FCC PART 15.247

TEST REPORT

For

Huawei Technologies Co.,Ltd

Administration Building,Headquarters of Huawei Technologies Co.,Ltd., Bantian,Longgang District, Shenzhen, 518129, P.R.C

Test Model: EchoLife HG8245Q2
FCC ID: QISHG8245Q2

Report Type:	**Product Name:**
Original Report	GPON Terminal

Test Engineer:	*Lorin Bian*
Report Number:	RDG161128001A
Report Date:	2016-12-26
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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 5
SYSTEM TEST CONFIGURATION **6**
DESCRIPTION OF TEST CONFIGURATION 6
EUT EXERCISE SOFTWARE 7
SUPPORT EQUIPMENT LIST AND DETAILS 11
EXTERNAL I/O CABLE 11
BLOCK DIAGRAM OF TEST SETUP 11
SUMMARY OF TEST RESULTS **12**
FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE) **13**
APPLICABLE STANDARD 13
FCC §15.203 - ANTENNA REQUIREMENT **15**
APPLICABLE STANDARD 15
ANTENNA CONNECTOR CONSTRUCTION 15
FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS **16**
APPLICABLE STANDARD 16
MEASUREMENT UNCERTAINTY 16
EUT SETUP 16
EMI TEST RECEIVER SETUP 17
TEST PROCEDURE 17
CORRECTED AMPLITUDE & MARGIN CALCULATION 17
TEST EQUIPMENT LIST AND DETAILS 18
TEST RESULTS SUMMARY 18
TEST DATA 18
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS **21**
APPLICABLE STANDARD 21
MEASUREMENT UNCERTAINTY 21
EUT SETUP 22
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP 22
TEST PROCEDURE 23
CORRECTED AMPLITUDE & MARGIN CALCULATION 23
TEST EQUIPMENT LIST AND DETAILS 23
TEST RESULTS SUMMARY 24
TEST DATA 24
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH **46**
APPLICABLE STANDARD 46
TEST PROCEDURE 46
TEST EQUIPMENT LIST AND DETAILS 46
TEST DATA 46

FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER 54
APPLICABLE STANDARD 54
TEST PROCEDURE 54
TEST EQUIPMENT LIST AND DETAILS 54
TEST DATA 54
FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE 57
APPLICABLE STANDARD 57
TEST PROCEDURE 57
TEST EQUIPMENT LIST AND DETAILS 57
TEST DATA 58
FCC §15.247(e) - POWER SPECTRAL DENSITY 71
APPLICABLE STANDARD 71
TEST PROCEDURE 71
TEST EQUIPMENT LIST AND DETAILS 71
TEST DATA 71

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The ***Huawei Technologies Co.,Ltd***'s product, model number: ***EchoLife HG8245Q2 (FCC ID: QISHG8245Q2)*** (the "EUT") in this report was a ***GPON Terminal***, which was measured approximately: 26.5 cm (L) x 17.5 cm (W) x 8.2 cm (H), rated input voltage: DC 12V from adapter.

**All measurement and test data in this report was gathered from final production sample, serial number: 161128001(assigned by the BACL, Chengdu). It may have deviation from any other sample. The EUT supplied by the applicant was received on 2016-11-29, and EUT conformed to test requirement.*

Objective

This report is prepared on behalf of ***Huawei Technologies Co.,Ltd*** in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communications Commission's rules

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 15E NII submission with FCC ID: QISHG8245Q2.
FCC Part 15B JBP submission with FCC ID: QISHG8245Q2.

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. (Chengdu). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

The uncertainty of any RF tests which use conducted method measurement is ±3.17 dB, the uncertainty of any radiation on emissions measurement is:

30M~200MHz: ±4.7 dB;
200M~1GHz: ±6.0 dB;
1G~6GHz: ±5.13dB;
6G~25GHz: ±5.47dB;

And the uncertainty will not be taken into consideration for all test data recorded in the report.

Test Facility

The test site used by BACL to collect test data is located in the 5040, HuiLongWan Plaza, No. 1, ShaWan Road, JinNiu District, ChengDu, China.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on April 24, 2015. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 560332. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

For 2.4G band, and 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

The device support 3TX for all modes, the worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD acrossed all data rates bandwidths, and modulations. Preliminary tests were perfrmed in difference data rate and all the possible configurations, the worst cases as below table and shown in the report.

Configurations	Test Mode	Data Rate	Channel	Antenna Chain
SISO	802.11b	1Mbps	1,6,11	0, 1, 2
	802.11g	6Mbps	1,6,11	0, 1, 2
	802.11n ht20	MCS0	1,2,6,10,11	0, 1, 2
	802.11n ht40	MCS0	3,4,6,8,9	0, 1, 2
2TX	802.11b	1Mbps	1,6,11	0+1
	802.11g	6Mbps	1,2,6,10,11	0+1
	802.11n ht20	MCS0	1,2,6,10,11	0+1
	802.11n ht40	MCS0	3,4,6,8,9	0+1
3TX	802.11b	1Mbps	1,2,6,10,11	0+1+2
	802.11g	6Mbps	1,2,6,10,11	0+1+2
	802.11n ht20	MCS0	1,2,6,10,11	0+1+2
	802.11n ht40	MCS0	3,4,6,8,9	0+1+2

EUT Exercise Software

The IPOR&QSPR was used for testing, and the commands were provided by manufacturer. The maximum power with maximum duty cycle was set by commands as following table, which was provided by manufacturer:

1TX:

Software and version		IPOR&QSPR			
Mode	Frequency (MHz)	Data Rate (Mbps)	Power Level		
			Chain 0	Chain 1	Chain 2
802.11 b	2412	1	21	21	21
	2437	1	21	21	21
	2462	1	21	21	21
802.11 g	2412	6	20	20	20
	2437	6	20	20	20
	2462	6	20	20	20
802.11 n20	2412	MCS0	18	18	18
	2417	MCS0	21	21	21
	2437	MCS0	21	21	21
	2457	MCS0	21	21	21
	2462	MCS0	18	18	18
802.11 n40	2422	MCS0	17	17	17
	2427	MCS0	21	21	21
	2437	MCS0	21	21	21
	2447	MCS0	21	21	21
	2452	MCS0	18	18	18

2TX:

Software and version		IPOR&QSPR		
Mode	Frequency (MHz)	Data Rate (Mbps)	Power Level	
			Chain 0	Chain 1
802.11 b	2412	1	21	21
	2437	1	21	21
	2462	1	21	21
802.11 g	2412	6	17	17
	2417	6	21	21
	2437	6	21	21
	2457	6	21	21
	2462	6	17	17
802.11 n20	2412	MCS0	17	17
	2417	MCS0	21	21
	2437	MCS0	21	21
	2457	MCS0	21	21
	2462	MCS0	17	17
802.11 n40	2422	MCS0	17	17
	2427	MCS0	21	21
	2437	MCS0	21	21
	2447	MCS0	21	21
	2452	MCS0	17	17

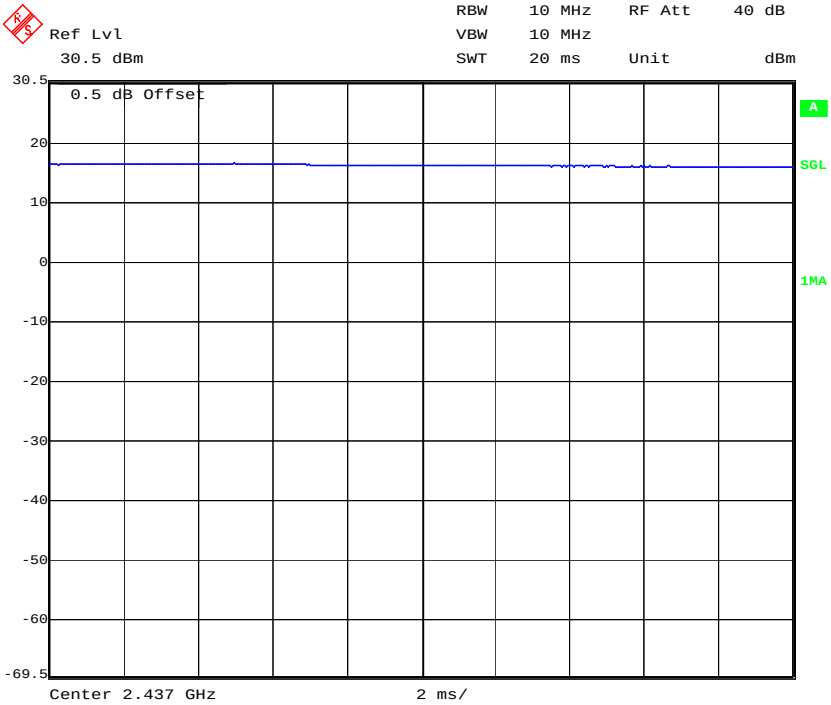
3TX:

Software and version		IPOR&QSPR			
Mode	Frequency (MHz)	Data Rate (Mbps)	Power Level		
			Chain 0	Chain 1	Chain 2
802.11 b	2412	1	15	15	15
	2417	1	21	21	21
	2437	1	21	21	21
	2457	1	21	21	21
	2462	1	20	20	20
802.11 g	2412	6	16	16	16
	2417	6	21	21	21
	2437	6	21	21	21
	2457	6	21	21	21
	2462	6	16	16	16
802.11 n20	2412	MCS0	15	15	15
	2417	MCS0	21	21	21
	2437	MCS0	21	21	21
	2457	MCS0	21	21	21
	2462	MCS0	16	16	16
802.11 n40	2422	MCS0	13	13	13
	2427	MCS0	19	19	19
	2437	MCS0	21	21	21
	2447	MCS0	20	20	20
	2452	MCS0	18	18	18

The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)	Minimum Transmission Duration (T) (ms)
802.11b	20	20	100	/
802.11g	5.35	5.43	98.5	5.35
802.11n ht20	4.95	5.03	98.4	4.95
802.11n ht40	2.39	2.44	98	2.39

802.11b



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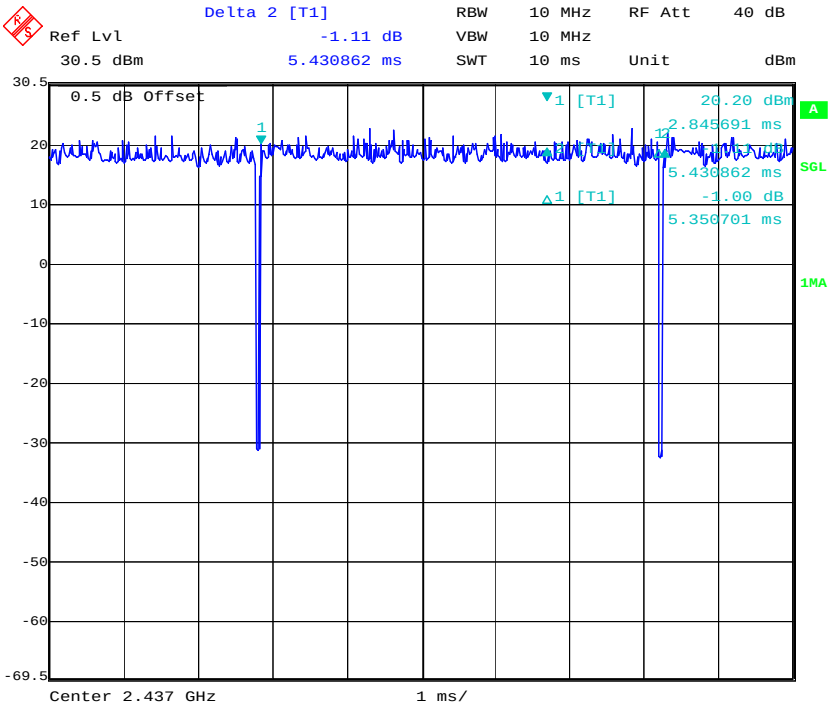
802.11g



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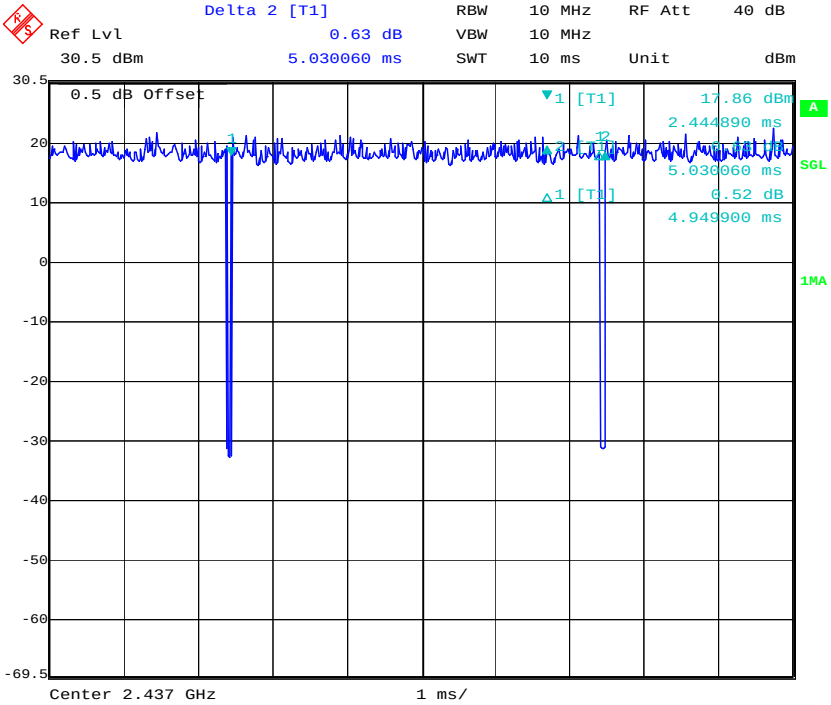
802.11n ht20



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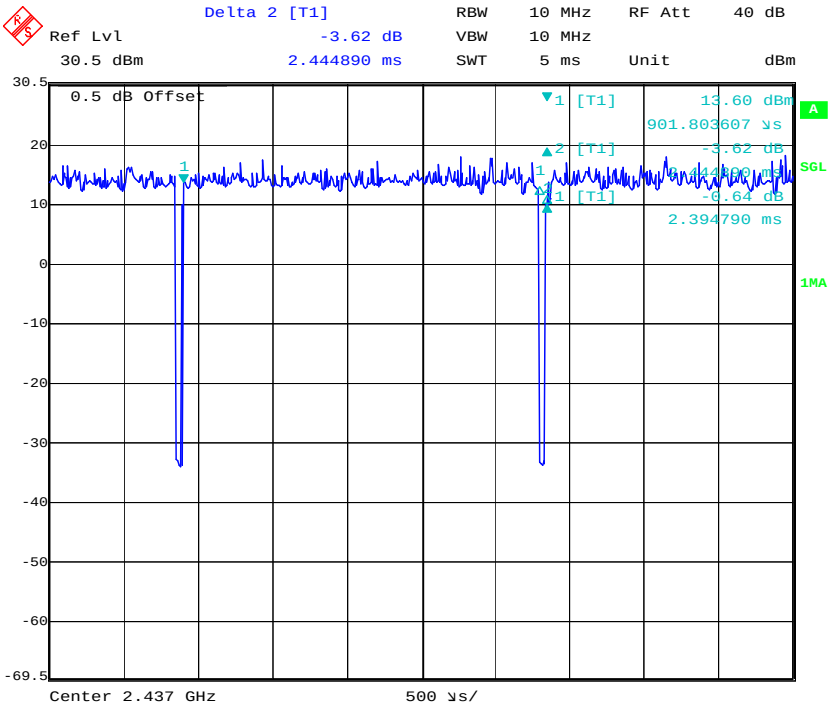
802.11n ht40



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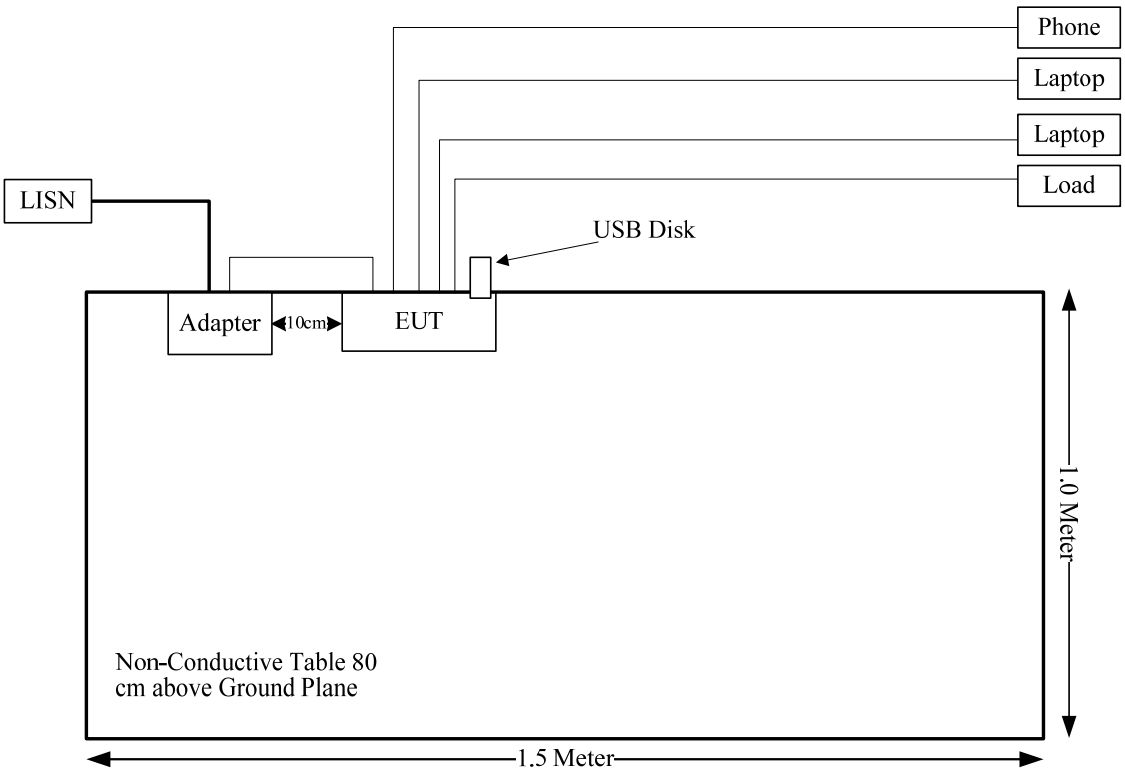
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Dell	Laptop	E6410	/
HUAWEI	Adapter	HW-120300U3W	/
Kingston	USB Disk	8G	/
Lusent	Phone	08D+	48589
DELL	Laptop	PP11L	QDS-BRCM1017

External I/O Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable*2	No	Yes	10	RJ45 Port of Laptop	EUT
DC Power Line	No	No	1.2	Adapter	EUT
RJ45 Cable*2	No	Yes	10	EUT	Load
RJ11 Cable	No	No	10	EUT	phone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1091	Maximum Permissable Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum conducted output power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i)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/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

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

Calculated Formulary:

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

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

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)			
2400-2483.5	2	1.58	26	398.11	20.00	0.1256	1.0
5150-5850	2	1.58	25	316.23	20.00	0.0998	1.0

The 2.4GHz and 5GHz band can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{2.4}/S_{limit\text{-}2.4} + S_5/S_{limit\text{-}5}$

=0.13/1+0.1/1

=0.23

< 1.0

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.

Antenna Connector Construction

The EUT have 3 internal antennas for 2.4G WIFI and the gain of each antenna is 2.0 dBi, 3 internal antennas for 5G WIFI and the gain of each antenna is 2.0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

Measurement Uncertainty

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

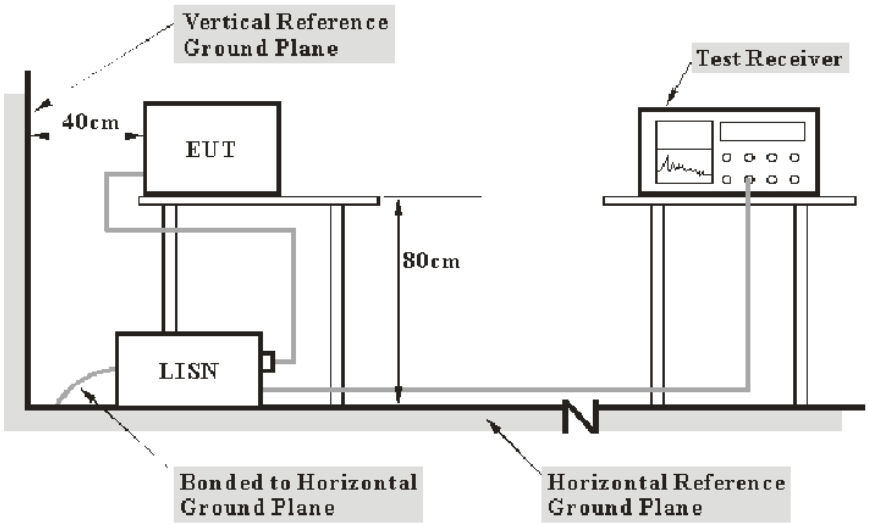
If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
–compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
–non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of 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. (Chengdu) is ±3.17 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 V/60 Hz AC power source.

EMI Test Receiver Setup

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

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

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

Test Procedure

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

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:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS 30	836858/0016	2016-12-02	2017-12-01
Rohde & Schwarz	L.I.S.N.	ENV216	3560.6550.06	2016-12-02	2017-12-01
Rohde & Schwarz	PULSE LIMITER	ESH3Z2	357.8810.52	2016-10-31	2017-10-30
N/A	Conducted Cable	NO.5	N/A	2016-11-10	2017-11-09
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

*** Statement of Traceability:** BACL (Chengdu) attested 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 Part 15.207.

Test Data

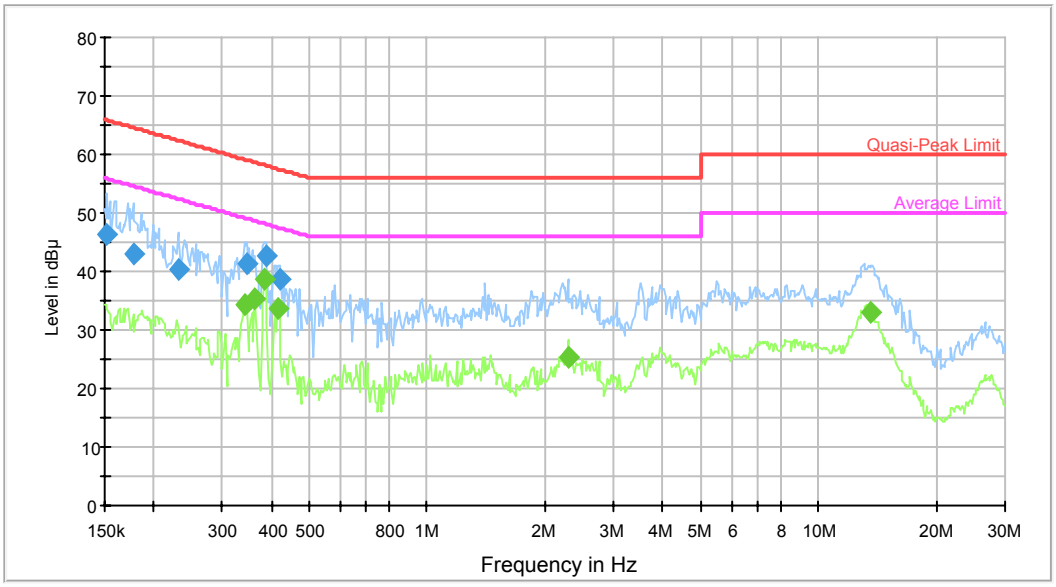
Environmental Conditions

Temperature:	26.6 °C
Relative Humidity:	42 %
ATM Pressure:	101.4 kPa

The testing was performed by Lorin Bian on 2016-12-14.

Test Mode: Transmitting

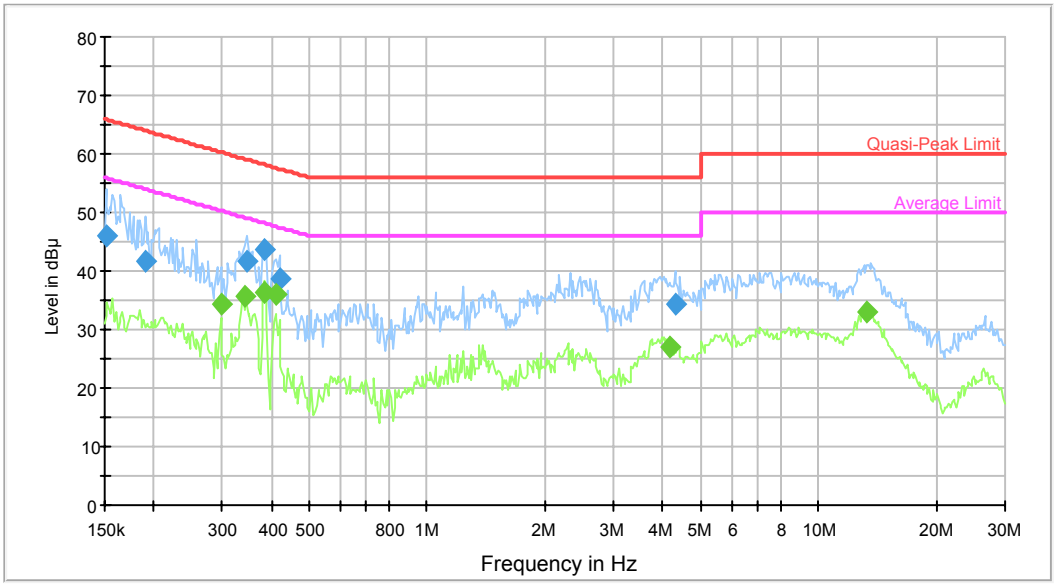
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.152410	46.4	9.000	L1	19.7	19.5	65.9	Compliance
0.177322	43.0	9.000	L1	19.7	21.6	64.6	Compliance
0.230654	40.2	9.000	L1	19.7	22.2	62.4	Compliance
0.346296	41.3	9.000	L1	19.7	17.8	59.1	Compliance
0.387164	42.5	9.000	L1	19.8	15.6	58.1	Compliance
0.419276	38.6	9.000	L1	19.8	18.9	57.5	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.343548	34.3	9.000	L1	19.7	14.8	49.1	Compliance
0.363254	35.3	9.000	L1	19.7	13.4	48.7	Compliance
0.384091	38.5	9.000	L1	19.8	9.7	48.2	Compliance
0.415949	33.7	9.000	L1	19.8	13.8	47.5	Compliance
2.288725	25.4	9.000	L1	19.7	20.6	46.0	Compliance
13.529825	33.0	9.000	L1	20.0	17.0	50.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.151200	46.1	9.000	N	19.7	19.8	65.9	Compliance
0.190505	41.6	9.000	N	19.6	22.4	64.0	Compliance
0.346296	41.6	9.000	N	19.6	17.5	59.1	Compliance
0.384091	43.6	9.000	N	19.6	14.6	58.2	Compliance
0.419276	38.7	9.000	N	19.6	18.8	57.5	Compliance
4.295123	34.3	9.000	N	19.7	21.7	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.297644	34.5	9.000	N	19.6	15.8	50.3	Compliance
0.343548	35.8	9.000	N	19.6	13.3	49.1	Compliance
0.384091	36.3	9.000	N	19.6	11.9	48.2	Compliance
0.409372	36.2	9.000	N	19.6	11.5	47.7	Compliance
4.160384	27.0	9.000	N	19.7	19.0	46.0	Compliance
13.315918	33.1	9.000	N	19.9	16.9	50.0	Compliance

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

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 2, 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 2, 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.

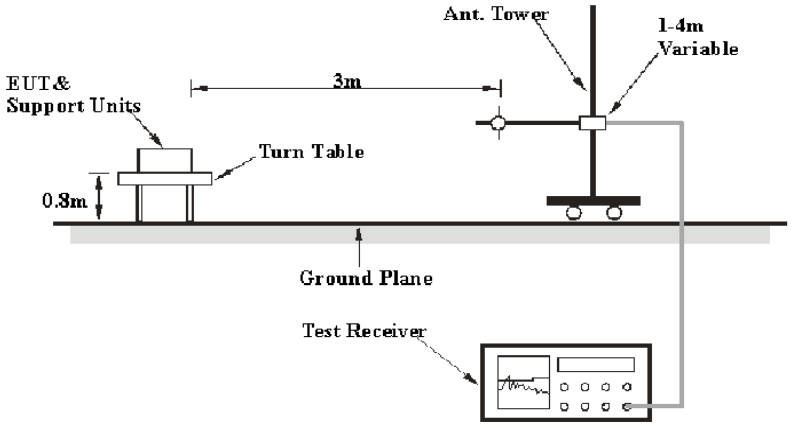
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Chengdu) is:
30M~200MHz: ±4.7 dB ;
200M~1GHz: ±6.0 dB ;
1G-6GHz: ±5.13dB;
6G~25GHz: ±5.47 dB;

Table 2 – Values of U_{cispr}

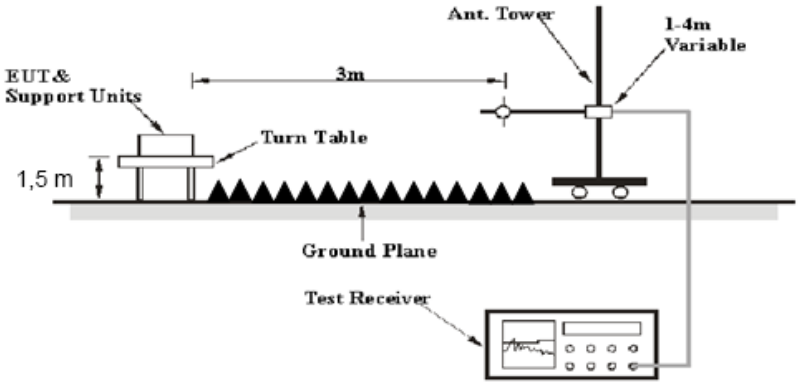
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

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

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

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

30-1000MHz:

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

1GHz- 25GHz:

Detector	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
Ave.	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

Test Procedure

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

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

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:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

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

Margin = Limit –Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Amplifier	8447D	2944A10442	2016-12-02	2017-12-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100028	2016-12-02	2017-12-01
Sunol Sciences	Broadband Antenna	JB3	A101808	2016-04-10	2019-04-09
Rohde & Schwarz	Spectrum Analyzer	FSEM30	100018	2016-12-02	2017-12-01
ETS	Horn Antenna	3115	003-6076	2016-12-02	2017-12-01
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-0113024	2014-06-16	2017-06-15
Mini-circuits	Amplifier	ZVA-183-S+	771001215	2016-05-20	2017-05-19
HP	Amplifier	8449B	3008A00277	2016-12-02	2017-12-01
EMCT	Semi-Anechoic Chamber	966	N/A	2015-04-24	2018-04-23
N/A	RF Cable (below 1GHz)	NO.1	N/A	2016-11-10	2017-11-09
N/A	RF Cable (below 1GHz)	NO.4	N/A	2016-11-10	2017-11-09
N/A	RF Cable (above 1GHz)	NO.2	N/A	2016-11-10	2017-11-09

*** Statement of Traceability:** BACL (Chengdu) attested 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, Section 15.205, 15.209 and 15.247.

