FCC TEST REPORT

for

SHUOYING INDUSTRIAL (SHENZHEN) CO., LTD.

MID

Model Number: U0102;U0103

Prepared for : SHUOYING INDUSTRIAL(SHENZHEN) CO., LTD.
Address : No.1 Shuoying Road,Hebei Industry Area, Dalang,Longhua Town, Baoan, Shenzhen, China

Prepared By : Keyway Testing Technology Co., Ltd.
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Report Number : 11KWE12244F
Date of Test : Jan. 3~Jan. 8, 2012
Date of Report : Jan. 9, 2012

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Keyway Testing Technology Co., Ltd.

Applicant: Address:	SHUOYING INDUSTRIAL(SHENZHEN)CO., LTD. No.1 Shuoying Road, Hebei Industry Area, Dalang, Longhua Town, Baoan, Shenzhen, China		
Manufacturer: Address:	SHUOYING INDUSTRIAL(SHENZHEN)CO., LTD. No.1 Shuoying Road, Hebei Industry Area, Dalang, Longhua Town, Baoan, Shenzhen, China		
E.U.T:	MID		
Model Number:	U0102;U0103		
Trade Name:	------	**Operating Frequency:**	2412MHz-----2462MHz
Date of Receipt:	Jan. 3, 2012	**Date of Test:**	Jan. 3~Jan. 8, 2012
Test Specification:	FCC Part 15 Subpart C: Oct. 2009 ANSI C63.4:2009		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied. **Issue Date: Jan. 10, 2012**		

Tested by:	Reviewed by:	Approved by:
Andy Gao/ Engineer	Jade Yang / Supervisor	Chris Du / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under tested

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Details please refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	:	MID
Model No.	:	U0102;U0103
Operation frequency	:	IEEE 802.11b/g ,802.11n HT20:2412MHz---2462MHz IEEE802.11n HT40:2422MHz-----2452MHz
Channel Number	:	IEEE 802.11b/g, 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Transfer rate	:	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 150Mbps
Modulation Technology	:	DSSS for IEEE 802.11b and OFDM for IEEE 802.11g OFDM for IEEE802.11n
Antenna gain	:	1.2dBi (maximum)
Max Output Power	:	11.72dBm
System Input Voltage	:	DC 9V from adapter input AC 120V/60Hz

1.3. Different Between Model Numbers

***Note**: The product are different for the model number;logo and color.*

1.4. Independent Operation Modes

The tested modes are:

1.4.1. IEEE 802.11b/g ; 802.11n HT20:2412MHz---2462MHz

1.4.2. IEEE802.11n HT40:2422MHz-----2452MHz

Note: We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	20Mbps

1.5. Test environment

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar

2. TEST SITES

2.1. Test Facilities

Lab Qualifications : 944 Shielded Room built by ETS-Lindgren, USA
Date of completion: March 28, 2011

966 Chamber built by ETS-Lindgren, USA
Date of completion: March 28, 2011

Certificated by TUV Rheinland, Germany.
Registration No.: UA 50207153
Date of registration: July 13, 2011

Certificated by UL, USA
Registration No.: 100567-237
Date of registration: September 1, 2011

Certificated by Intertek
Registration No.: 2011-RTL-L1-31
Date of registration: October 11, 2011

Certificated by FCC, USA
Registration No.: 795647
Date of registration: November 7, 2011

Certificated by Industry Canada
Registration No.: 9868A
Date of registration: December 8, 2011

Name of Firm : Keyway Testing Technology Co., Ltd.

Site Location : Baishun Industrial Zone, Zhangmutou Town,
Dongguan, Guangdong, China

2.2. List of Test and Measurement Instruments

2.2.1. For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	Jul. 7,11	Jul. 7,12
Artificial Mains Network	Rohde&Schwarz	ENV216	101315	Jul. 7,11	Jul. 7,12
Artificial Mains Network (AUX)	Rohde&Schwarz	ENV216	101314	Jul. 7,11	Jul. 7,12
RF Cable	FUJIKURA	3D-2W	944 Cable	Jul. 7,11	Jul. 7,12

2.2.2. For radiated emission test (30MHz-1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	R&S	ESCI	101156	Jul. 7,11	Jul. 7,12
Bilog Antenna	ETS·LINDGREEN	3142D	135452	Jun. 28,11	Jun. 28,12
Spectrum Analyzer	Agilent	E4411B	MY4511304	Jul. 11,11	Jul. 11,12
3m Semi-anechoic Chamber	ETS·LINDGREEN	966	KW01	Aug.28,11	Aug.28,12
Signal Amplifier	SONOMA	310	187016	Jul. 7,11	Jul. 7,12
RF Cable	IMRO	IMRO-400	966 Cable 1#	Jul. 7,11	Jul. 7,12
MULTI-DEVICE Controller	ETS·LINDGREEN	2090	126913	N/A	N/A

2.2.3. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	8593E	3911A04271	Jul. 7,11	Jul. 7,12
Horn Antenna	DAZE	ZN30701	11003	Jul. 7,11	Jul. 7,12
Signal Amplifier	DAZE	ZN3380C	11001	Jul. 7,11	Jul. 7,12
RF Cable	DRAKA	IMRO-400	966Cable 2#	Jul. 7,11	Jul. 7,12

2.2.4. For 6dB bandwidth and Band edge compliance test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	8593E	3911A04271	Jul. 7,11	Jul. 7,12

2.2.5. For Output power test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	Agilent	E4416A	MY45100258	Jul. 7,11	Jul. 7,12
Power Sensor	Agilent	E9327A	MY44420369	Jul. 7,11	Jul. 7,12

2.2.6. For Power spectral density test

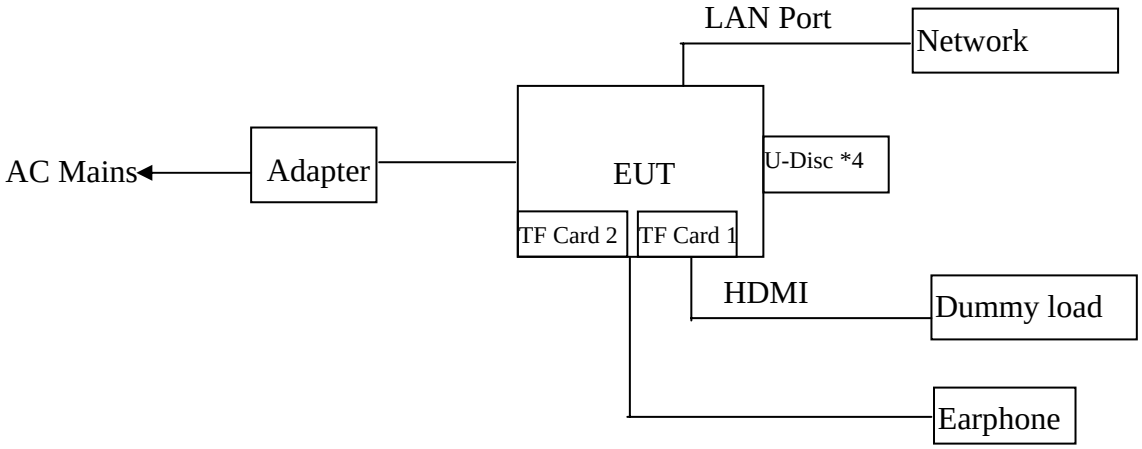
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Agilent	8593E	3911A04271	Jul. 7,11	Jul. 7,12

3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its highest possible radiated level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up



3.3. Special Accessories and Auxiliary Equipment

3.3.1. Adapter

Manufacturer	:	JU JIA DA
Model Number	:	JD-09020
Input	:	AC 100-240V 50-60Hz max 0.7A
Output	:	DC 9V 2A
DC Line	:	Unshielded, Undetachable, 1.6m

3.3.2. U-Disc

Manufacturer : SONY

3.3.3. TF Card

Manufacturer : SONY

3.4. Countermeasures to Achieve EMC Compliance

None.

4. TEST SUMMARY

Test items and result lists

EMISSION		
Description of Test Item	**Standard**	**Results**
Conducted Spurious Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2009 KDB558074	PASS
Radiated Spurious Emission Test	FCC Part 15: 15.209 ANSI C63.4: 2009 KDB558074	PASS
6dB Bandwidth Test	FCC Part 15: 15.247 KDB558074	PASS
Output Power Test	FCC Part 15: 15.247 KDB558074	PASS
Band Edge Compliance Test	FCC Part 15: 15.247 KDB558074	PASS
Power Spectral Density Test	FCC Part 15: 15.247 KDB558074	PASS
MPE ESTIMATION	FCC Part 2: 2.1093	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

Note: N/A is an abbreviation for Not Applicable.

4.1. Conducted Emission

4.1.1. 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.

4.1.2. Test procedure

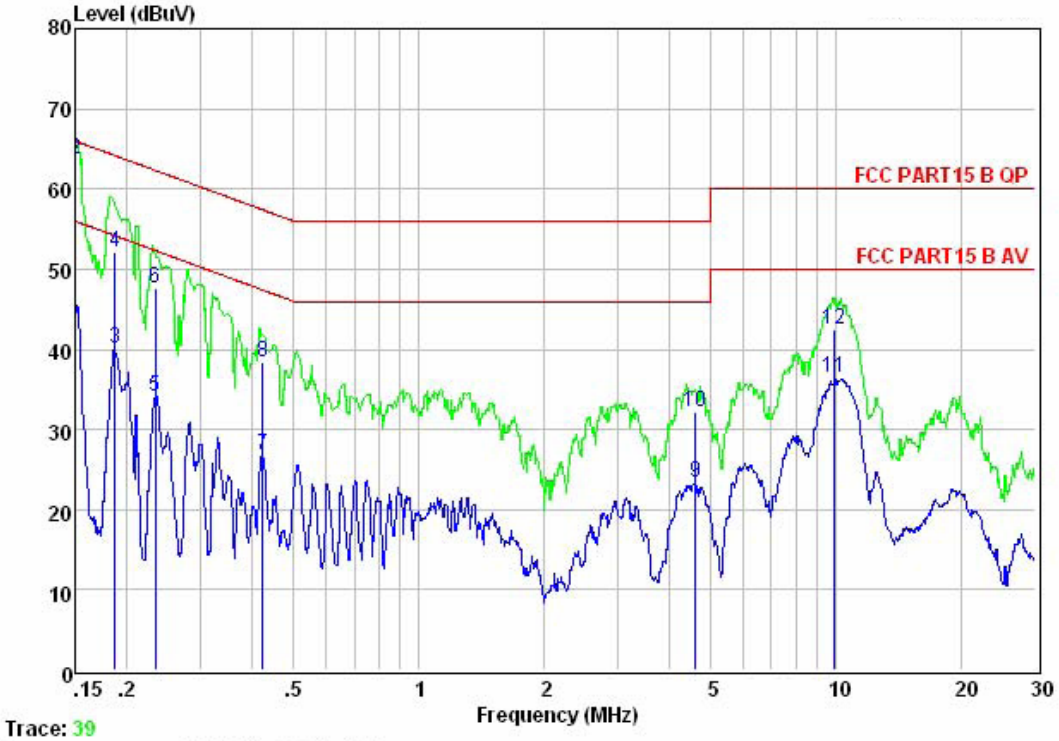
The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of 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 C63.4: 2009 on Conducted Emission Test.

4.1.3. Test result

PASS.

The test plots as following:

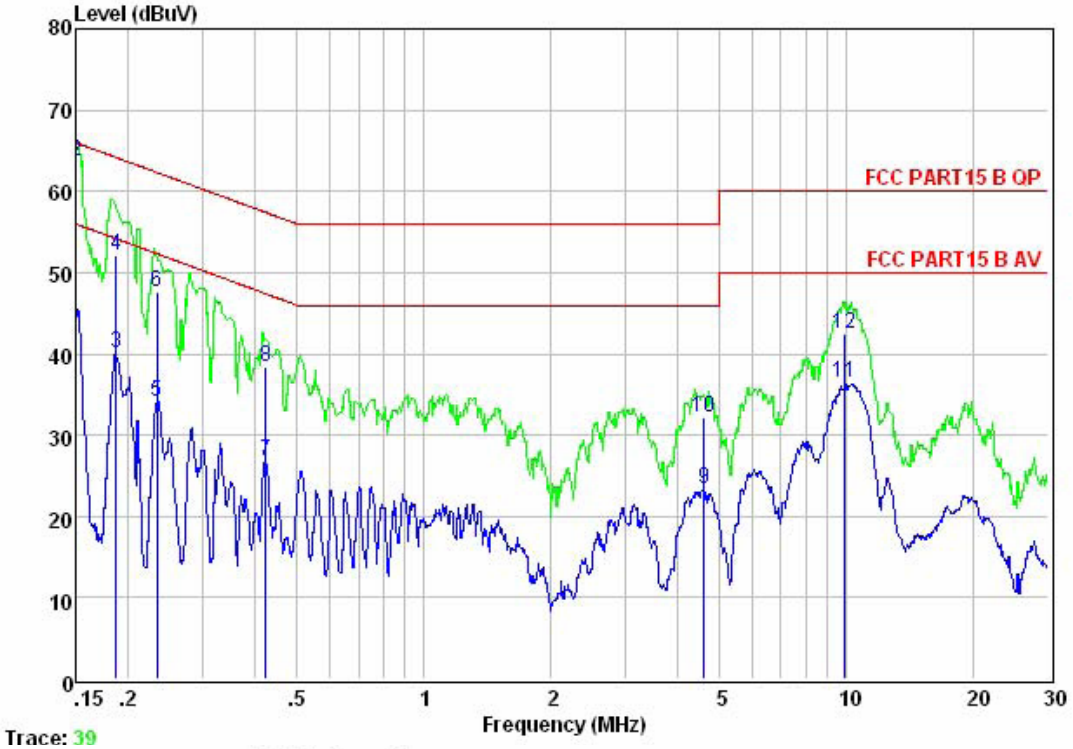
Model:U0102	**Test Mode:** TX Mode
LISN Ports: Line	



Trace: 39

	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.15	43.80	56.00	-12.20	Average
2	0.15	63.60	66.00	-2.40	QP
3	0.19	40.01	54.15	-14.14	Average
4	0.19	52.10	64.15	-12.05	QP
5	0.23	34.18	52.30	-18.12	Average
6	0.23	47.60	62.30	-14.70	QP
7	0.42	26.81	47.42	-20.61	Average
8	0.42	38.40	57.42	-19.02	QP
9	4.60	23.37	46.00	-22.63	Average
10	4.60	32.10	56.00	-23.90	QP
11	9.91	36.50	50.00	-13.50	Average
12	9.91	42.50	60.00	-17.50	QP

Model:U0102	**Test Mode:** TX Mode
LISN Ports: Neutral	



Trace: 39

	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.15	43.80	56.00	-12.20	Average
2	0.15	63.60	66.00	-2.40	QP
3	0.19	40.01	54.15	-14.14	Average
4	0.19	52.10	64.15	-12.05	QP
5	0.23	34.18	52.30	-18.12	Average
6	0.23	47.60	62.30	-14.70	QP
7	0.42	26.81	47.42	-20.61	Average
8	0.42	38.40	57.42	-19.02	QP
9	4.60	23.37	46.00	-22.63	Average
10	4.60	32.10	46.00	-13.90	Average
11	9.91	36.50	50.00	-13.50	Average
12	9.91	42.50	60.00	-17.50	QP

4.2. 6dB Bandwidth Test

4.2.1. Test procedure

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

4.2.2. Test result

Pass

Test Mode: 802.11b TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	12.53	>500	PASS
6	12.27	>500	PASS
11	12.00	>500	PASS

Test Mode: 802.11g TX

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	16.53	>500	PASS
6	16.53	>500	PASS
11	16.53	>500	PASS

Test Mode: 802.11n TX (HT20)

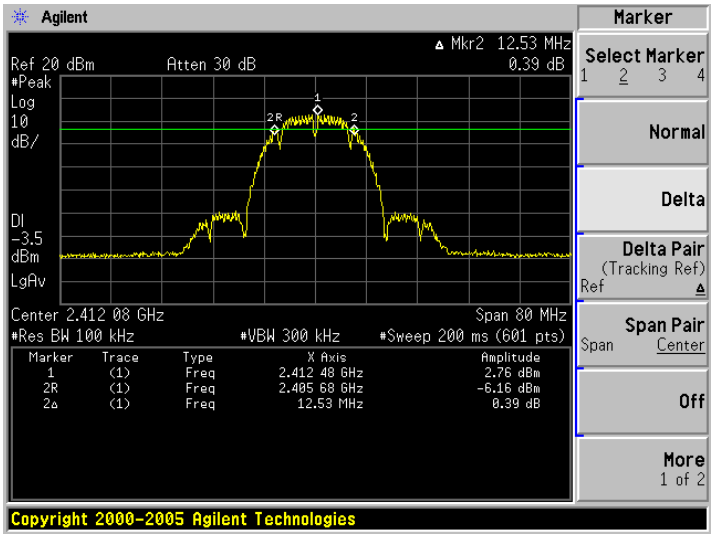
CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	17.87	>500	PASS
6	18.00	>500	PASS
11	17.87	>500	PASS

Test Mode: 802.11n TX (HT40)

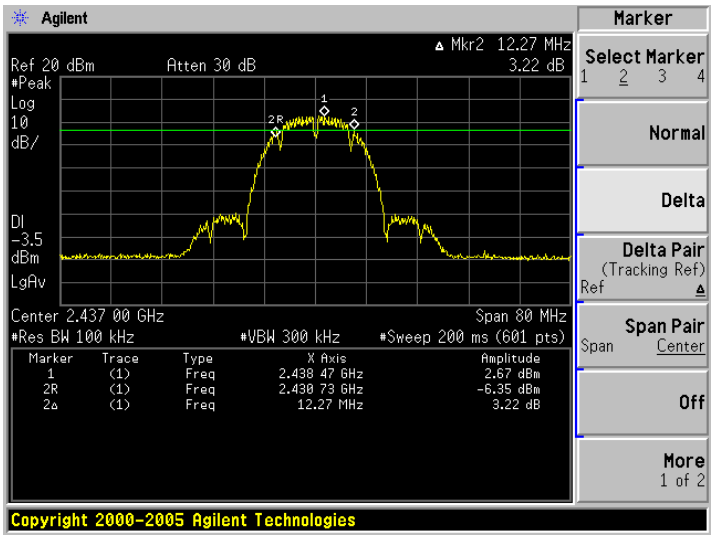
CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	36.53	>500	PASS
4	36.53	>500	PASS
7	36.53	>500	PASS

Test Mode: 802.11b TX

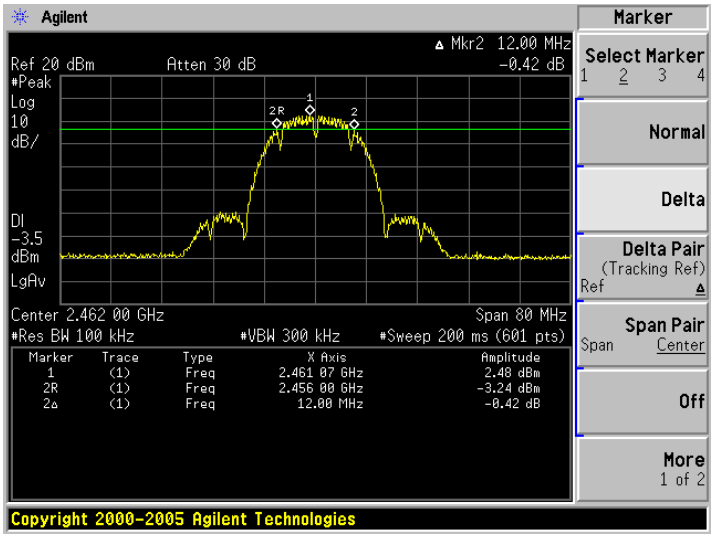
Test CH1: 2412MHz



Test CH6: 2437MHz

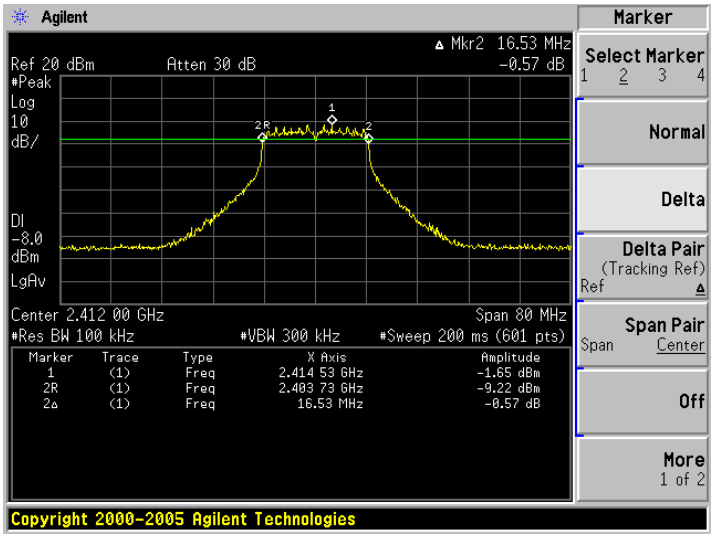


Test CH11: 2462MHz

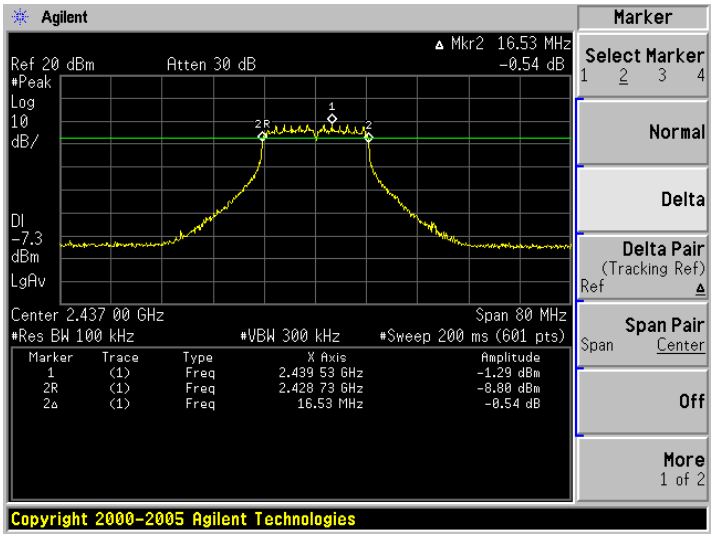


Test Mode: 802.11g TX

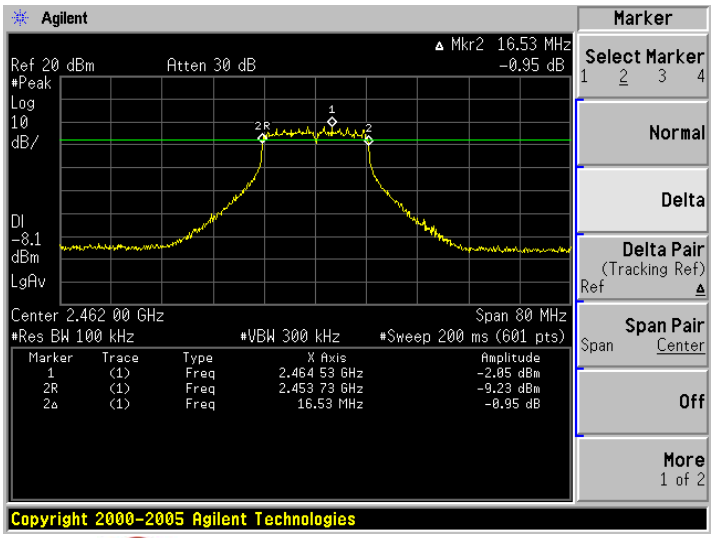
Test CH1: 2412MHz



Test CH6: 2437MHz

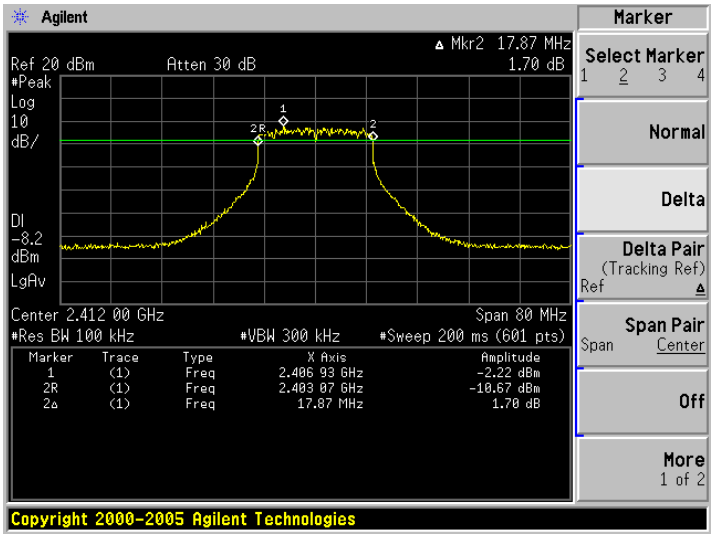


Test CH11: 2462MHz

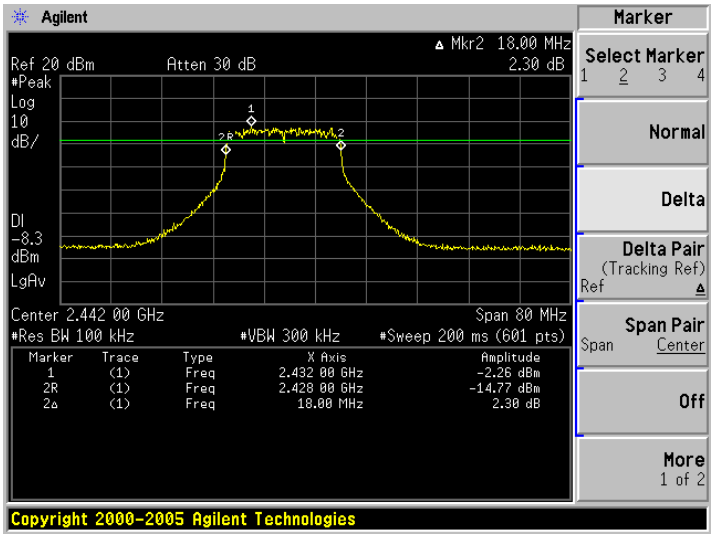


Test Mode: 802.11n TX (HT20)

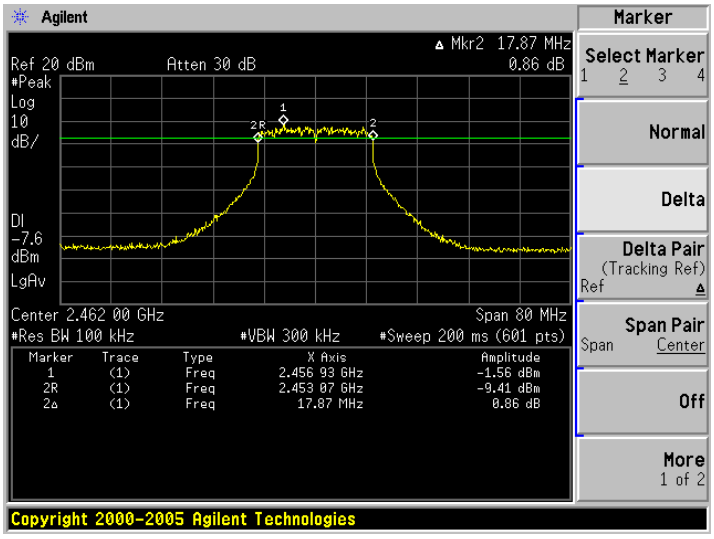
Test CH1: 2412MHz



Test CH6: 2437MHz

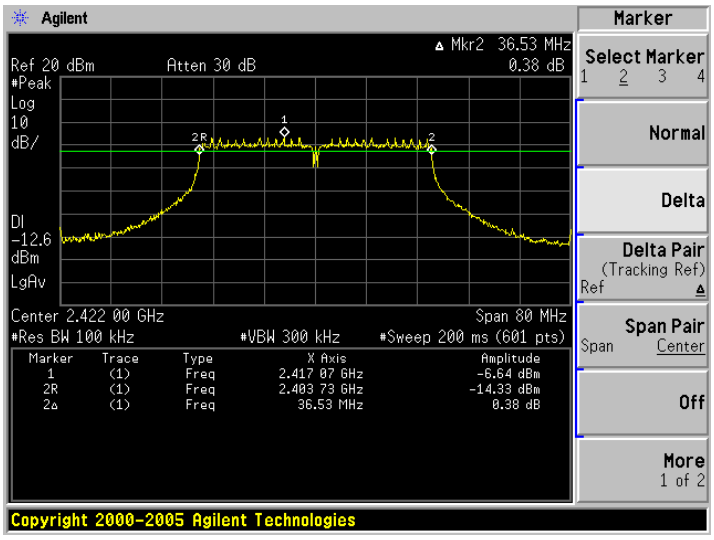


Test CH11: 2462MHz

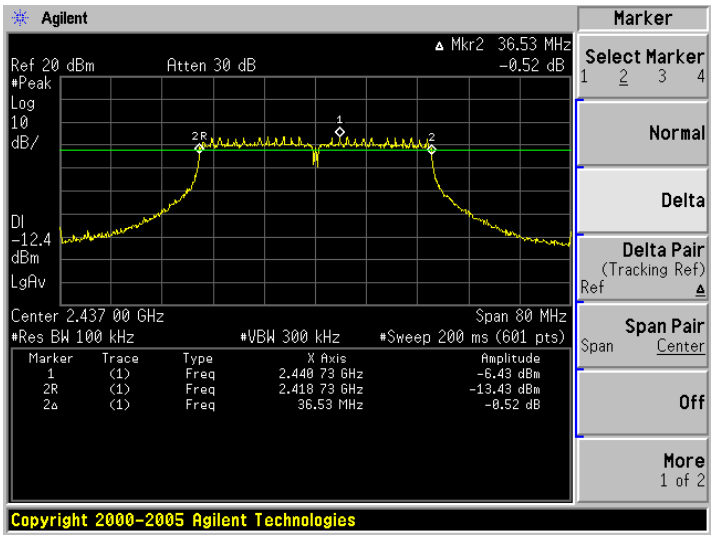


Test Mode: 802.11n TX (HT40)

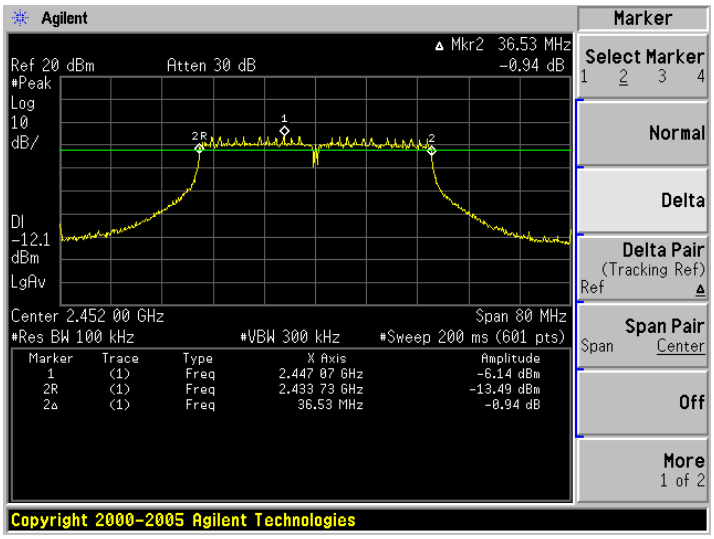
Test CH1: 2422MHz



Test CH4: 2437MHz



Test CH7: 2452MHz



4.3. OUTPUT POWER TEST

4.3.1. Test procedure

1, For IEEE 802.11b/g and IEEE802.11n HT20/40 mode, the transmitter output was connected to a power meter, use the power meter to read out the peak out put power.

