

FCC PART 15.407

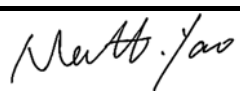
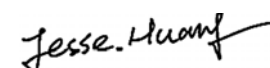
TEST REPORT

For

Shanghai Bwave Technology Co., Ltd

6F, Building 12, 399 Keyuan Road, Zhangjiang Hi-Tech Park, Shanghai, China

FCC ID: 2AHMN-BW8800

Report Type: Original Report	Product Type: wireless module
Test Engineer:	<u>Matt Yao</u> 
Report Number:	<u>RKS160310001-00M</u>
Report Date:	<u>2016-03-16</u>
Reviewed By:	<u>Jesse Huang</u>  <u>EMC Engineer</u>
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Kunshan) Chenghu Road, Kunshan Development Zone No.248, Kunshan, Jiangsu, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 www.baclcorp.com.cn

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

TABLE OF CONTENTS

GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
ANTENNA INFORMATION	4
OBJECTIVE	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY	4
TEST FACILITY	5
SYSTEM TEST CONFIGURATION.....	6
DESCRIPTION OF TEST CONFIGURATION	6
EUT EXERCISE SOFTWARE	6
EQUIPMENT MODIFICATIONS	6
SUPPORT EQUIPMENT LIST AND DETAILS	6
EXTERNAL CABLE.....	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULTS	8
FCC §15.407(f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE.....	9
EXPOSURE (MPE).....	9
APPLICABLE STANDARD	9
FCC §15.203 – ANTENNA REQUIREMENT.....	11
APPLICABLE STANDARD	11
ANTENNA CONNECTOR CONSTRUCTION	11
FCC §15.407 (b) (6) §15.207 (a) –AC Power Line Conducted Emissions	12
APPLICABLE STANDARD	12
MEASUREMENT UNCERTAINTY.....	12
EUT SETUP	12
EMI TEST RECEIVER SETUP.....	13
CORRECTED AMPLITUDE & MARGIN CALCULATION	13
TEST EQUIPMENT LIST AND DETAILS.....	13
TEST PROCEDURE	14
TEST RESULTS SUMMARY	14
TEST DATA	14
§15.205 & §15.209 & §15.407(B) (1),(6),(7) – UNDESIRABLE EMISSION & RESTRICTED BANDS.....	17
APPLICABLE STANDARD	17
MEASUREMENT UNCERTAINTY.....	17
EUT SETUP	18
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	18
TEST PROCEDURE	19
CORRECTED AMPLITUDE & MARGIN CALCULATION	19
TEST EQUIPMENT LIST AND DETAILS.....	20
TEST RESULTS SUMMARY	20
TEST DATA	20
FCC §15.407(b) (1) (4) –BAND EDGE	28
APPLICABLE STANDARD	28
TEST PROCEDURE	28
TEST EQUIPMENT LIST AND DETAILS.....	28

TEST DATA	29
FCC §15.407(a) & §15.407(e)–EMISSION BANDWIDTH.....	38
APPLICABLE STANDARD	38
TEST EQUIPMENT LIST AND DETAILS.....	38
TEST PROCEDURE	38
TEST DATA	39
FCC §15.407(a) (1) – CONDUCTED TRANSMITTER OUTPUT POWER.....	58
APPLICABLE STANDARD	58
TEST EQUIPMENT LIST AND DETAILS.....	58
TEST PROCEDURE	58
TEST DATA	59
FCC §15.407(a) (1) (5) - POWER SPECTRAL DENSITY	60
APPLICABLE STANDARD	60
TEST PROCEDURE	61
TEST EQUIPMENT LIST AND DETAILS.....	61
TEST DATA	61

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The Shanghai Bwave Technology Co., Ltd.'s product, model number: BW8800 (FCC ID: 2AHMN-BW8800) or the "EUT" in this report was a wireless module, which was measured approximately: 50mm (L) x23mm (W) x8mm (H). Rated input voltage: DC 5 V.

**All measurement and test data in this report was gathered from production sample serial number: 20160223001 (Assigned by the BACL. The EUT supplied by the applicant was received on 2016-02-23)*

Antenna information

Chain	Manufacturer	Antenna Type	Max. Antenna Gain
0	Signal Plus Technology Co.,Ltd	Passive	1.87dBi
1	Signal Plus Technology Co.,Ltd	Passive	2.25dBi

Objective

This type approval report is prepared on behalf of Shanghai Bwave Technology Co., Ltd. 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 DSS and FCC Part 15.247 DTS submission with FCC ID: 2AHMN-BW8800.

Test Methodology

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

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

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the Chenghu Lake Road, Kunshan Development Zone No.248, Kunshan, Jiangsu, 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 C63.4.

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

For 5150~5250 MHz band, 802.11a/n20 mode Channel 5180MHz, 5200MHz, 5240MHz were tested.

802.11n40 mode Channel 5190MHz, 5230MHz were tested.

802.11ac80 mode Channel 5210MHz was tested.

For 5725~5850 MHz band, 802.11a/n20 mode Channel 5745MHz, 5785MHz, 5825MHz were tested.

802.11n40 mode Channel 5755MHz, 5795MHz were tested.

802.11ac80 mode Channel 5775MHz was tested.

EUT Exercise Software

The software “Labtool” was used for testing, which was provided by manufacturer. The worst condition (maximum power) was setting by the software as following table:

For 5150~5250 MHz band

802.11a, Power level: 14

802.11n20, Power level: 14

802.11n40, Power level: 14

802.11ac80, Power level: 14

For 5745~5825 MHz band

802.11a, Power level: 16

802.11n20, Power level: 16

802.11n40, Power level: 16

802.11ac80, Power level: 16

Equipment Modifications

N/A.

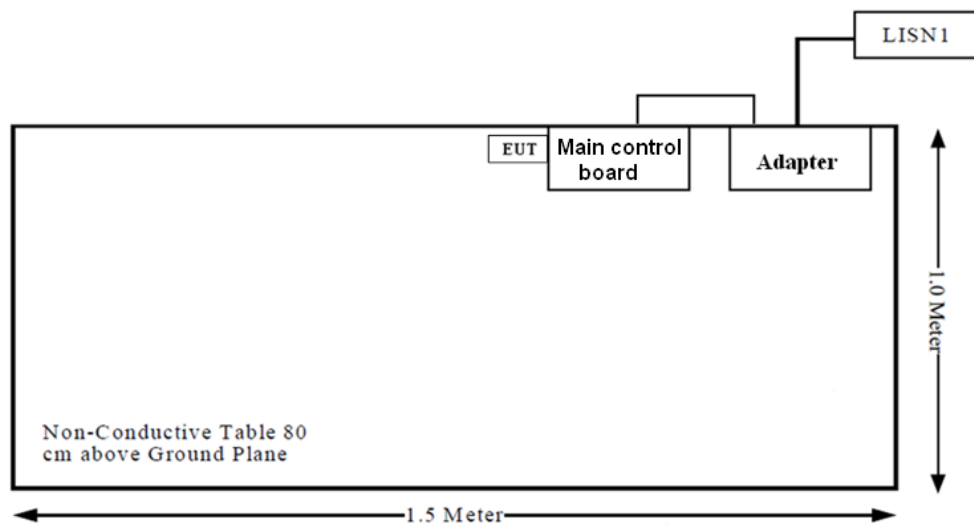
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Bwave	Control board	N/A	N/A

External Cable

Cable Description	Shielding Type	Length (m)	From Port	To
USB Cable	Unshielding	0.3	EUT	Control board

Block Diagram of Test Setup



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
FCC §15.207&§15.407(b) (6)	AC Power Line Conducted Emissions	Compliance
§ 15.205 & §15.209 & §15.407(b) (1),(6),(7)	undesirable emission & restricted bands	Compliance
§15.407(b) (1), (4)	BAND EDGE	Compliance
§15.407(a), (1),(5),(e)	Emission Bandwidth	Compliance
§15.407(a)(1)&§15.407(a)(3)	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1),(5)	Power Spectral Density	Compliance

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

Applicable Standard

According to §15.247(i) and §1.1310, 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/cm²);

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

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

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

Calculated Data:

5150-5250 MHz

Mode	Frequency (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
802.11a	5150-5250	2.25	1.68	13	19.95	20	0.007	1.0
802.11n HT20		2.25	1.68	12	15.85	20	0.005	1.0
802.11n HT40		2.25	1.68	11	12.59	20	0.004	1.0
802.11ac80		2.25	1.68	9	7.94	20	0.003	1.0

Note: The target power : 802.11a : 11 ± 2 dBm
 802.11n HT20 : 10 ± 2 dBm
 802.11n HT40 : 9 ± 2 dBm
 802.11ac80: 7 ± 2 dBm,
 which declared by the Manufacturer.

5725-5850 MHz

Mode	Frequency (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
802.11a	5725-5850	2.25	1.68	13	19.95	20	0.007	1.0
802.11n HT20		2.25	1.68	12	15.85	20	0.005	1.0
802.11n HT40		2.25	1.68	11	12.59	20	0.004	1.0
802.11ac80		2.25	1.68	9	7.94	20	0.003	1.0

Note: The target power : 802.11a : 11 ± 2 dBm
802.11n HT20 : 10 ± 2 dBm
802.11n HT40 : 9 ± 2 dBm
802.11ac80: 7 ± 2 dBm,
which declared by the Manufacturer.

Result: The device meet FCC MPE at 20 cm distance

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 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT have has two IPEX connectors to attach the two Passive antennas arrangement for wifi, which the antenna gain are 1.87 dBi(chain 0) and 2.25dBi(chain 1), fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.407 (b) (6) §15.207 (a) –AC Power Line Conducted Emissions

Applicable Standard

FCC §15.207, §15.407(b) (6)

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 1, then:

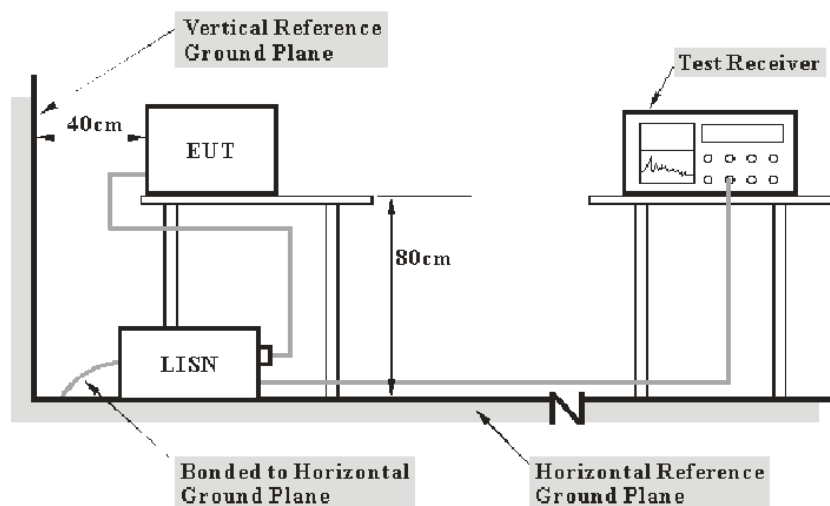
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Kunshan) is 3.46 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

Measurement	U_{cispr}
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 dB

EUT Setup



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

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

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120VAC/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

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

$$C_f = A_C + VDF$$

Herein,

V_C (cord. Reading): corrected voltage amplitude

V_R : reading voltage amplitude

A_C : attenuation caused by cable loss

VDF: voltage division factor of AMN

C_f : Correction Factor

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

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	934115/007	2015-11-12	2016-11-11
Rohde & Schwarz	LISN	ESH3-Z5	862770/011	2015-11-12	2016-11-11
Rohde & Schwarz	LISN	ESH3-Z5	892239/018	2015-6-23	2016-6-22
Rohde & Schwarz	Pulse limiter	ESH3-Z2	879940/0058	2015-6-19	2016-6-18
HP	Current probe	8710-1744	636	2015-6-19	2016-6-18
FCC	ISN	FCC-TLISN-T8-02	20376	2015-6-23	2016-6-22
Rohde & Schwarz	CE Test software	EMC 32	V 09.10.0	--	--
MICRO-COAX	Coaxial line	UFB-293B-1-0480-50X50	97F0173	2015-10-1	2016-10-1

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

Test Procedure

During the conducted emission test, the adapter was connected to the first LISN and the other support equipments were connected to the outlet of the second 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, with the worst margin reading of:

8.77 dB at 0.425000 MHz in the Neutral conducted mode

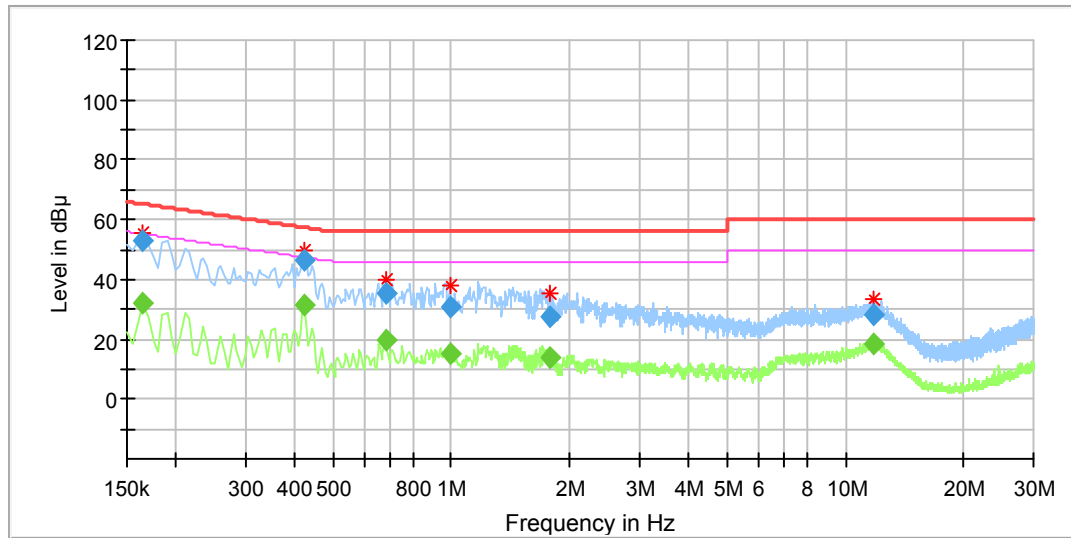
Test Data**Environmental Conditions**

Temperature:	27.2 °C
Relative Humidity:	55 %
ATM Pressure:	100.3 kPa

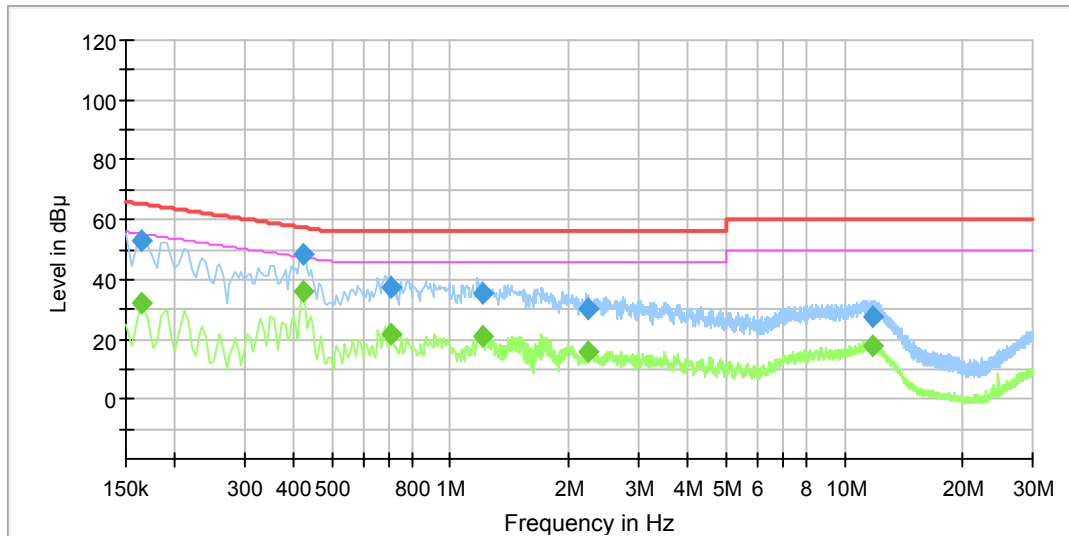
The testing was performed by Matt Yao on 2016-03-16

Test Mode: Transmitting

AC 120V/60 Hz, Line



Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.165	---	31.89	9.000	L1	11.0	23.32	55.21	Compliance
0.165	52.95	---	9.000	L1	11.0	12.26	65.21	Compliance
0.425	---	31.74	9.000	L1	11.0	15.61	47.35	Compliance
0.425	46.49	---	9.000	L1	11.0	10.86	57.35	Compliance
0.680	---	19.66	9.000	L1	11.1	26.34	46.00	Compliance
0.680	35.07	---	9.000	L1	11.1	20.93	56.00	Compliance
0.990	---	15.03	9.000	L1	11.1	30.97	46.00	Compliance
0.990	30.78	---	9.000	L1	11.1	25.22	56.00	Compliance
1.770	---	13.80	9.000	L1	11.2	32.20	46.00	Compliance
1.770	27.76	---	9.000	L1	11.2	28.24	56.00	Compliance
11.745	---	18.32	9.000	L1	11.3	31.68	50.00	Compliance
11.745	28.12	---	9.000	L1	11.3	31.88	60.00	Compliance

AC 120V/60 Hz, Neutral

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.165	---	32.37	9.000	N	11.0	22.84	55.21	Compliance
0.165	52.72	---	9.000	N	11.0	12.49	65.21	Compliance
0.425	---	35.89	9.000	N	11.0	11.46	47.35	Compliance
0.425	48.58	---	9.000	N	11.0	8.77	57.35	Compliance
0.710	---	21.73	9.000	N	11.1	24.27	46.00	Compliance
0.710	37.58	---	9.000	N	11.1	18.42	56.00	Compliance
1.205	---	21.33	9.000	N	11.1	24.67	46.00	Compliance
1.205	35.09	---	9.000	N	11.1	20.91	56.00	Compliance
2.245	---	15.53	9.000	N	11.3	30.47	46.00	Compliance
2.245	30.39	---	9.000	N	11.3	25.61	56.00	Compliance
11.750	---	17.83	9.000	N	11.4	32.17	50.00	Compliance
11.750	27.22	---	9.000	N	11.4	32.78	60.00	Compliance

Note:

- 1) Corr.=LISN VDF (Voltage Division Factor) + Cable Loss
- 2) Corrected Amplitude = Reading + Corr.
- 3) Margin = Limit –Corrected Amplitude

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

Applicable Standard

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

For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27dBm/MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of –27 dBm/MHz

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

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

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cisp} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cisp} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Kunshan) is:

30M~200MHz: 5.0 dB

200M~1GHz: 6.2 dB

1G~6GHz: 4.45 dB

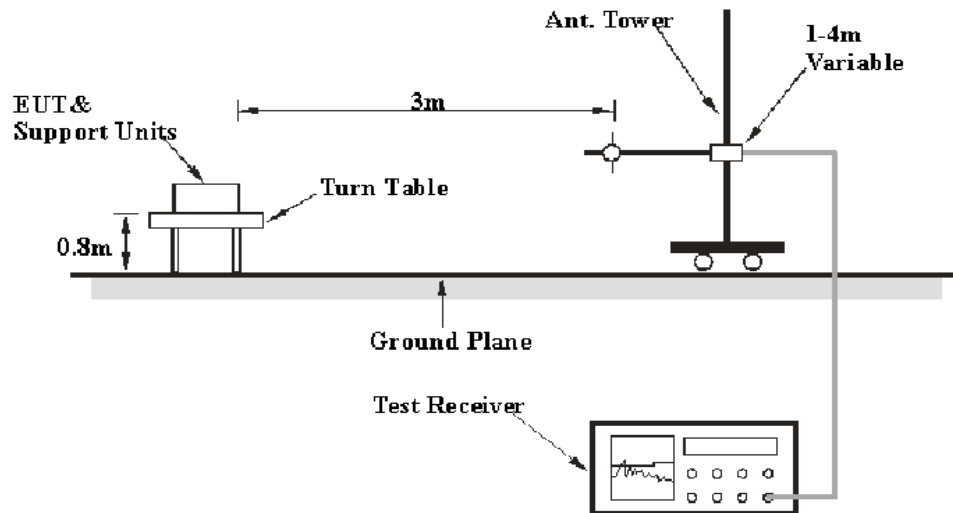
6G~18GHz: 5.23 dB

Table 1 – Values of U_{cisp}

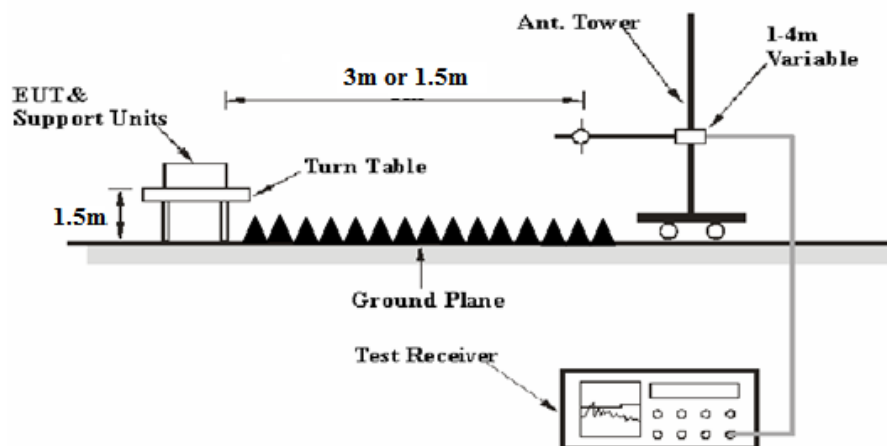
Measurement	U_{cisp}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1 G:



Above 1 G:



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

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

The spacing between the peripherals was 10 cm.

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	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

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

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

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

The Radiated measurements was performed, The EIRP converted to field strength as follows:

According to C63.4, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m

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

Extrapolation result = Corrected Amplitude (dBμV/m) - distance extrapolation factor (6dB)

or Limit line = Specific limits(dBμV) + distance extrapolation factor (6dB)

Corrected Amplitude & Margin Calculation

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

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

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

$$\text{Margin} = \text{Limit} - \text{Extrapolation result}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrument	Amplifier	330	171377	2015-09-16	2016-09-16
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2015-11-12	2016-11-11
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2015-11-07	2016-11-06
ETS	Horn Antenna	3115	6229	2015-11-07	2016-11-06
EMCO	Horn Antenna	3116	9510-2384	2015-11-07	2016-11-06
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-12	2016-11-11
Mini	Pre-amplifier	ZVA-183-S+	857001418	2015-09-16	2016-09-16
DUCOMMUN	Pre-amplifier	ALN-22093530-01	990147	2015-09-16	2016-09-16
champrotek	Chamber	Chamber A	1#	2015-09-17	2016-09-17
R&S	Auto test Software	EMC32	V 09.10.0	-	-
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-06-16	2016-12-15
BACL	RF cable	KS-LAB-010	KS-LAB-010	2015-06-16	2016-12-15

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

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, Section 15.205, 15.209 and 15.407, with the worst margin reading of:

4.41 dB at 829 MHz in the Horizontal polarization for 802.11n ht20 Mode 5150-5250 MHz band

Test Data**Environmental Conditions**

Temperature:	26.8 °C
Relative Humidity:	62 %
ATM Pressure:	99.9 kPa

The testing was performed by Matt Yao on 2016-03-15

Mode: Transmitting

Note: For above 1GHz, the test distance is 1.5m.

