FCC PART 15.407

TEST REPORT

For

Chengdu Vantron Technology, Ltd.

No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

FCC ID: 2AAGETAB5071-TM

Report Type:	**Product Name:**
Original Report	Tablet Computer

Report Number:	RSC170626001F
Report Date:	2017-07-24
Reviewed By:	Sula Huang EMC Director
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Chengdu) No. 5040, HuiLongWan Plaza, No. 1, ShaWan Road, JinNiu District, ChengDu, Sichuan, China Tel: 028-65525123, Fax: 028-65525125 www.baclcorp.com

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The **Chengdu Vantron Technology, Ltd.**, model number: **VT-TABLET-5071-TM-FP (FCC ID: 2AAGETAB5071-TM)** or the "EUT" as referred to in this report was the **Tablet Computer**.

Mechanical Description of EUT

The EUT was measured approximately: 226mm (L) x 127mm (W) x 18mm (H).

Rated input voltage: DC 3.7V rechargeable Li-ion battery or DC 5V charging from USB port.

**All measurement and test data in this report were gathered from final production sample, serial number: 170626001/01 (assigned by BACL). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2017-06-23, and EUT complied with test requirement.*

Objective

This type approval report is prepared on behalf of ***Chengdu Vantron Technology, Ltd.*** in accordance with Part 2-Subpart J, Part 15-Subparts A, C and E of the Federal Communications Commission rules.

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

Related Submittal(s)/Grant(s)

FCC Part 15B JBP submissions with FCC ID: 2AAGETAB5071-TM.
FCC Part 15.247 DTS submissions with FCC ID: 2AAGETAB5071-TM.
FCC Part 15.247 DSS submissions with FCC ID: 2AAGETAB5071-TM.
FCC Part 15.225 DXX submissions with FCC ID: 2AAGETAB5071-TM.

Measurement Uncertainty

Item			Uncertainty
AC power line conducted emission			2.71 dB
Radiated Emission(Field Strength)	30MHz-200MHz	H	4.57 dB
		V	4.81 dB
	200MHz-1GHz	H	5.69 dB
		V	6.07 dB
	1GHz-6GHz		5.49 dB
	6GHz-18GHz		5.57 dB
Conducted RF Power			±0.61dB
Power Spectrum Density			±0.61dB
Occupied Bandwidth			±5%
Humidity			±5%
Temperature			±1℃

Test Methodology

All measurements contained in this report were conducted with:

1. ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

2. KDB789033 D02 UNII Meas Guidance v01r04.

Test Facility

The test site used by BACL to collect test data is located No.5040, Huilongwan Plaza, No. 1, Shawan Road, Jinniu District, Chengdu, Sichuan, China.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules, The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014. The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 560332.

BACL's test facility has been fully described in reports on file and registered with the Innovation, Science and Economic Development Canada under Registration Numbers: 3062C-1.

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, channels are provided to test as follows:

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

For 802.11a, 802.11ac20, 802.11n-HT20: Channel 36, 44 and 48 were tested; for 802.11ac40, 802.11n-HT40: Channel 38, 46 were tested; for ac80: Channel 42 was tested

For 5725~5850 MHz band, channels are provided to test as follows:

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

For 802.11a, 802.11ac20, 802.11n-HT20: Channel 149, 157 and 165 were tested; for 802.11n-HT40, 802.11ac40: Channel 151, 159 were tested; for ac80: Channel 155 was tested.

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

EUT Exercise Software

The software “RF Tool” was used for testing, which was provided by manufacturer. The maximum power with maximum duty cycle was set by default configuration.

For 5150~5250 MHz

Test Mode	Test Software Version	RF Tool		
802.11a	Test Frequency	5180MHz	5220MHz	5240MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level	13	13	13
802.11n-HT20	Test Frequency	5180MHz	5220MHz	5240MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level	13	13	13
802.11n-HT40	Test Frequency	5190MHz		5230MHz
	Data Rate	MCS0		MCS0
	Test Frequency	12		12
802.11ac20	Test Frequency	5180MHz	5220MHz	5240MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level	13	13	13
802.11ac40	Test Frequency	5190MHz		5230MHz
	Data Rate	MCS0		MCS0
	Power Level	12		12
802.11ac80	Test Frequency	5210MHz		
	Data Rate	MCS0		
	Power Level	11		

For 5725~5850 MHz

Test Mode	Test Software Version	RF Tool		
802.11a	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level	13	13	13
802.11n-HT20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level	13	13	13
802.11n-HT40	Test Frequency	5755MHz		5795MHz
	Data Rate	MCS0		MCS0
	Test Frequency	12		12
802.11ac20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level	13	13	13
802.11ac40	Test Frequency	5755MHz		5795MHz
	Data Rate	MCS0		MCS0
	Power Level	12		12
802.11ac80	Test Frequency	5775MHz		
	Data Rate	MCS0		
	Power Level	11		

Duty Cycle information is below:

For 5150~5250 MHz

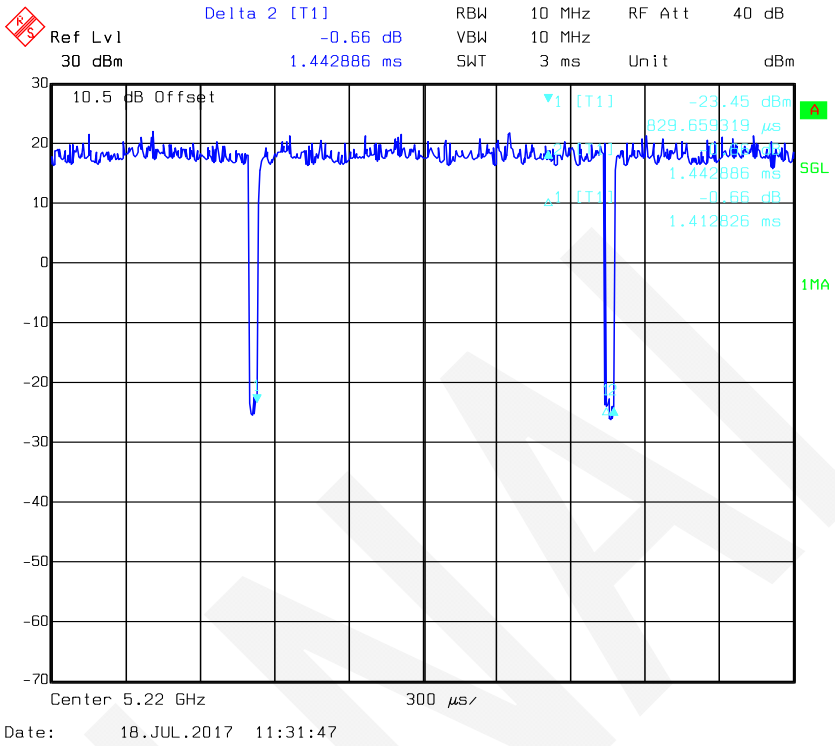
Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)
802.11a	1.41	1.44	97.92
802.11n-HT20	1.32	1.35	97.79
802.11n-HT40	0.66	0.69	95.65
802.11ac20	1.33	1.36	97.79
802.11ac40	0.67	0.70	95.71
802.11ac80	0.33	0.36	91.67

For 5725~5850 MHz

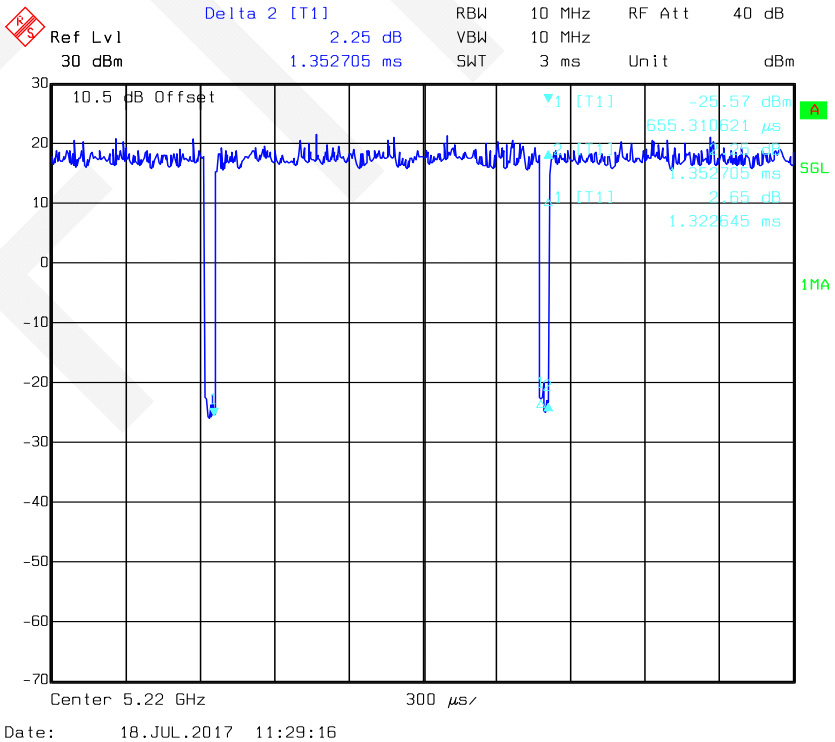
Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)
802.11a	1.41	1.44	97.92
802.11n-HT20	1.32	1.35	97.78
802.11n-HT40	0.67	0.70	95.71
802.11ac20	1.33	1.36	97.79
802.11ac40	0.67	0.70	95.71
802.11ac80	0.34	0.37	91.89

For 5150~5250 MHz

802.11a



802.11n- HT20



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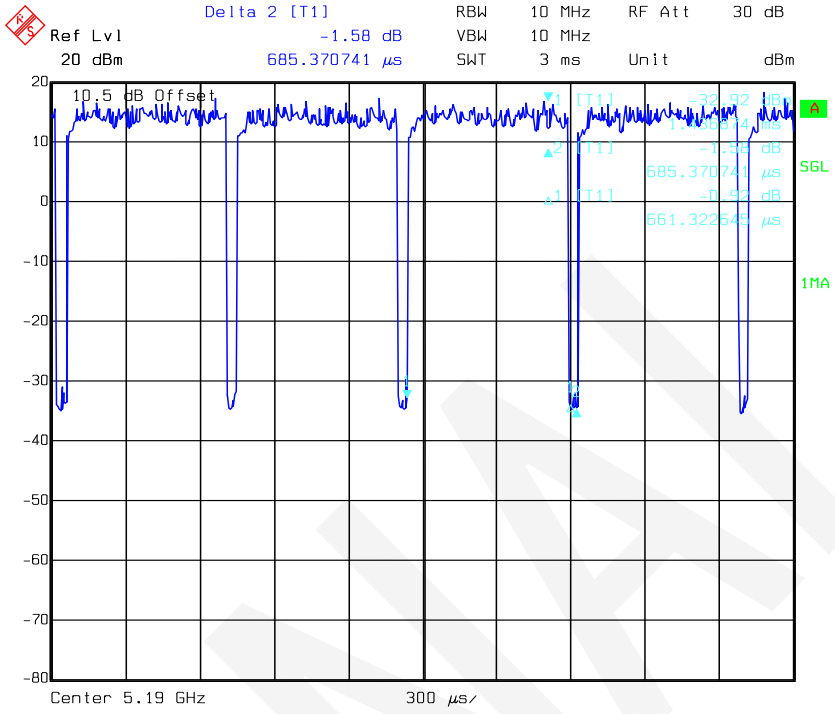
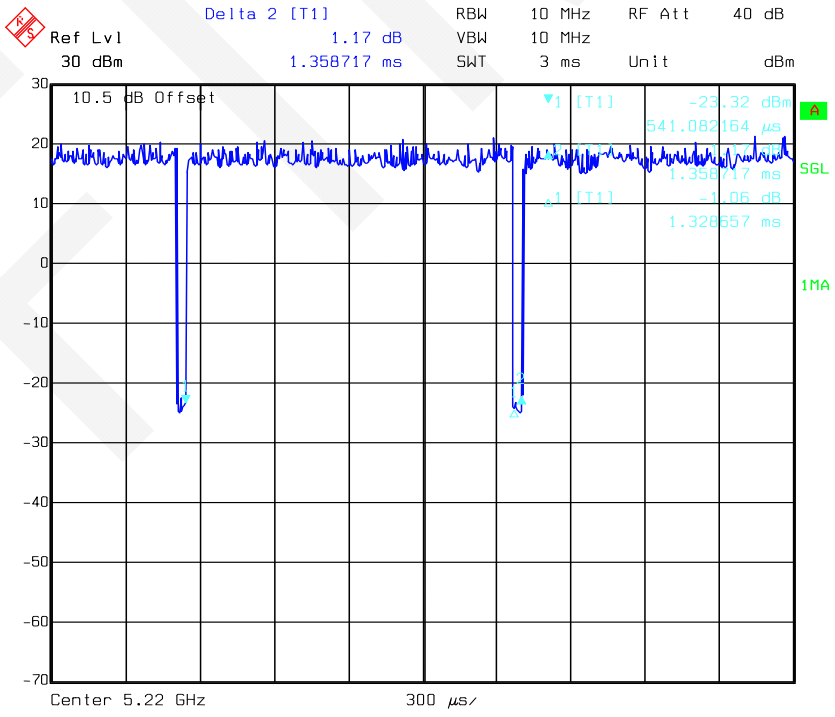


802.11ac20



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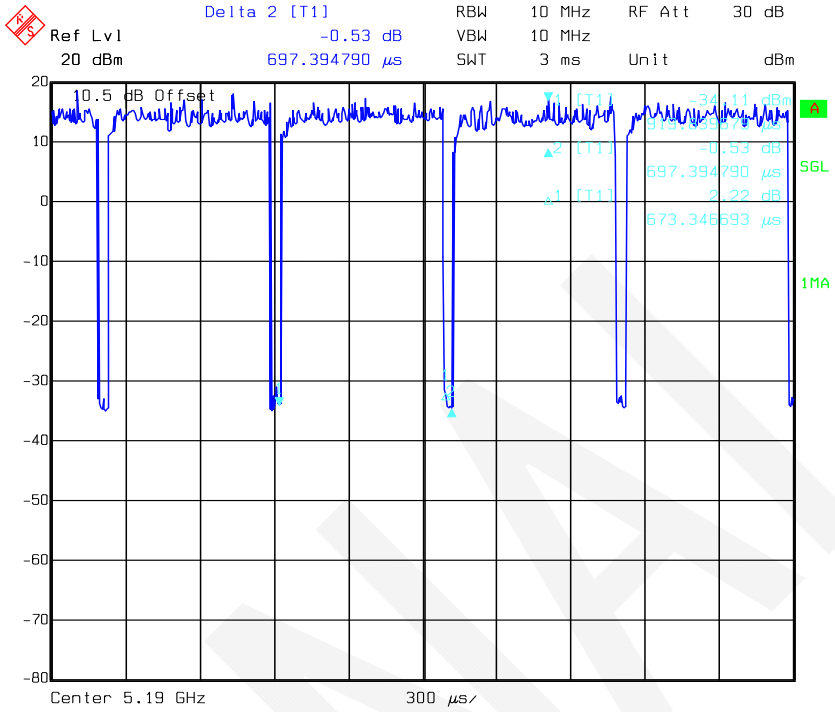
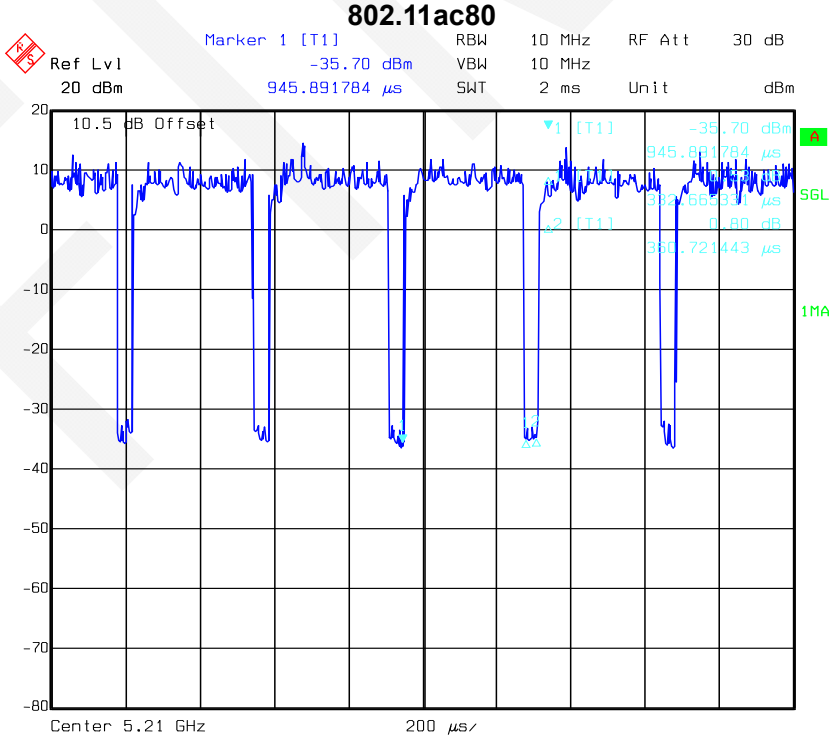
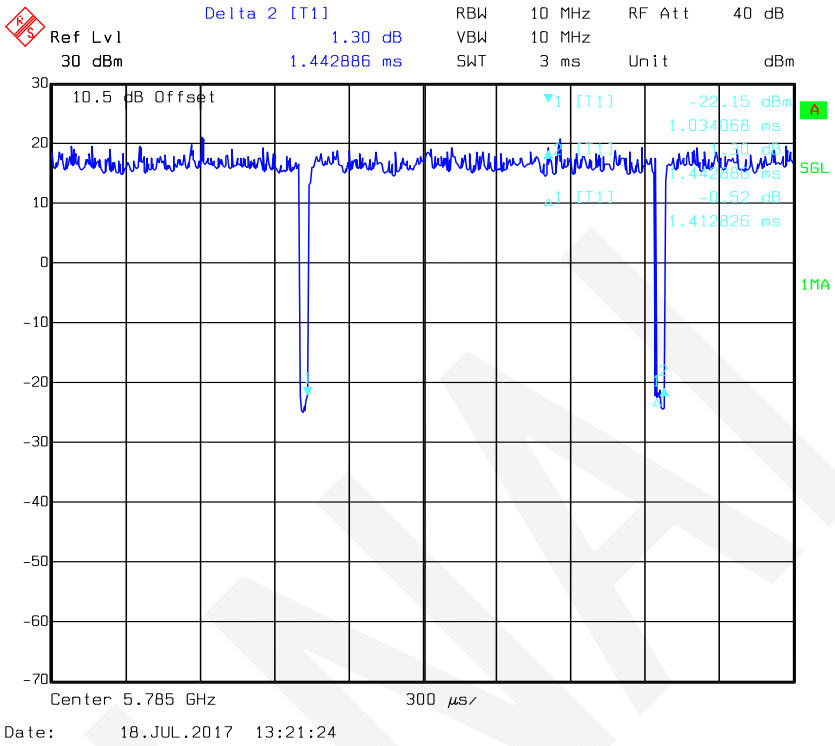


802.11ac80

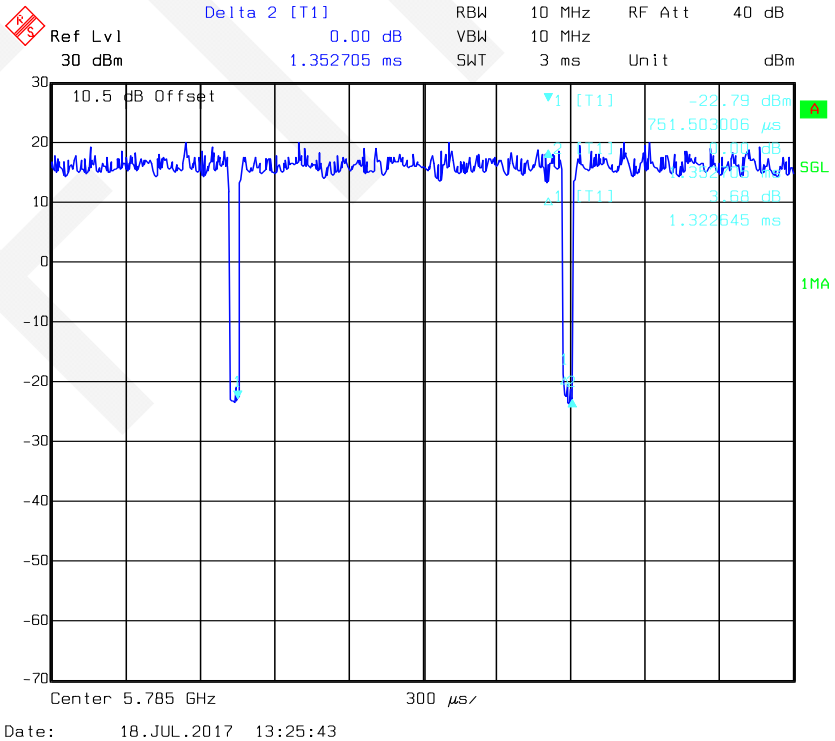


For 5725~5850 MHz

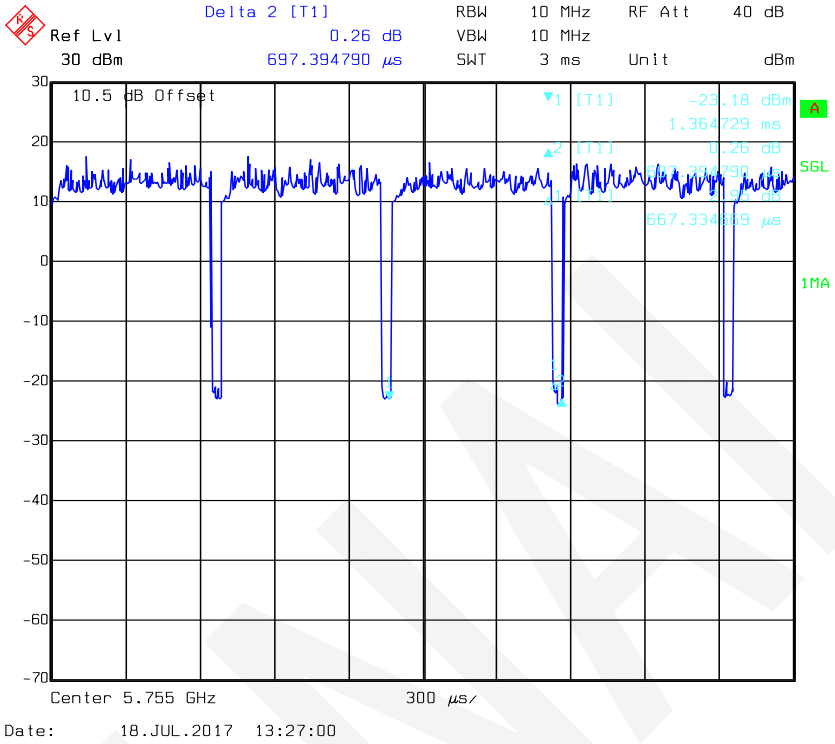
802.11a



802.11n- HT20



802.11n- HT40



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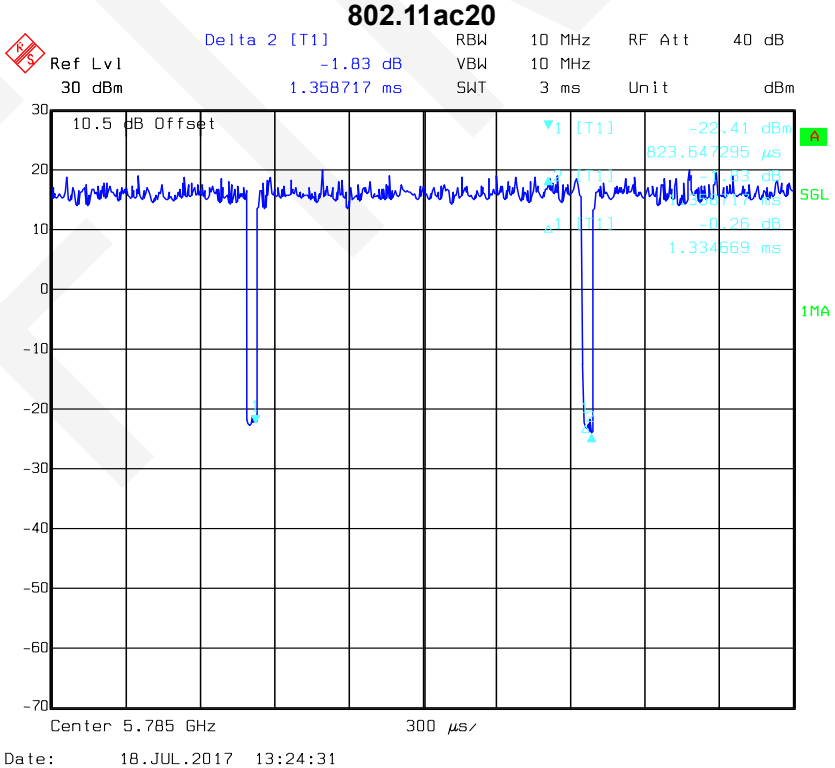

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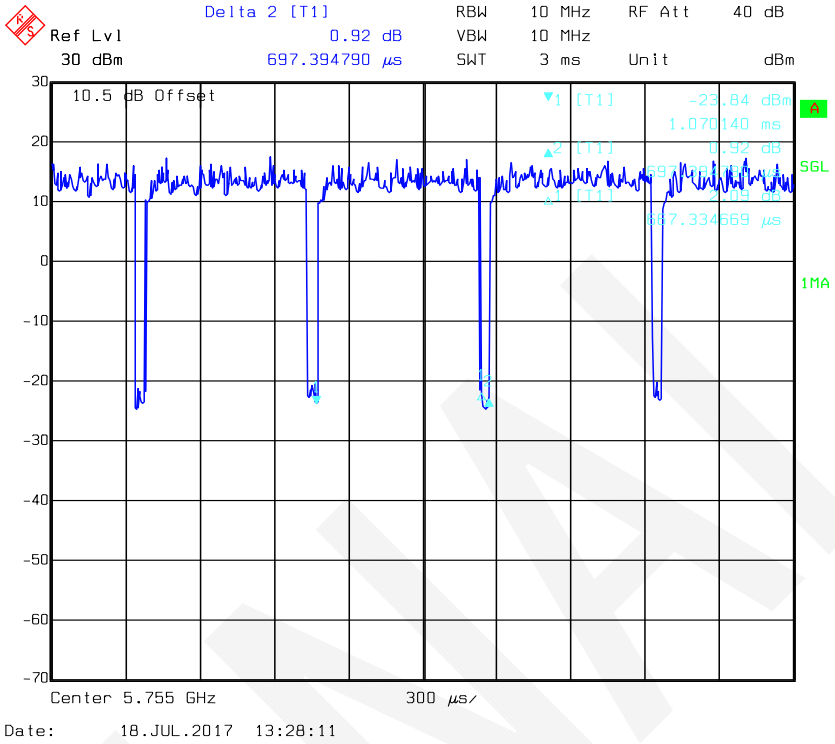

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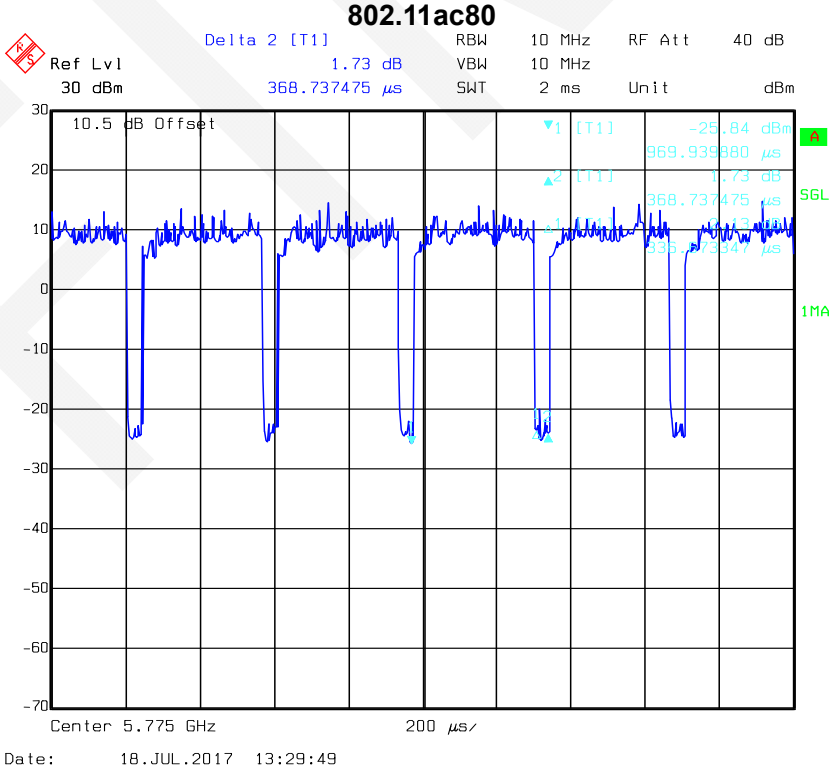


Support Equipment List and Details

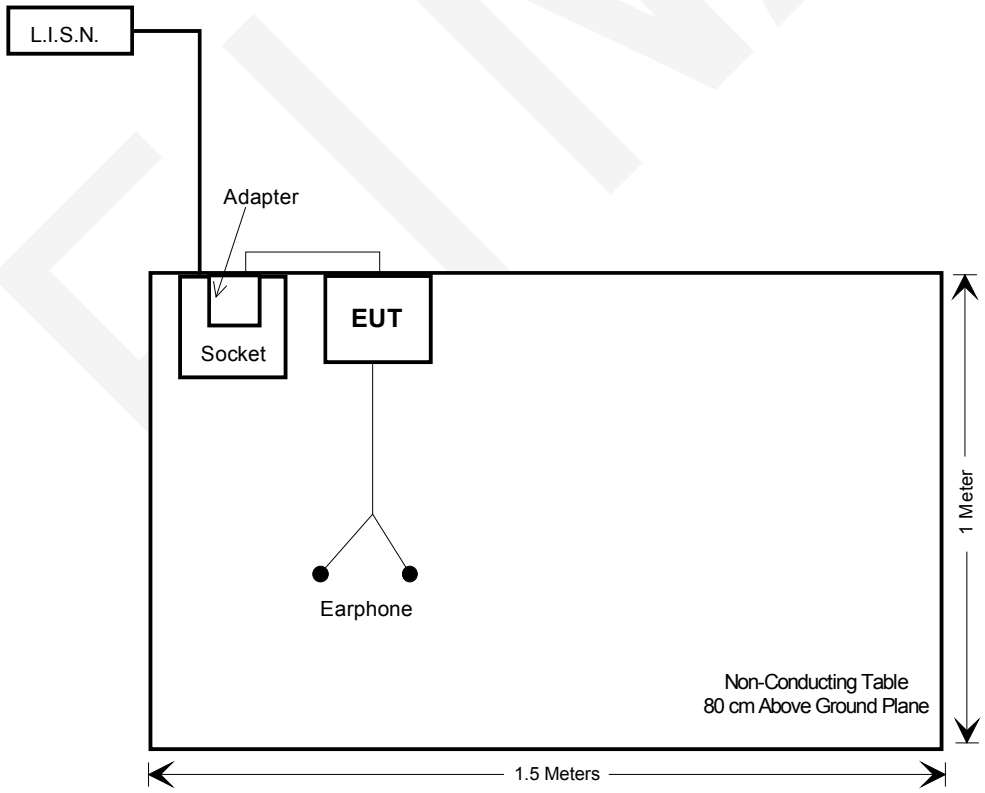
Manufacturer	Description	Model	Serial Number
N/A	Earphone	N/A	N/A
Xinheyuan	Adapter	XHY0501WLC	N/A

External I/O Cable

Cable Description	Length (m)	From	To
Unshielded USB Cable	1.0	Adapter	EUT
Unshielded Earphone Cable	1.2	EUT	Earphone

Block Diagram of Test Setup

AC Power Lines Conducted Emissions Test



Test Equipments List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCS 30	836858/0016	2016-12-02	2017-12-01
Rohde & Schwarz	L.I.S.N.	ENV216	100018	2017-05-20	2018-05-19
Rohde & Schwarz	PULSE LIMITER	ESH3Z2	DE14781	2016-11-10	2017-11-09
N/A	Conducted Cable	NO.5	N/A	N/A	N/A
Rohde & Schwarz	EMC32	N/A	V 8.52.0	N/A	N/A
Radiated Emissions Test					
Agilent	Pre-Amplifier	8447D	2944A10442	2016-12-02	2017-12-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2017-05-20	2018-05-19
Sunol Sciences	Broadband Antenna	JB3	A121808	2017-05-18	2020-05-17
Rohde & Schwarz	Spectrum Analyzer	FSEM30	100018	2017-05-18	2018-05-17
Agilent	Spectrum Analyzer	8564E	3943A01781	2016-10-06	2017-10-05
ETS	Horn Antenna	3115	003-6076	2017-05-19	2020-05-18
A.H.Systems,inc	Horn Antenna	SAS-574	505	2016-12-02	2017-12-01
Mini-circuits	Pre-Amplifier	ZVA-183-S+	771001215	2017-05-20	2018-05-19
Quinstar	Pre-Amplifier	QLW-18405536-JO	15964004001	2017-05-20	2018-05-19
HP	Pre-Amplifier	8449B	3008A00277	2016-12-02	2017-12-01
INMET	Attenuator	N-6dB	/	2016-11-10	2017-11-09
EMCT	Semi-Anechoic Chamber	966	N/A	2015-04-24	2018-04-23
N/A	RF Cable (below 1GHz)	NO.1	N/A	2016-11-10	2017-11-09
N/A	RF Cable (below 1GHz)	NO.4	N/A	2016-11-10	2017-11-09
N/A	RF Cable (above 1GHz)	NO.2	N/A	2016-11-10	2017-11-09
Rohde & Schwarz	EMC32	N/A	V 8.52.0	N/A	N/A

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSL18	100180	2016-12-02	2017-12-01
Rohde & Schwarz	Spectrum Analyzer	FSEM30	100018	2017-05-18	2018-05-17
WEINSCHEL ENGINEERING	Attenuator	1A10dB	AA4135	2016-11-10	2017-11-09
NARDA	Attenuator	6dB	34274	Each Time	/
Agilent	USB Wideband Power Sensor	U2021XA	MY53320008	2016-12-02	2017-12-01
N/A	RF Cable	NO.3	N/A	2016-11-10	2017-11-09
E-Microwave	DC Block	EMDCB-00036	OE01304225	Each Time	/
N/A	RF Cable	N/A	N/A	Each Time	/
ZhaoXin	DC Power supply	RXN-305D	20141218916	2016-11-05	2017-11-04
Shenzhen BACL	High Temperature Test Chamber	BTH-150	30024	2016-12-02	2017-12-01
FLUKE	Multimeter	114	28810293WS	2017-05-18	2018-05-17

*** Statement of Traceability:** BACL (Chengdu) attested that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.407(f) & §1.1307(b), §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6)& §15.207(a)	Conducted Emissions	Compliance
§15.205& §15.209 §15.407(b) (1),(6),(7)	Undesirable Emission& Restricted Bands	Compliance
§15.407(b) (1), (4)(i)	Band Edge	Compliance
§15.407(a) (1),(3) & (e)	26dB & 6dB Bandwidth	Compliance
§15.407(g)	Frequency Stability	Compliance
§15.407(a)(1),(3)	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1),(3),(5)	Power Spectral Density	Compliance

FCC §15.407(f) & §1.1307(b),§2.1093 - RF EXPOSURE

Applicable Standard

According to subpart §1.1307(b),§2.1093 requirement. System shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Measurement Result:

Compliance, please refer to the SAR report: RSC170630050-20.

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 use of a standard antenna jack or electrical connector is prohibited.

And according to FCC 47 CFR section 15.407 (a)(1), if transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

This device used one internal PCB antenna which connected to the main board with I-PEX socket, the maximum gain is 1.5 dBi for 2.4G band and 3.0dBi for 5G band, which fulfill the requirement of this section, and please refer to the EUT photos.

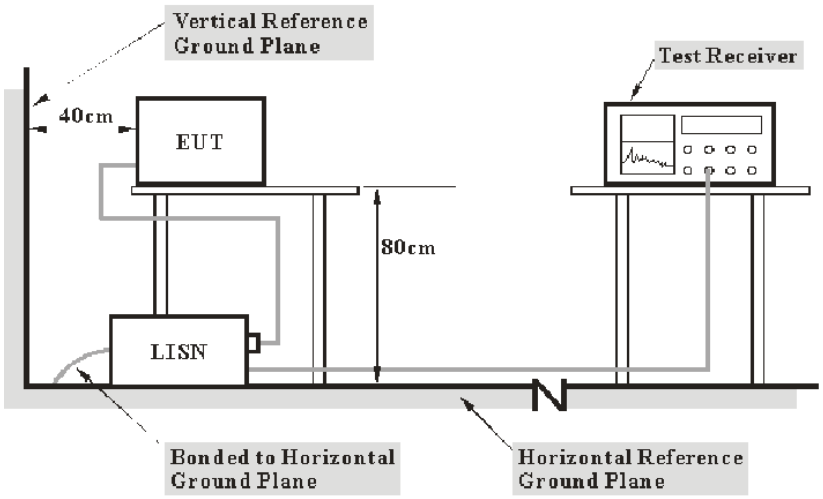
Result: Compliance.