Test Data

Environmental Conditions

Temperature:	24.3 °C
Relative Humidity:	60 %
ATM Pressure:	101.5 kPa

** The testing was performed by Lorin Bian on 2016-12-03.*

Test Mode: Transmitting

30MHz- 25GHz:
SISO:802.11b Mode (Chain 0 was the worst)

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	83.42	PK	H	23.50	3.00	0.00	109.92	N/A	N/A
2412	79.86	AV	H	23.50	3.00	0.00	106.36	N/A	N/A
2412	75.43	PK	V	23.50	3.00	0.00	101.93	N/A	N/A
2412	71.91	AV	V	23.50	3.00	0.00	98.41	N/A	N/A
2390	33.08	PK	H	23.57	3.00	0.00	59.65	74	14.35
2390	21.53	AV	H	23.57	3.00	0.00	48.1	54	5.9
4824	45.13	PK	H	30.84	5.11	26.87	54.21	74	19.79
4824	39.21	AV	H	30.84	5.11	26.87	48.29	54	5.71
7236	38.40	PK	H	34.77	6.18	26.36	52.99	74	21.01
7236	34.44	AV	H	34.77	6.18	26.36	49.03	54	4.97
2980	46.46	PK	H	24.16	3.41	26.43	47.6	74	26.4
2980	33.94	AV	H	24.16	3.41	26.43	35.08	54	18.92
3131	46.15	PK	H	24.93	3.63	26.46	48.25	74	25.75
3131	34.85	AV	H	24.93	3.63	26.46	36.95	54	17.05
163.86	47.5	QP	V	12.19	0.96	28.00	32.65	43.50	10.85
318.09	40.42	QP	V	14.55	1.21	27.60	28.58	46.00	17.42
Test Frequency: 2437 MHz									
2437	82.96	PK	H	23.41	3.00	0.00	109.37	N/A	N/A
2437	80.02	AV	H	23.41	3.00	0.00	106.43	N/A	N/A
2437	76.30	PK	V	23.41	3.00	0.00	102.71	N/A	N/A
2437	73.27	AV	V	23.41	3.00	0.00	99.68	N/A	N/A
4874	42.55	PK	H	31.00	5.09	26.87	51.77	74	22.23
4874	39.01	AV	H	31.00	5.09	26.87	48.23	54	5.77
7311	42.53	PK	H	34.92	6.21	26.40	57.26	74	16.74
7311	38.95	AV	H	34.92	6.21	26.40	53.68	54	0.32
3016	58.76	PK	H	24.29	3.45	26.42	60.08	74	13.92
3016	41.16	AV	H	24.29	3.45	26.42	42.48	54	11.52
3475	40.05	PK	H	26.86	4.14	26.58	44.47	74	29.53
3475	29.91	AV	H	26.86	4.14	26.58	34.33	54	19.67
163.86	48.39	QP	V	12.19	0.96	28.00	33.54	43.50	9.96
318.09	39.77	QP	V	14.55	1.21	27.60	27.93	46.00	18.07
Test Frequency: 2462 MHz									
2462	82.54	PK	H	23.33	2.99	0.00	108.86	N/A	N/A
2462	79.52	AV	H	23.33	2.99	0.00	105.84	N/A	N/A
2462	76.81	PK	V	23.33	2.99	0.00	103.13	N/A	N/A
2462	73.74	AV	V	23.33	2.99	0.00	100.06	N/A	N/A
2483.5	29.84	PK	H	23.26	2.99	0.00	56.09	74	17.91
2483.5	20.58	AV	H	23.26	2.99	0.00	46.83	54	7.17
4924	43.61	PK	H	31.16	5.07	26.88	52.96	74	21.04
4924	38.20	AV	H	31.16	5.07	26.88	47.55	54	6.45
7386	40.88	PK	H	35.07	6.25	26.43	55.77	74	18.23
7386	35.22	AV	H	35.07	6.25	26.43	50.11	54	3.89
3055	55.31	PK	H	24.51	3.51	26.43	56.9	74	17.1
3055	44.84	AV	H	24.51	3.51	26.43	46.43	54	7.57
163.86	48.22	QP	V	12.19	0.96	28.00	33.37	43.50	10.13
318.09	39.39	QP	V	14.55	1.21	27.60	27.55	46.00	18.45

802.11g Mode (Chain 0 was the worst)

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	84.49	PK	H	23.50	3.00	0.00	110.99	N/A	N/A
2412	74.33	AV	H	23.50	3.00	0.00	100.83	N/A	N/A
2412	75.69	PK	V	23.50	3.00	0.00	102.19	N/A	N/A
2412	66.03	AV	V	23.50	3.00	0.00	92.53	N/A	N/A
2390	46.69	PK	H	23.57	3.00	0.00	73.26	74	0.74
2390	25.51	AV	H	23.57	3.00	0.00	52.08	54	1.92
4824	40.65	PK	H	30.84	5.11	26.87	49.73	74	24.27
4824	30.20	AV	H	30.84	5.11	26.87	39.28	54	14.72
7236	37.75	PK	H	34.77	6.18	26.36	52.34	74	21.66
7236	26.74	AV	H	34.77	6.18	26.36	41.33	54	12.67
2980	59.56	PK	H	24.16	3.41	26.43	60.7	74	13.3
2980	44.94	AV	H	24.16	3.41	26.43	46.08	54	7.92
163.86	48.14	QP	V	12.19	0.96	28.00	33.29	43.50	10.21
318.09	39.66	QP	V	14.55	1.21	27.60	27.82	46.00	18.18
Test Frequency: 2437 MHz									
2437	86.92	PK	H	23.41	3.00	0.00	113.33	N/A	N/A
2437	76.83	AV	H	23.41	3.00	0.00	103.24	N/A	N/A
2437	81.07	PK	V	23.41	3.00	0.00	107.48	N/A	N/A
2437	71.05	AV	V	23.41	3.00	0.00	97.46	N/A	N/A
4874	45.10	PK	H	31.00	5.09	26.87	54.32	74	19.68
4874	34.38	AV	H	31.00	5.09	26.87	43.6	54	10.4
7311	39.19	PK	H	34.92	6.21	26.40	53.92	74	20.08
7311	29.92	AV	H	34.92	6.21	26.40	44.65	54	9.35
1495	44.52	PK	H	24.09	2.66	26.33	44.94	74	29.06
1495	30.88	AV	H	24.09	2.66	26.33	31.3	54	22.7
3016	52.57	PK	H	24.29	3.45	26.42	53.89	74	20.11
3016	39.73	AV	H	24.29	3.45	26.42	41.05	54	12.95
163.86	48	QP	V	12.19	0.96	28.00	33.15	43.50	10.35
318.09	39.95	QP	V	14.55	1.21	27.60	28.11	46.00	17.89
Test Frequency 2462 MHz									
2462	84.21	PK	H	23.33	2.99	0.00	110.53	N/A	N/A
2462	72.43	AV	H	23.33	2.99	0.00	98.75	N/A	N/A
2462	78.26	PK	V	23.33	2.99	0.00	104.58	N/A	N/A
2462	68.86	AV	V	23.33	2.99	0.00	95.18	N/A	N/A
2483.5	44.66	PK	H	23.26	2.99	0.00	70.91	74	3.09
2483.5	22.89	AV	H	23.26	2.99	0.00	49.14	54	4.86
4924	37.77	PK	H	31.16	5.07	26.88	47.12	74	26.88
4924	28.11	AV	H	31.16	5.07	26.88	37.46	54	16.54
7386	41.01	PK	H	35.07	6.25	26.43	55.9	74	18.1
7386	30.02	AV	H	35.07	6.25	26.43	44.91	54	9.09
3055	54.07	PK	H	24.51	3.51	26.43	55.66	74	18.34
3055	42.07	AV	H	24.51	3.51	26.43	43.66	54	10.34
163.86	48.42	QP	V	12.19	0.96	28.00	33.57	43.50	9.93
318.09	40.72	QP	V	14.55	1.21	27.60	28.88	46.00	17.12

802.11 n ht20 Mode (Chain 0 was the worst)

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	83.87	PK	H	23.50	3.00	0.00	110.37	N/A	N/A
2412	72.89	AV	H	23.50	3.00	0.00	99.39	N/A	N/A
2412	75.80	PK	V	23.50	3.00	0.00	102.3	N/A	N/A
2412	64.94	AV	V	23.50	3.00	0.00	91.44	N/A	N/A
2390	45.62	PK	H	23.57	3.00	0.00	72.19	74	1.81
2390	23.61	AV	H	23.57	3.00	0.00	50.18	54	3.82
4824	38.26	PK	H	30.84	5.11	26.87	47.34	74	26.66
4824	27.95	AV	H	30.84	5.11	26.87	37.03	54	16.97
7236	35.66	PK	H	34.77	6.18	26.36	50.25	74	23.75
7236	24.35	AV	H	34.77	6.18	26.36	38.94	54	15.06
1495	43.59	PK	H	24.09	2.66	26.33	44.01	74	29.99
1495	33.52	AV	H	24.09	2.66	26.33	33.94	54	20.06
163.86	48.89	QP	V	12.19	0.96	28.00	34.04	43.50	9.46
318.09	40.99	QP	V	14.55	1.21	27.60	29.15	46.00	16.85
Test Frequency: 2417 MHz									
2417	85.84	PK	H	23.48	3.00	0.00	112.32	N/A	N/A
2417	75.35	AV	H	23.48	3.00	0.00	101.83	N/A	N/A
2417	80.68	PK	V	23.48	3.00	0.00	107.16	N/A	N/A
2417	70.42	AV	V	23.48	3.00	0.00	96.9	N/A	N/A
2390	38.96	PK	H	23.57	3.00	0.00	65.53	74	8.47
2390	22.93	AV	H	23.57	3.00	0.00	49.5	54	4.5
4834	40.40	PK	H	30.87	5.11	26.87	49.51	74	24.49
4834	28.83	AV	H	30.87	5.11	26.87	37.94	54	16.06
7251	36.77	PK	H	34.80	6.19	26.37	51.39	74	22.61
7251	25.72	AV	H	34.80	6.19	26.37	40.34	54	13.66
1530	42.63	PK	H	24.15	2.69	26.36	43.11	74	30.89
1530	33.04	AV	H	24.15	2.69	26.36	33.52	54	20.48
163.86	49.21	QP	V	12.19	0.96	28.00	34.36	43.50	9.14
318.09	41.1	QP	V	14.55	1.21	27.60	29.26	46.00	16.74
Test Frequency: 2437 MHz									
2437	85.72	PK	H	23.41	3.00	0.00	112.13	N/A	N/A
2437	76.42	AV	H	23.41	3.00	0.00	102.83	N/A	N/A
2437	79.69	PK	V	23.41	3.00	0.00	106.1	N/A	N/A
2437	70.46	AV	V	23.41	3.00	0.00	96.87	N/A	N/A
4874	46.97	PK	H	31.00	5.09	26.87	56.19	74	17.81
4874	37.78	AV	H	31.00	5.09	26.87	47	54	7
7311	38.98	PK	H	34.92	6.21	26.40	53.71	74	20.29
7311	29.83	AV	H	34.92	6.21	26.40	44.56	54	9.44
1510	44.96	PK	H	24.12	2.68	26.34	45.42	74	28.58
1510	32.39	AV	H	24.12	2.68	26.34	32.85	54	21.15
3025	51.51	PK	H	24.34	3.47	26.42	52.9	74	21.1
3025	39.16	AV	H	24.34	3.47	26.42	40.55	54	13.45
163.86	49.68	QP	V	12.19	0.96	28.00	34.83	43.50	8.67
318.09	41.87	QP	V	14.55	1.21	27.60	30.03	46.00	15.97

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2457 MHz									
2457	84.24	PK	H	23.35	3.00	0.00	110.59	N/A	N/A
2457	73.76	AV	H	23.35	3.00	0.00	100.11	N/A	N/A
2457	83.77	PK	V	23.35	3.00	0.00	110.12	N/A	N/A
2457	73.16	AV	V	23.35	3.00	0.00	99.51	N/A	N/A
2483.5	39.71	PK	H	23.26	2.99	0.00	65.96	74	8.04
2483.5	21.94	AV	H	23.26	2.99	0.00	48.19	54	5.81
4914	40.19	PK	H	31.12	5.07	26.87	49.51	74	24.49
4914	30.15	AV	H	31.12	5.07	26.87	39.47	54	14.53
7371	38.82	PK	H	35.04	6.24	26.42	53.68	74	20.32
7371	29.21	AV	H	35.04	6.24	26.42	44.07	54	9.93
3072	52.37	PK	H	24.60	3.54	26.44	54.07	74	19.93
3072	41.44	AV	H	24.60	3.54	26.44	43.14	54	10.86
163.86	48.21	QP	V	12.19	0.96	28.00	33.36	43.50	10.14
318.09	42.05	QP	V	14.55	1.21	27.60	30.21	46.00	15.79
Test Frequency: 2462 MHz									
2462	83.15	PK	H	23.33	2.99	0.00	109.47	N/A	N/A
2462	67.68	AV	H	23.33	2.99	0.00	94	N/A	N/A
2462	77.83	PK	V	23.33	2.99	0.00	104.15	N/A	N/A
2462	67.57	AV	V	23.33	2.99	0.00	93.89	N/A	N/A
2483.5	44.44	PK	H	23.26	2.99	0.00	70.69	74	3.31
2483.5	23.17	AV	H	23.26	2.99	0.00	49.42	54	4.58
4924	38.23	PK	H	31.16	5.07	26.88	47.58	74	26.42
4924	28.48	AV	H	31.16	5.07	26.88	37.83	54	16.17
7386	40.87	PK	H	35.07	6.25	26.43	55.76	74	18.24
7386	31.61	AV	H	35.07	6.25	26.43	46.5	54	7.5
3040	54.10	PK	H	24.42	3.49	26.42	55.59	74	18.41
3040	41.89	AV	H	24.42	3.49	26.42	43.38	54	10.62
163.86	49.1	QP	V	12.19	0.96	28.00	34.25	43.50	9.25
318.09	41.4	QP	V	14.55	1.21	27.60	29.56	46.00	16.44

802.11 n ht40 Mode (Chain 0 was the worst)

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2422 MHz									
2422	78.79	PK	H	23.47	3.00	0.00	105.26	N/A	N/A
2422	69.05	AV	H	23.47	3.00	0.00	95.52	N/A	N/A
2422	71.85	PK	V	23.47	3.00	0.00	98.32	N/A	N/A
2422	61.07	AV	V	23.47	3.00	0.00	87.54	N/A	N/A
2390	45.80	PK	H	23.57	3.00	0.00	72.37	74	1.63
2390	27.30	AV	H	23.57	3.00	0.00	53.87	54	0.13
4844	34.30	PK	H	30.90	5.10	26.87	43.43	74	30.57
4844	25.17	AV	H	30.90	5.10	26.87	34.3	54	19.7
7266	33.85	PK	H	34.83	6.19	26.38	48.49	74	25.51
7266	23.24	AV	H	34.83	6.19	26.38	37.88	54	16.12
3475	39.95	PK	H	26.86	4.14	26.58	44.37	74	29.63
3475	28.54	AV	H	26.86	4.14	26.58	32.96	54	21.04
163.86	48.93	QP	V	12.19	0.96	28.00	34.08	43.50	9.42
318.09	41.02	QP	V	14.55	1.21	27.60	29.18	46.00	16.82
Test Frequency: 2427 MHz									
2427	81.23	PK	H	23.45	3.00	0.00	107.68	N/A	N/A
2427	70.52	AV	H	23.45	3.00	0.00	96.97	N/A	N/A
2427	80.81	PK	V	23.45	3.00	0.00	107.26	N/A	N/A
2427	71.08	AV	V	23.45	3.00	0.00	97.53	N/A	N/A
2390	45.80	PK	H	23.57	3.00	0.00	72.37	74	1.63
2390	20.06	AV	H	23.57	3.00	0.00	46.63	54	7.37
4854	36.13	PK	H	30.93	5.10	26.87	45.29	74	28.71
4854	26.68	AV	H	30.93	5.10	26.87	35.84	54	18.16
7281	34.61	PK	H	34.86	6.20	26.38	49.29	74	24.71
7281	24.97	AV	H	34.86	6.20	26.38	39.65	54	14.35
3486	41.01	PK	H	26.92	4.16	26.58	45.51	74	28.49
3486	30.46	AV	H	26.92	4.16	26.58	34.96	54	19.04
163.86	48.85	QP	V	12.19	0.96	28.00	34.00	43.50	9.50
318.09	41.29	QP	V	14.55	1.21	27.60	29.45	46.00	16.55
Test Frequency: 2437 MHz									
2437	82.64	PK	H	23.41	3.00	0.00	109.05	N/A	N/A
2437	73.04	AV	H	23.41	3.00	0.00	99.45	N/A	N/A
2437	77.44	PK	V	23.41	3.00	0.00	103.85	N/A	N/A
2437	68.07	AV	V	23.41	3.00	0.00	94.48	N/A	N/A
4874	41.13	PK	H	31.00	5.09	26.87	50.35	74	23.65
4874	31.41	AV	H	31.00	5.09	26.87	40.63	54	13.37
7311	38.58	PK	H	34.92	6.21	26.40	53.31	74	20.69
7311	29.02	AV	H	34.92	6.21	26.40	43.75	54	10.25
1495	44.72	PK	H	24.09	2.66	26.33	45.14	74	28.86
1495	31.63	AV	H	24.09	2.66	26.33	32.05	54	21.95
3475	39.98	PK	H	26.86	4.14	26.58	44.4	74	29.6
3475	28.57	AV	H	26.86	4.14	26.58	32.99	54	21.01
163.86	48.71	QP	V	12.19	0.96	28.00	33.86	43.50	9.64
318.09	41.58	QP	V	14.55	1.21	27.60	29.74	46.00	16.26

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2447 MHz									
2447	83.94	PK	H	23.38	3.00	0.00	110.32	N/A	N/A
2447	73.58	AV	H	23.38	3.00	0.00	99.96	N/A	N/A
2447	83.32	PK	V	23.38	3.00	0.00	109.7	N/A	N/A
2447	73.41	AV	V	23.38	3.00	0.00	99.79	N/A	N/A
2483.5	36.20	PK	H	23.26	2.99	0.00	62.45	74	11.55
2483.5	20.72	AV	H	23.26	2.99	0.00	46.97	54	7.03
4894	38.16	PK	H	31.06	5.08	26.87	47.43	74	26.57
4894	27.53	AV	H	31.06	5.08	26.87	36.8	54	17.2
7341	36.00	PK	H	34.98	6.23	26.41	50.8	74	23.2
7341	25.85	AV	H	34.98	6.23	26.41	40.65	54	13.35
1910	42.01	PK	H	24.76	2.98	26.73	43.02	74	30.98
1910	32.70	AV	H	24.76	2.98	26.73	33.71	54	20.29
163.86	49.13	QP	V	12.19	0.96	28.00	34.28	43.50	9.22
318.09	42.35	QP	V	14.55	1.21	27.60	30.51	46.00	15.49
Test Frequency: 2452 MHz									
2452	80.11	PK	H	23.36	3.00	0.00	106.47	N/A	N/A
2452	69.67	AV	H	23.36	3.00	0.00	96.03	N/A	N/A
2452	73.91	PK	V	23.36	3.00	0.00	100.27	N/A	N/A
2452	64.22	AV	V	23.36	3.00	0.00	90.58	N/A	N/A
2483.5	46.94	PK	H	23.26	2.99	0.00	73.19	74	0.81
2483.5	26.16	AV	H	23.26	2.99	0.00	52.41	54	1.59
4904	35.14	PK	H	31.09	5.08	26.87	44.44	74	29.56
4904	24.39	AV	H	31.09	5.08	26.87	33.69	54	20.31
7356	37.25	PK	H	35.01	6.23	26.42	52.07	74	21.93
7356	25.54	AV	H	35.01	6.23	26.42	40.36	54	13.64
1465	41.55	PK	H	24.01	2.62	26.36	41.82	74	32.18
1465	28.92	AV	H	24.01	2.62	26.36	29.19	54	24.81
163.86	49.6	QP	V	12.19	0.96	28.00	34.75	43.50	8.75
318.09	42.62	QP	V	14.55	1.21	27.60	30.78	46.00	15.22

MIMO (Chain 0+1):

802.11 b Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	86.22	PK	H	23.50	3.00	0.00	112.72	N/A	N/A
2412	83.06	AV	H	23.50	3.00	0.00	109.56	N/A	N/A
2412	84.08	PK	V	23.50	3.00	0.00	110.58	N/A	N/A
2412	81.00	AV	V	23.50	3.00	0.00	107.5	N/A	N/A
2386	35.65	PK	H	23.59	3.00	0.00	62.24	74	11.76
2386	27.03	AV	H	23.59	3.00	0.00	53.62	54	0.38
4824	46.73	PK	H	30.84	5.11	26.87	55.81	74	18.19
4824	43.39	AV	H	30.84	5.11	26.87	52.47	54	1.53
7236	40.70	PK	H	34.77	6.18	26.36	55.29	74	18.71
7236	37.36	AV	H	34.77	6.18	26.36	51.95	54	2.05
2980	45.37	PK	H	24.16	3.41	26.43	46.51	74	27.49
2980	34.44	AV	H	24.16	3.41	26.43	35.58	54	18.42
163.86	49.92	QP	V	12.19	0.96	28.00	35.07	43.50	8.43
318.09	42.73	QP	V	14.55	1.21	27.60	30.89	46.00	15.11
Test Frequency: 2437 MHz									
2437	83.89	PK	H	23.41	3.00	0.00	110.3	N/A	N/A
2437	80.43	AV	H	23.41	3.00	0.00	106.84	N/A	N/A
2437	80.67	PK	V	23.41	3.00	0.00	107.08	N/A	N/A
2437	77.55	AV	V	23.41	3.00	0.00	103.96	N/A	N/A
4874	45.88	PK	H	31.00	5.09	26.87	55.1	74	18.9
4874	44.51	AV	H	31.00	5.09	26.87	53.73	54	0.27
7311	34.66	PK	H	34.92	6.21	26.40	49.39	74	24.61
7311	30.77	AV	H	34.92	6.21	26.40	45.5	54	8.5
1495	42.16	PK	H	24.09	2.66	26.33	42.58	74	31.42
1495	28.96	AV	H	24.09	2.66	26.33	29.38	54	24.62
3010	45.55	PK	H	24.26	3.45	26.41	46.85	74	27.15
3010	35.20	AV	H	24.26	3.45	26.41	36.5	54	17.5
163.86	50.39	QP	V	12.19	0.96	28.00	35.54	43.50	7.96
318.09	43.5	QP	V	14.55	1.21	27.60	31.66	46.00	14.34
Test Frequency: 2462 MHz(									
2462	84.80	PK	H	23.33	2.99	0.00	111.12	N/A	N/A
2462	81.72	AV	H	23.33	2.99	0.00	108.04	N/A	N/A
2462	82.83	PK	V	23.33	2.99	0.00	109.15	N/A	N/A
2462	79.98	AV	V	23.33	2.99	0.00	106.3	N/A	N/A
2483.5	33.19	PK	H	23.26	2.99	0.00	59.44	74	14.56
2483.5	19.63	AV	H	23.26	2.99	0.00	45.88	54	8.12
4924	45.79	PK	H	31.16	5.07	26.88	55.14	74	18.86
4924	43.76	AV	H	31.16	5.07	26.88	53.11	54	0.89
7386	36.60	PK	H	35.07	6.25	26.43	51.49	74	22.51
7386	32.62	AV	H	35.07	6.25	26.43	47.51	54	6.49
3040	54.33	PK	H	24.42	3.49	26.42	55.82	74	18.18
3040	41.42	AV	H	24.42	3.49	26.42	42.91	54	11.09
1495	41.93	PK	H	24.09	2.66	26.33	42.35	74	31.65
1495	30.44	AV	H	24.09	2.66	26.33	30.86	54	23.14
163.86	47.98	QP	V	12.19	0.96	28.00	33.13	43.50	10.37
318.09	43.02	QP	V	14.55	1.21	27.60	31.18	46.00	14.82

802.11 g Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	85.44	PK	H	23.50	3.00	0.00	111.94	N/A	N/A
2412	76.25	AV	H	23.50	3.00	0.00	102.75	N/A	N/A
2412	85.00	PK	V	23.50	3.00	0.00	111.5	N/A	N/A
2412	74.93	AV	V	23.50	3.00	0.00	101.43	N/A	N/A
2400	44.95	PK	H	23.54	3.00	0.00	71.49	74	2.51
2400	22.65	AV	H	23.54	3.00	0.00	49.19	54	4.81
4824	44.95	PK	H	30.84	5.11	26.87	54.03	74	19.97
4824	34.32	AV	H	30.84	5.11	26.87	43.4	54	10.6
7236	38.21	PK	H	34.77	6.18	26.36	52.8	74	21.2
7236	27.28	AV	H	34.77	6.18	26.36	41.87	54	12.13
3475	40.24	PK	H	26.86	4.14	26.58	44.66	74	29.34
3475	28.01	AV	H	26.86	4.14	26.58	32.43	54	21.57
163.86	48.87	QP	V	12.19	0.96	28.00	34.02	43.50	9.48
318.09	42.37	QP	V	14.55	1.21	27.60	30.53	46.00	15.47
Test Frequency:2417 MHz									
2417	86.63	PK	H	23.48	3.00	0.00	113.11	N/A	N/A
2417	76.91	AV	H	23.48	3.00	0.00	103.39	N/A	N/A
2417	89.11	PK	V	23.48	3.00	0.00	115.59	N/A	N/A
2417	79.82	AV	V	23.48	3.00	0.00	106.3	N/A	N/A
2390	42.81	PK	H	23.57	3.00	0.00	69.38	74	4.62
2390	25.56	AV	H	23.57	3.00	0.00	52.13	54	1.87
4834	44.92	PK	H	30.87	5.11	26.87	54.03	74	19.97
4834	34.29	AV	H	30.87	5.11	26.87	43.4	54	10.6
7251	38.23	PK	H	34.80	6.19	26.37	52.85	74	21.15
7251	27.30	AV	H	34.80	6.19	26.37	41.92	54	12.08
3475	40.24	PK	H	26.86	4.14	26.58	44.66	74	29.34
3475	28.01	AV	H	26.86	4.14	26.58	32.43	54	21.57
163.86	48.7	QP	V	12.19	0.96	28.00	33.85	43.50	9.65
318.09	41.99	QP	V	14.55	1.21	27.60	30.15	46.00	15.85
Test Frequency:2437 MHz									
2437	89.56	PK	H	23.41	3.00	0.00	115.97	N/A	N/A
2437	80.33	AV	H	23.41	3.00	0.00	106.74	N/A	N/A
2437	88.69	PK	V	23.41	3.00	0.00	115.1	N/A	N/A
2437	78.81	AV	V	23.41	3.00	0.00	105.22	N/A	N/A
4874	50.25	PK	H	31.00	5.09	26.87	59.47	74	14.53
4874	36.38	AV	H	31.00	5.09	26.87	45.6	54	8.4
7311	43.52	PK	H	34.92	6.21	26.40	58.25	74	15.75
7311	31.50	AV	H	34.92	6.21	26.40	46.23	54	7.77
3025	48.87	PK	H	24.34	3.47	26.42	50.26	74	23.74
3025	36.95	AV	H	24.34	3.47	26.42	38.34	54	15.66
1495	48.06	PK	H	24.09	2.66	26.33	48.48	74	25.52
1495	33.15	AV	H	24.09	2.66	26.33	33.57	54	20.43
163.86	48.62	QP	V	12.19	0.96	28.00	33.77	43.50	9.73
318.09	42.26	QP	V	14.55	1.21	27.60	30.42	46.00	15.58

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2457 MHz									
2457	89.17	PK	H	23.35	3.00	0.00	115.52	N/A	N/A
2457	75.35	AV	H	23.35	3.00	0.00	101.7	N/A	N/A
2457	86.84	PK	V	23.35	3.00	0.00	113.19	N/A	N/A
2457	77.60	AV	V	23.35	3.00	0.00	103.95	N/A	N/A
2483.5	46.43	PK	H	23.26	2.99	0.00	72.68	74	1.32
2483.5	27.20	AV	H	23.26	2.99	0.00	53.45	54	0.55
4914	42.41	PK	H	31.12	5.07	26.87	51.73	74	22.27
4914	32.15	AV	H	31.12	5.07	26.87	41.47	54	12.53
7371	45.44	PK	H	35.04	6.24	26.42	60.3	74	13.7
7371	34.82	AV	H	35.04	6.24	26.42	49.68	54	4.32
1510	43.54	PK	H	24.12	2.68	26.34	44	74	30
1510	33.06	AV	H	24.12	2.68	26.34	33.52	54	20.48
163.86	48.48	QP	V	12.19	0.96	28.00	33.63	43.50	9.87
318.09	42.55	QP	V	14.55	1.21	27.60	30.71	46.00	15.29
Test Frequency: 2462 MHz									
2462	85.08	PK	H	23.33	2.99	0.00	111.4	N/A	N/A
2462	75.38	AV	H	23.33	2.99	0.00	101.7	N/A	N/A
2462	84.17	PK	V	23.33	2.99	0.00	110.49	N/A	N/A
2462	75.06	AV	V	23.33	2.99	0.00	101.38	N/A	N/A
2483.5	42.64	PK	H	23.26	2.99	0.00	68.89	74	5.11
2483.5	22.56	AV	H	23.26	2.99	0.00	48.81	54	5.19
4924	39.87	PK	H	31.16	5.07	26.88	49.22	74	24.78
4924	29.48	AV	H	31.16	5.07	26.88	38.83	54	15.17
7386	46.16	PK	H	35.07	6.25	26.43	61.05	74	12.95
7386	35.59	AV	H	35.07	6.25	26.43	50.48	54	3.52
1495	44.82	PK	H	24.09	2.66	26.33	45.24	74	28.76
1495	31.39	AV	H	24.09	2.66	26.33	31.81	54	22.19
163.86	48.9	QP	V	12.19	0.96	28.00	34.05	43.50	9.45
318.09	43.32	QP	V	14.55	1.21	27.60	31.48	46.00	14.52

