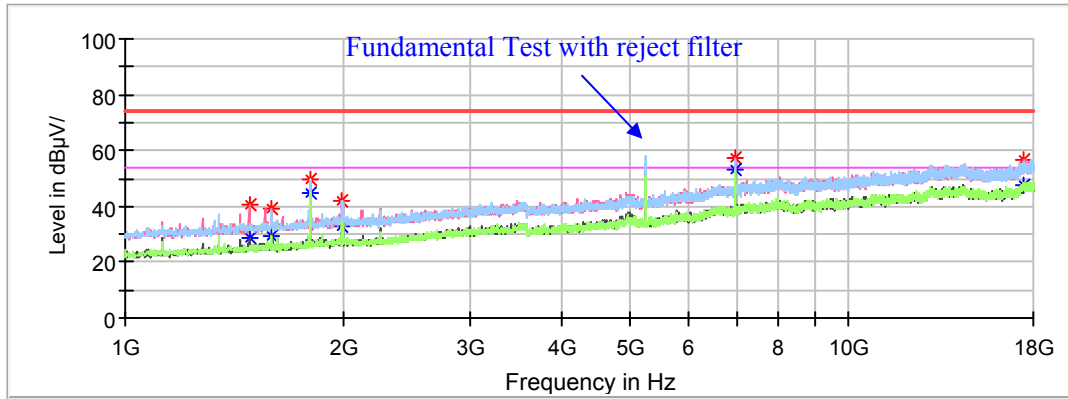
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1595.00	---	30.58	150	V	52.0	-9.6	54.00	23.42
1595.00	40.01	---	150	V	52.0	-9.6	74.00	33.99
1799.00	50.66	---	200	H	20.0	-8.9	68.20	17.54
1991.10	42.78	---	150	H	348.0	-8.3	68.20	25.42
2249.50	---	34.49	150	V	35.0	-7.6	54.00	19.51
2249.50	40.58	---	150	V	35.0	-7.6	74.00	33.42
6933.00	57.00	---	200	V	258.0	5.2	68.20	11.20
17569.90	57.06	---	150	H	166.0	14.2	68.20	11.14

High Channel: 5240MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1482.80	---	28.32	200	V	59.0	-10.0	54.00	25.68
1482.80	40.68	---	200	V	59.0	-10.0	74.00	33.32
1593.30	---	29.06	200	V	90.0	-9.6	54.00	24.94
1593.30	39.50	---	200	V	90.0	-9.6	74.00	34.50
1799.00	49.95	---	200	H	34.0	-8.9	68.20	18.25
1996.20	42.12	---	200	V	351.0	-8.3	68.20	26.08
6985.70	57.63	---	150	V	249.0	5.3	68.20	10.57
17467.90	56.88	---	200	V	278.0	14.1	68.20	11.32

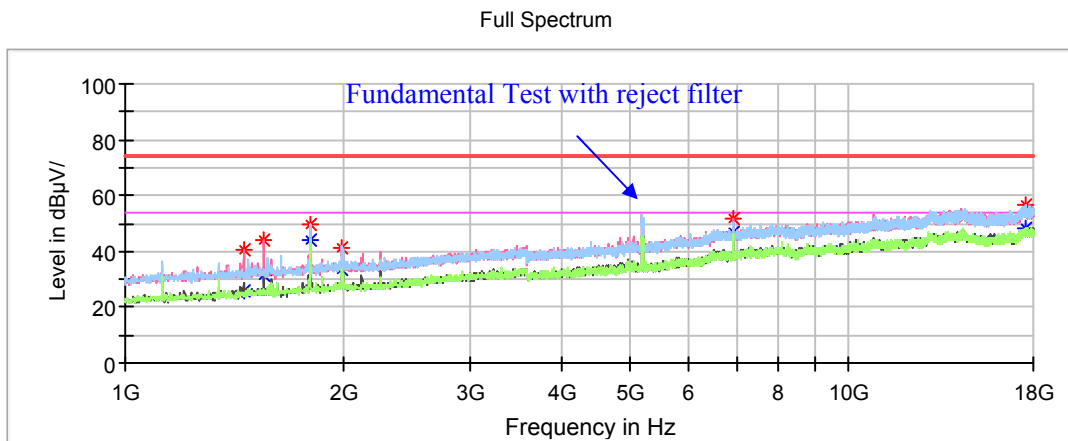
802.11ac40 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

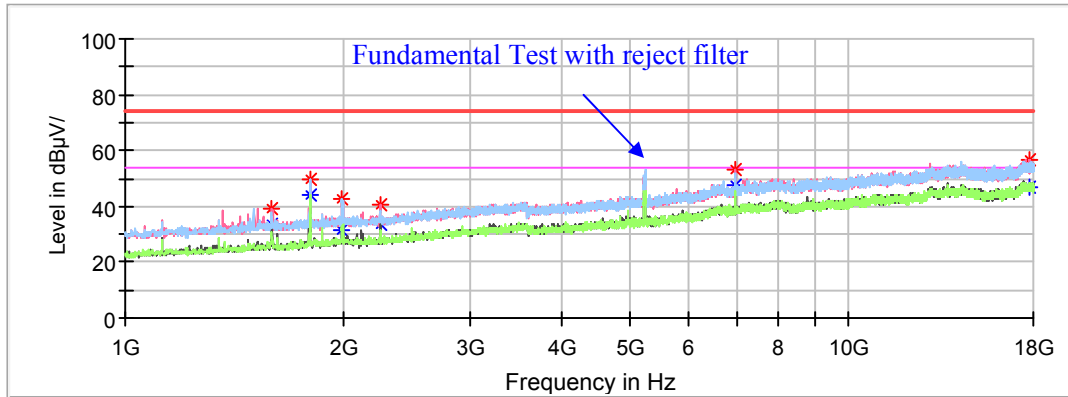
Low Channel: 5190MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1445.40	---	30.76	100	V	68.0	-10.2	54.00	23.24
1445.40	43.08	---	100	V	68.0	-10.2	74.00	30.92
1799.00	50.32	---	150	H	33.0	-8.9	68.20	17.88
1996.20	42.82	---	150	H	303.0	-8.3	68.20	25.38
6919.40	60.25	---	200	V	337.0	5.2	68.20	7.95
12282.90	---	42.69	200	V	39.0	10.2	54.00	11.31
12282.90	53.41	---	200	V	39.0	10.2	74.00	20.59
17423.70	56.59	---	150	H	332.0	13.9	68.20	11.61

High Channel: 5230MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1402.90	---	27.88	200	V	72.0	-10.5	54.00	26.12
1402.90	37.56	---	200	V	72.0	-10.5	74.00	36.44
1799.00	50.12	---	150	H	33.0	-8.9	68.20	18.08
1997.90	43.24	---	250	V	38.0	-8.2	68.20	24.96
6972.10	56.69	---	250	V	340.0	5.3	68.20	11.51
10849.80	---	42.08	150	H	324.0	9.5	54.00	11.92
10849.80	51.89	---	150	H	324.0	9.5	74.00	22.11
17529.10	56.09	---	200	H	350.0	14.2	68.20	12.11

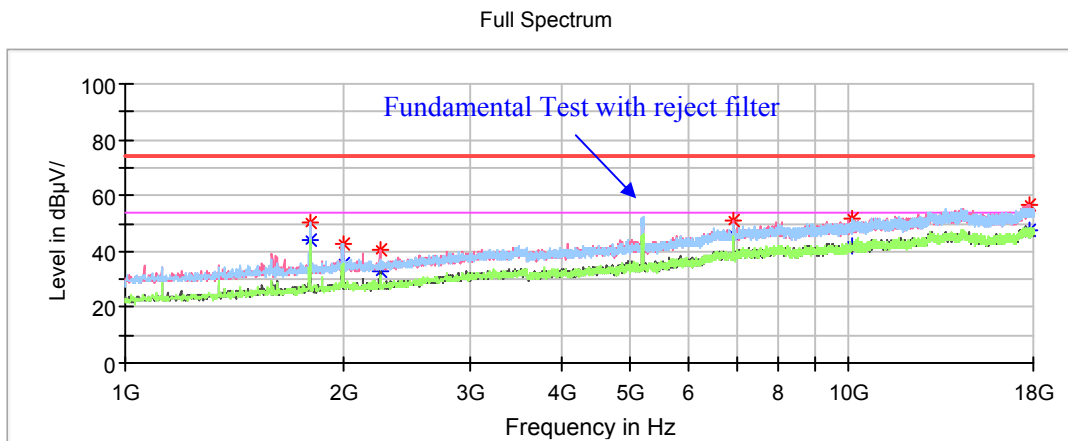
802.11n-HT40 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

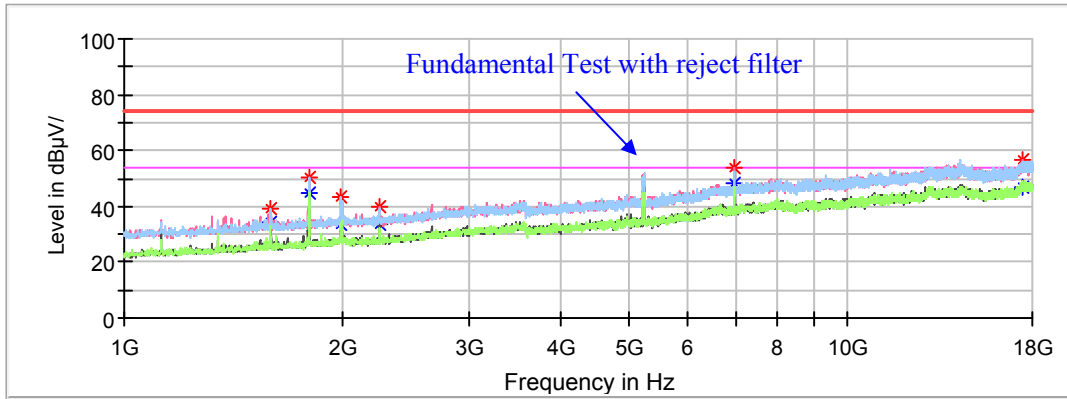
Low Channel: 5190MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1459.00	---	26.13	150	V	66.0	-10.2	54.00	27.87
1459.00	40.23	---	150	V	66.0	-10.2	74.00	33.77
1552.50	---	31.37	200	V	51.0	-9.8	54.00	22.63
1552.50	43.75	---	200	V	51.0	-9.8	74.00	30.25
1799.00	49.91	---	200	H	20.0	-8.9	68.20	18.29
1991.10	41.43	---	200	V	277.0	-8.3	68.20	26.77
6919.40	51.48	---	200	V	262.0	5.2	68.20	16.72
17588.60	56.71	---	200	H	239.0	14.1	68.20	11.49

High Channel: 5230MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1596.70	---	33.45	200	V	50.0	-9.6	54.00	20.55
1596.70	38.86	---	200	V	50.0	-9.6	74.00	35.14
1799.00	49.77	---	200	H	14.0	-8.9	68.20	18.43
1994.50	42.57	---	200	H	255.0	-8.3	68.20	25.63
2249.50	---	33.68	150	V	39.0	-7.6	54.00	20.32
2249.50	40.23	---	150	V	39.0	-7.6	74.00	33.77
6972.10	53.15	---	200	V	258.0	5.3	68.20	15.05
17746.70	56.71	---	150	V	24.0	13.9	68.20	11.49

802.11ac80 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

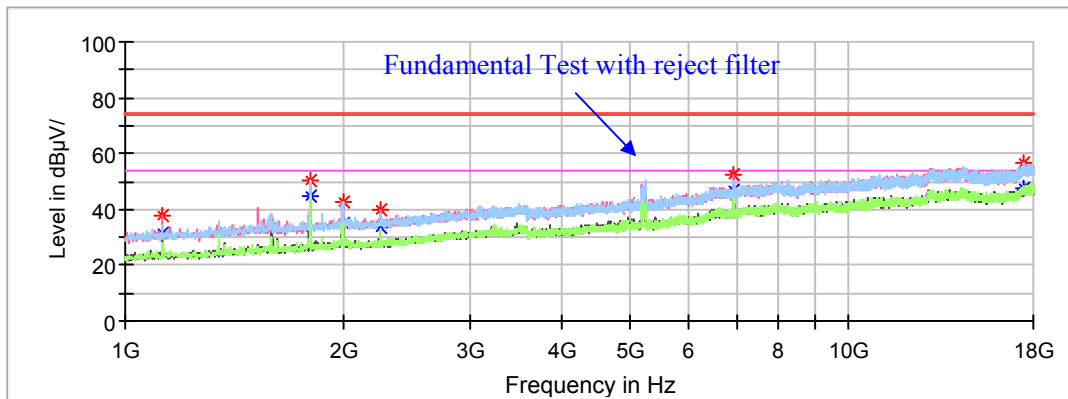
Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5150-5250MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

Low Channel: 5210MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1124.10	37.61	---	150	V	81.0	-12.0	74.00	36.39
1124.10	---	31.81	150	V	81.0	-12.0	54.00	22.19
1799.00	50.59	---	200	H	24.0	-8.9	68.20	17.61
1997.90	42.73	---	200	H	248.0	-8.2	68.20	25.47
2249.50	39.94	---	200	V	50.0	-7.6	74.00	34.06
2249.50	---	33.90	200	V	50.0	-7.6	54.00	20.10
6946.60	52.66	---	200	V	256.0	5.2	68.20	15.54
17464.50	56.52	---	200	H	53.0	14.1	68.20	11.68

1GHz-18GHz (5725-5850MHz Band):

802.11a Mode (ANT 1):

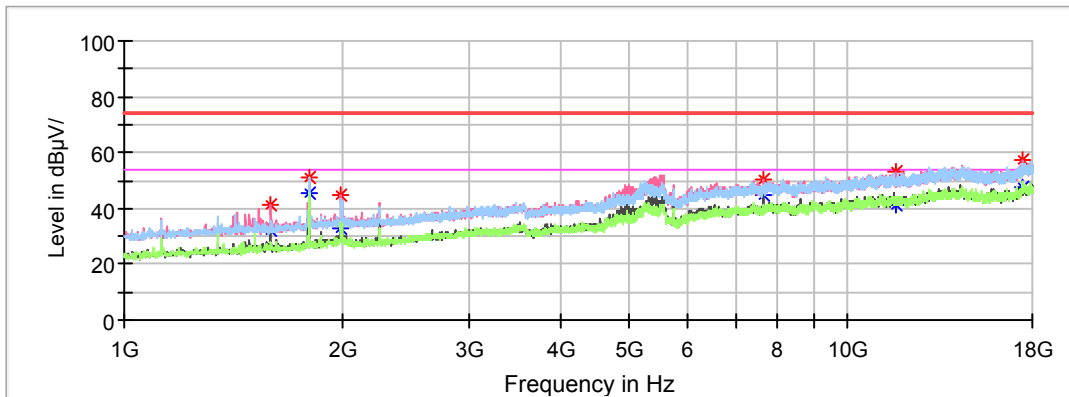
(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.)

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

Low Channel: 5745MHz

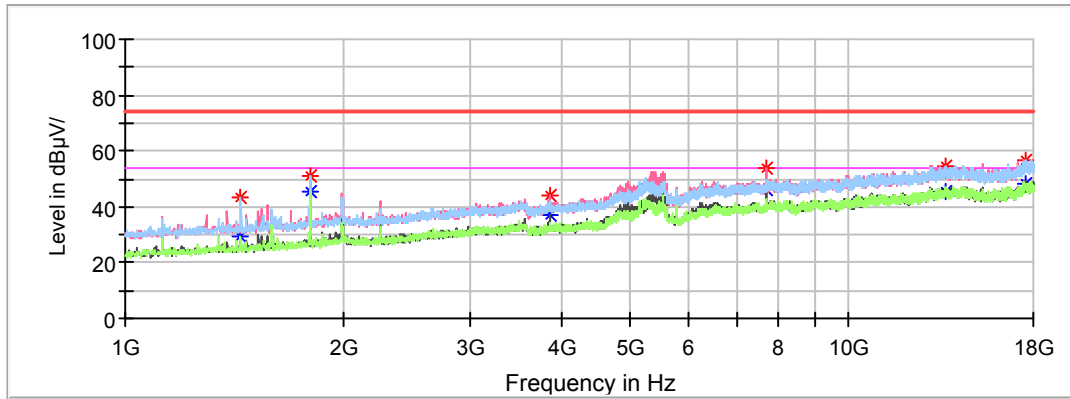
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1595.00	---	32.04	200	V	58.0	-9.6	54.00	21.96
1595.00	41.07	---	200	V	58.0	-9.6	74.00	32.93
1799.00	51.29	---	150	H	45.0	-8.9	68.20	16.91
1992.80	44.60	---	200	V	351.0	-8.3	68.20	23.60
7658.90	---	44.63	150	V	100.0	6.4	54.00	9.37
7658.90	50.70	---	150	V	100.0	6.4	74.00	23.30
11636.90	---	41.44	200	V	295.0	9.9	54.00	12.56
11636.90	52.84	---	200	V	295.0	9.9	74.00	21.16
17503.60	57.03	---	200	V	279.0	14.3	68.20	11.17

Middle Channel: 5785MHz

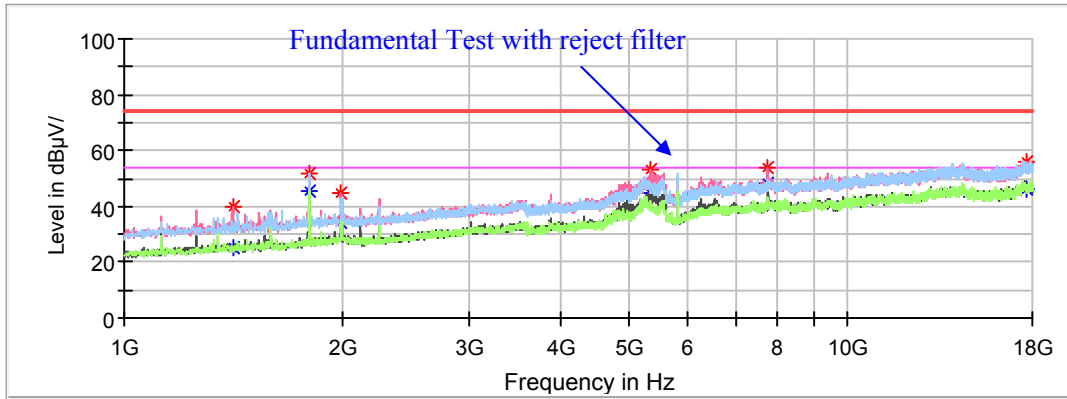
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1445.40	---	29.47	200	H	2.0	-10.2	54.00	24.53
1445.40	43.24	---	200	H	2.0	-10.2	74.00	30.76
1799.00	51.08	---	150	H	51.0	-8.9	68.20	17.12
3856.00	---	36.85	150	V	272.0	-2.3	54.00	17.15
3856.00	44.20	---	150	V	272.0	-2.3	74.00	29.80
7713.30	---	45.86	200	V	246.0	6.5	54.00	8.14
7713.30	53.50	---	200	V	246.0	6.5	74.00	20.50
13619.10	54.62	---	150	H	296.0	12.1	68.20	13.58
17529.10	56.77	---	200	H	354.0	14.2	68.20	11.43

High Channel: 5825MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1411.40	---	25.23	200	V	39.0	-10.4	54.00	28.77
1411.40	39.72	---	200	V	39.0	-10.4	74.00	34.28
1799.00	51.57	---	150	H	42.0	-8.9	68.20	16.63
1996.20	44.60	---	200	V	12.0	-8.3	68.20	23.60
5340.10	53.30	---	200	V	279.0	0.9	68.20	14.90
7766.00	54.10	---	150	V	250.0	6.6	68.20	14.10
17699.10	56.09	---	150	V	146.0	14.0	68.20	12.11

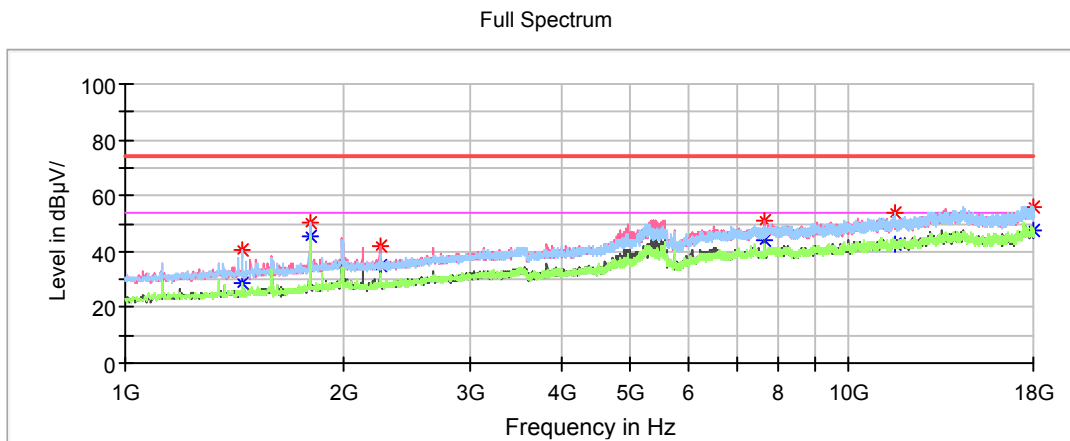
802.11a Mode (ANT 2):

Pre-scan with X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

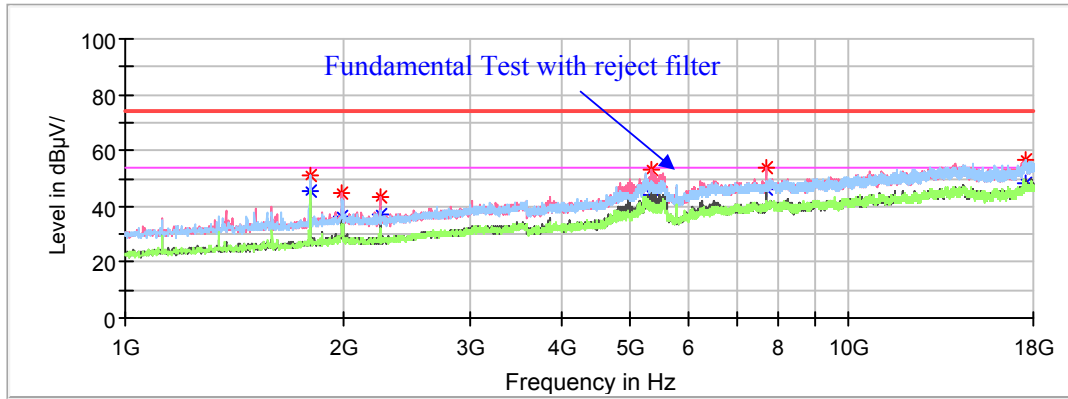
Low Channel: 5745MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1448.80	---	28.98	200	H	344.0	-10.2	54.00	25.02
1448.80	40.48	---	200	H	344.0	-10.2	74.00	33.52
1799.00	50.67	---	150	H	54.0	-8.9	68.20	17.53
2249.50	---	35.23	200	V	22.0	-7.6	54.00	18.77
2249.50	41.92	---	200	V	22.0	-7.6	74.00	32.08
7658.90	---	44.02	150	V	111.0	6.4	54.00	9.98
7658.90	51.16	---	150	V	111.0	6.4	74.00	22.84
11572.30	---	42.32	150	H	25.0	9.8	54.00	11.68
11572.30	53.67	---	150	H	25.0	9.8	74.00	20.33
17957.50	---	47.35	150	H	231.0	13.5	54.00	6.65
17957.50	56.21	---	150	H	231.0	13.5	74.00	17.79

Middle Channel: 5785MHz

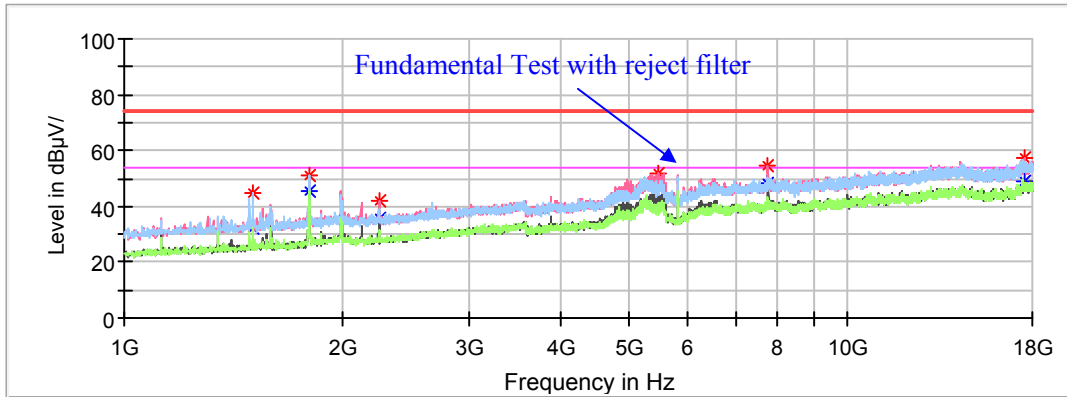
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	50.71	---	150	H	43.0	-8.9	68.20	17.49
1991.10	45.08	---	200	V	0.0	-8.3	68.20	23.12
2249.50	---	36.73	150	V	31.0	-7.6	54.00	17.27
2249.50	43.30	---	150	V	31.0	-7.6	74.00	30.70
5341.80	53.24	---	200	V	232.0	0.9	68.20	14.96
7713.30	---	46.18	200	V	232.0	6.5	54.00	7.82
7713.30	54.15	---	200	V	232.0	6.5	74.00	19.85
17534.20	56.43	---	200	H	162.0	14.2	68.20	11.77

High Channel: 5825MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1508.30	---	32.34	150	H	340.0	-9.9	54.00	21.66
1508.30	44.86	---	150	H	340.0	-9.9	74.00	29.14
1799.00	50.87	---	150	H	50.0	-8.9	68.20	17.33
2249.50	---	35.55	200	V	34.0	-7.6	54.00	18.45
2249.50	42.12	---	200	V	34.0	-7.6	74.00	31.88
5479.50	51.71	---	200	V	226.0	1.3	68.20	16.49
7766.00	54.34	---	200	V	273.0	6.6	68.20	13.86
17549.50	57.10	---	200	V	322.0	14.2	68.20	11.10

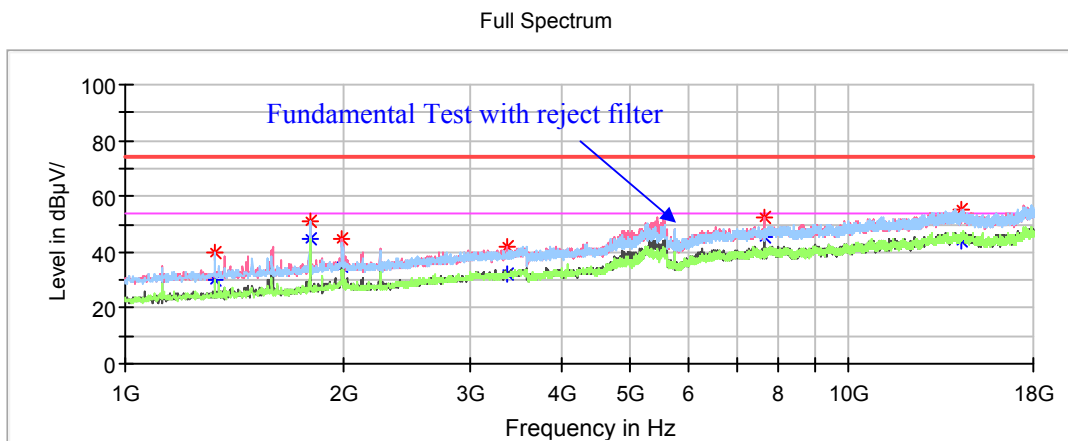
802.11a Mode (ANT 3):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

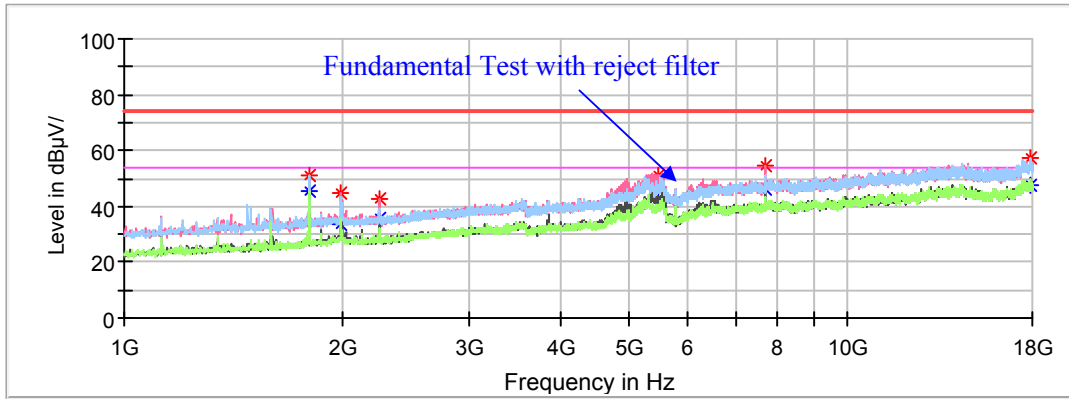
Low Channel: 5745MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1329.80	---	30.23	200	H	344.0	-10.9	54.00	23.77
1329.80	39.66	---	200	H	344.0	-10.9	74.00	34.34
1799.00	51.01	---	150	H	38.0	-8.9	68.20	17.19
1996.20	44.60	---	200	V	10.0	-8.3	68.20	23.60
3363.00	41.63	---	200	V	143.0	-3.8	68.20	26.57
7658.90	---	45.17	150	V	79.0	6.4	54.00	8.83
7658.90	52.36	---	150	V	79.0	6.4	74.00	21.64
14268.50	55.52	---	200	V	94.0	12.6	68.20	12.68

Middle Channel: 5785MHz

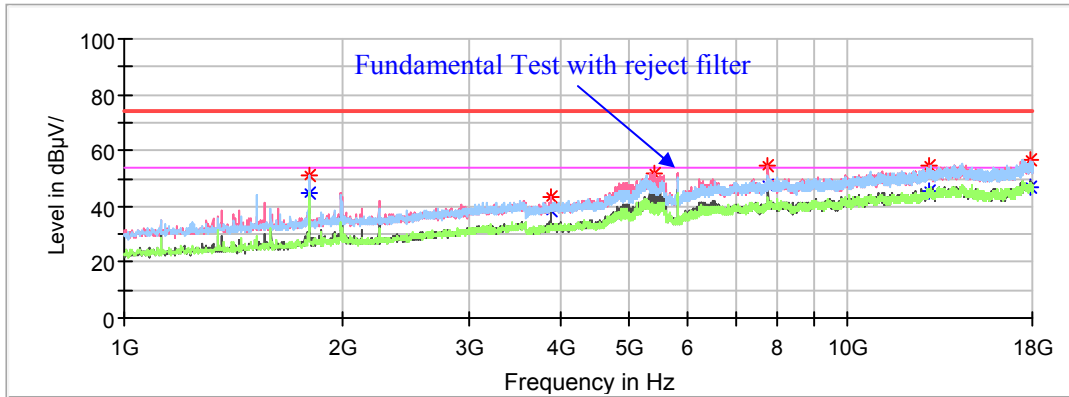
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	50.90	---	150	H	42.0	-8.9	68.20	17.30
1991.10	44.72	---	200	V	14.0	-8.3	68.20	23.48
2249.50	---	35.92	150	V	37.0	-7.6	54.00	18.08
2249.50	42.39	---	150	V	37.0	-7.6	74.00	31.61
5467.60	51.34	---	150	V	236.0	1.3	68.20	16.86
7713.30	---	46.29	200	V	246.0	6.5	54.00	7.71
7713.30	54.67	---	200	V	246.0	6.5	74.00	19.33
17933.70	---	47.43	150	H	1.0	13.6	54.00	6.57
17933.70	57.06	---	150	H	1.0	13.6	74.00	16.94

High Channel: 5825MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	51.28	---	150	H	50.0	-8.9	68.20	16.92
3881.50	---	38.72	150	V	236.0	-2.3	54.00	15.28
3881.50	43.05	---	150	V	236.0	-2.3	74.00	30.95
5420.00	---	42.78	200	V	226.0	1.1	54.00	11.22
5420.00	51.78	---	200	V	226.0	1.1	74.00	22.22
7766.00	54.31	---	150	V	266.0	6.6	68.20	13.89
12991.80	54.77	---	200	V	226.0	12.0	68.20	13.43
17933.70	---	47.04	150	V	310.0	13.6	54.00	6.96
17933.70	56.62	---	150	V	310.0	13.6	74.00	17.38

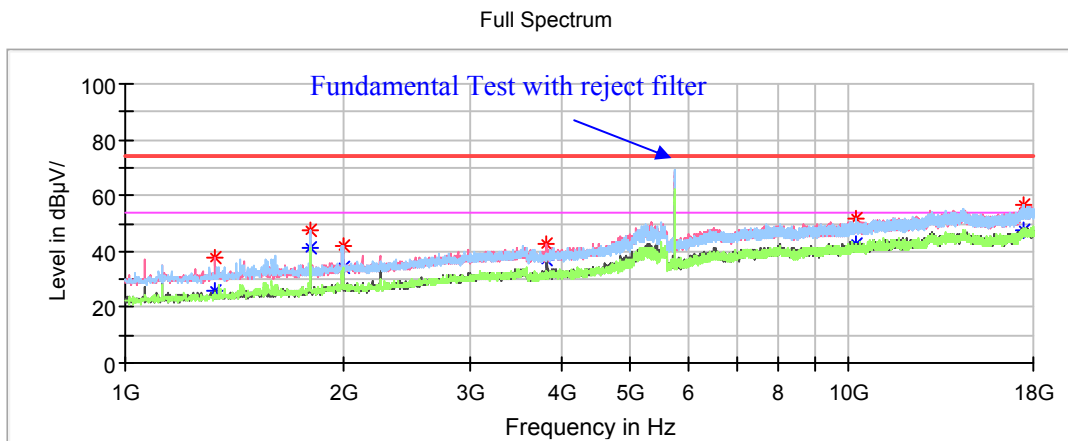
802.11ac20 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

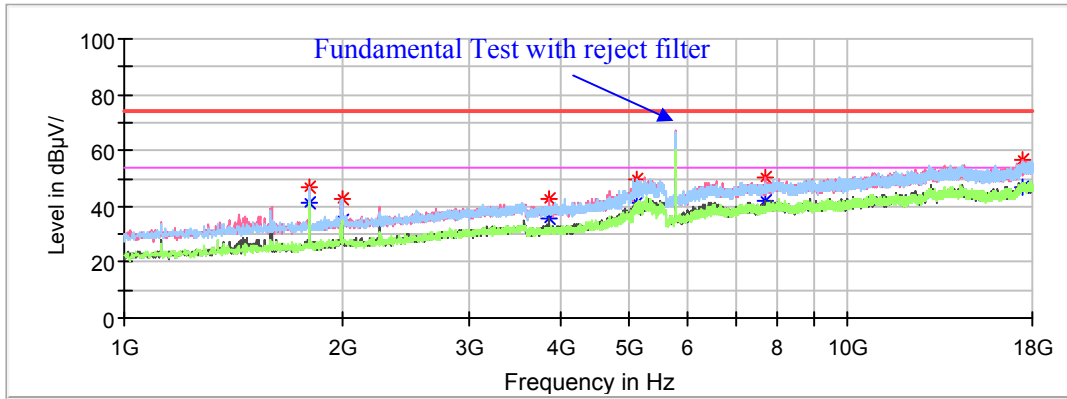
Low Channel: 5745MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1329.80	---	25.65	100	V	96.0	-10.9	54.00	28.35
1329.80	37.87	---	100	V	96.0	-10.9	74.00	36.13
1799.00	47.23	---	150	H	0.0	-8.9	68.20	20.97
1997.90	41.77	---	150	H	297.0	-8.2	68.20	26.43
3828.80	---	37.09	200	V	292.0	-2.4	54.00	16.91
3828.80	42.79	---	200	V	292.0	-2.4	74.00	31.21
10225.90	52.10	---	150	H	132.0	8.6	68.20	16.10
17432.20	56.57	---	150	H	312.0	13.9	68.20	11.63

Middle Channel: 5785MHz

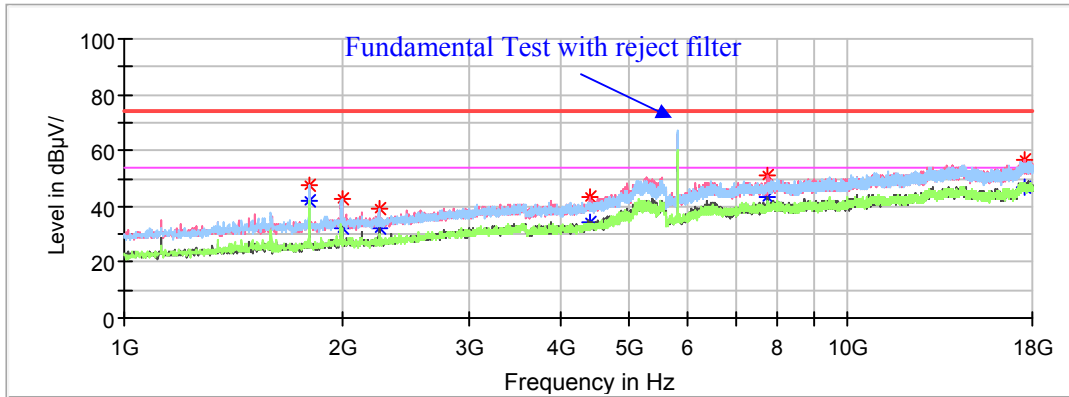
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	46.95	---	150	H	2.0	-8.9	68.20	21.25
1997.90	42.48	---	250	H	327.0	-8.2	68.20	25.72
3856.00	---	35.70	200	V	359.0	-2.3	54.00	18.30
3856.00	42.48	---	200	V	359.0	-2.3	74.00	31.52
5108.90	---	41.04	100	H	27.0	0.1	54.00	12.96
5108.90	49.95	---	100	H	27.0	0.1	74.00	24.05
7713.30	---	42.28	200	V	124.0	6.5	54.00	11.72
7713.30	50.00	---	200	V	124.0	6.5	74.00	24.00
17425.40	56.36	---	100	V	330.0	13.9	68.20	11.84

High Channel: 5825MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	47.39	---	100	H	0.0	-8.9	68.20	20.81
1997.90	42.41	---	150	H	341.0	-8.2	68.20	25.79
2249.50	---	32.38	200	V	33.0	-7.6	54.00	21.62
2249.50	39.04	---	200	V	33.0	-7.6	74.00	34.96
4391.50	---	34.14	150	V	65.0	-1.2	54.00	19.86
4391.50	43.70	---	150	V	65.0	-1.2	74.00	30.30
7766.00	50.83	---	100	V	266.0	6.6	68.20	17.37
17575.00	56.92	---	100	V	266.0	14.2	68.20	11.28

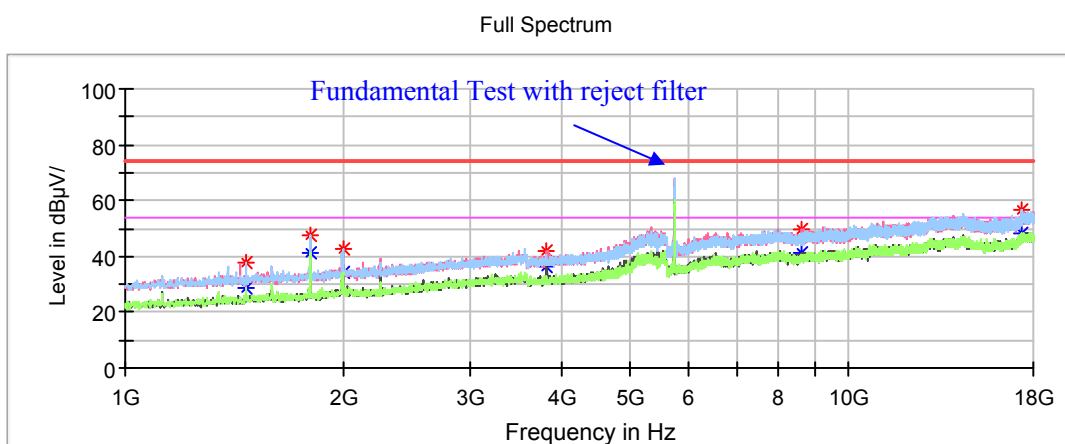
802.11n-HT20 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

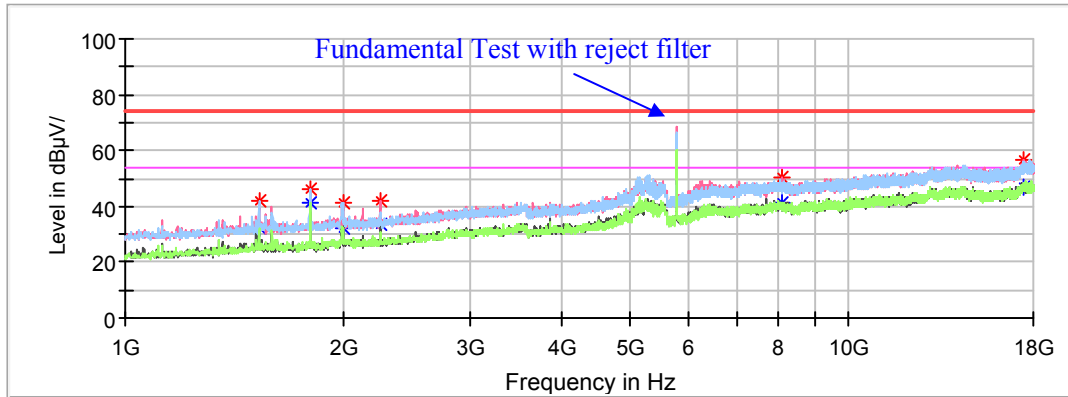
Low Channel: 5745MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1469.20	37.94	---	200	H	41.0	-10.1	74.00	36.06
1469.20	---	28.45	200	H	41.0	-10.1	54.00	25.55
1799.00	47.23	---	150	H	0.0	-8.9	68.20	20.97
1997.90	42.80	---	100	H	340.0	-8.2	68.20	25.40
3828.80	42.27	---	150	V	237.0	-2.4	68.20	25.93
8593.90	49.55	---	150	V	237.0	6.5	68.20	18.65
17391.40	56.47	---	150	H	70.0	13.7	68.20	11.73

Middle Channel: 5785MHz

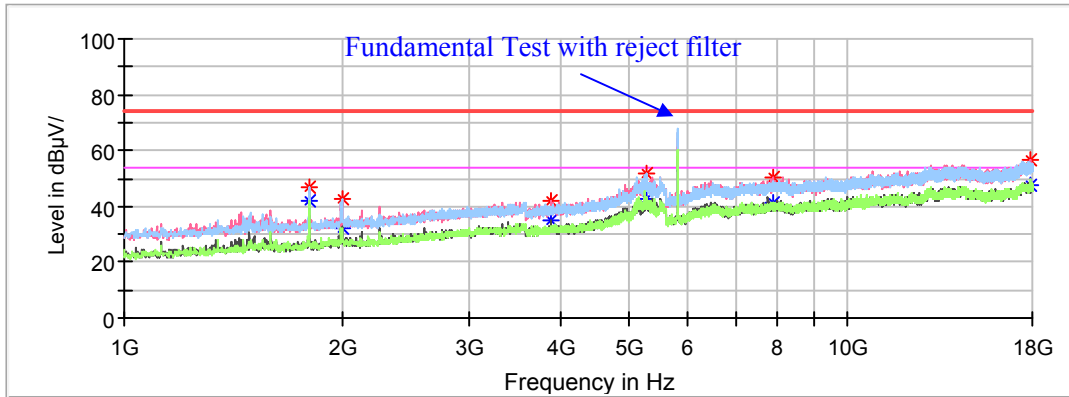
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1530.40	---	32.07	200	H	11.0	-9.8	54.00	21.93
1530.40	41.93	---	200	H	11.0	-9.8	74.00	32.07
1799.00	46.48	---	150	H	0.0	-8.9	68.20	21.72
1997.90	41.40	---	250	V	0.0	-8.2	68.20	26.80
2249.50	42.03	---	250	V	0.0	-7.6	74.00	31.97
2249.50	---	33.70	250	V	0.0	-7.6	54.00	20.30
8106.00	---	41.16	150	V	264.0	6.9	54.00	12.84
8106.00	50.09	---	150	V	264.0	6.9	74.00	23.91
17461.10	56.58	---	100	V	145.0	14.1	68.20	11.62

High Channel: 5825MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	46.97	---	100	H	0.0	-8.9	68.20	21.23
1997.90	42.90	---	150	H	298.0	-8.2	68.20	25.30
3883.20	---	34.62	150	V	275.0	-2.3	54.00	19.38
3883.20	41.69	---	150	V	275.0	-2.3	74.00	32.31
5256.80	51.72	---	100	H	26.0	0.6	68.20	16.48
7910.50	50.37	---	150	V	260.0	6.9	68.20	17.83
17928.60	---	47.86	200	V	246.0	13.6	54.00	6.14
17928.60	56.40	---	200	V	246.0	13.6	74.00	17.60

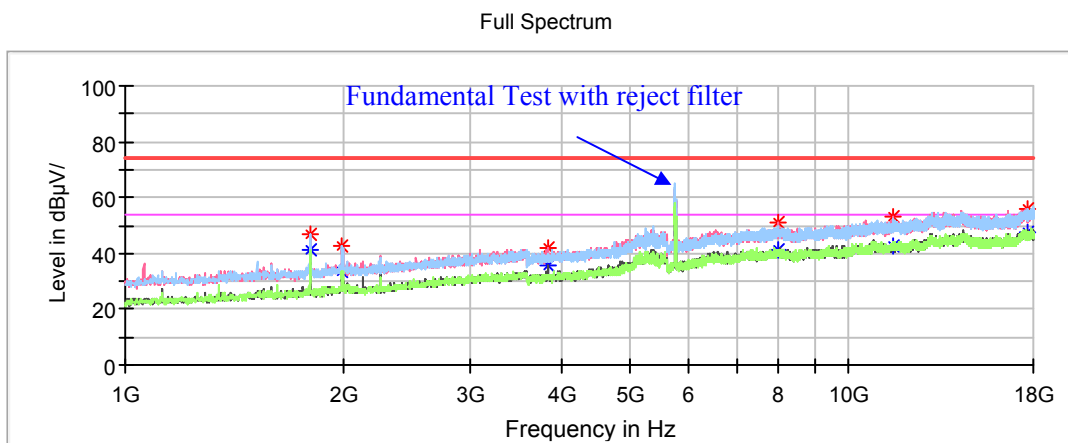
802.11ac40 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

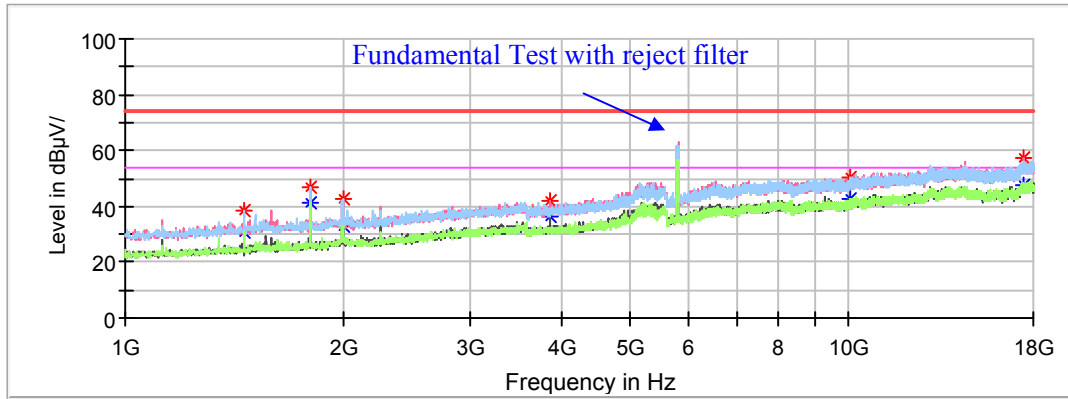
Low Channel: 5755MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1799.00	46.68	---	200	H	0.0	-8.9	68.20	21.52
1992.80	42.43	---	200	H	297.0	-8.3	68.20	25.77
3835.60	---	35.52	100	V	231.0	-2.4	54.00	18.48
3835.60	41.73	---	100	V	231.0	-2.4	74.00	32.27
8005.70	50.73	---	150	V	350.0	7.1	68.20	17.47
11528.10	---	42.55	250	H	82.0	9.8	54.00	11.45
11528.10	52.96	---	250	H	82.0	9.8	74.00	21.04
17626.00	55.77	---	250	H	39.0	14.1	68.20	12.43

High Channel: 5795MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1457.30	---	30.73	100	H	33.0	-10.2	54.00	23.27
1457.30	38.67	---	100	H	33.0	-10.2	74.00	35.33
1799.00	46.80	---	150	H	0.0	-8.9	68.20	21.40
1997.90	42.73	---	150	H	296.0	-8.2	68.20	25.47
3862.80	42.23	---	200	V	357.0	-2.3	74.00	31.77
3862.80	---	36.03	200	V	357.0	-2.3	54.00	17.97
10040.60	50.62	---	100	H	7.0	8.3	68.20	17.58
17442.40	57.00	---	200	V	216.0	14.0	68.20	11.20

802.11n-HT40 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

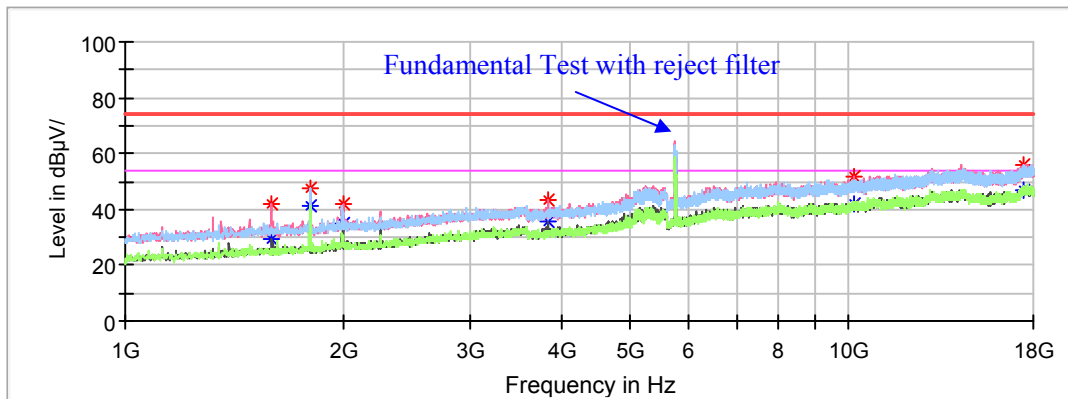
Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

Low Channel: 5755MHz

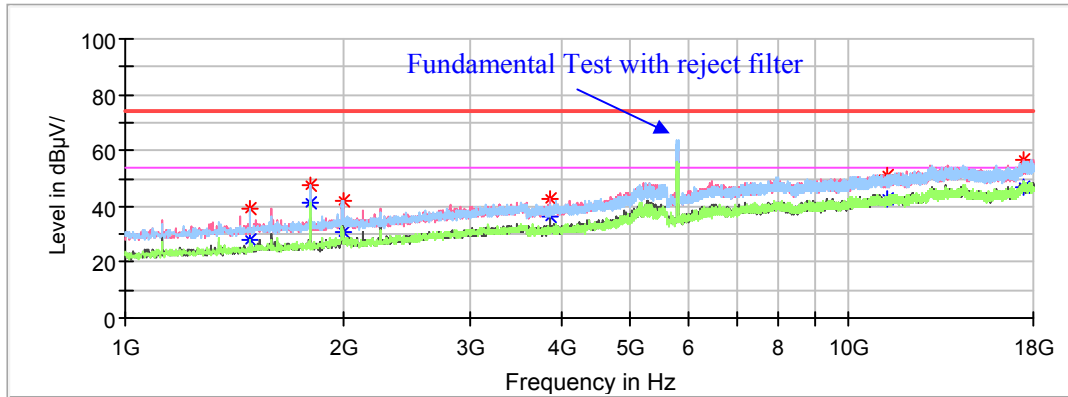
Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1595.00	---	29.41	200	V	49.0	-9.6	54.00	24.59
1595.00	41.76	---	200	V	49.0	-9.6	74.00	32.24
1799.00	47.47	---	150	H	0.0	-8.9	68.20	20.73
1997.90	41.70	---	150	V	0.0	-8.2	68.20	26.50
3835.60	---	35.51	200	V	260.0	-2.4	54.00	18.49
3835.60	43.13	---	200	V	260.0	-2.4	74.00	30.87
10190.20	51.97	---	150	V	350.0	8.5	68.20	16.23
17466.20	56.13	---	150	H	265.0	14.1	68.20	12.07

