



FCC PART 15C & RSS-247 TEST REPORT FOR CERTIFICATION
On Behalf of

Razer Inc.

Notebook PC

RZ09-0239

FCC ID: RWO-RZ090239

IC: 8092D-RZ090239

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Report Number : 4788146393
Date of Test : Aug.30~Oct.16, 2017
Date of Report : Sep.20, 2017



TABLE OF CONTENTS

Description	Page
1. SUMMARY OF STANDARDS AND RESULTS	1-1
1.1. Description of Standards and Results	1-1
2. GENERAL INFORMATION	2-1
2.1. Description of Device (EUT)	2-1
2.2. Tested Supporting System Details	2-3
2.3. Block diagram of connection between the EUT and simulators	2-3
2.4. Test Information	2-4
2.5. Test Facility	2-5
2.6. Measurement Uncertainty:	2-5
3. MEASURING INSTRUMENT AND SOFTWARE USED	3-1
4. POWER LINE CONDUCTED EMISSION TEST	4-1
4.1. Block Diagram of Test Setup	4-1
4.2. Power Line Conducted Emission Test Limits	4-1
4.3. Configuration of EUT on Test	4-1
4.4. Operating Condition of EUT	4-1
4.5. Test Procedure	4-2
4.6. Power Line Conducted Emission Test Results	4-2
5. RADIATED EMISSION TEST	5-1
5.1. Block Diagram of Test Setup	5-1
5.2. Radiated Emission Limit	5-2
5.3. EUT Configuration on Test	5-2
5.4. Operating Condition of EUT	5-3
5.5. Test Procedure	5-3
5.6. Radiated Emission Test Results	5-3
6. CONDUCTED SPURIOUS EMISSIONS	6-1
6.1. Limit	6-1
6.2. Test Procedure	6-1
6.3. Test result	6-1
7. BAND EDGE COMPLIANCE TEST	7-1
7.1. Limit	7-1
7.2. Test Procedure	7-1
7.3. Test Results	7-1
8. 6dB & 99% Bandwidth Test	8-1
8.1. Limit	8-1
8.2. Test Procedure	8-1
8.3. Test Results	8-1
9. OUTPUT POWER TEST	9-1
9.1. Limit	9-1
9.2. Test Procedure	9-1
9.3. Test Results	9-2
10. EQUIVALENT Isotropic Radiated Power Test	10-1
10.1. Limit	10-1
10.2. Test Method	10-1



	10.3. Test Results	10-1
11.	POWER SPECTRAL DENSITY TEST	11-1
	11.1. Limit	11-1
	11.2. Test Procedure	11-1
	11.3. Test Results	11-2
12.	ANTENNA REQUIREMENT	12-1
	12.1. Standard Applicable	12-1
	12.2. Antenna Connected Construction	12-1
13.	DEVIATION TO TEST SPECIFICATIONS	13-1



TEST REPORT CERTIFICATION

Applicant : Razer Inc.
Manufacturer : Razer Inc.
Product : Notebook PC
FCC ID : RWO-RZ090239
IC : 8092D-RZ090239
(A) Model No. : RZ09-0239
(B) Serial No. : N/A
(C) Test Voltage : DC 20V From Adaptor Input AC 120V/60Hz

Tested for comply with:
FCC CFR 47 Part 15 Subpart C
RSS-247, ISSUE 2, Feb 2017
RSS-Gen, ISSUE 4, November 2014

Test procedure used:
ANSI C63.10: 2013

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch.

Date of Test : Aug.29~Sep.19,2017 Report of date: Sep.20,2017

Prepared by : Kebo Zhang Reviewed by : Shawn Wen
Kebo Zhang / Engineer Shawn Wen / Laboratory Leader

Approved & Authorized Signer : Stephen Guo
Stephen Guo / Laboratory Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT has been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Power Line Conducted Emission	FCC Part 15: 15.207 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Radiated Emission	FCC Part 15: 15.209 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Band Edge Compliance	FCC Part 15: 15.247 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Conducted spurious emissions	FCC Part 15: 15.247 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
6dB & 99% Bandwidth	FCC Part 15: 15.247 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Peak Output Power	FCC Part 15: 15.247 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Equivalent Isotropic Radiated Power Test	RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Power Spectral Density	FCC Part 15: 15.247 RSS-247, ISSUE 2 RSS-Gen, ISSUE 4 ANSI C63.10	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product	: Notebook PC
Model No.	: RZ09-0239
FCC ID	: RWO-RZ090239
IC	: 8092D-RZ090239
Radio	: IEEE802.11 a/b/g/n/ac; Bluetooth V3.0+EDR; Bluetooth V4.1
Operation Frequency	: IEEE 802.11a: 5180MHz—5240MHz; 5260MHz—5320MHz 5500MHz—5700MHz; 5745MHz—5825MHz IEEE 802.11ac VHT20: 5180MHz—5240MHz; 5260MHz—5320MHz 5500MHz—5700MHz; 5745MHz—5825MHz IEEE 802.11ac VHT40: 5190MHz—5230MHz; 5270MHz—5310MHz 5510MHz—5670MHz; 5755MHz—5795MHz IEEE 802.11ac VHT80: 5210MHz, 5290MHz; 5530MHz—5610MHz; 5775MHz IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE802.11nHT20: 2412MHz—2462MHz; 5180MHz—5240MHz; 5260MHz—5320MHz 5500MHz—5700MHz; 5745MHz—5825MHz IEEE802.11nHT40: 2422MHz—2452MHz; 5190MHz—5230MHz; 5270MHz—5310MHz 5510MHz—5670MHz; 5755MHz—5795MHz Bluetooth : 2402-2480MHz
Modulation Technology	: IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11a/g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20, VHT40, VHT80: OFDM(16QAM, 64QAM, 256QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM,QPSK,BPSK) Bluetooth V3.0+EDR: GFSK, $\pi/4$ DQPSK,8-DPSK Bluetooth V4.1:GFSK

Antenna Assembly : Antenna Type: PIFA
Gain Bluetooth: 1.89dBi
WIFI 2.4GHz: ANT 0: 1.89dBi; ANT 1: 3.08dBi
WIFI 5GHz:
Band 1: ANT 0: 2.91dBi; ANT 1: 2.96dBi
Band 2: ANT 0: 3.08dBi; ANT 1: 2.96dBi
Band 3: ANT 0: 1.61dBi; ANT 1: 2.99dBi
Band 4: ANT 0: 3.16dBi; ANT 1: 2.88dBi

Applicant : Razer Inc.
201 3rd Street, Suite 900, San Francisco, CA 94103

Manufacturer : Razer Inc.
201 3rd Street, Suite 900, San Francisco, CA 94103

Factory : BYD Precision Manufacture Co., Ltd
No.3001, Bao He Road, Baolong Industrial, Longgang Street,
Longgang
Zone, Shenzhen, 518116, P.R., China

Power Adaptor : Manufacturer: Razer Inc. M/N: RC30-0239
Input: 100-240Vac; 50/60Hz, 2.0A
Output: 20V; 3.25A
DC Cable: Shielded, Undetachable, 2.0m

Power Cable : Unshielded, Detachable, 1.0m

Date of Test : Aug.30~Oct.16, 2017

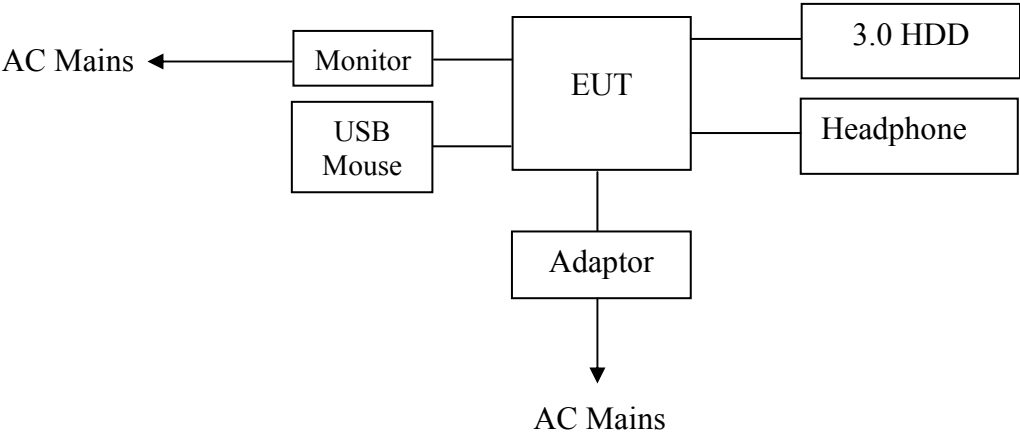
Date of Receipt : Aug.28, 2017

Sample Type Prototype production

2.2.Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial No.
1.	Monitor	Lenovo	L2264W	N/A
		Power Cord: Unshielded, Detachable, 1.8m HDMI Cable: Shielded, Detachable, 2.0m		
2.	Headphone	OVANN	0V-T800V	N/A
		Data Cable: Shielded, Undetachable, 4.0m		
3.	USB Mouse	M0C5UO	Dell	512022645
		USB Cable: Shielded, Detachable, 1.0m		
4.	3.0 HDD	SONY	HD-E	3PDLOT15515005C
		USB Cable: Shielded, Detachable, 1.0m		

2.3.Block diagram of connection between the EUT and simulators



(EUT: Notebook PC)

2.4. Test Information

A special test software was used to control EUT work in Continuous TX mode(nearly 100% duty cycle), and select test channel, wireless mode and data rate.

Tested mode, channel, and data rate information			
Mode	data rate (Mbps)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11n HT20	MCS0	Low :CH1	2412
	MCS0	Middle: CH6	2437
	MCS0	High: CH11	2462
IEEE 802.11n HT40	MCS0	Low :CH3	2422
	MCS0	Middle: CH6	2437
	MCS0	High: CH9	2452
Note: 1. According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.			
Note: 2. 11b/g use SISO mode, choose ANT0 which has the worse case emission for the radiated emission and band edge measurement, 11n mode use MIMO Mode, test with two antenna transmit simultaneously in 11n mode, and comply with KDB662911D01.			

2.5. Test Facility

Test Location	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Address	Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China
Accreditation Certificate	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. The Certificate Registration Number is 4102.01. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The Designation Number is CN1187. UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. EMC Laboratory has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.

2.6.Measurement Uncertainty:

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus

Test Item	Uncertainty
Uncertainty for Conduction emission test	2.90dB
Uncertainty for Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.52dB
Uncertainty for Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	5.04dB(1-6GHz)
	5.30dB (6GHz-18Gz)
	5.23dB (18GHz-26Gz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. MEASURING INSTRUMENT AND SOFTWARE USED

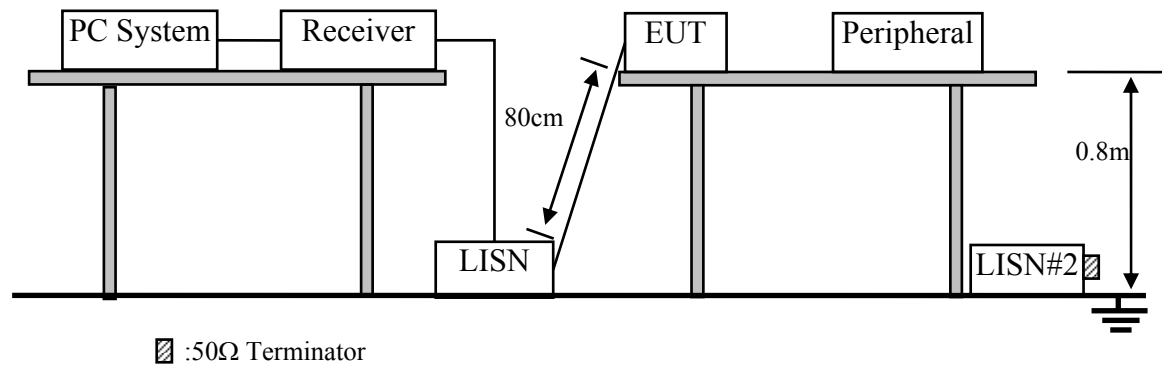
Conducted Emissions						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☒	EMI Test Receiver	R&S	ESR3	101961	Dec.20, 2016	Dec.19, 2017
☒	Two-Line V-Network	R&S	ENV216	101983	Dec.20, 2016	Dec.19, 2017
☒	Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Feb.10, 2017	Feb.10, 2018
Radiated Emissions						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☒	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Feb. 24, 2017	Feb. 24, 2018
☒	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Jan.09, 2016	Jan.09, 2019
☒	Preamplifier	HP	8447D	2944A09099	Feb. 13, 2017	Feb. 13, 2018
☒	EMI Measurement Receiver	R&S	ESR26	101377	Dec. 20, 2016	Dec. 20, 2017
☒	Horn Antenna	TDK	HRN-0118	130939	Jan. 09, 2016	Jan. 09, 2019
☒	High Gain Horn Antenna	Schwarzbeck	BBHA-9170	691	Jan.06, 2016	Jan.06, 2019
☒	Preamplifier	TDK	PA-02-0118	TRS-305-00066	Jan. 14, 2017	Jan. 14, 2018
☒	Preamplifier	TDK	PA-02-2	TRS-307-00003	Dec. 20, 2016	Dec. 20, 2017
☒	Loop antenna	Schwarzbeck	1519B	00008	Mar. 26, 2016	Mar. 26, 2019
Other instruments						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
☒	Spectrum Analyzer	Keysight	N9030A	MY55410512	Dec. 20, 2016	Dec. 20, 2017
☒	Power Meter	Keysight	N9031A	MY55416024	Feb. 13, 2017	Feb. 13, 2018
☒	Power Sensor	Keysight	N9323A	MY55440013	Feb. 13, 2017	Feb. 13, 2018

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4. POWER LINE CONDUCTED EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

4.3. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

4.3.1. Notebook PC (EUT)

Model No. : RZ09-0239
Serial No. : N/A

4.3.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

4.4. Operating Condition of EUT

- 4.4.1. Setup the EUT and simulator as shown as Section 4.1.
- 4.4.2. Turn on the power of all equipments.
- 4.4.3. PC run test software to control EUT work in Tx (WiFi 2.4GHz) mode.

4.5. Test Procedure

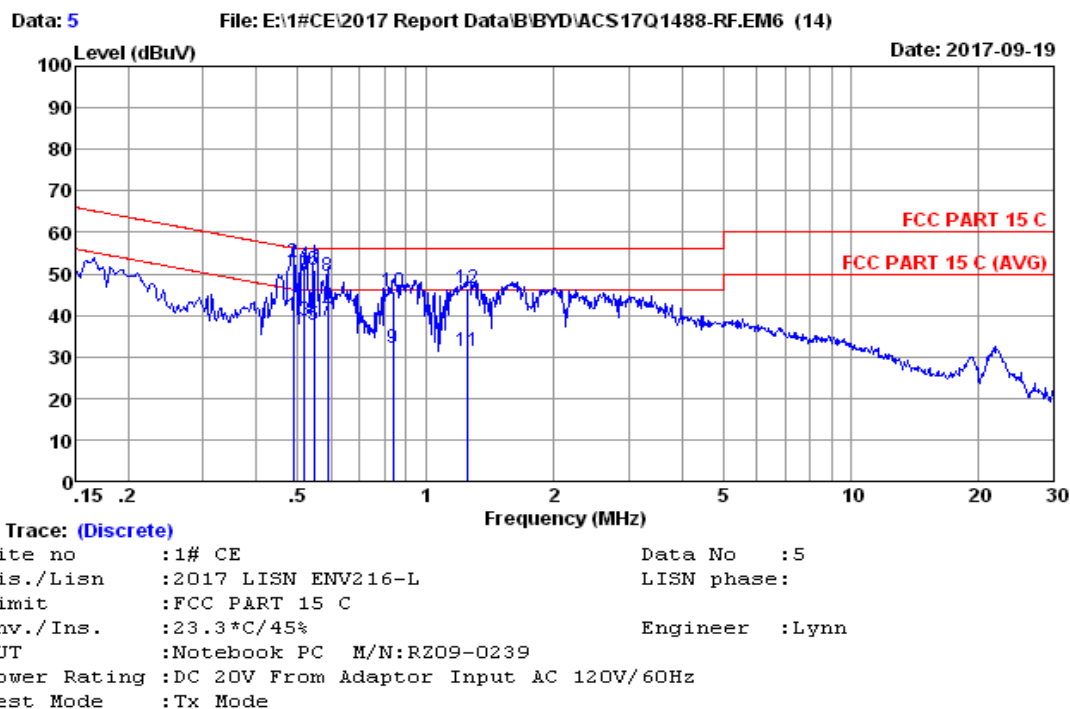
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

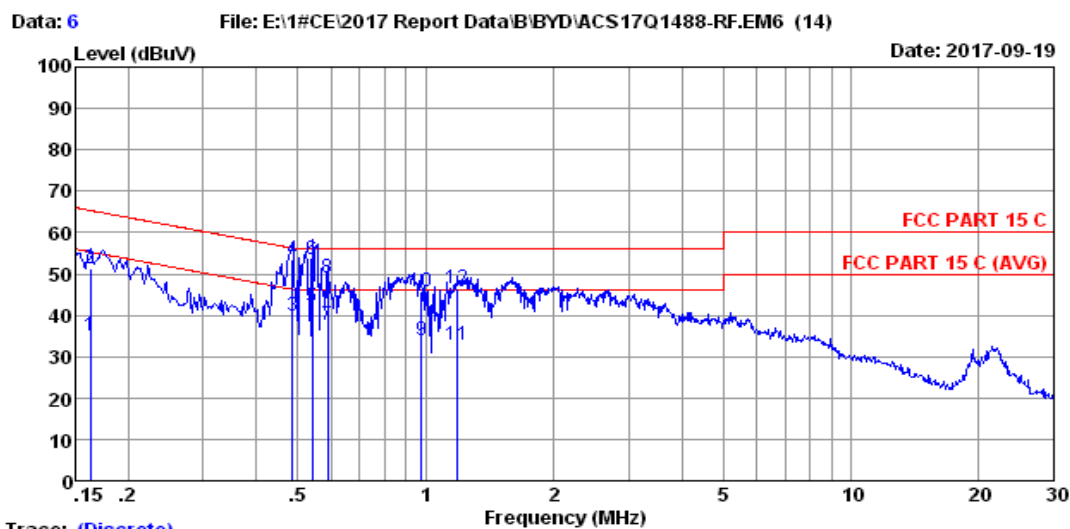
4.6. Power Line Conducted Emission Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)



No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.489	9.50	0.03	30.26	39.79	46.19	6.40	Average
2	0.489	9.50	0.03	43.19	52.72	56.19	3.47	QP
3	0.518	9.50	0.03	29.25	38.78	46.00	7.22	Average
4	0.518	9.50	0.03	42.52	52.05	56.00	3.95	QP
5	0.546	9.50	0.03	28.25	37.78	46.00	8.22	Average
6	0.546	9.50	0.03	41.23	50.76	56.00	5.24	QP
7	0.589	9.50	0.03	29.28	38.81	46.00	7.19	Average
8	0.589	9.50	0.03	39.97	49.50	56.00	6.50	QP
9	0.839	9.50	0.04	22.71	32.25	46.00	13.75	Average
10	0.839	9.50	0.04	36.13	45.67	56.00	10.33	QP
11	1.249	9.49	0.06	21.71	31.26	46.00	14.74	Average
12	1.249	9.49	0.06	36.88	46.43	56.00	9.57	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



Trace: (Discrete)

Site no :1# CE Data No :6
 Dis./Lisn :2017 LISN ENV216-N LISN phase:
 Limit :FCC PART 15 C
 Env./Ins. :23.3°C/45% Engineer :Lynn
 EUT :Notebook PC M/N:RZ09-0239
 Power Rating :DC 20V From Adaptor Input AC 120V/60Hz
 Test Mode :Tx Mode

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.162	9.48	0.02	25.56	35.06	55.34	20.28	Average
2	0.162	9.48	0.02	41.65	51.15	65.34	14.19	QP
3	0.486	9.33	0.03	30.55	39.91	46.23	6.32	Average
4	0.486	9.33	0.03	44.07	53.43	56.23	2.80	QP
5	0.541	9.31	0.03	32.58	41.92	46.00	4.08	Average
6	0.541	9.31	0.03	44.03	53.37	56.00	2.63	QP
7	0.589	9.31	0.03	28.26	37.60	46.00	8.40	Average
8	0.589	9.31	0.03	39.67	49.01	56.00	6.99	QP
9	0.979	9.35	0.05	24.71	34.11	46.00	11.89	Average
10	0.979	9.35	0.05	36.52	45.92	56.00	10.08	QP
11	1.191	9.35	0.05	23.61	33.01	46.00	12.99	Average
12	1.191	9.35	0.05	37.01	46.41	56.00	9.59	QP

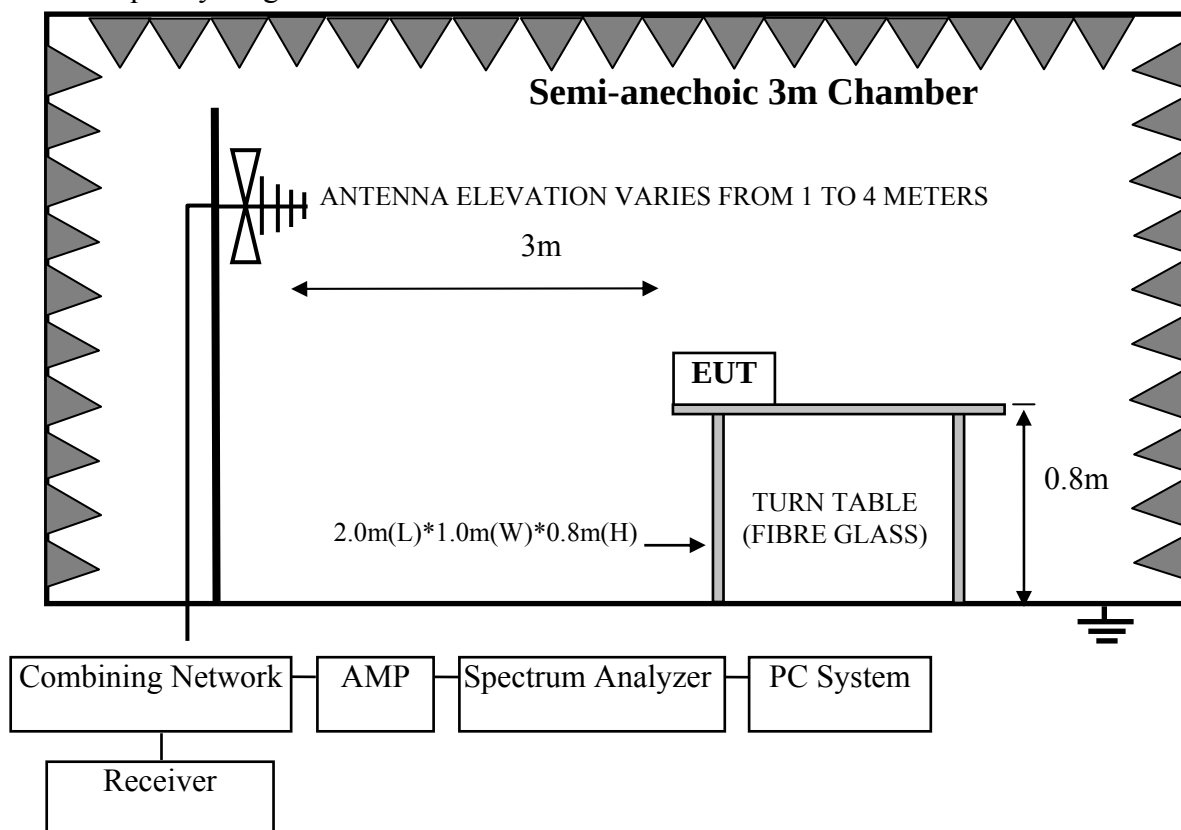
Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.

2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

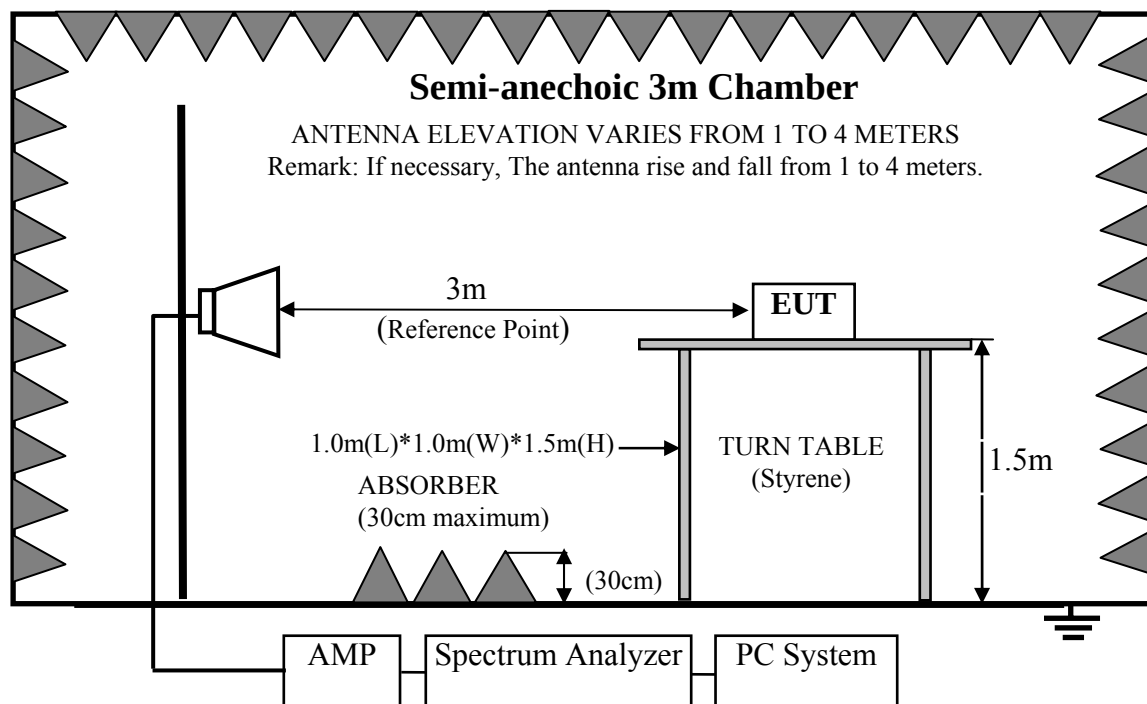
5. RADIATED EMISSION TEST

5.1. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range 1GHz-25GHz



5.2. Radiated Emission Limit

5.2.1. 15.247&209 limits

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

Remark : (1) Emission level $\text{dB}\mu\text{V} = 20 \log \text{Emission level } \mu\text{V}/\text{m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

5.2.2. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

5.3. EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

5.3.1. Notebook PC (EUT)

Model No. : RZ09-0239

Serial No. : N/A

5.3.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

5.4. Operating Condition of EUT

- 5.4.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.4.2. Turn on the power of all equipments.
- 5.4.3. Let EUT work in Tx(WiFi 2.4GHz) mode

5.5. Test Procedure

Frequency below 30MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing with 2.4m(L)*2.4m(W)*0.3m(H) on the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna for frequency 30MHz~1000MHz, and the Horn antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna are set on test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as test photo indicated.

The bandwidth of the EMI test receiver (R&S ESR7) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25GHz, So the radiated emissions from 18GHz to 25GHz were not record.

5.6. Radiated Emission Test Results

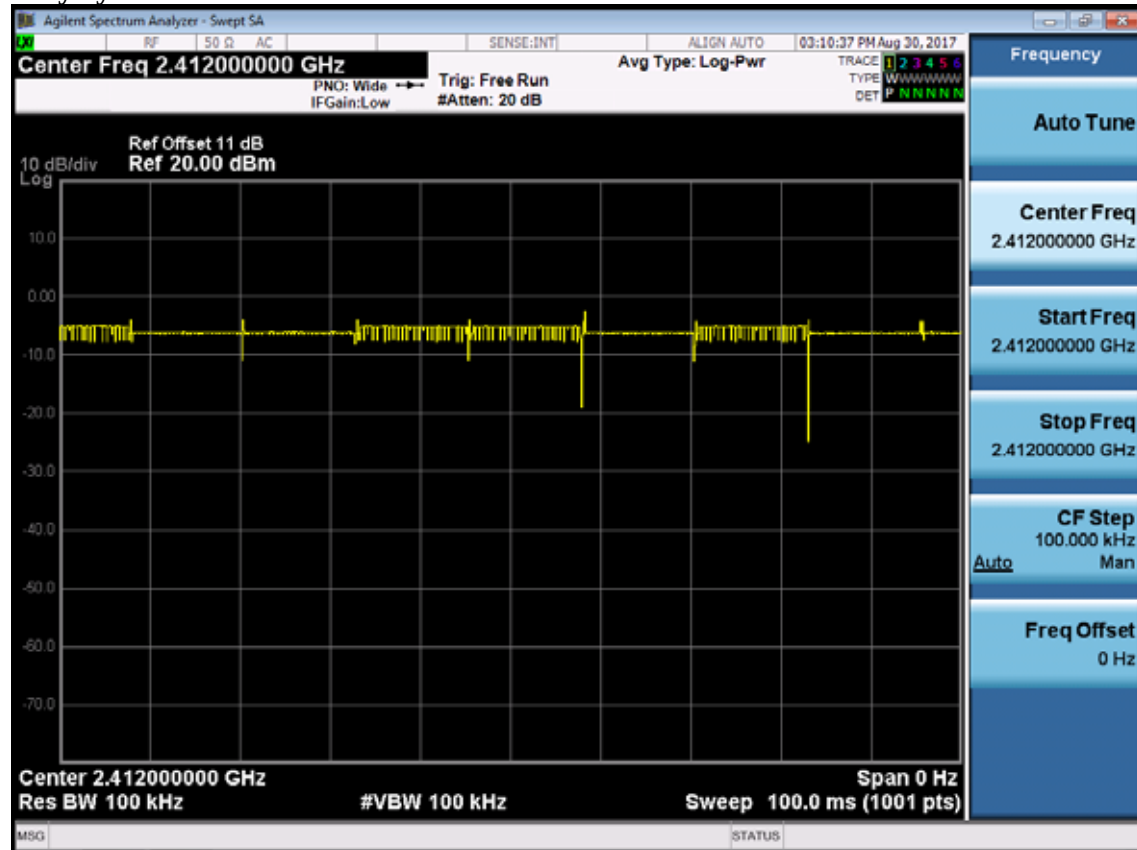
PASS.

All the emissions from 30MHz to 25 GHz were comply with 15.209 limits.

Note 1: For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

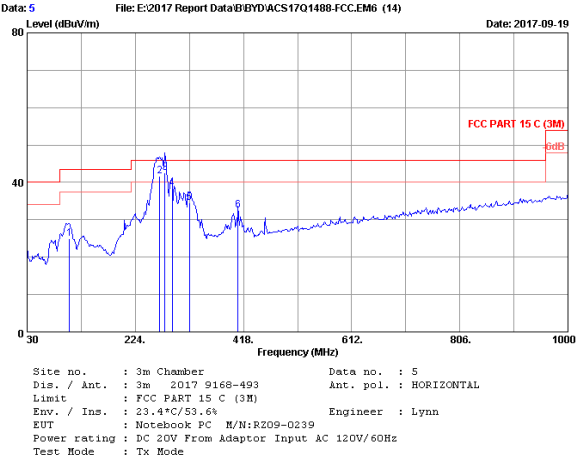
Note 2: The emissions (9kHz~30MHz) not reported for there is no emission be found

Duty cycle



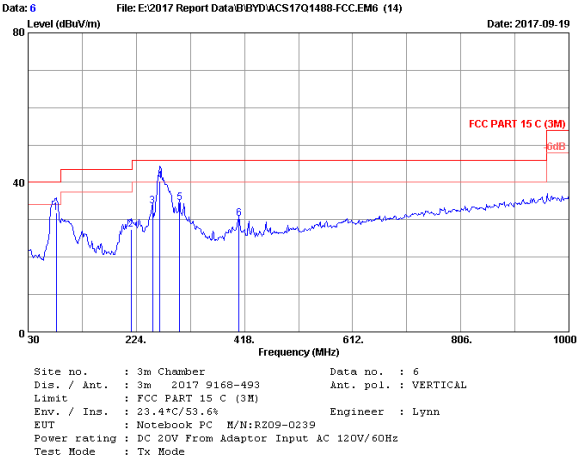
Note: The Duty Cycle is close to 100%.