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

Applicable Standard

FCC §15.207, §15.407(b) (6)

EUT Setup



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

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

The spacing between the peripherals was 10 cm.

The adapter was connected to AC 120V/60Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
V_C (cord. Reading): corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN
C_f: Correction Factor

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

Margin = Limit – Corrected Amplitude

Test Procedure

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

Test Results Summary

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

Test Data

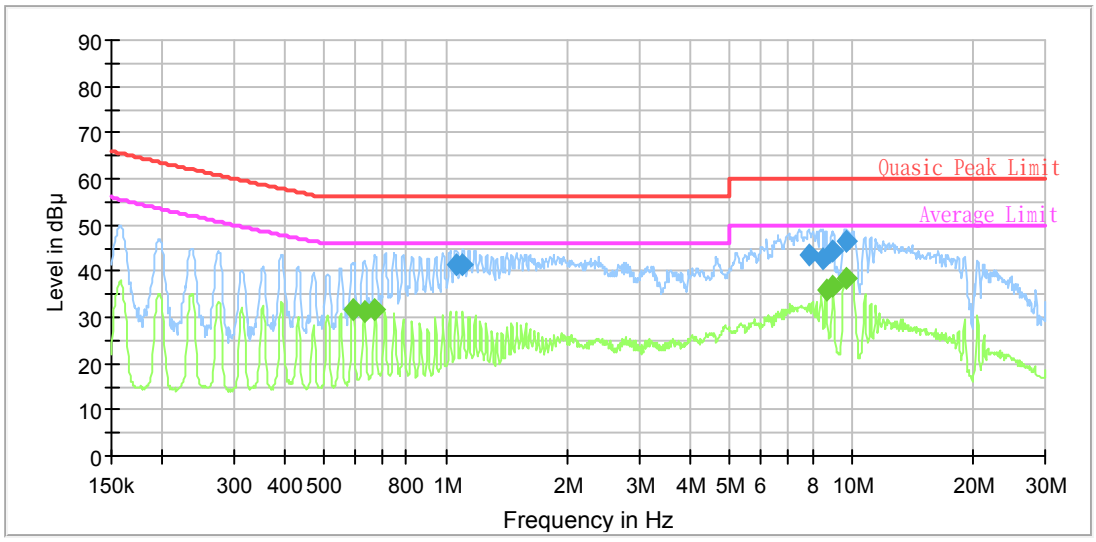
Environmental Conditions

Temperature:	30 °C
Relative Humidity:	60 %
ATM Pressure:	94.8 kPa

The testing was performed by Tom Tang on 2017-07-04.

Test Mode: Transmitting

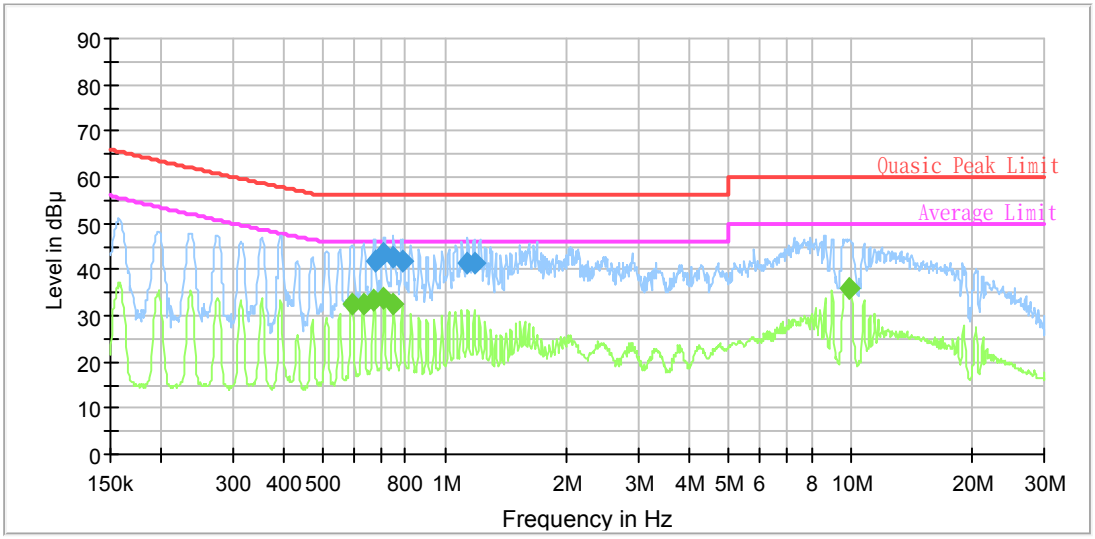
AC120V/60Hz, Line



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.064988	41.4	9.000	L1	19.8	14.6	56.0
1.103946	41.5	9.000	L1	19.8	14.5	56.0
7.837922	43.6	9.000	L1	20.0	16.4	60.0
8.455543	42.5	9.000	L1	20.0	17.5	60.0
9.013239	44.3	9.000	L1	20.0	15.7	60.0
9.723473	46.6	9.000	L1	20.0	13.4	60.0

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.589868	31.8	9.000	L1	19.8	14.2	46.0
0.631289	31.3	9.000	L1	19.8	14.7	46.0
0.670245	31.6	9.000	L1	19.8	14.4	46.0
8.660516	35.9	9.000	L1	20.0	14.1	50.0
8.977330	36.9	9.000	L1	20.0	13.1	50.0
9.684735	38.6	9.000	L1	20.0	11.4	50.0

AC120V/60Hz, Neutral



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.672926	42.0	9.000	N	19.5	14.0	56.0
0.708771	43.4	9.000	N	19.5	12.6	56.0
0.746525	42.6	9.000	N	19.5	13.4	56.0
0.789434	41.7	9.000	N	19.5	14.3	56.0
1.139771	41.4	9.000	N	19.6	14.6	56.0
1.181466	41.2	9.000	N	19.6	14.8	56.0

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.589868	32.6	9.000	N	19.5	13.4	46.0
0.628774	32.7	9.000	N	19.5	13.3	46.0
0.670245	33.5	9.000	N	19.5	12.5	46.0
0.708771	33.6	9.000	N	19.5	12.4	46.0
0.746525	32.7	9.000	N	19.5	13.3	46.0
9.959183	36.0	9.000	N	19.8	14.0	50.0

Note:
1) Corrected Amplitude = Reading + Correction Factor
2) Correction Factor =LISN VDF (Voltage Division Factor) + Cable Loss + Transient Limiter
3) Margin = Limit – Corrected Amplitude

FCC §15.209, §15.205 & §15.407(b) (1) (6) (7) – UNDESIRABLE EMISSION, RESTRICTED BANDS

Applicable Standard

FCC §15.407 (b) (1), (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 5.725-5.85 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.

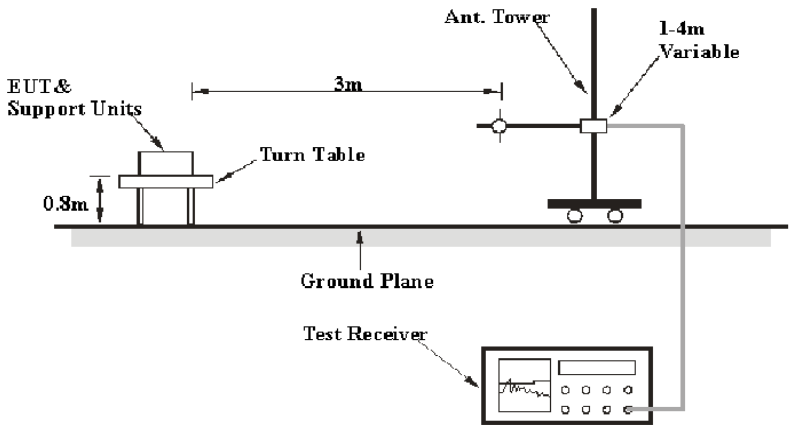
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

According to KDB 789033 D02 General UNII Test Procedures v01, emission shall be computed as:
E[dBuV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

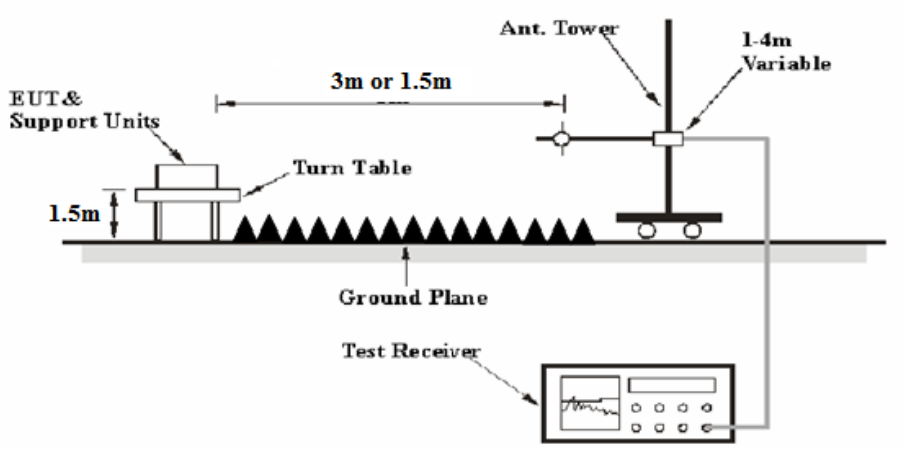
1) For 75 MHz above or below the band edge, a level of -27 dBm/MHz (68.2dBμV/m) was applied.
2) For 25MHz-75 MHz above or below the band edge, a level of 10 dBm/MHz (105.2dBμV/m) was applied.
3) For 5MHz-25 MHz above or below the band edge, a level of 15.6 dBm/MHz (110.8dBμV/m) was applied.
4) For 0 MHz-5 MHz above or below the band edge, a level of 27 dBm/MHz (122.2dBμV/m) was applied.

EUT Setup

Below 1GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters semi-anechoic chamber, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.407 limits.

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

The spacing between the peripherals was 10 cm.

The adapter was connected to AC 120V/60Hz power source.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

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

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP

Frequency Range	RBW	Video B/W	Duty Cycle	Detector
Above 1 GHz	1MHz	3 MHz	Any	PK
	1MHz	10Hz	>98%	AV
	1MHz	1/T	<98%	AV

Note: T is Transmission Duration

Test Procedure

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

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

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m
Distance extrapolation factor =20 log (specific distance [3m]/test distance [1.5m]) dB
Extrapolation result = Corrected Amplitude (dBμV/m) - distance extrapolation factor (6dB)

Corrected Amplitude & Margin Calculation

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

Corrected Amplitude = Receiver Reading + Cable loss + Antenna Factor – Amplifier Gain

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

Margin = Limit-Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, Section 15.205 and 15.209, Subpart E, Section 15.407.

Test Data

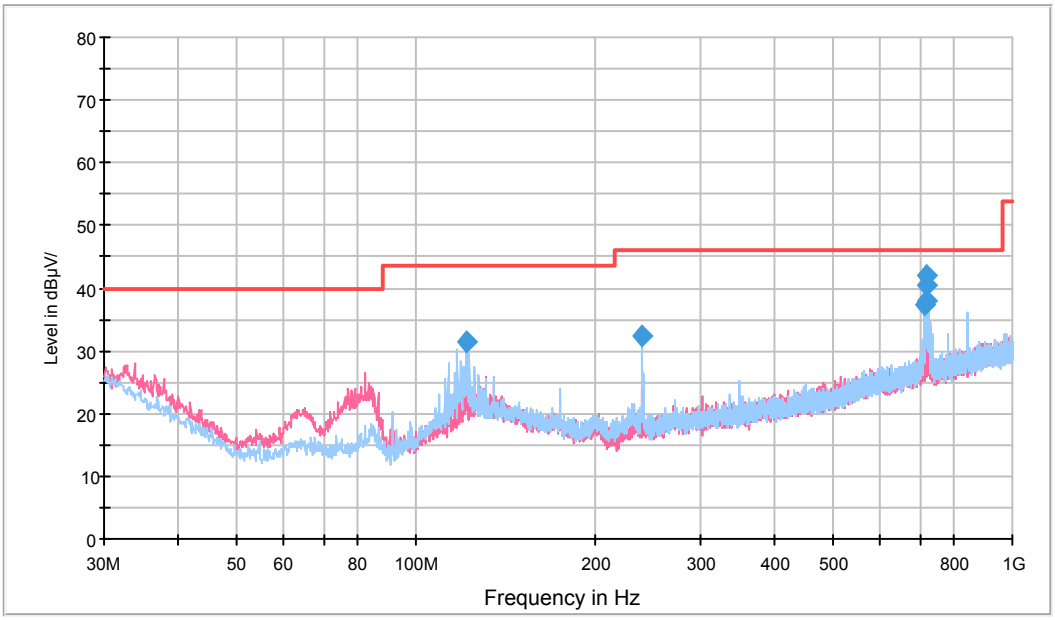
Environmental Conditions

Temperature:	29 °C
Relative Humidity:	52 %
ATM Pressure:	94.5 kPa

The testing was performed by Tom Tang on 2017-07-19.

Test mode: Transmitting

1) 30 MHz to 1 GHz:



Frequency (MHz)	QuasicPeak (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
121.540000	31.5	145.0	H	256.0	-7.7	12.0	43.5
240.000000	32.3	175.0	H	161.0	-8.2	13.7	46.0
712.880000	37.2	150.0	H	187.0	0.9	8.8	46.0
716.396250	37.9	100.0	H	187.0	0.9	8.1	46.0
718.578750	40.6	135.0	H	179.0	0.9	*5.4	46.0
720.033750	42.1	100.0	H	196.0	0.9	*3.9	46.0

**Within measurement uncertainty!*

(Note: Above 1GHz was performed at distance 1.5m)

2) 1GHz-40GHz:

For 5150-5250 MHz:

For 802.11a mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5180 MHz										
5180	68.26	PK	H	34.51	5.21	0	107.98	101.98	N/A	N/A
5180	58.62	AV	H	34.51	5.21	0	98.34	92.34	N/A	N/A
5180	76.28	PK	V	34.51	5.21	0	116.00	110.00	N/A	N/A
5180	65.79	AV	V	34.51	5.21	0	105.51	99.51	N/A	N/A
5150	36.29	PK	V	34.49	5.18	0	75.96	69.96	74.00	*4.04
5150	18.56	AV	V	34.49	5.18	0	58.23	52.23	54.00	*1.77
10360	38.52	PK	V	38.67	7.76	26.37	58.58	52.58	74.00	21.42
10360	23.64	AV	V	38.67	7.76	26.37	43.70	37.70	54.00	16.30
Frequency: 5220 MHz										
5220	71.37	PK	H	34.53	5.25	0	111.15	105.15	N/A	N/A
5220	61.26	AV	H	34.53	5.25	0	101.04	95.04	N/A	N/A
5220	79.51	PK	V	34.53	5.25	0	119.29	113.29	N/A	N/A
5220	69.32	AV	V	34.53	5.25	0	109.1	103.10	N/A	N/A
10440	38.38	PK	V	38.69	7.81	26.36	58.52	52.52	74.00	21.48
10440	23.41	AV	V	38.69	7.81	26.36	43.55	37.55	54.00	16.45
Frequency: 5240 MHz										
5240	73.87	PK	H	34.54	5.27	0	113.68	107.68	N/A	N/A
5240	63.46	AV	H	34.54	5.27	0	103.27	97.27	N/A	N/A
5240	82.44	PK	V	34.54	5.27	0	122.25	116.25	N/A	N/A
5240	72.76	AV	V	34.54	5.27	0	112.57	106.57	N/A	N/A
5350	34.38	PK	V	34.61	5.37	0	74.36	68.36	74.00	5.64
5350	18.46	AV	V	34.61	5.37	0	58.44	52.44	54.00	*1.56
10480	38.49	PK	V	38.7	7.84	26.35	58.68	52.68	74.00	21.32
10480	23.47	AV	V	38.7	7.84	26.35	43.66	37.66	54.00	16.34

**Within measurement uncertainty!*

For 802.11n-HT20 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5180 MHz										
5180	67.94	PK	H	34.51	5.21	0	107.66	101.66	N/A	N/A
5180	57.06	AV	H	34.51	5.21	0	96.78	90.78	N/A	N/A
5180	75.12	PK	V	34.51	5.21	0	114.84	108.84	N/A	N/A
5180	65.39	AV	V	34.51	5.21	0	105.11	99.11	N/A	N/A
5150	37.91	PK	V	34.49	5.18	0	77.58	71.58	74.00	*2.42
5150	19.27	AV	V	34.49	5.18	0	58.94	52.94	54.00	*1.06
10360	38.46	PK	V	38.67	7.76	26.37	58.52	52.52	74.00	21.48
10360	23.31	AV	V	38.67	7.76	26.37	43.37	37.37	54.00	16.63
Frequency: 5220 MHz										
5220	67.47	PK	H	34.53	5.25	0	107.25	101.25	N/A	N/A
5220	57.67	AV	H	34.53	5.25	0	97.45	91.45	N/A	N/A
5220	70.19	PK	V	34.53	5.25	0	109.97	103.97	N/A	N/A
5220	59.81	AV	V	34.53	5.25	0	99.59	93.59	N/A	N/A
10440	38.67	PK	V	38.69	7.81	26.36	58.81	52.81	74.00	21.19
10440	23.58	AV	V	38.69	7.81	26.36	43.72	37.72	54.00	16.28
Frequency: 5240 MHz										
5240	67.19	PK	H	34.54	5.27	0	107	101.00	N/A	N/A
5240	58.07	AV	H	34.54	5.27	0	97.88	91.88	N/A	N/A
5240	64.97	PK	V	34.54	5.27	0	104.78	98.78	N/A	N/A
5240	54.33	AV	V	34.54	5.27	0	94.14	88.14	N/A	N/A
5350	29.18	PK	V	34.61	5.37	0	69.16	63.16	74.00	10.84
5350	18.25	AV	V	34.61	5.37	0	58.23	52.23	54.00	*1.77
10480	38.87	PK	V	38.7	7.84	26.35	59.06	53.06	74.00	20.94
10480	23.71	AV	V	38.7	7.84	26.35	43.9	37.90	54.00	16.10

**Within measurement uncertainty!*

For 802.11n-HT40 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5190 MHz										
5190	64.17	PK	H	34.51	5.22	0	103.9	97.90	N/A	N/A
5190	53.95	AV	H	34.51	5.22	0	93.68	87.68	N/A	N/A
5190	70.66	PK	V	34.51	5.22	0	110.39	104.39	N/A	N/A
5190	60.33	AV	V	34.51	5.22	0	100.06	94.06	N/A	N/A
5150	36.03	PK	V	34.49	5.18	0	75.7	69.70	74.00	*4.30
5150	18.34	AV	V	34.49	5.18	0	58.01	52.01	54.00	*1.99
10380	38.76	PK	V	38.68	7.78	26.37	58.85	52.85	74.00	21.15
10380	23.58	AV	V	38.68	7.78	26.37	43.67	37.67	54.00	16.33
Frequency: 5230 MHz										
5230	63.47	PK	H	34.54	5.26	0	103.27	97.27	N/A	N/A
5230	52.98	AV	H	34.54	5.26	0	92.78	86.78	N/A	N/A
5230	71.32	PK	V	34.54	5.26	0	111.12	105.12	N/A	N/A
5230	61.06	AV	V	34.54	5.26	0	100.86	94.86	N/A	N/A
5350	29.67	PK	V	34.61	5.37	0	69.65	63.65	74.00	10.35
5350	18.37	AV	V	34.61	5.37	0	58.35	52.35	54.00	*1.65
10460	38.47	PK	V	38.69	7.83	26.36	58.63	52.63	74.00	21.37
10460	23.66	AV	V	38.69	7.83	26.36	43.82	37.82	54.00	16.18

**Within measurement uncertainty!*

For 802.11ac20 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5180 MHz										
5180	68.07	PK	H	34.51	5.21	0	107.79	101.79	N/A	N/A
5180	57.94	AV	H	34.51	5.21	0	97.66	91.66	N/A	N/A
5180	75.5	PK	V	34.51	5.21	0	115.22	109.22	N/A	N/A
5180	64.91	AV	V	34.51	5.21	0	104.63	98.63	N/A	N/A
5150	37.27	PK	V	34.49	5.18	0	76.94	70.94	74.00	*3.06
5150	18.34	AV	V	34.49	5.18	0	58.01	52.01	54.00	*1.99
10360	38.49	PK	V	38.67	7.76	26.37	58.55	52.55	74.00	21.45
10360	23.57	AV	V	38.67	7.76	26.37	43.63	37.63	54.00	16.37
Frequency: 5220 MHz										
5220	70.68	PK	H	34.53	5.25	0	110.46	104.46	N/A	N/A
5220	60.67	AV	H	34.53	5.25	0	100.45	94.45	N/A	N/A
5220	78.21	PK	V	34.53	5.25	0	117.99	111.99	N/A	N/A
5220	67.85	AV	V	34.53	5.25	0	107.63	101.63	N/A	N/A
10440	38.58	PK	V	38.69	7.81	26.36	58.72	52.72	74.00	21.28
10440	23.62	AV	V	38.69	7.81	26.36	43.76	37.76	54.00	16.24
Frequency: 5240 MHz										
5240	73.69	PK	H	34.54	5.27	0	113.5	107.50	N/A	N/A
5240	63.25	AV	H	34.54	5.27	0	103.06	97.06	N/A	N/A
5240	81.48	PK	V	34.54	5.27	0	121.29	115.29	N/A	N/A
5240	71.06	AV	V	34.54	5.27	0	110.87	104.87	N/A	N/A
5350	33.52	PK	V	34.61	5.37	0	73.50	67.50	74.00	6.50
5350	18.87	AV	V	34.61	5.37	0	58.85	52.85	54.00	*1.15
10480	38.77	PK	V	38.7	7.84	26.35	58.96	52.96	74.00	21.04
10480	23.52	AV	V	38.7	7.84	26.35	43.71	37.71	54.00	16.29

**Within measurement uncertainty!*

For 802.11ac40 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5190 MHz										
5190	65.74	PK	H	34.51	5.22	0	105.47	99.47	N/A	N/A
5190	55.57	AV	H	34.51	5.22	0	95.3	89.30	N/A	N/A
5190	71.81	PK	V	34.51	5.22	0	111.54	105.54	N/A	N/A
5190	61.15	AV	V	34.51	5.22	0	100.88	94.88	N/A	N/A
5150	36.98	PK	V	34.49	5.18	0	76.65	70.65	74.00	*3.35
5150	19.17	AV	V	34.49	5.18	0	58.84	52.84	54.00	*1.16
10380	38.56	PK	V	38.68	7.78	26.37	58.65	52.65	74.00	21.35
10380	23.57	AV	V	38.68	7.78	26.37	43.66	37.66	54.00	16.34
Frequency: 5230 MHz										
5230	63.54	PK	H	34.54	5.26	0	103.34	97.34	N/A	N/A
5230	53.19	AV	H	34.54	5.26	0	92.99	86.99	N/A	N/A
5230	71.94	PK	V	34.54	5.26	0	111.74	105.74	N/A	N/A
5230	61.61	AV	V	34.54	5.26	0	101.41	95.41	N/A	N/A
5350	29.44	PK	V	34.61	5.37	0	69.42	63.42	74.00	10.58
5350	18.27	AV	V	34.61	5.37	0	58.25	52.25	54.00	*1.75
10460	38.89	PK	V	38.69	7.83	26.36	59.05	53.05	74.00	20.95
10460	23.67	AV	V	38.69	7.83	26.36	43.83	37.83	54.00	16.17

**Within measurement uncertainty!*

For 802.11ac80 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5210 MHz										
5210	60.16	PK	H	34.53	5.24	0	99.93	93.93	N/A	N/A
5210	49.97	AV	H	34.53	5.24	0	89.74	83.74	N/A	N/A
5210	69.95	PK	V	34.53	5.24	0	109.72	103.72	N/A	N/A
5210	59.46	AV	V	34.53	5.24	0	99.23	93.23	N/A	N/A
5150	35.71	PK	V	34.49	5.18	0	75.38	69.38	74.00	*4.62
5150	18.17	AV	V	34.49	5.18	0	57.84	51.84	54.00	*2.16
5350	29.11	PK	V	34.61	5.37	0	69.09	63.09	74.00	10.91
5350	18.59	AV	V	34.61	5.37	0	58.57	52.57	54.00	*1.43
10420	38.46	PK	V	38.68	7.8	26.36	58.58	52.58	74.00	21.42
10420	23.67	AV	V	38.68	7.8	26.36	43.79	37.79	54.00	16.21

**Within measurement uncertainty!*

For 5725-5850 MHz

For 802.11a mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5745 MHz										
5745	67.81	PK	H	34.75	5.74	0.00	108.30	102.30	N/A	N/A
5745	58.15	AV	H	34.75	5.74	0.00	98.64	92.64	N/A	N/A
5745	71.89	PK	V	34.75	5.74	0.00	112.38	106.38	N/A	N/A
5745	62.09	AV	V	34.75	5.74	0.00	102.58	96.58	N/A	N/A
5725	43.39	PK	V	34.75	5.72	0.00	83.86	77.86	122.20	44.34
5720	41.89	PK	V	34.74	5.71	0.00	82.34	76.34	110.80	34.46
5700	36.89	PK	V	34.74	5.70	0.00	77.33	71.33	105.20	33.87
5650	28.79	PK	V	34.73	5.65	0.00	69.17	63.17	68.20	*5.03
11490	39.07	PK	V	38.90	8.22	26.02	60.17	54.17	74.00	19.83
11490	24.57	AV	V	38.90	8.22	26.02	45.67	39.67	54.00	14.33
Frequency: 5785 MHz										
5785	67.52	PK	H	34.76	5.77	0	108.05	102.05	N/A	N/A
5785	57.57	AV	H	34.76	5.77	0	98.1	92.10	N/A	N/A
5785	71.68	PK	V	34.76	5.77	0	112.21	106.21	N/A	N/A
5785	61.16	AV	V	34.76	5.77	0	101.69	95.69	N/A	N/A
11570	38.97	PK	V	38.91	8.21	26	60.09	54.09	74.00	19.91
11570	24.67	AV	V	38.91	8.21	26	45.79	39.79	54.00	14.21
Frequency: 5825 MHz										
5825	67.35	PK	H	34.77	5.81	0.00	107.93	101.93	N/A	N/A
5825	56.98	AV	H	34.77	5.81	0.00	97.56	91.56	N/A	N/A
5825	71.46	PK	V	34.77	5.81	0.00	112.04	106.04	N/A	N/A
5825	61.22	AV	V	34.77	5.81	0.00	101.80	95.80	N/A	N/A
5850	41.56	PK	V	34.77	5.83	0.00	82.16	76.16	122.20	46.04
5855	40.17	PK	V	34.77	5.83	0.00	80.77	74.77	110.80	36.03
5875	35.66	PK	V	34.78	5.85	0.00	76.29	70.29	105.20	34.91
5925	28.67	PK	V	34.79	5.89	0.00	69.35	63.35	68.20	*4.85
11650	38.87	PK	V	38.93	8.20	25.98	60.02	54.02	74.00	19.98
11650	24.46	AV	V	38.93	8.20	25.98	45.61	39.61	54.00	14.39

**Within measurement uncertainty!*

For 802.11n-HT20 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5745 MHz										
5745	67.23	PK	H	34.75	5.74	0.00	107.72	101.72	N/A	N/A
5745	57.06	AV	H	34.75	5.74	0.00	97.55	91.55	N/A	N/A
5745	71.97	PK	V	34.75	5.74	0.00	112.46	106.46	N/A	N/A
5745	62.03	AV	V	34.75	5.74	0.00	102.52	96.52	N/A	N/A
5725	43.82	PK	V	34.75	5.72	0.00	84.29	78.29	122.20	43.91
5720	43.81	PK	V	34.74	5.71	0.00	84.26	78.26	110.80	32.54
5700	41.24	PK	V	34.74	5.70	0.00	81.68	75.68	105.20	29.52
5650	30.35	PK	V	34.73	5.65	0.00	70.73	64.73	68.20	*3.47
11490	38.49	PK	V	38.90	8.22	26.02	59.59	53.59	74.00	20.41
11490	24.47	AV	V	38.90	8.22	26.02	45.57	39.57	54.00	14.43
Frequency: 5785 MHz										
5785	67.74	PK	H	34.76	5.77	0	108.27	102.27	N/A	N/A
5785	57.34	AV	H	34.76	5.77	0	97.87	91.87	N/A	N/A
5785	71.47	PK	V	34.76	5.77	0	112	106.00	N/A	N/A
5785	61.34	AV	V	34.76	5.77	0	101.87	95.87	N/A	N/A
11570	38.37	PK	V	38.91	8.21	26	59.49	53.49	74.00	20.51
11570	24.26	AV	V	38.91	8.21	26	45.38	39.38	54.00	14.62
Frequency: 5825 MHz										
5825	67.93	PK	H	34.77	5.81	0.00	108.51	102.51	N/A	N/A
5825	57.53	AV	H	34.77	5.81	0.00	98.11	92.11	N/A	N/A
5825	70.43	PK	V	34.77	5.81	0.00	111.01	105.01	N/A	N/A
5825	60.21	AV	V	34.77	5.81	0.00	100.79	94.79	N/A	N/A
5850	41.48	PK	V	34.77	5.83	0.00	82.08	76.08	122.20	46.12
5855	39.55	PK	V	34.77	5.83	0.00	80.15	74.15	110.80	36.65
5875	35.36	PK	V	34.78	5.85	0.00	75.99	69.99	105.20	35.21
5925	30.13	PK	V	34.79	5.89	0.00	70.81	64.81	68.20	*3.39
11650	38.17	PK	V	38.93	8.20	25.98	59.32	53.32	74.00	20.68
11650	24.34	AV	V	38.93	8.20	25.98	45.49	39.49	54.00	14.51

**Within measurement uncertainty!*

For 802.11n-HT40 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5755 MHz										
5755	64.65	PK	H	34.75	5.74	0.00	105.14	99.14	N/A	N/A
5755	53.54	AV	H	34.75	5.74	0.00	94.03	88.03	N/A	N/A
5755	67.45	PK	V	34.75	5.74	0.00	107.94	101.94	N/A	N/A
5755	57.06	AV	V	34.75	5.74	0.00	97.55	91.55	N/A	N/A
5725	42.82	PK	V	34.75	5.72	0.00	83.29	77.29	122.20	44.91
5720	42.26	PK	V	34.74	5.71	0.00	82.71	76.71	110.80	34.09
5700	36.42	PK	V	34.74	5.70	0.00	76.86	70.86	105.20	34.34
5650	29.60	PK	V	34.73	5.65	0.00	69.98	63.98	68.20	*4.22
11510	36.62	PK	V	38.90	8.22	26.02	57.72	51.72	74.00	22.28
11510	22.47	AV	V	38.90	8.22	26.02	43.57	37.57	54.00	16.43
Frequency: 5795 MHz										
5795	64.02	PK	H	34.76	5.78	0.00	104.56	98.56	N/A	N/A
5795	53.95	AV	H	34.76	5.78	0.00	94.49	88.49	N/A	N/A
5795	67.25	PK	V	34.76	5.78	0.00	107.79	101.79	N/A	N/A
5795	57.36	AV	V	34.76	5.78	0.00	97.90	91.90	N/A	N/A
5850	41.17	PK	V	34.77	5.83	0.00	81.77	75.77	122.20	46.43
5855	38.26	PK	V	34.77	5.83	0.00	78.86	72.86	110.80	37.94
5875	34.70	PK	V	34.78	5.85	0.00	75.33	69.33	105.20	35.87
5925	28.97	PK	V	34.79	5.89	0.00	69.65	63.65	68.20	*4.55
11590	35.97	PK	V	38.92	8.21	25.99	57.11	51.11	74.00	22.89
11590	22.64	AV	V	38.92	8.21	25.99	43.78	37.78	54.00	16.22

**Within measurement uncertainty!*

For 802.11ac20 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5745 MHz										
5745	67.86	PK	H	34.75	5.74	0.00	108.35	102.35	N/A	N/A
5745	57.65	AV	H	34.75	5.74	0.00	98.14	92.14	N/A	N/A
5745	70.84	PK	V	34.75	5.74	0.00	111.33	105.33	N/A	N/A
5745	60.52	AV	V	34.75	5.74	0.00	101.01	95.01	N/A	N/A
5725	46.98	PK	V	34.75	5.72	0.00	87.45	81.45	122.20	40.75
5720	43.88	PK	V	34.74	5.71	0.00	84.33	78.33	110.80	32.47
5700	41.29	PK	V	34.74	5.70	0.00	81.73	75.73	105.20	29.47
5650	30.49	PK	V	34.73	5.65	0.00	70.87	64.87	68.20	*3.33
11490	38.89	PK	V	38.90	8.22	26.02	59.99	53.99	74.00	20.01
11490	23.67	AV	V	38.90	8.22	26.02	44.77	38.77	54.00	15.23
Frequency: 5785 MHz										
5785	67.69	PK	H	34.76	5.77	0.00	108.22	102.22	N/A	N/A
5785	57.67	AV	H	34.76	5.77	0.00	98.20	92.20	N/A	N/A
5785	70.24	PK	V	34.76	5.77	0.00	110.77	104.77	N/A	N/A
5785	60.17	AV	V	34.76	5.77	0.00	100.70	94.70	N/A	N/A
11570	38.67	PK	V	38.91	8.21	26.00	59.79	53.79	74.00	20.21
11570	23.46	AV	V	38.91	8.21	26.00	44.58	38.58	54.00	15.42
Frequency: 5825 MHz										
5825	67.58	PK	H	34.77	5.81	0.00	108.16	102.16	N/A	N/A
5825	57.52	AV	H	34.77	5.81	0.00	98.10	92.10	N/A	N/A
5825	69.54	PK	V	34.77	5.81	0.00	110.12	104.12	N/A	N/A
5825	59.54	AV	V	34.77	5.81	0.00	100.12	94.12	N/A	N/A
5850	41.39	PK	V	34.77	5.83	0.00	81.99	75.99	122.20	46.21
5855	39.76	PK	V	34.77	5.83	0.00	80.36	74.36	110.80	36.44
5875	35.41	PK	V	34.78	5.85	0.00	76.04	70.04	105.20	35.16
5925	30.22	PK	V	34.79	5.89	0.00	70.90	64.90	68.20	*3.30
11650	38.27	PK	V	38.93	8.20	25.98	59.42	53.42	74.00	20.58
11650	23.45	AV	V	38.93	8.20	25.98	44.60	38.60	54.00	15.40

**Within measurement uncertainty!*

For 802.11ac40 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5755 MHz										
5755	63.65	PK	H	34.75	5.74	0.00	104.14	98.14	N/A	N/A
5755	53.48	AV	H	34.75	5.74	0.00	93.97	87.97	N/A	N/A
5755	68.67	PK	V	34.75	5.74	0.00	109.16	103.16	N/A	N/A
5755	57.79	AV	V	34.75	5.74	0.00	98.28	92.28	N/A	N/A
5725	44.14	PK	V	34.75	5.72	0.00	84.61	78.61	122.20	43.59
5720	42.29	PK	V	34.74	5.71	0.00	82.74	76.74	110.80	34.06
5700	36.57	PK	V	34.74	5.70	0.00	77.01	71.01	105.20	34.19
5650	29.79	PK	V	34.73	5.65	0.00	70.17	64.17	68.20	*4.03
11510	36.89	PK	V	38.90	8.22	26.02	57.99	51.99	74.00	22.01
11510	22.79	AV	V	38.90	8.22	26.02	43.89	37.89	54.00	16.11
Frequency: 5795 MHz										
5795	63.17	PK	H	34.76	5.78	0.00	103.71	97.71	N/A	N/A
5795	52.79	AV	H	34.76	5.78	0.00	93.33	87.33	N/A	N/A
5795	68.42	PK	V	34.76	5.78	0.00	108.96	102.96	N/A	N/A
5795	58.01	AV	V	34.76	5.78	0.00	98.55	92.55	N/A	N/A
5850	40.32	PK	V	34.77	5.83	0.00	80.92	74.92	122.20	47.28
5855	38.47	PK	V	34.77	5.83	0.00	79.07	73.07	110.80	37.73
5875	34.89	PK	V	34.78	5.85	0.00	75.52	69.52	105.20	35.68
5925	29.18	PK	V	34.79	5.89	0.00	69.86	63.86	68.20	*4.34
11590	36.54	PK	V	38.92	8.21	25.99	57.68	51.68	74.00	22.32
11590	22.52	AV	V	38.92	8.21	25.99	43.66	37.66	54.00	16.34

**Within measurement uncertainty!*

For 802.11ac80 mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Frequency: 5775 MHz										
5775	61.65	PK	H	34.76	5.76	0.00	102.17	96.17	N/A	N/A
5775	50.13	AV	H	34.76	5.76	0.00	90.65	84.65	N/A	N/A
5775	65.82	PK	V	34.76	5.76	0.00	106.34	100.34	N/A	N/A
5775	53.96	AV	V	34.76	5.76	0.00	94.48	88.48	N/A	N/A
5725	43.04	PK	V	34.75	5.72	0.00	83.51	77.51	122.20	44.69
5720	40.22	PK	V	34.74	5.71	0.00	80.67	74.67	110.80	36.13
5700	34.55	PK	V	34.74	5.70	0.00	74.99	68.99	105.20	36.21
5650	30.07	PK	V	34.73	5.65	0.00	70.45	64.45	68.20	*3.75
5850	40.52	PK	V	34.77	5.83	0.00	81.12	75.12	122.20	47.08
5855	37.94	PK	V	34.77	5.83	0.00	78.54	72.54	110.80	38.26
5875	34.21	PK	V	34.78	5.85	0.00	74.84	68.84	105.20	36.36
5925	28.87	PK	V	34.79	5.89	0.00	69.55	63.55	68.20	*4.65
11550	35.87	PK	V	38.91	8.21	26.01	56.98	50.98	74.00	23.02
11550	21.49	AV	V	38.91	8.21	26.01	42.60	36.60	54.00	17.40

**Within measurement uncertainty!*

Note:
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Margin = Limit- Corr. Amplitude

Spurious emissions more than 20 dB below the limit were not reported.

