FCC PART 15.247
RSS-GEN, ISSUE 4, NOVEMBER 2014
RSS-247, ISSUE 2, FEBRUARY 2017

TEST REPORT

For

SZ DJI TECHNOLOGY CO., LTD

14th floor, West Wing, Skyworth Semiconductor Design Building NO.18 Gaoxin South 4th Ave, Nanshan, Shenzhen, Guangdong, China

FCC ID: SS3-S01A1710
IC: 11805A-S01A1710

Report Type:	**Product Name:**
Original Report	C2

Report Number:	RDG171013008-00B
Report Date:	2017-11-23
Reviewed By:	Jerry Zhang EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SZ DJI TECHNOLOGY CO., LTD*'s product, model number: *S01A* ***(FCC ID: SS3-S01A1710, IC: 11805A-S01A1710)*** (the "EUT") in this report was a *C2,*which was measured approximately: 14.4 cm (L) x 7.8 cm (W) x 6.2 cm (H), rated input voltage: DC3.7V from rechargeable Li-ion Battery.

Adapter Information #1:
Model: P1C50
Input: 100-240V~1.4A,50-60Hz
Output: DC13.20V, 3.79A(Main), DC5.0V, 2.0A Total(USB)
Manufacturer: AcTel Electronic (Dong Guan) Co., Ltd./China

Adapter Information #2:
Model: P1C50
Input: 100-240V~1.4A,50-60Hz
Output: DC13.20V, 3.79A(Main), DC5.0V, 2.0A Total(USB)
Manufacturer: Shenzhen Huntkey Electronics Co., Ltd.

Adapter Information #3:
Model: P1C50
Input: 100-240V~1.8A,50-60Hz
Output: DC13.20V, 3.79A(Main), DC5.0V, 2.0A Total(USB)
Manufacturer: CHICONY POWER TECHNOLOGY (SUZHOU) CO.,LTD.

The measurement and test data of the Spurious Emissions in this report was gathered from production sample serial number: 171013008 (Assigned by BACL, Dongguan). The EUT was received on 2017-10-13.

Objective

This report is prepared on behalf of ***SZ DJI TECHNOLOGY CO., LTD*** in accordance with Part 2, Subpart J, Part 15, Subparts A, and C of the Federal Communications Commission's rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada.

The tests were performed in order to determine the compliance of the EUT with FCC Rules Part 15-Subpart C, section 15.203, 15.205, 15.209, 15.247 rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada.

Related Submittal(s)/Grant(s)

FCC submissions with Part 15E NII, FCC ID: SS3-S01A1710.
ISEDC submissions with LE-LAN, IC: 11805A-S01A1710.
Part of system submissions with FCC ID:SS3-U11X1710, IC: 11805A-U11X1710.

Test Methodology

All measurements detailed in this Test Report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices", RSS-247, Issue 2, February 2017, RSS-Gen Issue 4, November 2014 of the Innovation, Science and Economic Development Canada, and KDB 558074 D01 DTS Meas Guidance v04.

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

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical 1G~6GHz: 4.45 dB, 6G~26.5GHz: 5.23 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

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

Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO/IEC 17025 by CNAS(Lab code: L5662). And accredited to ISO/IEC 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

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

For 2.4GHz band, the device employs 802.11b/g/n ht20, 5M and 10M modes. All modes support 2T2R mode.

For 802.11b, 802.11g, 802.11n ht20, 5M and 10M modes, the device employs 11 channels as below:

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	/	/

For 802.11b, 802.11g, 802.11n ht20, 5M and 10M modes were test with channel 1,6,11.

Per pre-test, the worst mode was 2T2R mode. The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

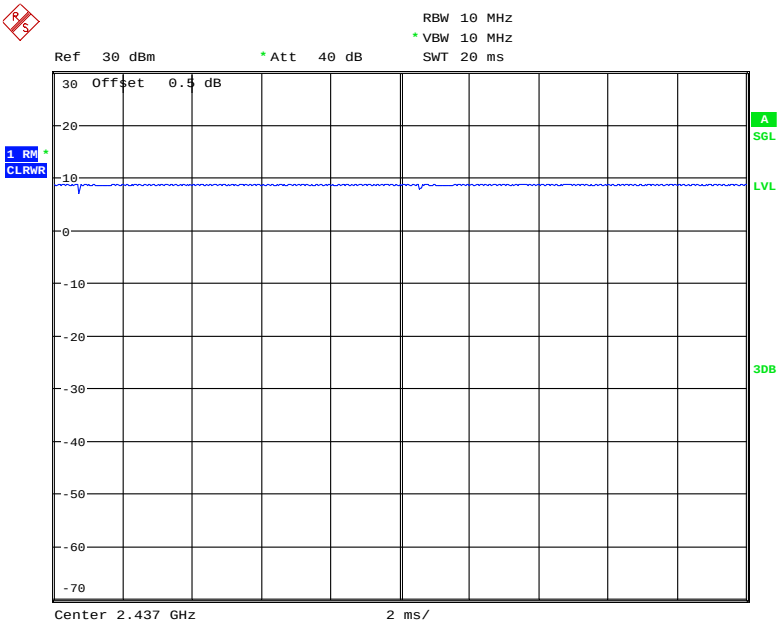
The software “Certification_WM230_RC_0930_1.exe” was used for testing, which was provided by manufacturer. The maximum power with maximum duty cycle was configured as below setting.

Test Mode	Test Software Version	Certification_WM230_RC_0930_1.exe		
802.11b	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	1Mbps	1Mbps	1Mbps
	Power Level Setting Chain0	18	18	18
	Power Level Setting Chain1	18	18	18
802.11g	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting Chain0	18	18	18
	Power Level Setting Chain1	18	18	18
802.11n ht20	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting Chain0	18	18	18
	Power Level Setting Chain1	18	18	18
5M	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting Chain0	36	40	36
	Power Level Setting Chain1	36	40	36
10M	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting Chain0	36	40	36
	Power Level Setting Chain1	36	40	36

The duty cycle as below:

Mode	T_{on} (ms)	T_{on+off} (ms)	Duty Cycle (%)	Duty Cycle Factor 10*log(1/x) (dB)
802.11b	20	20	100	0.00
802.11g	1.626	1.667	97.5	0.11
802.11n ht20	1.522	1.563	97.4	0.12
5M	6.474	6.635	97.6	0.11
10M	3.237	3.301	98.1	0.09

802.11b



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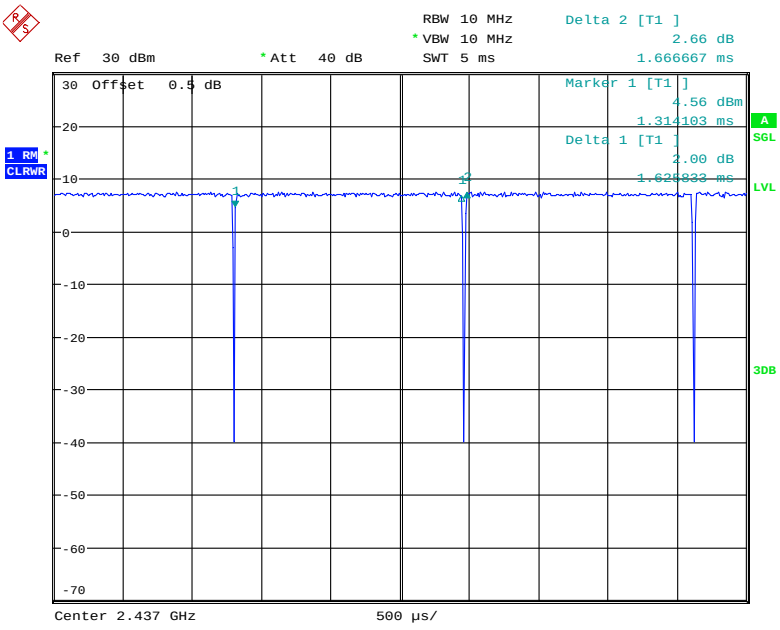
802.11g



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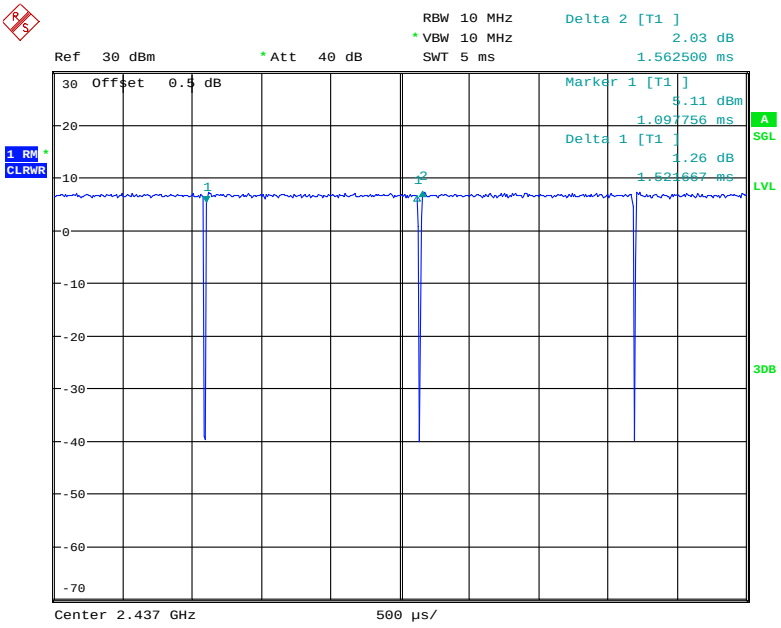
802.11n ht20



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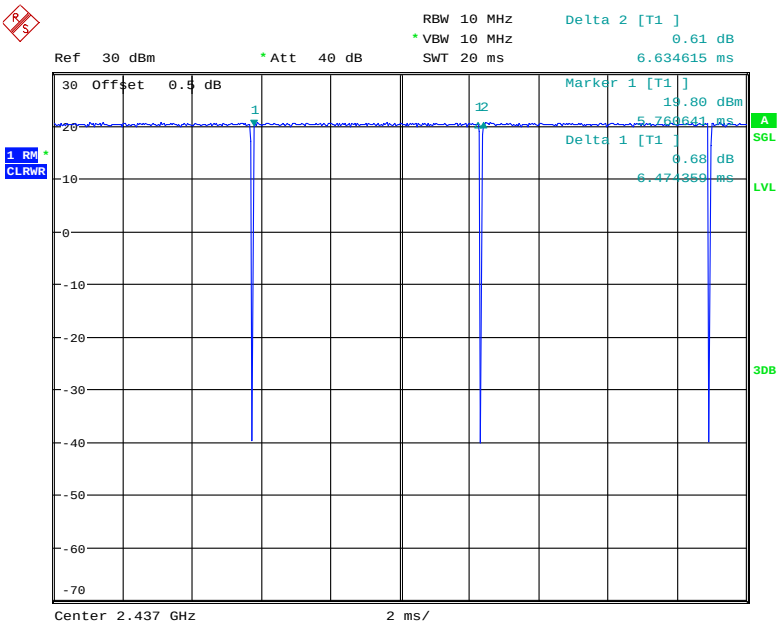
5M



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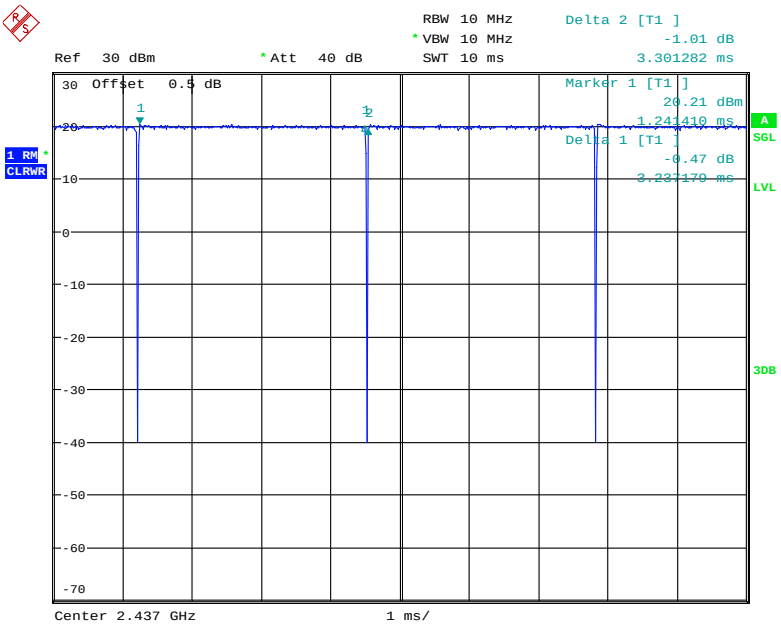
10M



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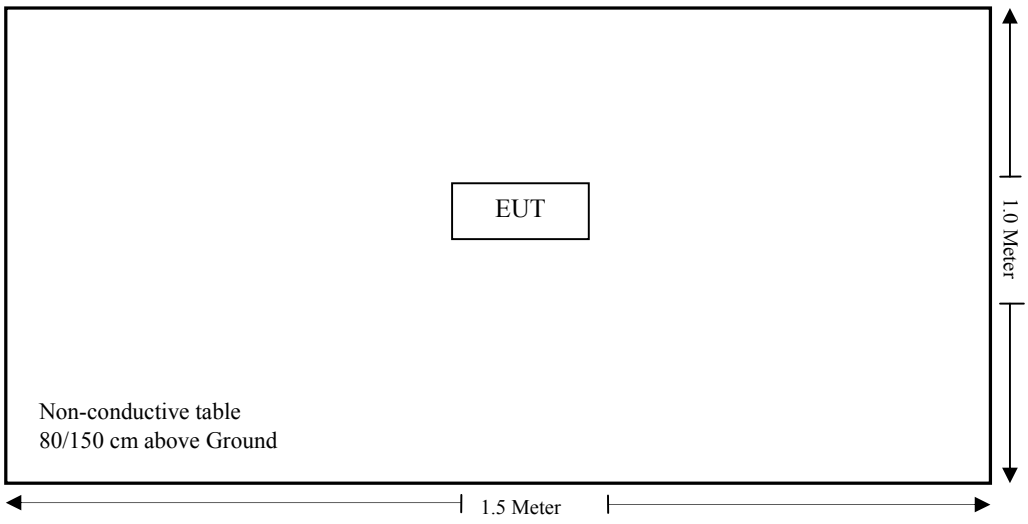
Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1093 RSS-102 §4	RF Exposure	Compliance
FCC§15.203 RSS-GEN§8.3	Antenna Requirement	Compliance
§15.207 (a) RSS-Gen §8.8	AC Line Conducted Emissions	Not Applicable
§15.205, §15.209, §15.247(d) RSS-247 §5.5 RSS-Gen §8.10	Spurious Emissions	Compliance
§15.247 (a)(2) RSS-247 §5.2 a)	6 dB Emission Bandwidth And 99% Occupied Bandwidth	Compliance
§15.247(b)(3) RSS-247 §5.4 d)	Maximum conducted output power	Compliance
§15.247(d) RSS-247 §5.5	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247 (e) RSS-247 §5.2 b)	Power Spectral Density	Compliance

Note:
Not Applicable: the device can`t be use when charging.

FCC §15.247 (i) & §1.1310 & §2.1093, RSS-102 §4- RF EXPOSURE

Applicable Standard

According to§15.247(i),§1.1310 and §2.1093.

According to RSS-102 §4 Table 3, SAR limits for device used by the general public

Body Region	Average SAR (W/Kg)	Averaging Time (minutes)	Mass Average (g)
Whole Body	0.08	6	Whole Body
Localized Head, Neck and Trunk	1.6	6	1
Localized Limbs	4	6	10

Test Result

Compliant, please refer to the SAR report: RDG171013008-20.

FCC §15.203 ,RSS-GEN§8.3- 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.

According to RSS-Gen §8.3, The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.
Licence-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the licence-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level.9 When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

Antenna Information And Connector Construction

The EUT has 2 external antennas permanently attached to the unit, and the antennas gain in the below information list, fulfill the requirement of the item. Please refer to the internal photos.

Antenna Chain	Antenna Type	Antenna gain
0	PCB	5.51 dBi @ 2.4G Band 3.74 dBi @ 5.8G Band
1	PCB	4.94 dBi @ 2.4G Band 3.09 dBi @ 5.8G Band

Result: Compliance.

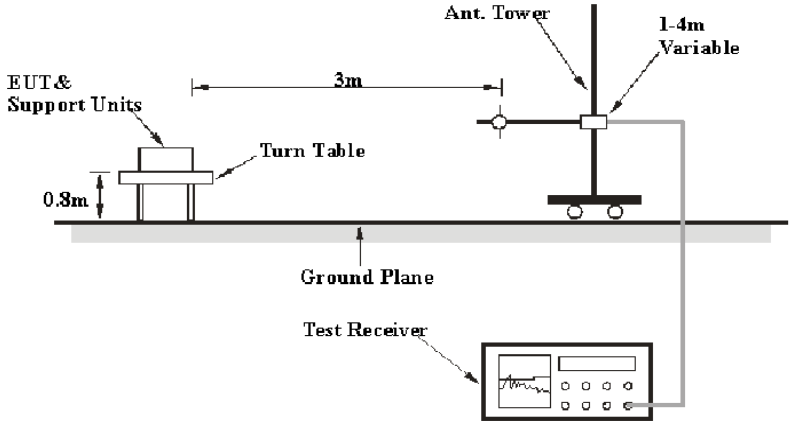
FCC §15.209, §15.205 , §15.247(d) & RSS-247 §5.5&RSS-GEN§8.10- SPURIOUS EMISSIONS

Applicable Standard

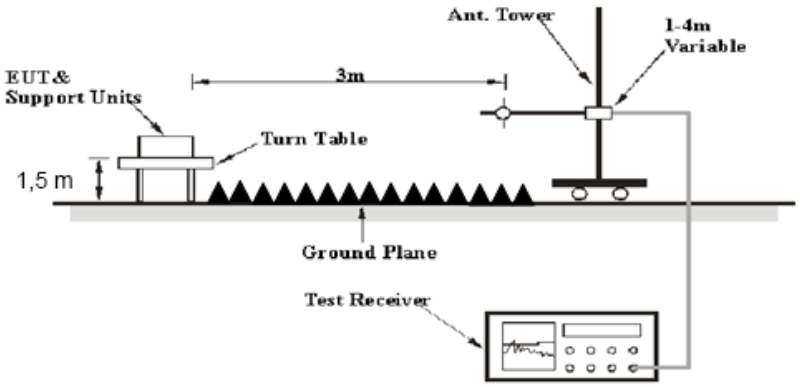
FCC §15.247 (d); §15.209; §15.205; and RSS-247 §5.5, RSS-GEN §8.10

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 and RSS-247 §5.5, RSS-Gen §8.10 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:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 25GHz:

Measurement	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.

All emissions under the average limit and under the noise floor have not recorded in the report.

Corrected Amplitude & Margin Calculation

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

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

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

Margin = Limit –Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2017-09-01	2018-09-01
Sunol Sciences	Antenna	JB3	A060611-2	2017-08-25	2020-08-25
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
unknown	Coaxial Cable	4m	C0400/01	2017-09-05	2018-09-05
unknown	Coaxial Cable	0.75m	C0075/01	2017-09-05	2018-09-05
unknown	Coaxial Cable	10m	C1000/01	2017-09-05	2018-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2016-12-08	2017-12-08
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-05
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2017-09-05	2018-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2017-06-27	2018-06-27
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-02 1304	2017-06-16	2020-06-15
unknown	Coaxial Cable	8m	C0800/01	2017-09-05	2018-09-05
Chengdu OuLi	Bandrejector Filter	2400-2483.5	001	2017-09-05	2018-09-05
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

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

Test Data

Environmental Conditions

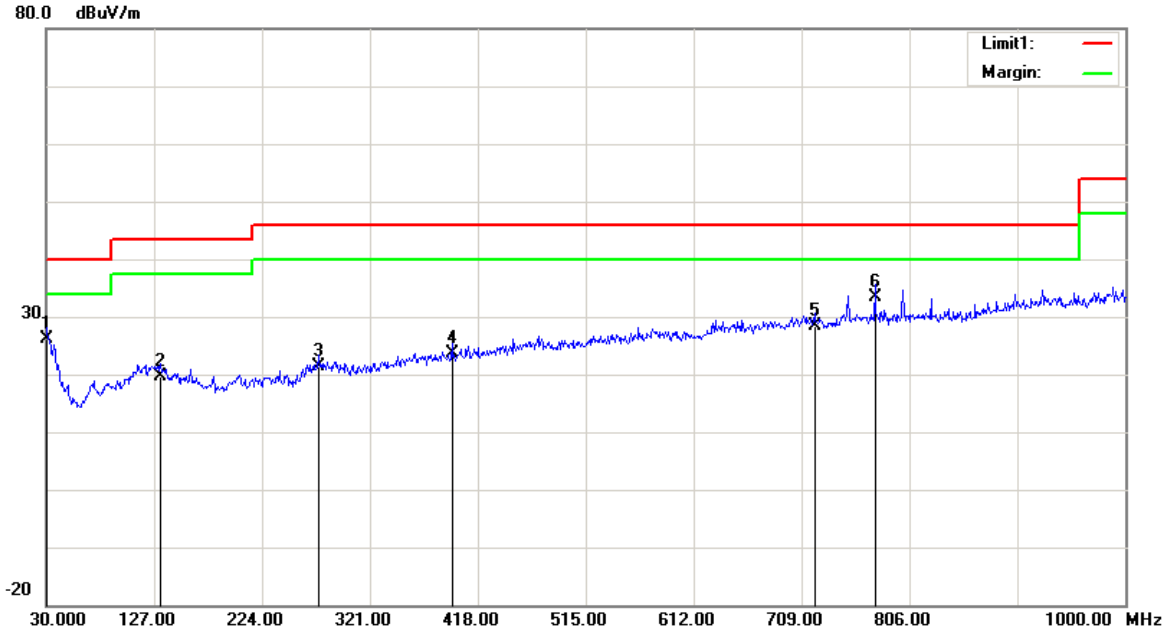
Temperature:	23.6 °C
Relative Humidity:	30 %
ATM Pressure:	102.1 kPa

The testing was performed by Steven Zuo on 2017-10-31.

Test Mode: Transmitting(2TX was the worst)

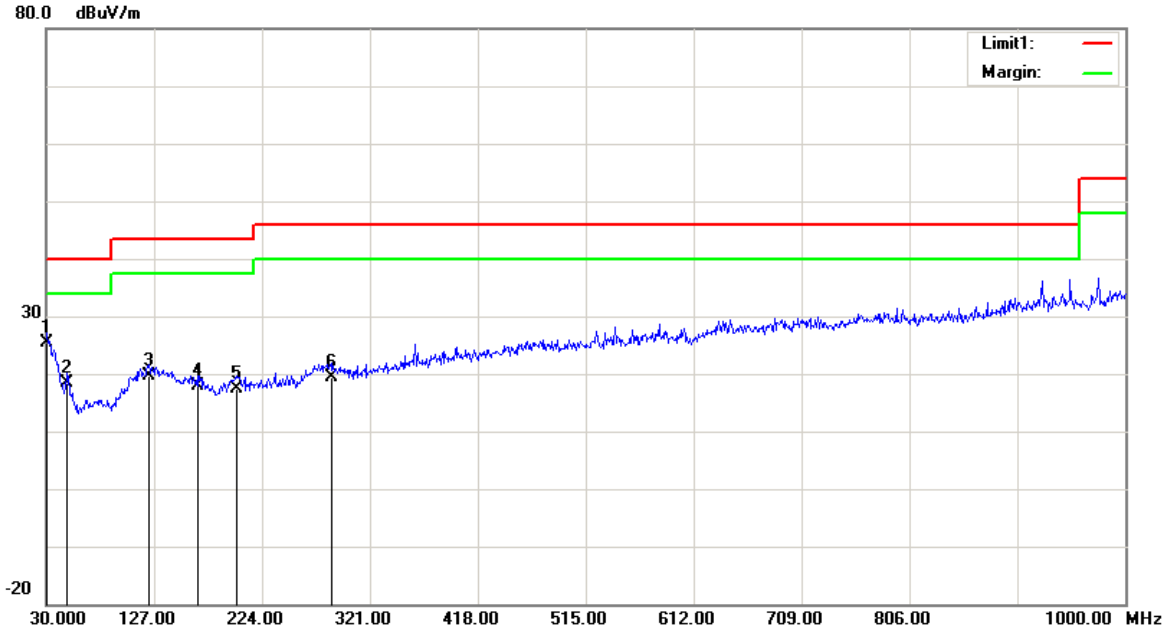
1) 30MHz-1GHz(802.11n ht20 mode middle channel was the worst):

Horizontal:



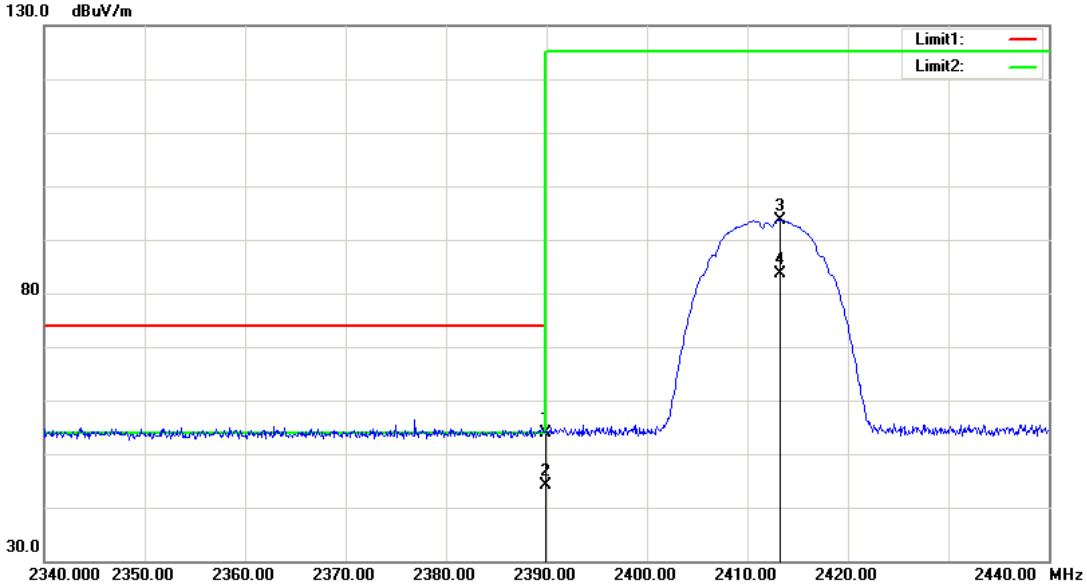
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	25.02	QP	1.08	26.10	40.00	13.90
132.8200	24.93	QP	-5.33	19.60	43.50	23.90
274.4400	25.18	QP	-3.78	21.40	46.00	24.60
394.7200	26.02	QP	-2.32	23.70	46.00	22.30
720.6400	25.60	QP	2.90	28.50	46.00	17.50
774.9600	29.76	QP	3.64	33.40	46.00	12.60

Vertical:

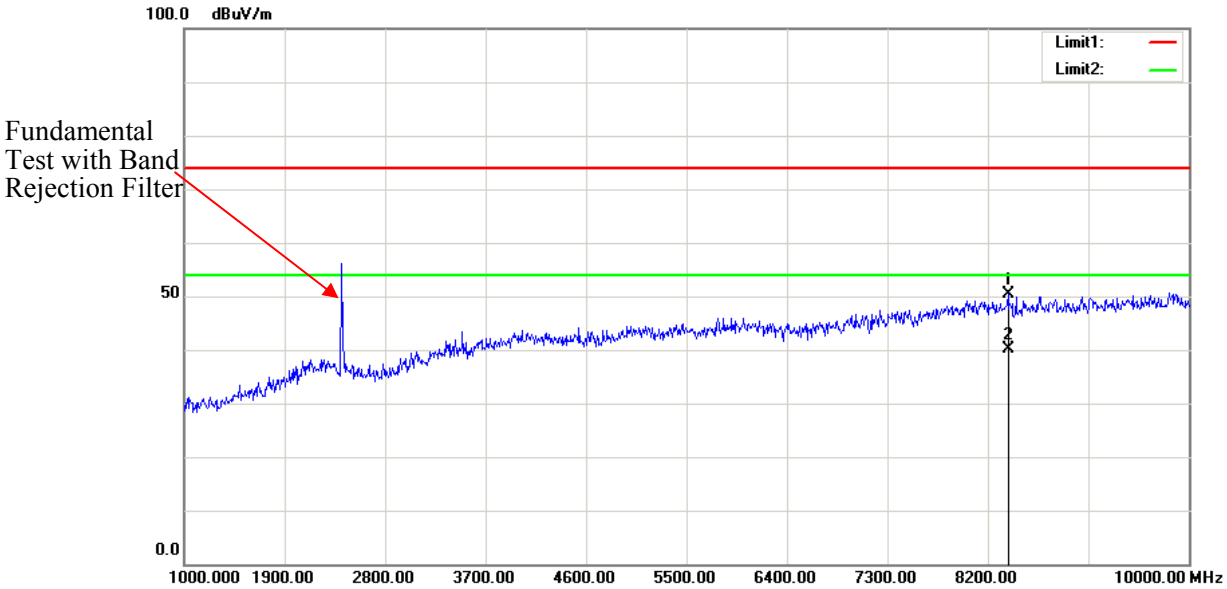


Frequency (MHz)	Receiver Reading (dBµV)	Detector t	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.0000	24.22	QP	1.08	25.30	40.00	14.70
48.4300	29.49	QP	-11.09	18.40	40.00	21.60
122.1500	24.39	QP	-4.79	19.60	43.50	23.90
165.8000	24.78	QP	-6.98	17.80	43.50	25.70
200.7200	23.71	QP	-6.21	17.50	43.50	26.00
286.0800	23.25	QP	-3.85	19.40	46.00	26.60

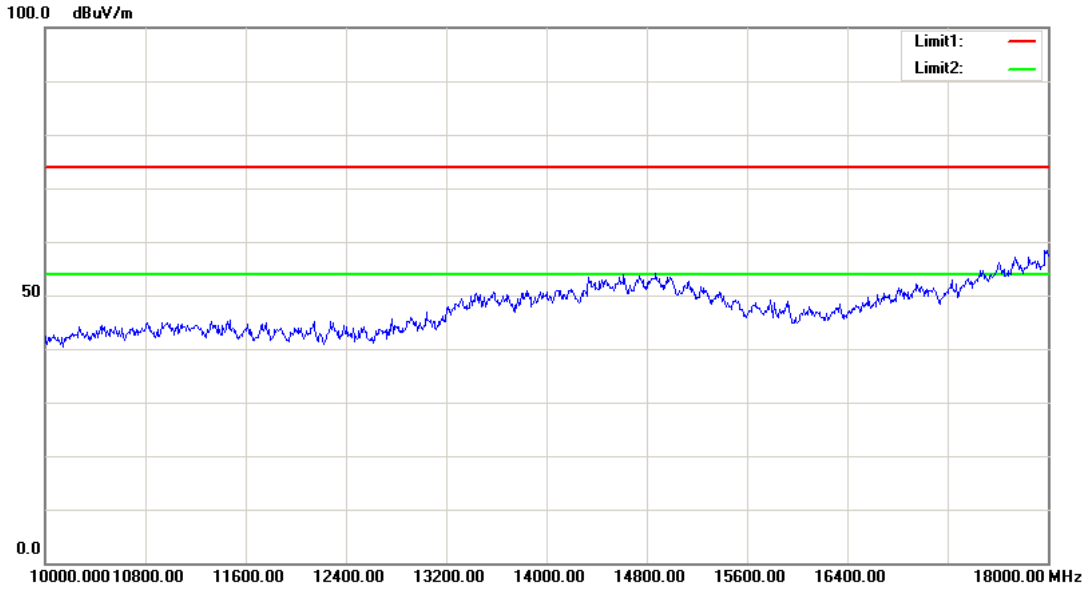
2) 1-25GHz:
802.11b,Low Channel
Horizontal

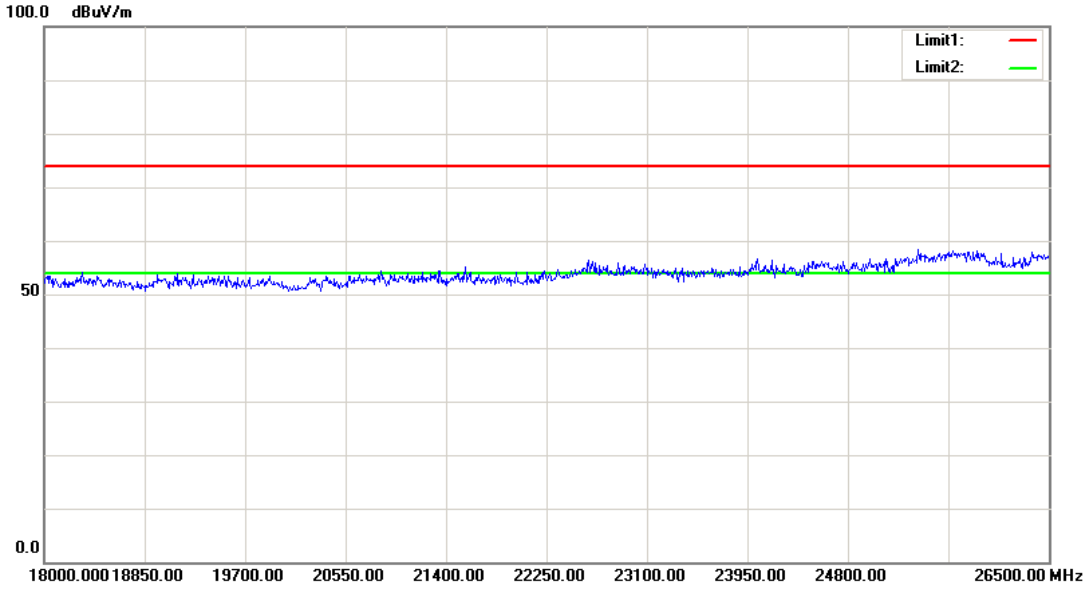


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2390.000	23.91	peak	29.87	53.78	74.00	20.22	149	55	
2	2390.000	14.38	AVG	29.87	44.25	54.00	9.75	149	55	
3	2413.350	63.72	peak	29.94	93.66	N/A	N/A	149	55	Fundamental
4	2413.350	53.67	AVG	29.94	83.61	N/A	N/A	149	55	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8380.000	45.03	peak	5.31	50.34	74.00	23.66	169	55	
2	8380.000	34.94	AVG	5.31	40.25	54.00	13.75	169	55	


100.0 dBuV/m
Limit1:
Limit2:
50
0.0
10000.000 10800.00 11600.00 12400.00 13200.00 14000.00 14800.00 15600.00 16400.00 18000.00 MHz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Limit1:
Limit2:
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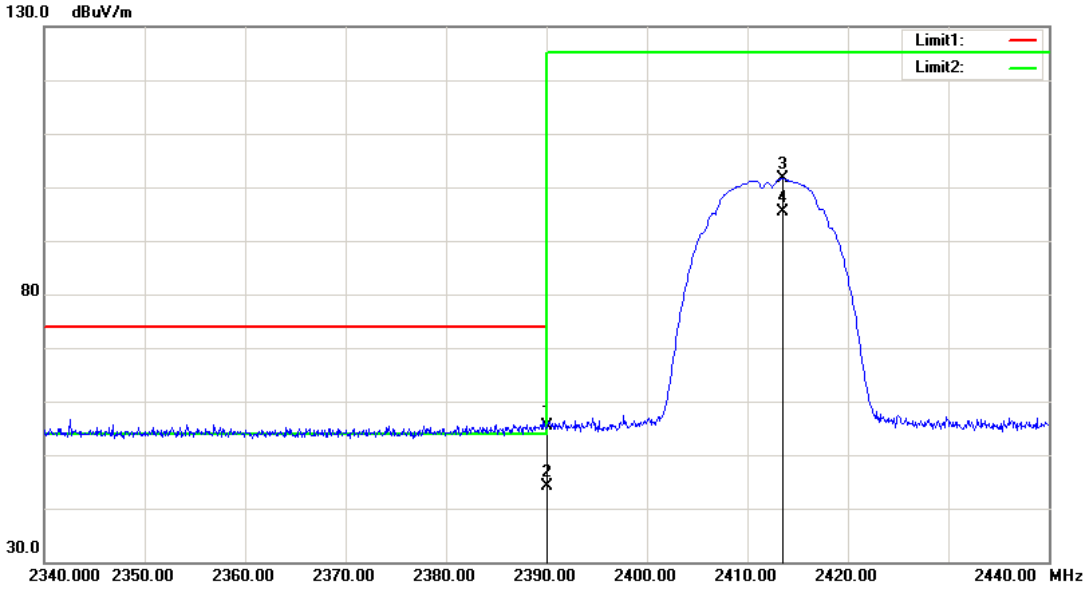
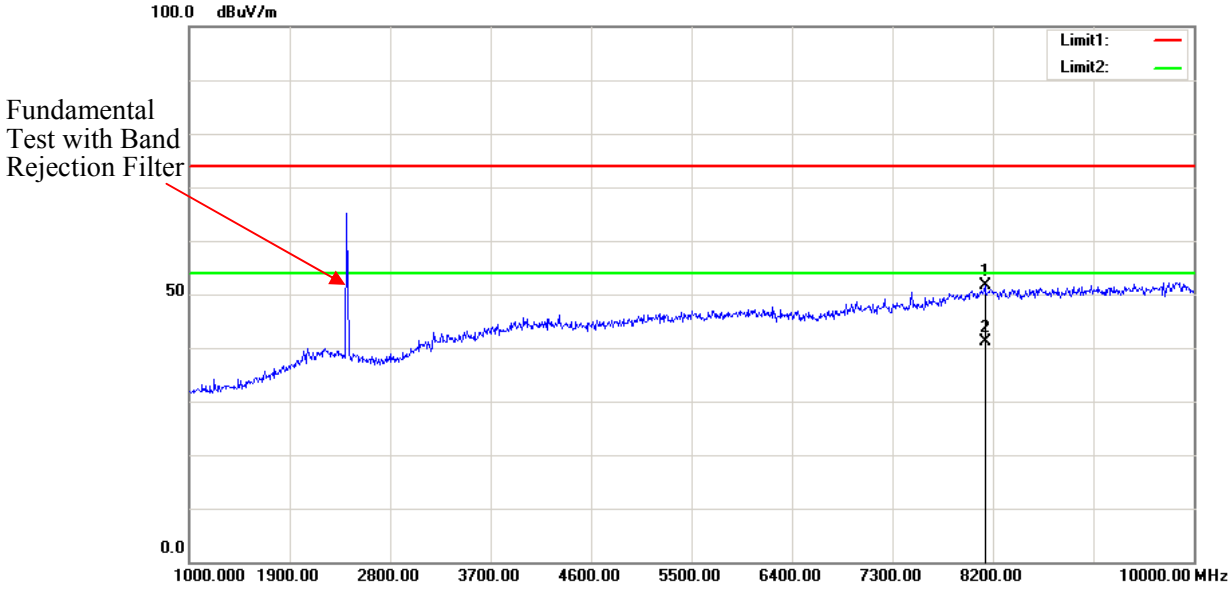
0.0
18000.000 18850.00 19700.00 20550.00 21400.00 22250.00 23100.00 23950.00 24800.00 26500.00 MHz