30MHz~40GHz(5150-5250 MHz & 5725-5850 MHz)802.11a Mode: **Chain0+Chain1**

Frequency	Receiver		Turntable	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)					
5150-5250 MHz band-Low Channel:5180 MHz										
5180	84.97	PK	120.0	150.0	V	10.28	95.25	89.25	N/A	N/A
5180	73.41	AV	120.0	150.0	V	10.28	83.69	77.69	N/A	N/A
5180	84.83	PK	66.0	200.0	H	10.28	95.11	89.11	N/A	N/A
5180	73.26	AV	66.0	200.0	H	10.28	83.54	77.54	N/A	N/A
5150	32.00	PK	212.0	150.0	V	10.25	42.25	36.25	74	37.75
5150	22.11	AV	212.0	150.0	V	10.25	32.36	26.36	54	27.64
10360	25.15	PK	76.0	150.0	V	20.06	45.21	39.21	74	34.79
10360	14.15	AV	76.0	150.0	V	20.06	34.21	28.21	54	25.79
15540	29.94	PK	0.0	200.0	H	27.20	57.14	51.14	74	22.86
15540	18.12	AV	0.0	200.0	H	27.2	45.32	39.32	54	14.68
6651	29.60	PK	310.0	150.0	V	0.51	30.11	24.11	74	49.89
6651	19.74	AV	310.0	150.0	V	0.51	20.25	14.25	54	39.75
840	35.86	QP	258.0	100.0	H	4.50	40.36	/	46	5.64
5150-5250 MHz band-Middle Channel:5200MHz										
5200	84.84	PK	151.0	150.0	V	10.28	95.12	89.12	N/A	N/A
5200	73.74	AV	151.0	150.0	V	10.28	84.02	78.02	N/A	N/A
5200	84.70	PK	48.0	200.0	H	10.28	94.98	88.98	N/A	N/A
5200	72.08	AV	48.0	200.0	H	10.28	82.36	76.36	N/A	N/A
10400	24.26	PK	145.0	150.0	V	20.06	44.32	38.32	74	35.68
10400	15.30	AV	145.0	150.0	V	20.06	35.36	29.36	54	24.64
15600	28.94	PK	12.0	200.0	H	27.20	56.14	50.14	74	23.86
15600	17.54	AV	12.0	200.0	H	27.20	44.74	38.74	54	15.26
6658	29.07	PK	345.0	150.0	V	0.51	29.58	23.58	74	50.42
6658	45.23	AV	345.0	150.0	V	0.51	45.74	39.74	54	14.26
7450	12.79	PK	341.0	150.0	H	19.90	32.69	26.69	74	47.31
7450	23.46	AV	341.0	150.0	H	19.90	43.36	37.36	54	16.64
840	33.75	QP	240.0	100.0	H	4.50	38.25	/	46	7.75
5150-5250 MHz band-High Channel:5240MHz										
5240	84.74	PK	120.0	150.0	V	10.28	95.02	89.02	N/A	N/A
5240	72.86	AV	120.0	150.0	V	10.28	83.14	77.14	N/A	N/A
5240	84.59	PK	66.0	200.0	H	10.28	94.87	88.87	N/A	N/A
5240	72.97	AV	66.0	200.0	H	10.28	83.25	77.25	N/A	N/A
5350	30.76	PK	212.0	150.0	V	10.45	41.21	35.21	74	38.79
5350	22.20	AV	212.0	150.0	V	10.45	32.65	26.65	54	27.35
10480	23.96	PK	76.0	150.0	V	20.06	44.02	38.02	74	35.98
10480	14.26	AV	76.0	150.0	V	20.06	34.32	28.32	54	25.68
15720	28.05	PK	0.0	200.0	H	27.20	55.25	49.25	74	24.75
15720	17.11	AV	0.0	200.0	H	27.20	44.31	38.31	54	15.69
6651	28.18	PK	310.0	150.0	V	0.51	28.69	22.69	74	51.31
6651	21.15	AV	310.0	150.0	V	0.51	21.66	15.66	54	38.34
840	35.61	QP	258.0	100.0	H	4.50	40.11	/	46	5.89

Frequency	Receiver		Turntable	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m) (MHz)	Margin (dB)
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)					
5725-5850 MHz band-Low Channel:5745 MHz										
5745	80.35	PK	120.0	150.0	V	15.20	95.55	89.55	N/A	N/A
5745	68.16	AV	120.0	150.0	V	15.20	83.36	77.36	N/A	N/A
5745	79.49	PK	66.0	200.0	H	15.20	94.69	88.69	N/A	N/A
5745	67.76	AV	66.0	200.0	H	15.20	82.96	76.96	N/A	N/A
5725	27.45	PK	212.0	150.0	V	15.10	42.55	36.55	74	37.45
5725	18.52	AV	212.0	150.0	V	15.10	33.62	27.62	54	26.38
11490	20.36	PK	76.0	150.0	V	25.20	45.56	39.56	74	34.44
11490	10.06	AV	76.0	150.0	V	25.20	35.26	29.26	54	24.74
17235	27.41	PK	0.0	200.0	H	30.80	58.21	52.21	74	21.79
17235	16.12	AV	0.0	200.0	H	30.80	46.92	40.92	54	13.08
6650	31.01	PK	310.0	150.0	V	0.51	31.52	25.52	74	48.48
6650	20.75	AV	310.0	150.0	V	0.51	21.26	15.26	54	38.74
836	36.86	QP	258.0	100.0	H	4.50	41.36	/	46	4.64
5725-5850 MHz band-Middle Channel:5785MHz										
5785	80.36	PK	151.0	150.0	V	15.20	95.56	89.56	N/A	N/A
5785	69.86	AV	151.0	150.0	V	15.20	85.06	79.06	N/A	N/A
5785	80.01	PK	48.0	200.0	H	15.20	95.21	89.21	N/A	N/A
5785	68.16	AV	48.0	200.0	H	15.20	83.36	77.36	N/A	N/A
11570	19.92	PK	145.0	150.0	V	25.20	45.12	39.12	74	34.88
11570	10.84	AV	145.0	150.0	V	25.20	36.04	30.04	54	23.96
17355	23.66	PK	12.0	200.0	H	31.90	55.56	49.56	74	24.44
17355	13.16	AV	12.0	200.0	H	31.90	45.06	39.06	54	14.94
6662	30.04	PK	345.0	150.0	V	0.51	30.55	24.55	74	49.45
6662	45.18	AV	345.0	150.0	V	0.51	45.69	39.69	54	14.31
7551	11.56	PK	341.0	150.0	H	20.80	32.36	26.36	74	47.64
7551	23.46	AV	341.0	150.0	H	20.80	44.26	38.26	54	15.74
836	35.15	QP	240.0	100.0	H	4.50	39.65	/	46	6.35
5725-5850 MHz band-High Channel:5825MHz										
5825	80.12	PK	120.0	150.0	V	15.20	95.32	89.32	N/A	N/A
5825	69.06	AV	120.0	150.0	V	15.20	84.26	78.26	N/A	N/A
5825	80.43	PK	66.0	200.0	H	15.20	95.63	89.63	N/A	N/A
5825	68.16	AV	66.0	200.0	H	15.20	83.36	77.36	N/A	N/A
5850	25.78	PK	212.0	150.0	V	15.20	40.98	34.98	74	39.02
5850	17.36	AV	212.0	150.0	V	15.20	32.56	26.56	54	27.44
11650	17.56	PK	76.0	150.0	V	27.65	45.21	39.21	74	34.79
11650	7.97	AV	76.0	150.0	V	27.65	35.62	29.62	54	24.38
17475	23.26	PK	0.0	200.0	H	32.10	55.36	49.36	74	24.64
17475	13.06	AV	0.0	200.0	H	32.10	45.16	39.16	54	14.84
6659	28.85	PK	310.0	150.0	V	0.51	29.36	23.36	74	50.64
6659	22.14	AV	310.0	150.0	V	0.51	22.65	16.65	54	37.35
836	36.55	QP	258.0	100.0	H	4.50	41.05	/	46	4.95

802.11n ht20 Mode: Chain0+Chian1:

Frequency	Receiver		Turntable	Rx Antenna		Corrected	Corrected	Extrapolation	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)	Factor (dB)	Amplitude (dBμV/m)	result (dBμV/m)	(dBμV/m)	(dB)
5150-5250 MHz band-Low Channel:5180 MHz										
5180	85.08	PK	120.0	150.0	V	10.28	95.36	89.36	N/A	N/A
5180	73.37	AV	120.0	150.0	V	10.28	83.65	77.65	N/A	N/A
5180	85.74	PK	66.0	200.0	H	10.28	96.02	90.02	N/A	N/A
5180	73.98	AV	66.0	200.0	H	10.28	84.26	78.26	N/A	N/A
5150	33.11	PK	212.0	150.0	V	10.25	43.36	37.36	74	36.64
5150	23.11	AV	212.0	150.0	V	10.25	33.36	27.36	54	26.64
10360	25.56	PK	76.0	150.0	V	20.06	45.62	39.62	74	34.38
10360	15.20	AV	76.0	150.0	V	20.06	35.26	29.26	54	24.74
15540	29.12	PK	0.0	200.0	H	27.20	56.32	50.32	74	23.68
15540	19.06	AV	0.0	200.0	H	27.20	46.26	40.26	54	13.74
6650	29.74	PK	310.0	150.0	V	0.51	30.25	24.25	74	49.75
6650	21.11	AV	310.0	150.0	V	0.51	21.62	15.62	54	38.38
829	37.09	QP	258.0	100.00	H	4.50	41.59	/	46	4.41
5150-5250 MHz band-Middle Channel:5200MHz										
5200	84.98	PK	151.0	150.0	V	10.28	95.26	89.26	N/A	N/A
5200	75.04	AV	151.0	150.0	V	10.28	85.32	79.32	N/A	N/A
5200	84.95	PK	48.0	200.0	H	10.28	95.23	89.23	N/A	N/A
5200	71.08	AV	48.0	200.0	H	10.28	81.36	75.36	N/A	N/A
10400	25.14	PK	145.0	150.0	V	20.06	45.20	39.2	74	34.8
10400	15.09	AV	145.0	150.0	V	20.06	35.15	29.15	54	24.85
15600	28.49	PK	12.0	200.0	H	27.20	55.69	49.69	74	24.31
15600	18.15	AV	12.0	200.0	H	27.20	45.35	39.35	54	14.65
6662	29.75	PK	345.0	150.0	V	0.51	30.26	24.26	74	49.74
6662	45.45	AV	345.0	150.0	V	0.51	45.96	39.96	54	14.04
7462	12.64	PK	341.0	150.0	H	19.90	32.54	26.54	74	47.46
7462	23.09	AV	341.0	150.0	H	19.90	42.99	36.99	54	17.01
829	34.76	QP	240.0	100.0	H	4.50	39.26	/	46	6.74
5150-5250 MHz band-High Channel:5240MHz										
5240	85.34	PK	120.0	150.0	V	10.28	95.62	89.62	N/A	N/A
5240	73.68	AV	120.0	150.0	V	10.28	83.96	77.96	N/A	N/A
5240	85.34	PK	66.0	200.0	H	10.28	95.62	89.62	N/A	N/A
5240	74.98	AV	66.0	200.0	H	10.28	85.26	79.26	N/A	N/A
5350	29.81	PK	212.0	150.0	V	10.45	40.26	34.26	74	39.74
5350	23.17	AV	212.0	150.0	V	10.45	33.62	27.62	54	26.38
10480	25.20	PK	76.0	150.0	V	20.06	45.26	39.26	74	34.74
10480	15.15	AV	76.0	150.0	V	20.06	35.21	29.21	54	24.79
15720	28.49	PK	0.0	200.0	H	27.20	55.69	49.69	74	24.31
15720	17.81	AV	0.0	200.0	H	27.20	45.01	39.01	54	14.99
6650	27.44	PK	310.0	150.0	V	0.51	27.95	21.95	74	52.05
6650	21.84	AV	310.0	150.0	V	0.51	22.35	16.35	54	37.65
829	36.70	QP	258.0	100.0	H	4.50	41.20	/	46	4.80

Frequency	Receiver		Turntable	Rx Antenna		Corrected	Corrected	Extrapolation	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)	Factor (dB)	Factor (dB)	result (dBμV/m)	(dBμV/m)	(dB)
5725-5850 MHz band-Low Channel:5745 MHz										
5745	80.06	PK	120.0	150.0	V	15.20	95.26	89.26	N/A	N/A
5745	69.03	AV	120.0	150.0	V	15.20	84.23	78.23	N/A	N/A
5745	80.03	PK	66.0	200.0	H	15.20	95.23	89.23	N/A	N/A
5745	67.16	AV	66.0	200.0	H	15.20	82.36	76.36	N/A	N/A
5725	27.55	PK	212.0	150.0	V	15.10	42.65	36.65	74	37.35
5725	20.16	AV	212.0	150.0	V	15.10	35.26	29.26	54	24.74
11490	19.92	PK	76.0	150.0	V	25.20	45.12	39.12	74	34.88
11490	10.49	AV	76.0	150.0	V	25.20	35.69	29.69	54	24.31
17235	27.35	PK	0.0	200.0	H	30.80	58.15	52.15	74	21.85
17235	15.18	AV	0.0	200.0	H	30.80	45.98	39.98	54	14.02
6656	31.64	PK	310.0	150.0	V	0.51	32.15	26.15	74	47.85
6656	21.85	AV	310.0	150.0	V	0.51	22.36	16.36	54	37.64
836	36.39	QP	258.0	100.0	H	4.50	40.89	/	46	5.11
5725-5850 MHz band-Middle Channel:5785MHz										
5785	81.06	PK	151.0	150.0	V	15.20	96.26	90.26	N/A	N/A
5785	69.06	AV	151.0	150.0	V	15.20	84.26	78.26	N/A	N/A
5785	80.42	PK	48.0	200.0	H	15.20	95.62	89.62	N/A	N/A
5785	67.96	AV	48.0	200.0	H	15.20	83.16	77.16	N/A	N/A
11570	20.01	PK	145.0	150.0	V	25.20	45.21	39.21	74	34.79
11570	9.06	AV	145.0	150.0	V	25.20	34.26	28.26	54	25.74
17355	23.79	PK	12.0	200.0	H	31.90	55.69	49.69	74	24.31
17355	13.40	AV	12.0	200.0	H	31.90	45.30	39.3	54	14.7
6671	29.54	PK	345.0	150.0	V	0.51	30.05	24.05	74	49.95
6671	44.61	AV	345.0	150.0	V	0.51	45.12	39.12	54	14.88
7559	12.16	PK	341.0	150.0	H	20.80	32.96	26.96	74	47.04
7559	23.41	AV	341.0	150.0	H	20.80	44.21	38.21	54	15.79
836	35.06	QP	240.0	100.0	H	4.50	39.56	/	46	6.44
5725-5850 MHz band-High Channel:5825MHz										
5825	80.49	PK	120.0	150.0	V	15.20	95.69	89.69	N/A	N/A
5825	69.92	AV	120.0	150.0	V	15.20	85.12	79.12	N/A	N/A
5825	80.45	PK	66.0	200.00	H	15.20	95.65	89.65	N/A	N/A
5825	68.03	AV	66.0	200.00	H	15.20	83.23	77.23	N/A	N/A
5850	25.05	PK	212.0	150.00	V	15.20	40.25	34.25	74	39.75
5850	17.95	AV	212.0	150.00	V	15.20	33.15	27.15	54	26.85
11650	17.41	PK	76.0	150.00	V	27.65	45.06	39.06	74	34.94
11650	7.56	AV	76.0	150.00	V	27.65	35.21	29.21	54	24.79
17475	23.12	PK	0.0	200.00	H	32.10	55.22	49.22	74	24.78
17475	13.22	AV	0.0	200.00	H	32.10	45.32	39.32	54	14.68
6660	28.44	PK	310.0	150.00	V	0.51	28.95	22.95	74	51.05
6660	21.85	AV	310.0	150.00	V	0.51	22.36	16.36	54	37.64
836	35.86	QP	258.0	100.00	H	4.50	40.36	/	46	5.64

802.11n ht40 Mode: Chain0+Chian1:

Frequency	Receiver		Turntable	Rx Antenna		Corrected	Corrected	Extrapolation	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)	Factor (dB)	Amplitude (dBμV/m)	result (dBμV/m)	(dBμV/m)	(dB)
5150-5250 MHz band-Low Channel:5190 MHz										
5190	86.34	PK	120.0	150.0	V	10.28	96.62	90.62	N/A	N/A
5190	74.04	AV	120.0	150.0	V	10.28	84.32	78.32	N/A	N/A
5190	84.92	PK	66.0	200.0	H	10.28	95.2	89.2	N/A	N/A
5190	73.95	AV	66.0	200.0	H	10.28	84.23	78.23	N/A	N/A
5150	32.96	PK	212.0	150.0	V	10.25	43.21	37.21	74	36.79
5150	23.40	AV	212.0	150.0	V	10.25	33.65	27.65	54	26.35
10380	25.59	PK	76.0	150.0	V	20.06	45.65	39.65	74	34.35
10380	15.20	AV	76.0	150.0	V	20.06	35.26	29.26	54	24.74
15570	30.75	PK	0.0	200.0	H	27.20	57.95	51.95	74	22.05
15570	18.09	AV	0.0	200.0	H	27.20	45.29	39.29	54	14.71
6656	31.48	PK	310.0	150.0	V	0.51	31.99	25.99	74	48.01
6656	20.85	AV	310.0	150.0	V	0.51	21.36	15.36	54	38.64
829	36.86	QP	258.0	100.0	H	4.50	41.36	/	46	4.64
5150-5250 MHz band-High Channel:5230MHz										
5230	85.04	PK	120.0	150.0	V	10.28	95.32	89.32	N/A	N/A
5230	73.08	AV	120.0	150.0	V	10.28	83.36	77.36	N/A	N/A
5230	84.93	PK	66.0	200.0	H	10.28	95.21	89.21	N/A	N/A
5230	73.93	AV	66.0	200.0	H	10.28	84.21	78.21	N/A	N/A
5350	30.50	PK	212.0	150.0	V	10.45	40.95	34.95	74	39.05
5350	23.20	AV	212.0	150.0	V	10.45	33.65	27.65	54	26.35
10460	24.95	PK	76.0	150.0	V	20.06	45.01	39.01	74	34.99
10460	15.14	AV	76.0	150.0	V	20.06	35.20	29.2	54	24.8
15690	28.06	PK	0.0	200.0	H	27.20	55.26	49.26	74	24.74
15690	17.85	AV	0.0	200.0	H	27.20	45.05	39.05	54	14.95
6656	29.14	PK	310.0	150.0	V	0.51	29.65	23.65	74	50.35
6656	20.18	AV	310.0	150.0	V	0.51	20.69	14.69	54	39.31
829	36.06	QP	258.0	100.0	H	4.50	40.56	/	46	5.44
5725-5850 MHz band-Low Channel:5755MHz										
5755	80.06	PK	120.0	150.0	V	15.20	95.26	89.26	N/A	N/A
5755	68.16	AV	120.0	150.0	V	15.20	83.36	77.36	N/A	N/A
5755	80.06	PK	66.0	200.0	H	15.20	95.26	89.26	N/A	N/A
5755	67.16	AV	66.0	200.0	H	15.20	82.36	76.36	N/A	N/A
5725	27.42	PK	212.0	150.0	V	15.10	42.52	36.52	74	37.48
5725	18.55	AV	212.0	150.0	V	15.10	33.65	27.65	54	26.35
11510	19.92	PK	76.0	150.0	V	25.20	45.12	39.12	74	34.88
11510	10.45	AV	76.0	150.0	V	25.20	35.65	29.65	54	24.35
17265	27.85	PK	0.0	200.0	H	31.10	58.95	52.95	74	21.05
17265	15.16	AV	0.0	200.0	H	31.10	46.26	40.26	54	13.74
6667	31.74	PK	310.0	150.0	V	0.51	32.25	26.25	74	47.75
6667	21.85	AV	310.0	150.0	V	0.51	22.36	16.36	54	37.64
836	35.66	QP	258.0	100.00	H	4.50	40.16	/	46	5.84

Frequency	Receiver		Degree	Rx Antenna		Corrected	Corrected	Extrapolation	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)	Factor (dB)	Amplitude (dBμV/m)	result (dBμV/m)	(dBμV/m)	(dB)
5725-5850 MHz band-High Channel:5795 MHz										
5795	80.06	PK	120.0	150.0	V	15.20	95.26	89.26	N/A	N/A
5795	69.06	AV	120.0	150.0	V	15.20	84.26	78.26	N/A	N/A
5795	80.43	PK	66.0	200.0	H	15.20	95.63	89.63	N/A	N/A
5795	68.06	AV	66.0	200.0	H	15.20	83.26	77.26	N/A	N/A
5850	25.36	PK	212.0	150.0	V	15.20	40.56	34.56	74	39.44
5850	18.42	AV	212.0	150.0	V	15.20	33.62	27.62	54	26.38
11590	20.06	PK	76.0	150.0	V	25.20	45.26	39.26	74	34.74
11590	10.08	AV	76.0	150.0	V	25.20	35.28	29.28	54	24.72
17385	23.37	PK	0.0	200.0	H	31.80	55.17	49.17	74	24.83
17385	14.15	AV	0.0	200.0	H	31.80	45.95	39.95	54	14.05
6665	28.44	PK	310.0	150.0	V	0.51	28.95	22.95	74	51.05
6665	22.13	AV	310.0	150.0	V	0.51	22.64	16.64	54	37.36
836	36.48	QP	258.0	100.0	H	4.50	40.98	/	46	5.02

802.11ac80 mode: Chain0+Chain1:

Frequency	Receiver		Turntable	Rx Antenna		Corrected	Corrected	Extrapolation	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Degree	Height (cm)	Polar (H/V)	Factor (dB)	Amplitude (dBμV/m)	result (dBμV/m)	(dBμV/m)	(dB)
5150-5250 MHz band-Channel:5210 MHz										
5210	83.84	PK	120.0	150.0	V	10.28	94.12	88.12	N/A	N/A
5210	72.08	AV	120.0	150.0	V	10.28	82.36	76.36	N/A	N/A
5210	84.73	PK	66.0	200.0	H	10.28	95.01	89.01	N/A	N/A
5210	74.98	AV	66.0	200.0	H	10.28	85.26	79.26	N/A	N/A
5350	30.87	PK	212.0	150.0	V	10.45	41.32	35.32	74	38.68
5350	24.81	AV	212.0	150.0	V	10.45	35.26	29.26	54	24.74
10420	25.90	PK	76.0	150.0	V	20.06	45.96	39.96	74	34.04
10420	16.09	AV	76.0	150.0	V	20.06	36.15	30.15	54	23.85
15630	29.12	PK	0.0	200.0	H	27.20	56.32	50.32	74	23.68
15630	18.06	AV	0.0	200.0	H	27.20	45.26	39.26	54	14.74
6660	29.65	PK	310.0	150.0	V	0.51	30.16	24.16	74	49.84
6660	20.85	AV	310.0	150.0	V	0.51	21.36	15.36	54	38.64
829	35.65	QP	258.0	100.0	H	4.50	40.15	/	46	5.85
5725-5850 MHz band- Channel:5775MHz										
5775	80.45	PK	151.0	150.0	V	15.20	95.65	89.65	N/A	N/A
5775	70.06	AV	151.0	150.0	V	15.20	85.26	79.26	N/A	N/A
5775	80.42	PK	48.0	200.0	H	15.20	95.62	89.62	N/A	N/A
5775	67.95	AV	48.0	200.0	H	15.20	83.15	77.15	N/A	N/A
5850	26.16	PK	212.0	200.0	V	15.20	41.36	35.36	74	38.64
5850	19.16	AV	212.0	200.0	V	15.20	34.36	28.36	54	25.64
11550	19.96	PK	145.0	150.0	V	25.20	45.16	39.16	74	34.84
11550	10.44	AV	145.0	150.0	V	25.20	35.64	29.64	54	24.36
17265	24.09	PK	12.0	200.0	H	31.20	55.29	49.29	74	24.71
17265	14.75	AV	12.0	200.0	H	31.20	45.95	39.95	54	14.05
6675	29.82	PK	345.0	150.0	V	0.510	30.33	24.33	74	49.67
6675	44.68	AV	345.0	150.0	V	0.51	45.19	39.19	54	14.81
7570	13.15	PK	341.0	150.0	H	20.80	33.95	27.95	74	46.05
7570	24.49	AV	341.0	150.0	H	20.80	45.29	39.29	54	14.71
836	34.65	QP	240.0	100.0	H	4.50	39.15	/	46	6.85

FCC §15.407(b) (1) (4) –BAND EDGE**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 within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz.

Test Procedure

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-12	2016-11-11
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-06-16	2016-12-15

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

Test Data**Environmental Conditions**

Temperature:	27.5 °C
Relative Humidity:	60 %
ATM Pressure:	99.9 kPa

The testing was performed by Matt Yao on 2016-03-11.

Please refer to the following table and plots.

