

FCC PART 15.407

TEST REPORT

For

Huawei Technologies Co.,Ltd

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Shenzhen, 518129, P.R.C

Test Model: HUAWEI TE20
FCC ID: QIS-TE20

Report Type: Original Report	Product Type: Videoconferencing Endpoint
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Report Number:	RDG160726004-00B
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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. (Dongguan).

TABLE OF CONTENTS

GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY	4
TEST FACILITY	4
SYSTEM TEST CONFIGURATION.....	5
DESCRIPTION OF TEST CONFIGURATION	5
EUT EXERCISE SOFTWARE	6
EQUIPMENT MODIFICATIONS	6
EXTERNAL CABLE.....	6
BLOCK DIAGRAM OF TEST SETUP	7
SUMMARY OF TEST RESULTS	9
FCC §15.407 (f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)	10
APPLICABLE STANDARD	10
FCC §15.203 – ANTENNA REQUIREMENT.....	11
APPLICABLE STANDARD	11
ANTENNA CONNECTOR CONSTRUCTION	11
FCC §15.407 (b) (6) §15.207 (a) – 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
FCC §15.209, §15.205 & §15.407(b) (1) (4) (5)(6)(7) –UNWANTED EMISSION	17
APPLICABLE STANDARD	17
MEASUREMENT UNCERTAINTY.....	18
EUT SETUP	18
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	19
TEST PROCEDURE	19
CORRECTED AMPLITUDE & MARGIN CALCULATION	20
TEST EQUIPMENT LIST AND DETAILS.....	20
TEST DATA	21
§15.407(b) (1) (4) –UNWANTED EMISSION AT ANTENNA PORT	32
APPLICABLE STANDARD	32
TEST EQUIPMENT LIST AND DETAILS.....	32
TEST PROCEDURE	32
TEST DATA	32
FCC §15.407(a),(e) –EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH.....	61
APPLICABLE STANDARD	61
TEST EQUIPMENT LIST AND DETAILS.....	61

TEST PROCEDURE	61
TEST DATA	61
FCC §15.407(a)(1),(3) –MAXIMUM CONDUCTED OUTPUT POWER.....	73
APPLICABLE STANDARD	73
TEST EQUIPMENT LIST AND DETAILS.....	74
TEST PROCEDURE	74
TEST DATA	74
FCC §15.407(a)(1),(3) - POWER SPECTRAL DENSITY	76
APPLICABLE STANDARD	76
TEST PROCEDURE	77
TEST EQUIPMENT LIST AND DETAILS.....	77
TEST DATA	77
FCC §15.407(g) - FREQUENCY STABILITY	89
APPLICABLE STANDARD	89
TEST PROCEDURE	89
TEST EQUIPMENT LIST AND DETAILS.....	89
TEST DATA	89

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Huawei Technologies Co.,Ltd*'s product, model number: *HUAWEI TE20 (FCC ID: QIS-TE20)* (the "EUT") in this report was a *Videoconferencing Endpoint*, which was measured approximately: 249mm(L)×136mm(W)×151mm(H), rated input voltage:12V DC powered by adapter. The device is an indoor master device.

Adapter Information:

Model: HW-60-12AC14D-1

Input: AC 100-240V, 1.5A, 50/60Hz

Output: DC 12.0V, 5.0A

All measurement and test data in this report was gathered from production sample serial number: 160726004 (by Dongguan BACL). The EUT was received on 2016-07-26.

Objective

This type approval report is prepared on behalf of *Huawei Technologies Co.,Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and E of the Federal Communications Commission's 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 15C DTS submissions with FCC ID: QIS-TE20.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And KDB 789033 D02 General UNII Test Procedures New Rules v01r03

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

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications 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 February 06, 2015.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. 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.

The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80, the vht20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.

For 5150~5250 MHz band, 7 channels are provided to test:

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

For 802.11a, 802.11n ht20, Channel 36, 40 and 48 were tested, for 802.11n ht40, Channel 38, 46 were tested. For 802.11AC 80, channel 42 was tested.

For 5725~5850MHz band, 8 channels are provided to testing:

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

For 802.11a, 802.11n ht20, Channel 149, 157 and 165 was tested, for 802.11n ht40, Channel 151, 159 was tested. For 802.11AC 80, channel 155 was tested.

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

EUT Exercise Software

The test software: 'IPOP_V40' was used in testing, which was provided by manufacturer, and configured maximum power (100% dutycycle) as following table:

Software and version				IPOP_V40	
UNII Band	Mode	Channel	Frequency (MHz)	Data Rate	Chain 0
5150-5250MHz	802.11 a	Low	5180	6Mbps	15
		Middle	5200	6Mbps	15
		High	5240	6Mbps	15
	802.11 n20	Low	5180	MCS0	15
		Low	5200	MCS0	15
		Middle	5240	MCS0	15
	802.11 n40	Low	5190	MCS0	13
		High	5230	MCS0	13
	802.11 ac80	Middle	5210	MCS0	11
5725-5850MHz	802.11 a	Low	5745	6Mbps	14
		Middle	5785	6Mbps	14
		High	5825	6Mbps	14
	802.11 n20	Low	5745	MCS0	14
		Low	5785	MCS0	14
		Middle	5825	MCS0	14
	802.11 n40	Low	5755	MCS0	12
		High	5795	MCS0	12
	802.11 ac80	Middle	5775	MCS0	11

Equipment Modifications

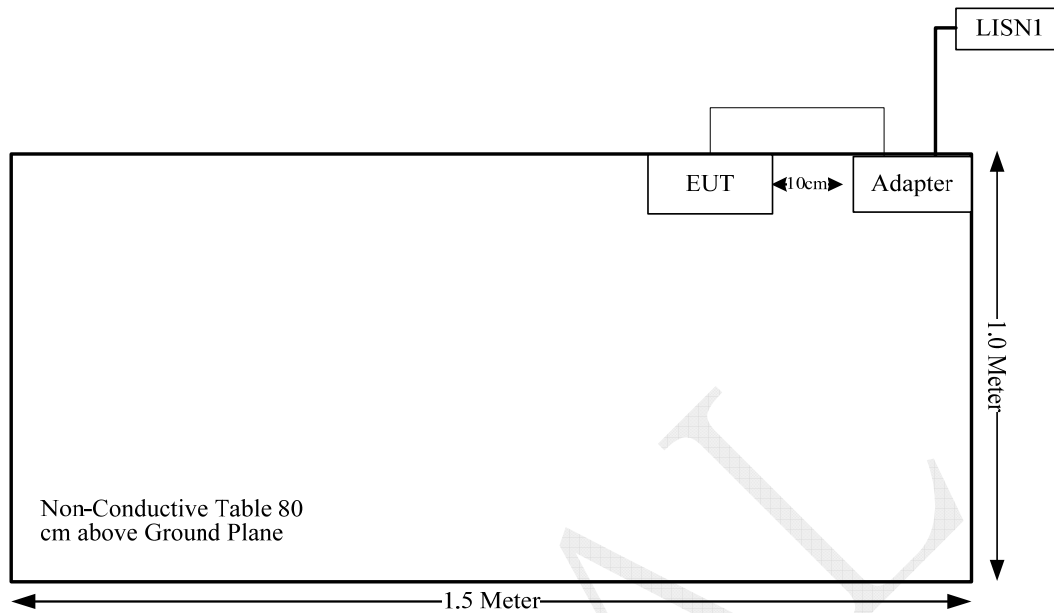
No modification was made to the EUT.

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
DC Cable	No	No	1.62	Adapter	EUT

Block Diagram of Test Setup

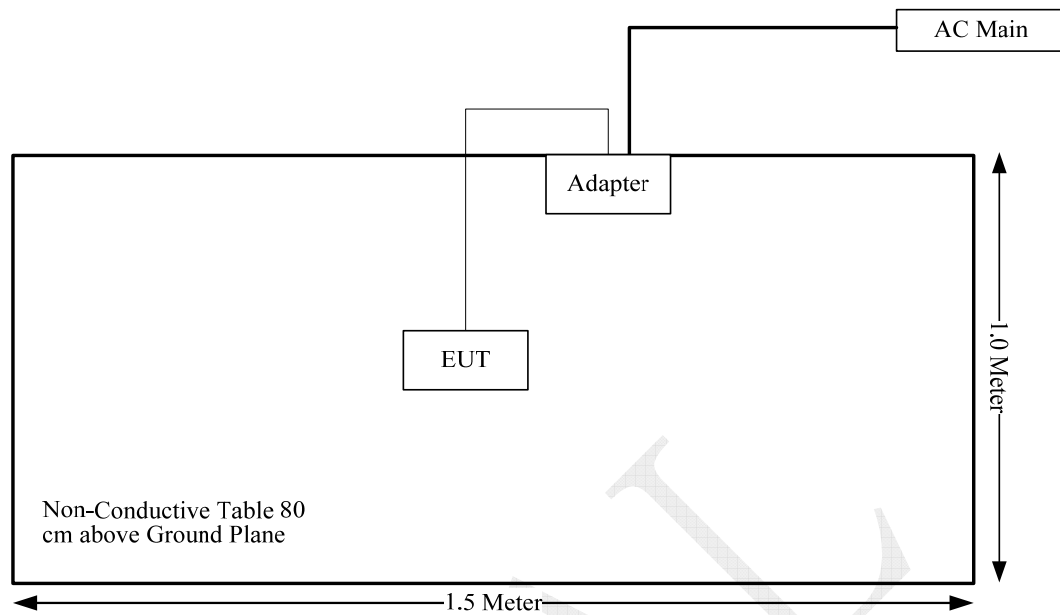
AC Line Conducted Emissions:



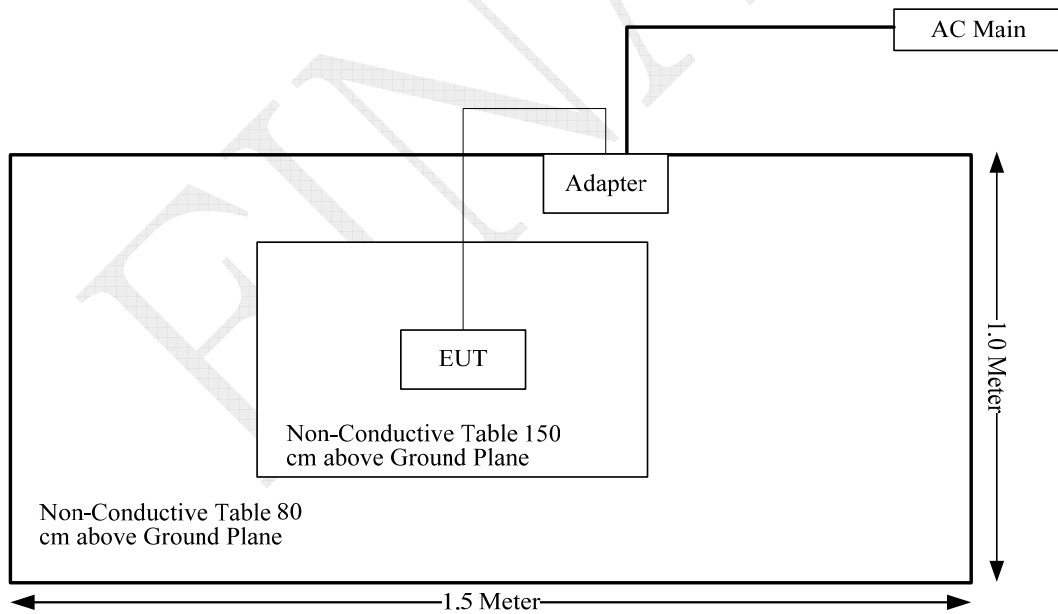
RF Conducted:



Radiated 30MHz-1GHz:



Radiated 1GHz-25GHz:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.407 (f) & §1.1310 & §2.1091	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6)& §15.207(a)	Conducted Emissions	Compliance
§15.205& §15.209 &§15.407(b) (1),(4),(5),(6),(7)	Undesirable Emission& Restricted Bands	Compliance
§15.407(b) (1),(4)	Out Of Band Emissions	Compliance
§15.407(b) (1),(4)	Antenna Port Conducted Emissions	Compliance
§15.407(a) (e)	26 dB Bandwidth& 6dB bandwidth	Compliance
§15.407(a)(1),(3)	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1),(3)	Power Spectral Density	Compliance
§15.407 (g)	Frequency Stability	Compliance

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

Applicable Standard

According to subpart 15.407(f) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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:

Frequency (MHz)	Antenna Gain		Tune-up Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
	(dBi)	(numeric)	(dBm)	(mW)			
5150-5850	3.00	2.00	16	39.81	20.00	0.0158	1.0

Note: The maximum tune-up power including tolerance is 16dBm.

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

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

Antenna Connector Construction

The EUT have an internal antenna and the gain of each antenna is 3.0 dBi at 2.4GHz band and 5GHz Band, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

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

Applicable Standard

FCC §15.207, §15.407(b) (6).

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:

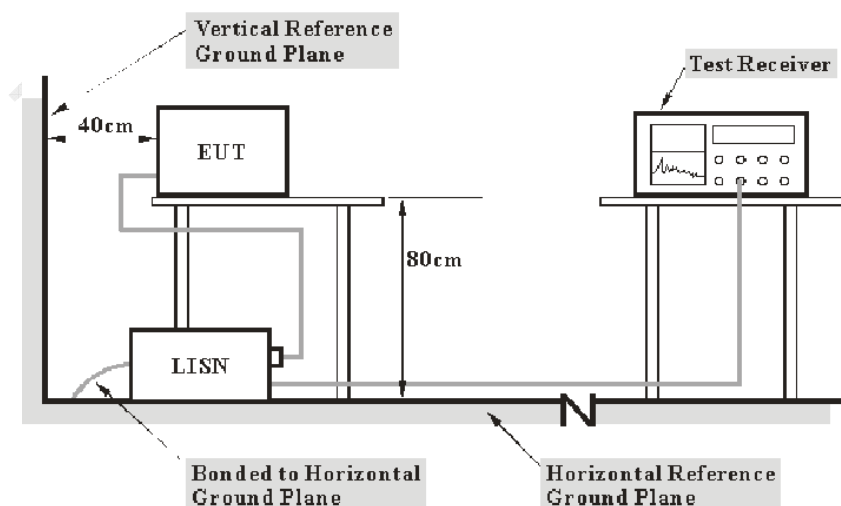
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Based on CISPR 16-4-2: 2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.12 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 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

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
R&S	EMI Test Receiver	ESCS 30	830245/006	2015-12-10	2016-12-09
R&S	L.I.S.N	ESH2-Z5	892107/021	2016-07-16	2017-07-15
R&S	Two-line V-network	ENV 216	3560.6550.12	2015-11-26	2016-11-25
N/A	Coaxial Cable	1.8m	N/A	2016-05-06	2017-05-06
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

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

Test Procedure

During the conducted emission test, the 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:

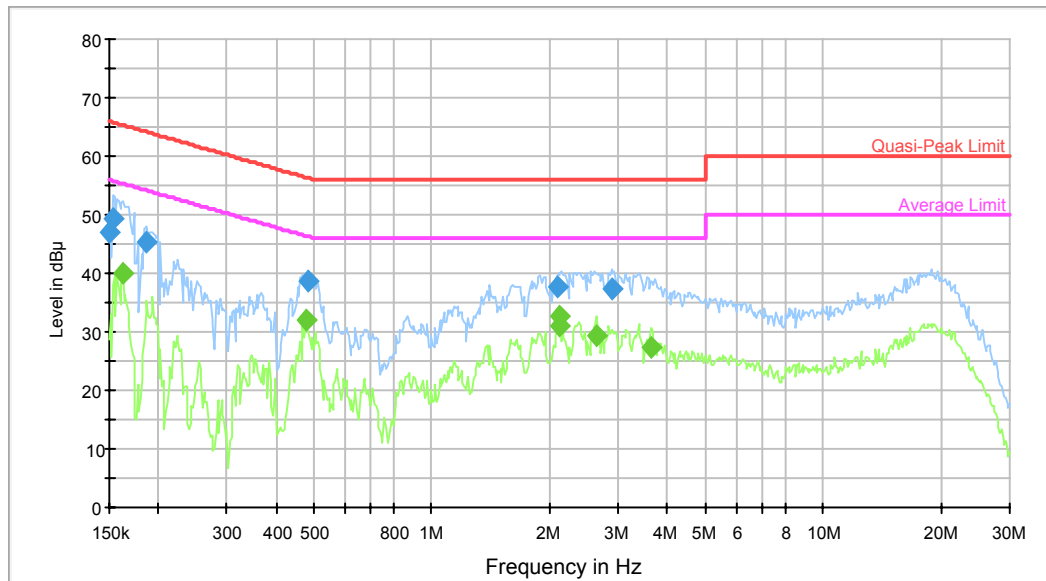
13.2 dB at 2.130339 MHz in the Line conducted mode.

Test Data

Environmental Conditions

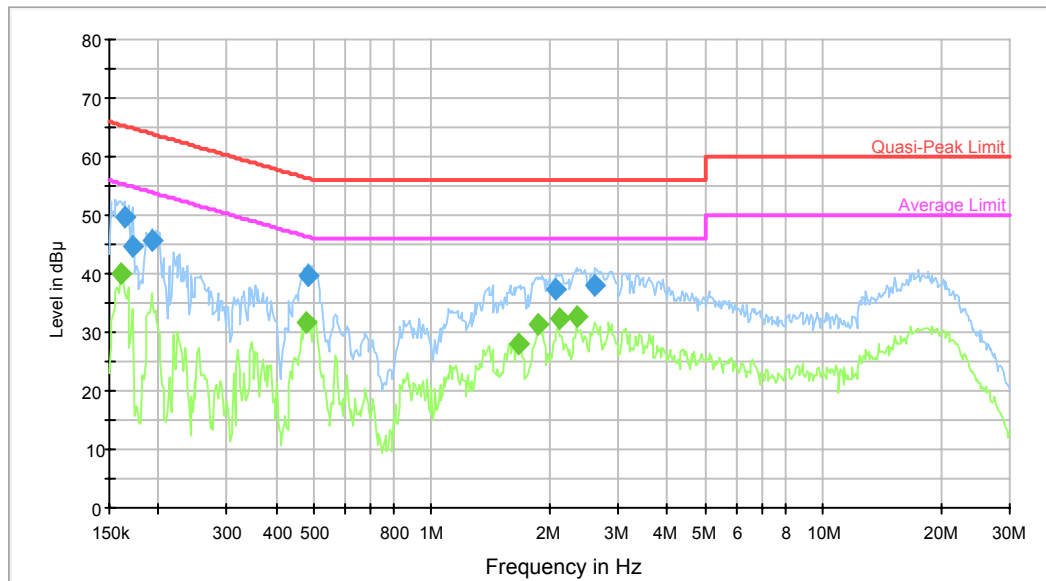
Temperature:	29.1 °C
Relative Humidity:	60 %
ATM Pressure:	100.2 kPa

The testing was performed by Robin Zheng on 2016-08-03.

AC120 V, 60 Hz, Line:

Frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.150000	47.0	9.000	L1	10.2	19.0	66.0	Compliance
0.153629	49.3	9.000	L1	10.2	16.5	65.8	Compliance
0.187494	45.3	9.000	L1	10.2	18.8	64.1	Compliance
0.483938	38.7	9.000	L1	10.1	17.6	56.3	Compliance
2.096658	37.6	9.000	L1	10.4	18.4	56.0	Compliance
2.883693	37.3	9.000	L1	10.5	18.7	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.162441	40.0	9.000	L1	10.2	15.3	55.3	Compliance
0.476287	32.1	9.000	L1	10.1	14.3	46.4	Compliance
2.113432	30.9	9.000	L1	10.4	15.1	46.0	Compliance
2.130339	32.8	9.000	L1	10.4	13.2	46.0	Compliance
2.641698	29.4	9.000	L1	10.5	16.6	46.0	Compliance
3.633326	27.5	9.000	L1	10.6	18.5	46.0	Compliance

AC120 V, 60 Hz, Neutral:

frequency (MHz)	QuasiPeak (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.163741	49.5	9.000	N	10.1	15.8	65.3	Compliance
0.171759	44.6	9.000	N	10.1	20.3	64.9	Compliance
0.192030	45.7	9.000	N	10.2	18.2	63.9	Compliance
0.483938	39.7	9.000	N	10.1	16.6	56.3	Compliance
2.080018	37.5	9.000	N	10.4	18.5	56.0	Compliance
2.620732	38.0	9.000	N	10.4	18.0	56.0	Compliance

Frequency (MHz)	Average (dBμV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.161152	40.0	9.000	N	10.1	15.4	55.4	Compliance
0.480097	31.8	9.000	N	10.1	14.5	46.3	Compliance
1.664073	28.0	9.000	N	10.4	18.0	46.0	Compliance
1.860457	31.5	9.000	N	10.4	14.5	46.0	Compliance
2.113432	32.2	9.000	N	10.4	13.8	46.0	Compliance
2.344095	32.5	9.000	N	10.4	13.5	46.0	Compliance

FCC §15.209, §15.205 & §15.407(b) (1) (4) (5)(6)(7) –UNWANTED EMISSION

Applicable Standard

FCC §15.407; §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

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

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

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

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

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.

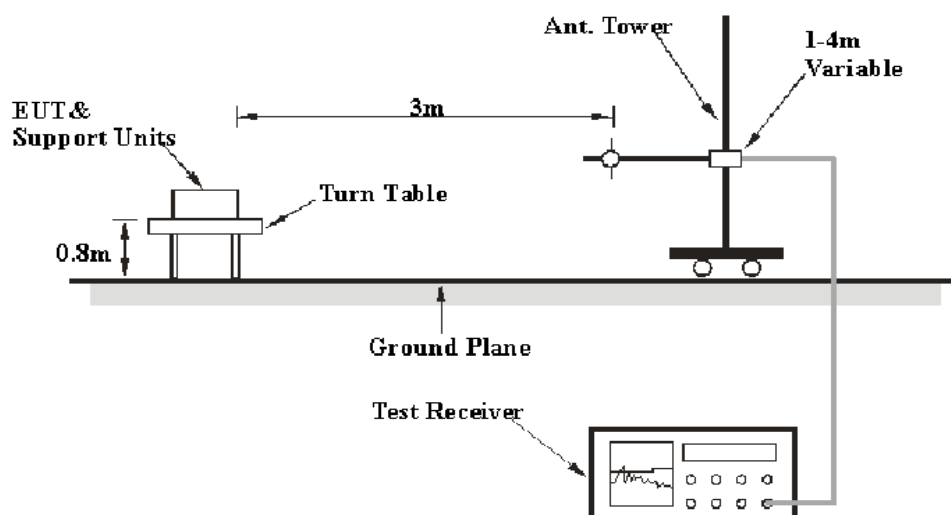
Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is: 30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical; 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB, 18G~26.5GHz: 6.21dB, 26.5G~40GHz: 6.32 dB

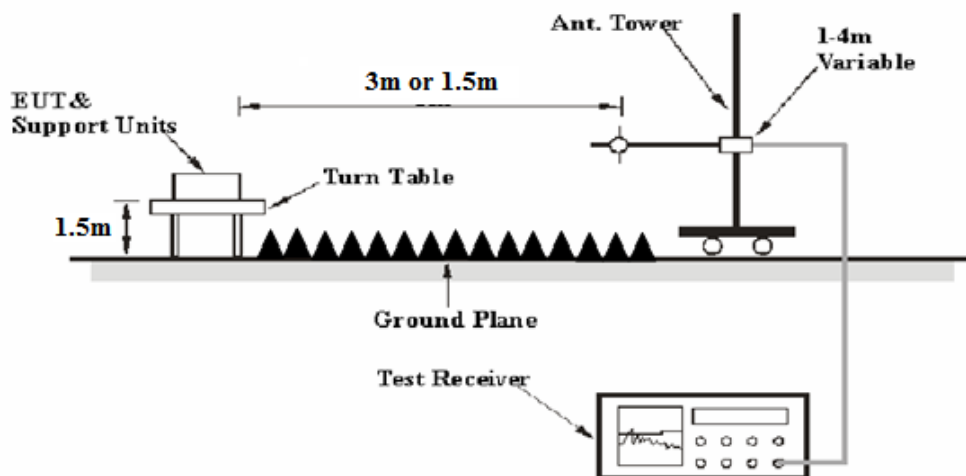
Table 1 – Values of U_{cisp}

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 GHz:



Above 1 GHz:

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

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

The spacing between the peripherals was 10 cm.

The adapter was connected to 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.

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

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m

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

Extrapolation result = Corrected Amplitude (dB μ V/m) - 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
R&S	EMI Test Receiver	ESCI	100224	2015-08-03	2016-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2015-11-23	2016-11-22
N/A	Coaxial Cable	14m	N/A	2016-05-06	2017-05-06
N/A	Coaxial Cable	8m	N/A	2016-05-06	2017-05-06
Sinoscite	Bandstop Filters	BSF5150-5850MN-0899-003	N/A	2016-05-06	2017-05-06
ETS-Lindgren	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2016-02-19	2017-02-19
Agilent	Spectrum Analyzer	8564E	3943A01781	2016-05-08	2017-05-08
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-011304	2014-06-16	2017-06-15
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-011302	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2015-09-06	2016-09-06

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

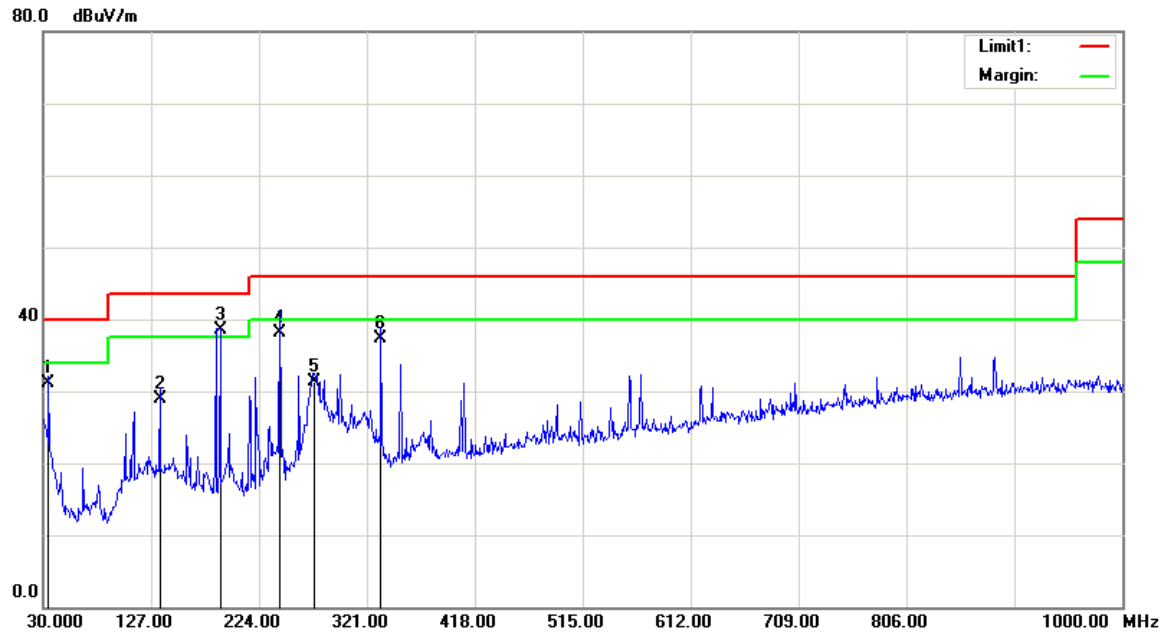
Test Data**Environmental Conditions**

Temperature:	30.4 °C
Relative Humidity:	48 %
ATM Pressure:	100 kPa

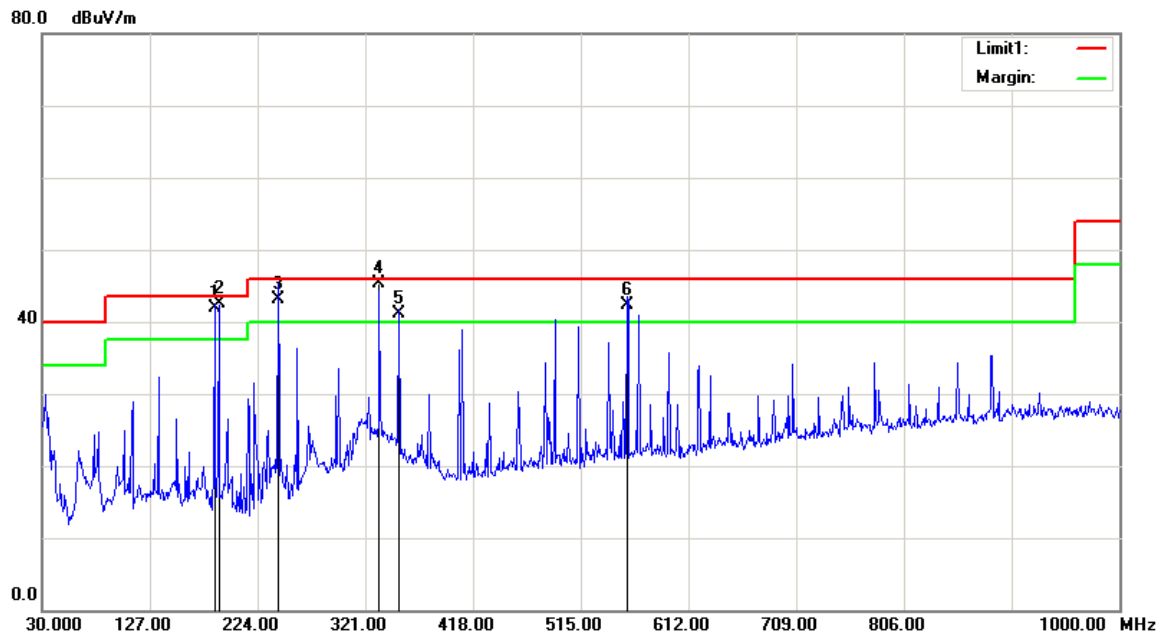
* The testing was performed by Robin Zheng on 2016-08-01.