802.11 n ht20 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	85.93	PK	H	23.50	3.00	0.00	112.43	N/A	N/A
2412	75.74	AV	H	23.50	3.00	0.00	102.24	N/A	N/A
2412	84.95	PK	V	23.50	3.00	0.00	111.45	N/A	N/A
2412	75.09	AV	V	23.50	3.00	0.00	101.59	N/A	N/A
2390	45.99	PK	H	23.57	3.00	0.00	72.56	74	1.44
2390	25.21	AV	H	23.57	3.00	0.00	51.78	54	2.22
4824	44.37	PK	H	30.84	5.11	26.87	53.45	74	20.55
4824	34.42	AV	H	30.84	5.11	26.87	43.5	54	10.5
7236	42.05	PK	H	34.77	6.18	26.36	56.64	74	17.36
7236	32.36	AV	H	34.77	6.18	26.36	46.95	54	7.05
1510	41.73	PK	H	24.12	2.68	26.34	42.19	74	31.81
1510	30.29	AV	H	24.12	2.68	26.34	30.75	54	23.25
163.86	49.37	QP	V	12.19	0.96	28.00	34.52	43.50	8.98
318.09	43.59	QP	V	14.55	1.21	27.60	31.75	46.00	14.25
Test Frequency: 2417 MHz									
2417	87.86	PK	H	23.48	3.00	0.00	114.34	N/A	N/A
2417	77.96	AV	H	23.48	3.00	0.00	104.44	N/A	N/A
2417	85.98	PK	V	23.48	3.00	0.00	112.46	N/A	N/A
2417	75.79	AV	V	23.48	3.00	0.00	102.27	N/A	N/A
2390	42.91	PK	H	23.57	3.00	0.00	69.48	74	4.52
2390	23.12	AV	H	23.57	3.00	0.00	49.69	54	4.31
4834	45.02	PK	H	30.87	5.11	26.87	54.13	74	19.87
4834	34.79	AV	H	30.87	5.11	26.87	43.9	54	10.1
7251	39.60	PK	H	34.80	6.19	26.37	54.22	74	19.78
7251	29.72	AV	H	34.80	6.19	26.37	44.34	54	9.66
1930	42.74	PK	H	24.79	3.00	26.75	43.78	74	30.22
1930	32.97	AV	H	24.79	3.00	26.75	34.01	54	19.99
163.86	50.16	QP	V	12.19	0.96	28.00	35.31	43.50	8.19
318.09	44.47	QP	V	14.55	1.21	27.60	32.63	46.00	13.37
Test Frequency:2437 MHz									
2437	89.83	PK	H	23.41	3.00	0.00	116.24	N/A	N/A
2437	80.05	AV	H	23.41	3.00	0.00	106.46	N/A	N/A
2437	88.25	PK	V	23.41	3.00	0.00	114.66	N/A	N/A
2437	78.43	AV	V	23.41	3.00	0.00	104.84	N/A	N/A
4874	50.89	PK	H	31.00	5.09	26.87	60.11	74	13.89
4874	37.81	AV	H	31.00	5.09	26.87	47.03	54	6.97
7311	42.34	PK	H	34.92	6.21	26.40	57.07	74	16.93
7311	30.36	AV	H	34.92	6.21	26.40	45.09	54	8.91
3025	46.34	PK	H	24.34	3.47	26.42	47.73	74	26.27
3025	34.67	AV	H	24.34	3.47	26.42	36.06	54	17.94
1495	48.41	PK	H	24.09	2.66	26.33	48.83	74	25.17
1495	33.88	AV	H	24.09	2.66	26.33	34.3	54	19.7
163.86	49.69	QP	V	12.19	0.96	28.00	34.84	43.50	8.66
318.09	43.7	QP	V	14.55	1.21	27.60	31.86	46.00	14.14

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2457 MHz									
2457	87.53	PK	H	23.35	3.00	0.00	113.88	N/A	N/A
2457	77.47	AV	H	23.35	3.00	0.00	103.82	N/A	N/A
2457	85.42	PK	V	23.35	3.00	0.00	111.77	N/A	N/A
2457	73.53	AV	V	23.35	3.00	0.00	99.88	N/A	N/A
2483.5	40.98	PK	H	23.26	2.99	0.00	67.23	74	6.77
2483.5	23.85	AV	H	23.26	2.99	0.00	50.1	54	3.9
4914	42.75	PK	H	31.12	5.07	26.87	52.07	74	21.93
4914	32.91	AV	H	31.12	5.07	26.87	42.23	54	11.77
7371	43.63	PK	H	35.04	6.24	26.42	58.49	74	15.51
7371	33.99	AV	H	35.04	6.24	26.42	48.85	54	5.15
1930	38.46	PK	H	24.79	3.00	26.75	39.5	74	34.5
1930	27.68	AV	H	24.79	3.00	26.75	28.72	54	25.28
163.86	47.84	QP	V	12.19	0.96	28.00	32.99	43.50	10.51
318.09	43.08	QP	V	14.55	1.21	27.60	31.24	46.00	14.76
Test Frequency: 2462 MHz									
2462	85.20	PK	H	23.33	2.99	0.00	111.52	N/A	N/A
2462	74.97	AV	H	23.33	2.99	0.00	101.29	N/A	N/A
2462	85.12	PK	V	23.33	2.99	0.00	111.44	N/A	N/A
2462	75.26	AV	V	23.33	2.99	0.00	101.58	N/A	N/A
2483.5	45.33	PK	H	23.26	2.99	0.00	71.58	74	2.42
2483.5	23.74	AV	H	23.26	2.99	0.00	49.99	54	4.01
4924	40.83	PK	H	31.16	5.07	26.88	50.18	74	23.82
4924	31.00	AV	H	31.16	5.07	26.88	40.35	54	13.65
7386	45.63	PK	H	35.07	6.25	26.43	60.52	74	13.48
7386	35.81	AV	H	35.07	6.25	26.43	50.7	54	3.3
3040	44.83	PK	H	24.42	3.49	26.42	46.32	74	27.68
3040	32.67	AV	H	24.42	3.49	26.42	34.16	54	19.84
163.86	48.73	QP	V	12.19	0.96	28.00	33.88	43.50	9.62
318.09	42.43	QP	V	14.55	1.21	27.60	30.59	46.00	15.41

802.11 n ht40 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2422 MHz									
2422	80.70	PK	H	23.47	3.00	0.00	107.17	N/A	N/A
2422	71.30	AV	H	23.47	3.00	0.00	97.77	N/A	N/A
2422	80.29	PK	V	23.47	3.00	0.00	106.76	N/A	N/A
2422	71.10	AV	V	23.47	3.00	0.00	97.57	N/A	N/A
2390	44.49	PK	H	23.57	3.00	0.00	71.06	74	2.94
2390	26.08	AV	H	23.57	3.00	0.00	52.65	54	1.35
4844	37.68	PK	H	30.90	5.10	26.87	46.81	74	27.19
4844	28.16	AV	H	30.90	5.10	26.87	37.29	54	16.71
7266	34.75	PK	H	34.83	6.19	26.38	49.39	74	24.61
7266	24.90	AV	H	34.83	6.19	26.38	39.54	54	14.46
1495	45.83	PK	H	24.09	2.66	26.33	46.25	74	27.75
1495	34.15	AV	H	24.09	2.66	26.33	34.57	54	19.43
163.86	48.56	QP	V	12.19	0.96	28.00	33.71	43.50	9.79
318.09	42.05	QP	V	14.55	1.21	27.60	30.21	46.00	15.79
Test Frequency: 2427 MHz									
2427	85.42	PK	H	23.45	3.00	0.00	111.87	N/A	N/A
2427	75.30	AV	H	23.45	3.00	0.00	101.75	N/A	N/A
2427	86.13	PK	V	23.45	3.00	0.00	112.58	N/A	N/A
2427	76.50	AV	V	23.45	3.00	0.00	102.95	N/A	N/A
2390	38.02	PK	H	23.57	3.00	0.00	64.59	74	9.41
2390	19.29	AV	H	23.57	3.00	0.00	45.86	54	8.14
4854	40.40	PK	H	30.93	5.10	26.87	49.56	74	24.44
4854	30.71	AV	H	30.93	5.10	26.87	39.87	54	14.13
7281	34.88	PK	H	34.86	6.20	26.38	49.56	74	24.44
7281	24.71	AV	H	34.86	6.20	26.38	39.39	54	14.61
1840	43.52	PK	H	24.64	2.93	26.66	44.43	74	29.57
1840	33.04	AV	H	24.64	2.93	26.66	33.95	54	20.05
163.86	48.48	QP	V	12.19	0.96	28.00	33.63	43.50	9.87
318.09	42.32	QP	V	14.55	1.21	27.60	30.48	46.00	15.52
Test Frequency:2437 MHz									
2437	86.20	PK	H	23.41	3.00	0.00	112.61	N/A	N/A
2437	76.99	AV	H	23.41	3.00	0.00	103.4	N/A	N/A
2437	84.96	PK	V	23.41	3.00	0.00	111.37	N/A	N/A
2437	75.41	AV	V	23.41	3.00	0.00	101.82	N/A	N/A
4874	47.48	PK	H	31.00	5.09	26.87	56.7	74	17.3
4874	35.93	AV	H	31.00	5.09	26.87	45.15	54	8.85
7311	38.79	PK	H	34.92	6.21	26.40	53.52	74	20.48
7311	29.62	AV	H	34.92	6.21	26.40	44.35	54	9.65
1495	45.35	PK	H	24.09	2.66	26.33	45.77	74	28.23
1495	28.96	AV	H	24.09	2.66	26.33	29.38	54	24.62
3475	40.20	PK	H	26.86	4.14	26.58	44.62	74	29.38
3475	28.79	AV	H	26.86	4.14	26.58	33.21	54	20.79
163.86	48.34	QP	V	12.19	0.96	28.00	33.49	43.50	10.01
318.09	42.61	QP	V	14.55	1.21	27.60	30.77	46.00	15.23

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2447 MHz									
2447	85.50	PK	H	23.38	3.00	0.00	111.88	N/A	N/A
2447	75.32	AV	H	23.38	3.00	0.00	101.7	N/A	N/A
2447	86.62	PK	V	23.38	3.00	0.00	113	N/A	N/A
2447	77.07	AV	V	23.38	3.00	0.00	103.45	N/A	N/A
2483.5	31.87	PK	H	23.26	2.99	0.00	58.12	74	15.88
2483.5	20.90	AV	H	23.26	2.99	0.00	47.15	54	6.85
4894	41.36	PK	H	31.06	5.08	26.87	50.63	74	23.37
4894	31.47	AV	H	31.06	5.08	26.87	40.74	54	13.26
7341	35.97	PK	H	34.98	6.23	26.41	50.77	74	23.23
7341	25.85	AV	H	34.98	6.23	26.41	40.65	54	13.35
1930	39.20	PK	H	24.79	3.00	26.75	40.24	74	33.76
1930	29.54	AV	H	24.79	3.00	26.75	30.58	54	23.42
163.86	48.76	QP	V	12.19	0.96	28.00	33.91	43.50	9.59
318.09	43.38	QP	V	14.55	1.21	27.60	31.54	46.00	14.46
Test Frequency: 2452 MHz									
2452	81.64	PK	H	23.36	3.00	0.00	108	N/A	N/A
2452	71.53	AV	H	23.36	3.00	0.00	97.89	N/A	N/A
2452	79.80	PK	V	23.36	3.00	0.00	106.16	N/A	N/A
2452	69.83	AV	V	23.36	3.00	0.00	96.19	N/A	N/A
2483.5	44.70	PK	H	23.26	2.99	0.00	70.95	74	3.05
2483.5	25.09	AV	H	23.26	2.99	0.00	51.34	54	2.66
4904	36.91	PK	H	31.09	5.08	26.87	46.21	74	27.79
4904	27.45	AV	H	31.09	5.08	26.87	36.75	54	17.25
7356	39.16	PK	H	35.01	6.23	26.42	53.98	74	20.02
7356	28.91	AV	H	35.01	6.23	26.42	43.73	54	10.27
1495	43.78	PK	H	24.09	2.66	26.33	44.2	74	29.8
1495	30.39	AV	H	24.09	2.66	26.33	30.81	54	23.19
163.86	49.23	QP	V	12.19	0.96	28.00	34.38	43.50	9.12
318.09	43.65	QP	V	14.55	1.21	27.60	31.81	46.00	14.19

MIMO (Chain 0+1+2):

802.11 b Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency:2412 MHz									
2412	89.39	PK	H	23.50	3.00	0.00	115.89	N/A	N/A
2412	86.36	AV	H	23.50	3.00	0.00	112.86	N/A	N/A
2412	86.01	PK	V	23.50	3.00	0.00	112.51	N/A	N/A
2412	82.90	AV	V	23.50	3.00	0.00	109.4	N/A	N/A
2387	59.89	PK	H	23.58	3.00	26.87	59.6	74	14.4
2387	50.00	AV	H	23.58	3.00	26.87	49.71	54	4.29
4824	44.87	PK	H	30.84	5.11	26.87	53.95	74	20.05
4824	43.31	AV	H	30.84	5.11	26.87	52.39	54	1.61
7236	34.39	PK	H	34.77	6.18	26.36	48.98	74	25.02
7236	30.47	AV	H	34.77	6.18	26.36	45.06	54	8.94
1495	46.60	PK	H	24.09	2.66	26.33	47.02	74	26.98
1495	34.59	AV	H	24.09	2.66	26.33	35.01	54	18.99
163.86	49.55	QP	V	12.19	0.96	28.00	34.70	43.50	8.80
318.09	43.76	QP	V	14.55	1.21	27.60	31.92	46.00	14.08
Test Frequency: 2417 MHz									
2417	90.97	PK	H	23.48	3.00	0.00	117.45	N/A	N/A
2417	86.98	AV	H	23.48	3.00	0.00	113.46	N/A	N/A
2417	83.46	PK	V	23.48	3.00	0.00	109.94	N/A	N/A
2417	79.21	AV	V	23.48	3.00	0.00	105.69	N/A	N/A
2390	33.24	PK	H	23.57	3.00	0.00	59.81	74	14.19
2390	21.43	AV	H	23.57	3.00	0.00	48	54	6
4834	45.67	PK	H	30.87	5.11	26.87	54.78	74	19.22
4834	42.40	AV	H	30.87	5.11	26.87	51.51	54	2.49
7251	35.71	PK	H	34.80	6.19	26.37	50.33	74	23.67
7251	33.93	AV	H	34.80	6.19	26.37	48.55	54	5.45
1930	46.15	PK	H	24.79	3.00	26.75	47.19	74	26.81
1930	34.68	AV	H	24.79	3.00	26.75	35.72	54	18.28
163.86	50.02	QP	V	12.19	0.96	28.00	35.17	43.50	8.33
318.09	44.53	QP	V	14.55	1.21	27.60	32.69	46.00	13.31
Test Frequency: 2437 MHz									
2437	84.60	PK	H	23.41	3.00	0.00	111.01	N/A	N/A
2437	82.05	AV	H	23.41	3.00	0.00	108.46	N/A	N/A
2437	86.72	PK	V	23.41	3.00	0.00	113.13	N/A	N/A
2437	83.39	AV	V	23.41	3.00	0.00	109.8	N/A	N/A
4874	46.56	PK	H	31.00	5.09	26.87	55.78	74	18.22
4874	43.46	AV	H	31.00	5.09	26.87	52.68	54	1.32
7311	36.46	PK	H	34.92	6.21	26.40	51.19	74	22.81
7311	33.99	AV	H	34.92	6.21	26.40	48.72	54	5.28
1495	43.63	PK	H	24.09	2.66	26.33	44.05	74	29.95
1495	31.49	AV	H	24.09	2.66	26.33	31.91	54	22.09
3250	43.45	PK	H	25.60	3.81	26.50	46.36	74	27.64
3250	30.62	AV	H	25.60	3.81	26.50	33.53	54	20.47
163.86	47.58	QP	V	12.19	0.96	28.00	32.73	43.50	10.77
318.09	43.29	QP	V	14.55	1.21	27.60	31.45	46.00	14.55

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2457 MHz									
2457	82.63	PK	H	23.35	3.00	0.00	108.98	N/A	N/A
2457	78.44	AV	H	23.35	3.00	0.00	104.79	N/A	N/A
2457	90.05	PK	V	23.35	3.00	0.00	116.4	N/A	N/A
2457	85.48	AV	V	23.35	3.00	0.00	111.83	N/A	N/A
2483.5	34.68	PK	H	23.26	2.99	0.00	60.93	74	13.07
2483.5	23.53	AV	H	23.26	2.99	0.00	49.78	54	4.22
4914	45.74	PK	H	31.12	5.07	26.87	55.06	74	18.94
4914	44.17	AV	H	31.12	5.07	26.87	53.49	54	0.51
7371	36.82	PK	H	35.04	6.24	26.42	51.68	74	22.32
7371	31.05	AV	H	35.04	6.24	26.42	45.91	54	8.09
1930	41.30	PK	H	24.79	3.00	26.75	42.34	74	31.66
1930	34.14	AV	H	24.79	3.00	26.75	35.18	54	18.82
163.86	48.47	QP	V	12.19	0.96	28.00	33.62	43.50	9.88
318.09	42.64	QP	V	14.55	1.21	27.60	30.80	46.00	15.20
Test Frequency: 2462 MHz									
2462	83.27	PK	H	23.33	2.99	0.00	109.59	N/A	N/A
2462	80.63	AV	H	23.33	2.99	0.00	106.95	N/A	N/A
2462	86.05	PK	V	23.33	2.99	0.00	112.37	N/A	N/A
2462	83.13	AV	V	23.33	2.99	0.00	109.45	N/A	N/A
2483.5	37.17	PK	H	23.26	2.99	0.00	63.42	74	10.58
2483.5	25.35	AV	H	23.26	2.99	0.00	51.6	54	2.4
4924	45.99	PK	H	31.16	5.07	26.88	55.34	74	18.66
4924	44.08	AV	H	31.16	5.07	26.88	53.43	54	0.57
7386	41.73	PK	H	35.07	6.25	26.43	56.62	74	17.38
7386	37.16	AV	H	35.07	6.25	26.43	52.05	54	1.95
1495	45.52	PK	H	24.09	2.66	26.33	45.94	74	28.06
1495	34.12	AV	H	24.09	2.66	26.33	34.54	54	19.46
163.86	48.3	QP	V	12.19	0.96	28.00	33.45	43.50	10.05
318.09	42.26	QP	V	14.55	1.21	27.60	30.42	46.00	15.58

802.11 g Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	88.35	PK	H	23.50	3.00	0.00	114.85	N/A	N/A
2412	78.48	AV	H	23.50	3.00	0.00	104.98	N/A	N/A
2412	85.67	PK	V	23.50	3.00	0.00	112.17	N/A	N/A
2412	76.18	AV	V	23.50	3.00	0.00	102.68	N/A	N/A
2390	45.79	PK	H	23.57	3.00	0.00	72.36	74	1.64
2390	25.91	AV	H	23.57	3.00	0.00	52.48	54	1.52
4824	48.29	PK	H	30.84	5.11	26.87	57.37	74	16.63
4824	37.59	AV	H	30.84	5.11	26.87	46.67	54	7.33
7236	34.99	PK	H	34.77	6.18	26.36	49.58	74	24.42
7236	24.31	AV	H	34.77	6.18	26.36	38.9	54	15.1
2980	60.62	PK	H	24.16	3.41	26.43	61.76	74	12.24
2980	42.07	AV	H	24.16	3.41	26.43	43.21	54	10.79
163.86	48.22	QP	V	12.19	0.96	28.00	33.37	43.50	10.13
318.09	42.53	QP	V	14.55	1.21	27.60	30.69	46.00	15.31
Test Frequency: 2417 MHz									
2417	93.13	PK	H	23.48	3.00	0.00	119.61	N/A	N/A
2417	81.39	AV	H	23.48	3.00	0.00	107.87	N/A	N/A
2417	87.52	PK	V	23.48	3.00	0.00	114	N/A	N/A
2417	75.46	AV	V	23.48	3.00	0.00	101.94	N/A	N/A
2390	45.52	PK	H	23.57	3.00	0.00	72.09	74	1.91
2390	26.84	AV	H	23.57	3.00	0.00	53.41	54	0.59
4834	49.25	PK	H	30.87	5.11	26.87	58.36	74	15.64
4834	39.41	AV	H	30.87	5.11	26.87	48.52	54	5.48
7251	36.01	PK	H	34.80	6.19	26.37	50.63	74	23.37
7251	26.73	AV	H	34.80	6.19	26.37	41.35	54	12.65
2995	44.15	PK	H	24.19	3.43	26.41	45.36	74	28.64
2995	34.67	AV	H	24.19	3.43	26.41	35.88	54	18.12
163.86	48.08	QP	V	12.19	0.96	28.00	33.23	43.50	10.27
318.09	42.82	QP	V	14.55	1.21	27.60	30.98	46.00	15.02
M Test Frequency: 2437 MHz									
2437	91.35	PK	H	23.41	3.00	0.00	117.76	N/A	N/A
2437	81.43	AV	H	23.41	3.00	0.00	107.84	N/A	N/A
2437	85.47	PK	V	23.41	3.00	0.00	111.88	N/A	N/A
2437	76.81	AV	V	23.41	3.00	0.00	103.22	N/A	N/A
4874	50.24	PK	H	31.00	5.09	26.87	59.46	74	14.54
4874	40.48	AV	H	31.00	5.09	26.87	49.7	54	4.3
7311	37.06	PK	H	34.92	6.21	26.40	51.79	74	22.21
7311	28.10	AV	H	34.92	6.21	26.40	42.83	54	11.17
1495	43.00	PK	H	24.09	2.66	26.33	43.42	74	30.58
1495	29.66	AV	H	24.09	2.66	26.33	30.08	54	23.92
3250	42.43	PK	H	25.60	3.81	26.50	45.34	74	28.66
3250	30.28	AV	H	25.60	3.81	26.50	33.19	54	20.81
163.86	48.5	QP	V	12.19	0.96	28.00	33.65	43.50	9.85
318.09	43.59	QP	V	14.55	1.21	27.60	31.75	46.00	14.25

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2457 MHz									
2457	92.57	PK	H	23.35	3.00	0.00	118.92	N/A	N/A
2457	82.46	AV	H	23.35	3.00	0.00	108.81	N/A	N/A
2457	86.79	PK	V	23.35	3.00	0.00	113.14	N/A	N/A
2457	76.62	AV	V	23.35	3.00	0.00	102.97	N/A	N/A
2483.5	42.74	PK	H	23.26	2.99	0.00	68.99	74	5.01
2483.5	24.01	AV	H	23.26	2.99	0.00	50.26	54	3.74
4914	47.68	PK	H	31.12	5.07	26.87	57	74	17
4914	37.95	AV	H	31.12	5.07	26.87	47.27	54	6.73
7371	36.62	PK	H	35.04	6.24	26.42	51.48	74	22.52
7371	26.30	AV	H	35.04	6.24	26.42	41.16	54	12.84
1840	39.11	PK	H	24.64	2.93	26.66	40.02	74	33.98
1840	29.39	AV	H	24.64	2.93	26.66	30.3	54	23.7
163.86	48.97	QP	V	12.19	0.96	28.00	34.12	43.50	9.38
318.09	43.86	QP	V	14.55	1.21	27.60	32.02	46.00	13.98
Test Frequency:2462 MHz									
2462	88.55	PK	H	23.33	2.99	0.00	114.87	N/A	N/A
2462	77.82	AV	H	23.33	2.99	0.00	104.14	N/A	N/A
2462	85.59	PK	V	23.33	2.99	0.00	111.91	N/A	N/A
2462	76.49	AV	V	23.33	2.99	0.00	102.81	N/A	N/A
2483.5	45.81	PK	H	23.26	2.99	0.00	72.06	74	1.94
2483.5	25.55	AV	H	23.26	2.99	0.00	51.8	54	2.2
4924	39.75	PK	H	31.16	5.07	26.88	49.1	74	24.9
4924	29.34	AV	H	31.16	5.07	26.88	38.69	54	15.31
7386	36.13	PK	H	35.07	6.25	26.43	51.02	74	22.98
7386	24.59	AV	H	35.07	6.25	26.43	39.48	54	14.52
1510	41.36	PK	H	24.12	2.68	26.34	41.82	74	32.18
1510	29.05	AV	H	24.12	2.68	26.34	29.51	54	24.49
163.86	49.29	QP	V	12.19	0.96	28.00	34.44	43.50	9.06
318.09	43.97	QP	V	14.55	1.21	27.60	32.13	46.00	13.87

802.11 n ht20 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2412 MHz									
2412	86.99	PK	H	23.50	3.00	0.00	113.49	N/A	N/A
2412	77.51	AV	H	23.50	3.00	0.00	104.01	N/A	N/A
2412	85.15	PK	V	23.50	3.00	0.00	111.65	N/A	N/A
2412	74.31	AV	V	23.50	3.00	0.00	100.81	N/A	N/A
2390	43.30	PK	H	23.57	3.00	0.00	69.87	74	4.13
2390	22.66	AV	H	23.57	3.00	0.00	49.23	54	4.77
4824	46.42	PK	H	30.84	5.11	26.87	55.5	74	18.5
4824	37.32	AV	H	30.84	5.11	26.87	46.4	54	7.6
7236	34.36	PK	H	34.77	6.18	26.36	48.95	74	25.05
7236	24.45	AV	H	34.77	6.18	26.36	39.04	54	14.96
2975	63.96	PK	H	24.15	3.41	26.43	65.09	74	8.91
2975	37.32	AV	H	24.15	3.41	26.43	38.45	54	15.55
163.86	49.76	QP	V	12.19	0.96	28.00	34.91	43.50	8.59
318.09	44.74	QP	V	14.55	1.21	27.60	32.90	46.00	13.10
Test Frequency:2417 MHz									
2417	92.08	PK	H	23.48	3.00	0.00	118.56	N/A	N/A
2417	82.16	AV	H	23.48	3.00	0.00	108.64	N/A	N/A
2417	89.22	PK	V	23.48	3.00	0.00	115.7	N/A	N/A
2417	79.31	AV	V	23.48	3.00	0.00	105.79	N/A	N/A
2390	45.97	PK	H	23.57	3.00	0.00	72.54	74	1.46
2390	24.69	AV	H	23.57	3.00	0.00	51.26	54	2.74
4834	47.76	PK	H	30.87	5.11	26.87	56.87	74	17.13
4834	37.29	AV	H	30.87	5.11	26.87	46.4	54	7.6
7251	35.42	PK	H	34.80	6.19	26.37	50.04	74	23.96
7251	26.70	AV	H	34.80	6.19	26.37	41.32	54	12.68
1840	45.14	PK	H	24.64	2.93	26.66	46.05	74	27.95
1840	34.97	AV	H	24.64	2.93	26.66	35.88	54	18.12
163.86	47.99	QP	V	12.19	0.96	28.00	33.14	43.50	10.36
318.09	43.95	QP	V	14.55	1.21	27.60	32.11	46.00	13.89
Test Frequency: 2437 MHz									
2437	92.15	PK	H	23.41	3.00	0.00	118.56	N/A	N/A
2437	83.22	AV	H	23.41	3.00	0.00	109.63	N/A	N/A
2437	87.12	PK	V	23.41	3.00	0.00	113.53	N/A	N/A
2437	78.44	AV	V	23.41	3.00	0.00	104.85	N/A	N/A
4874	23.22	PK	H	31.00	5.09	0.00	59.31	74	14.69
4874	12.66	AV	H	31.00	5.09	0.00	48.75	54	5.25
7311	38.07	PK	H	34.92	6.21	26.40	52.8	74	21.2
7311	29.49	AV	H	34.92	6.21	26.40	44.22	54	9.78
1495	45.97	PK	H	24.09	2.66	26.33	46.39	74	27.61
1495	34.63	AV	H	24.09	2.66	26.33	35.05	54	18.95
3250	42.42	PK	H	25.60	3.81	26.50	45.33	74	28.67
3250	30.81	AV	H	25.60	3.81	26.50	33.72	54	20.28
163.86	48.88	QP	V	12.19	0.96	28.00	34.03	43.50	9.47
318.09	43.3	QP	V	14.55	1.21	27.60	31.46	46.00	14.54

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency:2457 MHz									
2457	88.53	PK	H	23.35	3.00	0.00	114.88	N/A	N/A
2457	79.05	AV	H	23.35	3.00	0.00	105.4	N/A	N/A
2457	82.46	PK	V	23.35	3.00	0.00	108.81	N/A	N/A
2457	73.53	AV	V	23.35	3.00	0.00	99.88	N/A	N/A
2483.5	42.84	PK	H	23.26	2.99	0.00	69.09	74	4.91
2483.5	25.20	AV	H	23.26	2.99	0.00	51.45	54	2.55
4914	48.35	PK	H	31.12	5.07	26.87	57.67	74	16.33
4914	37.03	AV	H	31.12	5.07	26.87	46.35	54	7.65
7371	35.99	PK	H	35.04	6.24	26.42	50.85	74	23.15
7371	26.88	AV	H	35.04	6.24	26.42	41.74	54	12.26
2978	50.51	PK	H	24.16	3.41	26.43	51.65	74	22.35
2978	41.46	AV	H	24.16	3.41	26.43	42.6	54	11.4
163.86	48.71	QP	V	12.19	0.96	28.00	33.86	43.50	9.64
318.09	42.92	QP	V	14.55	1.21	27.60	31.08	46.00	14.92
Test Frequency: 2462 MHz									
2462	88.77	PK	H	23.33	2.99	0.00	115.09	N/A	N/A
2462	78.81	AV	H	23.33	2.99	0.00	105.13	N/A	N/A
2462	83.80	PK	V	23.33	2.99	0.00	110.12	N/A	N/A
2462	74.77	AV	V	23.33	2.99	0.00	101.09	N/A	N/A
2483.5	44.93	PK	H	23.26	2.99	0.00	71.18	74	2.82
2483.5	25.18	AV	H	23.26	2.99	0.00	51.43	54	2.57
4924	42.85	PK	H	31.16	5.07	26.88	52.2	74	21.8
4924	30.20	AV	H	31.16	5.07	26.88	39.55	54	14.45
7386	36.43	PK	H	35.07	6.25	26.43	51.32	74	22.68
7386	24.81	AV	H	35.07	6.25	26.43	39.7	54	14.3
1495	44.88	PK	H	24.09	2.66	26.33	45.3	74	28.7
1495	33.52	AV	H	24.09	2.66	26.33	33.94	54	20.06
163.86	48.63	QP	V	12.19	0.96	28.00	33.78	43.50	9.72
318.09	43.19	QP	V	14.55	1.21	27.60	31.35	46.00	14.65