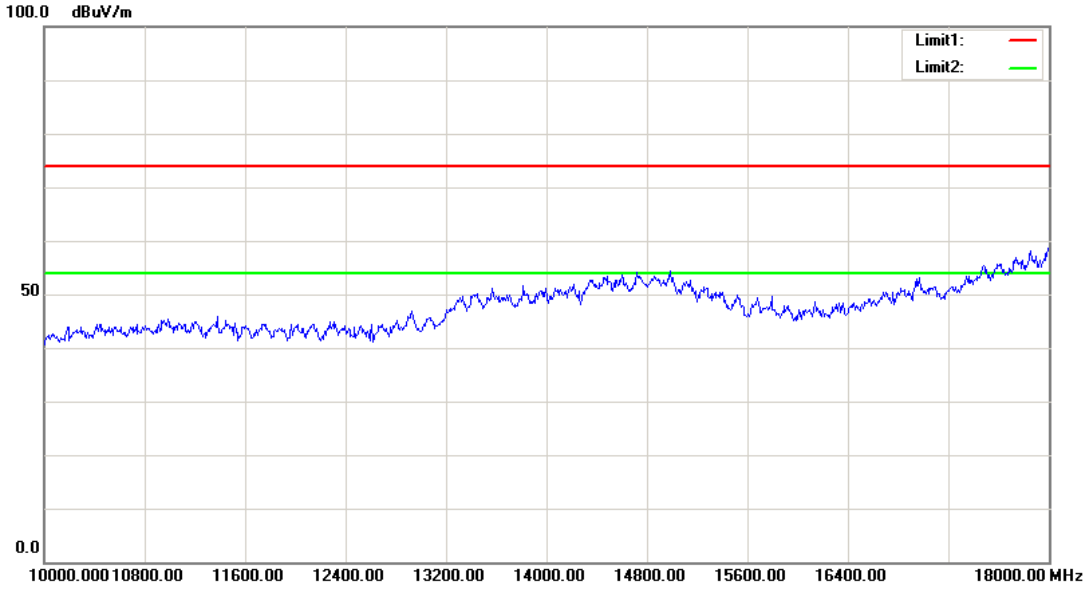
Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2390.000	25.59	peak	29.87	55.46	74.00	18.54	153	68	
2	2390.000	14.38	AVG	29.87	44.25	54.00	9.75	153	68	
3	2413.500	71.60	peak	29.94	101.54	N/A	N/A	153	68	Fundamental
4	2413.500	65.49	AVG	29.94	95.43	N/A	N/A	153	68	Fundamental



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8128.000	46.57	peak	4.99	51.56	74.00	22.44	180	44	
2	8128.000	36.26	AVG	4.99	41.25	54.00	12.75	181	44	


100.0 dBuV/m
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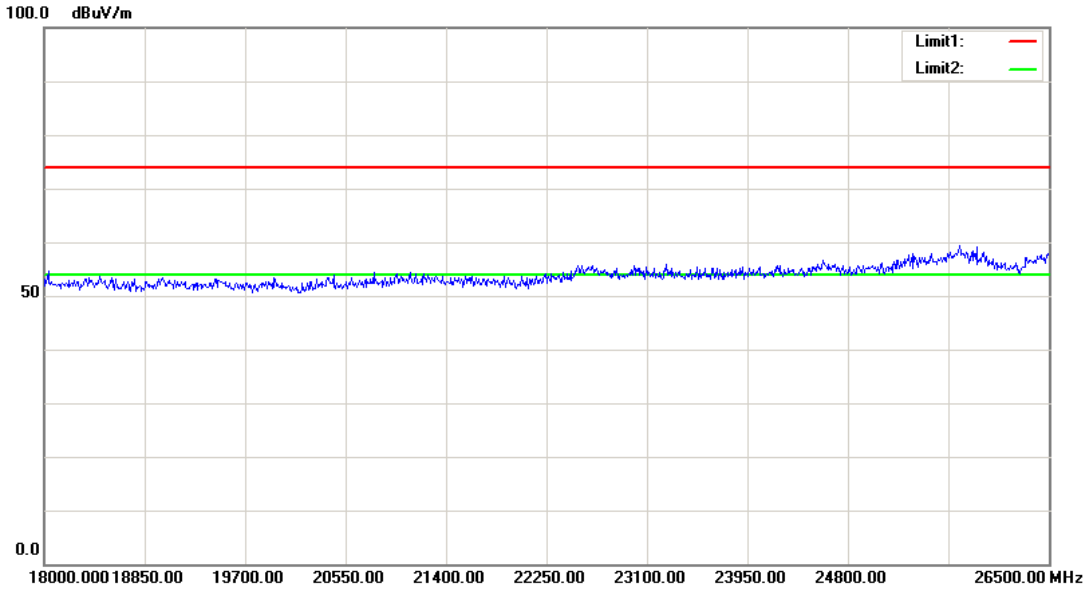
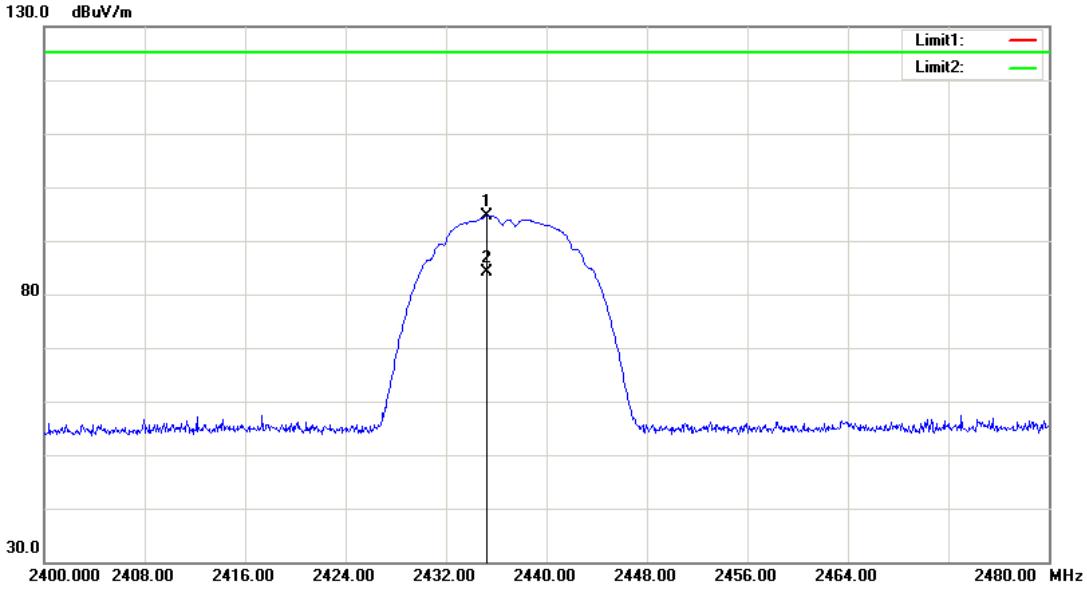
Limit2:
50
0.0
10000.000 10800.00 11600.00 12400.00 13200.00 14000.00 14800.00 15600.00 16400.00 18000.00 MHz

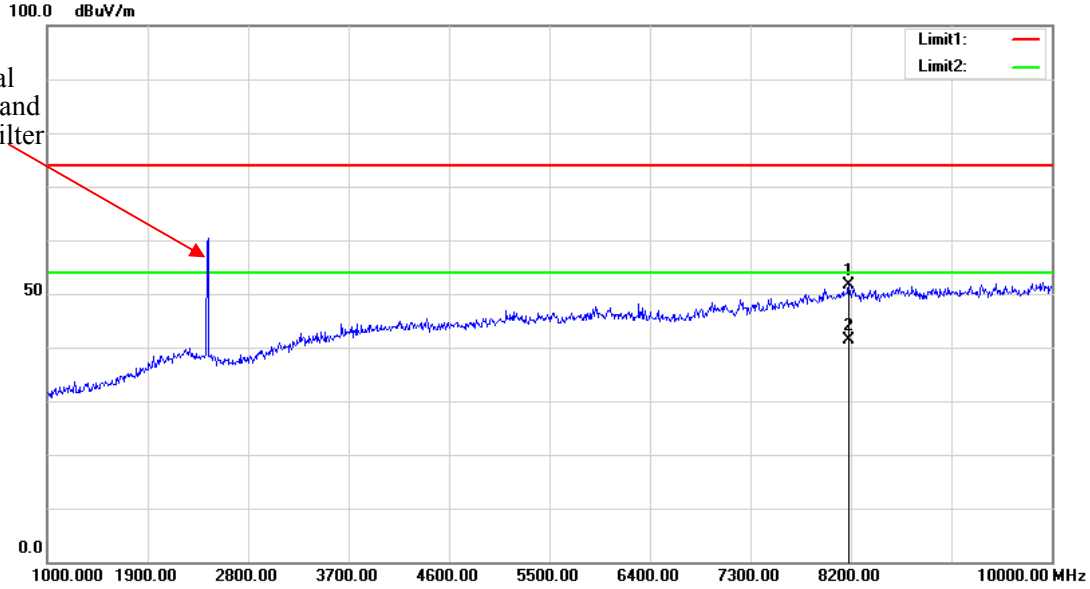

100.0 dBuV/m
Limit1:
Limit2:
50
0.0
18000.000 18850.00 19700.00 20550.00 21400.00 22250.00 23100.00 23950.00 24800.00 26500.00 MHz

Middle Channel, Horizontal



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2435.320	64.62	peak	29.99	94.61	N/A	N/A	145	223	Fundamental
2	2435.320	54.24	AVG	29.99	84.23	N/A	N/A	145	223	Fundamental

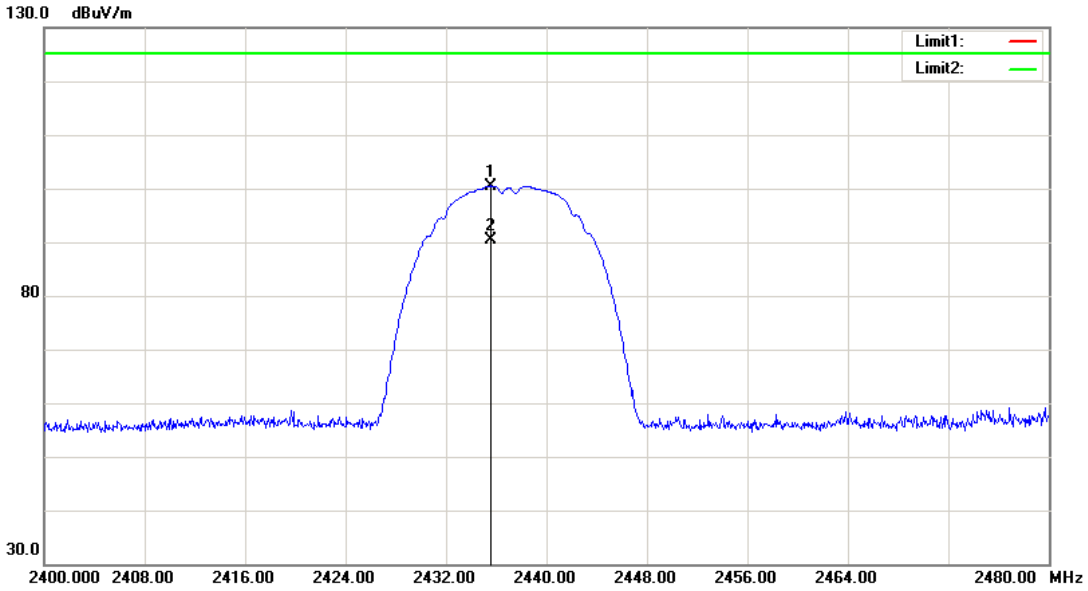
Fundamental Test with Band Rejection Filter



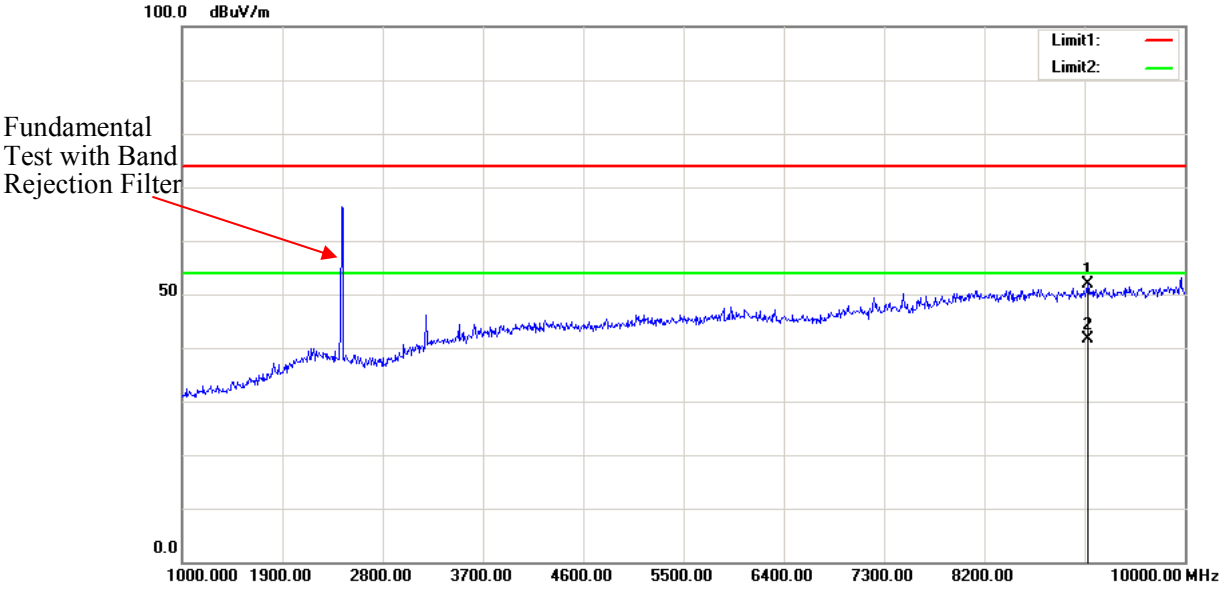
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8186.500	46.56	peak	5.06	51.62	74.00	22.38	154	66	
2	8186.500	36.22	AVG	5.06	41.28	54.00	12.72	154	66	

Note: No emission was detected in the range 10-25GHz.

Vertical



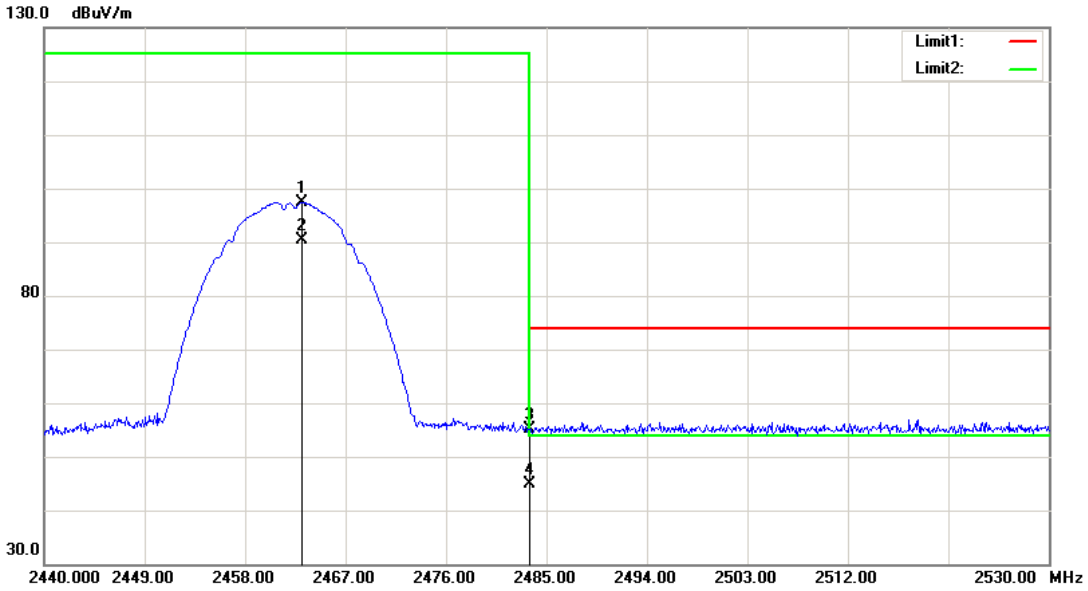
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2435.640	70.51	peak	29.99	100.50	N/A	N/A	145	166	Fundamental
2	2435.640	60.45	AVG	29.99	90.44	N/A	N/A	145	166	Fundamental



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	9131.500	45.36	peak	6.46	51.82	74.00	22.18	168	55	
2	9131.500	35.13	AVG	6.46	41.59	54.00	12.41	168	55	

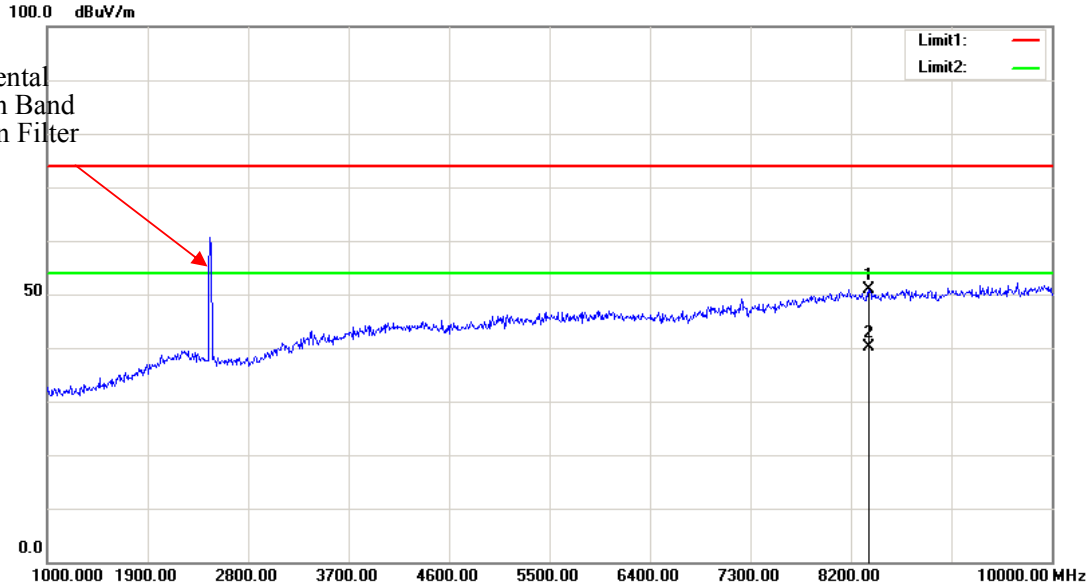
Note: No emission was detected in the range 10-25GHz.

High Channel, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2463.130	67.34	peak	30.06	97.40	N/A	N/A	155	136	Fundamental
2	2463.130	60.27	AVG	30.06	90.33	N/A	N/A	155	136	Fundamental
3	2483.500	24.98	peak	30.11	55.09	74.00	18.91	155	136	
4	2483.500	14.73	AVG	30.11	44.84	54.00	9.16	155	136	

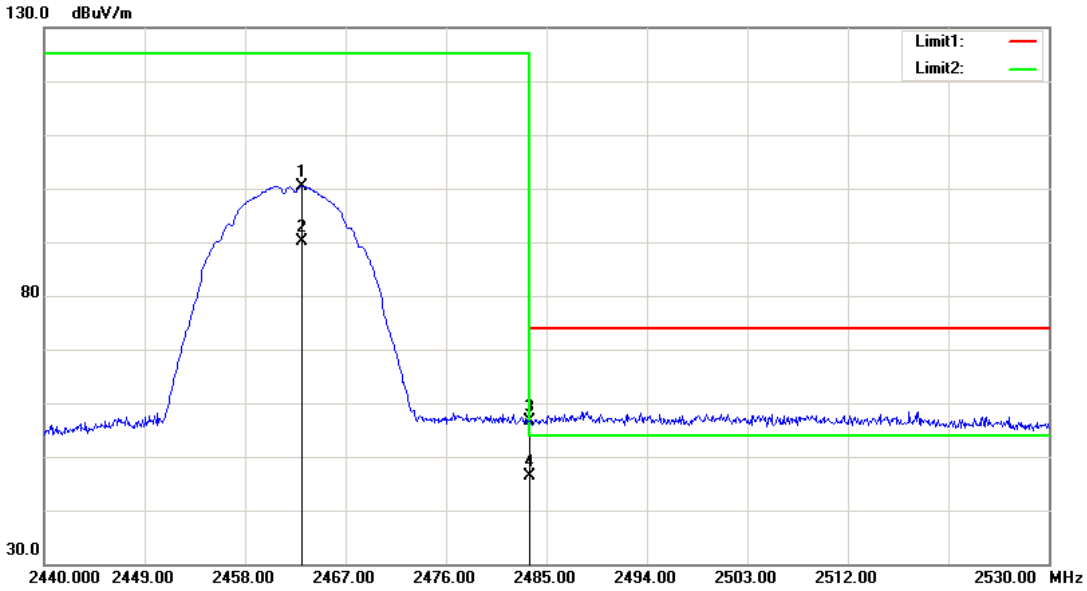
Fundamental Test with Band Rejection Filter



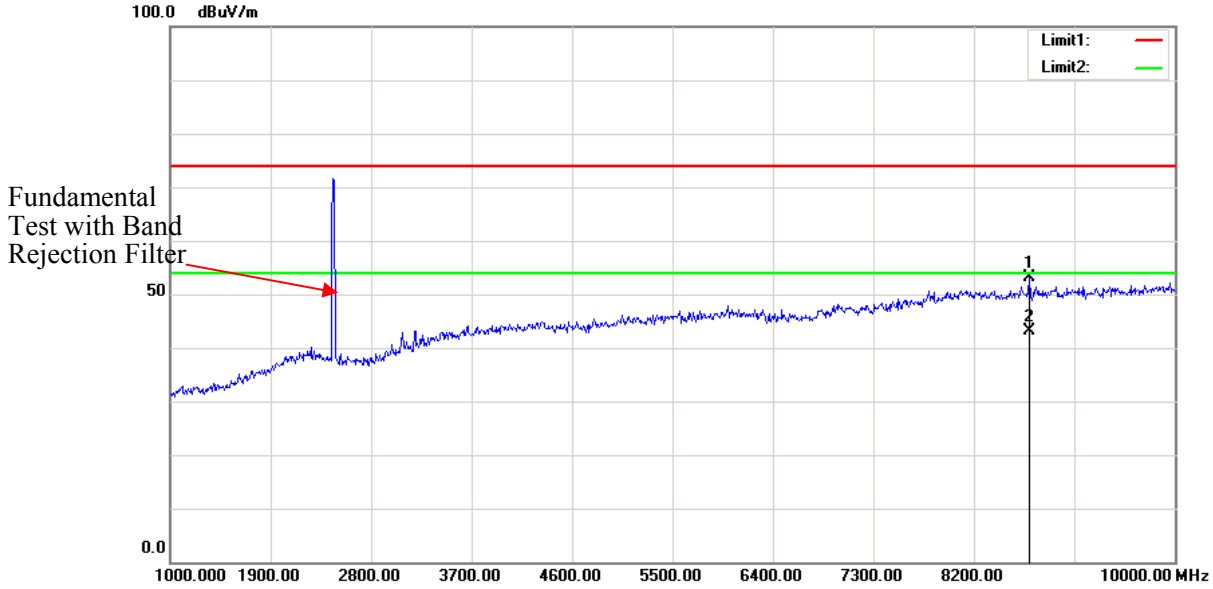
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8366.500	45.61	peak	5.29	50.90	74.00	23.10	158	77	
2	8366.500	34.96	AVG	5.29	40.25	54.00	13.75	158	77	

Note: No emission was detected in the range 10-25GHz.

Vertical



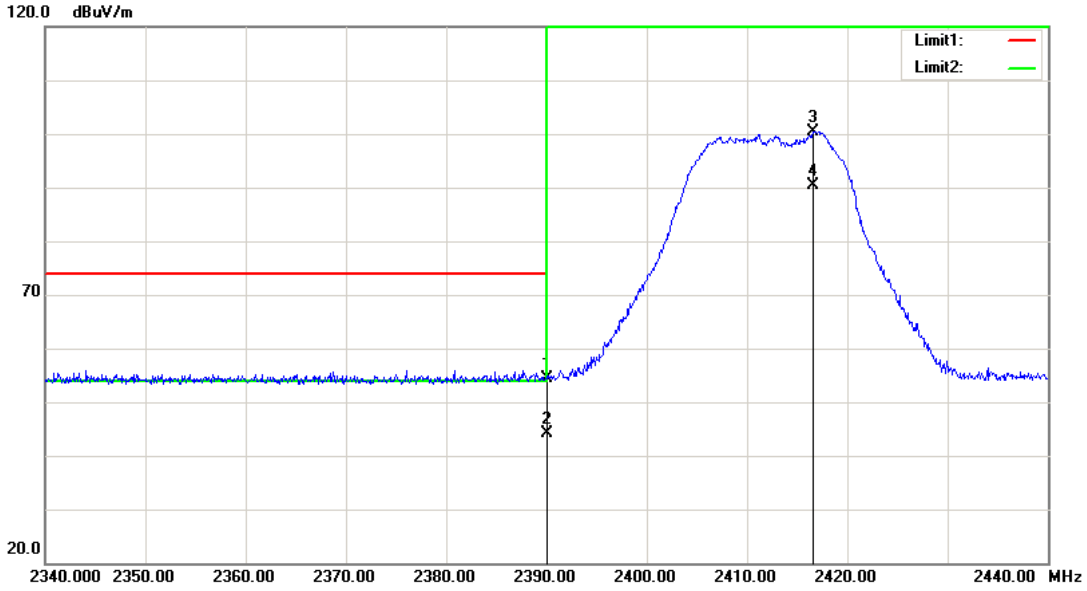
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2463.130	70.34	peak	30.06	100.40	N/A	N/A	156	122	Fundamental
2	2463.130	60.15	AVG	30.06	90.21	N/A	N/A	156	122	Fundamental
3	2483.500	26.48	peak	30.11	56.59	74.00	17.41	156	122	
4	2483.500	16.17	AVG	30.11	46.28	54.00	7.72	156	122	



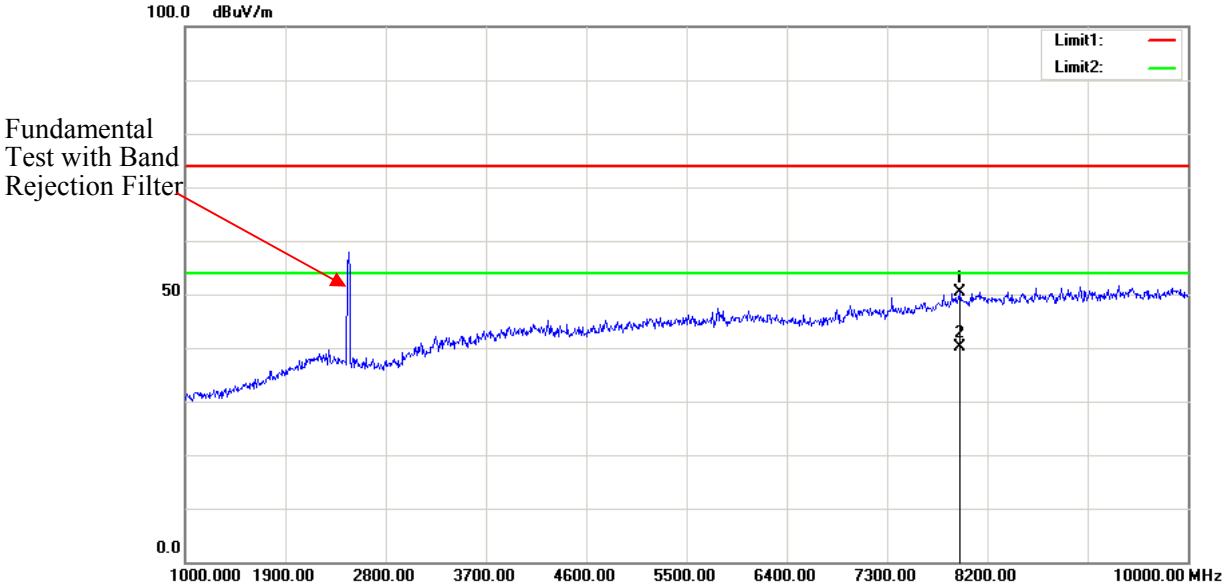
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8695.000	47.25	peak	5.76	53.01	74.00	20.99	177	41	
2	8695.000	37.35	AVG	5.76	43.11	54.00	10.89	177	41	

Note: No emission was detected in the range 10-25GHz.

802.11g
Low Channel, Horizontal



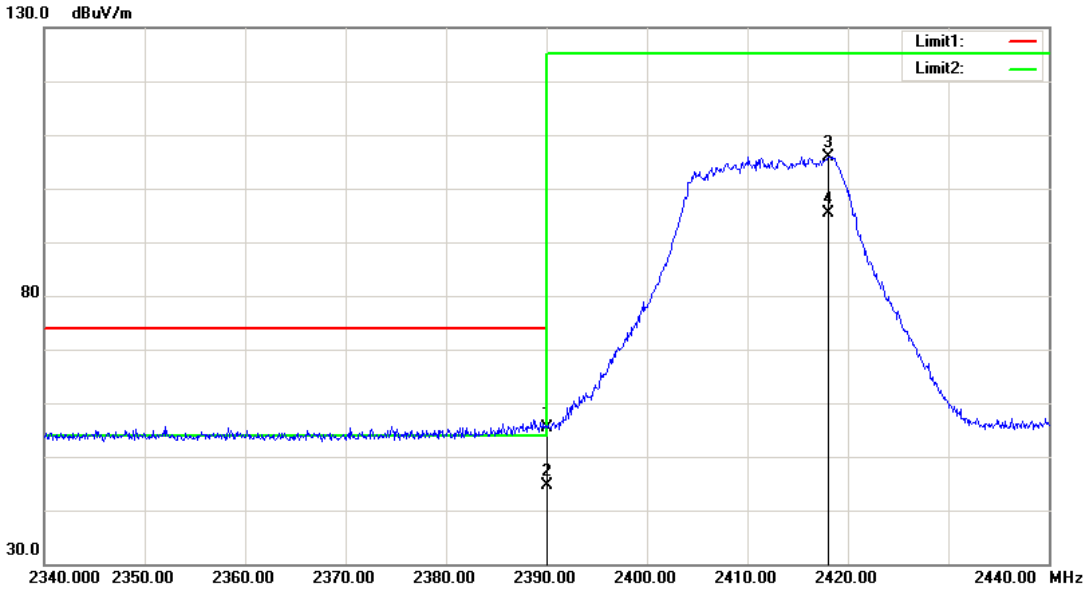
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2390.000	24.63	peak	29.87	54.50	74.00	19.50	148	79	
2	2390.000	14.26	AVG	29.87	44.13	54.00	9.87	148	79	
3	2416.600	70.55	peak	29.94	100.49	N/A	N/A	148	79	Fundamental
4	2416.600	60.54	AVG	29.94	90.48	N/A	N/A	148	79	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	7961.500	45.74	peak	4.72	50.46	74.00	23.54	175	73	
2	7961.500	35.42	AVG	4.72	40.14	54.00	13.86	175	73	

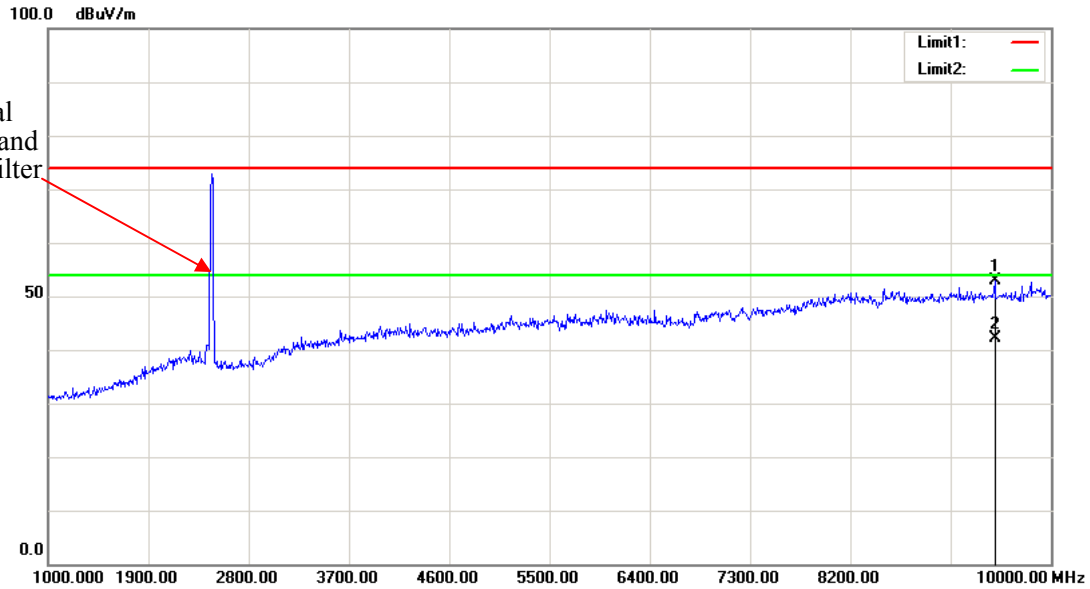
Note: No emission was detected in the range 10-25GHz.

Vertical



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2390.000	25.43	peak	29.87	55.30	74.00	18.70	151	23	
2	2390.000	14.67	AVG	29.87	44.54	54.00	9.46	151	23	
3	2418.050	75.96	peak	29.95	105.91	N/A	N/A	151	23	Fundamental
4	2418.050	65.48	AVG	29.95	95.43	N/A	N/A	151	23	Fundamental

Fundamental Test with Band Rejection Filter

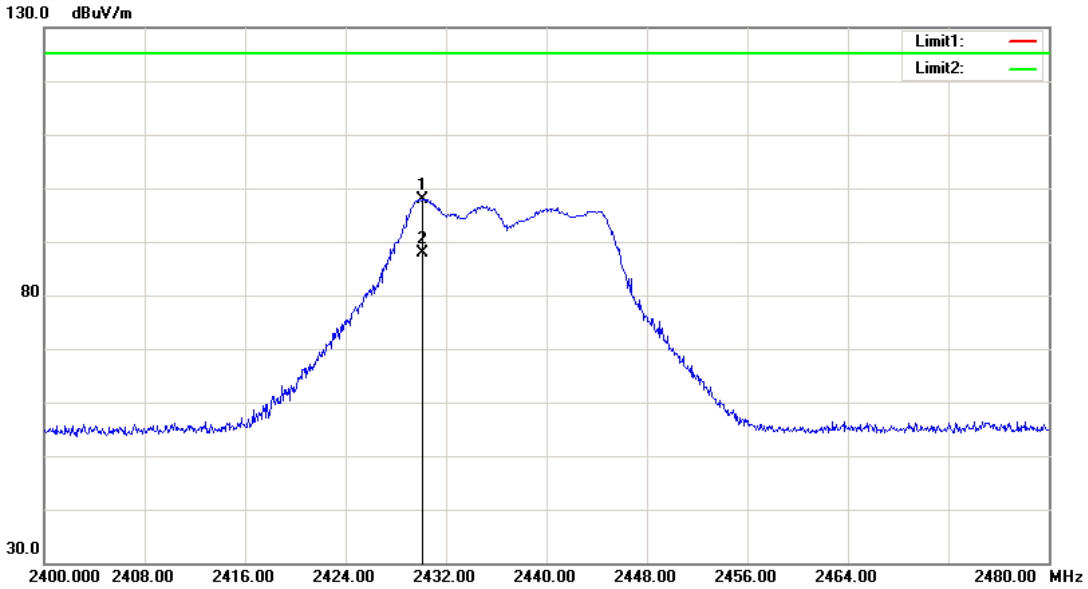


No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	9496.000	45.75	peak	7.03	52.78	74.00	21.22	170	48	
2	9496.000	35.21	AVG	7.03	42.24	54.00	11.76	170	48	

Note: No emission was detected in the range 10-25GHz.

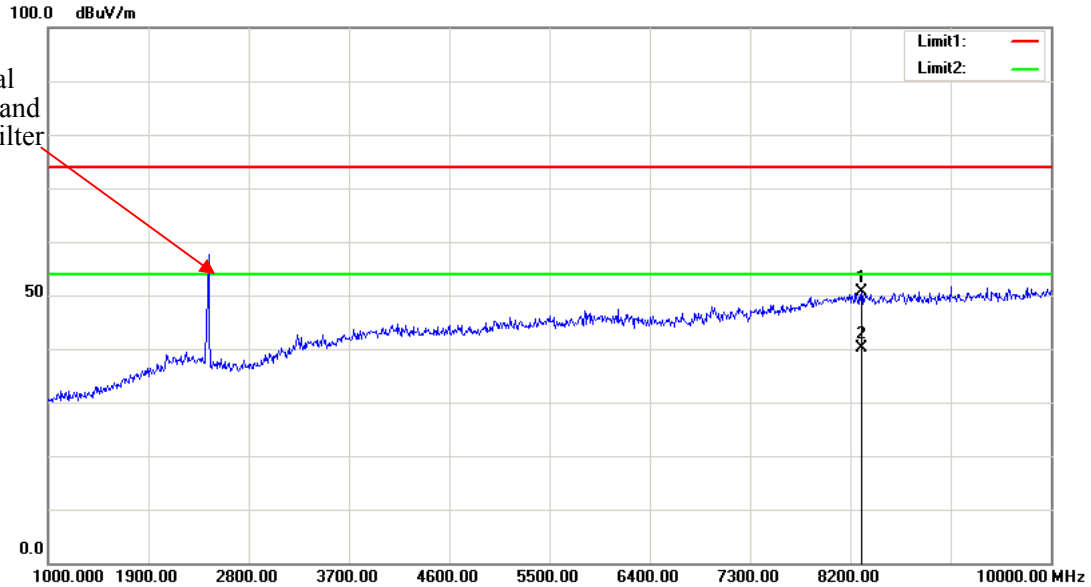
Middle Channel

Horizontal



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2430.120	67.97	peak	29.98	97.95	N/A	N/A	143	123	Fundamental
2	2430.120	57.89	AVG	29.98	87.87	N/A	N/A	143	123	Fundamental

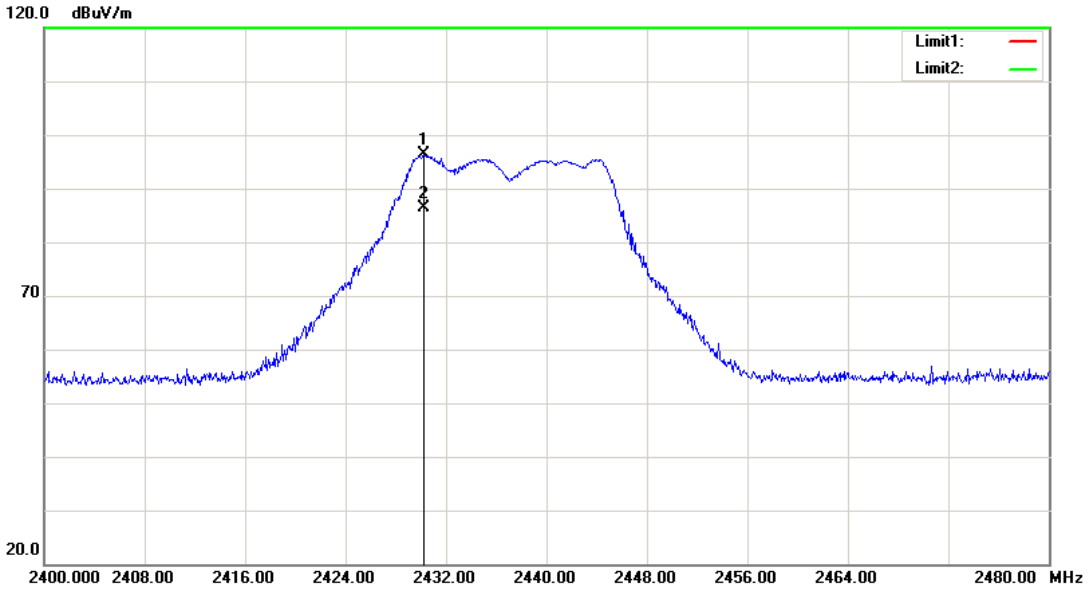
Fundamental Test with Band Rejection Filter



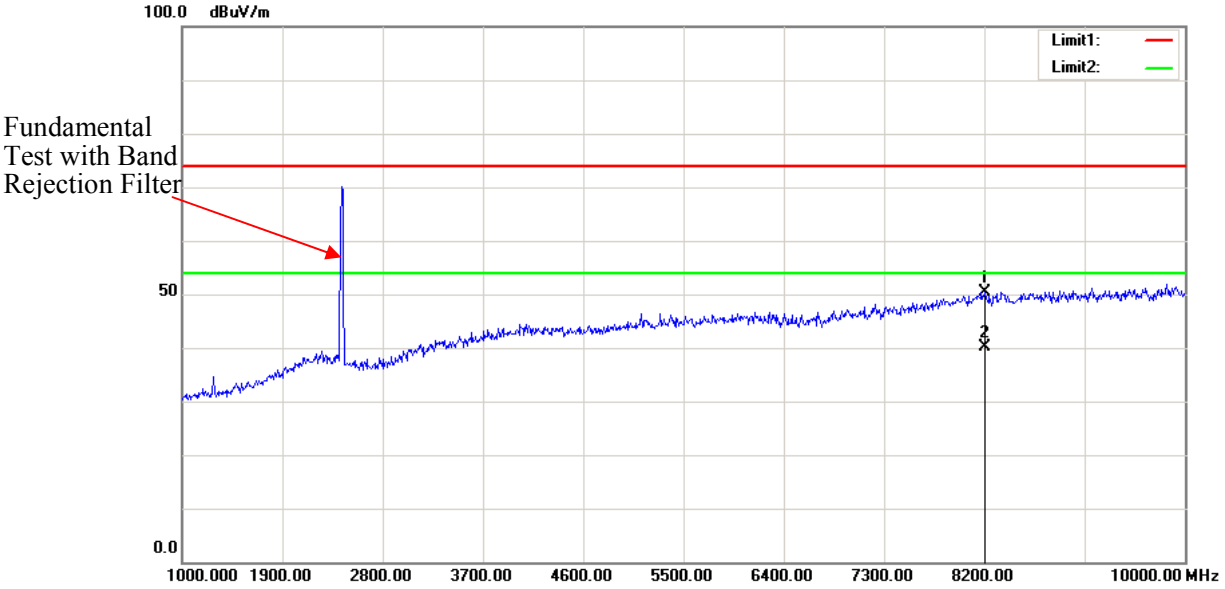
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8303.500	45.31	peak	5.21	50.52	74.00	23.48	175	53	
2	8303.500	35.03	AVG	5.21	40.24	54.00	13.76	175	53	

Note: No emission was detected in the range 10-25GHz.