Frequency: 30MHz~1GHz



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	105.660	15.54	1.13	8.38	25.05	43.50	18.45	QP
2	267.650	18.94	2.05	20.76	41.75	46.00	4.25	QP
3	277.350	19.37	2.11	21.02	42.50	46.00	3.50	QP
4	289.960	19.70	2.19	16.33	38.22	46.00	7.78	QP
5	321.000	20.39	2.38	11.73	34.50	46.00	11.50	QP
6	408.300	22.36	2.91	7.36	32.63	46.00	13.37	QP

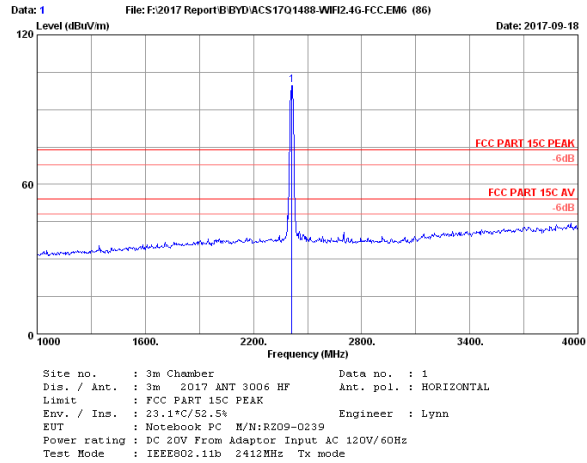
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	80.440	15.20	0.98	15.68	31.86	40.00	8.14	QP
2	214.300	16.90	1.73	8.73	27.36	43.50	16.14	QP
3	253.100	18.43	1.96	13.17	33.56	46.00	12.44	QP
4	266.680	18.90	2.05	19.47	40.42	46.00	5.58	QP
5	301.600	19.94	2.26	12.34	34.54	46.00	11.46	QP
6	408.300	22.36	2.91	4.98	30.25	46.00	15.75	QP

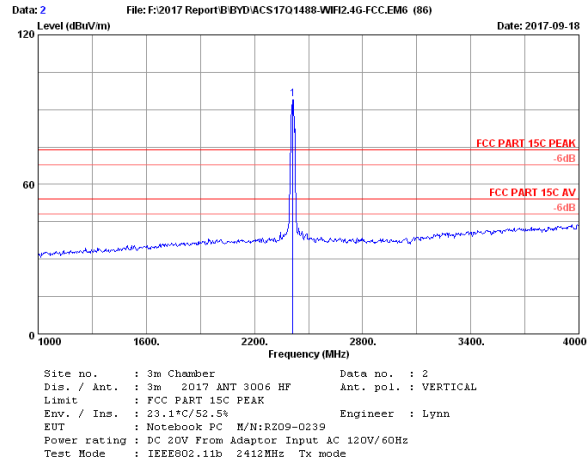
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 1GHz~18GHz



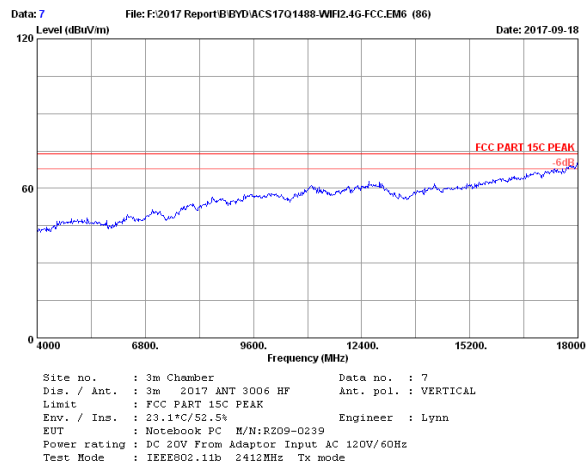
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.98	7.91	99.69	35.61	99.97	74.00	-25.97	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



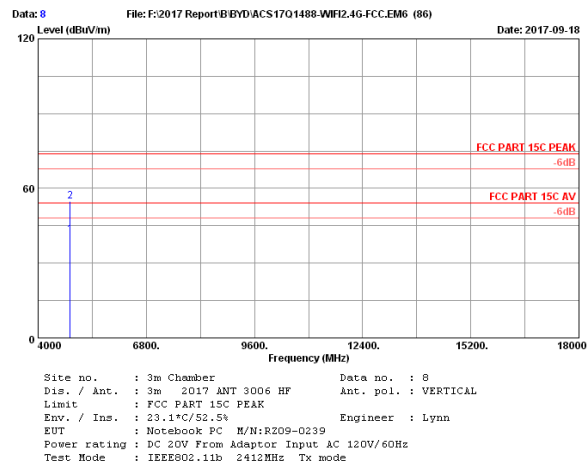
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.98	7.91	93.99	35.61	94.27	74.00	-20.27	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



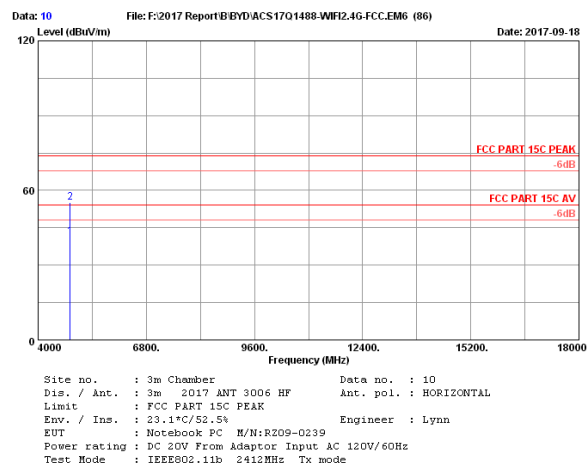
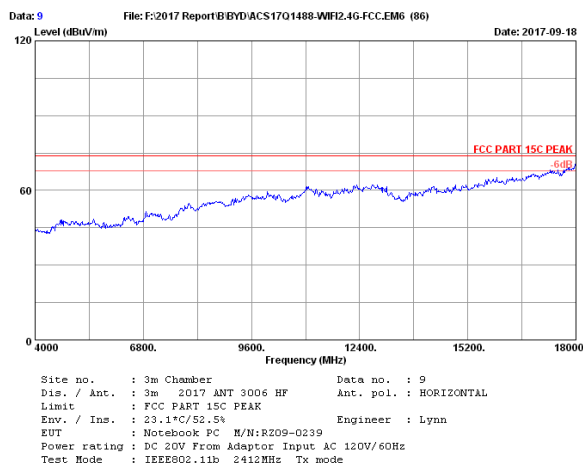
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	33.46	12.11	29.83	33.80	41.60	54.00	12.40	Average
2	4824.00	33.46	12.11	42.92	33.80	54.69	74.00	19.31	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	33.46	12.11	29.83	33.80	41.60	54.00	12.40	Average
2	4824.00	33.46	12.11	42.92	33.80	54.69	74.00	19.31	Peak

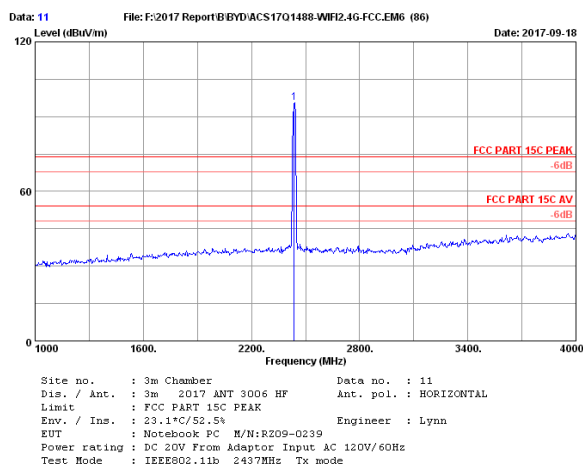
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading Factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4824.00	33.46	12.11	29.81	33.80	41.58	54.00	12.42	Average
2	4824.00	33.46	12.11	43.36	33.80	55.13	74.00	18.87	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

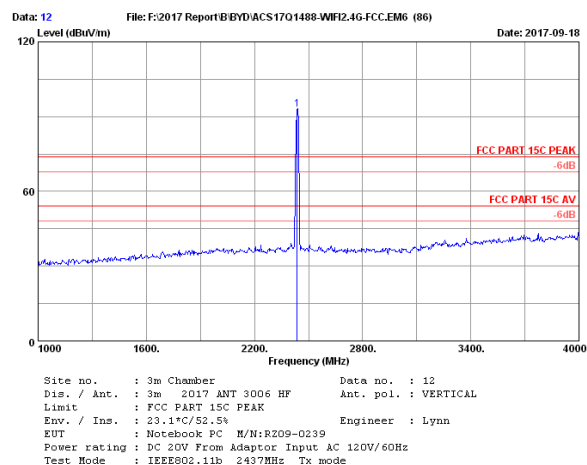
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading Factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	95.14	35.64	95.48	74.00	-21.48	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

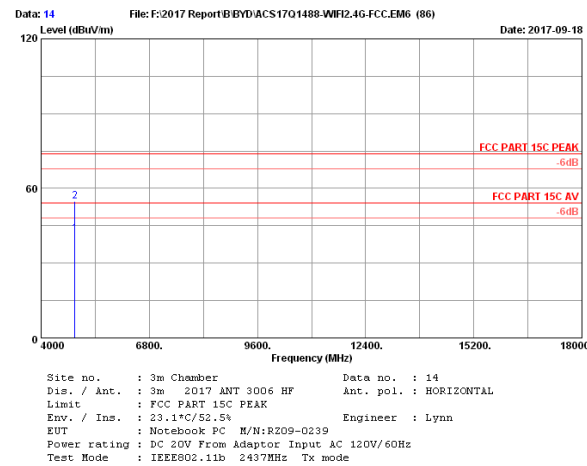
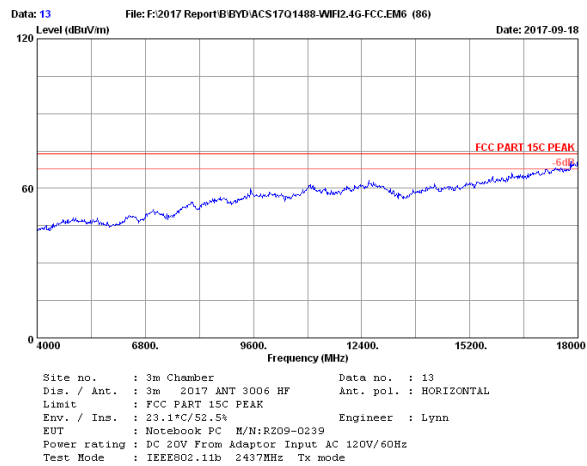
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading Factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	92.60	35.64	92.94	74.00	-18.94	Peak

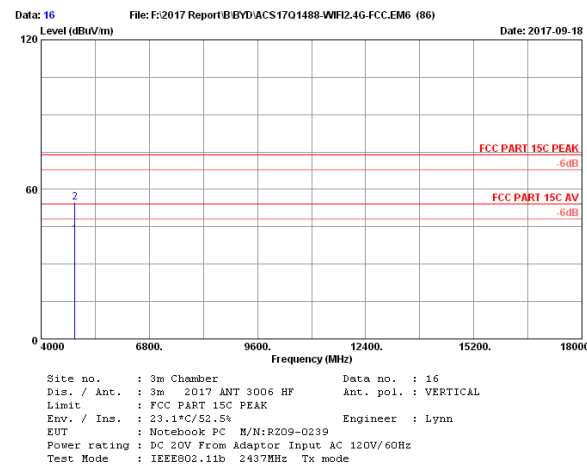
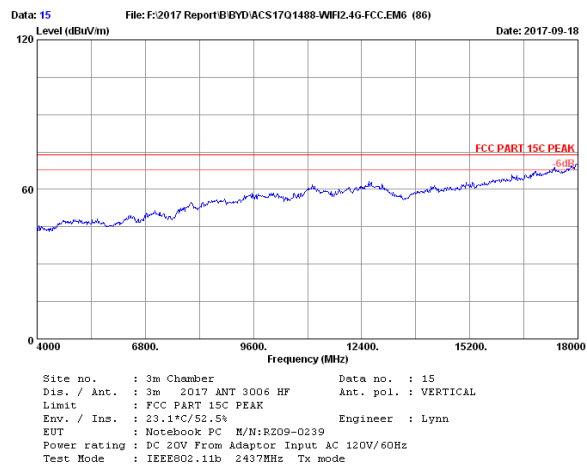
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

2. The emission levels that are 20dB below the official limit are not reported.



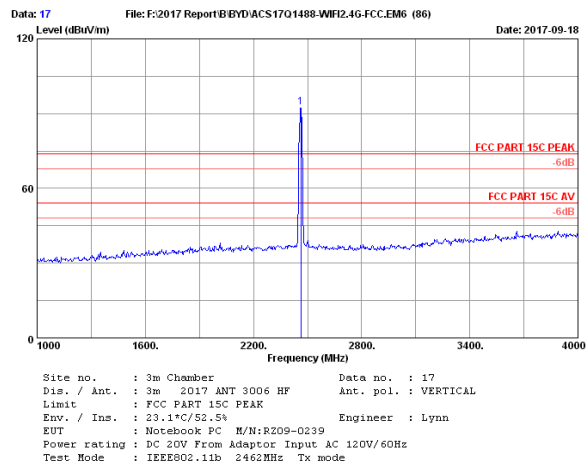
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	33.56	12.22	29.64	33.75	41.67	54.00	12.33	Average
2	4874.00	33.56	12.22	42.95	33.75	54.98	74.00	19.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



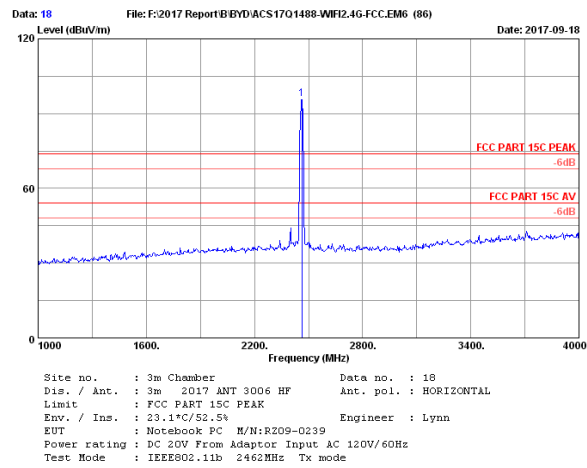
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4874.00	33.56	12.22	29.62	33.75	41.65	54.00	12.35	Average
2	4874.00	33.56	12.22	42.71	33.75	54.74	74.00	19.26	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



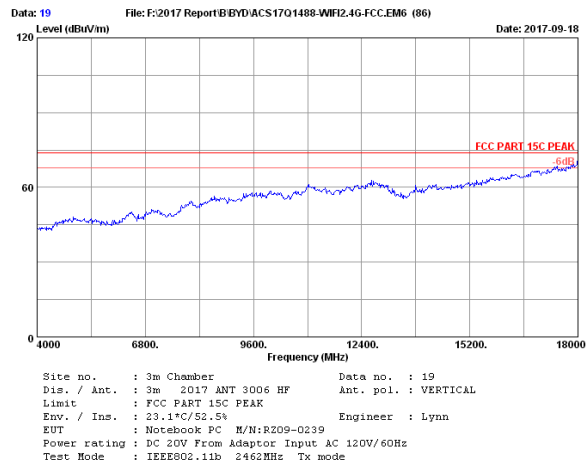
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	92.36	35.68	92.71	74.00	-18.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



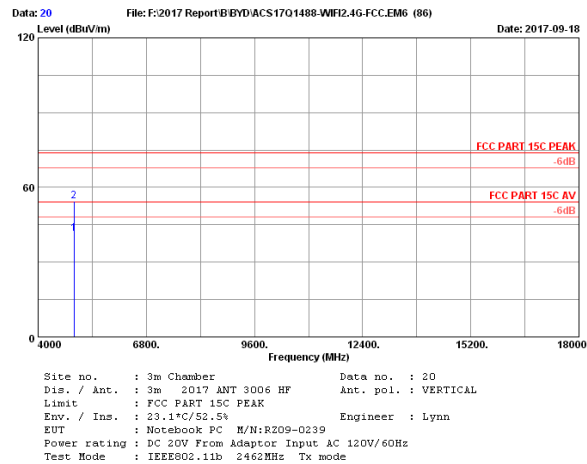
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	95.71	35.68	96.06	74.00	-22.06	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



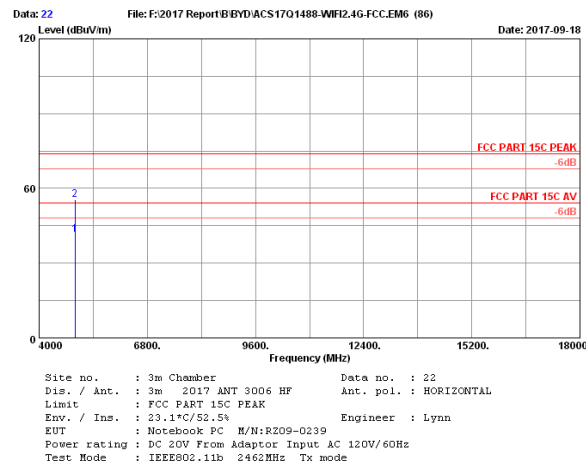
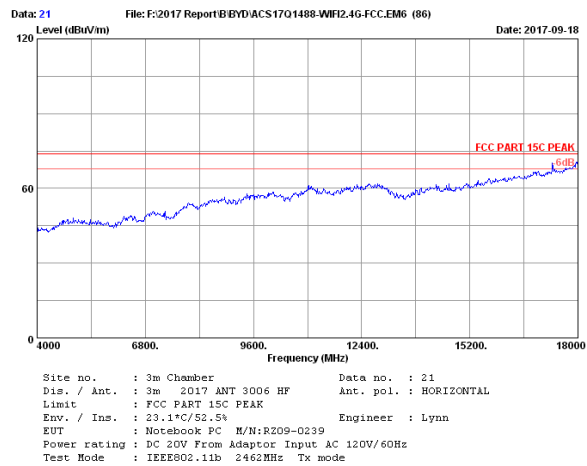
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	33.66	12.30	29.08	33.71	41.33	54.00	12.67	Average
2	4924.00	33.66	12.30	42.36	33.71	54.61	74.00	19.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



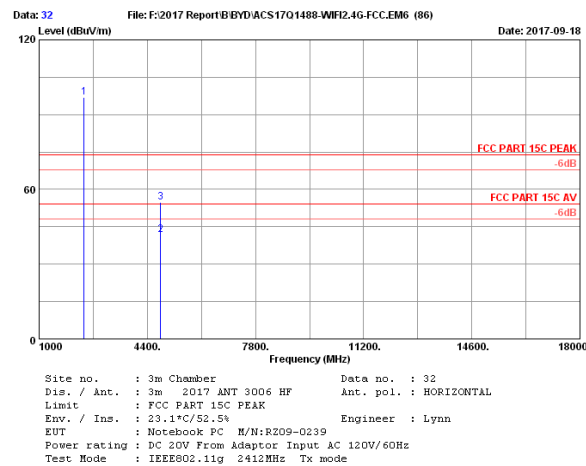
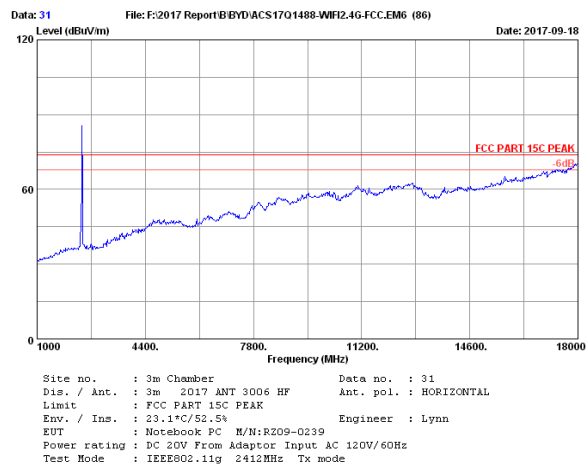
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	4924.00	33.66	12.30	29.08	33.71	41.33	54.00	12.67	Average
2	4924.00	33.66	12.30	42.36	33.71	54.61	74.00	19.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



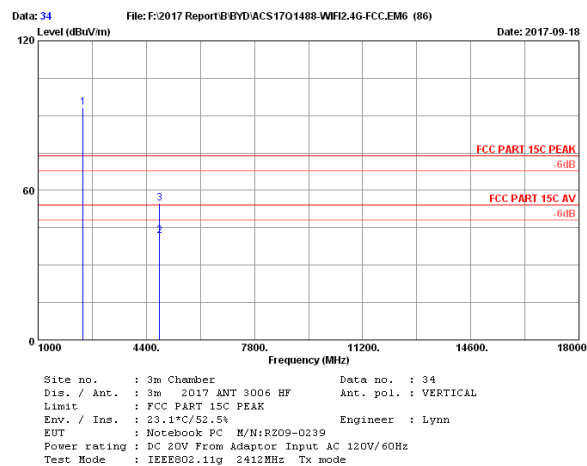
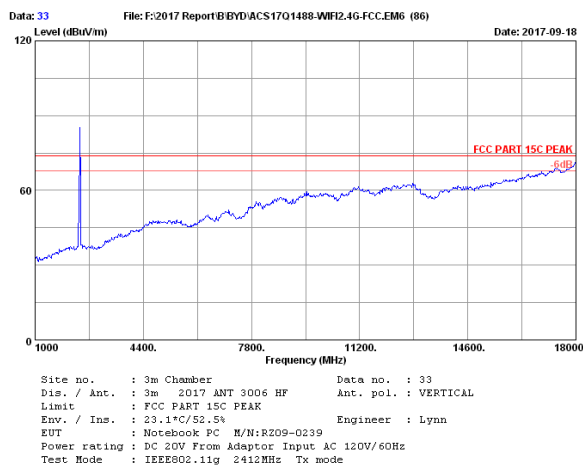
No.	Freq. (MHz)	Ant.	Cable	Reading factor (dBuV)	Amp	Emission	Limits (dBuV/m)	Margin (dB)	Remark
		Factor (dB/m)	Loss (dB)		factor (dB)	Level (dBuV/m)			
1	4924.00	33.66	12.30	29.19	33.71	41.44	54.00	12.56	Average
2	4924.00	33.66	12.30	43.12	33.71	55.37	74.00	18.63	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



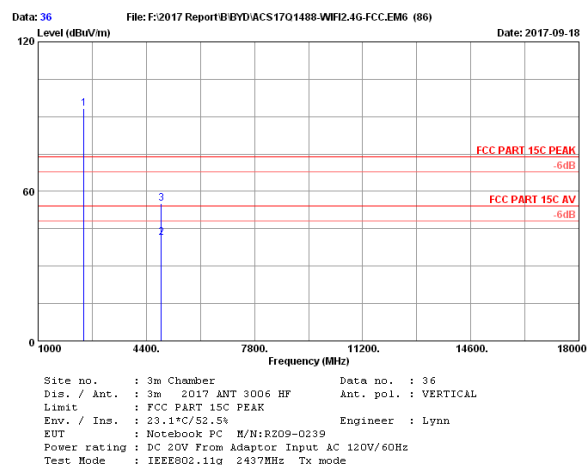
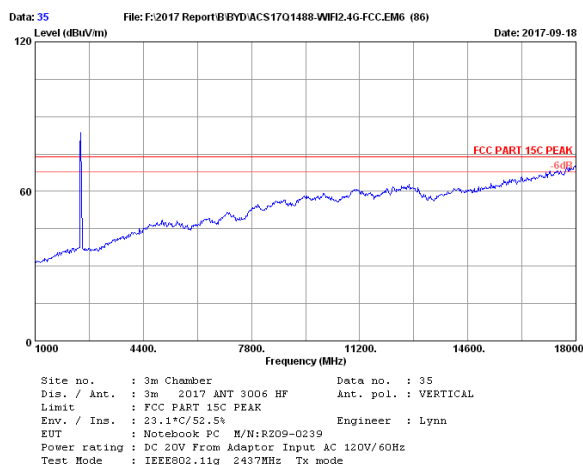
No.	Freq. (MHz)	Ant.	Cable	Reading factor (dBuV)	Amp	Emission	Limits (dBuV/m)	Margin (dB)	Remark
		Factor (dB/m)	Loss (dB)		factor (dB)	Level (dBuV/m)			
1	2412.00	27.98	7.91	96.81	35.61	97.09	74.00	-23.09	Peak
2	4824.00	33.46	12.11	30.00	33.80	41.77	54.00	12.23	Average
3	4824.00	33.46	12.11	43.21	33.80	54.98	74.00	19.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.98	7.91	93.06	35.61	93.34	74.00	-19.34	Peak
2	4824.00	33.46	12.11	29.86	33.80	41.63	54.00	12.37	Average
3	4824.00	33.46	12.11	43.19	33.80	54.96	74.00	19.04	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

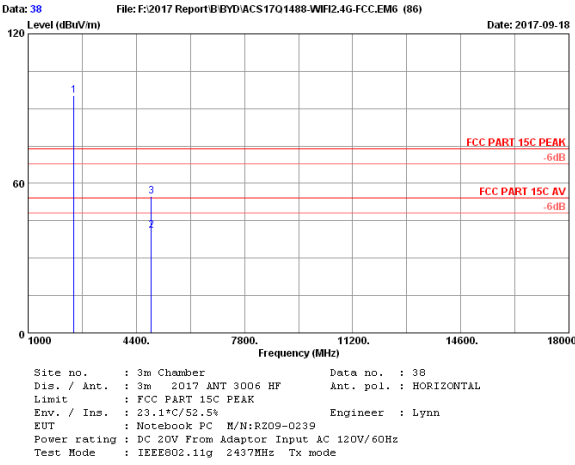
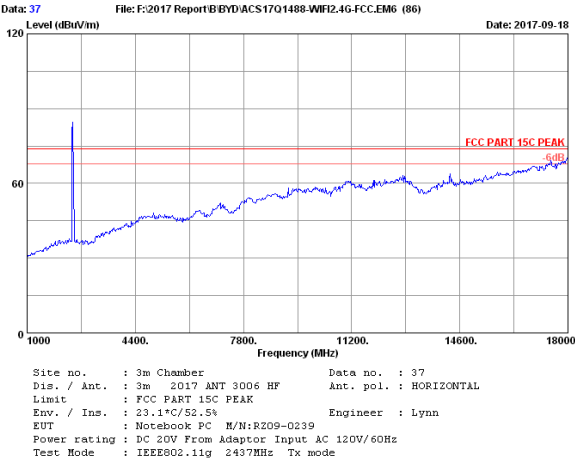


No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	92.77	35.64	93.11	74.00	-19.11	Peak
2	4874.00	33.56	12.22	29.40	33.75	41.43	54.00	12.57	Average
3	4874.00	33.56	12.22	43.01	33.75	55.04	74.00	18.96	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

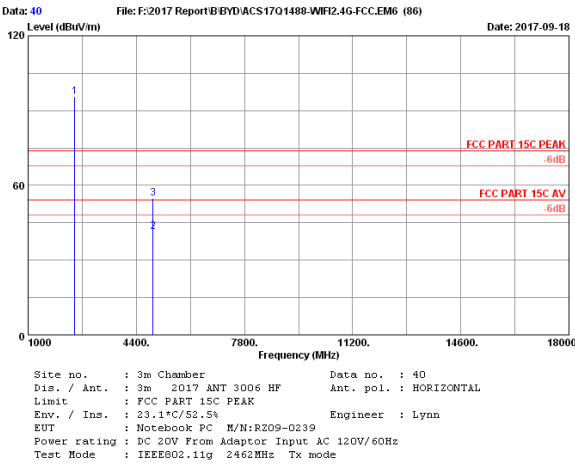
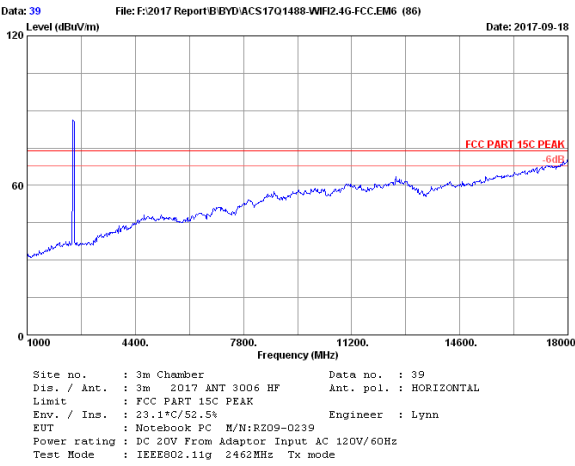
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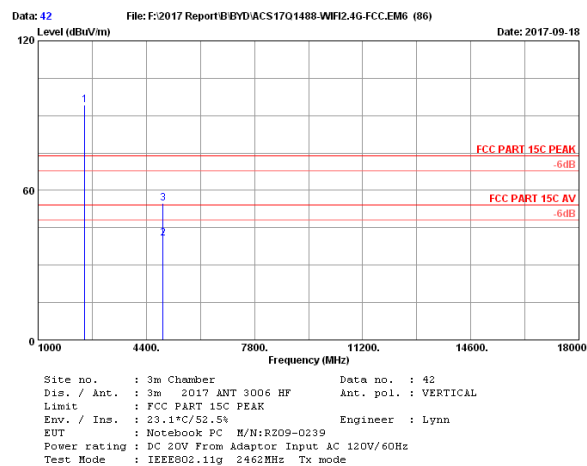
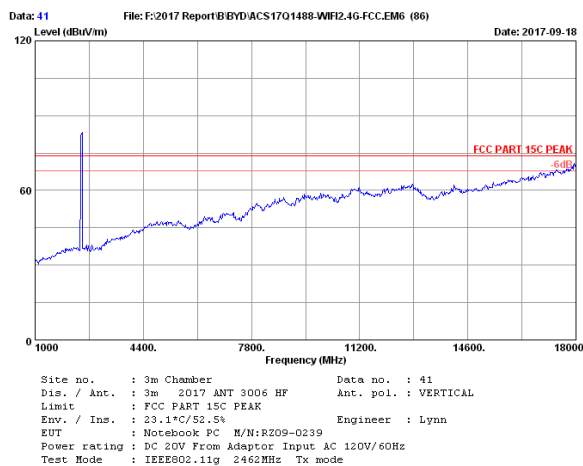
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	94.76	35.64	95.10	74.00	-21.10	Peak
2	4874.00	33.56	12.22	29.08	33.75	41.11	54.00	12.89	Average
3	4874.00	33.56	12.22	42.91	33.75	54.94	74.00	19.06	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