2, For IEEE802.11n HT40 mode the transmitter output was connected to a Power Meter through a 20dB Attenuator, and use the channel power measure function of Power Meter to read out the peak output power.

4.3.2. Test result

Pass

Test CH	11b,11g,11n HT20		CH1:2412MHz CH6:2437MHz CH11:2462MHz			
Test CH	11n HT40		CH1:2422MHz CH4:2437MHz CH7:2452MHz			
Mode	CH	Read Level (dBm)	Factor dB	Result Level (dBm)	Limit (dBm)	Result
11b	CH1	10.92	0.8	11.72	30.00	Pass
	CH6	10.65	0.8	11.35	30.00	Pass
	CH11	10.72	0.8	11.52	30.00	Pass
11g	CH1	10.56	0.8	11.36	30.00	Pass
	CH6	10.45	0.8	11.25	30.00	Pass
	CH11	10.72	0.8	11.52	30.00	Pass
11n HT20	CH1	10.86	0.8	11.66	30.00	Pass
	CH6	10.02	0.8	10.82	30.00	Pass
	CH11	10.12	0.8	10.92	30.00	Pass
11n HT40	CH1	10.37	0.8	11.17	30.00	Pass
	CH4	10.21	0.8	11.01	30.00	Pass
	CH7	10.05	0.8	10.85	30.00	Pass
Note1:According Exploratory test, These data rate have the maximum output power						

4.4. BAND EDGE COMPLIANCE TEST

4.4.1. Test limits

According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in 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 §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

4.4.2. Test procedure

1. The EUT is placed on a turntable, which is 0.8m 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 upperband-edges of the emission:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

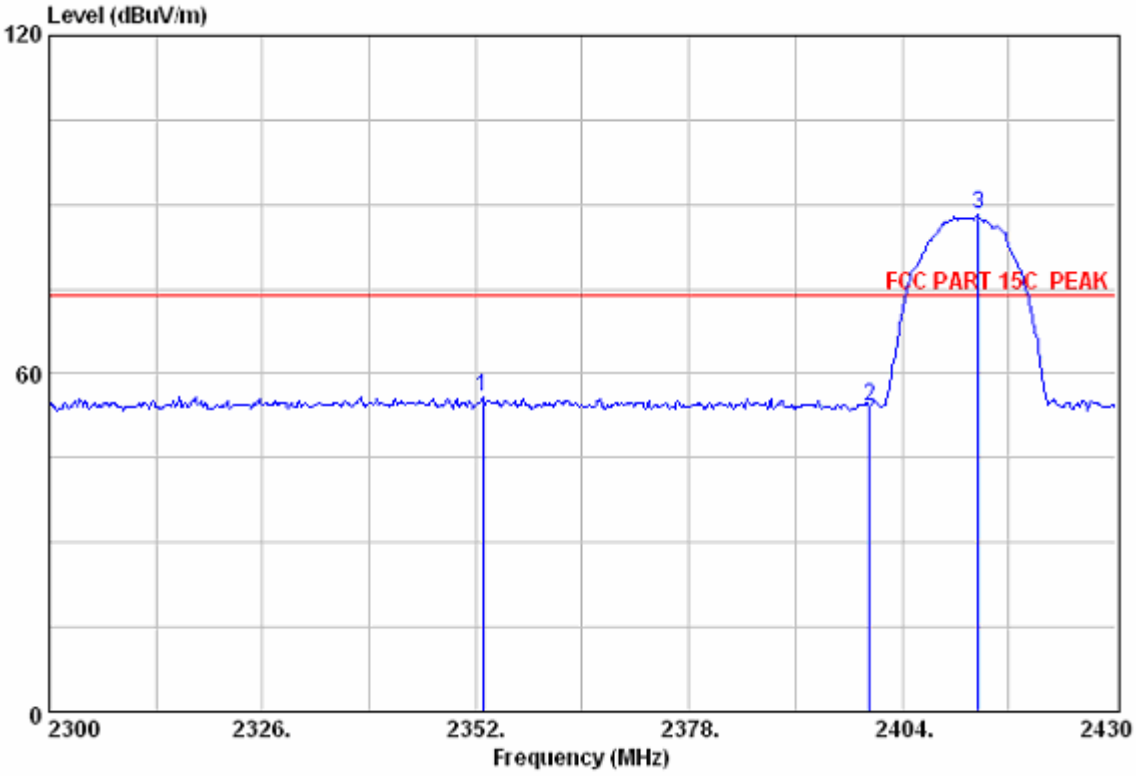
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

4.4.3. Test result

PASS.

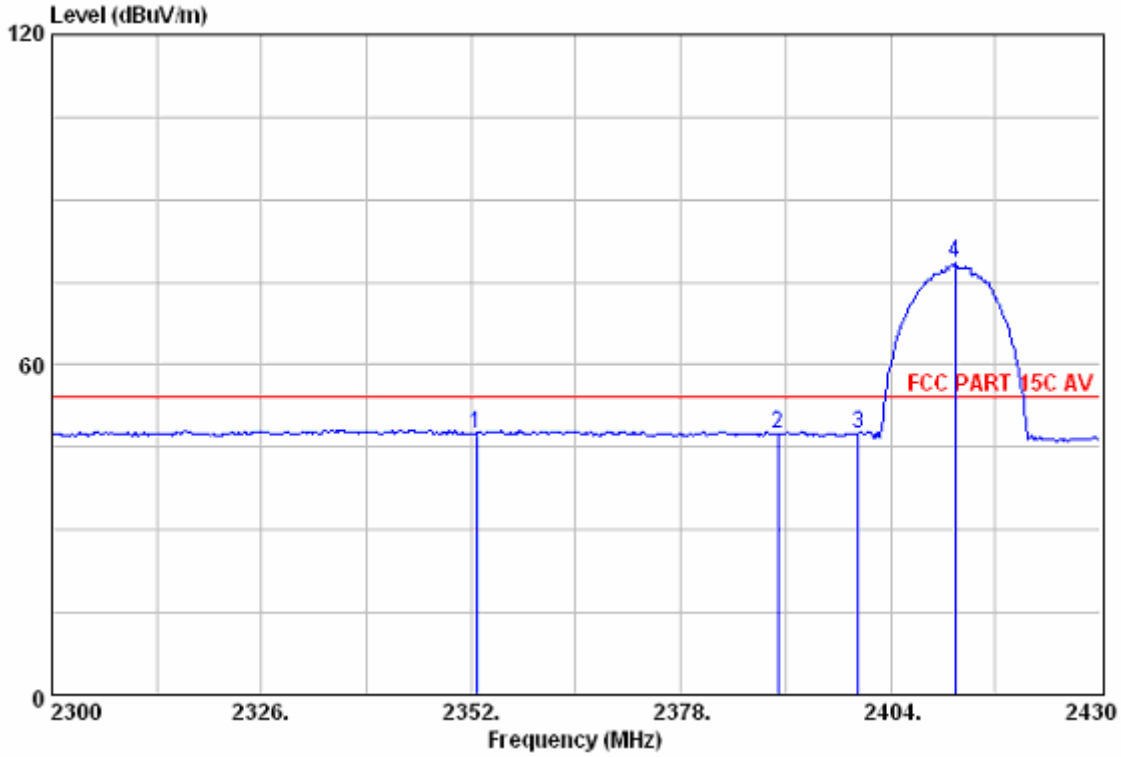
The test plots as following:

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :HORIZONTAL	



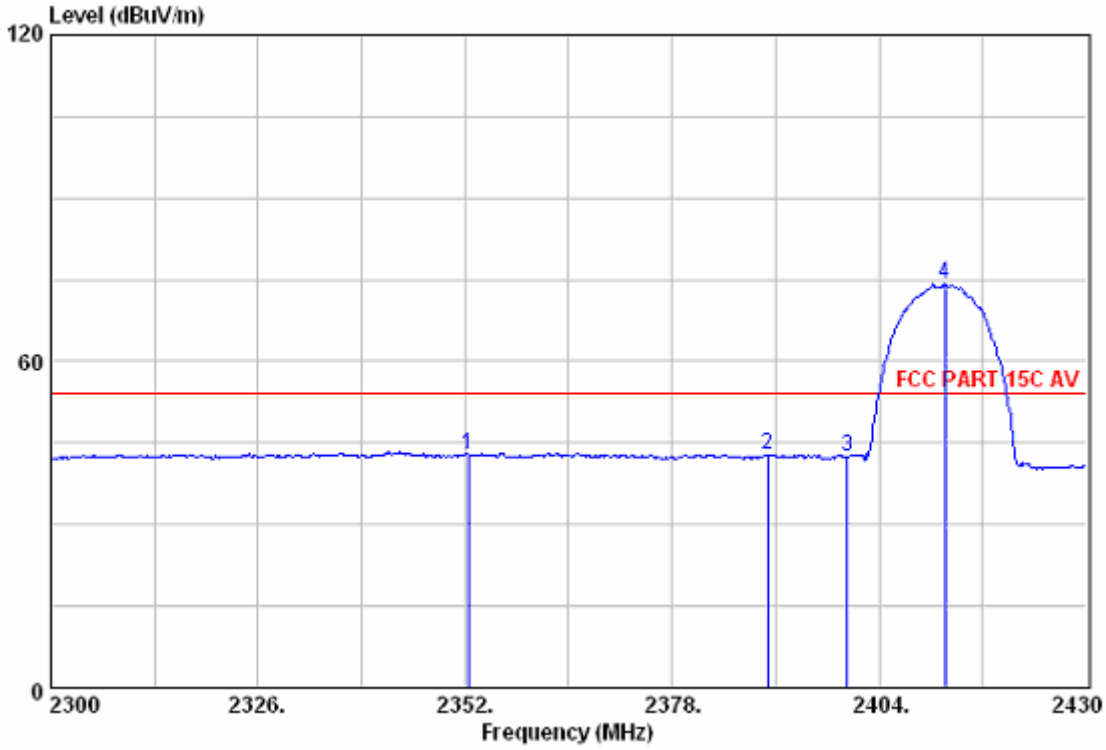
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.91	55.76	74.00	18.24	22.09	31.45	2.22	Peak
2	2400.00	54.14	74.00	19.86	20.41	31.50	2.23	Peak
3	2413.36	88.12	74.00	-14.12	54.39	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :HORIZONTAL	



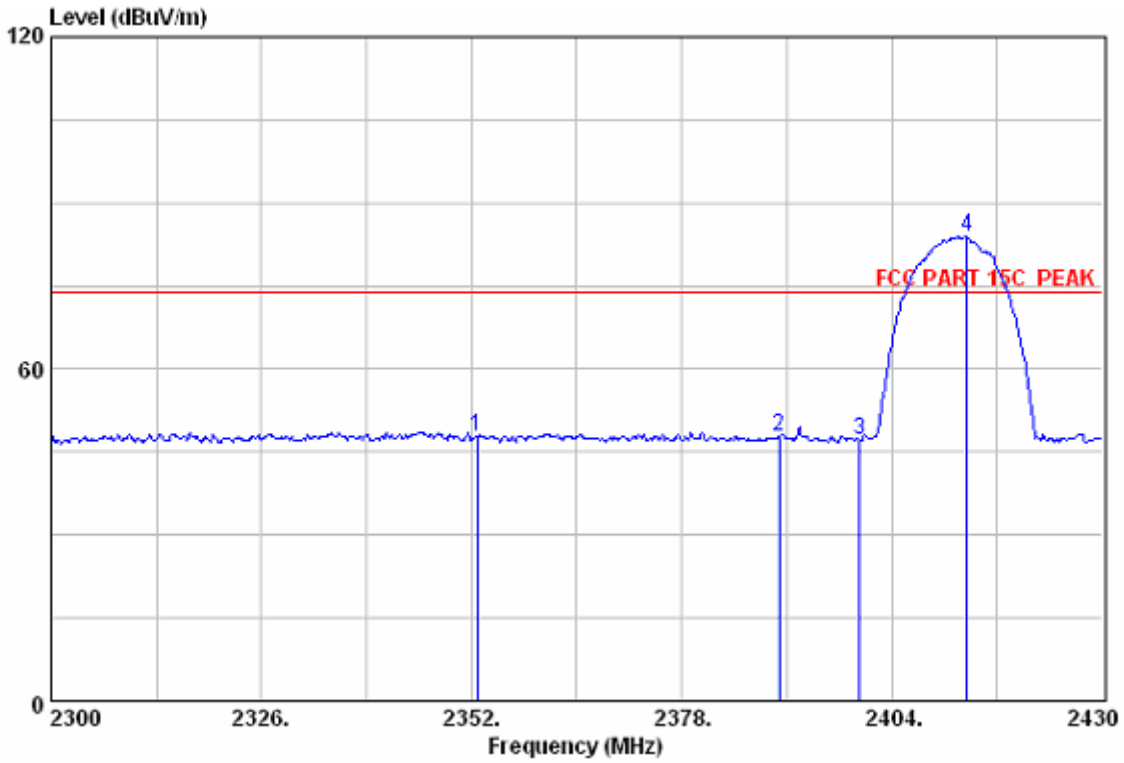
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.65	47.57	54.00	6.43	13.90	31.45	2.22	Average
2	2390.00	47.33	54.00	6.67	13.63	31.48	2.22	Average
3	2400.00	47.57	54.00	6.43	13.84	31.50	2.23	Average
4	2412.06	78.69	54.00	-24.69	44.96	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



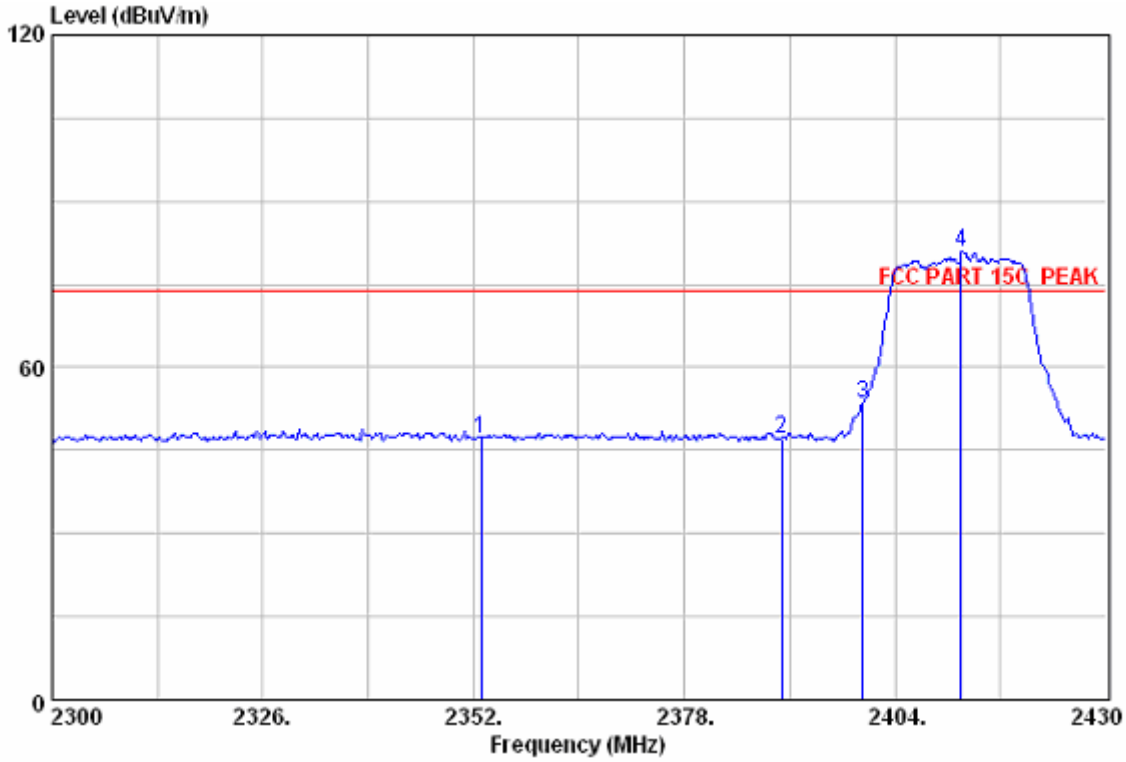
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.39	42.94	54.00	11.06	9.27	31.45	2.22	Average
2	2390.00	42.66	54.00	11.34	8.96	31.48	2.22	Average
3	2400.00	42.52	54.00	11.48	8.79	31.50	2.23	Average
4	2412.32	74.34	54.00	-20.34	40.61	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



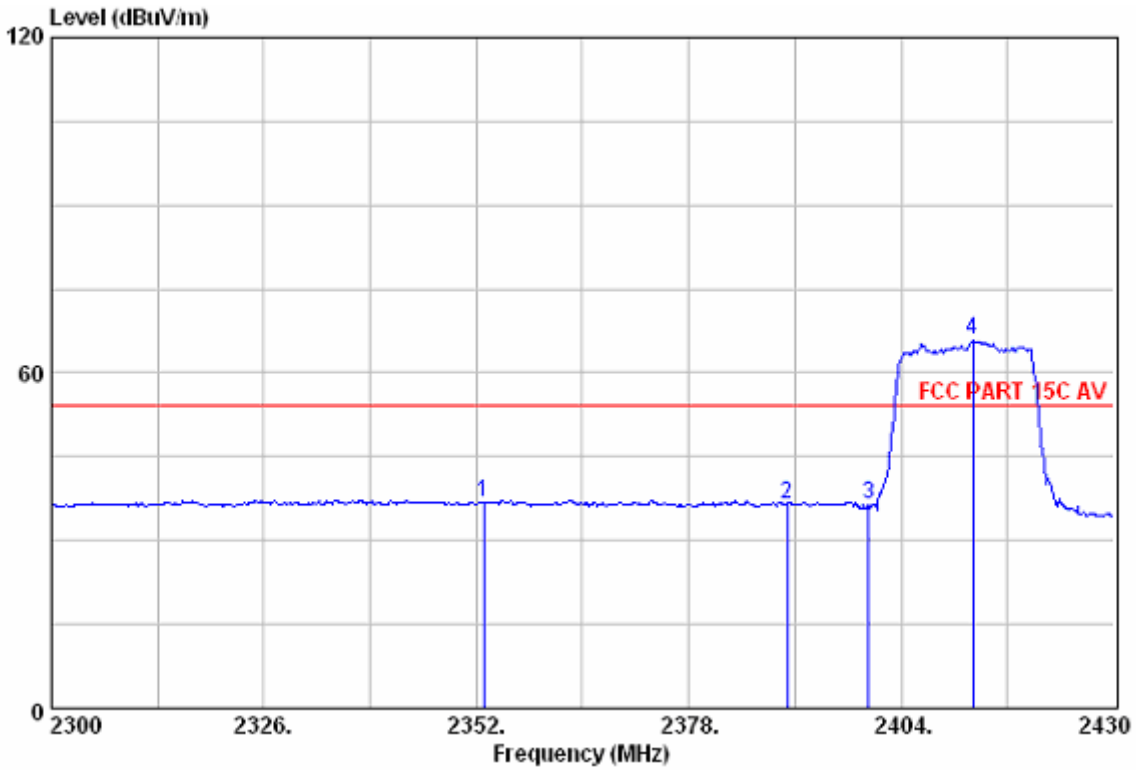
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.65	47.86	74.00	26.14	14.19	31.45	2.22	Peak
2	2390.00	47.69	74.00	26.31	13.99	31.48	2.22	Peak
3	2400.00	47.24	74.00	26.76	13.51	31.50	2.23	Peak
4	2413.36	84.02	74.00	-10.02	50.29	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11g CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



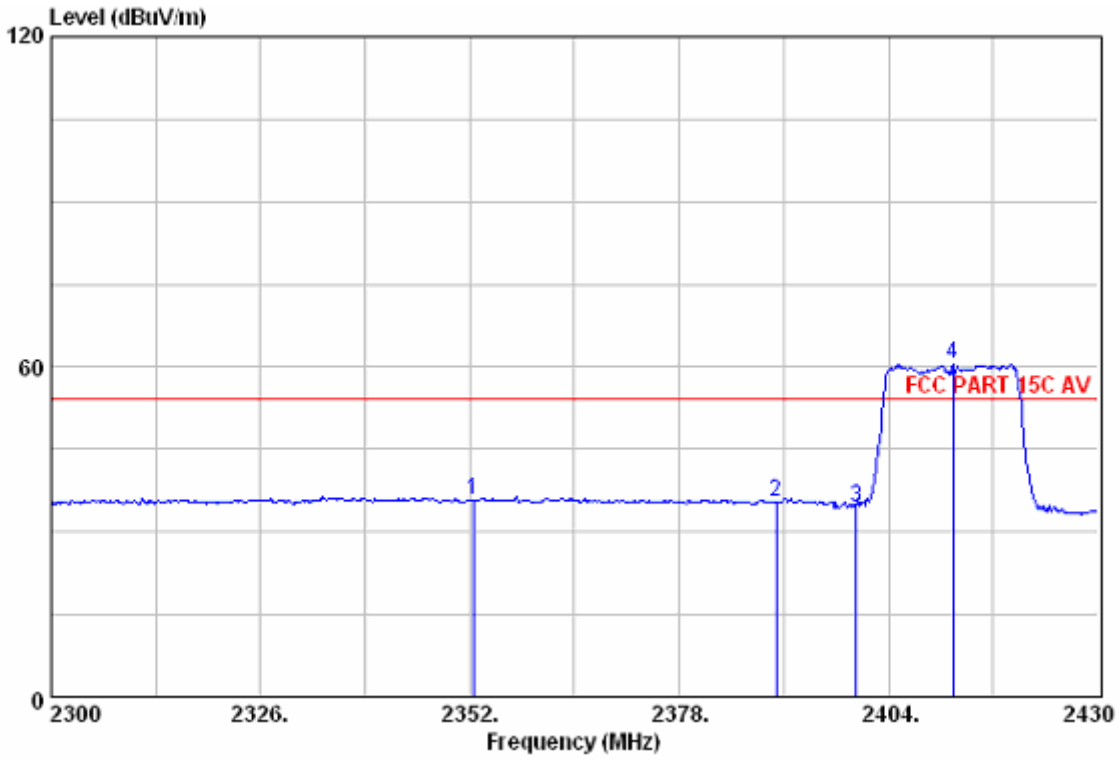
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.91	47.27	74.00	26.73	13.60	31.45	2.22	Peak
2	2390.00	47.26	74.00	26.74	13.56	31.48	2.22	Peak
3	2400.00	53.37	74.00	20.63	19.64	31.50	2.23	Peak
4	2412.19	80.94	74.00	-6.94	47.21	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11g CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



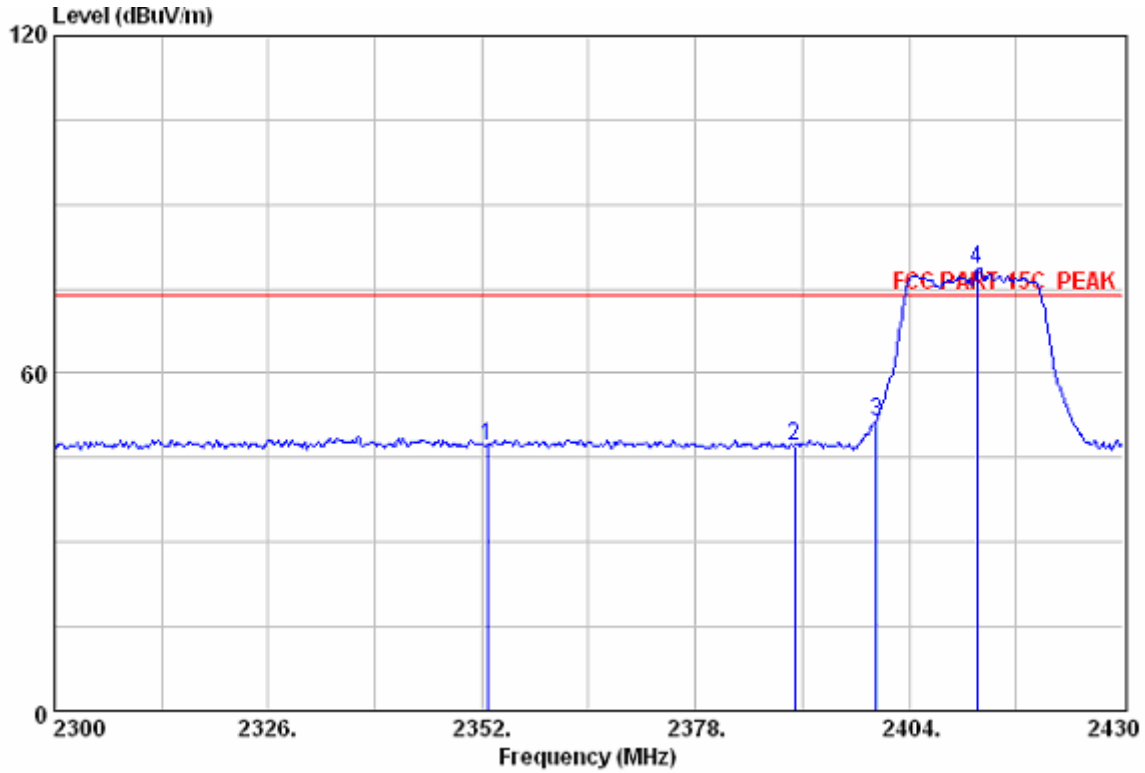
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.91	36.83	54.00	17.17	3.16	31.45	2.22	Average
2	2390.00	36.28	54.00	17.72	2.58	31.48	2.22	Average
3	2400.00	36.54	54.00	17.46	2.81	31.50	2.23	Average
4	2412.71	65.92	54.00	-11.92	32.19	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11g CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



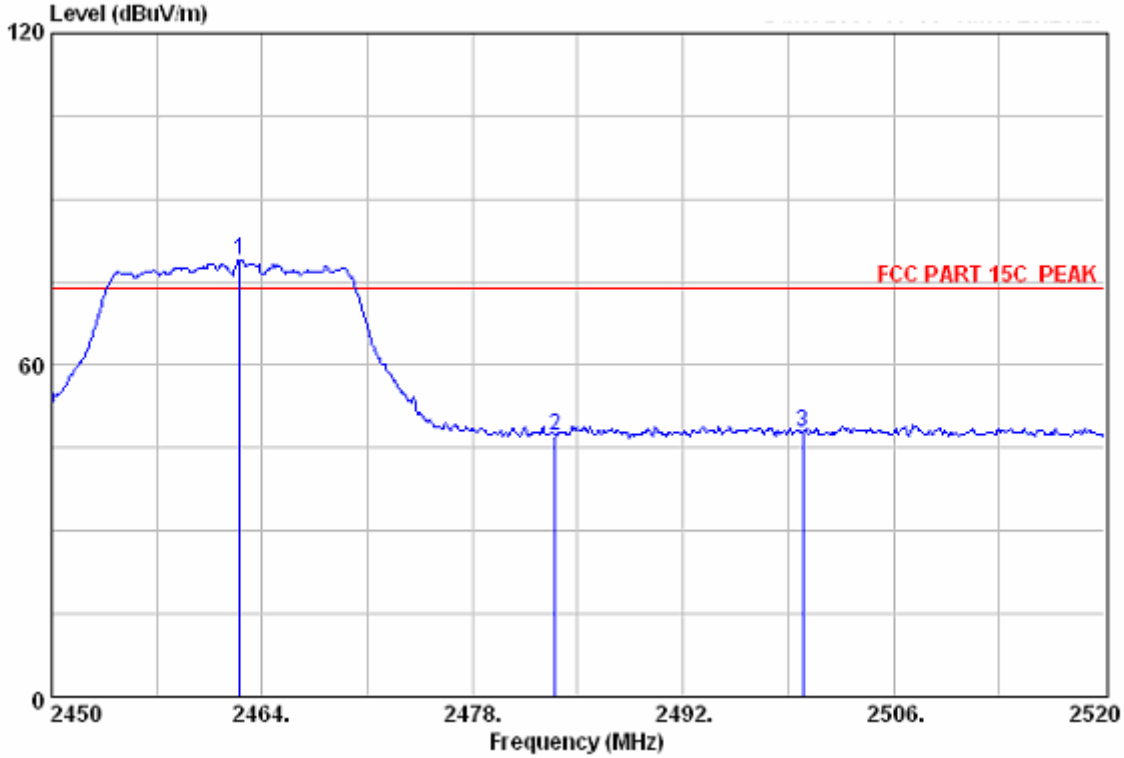
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.39	35.64	54.00	18.36	1.97	31.45	2.22	Average
2	2390.00	35.36	54.00	18.64	1.66	31.48	2.22	Average
3	2400.00	34.58	54.00	19.42	0.85	31.50	2.23	Average
4	2412.06	60.52	54.00	-6.52	26.79	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11g CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