Vertical



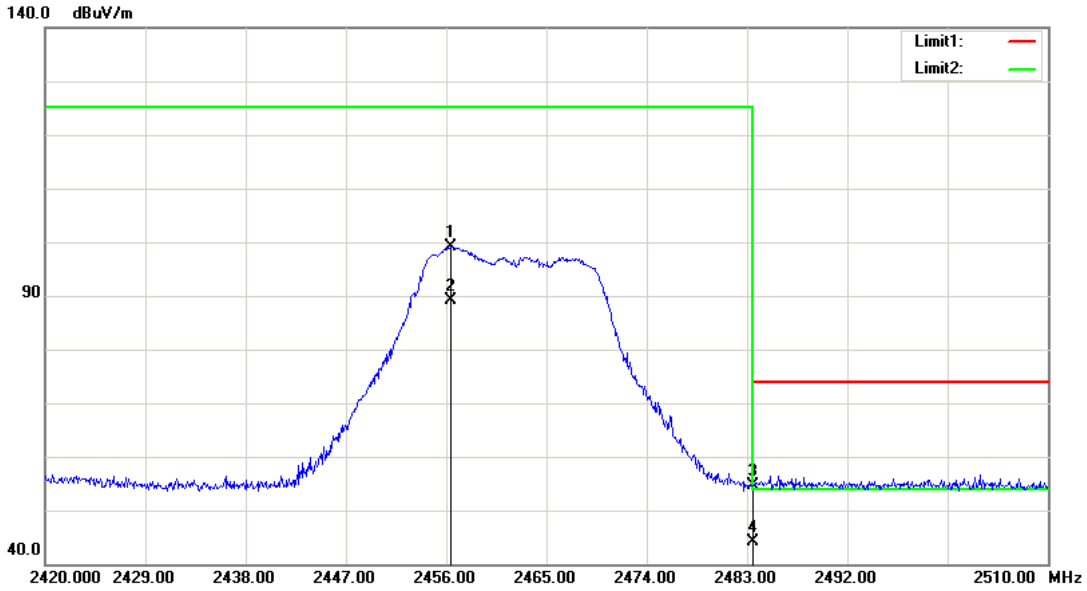
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2430.240	66.28	peak	29.98	96.26	N/A	N/A	152	154	Fundamental
2	2430.240	56.35	AVG	29.98	86.33	N/A	N/A	152	154	Fundamental



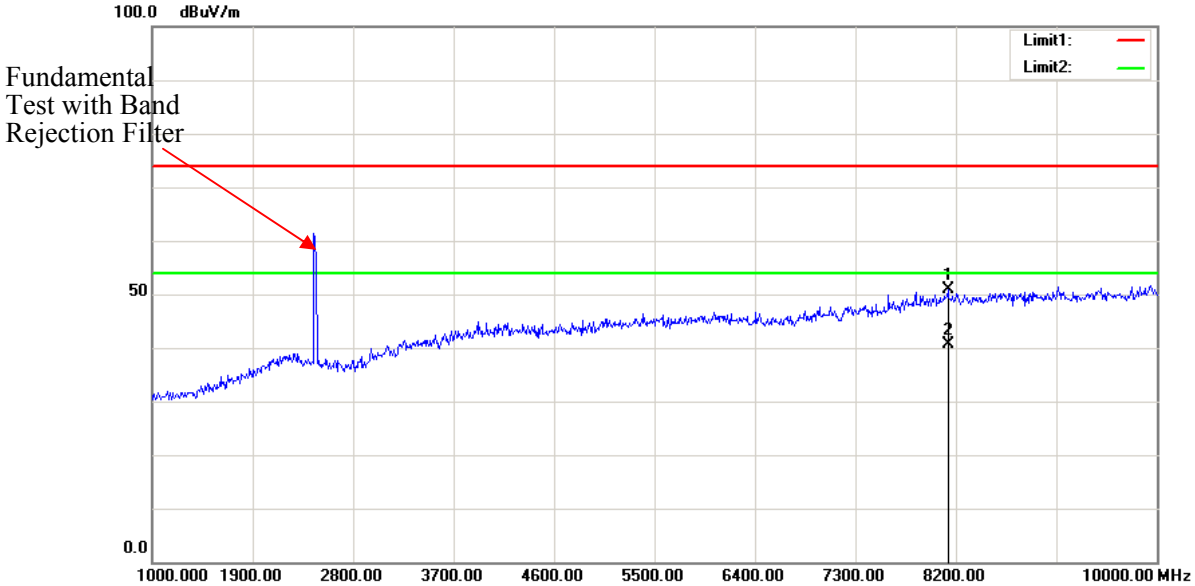
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8200.000	45.38	peak	5.08	50.46	74.00	23.54	164	73	
2	8200.000	35.16	AVG	5.08	40.24	54.00	13.76	164	73	

Note: No emission was detected in the range 10-25GHz.

High Channel, Horizontal



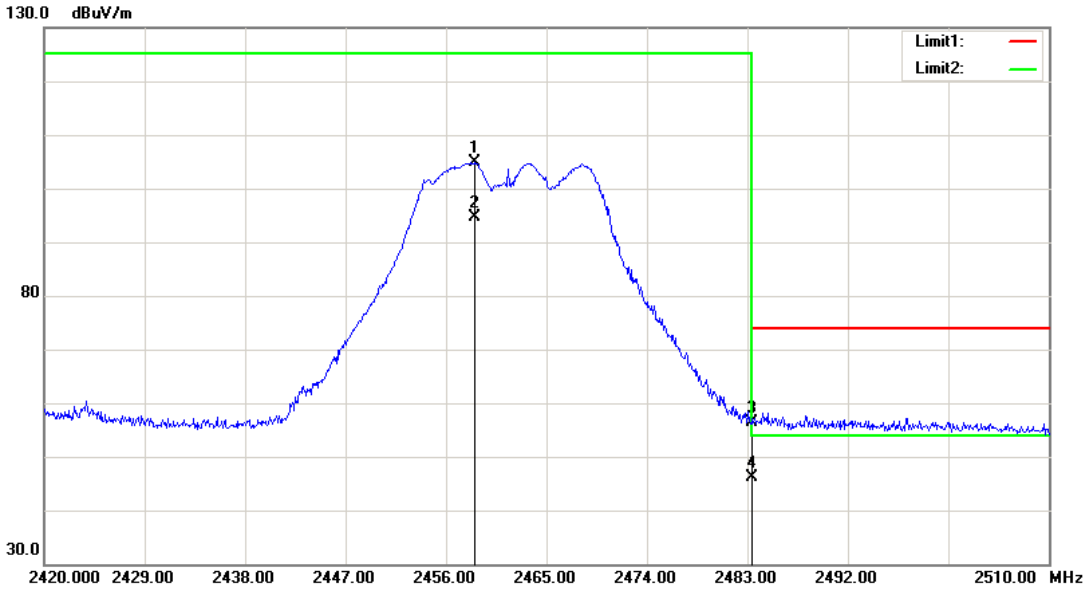
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2456.405	69.09	peak	30.04	99.13	N/A	N/A	156	40	Fundamental
2	2456.405	58.97	AVG	30.04	89.01	N/A	N/A	156	40	Fundamental
3	2483.500	24.62	peak	30.11	54.73	74.00	19.27	156	40	
4	2483.500	14.10	AVG	30.11	44.21	54.00	9.79	156	40	



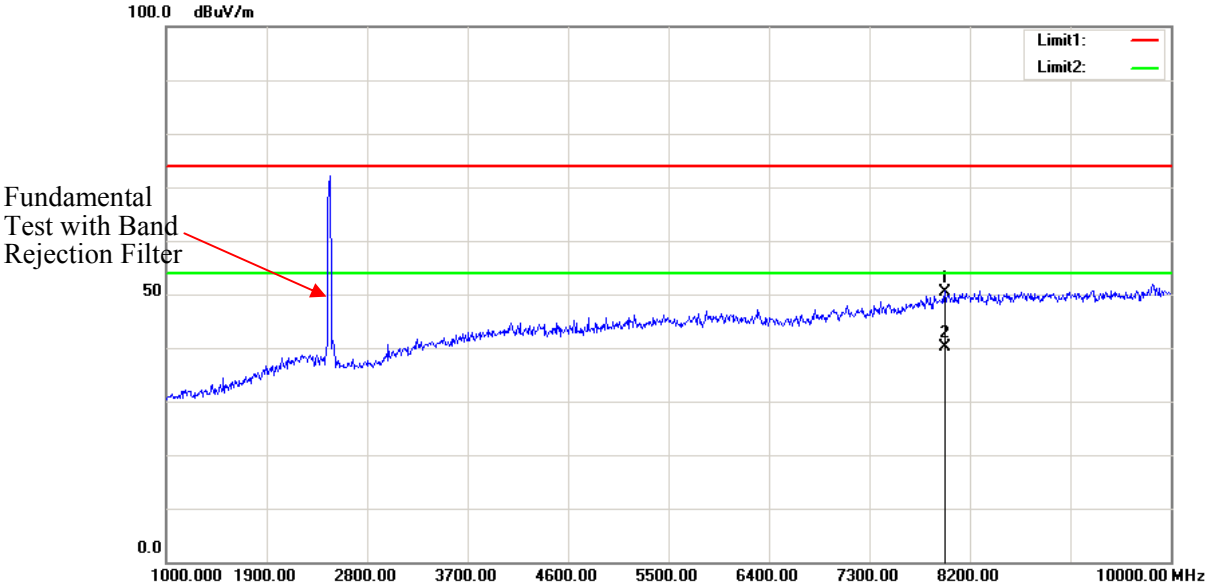
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8132.500	45.92	peak	5.00	50.92	74.00	23.08	173	144	
2	8132.500	35.54	AVG	5.00	40.54	54.00	13.46	173	144	

Note: No emission was detected in the range 10-25GHz.

Vertical



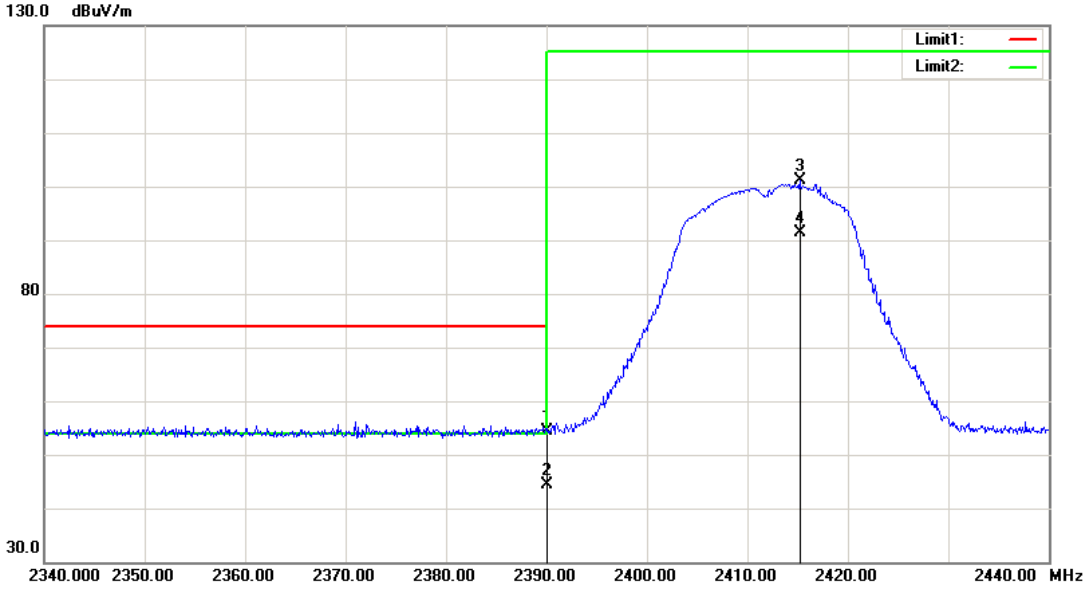
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2458.610	74.76	peak	30.05	104.81	N/A	N/A	140	177	Fundamental
2	2458.610	64.51	AVG	30.05	94.56	N/A	N/A	140	177	Fundamental
3	2483.500	26.19	peak	30.11	56.30	74.00	17.70	140	177	
4	2483.500	16.12	AVG	30.11	46.23	54.00	7.77	140	177	



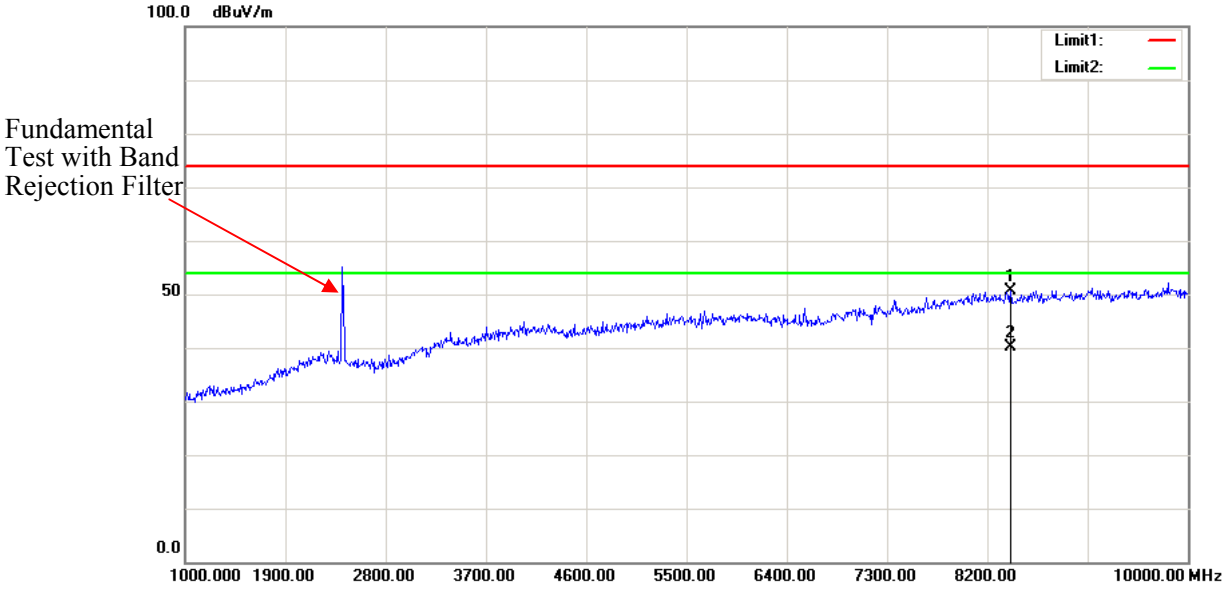
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	7979.500	45.73	peak	4.77	50.50	74.00	23.50	155	145	
2	7979.500	35.44	AVG	4.77	40.21	54.00	13.79	155	145	

Note: No emission was detected in the range 10-25GHz.

802.11n ht20
Low Channel, Horizontal



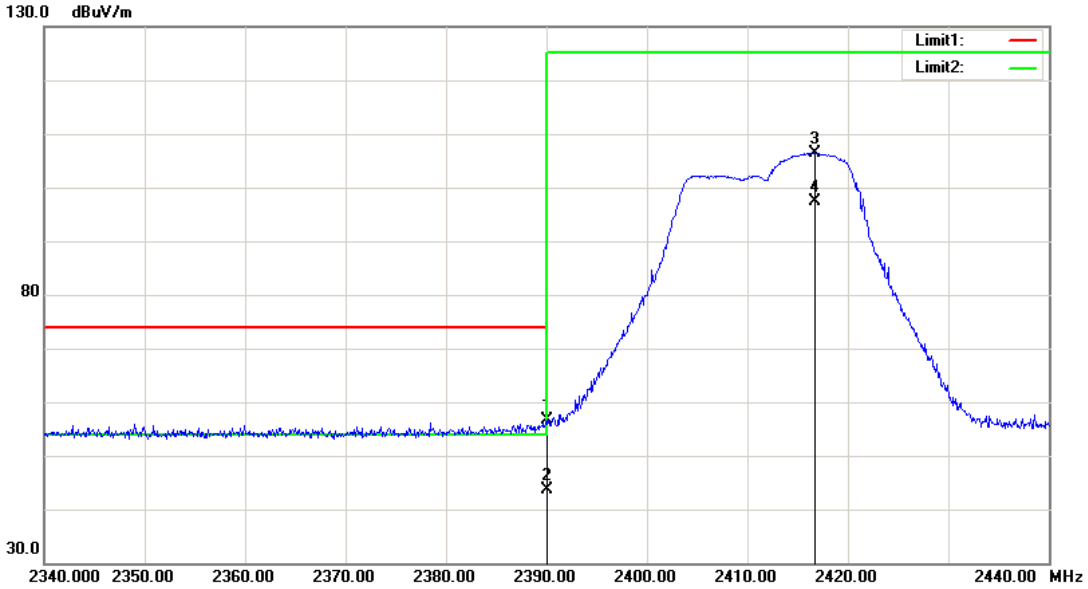
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2390.000	24.51	peak	29.87	54.38	74.00	19.62	152	336	
2	2390.000	14.63	AVG	29.87	44.50	54.00	9.50	152	336	
3	2415.250	71.24	peak	29.94	101.18	N/A	N/A	152	336	Fundamental
4	2415.250	61.53	AVG	29.94	91.47	N/A	N/A	152	336	Fundamental



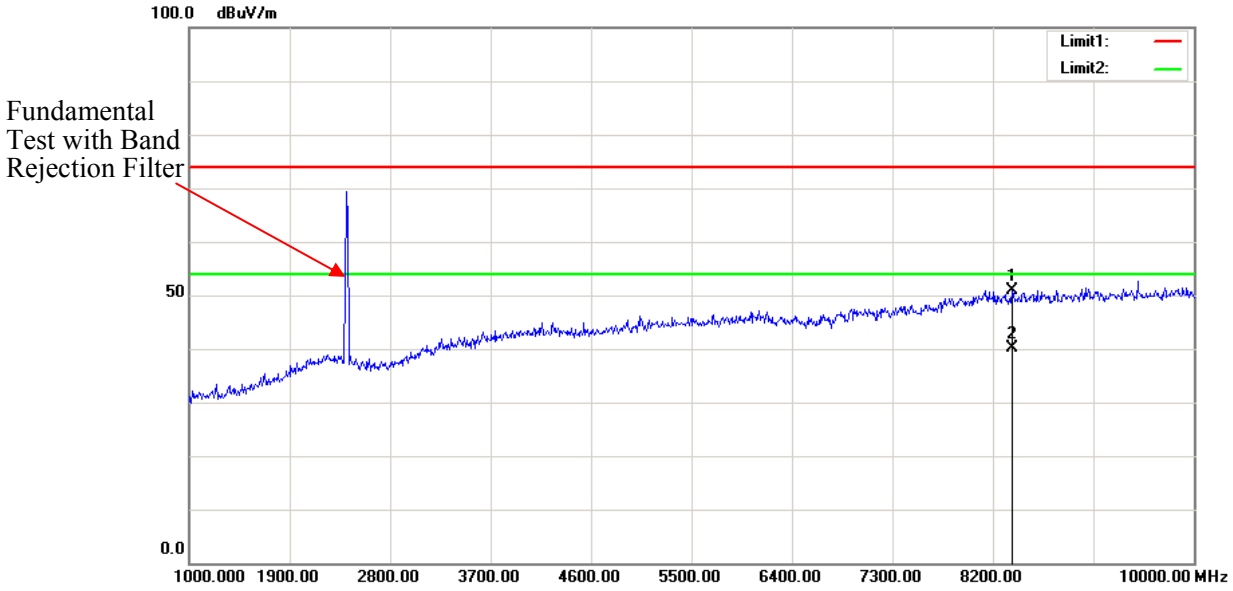
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8407.000	45.24	peak	5.33	50.57	74.00	23.43	180	69	
2	8407.000	34.88	AVG	5.33	40.21	54.00	13.79	180	69	

Note: No emission was detected in the range 10-25GHz.

Vertical



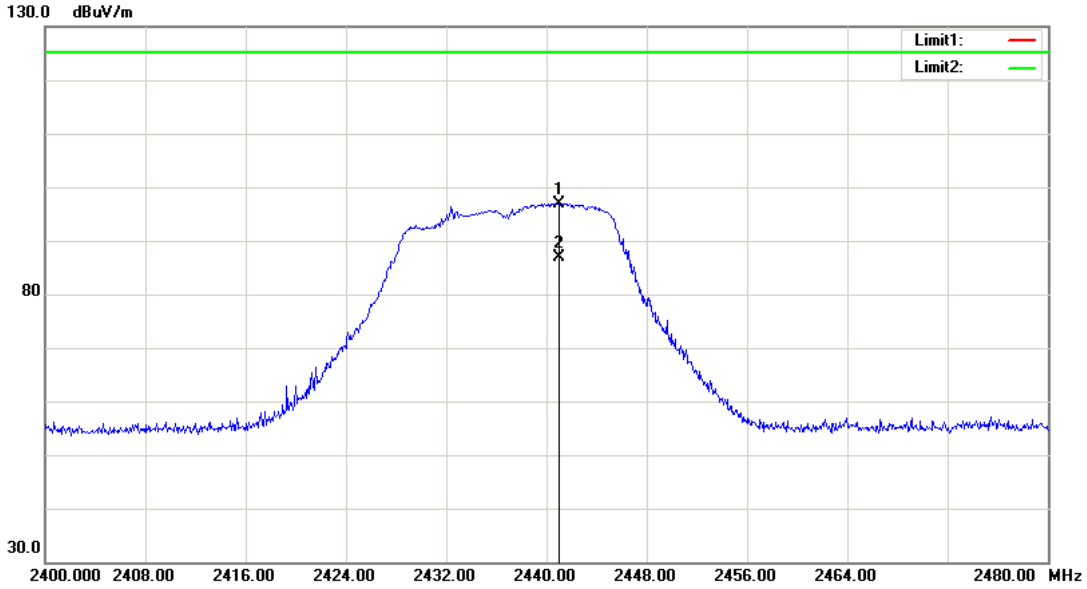
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2390.000	26.75	peak	29.87	56.62	74.00	17.38	148	122	
2	2390.000	13.68	AVG	29.87	43.55	54.00	10.45	148	122	
3	2416.750	76.50	peak	29.94	106.44	N/A	N/A	148	122	Fundamental
4	2416.750	67.52	AVG	29.94	97.46	N/A	N/A	148	122	Fundamental



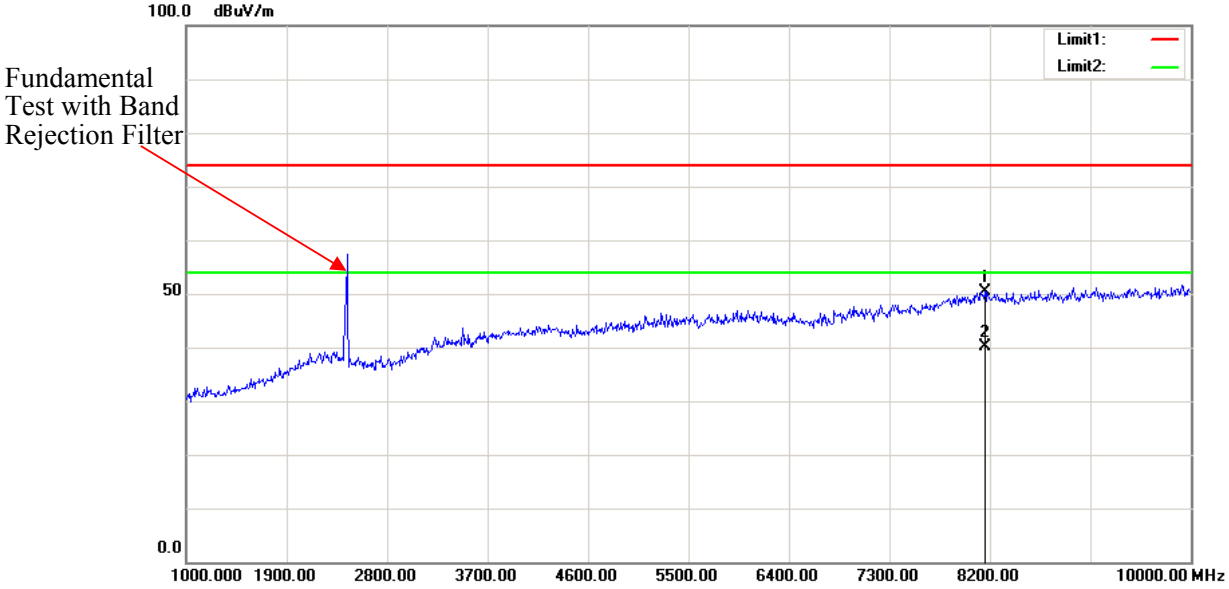
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8371.000	45.57	peak	5.29	50.86	74.00	23.14	175	46	
2	8371.000	34.83	AVG	5.29	40.12	54.00	13.88	175	46	

Note: No emission was detected in the range 10-25GHz.

Middle Channel, Horizontal



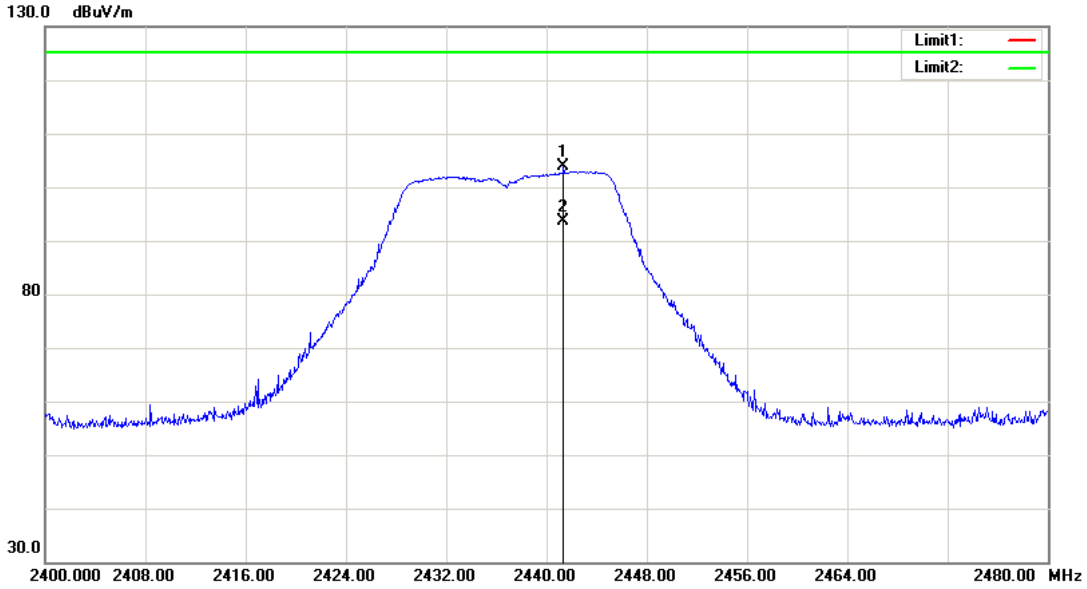
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2441.000	66.95	peak	30.00	96.95	N/A	N/A	146	23	Fundamental
2	2441.000	56.87	AVG	30.00	86.87	N/A	N/A	146	23	Fundamental



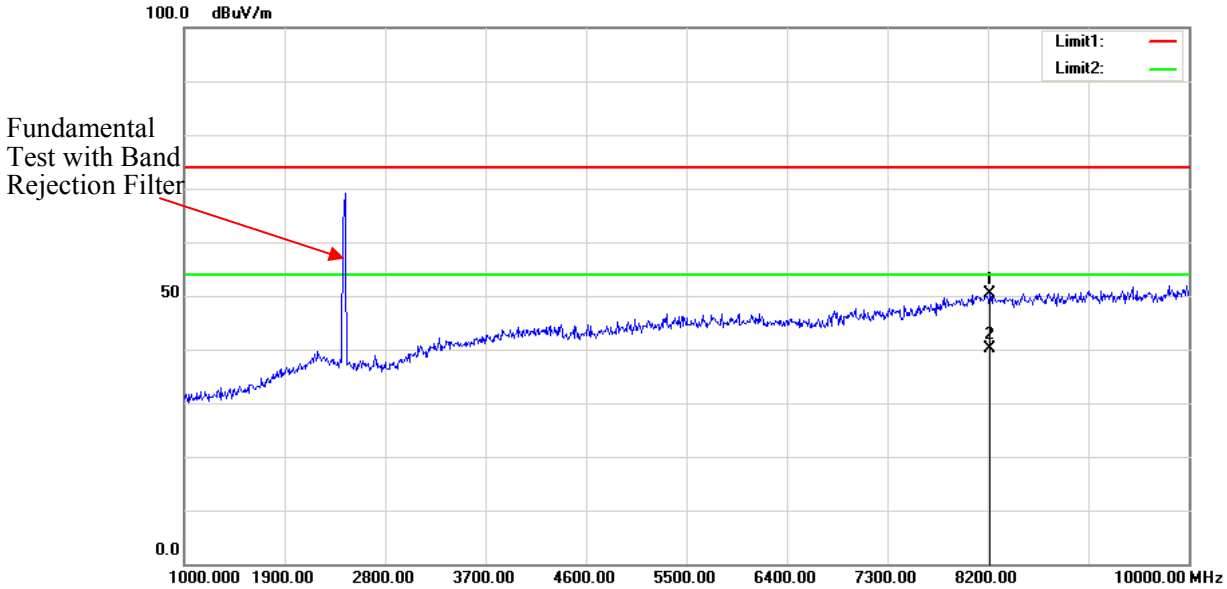
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8159.500	45.40	peak	5.03	50.43	74.00	23.57	164	144	
2	8159.500	35.09	AVG	5.03	40.12	54.00	13.88	164	144	

Note: No emission was detected in the range 10-25GHz.

Vertical



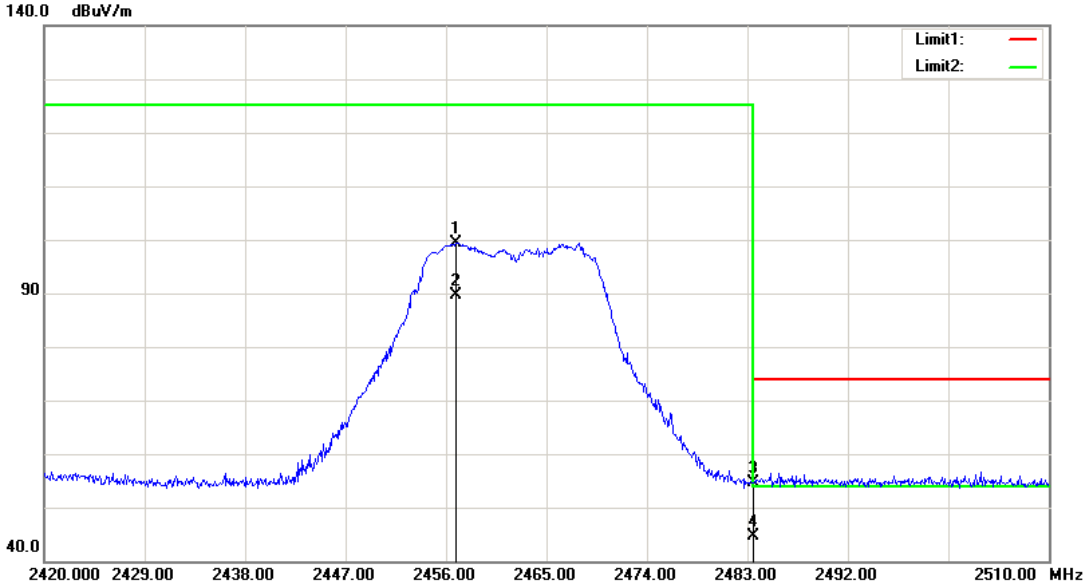
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2441.360	73.89	peak	30.00	103.89	N/A	N/A	148	225	Fundamental
2	2441.360	63.58	AVG	30.00	93.58	N/A	N/A	148	225	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8218.000	45.28	peak	5.11	50.39	74.00	23.61	170	133	
2	8218.000	35.01	AVG	5.11	40.12	54.00	13.88	170	133	

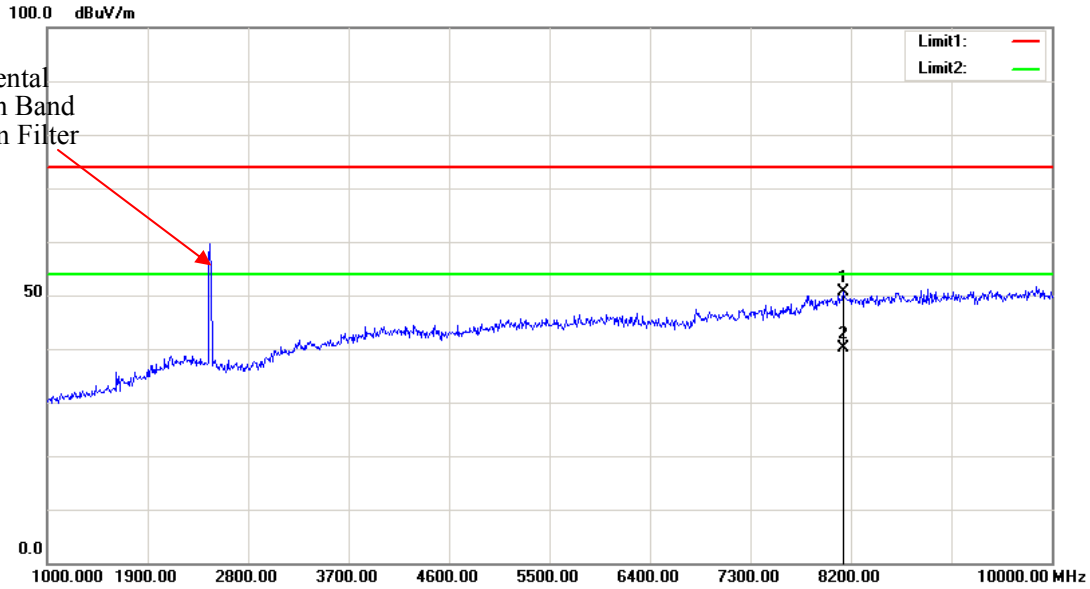
Note: No emission was detected in the range 10-25GHz.

High Channel, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2456.900	69.46	peak	30.04	99.50	N/A	N/A	155	56	Fundamental
2	2456.900	59.53	AVG	30.04	89.57	N/A	N/A	155	56	Fundamental
3	2483.500	24.62	peak	30.11	54.73	74.00	19.27	155	56	
4	2483.500	14.45	AVG	30.11	44.56	54.00	9.44	155	56	

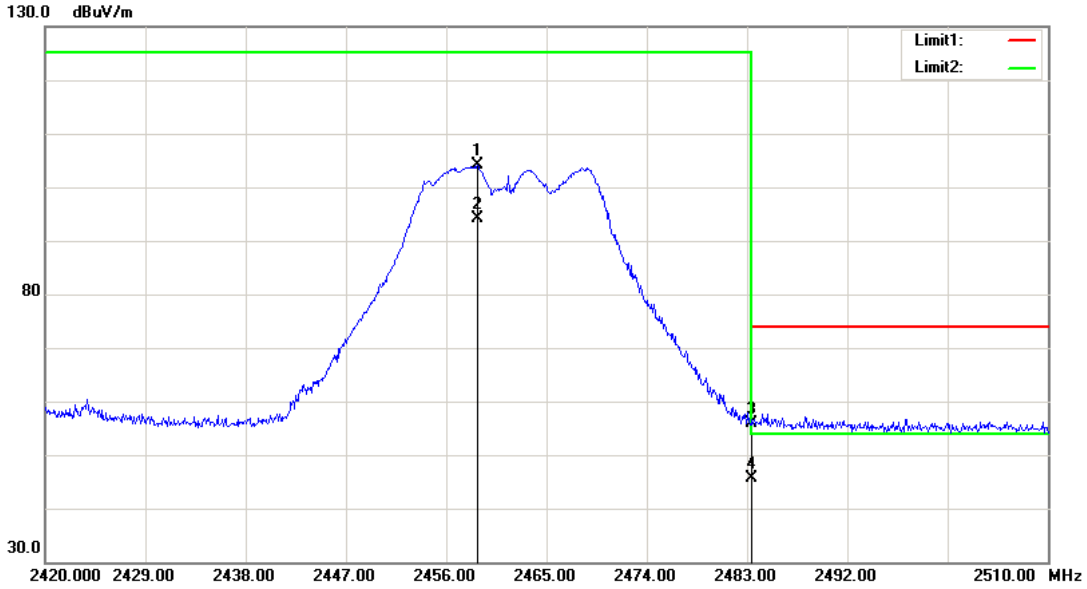
Fundamental Test with Band Rejection Filter



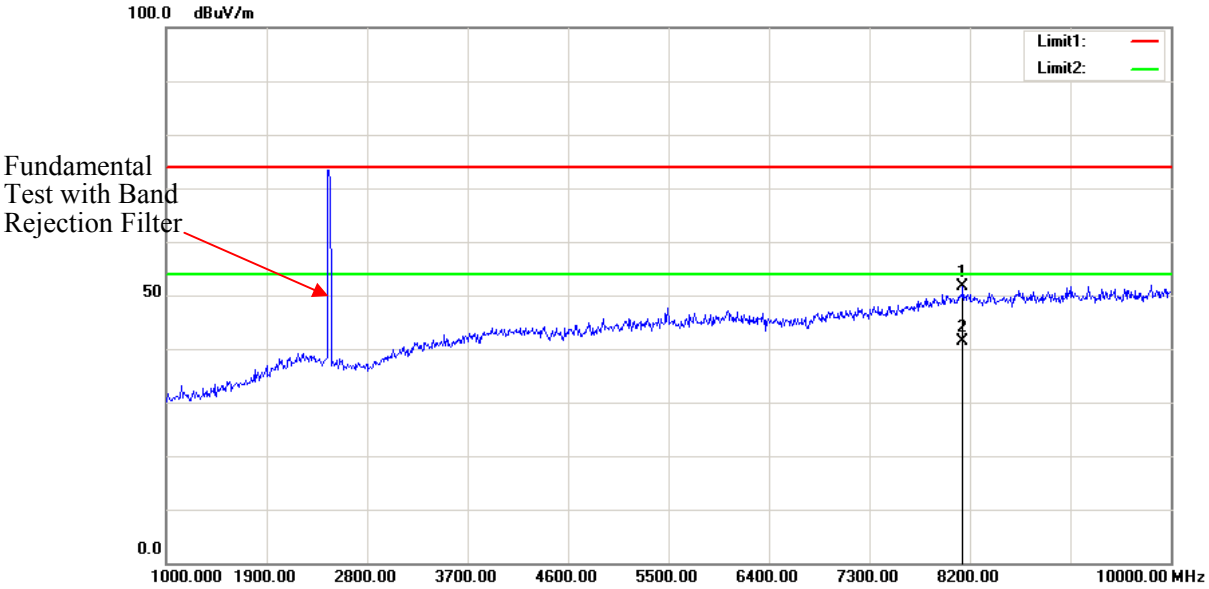
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8128.000	45.67	peak	4.99	50.66	74.00	23.34	170	120	
2	8128.000	35.13	AVG	4.99	40.12	54.00	13.88	170	120	

Note: No emission was detected in the range 10-25GHz.

