FCC PART 15.407

TEST REPORT

For

Nusoft Corporation

3F.-1, No. 880, Zhongzheng Rd., Zhonghe Dist., New Taipei City 23586, Taiwan (R.O.C.)

FCC ID: 2AGVZNAP-570

Report Type:	Product Type:
Original Report	Nusoft Wireless AP Router

Report Number:	RSZ151201817-00C
Report Date:	2017-03-29
Reviewed By:	Oscar Ye Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Nusoft Corporation's* product, model number: *NAP-570 (FCC ID: 2AGVZNAP-570)* in this report was a *Nusoft Wireless AP Router,* which was measured approximately: 205 mm (L) x205 mm (W) x 50 mm (H), rated with input voltage: DC12V from adapter.

Adapter information:
Model: PA1015-120HUB150
Input: 100-240V~ 50/60Hz 0.4A
Output: 12V, 1.5A

** All measurement and test data in this report was gathered from production sample serial number 15120112 (Assigned by BACL, Kunshan). The EUT supplied by the applicant was received on 2016-08-17.*

Objective

This type approval report is prepared on behalf of *Nusoft Corporation* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and E of the Federal Communication Commissions rules.

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

Related Submittal(s)/Grant(s)

FCC Part 15.247 DTS and part 15B JBP submissions with FCC ID: 2AGVZNAP-570.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		±3.26 dB
RF conducted test with spectrum		±0.9dB
RF Output Power with Power meter		±0.5dB
Radiated emission	30MHz~1GHz	±5.91dB
	Above 1G	±4.92dB
Occupied Bandwidth		±0.5kHz
Temperature		±1.0℃
Humidity		±6%

Test Facility

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

Test site at Bay Area Compliance Laboratories Corp. (Kunshan) 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 on November 06, 2014. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.10-2013.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 815570. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

EUT Exercise Software

Telnet terminal command was used.

The test was tested with 100% duty cycle and the worst case was performed as below:

5150 MHz – 5250 MHz:

802.11a: Rate 6Mbps, Power level: 19
802.11n20: Rate MCS0, Power level: 19
802.11n40: Rate MCS0, Power level: 19
802.11ac20：Rate MNSS 0, Power level: 19
802.11ac40：Rate MNSS 0, Power level: 19
802.11ac80：Rate MNSS 0, Power level: 19

5725 MHz – 5850 MHz:

802.11a: Rate 6Mbps, Power level: 18
802.11n20: Rate MCS0, Power level: 18
802.11n40: Rate MCS0, Power level: 19
802.11ac20: Rate ISS0, Power level: 18
802.11ac40: Rate ISS0, Power level: 19
802.11ac80: Rate ISS0, Power level: 14

Antenna system

This Device Emploies Cyclic Delay Diversity.

Total directional gain (dBi) = gain of individual transmit antennas (dBi) + array gain (dB),

When determining reductions in power spectral density limits, array gain is calculated as follows:

Array gain = 10 log (N_{ANT}), where N_{ANT} is the number of transmit antennas.

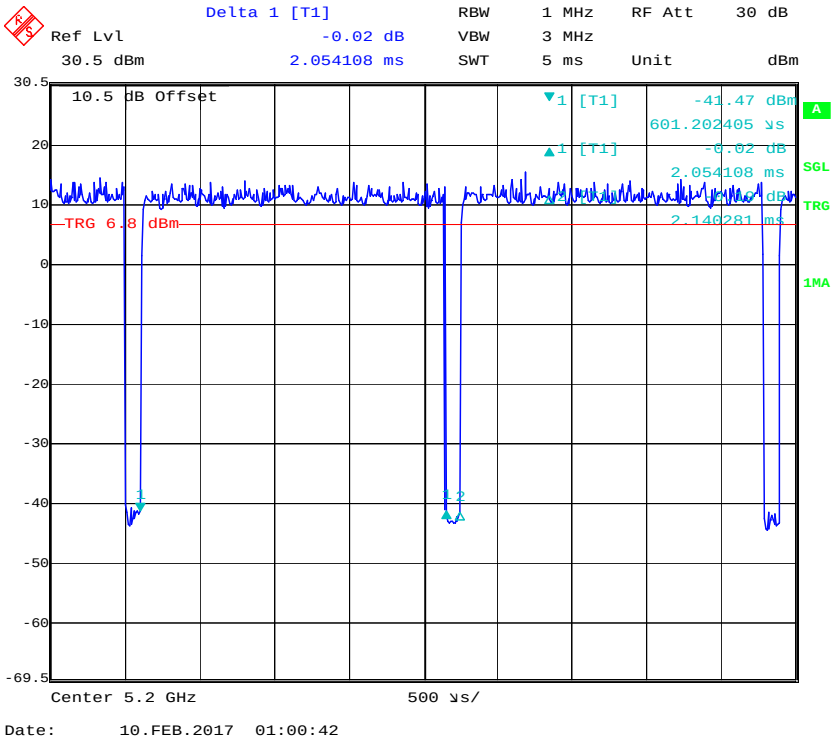
When determining reductions in conducted power limits, array gain is calculated as follows:

Array Gain = 0 dB for $N_{ANT} \leqslant 4$;
Array Gain = 0 dB for channel widths $\geqslant$ 40 MHz for any N_{ANT};
Array Gain = 3 dB for 20-MHz channel widths with $N_{ANT} \geqslant 5$.

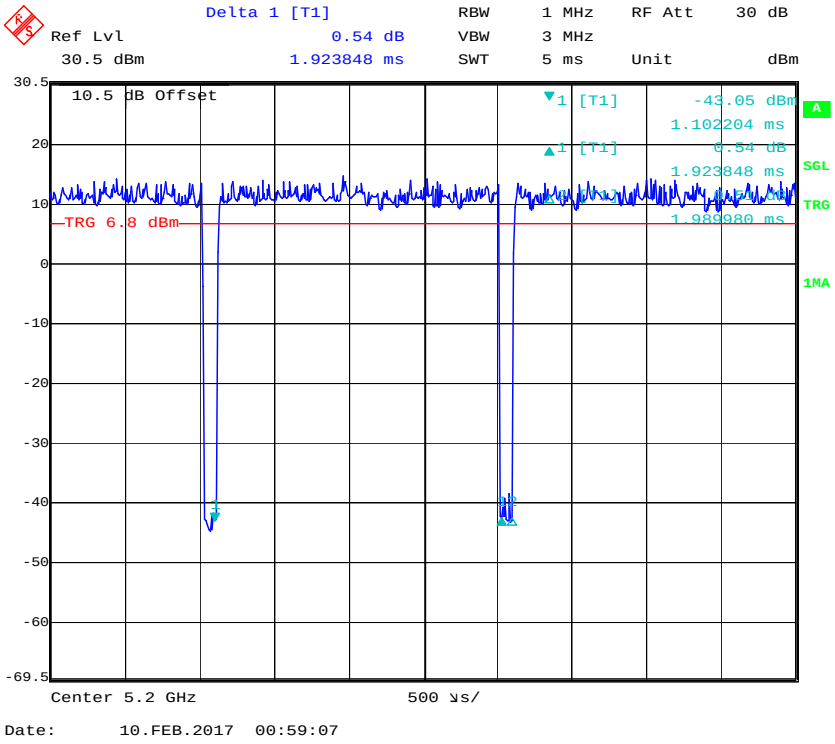
Duty cycle

5150 MHz – 5250 MHz:

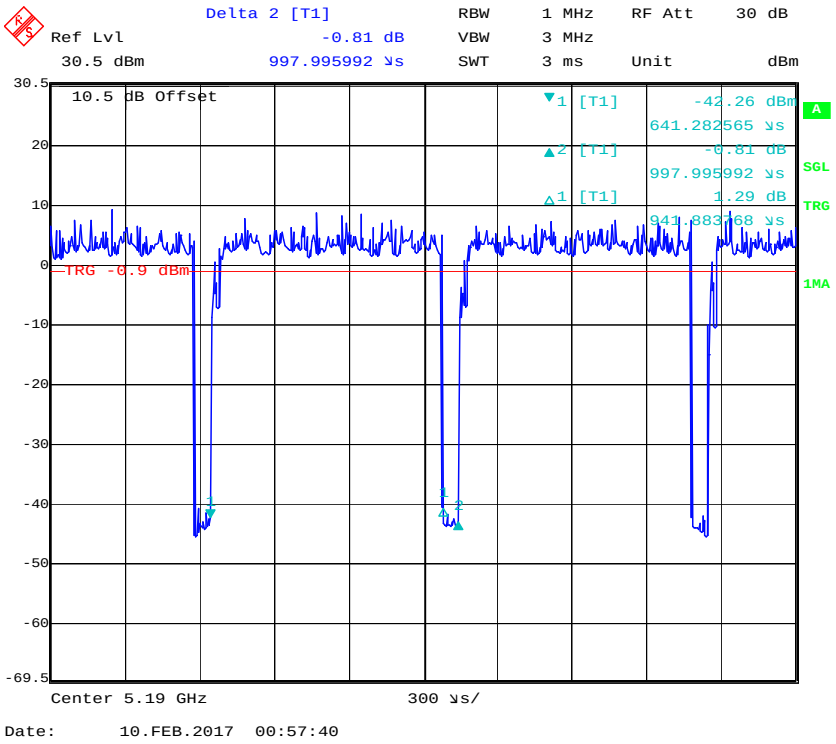
802.11a mode



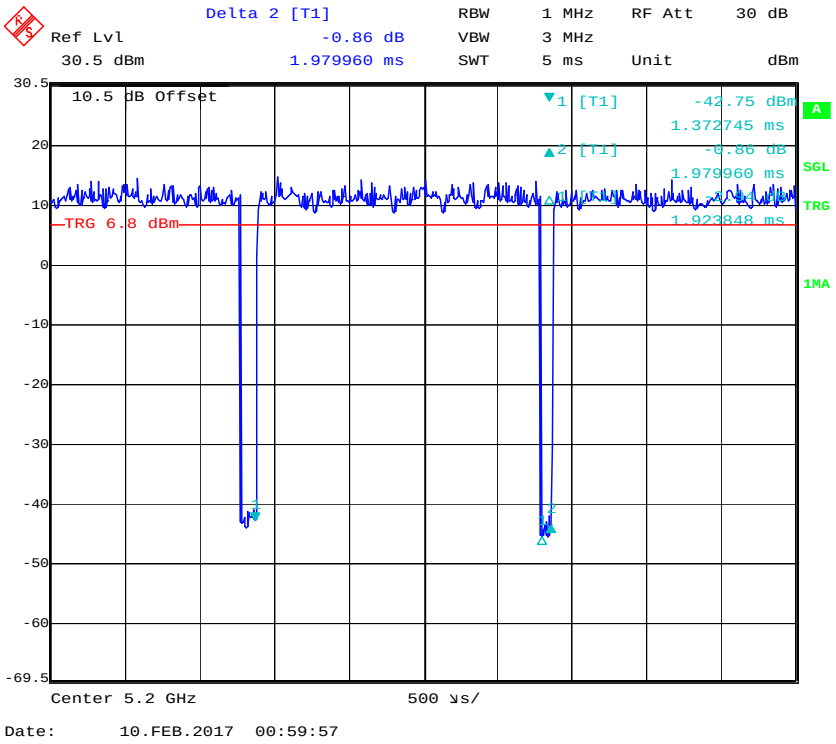
802.11n20 mode



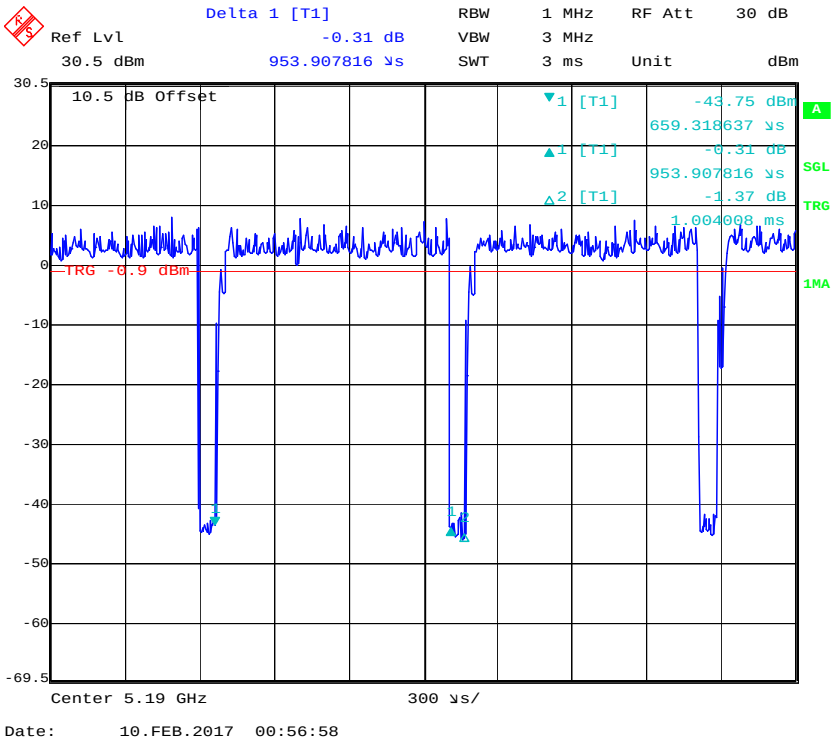
802.11n40 Mode



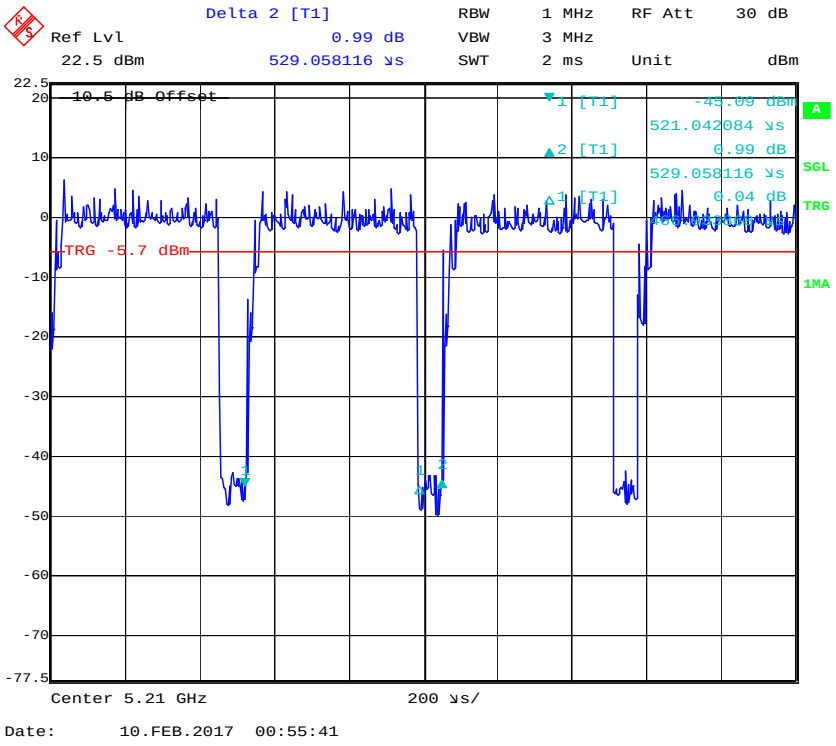
802.11ac20 Mode



802.11ac40 Mode



802.11ac80 Mode



Band	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting	10log(1/x)
802.11a	96	2.054	0.49	1kHz	0.18
802.11n20	97	1.924	0.52	1kHz	0.13
802.11n40	94	0.942	1.06	3kHz	0.27
802.11ac20	97	1.924	0.52	1kHz	0.13
802.11ac40	95	0.954	1.05	3kHz	0.27
802.11ac80	88	0.467	2.14	3kHz	0.56

Note： 5725-5825MHz band was used the same duty cycle to test.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

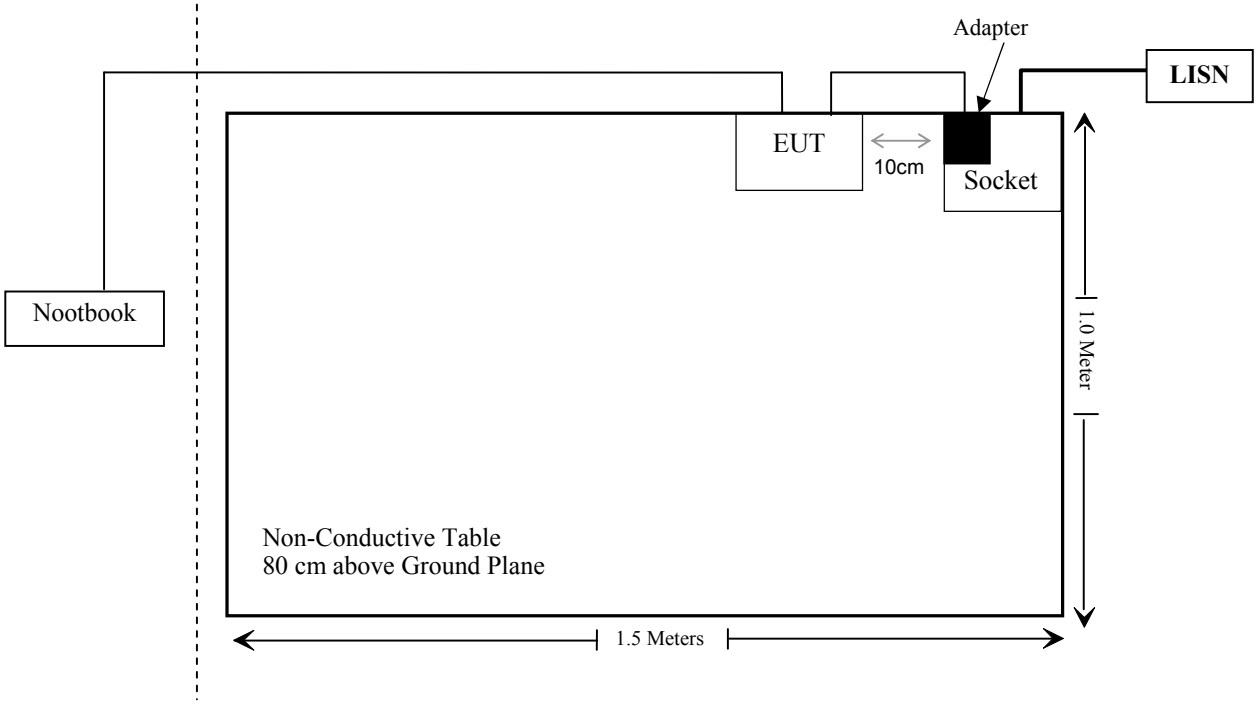
Manufacturer	Description	Model	Serial Number
Lenovo	Nootbook	T400	R8-LXAXE 09/12
HUAWEI	POE	PoE35-54A	2102220369ARG6001801
MASS POWER	Adapter	NBS24J240100VU	1604

External I/O Cable

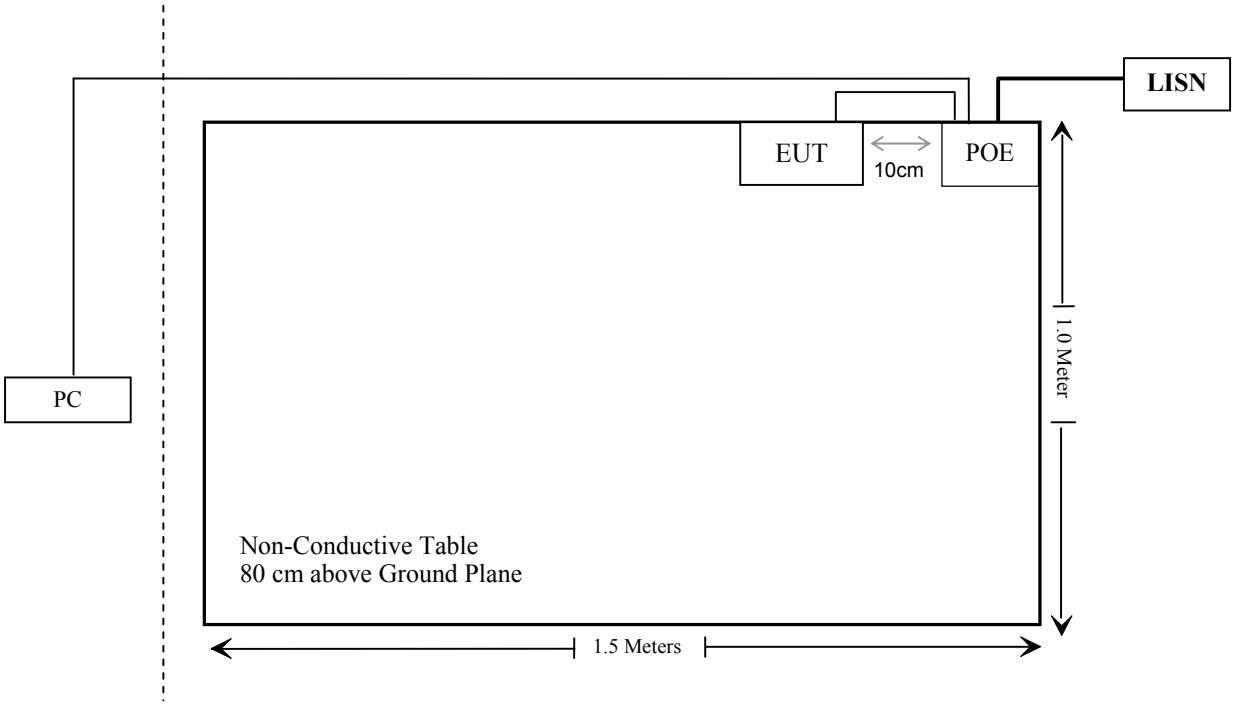
Cable Description	Length (m)	From Port	To
Un-shielding detachable RJ45 cable	1.0	POE	EUT
Un-shielding detachable RJ45 cable	3.0	EUT	Nootbook
Un-shielding detachable RJ45 cable	3.0	POE	Nootbook
Un-shielding detachable AC cable	0.9	Adapter	LISN
Un-shielding Un-detachable DC cable	1.5	EUT	Adapter

Block Diagram of Test Setup

Powered by Adapter



Powered by POE



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.407 (f), §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6)& §15.207(a)	Conducted Emissions	Compliance
§15.205& §15.209 &§15.407(b) (1),(4),(7)	Undesirable Emission& Restricted Bands	Compliance
§15.407(b) (1),(4)	Out Of Band Emission	Compliance
§15.407(a) (1),(5),(e)	26 dB Emission Bandwidth & 6dB Bandwidth	Compliance
§15.407(g)	Frequency Stability	Compliance
§15.407(a)(1),(3)	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1),(3)	Power Spectral Density	Compliance

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conducted test					
Rohde & Schwarz	EMI Test Receiver	ESCS30	834115/007	2016-11-25	2017-11-25
Rohde & Schwarz	LISN	ESH3-Z5	862770/011	2016-10-10	2017-10-10
Rohde & Schwarz	Pulse limiter	ESH3-Z2	879940/0058	2016-06-18	2017-06-17
MICRO-COAX	Coaxial line	UFB-293B-1-0480-50X50	97F0173	2016-09-08	2017-09-08
Rohde & Schwarz	CE Test software	EMC 32	V 09.10.0	NCR	NCR
Radiation test					
Sonoma Instrunent	Amplifier	330	171377	2016-12-12	2017-12-12
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2016-11-25	2017-11-25
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2016-01-09	2019-01-08
Narda	Pre-amplifier	AFS42-00101800	2001270	2016-09-08	2017-09-08
EMCO	Horn Antenna	3116	00084159	2016-10-18	2019-10-17
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2016-11-25	2017-11-25
Rohde & Schwarz	FSV40 Signal Analyzer	FSV40	101116	2016-07-04	2017-07-03
ETS	Horn Antenna	3115	6229	2016-01-11	2019-01-10
R&S	Auto test Software	EMC32	V 09.10.0	NCR	NCR
haojintech	Coaxial Cable	Cable-1	001	2016-12-12	2017-12-12
haojintech	Coaxial Cable	Cable-2	002	2016-12-12	2017-12-12
haojintech	Coaxial Cable	Cable-3	003	2016-12-12	2017-12-12
MICRO-COAX	Coaxial Cable	Cable-4	004	2016-12-12	2017-12-12
MICRO-COAX	Coaxial Cable	Cable-4	004	2016-12-12	2017-12-12

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted test					
BACL	TS 8997 Cable-01	T-KS-EMC086	T-KS-EMC086	2015-12-10	2016-12-09
BACL	TS 8997 Cable-01	T-KS-EMC086	T-KS-EMC086	2016-12-09	2017-12-08
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-12-15	2016-12-15
BACL	RF cable	KS-LAB-012	KS-LAB-012	2016-12-15	2017-12-15
WEINSCHEL	10dB Attenuator	5328	N/A	2016-06-18	2017-06-18
WEINSCHEL	3dB Attenuator	5326	N/A	2016-06-18	2017-06-18
Rohde & Schwarz	OSP120 BASE UNIT	OSP120	101247	2016-07-04	2017-07-03
Agilent	Power Meter	N1912A	MY5000492	2016-11-17	2017-11-16
Agilent	Power Sensor	N1921A	MY54210024	2016-11-17	2017-11-16
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/009	2016-09-21	2017-09-21

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

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

Applicable Standard

According to FCC §2.1091 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

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

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

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

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

Calculated Formulary:

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

Calculated Data (Worst Case):
Stand-alone:

Frequency (MHz)	**Antenna Gain**		**Max tune –up Conducted Power**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
	(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
5180-5240	3.0	2.0	24.5	281.8	20	0.11	1.0
5745-5825	3.0	2.0	26.0	398.1	20	0.16	1.0

Simultaneous transmising consideration: (refering to the DTS report, the highest MPE for 2.4G band is $0.20mW/cm^2$)

The ratio=MPE_{DTS}/limit+MPE_{UNII}/limit=0.2+0.16=0.36＜1.0, simultaneous exposure is not required.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

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

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

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

And according to FCC 47 CFR section 15.407 (a), if the transmitting antennas of directional gain greater than 6dBi are used, the transmit power and 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 product has three integrated antenna with maximum gain 3.0 dBi which was soldered on PCB, fulfill the requirement of this section, and please refer to the EUT photo.

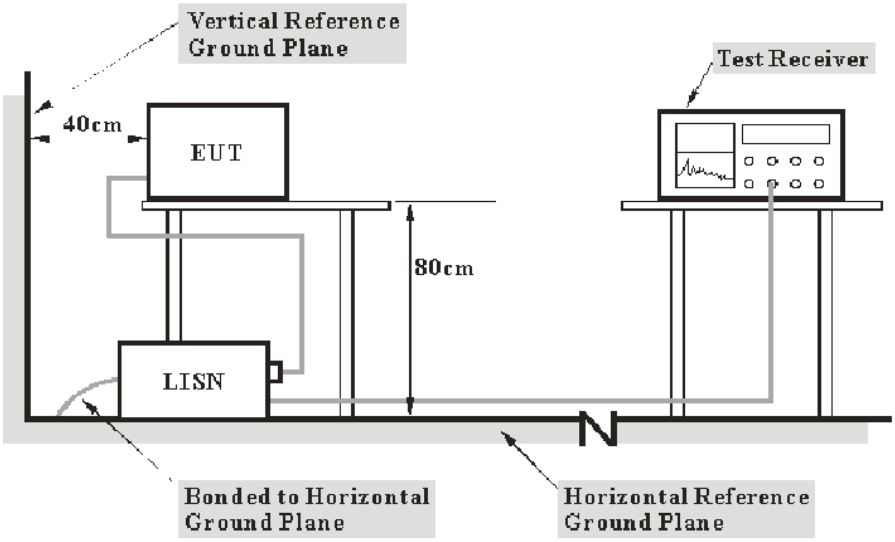
Result: Compliance.

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 C63.4-2014 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 a 120 VAC/60 Hz 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

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.

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

Environmental Conditions

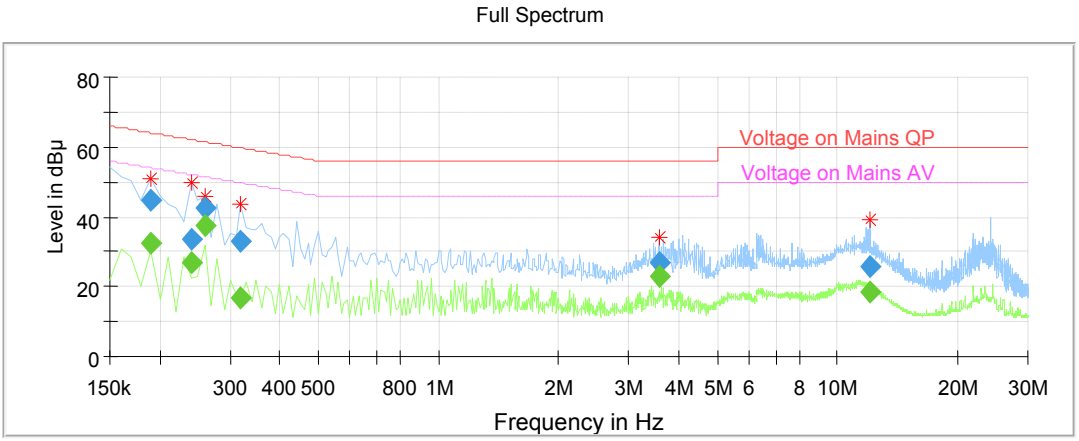
Temperature:	23 ℃
Relative Humidity:	54 %
ATM Pressure:	101.0 kPa

The testing was performed by Layne Li on 2017-02-10.

EUT operation mode: Transmitting

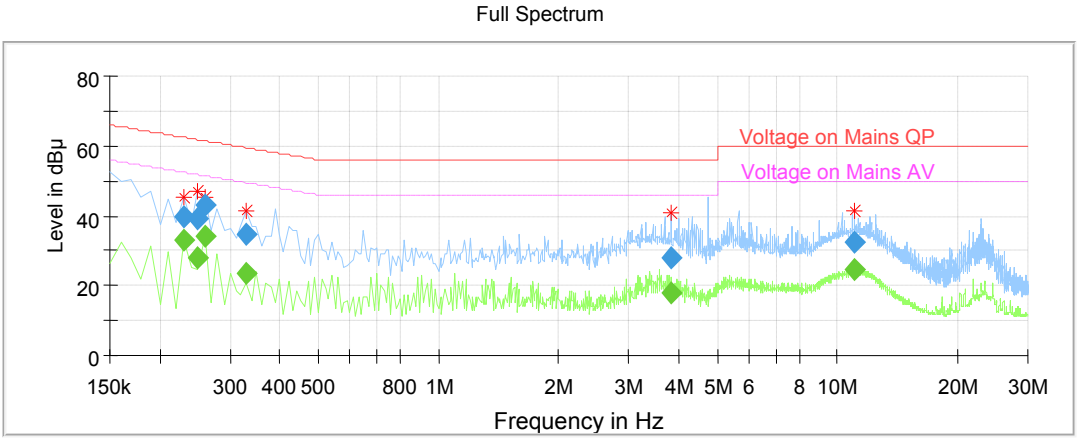
Powered by adapter

AC 120V/60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.190000	---	32.57	9.000	L1	10.0	21.47	54.04	Compliance
0.190000	44.70	---	9.000	L1	10.0	19.34	64.04	Compliance
0.240000	---	26.85	9.000	L1	10.0	25.25	52.10	Compliance
0.240000	33.61	---	9.000	L1	10.0	28.49	62.10	Compliance
0.260000	---	37.27	9.000	L1	10.0	14.16	51.43	Compliance
0.260000	42.50	---	9.000	L1	10.0	18.93	61.43	Compliance
0.320000	---	17.00	9.000	L1	10.0	32.71	49.71	Compliance
0.320000	33.06	---	9.000	L1	10.0	26.65	59.71	Compliance
3.560000	---	23.06	9.000	L1	9.9	22.94	46.00	Compliance
3.560000	27.09	---	9.000	L1	9.9	28.91	56.00	Compliance
12.080000	---	18.70	9.000	L1	10.1	31.30	50.00	Compliance
12.080000	25.80	---	9.000	L1	10.1	34.20	60.00	Compliance

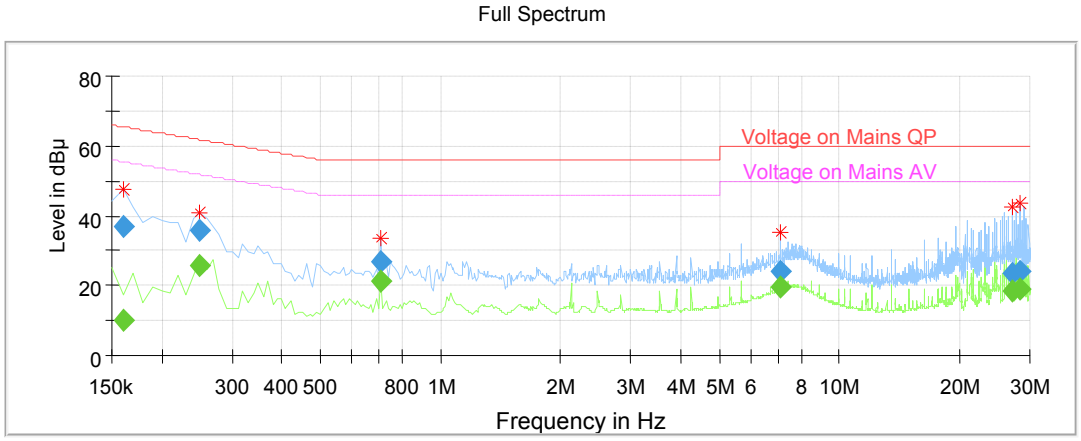
AC120V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.230000	---	32.84	9.000	N	10.4	19.61	52.45	Compliance
0.230000	39.72	---	9.000	N	10.4	22.73	62.45	Compliance
0.250000	---	28.21	9.000	N	10.3	23.55	51.76	Compliance
0.250000	39.32	---	9.000	N	10.3	22.44	61.76	Compliance
0.260000	---	34.07	9.000	N	10.3	17.36	51.43	Compliance
0.260000	43.05	---	9.000	N	10.3	18.38	61.43	Compliance
0.330000	---	23.47	9.000	N	10.3	25.98	49.45	Compliance
0.330000	34.55	---	9.000	N	10.3	24.90	59.45	Compliance
3.830000	---	18.13	9.000	N	9.9	27.87	46.00	Compliance
3.830000	27.87	---	9.000	N	9.9	28.13	56.00	Compliance
11.040000	---	24.87	9.000	N	10.0	25.13	50.00	Compliance
11.040000	32.34	---	9.000	N	10.0	27.66	60.00	Compliance

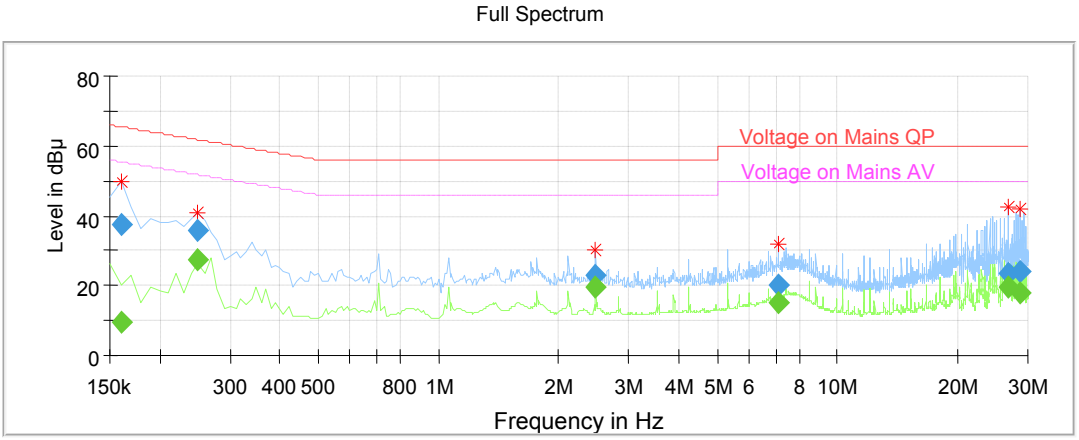
Powered by POE

AC 120V/60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.160000	---	10.34	9.000	L1	10.1	45.12	55.46	Compliance
0.160000	37.10	---	9.000	L1	10.1	28.36	65.46	Compliance
0.250000	---	25.73	9.000	L1	10.0	26.03	51.76	Compliance
0.250000	35.75	---	9.000	L1	10.0	26.01	61.76	Compliance
0.710000	---	21.24	9.000	L1	9.9	24.76	46.00	Compliance
0.710000	26.90	---	9.000	L1	9.9	29.10	56.00	Compliance
7.100000	---	19.49	9.000	L1	10.0	30.51	50.00	Compliance
7.100000	23.84	---	9.000	L1	10.0	36.16	60.00	Compliance
26.990000	---	18.43	9.000	L1	10.5	31.57	50.00	Compliance
26.990000	23.31	---	9.000	L1	10.5	36.69	60.00	Compliance
28.410000	---	19.00	9.000	L1	10.5	31.00	50.00	Compliance
28.410000	24.13	---	9.000	L1	10.5	35.87	60.00	Compliance

AC120V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.160000	---	9.27	9.000	N	10.1	46.19	55.46	Compliance
0.160000	37.50	---	9.000	N	10.1	27.96	65.46	Compliance
0.250000	---	27.31	9.000	N	10.1	24.45	51.76	Compliance
0.250000	35.91	---	9.000	N	10.1	25.85	61.76	Compliance
2.480000	---	19.55	9.000	N	9.9	26.45	46.00	Compliance
2.480000	23.15	---	9.000	N	9.9	32.85	56.00	Compliance
7.080000	---	14.98	9.000	N	9.9	35.02	50.00	Compliance
7.080000	20.14	---	9.000	N	9.9	39.86	60.00	Compliance
26.940000	---	19.84	9.000	N	10.3	30.16	50.00	Compliance
26.940000	23.66	---	9.000	N	10.3	36.34	60.00	Compliance
28.710000	---	18.04	9.000	N	10.3	31.96	50.00	Compliance
28.710000	24.01	---	9.000	N	10.3	35.99	60.00	Compliance

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

§15.205 & §15.209 & §15.407(B) (1),(4),(6),(7) – UNDESIRABLE EMISSION

Applicable Standard

FCC §15.407 (b) (1), (2), (4), (6), (7); §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

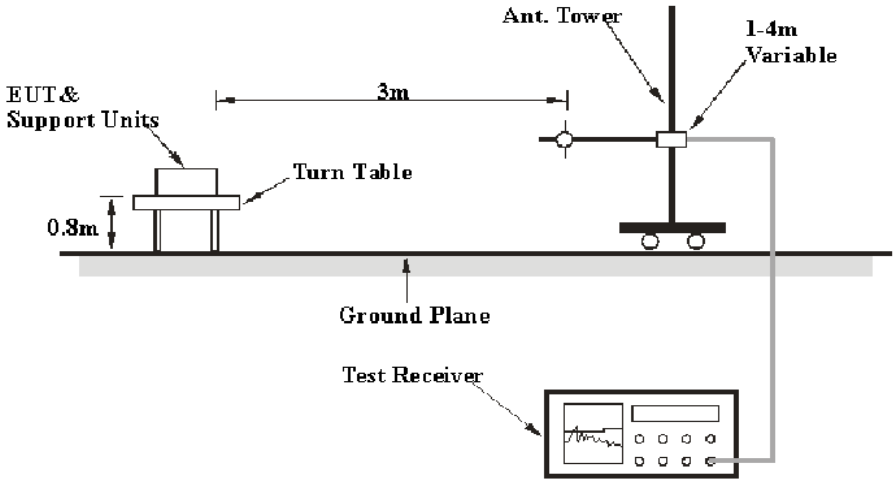
KDB 789033 D02 General UNII Test Procedures New Rulesv01, clause II.G 1 d),
(ii) E [dBμV/m] = EIRP [dBm] + 95.2, for d = 3 meters.

KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01 clause E.3)

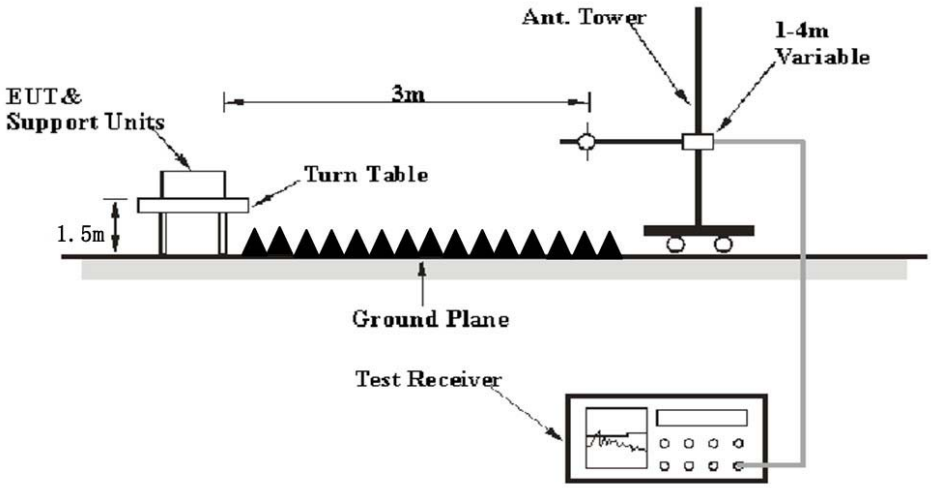
The general limit of -27 dBm EIRP (= 68 dBμV/m) is applied for unwanted emission of U-NII devices.
However, compliance with unwanted emissions in restricted bands may need to be considered, *e.g.,* some harmonics may land in the restricted bands below 5.15 GHz and above 5.35 GHz (refer
The general limit of -27 dBm EIRP (= 68 dBμV/m) is applied for unwanted emission of U-NII devices.
However, compliance with unwanted emissions in restricted bands may need to be considered, *e.g.,* some harmonics may land in the restricted bands below 5.15 GHz and above 5.35 GHz (refer to § 15.205 for restricted bands) that have average and peak limits specified in §§ 15.209 and 15.35(b), respectively.
Although the peak limit of 74 dBμV/m (20 dB above 54 dBμV/m) in the restricted band appears to be higher than 68 dBμV/m, the lower average limit of 54 dBμV/m in the restricted bands needs to be complied to

EUT Setup

Below 1 GHz:



Above 1 GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

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

The adapter was connected to a 120 VAC/60 Hz 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	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1MHz	10 Hz Note 1	/	Ave.
	1MHz	＞1/T Note 2	/	Ave.

Note 1: when duty cycle is no less than 98%
Note 2: when duty cycle is less than 98%

Test Procedure

Radiated Spurious Emission

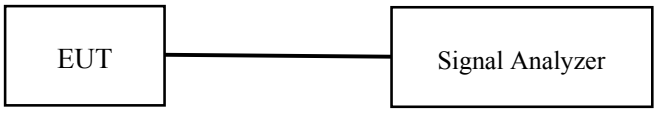
During the radiated emission test, the adapter was connected to the AC floor outlet.

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

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

Conducted Spurious Emission at Antenna Port

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The Resolution bandwidth is set to 1MHz, The Video bandwidth is set to ≥ 1MHz, report the peak value out of the oprating band.
3. Repeat above procedures until all frequencies measured were complete.



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

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

Margin = Limit – Corrected Amplitude

Test Results Summary

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level is in compliance with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	54 %
ATM Pressure:	101.0 kPa

The testing was performed by Layne Li on 2017-02-10.

EUT operation mode: Transmitting (worst case: simultaneous transmission for all the three transmitters)

30 MHz ~ 40 GHz: (5150-5250 MHz & 5725-5825 MHz)

802.11a mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5180 MHz									
381.25	43.72	QP	83	3.0	H	-9.46	34.26	46	11.74
5180.00	112.58	PK	73	2.1	H	2.28	114.86	/	/
5180.00	98.39	Ave.	73	2.1	H	2.28	100.67	/	/
5180.00	106.3	PK	129	2.1	V	2.28	108.58	/	/
5180.00	93.02	Ave.	129	2.1	V	2.28	95.30	/	/
5147.59	59.13	PK	182	1.6	H	2.17	61.30	74	12.70
5147.59	41.3	Ave.	87	2.3	H	2.17	43.47	54	10.53
10360.00	45.61	PK	24	1.2	H	12.9	58.51	74	15.49
10360.00	28.84	Ave.	24	1.2	H	12.9	41.74	54	12.26
5200 MHz									
381.25	43.37	QP	222	1.1	H	-9.46	33.91	46	12.09
5200.00	112.83	PK	49	2.5	H	2.28	115.11	/	/
5200.00	99.57	Ave.	49	2.5	H	2.28	101.85	/	/
5200.00	106.95	PK	336	1.1	V	2.28	109.23	/	/
5200.00	93.16	Ave.	336	1.1	V	2.28	95.44	/	/
5147.89	54.71	PK	349	1.4	H	2.17	56.88	74	17.12
5147.89	38.8	Ave.	349	1.4	H	2.17	40.97	54	13.03
10400.00	45.9	PK	346	2.0	H	12.9	58.80	74	15.20
10400.00	28.84	Ave.	346	2.0	H	12.9	41.74	54	12.26
5240 MHz									
381.25	43.74	QP	43	1.9	H	-9.46	34.28	46	11.72
5240.00	111.9	PK	210	1.8	H	2.28	114.18	/	/
5240.00	98.58	Ave.	210	1.8	H	2.28	100.86	/	/
5240.00	104.59	PK	110	1.5	V	2.28	106.87	/	/
5240.00	92.3	Ave.	110	1.5	V	2.28	94.58	/	/
5382.46	56.74	PK	296	1.9	V	2.28	59.02	74	14.98
5382.46	41.89	Ave.	296	1.9	V	2.28	44.17	54	9.83
10480.00	44.92	PK	308	1.7	H	14.06	58.98	74	15.02
10480.00	27.68	Ave.	308	1.7	H	14.06	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5745 MHz									
381.25	43.08	QP	186	1.6	H	-9.46	33.62	46	12.38
5745.00	111.89	PK	291	1.3	H	2.61	114.50	/	/
5745.00	98.25	Ave.	291	1.3	H	2.61	100.86	/	/
5745.00	107.18	PK	112	1.8	V	2.61	109.79	/	/
5745.00	94.08	Ave.	112	1.8	V	2.61	96.69	/	/
5724.56	77.34	PK	292	2.4	H	2.61	79.95	121.20	41.25
5717.51	67.98	PK	278	2.0	H	2.61	70.59	110.10	39.51
5695.79	55.42	PK	328	1.9	H	2.61	58.03	102.08	44.05
11490.00	44.59	PK	257	1.1	H	15.15	59.74	74	14.26
11490.00	29.38	Ave.	257	1.1	H	15.15	44.53	54	9.47
5785 MHz									
381.25	43.45	QP	216	2.7	H	-9.46	33.99	46	12.01
5785.00	111.66	PK	128	2.1	H	3.49	115.15	/	/
5785.00	98.49	Ave.	128	2.1	H	3.49	101.98	/	/
5785.00	106.83	PK	159	1.2	V	3.49	110.32	/	/
5785.00	93.18	Ave.	159	1.2	V	3.49	96.67	/	/
5722.96	55.39	PK	54	1.9	H	2.61	58.00	117.55	59.55
5715.87	55.51	PK	295	1.6	H	2.61	58.12	109.64	51.52
5668.13	55.4	PK	124	1.6	H	2.61	58.01	81.62	23.61
11570.00	46.03	PK	349	1.2	H	14.76	60.79	74	13.21
11570.00	30.88	Ave.	349	1.2	H	14.76	45.64	54	8.36

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5825 MHz									
381.25	42.6	QP	300	2.5	H	-9.46	33.14	46	12.86
5825.00	112.36	PK	72	1.4	H	3.49	115.85	/	/
5825.00	99.03	Ave.	72	1.4	H	3.49	102.52	/	/
5825.00	103.29	PK	74	2.0	V	3.49	106.78	/	/
5825.00	90.74	Ave.	74	2.0	V	3.49	94.23	/	/
5850.09	65.77	PK	54	1.3	H	3.49	69.26	121.99	52.73
5858.01	64.85	PK	219	1.4	H	3.49	68.34	109.96	41.62
5879.05	54.47	PK	79	2.2	H	3.49	57.96	102.20	44.24
11650.00	46.06	PK	75	2.3	H	14.76	60.82	74	13.18
11650.00	30.84	Ave.	75	2.3	H	14.76	45.60	54	8.40

802.11n20 mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5180 MHz									
381.25	43.35	QP	311	2.7	H	-9.46	33.89	46	12.11
5180.00	112.58	PK	7	1.5	H	2.28	114.86	/	/
5180.00	99.47	Ave.	7	1.5	H	2.28	101.75	/	/
5180.00	108.38	PK	144	1.5	V	2.28	110.66	/	/
5180.00	95.39	Ave.	144	1.5	V	2.28	97.67	/	/
5148.69	56.77	PK	67	1.6	H	2.17	58.94	74	15.06
5148.69	43.23	Ave.	67	1.6	H	2.17	45.40	54	8.60
10360.00	45.53	PK	349	2.5	H	12.9	58.43	74	15.57
10360.00	28.84	Ave.	349	2.5	H	12.9	41.74	54	12.26
5200 MHz									
381.25	42.32	QP	209	1.2	H	-9.46	32.86	46	13.14
5200.00	111.32	PK	298	2.0	H	2.28	113.60	/	/
5200.00	97.95	Ave.	298	2.0	H	2.28	100.23	/	/
5200.00	107.62	PK	62	1.3	V	2.28	109.90	/	/
5200.00	94.49	Ave.	62	1.3	V	2.28	96.77	/	/
5146.09	53.55	PK	99	2.3	H	2.17	55.72	74	18.28
5146.09	38.8	Ave.	99	2.3	H	2.17	40.97	54	13.03
5471.14	57.61	PK	270	1.2	H	2.61	60.22	74	13.78
5471.14	43.59	Ave.	270	1.2	H	2.61	46.20	54	7.80
10400.00	45.96	PK	173	2.2	H	12.9	58.86	74	15.14
10400.00	28.84	Ave.	173	2.2	H	12.9	41.74	54	12.26
5240 MHz									
381.25	43.35	QP	311	2.7	H	-9.46	33.89	46	12.11
5240.00	112.24	PK	214	1.3	H	2.28	114.52	/	/
5240.00	98.25	Ave.	214	1.3	H	2.28	100.53	/	/
5240.00	105.69	PK	101	1.9	V	2.28	107.97	/	/
5240.00	91.4	Ave.	101	1.9	V	2.28	93.68	/	/
5364.12	56.26	PK	210	1.7	V	2.28	58.54	74	15.46
5364.12	40.73	Ave.	210	1.7	V	2.28	43.01	54	10.99
10480.00	44.44	PK	20	2.4	H	14.06	58.50	74	15.50
10480.00	27.68	Ave.	20	2.4	H	14.06	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5745 MHz									
381.25	43.3	QP	352	1.1	H	-9.46	33.84	46	12.16
5745.00	113.26	PK	343	1.8	H	2.61	115.87	/	/
5745.00	98.62	Ave.	343	1.8	H	2.61	101.23	/	/
5745.00	106.44	PK	43	2.2	V	2.61	109.05	/	/
5745.00	92.95	Ave.	43	2.2	V	2.61	95.56	/	/
5724.87	72.28	PK	27	1.5	H	2.61	74.89	121.90	47.01
5719.32	71.5	PK	348	1.6	H	2.61	74.11	110.61	36.50
5697.75	56.61	PK	292	2.1	H	2.61	59.22	103.54	44.32
11490.00	44.87	PK	30	1.0	H	15.15	60.02	74	13.98
11490.00	29.42	Ave.	30	1.0	H	15.15	44.57	54	9.43
5785 MHz									
381.25	43.45	QP	216	2.7	H	-9.46	33.99	46	12.01
5785.00	111.67	PK	274	2.4	H	3.49	115.16	/	/
5785.00	98.88	Ave.	274	2.4	H	3.49	102.37	/	/
5785.00	105.87	PK	176	2.4	V	3.49	109.36	/	/
5785.00	92.61	Ave.	176	2.4	V	3.49	96.10	/	/
5721.26	55.09	PK	230	1.4	H	2.61	57.70	113.67	55.97
5852.27	53.02	PK	338	1.9	H	3.49	56.51	117.02	60.51
11570.00	45.87	PK	232	2.4	H	14.76	60.63	74	13.37
11570.00	30.74	Ave.	232	2.4	H	14.76	45.50	54	8.50

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5825 MHz									
381.25	43.3	QP	352	1.1	H	-9.46	33.84	46	12.16
5825.00	111.99	PK	308	1.6	H	3.49	115.48	/	/
5825.00	98.11	Ave.	308	1.6	H	3.49	101.60	/	/
5825.00	104.75	PK	118	2.1	V	3.49	108.24	/	/
5825.00	90.69	Ave.	118	2.1	V	3.49	94.18	/	/
5850.06	67.38	PK	80	1.1	H	3.49	70.87	122.06	51.19
5855.36	62.92	PK	288	2.3	H	3.49	66.41	110.70	44.29
5875.19	54.81	PK	304	2.0	H	3.49	58.30	105.06	46.76
11650.00	45.97	PK	195	1.5	H	14.76	60.73	74	13.27
11650.00	30.82	Ave.	195	1.5	H	14.76	45.58	54	8.42

802.11n40 mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5190 MHz									
381.25	43.34	QP	108	1.3	H	-9.46	33.88	46	12.12
5190.00	108.98	PK	304	1.8	H	2.28	111.26	/	/
5190.00	93.68	Ave.	304	1.8	H	2.28	95.96	/	/
5190.00	103.07	PK	23	2.4	V	2.28	105.35	/	/
5190.00	87.88	Ave.	23	2.4	V	2.28	90.16	/	/
5149.43	65.85	PK	195	1.2	H	2.17	68.02	74	5.98
5149.43	47.34	Ave.	195	1.2	H	2.17	49.51	54	4.49
10380.00	45.73	PK	229	2.4	H	12.9	58.63	74	15.37
10380.00	28.84	Ave.	229	2.4	H	12.9	41.74	54	12.26
5230 MHz									
381.25	42.48	QP	142	2.2	H	-9.46	33.02	46	12.98
5230.00	108.46	PK	359	1.4	H	2.28	110.74	/	/
5230.00	91.83	Ave.	359	1.4	H	2.28	94.11	/	/
5230.00	102.23	PK	291	2.0	V	2.28	104.51	/	/
5230.00	86.59	Ave.	291	2.0	V	2.28	88.87	/	/
5454.68	57.41	PK	145	2.3	H	2.61	60.02	74	13.98
5454.68	42.43	Ave.	145	2.3	H	2.61	45.04	54	8.96
10460.00	44.11	PK	334	2.4	H	14.06	58.17	74	15.83
10460.00	27.68	Ave.	334	2.4	H	14.06	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5755 MHz									
381.25	43.33	QP	180	1.7	H	-9.46	33.87	46	12.13
5755.00	110.36	PK	190	1.3	H	3.49	113.85	/	/
5755.00	94.66	Ave.	190	1.3	H	3.49	98.15	/	/
5755.00	102.43	PK	138	2.0	V	3.49	105.92	/	/
5755.00	87.05	Ave.	138	2.0	V	3.49	90.54	/	/
5723.98	80.77	PK	18	2.4	H	2.61	83.38	119.87	36.49
5719.59	77.64	PK	24	2.0	H	2.61	80.25	110.69	30.44
5699.29	64.5	PK	231	2.4	H	2.61	67.11	104.67	37.56
11510.00	44.95	PK	160	2.0	H	15.15	60.10	74	13.90
11510.00	29.46	Ave.	160	2.0	H	15.15	44.61	54	9.39
5795 MHz									
381.25	43.37	QP	335	2.5	H	-9.46	33.91	46	12.09
5795.00	110.47	PK	322	1.5	H	3.49	113.96	/	/
5795.00	95.02	Ave.	322	1.5	H	3.49	98.51	/	/
5795.00	102.65	PK	199	2.0	V	3.49	106.14	/	/
5795.00	87.25	Ave.	199	2.0	V	3.49	90.74	/	/
5854.81	61.45	PK	127	2.3	H	3.49	64.94	111.23	46.29
5855.96	61.49	PK	26	1.3	H	3.49	64.98	110.53	45.55
5674.04	55.54	PK	11	1.8	H	2.61	58.15	85.99	27.84
11590.00	46.59	PK	339	2.3	H	14.76	61.35	74	12.65
11590.00	30.96	Ave.	339	2.3	H	14.76	45.72	54	8.28

802.11ac20 mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5180 MHz									
381.25	42.79	QP	60	1.9	H	-9.46	33.33	46	12.67
5180.00	111.99	PK	300	1.3	H	2.28	114.27	/	/
5180.00	98.08	Ave.	300	1.3	H	2.28	100.36	/	/
5180.00	105.24	PK	304	1.1	V	2.28	107.52	/	/
5180.00	91.88	Ave.	304	1.1	V	2.28	94.16	/	/
5150.00	59.58	PK	141	1.0	H	2.28	61.86	74	12.14
5150.00	43.87	Ave.	141	1.0	H	2.28	46.15	54	7.85
5520.64	58.94	PK	242	1.4	H	2.61	61.55	74	12.45
5520.64	43.59	Ave.	242	1.4	H	2.61	46.20	54	7.80
10360.00	45.92	PK	315	1.9	H	12.9	58.82	74	15.18
10360.00	28.84	Ave.	315	1.9	H	12.9	41.74	54	12.26
5200 MHz									
381.25	42.65	QP	112	1.7	H	-9.46	33.19	46	12.81
5200.00	112.2	PK	76	2.3	H	2.28	114.48	/	/
5200.00	98.85	Ave.	76	2.3	H	2.28	101.13	/	/
5200.00	105.36	PK	346	1.6	V	2.28	107.64	/	/
5200.00	91.33	Ave.	346	1.6	V	2.28	93.61	/	/
5144.78	53.44	PK	157	1.4	H	2.17	55.61	74	18.39
5144.78	38.8	Ave.	157	1.4	H	2.17	40.97	54	13.03
5356.51	55.02	PK	15	1.7	H	2.28	57.30	74	16.70
5356.51	40.73	Ave.	15	1.7	H	2.28	43.01	54	10.99
10400.00	45.72	PK	256	1.1	H	12.9	58.62	74	15.38
10400.00	28.84	Ave.	256	1.1	H	12.9	41.74	54	12.26
High channel(5240MHz)									
381.25	43.89	QP	284	1.8	H	-9.46	34.43	46	11.57
5240.00	111.75	PK	311	1.7	H	2.28	114.03	/	/
5240.00	98.78	Ave.	311	1.7	H	2.28	101.06	/	/
5240.00	105.32	PK	270	1.7	V	2.28	107.60	/	/
5240.00	92.53	Ave.	270	1.7	V	2.28	94.81	/	/
5387.77	56.00	PK	137	1.9	H	2.28	58.28	74	15.72
5387.77	40.73	Ave.	137	1.9	H	2.28	43.01	54	10.99
10480.00	44.68	PK	223	1.6	H	14.06	58.74	74	15.26
10480.00	27.68	Ave.	223	1.6	H	14.06	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5745 MHz									
381.25	42.61	QP	216	3.0	H	-9.46	33.15	46	12.85
5745.00	113.47	PK	224	2.1	H	2.61	116.08	/	/
5745.00	99.56	Ave.	224	2.1	H	2.61	102.17	/	/
5745.00	103.48	PK	101	1.5	V	2.61	106.09	/	/
5745.00	89.74	Ave.	101	1.5	V	2.61	92.35	/	/
5723.58	73.15	PK	3	1.5	H	2.61	75.76	118.96	43.20
5719.39	71.64	PK	270	2.1	H	2.61	74.25	110.63	36.38
5695.99	55.58	PK	60	1.4	H	2.61	58.19	102.23	44.04
11490.00	44.63	PK	79	2.1	H	15.15	59.78	74	14.22
11490.00	29.17	Ave.	79	2.1	H	15.15	44.32	54	9.68
5785 MHz									
381.25	43.24	QP	30	2.2	H	-9.46	33.78	46	12.22
5785.00	112.27	PK	310	2.2	H	3.49	115.76	/	/
5785.00	98.38	Ave.	310	2.2	H	3.49	101.87	/	/
5785.00	102.71	PK	248	1.9	V	3.49	106.20	/	/
5785.00	87.99	Ave.	248	1.9	V	3.49	91.48	/	/
5722.05	54.26	PK	340	1.4	H	2.61	56.87	115.47	58.60
5854.75	54.38	PK	162	2.4	H	3.49	57.87	111.37	53.50
11570.00	45.96	PK	105	1.3	H	14.76	60.72	74	13.28
11570.00	31.15	Ave.	105	1.3	H	14.76	45.91	54	8.09

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5825 MHz									
381.25	43.08	QP	187	1.0	H	-9.46	33.62	46	12.38
5825.00	110.72	PK	176	1.3	H	3.49	114.21	/	/
5825.00	96.37	Ave.	176	1.3	H	3.49	99.86	/	/
5825.00	104.19	PK	175	1.0	V	3.49	107.68	/	/
5825.00	91.86	Ave.	175	1.0	V	3.49	95.35	/	/
5851.04	67.55	PK	328	1.9	H	3.49	71.04	119.83	48.79
5855.48	64.26	PK	315	1.3	H	3.49	67.75	110.67	42.92
5875.85	54.90	PK	329	2.0	H	3.49	58.39	104.57	46.18
11650.00	46.30	PK	357	1.8	H	14.76	61.06	74	12.94
11650.00	31.00	Ave.	357	1.8	H	14.76	45.76	54	8.24

802.11ac40 mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5190 MHz									
381.25	42.44	QP	138	2.2	H	-9.46	32.98	46	13.02
5190.00	108.64	PK	54	1.8	H	2.28	110.92	/	/
5190.00	93.67	Ave.	54	1.8	H	2.28	95.95	/	/
5190.00	102.63	PK	138	1.5	V	2.28	104.91	/	/
5190.00	88.33	Ave.	138	1.5	V	2.28	90.61	/	/
5149.19	64.88	PK	40	2.1	H	2.17	67.05	74	6.95
5149.19	46.32	Ave.	40	2.1	H	2.17	48.49	54	5.51
10380.00	45.62	PK	346	2.1	H	12.9	58.52	74	15.48
10380.00	28.84	Ave.	346	2.1	H	12.9	41.74	54	12.26
5230 MHz									
381.25	42.95	QP	164	1.9	H	-9.46	33.49	46	12.51
5230.00	107.53	PK	143	1.0	H	2.28	109.81	/	/
5230.00	93.4	Ave.	143	1.0	H	2.28	95.68	/	/
5230.00	101.4	PK	150	2.5	V	2.28	103.68	/	/
5230.00	86.43	Ave.	150	2.5	V	2.28	88.71	/	/
5499.79	59.03	PK	252	1.1	H	2.61	61.64	74	12.36
5499.79	44.61	Ave.	252	1.1	H	2.61	47.22	54	6.78
10460.00	44.53	PK	220	2.0	H	14.06	58.59	74	15.41
10460.00	27.68	Ave.	220	2.0	H	14.06	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5755 MHz									
381.25	42.88	QP	66	1.5	H	-9.46	33.42	46	12.58
5755.00	110.95	PK	317	2.3	H	3.49	114.44	/	/
5755.00	94.75	Ave.	317	2.3	H	3.49	98.24	/	/
5755.00	100.97	PK	201	2.0	V	3.49	104.46	/	/
5755.00	86.04	Ave.	201	2.0	V	3.49	89.53	/	/
5723.81	80.64	PK	27	1.2	H	2.61	83.25	119.49	36.24
5719.99	76.67	PK	3	1.6	H	2.61	79.28	110.80	31.52
5697.29	64.32	PK	114	1.7	H	2.61	66.93	103.19	36.26
11510.00	44.96	PK	26	1.4	H	15.15	60.11	74	13.89
11510.00	29.02	Ave.	26	1.4	H	15.15	44.17	54	9.83
5795 MHz									
381.25	42.48	QP	34	1.8	H	-9.46	33.02	46	12.98
5795.00	111.73	PK	283	2.5	H	3.49	115.22	/	/
5795.00	95.53	Ave.	283	2.5	H	3.49	99.02	/	/
5795.00	102.22	PK	109	1.1	V	3.49	105.71	/	/
5795.00	87.01	Ave.	109	1.1	V	3.49	90.50	/	/
5850.02	63.68	PK	223	1.8	H	3.49	67.17	122.15	54.98
5863.65	62.9	PK	76	1.3	H	3.49	66.39	108.38	41.99
5877.85	57.71	PK	170	2.3	H	3.49	61.20	103.09	41.89
11590.00	46.35	PK	40	1.2	H	14.76	61.11	74	12.89
11590.00	30.87	Ave.	40	1.2	H	14.76	45.63	54	8.37

802.11ac80 mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5210 MHz									
381.25	43.14	QP	245	1.5	H	-9.46	33.68	46	12.32
5210.00	107.99	PK	289	1.8	H	2.28	110.27	/	/
5210.00	88.86	Ave.	289	1.8	H	2.28	91.14	/	/
5210.00	100.02	PK	282	2.4	V	2.28	102.30	/	/
5210.00	81.29	Ave.	282	2.4	V	2.28	83.57	/	/
5143.48	67.71	PK	204	1.2	H	2.17	69.88	74	4.12
5143.48	46.76	Ave.	204	1.2	H	2.17	48.93	54	5.07
5352.91	58.3	PK	44	1.2	H	2.28	60.58	74	13.42
5352.91	40.73	Ave.	44	1.2	H	2.28	43.01	54	10.99
10420.00	45.42	PK	30	1.9	H	12.9	58.32	74	15.68
10420.00	28.84	Ave.	30	1.9	H	12.9	41.74	54	12.26

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.407/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
5775 MHz									
381.25	42.89	QP	32	1.8	H	-9.46	33.43	46	12.57
5775.00	102.33	PK	41	1.5	H	3.49	105.82	/	/
5775.00	85.29	Ave.	41	1.5	H	3.49	88.78	/	/
5775.00	94.69	PK	88	1.2	V	3.49	98.18	/	/
5775.00	78.36	Ave.	88	1.2	V	3.49	81.85	/	/
5720.13	72.26	PK	200	2.3	H	2.61	74.87	111.10	36.23
5850.85	62.07	PK	307	1.3	H	3.49	65.56	120.26	54.70
5719.83	71.72	PK	321	1.9	H	2.61	74.33	110.75	36.42
5859.96	63.11	PK	220	1.7	H	3.49	66.60	109.41	42.81
5686.47	64.45	PK	219	1.4	H	2.61	67.06	95.19	28.13
5875.11	57.47	PK	349	1.1	H	3.49	60.96	105.12	44.16
11550.00	46.23	PK	142	1.1	H	14.76	60.99	74	13.01
11550.00	30.86	Ave.	142	1.1	H	14.76	45.62	54	8.38

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.

§15.407(B) (1),(4) –OUT OF BAND EMISSION

Applicable Standard

FCC §15.407 (b) (1), (4);

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 EIRP of –27dBm/MHz.

For transmitters operating in the 5.725–5.825 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.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The Resolution bandwidth is set to 1MHz, The Video bandwidth is set to ≥ 1MHz, report the peak value out of the oprating band.
3. Repeat above procedures until all frequencies measured were complete.

Test Data

Environmental Conditions

Temperature:	22 ℃
Relative Humidity:	50 %
ATM Pressure:	100.0~101.0 kPa

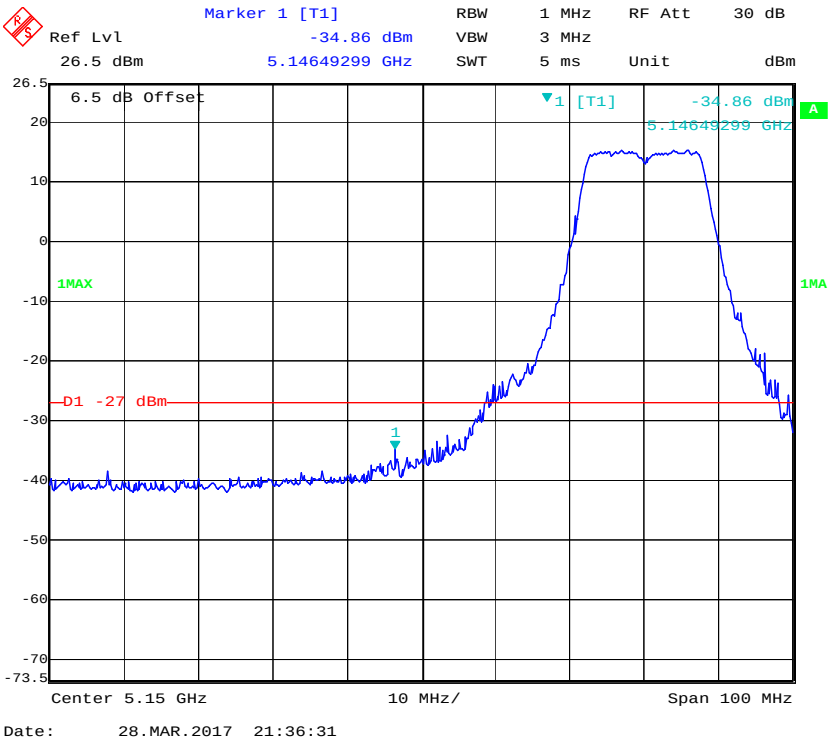
The testing was performed by Alisa Gao 2017-03-28.

EUT operation mode: Transmitting

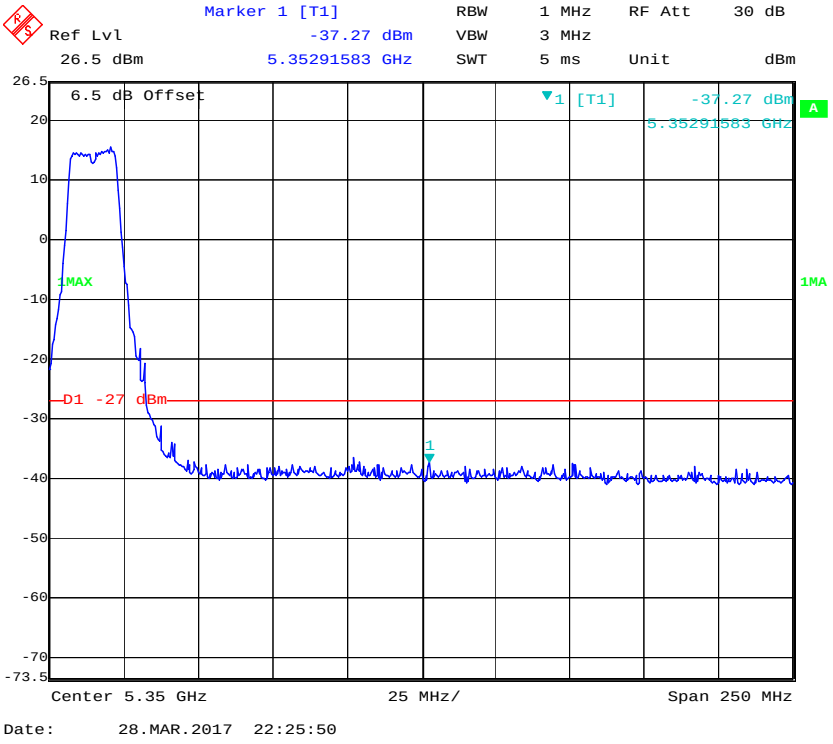
Note: The antenna gain had been offset in the plot, the limit is EIRP, 3 antenna can transmitting together.

