



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

Radio Test Report

FCC ID: XBG-BCCWLAN02R

This report concerns (check one) : Original Grant Class II Change

Issued Date : Dec. 18, 2013

Project No. : 1310056

Equipment : RF module

Model Name : BCC-WLAN-02R

Applicant : Avalue Technology Inc.

Address : 7F, 228, Lian-cheng Road,
Zhonghe Dist., New Taipei City 235,
Taiwan

Tested by: Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Oct. 16, 2013

Date of Test: Oct. 16, 2013 ~ Dec. 05, 2013

Testing Engineer: Josh Lin
(Josh Lin)

Technical Manager: Jeff Yang
(Jeff Yang)

Authorized Signatory: Andy Chiu
(Andy Chiu)

Neutron Engineering Inc.
B1, No. 37, Lane 365, YangGuang St.,
NeiHu District 114, Taipei, Taiwan.
TEL: +886-2-2657-3299
FAX: +886-2-2657-3331





Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

Neutron's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **Neutron** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **Neutron** issued reports.

Neutron's reports must not be used by the client to claim product endorsement by the authorities or any agency of the Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **Neutron-self**, extracts from the test report shall not be reproduced except in full with **Neutron's** authorized written approval.

Neutron's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.



Table of Contents

REPORT ISSUED HISTORY	6
1 CERTIFICATION	7
2 . SUMMARY OF TEST RESULTS	8
2.1 TEST FACILITY	9
2.2 MEASUREMENT UNCERTAINTY	10
3 GENERAL INFORMATION	11
3.1 GENERAL DESCRIPTION OF EUT	11
3.2 DESCRIPTION OF TEST MODES	13
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	14
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	15
3.5 DESCRIPTION OF SUPPORT UNITS	16
4 CONDUCTED EMISSION	17
4.1 LIMIT	17
4.2 MEASUREMENT INSTRUMENTS LIST	17
4.3 TEST PROCEDURES	18
4.4 TEST SETUP LAYOUT	18
4.5 DEVIATION FROM TEST STANDARD	18
4.6 EUT OPERATING CONDITIONS	19
4.7 TEST RESULTS	20
5 ANTENNA CONDUCTED SPURIOUS EMISSION	22
5.1 LIMIT	22
5.2 MEASUREMENT INSTRUMENTS LIST	22
5.3 TEST PROCEDURES	22
5.4 TEST SETUP LAYOUT	22
5.5 DEVIATION FROM TEST STANDARD	22
5.6 EUT OPERATING CONDITIONS	22
5.7 TEST RESULTS	23
6 6 DB BANDWIDTH	47
6.1 LIMIT	47
6.2 MEASUREMENT INSTRUMENTS LIST	47
6.3 TEST PROCEDURES	47
6.4 TEST SETUP LAYOUT	47
6.5 DEVIATION FROM TEST STANDARD	47
6.6 EUT OPERATING CONDITIONS	47
6.7 TEST RESULTS	48
7 MAXIMUM PEAK CONDUCTED OUTPUT POWER	60
7.1 LIMIT	60
7.2 MEASUREMENT INSTRUMENTS LIST	60



Table of Contents

7.3	TEST PROCEDURES	60
7.4	TEST SETUP LAYOUT	60
7.5	DEVIATION FROM TEST STANDARD	60
7.6	EUT OPERATING CONDITIONS	60
7.7	TEST RESULTS	61
8	RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)	69
8.1	LIMIT	69
8.2	MEASUREMENT INSTRUMENTS LIST	70
8.3	MEASURING INSTRUMENTS SETTING	70
8.4	TEST PROCEDURES	71
8.5	DEVIATION FROM TEST STANDARD	71
8.6	TEST SETUP LAYOUT	71
8.7	EUT OPERATING CONDITIONS	72
8.8	TEST RESULTS	73
9	RADIATED SPURIOUS EMISSION (ABOVE 1 GHZ)	75
9.1	LIMIT	75
9.2	MEASUREMENT INSTRUMENTS LIST	76
9.3	MEASURING INSTRUMENTS SETTING	76
9.4	TEST PROCEDURES	77
9.5	DEVIATION FROM TEST STANDARD	77
9.6	TEST SETUP LAYOUT	77
9.7	EUT OPERATING CONDITIONS	78
9.8	TEST RESULTS	79
9.9	TEST RESULTS (RESTRICTED BANDS)	127
10	POWER SPECTRAL DENSITY	143
10.1	LIMIT	143
10.2	MEASUREMENT INSTRUMENTS LIST	143
10.3	TEST PROCEDURES	143
10.4	TEST SETUP LAYOUT	143
10.5	DEVIATION FROM TEST STANDARD	143
10.6	EUT OPERATING CONDITIONS	143
10.7	TEST RESULTS	144
11	RF EXPOSURE COMPLIANCE	158
11.1	LIMIT	158
11.2	MEASUREMENT INSTRUMENTS LIST	158
11.3	MPE CALCULATION METHOD	158
11.4	TEST SETUP LAYOUT	159
11.5	DEVIATION FROM TEST STANDARD	159



Table of Contents

11.6	EUT OPERATING CONDITIONS	159
11.7	TEST RESULTS	160
12	EUT TEST PHOTO	168



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

REPORT ISSUED HISTORY

Revised Version No.	Description	Issued Date
-	Initial Issue.	Dec. 18, 2013



1 CERTIFICATION

Equipment : RF module

Brand Name : Avalue

Model Name : BCC-WLAN-02R

Applicant : Avalue Technology Inc.

Date of Test : Oct. 16, 2013 ~ Dec. 05, 2013

Standards : FCC Part 15, Subpart C: 2012

ANSI C63.4: 2009

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1310056) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).



2. SUMMARY OF TEST RESULTS

Standard Clause	Test Item	Result
15.207	Conducted Emission	PASS
15.247 (c)	Antenna conducted Spurious Emission	PASS
15.247 (a)(2)	6dB Bandwidth	PASS
15.247 (b)	Maximum Peak Conducted Output Power	PASS
15.247 (c)	Radiated Spurious Emission	PASS
15.247 (d)(e)	Power Spectral Density	PASS
15.205	Restricted Bands	PASS
15.203	Antenna Requirement	PASS
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS

NOTE:

- (1) N/A: denotes test is not applicable in this Test Report



2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C02: (VCCI RN: C-3477; FCC RN: 614388; FCC DN: TW1054)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Below 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Above 1 GHz):

CB08: (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)



2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC rules and for reference only.

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Conducted emission test:

Test Site	Measurement Frequency Range	U, (dB)	NOTE
C02	150 kHz ~ 30 MHz	2.59	

B. Radiated emission test:

Test Site	Item	Measurement Frequency Range	Uncertainty	NOTE
CB08	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB
			200 - 1000MHz	3.11 dB
			1 - 18GHz	3.97 dB
			18 - 40GHz	4.01 dB
	Vertical Polarization	Vertical Polarization	30 - 200MHz	3.22 dB
			200 - 1000MHz	3.24 dB
			1 - 18GHz	4.05 dB
			18 - 40GHz	4.04 dB

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

If U_{lab} is less than or equal to U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{CISPR} , then:

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



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	RF module																
Brand Name	Avalue																
Model Name	BCC-WLAN-02R																
OEM Brand/Model Name	N/A																
Model Difference	N/A																
Product Description	The EUT is a RF module. <table border="1"><tr><td>Operation Frequency</td><td>2412~2462 MHz</td></tr><tr><td>Modulation Type</td><td>IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM,(64 QAM, 16 QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64 QAM, 16 QAM, QPSK, BPSK)</td></tr><tr><td>Bit Rate of Transmitter</td><td>IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps</td></tr><tr><td>Number Of Channel</td><td>Please refer to the Note 2.</td></tr><tr><td>Antenna Designation</td><td>Please refer to the Note 3.</td></tr><tr><td>Antenna Gain(Peak)</td><td>Please refer to the Note 3.</td></tr><tr><td>Maximum Conducted Output Power</td><td>IEEE 802.11b: 19.47 dBm IEEE 802.11g: 22.94 dBm Antenna01: IEEE 802.11n (20 MHz): 21.32 dBm IEEE 802.11n (40 MHz): 20.02 dBm Antenna02: IEEE 802.11n (20 MHz): 21.70 dBm IEEE 802.11n (40 MHz): 20.88 dBm Antenna Total: IEEE 802.11n (20 MHz): 24.52 dBm IEEE 802.11n (40 MHz): 23.21 dBm</td></tr><tr><td colspan="2">More details of EUT technical specification, please refer to the User's Manual.</td></tr></table>	Operation Frequency	2412~2462 MHz	Modulation Type	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM,(64 QAM, 16 QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64 QAM, 16 QAM, QPSK, BPSK)	Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps	Number Of Channel	Please refer to the Note 2.	Antenna Designation	Please refer to the Note 3.	Antenna Gain(Peak)	Please refer to the Note 3.	Maximum Conducted Output Power	IEEE 802.11b: 19.47 dBm IEEE 802.11g: 22.94 dBm Antenna01: IEEE 802.11n (20 MHz): 21.32 dBm IEEE 802.11n (40 MHz): 20.02 dBm Antenna02: IEEE 802.11n (20 MHz): 21.70 dBm IEEE 802.11n (40 MHz): 20.88 dBm Antenna Total: IEEE 802.11n (20 MHz): 24.52 dBm IEEE 802.11n (40 MHz): 23.21 dBm	More details of EUT technical specification, please refer to the User's Manual.	
Operation Frequency	2412~2462 MHz																
Modulation Type	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM,(64 QAM, 16 QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64 QAM, 16 QAM, QPSK, BPSK)																
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps																
Number Of Channel	Please refer to the Note 2.																
Antenna Designation	Please refer to the Note 3.																
Antenna Gain(Peak)	Please refer to the Note 3.																
Maximum Conducted Output Power	IEEE 802.11b: 19.47 dBm IEEE 802.11g: 22.94 dBm Antenna01: IEEE 802.11n (20 MHz): 21.32 dBm IEEE 802.11n (40 MHz): 20.02 dBm Antenna02: IEEE 802.11n (20 MHz): 21.70 dBm IEEE 802.11n (40 MHz): 20.88 dBm Antenna Total: IEEE 802.11n (20 MHz): 24.52 dBm IEEE 802.11n (40 MHz): 23.21 dBm																
More details of EUT technical specification, please refer to the User's Manual.																	
Power Source	DC Voltage supplied from DC Source.																
Power Rating	I/P: DC 3.3V																
Connecting I/O Port(s)	Please refer to the User's Manual																
Products Covered	3 * Antenna: LYNwave, ALA100-051020-400020																
EUT Modification(s)	N/A																



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Channel List:

2412-2462 MHz Band (IEEE 802.11b/g/n (20MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

2422-2452 MHz Band (IEEE 802.11n (40MHz))					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452
04	2427	07	2442		
05	2432	08	2447		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	LYNwave	ALA100-051020-400020	PCB	IPEX	2.00
2	LYNwave	ALA100-051020-400020	PCB	IPEX	2.00
3	LYNwave	ALA100-051020-400020	PCB	IPEX	2.00

4. The EUT incorporates MIMO function. Physically, the EUT provides two completed transmitters and three receivers (2T3R).

2412-2462 MHz Band	
Modulated type	TX Function
IEEE 802.11b	1 TX
IEEE 802.11g	1 TX
IEEE 802.11n (20MHz)	2 TX

2422-2452 MHz Band	
Modulated type	TX Function
IEEE 802.11n (40MHz)	2 TX



3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Items	IEEE	Mode	Data Rate	Channel	Note
Conducted Emission	802.11b	DSSS	1 Mbps	06	
Antenna conducted Spurious Emission	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS0	01/06/11	
	802.11n (40 MHz)	BPSK	MCS0	03/06/09	
6 dB Bandwidth	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS0	01/06/11	
	802.11n (40 MHz)	BPSK	MCS0	03/06/09	
Maximum Peak Conducted Output Power	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS0	01/06/11	
	802.11n (40 MHz)	BPSK	MCS0	03/06/09	
Radiated Spurious Emission (30 MHz to 1 GHz)	802.11n (20 MHz)	OFDM	MCS0	06	
Radiated Spurious Emission (above 1 GHz)	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS0	01/06/11	
	802.11n (40 MHz)	BPSK	MCS0	03/06/09	
Restricted Bands	802.11b	DSSS	1 Mbps	01/06/11	
	802.11g	OFDM	6 Mbps	01/06/11	
	802.11n (20 MHz)	BPSK	MCS0	01/06/11	
	802.11n (40 MHz)	BPSK	MCS0	03/06/09	
Antenna Requirement	---		---	---	
RF Exposure Compliance	---		---	---	

NOTE: The measurements are performed at the highest, middle, lowest available channels.



3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

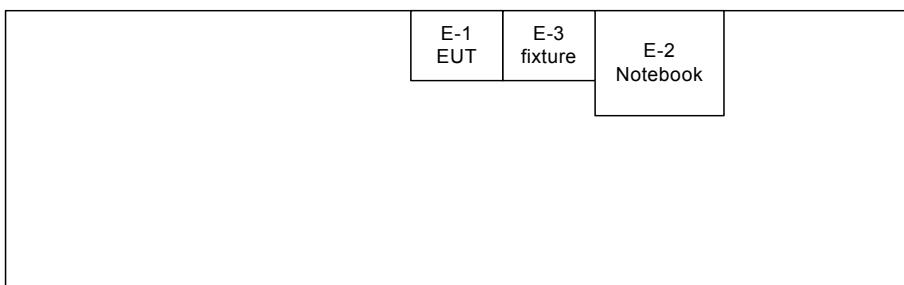
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

2412-2462 MHz Band						
IEEE	802.11b			802.11g		
Test software Version	ATETool_1.2.2.5			ATETool_1.2.2.5		
Frequency	2412 MHz	2437 MHz	2462 MHz	2412 MHz	2437 MHz	2462 MHz
Parameter	22	23	24	14	15	16

2412-2462 MHz Band				2422-2452 MHz Band		
IEEE	802.11n (20 MHz)			802.11n (40 MHz)		
Test software Version	ATETool_1.2.2.5			ATETool_1.2.2.5		
Frequency	2412 MHz	2437 MHz	2462 MHz	2422 MHz	2437 MHz	2452 MHz
Parameter	12	13	10	10	11	7



3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	RF module	Avalue	BCC-WLAN-02R	XBG-BCCWLAN02R	N/A	EUT
E-2	Notebook PC	DELL	D620	DOC	7T390 A03	
E-3	Fixture	N/A	N/A	N/A	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
N/A	-	-	-	-

NOTE: The support equipment was authorized by Declaration of Conformity (DOC).



4 CONDUCTED EMISSION

4.1 LIMIT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 - 5.0	73.00	60.00	56.00	46.00
5.0 - 30.0	73.00	60.00	60.00	50.00

NOTE:

1. The tighter limit applies at the band edges.
2. The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
3. The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)

Margin Level = Measurement Value – Limit Value

4.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	Schwarzbeck	NSLK 8127	8127685	Feb. 24, 2014
2	Test Cable	TIMES	CFD300-NL	C01	Jun. 16, 2014
3	EMI Test Receiver	Agilent	N9038A	MY51210215	Mar. 21, 2014
4	Measurement Software	EZ	EZ_EMCA (Version NB-02A)	N/A	N/A

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.