FCC §15.407(b) (1), (4) (i) – BAND EDGE

Applicable Standard

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

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

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

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibration or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 1 MHz and VBW to 3 MHz of spectrum analyzer. Offset the antenna gain and cable loss.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data

Environmental Conditions

Temperature:	28°C ~ 29 °C
Relative Humidity:	46% ~49 %
ATM Pressure:	94.5 kPa ~ 94.7 kPa

** The testing was performed by Tom Tang on 2017-07-01 & 2017-07-18.*

Test mode: Transmitting

Test Result: Compliance. Please refer to following table and plots.

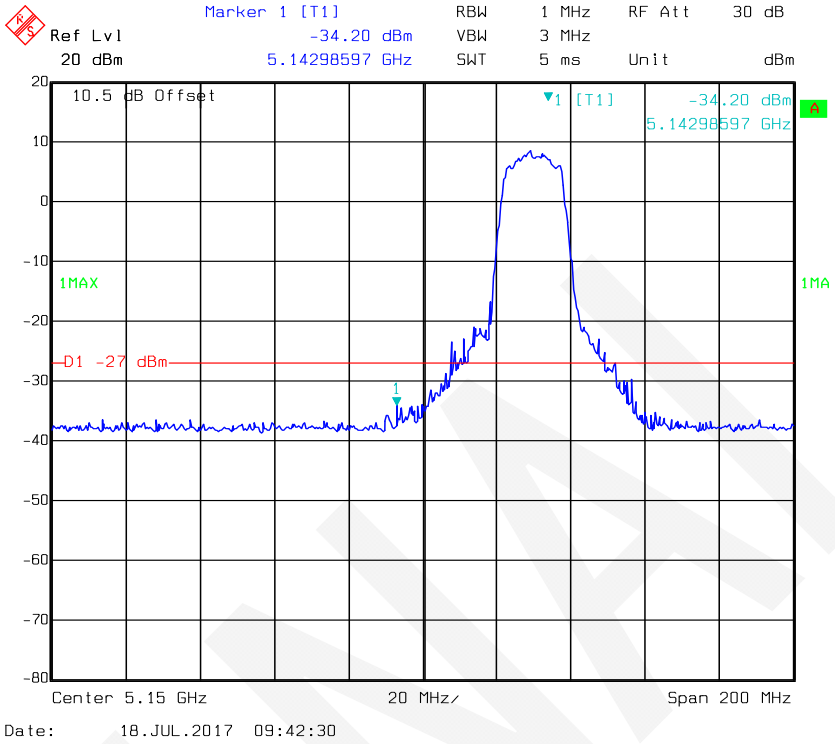
For 5150-5250 MHz:

Test mode	Frequency (MHz)	e.i.r.p (dBm/MHz)	e.i.r.p Limit (dBm/MHz)	Result
802.11a	Left	-34.20	-27	Compliant
	Right	-36.05	-27	Compliant
802.11n-HT20	Left	-32.99	-27	Compliant
	Right	-35.47	-27	Compliant
802.11n-HT40	Left	-33.46	-27	Compliant
	Right	-36.06	-27	Compliant
802.11ac20	Left	-33.03	-27	Compliant
	Right	-36.48	-27	Compliant
802.11ac40	Left	-33.84	-27	Compliant
	Right	-35.59	-27	Compliant
802.11ac80	Left	-32.93	-27	Compliant
	Right	-35.92	-27	Compliant

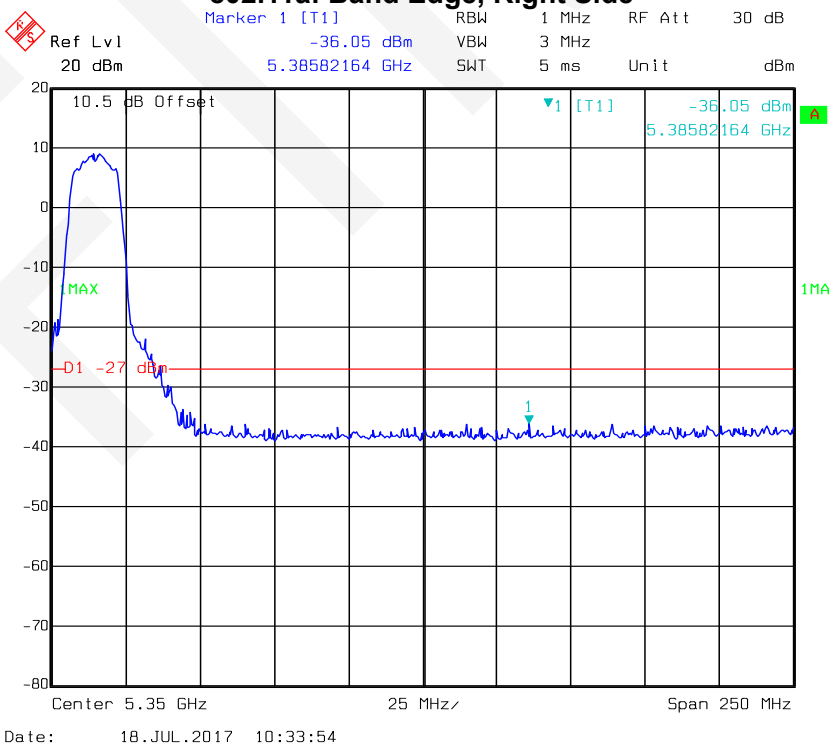
Note: Offset= Antenna Gain(dBi)+Cable loss(dB)

Antenna Gain: 3.0dBi

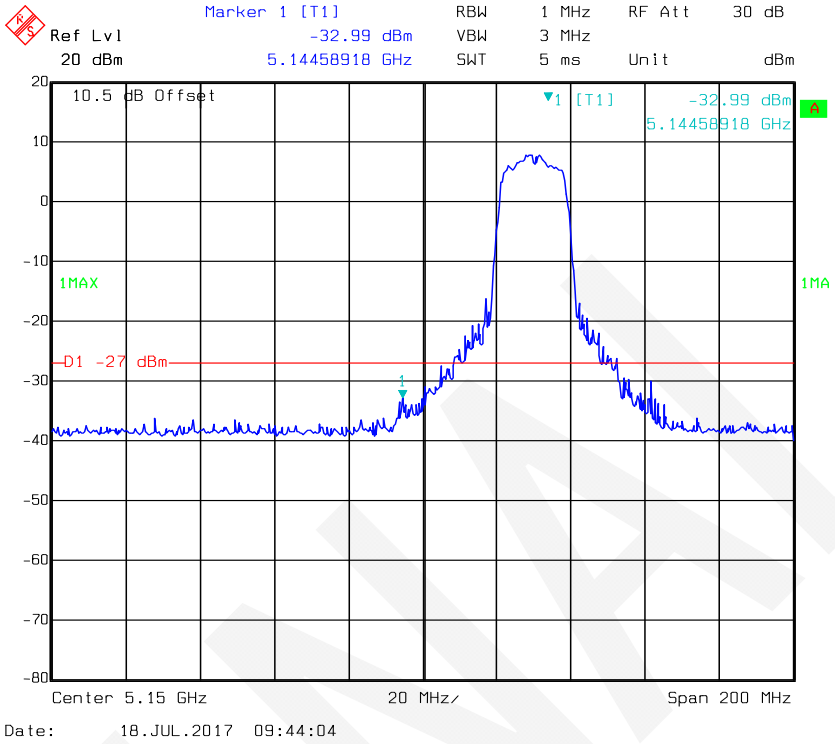
802.11a: Band Edge, Left Side



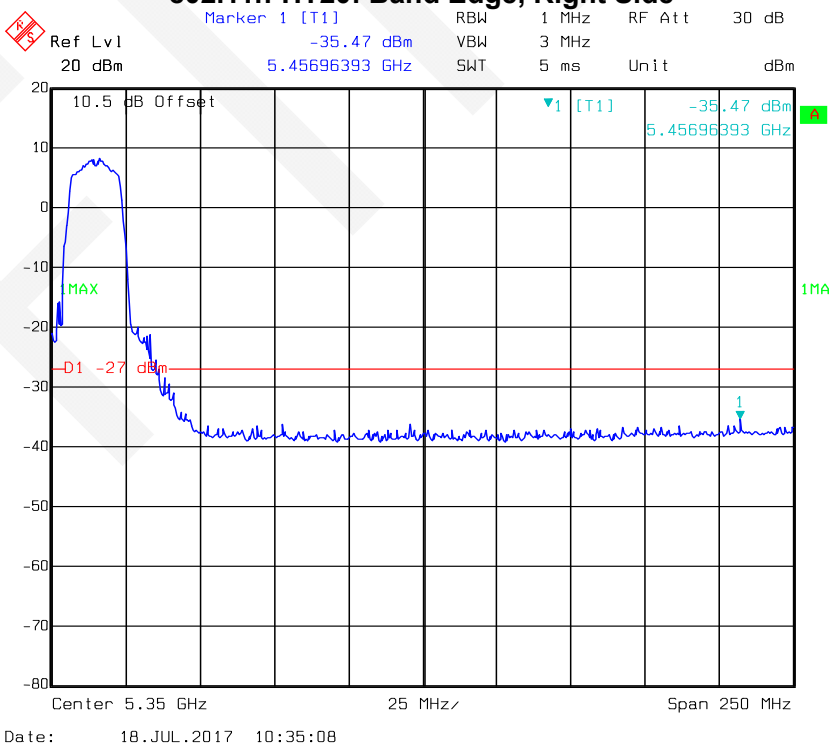
802.11a: Band Edge, Right Side



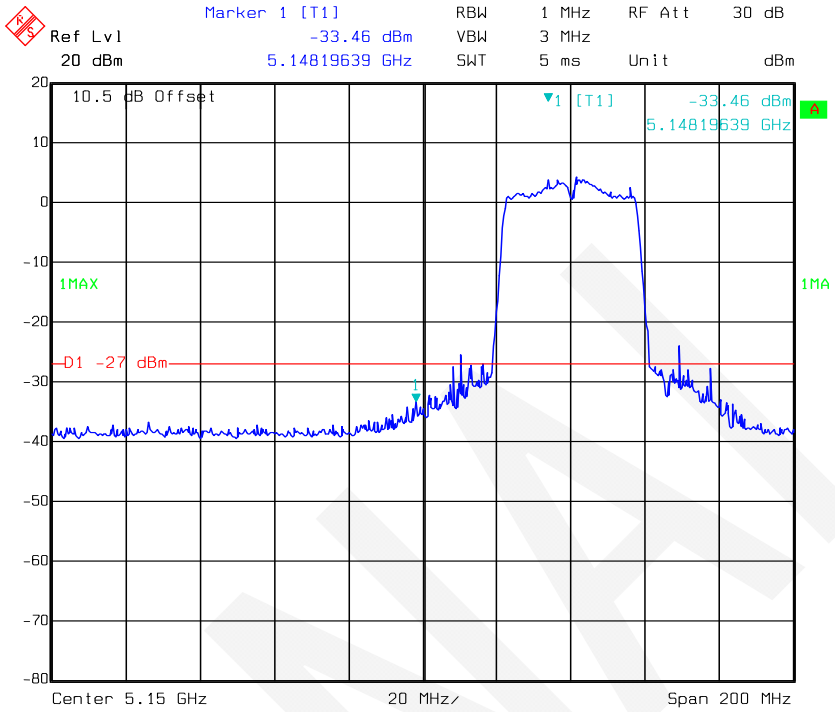
802.11n-HT20: Band Edge, Left Side



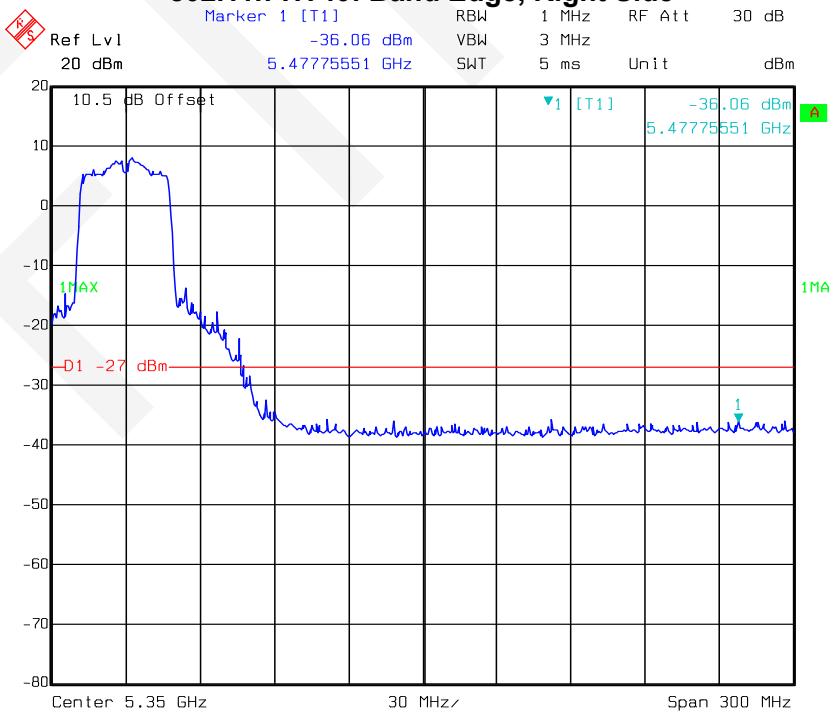
802.11n-HT20: Band Edge, Right Side



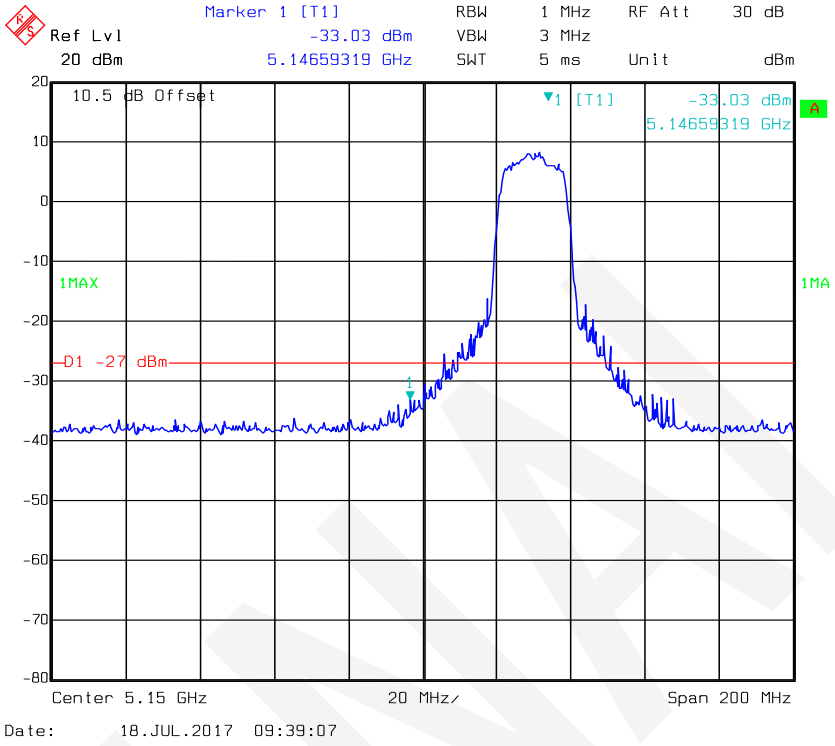
802.11n-HT40: Band Edge, Left Side



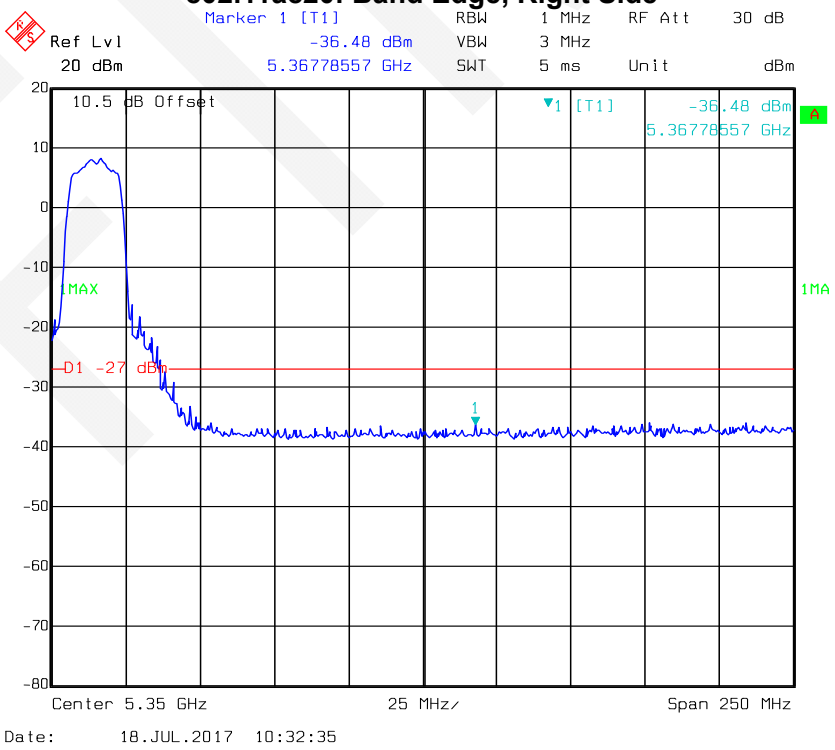
802.11n-HT40: Band Edge, Right Side



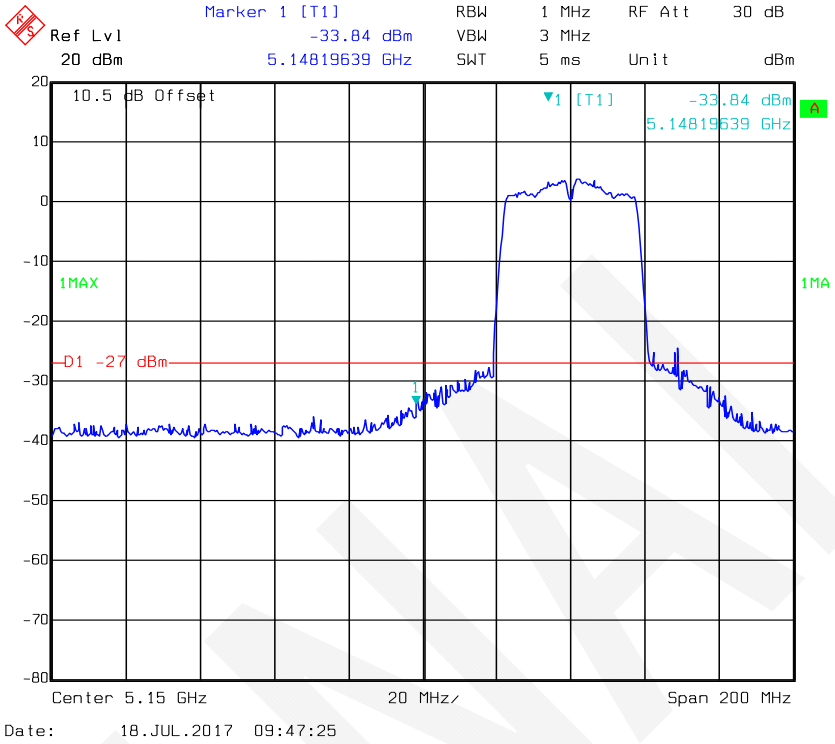
802.11ac20: Band Edge, Left Side



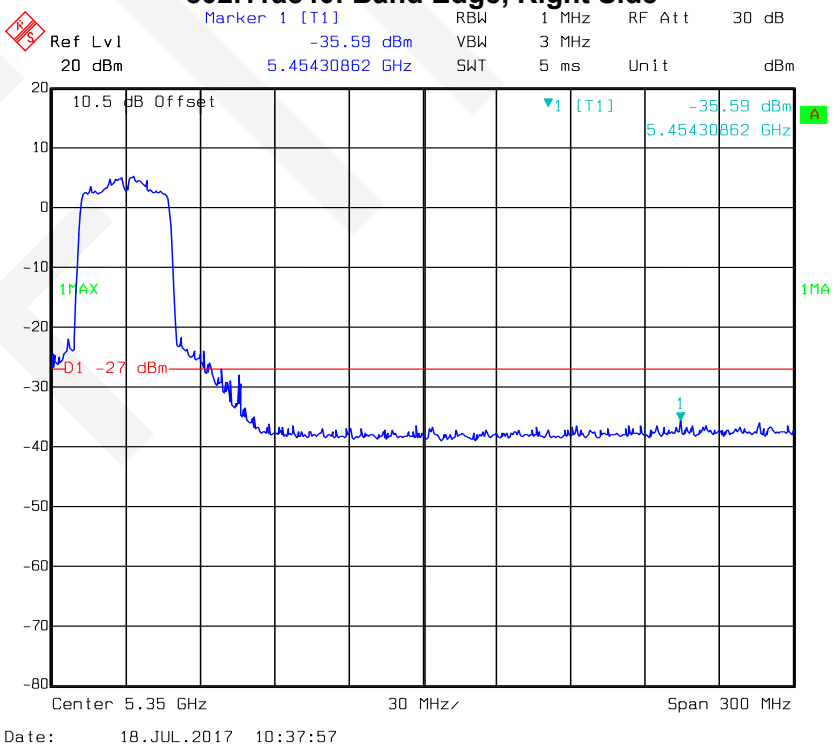
802.11ac20: Band Edge, Right Side



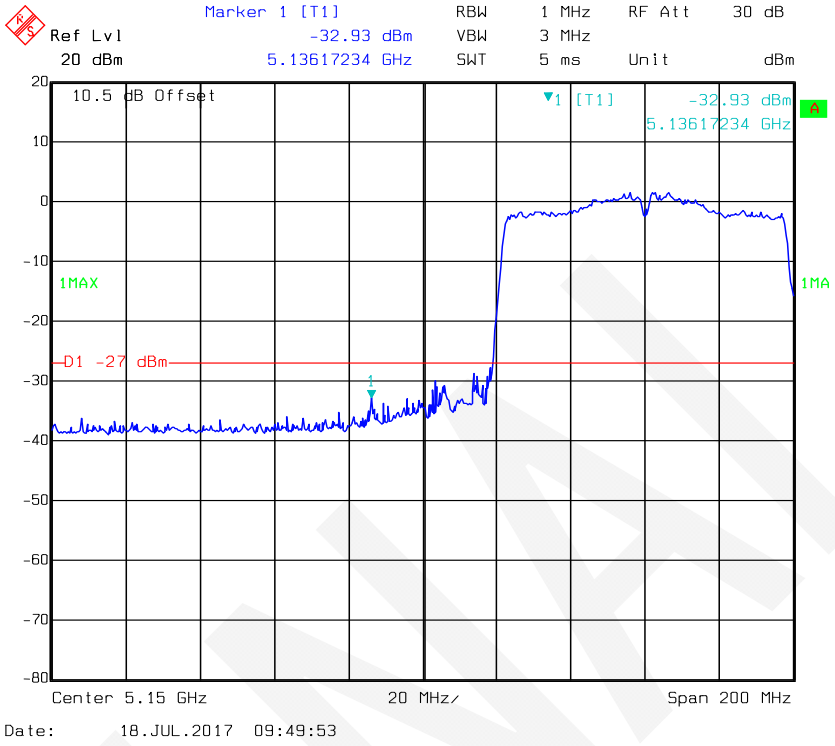
802.11ac40: Band Edge, Left Side



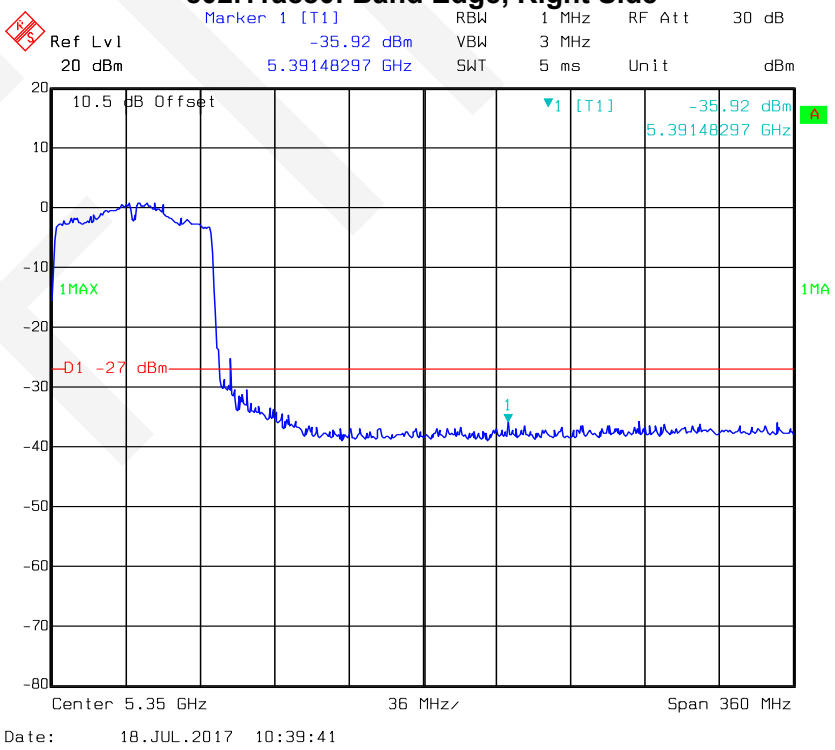
802.11ac40: Band Edge, Right Side



802.11ac80: Band Edge, Left Side

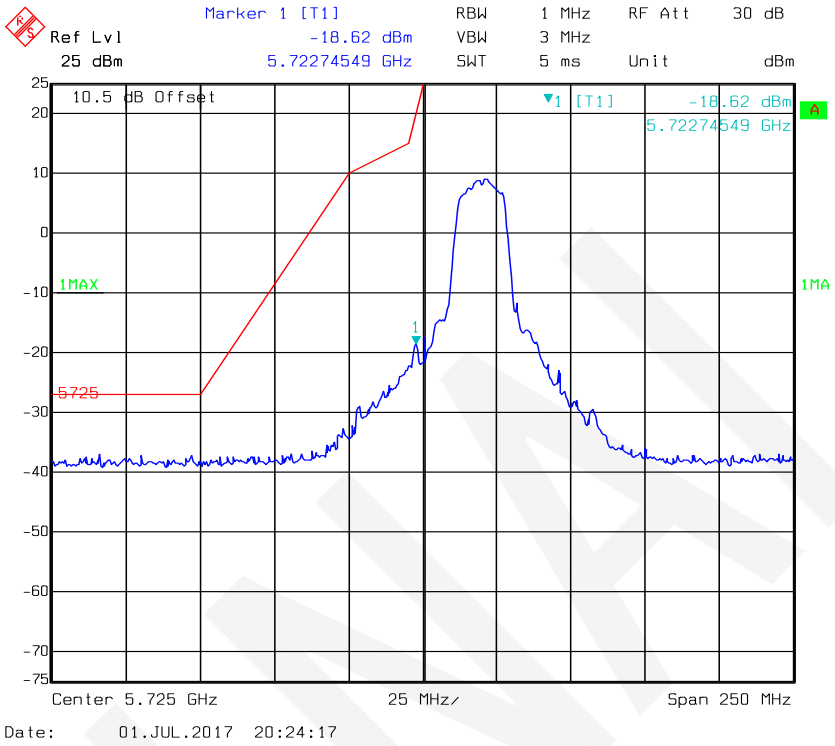


802.11ac80: Band Edge, Right Side

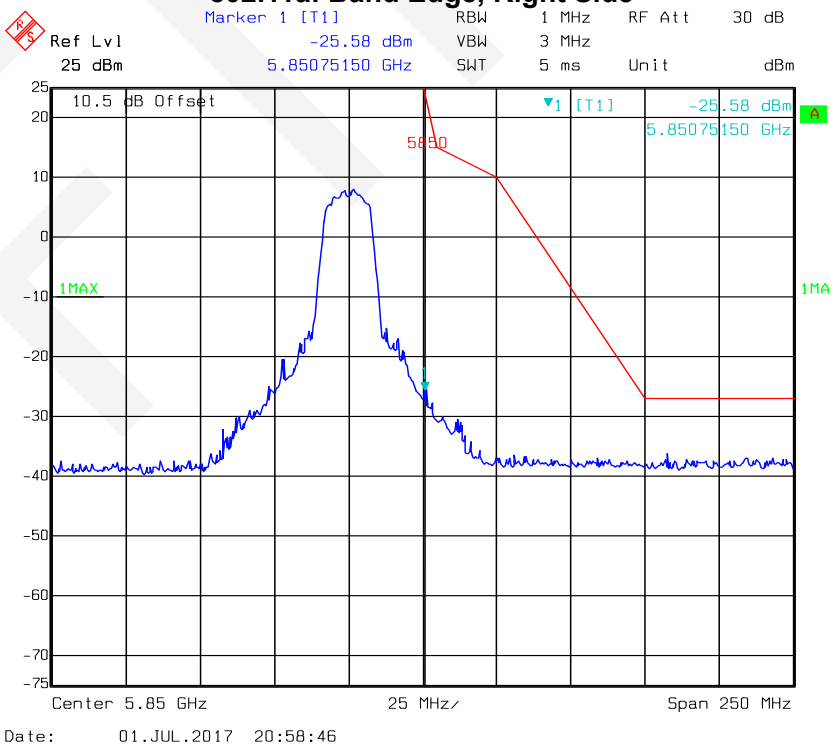


For 5725-5850 MHz: (All emissions are more than 5dB below the limit.)