5150 – 5250 MHz, Ant 1:

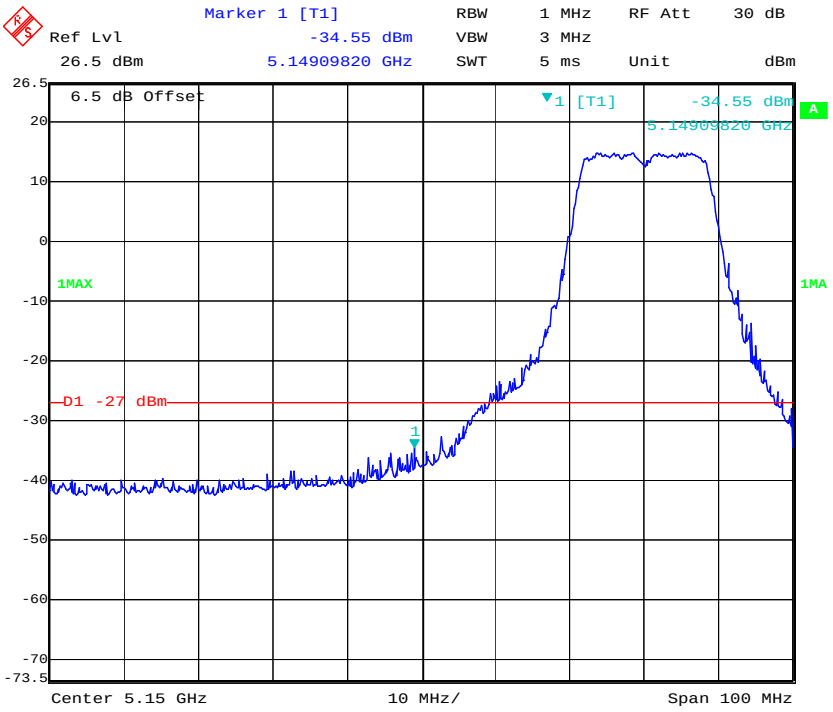
802.11a mode, Band Edge, Left Side



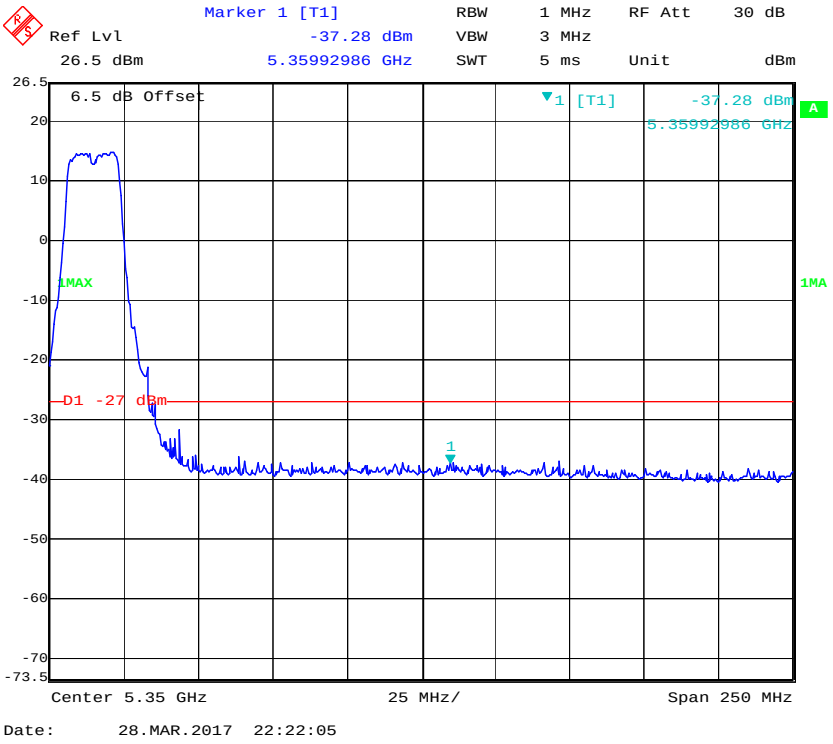
802.11a mode, Band Edge, Right Side



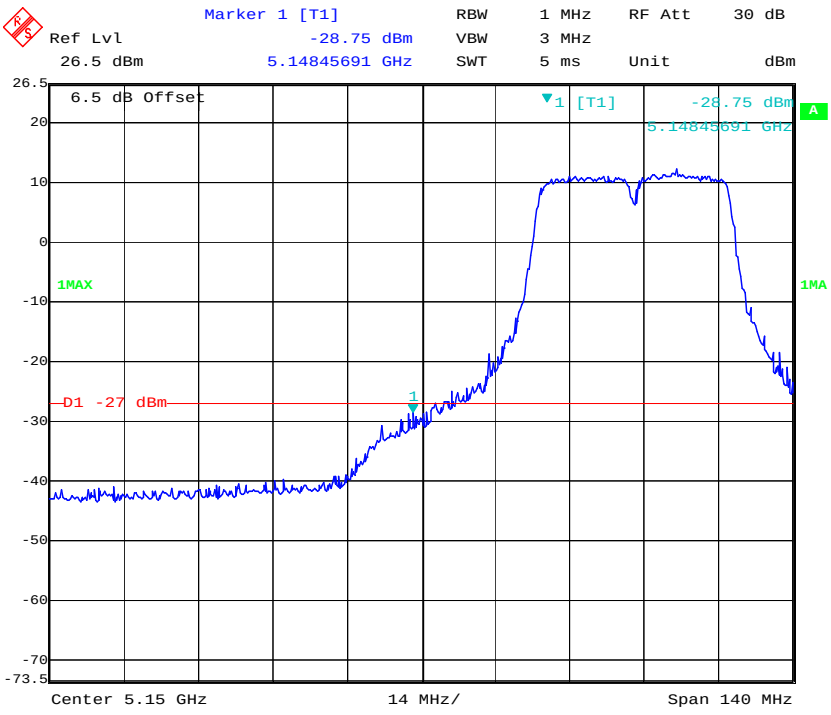
802.11n20 mode, Band Edge, Left Side



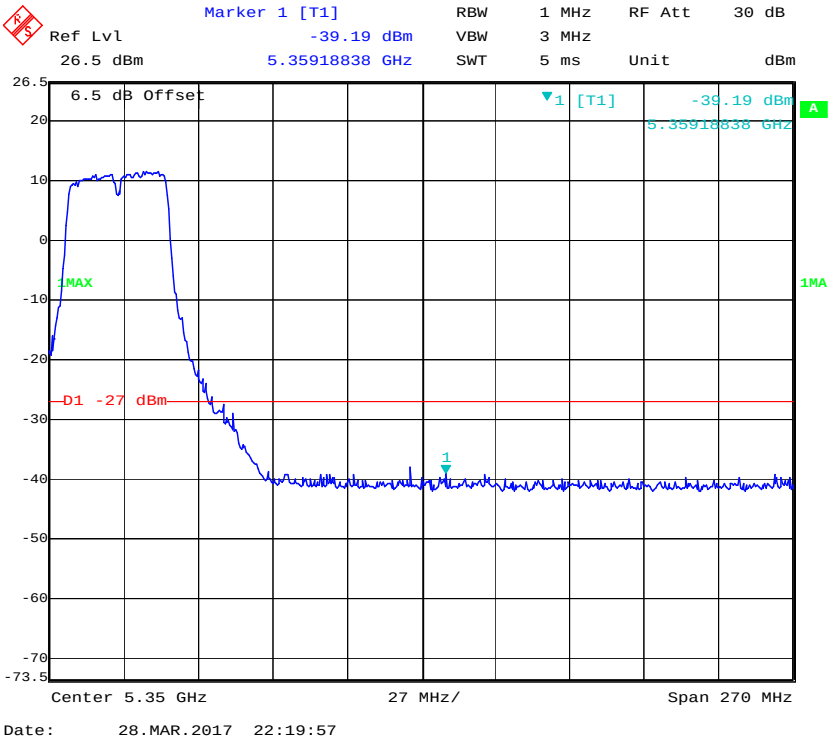
802.11n20 mode, Band Edge, Right Side



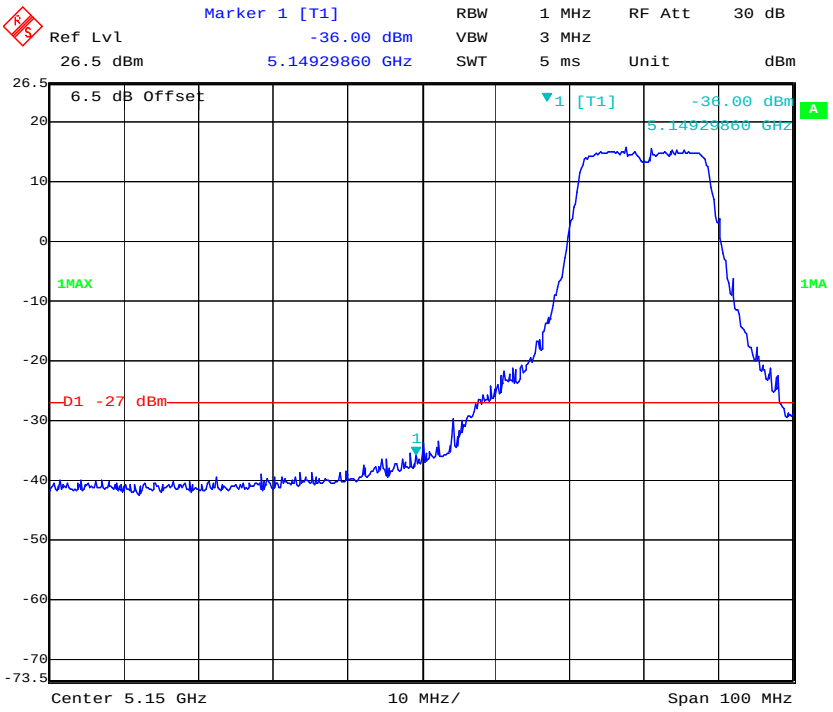
802.11n40 mode, Band Edge, Left Side



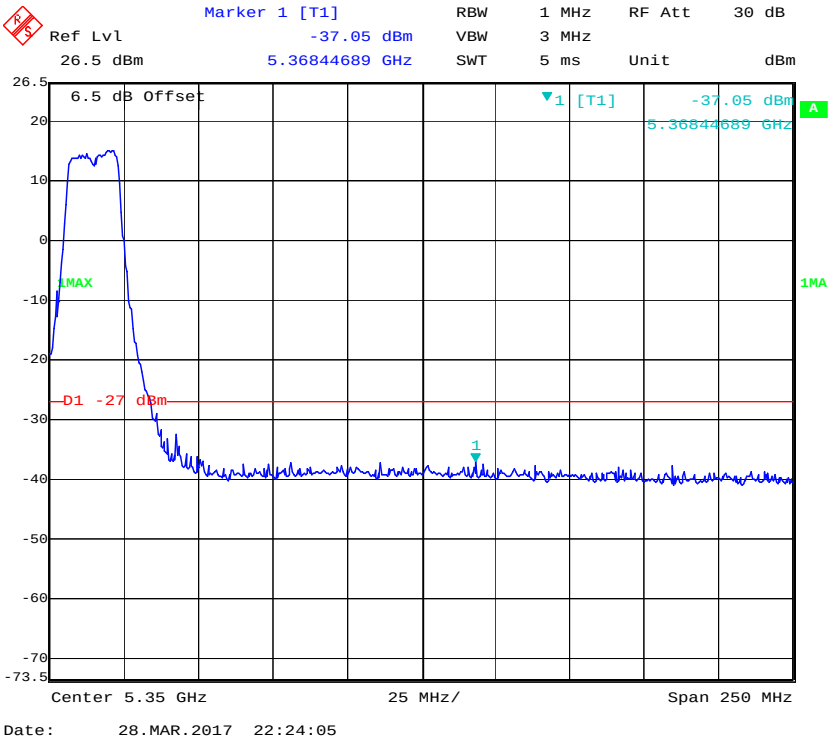
802.11n40 mode, Band Edge, Right Side



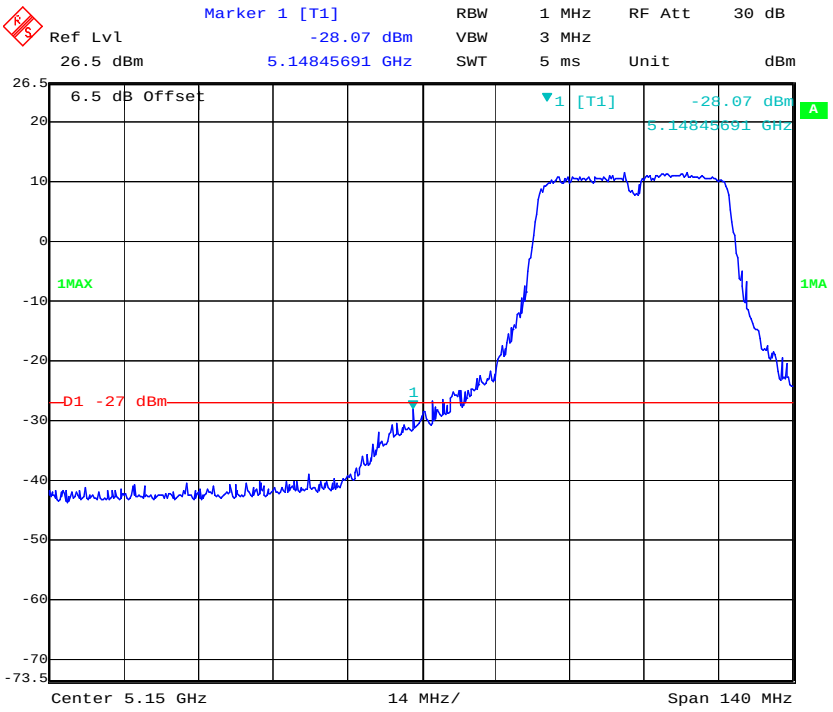
802.11ac20 mode, Band Edge, Left Side



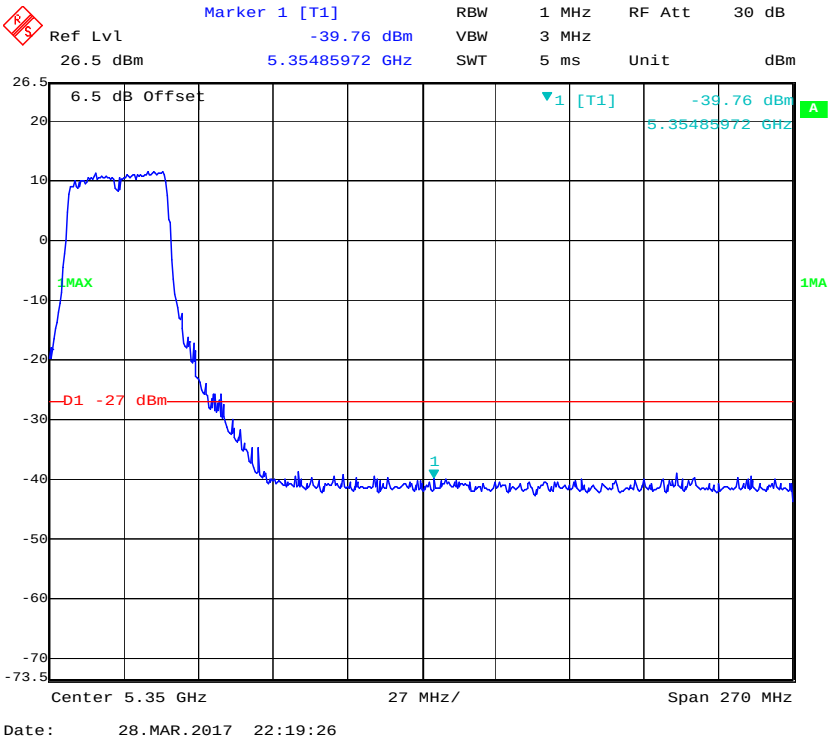
802.11ac20 mode, Band Edge, Right Side



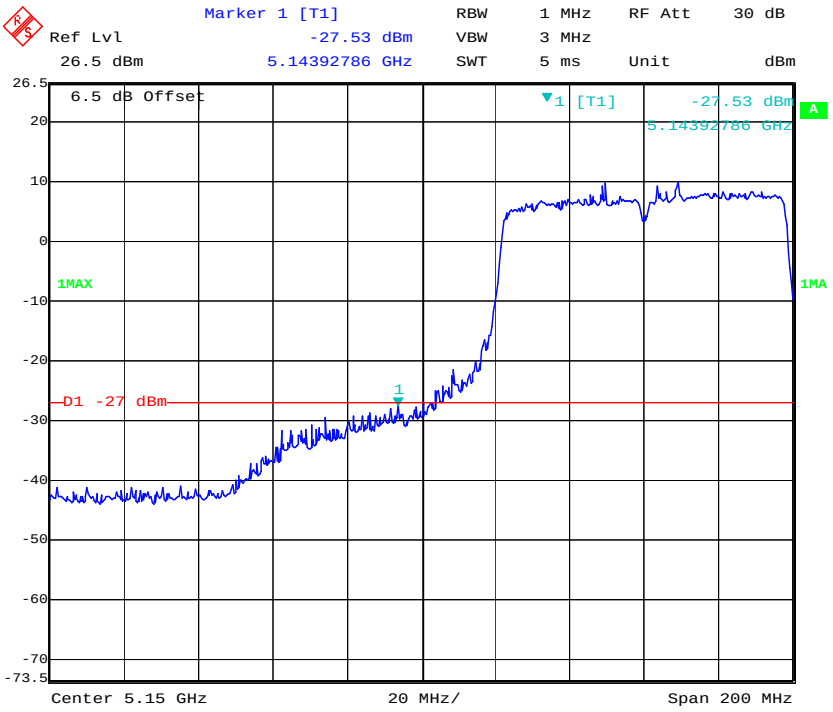
802.11ac40 mode, Band Edge, Left Side



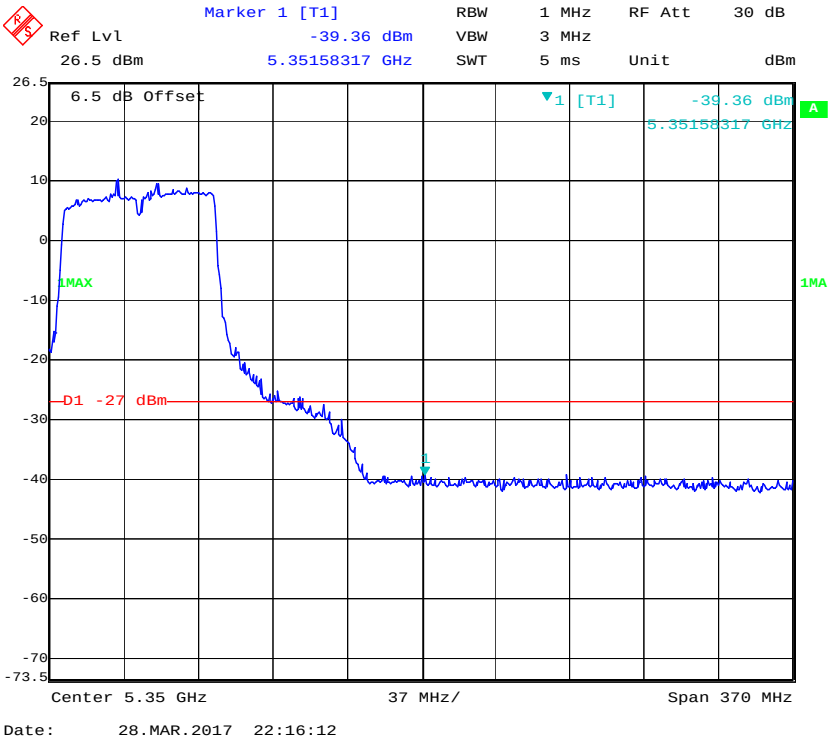
802.11ac40 mode, Band Edge, Right Side



802.11ac80 mode, Band Edge, Left Side

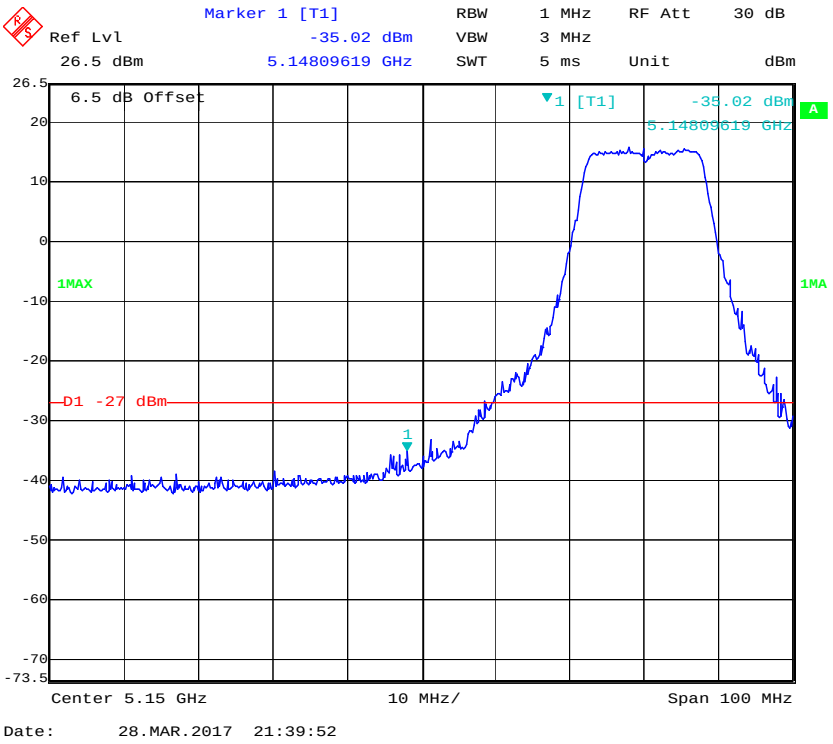


802.11ac80 mode, Band Edge, Right Side

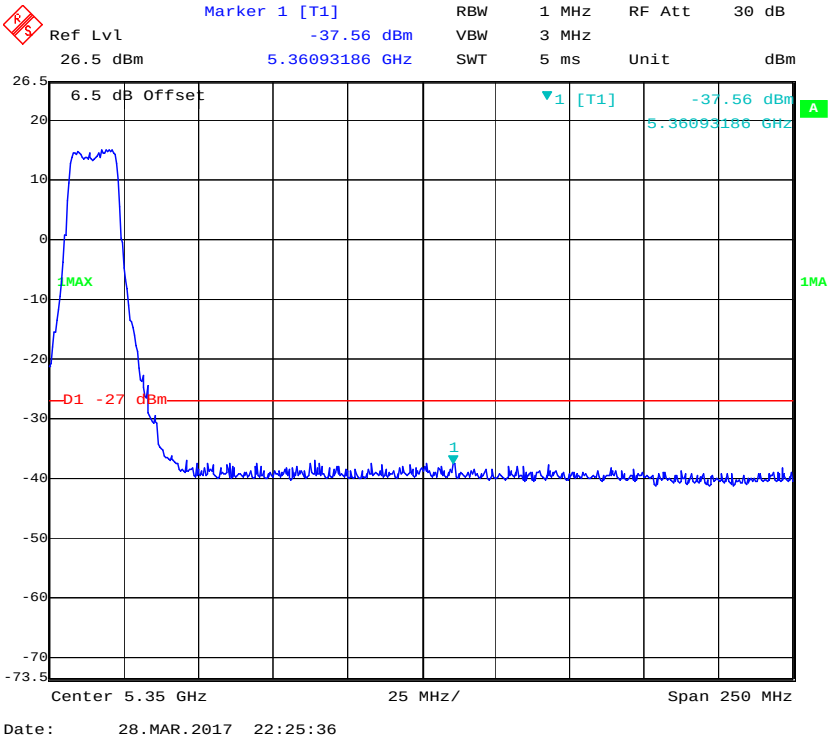


5150 – 5250 MHz, Ant 2:

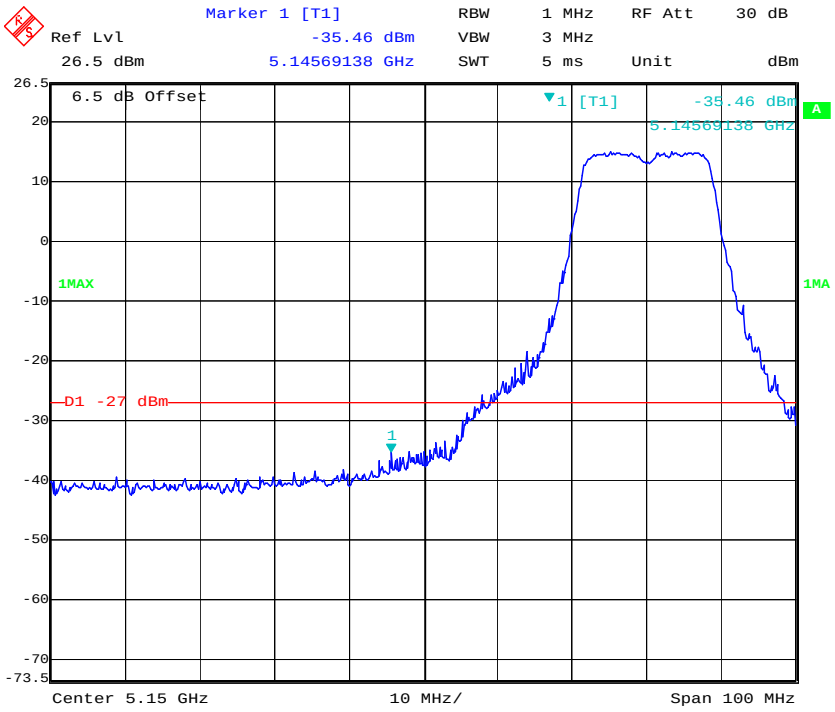
802.11a mode, Band Edge, Left Side



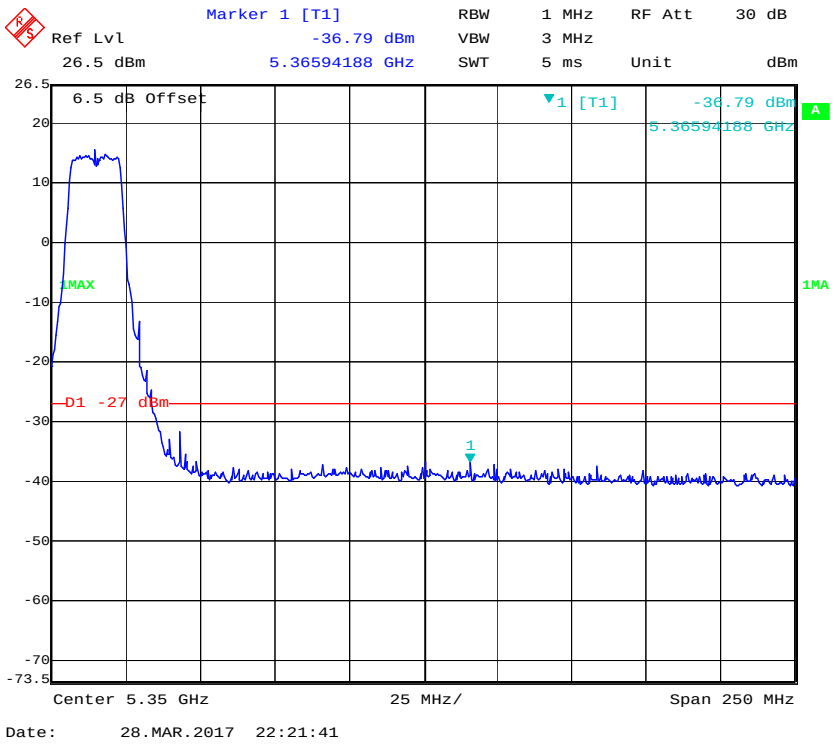
802.11a mode, Band Edge, Right Side



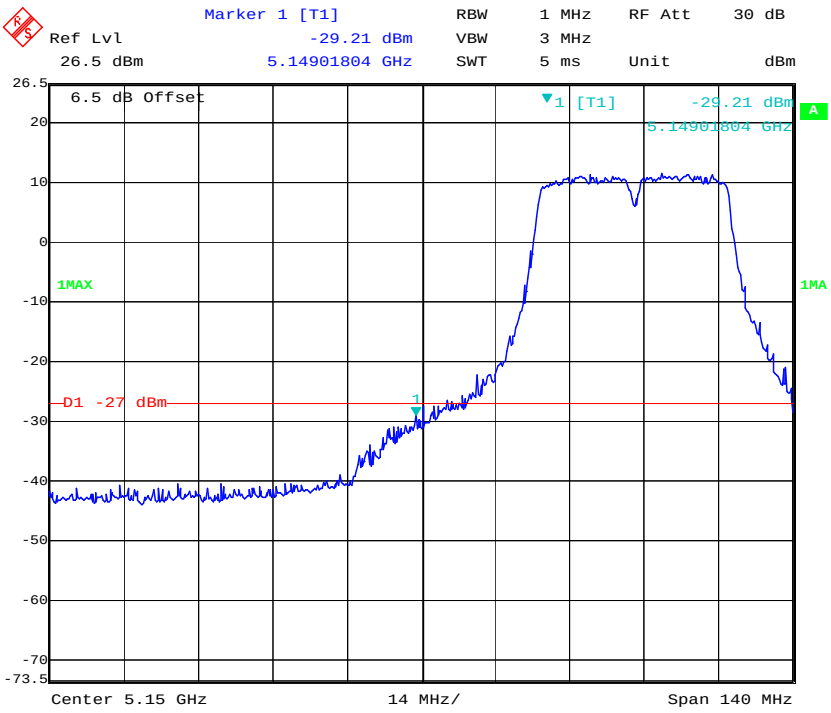
802.11n20 mode, Band Edge, Left Side



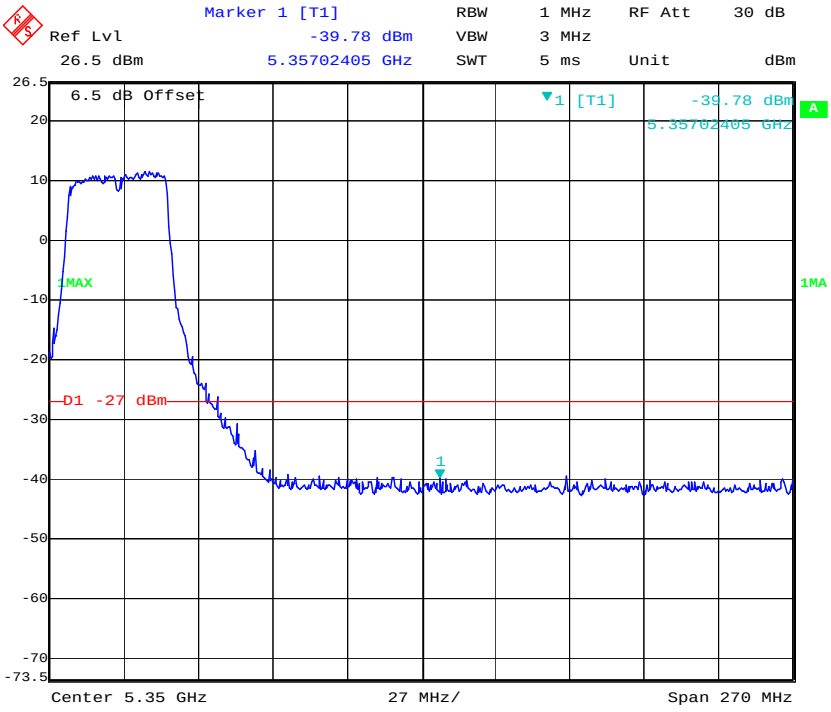
802.11n20 mode, Band Edge, Right Side



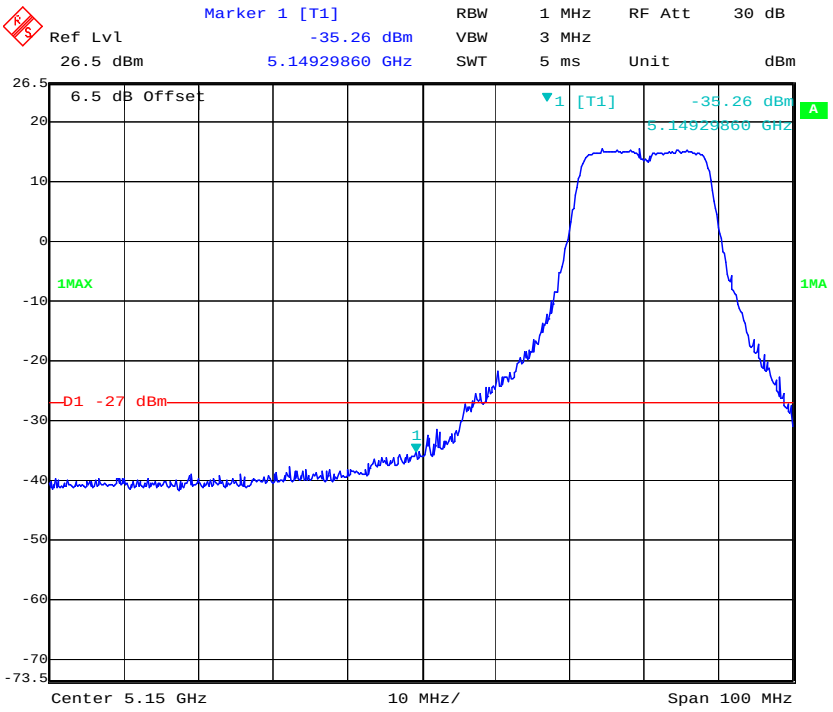
802.11n40 mode, Band Edge, Left Side



802.11n40 mode, Band Edge, Right Side



802.11ac20 mode, Band Edge, Left Side



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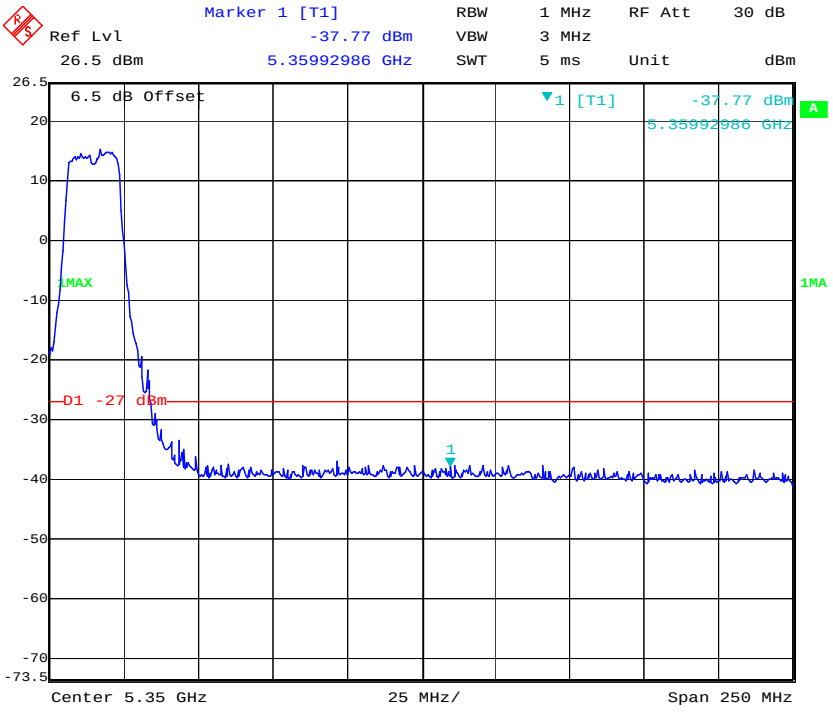
802.11ac20 mode, Band Edge, Right Side



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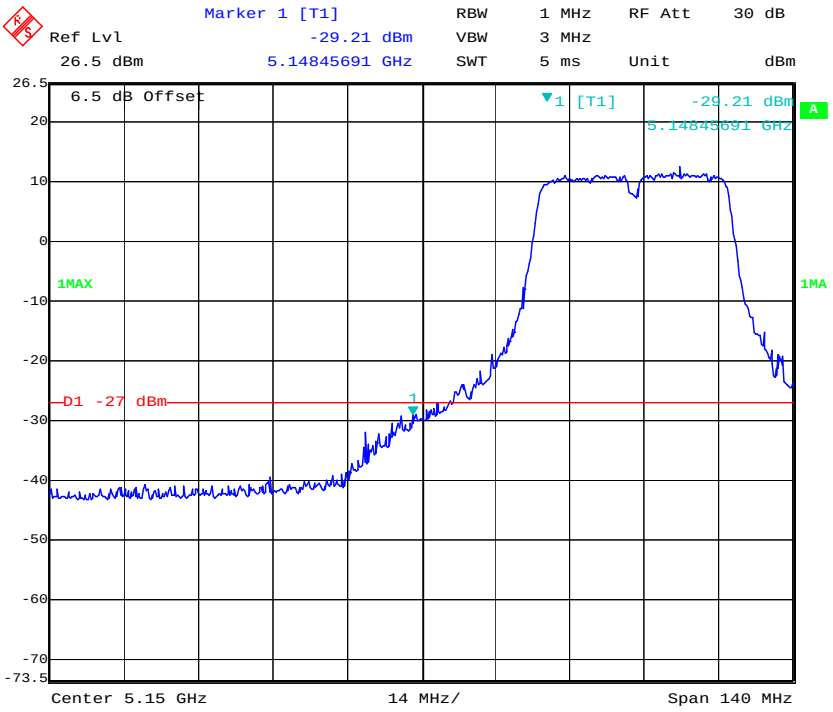
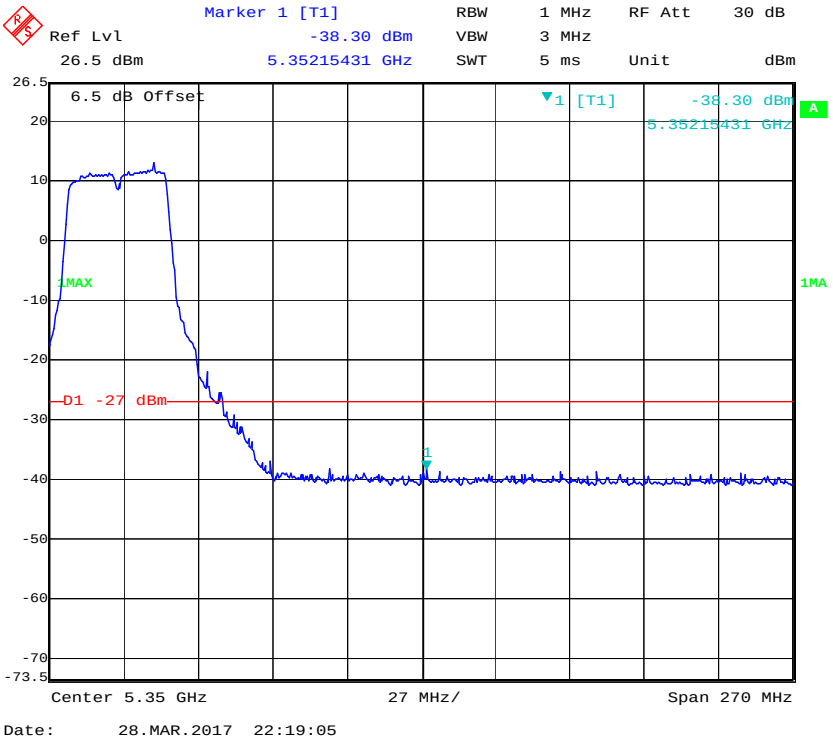
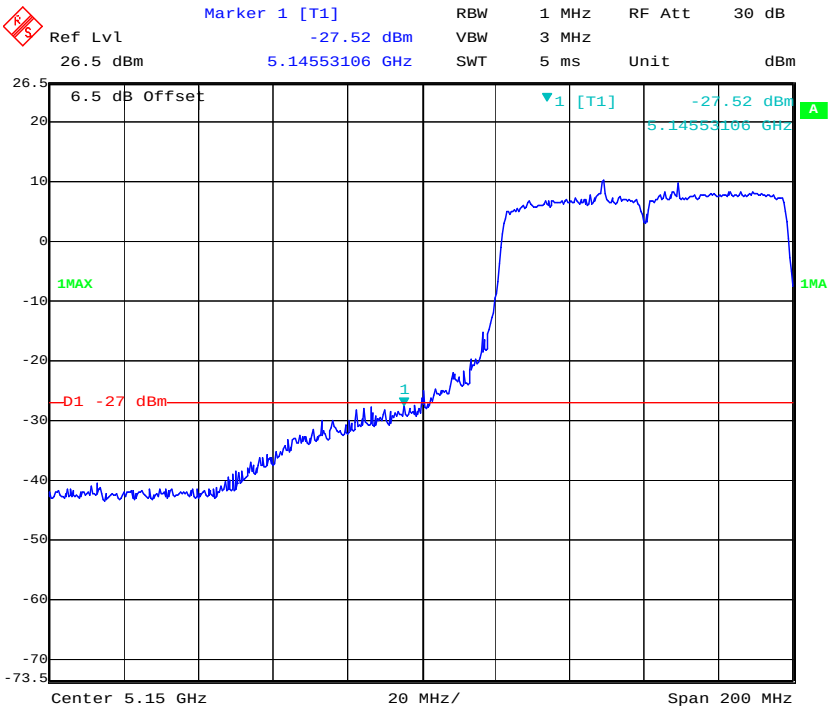
802.11ac40 mode, Band Edge, Left Side



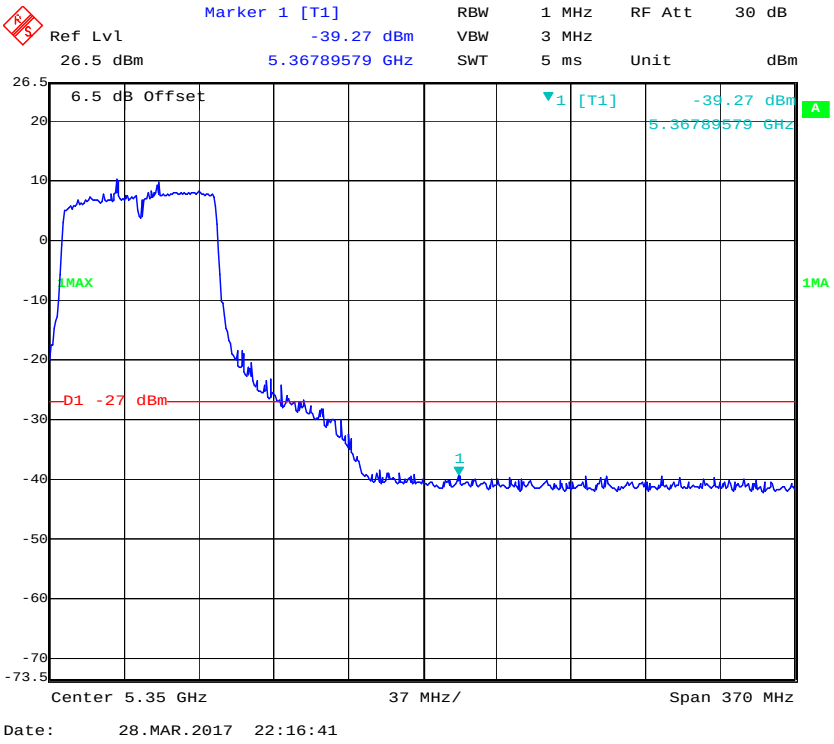
802.11ac40 mode, Band Edge, Right Side



802.11ac80 mode, Band Edge, Left Side

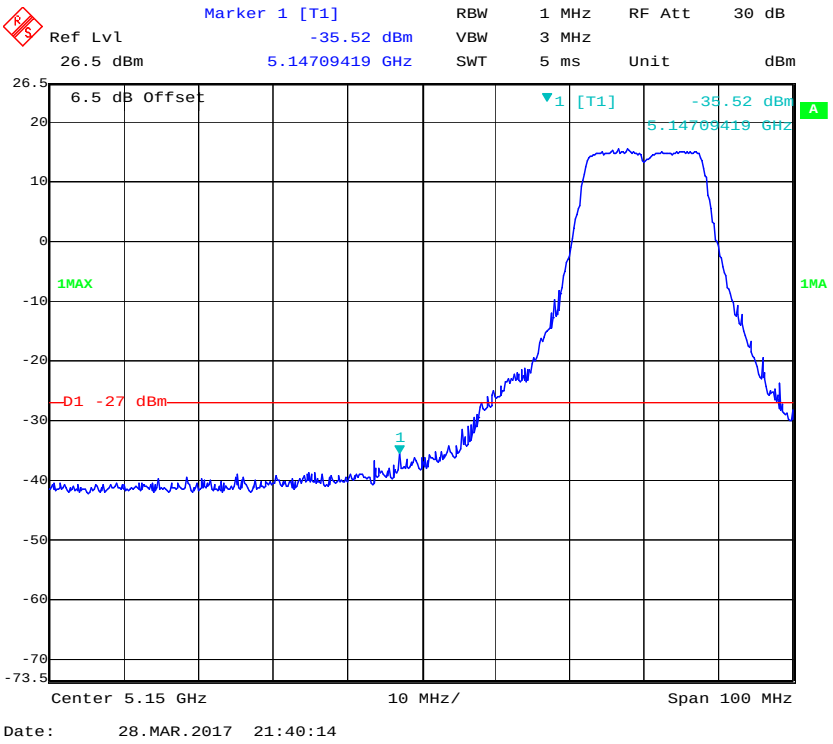


802.11ac80 mode, Band Edge, Right Side

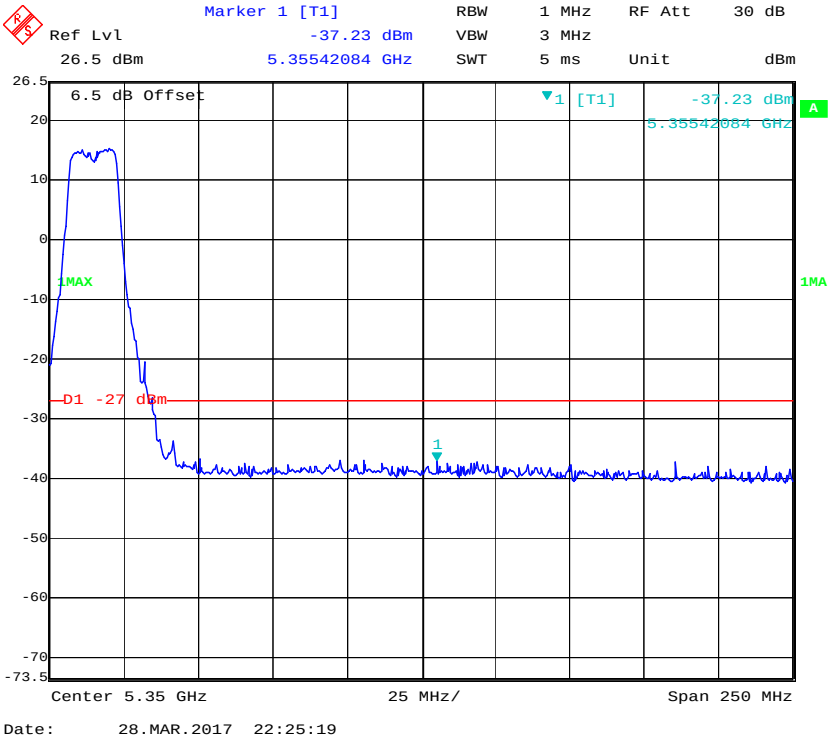


5150 – 5250 MHz, Ant 3:

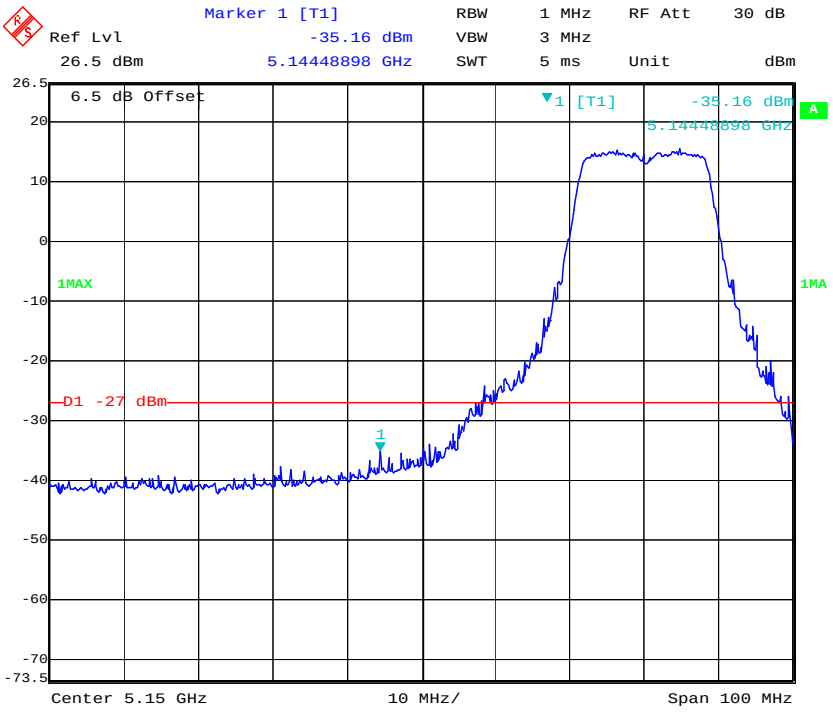
802.11a mode, Band Edge, Left Side



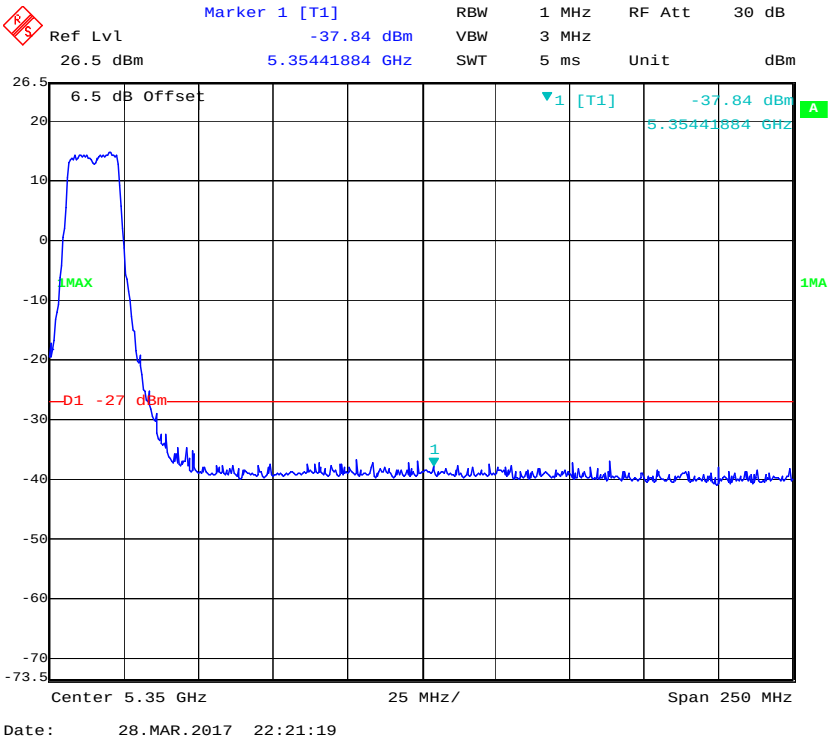
802.11a mode, Band Edge, Right Side



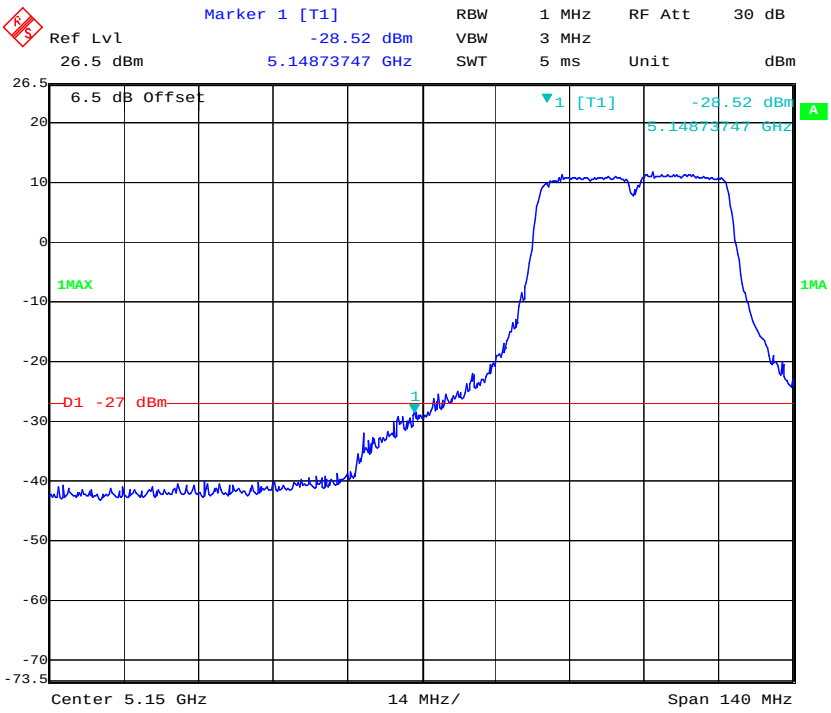
802.11n20 mode, Band Edge, Left Side



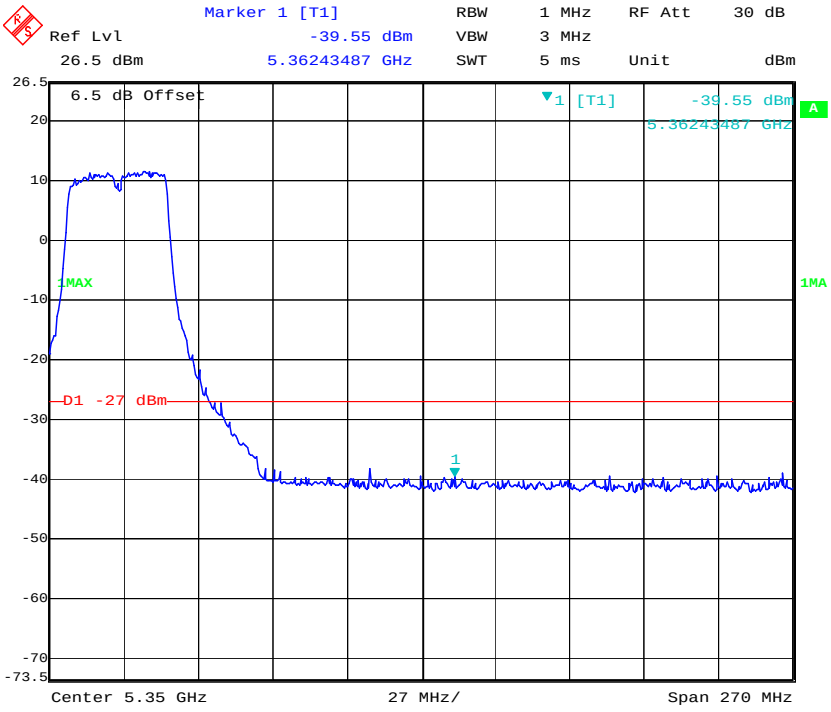
802.11n20 mode, Band Edge, Right Side



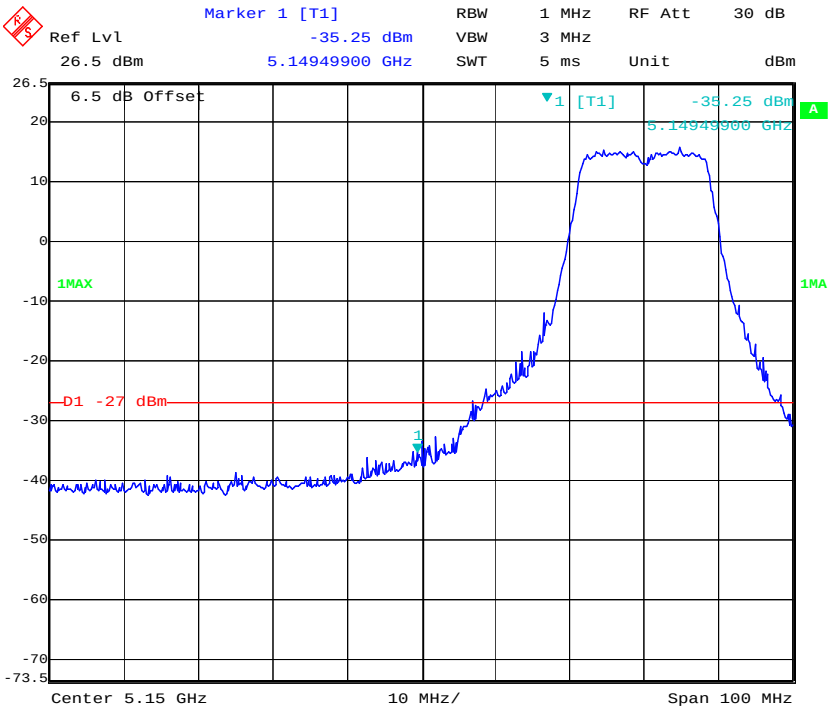
802.11n40 mode, Band Edge, Left Side



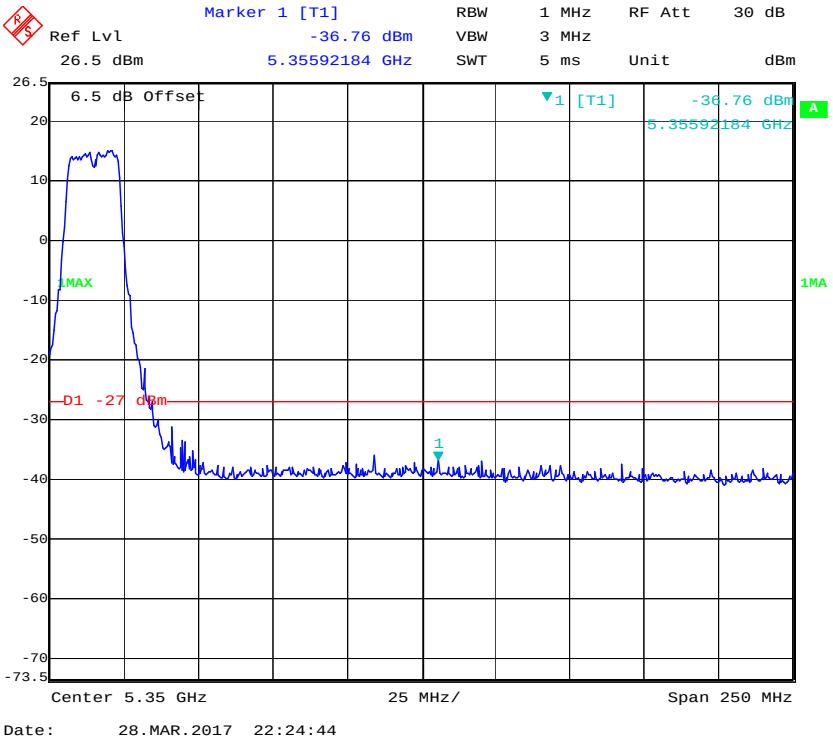
802.11n40 mode, Band Edge, Right Side



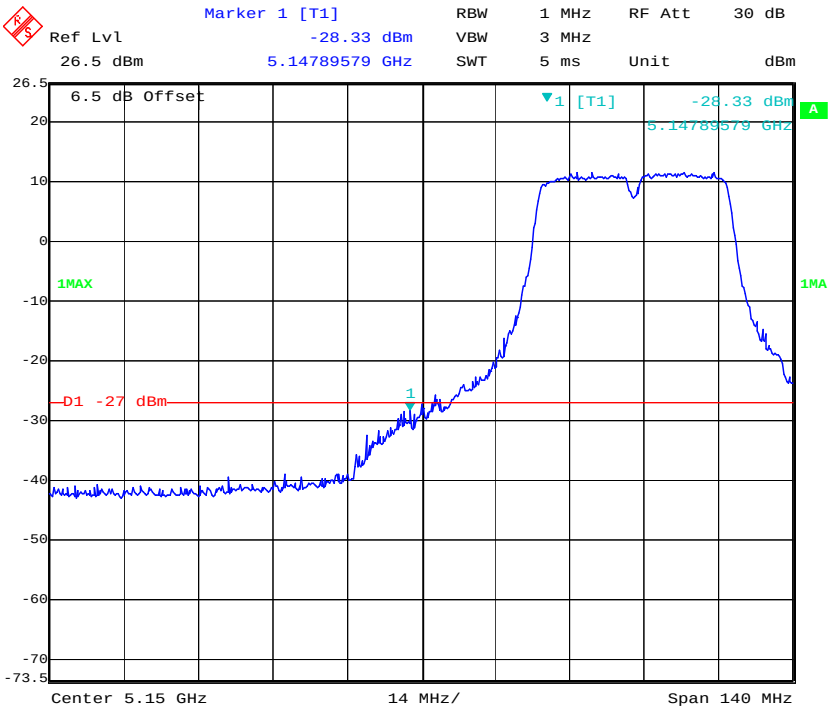
802.11ac20 mode, Band Edge, Left Side



802.11ac20 mode, Band Edge, Right Side



802.11ac40 mode, Band Edge, Left Side



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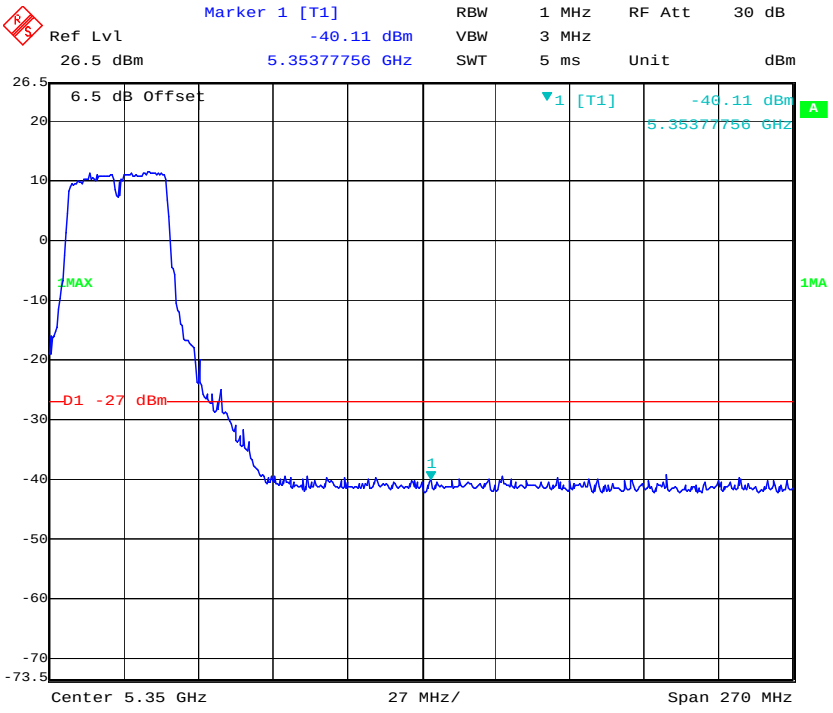
802.11ac40 mode, Band Edge, Right Side



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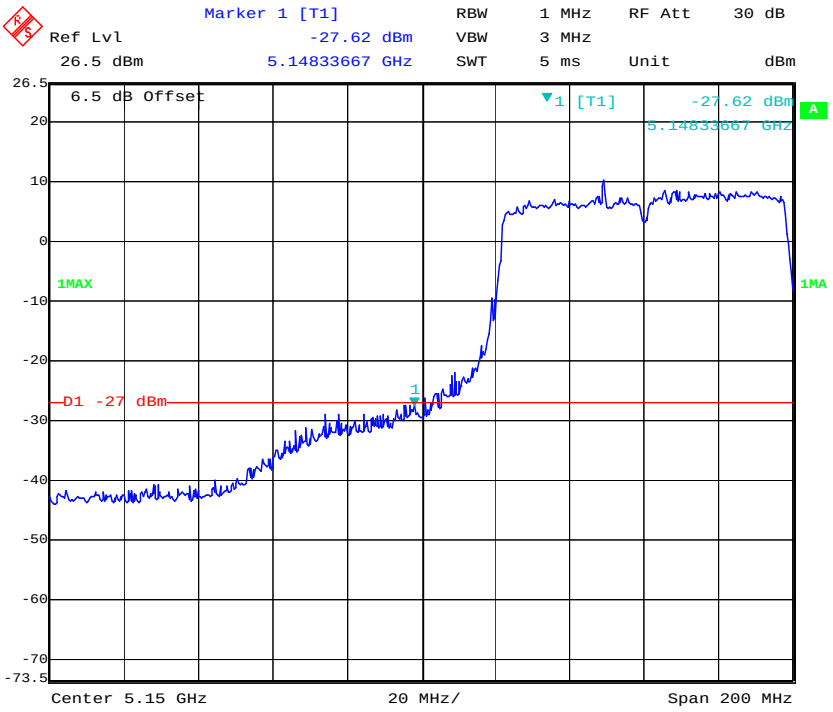
802.11ac80 mode, Band Edge, Left Side



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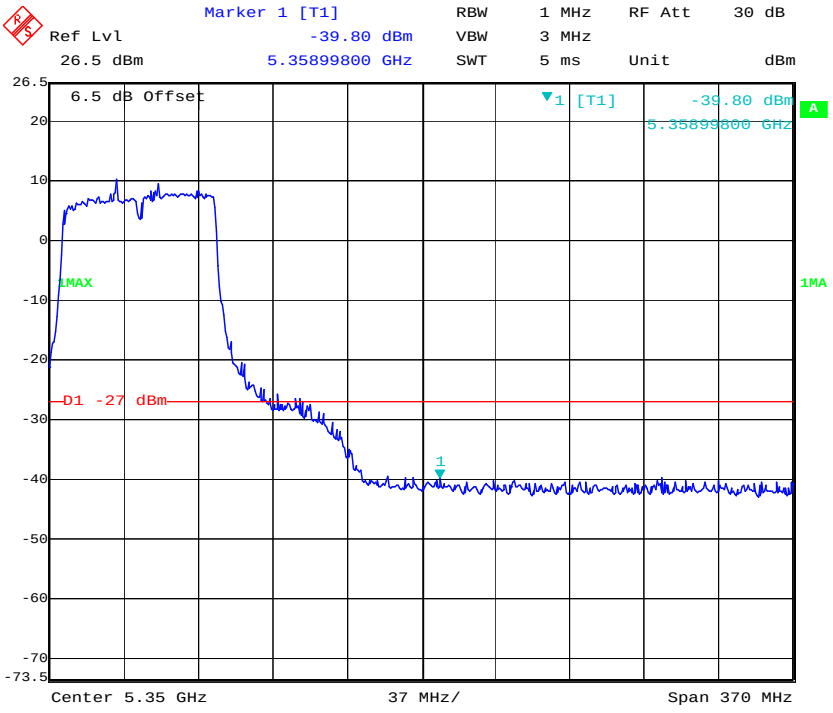
802.11ac80 mode, Band Edge, Right Side



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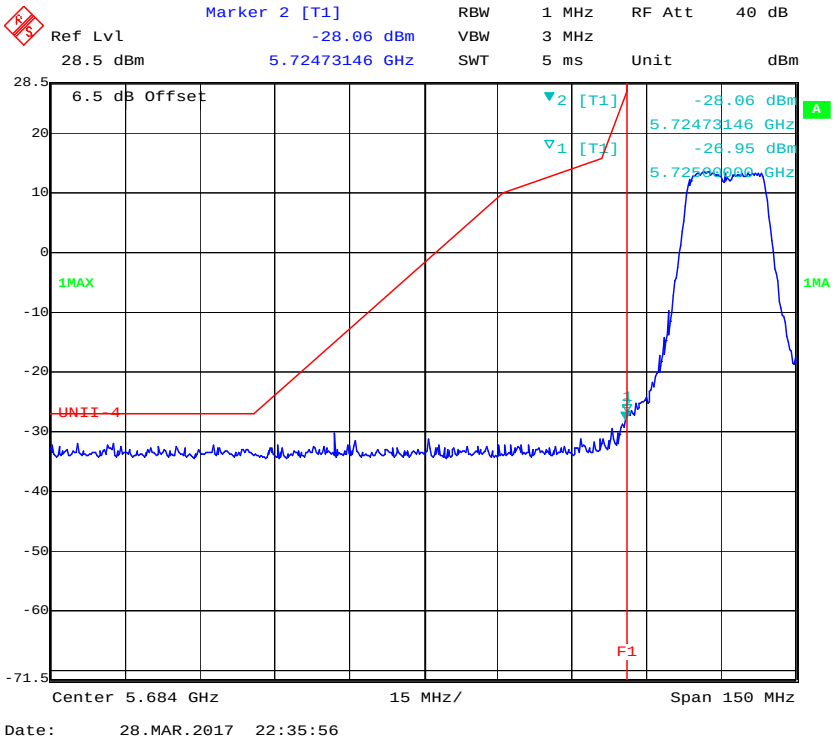
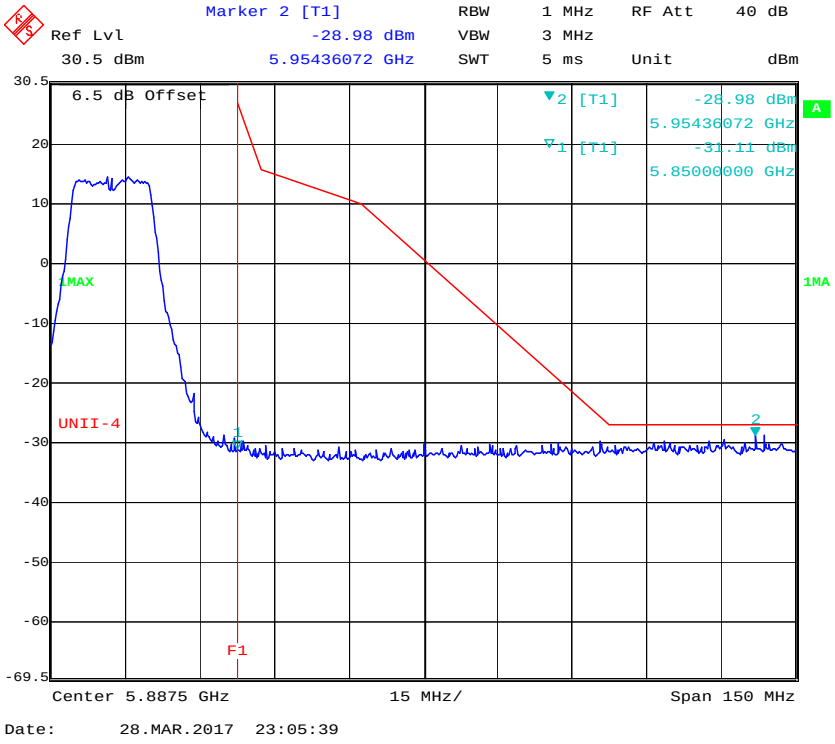
5725 – 5850 MHz, Ant1:

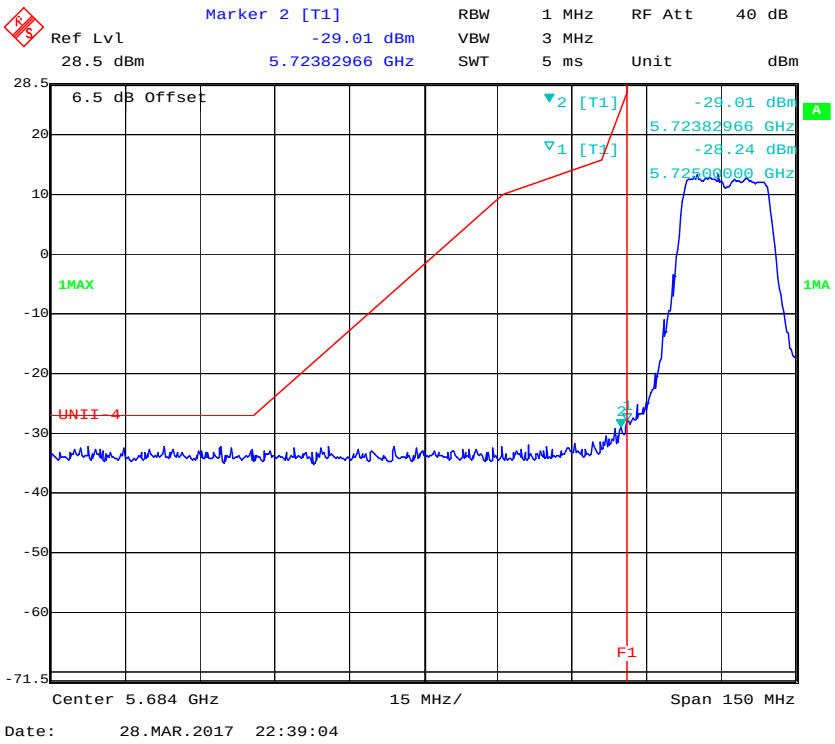
802.11a mode, Band Edge, Left Side



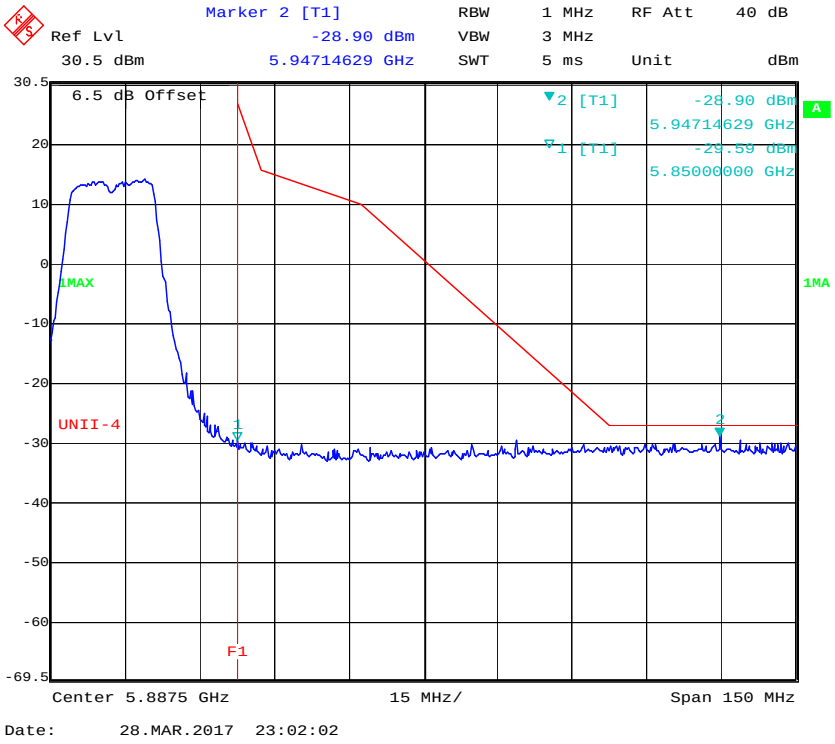
802.11a mode, Band Edge, Right Side



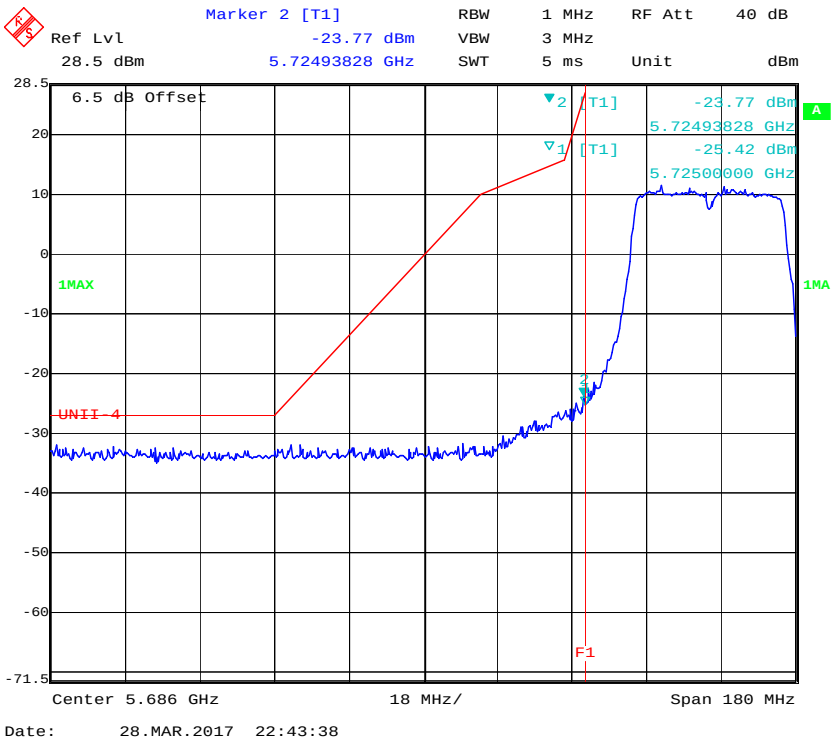
802.11n20 mode, Band Edge, Left Side



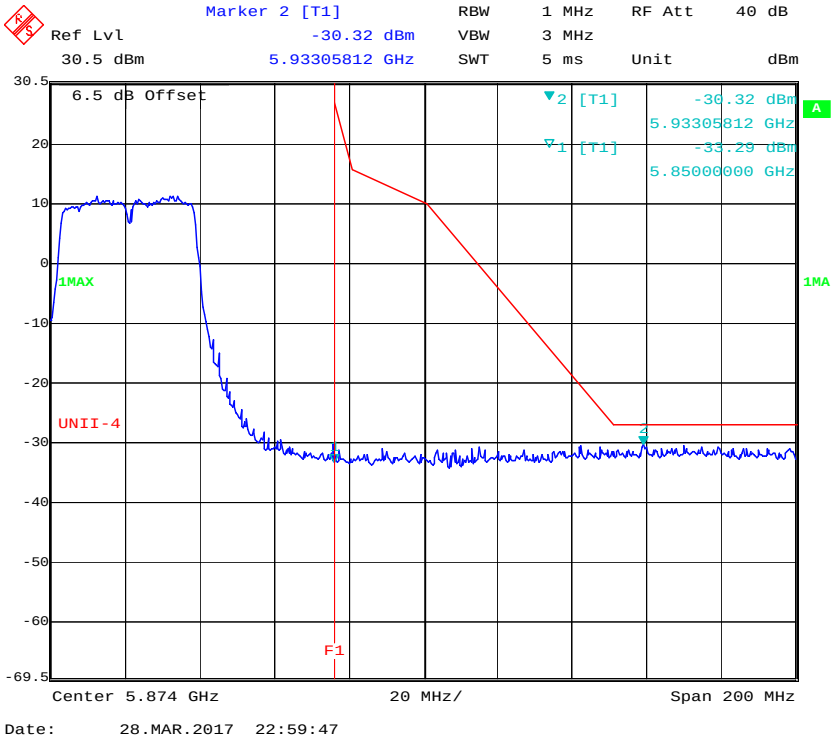
802.11n20 mode, Band Edge, Right Side



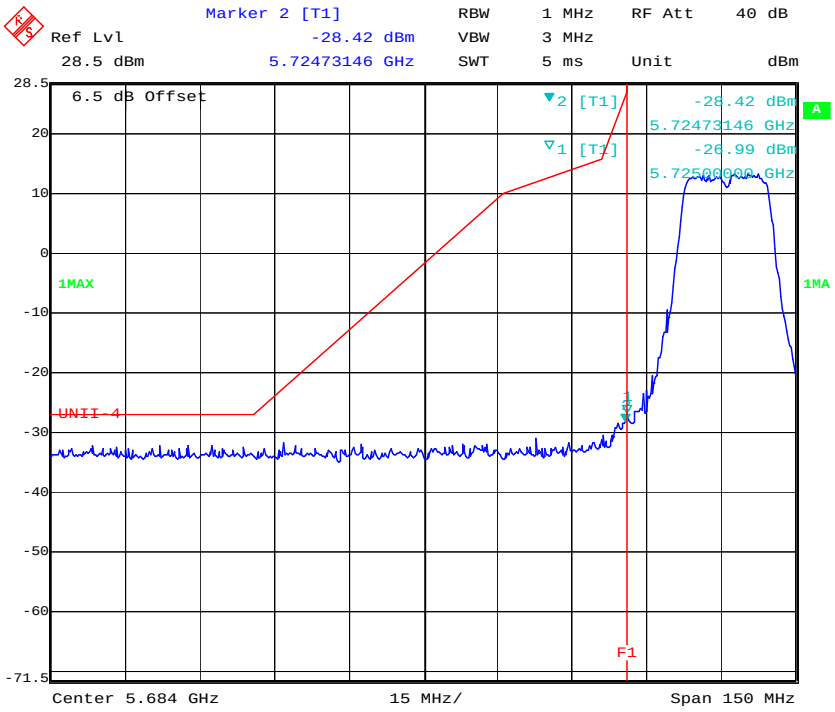
802.11n40 mode, Band Edge, Left Side



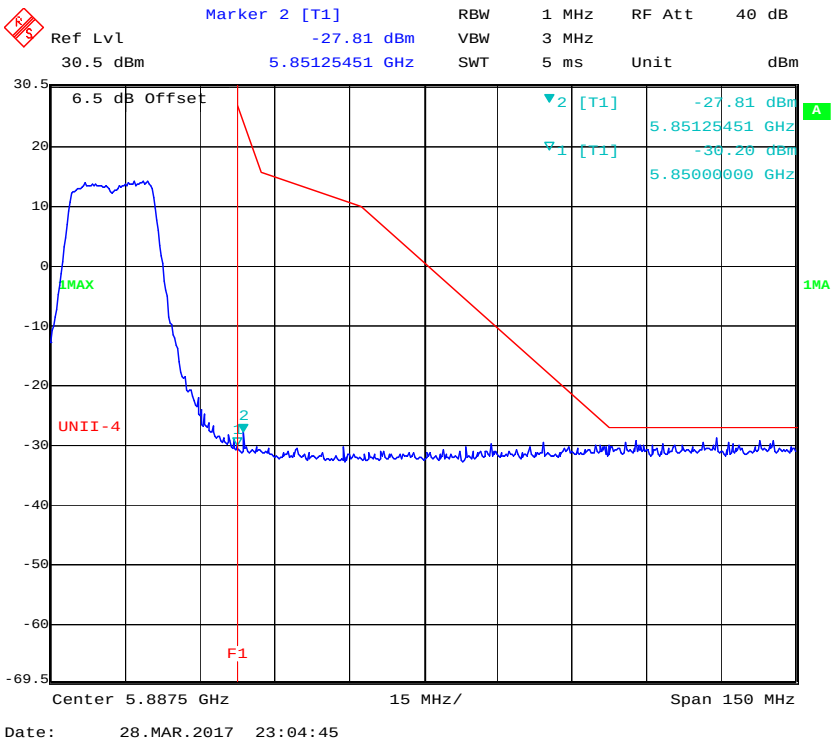
802.11n40 mode, Band Edge, Right Side



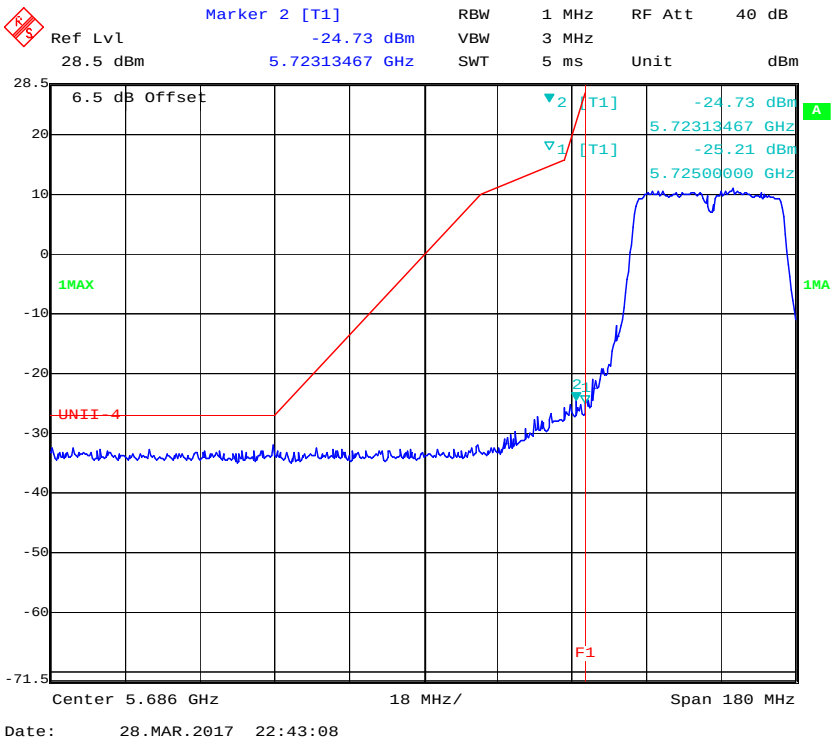
802.11ac20 mode, Band Edge, Left Side



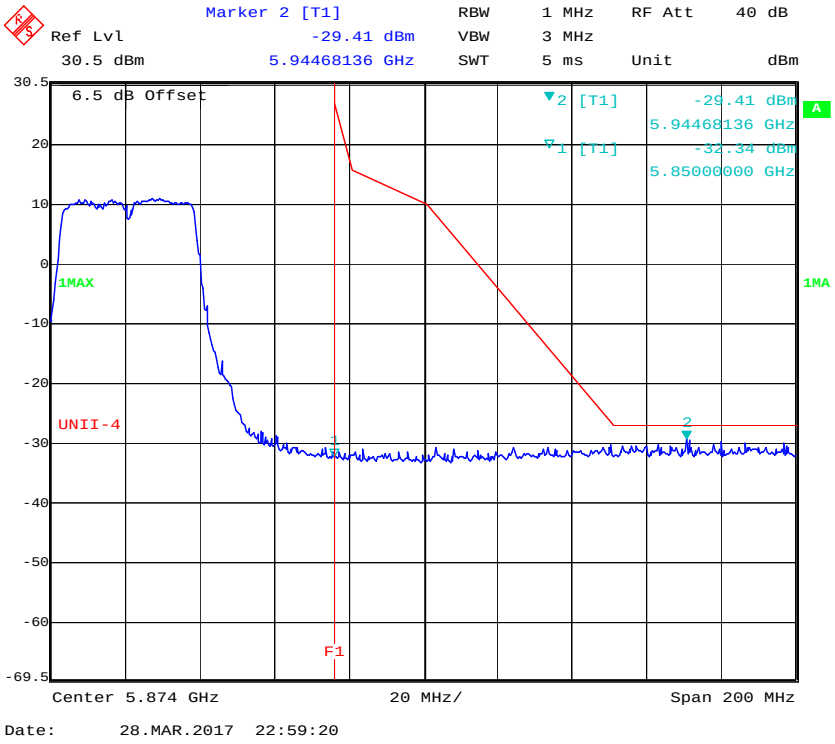
802.11ac20 mode, Band Edge, Right Side



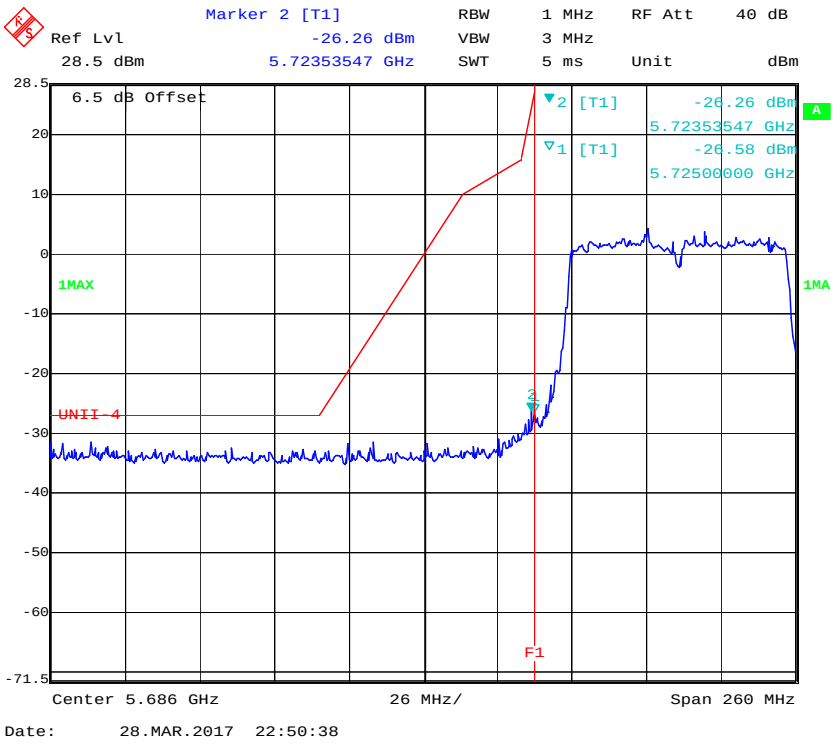
802.11ac40 mode, Band Edge, Left Side



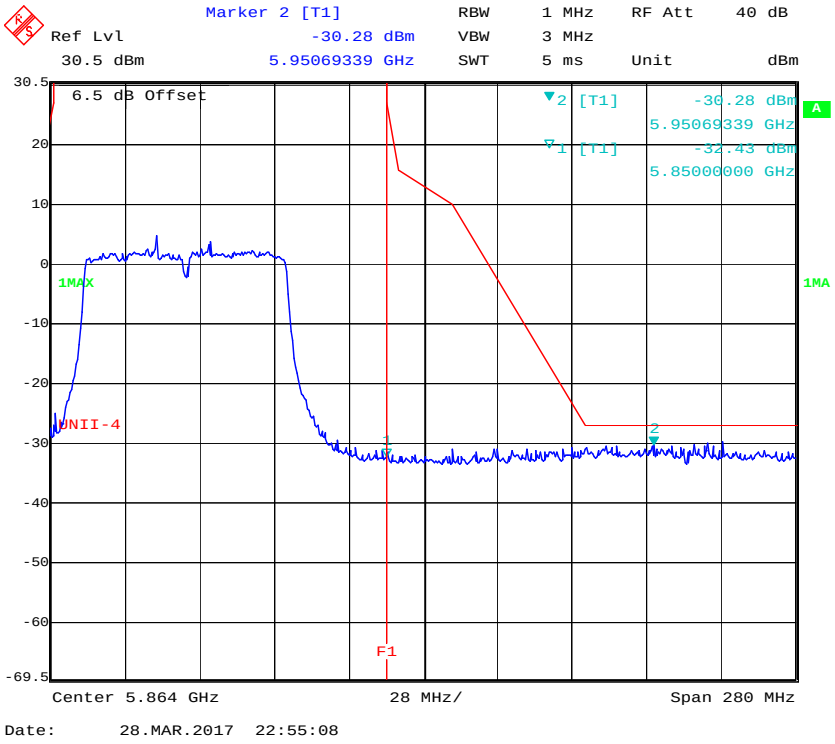
802.11ac40 mode, Band Edge, Right Side



802.11ac80 mode, Band Edge, Left Side

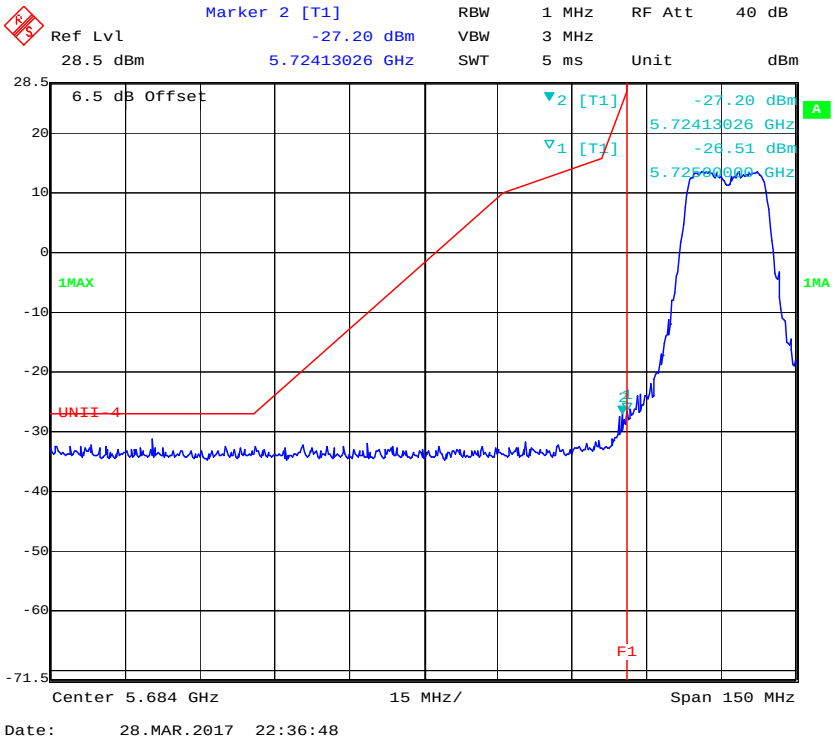


802.11ac80 mode, Band Edge, Right Side

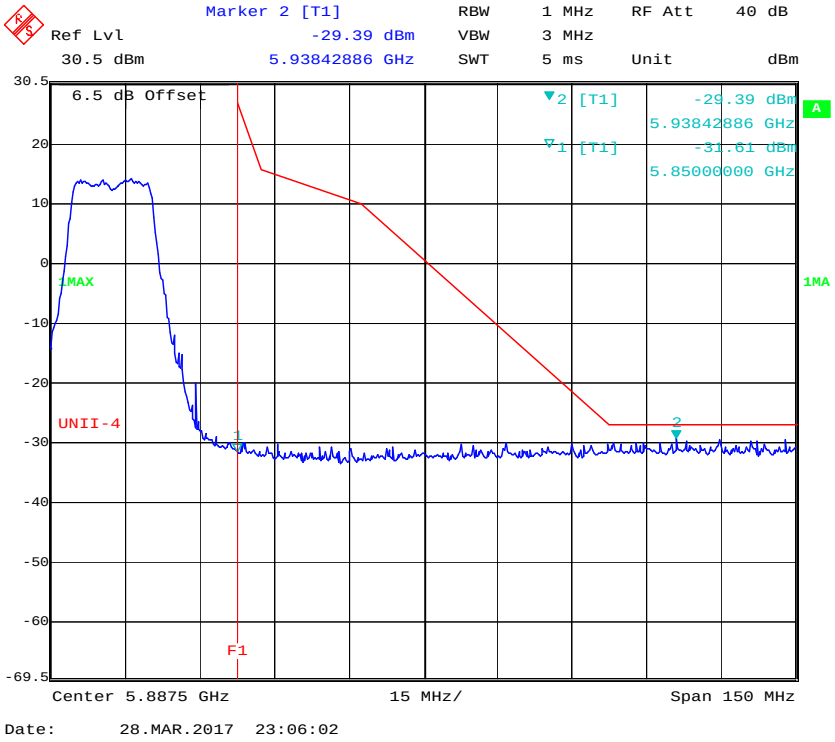


5725 – 5850 MHz, Ant2

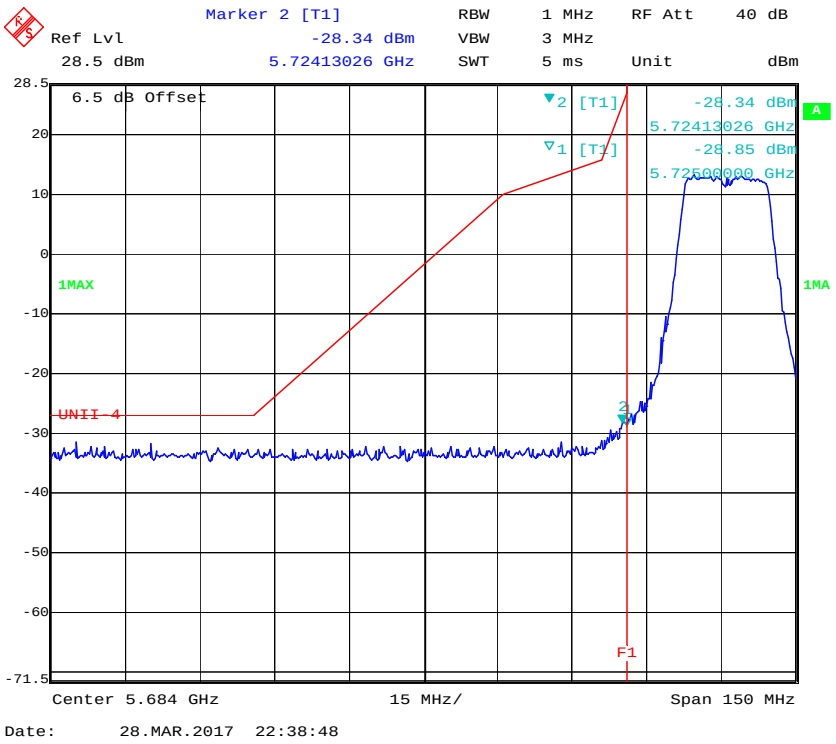
802.11a mode, Band Edge, Left Side



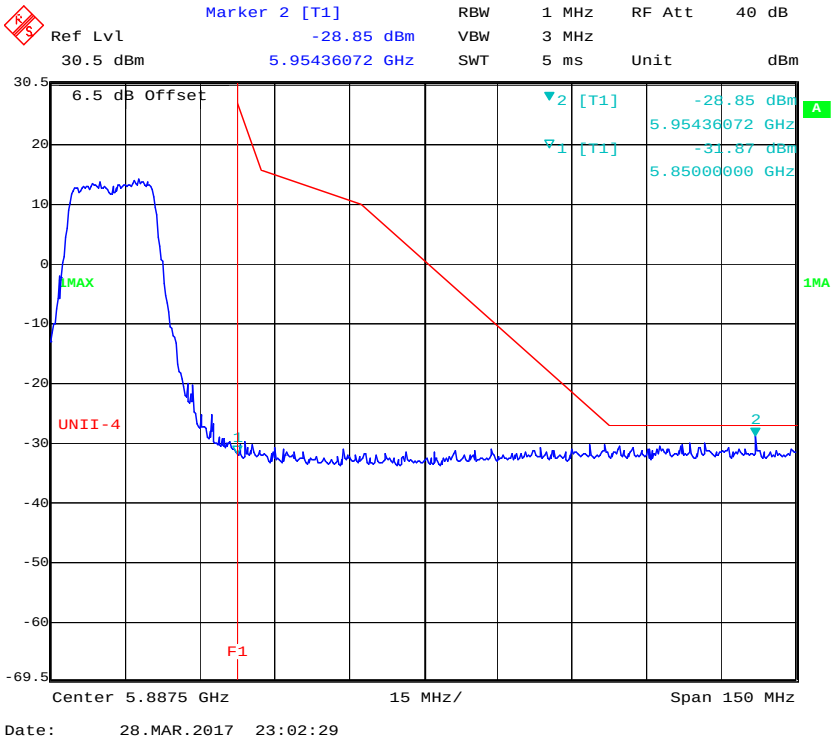
802.11a mode, Band Edge, Right Side



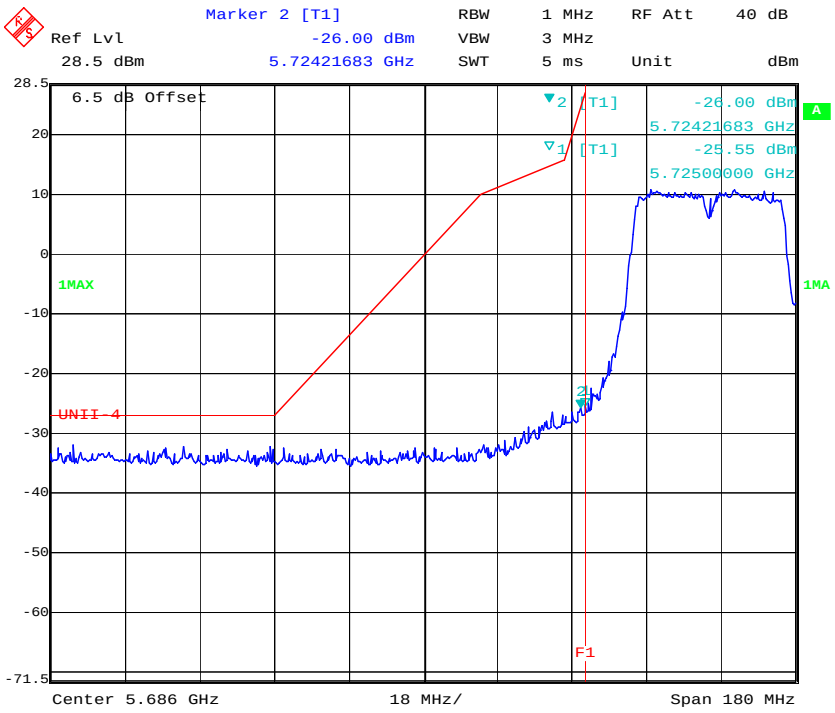
802.11n20 mode, Band Edge, Left Side



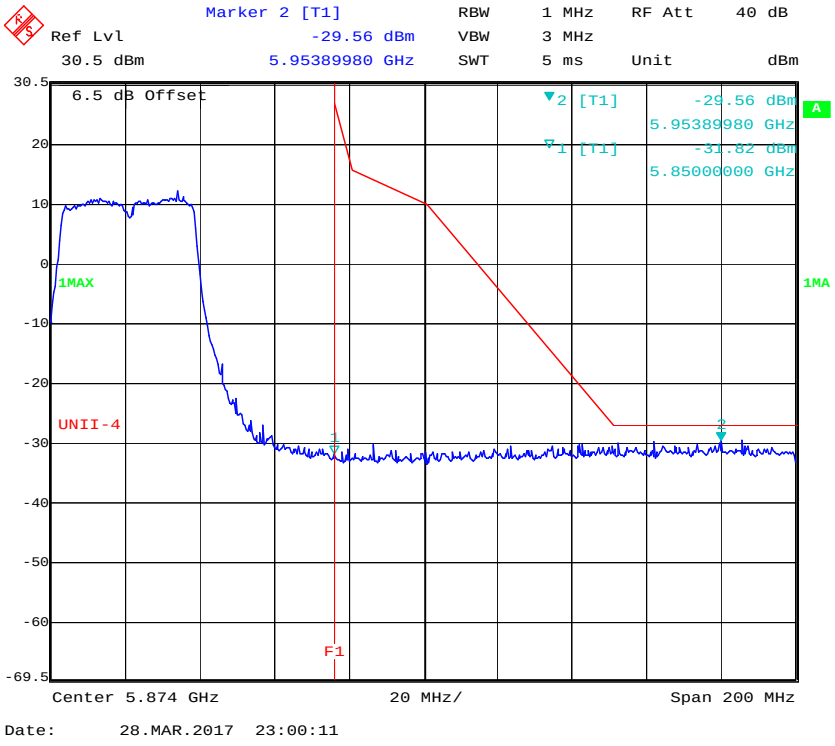
802.11n20 mode, Band Edge, Right Side



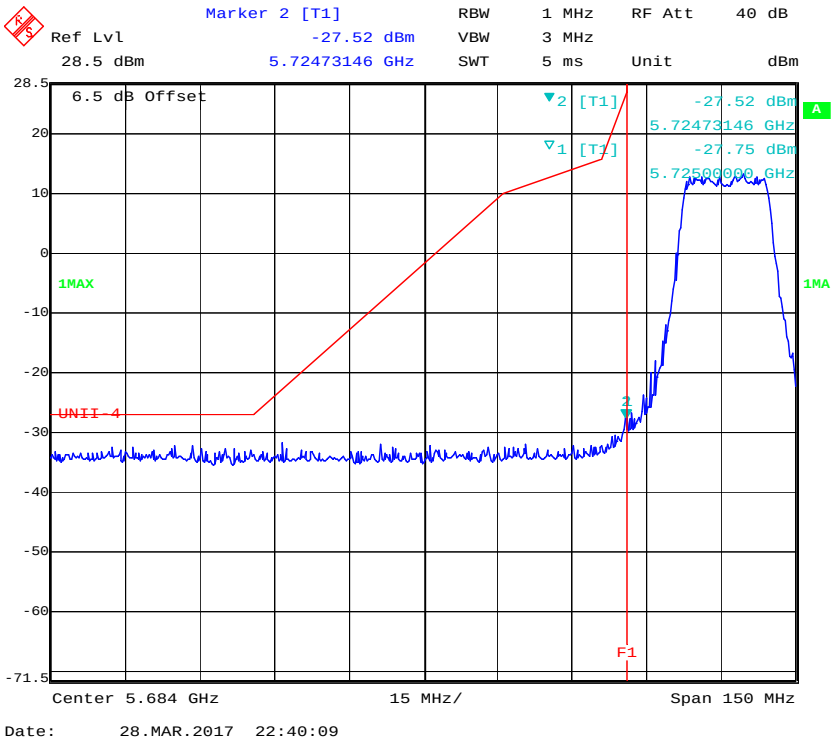
802.11n40 mode, Band Edge, Left Side



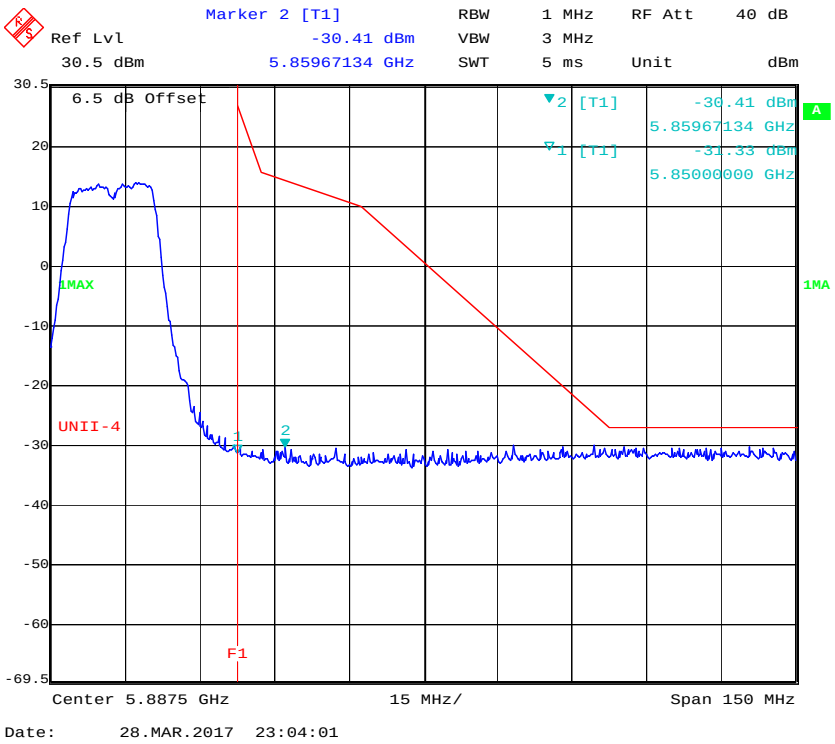
802.11n40 mode, Band Edge, Right Side



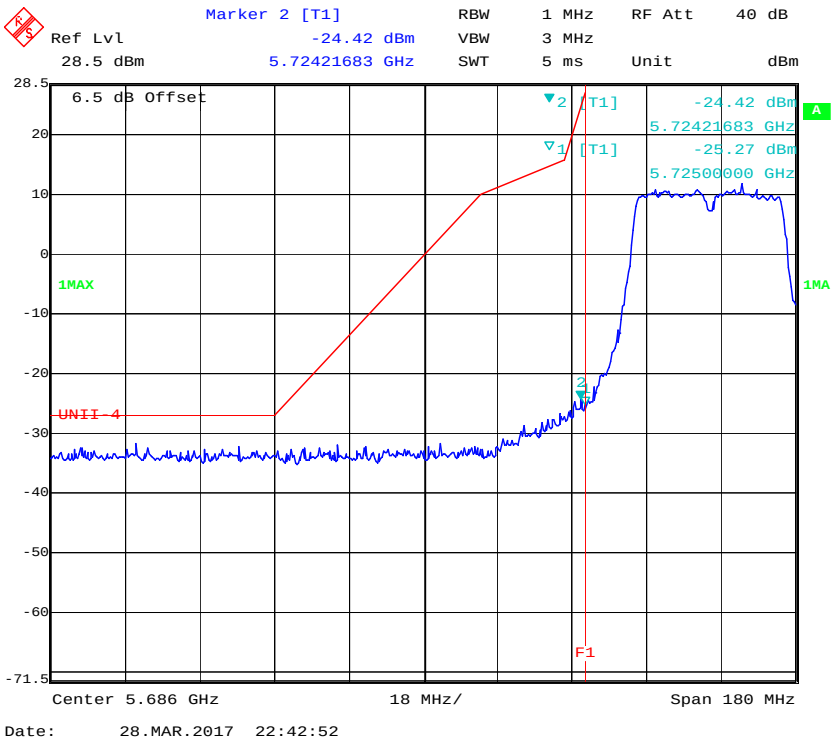
802.11ac20 mode, Band Edge, Left Side



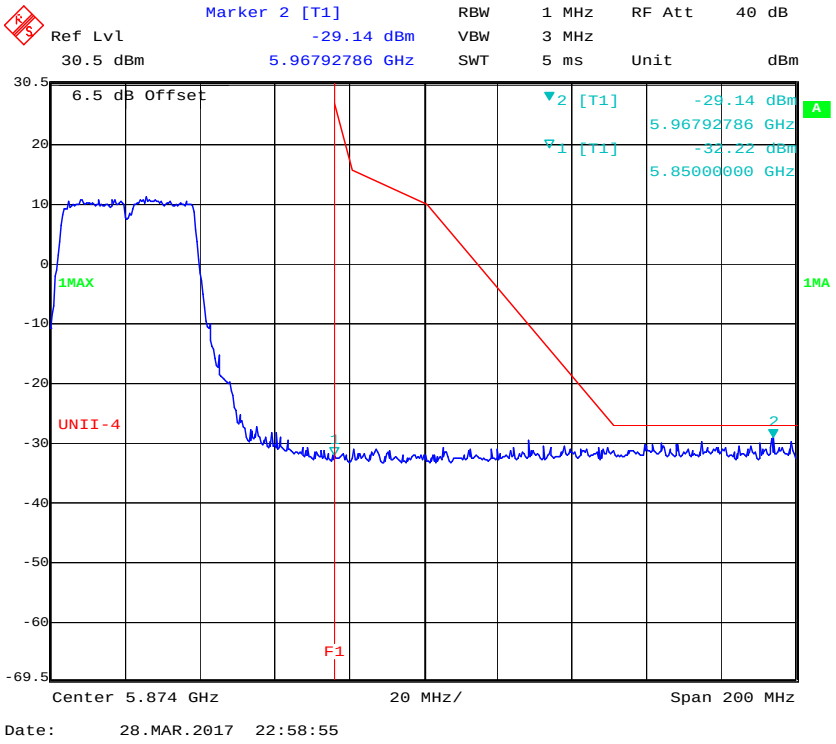
802.11ac20 mode, Band Edge, Right Side



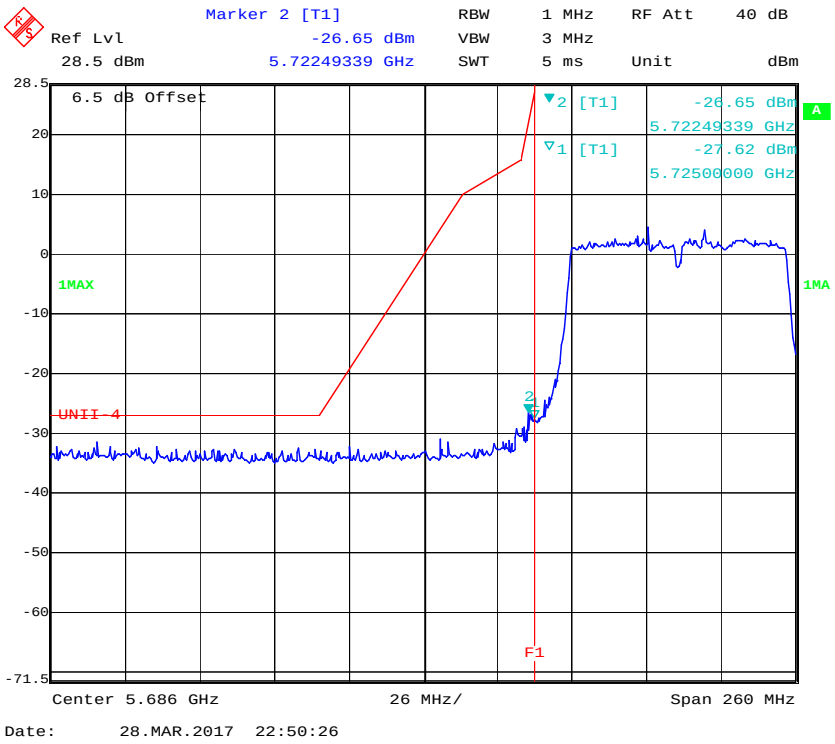
802.11ac40 mode, Band Edge, Left Side



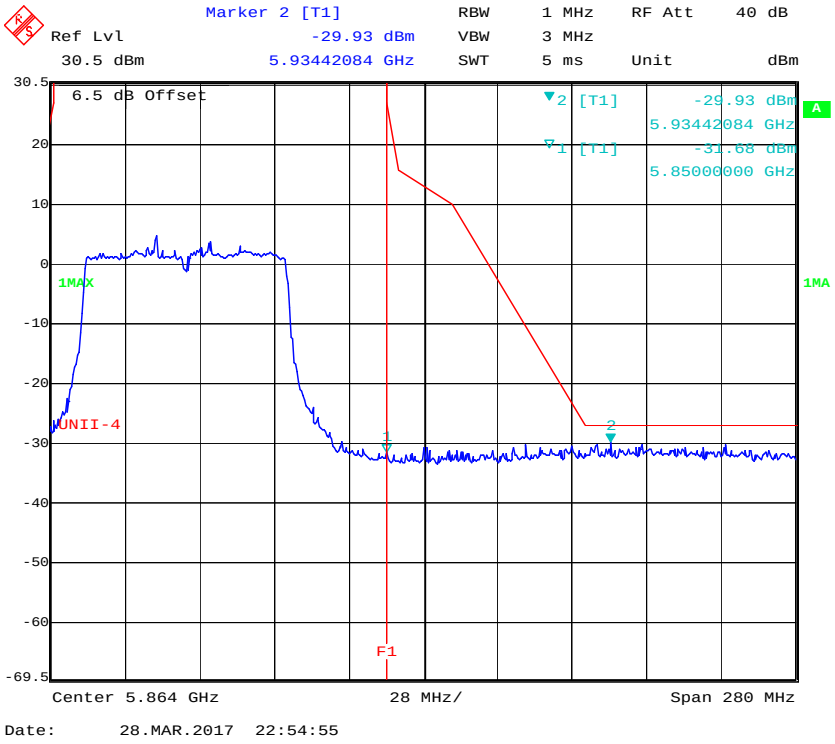
802.11ac40 mode, Band Edge, Right Side



802.11ac80 mode, Band Edge, Left Side

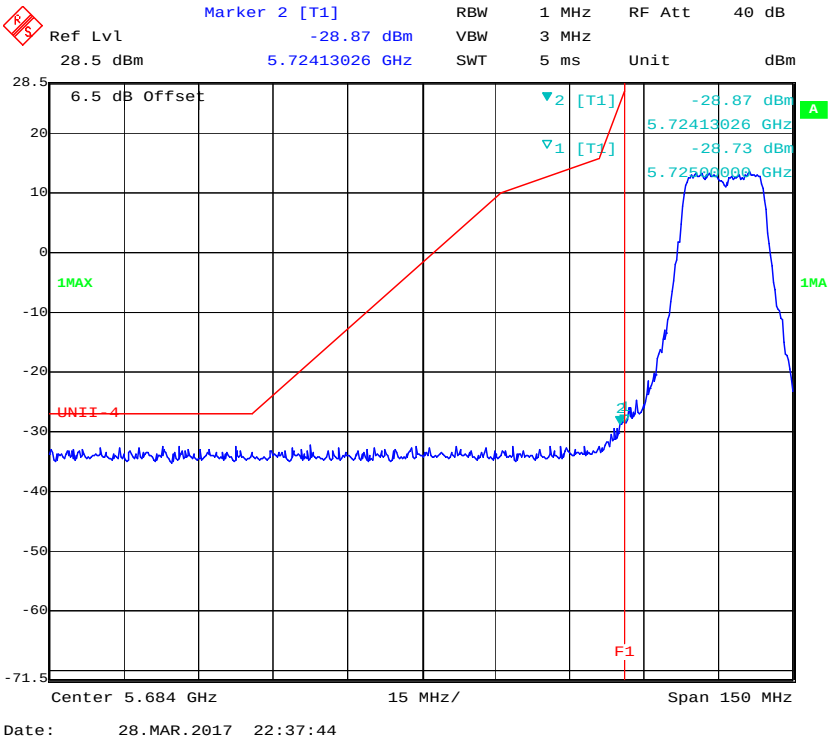


802.11ac80 mode, Band Edge, Right Side

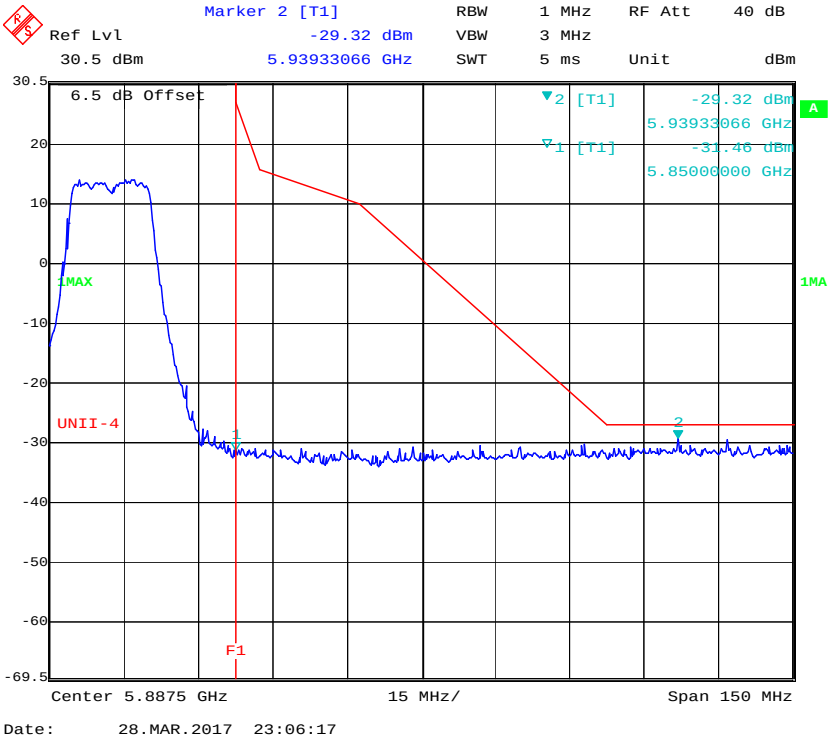


5725 – 5850 MHz, Ant3

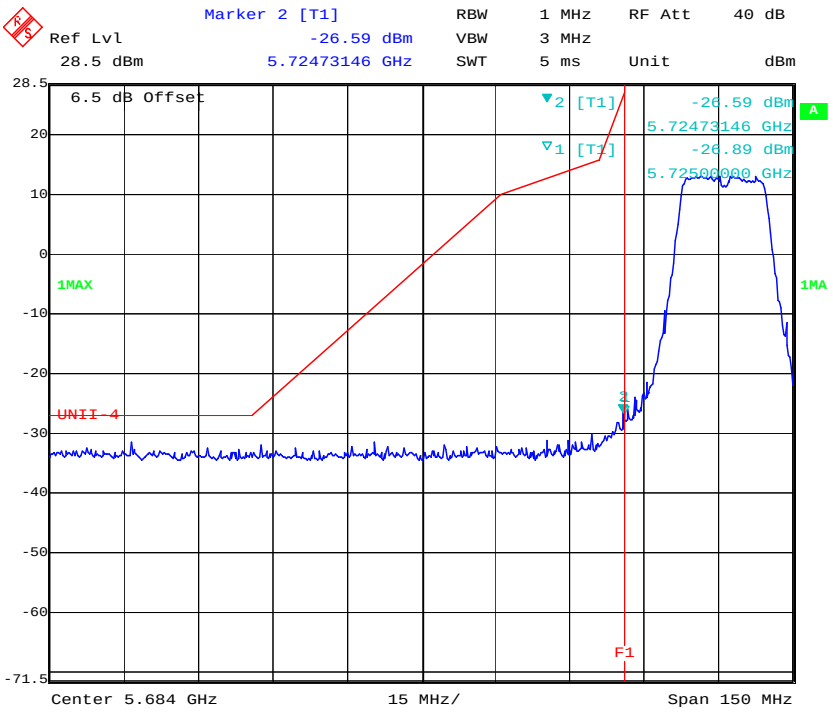
802.11a mode, Band Edge, Left Side



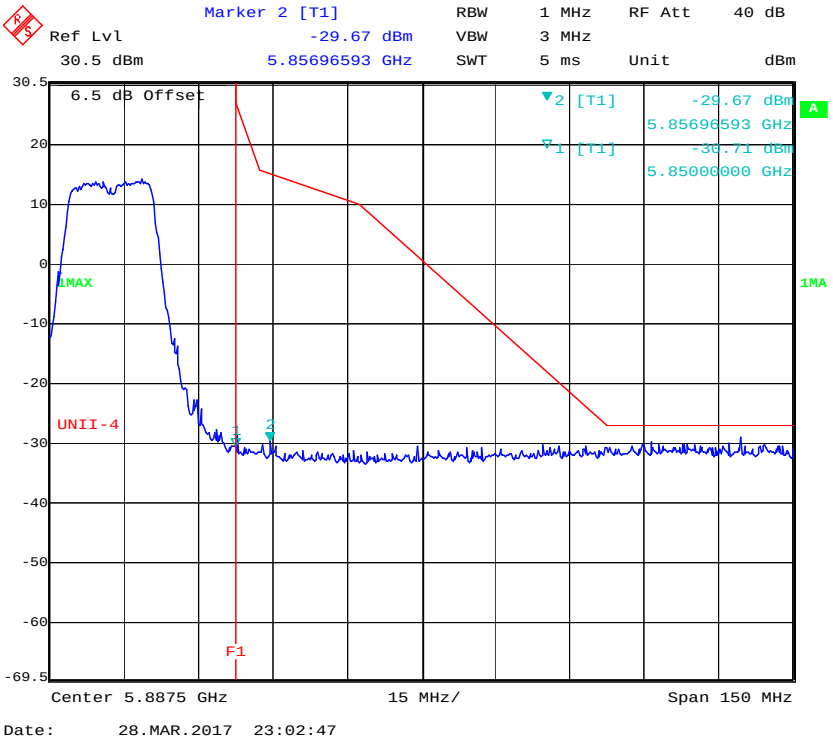
802.11a mode, Band Edge, Right Side



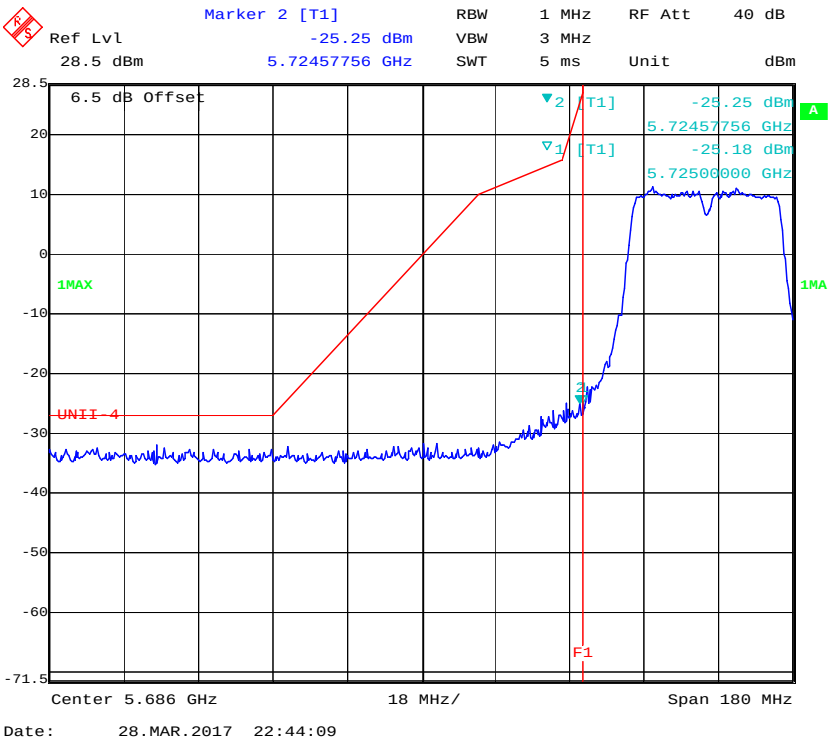
802.11n20 mode, Band Edge, Left Side



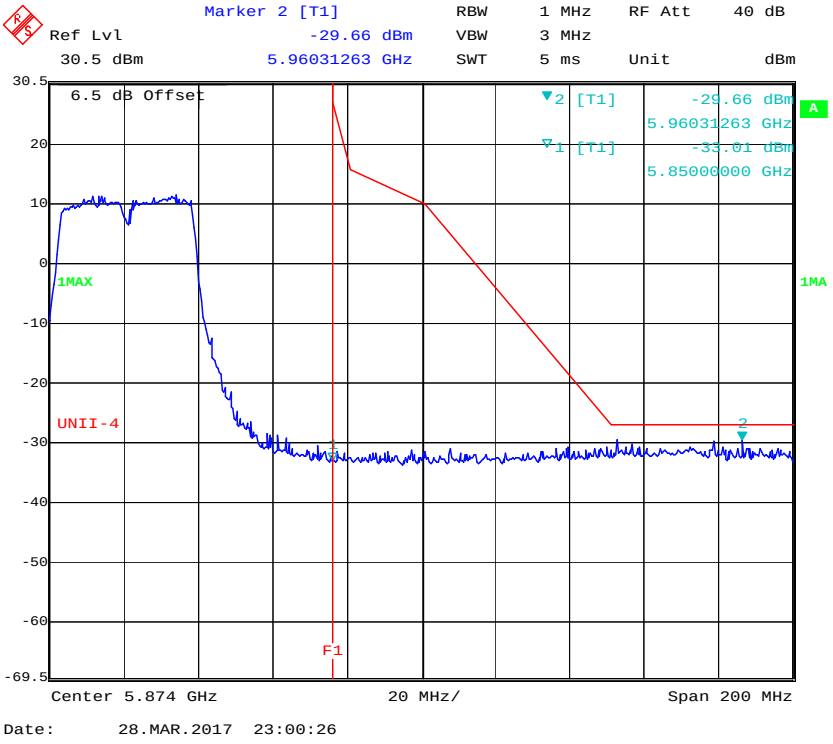
802.11n20 mode, Band Edge, Right Side



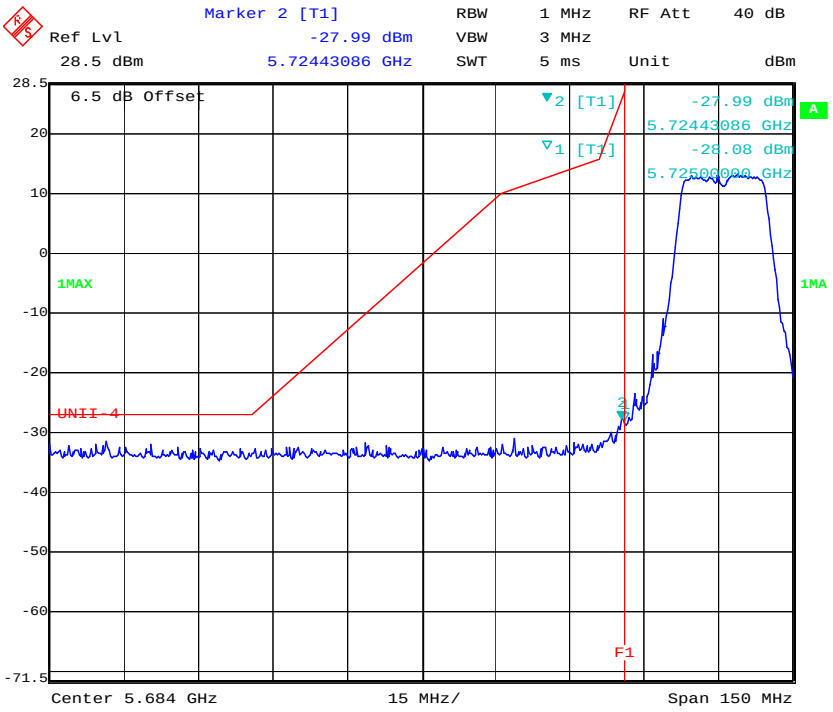
802.11n40 mode, Band Edge, Left Side



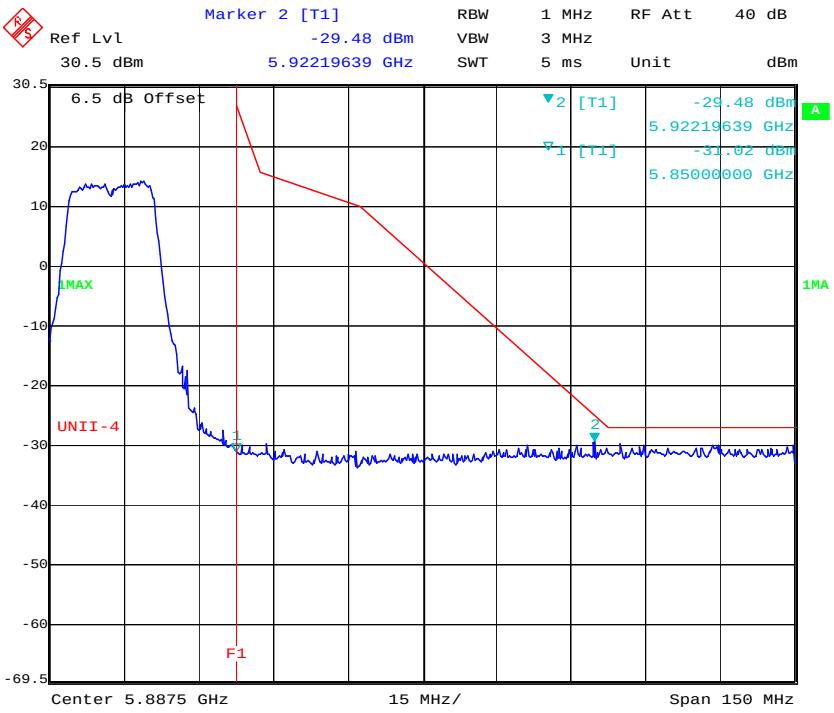
802.11n40 mode, Band Edge, Right Side



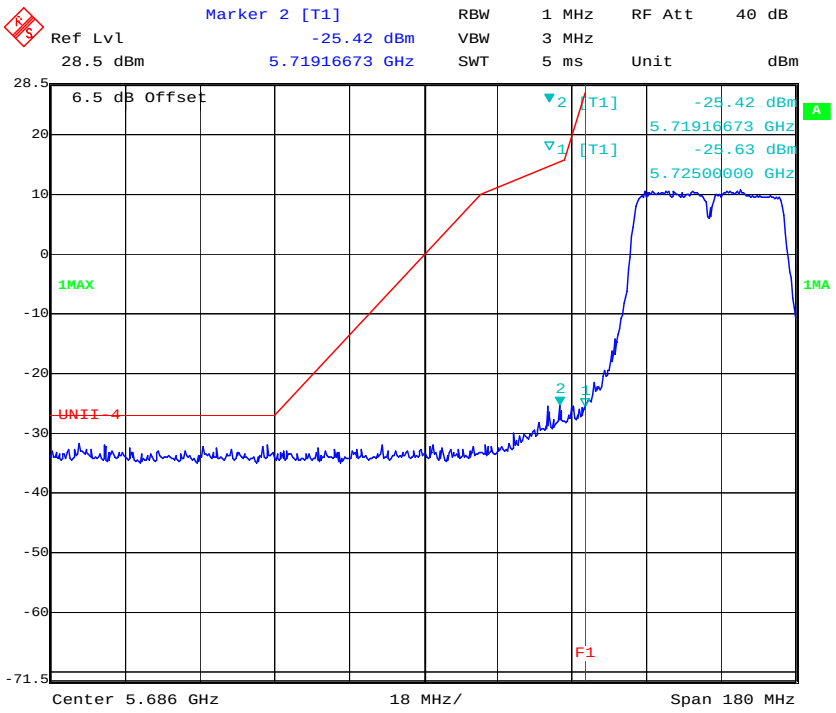
802.11ac20 mode, Band Edge, Left Side



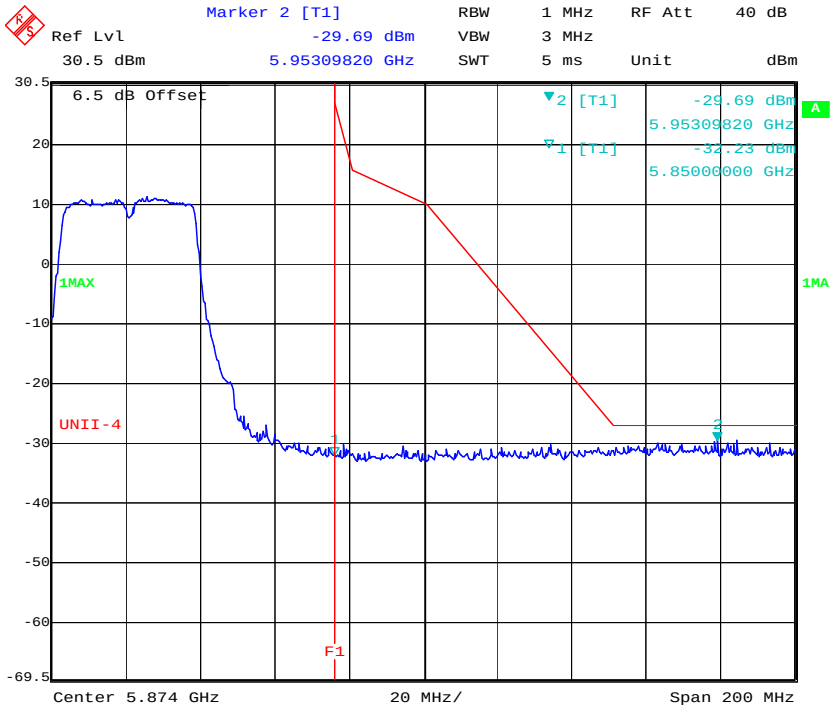
802.11ac20 mode, Band Edge, Right Side



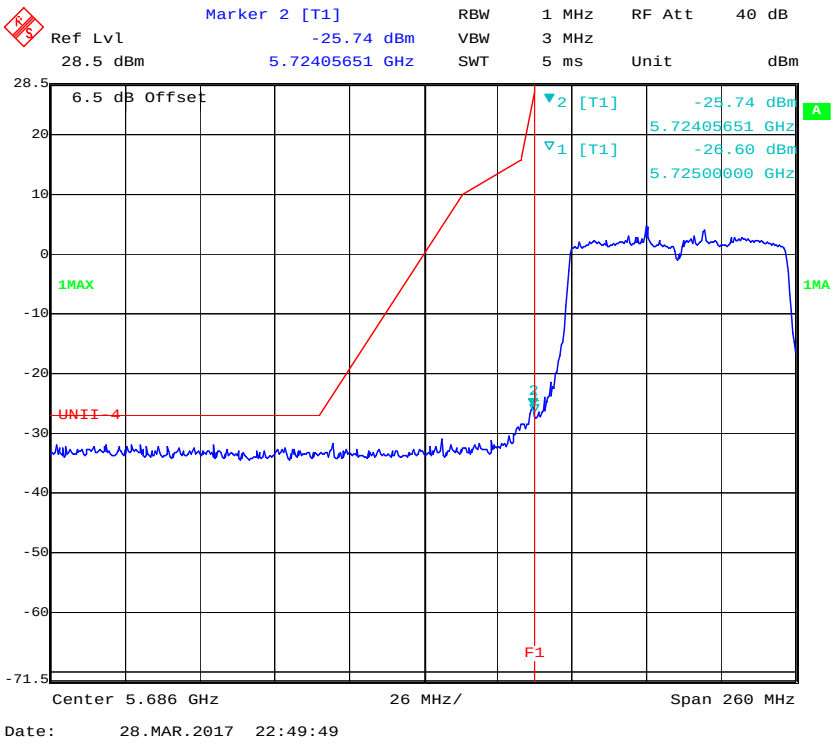
802.11ac40 mode, Band Edge, Left Side



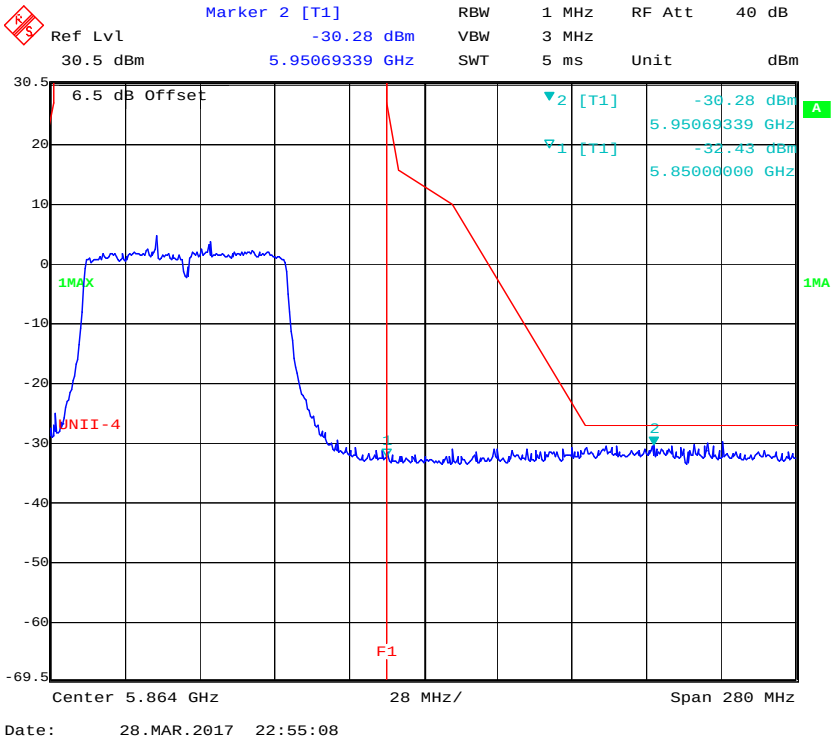
802.11ac40 mode, Band Edge, Right Side



802.11ac80 mode, Band Edge, Left Side



802.11ac80 mode, Band Edge, Right Side



FCC §15.407(a) (1) – 26 dB & 6dB EMISSION BANDWIDTH

Applicable Standard

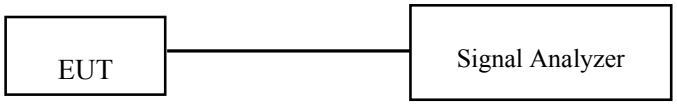
The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band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

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

Test Procedure

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

2. **Minimum Emission Bandwidth for the band 5.725-5.85 GHz**
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Data

Environmental Conditions

Temperature:	22~24 ℃
Relative Humidity:	45~50 %
ATM Pressure:	100.0~101.0 kPa

The testing was performed by Alisa Gao from 2016-10-07 to 2017-02-10.

EUT operation mode: Transmitting

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

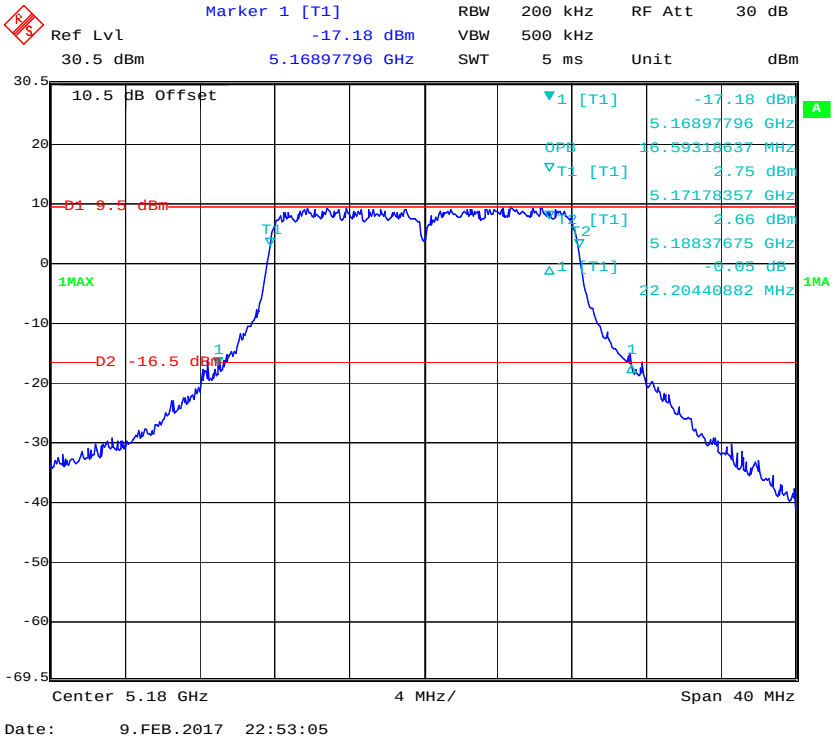
5180 MHz – 5240 MHz:

Ant 1:

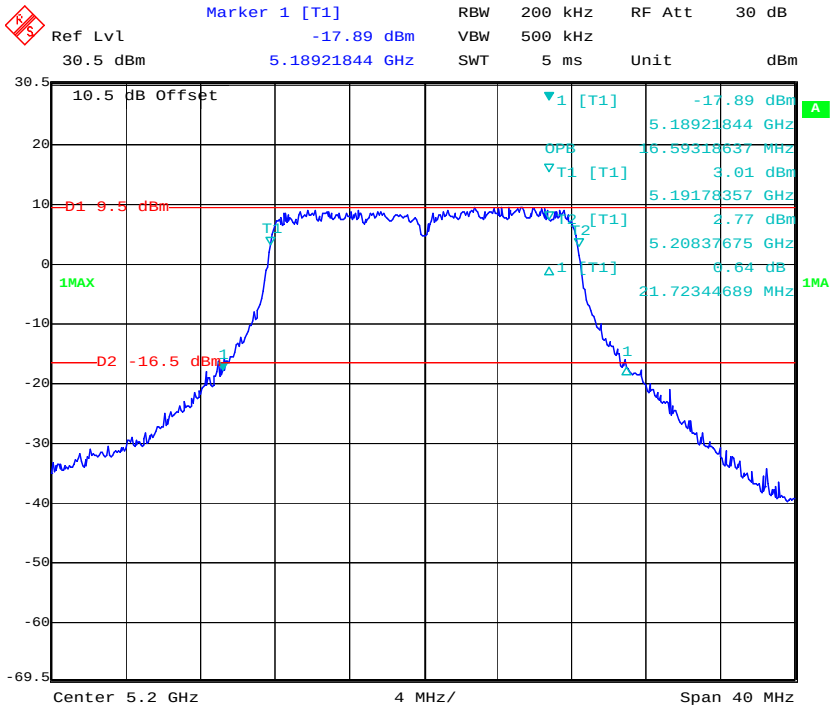
Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11a			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	16.593	22.204	
5200	16.593	21.723	
5240	16.593	21.723	
802.11n20			
5180	17.796	22.605	
5200	17.796	22.525	
5240	17.715	23.006	
802.11n40			
5190	36.713	44.749	
5230	36.553	44.950	

Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11ac20			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	17.796	22.685	
5200	17.715	22.565	
5240	17.796	22.525	
802.11ac40			
5190	36.553	44.910	
5230	36.713	45.271	
802.11ac80			
5210	76.313	87.555	

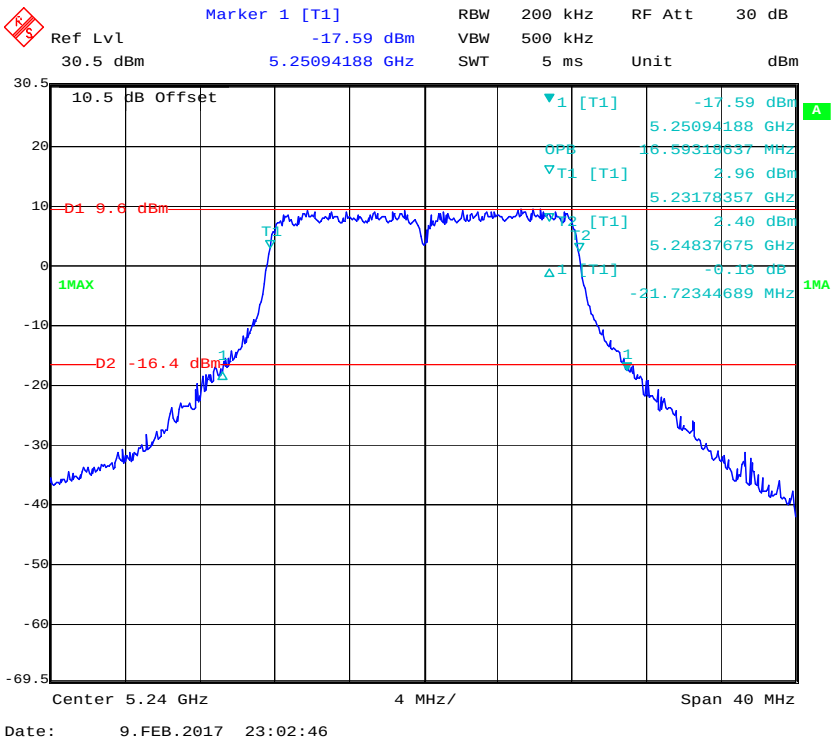
802.11a mode, 26dB & 99% Bandwidth, 5180 MHz



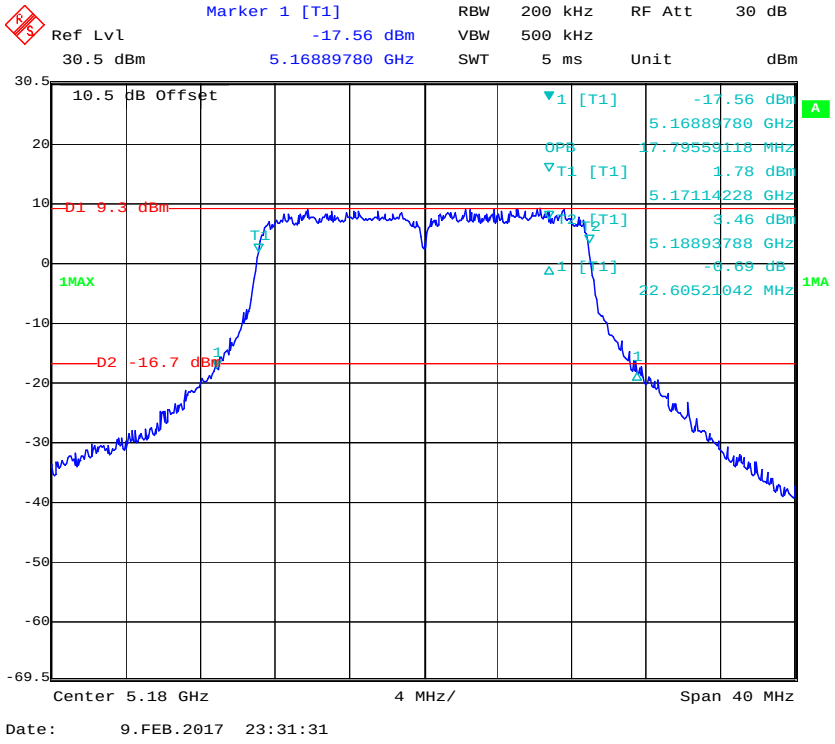
802.11a mode, 26dB & 99% Bandwidth, 5200 MHz



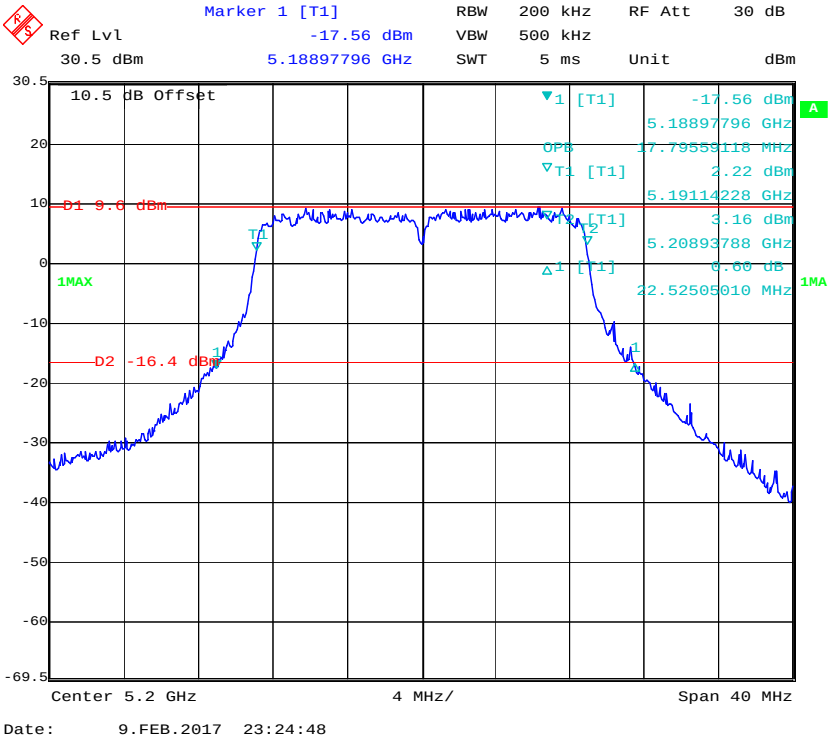
802.11a mode, 26dB & 99% Bandwidth, 5240 MHz



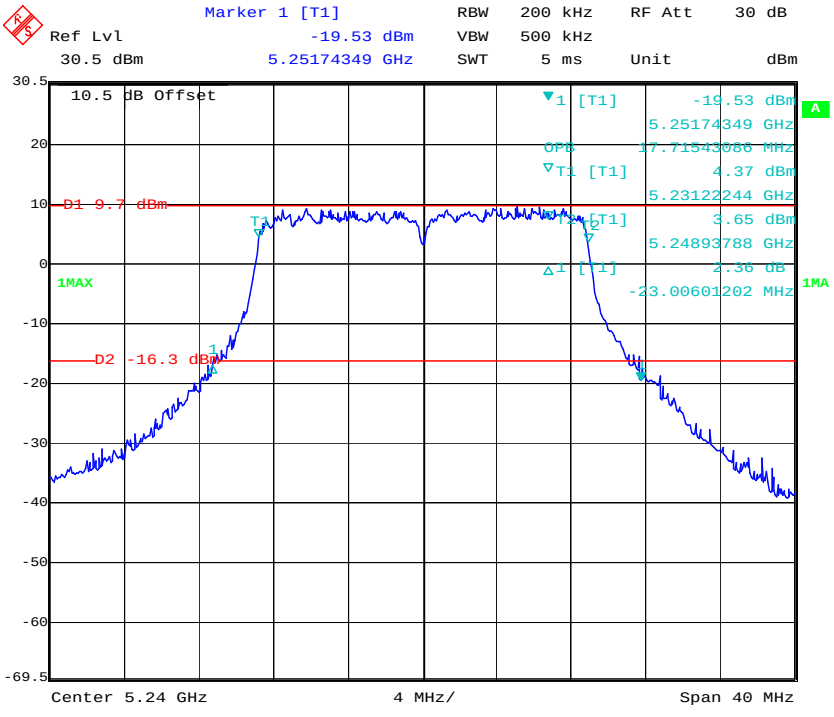
802.11n20 mode, 26dB & 99% Bandwidth, 5180 MHz



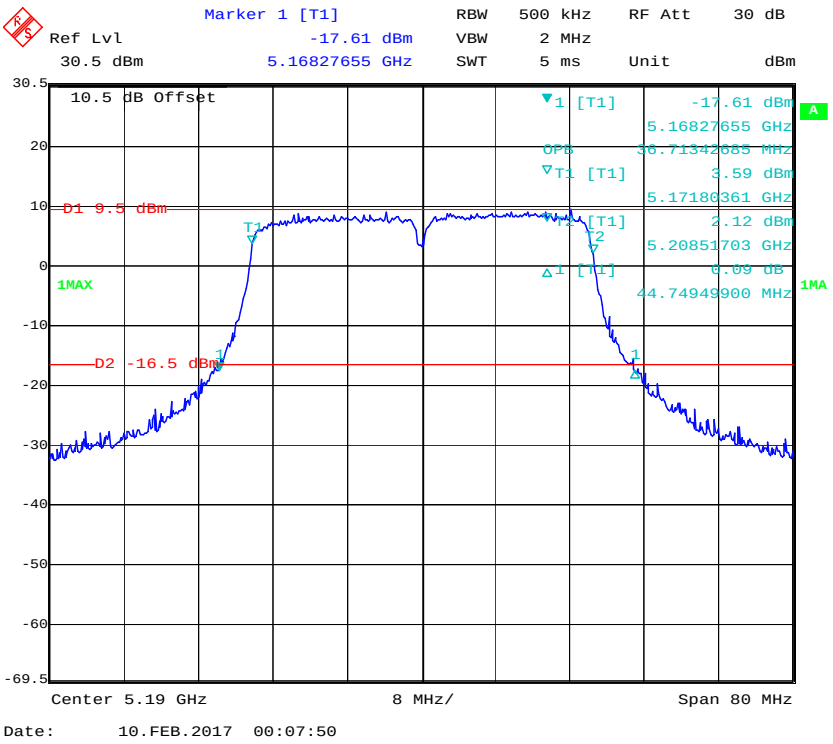
802.11n20 mode, 26dB & 99% Bandwidth, 5200 MHz



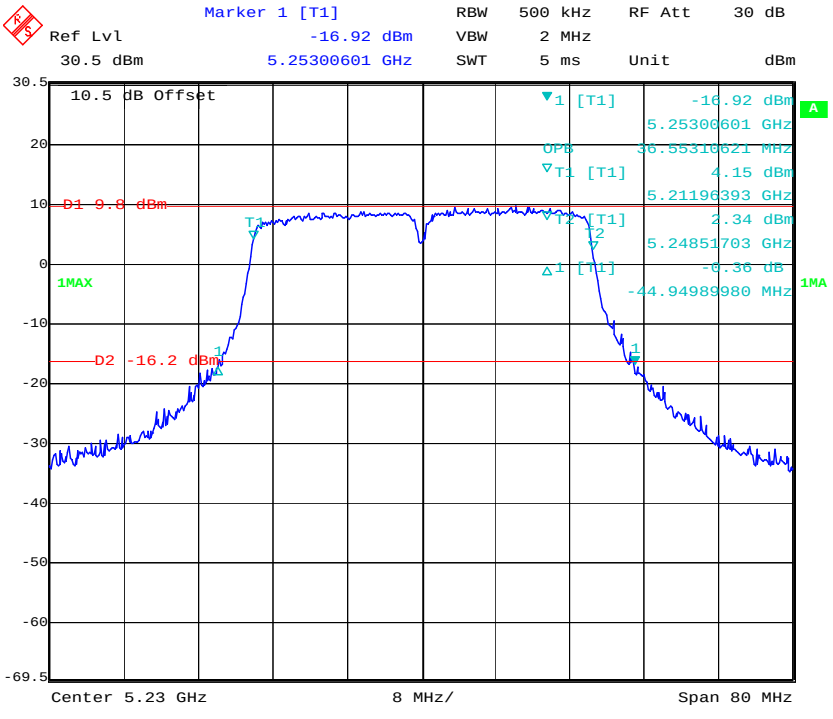
802.11n20 mode, 26dB & 99% Bandwidth, 5240 MHz



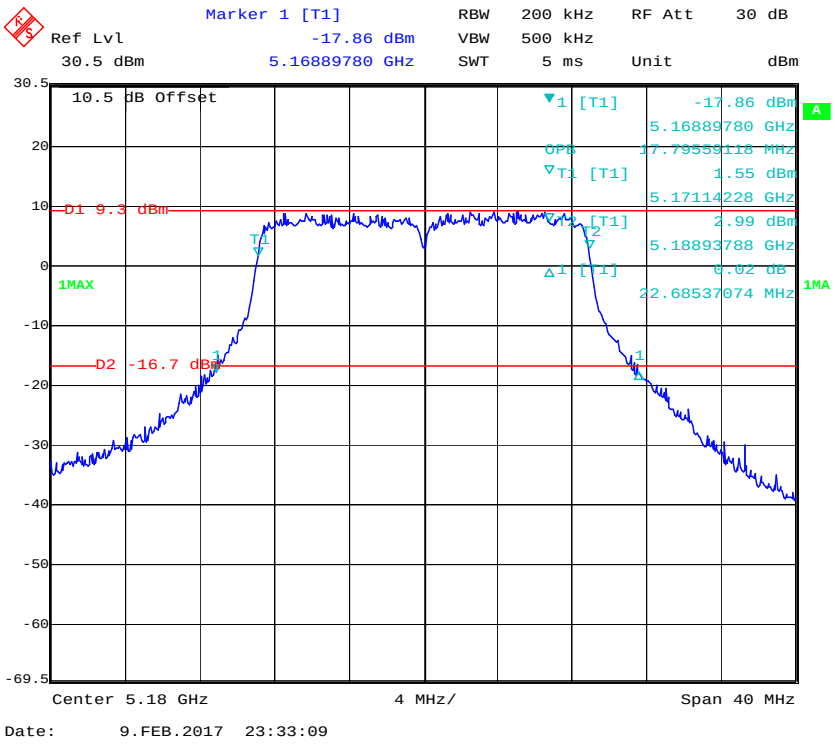
802.11n40 mode, 26dB & 99% Bandwidth, 5190 MHz



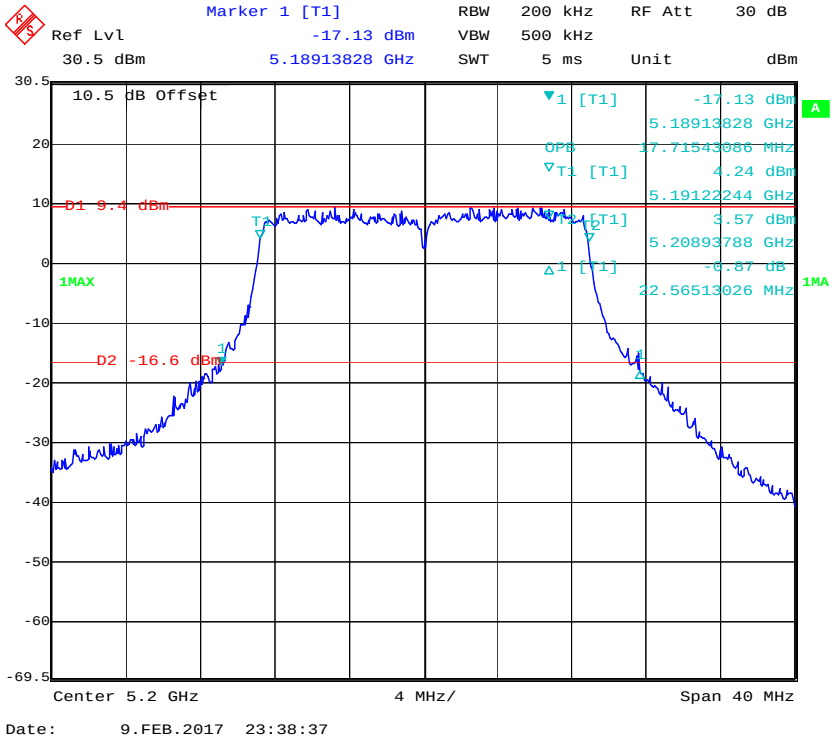
802.11n40 mode, 26dB & 99% Bandwidth, 5230 MHz



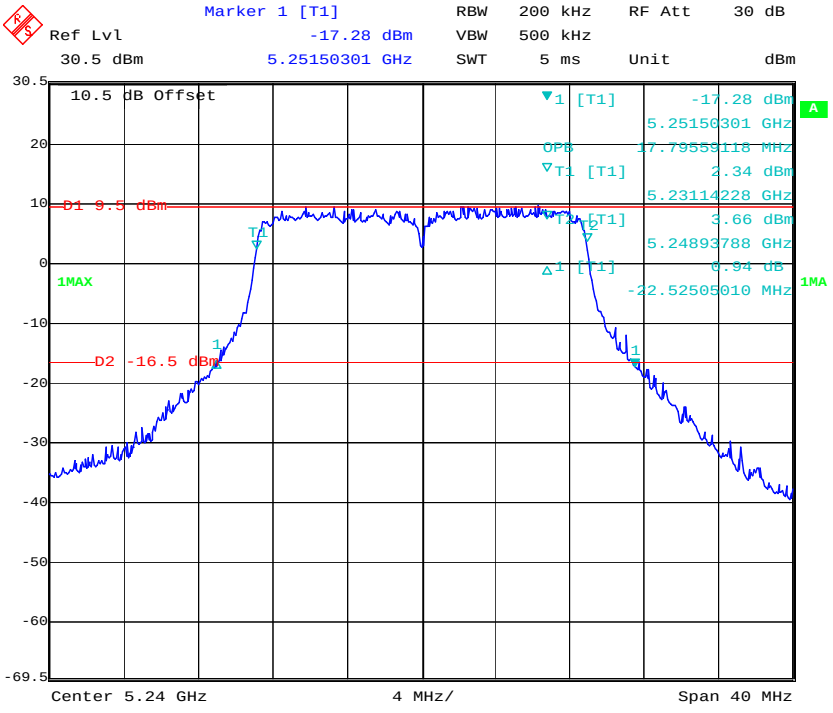
802.11ac20 mode, 26dB & 99% Bandwidth, 5180 MHz



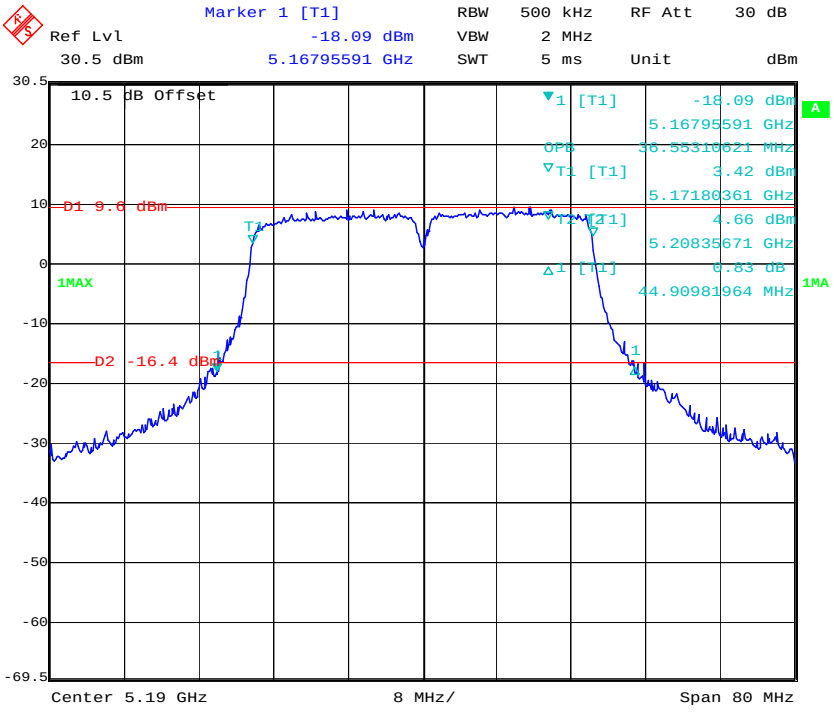
802.11ac20 mode, 26dB & 99% Bandwidth, 5200 MHz



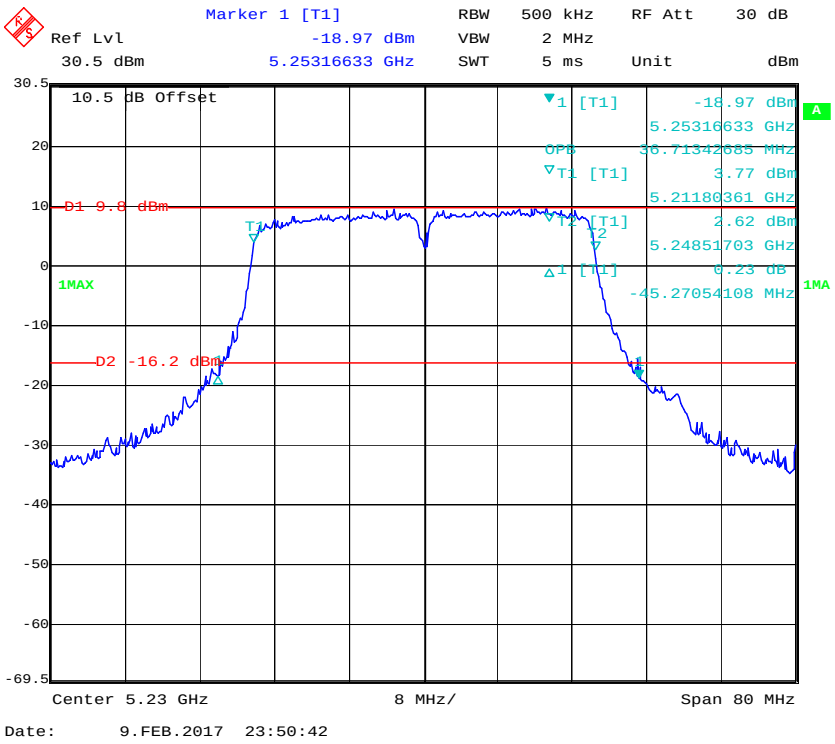
802.11ac20 mode, 26dB & 99% Bandwidth, 5240 MHz



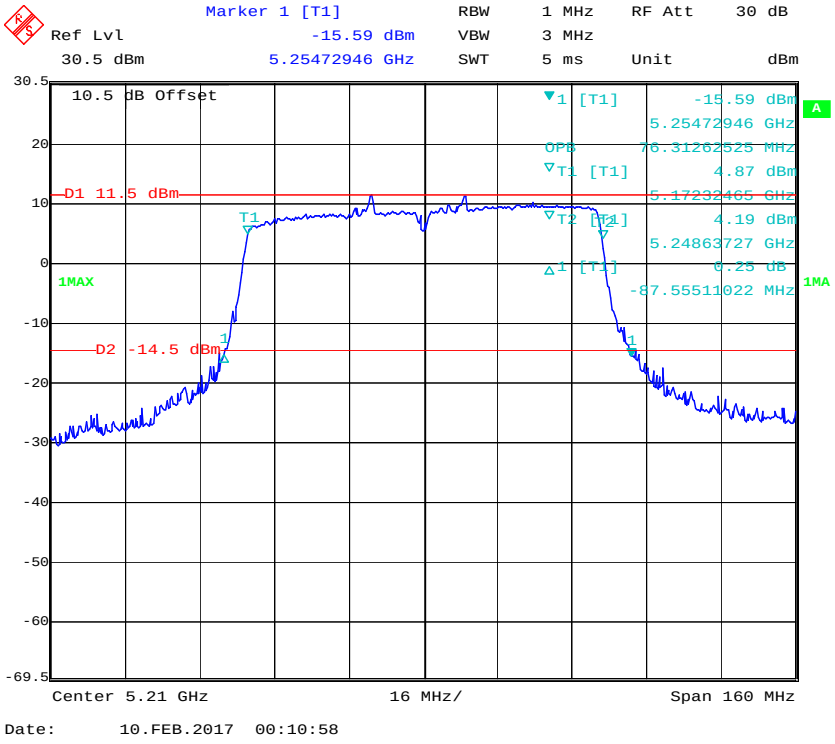
802.11ac40 mode, 26dB & 99% Bandwidth, 5190 MHz



802.11ac40 mode, 26dB & 99% Bandwidth, 5230 MHz



802.11ac80 mode, 26dB & 99% Bandwidth, 5210 MHz



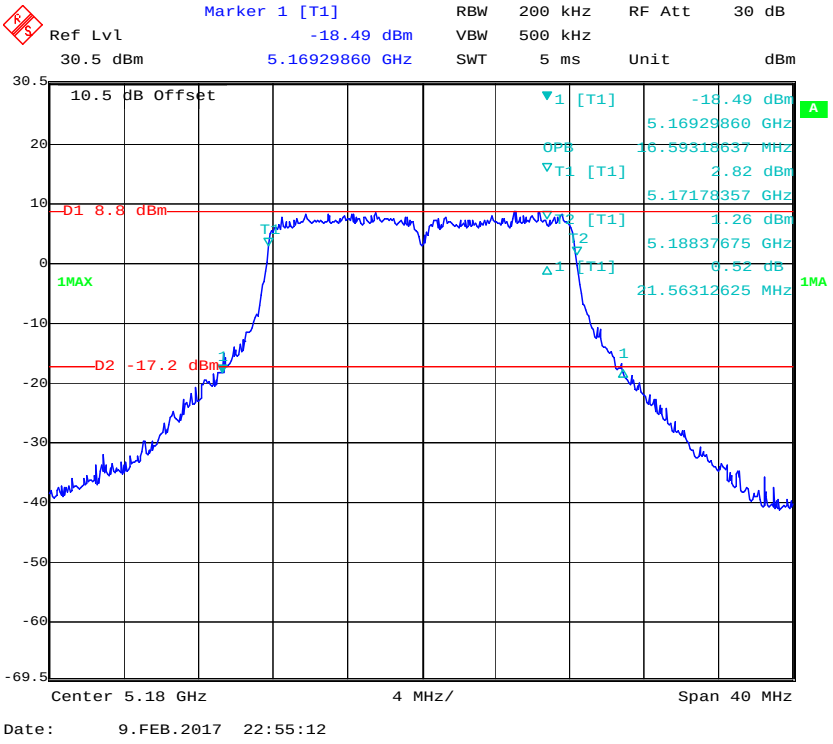
5180 MHz – 5240 MHz:

Ant 2:

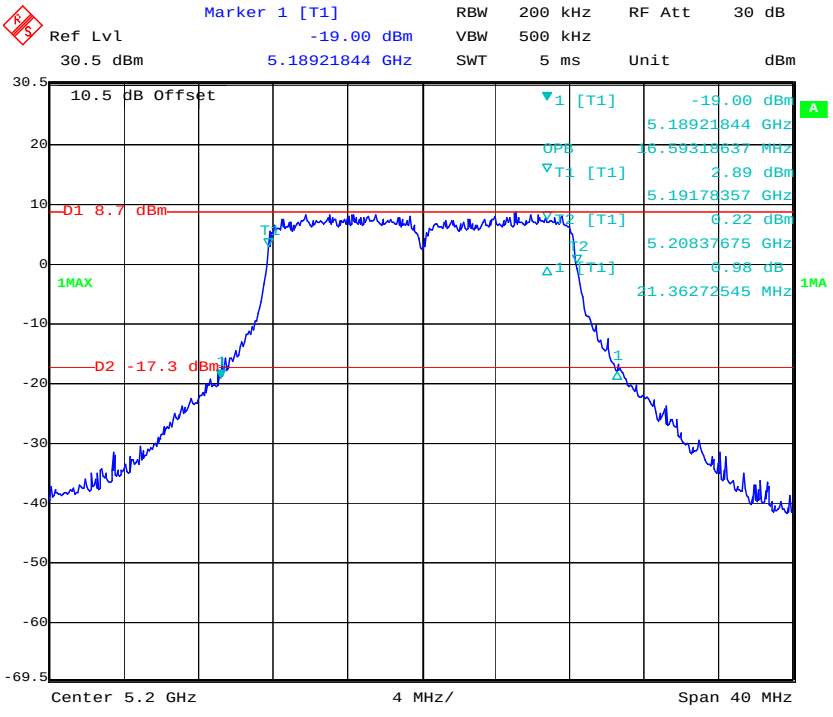
Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11a			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	16.593	21.563	
5200	16.593	21.363	
5240	16.593	21.723	
802.11n20			
5180	17.796	22.445	
5200	17.796	22.445	
5240	17.796	22.124	
802.11n40			
5190	36.553	45.711	
5230	36.553	45.271	

Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11ac20			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	17.796	22.365	
5200	17.796	22.485	
5240	17.796	22.445	
802.11ac40			
5190	36.553	44.750	
5230	36.713	44.950	
802.11ac80			
5210	76.313	87.234	

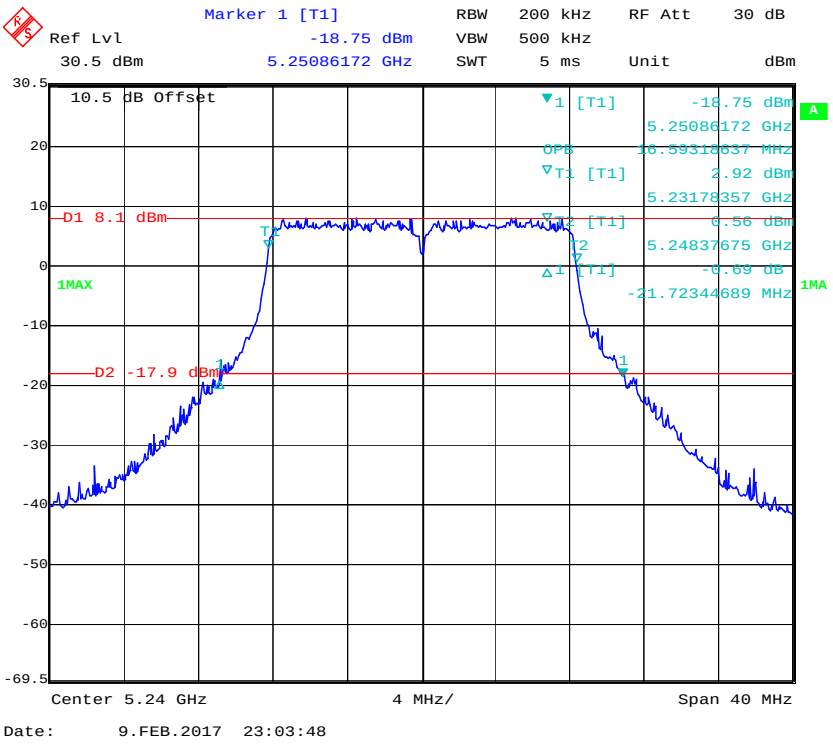
802.11a mode, 26dB & 99% Bandwidth, 5180 MHz



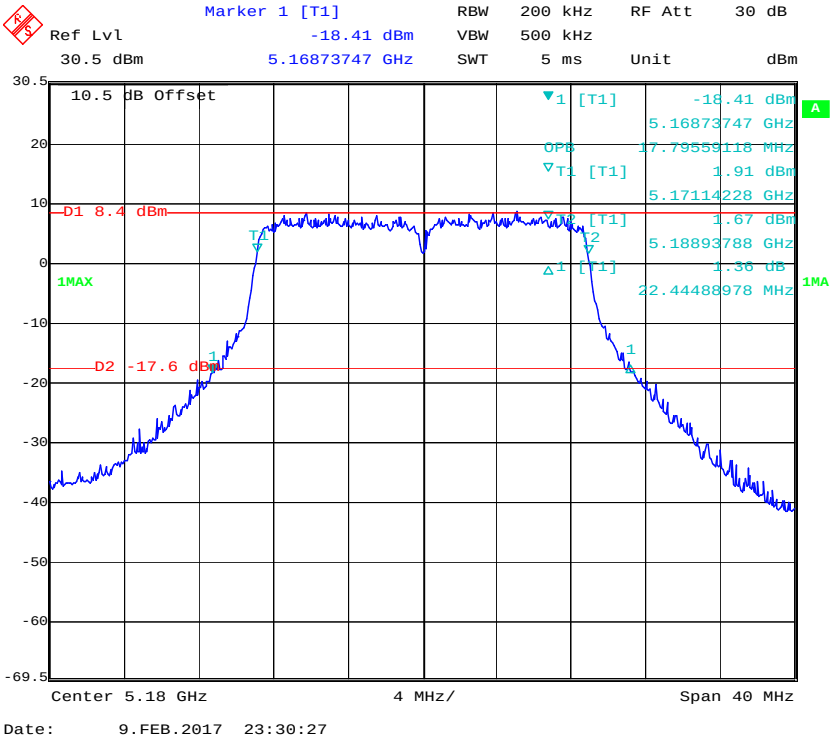
802.11a mode, 26dB & 99% Bandwidth, 5200 MHz



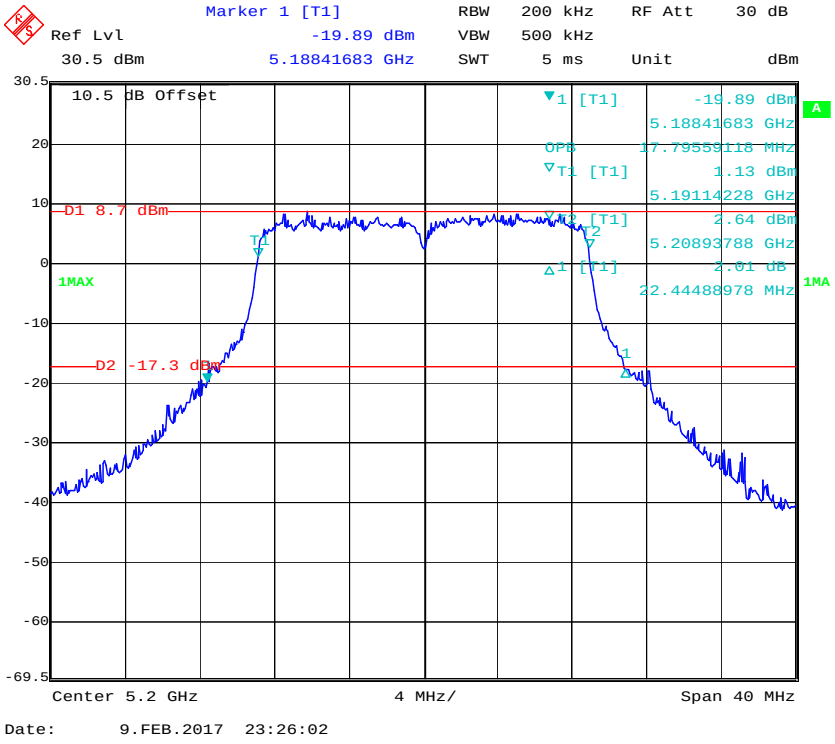
802.11a mode, 26dB & 99% Bandwidth, 5240 MHz



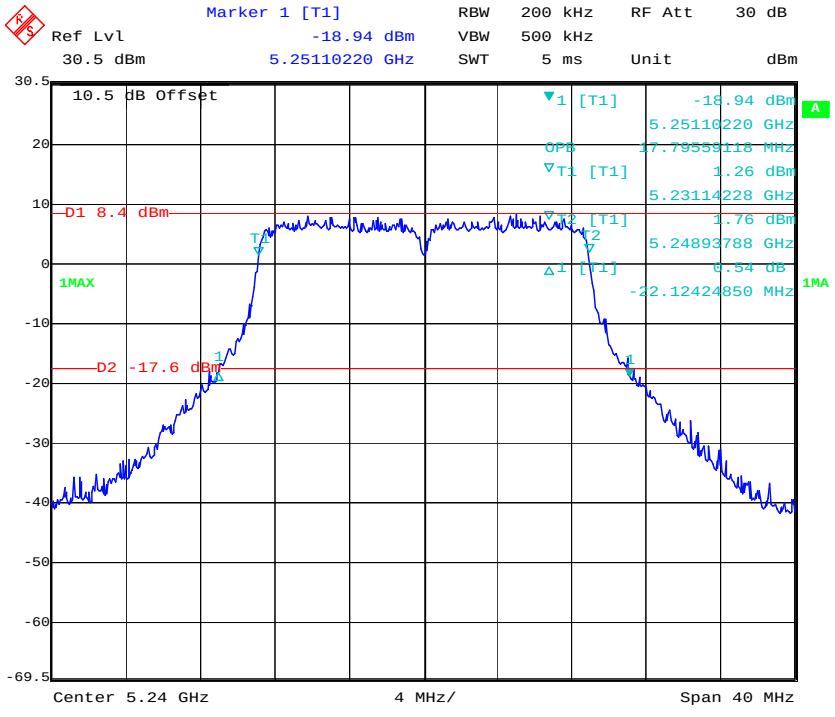
802.11n20 mode, 26dB & 99% Bandwidth, 5180 MHz



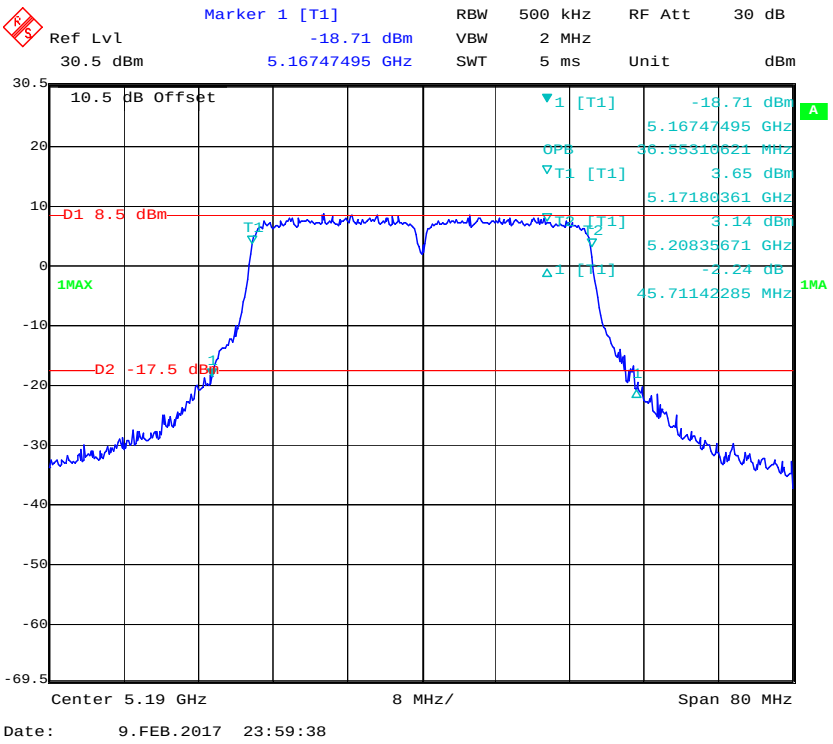
802.11n20 mode, 26dB & 99% Bandwidth, 5200 MHz



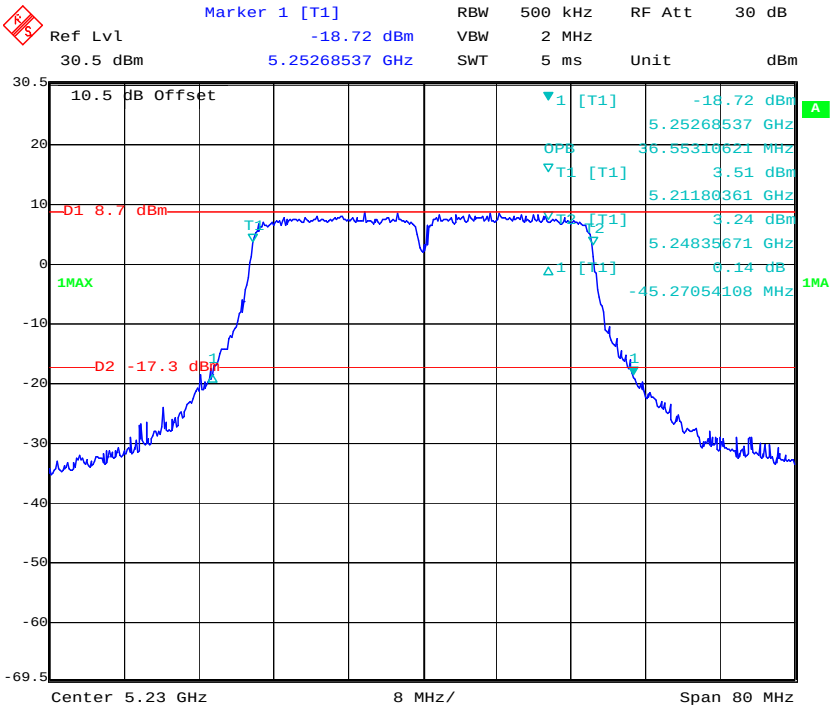
802.11n20 mode, 26dB & 99% Bandwidth, 5240 MHz



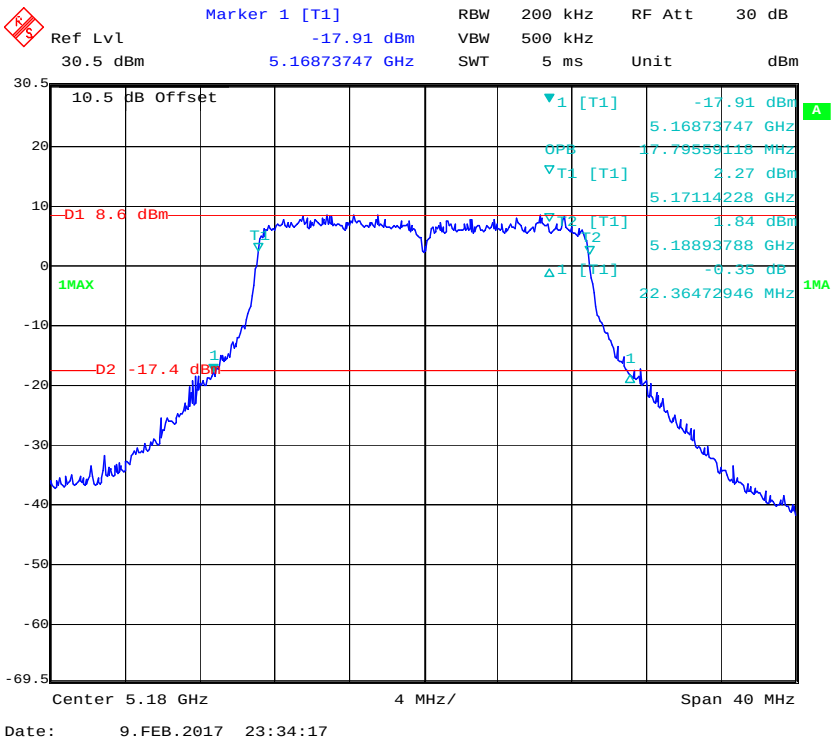
802.11n40 mode, 26dB & 99% Bandwidth, 5190 MHz



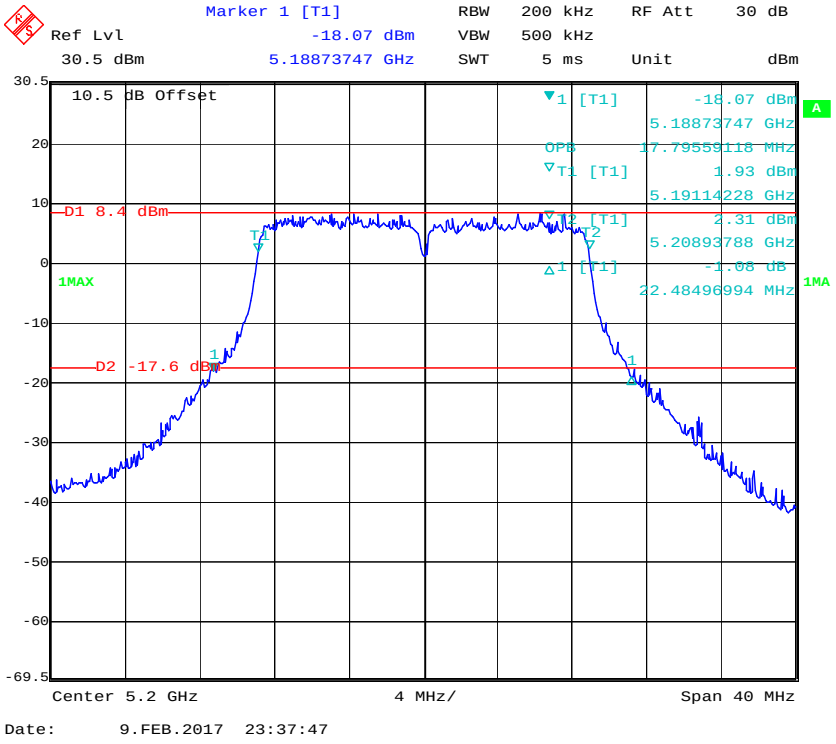
802.11n40 mode, 26dB & 99% Bandwidth, 5230 MHz



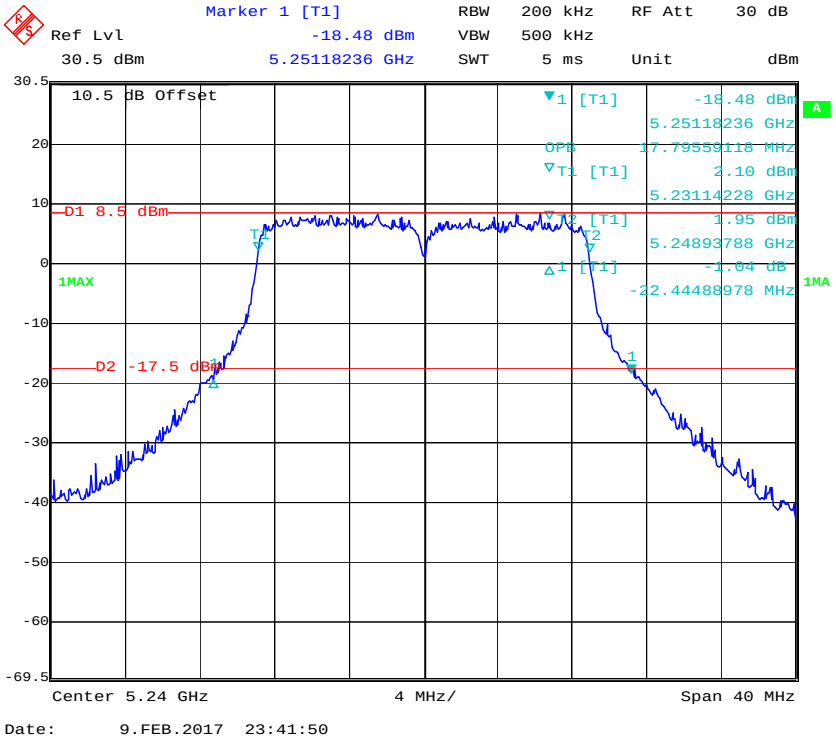
802.11ac20 mode, 26dB & 99% Bandwidth, 5180 MHz



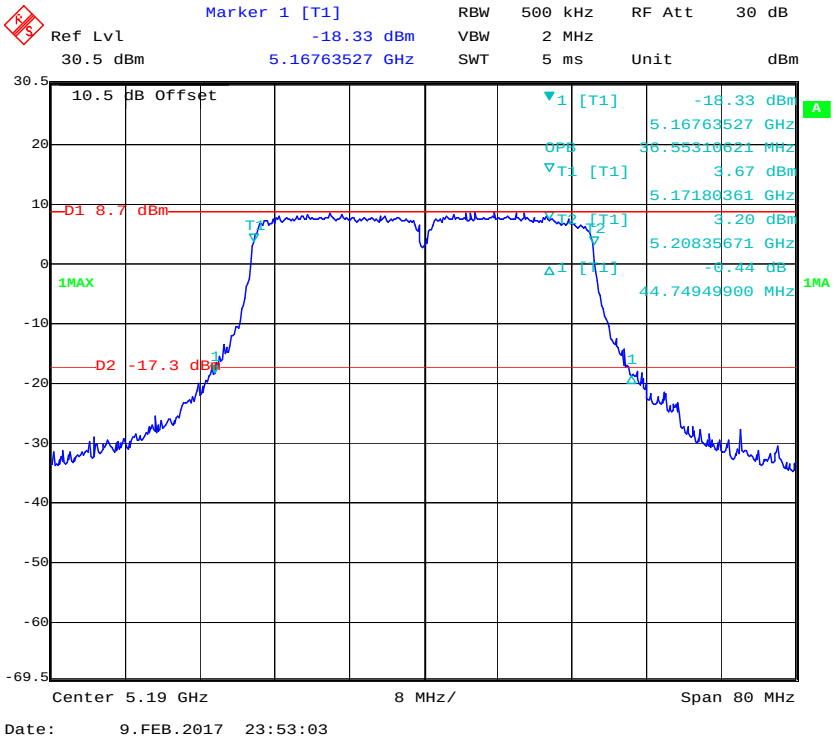
802.11ac20 mode, 26dB & 99% Bandwidth, 5200 MHz



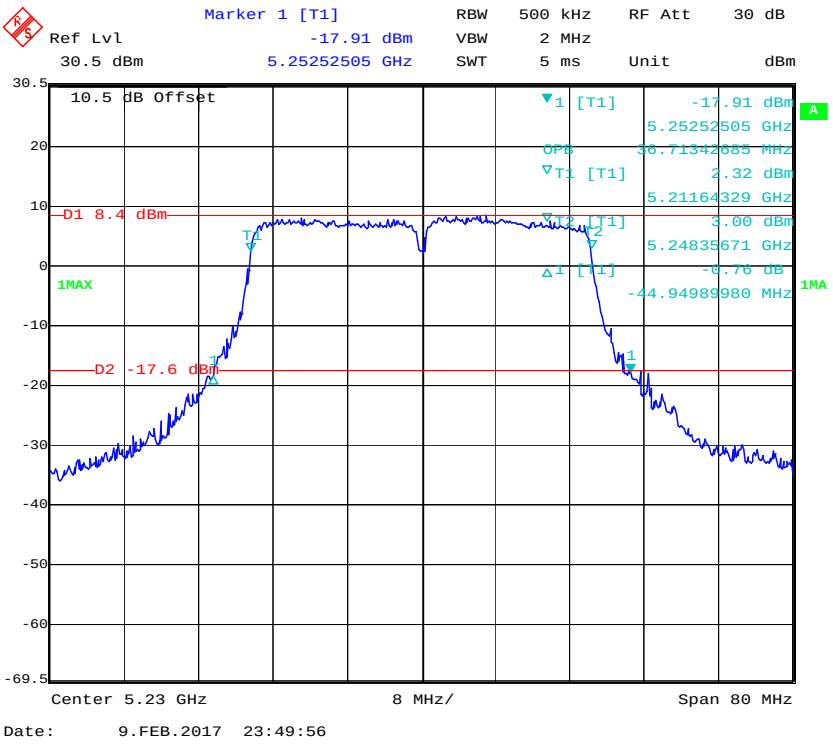
802.11ac20 mode, 26dB & 99% Bandwidth, 5240 MHz



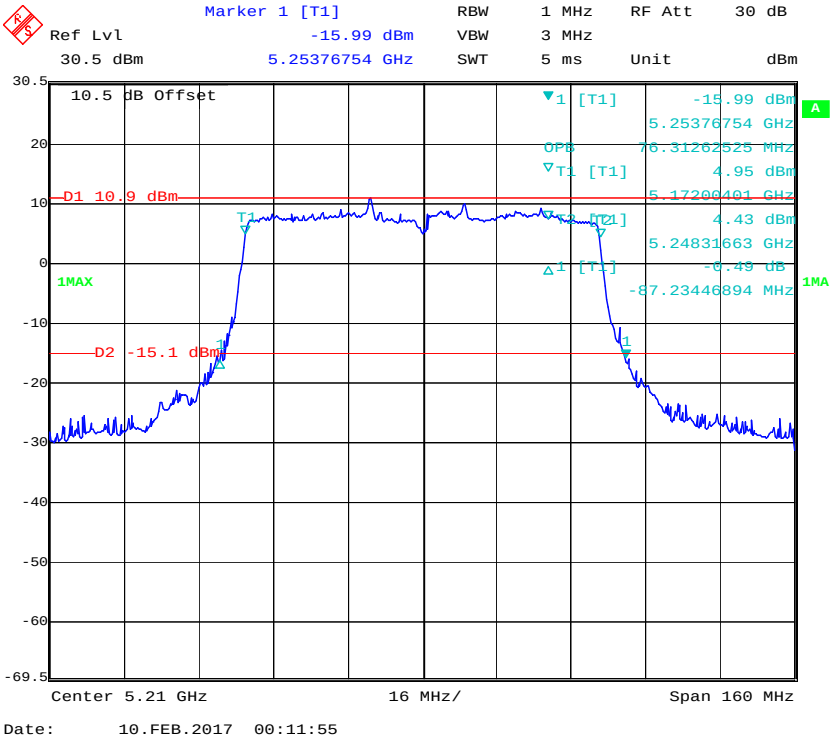
802.11ac40 mode, 26dB & 99% Bandwidth, 5190 MHz



802.11ac40 mode, 26dB & 99% Bandwidth, 5230 MHz



802.11ac80 mode, 26dB & 99% Bandwidth, 5210 MHz



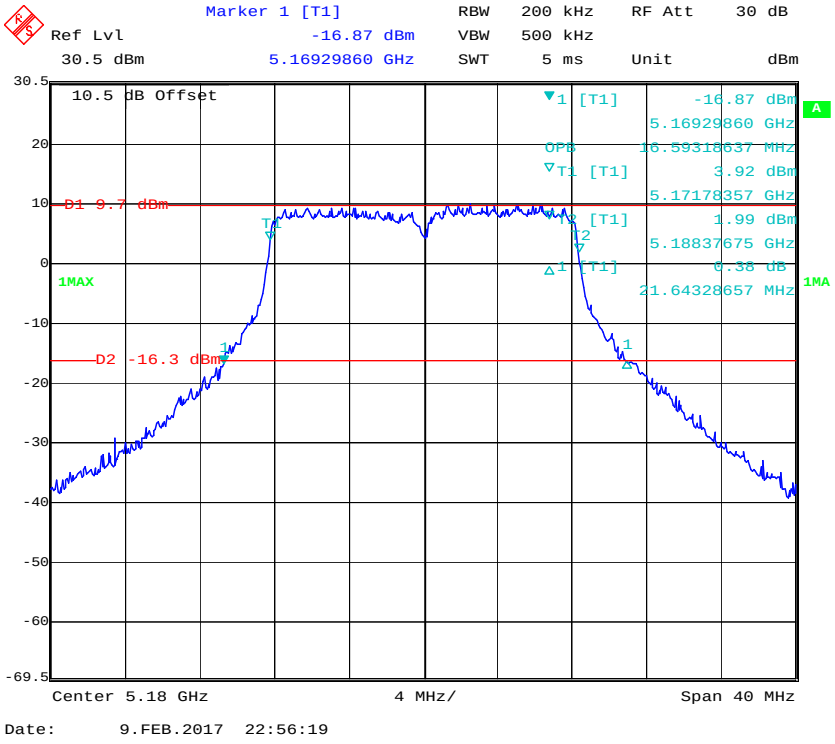
5180 MHz – 5240 MHz:

Ant 3:

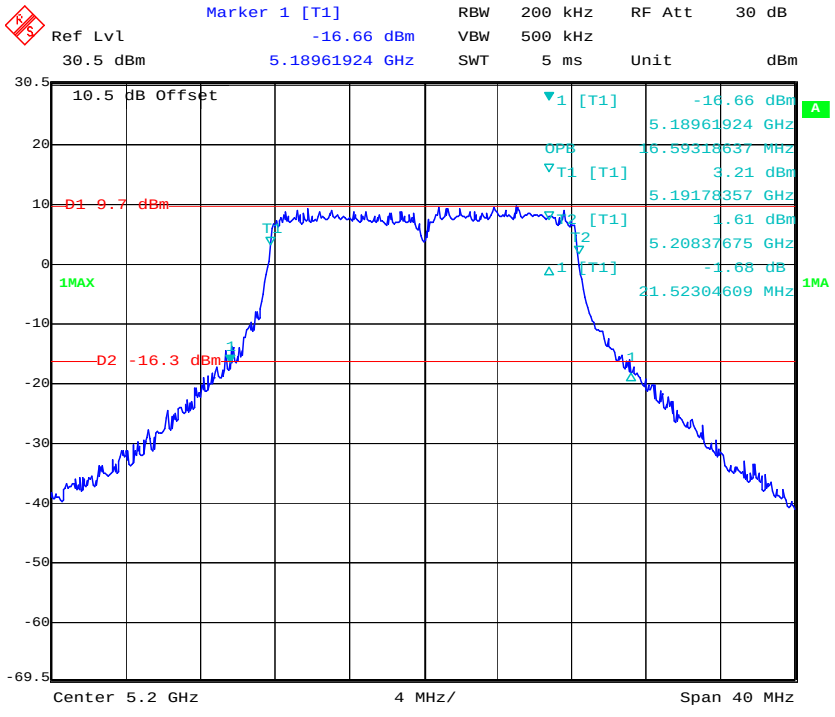
Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11a			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	16.593	21.643	
5200	16.593	21.523	
5240	16.593	22.445	
802.11n20			
5180	17.715	22.285	
5200	17.796	22.365	
5240	17.796	22.365	
802.11n40			
5190	36.713	44.589	
5230	36.553	44.790	

Frequency (MHz)	99% bandwidth (MHz)	26dB Bandwidth (MHz)	Remark
802.11ac20			No transmitted signal in the 99% bandwidth extends into the U-NII-2A band
5180	17.796	22.525	
5200	17.715	22.244	
5240	17.796	22.365	
802.11ac40			
5190	36.553	45.391	
5230	36.553	44.309	
802.11ac80			
5210	76.313	88.517	

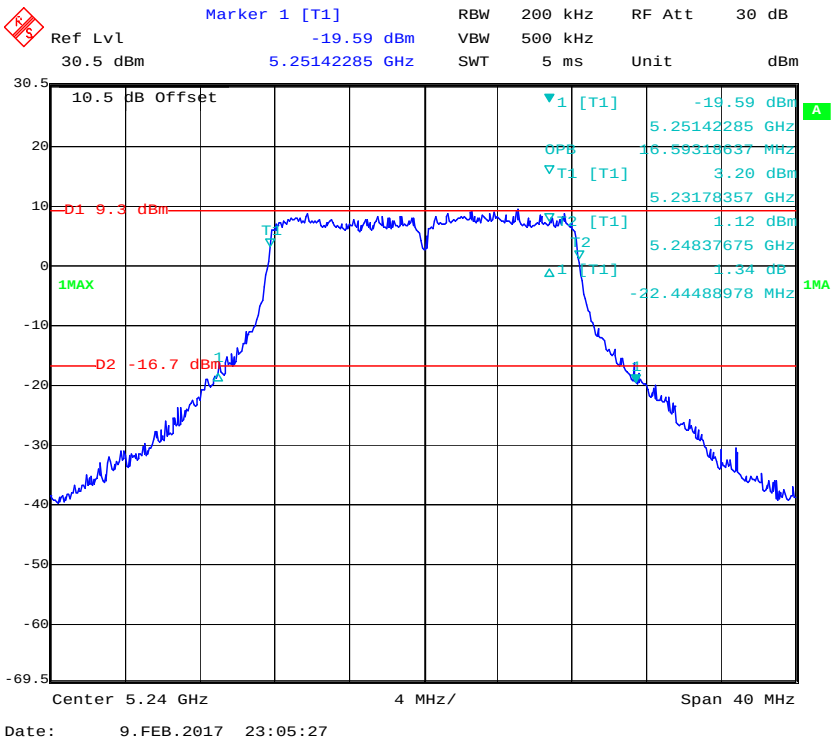
802.11a mode, 26dB & 99% Bandwidth, 5180 MHz



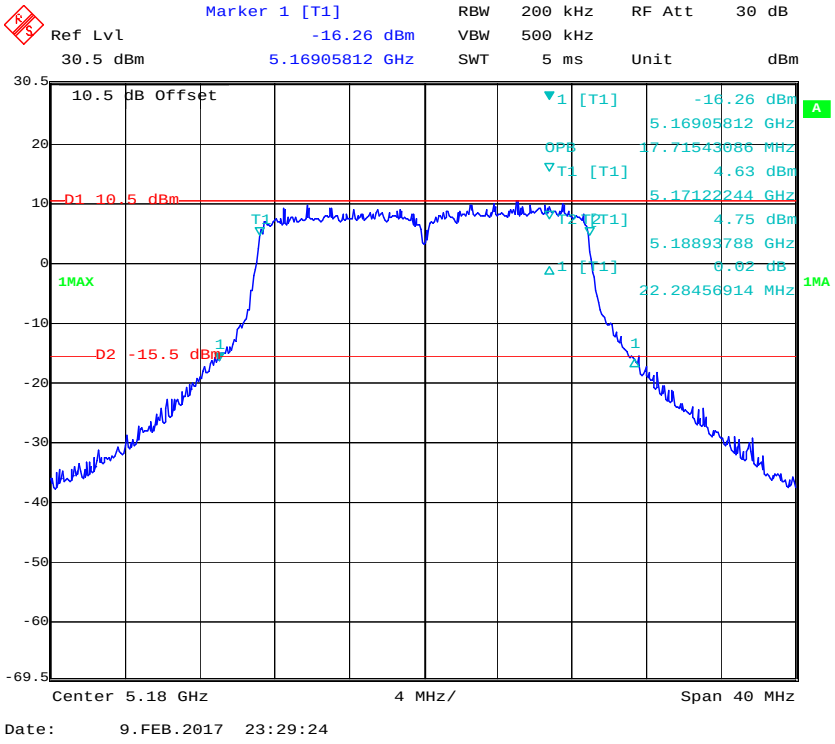
802.11a mode, 26dB & 99% Bandwidth, 5200 MHz



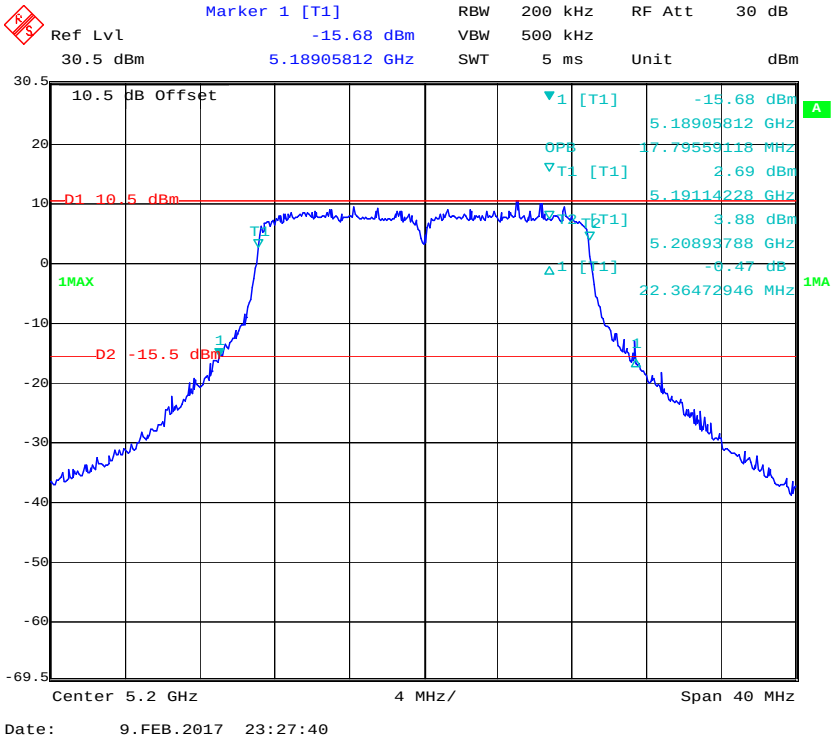
802.11a mode, 26dB & 99% Bandwidth, 5240 MHz



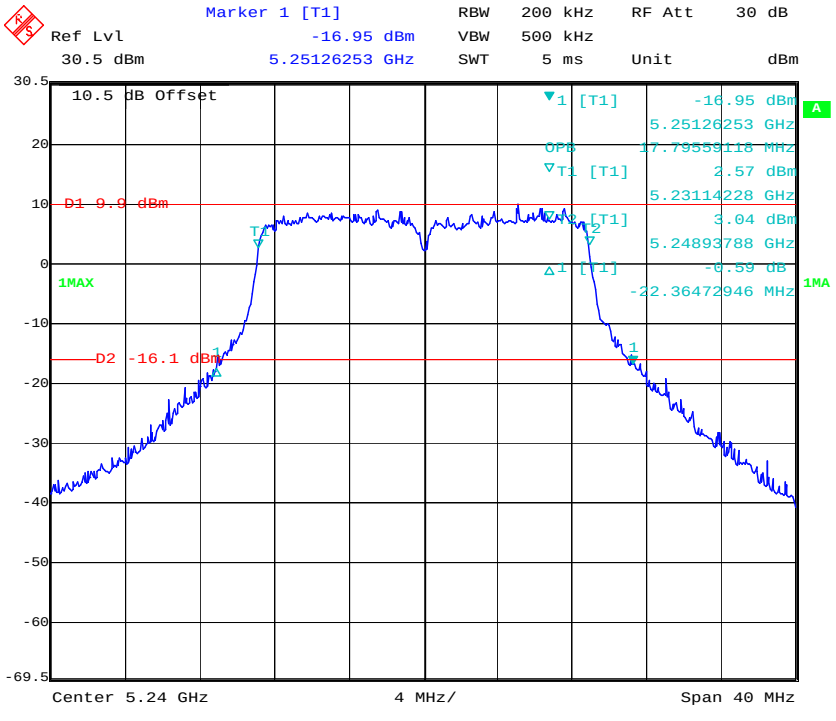
802.11n20 mode, 26dB & 99% Bandwidth, 5180 MHz



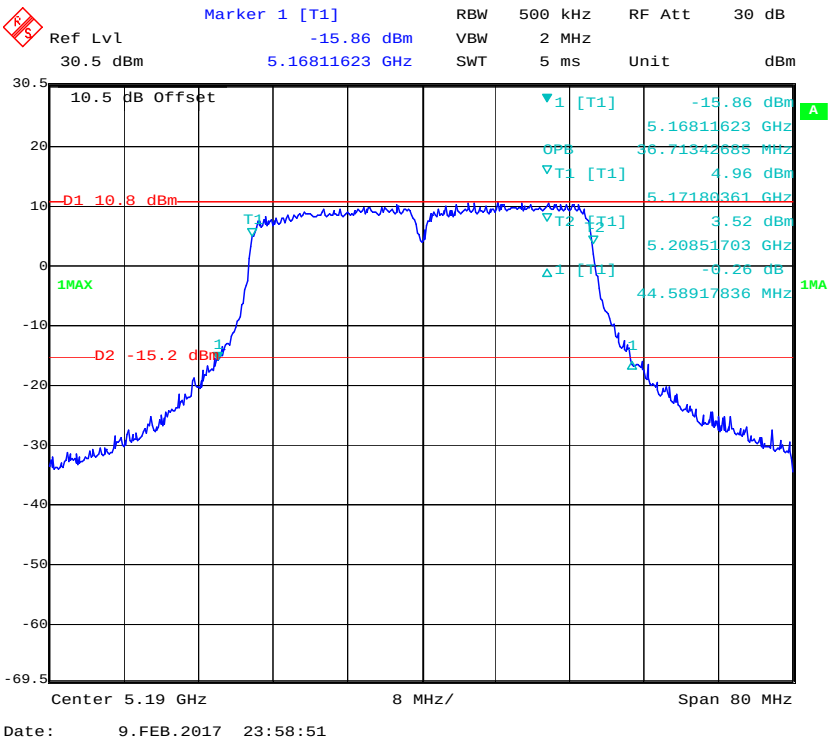
802.11n20 mode, 26dB & 99% Bandwidth, 5200 MHz



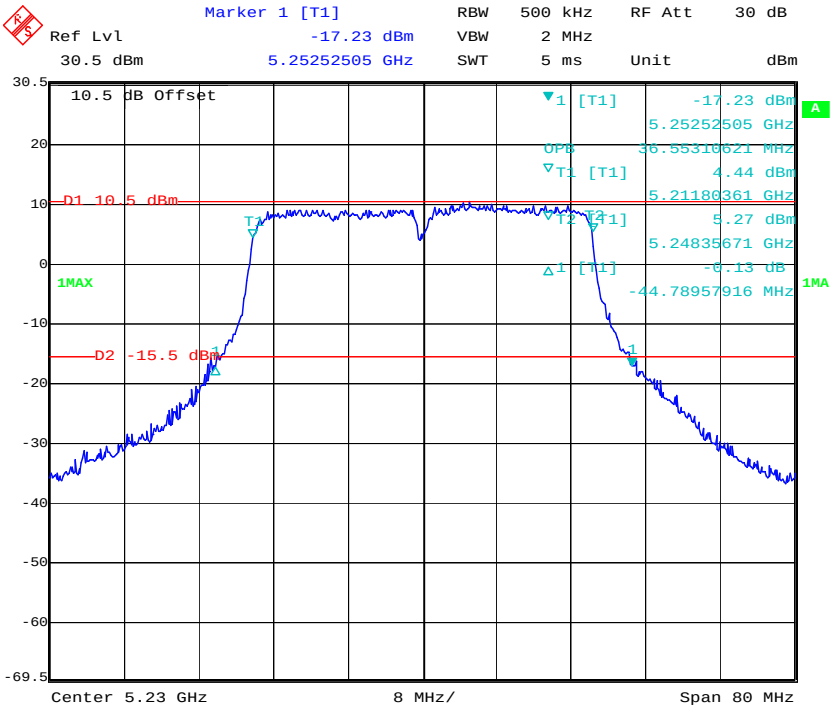
802.11n20 mode, 26dB & 99% Bandwidth, 5240 MHz



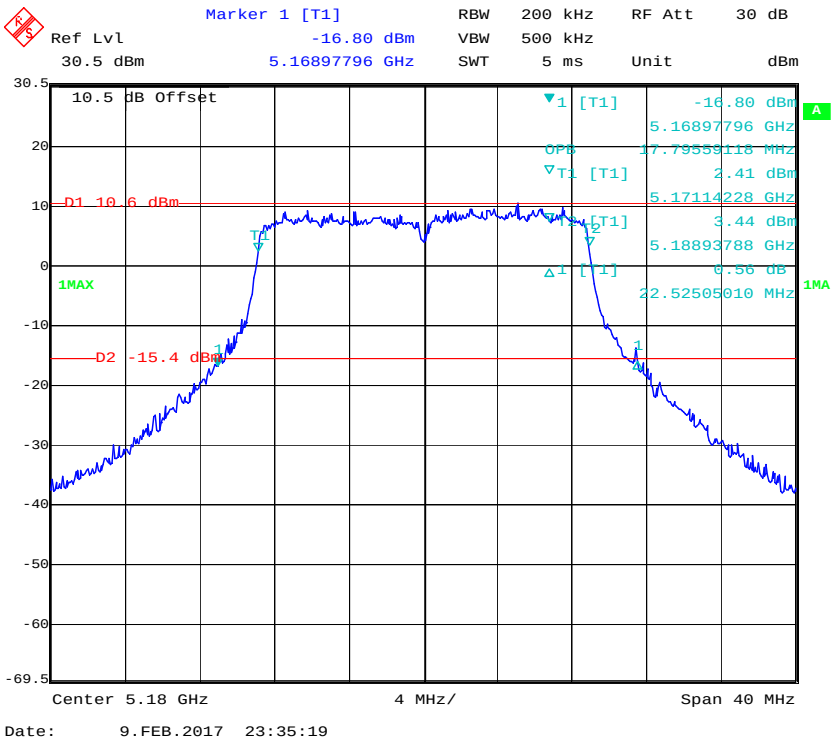
802.11n40 mode, 26dB & 99% Bandwidth, 5190 MHz



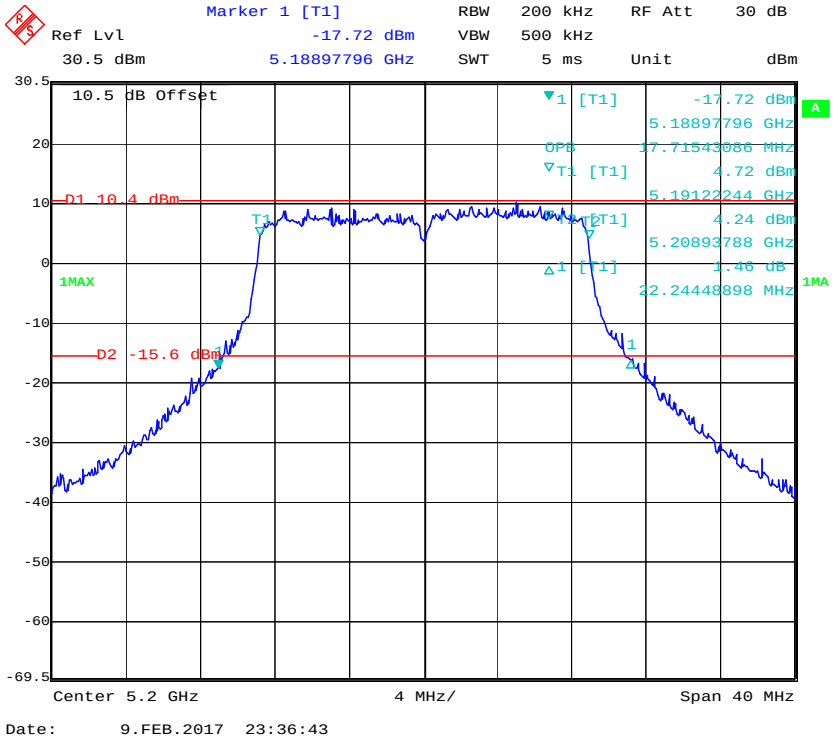
802.11n40 mode, 26dB & 99% Bandwidth, 5230 MHz



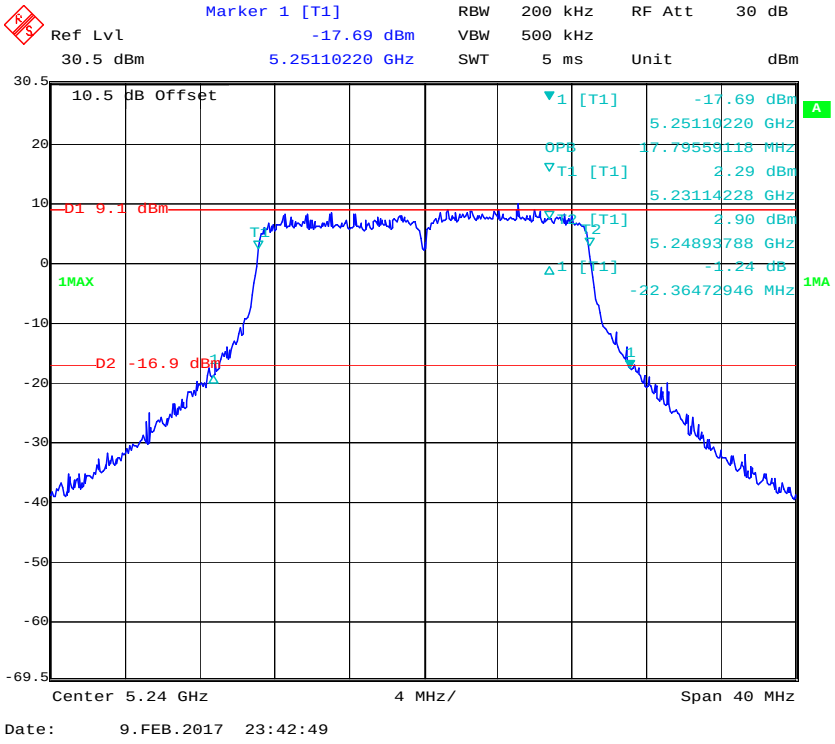
802.11ac20 mode, 26dB & 99% Bandwidth, 5180 MHz



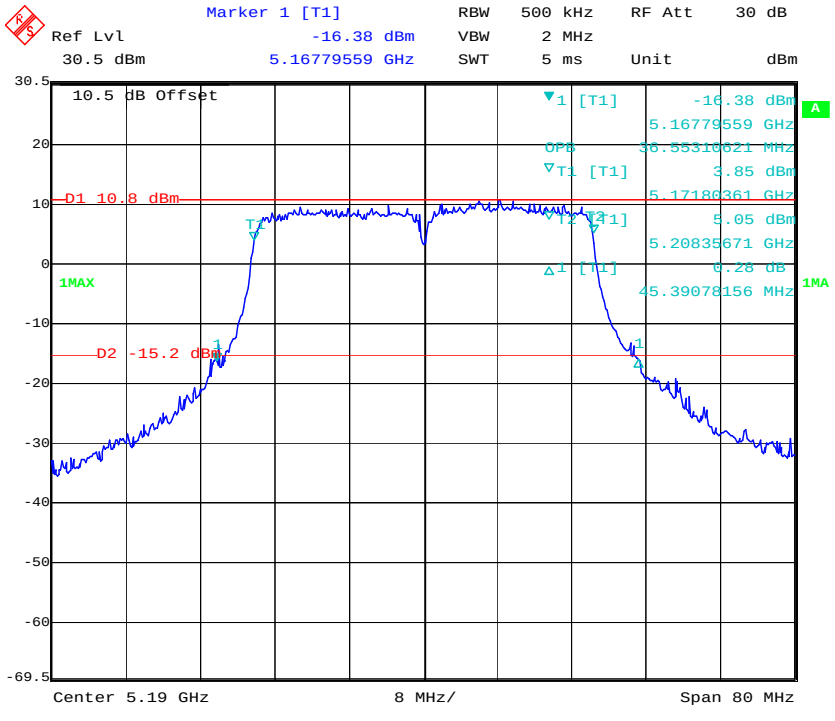
802.11ac20 mode, 26dB & 99% Bandwidth, 5200 MHz



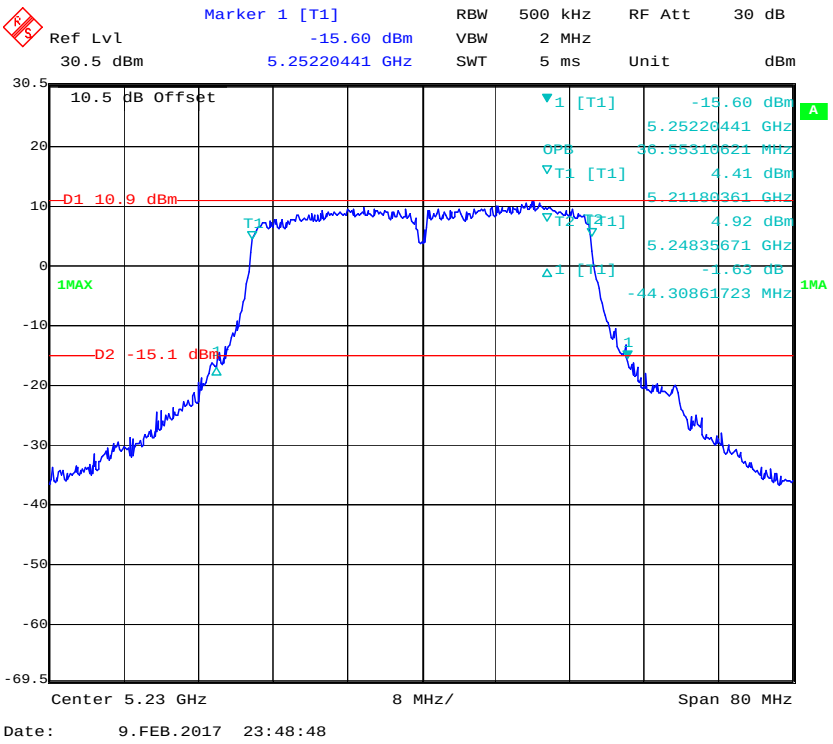
802.11ac20 mode, 26dB & 99% Bandwidth, 5240 MHz



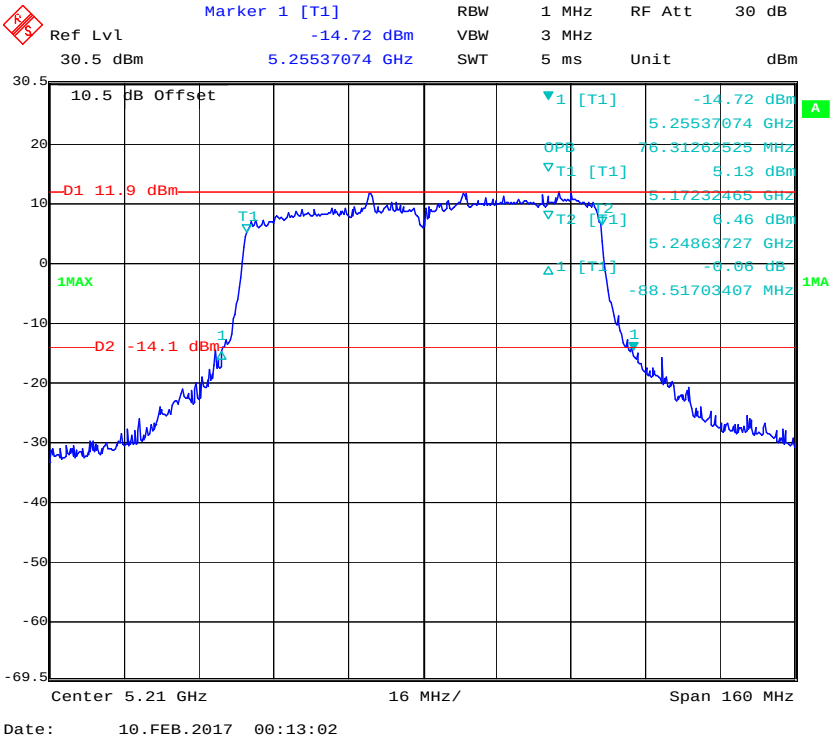
802.11ac40 mode, 26dB & 99% Bandwidth, 5190 MHz



802.11ac40 mode, 26dB & 99% Bandwidth, 5230 MHz



802.11ac80 mode, 26dB & 99% Bandwidth, 5210 MHz

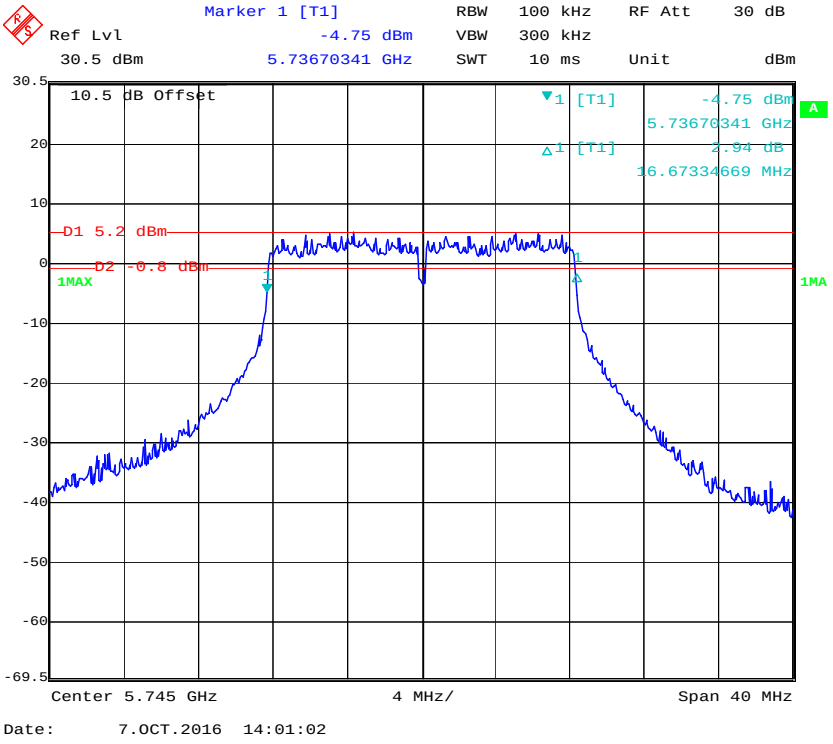


5725 MHz – 5825 MHz:

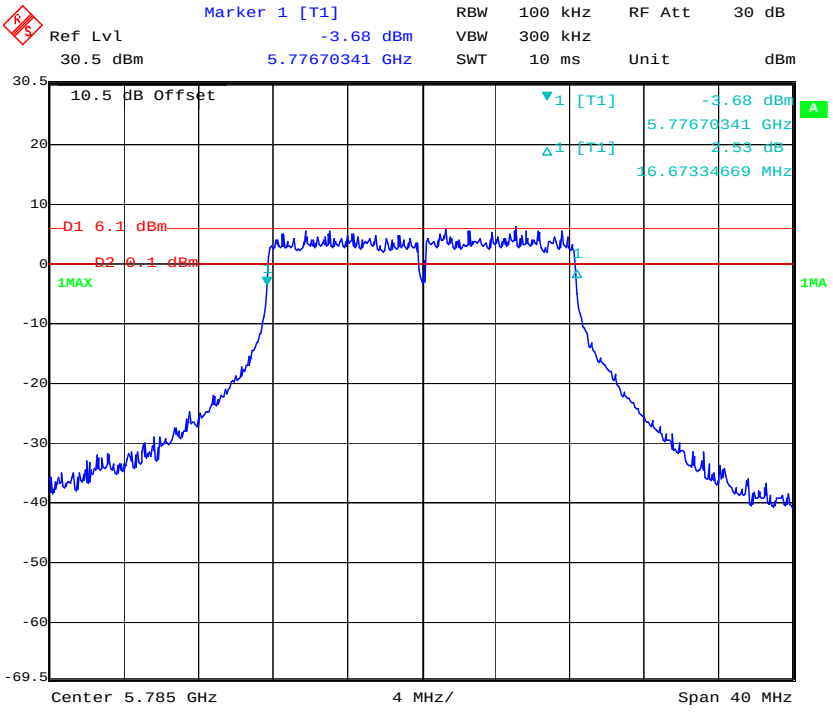
Ant 1:

Frequency (MHz)	99% bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a			
5745	16.673	16.673	0.5
5785	16.593	16.673	0.5
5825	16.673	16.593	0.5
802.11n20			
5745	17.796	17.876	0.5
5785	17.715	17.876	0.5
5825	17.796	17.956	0.5
802.11n40			
5755	36.713	36.874	0.5
5795	36.553	36.854	0.5
802.11ac20			
5745	17.796	17.956	0.5
5785	17.796	17.876	0.5
5825	17.876	17.876	0.5
802.11ac40			
5755	36.553	36.934	0.5
5795	36.553	36.854	0.5
802.11ac80			
5775	75.992	77.234	0.5

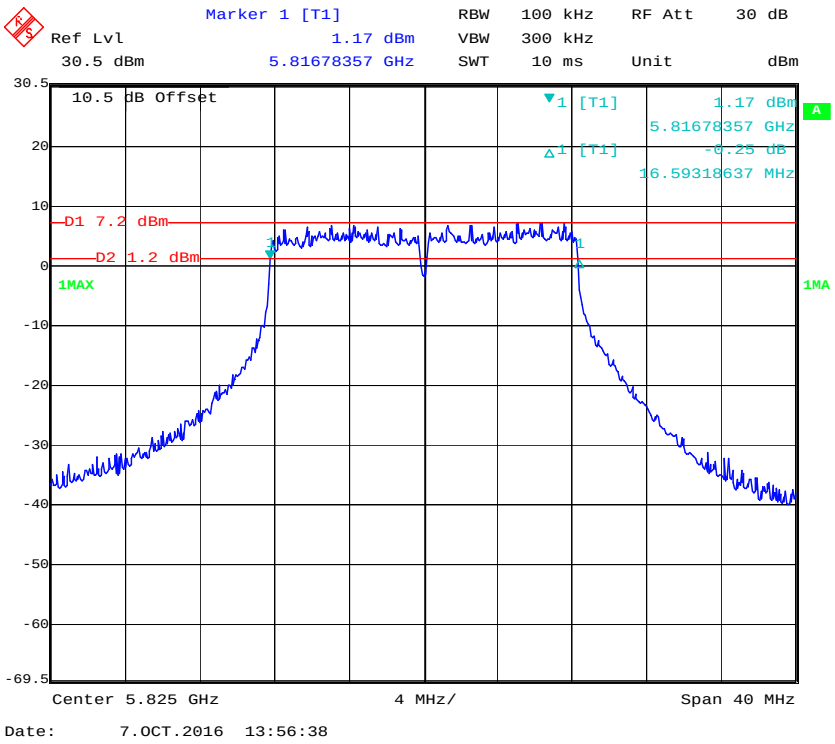
802.11a mode, 6dB Emission Bandwidth, 5745 MHz



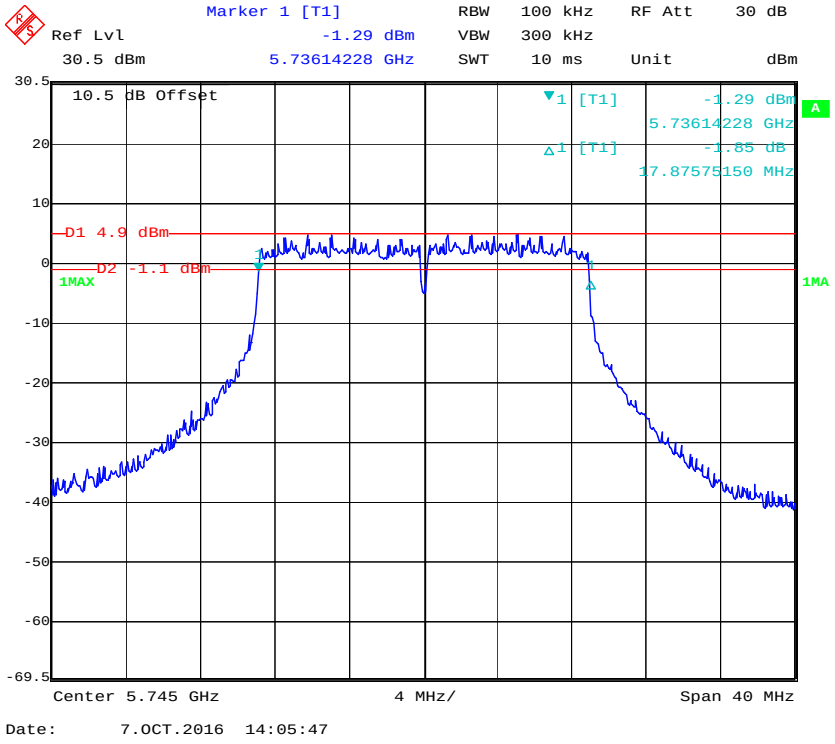
802.11a mode, 6dB Emission Bandwidth, 5785 MHz



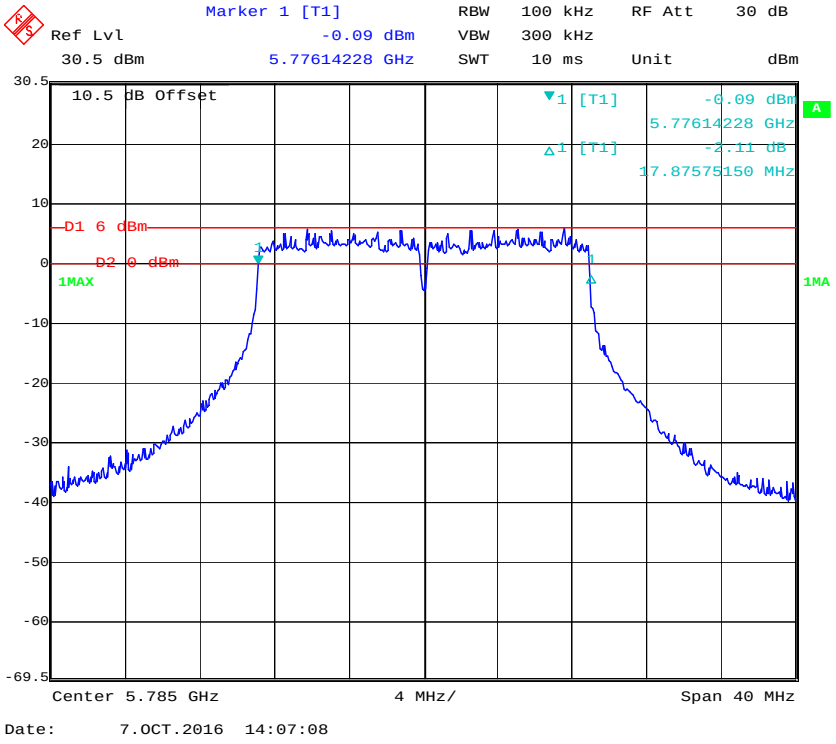
802.11a mode, 6dB Emission Bandwidth, 5825 MHz



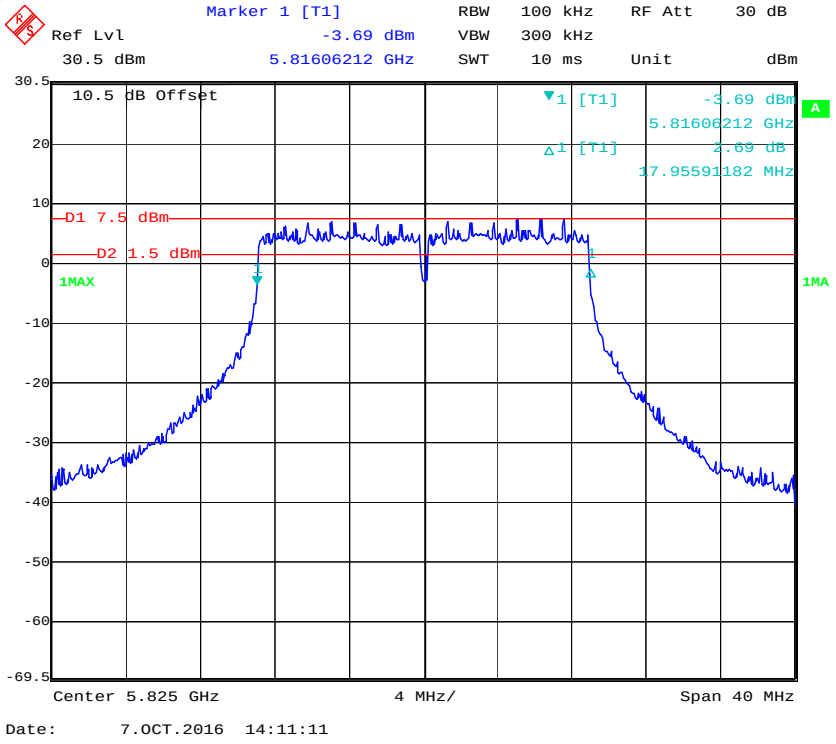
802.11n20 mode, 6dB Emission Bandwidth, 5745 MHz



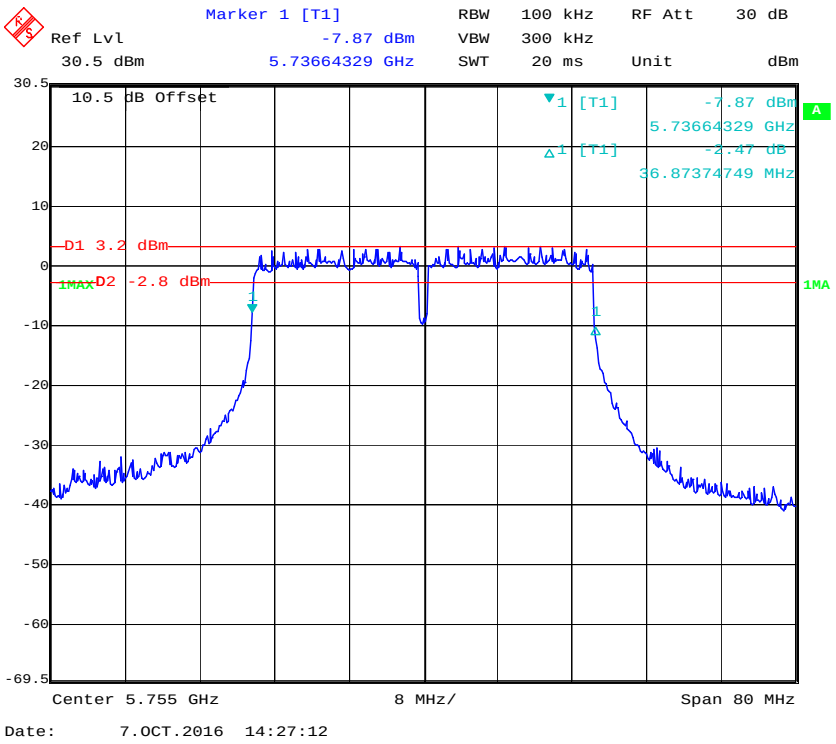
802.11n20 mode, 6dB Emission Bandwidth, 5785 MHz



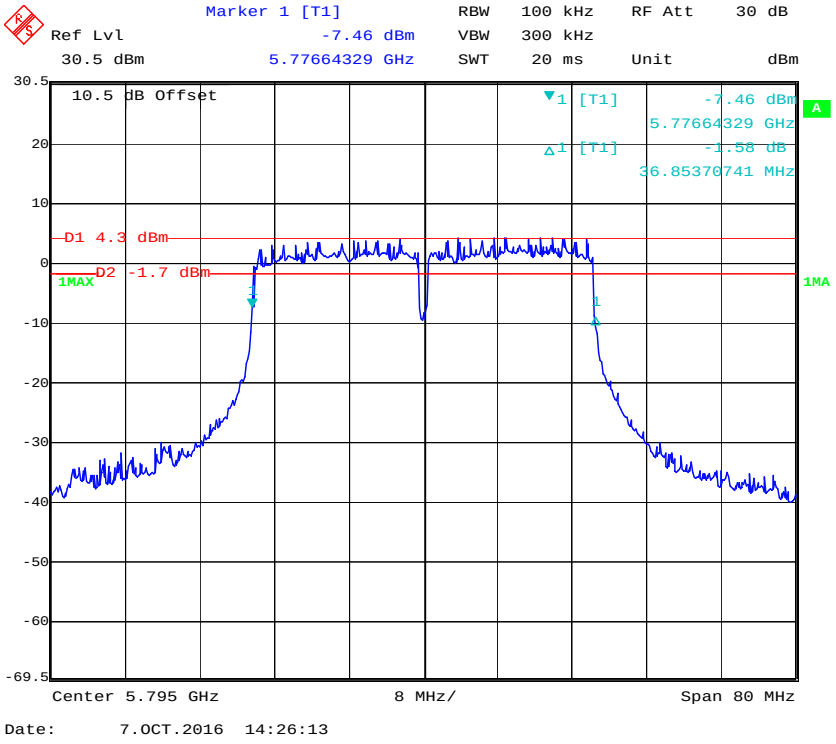
802.11n20 mode, 6dB Emission Bandwidth, 5825 MHz



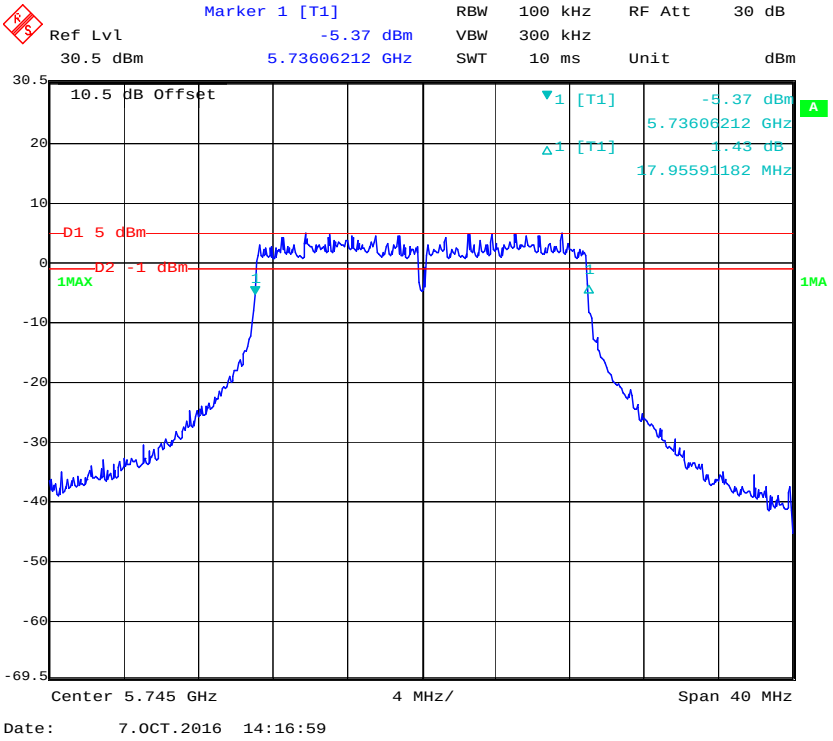
802.11n40 mode, 6dB Emission Bandwidth, 5755 MHz



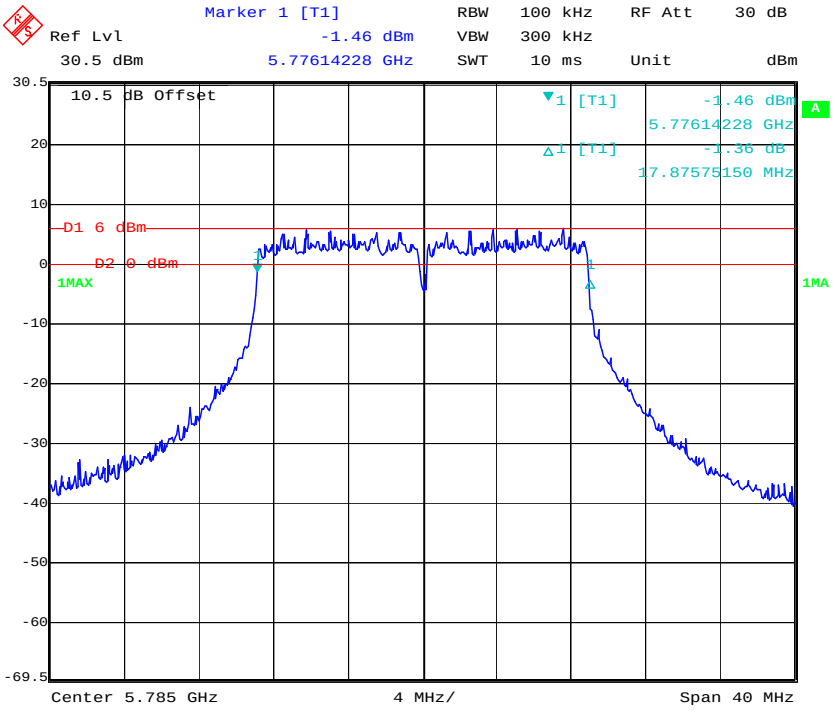
802.11n40 mode, 6dB Emission Bandwidth, 5795 MHz



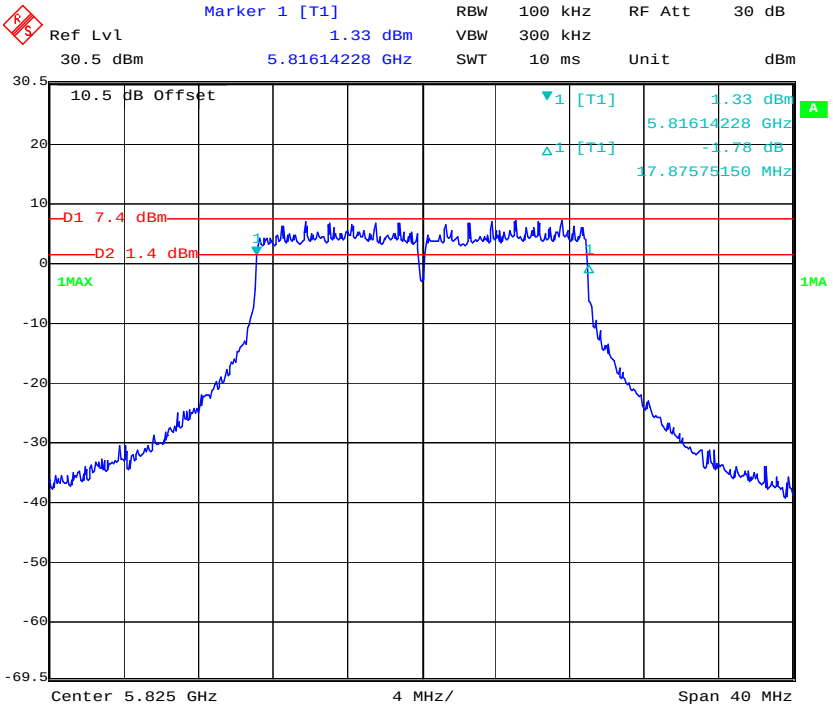
802.11ac20 mode, 6dB Emission Bandwidth, 5745 MHz



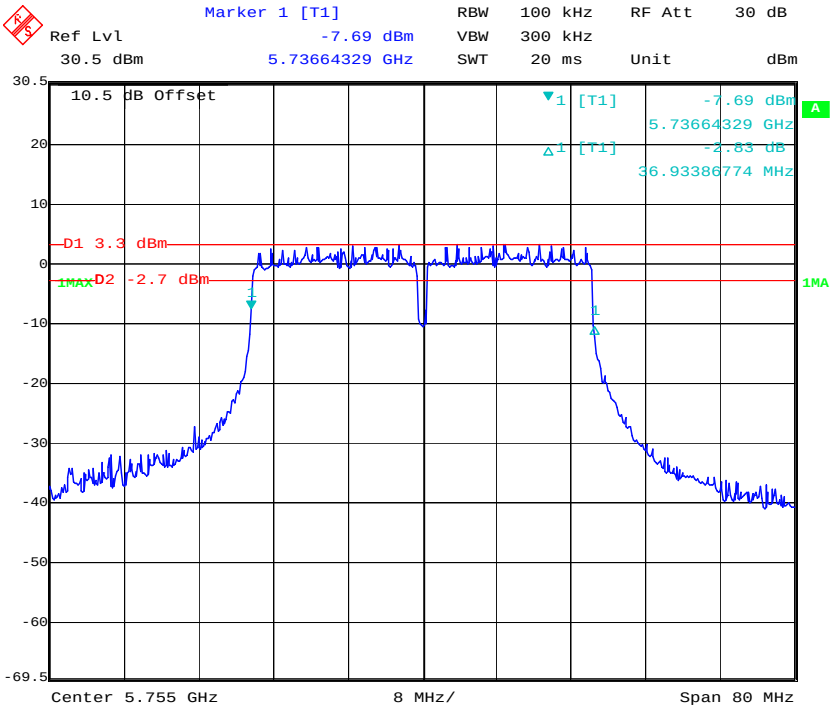
802.11ac20 mode, 6dB Emission Bandwidth, 5785 MHz



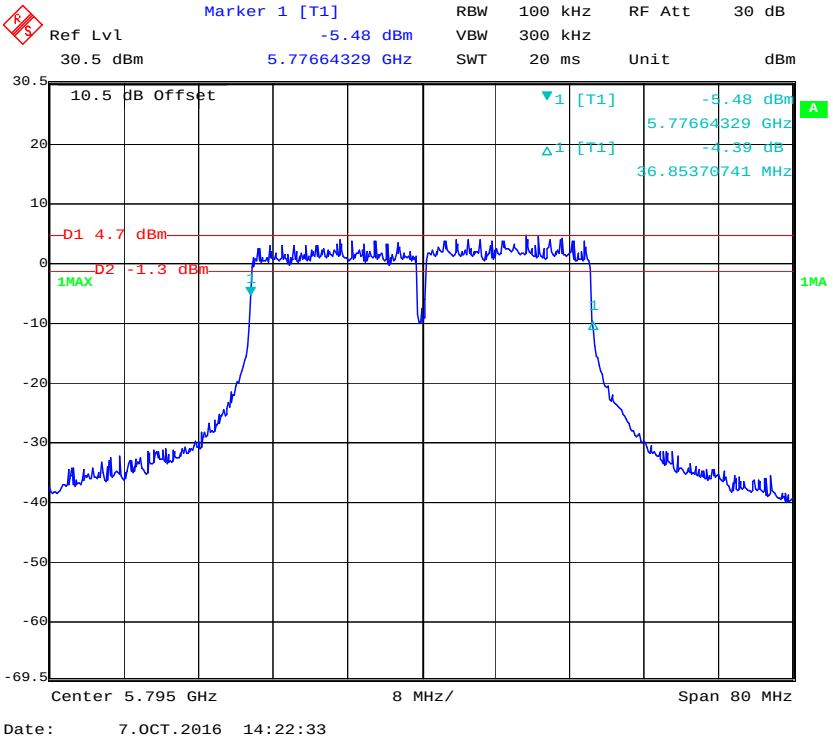
802.11ac20 mode, 6dB Emission Bandwidth, 5825 MHz