802.11 n ht40 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency:2422 MHz									
2422	81.44	PK	H	23.47	3.00	0.00	107.91	N/A	N/A
2422	71.39	AV	H	23.47	3.00	0.00	97.86	N/A	N/A
2422	79.90	PK	V	23.47	3.00	0.00	106.37	N/A	N/A
2422	70.19	AV	V	23.47	3.00	0.00	96.66	N/A	N/A
2390	43.62	PK	H	23.57	3.00	0.00	70.19	74	3.81
2390	26.55	AV	H	23.57	3.00	0.00	53.12	54	0.88
4844	36.94	PK	H	30.90	5.10	26.87	46.07	74	27.93
4844	25.27	AV	H	30.90	5.10	26.87	34.4	54	19.6
7266	34.72	PK	H	34.83	6.19	26.38	49.36	74	24.64
7266	23.97	AV	H	34.83	6.19	26.38	38.61	54	15.39
1510	43.49	PK	H	24.12	2.68	26.34	43.95	74	30.05
1510	30.33	AV	H	24.12	2.68	26.34	30.79	54	23.21
163.86	48.49	QP	V	12.19	0.96	28.00	33.64	43.50	9.86
318.09	43.48	QP	V	14.55	1.21	27.60	31.64	46.00	14.36
Test Frequency: 2427 MHz									
2427	90.60	PK	H	23.45	3.00	0.00	117.05	N/A	N/A
2427	80.33	AV	H	23.45	3.00	0.00	106.78	N/A	N/A
2427	85.57	PK	V	23.45	3.00	0.00	112.02	N/A	N/A
2427	75.32	AV	V	23.45	3.00	0.00	101.77	N/A	N/A
2390	41.42	PK	H	23.57	3.00	0.00	67.99	74	6.01
2390	23.59	AV	H	23.57	3.00	0.00	50.16	54	3.84
4854	46.81	PK	H	30.93	5.10	26.87	55.97	74	18.03
4854	36.57	AV	H	30.93	5.10	26.87	45.73	54	8.27
7281	34.73	PK	H	34.86	6.20	26.38	49.41	74	24.59
7281	23.98	AV	H	34.86	6.20	26.38	38.66	54	15.34
1840	46.21	PK	H	24.64	2.93	26.66	47.12	74	26.88
1840	37.09	AV	H	24.64	2.93	26.66	38	54	16
163.86	48.91	QP	V	12.19	0.96	28.00	34.06	43.50	9.44
318.09	44.25	QP	V	14.55	1.21	27.60	32.41	46.00	13.59
Test Frequency: 2437 MHz									
2437	91.00	PK	H	23.41	3.00	0.00	117.41	N/A	N/A
2437	80.82	AV	H	23.41	3.00	0.00	107.23	N/A	N/A
2437	85.62	PK	V	23.41	3.00	0.00	112.03	N/A	N/A
2437	75.62	AV	V	23.41	3.00	0.00	102.03	N/A	N/A
4874	46.55	PK	H	31.00	5.09	26.87	55.77	74	18.23
4874	36.25	AV	H	31.00	5.09	26.87	45.47	54	8.53
7311	35.66	PK	H	34.92	6.21	26.40	50.39	74	23.61
7311	26.50	AV	H	34.92	6.21	26.40	41.23	54	12.77
1495	42.87	PK	H	24.09	2.66	26.33	43.29	74	30.71
1495	28.44	AV	H	24.09	2.66	26.33	28.86	54	25.14
3250	42.93	PK	H	25.60	3.81	26.50	45.84	74	28.16
3250	30.05	AV	H	25.60	3.81	26.50	32.96	54	21.04
163.86	49.38	QP	V	12.19	0.96	28.00	34.53	43.50	8.97
318.09	44.52	QP	V	14.55	1.21	27.60	32.68	46.00	13.32

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Test Frequency: 2447 MHz									
2447	92.64	PK	H	23.38	3.00	0.00	119.02	N/A	N/A
2447	82.92	AV	H	23.38	3.00	0.00	109.3	N/A	N/A
2447	87.85	PK	V	23.38	3.00	0.00	114.23	N/A	N/A
2447	77.30	AV	V	23.38	3.00	0.00	103.68	N/A	N/A
2483.5	39.30	PK	H	23.26	2.99	0.00	65.55	74	8.45
2483.5	24.79	AV	H	23.26	2.99	0.00	51.04	54	2.96
4894	45.07	PK	H	31.06	5.08	26.87	54.34	74	19.66
4894	34.82	AV	H	31.06	5.08	26.87	44.09	54	9.91
7341	33.27	PK	H	34.98	6.23	26.41	48.07	74	25.93
7341	23.06	AV	H	34.98	6.23	26.41	37.86	54	16.14
1510	38.53	PK	H	24.12	2.68	26.34	38.99	74	35.01
1510	30.72	AV	H	24.12	2.68	26.34	31.18	54	22.82
163.86	49.7	QP	V	12.19	0.96	28.00	34.85	43.50	8.65
318.09	44.63	QP	V	14.55	1.21	27.60	32.79	46.00	13.21
Test Frequency: 2452 MHz									
2452	83.97	PK	H	23.36	3.00	0.00	110.33	N/A	N/A
2452	73.66	AV	H	23.36	3.00	0.00	100.02	N/A	N/A
2452	81.39	PK	V	23.36	3.00	0.00	107.75	N/A	N/A
2452	71.55	AV	V	23.36	3.00	0.00	97.91	N/A	N/A
2483.5	46.57	PK	H	23.26	2.99	0.00	72.82	74	1.18
2483.5	26.33	AV	H	23.26	2.99	0.00	52.58	54	1.42
4904	36.37	PK	H	31.09	5.08	26.87	45.67	74	28.33
4904	27.28	AV	H	31.09	5.08	26.87	36.58	54	17.42
7356	35.34	PK	H	35.01	6.23	26.42	50.16	74	23.84
7356	25.58	AV	H	35.01	6.23	26.42	40.4	54	13.6
1510	41.74	PK	H	24.12	2.68	26.34	42.2	74	31.8
1510	28.33	AV	H	24.12	2.68	26.34	28.79	54	25.21
163.86	50.17	QP	V	12.19	0.96	28.00	35.32	43.50	8.18
318.09	45.4	QP	V	14.55	1.21	27.60	33.56	46.00	12.44

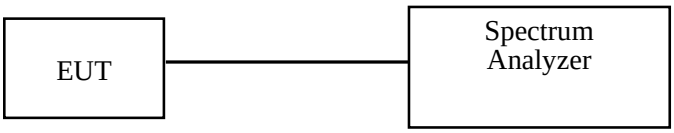
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2016-09-21	2017-09-20
N/A	RF Cable	N/A	N/A	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	36 %
ATM Pressure:	101.1 kPa

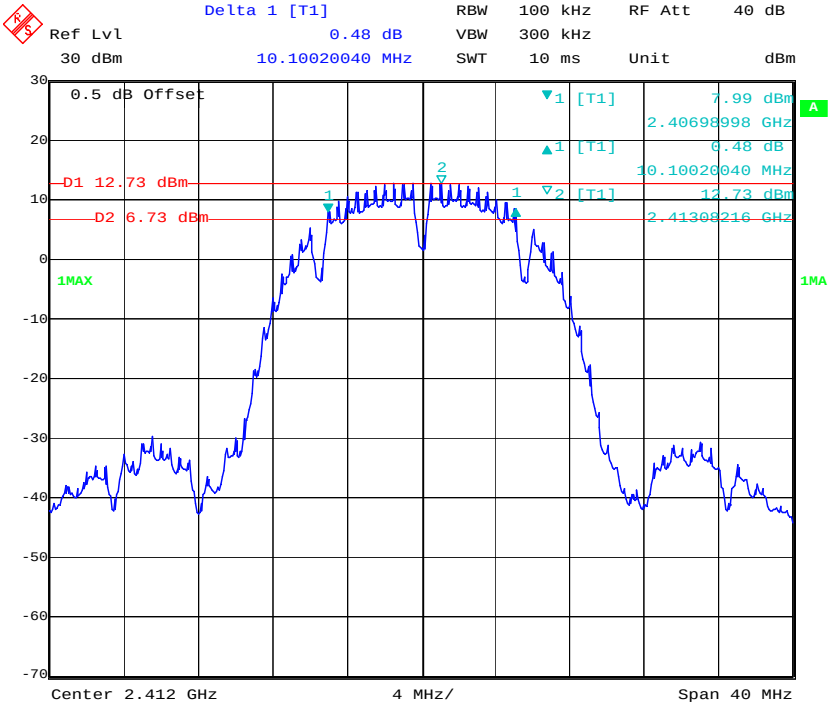
** The testing was performed by Lorin Bian on 2016-12-07.*

Test Mode: Transmitting (Test performed at SISO mode Chain 0)

Test Result: Compliant. Please refer to the following table and plots.

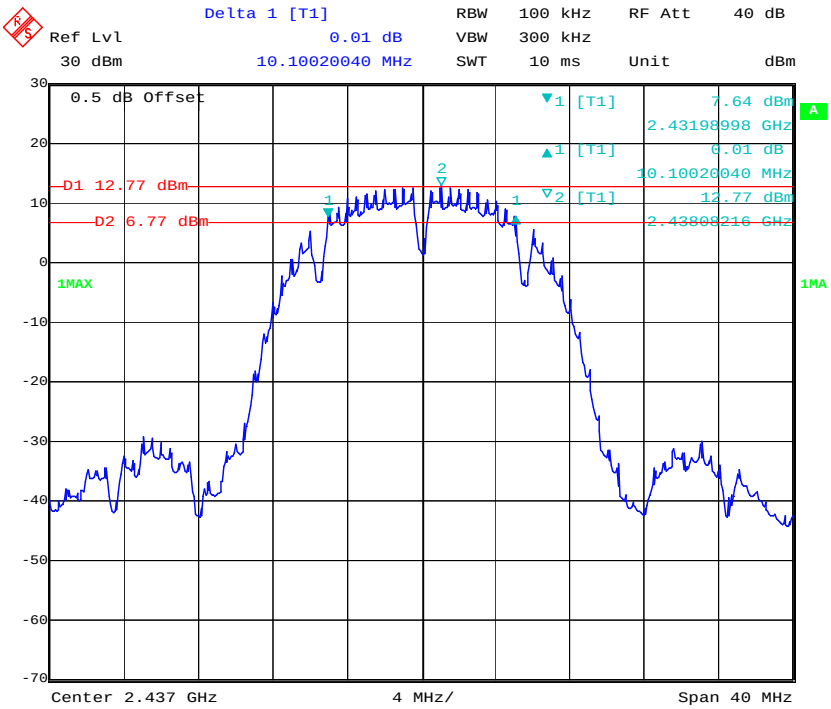
Test mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	10.1	≥0.5
	Middle	2437	10.1	≥0.5
	High	2462	10.1	≥0.5
802.11g	Low	2412	16.51	≥0.5
	Middle	2437	16.43	≥0.5
	High	2462	16.51	≥0.5
802.11n20	Low	2412	17.64	≥0.5
	Middle	2437	17.64	≥0.5
	High	2462	17.64	≥0.5
802.11 n40	Low	2422	36.55	≥0.5
	Middle	2437	36.55	≥0.5
	High	2452	36.39	≥0.5

802.11b Low Channel_2412MHz



Date: 7.DEC.2016 15:55:31

802.11b Middle Channel_2437MHz



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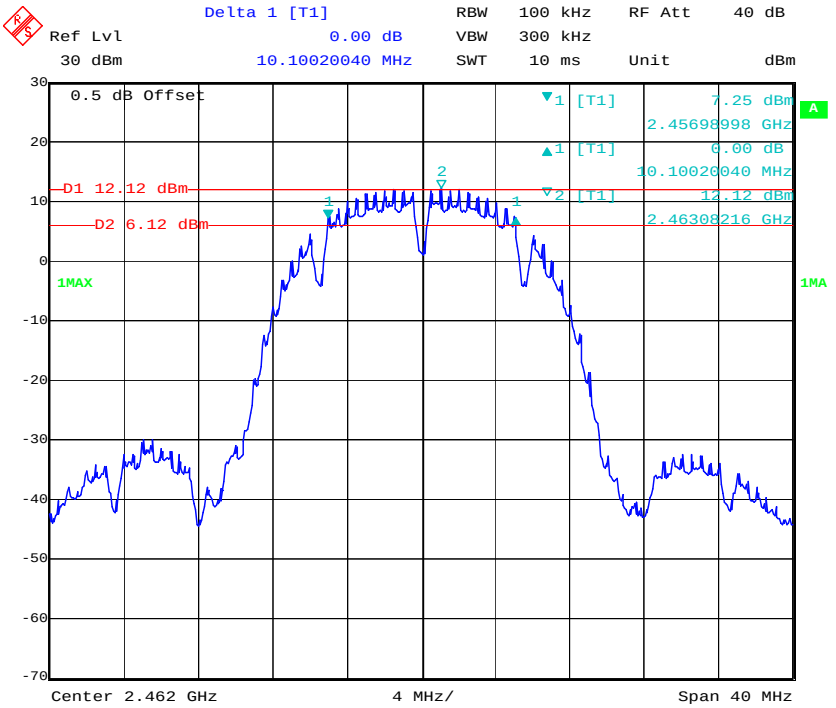
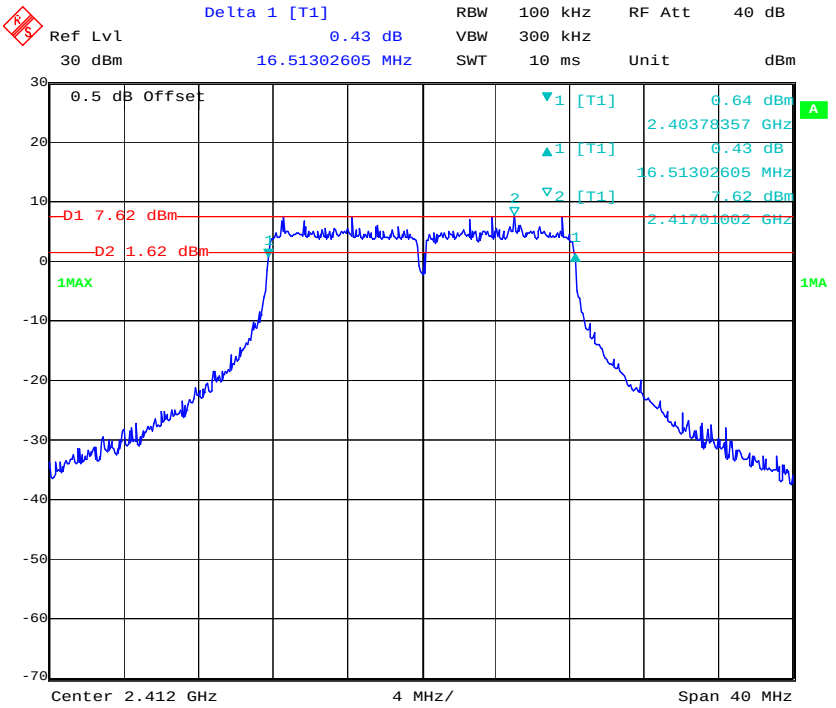
802.11b High Channel _2462MHz



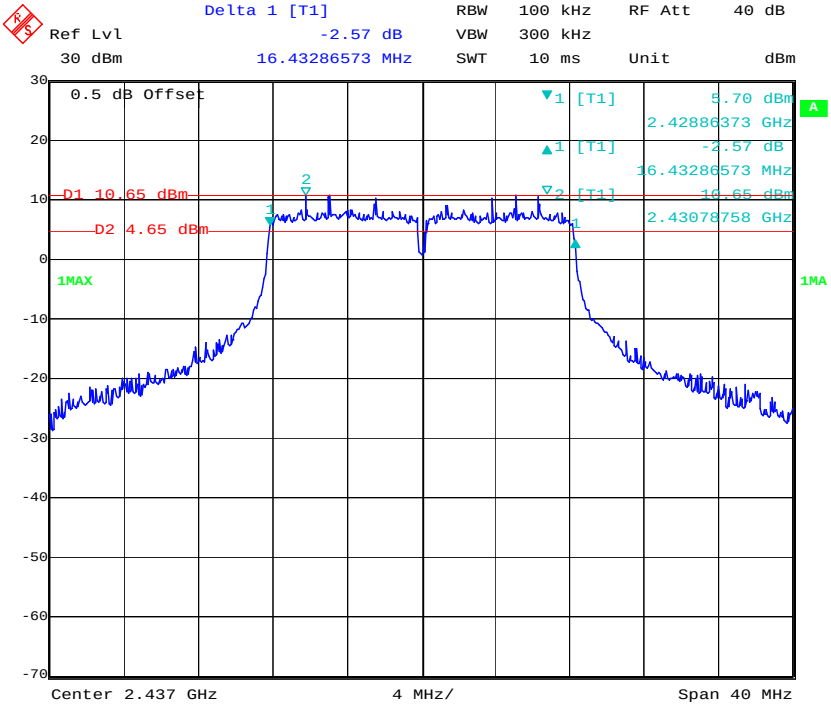
Date: 7.DEC.2016 15:57:13

802.11g Low Channel_2412MHz



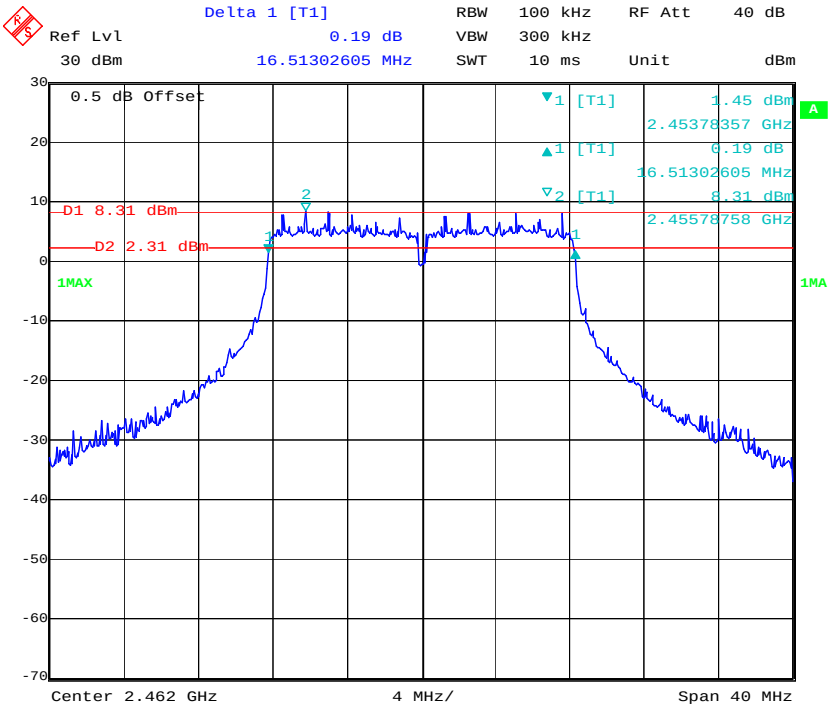
Date: 7.DEC.2016 15:48:37

802.11g Middle Channel_2437MHz



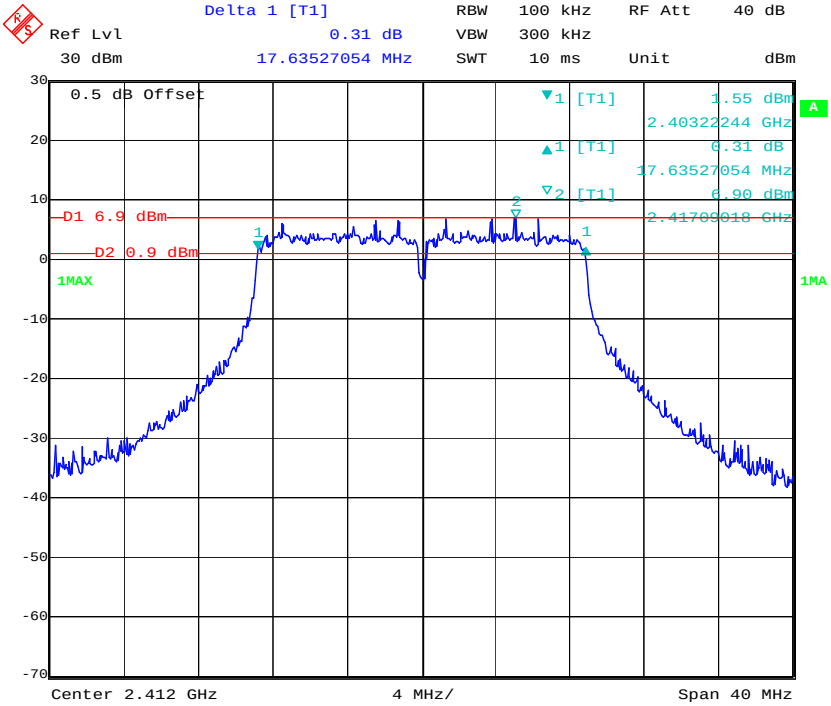
Date: 7.DEC.2016 15:52:42

802.11g High Channel _2462MHz



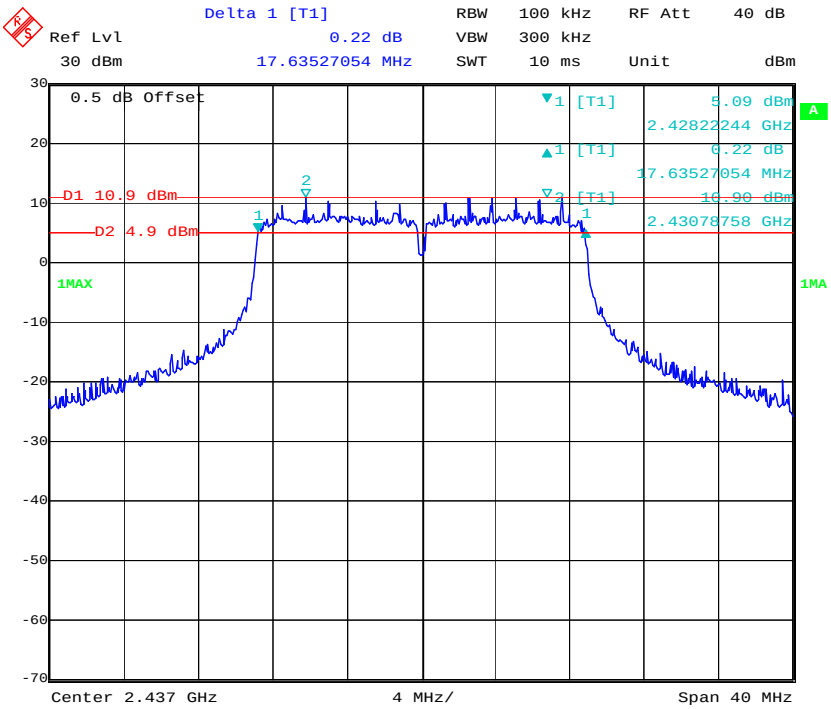
Date: 7.DEC.2016 15:50:38

802.11 n20 Low Channel_2412MHz



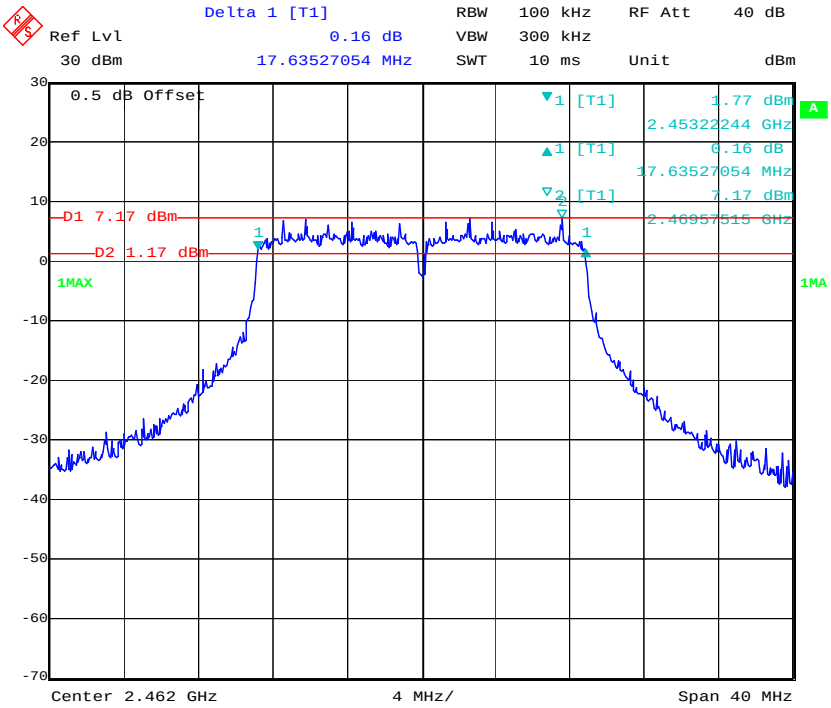
Date: 7.DEC.2016 16:02:57

802.11 n20 Middle Channel_2437MHz



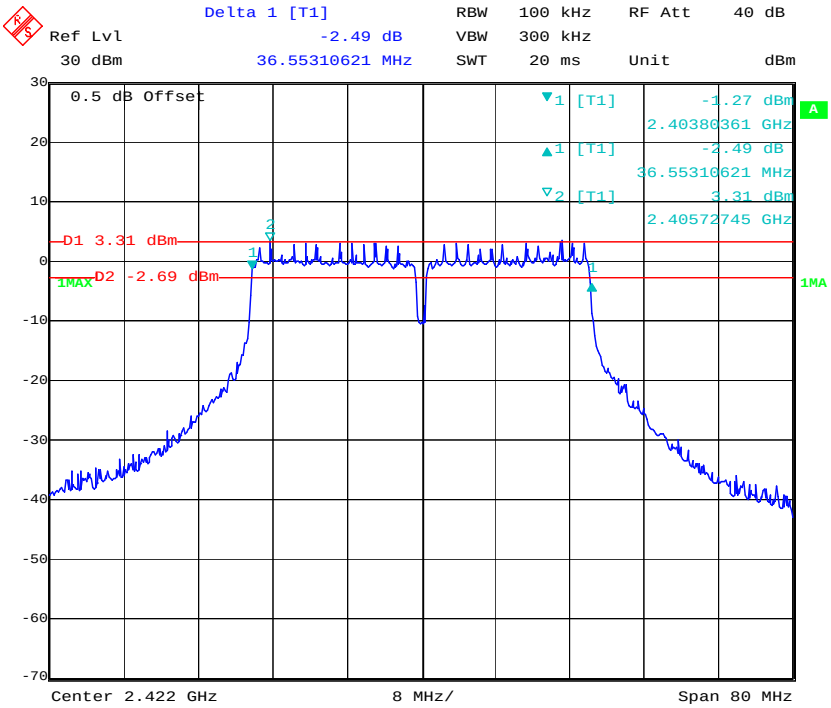
Date: 7.DEC.2016 16:07:16

802.11 n20 High Channel _2462MHz



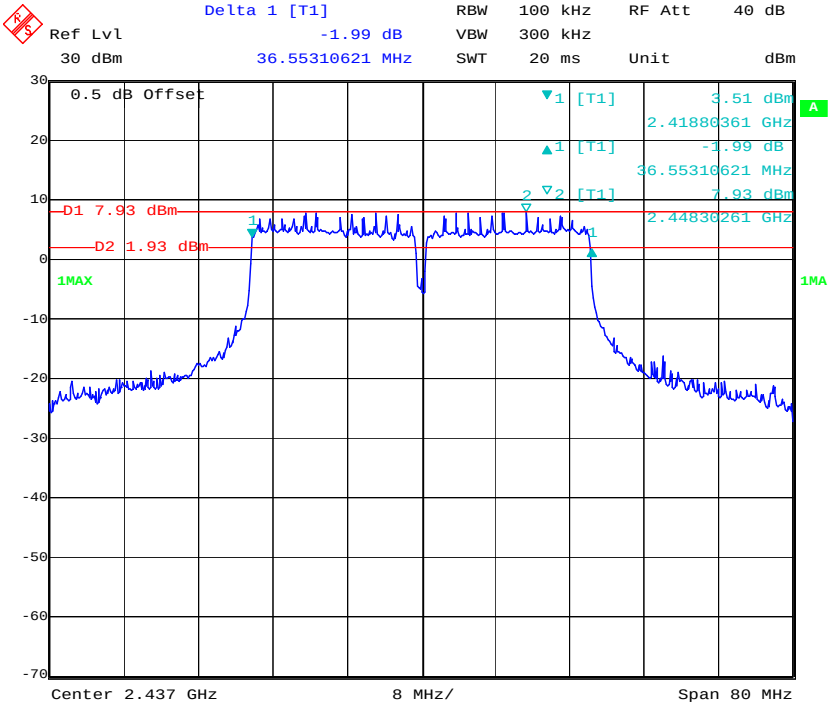
Date: 7.DEC.2016 15:59:11

802.11 n40 Low Channel_2422MHz



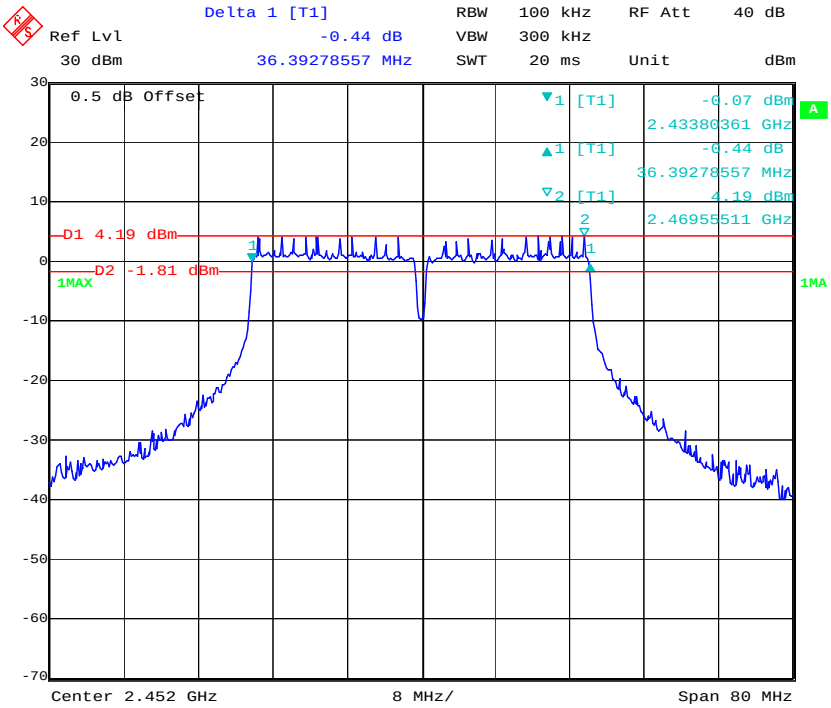
Date: 7.DEC.2016 16:09:10

802.11 n40 Middle Channel_2437MHz



Date: 7.DEC.2016 16:12:02

802.11 n40 High Channel _2452MHz



Date: 7.DEC.2016 16:13:40

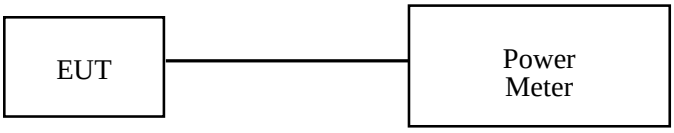
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

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
   test equipment.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54170074	2016-01-03	2017-01-03
Agilent	P-Series Power Meter	N1912A	MY5000798	2016-01-03	2017-01-03
N/A	RF Cable	N/A	N/A	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	36 %
ATM Pressure:	101.1 kPa

** The testing was performed by Lorin Bian on 2016-12-07.*

Test Mode: Transmitting
Test Result: Compliant. Please refer to the following table.