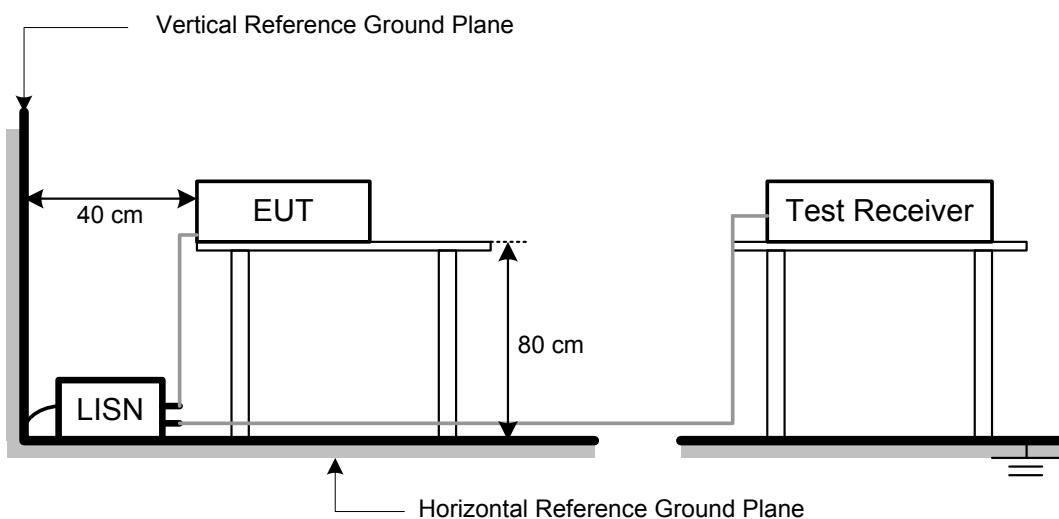
4.3 TEST PROCEDURES

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE:

- a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
- b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

4.4 TEST SETUP LAYOUT



4.5 DEVIATION FROM TEST STANDARD

No deviation



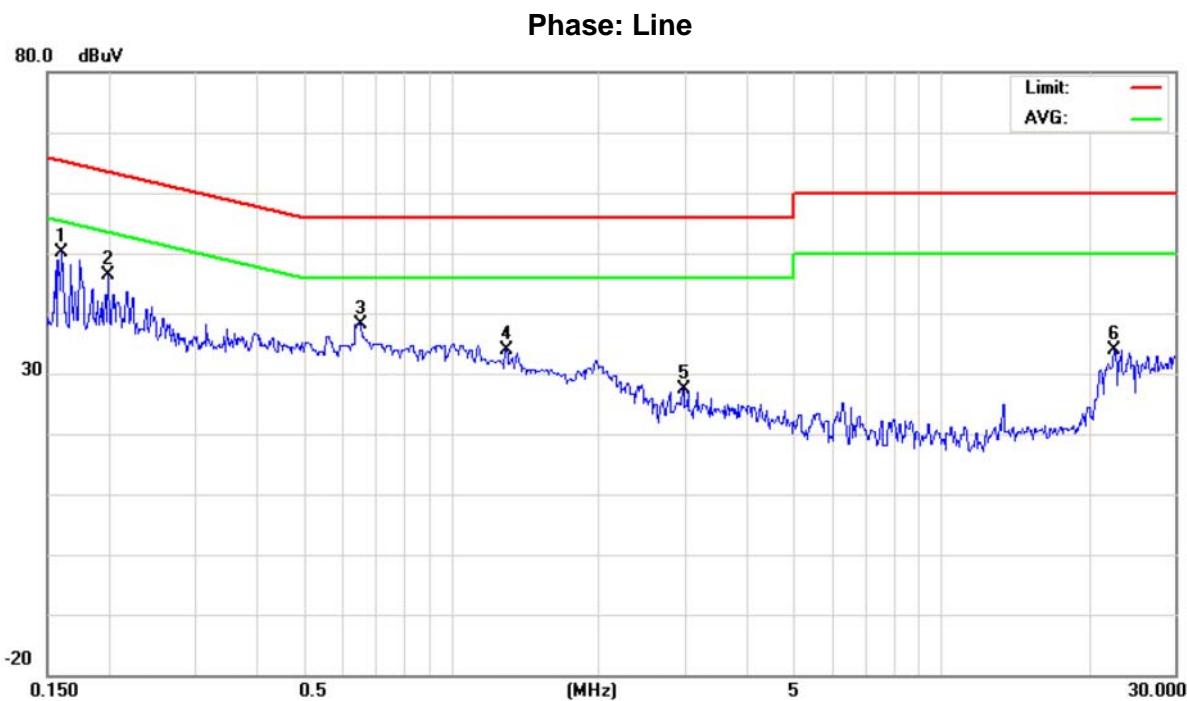
4.6 EUT OPERATING CONDITIONS

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.



4.7 TEST RESULTS

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1	*	0.1604	41.38	8.85	50.23	65.44	-15.21	peak	
2		0.1995	36.98	9.49	46.47	63.63	-17.16	peak	
3		0.6529	29.36	8.88	38.24	56.00	-17.76	peak	
4		1.2919	24.41	9.58	33.99	56.00	-22.01	peak	
5		2.9660	18.06	9.39	27.45	56.00	-28.55	peak	
6		22.4999	24.41	9.56	33.97	60.00	-26.03	peak	

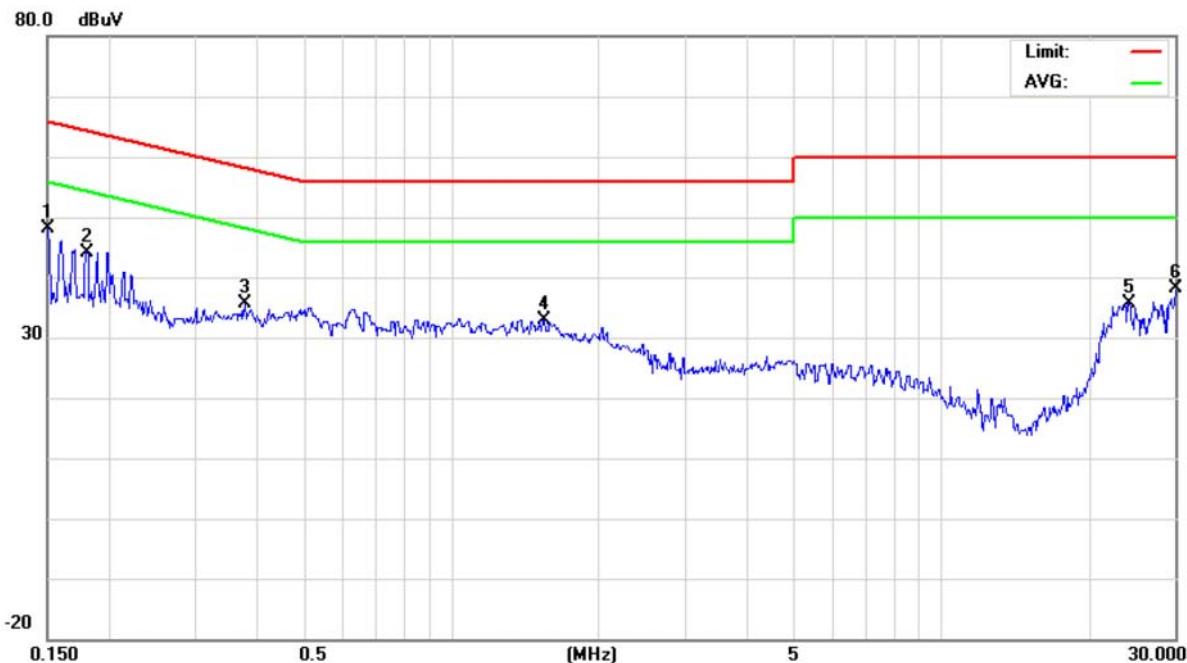


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Phase: Neutral



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1	*	0.1500	39.40	8.68	48.08	66.00	-17.92	peak	
2		0.1800	34.48	9.77	44.25	64.49	-20.24	peak	
3		0.3788	27.91	7.78	35.69	58.31	-22.62	peak	
4		1.5439	23.48	9.49	32.97	56.00	-23.03	peak	
5		24.0499	26.08	9.58	35.66	60.00	-24.34	peak	
6		30.0000	28.49	9.70	38.19	60.00	-21.81	peak	



5 ANTENNA CONDUCTED SPURIOUS EMISSION

5.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Antenna conducted Spurious Emission	30-25000	20 dB less than the peak value of fundamental frequency

5.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

NOTE: **N/A:** denotes No Model Name, No Serial No. or No Calibration specified.

5.3 TEST PROCEDURES

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

5.4 TEST SETUP LAYOUT



5.5 DEVIATION FROM TEST STANDARD

No deviation

5.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**5.7 TEST RESULTS**

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		

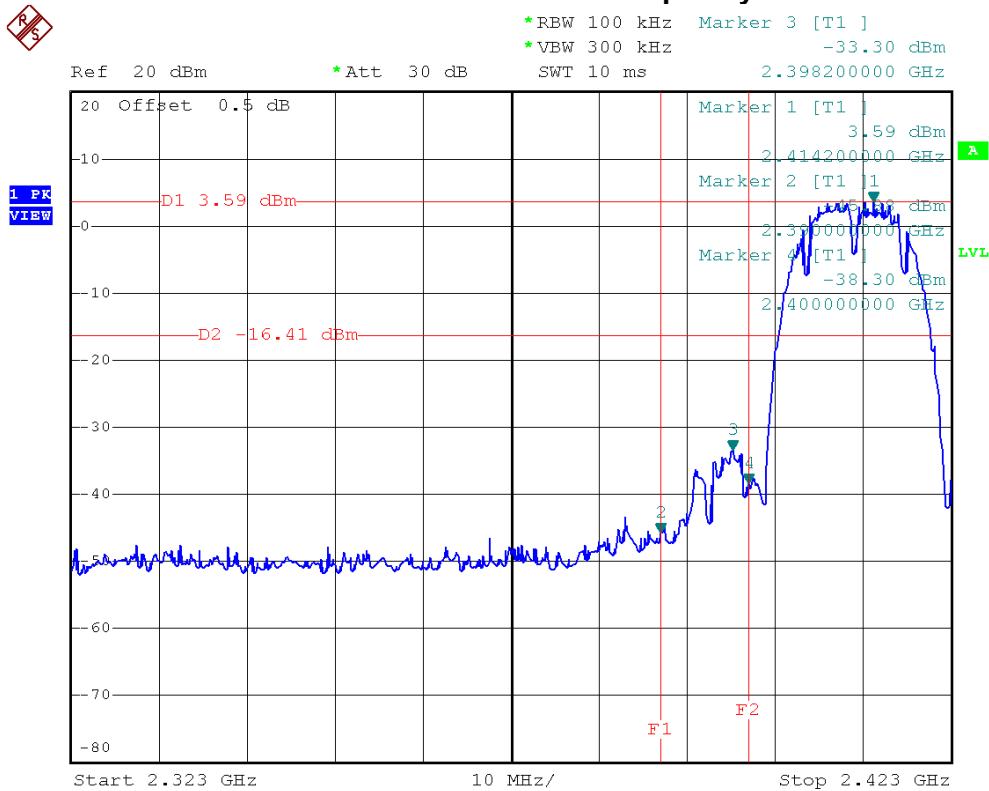
Channel of Worst Data			
The max. radio frequency power in any 100 kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2398.20	-33.30	2483.60	-45.50
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			



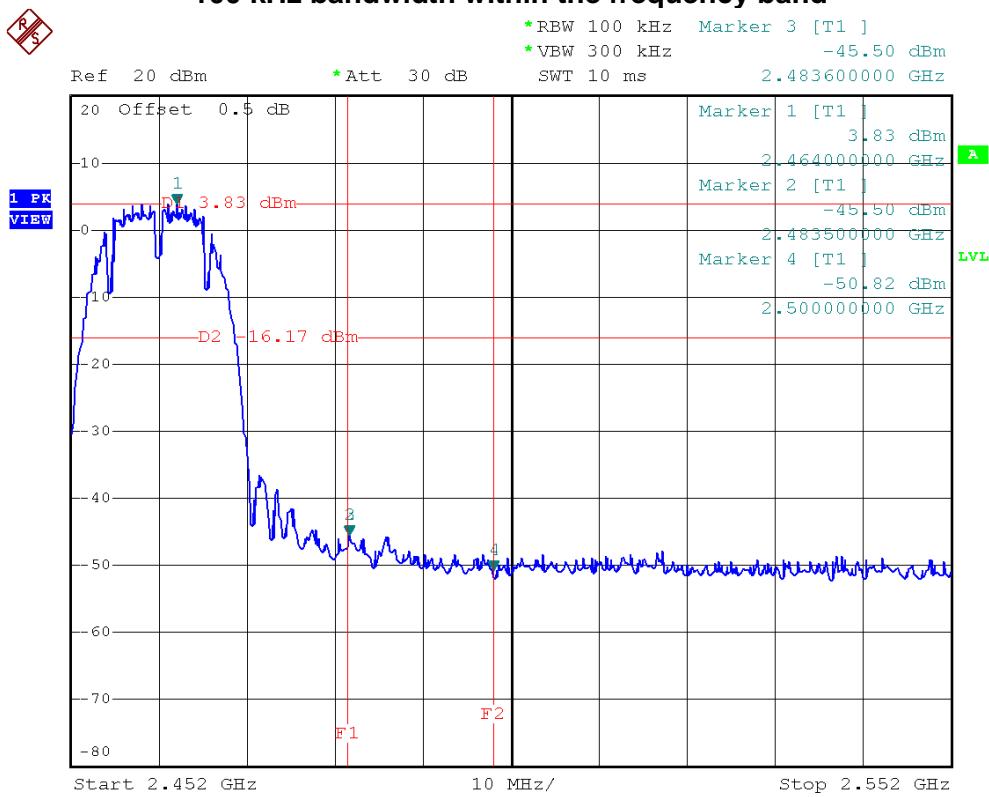
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

**IEEE 802.11b/The max. radio frequency power in any
100kHz bandwidth outside the frequency band**



**IEEE 802.11b/The max. radio frequency power in any
100 kHz bandwidth within the frequency band**

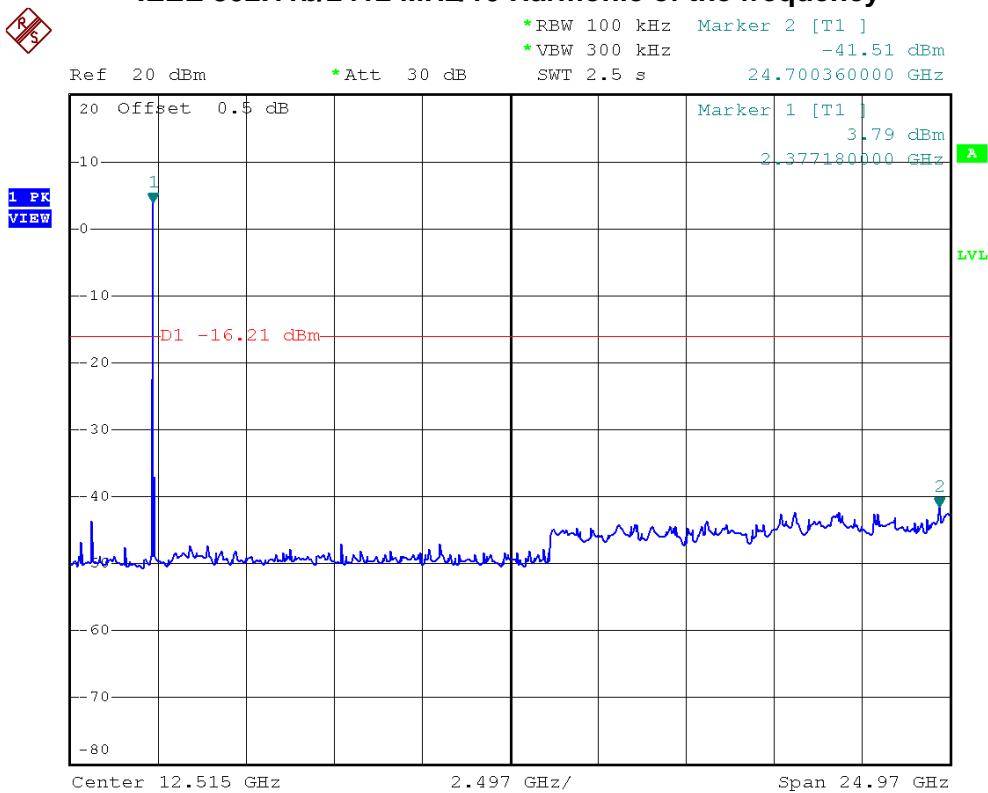




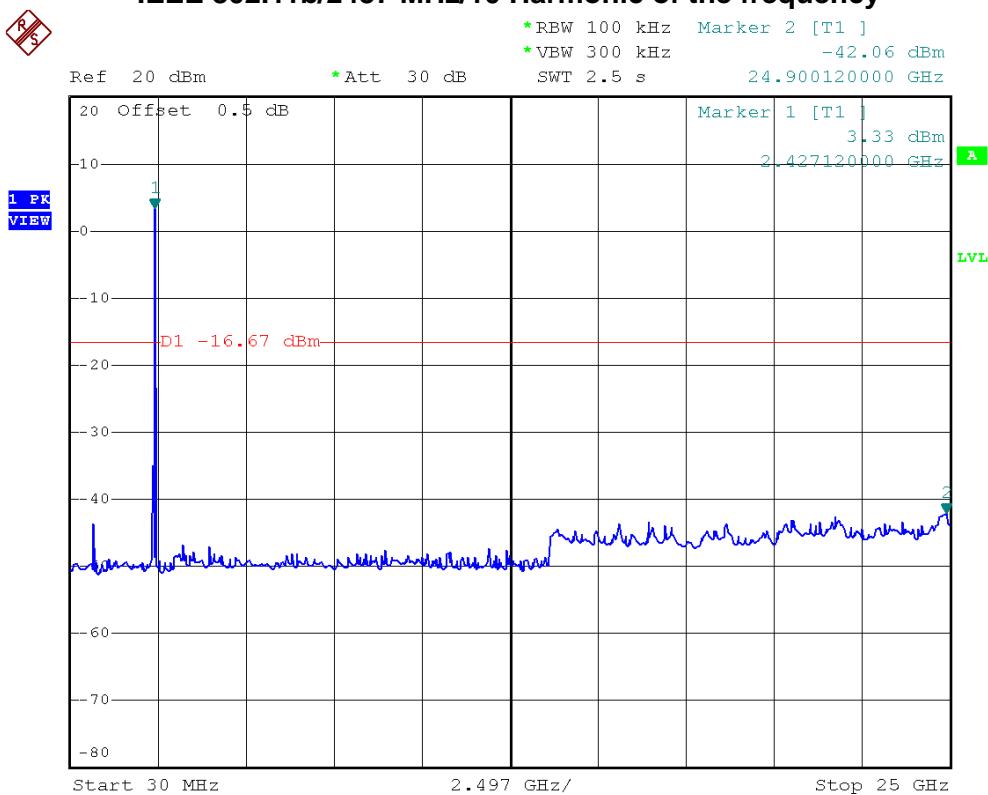
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11b/2412 MHz/10 Harmonic of the frequency