High Channel: 5795MHz

Full Spectrum



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1489.60	---	28.10	150	H	34.0	-10.0	54.00	25.90
1489.60	39.31	---	150	H	34.0	-10.0	74.00	34.69
1799.00	47.55	---	100	H	358.0	-8.9	68.20	20.65
1997.90	41.98	---	150	H	242.0	-8.2	68.20	26.22
3862.80	---	36.21	200	V	296.0	-2.3	54.00	17.79
3862.80	42.56	---	200	V	296.0	-2.3	74.00	31.44
11300.30	---	42.57	250	H	0.0	9.8	54.00	11.43
11300.30	51.35	---	250	H	0.0	9.8	74.00	22.65
17385.00	56.45	---	150	V	338.0	13.8	68.20	11.75

802.11ac80 Mode(ANT 1&ANT 2&ANT 3 transmitting simultaneously):

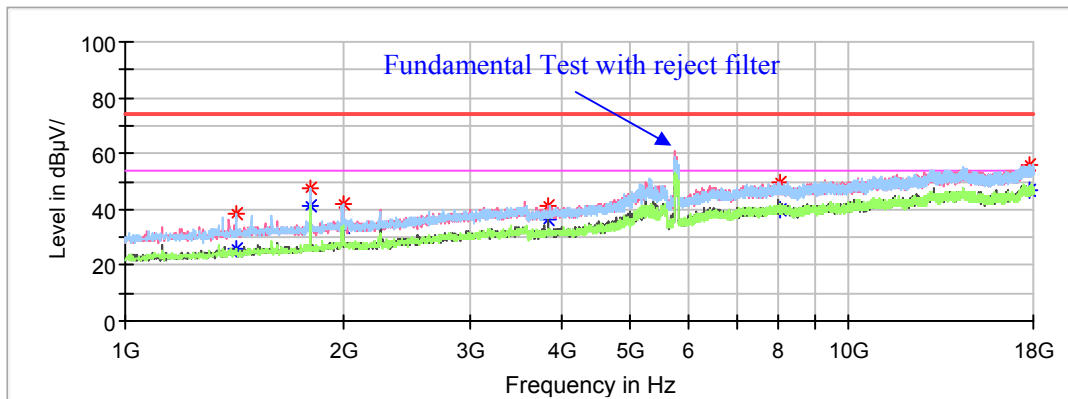
Pre-scan with X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded

Note:

1. This test was performed with the 5725-5850MHz band reject filter.
2. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
 Corrected Amplitude = Corrected Factor + Reading
 Margin = Limit - Corrected. Amplitude

Low Channel: 5775MHz

Full Spectrum

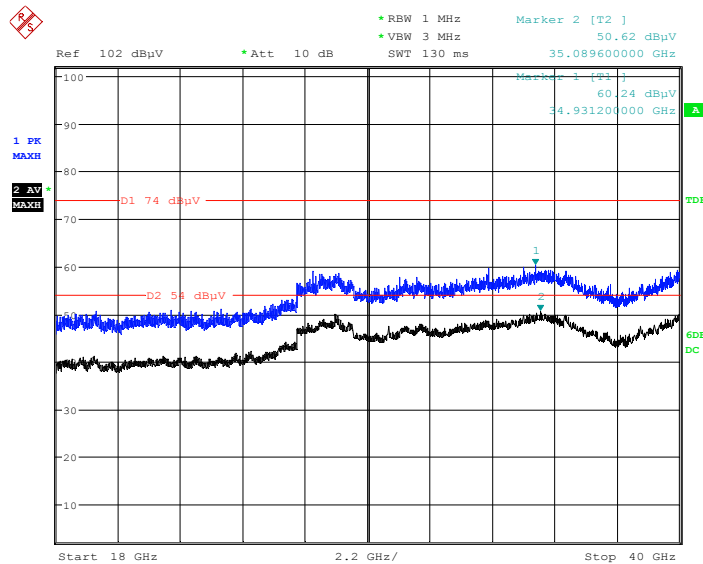


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1426.70	---	26.10	100	H	25.0	-10.3	54.00	27.90
1426.70	38.71	---	100	H	25.0	-10.3	74.00	35.29
1799.00	47.64	---	150	H	3.0	-8.9	68.20	20.56
1997.90	42.00	---	100	V	0.0	-8.2	68.20	26.20
3849.20	---	36.35	200	V	266.0	-2.4	54.00	17.65
3849.20	41.22	---	200	V	266.0	-2.4	74.00	32.78
8012.50	49.79	---	250	V	350.0	7.0	68.20	18.41
17760.30	56.04	---	150	V	112.0	13.9	68.20	12.16

18GHz-40GHz (5150-5250MHz Band):

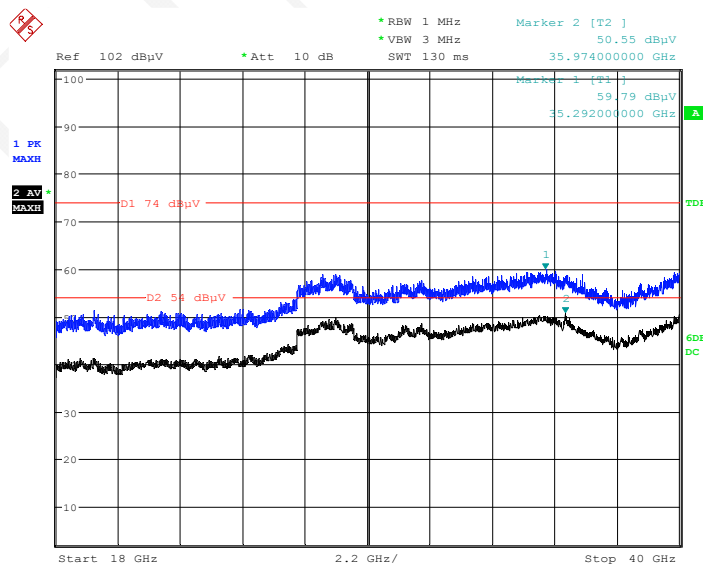
Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11ac20 mode in channel 5200 in Z-axis of orientation was recorded

Horizontal



Date: 7.NOV.2019 13:20:58

Vertical

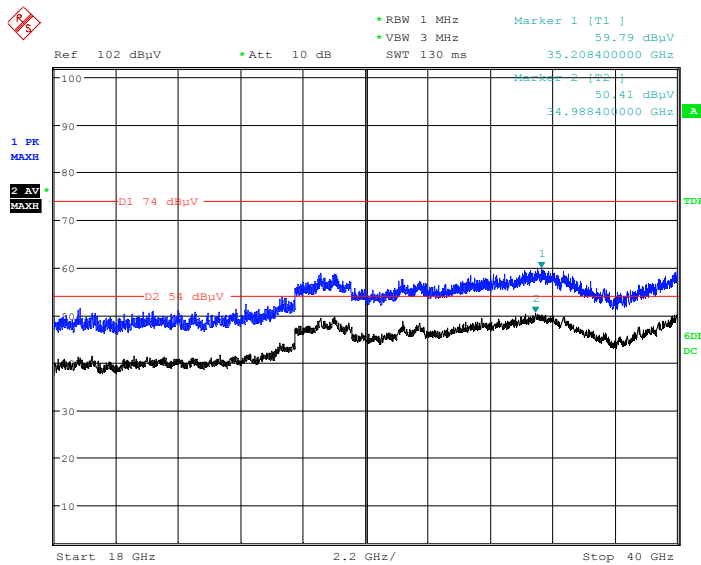


Date: 7.NOV.2019 13:09:19

18GHz-40GHz (5725-5850 Band):

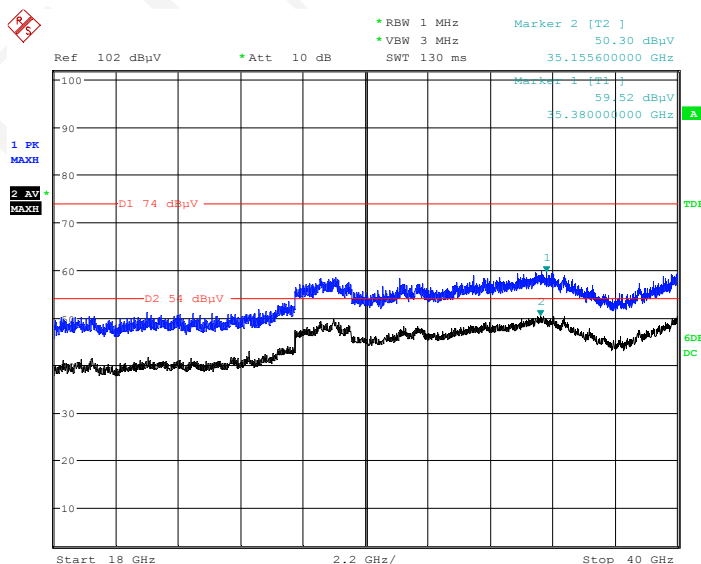
Pre-scan with 802.11a, 802.11ac20, 802.11n-HT20, 802.11ac40, 802.11n-HT40 and 802.11ac80 modes of operation in the X,Y and Z axes of orientation, the worst case 802.11ac20 mode in channel 5785 in Z-axis of orientation was recorded

Horizontal



Date: 7.NOV.2019 13:56:06

Vertical



Date: 7.NOV.2019 13:41:35

Restricted Bands Emissions Test (5150-5250MHz Band):

Note:

Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

Corrected Amplitude = Corrected Factor + Reading

Margin = Limit - Corrected. Amplitude

802.11a Mode (ANT 1): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5180MHz								
5150.00	56.31	---	200	V	55	10.2	74.00	17.69
5150.00	---	48.41	200	V	55	10.2	54.00	5.59
High Channel: 5240MHz								
5350.00	55.74	---	100	V	148	10.6	74.00	18.26
5350.00	---	47.75	100	V	148	10.6	54.00	6.25

802.11a Mode (ANT 2): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5180MHz								
5150.00	55.26	---	100	V	292	10.2	74.00	18.74
5150.00	---	48.29	100	V	292	10.2	54.00	5.71
High Channel: 5240MHz								
5350.00	55.58	---	250	V	78	10.6	74.00	18.42
5350.00	---	47.62	250	V	78	10.6	54.00	6.38

802.11a Mode (ANT 3): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5180MHz								
5150.00	55.42	---	200	V	26	10.2	74.00	18.58
5150.00	---	48.45	200	V	26	10.2	54.00	5.55
High Channel: 5240MHz								
5350.00	55.69	---	200	V	212	10.6	74.00	18.31
5350.00	---	47.57	200	V	212	10.6	54.00	6.43

802.11ac20 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5180MHz								
5150.00	55.39	---	150	V	183	10.2	74.00	18.61
5150.00	---	48.23	150	V	183	10.2	54.00	5.77
High Channel: 5240MHz								
5350.00	55.46	---	200	V	96	10.6	74.00	18.54
5350.00	---	47.76	200	V	96	10.6	54.00	6.24

802.11n-HT20 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5180MHz								
5150.00	55.35	---	150	V	202	10.2	74.00	18.65
5150.00	---	48.38	150	V	202	10.2	54.00	5.62
High Channel: 5240MHz								
5350.00	55.67	---	200	V	178	10.6	74.00	18.33
5350.00	---	47.65	200	V	178	10.6	54.00	6.35

802.11ac40 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5190MHz								
5150.00	59.11	---	200	V	6	10.2	74.00	14.89
5150.00	---	50.65	200	V	6	10.2	54.00	3.35
Middle Channel: 5230MHz								
5350.00	55.52	---	200	V	219	10.6	74.00	18.48
5350.00	---	47.54	200	V	219	10.6	54.00	6.46

802.11n-HT40 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5190MHz								
5150.00	59.11	---	200	V	350	10.2	74.00	14.89
5150.00	---	50.65	200	V	350	10.2	54.00	3.35
Middle Channel: 5230MHz								
5350.00	55.52	---	200	V	292	10.6	74.00	18.48
5350.00	---	47.54	200	V	292	10.6	54.00	6.46

802.11ac80 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Channel: 5210MHz								
5150.00	58.15	---	200	V	254	10.2	74.00	15.85
5150.00	---	50.89	200	V	254	10.2	54.00	3.11
5350.00	55.47	---	200	V	90	10.6	74.00	18.53
5350.00	---	47.44	200	V	90	10.6	54.00	6.56

Restricted Bands Emissions Test (5725-5850MHz band):

Note:

1. Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
2. Corrected Amplitude = Corrected Factor + Reading
3. Margin = Limit - Corrected. Amplitude

802.11a Mode (ANT 1): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5745MHz								
5650.00	57.88	---	150	V	128.0	11.7	68.20	10.32
5700.00	59.15	---	250	V	350.0	11.8	105.20	46.05
5720.00	78.51	---	200	V	71.0	11.8	110.80	32.29
5725.00	85.36	---	200	V	98.0	11.8	122.20	36.84
High Channel: 5825MHz								
5850.00	69.69	---	200	V	241.0	12.0	122.20	52.51
5855.00	61.43	---	100	V	206.0	12.0	110.80	49.37
5875.00	54.41	---	150	V	304.0	12.1	105.20	50.79
5925.00	55.51	---	250	V	34.0	12.2	68.20	12.69

802.11a Mode (ANT 2): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5745MHz								
5650.00	57.75	---	100	V	283.0	11.7	68.20	10.45
5700.00	59.14	---	200	V	282.0	11.8	105.20	46.06
5720.00	78.46	---	100	V	37.0	11.8	110.80	32.34
5725.00	85.39	---	100	V	153.0	11.8	122.20	36.81
High Channel: 5825MHz								
5850.00	69.54	---	150	V	200.0	12.0	122.20	52.66
5855.00	61.41	---	200	V	176.0	12.0	110.80	49.39
5875.00	54.39	---	200	V	205.0	12.1	105.20	50.81
5925.00	54.81	---	150	V	332.0	12.2	68.20	13.39

802.11a Mode (ANT 3): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5745MHz								
5650.00	57.76	---	200	V	227.0	11.7	68.20	10.44
5700.00	59.23	---	100	V	220.0	11.8	105.20	45.97
5720.00	78.52	---	250	V	224.0	11.8	110.80	32.28
5725.00	85.43	---	250	V	295.0	11.8	122.20	36.77
High Channel: 5825MHz								
5850.00	69.48	---	150	V	278.0	12.0	122.20	52.72
5855.00	61.33	---	200	V	351.0	12.0	110.80	49.47
5875.00	54.28	---	250	V	107.0	12.1	105.20	50.92
5925.00	54.75	---	200	V	4.0	12.2	68.20	13.45

802.11ac20 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5745MHz								
5650.00	58.21	---	150	V	43.0	11.7	68.20	9.99
5700.00	59.24	---	250	V	276.0	11.8	105.20	45.96
5720.00	78.52	---	200	V	328.0	11.8	110.80	32.28
5725.00	85.45	---	200	V	181.0	11.8	122.20	36.75
High Channel: 5825MHz								
5850.00	69.8	---	200	V	43.0	12.0	122.20	52.4
5855.00	61.44	---	100	V	305.0	12.0	110.80	49.36
5875.00	54.27	---	150	V	64.0	12.1	105.20	50.93
5925.00	52.43	---	250	V	100.0	12.2	68.20	15.77

802.11n-HT20 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5745MHz								
5650.00	58.25	---	150	V	329.0	11.7	68.20	9.95
5700.00	59.29	---	150	V	244.0	11.8	105.20	45.91
5720.00	78.61	---	100	V	17.0	11.8	110.80	32.19
5725.00	85.55	---	200	V	155.0	11.8	122.20	36.65
High Channel: 5825MHz								
5850.00	69.77	---	200	V	112.0	12.0	122.20	52.43
5855.00	61.42	---	100	V	1.0	12.0	110.80	49.38
5875.00	54.32	---	150	V	306.0	12.1	105.20	50.88
5925.00	52.53	---	200	V	206.0	12.2	68.20	15.67

802.11ac40 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5755MHz								
5650.00	5650	54.83	---	150	V	311.0	68.20	13.37
5700.00	5700	61.6	---	200	V	164.0	105.20	43.6
5720.00	5720	79.24	---	250	V	324.0	110.80	31.56
5725.00	5725	78.46	---	150	V	346.0	122.20	43.74
High Channel: 5795MHz								
5850.00	58.61	---	100	V	314.0	12.0	122.20	63.59
5855.00	59.23	---	200	V	84.0	12.0	110.80	51.57
5875.00	56.49	---	250	V	114.0	12.1	105.20	48.71
5925.00	54.4	---	150	V	138.0	12.2	68.20	13.8

802.11n-HT40 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5755MHz								
5650.00	54.79	---	200	V	93.0	11.7	68.20	13.41
5700.00	61.58	---	100	V	241.0	11.8	105.20	43.62
5720.00	79.25	---	150	V	106.0	11.8	110.80	31.55
5725.00	78.33	---	150	V	316.0	11.8	122.20	43.87
High Channel: 5795MHz								
5850.00	58.65	---	250	V	251.0	12.0	122.20	63.55
5855.00	59.3	---	200	V	196.0	12.0	110.80	51.50
5875.00	56.42	---	200	V	140.0	12.1	105.20	48.78
5925.00	54.27	---	150	V	318.0	12.2	68.20	13.93

802.11ac80 Mode (ANT 1&ANT 2&ANT 3 transmitting simultaneously): (Pre-scan in the X, Y and Z axes of orientation, the worst case in Z-axis of orientation was recorded)

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Correct Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
Low Channel: 5775MHz								
5650.00	57.43	---	100	V	183.0	11.7	68.20	10.77
5700.00	74.23	---	150	V	103.0	11.8	105.20	30.97
5720.00	81.56	---	200	V	294.0	11.8	110.80	29.24
5725.00	79.54	---	200	V	45.0	11.8	122.20	42.66
5850.00	74.4	---	100	V	9.0	12.0	122.20	47.80
5855.00	76.96	---	100	V	92.0	12.0	110.80	33.84
5875.00	71.39	---	250	V	203.0	12.1	105.20	33.81
5925.00	54.55	---	200	V	151.0	12.2	68.20	13.65

FCC §15.407(a) & §15.407(e) – EMISSION BANDWIDTH

Applicable Standard

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

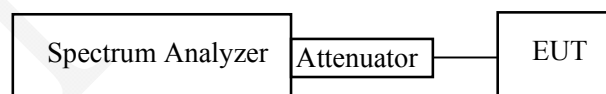
1. Emission Bandwidth (EBW)

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

2. Minimum Emission Bandwidth for the band 5.725-5.85 GHz

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Data

Environmental Conditions

Temperature:	23.5 °C~24.5 °C
Relative Humidity:	50 %~52 %
ATM Pressure:	101.2 kPa~101.4 kPa

The testing was performed by Carry Cai from 2019-11-04 to 2019-11-05.

Test Result: Pass.

5150-5250 MHz:

Test mode	Frequency (MHz)	26dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		ANT 1	ANT 2	ANT 3	ANT 1	ANT 2	ANT 3
802.11a	5180	25.651	25.651	24.609	17.154	17.074	17.074
	5200	24.489	24.329	24.248	16.994	17.074	16.994
	5240	24.128	24.369	23.808	16.994	16.994	16.914
802.11ac20	5180	26.132	26.052	25.571	18.196	18.116	18.116
	5200	25.932	26.333	25.852	18.116	18.116	18.116
	5240	24.609	25.090	23.968	18.036	18.036	18.036
802.11n-HT20	5180	25.651	26.613	26.693	18.116	18.116	18.116
	5200	26.573	25.691	25.210	18.116	18.116	18.116
	5240	23.808	24.930	25.251	18.116	18.036	18.116
802.11ac40	5190	46.533	47.495	46.533	36.874	36.713	36.713
	5230	45.812	45.331	45.491	36.553	36.713	36.713
802.11n-HT40	5190	46.373	46.212	46.212	36.874	36.874	36.713
	5230	46.453	46.774	45.972	36.713	36.874	36.713
802.11ac80	5210	90.421	93.307	92.665	76.313	76.313	76.313

5725-5850MHz:

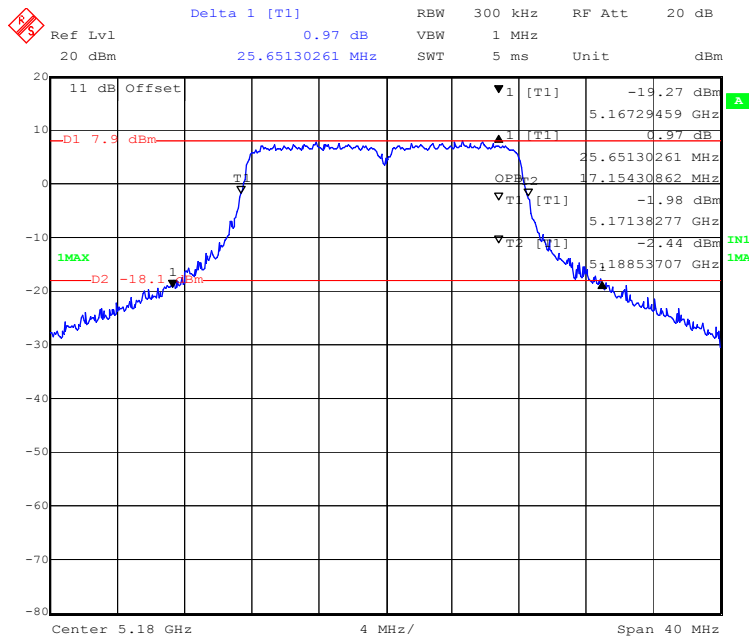
Test mode	Frequency (MHz)	6dB Bandwidth (MHz)			99% Bandwidth (MHz)			Limit (MHz)
		ANT 1	ANT 2	ANT 3	ANT 1	ANT 2	ANT 3	
802.11a	5745	16.513	16.513	16.513	17.475	17.315	17.315	≥0.5
	5785	16.513	16.513	16.513	17.715	17.796	17.635	≥0.5
	5825	16.593	16.513	16.433	17.715	17.796	17.715	≥0.5
802.11ac20	5745	17.796	17.715	17.796	18.196	18.277	18.357	≥0.5
	5785	17.715	17.715	17.715	18.677	18.677	18.998	≥0.5
	5825	17.796	17.796	17.715	18.677	18.597	18.758	≥0.5
802.11n-HT20	5745	17.715	17.796	17.715	18.357	18.357	18.437	≥0.5
	5785	17.715	17.796	17.715	18.677	18.597	18.677	≥0.5
	5825	17.715	17.635	17.635	18.838	18.838	18.918	≥0.5
802.11ac40	5755	36.713	36.713	36.553	36.874	36.874	36.874	≥0.5
	5795	36.513	36.353	36.192	37.194	37.194	37.034	≥0.5
802.11n-HT40	5755	36.393	36.713	36.553	36.713	36.874	37.034	≥0.5
	5795	36.513	36.513	36.673	37.034	37.034	37.034	≥0.5
802.11ac80	5775	75.671	75.351	75.671	76.954	76.633	76.633	≥0.5

5150-5250 MHz Band:

ANT 1:

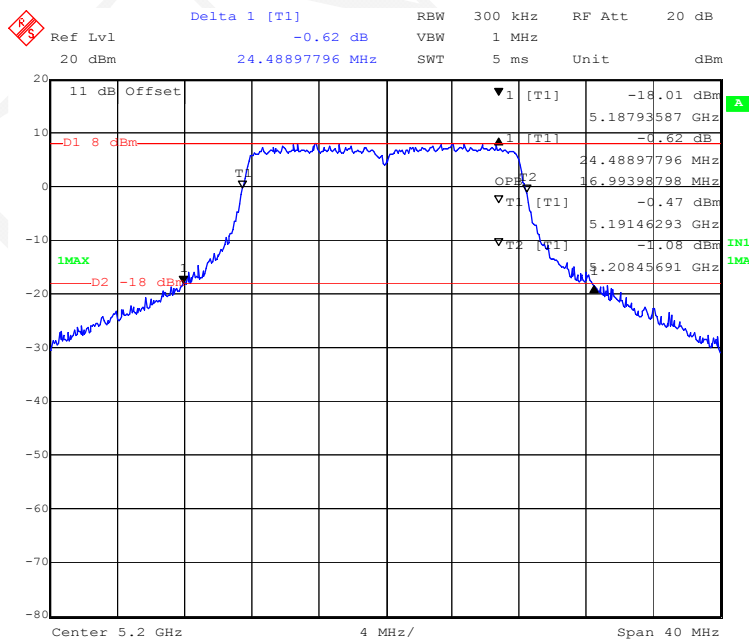
26 Bandwidth&99% Bandwidth

802.11a mode, 5180MHz



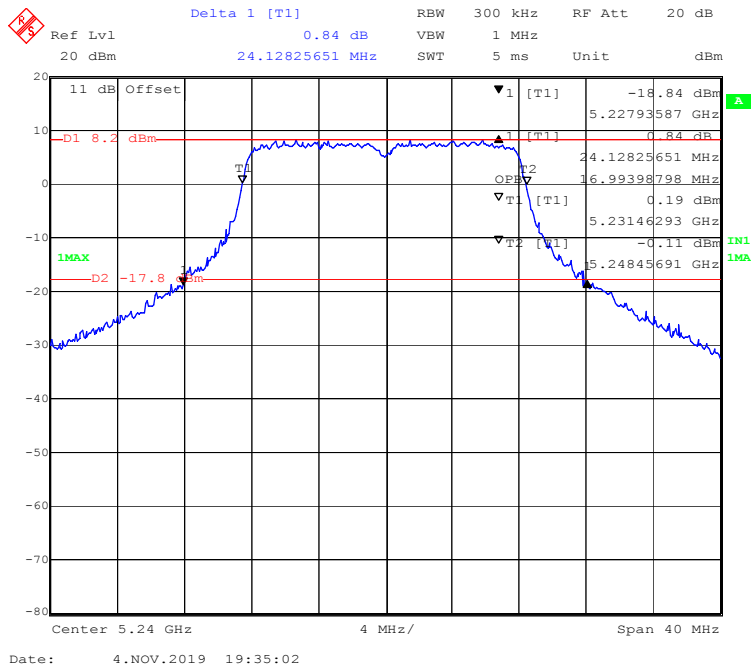
Date: 4.NOV.2019 19:22:09

802.11a mode, 5200MHz

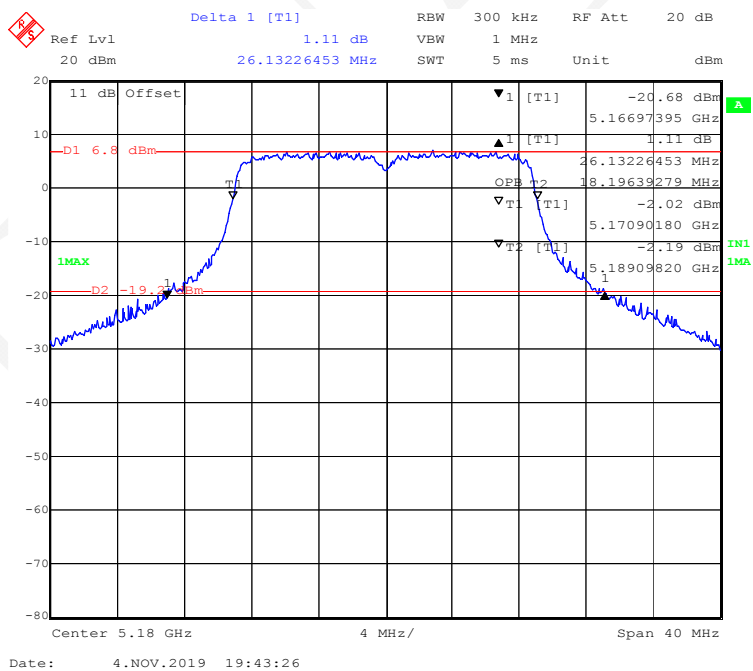


Date: 4.NOV.2019 19:27:49

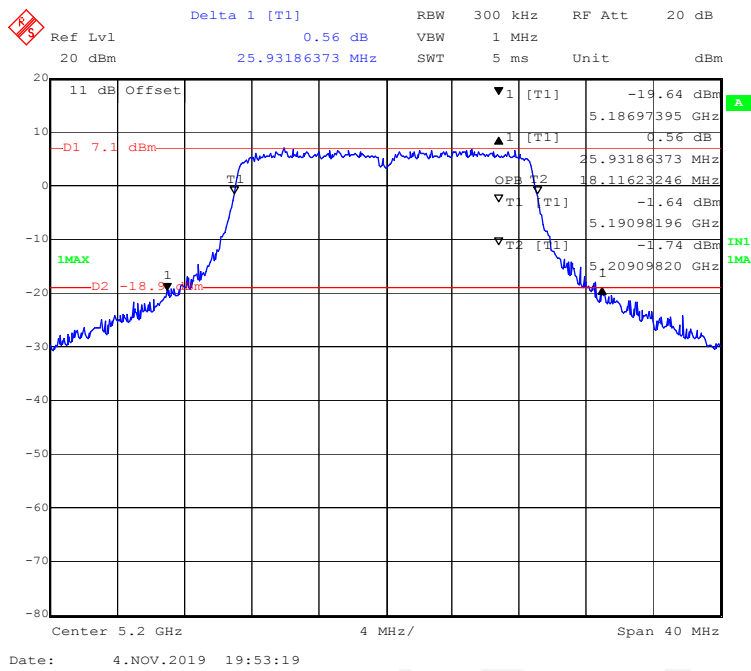
802.11a mode, 5240MHz



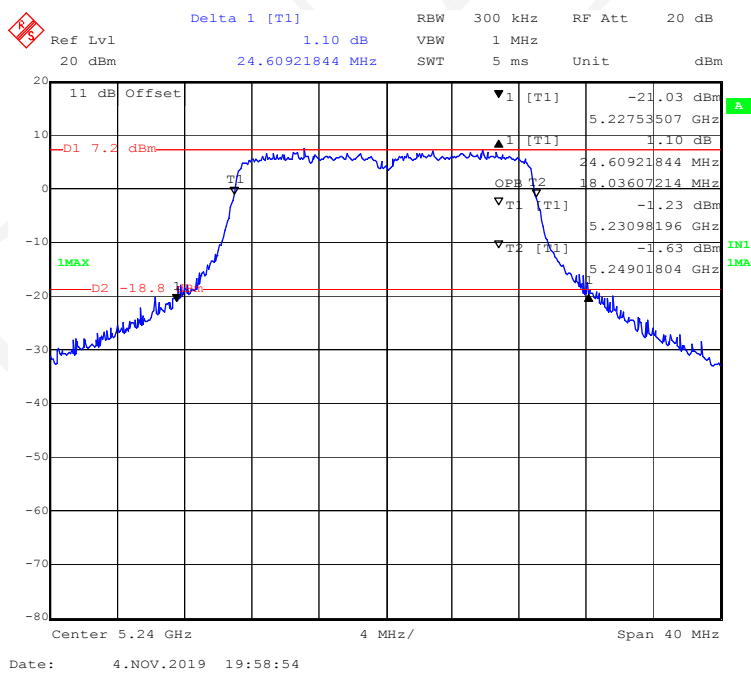
802.11ac20 mode, 5180MHz



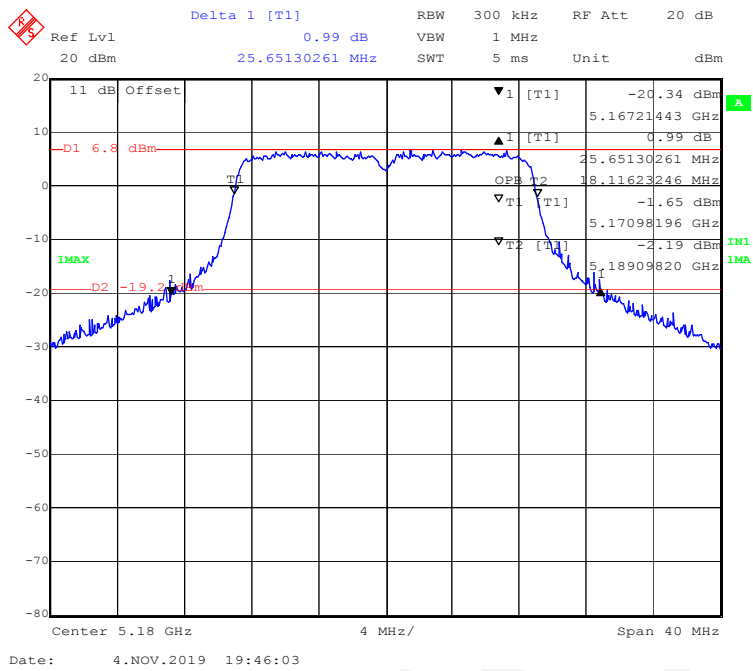
802.11ac20 mode, 5200MHz



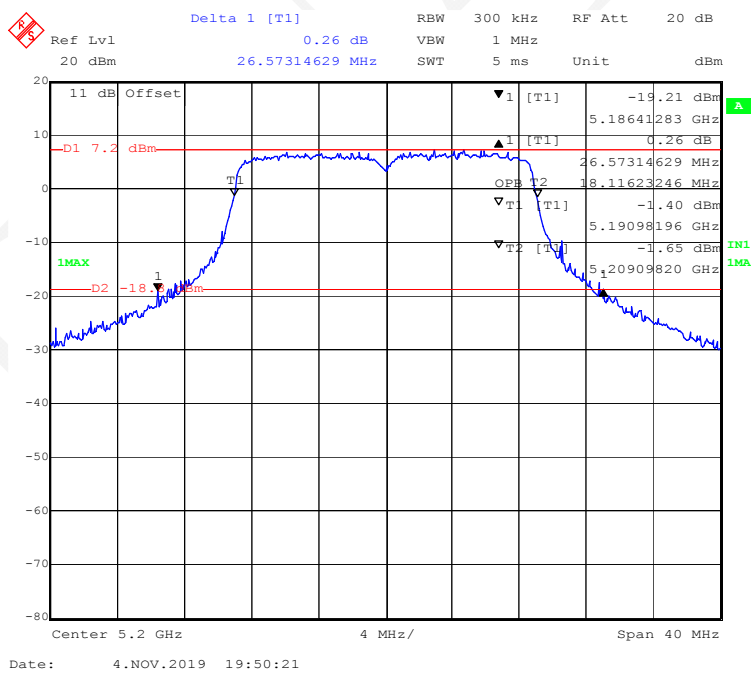
802.11ac20 mode, 5240MHz



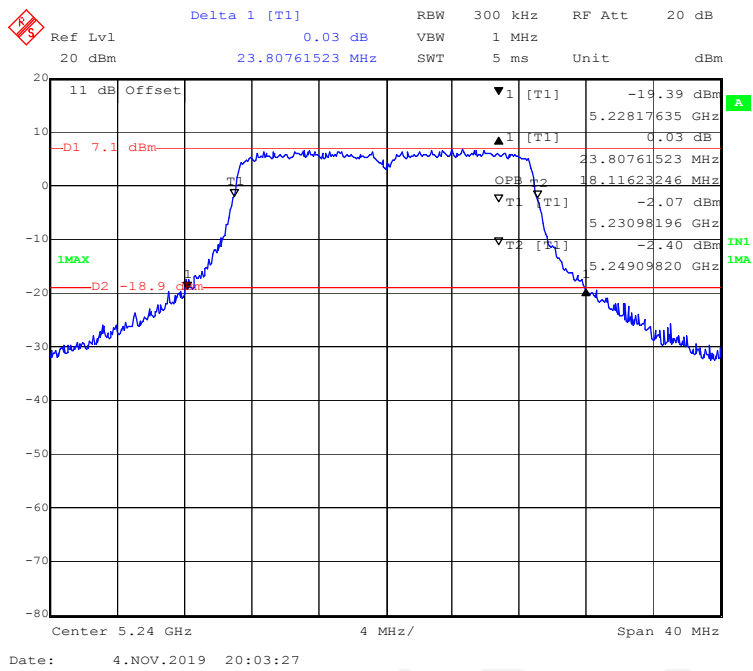
802.11n-HT20 mode, 5180MHz



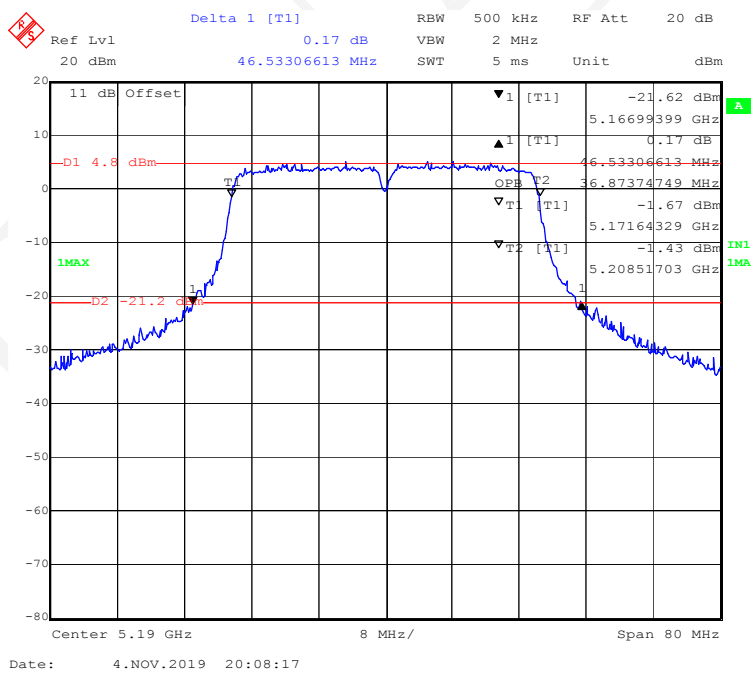
802.11n-HT20 mode, 5200MHz



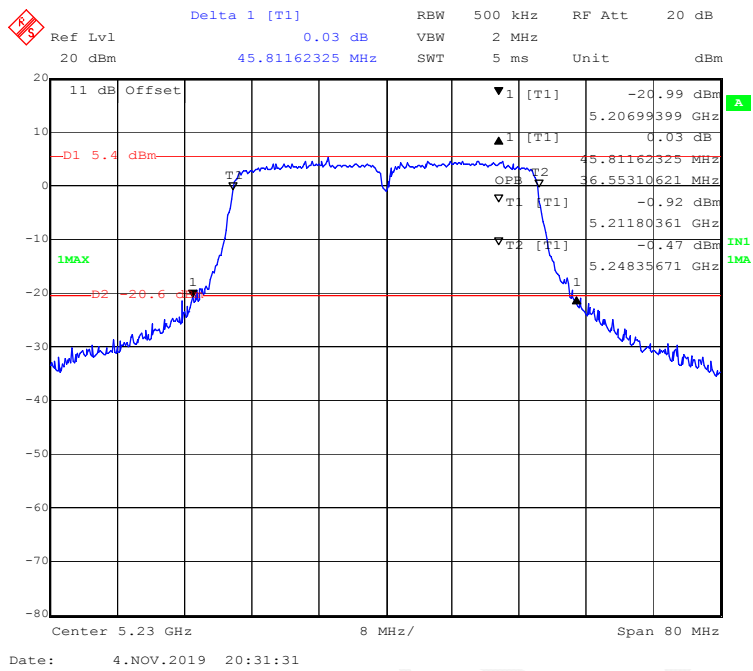
802.11n-HT20 mode, 5240MHz



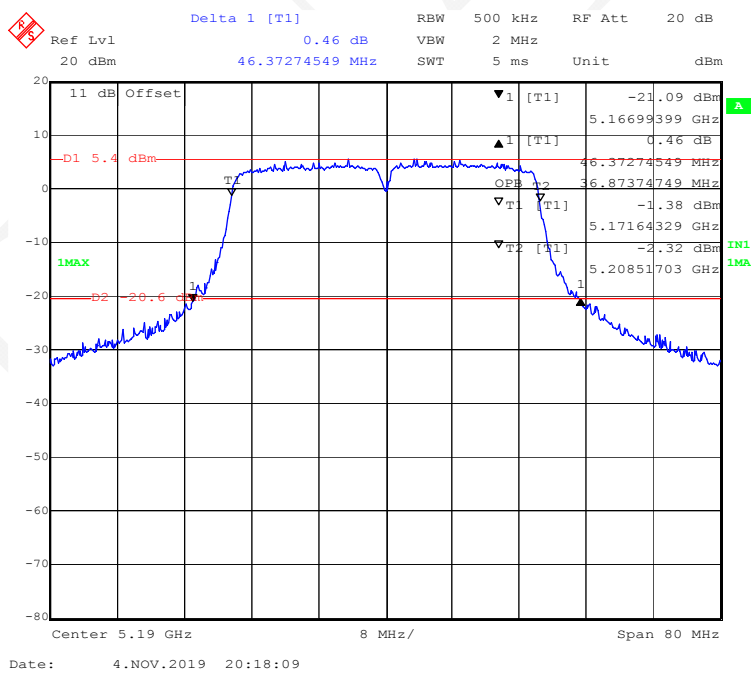
802.11ac40 mode, 5190MHz



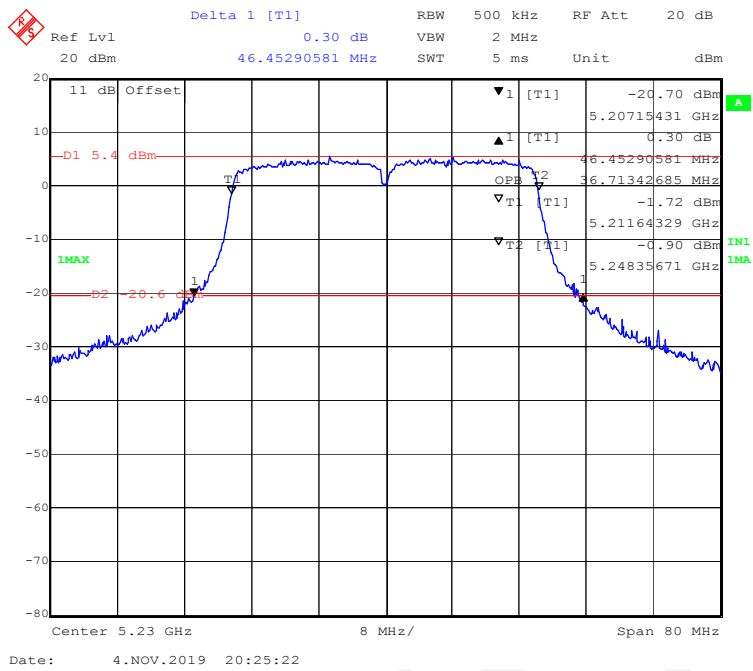
802.11ac40 mode, 5230MHz



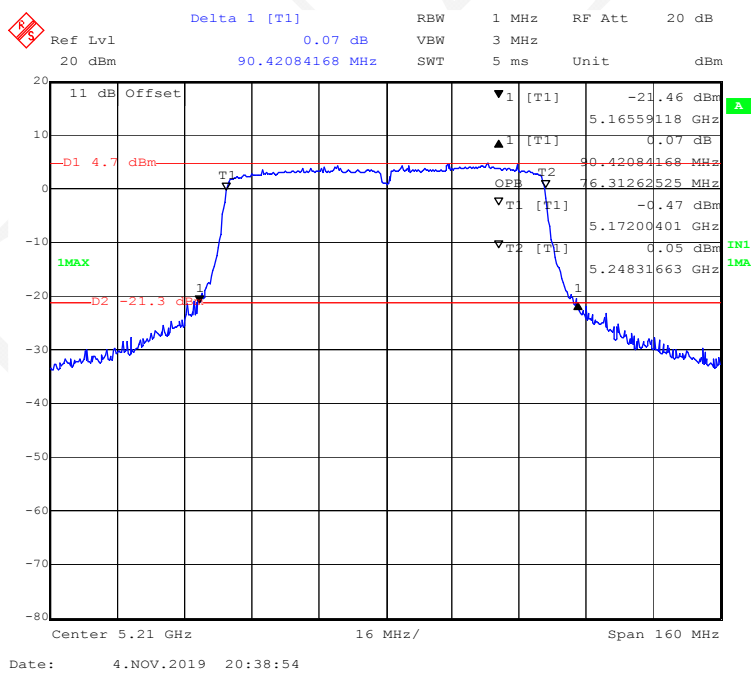
802.11n-HT40 mode, 5190MHz



802.11n-HT40 mode, 5230MHz

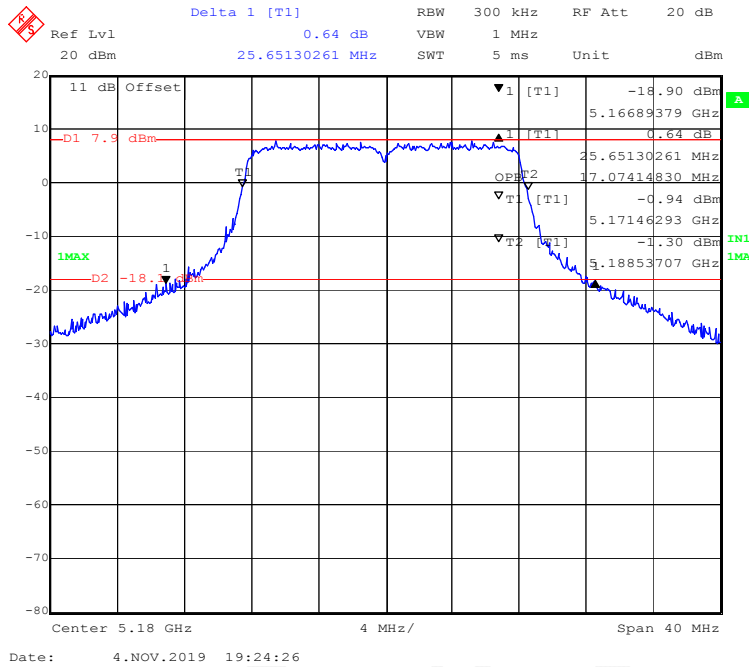


802.11ac80 mode, 5210MHz

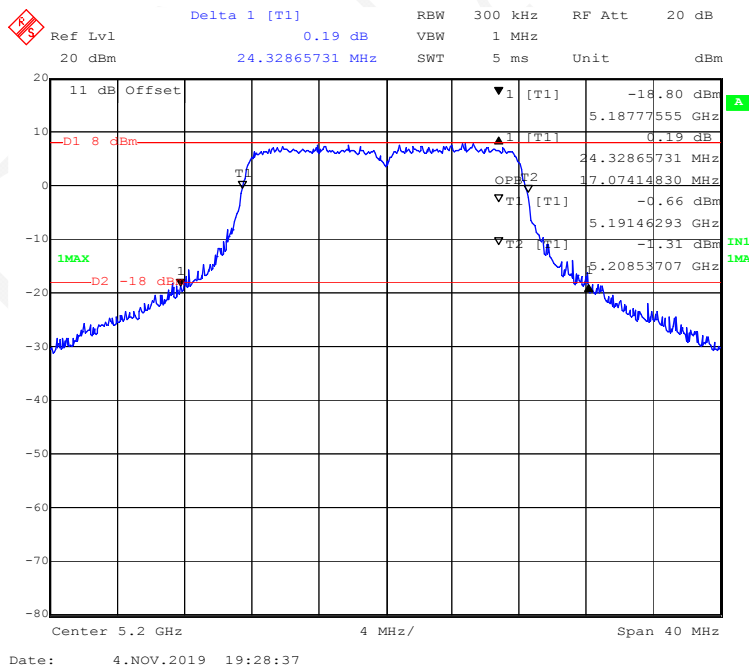


**ANT 2:
26 Bandwidth&99% Bandwidth**

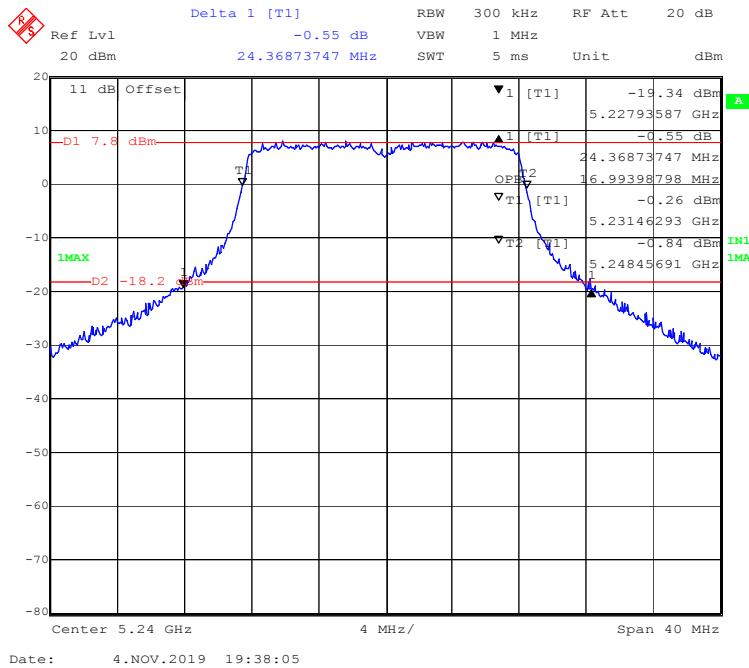
802.11a mode, 5180MHz



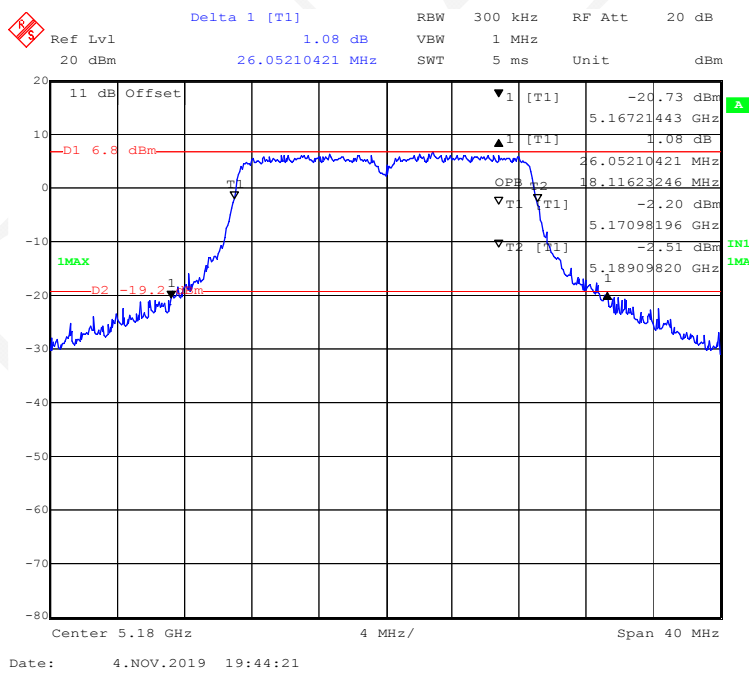
802.11a mode, 5200MHz



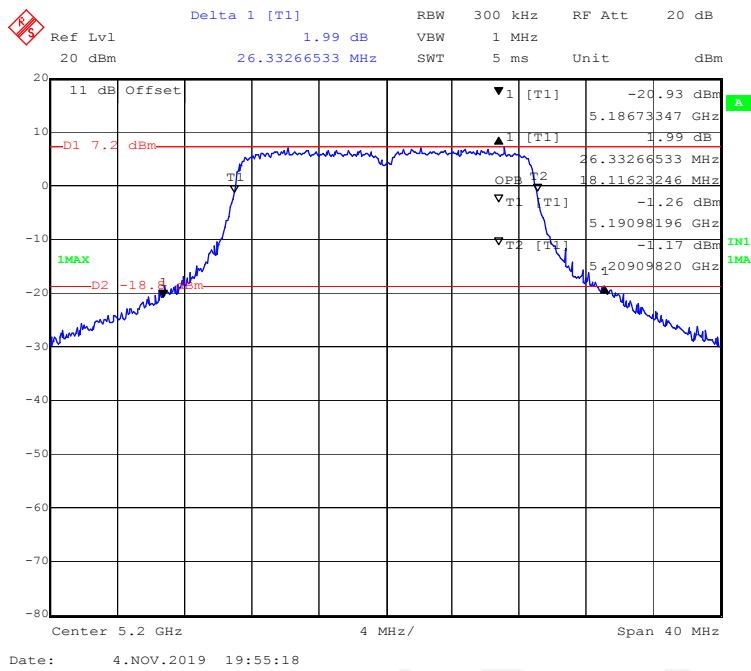
802.11a mode, 5240MHz



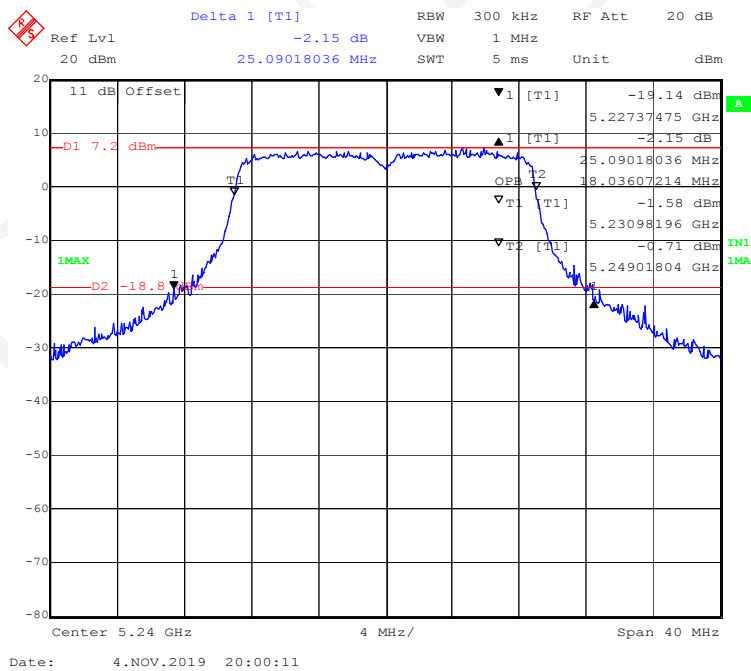
802.11ac20 mode, 5180MHz



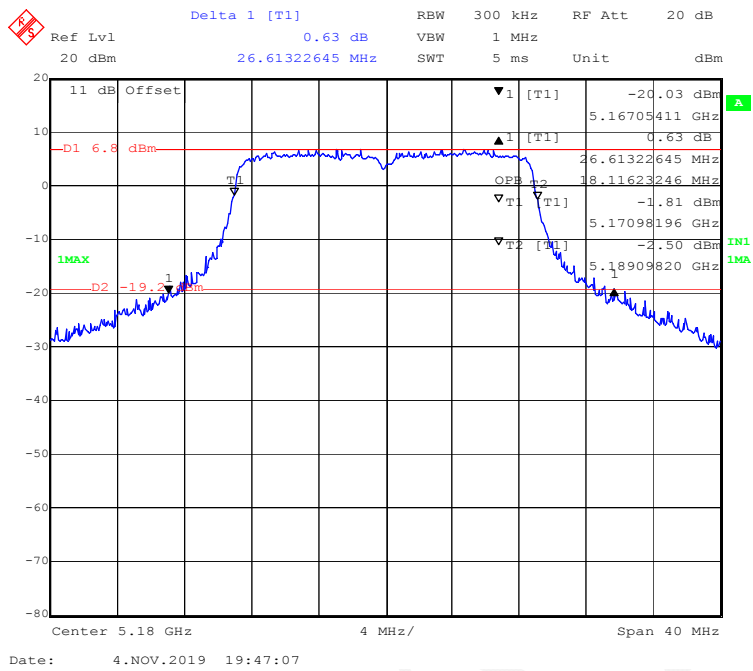
802.11ac20 mode, 5200MHz



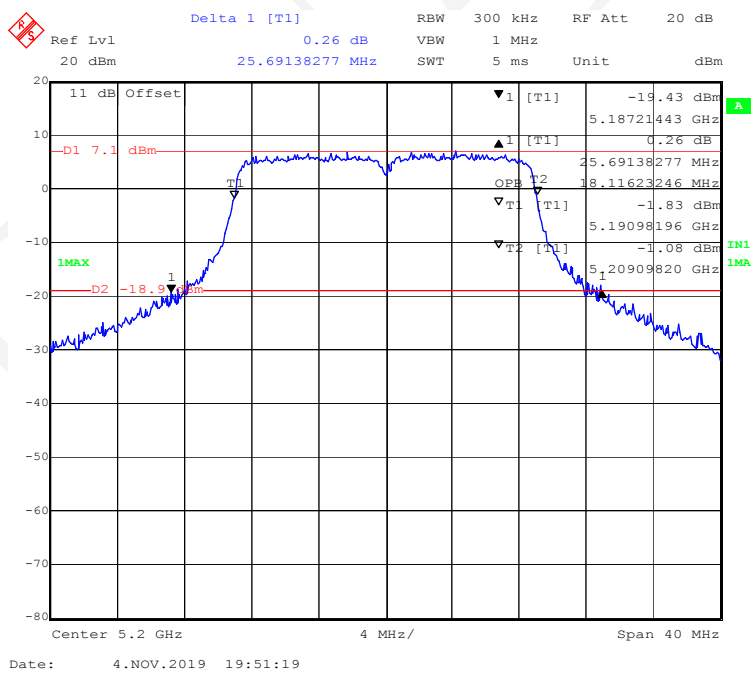
802.11ac20 mode, 5240MHz



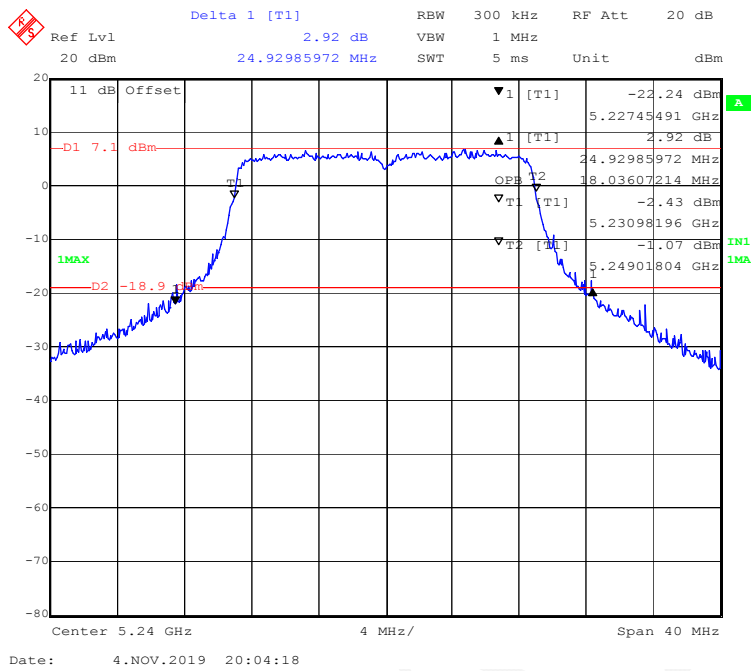
802.11n-HT20 mode, 5180MHz



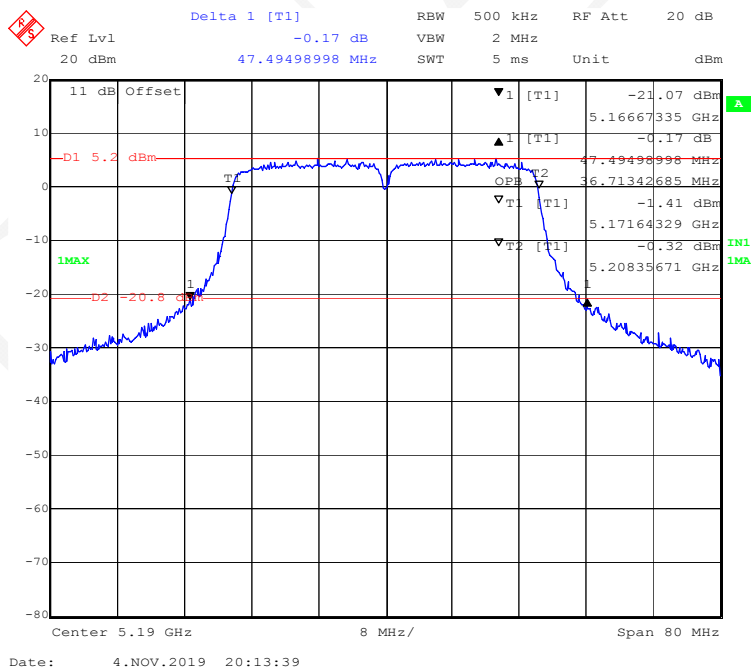
802.11n-HT20 mode, 5200MHz



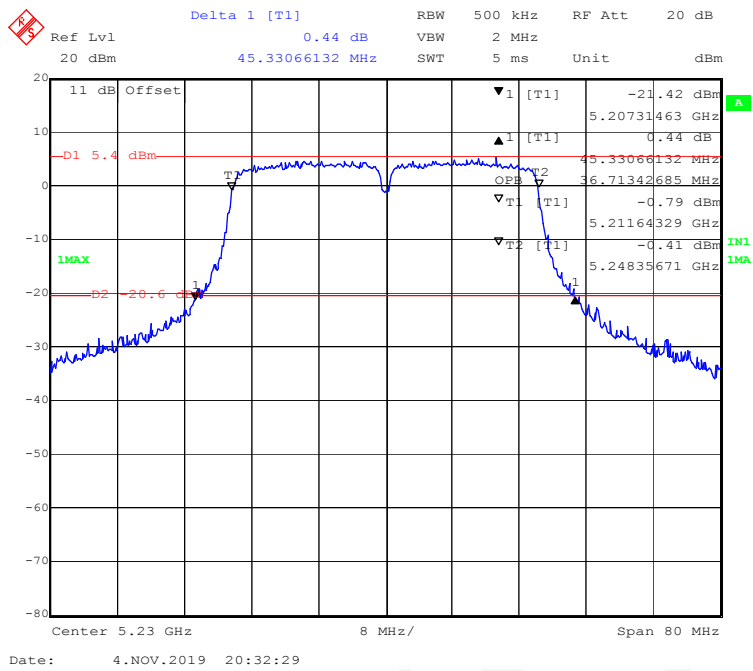
802.11n-HT20 mode, 5240MHz



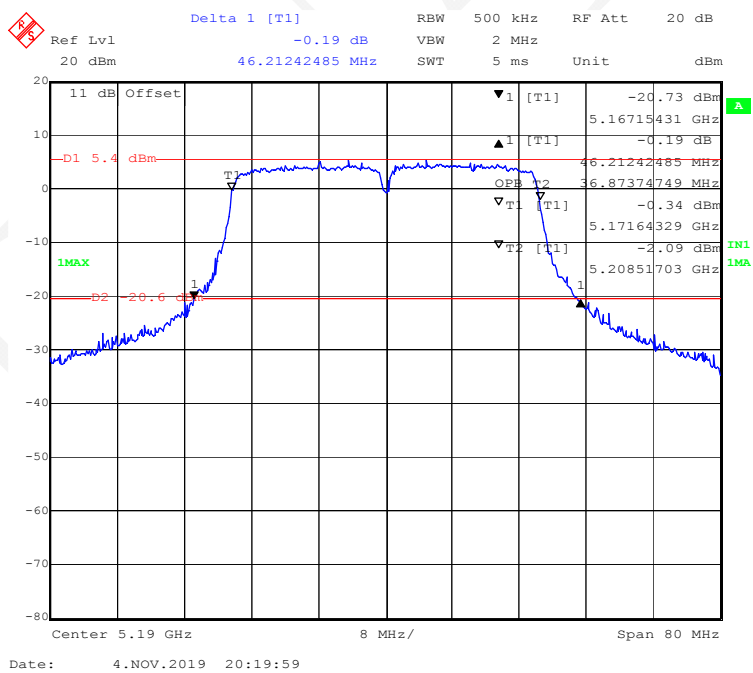
802.11ac40 mode, 5190MHz



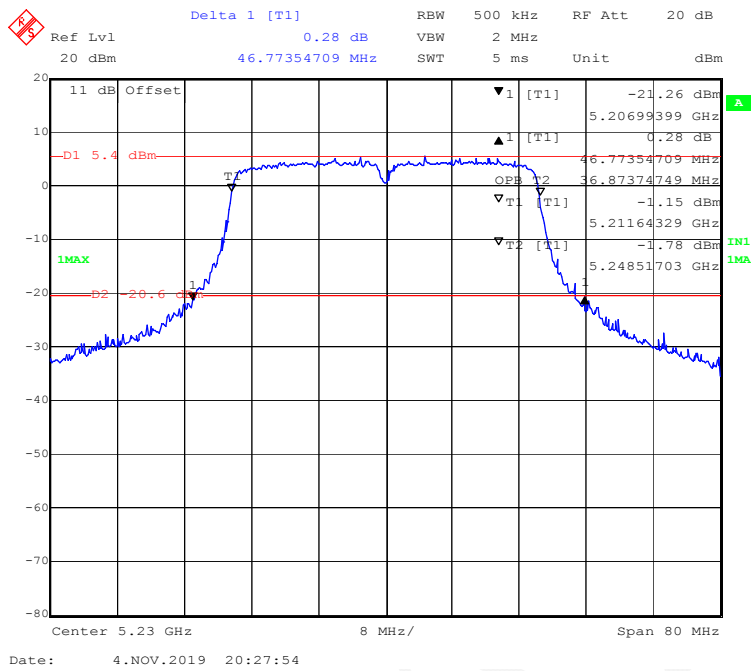
802.11ac40 mode, 5230MHz



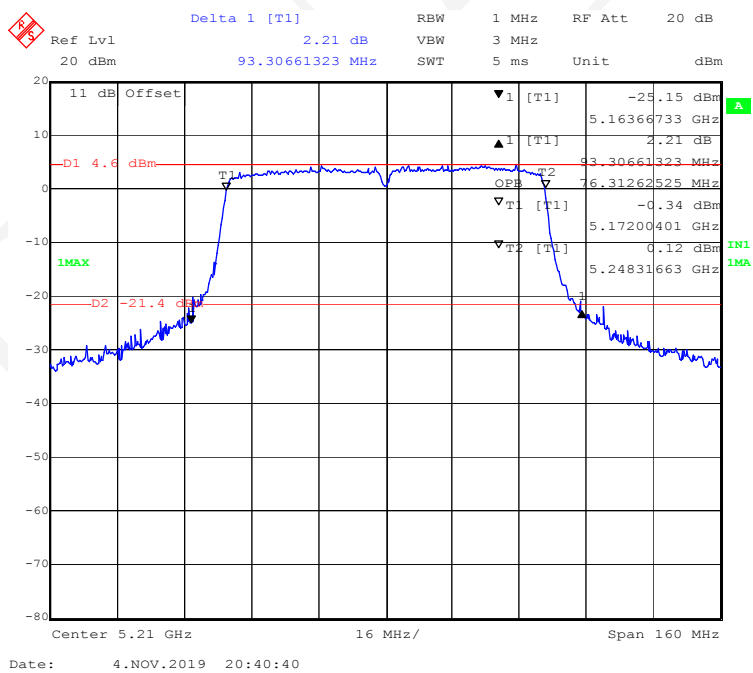
802.11n-HT40 mode, 5190MHz



802.11n-HT40 mode, 5230MHz

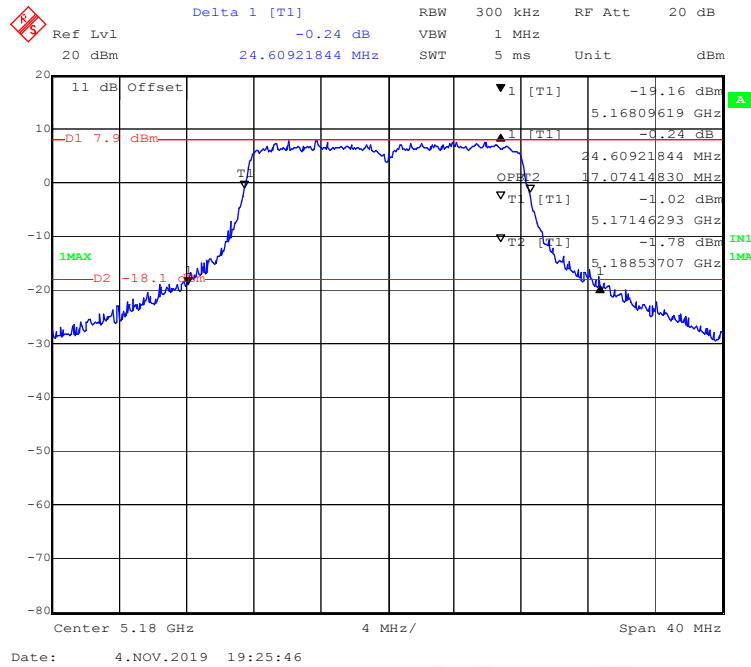


802.11ac80 mode, 5210MHz

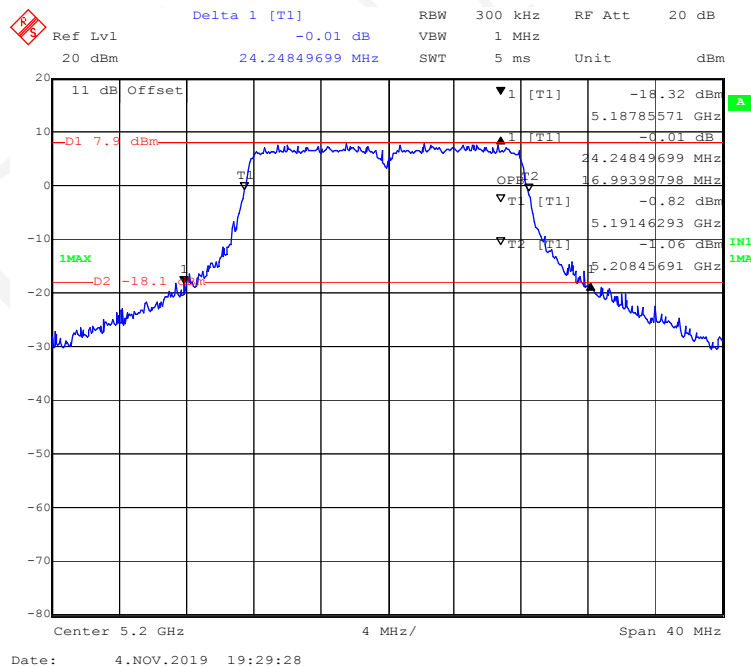


**ANT 3:
26 Bandwidth&99% Bandwidth**

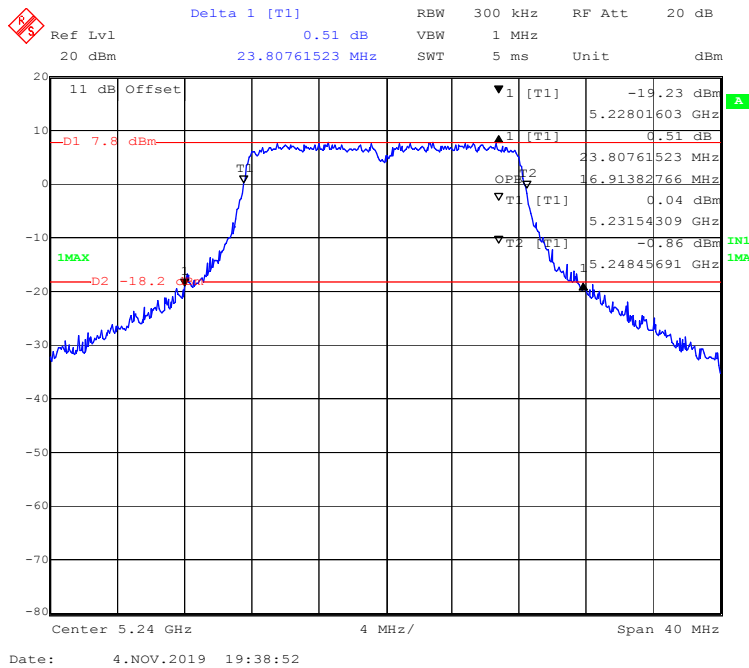
802.11a mode, 5180MHz



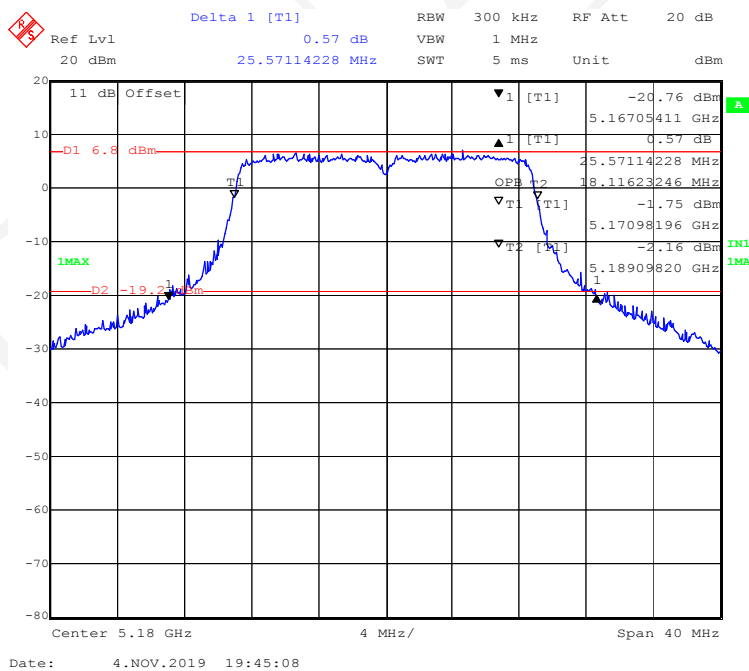
802.11a mode, 5200MHz



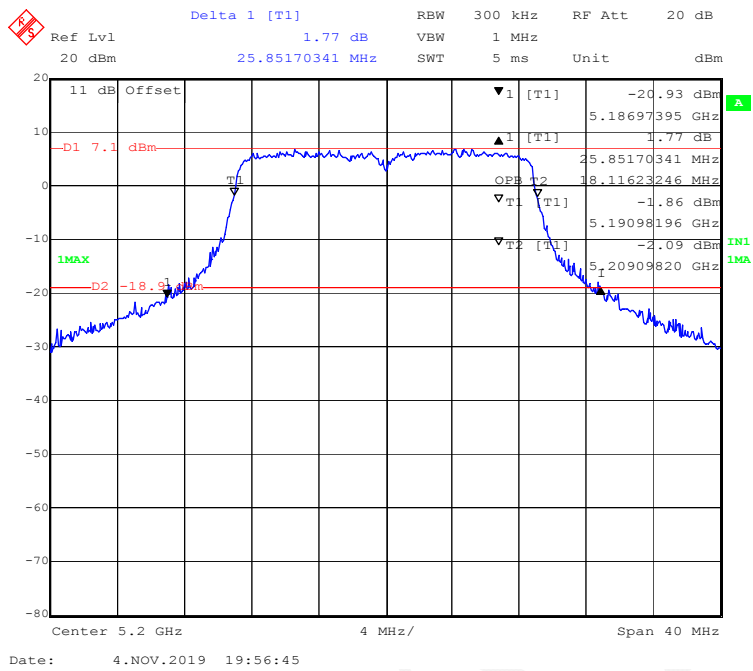
802.11a mode, 5240MHz



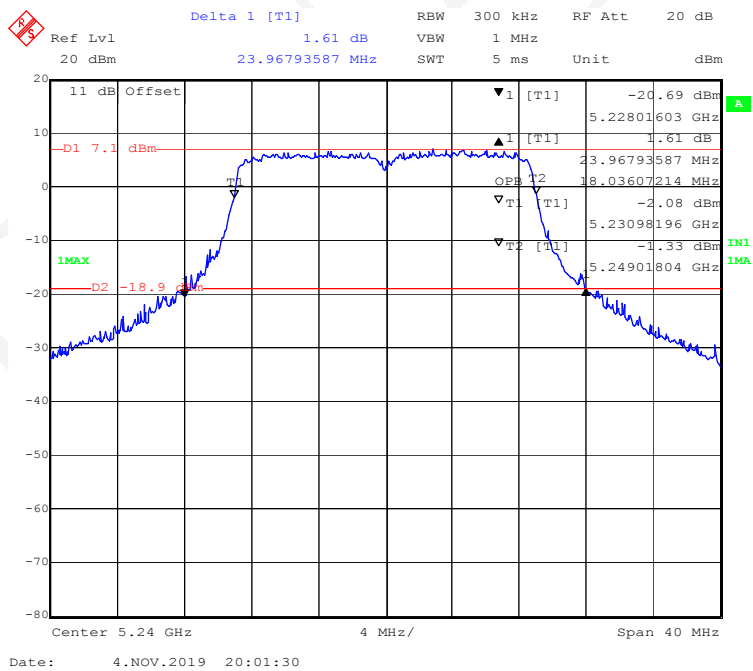
802.11ac20 mode, 5180MHz



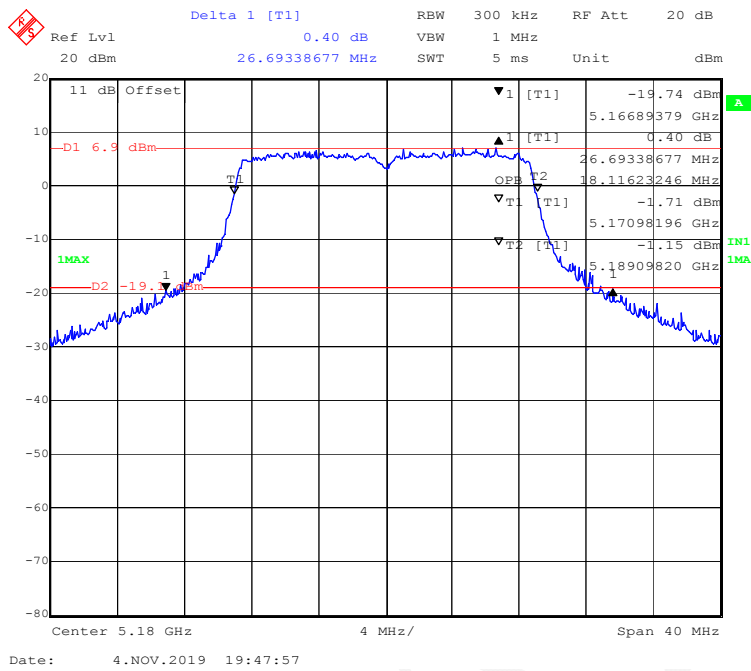
802.11ac20 mode, 5200MHz



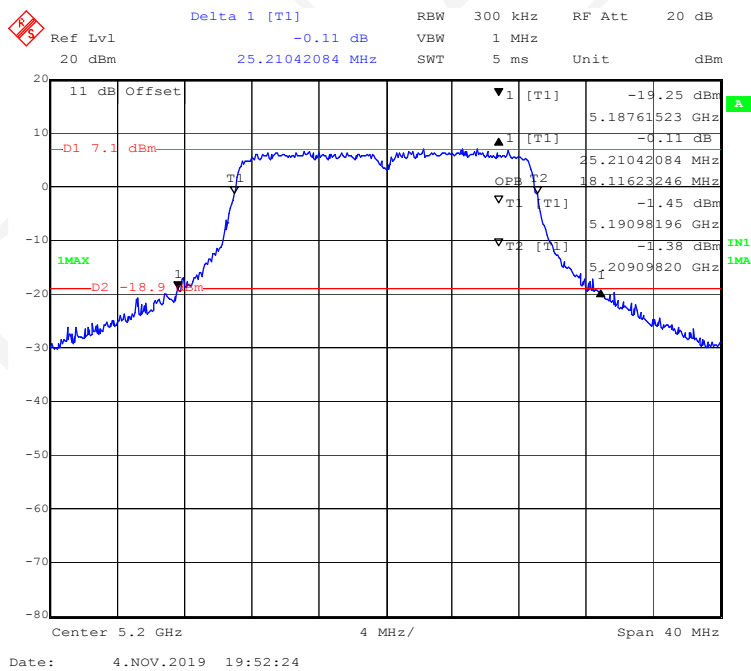
802.11ac20 mode, 5240MHz



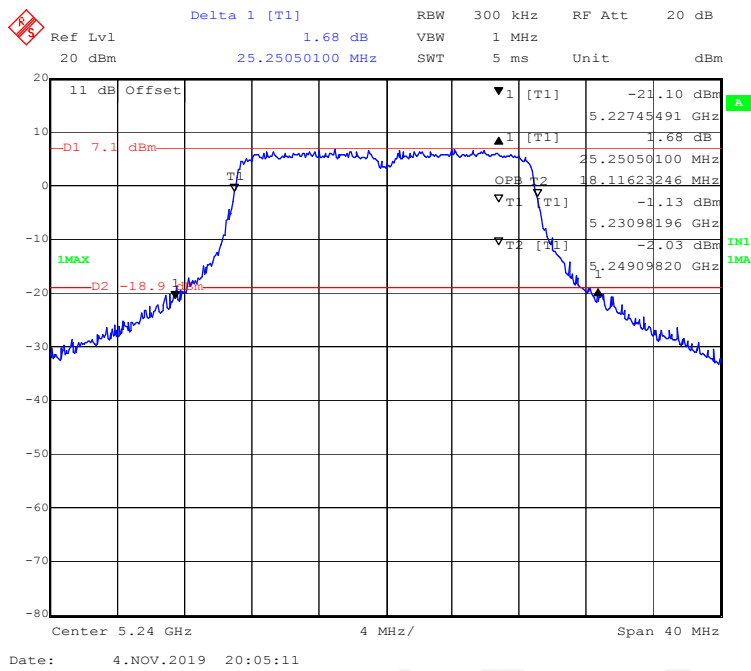
802.11n-HT20 mode, 5180MHz



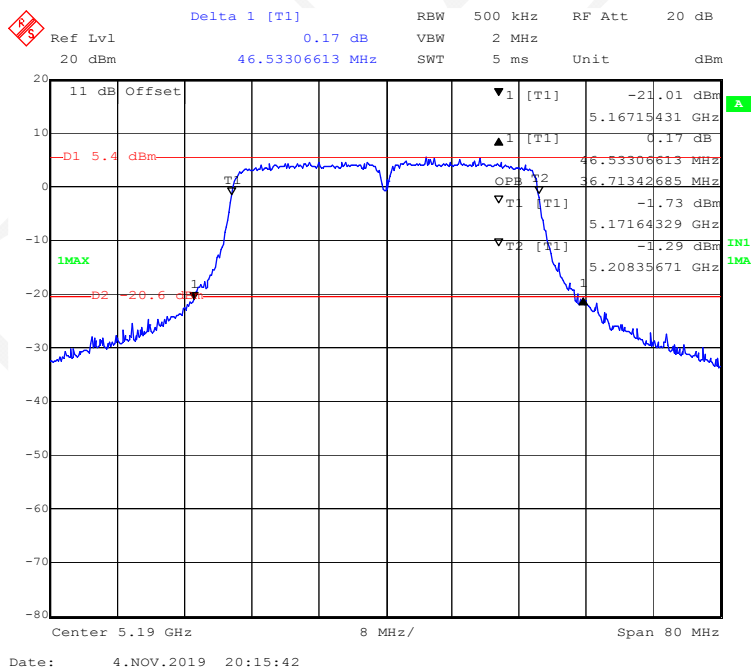
802.11n-HT20 mode, 5200MHz



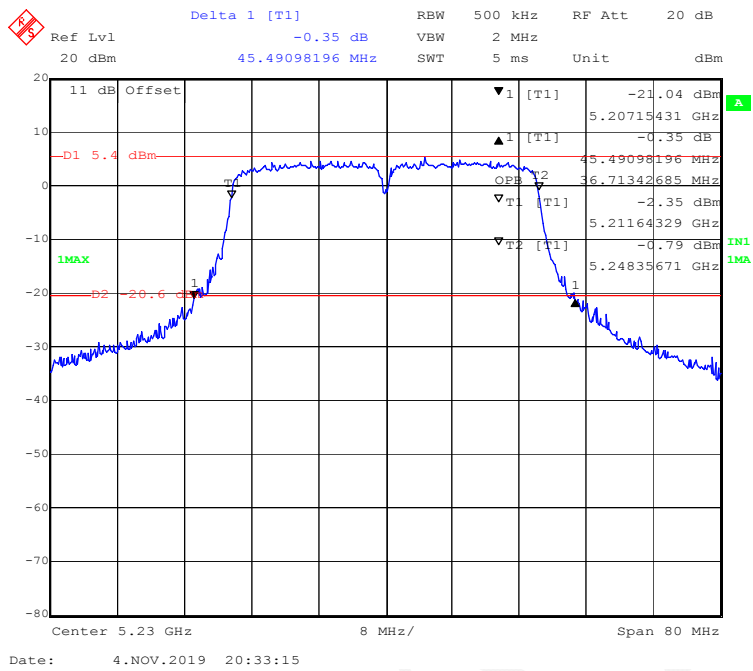
802.11n-HT20 mode, 5240MHz



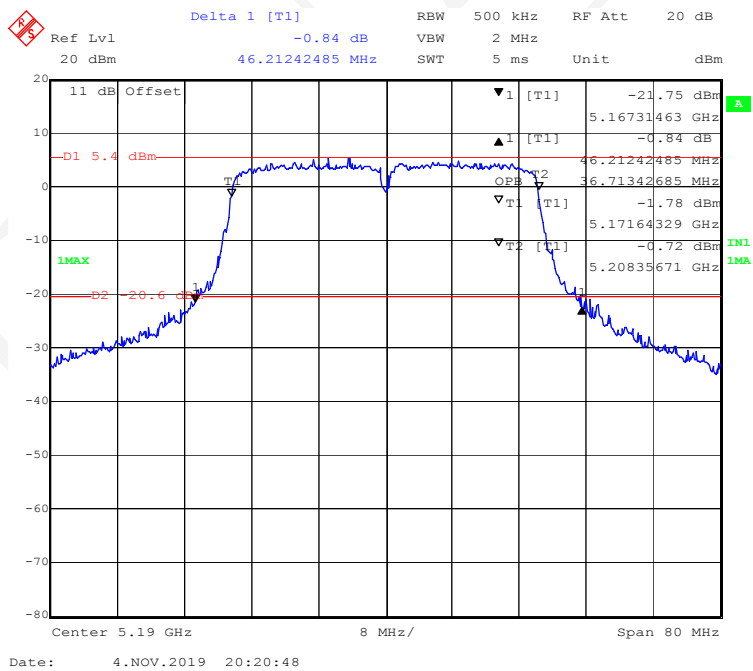
802.11ac40 mode, 5190MHz



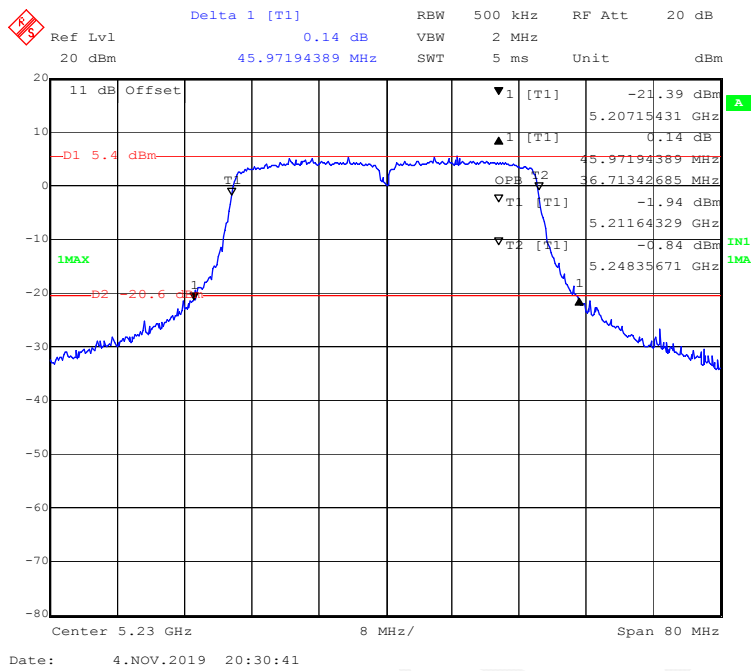
802.11ac40 mode, 5230MHz



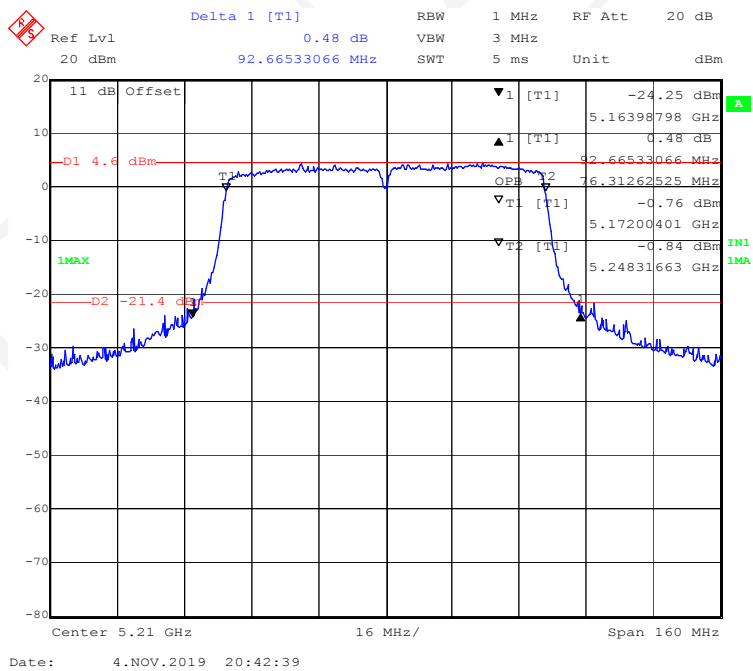
802.11n-HT40 mode, 5190MHz



802.11n-HT40 mode, 5230MHz



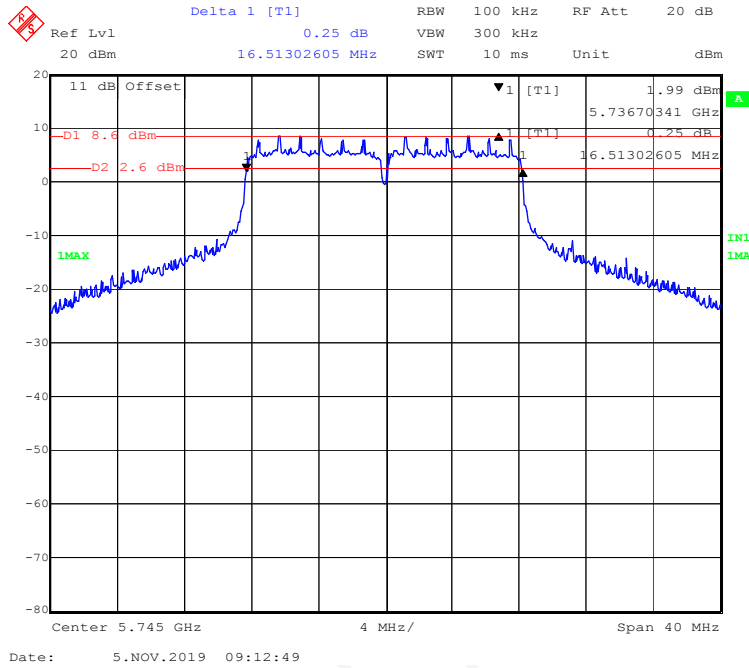
802.11ac80 mode, 5210MHz



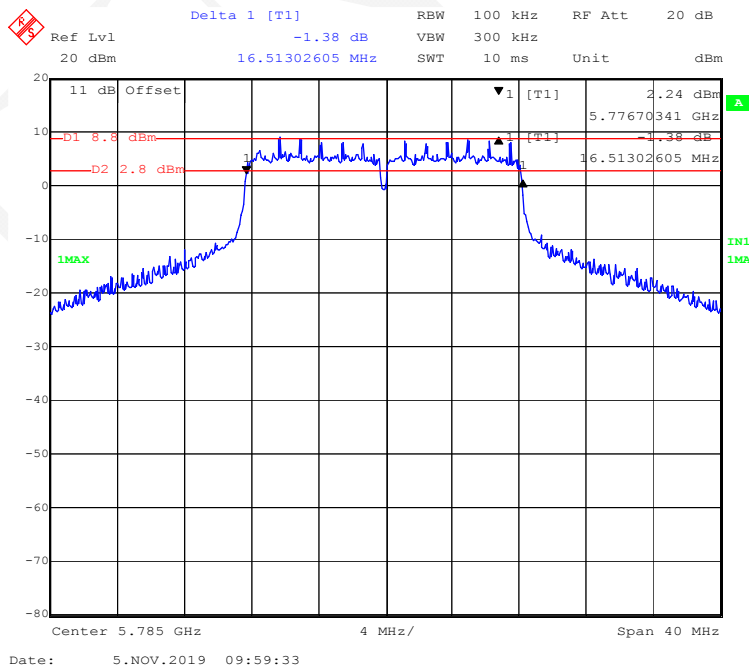
5725-5850 MHz Band:

ANT 1:
6 Bandwidth

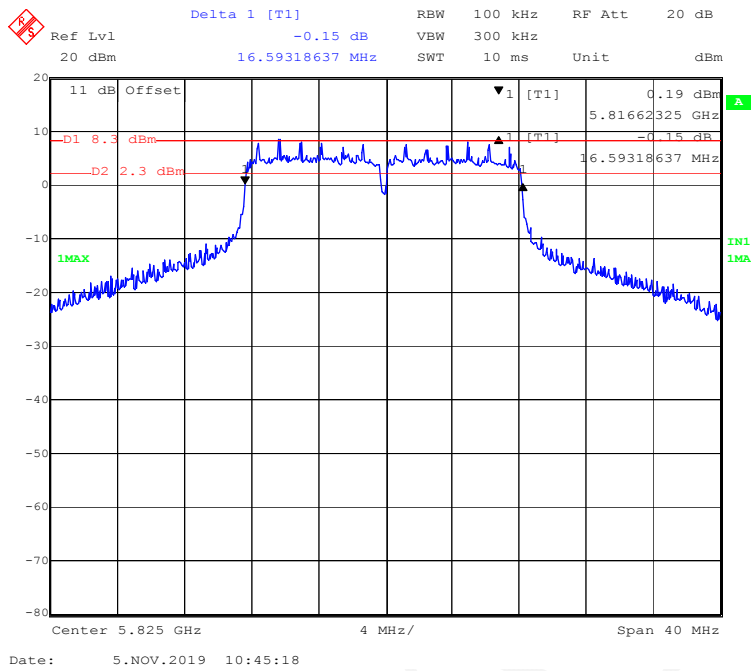
802.11a mode, 5745MHz



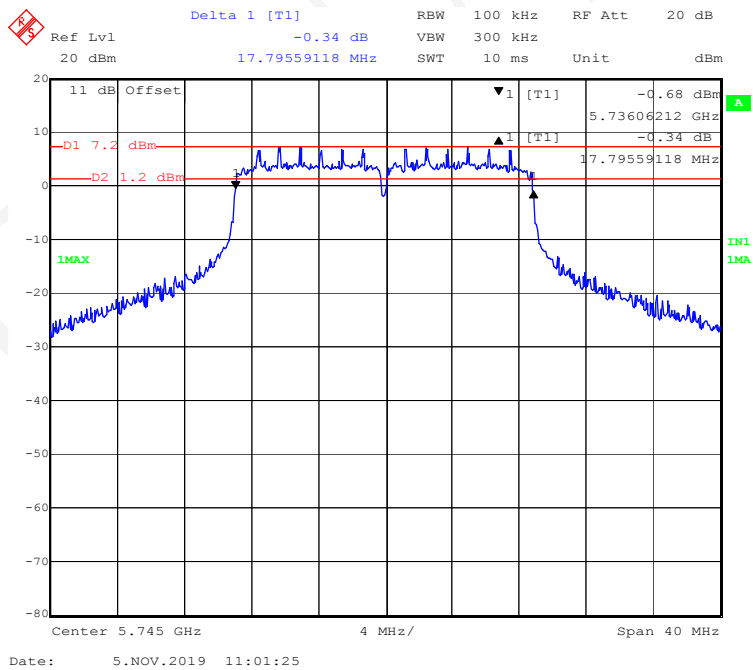
802.11a mode, 5785MHz



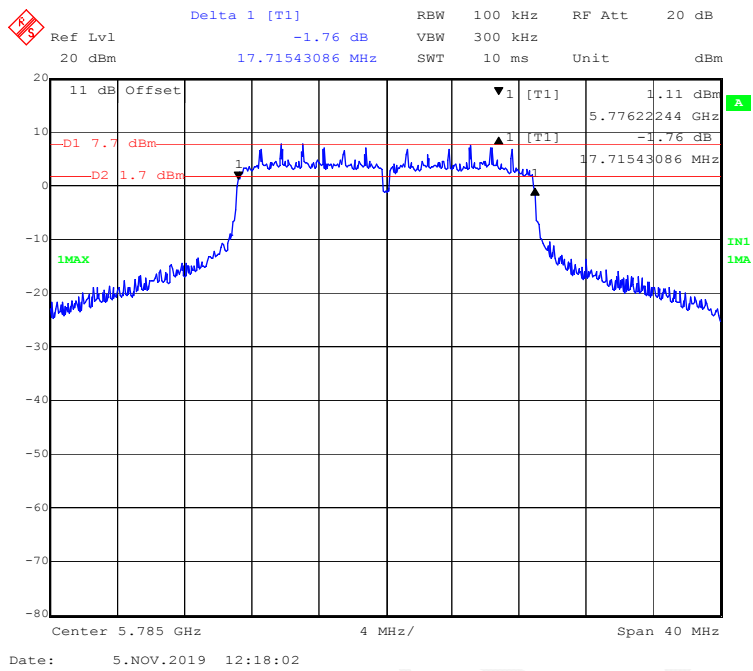
802.11a mode, 5825MHz



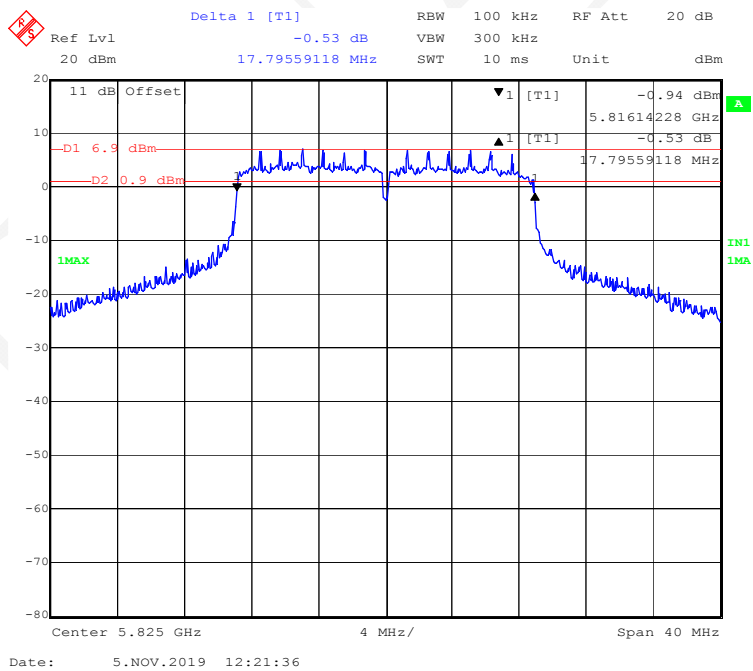
802.11ac20 mode, 5745MHz



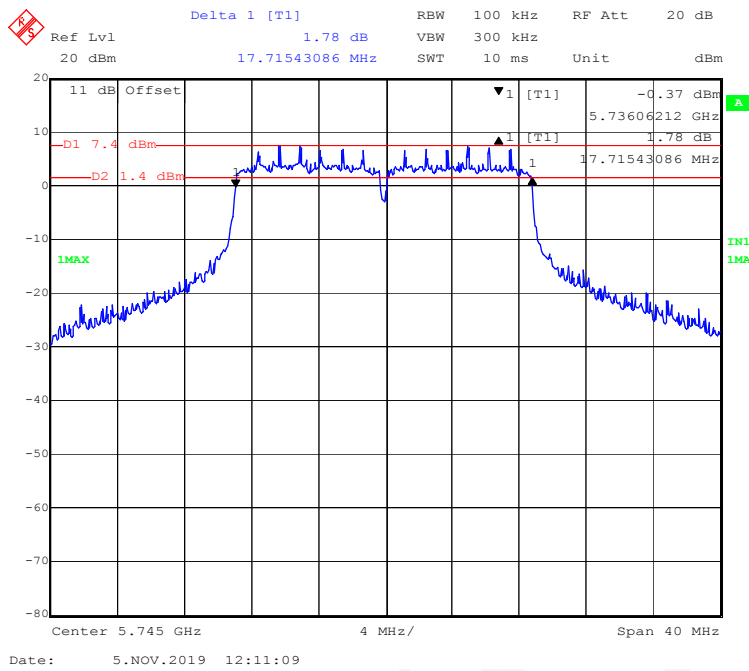
802.11ac20 mode, 5785MHz



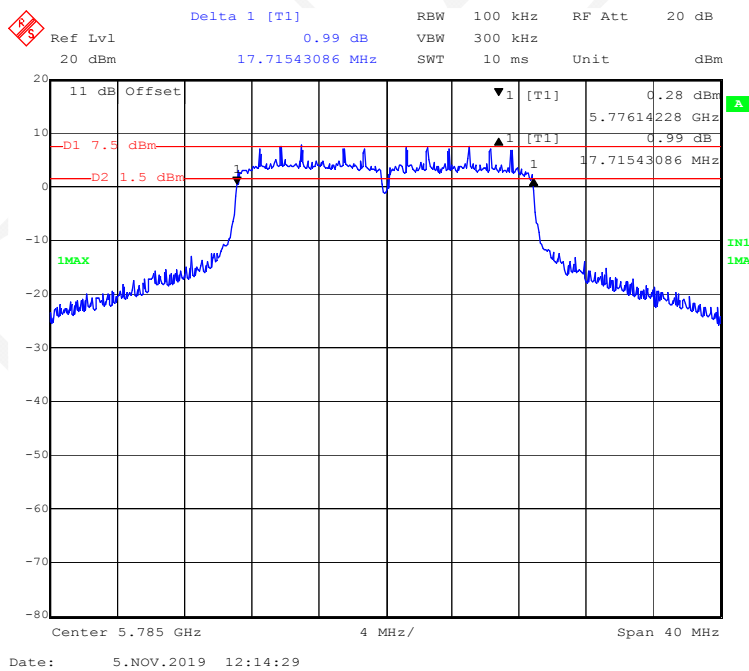
802.11ac20 mode, 5825MHz



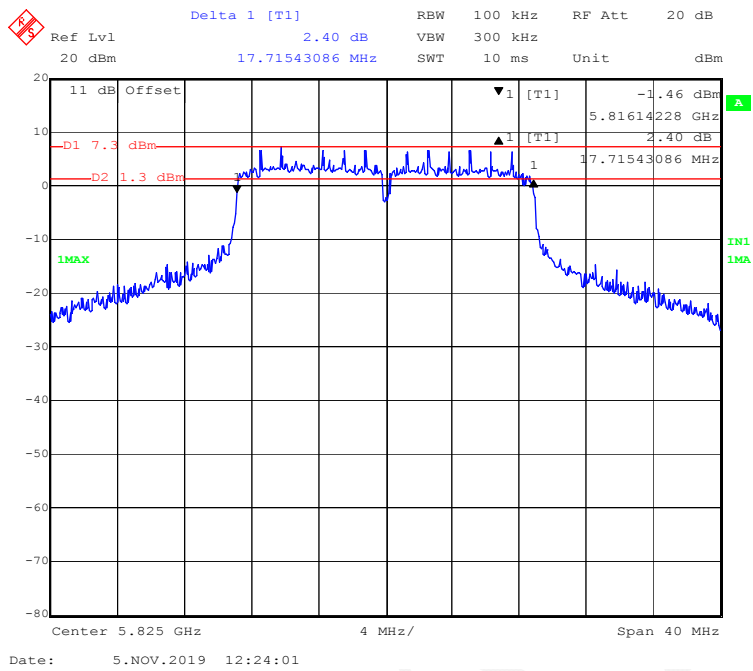
802.11n-HT20 mode, 5745MHz



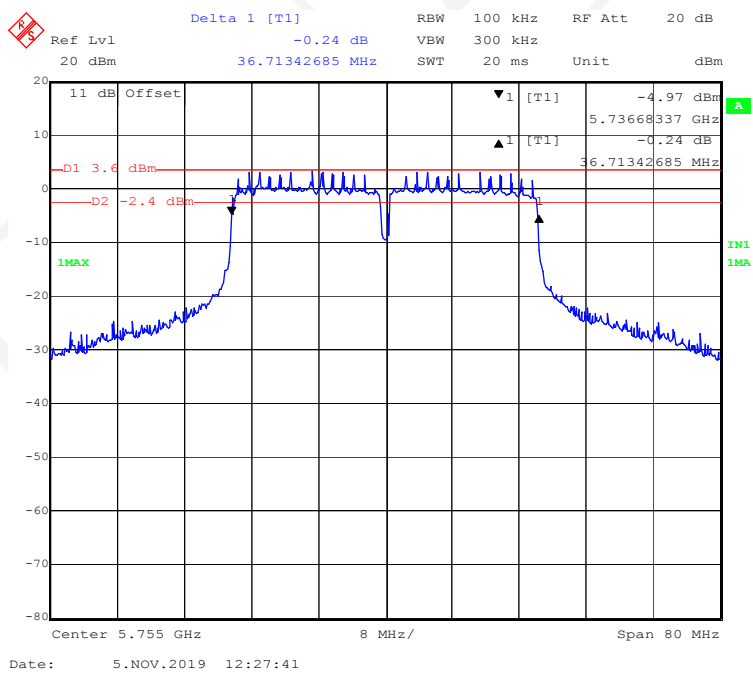
802.11n-HT20 mode, 5785MHz



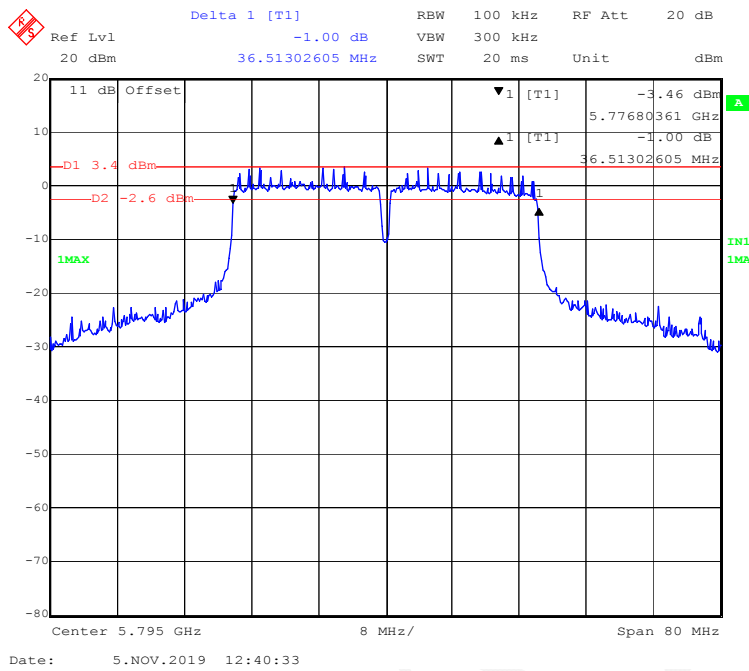
802.11n-HT20 mode, 5825MHz



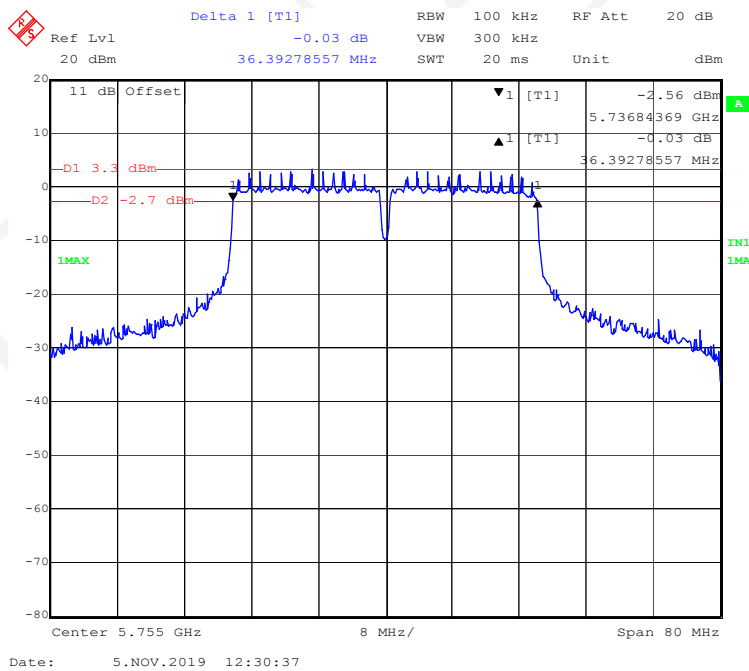
802.11ac40 mode, 5755MHz



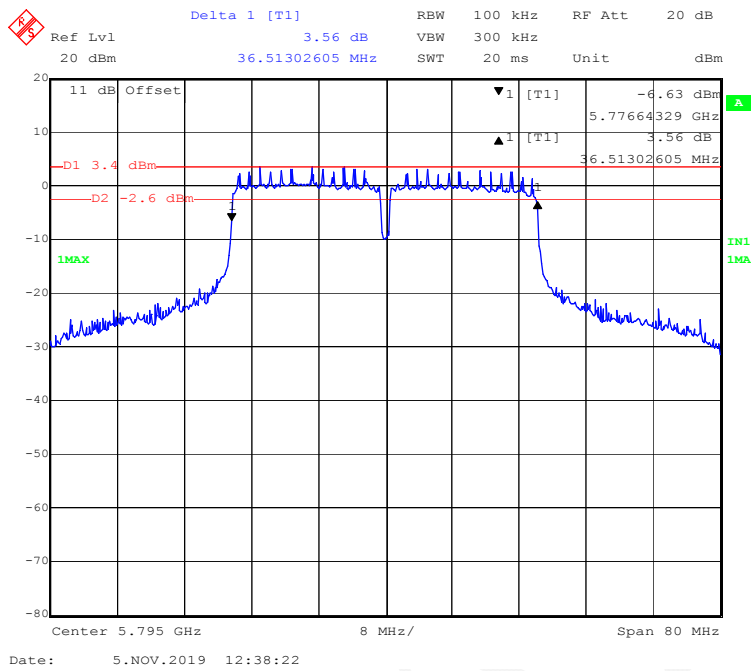
802.11ac40 mode, 5795MHz



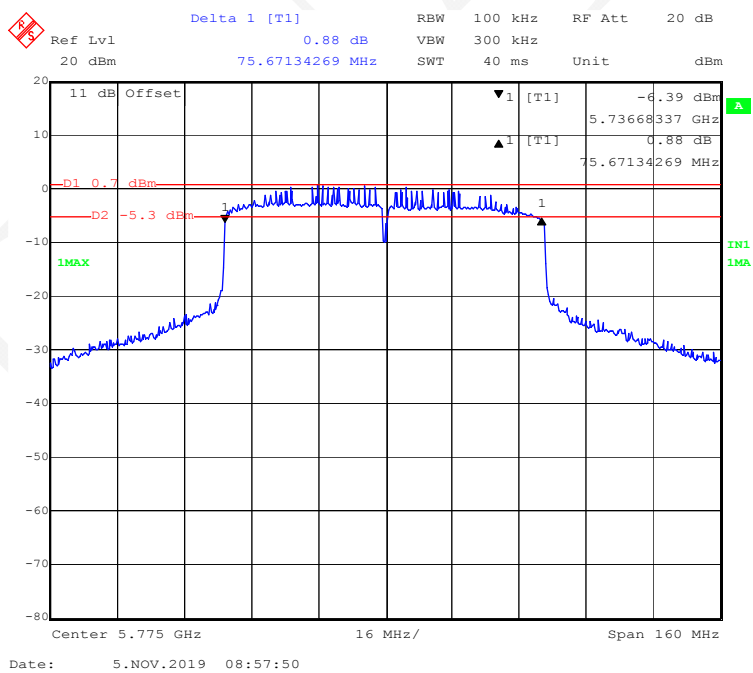
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz

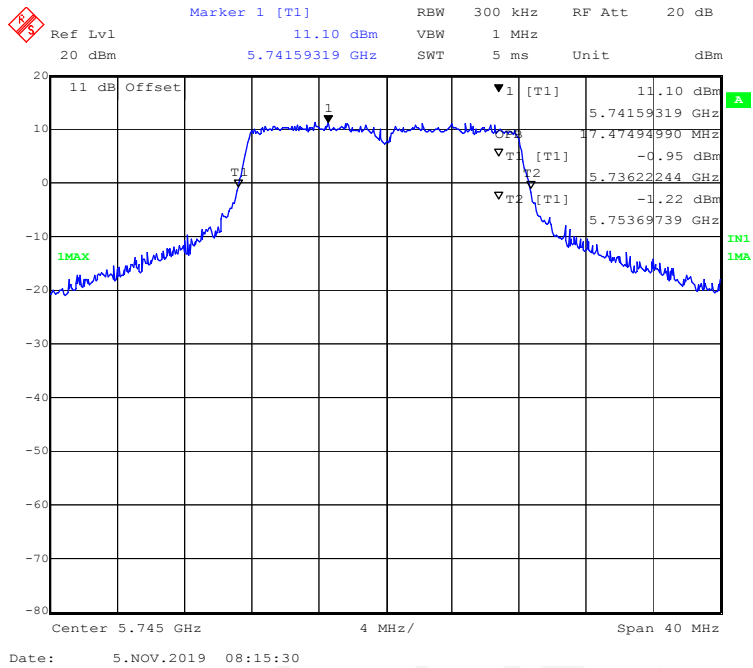


802.11ac80 mode, 5775MHz

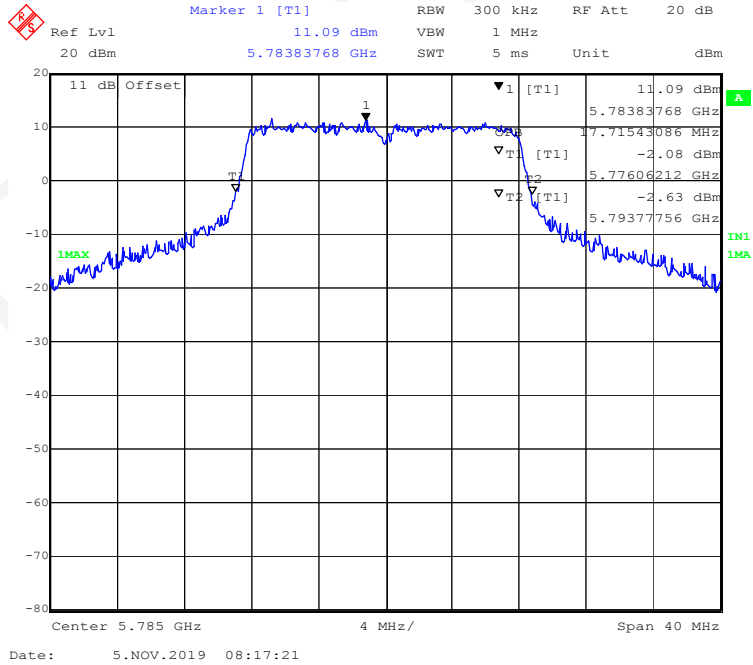


99% Occupied Bandwidth

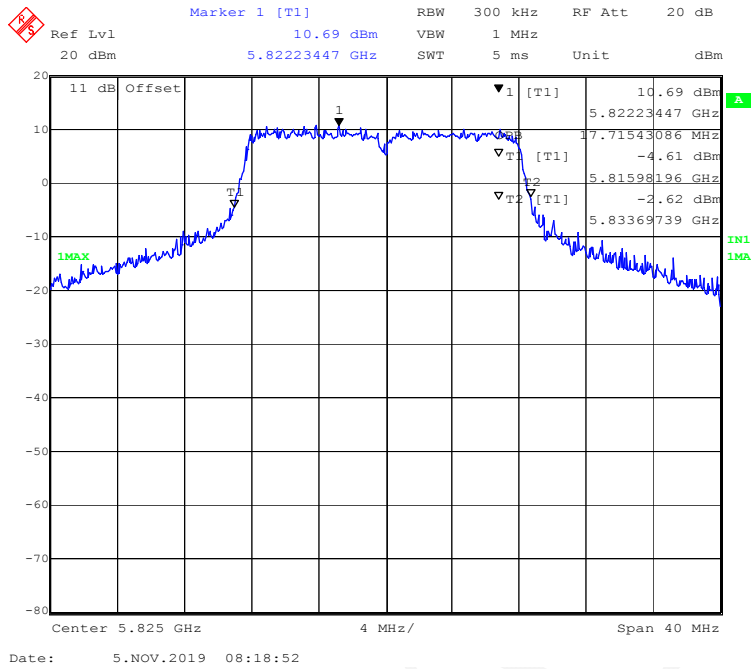
802.11a mode, 5745MHz



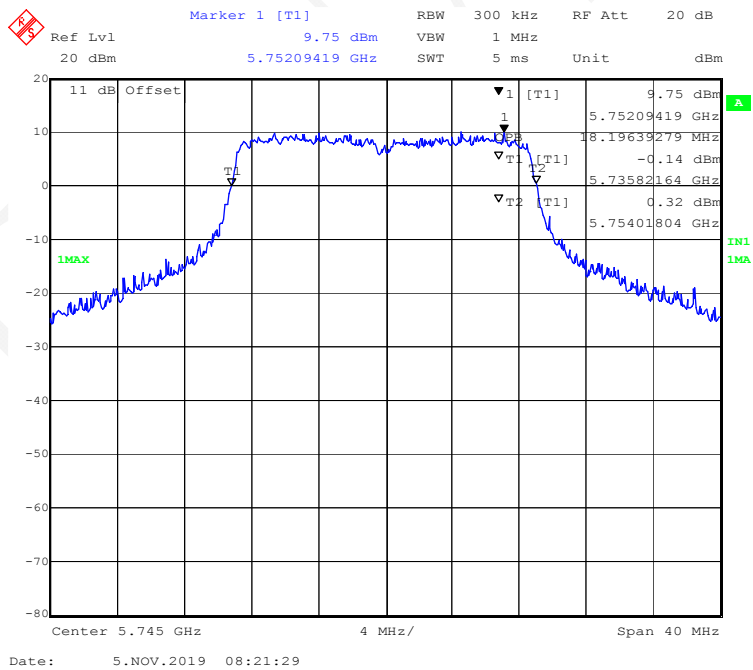
802.11a mode, 5785MHz



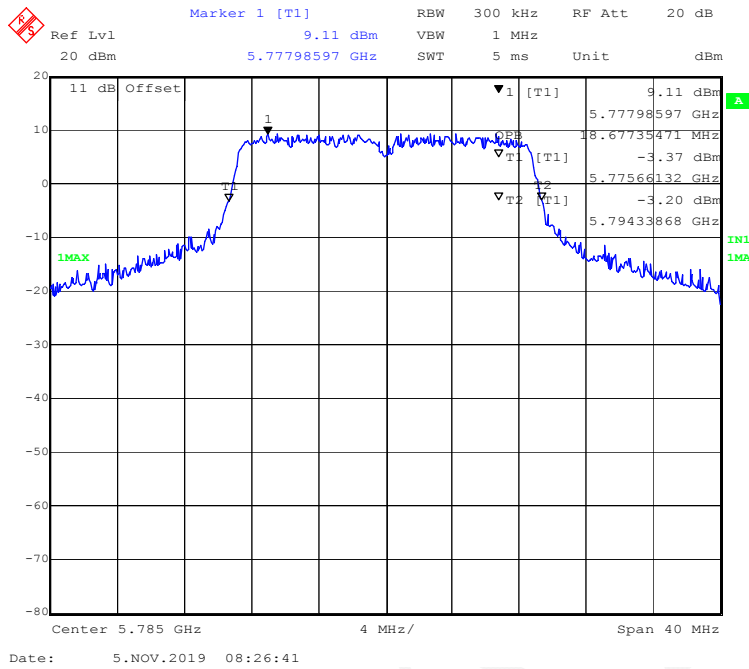
802.11a mode, 5825MHz



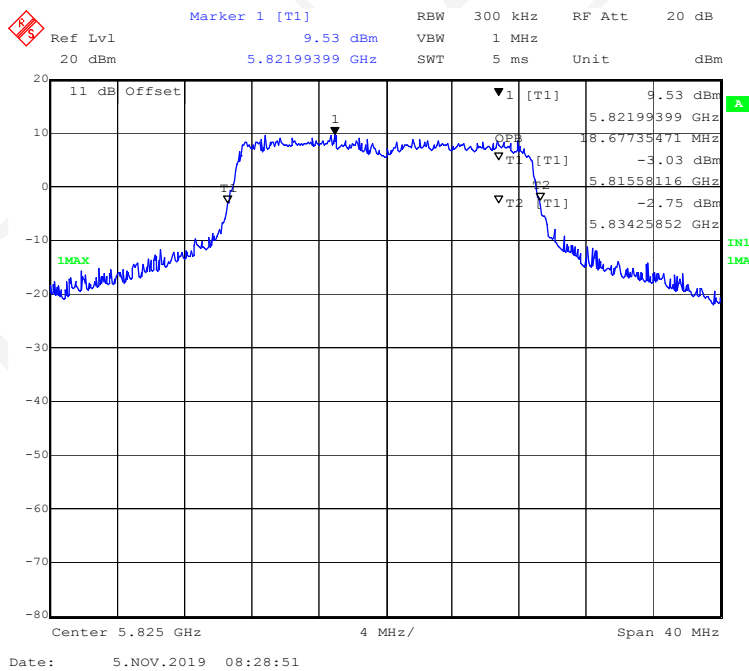
802.11ac20 mode, 5745MHz



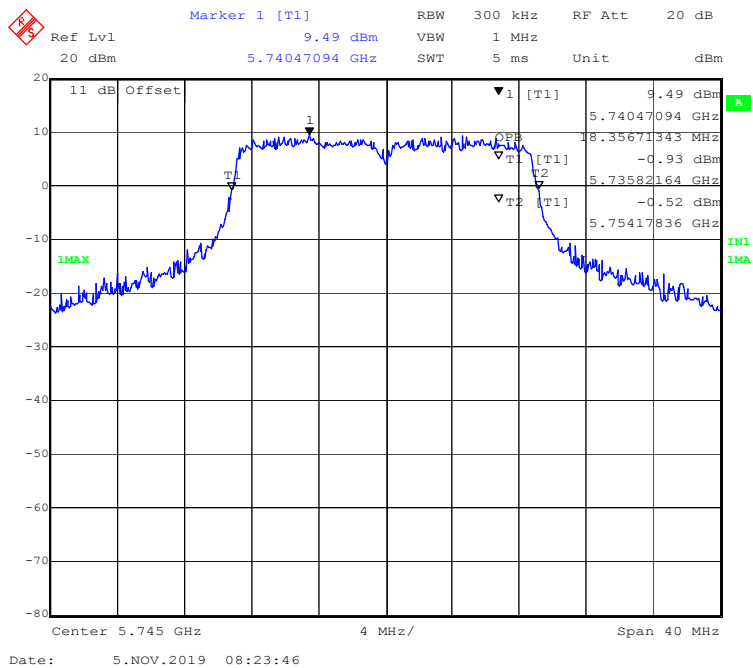
802.11ac20 mode, 5785MHz



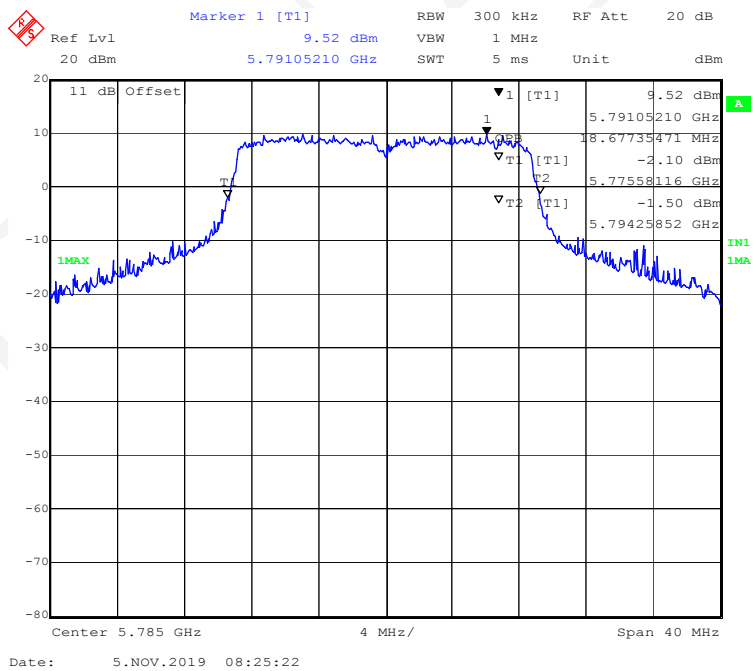
802.11ac20 mode, 5825MHz



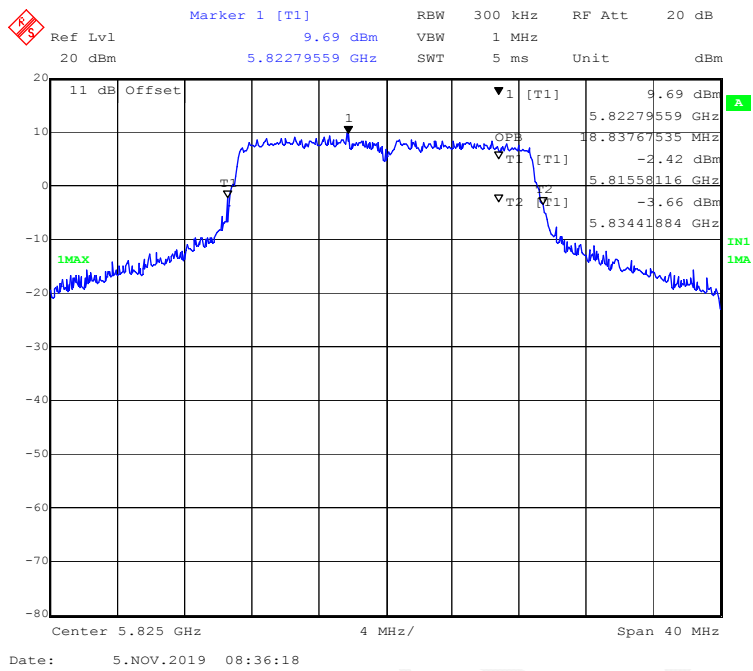
802.11n-HT20 mode, 5745MHz



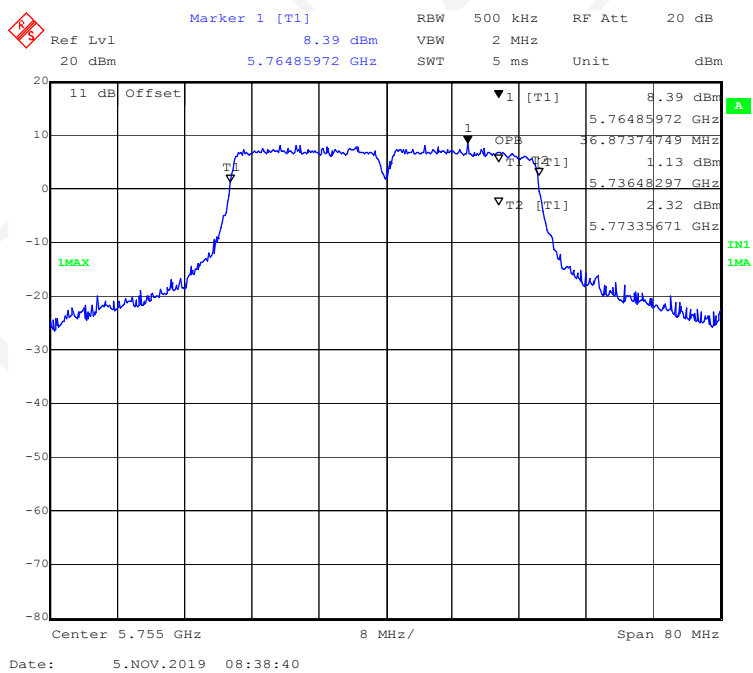
802.11n-HT20 mode, 5785MHz



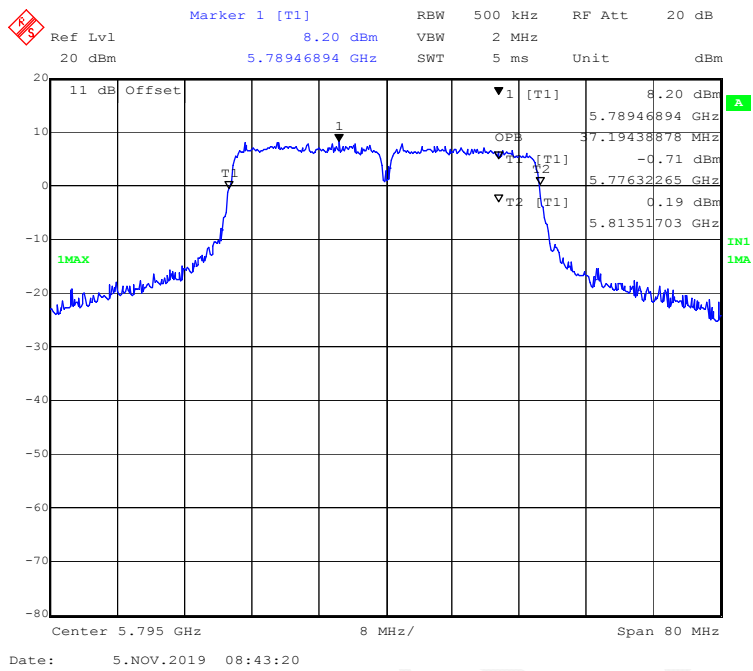
802.11n-HT20 mode, 5825MHz



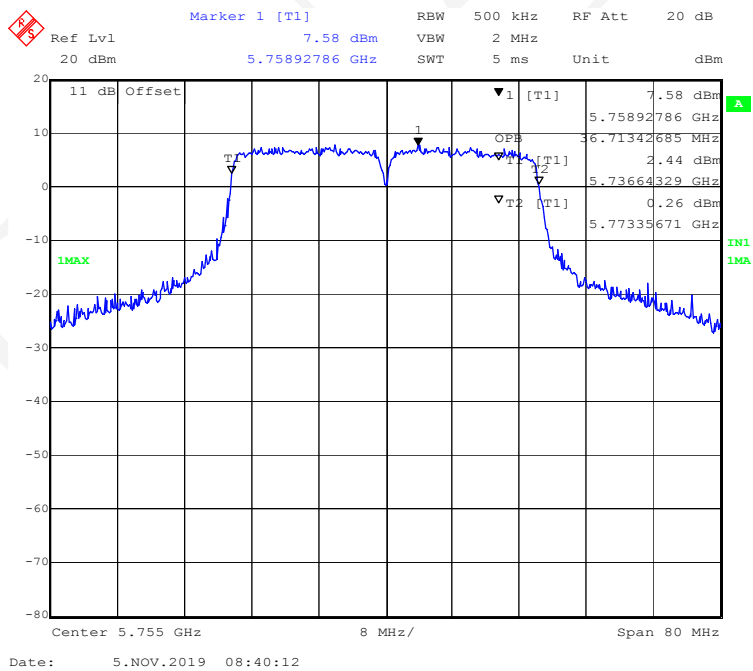
802.11ac40 mode, 5755MHz



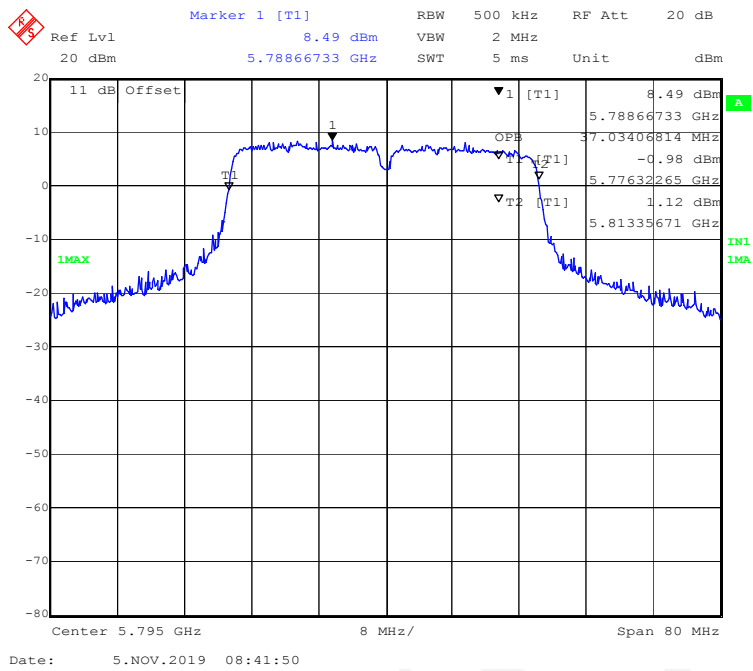
802.11ac40 mode, 5795MHz



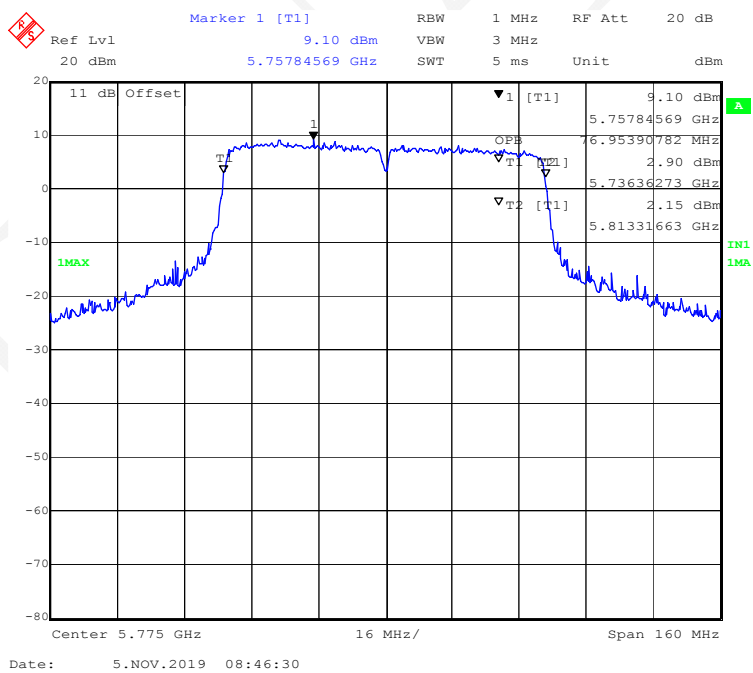
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz

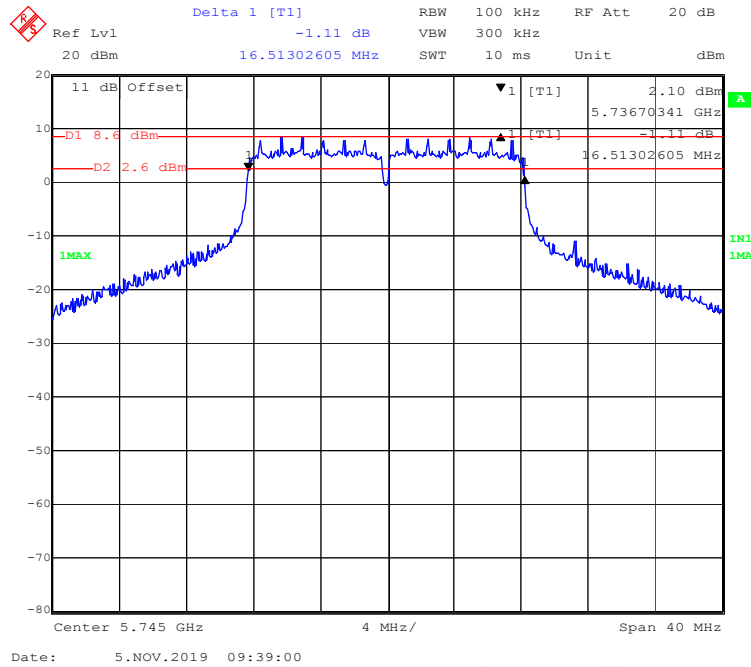


802.11ac80 mode, 5775MHz

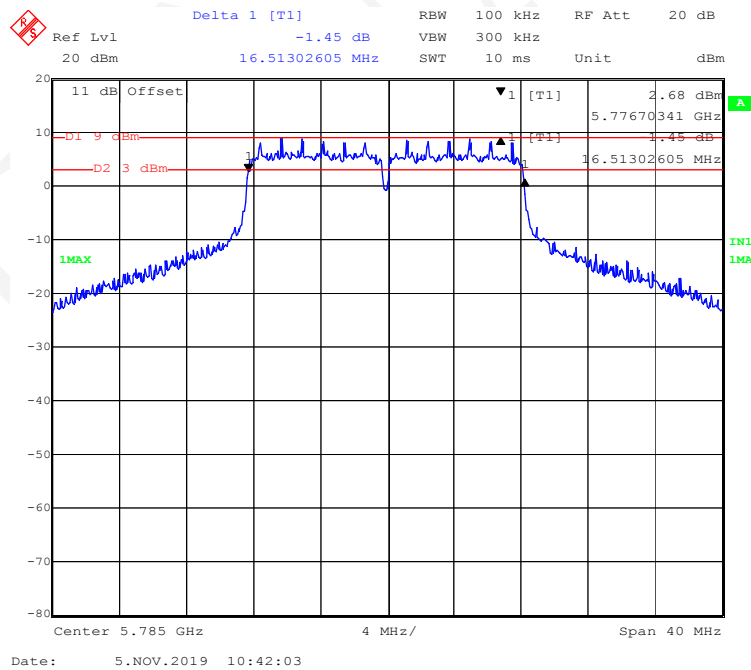


**ANT 2:
6 Bandwidth**

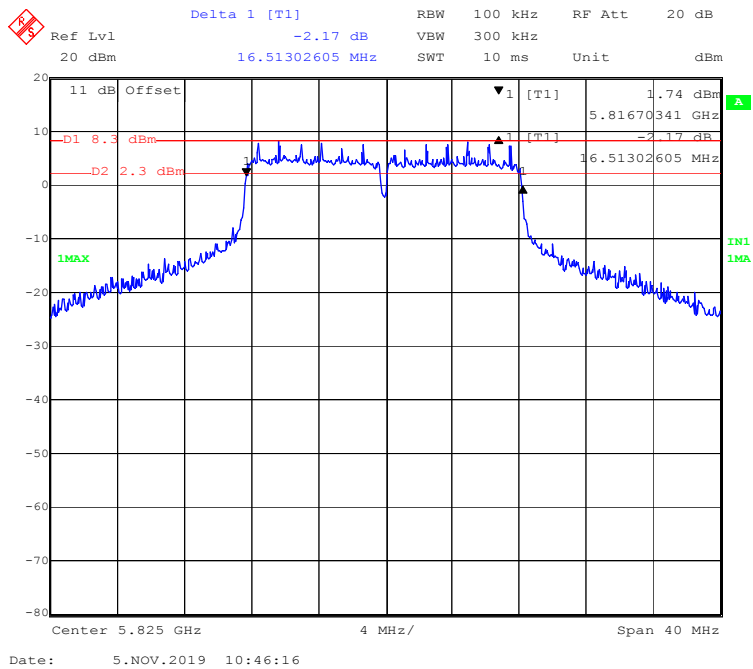
802.11a mode, 5745MHz



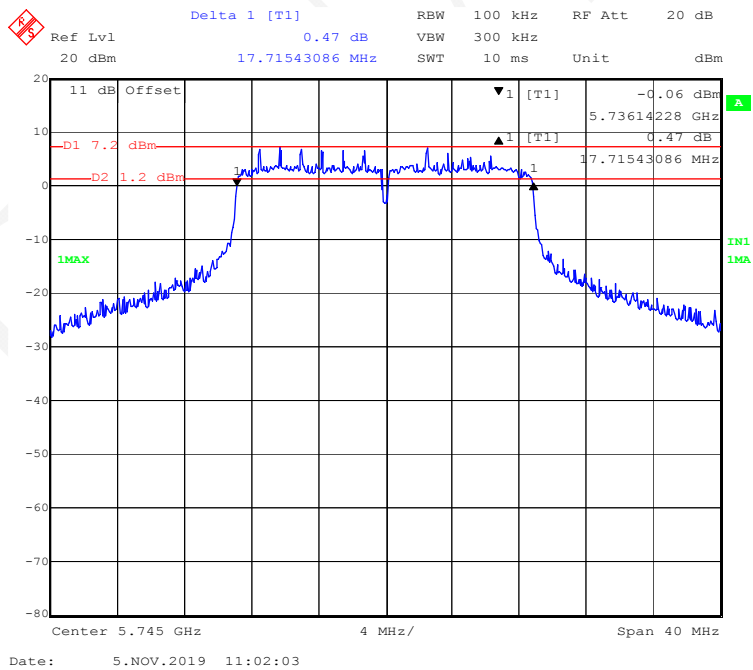
802.11a mode, 5785MHz



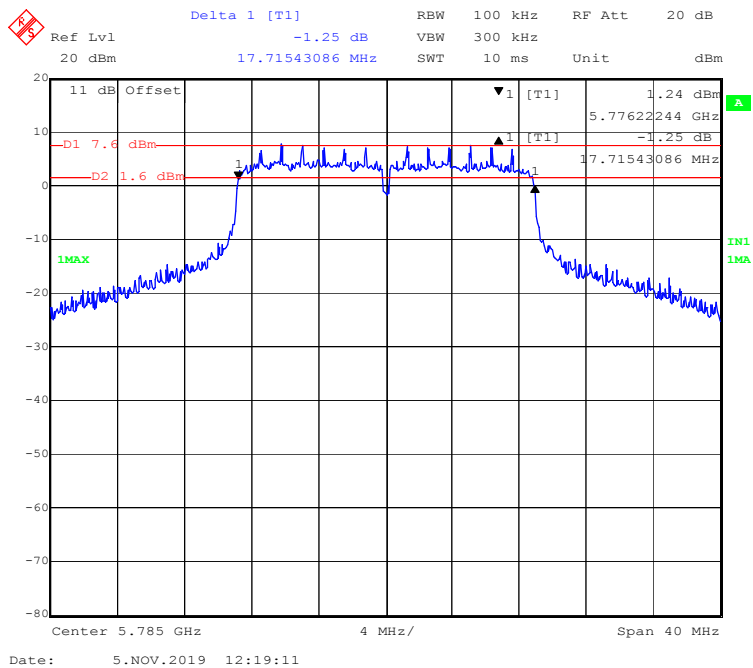
802.11a mode, 5825MHz



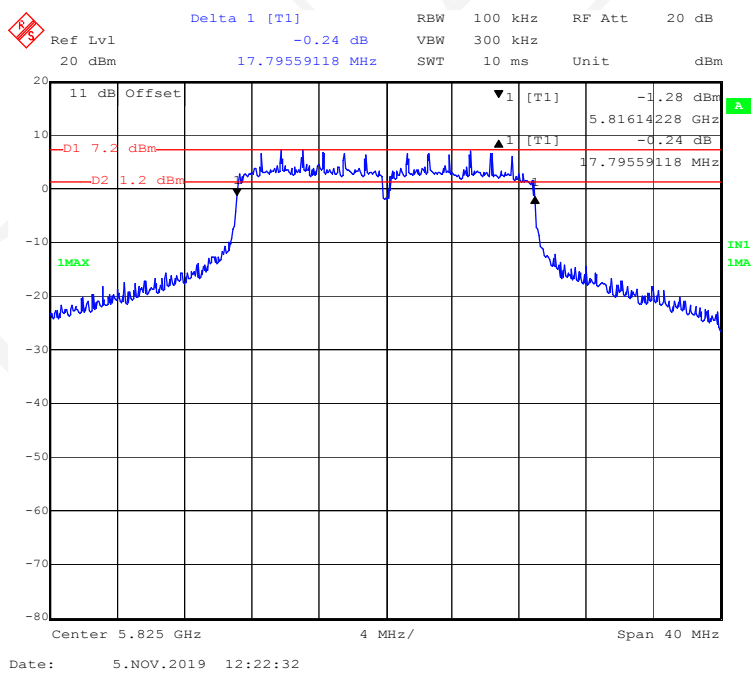
802.11ac20 mode, 5745MHz



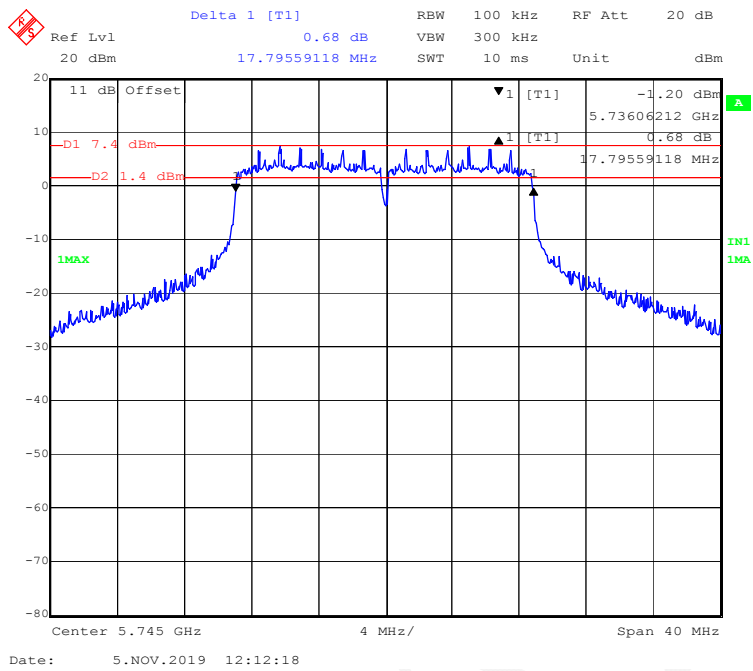
802.11ac20 mode, 5785MHz



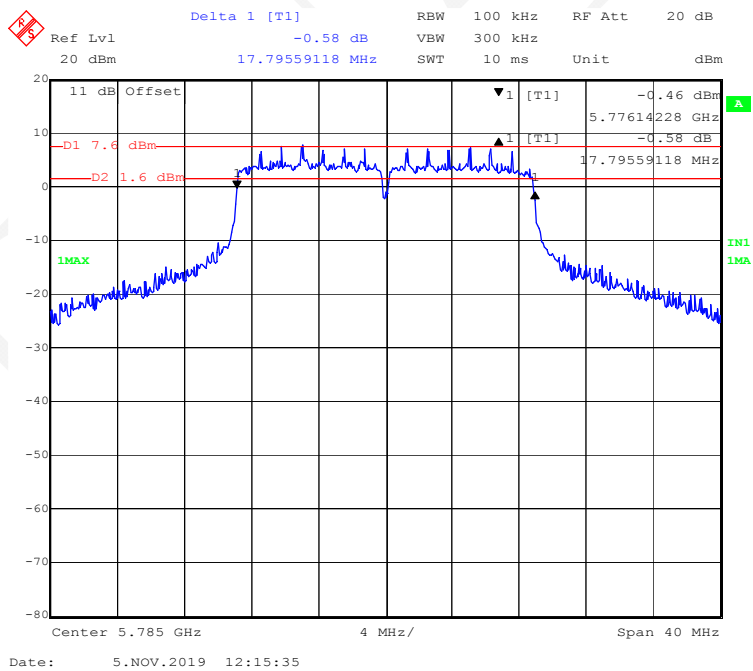
802.11ac20 mode, 5825MHz



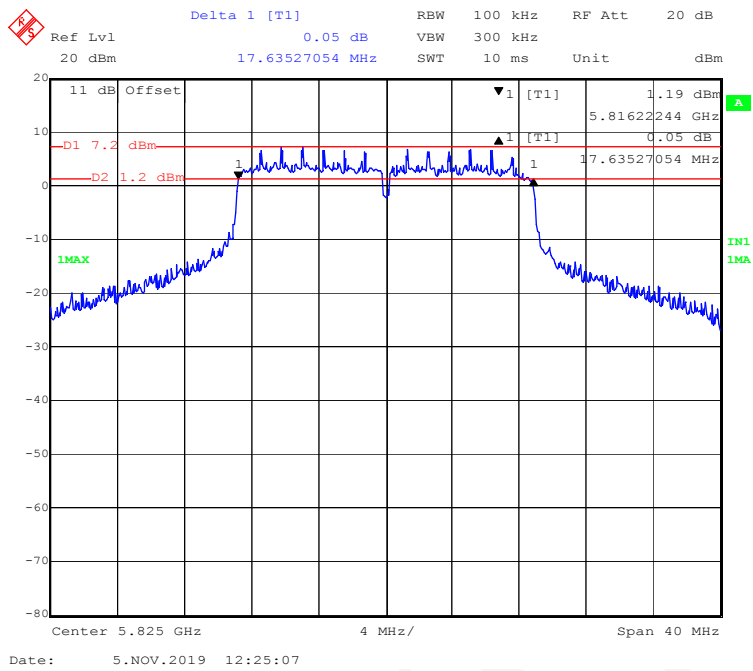
802.11n-HT20 mode, 5745MHz



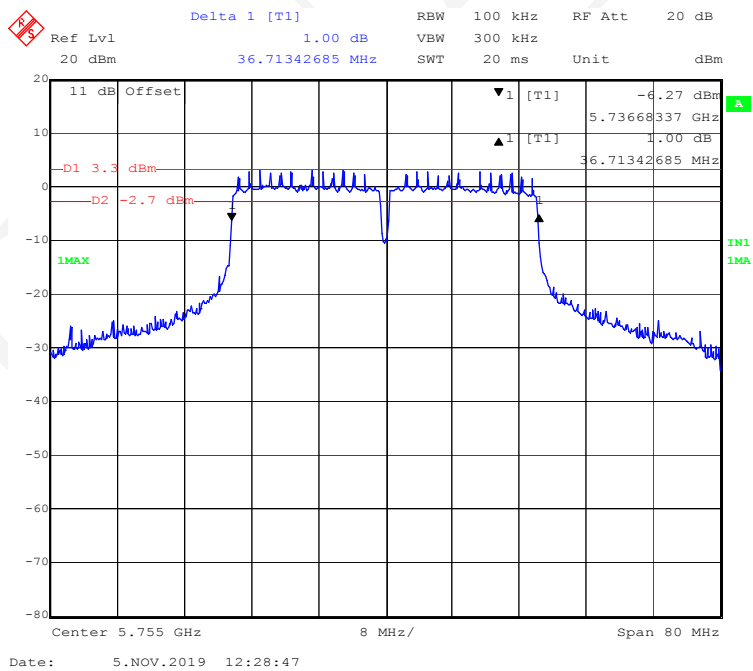
802.11n-HT20 mode, 5785MHz



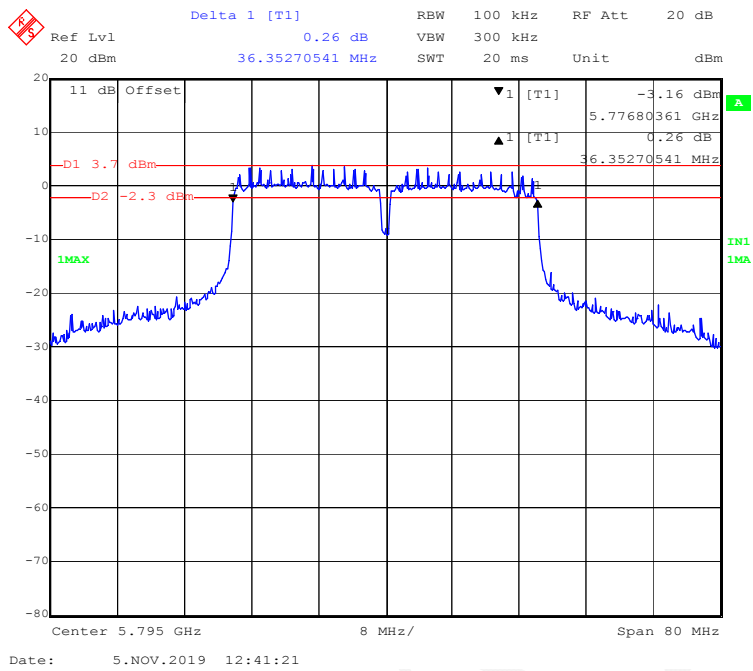
802.11n-HT20 mode, 5825MHz



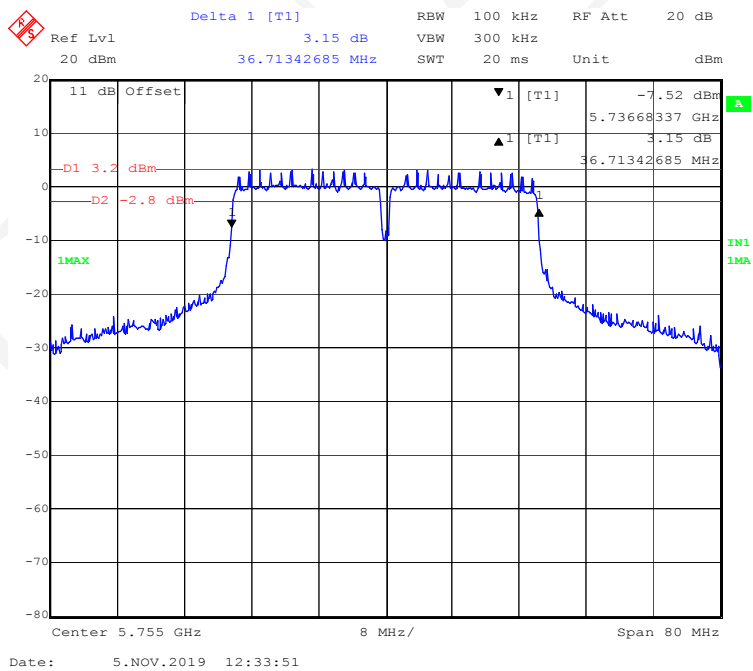
802.11ac40 mode, 5755MHz



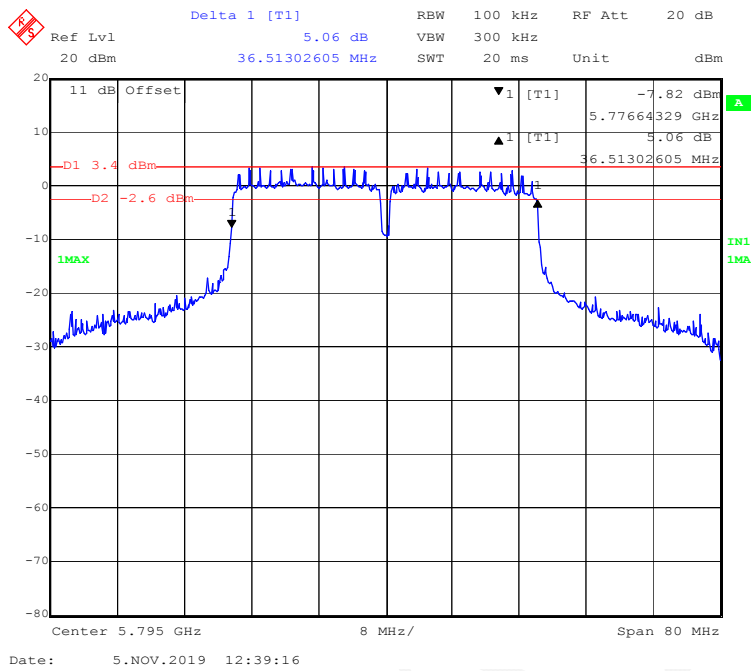
802.11ac40 mode, 5795MHz



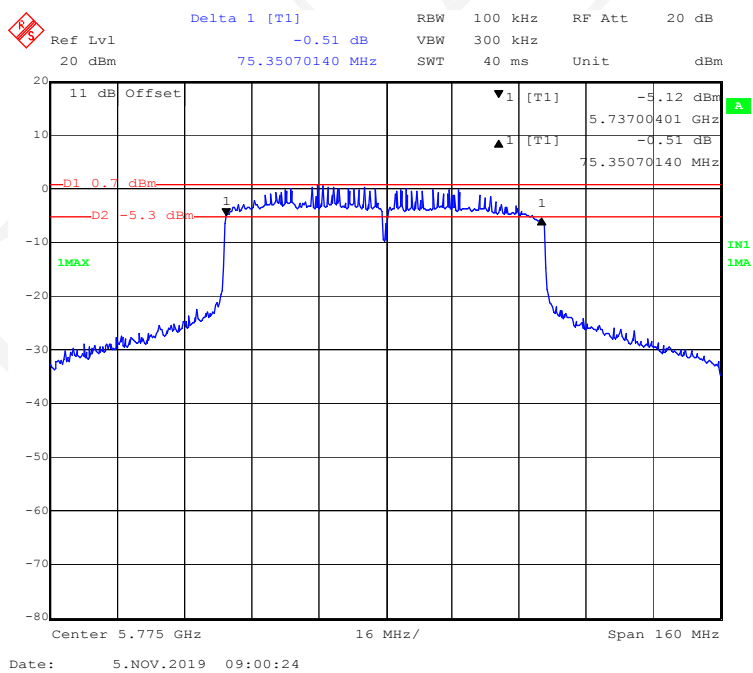
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz

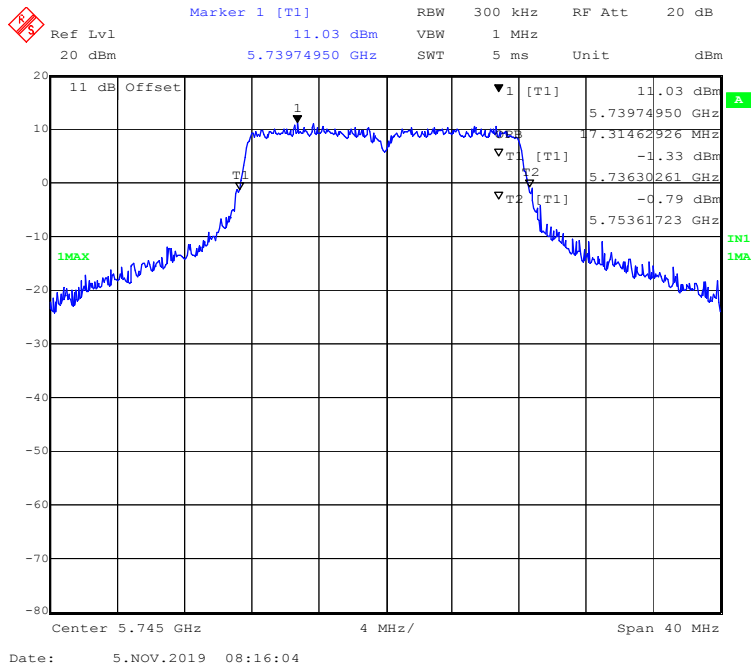


802.11ac80 mode, 5775MHz

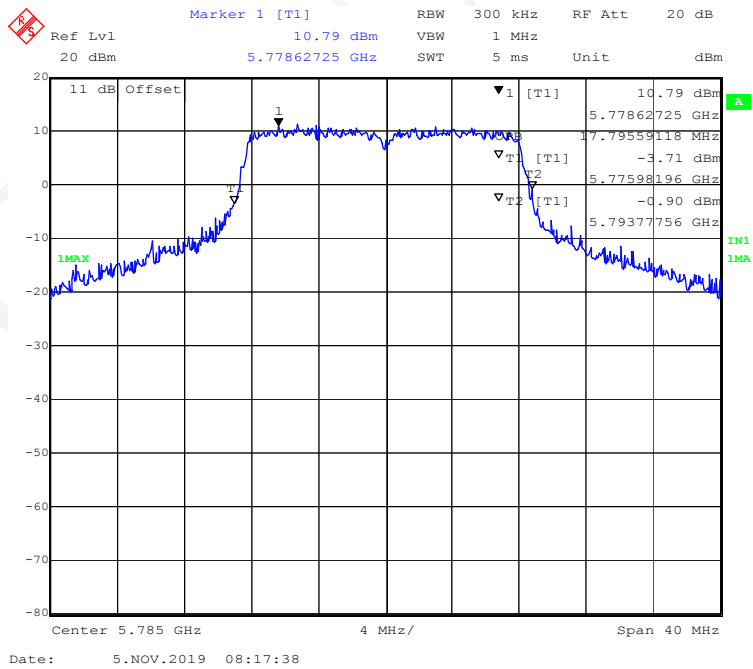


99% Occupied Bandwidth

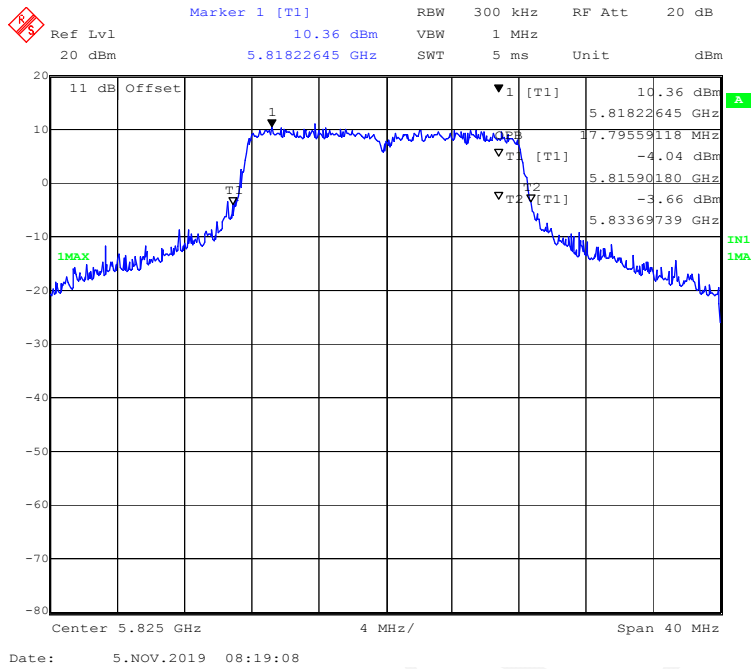
802.11a mode, 5745MHz



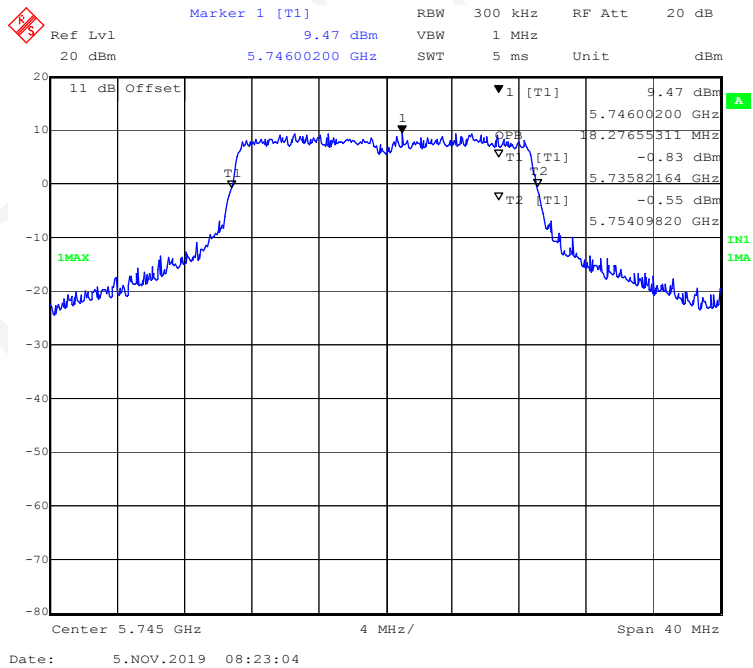
802.11a mode, 5785MHz



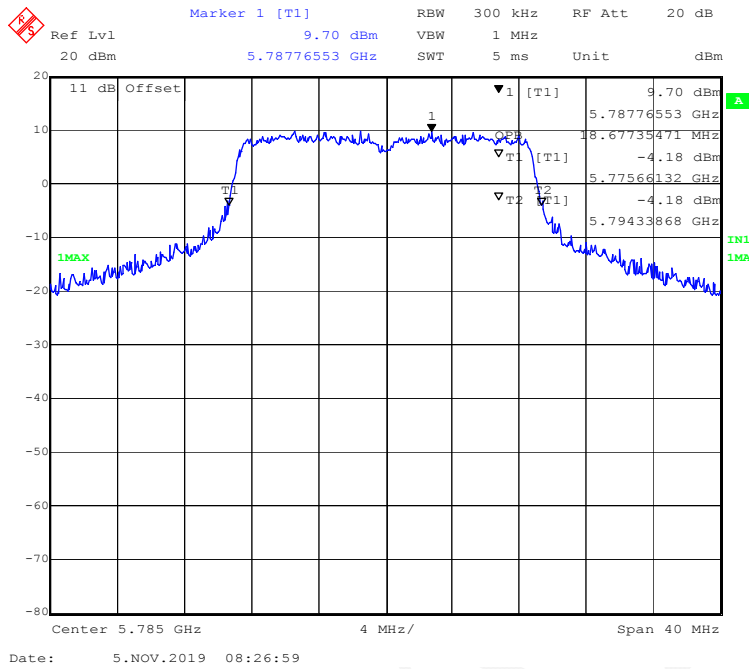
802.11a mode, 5825MHz



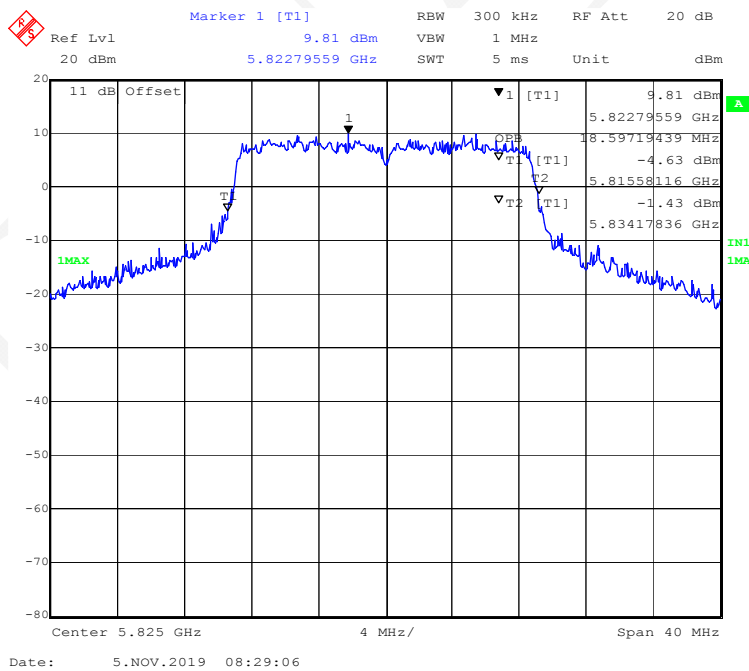
802.11ac20 mode, 5745MHz



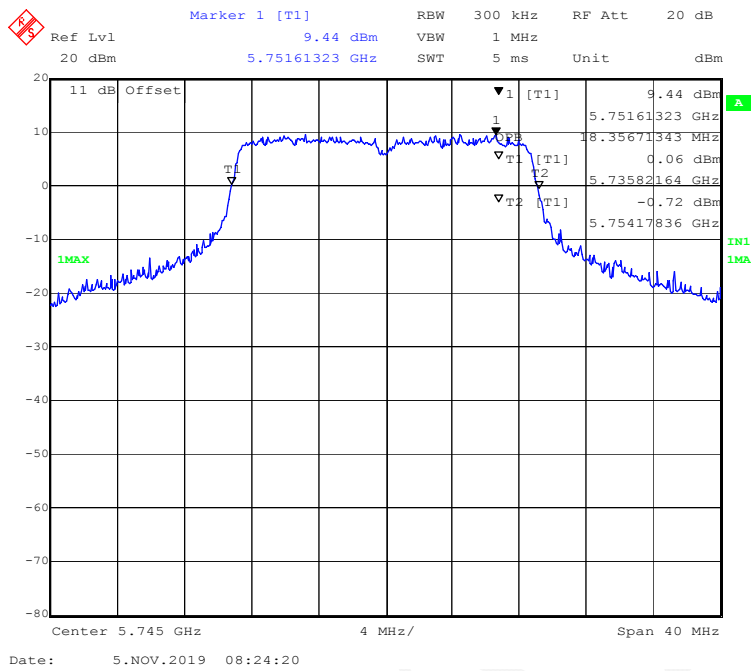
802.11ac20 mode, 5785MHz



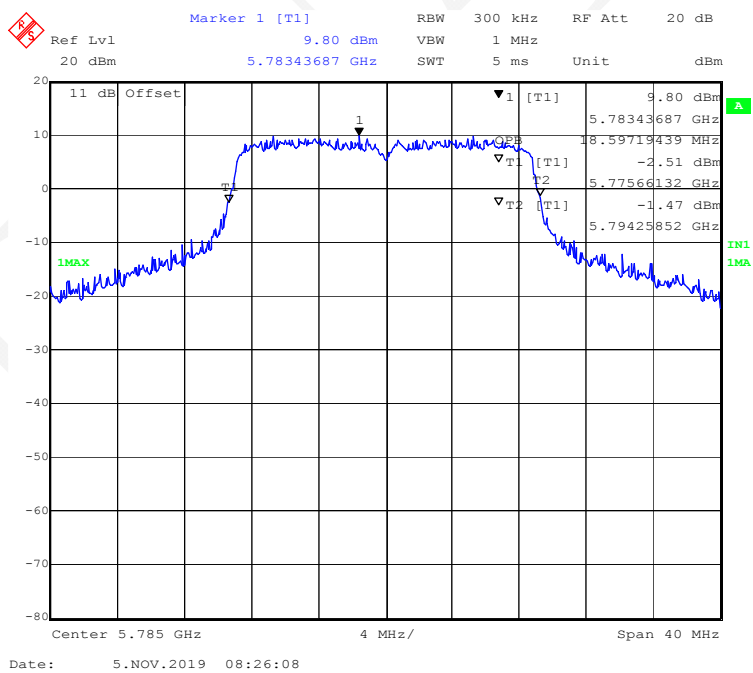
802.11ac20 mode, 5825MHz



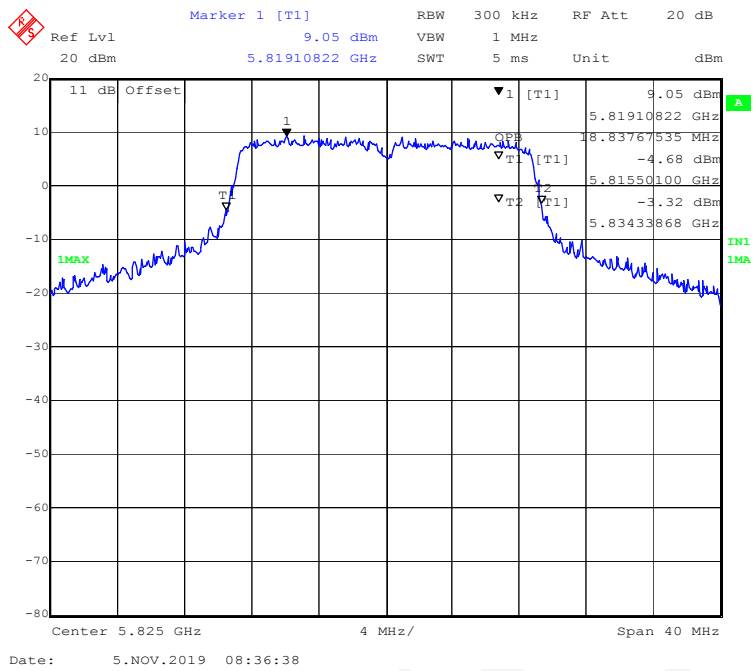
802.11n-HT20 mode, 5745MHz



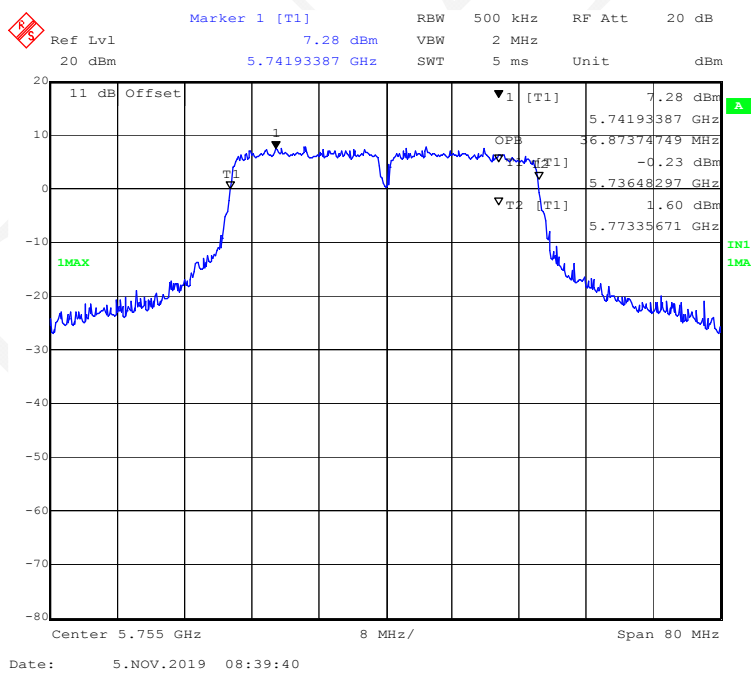
802.11n-HT20 mode, 5785MHz



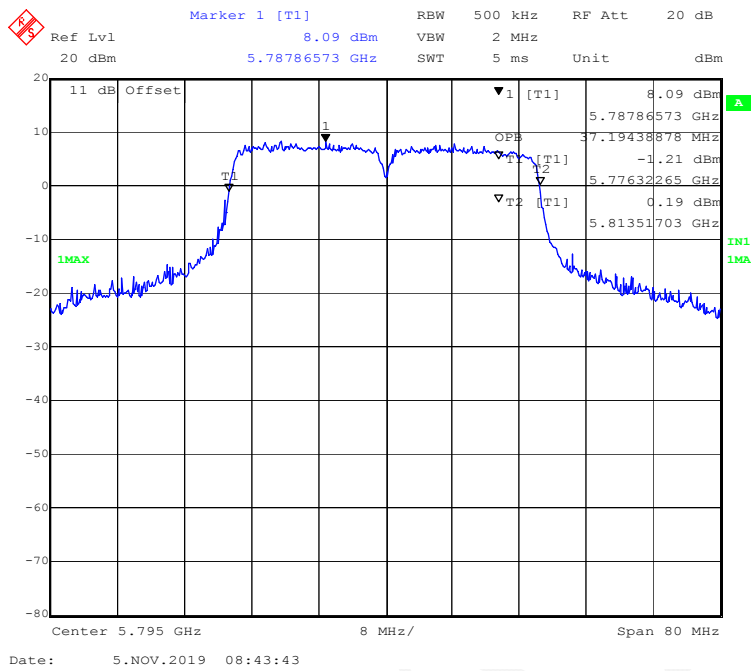
802.11n-HT20 mode, 5825MHz



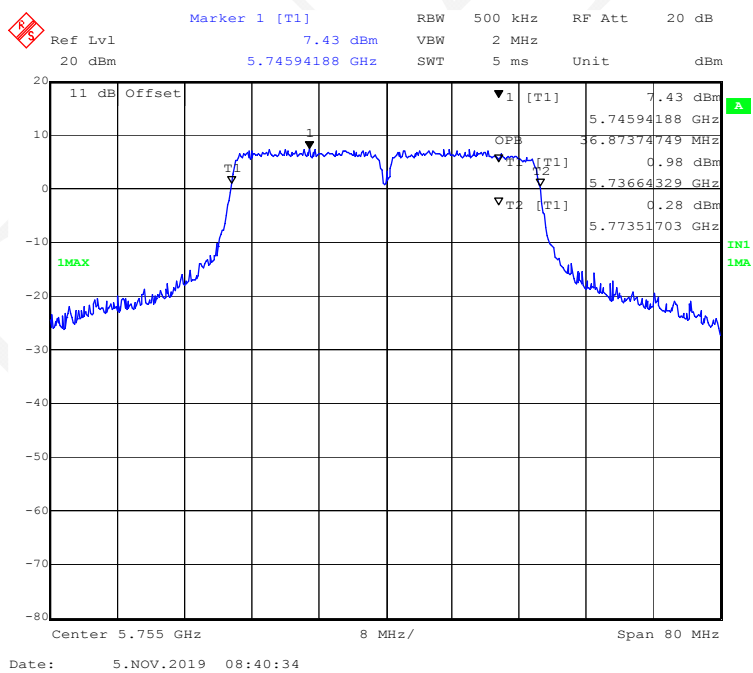
802.11ac40 mode, 5755MHz



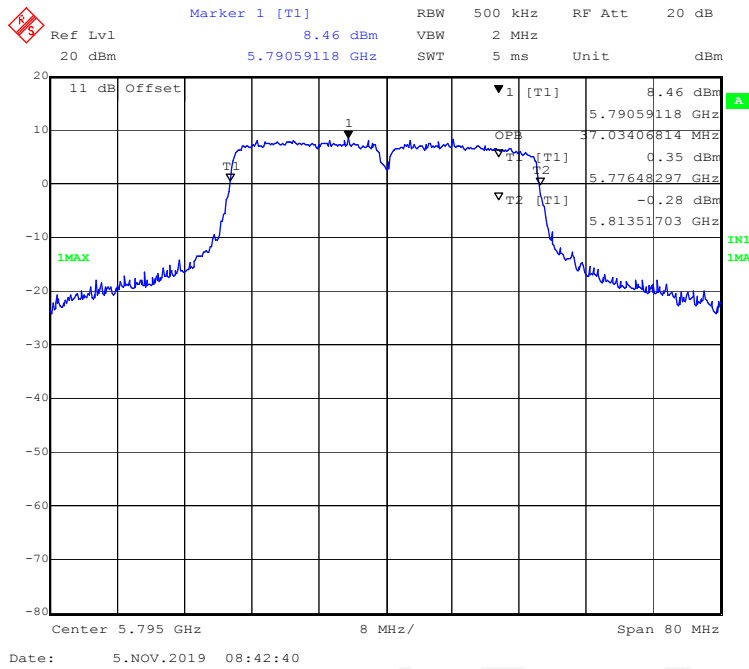
802.11ac40 mode, 5795MHz



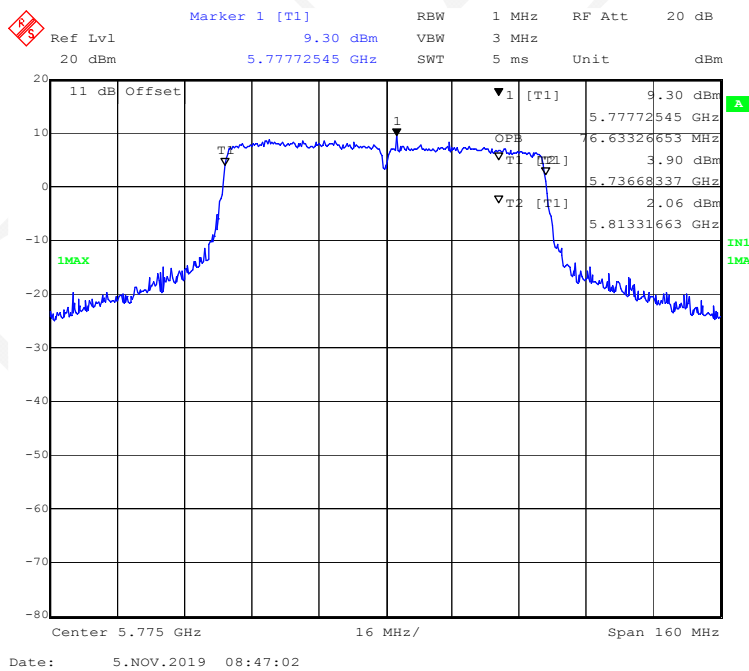
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz

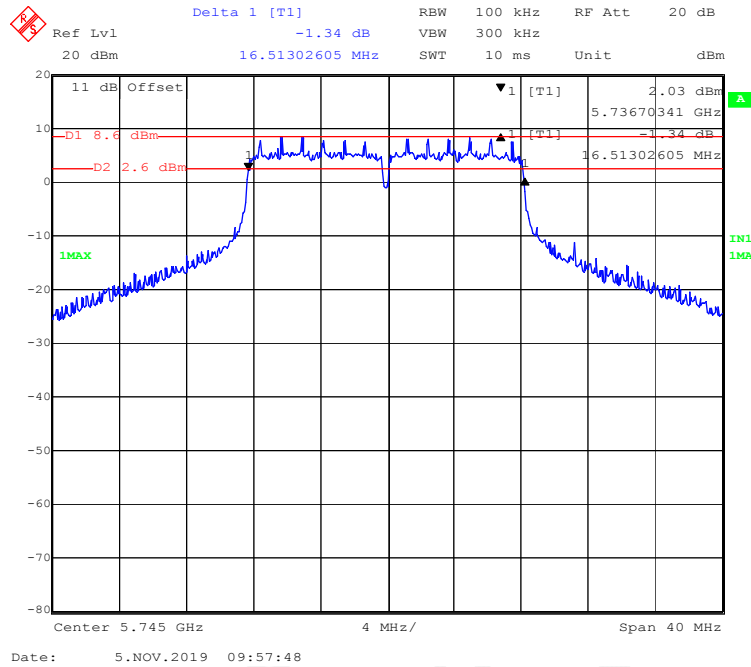


802.11ac80 mode, 5775MHz

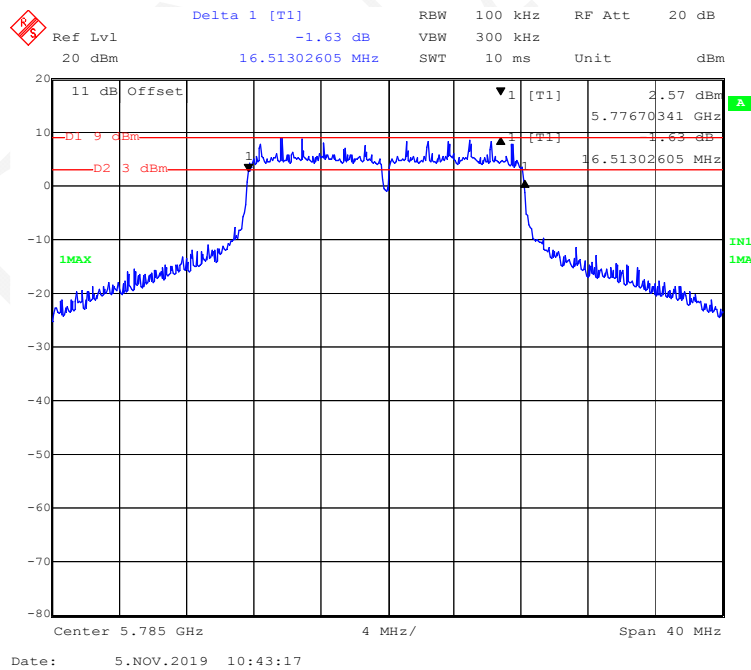


**ANT 3:
6 Bandwidth**

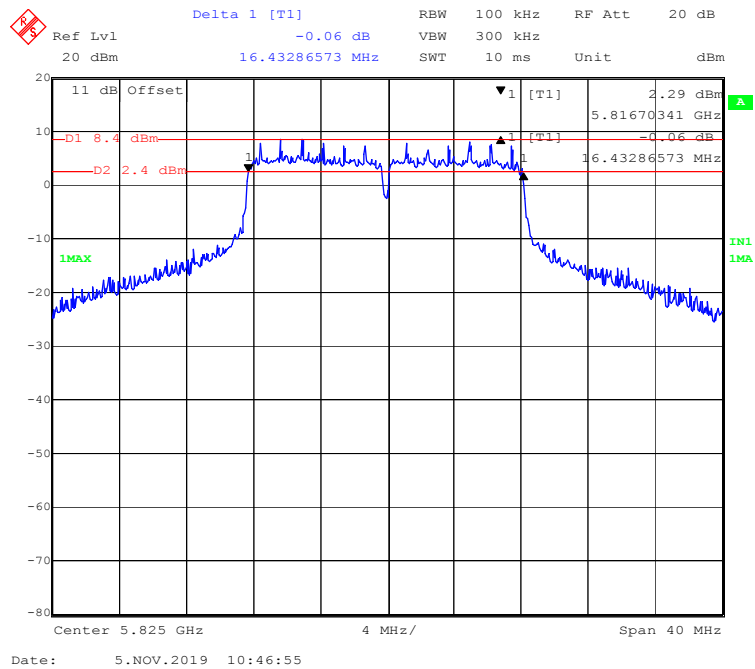
802.11a mode, 5745MHz



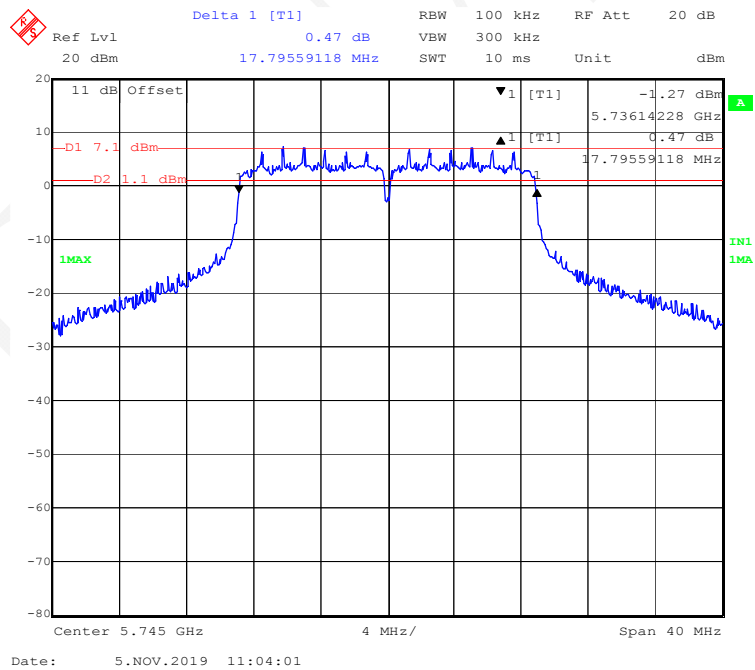
802.11a mode, 5785MHz



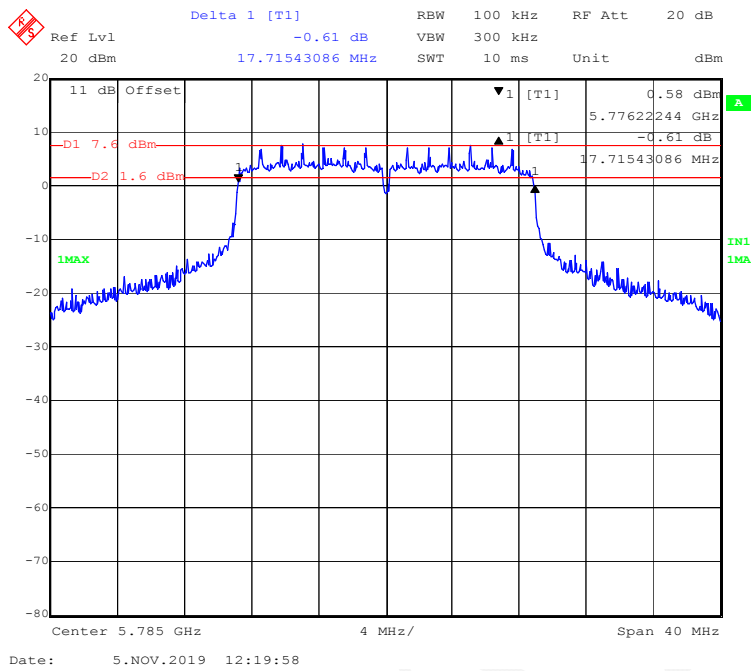
802.11a mode, 5825MHz



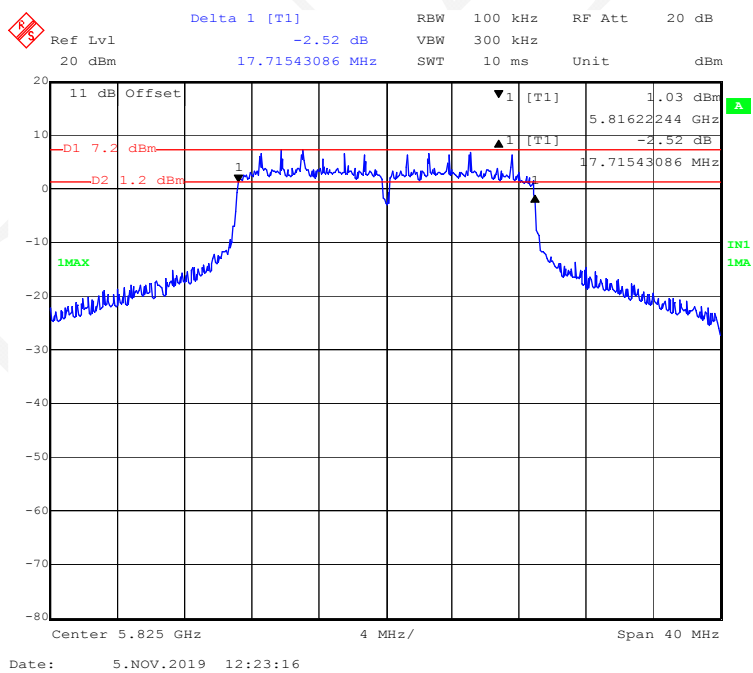
802.11ac20 mode, 5745MHz



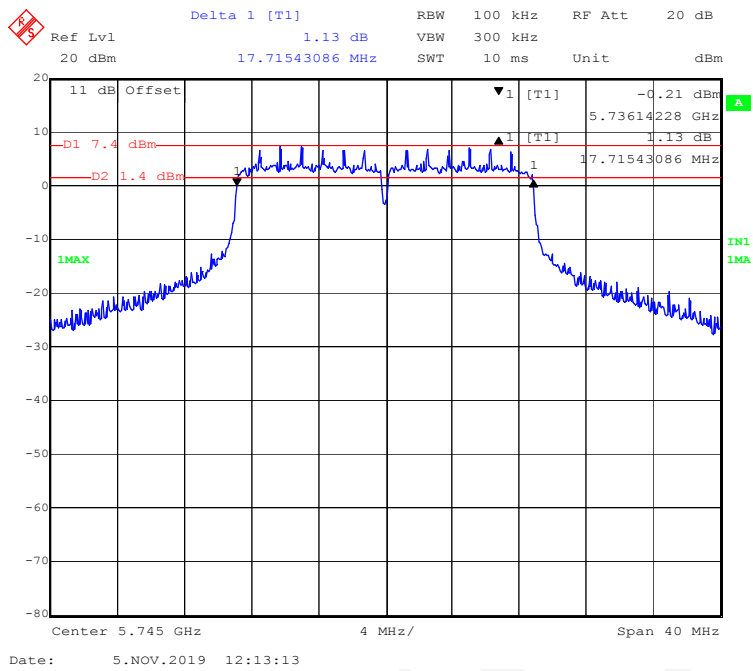
802.11ac20 mode, 5785MHz



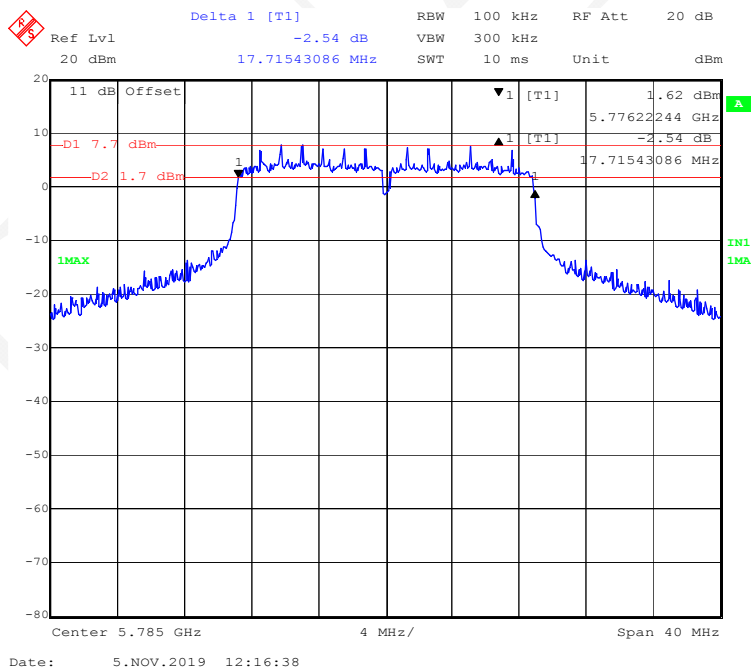
802.11ac20 mode, 5825MHz



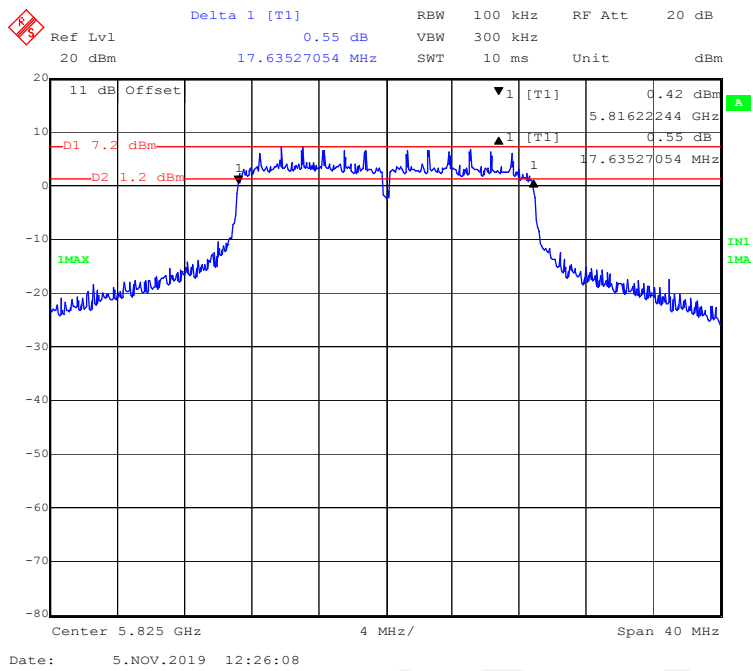
802.11n-HT20 mode, 5745MHz



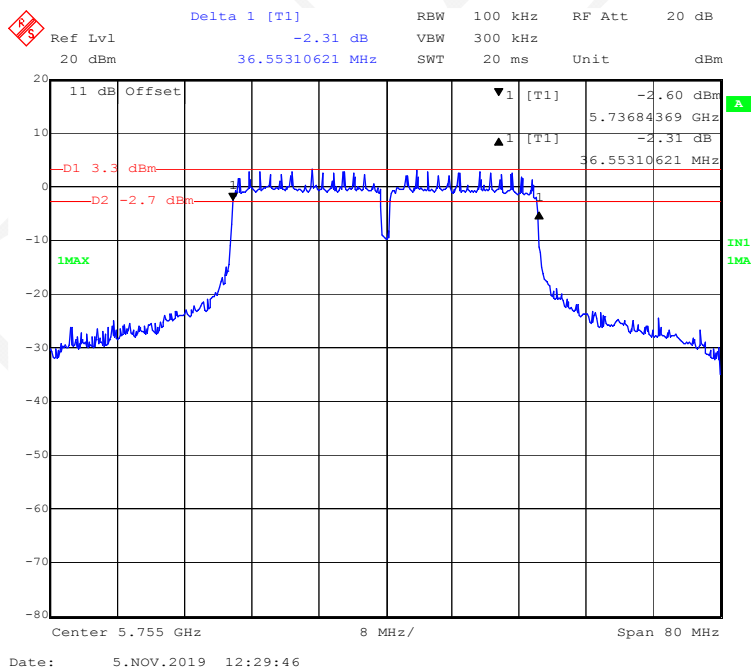
802.11n-HT20 mode, 5785MHz



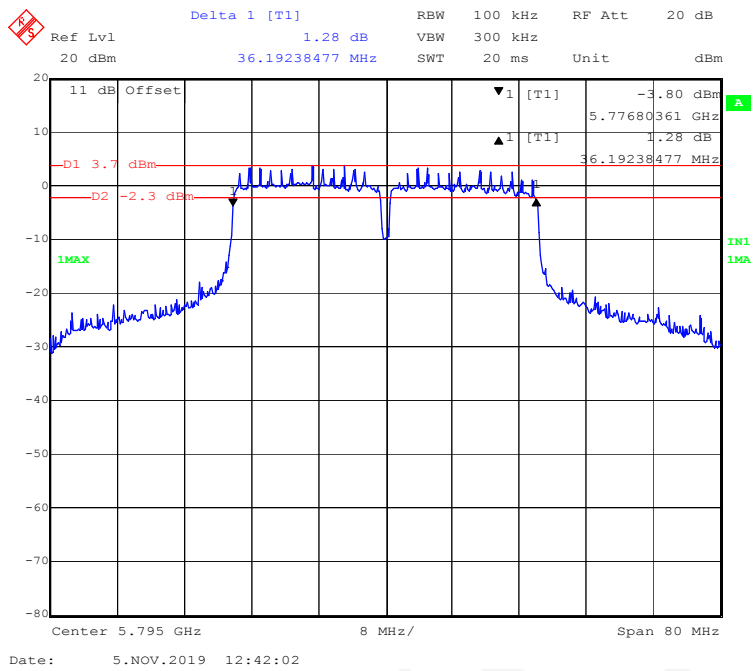
802.11n-HT20 mode, 5825MHz



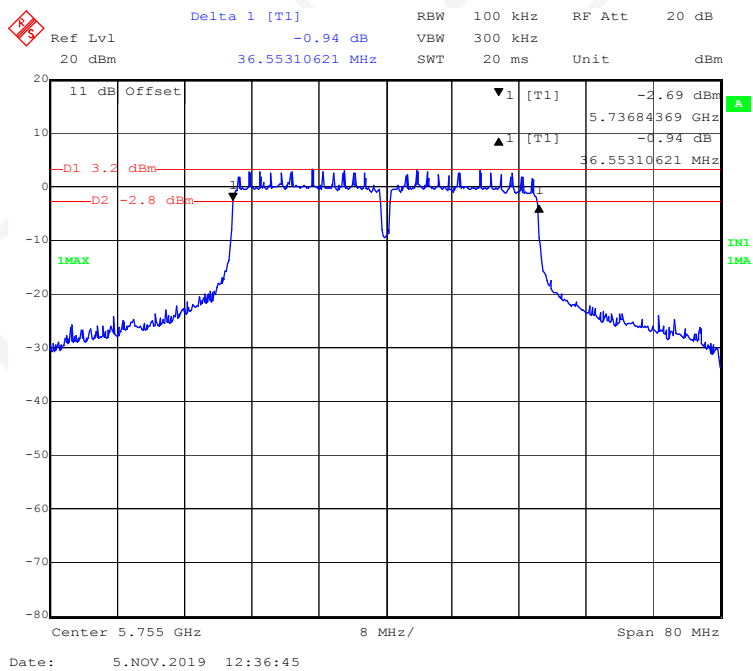
802.11ac40 mode, 5755MHz



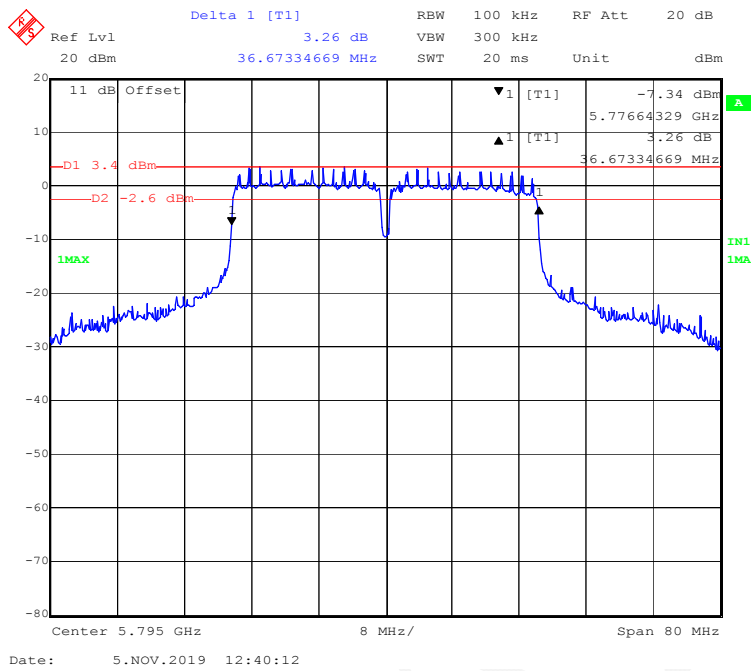
802.11ac40 mode, 5795MHz



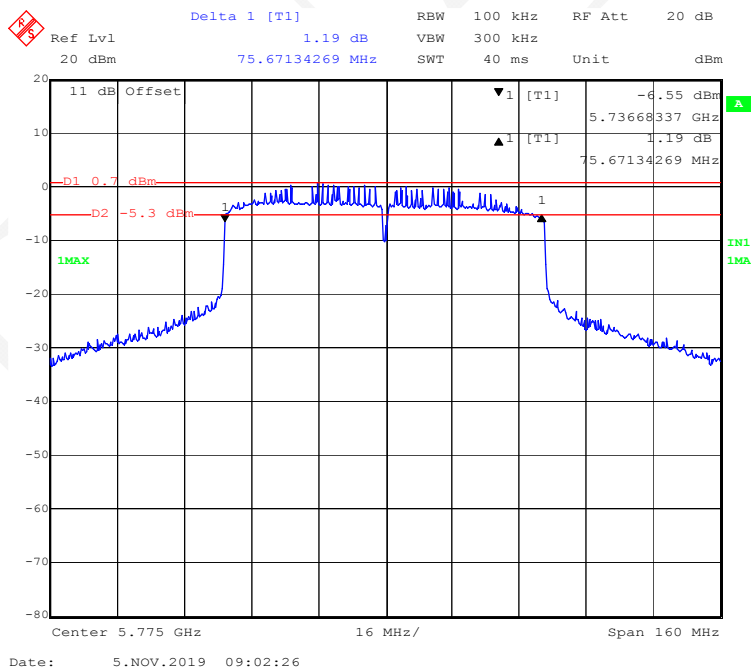
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz

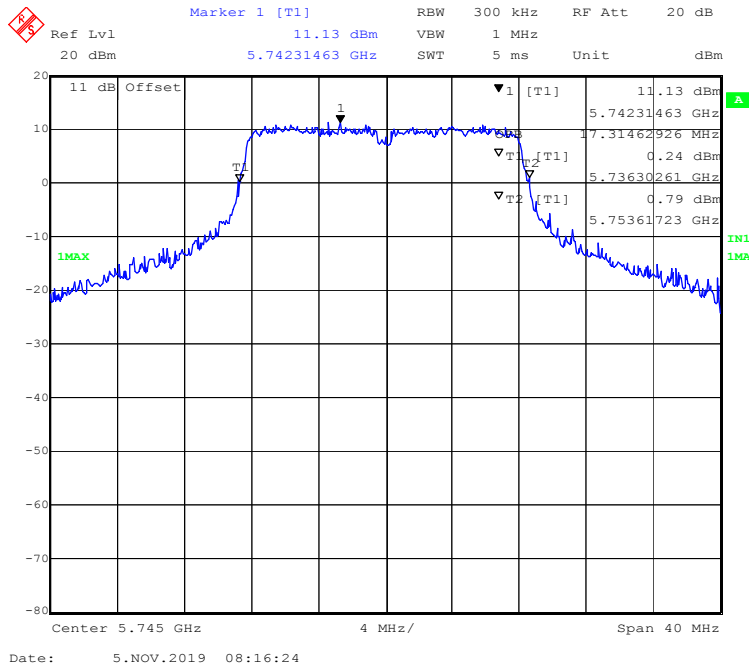


802.11ac80 mode, 5775MHz

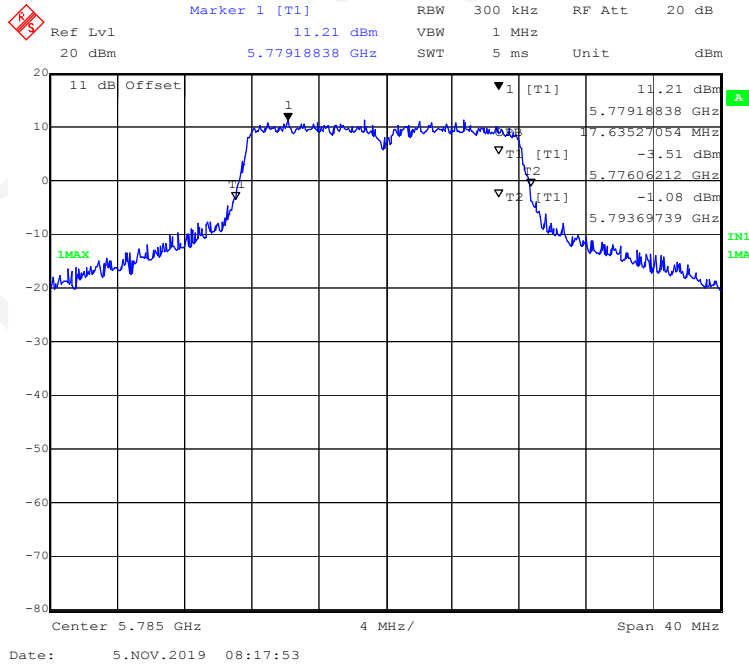


99% Occupied Bandwidth

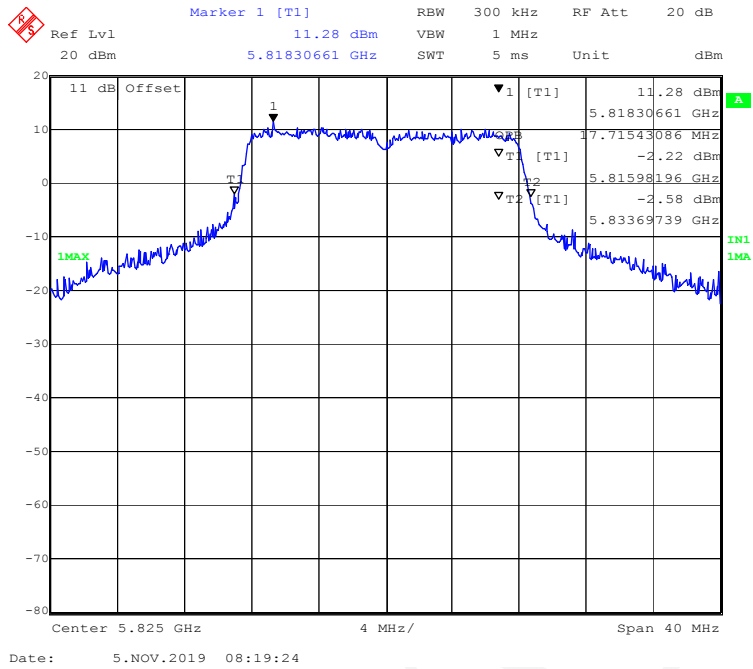
802.11a mode, 5745MHz



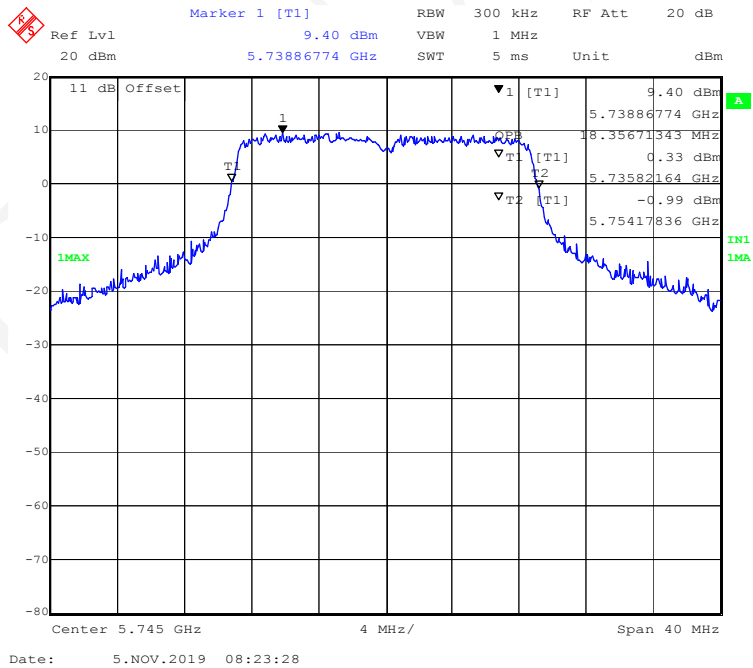
802.11a mode, 5785MHz



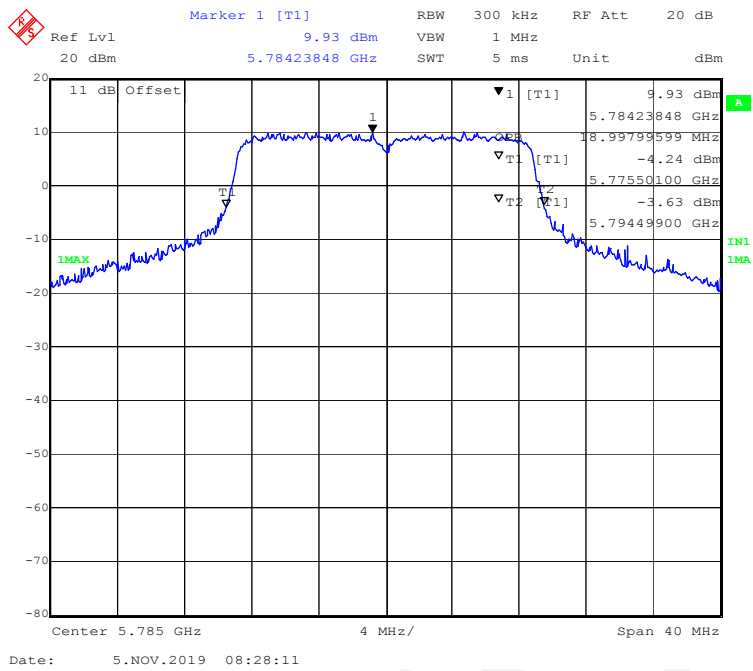
802.11a mode, 5825MHz



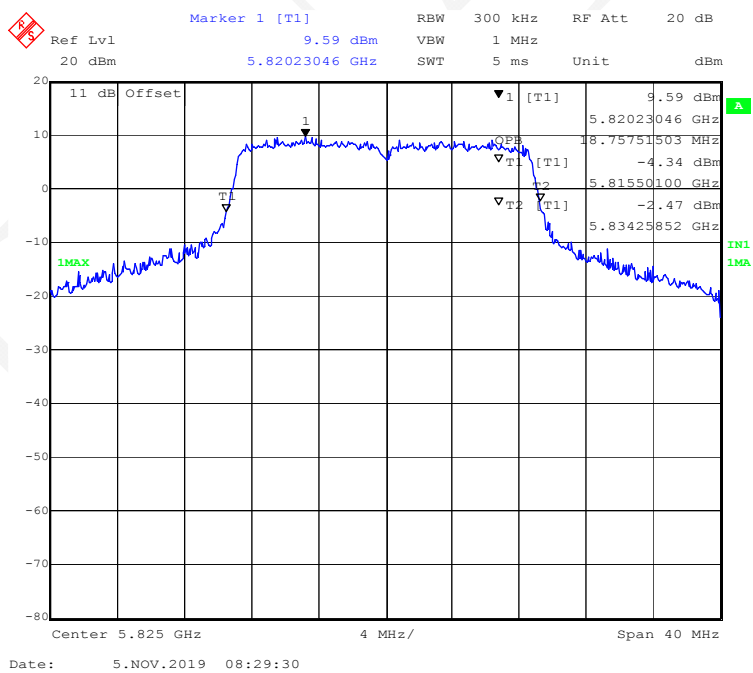
802.11ac20 mode, 5745MHz



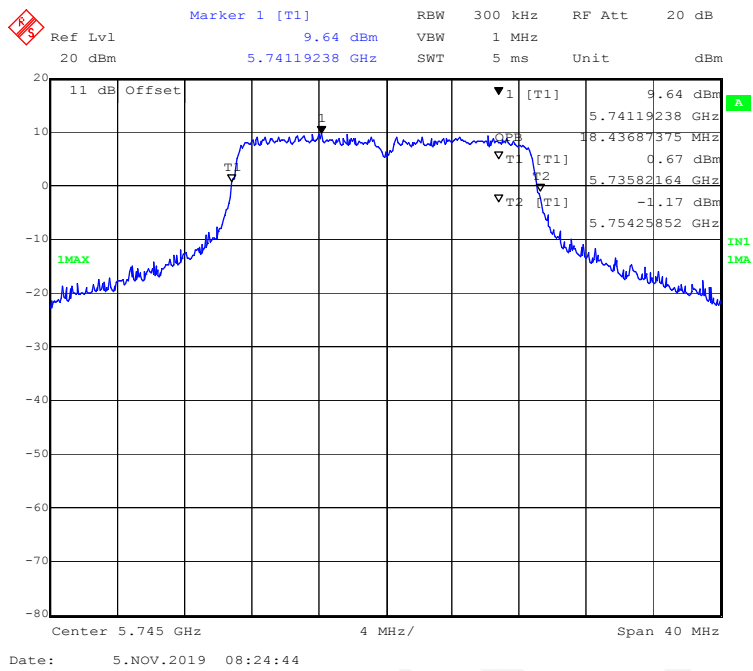
802.11ac20 mode, 5785MHz



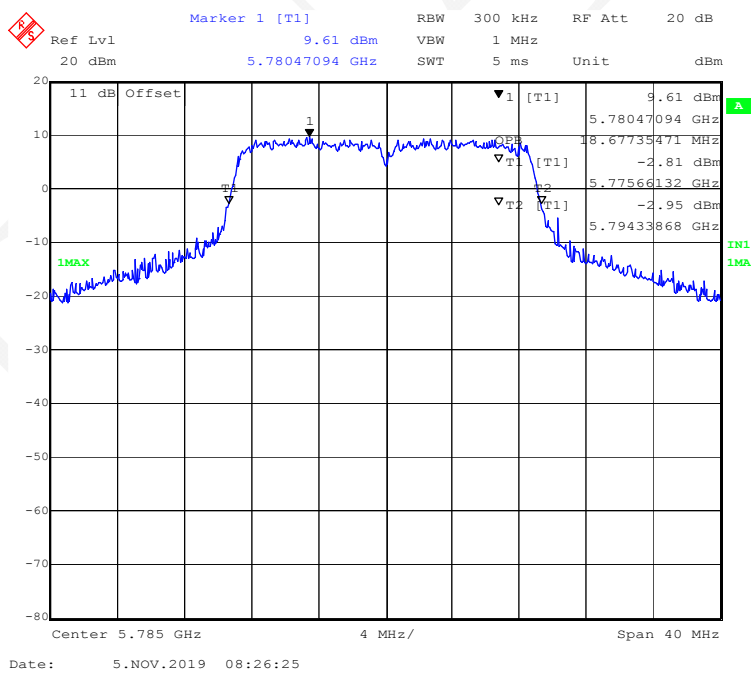
802.11ac20 mode, 5825MHz



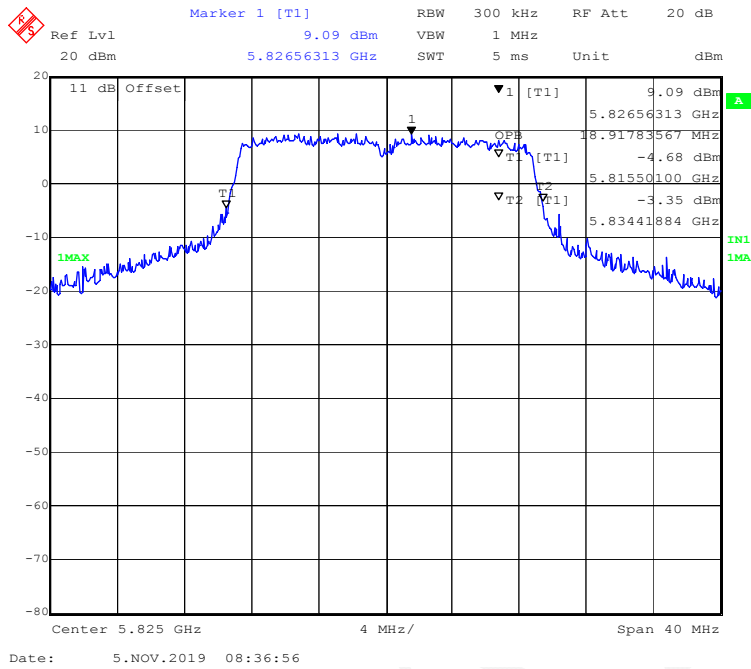
802.11n-HT20 mode, 5745MHz



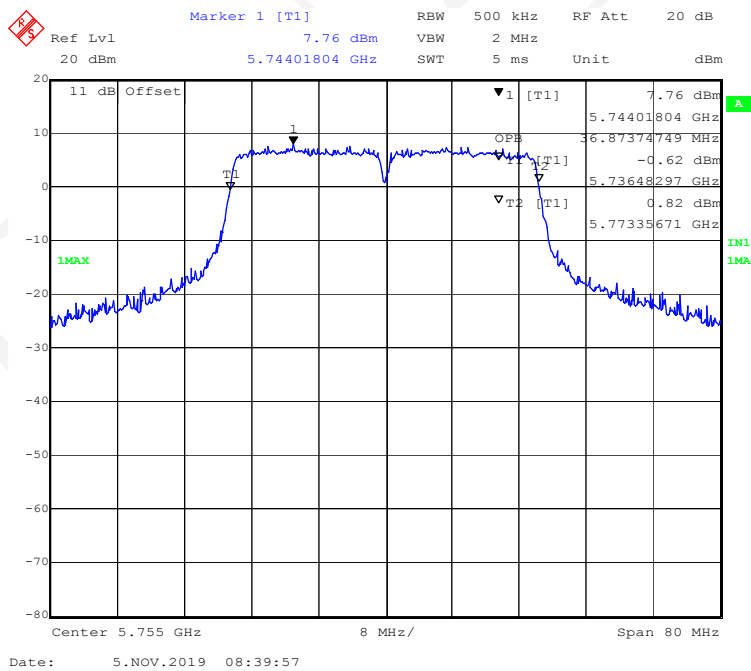
802.11n-HT20 mode, 5785MHz



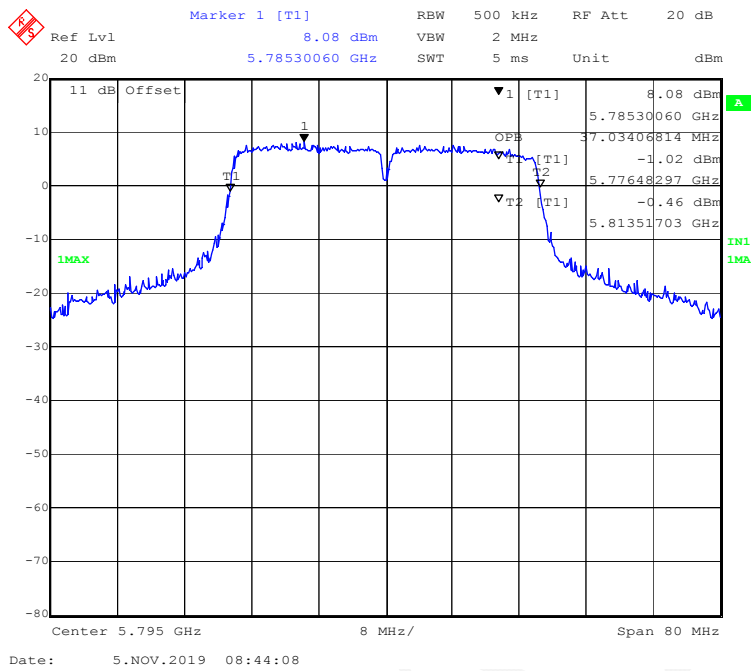
802.11n-HT20 mode, 5825MHz



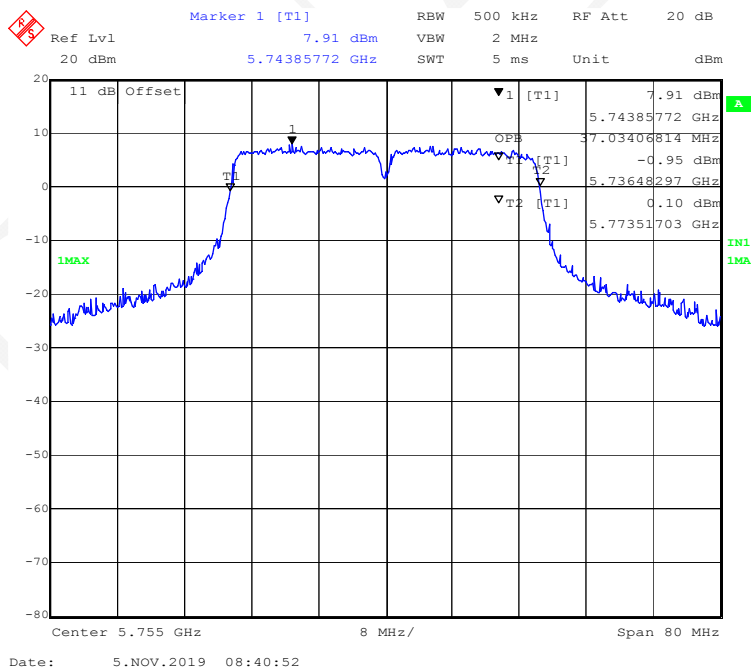
802.11ac40 mode, 5755MHz



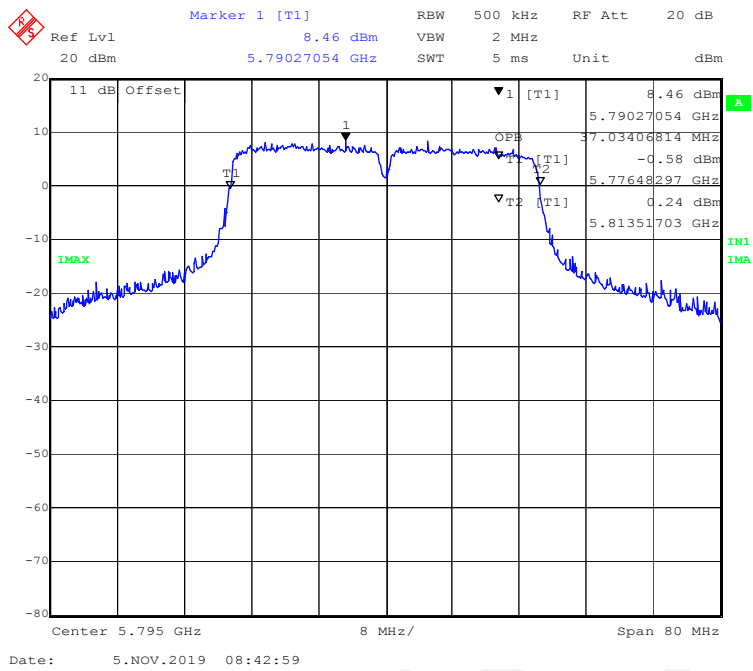
802.11ac40 mode, 5795MHz



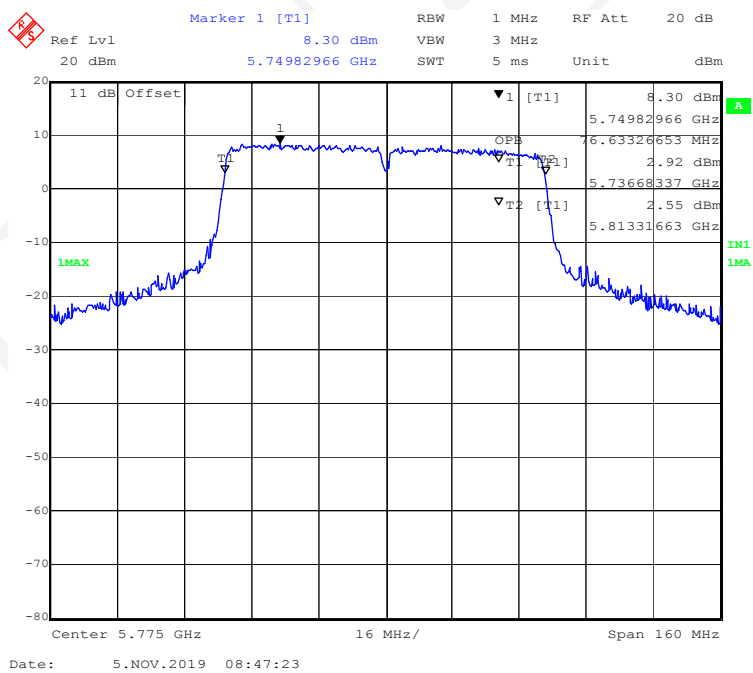
802.11n-HT40 mode, 5755MHz



802.11n-HT40 mode, 5795MHz



802.11ac80 mode, 5775MHz



FCC §15.407(a) (1) (2) (3) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

According to §15.407(a)(1)

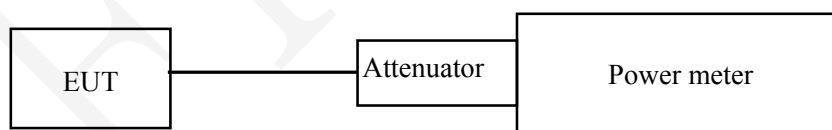
(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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..

According to §15.407(a) (3)

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

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	50 %
ATM Pressure:	101.3 kPa

The testing was performed by Carry Cai on 2019-11-04.

Test Mode: Transmitting

Test Mode: Transmitting

Test mode	Band	Frequency (MHz)	Average Conducted Output Power (dBm)				Limit	Result
			ANT 1	ANT 2	ANT 3	Total		
802.11a	5150-5250 MHz	5180	16.81	16.66	16.87	/	24	PASS
		5200	17.15	16.93	17.03	/	24	PASS
		5240	17.39	17.13	16.98	/	24	PASS
	5725-5850 MHz	5745	20.02	19.99	19.87	/	30	PASS
		5785	20.17	20.02	20.15	/	30	PASS
		5825	19.87	19.65	19.63	/	30	PASS
802.11ac20	5150-5250 MHz	5180	15.78	15.91	15.94	20.65	24	PASS
		5200	16.02	16.22	16.08	20.88	24	PASS
		5240	16.16	16.10	16.06	20.88	24	PASS
	5725-5850 MHz	5745	18.87	18.67	18.46	23.44	30	PASS
		5785	18.83	18.85	18.93	23.64	30	PASS
		5825	18.27	18.28	18.08	22.98	30	PASS
802.11n-HT20	5150-5250 MHz	5180	15.93	16.07	16.03	20.78	24	PASS
		5200	15.87	15.67	15.56	20.47	24	PASS
		5240	15.96	16.08	16.05	20.80	24	PASS
	5725-5850 MHz	5745	18.62	18.66	18.70	23.43	30	PASS
		5785	18.80	18.71	19.00	23.61	30	PASS
		5825	17.99	18.19	18.24	22.91	30	PASS
802.11ac40	5150-5250 MHz	5190	11.41	11.53	11.69	16.32	24	PASS
		5230	12.02	11.74	11.71	16.60	24	PASS
	5725-5850 MHz	5755	18.18	18.01	18.03	22.85	30	PASS
		5795	18.22	18.21	18.19	22.98	30	PASS
802.11n-HT40	5150-5250 MHz	5190	11.67	11.63	11.69	16.43	24	PASS
		5230	11.89	11.76	11.70	16.56	24	PASS
	5725-5850 MHz	5755	18.13	18.12	18.16	22.91	30	PASS
		5795	18.28	18.16	18.19	22.98	30	PASS
802.11ac80	5150-5250 MHz	5210	10.32	9.81	9.97	14.81	24	PASS
	5725-5850 MHz	5775	18.42	18.20	18.01	22.98	30	PASS

Note 1: The total output power= $10\log_{10}(10^{(ANT\ 1/10)}+10^{(ANT\ 2/10)} + 10^{(ANT\ 3/10)})$

Note 2: The maximum antenna gain is 2 dBi, the device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

So: Directional gain = $G_{ANT} + \text{Array Gain} = 2\text{dBi} < 6\text{dBi}$

FCC §15.407(a) (1) (2) (3) - POWER SPECTRAL DENSITY

Applicable Standard

According to §15.407(a) (1)

(iv) For 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.

According to §15.407(a) (3)

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

Test Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Proceidyres New Rules v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Maximum power spectral density (PPSD)

Test Data

Environmental Conditions

Temperature:	22.5 °C
Relative Humidity:	52 %
ATM Pressure:	101.3 kPa

The testing was performed by Carry Cai on 2019-11-04.

Test Mode: Transmitting

5150MHz-5250MHz:

Mode	Frequency (MHz)	PSD (dBm/MHz)				Limit (dBm/MHz)	Result
		ANT 1	ANT 2	ANT 3	Total		
802.11a	5180	6.00	5.74	6.17	/	11	PASS
	5200	5.98	5.93	6.03	/	11	PASS
	5240	6.26	6.13	6.50	/	11	PASS
802.11ac20	5180	4.11	5.54	5.04	9.71	10.23	PASS
	5200	5.35	5.09	5.58	10.12	10.23	PASS
	5240	5.11	4.70	4.78	9.64	10.23	PASS
802.11n-HT20	5180	5.14	5.54	5.17	10.06	10.23	PASS
	5200	5.58	5.24	5.45	10.20	10.23	PASS
	5240	5.14	5.06	4.93	9.82	10.23	PASS
802.11ac40	5190	1.00	0.69	1.02	5.68	10.23	PASS
	5230	0.52	0.96	0.67	5.49	10.23	PASS
802.11n-HT40	5190	1.18	1.12	0.80	5.81	10.23	PASS
	5230	0.42	0.16	0.42	5.11	10.23	PASS
802.11ac80	5210	-2.90	-2.46	-2.28	2.23	10.23	PASS

5725MHz-5850MHz:

Mode	Frequency (MHz)	PSD (dBm/500kHz)				Limit (dBm/500kHz)	Result
		ANT 1	ANT 2	ANT 3	Total		
802.11a	5745	6.92	7.78	8.11	/	30	PASS
	5785	8.20	8.39	7.28	/	30	PASS
	5825	6.45	8.09	6.82	/	30	PASS
802.11ac20	5745	7.04	6.73	6.28	11.47	29.23	PASS
	5785	7.05	5.99	6.26	11.23	29.23	PASS
	5825	5.78	6.27	6.72	11.04	29.23	PASS
802.11n-HT20	5745	6.54	6.91	6.93	11.57	29.23	PASS
	5785	7.07	6.55	6.13	11.37	29.23	PASS
	5825	5.27	6.19	5.83	10.55	29.23	PASS
802.11ac40	5755	3.20	3.27	2.41	7.75	29.23	PASS
	5795	3.41	2.88	3.03	7.88	29.23	PASS
802.11n-HT40	5755	2.58	2.53	3.14	7.53	29.23	PASS
	5795	2.89	2.74	2.90	7.62	29.23	PASS
802.11ac80	5775	0.66	0.44	0.15	5.19	29.23	PASS

Note:

The total PSD= $10 \log (10^{\text{ANT 1}/10} + 10^{\text{ANT 2}/10} + 10^{\text{ANT 3}/10})$

The maximum antenna gain is 2dBi. The device employed Cyclic Delay Diversity (CDD) for 802.11MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

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

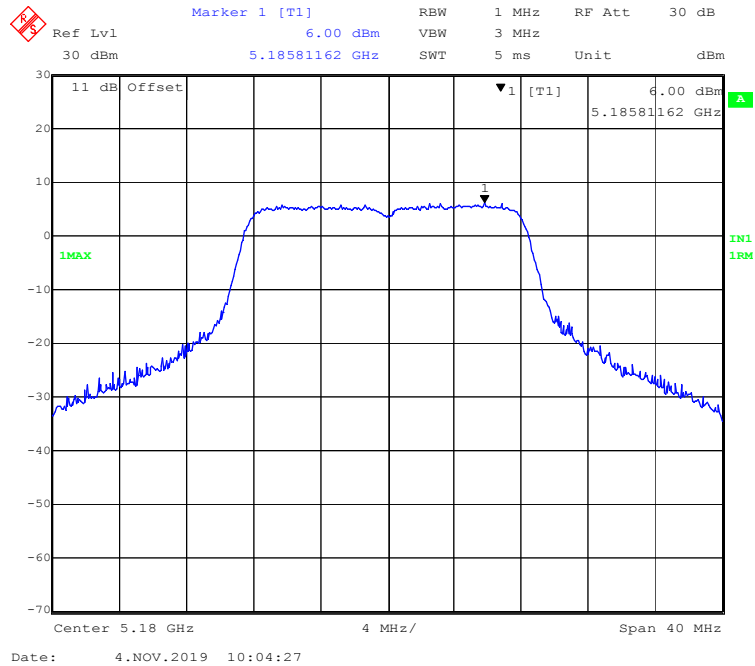
So:

Directional gain = $G_{\text{ANT}} + \text{Array Gain} = 2 + 10 \log (3/1) = 6.77\text{dBi}$, the power spectral density limit was reduced $6.77 - 6 = 0.77\text{dB}$

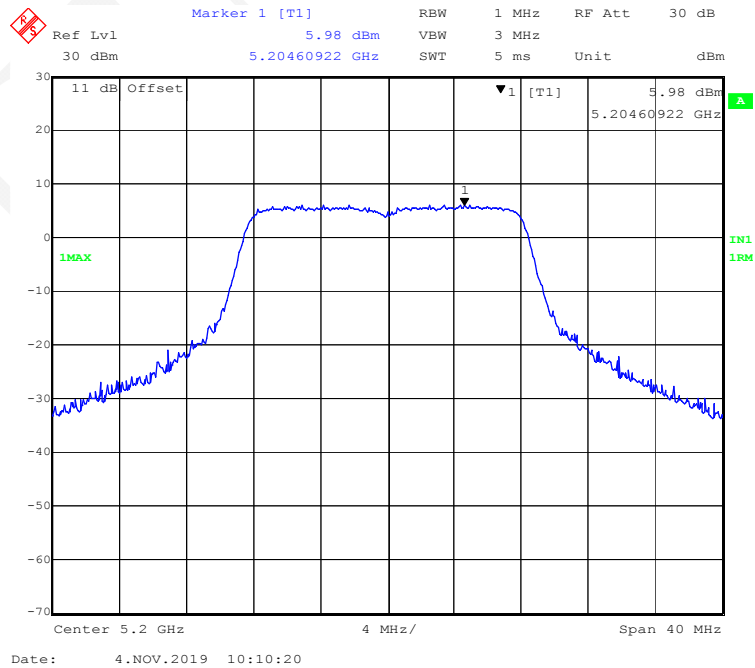
ANT 1:

5150MHz-5250MHz Band :

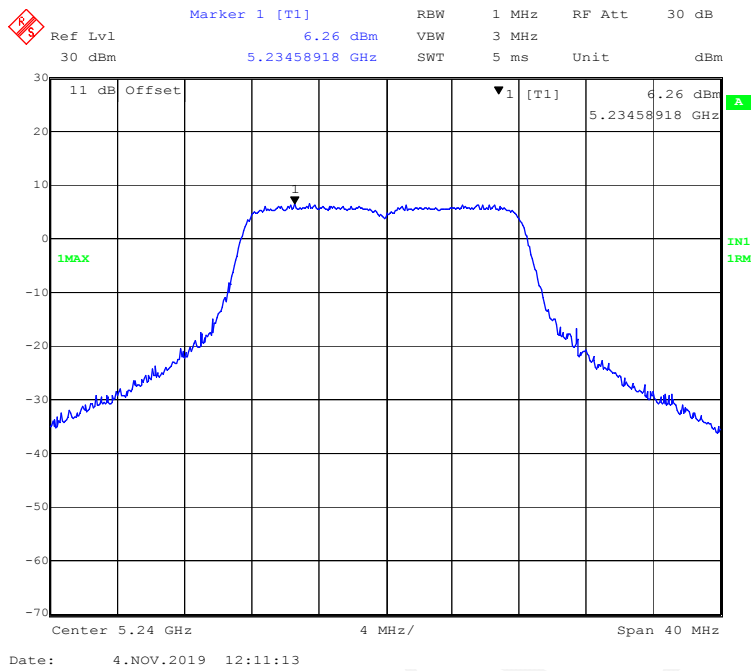
802.11a mode, Power spectral density-5180MHz



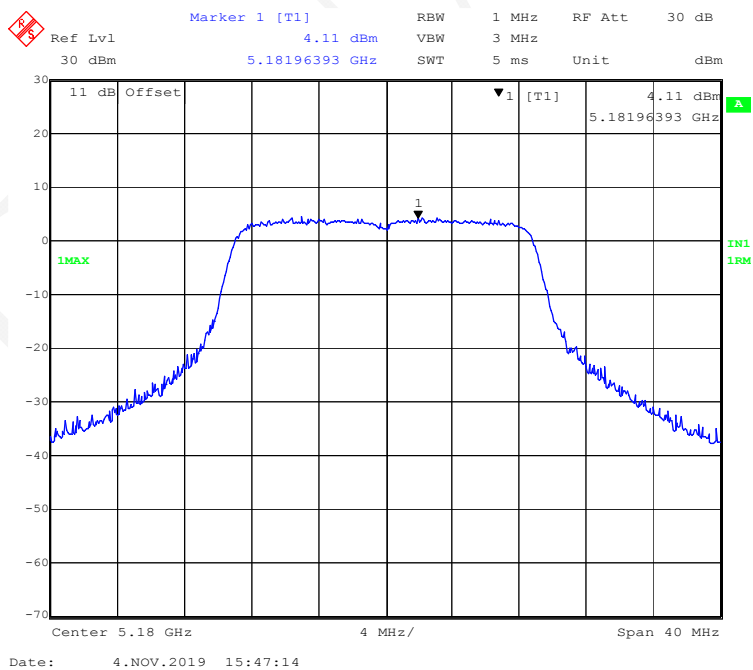
802.11a mode, Power spectral density-5200MHz



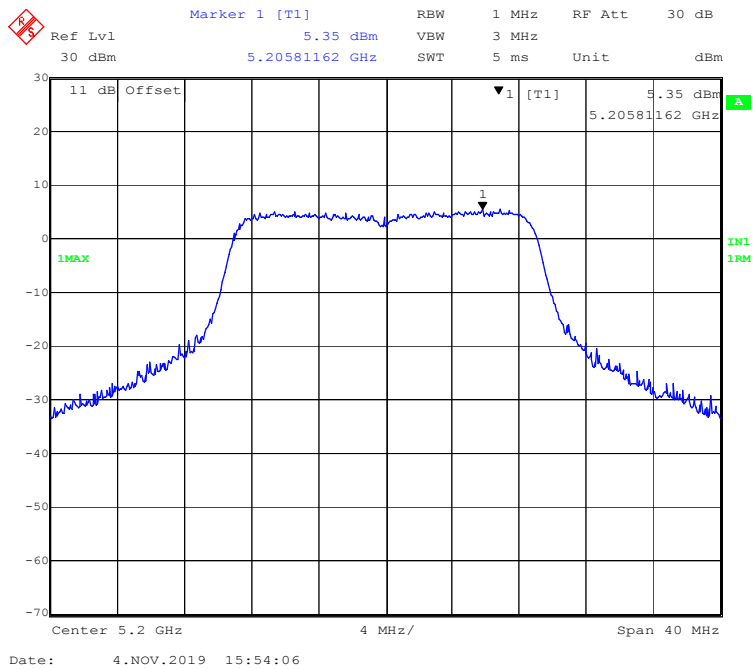
802.11a mode, Power spectral density-5240MHz



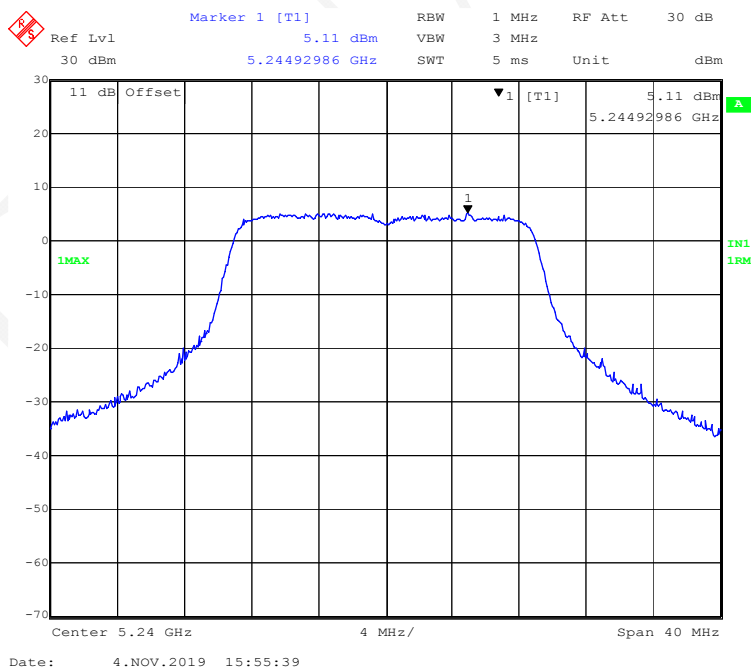
802.11ac20 mode, Power spectral density-5180MHz



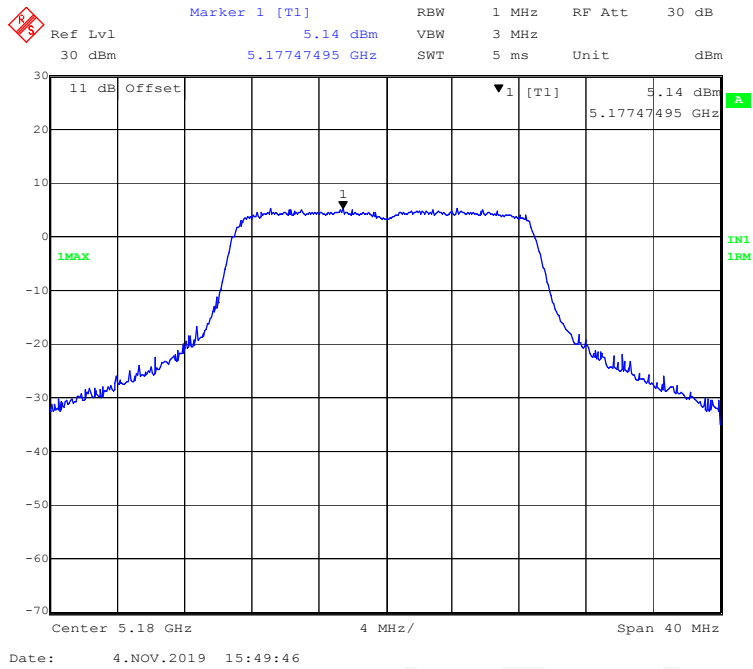
802.11ac20 mode, Power spectral density-5200MHz



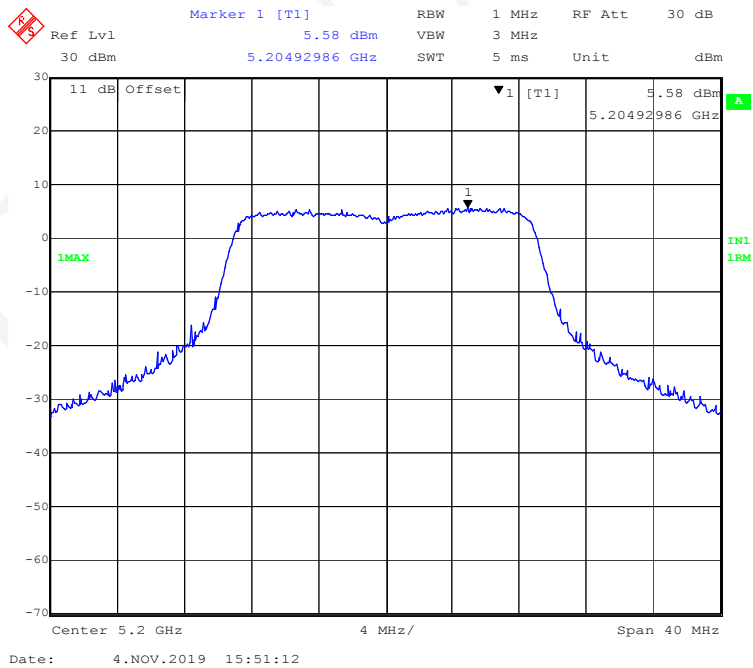
802.11ac20 mode, Power spectral density-5240MHz



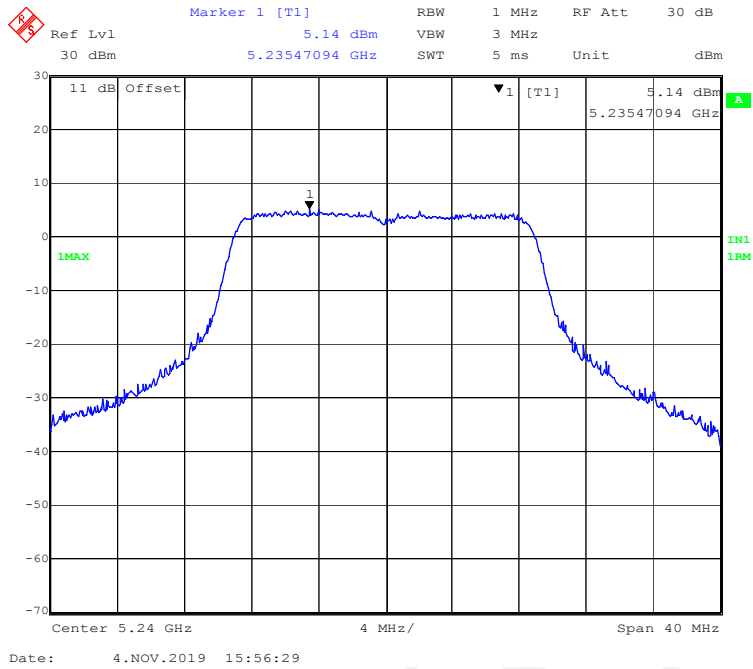
802.11n-HT20 mode, Power spectral density-5180MHz



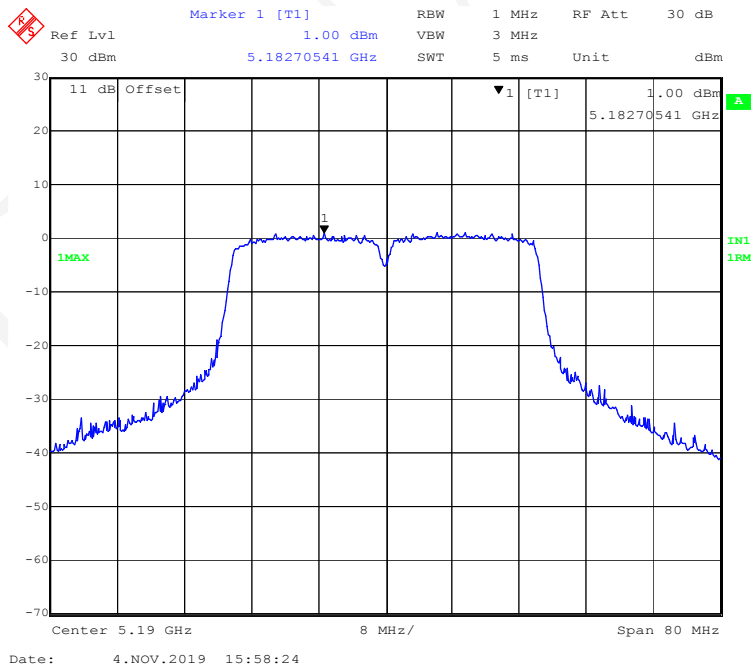
802.11n-HT20 mode, Power spectral density-5200MHz



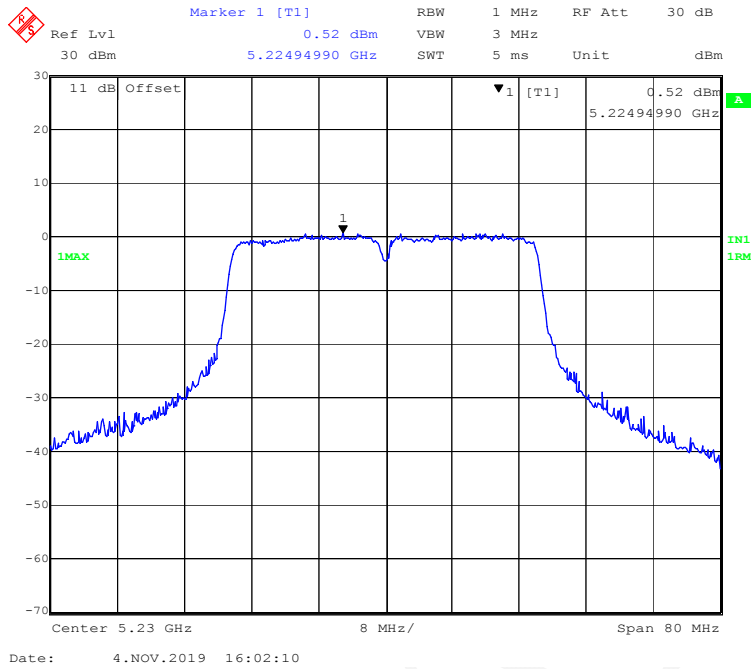
802.11n-HT20 mode, Power spectral density-5240MHz



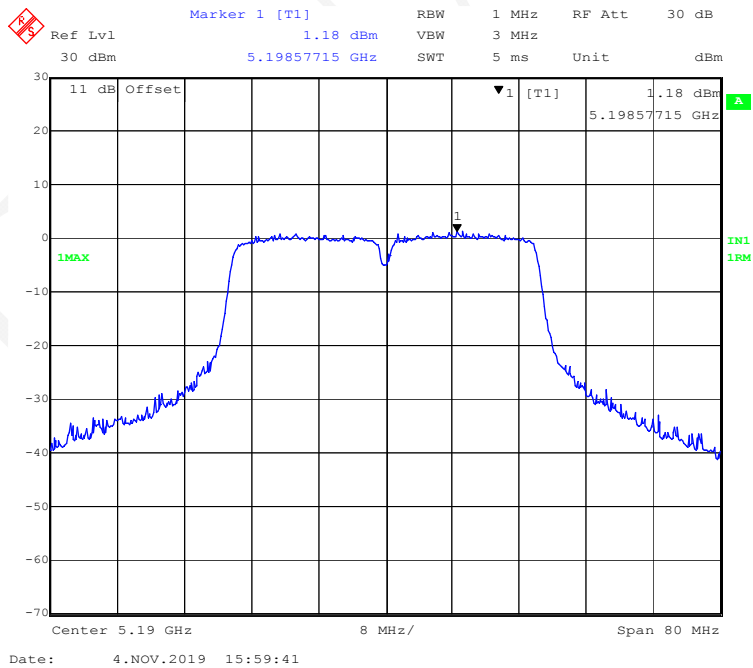
802.11ac40 mode, Power spectral density-5190MHz



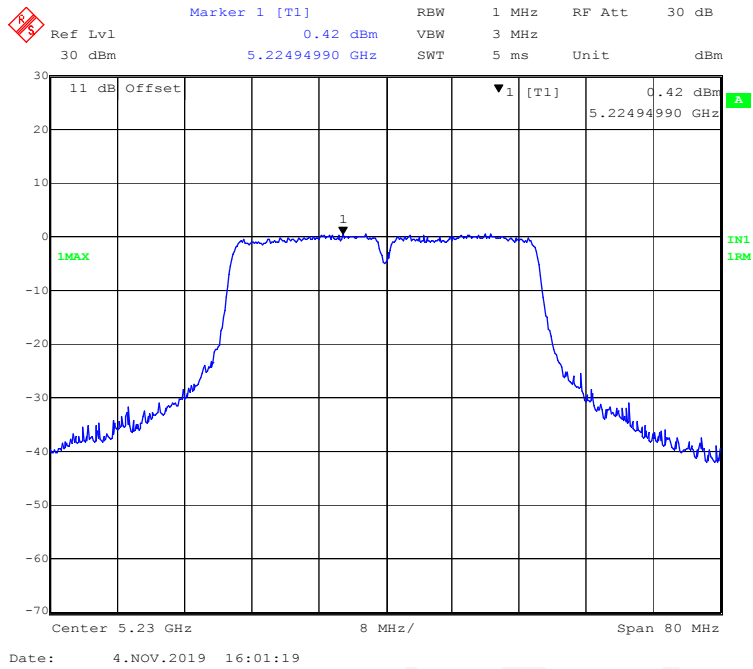
802.11ac40 mode, Power spectral density-5230MHz



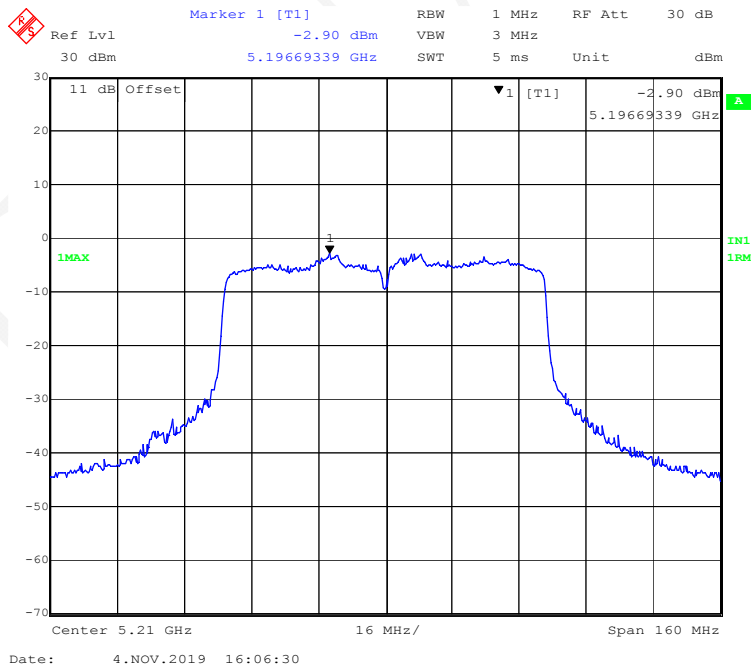
802.11n-HT40 mode, Power spectral density-5190MHz



802.11n-HT40 mode, Power spectral density-5230MHz

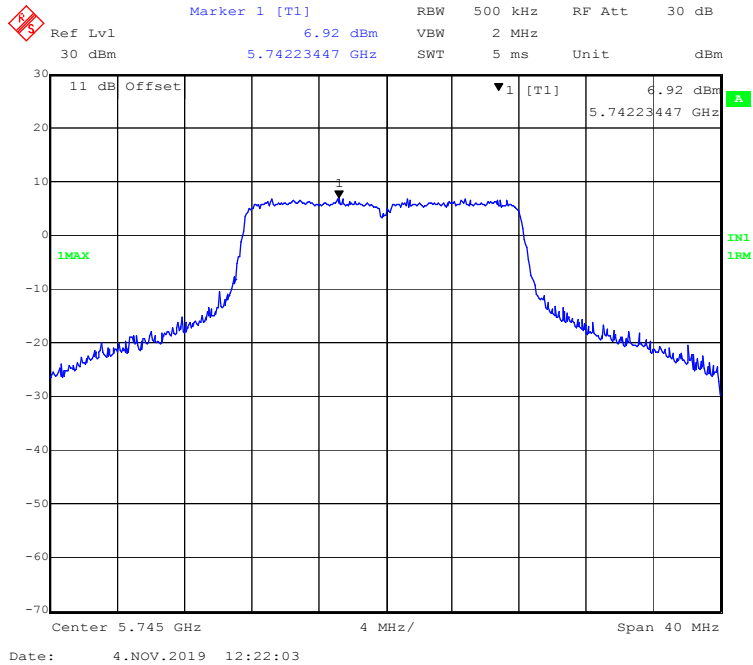


802.11ac80 mode, Power spectral density-5210MHz

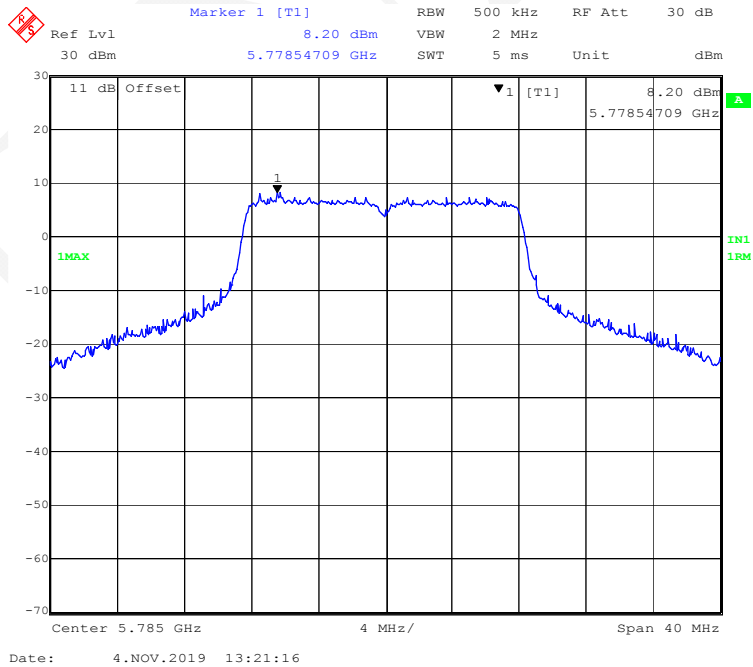


5725MHz-5850 MHz Band:

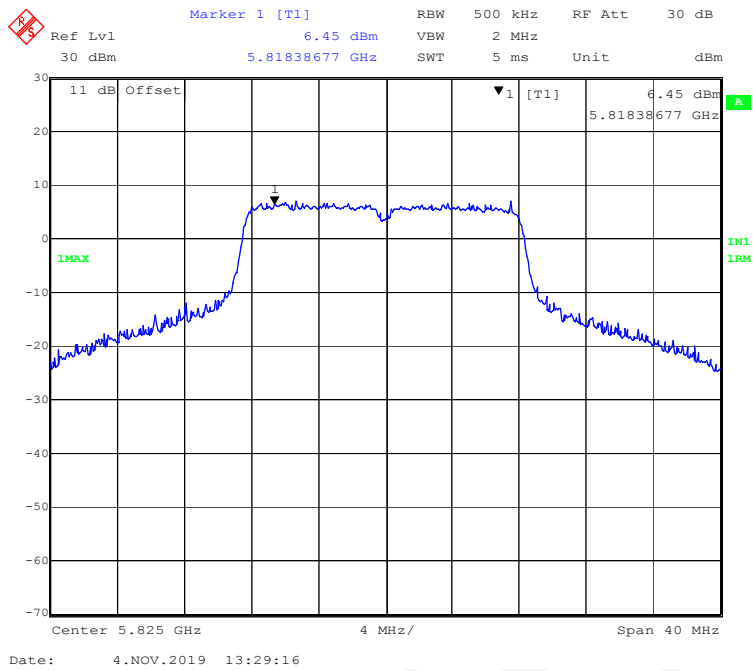
802.11a mode, Power spectral density-5745MHz



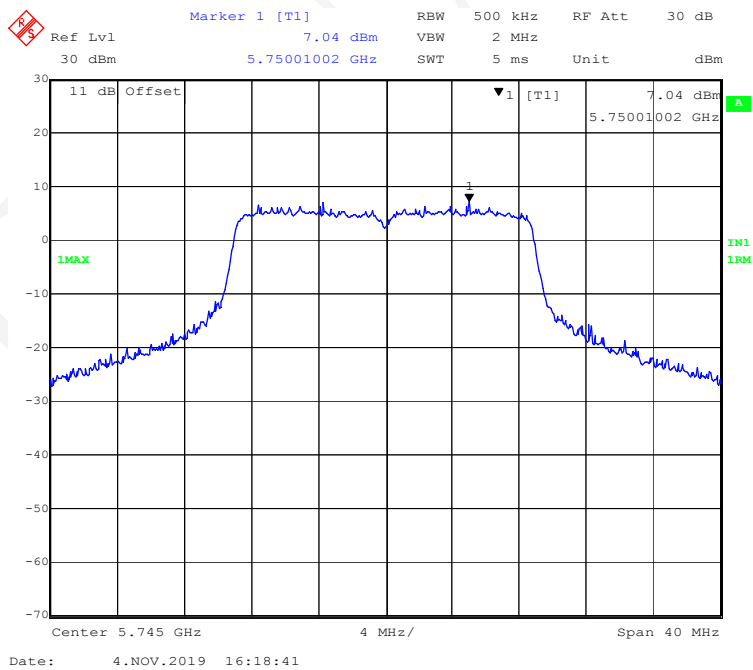
802.11a mode, Power spectral density-5785MHz



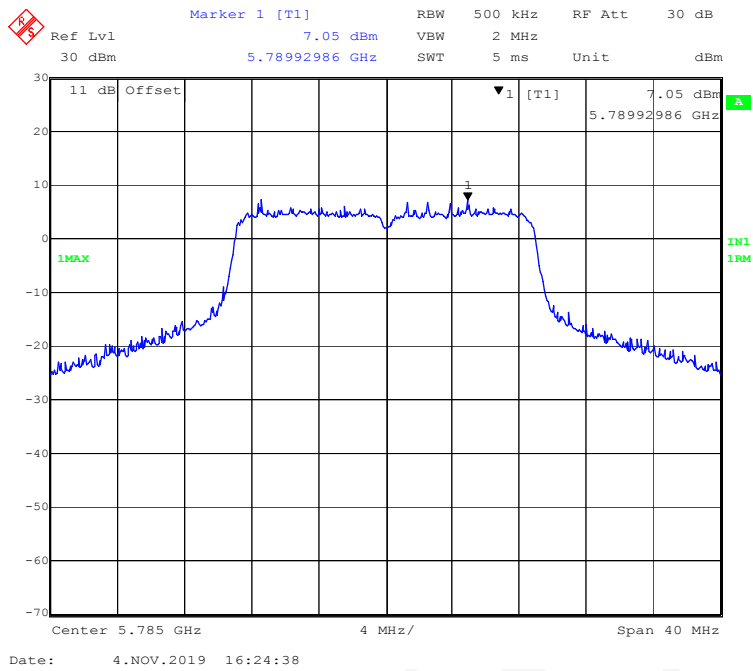
802.11a mode, Power spectral density-5825MHz