1TX:

Test mode	Frequency	Max Conducted Average Output Power (dBm)			Limit
	(MHz)	Chain 0	Chain 1	Chain 2	(dBm)
802.11b	2412	21.27	21.36	21.55	30
	2437	21.25	21.34	21.25	30
	2462	20.33	21.01	20.39	30
802.11g	2412	18.07	18.35	17.57	30
	2437	20.59	21.09	20.47	30
	2462	18.22	19.32	18.61	30
802.11n20	2412	17.69	17.43	17.44	30
	2417	19.61	20.44	19.28	30
	2437	20.82	21.41	20.42	30
	2457	20.07	21.2	20.1	30
	2462	17.77	18.5	17.6	30
802.11n40	2422	16.16	16.96	16.76	30
	2427	20.23	20.7	19.8	30
	2437	20.93	21.44	20.64	30
	2447	20.09	20.75	19.52	30
	2452	18.16	18.76	17.9	30

2TX:

Test mode	Frequency	Max Conducted Average Output Power (dBm)		Total (dBm)	Limit (dBm)
	(MHz)	Chain 0	Chain 1		
802.11b	2412	21.13	20.96	24.06	30
	2437	20.89	20.21	23.57	30
	2462	19.29	19.91	22.62	30
802.11g	2412	17.1	17.41	20.27	30
	2417	20.19	20.54	23.38	30
	2437	21.22	21.3	24.27	30
	2457	20.25	21.12	23.72	30
	2462	16.62	17.28	19.97	30
802.11n20	2412	17.2	17.38	20.3	30
	2417	19.94	20.55	23.27	30
	2437	20.89	21.37	24.15	30
	2457	20.31	21.11	23.74	30
	2462	16.65	17.26	19.98	30
802.11n40	2422	15.63	15.87	18.76	30
	2427	18.3	18.67	21.5	30
	2437	21.32	21.58	24.46	30
	2447	19.35	19.75	22.56	30
	2452	15.71	15.91	18.82	30

Note: the device employed Cyclic Delay Diversity (CDD) for 802.11 transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

So:

Directional gain = GANT + Array Gain = 2dBi < 6dBi

3TX:

Test mode	Frequency	Max Peak Conducted Average Output Power (dBm)			Total (dBm)	Limit (dBm)
	(MHz)	Chain 0	Chain 1	Chain 2		
802.11b	2412	15.23	14.84	14.92	19.77	30
	2417	21.09	21.15	20.85	25.8	30
	2437	20.24	20.31	20.88	25.26	30
	2457	20.45	21.18	20.64	25.54	30
	2462	19.46	19.92	19.85	24.52	30
802.11g	2412	16.4	16.7	16.37	21.26	30
	2417	20.14	20.59	19.96	25.01	30
	2437	21.16	21.31	20.61	25.81	30
	2457	20.47	21.14	20.35	25.44	30
	2462	15.88	16.2	15.9	20.77	30
802.11n20	2412	15.26	15.52	14.79	19.97	30
	2417	20.23	20.53	19.88	24.99	30
	2437	21.14	21.26	20.6	25.78	30
	2457	20.56	21.08	20.38	25.45	30
	2462	15.79	16.1	15.92	20.71	30
802.11n40	2422	12.74	12.24	12.31	17.21	30
	2427	18.51	18.57	18.22	23.21	30
	2437	20.35	20.35	20.00	25.01	30
	2447	19.37	19.78	19.03	24.18	30
	2452	14.65	14.63	14.31	19.3	30

Note: the device employed Cyclic Delay Diversity (CDD) for 802.11 transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

So:

Directional gain = GANT + Array Gain = 2dBi < 6dBi

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect 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 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
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	831929/005	2016-09-21	2017-09-20
N/A	RF Cable	N/A	N/A	Each Time	/

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

Test Data

Environmental Conditions

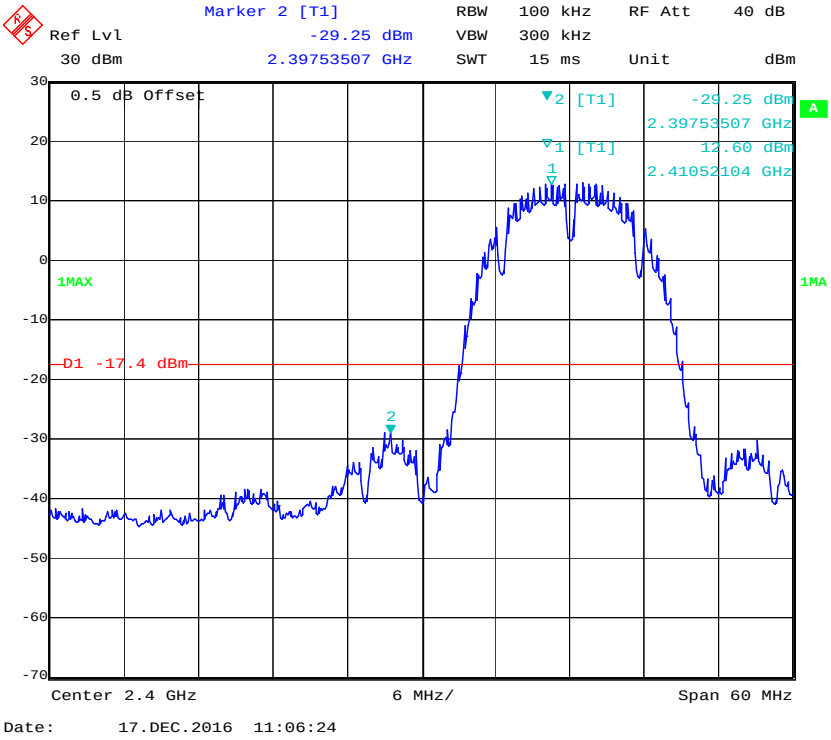
Temperature:	25.1~26.9 °C
Relative Humidity:	34~44 %
ATM Pressure:	101.2~101.7 kPa

** The testing was performed by Lorin Bian from 2016-12-16 to 2016-12-17.*

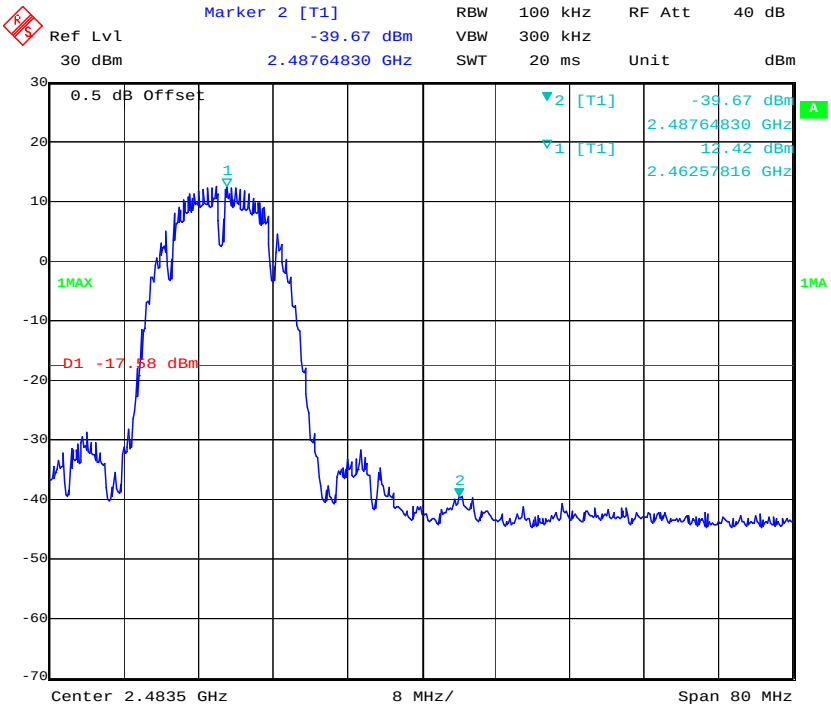
Test mode: Transmitting (SISO mode was tested since the maximum power per chain)

Test Result: Compliant. Please refer to following plots.

Chain 0, 802.11b: Band Edge, Left Side

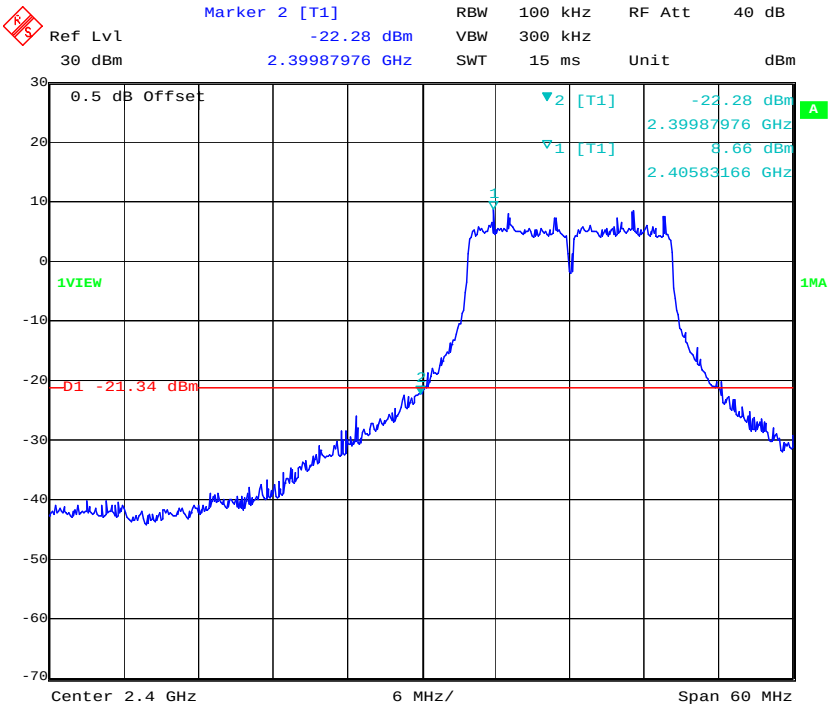


Chain 0, 802.11b: Band Edge, Right Side



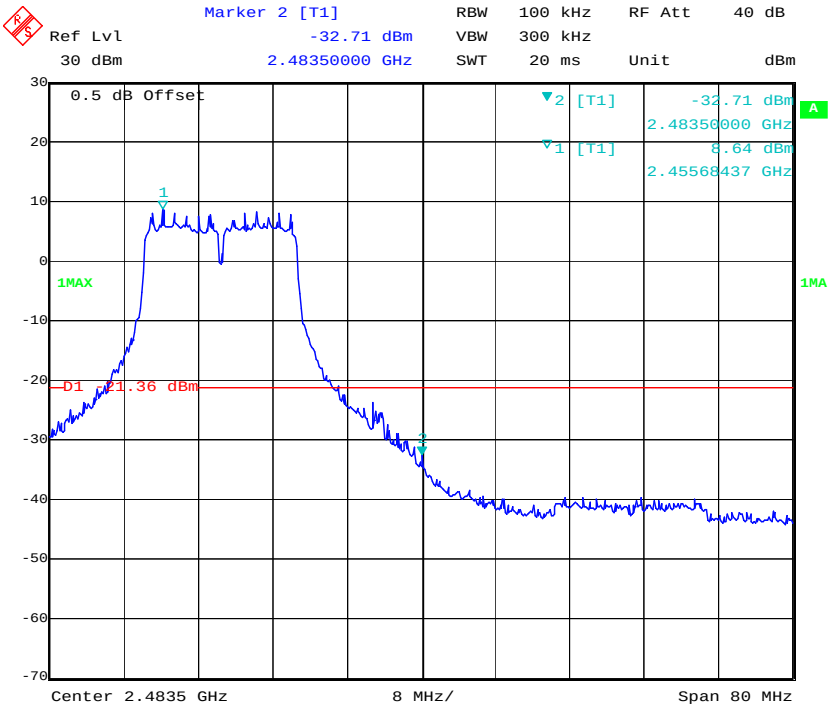
Date: 17.DEC.2016 11:07:18

Chain 0, 802.11g: Band Edge, Left Side



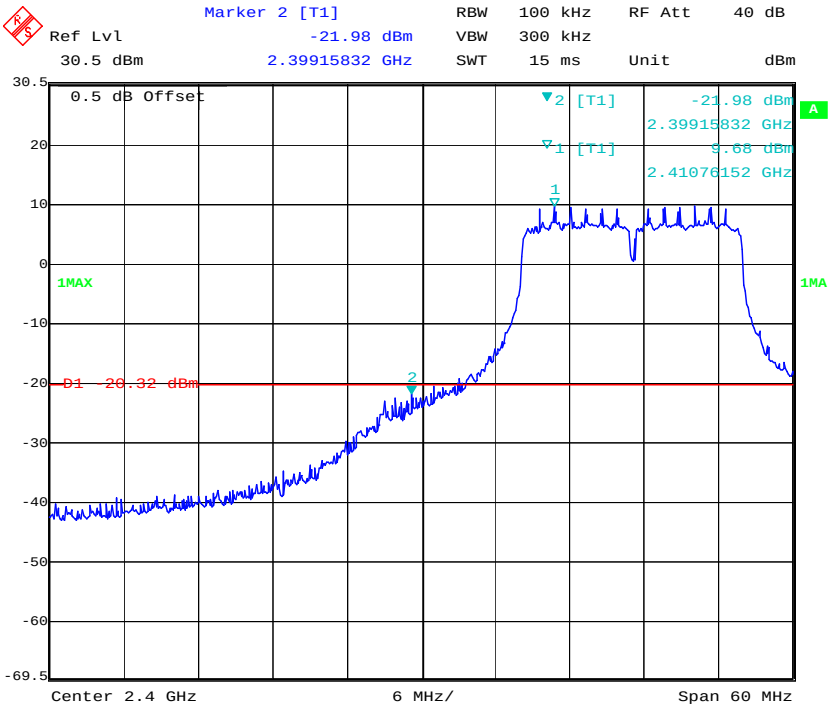
Date: 17.DEC.2016 11:11:31

Chain 0, 802.11g: Band Edge, Right Side



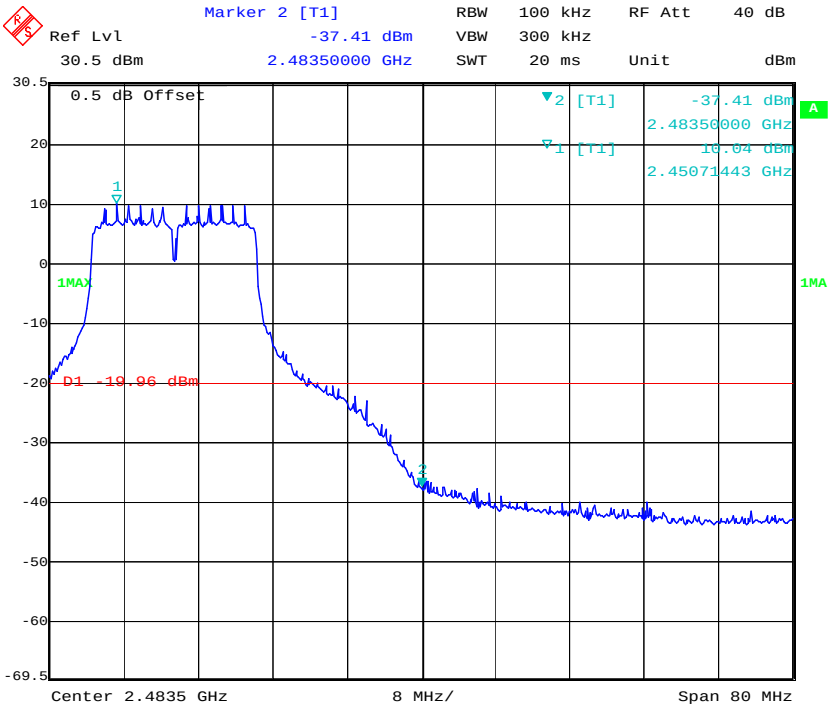
Date: 17.DEC.2016 11:08:18

Chain 0, 802.11n ht20 Band Edge, Left Side

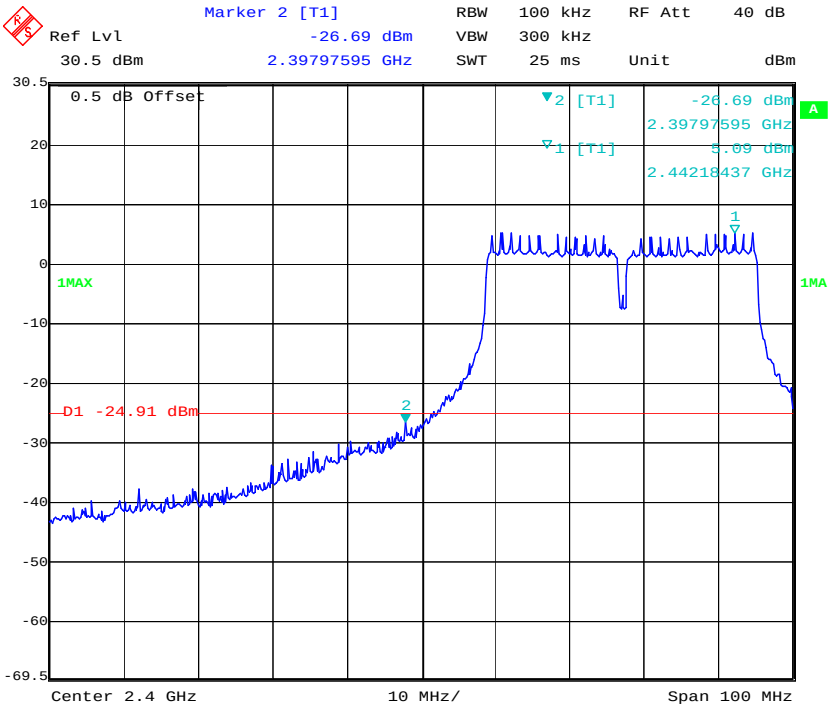


Date: 16.DEC.2016 14:43:56

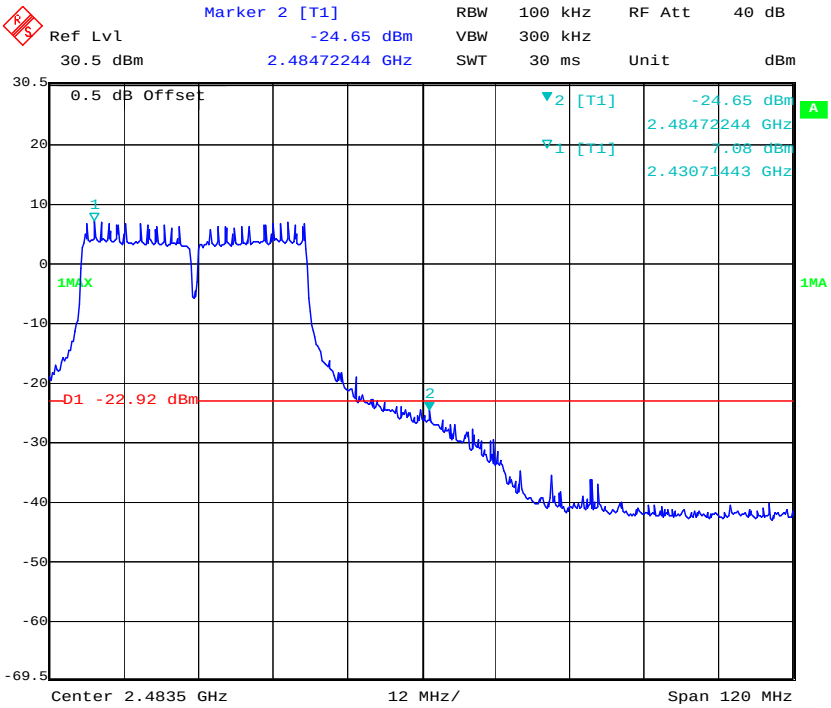
Chain 0, 802.11n ht20 Band Edge, Right Side



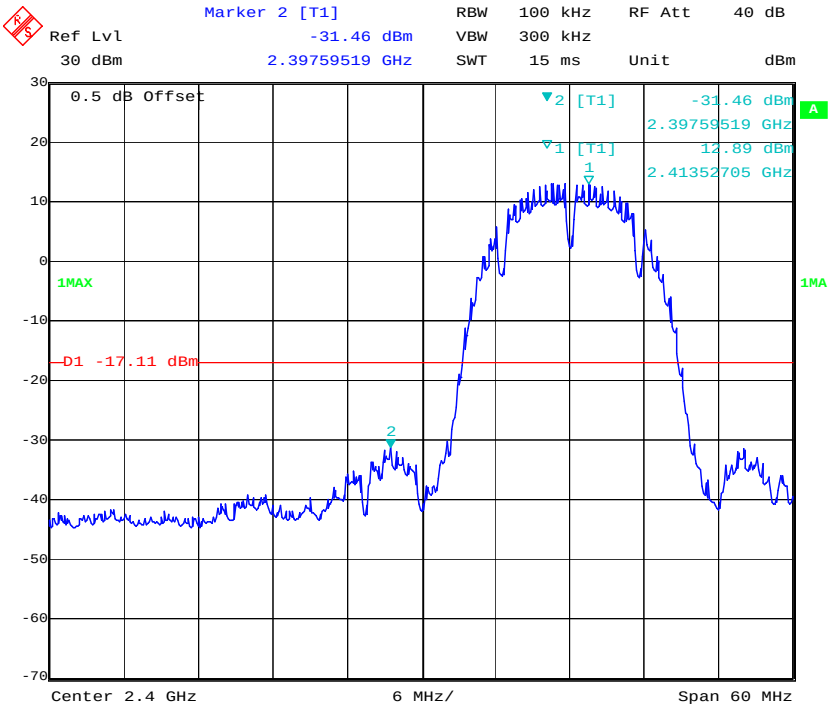
Chain 0, 802.11n ht40 Band Edge, Left Side



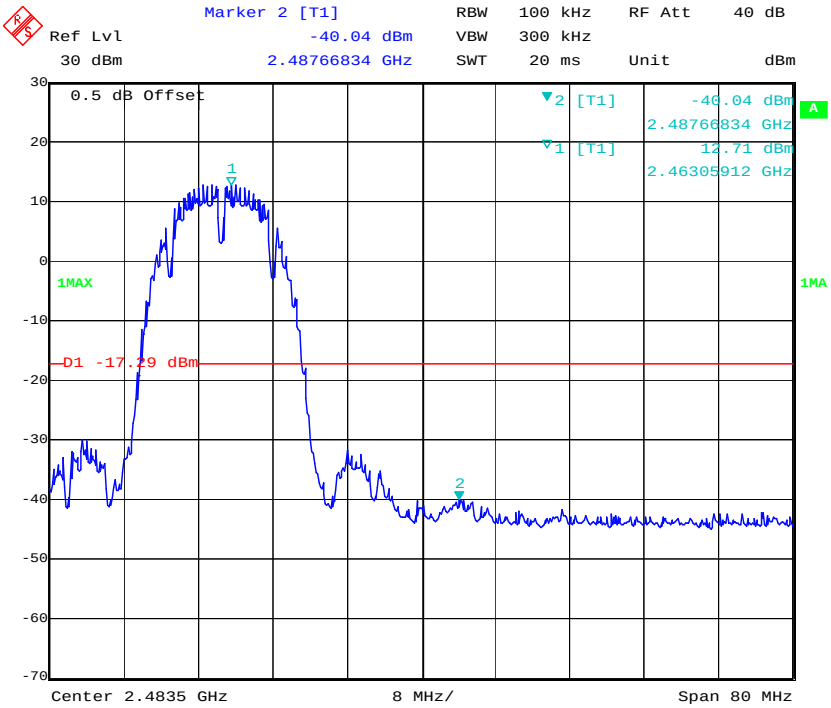
Chain 0, 802.11n ht40 Band Edge, Right Side



Chain 1, 802.11b: Band Edge, Left Side

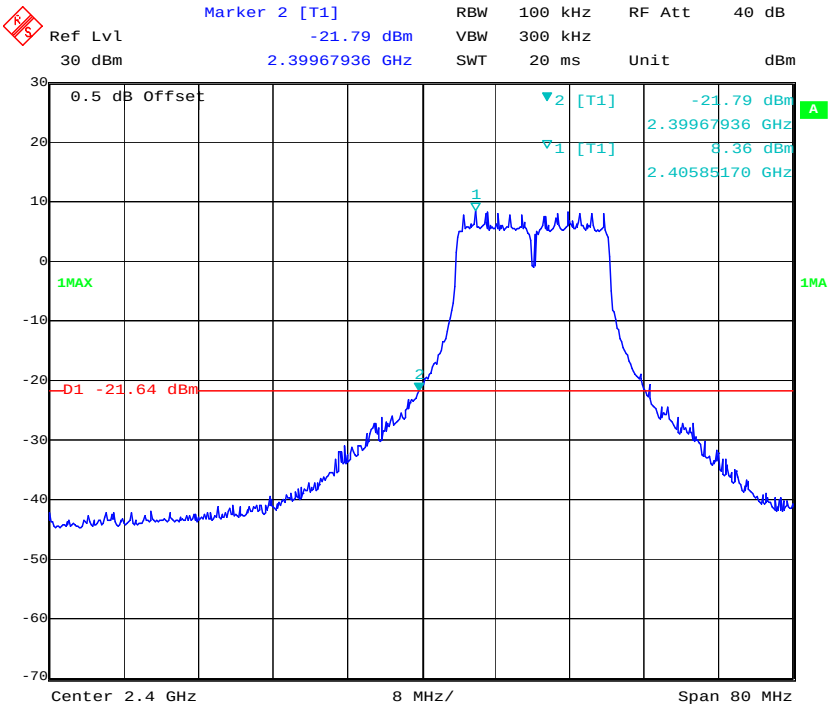


Chain 1, 802.11b: Band Edge, Right Side



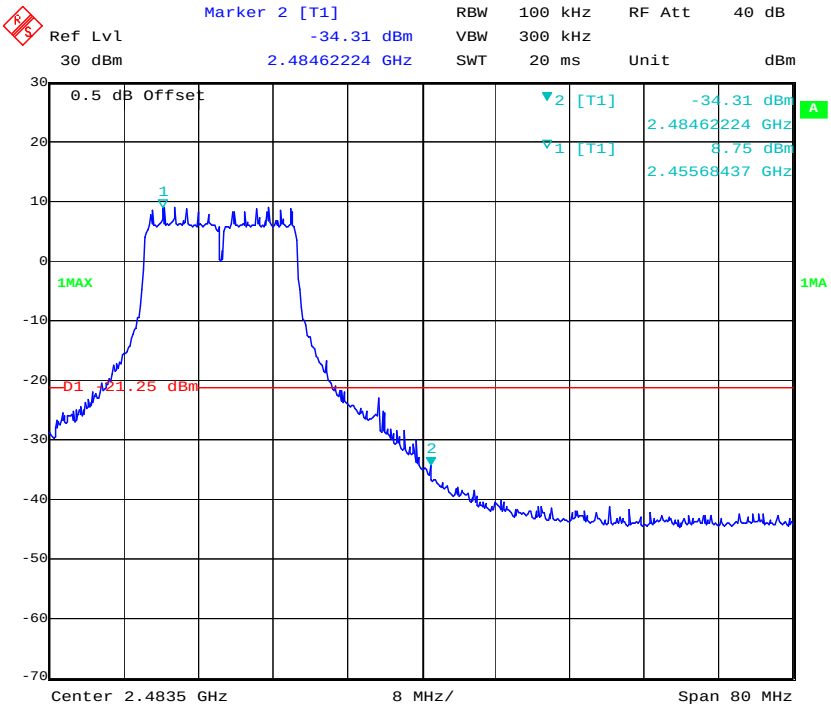
Date: 17.DEC.2016 14:20:27

Chain 1, 802.11g: Band Edge, Left Side



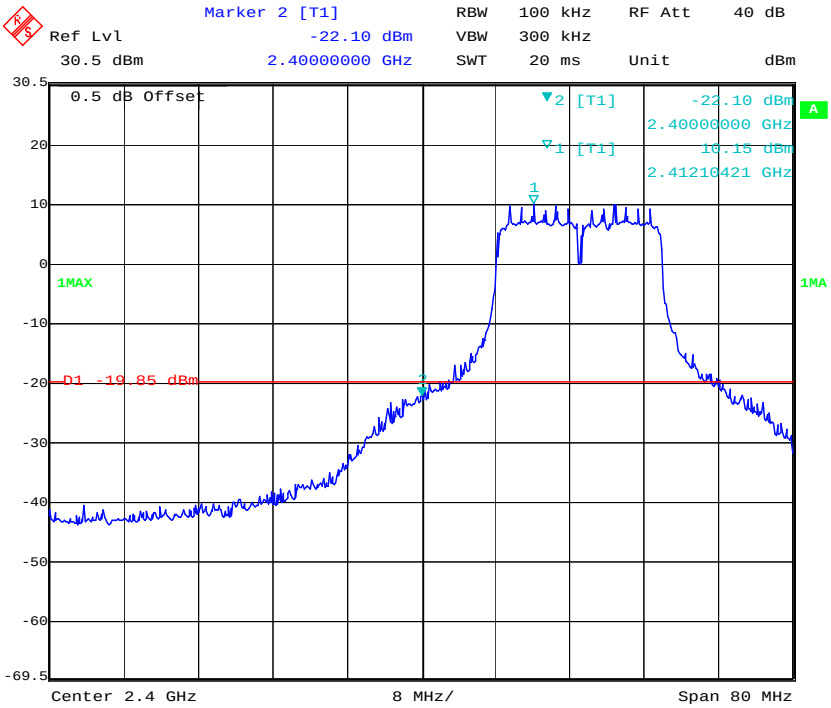
Date: 17.DEC.2016 14:25:51

Chain 1, 802.11g: Band Edge, Right Side



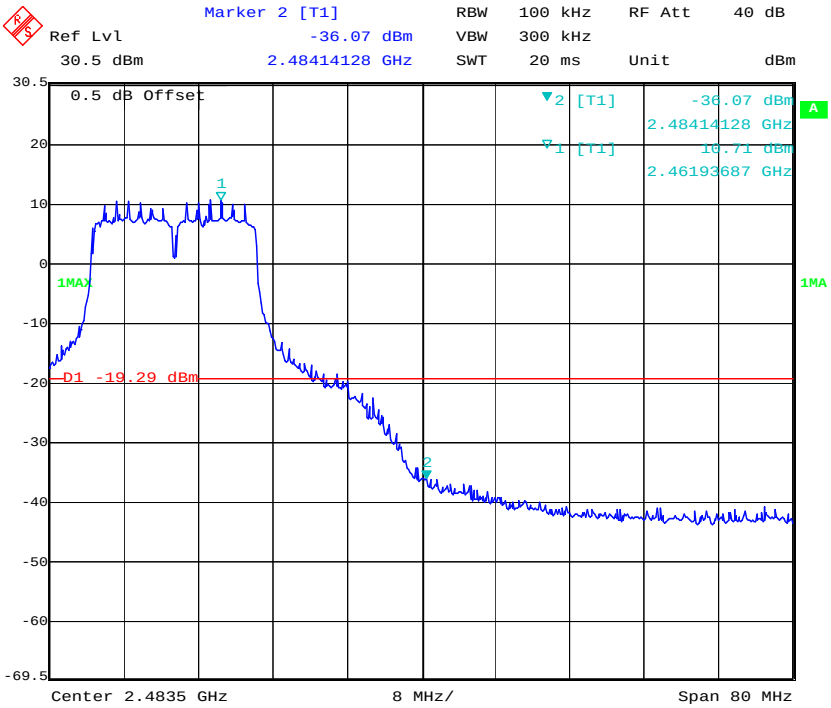
Date: 17.DEC.2016 14:21:13

Chain 1, 802.11n ht20 Band Edge, Left Side

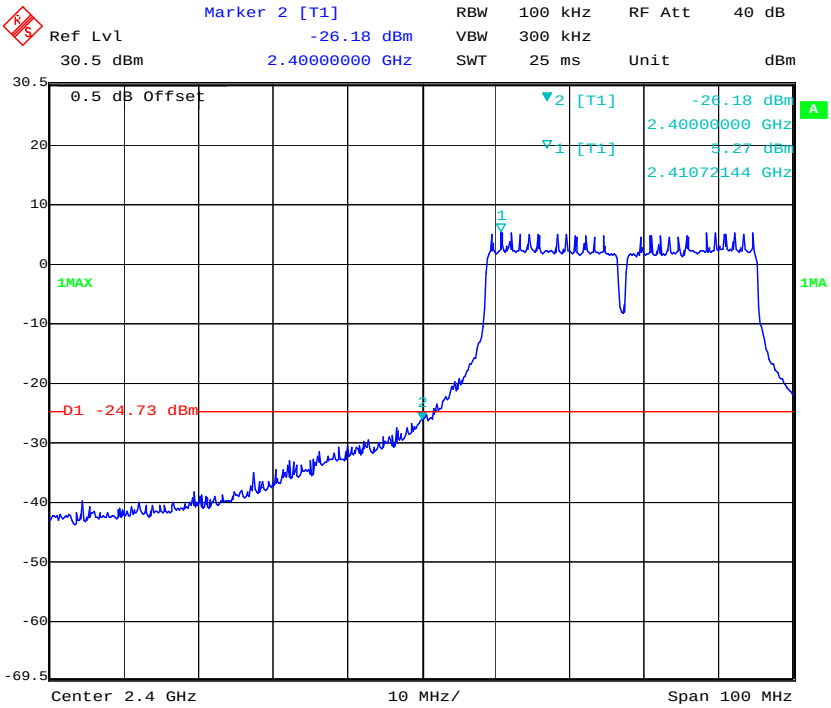


Date: 16.DEC.2016 15:44:12

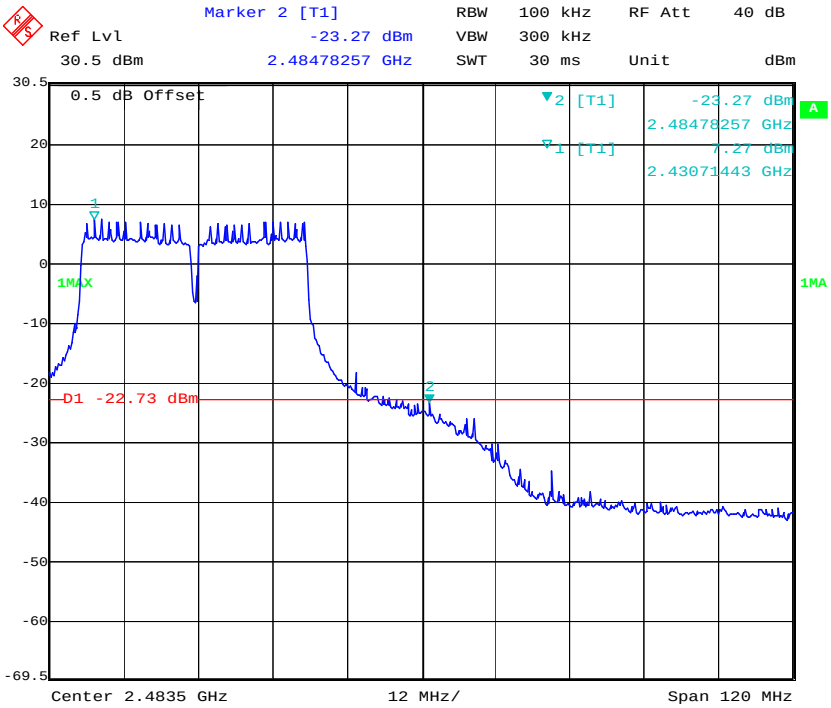
Chain 1, 802.11n ht20 Band Edge, Right Side