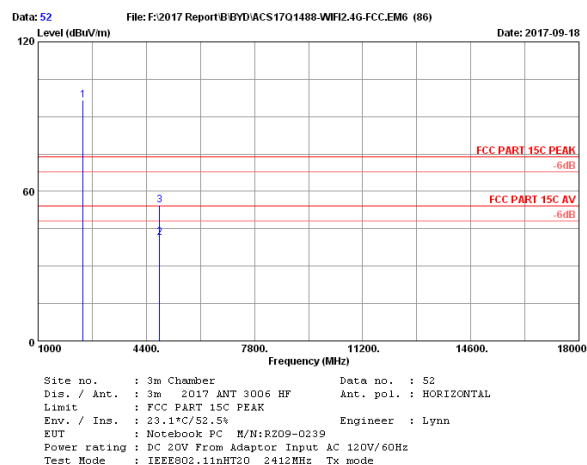
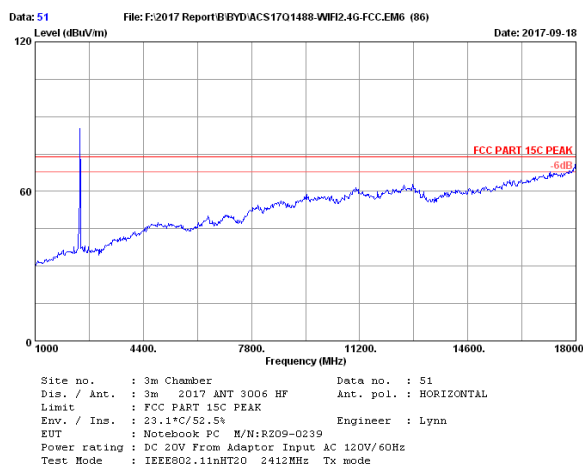
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	95.24	35.68	95.59	74.00	-21.59	Peak
2	4924.00	33.66	12.30	29.09	33.71	41.34	54.00	12.66	Average
3	4924.00	33.66	12.30	42.63	33.71	54.88	74.00	19.12	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	93.81	35.68	94.16	74.00	-20.16	Peak
2	4924.00	33.66	12.30	28.68	33.71	40.93	54.00	13.07	Average
3	4924.00	33.66	12.30	42.73	33.71	54.98	74.00	19.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

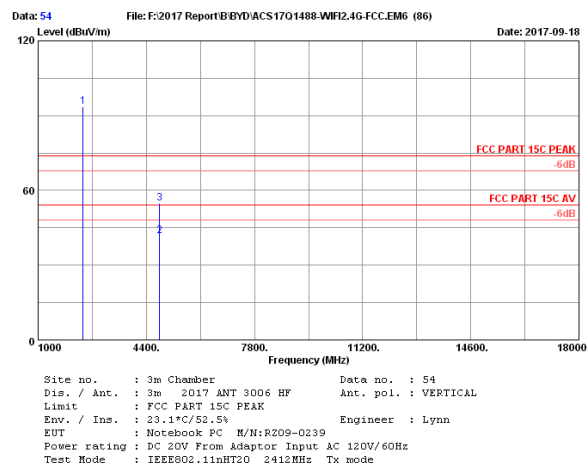
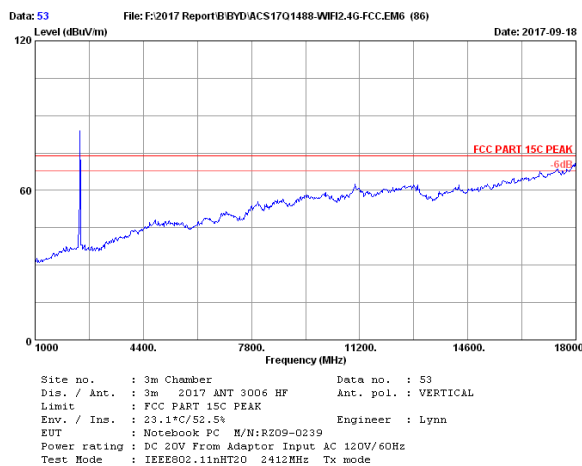


No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.98	7.91	96.33	35.61	96.61	74.00	-22.61	Peak
2	4824.00	33.46	12.11	29.52	33.80	41.29	54.00	12.71	Average
3	4824.00	33.46	12.11	42.57	33.80	54.34	74.00	19.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

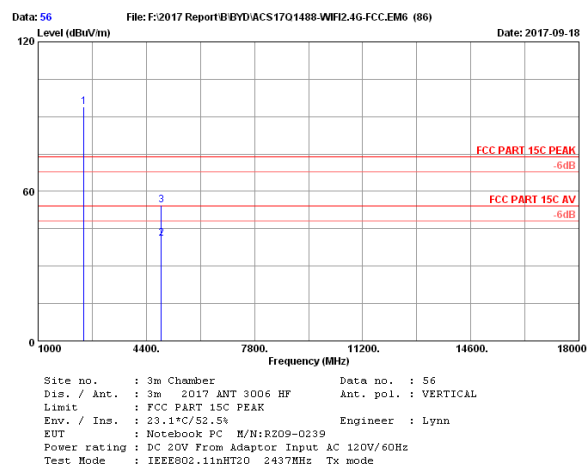
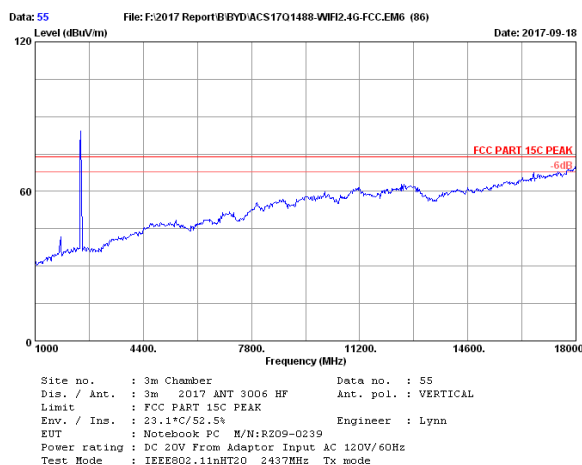
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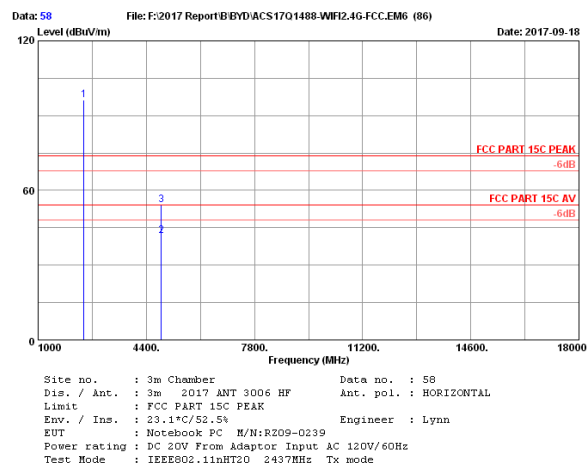
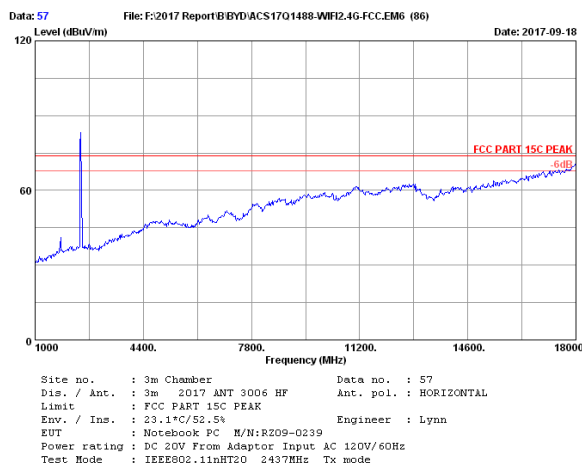
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.98	7.91	93.22	35.61	93.50	74.00	-19.50	Peak
2	4824.00	33.46	12.11	30.09	33.80	41.86	54.00	12.14	Average
3	4824.00	33.46	12.11	43.01	33.80	54.78	74.00	19.22	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



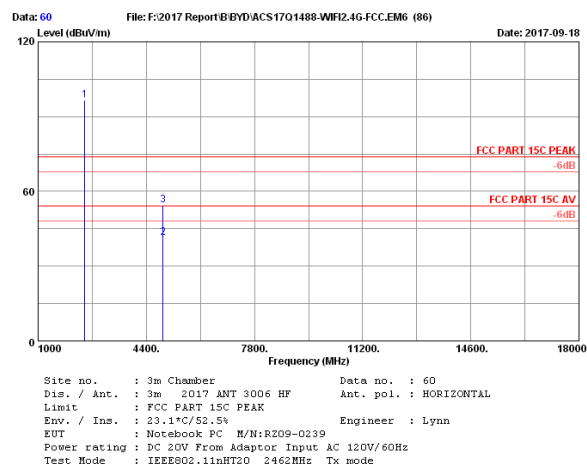
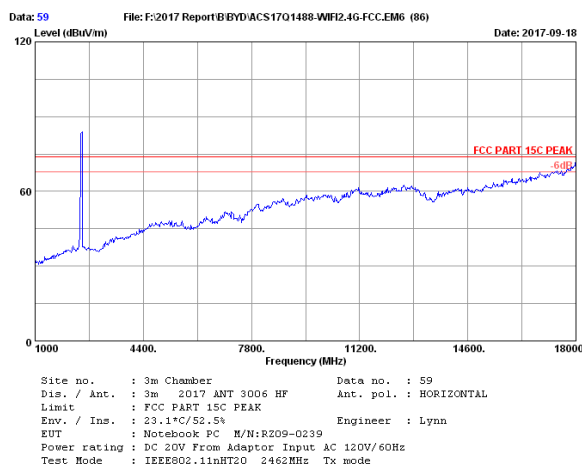
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	93.67	35.64	94.01	74.00	-20.01	Peak
2	4874.00	33.56	12.22	29.14	33.75	41.17	54.00	12.83	Average
3	4874.00	33.56	12.22	42.58	33.75	54.61	74.00	19.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



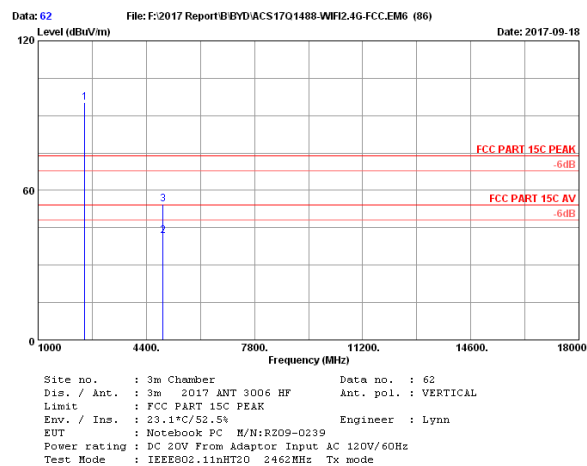
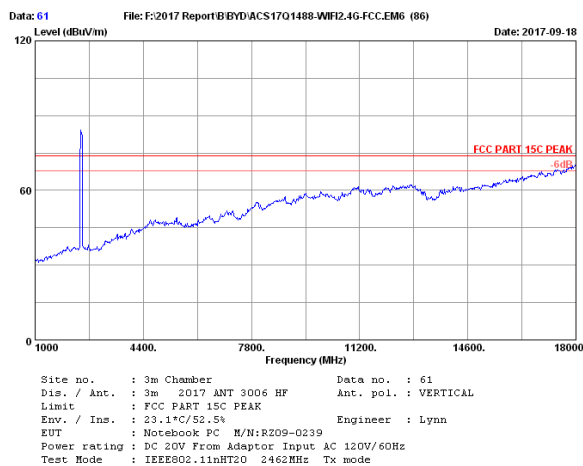
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	95.91	35.64	96.25	74.00	-22.25	Peak
2	4874.00	33.56	12.22	29.64	33.75	41.67	54.00	12.33	Average
3	4874.00	33.56	12.22	42.16	33.75	54.19	74.00	19.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



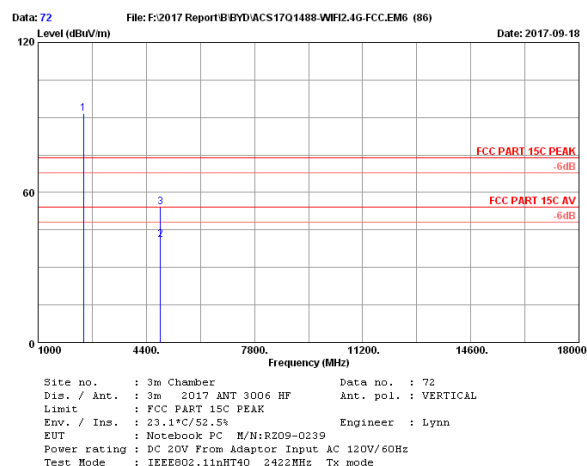
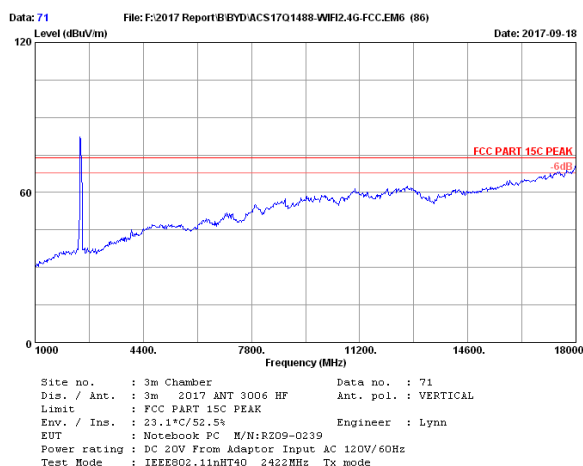
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	96.19	35.68	96.54	74.00	-22.54	Peak
2	4924.00	33.66	12.30	29.32	33.71	41.57	54.00	12.43	Average
3	4924.00	33.66	12.30	42.20	33.71	54.45	74.00	19.55	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	28.05	7.98	94.77	35.68	95.12	74.00	-21.12	Peak
2	4924.00	33.66	12.30	29.48	33.71	41.73	54.00	12.27	Average
3	4924.00	33.66	12.30	42.11	33.71	54.36	74.00	19.64	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

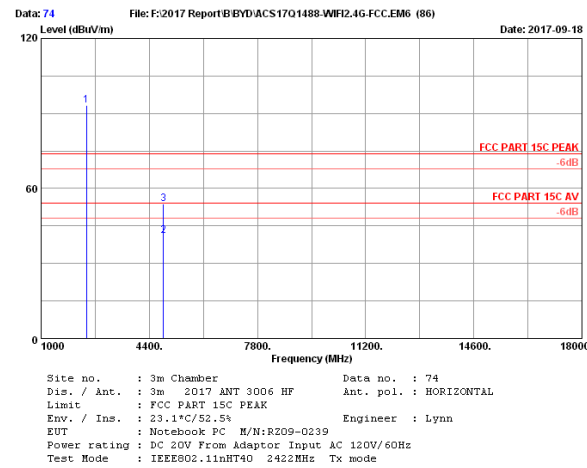
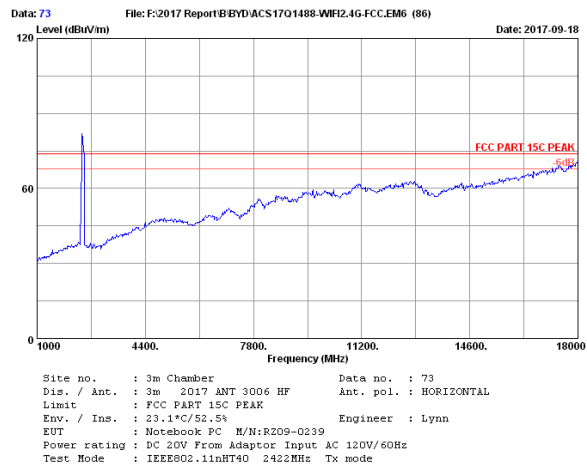


No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.00	28.00	7.91	91.25	35.64	91.52	74.00	-17.52	Peak
2	4844.00	33.49	12.15	29.27	33.78	41.13	54.00	12.87	Average
3	4844.00	33.49	12.15	42.15	33.78	54.01	74.00	19.99	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

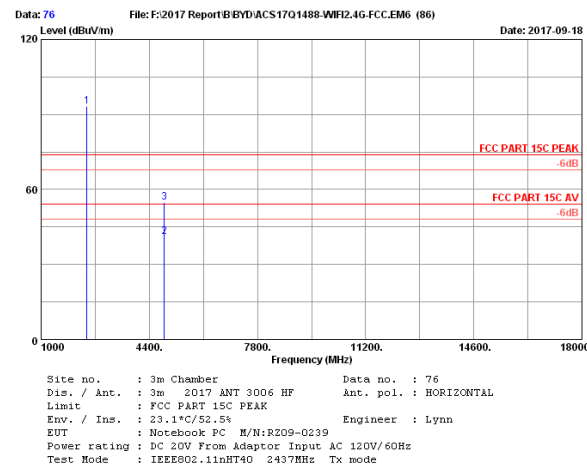
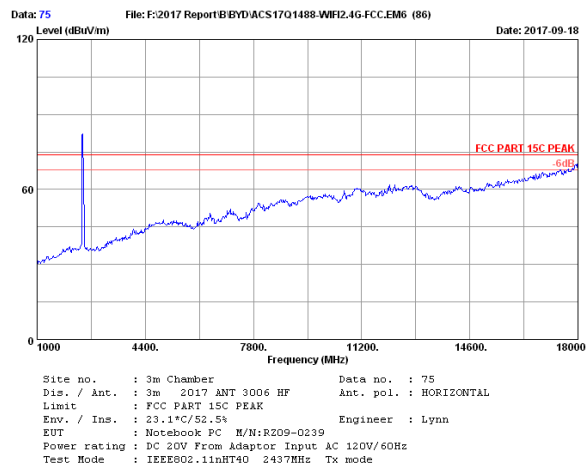
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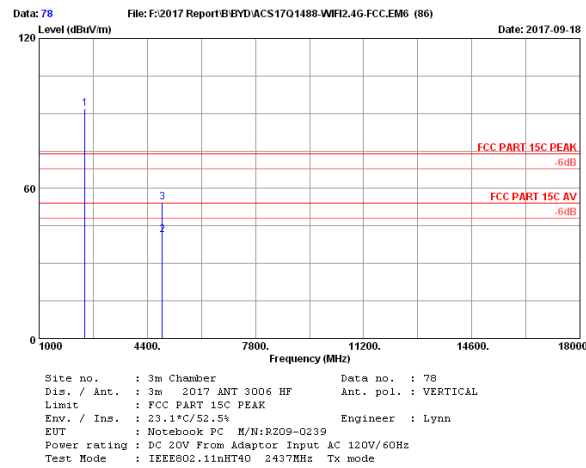
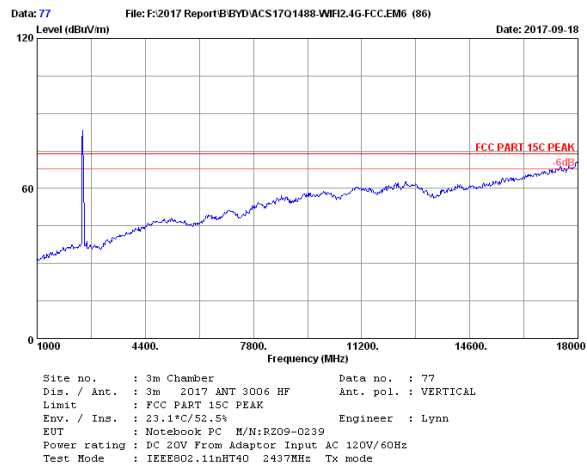
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.00	28.00	7.91	92.83	35.64	93.10	74.00	-19.10	Peak
2	4844.00	33.49	12.15	29.31	33.78	41.17	54.00	12.83	Average
3	4844.00	33.49	12.15	42.05	33.78	53.91	74.00	20.09	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



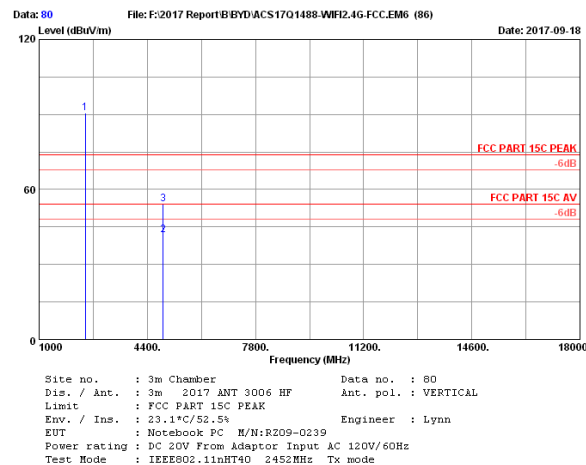
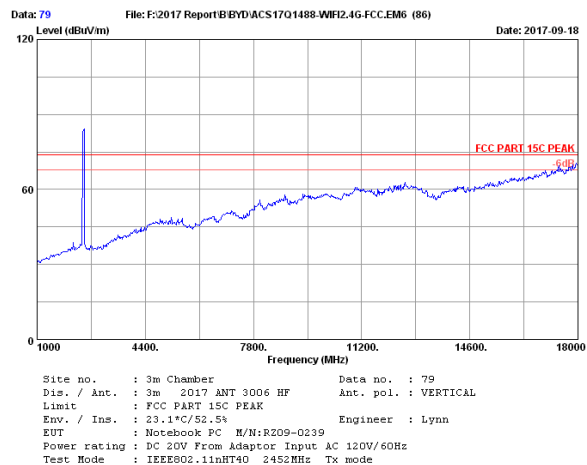
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	92.80	35.64	93.14	74.00	-19.14	Peak
2	4874.00	33.56	12.22	29.18	33.75	41.21	54.00	12.79	Average
3	4874.00	33.56	12.22	42.65	33.75	54.68	74.00	19.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



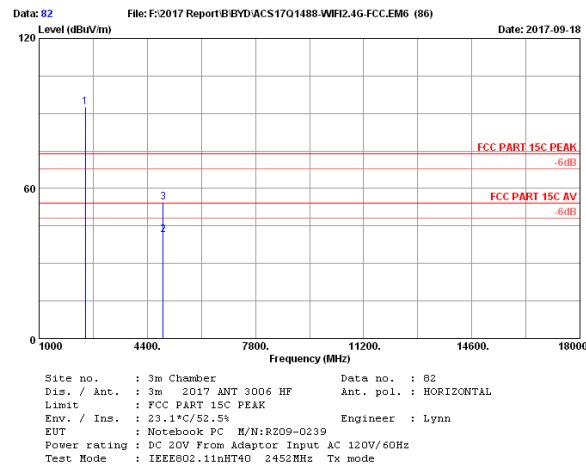
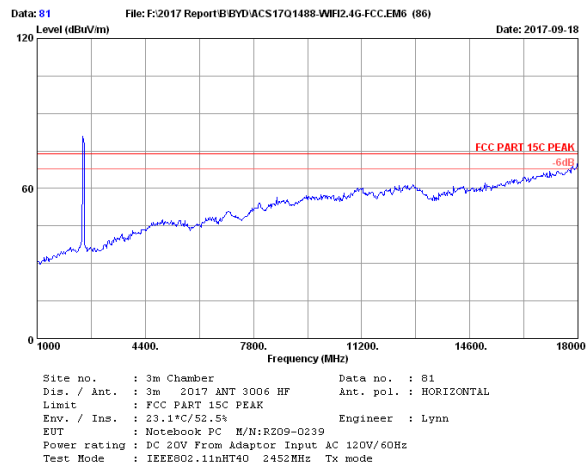
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	28.03	7.95	91.57	35.64	91.91	74.00	-17.91	Peak
2	4874.00	33.56	12.22	29.55	33.75	41.58	54.00	12.42	Average
3	4874.00	33.56	12.22	42.52	33.75	54.55	74.00	19.45	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2452.00	28.03	7.98	90.21	35.68	90.54	74.00	-16.54	Peak
2	4904.00	33.63	12.26	29.51	33.73	41.67	54.00	12.33	Average
3	4904.00	33.63	12.26	42.08	33.73	54.24	74.00	19.76	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2452.00	28.03	7.98	92.25	35.68	92.58	74.00	-18.58	Peak
2	4904.00	33.63	12.26	29.33	33.73	41.49	54.00	12.51	Average
3	4904.00	33.63	12.26	42.19	33.73	54.35	74.00	19.65	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

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6. CONDUCTED SPURIOUS EMISSIONS

6.1.Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

In addition, radiated emissions which fall in the restricted bands, as defined in RSS-GEN Clause 7.2.2, must also comply with the radiated emission limits specified in RSS-247.

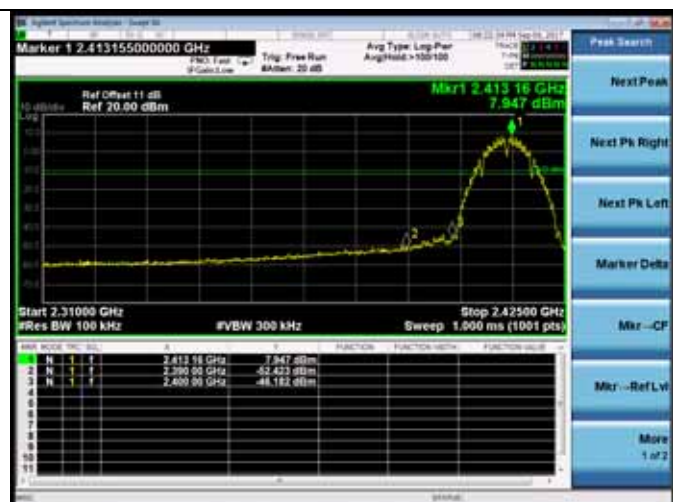
6.2.Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions with peak detector.

6.3.Test result

PASS (The testing data was attached in the next pages.)

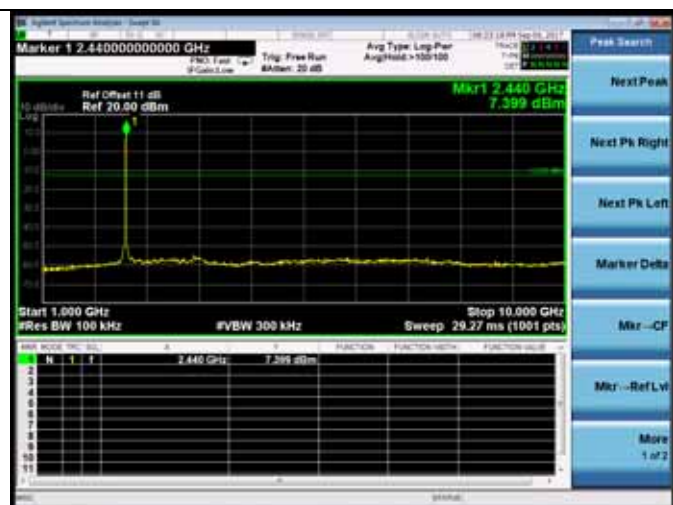
Test Mode: IEEE 802.11b
Test CH1: 2412MHz

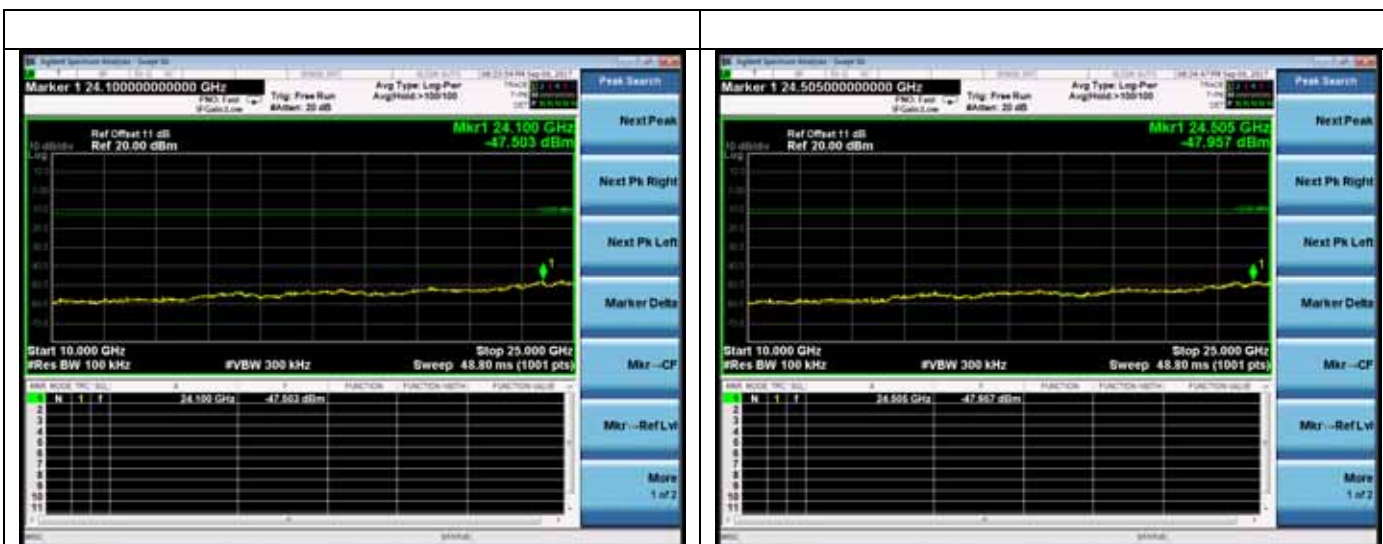


The screenshot shows a Spectrum Analyzer interface. At the top, the frequency is set to 798.24000000 MHz. The plot shows a signal at 798.24 MHz with a level of -60.337 dBm. The plot parameters are: Start 30.0 MHz, Stop 1.0000 GHz, Res BW 100 kHz, #VBW 300 kHz, Sweep 3.200 ms (1001 pts). The table below the plot shows the measurement data.

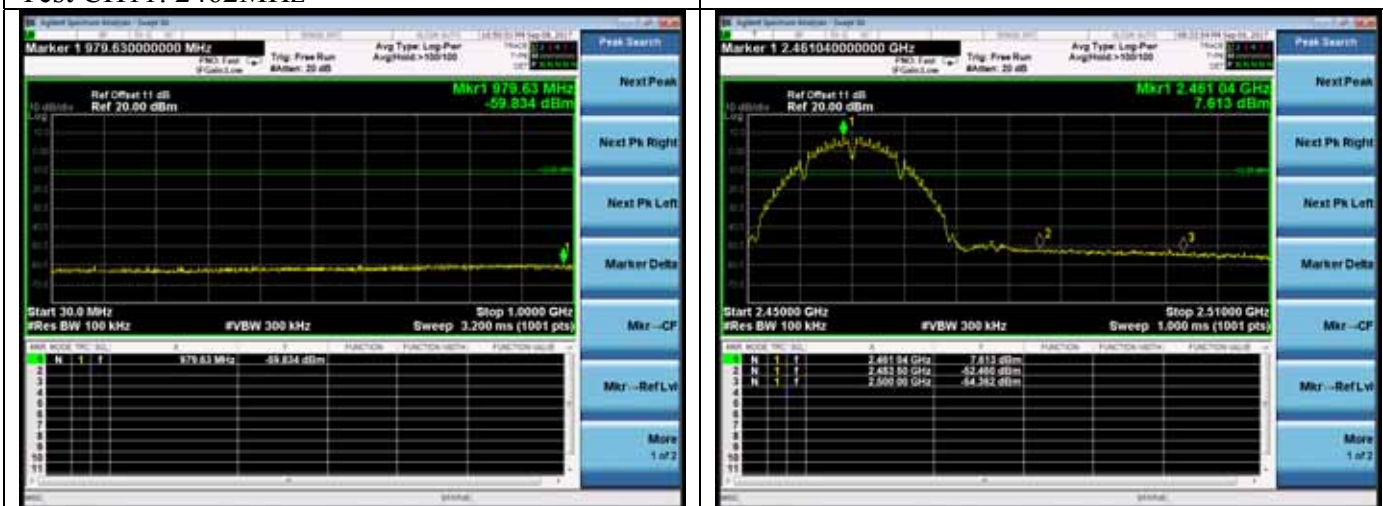
Peak	Freq (MHz)	Level (dBm)
1	798.24	-60.337

Navigation buttons on the right include: Peak Search, Next Peak, Next Pk Right, Next Pk Left, Marker Delta, Mkr--CF, Mkr--RefLw, and More (1 of 2).