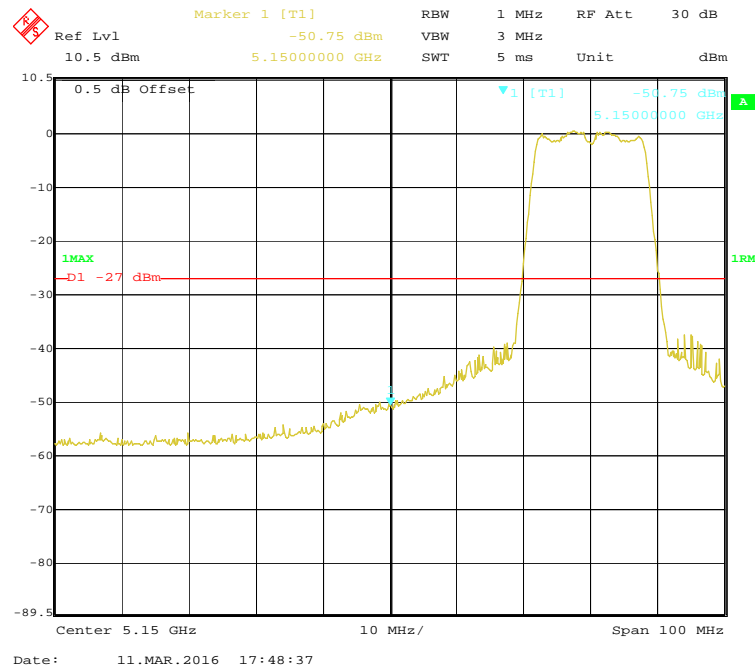
Test mode	Band	Frequency (MHz)	E.I.R.P BAND EDGE (dBm/MHz)	Limits (dBm/MHz)	Result
802.11a	5150-5250 MHz	5150.0	-45.58	-27	PASS
		5350.0	-52.29	-27	PASS
	5725-5850 MHz	5715.0	-46.64	-27	PASS
		5850.0	-43.5	-17	PASS
802.11n ht20	5150-5250 MHz	5150.0	-44.48	-27	PASS
		5350.0	-52.66	-27	PASS
	5725-5850 MHz	5715.0	-46.45	-27	PASS
		5850.0	-44.33	-17	PASS
802.11n ht40	5150-5250 MHz	5150.0	-39.23	-27	PASS
		5350.0	-47.68	-27	PASS
	5725-5850 MHz	5715.0	-45.09	-27	PASS
		5850.0	-48.77	-17	PASS
802.11ac80	5150-5250 MHz	5140.0	-35.24	-27	PASS
		5350.0	-51.27	-27	PASS
	5725-5850 MHz	5706.9	-36.85	-27	PASS
		5850.0	-40.53	-17	PASS

NOTE: E.I.R.P BAND EDGE= Reading Level+antenna gain

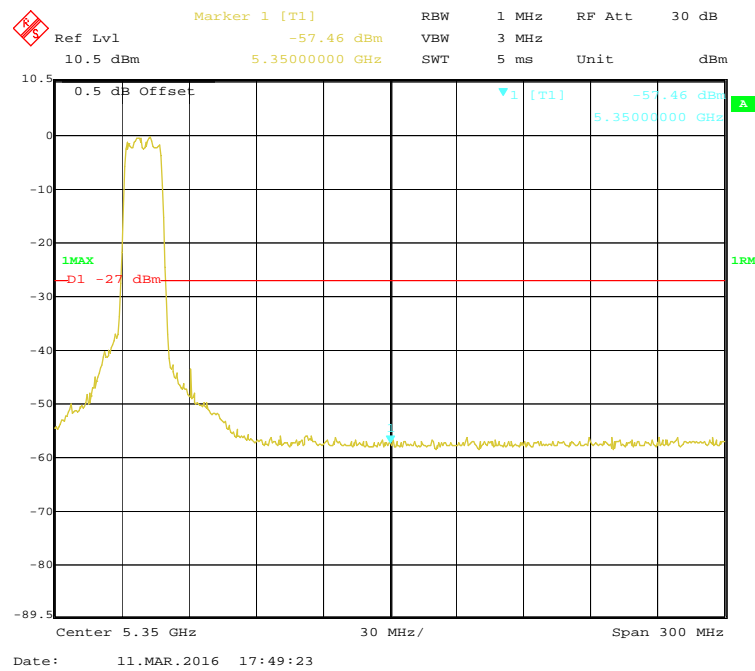
The total antenna=10Log10(10^(Chain 0/10)+10^(Chain 1/10))=5.17dBi

5150-5250 MHz Band:

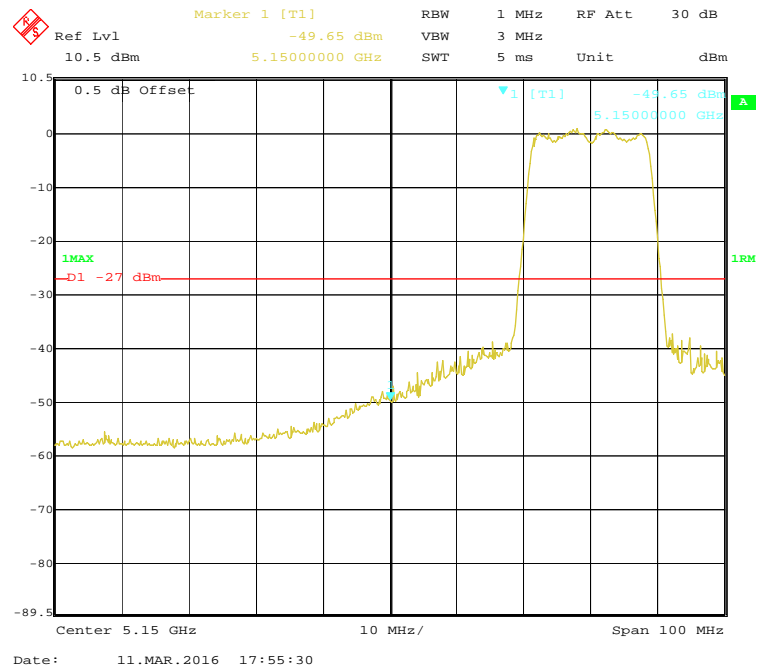
802.11a Band Edge, Left Side



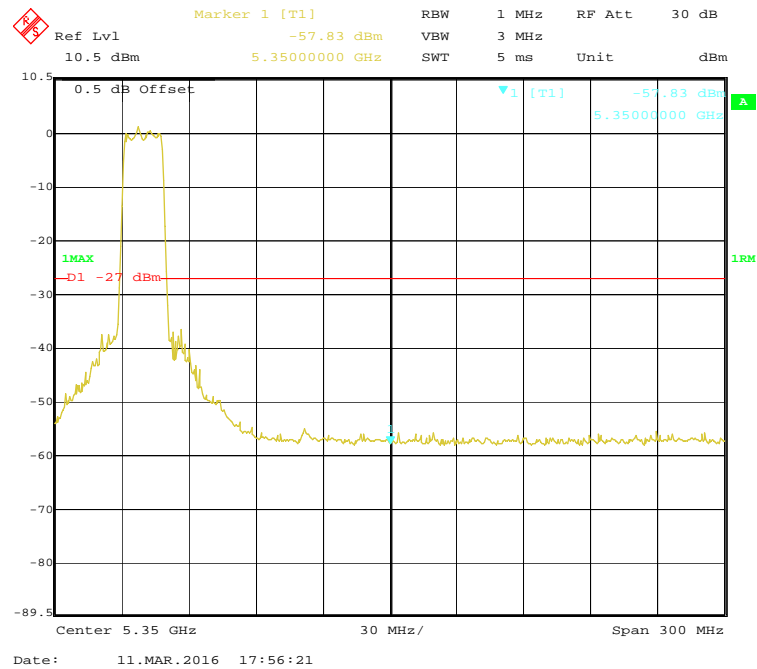
802.11a Band Edge, Right Side



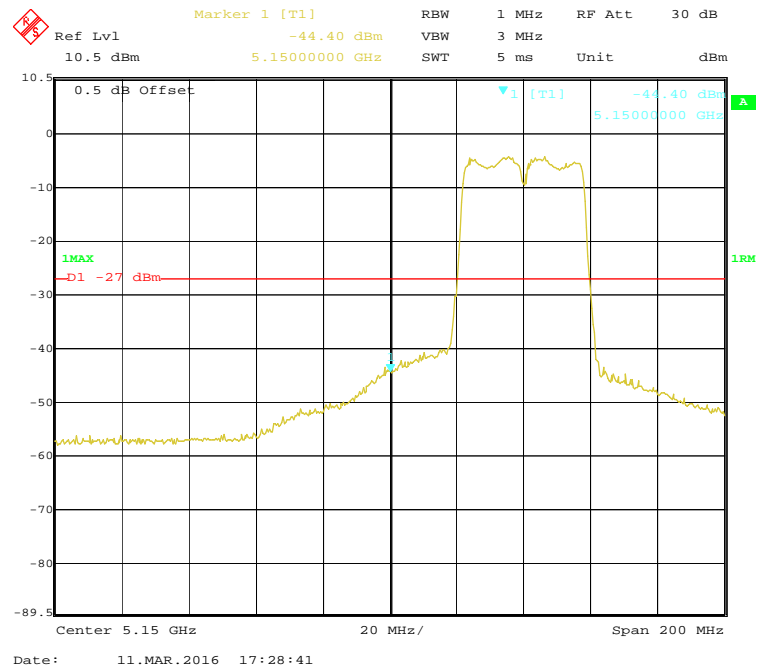
802.11n ht20 Band Edge, Left Side



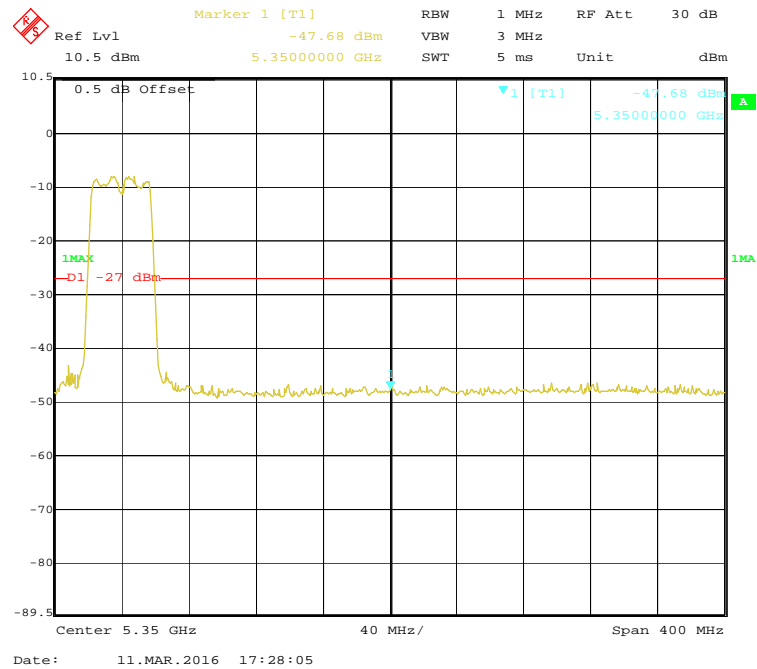
802.11n ht20 Band Edge, Right Side



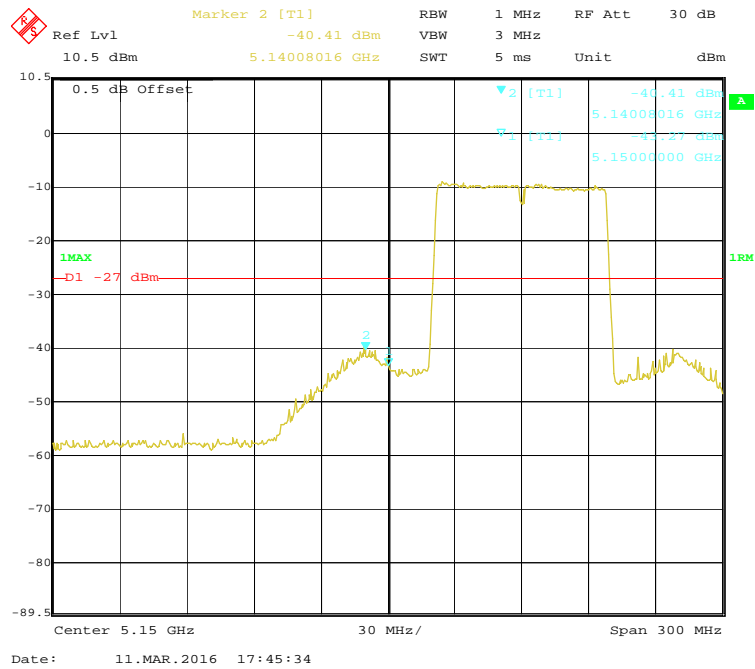
802.11n ht40 Band Edge, Left Side



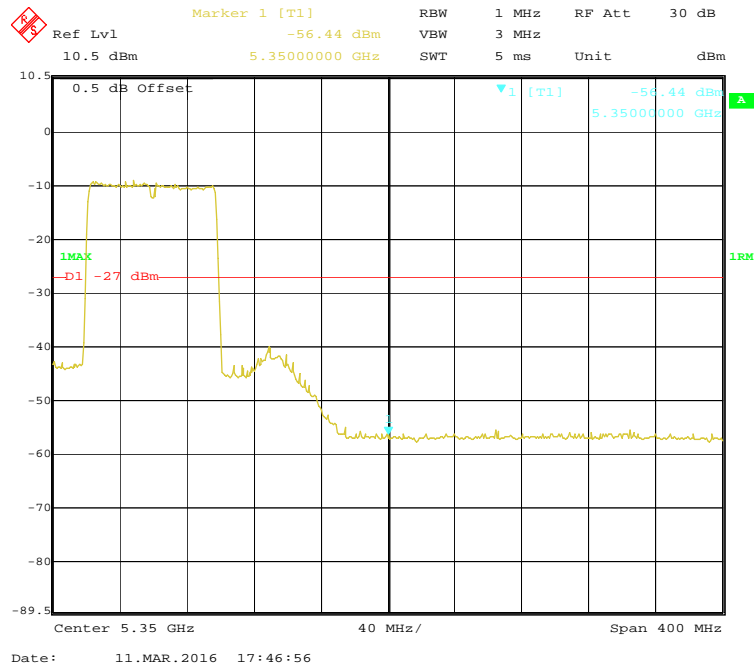
802.11n ht40 Band Edge, Right Side



802.11ac80 Band Edge, Left Side

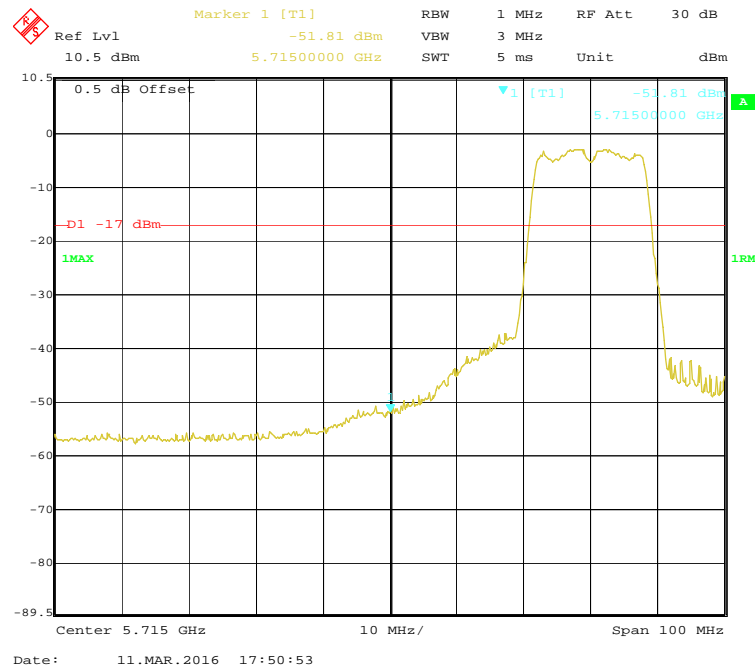


802.11ac80 Band Edge, Right Side

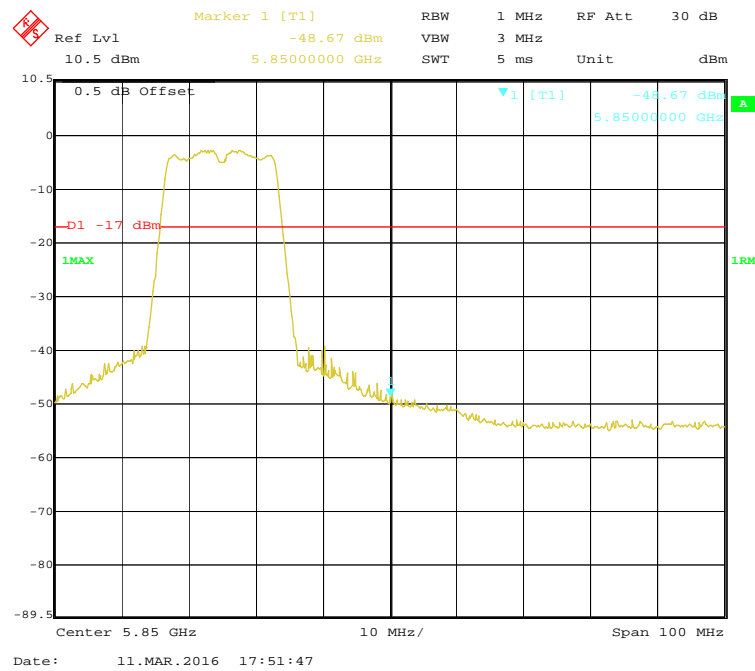


5725-5850 MHz Band:

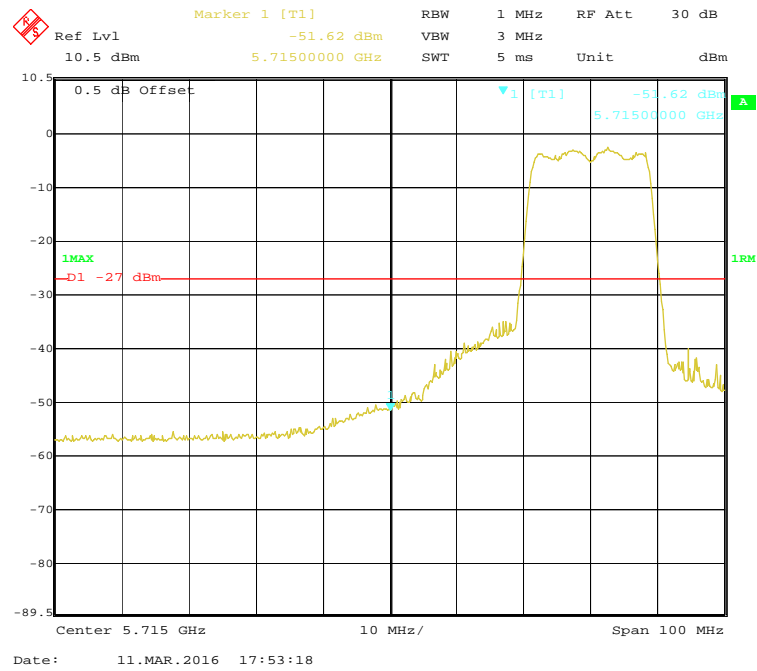
802.11a Band Edge, Left Side



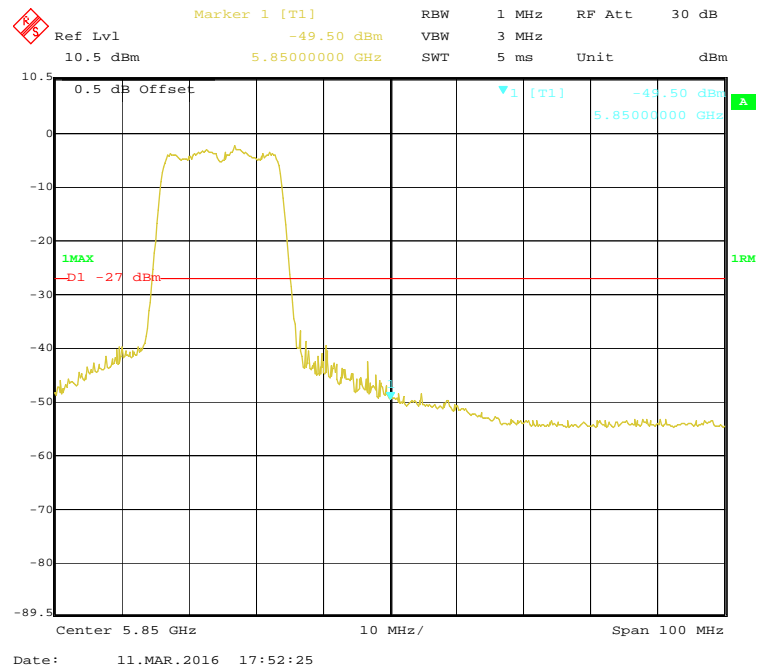
802.11a Band Edge, Right Side



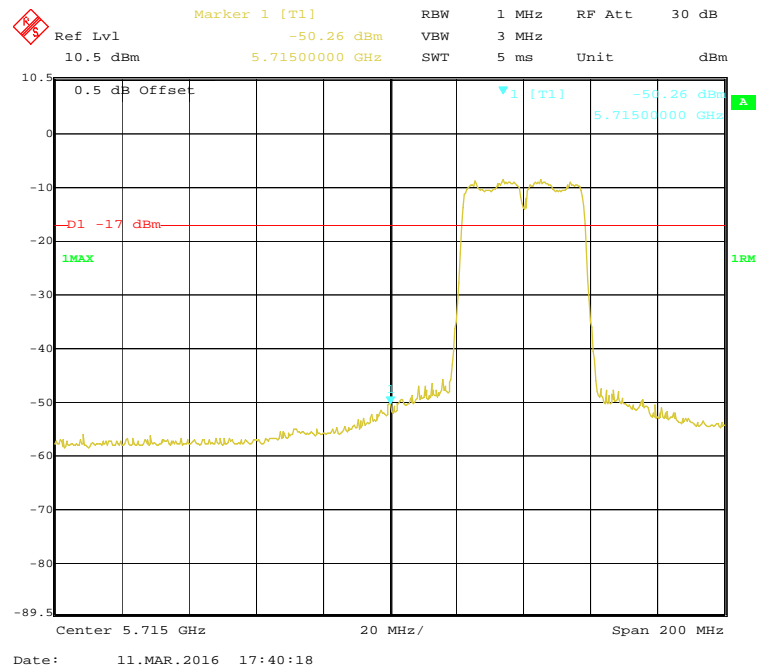
802.11n ht20 Band Edge, Left Side



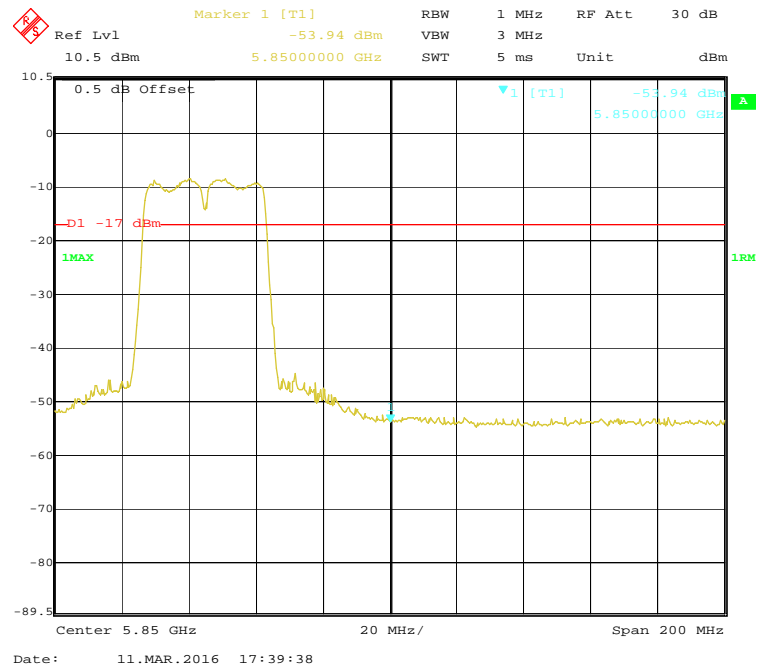
802.11n ht20 Band Edge, Right Side



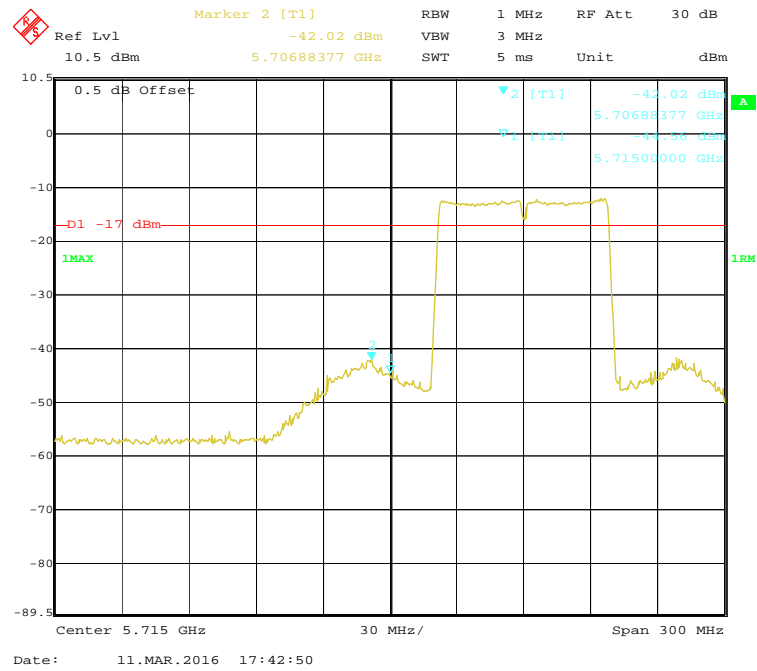
802.11n ht40 Band Edge, Left Side



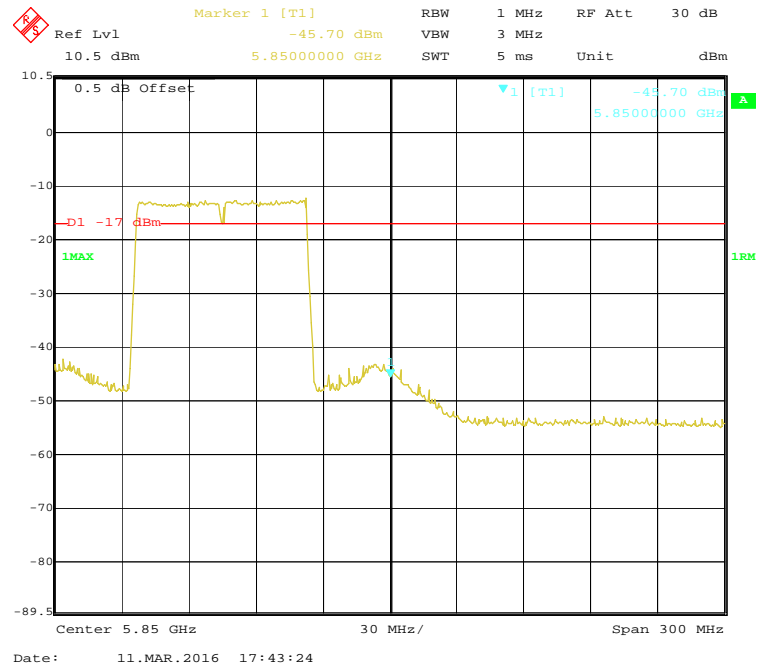
802.11n ht40 Band Edge, Right Side



802.11ac80 Band Edge, Left Side



802.11ac80 Band Edge, Right Side



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

Applicable Standard

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz is 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-12	2016-11-11
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-06-16	2016-12-15

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

Test Procedure

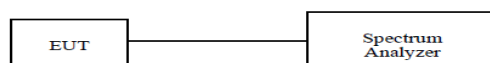
1. Emission Bandwidth (EBW)

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

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:

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



Test Data**Environmental Conditions**

Temperature:	27.5 °C
Relative Humidity:	60 %
ATM Pressure:	99.9 kPa

The testing was performed by Matt Yao on 2016-03-08.