Chain 1, 802.11n ht40 Band Edge, Left Side

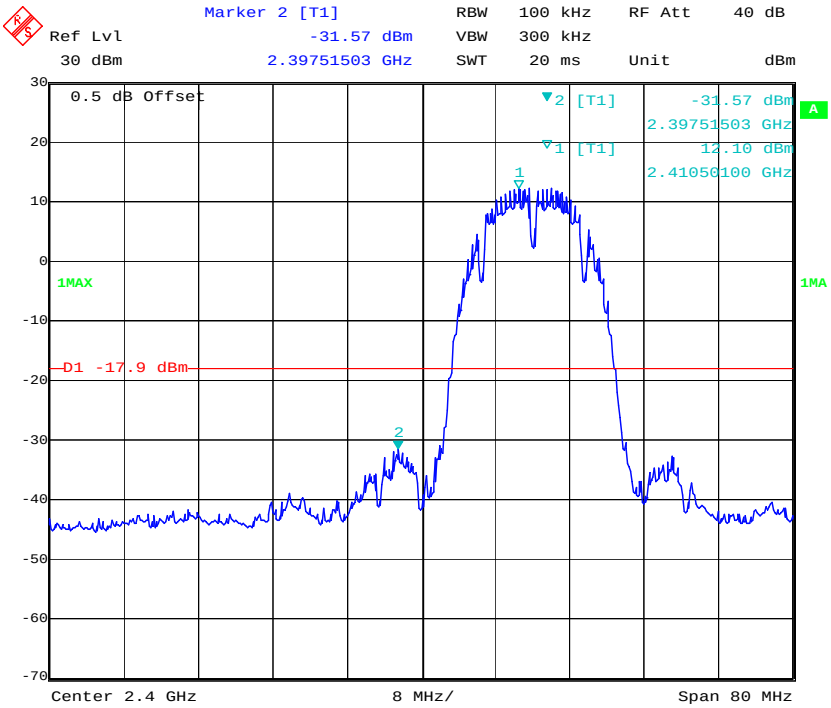


Chain 1, 802.11n ht40 Band Edge, Right Side



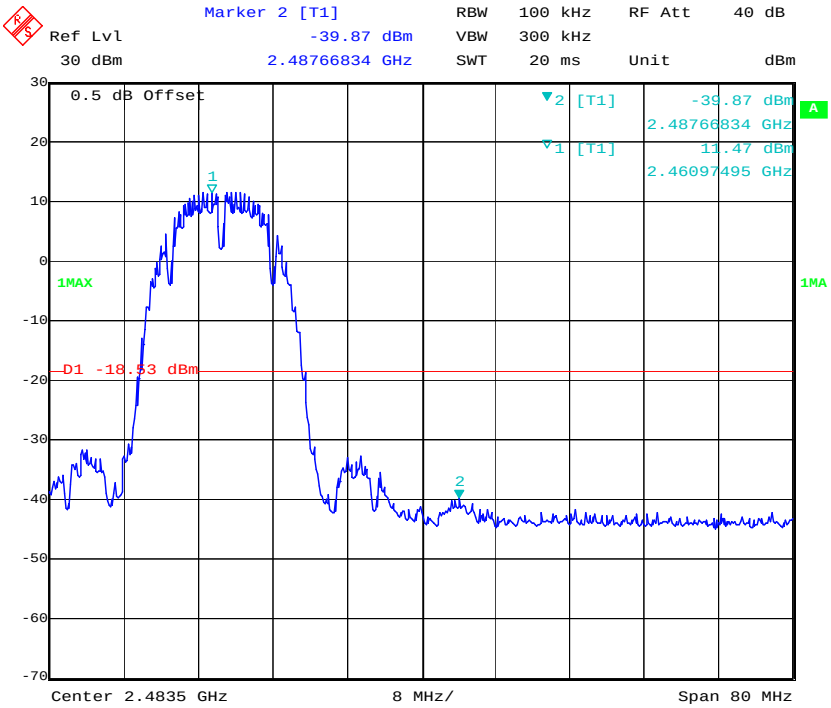
Date: 16.DEC.2016 16:29:44

Chain 2, 802.11b: Band Edge, Left Side



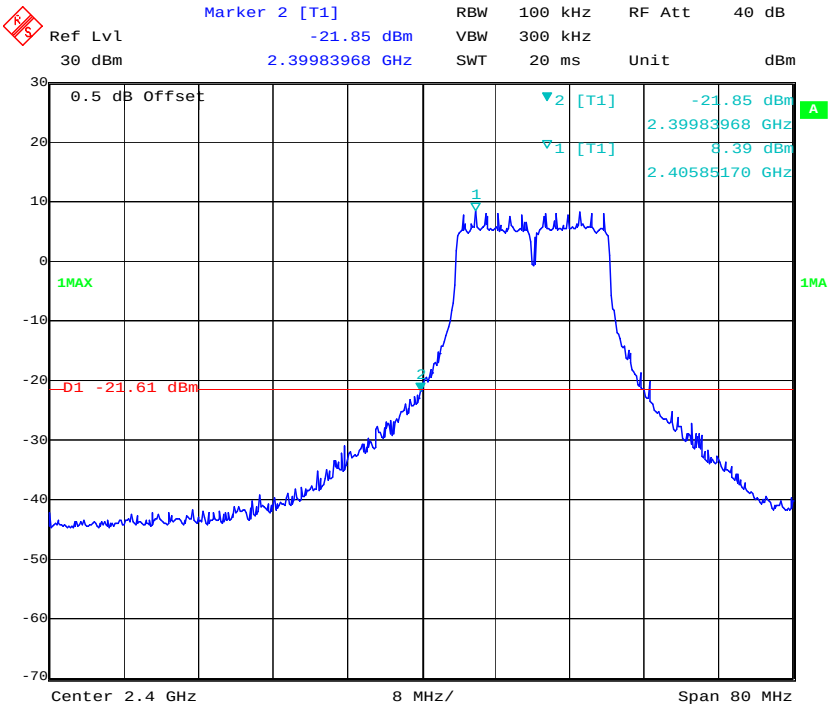
Date: 17.DEC.2016 14:34:14

Chain 2, 802.11b: Band Edge, Right Side



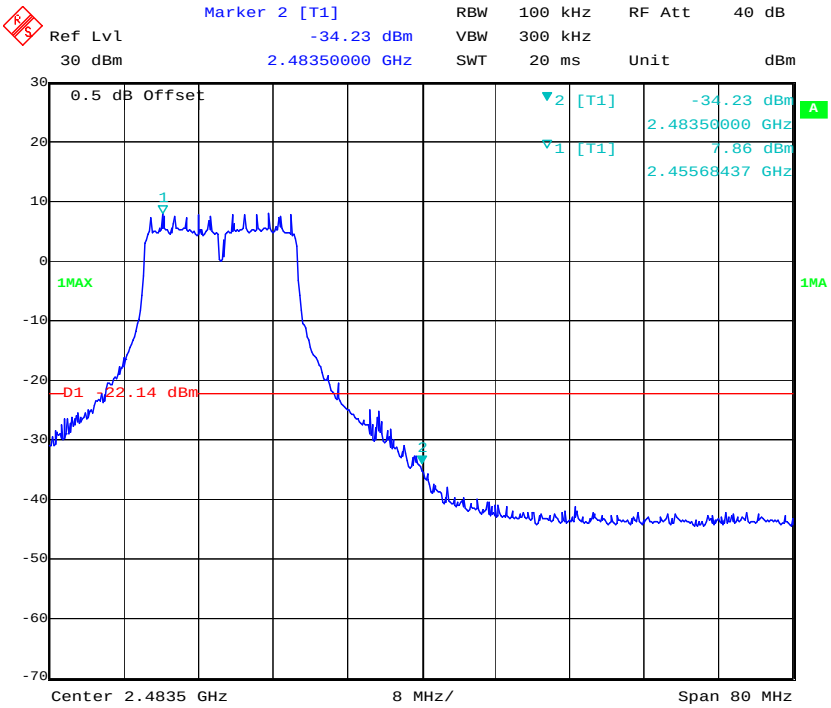
Date: 17.DEC.2016 14:33:34

Chain 2, 802.11g: Band Edge, Left Side



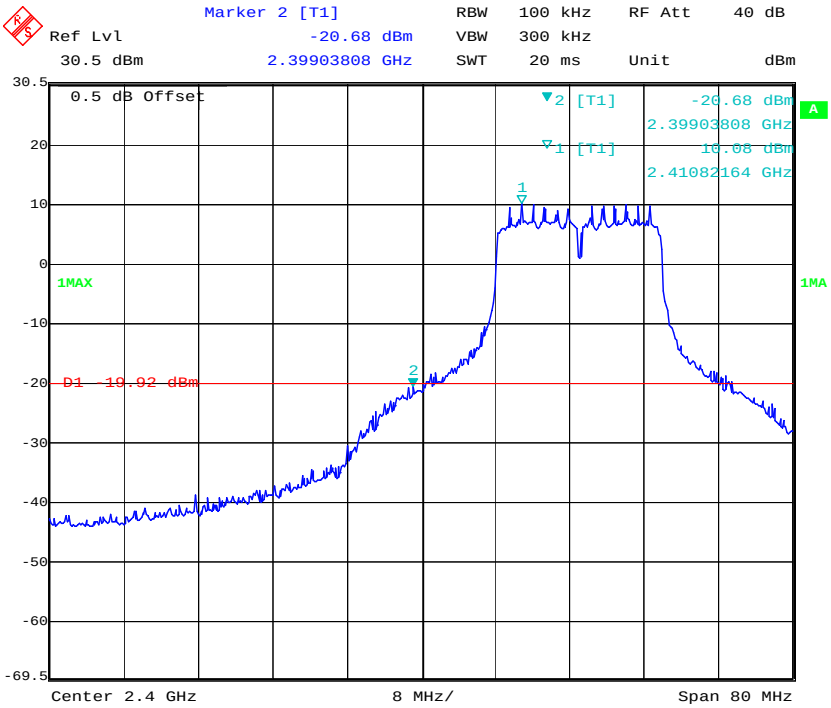
Date: 17.DEC.2016 14:30:04

Chain 2, 802.11g: Band Edge, Right Side



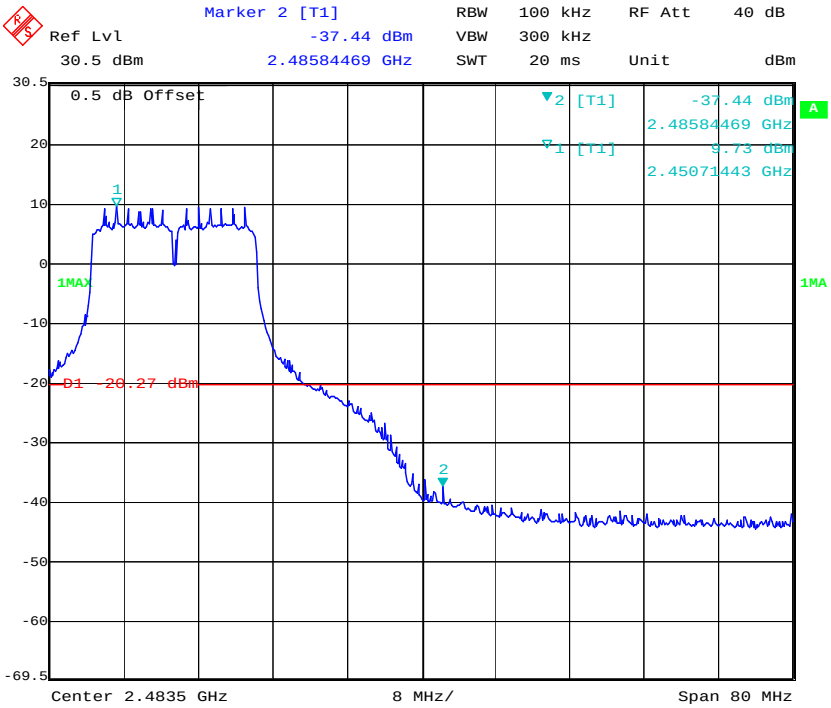
Date: 17.DEC.2016 14:32:53

Chain 2, 802.11n ht20 Band Edge, Left Side

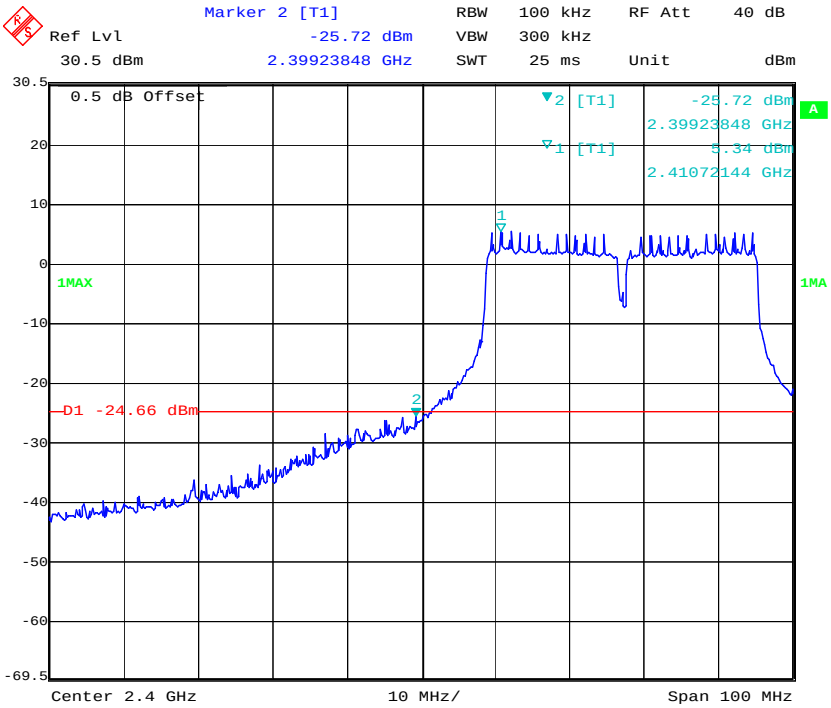


Date: 16.DEC.2016 15:52:06

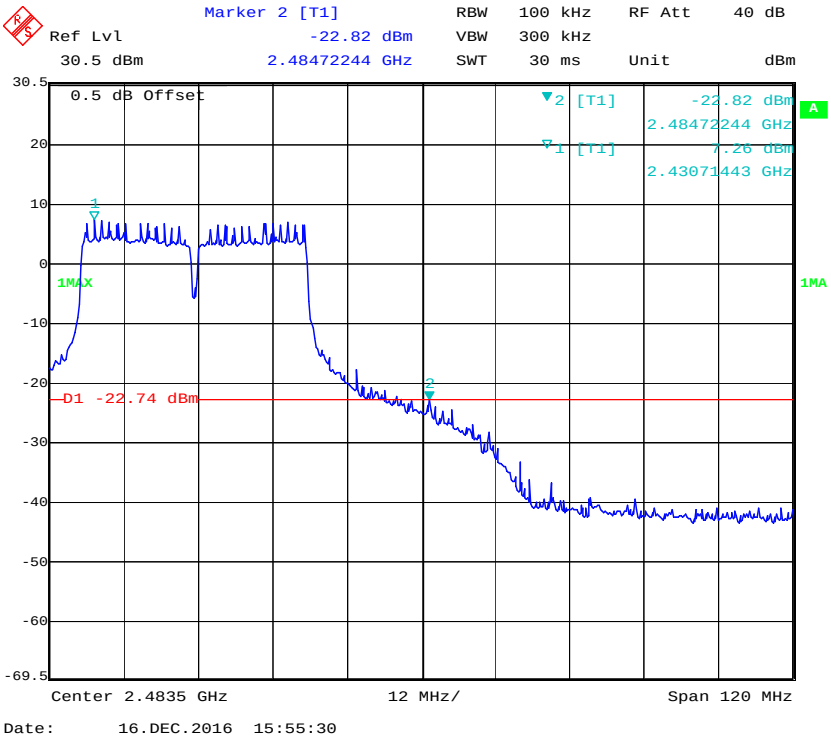
Chain 2, 802.11n ht20 Band Edge, Right Side



Chain 2, 802.11n ht40 Band Edge, Left Side



Chain 2, 802.11n ht40 Band Edge, Right Side



FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3×RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2016-09-21	2017-09-20
N/A	RF Cable	N/A	N/A	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	44 %
ATM Pressure:	101.2kPa

** The testing was performed by Lorin Bian on 2016-12-17.*

Test Mode: Transmitting (1TX mode was the maximum power mode per chain, which was tested, so the 2TX and 3TX modes PSD is less than 1TX mode per chain)

Test Result: Compliant. Please refer to the following table and plots

Test mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)			Total (dBm/3kHz)	Limit (dBm/3kHz)
			Chain 0	Chain 1	Chain 2		
802.11b	Low	2412	-9.89	-9.88	-10.99	-5.45	≤7.23
	Middle	2437	-9.35	-9.55	-10.65	-5.04	≤7.23
	High	2462	-10.43	-9.87	-11.07	-5.66	≤7.23
802.11g	Low	2412	-15.33	-14.58	-15.88	-10.46	≤7.23
	Middle	2437	-12.46	-11.94	-13.08	-7.70	≤7.23
	High	2462	-15.12	-14.01	-14.94	-9.89	≤7.23
802.11n20	Low	2412	-16.82	-15.62	-17.22	-11.72	≤7.23
	Middle	2437	-14.14	-12.21	-13.61	-8.47	≤7.23
	High	2462	-16.3	-15.53	-16.2	-11.23	≤7.23
802.11n40	Low	2422	-21.02	-20.37	-21.49	-16.16	≤7.23
	Middle	2437	-16.28	-15.41	-16.42	-11.24	≤7.23
	High	2452	-19.99	-19.32	-20.43	-15.12	≤7.23

Note: the device is a master device. the 3 antenna maximum atenna gain are 2.0dBi, and employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = 10 log(NANT/NSS) dB.

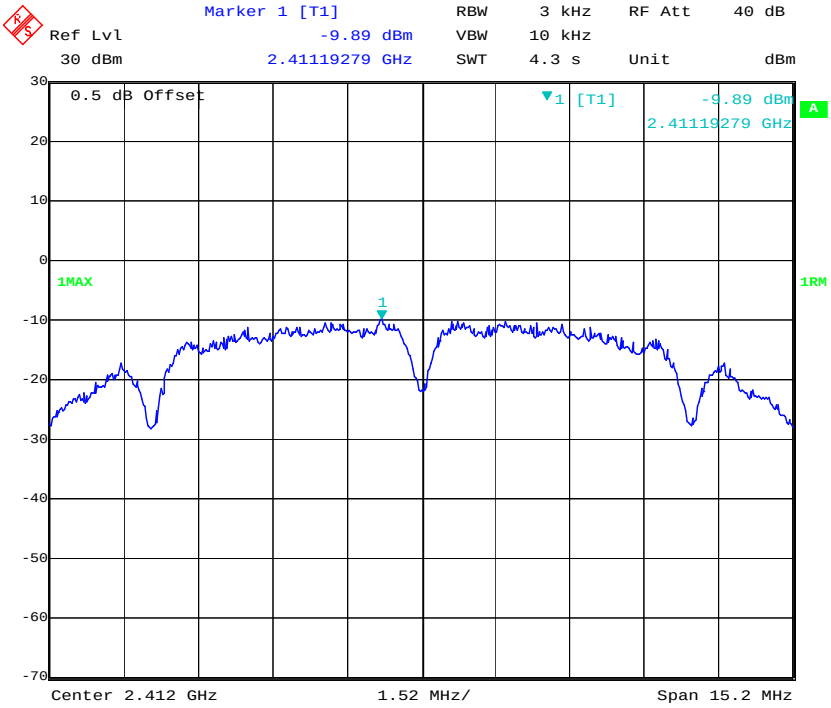
So:

Directional gain = GANT + Array Gain = 2+10*log(3) =6.77 dBi

The Power density Limits was reduce 0.77dB

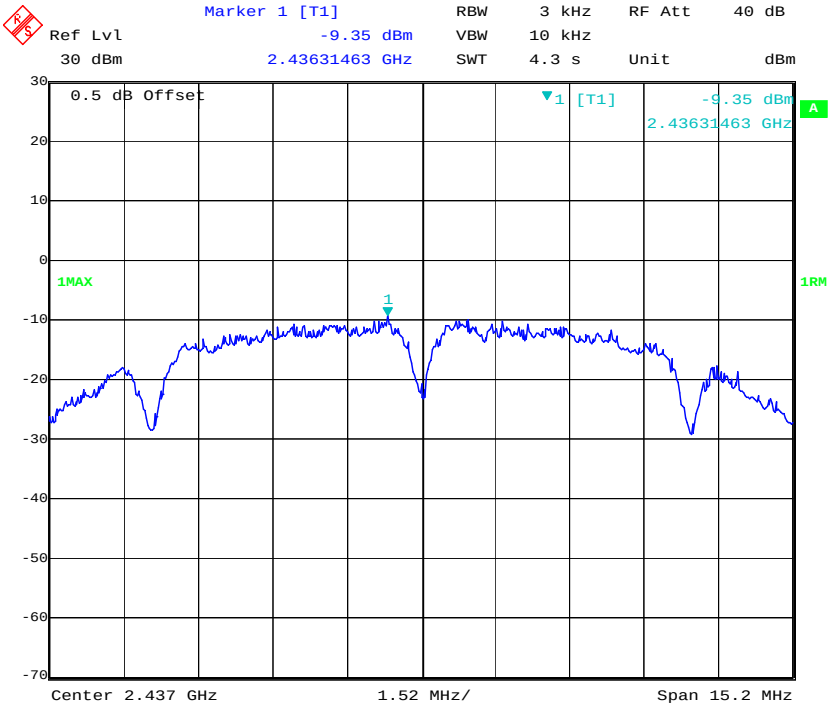
Chain 0

Power Spectral Density, 802.11b Low Channel



Date: 17.DEC.2016 11:32:37

Power Spectral Density, 802.11b Middle Channel



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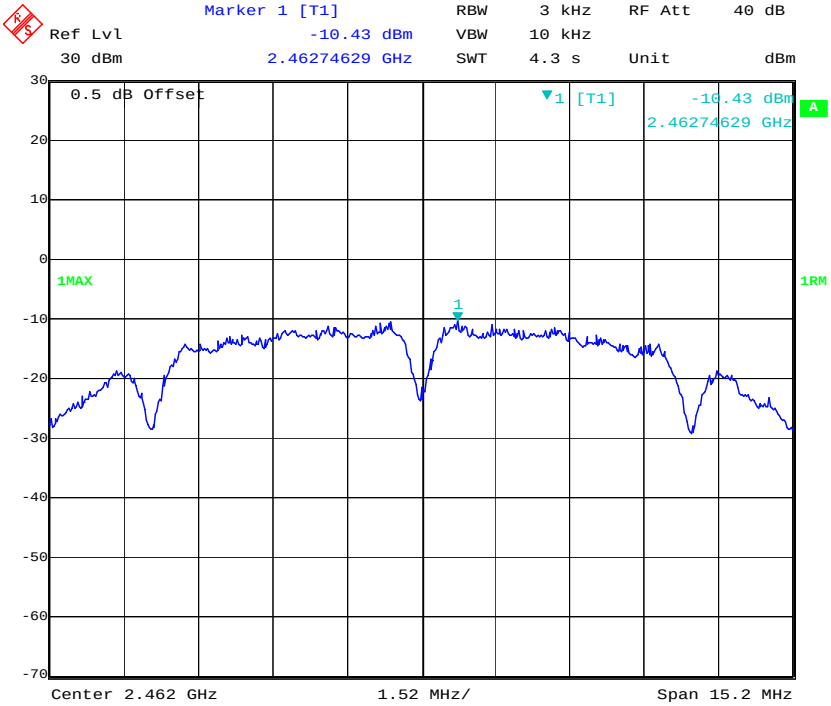
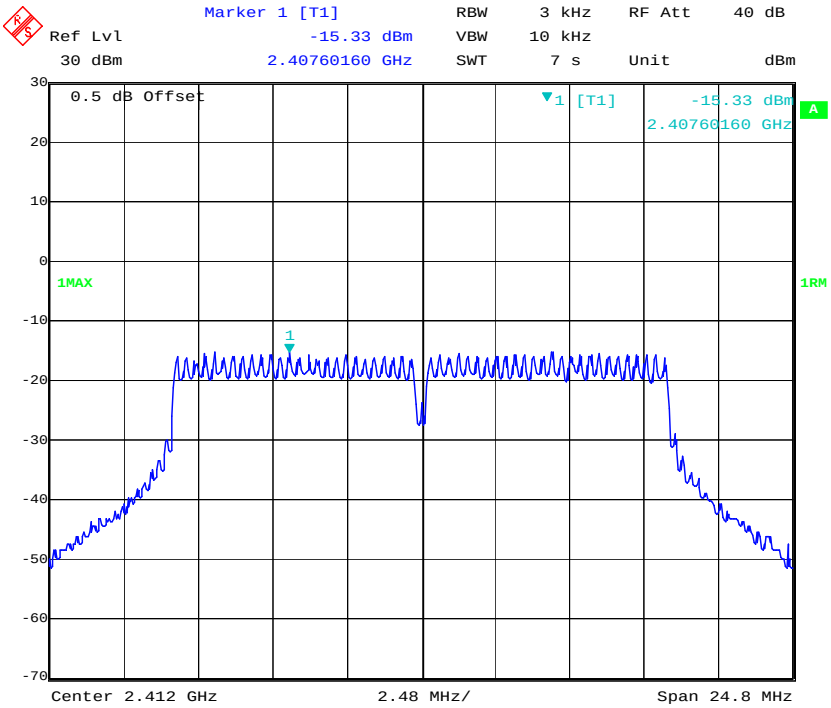
Power Spectral Density, 802.11b High Channel



Date: 17.DEC.2016 11:34:02

Power Spectral Density, 802.11g Low Channel



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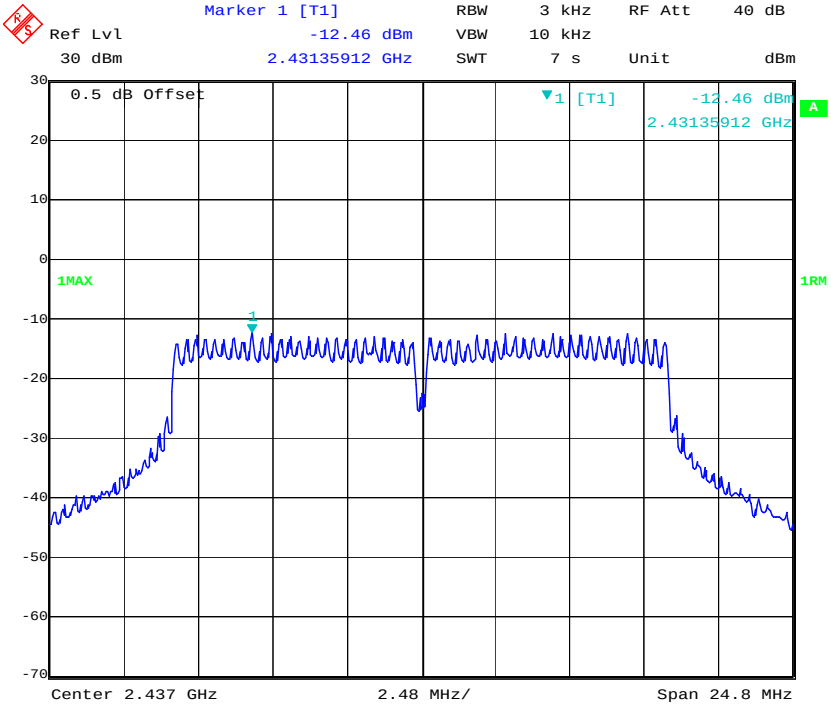
Power Spectral Density, 802.11g Middle Channel