IEEE 802.11b/2437 MHz/10 Harmonic of the frequency

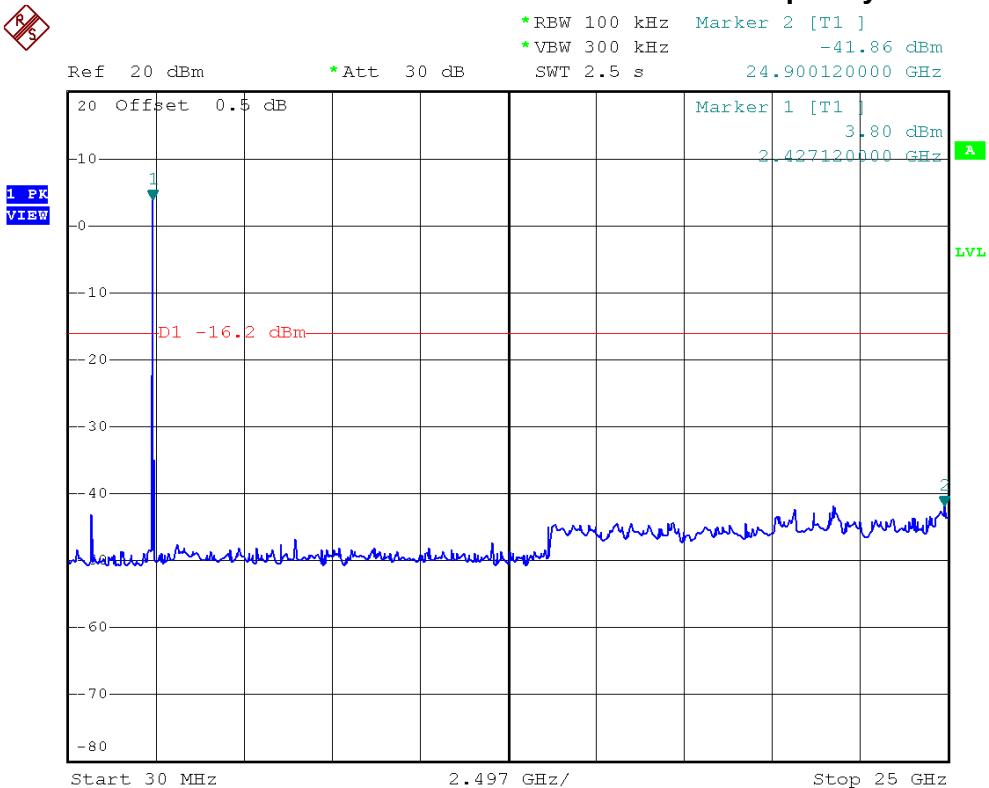




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11b/2462 MHz/10 Harmonic of the frequency





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		

Channel of Worst Data

The max. radio frequency power in any 100kHz bandwidth outside the frequency band	The max. radio frequency power in any 100 kHz bandwidth within the frequency band.
FREQUENCY(MHz)	POWER(dBm)
2400.00	-27.07

Result

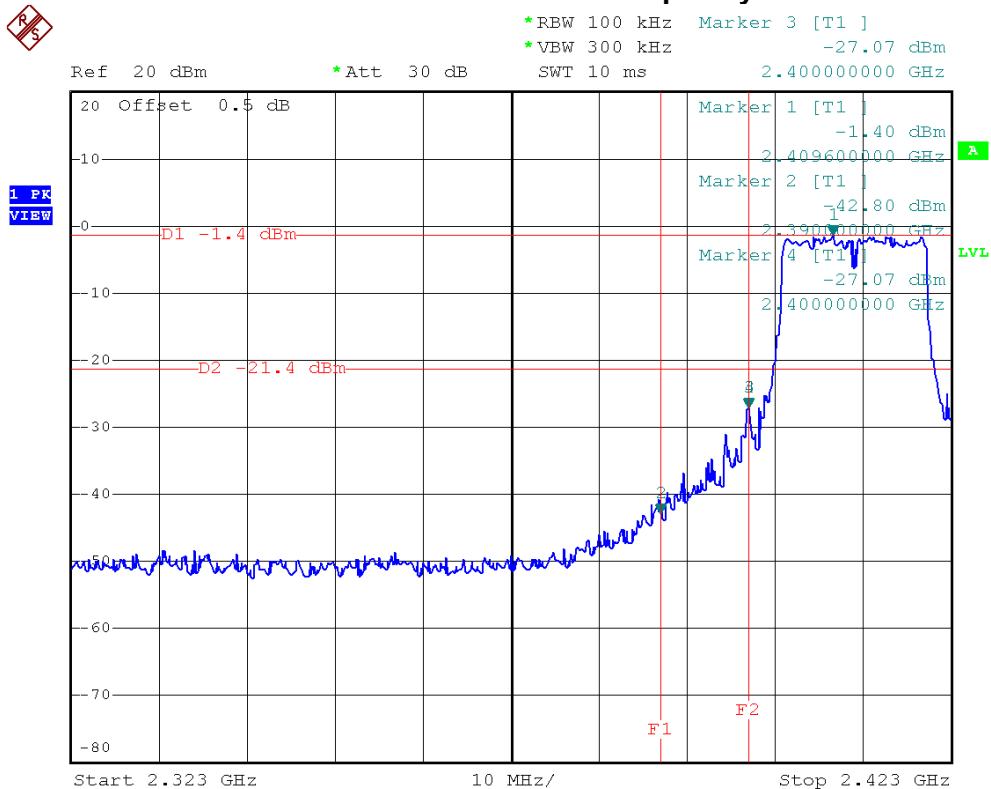
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.



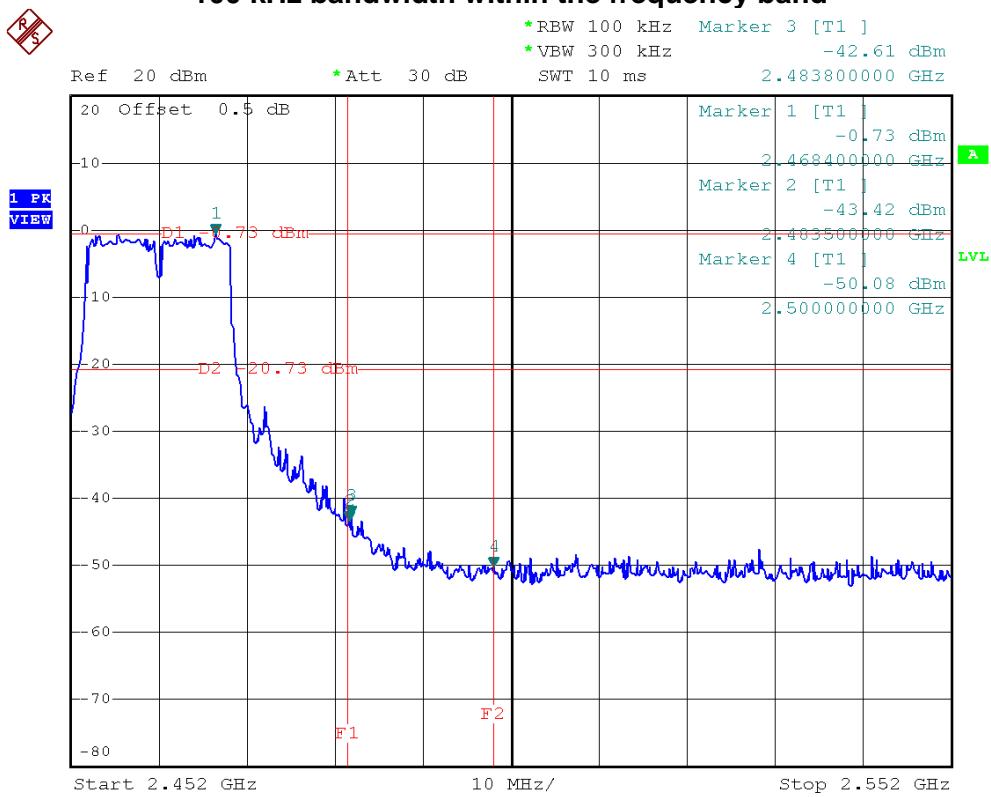
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

**IEEE 802.11g/The max. radio frequency power in any
100kHz bandwidth outside the frequency band**



**IEEE 802.11g/The max. radio frequency power in any
100 kHz bandwidth within the frequency band**

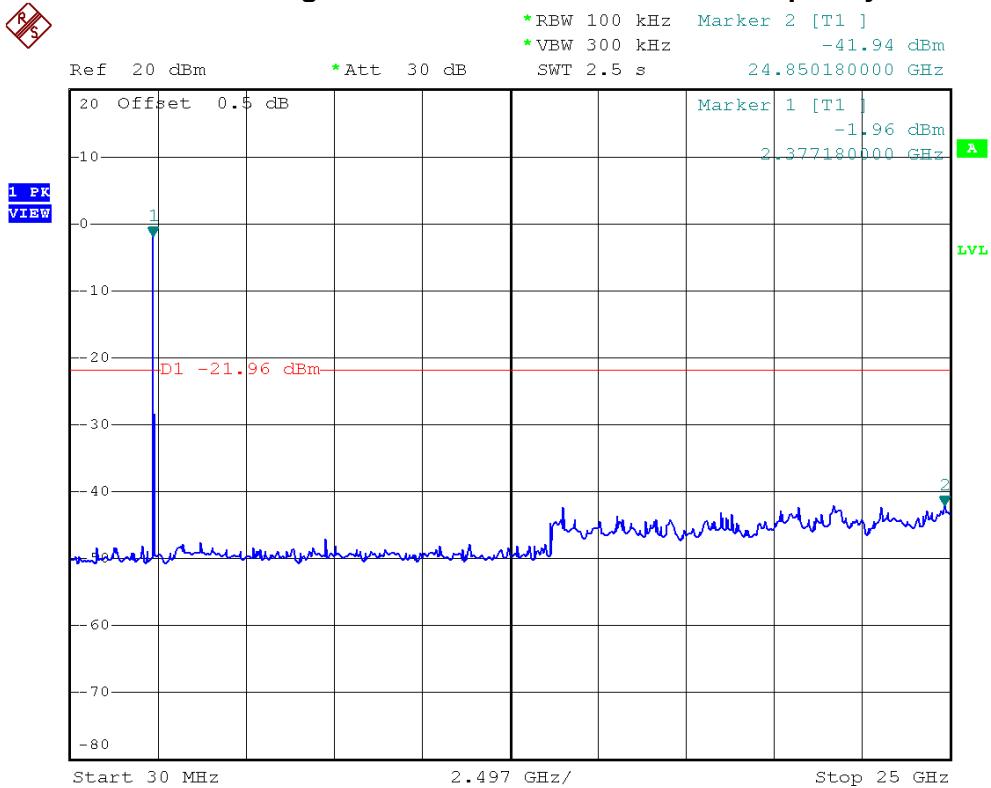




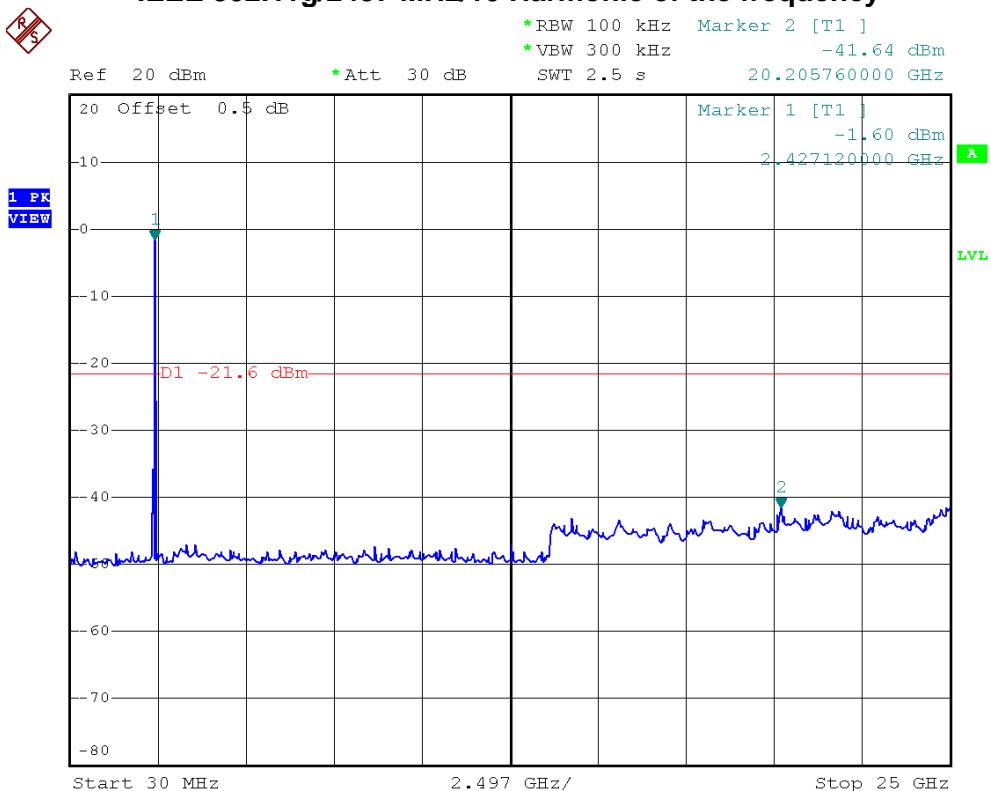
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11g/2412 MHz/10 Harmonic of the frequency