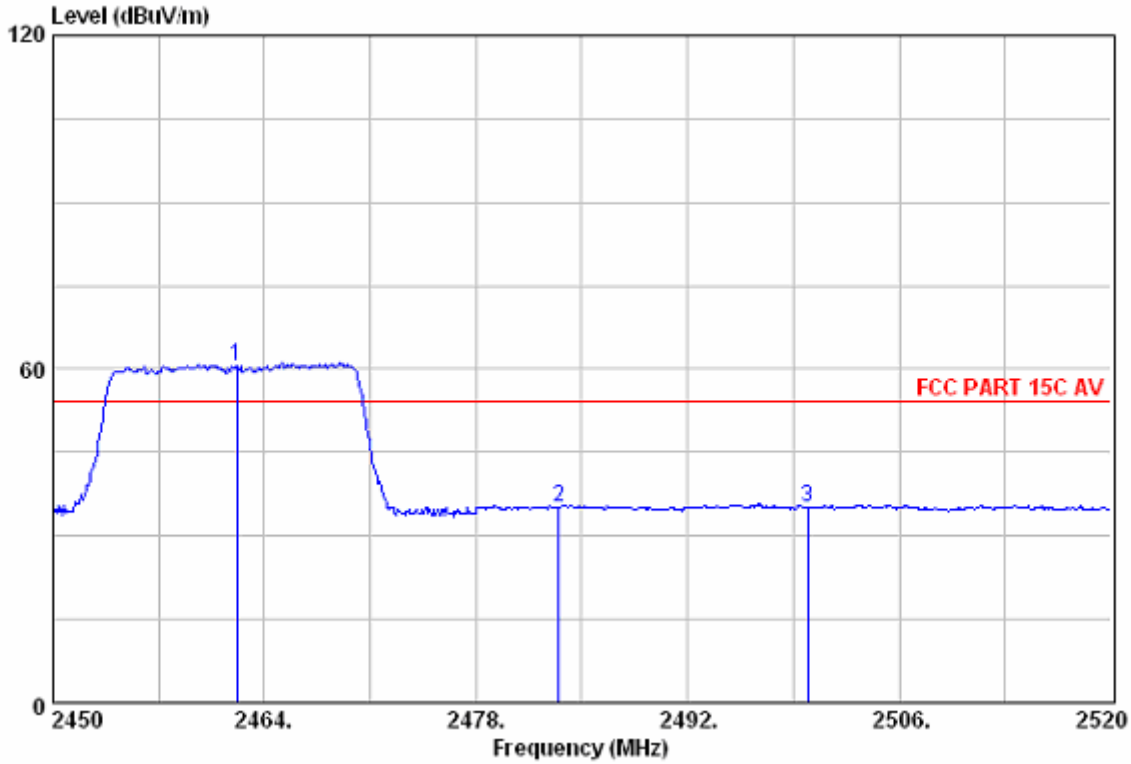
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.65	47.19	74.00	26.81	13.52	31.45	2.22	Peak
2	2390.00	46.97	74.00	27.03	13.27	31.48	2.22	Peak
3	2400.00	51.38	74.00	22.62	17.65	31.50	2.23	Peak
4	2412.32	78.62	74.00	-4.62	44.89	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



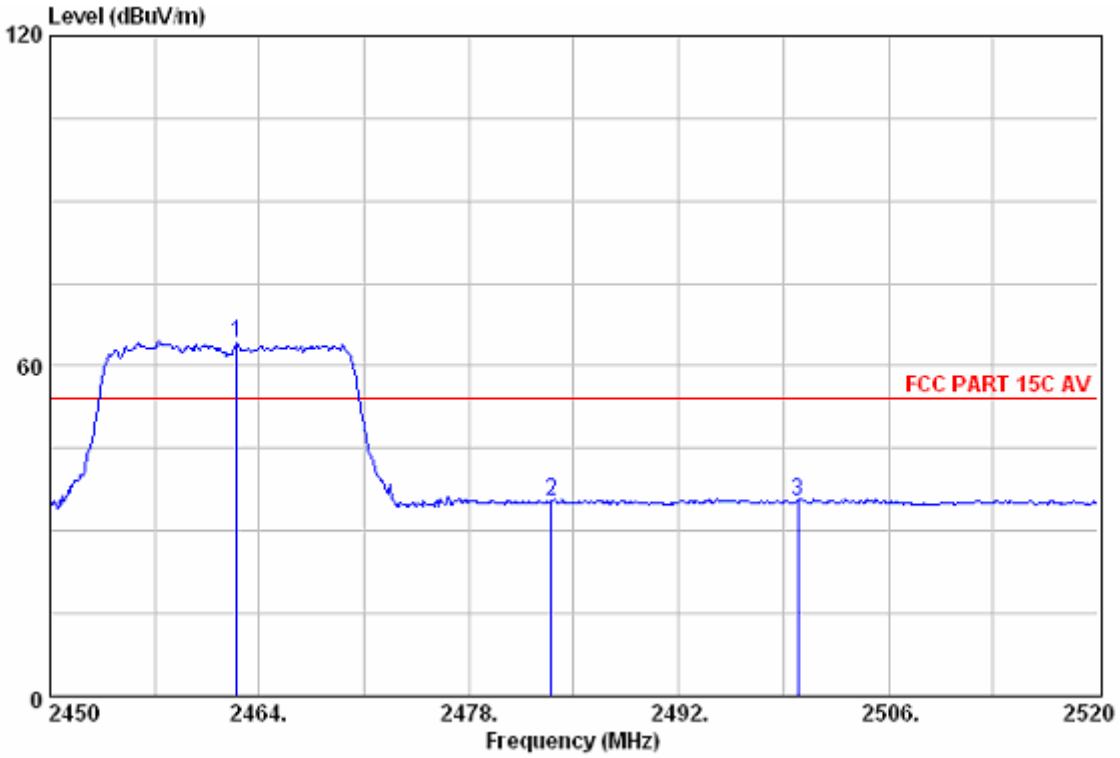
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	78.90	74.00	-4.90	45.11	31.56	2.23	Peak
2	2483.50	47.27	74.00	26.73	13.46	31.58	2.23	Peak
3	2500.00	47.87	74.00	26.13	14.04	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



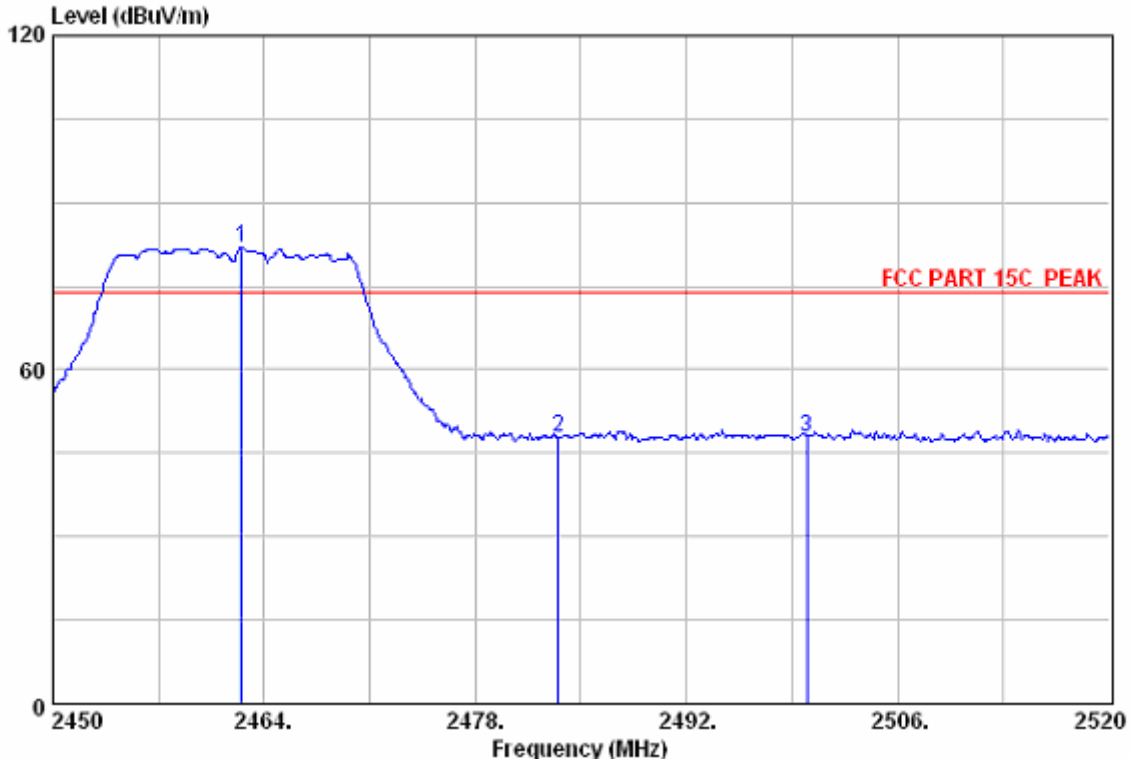
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	60.54	54.00	-6.54	26.75	31.56	2.23	Average
2	2483.50	35.15	54.00	18.85	1.34	31.58	2.23	Average
3	2500.00	35.23	54.00	18.77	1.40	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



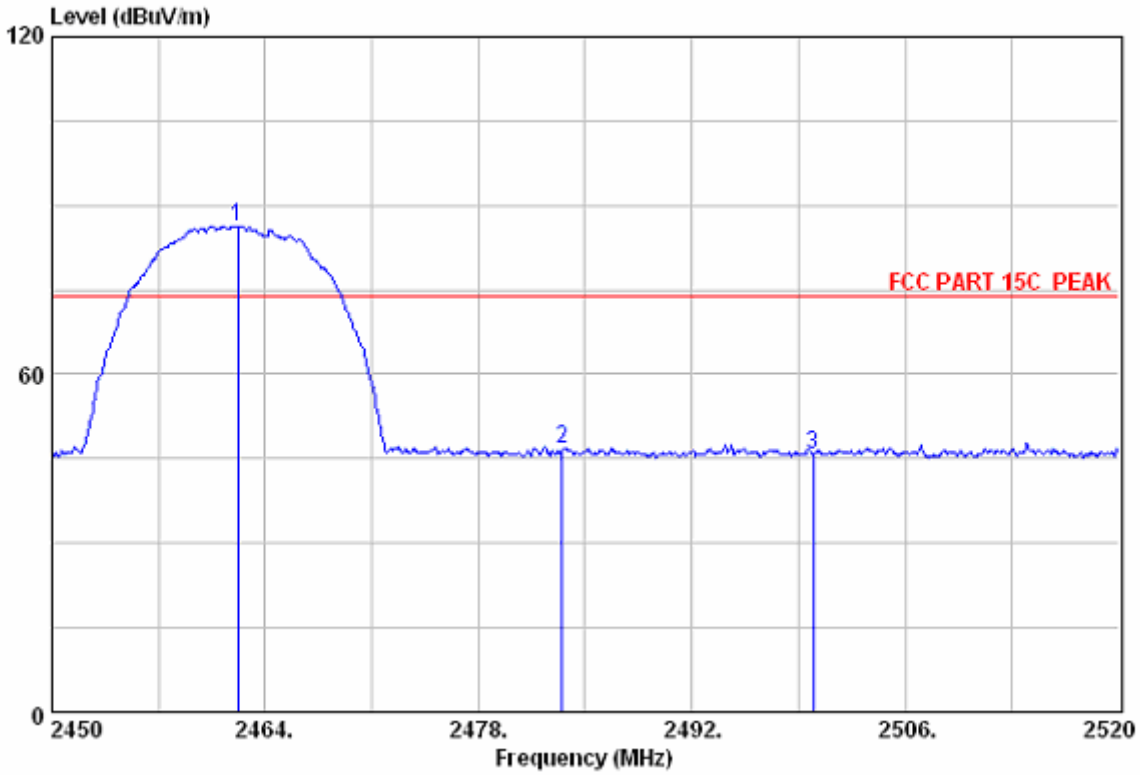
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	64.04	54.00	-10.04	30.25	31.56	2.23	Average
2	2483.50	35.56	54.00	18.44	1.75	31.58	2.23	Average
3	2500.00	35.51	54.00	18.49	1.68	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



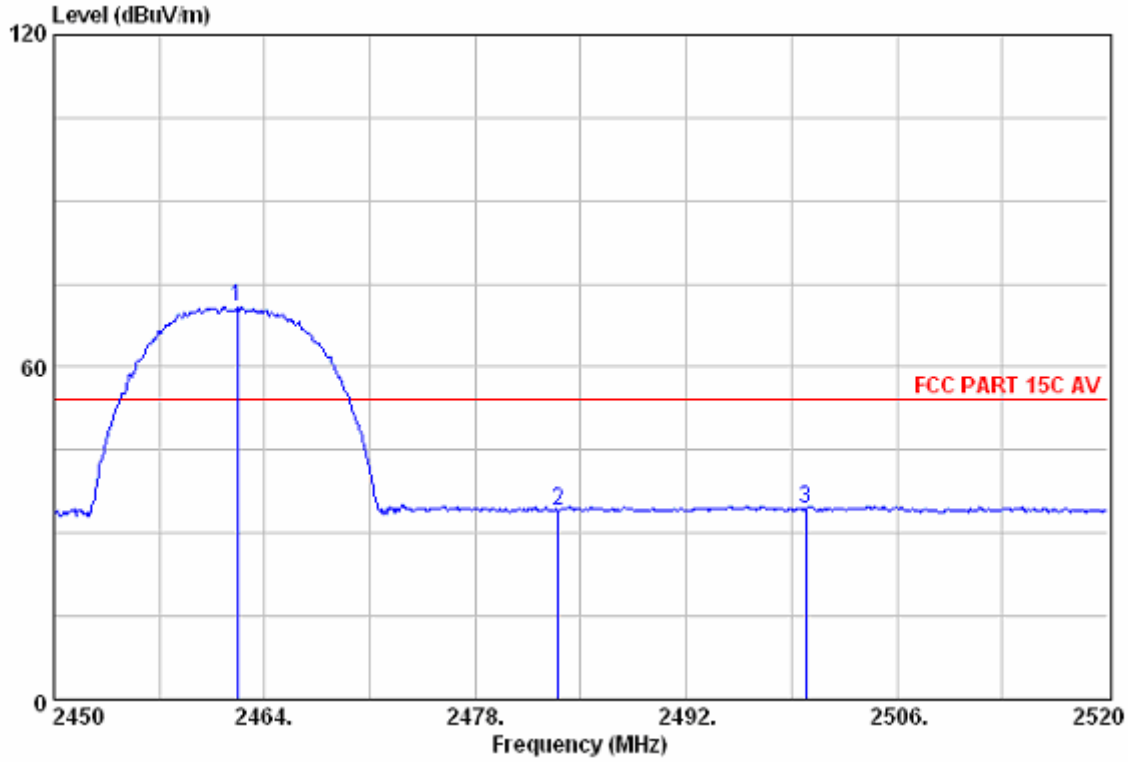
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.53	81.92	74.00	-7.92	48.13	31.56	2.23	Peak
2	2483.50	47.78	74.00	26.22	13.97	31.58	2.23	Peak
3	2500.00	47.91	74.00	26.09	14.08	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



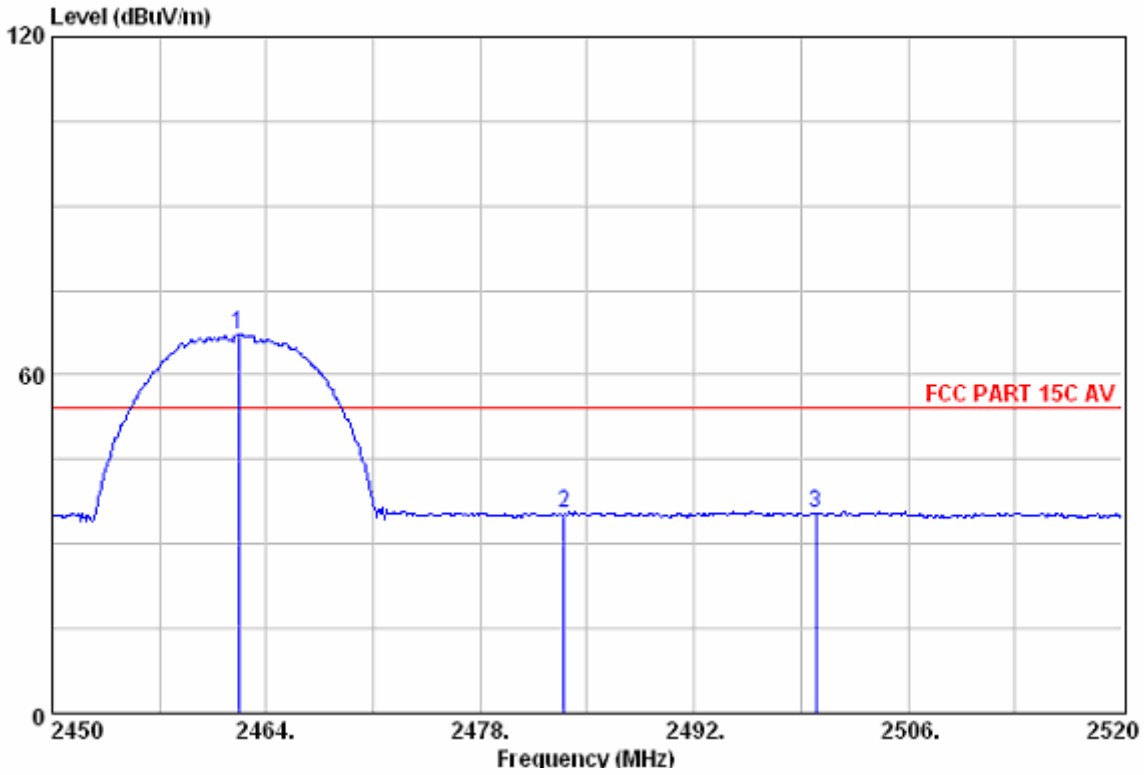
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	86.37	74.00	-12.37	52.58	31.56	2.23	Peak
2	2483.50	46.66	74.00	27.34	12.85	31.58	2.23	Peak
3	2500.00	45.73	74.00	28.27	11.90	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



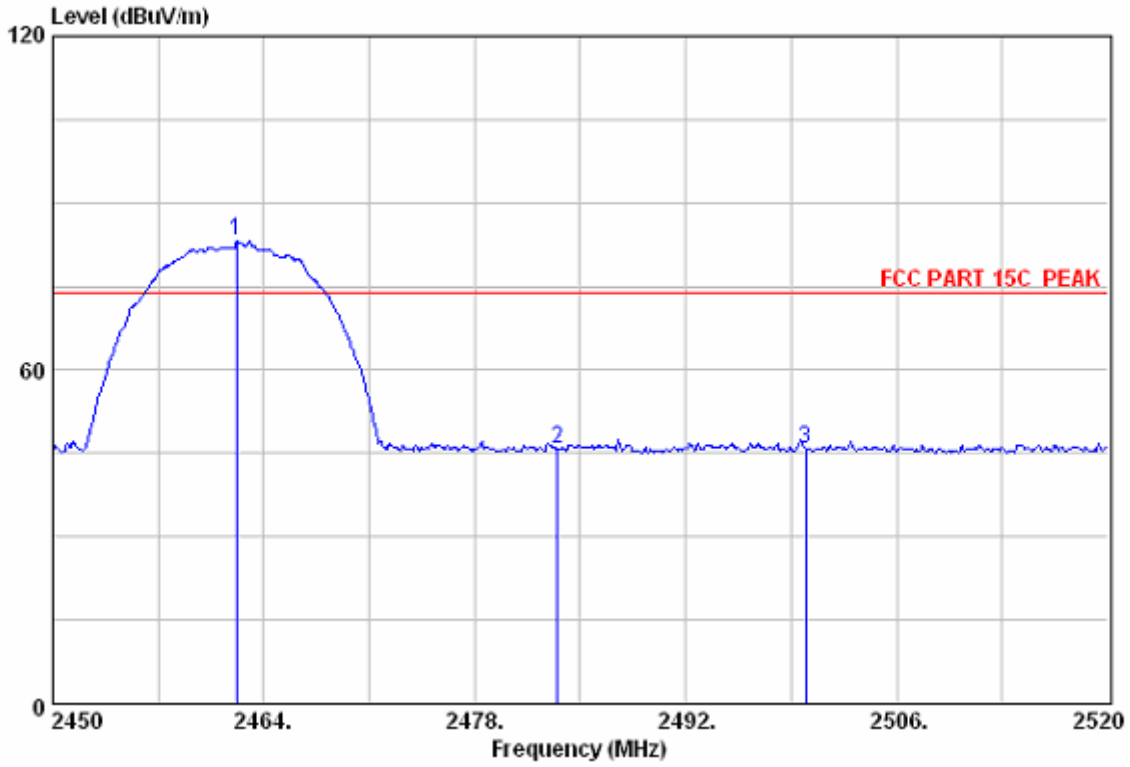
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	71.00	54.00	-17.00	37.21	31.56	2.23	Average
2	2483.50	34.09	54.00	19.91	0.28	31.58	2.23	Average
3	2500.00	34.52	54.00	19.48	0.69	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



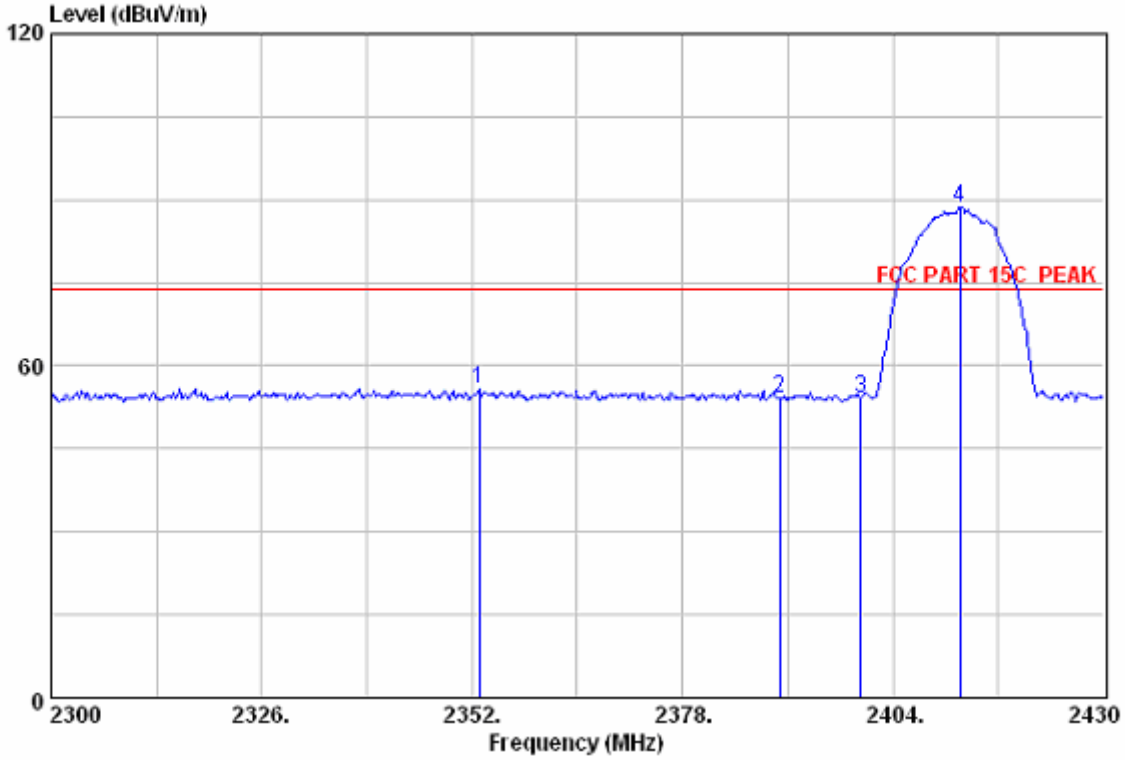
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	67.23	54.00	-13.23	33.44	31.56	2.23	Average
2	2483.50	35.31	54.00	18.69	1.50	31.58	2.23	Average
3	2500.00	35.36	54.00	18.64	1.53	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



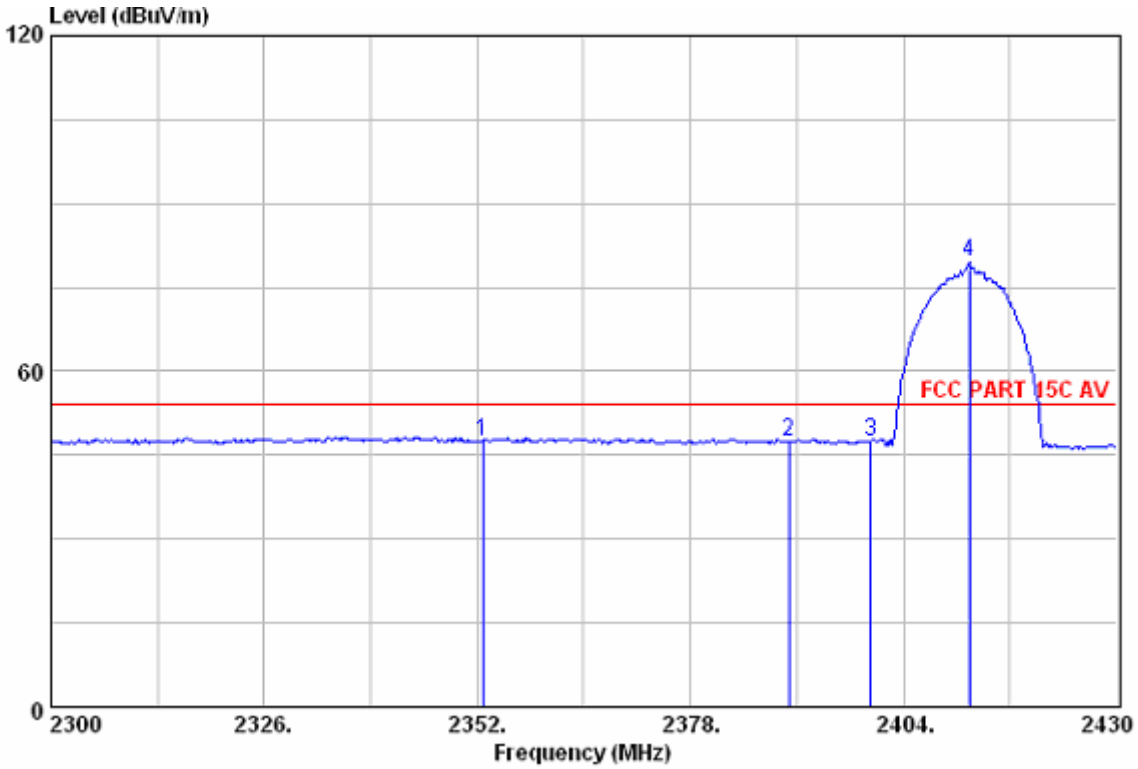
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	83.07	74.00	-9.07	49.28	31.56	2.23	Peak
2	2483.50	45.80	74.00	28.20	11.99	31.58	2.23	Peak
3	2500.00	45.87	74.00	28.13	12.04	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2422MHz TX Mode
Antenna Pol. : HORIZONTAL	



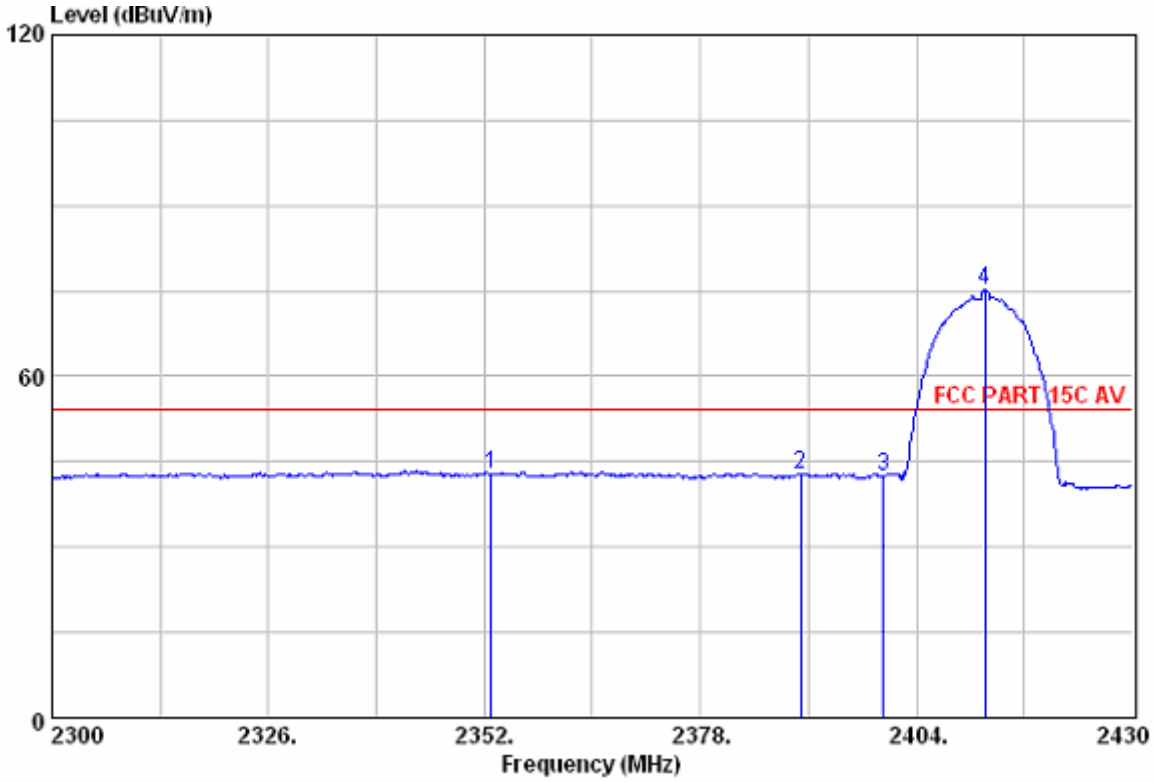
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.91	55.76	74.00	18.24	22.09	31.45	2.22	Peak
2	2390.00	54.18	74.00	19.82	20.48	31.48	2.22	Peak
3	2400.00	54.14	74.00	19.86	20.41	31.50	2.23	Peak
4	2412.32	88.61	74.00	-14.61	54.88	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2422MHz TX Mode
Antenna Pol. : HORIZONTAL	



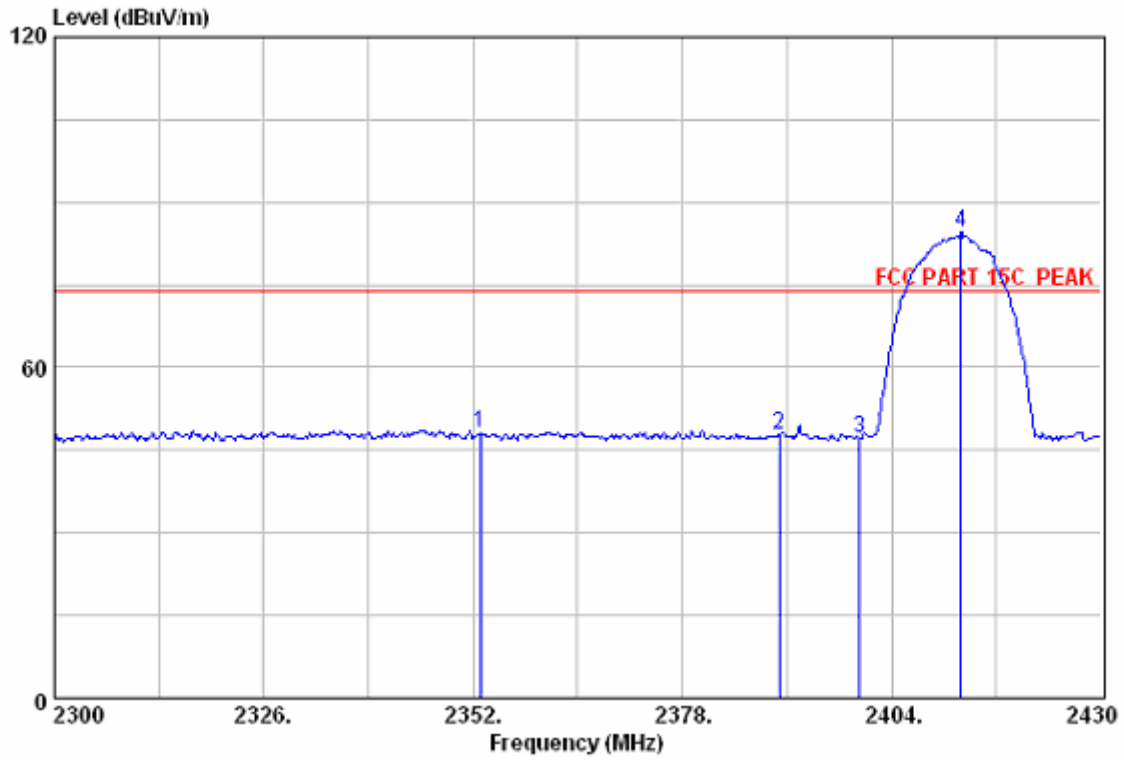
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.65	47.57	54.00	6.43	13.90	31.45	2.22	Average
2	2390.00	47.33	54.00	6.67	13.63	31.48	2.22	Average
3	2400.00	47.57	54.00	6.43	13.84	31.50	2.23	Average
4	2412.06	79.69	54.00	-25.69	45.96	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2422MHz TX Mode
Antenna Pol. :VERTICAL	