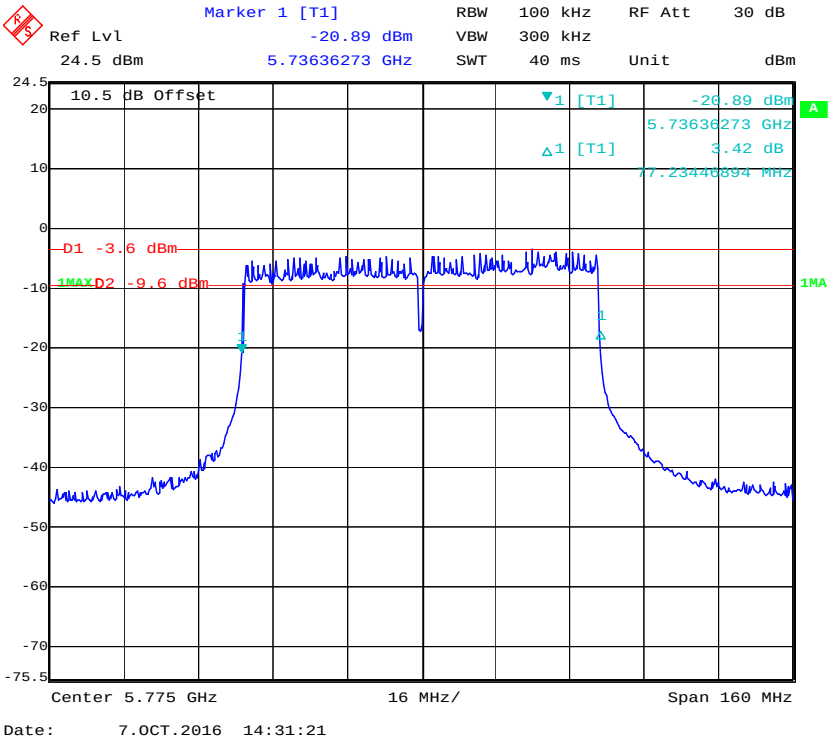
802.11ac40 mode, 6dB Emission Bandwidth, 5755 MHz



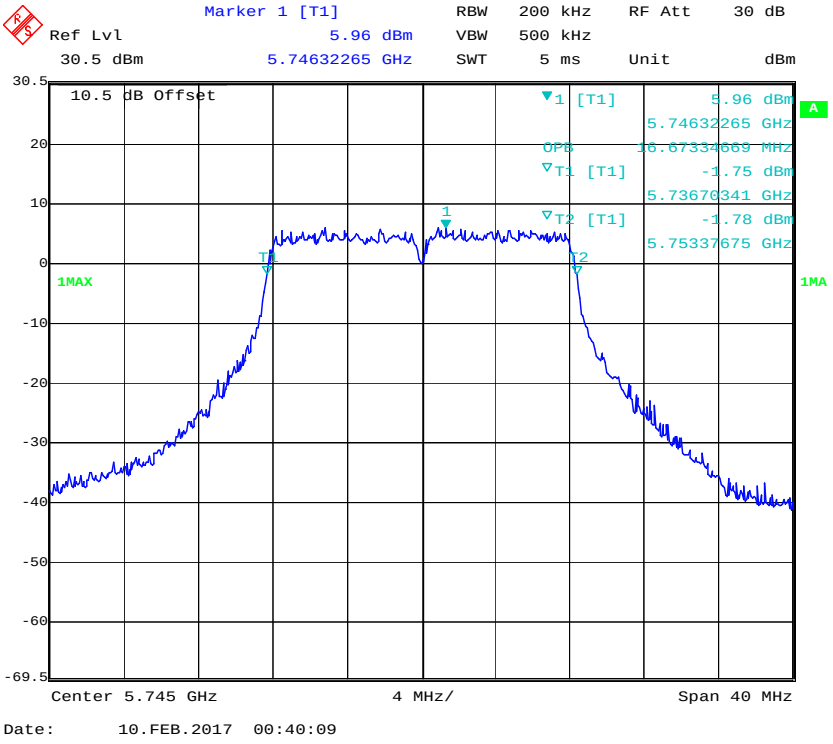
802.11ac40 mode, 6dB Emission Bandwidth, 5795 MHz



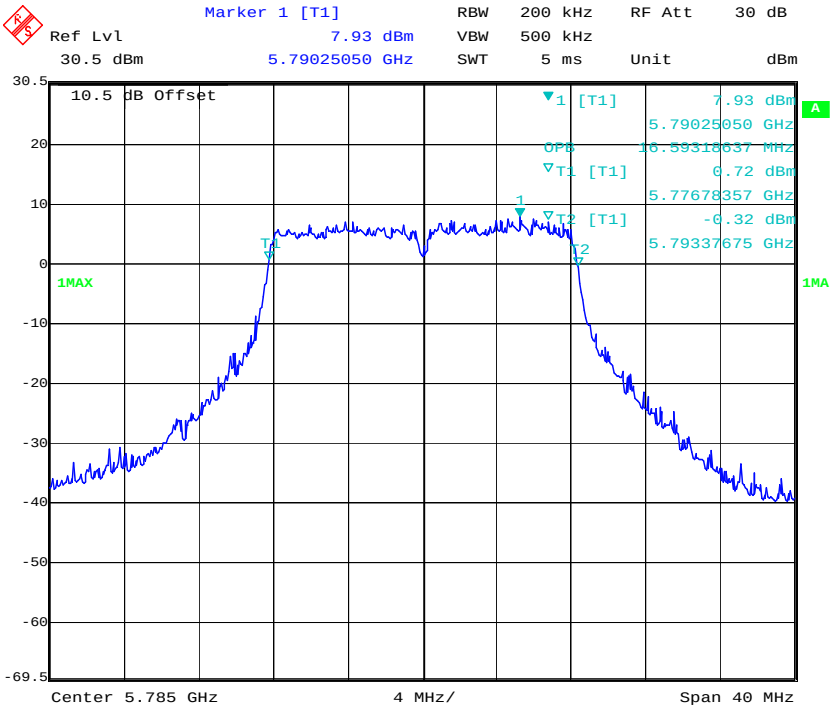
802.11ac80 mode, 6dB Emission Bandwidth, 5775 MHz



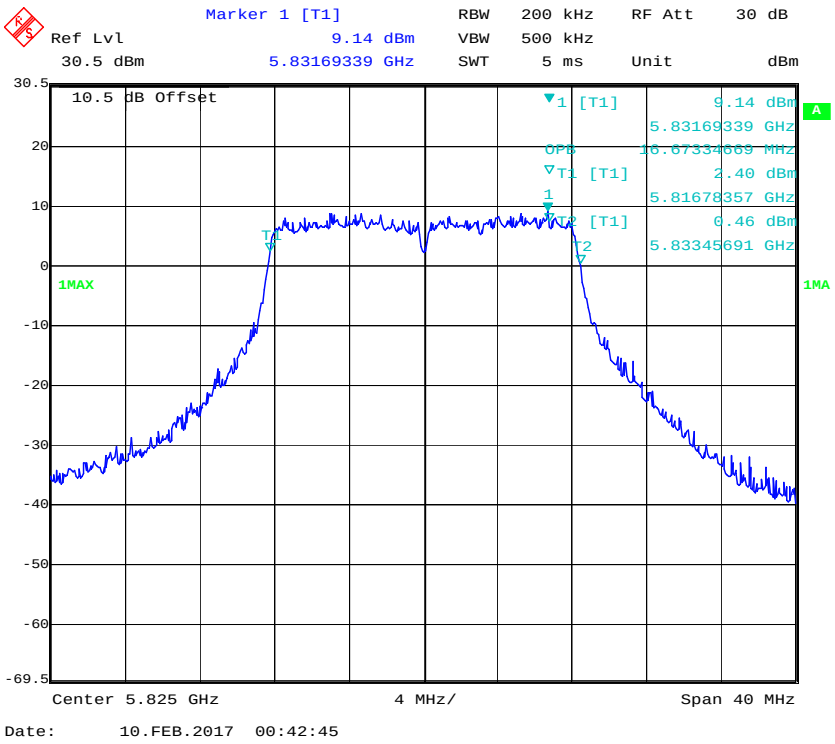
802.11a mode, 99% Occupied Bandwidth, 5745 MHz



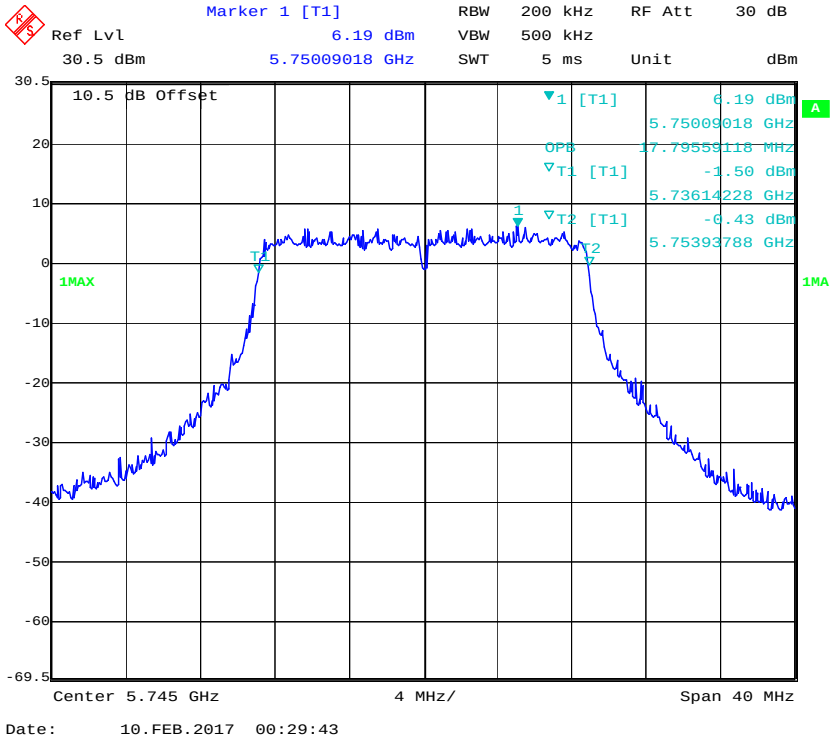
802.11a mode, 99% Occupied Bandwidth, 5785 MHz



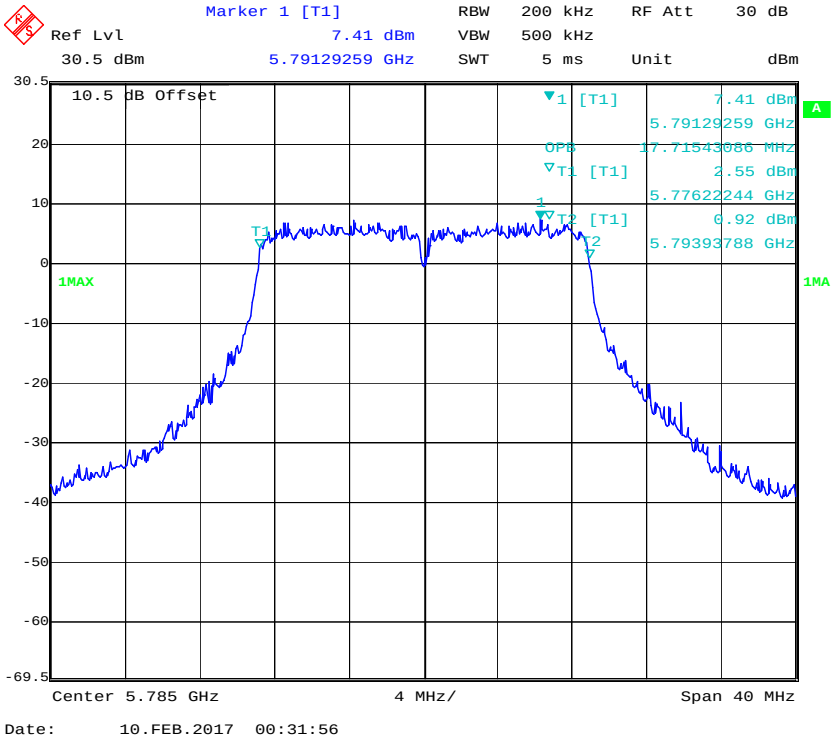
802.11a mode, 99% Occupied Bandwidth, 5825 MHz



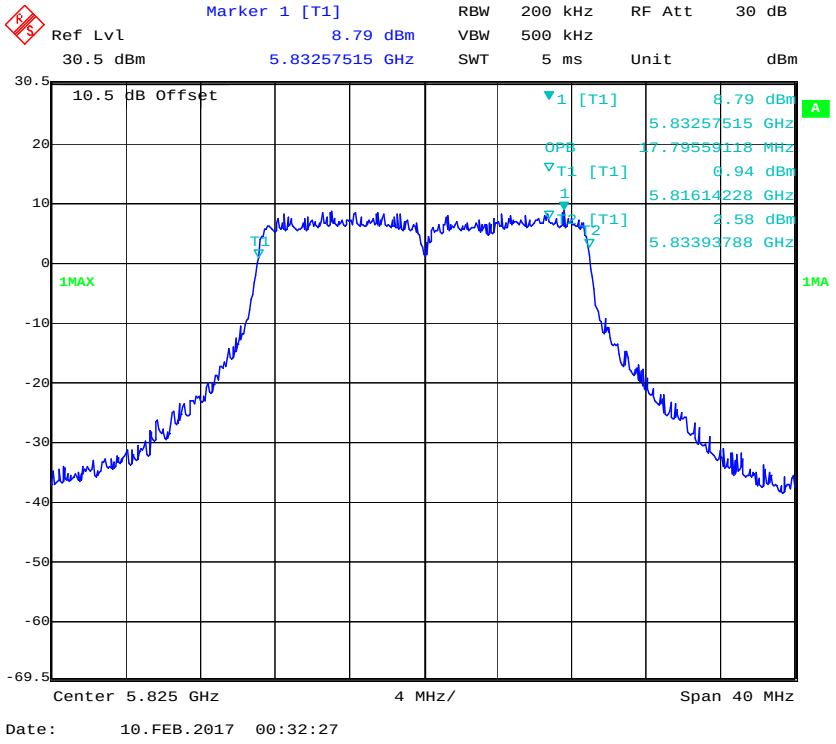
802.11n20 mode, 99% Occupied Bandwidth, 5745 MHz



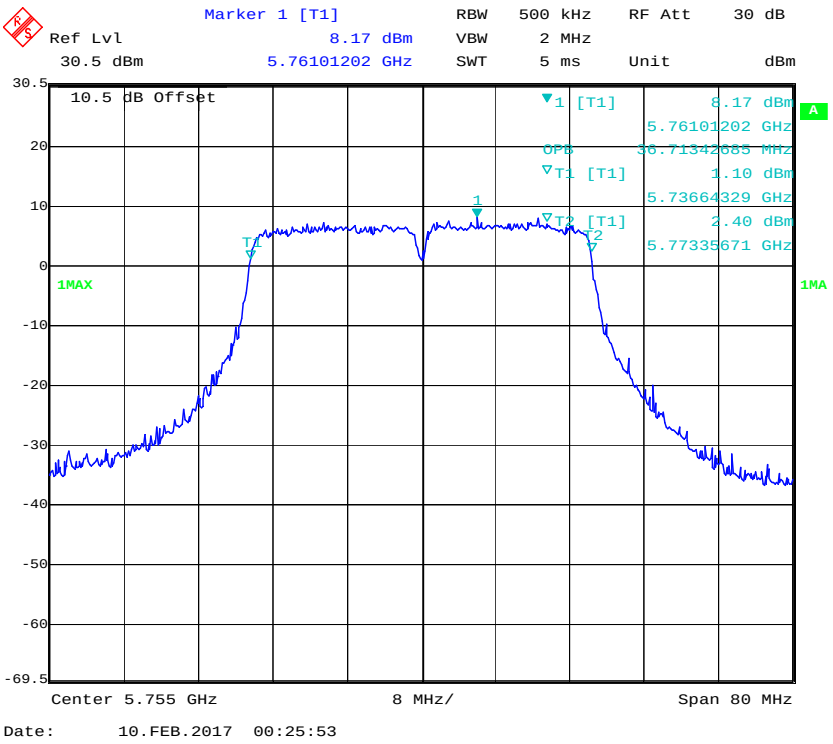
802.11n20 mode, 99% Occupied Bandwidth, 5785 MHz



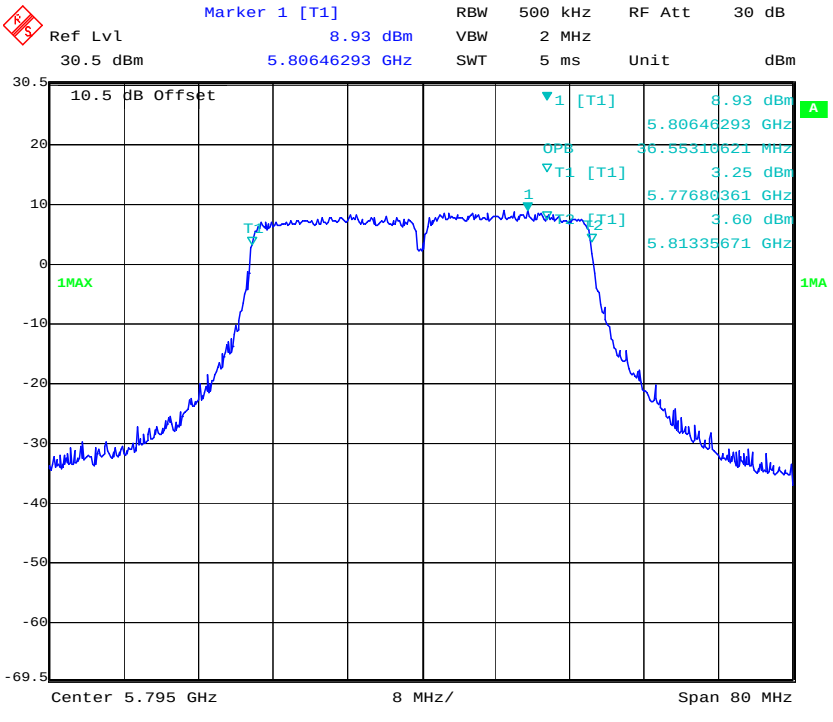
802.11n20 mode, 99% Occupied Bandwidth, 5825 MHz



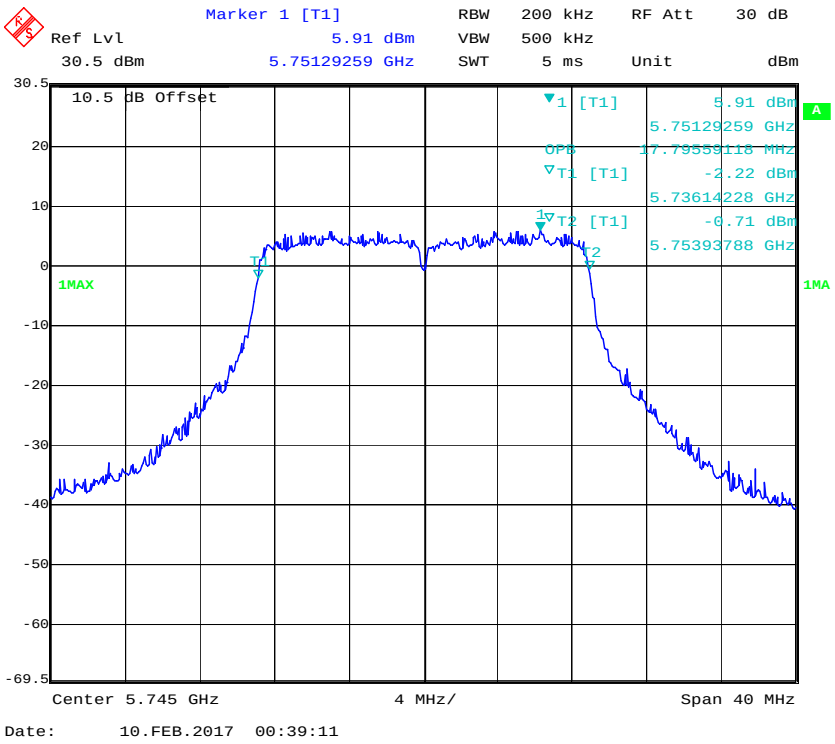
802.11n40 mode, 99% Occupied Bandwidth, 5755 MHz



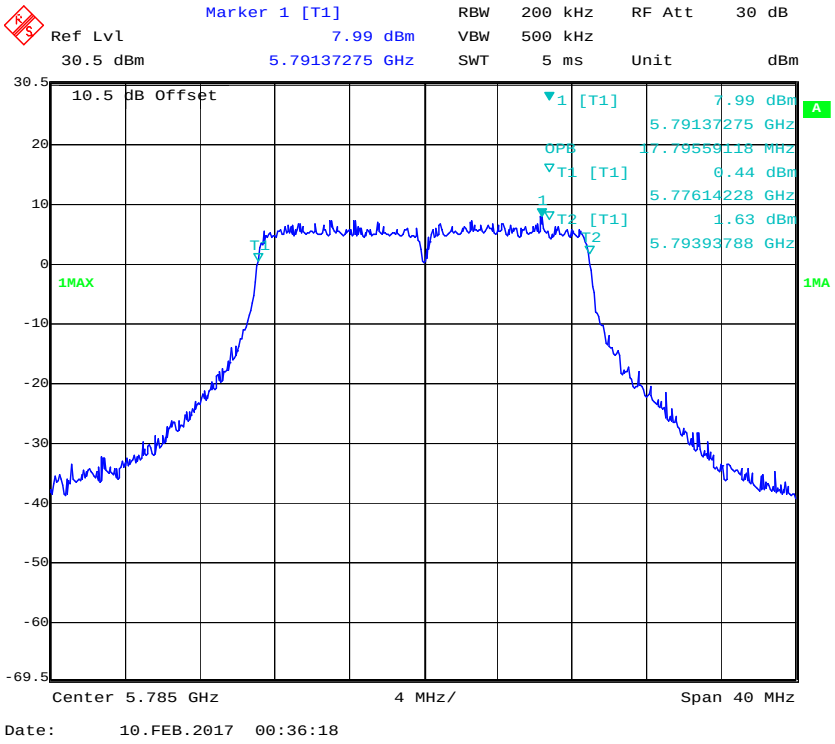
802.11n40 mode, 99% Occupied Bandwidth, 5795 MHz



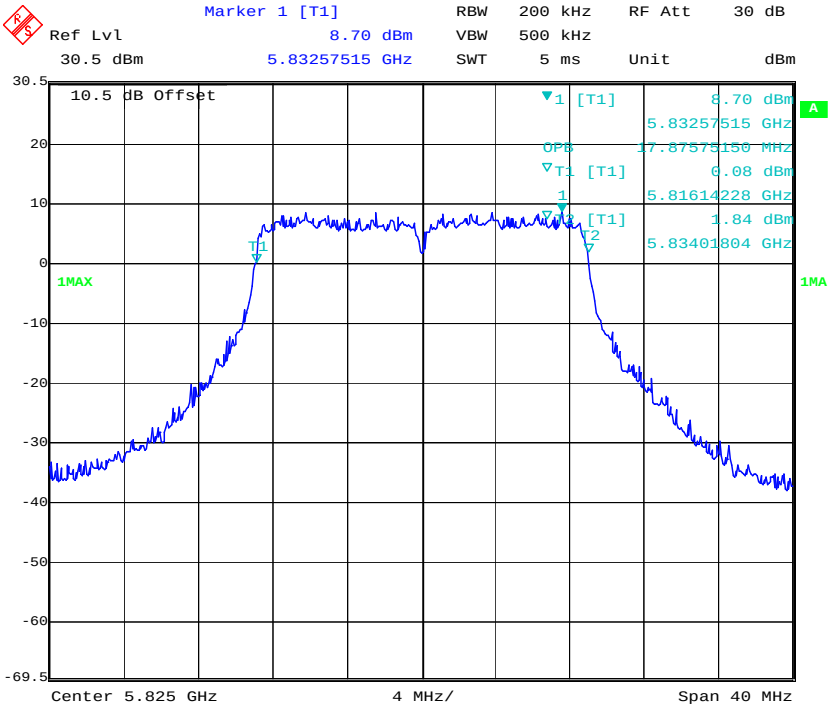
802.11ac20 mode, 99% Occupied Bandwidth, 5745 MHz



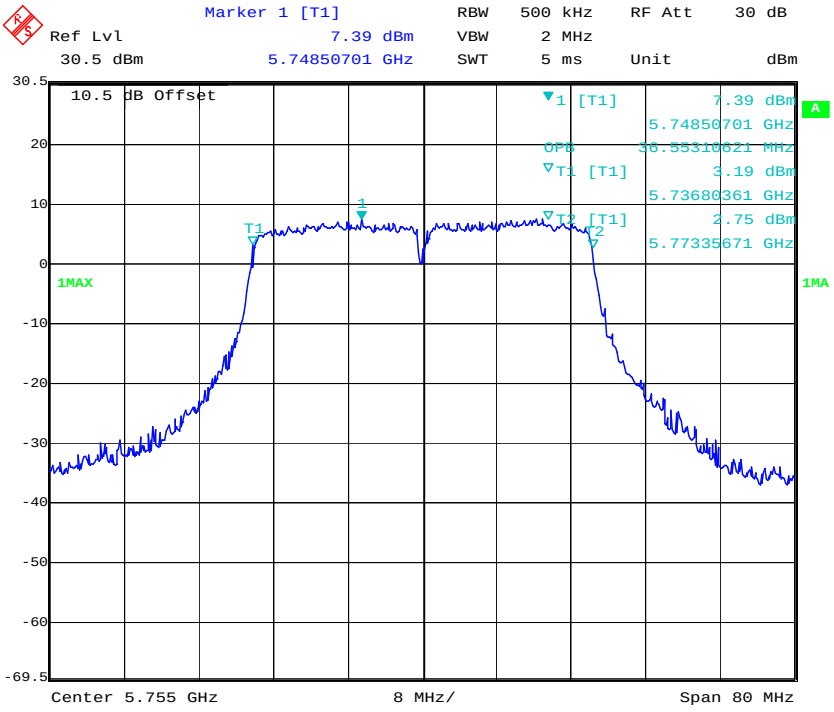
802.11ac20 mode, 99% Occupied Bandwidth, 5785 MHz



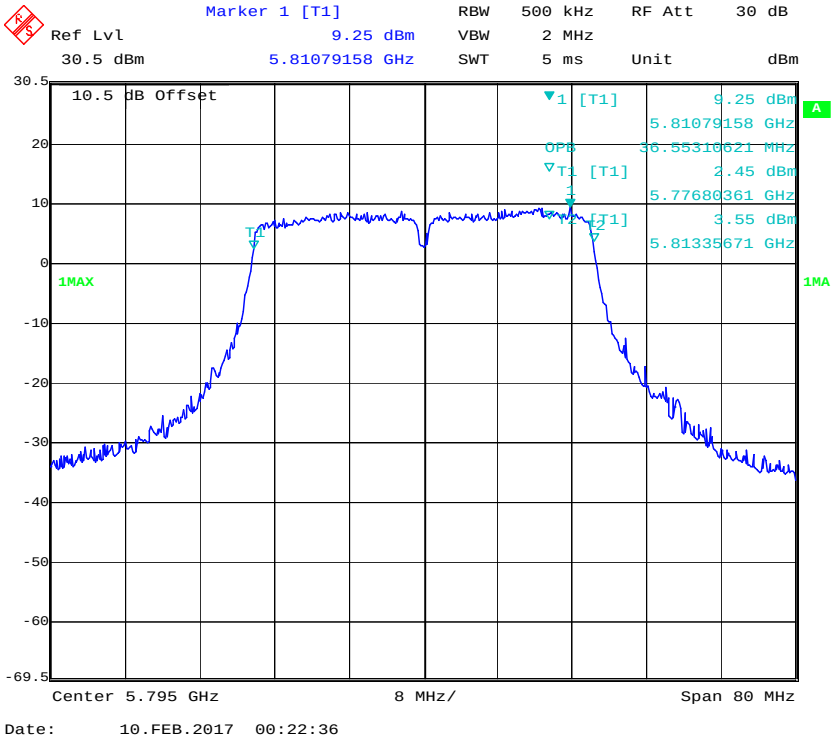
802.11ac20 mode, 99% Occupied Bandwidth, 5825 MHz



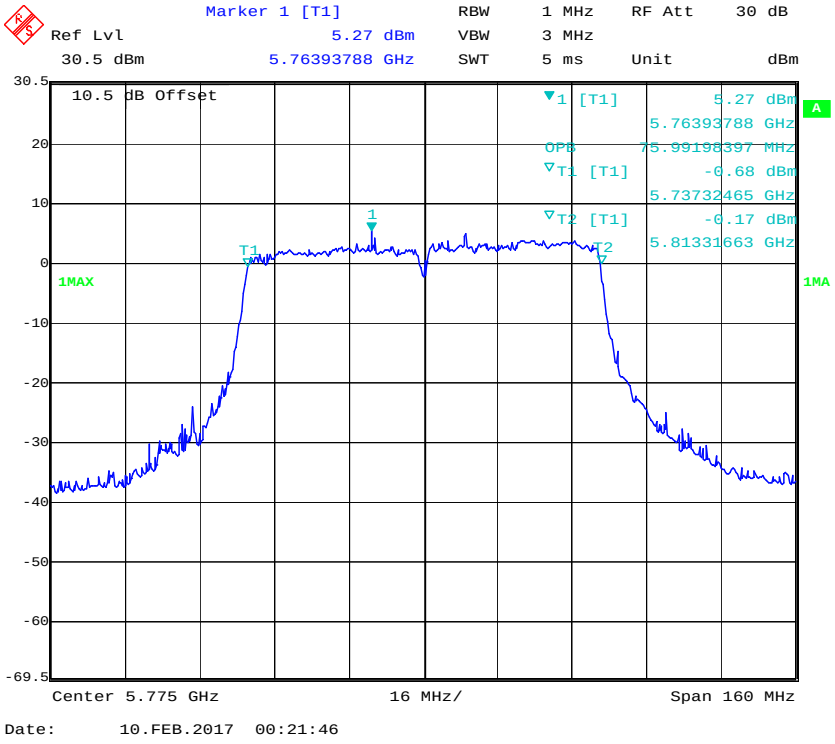
802.11ac40 mode, 99% Occupied Bandwidth, 5755 MHz



802.11ac40 mode, 99% Occupied Bandwidth, 5795 MHz



802.11ac80 mode, 99% Occupied Bandwidth, 5775 MHz

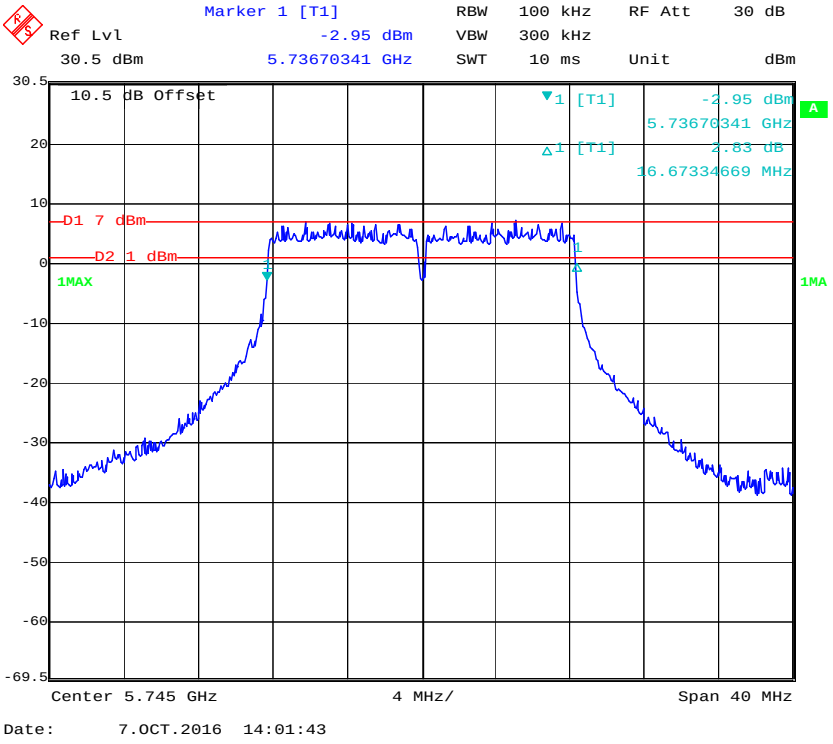


5725 MHz – 5825 MHz:

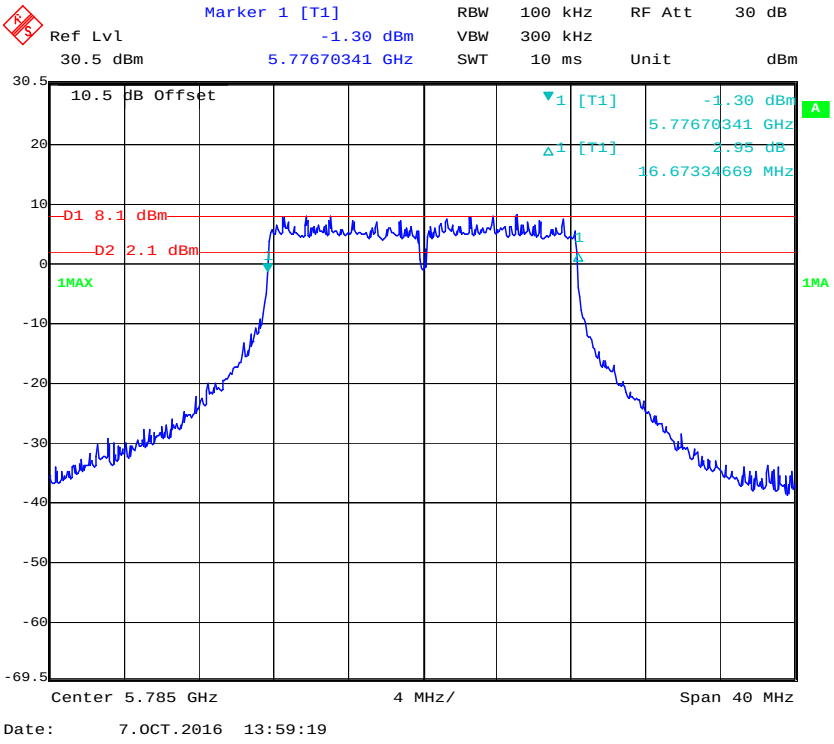
Ant 2:

Frequency (MHz)	99% bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a			
5745	16.513	16.673	0.5
5785	16.673	16.676	0.5
5825	16.593	16.673	0.5
802.11n20			
5745	17.796	17.876	0.5
5785	17.715	17.956	0.5
5825	17.796	17.876	0.5
802.11n40			
5755	36.553	36.874	0.5
5795	36.553	36.854	0.5
802.11ac20			
5745	17.715	17.876	0.5
5785	17.796	17.876	0.5
5825	17.796	17.876	0.5
802.11ac40			
5755	36.553	36.934	0.5
5795	36.553	36.693	0.5
802.11ac80			
5775	76.313	77.234	0.5

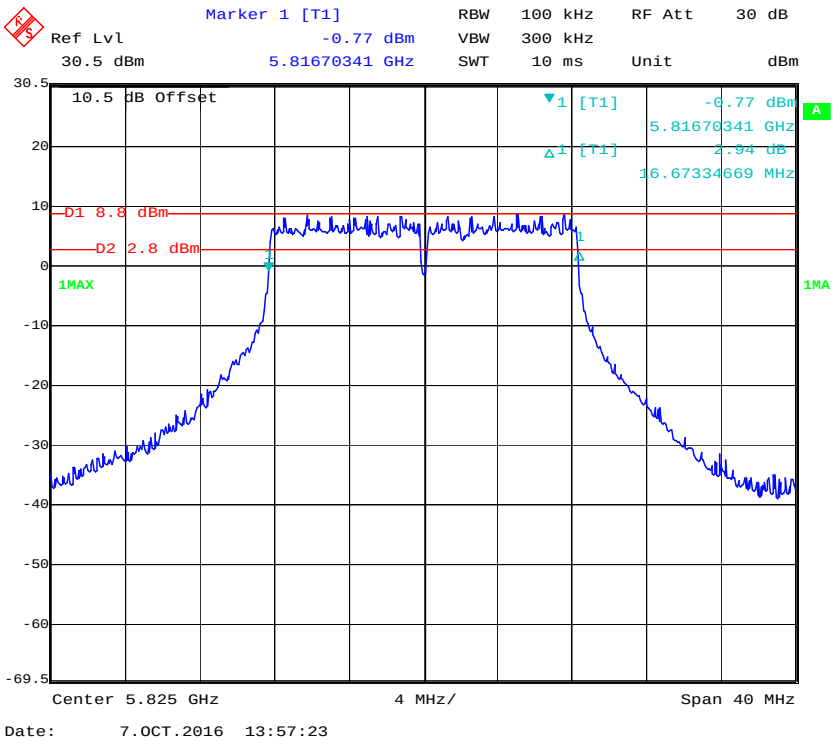
802.11a mode, 6dB Emission Bandwidth, 5745 MHz



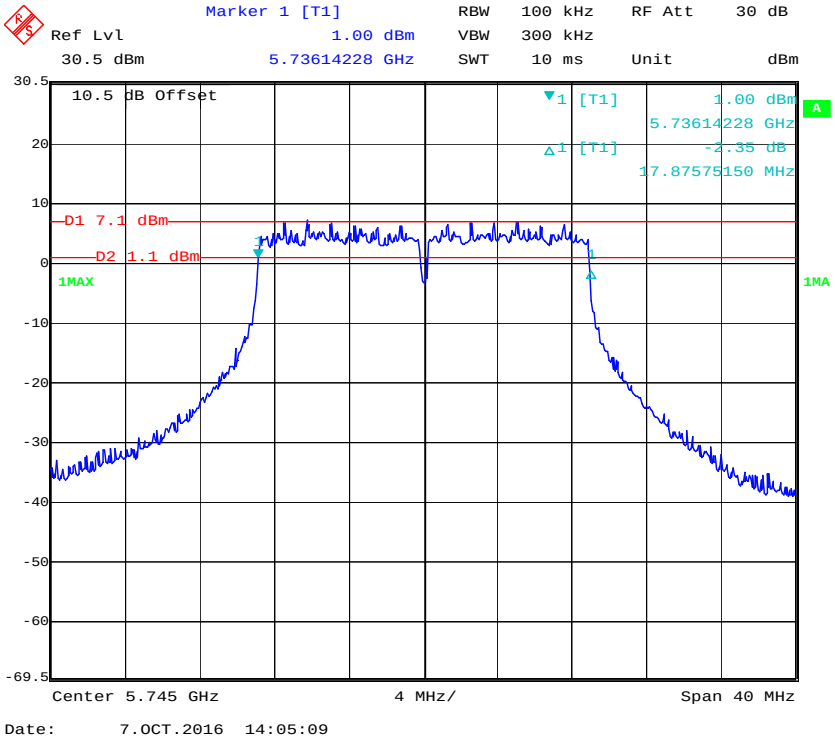
802.11a mode, 6dB Emission Bandwidth, 5785 MHz



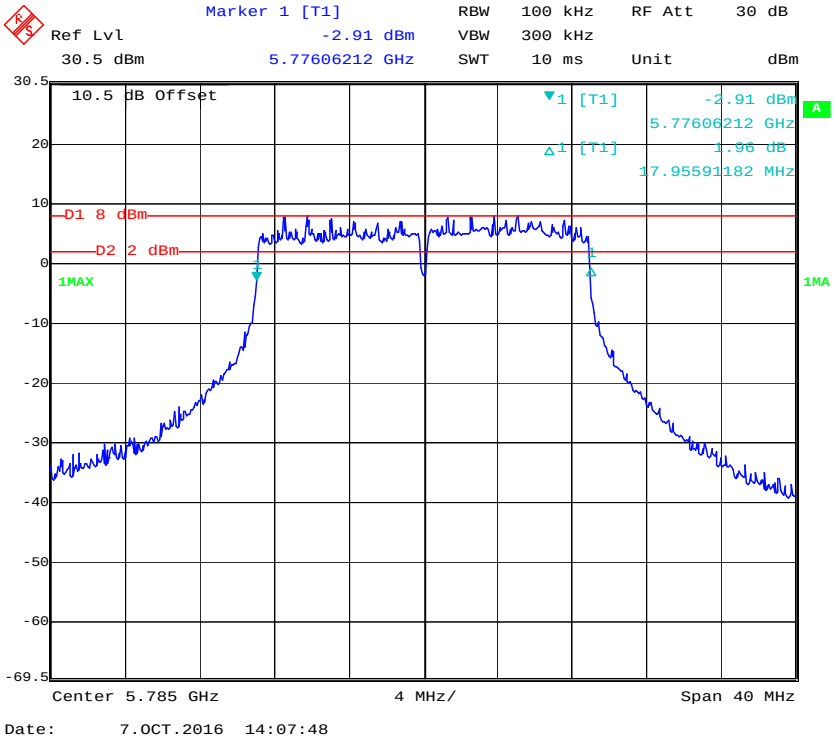
802.11a mode, 6dB Emission Bandwidth, 5825 MHz



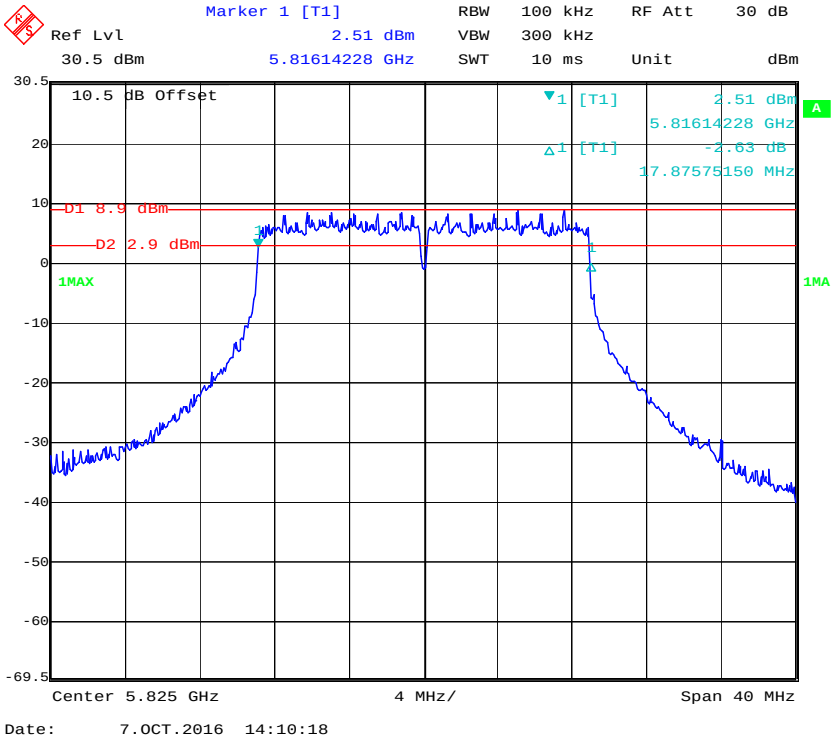
802.11n20 mode, 6dB Emission Bandwidth, 5745 MHz



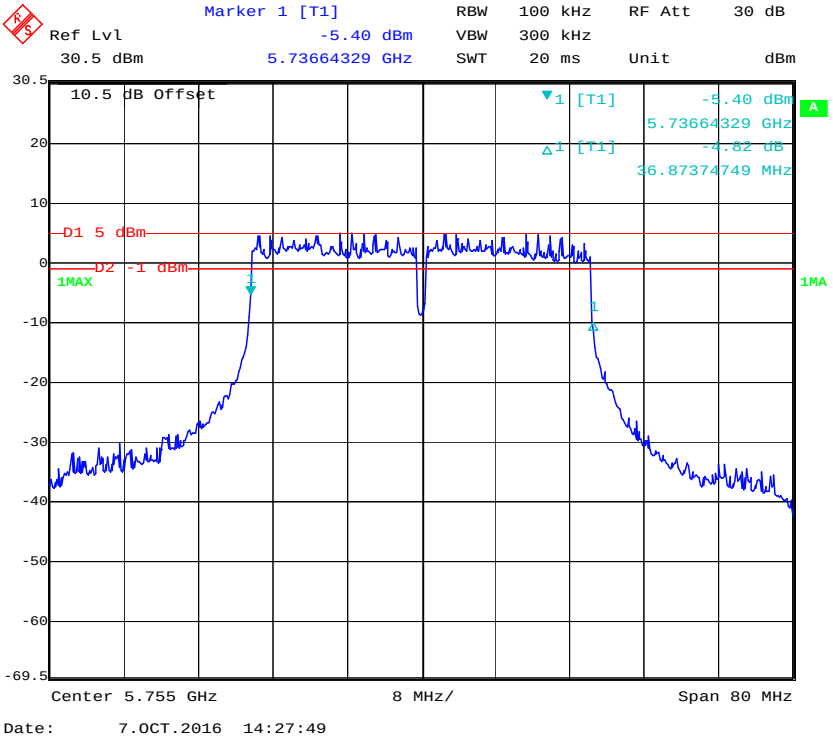
802.11n20 mode, 6dB Emission Bandwidth, 5785 MHz



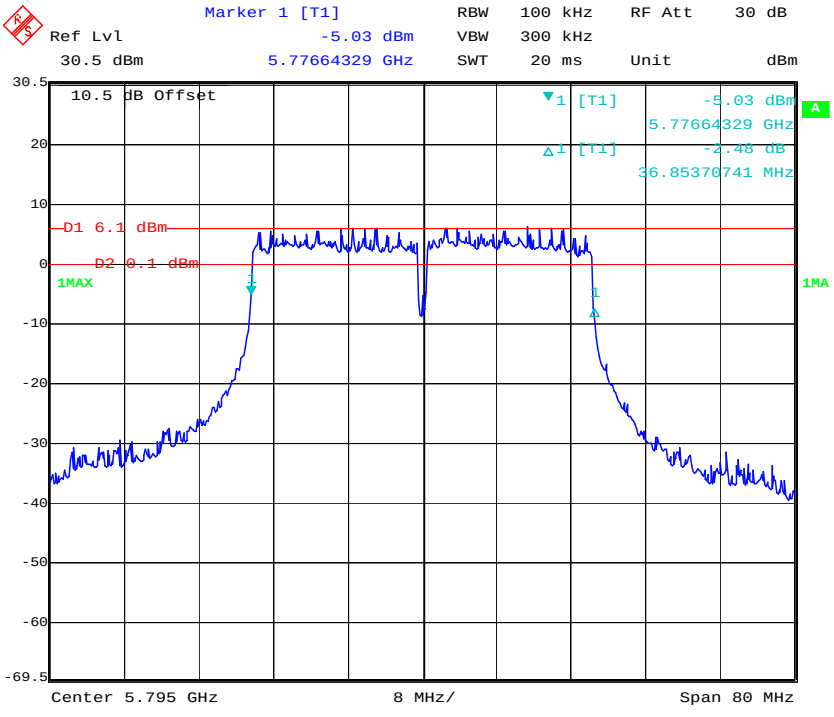
802.11n20 mode, 6dB Emission Bandwidth, 5825 MHz



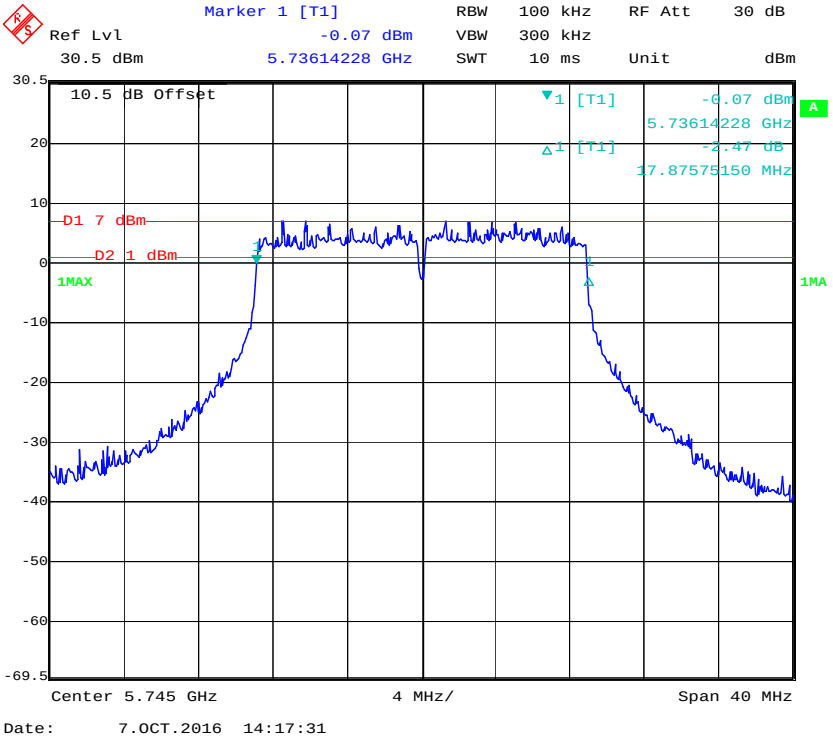
802.11n40 mode, 6dB Emission Bandwidth, 5755 MHz



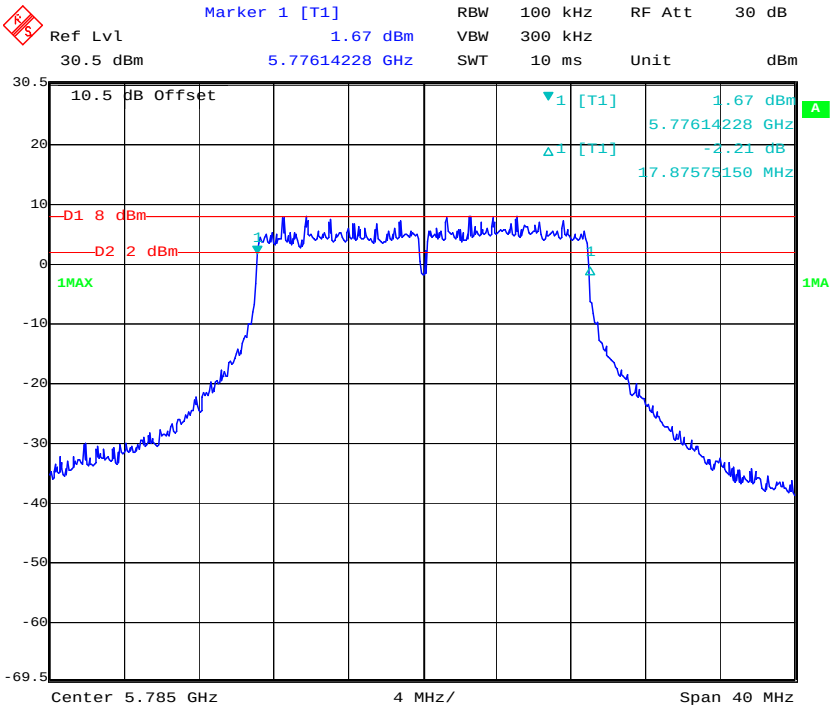
802.11n40 mode, 6dB Emission Bandwidth, 5795 MHz



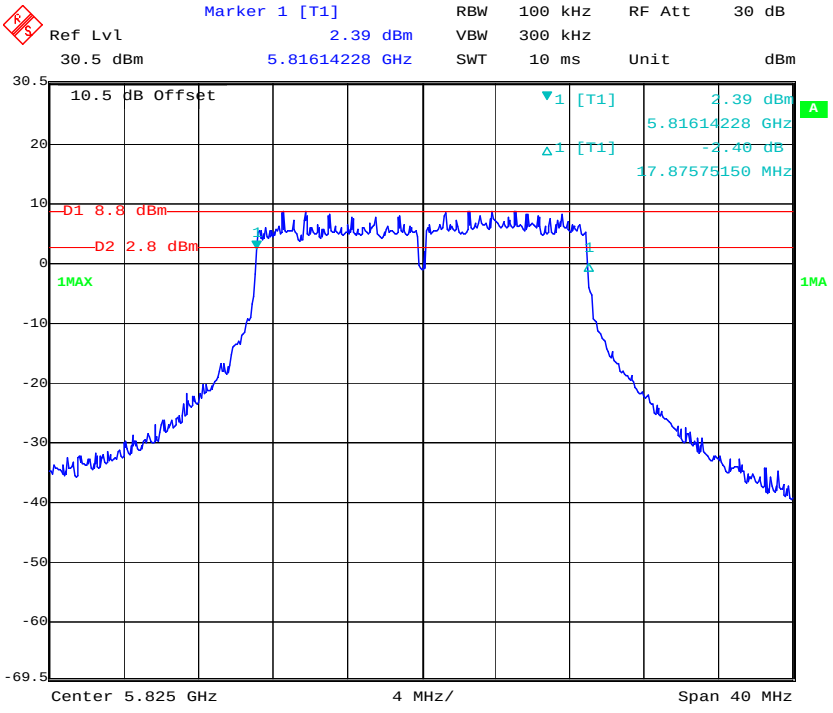
802.11ac20 mode, 6dB Emission Bandwidth, 5745 MHz



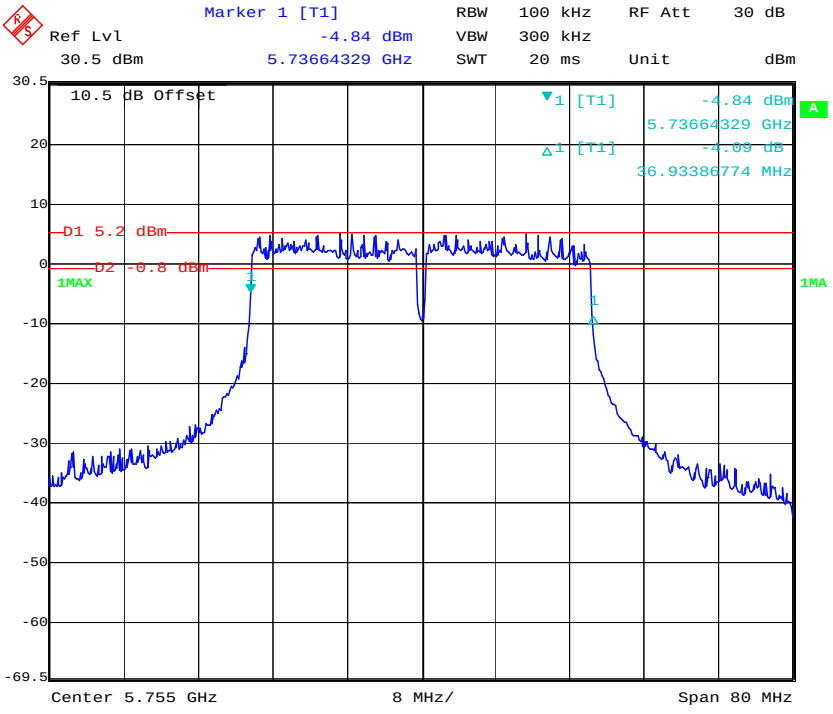
802.11ac20 mode, 6dB Emission Bandwidth, 5785 MHz



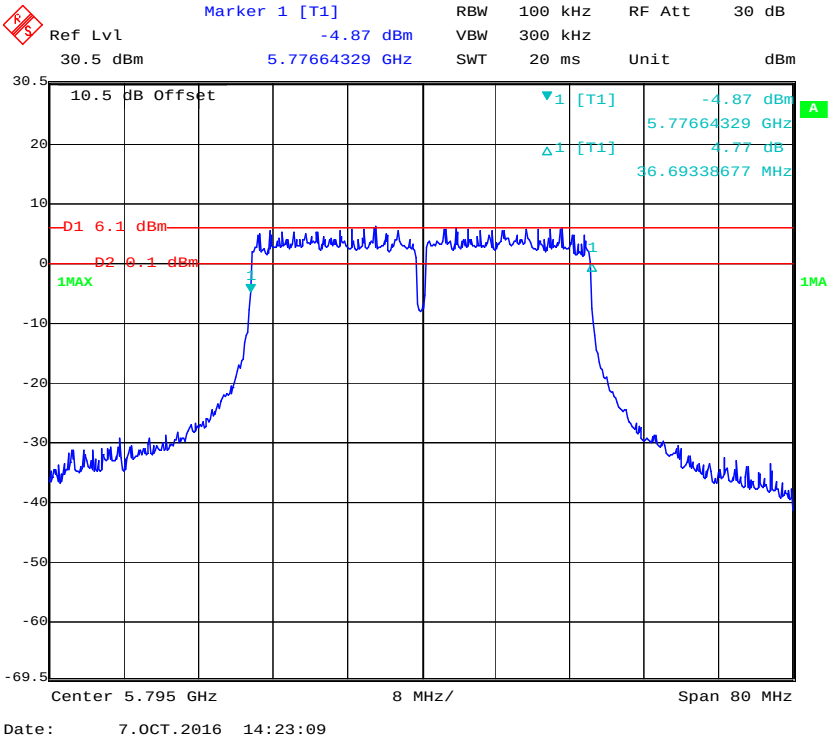
802.11ac20 mode, 6dB Emission Bandwidth, 5825 MHz



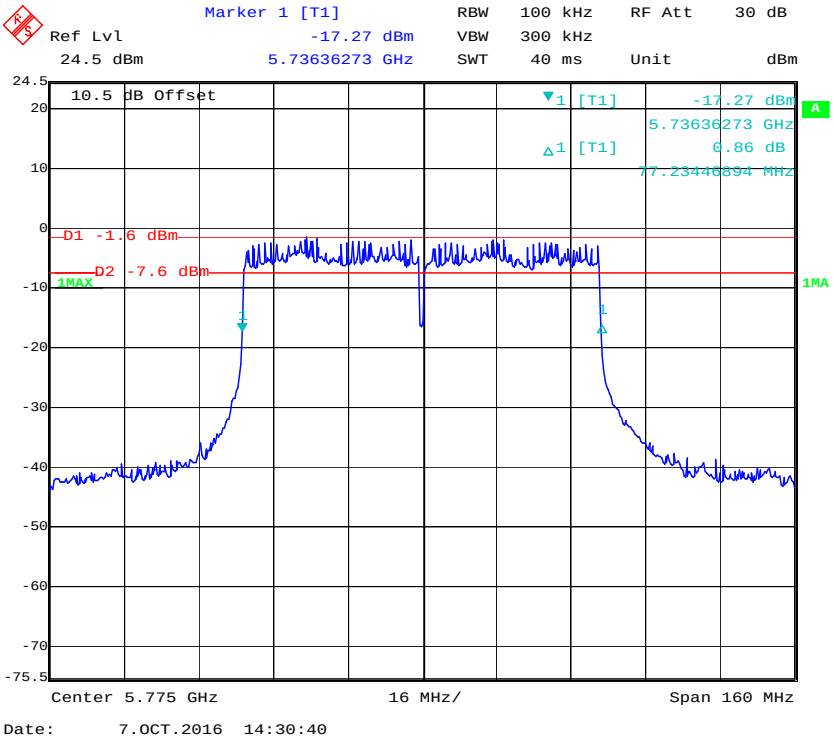
802.11ac40 mode, 6dB Emission Bandwidth, 5755 MHz



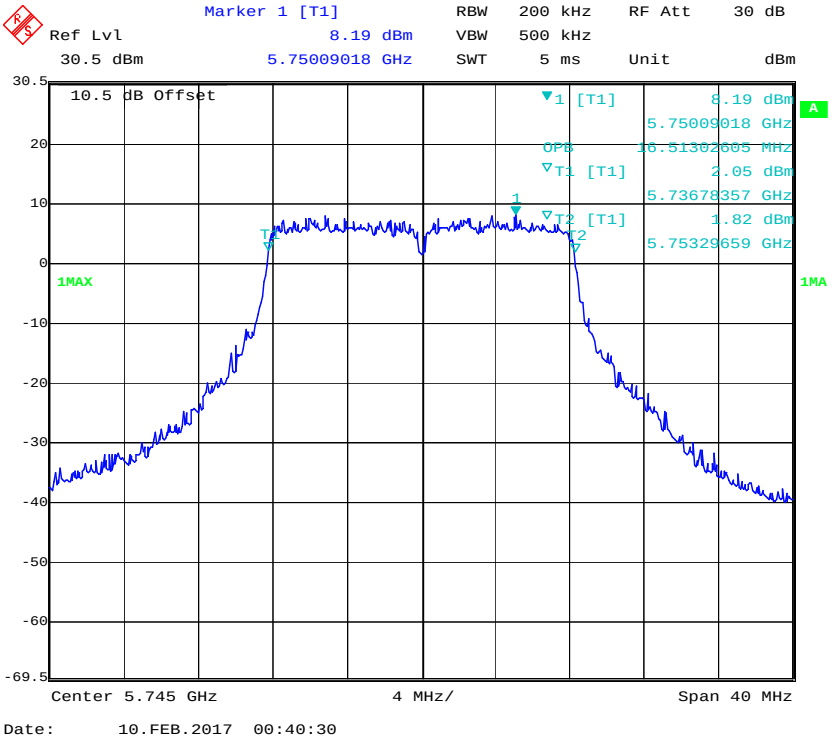
802.11ac40 mode, 6dB Emission Bandwidth, 5795 MHz



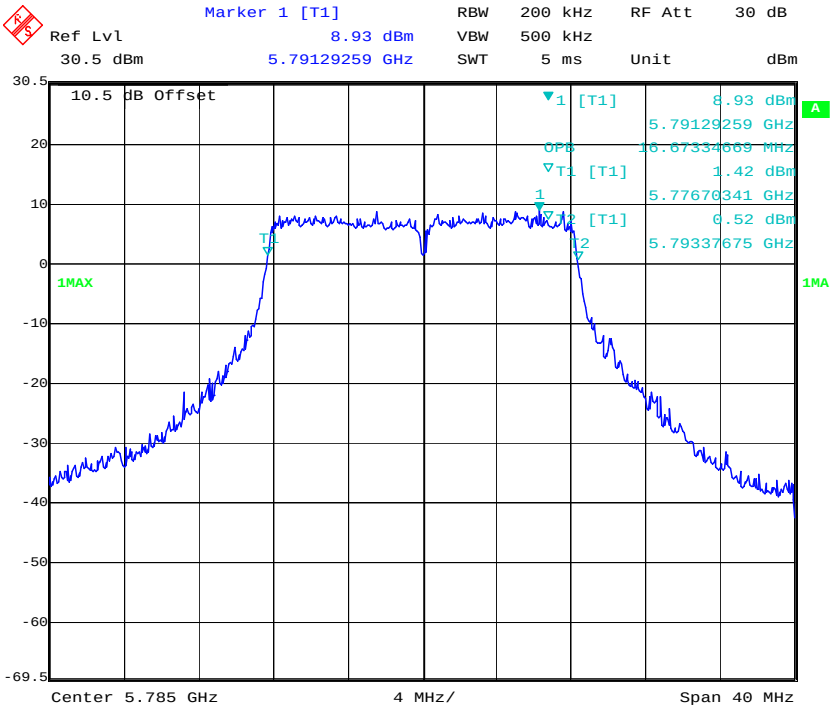
802.11ac80 mode, 6dB Emission Bandwidth, 5775 MHz



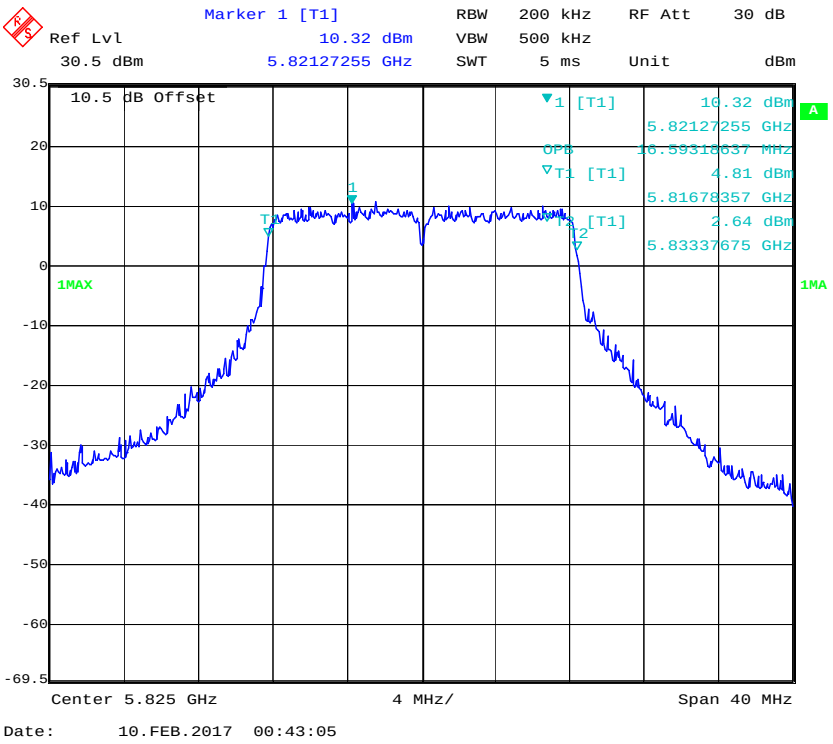
802.11a mode, 99% Occupied Bandwidth, 5745 MHz



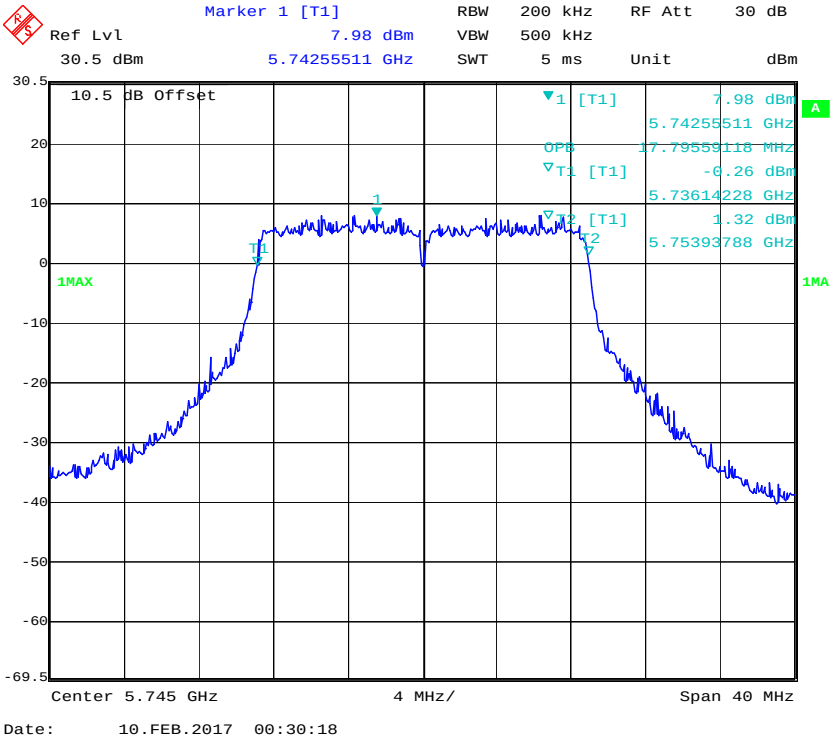
802.11a mode, 99% Occupied Bandwidth, 5785 MHz



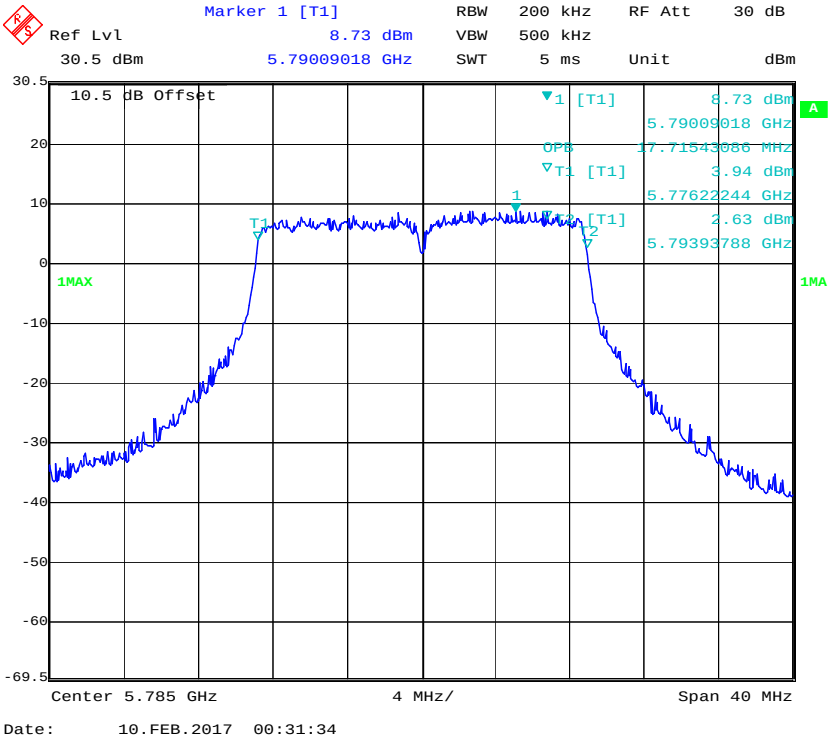
802.11a mode, 99% Occupied Bandwidth, 5825 MHz



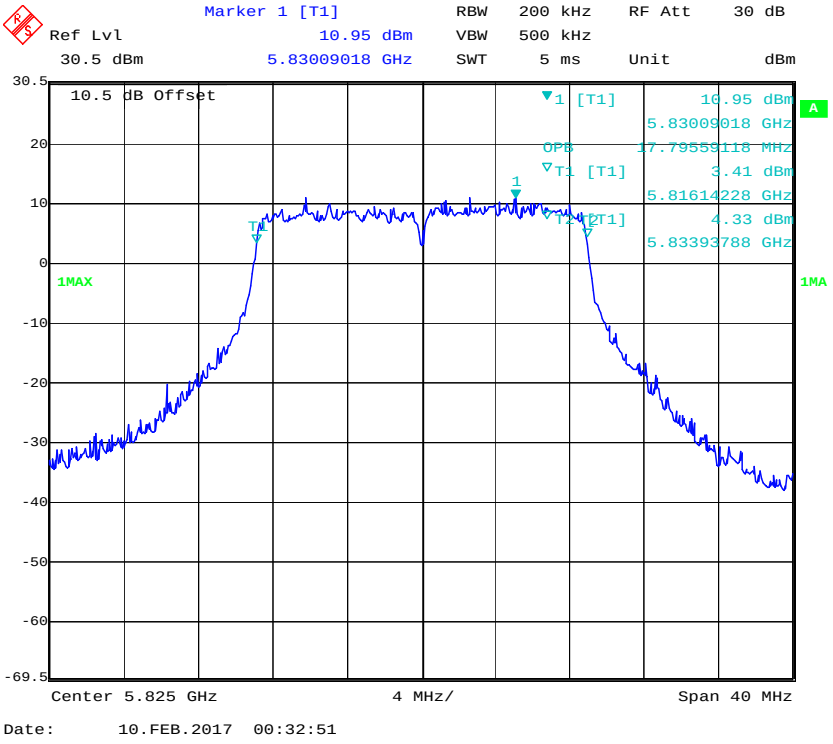
802.11n20 mode, 99% Occupied Bandwidth, 5745 MHz



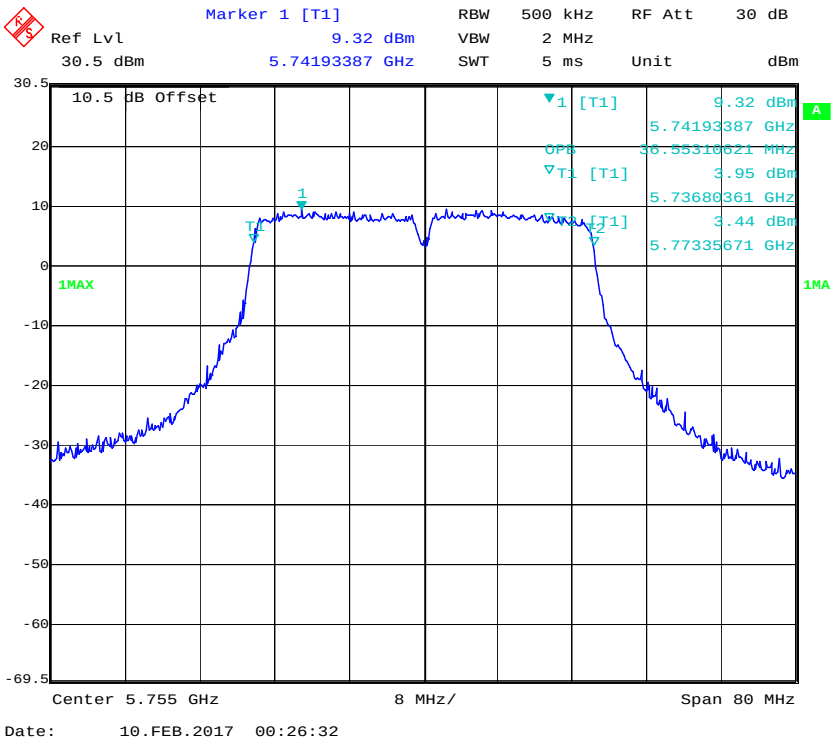
802.11n20 mode, 99% Occupied Bandwidth, 5785 MHz



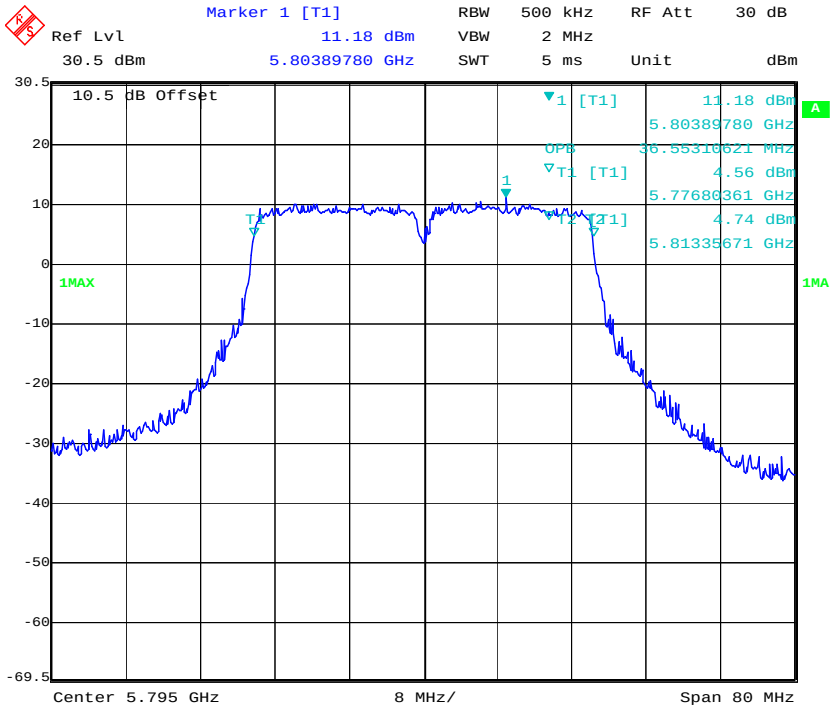
802.11n20 mode, 99% Occupied Bandwidth, 5825 MHz



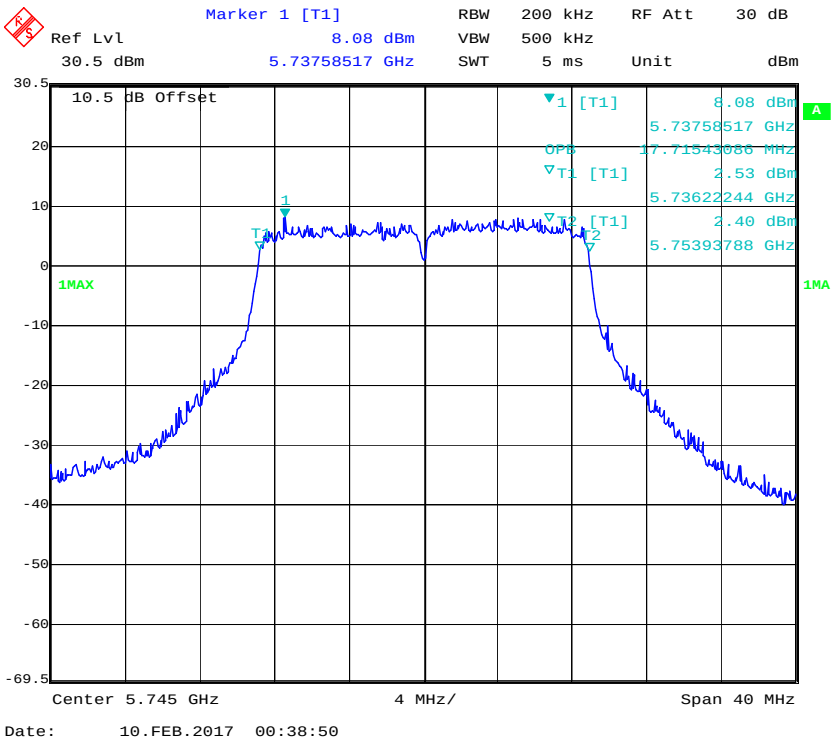
802.11n40 mode, 99% Occupied Bandwidth, 5755 MHz



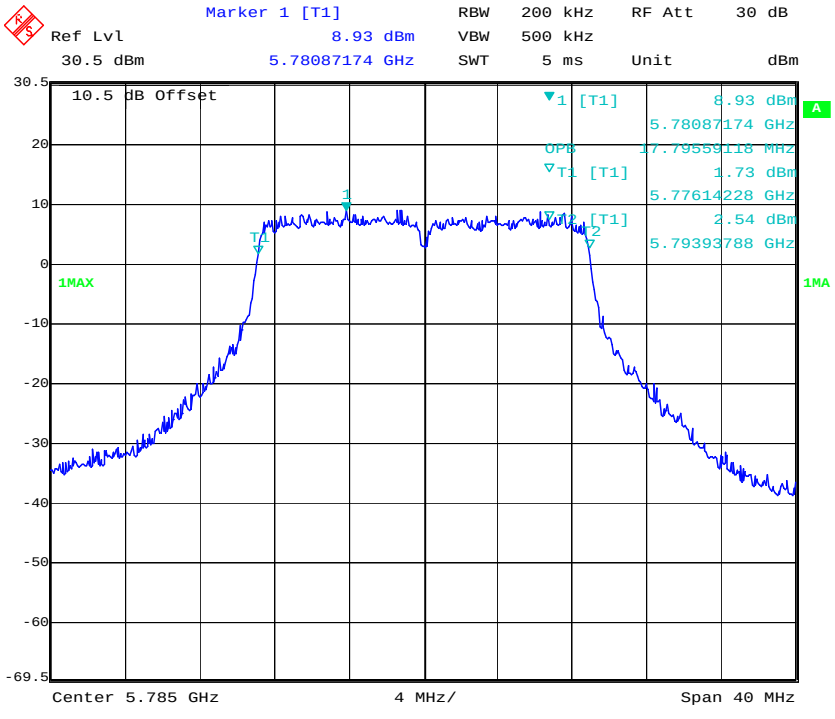
802.11n40 mode, 99% Occupied Bandwidth, 5795 MHz



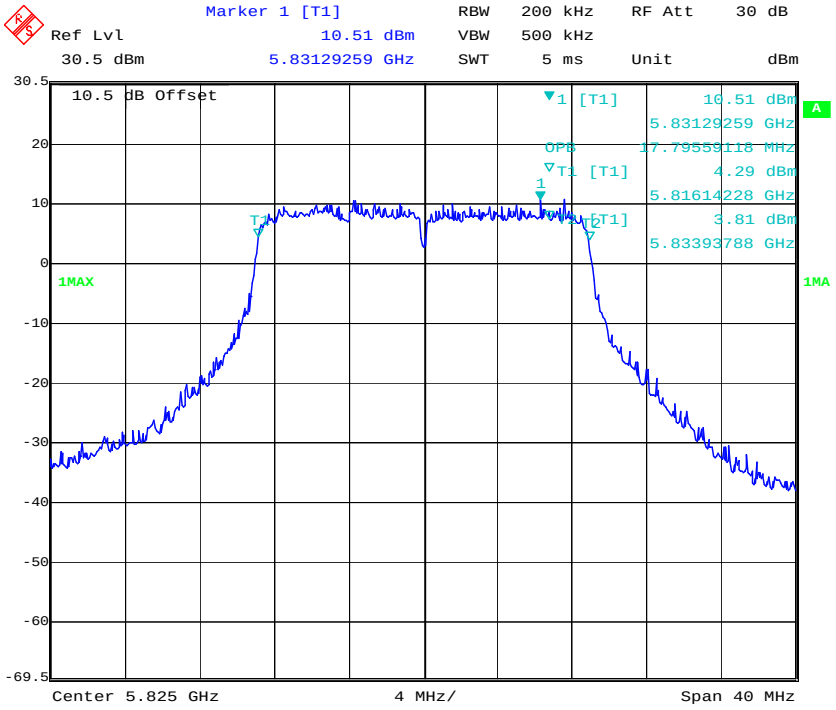
802.11ac20 mode, 99% Occupied Bandwidth, 5745 MHz