Vertical



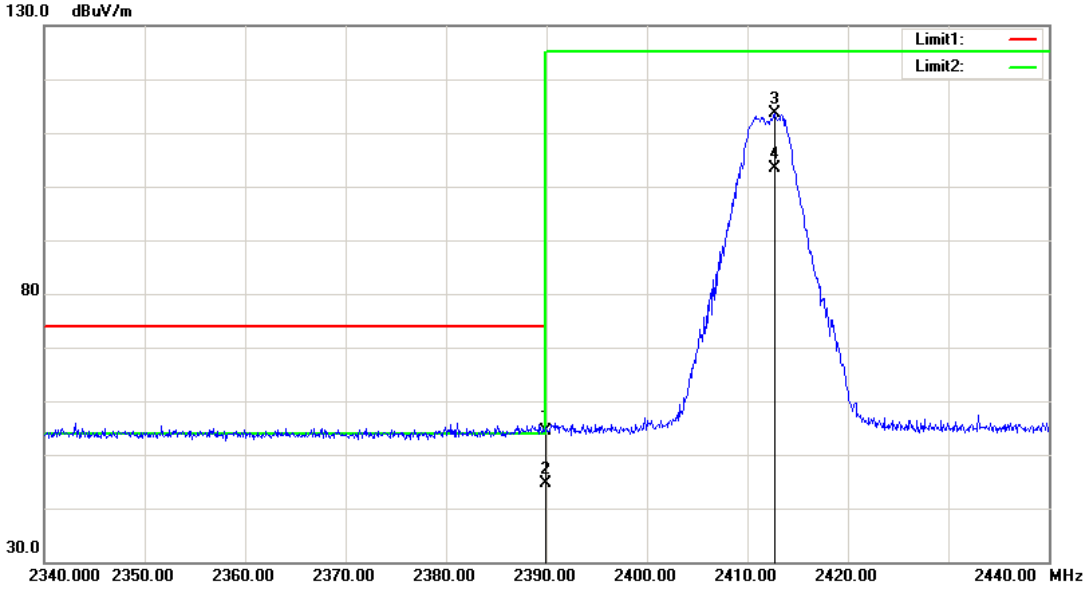
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2458.835	74.01	peak	30.05	104.06	N/A	N/A	164	44	Fundamental
2	2458.835	64.20	AVG	30.05	94.25	N/A	N/A	164	44	Fundamental
3	2483.500	25.69	peak	30.11	55.80	74.00	18.20	164	44	
4	2483.500	15.56	AVG	30.11	45.67	54.00	8.33	164	44	



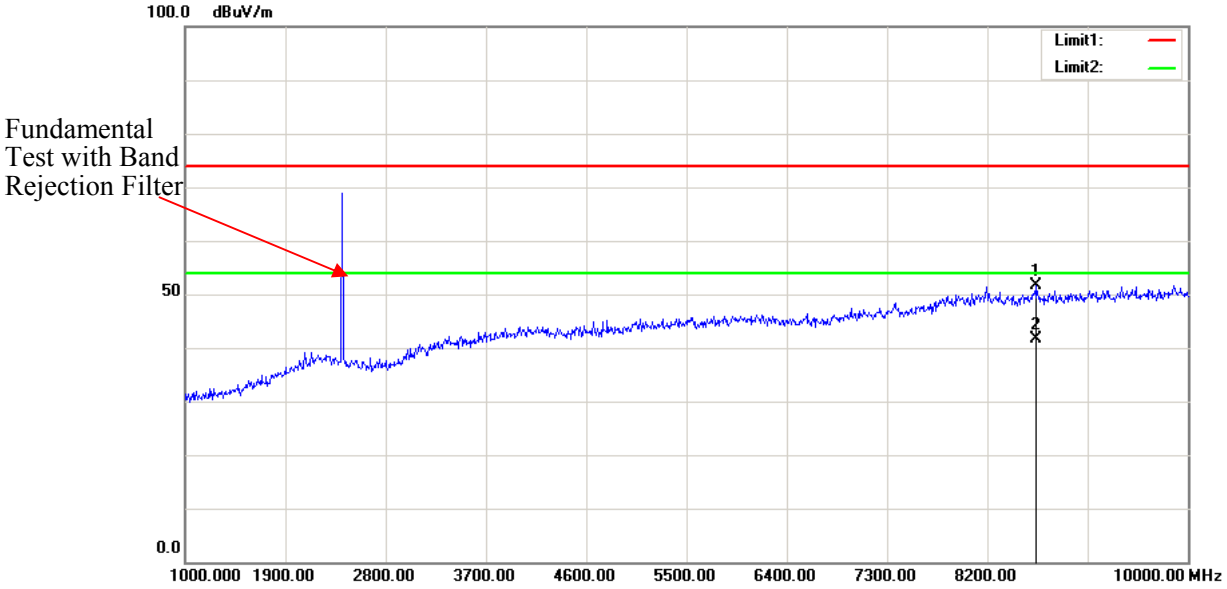
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8137.000	46.54	peak	5.00	51.54	74.00	22.46	180	76	
2	8137.000	36.34	AVG	5.00	41.34	54.00	12.66	180	76	

Note: No emission was detected in the range 10-25GHz.

5M,
Low Channel, Horizontal



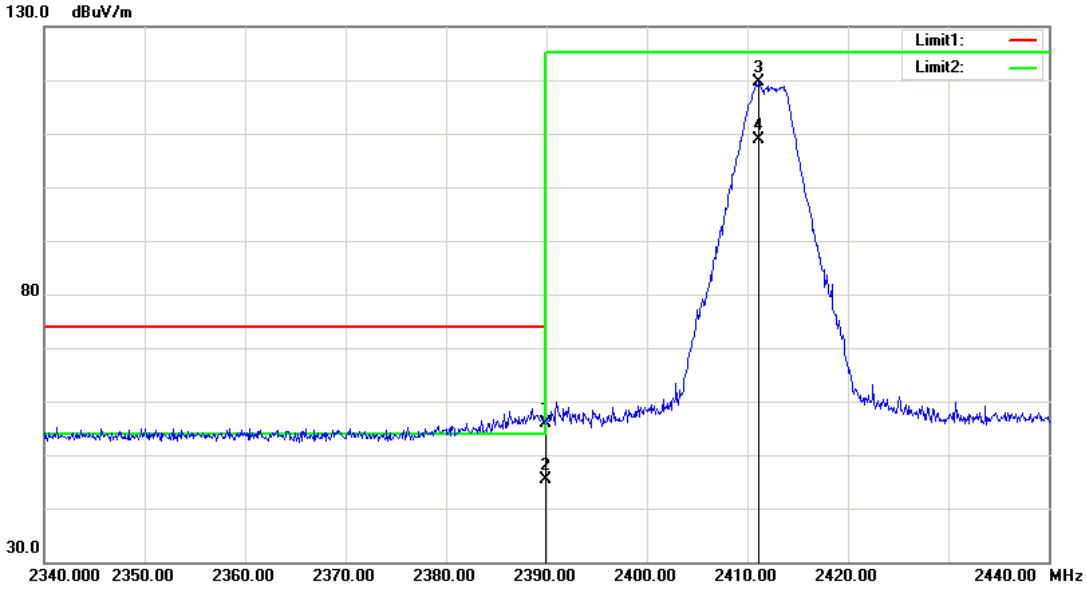
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2390.000	24.51	peak	29.87	54.38	74.00	19.62	154	150	
2	2390.000	14.71	AVG	29.87	44.58	54.00	9.42	154	150	
3	2412.700	83.62	peak	29.94	113.56	N/A	N/A	154	150	Fundamental
4	2412.700	73.47	AVG	29.94	103.41	N/A	N/A	154	150	Fundamental



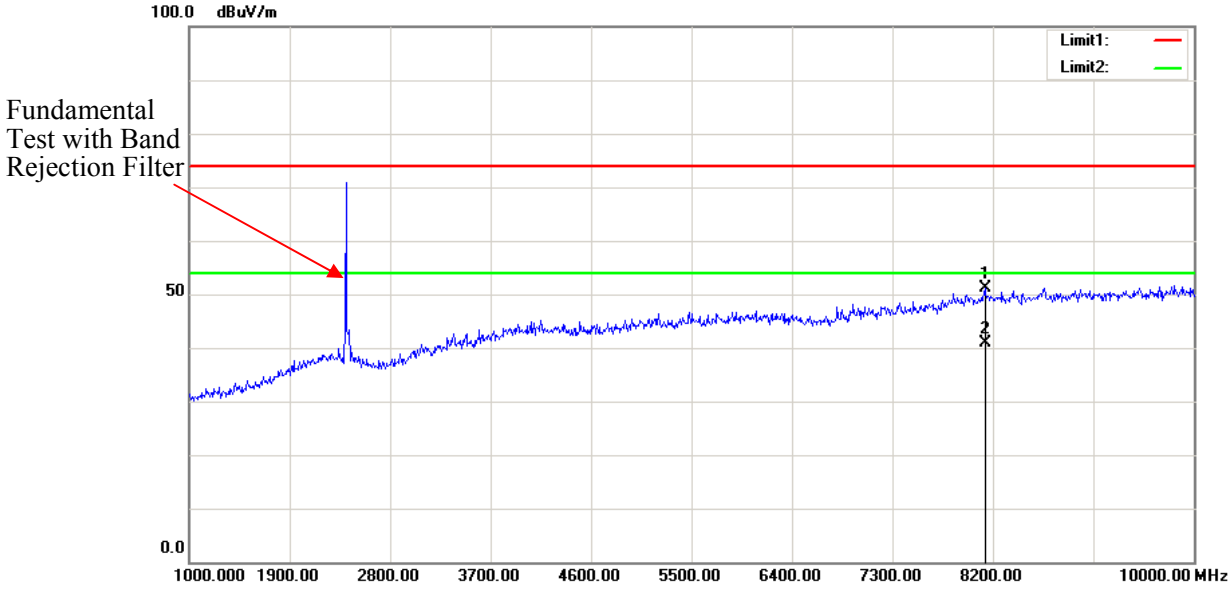
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8645.500	45.82	peak	5.69	51.51	74.00	22.49	173	12	
2	8645.500	35.88	AVG	5.69	41.57	54.00	12.43	176	12	

Note: No emission was detected in the range 10-25GHz.

Vertical



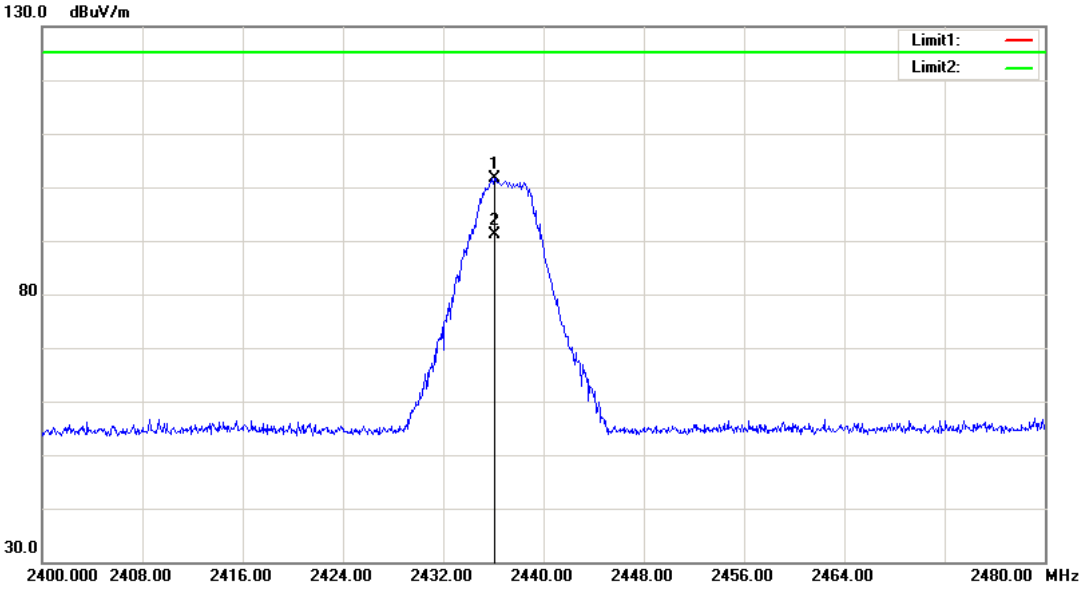
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2390.000	26.00	peak	29.87	55.87	74.00	18.13	156	99	
2	2390.000	15.41	AVG	29.87	45.28	54.00	8.72	156	99	
3	2411.150	89.79	peak	29.93	119.72	N/A	N/A	156	99	Fundamental
4	2411.150	79.07	AVG	29.93	109.00	N/A	N/A	156	99	Fundamental



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8128.000	46.25	peak	4.99	51.24	74.00	22.76	175	75	
2	8128.000	36.01	AVG	4.99	41.00	54.00	13.00	175	75	

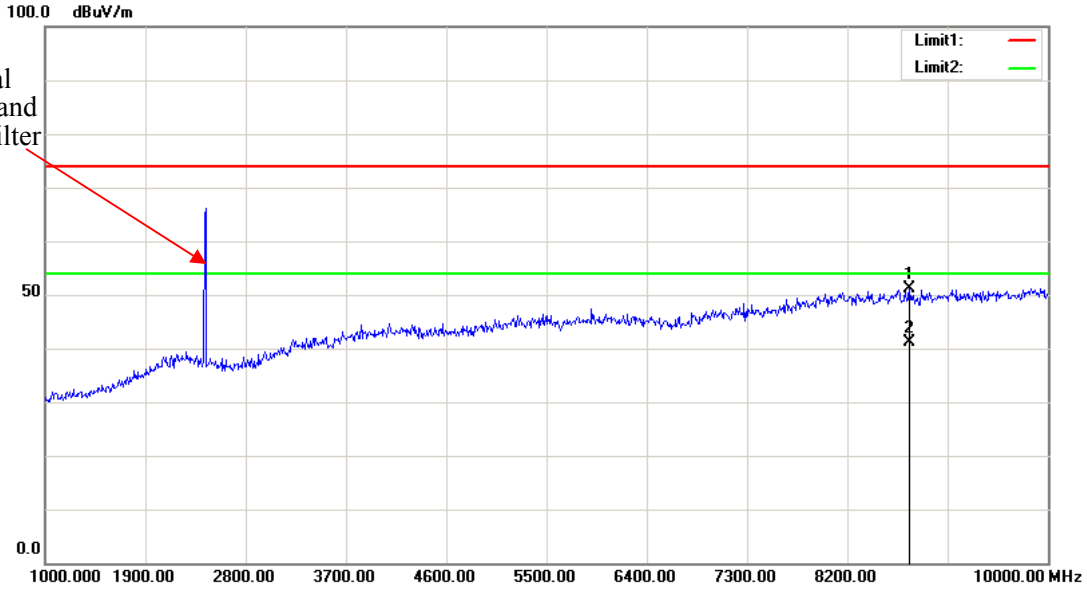
Note: No emission was detected in the range 10-25GHz.

Middle Channel, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2436.120	71.62	peak	29.99	101.61	N/A	N/A	145	66	Fundamental
2	2436.120	61.03	AVG	29.99	91.02	N/A	N/A	145	66	Fundamental

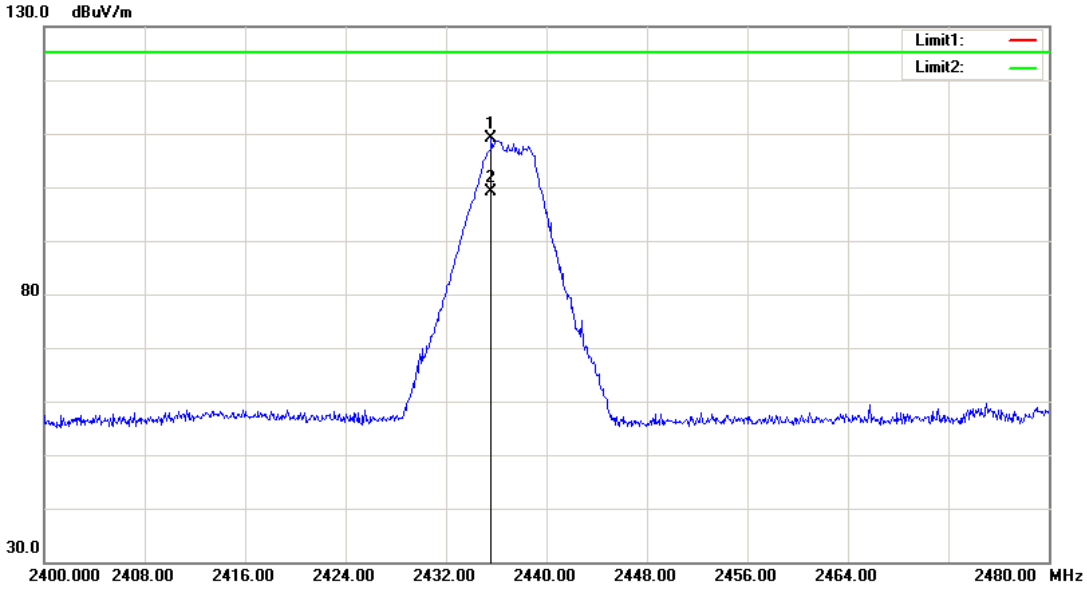
Fundamental Test with Band Rejection Filter



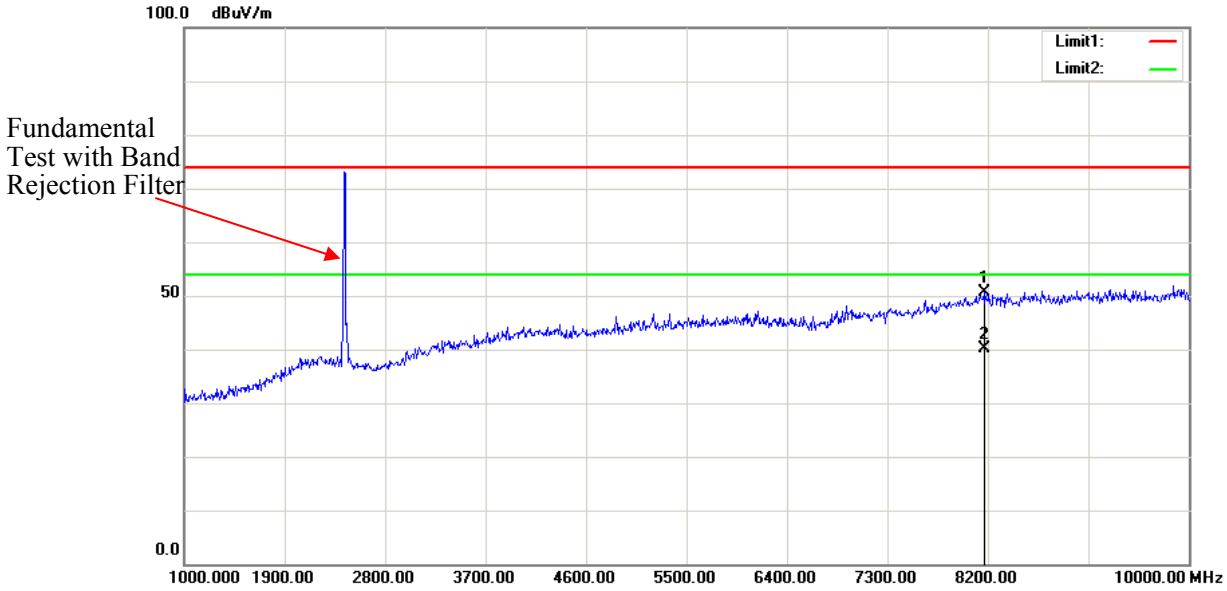
No.	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8762.500	45.22	peak	5.88	51.10	74.00	22.90	150	43	
2	8762.500	35.34	AVG	5.88	41.22	54.00	12.78	150	43	

Note: No emission was detected in the range 10-25GHz.

Vertical



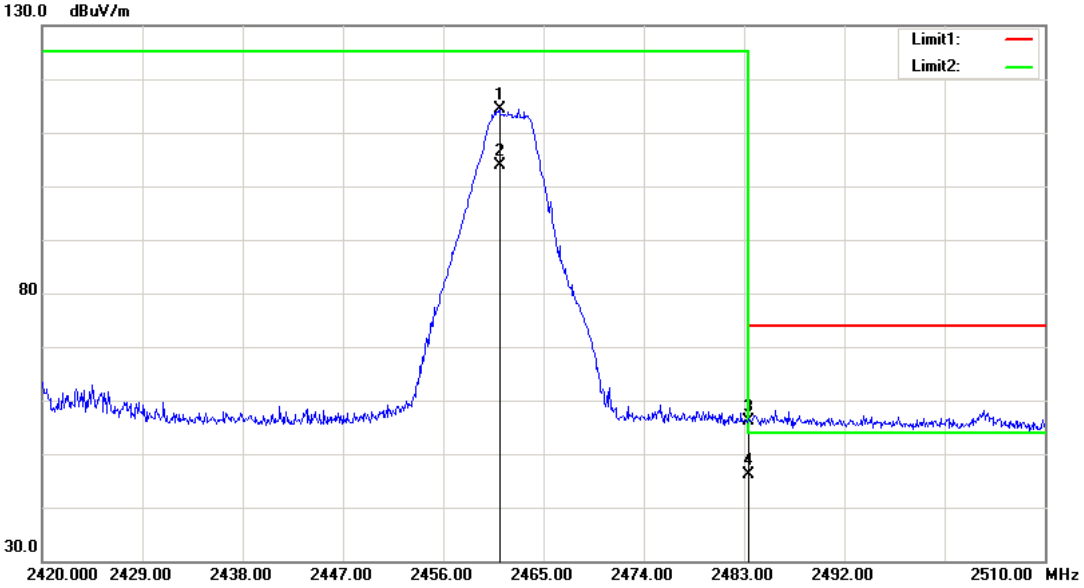
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2435.640	79.26	peak	29.99	109.25	N/A	N/A	167	90	Fundamental
2	2435.640	69.06	AVG	29.99	99.05	N/A	N/A	167	90	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8168.500	45.52	peak	5.05	50.57	74.00	23.43	175	46	
2	8168.500	35.19	AVG	5.05	40.24	54.00	13.76	175	46	

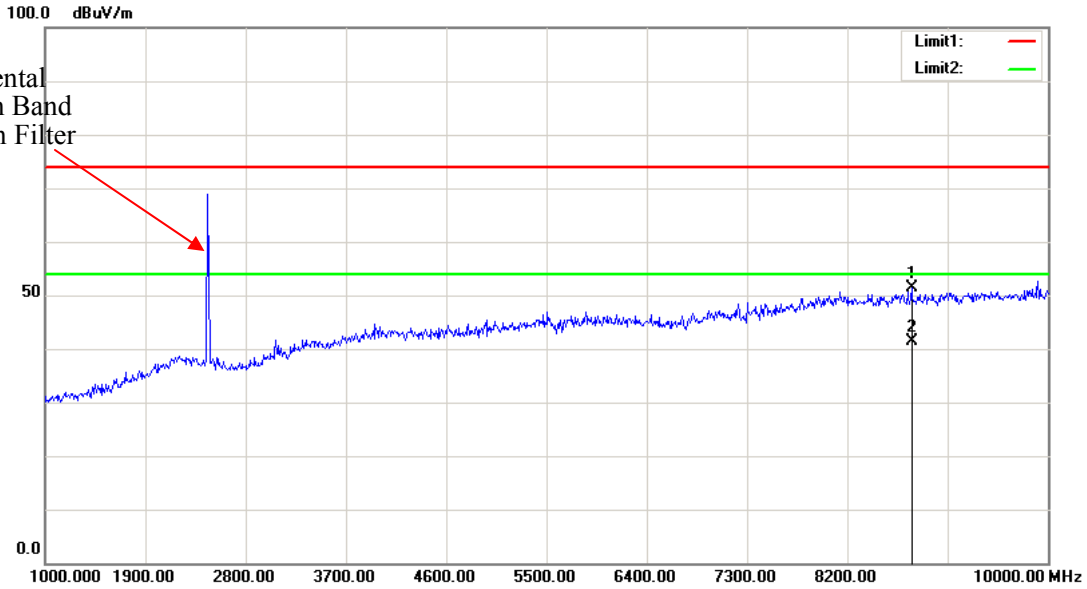
Note: No emission was detected in the range 10-25GHz.

High Channel, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2461.040	84.39	peak	30.05	114.44	N/A	N/A	150	188	Fundamental
2	2461.040	73.95	AVG	30.05	104.00	N/A	N/A	150	188	Fundamental
3	2483.500	26.07	peak	30.11	56.18	74.00	17.82	150	188	
4	2483.500	16.14	AVG	30.11	46.25	54.00	7.75	150	188	

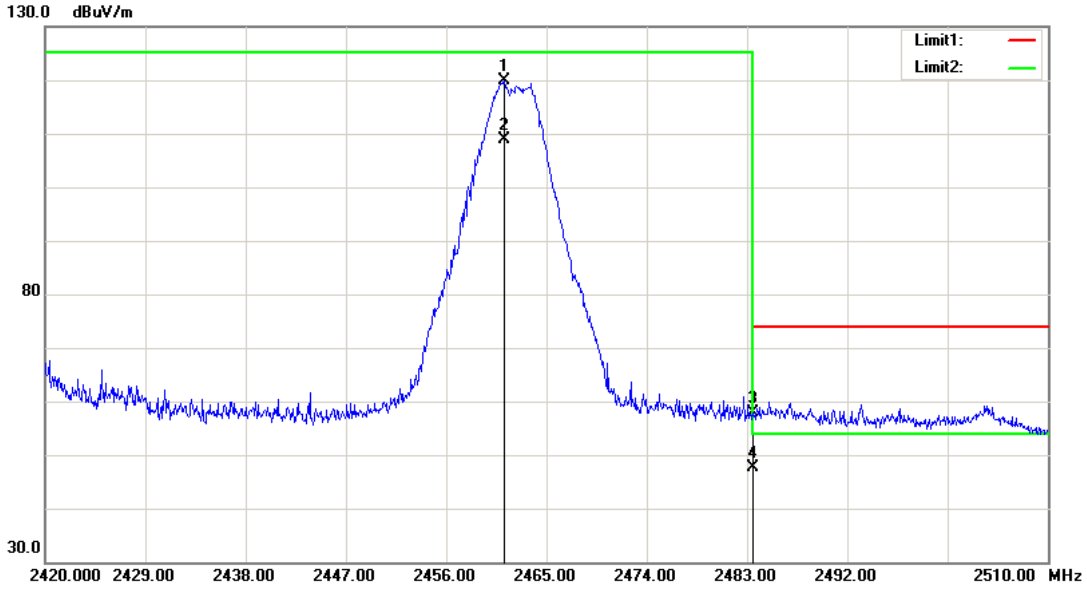
Fundamental Test with Band Rejection Filter



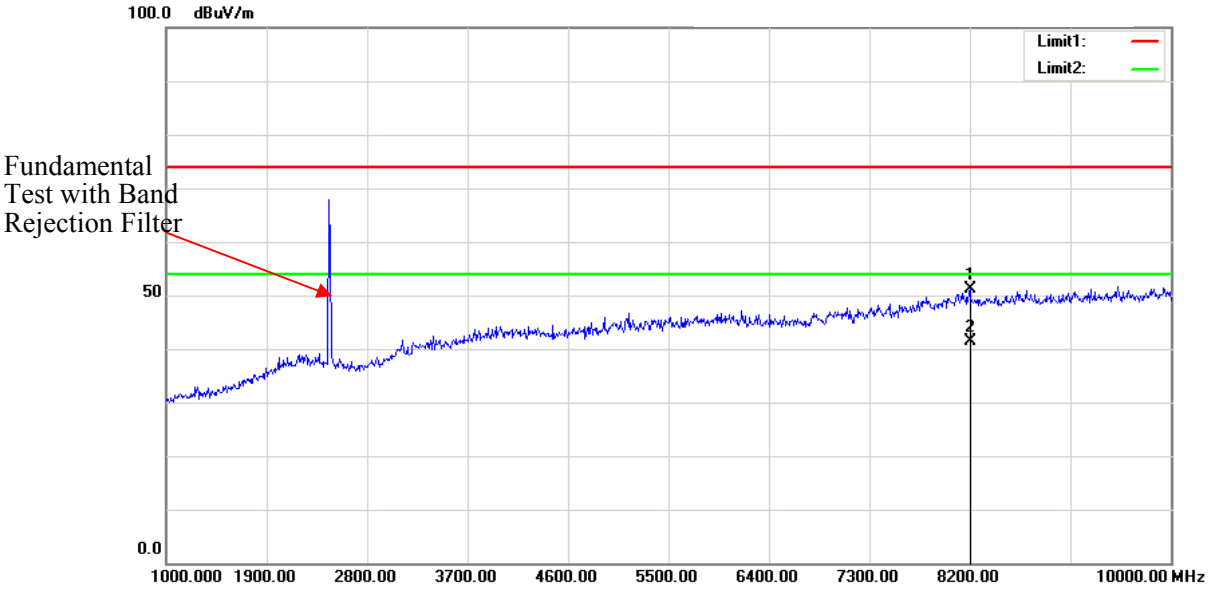
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8776.000	45.41	peak	5.90	51.31	74.00	22.69	175	70	
2	8776.000	35.55	AVG	5.90	41.45	54.00	12.55	175	70	

Note: No emission was detected in the range 10-25GHz.

Vertical



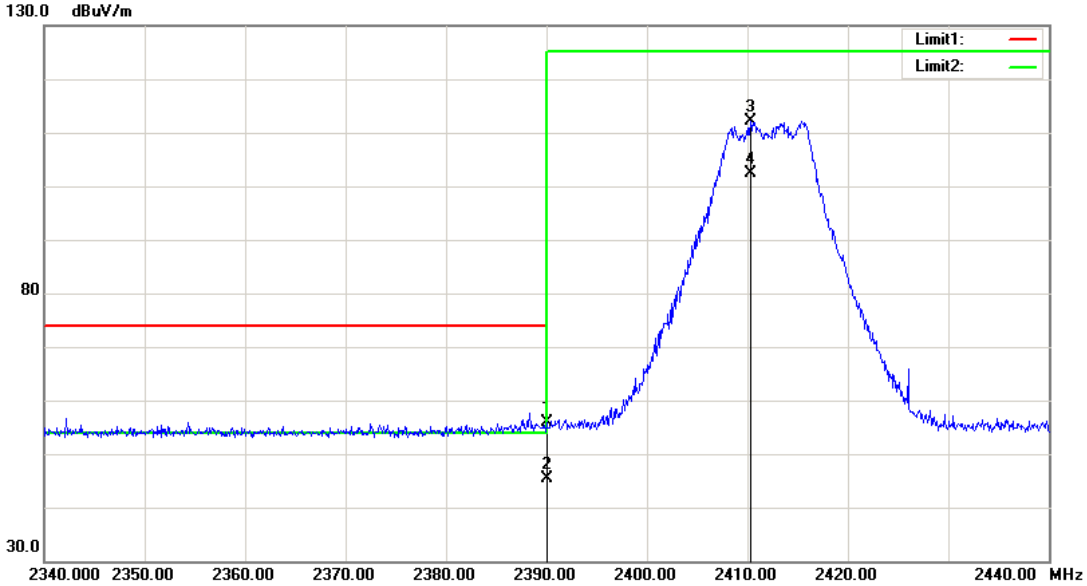
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2461.220	89.94	peak	30.05	119.99	N/A	N/A	200	160	Fundamental
2	2461.220	78.95	AVG	30.05	109.00	N/A	N/A	200	160	Fundamental
3	2483.500	27.65	peak	30.11	57.76	74.00	16.24	200	160	
4	2483.500	17.47	AVG	30.11	47.58	54.00	6.42	200	160	



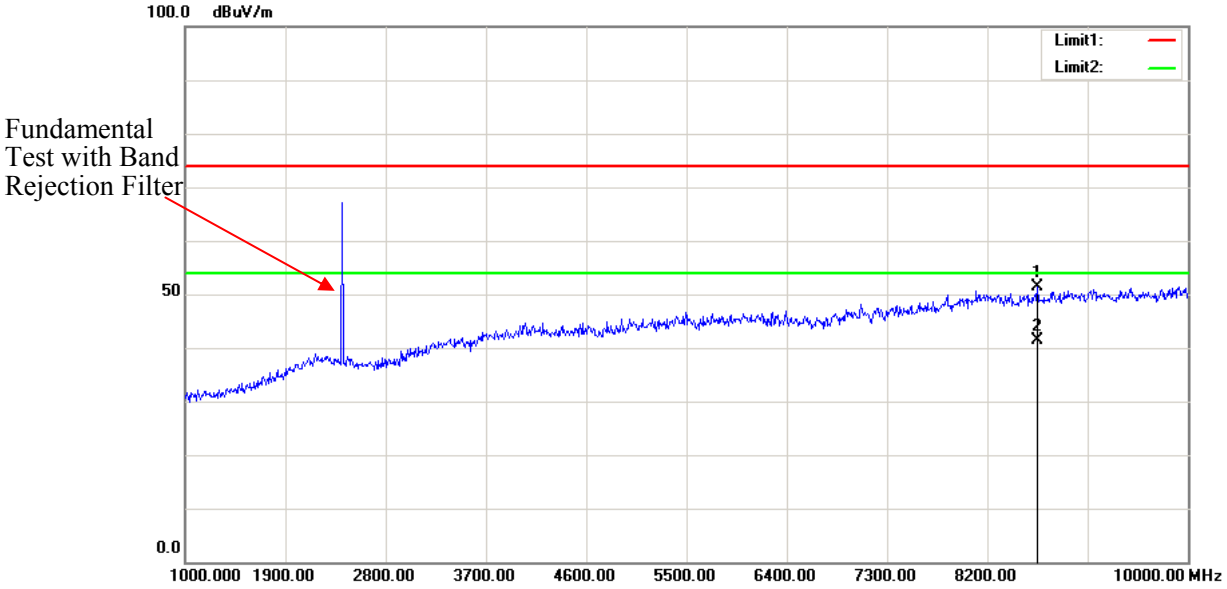
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8204.500	46.02	peak	5.10	51.12	74.00	22.88	166	72	
2	8204.500	36.27	AVG	5.10	41.37	54.00	12.63	166	72	

Note: No emission was detected in the range 10-25GHz.

10M, Low Channel
Horizontal



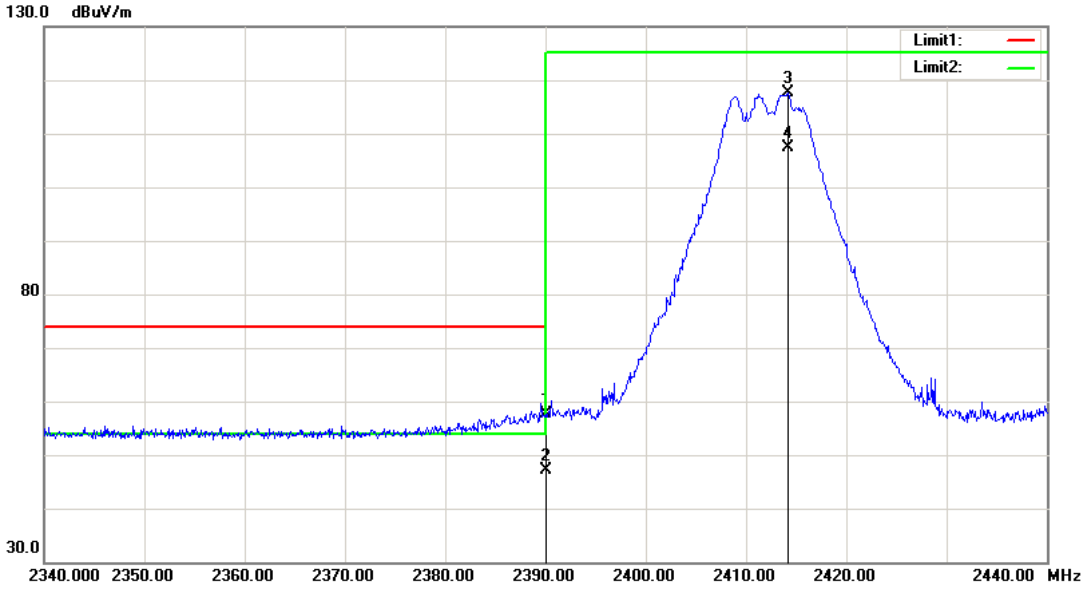
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2390.000	25.99	peak	29.88	55.87	74.00	18.13	168	87	
2	2390.000	15.40	AVG	29.88	45.28	54.00	8.72	168	87	
3	2410.350	82.20	peak	29.93	112.13	N/A	N/A	168	87	Fundamental
4	2410.350	72.41	AVG	29.93	102.34	N/A	N/A	168	87	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBuV)		dB/m	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	8654.500	45.74	peak	5.70	51.44	74.00	22.56	170	80	
2	8654.500	35.67	AVG	5.70	41.37	54.00	12.63	170	80	

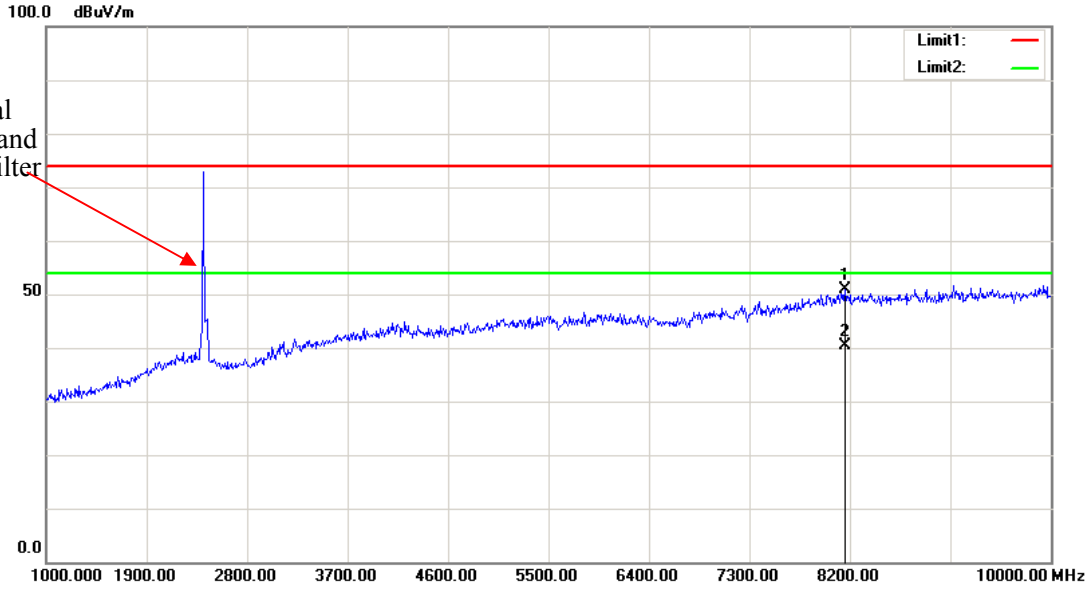
Note: No emission was detected in the range 10-25GHz.