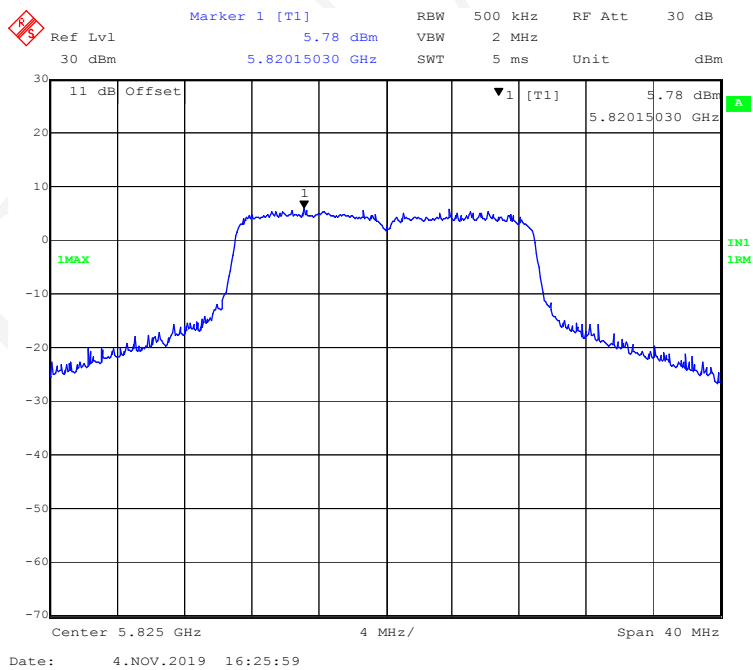
802.11ac20 mode, Power spectral density-5745MHz



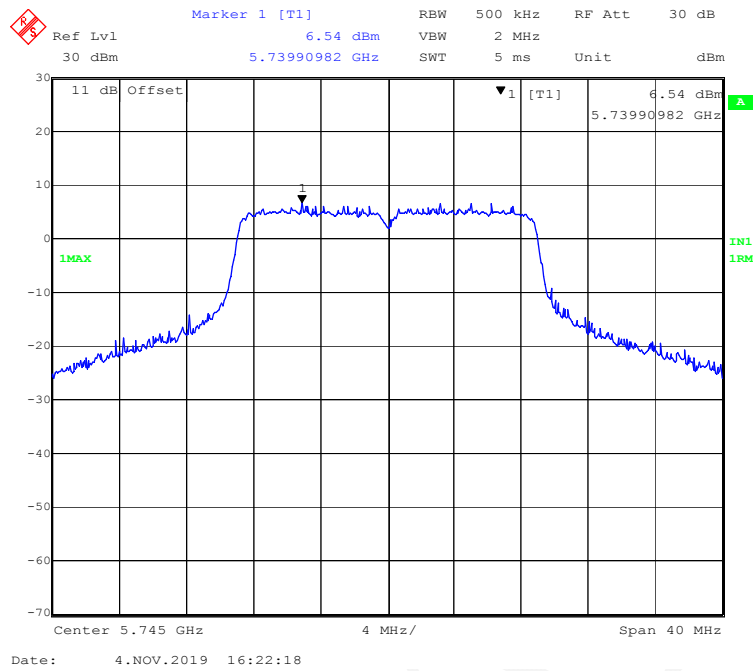
802.11ac20 mode, Power spectral density-5785MHz



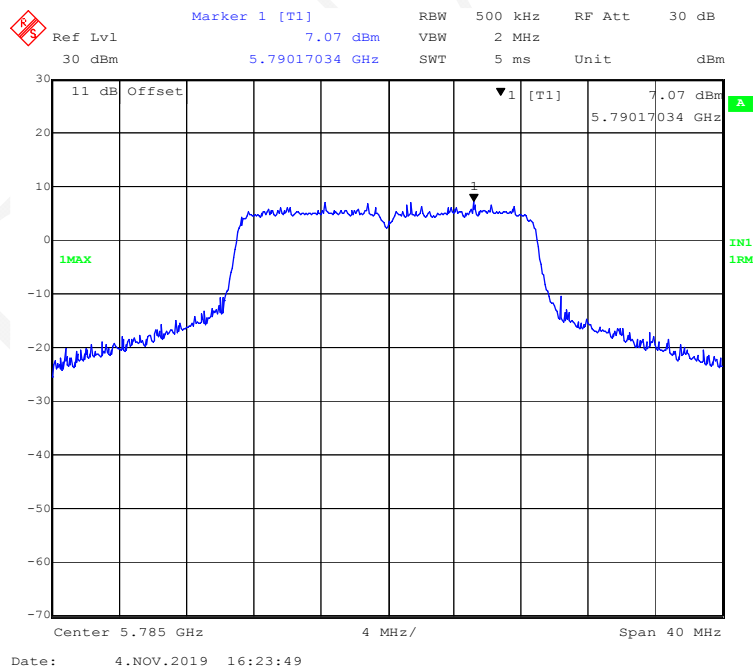
802.11ac20 mode, Power spectral density-5825MHz



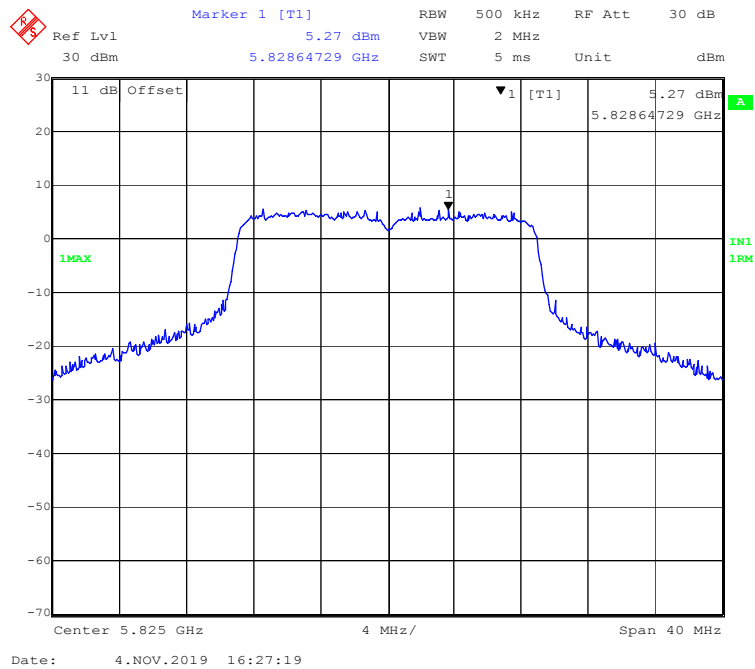
802.11n-HT20 mode, Power spectral density-5745MHz



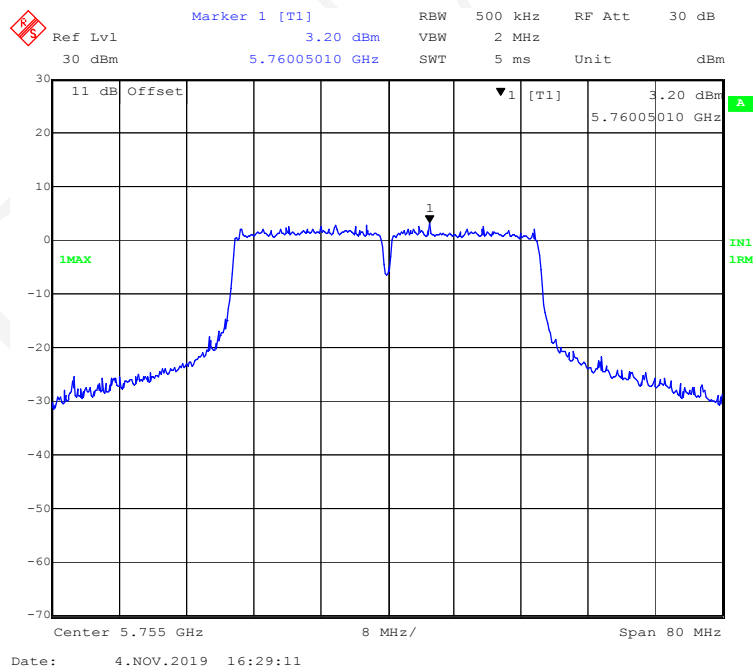
802.11n-HT20 mode, Power spectral density-5785MHz



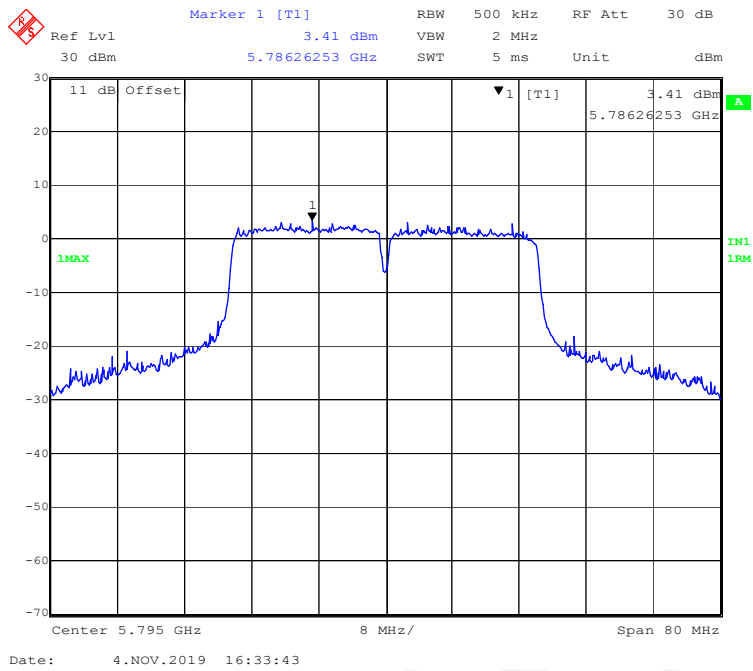
802.11n-HT20 mode, Power spectral density-5825MHz



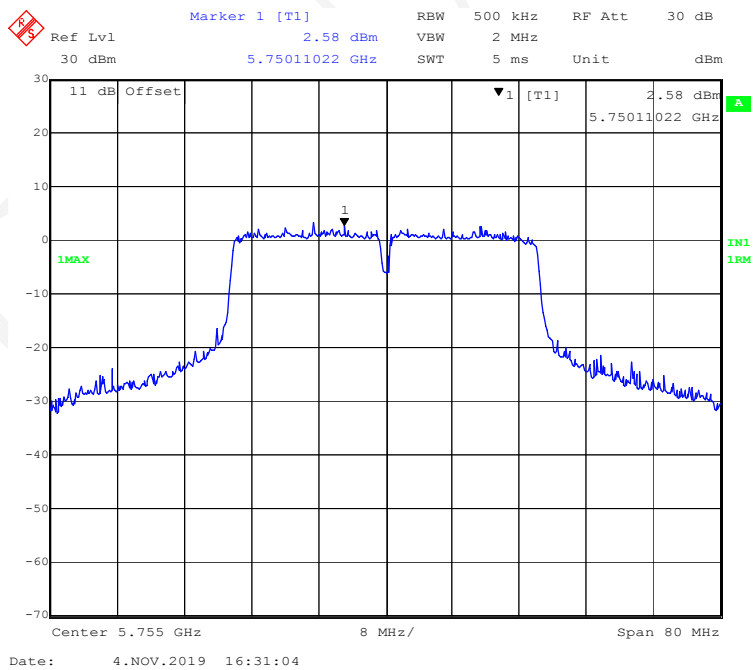
802.11ac40 mode, Power spectral density-5755MHz



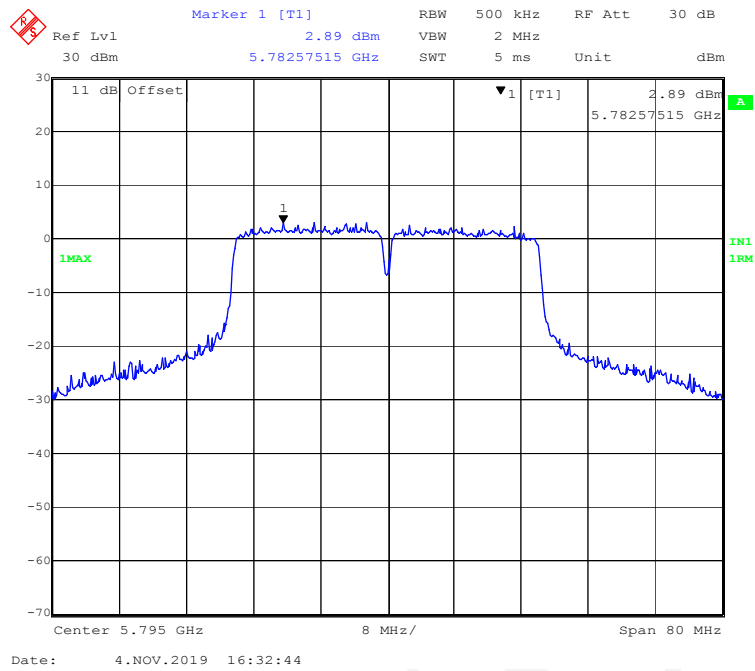
802.11ac40 mode, Power spectral density-5795MHz



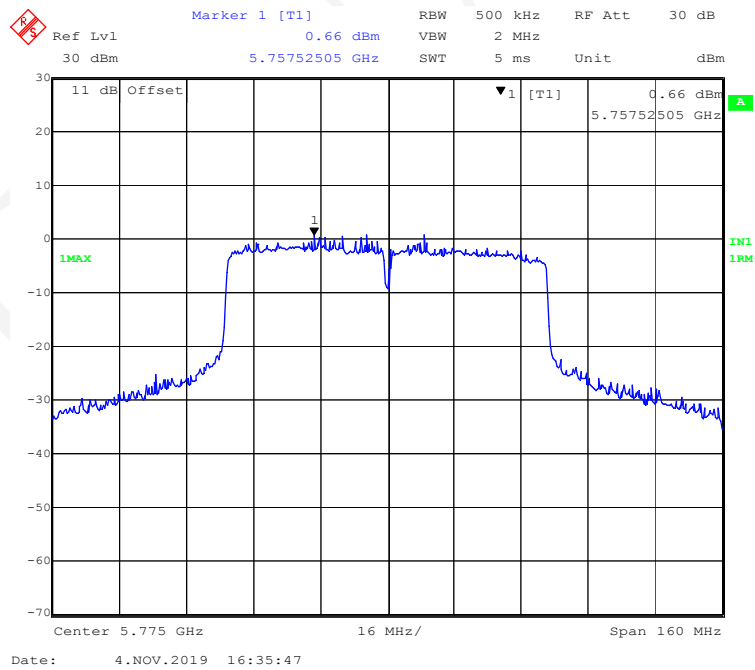
802.11n-HT40 mode, Power spectral density-5755MHz



802.11n-HT40 mode, Power spectral density-5795MHz



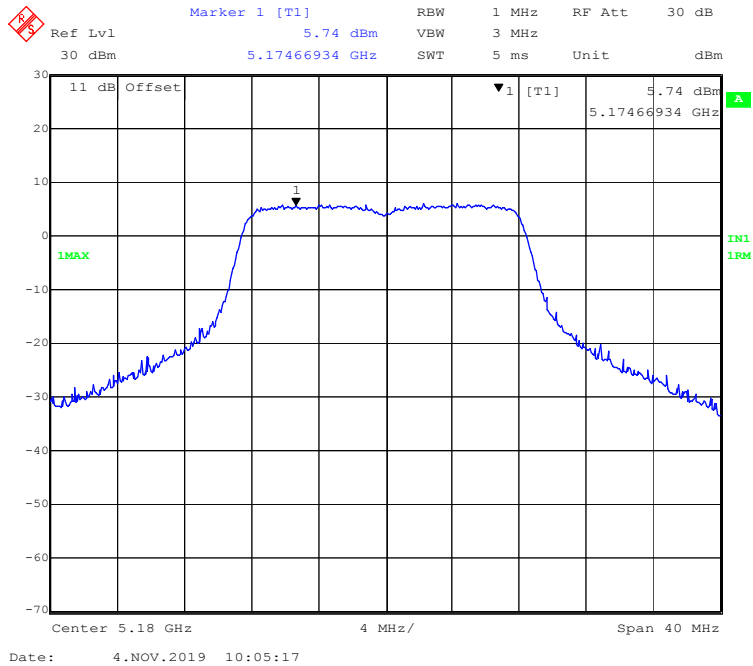
802.11ac80 mode, Power spectral density-5775MHz



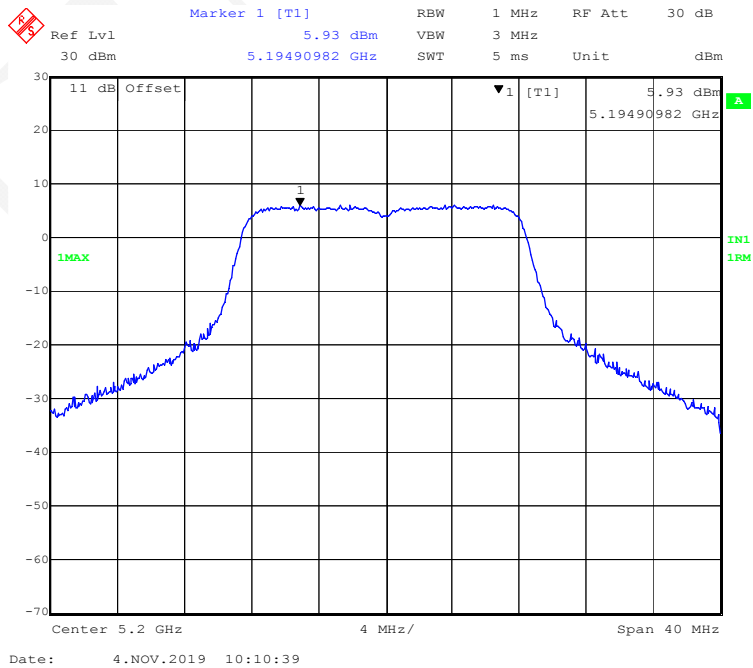
ANT 2:

5150MHz-5250MHz Band :

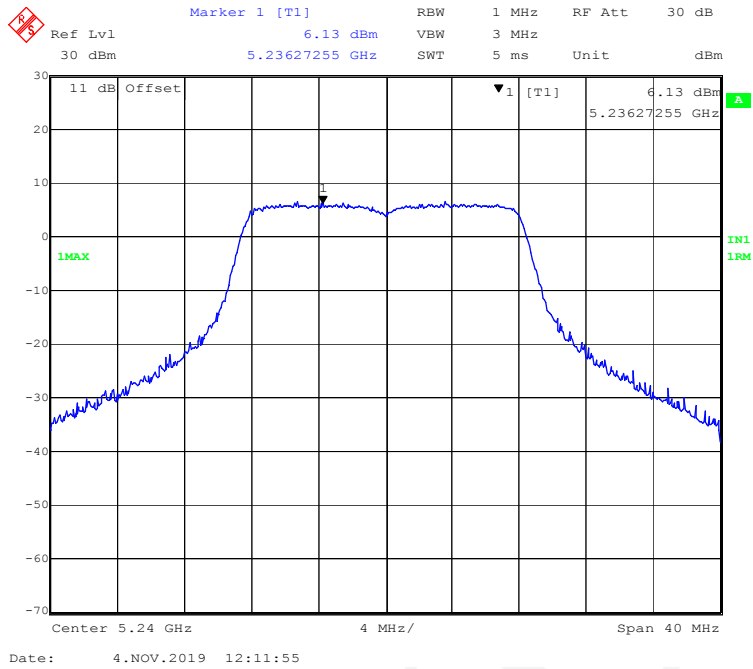
802.11a mode, Power spectral density-5180MHz



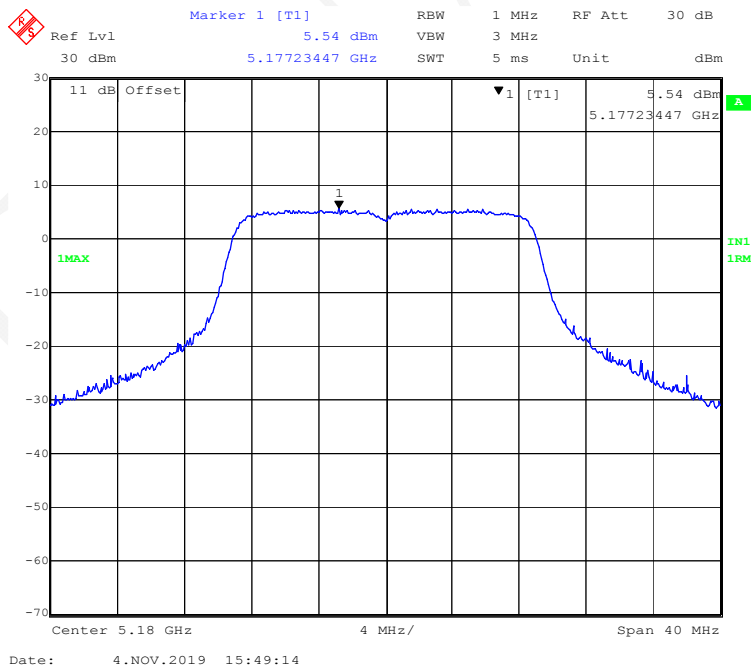
802.11a mode, Power spectral density-5200MHz



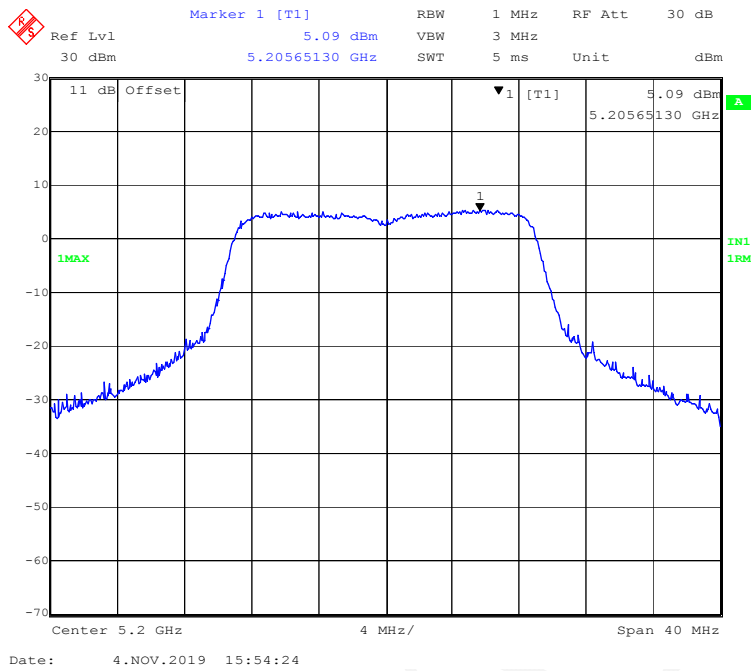
802.11a mode, Power spectral density-5240MHz



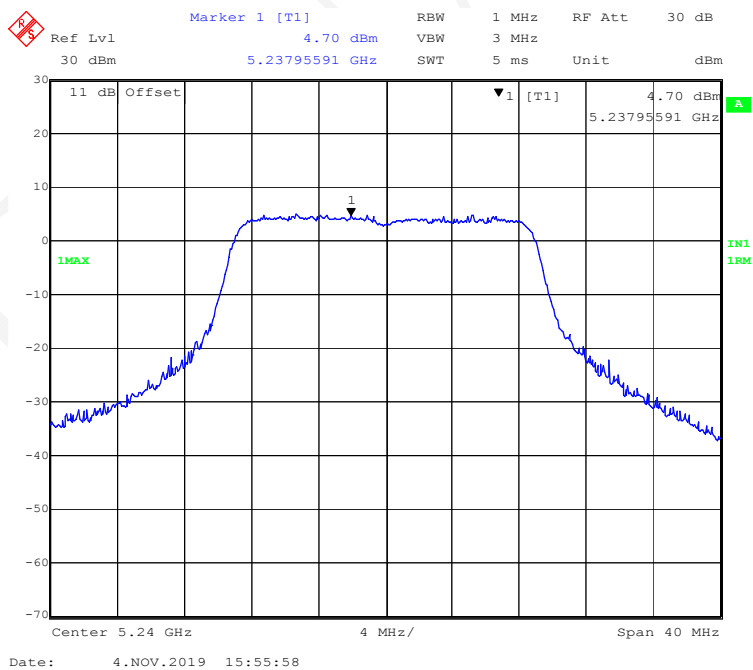
802.11ac20 mode, Power spectral density-5180MHz



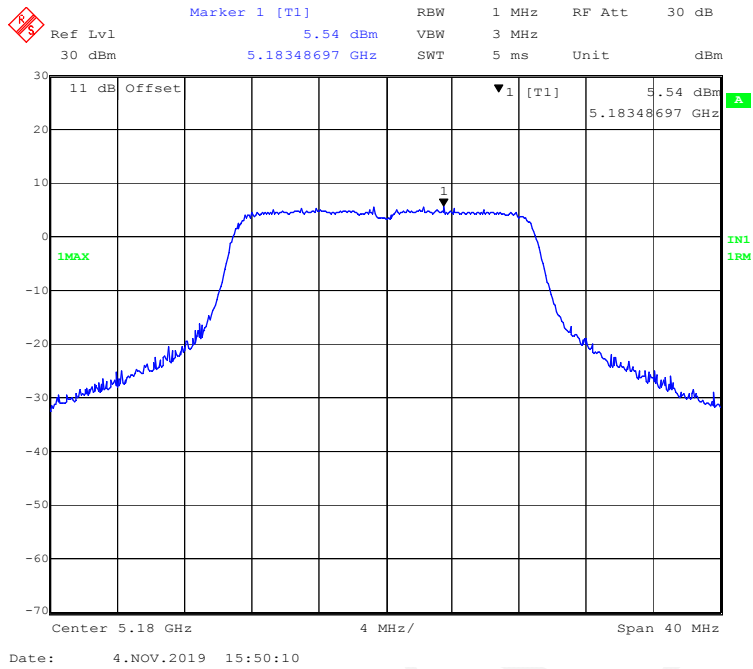
802.11ac20 mode, Power spectral density-5200MHz



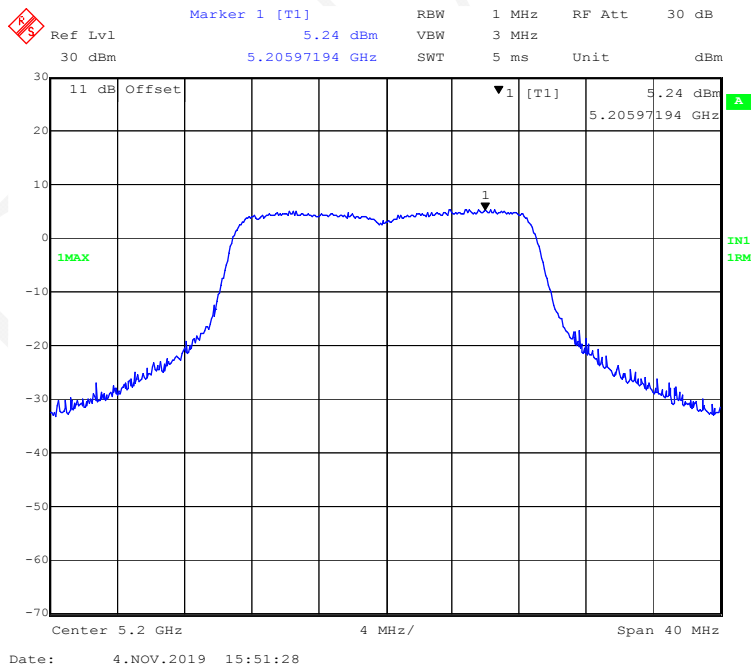
802.11ac20 mode, Power spectral density-5240MHz



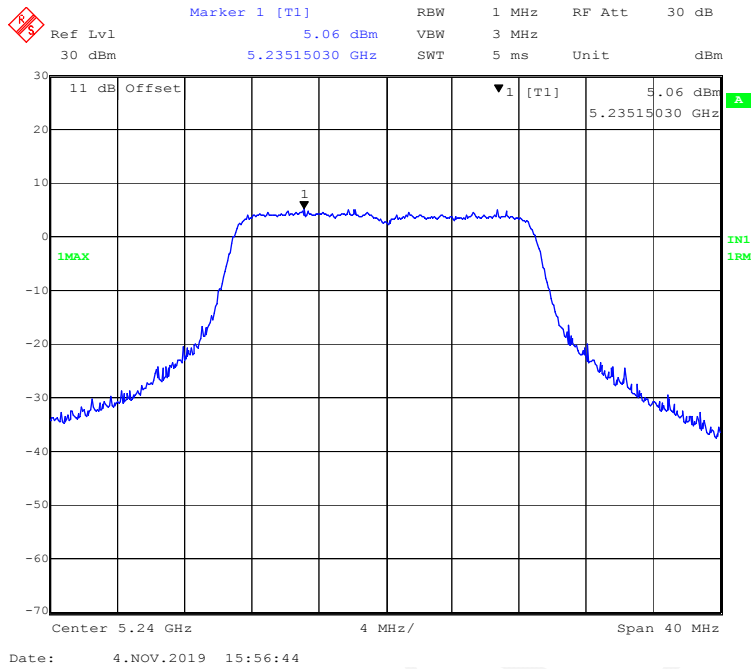
802.11n-HT20 mode, Power spectral density-5180MHz



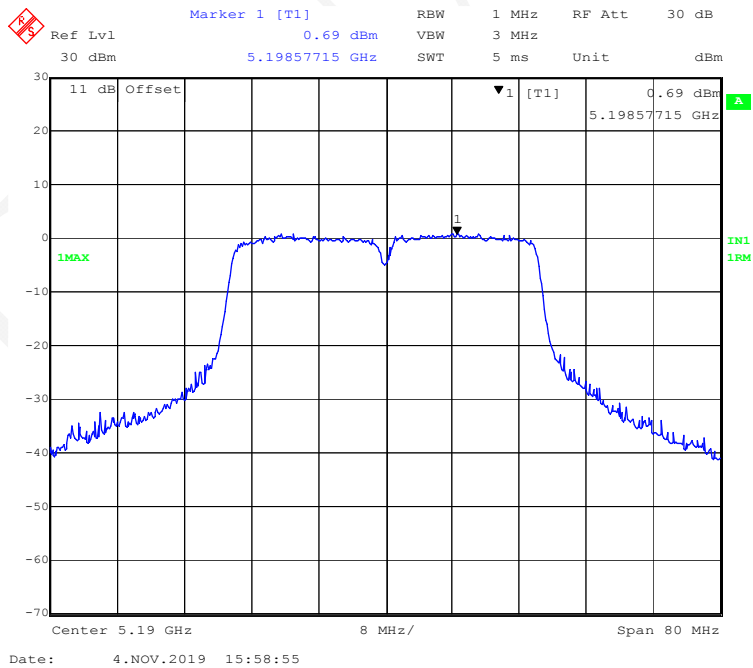
802.11n-HT20 mode, Power spectral density-5200MHz



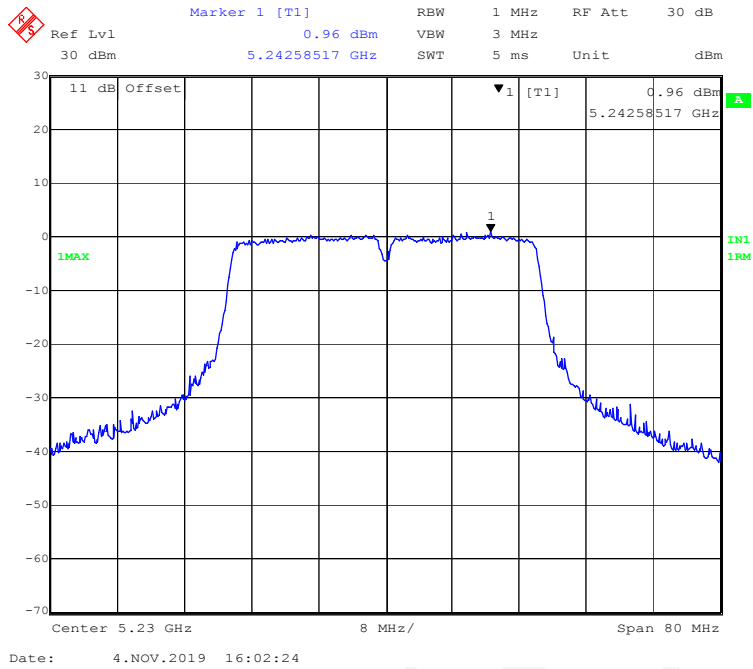
802.11n-HT20 mode, Power spectral density-5240MHz



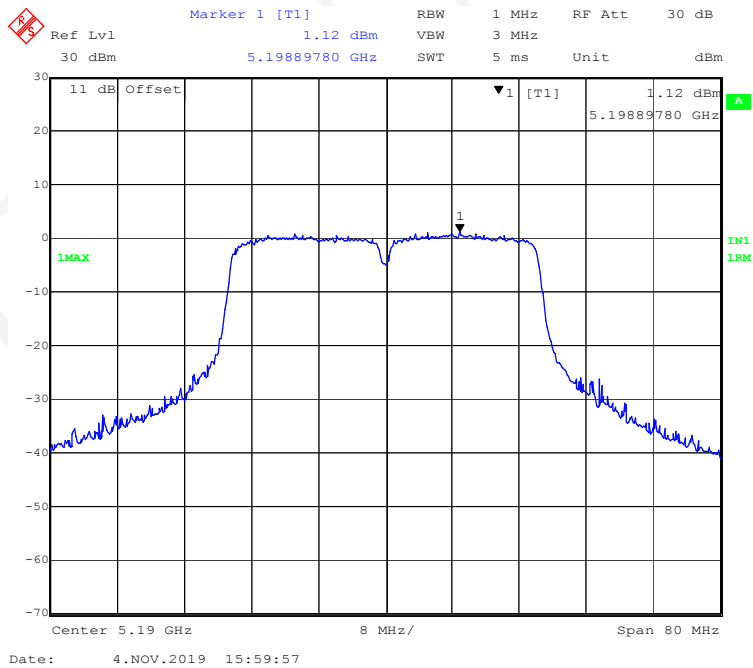
802.11ac40 mode, Power spectral density-5190MHz



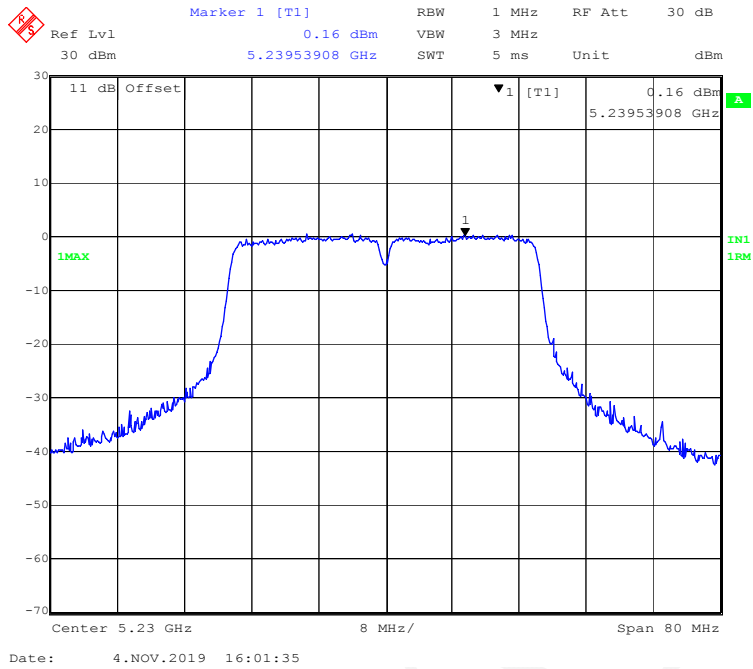
802.11ac40 mode, Power spectral density-5230MHz



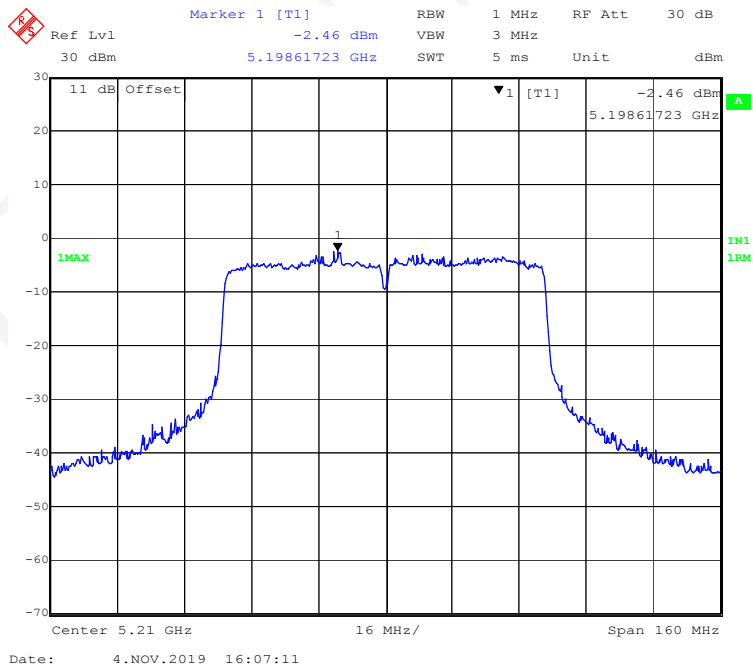
802.11n-HT40 mode, Power spectral density-5190MHz



802.11n-HT40 mode, Power spectral density-5230MHz

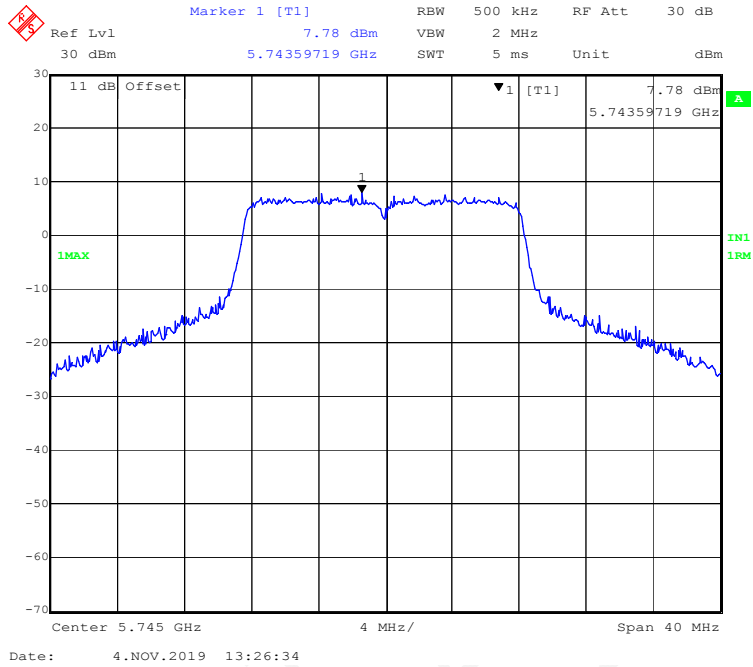


802.11ac80 mode, Power spectral density-5210MHz

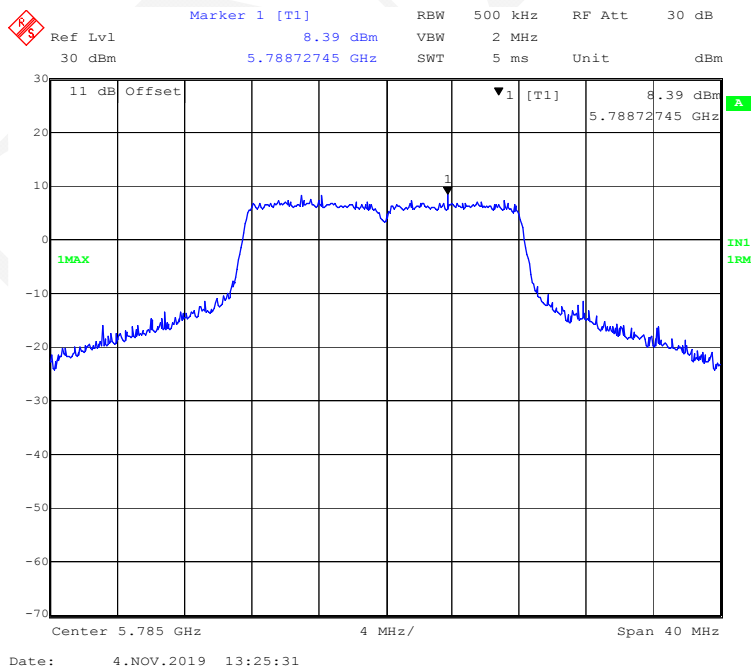


5725MHz-5850 MHz Band:

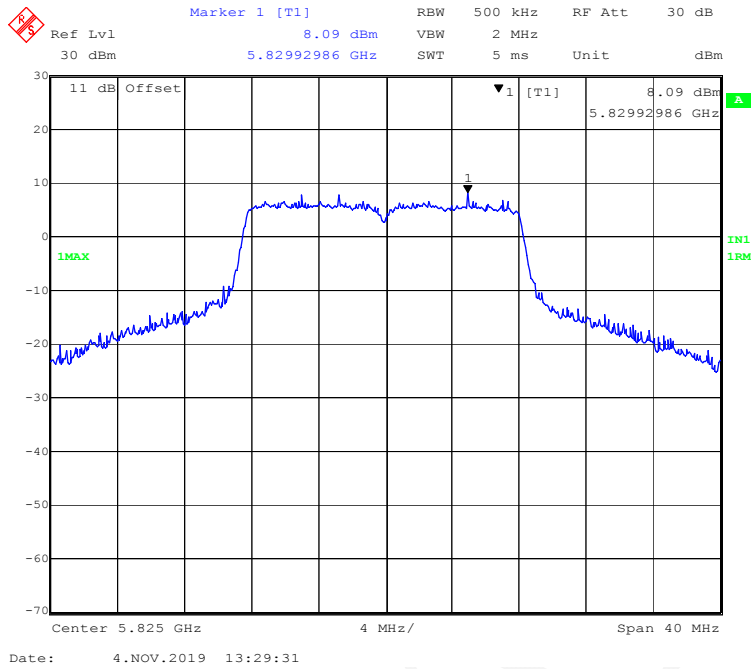
802.11a mode, Power spectral density-5745MHz



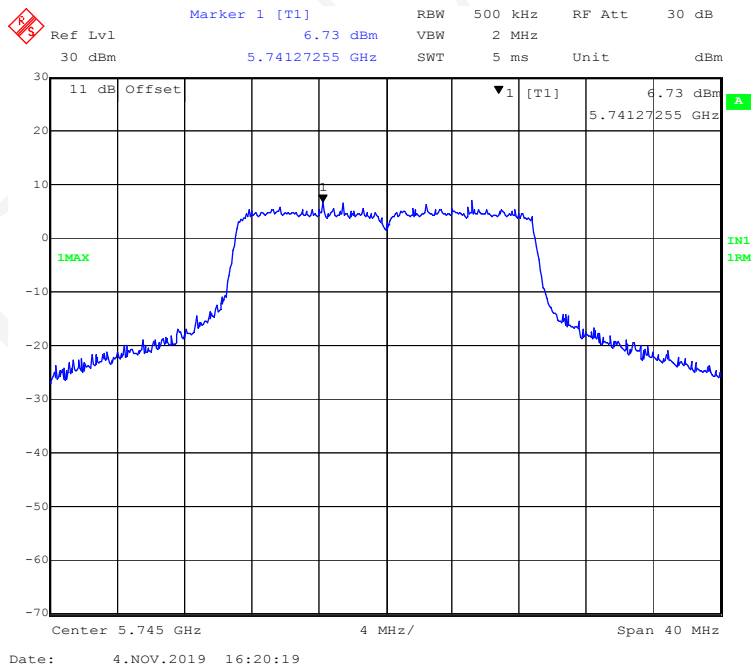
802.11a mode, Power spectral density-5785MHz



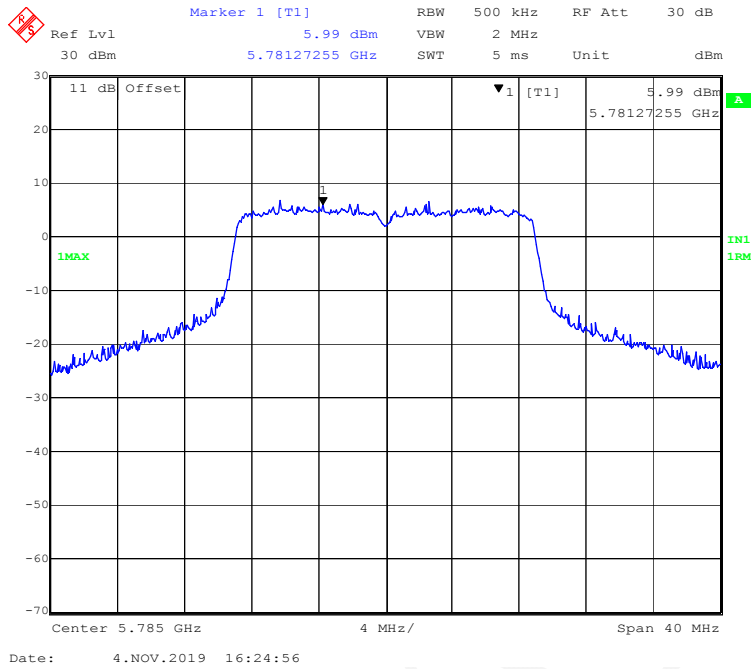
802.11a mode, Power spectral density-5825MHz



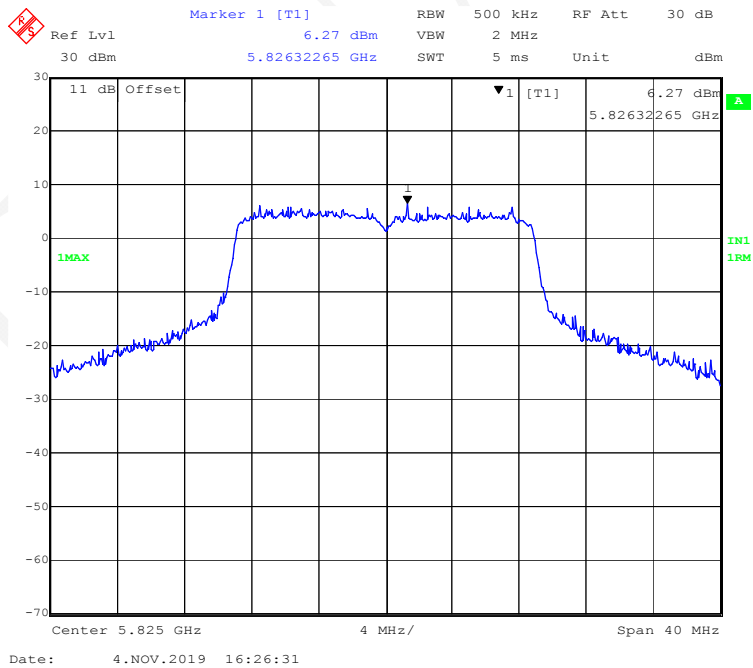
802.11ac20 mode, Power spectral density-5745MHz



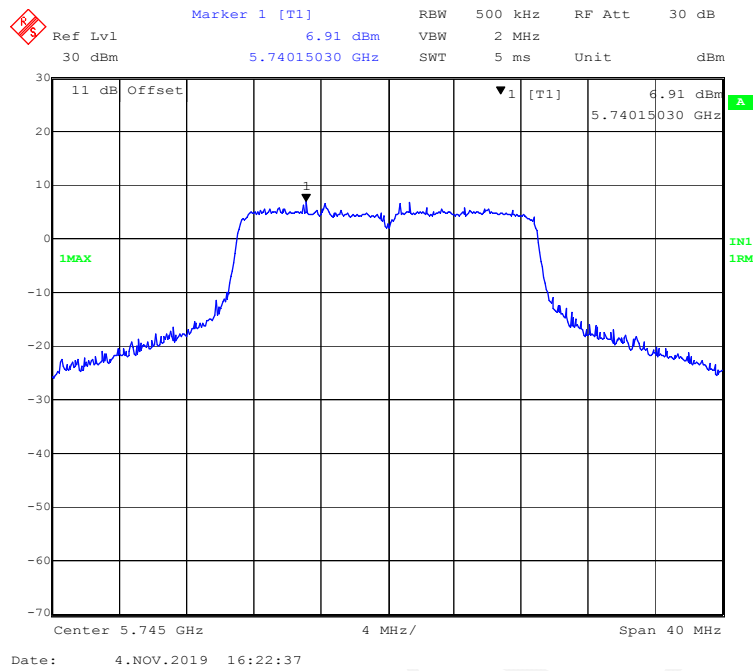
802.11ac20 mode, Power spectral density-5785MHz



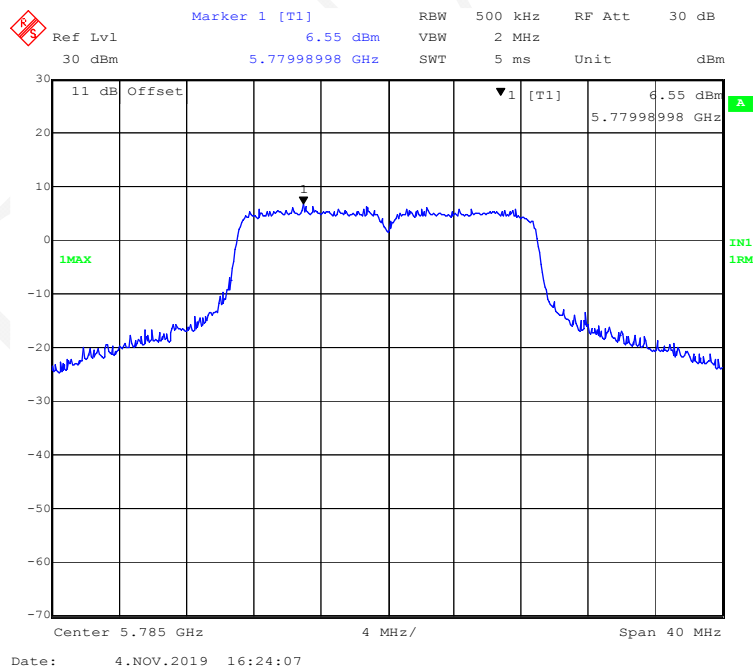
802.11ac20 mode, Power spectral density-5825MHz



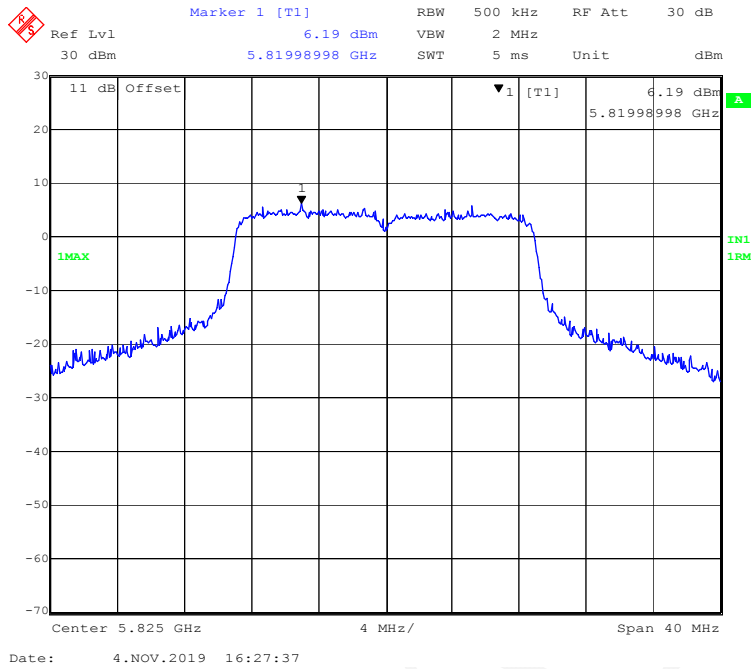
802.11n-HT20 mode, Power spectral density-5745MHz



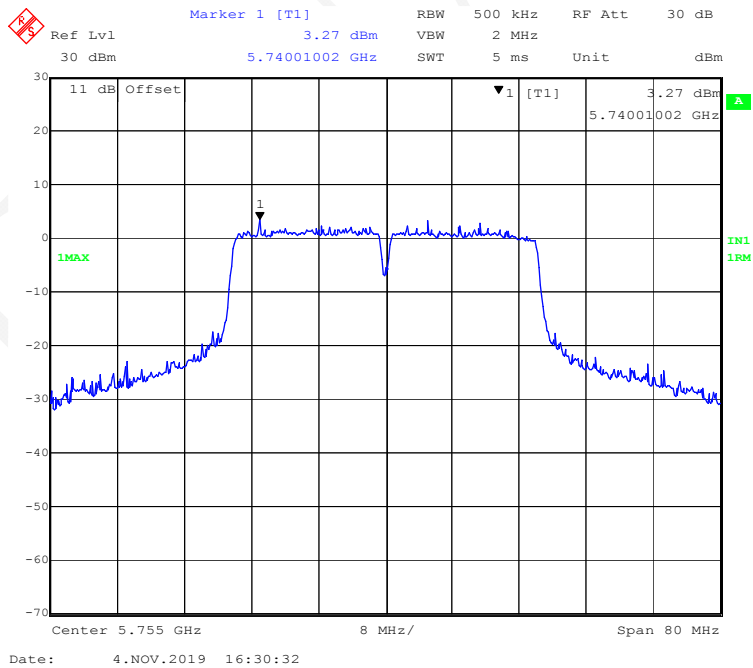
802.11n-HT20 mode, Power spectral density-5785MHz