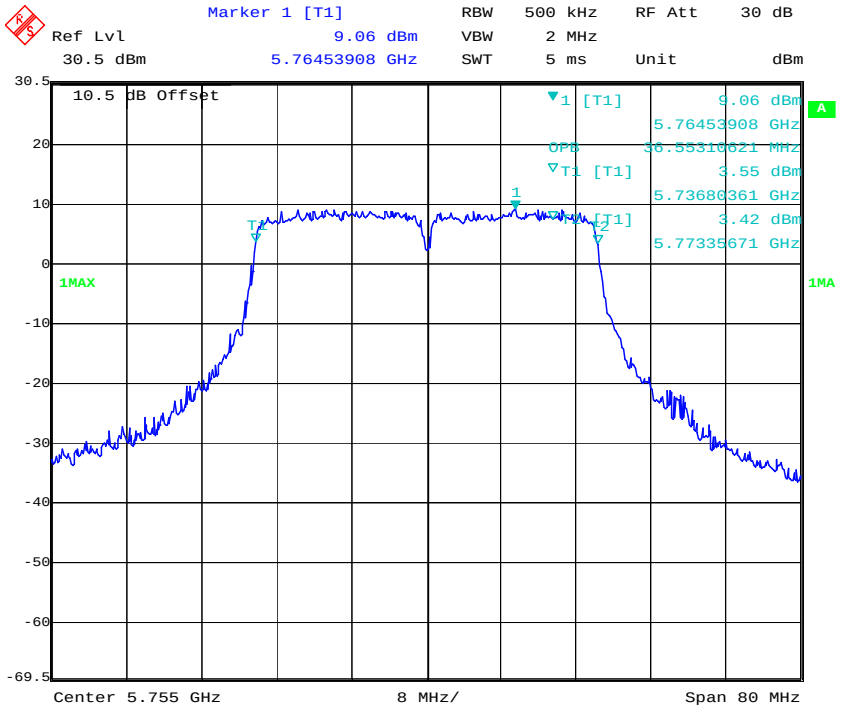
802.11ac20 mode, 99% Occupied Bandwidth, 5785 MHz



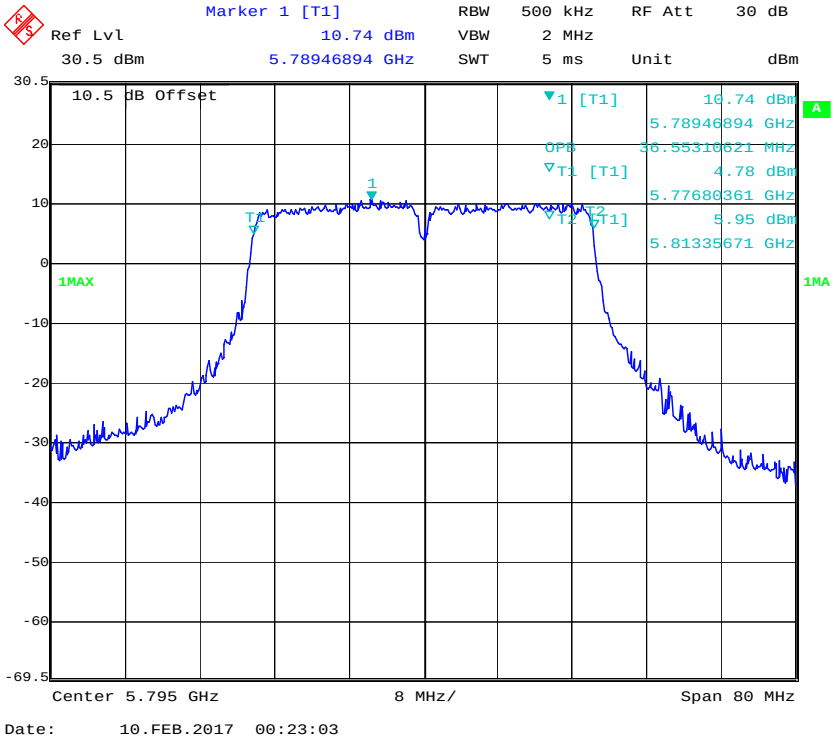
802.11ac20 mode, 99% Occupied Bandwidth, 5825 MHz



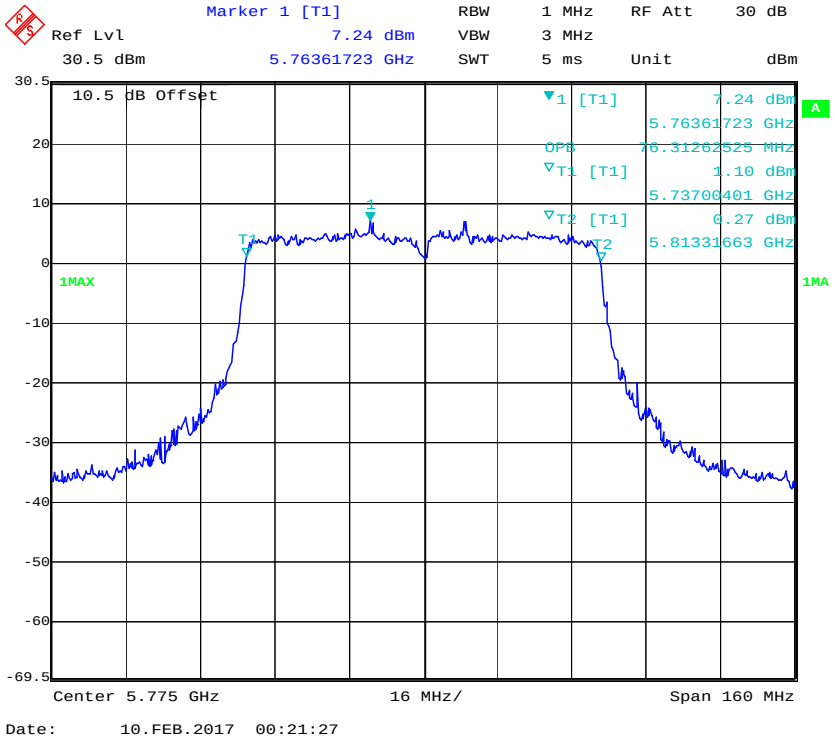
802.11ac40 mode, 99% Occupied Bandwidth, 5755 MHz



802.11ac40 mode, 99% Occupied Bandwidth, 5795 MHz



802.11ac80 mode, 99% Occupied Bandwidth, 5775 MHz

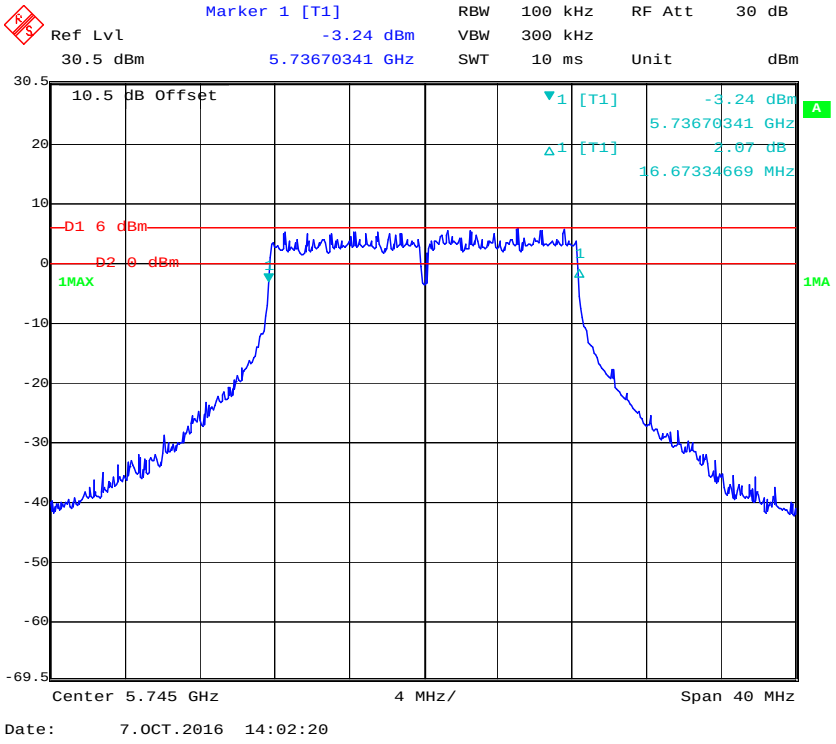


5725 MHz – 5825 MHz:

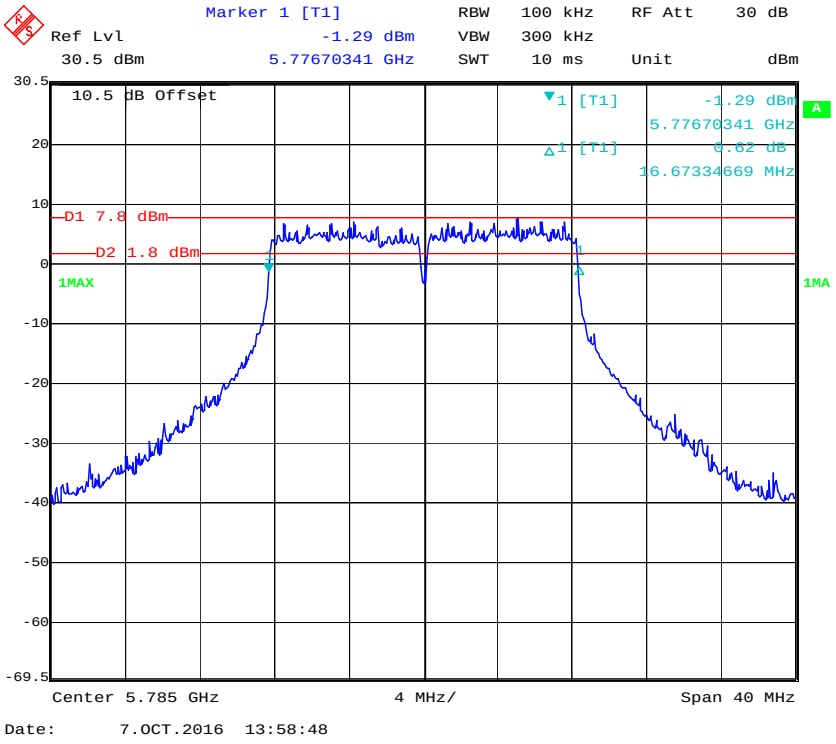
Ant 3:

Frequency (MHz)	99% bandwidth (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11a			
5745	16.593	16.673	0.5
5785	16.593	16.673	0.5
5825	16.593	16.673	0.5
802.11n20			
5745	17.715	17.876	0.5
5785	17.796	17.876	0.5
5825	17.796	17.876	0.5
802.11n40			
5755	36.553	36.874	0.5
5795	36.553	36.854	0.5
802.11ac20			
5745	17.796	17.876	0.5
5785	17.715	17.876	0.5
5825	17.796	17.876	0.5
802.11ac40			
5755	36.553	36.934	0.5
5795	36.553	36.854	0.5
802.11ac80			
5775	75.992	77.234	0.5

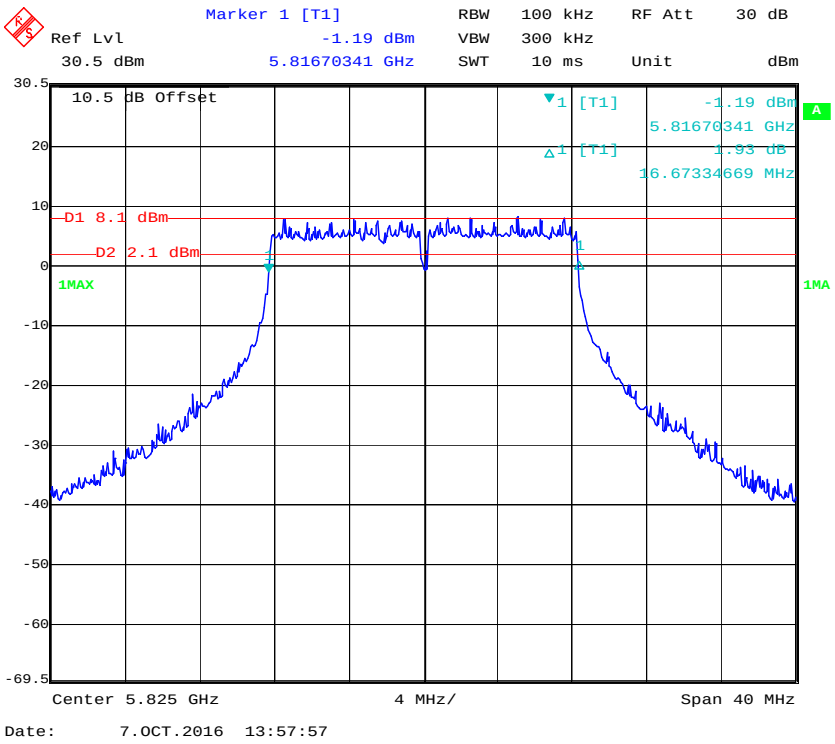
802.11a mode, 6dB Emission Bandwidth, 5745 MHz



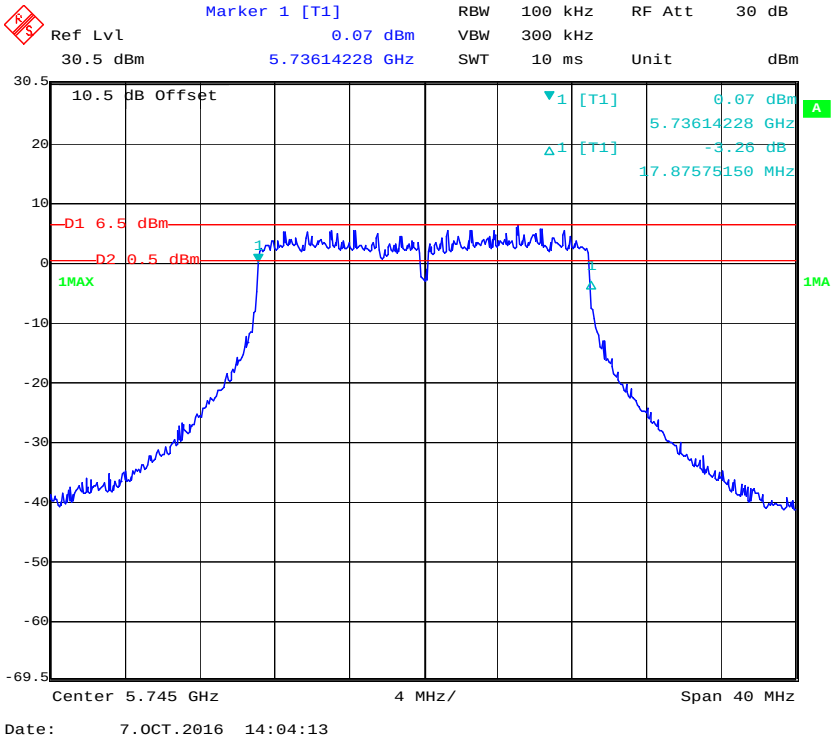
802.11a mode, 6dB Emission Bandwidth, 5785 MHz



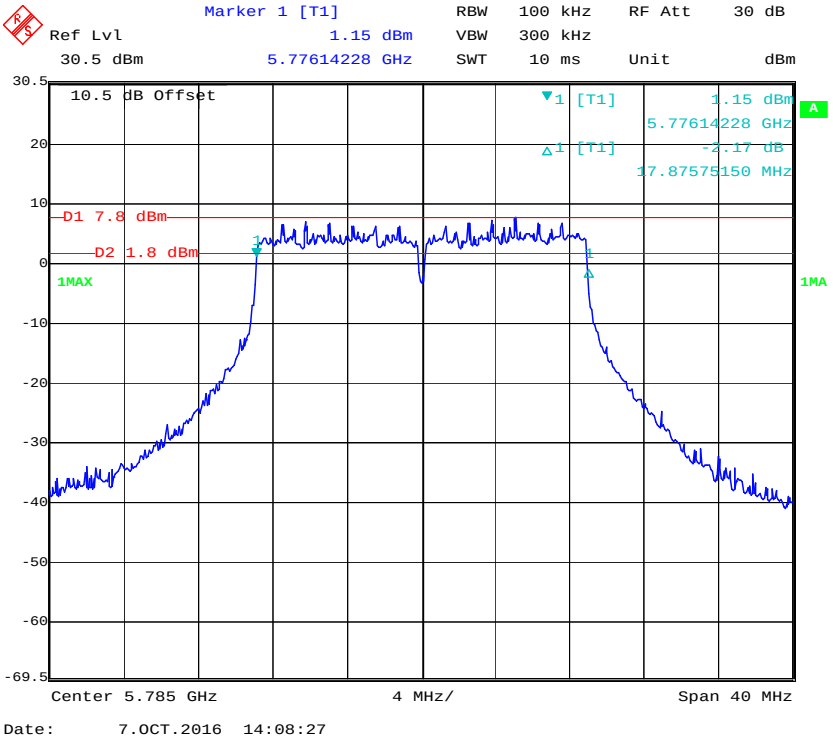
802.11a mode, 6dB Emission Bandwidth, 5825 MHz



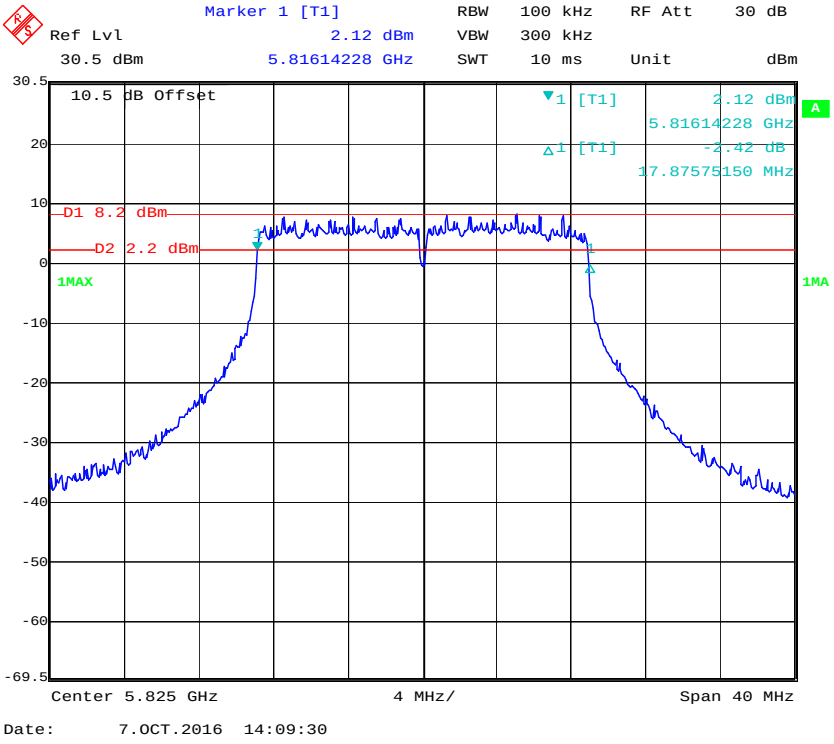
802.11n20 mode, 6dB Emission Bandwidth, 5745 MHz



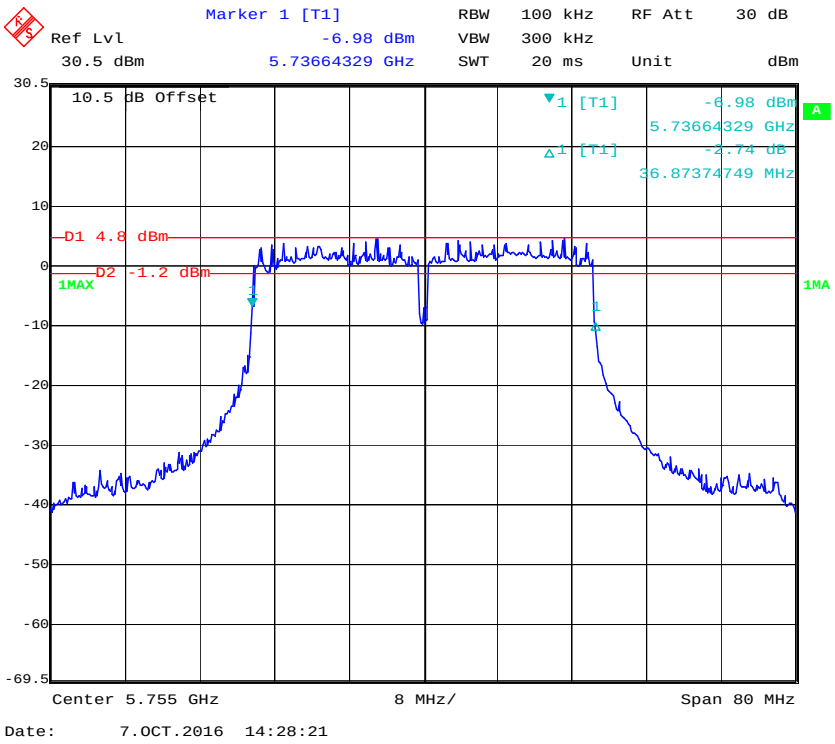
802.11n20 mode, 6dB Emission Bandwidth, 5785 MHz



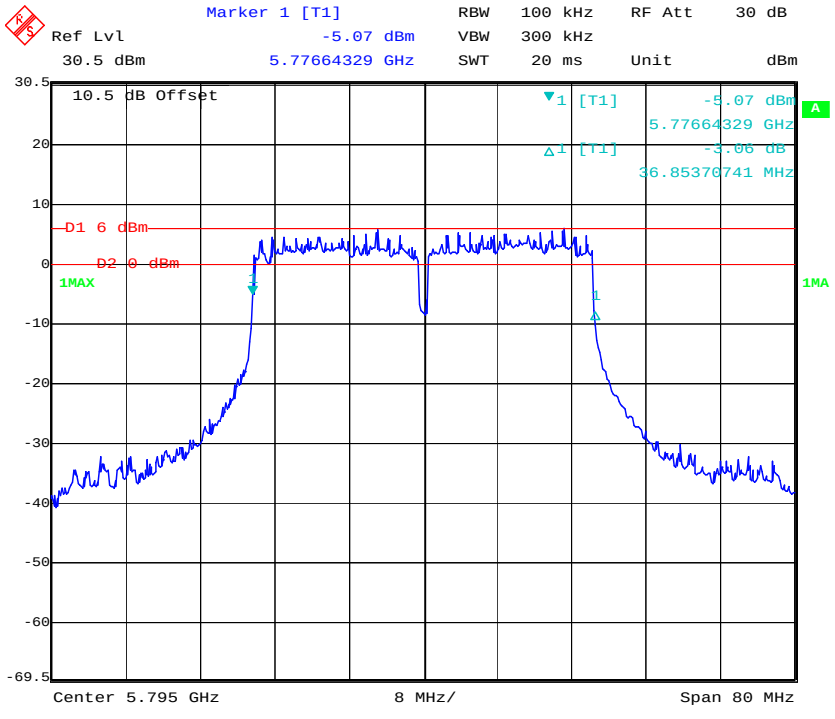
802.11n20 mode, 6dB Emission Bandwidth, 5825 MHz



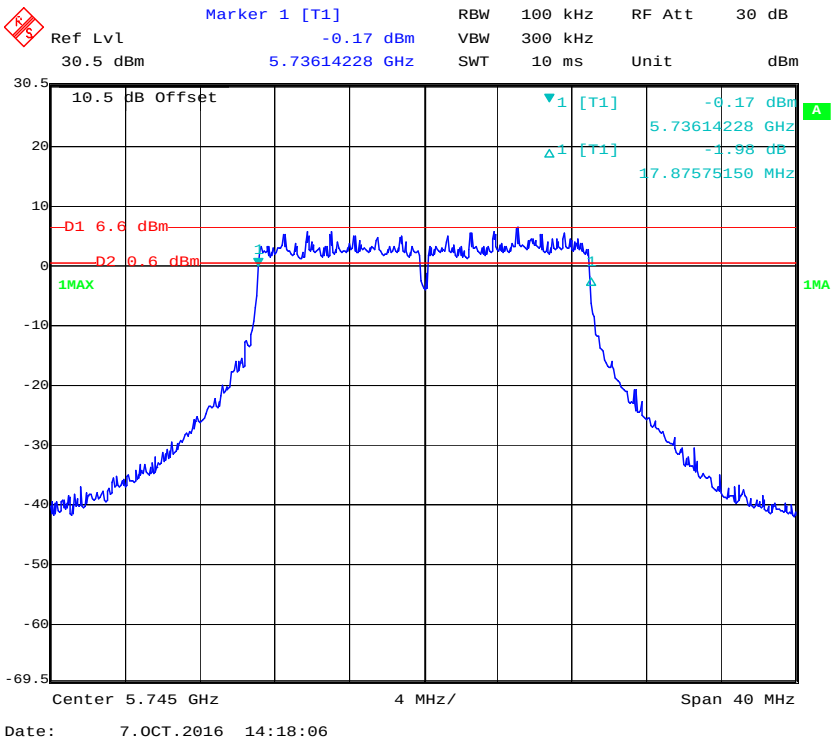
802.11n40 mode, 6dB Emission Bandwidth, 5755 MHz



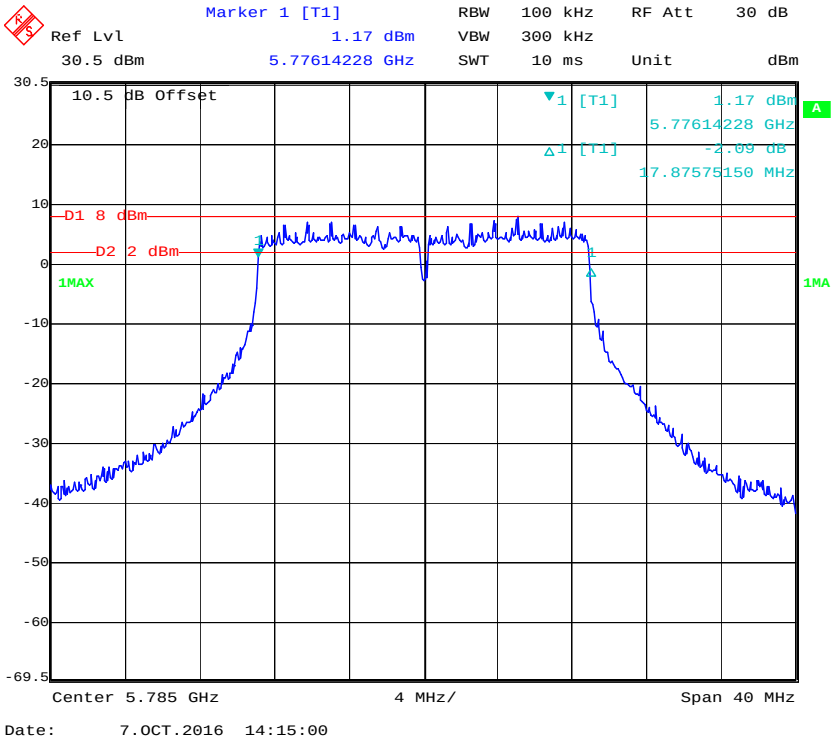
802.11n40 mode, 6dB Emission Bandwidth, 5795 MHz



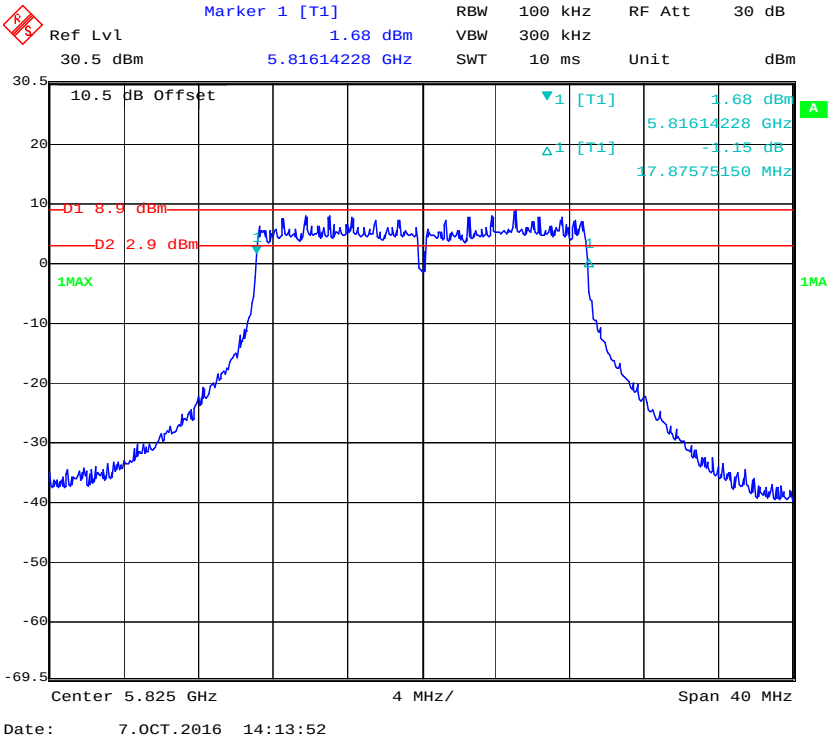
802.11ac20 mode, 6dB Emission Bandwidth, 5745 MHz



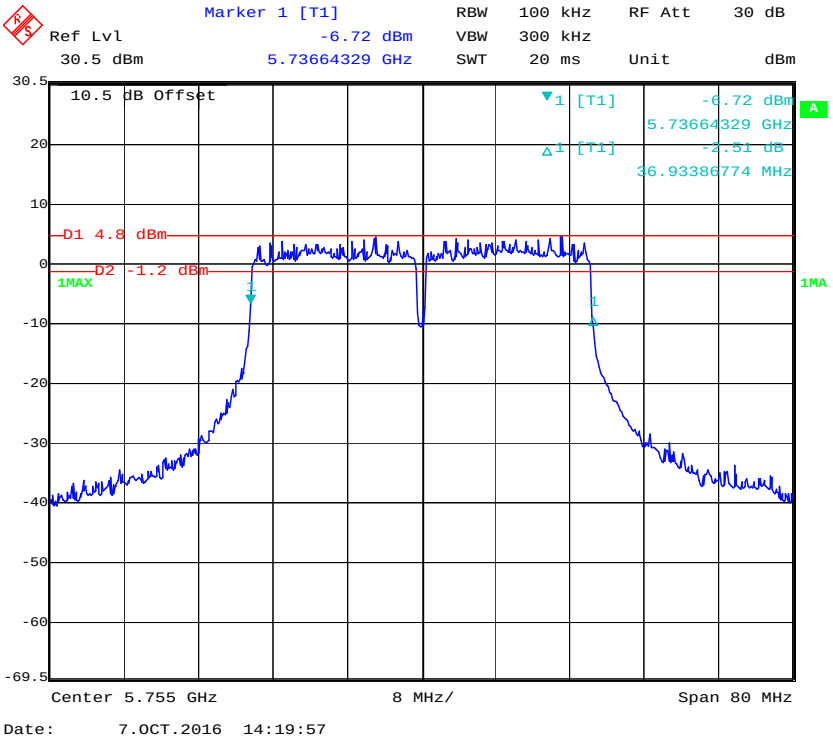
802.11ac20 mode, 6dB Emission Bandwidth, 5785 MHz



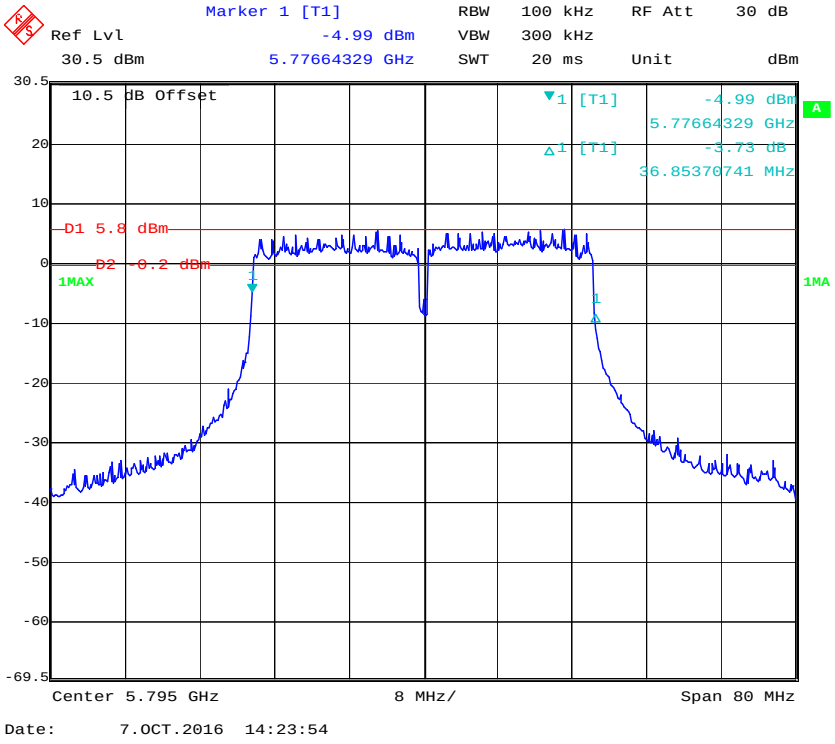
802.11ac20 mode, 6dB Emission Bandwidth, 5825 MHz



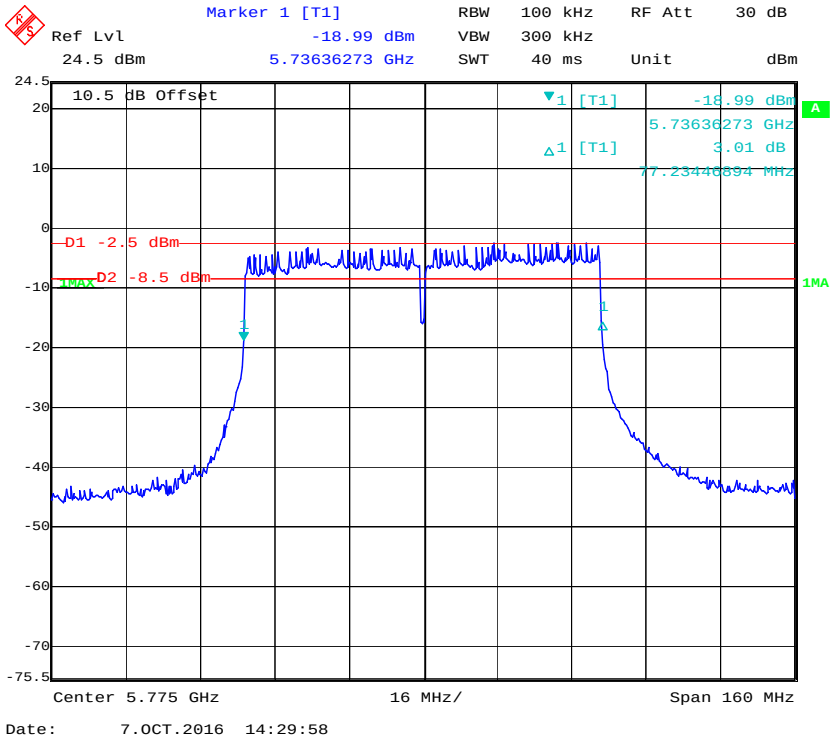
802.11ac40 mode, 6dB Emission Bandwidth, 5755 MHz



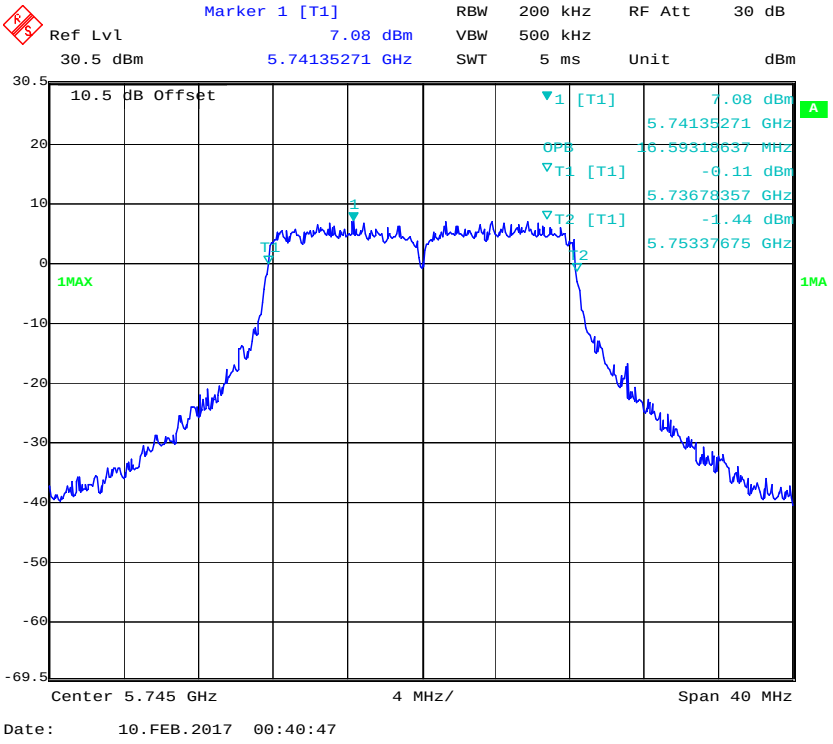
802.11ac40 mode, 6dB Emission Bandwidth, 5795 MHz



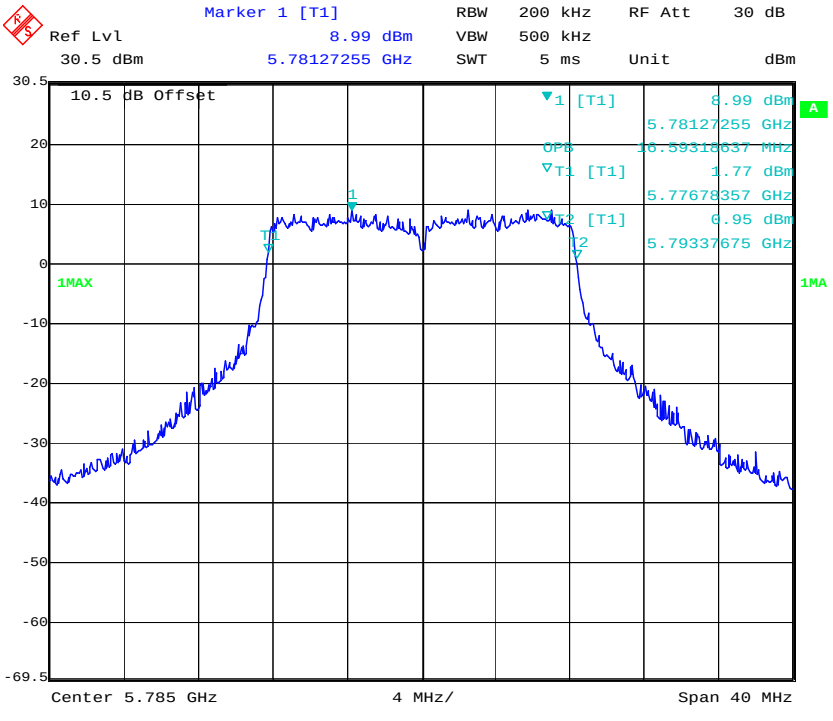
802.11ac80 mode, 6dB Emission Bandwidth, 5775 MHz



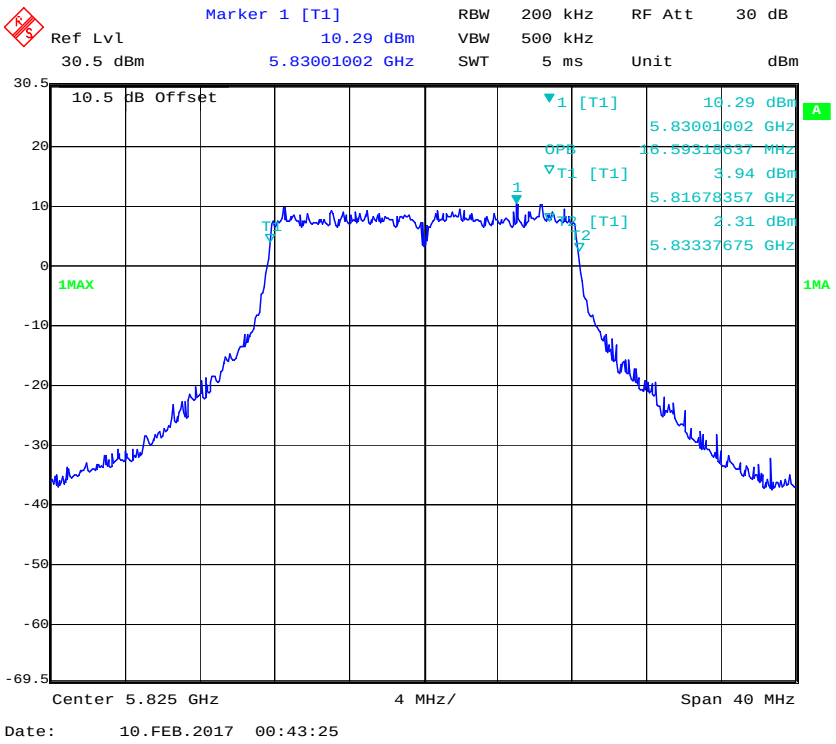
802.11a mode, 99% Occupied Bandwidth, 5745 MHz



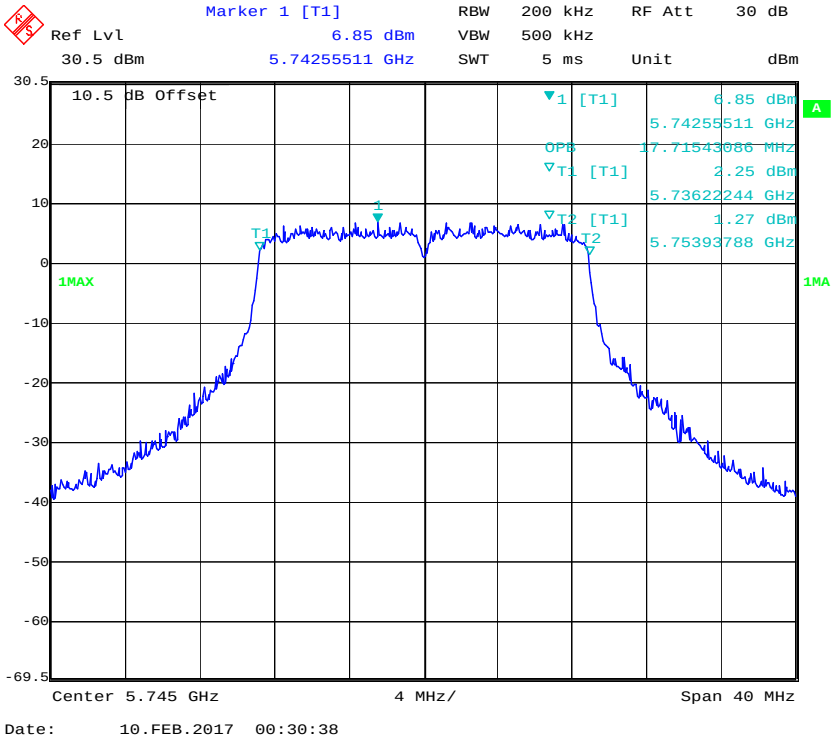
802.11a mode, 99% Occupied Bandwidth, 5785 MHz



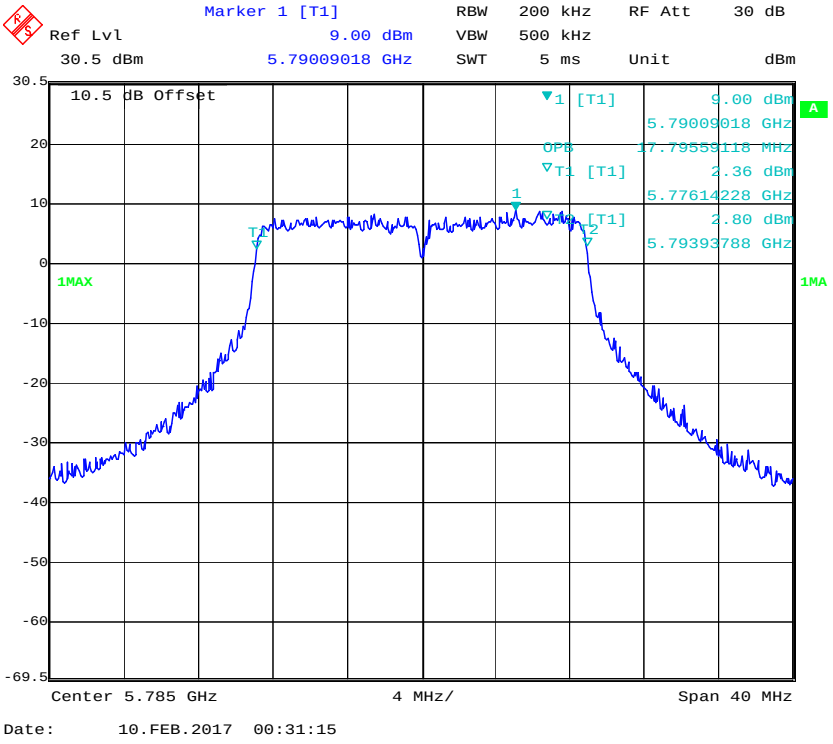
802.11a mode, 99% Occupied Bandwidth, 5825 MHz



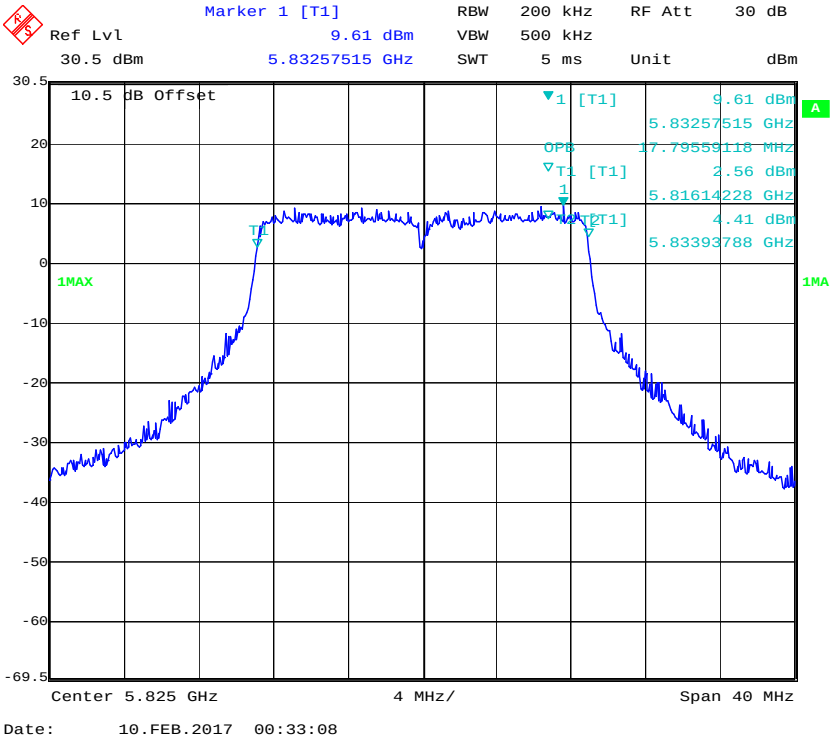
802.11n20 mode, 99% Occupied Bandwidth, 5745 MHz



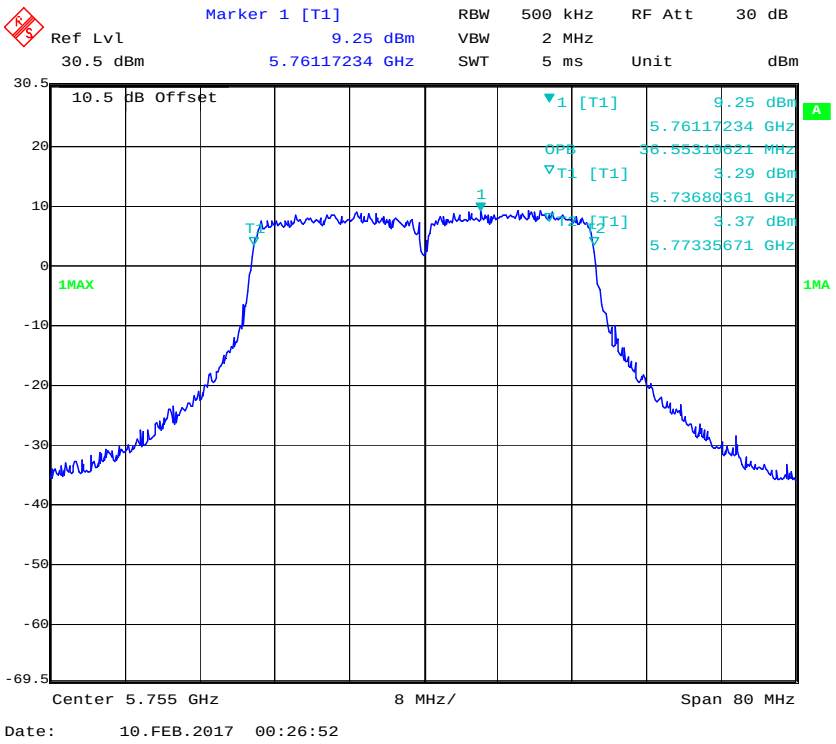
802.11n20 mode, 99% Occupied Bandwidth, 5785 MHz



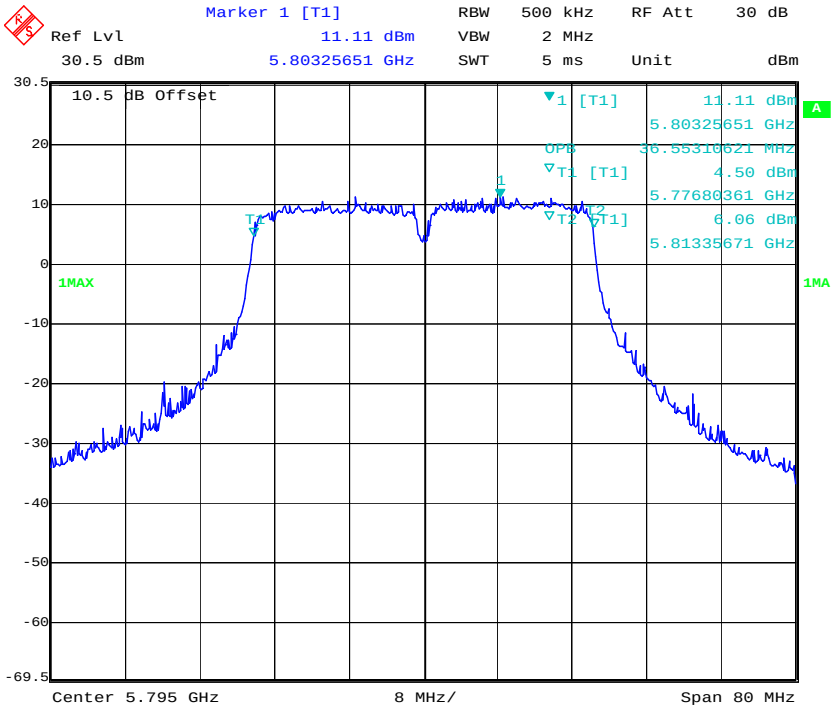
802.11n20 mode, 99% Occupied Bandwidth, 5825 MHz



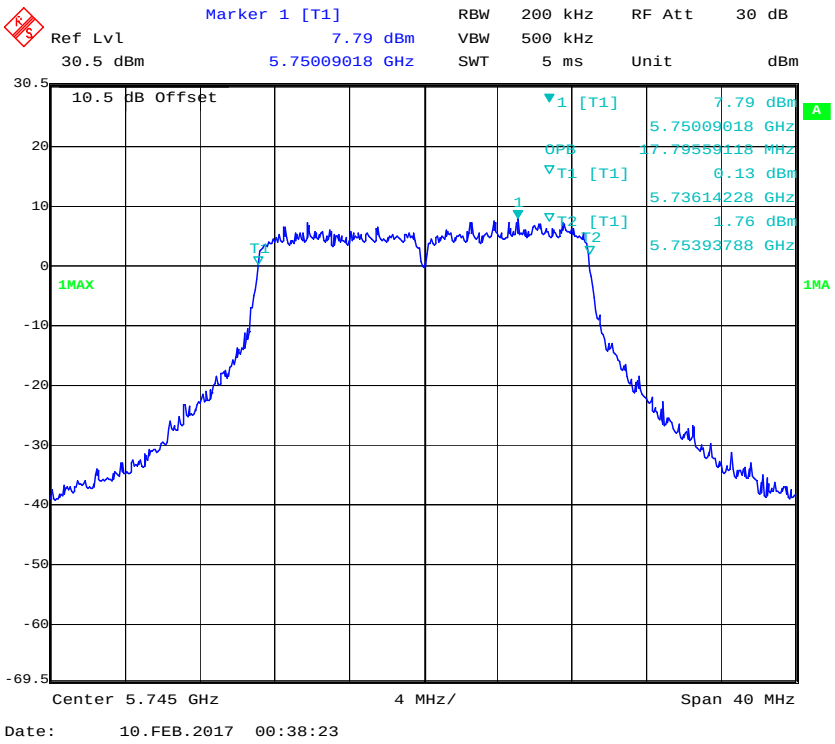
802.11n40 mode, 99% Occupied Bandwidth, 5755 MHz



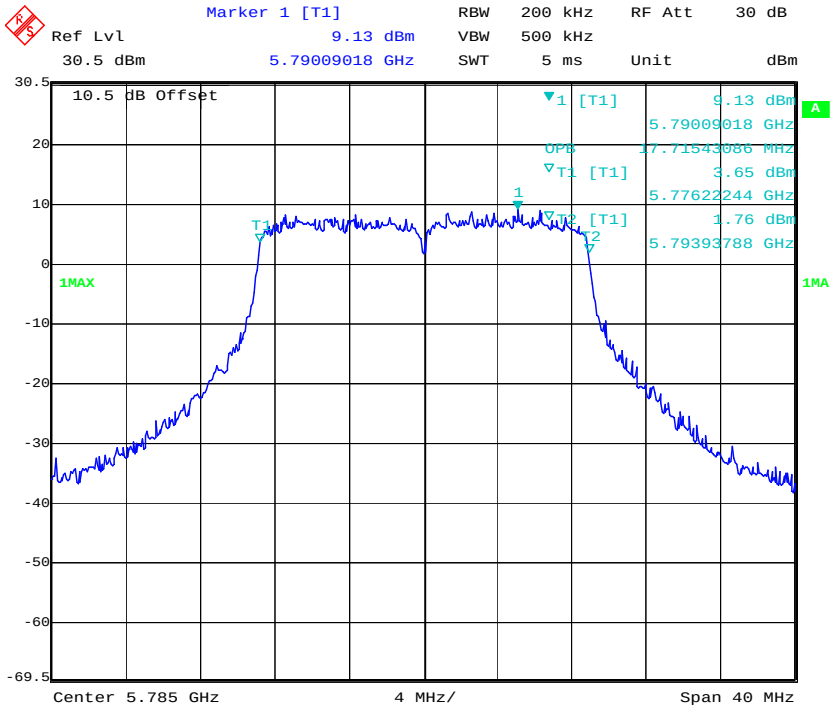
802.11n40 mode, 99% Occupied Bandwidth, 5795 MHz



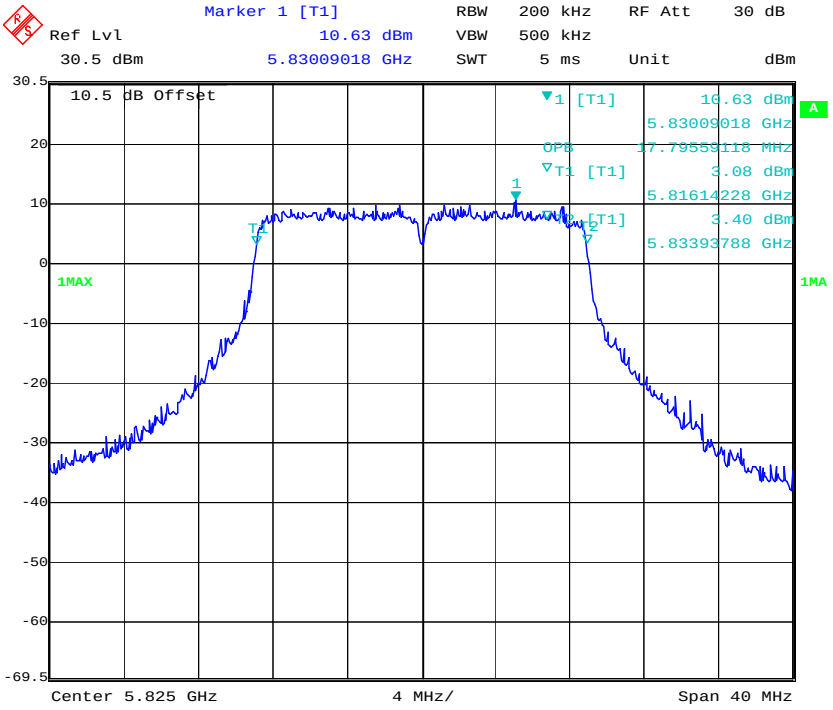
802.11ac20 mode, 99% Occupied Bandwidth, 5745 MHz



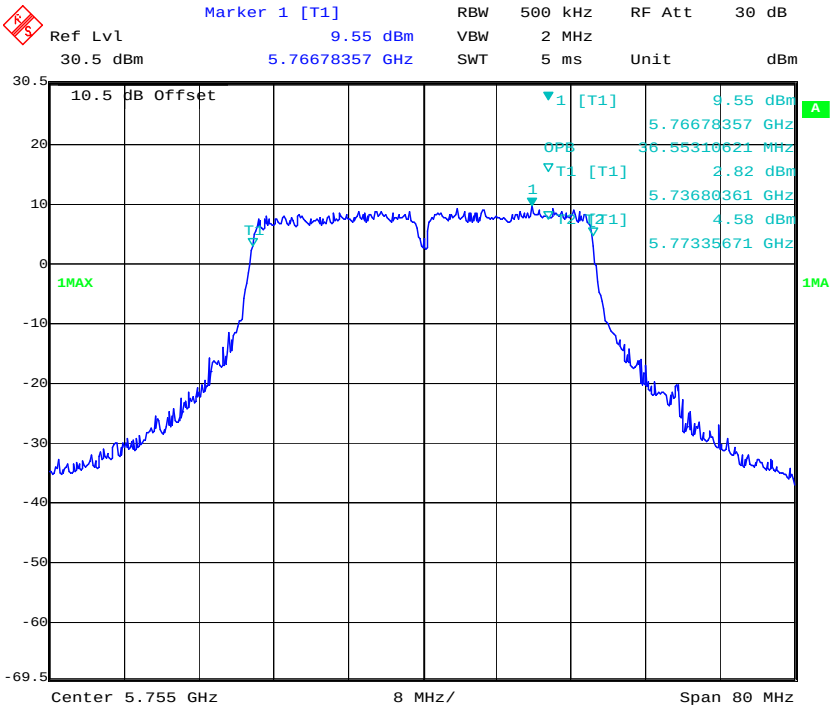
802.11ac20 mode, 99% Occupied Bandwidth, 5785 MHz



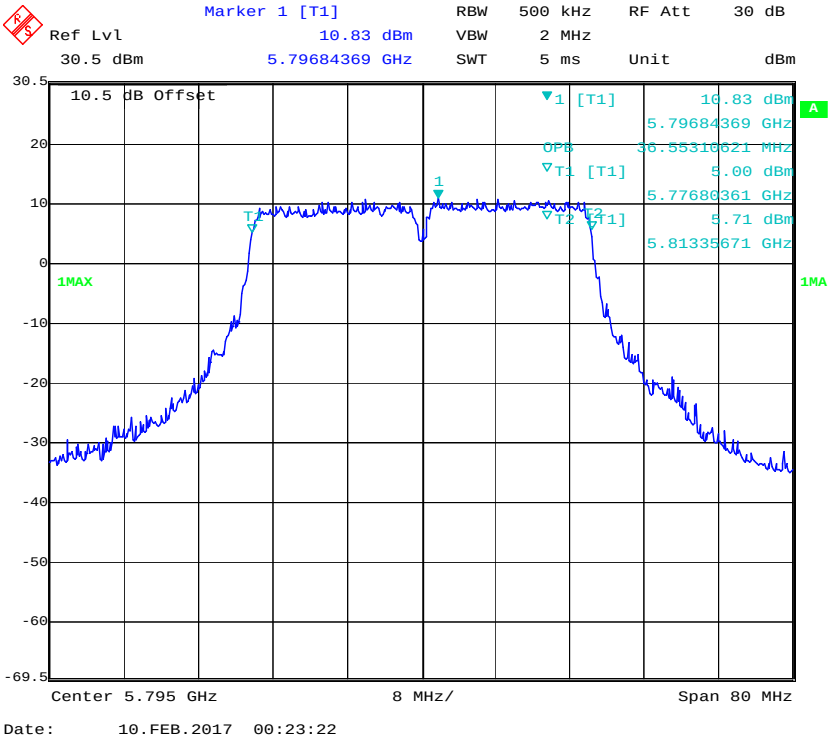
802.11ac20 mode, 99% Occupied Bandwidth, 5825 MHz



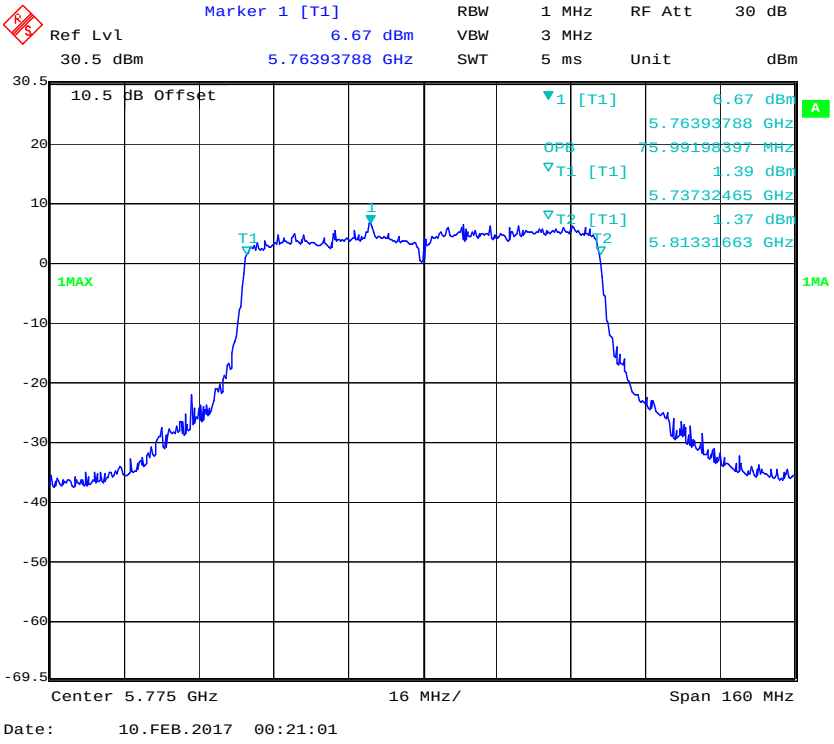
802.11ac40 mode, 99% Occupied Bandwidth, 5755 MHz



802.11ac40 mode, 99% Occupied Bandwidth, 5795 MHz



802.11ac80 mode, 99% Occupied Bandwidth, 5775 MHz



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

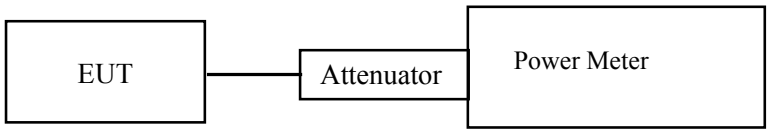
Applicable Standard

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

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

Test Procedure

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



Test Data

Environmental Conditions

Temperature:	26 ℃
Relative Humidity:	53 %
ATM Pressure:	101.0 kPa

The testing was performed by Alisa Gao on 2016-12-15.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables.

Note: Note: This Device Emploies Cyclic Delay Diversity.
When determining reductions in conducted power limits, array gain is calculated as follows:
As to this device, NANT ≤ 4, Array Gain = 0 dB.
Total directional gain (dBi) = gain of individual transmit antennas (dBi) + 0 (dB) =3dBi.

5150 MHz – 5250 MHz:

Frequency (MHz)	Antenna Port	Output Power (dBm)	Sum Output Power (dBm) Chain1+Chain2+chain 3	Limit (dBm)
802.11a				
5180	1	19.46	24.46	30
	2	19.07		
	3	20.43		
5200	1	19.80	24.40	
	2	18.91		
	3	20.10		
5240	1	20.30	24.46	
	2	19.03		
	3	19.64		
802.11n20				
5180	1	19.52	24.34	30
	2	18.98		
	3	20.14		
5200	1	19.73	24.32	
	2	18.82		
	3	20.01		
5240	1	20.31	24.47	
	2	19.04		
	3	19.66		
802.11n40				
`5190	1	19.74	24.39	30
	2	18.88		
	3	20.15		
5230	1	19.56	24.15	
	2	18.80		
	3	19.71		

Frequency (MHz)	Antenna Port	Output Power (dBm)	Sum Output Power (dBm) Chain1+Chain2+chain 3	Limit (dBm)
802.11ac20				
5180	1	19.46	24.43	30
	2	19.22		
	3	20.22		
5200	1	19.70	24.33	
	2	18.91		
	3	20.00		
5240	1	20.08	24.35	
	2	19.02		
	3	19.56		
802.11ac40				
5190	1	19.51	24.32	30
	2	18.96		
	3	20.10		
5230	1	19.49	24.12	
	2	18.84		
	3	19.68		
802.11ac80				
5210	1	19.48	24.33	30
	2	19.03		
	3	20.09		

5725 MHz – 5825 MHz:

Frequency (MHz)	Antenna Port	Output Power (dBm)	Sum Output Power (dBm) Chain1+Chain2+chain 3	Limit (dBm)
802.11a				
5745	1	18.07	23.59	30
	2	19.41		
	3	18.88		
5785	1	18.89	24.83	
	2	20.81		
	3	20.27		
5825	1	20.17	25.91	
	2	21.75		
	3	21.36		
802.11n20				
5745	1	18.12	23.59	30
	2	19.44		
	3	18.81		
5785	1	19.09	24.87	
	2	20.81		
	3	20.22		
5825	1	20.01	25.90	
	2	21.96		
	3	21.21		
802.11n40				
5755	1	18.88	24.63	30
	2	20.46		
	3	20.09		
5795	1	19.99	25.77	
	2	21.71		
	3	21.13		

Frequency (MHz)	Antenna Port	Output Power (dBm)	Sum Output Power (dBm) Chain1+Chain2+chain 3	Limit (dBm)
802.11ac20				
5745	1	18.01	23.53	30
	2	19.34		
	3	18.82		
5785	1	19.16	24.98	
	2	20.90		
	3	20.40		
5825	1	20.22	25.96	
	2	21.82		
	3	21.37		
802.11ac40				
5755	1	18.95	25.06	30
	2	20.47		
	3	21.15		
5795	1	19.95	25.77	
	2	21.66		
	3	21.21		
802.11ac80				
5775	1	14.12	20.21	30
	2	16.30		
	3	15.61		

Note: According to the duty cycle hereinabove, the factor of 802.11a (0.18), 802.11n20 & ac20(0.13) , 802.11n40 & ac40 (0.27) and 802.11ac80 (0.56), had been added to the output power

FCC §15.407(g) – FREQUENCY STABILITY

Applicable Standard

FCC §15.407(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 users manual.

Test Procedure

According to ANSI C63.10-2013 §6.8

Some unlicensed wireless device requirements specify frequency stability tests with variation of supply voltage and temperature; the requirements can be found in the regulatory specifications for each type of unlicensed wireless device. The procedures listed in 6.8.1 and 6.8.2 shall be used for frequency stability tests.

Test Data

Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Alisa Gao on 2017-03-28

EUT operation mode: Transmitting

Test Result: Pass

Low channel, f_o=5180MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5180.030	Pass
-20		5180.033	
-10		5180.041	
0		5180.037	
10		5180.043	
20		5180.040	
30		5180.035	
40		5180.039	
50		5180.034	
25	102	5180.045	
25	138	5180.036	

Middle channel, f_o=5200MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5200.035	Pass
-20		5200.043	
-10		5200.032	
0		5200.038	
10		5200.031	
20		5200.041	
30		5200.040	
40		5200.037	
50		5200.032	
25	102	5200.026	
25	138	5200.032	

High channel, f_o =5240MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5240.038	Pass
-20		5240.041	
-10		5240.033	
0		5240.037	
10		5240.032	
20		5240.044	
30		5240.041	
40		5240.039	
50		5240.042	
25	102	5240.036	
25	138	5240.037	

Low channel, f_o =5745MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5745.036	Pass
-20		5745.032	
-10		5745.041	
0		5745.046	
10		5745.039	
20		5745.032	
30		5745.042	
40		5745.037	
50		5745.040	
25	102	5745.043	
25	138	5745.037	

Middle channel, f_o =5785MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5785.041	Pass
-20		5785.035	
-10		5785.042	
0		5785.044	
10		5785.037	
20		5785.042	
30		5785.040	
40		5785.036	
50		5785.041	
25	102	5785.045	
25	138	5785.035	

High channel, f_o =5825MHz			
Temperature (℃)	**Power Supplied (V_{AC})**	**Test Frequency (MHz)**	**Result**
-30	120	5825.043	Pass
-20		5825.036	
-10		5825.032	
0		5825.041	
10		5825.039	
20		5825.035	
30		5825.046	
40		5825.038	
50		5825.041	
25	102	5825.035	
25	138	5825.043	

Note: the frequency stability range plus the operation bandwidth edge within the operation band.

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

Applicable Standard

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

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

Test Procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.l.a).
b) Set VBW ≥ 3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Test Data

Environmental Conditions

Temperature:	23~25 ℃
Relative Humidity:	51~55 %
ATM Pressure:	100.0~103.0 kPa

The testing was performed by Alisa Gao from 2016-09-12 to 2016-10-07

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EUT operation mode: Transmitting

Test Result: Pass

Please refer to the following tables and plots.

Note: This Device Emploies Cyclic Delay Diversity.
When determining reductions in conducted power limits, array gain is calculated as follows:
Array gain = 10 log (NANT), where NANT is the number of transmit antennas.
Total directional gain (dBi) = gain of individual transmit antennas (dBi) +4.77 (dB) =7.77dBi.
which is 1.77dB higher than 6dBi, so a 1.77dB reduction should be applied for power spectral density limits.

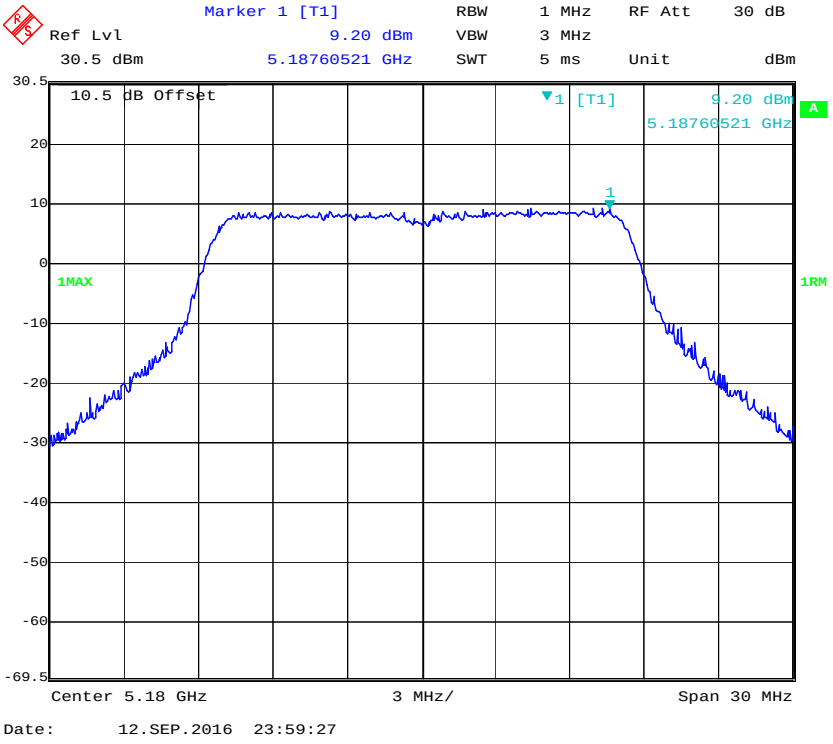
5150 MHz – 5250 MHz:

Frequency (MHz)	Antenna Port	Power Spectral Density (dBm/MHz)	Sum Power spectral density (dBm/MHz) Chain1+Chain2+chain 3	Limit (dBm/MHz)
802.11a				
5180	1	9.38	14.28	15.23
	2	8.78		
	3	10.24		
5200	1	10.01	14.36	
	2	8.67		
	3	9.97		
5240	1	10.49	14.46	
	2	8.81		
	3	9.61		
802.11n20				
5180	1	9.27	14.05	15.23
	2	8.75		
	3	9.77		
5200	1	9.71	14.08	
	2	8.75		
	3	9.42		
5240	1	10.29	14.32	
	2	8.71		
	3	9.5		
802.11n40				
5190	1	6.34	11.33	15.23
	2	5.77		
	3	7.40		
5230	1	6.46	11.05	
	2	5.70		
	3	6.63		

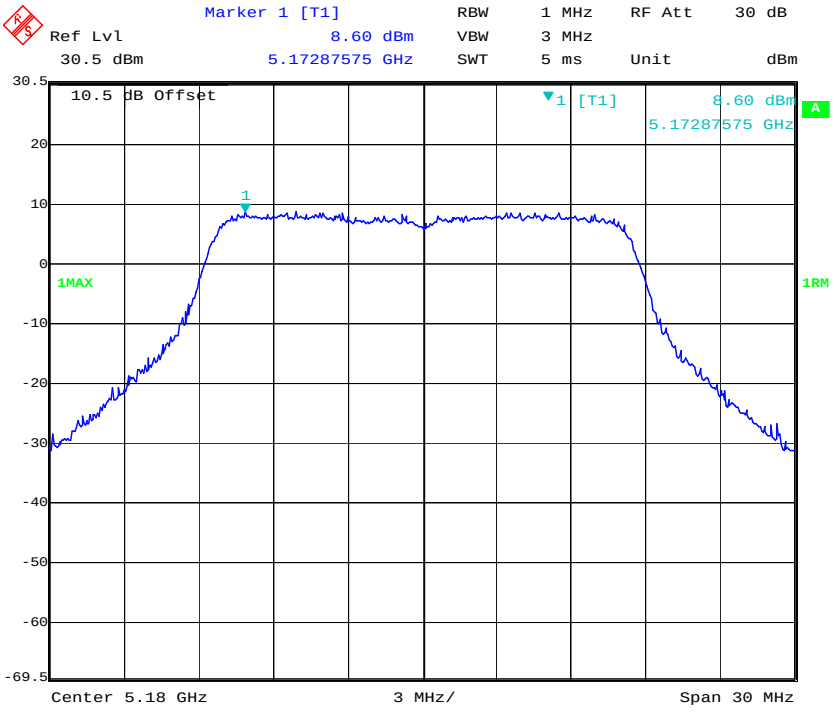
Frequency (MHz)	Antenna Port	Power Spectral Density (dBm/MHz)	Sum Power spectral density (dBm/MHz) Chain1+Chain2+chain 3	Limit (dBm/MHz)
802.11ac20				
5180	1	9.16	14.12	15.23
	2	8.94		
	3	9.9		
5200	1	9.95	14.39	
	2	8.77		
	3	10.02		
5240	1	10.08	14.29	
	2	8.97		
	3	9.43		
802.11ac40				
5190	1	6.58	11.26	15.23
	2	5.90		
	3	6.93		
5230	1	6.35	11.04	
	2	5.62		
	3	6.77		
802.11ac80				
5210	1	4.03	8.85	15.23
	2	2.90		
	3	5.04		

Note: According to the duty cycle hereinabove, the factor of 802.11a (0.18), 802.11n20 & ac20(0.13) , 802.11n40 & ac40 (0.27) and 802.11ac80 (0.56), had been added to the PSD.