Vertical



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2390.000	27.81	peak	29.87	57.68	74.00	16.32	170	88	
2	2390.000	17.28	AVG	29.87	47.15	54.00	6.85	170	88	
3	2414.250	87.73	peak	29.94	117.67	125.20	7.53	170	88	Fundamental
4	2414.250	77.43	AVG	29.94	107.37	125.20	17.83	170	88	Fundamental

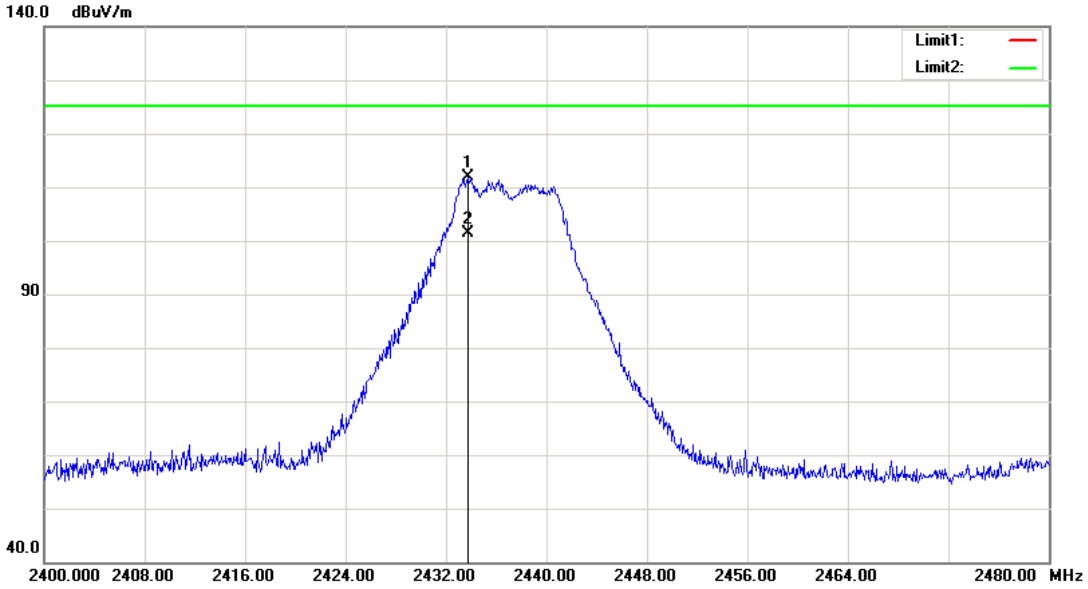
Fundamental Test with Band Rejection Filter



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8155.000	45.90	peak	5.04	50.94	74.00	23.06	164	57	
2	8155.000	35.33	AVG	5.04	40.37	54.00	13.63	164	57	

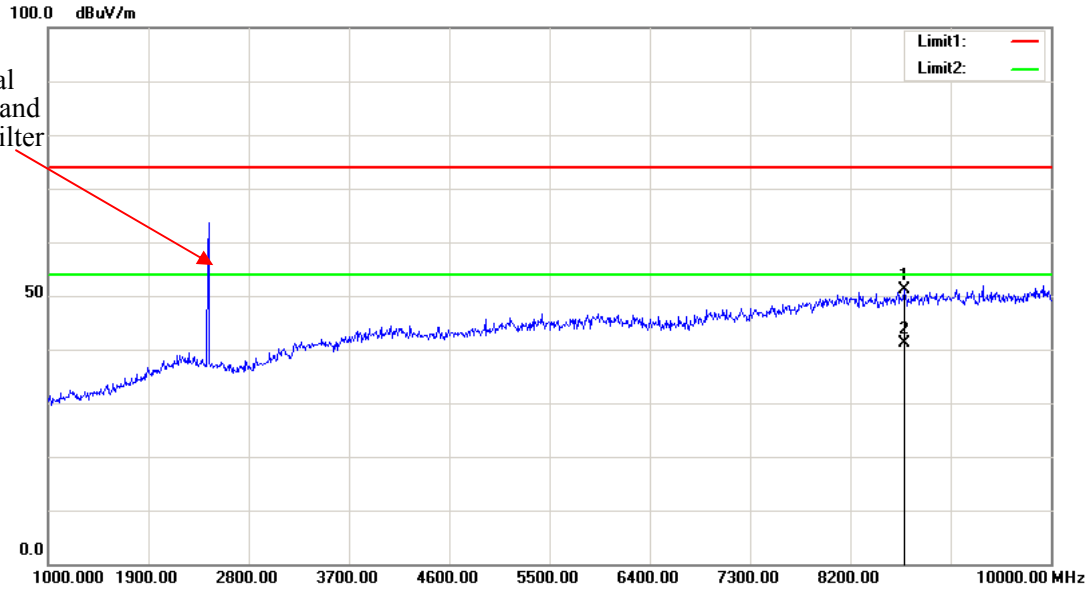
Note: No emission was detected in the range 10-25GHz.

Middle Channel, Horizontal



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2433.800	81.96	peak	29.99	111.95	125.20	13.25	156	60	Fundamental
2	2433.800	71.35	AVG	29.99	101.34	125.20	23.86	156	60	Fundamental

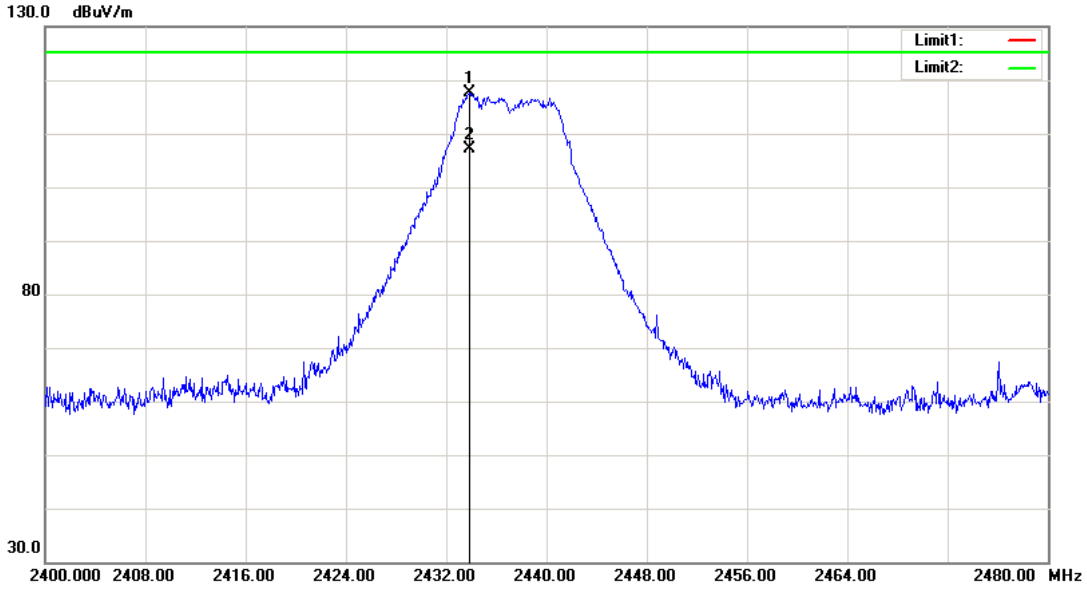
Fundamental Test with Band Rejection Filter



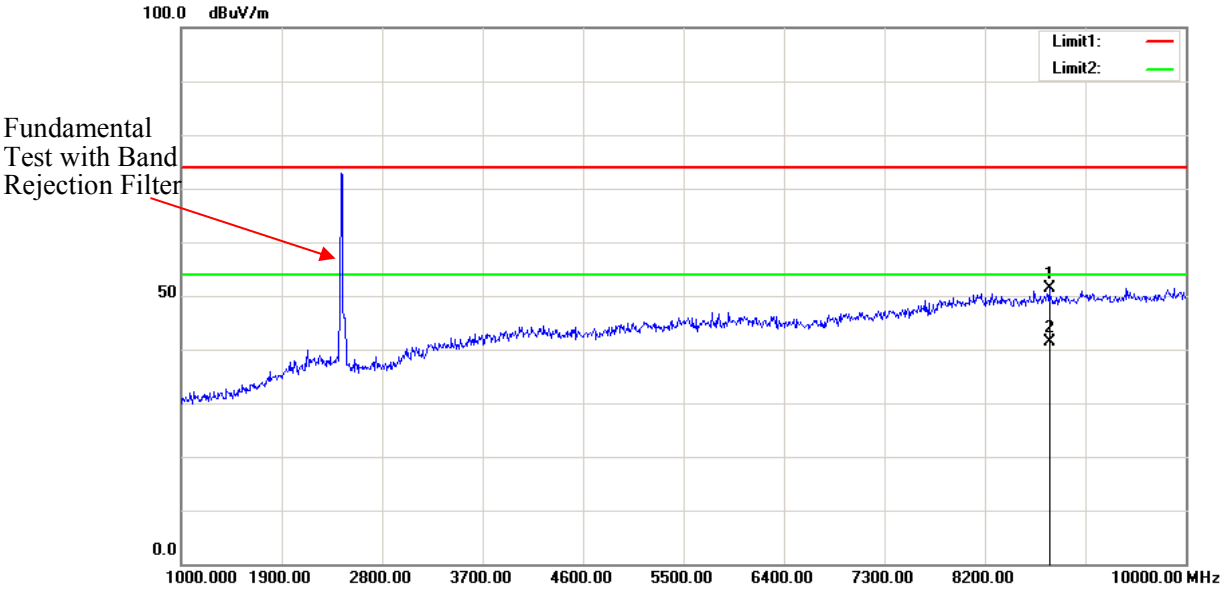
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV/m)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8690.500	45.36	peak	5.75	51.11	74.00	22.89	149	155	
2	8690.500	35.39	AVG	5.75	41.14	54.00	12.86	149	155	

Note: No emission was detected in the range 10-25GHz.

Vertical



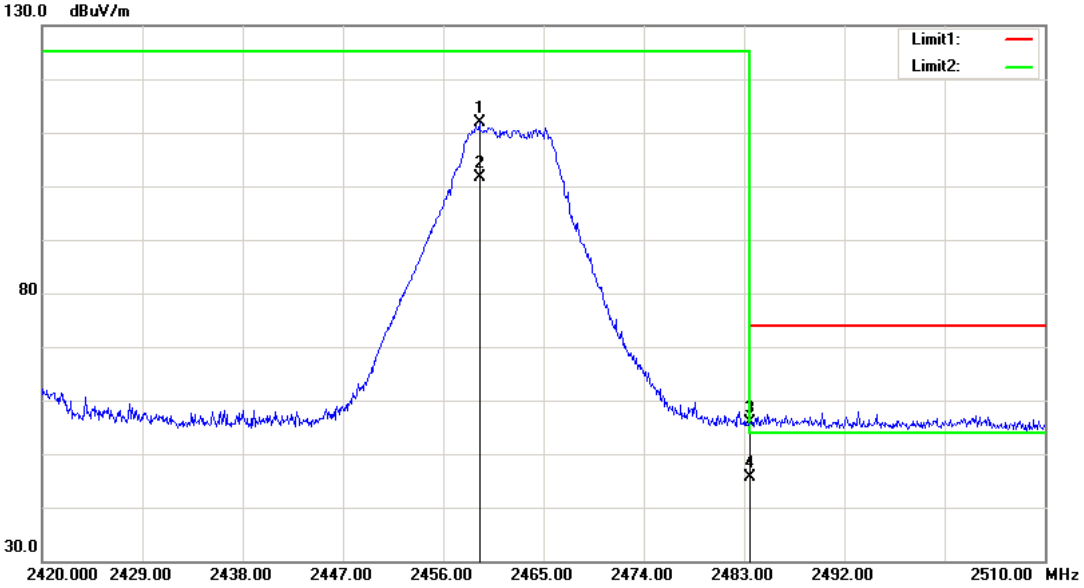
No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2433.840	87.53	peak	29.99	117.52	125.20	7.68	160	200	Fundamental
2	2433.840	77.25	AVG	29.99	107.24	125.20	17.96	160	200	Fundamental



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8776.000	45.50	peak	5.90	51.40	74.00	22.60	181	59	
2	8776.000	35.44	AVG	5.90	41.34	54.00	12.66	181	59	

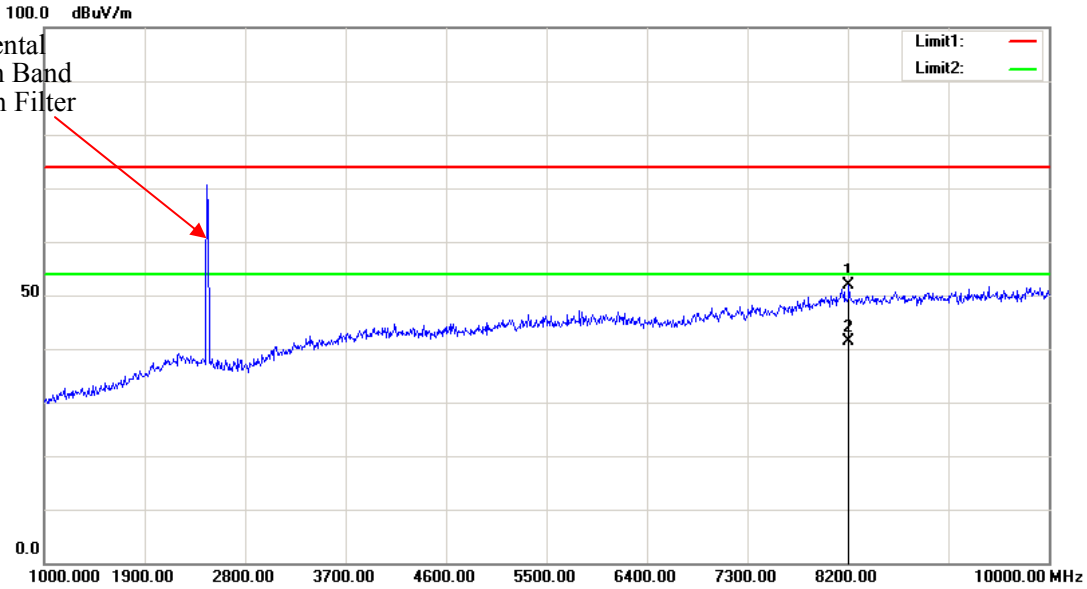
Note: No emission was detected in the range 10-25GHz.

High Channel, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	2459.285	81.90	peak	30.05	111.95	125.20	13.25	160	70	Fundamental
2	2459.285	71.53	AVG	30.05	101.58	125.20	23.62	160	70	Fundamental
3	2483.500	25.70	peak	30.11	55.81	74.00	18.19	160	70	
4	2483.500	15.48	AVG	30.11	45.59	54.00	8.41	160	70	

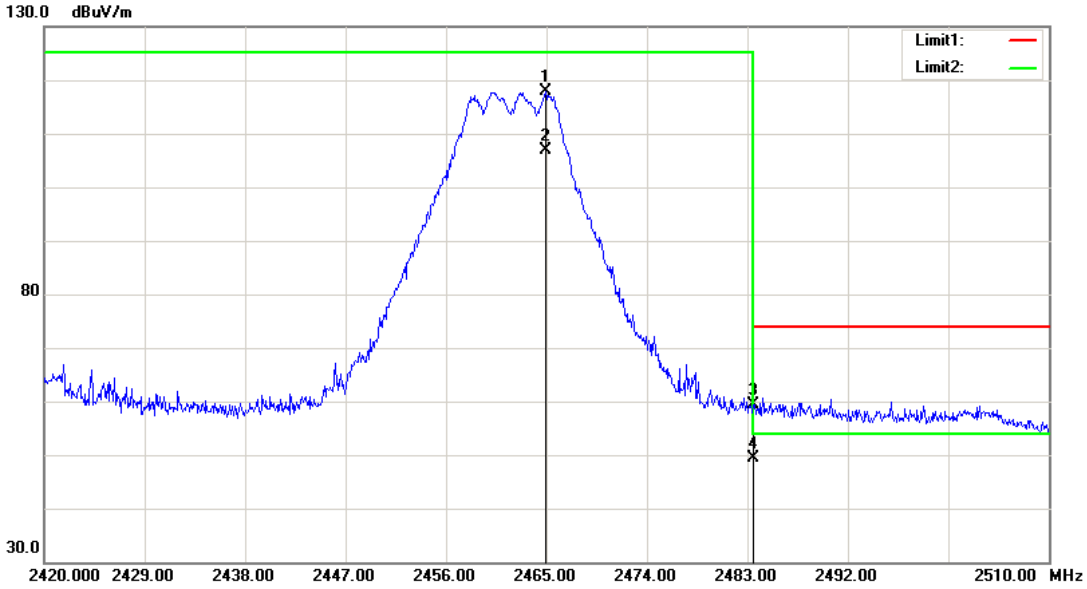
Fundamental Test with Band Rejection Filter



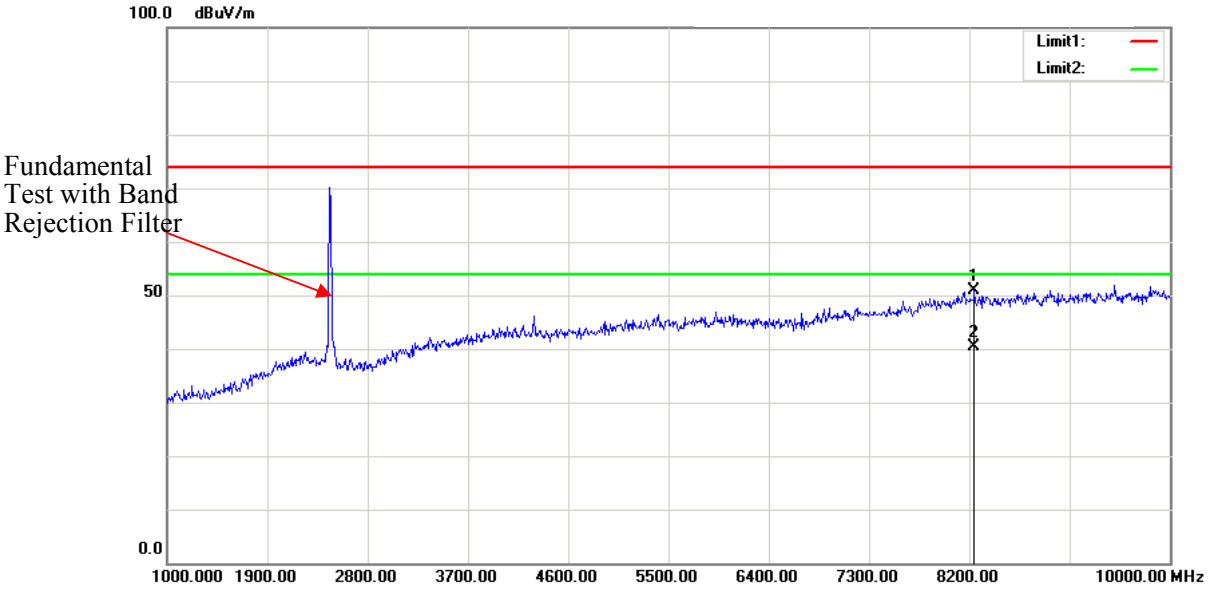
No.	Frequency (MHz)	Reading (dBµV)	Detector	Corrected dB/m	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Comment
1	8213.500	46.72	peak	5.11	51.83	74.00	22.17	176	177	
2	8213.500	36.35	AVG	5.11	41.46	54.00	12.54	176	177	

Note: No emission was detected in the range 10-25GHz.

Vertical



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	2464.910	87.75	peak	30.06	117.81	125.20	7.39	166	54	Fundamental
2	2464.910	76.94	AVG	30.06	107.00	125.20	18.20	166	54	Fundamental
3	2483.500	29.16	peak	30.11	59.27	74.00	14.73	166	54	
4	2483.500	19.15	AVG	30.11	49.26	54.00	4.74	166	54	



No.	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
	(MHz)	(dBµV)		dB/m	(dBµV/m)	(dBµV/m)	(dB)	(cm)	(deg.)	
1	8249.500	45.67	peak	5.14	50.81	74.00	23.19	173	144	
2	8249.500	35.13	AVG	5.14	40.27	54.00	13.73	173	144	

Note: No emission was detected in the range 10-25GHz.

FCC §15.247(a) (2)& RSS-247 §5.2 a) &RSS-247 §5.2 a) &RSS-GEN§6.6 –6 dB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH

Applicable Standard

According to FCC §15.247(a) (2)

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 kH

According to RSS-247 §5.2 a)

The minimum 6 dB bandwidth shall be 500 kHz.

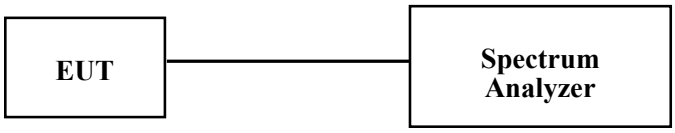
According to RSS-Gen §6.6

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.

When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

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.
h) Measure the 99% bandwidth use OBW test function.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	25.5~26.6 °C
Relative Humidity:	45~47 %
ATM Pressure:	101~102.1 kPa

The testing was performed by Harry Yang on 2017-10-23&2017-10-30.

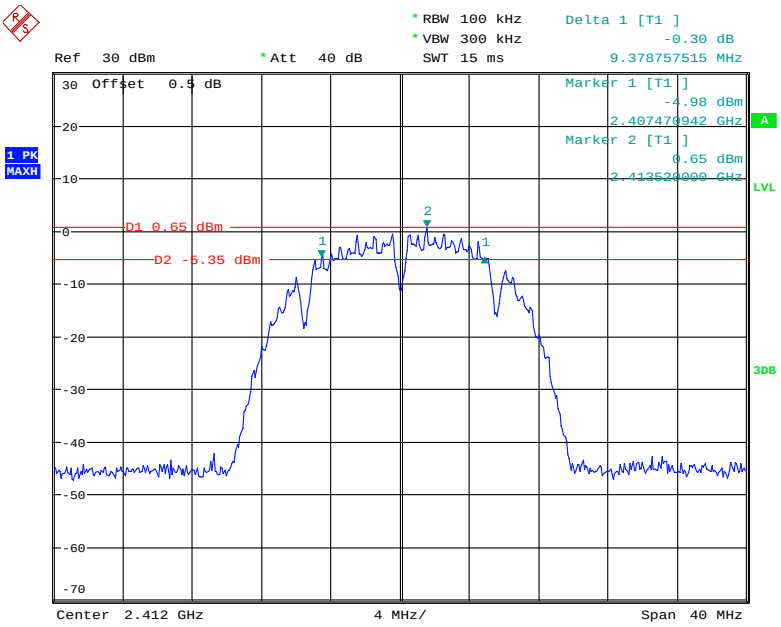
Test Mode: Transmitting (performed at chain 0)

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

Mode	Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	99% Occupied bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	9.38	14.00	≥0.5
	Middle	2437	9.38	14.00	≥0.5
	High	2462	9.38	13.60	≥0.5
802.11g	Low	2412	15.79	17.12	≥0.5
	Middle	2437	15.95	17.20	≥0.5
	High	2462	15.87	17.04	≥0.5
802.11n ht20	Low	2412	16.27	18.16	≥0.5
	Middle	2437	16.19	18.32	≥0.5
	High	2462	16.83	18.00	≥0.5
5M	Low	2412	4.18	4.41	≥0.5
	Middle	2437	4.22	4.41	≥0.5
	High	2462	4.20	4.44	≥0.5
10M	Low	2412	8.26	9.68	≥0.5
	Middle	2437	8.34	9.80	≥0.5
	High	2462	8.34	9.48	≥0.5

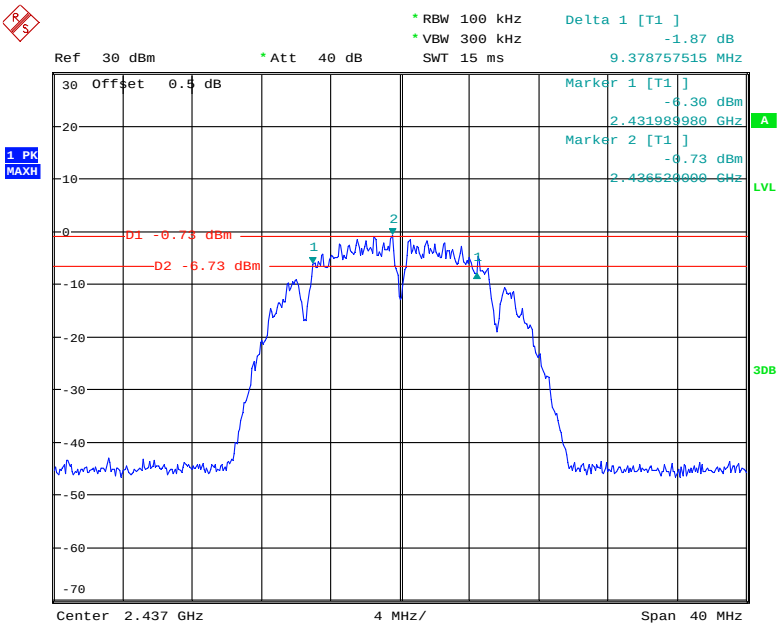
6dB Bandwidth:

802.11b Low Channel



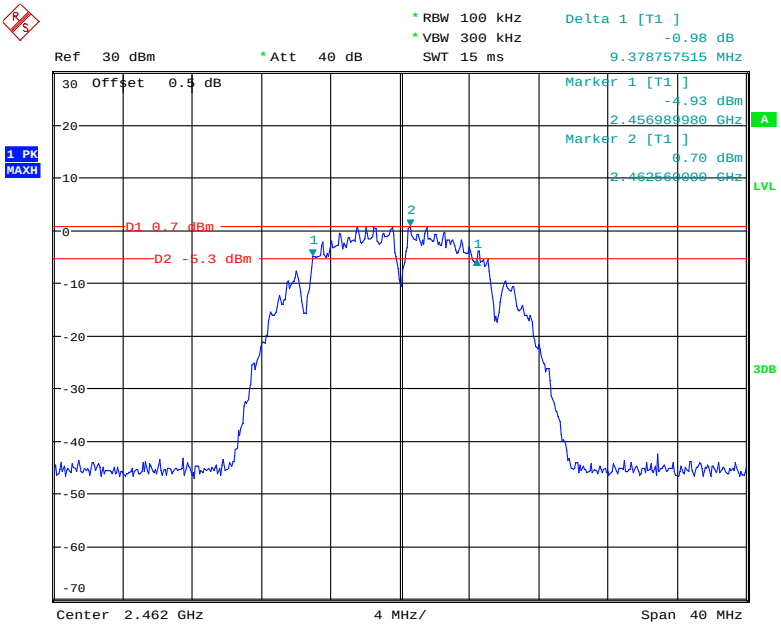
Date: 23.OCT.2017 22:52:09

802.11b Middle Channel



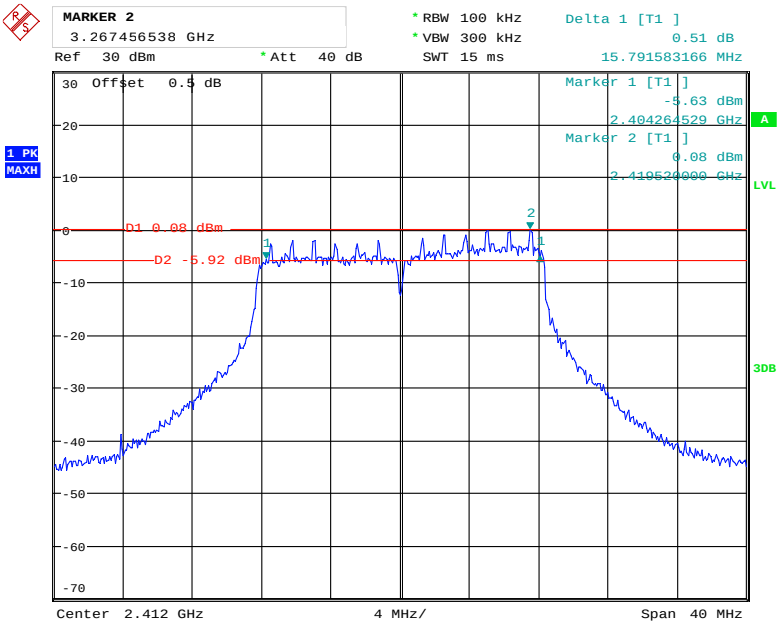
Date: 23.OCT.2017 23:08:39

802.11b High Channel



Date: 23.OCT.2017 23:10:44

802.11g Low Channel



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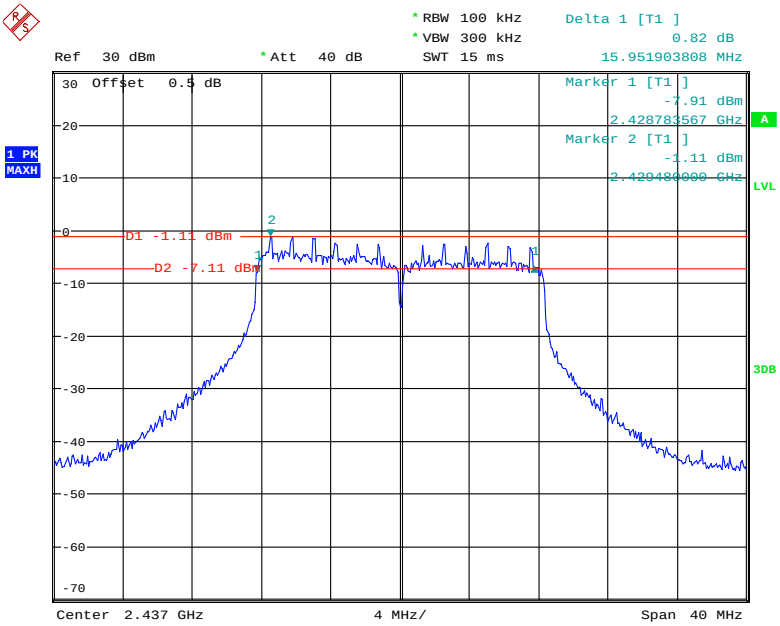
802.11g Middle Channel



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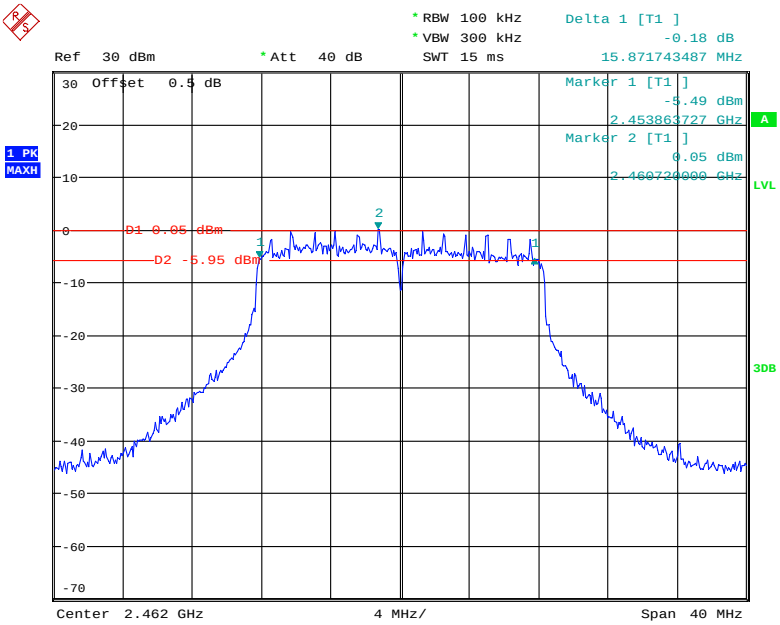
802.11g High Channel



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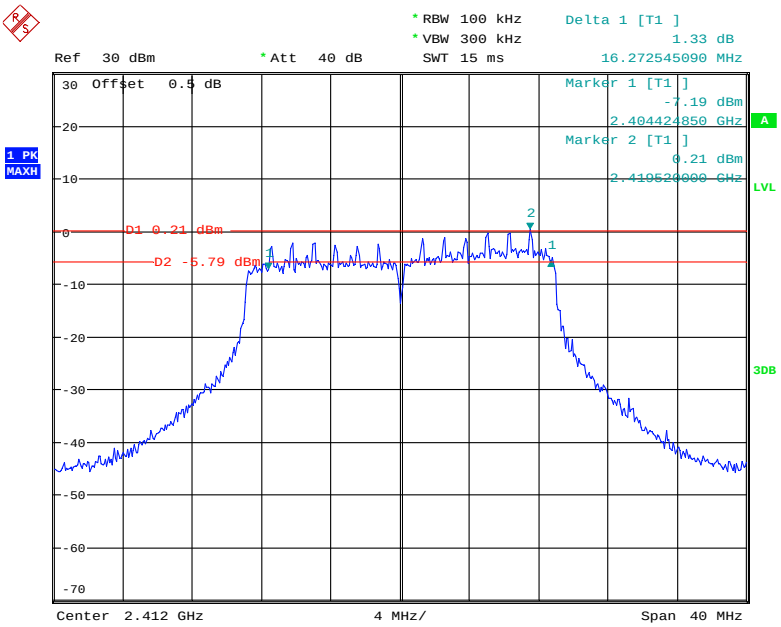
802.11n ht20 Low Channel



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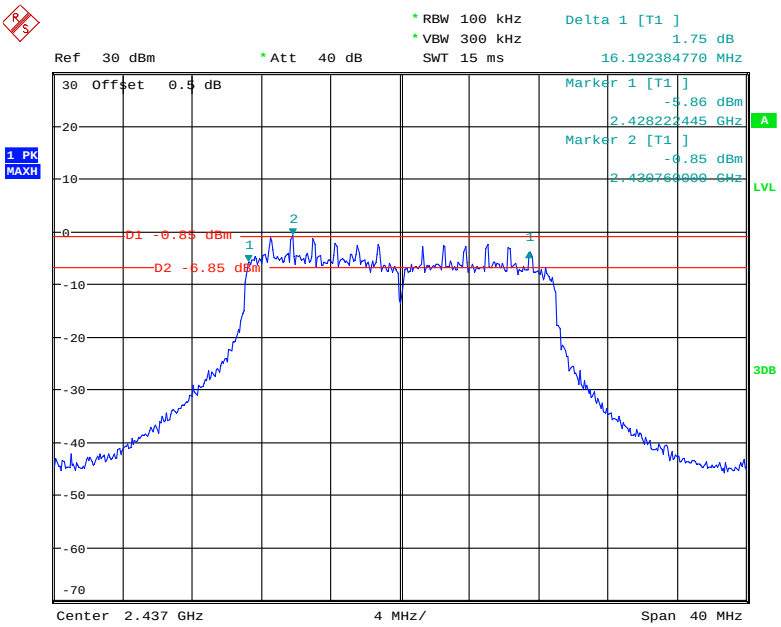
802.11n ht20 Middle Channel



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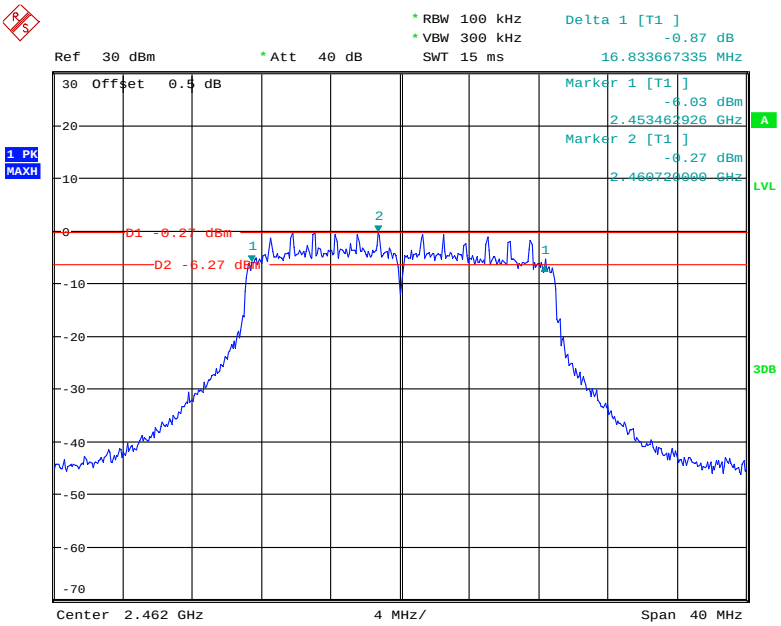
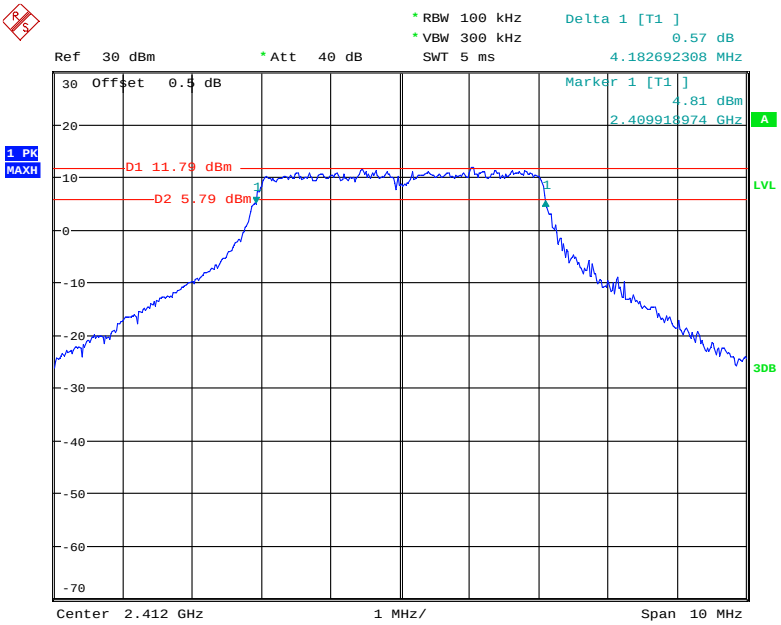
802.11n ht20 High Channel