Test Result: Pass.

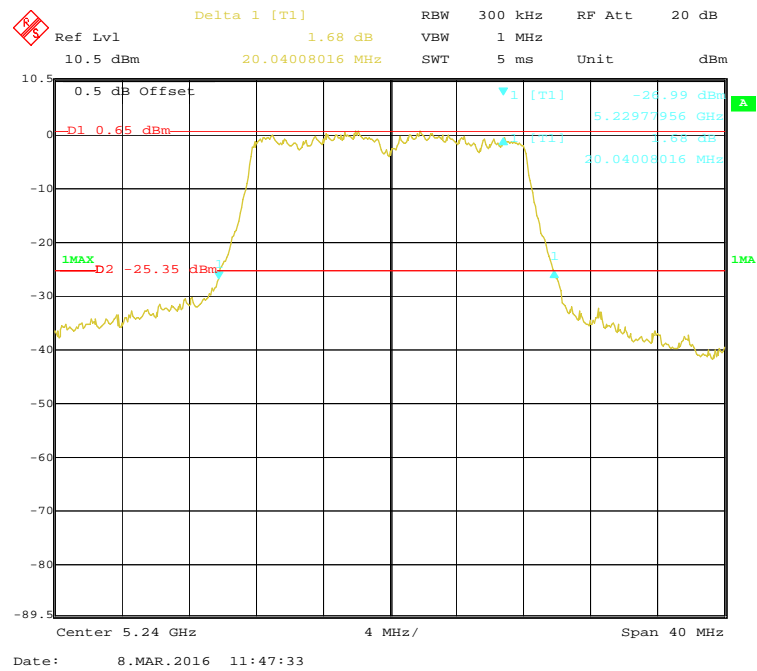
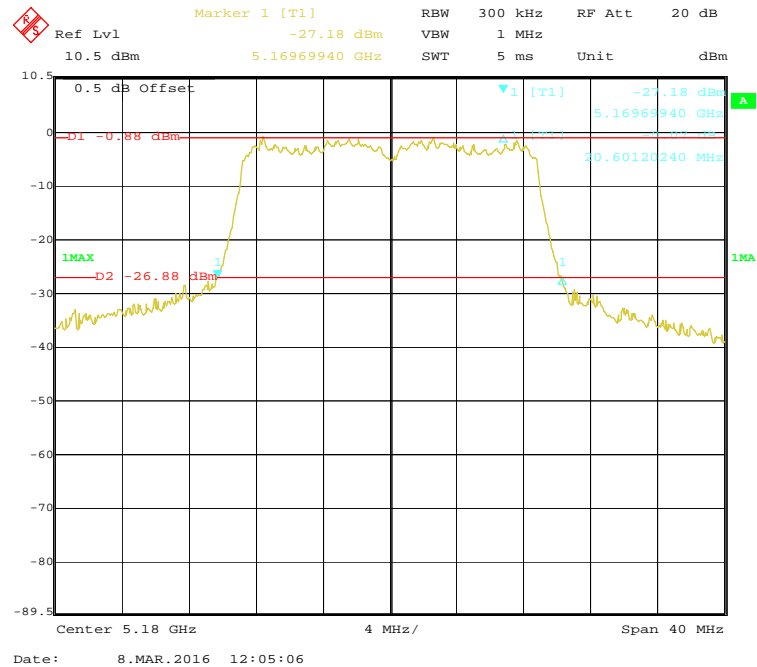
Please refer to the following tables and plots.

5150-5250 MHz:

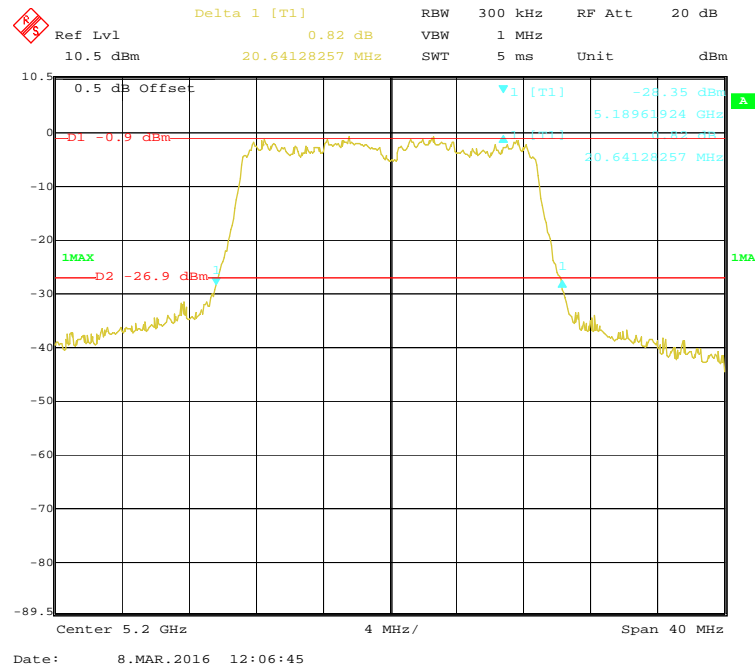
Test mode	Band	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
				Chain0	Chain1
802.11a	5150-5250 MHz	Low	5180	20.28	20.12
		Middle	5200	20.32	20.20
		High	5240	20.04	20.12
802.11n ht20	5150-5250 MHz	Low	5180	20.60	20.60
		Middle	5200	20.64	20.44
		High	5240	20.44	21.00
802.11n ht40	5150-5250 MHz	Low	5190	40.76	40.88
		High	5230	40.88	40.64
802.11ac80	5150-5250 MHz	/	5210	82.48	82.73

5725-5850MHz:

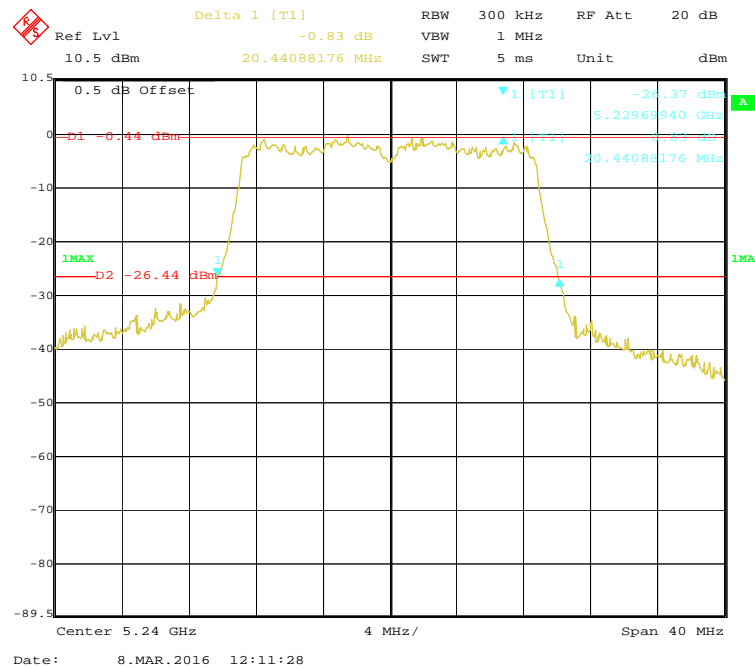
Test mode	Band	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	
				Chain0	Chain1
802.11a	5725-5850 MHz	Low	5745	16.67	16.75
		Middle	5785	16.67	16.59
		High	5825	16.59	16.75
802.11n ht20	5725-5850 MHz	Low	5745	17.88	17.80
		Middle	5785	17.88	17.80
		High	5825	17.88	17.88
802.11n ht40	5725-5850 MHz	Low	5755	36.67	36.55
		High	5795	36.71	36.67
802.11ac80	5725-5850 MHz	/	5775	77.03	77.17

802.11a mode, Chain 0: 26 Bandwidth-5240MHz**802.11n ht20 mode, Chain 0: 26 Bandwidth-5180MHz**

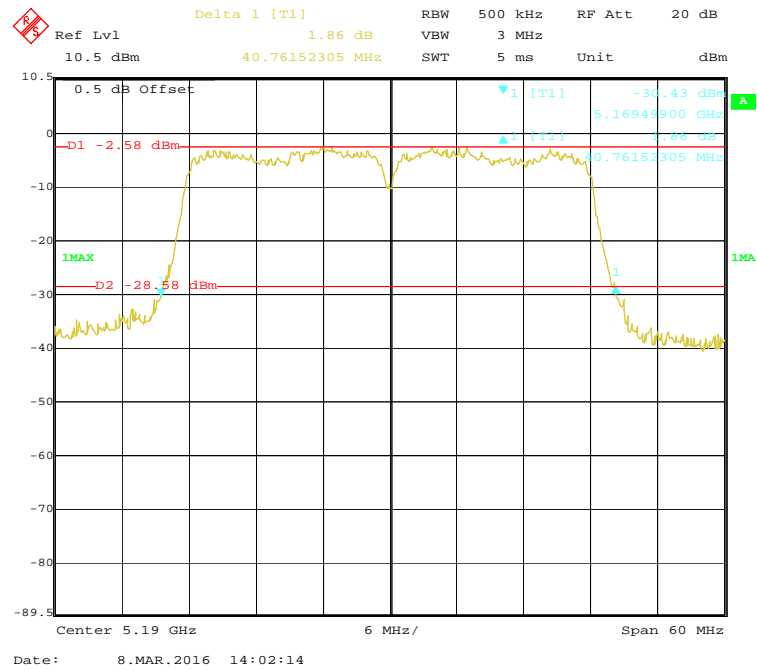
802.11n ht20 mode, Chain 0: 26 Bandwidth-5220MHz



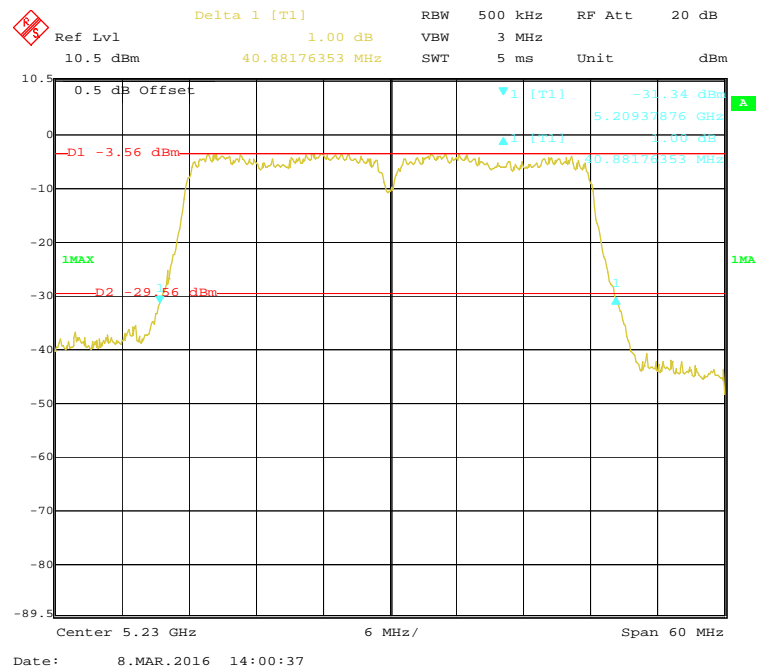
802.11n ht20 mode, Chain 0: 26 Bandwidth-5240MHz

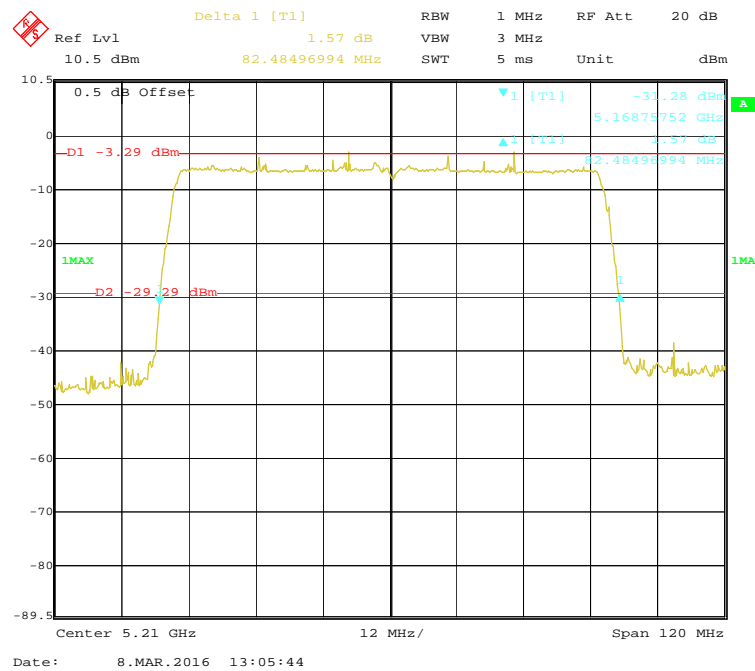
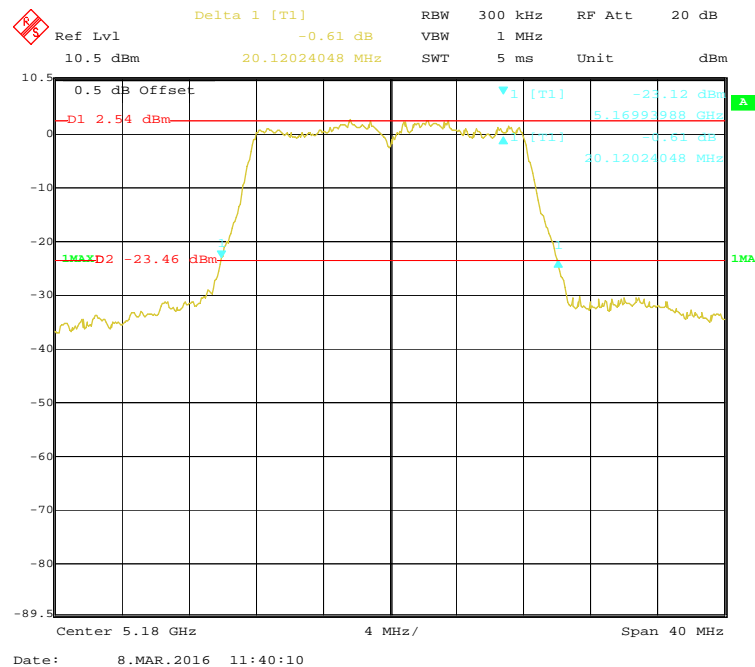


802.11n ht40 mode, Chain 0: 26 Bandwidth-5190MHz

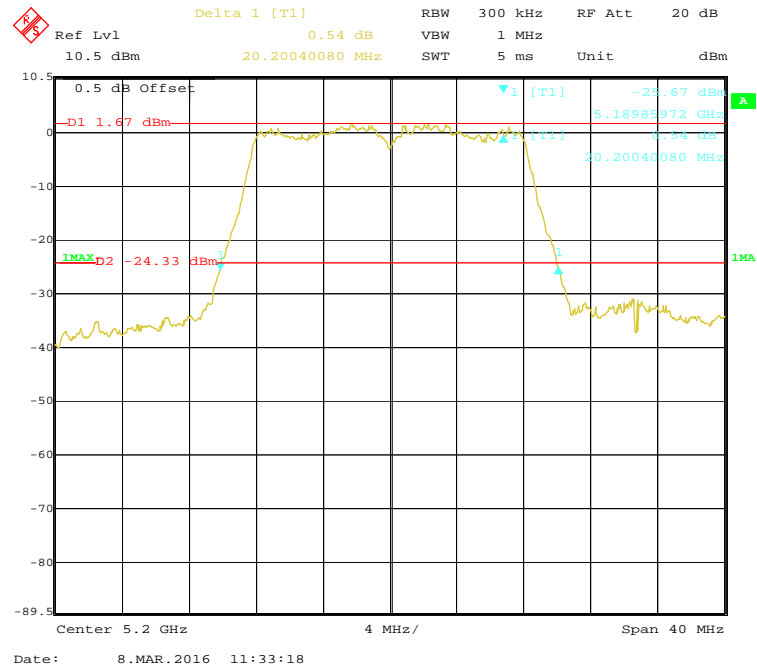


802.11n ht40 mode, Chain 0: 26 Bandwidth-5230MHz

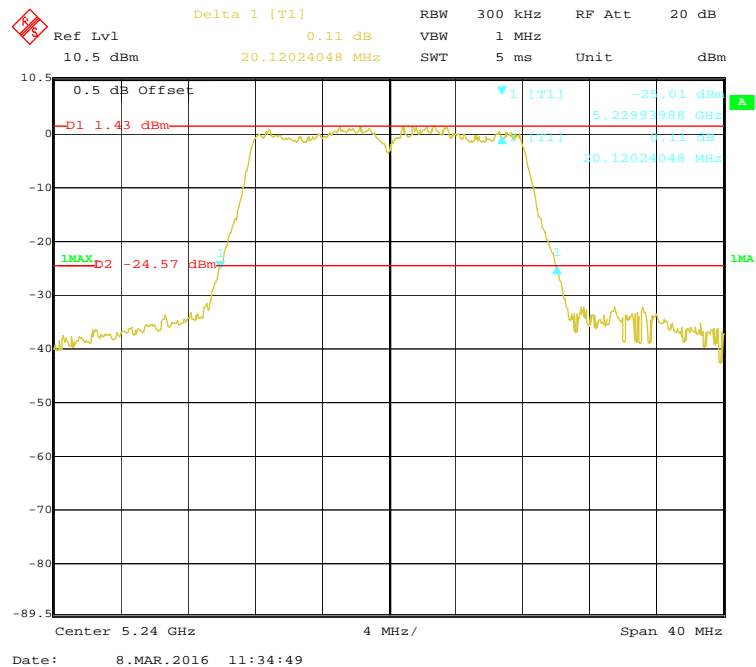


802.11ac80 mode, Chain 0: 26 Bandwidth-5210MHz**802.11a mode, Chain 1: 26 Bandwidth-5180MHz**

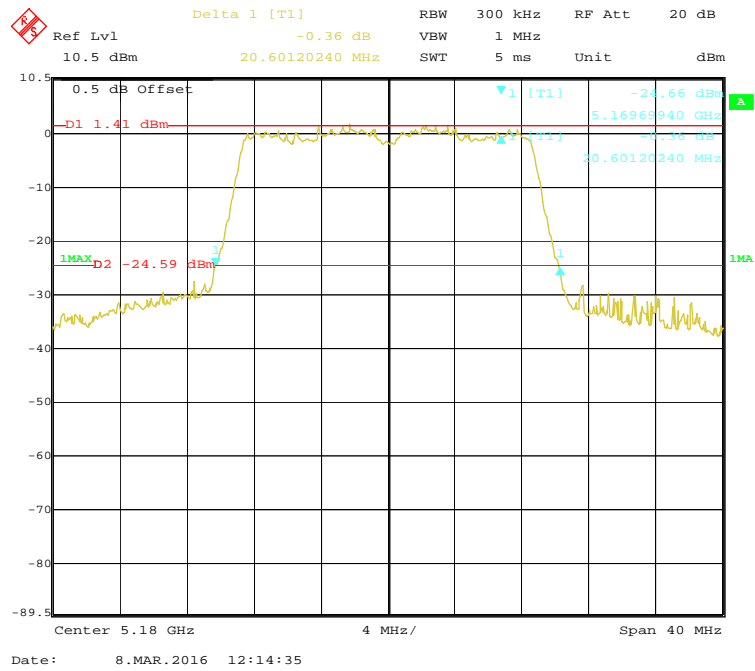
802.11a mode, Chain 1: 26 Bandwidth-5200MHz



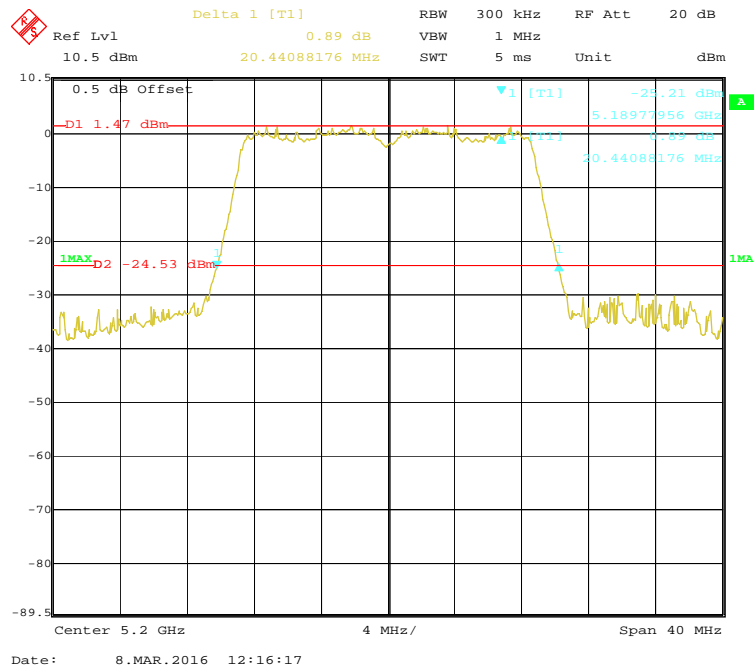
802.11a mode, Chain 1: 26 Bandwidth-5240MHz