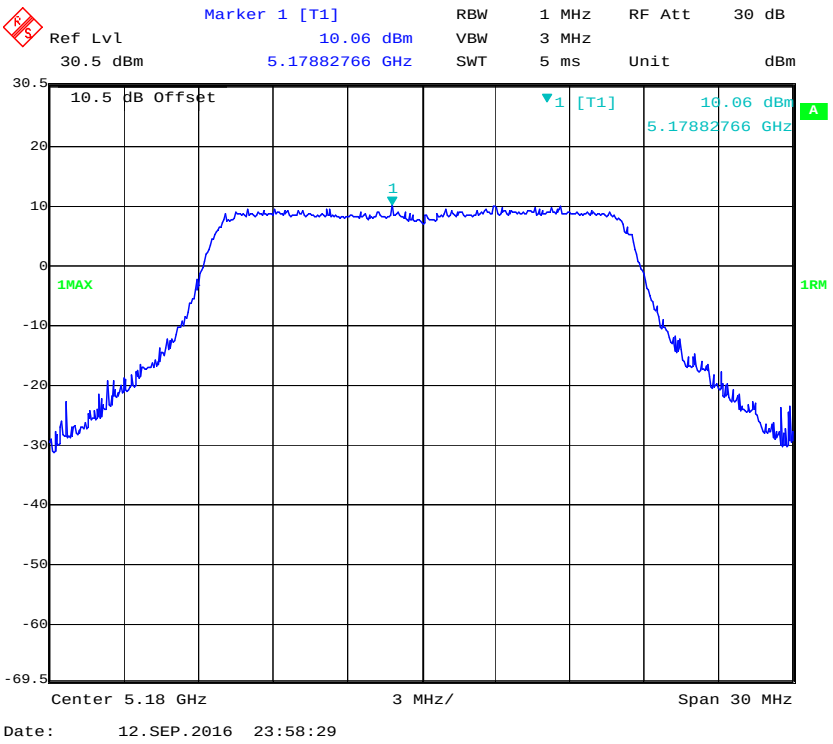
802.11a mode, Power Spectral Density, Antenn 1, 5180 MHz



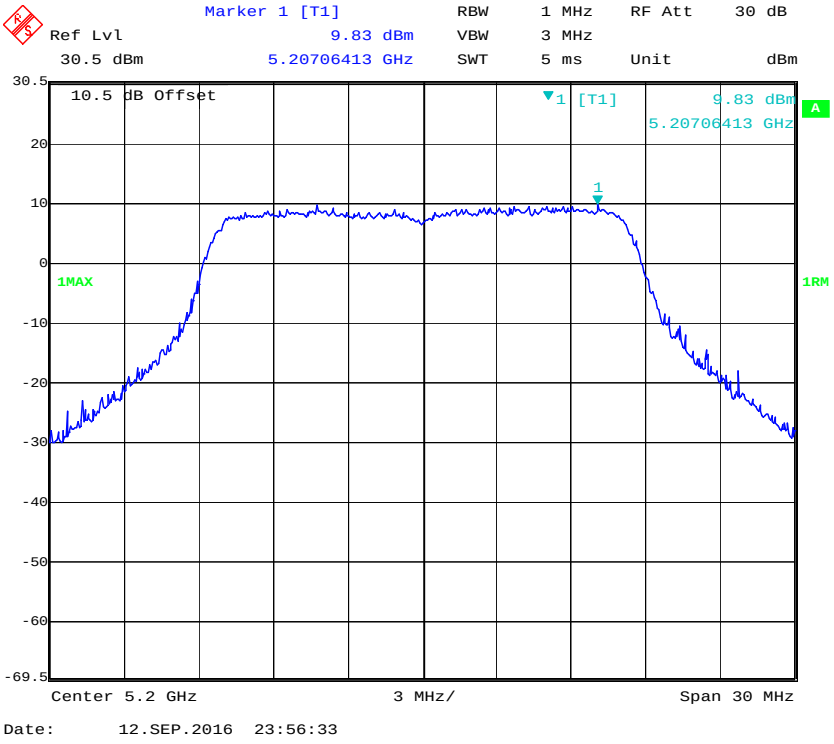
802.11a mode, Power Spectral Density, Antenn 2, 5180 MHz



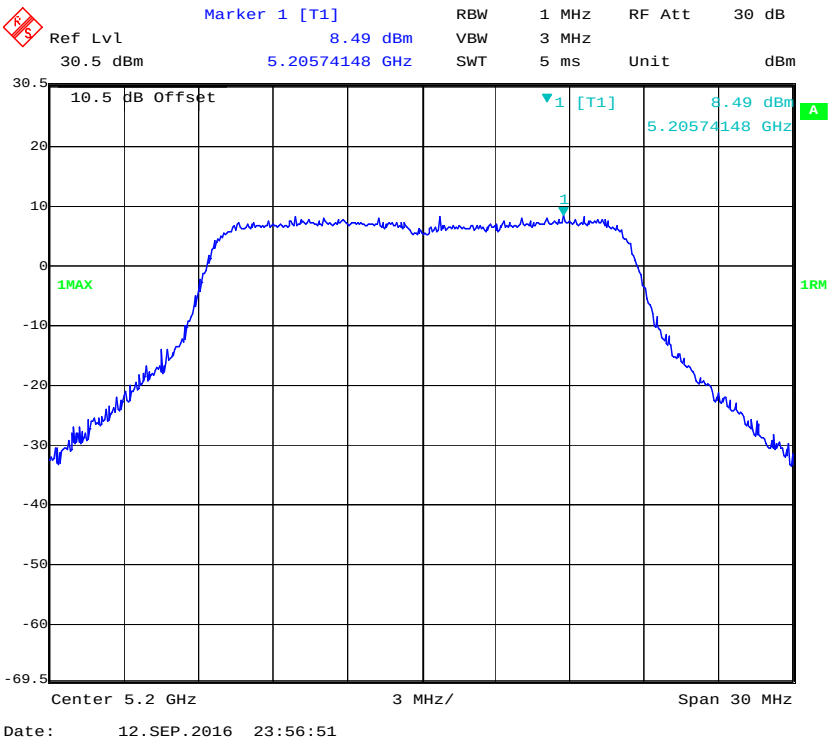
802.11a mode, Power Spectral Density, Antenn 3, 5180 MHz



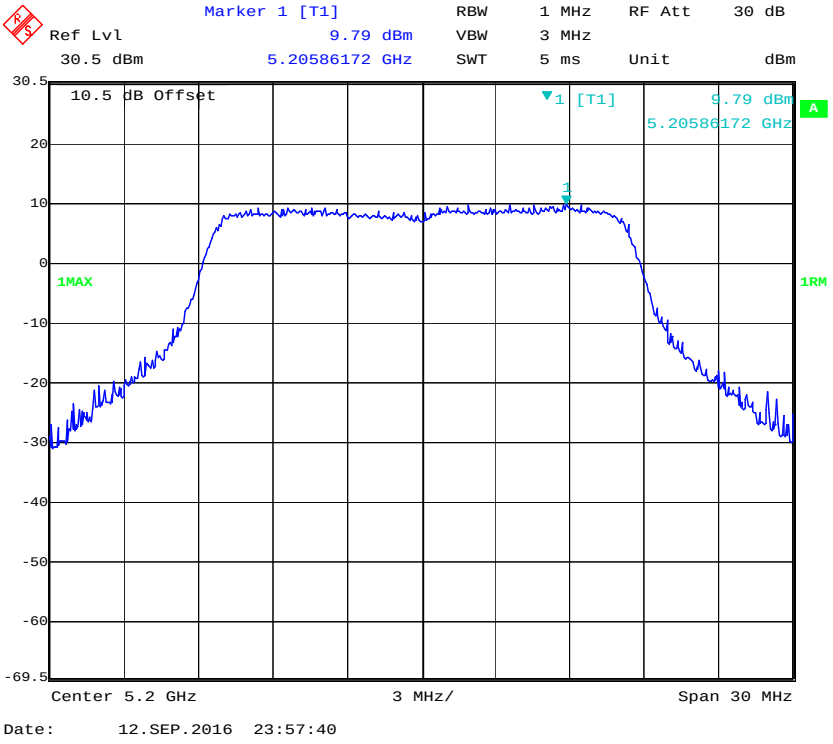
802.11a mode, Power Spectral Density, Antenn 1, 5200 MHz



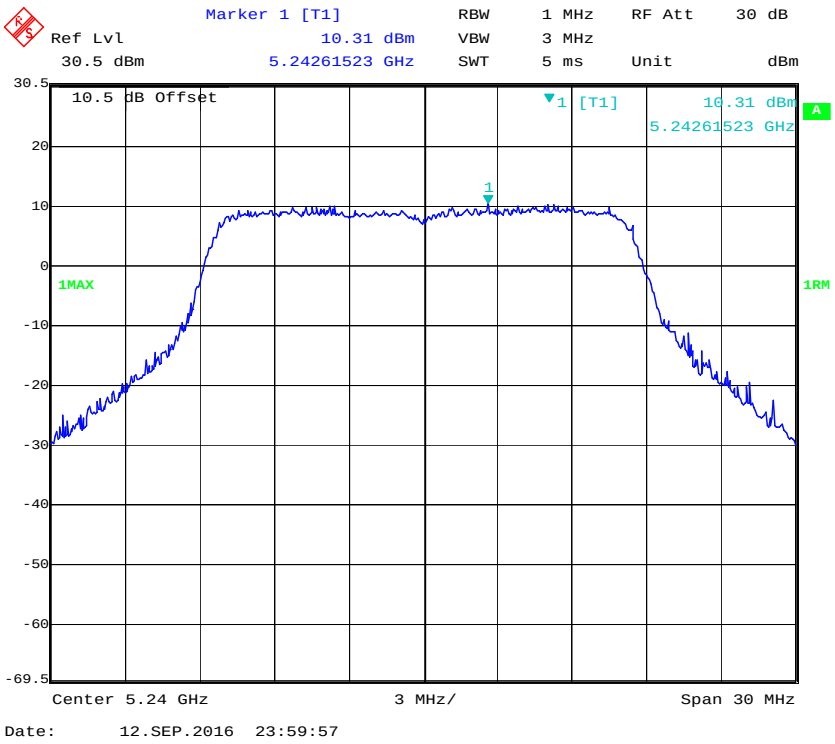
802.11a mode, Power Spectral Density, Antenn 2, 5200 MHz



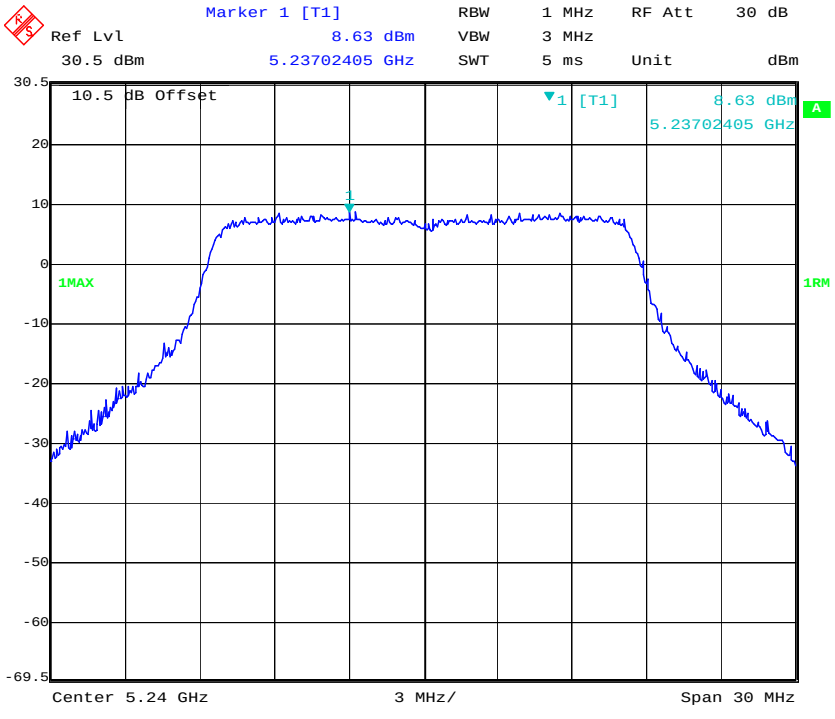
802.11a mode, Power Spectral Density, Antenn 3, 5200 MHz



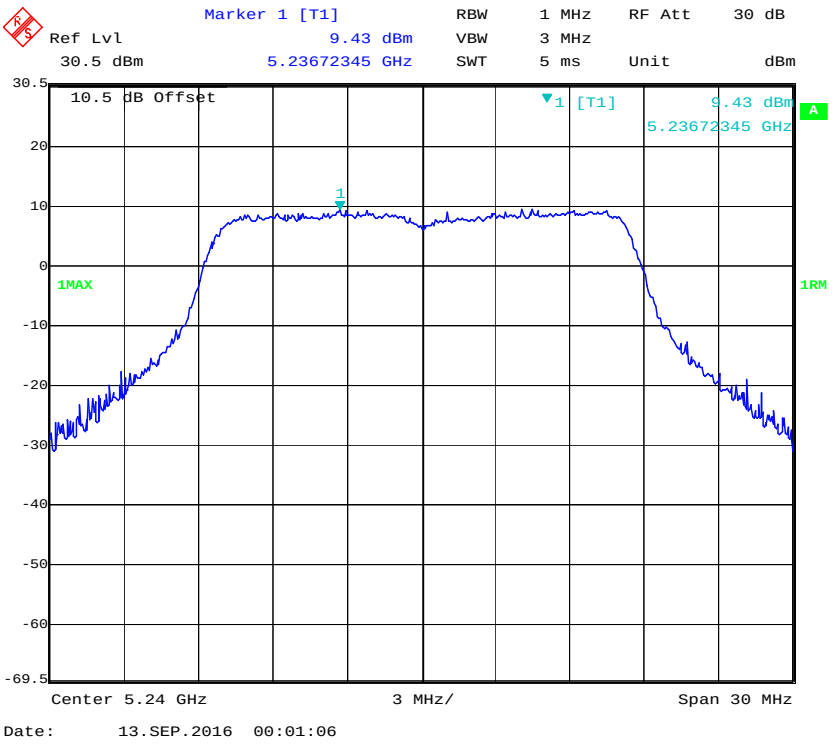
802.11a mode, Power Spectral Density, Antenn 1, 5240 MHz



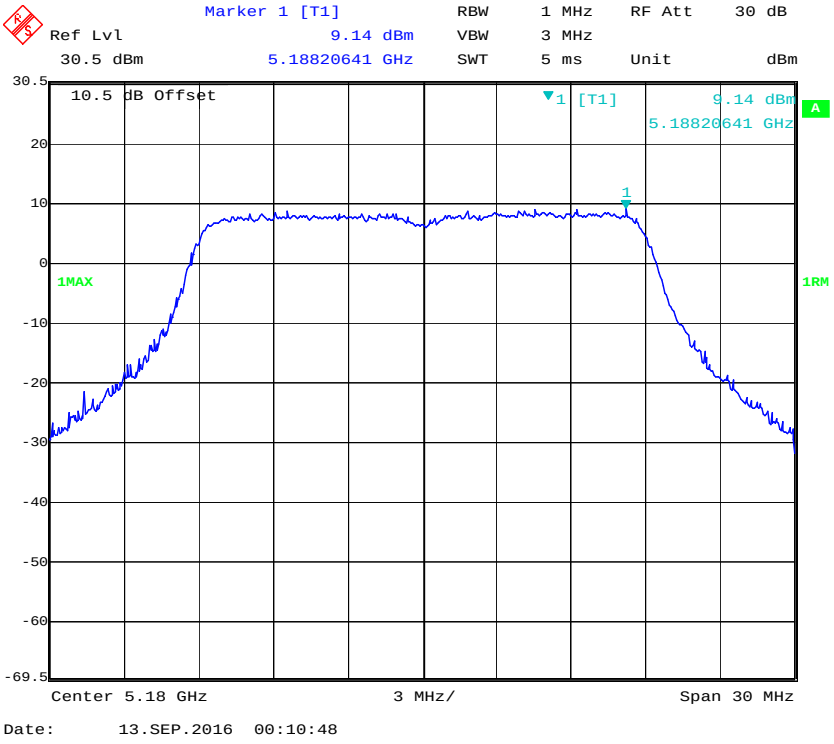
802.11a mode, Power Spectral Density, Antenn 2, 5240 MHz



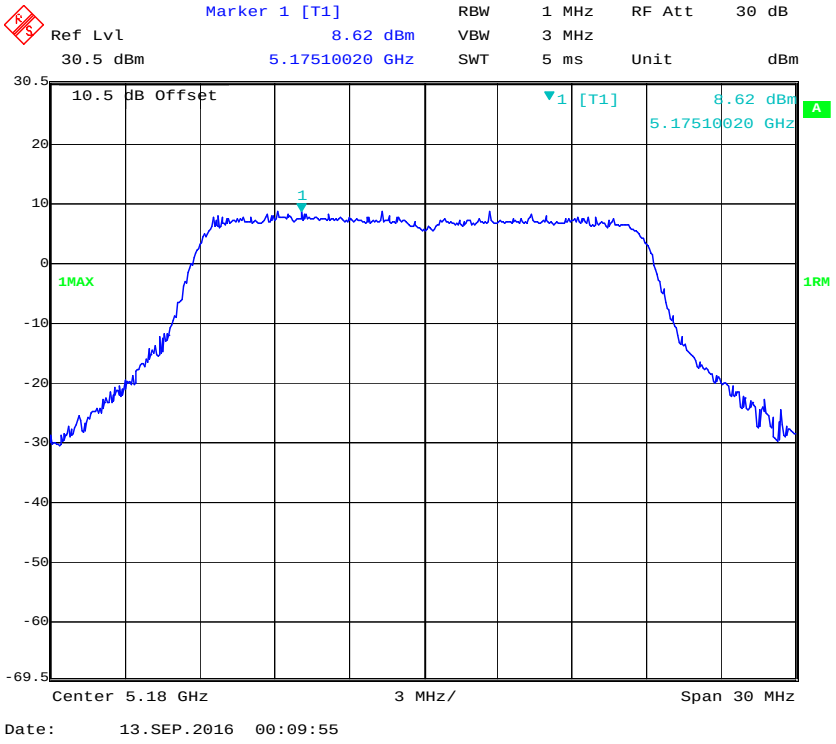
802.11a mode, Power Spectral Density, Antenn 3, 5240 MHz



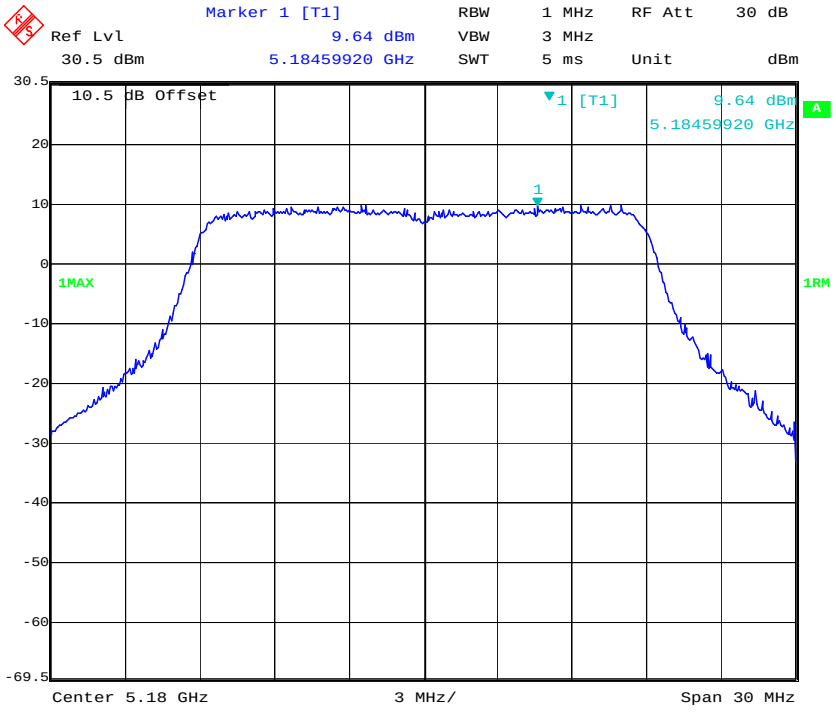
802.11n20 mode, Power Spectral Density, Antenn 1, 5180 MHz



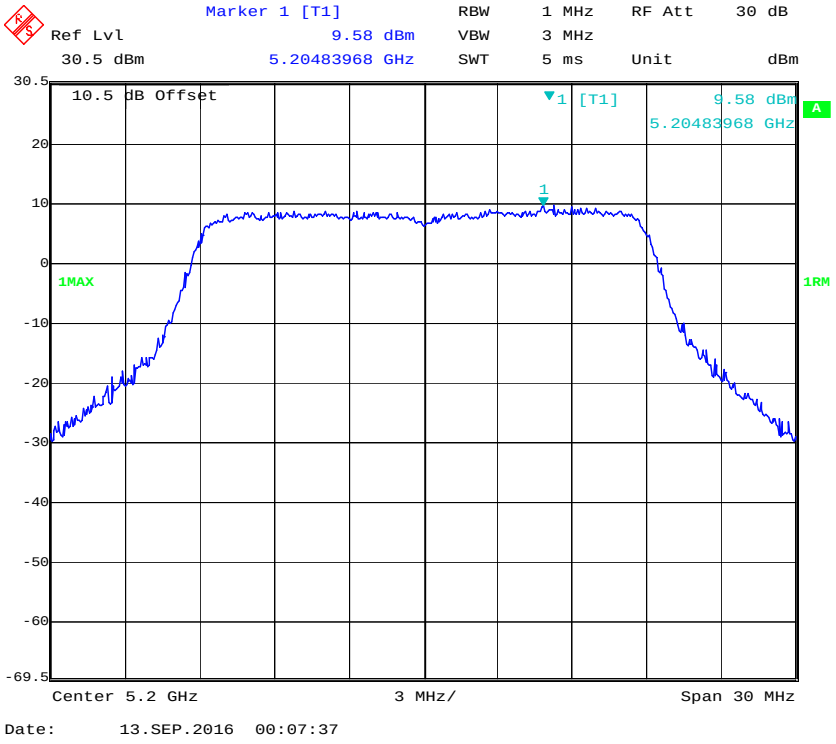
802.11n20 mode, Power Spectral Density, Antenn 2, 5180 MHz



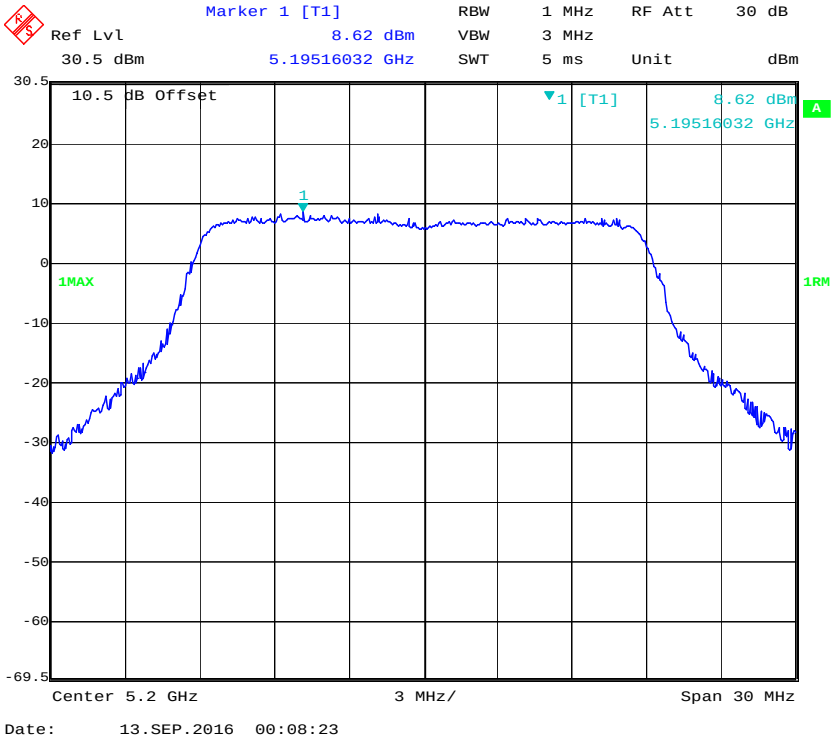
802.11n20 mode, Power Spectral Density, Antenn 3, 5180 MHz



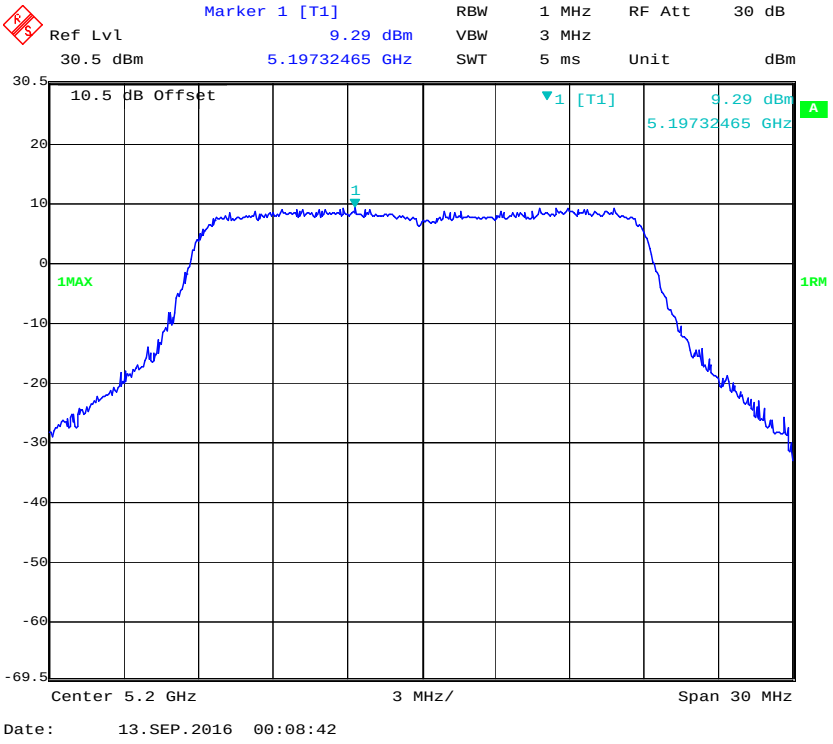
802.11n20 mode, Power Spectral Density, Antenn 1, 5200 MHz



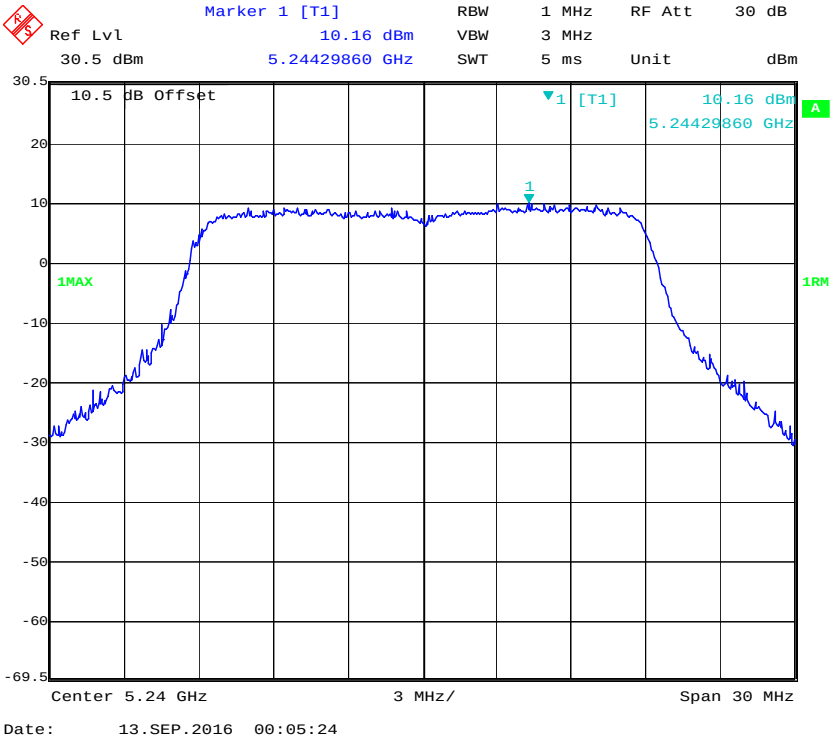
802.11n20 mode, Power Spectral Density, Antenn 2, 5200 MHz



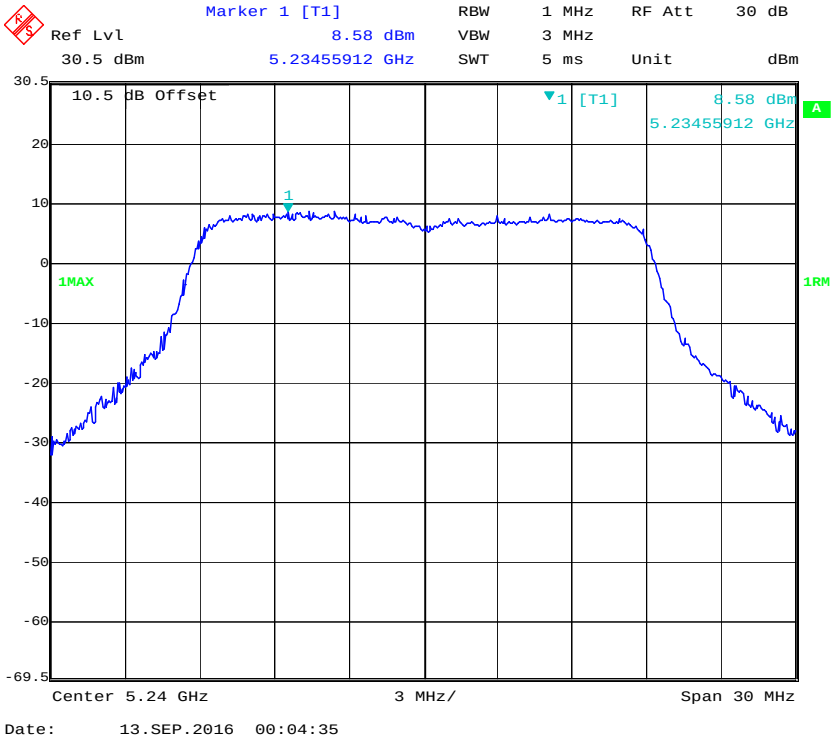
802.11n20 mode, Power Spectral Density, Antenn 3, 5200 MHz



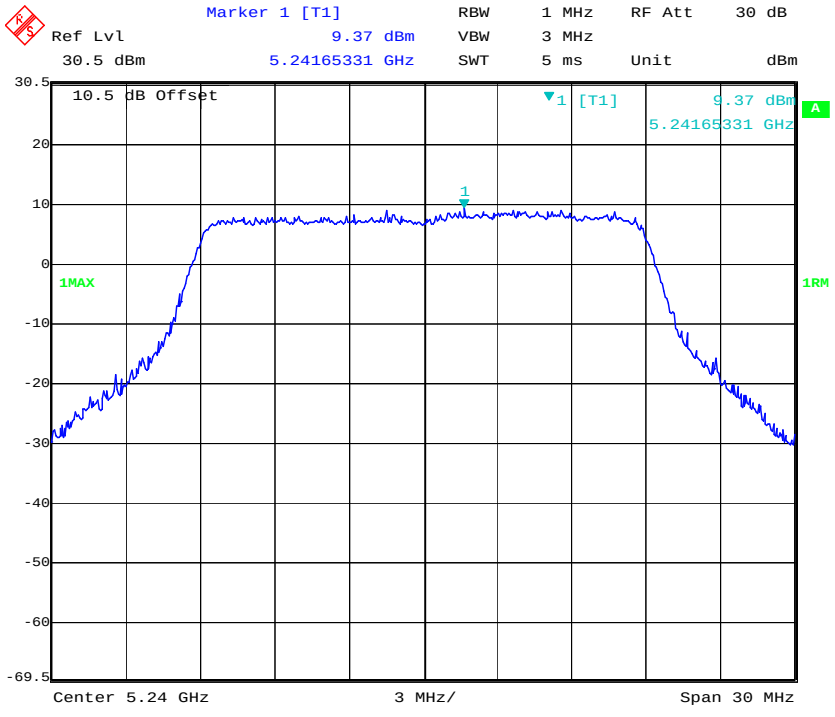
802.11n20 mode, Power Spectral Density, Antenn 1, 5240 MHz



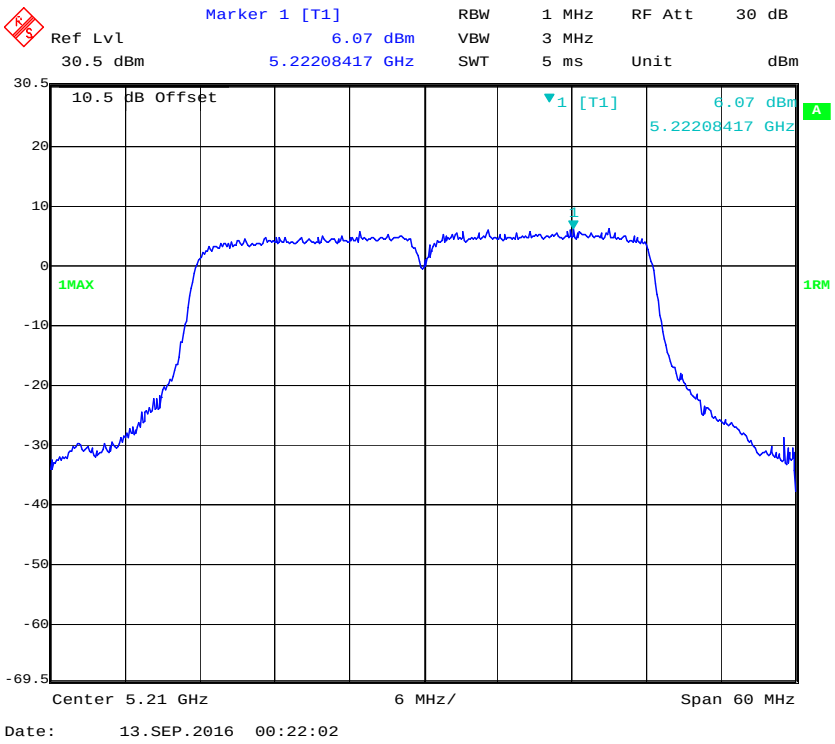
802.11n20 mode, Power Spectral Density, Antenn 2, 5240 MHz



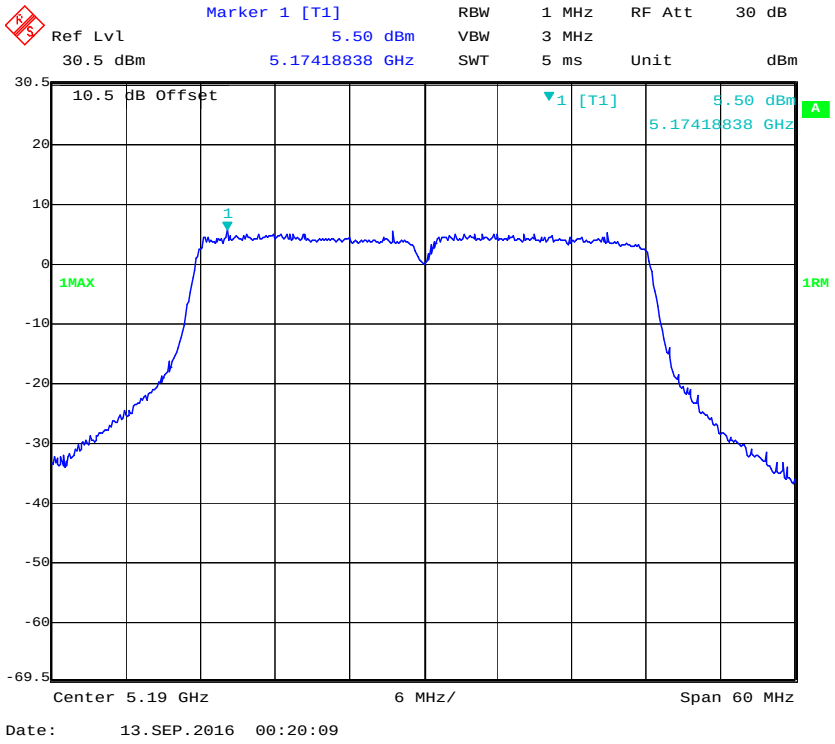
802.11n20 mode, RF Power Spectral Density, Antenn 3, 5240 MHz



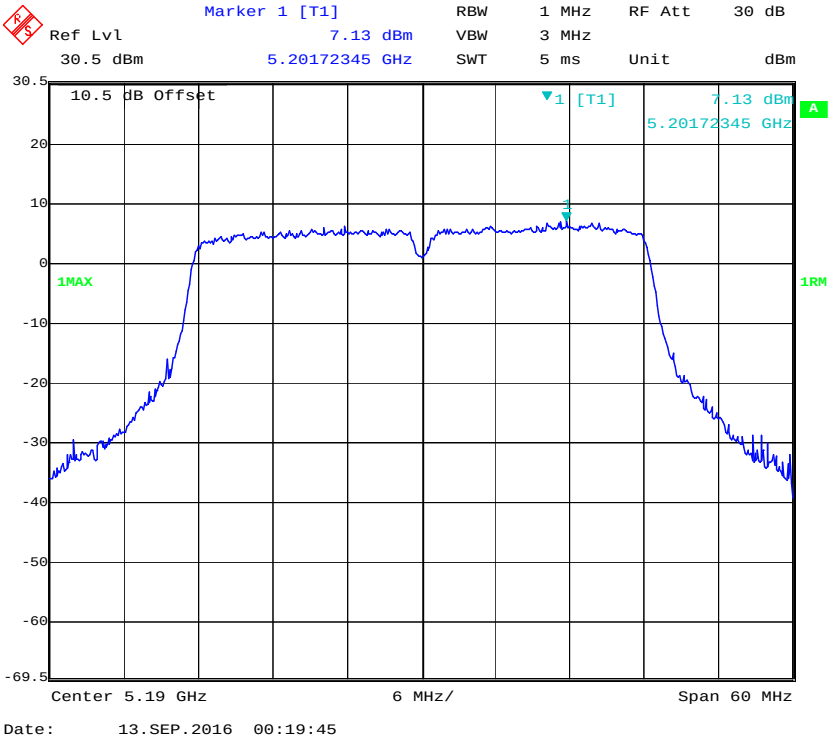
802.11n40 mode, Power Spectral Density, Antenn 1, 5190 MHz



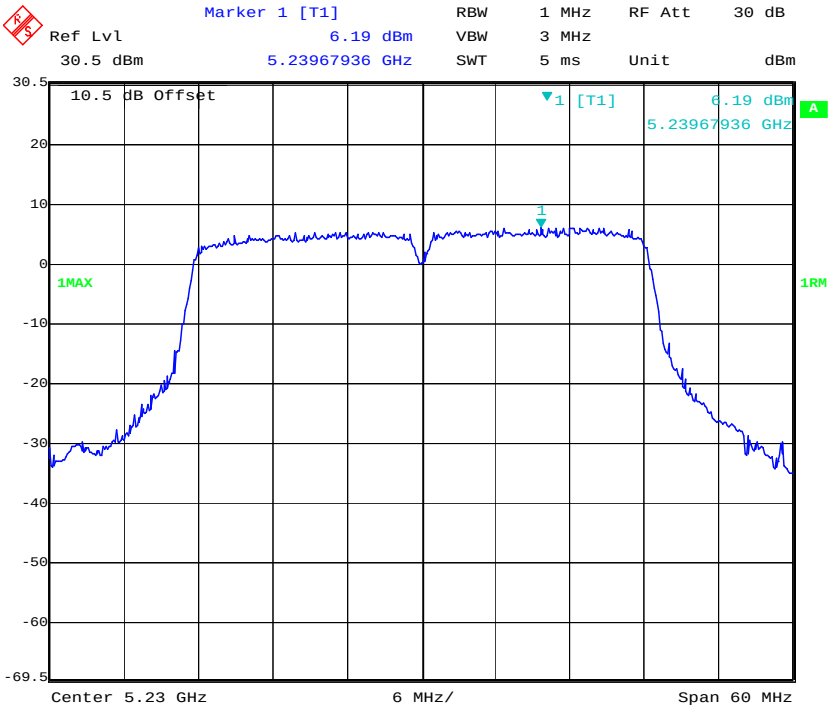
802.11n40 mode, Power Spectral Density, Antenn 2, 5190 MHz



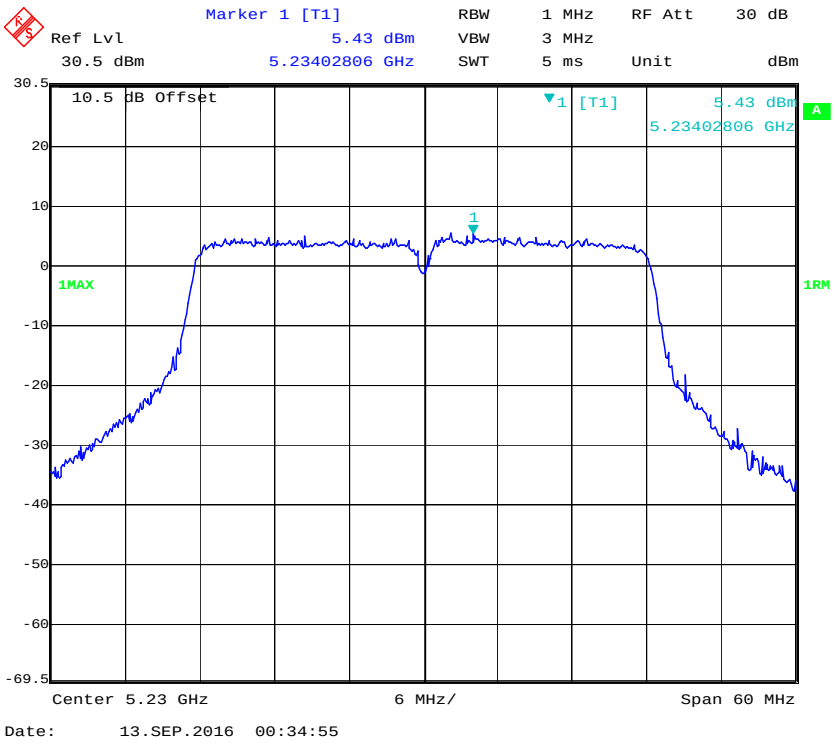
802.11n40 mode, Power Spectral Density, Antenn 3, 5190 MHz



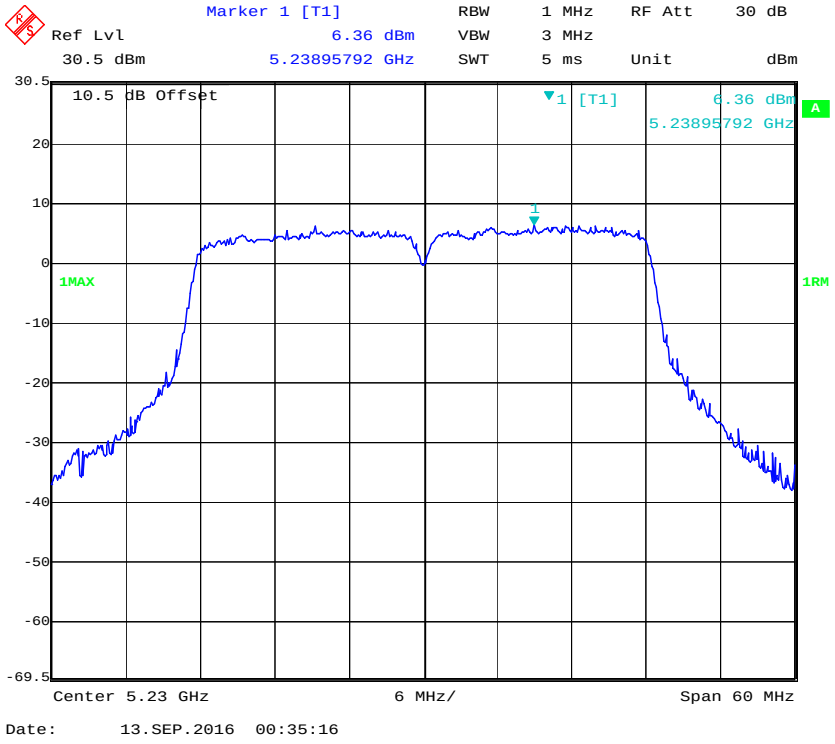
802.11n40 mode, Power Spectral Density, Antenn 1, 5230 MHz



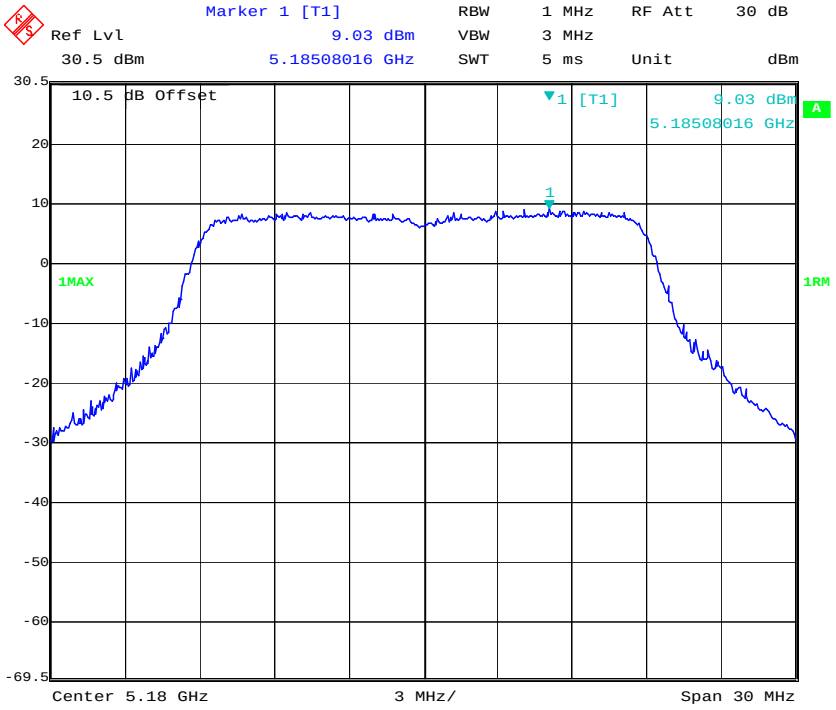
802.11n40 mode, Power Spectral Density, Antenn 2, 5230 MHz



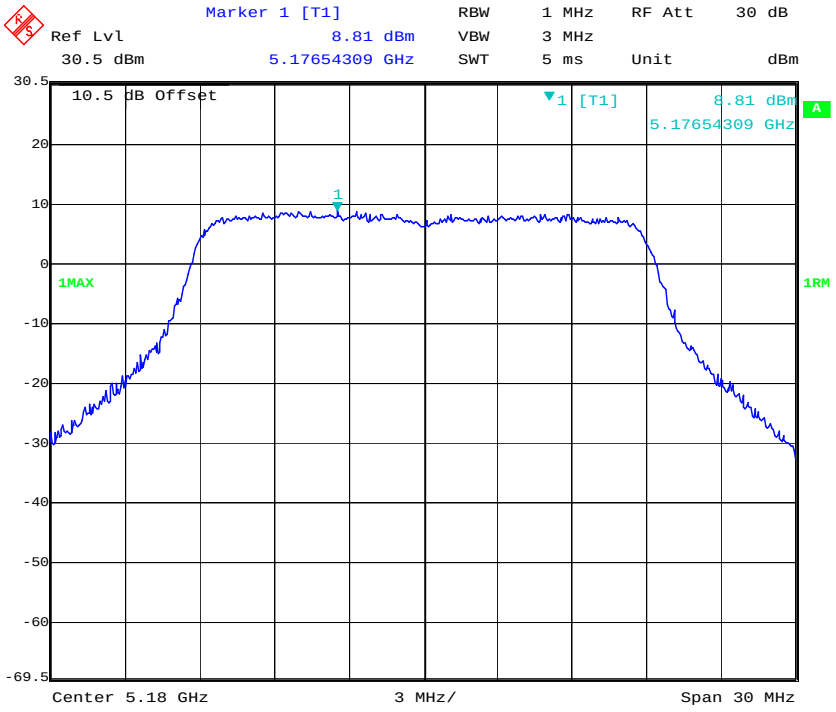
802.11n40 mode, Power Spectral Density, Antenn 3, 5230 MHz



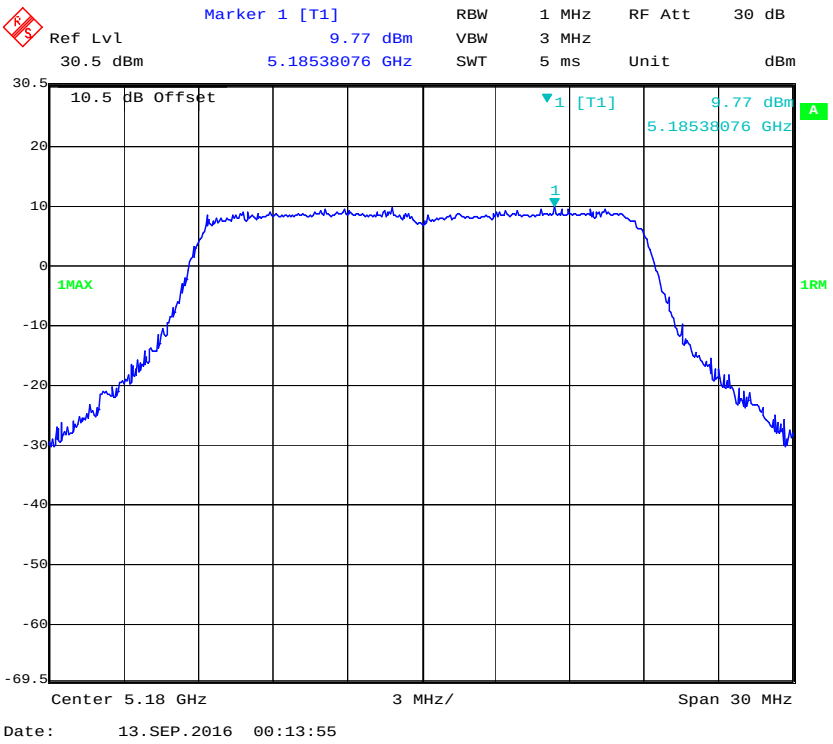
802.11ac20 mode, Power Spectral Density, Antenn 1, 5180 MHz



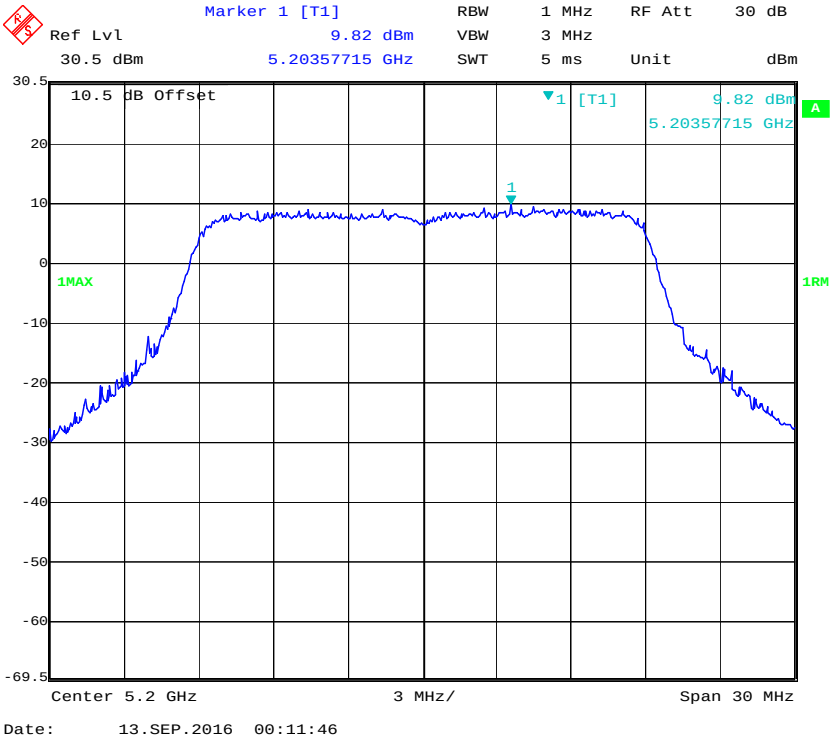
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5180 MHz



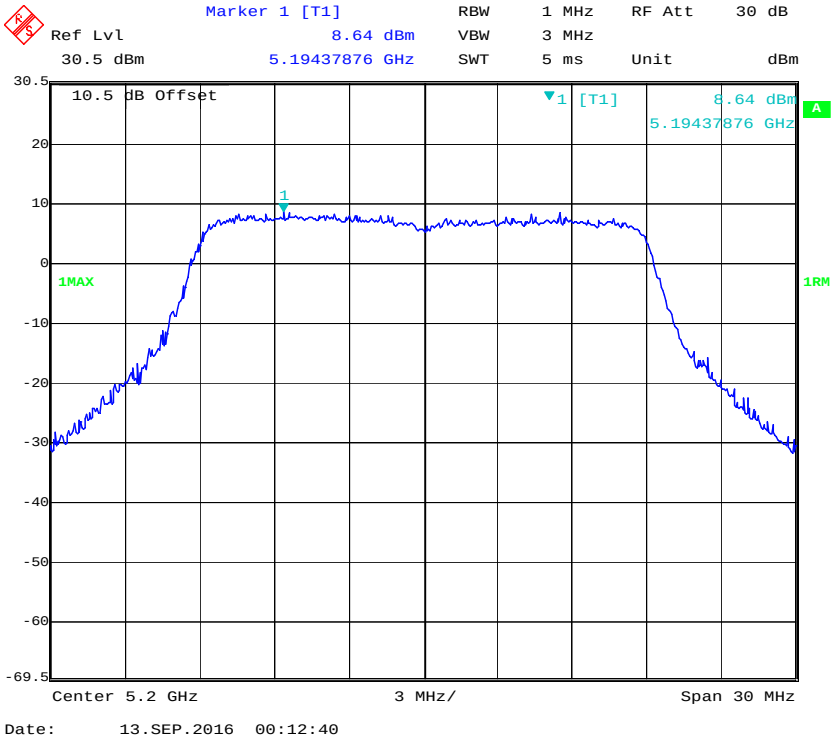
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5180 MHz



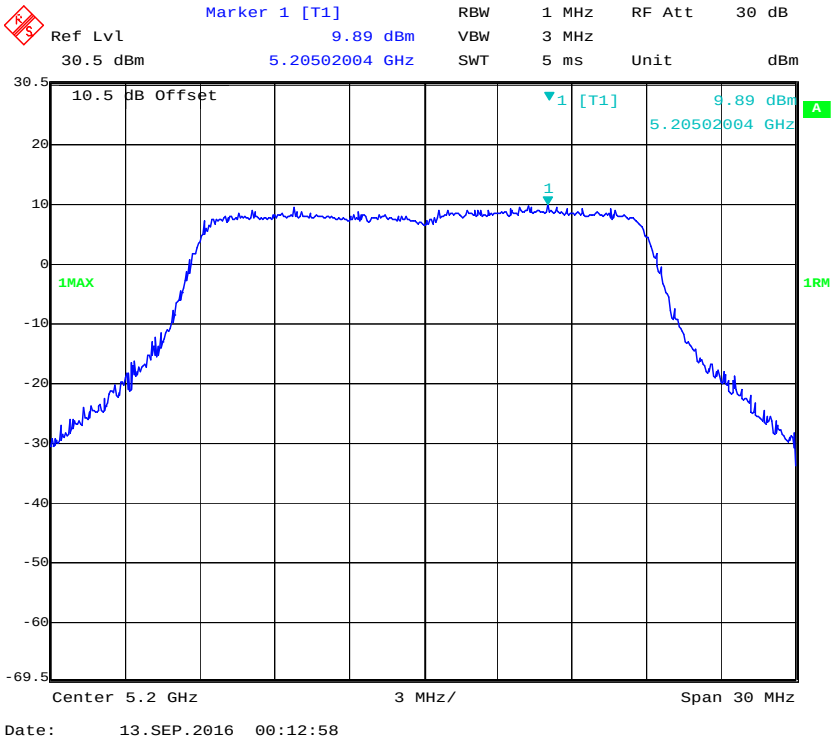
802. 11ac20 mode, Power Spectral Density, Antenn 1, 5200 MHz



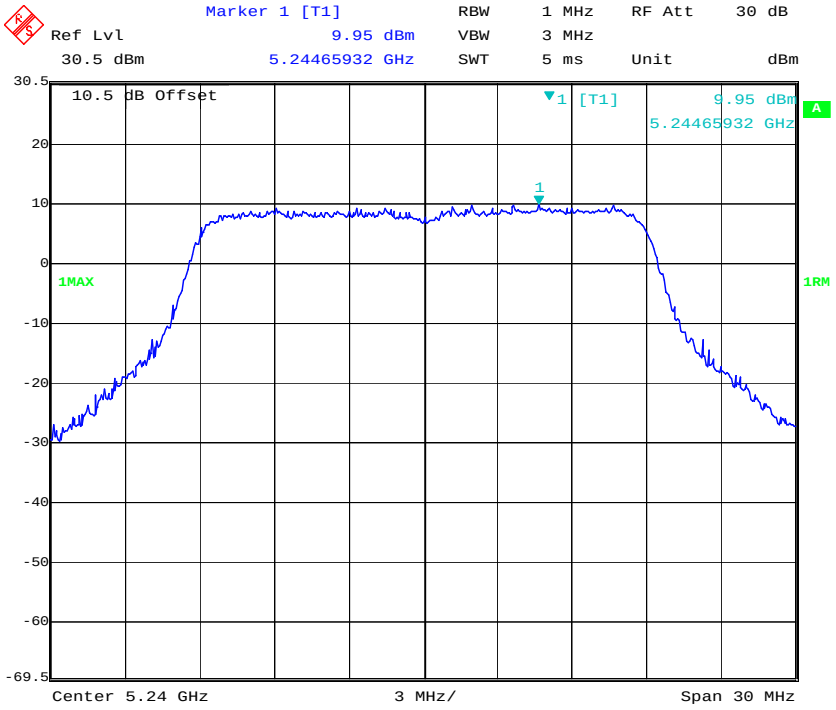
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5200 MHz



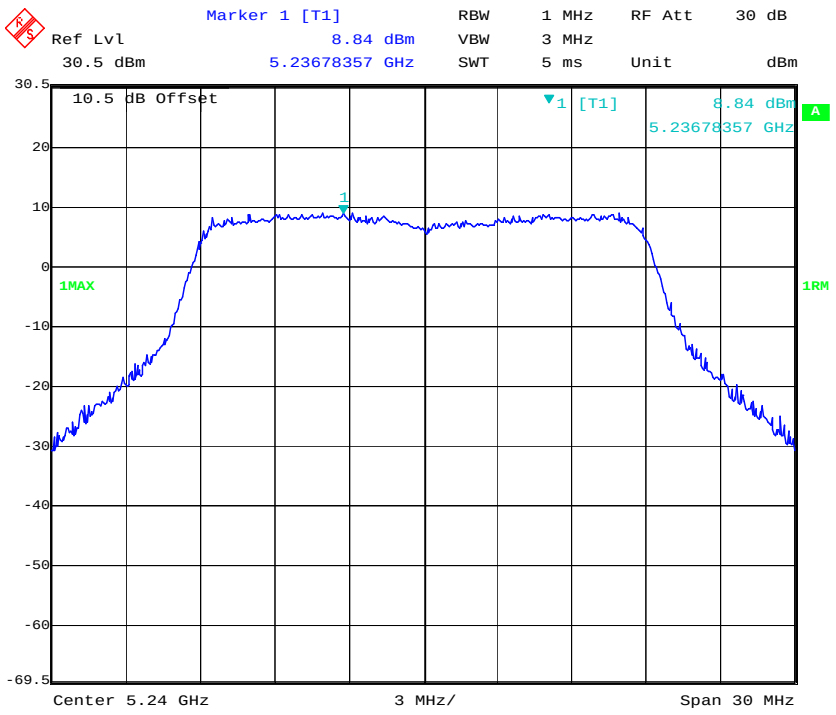
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5200 MHz



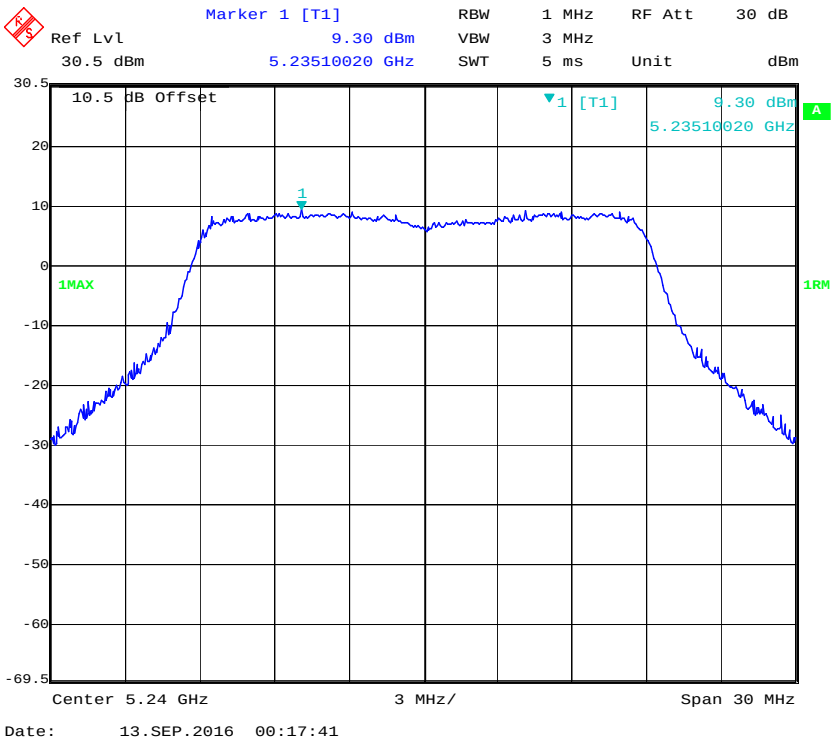
802. 11ac20 mode, Power Spectral Density, Antenn 1, 5240 MHz



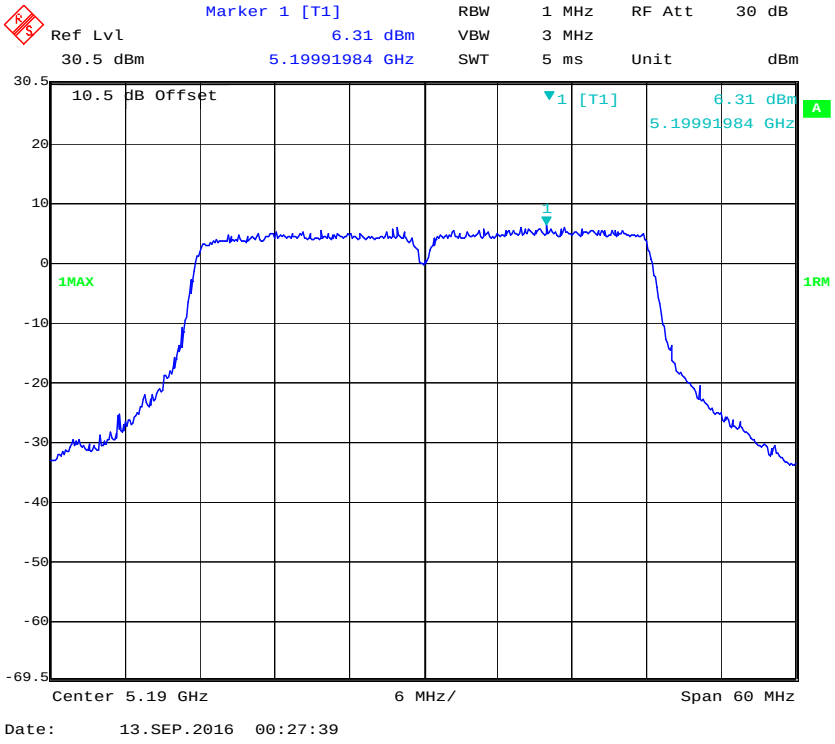
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5240 MHz



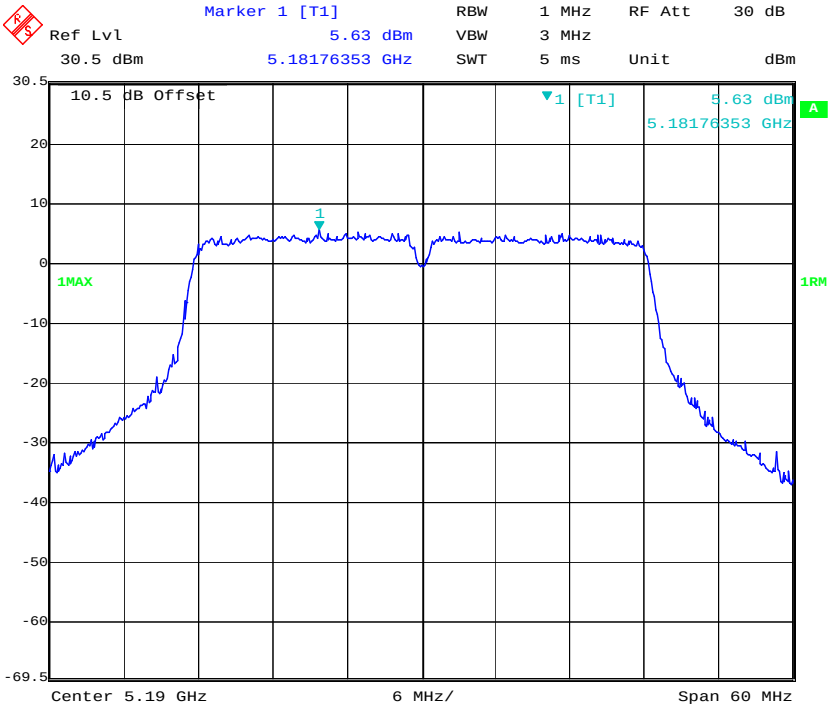
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5240 MHz



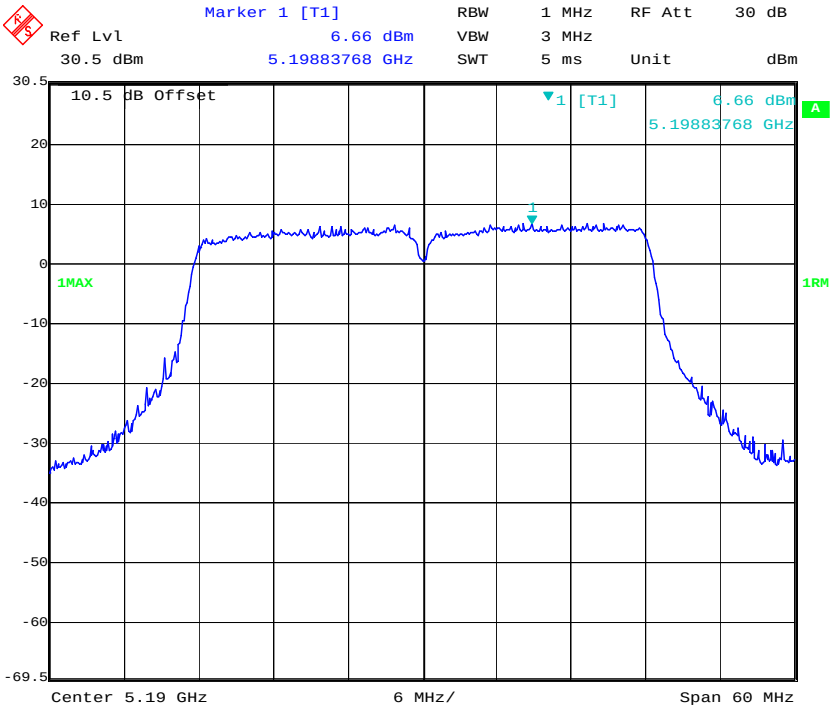
802. 11ac40 mode, Power Spectral Density, Antenn 1, 5190 MHz



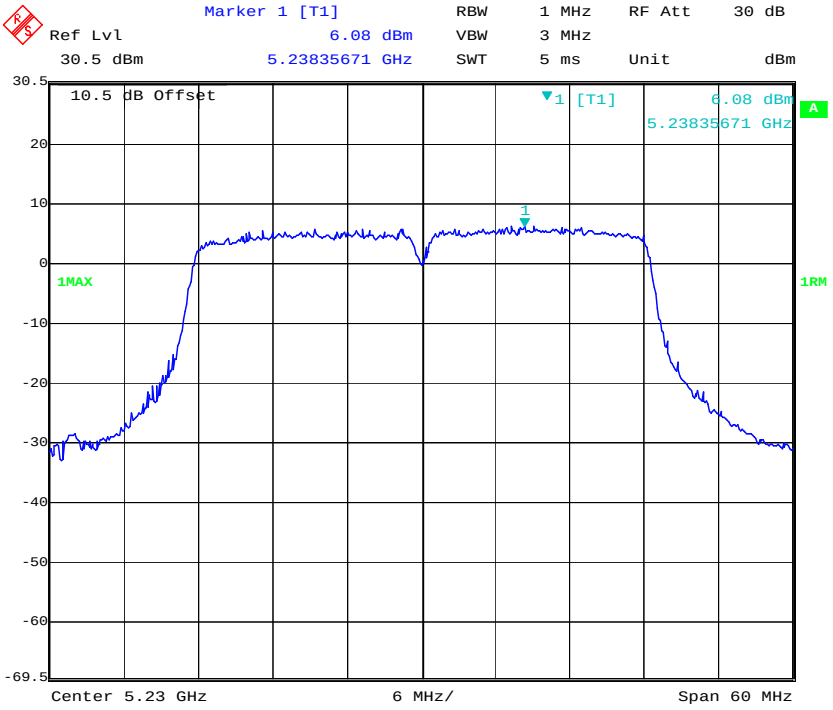
802. 11ac40 mode, Power Spectral Density, Antenn 2, 5190 MHz



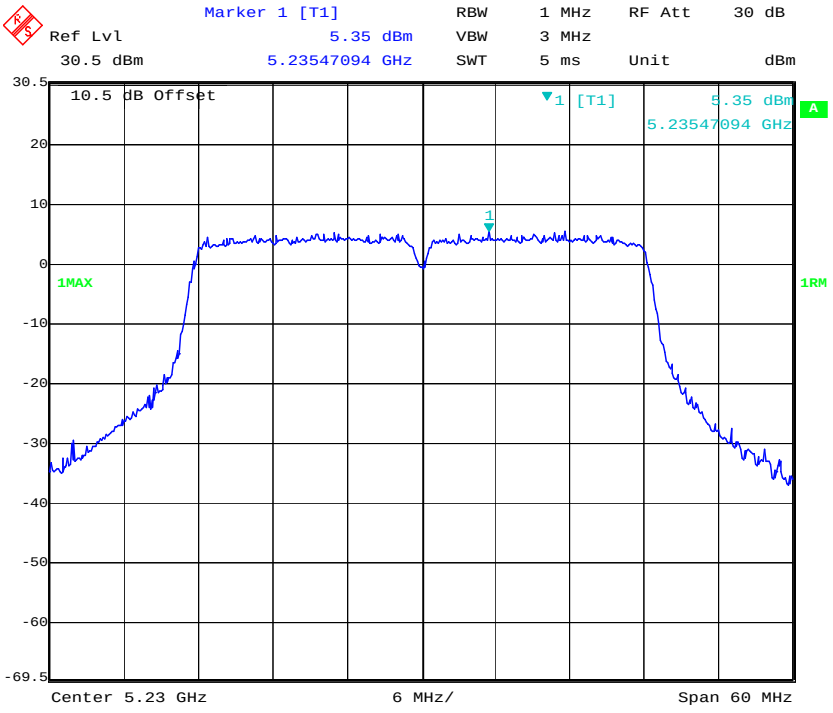
802. 11ac40 mode, Power Spectral Density, Antenn 3, 5190 MHz



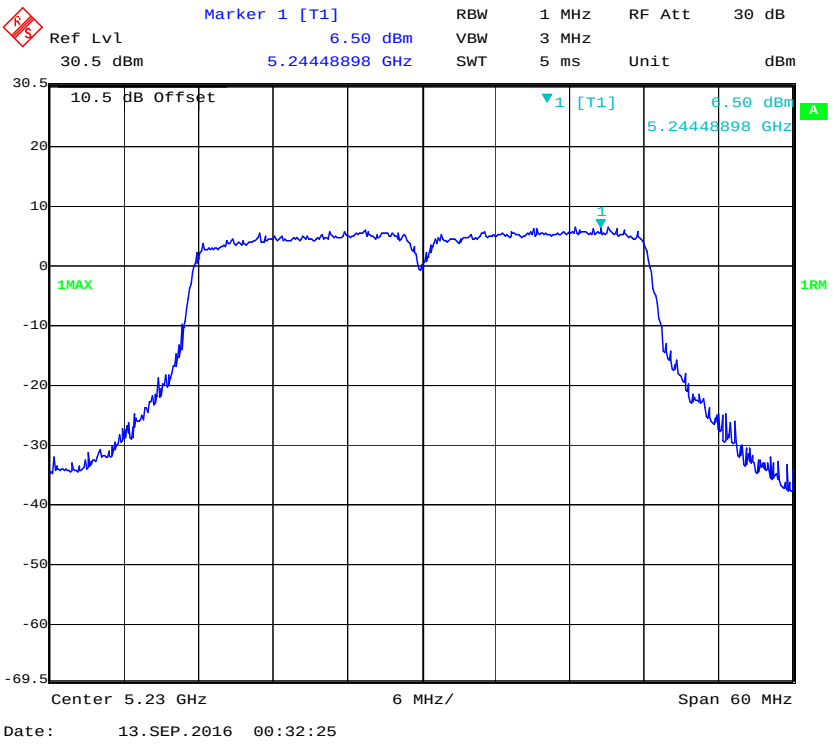
802. 11ac40 mode, Power Spectral Density, Antenn 1, 5230 MHz



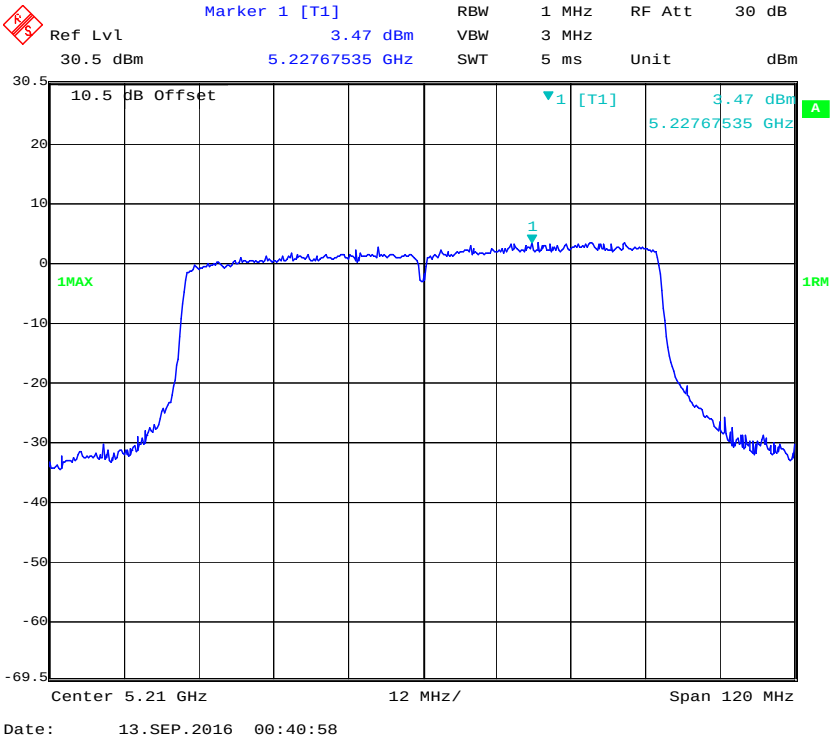
802. 11ac40 mode, Power Spectral Density, Antenn 2, 5230 MHz



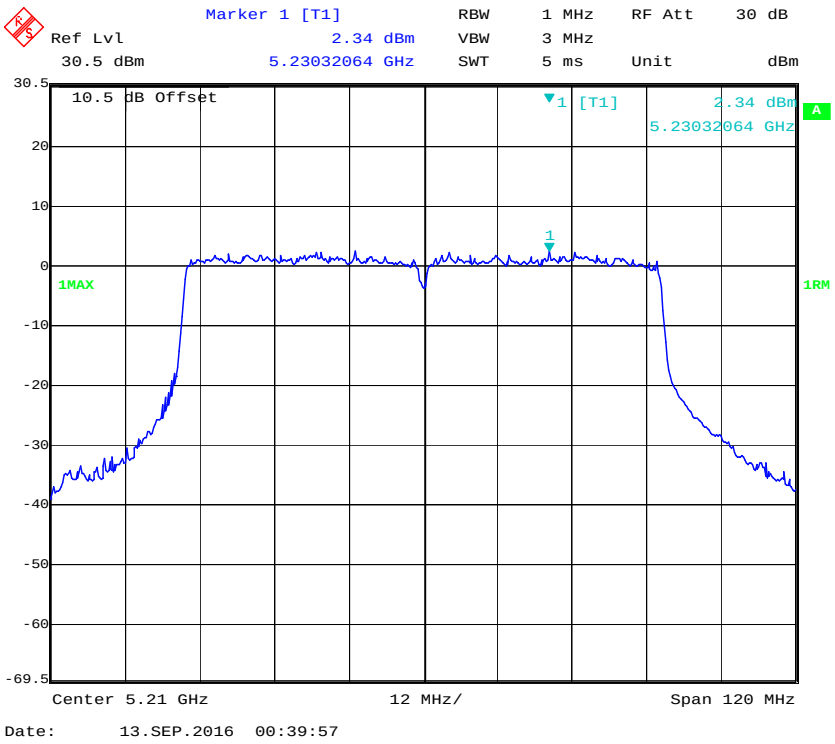
802. 11ac40 mode, Power Spectral Density, Antenn 3, 5230 MHz



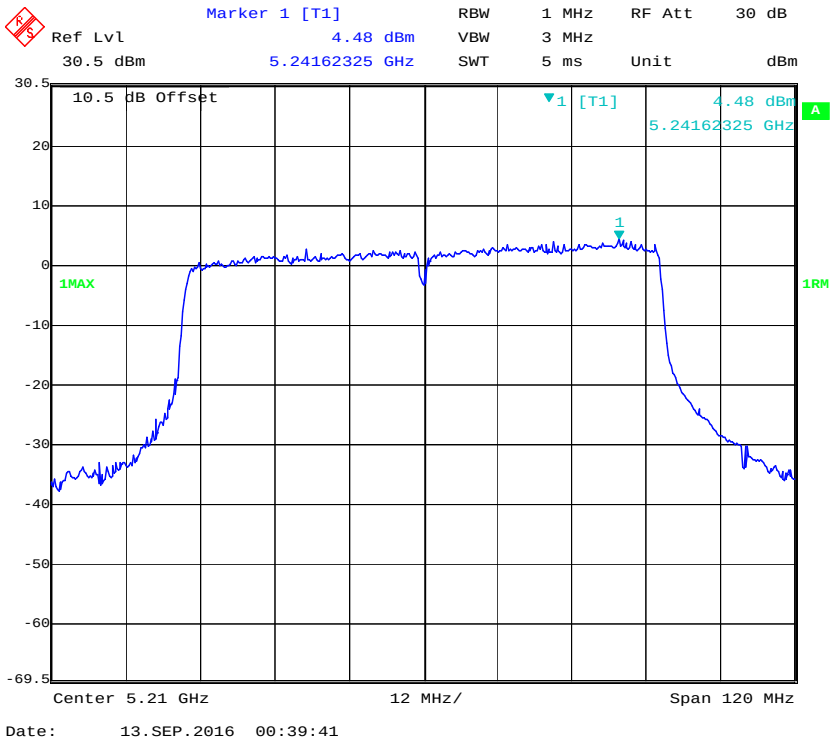
802. 11ac80 mode, Power Spectral Density, Antenn 1, 5210 MHz



802. 11ac80 mode, Power Spectral Density, Antenn 2, 5210 MHz



802. 11ac80 mode, Power Spectral Density, Antenn 3, 5210 MHz



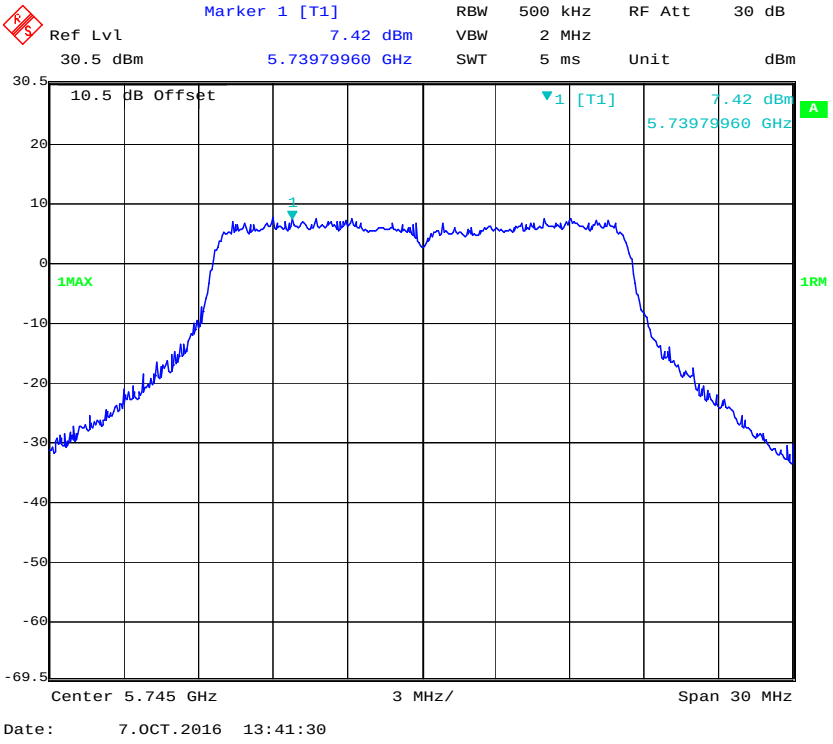
5725 MHz – 5825 MHz:

Frequency (MHz)	Antenna Port	Power Spectral Density (dBm/500kHz)	Sum Power spectral density (dBm/500kHz) Chain1+Chain2+chain 3	Limit (dBm/500kHz)
802.11a				
5745	1	7.6	12.24	28.23
	2	8.11		
	3	6.55		
5785	1	6.76	12.81	
	2	8.71		
	3	8.4		
5825	1	8.02	13.74	
	2	9.83		
	3	8.88		
802.11n20				
5745	1	5.61	11.32	28.23
	2	6.95		
	3	6.96		
5785	1	6.02	12.18	
	2	8.21		
	3	7.7		
5825	1	7.71	13.40	
	2	9.57		
	3	8.39		
802.11n40				
5755	1	3.42	9.19	28.23
	2	5.04		
	3	4.63		
5795	1	4.71	10.48	
	2	6.14		
	3	6.14		

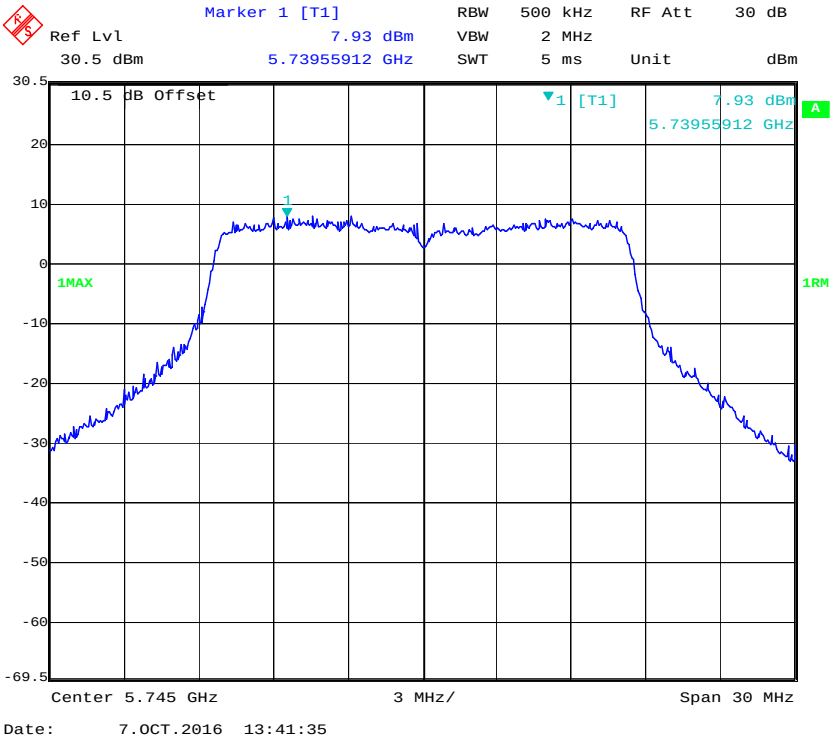
Frequency (MHz)	Antenna Port	Power Spectral Density (dBm/500kHz)	Sum Power spectral density (dBm/500kHz) Chain1+Chain2+chain 3	Limit (dBm/500kHz)
802.11ac20				
5745	1	5.48	11.27	28.23
	2	7.47		
	3	6.32		
5785	1	6.98	12.40	
	2	8.26		
	3	7.55		
5825	1	7.78	13.44	
	2	9.49		
	3	8.57		
802.11ac40				
5755	1	3.58	9.22	28.23
	2	4.92		
	3	4.73		
5795	1	4.65	10.41	
	2	6.26		
	3	5.85		
802.11ac80				
5775	1	-3.22	2.46	28.23
	2	-2.03		
	3	-1.82		

Note: According to the duty cycle hereinabove, the factor of 802.11a (0.18), 802.11n20 & ac20(0.13) , 802.11n40 & ac40 (0.27) and 802.11ac80 (0.56), had been added to the PSD.