Test CH11: 2462MHz



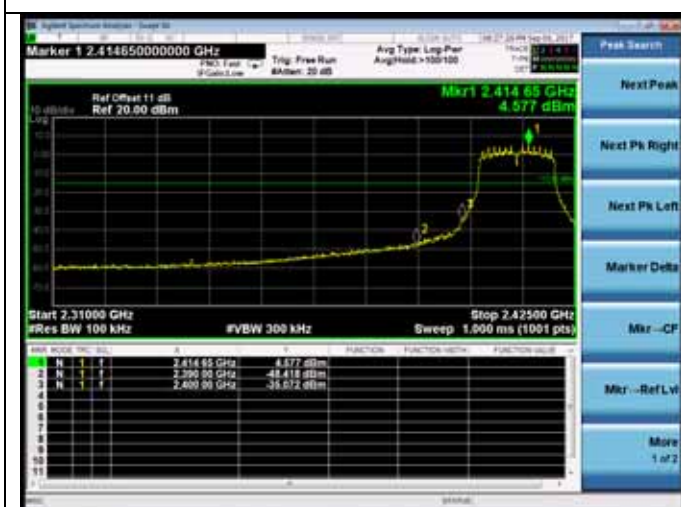
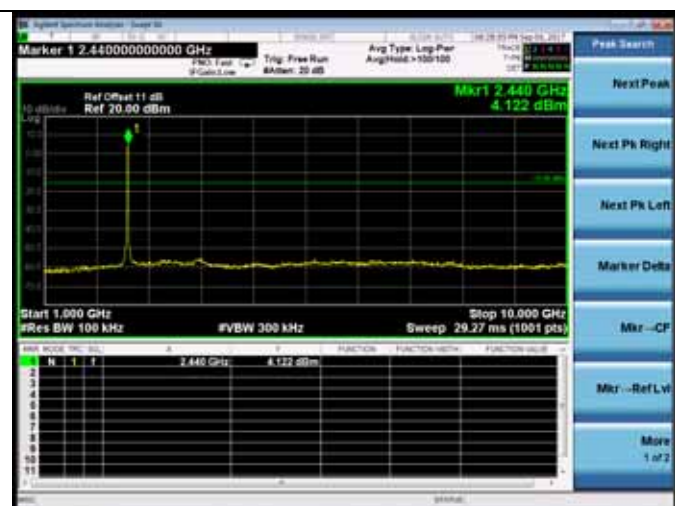
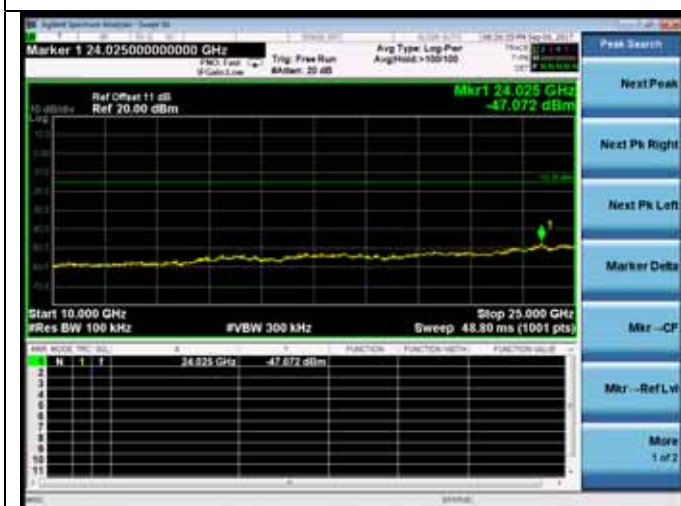
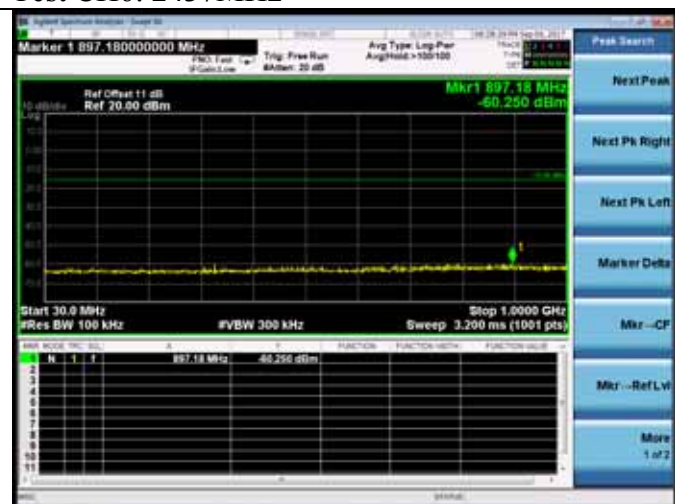
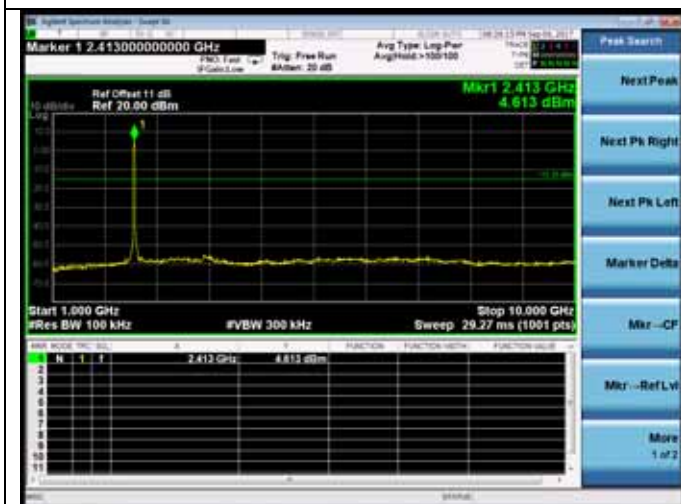
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



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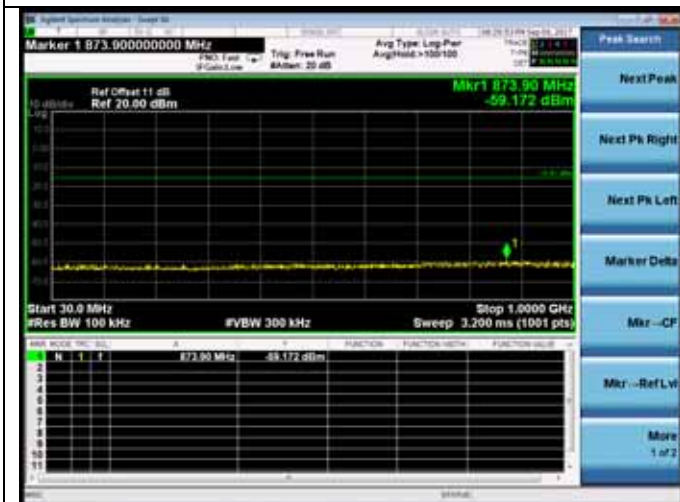
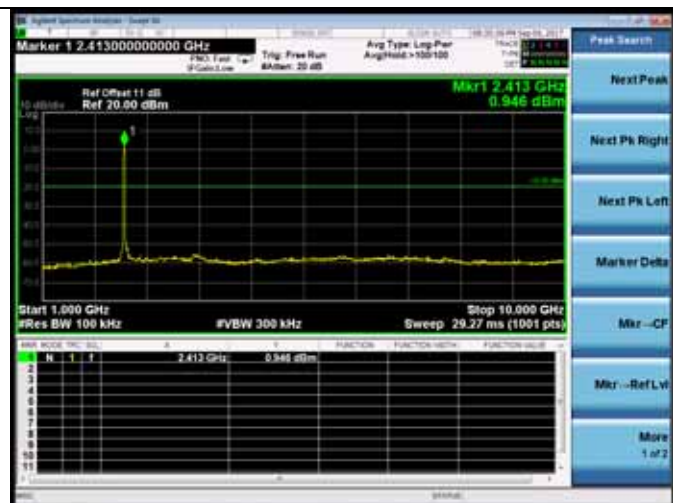
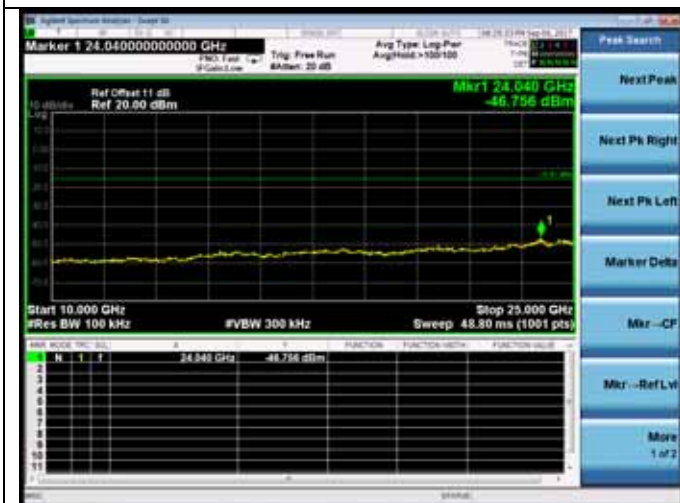
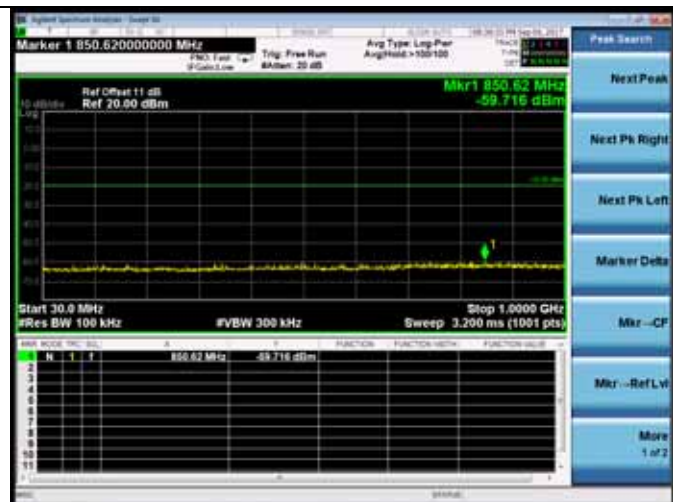
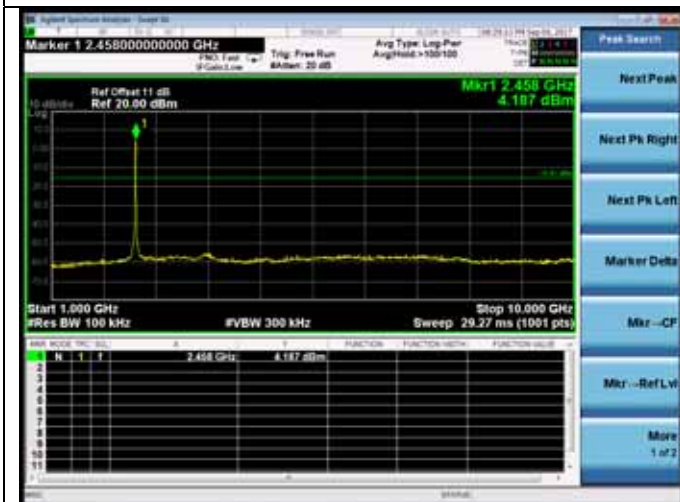
Test CH6: 2437MHz



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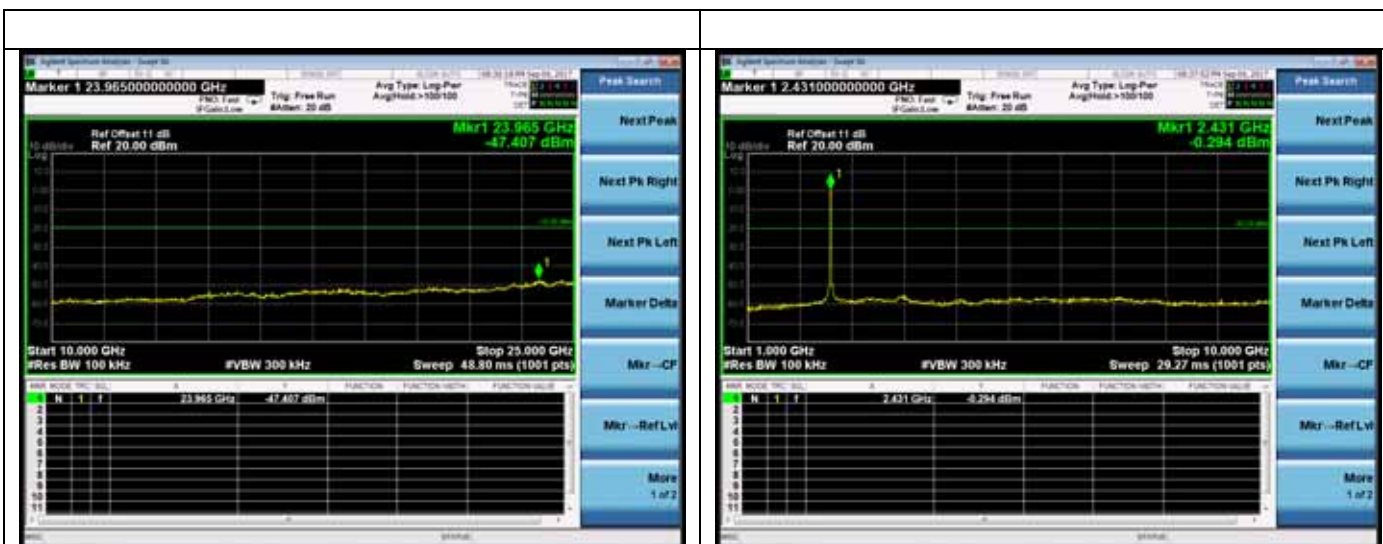
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Test CH11: 2462MHz

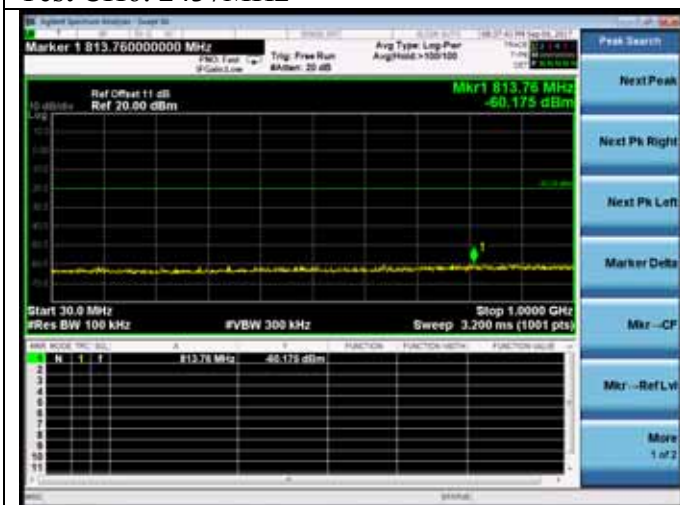
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz

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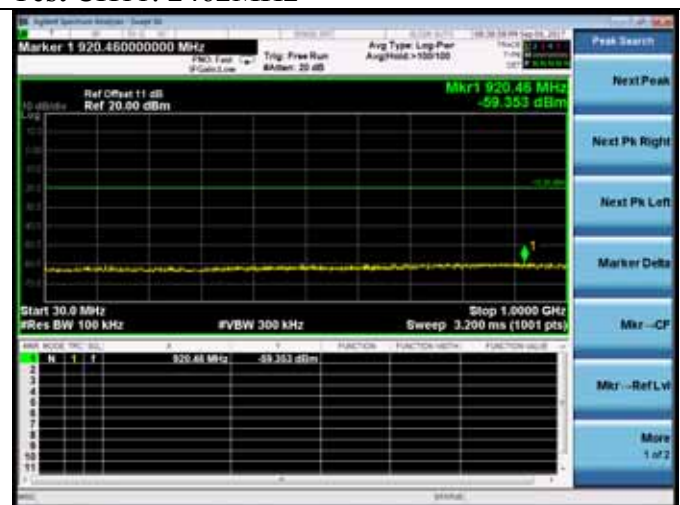
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Test CH6: 2437MHz



Test CH11: 2462MHz



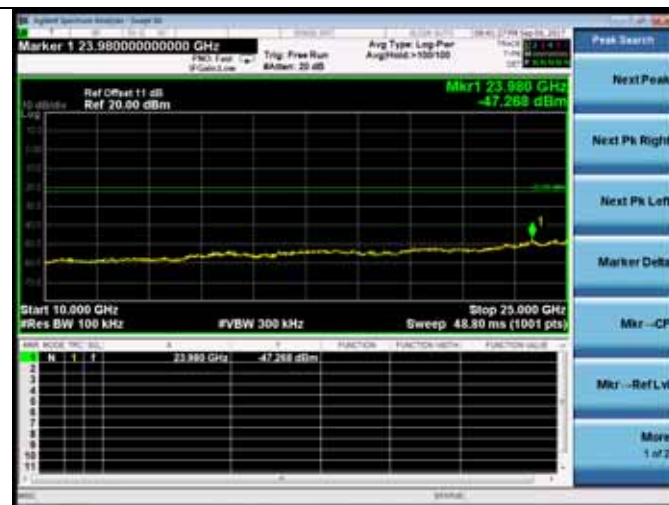
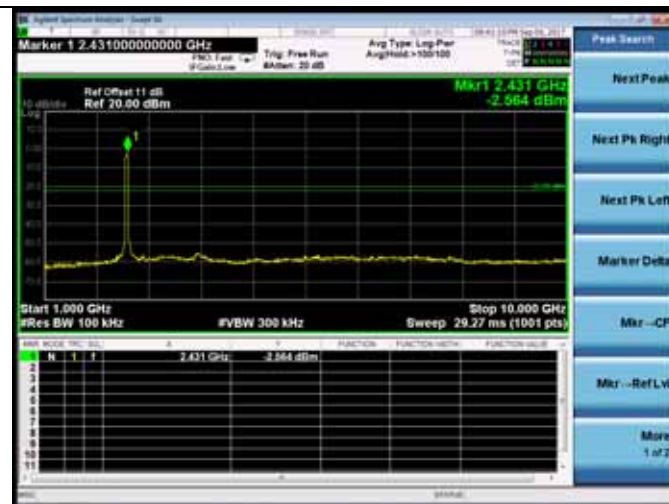
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The screenshot shows a Spectrum Analyzer interface. At the top, the frequency is set to 913.67000000 MHz. The plot shows a signal at -60.155 dBm. The table below the plot lists various parameters and their values.

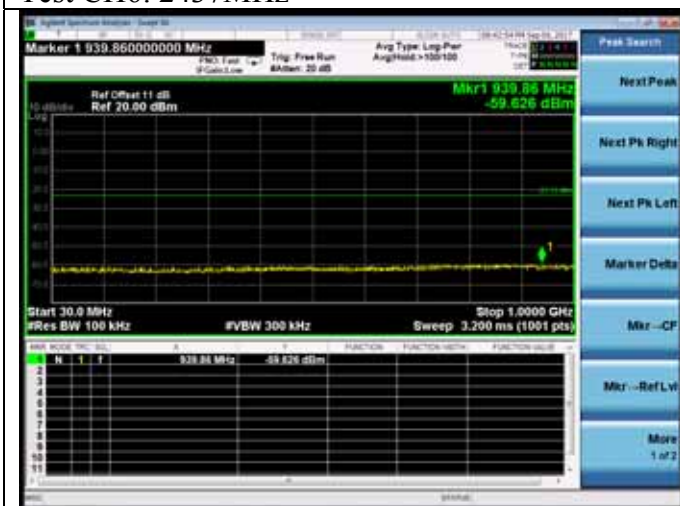
Marker	Freq	Power	Bandwidth	Resolution	Video	Reference	Offset	Gain	Attenuation	Filter	Mode	Trace	Color	Shape	Size	Label
1	913.67 MHz	-60.155 dBm	300 kHz	100 kHz	300 kHz	0 dBm	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB	0 dB

On the right side, there is a list of controls: Peak Search, Next Peak, Next Pk Right, Next Pk Left, Marker Delta, Mix--CP, Mix--Ref Lvl, and More.

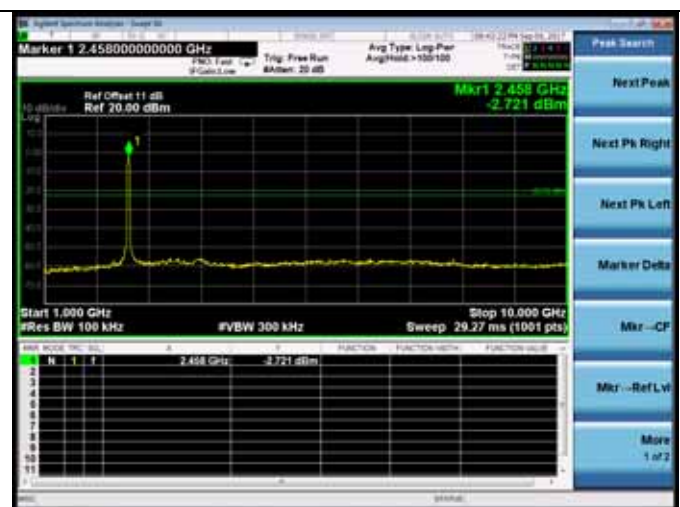
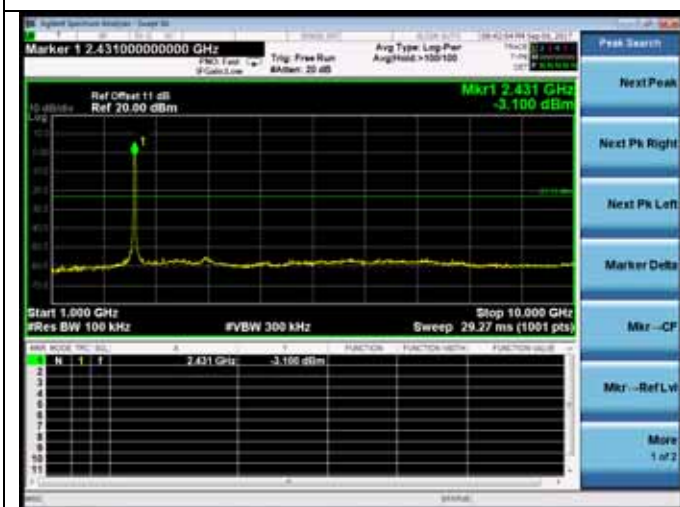
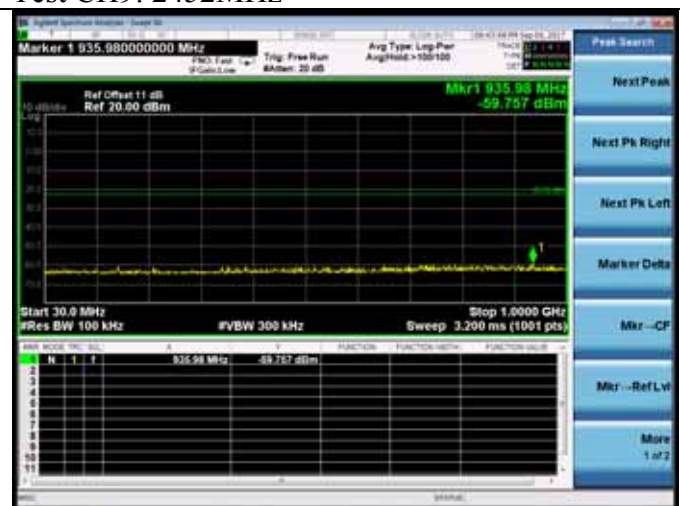




Test CH6: 2437MHz



Test CH9: 2452MHz



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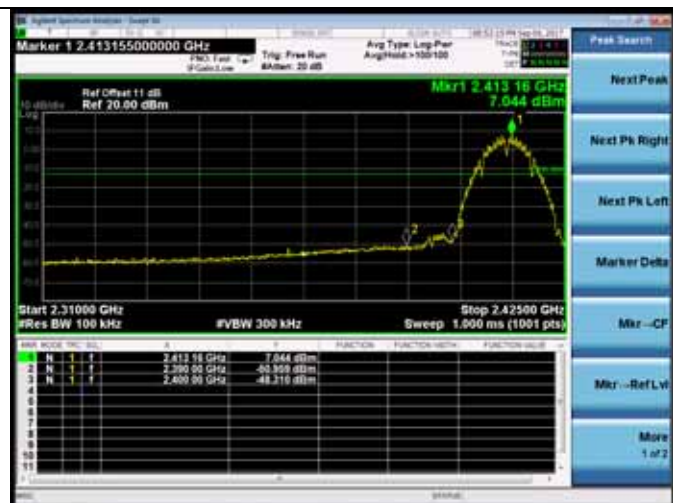
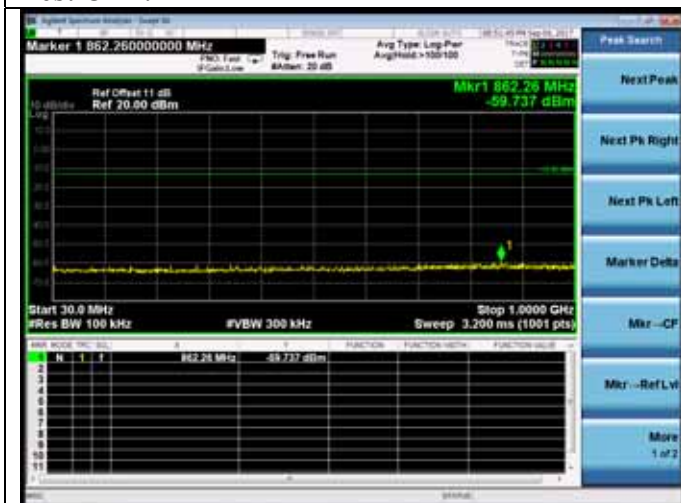
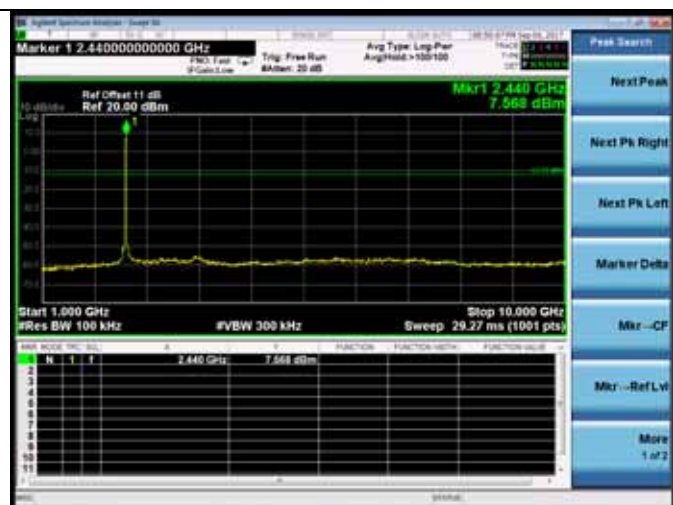
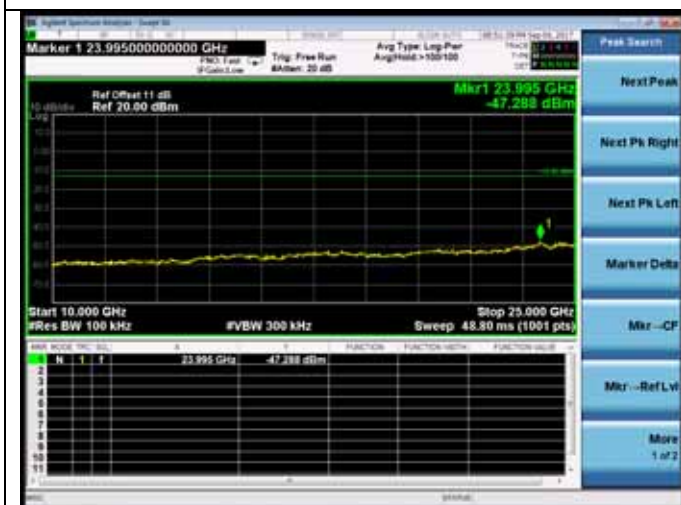
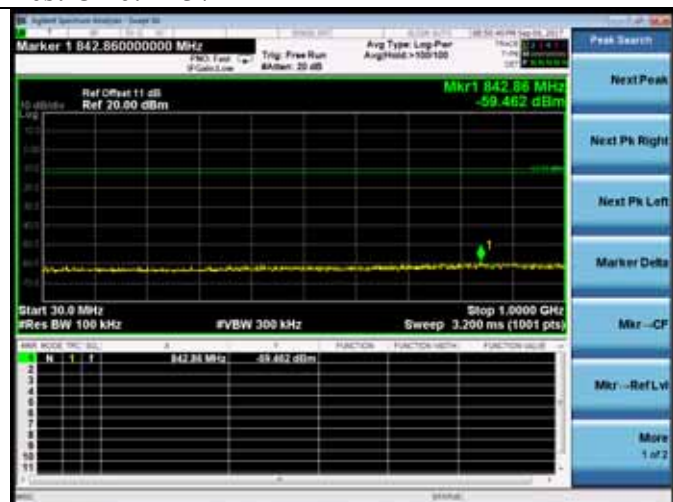
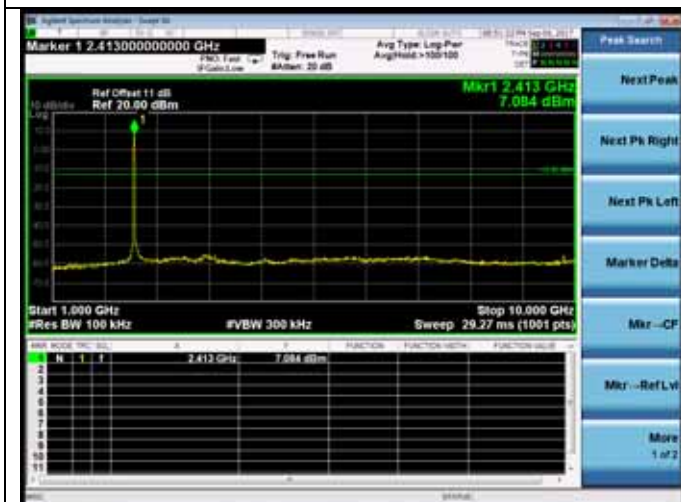
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ANT1:

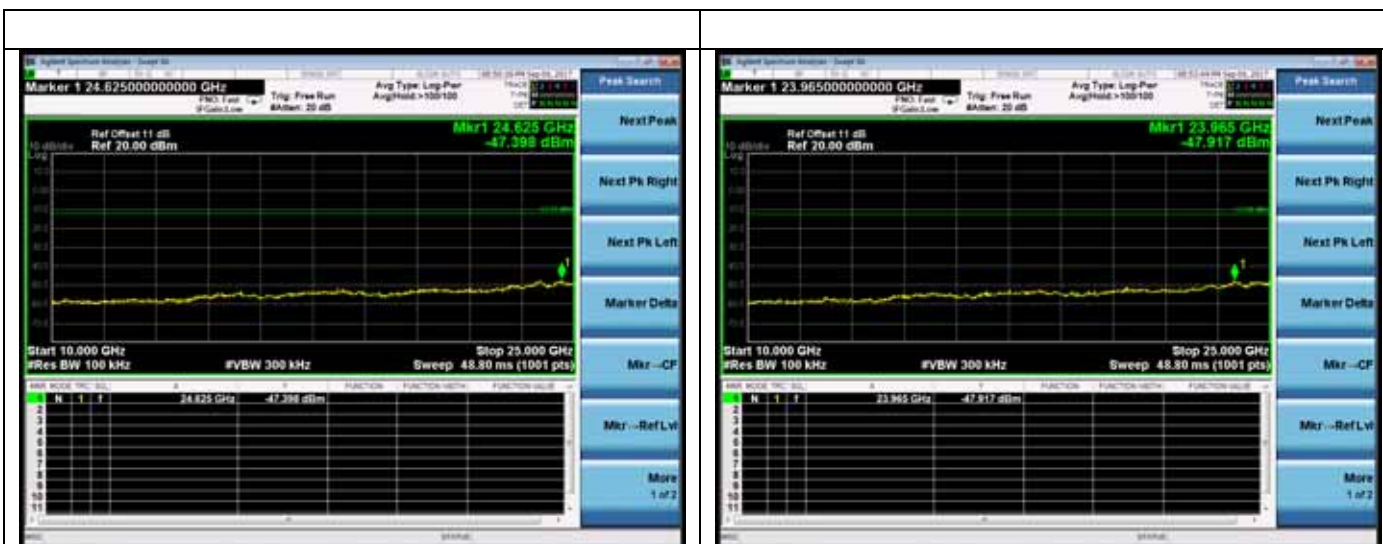
Test Mode: IEEE 802.11b

Test CH1: 2412MHz

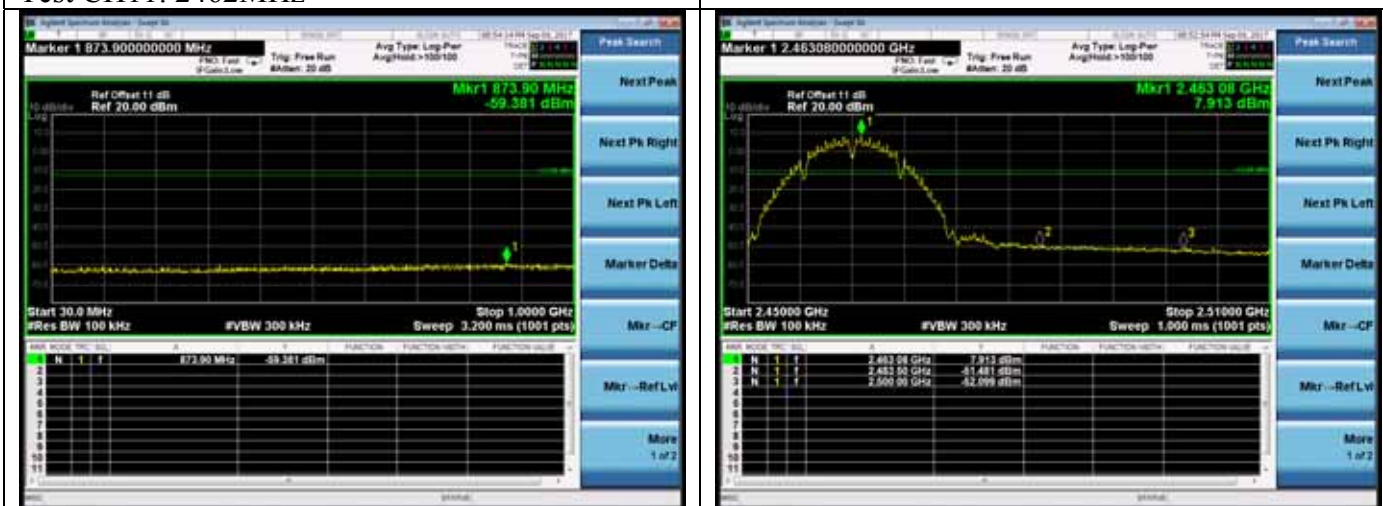
**Test CH6: 2437MHz**

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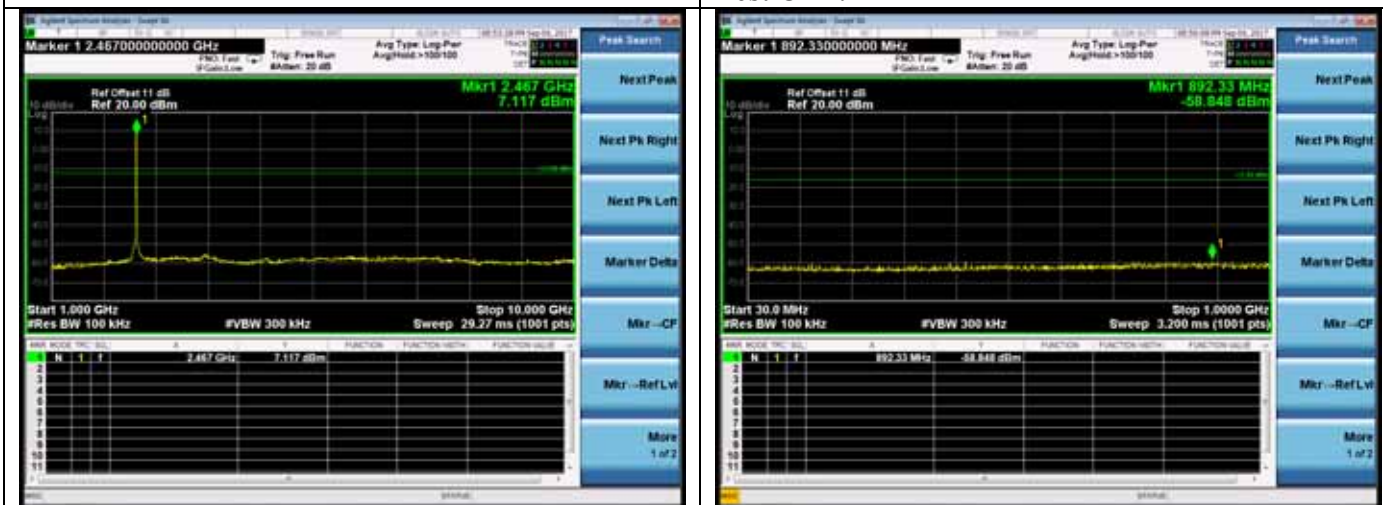
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Test CH11: 2462MHz



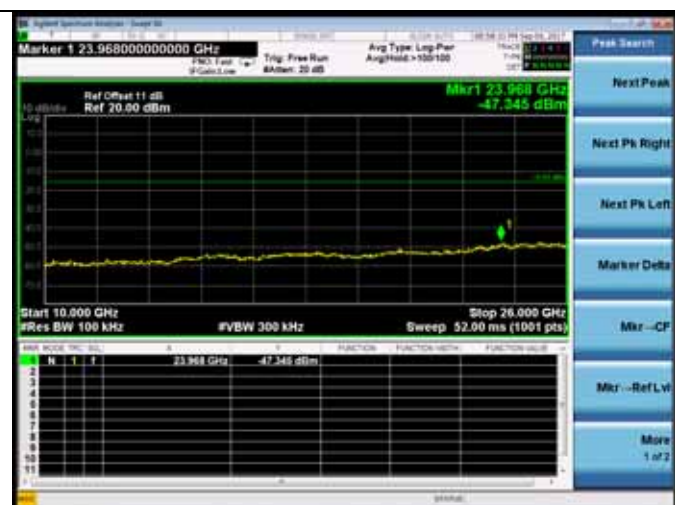
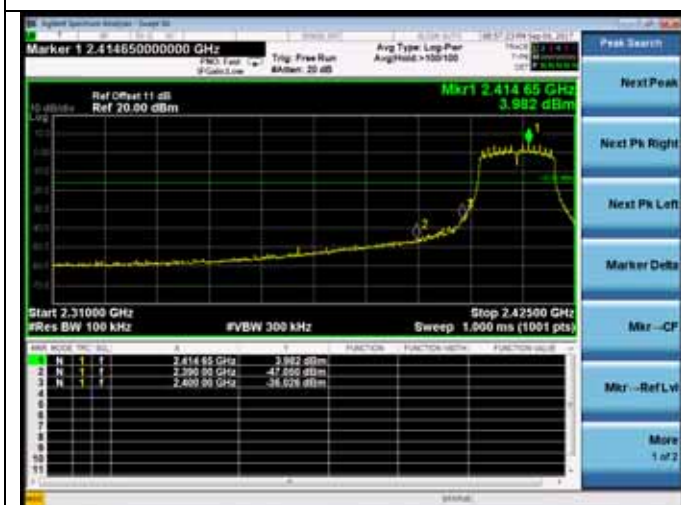
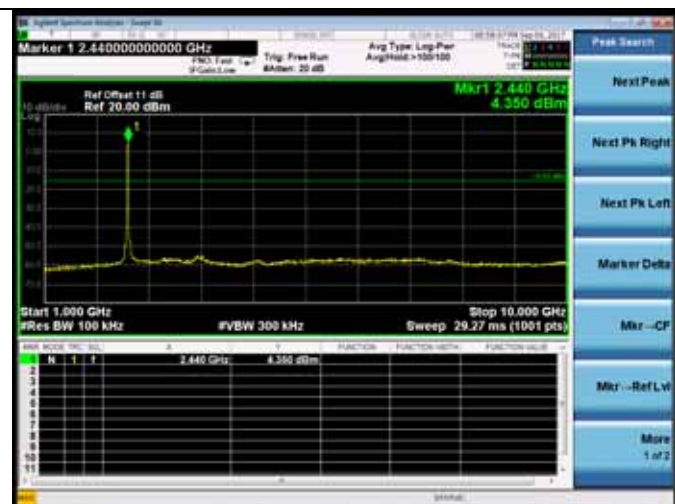
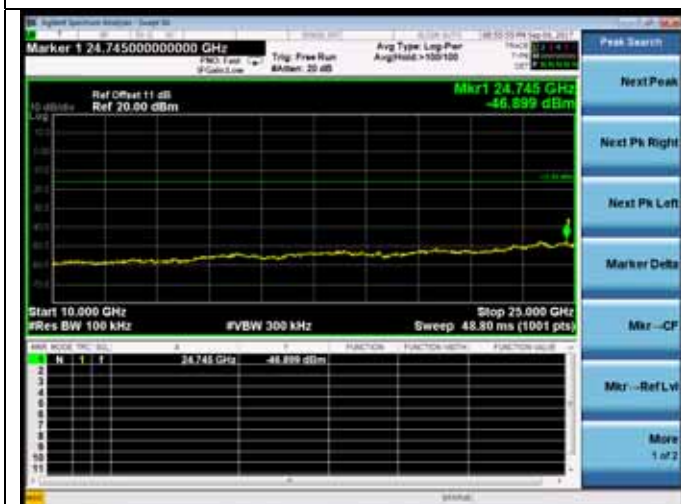
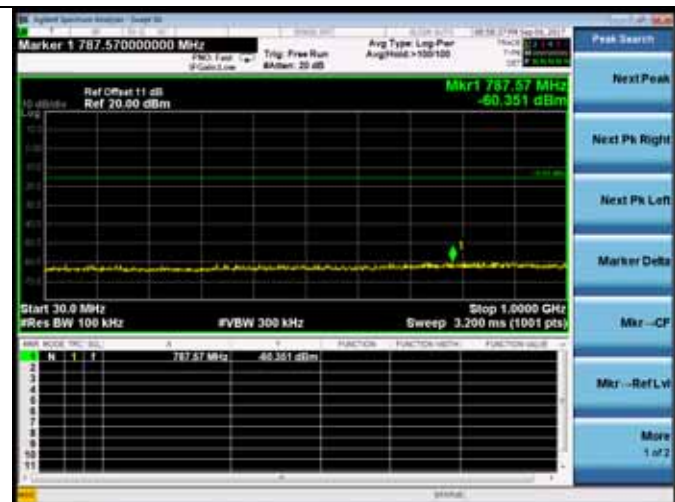
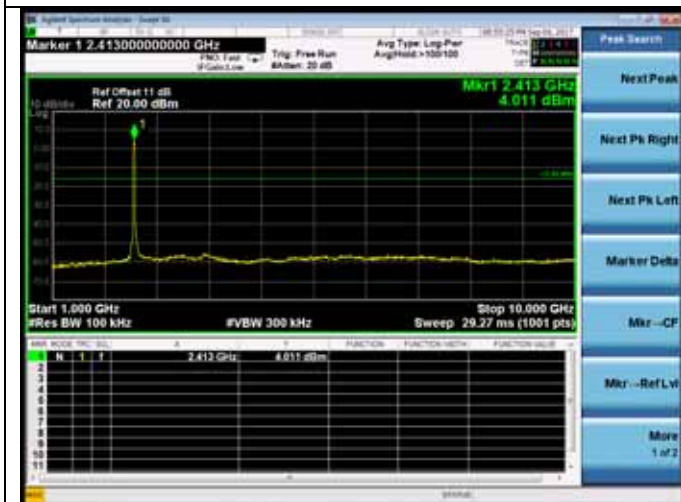
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



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Test CH6: 2437MHz



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The screenshot shows a Spectrum Analyzer interface. At the top, there's a status bar with '1.0 Spanned Spectrum Analyzer - Power dB' and '100.000 MHz'.

Below the status bar, the main display area shows a frequency plot. The x-axis is labeled 'MHz' and ranges from 30.0 to 1000.0. The y-axis is labeled 'dBm' and ranges from -100 to 10. A green trace shows a signal at 827.34 MHz with a peak level of -58.616 dBm. The plot is titled 'Marker 1 827.340000000 MHz'.

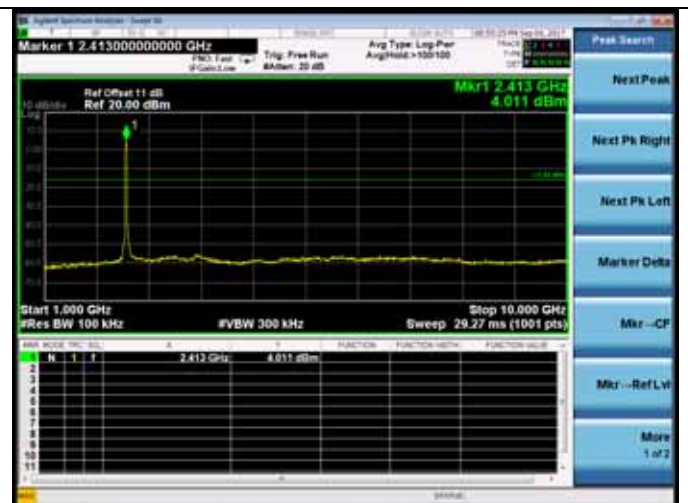
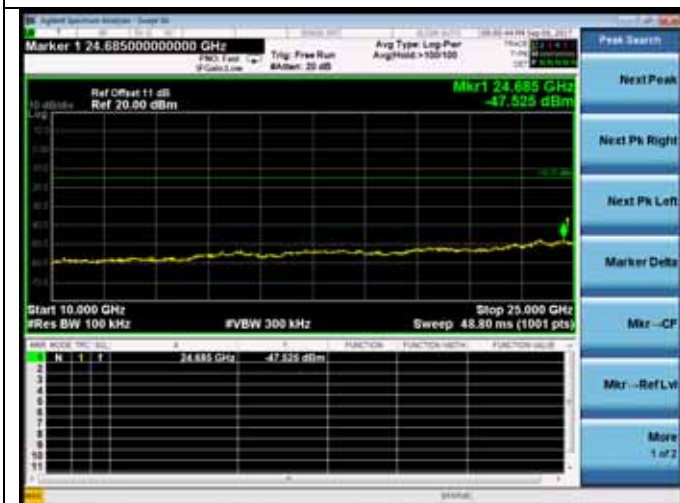
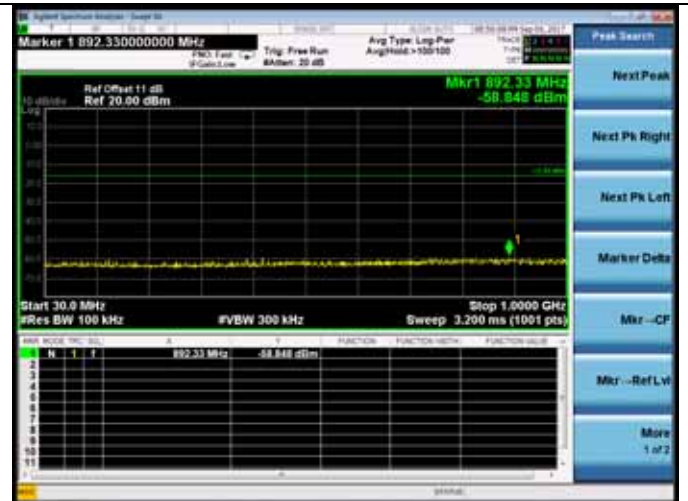
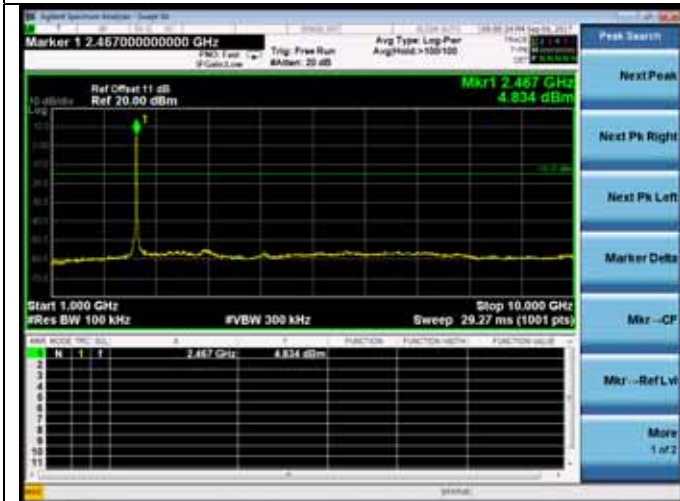
Below the plot, there's a table of measurement data:

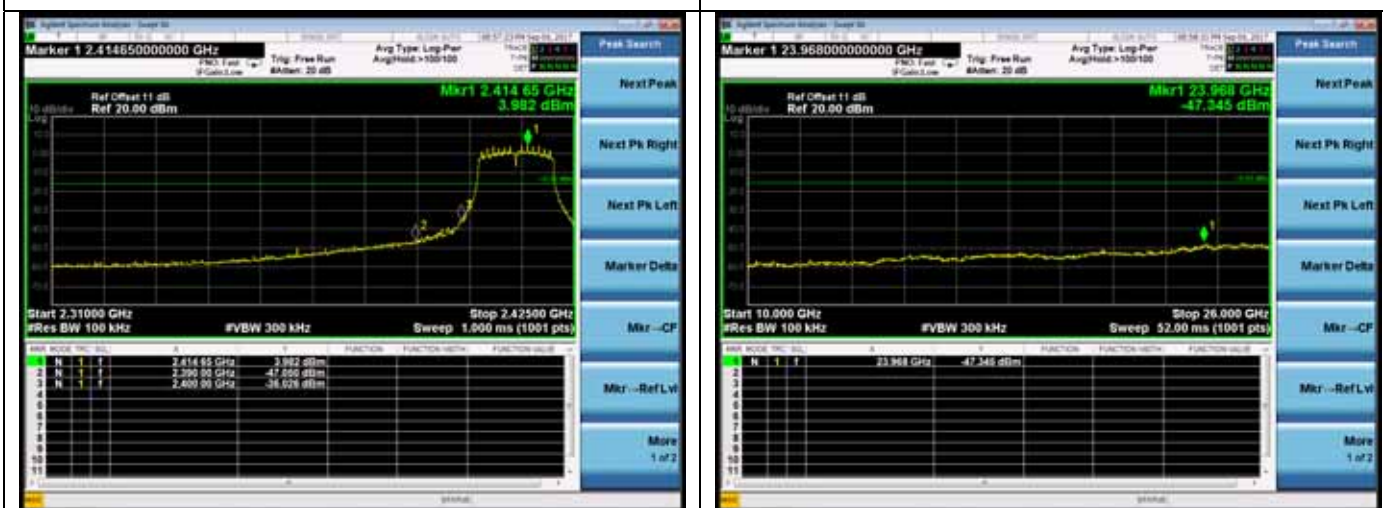
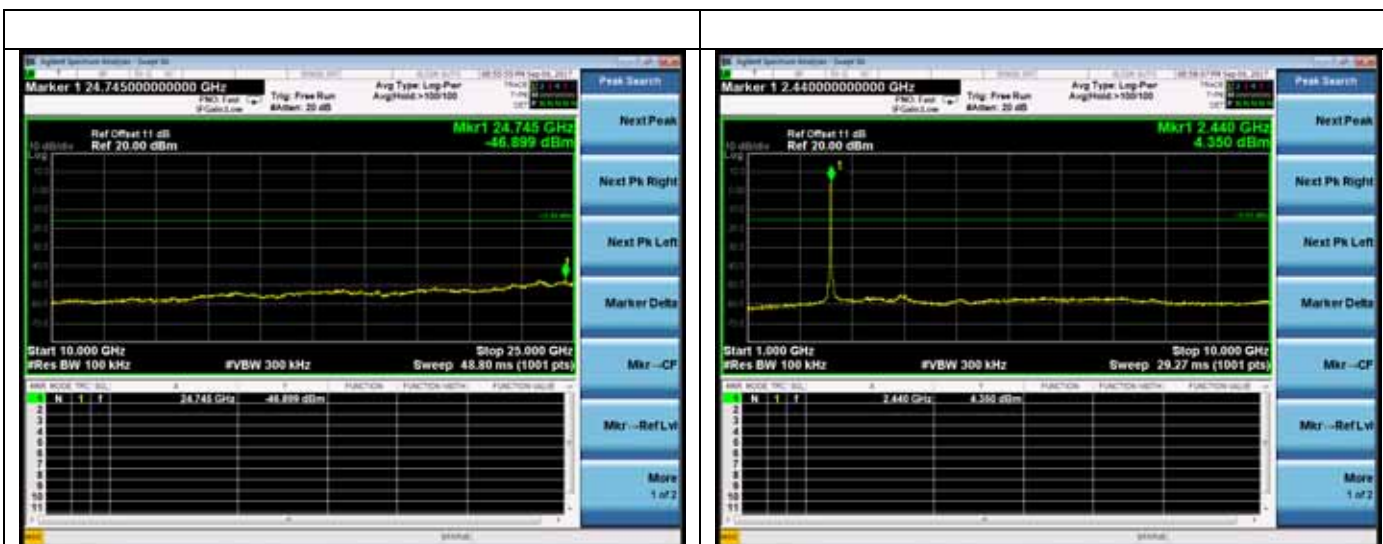
MARK	MODE	TRIG	SQL	A	F	FUNCTION	FUNCTION-REF	FUNCTION-VALUE
1	N	1	1	827.34 MHz	-58.616 dBm			

On the right side of the plot, there are several buttons: 'Peak Search', 'Next Peak', 'Next Pk Right', 'Next Pk Left', 'Marker Delta', 'Mkr --CF', 'Mkr --RefLvl', and 'More 1 of 2'.

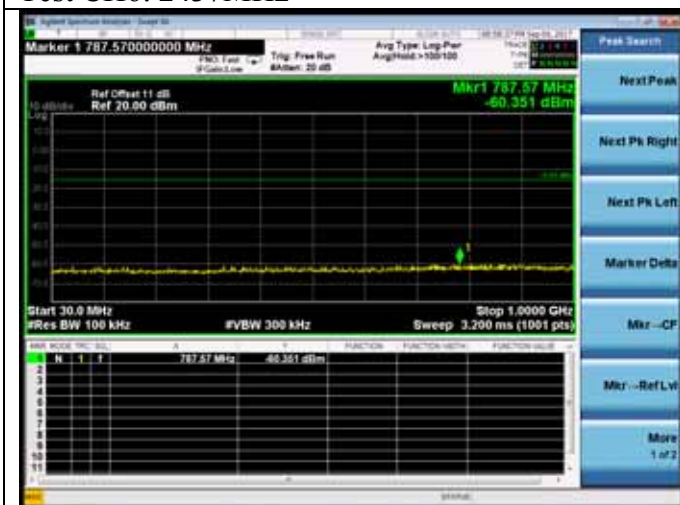


Marker 1 892.330000000 MHz

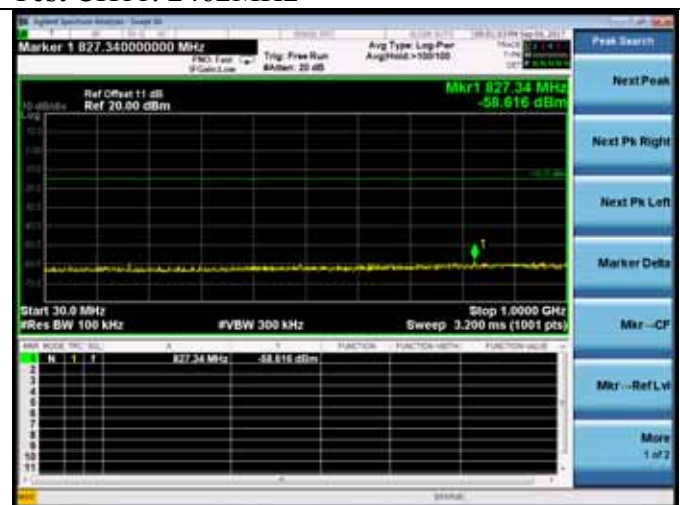




Test CH6: 2437MHz



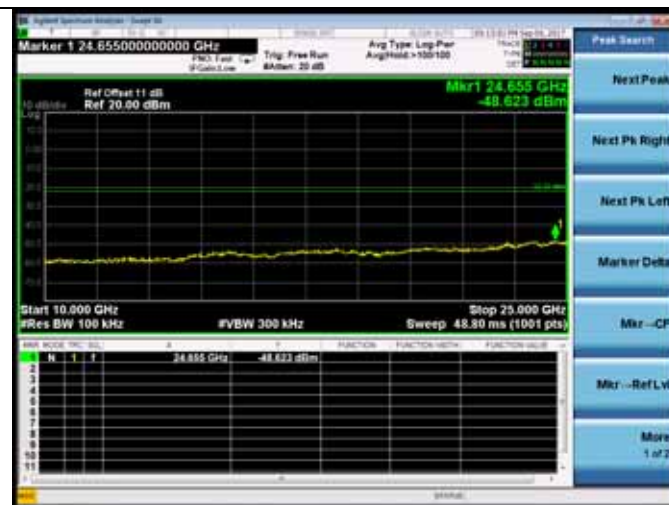
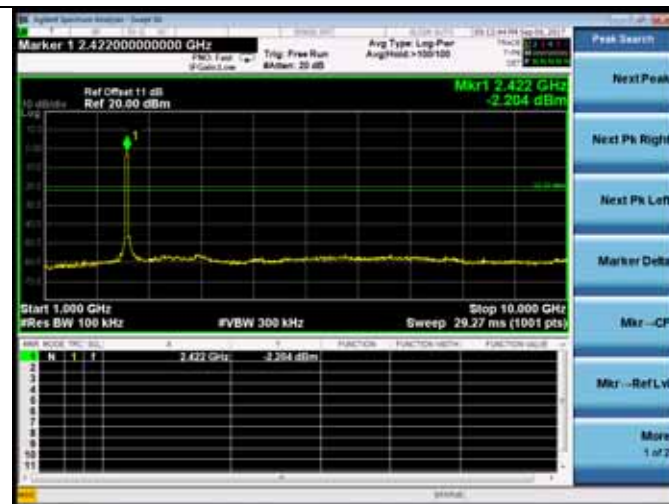
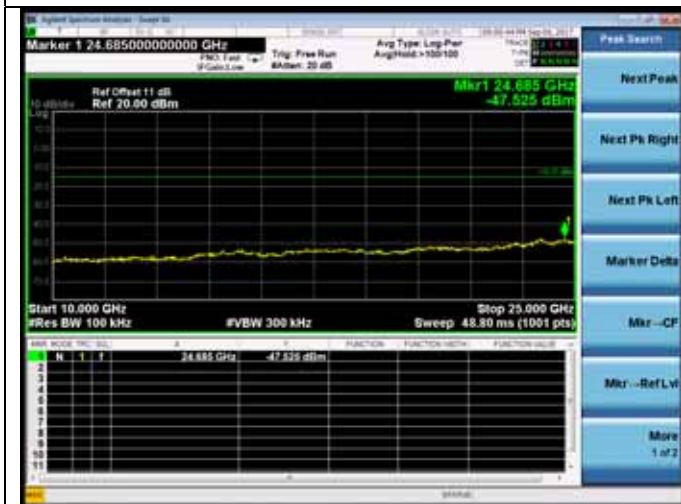
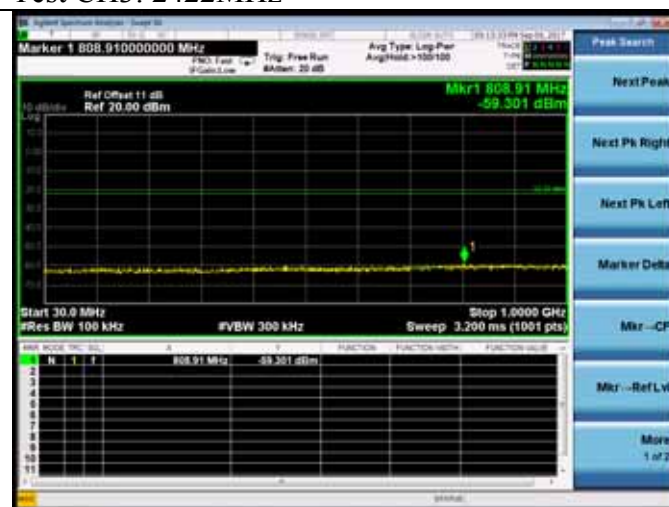
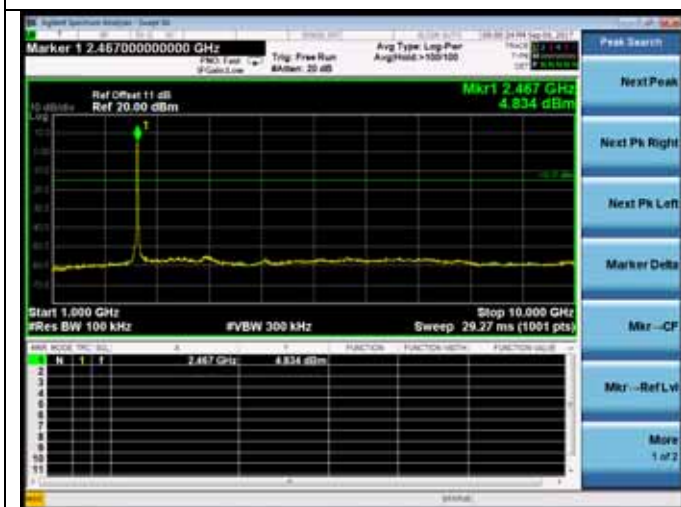
Test CH11: 2462MHz