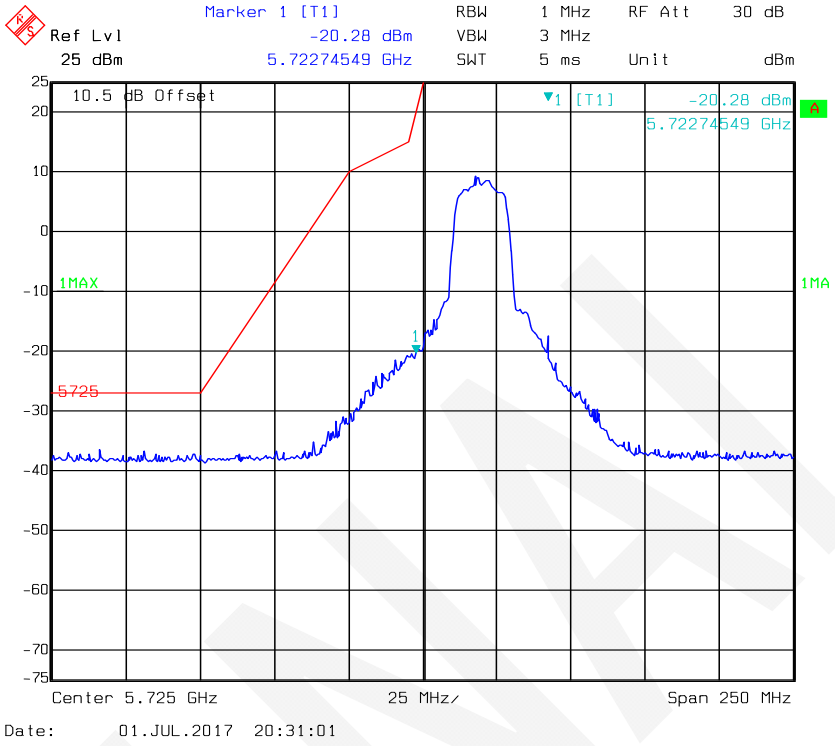
802.11a: Band Edge, Left Side



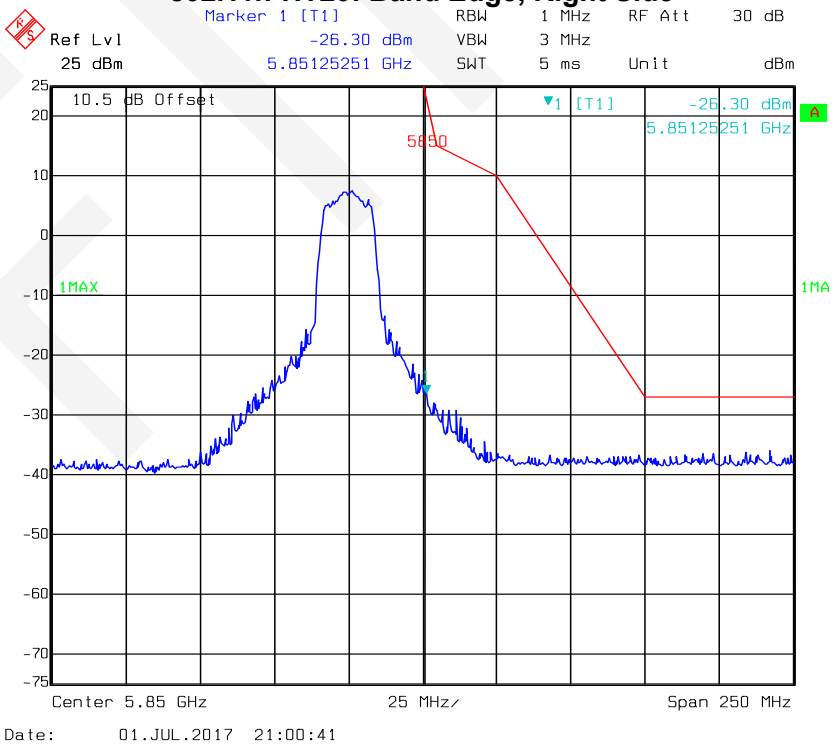
802.11a: Band Edge, Right Side



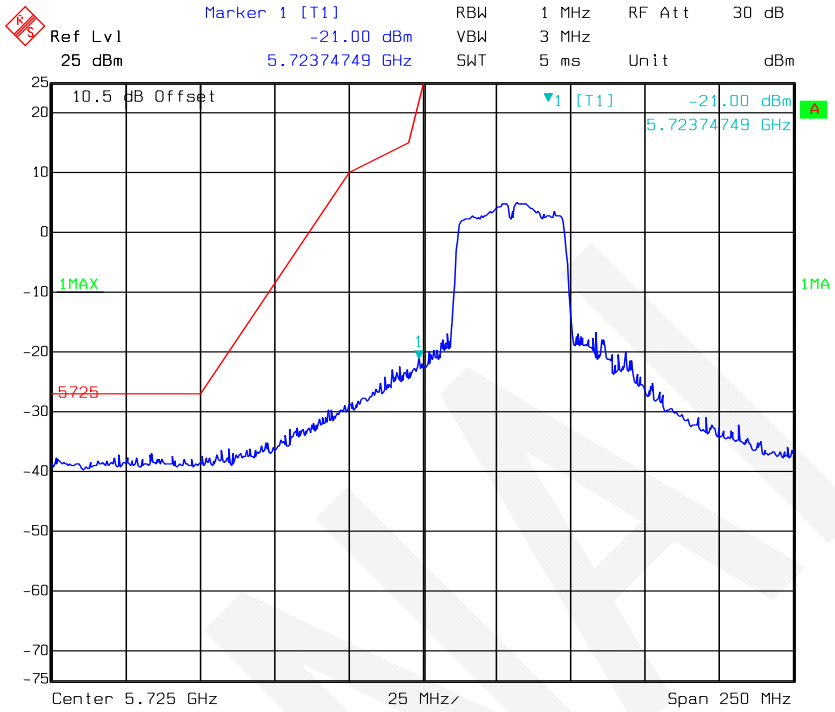
802.11n-HT20: Band Edge, Left Side



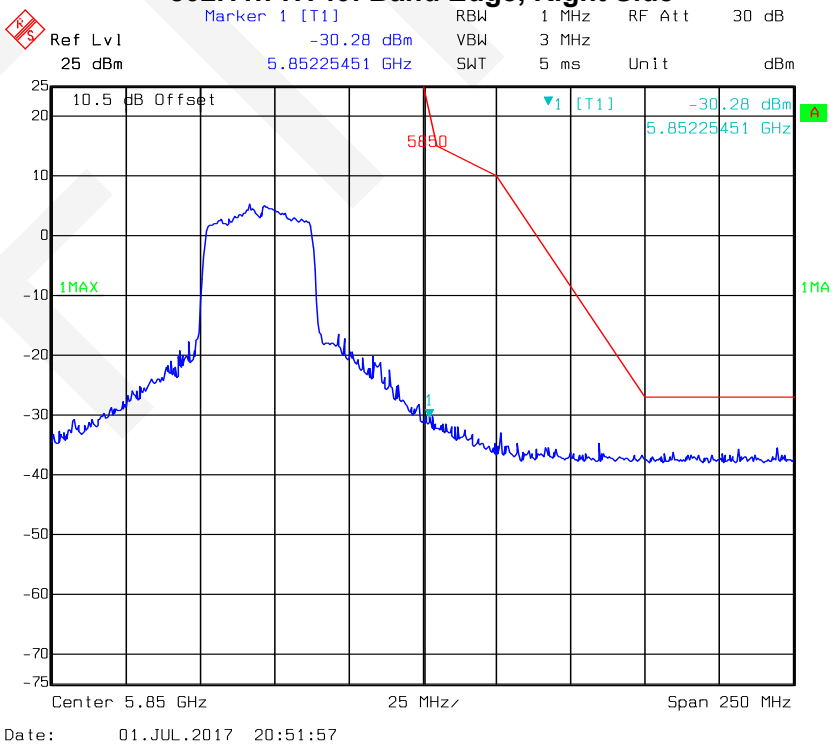
802.11n-HT20: Band Edge, Right Side



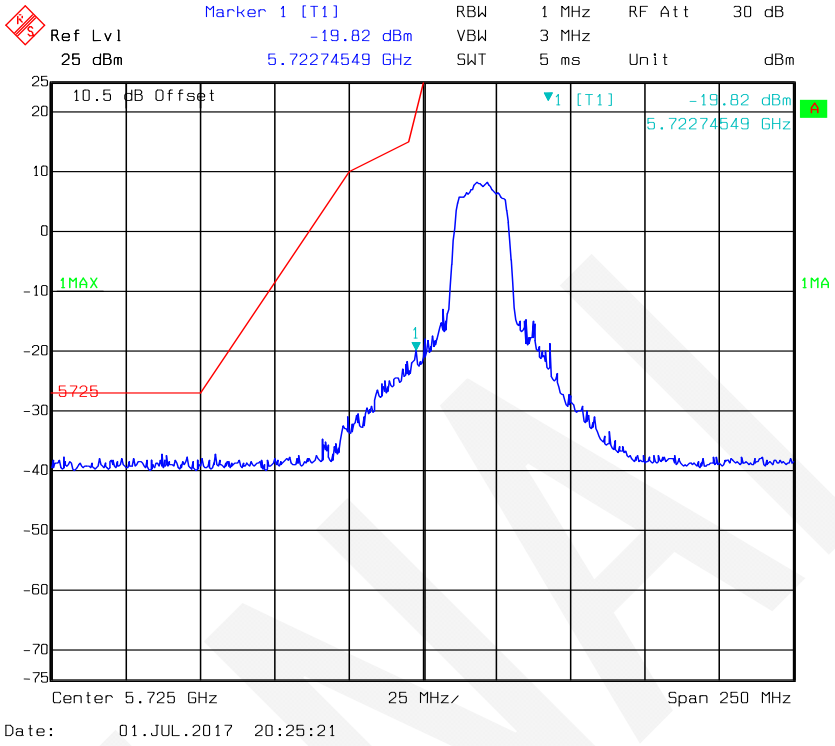
802.11n-HT40: Band Edge, Left Side



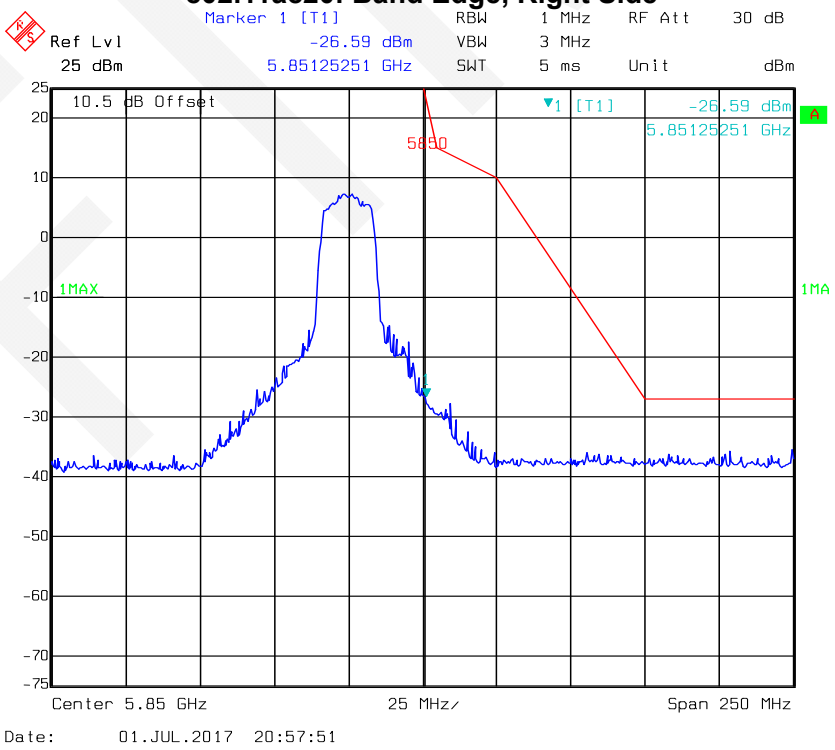
802.11n-HT40: Band Edge, Right Side



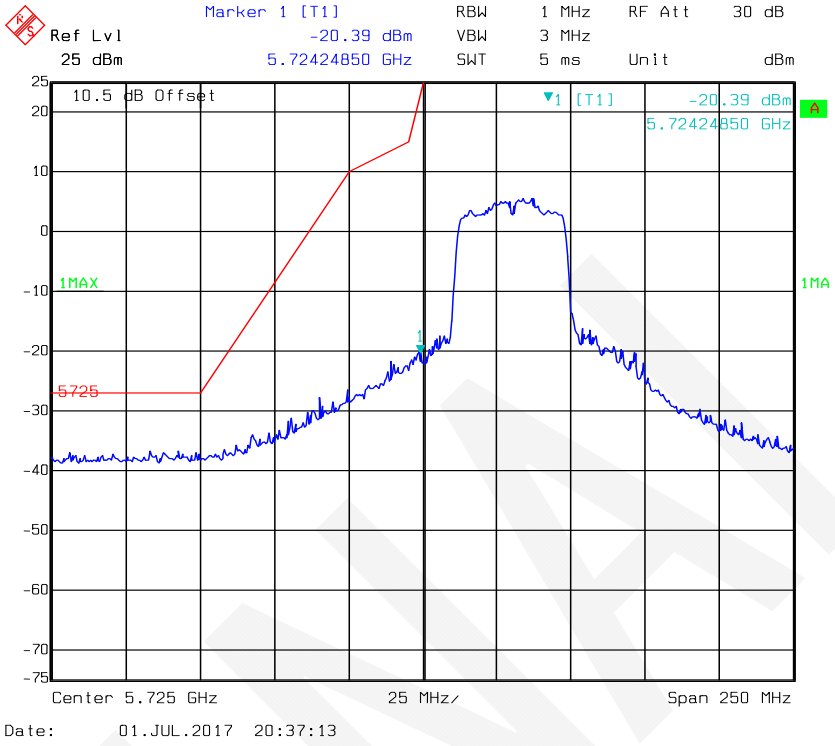
802.11ac20: Band Edge, Left Side



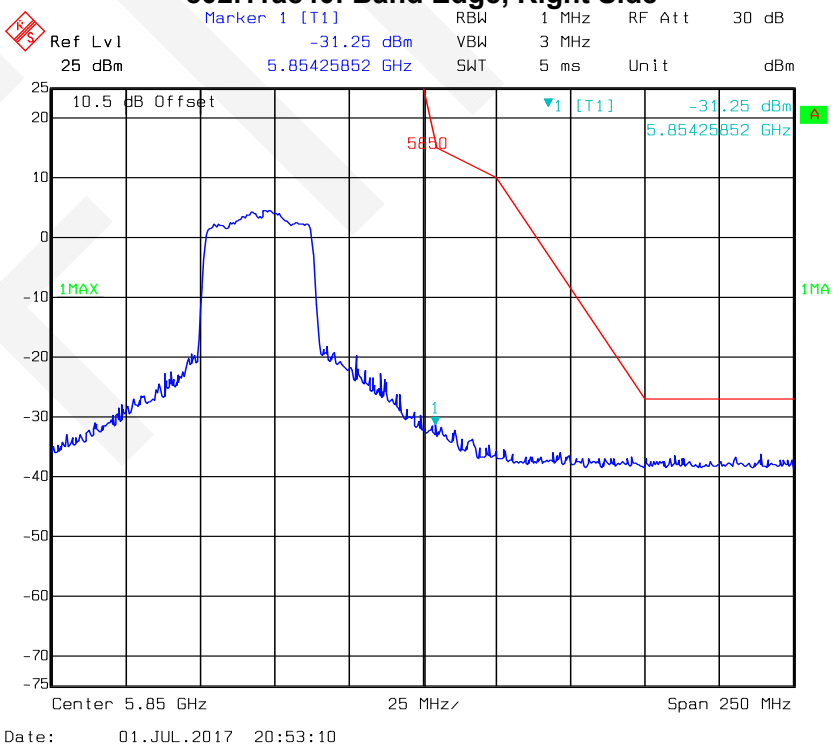
802.11ac20: Band Edge, Right Side



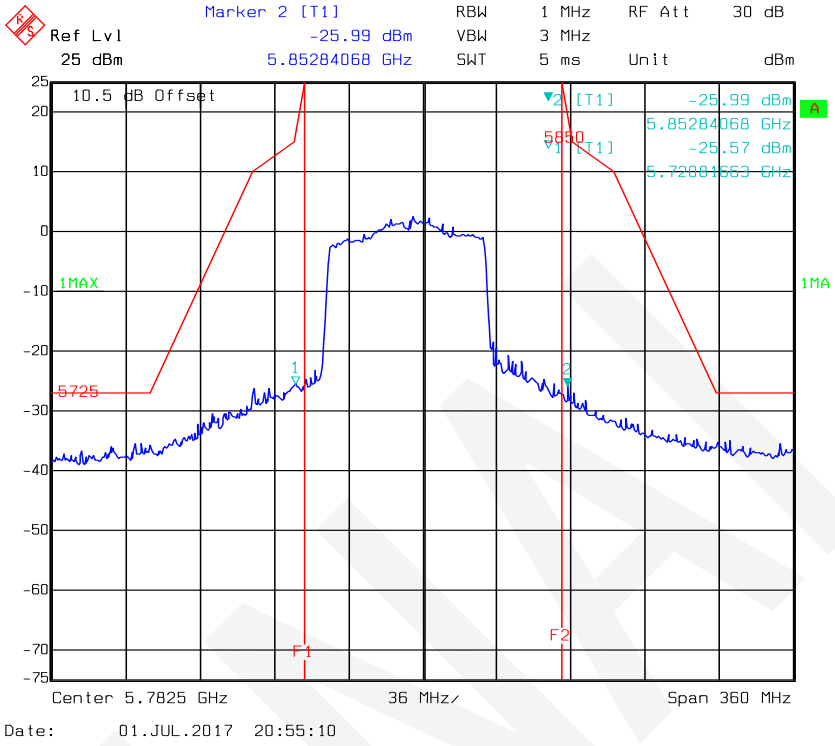
802.11ac40: Band Edge, Left Side



802.11ac40: Band Edge, Right Side



802.11ac80: Band Edge



FCC §15.407(a) (5) & (e) – 26dB & 6dB BANDWIDTH

Applicable Standard

(a) (5)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.

(e)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. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

3.

(A) 26dB Bandwidth

Set RBW = approximately 1% of the emission bandwidth.
Set the VBW > RBW. Detector= Peak. Trace mode = max hold. 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%.

(B) 6dB Bandwidth

Set RBW = 100 kHz. Set the video bandwidth (VBW) ≥ 3 × RBW.
Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize. 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.

(C) 99% Occupied Bandwidth

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Use the 99 % power bandwidth function of the instrument.

4. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	28 ~ 29 °C
Relative Humidity:	46 ~49 %
ATM Pressure:	94.5 ~ 94.7 kPa

** The testing was performed by Tom Tang on 2017-07-01 & 2017-07-18.*

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

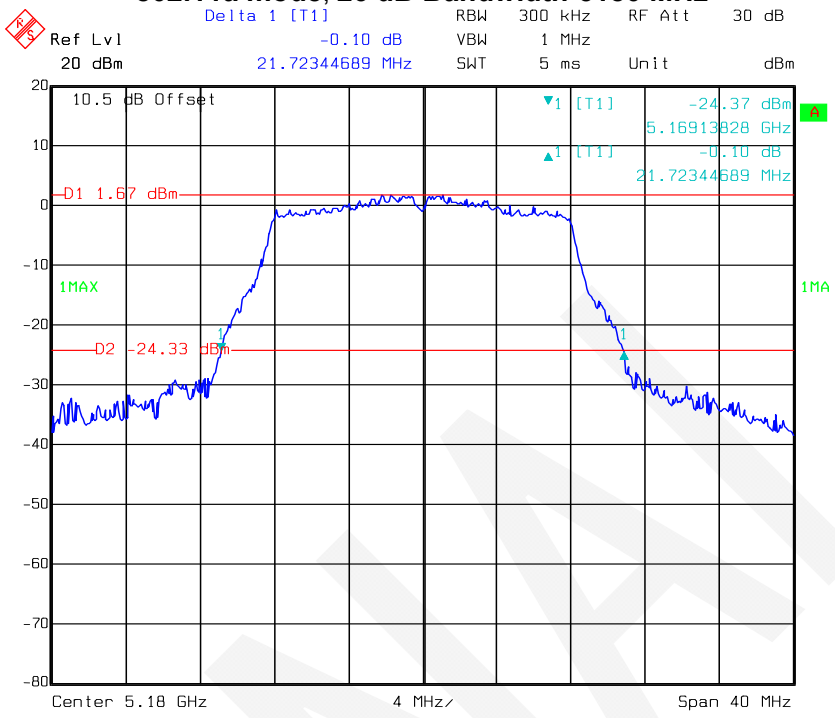
Test mode: Transmitting

For 5150-5250 MHz:

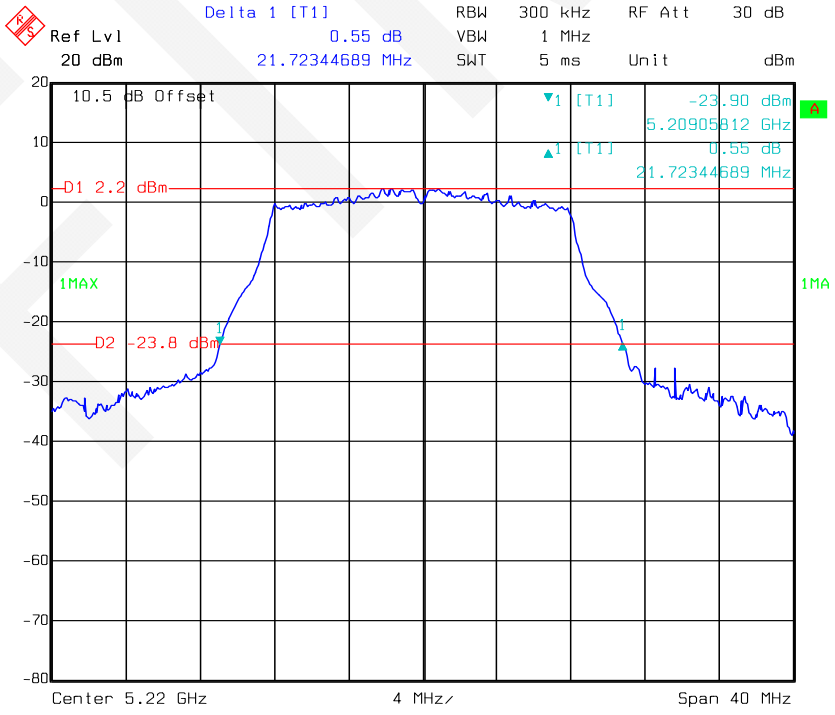
Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	Low	5180	21.72	17.07
	Middle	5220	21.72	17.15
	High	5240	21.72	17.07
802.11n-HT20	Low	5180	21.80	18.20
	Middle	5220	21.88	18.17
	High	5240	21.88	18.20
802.11n-HT40	Low	5190	42.16	36.87
	High	5230	41.36	36.55
802.11ac20	Low	5180	21.80	18.20
	Middle	5220	21.80	18.04
	High	5240	21.80	18.20
802.11ac40	Low	5190	40.08	36.55
	High	5230	39.92	36.87
802.11ac80	-	5210	82.73	75.67

Note: the 99% Occupied Bandwidth doesn't extend U-NII-2A band 5250-5350MHz.

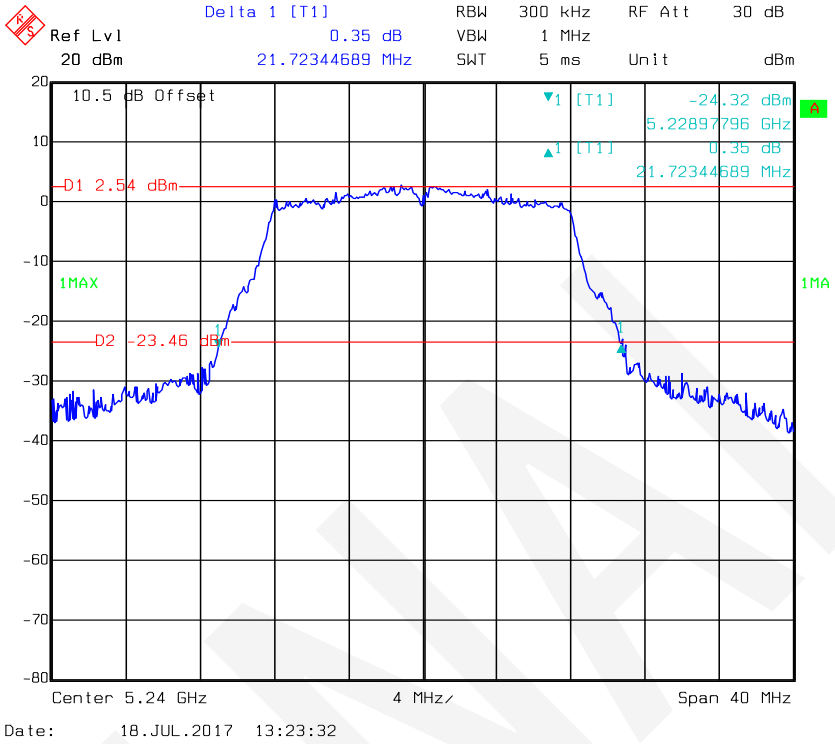
802.11a mode, 26 dB Bandwidth-5180 MHz



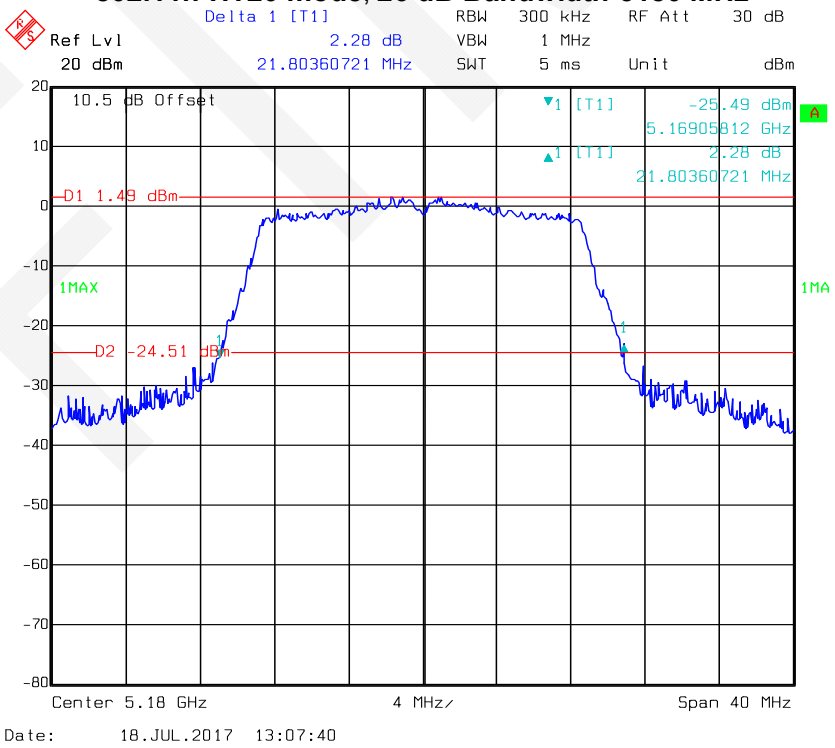
802.11a mode, 26 dB Bandwidth-5220 MHz



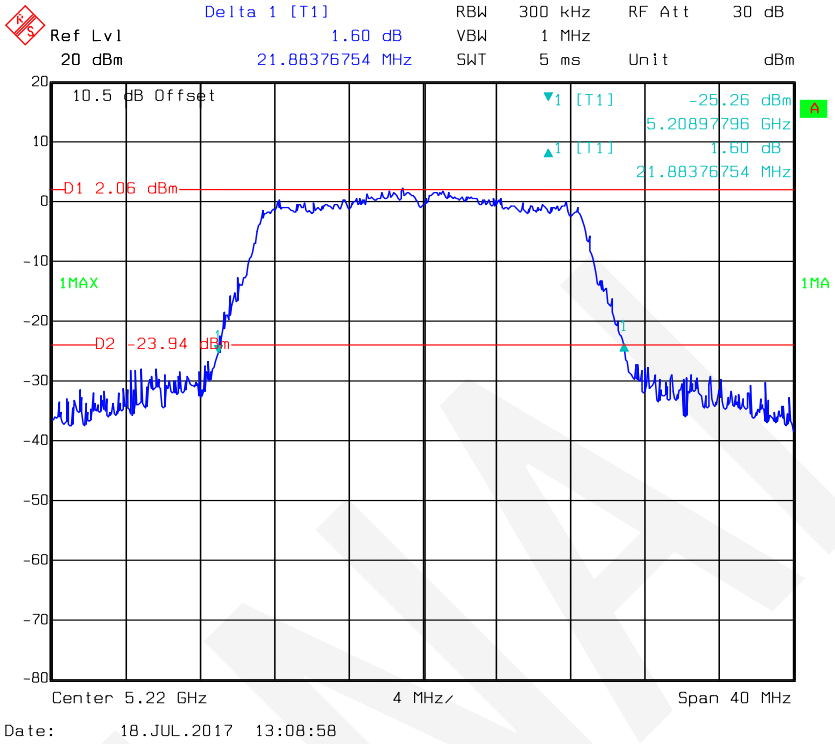
802.11a mode, 26 dB Bandwidth-5240 MHz



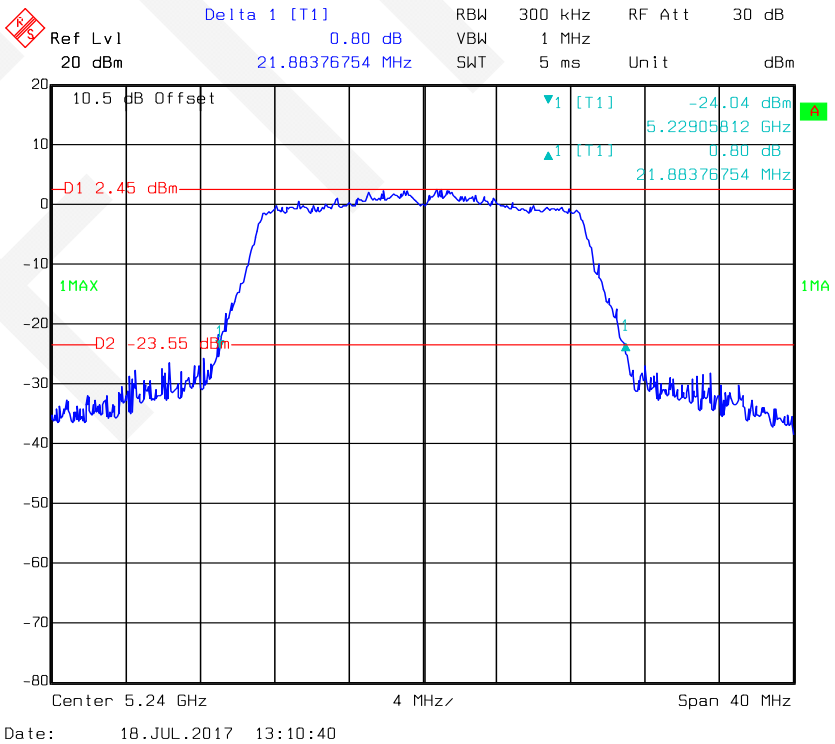
802.11n-HT20 mode, 26 dB Bandwidth-5180 MHz



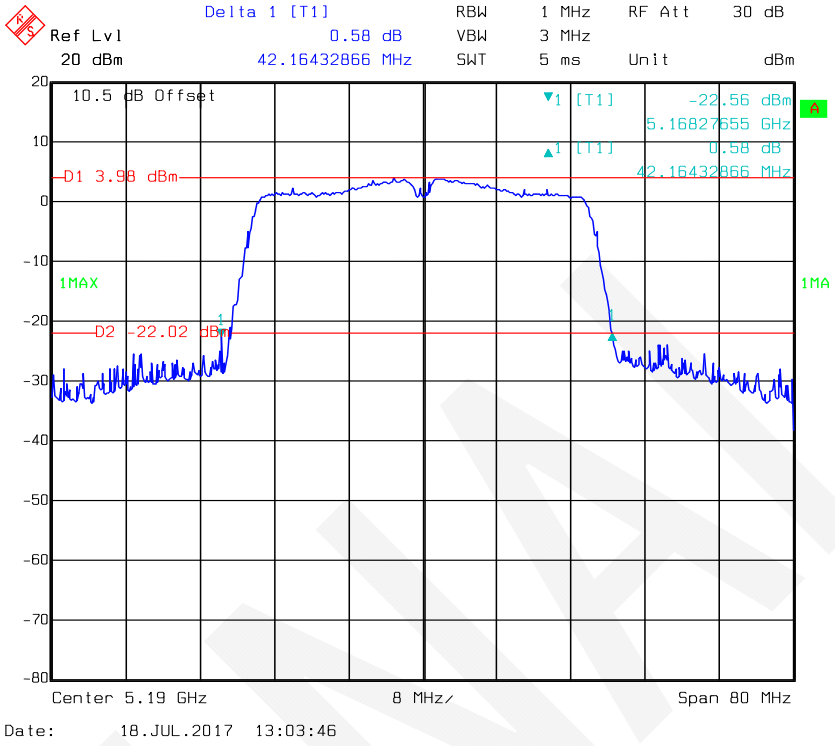
802.11n-HT20 mode, 26 dB Bandwidth-5220 MHz



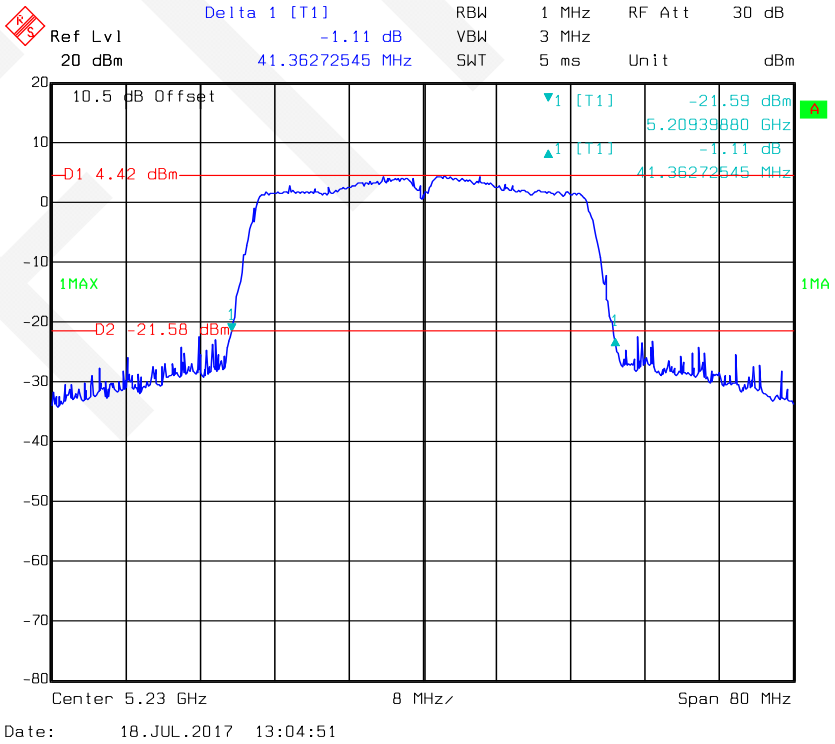
802.11n-HT20 mode, 26 dB Bandwidth-5240 MHz



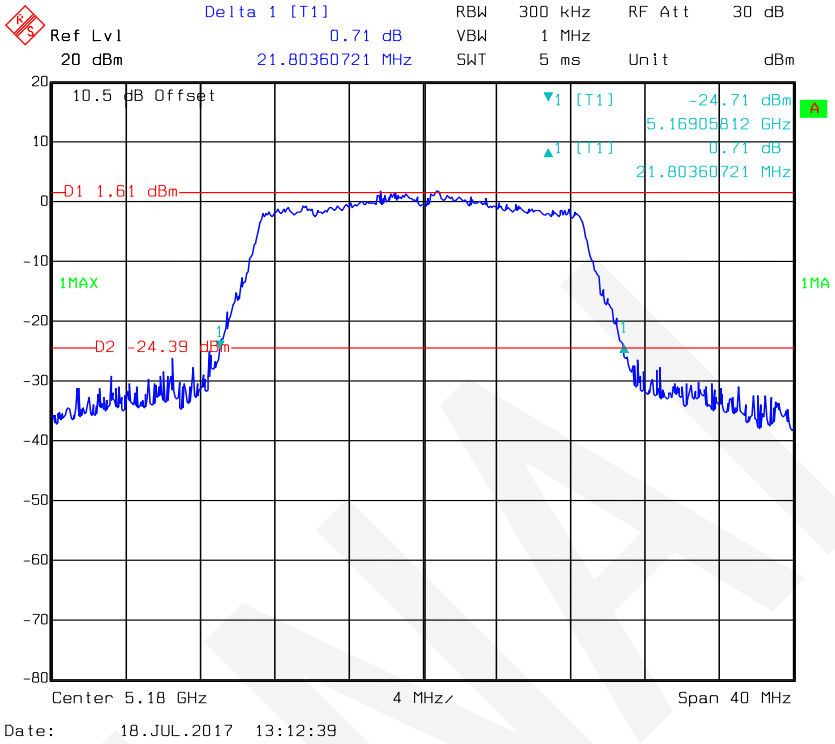
802.11n-HT40 mode, 26 dB Bandwidth-5190 MHz



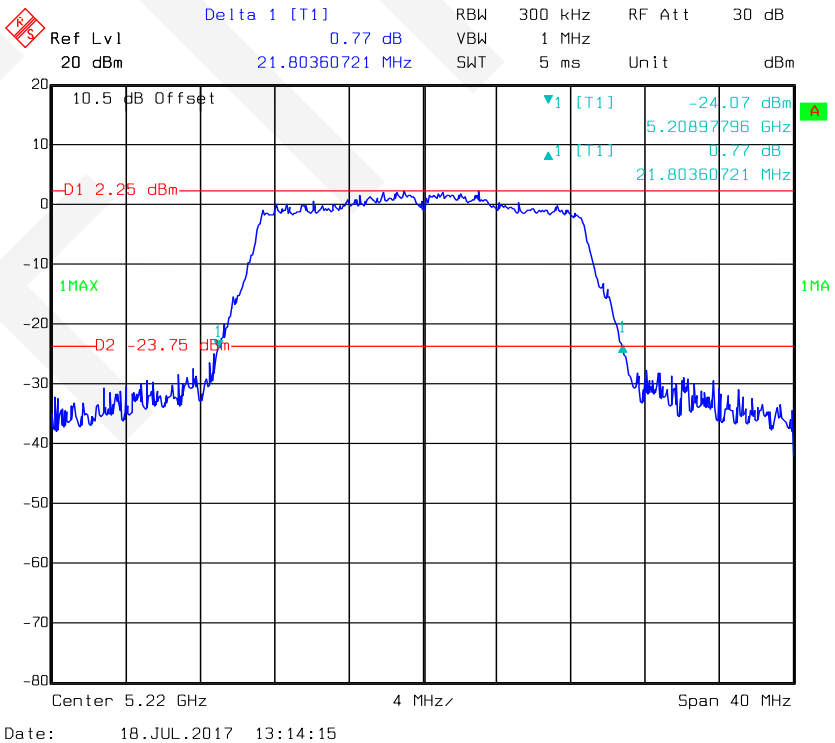
802.11n-HT40 mode, 26 dB Bandwidth-5230 MHz



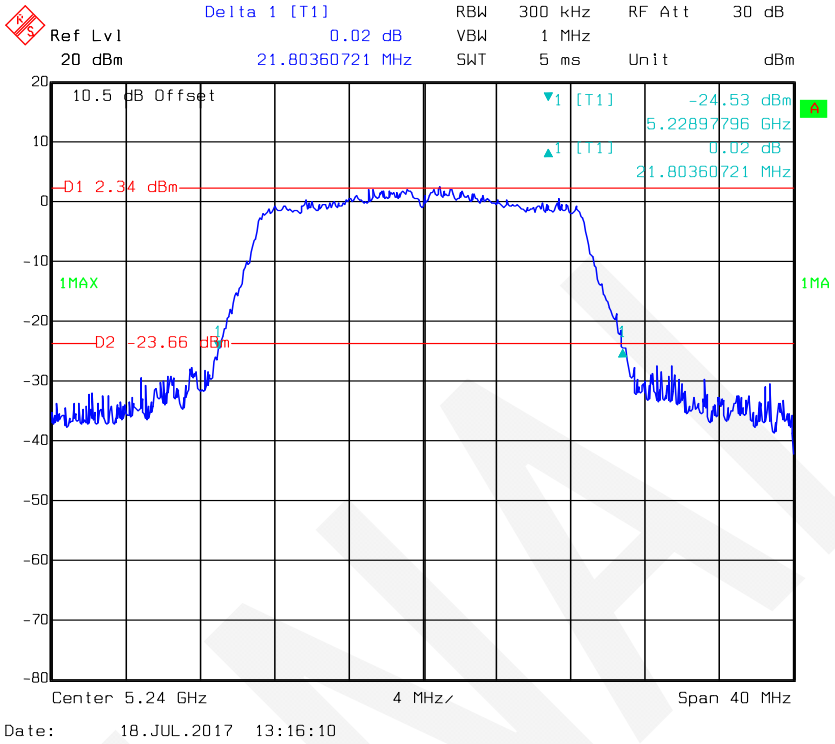
802.11ac20 mode, 26 dB Bandwidth-5180 MHz



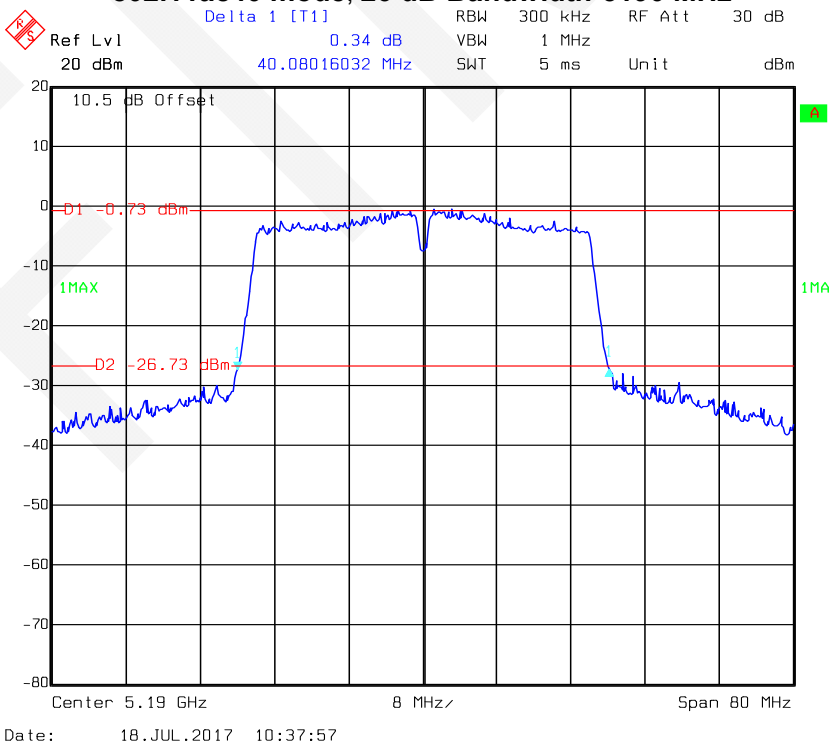
802.11ac20 mode, 26 dB Bandwidth-5220 MHz