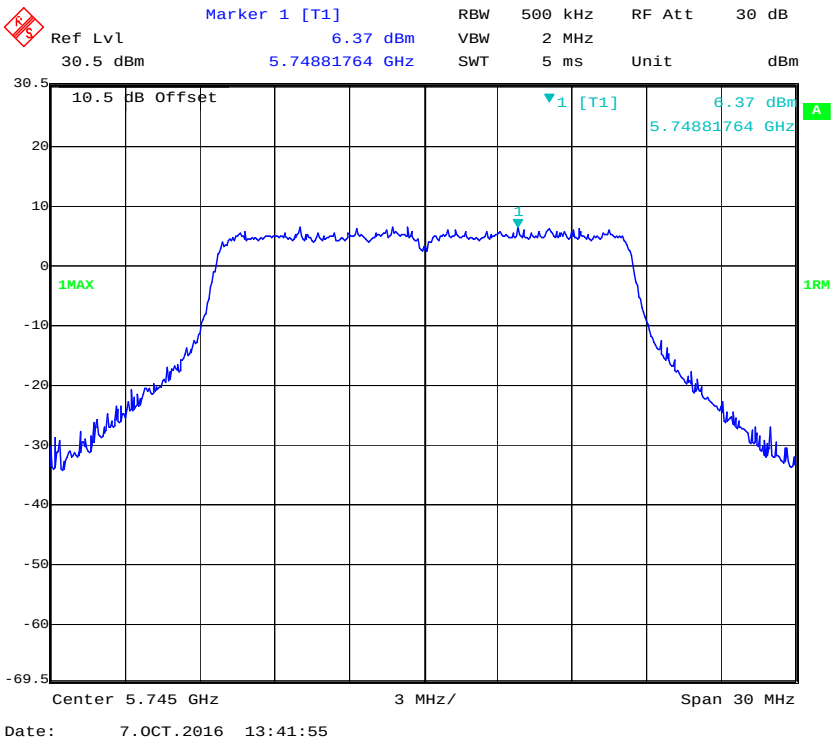
802.11a mode, Power Spectral Density, Antenn 1, 5745 MHz



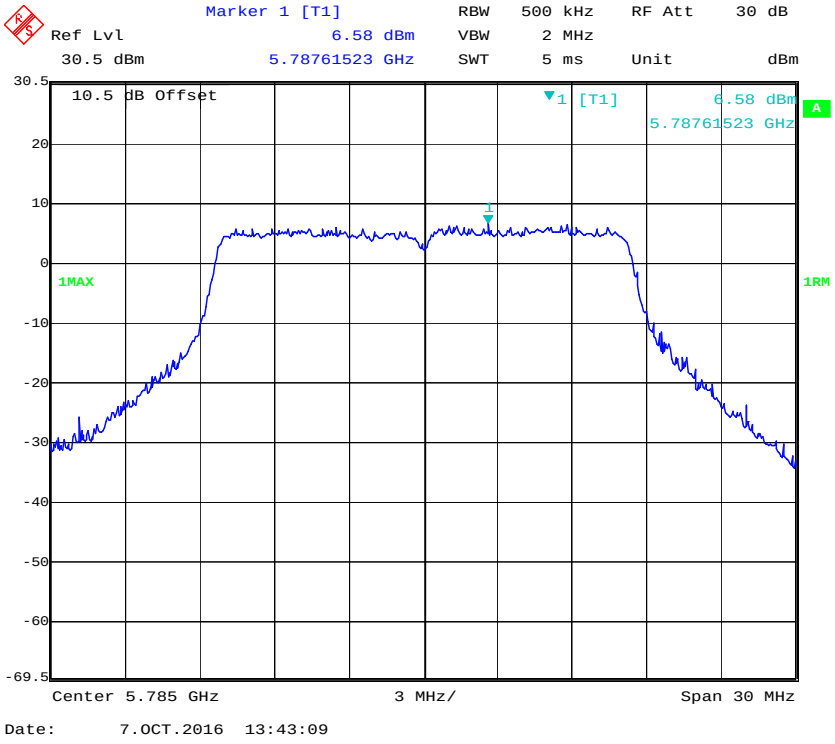
802.11a mode, Power Spectral Density, Antenn 2, 5745 MHz



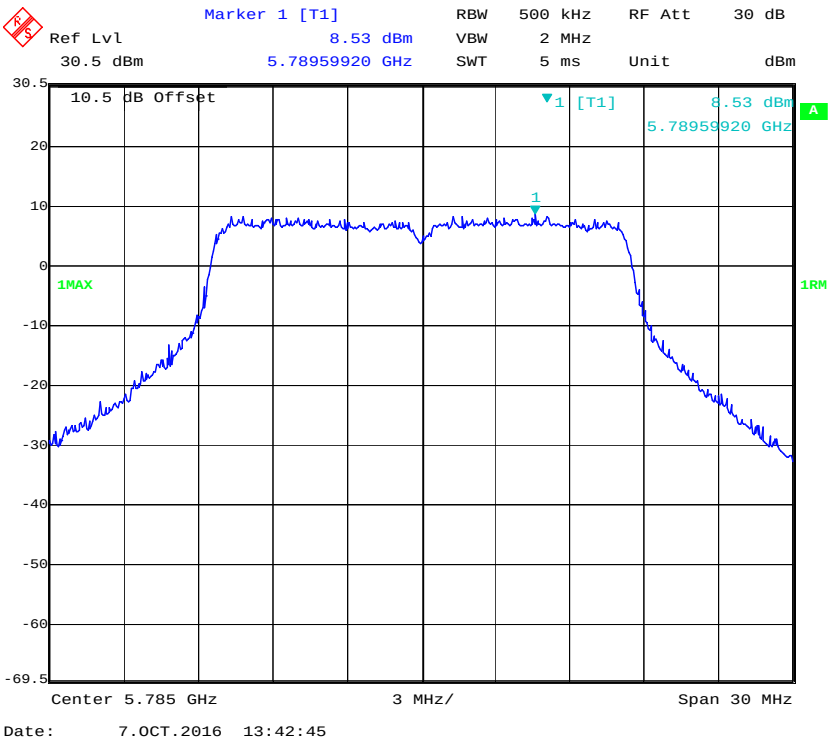
802.11a mode, Power Spectral Density, Antenn 3, 5745 MHz



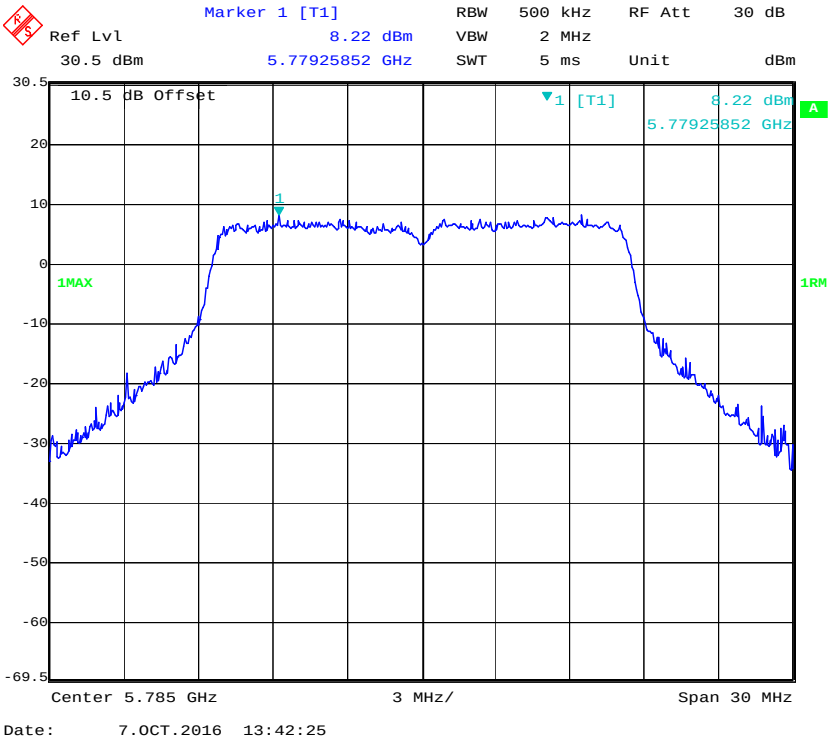
802.11a mode, Power Spectral Density, Antenn 1, 5785 MHz



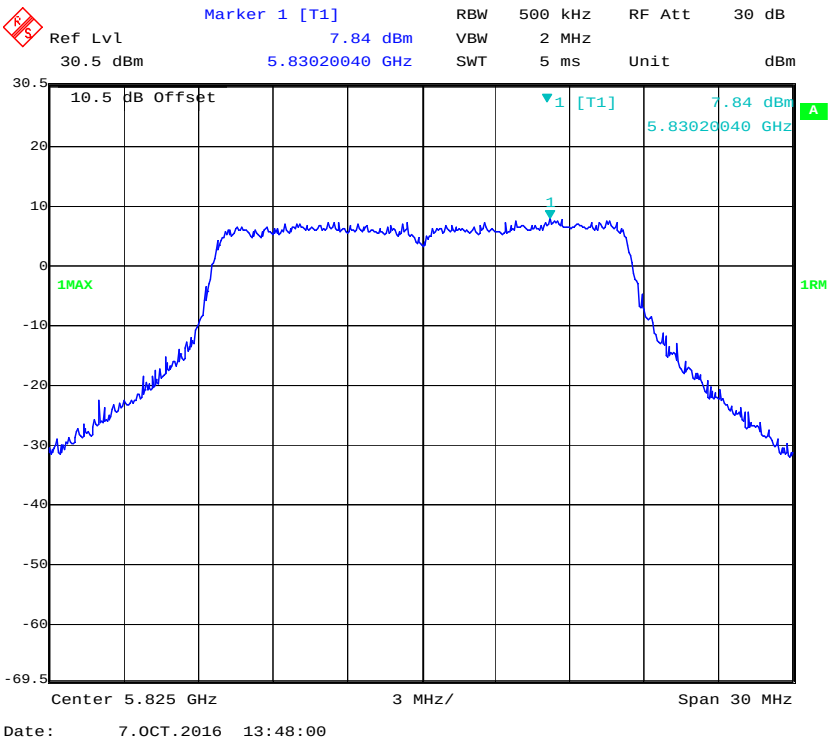
802.11a mode, Power Spectral Density, Antenn 2, 5785 MHz



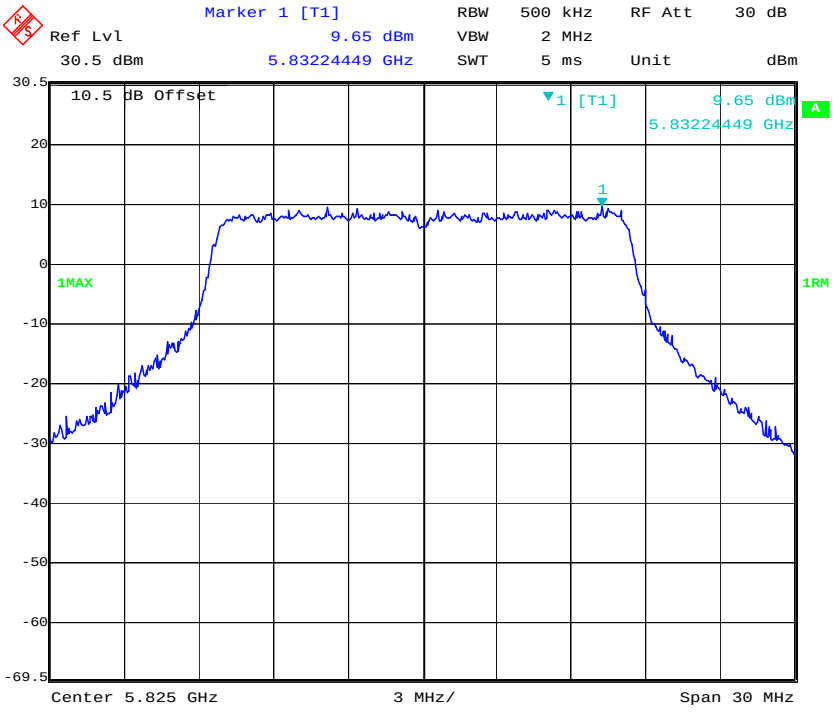
802.11a mode, Power Spectral Density, Antenn 3, 5785 MHz



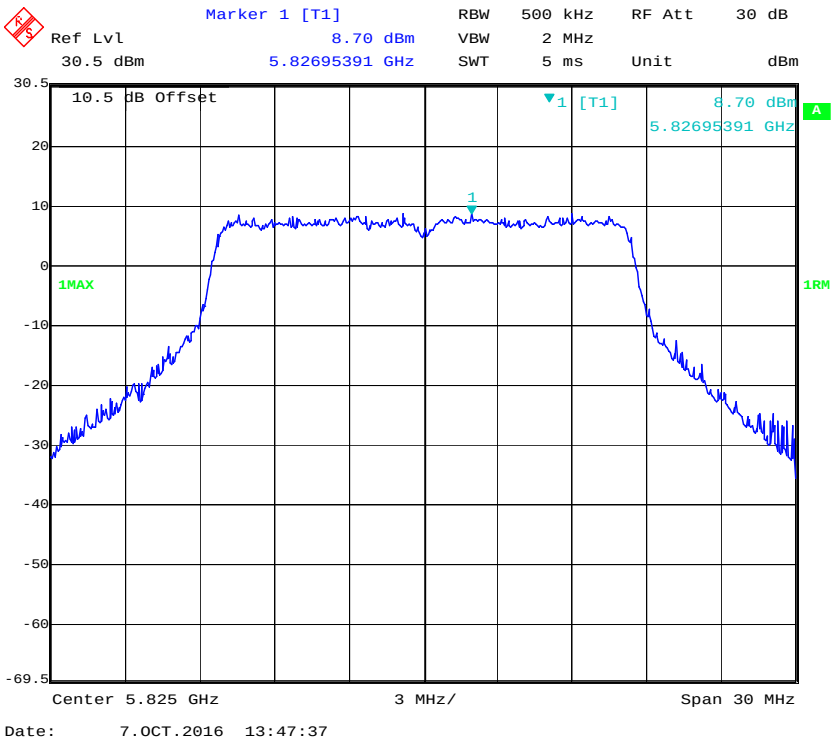
802.11a mode, Power Spectral Density, Antenn 1, 5825 MHz



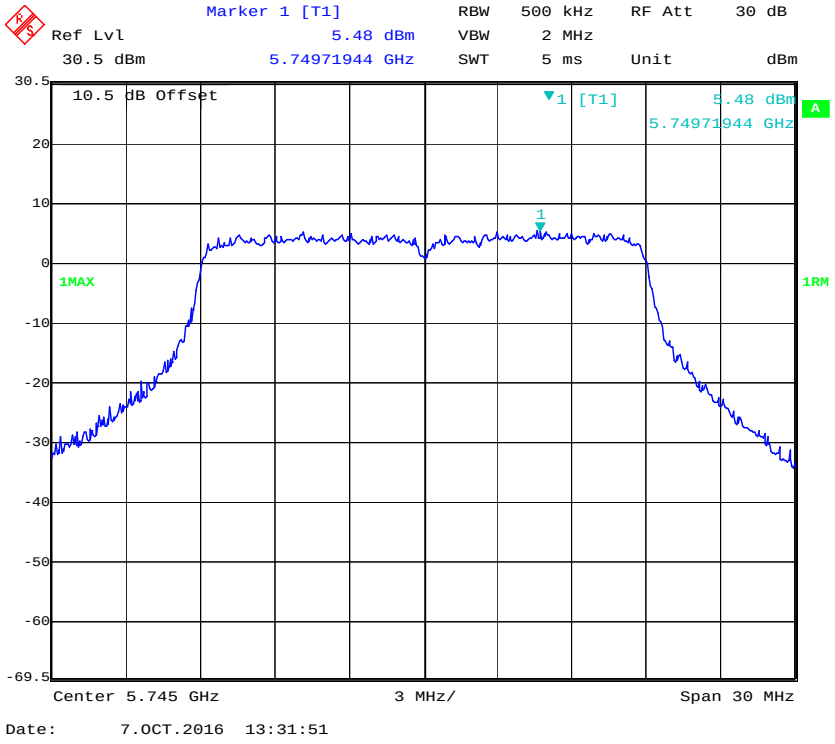
802.11a mode, Power Spectral Density, Antenn 2, 5825 MHz



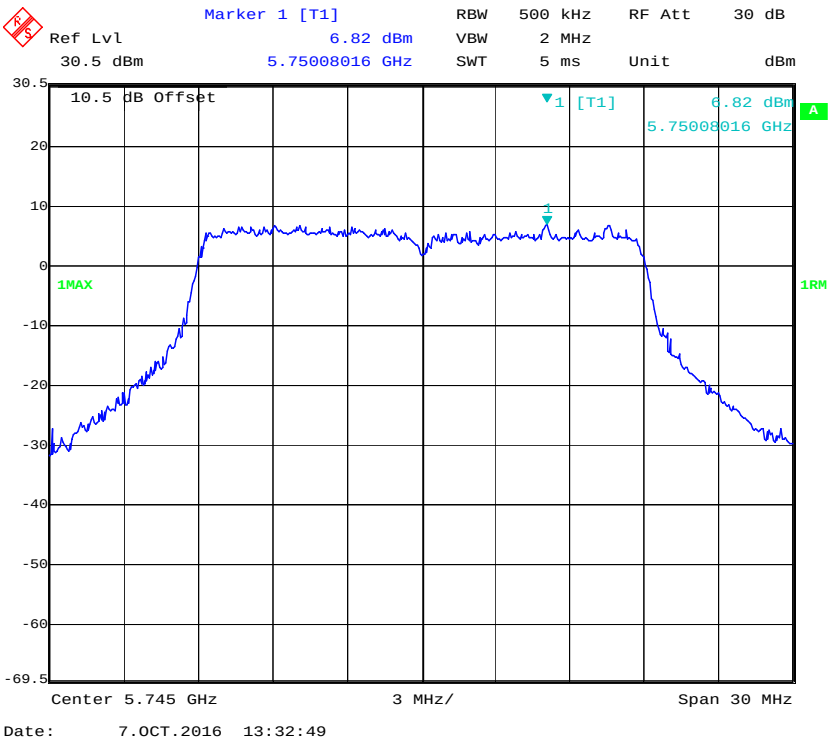
802.11a mode, Power Spectral Density, Antenn 3, 5825 MHz



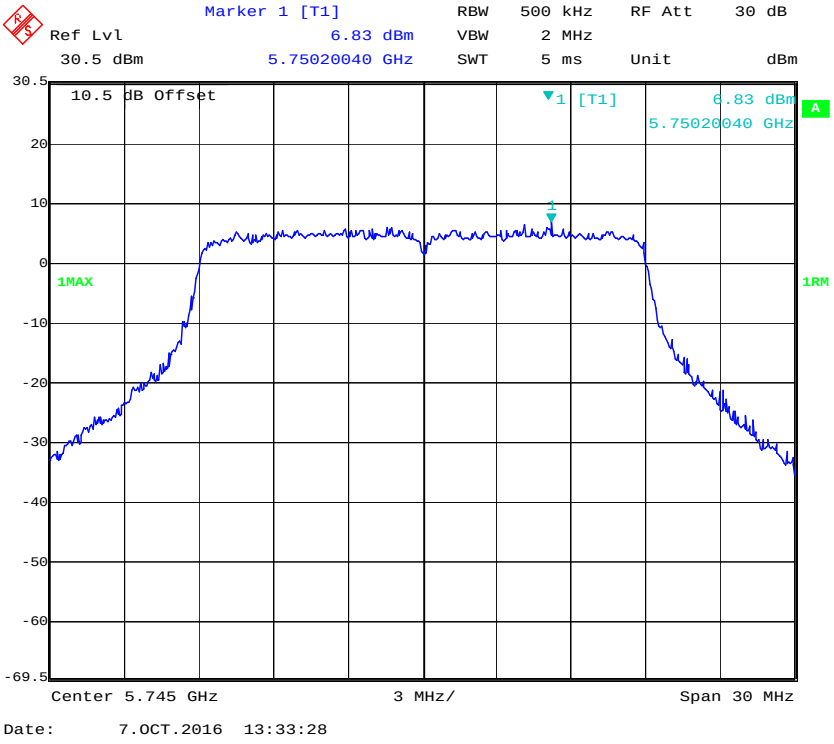
802.11n20 mode, Power Spectral Density, Antenn 1, 5745 MHz



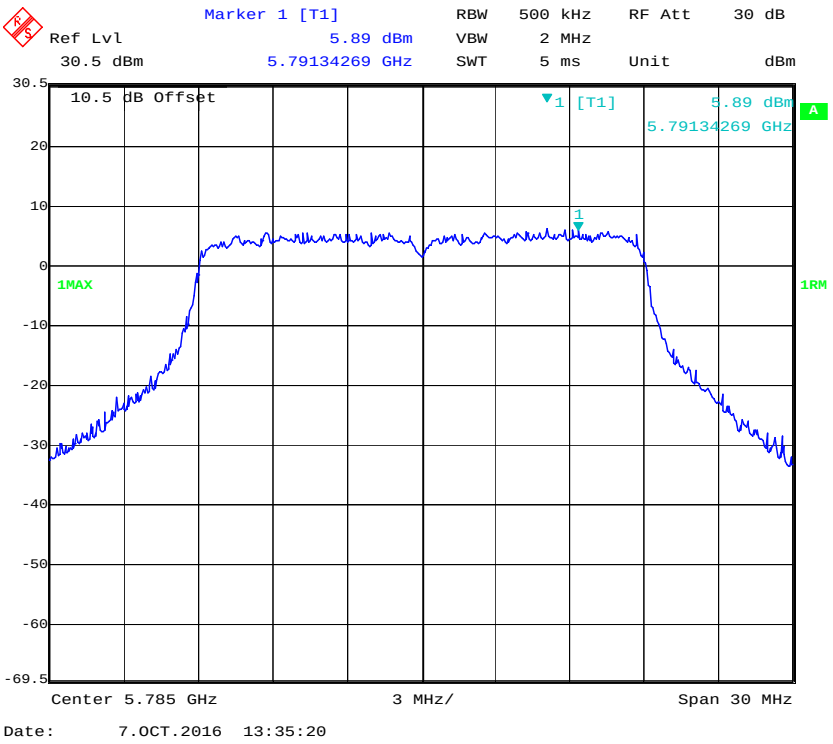
802.11n20 mode, Power Spectral Density, Antenn 2, 5745 MHz



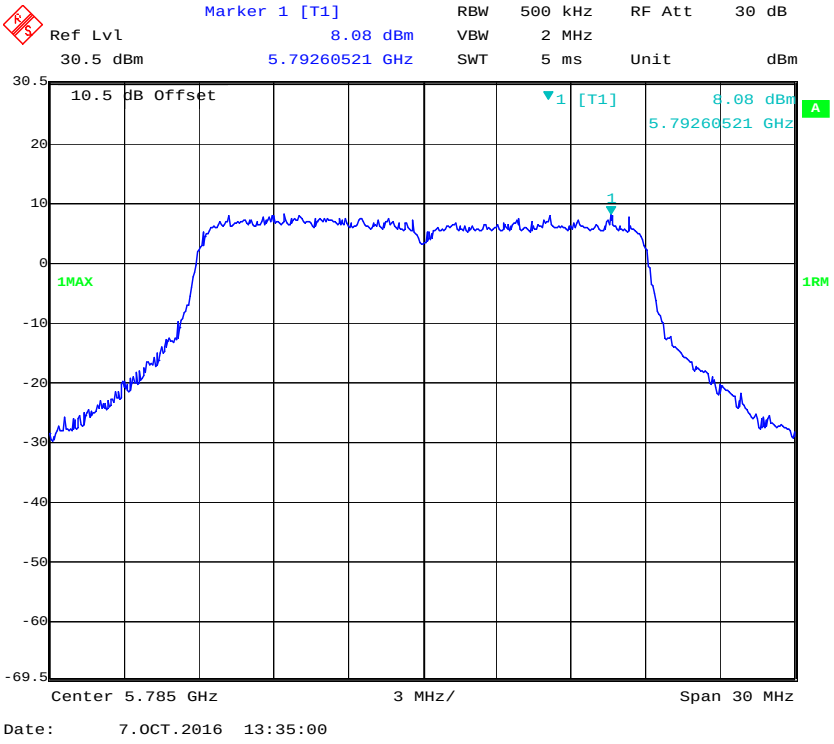
802.11n20 mode, Power Spectral Density, Antenn 3, 5745 MHz



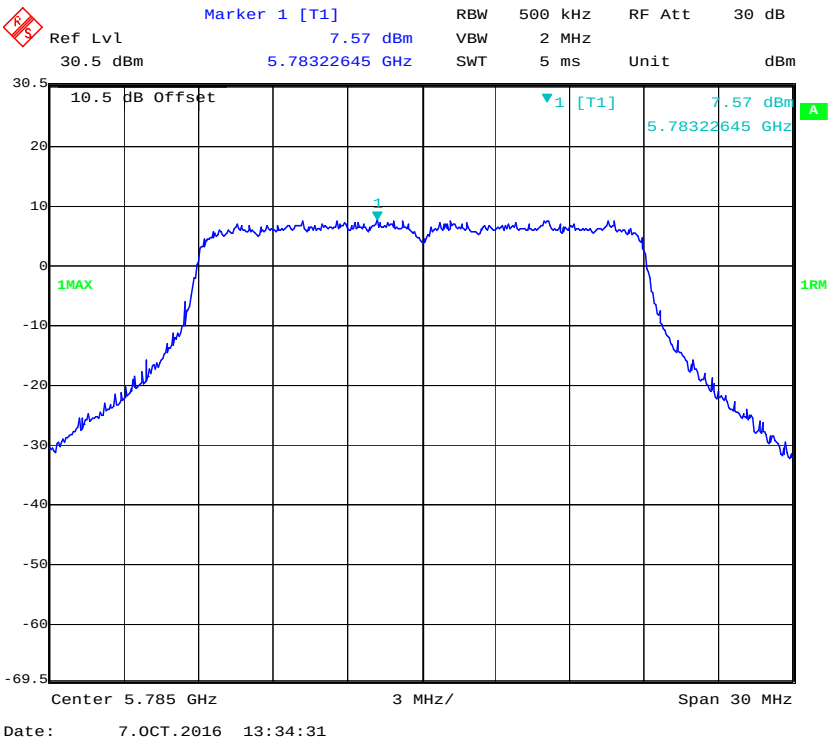
802.11n20 mode, Power Spectral Density, Antenn 1, 5785 MHz



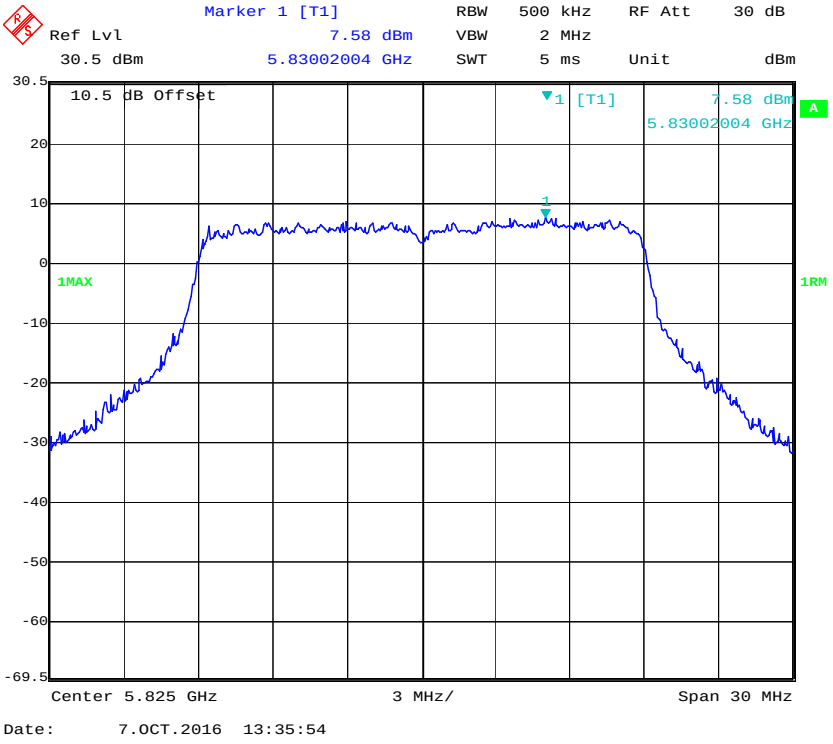
802.11n20 mode, Power Spectral Density, Antenn 2, 5785 MHz



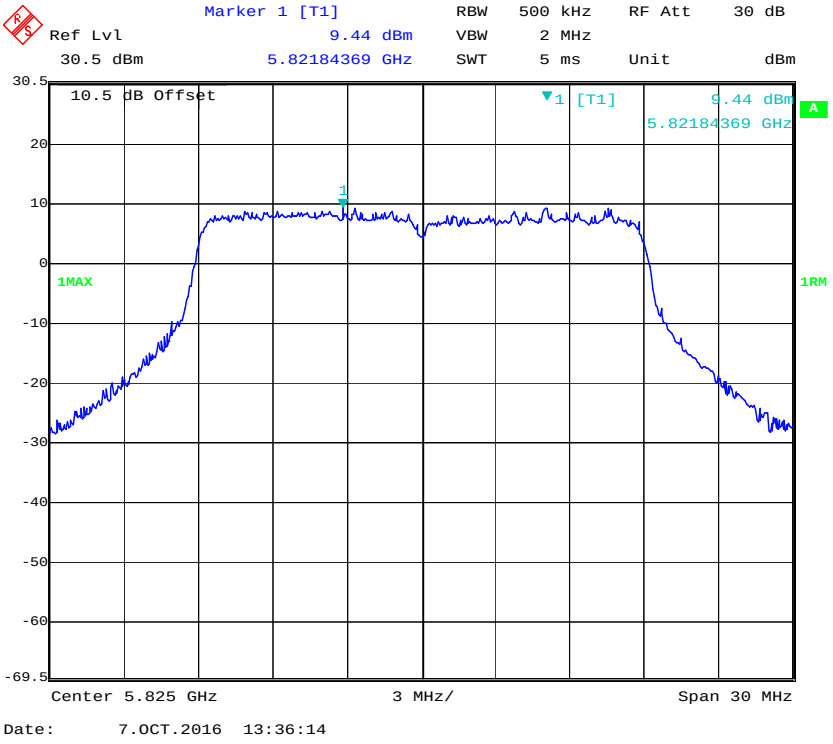
802.11n20 mode, Power Spectral Density, Antenn 3, 5785 MHz



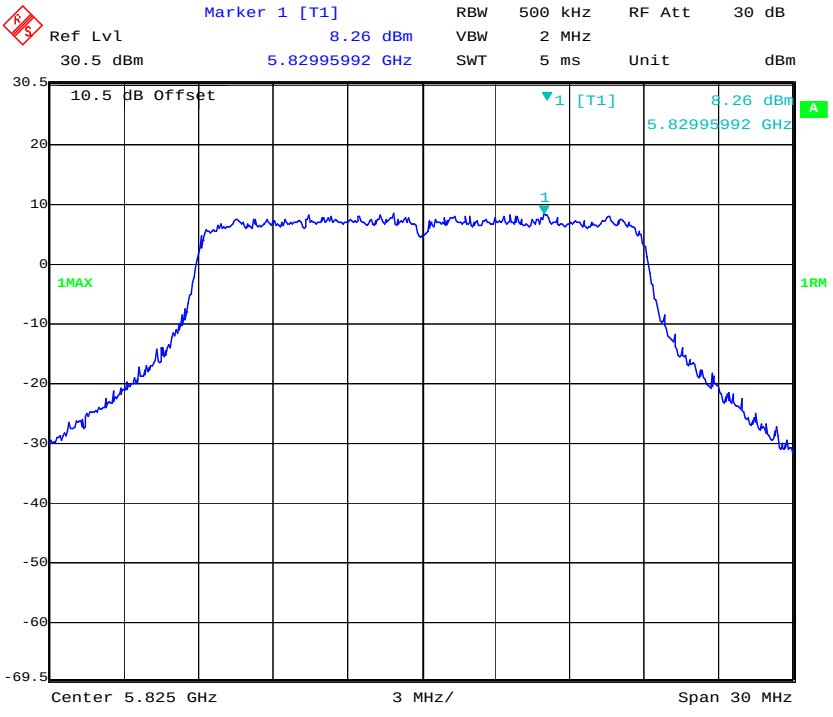
802.11n20 mode, Power Spectral Density, Antenn 1, 5825 MHz



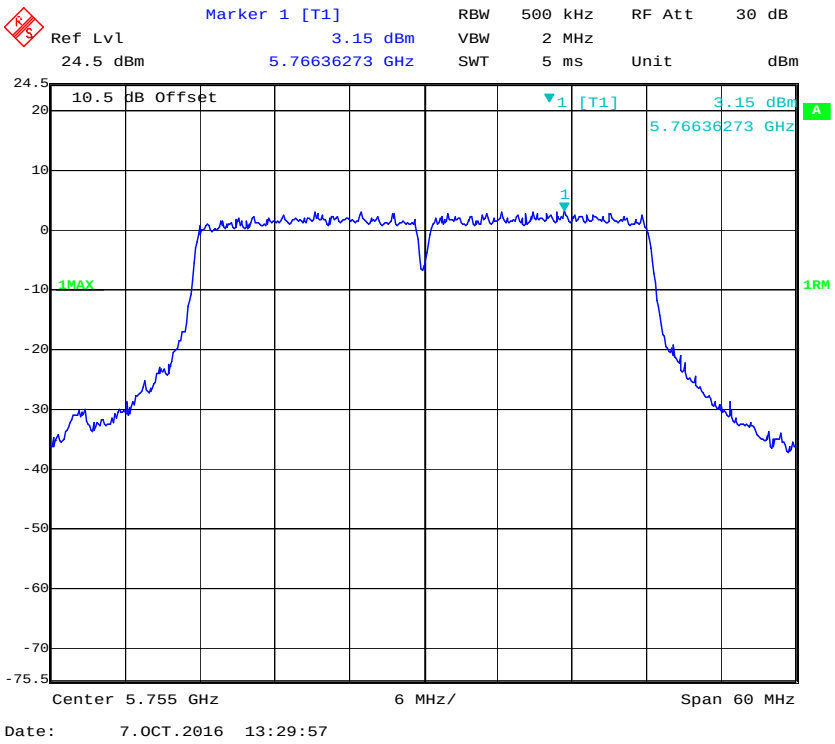
802.11n20 mode, Power Spectral Density, Antenn 2, 5825 MHz



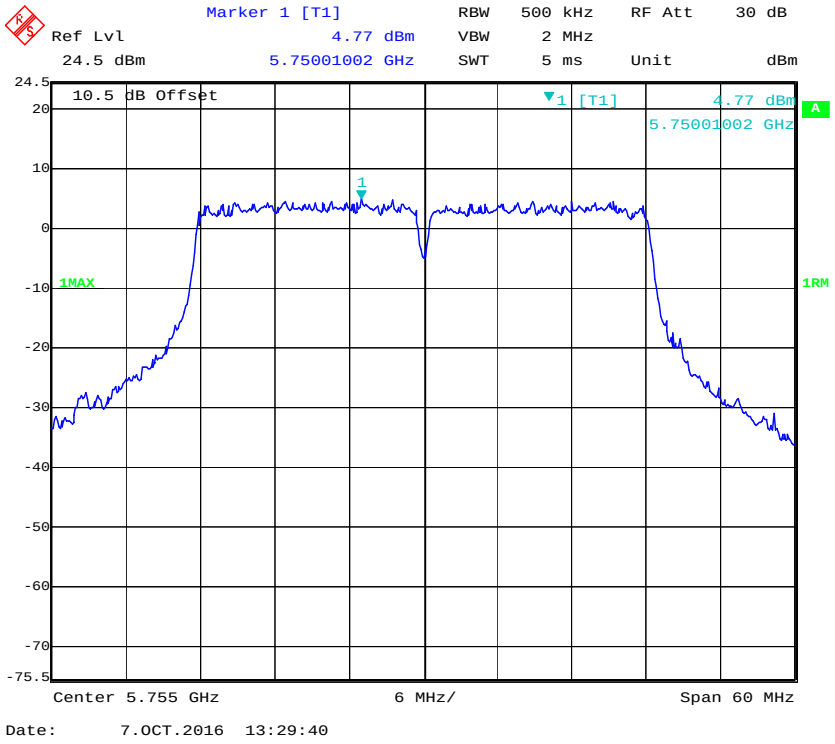
802.11n20 mode, Power Spectral Density, Antenn 3, 5825 MHz



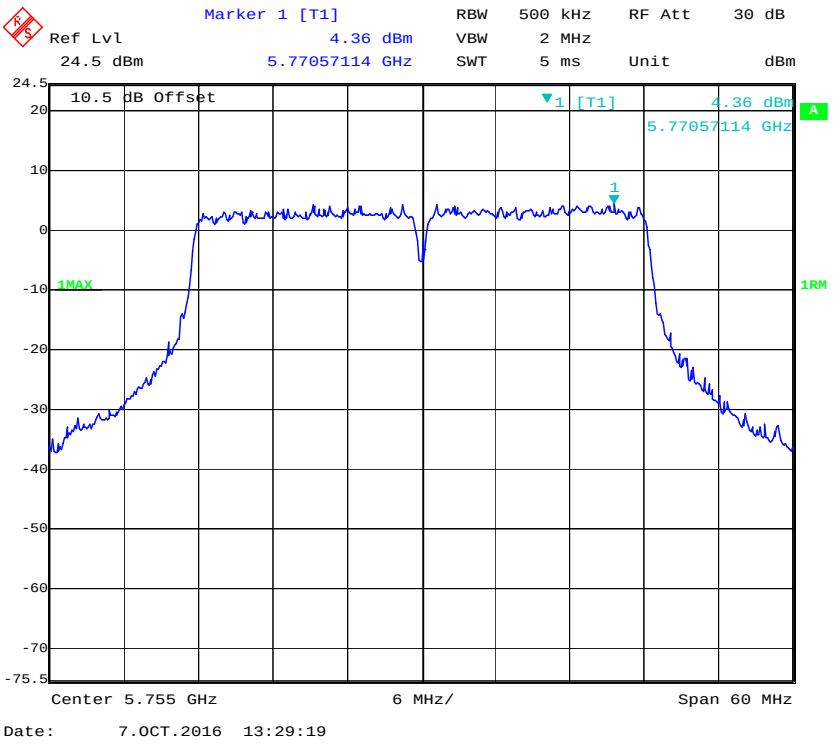
802.11n40 mode, Power Spectral Density, Antenn 1, 5755 MHz



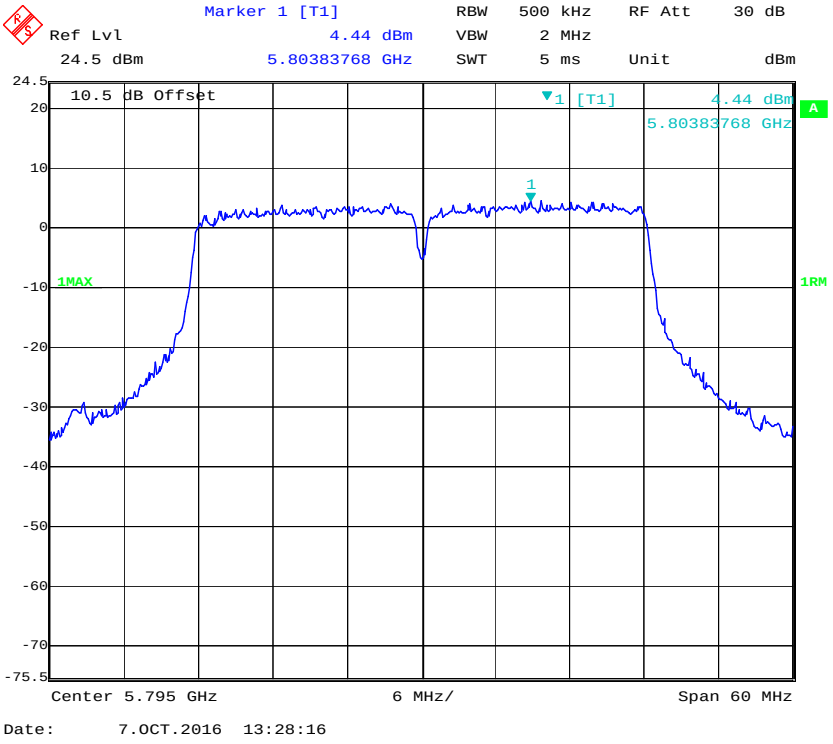
802.11n40 mode, Power Spectral Density, Antenn 2, 5755 MHz



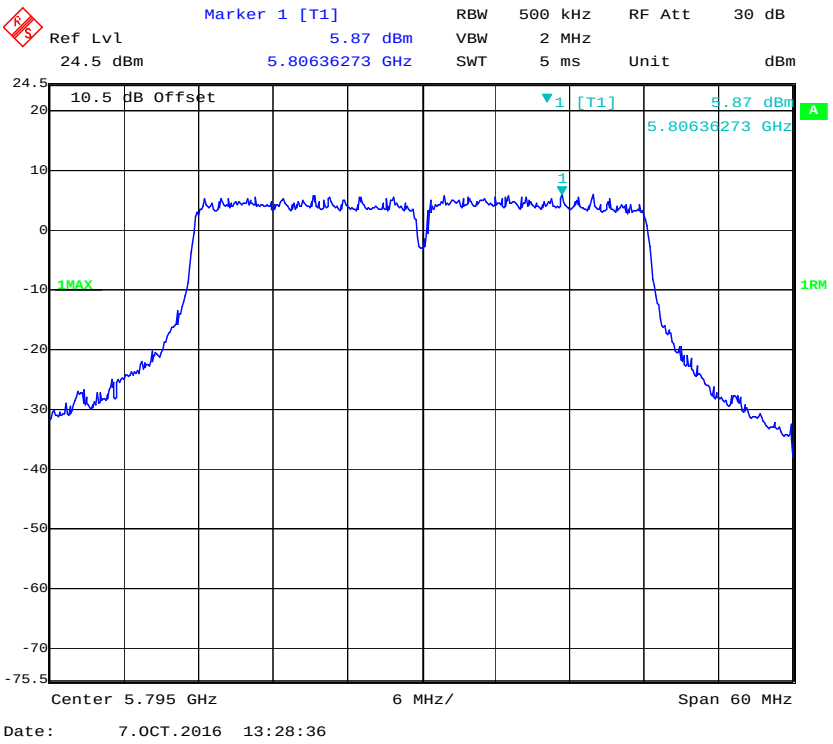
802.11n40 mode, Power Spectral Density, Antenn 3, 5755 MHz



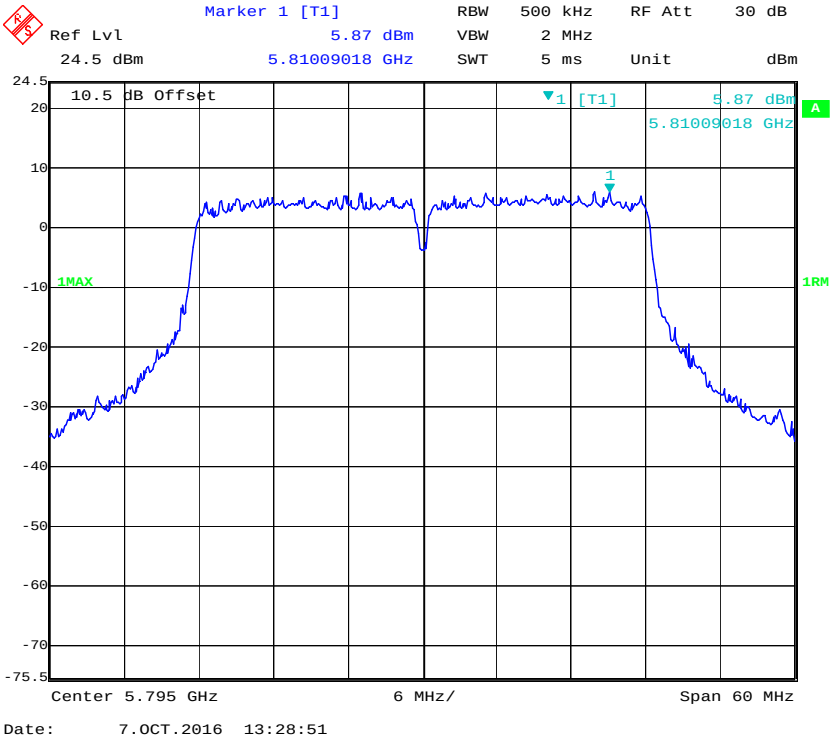
802.11n40 mode, Power Spectral Density, Antenn 1, 5795 MHz



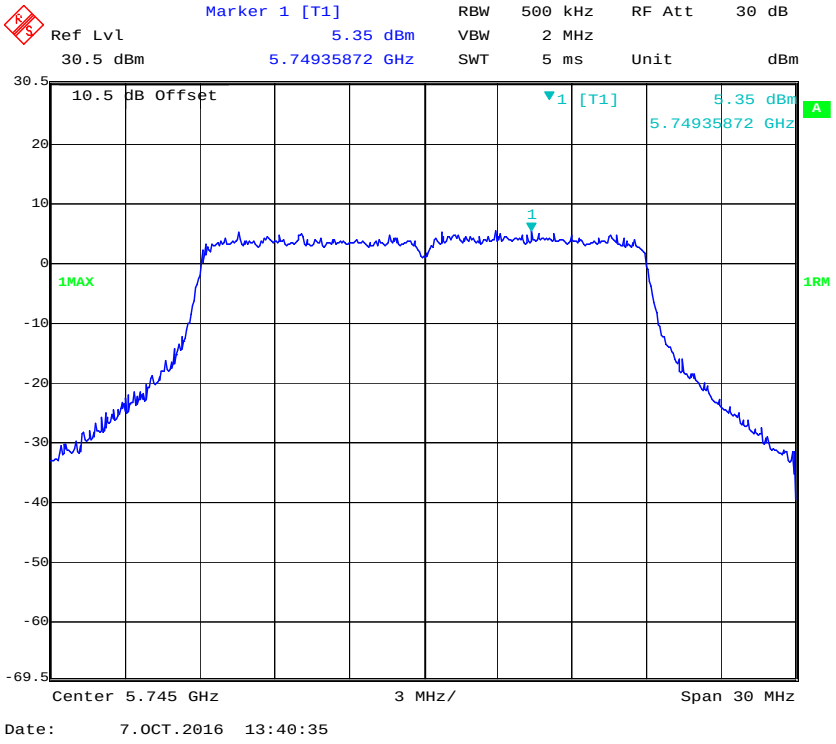
802.11n40 mode, Power Spectral Density, Antenn 2, 5795 MHz



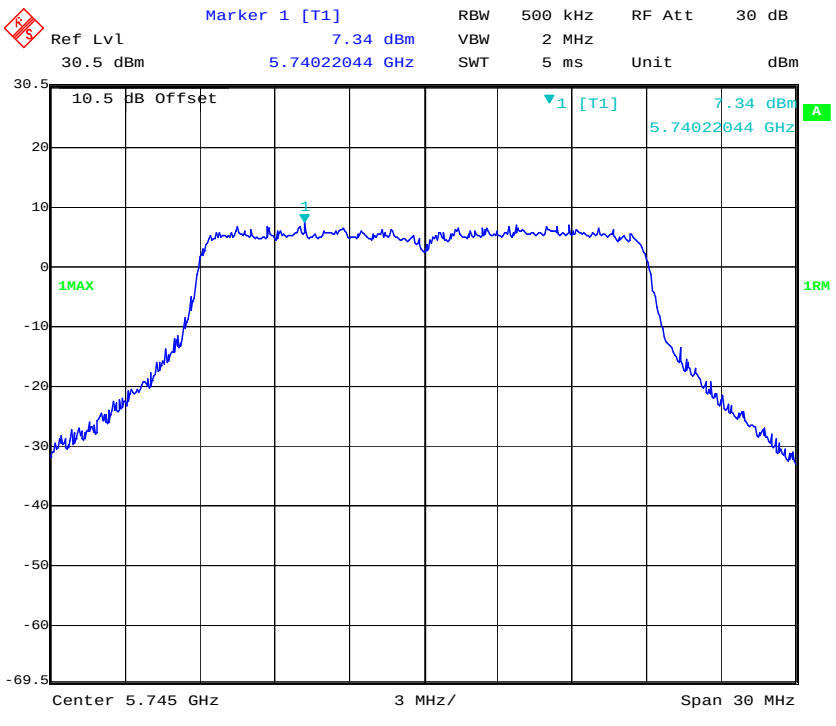
802.11n40 mode, Power Spectral Density, Antenn 3, 5795 MHz



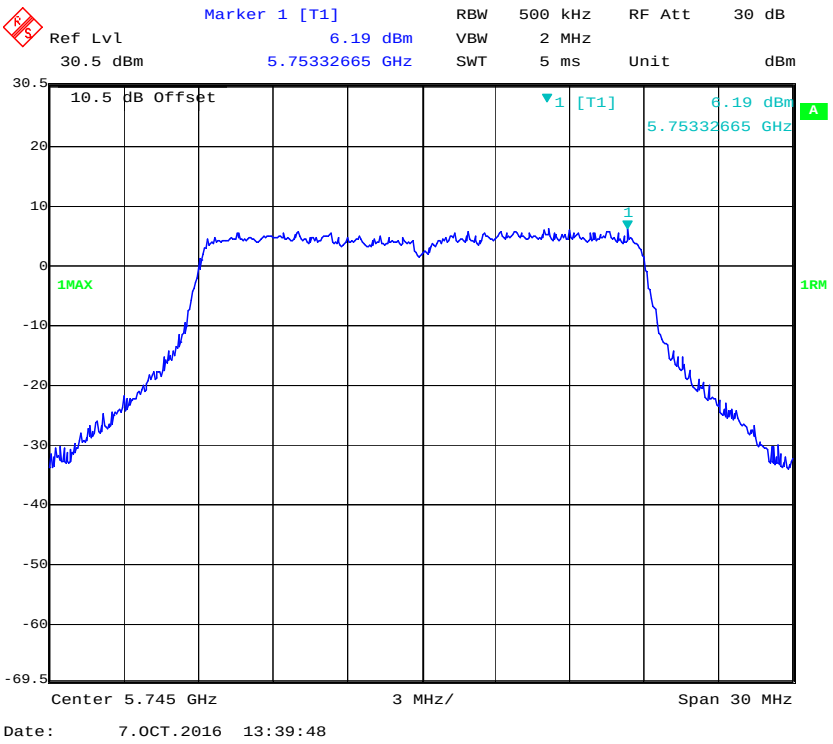
802.11ac20 mode, Power Spectral Density, Antenn 1, 5745 MHz



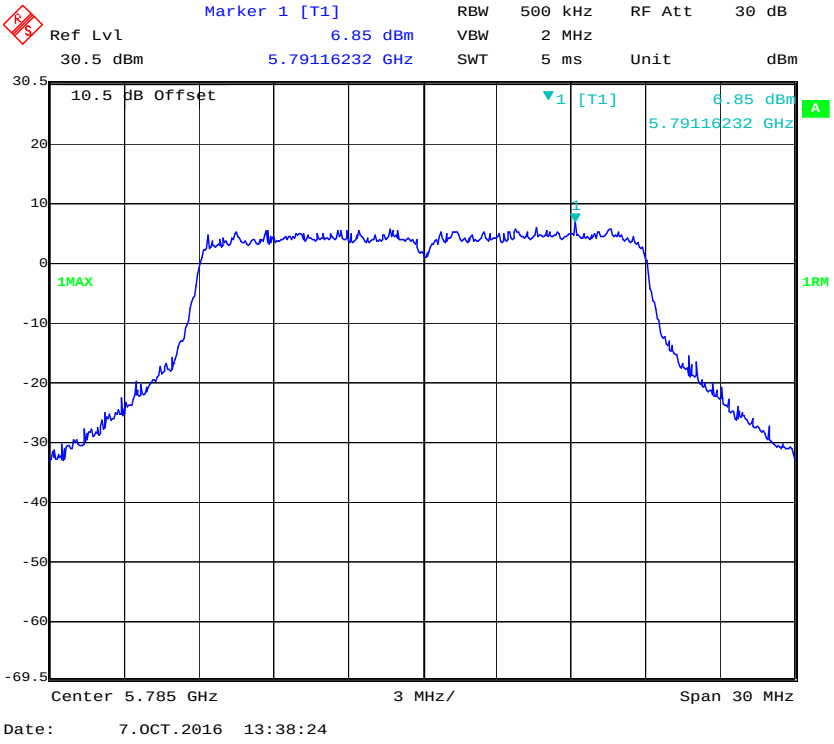
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5745 MHz



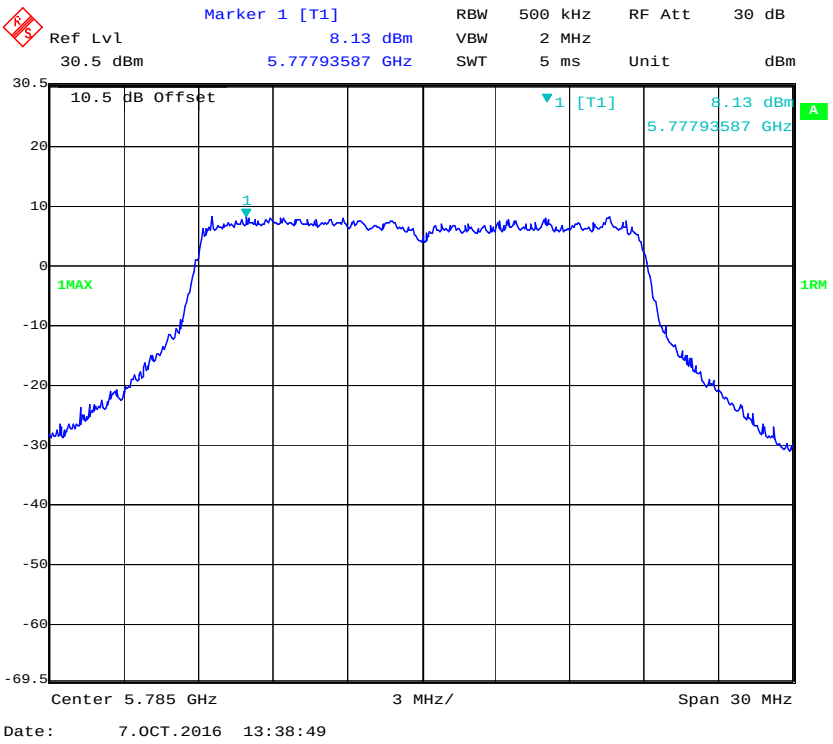
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5745 MHz



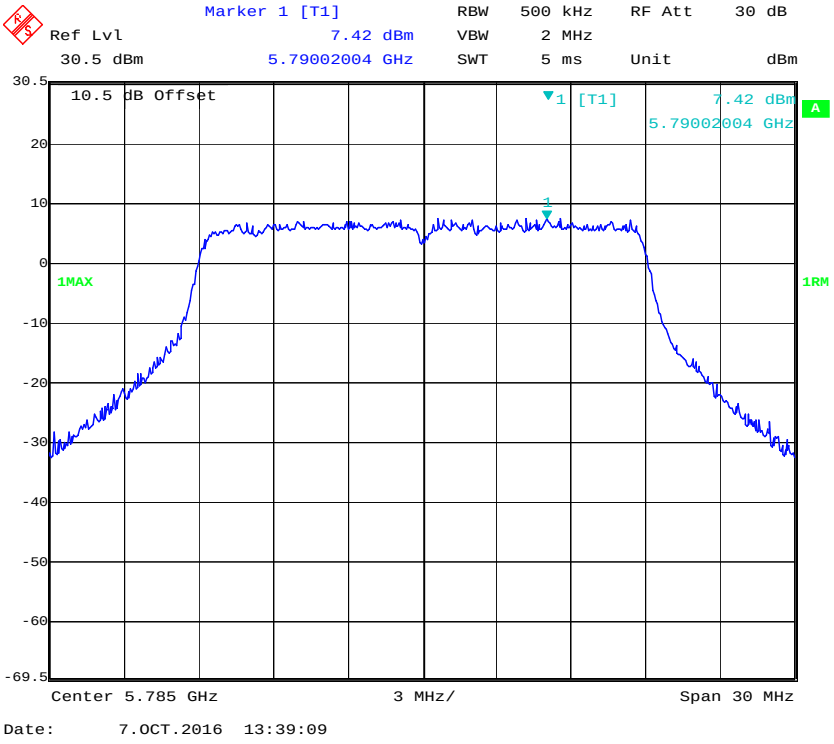
802. 11ac20 mode, Power Spectral Density, Antenn 1, 5785 MHz



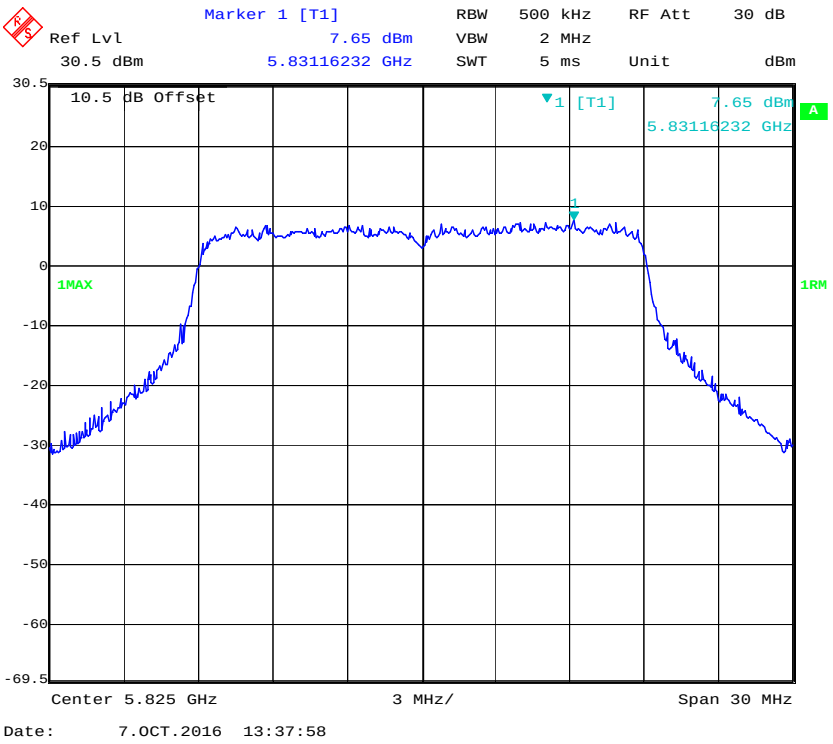
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5785 MHz



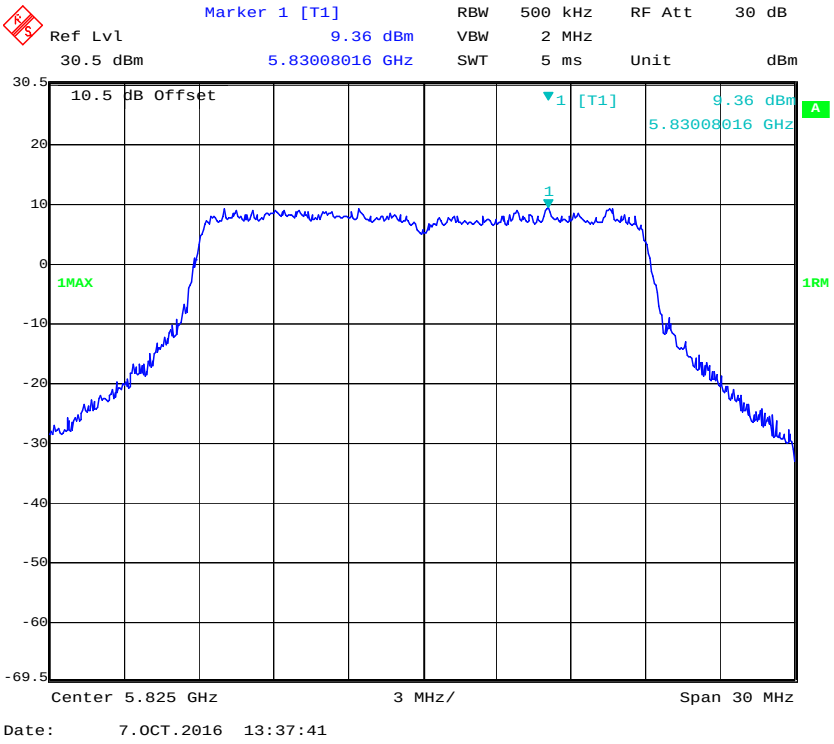
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5785 MHz



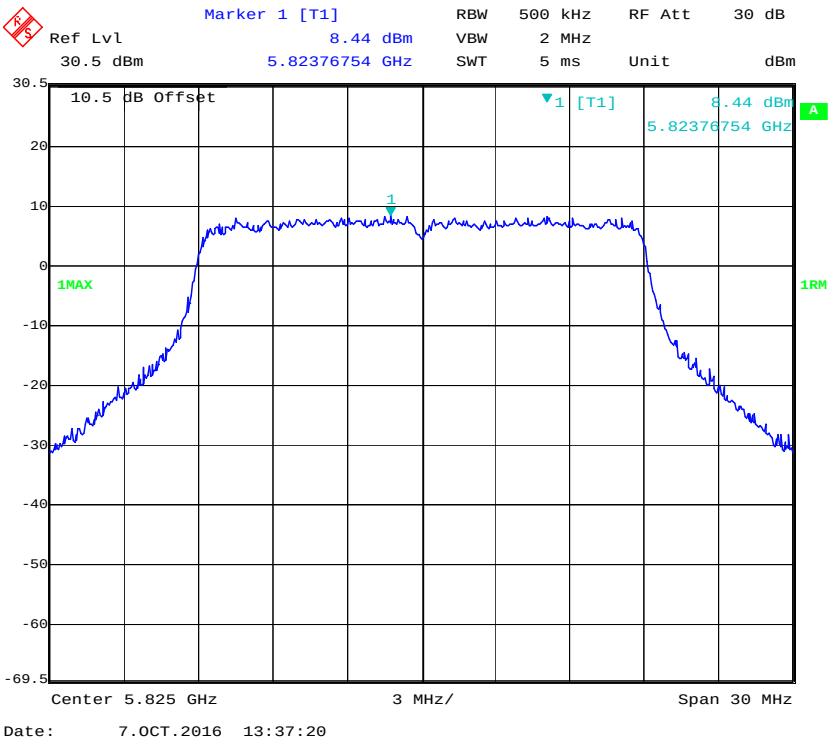
802. 11ac20 mode, Power Spectral Density, Antenn 1, 5825 MHz



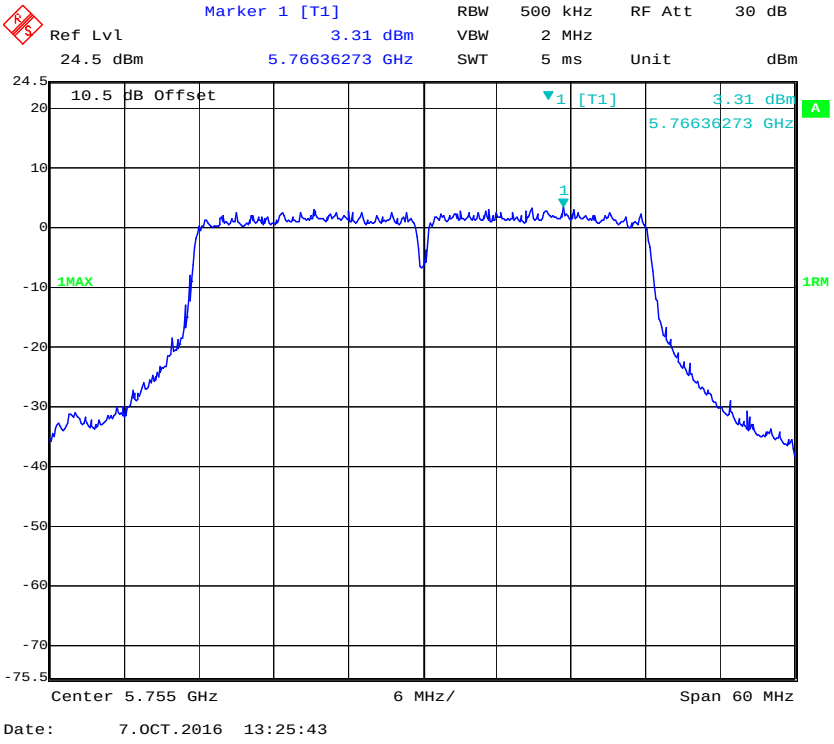
802. 11ac20 mode, Power Spectral Density, Antenn 2, 5825 MHz



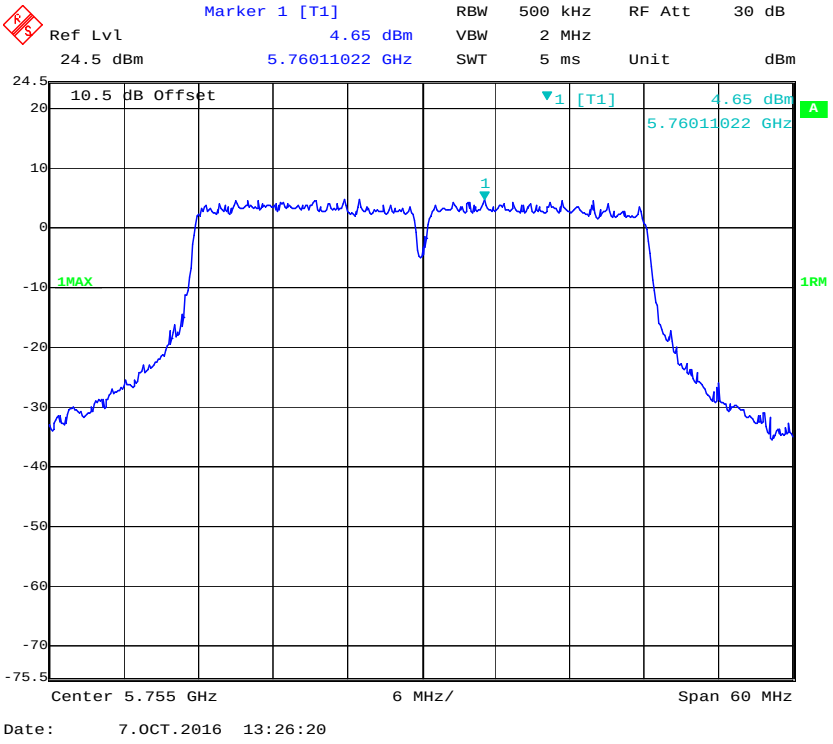
802. 11ac20 mode, Power Spectral Density, Antenn 3, 5825 MHz



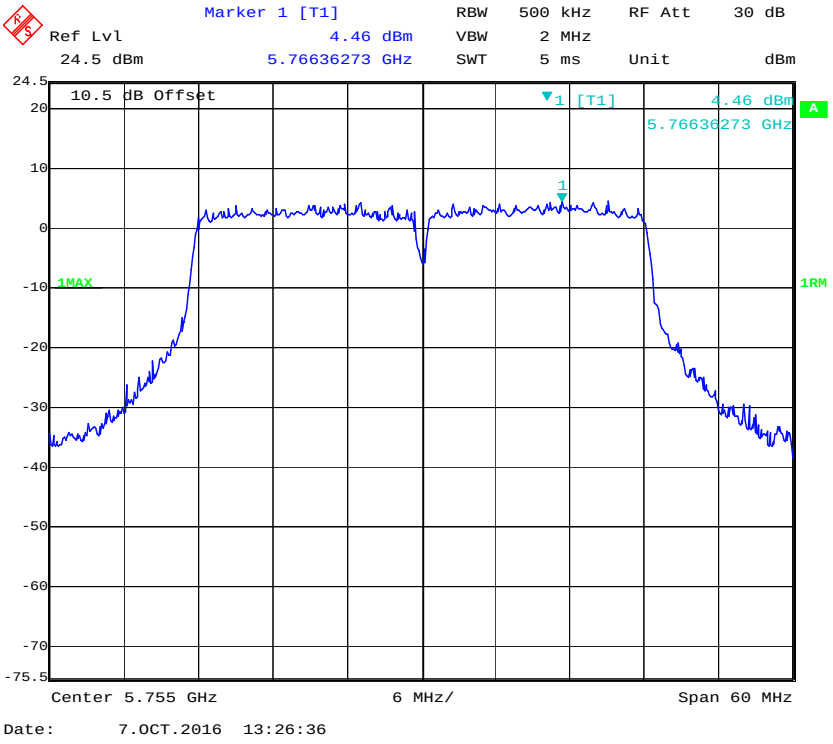
802. 11ac40 mode, Power Spectral Density, Antenn 1, 5755 MHz



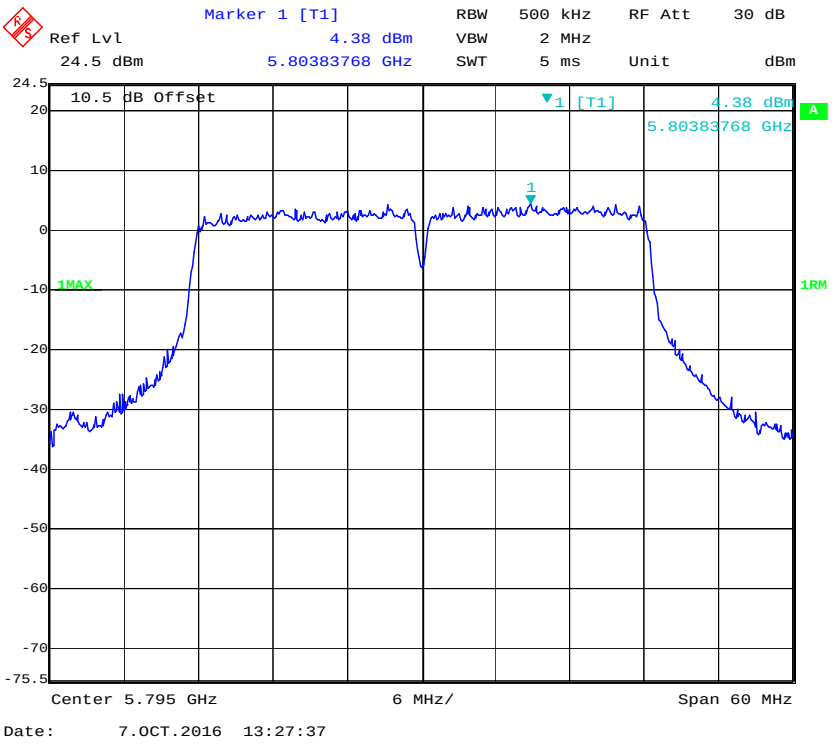
802. 11ac40 mode, Power Spectral Density, Antenn 2, 5755 MHz



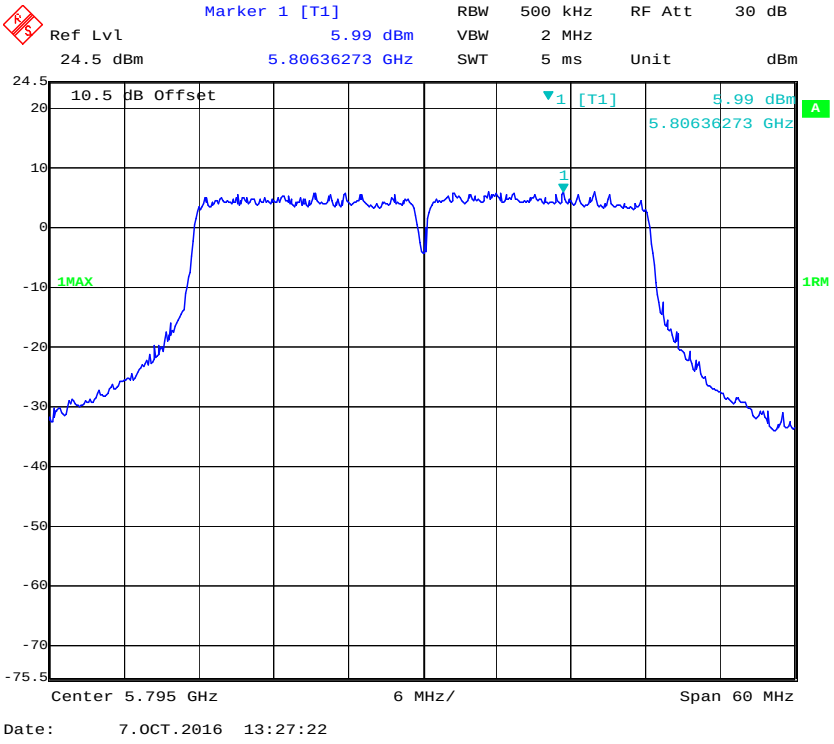
802. 11ac40 mode, Power Spectral Density, Antenn 3, 5755 MHz



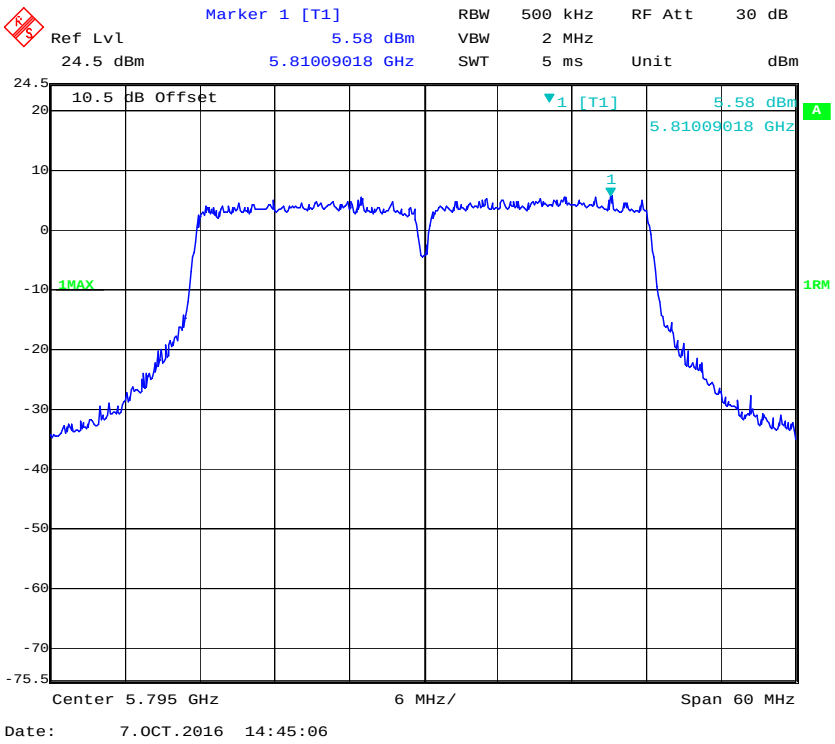
802. 11ac40 mode, Power Spectral Density, Antenn 1, 5795 MHz



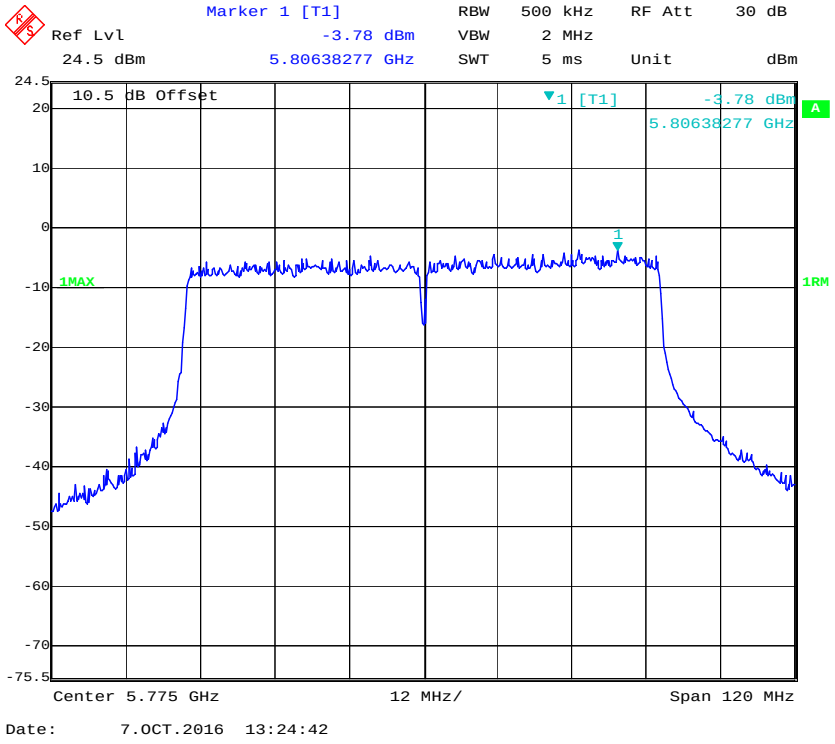
802. 11ac40 mode, Power Spectral Density, Antenn 2, 5795 MHz



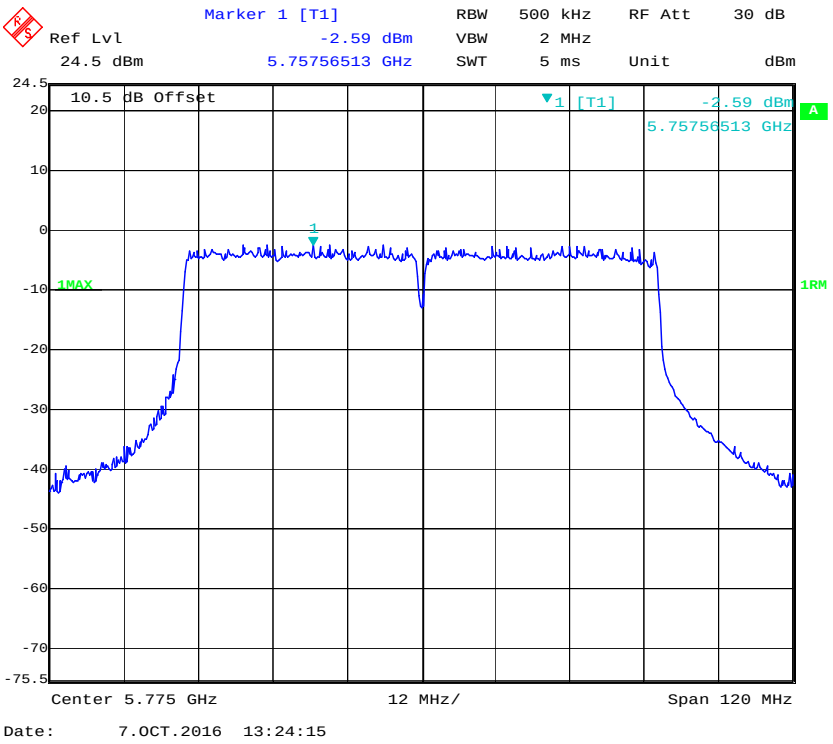
802. 11ac40 mode, Power Spectral Density, Antenn 3, 5795 MHz



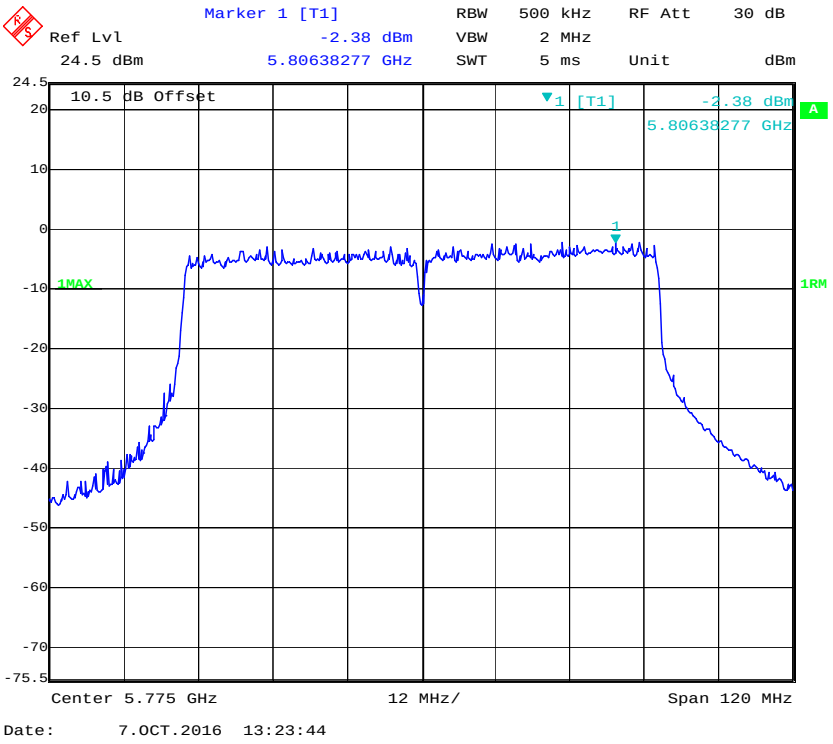
802. 11ac80 mode, Power Spectral Density, Antenn 1, 5775 MHz



802. 11ac80 mode, Power Spectral Density, Antenn 2, 5775 MHz



802. 11ac80 mode, Power Spectral Density, Antenn 3, 5775 MHz



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