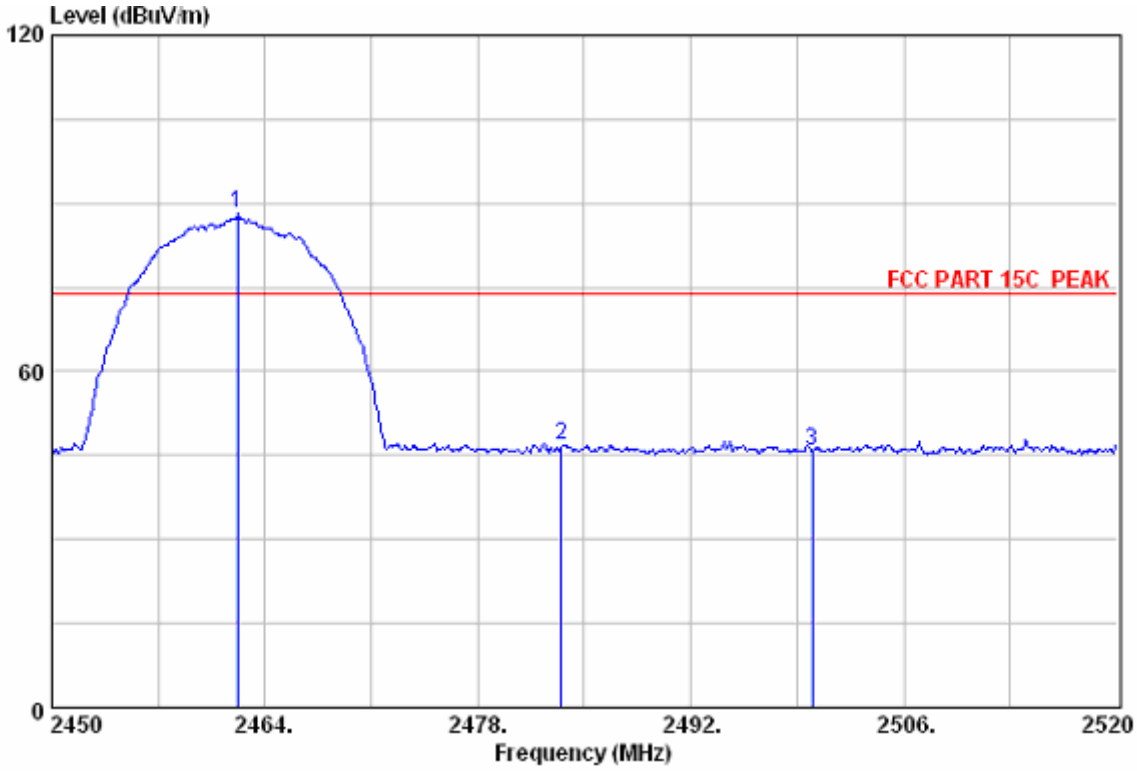
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.78	42.75	54.00	11.25	9.08	31.45	2.22	Average
2	2390.00	42.66	54.00	11.34	8.96	31.48	2.22	Average
3	2400.00	42.52	54.00	11.48	8.79	31.50	2.23	Average
4	2412.32	75.34	54.00	-21.34	41.61	31.50	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2422MHz TX Mode
Antenna Pol. :VERTICAL	



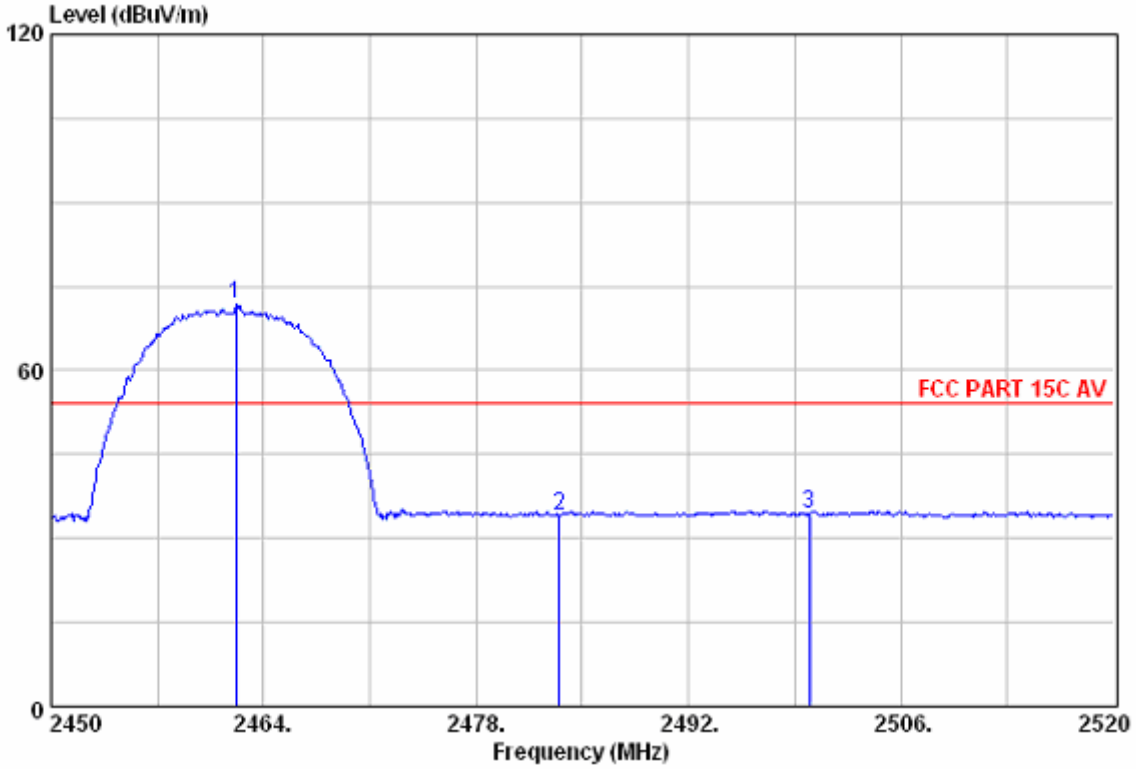
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.91	48.02	74.00	25.98	14.35	31.45	2.22	Peak
2	2390.00	47.69	74.00	26.31	13.99	31.48	2.22	Peak
3	2400.00	47.24	74.00	26.76	13.51	31.50	2.23	Peak
4	2412.58	84.55	74.00	-10.55	50.82	31.50	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



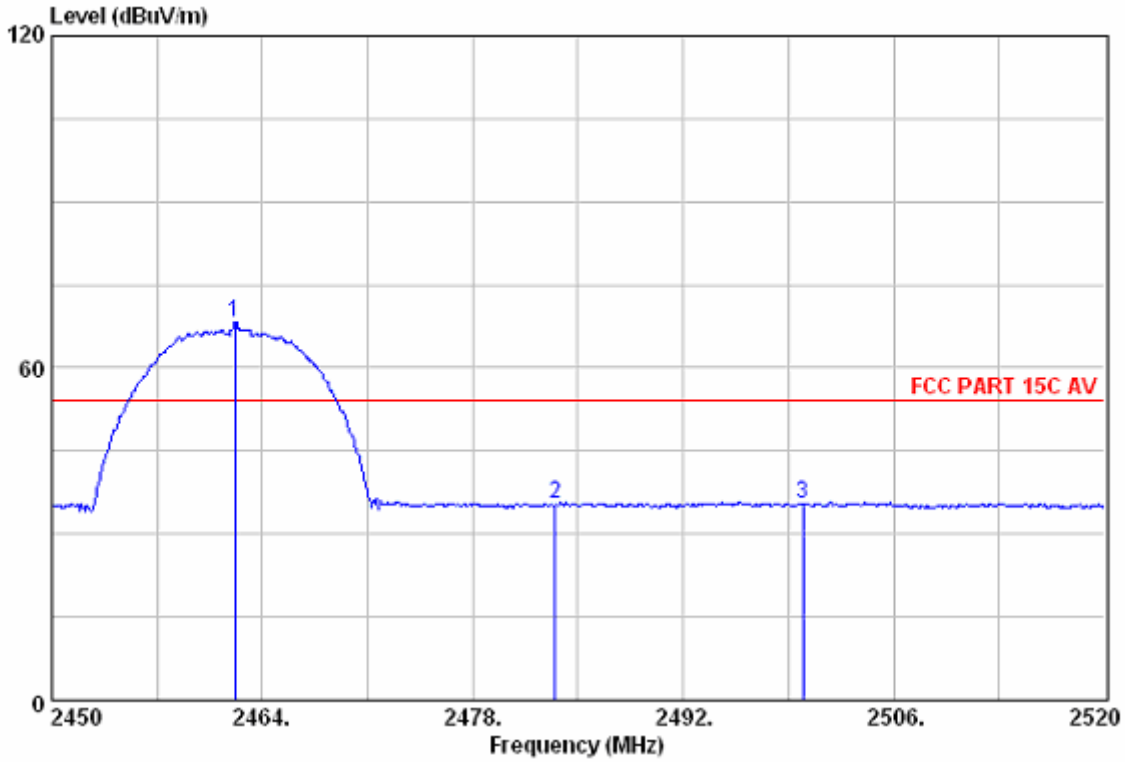
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	88.37	74.00	-14.37	54.58	31.56	2.23	Peak
2	2483.50	46.66	74.00	27.34	12.85	31.58	2.23	Peak
3	2500.00	45.73	74.00	28.27	11.90	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



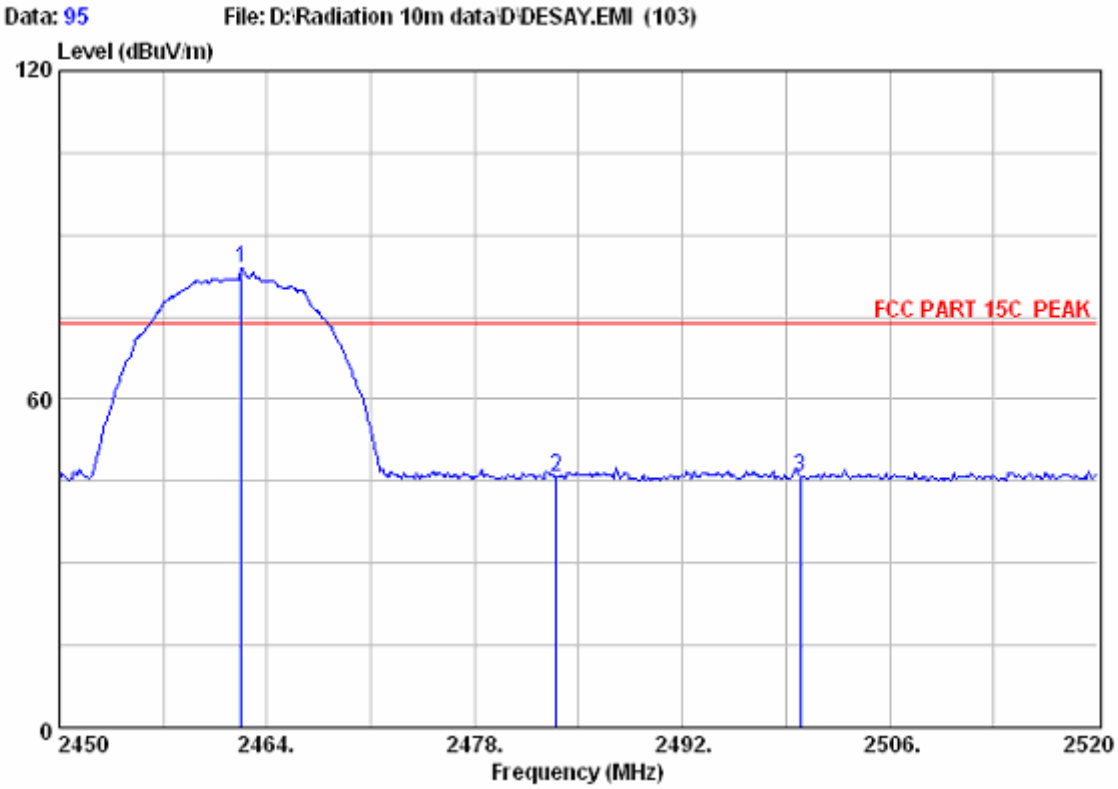
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	72.00	54.00	-18.00	38.21	31.56	2.23	Average
2	2483.50	34.09	54.00	19.91	0.28	31.58	2.23	Average
3	2500.00	34.52	54.00	19.48	0.69	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



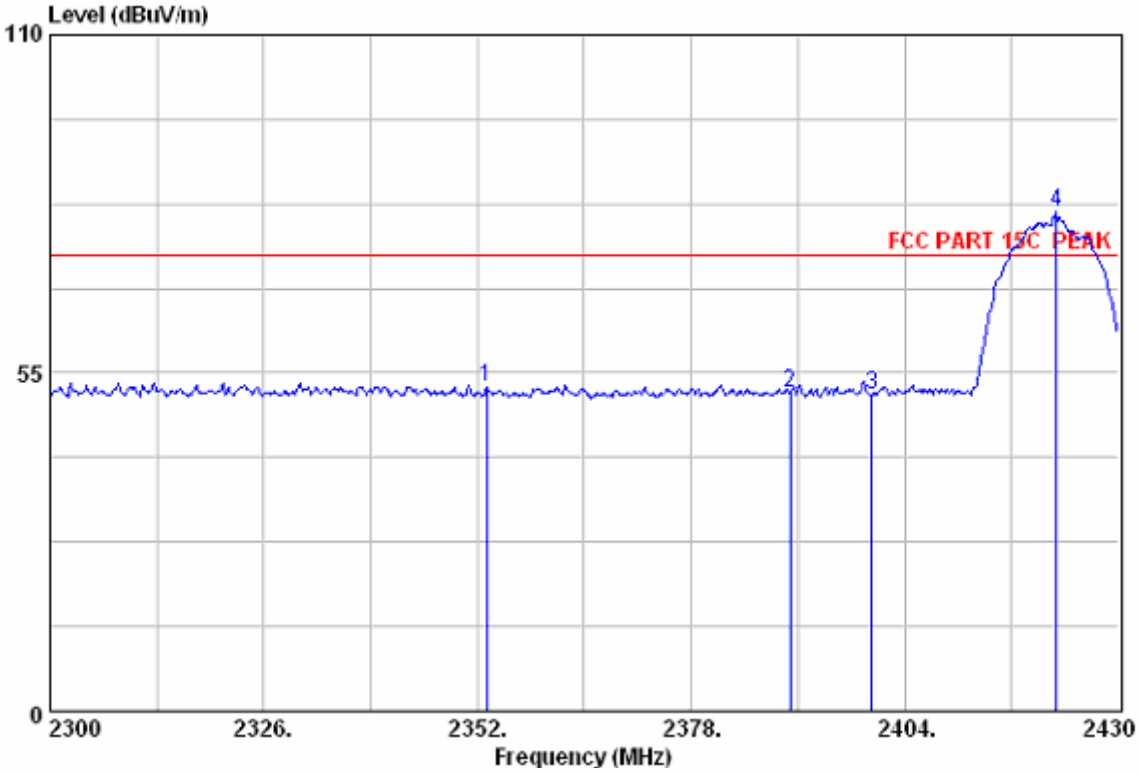
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.18	68.23	54.00	-14.23	34.44	31.56	2.23	Average
2	2483.50	35.31	54.00	18.69	1.50	31.58	2.23	Average
3	2500.00	35.36	54.00	18.64	1.53	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



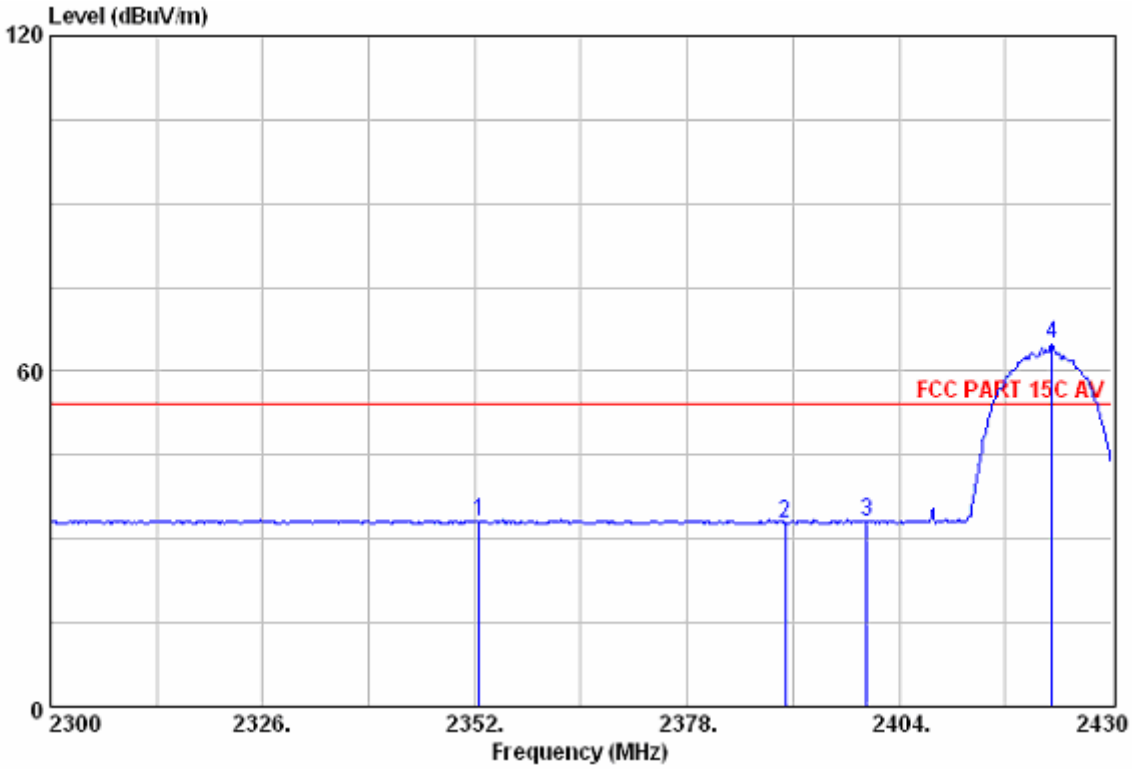
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.25	84.04	74.00	-10.04	50.25	31.56	2.23	Peak
2	2483.50	45.80	74.00	28.20	11.99	31.58	2.23	Peak
3	2500.00	45.87	74.00	28.13	12.04	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. : HORIZONTAL	



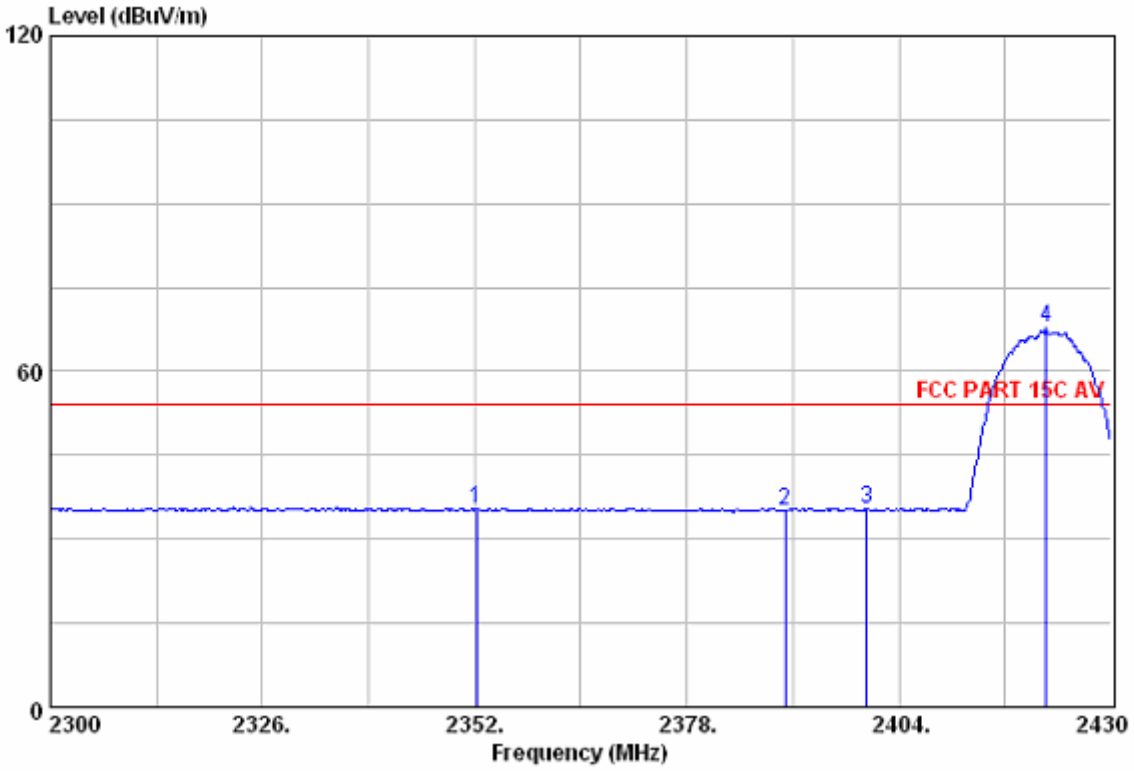
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2353.17	52.69	74.00	21.31	19.01	31.45	2.23	Peak
2	2390.00	51.75	74.00	22.25	18.04	31.48	2.23	Peak
3	2400.00	51.54	74.00	22.46	17.81	31.50	2.23	Peak
4	2422.46	81.17	74.00	-7.17	47.42	31.52	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. : HORIZONTAL	



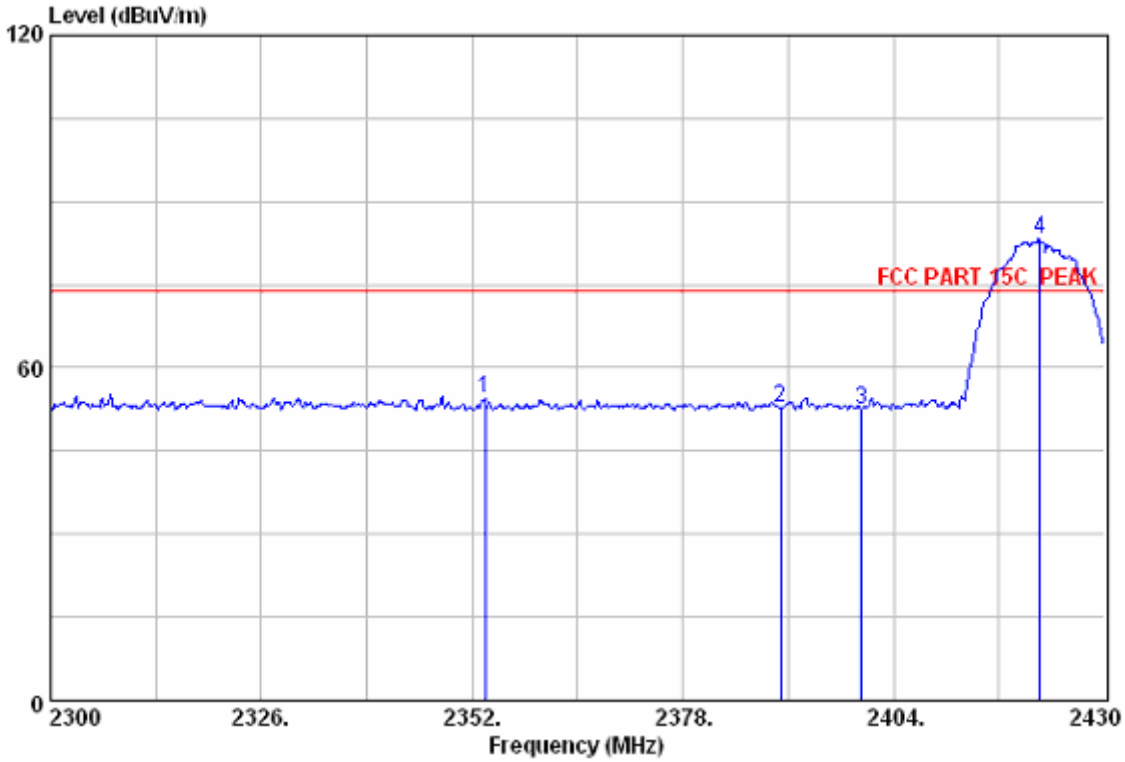
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.52	33.23	54.00	20.77	-0.44	31.45	2.22	Average
2	2390.00	32.92	54.00	21.08	-0.78	31.48	2.22	Average
3	2400.00	33.07	54.00	20.93	-0.66	31.50	2.23	Average
4	2422.72	64.73	54.00	-10.73	30.98	31.52	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. :VERTICAL	



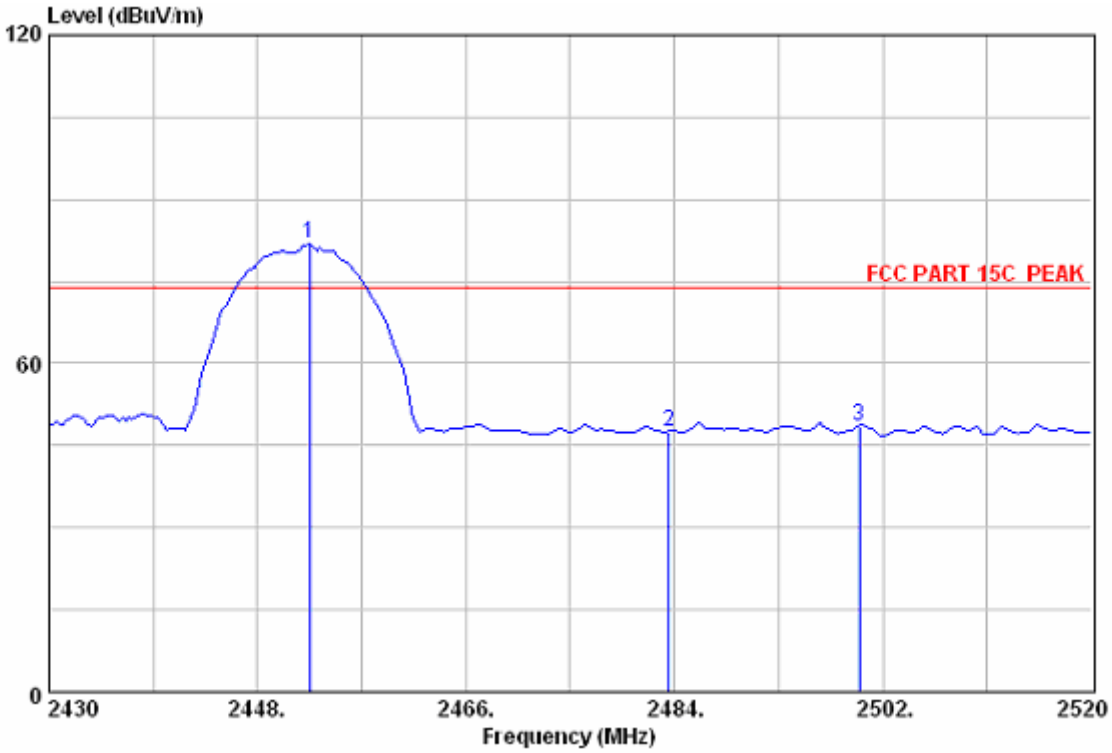
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2352.26	35.43	54.00	18.57	1.76	31.45	2.22	Average
2	2390.00	35.13	54.00	18.87	1.43	31.48	2.22	Average
3	2400.00	35.40	54.00	18.60	1.67	31.50	2.23	Average
4	2422.07	68.01	54.00	-14.01	34.26	31.52	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. :VERTICAL	



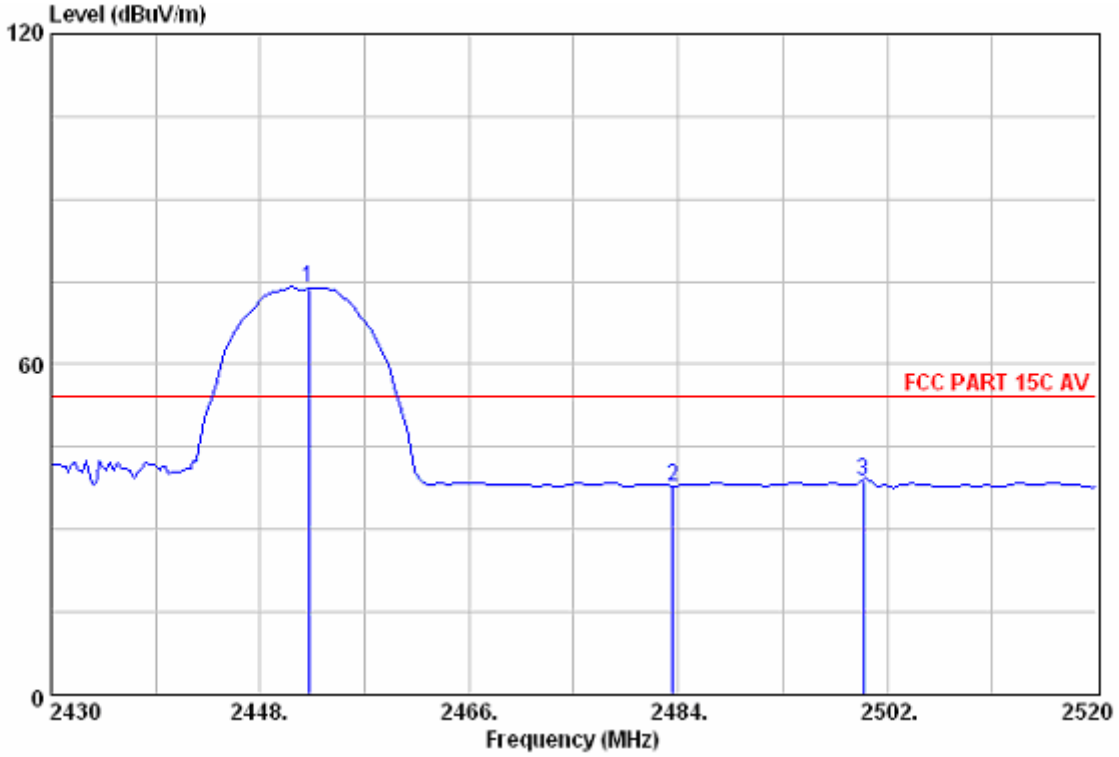
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2353.56	54.52	74.00	19.48	20.85	31.45	2.22	Peak
2	2390.00	52.86	74.00	21.14	19.16	31.48	2.22	Peak
3	2400.00	52.58	74.00	21.42	18.85	31.50	2.23	Peak
4	2422.07	83.38	74.00	-9.38	49.63	31.52	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. : HORIZONTAL	