Test Mode: Transmitting

FINAL

Below 1GHz**Horizontal:**

Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
34.8500	33.83	QP	-2.63	31.20	40.00	8.80
134.7600	34.95	QP	-6.05	28.90	43.50	14.60
189.0800	46.80	QP	-8.30	38.50	43.50	5.00
242.4300	45.64	QP	-7.54	38.10	46.00	7.90
273.4700	37.31	QP	-6.01	31.30	46.00	14.70
333.6100	42.58	QP	-5.18	37.40	46.00	8.60

Vertical:

Frequency (MHz)	Receiver Reading (dBμV)	Detector (PK/QP/Ave)	Correction Factor (dB/m)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
185.2000	50.43	QP	-8.43	42.00	43.50	1.50
189.0800	50.80	QP	-8.30	42.50	43.50	1.00
242.4300	50.64	QP	-7.54	43.10	46.00	2.90
333.6100	50.58	QP	-5.18	45.40	46.00	0.60
351.0700	45.76	QP	-4.66	41.10	46.00	4.90
556.7100	43.40	QP	-1.10	42.30	46.00	3.70

5150MHz-5250MHz: 802.11a mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Low Channel:5180 MHz										
5180	74.54	PK	H	31.46	5.40	0.00	111.40	105.40	N/A	N/A
5180	58.43	AV	H	31.46	5.40	0.00	95.29	89.29	N/A	N/A
5180	70.73	PK	V	31.46	5.40	0.00	107.59	101.59	N/A	N/A
5180	54.88	AV	V	31.46	5.40	0.00	91.74	85.74	N/A	N/A
5150	38.33	PK	V	31.40	5.26	0.00	74.99	68.99	74.00	5.01
5150	19.04	AV	V	31.40	5.26	0.00	55.70	49.70	54.00	4.30
10360	32.77	PK	V	36.97	8.36	25.52	52.58	46.58	74.00	27.42
10360	21.26	AV	V	36.97	8.36	25.52	41.07	35.07	54.00	18.93
15540	34.50	PK	V	37.43	14.94	24.98	61.89	55.89	74.00	18.11
15540	21.98	AV	V	37.43	14.94	24.98	49.37	43.37	54.00	10.63
6903	32.72	PK	V	33.35	6.33	26.45	45.95	39.95	74.00	34.05
6903	22.39	AV	V	33.35	6.33	26.45	35.62	29.62	54.00	24.38
4936	34.67	PK	V	30.93	5.35	27.43	43.52	37.52	74.00	36.48
4936	22.04	AV	V	30.93	5.35	27.43	30.89	24.89	54.00	29.11
Middle Channel:5200 MHz										
5200	73.86	PK	H	31.50	5.49	0.00	110.85	104.85	N/A	N/A
5200	58.04	AV	H	31.50	5.49	0.00	95.03	89.03	N/A	N/A
5200	70.47	PK	V	31.50	5.49	0.00	107.46	101.46	N/A	N/A
5200	54.69	AV	V	31.50	5.49	0.00	91.68	85.68	N/A	N/A
10400	32.34	PK	V	36.98	8.32	25.50	52.14	46.14	74.00	27.86
10400	20.88	AV	V	36.98	8.32	25.50	40.68	34.68	54.00	19.32
15600	34.11	PK	V	37.32	14.69	24.69	61.43	55.43	74.00	18.57
15600	21.69	AV	V	37.32	14.69	24.69	49.01	43.01	54.00	10.99
6933	32.39	PK	V	33.43	6.34	26.38	45.78	39.78	74.00	34.22
6933	22.10	AV	V	33.43	6.34	26.38	35.49	29.49	54.00	24.51
3280	34.33	PK	V	28.10	5.61	27.30	40.74	34.74	74.00	39.26
3280	21.60	AV	V	28.10	5.61	27.30	28.01	22.01	54.00	31.99
High Channel:5240 MHz										
5240	73.11	PK	H	31.58	5.28	0.00	109.97	103.97	N/A	N/A
5240	57.52	AV	H	31.58	5.28	0.00	94.38	88.38	N/A	N/A
5240	70.01	PK	V	31.58	5.28	0.00	106.87	100.87	N/A	N/A
5240	54.31	AV	V	31.58	5.28	0.00	91.17	85.17	N/A	N/A
5350	26.18	PK	V	31.80	5.61	0.00	63.59	57.59	74.00	16.41
5350	14.63	AV	V	31.80	5.61	0.00	52.04	46.04	54.00	7.96
10480	32.01	PK	V	37.00	8.23	26.01	51.23	45.23	74.00	28.77
10480	20.51	AV	V	37.00	8.23	26.01	39.73	33.73	54.00	20.27
15720	33.78	PK	V	37.10	14.20	24.92	60.16	54.16	74.00	19.84
15720	21.31	AV	V	37.10	14.20	24.92	47.69	41.69	54.00	12.31
6984	32.03	PK	V	33.56	6.36	26.27	45.68	39.68	74.00	34.32
6984	21.72	AV	V	33.56	6.36	26.27	35.37	29.37	54.00	24.63
3280	33.95	PK	V	28.10	5.61	27.30	40.36	34.36	74.00	39.64
3280	21.26	AV	V	28.10	5.61	27.30	27.67	21.67	54.00	32.33

802.11n ht20 mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Low Channel:5180 MHz										
5180	74.85	PK	H	31.46	5.40	0.00	111.71	105.71	N/A	N/A
5180	57.64	AV	H	31.46	5.40	0.00	94.50	88.50	N/A	N/A
5180	71.40	PK	V	31.46	5.40	0.00	108.26	102.26	N/A	N/A
5180	54.52	AV	V	31.46	5.40	0.00	91.38	85.38	N/A	N/A
5150	38.56	PK	H	31.40	5.26	0.00	75.22	69.22	74.00	4.78
5150	19.96	AV	H	31.40	5.26	0.00	56.62	50.62	54.00	3.38
10360	32.98	PK	H	36.97	8.36	25.52	52.79	46.79	74.00	27.21
10360	21.53	AV	H	36.97	8.36	25.52	41.34	35.34	54.00	18.66
15540	34.76	PK	H	37.43	14.94	24.98	62.15	56.15	74.00	17.85
15540	22.19	AV	H	37.43	14.94	24.98	49.58	43.58	54.00	10.42
6933	32.99	PK	H	33.43	6.34	26.38	46.38	40.38	74.00	33.62
6933	22.69	AV	H	33.43	6.34	26.38	36.08	30.08	54.00	23.92
4936	34.96	PK	H	30.93	5.35	27.43	43.81	37.81	74.00	36.19
4936	22.25	AV	H	30.93	5.35	27.43	31.10	25.10	54.00	28.90
Middle Channel:5200 MHz										
5200	73.87	PK	H	31.50	5.49	0.00	110.86	104.86	N/A	N/A
5200	57.24	AV	H	31.50	5.49	0.00	94.23	88.23	N/A	N/A
5200	70.64	PK	V	31.50	5.49	0.00	107.63	101.63	N/A	N/A
5200	54.00	AV	V	31.50	5.49	0.00	90.99	84.99	N/A	N/A
10400	32.79	PK	H	36.98	8.32	25.50	52.59	46.59	74.00	21.41
10400	21.27	AV	H	36.98	8.32	25.50	41.07	35.07	54.00	12.93
15600	34.52	PK	H	37.32	14.69	24.69	61.84	55.84	74.00	12.16
15600	21.93	AV	H	37.32	14.69	24.69	49.25	43.25	54.00	4.75
7513	32.75	PK	H	34.81	6.95	26.17	48.34	42.34	74.00	25.66
7513	22.43	AV	H	34.81	6.95	26.17	38.02	32.02	54.00	15.98
2786	34.65	PK	H	26.64	4.45	27.55	38.19	32.19	74.00	35.81
2786	22.00	AV	H	26.64	4.45	27.55	25.54	19.54	54.00	28.46
High Channel:5240 MHz										
5240	72.71	PK	H	31.58	5.28	0.00	109.57	103.57	N/A	N/A
5240	56.50	AV	H	31.58	5.28	0.00	93.36	87.36	N/A	N/A
5240	69.66	PK	V	31.58	5.28	0.00	106.52	100.52	N/A	N/A
5240	53.41	AV	V	31.58	5.28	0.00	90.27	84.27	N/A	N/A
5350	25.70	PK	H	31.80	5.61	0.00	63.11	57.11	74.00	16.89
5350	14.60	AV	H	31.80	5.61	0.00	52.01	46.01	54.00	7.99
10480	32.53	PK	H	37.00	8.23	26.01	51.75	45.75	74.00	28.25
10480	21.08	AV	H	37.00	8.23	26.01	40.30	34.30	54.00	19.70
15720	34.35	PK	H	37.10	14.20	24.92	60.73	54.73	74.00	19.27
15720	21.74	AV	H	37.10	14.20	24.92	48.12	42.12	54.00	11.88
6984	32.51	PK	H	33.56	6.36	26.27	46.16	40.16	74.00	33.84
6984	22.17	AV	H	33.56	6.36	26.27	35.82	29.82	54.00	24.18
2786	34.46	PK	H	26.64	4.45	27.55	38.00	32.00	74.00	42.00
2786	21.81	AV	H	26.64	4.45	27.55	25.35	19.35	54.00	34.65

802.11n ht40 mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5190 MHz										
5190	70.16	PK	H	31.48	5.44	0.00	107.08	101.08	N/A	N/A
5190	53.43	AV	H	31.48	5.44	0.00	90.35	84.35	N/A	N/A
5190	66.51	PK	V	31.48	5.44	0.00	103.43	97.43	N/A	N/A
5190	49.89	AV	V	31.48	5.44	0.00	86.81	80.81	N/A	N/A
5150	29.04	PK	V	31.40	5.26	0.00	65.70	59.70	74.00	14.30
5150	15.50	AV	V	31.40	5.26	0.00	52.16	46.16	54.00	7.84
10380	32.20	PK	V	36.98	8.34	25.51	52.01	46.01	74.00	27.99
10380	20.81	AV	V	36.98	8.34	25.51	40.62	34.62	54.00	19.38
15570	34.08	PK	V	37.37	14.81	24.83	61.43	55.43	74.00	18.57
15570	21.48	AV	V	37.37	14.81	24.83	48.83	42.83	54.00	11.17
6933	32.20	PK	V	33.43	6.34	26.38	45.59	39.59	74.00	34.41
6933	21.93	AV	V	33.43	6.34	26.38	35.32	29.32	54.00	24.68
2786	34.20	PK	V	26.64	4.45	27.55	37.74	31.74	74.00	42.26
2786	21.49	AV	V	26.64	4.45	27.55	25.03	19.03	54.00	34.97
High Channel:5230 MHz										
5230	68.50	PK	H	31.56	5.33	0.00	105.39	99.39	N/A	N/A
5230	46.46	AV	H	31.56	5.33	0.00	83.35	77.35	N/A	N/A
5230	64.80	PK	V	31.56	5.33	0.00	101.69	95.69	N/A	N/A
5230	42.94	AV	V	31.56	5.33	0.00	79.83	73.83	N/A	N/A
5350	26.75	PK	V	31.80	5.61	0.00	64.16	58.16	74.00	15.84
5350	14.63	AV	V	31.80	5.61	0.00	52.04	46.04	54.00	7.96
10460	32.01	PK	V	36.99	8.25	25.88	51.37	45.37	74.00	28.63
10460	20.54	AV	V	36.99	8.25	25.88	39.90	33.90	54.00	20.10
15690	33.84	PK	V	37.16	14.32	24.87	60.45	54.45	74.00	19.55
15690	21.27	AV	V	37.16	14.32	24.87	47.88	41.88	54.00	12.12
6973	31.95	PK	V	33.53	6.36	26.30	45.54	39.54	74.00	34.46
6973	21.65	AV	V	33.53	6.36	26.30	35.24	29.24	54.00	24.76
2786	34.02	PK	V	26.64	4.45	27.55	37.56	31.56	74.00	42.44
2786	21.22	AV	V	26.64	4.45	27.55	24.76	18.76	54.00	35.24

802.11n ac80 mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Middle Channel:5210 MHz										
5210	64.65	PK	H	31.52	5.44	0.00	101.61	95.61	N/A	N/A
5210	35.89	AV	H	31.52	5.44	0.00	72.85	66.85	N/A	N/A
5210	60.50	PK	V	31.52	5.44	0.00	97.46	91.46	N/A	N/A
5210	33.49	AV	V	31.52	5.44	0.00	70.45	64.45	N/A	N/A
5150	41.14	PK	V	31.40	5.26	0.00	77.80	71.80	74.00	2.20
5150	17.61	AV	V	31.40	5.26	0.00	54.27	48.27	54.00	5.73
5350	26.44	PK	V	31.80	5.61	0.00	63.85	57.85	74.00	16.15
5350	14.63	AV	V	31.80	5.61	0.00	52.04	46.04	54.00	7.96
10420	32.34	PK	V	36.98	8.30	25.63	51.99	45.99	74.00	28.01
10420	20.96	AV	V	36.98	8.30	25.63	40.61	34.61	54.00	19.39
15630	34.21	PK	V	37.27	14.57	24.75	61.30	55.30	74.00	18.70
15630	21.66	AV	V	37.27	14.57	24.75	48.75	42.75	54.00	11.25
6946	32.38	PK	V	33.46	6.35	26.36	45.83	39.83	74.00	34.17
6946	22.12	AV	V	33.46	6.35	26.36	35.57	29.57	54.00	24.43

5725MHz-5850MHz:
802.11a mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5745 MHz										
5745	75.30	PK	H	32.15	5.53	0.00	112.98	106.98	N/A	N/A
5745	59.41	AV	H	32.15	5.53	0.00	97.09	91.09	N/A	N/A
5745	72.36	PK	V	32.15	5.53	0.00	110.04	104.04	N/A	N/A
5745	56.58	AV	V	32.15	5.53	0.00	94.26	88.26	N/A	N/A
5725	43.84	PK	H	32.15	5.60	0.00	81.59	75.59	122.20	46.61
5720	37.34	PK	H	32.14	5.61	0.00	75.09	69.09	110.80	41.71
5700	36.50	PK	H	32.14	5.68	0.00	74.32	68.32	105.20	36.88
5650	32.50	PK	H	32.13	5.28	0.00	69.91	63.91	68.20	4.29
11490	31.30	PK	H	37.89	8.94	26.14	51.99	45.99	74.00	28.01
11490	19.93	AV	H	37.89	8.94	26.14	40.62	34.62	54.00	19.38
17235	33.12	PK	H	40.91	13.69	25.63	62.09	56.09	74.00	17.91
17235	20.57	AV	H	40.91	13.69	25.63	49.54	43.54	54.00	10.46
4850	31.39	PK	H	30.71	4.98	27.42	39.66	33.66	74.00	40.34
4850	21.01	AV	H	30.71	4.98	27.42	29.28	23.28	54.00	30.72
6350	33.22	PK	H	32.27	6.06	26.51	45.04	39.04	74.00	34.96
6350	20.52	AV	H	32.27	6.06	26.51	32.34	26.34	54.00	27.66
Middle Channel:5785 MHz										
5785	75.03	PK	H	32.16	5.47	0.00	112.66	106.66	N/A	N/A
5785	59.02	AV	H	32.16	5.47	0.00	96.65	90.65	N/A	N/A
5785	73.39	PK	V	32.16	5.47	0.00	111.02	105.02	N/A	N/A
5785	57.65	AV	V	32.16	5.47	0.00	95.28	89.28	N/A	N/A
11570	31.10	PK	H	37.90	8.92	26.07	51.85	45.85	74.00	28.15
11570	19.71	AV	H	37.90	8.92	26.07	40.46	34.46	54.00	19.54
17355	32.92	PK	H	41.63	12.99	25.63	61.91	55.91	74.00	18.09
17355	20.39	AV	H	41.63	12.99	25.63	49.38	43.38	54.00	10.62
4590	31.15	PK	H	30.03	5.40	27.31	39.27	33.27	74.00	40.73
4590	20.81	AV	H	30.03	5.40	27.31	28.93	22.93	54.00	31.07
6520	33.04	PK	H	32.35	6.15	26.52	45.02	39.02	74.00	34.98
6520	20.38	AV	H	32.35	6.15	26.52	32.36	26.36	54.00	27.64
High Channel:5825 MHz										
5825	74.63	PK	H	32.17	5.75	0.00	112.55	106.55	N/A	N/A
5825	58.58	AV	H	32.17	5.75	0.00	96.50	90.50	N/A	N/A
5825	74.22	PK	V	32.17	5.75	0.00	112.14	106.14	N/A	N/A
5825	58.35	AV	V	32.17	5.75	0.00	96.27	90.27	N/A	N/A
5850	39.85	PK	H	32.17	6.05	0.00	78.07	72.07	112.20	40.13
5855	33.24	PK	H	32.17	6.03	0.00	71.44	65.44	110.80	45.36
5875	32.08	PK	H	32.18	5.97	0.00	70.23	64.23	105.20	40.97
5925	32.16	PK	H	32.19	5.96	0.00	70.31	64.31	68.20	3.89
11650	30.97	PK	H	37.90	8.90	25.75	52.02	46.02	74.00	27.98
11650	19.56	AV	H	37.90	8.90	25.75	40.61	34.61	54.00	19.39
17475	32.79	PK	H	42.35	12.30	25.39	62.05	56.05	74.00	17.95
17475	20.25	AV	H	42.35	12.30	25.39	49.51	43.51	54.00	10.49
4630	31.02	PK	H	30.14	5.16	27.34	38.98	32.98	74.00	41.02
4630	20.64	AV	H	30.14	5.16	27.34	28.60	22.60	54.00	31.40
6010	32.91	PK	H	32.20	5.88	27.07	43.92	37.92	74.00	36.08
6010	20.18	AV	H	32.20	5.88	27.07	31.19	25.19	54.00	28.81

802.11n ht20 mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Low Channel:5745 MHz										
5745	74.15	PK	H	32.15	5.53	0.00	111.83	105.83	N/A	N/A
5745	57.48	AV	H	32.15	5.53	0.00	95.16	89.16	N/A	N/A
5745	70.61	PK	V	32.15	5.53	0.00	108.29	102.29	N/A	N/A
5745	54.28	AV	V	32.15	5.53	0.00	91.96	85.96	N/A	N/A
5725	44.41	PK	H	32.15	5.60	0.00	82.16	76.16	112.20	36.04
5720	40.20	PK	H	32.14	5.61	0.00	77.95	71.95	110.80	38.85
5700	32.25	PK	H	32.14	5.68	0.00	70.07	64.07	105.20	41.13
5650	32.25	PK	H	32.13	5.28	0.00	69.66	63.66	68.20	4.54
11490	31.28	PK	H	37.89	8.94	26.14	51.97	45.97	74.00	28.03
11490	19.91	AV	H	37.89	8.94	26.14	40.60	34.60	54.00	19.40
17235	33.11	PK	H	40.91	13.69	25.63	62.08	56.08	74.00	17.92
17235	20.59	AV	H	40.91	13.69	25.63	49.56	43.56	54.00	10.44
4750	31.39	PK	H	30.45	5.49	27.39	39.94	33.94	74.00	40.06
4750	21.00	AV	H	30.45	5.49	27.39	29.55	23.55	54.00	30.45
6550	33.28	PK	H	32.43	6.16	26.54	45.33	39.33	74.00	34.67
6550	20.53	AV	H	32.43	6.16	26.54	32.58	26.58	54.00	27.42
Middle Channel:5785 MHz										
5785	74.61	PK	H	32.16	5.47	0.00	112.24	106.24	N/A	N/A
5785	57.73	AV	H	32.16	5.47	0.00	95.36	89.36	N/A	N/A
5785	72.71	PK	V	32.16	5.47	0.00	110.34	104.34	N/A	N/A
5785	55.84	AV	V	32.16	5.47	0.00	93.47	87.47	N/A	N/A
11570	31.68	PK	H	37.90	8.92	26.07	52.43	46.43	74.00	27.57
11570	20.22	AV	H	37.90	8.92	26.07	40.97	34.97	54.00	19.03
17355	33.45	PK	H	41.63	12.99	25.63	62.44	56.44	74.00	17.56
17355	20.98	AV	H	41.63	12.99	25.63	49.97	43.97	54.00	10.03
4160	31.64	PK	H	29.87	5.04	27.10	39.45	33.45	74.00	40.55
4160	21.35	AV	H	29.87	5.04	27.10	29.16	23.16	54.00	30.84
6320	33.60	PK	H	32.26	6.04	26.56	45.34	39.34	74.00	34.66
6320	20.87	AV	H	32.26	6.04	26.56	32.61	26.61	54.00	27.39
High Channel:5825 MHz										
5825	74.84	PK	H	32.17	5.75	0.00	112.76	106.76	N/A	N/A
5825	57.87	AV	H	32.17	5.75	0.00	95.79	89.79	N/A	N/A
5825	74.47	PK	V	32.17	5.75	0.00	112.39	106.39	N/A	N/A
5825	57.12	AV	V	32.17	5.75	0.00	95.04	89.04	N/A	N/A
5850	41.29	PK	H	32.17	6.05	0.00	79.51	73.51	112.20	38.69
5855	37.04	PK	H	32.17	6.03	0.00	75.24	69.24	110.80	41.56
5875	34.21	PK	H	32.18	5.97	0.00	72.36	66.36	105.20	38.84
5925	33.52	PK	H	32.19	5.96	0.00	71.67	65.67	68.20	2.53
11650	31.99	PK	H	37.90	8.90	25.75	53.04	47.04	74.00	26.96
11650	20.49	AV	H	37.90	8.90	25.75	41.54	35.54	54.00	18.46
17475	33.72	PK	H	42.35	12.30	25.39	62.98	56.98	74.00	17.02
17475	21.32	AV	H	42.35	12.30	25.39	50.58	44.58	54.00	9.42
4650	32.06	PK	H	30.19	4.91	27.35	39.81	33.81	74.00	40.19
4650	21.67	AV	H	30.19	4.91	27.35	29.42	23.42	54.00	30.58
6390	33.97	PK	H	32.28	6.08	26.45	45.88	39.88	74.00	34.12
6390	21.17	AV	H	32.28	6.08	26.45	33.08	27.08	54.00	26.92

802.11n ht40 mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5755 MHz										
5755	70.63	PK	H	32.15	5.50	0.00	108.28	102.28	N/A	N/A
5755	48.39	AV	H	32.15	5.50	0.00	86.04	80.04	N/A	N/A
5755	69.42	PK	V	32.15	5.50	0.00	107.07	101.07	N/A	N/A
5755	47.33	AV	V	32.15	5.50	0.00	84.98	78.98	N/A	N/A
5725	44.51	PK	H	32.15	5.60	0.00	82.26	76.26	122.20	45.94
5720	37.22	PK	H	32.14	5.61	0.00	74.97	68.97	110.80	41.83
5700	32.54	PK	H	32.14	5.68	0.00	70.36	64.36	105.20	40.84
5650	32.62	PK	H	32.13	5.28	0.00	70.03	64.03	68.20	4.17
11510	31.86	PK	H	37.90	8.95	26.12	52.59	46.59	74.00	27.41
11510	20.39	AV	H	37.90	8.95	26.12	41.12	35.12	54.00	18.88
17265	33.63	PK	H	41.09	13.51	25.63	62.60	56.60	74.00	17.40
17265	21.17	AV	H	41.09	13.51	25.63	50.14	44.14	54.00	9.86
4510	31.92	PK	H	29.83	5.09	27.13	39.71	33.71	74.00	40.29
4510	21.50	AV	H	29.83	5.09	27.13	29.29	23.29	54.00	30.71
6250	33.81	PK	H	32.25	6.01	26.68	45.39	39.39	74.00	34.61
6250	21.03	AV	H	32.25	6.01	26.68	32.61	26.61	54.00	27.39
High Channel:5795 MHz										
5795	70.73	PK	H	32.16	5.46	0.00	108.35	102.35	N/A	N/A
5795	48.49	AV	H	32.16	5.46	0.00	86.11	80.11	N/A	N/A
5795	70.10	PK	V	32.16	5.46	0.00	107.72	101.72	N/A	N/A
5795	48.12	AV	V	32.16	5.46	0.00	85.74	79.74	N/A	N/A
5850	34.96	PK	H	32.17	6.05	0.00	73.18	67.18	122.20	55.02
5855	33.52	PK	H	32.17	6.03	0.00	71.72	65.72	110.80	45.08
5875	33.12	PK	H	32.18	5.97	0.00	71.27	65.27	105.20	39.93
5925	32.54	PK	H	32.19	5.96	0.00	70.69	64.69	68.20	3.51
11590	32.04	PK	H	37.90	8.92	26.06	52.80	46.80	74.00	27.20
11590	20.52	AV	H	37.90	8.92	26.06	41.28	35.28	54.00	18.72
17385	33.78	PK	H	41.81	12.82	25.63	62.78	56.78	74.00	17.22
17385	21.42	AV	H	41.81	12.82	25.63	50.42	44.42	54.00	9.58
4867	32.08	PK	H	30.75	5.09	27.42	40.50	34.50	74.00	39.50
4867	21.74	AV	H	30.75	5.09	27.42	30.16	24.16	54.00	29.84
6187	34.03	PK	H	32.24	5.97	26.78	45.46	39.46	74.00	34.54
6187	21.26	AV	H	32.24	5.97	26.78	32.69	26.69	54.00	27.31

802.11n ac80 mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Middle Channel:5775 MHz										
5775	64.87	PK	H	32.16	5.48	0.00	102.51	96.51	N/A	N/A
5775	37.11	AV	H	32.16	5.48	0.00	74.75	68.75	N/A	N/A
5775	62.05	PK	V	32.16	5.48	0.00	99.69	93.69	N/A	N/A
5775	34.83	AV	V	32.16	5.48	0.00	72.47	66.47	N/A	N/A
5725	36.01	PK	H	32.15	5.60	0.00	73.76	67.76	122.20	54.44
5720	34.25	PK	H	32.14	5.61	0.00	72.00	66.00	110.80	44.80
5700	33.21	PK	H	32.14	5.68	0.00	71.03	65.03	105.20	40.17
5650	33.29	PK	H	32.13	5.28	0.00	70.70	64.70	68.20	3.50
5850	36.51	PK	H	32.17	6.05	0.00	74.73	68.73	122.20	53.47
5855	38.50	PK	H	32.17	6.03	0.00	76.70	70.70	110.80	40.10
5875	34.20	PK	H	32.18	5.97	0.00	72.35	66.35	105.20	38.85
5925	32.02	PK	H	32.19	5.96	0.00	70.17	64.17	68.20	4.03
11550	32.32	PK	H	37.90	8.93	26.09	53.06	47.06	74.00	26.94
11550	20.77	AV	H	37.90	8.93	26.09	41.51	35.51	54.00	18.49
17325	34.07	PK	H	41.45	13.17	25.63	63.06	57.06	74.00	16.94
17325	21.69	AV	H	41.45	13.17	25.63	50.68	44.68	54.00	9.32
2786	32.36	PK	H	26.64	4.45	27.55	35.90	29.90	74.00	44.10
2786	22.00	AV	H	26.64	4.45	27.55	25.54	19.54	54.00	34.46

§15.407(b) (1) (4) –UNWANTED EMISSION AT ANTENNA PORT

Applicable Standard

FCC §15.407

(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.