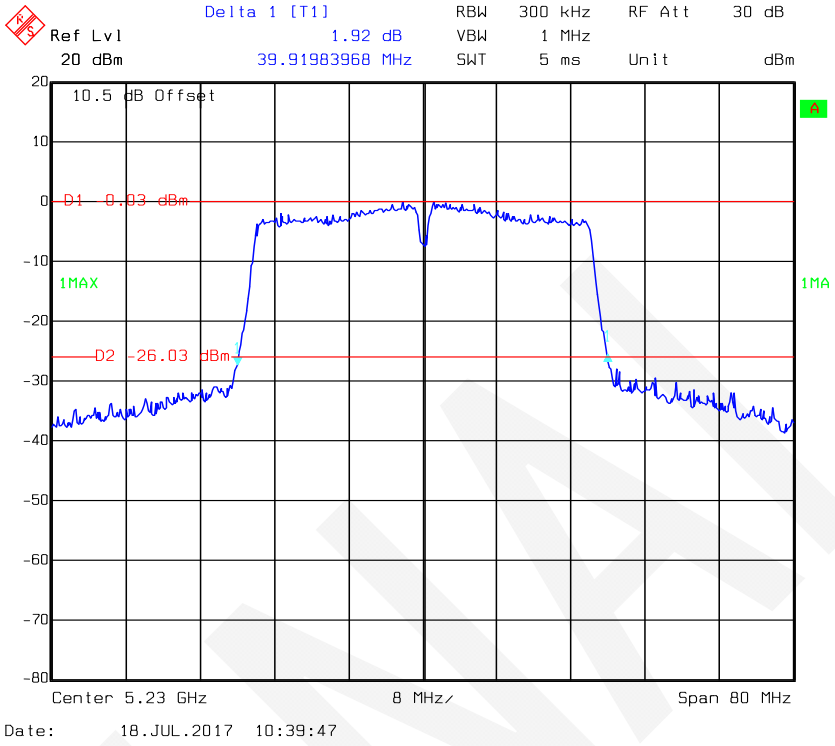
802.11ac20 mode, 26 dB Bandwidth-5240 MHz



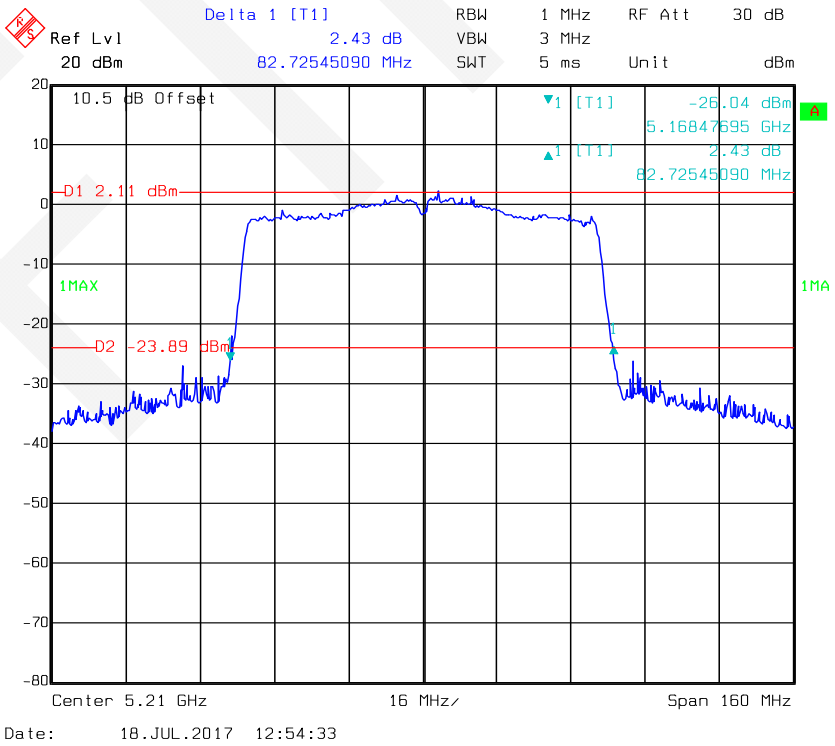
802.11ac40 mode, 26 dB Bandwidth-5190 MHz



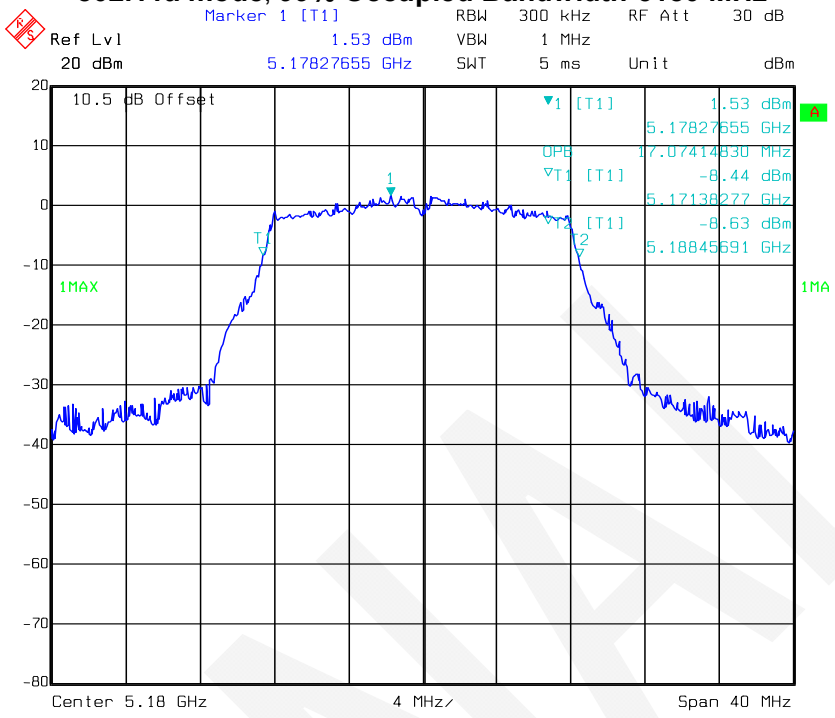
802.11ac40 mode, 26 dB Bandwidth-5230 MHz



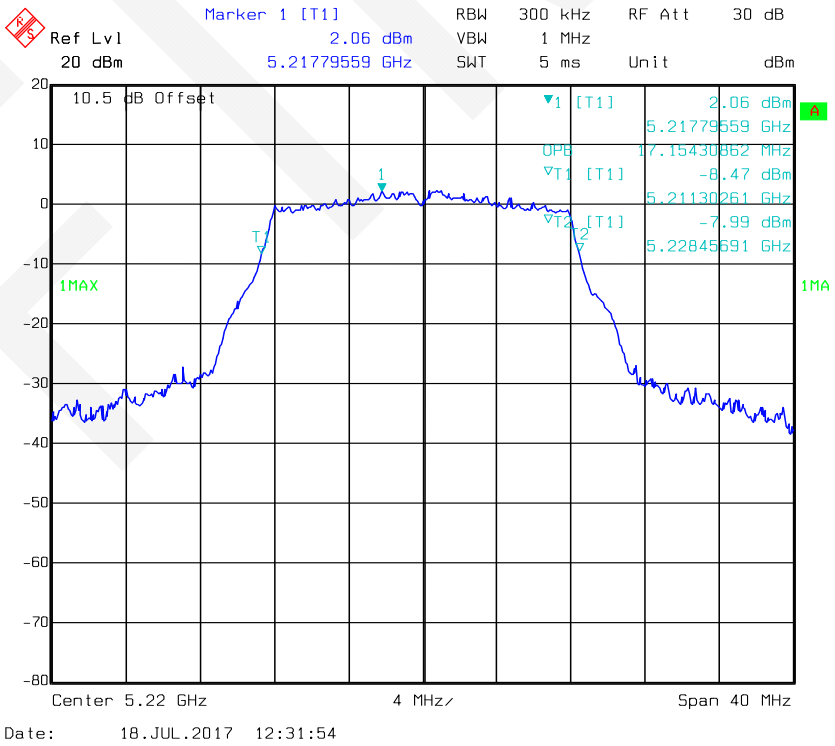
802.11ac80 mode, 26 dB Bandwidth-5210 MHz



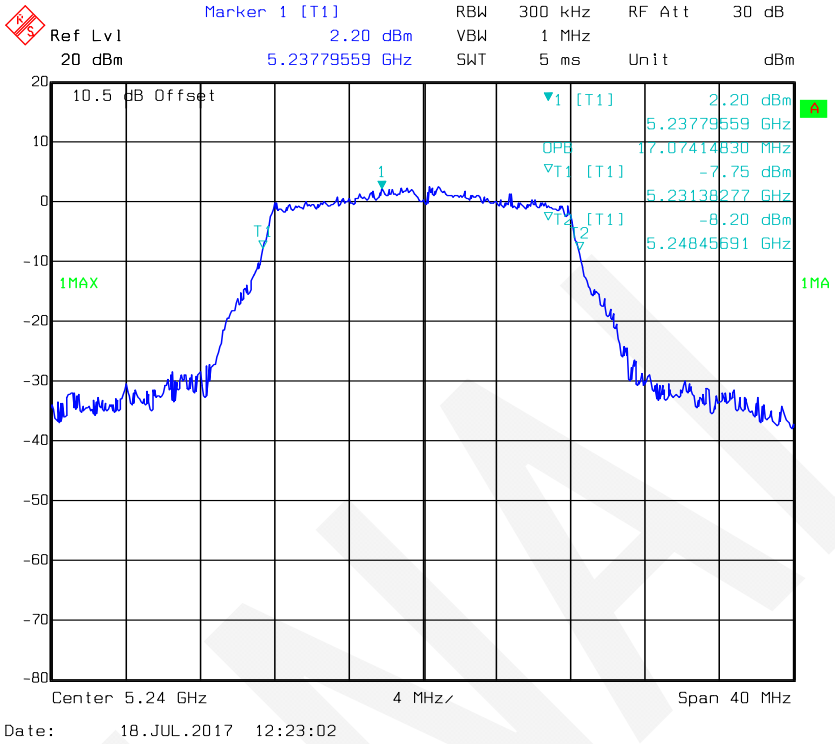
802.11a mode, 99% Occupied Bandwidth-5180 MHz



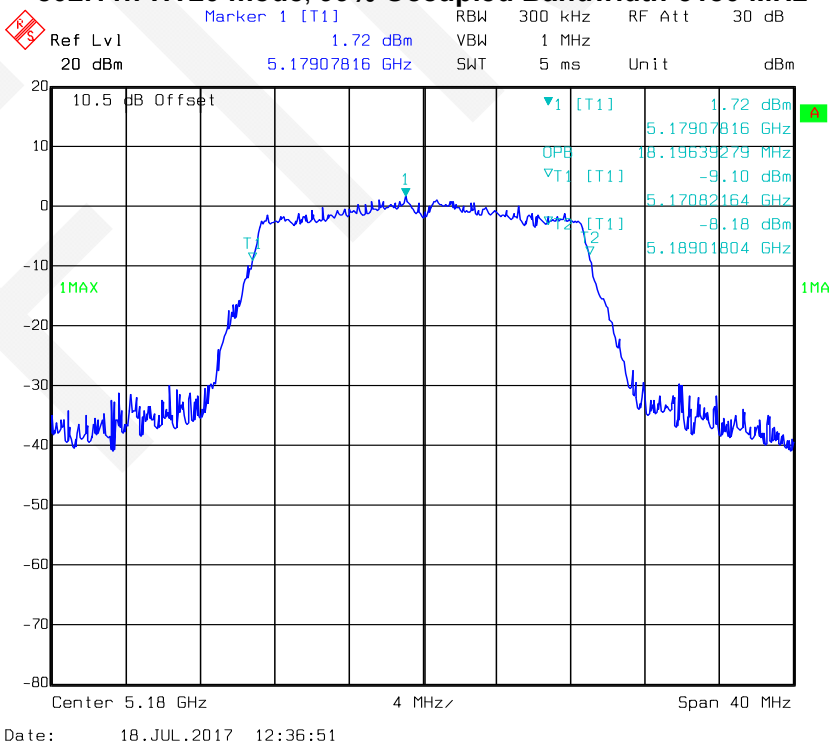
802.11a mode, 99% Occupied Bandwidth -5220 MHz



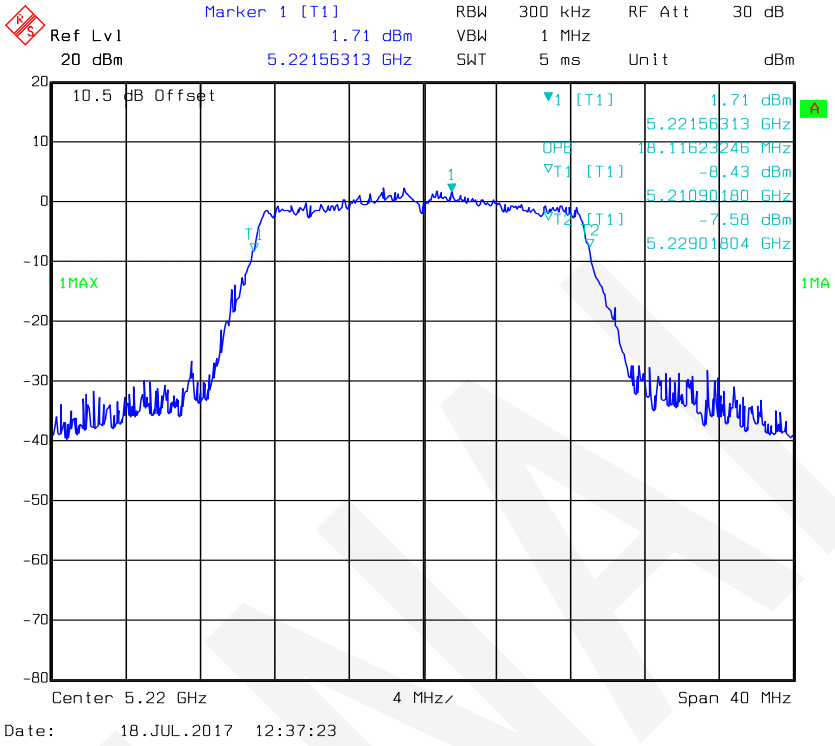
802.11a mode, 99% Occupied Bandwidth -5240 MHz



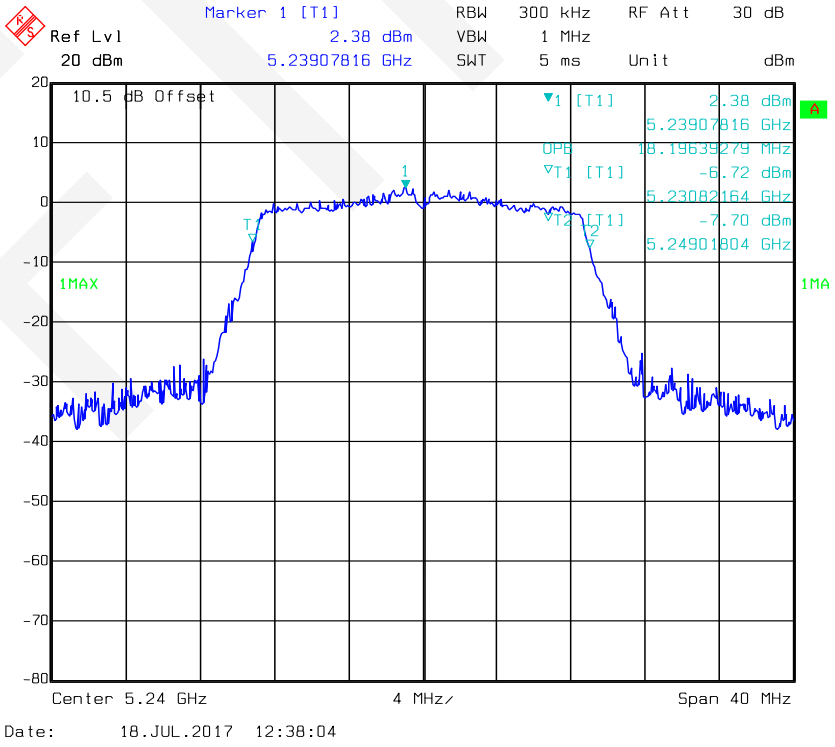
802.11n-HT20 mode, 99% Occupied Bandwidth-5180 MHz



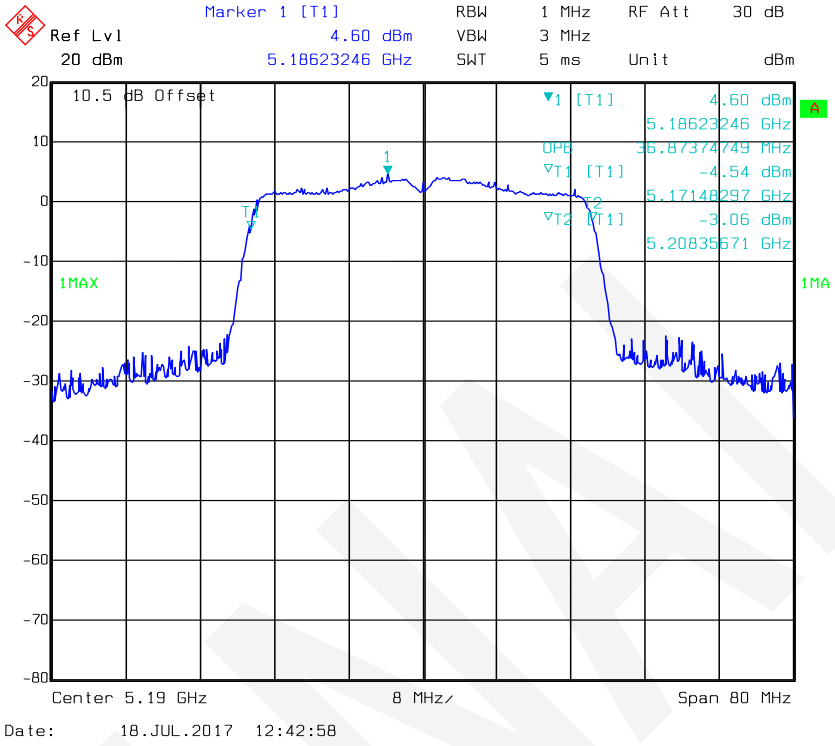
802.11n-HT20 mode, 99% Occupied Bandwidth -5220 MHz



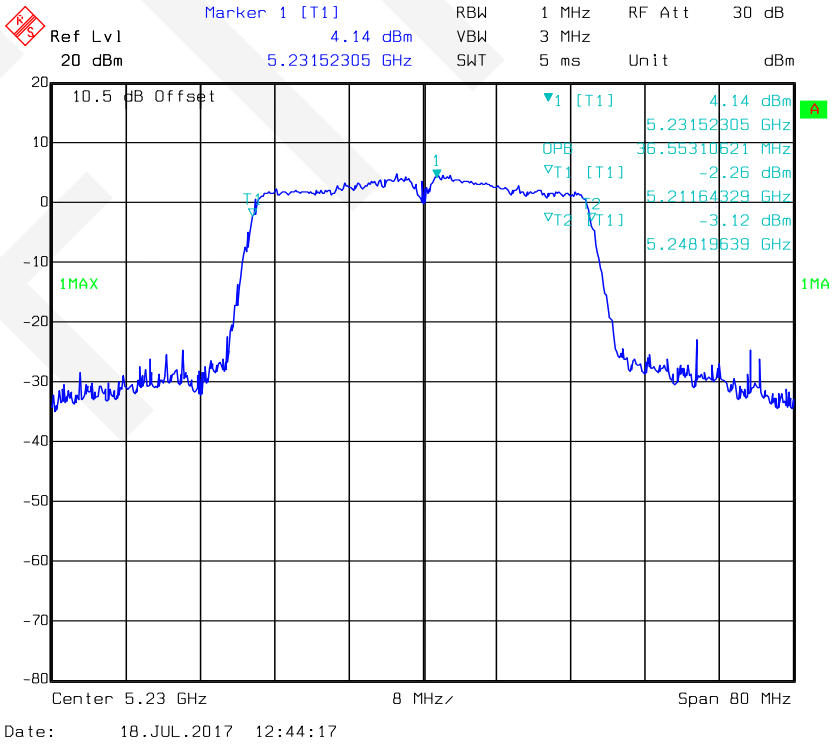
802.11n-HT20 mode, 99% Occupied Bandwidth -5240 MHz



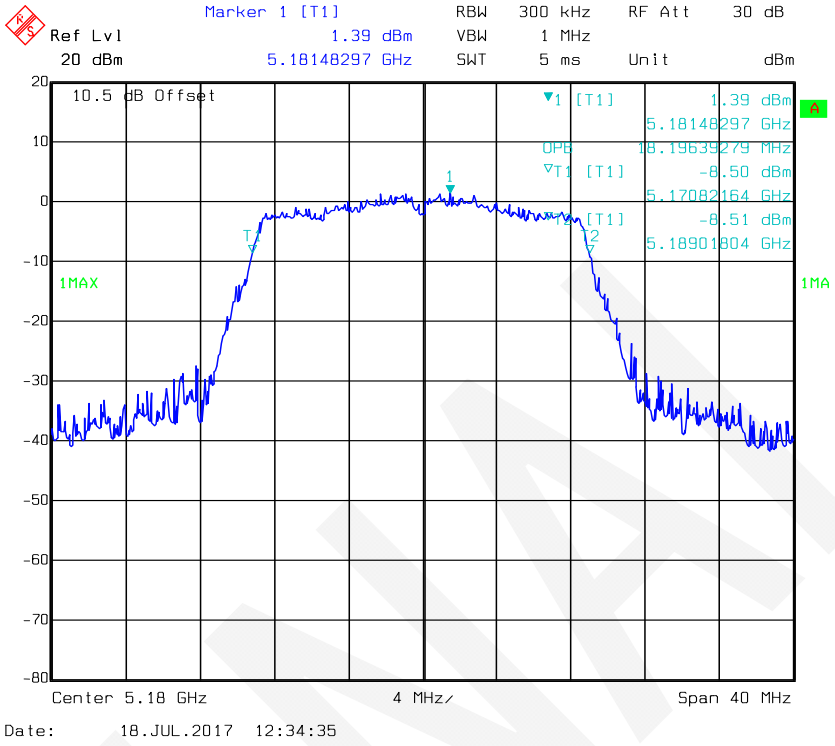
802.11n-HT40 mode, 99% Occupied Bandwidth-5190 MHz



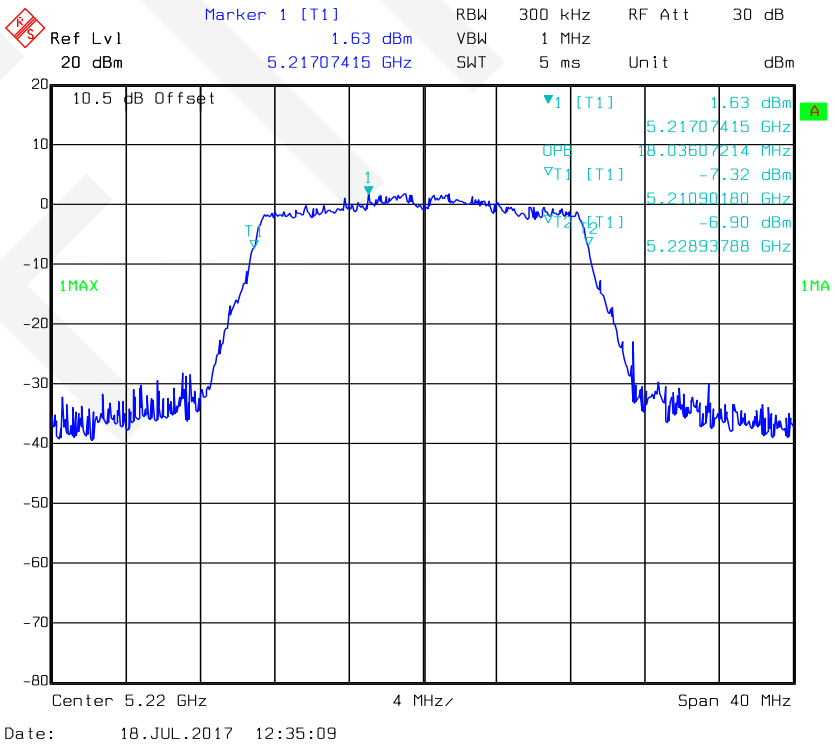
802.11n-HT40 mode, 99% Occupied Bandwidth-5230 MHz



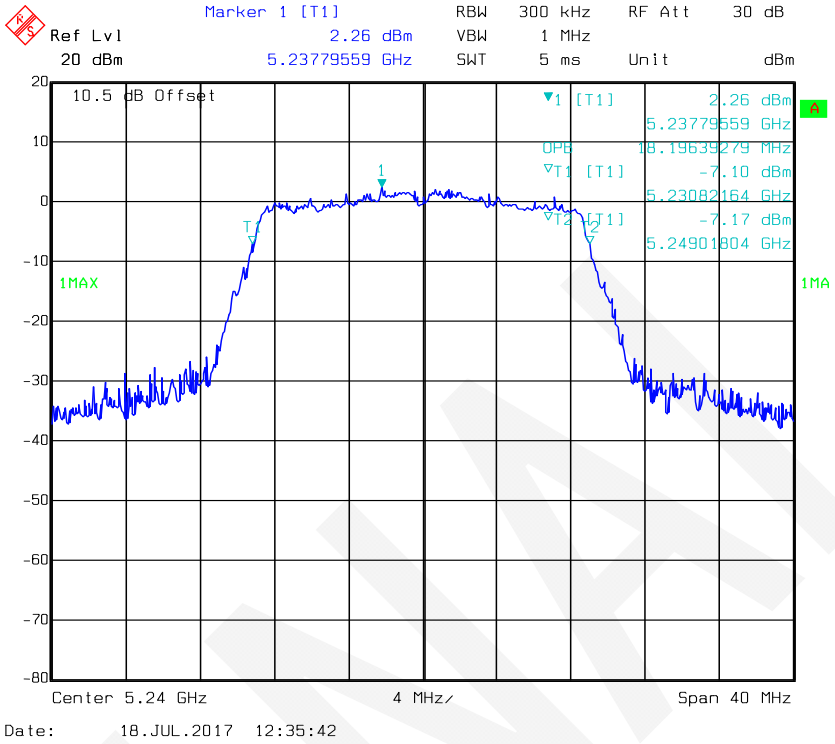
802.11ac20 mode, 99% Occupied Bandwidth-5180 MHz



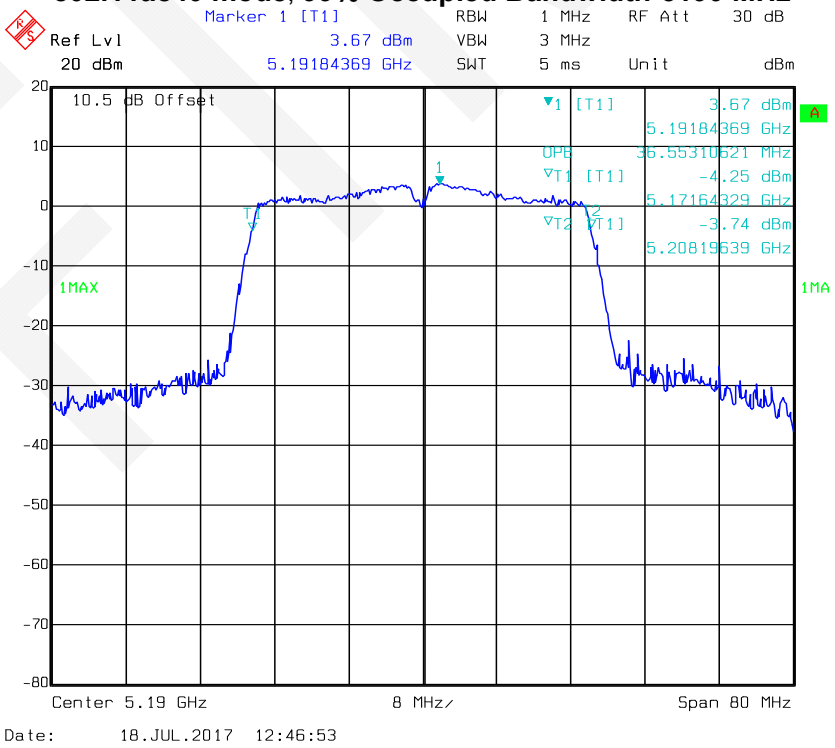
802.11ac20 mode, 99% Occupied Bandwidth-5220 MHz



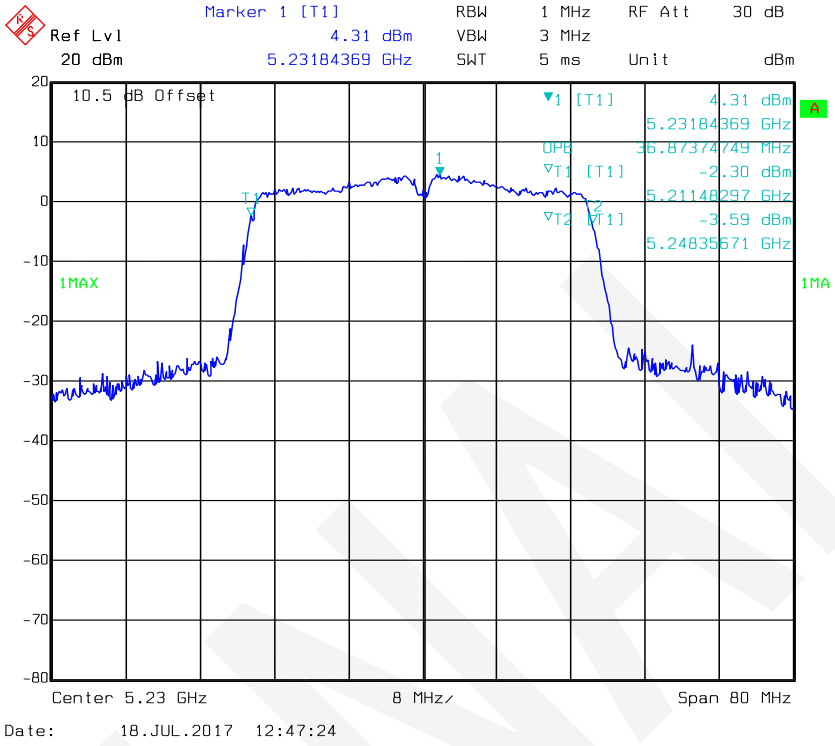
802.11ac20 mode, 99% Occupied Bandwidth-5240 MHz



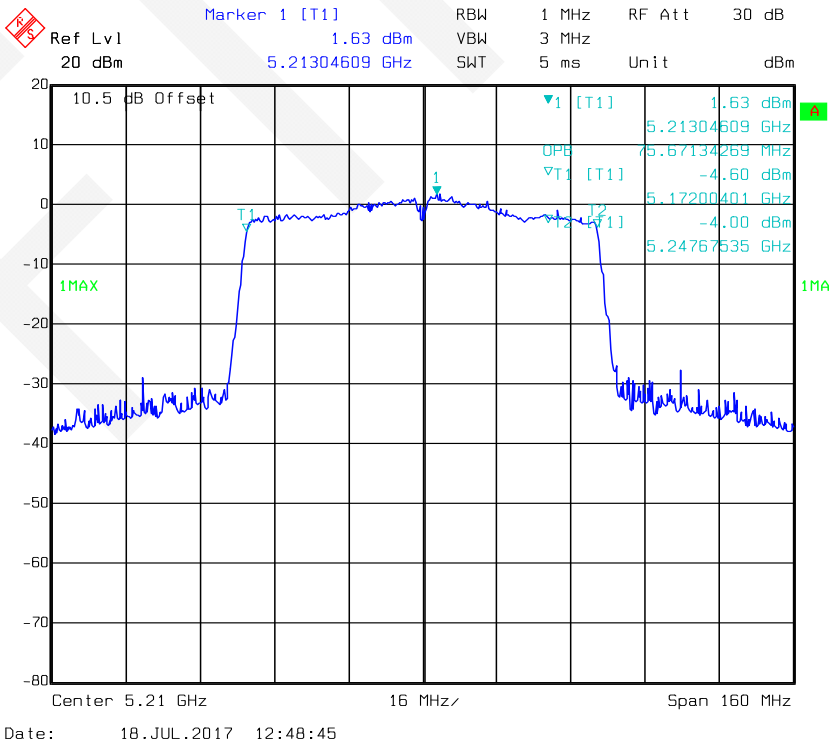
802.11ac40 mode, 99% Occupied Bandwidth-5190 MHz



802.11ac40 mode, 99% Occupied Bandwidth-5230 MHz



802.11ac80 mode, 99% Occupied Bandwidth-5210 MHz

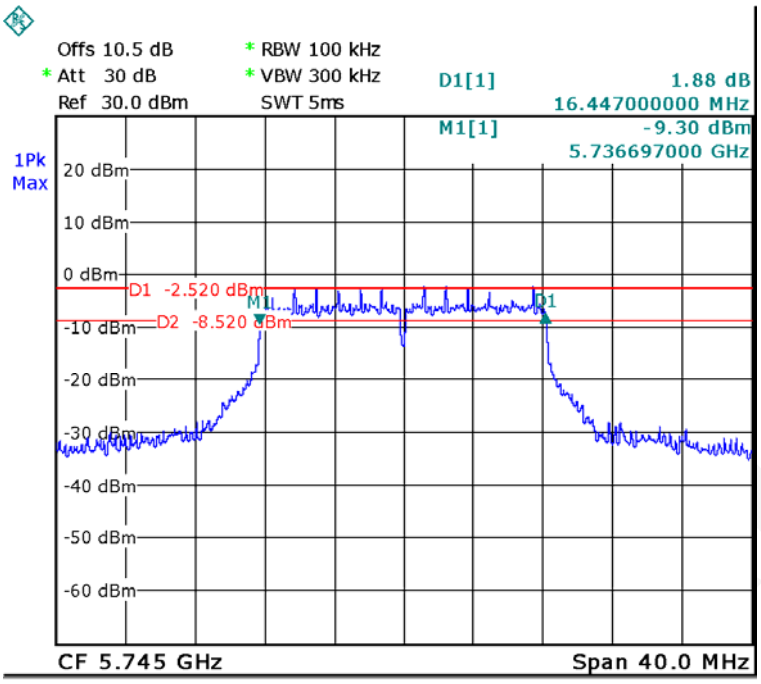


For 5725-5850 MHz:

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	Low	5745	16.44	18.28
	Middle	5785	16.44	18.20
	High	5825	16.44	18.28
802.11n-HT20	Low	5745	17.64	19.16
	Middle	5785	17.72	19.00
	High	5825	17.72	19.08
802.11n-HT40	Low	5755	36.41	38.32
	High	5795	36.41	38.16
802.11ac20	Low	5745	17.72	19.16
	Middle	5785	17.72	19.08
	High	5825	17.72	19.00
802.11ac40	Low	5755	36.41	38.32
	High	5795	36.41	38.16
802.11ac80	-	5775	76.01	77.92

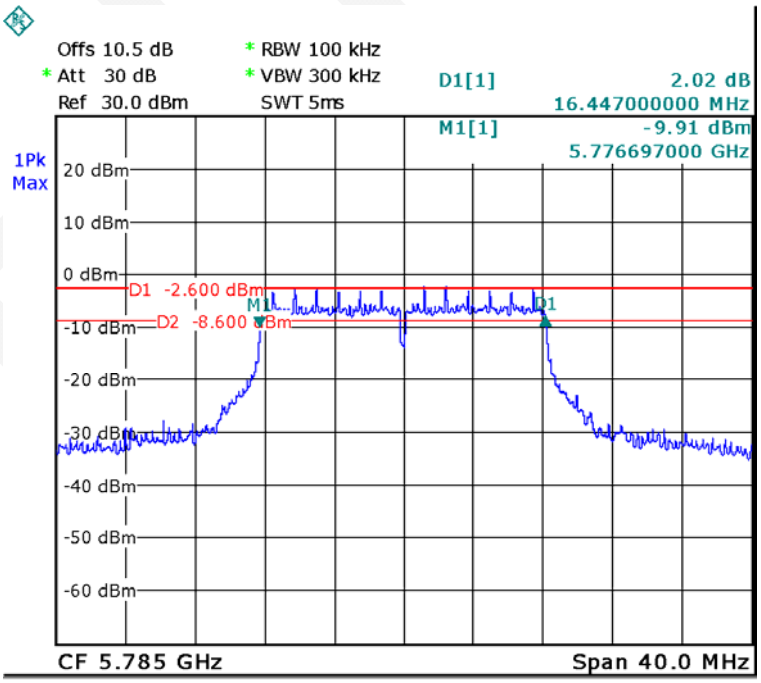
Note: the 99% Occupied Bandwidth doesn't extend U-NII-2C band 5470-5725MHz.