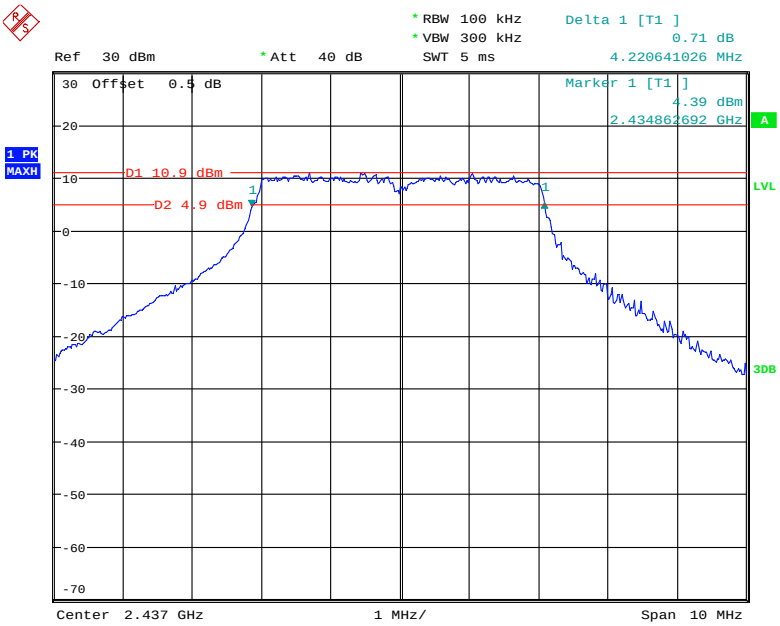
Date: 23.OCT.2017 22:33:29

5M Low Channel



Date: 23.OCT.2017 23:27:19

5M Middle Channel



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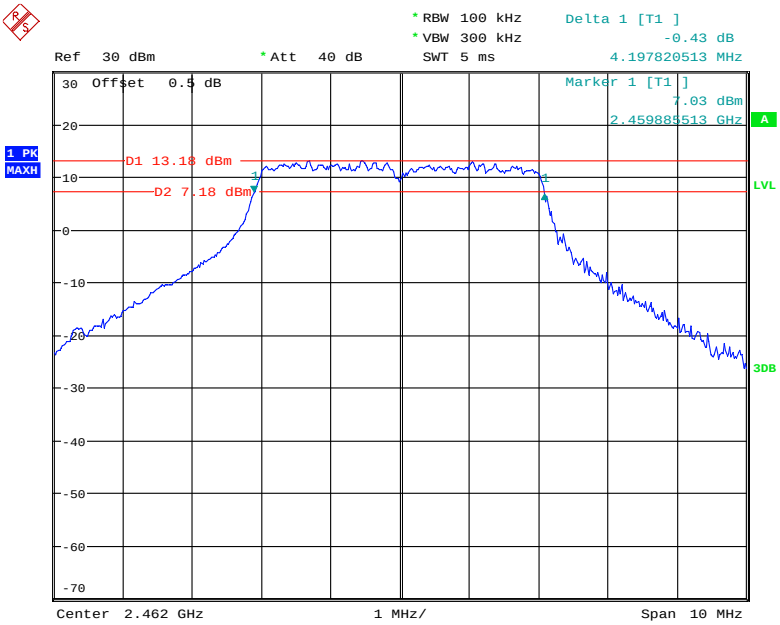
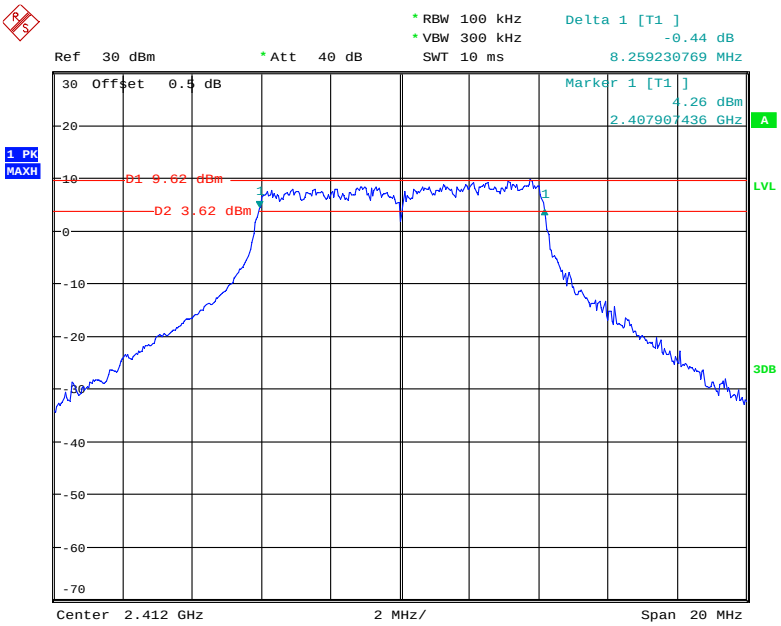
5M High Channel



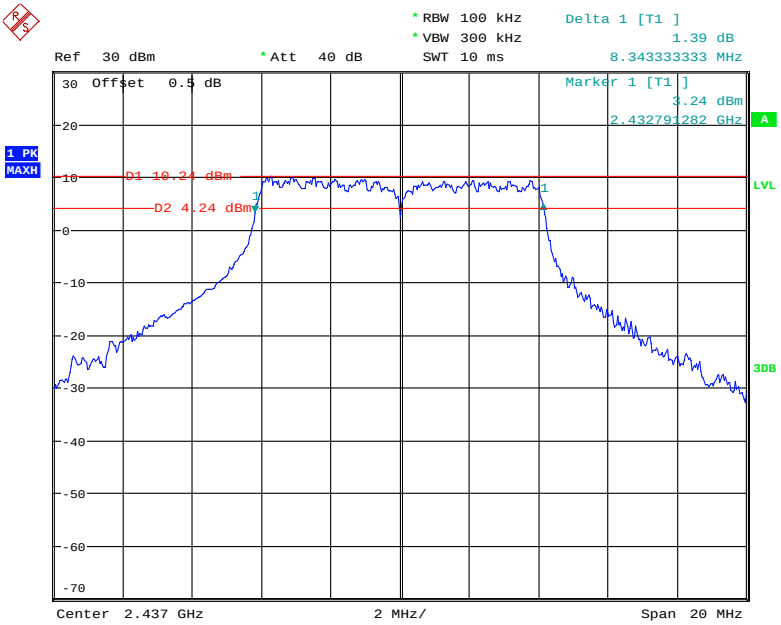
Date: 23.OCT.2017 23:32:40

10M Low Channel



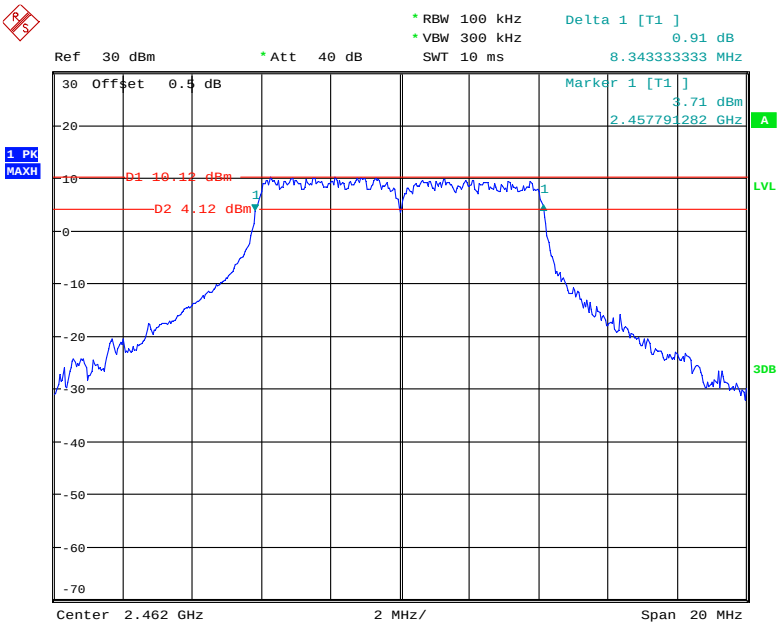
Date: 23.OCT.2017 23:40:52

10M Middle Channel



Date: 23.OCT.2017 23:39:43

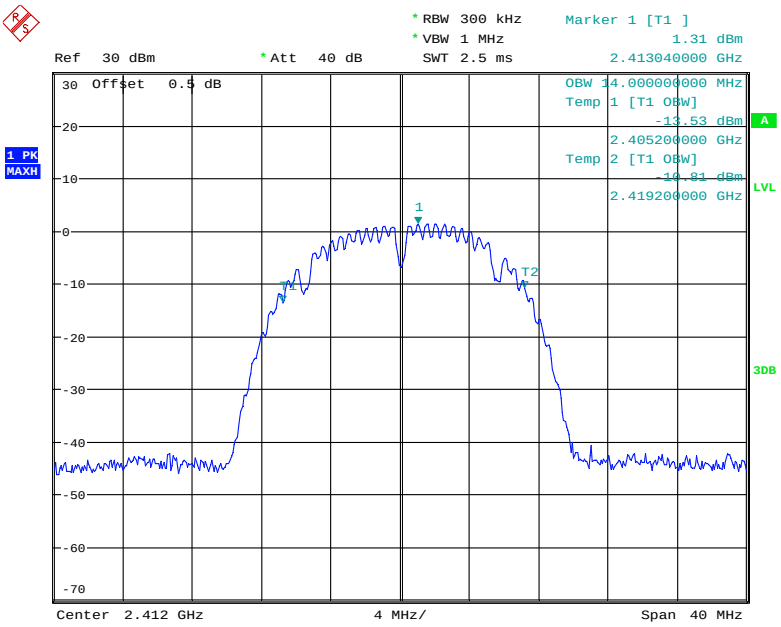
10M High Channel



Date: 23.OCT.2017 23:38:03

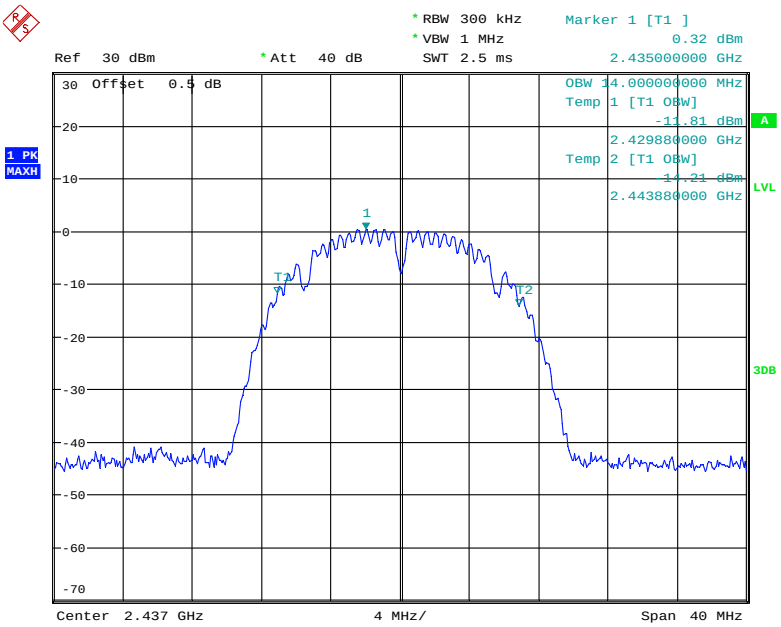
99% Occupied Bandwidth:

802.11b Low Channel



Date: 23.OCT.2017 22:52:23

802.11b Middle Channel



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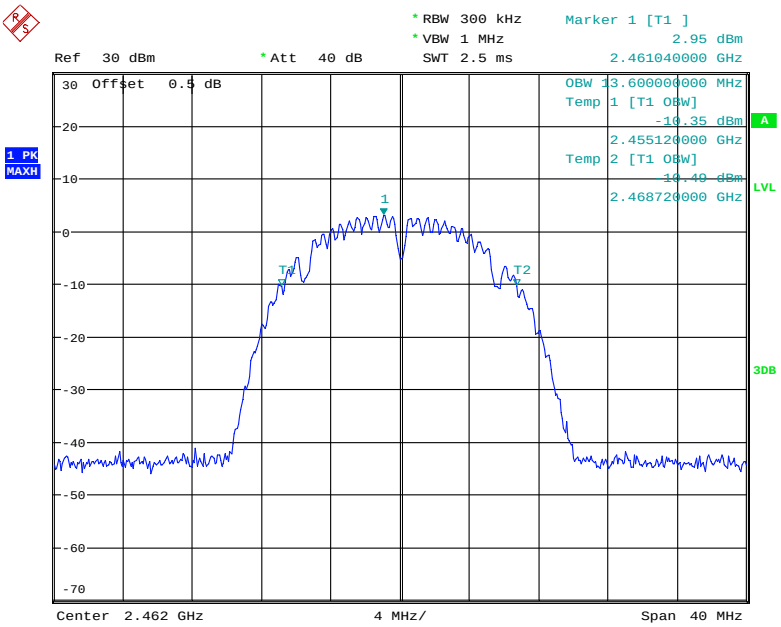
802.11b High Channel



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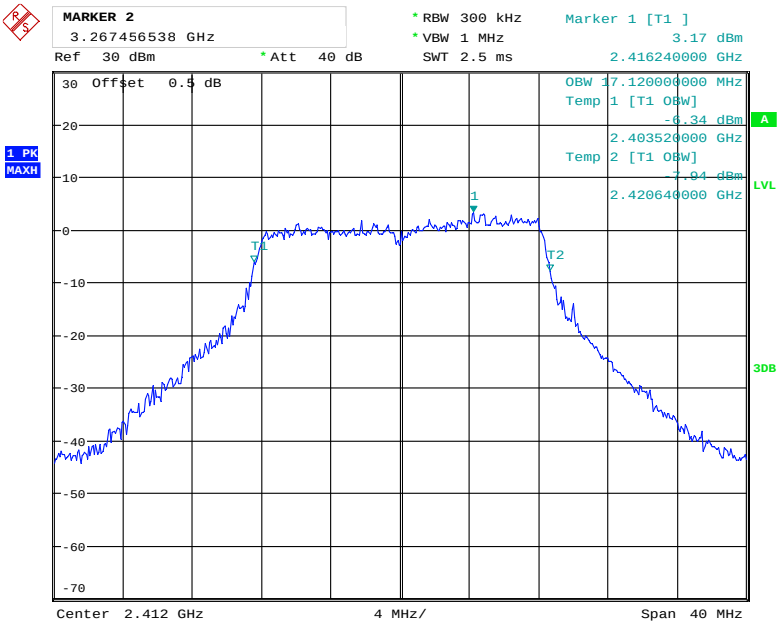
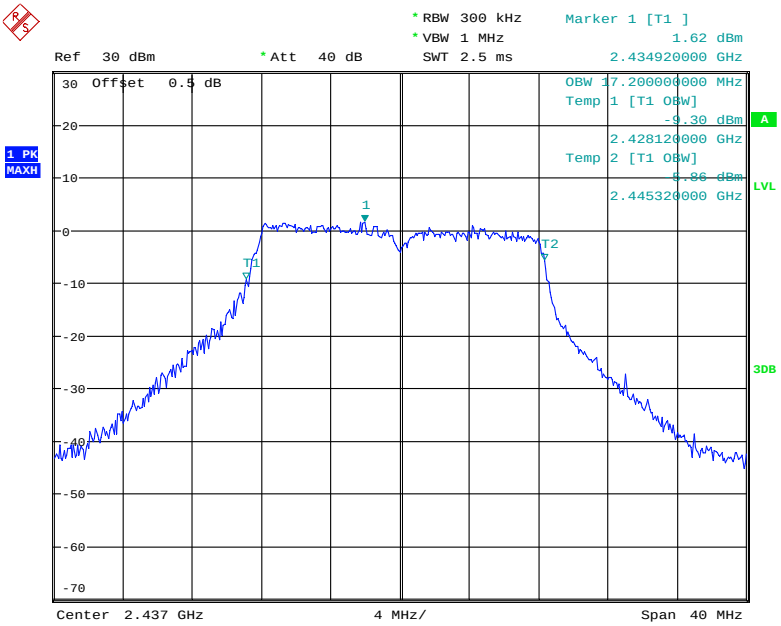
802.11g Low Channel

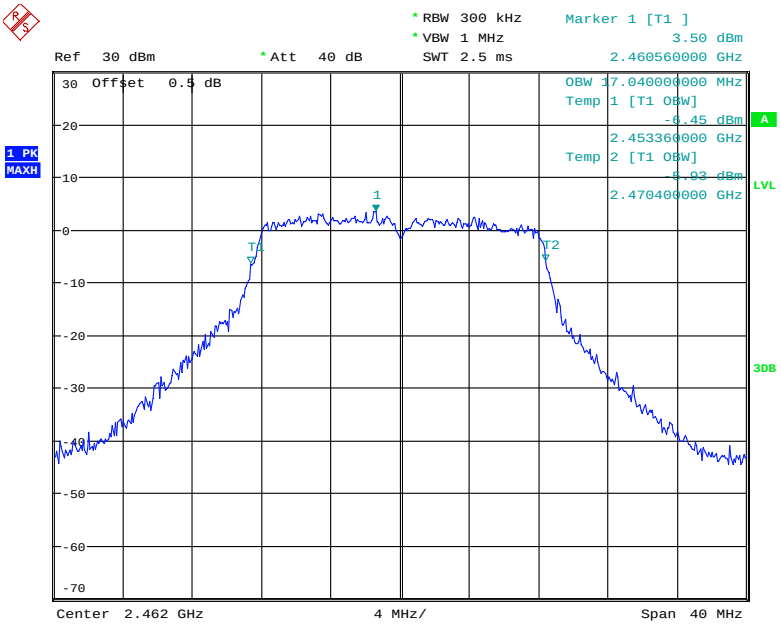


Date: 23.OCT.2017 22:49:12

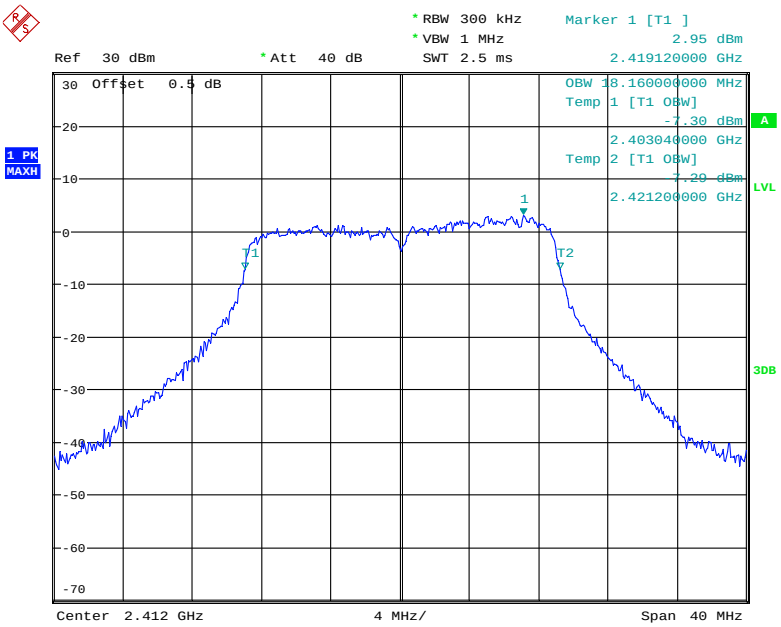
802.11g Middle Channel



802.11g High Channel

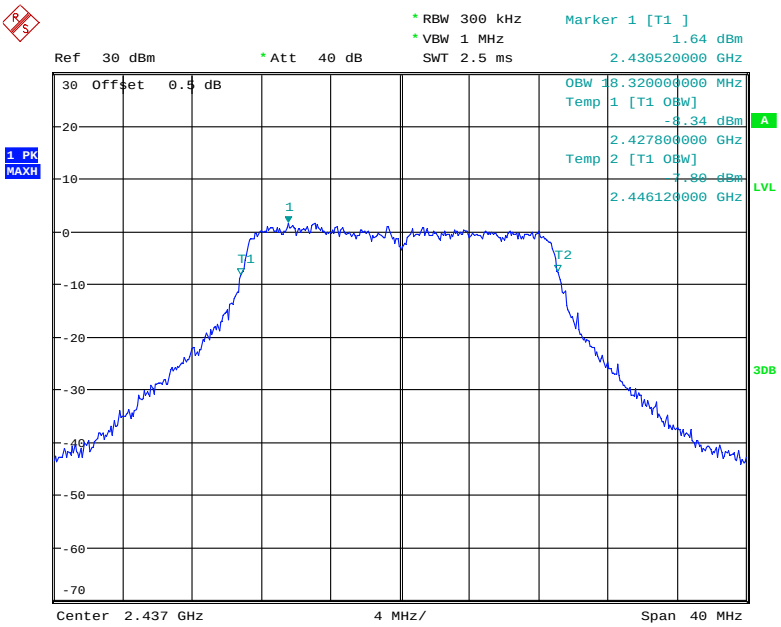


802.11n ht20 Low Channel



Date: 23.OCT.2017 22:22:06

802.11n ht20 Middle Channel



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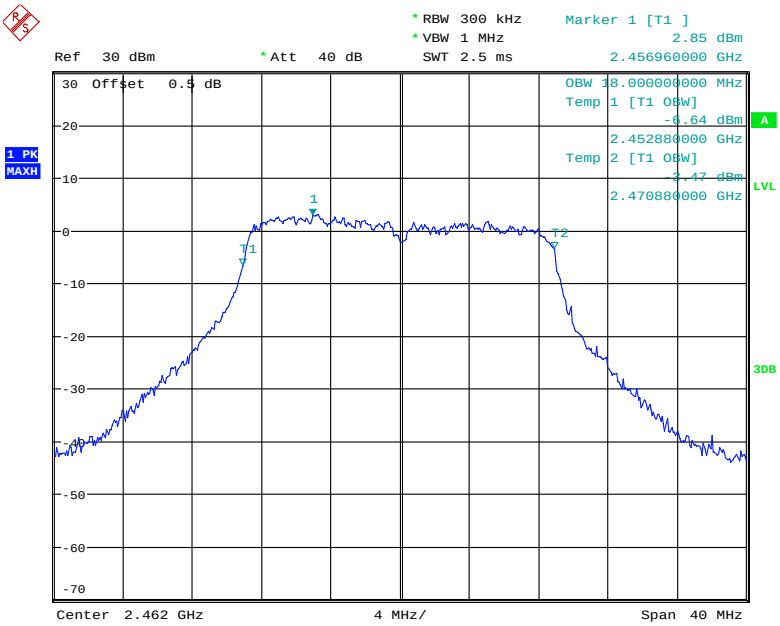
802.11n ht20 High Channel



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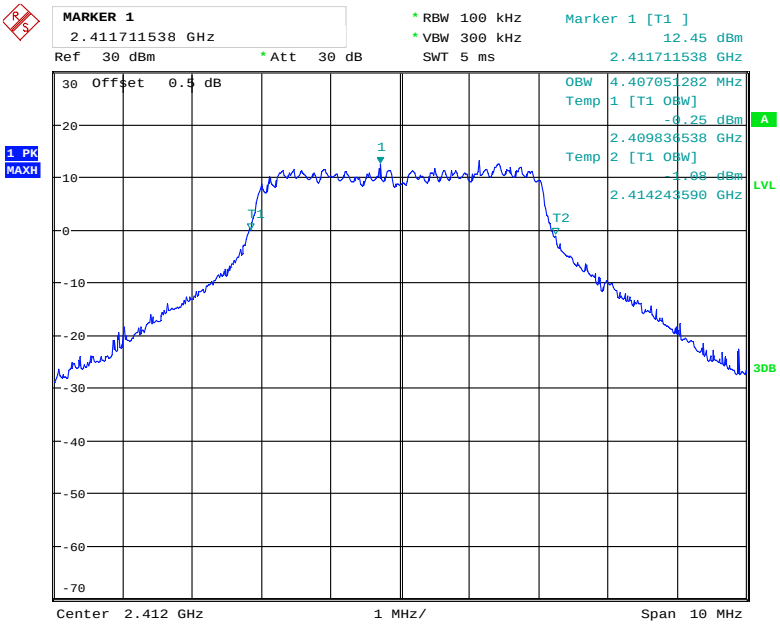
5M Low Channel



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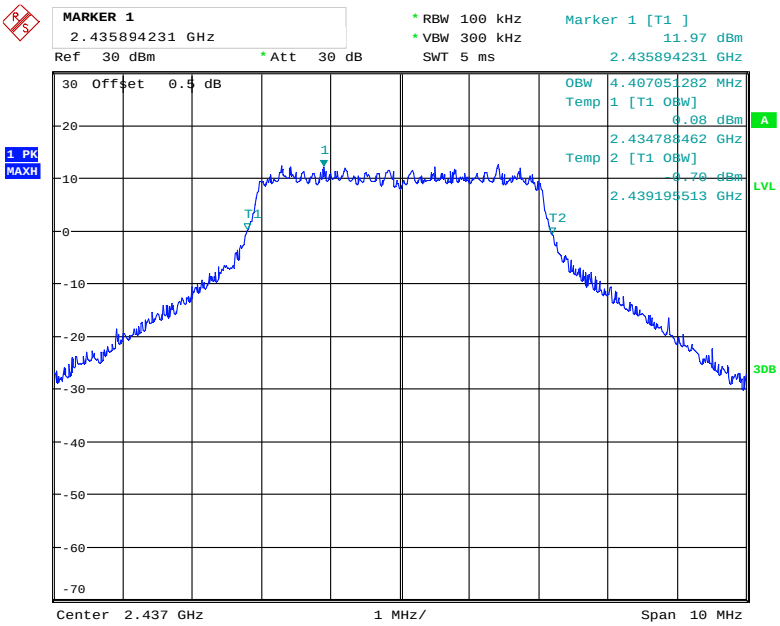
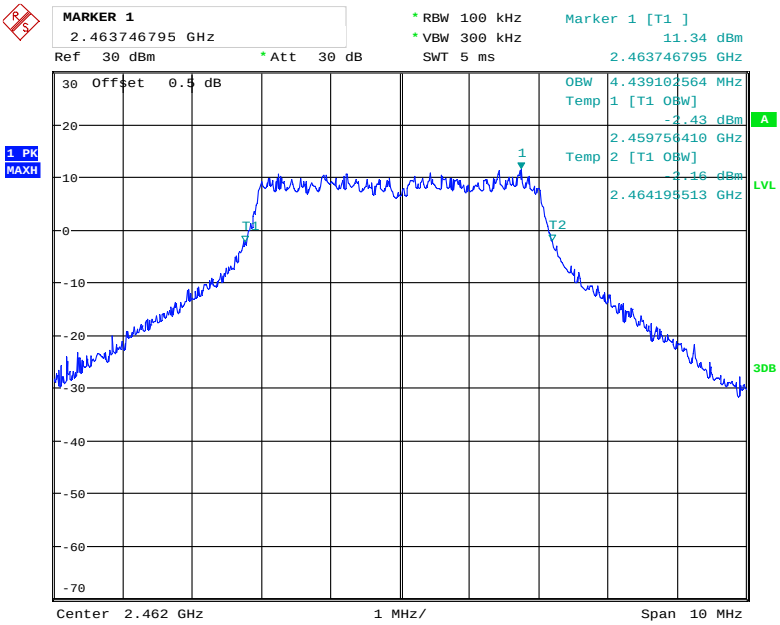
5M Middle Channel



Date: 30.OCT.2017 18:22:12

5M High Channel



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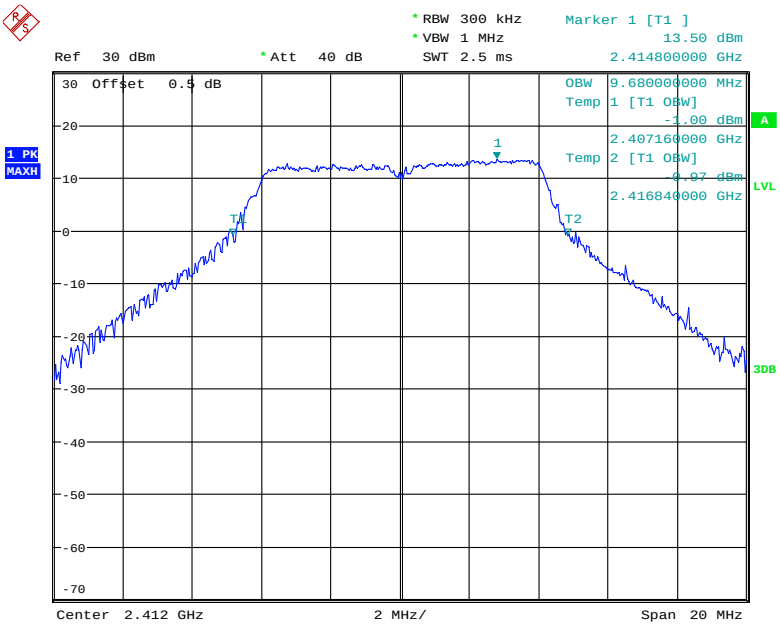
10M Low Channel



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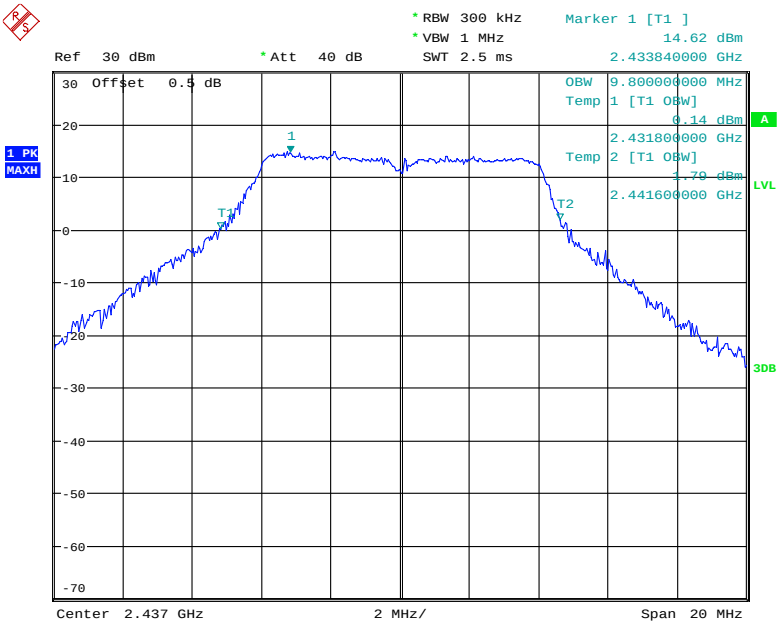
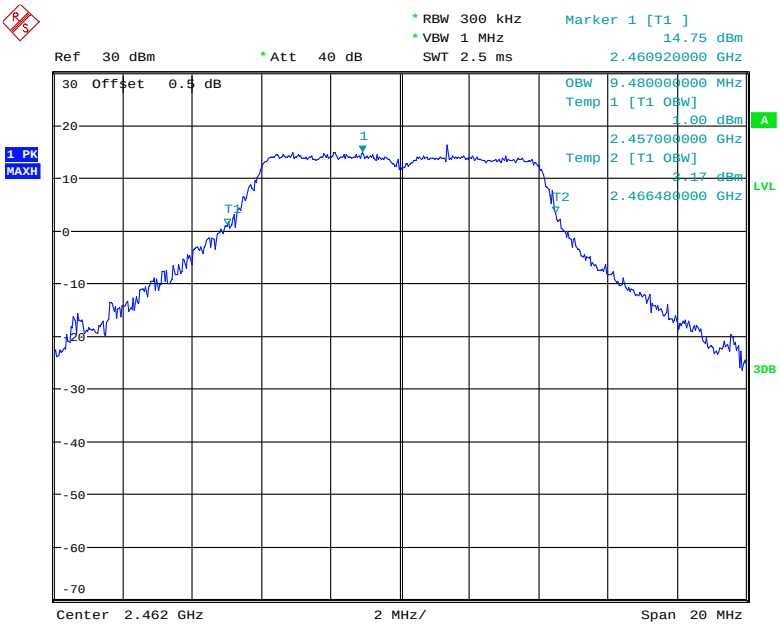
10M Middle Channel



Date: 23.OCT.2017 23:49:12

10M High Channel



Date: 23.OCT.2017 23:48:45

FCC §15.247(b) (3)&RSS-247 §5.4 d) - 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.

According to RSS-247§5.4 d) For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W. Except as provided in Section 5.4(e), the e.i.r.p. shall not exceed 4 W.
As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power. The maximum conducted output power is the total transmit power delivered to all antennas and antenna elements, averaged across all symbols in the signalling 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 transmitting at a reduced power level. If multiple modes of operation are implemented, 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	MY54210016	2016-11-03	2017-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2016-11-03	2017-11-03
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	26.6 °C
Relative Humidity:	47 %
ATM Pressure:	101 kPa

The testing was performed by Harry Yang on 2017-10-23.

Test Mode: Transmitting

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

Test mode	Channel	Frequency (MHz)	Max Average Conducted Output Power (dBm)			Limit (dBm)
			Chain 0	Chain 1	Total	
802.11b	Low	2412	9.85	10.01	12.94	30
	Middle	2437	9.05	9.3	12.19	30
	High	2462	11.57	10.56	14.1	30
802.11g	Low	2412	9.89	9.87	12.89	30
	Middle	2437	9.11	9.02	12.08	30
	High	2462	10.83	10.3	13.58	30
802.11n ht20	Low	2412	9.71	9.92	12.83	30
	Middle	2437	8.89	9.11	12.01	30
	High	2462	10.78	10.08	13.45	30
5M	Low	2412	18.54	19.06	21.82	30
	Middle	2437	19.94	20.41	23.19	30
	High	2462	20.18	19.08	22.68	30
10M	Low	2412	19.25	19.56	22.42	30
	Middle	2437	20.26	20.56	23.42	30
	High	2462	20.61	19.51	23.11	30

Note:
The duty cycle factor was added into the result.
The 2 antenna maximum atenna gains are 5.51 dBi, and employed Cyclic Delay Diversity (CDD), per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements:

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

So:

Directional gain = GANT + Array Gain = 5.51 dBi < 6dBi

FCC§15.247(d)&RSS-247 §5.5 – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

According to FCC§15.247(d):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)).

According to RSS-247 §5.5:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

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
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	26.6~27 °C
Relative Humidity:	47~51 %
ATM Pressure:	101~101.4 kPa

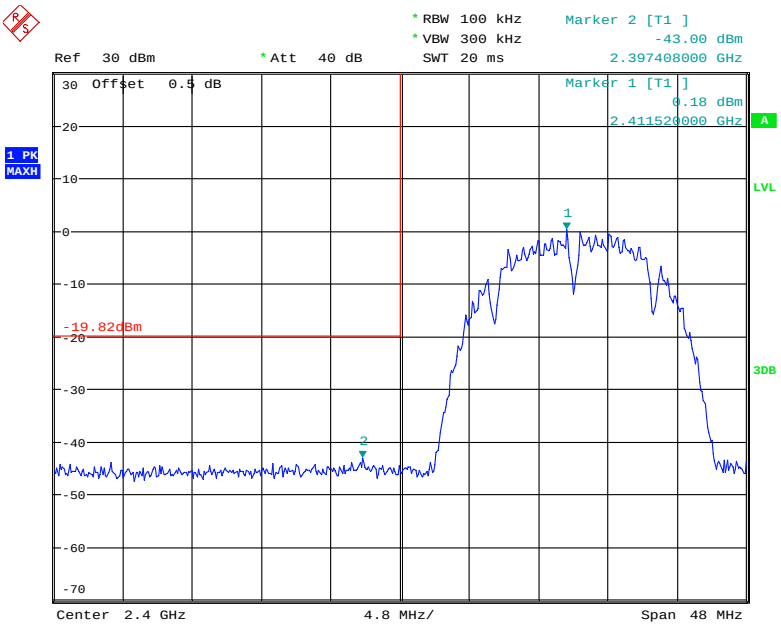
The testing was performed by Harry Yang from 2017-10-23 to 2017-10-25.

Test mode: Transmitting

Test Result: Compliant. All emissions out of the operation band were under fundamental more than 30dBc, please refer to following plots.