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

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

Test Data

Environmental Conditions

Temperature:	30.1 ~ 32.2 °C
Relative Humidity:	48 ~ 58 %
ATM Pressure:	100 ~ 100.2 kPa

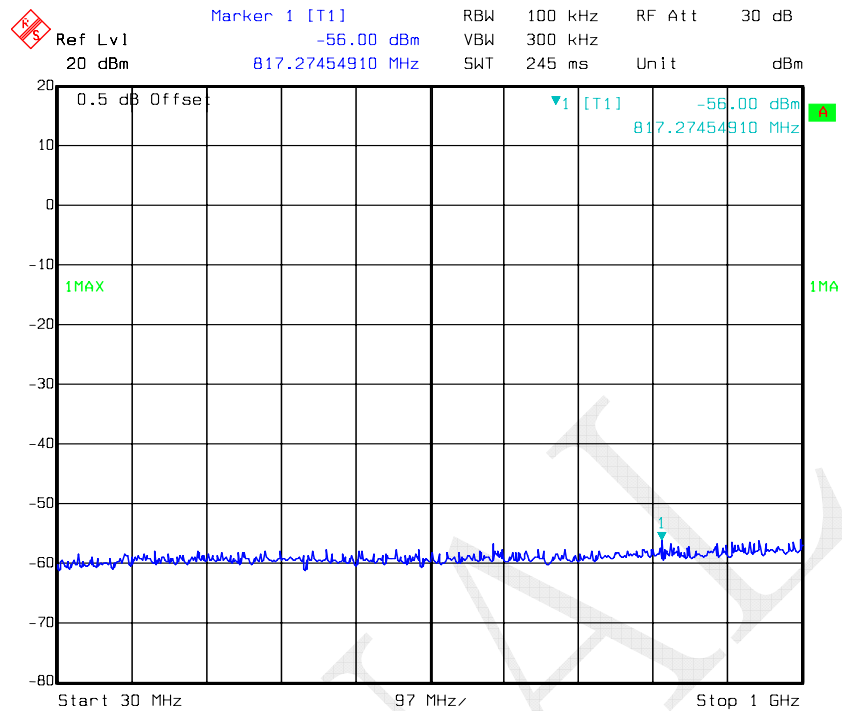
The testing was performed by Robin Zheng on 2016-08-08

Test Result: Pass.

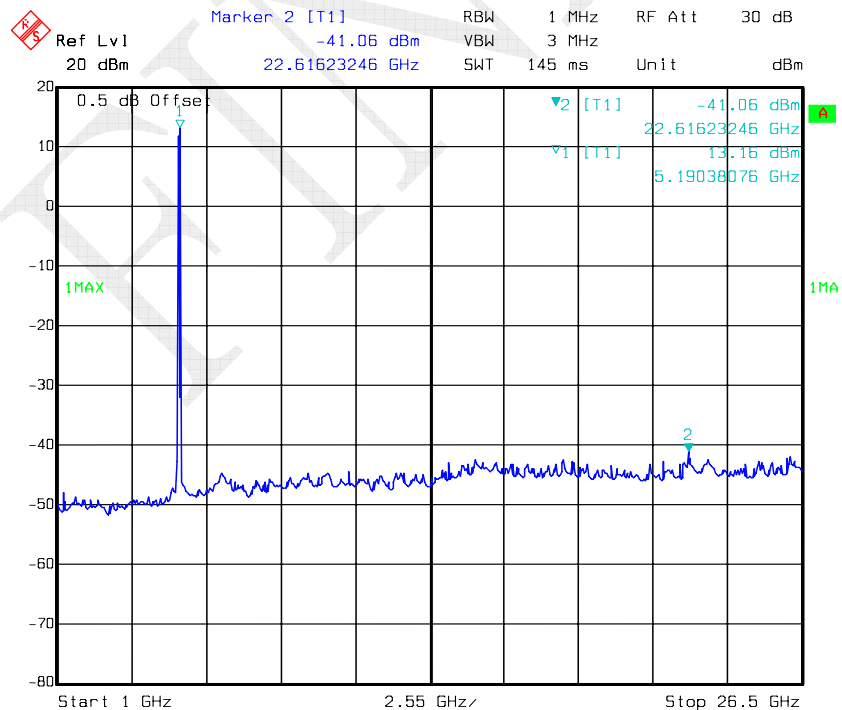
Please refer to the following tables and plots.

5150-5250MHz

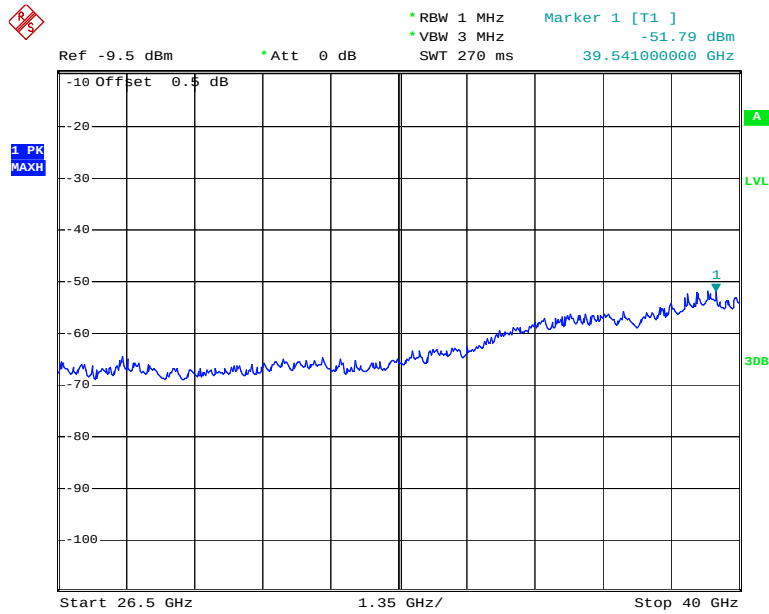
802.11a Low Channel



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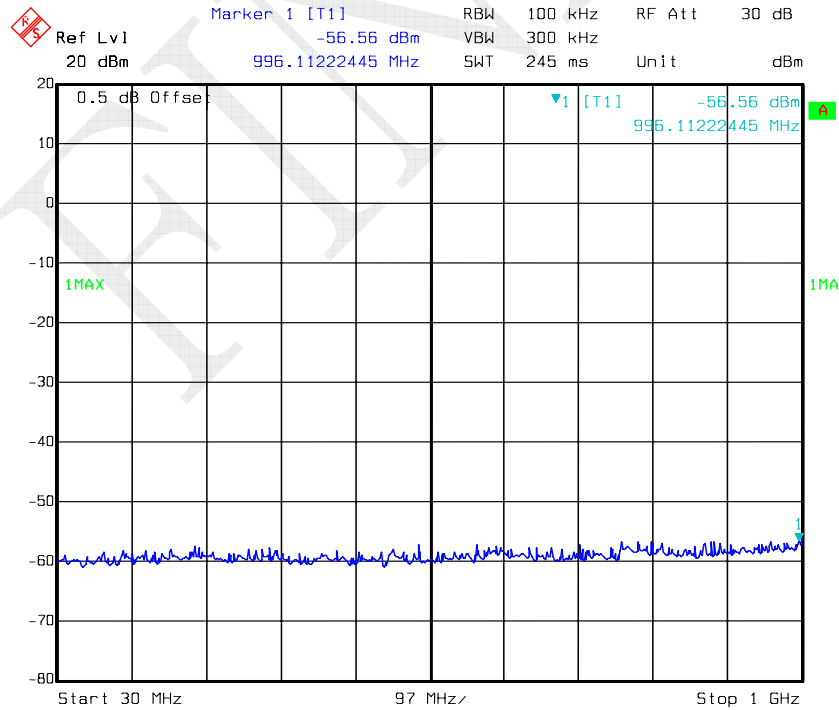


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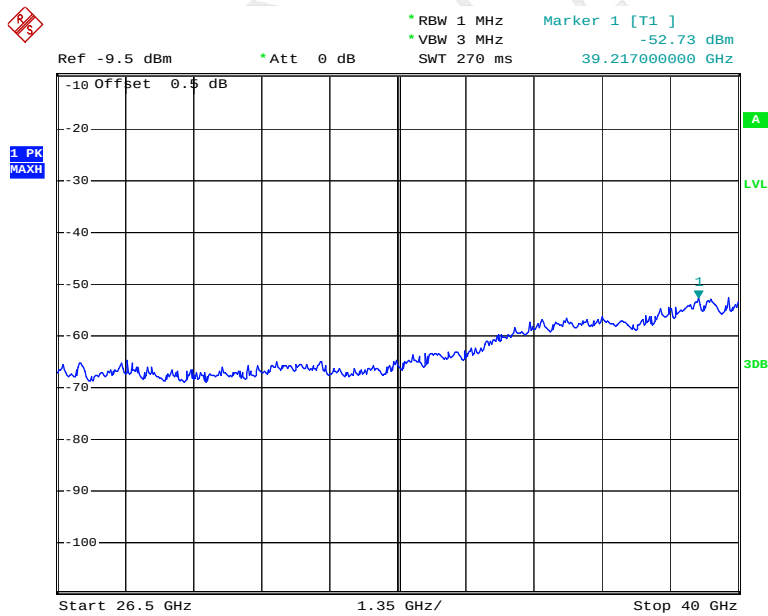
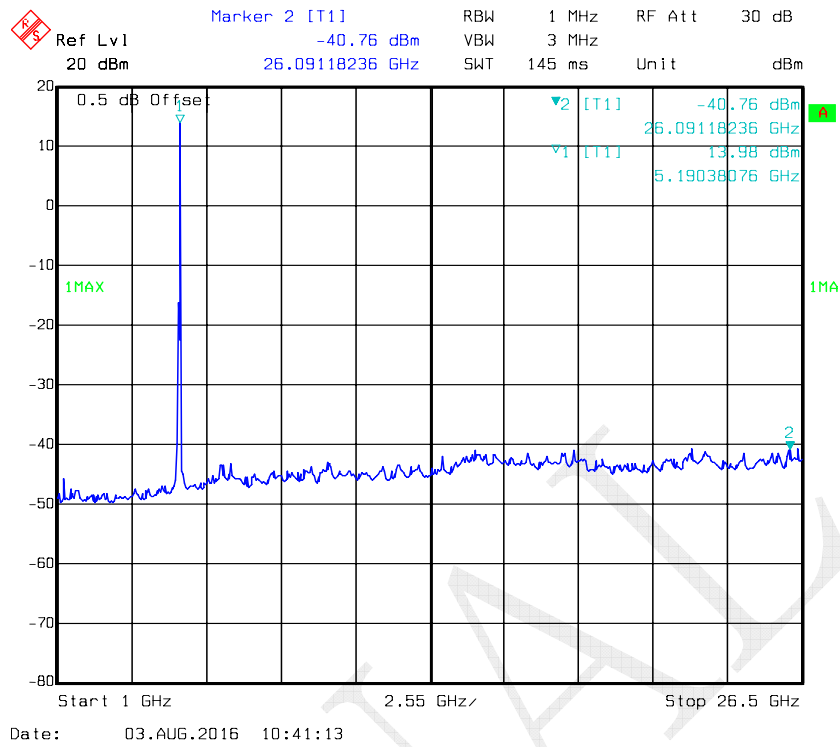


Date: 8.AUG.2016 12:28:00

802.11a Middle Channel

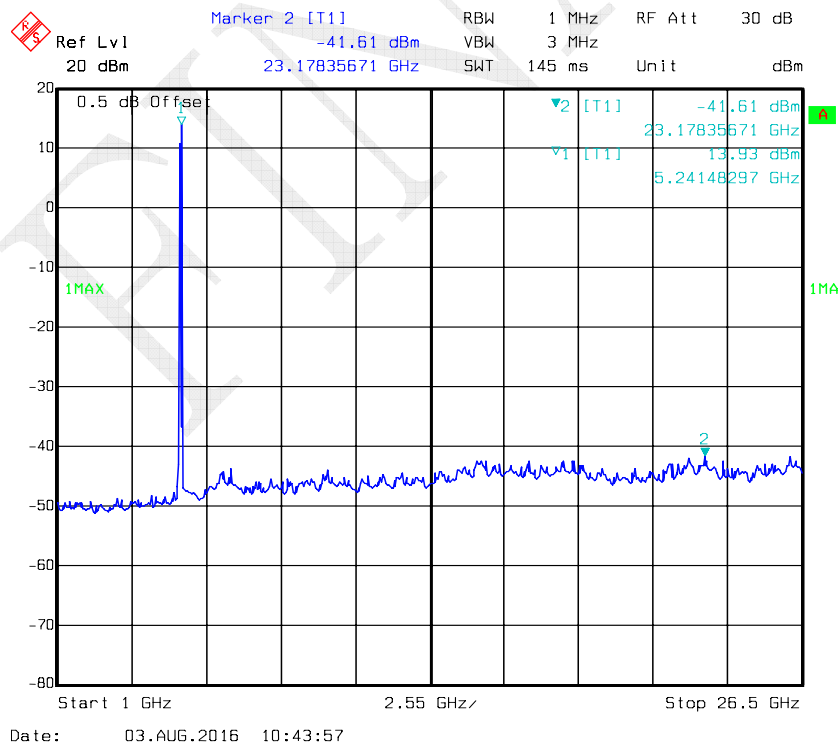
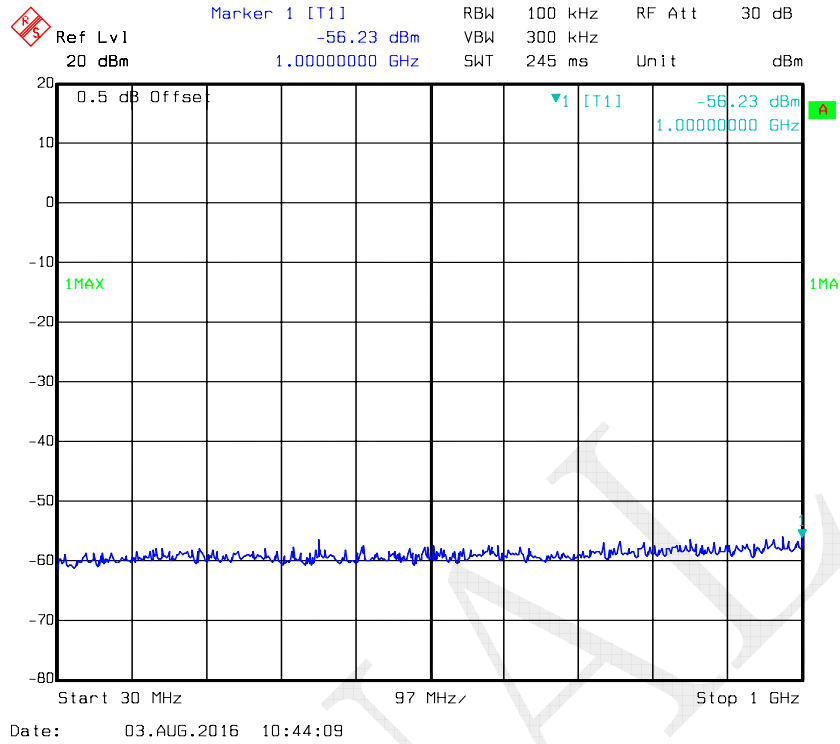


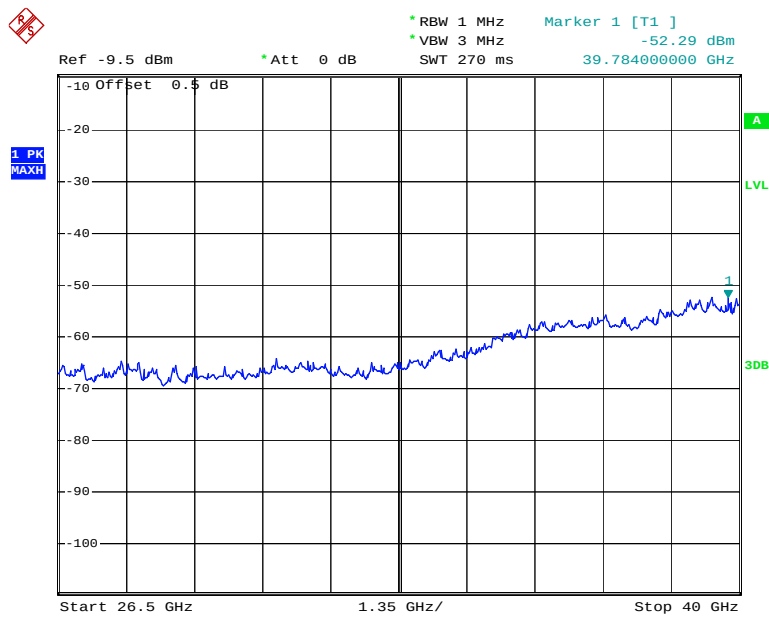
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Date: 8.AUG.2016 12:28:10

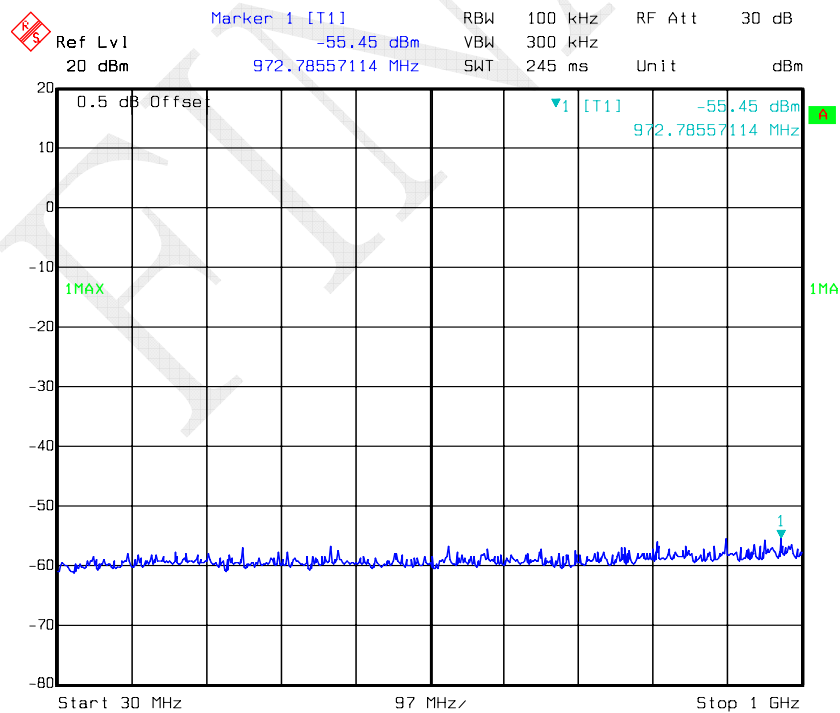
802.11a High Channel



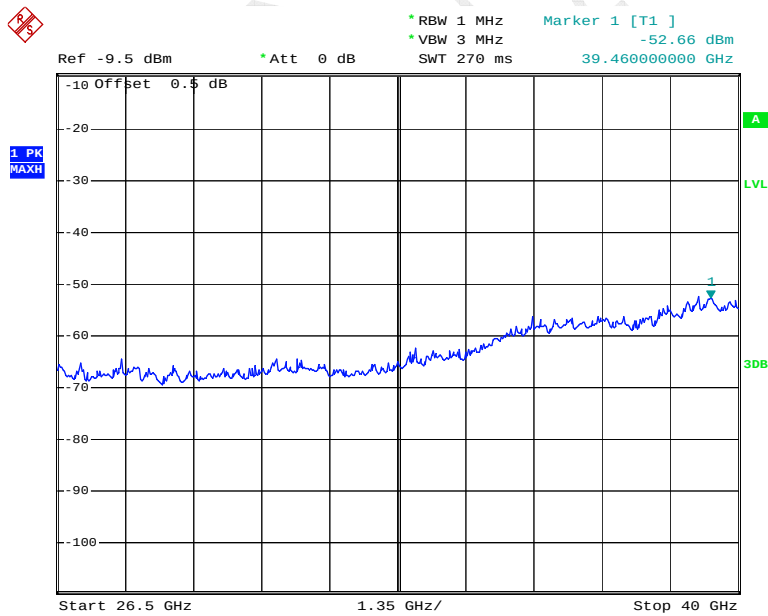
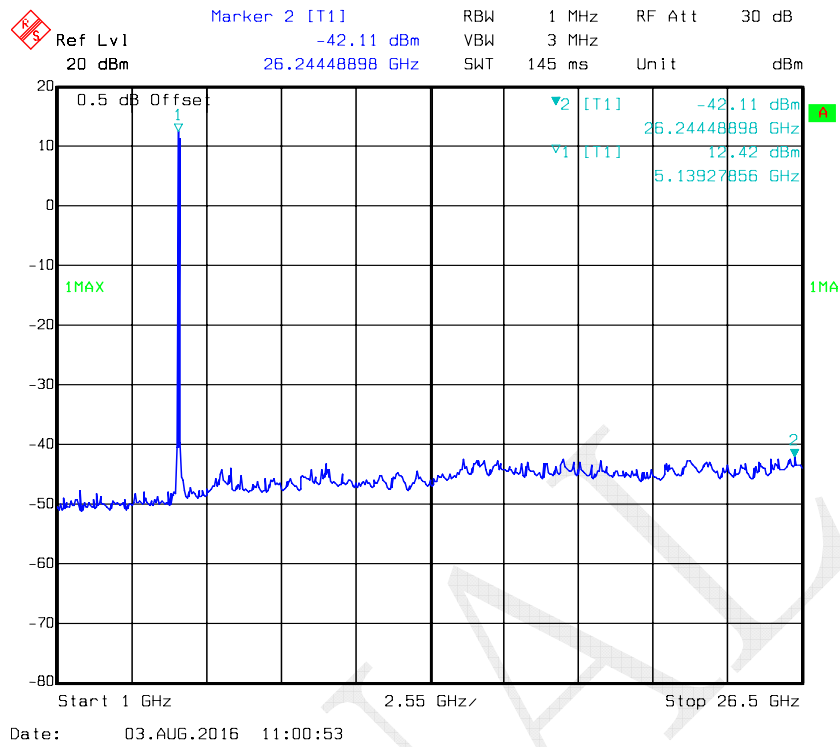


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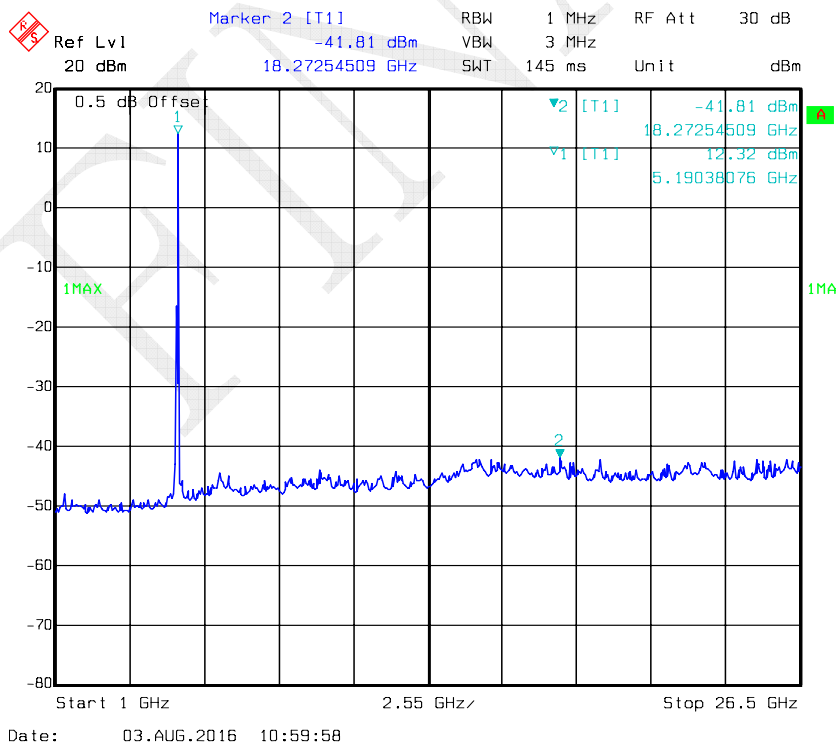
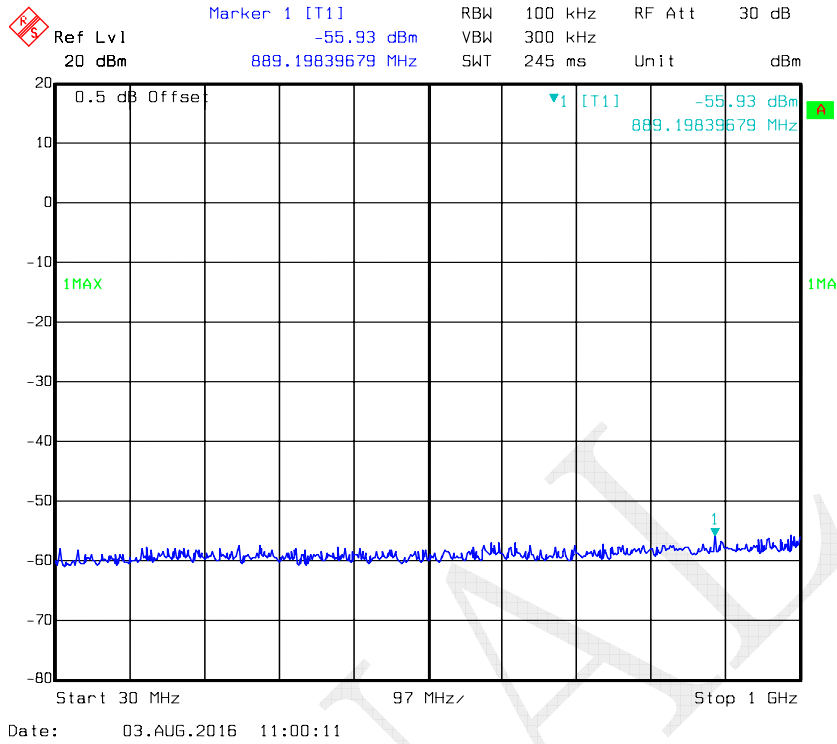
802.11n ht20 Low Channel