802.11a mode, 6 dB Bandwidth-5745 MHz



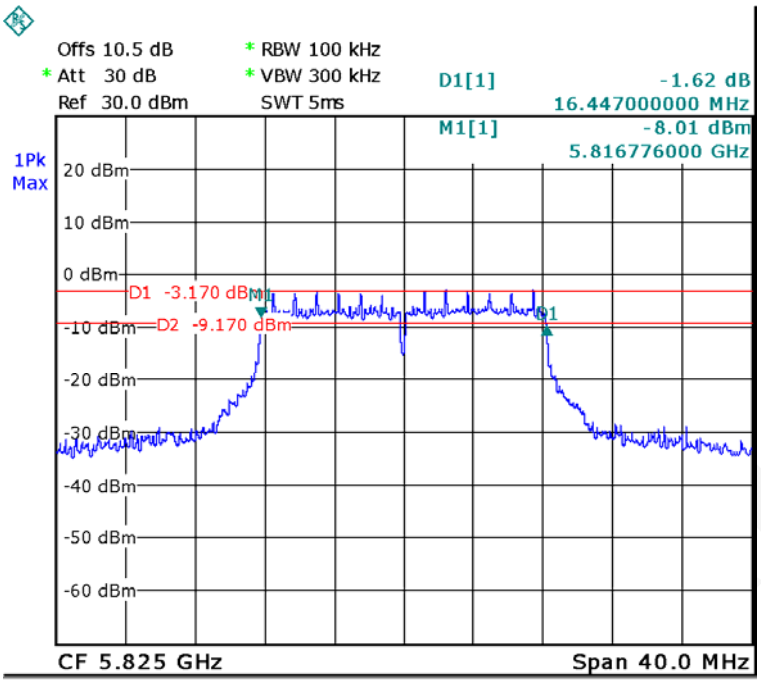
Date: 1.JUL.2017 11:38:08

802.11a mode, 6 dB Bandwidth-5785 MHz



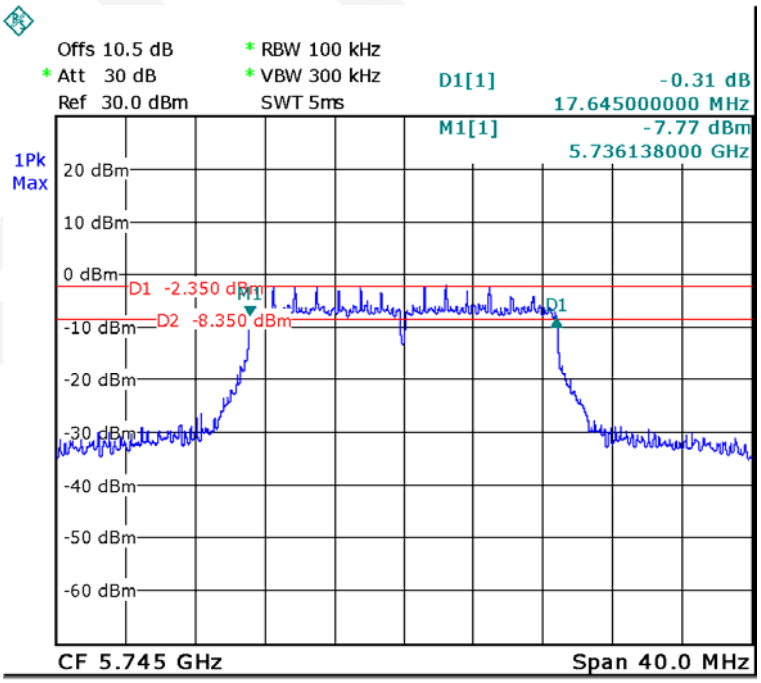
Date: 1.JUL.2017 11:39:11

802.11a mode, 6 dB Bandwidth-5825 MHz



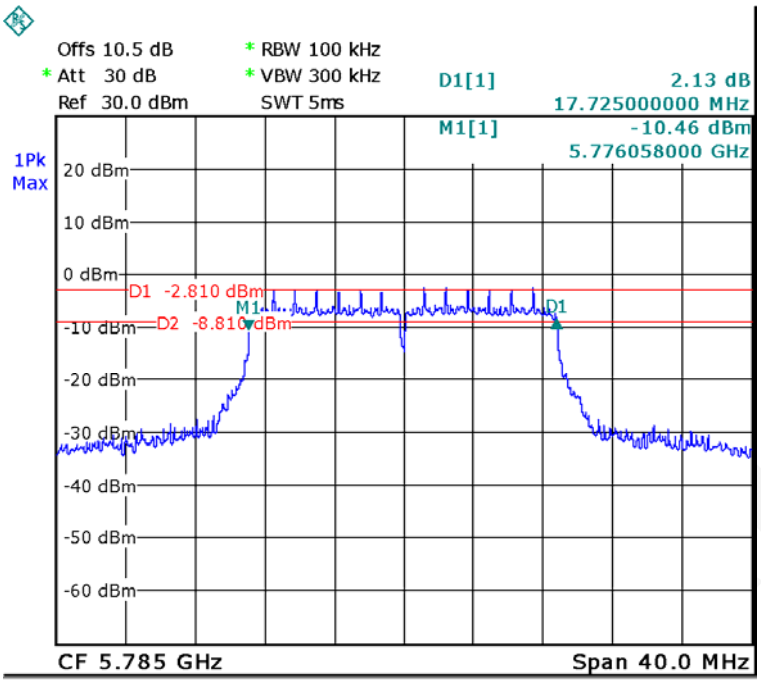
Date: 1.JUL.2017 11:40:35

802.11n-HT20 mode, 6 dB Bandwidth-5745 MHz



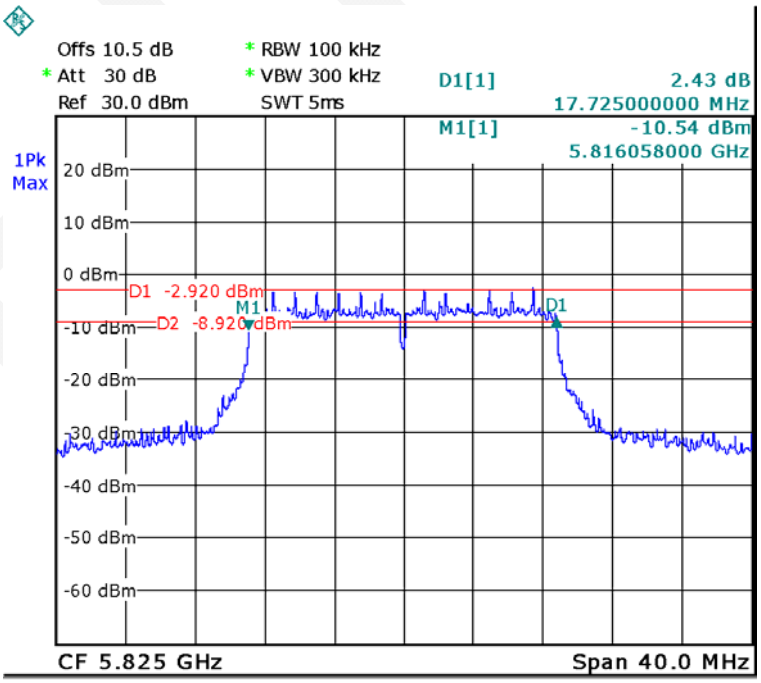
Date: 1.JUL.2017 11:41:44

802.11n-HT20 mode, 6 dB Bandwidth-5785 MHz



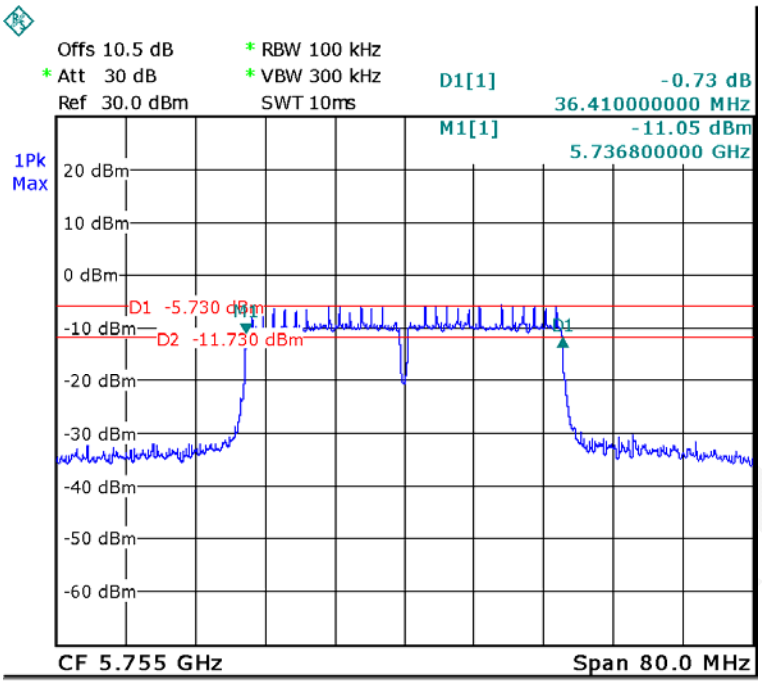
Date: 1.JUL.2017 11:42:42

802.11n-HT20 mode, 6 dB Bandwidth-5825 MHz



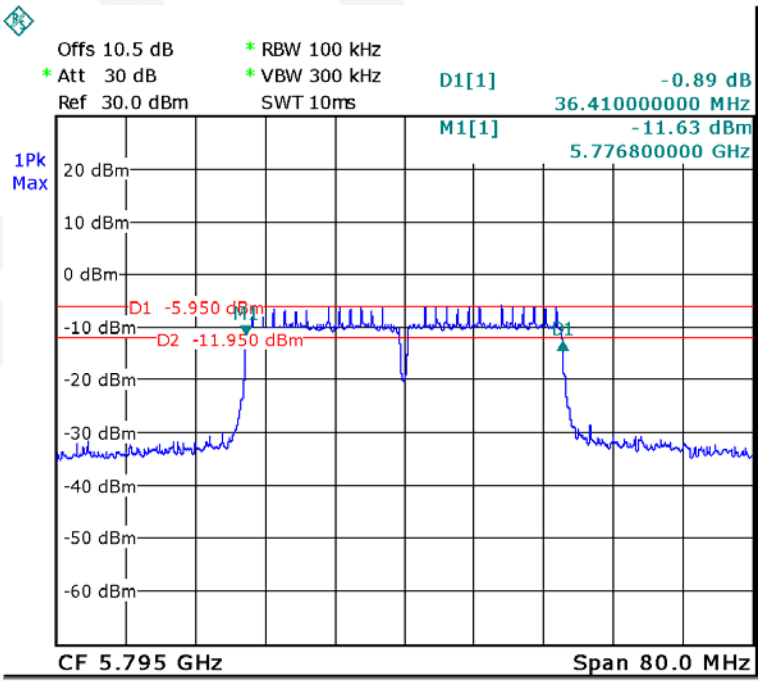
Date: 1.JUL.2017 11:43:50

802.11n-HT40 mode, 6 dB Bandwidth-5755 MHz



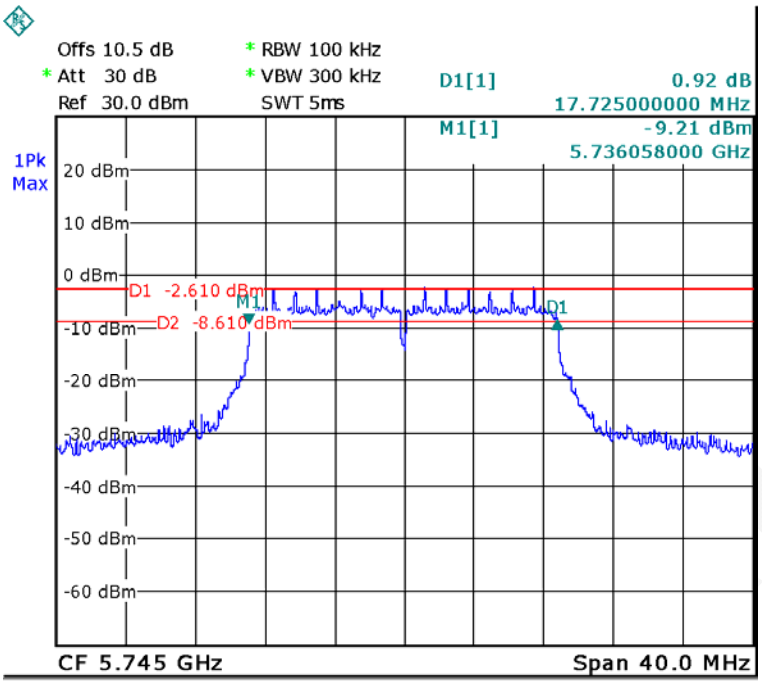
Date: 1.JUL.2017 11:34:57

802.11n-HT40 mode, 6 dB Bandwidth-5795 MHz



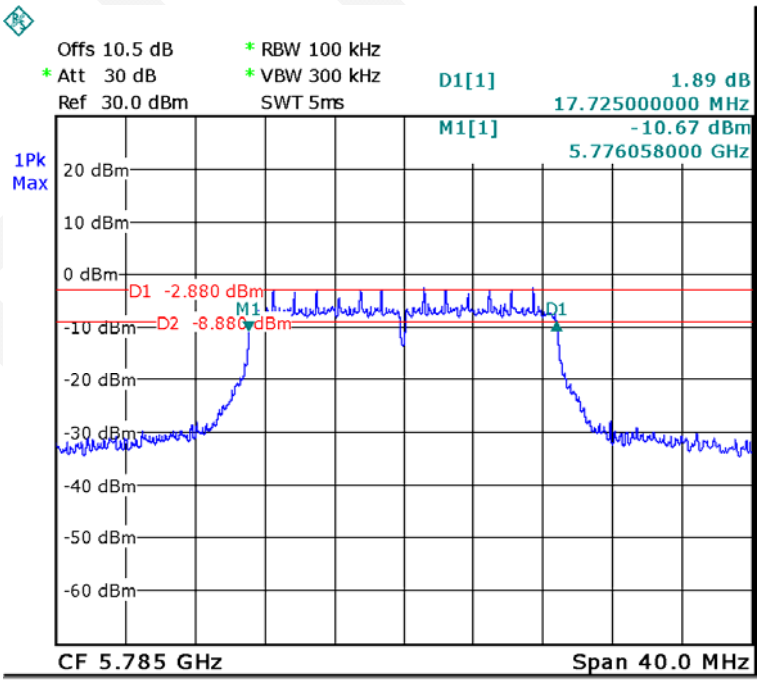
Date: 1.JUL.2017 11:36:54

802.11ac20 mode, 6 dB Bandwidth-5745 MHz



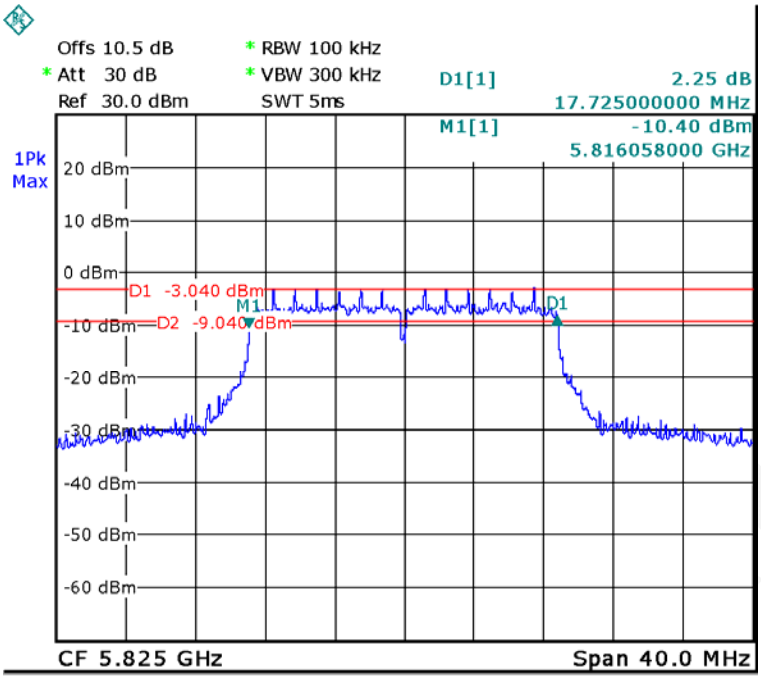
Date: 1.JUL.2017 11:45:01

802.11ac20 mode, 6 dB Bandwidth-5785 MHz



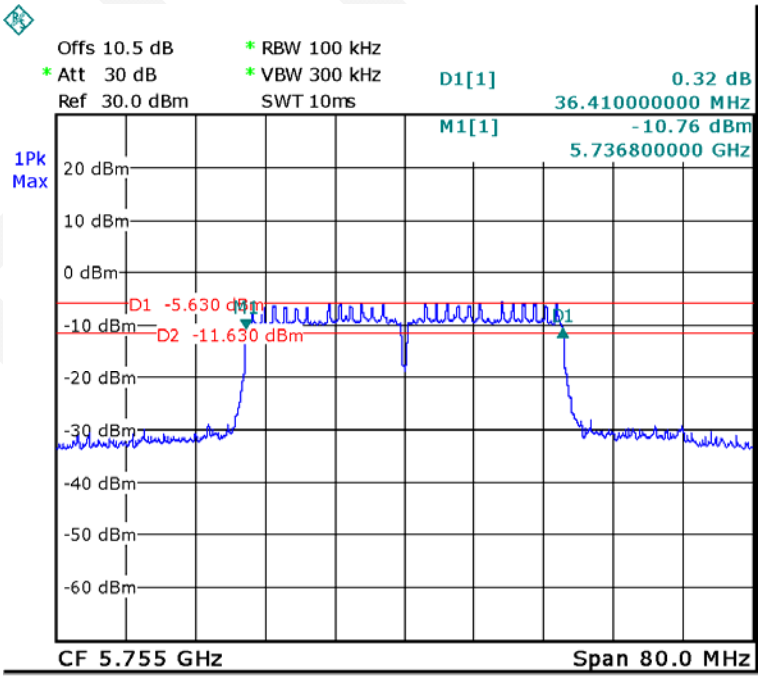
Date: 1.JUL.2017 11:45:55

802.11ac20 mode, 6 dB Bandwidth-5825 MHz



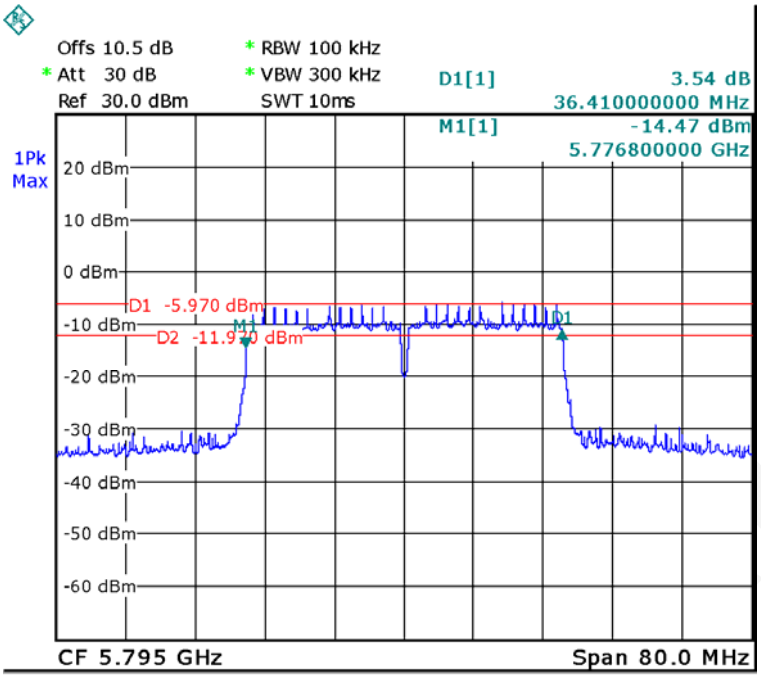
Date: 1.JUL.2017 11:46:51

802.11ac40 mode, 6 dB Bandwidth-5755 MHz



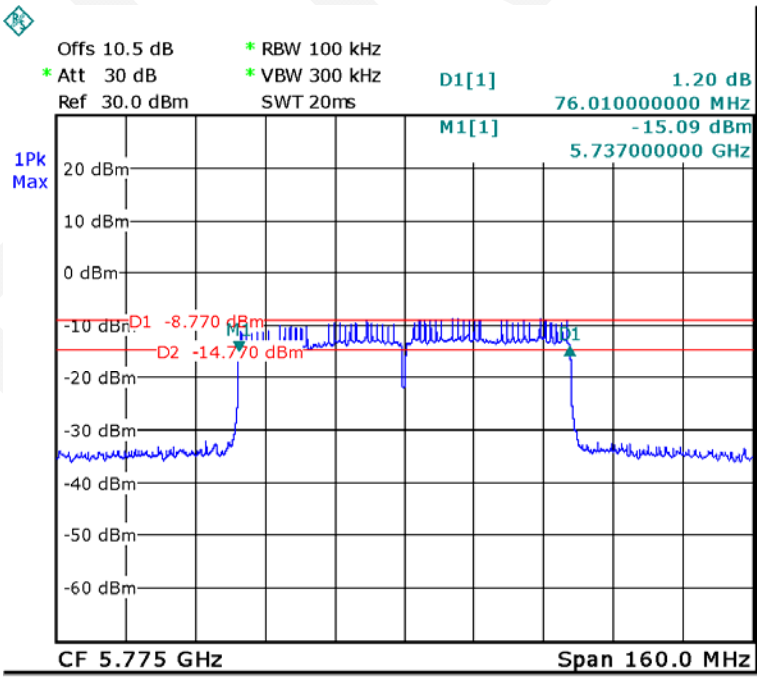
Date: 1.JUL.2017 11:16:31

802.11ac40 mode, 6 dB Bandwidth-5795 MHz



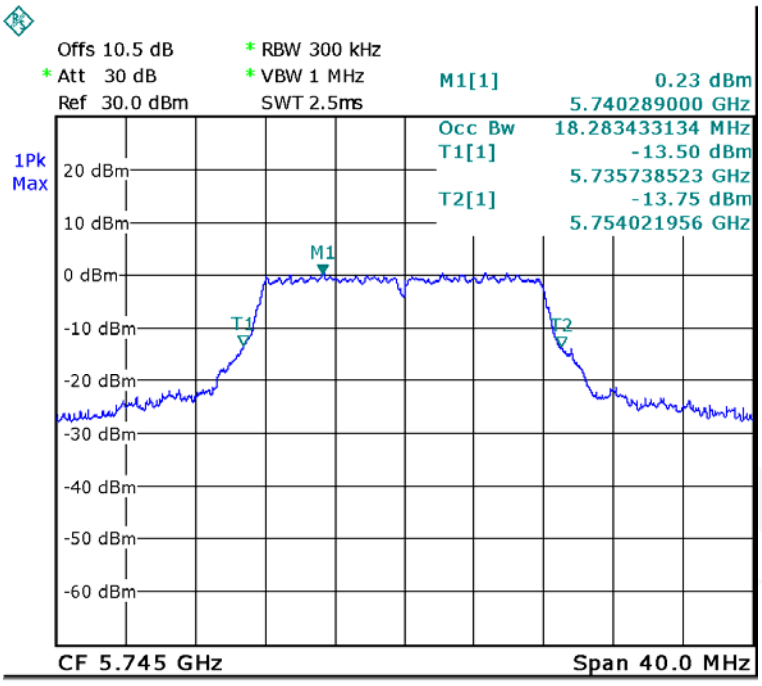
Date: 1.JUL.2017 11:33:45

802.11ac80 mode, 6 dB Bandwidth-5775 MHz



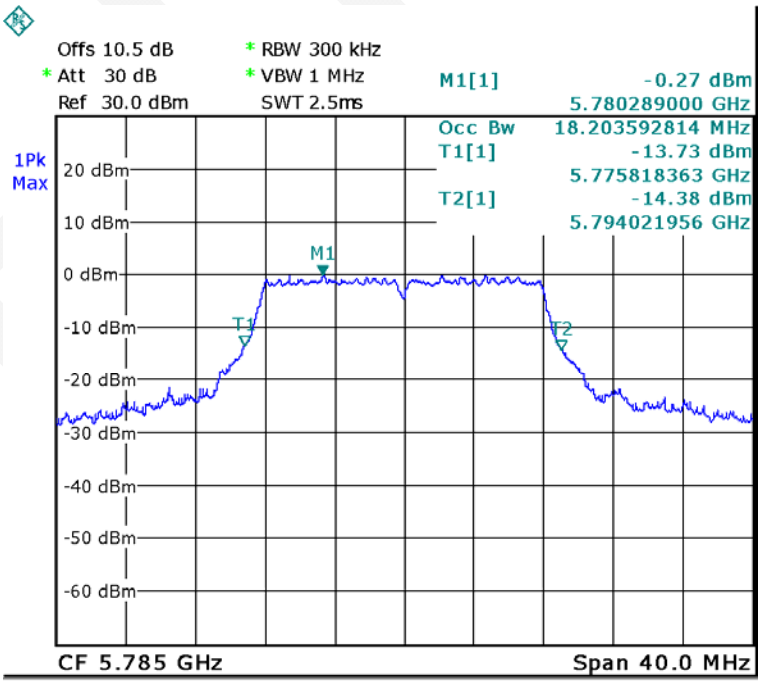
Date: 1.JUL.2017 11:09:27

802.11a mode, 99% Occupied Bandwidth-5745 MHz



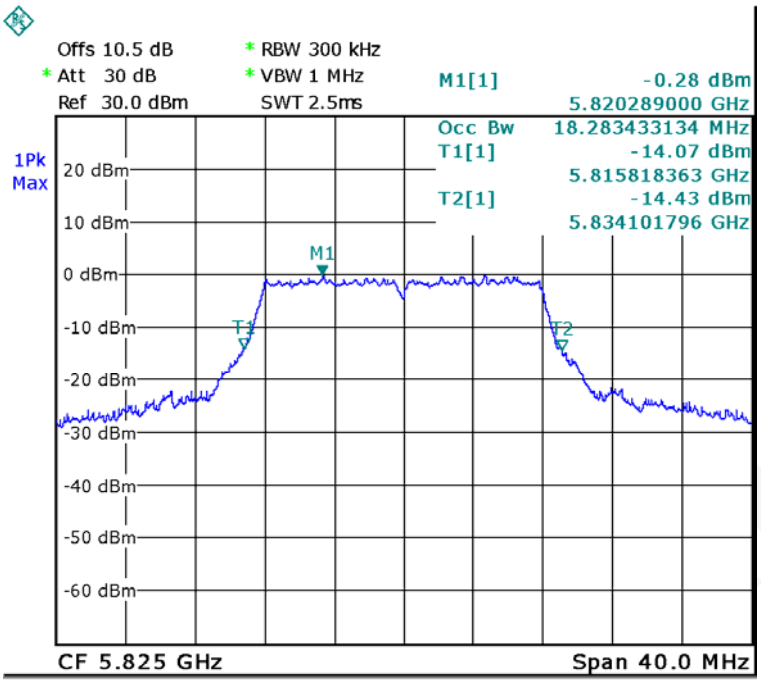
Date: 1.JUL.2017 11:01:17

802.11a mode, 99% Occupied Bandwidth -5785 MHz



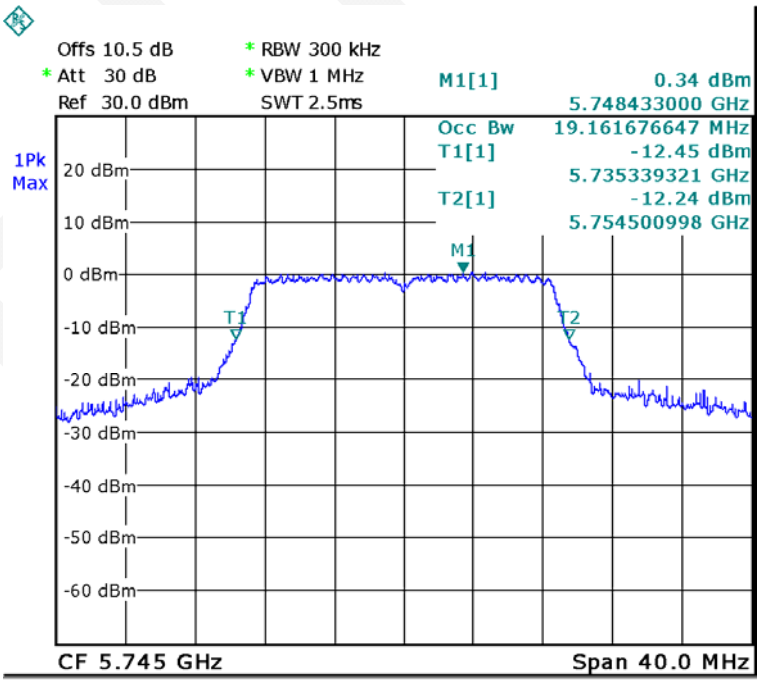
Date: 1.JUL.2017 11:01:46

802.11a mode, 99% Occupied Bandwidth -5825 MHz



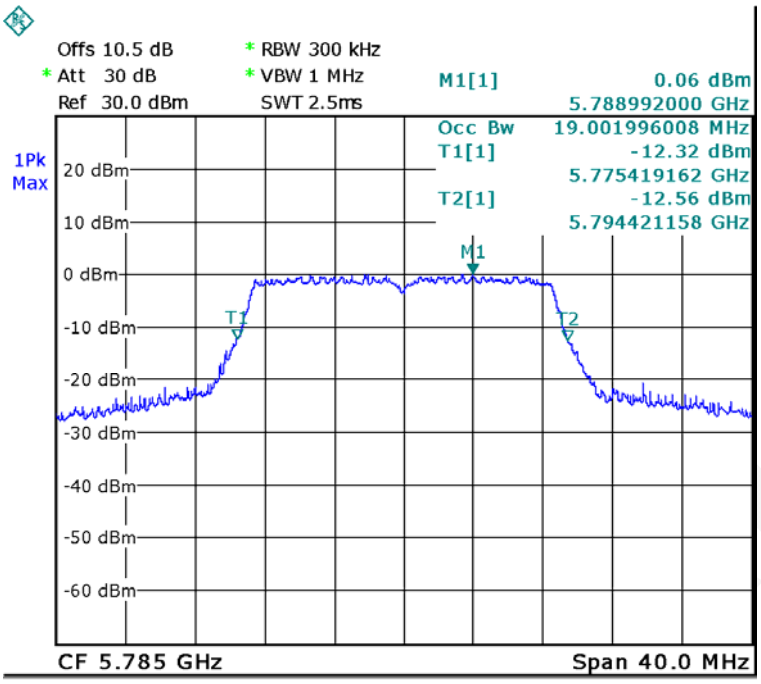
Date: 1.JUL.2017 11:02:11

802.11n-HT20 mode, 99% Occupied Bandwidth-5745 MHz



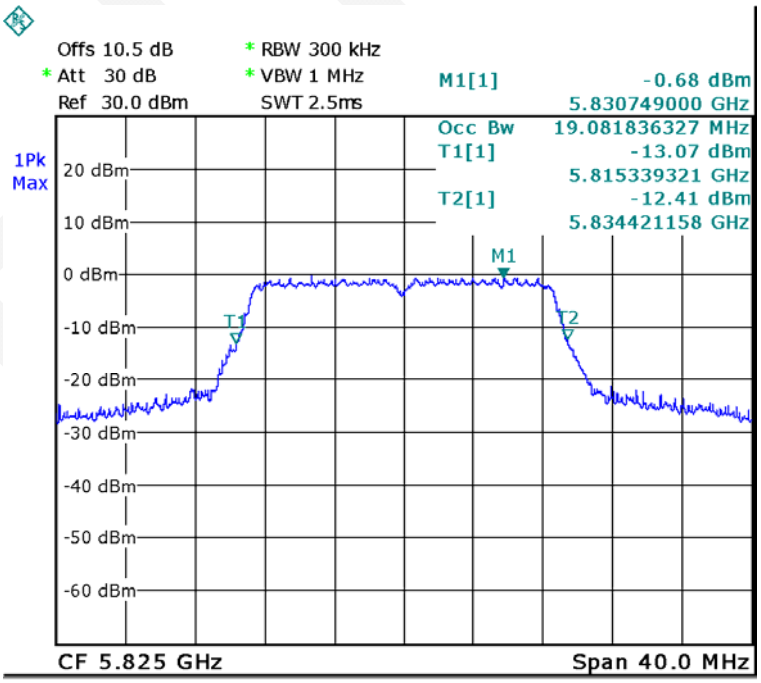
Date: 1.JUL.2017 11:02:52

802.11n-HT20 mode, 99% Occupied Bandwidth-5785 MHz



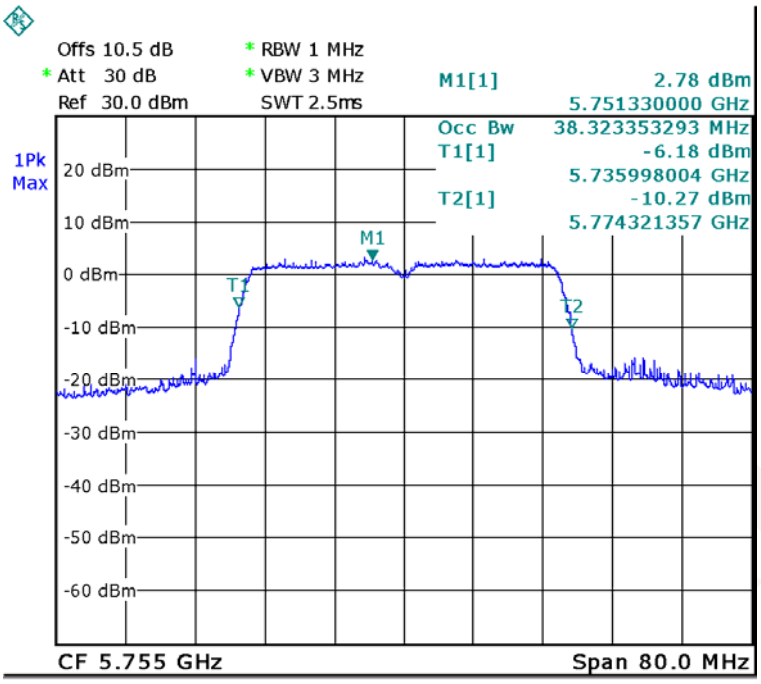
Date: 1.JUL.2017 11:03:26

802.11n-HT20 mode, 99% Occupied Bandwidth-5825 MHz



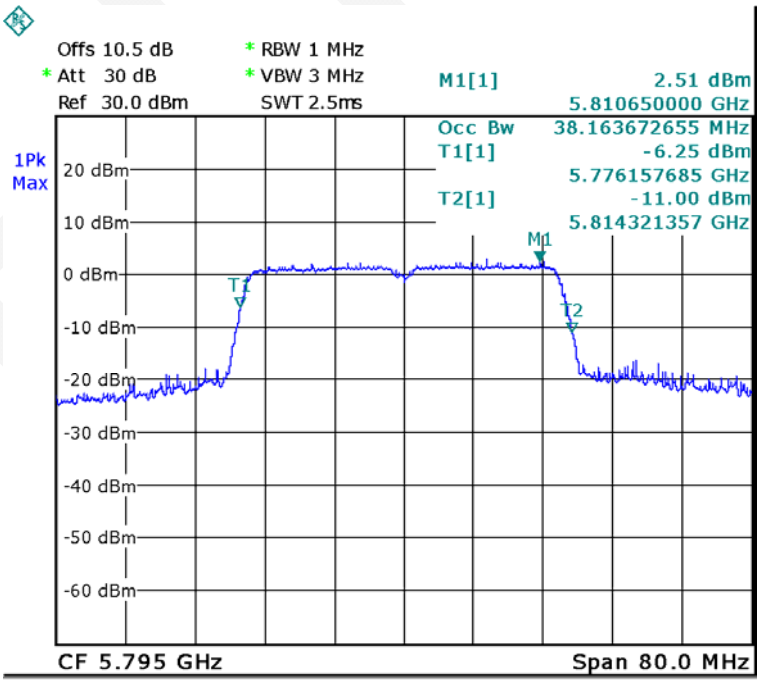
Date: 1.JUL.2017 11:03:53

802.11n-HT40 mode, 99% Occupied Bandwidth-5755 MHz



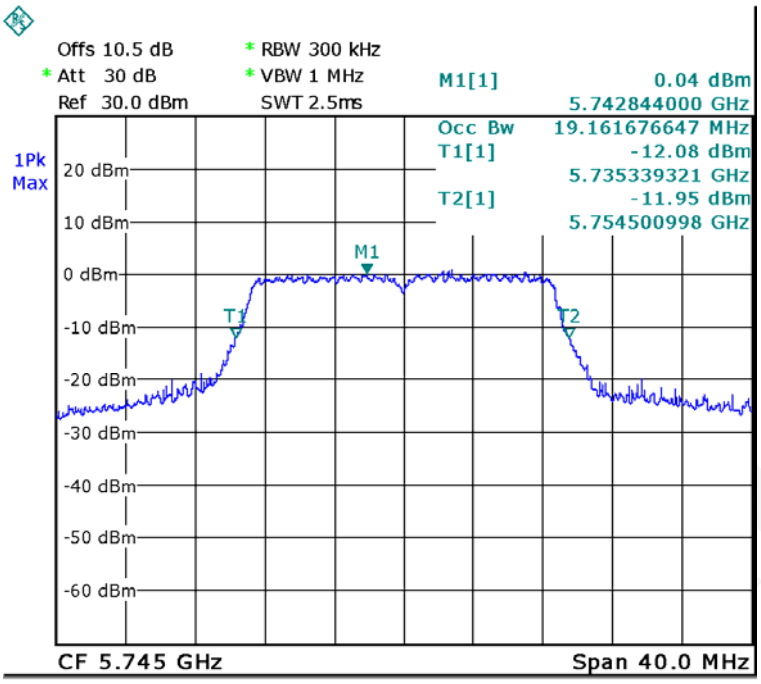
Date: 1.JUL.2017 11:07:10

802.11n-HT40 mode, 99% Occupied Bandwidth-5795 MHz



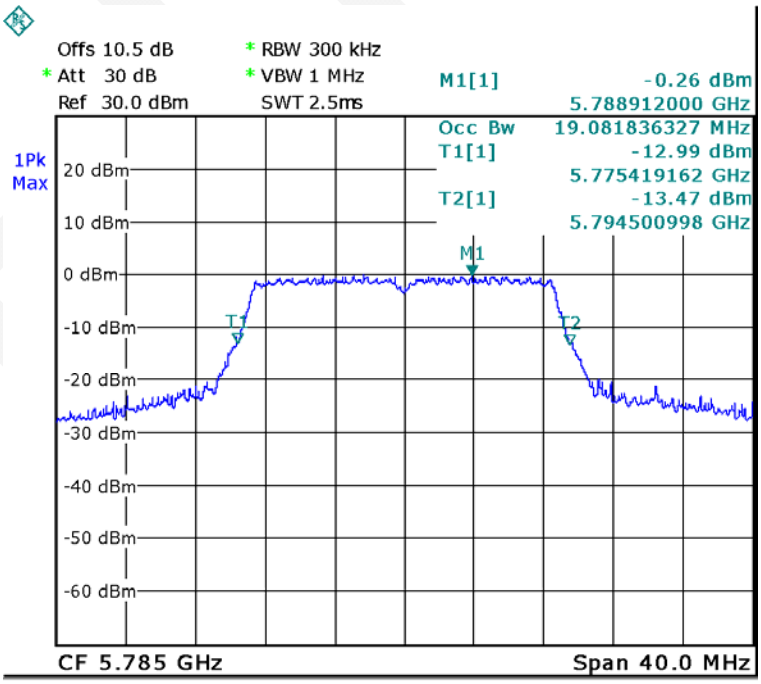
Date: 1.JUL.2017 11:07:32

802.11ac20 mode, 99% Occupied Bandwidth-5745 MHz



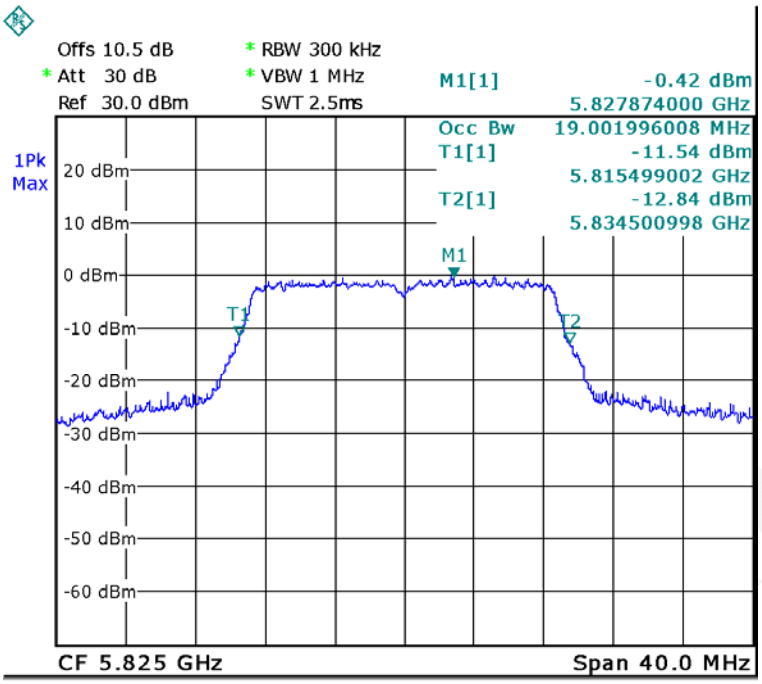
Date: 1.JUL.2017 11:04:34

802.11ac20 mode, 99% Occupied Bandwidth-5785 MHz



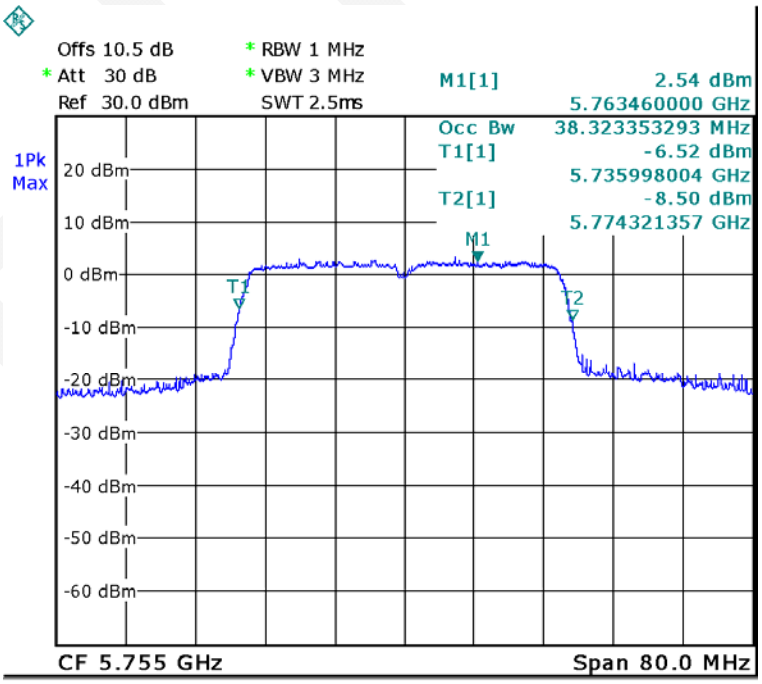
Date: 1.JUL.2017 11:05:01

802.11ac20 mode, 99% Occupied Bandwidth-5825 MHz



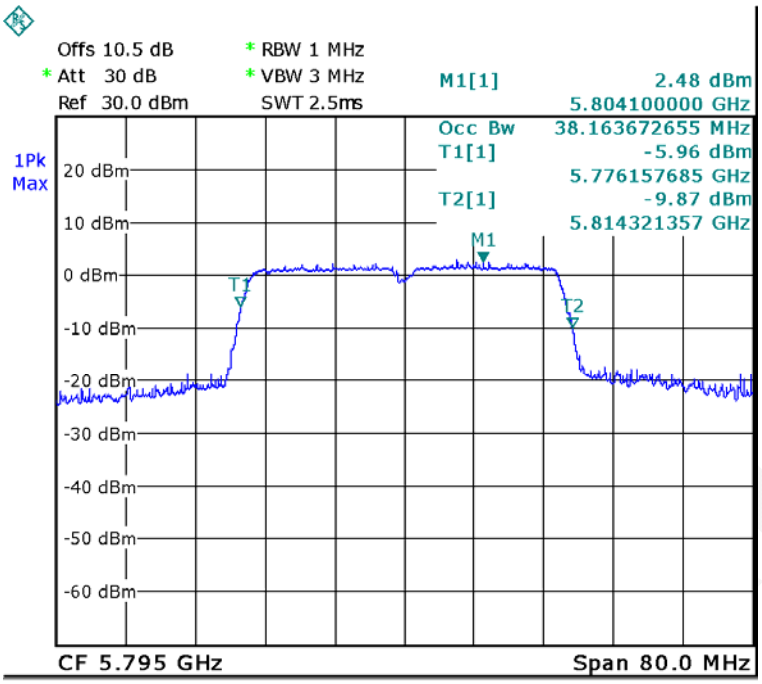
Date: 1.JUL.2017 11:05:26

802.11ac40 mode, 99% Occupied Bandwidth-5755 MHz



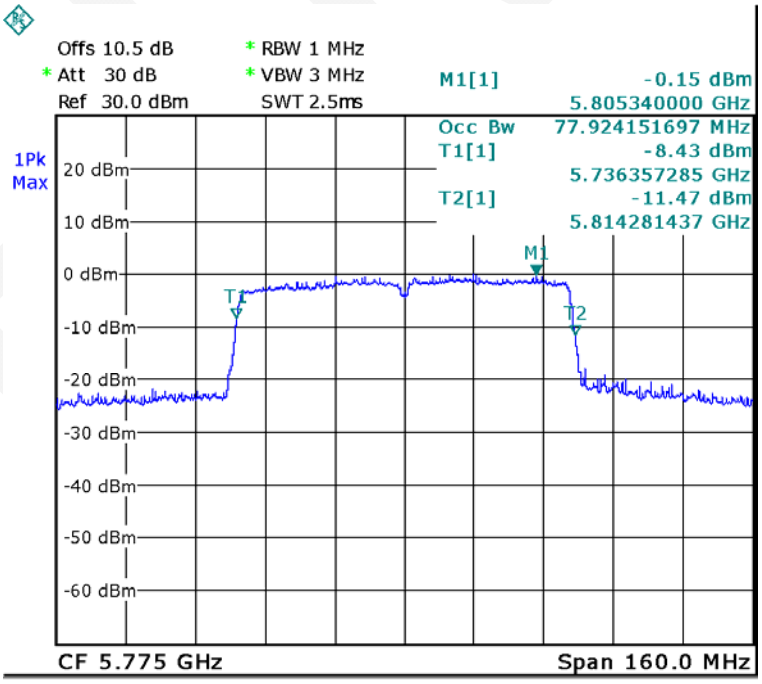
Date: 1.JUL.2017 11:06:09

802.11ac40 mode, 99% Occupied Bandwidth-5795 MHz



Date: 1.JUL.2017 11:06:35

802.11ac80 mode, 99% Occupied Bandwidth-5775 MHz



Date: 1.JUL.2017 11:08:19

FCC §15.407(g) – FREQUENCY STABILITY

Applicable Standard

FCC §15.407(g)

(g) Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

Test Procedure

According to ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices".

Test Data

Environmental Conditions

Temperature:	28 °C
Relative Humidity:	53 %
ATM Pressure:	94.9 kPa

The testing was performed by Tom Tang on 2017-07-20.

Test Mode: Transmitting

Test Result: Pass

For 5150-5250 MHz:

802.11a				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5171.2218	5248.4557	FL and FH Within 5150~5250MHz range
10		5171.2230	5248.4557	
20		5171.2224	5248.4569	
30		5171.2231	5248.4573	
40		5171.2242	5248.4575	
25	3.5	5171.2242	5248.4589	
25	4.2	5171.2254	5248.4595	

802.11n-HT20				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5170.8207	5249.2568	FL and FH Within 5150~5250MHz range
10		5170.8210	5249.2593	
20		5170.8216	5249.2582	
30		5170.8220	5249.2593	
40		5170.8231	5249.2596	
25	3.5	5170.8245	5249.2604	
25	4.2	5170.8252	5249.2607	

802.11n40				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5171.6416	5248.5162	FL and FH Within 5150~5250MHz range
10		5171.6420	5248.5155	
20		5171.6433	5248.5170	
30		5171.6436	5248.5176	
40		5171.6449	5248.5182	
25	3.5	5171.6455	5248.5192	
25	4.2	5171.6465	5248.5197	

802.11ac20				
Temperature	Voltage	FL at Low Test Channel	FH at High Test Channel	**Limit**
℃	VDC	MHz	MHz	
0	3.7	5170.2581	5249.5785	FL and FH Within 5150~5250MHz range
10		5170.2580	5249.5792	
20		5170.2595	5249.5805	
30		5170.2597	5249.5815	
40		5170.2607	5249.5826	
25	3.5	5170.2610	5249.5833	
25	4.2	5170.2619	5249.5847	

802.11ac40				
Temperature	Voltage	FL at Low Test Channel	FH at High Test Channel	**Limit**
℃	VDC	MHz	MHz	
0	3.7	5170.8365	5249.1612	FL and FH Within 5150~5250MHz range
10		5170.8383	5249.1619	
20		5170.8383	5249.1617	
30		5170.8389	5249.1624	
40		5170.8393	5249.1634	
25	3.5	5170.8397	5249.1640	
25	4.2	5170.8412	5249.1642	

802.11ac80				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5172.3232	5247.9939	FL and FH Within 5150~5250MHz range
10		5172.3244	5247.9939	
20		5172.3247	5247.9960	
30		5172.3253	5247.9967	