IEEE 802.11g/2437 MHz/10 Harmonic of the frequency

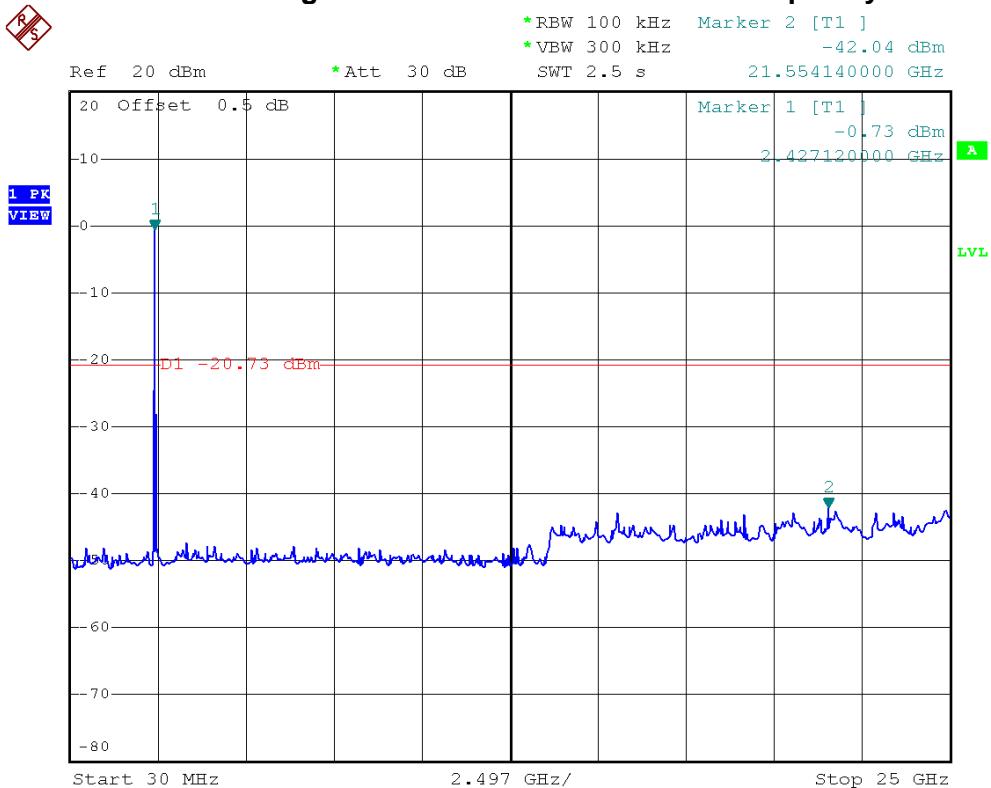




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11g/2462 MHz/10 Harmonic of the frequency





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1		

Channel of Worst Data

The max. radio frequency power in any 100kHz bandwidth outside the frequency band	The max. radio frequency power in any 100 kHz bandwidth within the frequency band.
FREQUENCY(MHz)	POWER(dBm)
2400.00	-32.26

Result

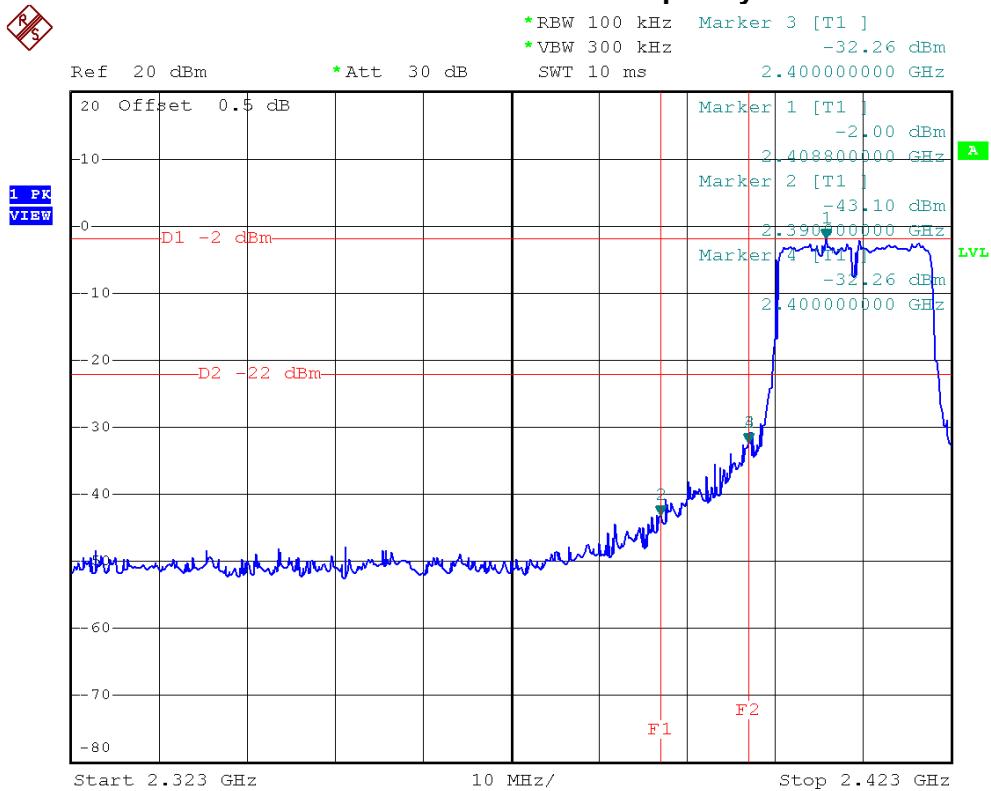
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.



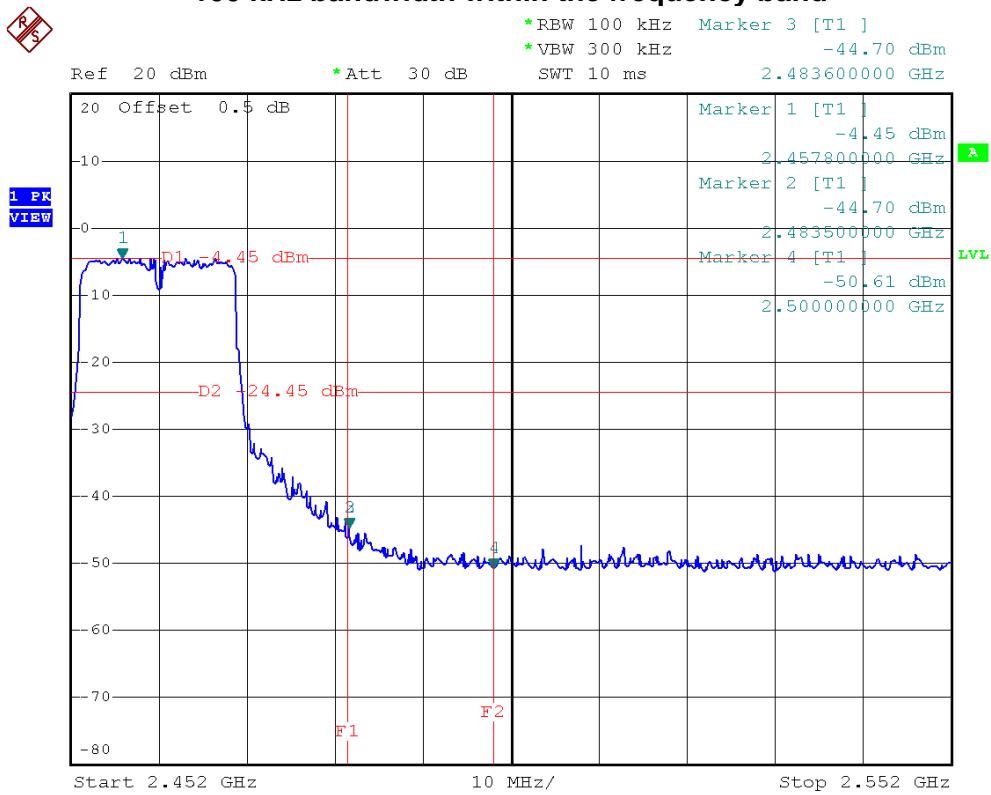
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (20 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

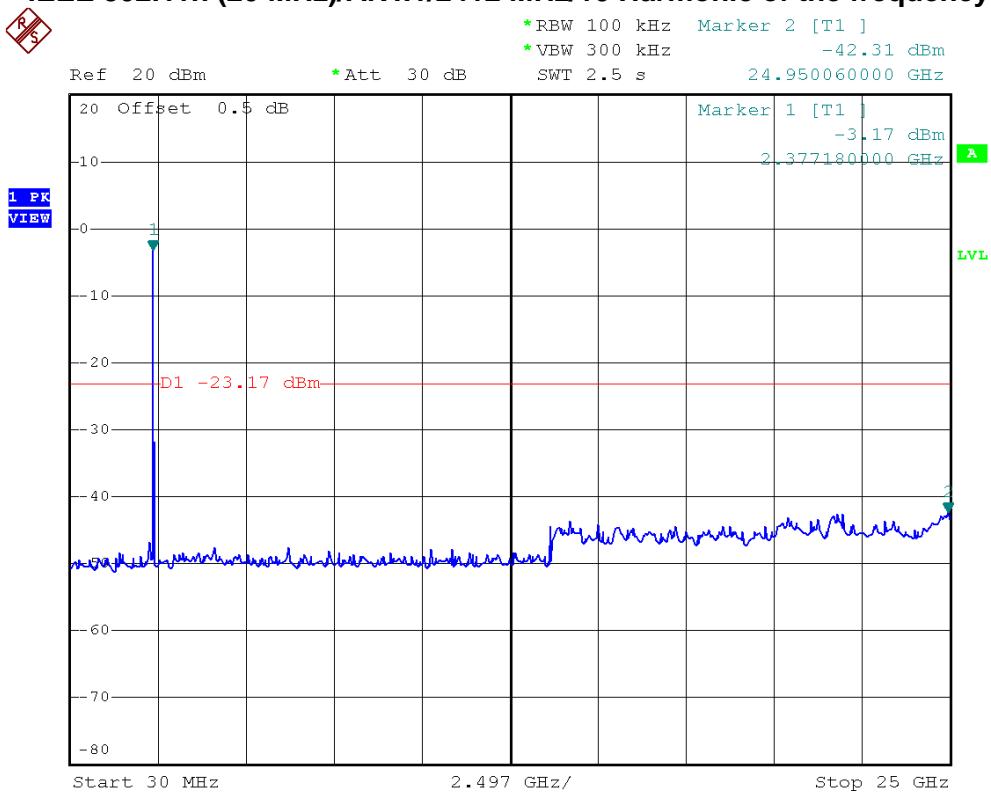




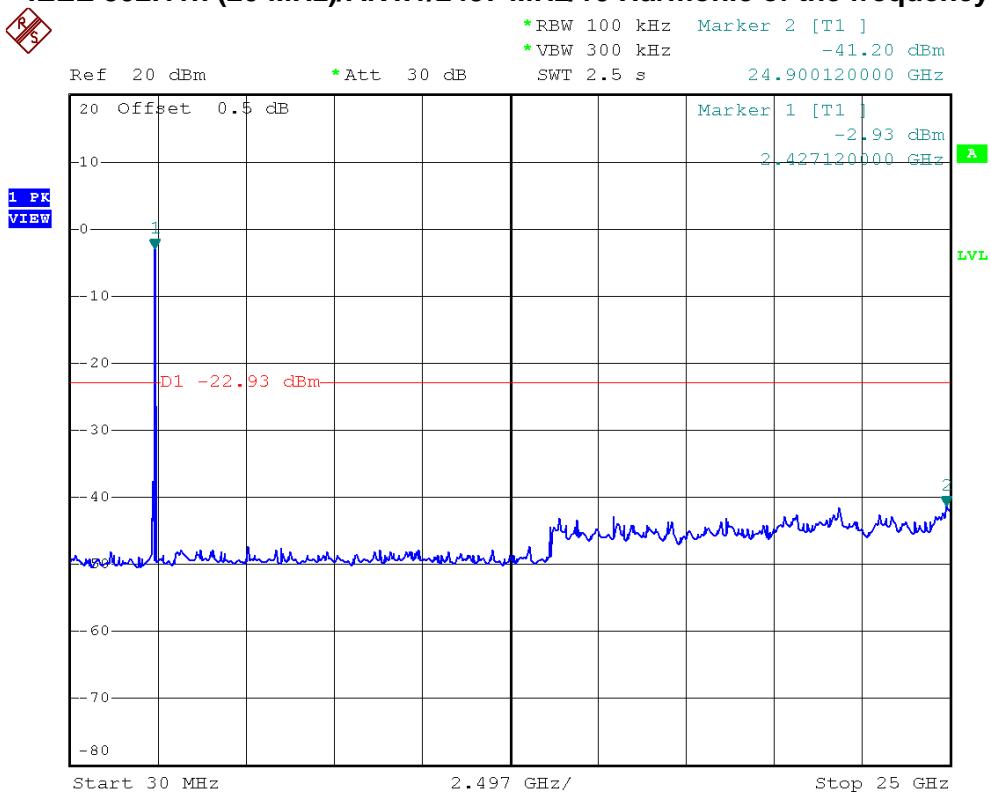
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.1/2412 MHz/10 Harmonic of the frequency



IEEE 802.11n (20 MHz)/ANT.1/2437 MHz/10 Harmonic of the frequency

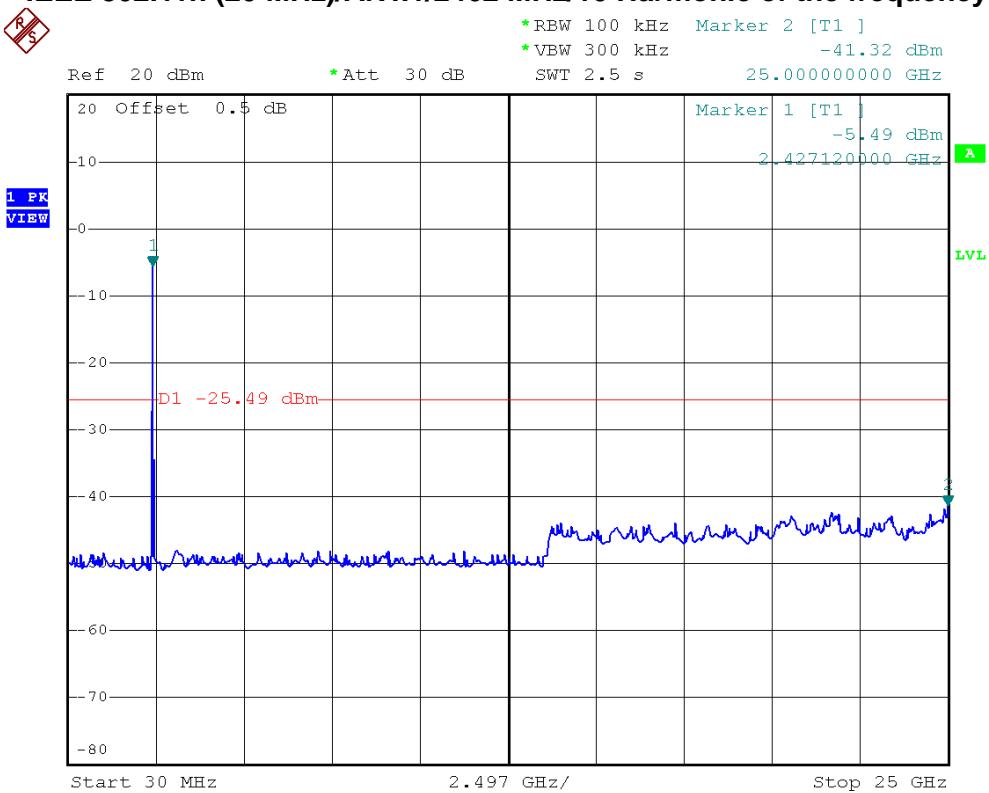




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.1/2462 MHz/10 Harmonic of the frequency





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2		

Channel of Worst Data

The max. radio frequency power in any 100kHz bandwidth outside the frequency band	The max. radio frequency power in any 100 kHz bandwidth within the frequency band.
FREQUENCY(MHz)	POWER(dBm)
2400.00	-31.32

Result

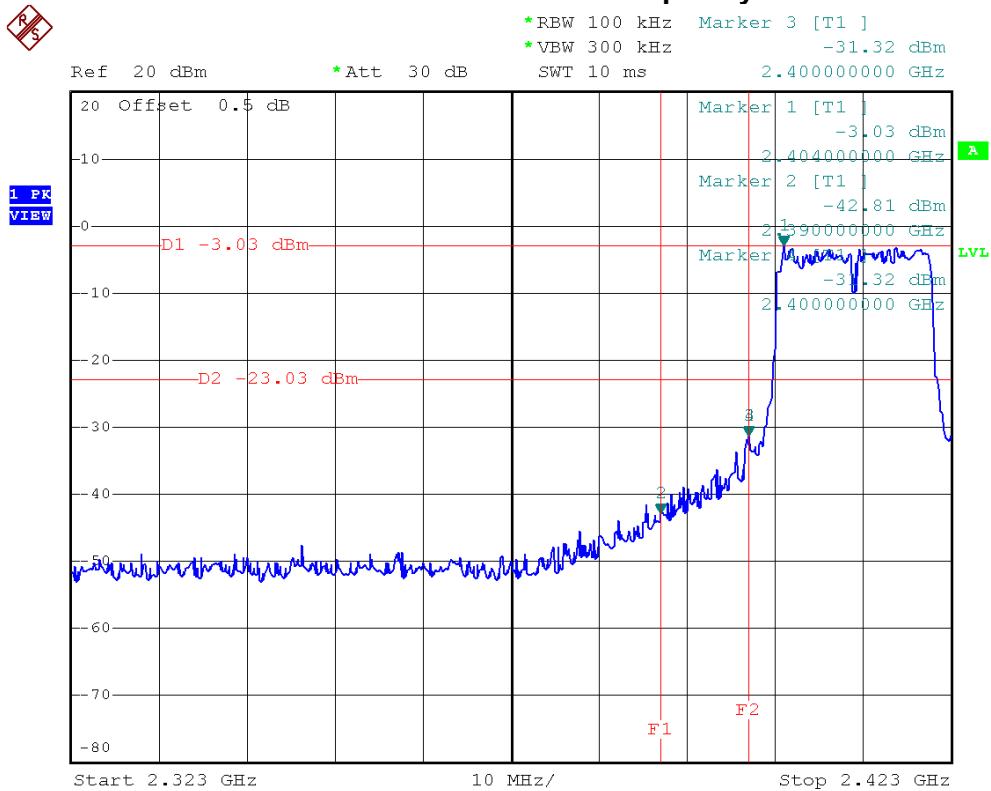
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.