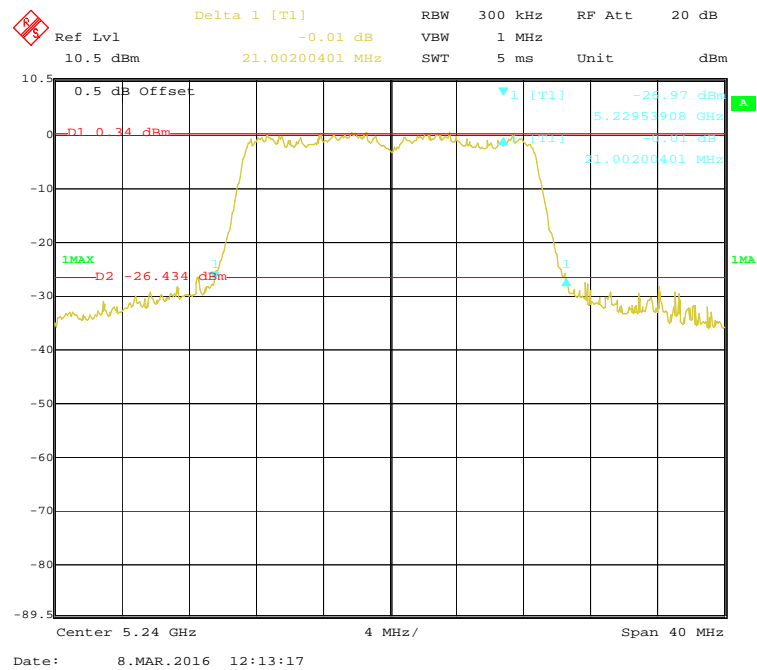
802.11n ht20 mode, Chain 1: 26 Bandwidth-5180MHz



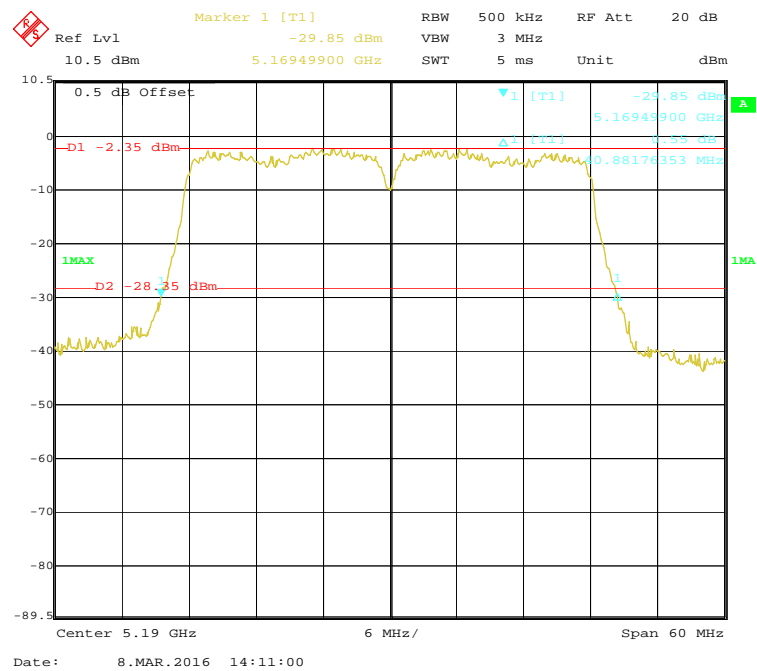
802.11n ht20 mode, Chain 1: 26 Bandwidth-5200MHz

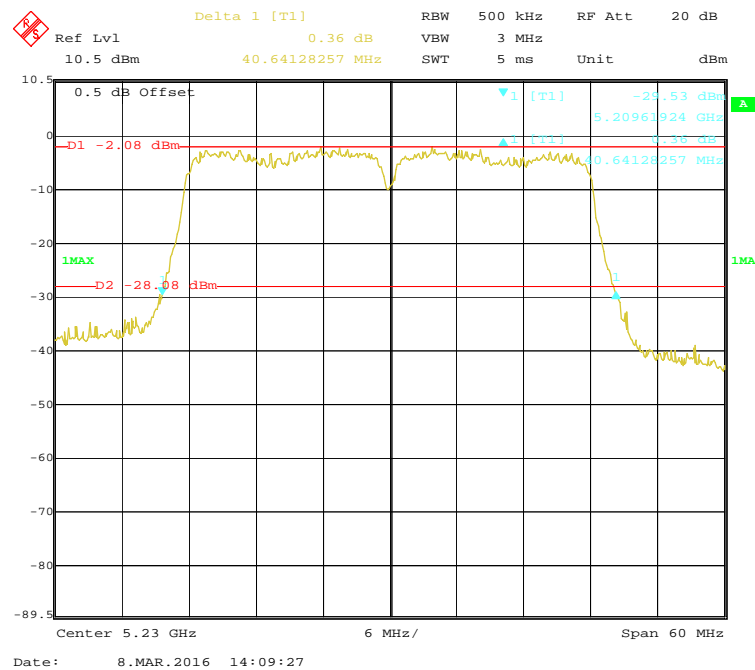
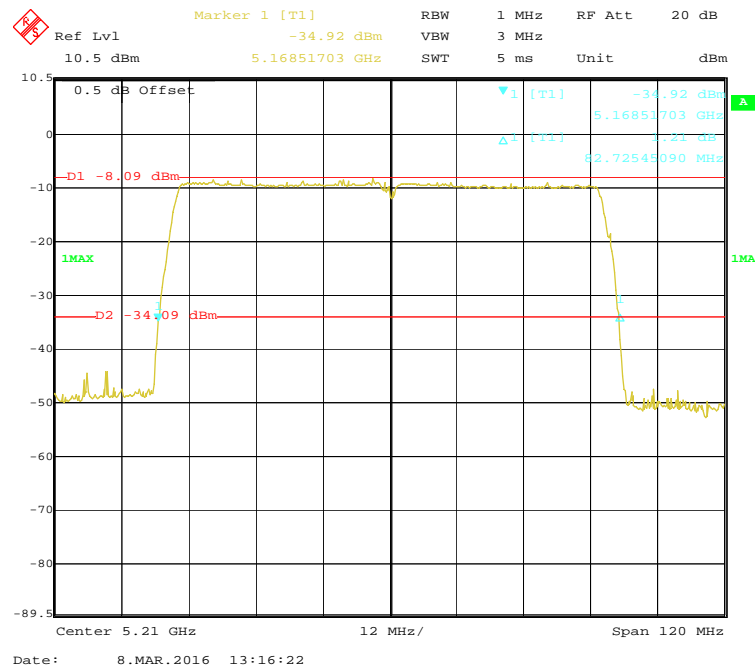


802.11n ht20 mode, Chain 1: 26 Bandwidth-5240MHz



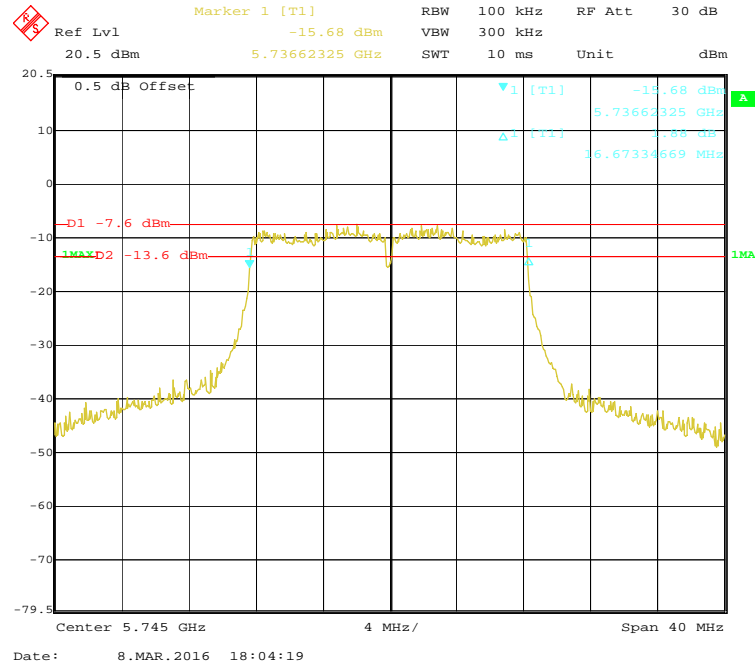
802.11n ht40 mode, Chain 1: 26 Bandwidth-5190MHz



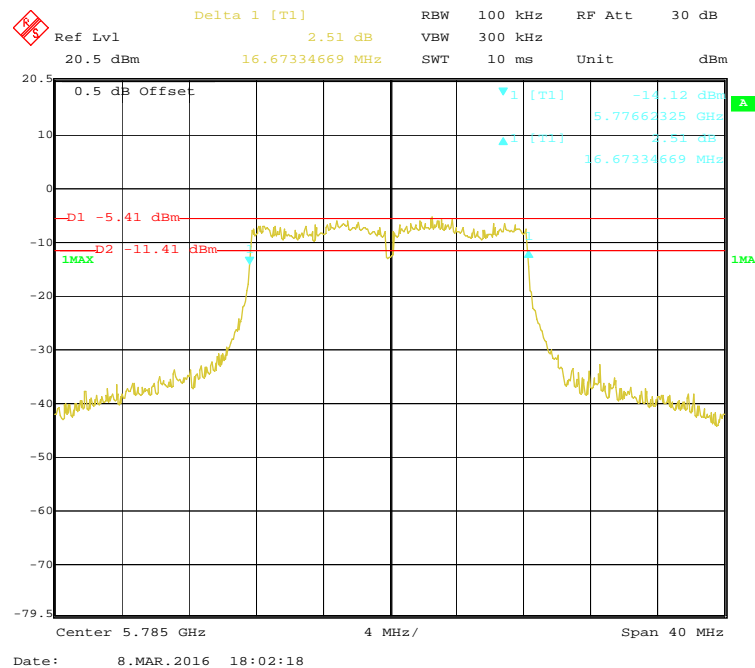
802.11n ht40 mode, Chain 1: 26 Bandwidth-5230MHz**802.11ac80 mode, Chain 1: 26 Bandwidth-5210MHz**

5725-5850 MHz Band:

802.11a mode, Chain 0: 6 Bandwidth-5745MHz



802.11a mode, Chain 0: 6 Bandwidth-5785MHz



Ref Lvl 20.5 dBm **Delta 1 [T1]** 0.26 dB **RBW** 100 kHz **RF Att** 30 dB
VBW 300 kHz **SWT** 10 ms **Unit** dBm

Center 5.825 GHz **Span** 40 MHz **4 MHz/**

Date: 8.MAR.2016 17:59:31

Delta 1 [T1]

Ref Lvl 20.5 dBm

3.66 dB

RBW 100 kHz

VBW 300 kHz

RF Att 30 dB

SWT 10 ms

Unit dBm

0.5 dB Offset

1MAX

D1 -10.55 dBm

D2 -16.55 dBm

1 [T1]

1 [T1]

-20.23 dBm

5.73598196 GHz

17.87575150 MHz

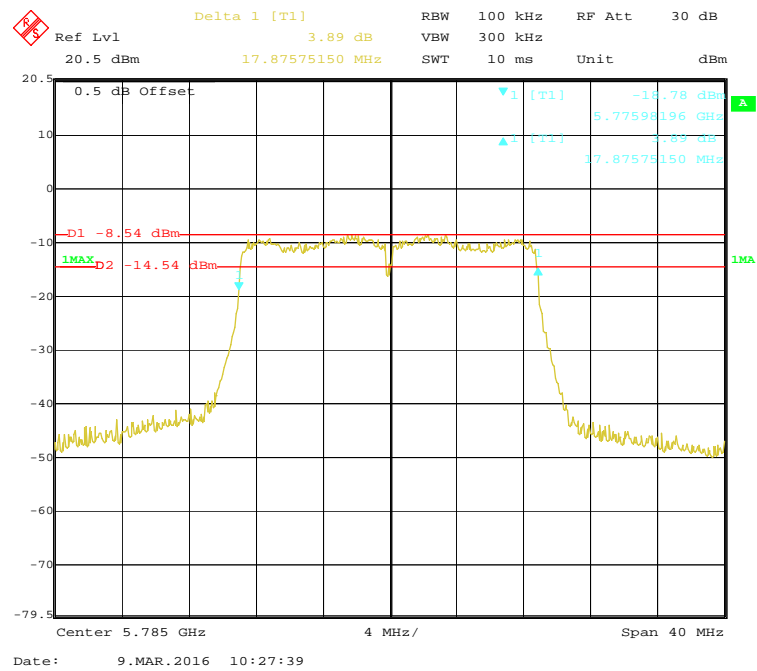
Center 5.745 GHz

4 MHz/

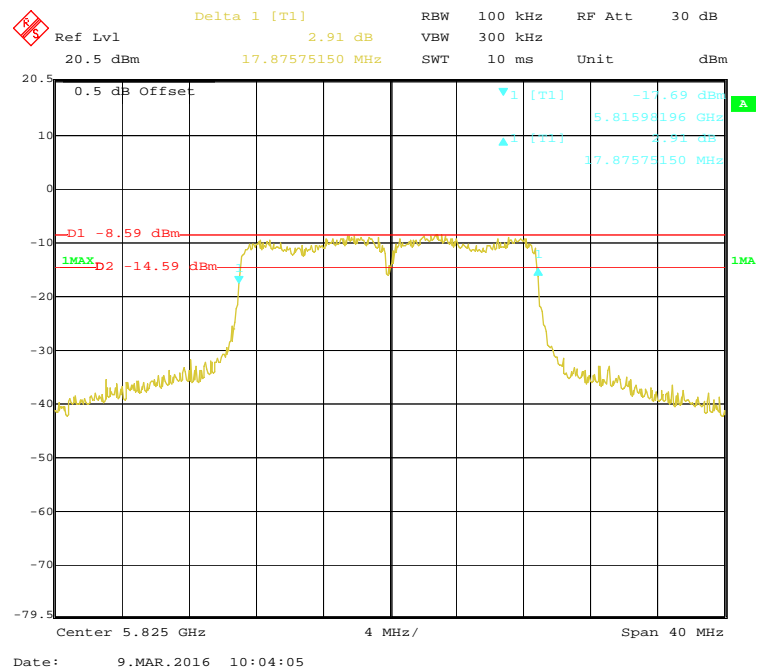
Span 40 MHz

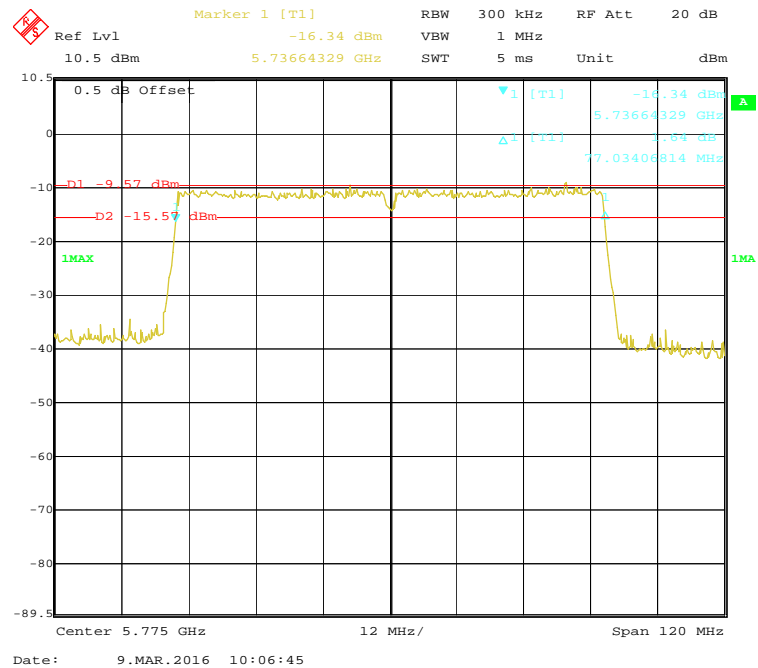
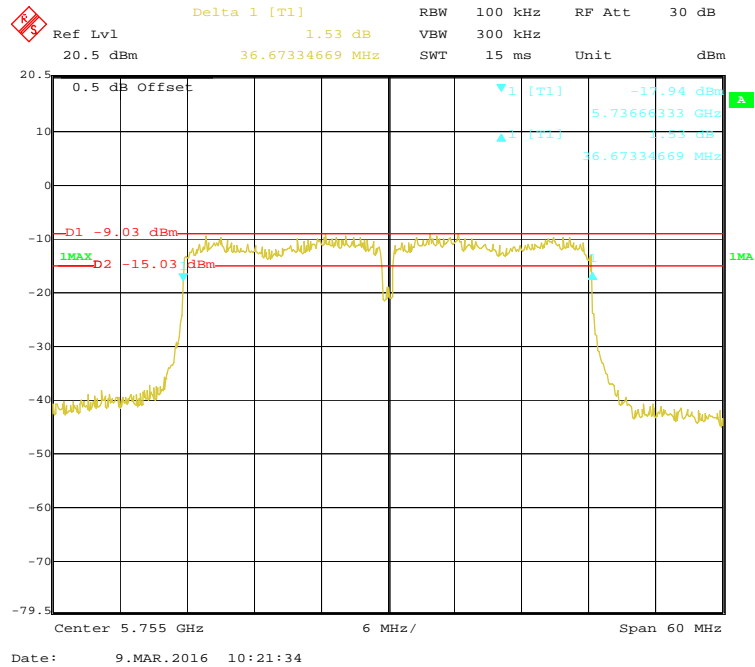
Date: 9.MAR.2016 10:07:57

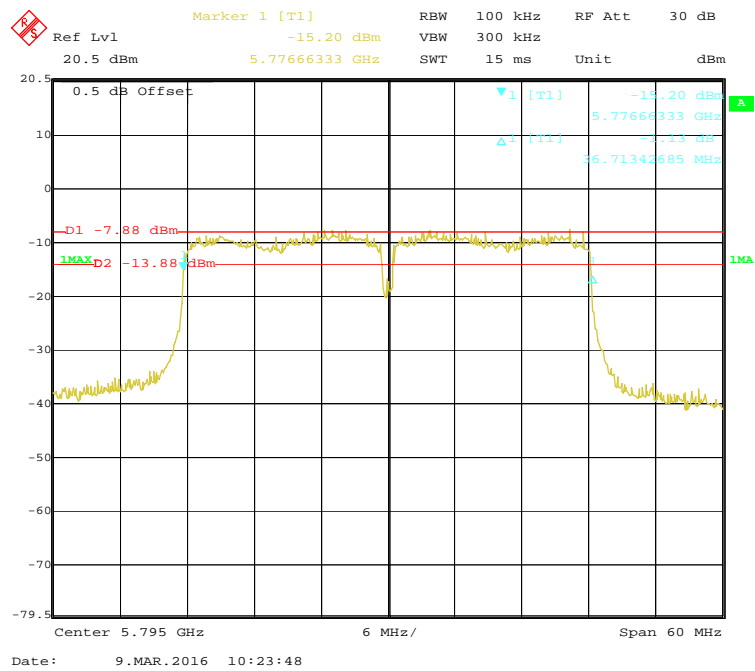
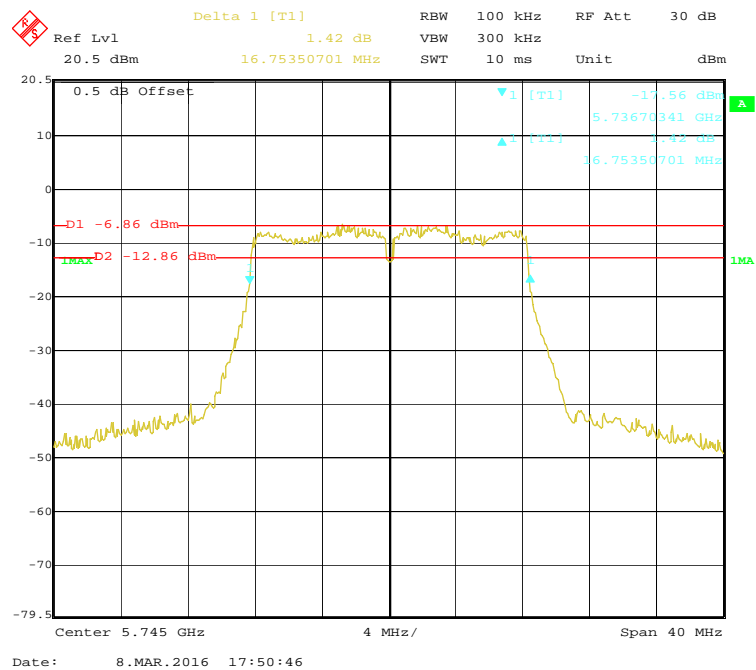
802.11n ht20 mode, Chain 0: 6 Bandwidth-5785MHz



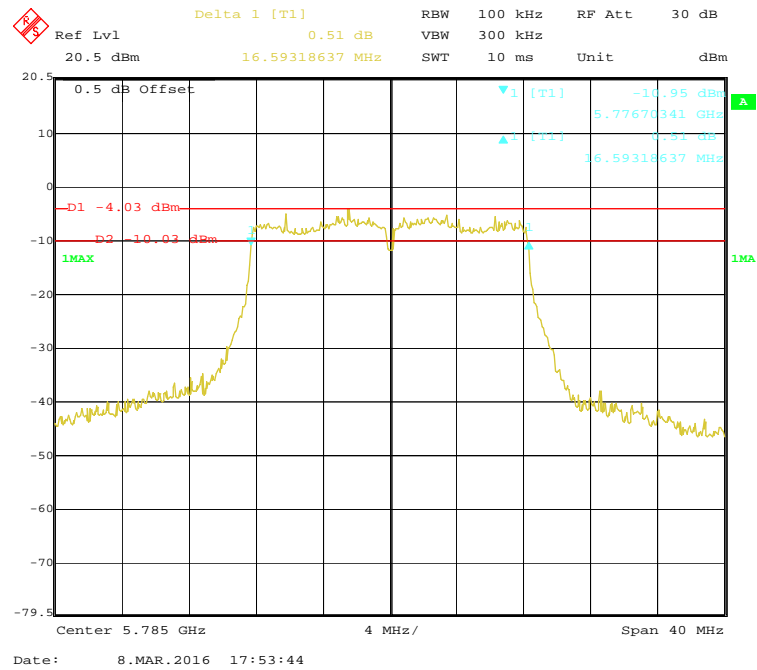
802.11n ht20 mode, Chain 0: 6 Bandwidth-5825MHz



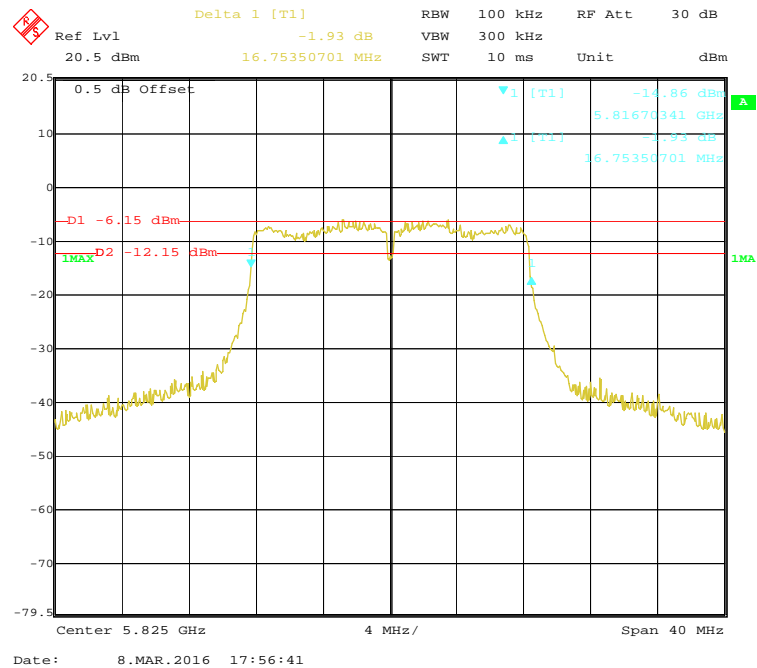
802.11ac80 mode, Chain 0: 6 Bandwidth-5775MHz**802.11n ht40 mode, Chain 0: 6 Bandwidth-5755MHz**

802.11n ht40 mode, Chain 0: 6 Bandwidth-5795MHz**802.11a mode, Chain 1: 6 Bandwidth-5745MHz**

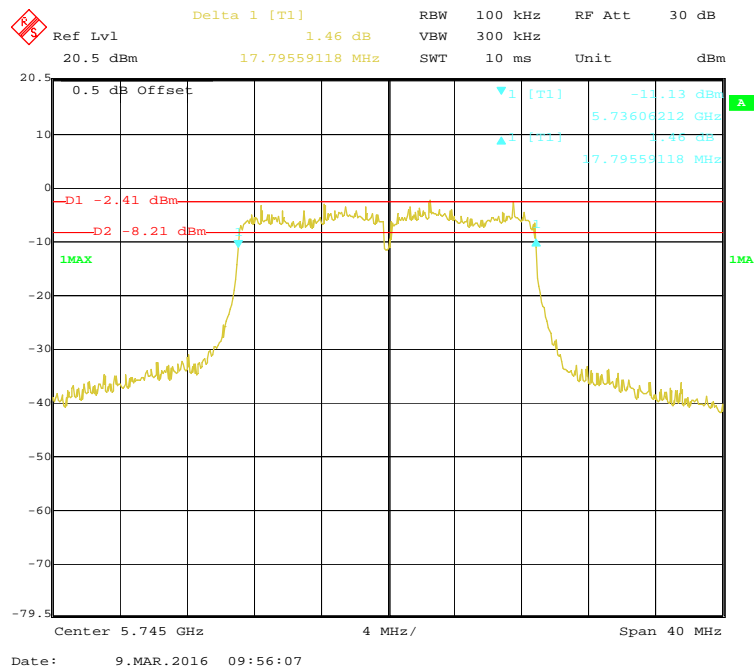
802.11a mode, Chain 1: 6 Bandwidth-5785MHz