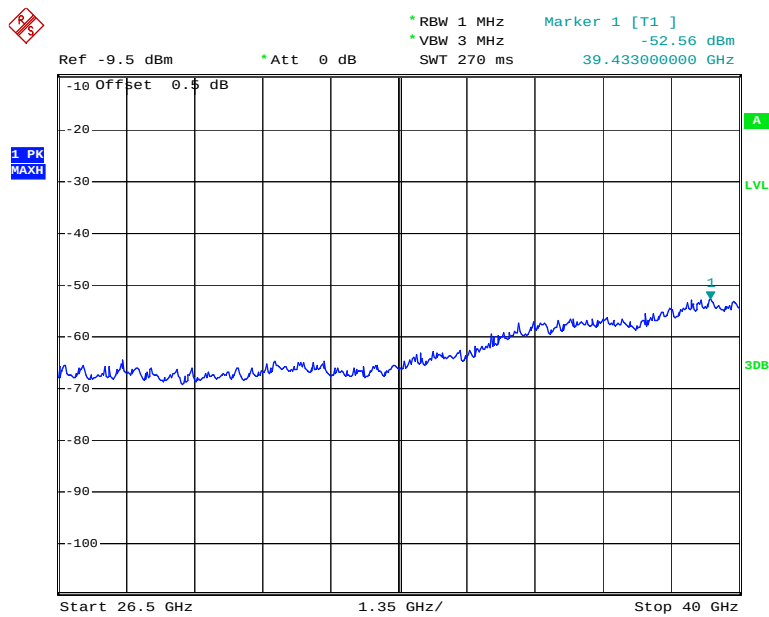


Date: 03.AUG.2016 11:01:05



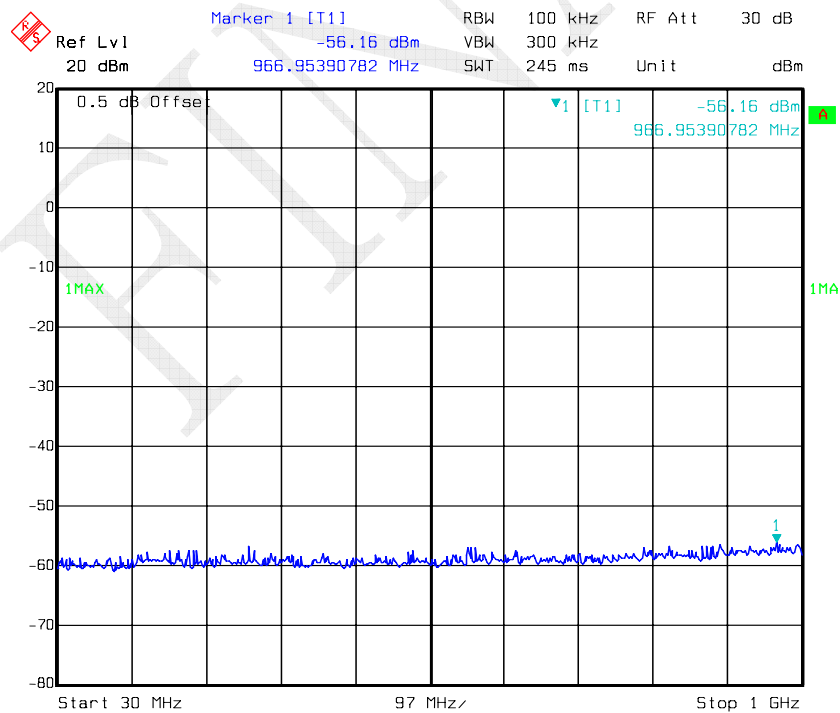
802.11n ht20 Middle Channel



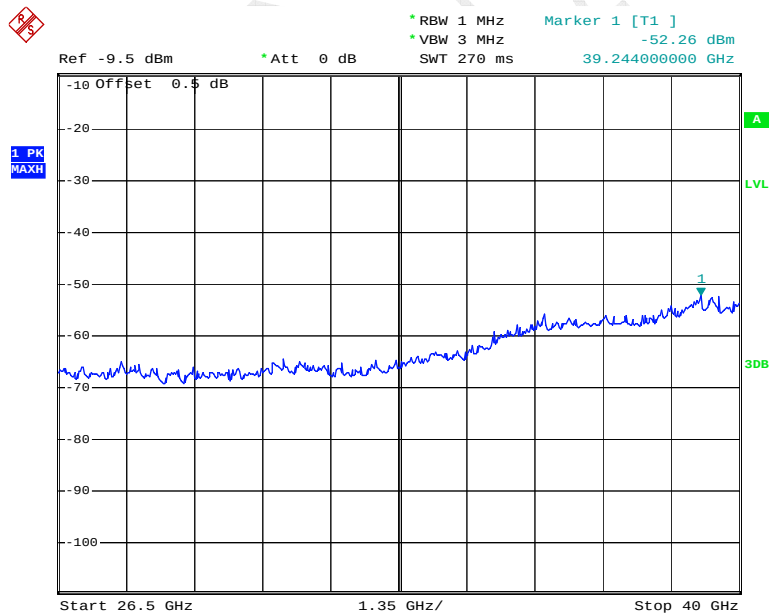
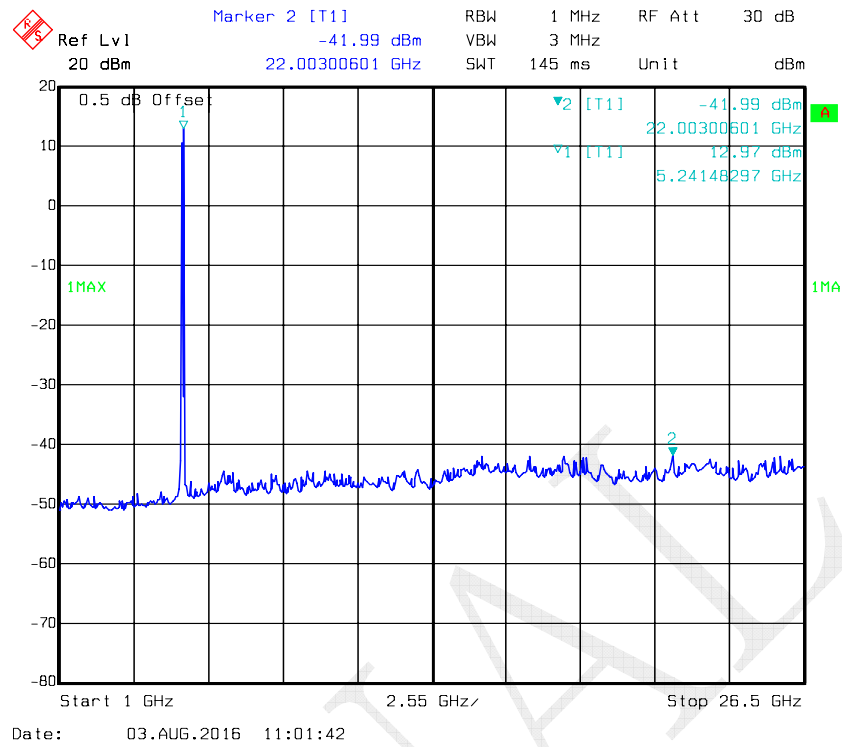


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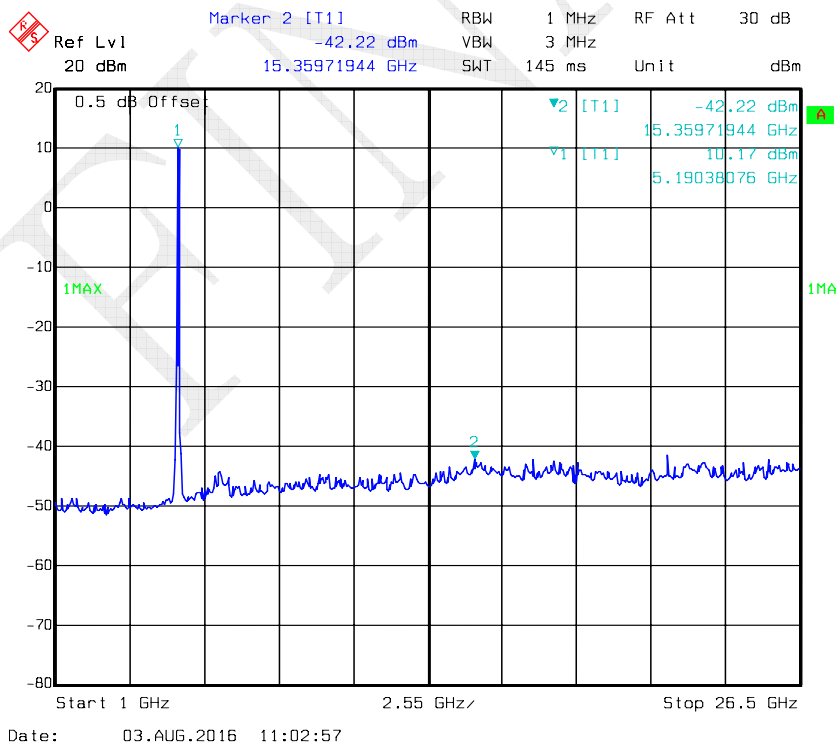
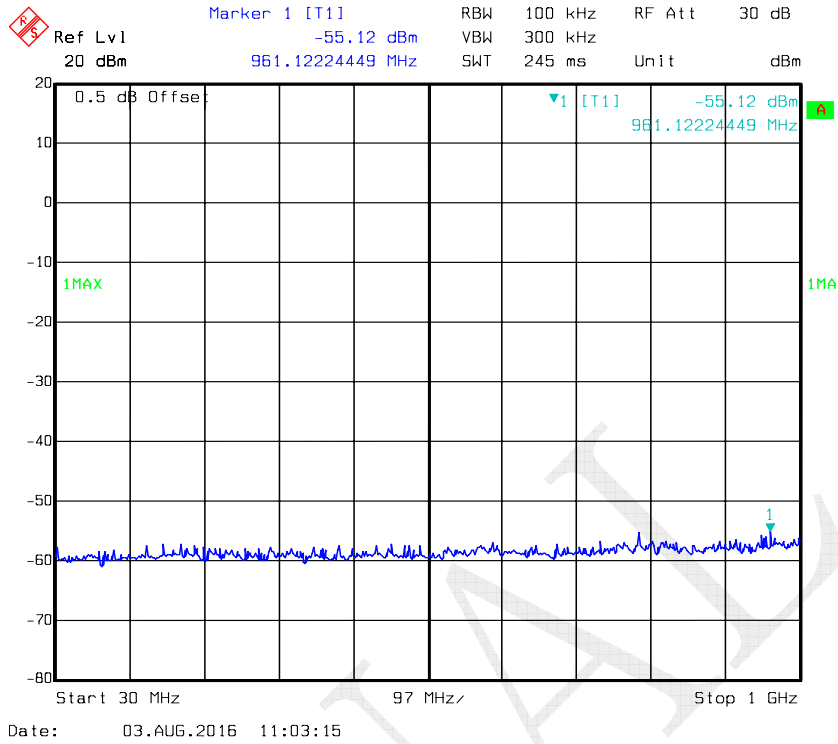
802.11n ht20 High Channel

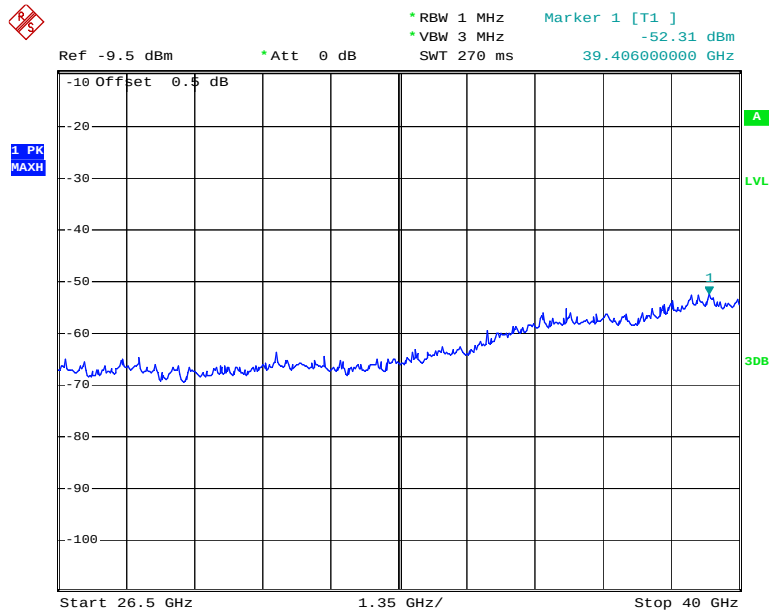


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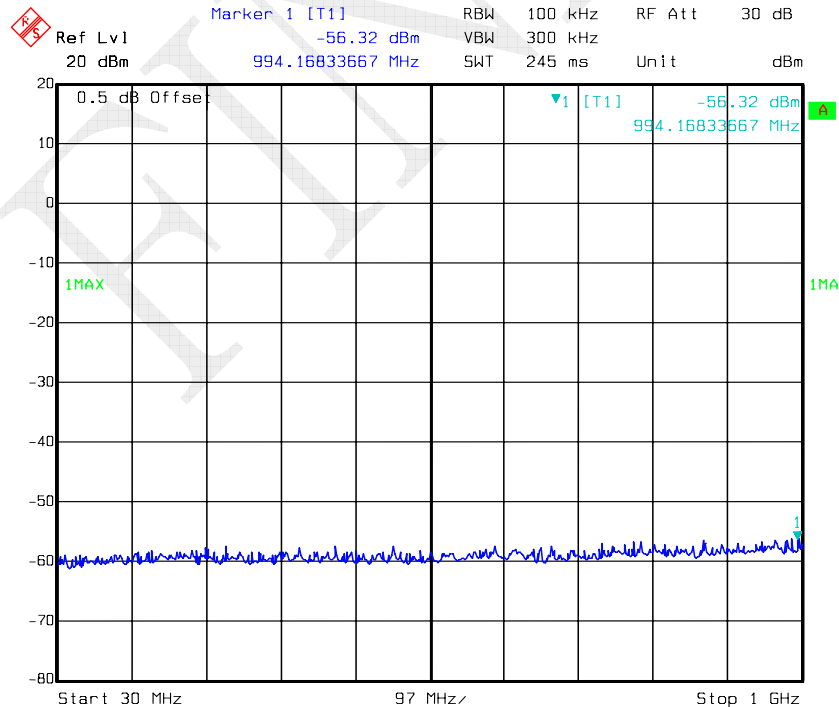
802.11n ht40 Low Channel



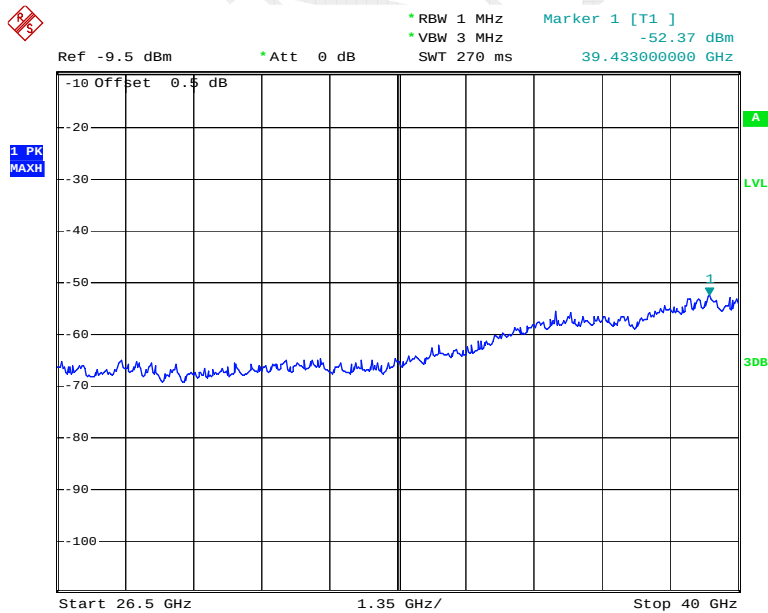
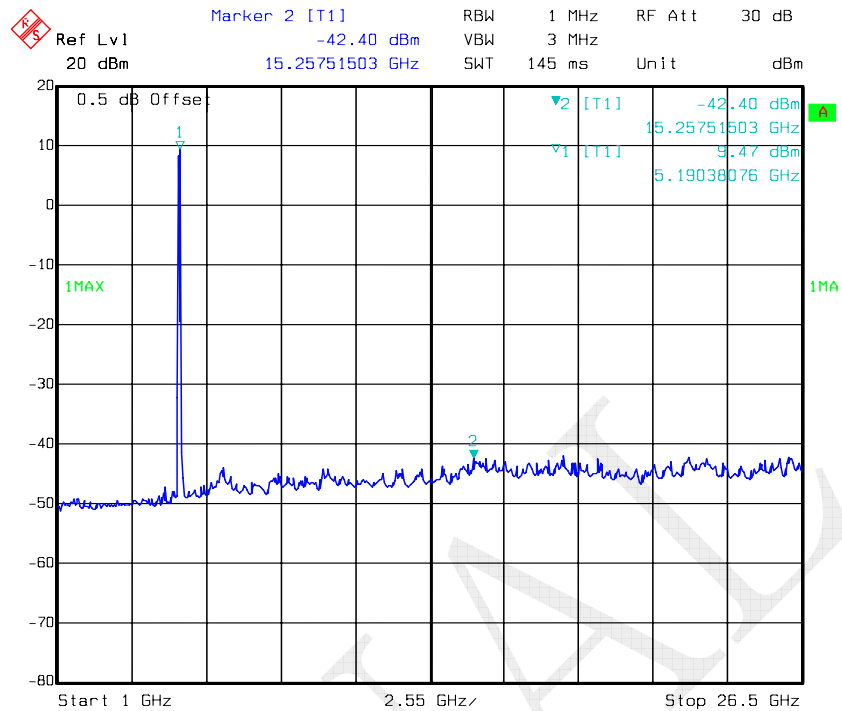


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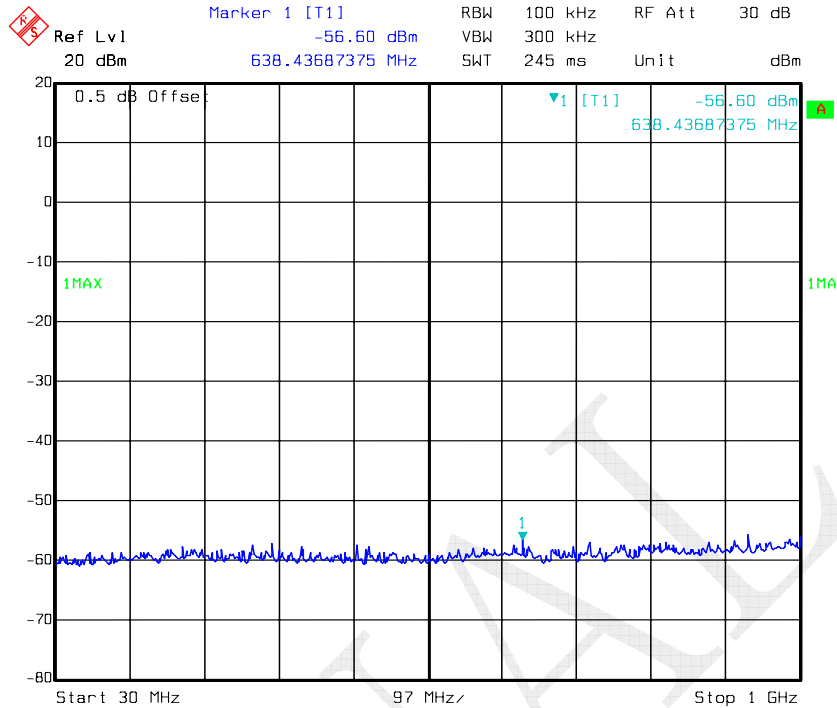
802.11n ht40 High Channel



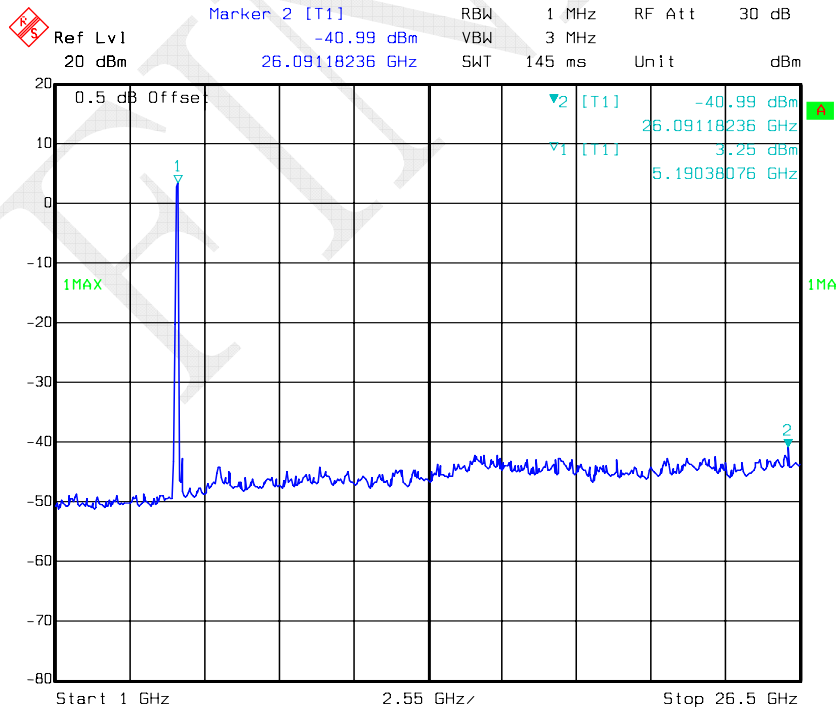
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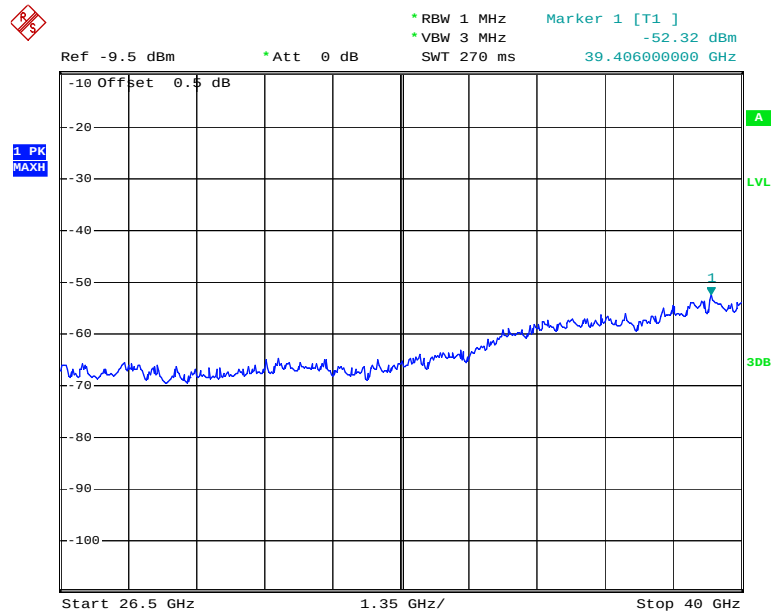
802.11ac



Date: 03.AUG.2016 11:05:00



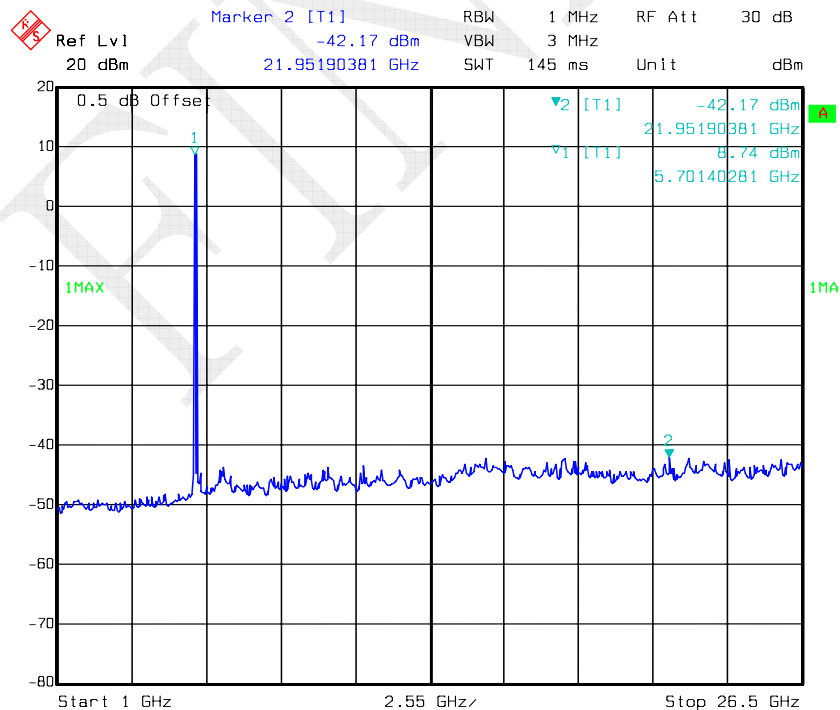
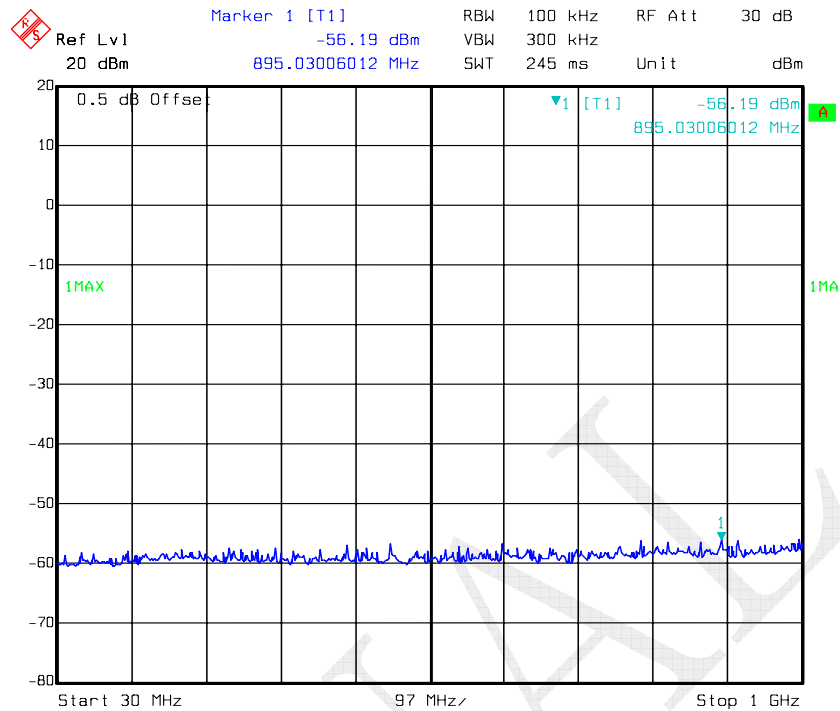
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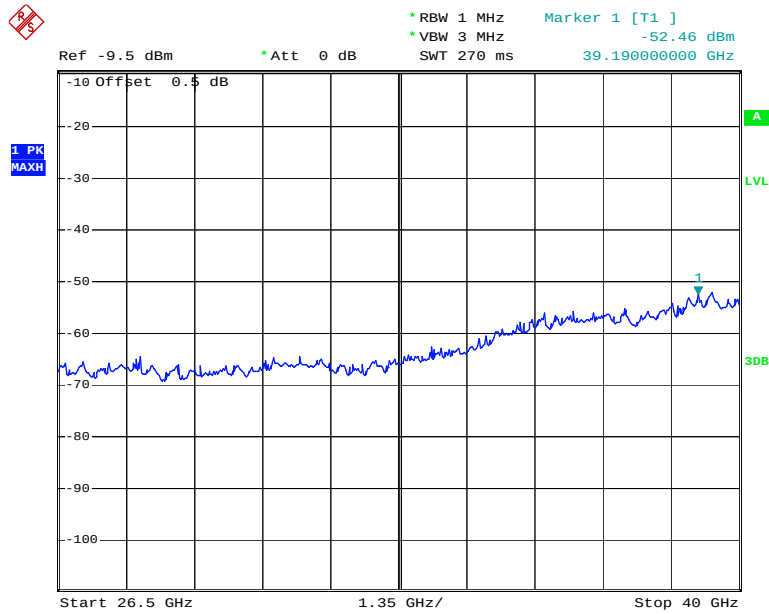