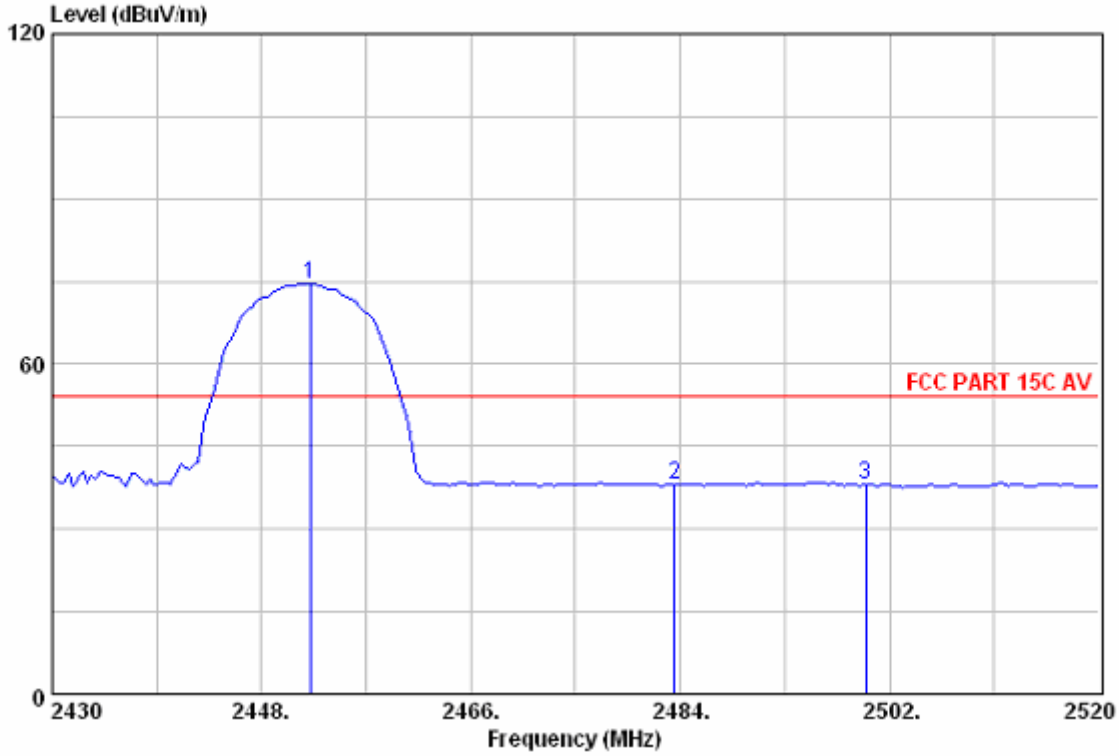
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.50	81.94	74.00	-7.94	48.17	31.54	2.23	Peak
2	2483.50	47.59	74.00	26.41	13.78	31.58	2.23	Peak
3	2500.00	48.39	74.00	25.61	14.56	31.60	2.23	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. : HORIZONTAL	



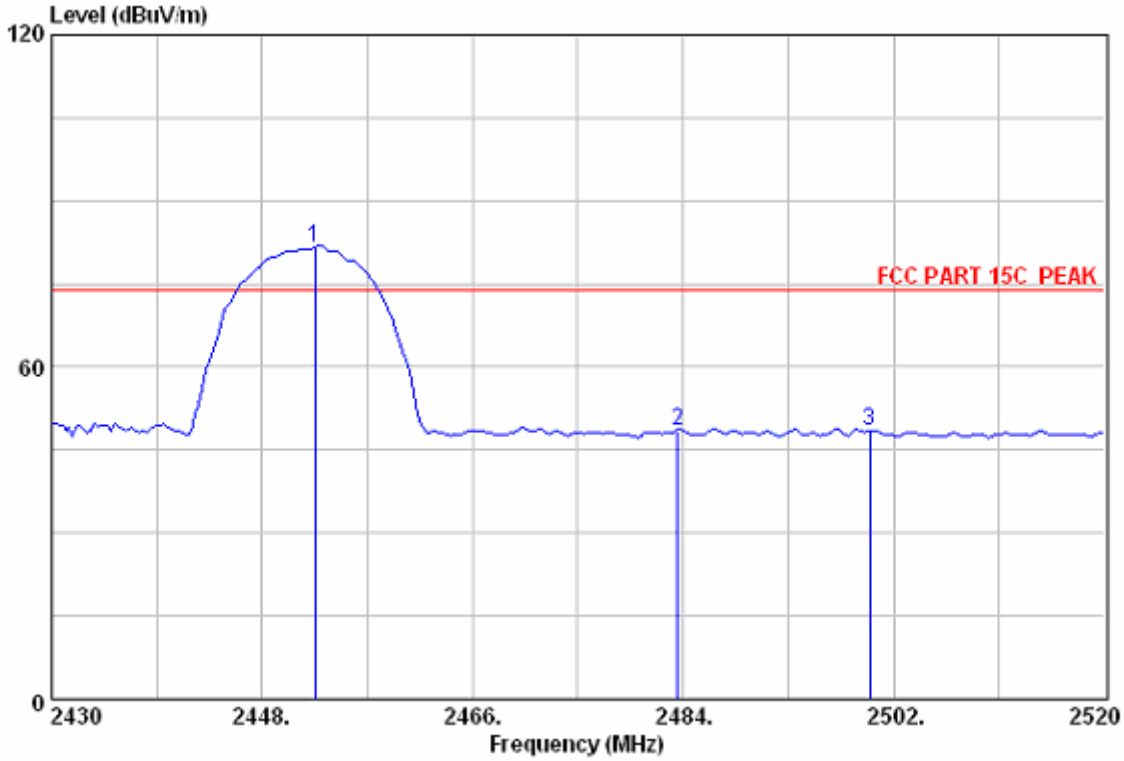
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.20	74.02	54.00	-20.02	40.25	31.54	2.23	Average
2	2483.50	37.92	54.00	16.08	4.11	31.58	2.23	Average
3	2500.00	38.84	54.00	15.16	5.01	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. :VERTICAL	



	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.20	74.54	54.00	-20.54	40.77	31.54	2.23	Average
2	2483.50	38.08	54.00	15.92	4.27	31.58	2.23	Average
3	2500.00	37.99	54.00	16.01	4.16	31.60	2.23	Average

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. :VERTICAL	



	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.50	81.56	74.00	-7.56	47.79	31.54	2.23	Peak
2	2483.50	48.40	74.00	25.60	14.59	31.58	2.23	Peak
3	2500.00	48.40	74.00	25.60	14.57	31.60	2.23	Peak

4.5. POWER SPECTRAL DENSITY TEST

4.5.1. Test procedure

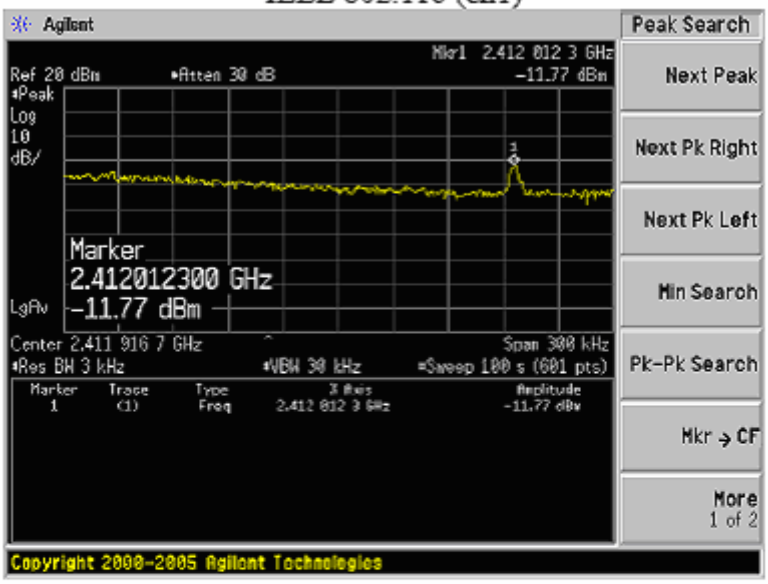
The transmitter output was connected to a spectrum analyzer , The power density was measured by spectrum analyzer with 3 KHz RBW and 30KHz VBW, sweep time=span/3KHz.

4.5.2. Test result

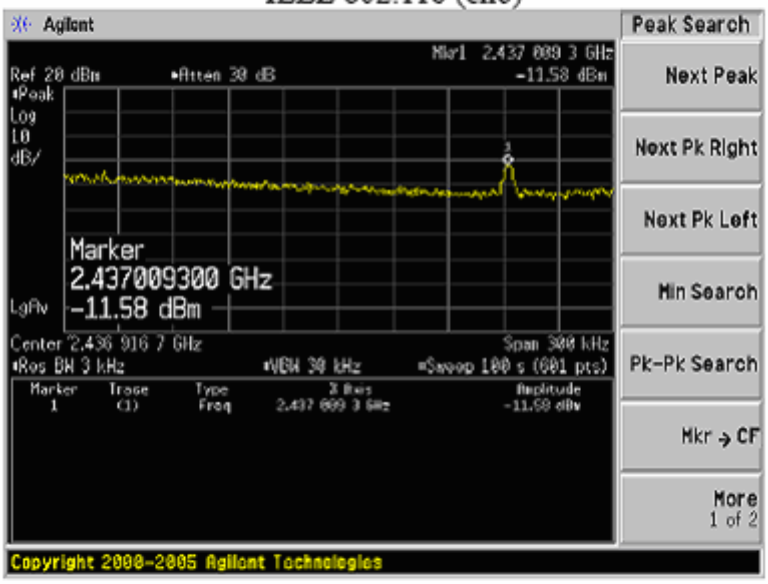
PASS.

Test CH	11b,11g,11n HT20		CH1:2412MHz	CH6:2437MHz	CH11:2462MHz
Test CH	11n HT40		CH1:2422MHz	CH4:2437MHz	CH7:2452MHz
Mode	CH	Read (dBm)	Factor dB	Power (dBm)	Limit
11b	CH1	-11.77	0.8	-10.97	8.00
	CH6	-11.58	0.8	-10.78	8.00
	CH11	-11.59	0.8	-10.69	8.00
11g	CH1	-18.63	0.8	-17.83	8.00
	CH6	-19.19	0.8	-18.39	8.00
	CH11	-19.32	0.8	-18.52	8.00
11n HT20	CH1	-19.55	0.8	-18.75	8.00
	CH6	-20.44	0.8	-19.64	8.00
	CH11	-19.94	0.8	-19.14	8.00
11n HT40	CH1	-24.45	0.8	-23.65	8.00
	CH4	-23.45	0.8	-22.65	8.00
	CH7	-24.70	0.8	-23.90	8.00
Note1:According Exploratory test, These data rate have the maximum output power					

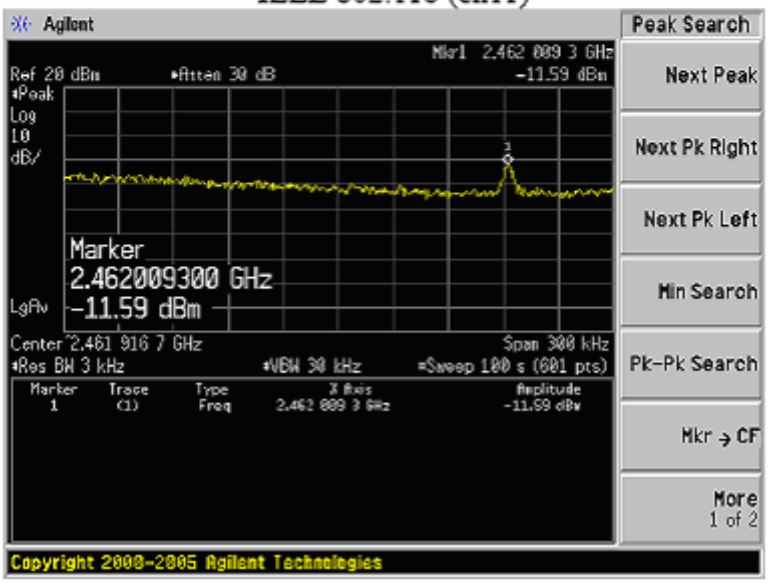
IEEE 802.11b (ch1)



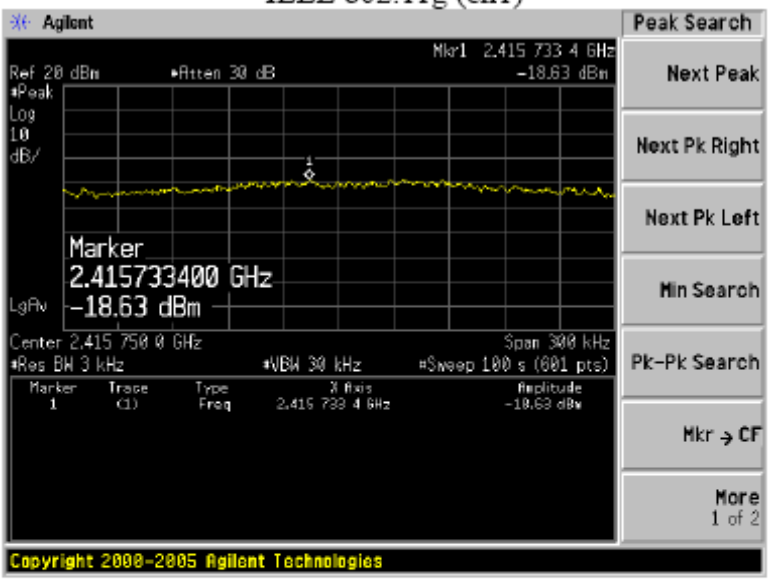
IEEE 802.11b (ch6)



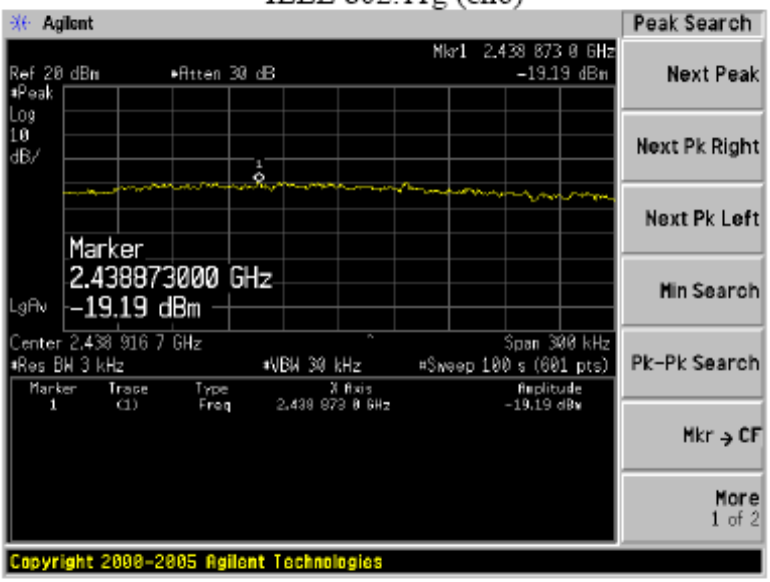
IEEE 802.11b (ch11)



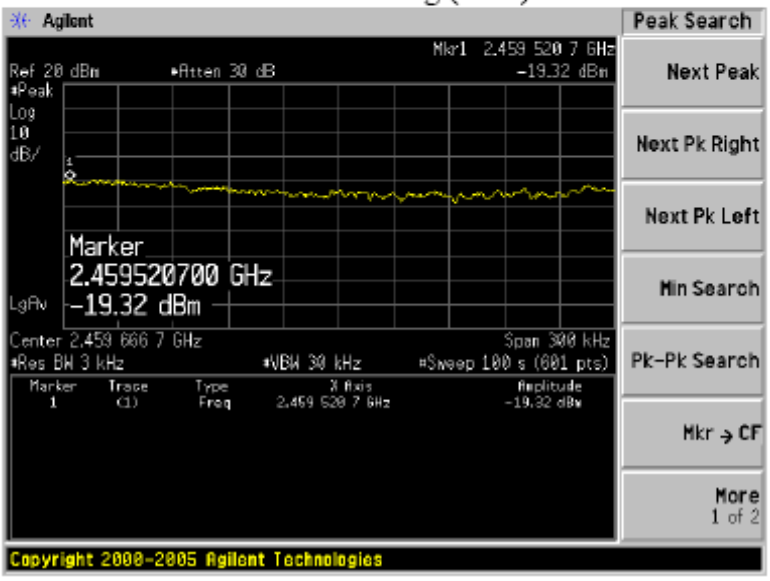
IEEE 802.11g (ch1)



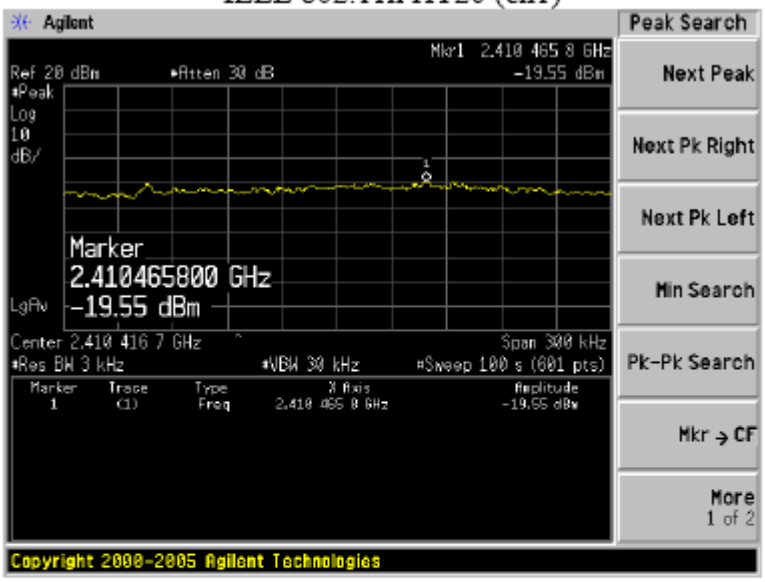
IEEE 802.11g (ch6)



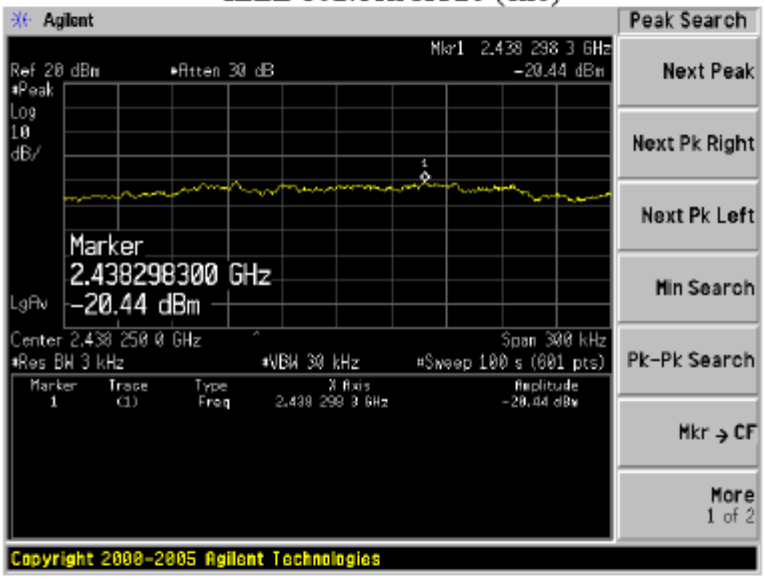
IEEE 802.11g (ch11)



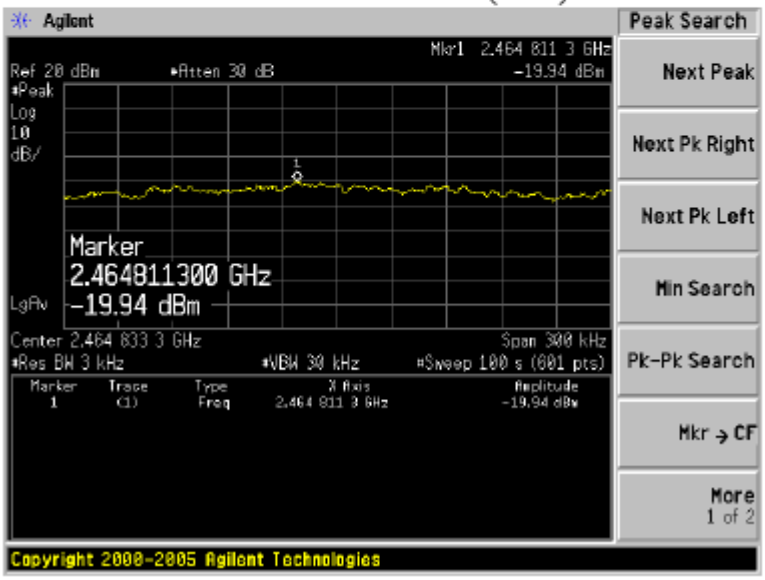
IEEE 802.11n HT20 (ch1)



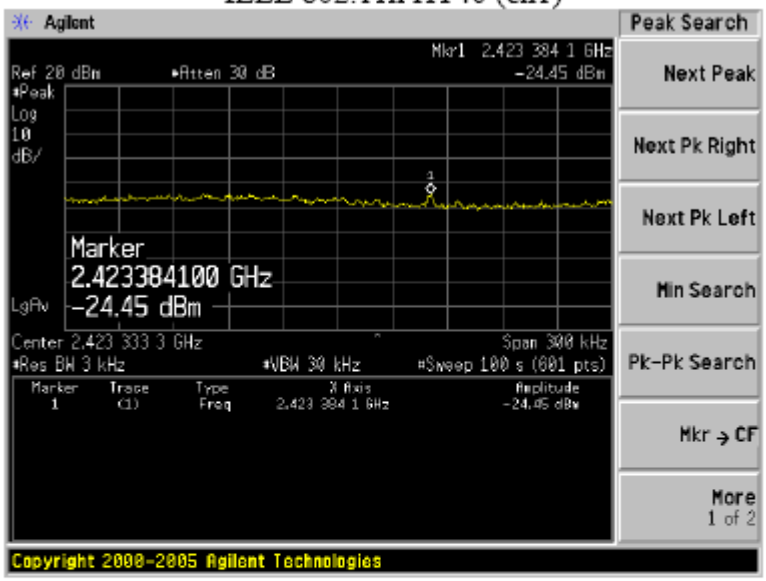
IEEE 802.11n HT20 (ch6)



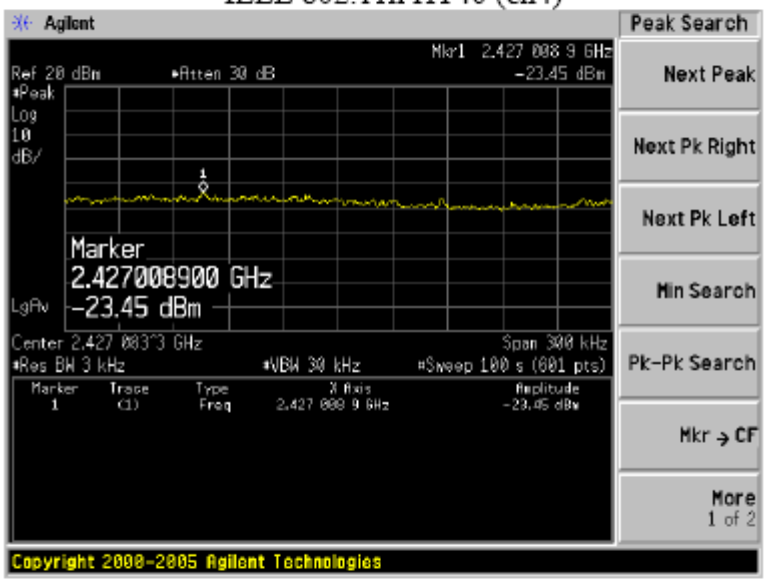
IEEE 802.11n HT20 (ch11)



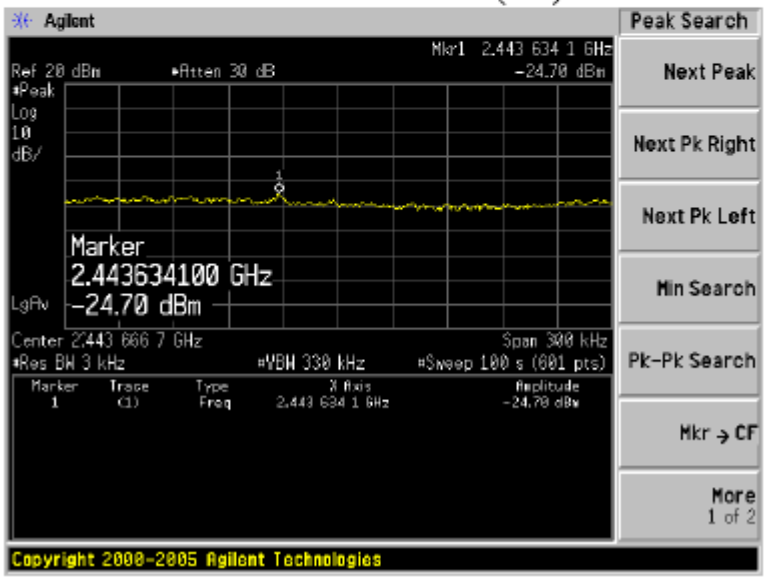
IEEE 802.11n HT40 (ch1)



IEEE 802.11n HT40 (ch4)



IEEE 802.11n HT40 (ch7)



4.6.ANTENNA REQUIREMENT

4.6.1. 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.

4.6.2. ANTENNA CONNECTED CONSTRUCTION

The antenna used for this product is antenna with SMA-B connector (see EUT photo) that no antenna other than that furnished by the responsible party shall be used with the device, The maximum peak gain of this antenna is only 1.2dBi.

4.7. Radiated Emission

4.7.1. Test limits

1) FCC part 15C section 15.209
2) FCC part 15C section 15.247(d)

4.7.2. Test procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower.

At the frequency band of 30MHz to 1GHz,The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna.

At the frequency band of 1GHz to 25GHz,The measuring antenna moved from 1 to 4 m for horizontal and vertical polarization. The horn antenna was usedas a receiving antenna. The resolution bandwidth and video bandwidth of the test receiver was 120 KHz and 300KHz for Quasi-peak detection at frequency below 1GHz.
The resolution bandwidth and video bandwidth of the test receiver was1MHz and 1MHz for Peak detection at frequency above 1GHz.

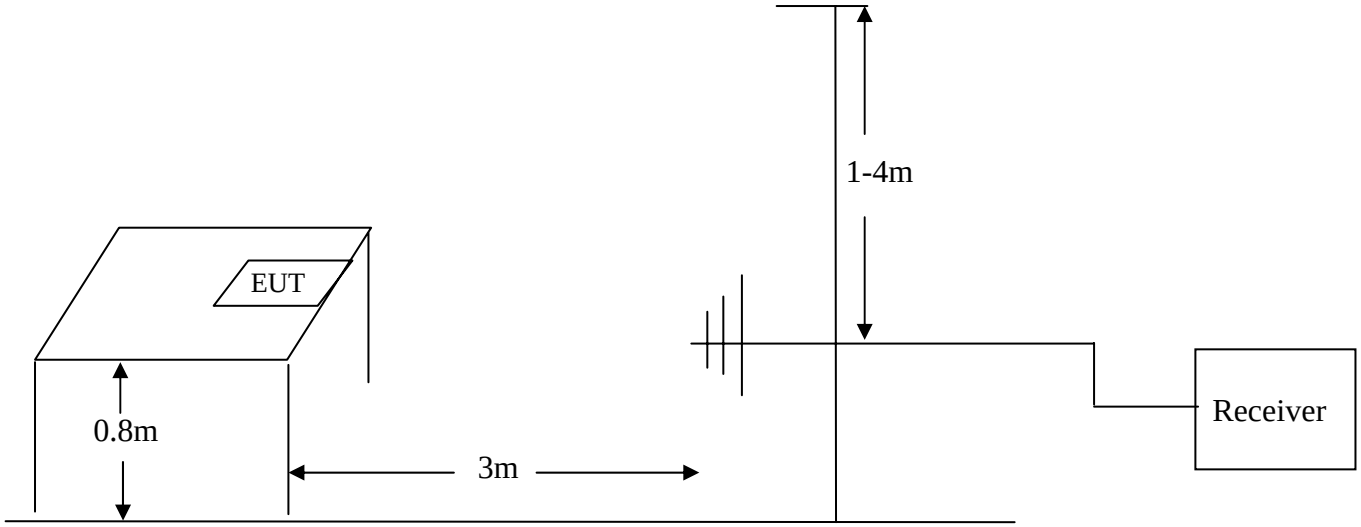
For Average measurement at frequency above 1GHz.The resolution bandwidth of the test receiver was 1MHz ; due to the shortest pulse width T is 116us, according the video bandwidth should not smaller than 1/T,so the video bandwidth is 10Hz.

In 18GHz to 25GHz, The EUT was checked by Horn ANT . But the test result is background.