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Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz

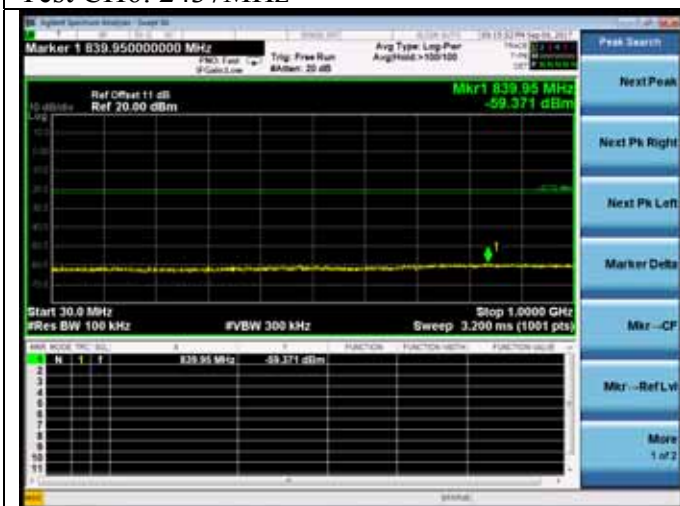


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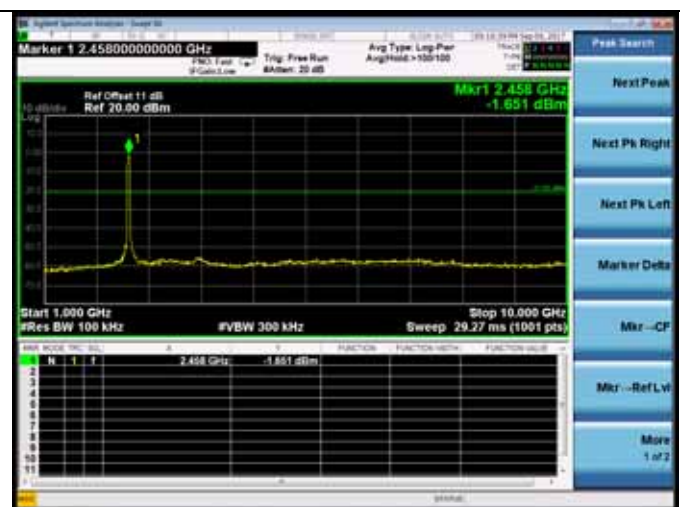
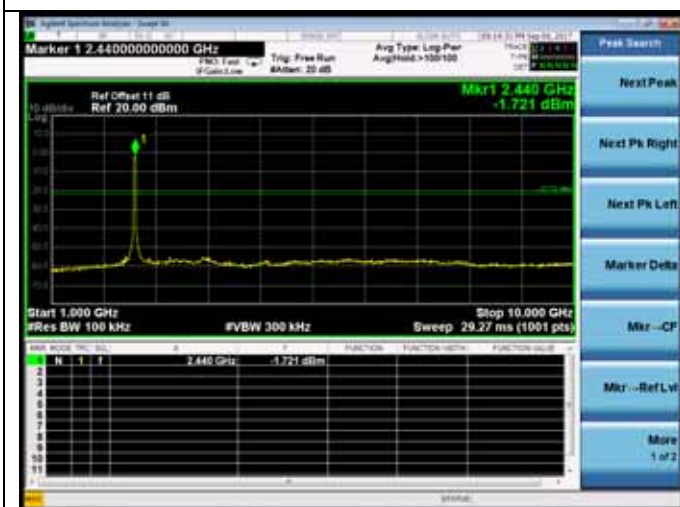
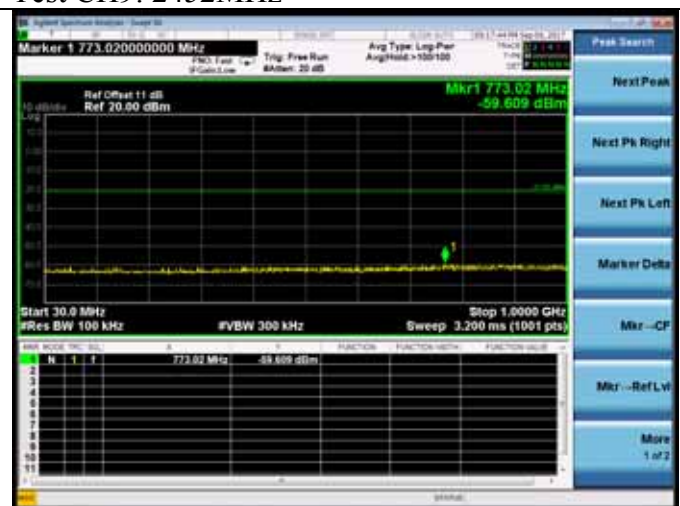
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Test CH6: 2437MHz



Test CH9: 2452MHz



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7. BAND EDGE COMPLIANCE TEST

7.1.Limit

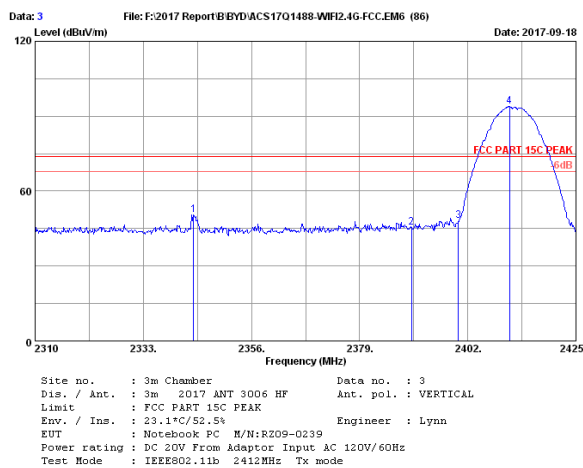
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209 & RSS-247, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 & RSS-247 limits.

7.2.Test Procedure

1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

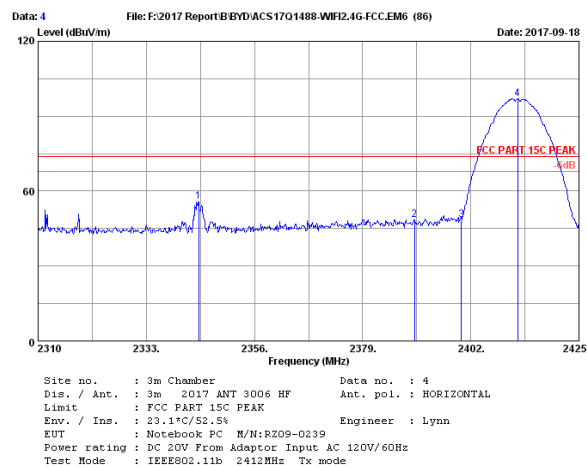
7.3.Test Results

Pass (The testing data was attached in the next pages.)



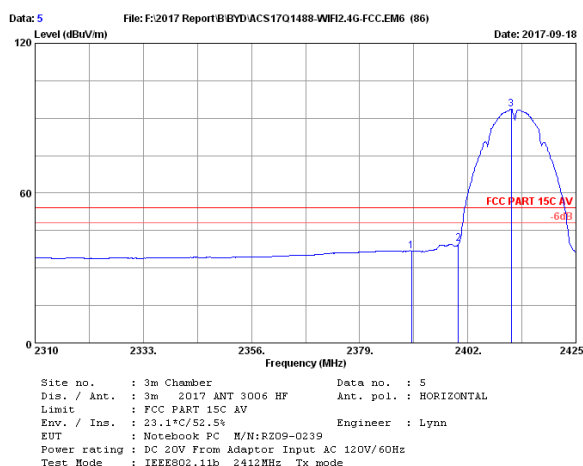
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2343.70	27.88	7.77	50.40	35.55	50.50	74.00	23.50	Peak
2	2390.00	27.96	7.84	45.16	35.61	45.35	74.00	28.65	Peak
3	2400.00	27.96	7.88	47.92	35.61	48.15	74.00	25.85	Peak
4	2410.86	27.98	7.91	93.57	35.61	93.85	74.00	-19.85	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



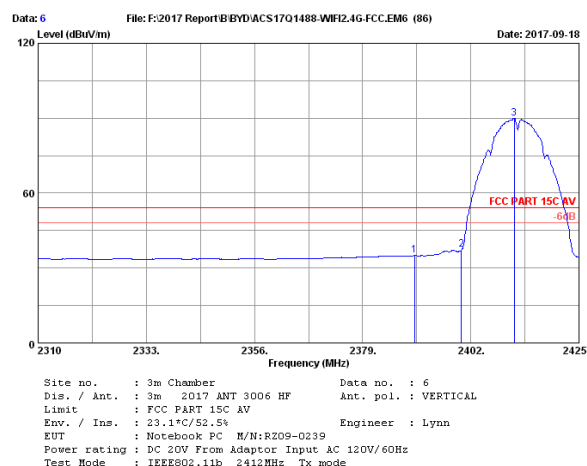
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2344.16	27.88	7.77	55.64	35.55	55.74	74.00	18.26	Peak
2	2390.00	27.96	7.84	48.42	35.61	48.61	74.00	25.39	Peak
3	2400.00	27.96	7.88	48.08	35.61	48.31	74.00	25.69	Peak
4	2412.01	27.98	7.91	96.59	35.61	96.87	74.00	-22.87	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	36.71	35.61	36.90	54.00	17.10	Average
2	2400.00	27.96	7.88	39.44	35.61	39.67	54.00	14.33	Average
3	2411.20	27.98	7.91	93.37	35.61	93.65	54.00	-39.65	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

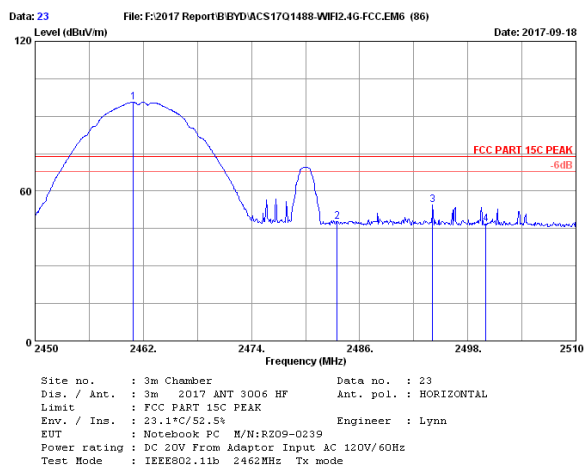


No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	34.77	35.61	34.96	54.00	19.04	Average
2	2400.00	27.96	7.88	37.06	35.61	37.29	54.00	16.71	Average
3	2411.20	27.98	7.91	89.63	35.61	89.91	54.00	-35.91	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.

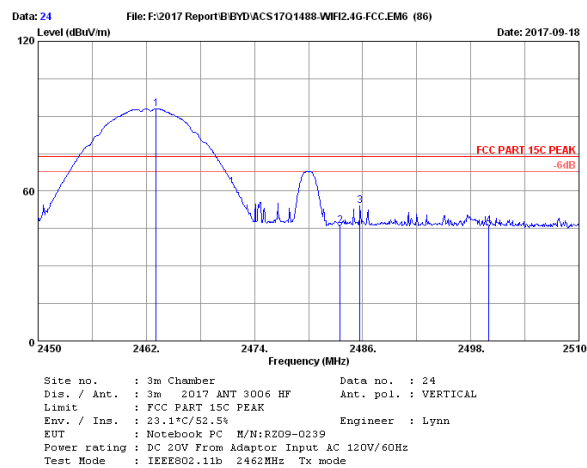
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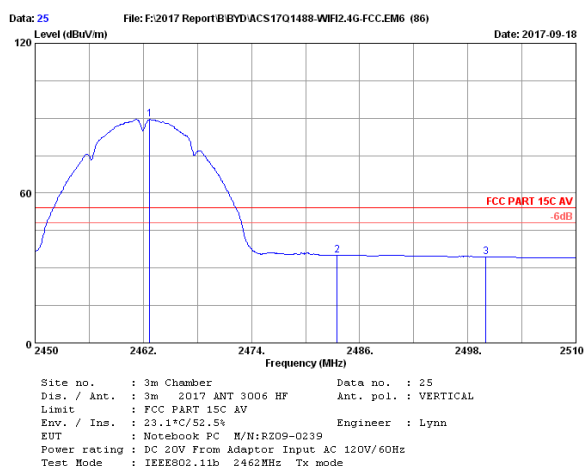
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.92	28.05	7.98	95.24	35.68	95.59	74.00	-21.59	Peak
2	2483.50	28.08	8.02	47.56	35.71	47.95	74.00	26.05	Peak
3	2494.10	28.10	8.05	54.12	35.74	54.53	74.00	19.47	Peak
4	2500.00	28.10	8.05	46.47	35.74	46.88	74.00	27.12	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



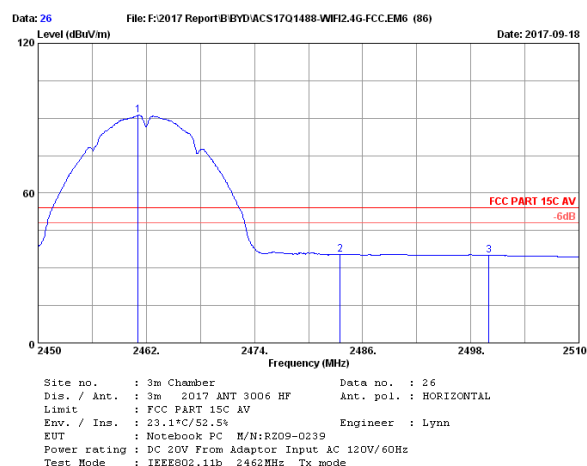
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.08	28.05	7.98	92.67	35.68	93.02	74.00	-19.02	Peak
2	2483.50	28.08	8.02	45.77	35.71	46.16	74.00	27.84	Peak
3	2485.70	28.08	8.02	53.63	35.71	54.02	74.00	19.98	Peak
4	2500.00	28.10	8.05	45.76	35.74	46.17	74.00	27.83	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



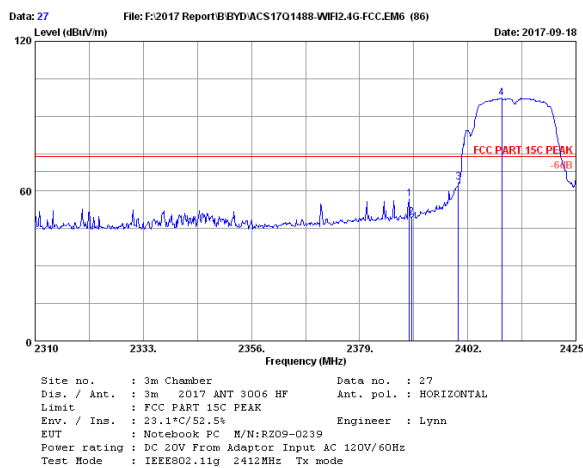
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.72	28.05	7.98	89.11	35.68	89.46	54.00	-35.46	Average
2	2483.50	28.08	8.02	34.75	35.71	35.14	54.00	18.86	Average
3	2500.00	28.10	8.05	34.08	35.74	34.49	54.00	19.51	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



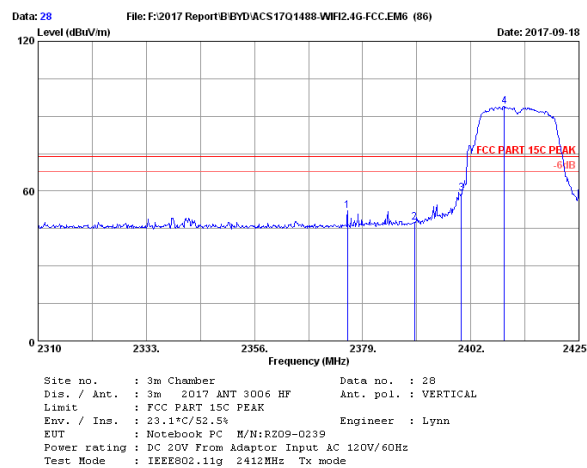
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2461.10	28.05	7.98	90.76	35.68	91.11	54.00	-37.11	Average
2	2483.50	28.08	8.02	34.97	35.71	35.36	54.00	18.64	Average
3	2500.00	28.10	8.05	34.55	35.74	34.96	54.00	19.04	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



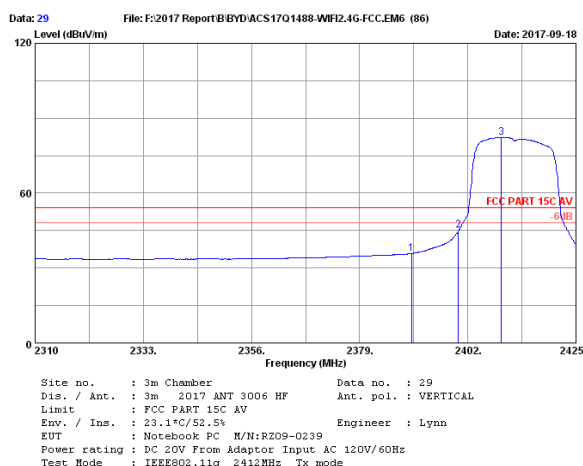
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.58	27.96	7.84	56.49	35.58	56.71	74.00	17.29	Peak
2	2390.00	27.96	7.84	49.20	35.61	49.39	74.00	24.61	Peak
3	2400.00	27.96	7.88	63.24	35.61	63.47	74.00	10.53	Peak
4	2409.25	27.98	7.88	96.99	35.61	97.24	74.00	-23.24	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



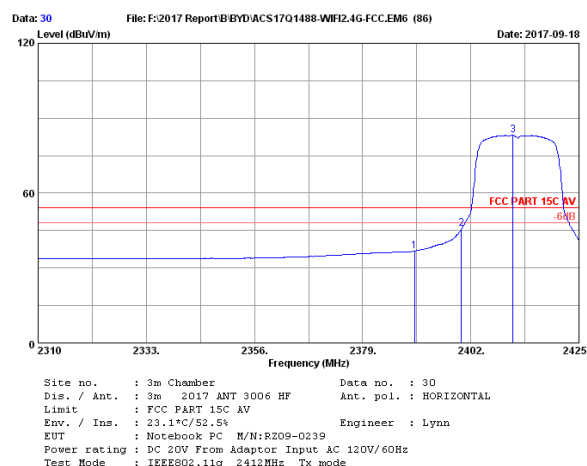
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2375.78	27.93	7.84	51.87	35.58	52.06	74.00	21.94	Peak
2	2390.00	27.96	7.84	47.18	35.61	47.37	74.00	26.63	Peak
3	2400.00	27.96	7.88	58.85	35.61	59.08	74.00	14.92	Peak
4	2409.13	27.98	7.88	93.67	35.61	93.92	74.00	-19.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



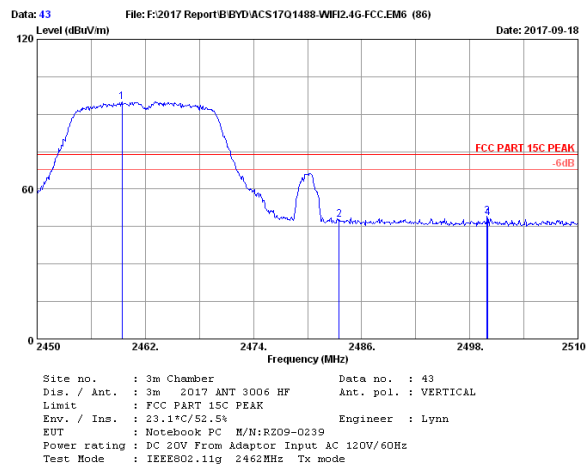
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	35.62	35.61	35.81	54.00	18.19	Average
2	2400.00	27.96	7.88	44.77	35.61	45.00	54.00	9.00	Average
3	2409.13	27.98	7.88	82.00	35.61	82.25	54.00	-28.25	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



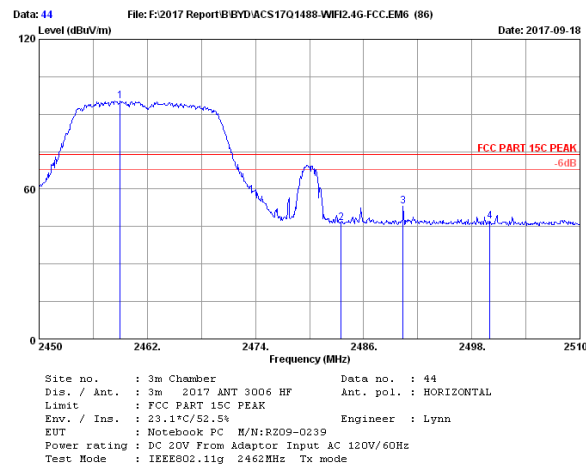
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading factor (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	36.68	35.61	36.87	54.00	17.13	Average
2	2400.00	27.96	7.88	45.54	35.61	45.77	54.00	8.23	Average
3	2410.97	27.98	7.91	82.81	35.61	83.09	54.00	-29.09	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



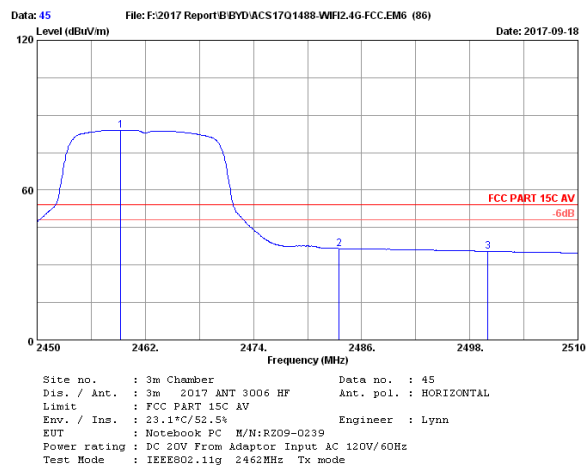
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2459.42	28.05	7.98	94.60	35.68	94.95	74.00	-20.95	Peak
2	2483.50	28.08	8.02	47.28	35.71	47.67	74.00	26.33	Peak
3	2499.92	28.10	8.05	48.84	35.74	49.25	74.00	24.75	Peak
4	2500.00	28.10	8.05	48.17	35.74	48.58	74.00	25.42	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



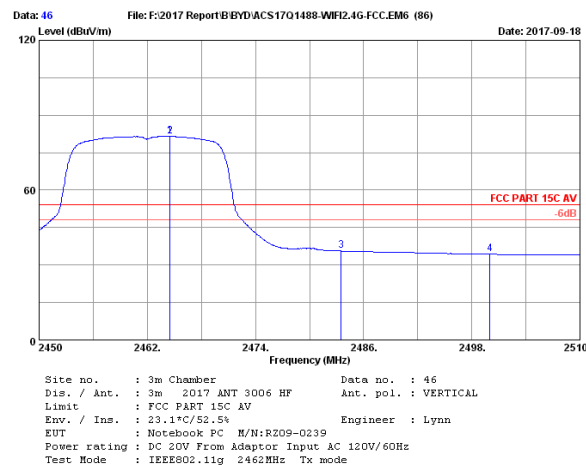
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2459.00	28.05	7.98	94.86	35.68	95.21	74.00	-21.21	Peak
2	2483.50	28.08	8.02	46.02	35.71	46.41	74.00	27.59	Peak
3	2490.38	28.10	8.05	52.79	35.71	53.23	74.00	20.77	Peak
4	2500.00	28.10	8.05	46.77	35.74	47.18	74.00	26.82	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



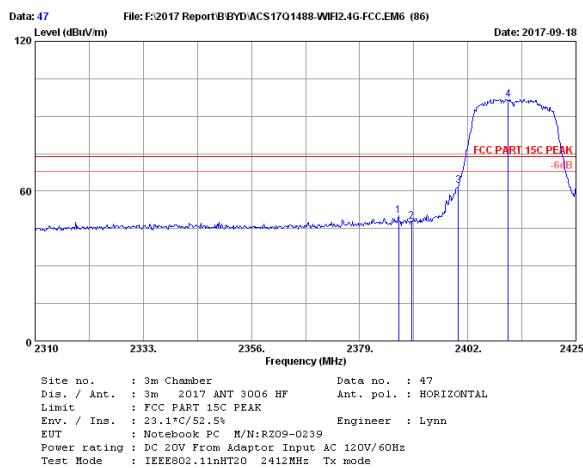
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2459.30	28.05	7.98	83.65	35.68	84.00	54.00	-30.00	Average
2	2483.50	28.08	8.02	36.19	35.71	36.58	54.00	17.42	Average
3	2500.00	28.10	8.05	35.11	35.74	35.52	54.00	18.48	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



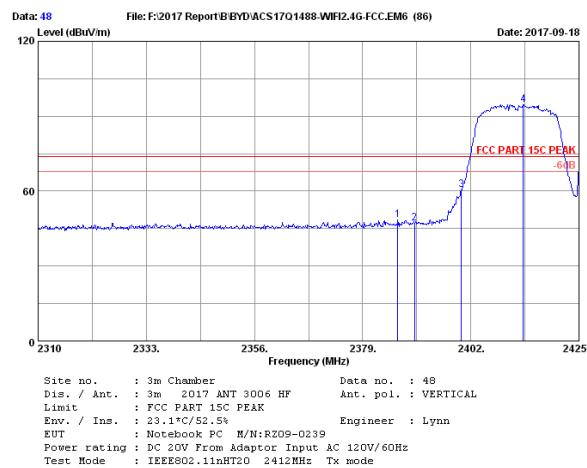
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2464.52	28.05	7.98	81.16	35.68	81.51	54.00	-27.51	Average
2	2464.52	28.05	7.98	81.16	35.68	81.51	54.00	-27.51	Average
3	2483.50	28.08	8.02	35.21	35.71	35.60	54.00	18.40	Average
4	2500.00	28.10	8.05	33.87	35.74	34.28	54.00	19.72	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



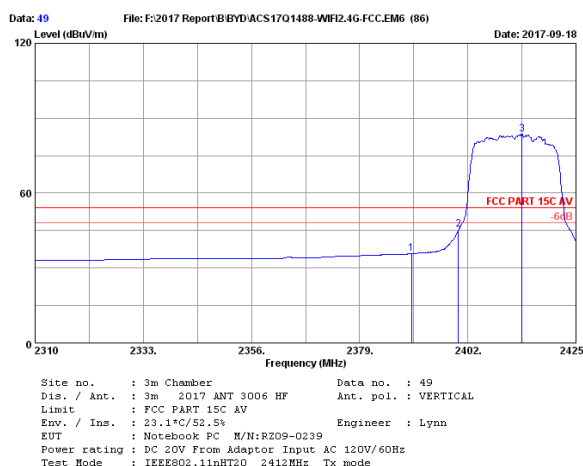
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2387.28	27.96	7.84	49.78	35.58	50.00	74.00	24.00	Peak
2	2390.00	27.96	7.84	47.63	35.61	47.82	74.00	26.18	Peak
3	2400.00	27.96	7.88	62.02	35.61	62.25	74.00	11.75	Peak
4	2410.63	27.98	7.91	96.49	35.61	96.77	74.00	-22.77	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



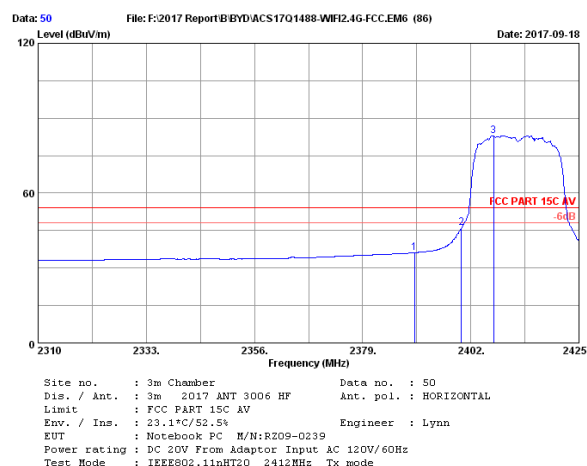
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2386.48	27.96	7.84	48.18	35.58	48.40	74.00	25.60	Peak
2	2390.00	27.96	7.84	46.89	35.61	47.08	74.00	26.92	Peak
3	2400.00	27.96	7.88	60.12	35.61	60.35	74.00	13.65	Peak
4	2413.16	27.98	7.91	94.47	35.61	94.75	74.00	-20.75	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



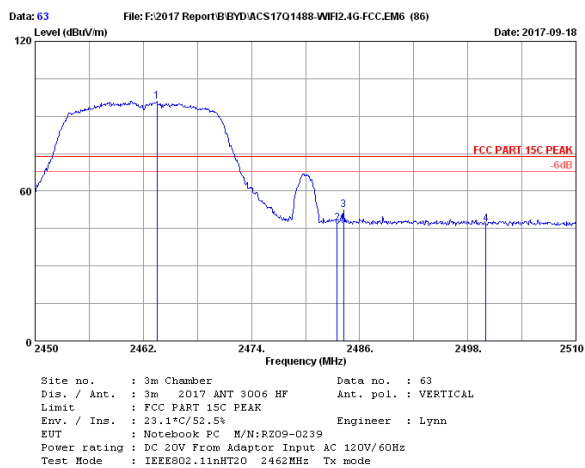
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	35.57	35.61	35.76	54.00	18.24	Average
2	2400.00	27.96	7.88	45.35	35.61	45.58	54.00	8.42	Average
3	2413.50	27.98	7.91	83.32	35.61	83.60	54.00	-29.60	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



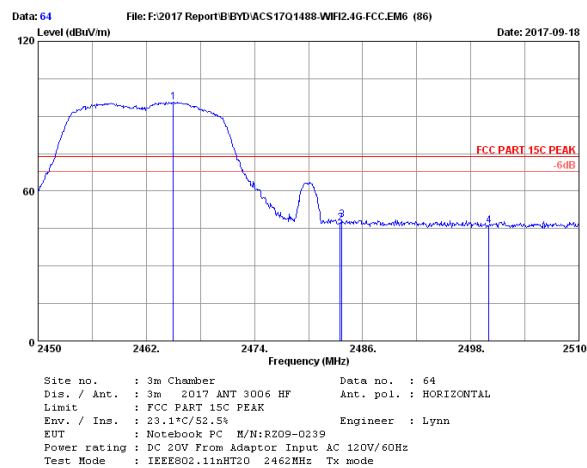
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	35.95	35.61	36.14	54.00	17.86	Average
2	2400.00	27.96	7.88	45.94	35.61	46.17	54.00	7.83	Average
3	2406.83	27.98	7.88	82.81	35.61	83.06	54.00	-29.06	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp factor.
2. The emission levels that are 20dB below the official
limit are not reported.