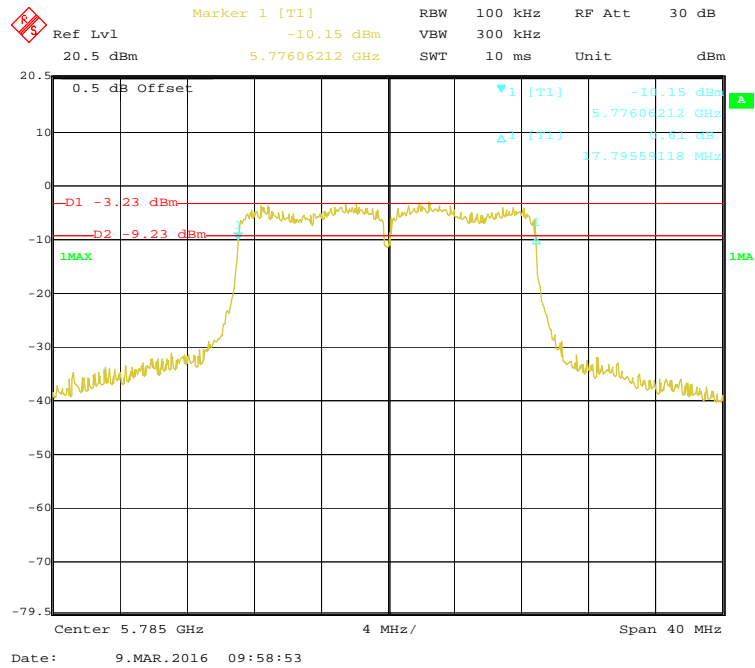
802.11a mode, Chain 1: 6 Bandwidth-5825MHz

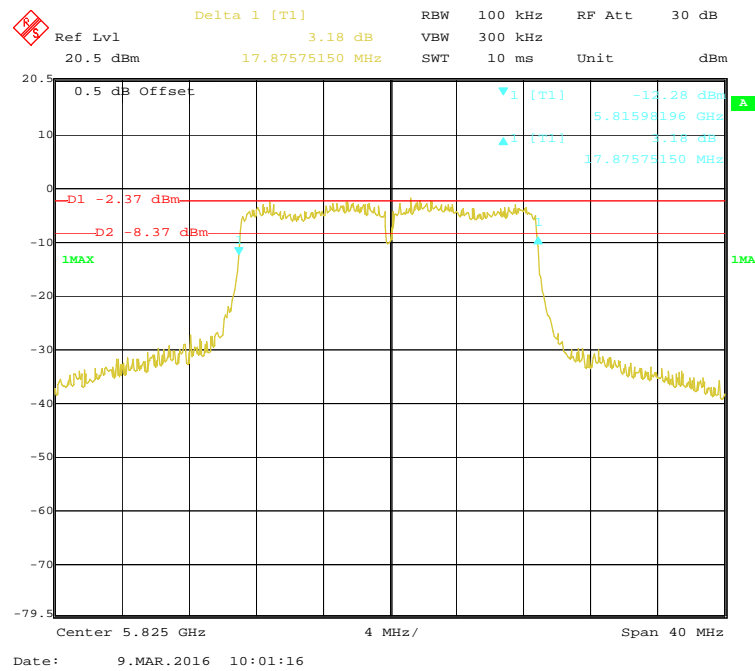
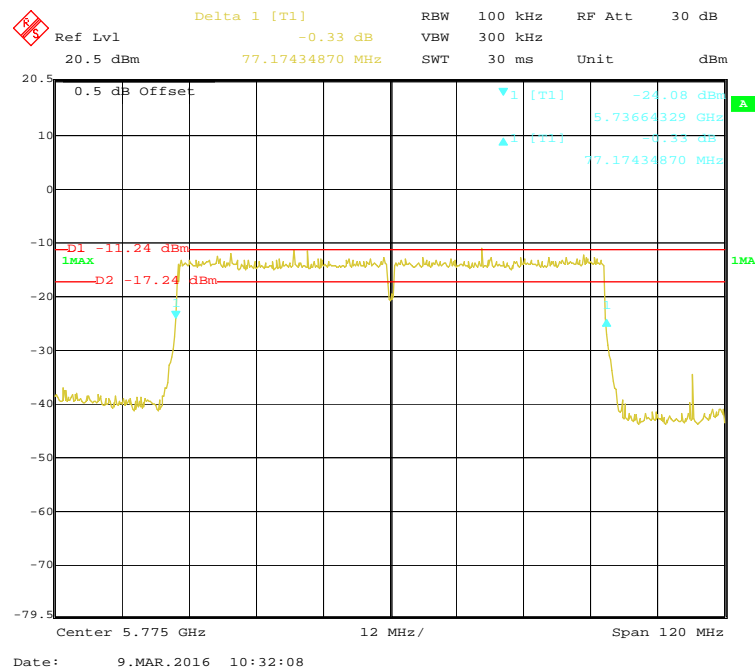


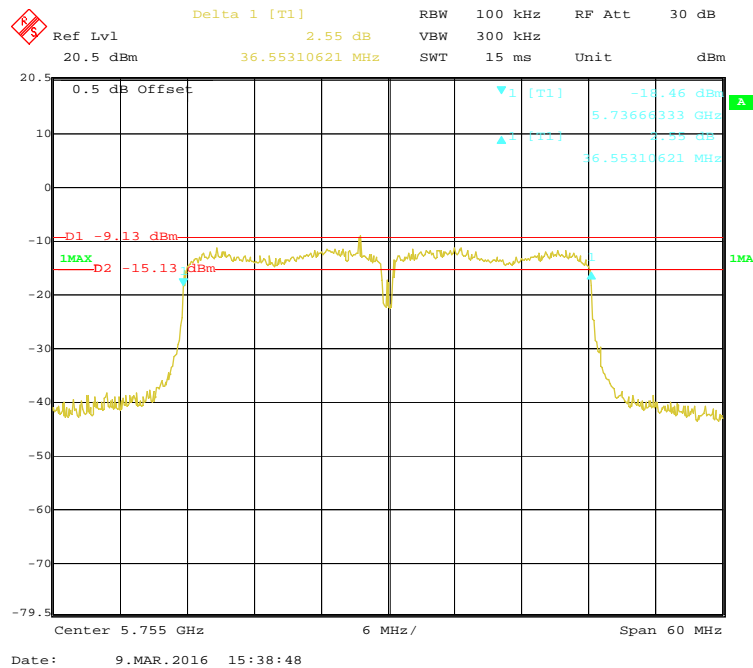
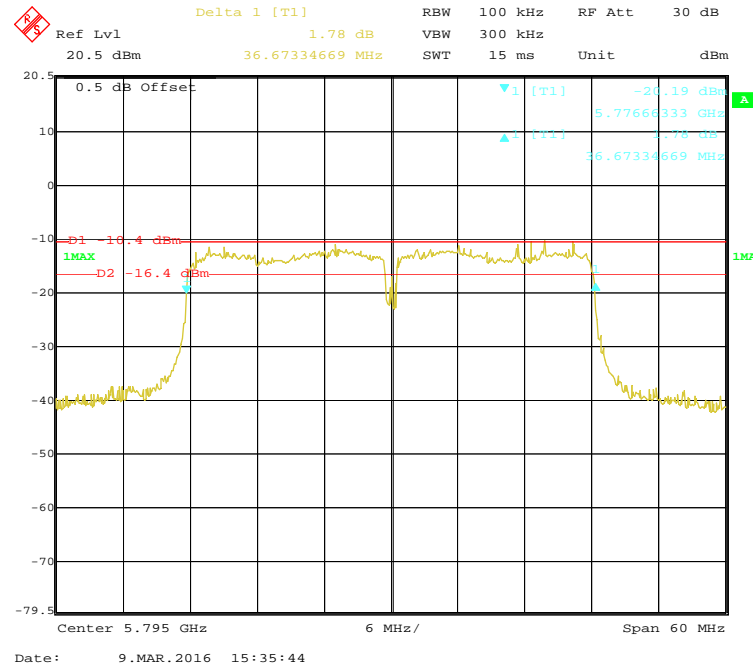
802.11n ht20 mode, Chain 1: 6 Bandwidth-5745MHz



802.11n ht20 mode, Chain 1: 6 Bandwidth-5785MHz



802.11n ht20 mode, Chain 1: 6 Bandwidth-5825MHz**802.11ac80 mode, Chain 1: 6 Bandwidth-5775MHz**

802.11n ht40 mode, Chain 1: 6 Bandwidth-5755MHz**802.11n ht40 mode, Chain 1: 6 Bandwidth-5795MHz**

FCC §15.407(a) (1) – 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.

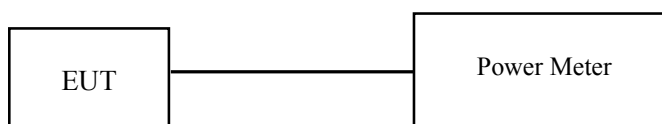
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	OSP120 BASE UNIT	OSP120	101247	2014-5-27	2016-5-27
Rohde & Schwarz	Power Sensor	NRP-Z91	200014	2015-8-1	2017-7-31
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-6-16	2016-12-15

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

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:	27.5 °C
Relative Humidity:	60 %
ATM Pressure:	99.9 kPa

The testing was performed by Matt Yao on 2016-03-07&2016-03-09.

Test Mode: Transmitting

Test mode	Band	Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)			Limit (dBm)	Result
				Chain0	Chain1	Total		
802.11a	5150-5250 MHz	Low	5180	10.21	9.35	12.81	30	PASS
		Middle	5200	9.86	10.16	13.02	30	PASS
		High	5240	9.99	9.22	12.63	30	PASS
	5725-5850 MHz	Low	5745	11.26	10.28	13.81	30	PASS
		Middle	5785	12.07	10.12	14.21	30	PASS
		High	5825	11.74	9.36	13.72	30	PASS
802.11n ht20	5150-5250 MHz	Low	5180	9.69	8.84	12.30	30	PASS
		Middle	5200	9.28	9.31	12.31	30	PASS
		High	5240	9.54	8.96	12.27	30	PASS
	5725-5850 MHz	Low	5745	10.43	8.64	12.64	30	PASS
		Middle	5785	10.13	8.46	12.39	30	PASS
		High	5825	10.43	8.76	12.69	30	PASS
802.11n ht40	5150-5250 MHz	Low	5190	7.45	7.12	10.30	30	PASS
		High	5230	8.32	7.35	10.87	30	PASS
	5725-5850 MHz	Low	5755	8.06	6.01	10.17	30	PASS
		High	5795	8.41	5.26	10.12	30	PASS
802.11ac80	5150-5250 MHz	/	5210	6.50	5.33	8.96	30	PASS
	5725-5850 MHz	/	5775	5.17	5.15	8.17	30	PASS

Note:

1. The total output power= $10\log_{10}(10^{\wedge}(\text{Chain } 0/10)+10^{\wedge}(\text{Chain } 1/10))$
2. The transmitting duty cycle is 100%.

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

Applicable Standard

According to § 15.407(a)(1)

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

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

According to § 15.407(a)(3)

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

Test Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Proceдыres New Rules v01:Guidelines for Compliance Testing of Unlicensed National Information Infrastructure(U-NII)Devices section F: Maximum power spectral density(PPSD)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-12	2016-11-11
BACL	RF cable	KS-LAB-012	KS-LAB-012	2015-06-16	2016-12-15

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

Test Data

Environmental Conditions

Temperature:	27.5 °C
Relative Humidity:	60 %
ATM Pressure:	99.9 kPa

The testing was performed by Matt Yao on 2016-03-08&2016-03-09

Test Mode: Transmitting

5150MHz-5250MHz:

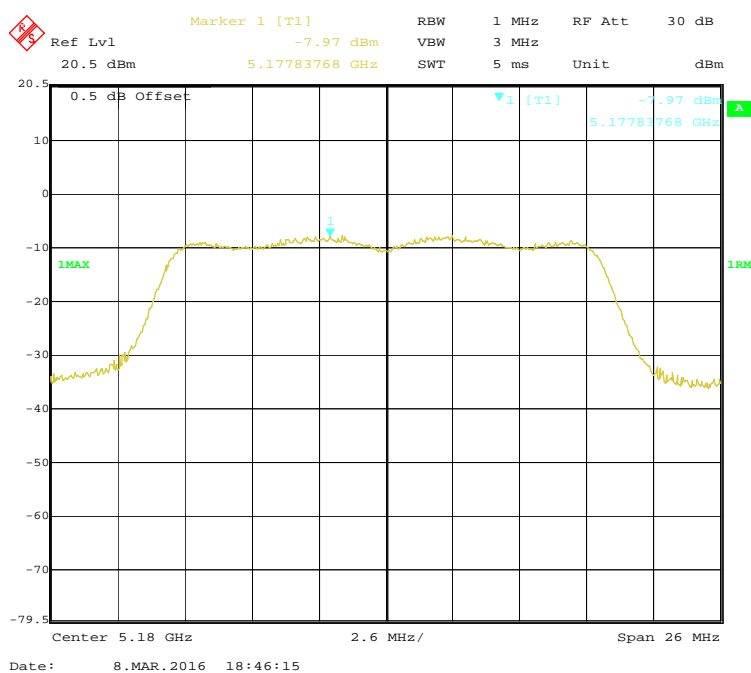
Mode	Channel	Frequency MHz	PSD (dBm/MHz)			Limit (dBm/MHz)	Result
			Chain0	Chain1	Total		
802.11a	Low	5180	-7.97	-6.54	-4.19	17	PASS
	Middle	5200	-8.02	-9.26	-5.59	17	PASS
	High	5240	-6.57	-9.86	-4.90	17	PASS
802.11n20	Low	5180	-7.51	-7.03	-4.25	17	PASS
	Middle	5200	-7.40	-6.84	-4.10	17	PASS
	High	5240	-6.15	-6.97	-3.53	17	PASS
802.11n40	Low	5190	-13.12	-12.67	-9.88	17	PASS
	High	5230	-11.25	-12.86	-8.97	17	PASS
802.11ac80	/	5210	-11.43	-13.54	-9.35	17	PASS

5725MHz-5850MHz:

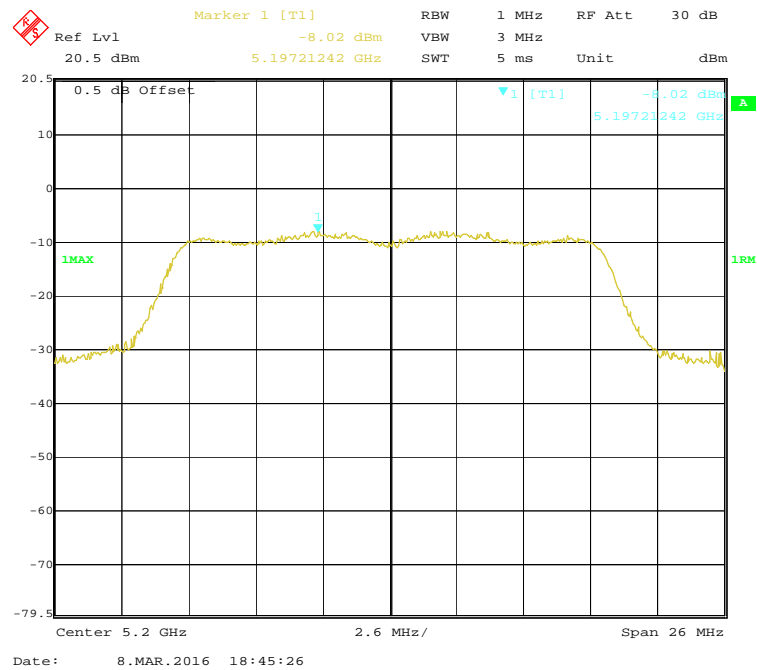
Mode	Channel	Frequency MHz	PSD (dBm/500kHz)			Limit (dBm/500kHz)	Result
			Chain0	Chain1	Total		
802.11a	Low	5745	-3.05	-4.14	-0.55	30	PASS
	Middle	5785	-3.16	-4.84	-0.91	30	PASS
	High	5825	-3.00	-5.34	-1.00	30	PASS
802.11n20	Low	5745	-2.91	-3.99	-0.41	30	PASS
	Middle	5785	-2.36	-2.58	0.54	30	PASS
	High	5825	-2.24	-1.79	1.00	30	PASS
802.11n40	Low	5755	-6.59	-6.29	-3.43	30	PASS
	High	5795	-6.57	-8.98	-4.60	30	PASS
802.11ac80	/	5775	-12.36	-13.31	-9.80	30	PASS

Note: The total PSD = $10 \log_{10}(10^{\text{Chain 0}/10} + 10^{\text{Chain 1}/10})$

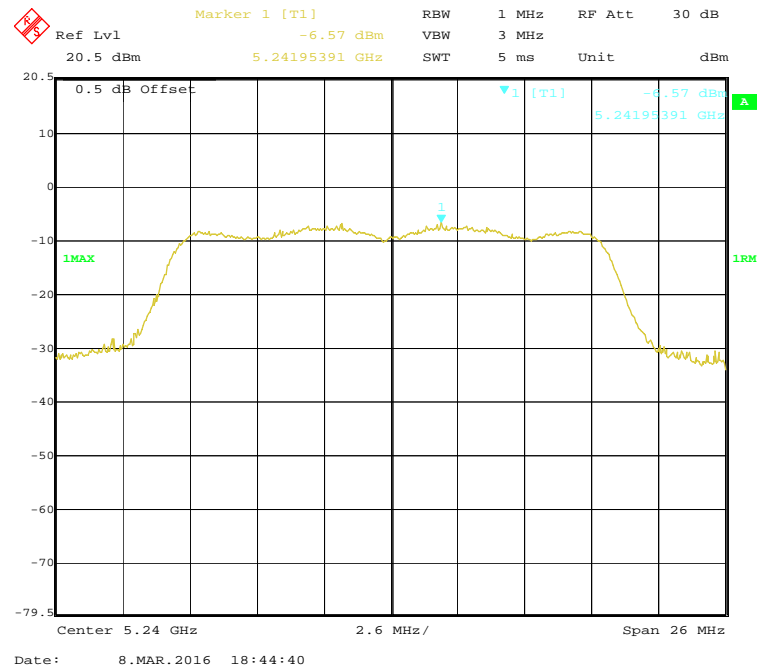
5150MHz-5250MHz Band:

802.11a mode, Chain 0: Power spectral density-5180MHz

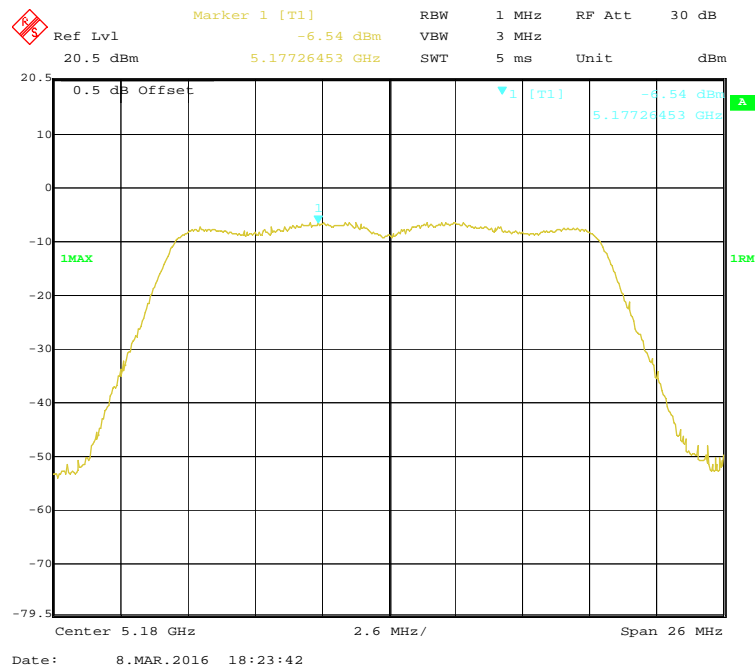
802.11a mode, Chain 0: Power spectral density-5200MHz



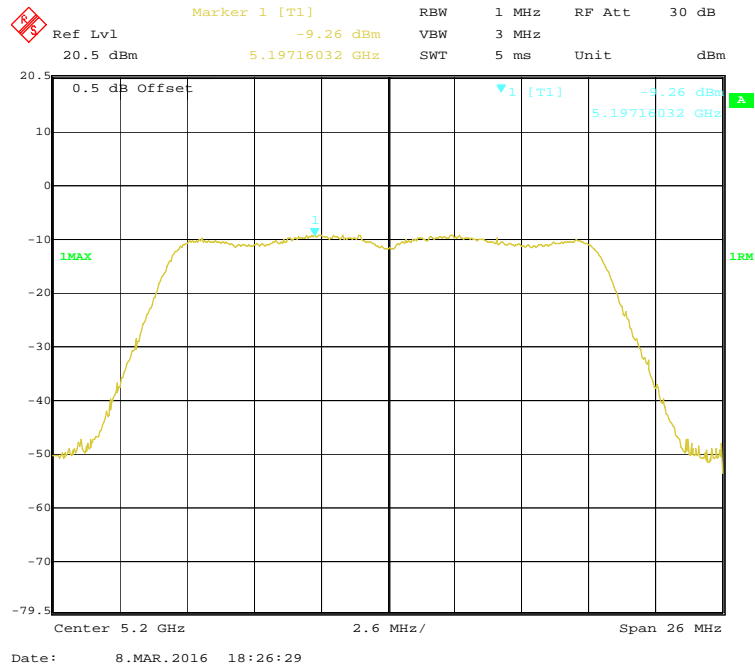
802.11a mode, Chain 0: Power spectral density-5240MHz



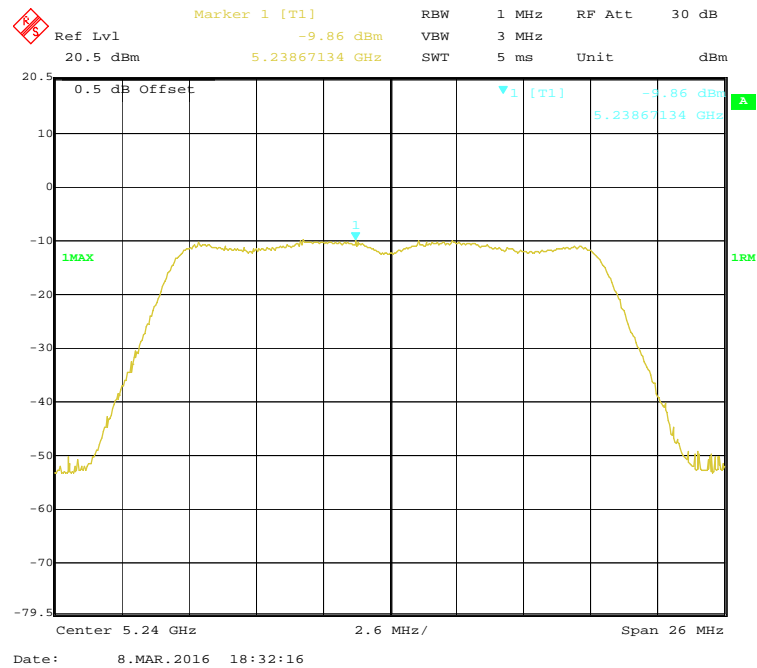
802.11a mode, Chain 1: Power spectral density-5180MHz



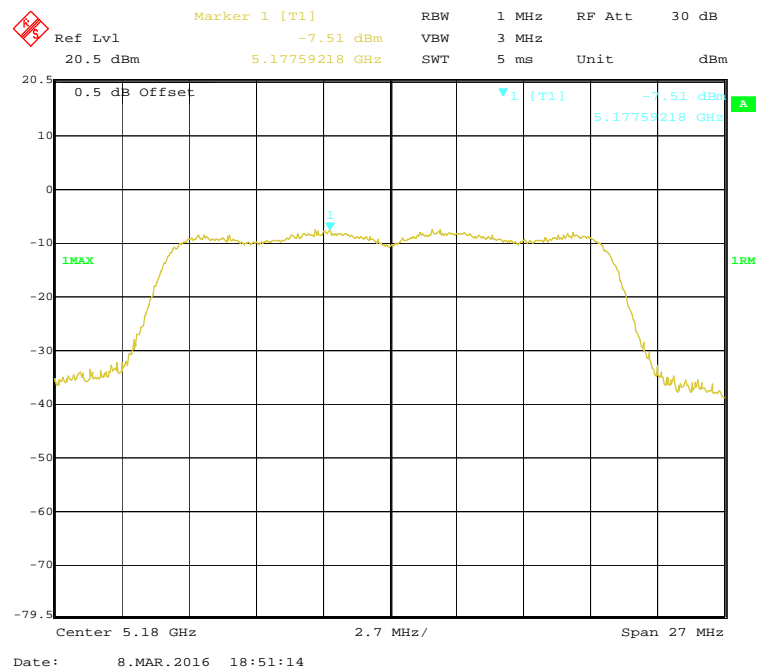
802.11a mode, Chain 1: Power spectral density-5200MHz