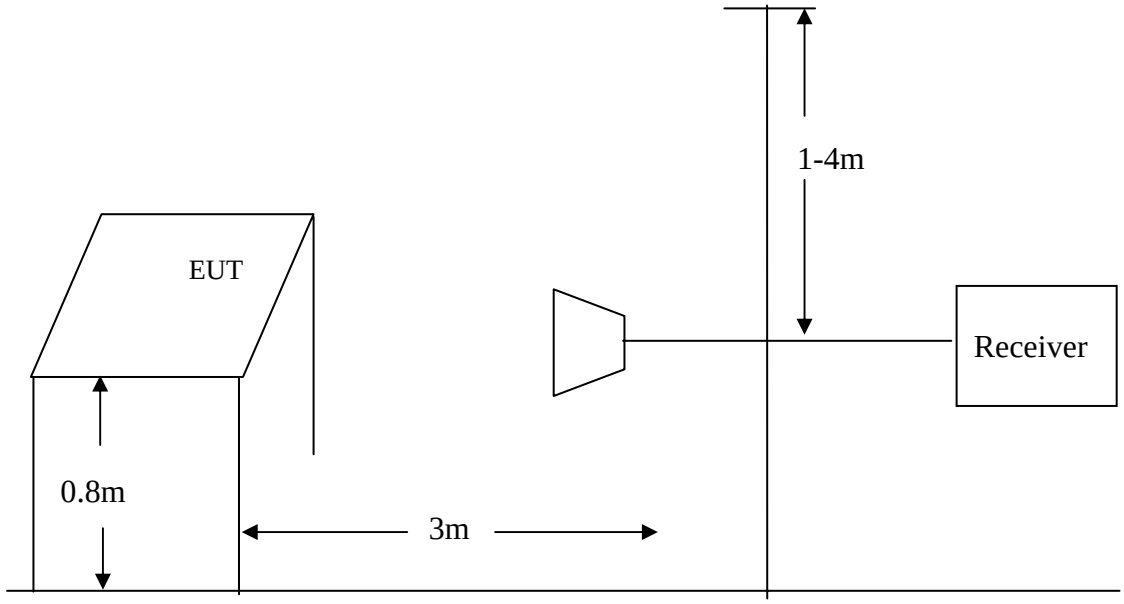
The EUT was tested in Chamber Site.

4.7.3. Test Setup Diagram

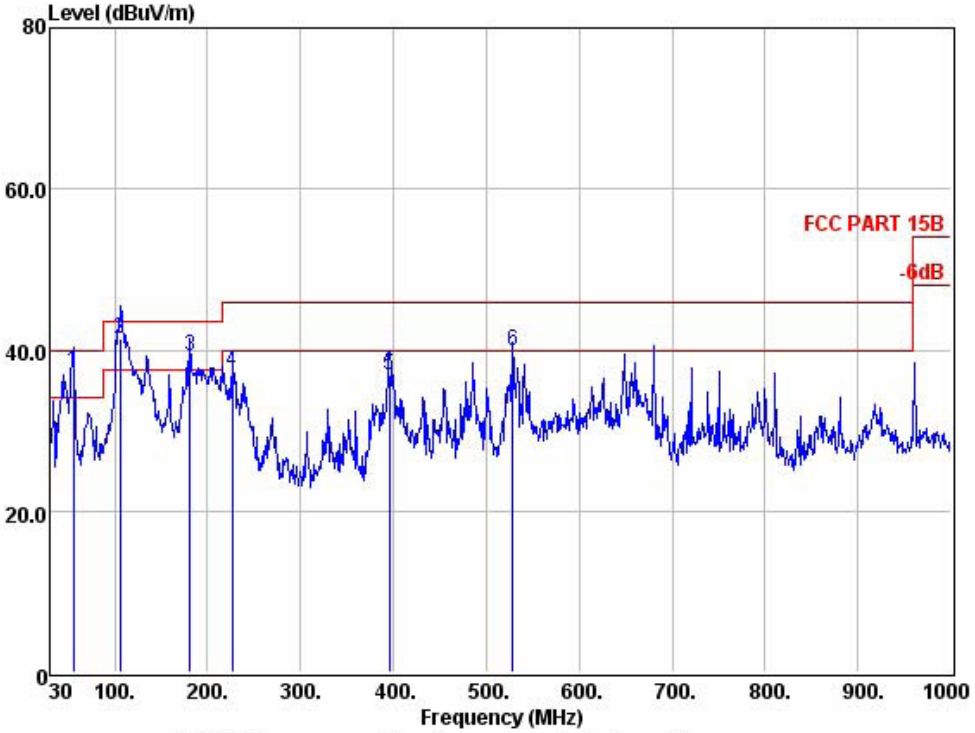
Frequency range: 30MHz-1000MHz



Frequency range: 1 GHz -18GHz

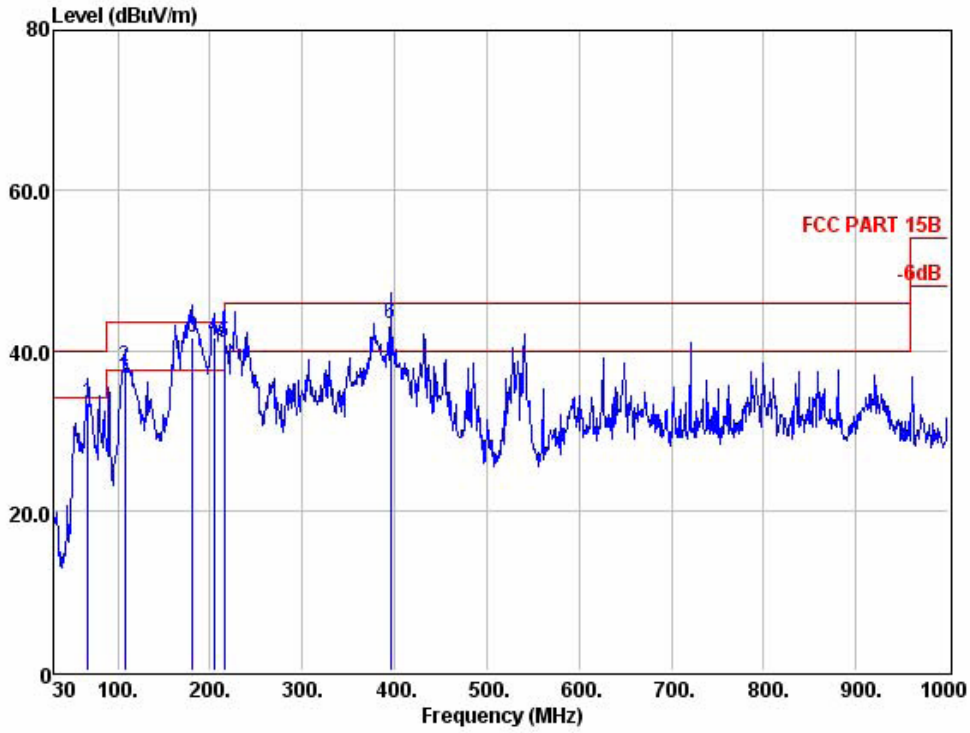


Model No.: U0102	**Test Mode:** TX Mode
Antenna Pol. :VERTICAL	



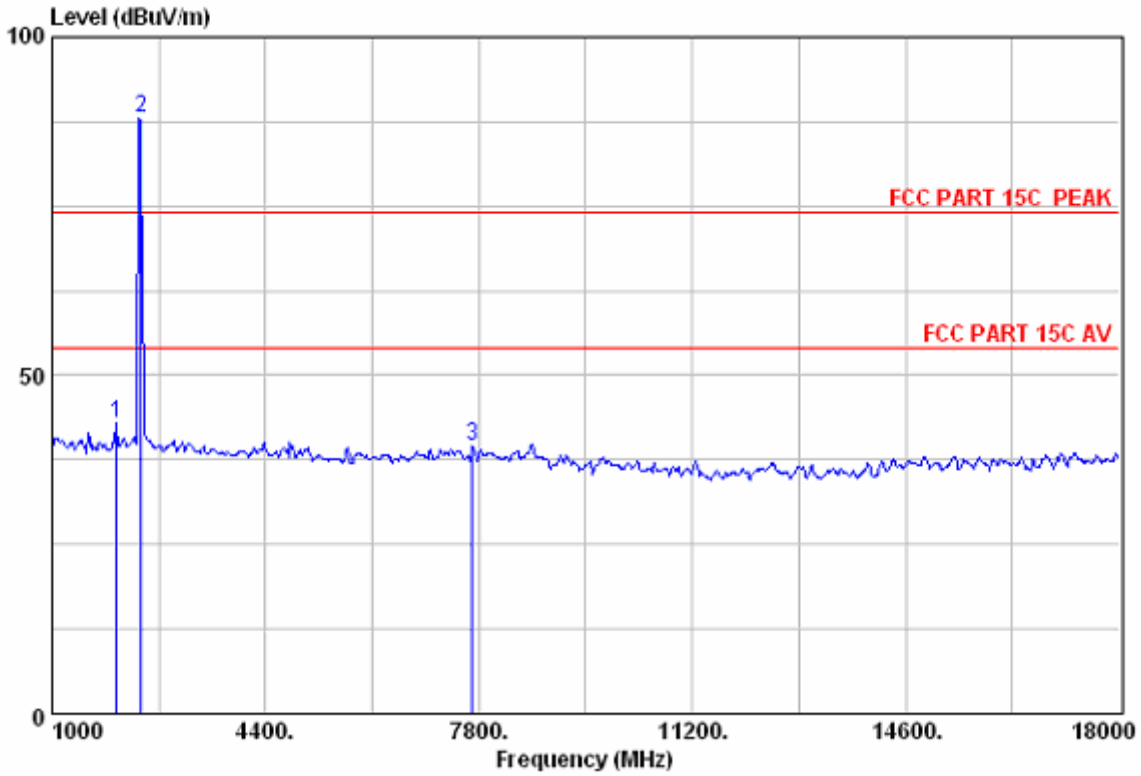
	Freq	Cable Loss	Antenna Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1 !	55.22	0.70	8.02	28.55	37.27	40.00	-2.73	QP
2 !	105.66	1.05	9.43	30.94	41.42	43.50	-2.08	QP
3 !	181.32	1.40	10.36	27.59	39.35	43.50	-4.15	QP
4	226.91	1.61	12.25	23.35	37.21	46.00	-8.79	QP
5	395.69	2.33	16.28	18.22	36.83	46.00	-9.17	QP
6 !	528.58	3.02	19.24	17.74	40.00	46.00	-6.00	QP

Model No.: U0102	**Test Mode:** TX Mode
Antenna Pol. : HORIZONTAL	



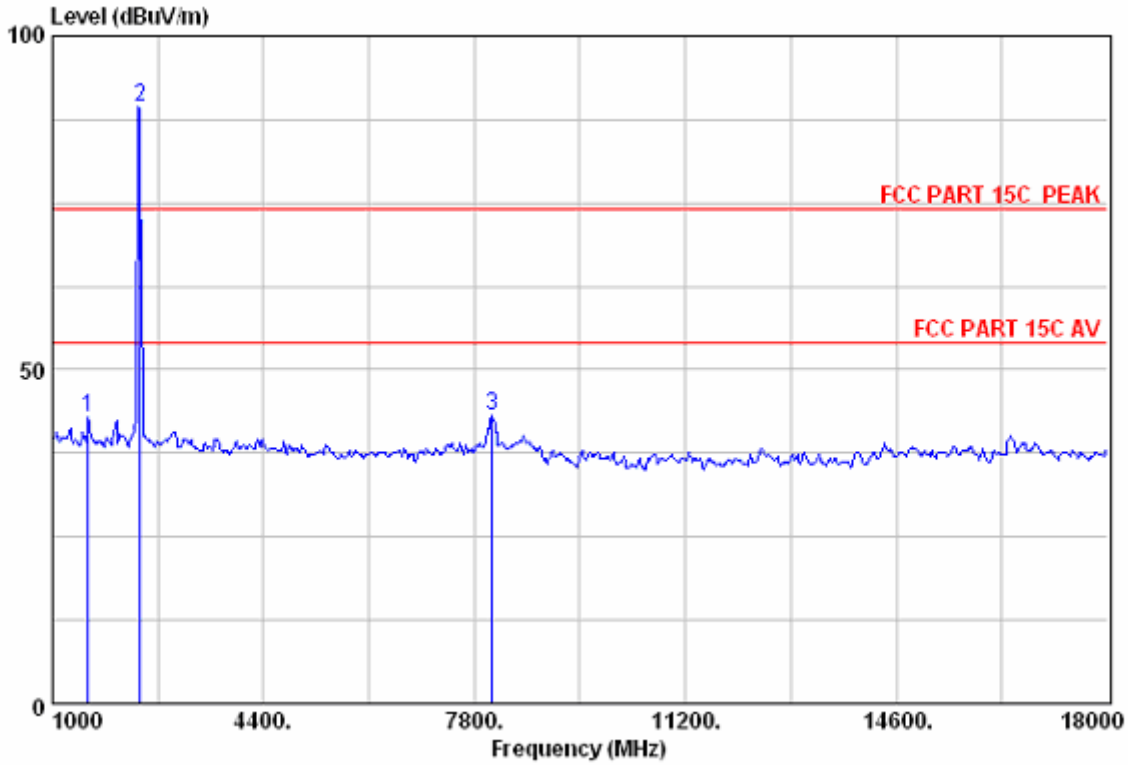
	Freq	Cable Loss	Antenna Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	67.83	0.79	7.46	25.29	33.54	40.00	-6.46	QP
2 !	107.60	1.05	9.37	27.64	38.06	43.50	-5.44	QP
3 !	181.32	1.40	10.36	29.91	41.67	43.50	-1.83	QP
4 !	204.60	1.50	11.22	28.94	41.66	43.50	-1.84	QP
5 !	215.27	1.56	11.73	27.75	41.04	43.50	-2.46	QP
6 !	395.69	2.33	16.28	24.66	43.27	46.00	-2.73	QP

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



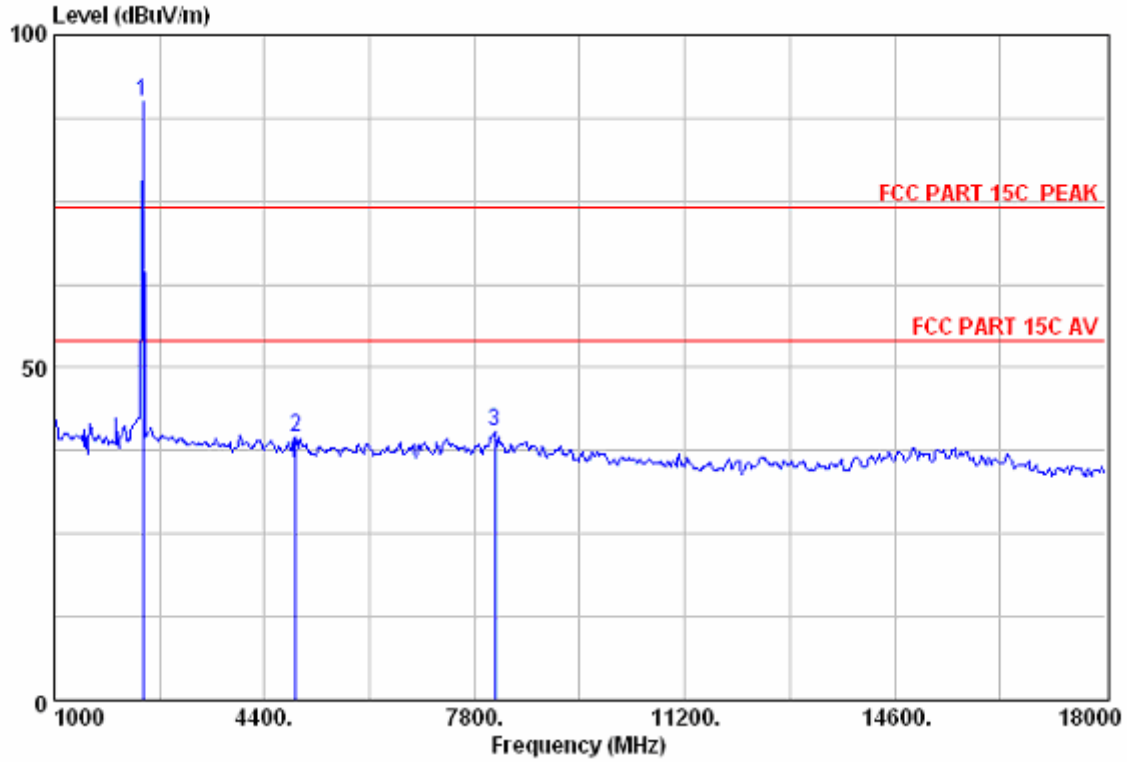
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2020.00	42.83	74.00	31.17	9.51	31.12	2.20	Peak
2	2412.00	88.06	74.00	-14.06	54.33	31.50	2.23	Peak
3	7698.00	39.63	74.00	34.37	0.19	36.88	2.56	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



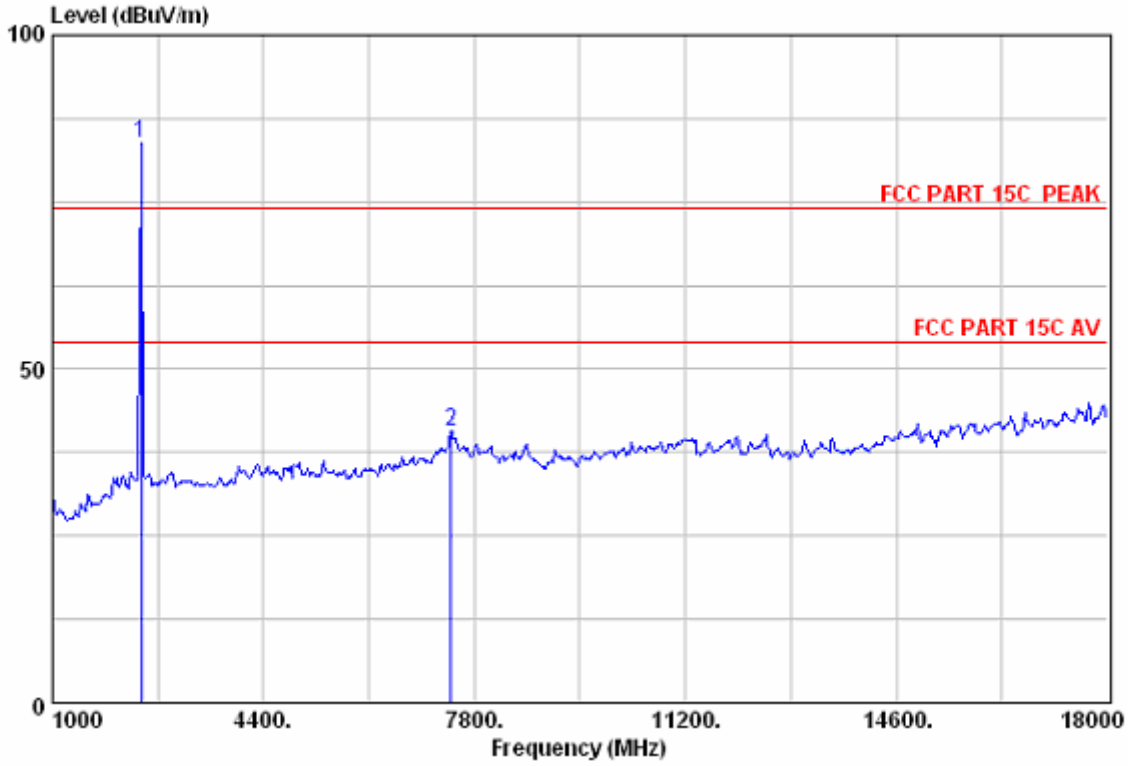
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	1578.00	43.00	74.00	31.00	12.64	28.20	2.16	Peak
2	2412.00	89.41	74.00	-15.41	55.68	31.50	2.23	Peak
3	8089.00	43.18	74.00	30.82	3.62	36.98	2.58	Peak

Model No.: U0102	**Test Mode:** 802.11b CH6 2437MHz TX Mode
Antenna Pol. : HORIZONTAL	



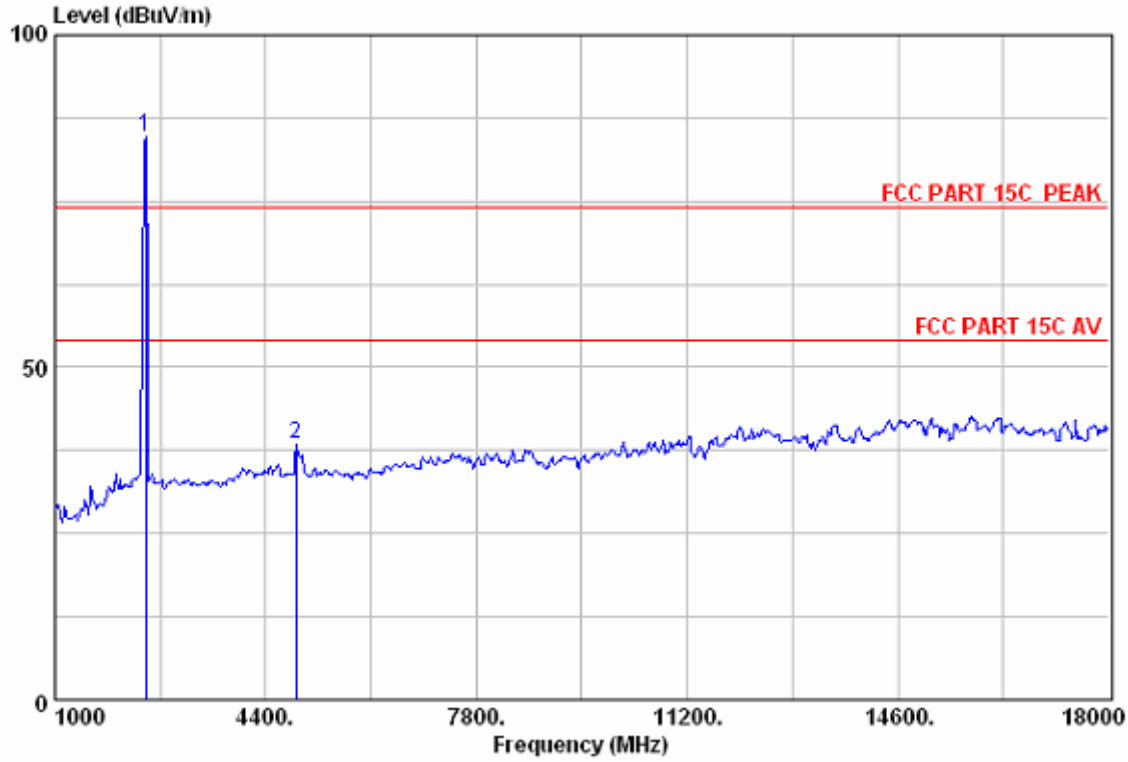
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	89.84	74.00	-15.84	56.07	31.54	2.23	Peak
2	4910.00	39.61	74.00	34.39	2.59	34.64	2.38	Peak
3	8123.00	40.27	74.00	33.73	0.72	36.97	2.58	Peak

Model No.: U0102	**Test Mode:** 802.11b CH6 2437MHz TX Mode
Antenna Pol. :VERTICAL	



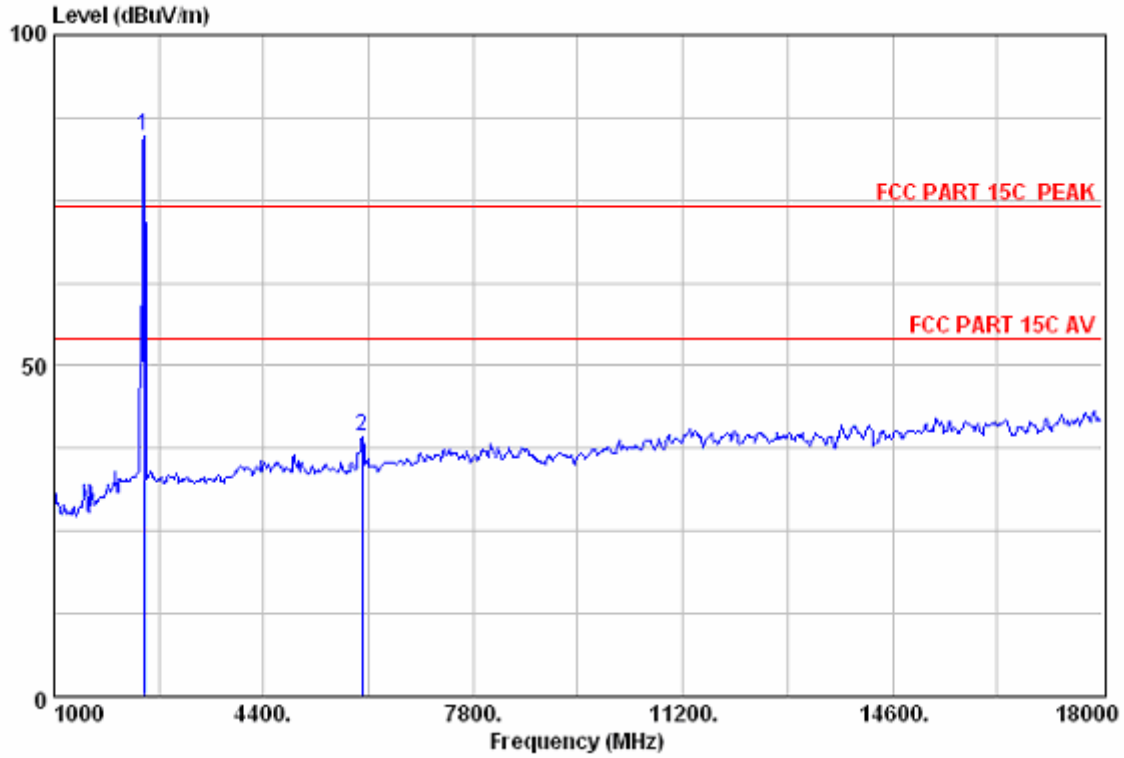
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	83.94	74.00	-9.94	50.17	31.54	2.23	Peak
2	7426.00	40.78	74.00	33.22	1.42	36.82	2.54	Peak

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



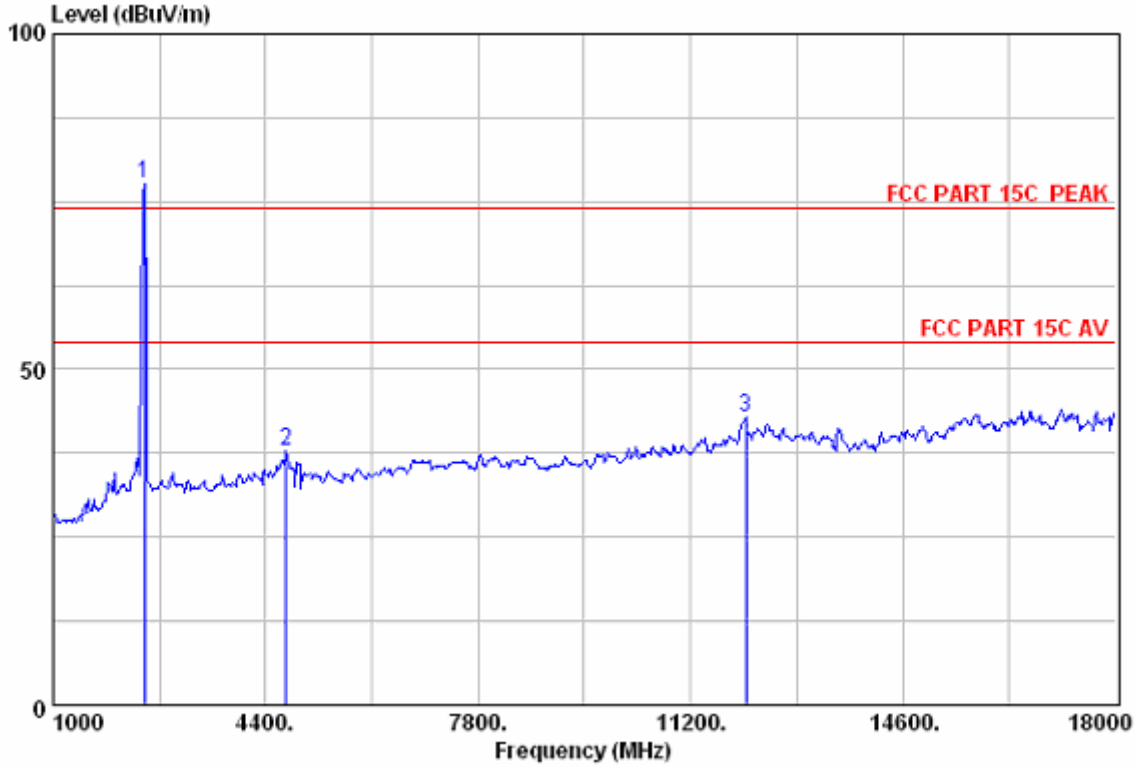
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	84.72	74.00	-10.72	50.93	31.56	2.23	Peak
2	4893.00	38.37	74.00	35.63	1.36	34.63	2.38	Peak

Model No.: U0102	**Test Mode:** 802.11b CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



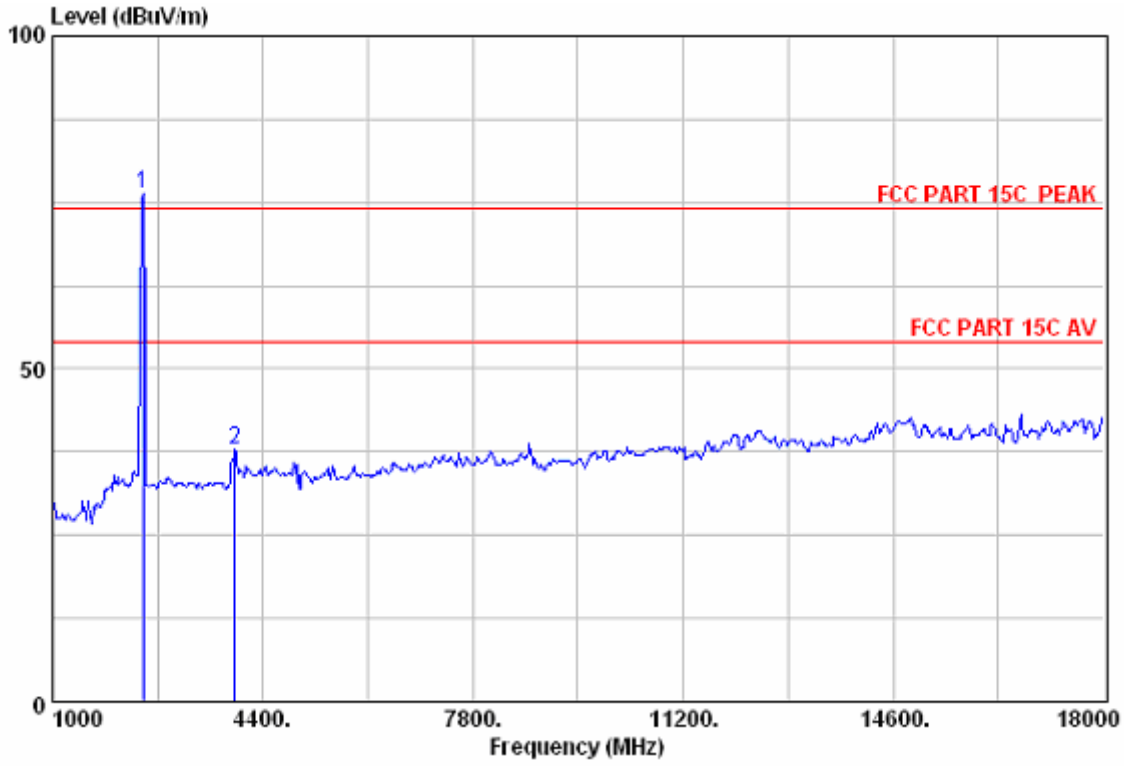
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	84.72	74.00	-10.72	50.93	31.56	2.23	Peak
2	5998.00	39.40	74.00	34.60	0.85	36.10	2.45	Peak