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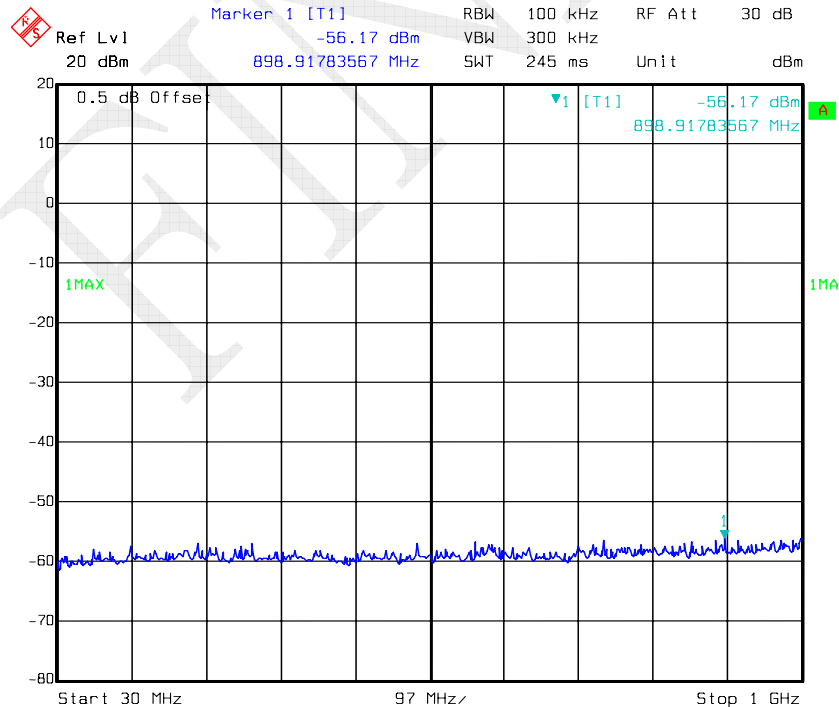
802.11a Low Channel



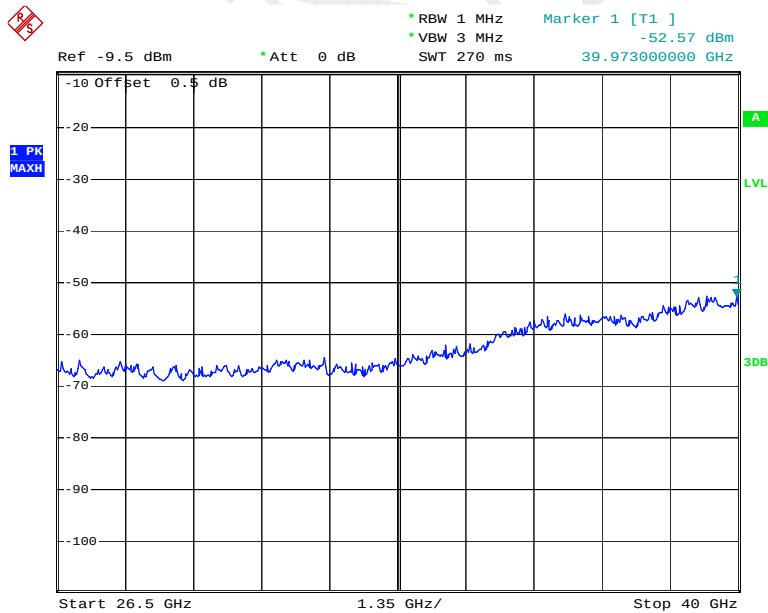
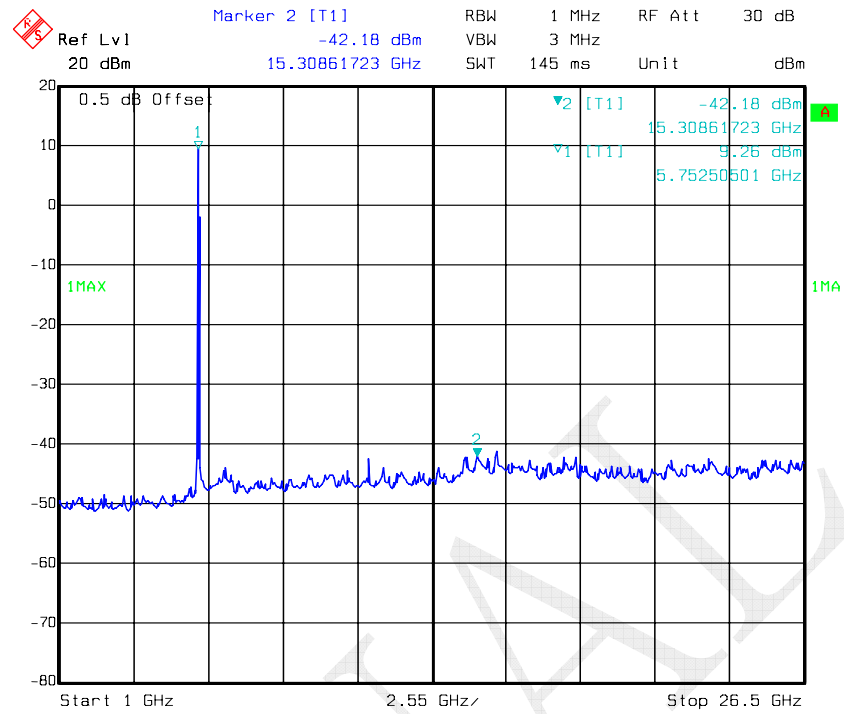