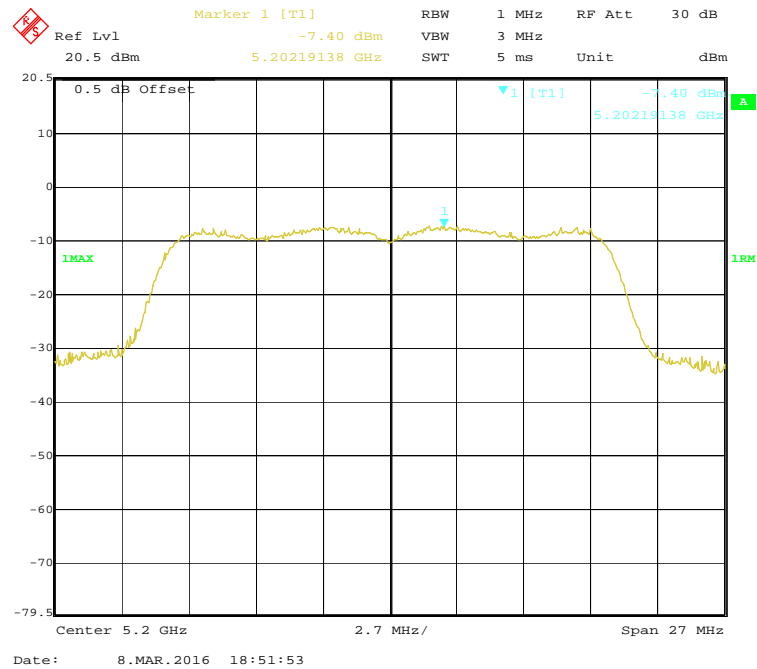
802.11a mode, Chain 1: Power spectral density-5240MHz



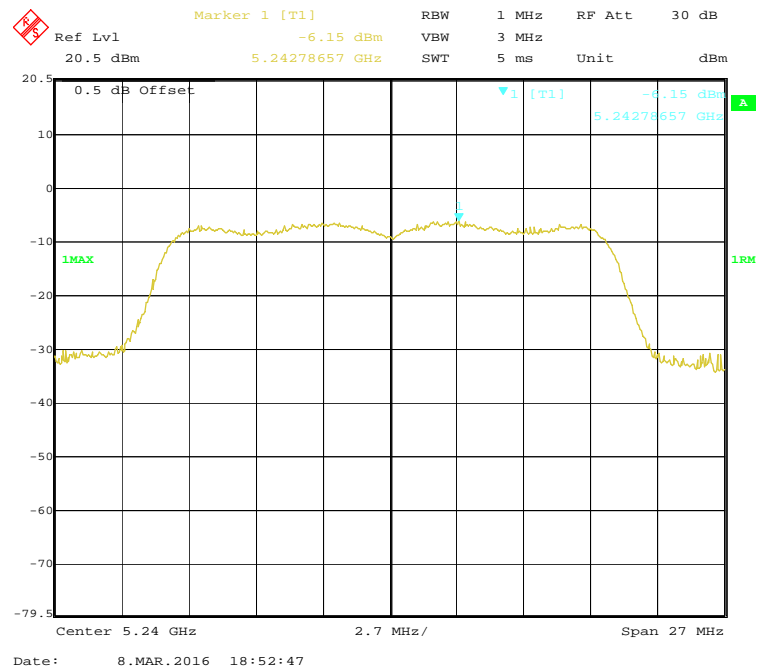
802.11n ht20 mode, Chain 0: Power spectral density-5180MHz

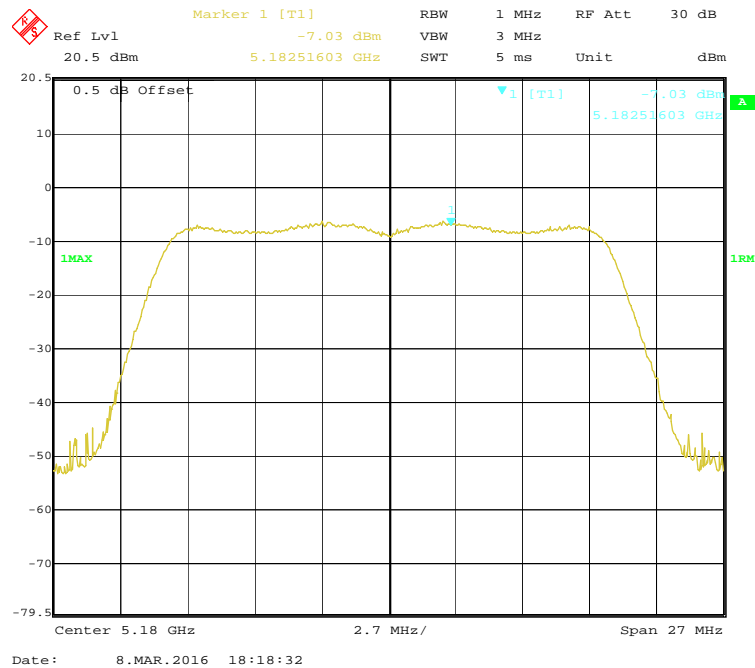
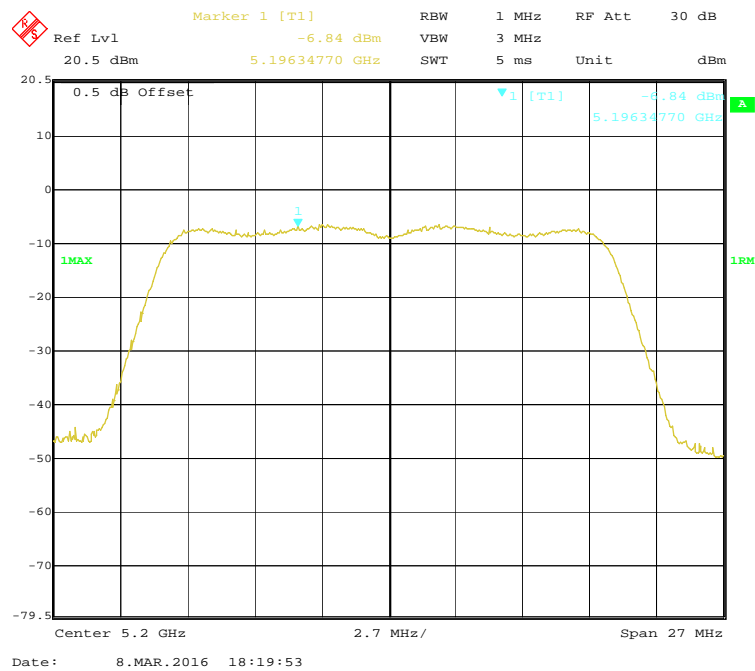


802.11n ht20 mode, Chain 0: Power spectral density-5200MHz

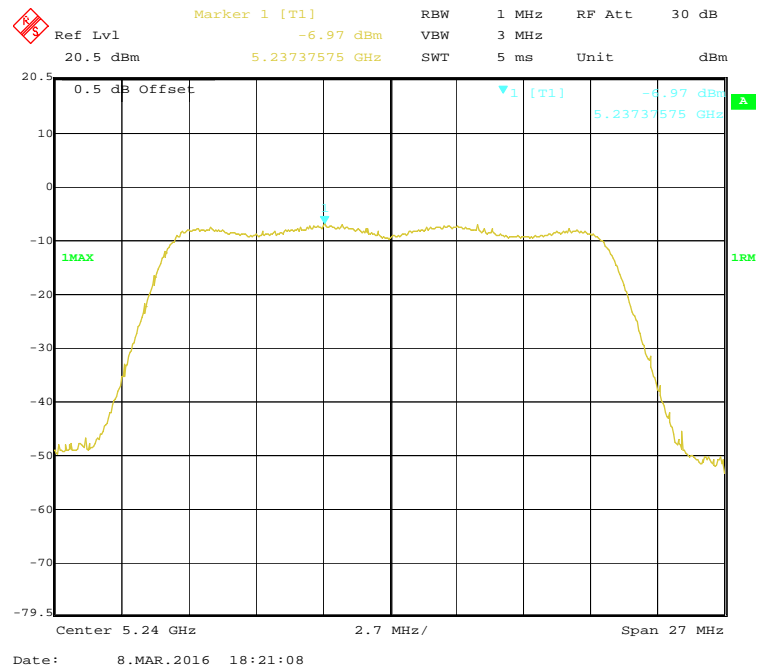


802.11n ht20 mode, Chain 0: Power spectral density-5240MHz

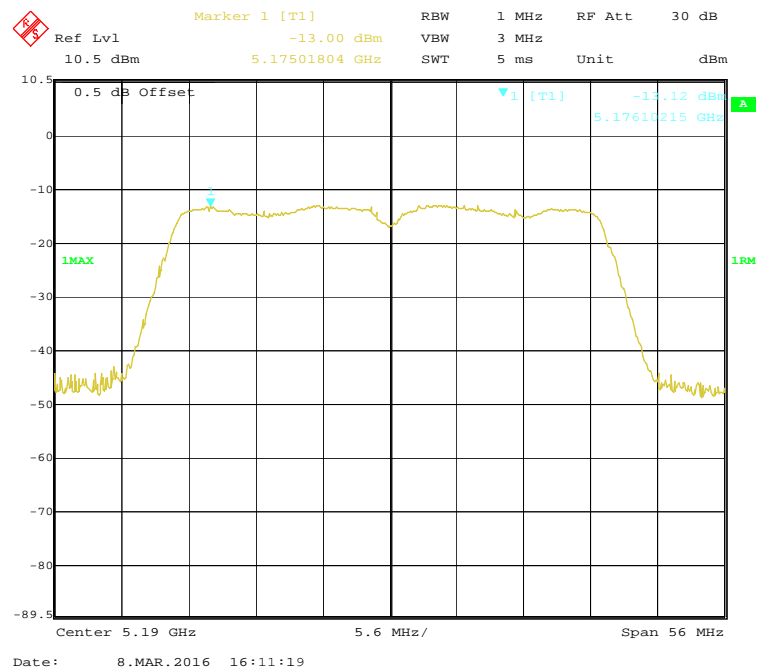


802.11n ht20 mode, Chain 1: Power spectral density-5180MHz**802.11n ht20 mode, Chain 1: Power spectral density-5200MHz**

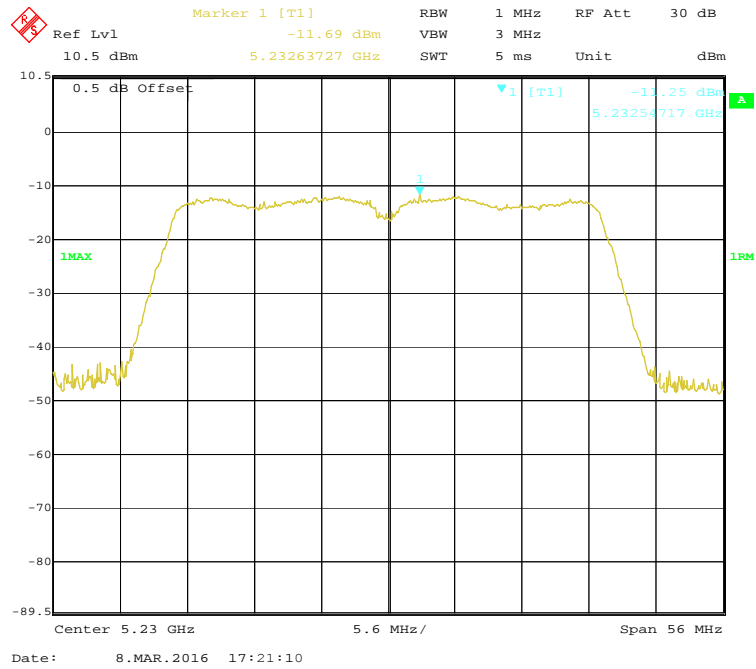
802.11n ht20 mode, Chain 1: Power spectral density-5240MHz



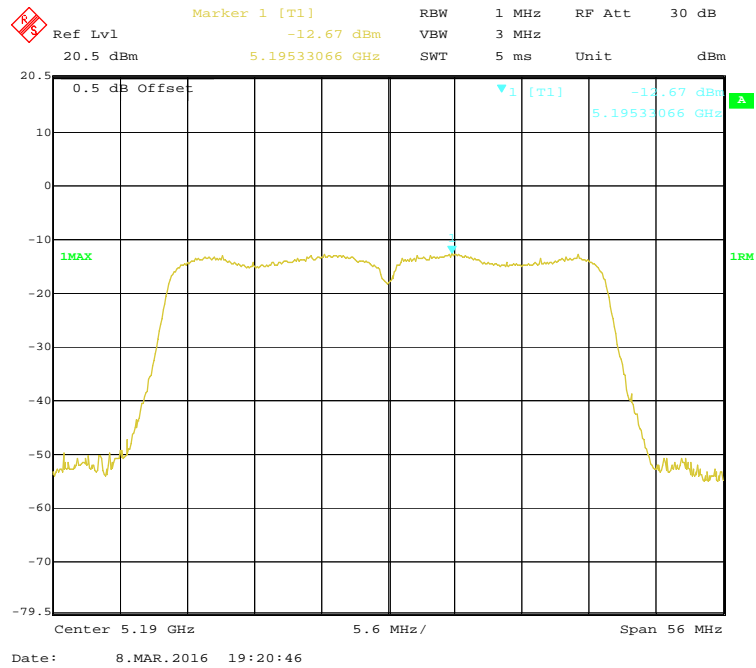
802.11n ht40 mode, Chain 0: Power spectral density-5190MHz

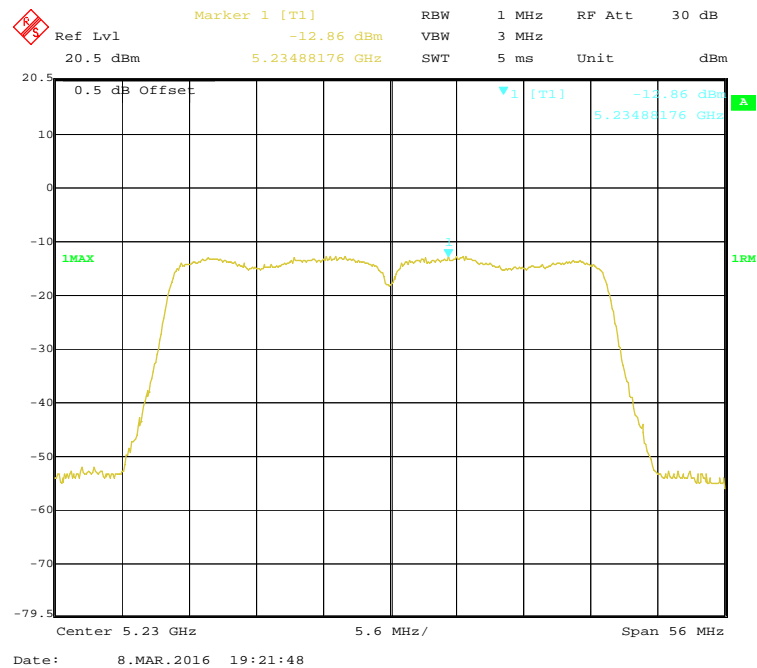
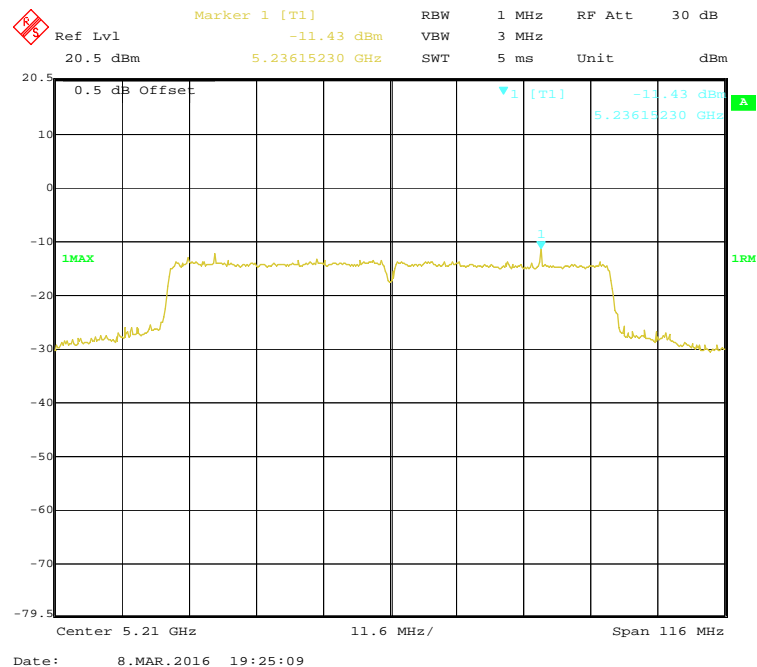


802.11n ht40 mode, Chain 0: Power spectral density-5230MHz

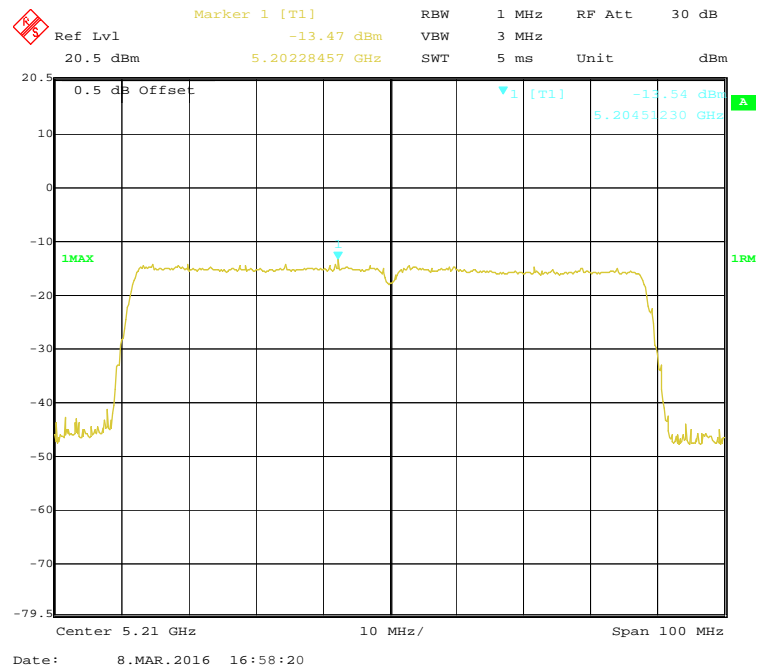


802.11n ht40 mode, Chain 1: Power spectral density-5190MHz



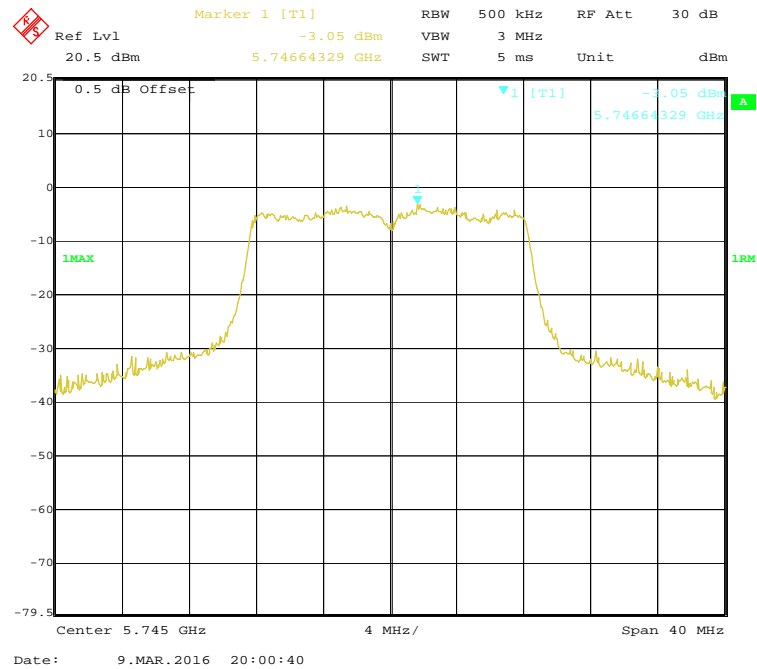
802.11n ht40 mode, Chain 1: Power spectral density-5230MHz**802.11ac80 mode, Chain 0: Power spectral density-5210MHz**

802.11ac80 mode, Chain 1: Power spectral density-5210MHz

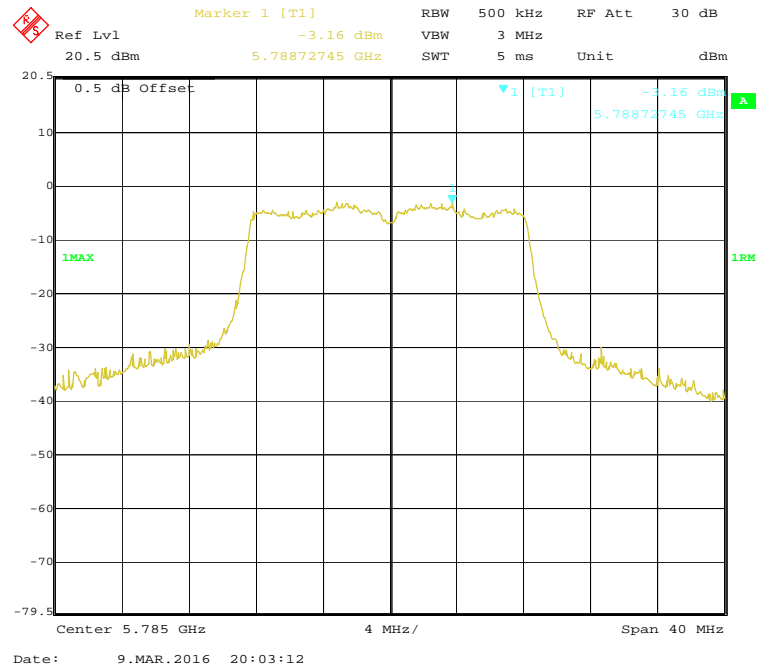


5725-5850 MHz:

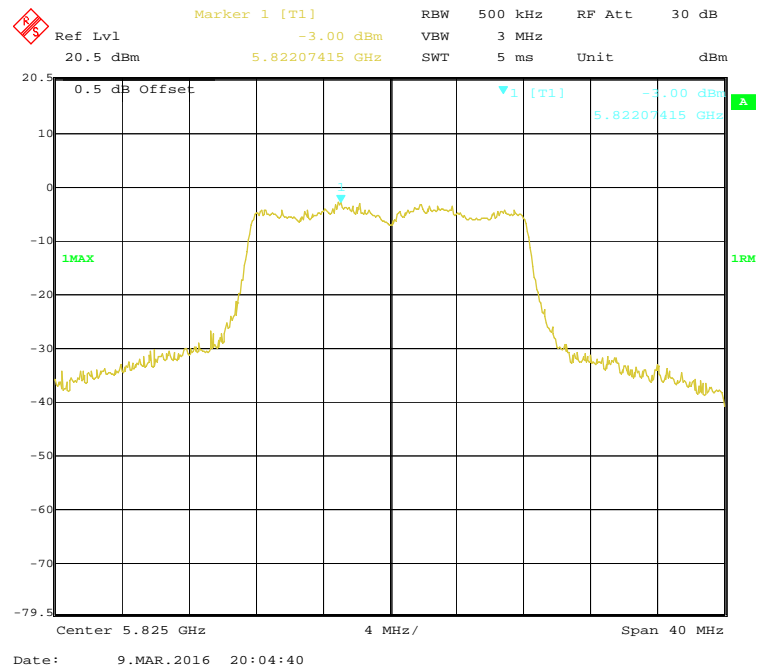
802.11a mode, Chain 0: Power spectral density-5745MHz