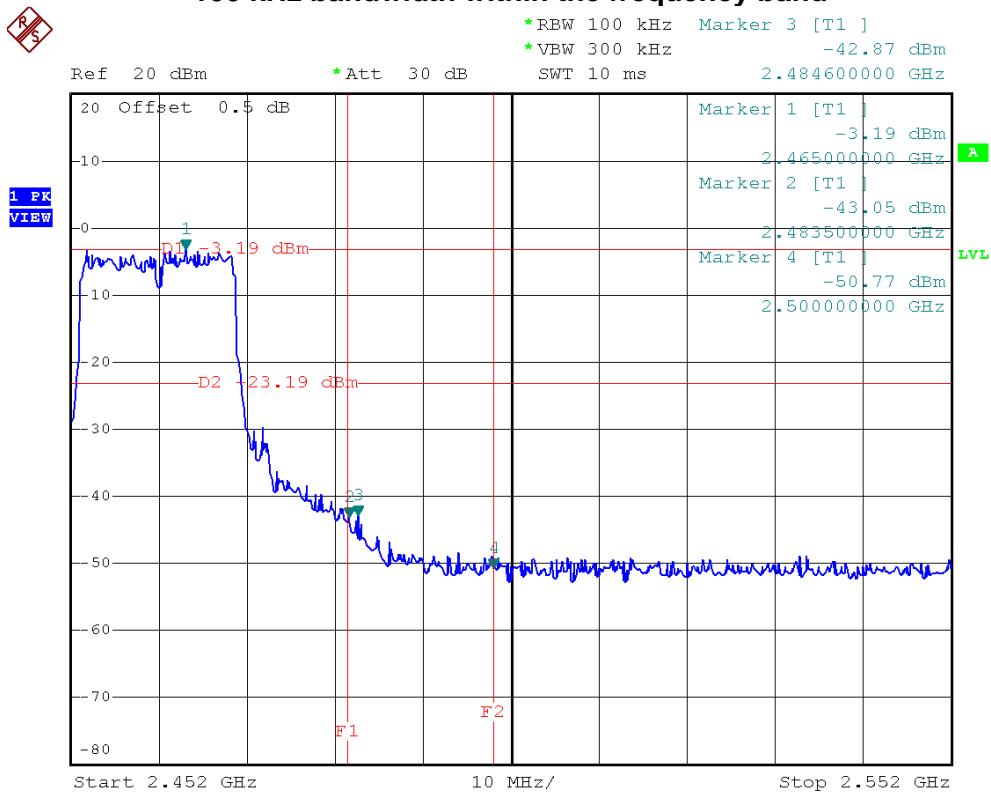
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.2/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (20 MHz)/ANT.2/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

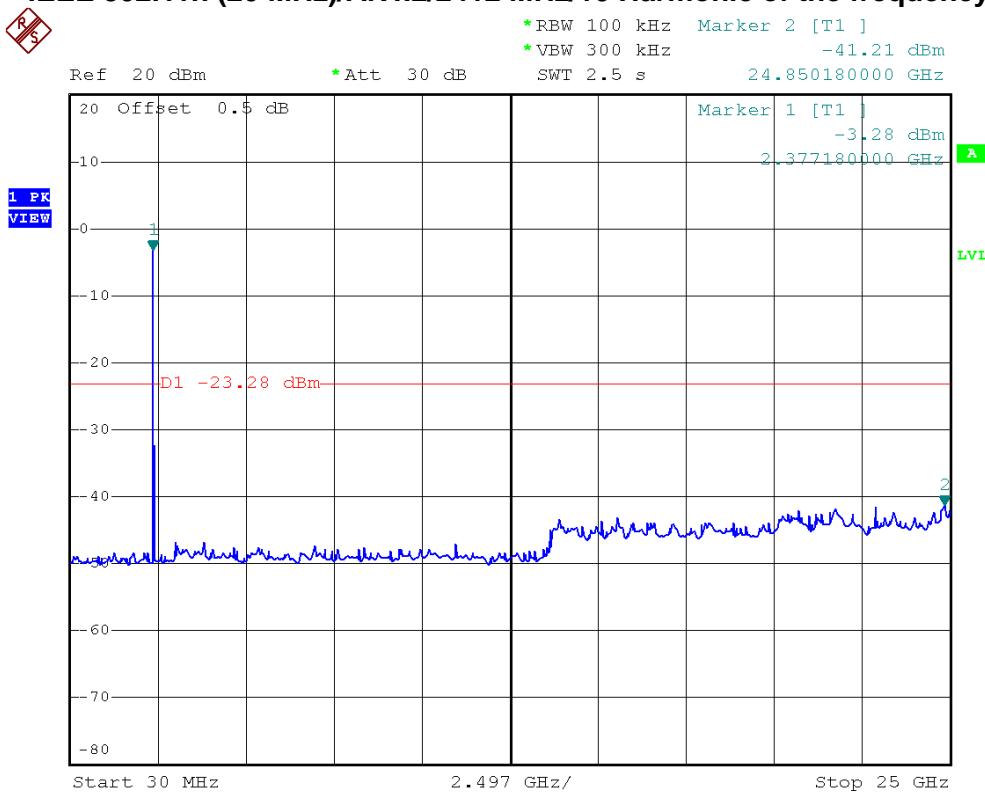




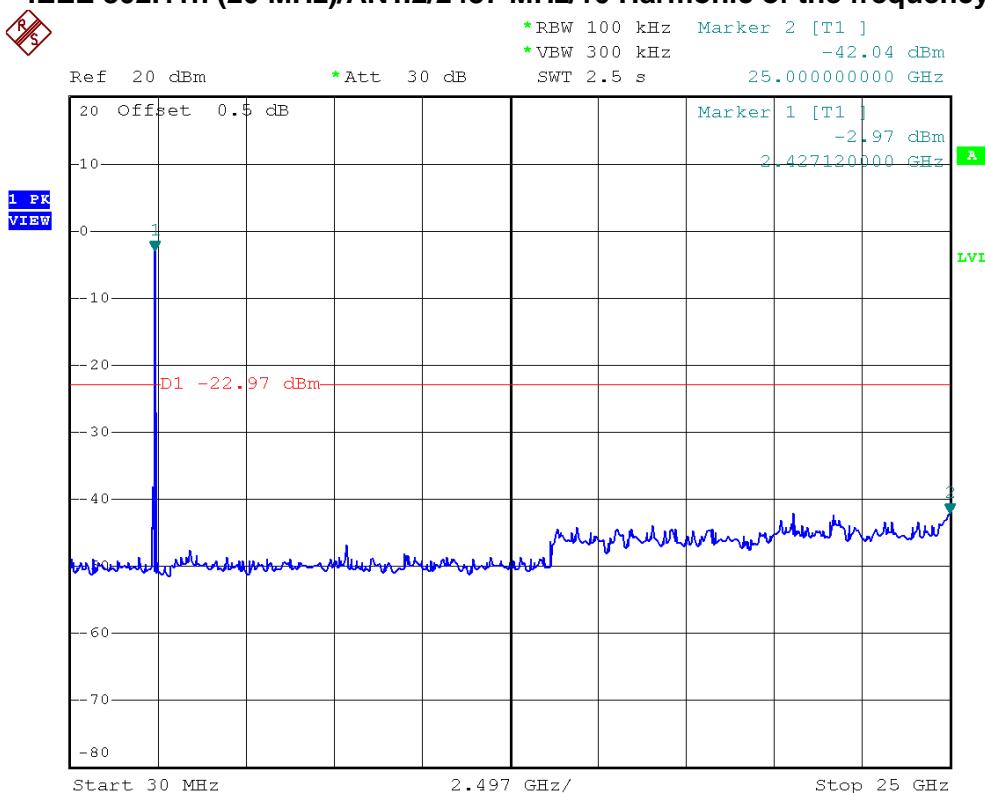
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.2/2412 MHz/10 Harmonic of the frequency



IEEE 802.11n (20 MHz)/ANT.2/2437 MHz/10 Harmonic of the frequency

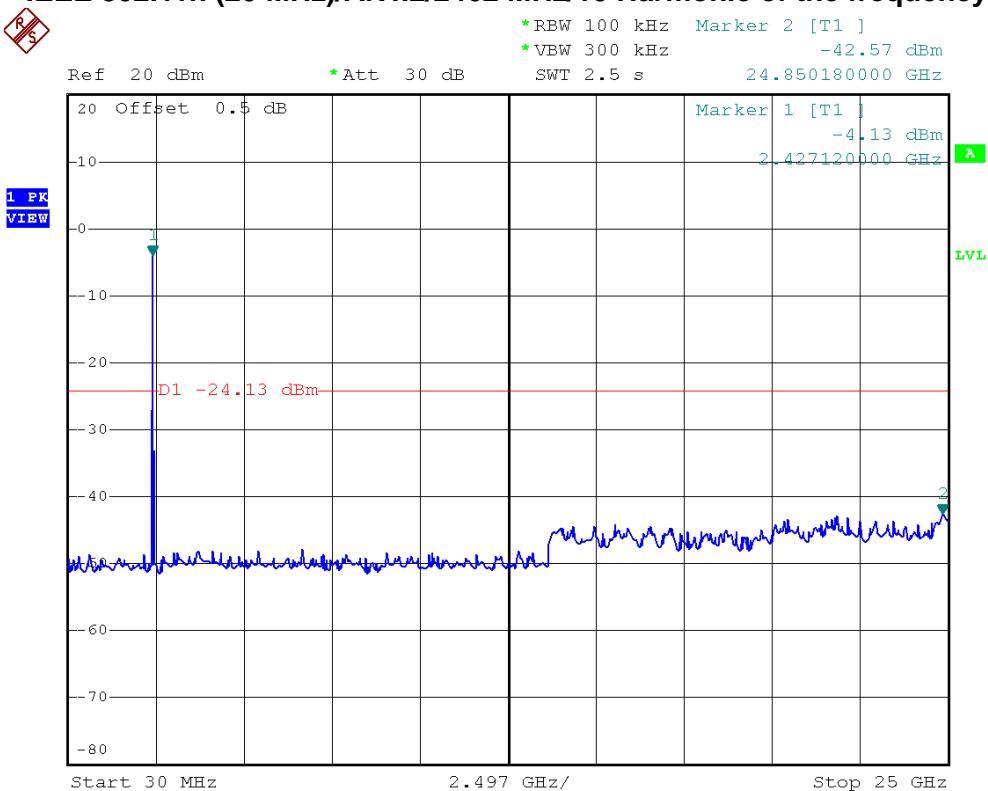




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.2/2462 MHz/10 Harmonic of the frequency





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1		

Channel of Worst Data

The max. radio frequency power in any 100kHz bandwidth outside the frequency band	The max. radio frequency power in any 100 kHz bandwidth within the frequency band.
FREQUENCY(MHz)	POWER(dBm)
2398.40	-37.28

Result

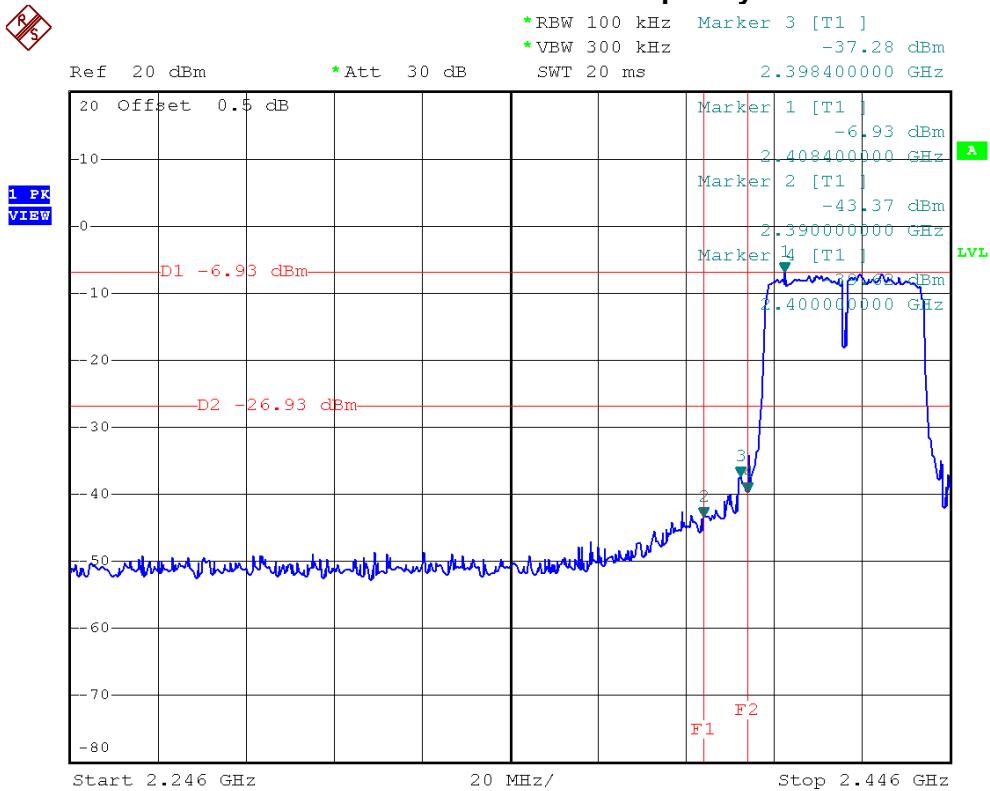
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.