Date: 8.AUG.2016 12:29:16

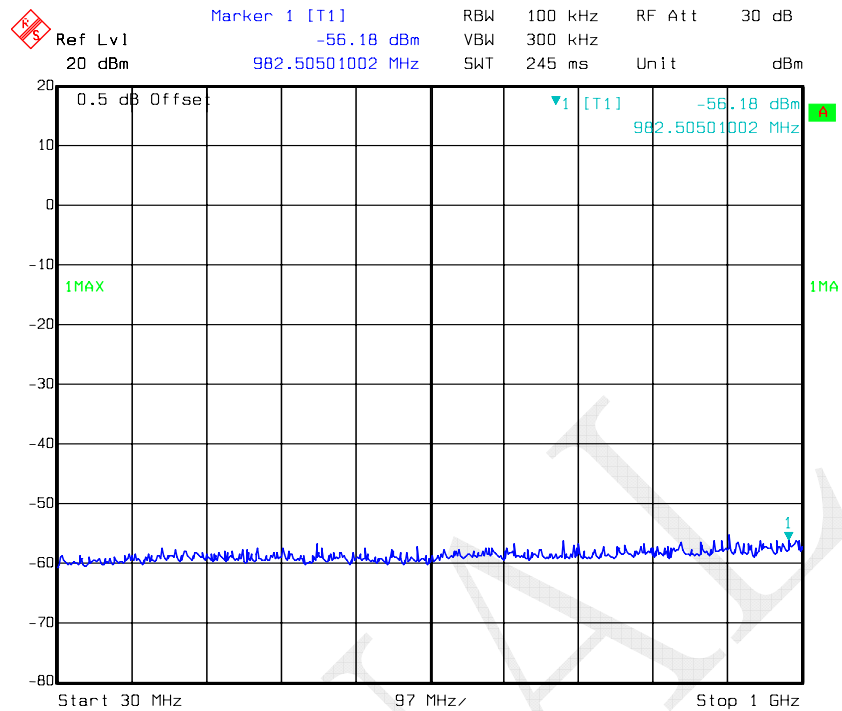
802.11a Middle Channel



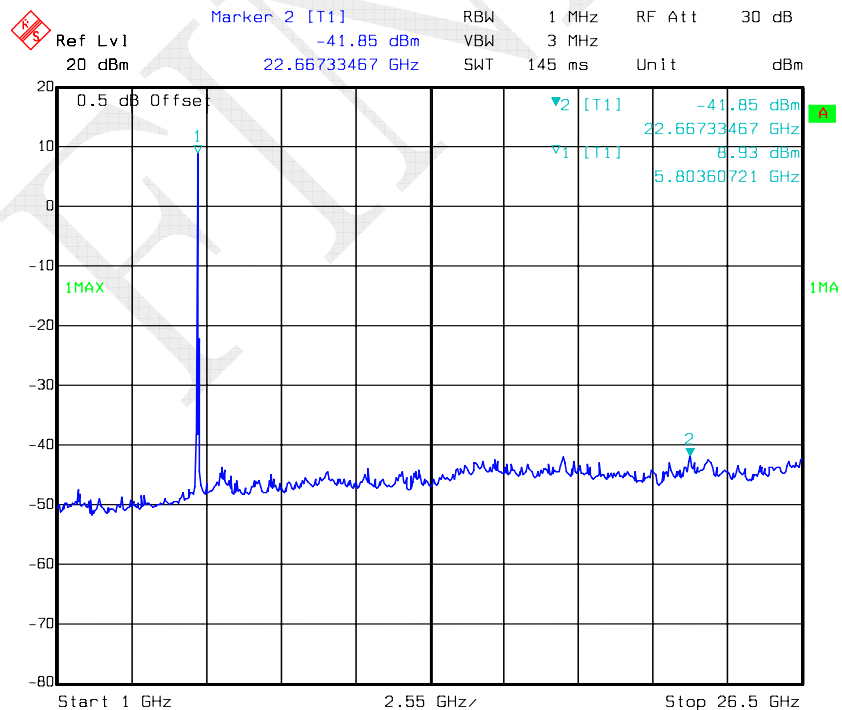
Date: 02.AUG.2016 23:01:08



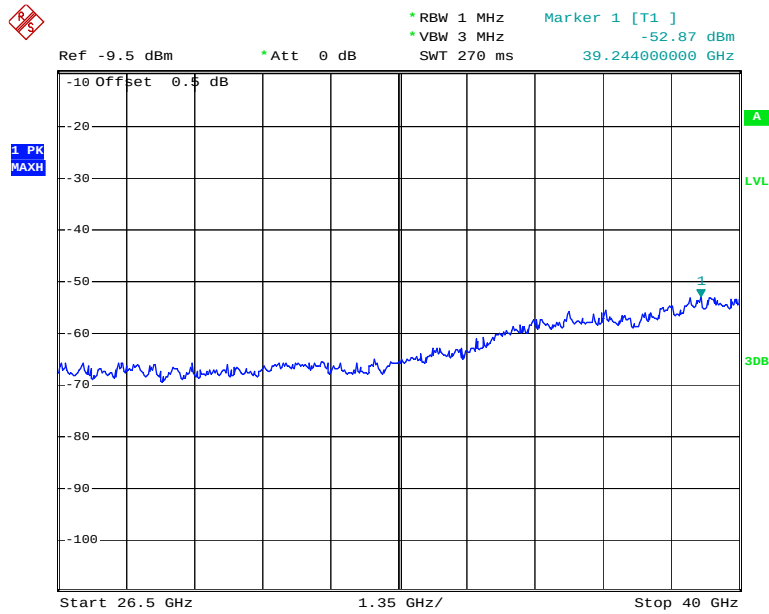
802.11a High Channel



Date: 02.AUG.2016 23:06:02

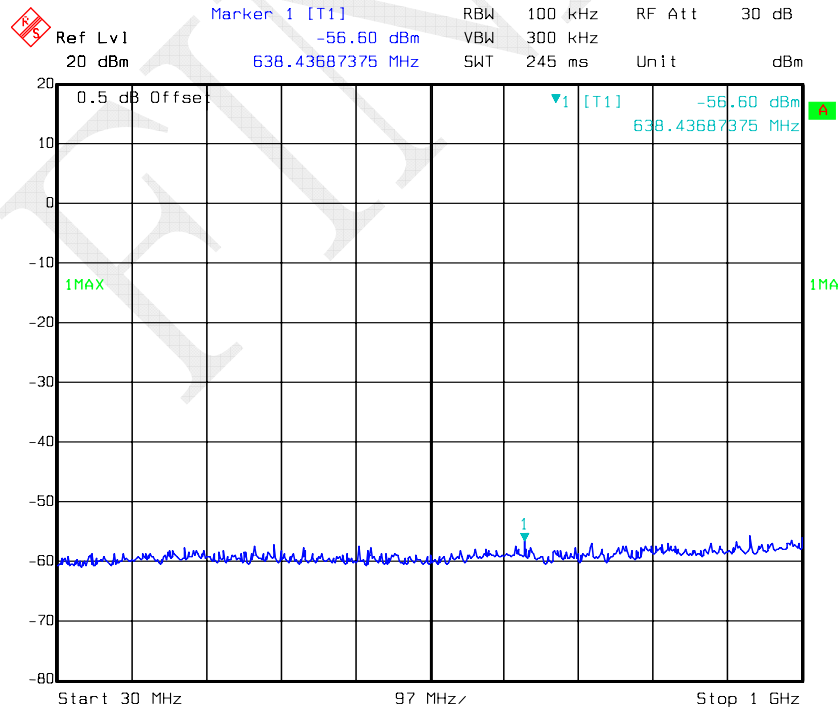


Date: 02.AUG.2016 23:09:17

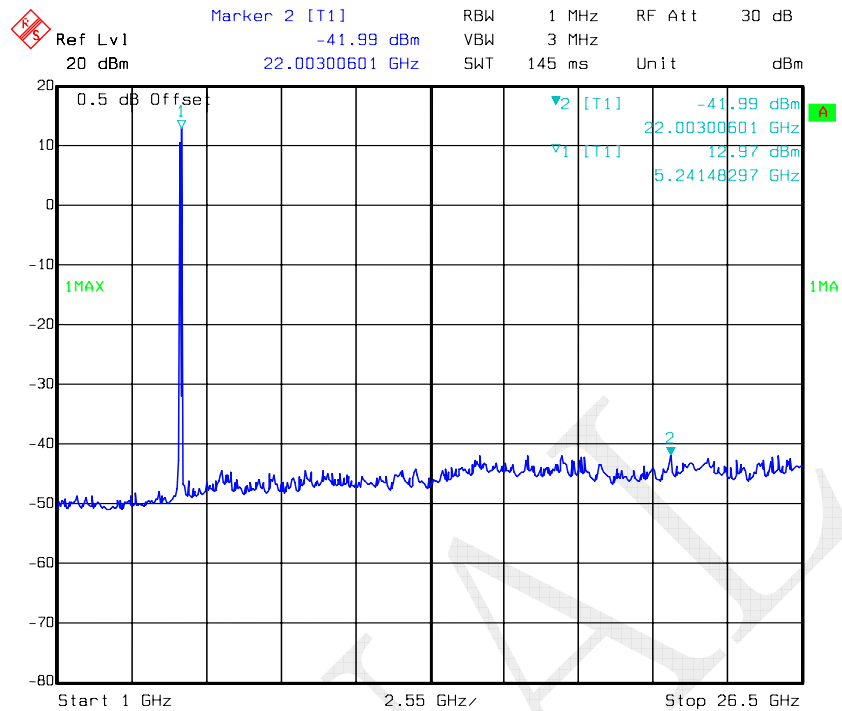


Date: 8.AUG.2016 12:29:39

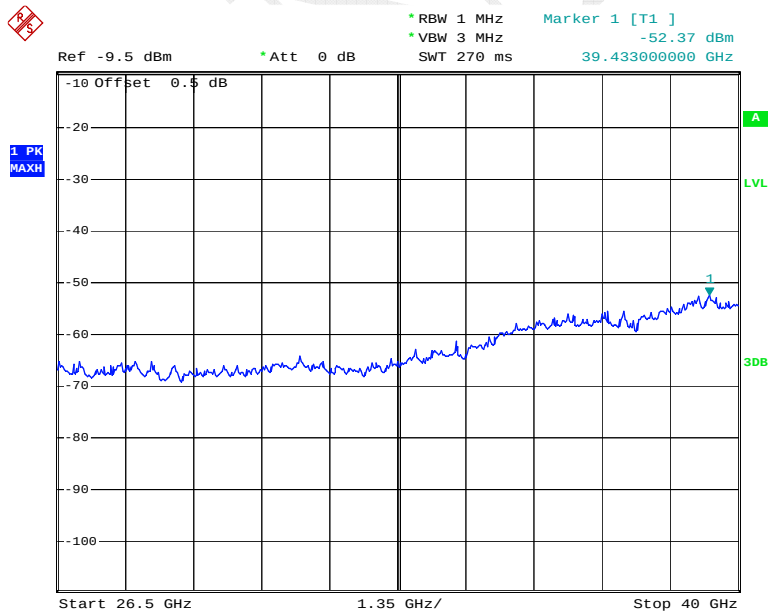
802.11n ht20 Low Channel



Date: 03.AUG.2016 11:05:00

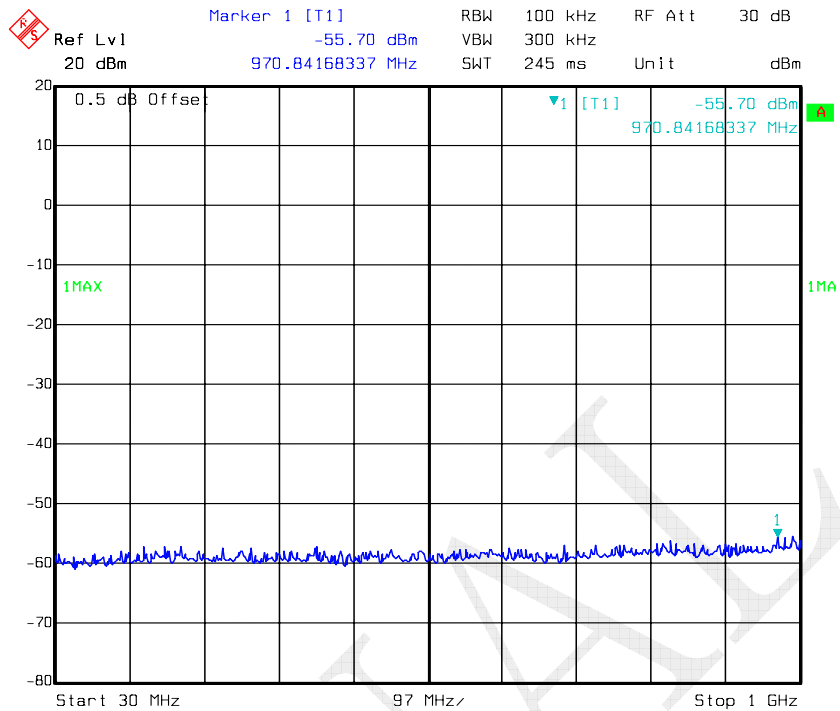


Date: 03.AUG.2016 11:01:42

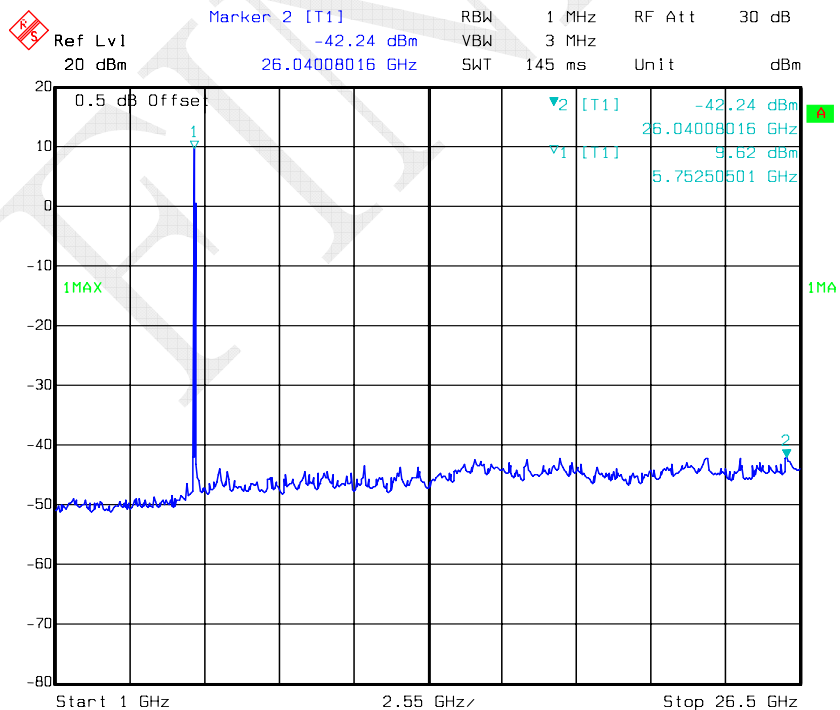


Date: 8.AUG.2016 12:29:01

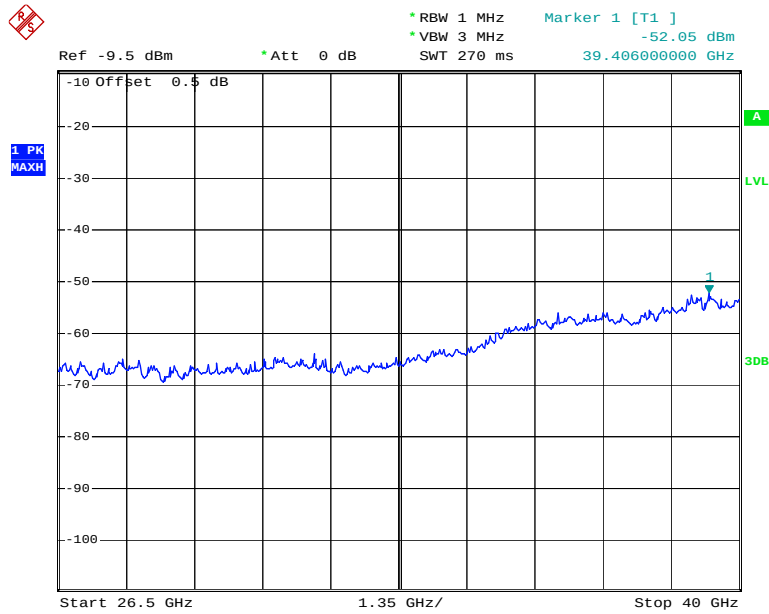
802.11n ht20 Middle Channel



Date: 02.AUG.2016 23:15:59

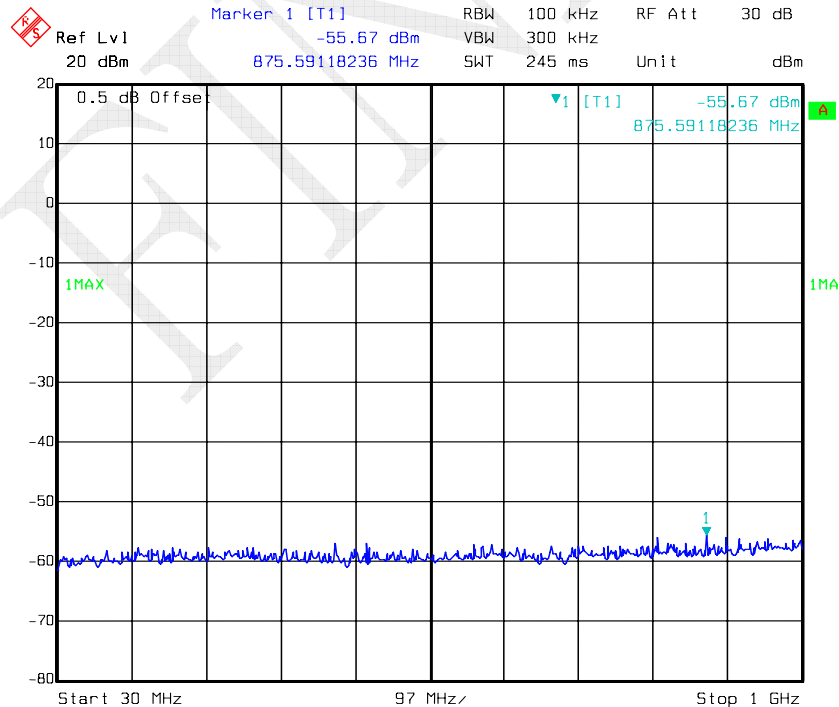


Date: 02.AUG.2016 23:15:45

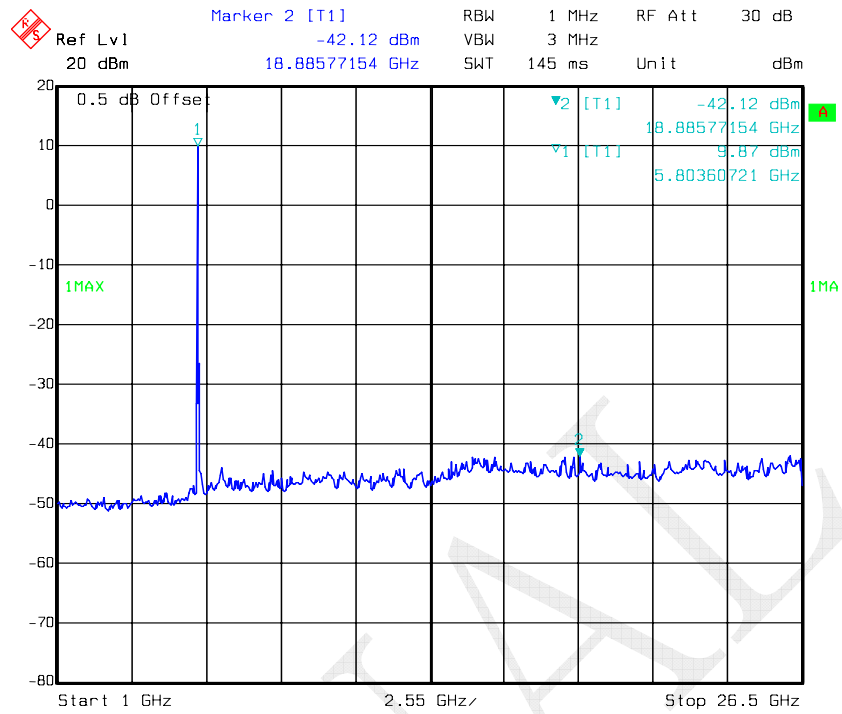


Date: 8.AUG.2016 12:28:31

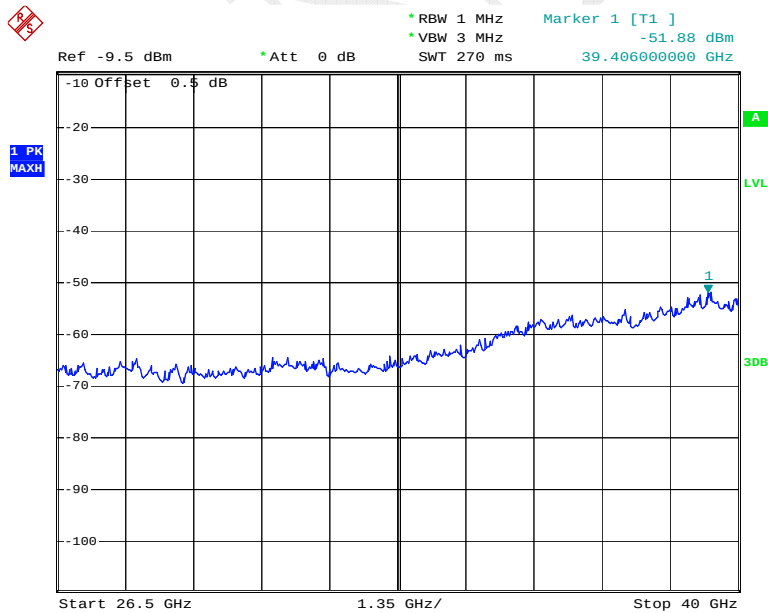
802.11n ht20 High Channel



Date: 02.AUG.2016 23:12:42

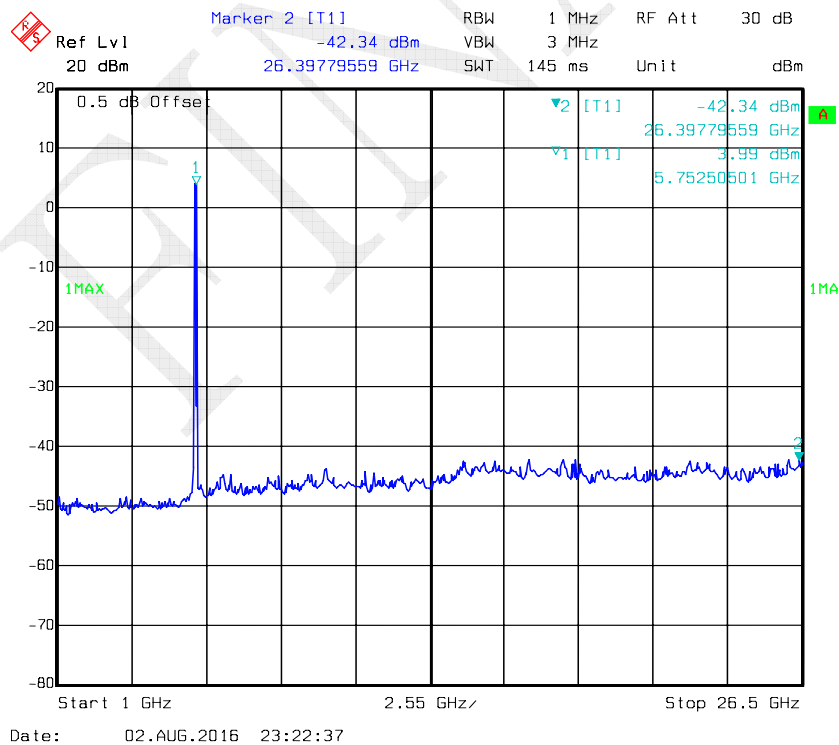
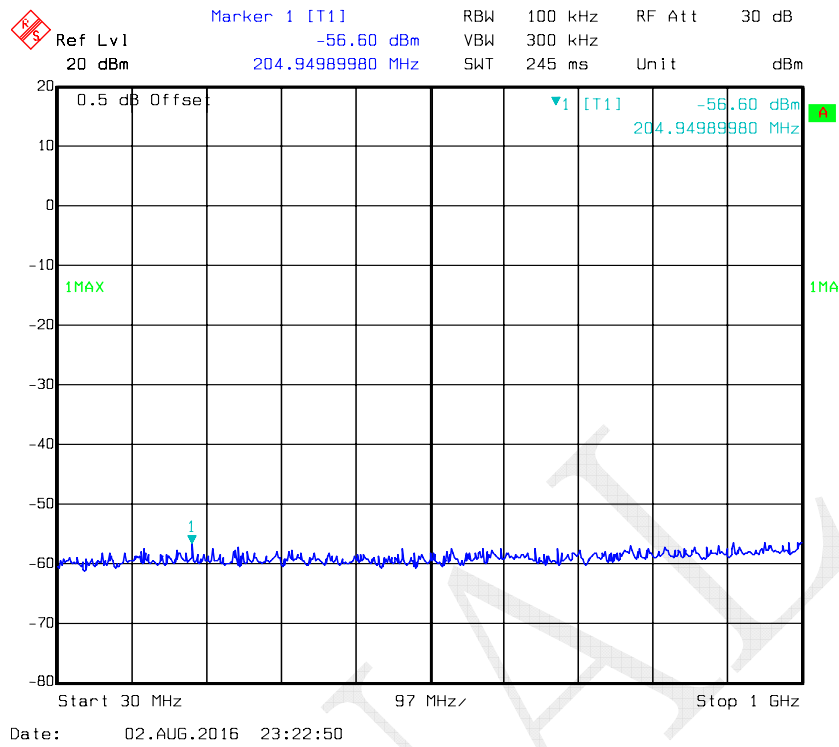


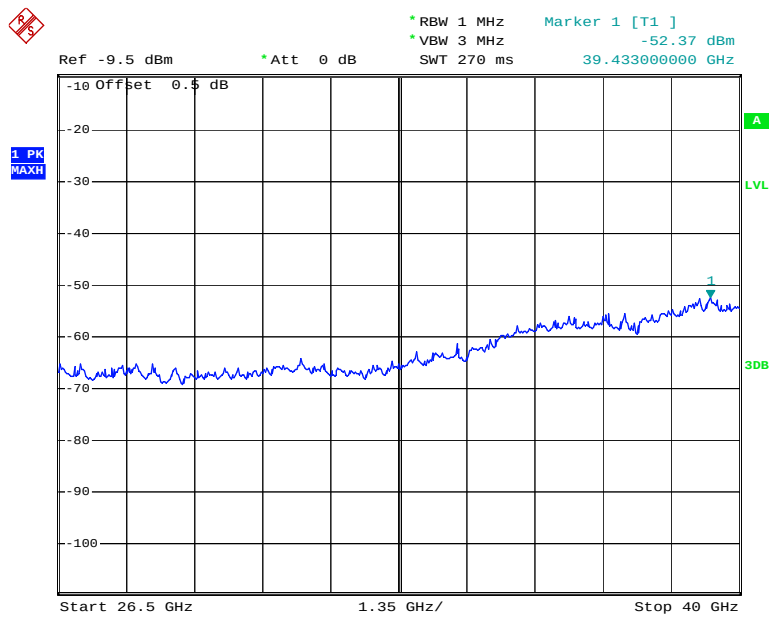
Date: 02.AUG.2016 23:12:29



Date: 8.AUG.2016 12:28:41

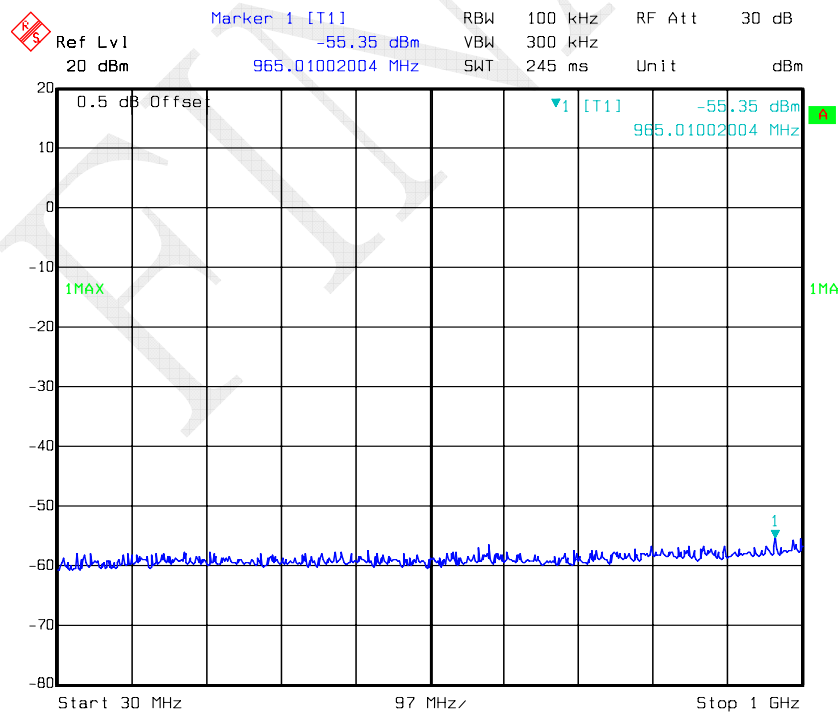
802.11n ht40 Low Channel



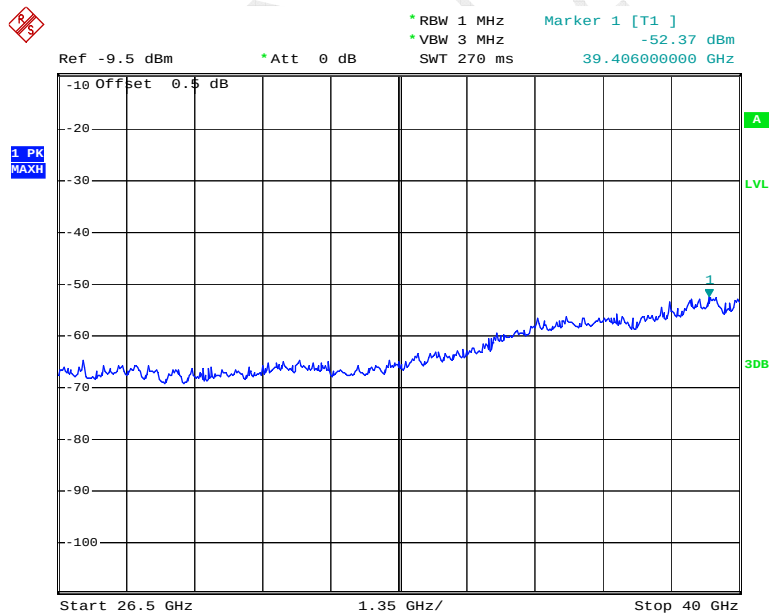
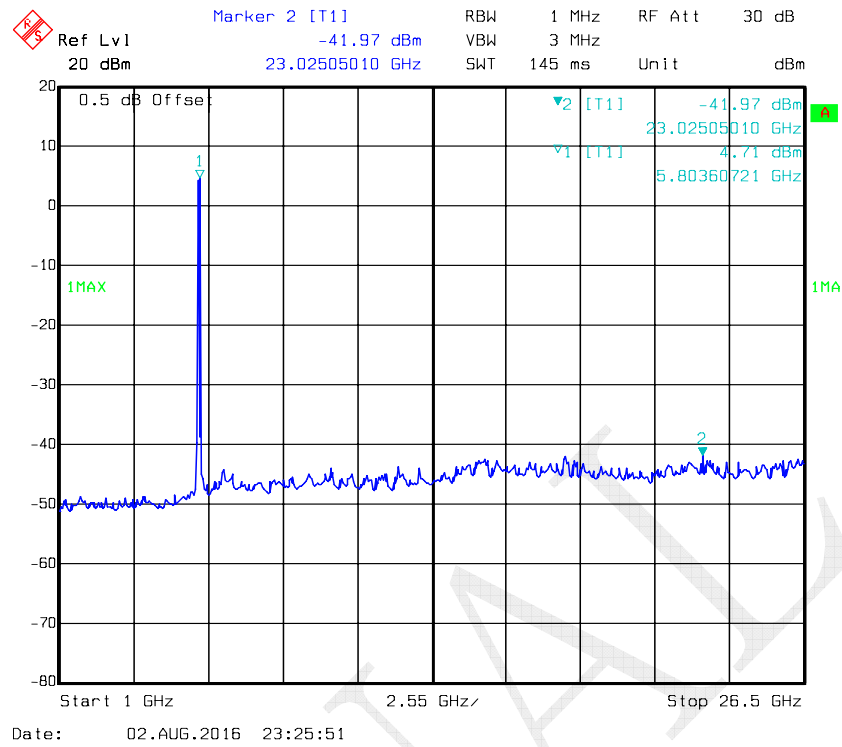


Date: 8.AUG.2016 12:29:01

802.11n ht40 High Channel

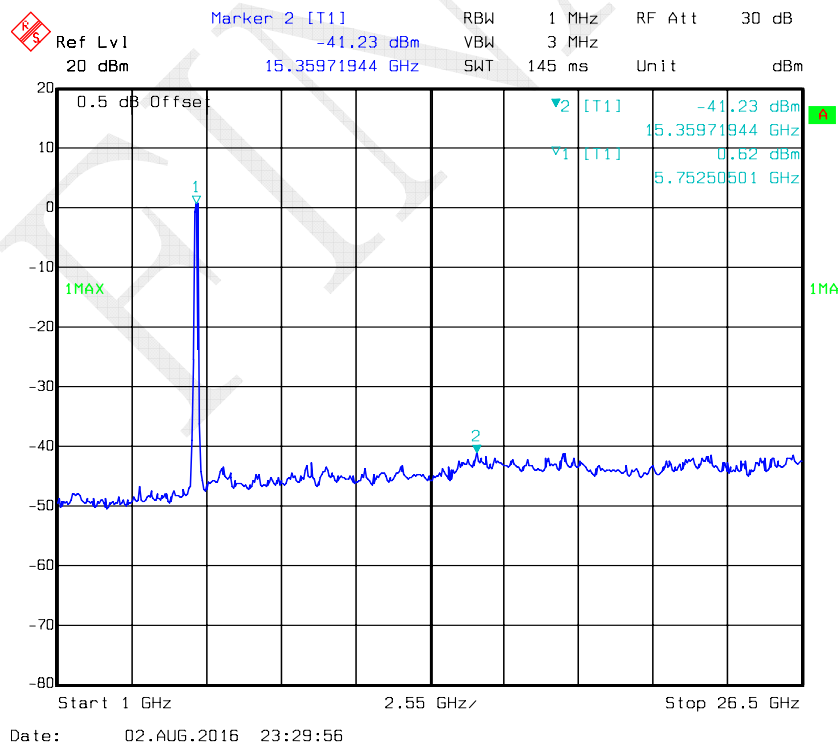
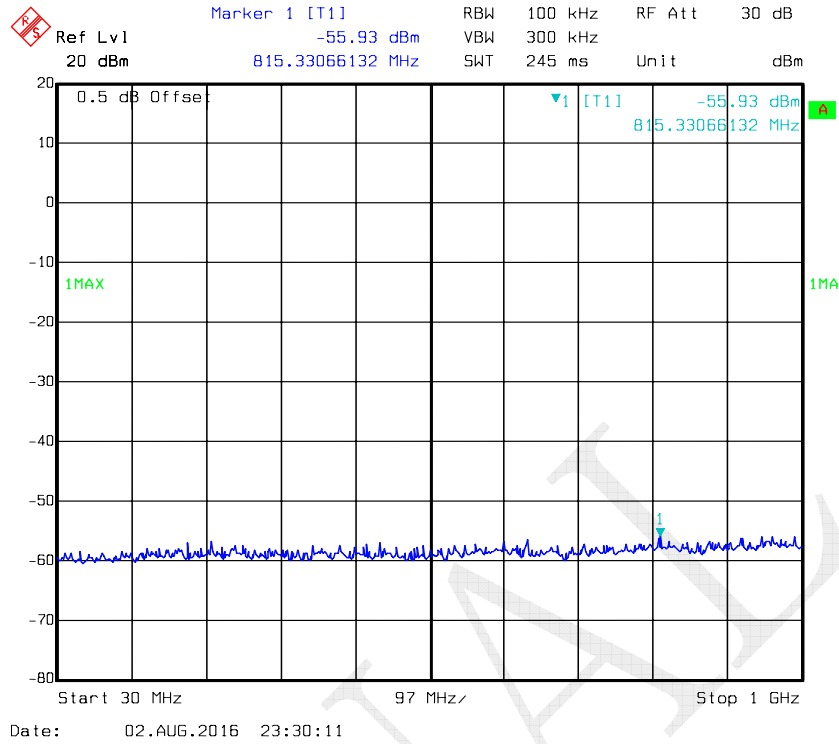


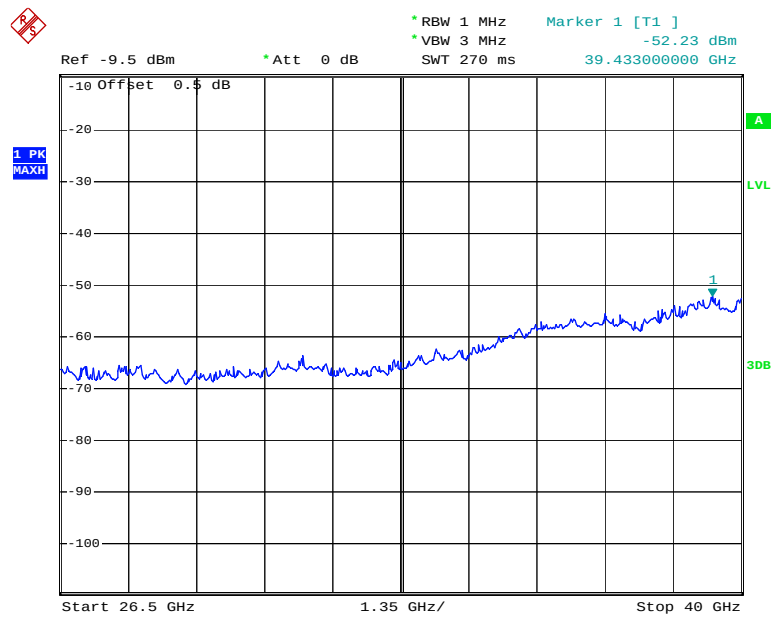
Date: 02.AUG.2016 23:26:05



Date: 8.AUG.2016 12:28:50

802.11ac80





Date: 8.AUG.2016 12:29:50

FCC §15.407(a),(e) –EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

Applicable Standard

15.407(a), (e)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

Test Data

Environmental Conditions

Temperature:	30.1 ~ 32.2 °C
Relative Humidity:	48 ~ 58 %
ATM Pressure:	100 ~ 100.2 kPa

The testing was performed by Robin Zheng from 2016-08-01 to 2016-08-05

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting

5150MHz-5250MHz:

Mode	Channel	Frequency MHz	26 dB Emission Bandwidth (MHz)	Result
802.11a	Low	5180	20.24	PASS
	Middle	5200	20.16	PASS
	High	5240	20.24	PASS
802.11n20	Low	5180	20.40	PASS
	Middle	5200	20.48	PASS
	High	5240	20.40	PASS
802.11n40	Low	5190	40.48	PASS
	High	5230	40.32	PASS
802.11ac80	Middle	5210	82.56	PASS

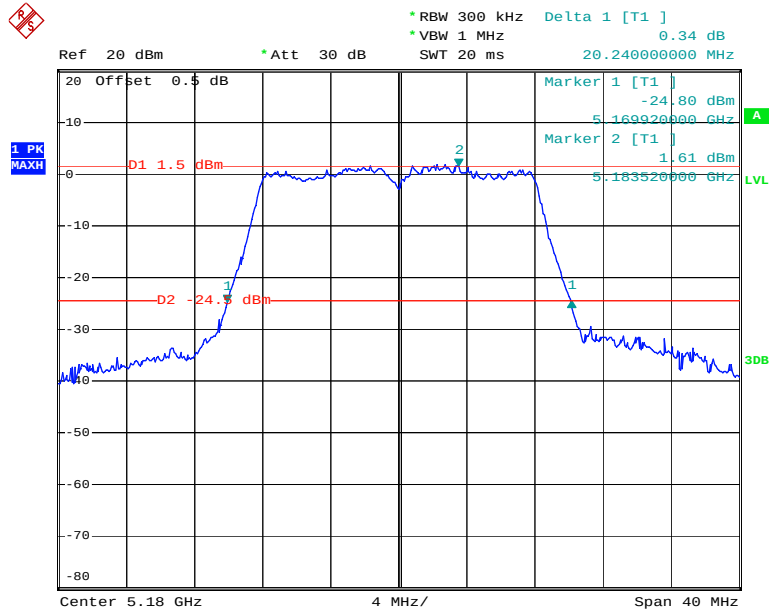
The 26dBc bandwidth in the range 5150-5250MHz, please refer to the below plots.

5725MHz-5850MHz:

Mode	Channel	Frequency MHz	6dB Emission Bandwidth (MHz)	Limits (MHz)	Result
802.11a	Low	5745	16.4	0.5	PASS
	Middle	5785	16.4	0.5	PASS
	High	5825	16.4	0.5	PASS
802.11n20	Low	5745	17.12	0.5	PASS
	Middle	5785	17.52	0.5	PASS
	High	5825	17.36	0.5	PASS
802.11n40	Low	5755	35.68	0.5	PASS
	High	5795	35.68	0.5	PASS
802.11ac80	Middle	5775	76.48	0.5	PASS