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



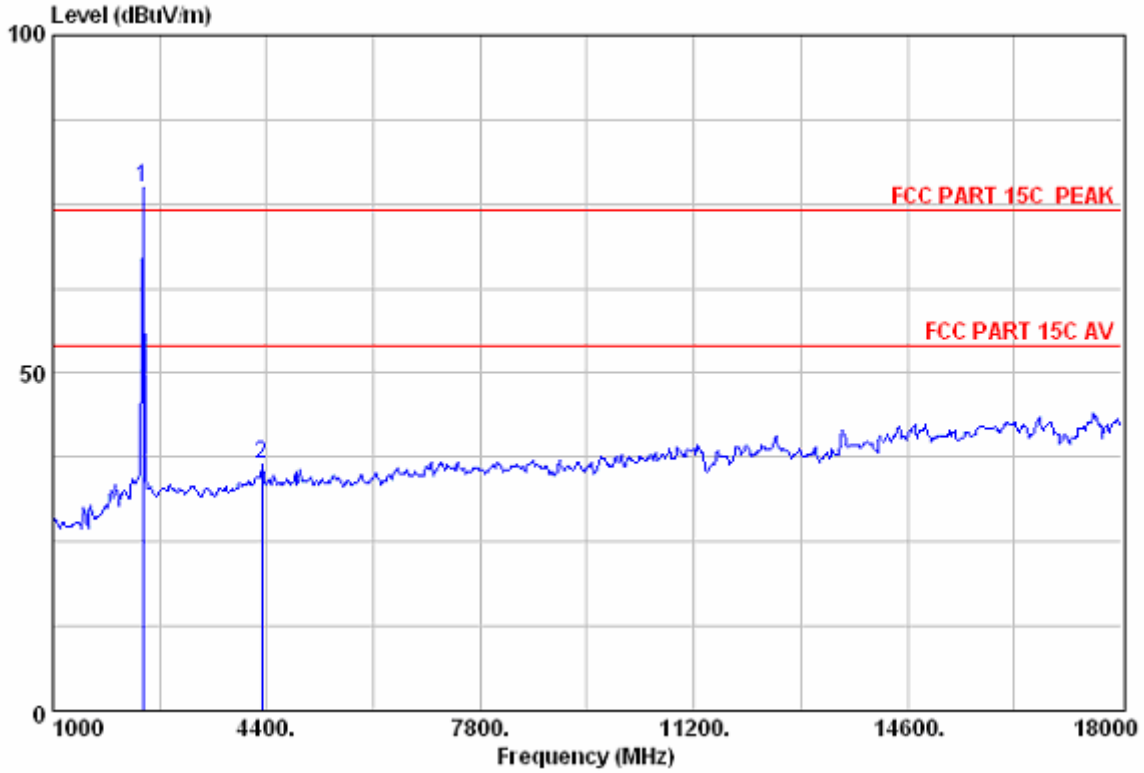
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	77.71	74.00	-3.71	43.92	31.56	2.23	Peak
2	4723.00	37.82	74.00	36.18	0.92	34.53	2.37	Peak
3	12084.00	42.93	74.00	31.07	0.27	39.83	2.83	Peak

Model No.: U0102	**Test Mode:** 802.11g CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	



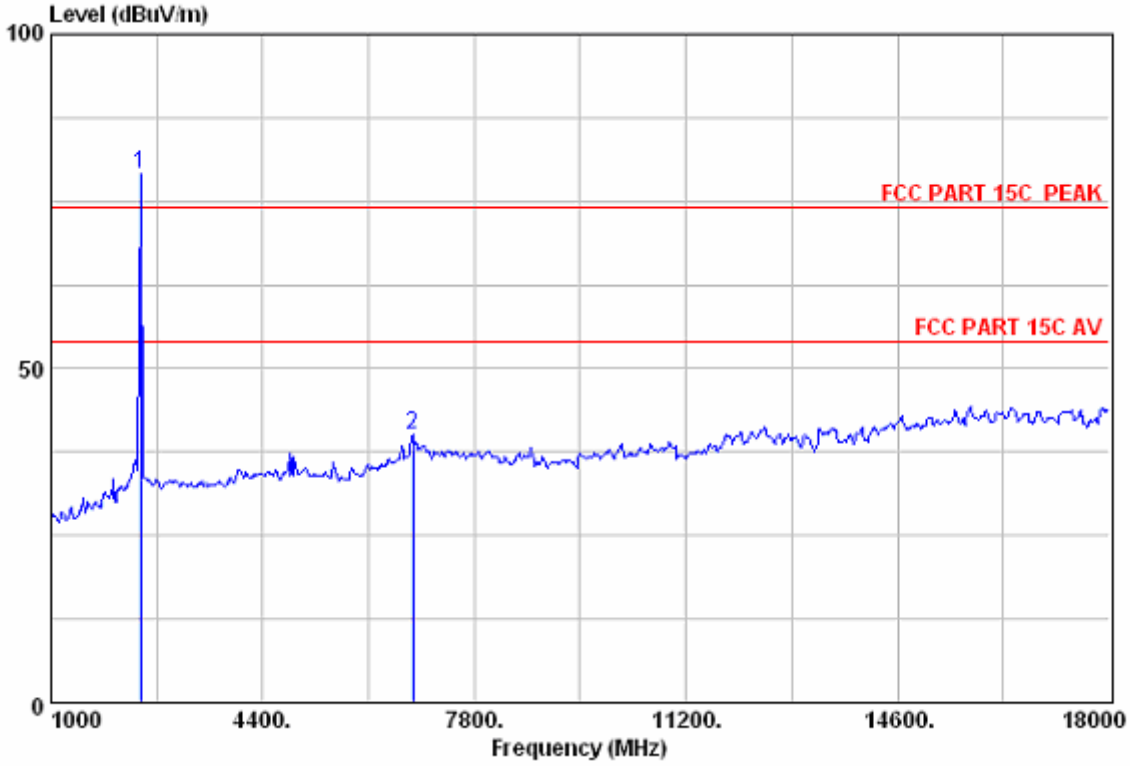
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	76.35	74.00	-2.35	42.56	31.56	2.23	Peak
2	3941.00	37.82	74.00	36.18	1.95	33.55	2.32	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



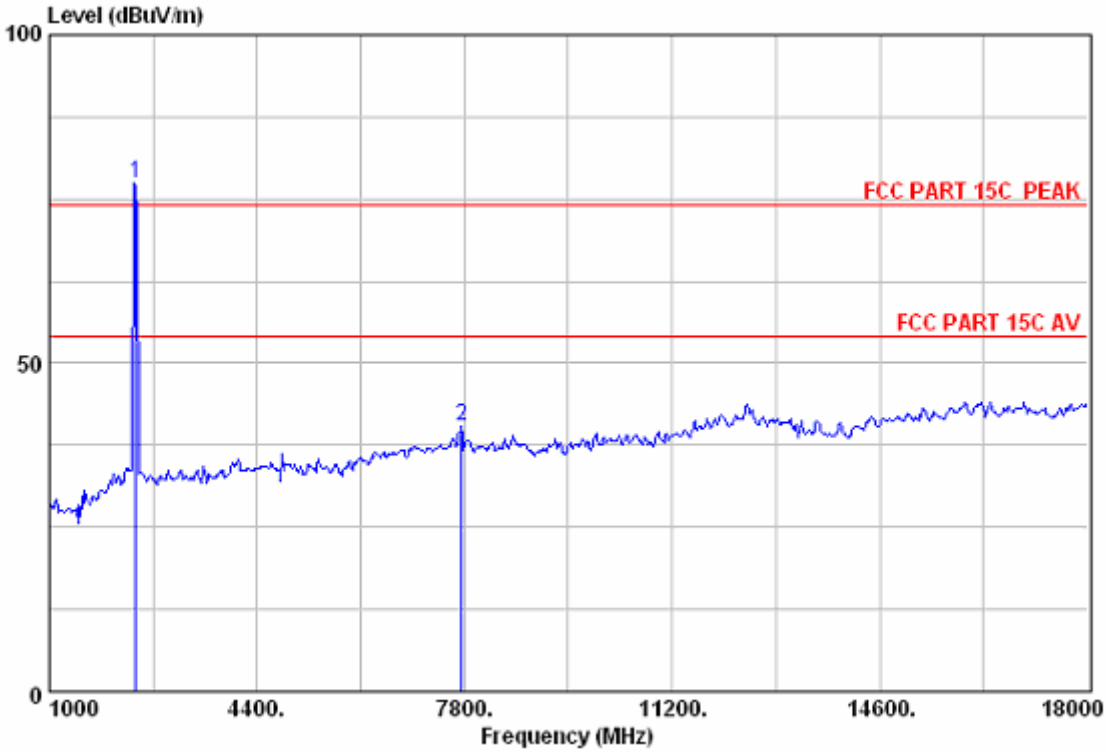
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	77.49	74.00	-3.49	43.72	31.54	2.23	Peak
2	4315.00	36.61	74.00	37.39	0.13	34.13	2.35	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



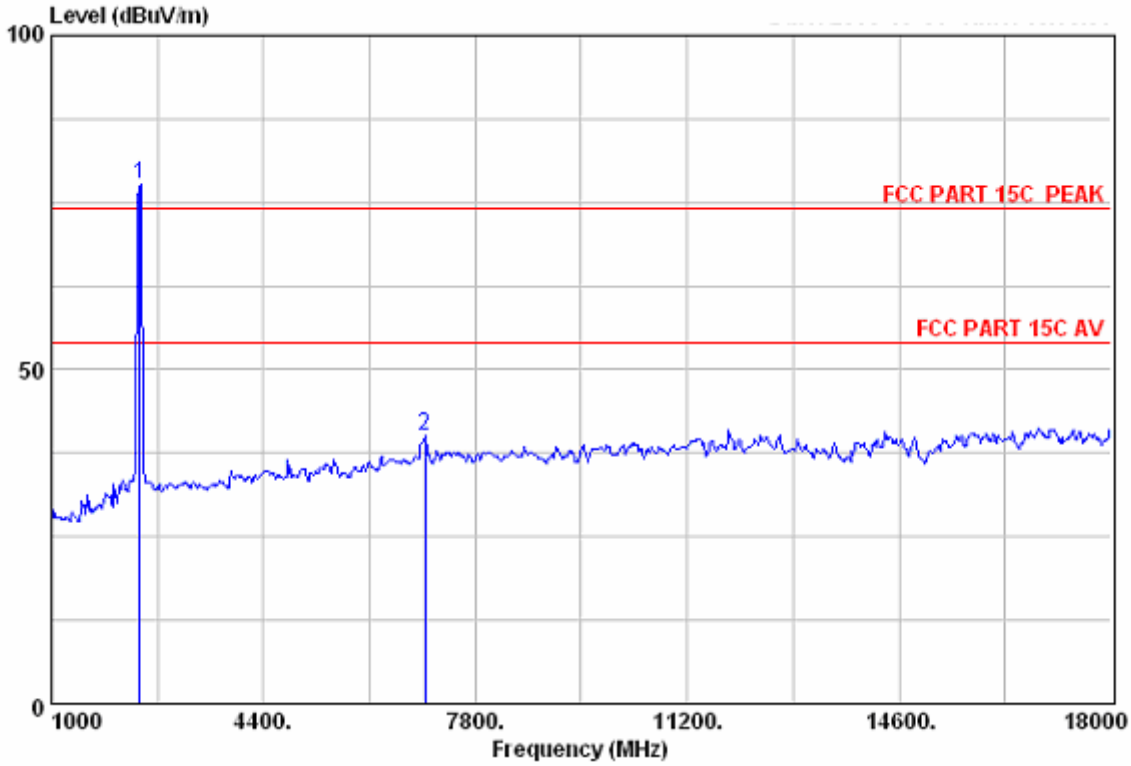
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	79.11	74.00	-5.11	45.34	31.54	2.23	Peak
2	6814.00	40.23	74.00	33.77	0.94	36.79	2.50	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



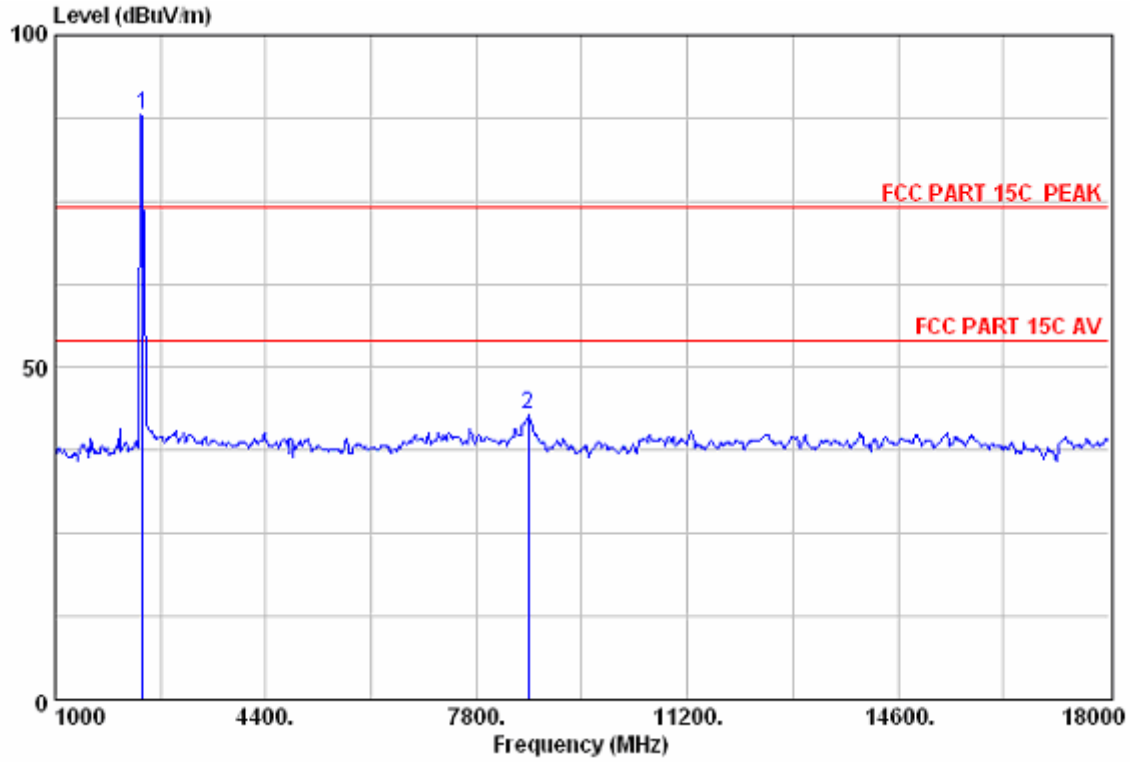
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	77.57	74.00	-3.57	43.84	31.50	2.23	Peak
2	7749.00	40.30	74.00	33.70	0.84	36.90	2.56	Peak

Model No.: U0102	**Test Mode:** 802.11b CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



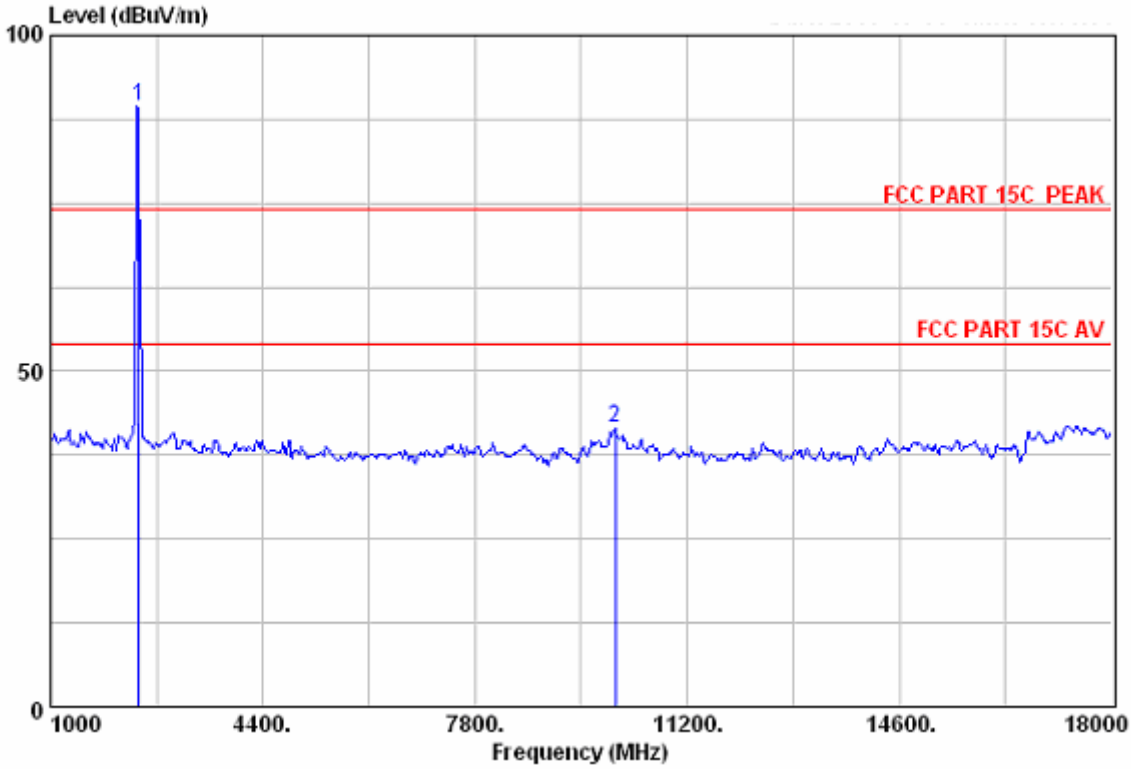
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2412.00	77.71	74.00	-3.71	43.98	31.50	2.23	Peak
2	6984.00	40.21	74.00	33.79	0.81	36.89	2.51	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. :VERTICAL	



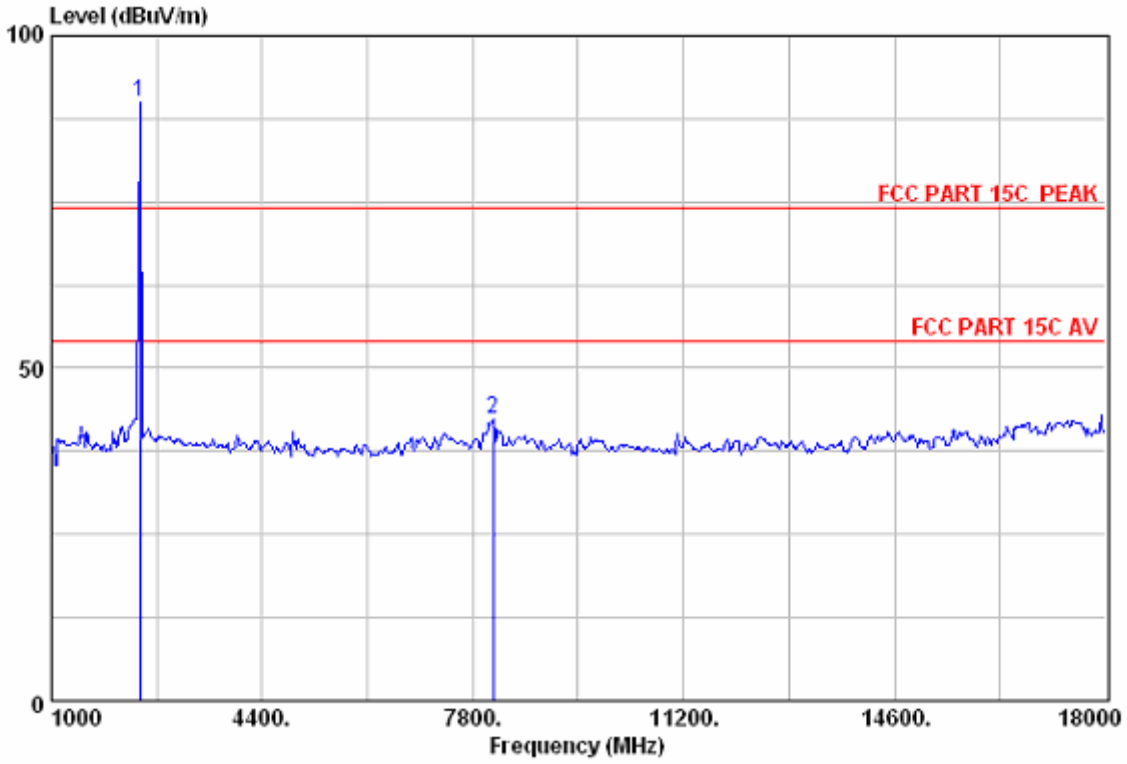
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2422.00	88.06	74.00	-14.06	54.31	31.52	2.23	Peak
2	8633.00	42.95	74.00	31.05	3.38	36.95	2.62	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH1 2422MHz TX Mode
Antenna Pol. : HORIZONTAL	



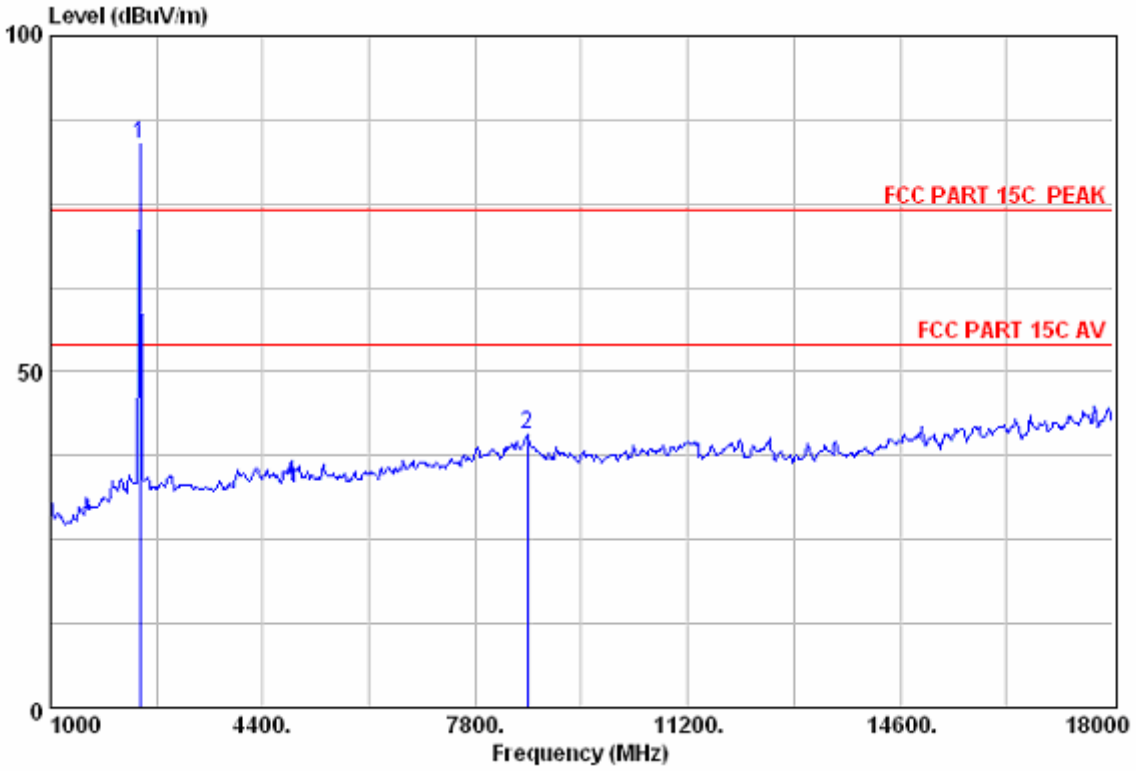
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2422.00	89.41	74.00	-15.41	55.66	31.52	2.23	Peak
2	10044.00	41.61	74.00	32.39	0.89	38.02	2.70	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH4 2437MHz TX Mode
Antenna Pol. : HORIZONTAL	



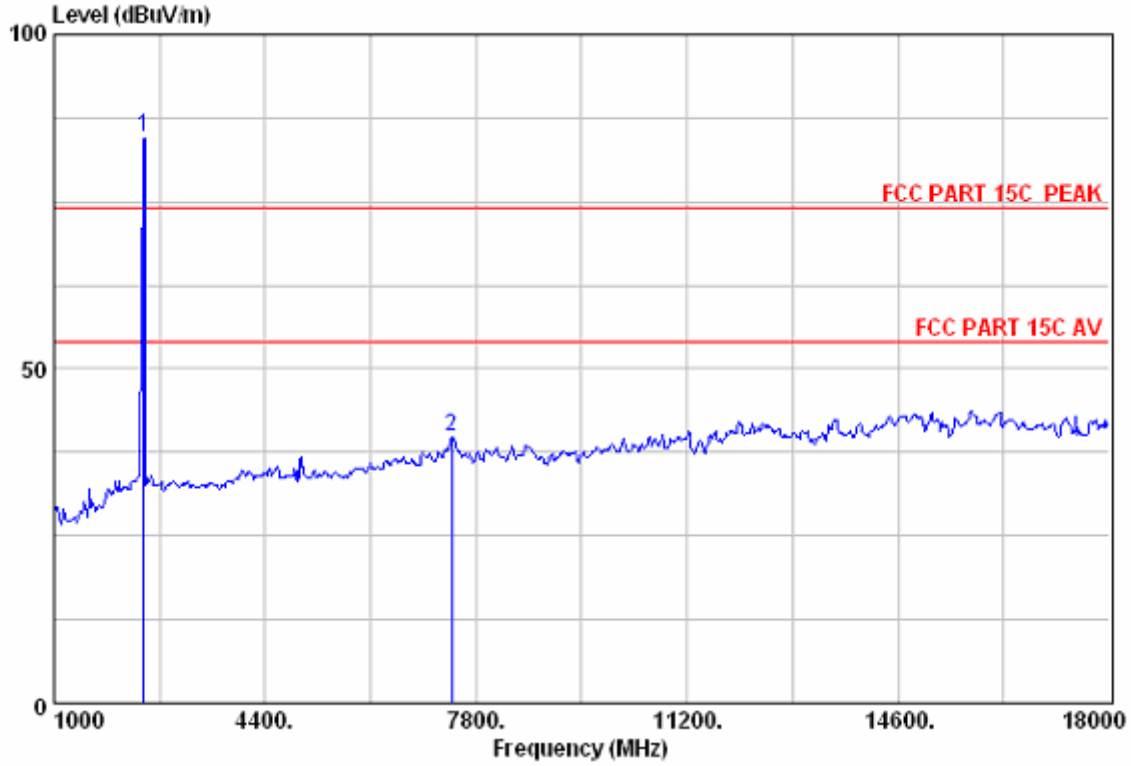
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	89.84	74.00	-15.84	56.07	31.54	2.23	Peak
2	8123.00	42.27	74.00	31.73	2.72	36.97	2.58	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH4 2437MHz TX Mode
Antenna Pol. :VERTICAL	



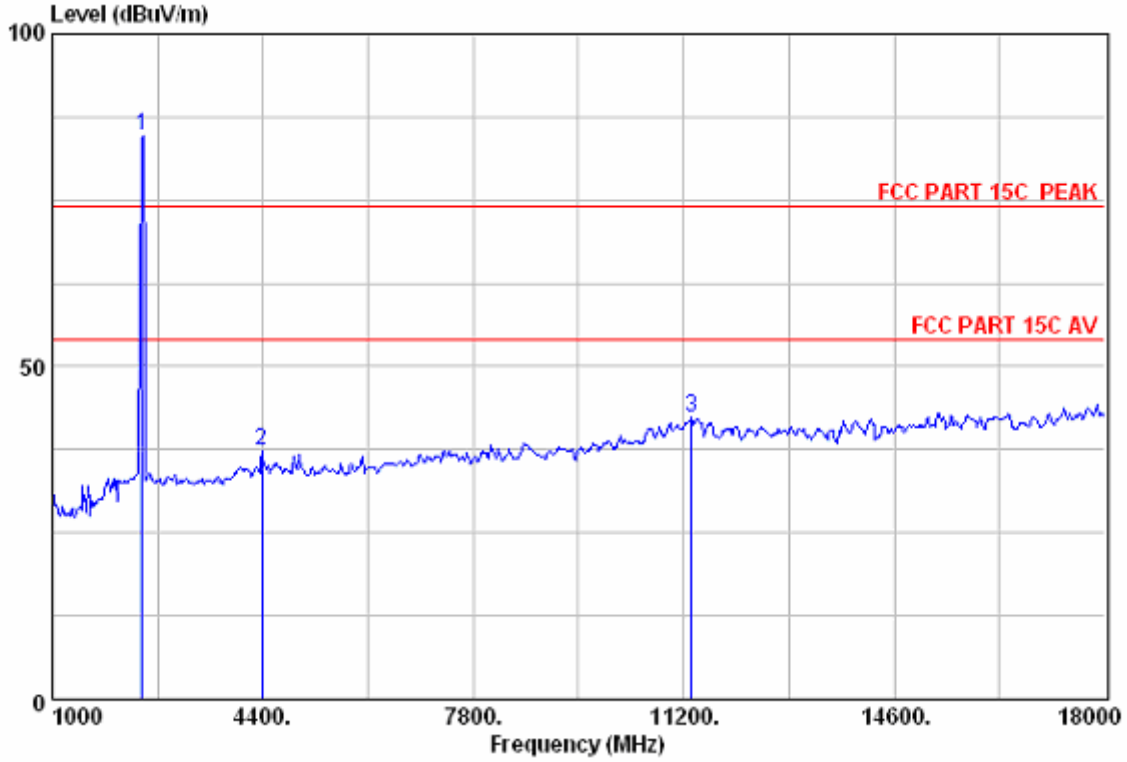
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	83.94	74.00	-9.94	50.17	31.54	2.23	Peak
2	8633.00	40.59	74.00	33.41	1.02	36.95	2.62	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. :VERTICAL	