40		5172.3260	5247.9974	
25	3.5	5172.3274	5247.9982	
25	4.2	5172.3287	5247.9989	

For 5725-5850 MHz:

802.11a				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5735.7370	5834.1006	FL and FH Within 5725~5850MHz range
10		5735.7372	5834.0996	
20		5735.7385	5834.1018	
30		5735.7387	5834.1021	
40		5735.7396	5834.1025	
25	3.5	5735.7409	5834.1036	
25	4.2	5735.7423	5834.1043	

802.11n-HT20				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5735.3386	5834.4201	FL and FH Within 5725~5850MHz range
10		5735.3389	5834.4208	
20		5735.3393	5834.4212	
30		5735.3398	5834.4226	
40		5735.3398	5834.4240	
25	3.5	5735.3399	5834.4251	
25	4.2	5735.3402	5834.4257	

802.11n40				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5735.9978	5814.3197	FL and FH Within 5725~5850MHz range
10		5735.9971	5814.3193	
20		5735.9980	5814.3214	
30		5735.9984	5814.3219	
40		5735.9997	5814.3222	
25	3.5	5736.0003	5814.3234	
25	4.2	5736.0018	5814.3246	

802.11ac20				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5735.3389	5834.4981	FL and FH Within 5725~5850MHz range
10		5735.3385	5834.5013	
20		5735.3393	5834.5010	
30		5735.3393	5834.5016	
40		5735.3396	5834.5030	
25	3.5	5735.3409	5834.5041	
25	4.2	5735.3419	5834.5052	

802.11ac40				
Temperature	**Voltage**	**FL at Low Test Channel**	**FH at High Test Channel**	**Limit**
℃	**VDC**	**MHz**	**MHz**	
0	3.7	5735.9963	5814.3196	FL and FH Within 5725~5850MHz range
10		5735.9985	5814.3189	
20		5735.9980	5814.3214	
30		5735.9986	5814.3218	
40		5735.9998	5814.3226	
25	3.5	5735.9999	5814.3230	
25	4.2	5736.0007	5814.3244	

802.11ac80				
Temperature	Voltage	FL at Low Test Channel	FH at High Test Channel	**Limit**
℃	VDC	MHz	MHz	
0	3.7	5736.3561	5814.2801	FL and FH Within 5725~5850MHz range
10		5736.3578	5814.2809	
20		5736.3573	5814.2814	
30		5736.3580	5814.2817	
40		5736.3592	5814.2819	
25	3.5	5736.3606	5814.2833	
25	4.2	5736.3607	5814.2834	

FCC §15.407(a) (1) (3) (4) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

(a) *Power limits:*

(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.

(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.

NOTE TO PARAGRAPH (*A*)(3): The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

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

Test Procedure

(According to 789033 D02 General UNII Test Procedures New Rules v01r04)

Test Data

Environmental Conditions

Temperature:	28 °C
Relative Humidity:	49 %
ATM Pressure:	94.7 kPa

The testing was performed by Tom Tang from 2016-07-18

Test Mode: Transmitting

For 5150-5250 MHz:

Mode	Channel	Frequency (MHz)	Conducted Average Power (dBm)	Limit (dBm)
802.11a	Low	5180	9.06	24
	Middle	5220	9.70	24
	High	5240	9.93	24
802.11n-HT20	Low	5180	8.65	24
	Middle	5220	9.34	24
	High	5240	9.57	24
802.11n-HT40	Low	5190	8.21	24
	High	5230	8.84	24
802.11ac20	Low	5180	8.59	24
	Middle	5220	9.30	24
	High	5240	9.57	24
802.11ac40	Low	5190	8.17	24
	High	5230	8.69	24
802.11ac 80	-	5210	8.17	24

For 5725-5850 MHz:

Mode	Channel	Frequency (MHz)	Conducted Average Power (dBm)	Limit (dBm)
802.11a	Low	5745	8.82	30
	Middle	5785	8.55	30
	High	5825	8.26	30
802.11n-HT20	Low	5745	8.84	30
	Middle	5785	8.51	30
	High	5825	8.42	30
802.11n-HT40	Low	5755	8.16	30
	High	5795	7.74	30
802.11ac20	Low	5745	8.78	30
	Middle	5785	8.38	30
	High	5825	8.13	30
802.11ac40	Low	5755	8.24	30
	High	5795	7.68	30
802.11ac 80	/	5775	7.52	30

FCC §15.407(a) (1) (3) (5) - POWER SPECTRAL DENSITY

Applicable Standard

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.

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.

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.

Test Procedure

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

For devices operating in the bands 5.15-5.25 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5).
For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz.

Test Data

Environmental Conditions

Temperature:	29 °C
Relative Humidity:	49 %
ATM Pressure:	94.7 kPa

** The testing was performed by Tom Tang on 2017-07-01 & 2017-07-18.*

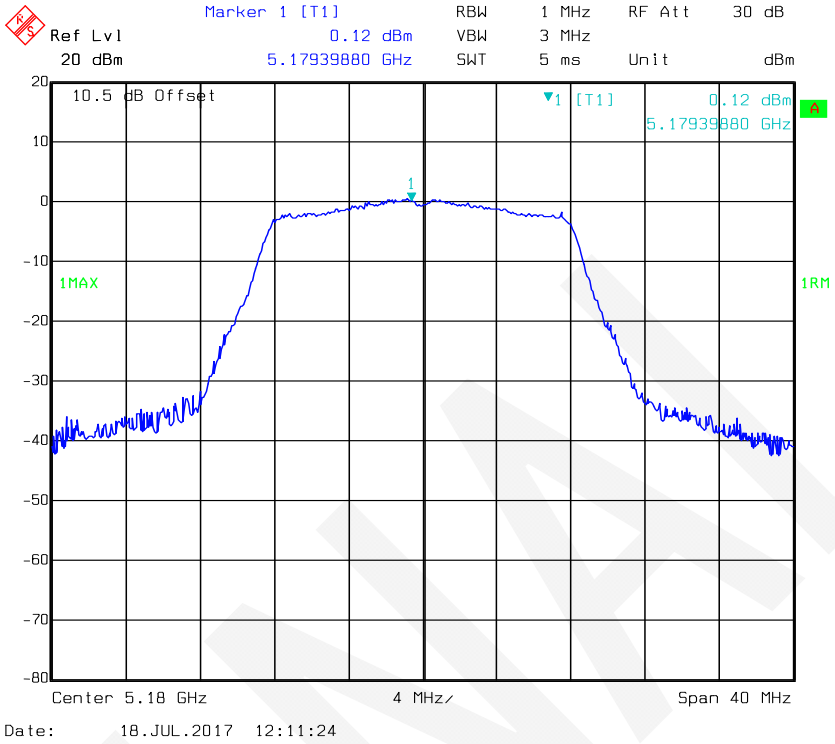
Test Mode: Transmitting

Test Result: Pass

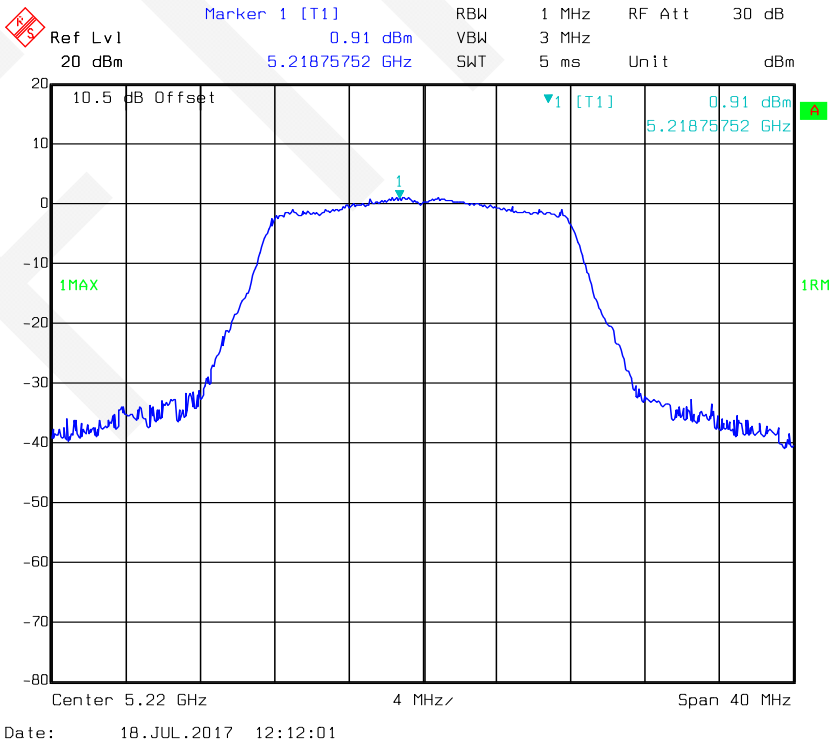
For 5150-5250 MHz:

Mode	Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)
802.11a	Low	5180	0.12	11
	Middle	5220	0.91	11
	High	5240	1.68	11
802.11n-HT20	Low	5180	0.25	11
	Middle	5220	0.73	11
	High	5240	1.03	11
802.11n-HT40	Low	5190	-3.29	11
	High	5230	-2.85	11
802.11ac20	Low	5180	0.25	11
	Middle	5220	0.73	11
	High	5240	1.03	11
802.11ac40	Low	5190	-3.29	11
	High	5230	-2.85	11
802.11ac80	-	5210	-5.72	11

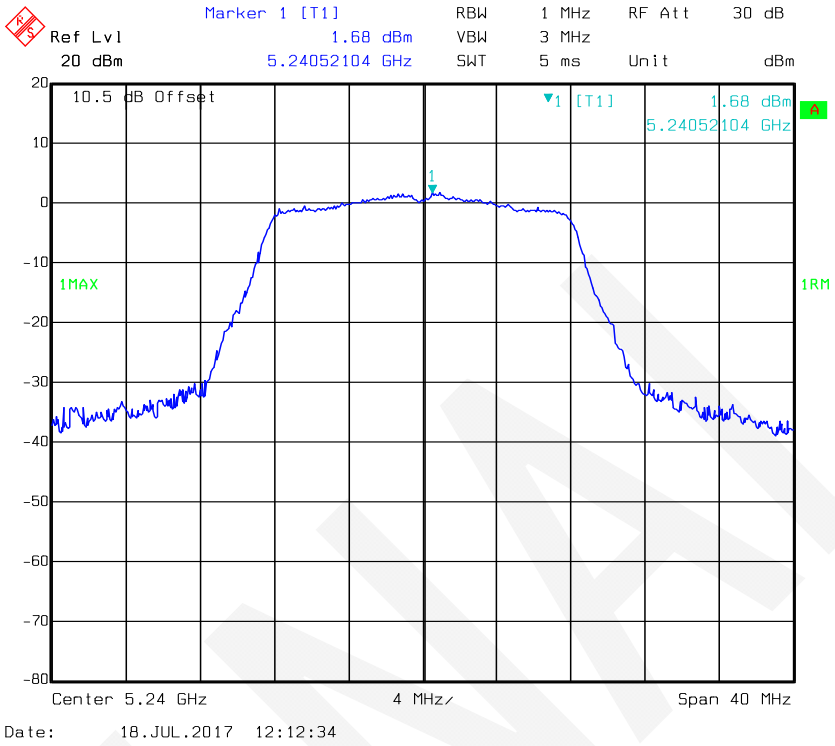
802.11a mode, Power Spectral Density-5180 MHz



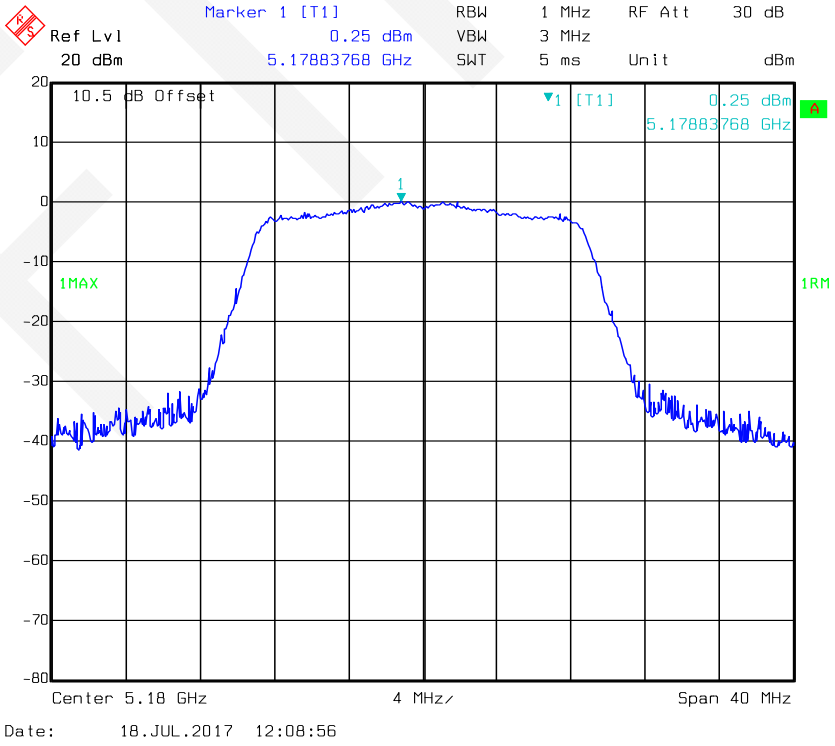
802.11a mode, Power Spectral Density-5220 MHz



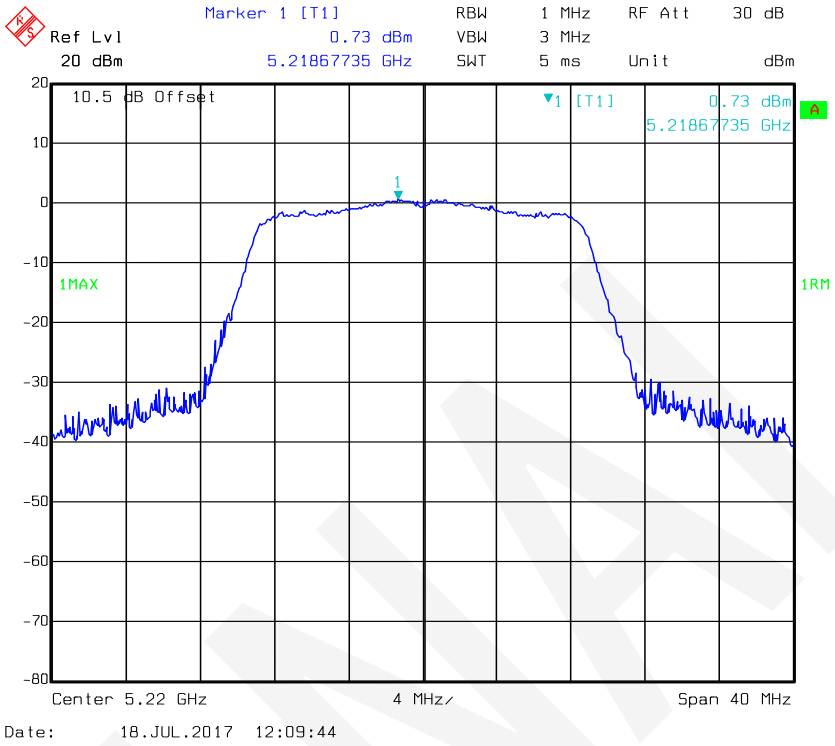
802.11a mode, Power Spectral Density-5240 MHz



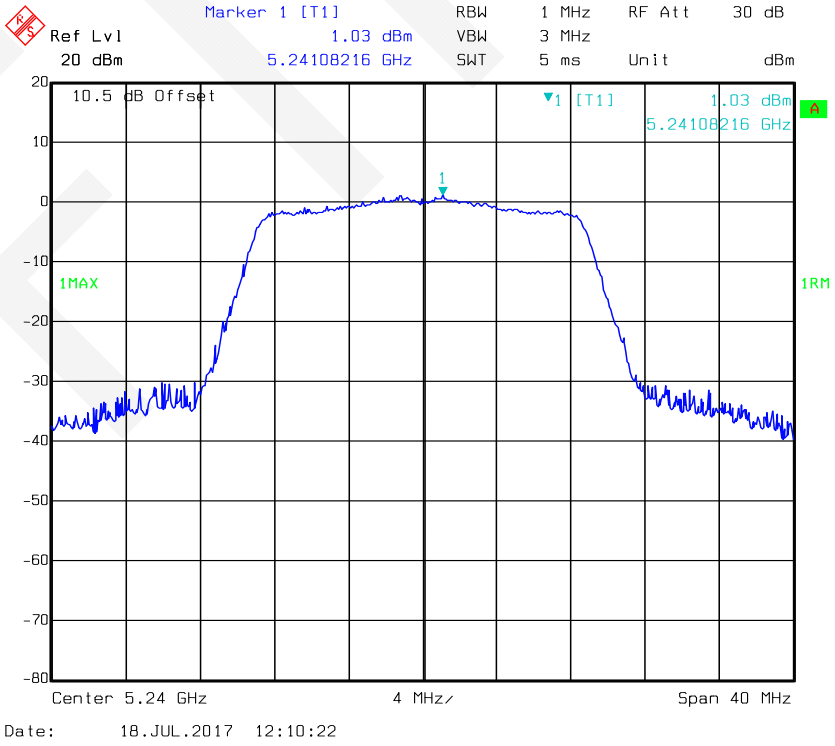
802.11n-HT20 mode, Power Spectral Density-5180 MHz



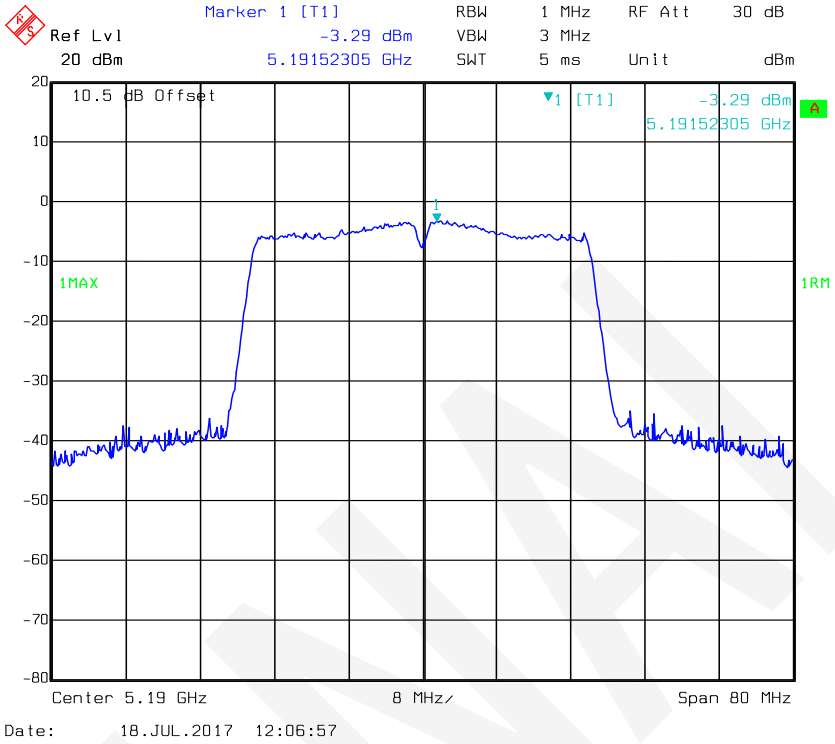
802.11n-HT20 mode, Power Spectral Density-5220 MHz



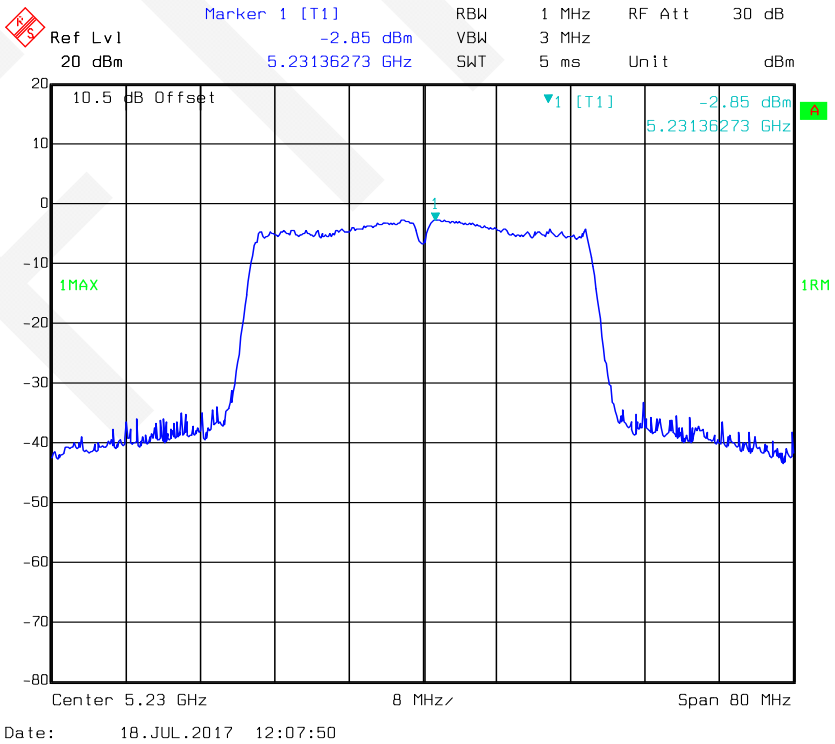
802.11n-HT20 mode, Power Spectral Density-5240 MHz



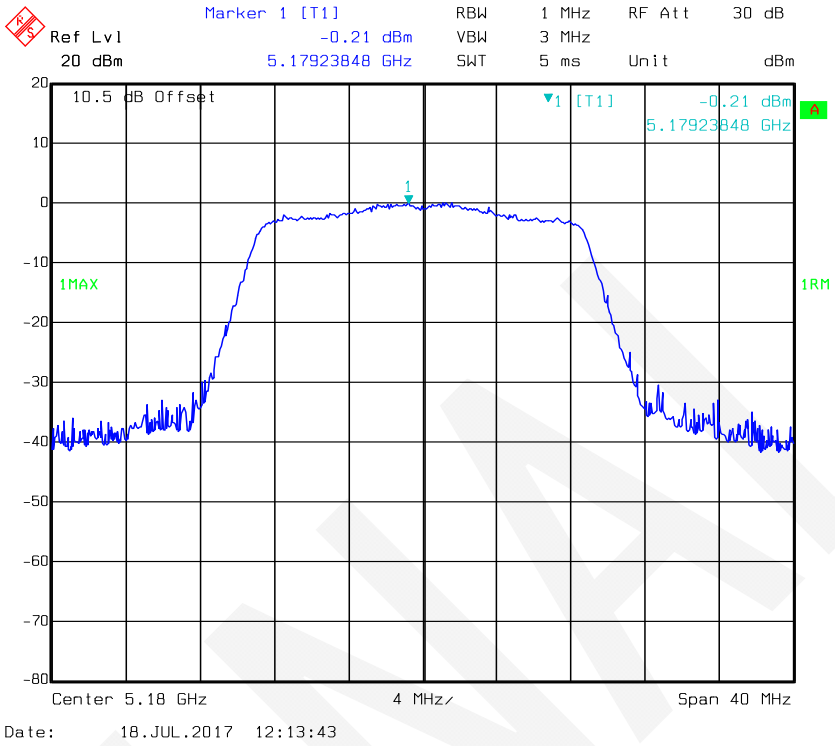
802.11n-HT40 mode, Power Spectral Density-5190 MHz



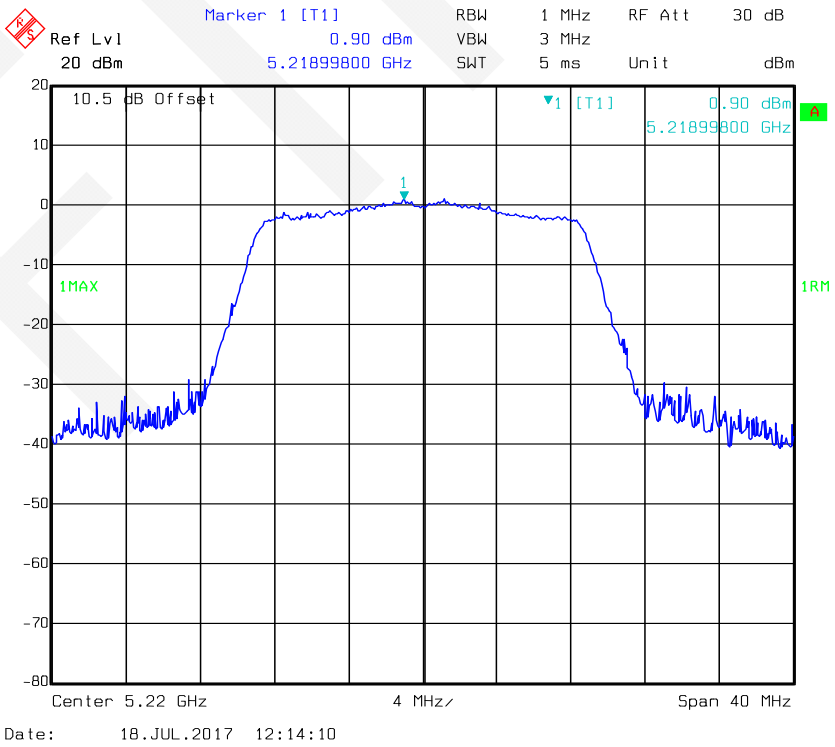
802.11n-HT40 mode, Power Spectral Density-5230 MHz