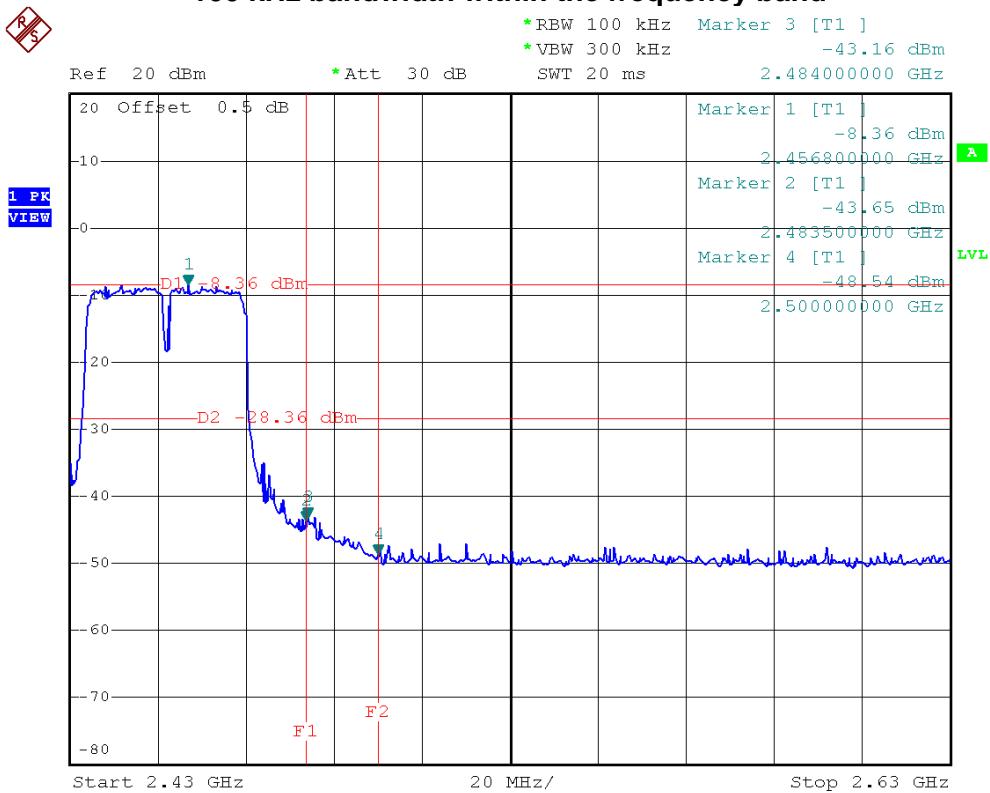
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (40 MHz)/ANT.1/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

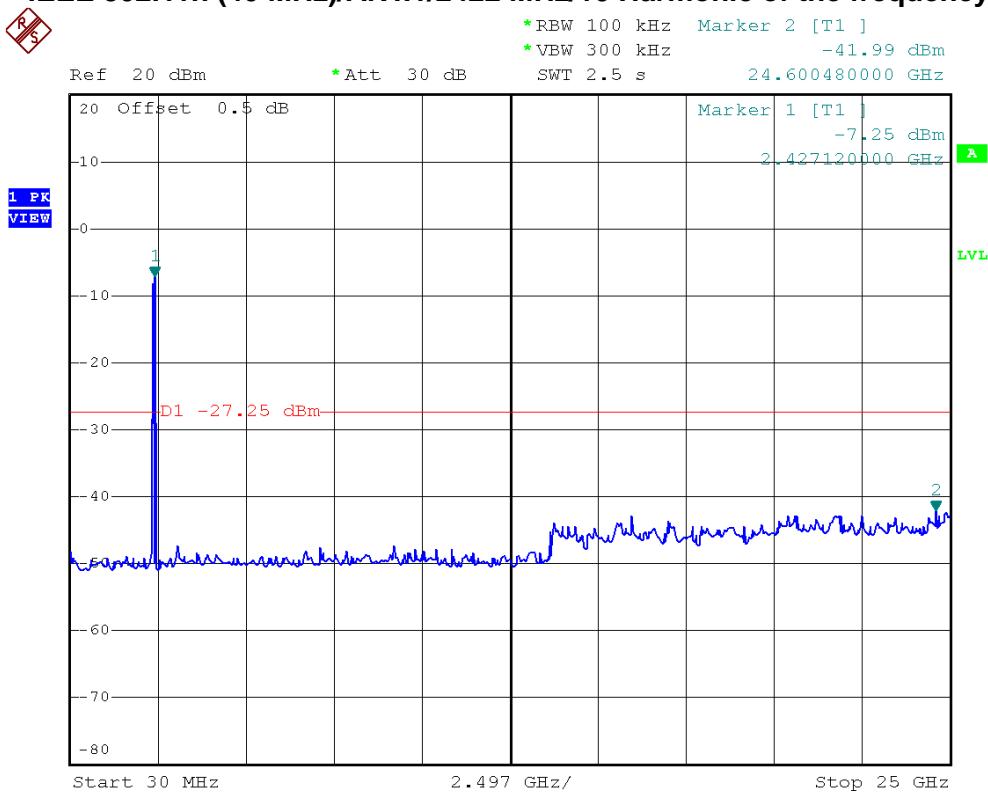




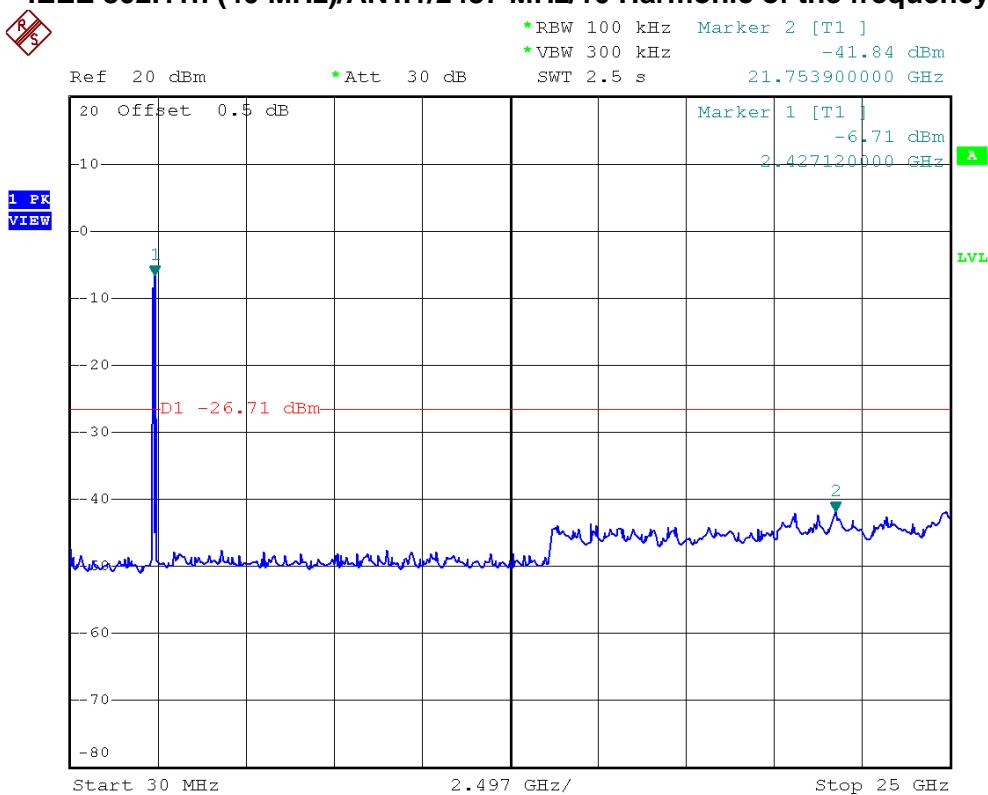
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.1/2422 MHz/10 Harmonic of the frequency



IEEE 802.11n (40 MHz)/ANT.1/2437 MHz/10 Harmonic of the frequency

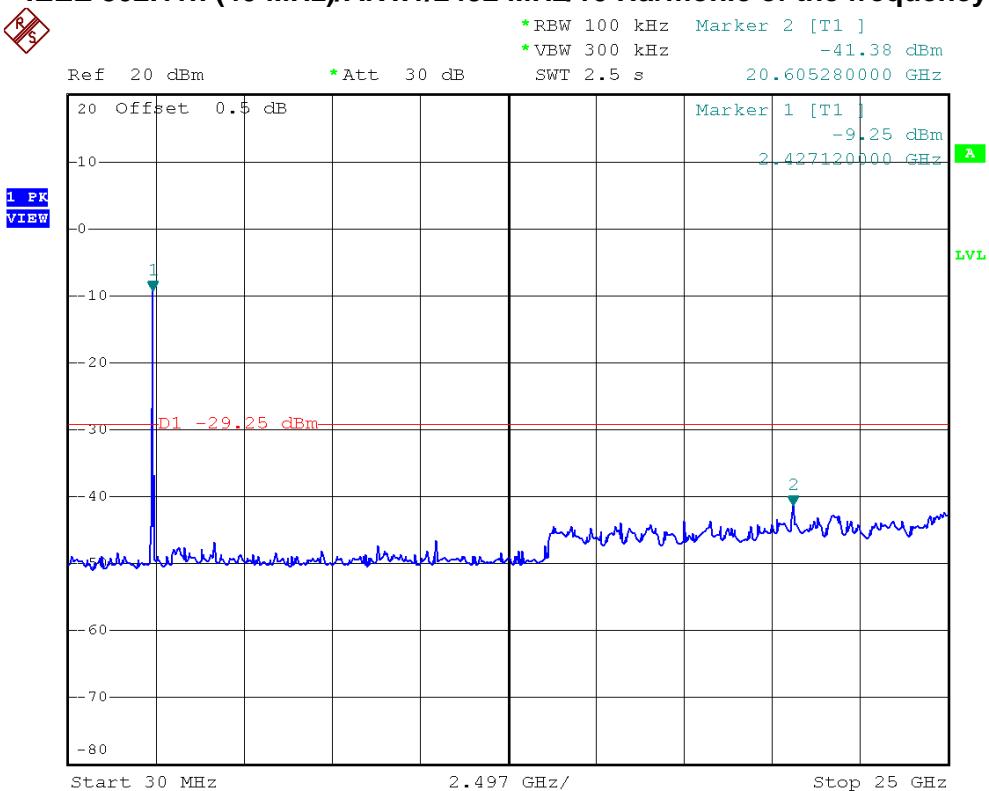




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.1/2452 MHz/10 Harmonic of the frequency





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2		

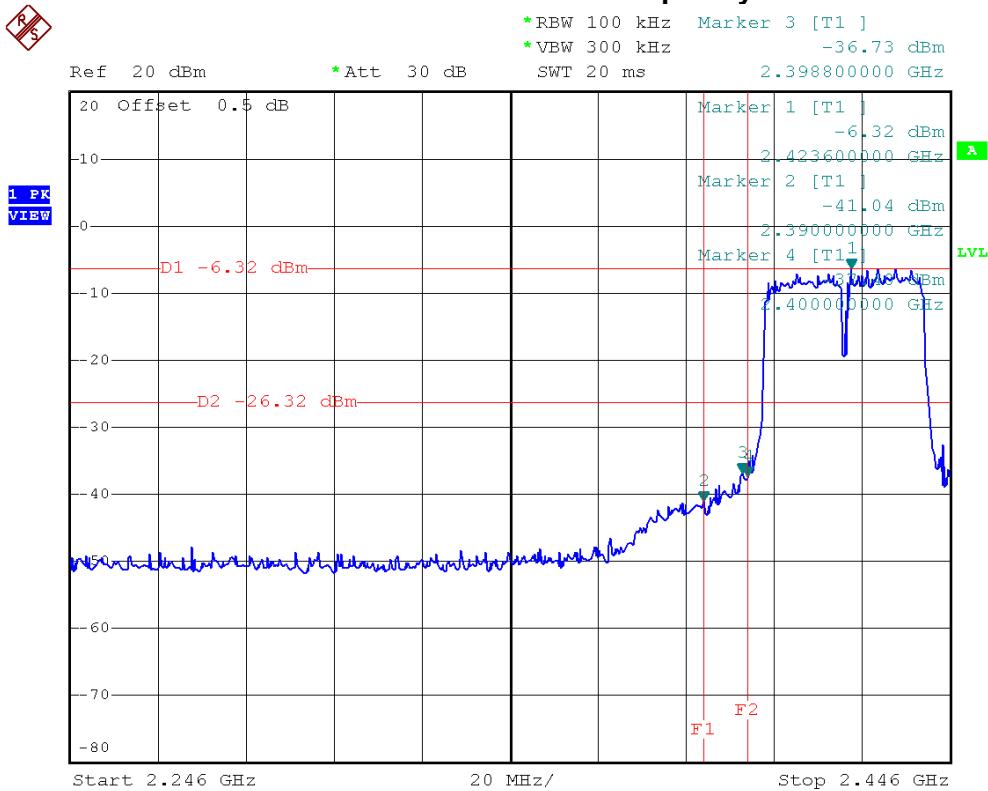
Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2398.80	-36.73	2484.00	-41.22
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			



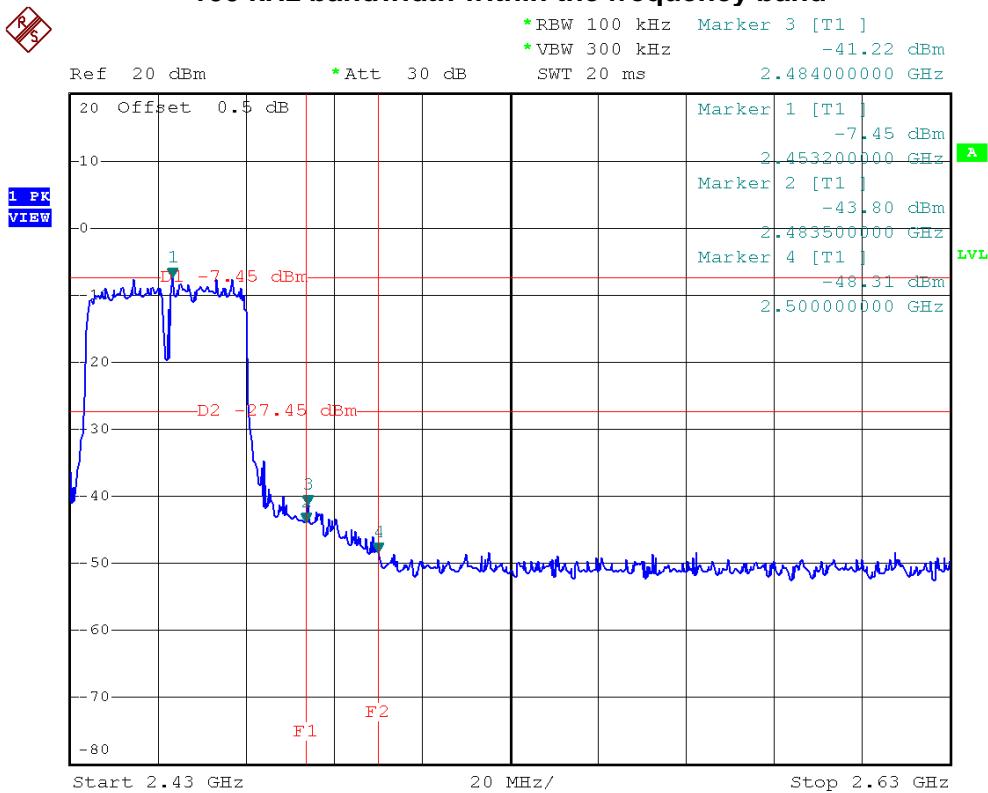
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.2/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



IEEE 802.11n (40 MHz)/ANT.2/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