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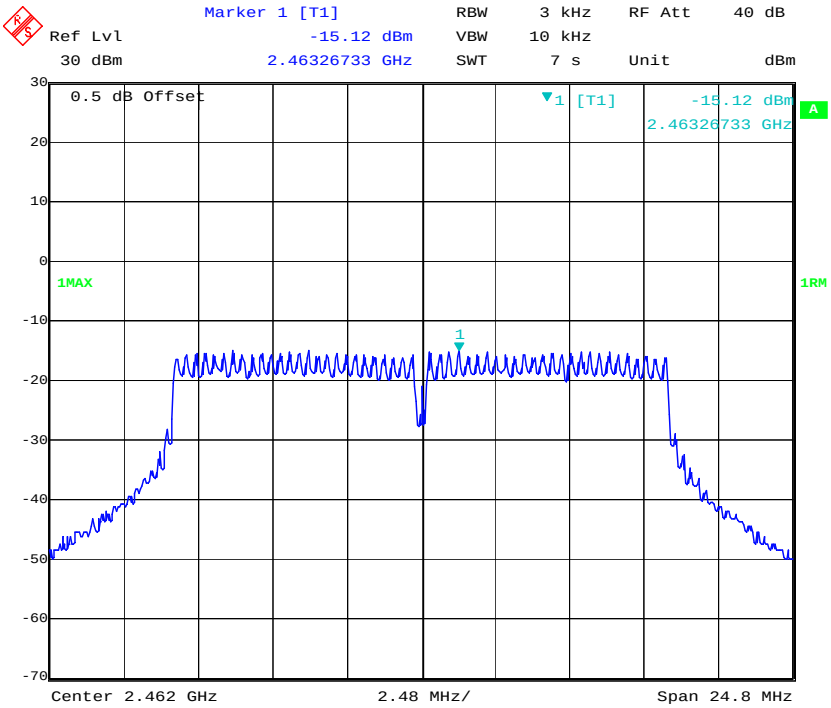
Power Spectral Density, 802.11g High Channel



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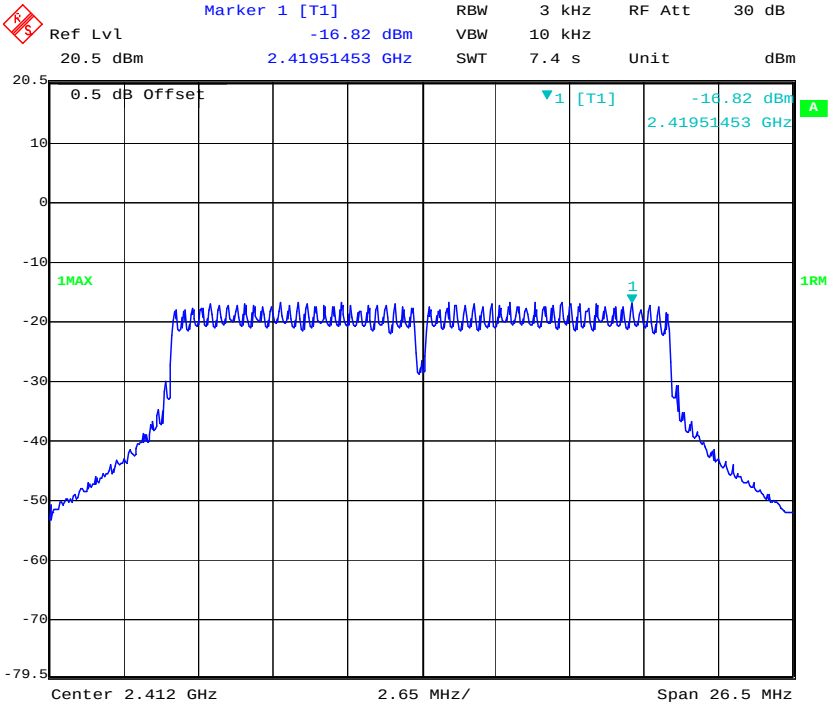
Power Spectral Density, 802.11n ht20 Low Channel_2412MHz



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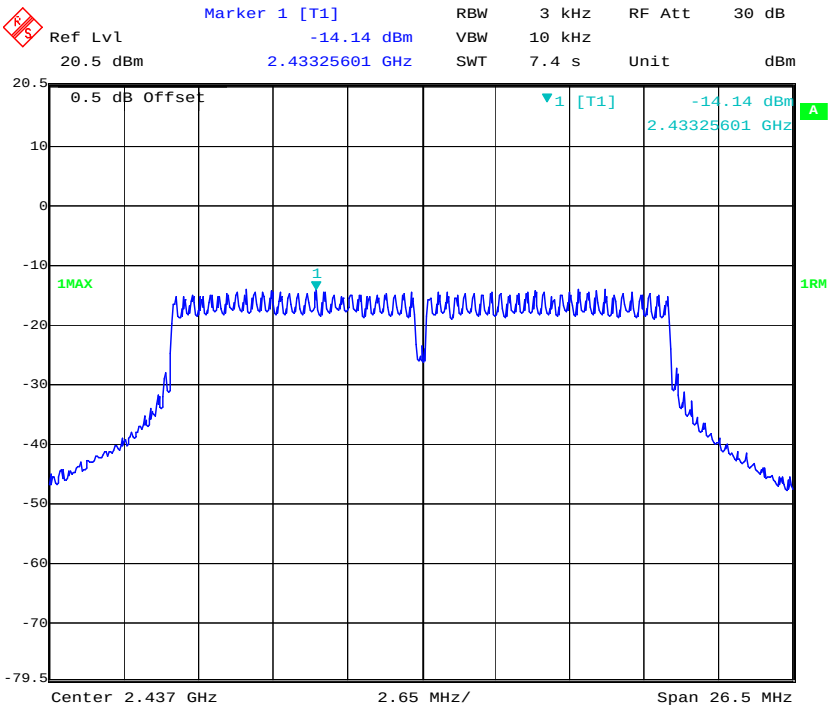
Power Spectral Density, 802.11n ht20 Middle Channel__2437MHz



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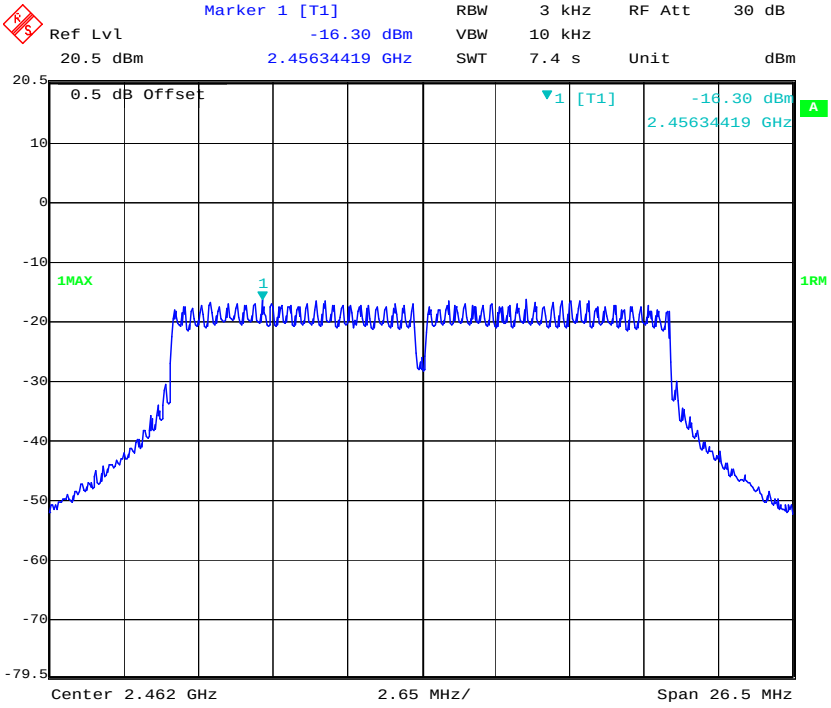
Power Spectral Density, 802.11n ht20 High Channel__2462MHz



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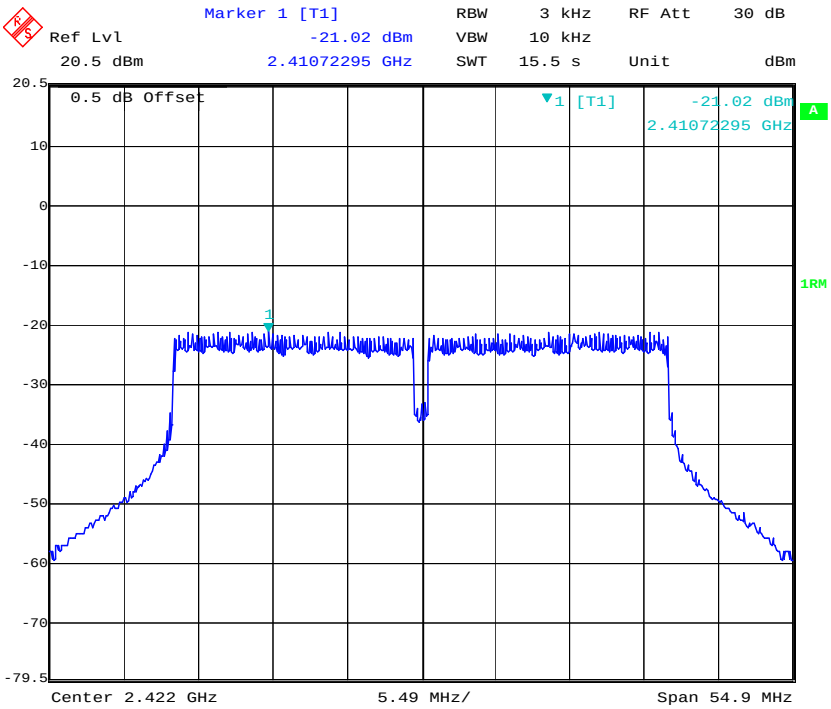
Power Spectral Density, 802.11n ht40 Low Channel_2422MHz



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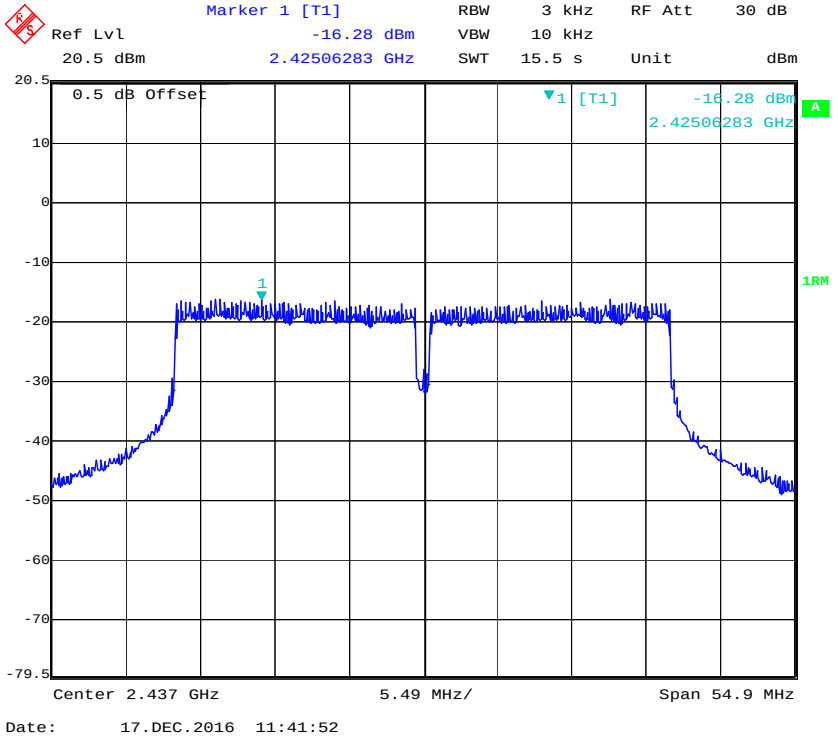
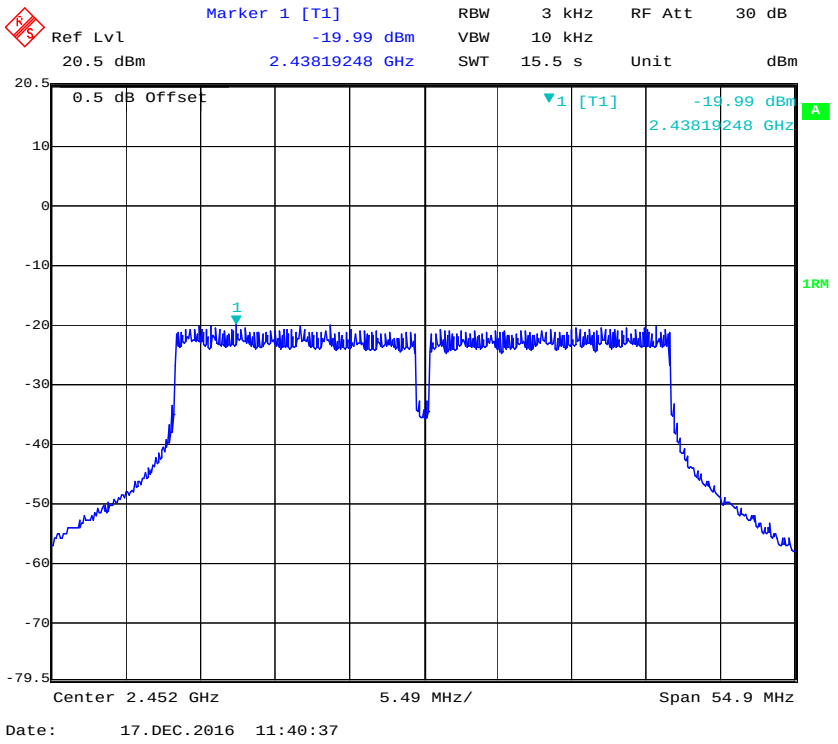
Power Spectral Density, 802.11n ht40 Middle Channel__2437MHz

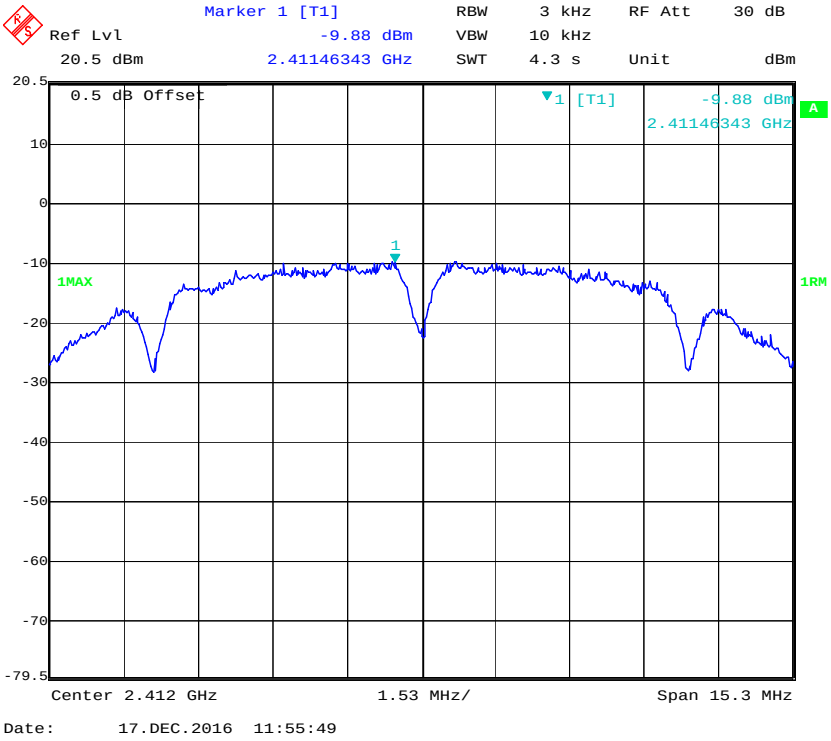


Power Spectral Density, 802.11n ht40 High Channel__2452MHz

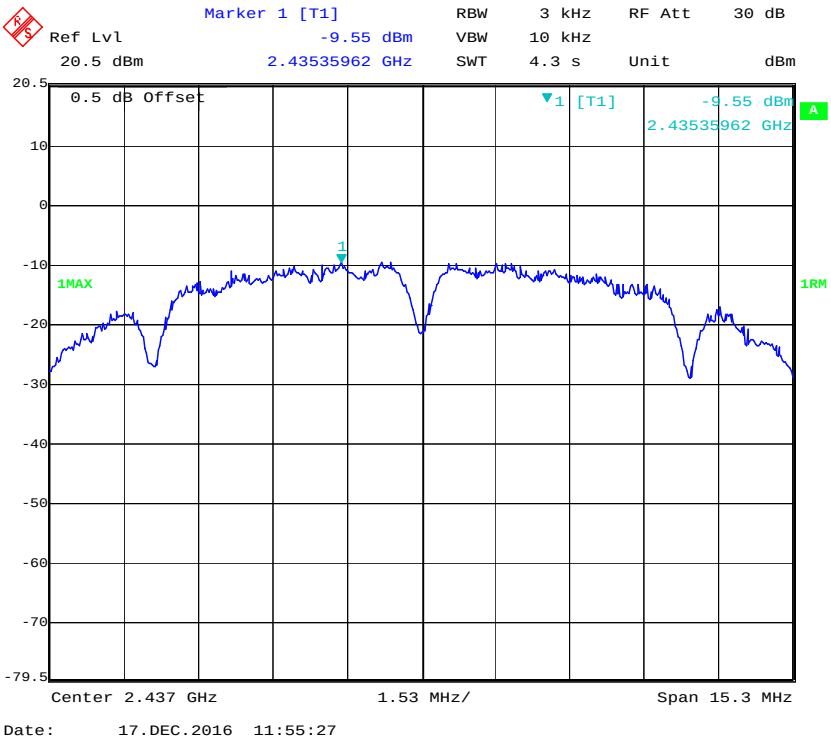


Chain 1

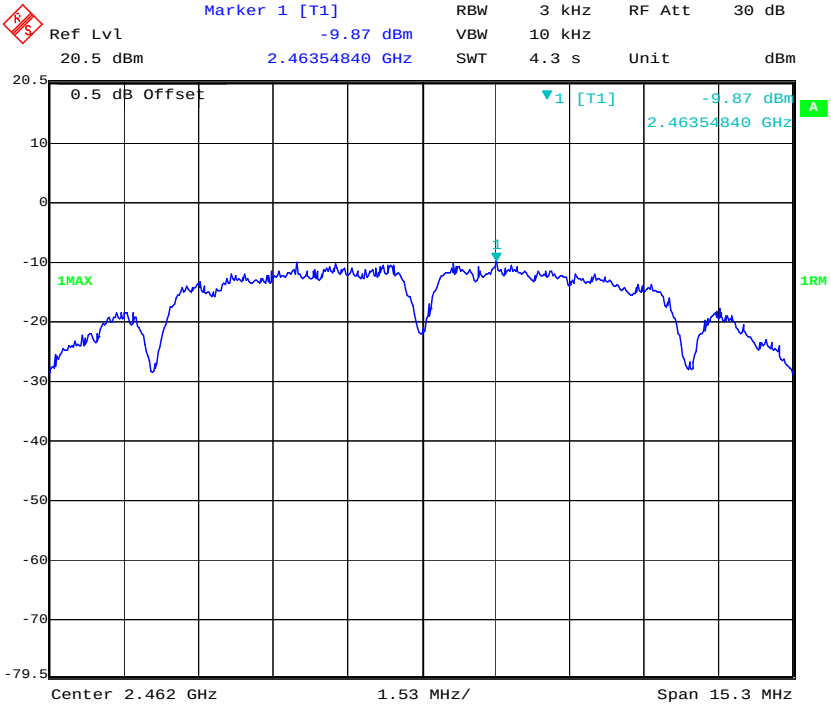
Power Spectral Density, 802.11b Low Channel



Power Spectral Density, 802.11b Middle Channel



Power Spectral Density, 802.11b High Channel



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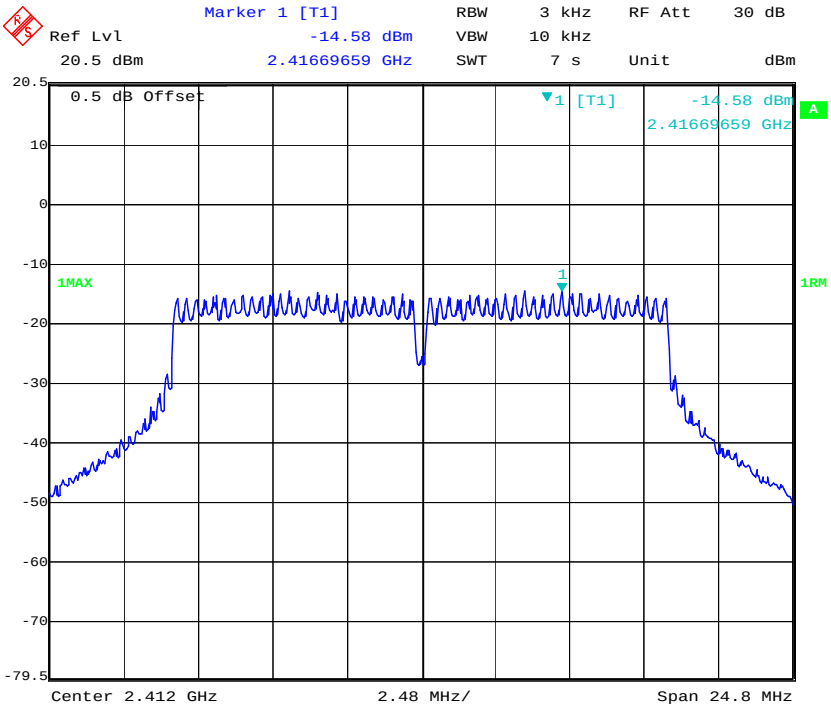
Power Spectral Density, 802.11g Low Channel



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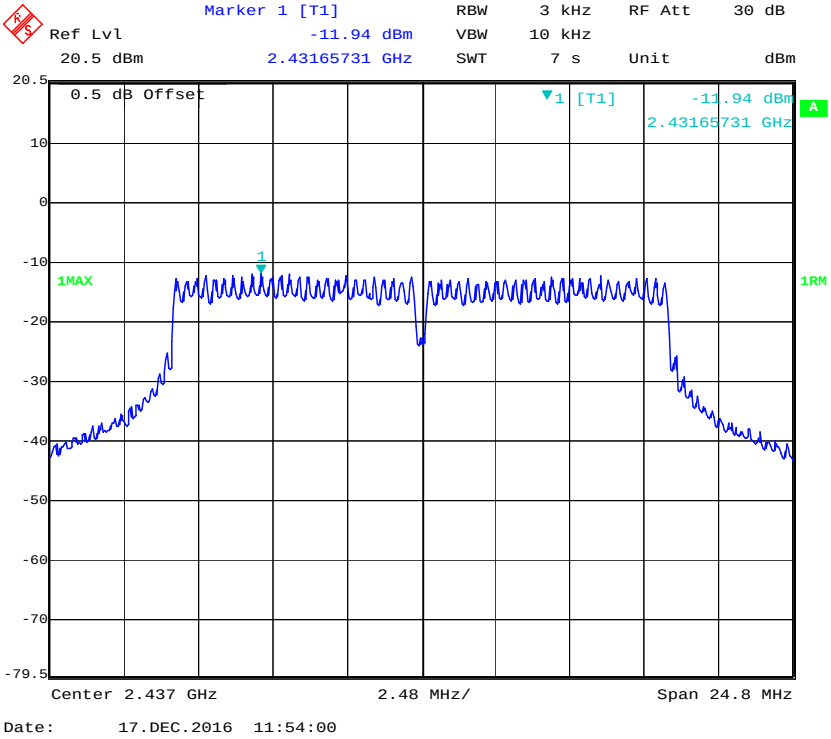
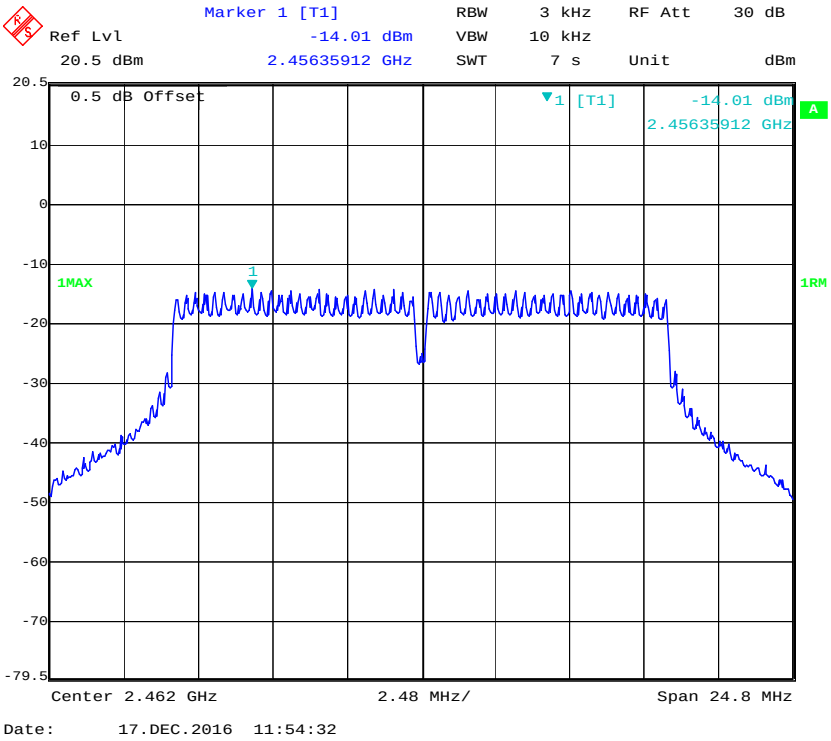
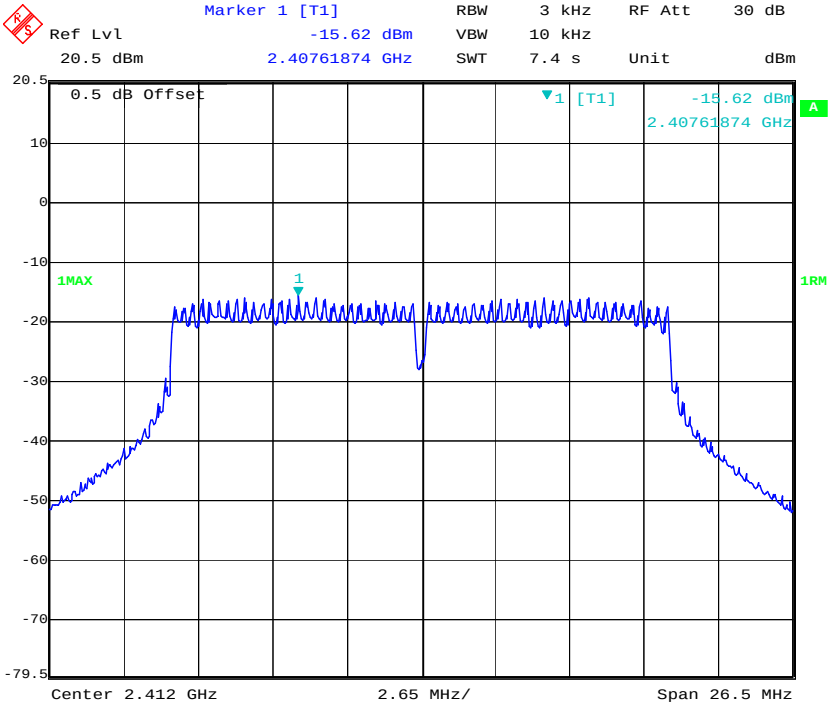
Power Spectral Density, 802.11g Middle Channel



Power Spectral Density, 802.11g High Channel



Power Spectral Density, 802.11n ht20 Low Channel_2412MHz



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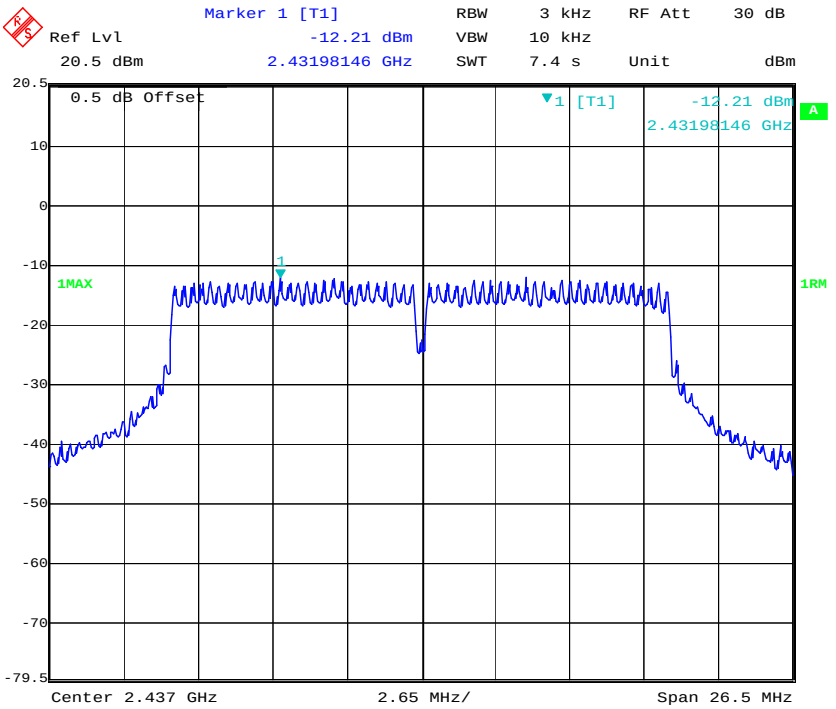
Power Spectral Density, 802.11n ht20 Middle Channel__2437MHz