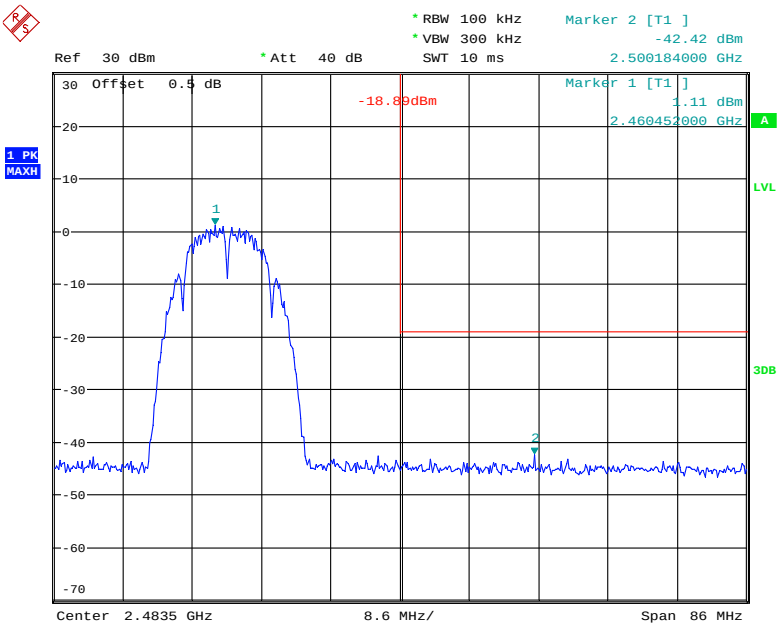
Chain 0:

802.11b: Band Edge, Left Side



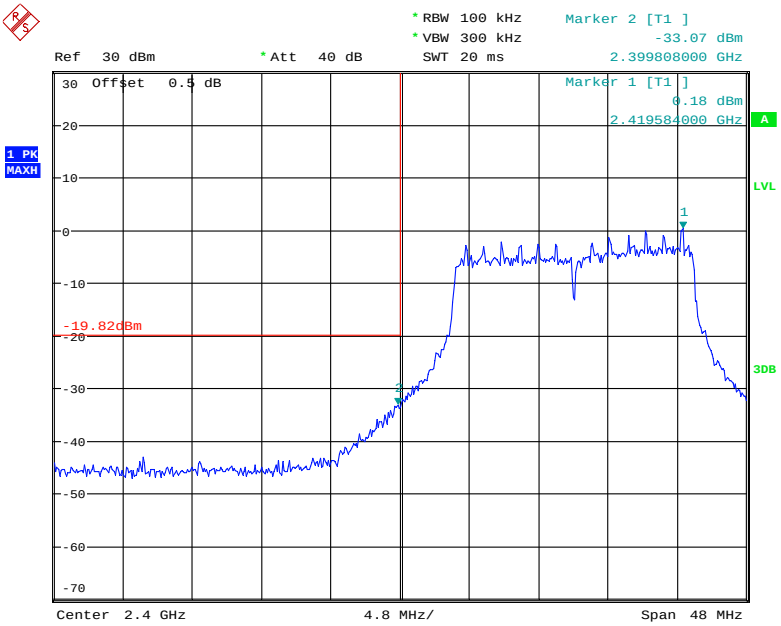
Date: 23.OCT.2017 22:53:44

802.11b: Band Edge, Right Side



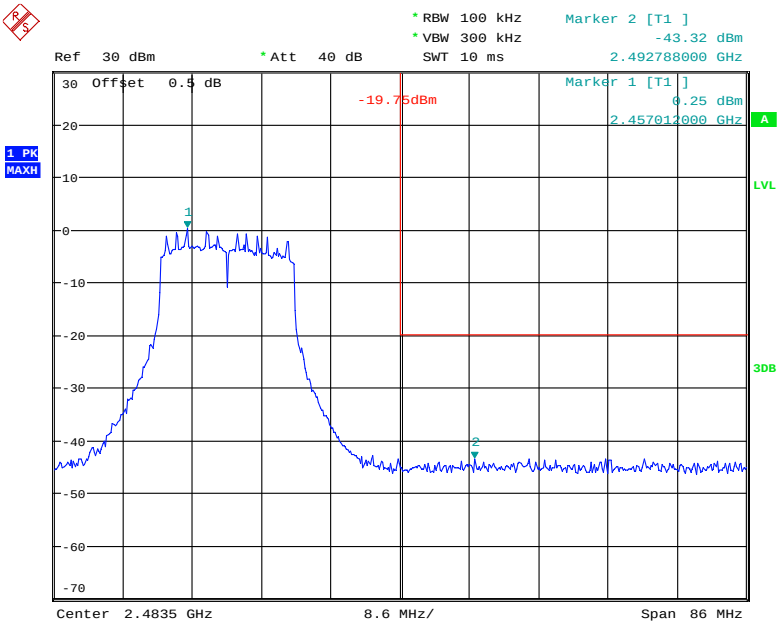
Date: 23.OCT.2017 23:12:22

802.11g: Band Edge, Left Side



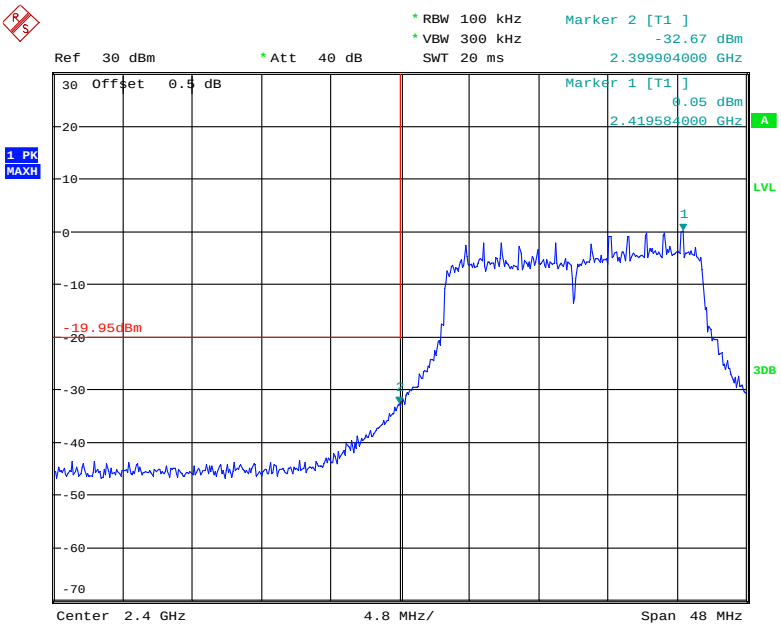
Date: 23.OCT.2017 22:51:20

802.11g: Band Edge, Right Side



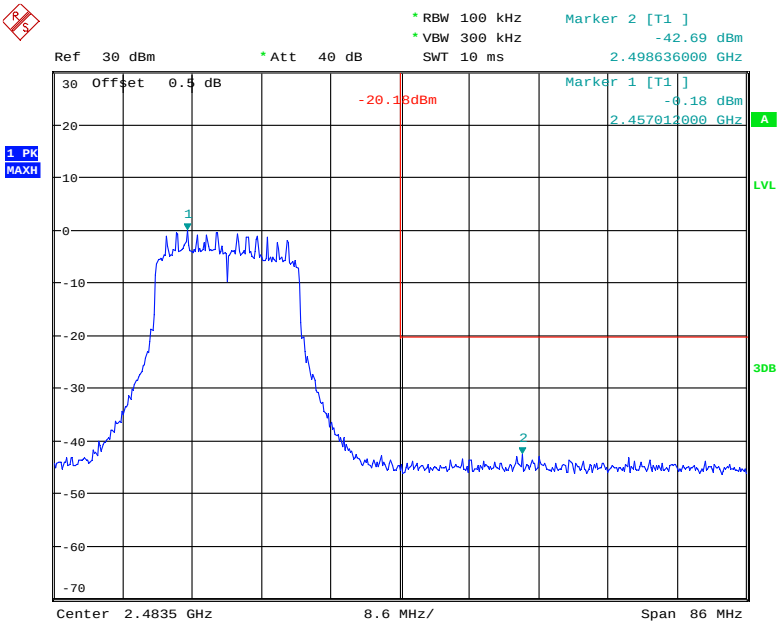
Date: 23.OCT.2017 22:45:49

802.11n ht20 Band Edge, Left Side



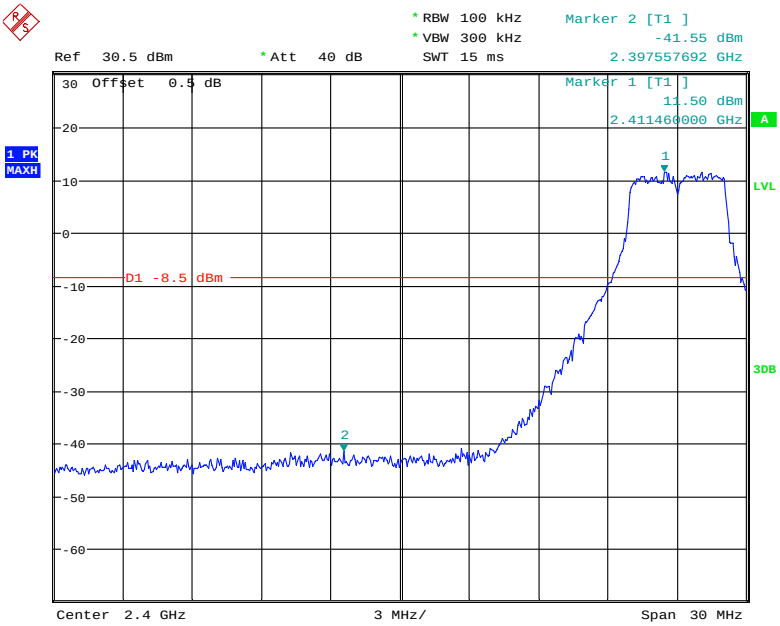
Date: 23.OCT.2017 22:30:02

802.11n ht20 Band Edge, Right Side



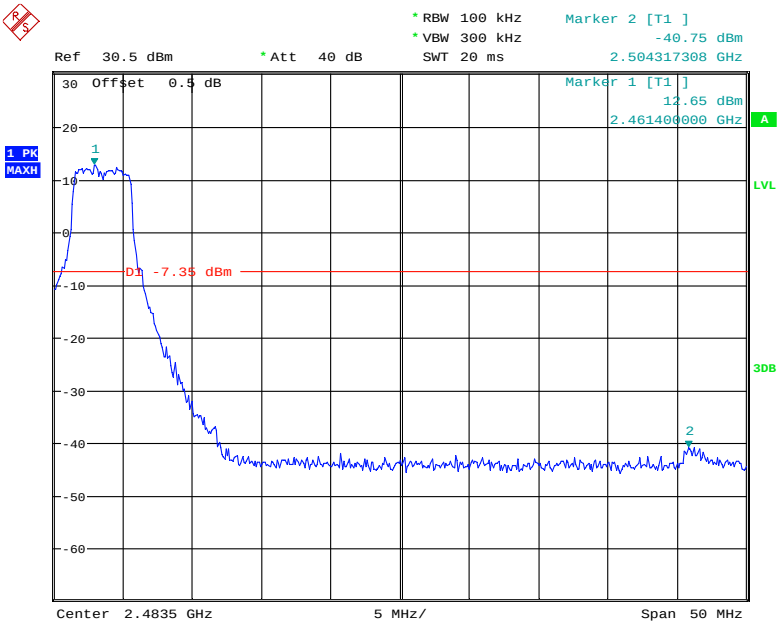
Date: 23.OCT.2017 22:35:09

5M Band Edge, Left Side



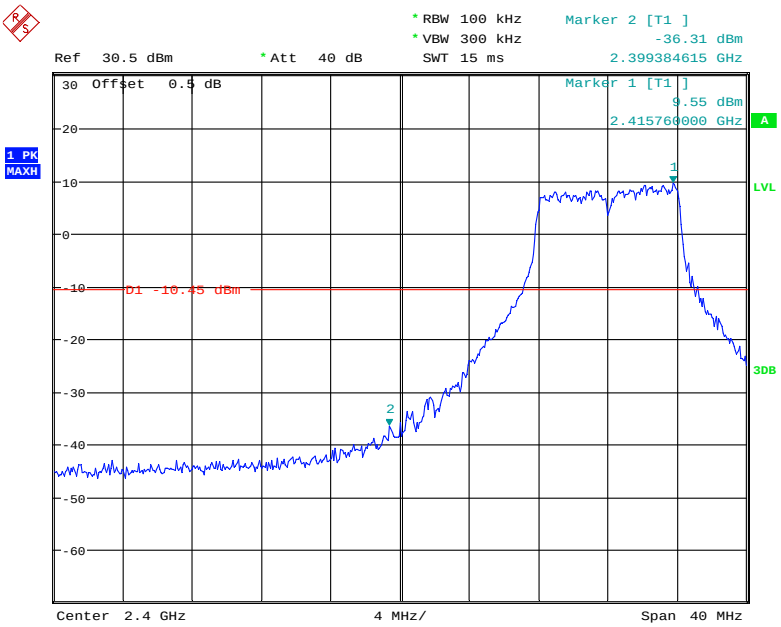
Date: 24.OCT.2017 00:15:51

5M Band Edge, Right Side



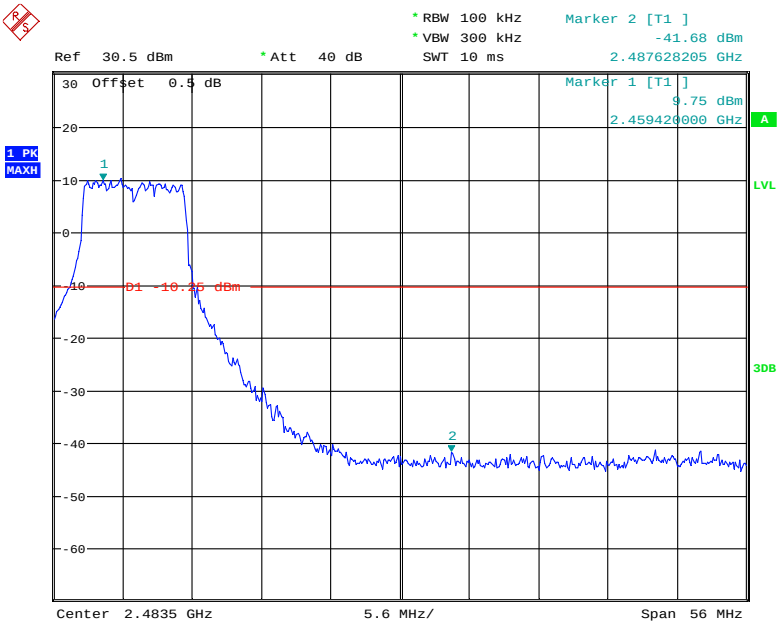
Date: 24.OCT.2017 00:16:57

10M Band Edge, Left Side



Date: 24.OCT.2017 00:14:41

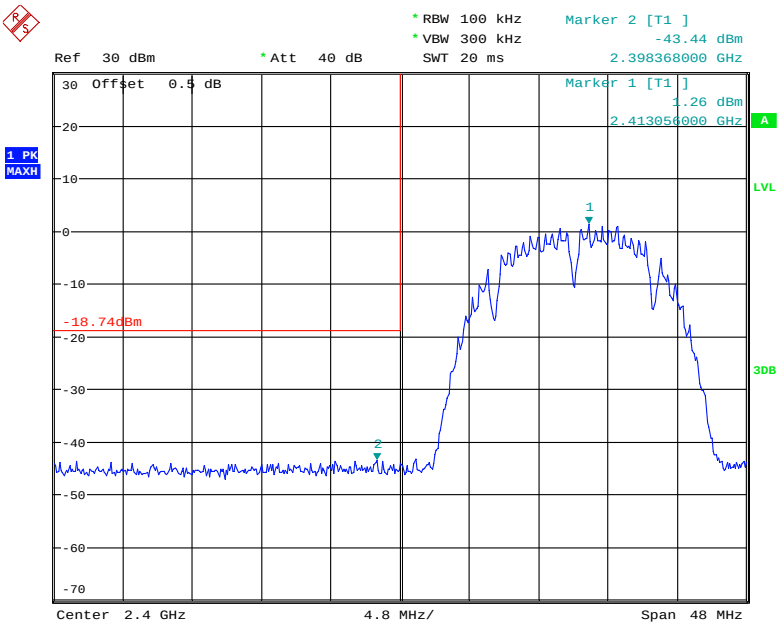
10M Band Edge, Right Side



Date: 24.OCT.2017 00:13:20

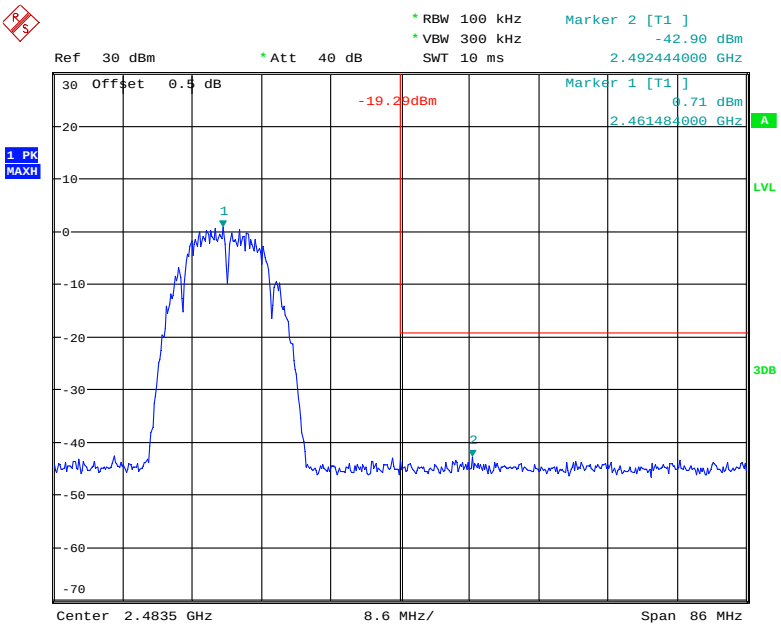
Chain 1:

802.11b: Band Edge, Left Side



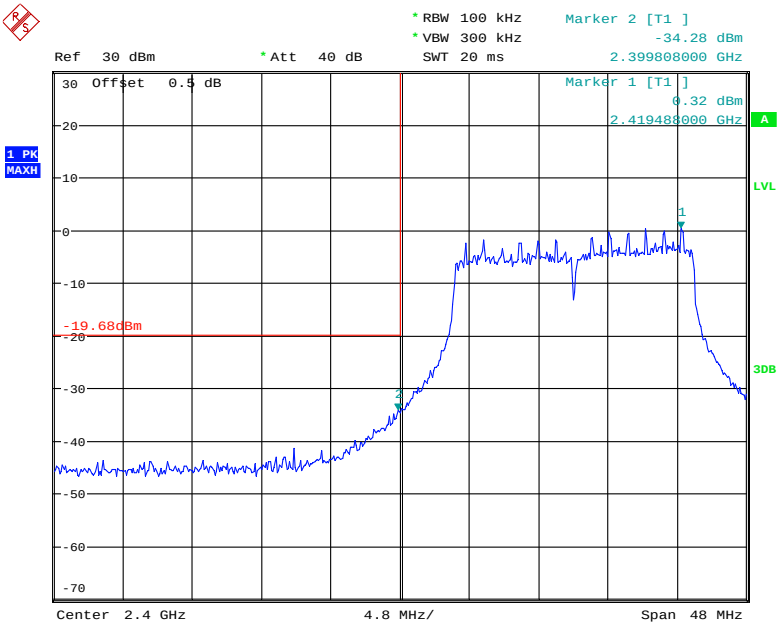
Date: 23.OCT.2017 21:35:32

802.11b: Band Edge, Right Side



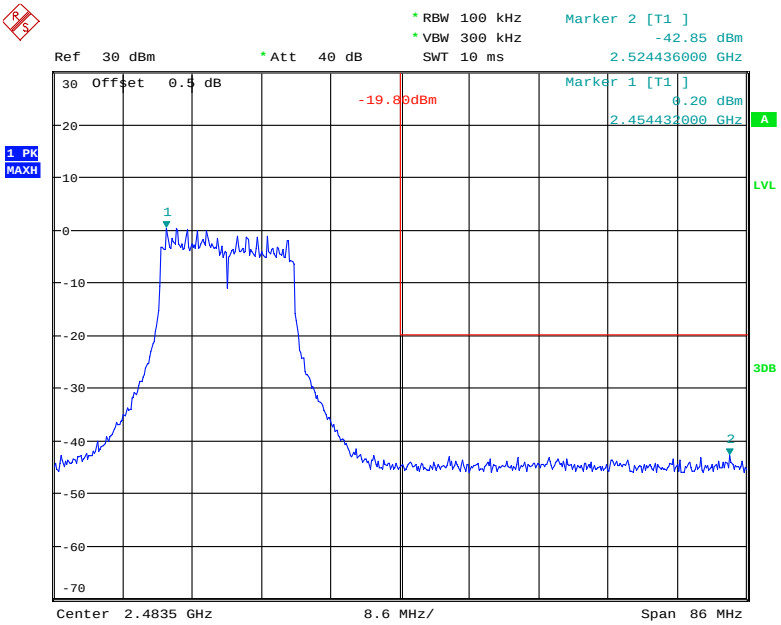
Date: 23.OCT.2017 21:39:44

802.11g: Band Edge, Left Side



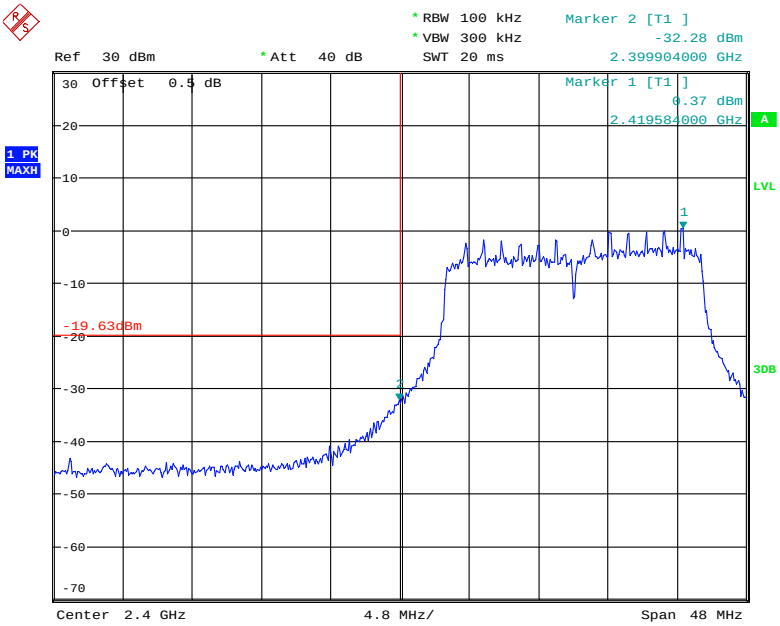
Date: 23.OCT.2017 22:08:24

802.11g: Band Edge, Right Side



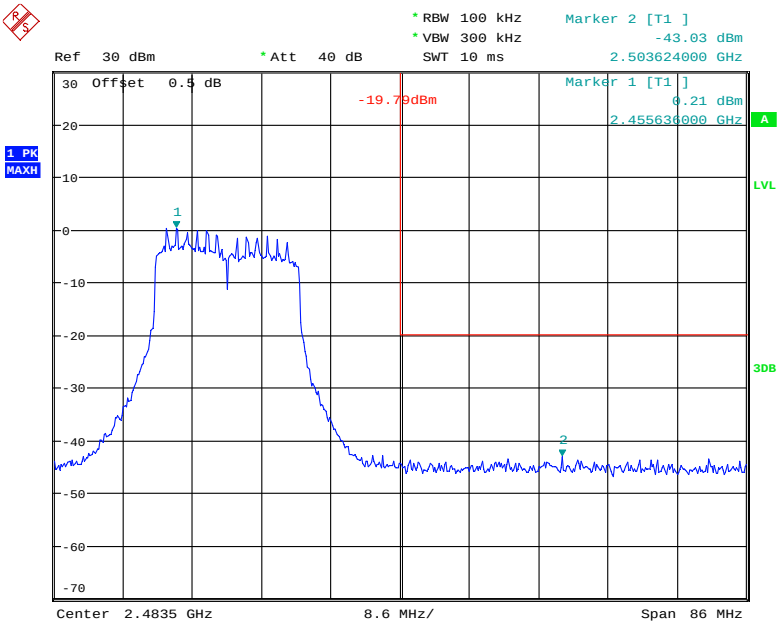
Date: 23.OCT.2017 22:14:54

802.11n ht20 Band Edge, Left Side



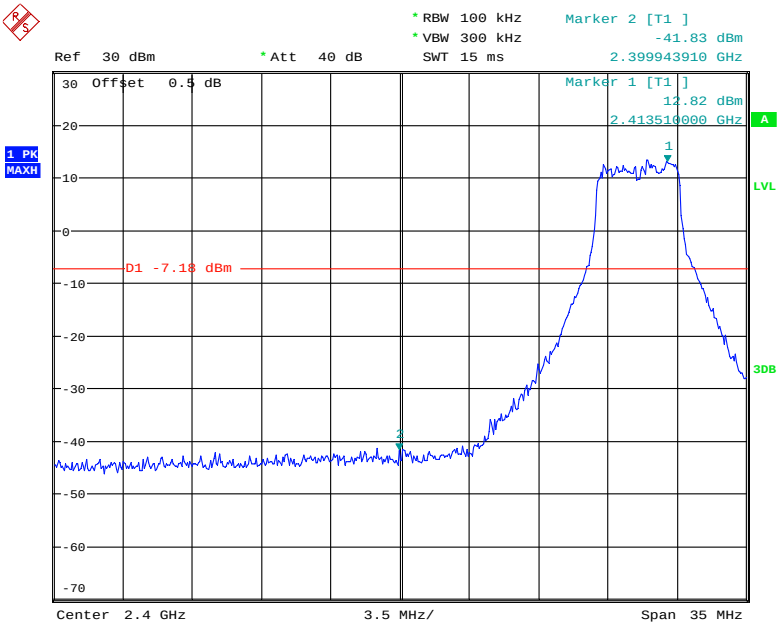
Date: 23.OCT.2017 22:23:31

802.11n ht20 Band Edge, Right Side



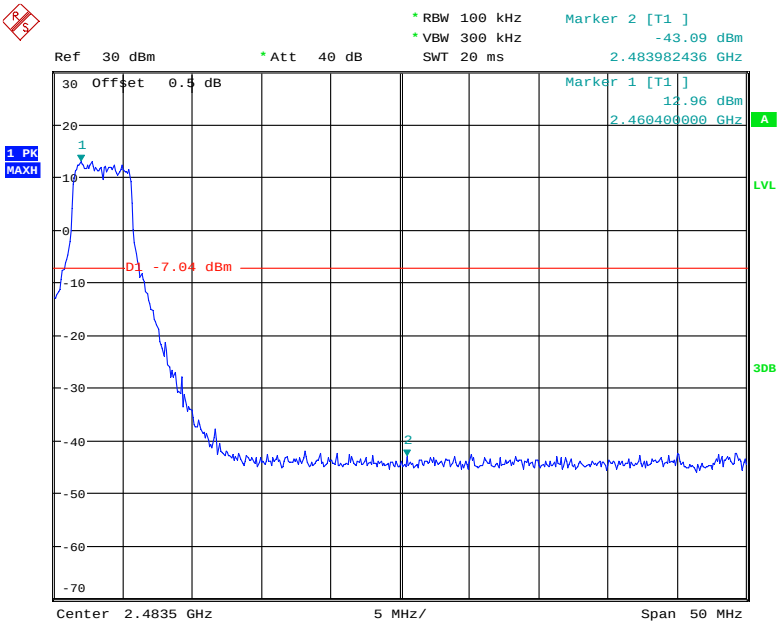
Date: 23.OCT.2017 22:17:45

5M Band Edge, Left Side



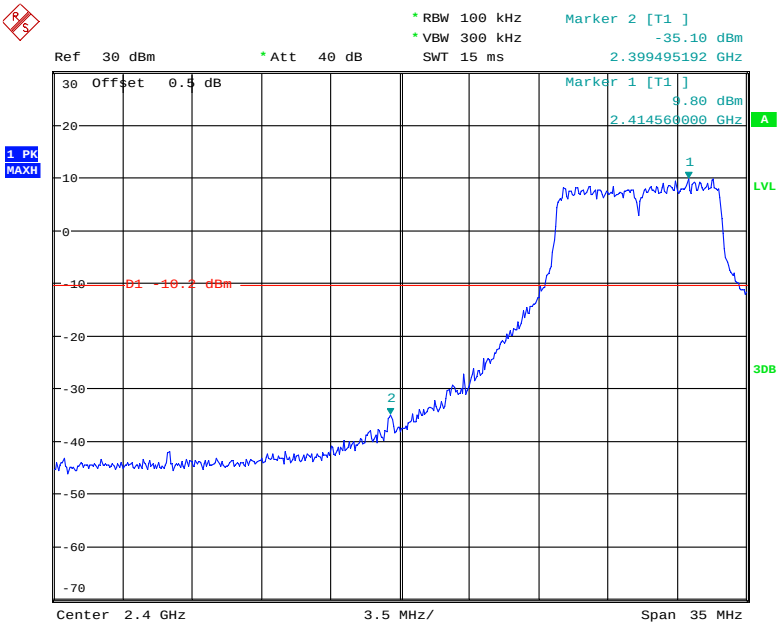
Date: 25.OCT.2017 00:27:42

5M Band Edge, Right Side



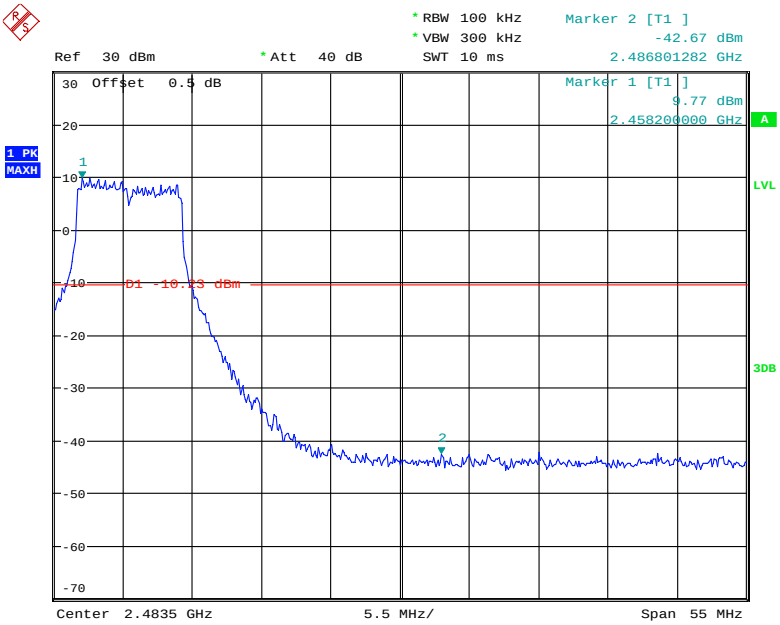
Date: 25.OCT.2017 00:25:55

10M Band Edge, Left Side



Date: 25.OCT.2017 00:29:04

10M Band Edge, Right Side



Date: 25.OCT.2017 00:30:15

FCC §15.247(e) &RSS-247 §5.2 b)- POWER SPECTRAL DENSITY

Applicable Standard

According to FCC§15.247(e):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.

According to RSS-247 §5.2 b):

b) The transmitter power spectral density conducted from the transmitter 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 section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

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 = RMS.
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
R&S	Spectrum Analyzer	FSU 26	200256	2016-12-08	2017-12-08
Unknown	Coaxial Cable	0.1m	C-1	Each Time	/

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

Test Data

Environmental Conditions

Temperature:	23.8~26.7 °C
Relative Humidity:	35~48 %
ATM Pressure:	101.6~101.8 kPa

The testing was performed by Harry Yang on 2017-11-07 and 2017-11-23.

Test Mode: Transmitting

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

Test mode	Channel	Frequency (MHz)	Reading (dBm/3kHz)		Dutycycle Factor (dB)	Total (dBm/3kHz)	Limit (dBm/3kHz)
			Chain 0	Chain 1			
802.11b	Low	2412	-19.61	-21.24	0.00	-17.34	≤5.49
	Middle	2437	-21.69	-20.32	0.00	-17.94	≤5.49
	High	2462	-20.43	-20.22	0.00	-17.31	≤5.49
802.11g	Low	2412	-22.74	-22.39	0.11	-19.55	≤5.49
	Middle	2437	-23.29	-23.46	0.11	-20.36	≤5.49
	High	2462	-22.18	-22.51	0.11	-19.33	≤5.49
802.11n ht20	Low	2412	-22.84	-22.57	0.12	-19.69	≤5.49
	Middle	2437	-23.72	-24.31	0.12	-20.99	≤5.49
	High	2462	-22.52	-22.55	0.12	-19.52	≤5.49
5M	Low	2412	-6.63	-6.29	0.11	-3.45	≤5.49
	Middle	2437	-5.81	-4.37	0.11	-2.02	≤5.49
	High	2462	-4.95	-4.61	0.11	-1.77	≤5.49
10M	Low	2412	-9.34	-7.68	0.09	-5.42	≤5.49
	Middle	2437	-9.54	-8.64	0.09	-6.06	≤5.49
	High	2462	-9.61	-7.3	0.09	-5.29	≤5.49

Note: The device employed Cyclic Delay Diversity (CDD) for MIMO transmitting, per C63.10-2013 clause 14.4.3.2.5 b, Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

For power density measurements,

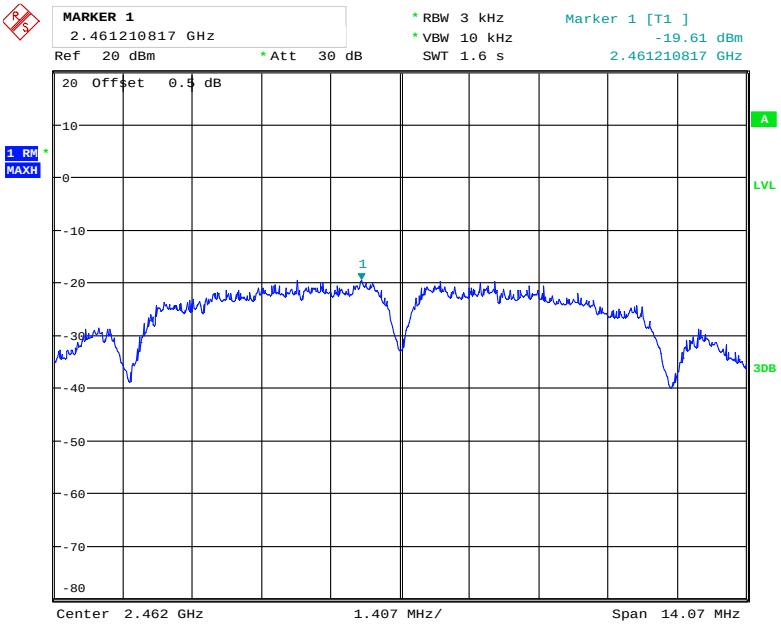
Array Gain = 10 log(NANT/NSS) dB.

So:

Directional gain = GANT + Array Gain = 5.51+10*log(2) =8.51 dBi

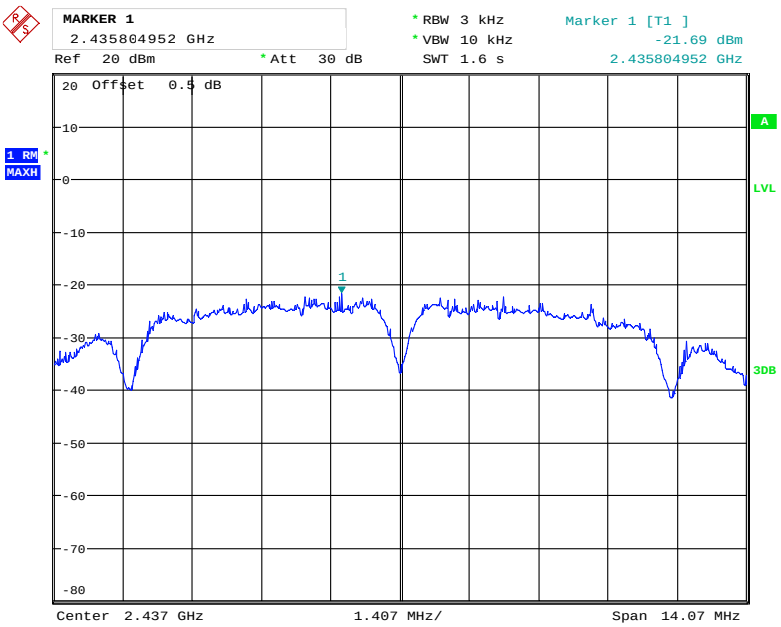
Chain 0:

Power Spectral Density, 802.11b, Low Channel



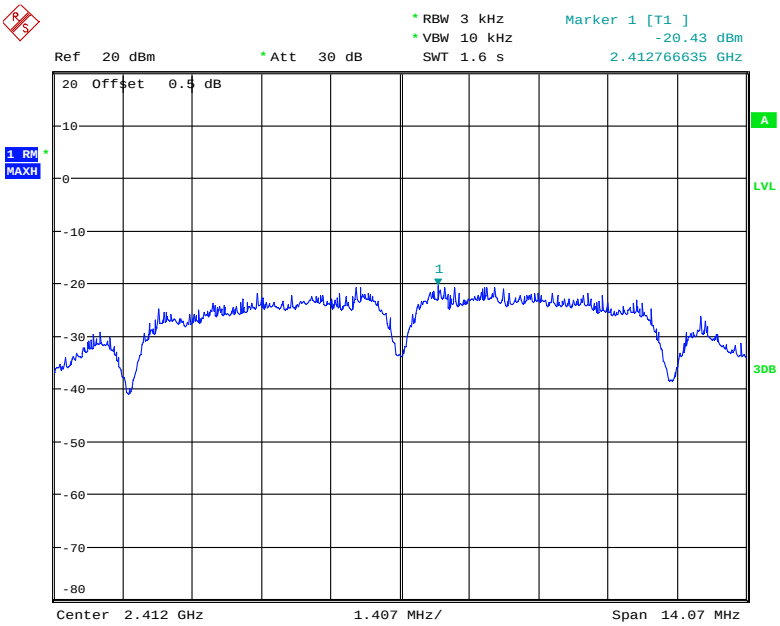
Date: 7.NOV.2017 17:48:01

Power Spectral Density, 802.11b, Middle Channel



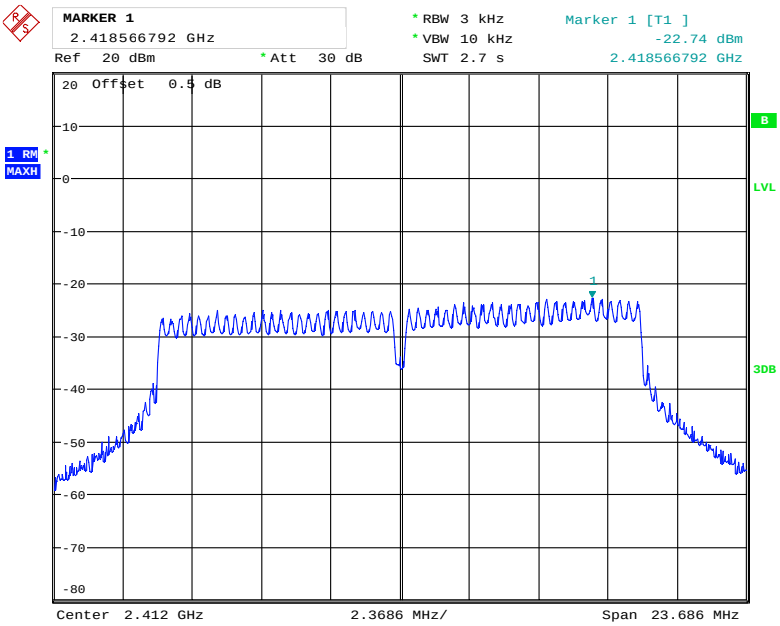
Date: 7.NOV.2017 17:48:35

Power Spectral Density, 802.11b, High Channel



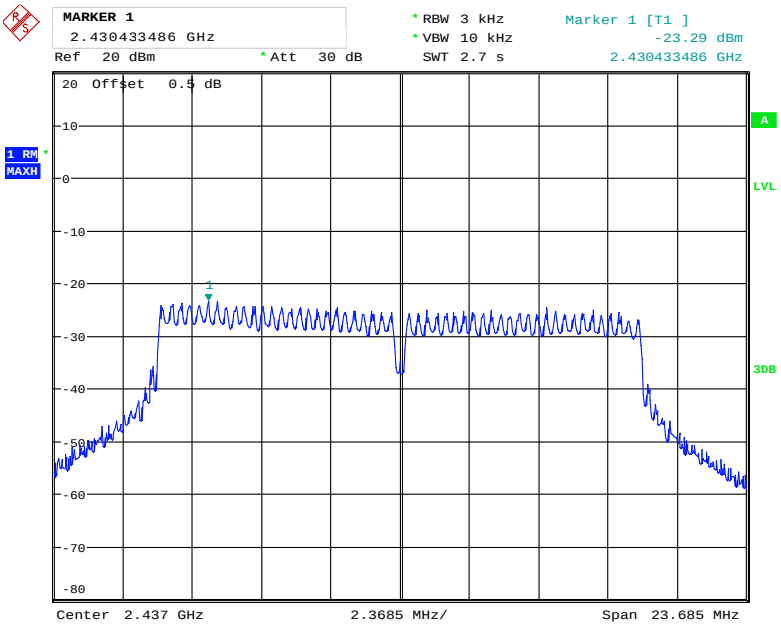
Date: 7.NOV.2017 17:46:00

Power Spectral Density, 802.11g, Low Channel



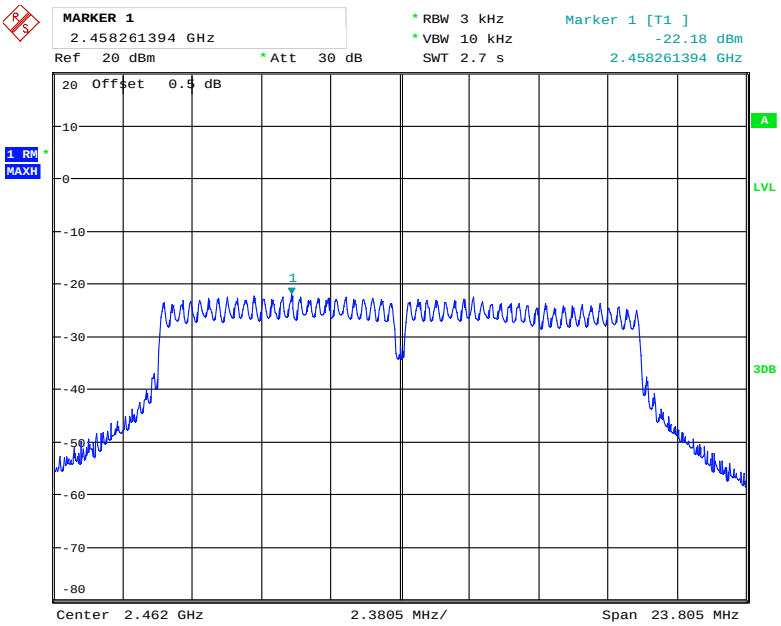
Date: 23.NOV.2017 12:49:07

Power Spectral Density, 802.11g, Middle Channel



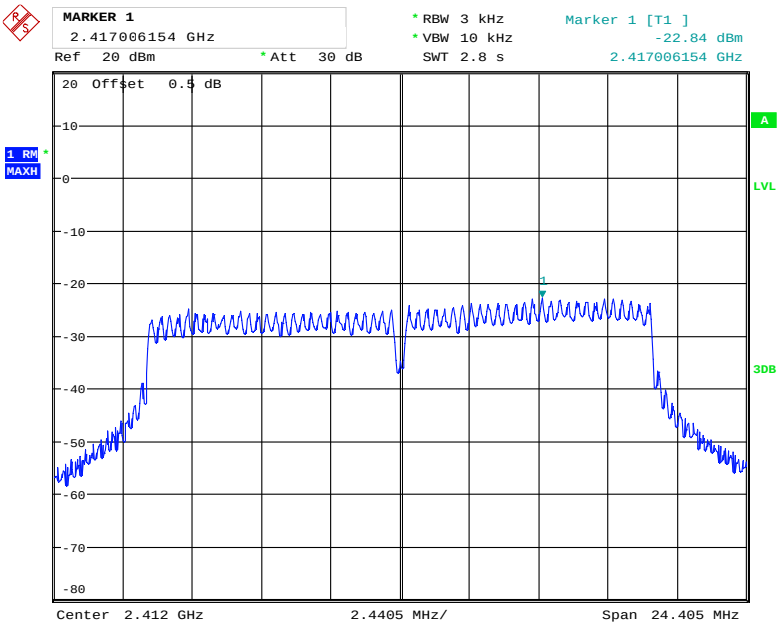
Date: 7.NOV.2017 17:51:39

Power Spectral Density, 802.11g, High Channel



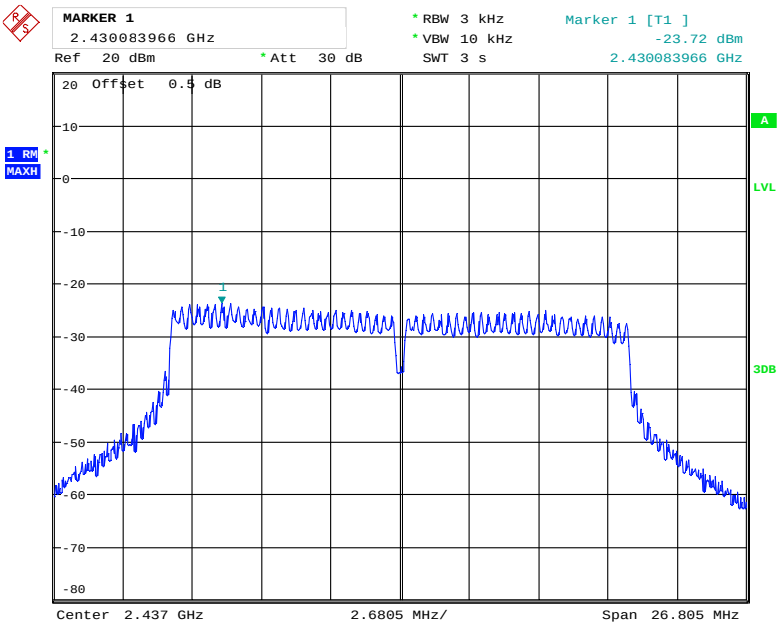
Date: 7.NOV.2017 17:50:15

Power Spectral Density, 802.11n ht20, Low Channel



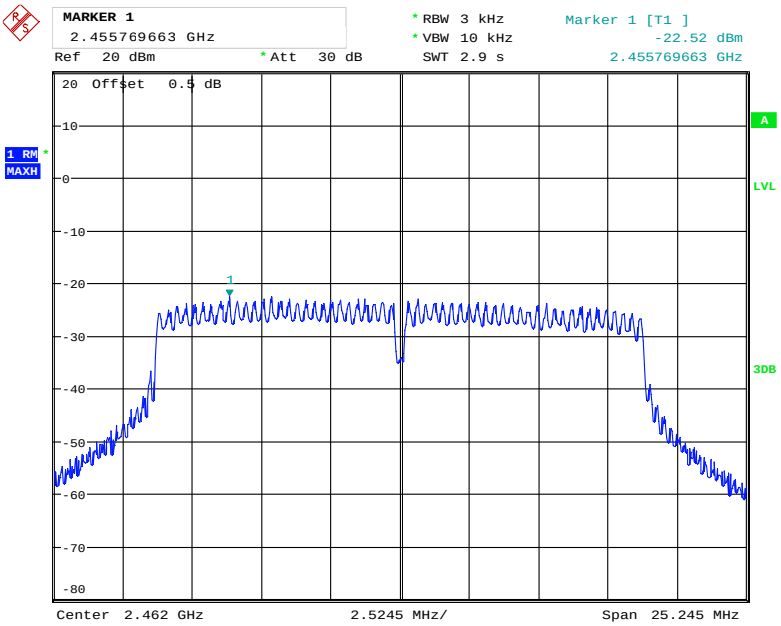
Date: 7.NOV.2017 17:55:28

Power Spectral Density, 802.11n ht20, Middle Channel



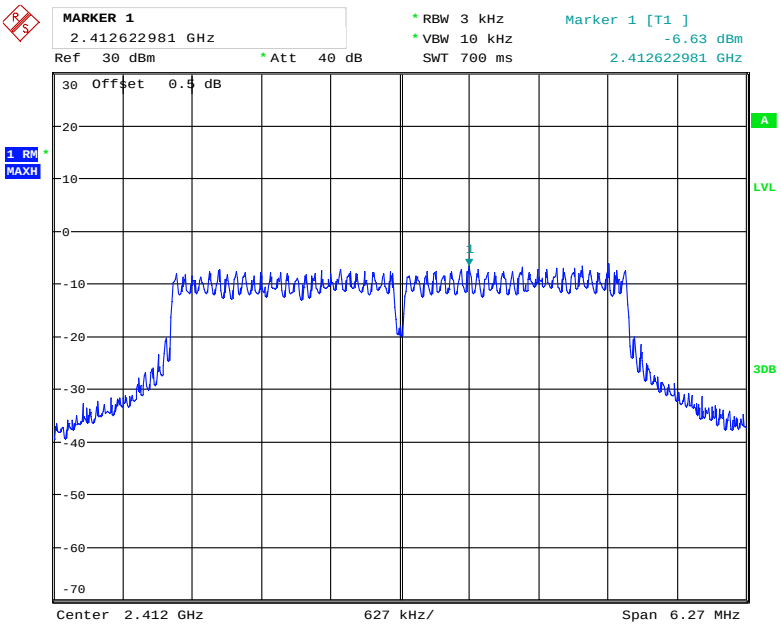
Date: 7.NOV.2017 18:03:44

Power Spectral Density, 802.11n ht20, High Channel



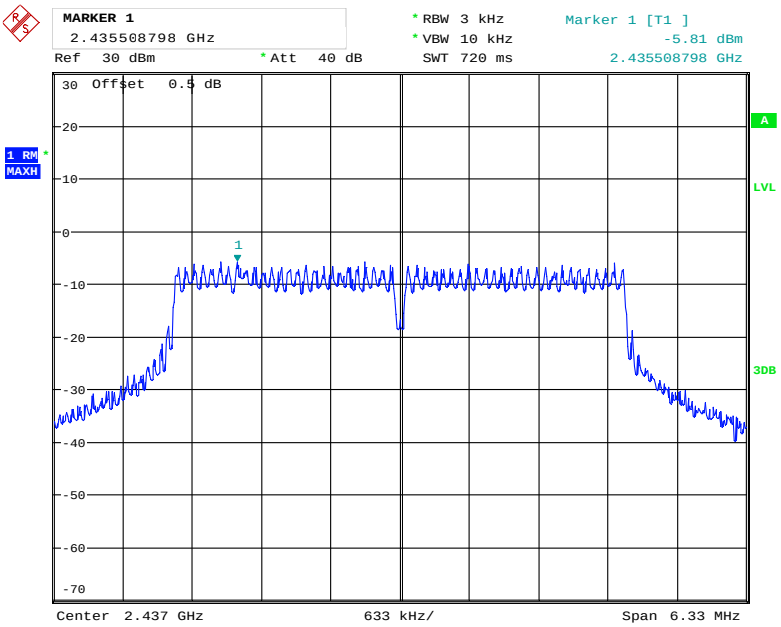
Date: 7.NOV.2017 17:54:26

Power Spectral Density, 5M Low Channel



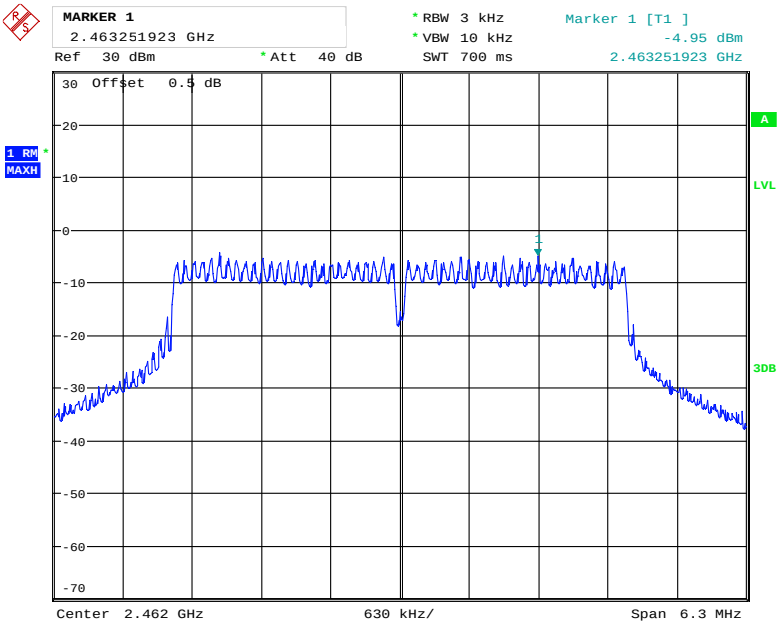
Date: 7.NOV.2017 17:24:15

Power Spectral Density, 5M Middle Channel



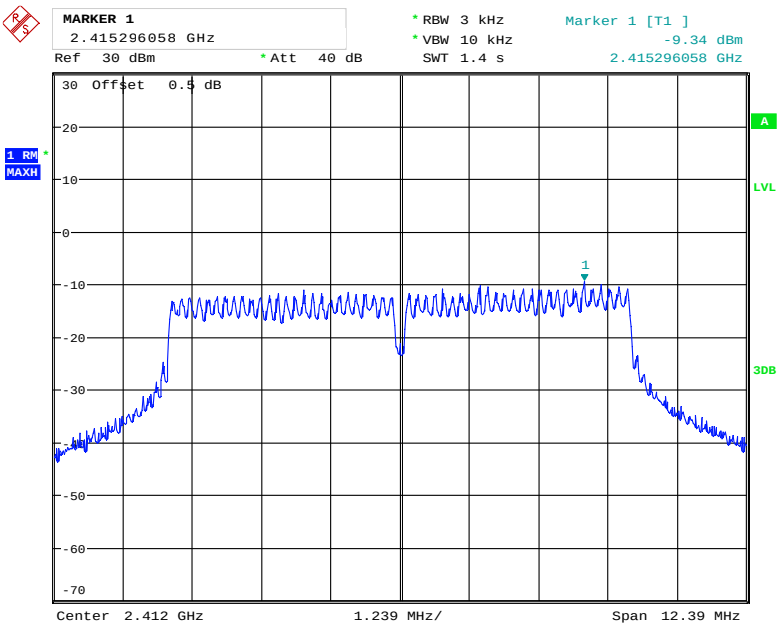
Date: 7.NOV.2017 17:28:54

Power Spectral Density, 5M High Channel



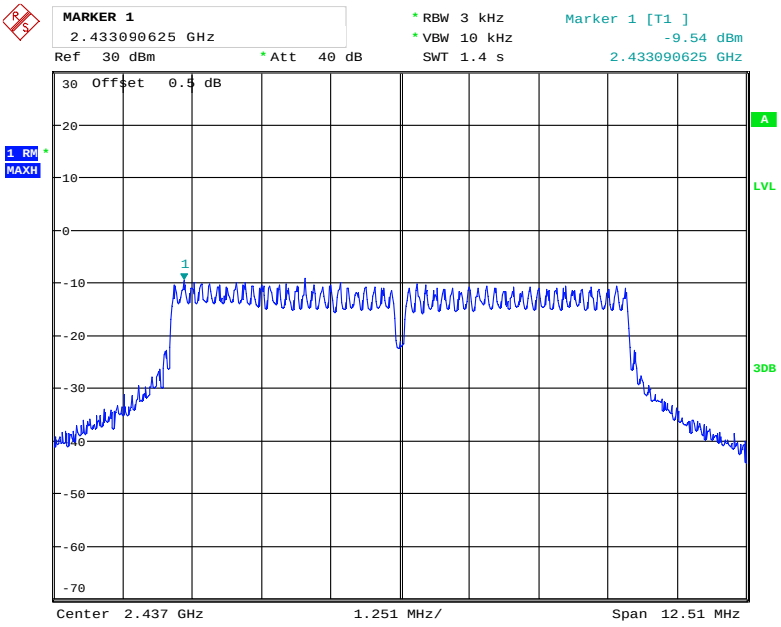
Date: 7.NOV.2017 17:22:46

Power Spectral Density, 10M Low Channel



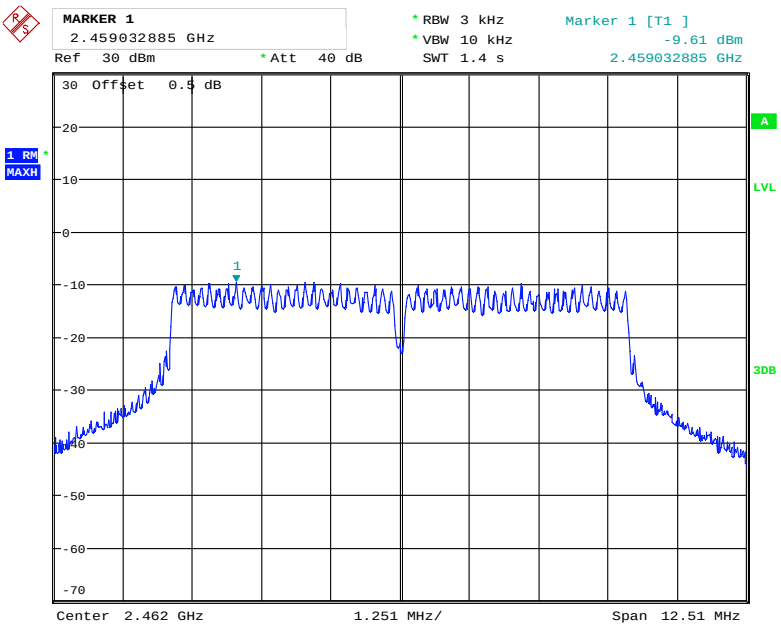
Date: 7.NOV.2017 17:27:18

Power Spectral Density, 10M Middle Channel



Date: 7.NOV.2017 17:28:04

Power Spectral Density, 10M High Channel



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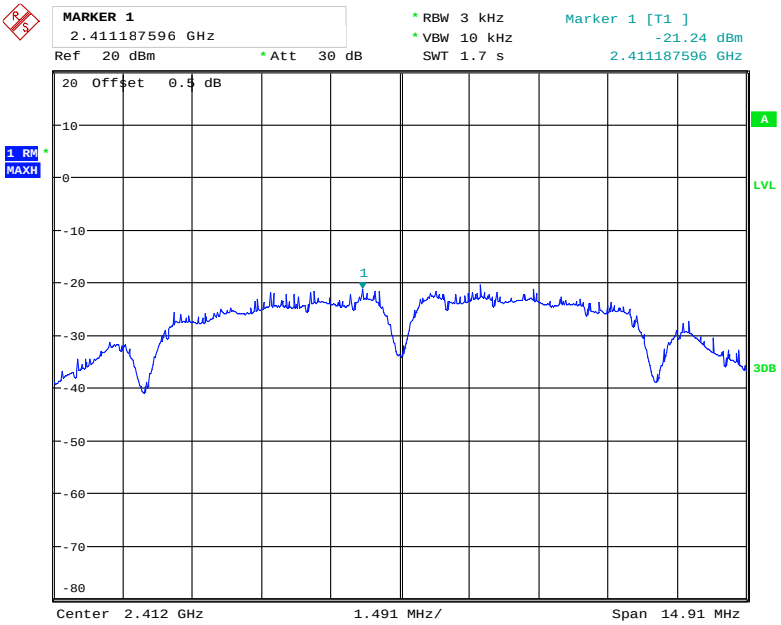
Chain 1:

Power Spectral Density, 802.11b, Low Channel



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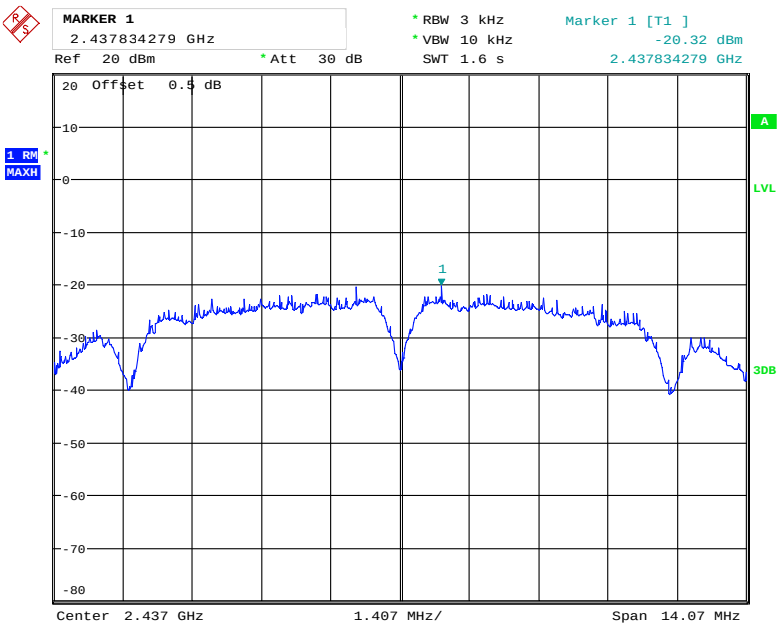
Power Spectral Density, 802.11b, Middle Channel



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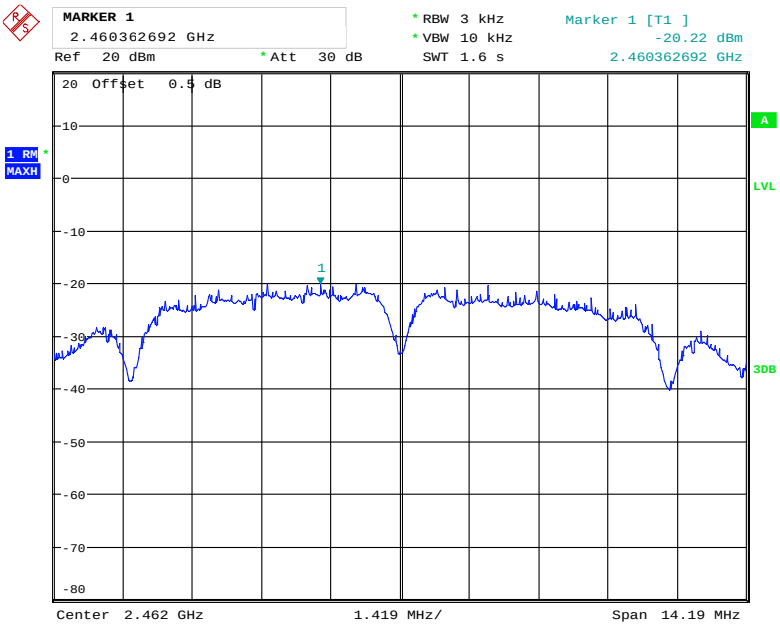
Power Spectral Density, 802.11b, High Channel



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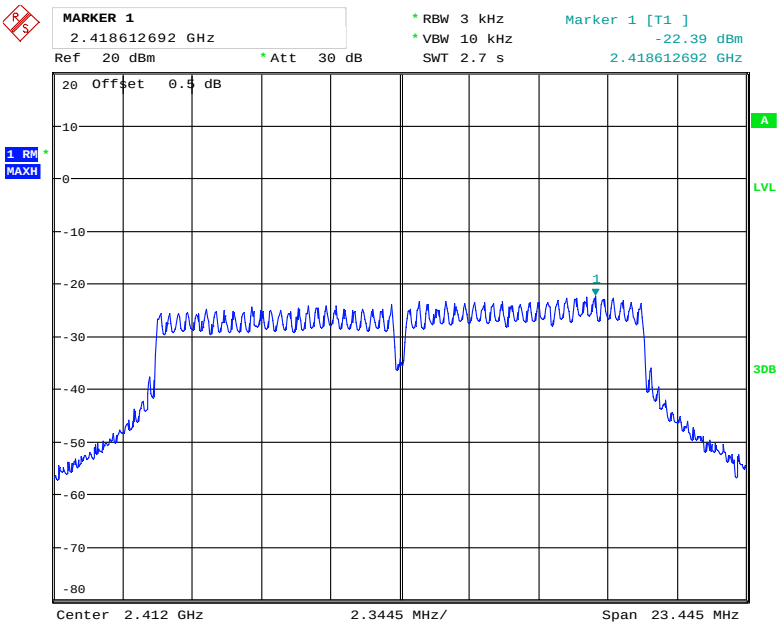
Power Spectral Density, 802.11g, Low Channel



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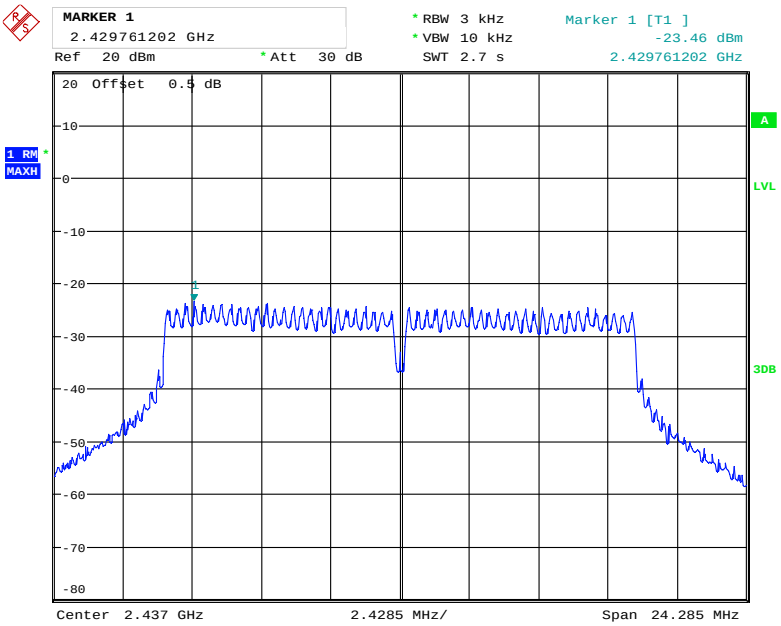
Power Spectral Density, 802.11g, Middle Channel



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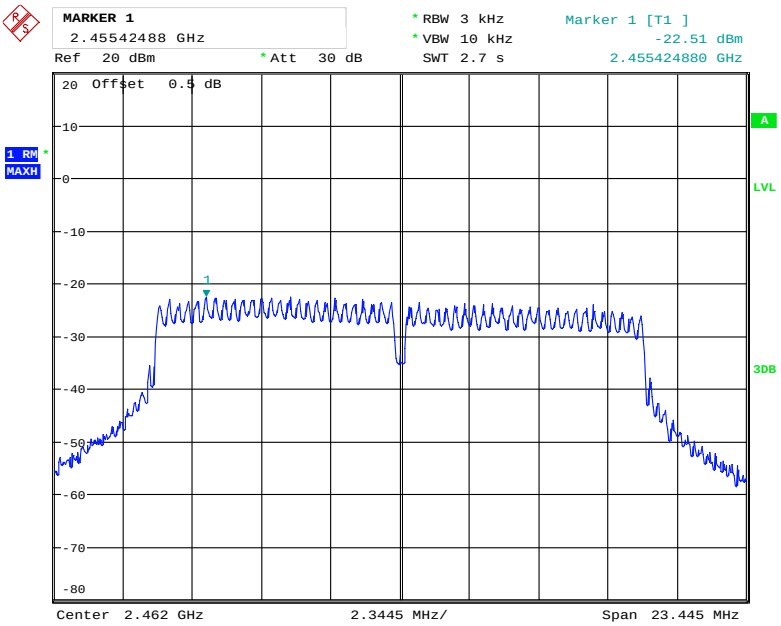
Power Spectral Density, 802.11g, High Channel



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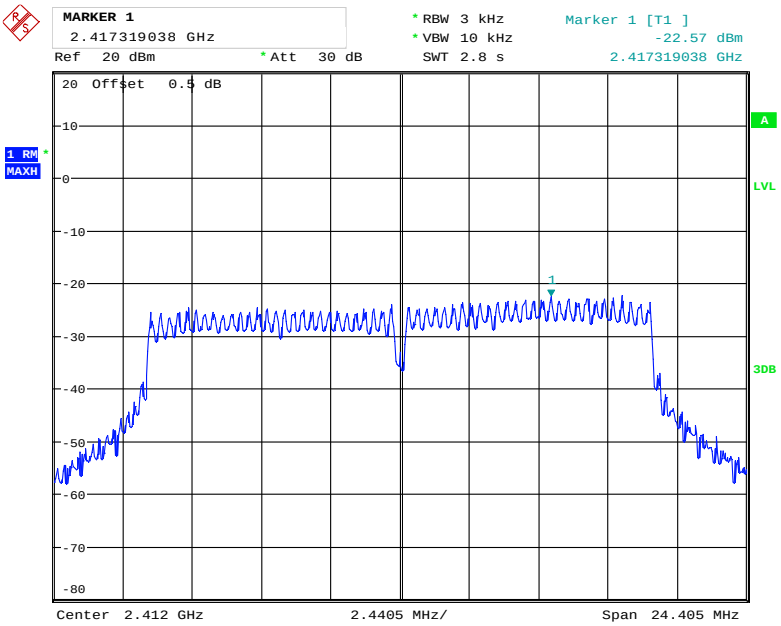
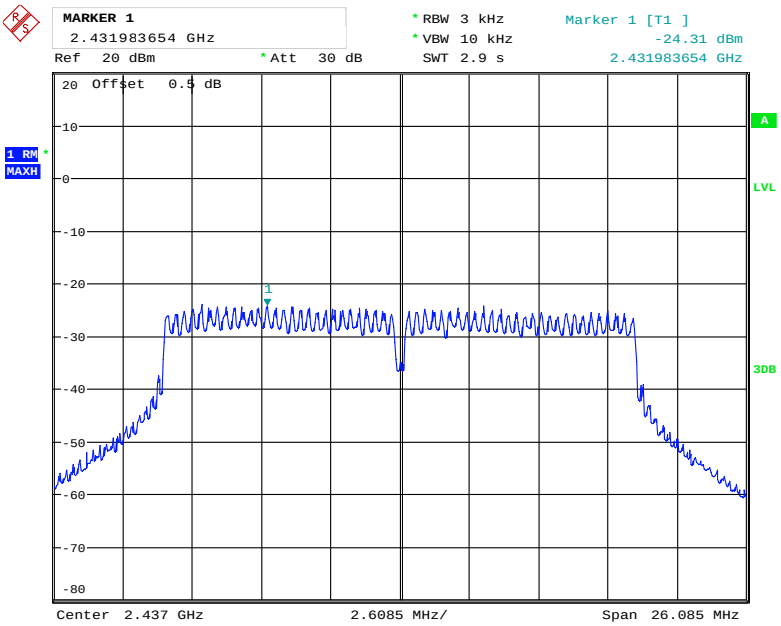
Power Spectral Density, 802.11n ht20, Low Channel



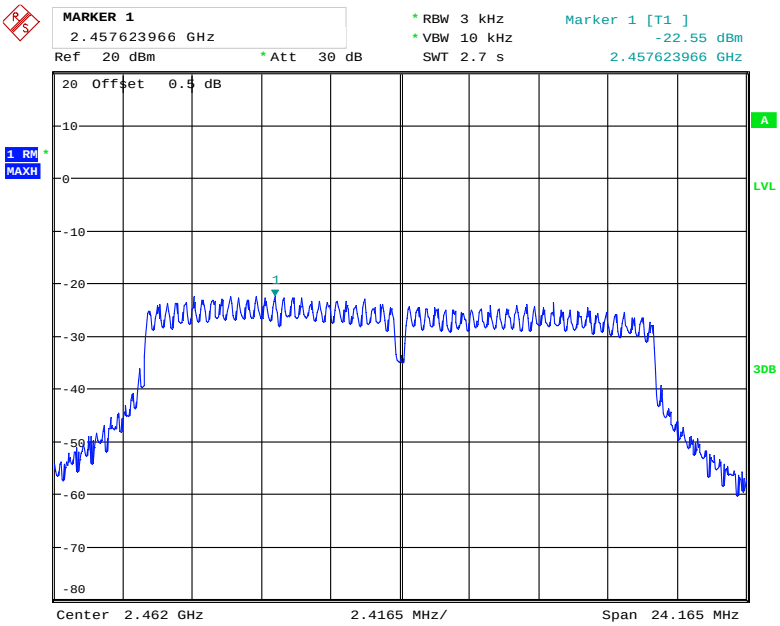
Date: 7.NOV.2017 18:07:19

Power Spectral Density, 802.11n ht20, Middle Channel



Date: 7.NOV.2017 18:06:14

Power Spectral Density, 802.11n ht20, High Channel



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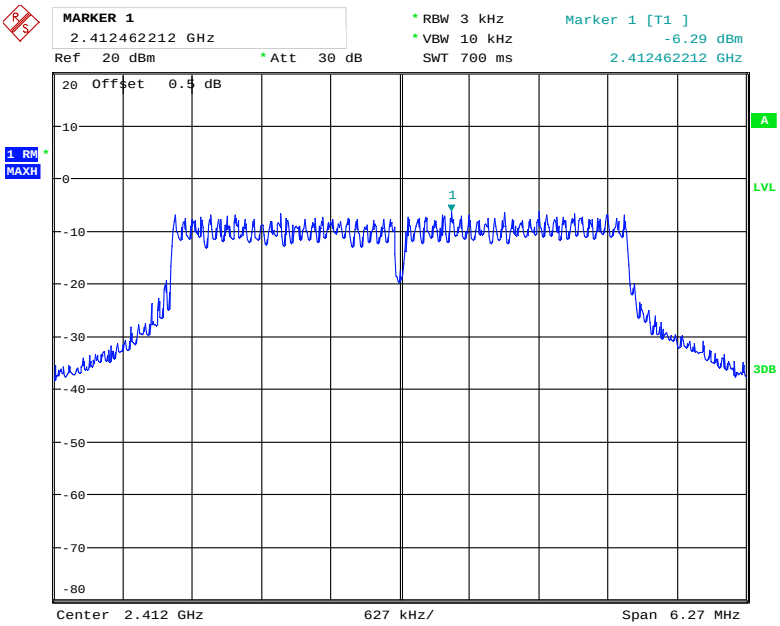
Power Spectral Density, 5M Low Channel



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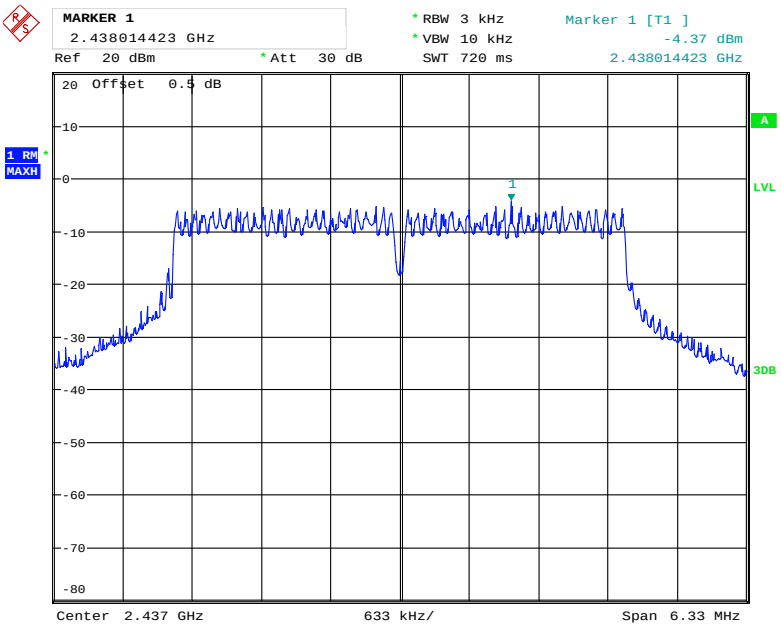
Power Spectral Density, 5M Middle Channel



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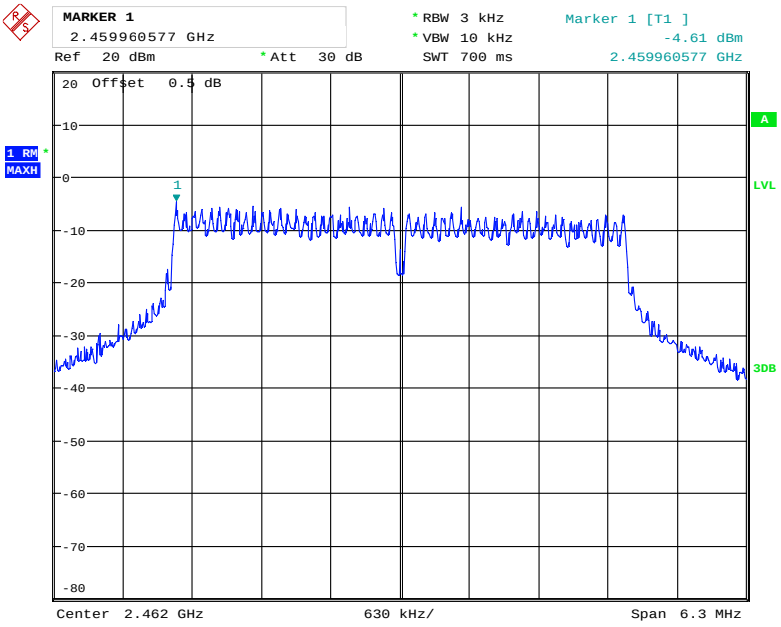
Power Spectral Density, 5M High Channel



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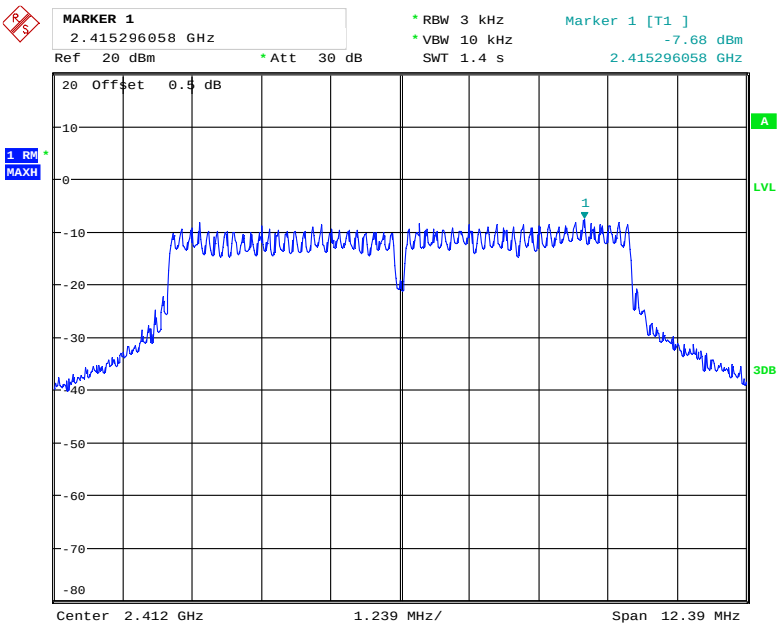
Power Spectral Density, 10M Low Channel



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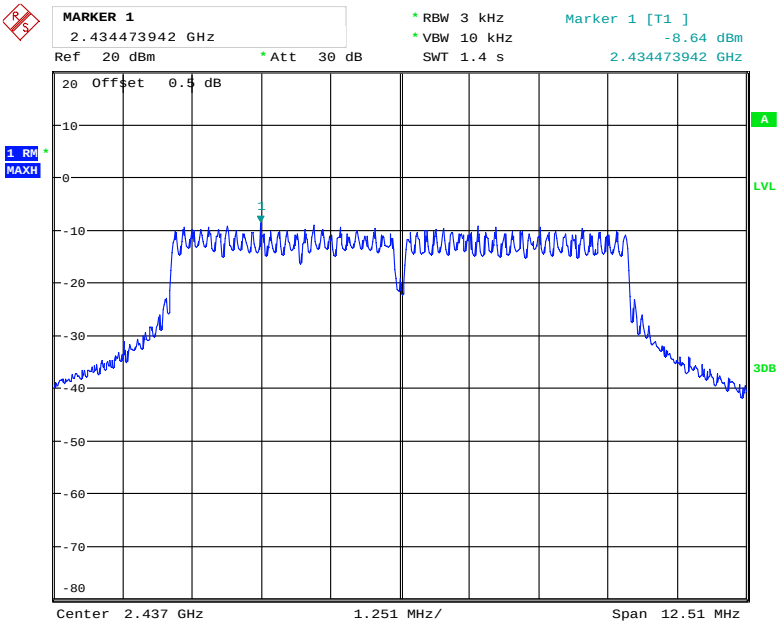
Power Spectral Density, 10M Middle Channel



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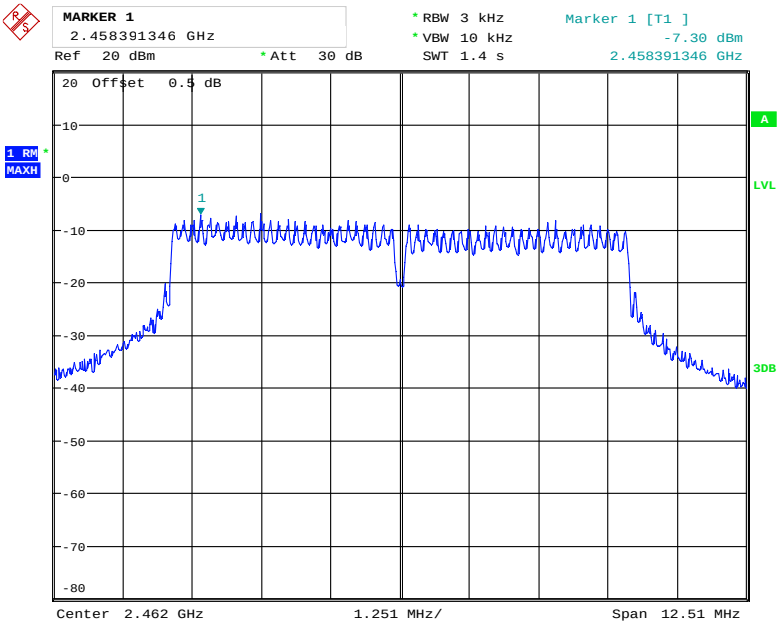
Power Spectral Density, 10M High Channel



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