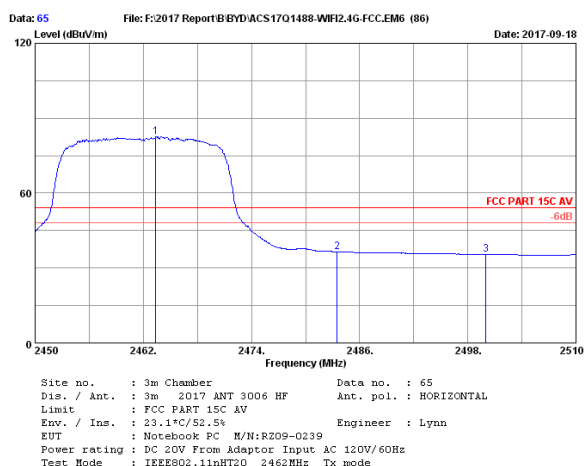
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.50	28.05	7.98	95.72	35.68	96.07	74.00	-22.07	Peak
2	2483.50	28.08	8.02	46.82	35.71	47.21	74.00	26.79	Peak
3	2484.20	28.08	8.02	52.02	35.71	52.41	74.00	21.59	Peak
4	2500.00	28.10	8.05	46.26	35.74	46.67	74.00	27.33	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



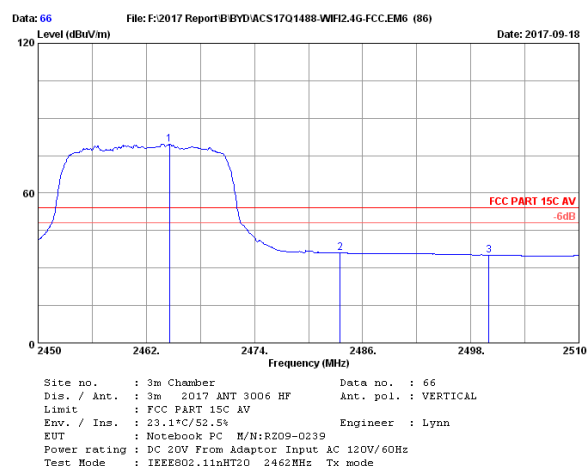
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2465.00	28.05	7.98	95.41	35.68	95.76	74.00	-21.76	Peak
2	2483.50	28.08	8.02	46.63	35.71	47.02	74.00	26.98	Peak
3	2483.72	28.08	8.02	48.22	35.71	48.61	74.00	25.39	Peak
4	2500.00	28.10	8.05	45.87	35.74	46.28	74.00	27.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



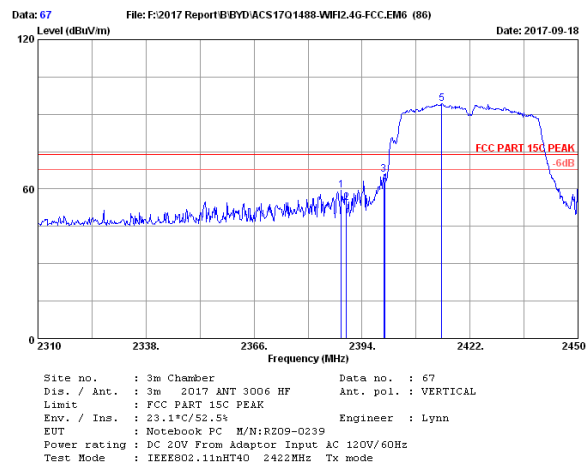
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.38	28.05	7.98	82.30	35.68	82.65	54.00	-28.65	Average
2	2483.50	28.08	8.02	36.11	35.71	36.50	54.00	17.50	Average
3	2500.00	28.10	8.05	35.06	35.74	35.47	54.00	18.53	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



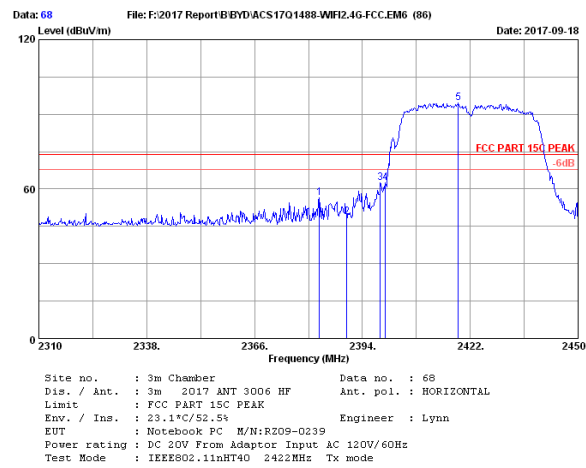
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2464.58	28.05	7.98	79.35	35.68	79.70	54.00	-25.70	Average
2	2483.50	28.08	8.02	35.62	35.71	36.01	54.00	17.99	Average
3	2500.00	28.10	8.05	34.78	35.74	35.19	54.00	18.81	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



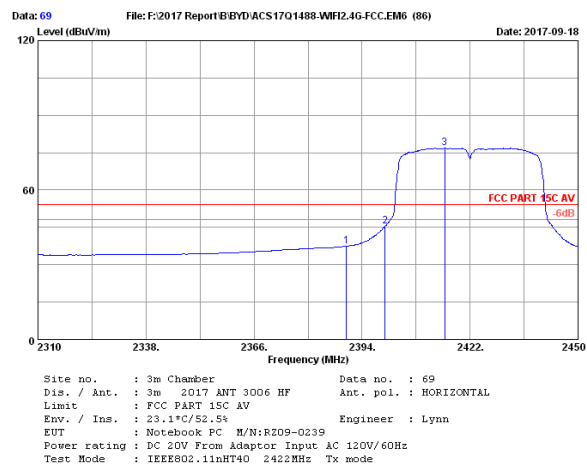
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.68	27.96	7.84	59.43	35.58	59.65	74.00	14.35	Peak
2	2390.00	27.96	7.84	54.31	35.61	54.50	74.00	19.50	Peak
3	2399.60	27.96	7.88	65.67	35.61	65.90	74.00	8.10	Peak
4	2400.00	27.96	7.88	61.80	35.61	62.03	74.00	11.97	Peak
5	2414.72	27.98	7.91	93.95	35.61	94.23	74.00	-20.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



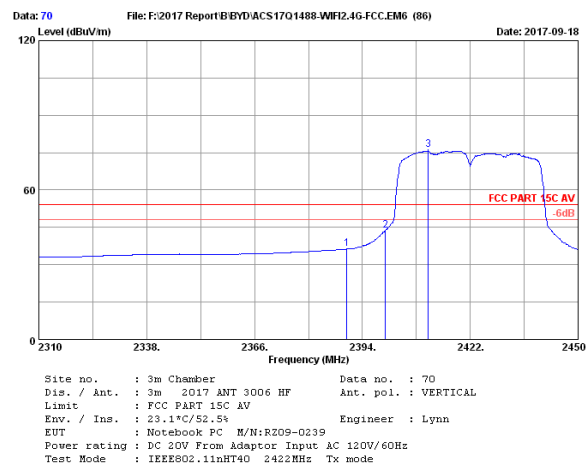
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2382.80	27.93	7.84	56.27	35.58	56.46	74.00	17.54	Peak
2	2390.00	27.96	7.84	48.51	35.61	48.70	74.00	25.30	Peak
3	2398.62	27.96	7.88	62.30	35.61	62.53	74.00	11.47	Peak
4	2400.00	27.96	7.88	62.24	35.61	62.47	74.00	11.53	Peak
5	2418.92	27.98	7.91	94.51	35.64	94.76	74.00	-20.76	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



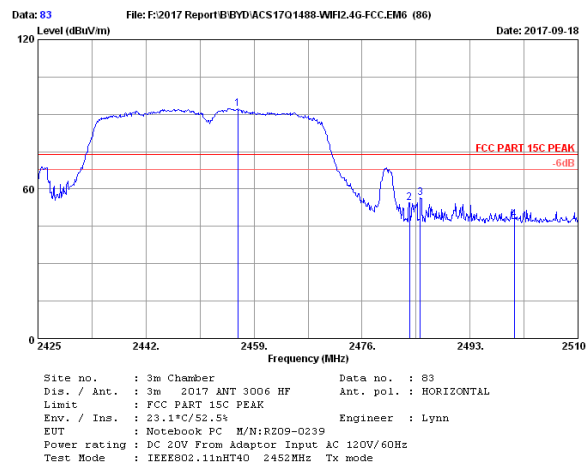
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	37.21	35.61	37.40	54.00	16.60	Average
2	2400.00	27.96	7.88	45.35	35.61	45.58	54.00	8.42	Average
3	2415.42	27.98	7.91	76.59	35.64	76.84	54.00	-22.84	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



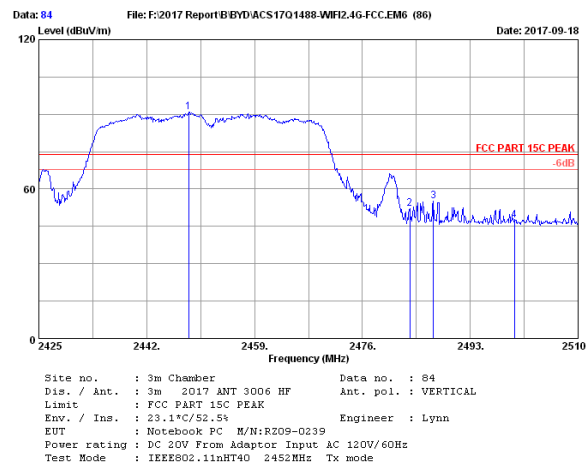
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.96	7.84	36.09	35.61	36.28	54.00	17.72	Average
2	2400.00	27.96	7.88	43.60	35.61	43.83	54.00	10.17	Average
3	2411.08	27.98	7.91	75.79	35.61	76.07	54.00	-22.07	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



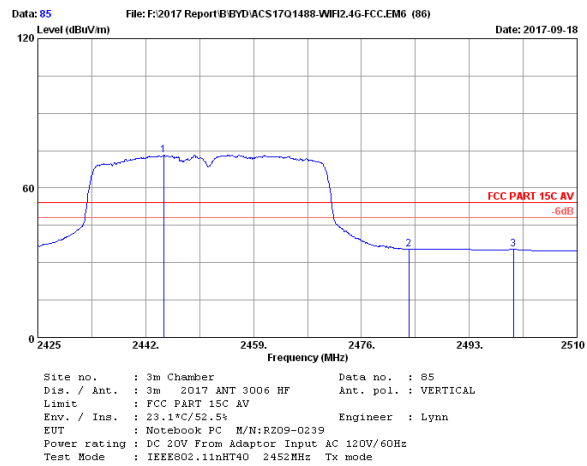
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2456.45	28.05	7.98	91.94	35.68	92.29	74.00	-18.29	Peak
2	2483.50	28.08	8.02	54.16	35.71	54.55	74.00	19.45	Peak
3	2485.18	28.08	8.02	56.00	35.71	56.39	74.00	17.61	Peak
4	2500.00	28.10	8.05	47.52	35.74	47.93	74.00	26.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



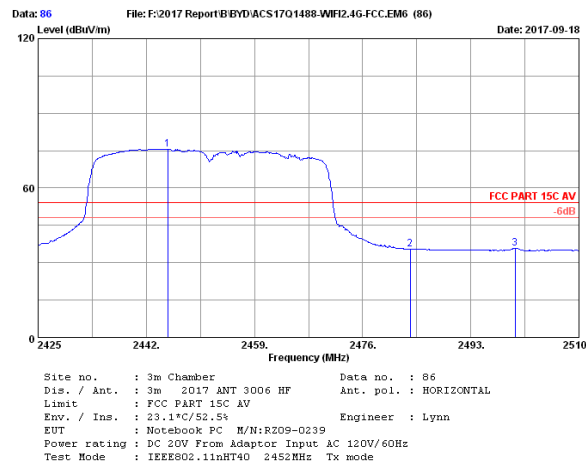
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2448.63	28.03	7.95	90.65	35.68	90.95	74.00	-16.95	Peak
2	2483.50	28.08	8.02	51.75	35.71	52.14	74.00	21.86	Peak
3	2487.22	28.08	8.02	54.89	35.71	55.28	74.00	18.72	Peak
4	2500.00	28.10	8.05	47.19	35.74	47.60	74.00	26.40	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2444.81	28.03	7.95	73.05	35.68	73.35	54.00	-19.35	Average
2	2483.50	28.08	8.02	35.10	35.71	35.49	54.00	18.51	Average
3	2500.00	28.10	8.05	35.16	35.74	35.57	54.00	18.43	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.



No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Amp factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2445.40	28.03	7.95	75.35	35.68	75.65	54.00	-21.65	Average
2	2483.50	28.08	8.02	35.08	35.71	35.47	54.00	18.53	Average
3	2500.00	28.10	8.05	35.46	35.74	35.87	54.00	18.13	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp factor.
2. The emission levels that are 20dB below the official limit are not reported.

8. 6dB & 99% Bandwidth Test

8.1.Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

8.2.Test Procedure

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

8.3.Test Results

EUT: Notebook PC		
M/N: RA09-0239		
Test date: 2017-08-30	Pressure: 102.8±1.0 kpa	Humidity: 51.7±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.5±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11b	CH1	8.085	8.085	≧ 500
	CH6	8.086	8.086	≧ 500
	CH11	8.086	8.086	≧ 500
11g	CH1	15.16	15.16	≧ 500
	CH6	15.16	15.17	≧ 500
	CH11	15.16	15.16	≧ 500
11n HT20	CH1	15.16	15.15	≧ 500
	CH6	15.16	15.15	≧ 500
	CH11	15.16	15.16	≧ 500
11n HT40	CH3	35.14	35.13	≧ 500
	CH6	35.15	35.13	≧ 500
	CH9	35.15	35.13	≧ 500
Conclusion : PASS				

Test Mode	CH	99% Bandwidth (MHz)		Limit (KHz)
		ANT0	ANT1	
11b	CH1	12.958	12.950	N/A
	CH6	12.973	12.942	N/A
	CH11	12.942	12.948	N/A
11g	CH1	16.213	16.238	N/A
	CH6	16.217	16.237	N/A
	CH11	16.223	16.216	N/A
11n HT20	CH1	17.350	17.359	N/A
	CH6	17.346	17.366	N/A
	CH11	17.347	17.363	N/A
11n HT40	CH3	35.650	35.653	N/A
	CH6	35.645	35.675	N/A
	CH9	35.656	35.672	N/A
Conclusion : PASS				

ANT0:

Test Mode: IEEE 802.11b

Test CH1: 2412MHz

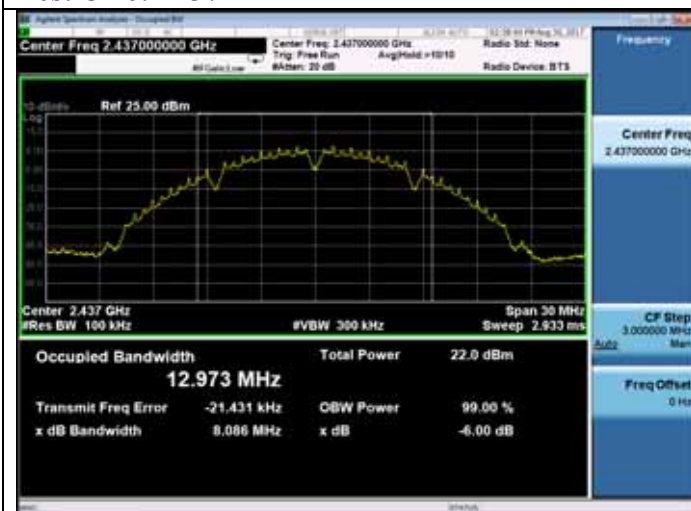
Test Mode: IEEE 802.11g

Test CH1: 2412MHz



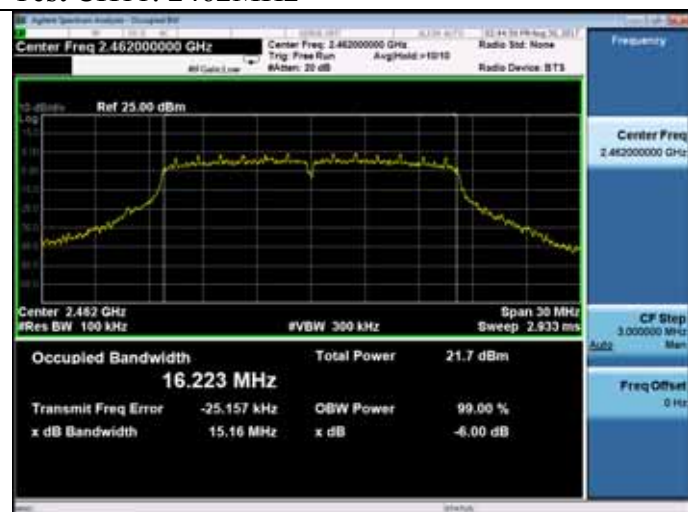
Test CH6: 2437MHz

Test CH6: 2437MHz



Test CH11: 2462MHz

Test CH11: 2462MHz



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Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



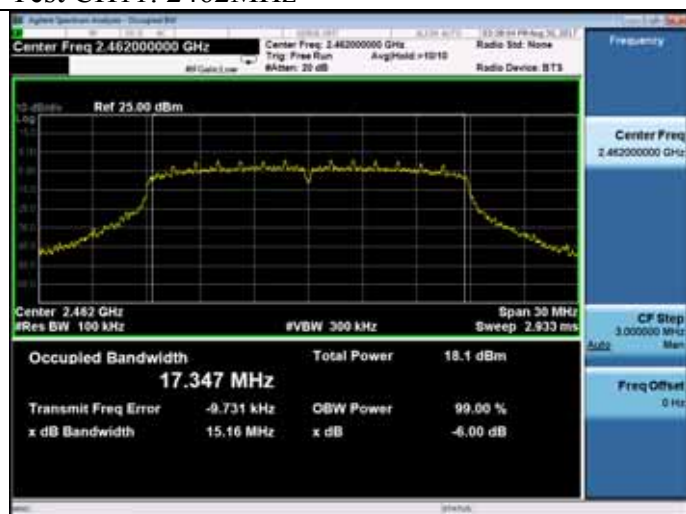
Test CH6: 2437MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz



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ANT1:

Test Mode: IEEE 802.11b

Test CH1: 2412MHz



Test Mode: IEEE 802.11g

Test CH1: 2412MHz



Test CH6: 2437MHz



Test CH6: 2437MHz



Test CH11: 2462MHz



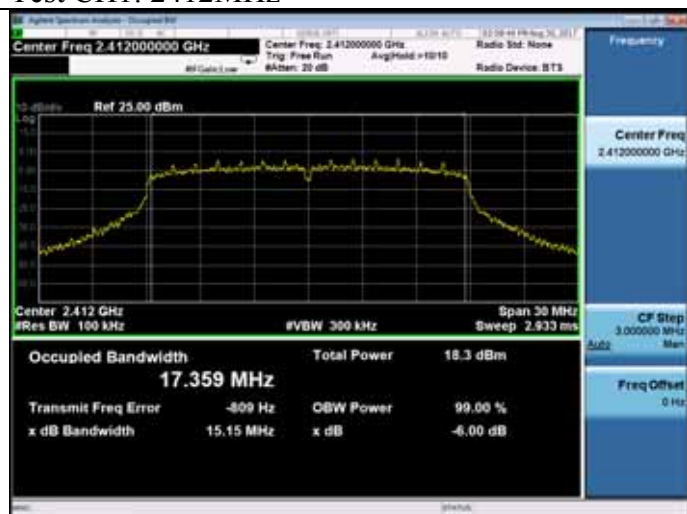
Test CH11: 2462MHz



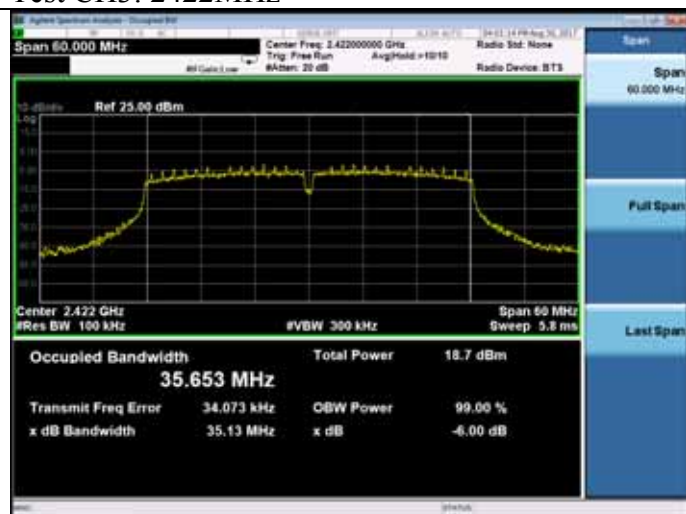
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Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



Test CH6: 2437MHz



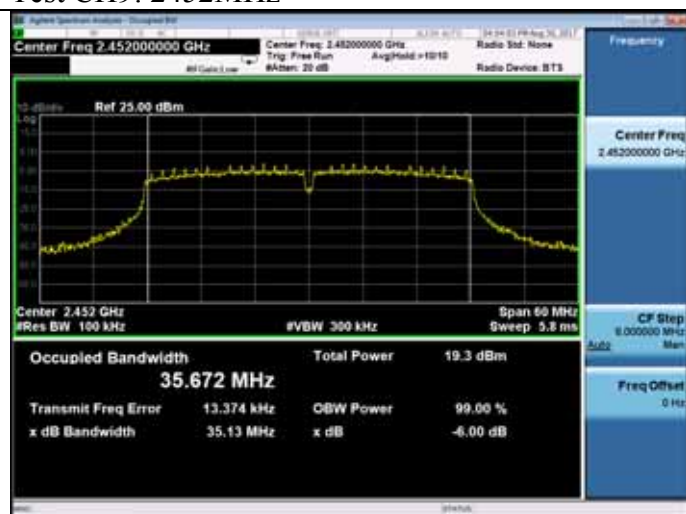
Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz



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9. OUTPUT POWER TEST

9.1.Limit

For systems using digital modulation in the 2400—2483.5MHz, The Peak output Power shall not exceed 1W(30dBm), 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.

9.2.Test Procedure

- 1, Connected the EUT's antenna port to measure device by 20dB attenuator.
- 2, For IEEE 802.11b/g and IEEE802.11n HT20 modes, use a power meter which bandwidth is 20MHz, above the bandwidth of signals, to measure out output power in each mode.
- 3, For IEEE802.11n HT40 mode, since the signal bandwidth is nearly 40MHz, which is above 20MHz bandwidth of power sensor. use the test method descried in KDB558074 clause 9.2.2.
 - 1) Set the RBW=1MHz and VBW =3MHz
 - 2) Set the span at least 1.5 times the OBW
 - 3) Detector = RMS
 - 4) Sweep time = auto couple
 - 5) allow trace to fully stabilize
 - 6) use the spectrum analyser's integrated band power measurement function with band limits set equal to the EBW band edges.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

9.3. Test Results

EUT: Notebook PC		
M/N:RZ09-0239		
Test date: 2017-08-30~10-16	Pressure: 102.1±1.0 kpa	Humidity: 51.1±3.0%
Tested by: Kebo	Test site: RF site	Temperature: 22.8±0.6 °C

Test Mode	CH	Output Power (dBm)			Limit (dBm)
		ANT0	ANT1	Total	
11b	CH1	15.91	14.96	N/A	30
	CH6	15.45	15.48	N/A	30
	CH11	15.64	15.83	N/A	30
11g	CH1	14.87	14.27	N/A	30
	CH6	14.45	14.56	N/A	30
	CH11	14.75	15.04	N/A	30
11n HT20	CH1	10.75	11.17	13.98	30
	CH6	10.13	11.76	14.03	30
	CH11	10.64	12.26	14.54	30
11n HT40	CH3	10.51	11.14	13.85	30
	CH6	10.02	11.42	13.79	30
	CH9	10.26	11.73	14.07	30

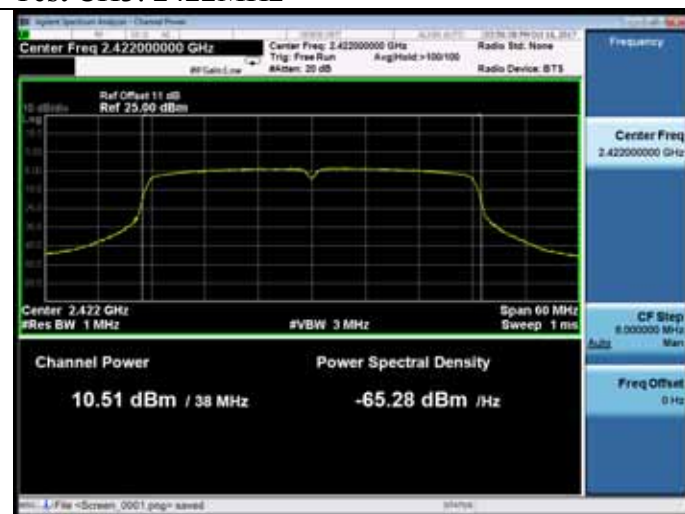
Conclusion: PASS

Note: For 11n mode, the direction gain less than 6dBi.

ANT0:

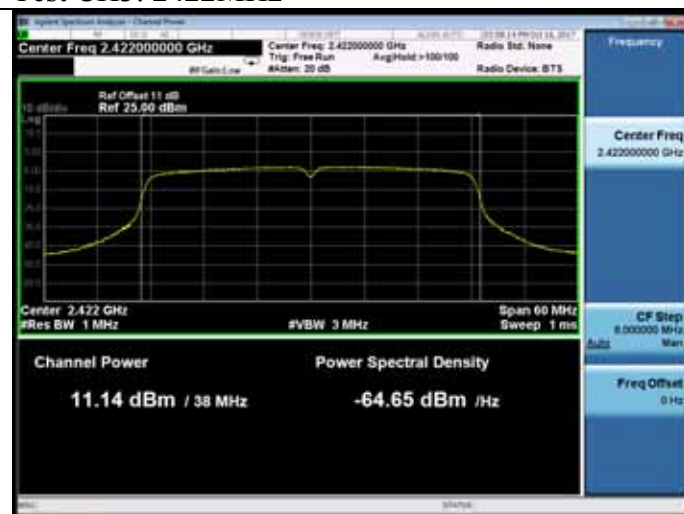
Test Mode: IEEE 802.11n HT40

Test CH3: 2422MHz

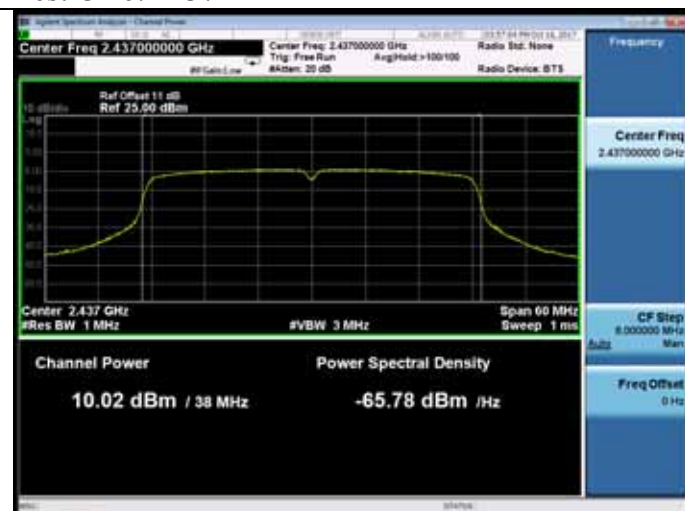
**ANT1:**

Test Mode: IEEE 802.11n HT40

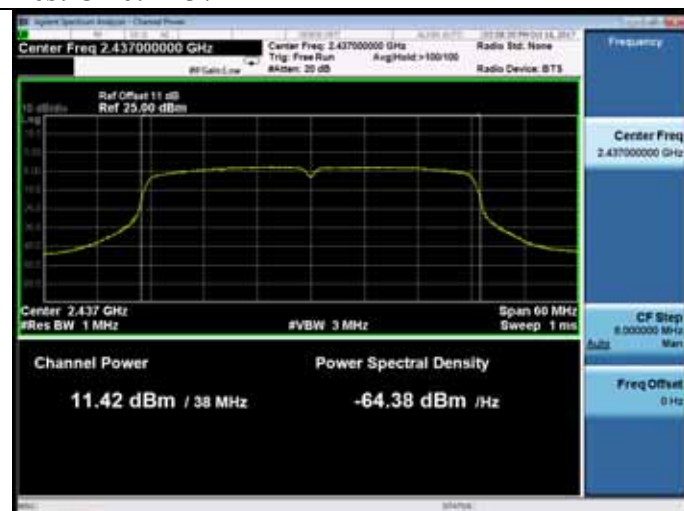
Test CH3: 2422MHz



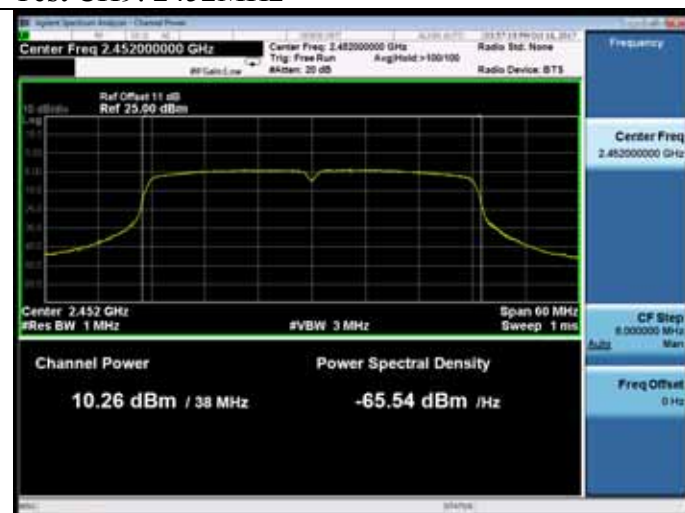
Test CH6: 2437MHz



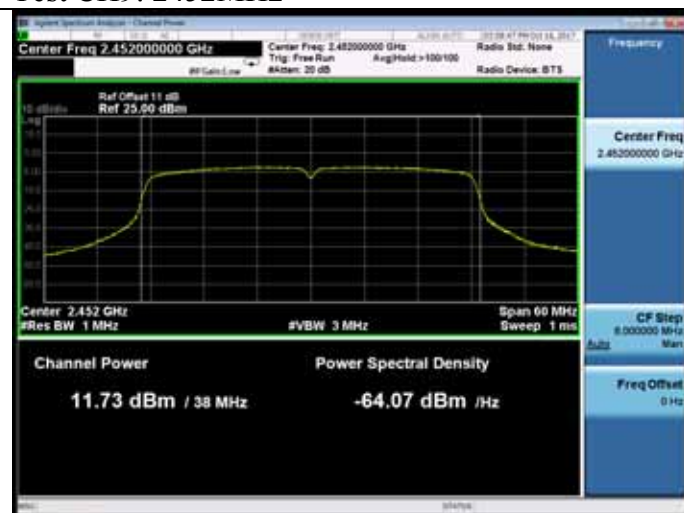
Test CH6: 2437MHz



Test CH9: 2452MHz



Test CH9: 2452MHz



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10.EQUIVALENT Isotropic Radiated Power Test

10.1.Limit

Limit
36dBm / (4W) (e.i.r.p)

These limits shall apply for any combination of power level and intended antenna assembly.

10.2.Test Method

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator ,set the Spectrum Analyzer as below:

Span: Zero

RBW:100KHz

VBW:100KHz

Read out the duty cycle(X) of the transmitter and record as X

- (2)For IEEE 802.11b/g IEEE 802.11n HT20 mode connected the antenna port to the Power Meter via a 20dB Attenuator, read out average output power of the transmitter.
- (3)For IEEE 802.11n HT40 mode, because the signal's EBW is about 40MHz and above 20MHz bandwidth of power sensor. So the channel power measure function of spectrum Analyzer was used to measure out average output power of transmitter.
- (4)Calculated e.i.r.p according to the formula: Read + Cable loss + Atten loss + Antenna Gain + $10\log(1/x)$
- (5)Repeated test at the lowest, the middle, and the highest frequency of the stated frequency range.