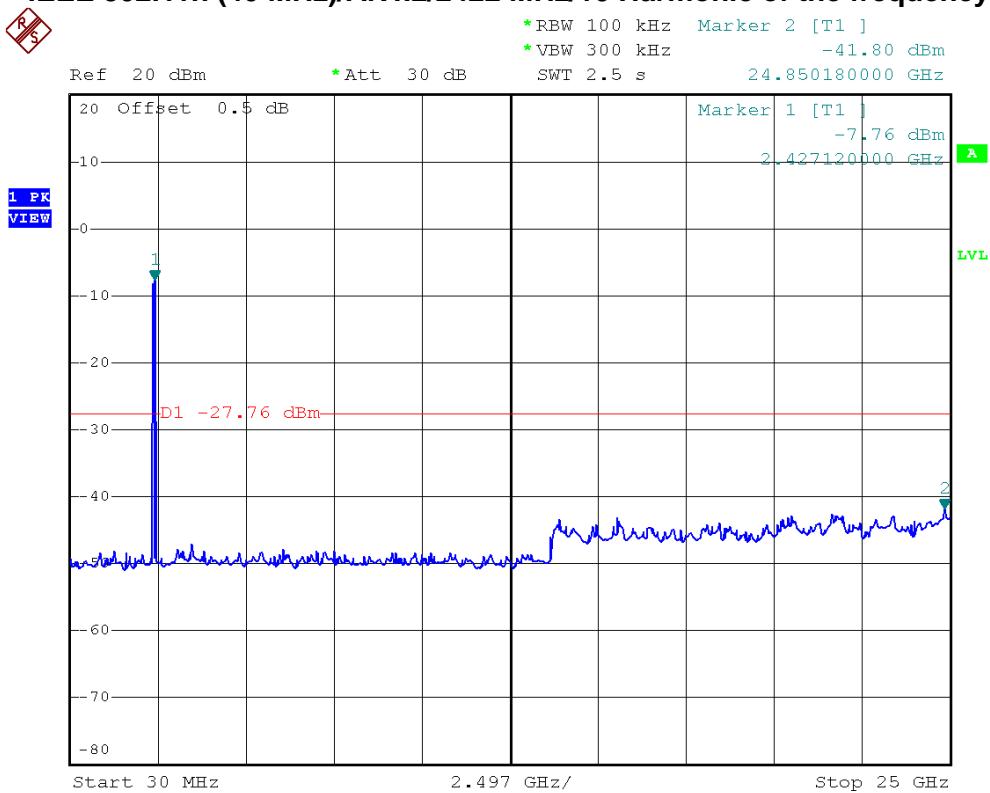




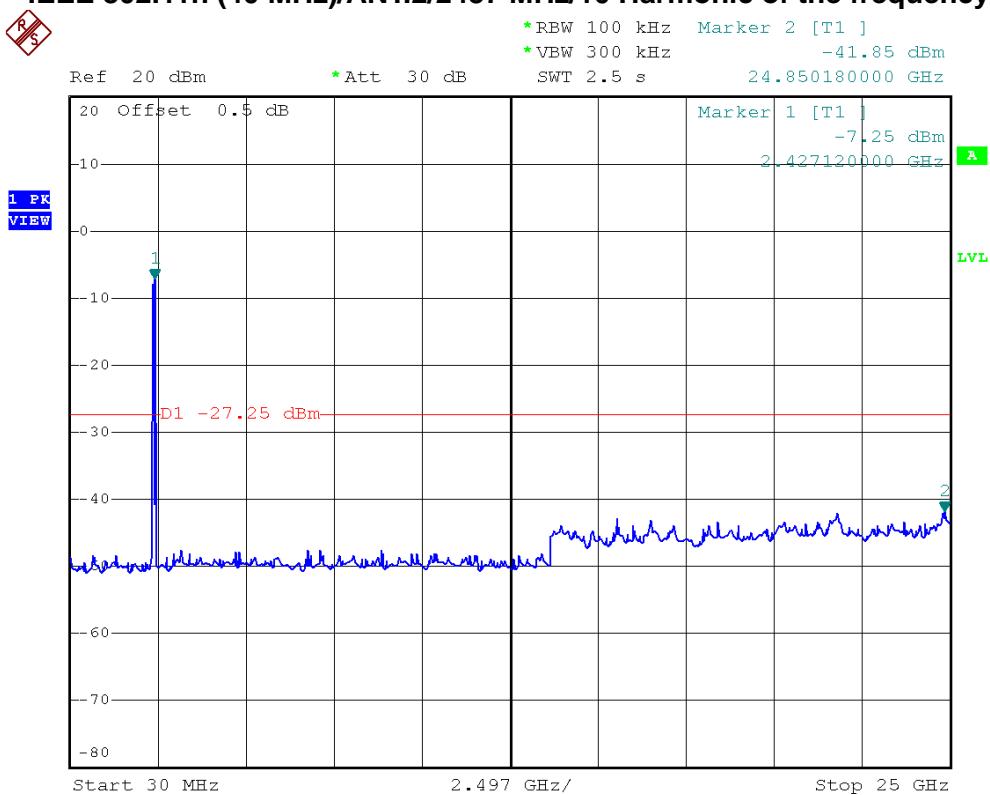
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.2/2422 MHz/10 Harmonic of the frequency



IEEE 802.11n (40 MHz)/ANT.2/2437 MHz/10 Harmonic of the frequency

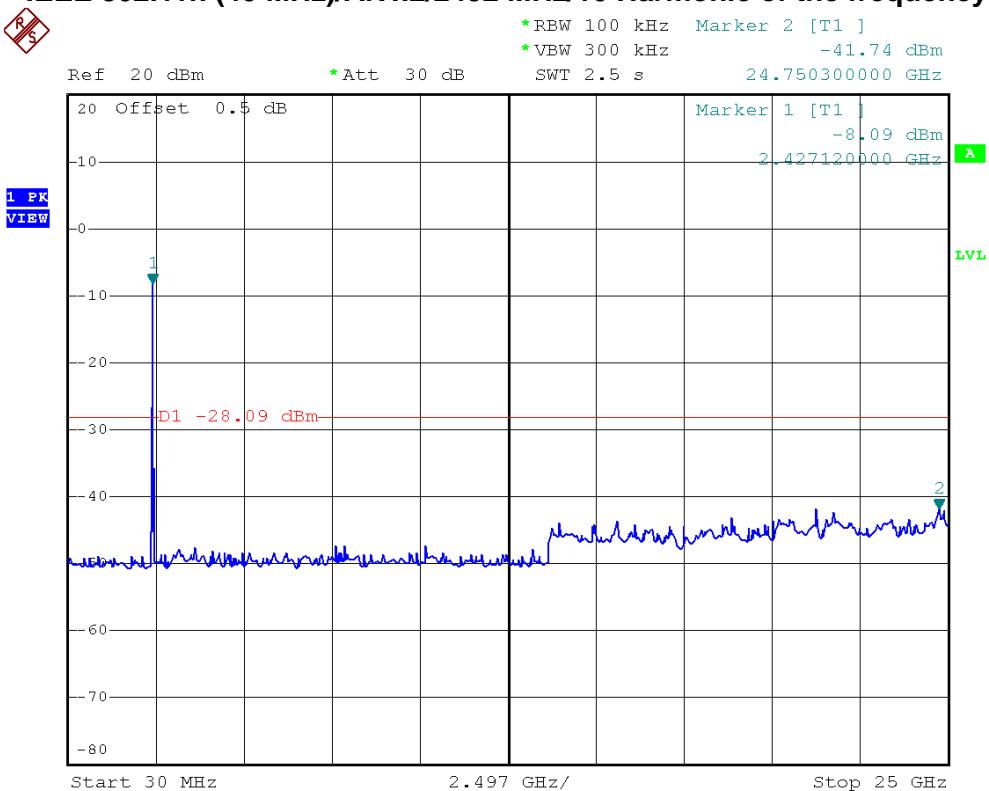




Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.2/2452 MHz/10 Harmonic of the frequency





6.6 DB BANDWIDTH

6.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Bandwidth	2400-2483.5	>= 500KHz (6dB bandwidth)

6.2 MEASUREMENT INSTRUMENTS LIST

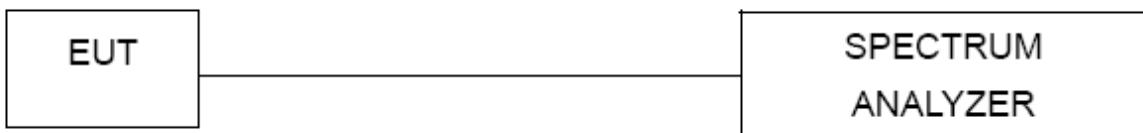
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

NOTE: **N/A:** denotes No Model Name, No Serial No. or No Calibration specified.

6.3 TEST PROCEDURES

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

6.4 TEST SETUP LAYOUT



6.5 DEVIATION FROM TEST STANDARD

No deviation

6.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

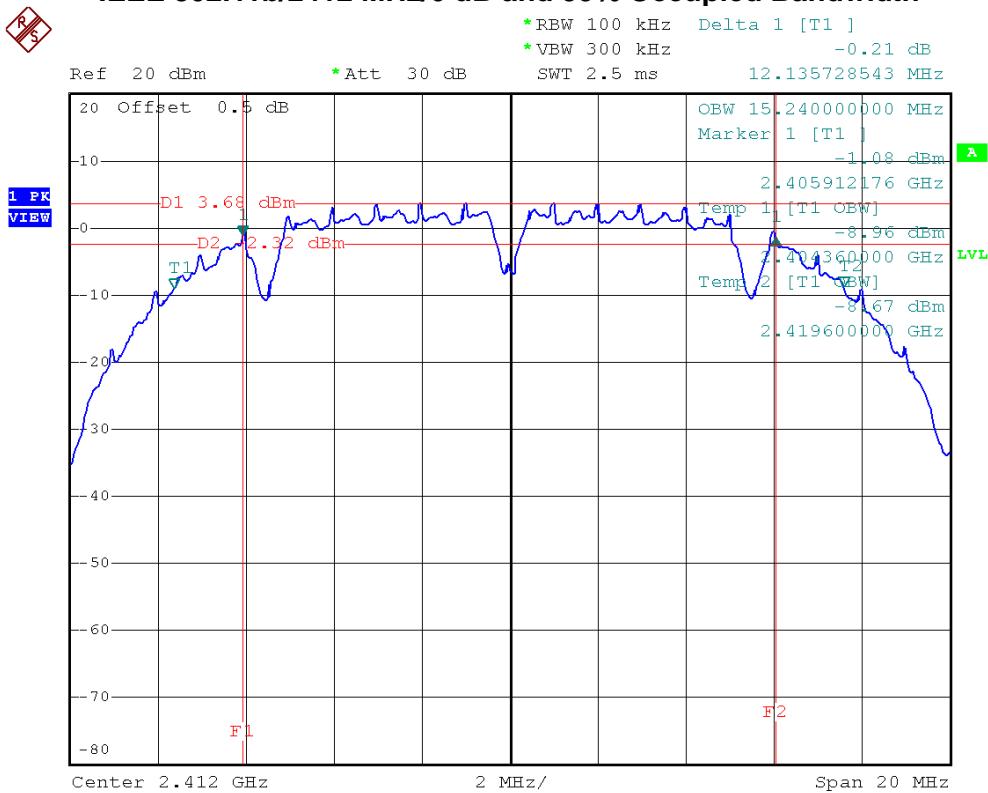


6.7 TEST RESULTS

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	12.14	15.24	>=500 kHz	PASS
2437 MHz	12.30	15.24	>=500 kHz	PASS
2462 MHz	12.10	15.24	>=500 kHz	PASS

IEEE 802.11b/2412 MHz/6 dB and 99% Occupied Bandwidth

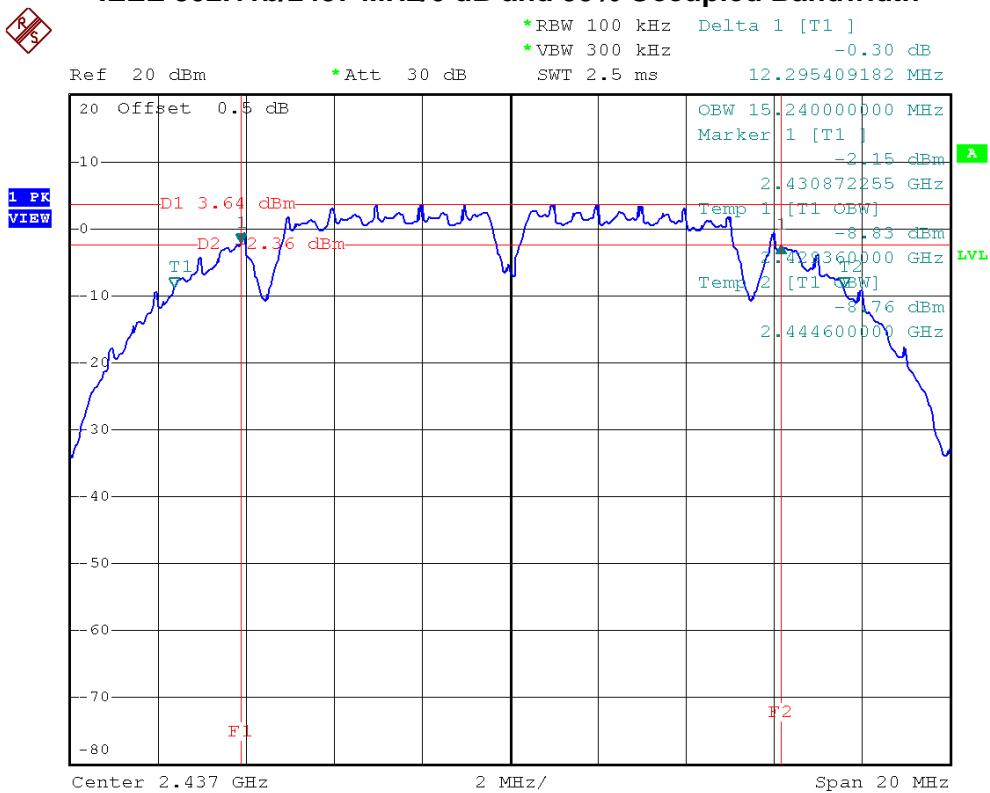




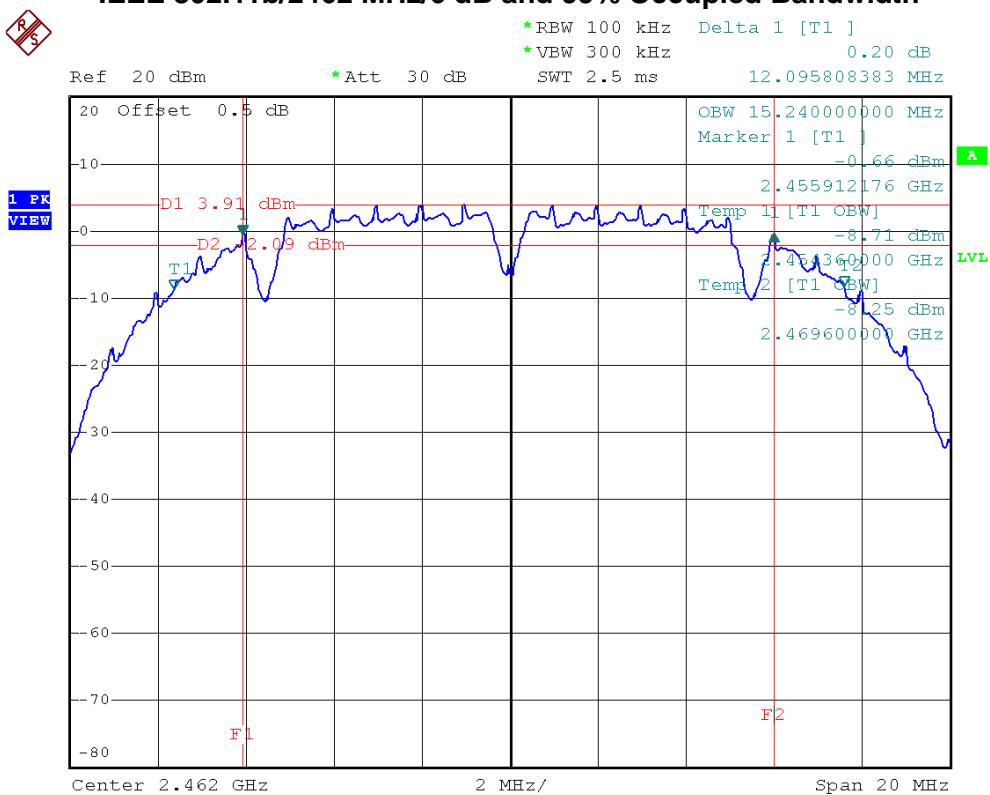
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11b/2437 MHz/6 dB and 99% Occupied Bandwidth