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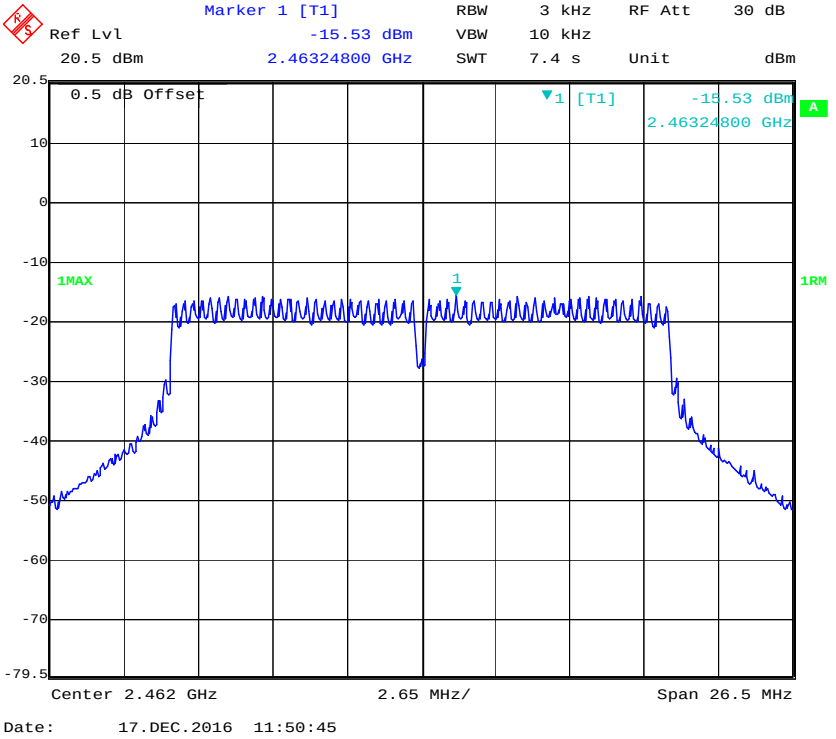
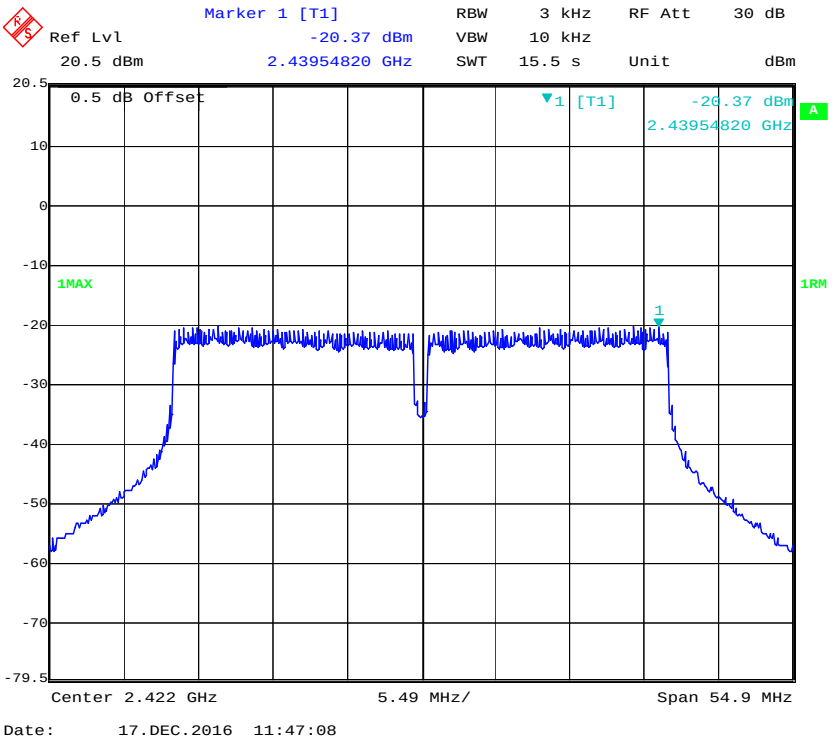
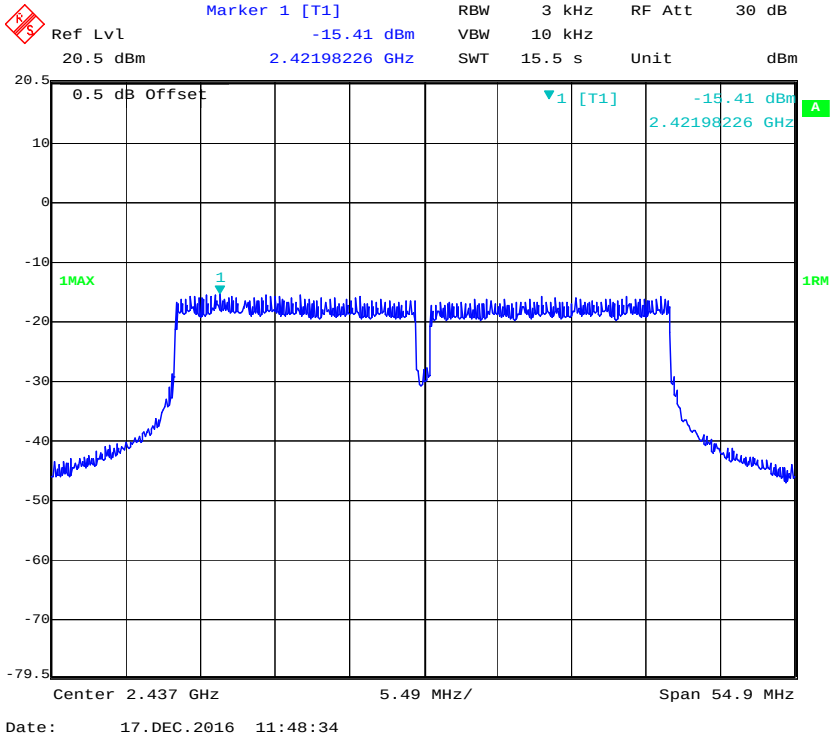
Power Spectral Density, 802.11n ht20 High Channel__2462MHz



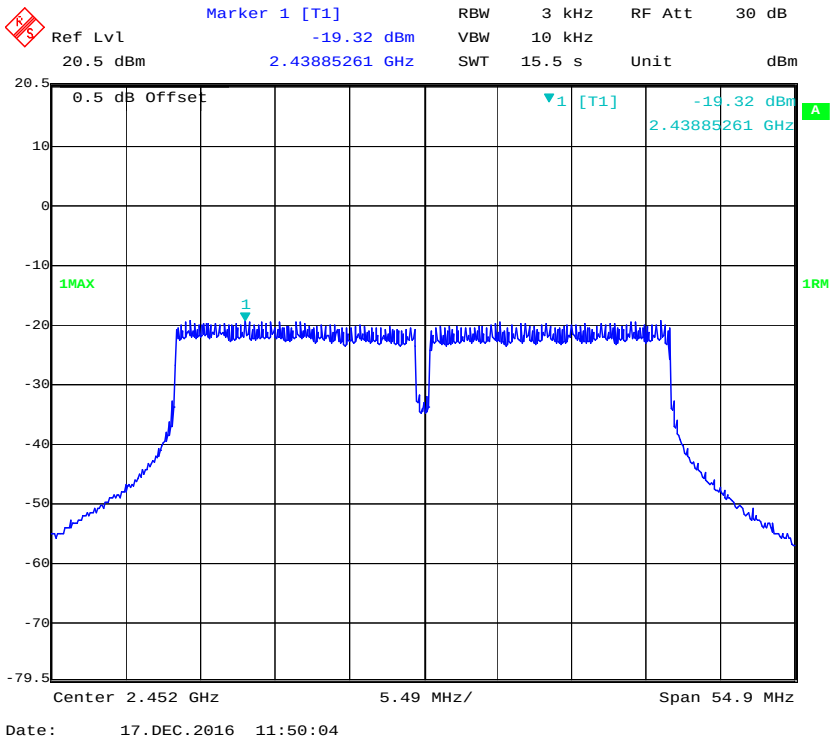
Power Spectral Density, 802.11n ht40 Low Channel_2422MHz



Power Spectral Density, 802.11n ht40 Middle Channel__2437MHz

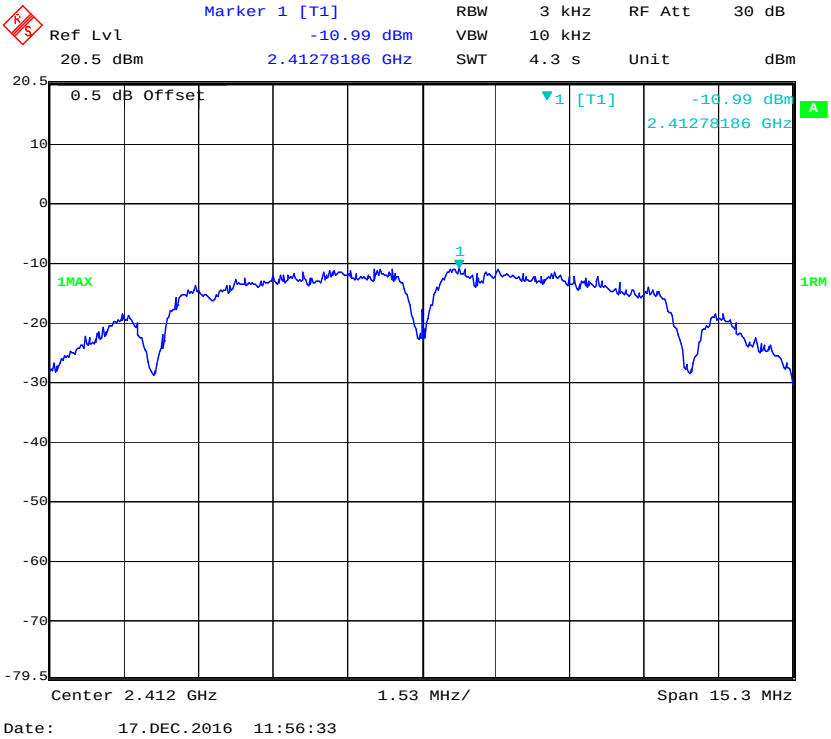


Power Spectral Density, 802.11n ht40 High Channel__2452MHz

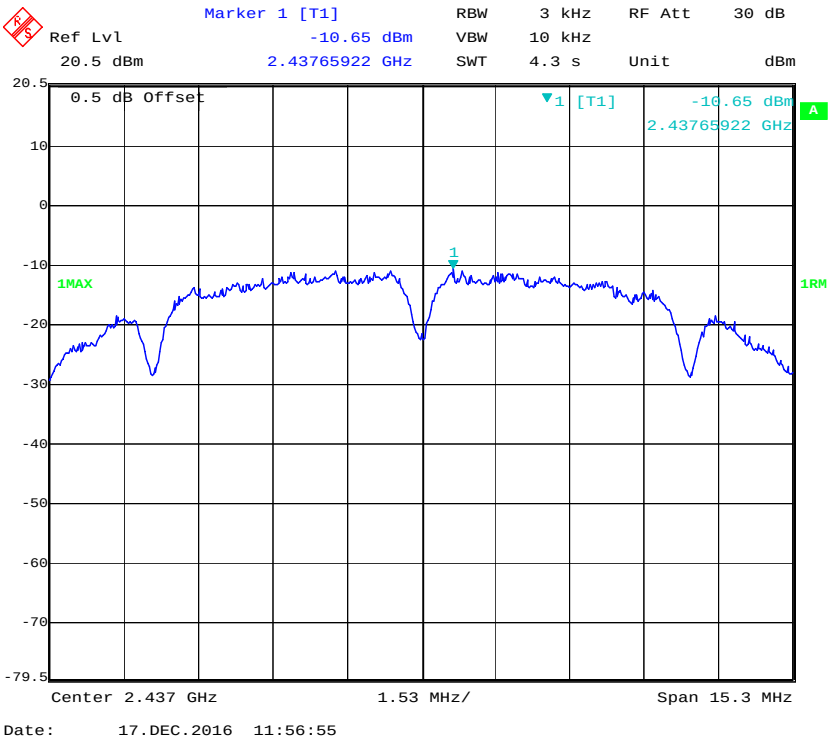


Chain 2

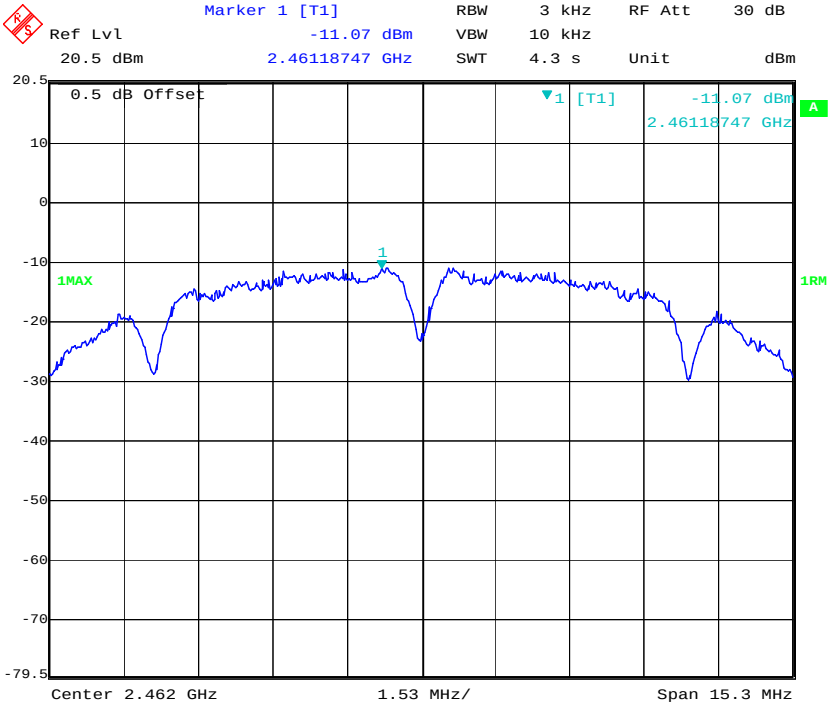
Power Spectral Density, 802.11b Low Channel



Power Spectral Density, 802.11b Middle Channel

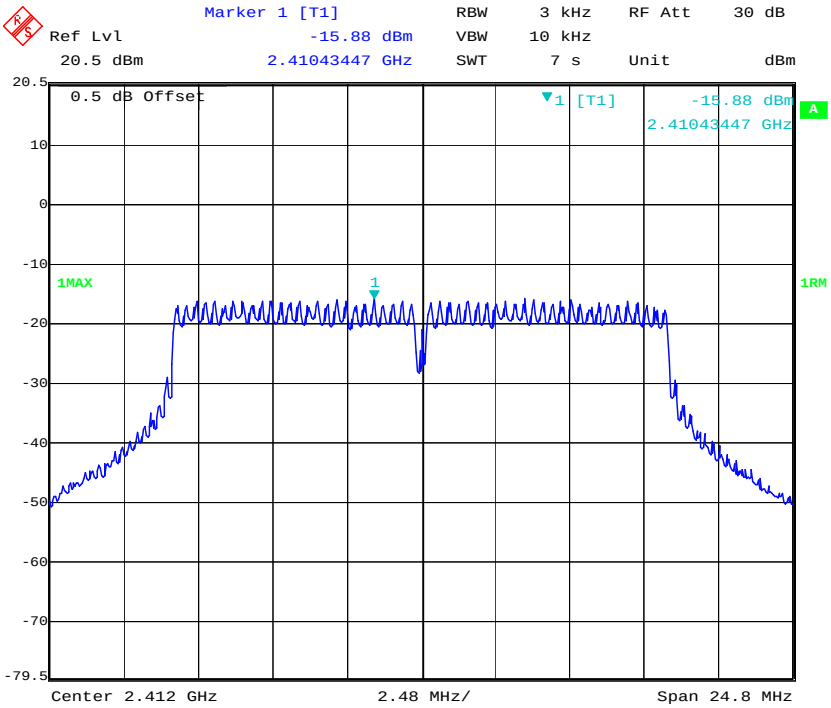


Power Spectral Density, 802.11b High Channel



Date: 17.DEC.2016 11:57:19

Power Spectral Density, 802.11g Low Channel



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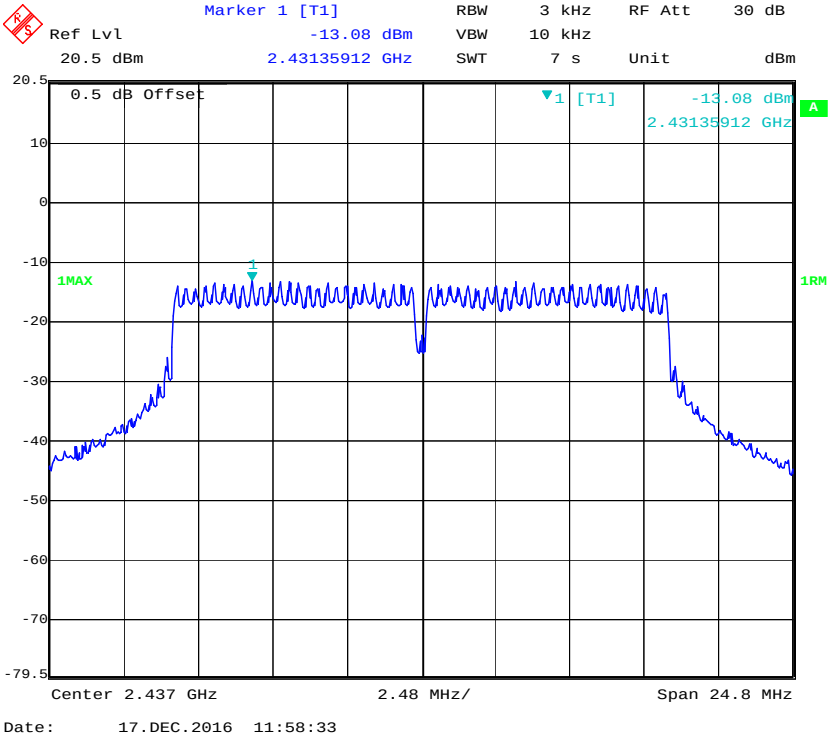
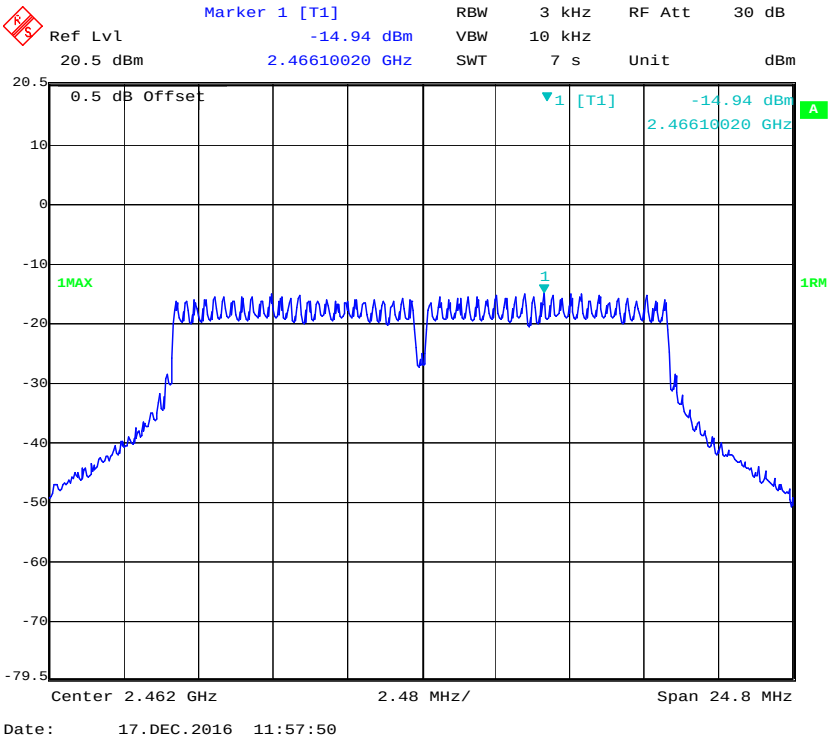
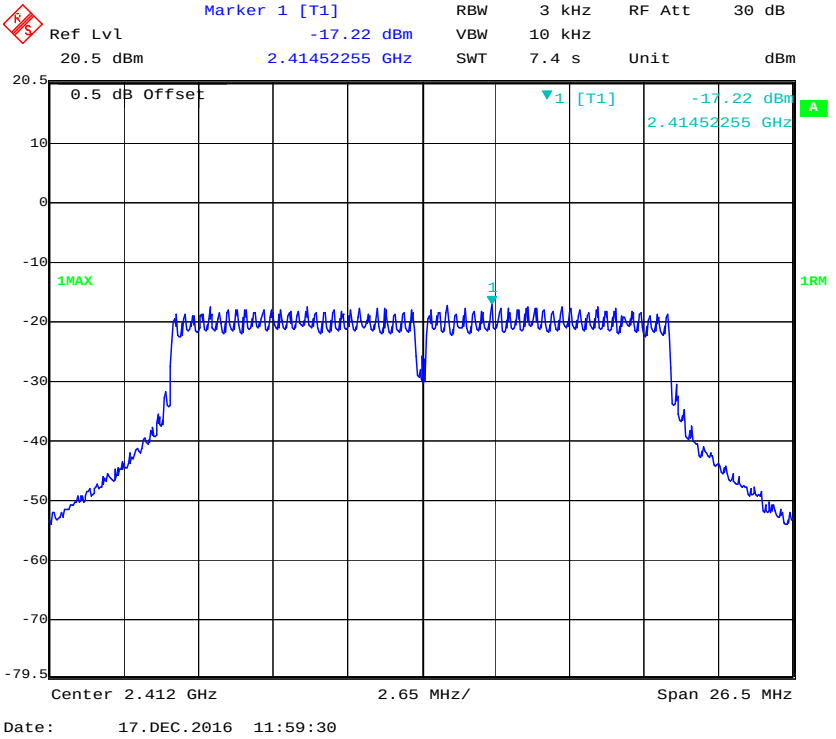
Power Spectral Density, 802.11g Middle Channel



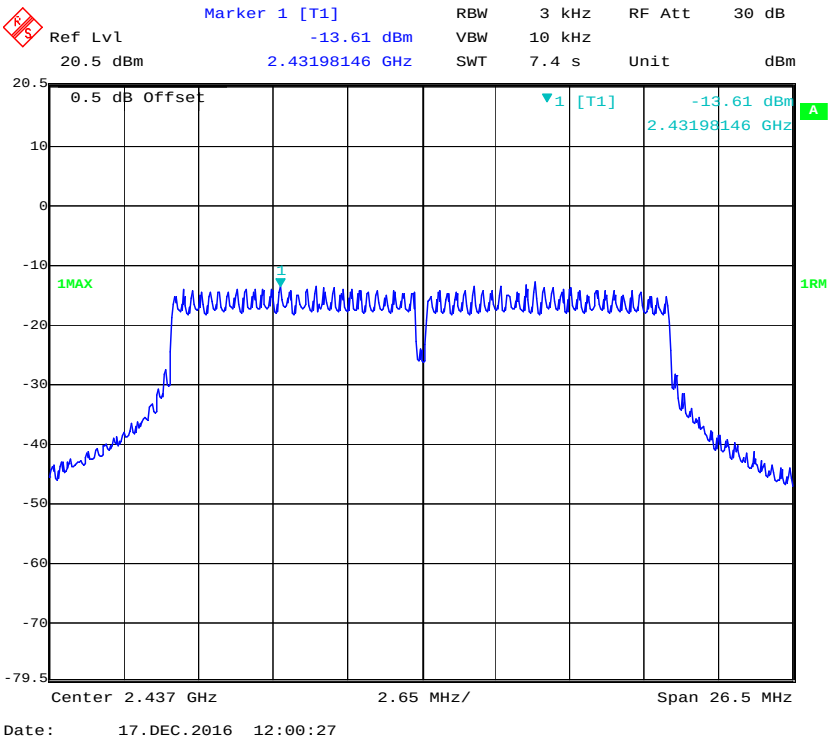
Power Spectral Density, 802.11g High Channel



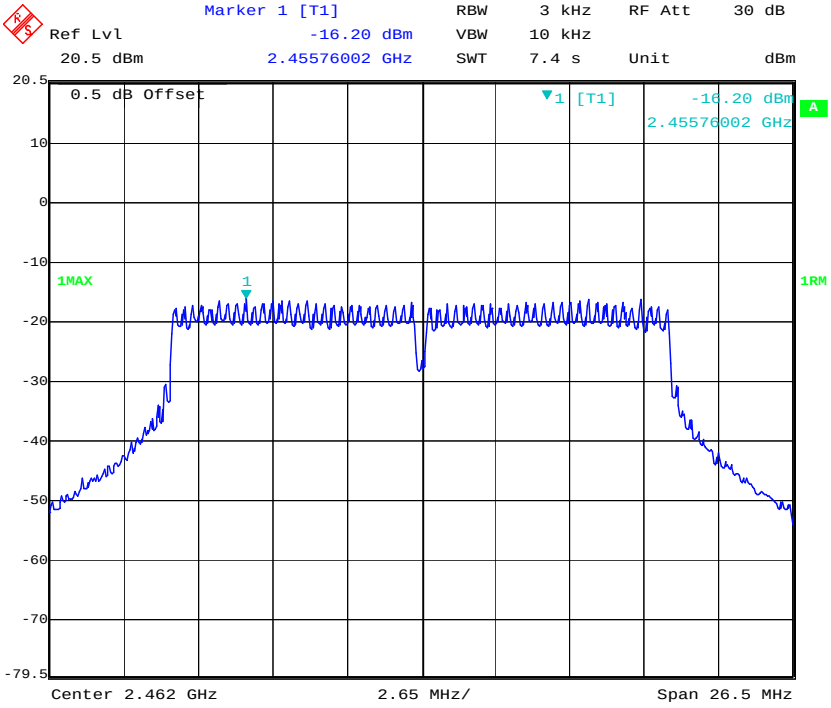
Power Spectral Density, 802.11n ht20 Low Channel_2412MHz



Power Spectral Density, 802.11n ht20 Middle Channel__2437MHz



Power Spectral Density, 802.11n ht20 High Channel__2462MHz



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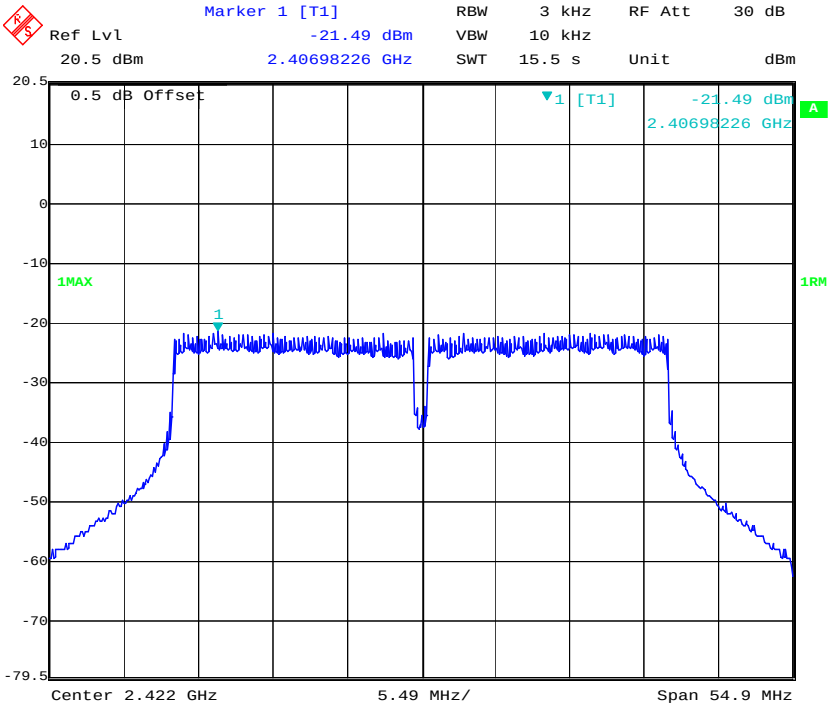
Power Spectral Density, 802.11n ht40 Low Channel_2422MHz



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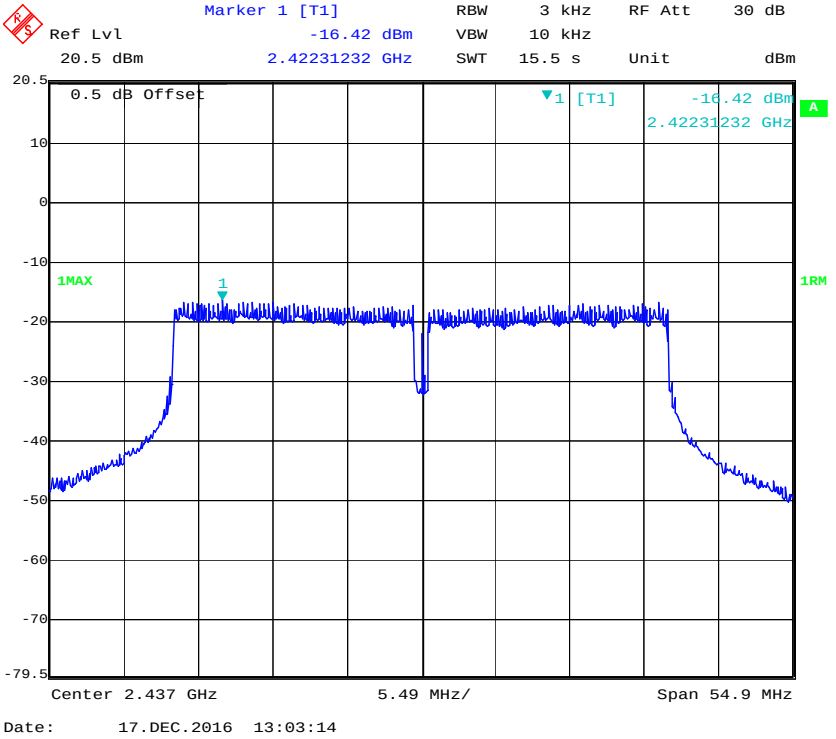
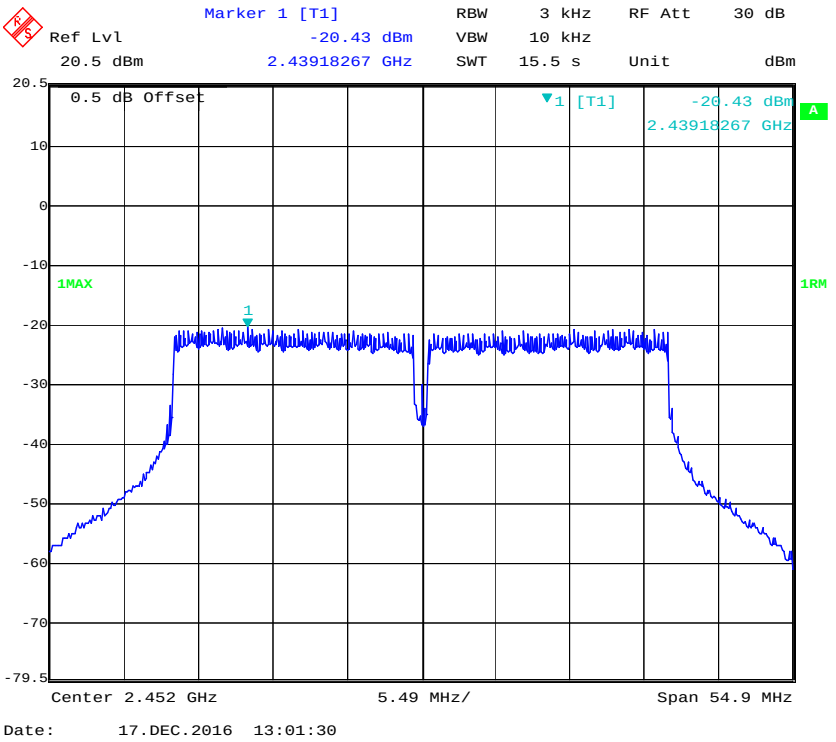
Power Spectral Density, 802.11n ht40 Middle Channel__2437MHz



Power Spectral Density, 802.11n ht40 High Channel__2452MHz



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