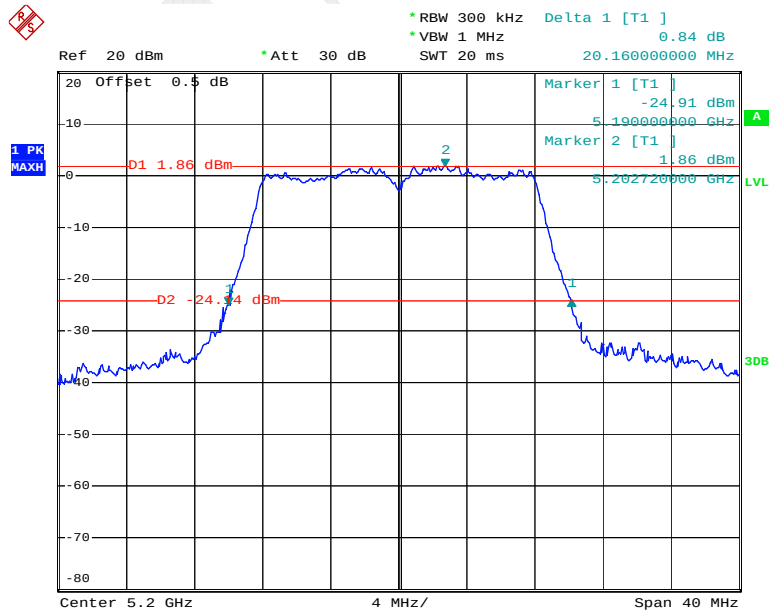
5150MHz-5250MHz: 26dB Bandwidth

802.11a Low Channel



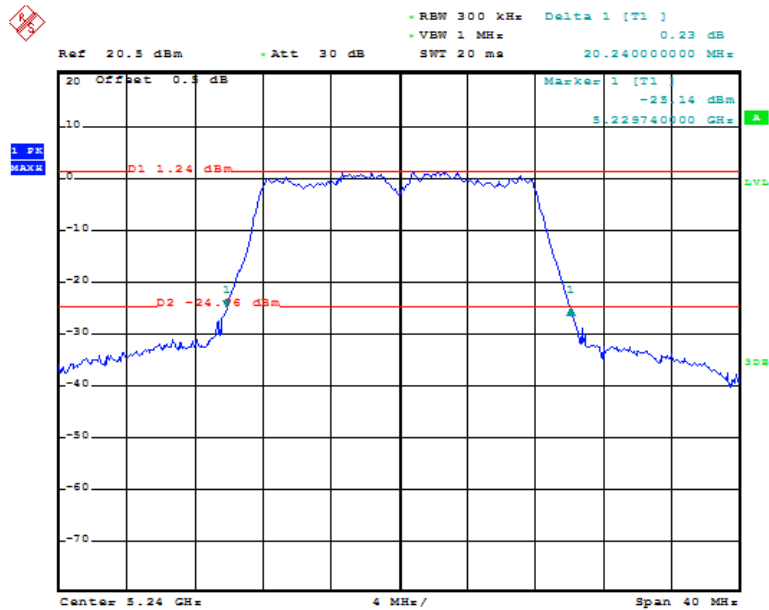
Date: 1.AUG.2016 13:11:53

802.11a Middle Channel



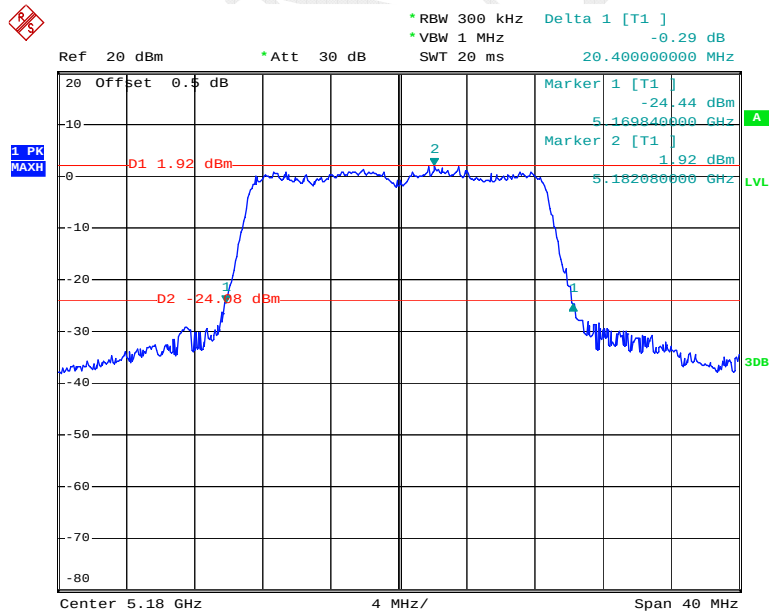
Date: 1.AUG.2016 13:13:24

802.11a High Channel



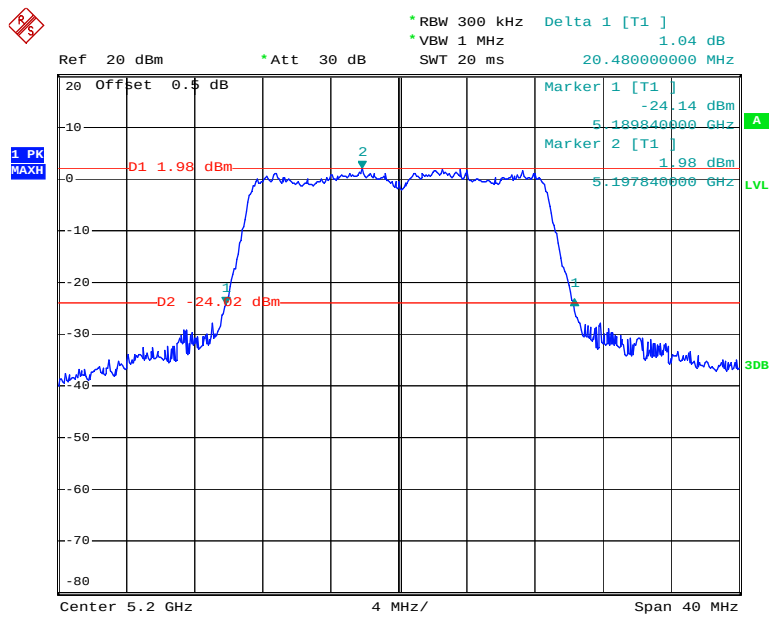
Date: 5.AUG.2016 10:49:19

802.11n ht20 Low Channel



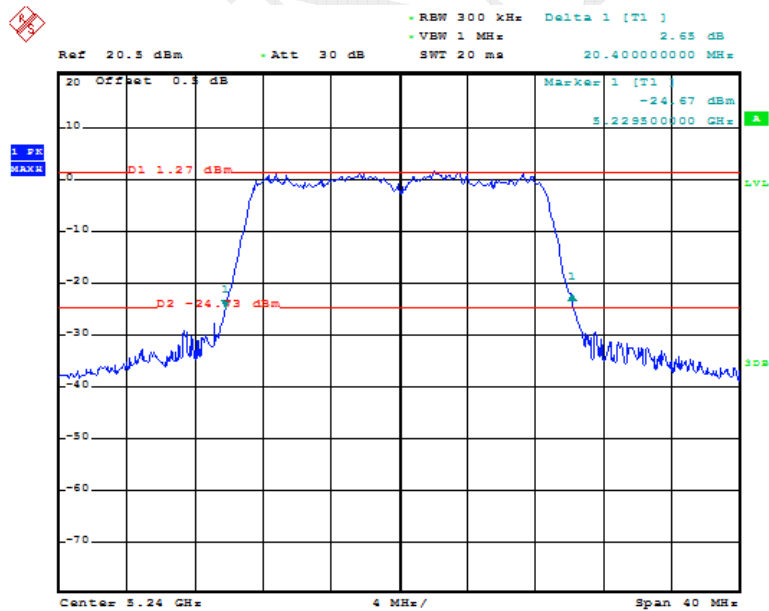
Date: 1.AUG.2016 13:22:24

802.11n ht20 Middle Channel – Chain0



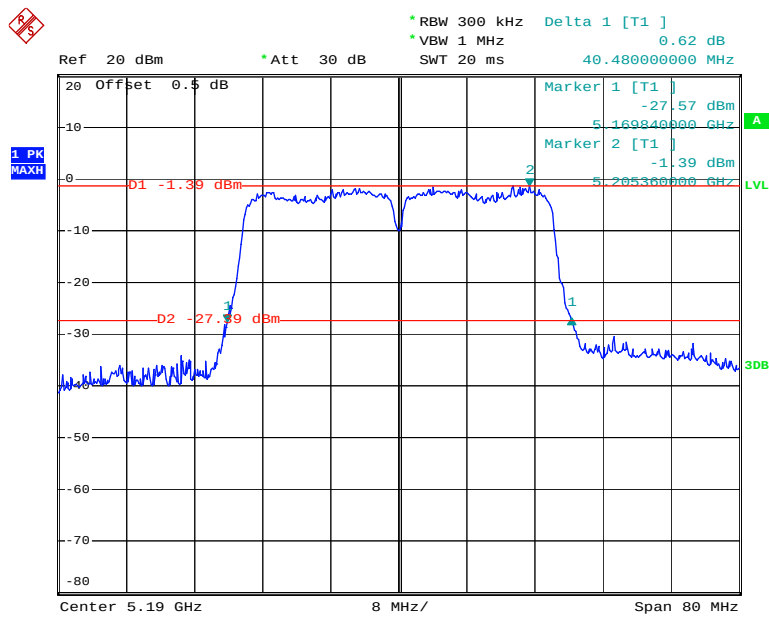
Date: 1.AUG.2016 13:24:03

802.11n ht20 High Channel



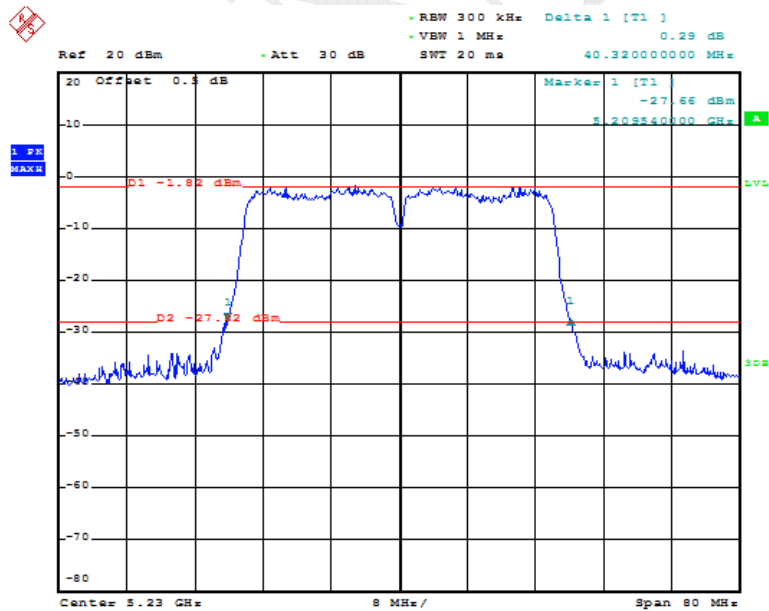
Date: 5.AUG.2016 10:46:43

802.11n ht40 Low Channel



Date: 1.AUG.2016 13:25:34

802.11n ht40 High Channel



Date: 1.AUG.2016 13:45:49

Offset 0.5 dB

Ref 17 dBm Att 30 dB RBW 1 MHz Delta 1 [T1] -0.85 dB
VSW 3 MHz SWF 20 ms 82.56000000 MHz

Marker 1 [T1] -27.29 dBm
5.16732000 GHz

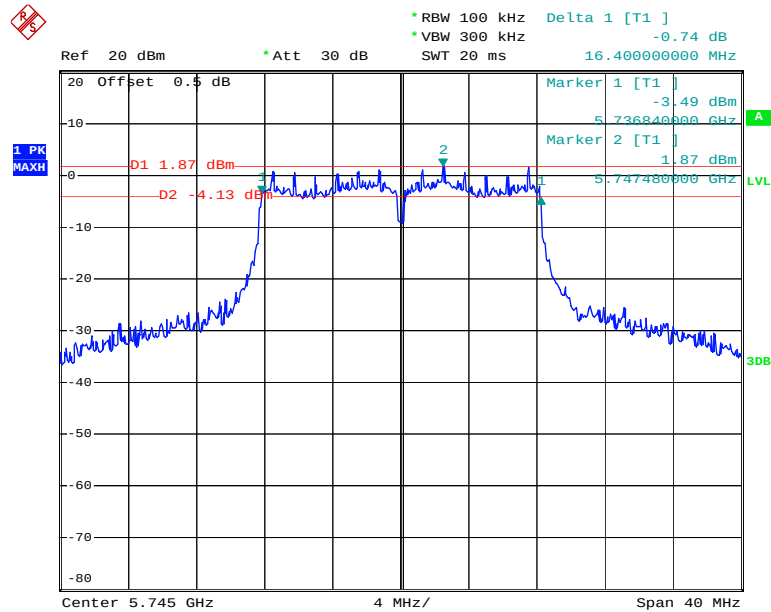
Marker 2 [T2] -28.97 dBm
5.16732000 GHz

Center 5.21 GHz 16 MHz/ Span 160 MHz

Date: 5.AUG.2016 11:37:19

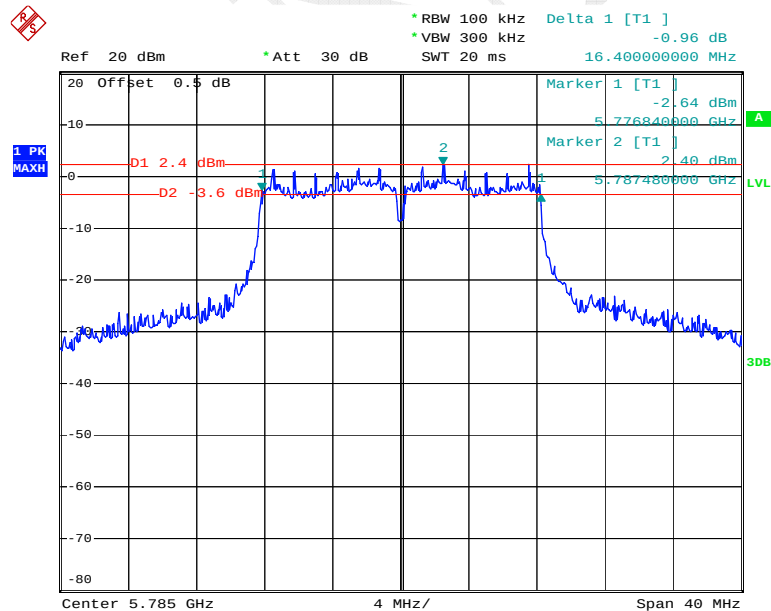
5725MHz-5850MHz: 6 dB Bandwidth

802.11a Low Channel – Chain0



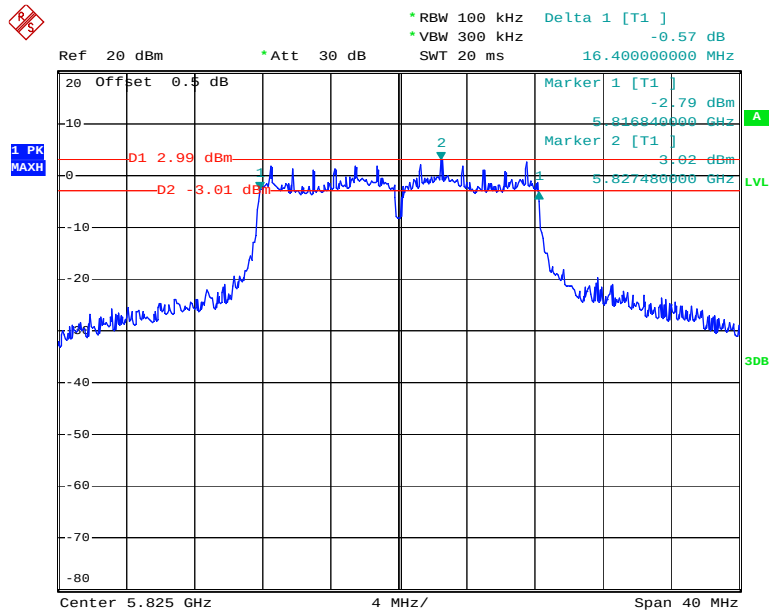
Date: 1.AUG.2016 10:58:36

802.11a Middle Channel – Chain0



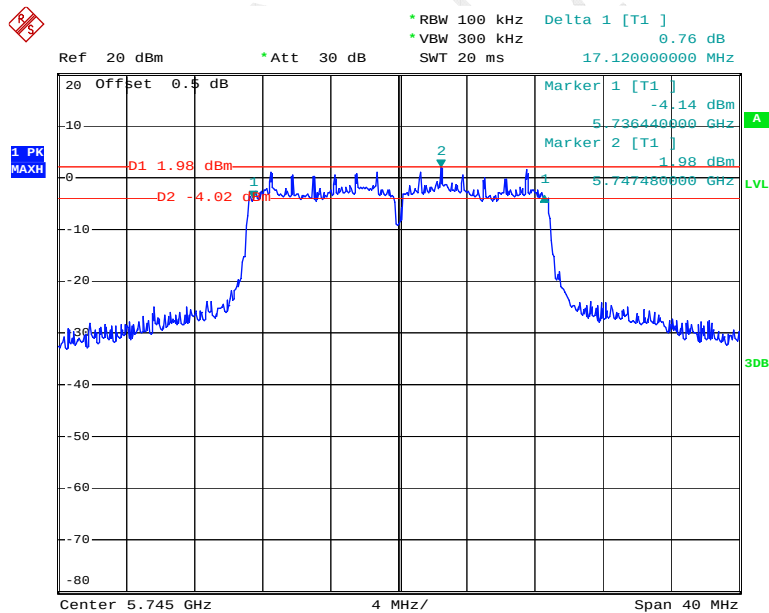
Date: 1.AUG.2016 11:04:37

802.11a High Channel – Chain0



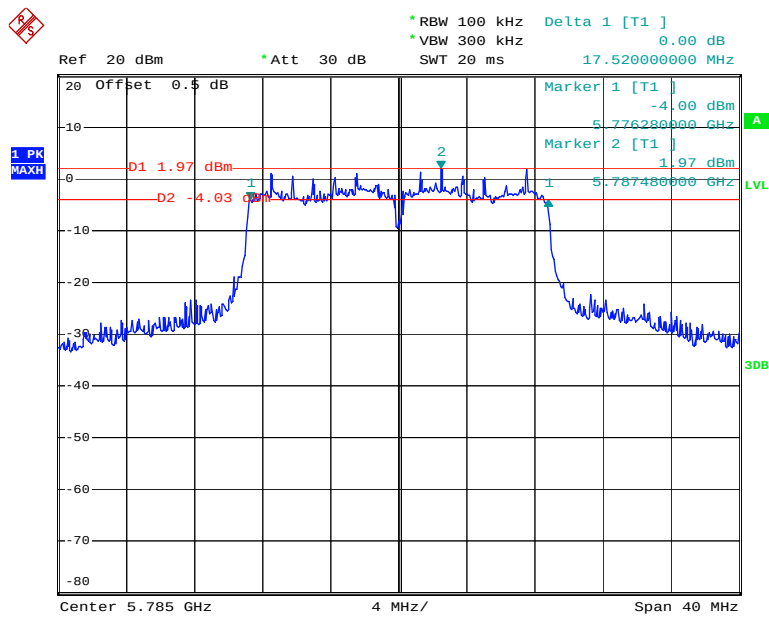
Date: 1.AUG.2016 11:17:18

802.11n ht20 Low Channel – Chain0



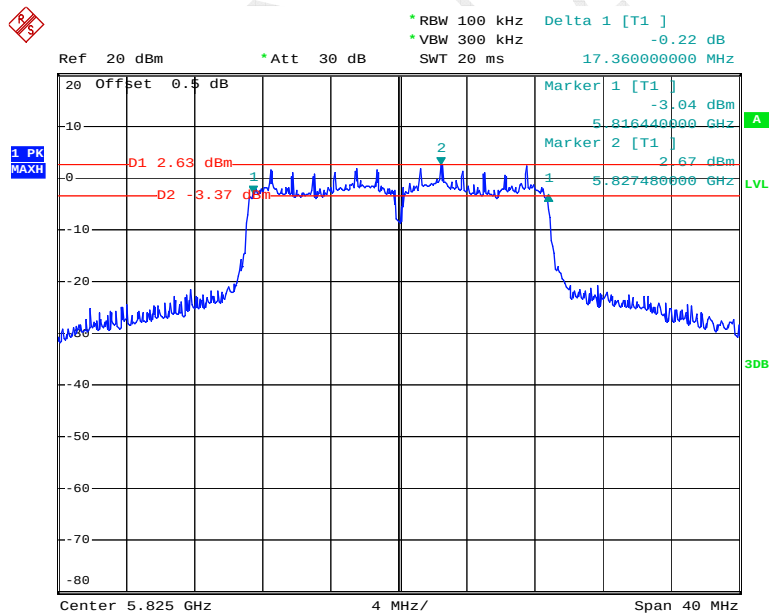
Date: 1.AUG.2016 11:30:11

802.11n ht20 Middle Channel – Chain0



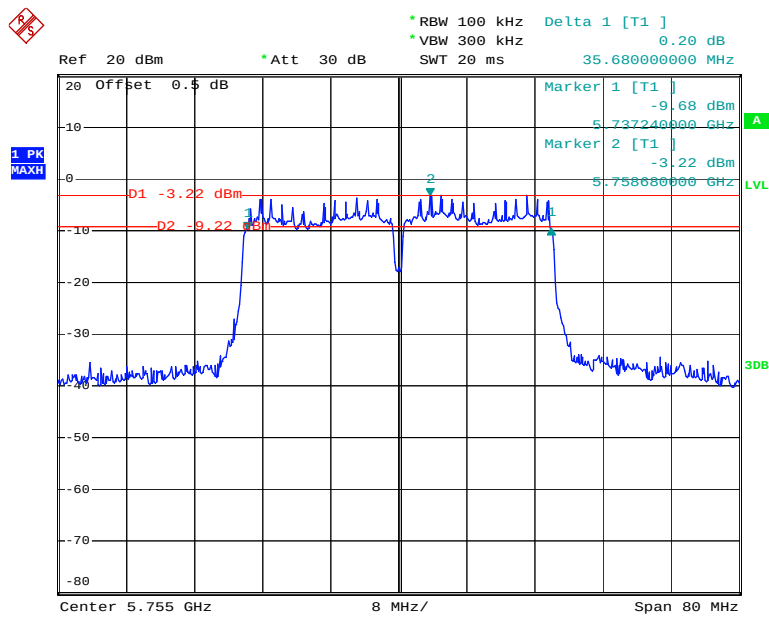
Date: 1.AUG.2016 11:27:00

802.11n ht20 High Channel – Chain0



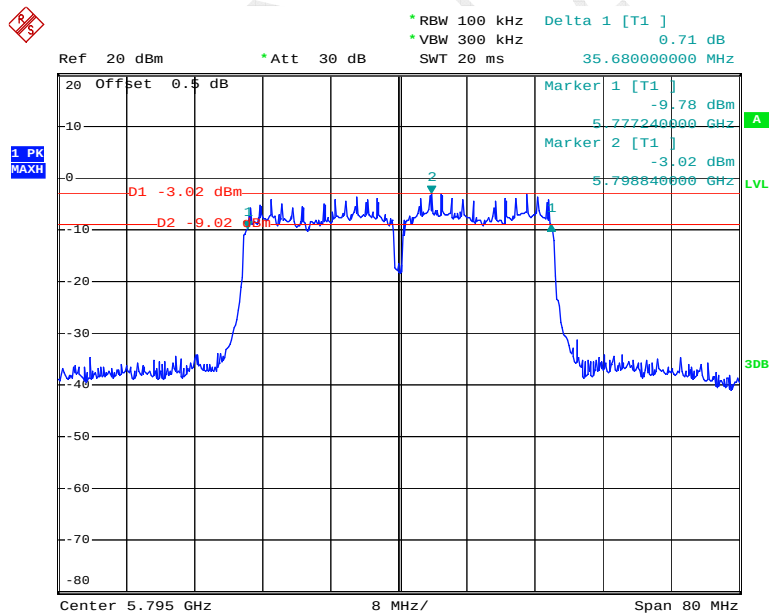
Date: 1.AUG.2016 11:23:20

802.11n ht40 Low Channel – Chain0



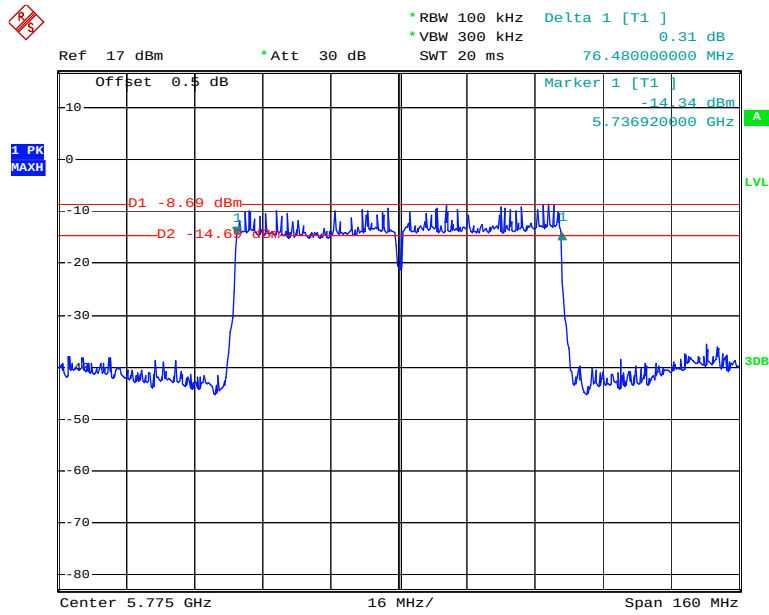
Date: 1.AUG.2016 11:36:17

802.11n ht40 High Channel



Date: 1.AUG.2016 11:43:32

802.11n ac80 Middle Channel



Date: 5.AUG.2016 11:39:41

FCC §15.407(a)(1),(3) –MAXIMUM CONDUCTED OUTPUT POWER**Applicable Standard**

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

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

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

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

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

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

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2015-11-03	2016-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2015-11-03	2016-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2015-11-03	2016-11-03
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

Test Data

Environmental Conditions

Temperature:	30.4 °C
Relative Humidity:	48 %
ATM Pressure:	100 kPa

The testing was performed by Robin Zheng on 2016-08-01.

Test Mode: Transmitting

5150-5250 MHz band

Mode	Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limits (dBm)	Result
802.11a	Low	5180	15.15	30	PASS
	Middle	5200	15.42	30	PASS
	High	5240	15.76	30	PASS
802.11n20	Low	5180	15.42	30	PASS
	Middle	5200	15.73	30	PASS
	High	5240	15.96	30	PASS
802.11n40	Low	5190	13.23	30	PASS
	High	5230	13.4	30	PASS
802.11ac80	Middle	5210	11.87	30	PASS

5725-5850 MHz band

Mode	Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limits (dBm)	Result
802.11a	Low	5745	14.27	30	PASS
	Middle	5785	14.54	30	PASS
	High	5825	14.88	30	PASS
802.11n20	Low	5745	14.54	30	PASS
	Middle	5785	14.85	30	PASS
	High	5825	15.08	30	PASS
802.11n40	Low	5755	12.35	30	PASS
	High	5795	12.52	30	PASS
802.11ac80	Middle	5775	10.99	30	PASS

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

Applicable Standard

(a) Power limits:

(1) For the band 5.15-5.25 GHz.

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

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

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

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

(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

According to KDB 789033 D02 General UNII Test Procedures New Rules v01r03

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06

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

Test Data

Environmental Conditions

Temperature:	30.1 ~ 32.2 °C
Relative Humidity:	48 ~ 58 %
ATM Pressure:	100 ~ 100.2 kPa

The testing was performed by Robin Zheng on 2016-08-01 to 2016-08-05.

Test Mode: Transmitting

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

5150MHz-5250MHz:

Mode	Channel	Frequency MHz	PSD (dBm/MHz)	Limit (dBm/MHz)
802.11a	Low	5180	4.71	17
	Middle	5200	4.46	17
	High	5240	4.3	17
802.11n20	Low	5180	4.01	17
	Middle	5200	4.29	17
	High	5240	3.7	17
802.11n40	Low	5190	-1.05	17
	High	5230	-1.11	17
802.11ac80	Middle	5210	-5.8	17

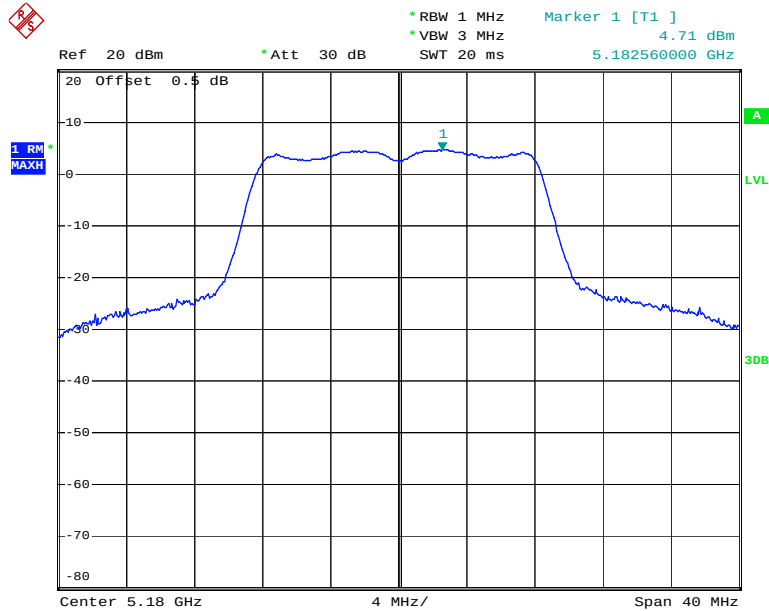
5725MHz-5850MHz:

Mode	Channel	Frequency MHz	Power Spectral Density (dBm/300kHz)	Power Spectral Density (dBm/500kHz)	Limits
802.11a	Low	5745	-1.59	0.63	30
	Middle	5785	-1.38	0.84	30
	High	5825	-0.76	1.46	30
802.11n20	Low	5745	-1.5	0.72	30
	Middle	5785	-1.43	0.79	30
	High	5825	-1.17	1.05	30
802.11n40	Low	5755	-6.3	-4.08	30
	High	5795	-6.71	-4.49	30
802.11 ac80	Middle	5775	-12.26	-10.04	30

Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas RBW ($< 500 \text{ kHz}$) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

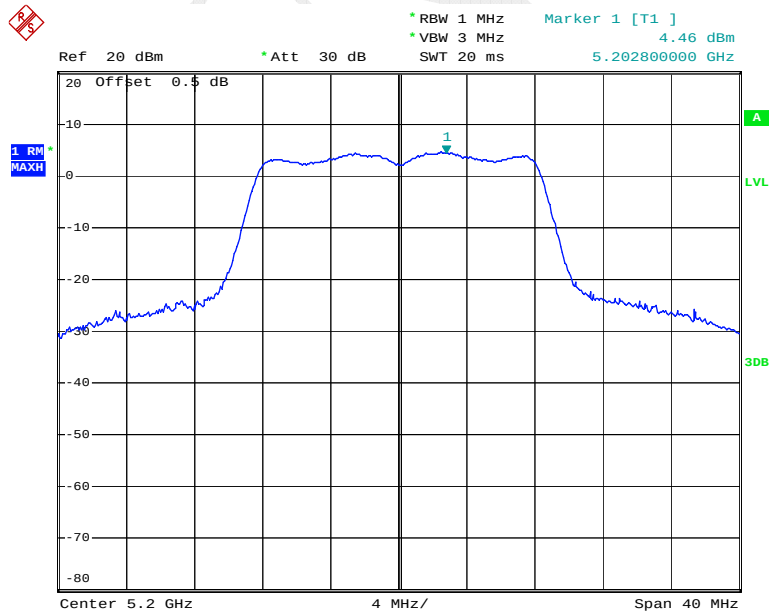
5150MHz-5250MHz:

802.11a Low Channel



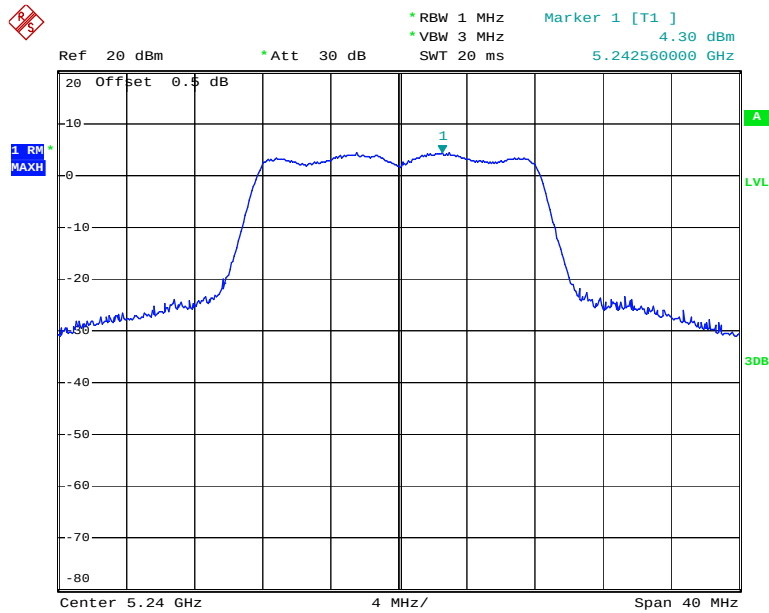
Date: 1.AUG.2016 10:08:31

802.11a Middle Channel



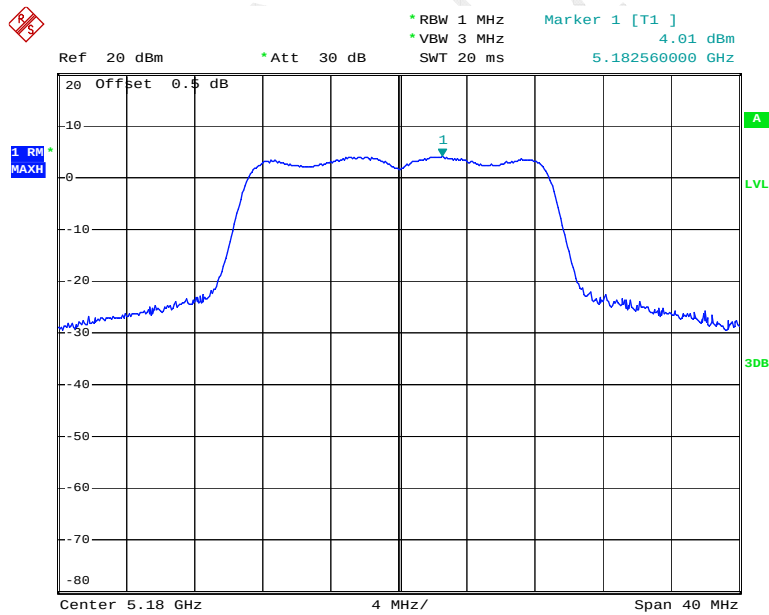
Date: 1.AUG.2016 10:14:01

802.11a High Channel



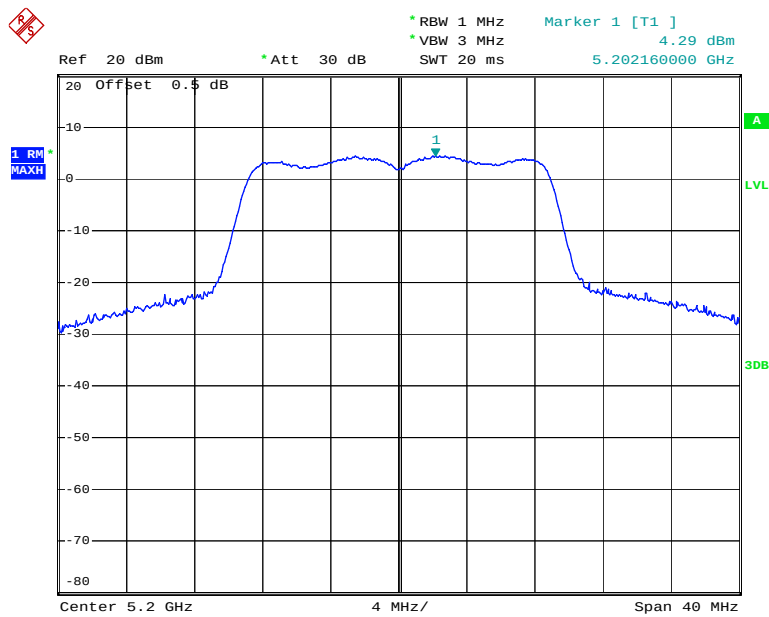
Date: 1.AUG.2016 10:19:17

802.11n ht20 Low Channel



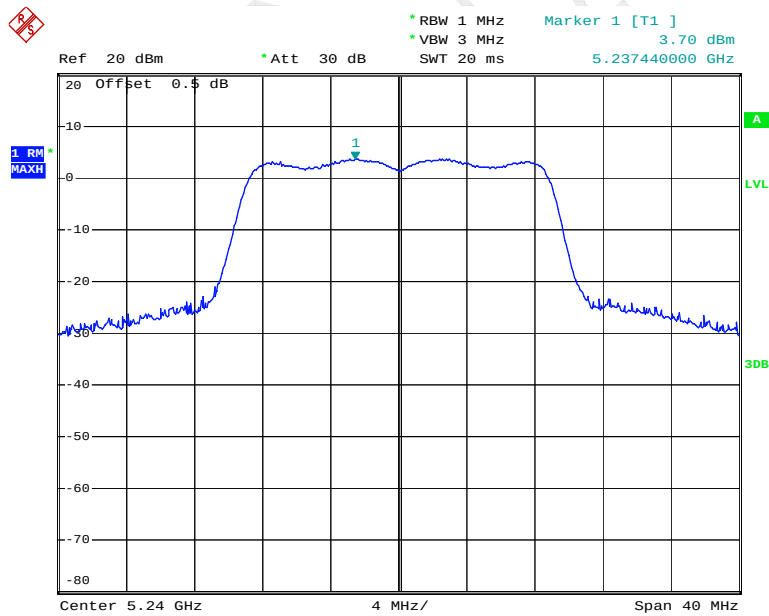
Date: 1.AUG.2016 10:33:42

802.11n ht20 Middle Channel



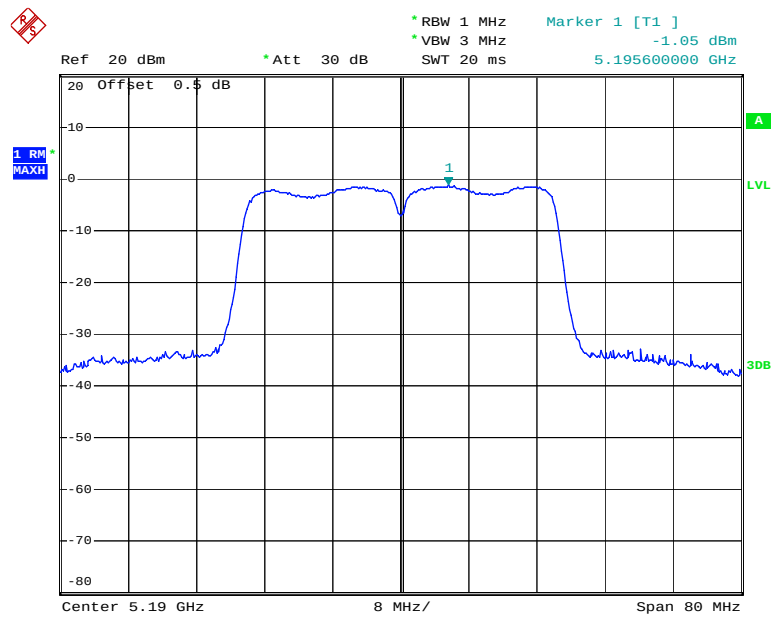
Date: 1.AUG.2016 10:30:04

802.11n ht20 High Channel



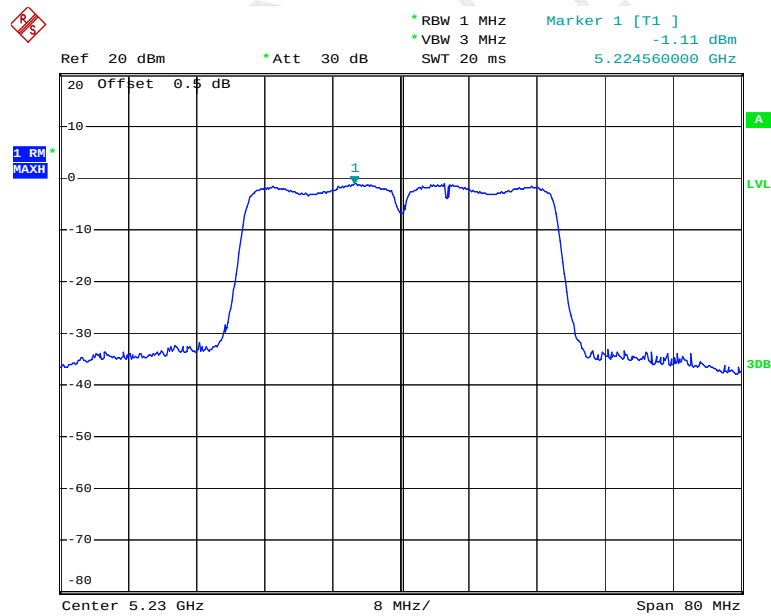
Date: 1.AUG.2016 10:24:47

802.11n ht40 Low Channel



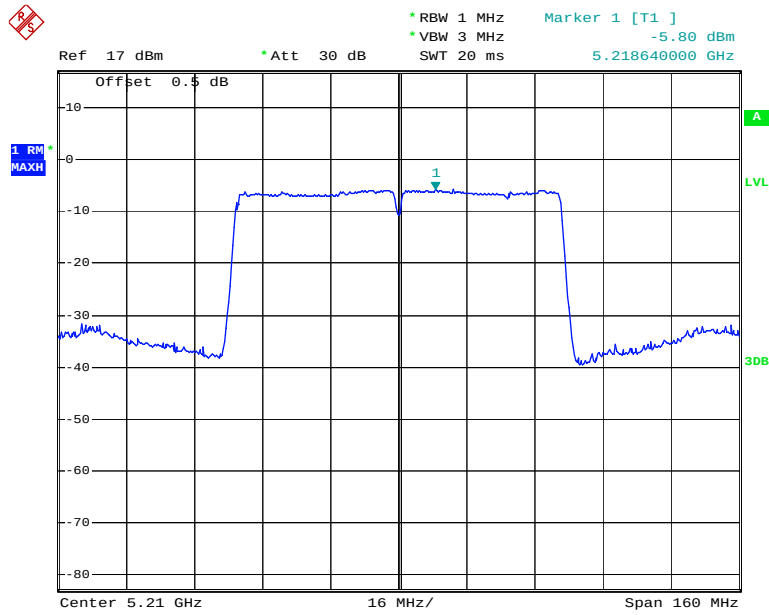
Date: 1.AUG.2016 10:40:14

802.11n ht40 High Channel



Date: 1.AUG.2016 10:45:17

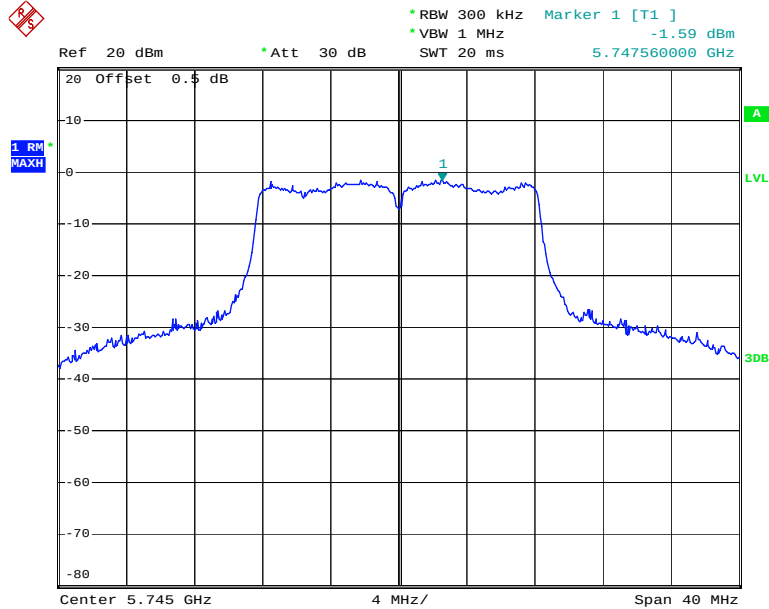
802.11 ac80 Middle Channel



Date: 5.AUG.2016 11:30:57

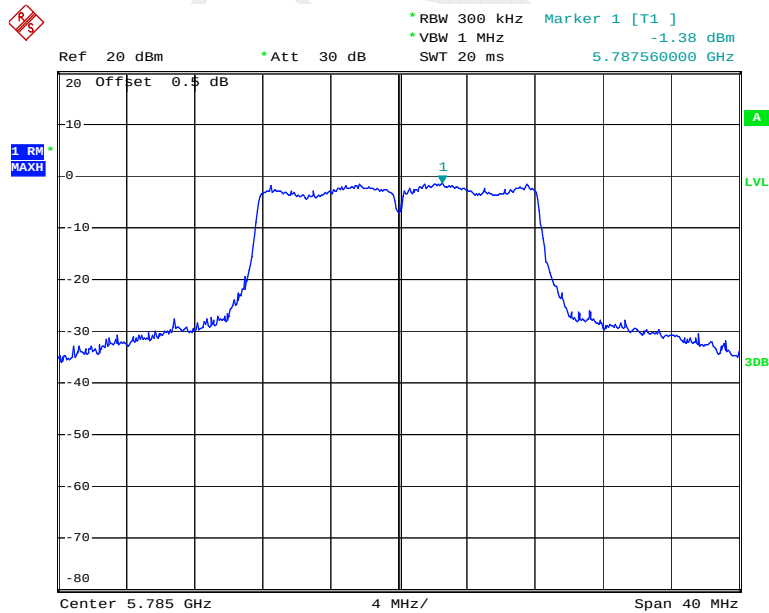
5725MHz-5850MHz:

802.11a Low Channel



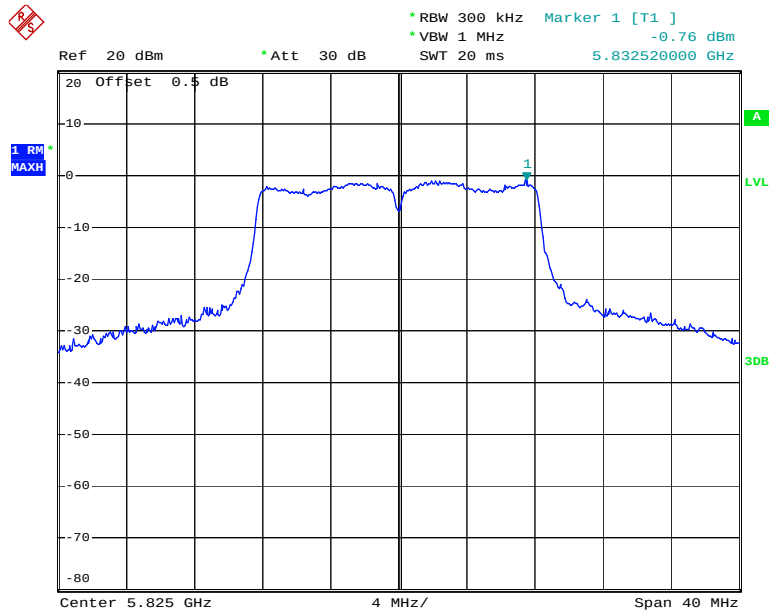
Date: 1.AUG.2016 11:00:53

802.11a Middle Channel



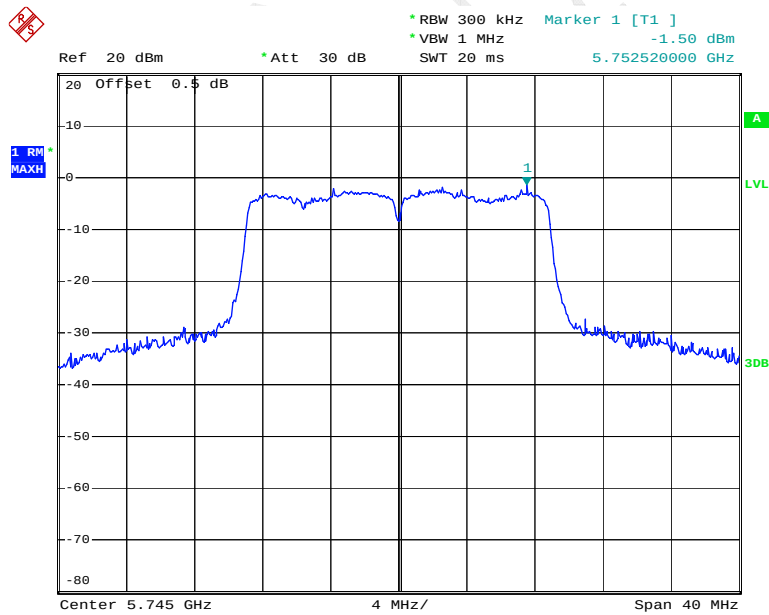
Date: 1.AUG.2016 11:06:50

802.11a High Channel



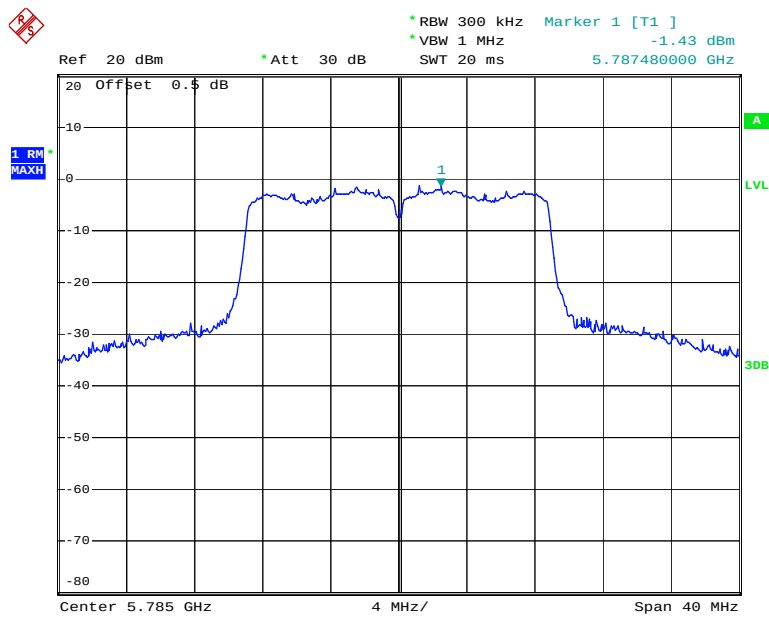
Date: 1.AUG.2016 11:19:31

802.11n ht20 Low Channel



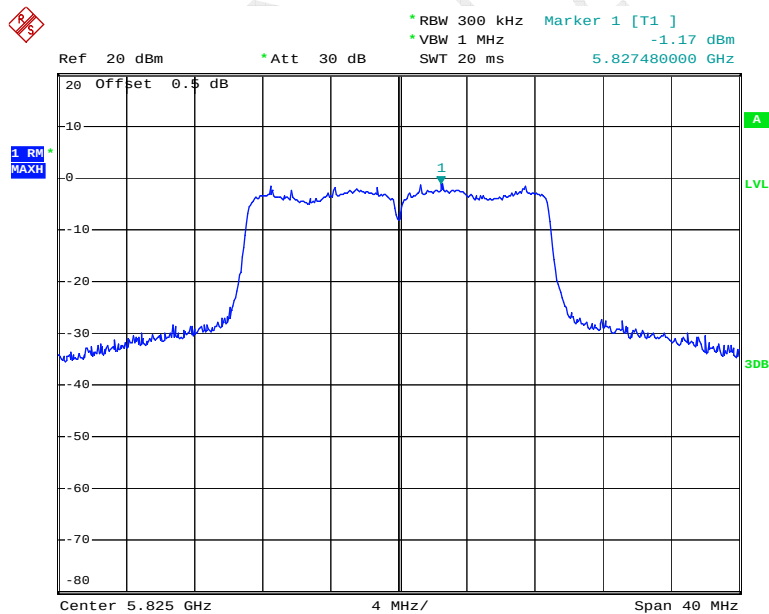
Date: 1.AUG.2016 11:31:28

802.11n ht20 Middle Channel



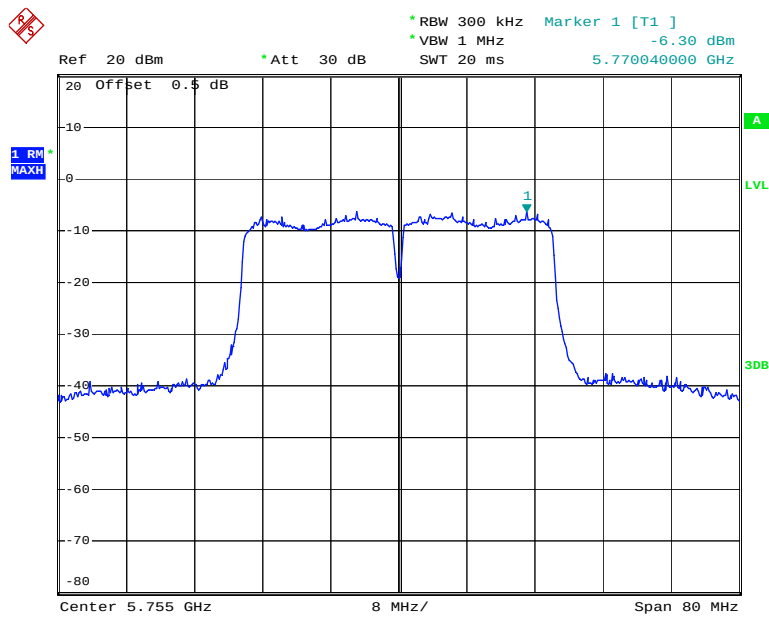
Date: 1.AUG.2016 11:28:02

802.11n ht20 High Channel



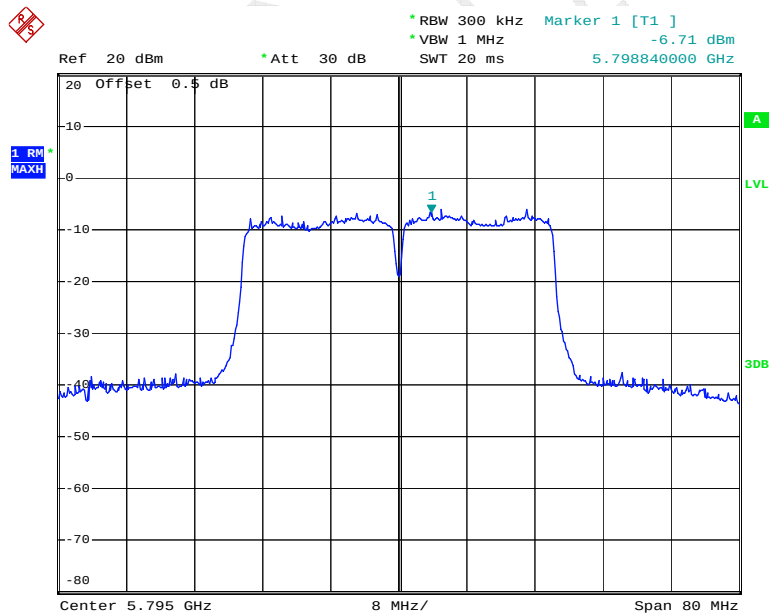
Date: 1.AUG.2016 11:25:23

802.11n ht40 Low Channel



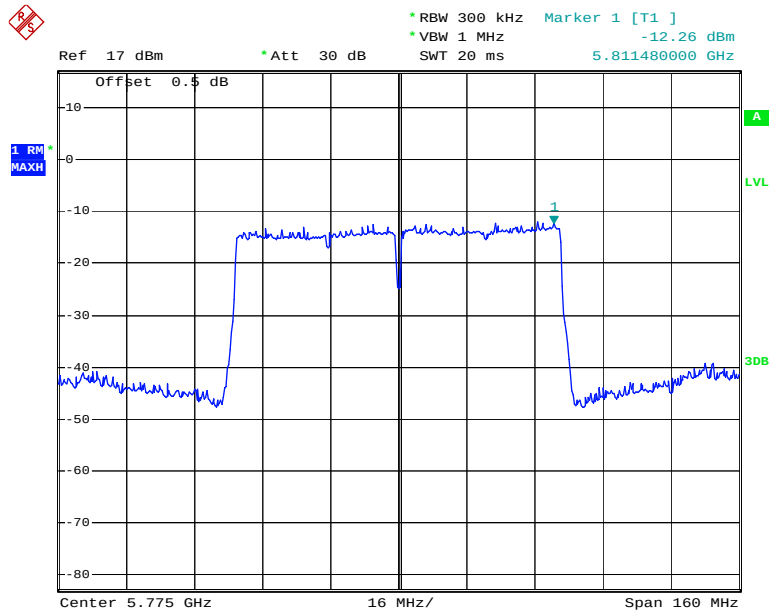
Date: 1.AUG.2016 11:38:34

802.11n ht40 High Channel



Date: 1.AUG.2016 11:45:40

802.11 ac80 Middle Channel



Date: 5.AUG.2016 11:40:22

FCC §15.407(g) - FREQUENCY STABILITY

Applicable Standard

(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 FCC§2.1055

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
N/A	Coaxial Cable	0.1m	N/A	2016-05-06	2017-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2016-05-06	2017-05-06
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2015-09-10	2016-09-09
UNI-T	Multimeter	UT39A	M130199938	2016-04-02	2017-04-02

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

Test Data

Environmental Conditions

Temperature:	30.1 ~ 32.2 °C
Relative Humidity:	48 ~ 58 %
ATM Pressure:	100 ~ 100.2 kPa

The testing was performed by Robin Zheng on 2016-08-01 to 2016-08-05.

Test Mode: Transmitting(Test at Un-modulation mode)

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

5150-5250MHz:

Test Frequency (MHz)	Temperature °C	Voltage V _{AC}	Measured Frequency MHz	Frequency Error ppm
5200	-30	120	5200.01	1.92
	-20	120	5200.012	2.31
	-10	120	5200.012	2.31
	0	120	5200.014	2.69
	10	120	5200.011	2.12
	20	120	5200.01	1.92
	30	120	5200.009	1.73
	40	120	5200.002	0.38
	50	120	5200.001	0.19
	25	108	5200.004	0.77
	25	132	5200.006	1.15
5190	-30	120	5190.011	2.12
	-20	120	5190.013	2.50
	-10	120	5190.014	2.70
	0	120	5190.011	2.12
	10	120	5190.012	2.31
	20	120	5190.016	3.08
	30	120	5190.014	2.70
	40	120	5190.012	2.31
	50	120	5190.013	2.50
	25	108	5190.014	2.70
	25	132	5190.015	2.89
5210	-30	120	5210.008	1.54
	-20	120	5210.007	1.34
	-10	120	5210.004	0.77
	0	120	5210.003	0.58
	10	120	5210.001	0.19
	20	120	5210.002	0.38
	30	120	5210.006	1.15
	40	120	5210.009	1.73
	50	120	5210.006	1.15
	25	108	5210.003	0.58
	25	132	5210.002	0.38

5725-5850MHz:

Test Frequency (MHz)	Temperature °C	Voltage V _{AC}	Measured Frequency MHz	Frequency Error ppm
5745	-30	120	5745.011	1.91
	-20	120	5745.014	2.44
	-10	120	5745.016	2.79
	0	120	5745.008	1.39
	10	120	5745.007	1.22
	20	120	5745.002	0.35
	30	120	5745.001	0.17
	40	120	5745.012	2.09
	50	120	5745.001	0.17
	25	108	5745.012	2.09
	25	132	5745.001	0.17
5755	-30	120	5755.011	1.91
	-20	120	5755.021	3.65
	-10	120	5755.015	2.61
	0	120	5755.016	2.78
	10	120	5755.018	3.13
	20	120	5755.012	2.09
	30	120	5755.018	3.13
	40	120	5755.013	2.26
	50	120	5755.014	2.43
	25	108	5755.016	2.78
	25	132	5755.018	3.13
5775	-30	120	5775.009	1.56
	-20	120	5775.009	1.56
	-10	120	5775.006	1.04
	0	120	5775.021	3.64
	10	120	5775.017	2.94
	20	120	5775.018	3.12
	30	120	5775.015	2.60
	40	120	5775.016	2.77
	50	120	5775.017	2.94
	25	108	5775.019	3.29
	25	132	5775.018	3.12

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