10.3.Test Results

Test Mode	CH	Max Out power (dBm)			Antenna Gain (dBi)		10log(1/X)	Max Out power EIRP (dBm)			Limit (dBm)
		Ant0	Ant1	Total	Ant0	Ant1		Ant0	Ant1	Total	
11b	CH1	15.91	14.96	N/A	1.89	3.08	0	17.80	18.04	N/A	36
	CH6	15.45	15.48	N/A				17.34	18.56	N/A	36
	CH11	15.64	15.83	N/A				17.53	18.91	N/A	36
11g	CH1	14.87	14.27	N/A			0	16.76	17.35	N/A	36
	CH6	14.45	14.56	N/A				16.34	17.64	N/A	36
	CH11	14.75	15.04	N/A				16.64	18.12	N/A	36
11n HT20	CH1	10.75	11.17	13.98			0	12.64	14.25	16.53	36
	CH6	10.13	11.76	14.03				12.02	14.84	16.67	36
	CH11	10.64	12.26	14.54				12.53	15.34	17.17	36
11n HT40	CH3	10.51	11.14	13.85			0	12.40	14.22	16.42	36
	CH6	10.02	11.42	13.79				11.91	14.5	16.41	36
	CH9	10.26	11.73	14.07				12.15	14.81	16.69	36
Conclusion: PASS											

11. POWER SPECTRAL DENSITY TEST

11.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

11.2. Test Procedure

1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
2. Set span to 1.5 times the DTS Bandwidth.
3. Set the RBW=3KHz, VBW=10KHz.
4. Detector=peak, Sweep time=Auto, Trace mode=max Hold
5. All the trace to fully stabilize.
6. Use the peak marker function to determine the maximum amplitude level with in the RBW.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude

11.3.Test Results

EUT: Notebook PC		
M/N: RA09-0239		
Test date: 2017-09-06	Pressure: 102.8±1.0 kpa	Humidity: 51.7±3.0%
Tested by: Kebo	Test site: RF site	Temperature:22.5±0.6 °C

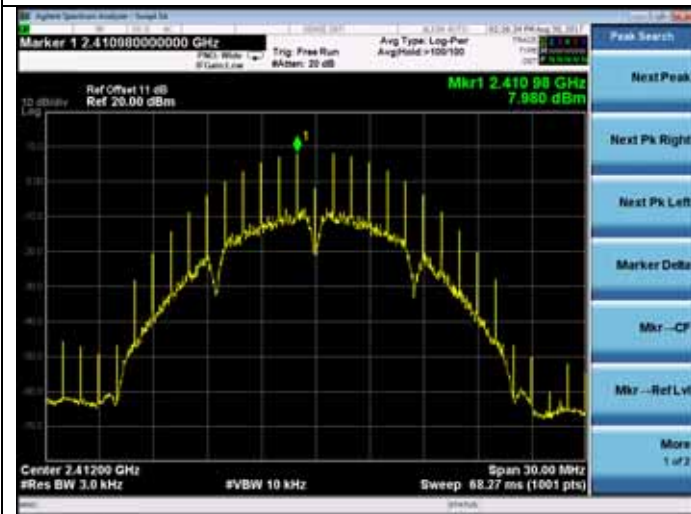
Test Mode	CH	Power Density (dBm/3KHz)			Limit (dBm/3KHz)
		ANT0	ANT1	Total	
11b	CH1	7.980	7.059	N/A	8
	CH6	7.509	7.557	N/A	8
	CH11	7.711	7.933	N/A	8
11g	CH1	-11.256	-11.520	N/A	8
	CH6	-11.336	-11.469	N/A	8
	CH11	-10.179	-10.603	N/A	8
11n HT20	CH1	-12.624	-14.499	-10.451	8
	CH6	-15.360	-13.582	-11.370	8
	CH11	-14.060	-13.418	-10.717	8
11n HT40	CH3	-16.456	-16.227	-13.330	8
	Ch6	-17.592	-16.015	-13.722	8
	CH9	-17.491	-15.797	-13.552	8

Conclusion: PASS

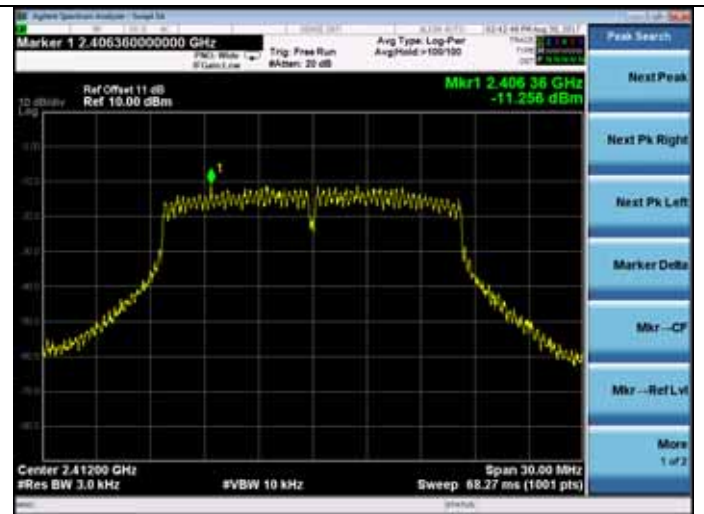
Note: For 11n mode, the direction gain less than 6dBi.

ANT0:

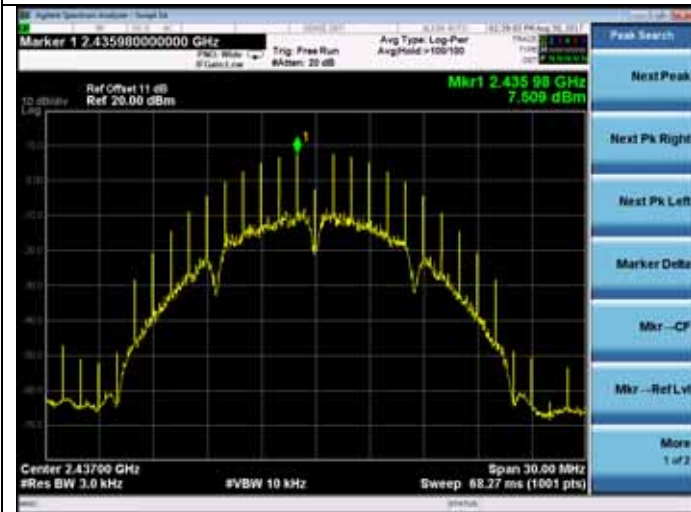
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



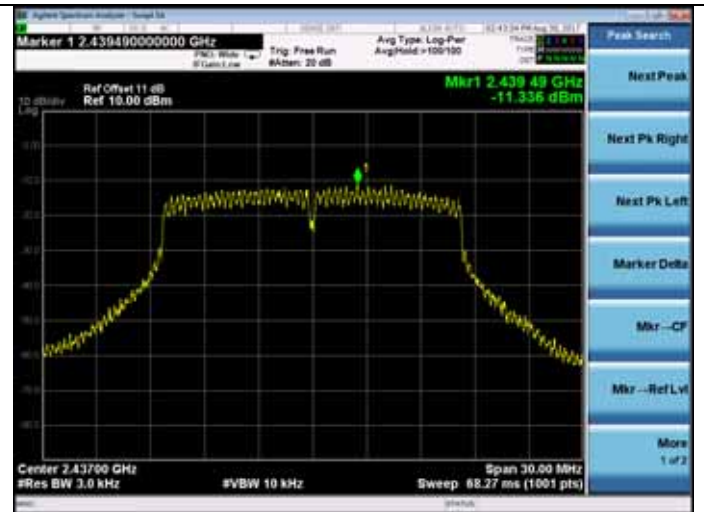
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



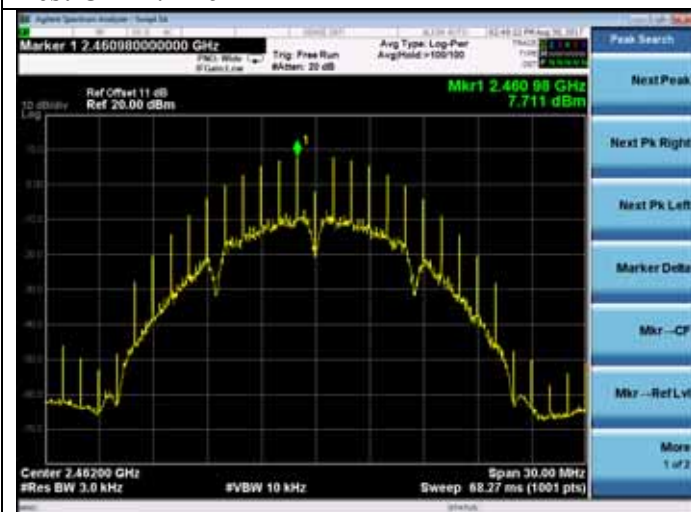
Test CH6: 2437MHz



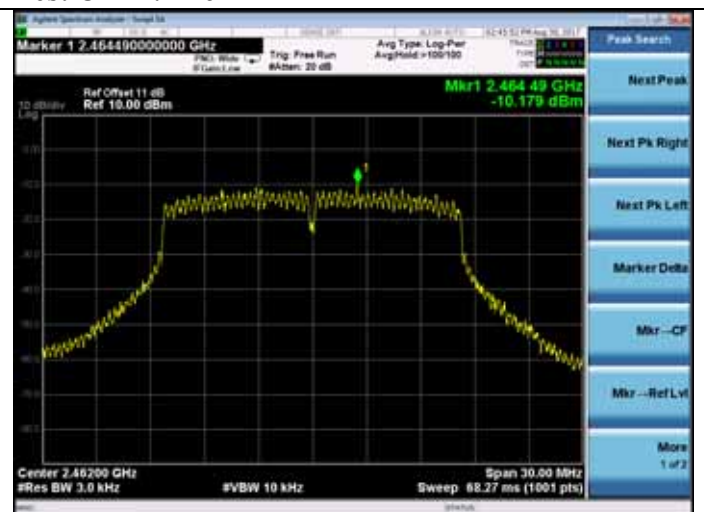
Test CH6: 2437MHz



Test CH11: 2462MHz



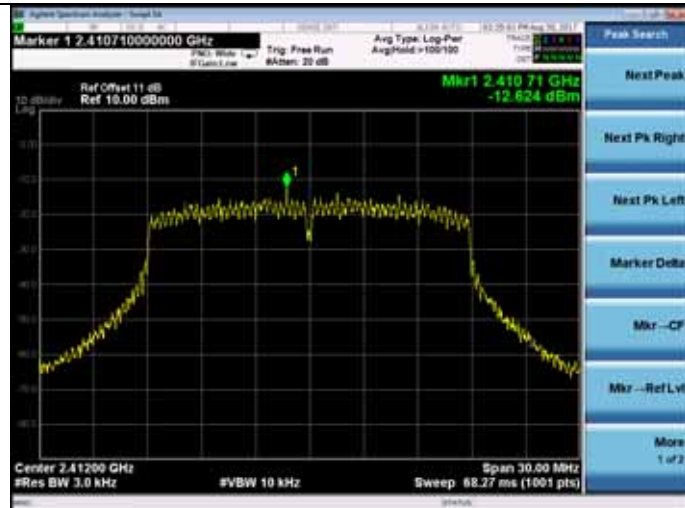
Test CH11: 2462MHz



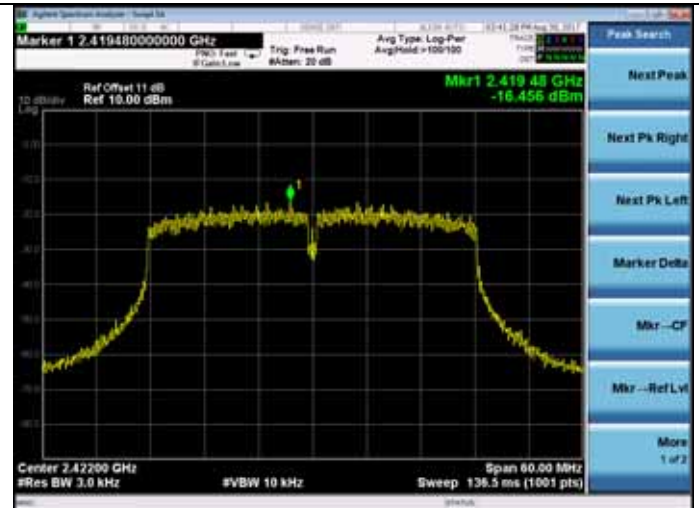
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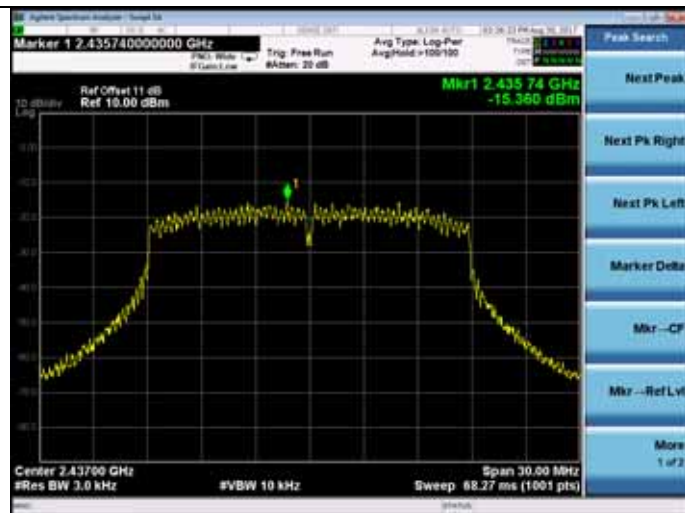
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



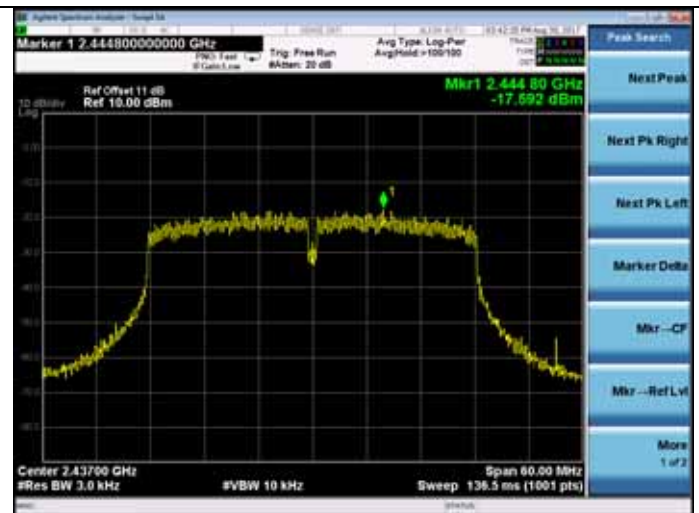
Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



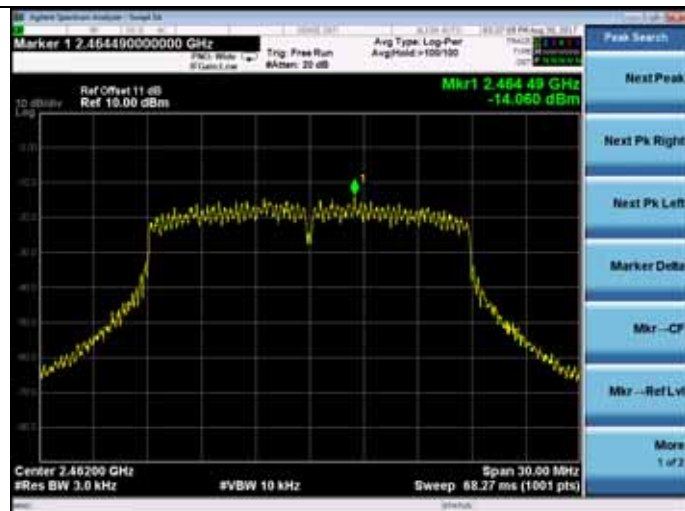
Test CH6: 2437MHz



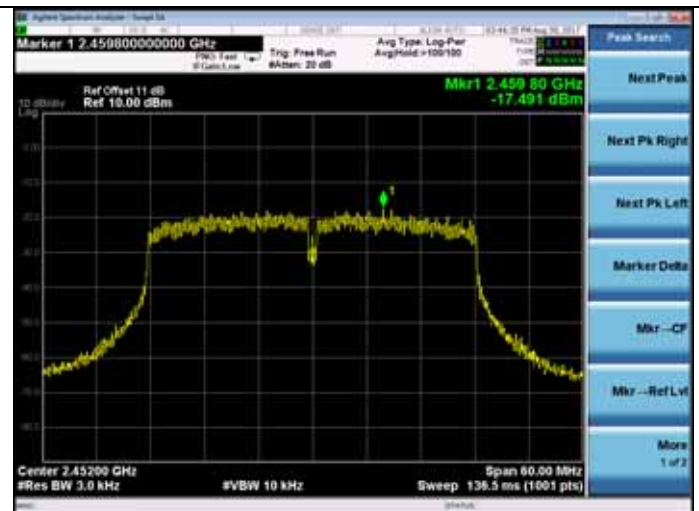
Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz

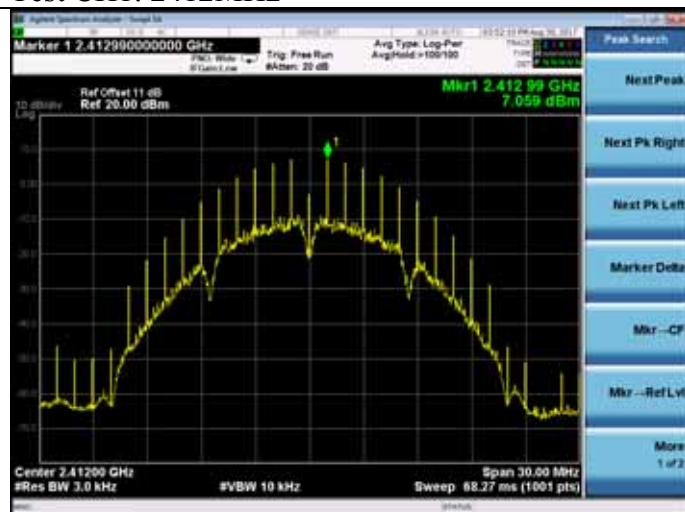


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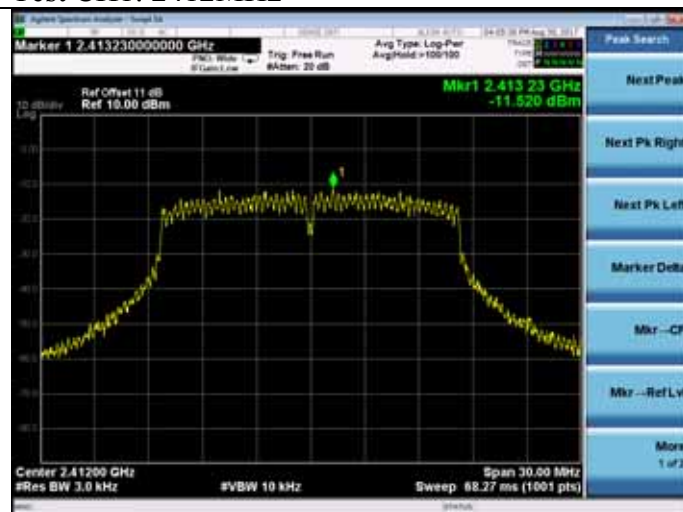
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ANT1:

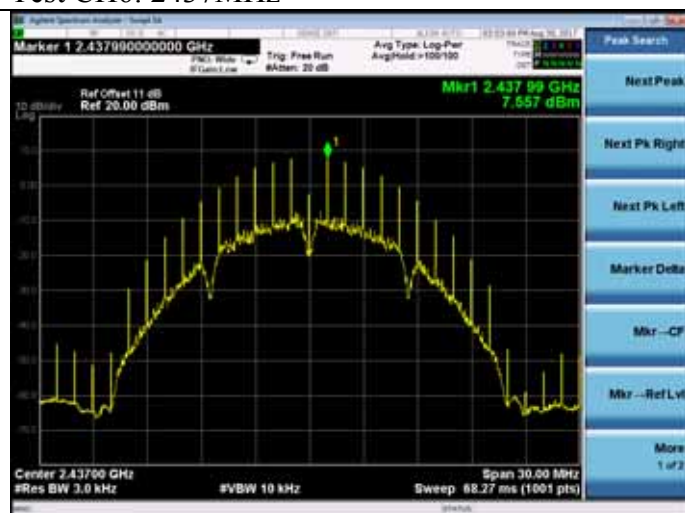
Test Mode: IEEE 802.11b
Test CH1: 2412MHz



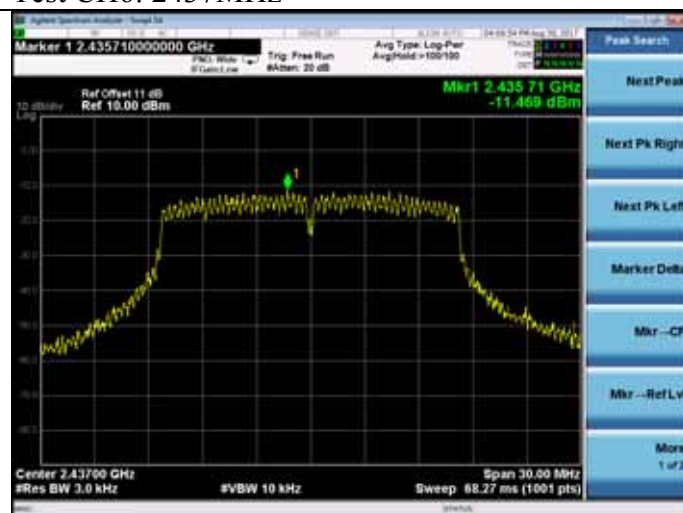
Test Mode: IEEE 802.11g
Test CH1: 2412MHz



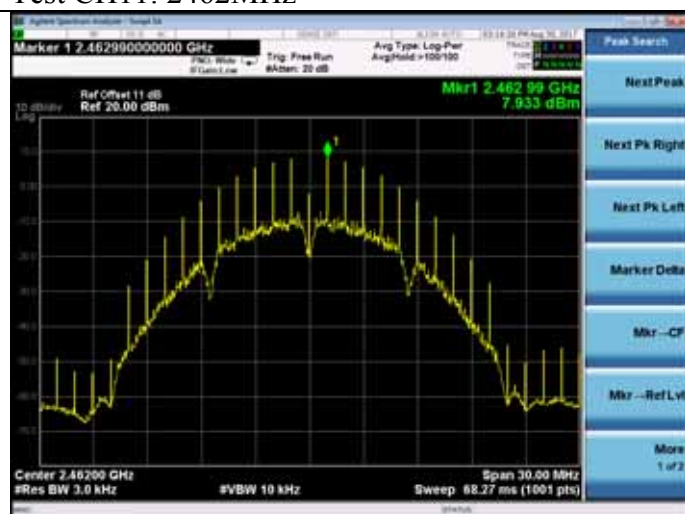
Test CH6: 2437MHz



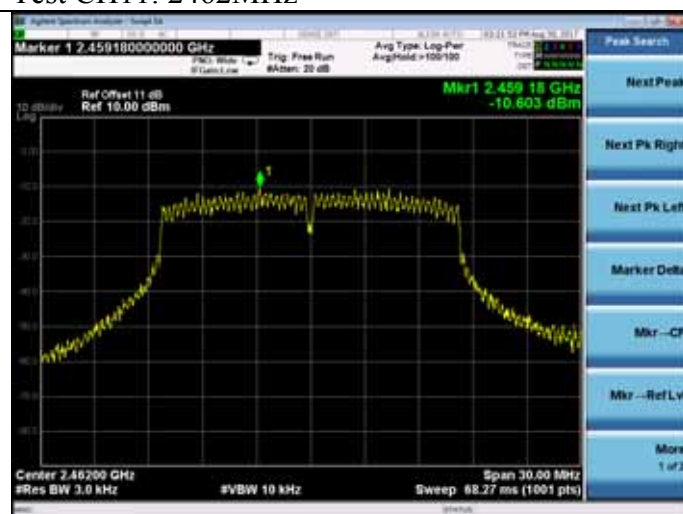
Test CH6: 2437MHz



Test CH11: 2462MHz



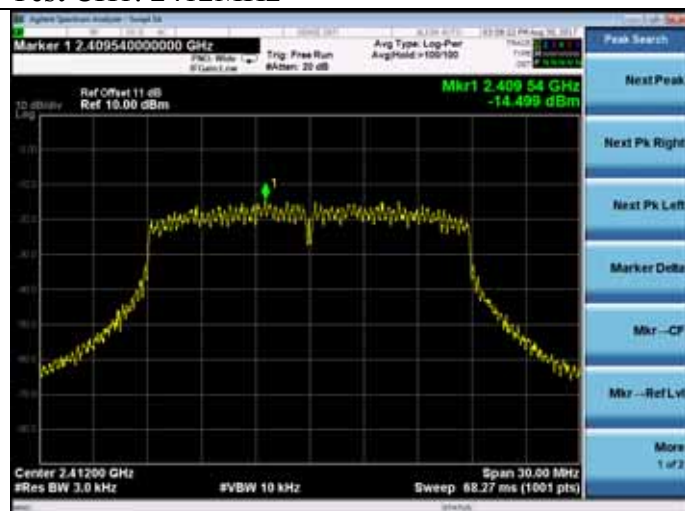
Test CH11: 2462MHz



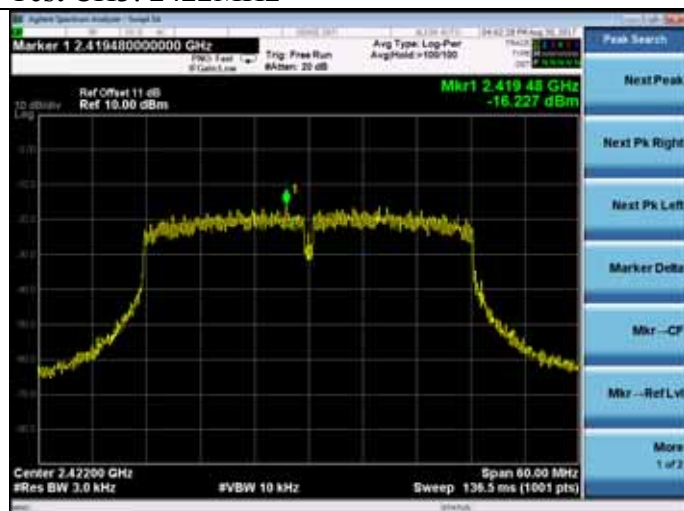
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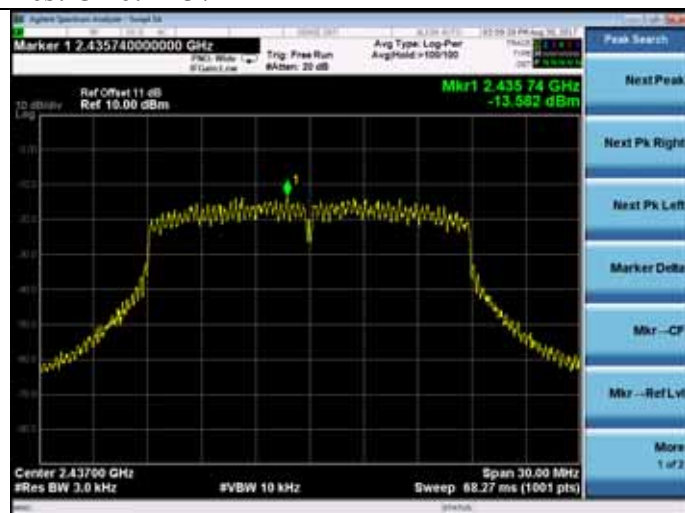
Test Mode: IEEE 802.11n HT20
Test CH1: 2412MHz



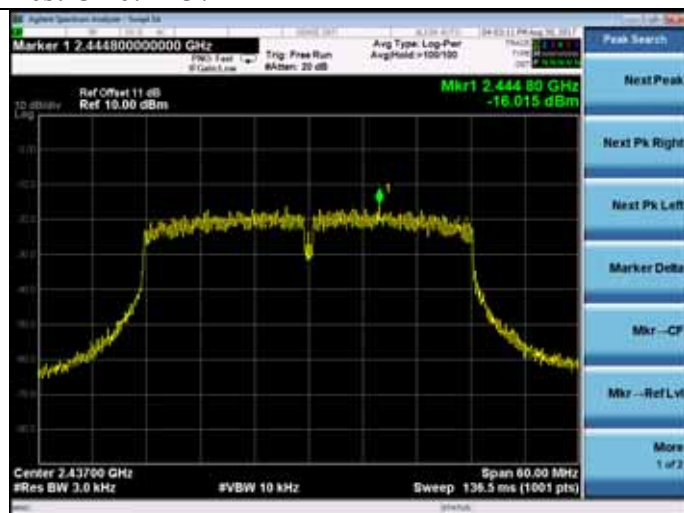
Test Mode: IEEE 802.11n HT40
Test CH3: 2422MHz



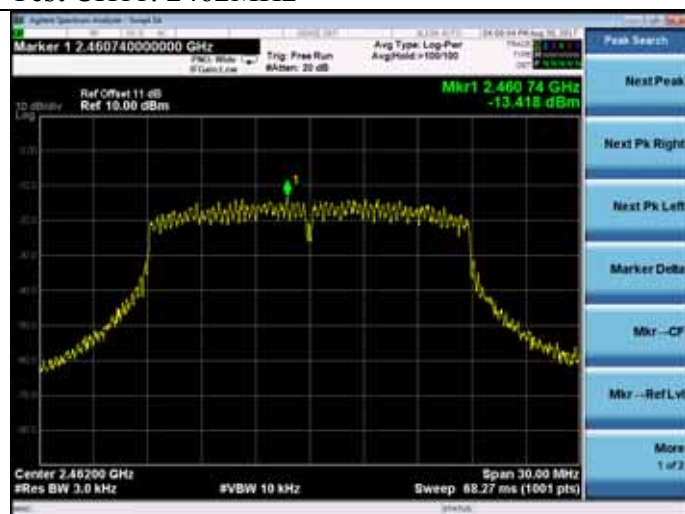
Test CH6: 2437MHz



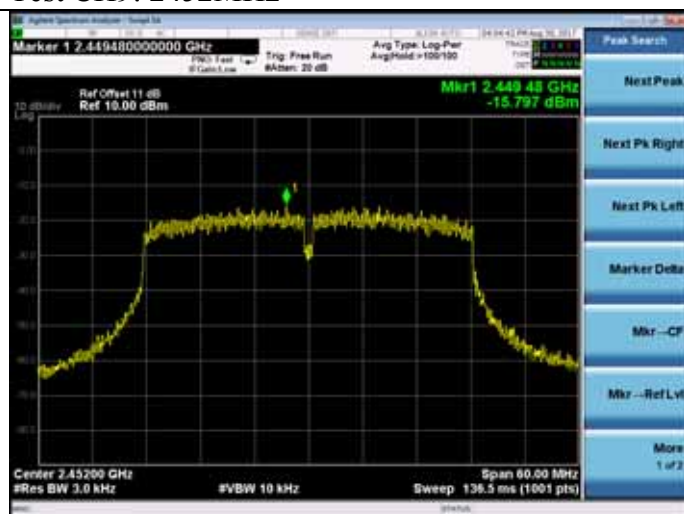
Test CH6: 2437MHz



Test CH11: 2462MHz



Test CH9: 2452MHz



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12. ANTENNA REQUIREMENT

12.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2. Antenna Connected Construction

The antennas used for this product are PIFA antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 3.08dBi.

13.DEVIATION TO TEST SPECIFICATIONS

[NONE]