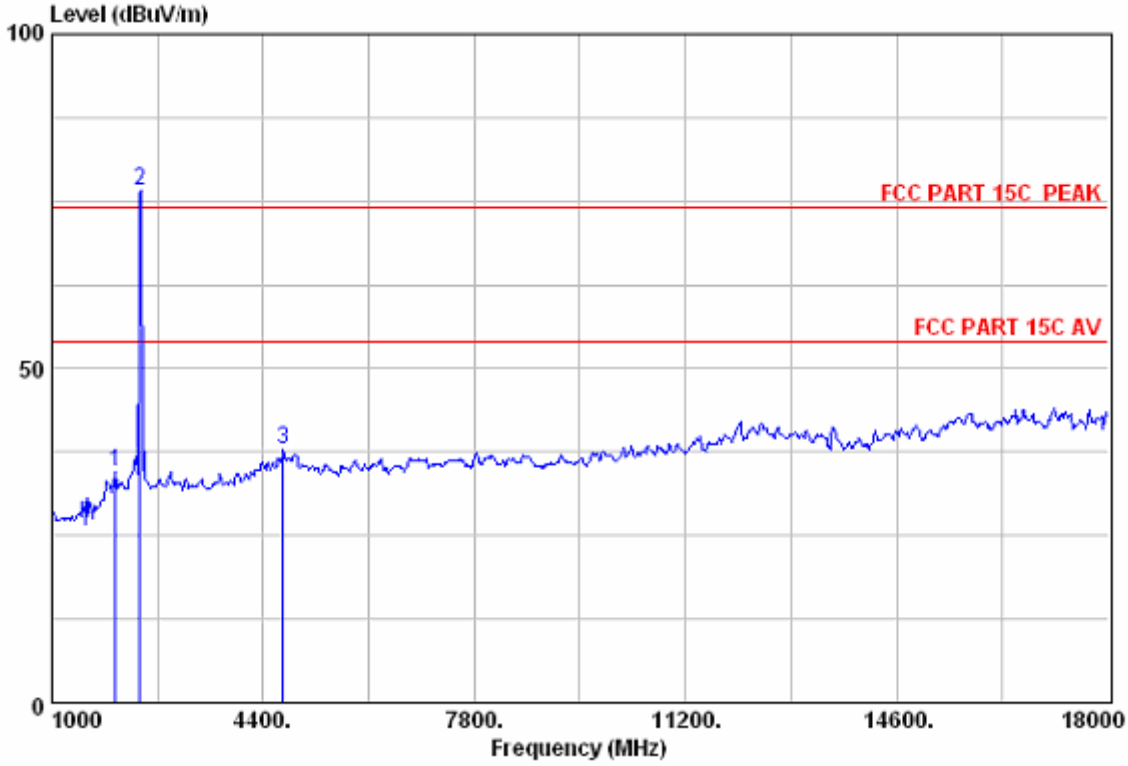
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.00	84.72	74.00	-10.72	50.95	31.54	2.23	Peak
2	7409.00	39.97	74.00	34.03	0.61	36.82	2.54	Peak

Model No.: U0102	**Test Mode:** 802.11n HT40 CH7 2452MHz TX Mode
Antenna Pol. : HORIZONTAL	



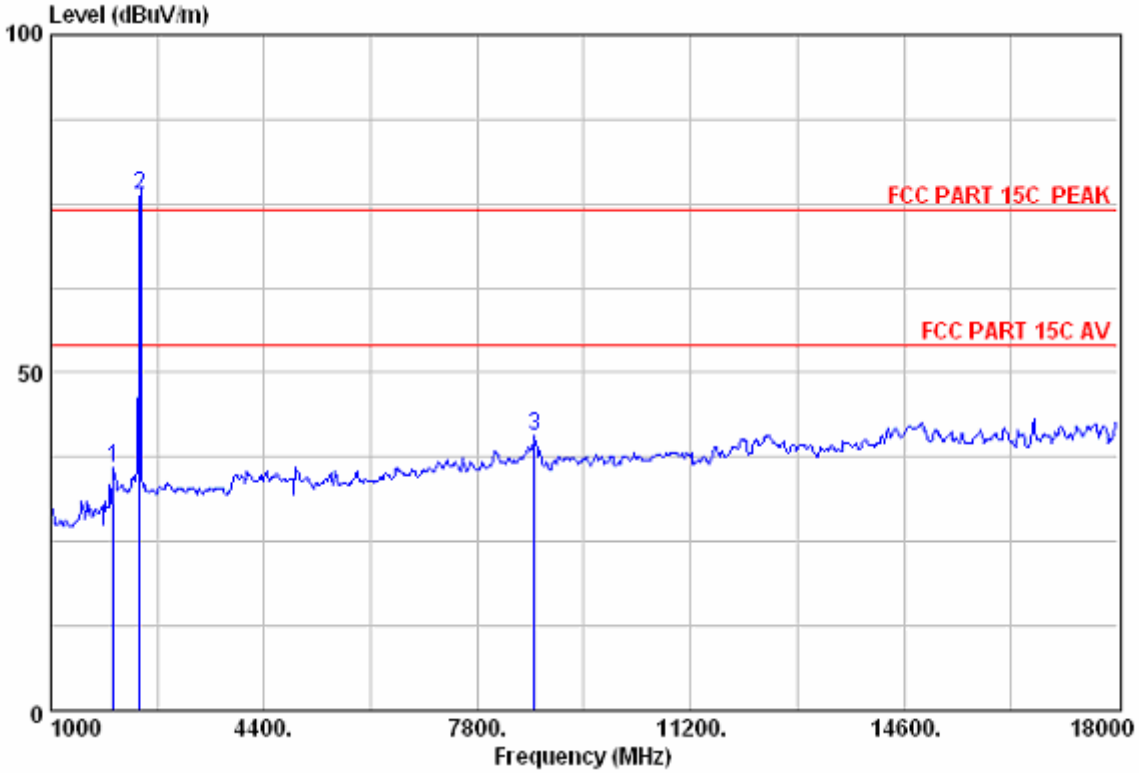
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2452.00	84.72	74.00	-10.72	50.95	31.54	2.23	Peak
2	4383.00	37.30	74.00	36.70	0.71	34.24	2.35	Peak
	311319.00	42.42	74.00	31.58	0.84	38.80	2.78	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2412MHz TX Mode
Antenna Pol. : HORIZONTAL	



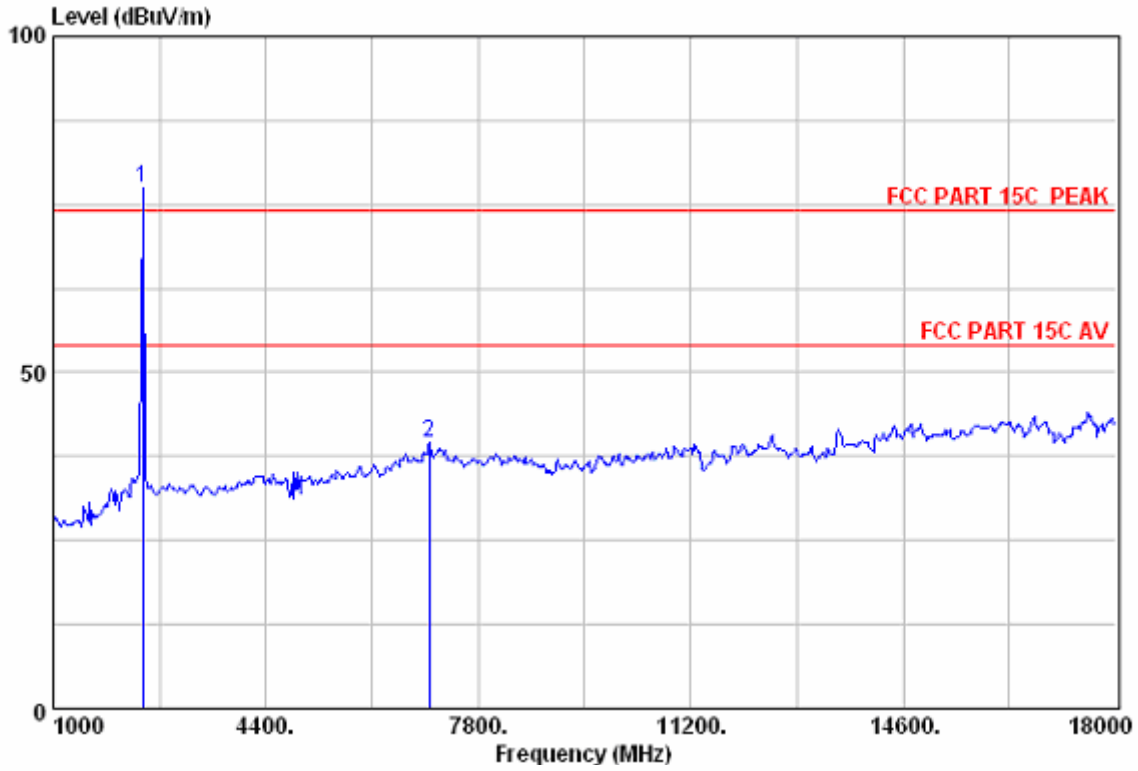
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2020.00	34.49	74.00	39.51	1.17	31.12	2.20	Peak
2	2422.00	76.63	74.00	-2.63	42.88	31.52	2.23	Peak
3	4723.00	37.82	74.00	36.18	0.92	34.53	2.37	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH1 2412MHz TX Mode
Antenna Pol. :VERTICAL	



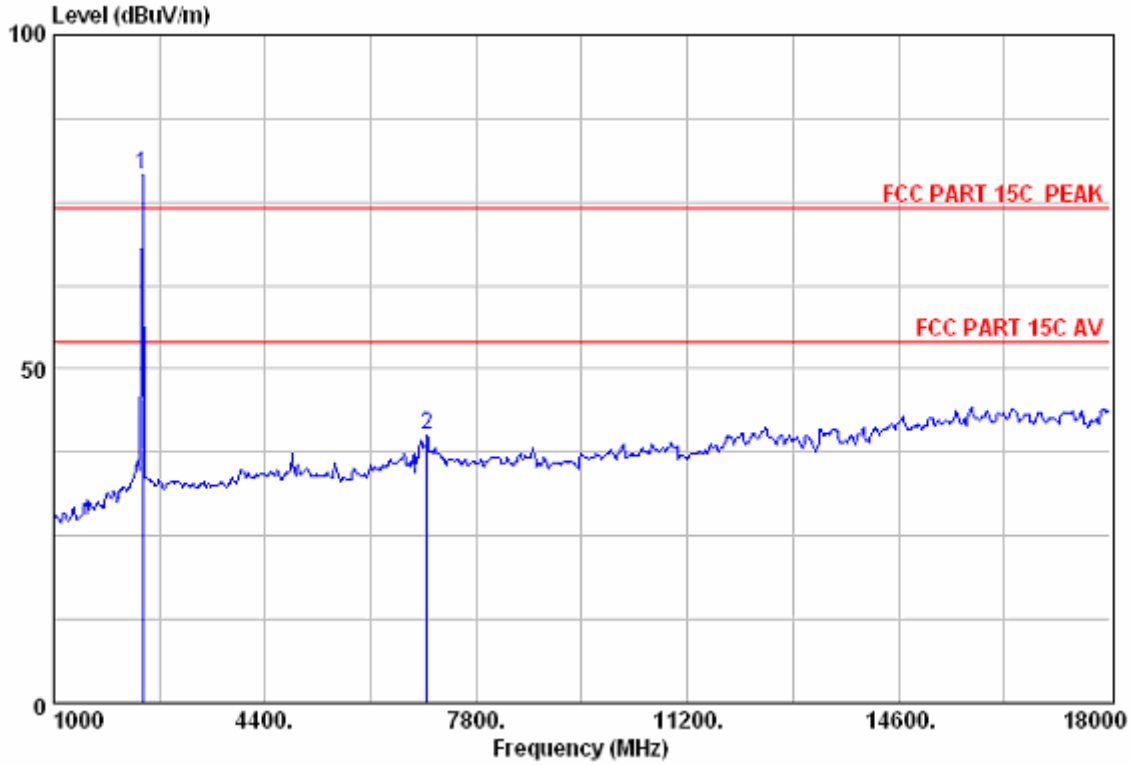
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2003.00	35.98	74.00	38.02	2.68	31.10	2.20	Peak
2	2422.00	76.35	74.00	-2.35	42.60	31.52	2.23	Peak
3	8718.00	40.72	74.00	33.28	1.12	36.98	2.62	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH6 2437MHz TX Mode
Antenna Pol. :VERTICAL	



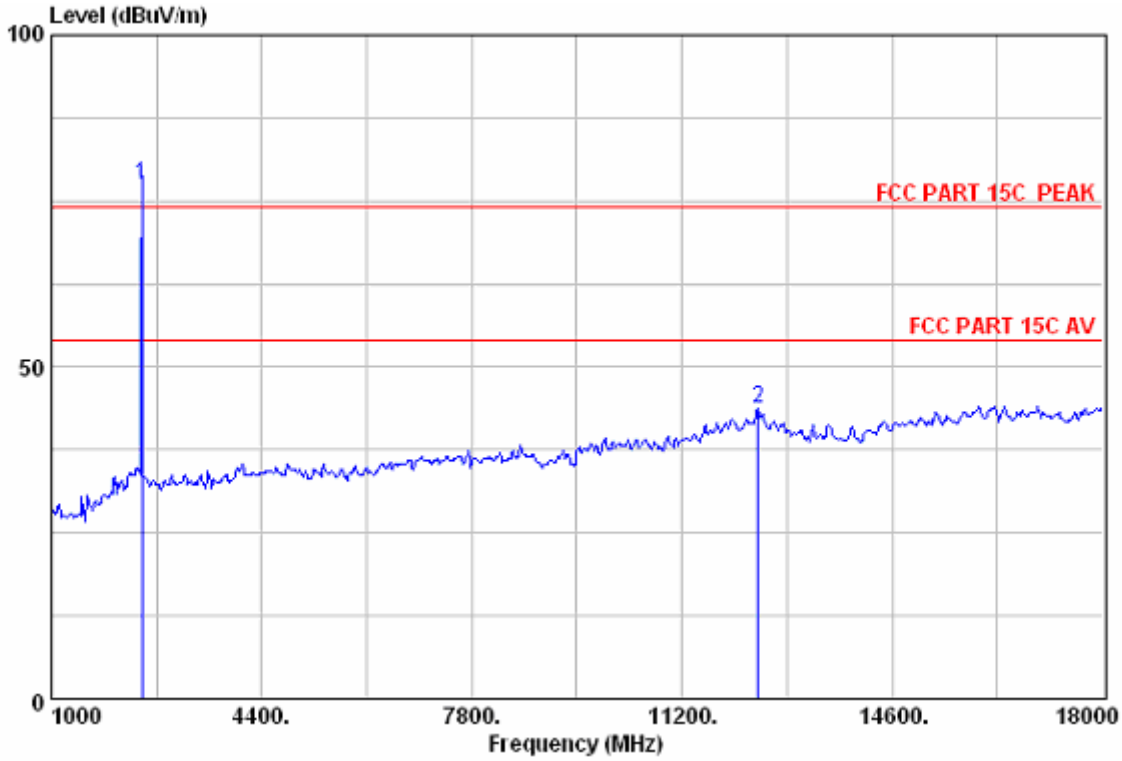
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	77.49	74.00	-3.49	43.72	31.54	2.23	Peak
2	7018.00	39.65	74.00	34.35	0.24	36.90	2.51	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH6 2437MHz TX Mode
Antenna Pol. : HORIZONTAL	



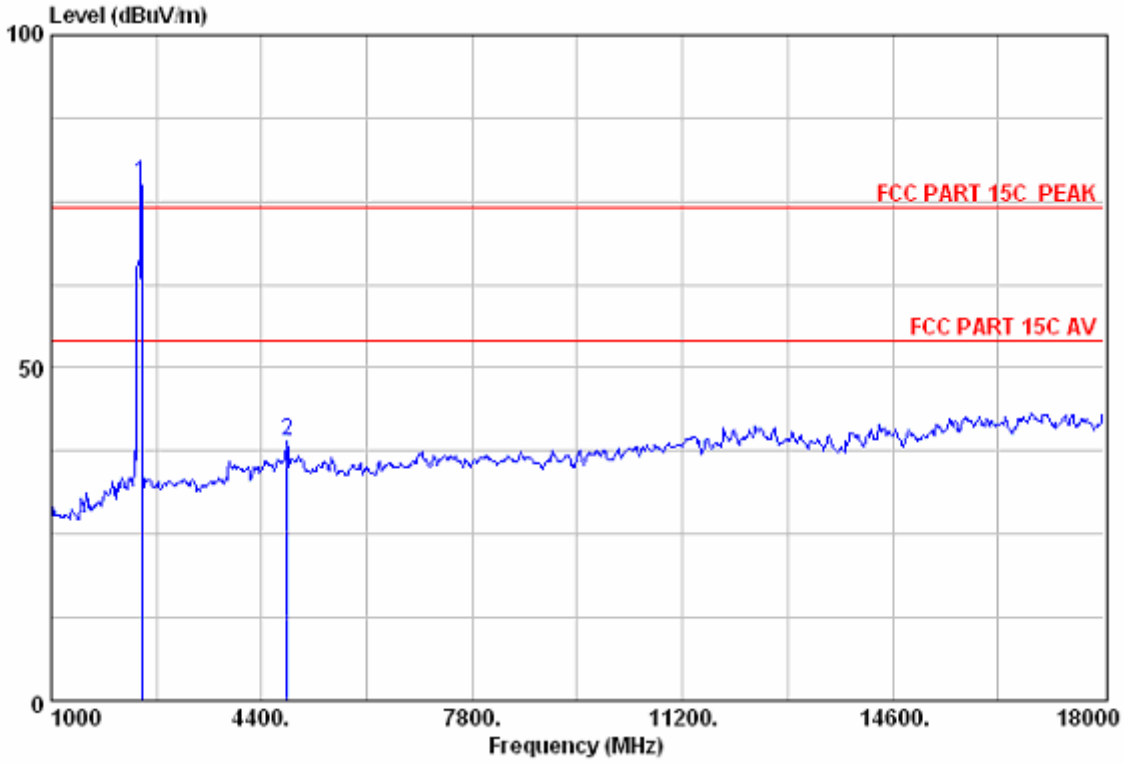
	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2437.00	79.11	74.00	-5.11	45.34	31.54	2.23	Peak
2	7001.00	40.16	74.00	33.84	0.75	36.90	2.51	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. : HORIZONTAL	



	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	77.57	74.00	-3.57	43.78	31.56	2.23	Peak
	212424.00	43.75	74.00	30.25	0.93	39.97	2.85	Peak

Model No.: U0102	**Test Mode:** 802.11n HT20 CH11 2462MHz TX Mode
Antenna Pol. :VERTICAL	

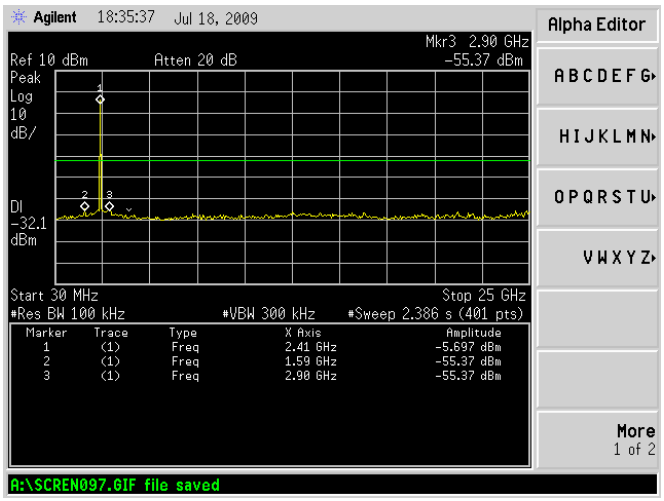


	Freq. (MHz)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Reading (dBuV)	Ant. Factor (dB/m)	Cable Loss (dB)	Remark
1	2462.00	77.71	74.00	-3.71	43.92	31.56	2.23	Peak
2	4808.00	38.98	74.00	35.02	2.02	34.58	2.38	Peak

Conducted emission test data:

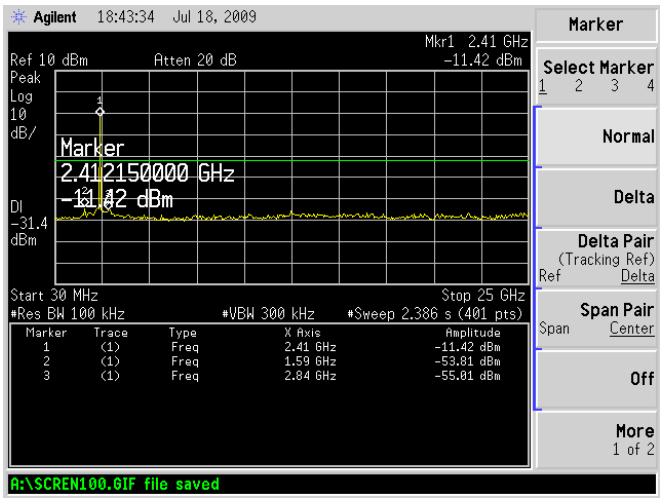
Test Mode: 802.11b TX

Test CH1: 2412MHz

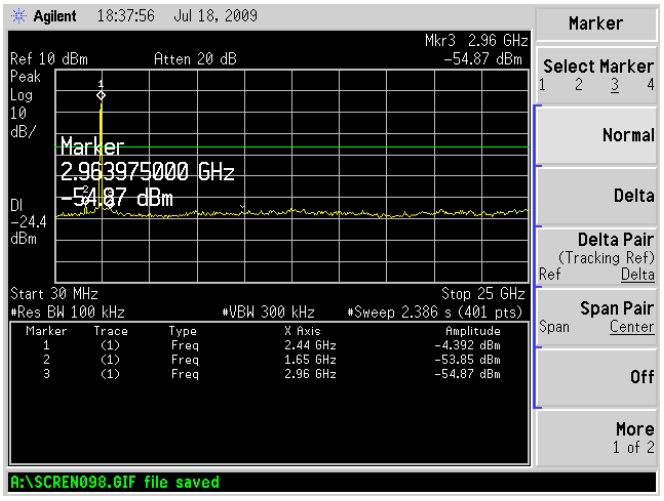


Test Mode: 802.11g TX

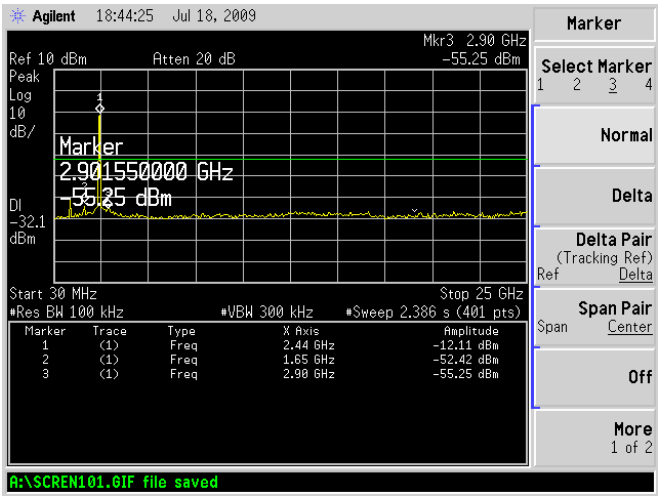
Test CH1: 2412MHz



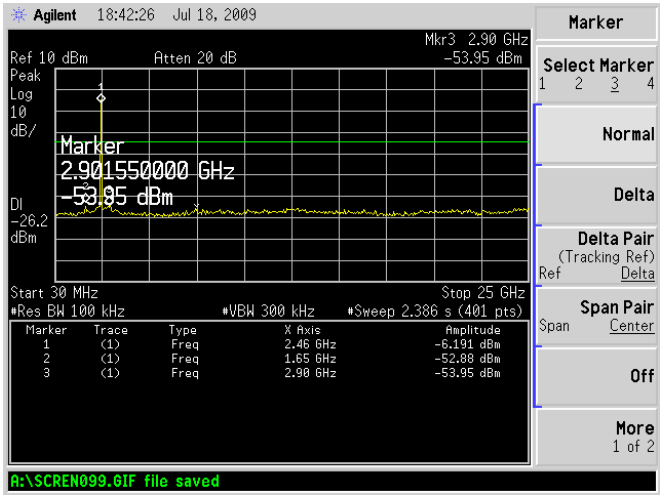
Test CH6: 2437MHz



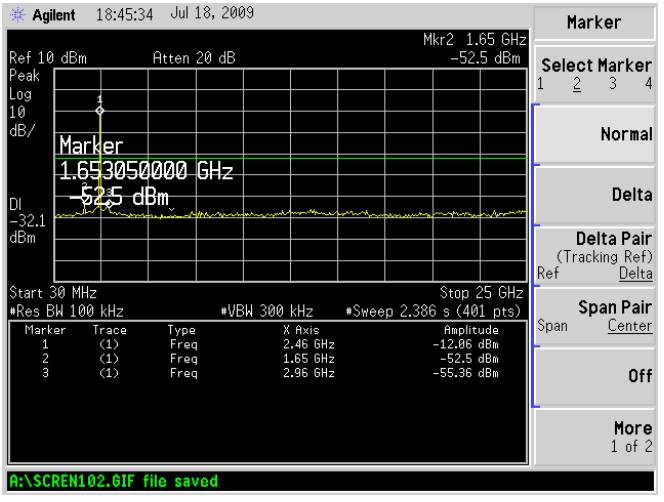
Test CH6: 2437MHz



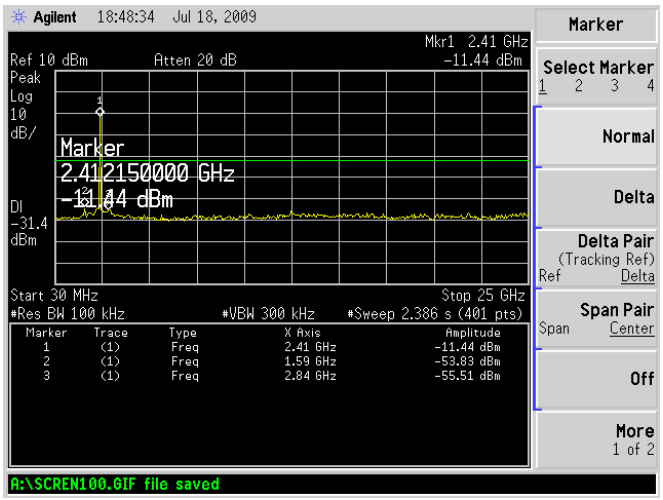
Test CH11: 2462MHz



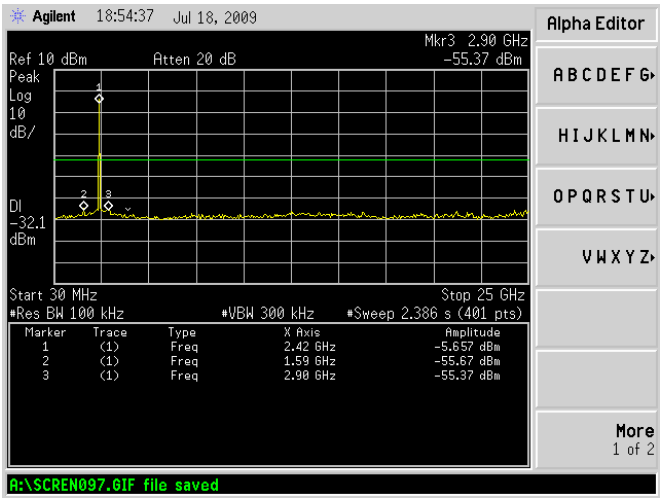
Test CH11: 2462MHz



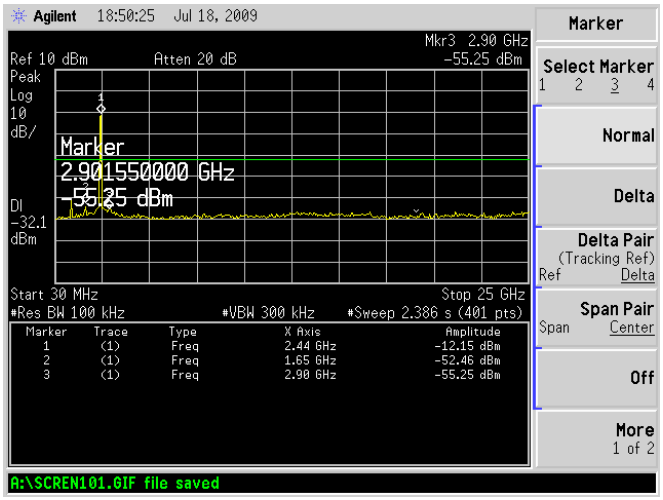
Test Mode: 802.11n TX (HT20)
Test CH1: 2412MHz



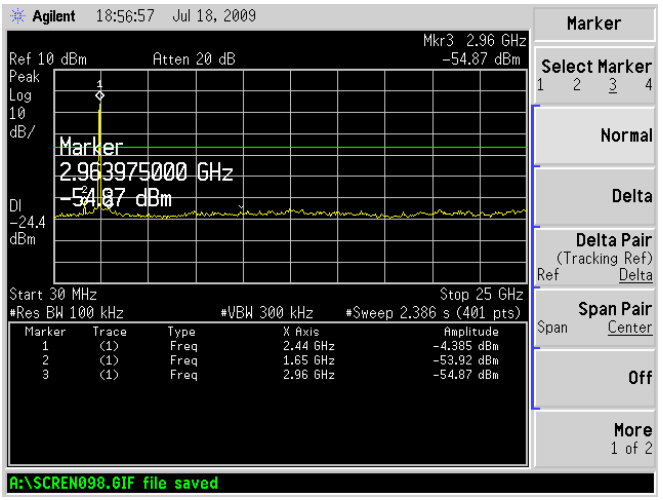
Test Mode: 802.11n TX (HT40)
Test CH1: 2422MHz



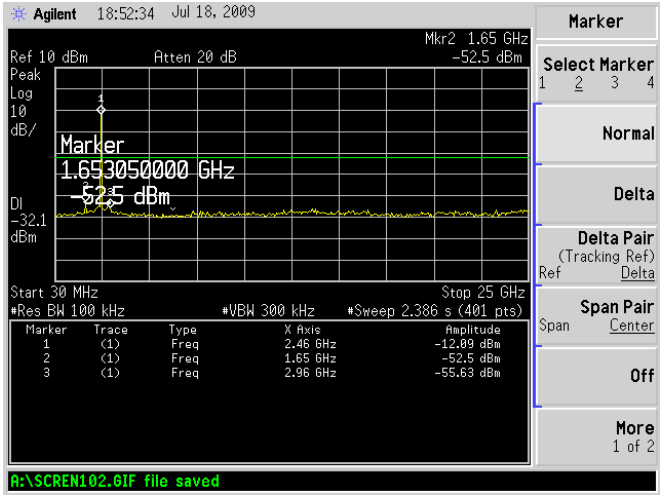
Test CH6: 2437MHz



Test CH4: 2437MHz



Test CH11: 2462MHz



Test CH7: 2452MHz