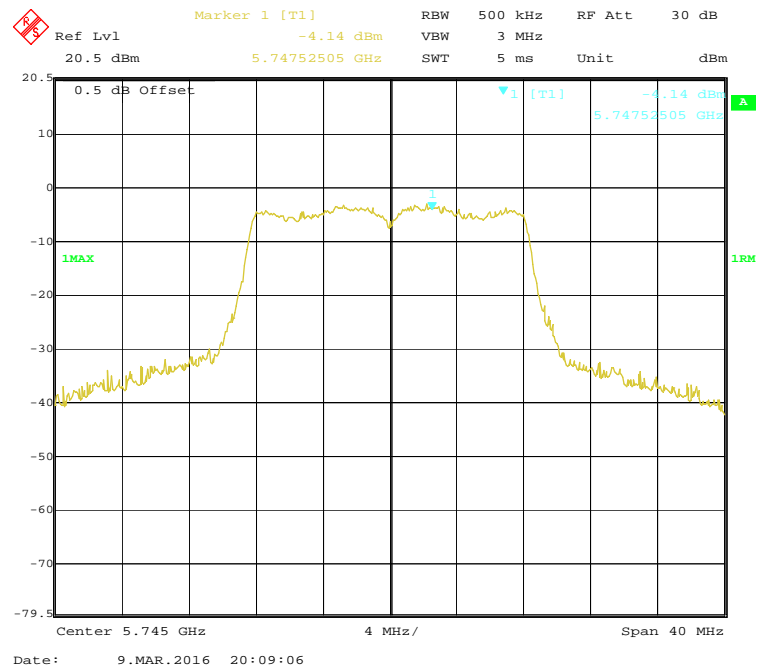
802.11a mode, Chain 0: Power spectral density-5785MHz



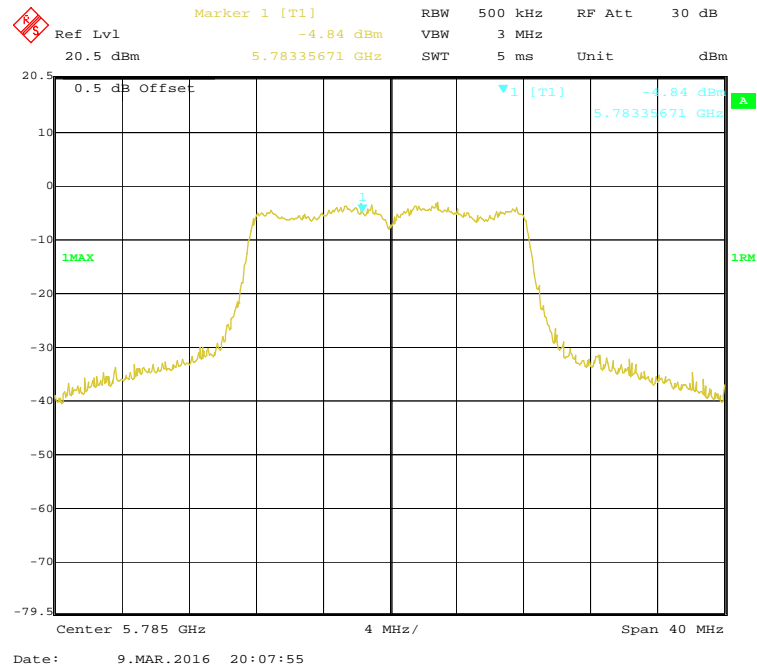
802.11a mode, Chain 0: Power spectral density-5825MHz



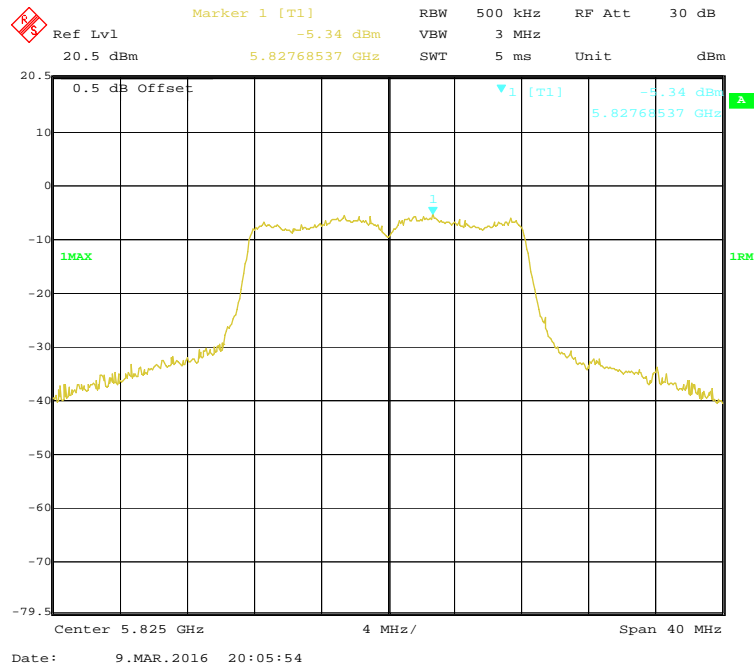
802.11a mode, Chain 1: Power spectral density-5745MHz



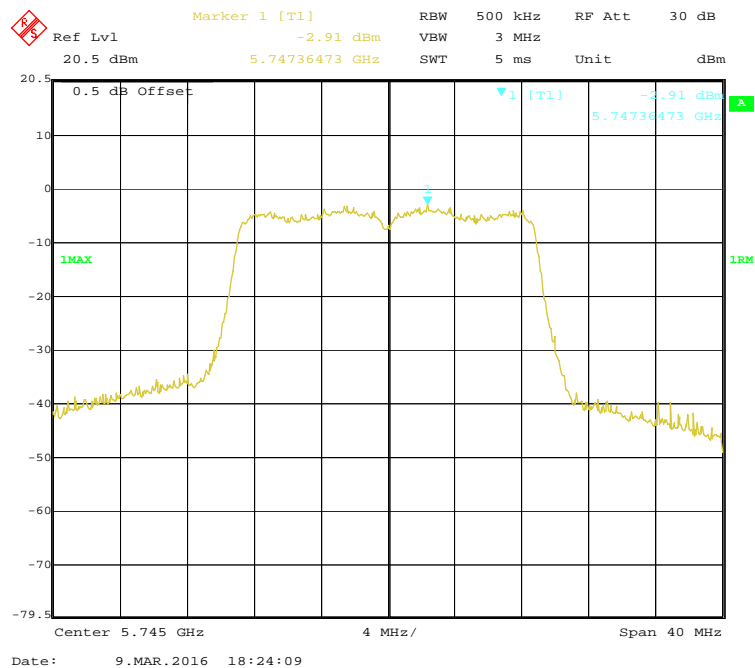
802.11a mode, Chain 1: Power spectral density-5785MHz



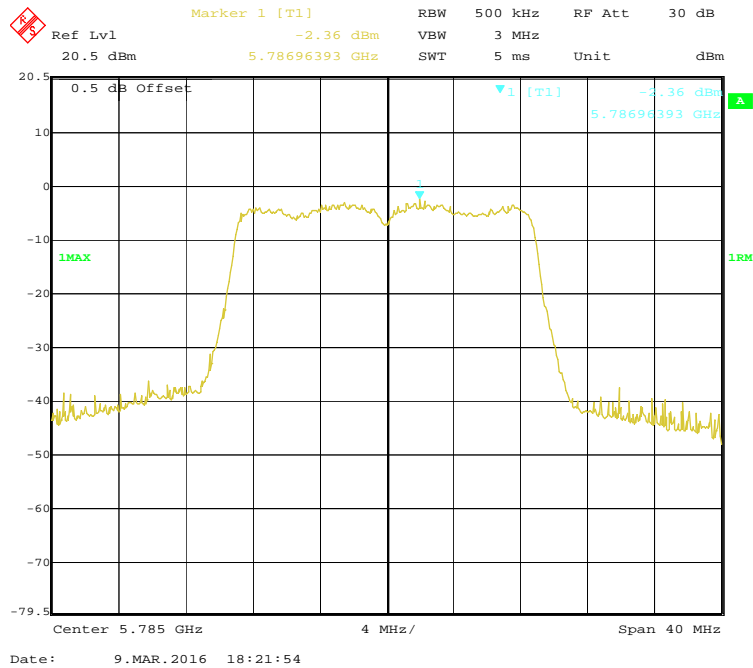
802.11a mode, Chain 1: Power spectral density-5825MHz



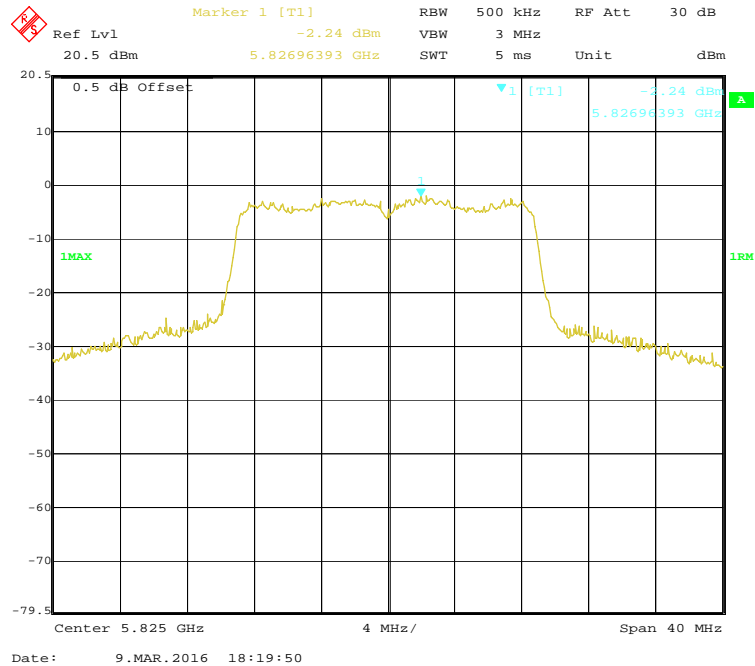
802.11n ht20 mode, Chain 0: Power spectral density-5745MHz



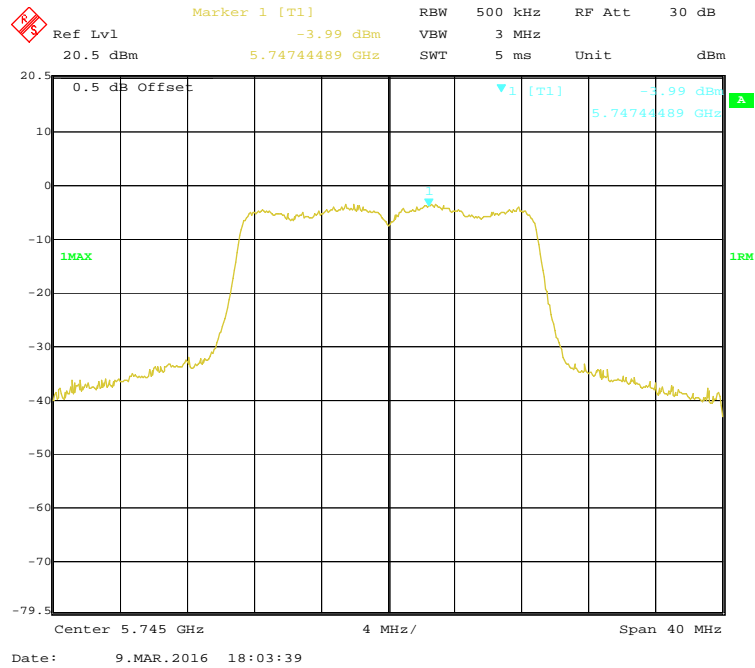
802.11n ht20 mode, Chain 0: Power spectral density-5785MHz



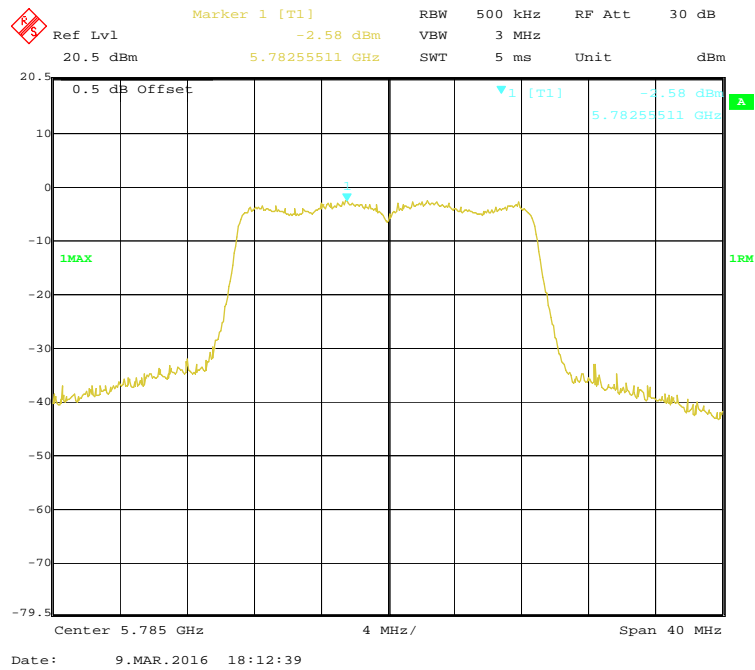
802.11n ht20 mode, Chain 0: Power spectral density-5825MHz



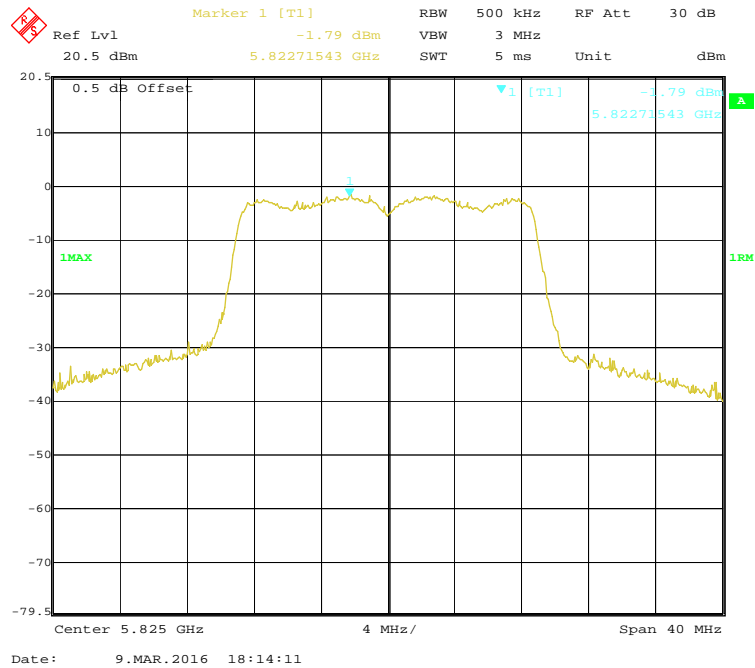
802.11n ht20 mode, Chain 1: Power spectral density-5745MHz



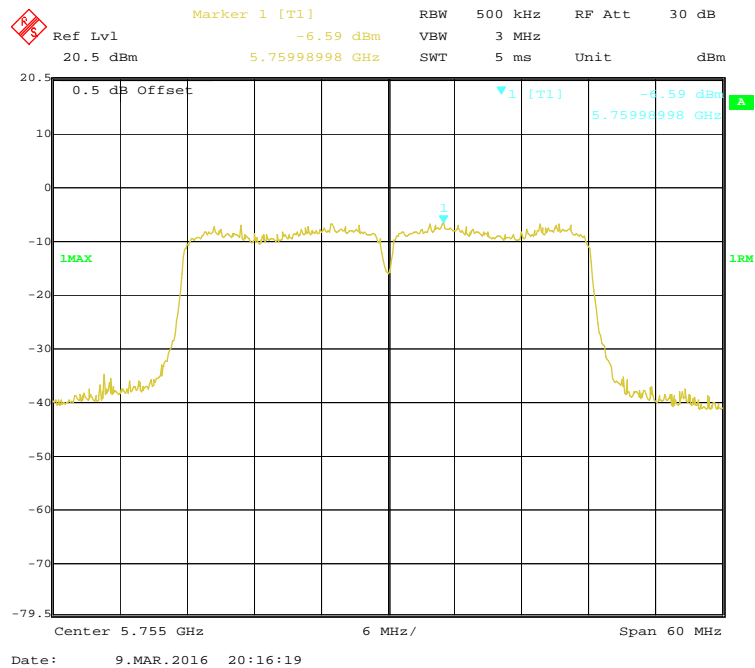
802.11n ht20 mode, Chain 1: Power spectral density-5785MHz



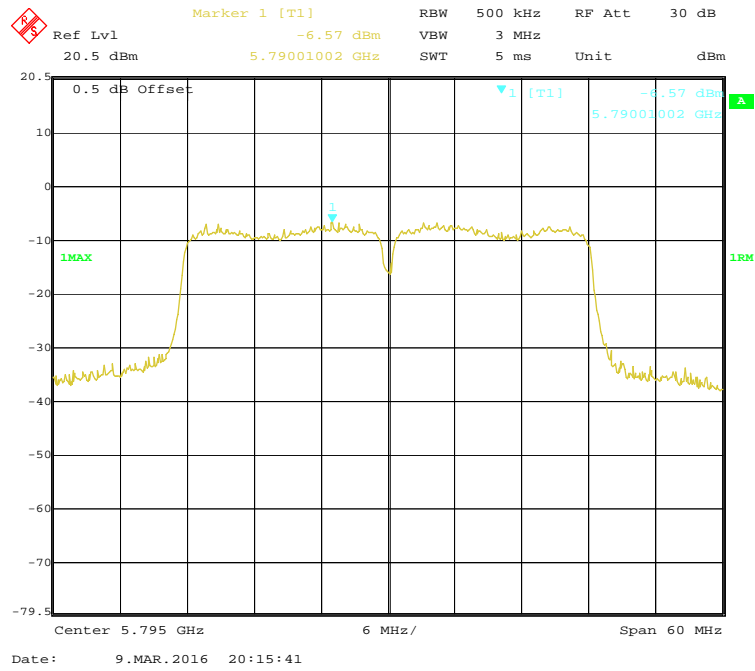
802.11n ht20 mode, Chain 1: Power spectral density-5825MHz



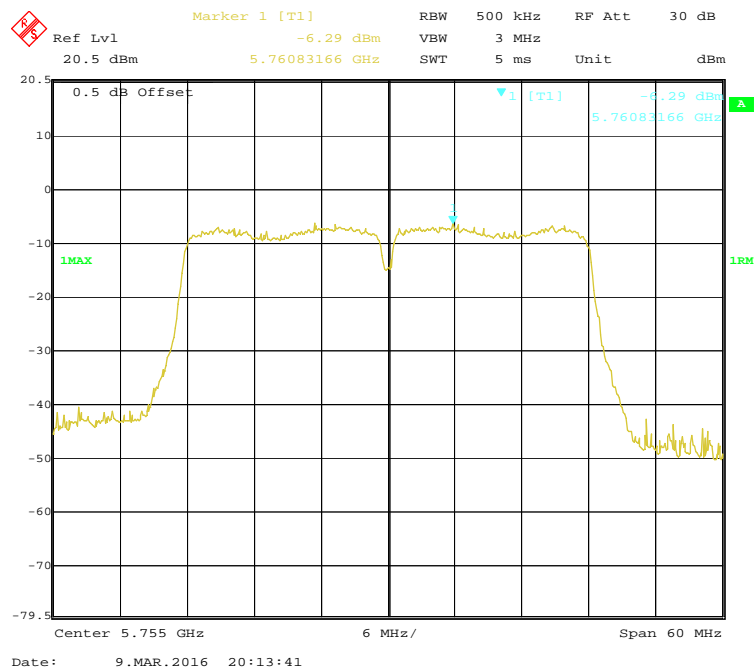
802.11n ht40 mode, Chain 0: Power spectral density-5755MHz



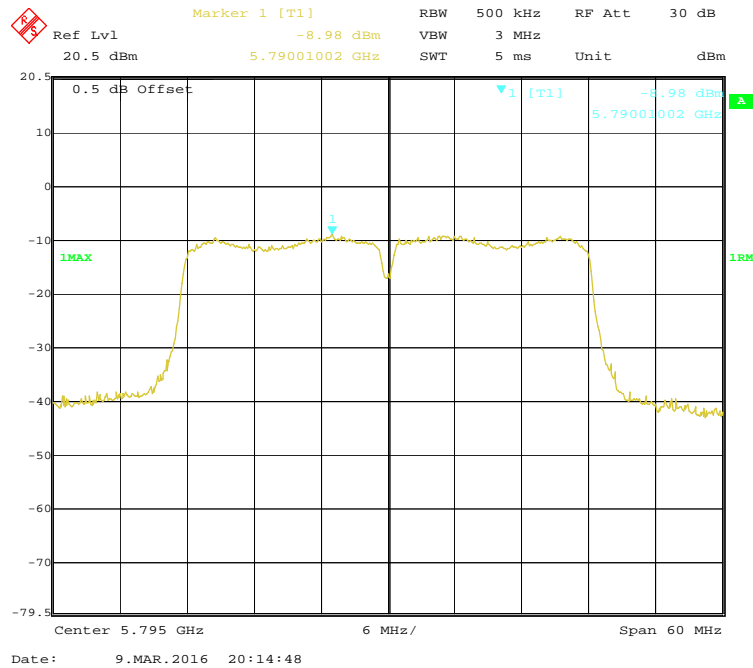
802.11n ht40 mode, Chain 0: Power spectral density-5795MHz



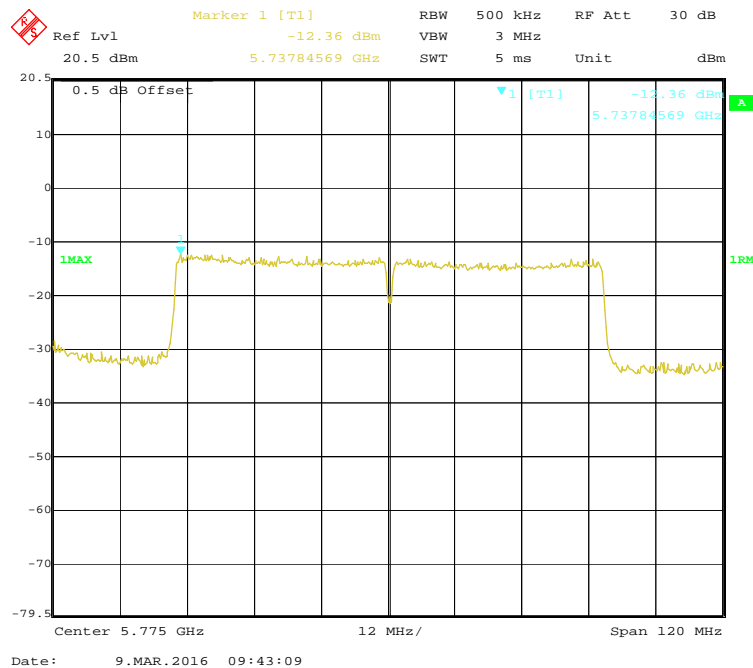
802.11n ht40 mode, Chain 1: Power spectral density-5755MHz



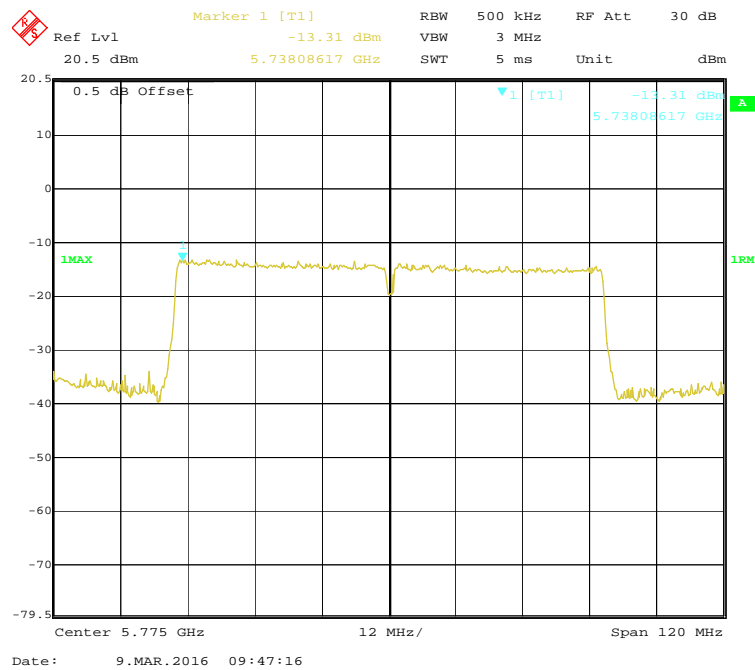
802.11n ht40 mode, Chain 1: Power spectral density-5795MHz



802.11ac80 mode, Chain 0: Power spectral density-5775MHz



802.11ac80 mode, Chain 1: Power spectral density-5775MHz



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