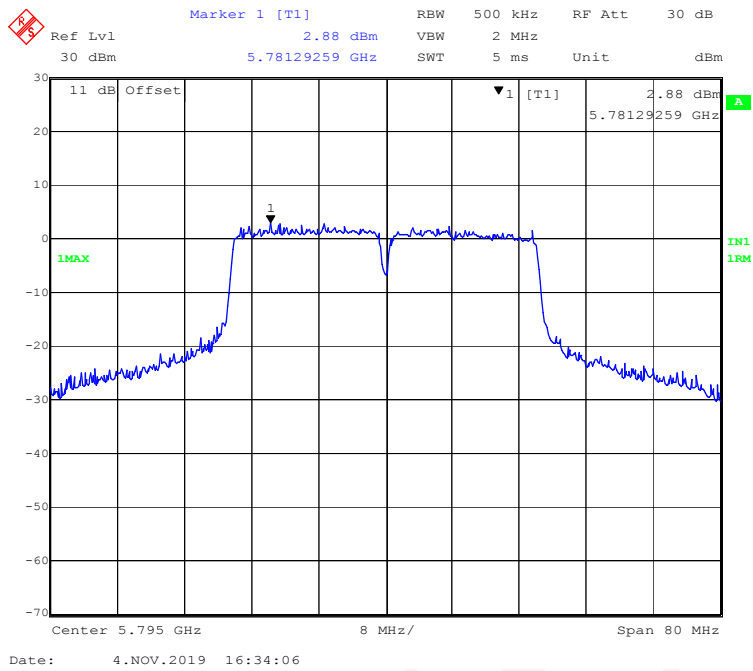
802.11n-HT20 mode, Power spectral density-5825MHz



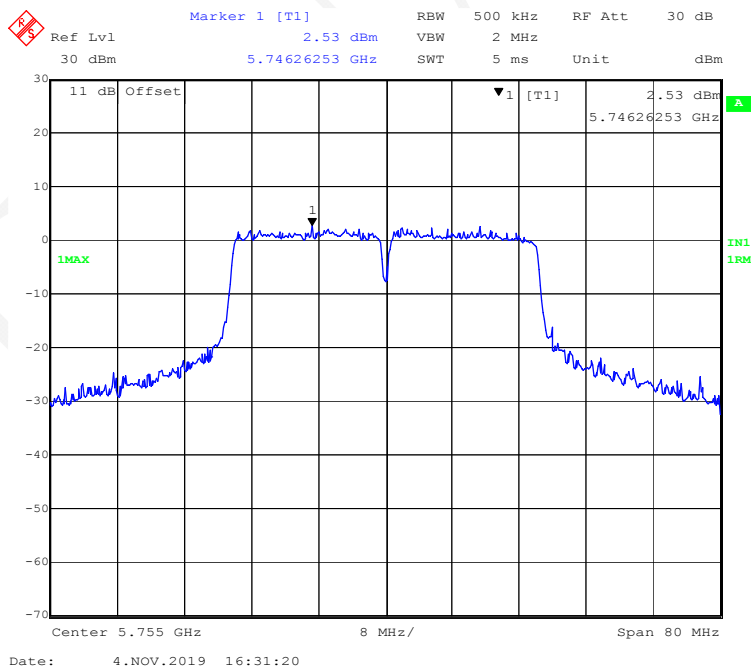
802.11ac40 mode, Power spectral density-5755MHz



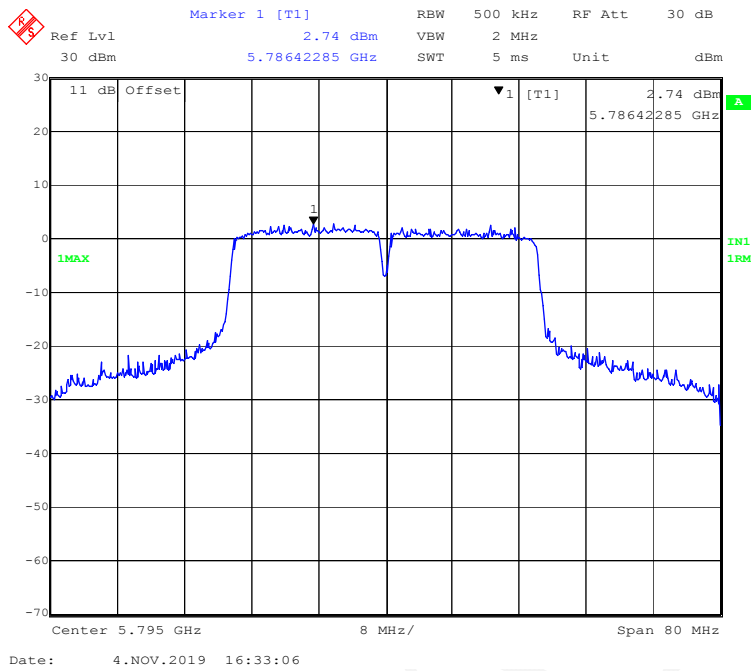
802.11ac40 mode, Power spectral density-5795MHz



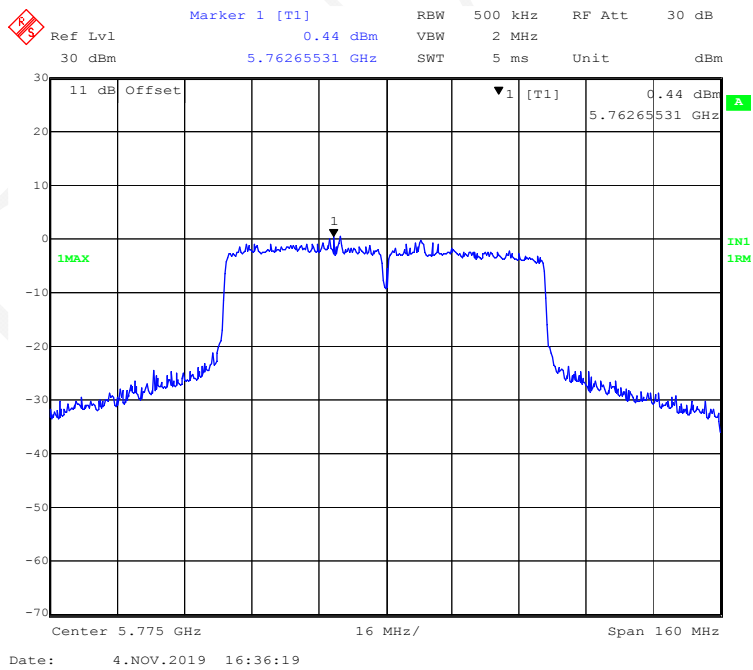
802.11n-HT40 mode, Power spectral density-5755MHz



802.11n-HT40 mode, Power spectral density-5795MHz



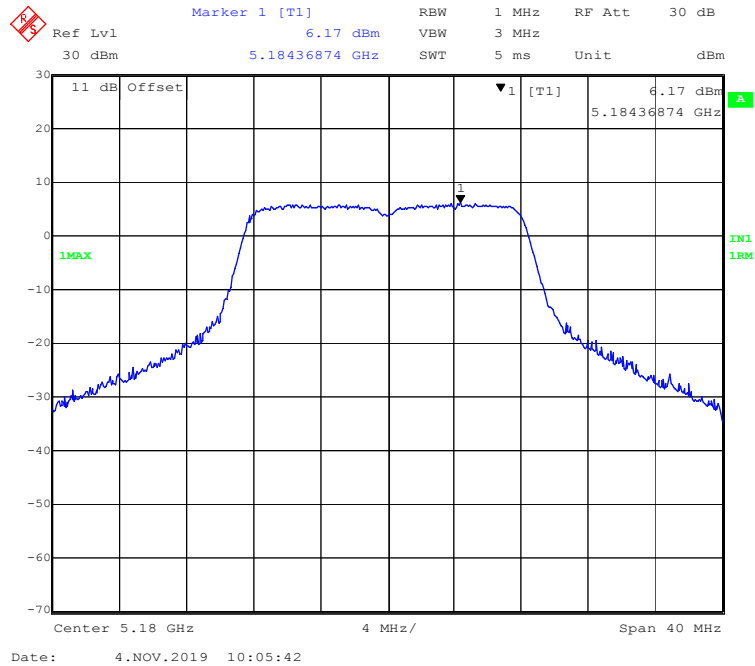
802.11ac80 mode, Power spectral density-5775MHz



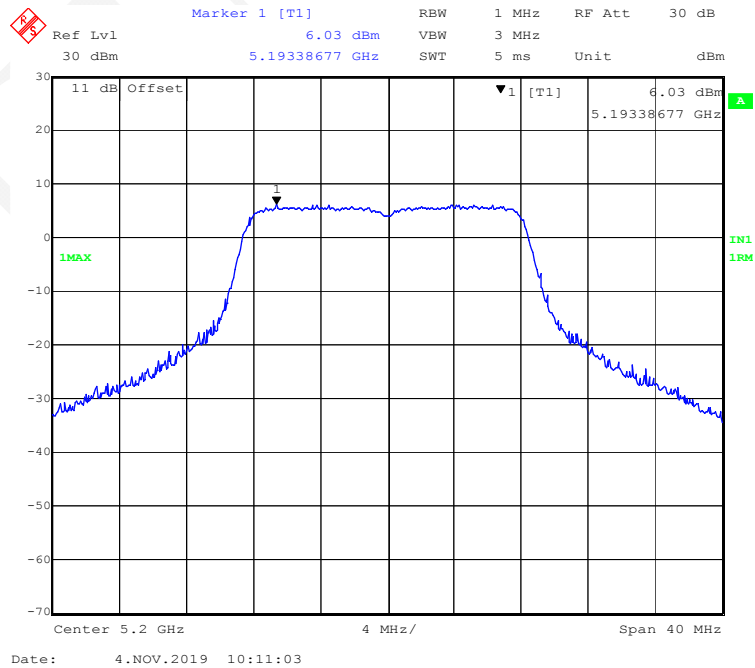
ANT 3:

5150MHz-5250MHz Band :

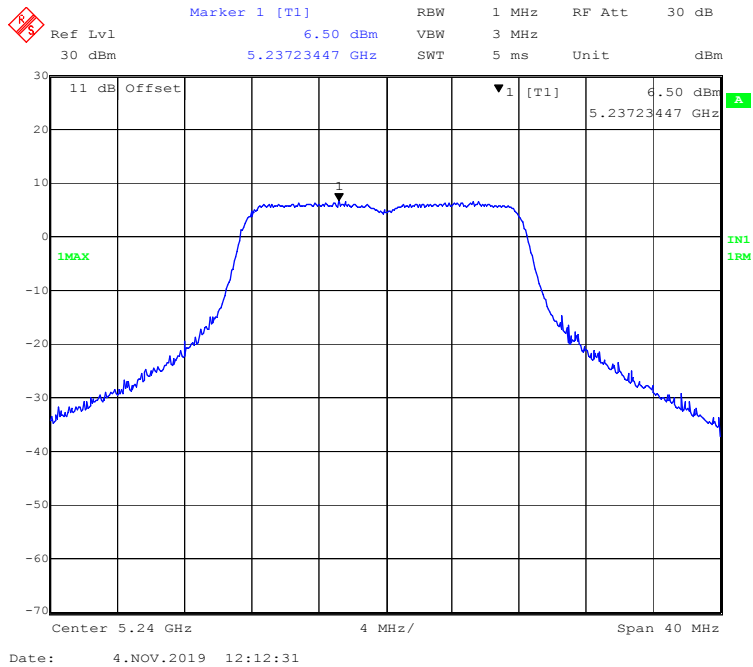
802.11a mode, Power spectral density-5180MHz



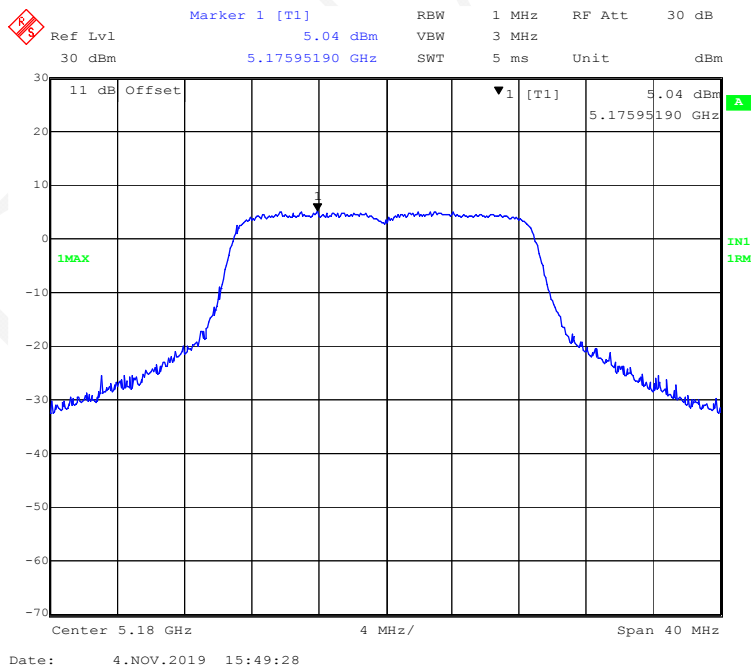
802.11a mode, Power spectral density-5200MHz



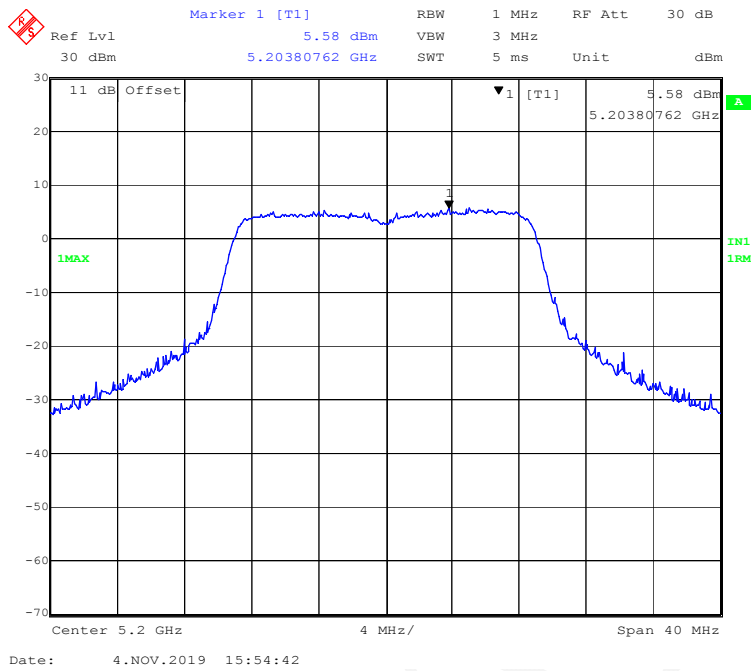
802.11a mode, Power spectral density-5240MHz



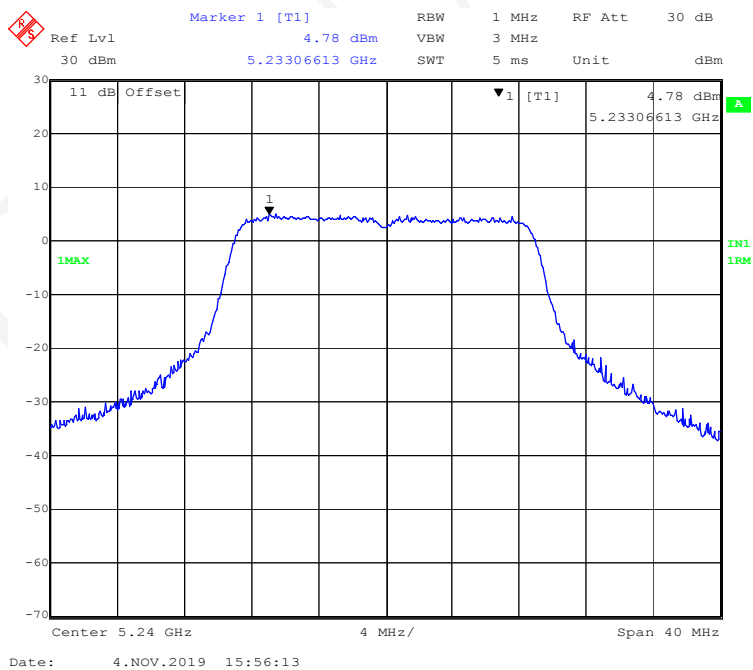
802.11ac20 mode, Power spectral density-5180MHz



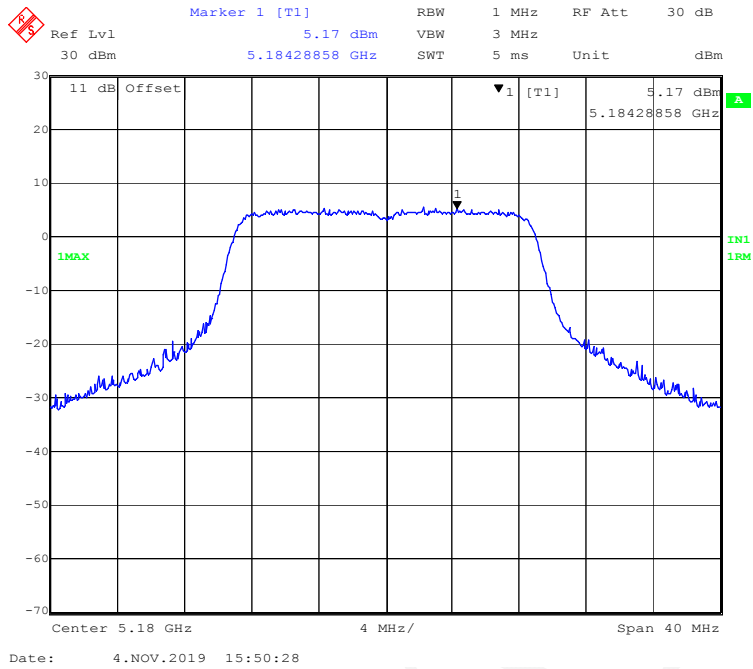
802.11ac20 mode, Power spectral density-5200MHz



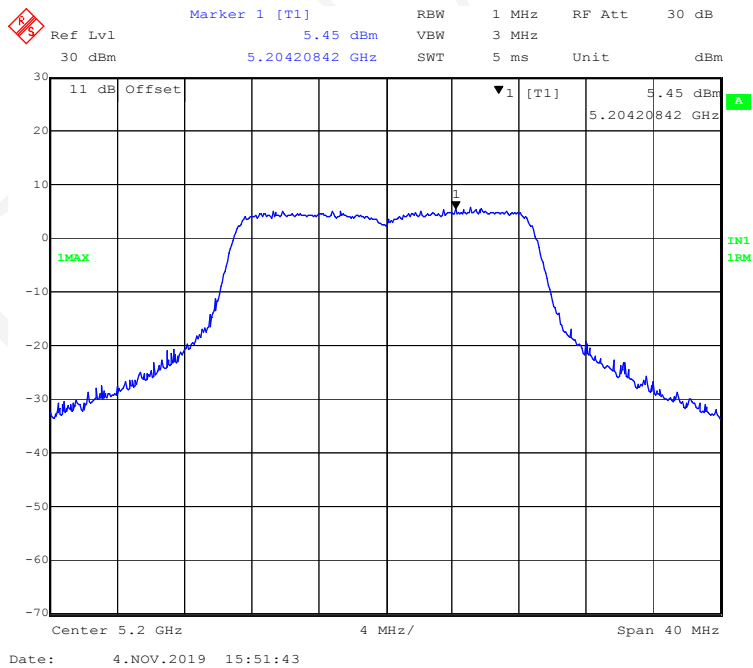
802.11ac20 mode, Power spectral density-5240MHz



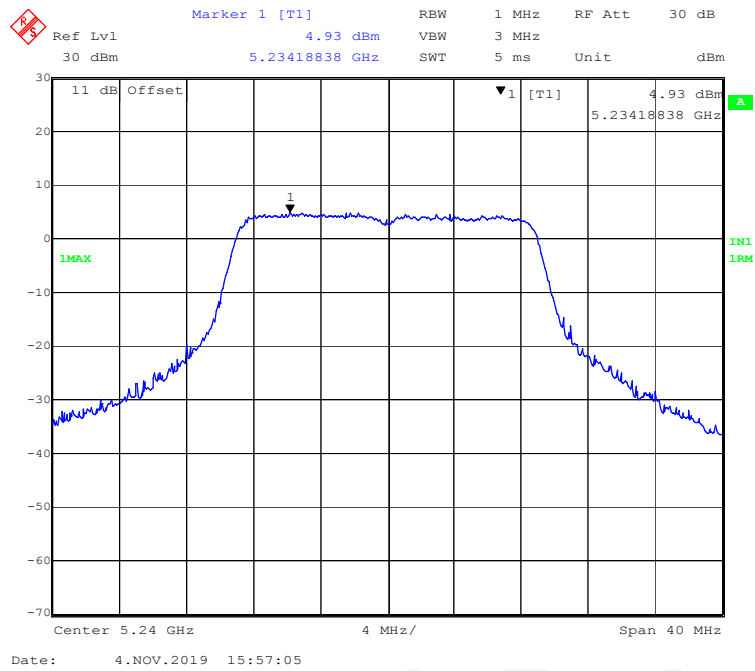
802.11n-HT20 mode, Power spectral density-5180MHz



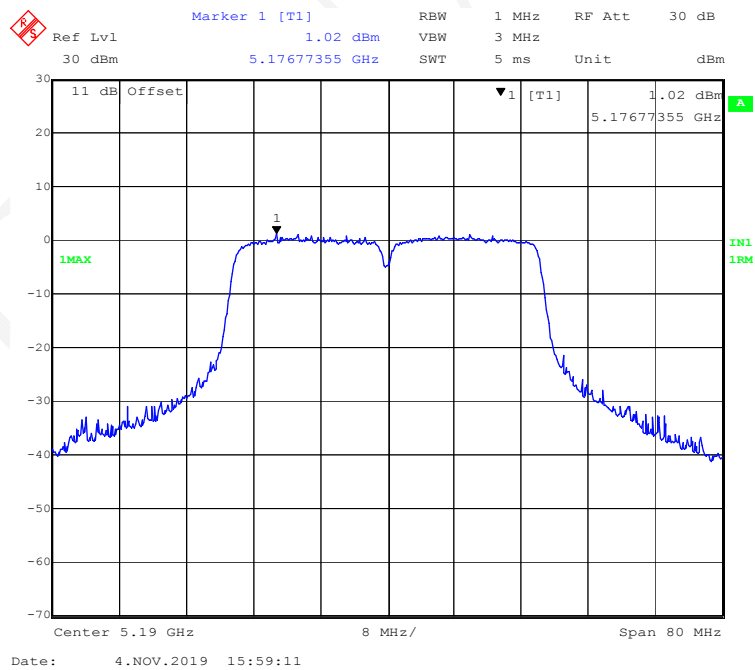
802.11n-HT20 mode, Power spectral density-5200MHz



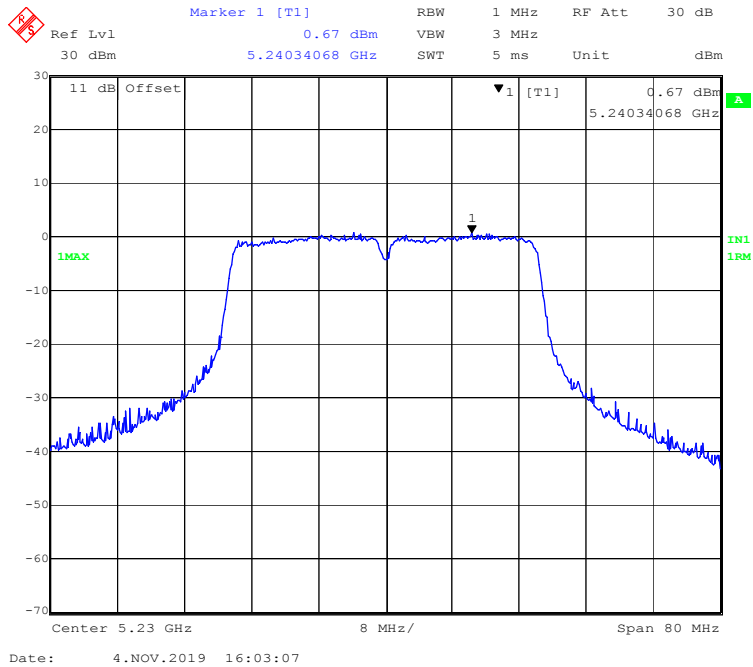
802.11n-HT20 mode, Power spectral density-5240MHz



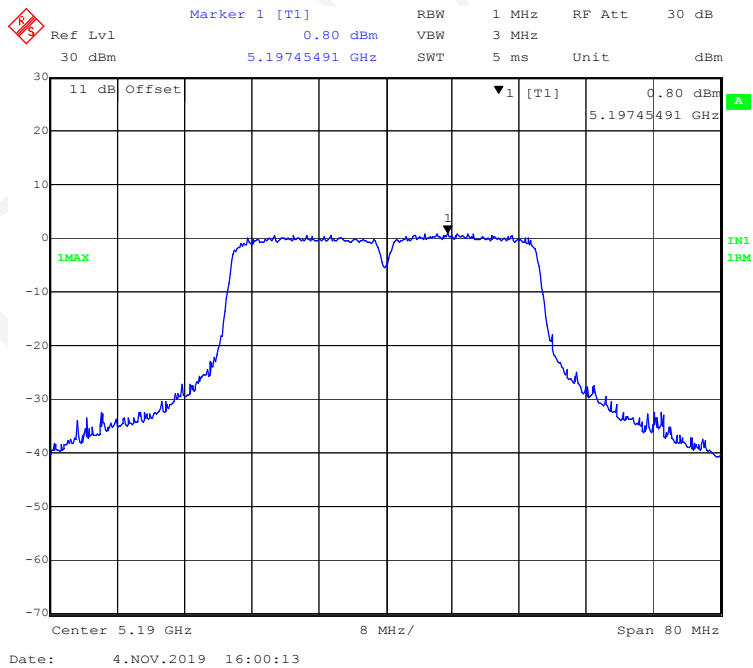
802.11ac40 mode, Power spectral density-5190MHz



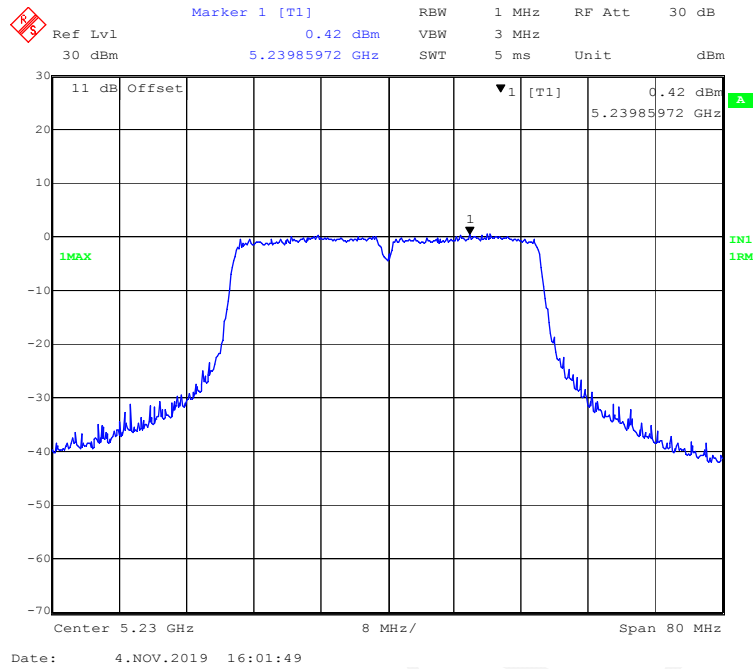
802.11ac40 mode, Power spectral density-5230MHz



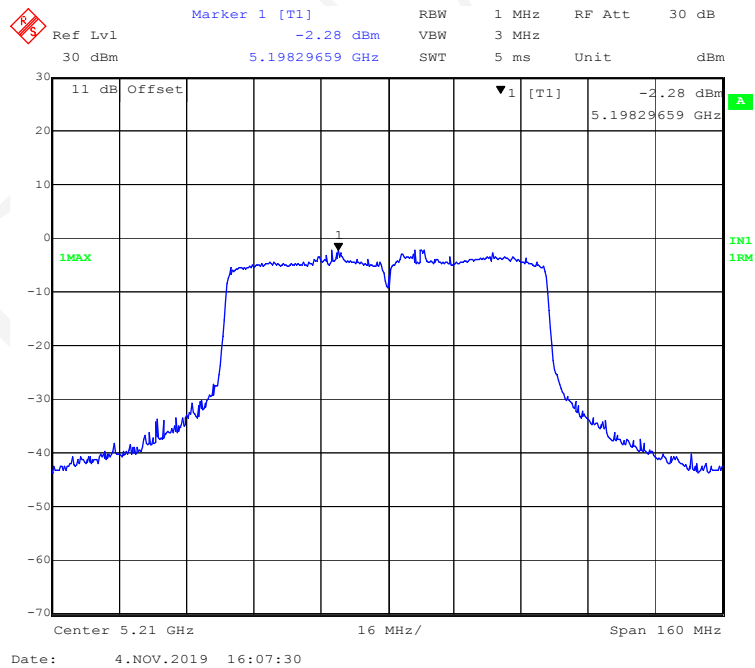
802.11n-HT40 mode, Power spectral density-5190MHz



802.11n-HT40 mode, Power spectral density-5230MHz

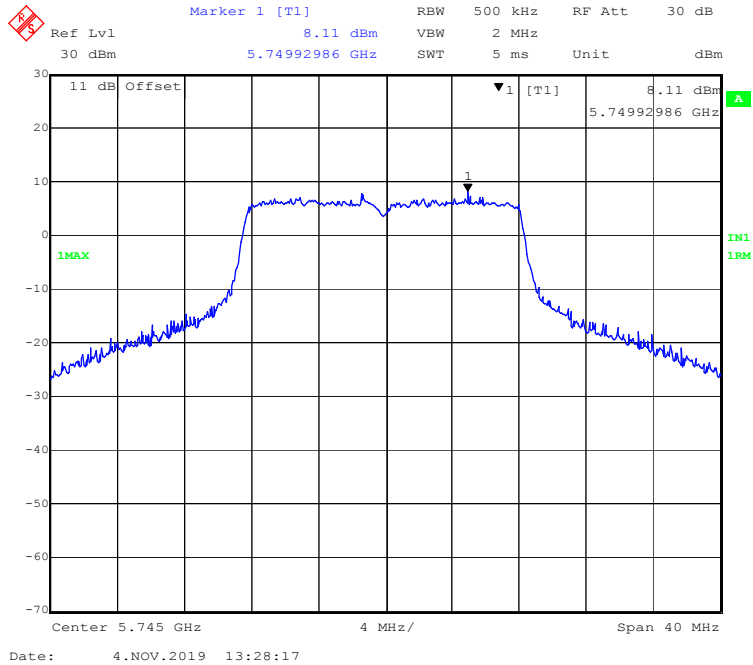


802.11ac80 mode, Power spectral density-5210MHz

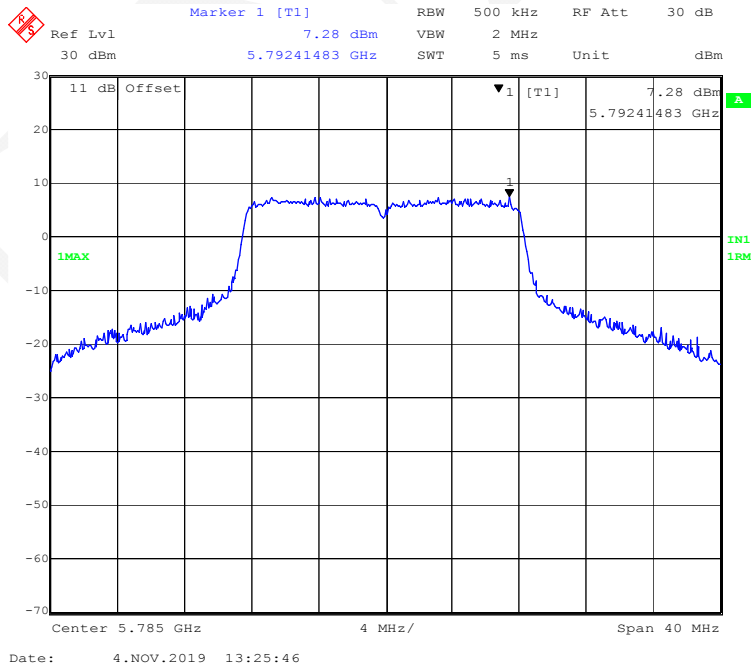


5725MHz-5850 MHz Band:

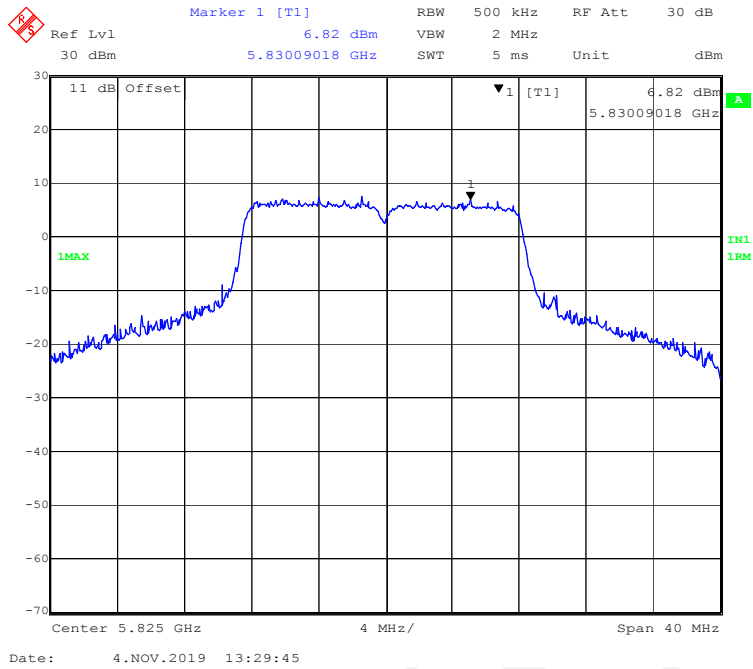
802.11a mode, Power spectral density-5745MHz



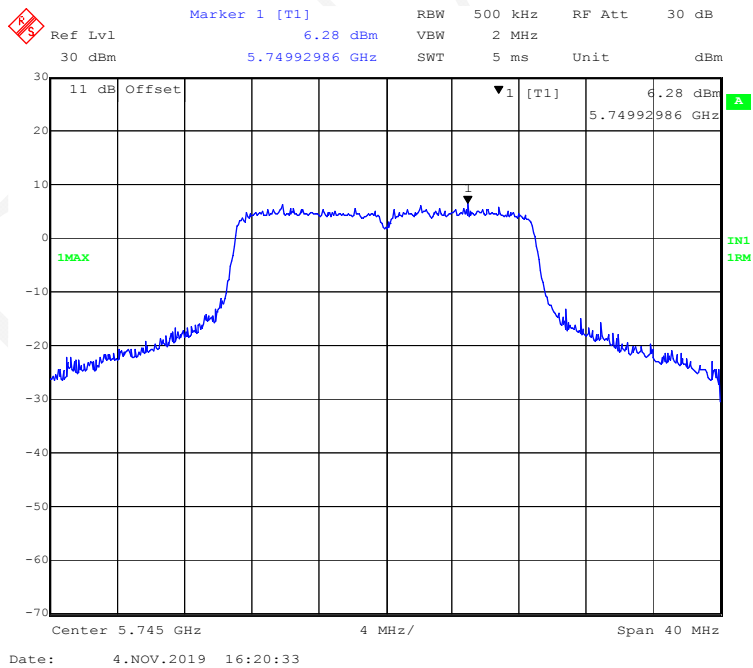
802.11a mode, Power spectral density-5785MHz



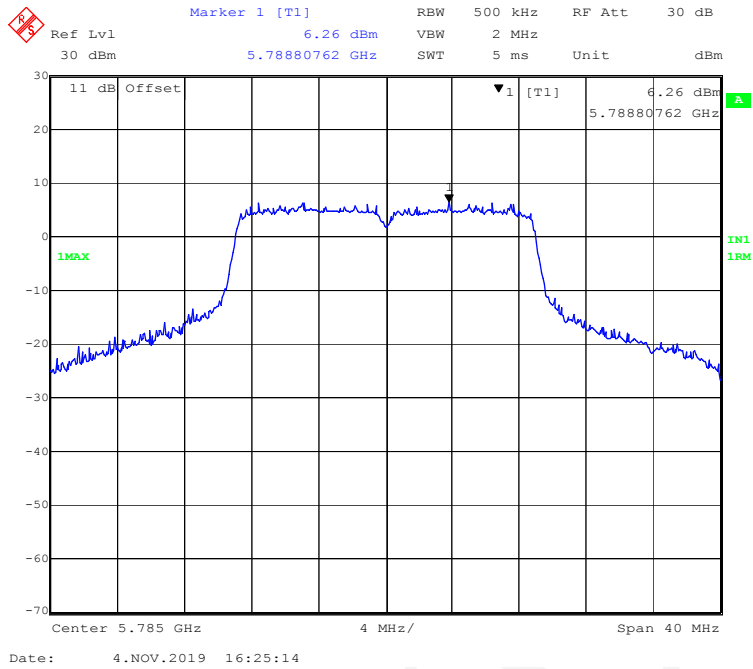
802.11a mode, Power spectral density-5825MHz



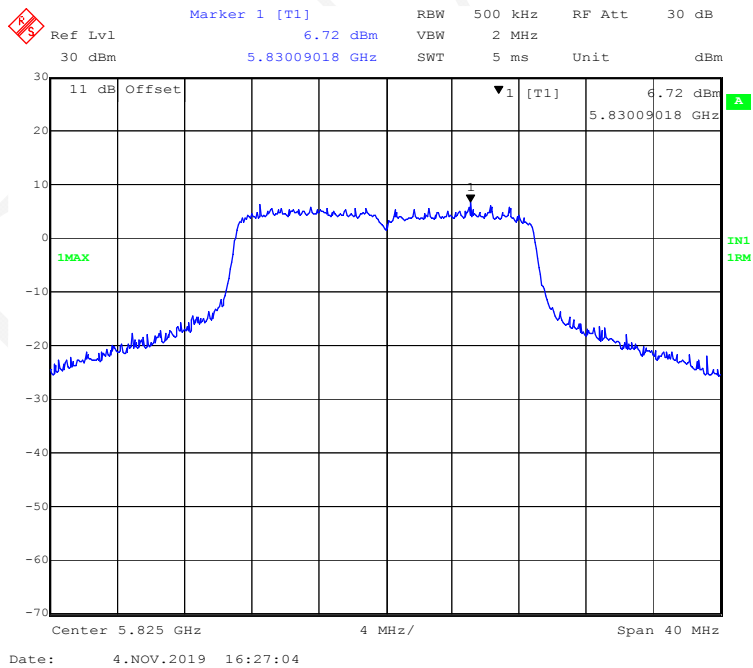
802.11ac20 mode, Power spectral density-5745MHz



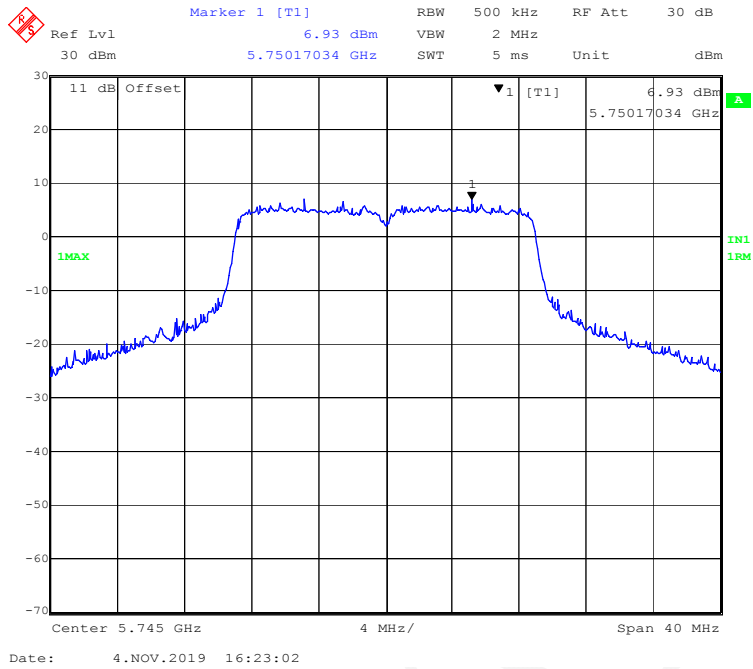
802.11ac20 mode, Power spectral density-5785MHz



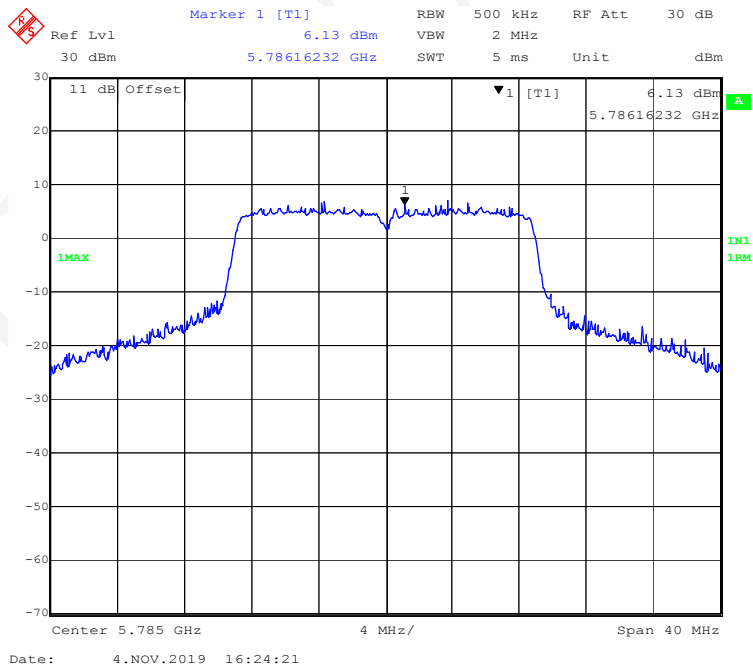
802.11ac20 mode, Power spectral density-5825MHz



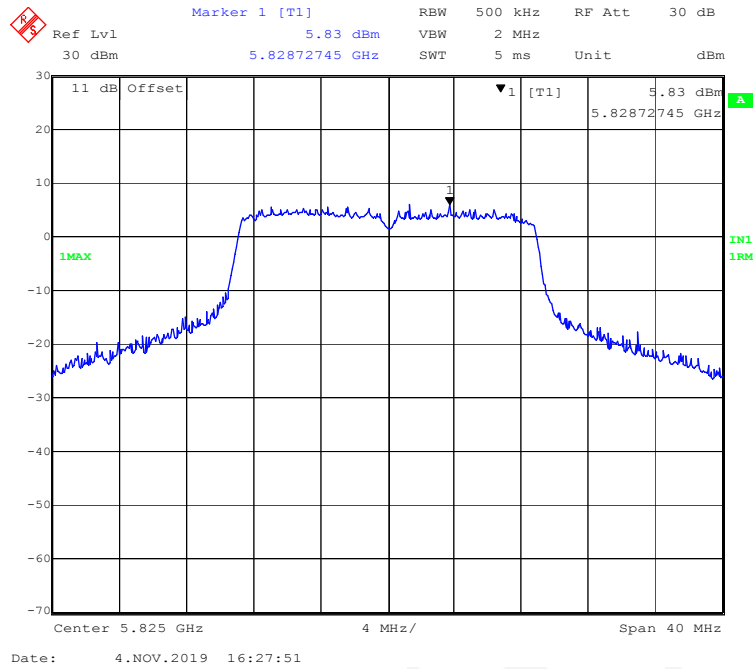
802.11n-HT20 mode, Power spectral density-5745MHz



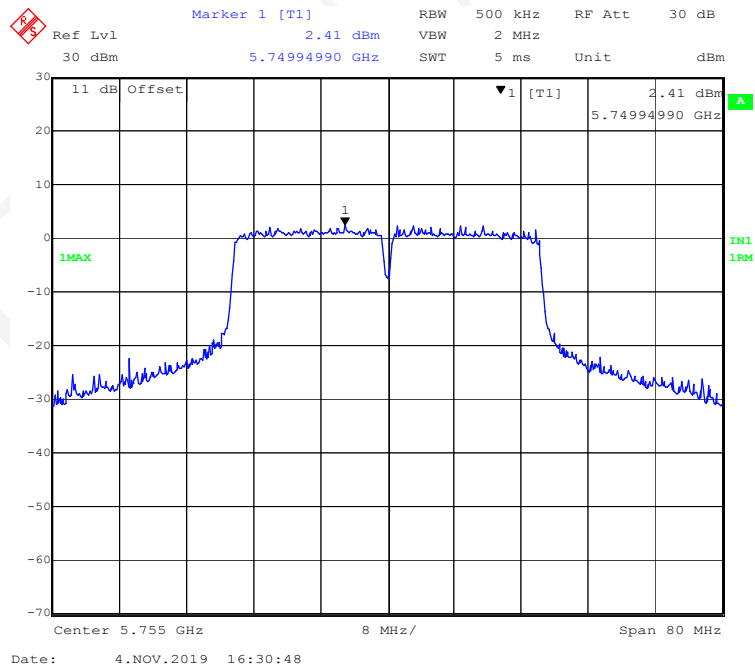
802.11n-HT20 mode, Power spectral density-5785MHz



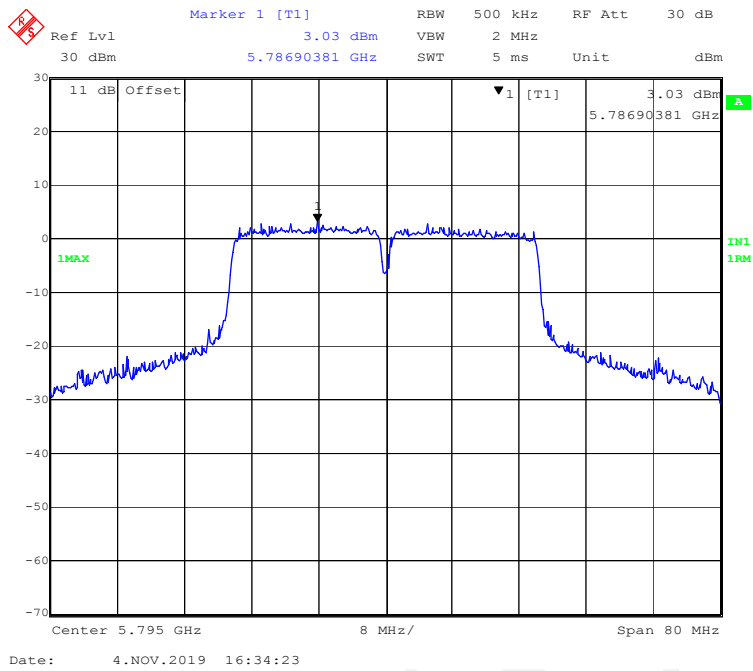
802.11n-HT20 mode, Power spectral density-5825MHz



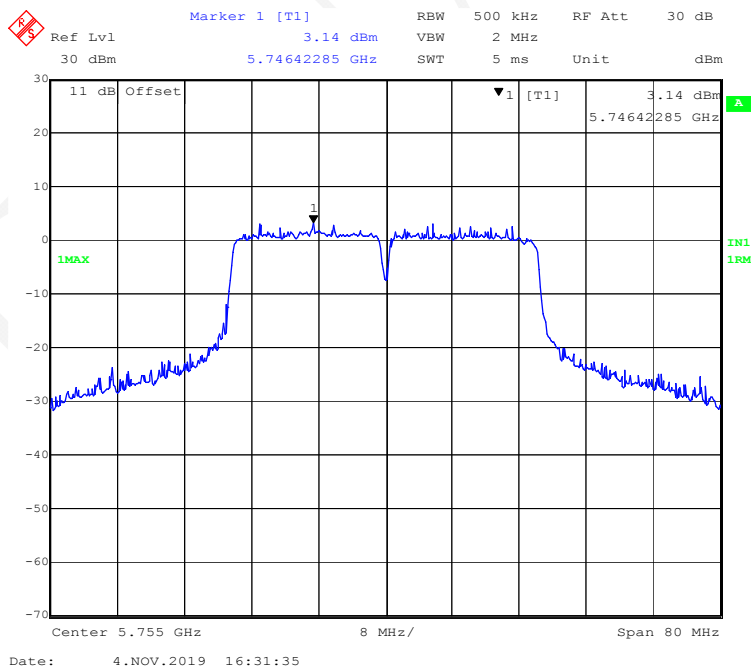
802.11ac40 mode, Power spectral density-5755MHz



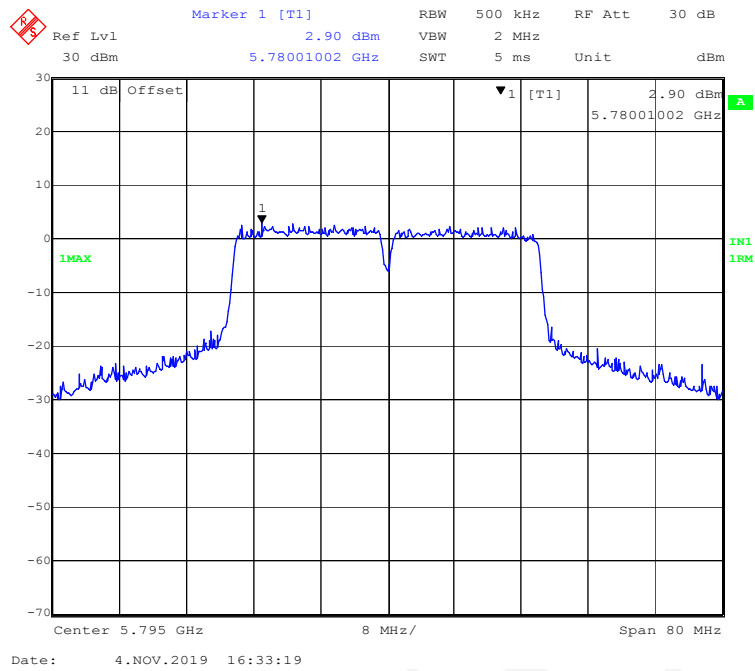
802.11ac40 mode, Power spectral density-5795MHz



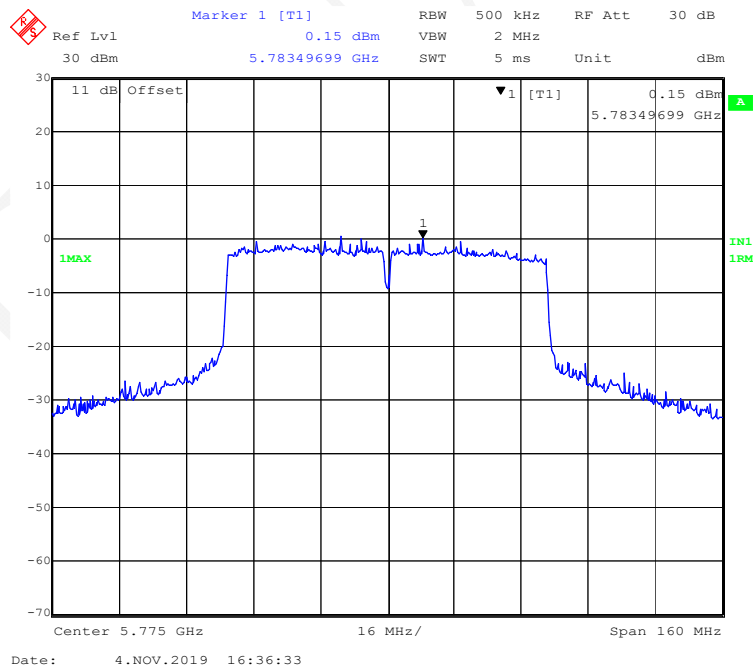
802.11n-HT40 mode, Power spectral density-5755MHz



802.11n-HT40 mode, Power spectral density-5795MHz



802.11ac80 mode, Power spectral density-5775MHz



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