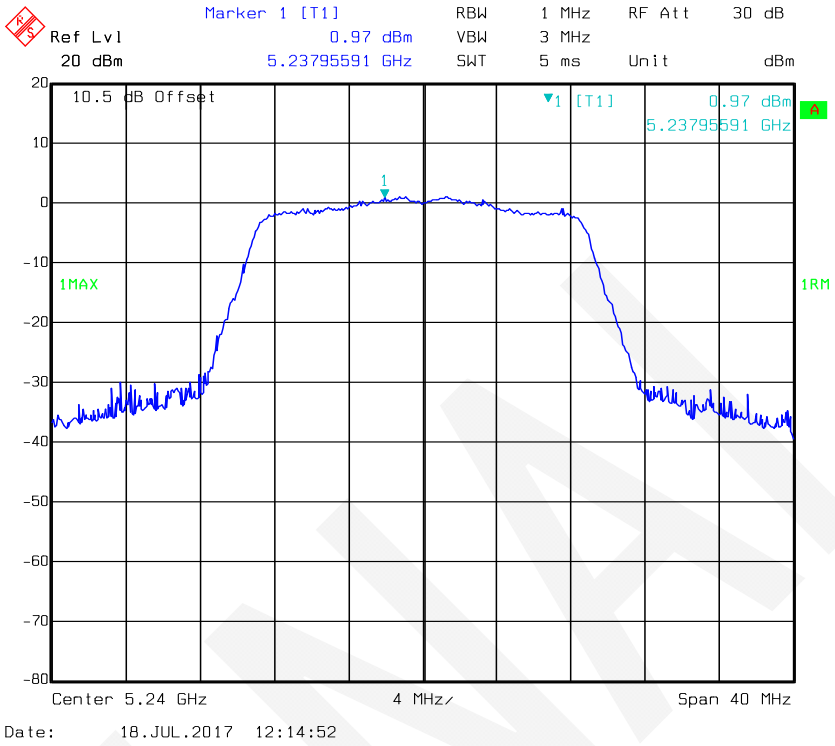
802.11ac20 mode, Power Spectral Density-5180 MHz



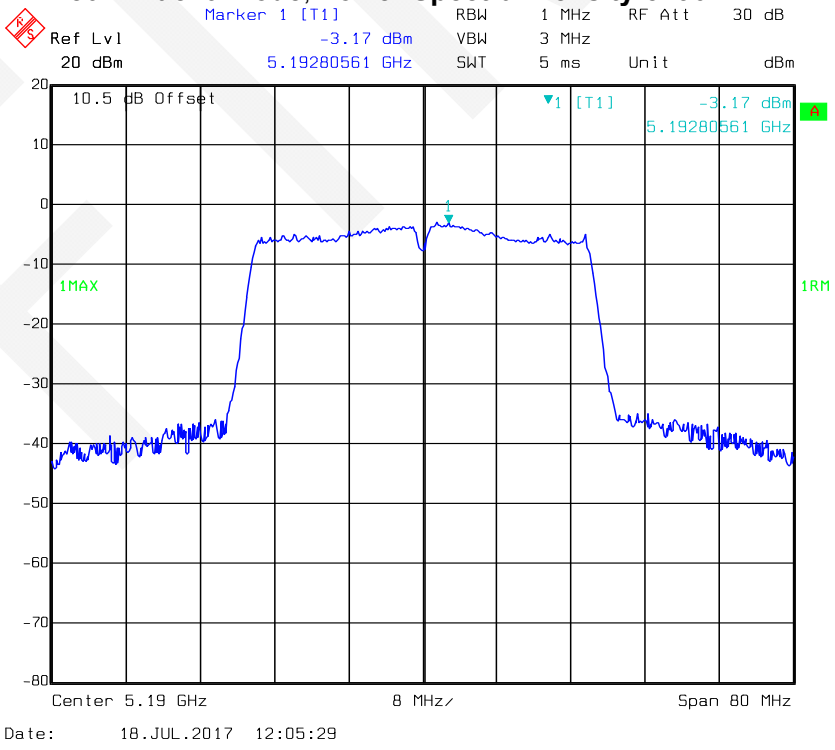
802.11ac20 mode, Power Spectral Density-5220 MHz



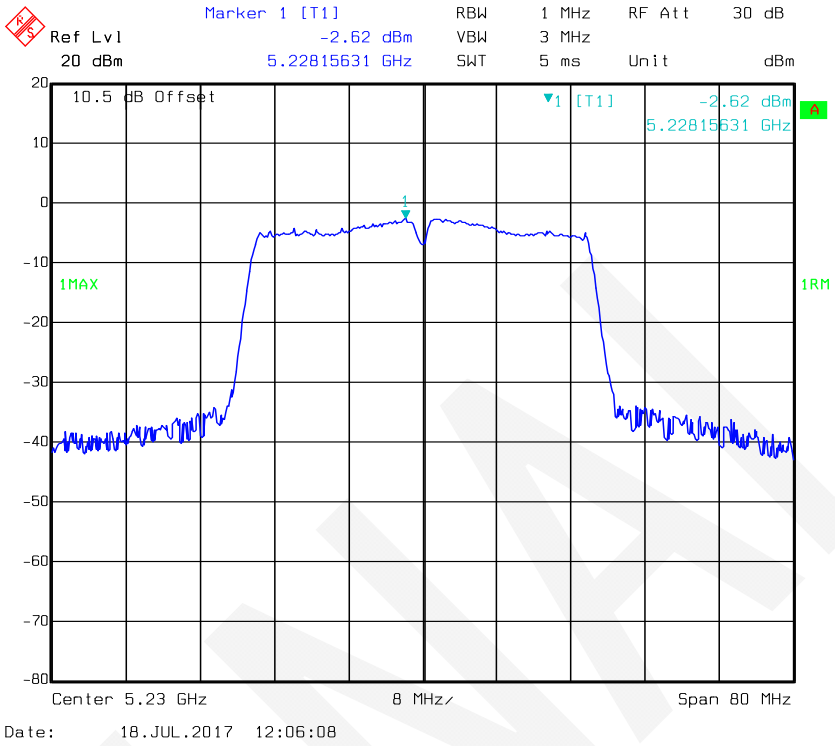
802.11ac20 mode, Antenna 2: Power Spectral Density-5240 MHz



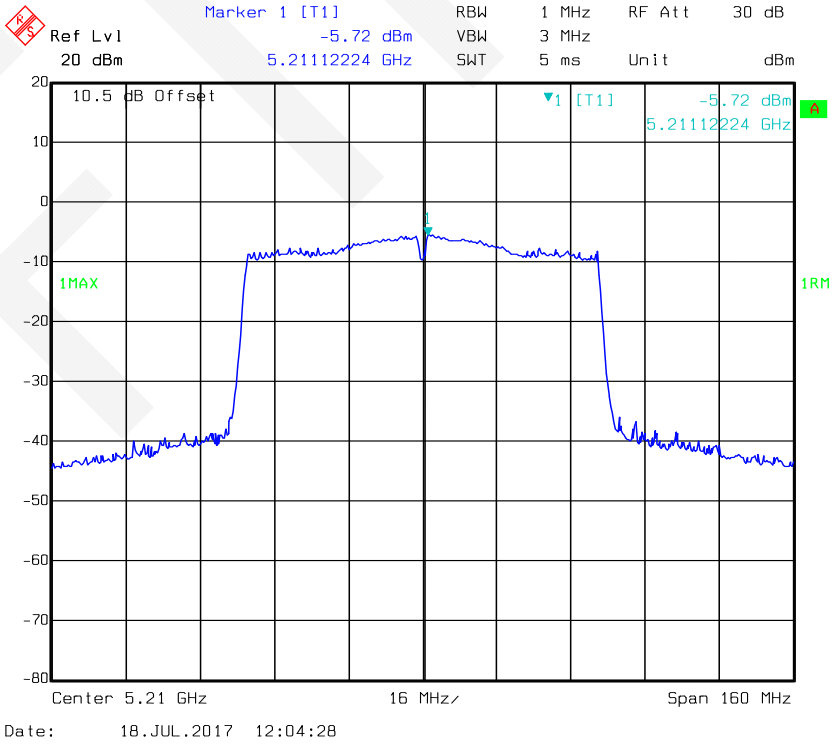
802.11ac40 mode, Power Spectral Density-5190 MHz



802.11ac40 mode, Power Spectral Density-5230 MHz



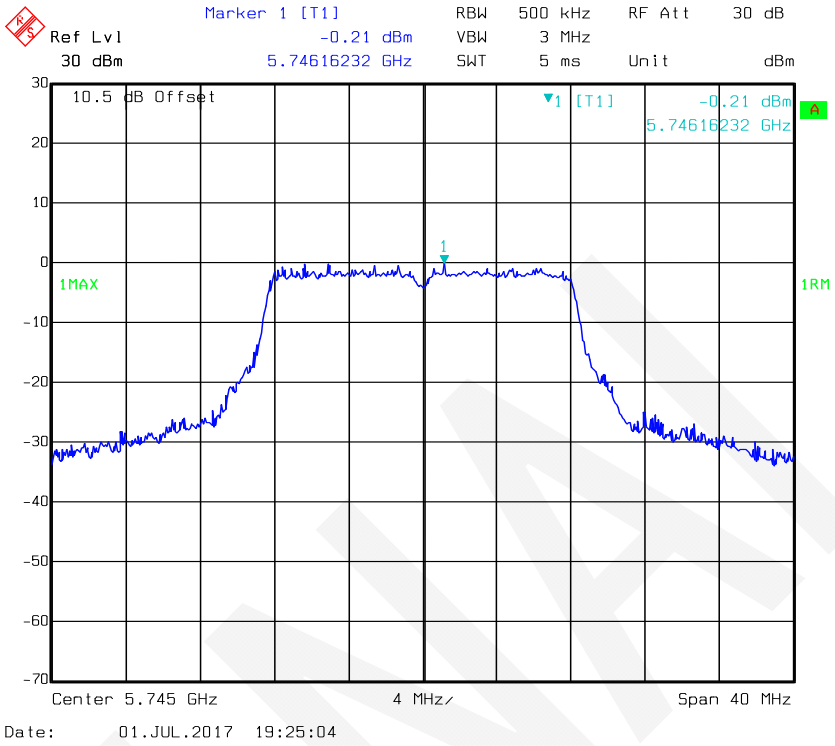
802.11ac 80 mode, Power Spectral Density-5210 MHz



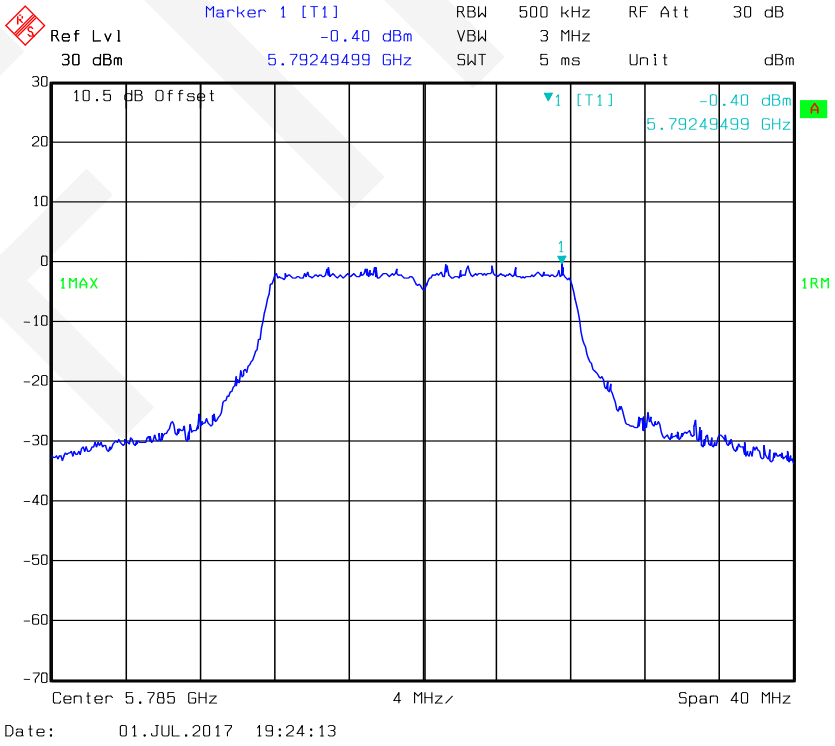
For 5725-5850 MHz:

Mode	Channel	Frequency (MHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)
802.11a	Low	5745	-0.21	30
	Middle	5785	-0.40	30
	High	5825	-0.47	30
802.11n-HT20	Low	5745	0.08	30
	Middle	5785	-0.10	30
	High	5825	-0.90	30
802.11n-HT40	Low	5755	-3.68	30
	High	5795	-3.52	30
802.11ac20	Low	5745	0.02	30
	Middle	5785	-0.92	30
	High	5825	-0.77	30
802.11ac40	Low	5755	-3.49	30
	High	5795	-3.95	30
802.11ac80	-	5775	-6.38	30

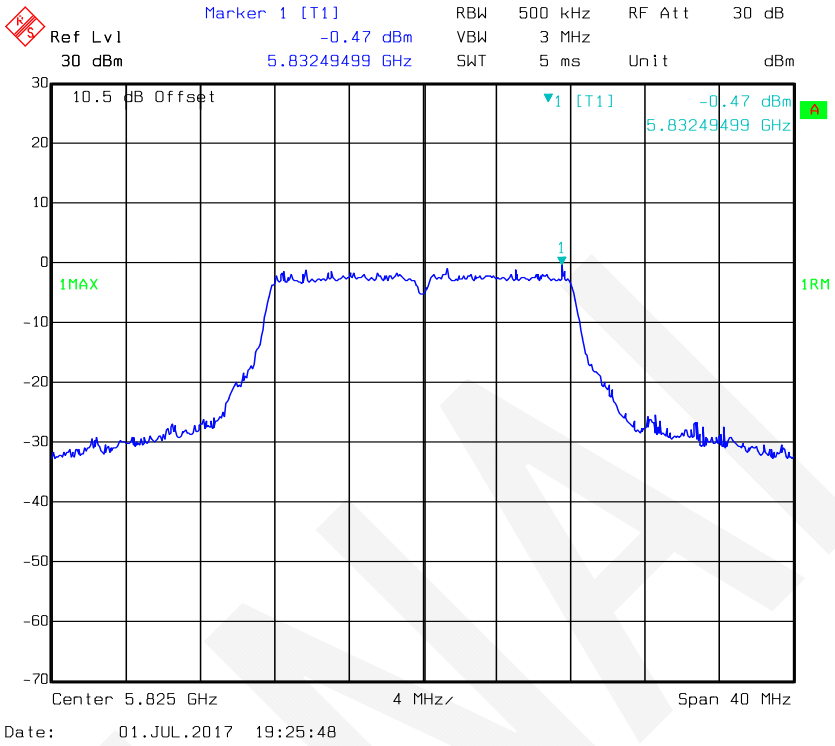
802.11a mode, Power Spectral Density-5745 MHz



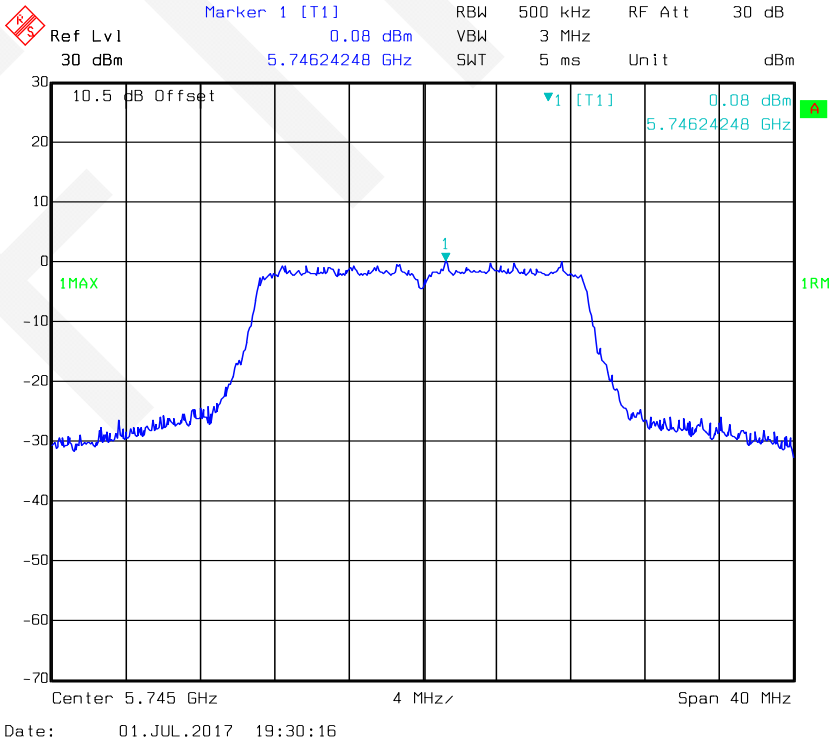
802.11a mode, Power Spectral Density-5785 MHz



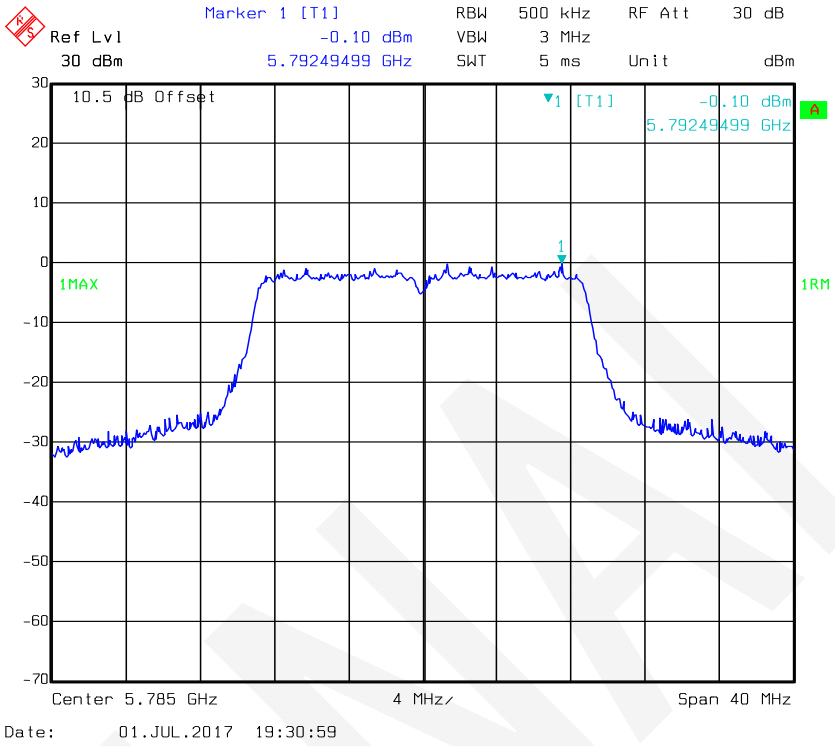
802.11a mode, Power Spectral Density-5825 MHz



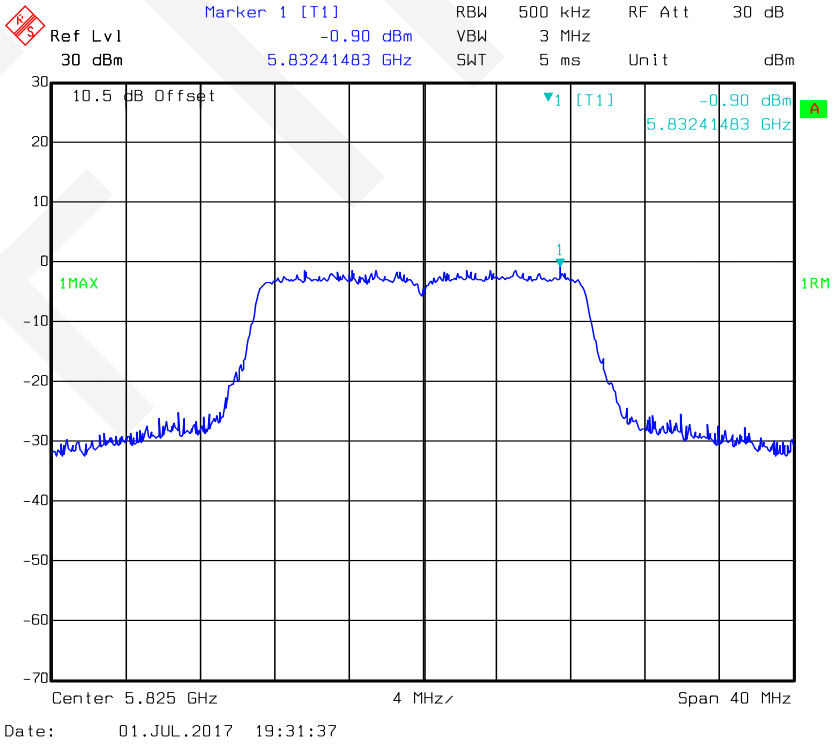
802.11n-HT20 mode, Power Spectral Density-5745 MHz



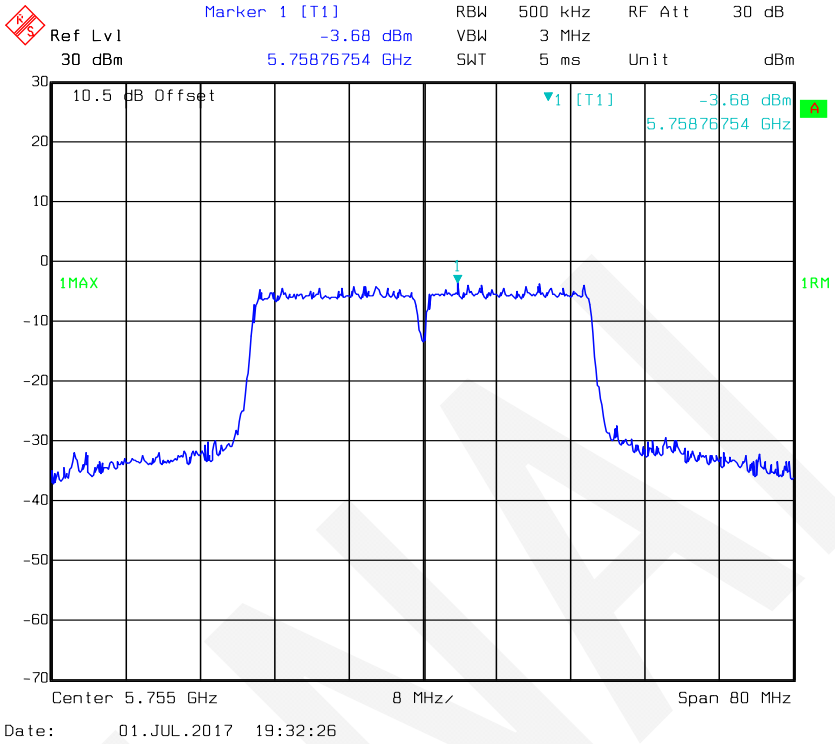
802.11n-HT20 mode, Power Spectral Density-5785 MHz



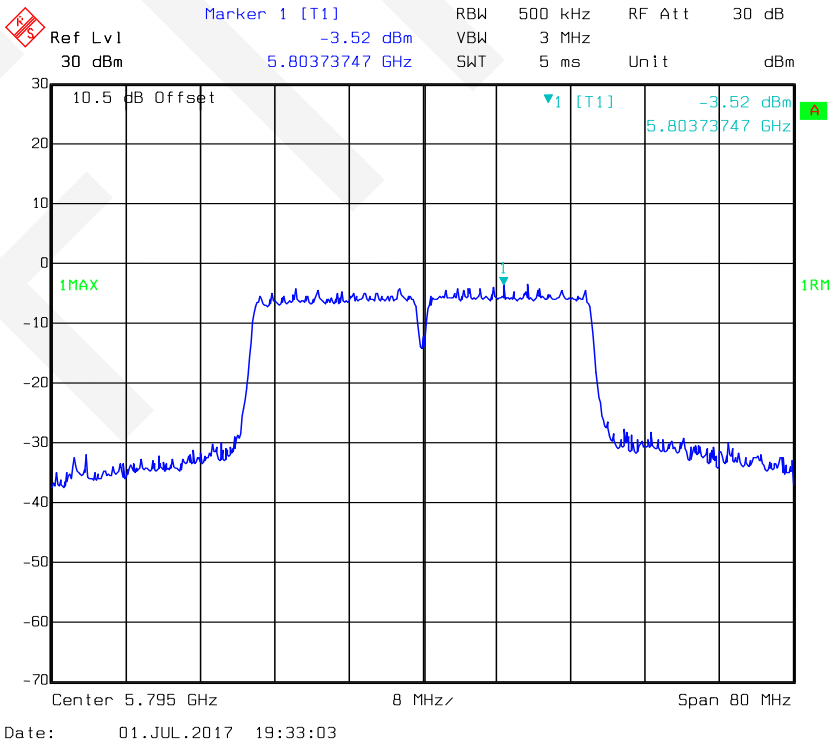
802.11n-HT20 mode, Power Spectral Density-5825 MHz



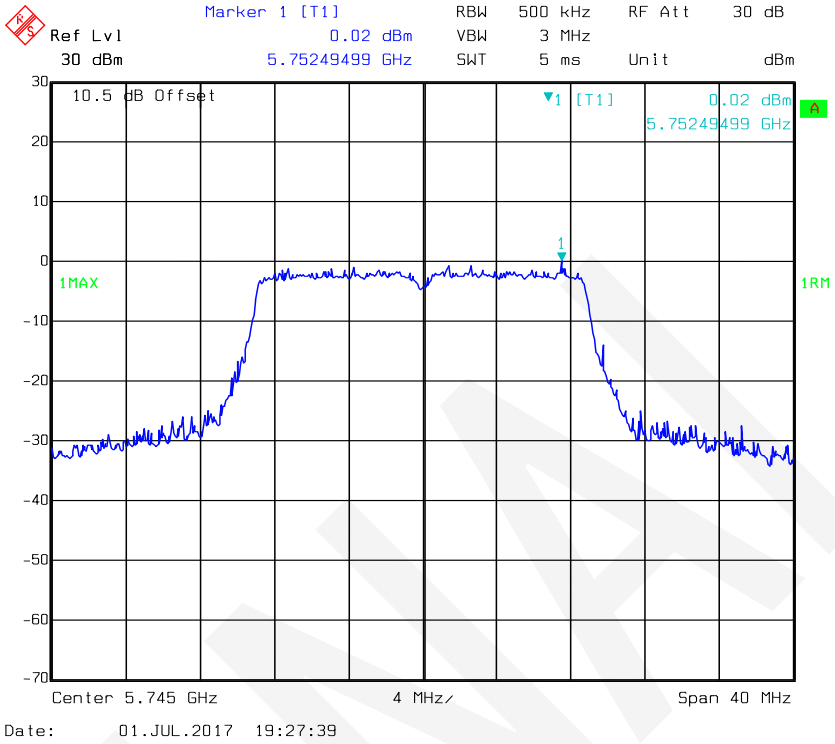
802.11n-HT40 mode, Power Spectral Density-5755 MHz



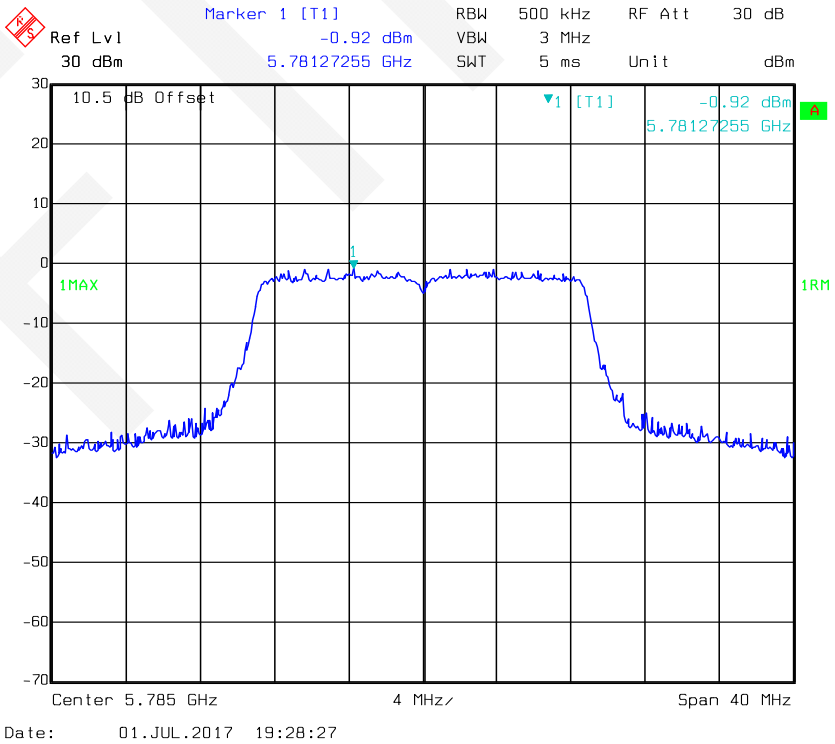
802.11n-HT40 mode, Power Spectral Density-5795 MHz



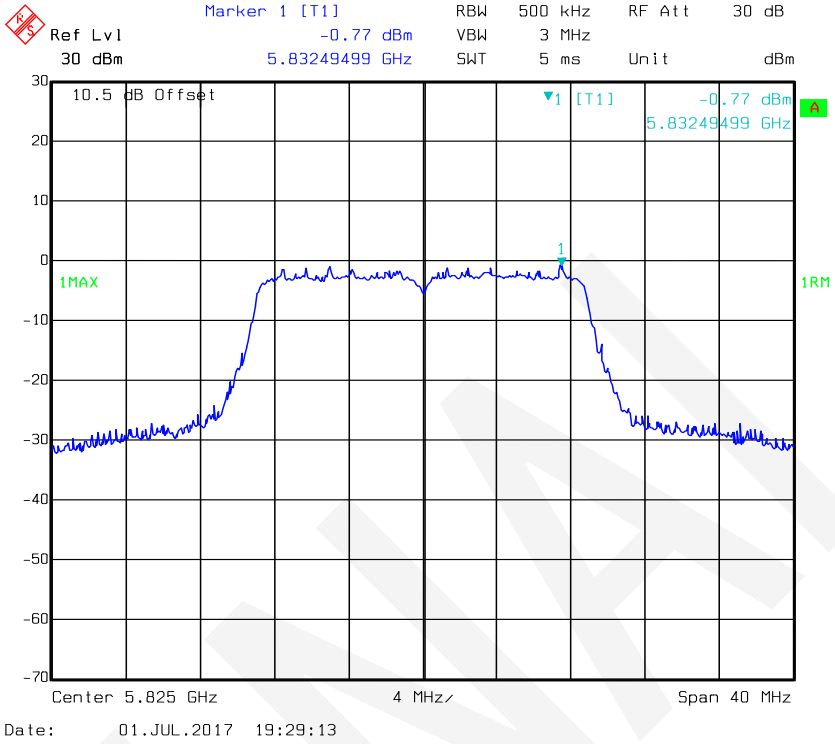
802.11ac20 mode, Power Spectral Density-5745 MHz



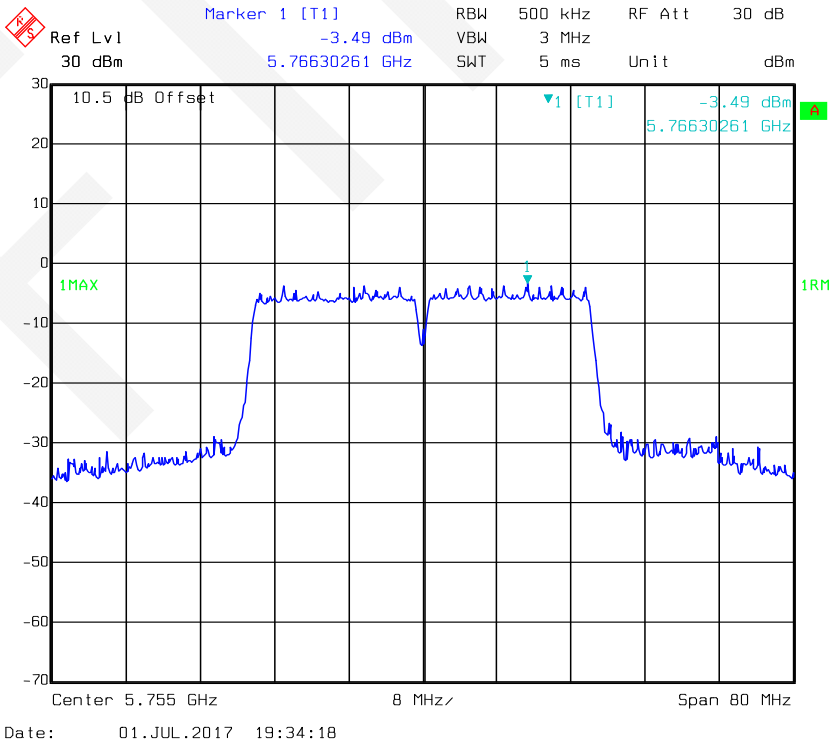
802.11ac20 mode, Power Spectral Density-5785 MHz



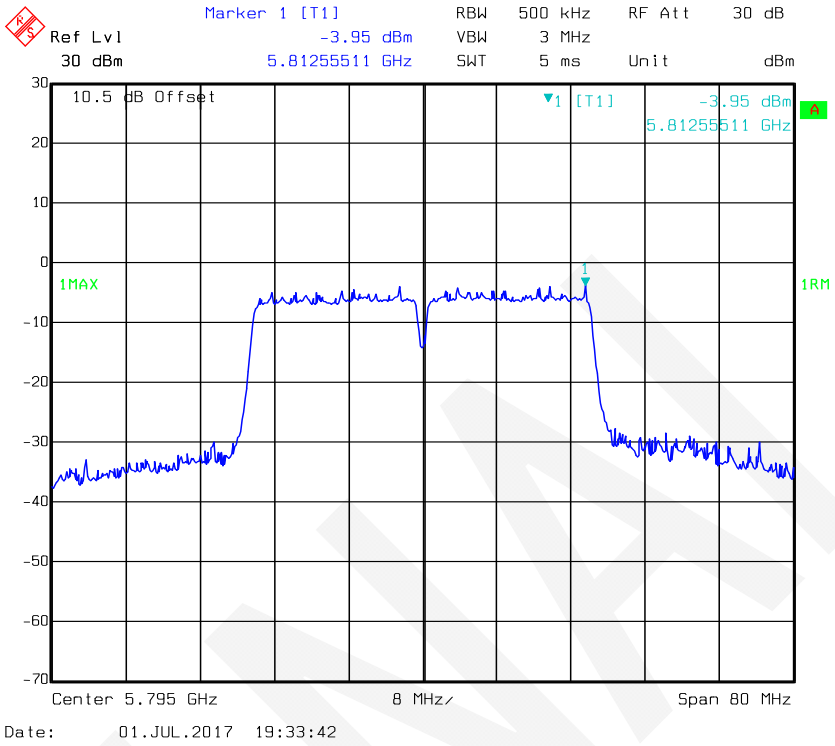
802.11ac20 mode, Power Spectral Density-5825 MHz



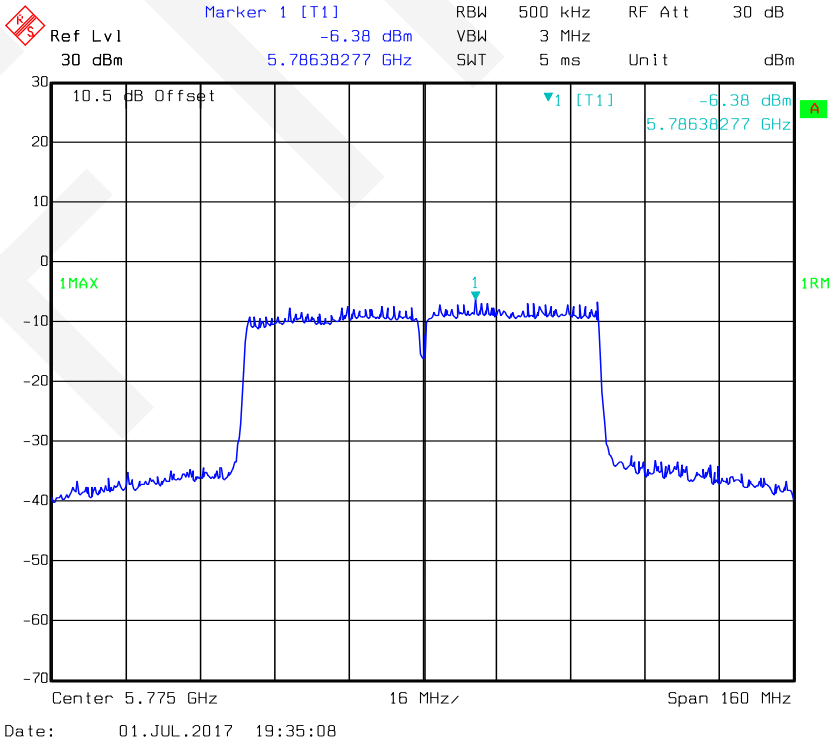
802.11ac40 mode, Power Spectral Density-5755 MHz



802.11ac40 mode, Power Spectral Density-5795 MHz



802.11ac80 mode, Power Spectral Density-5775 MHz



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