IEEE 802.11b/2462 MHz/6 dB and 99% Occupied Bandwidth

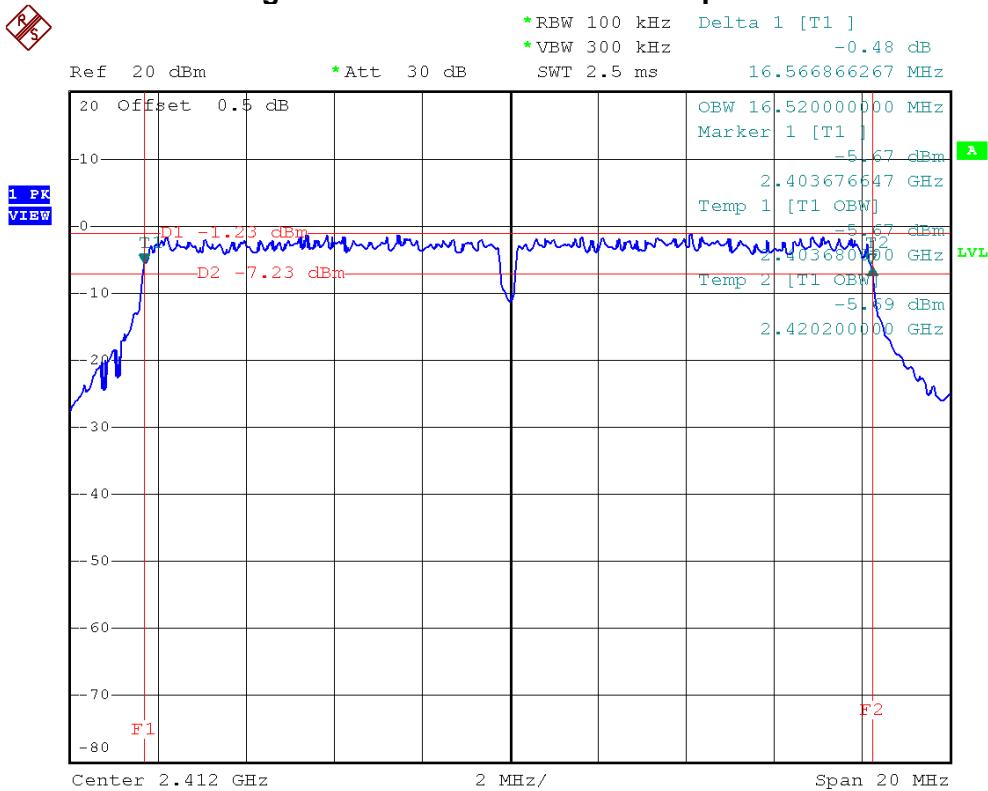




EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	16.57	16.52	>=500 kHz	PASS
2437 MHz	16.57	16.48	>=500 kHz	PASS
2462 MHz	16.57	16.48	>=500 kHz	PASS

IEEE 802.11g/2412 MHz/6 dB and 99% Occupied Bandwidth

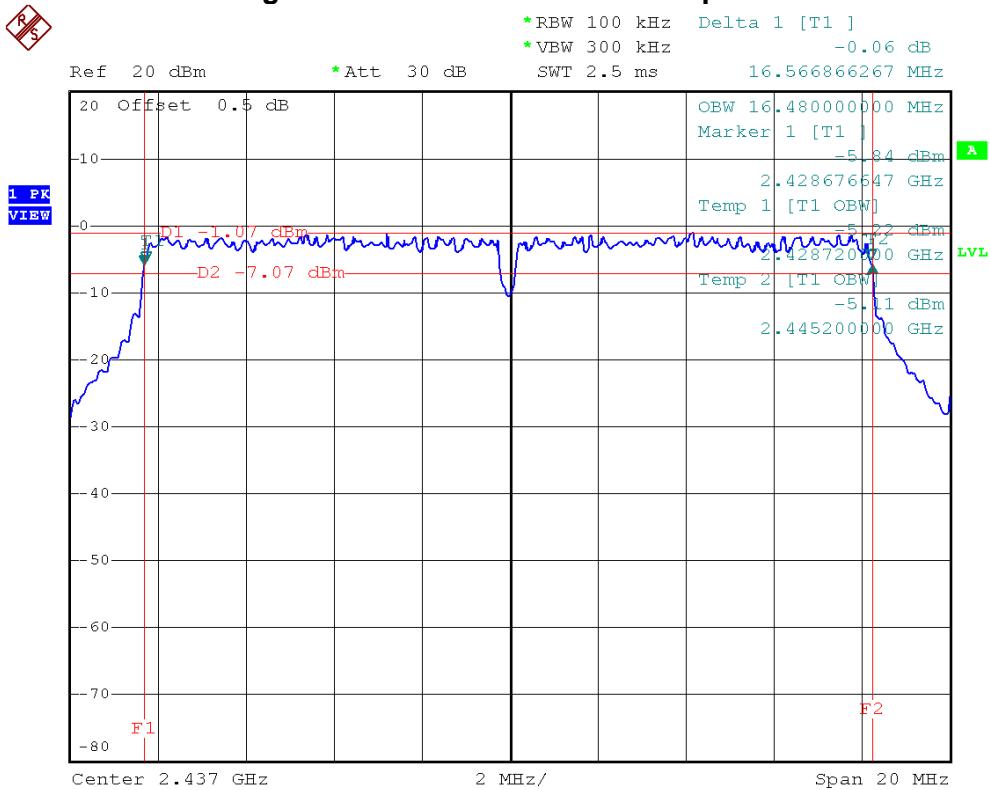




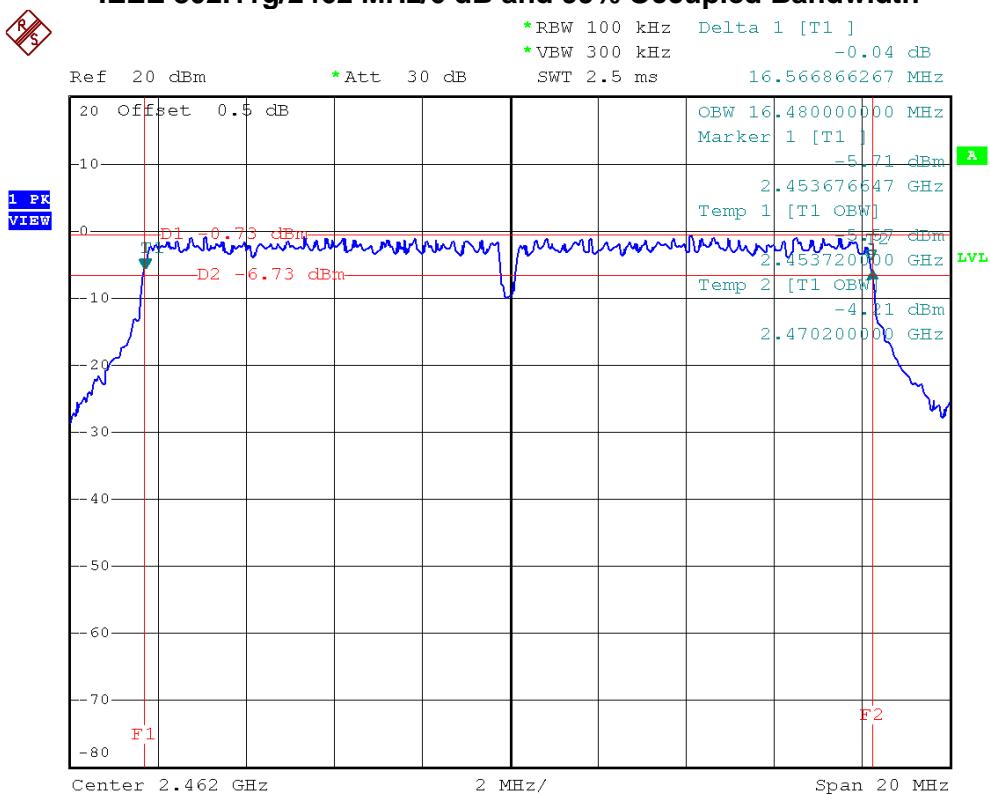
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11g/2437 MHz/6 dB and 99% Occupied Bandwidth



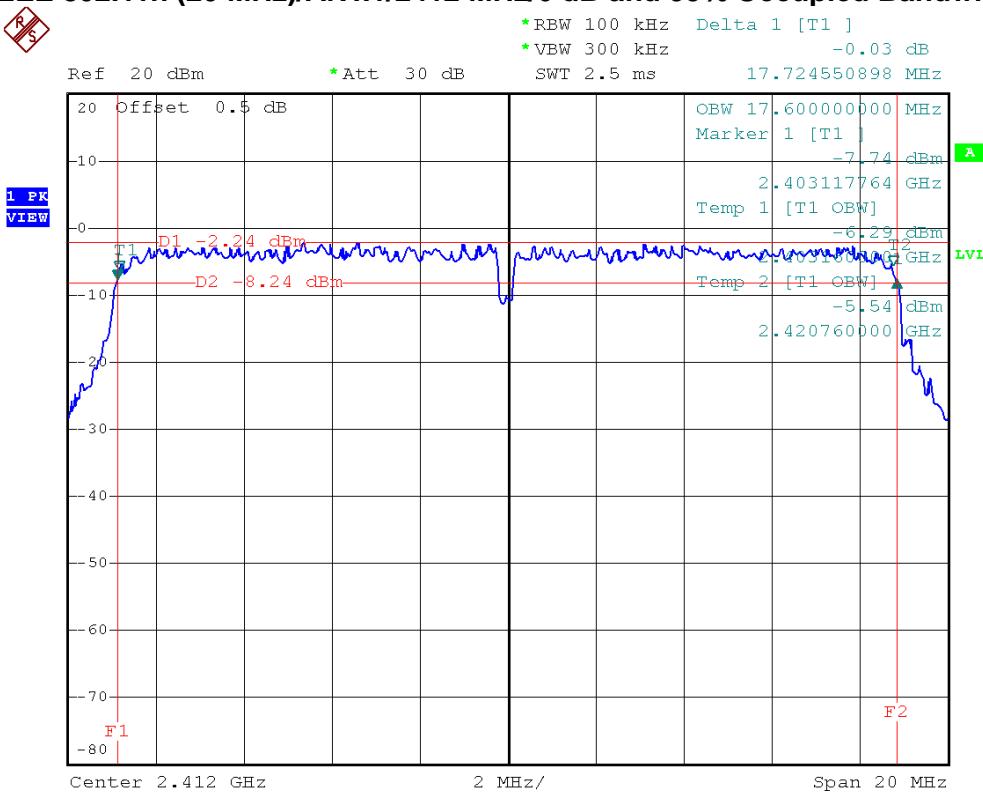
IEEE 802.11g/2462 MHz/6 dB and 99% Occupied Bandwidth





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	17.72	17.60	>=500 kHz	PASS
2437 MHz	17.76	17.60	>=500 kHz	PASS
2462 MHz	17.68	17.60	>=500 kHz	PASS

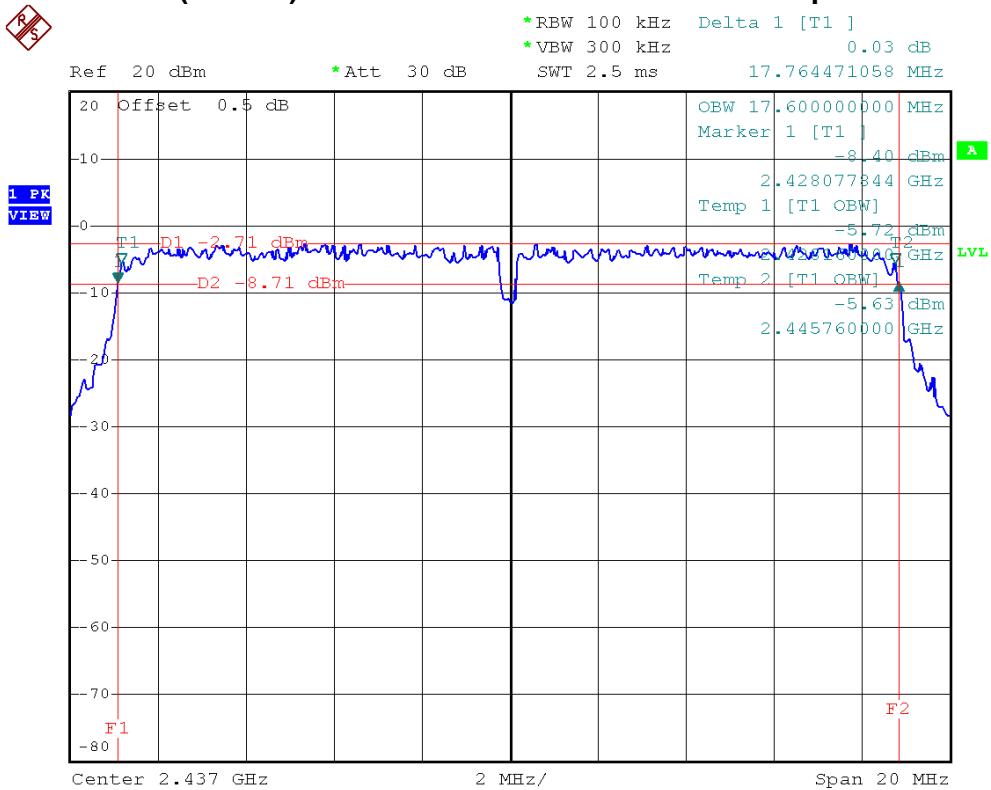
IEEE 802.11n (20 MHz)/ANT.1/2412 MHz/6 dB and 99% Occupied Bandwidth



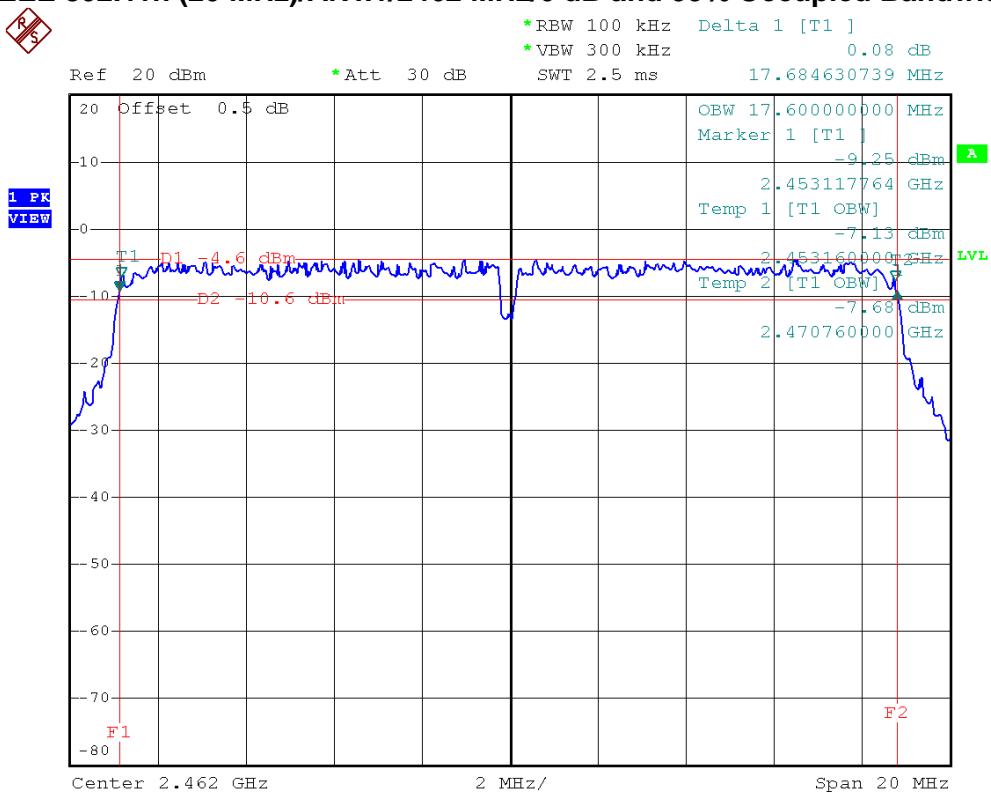
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.1/2437 MHz/6 dB and 99% Occupied Bandwidth



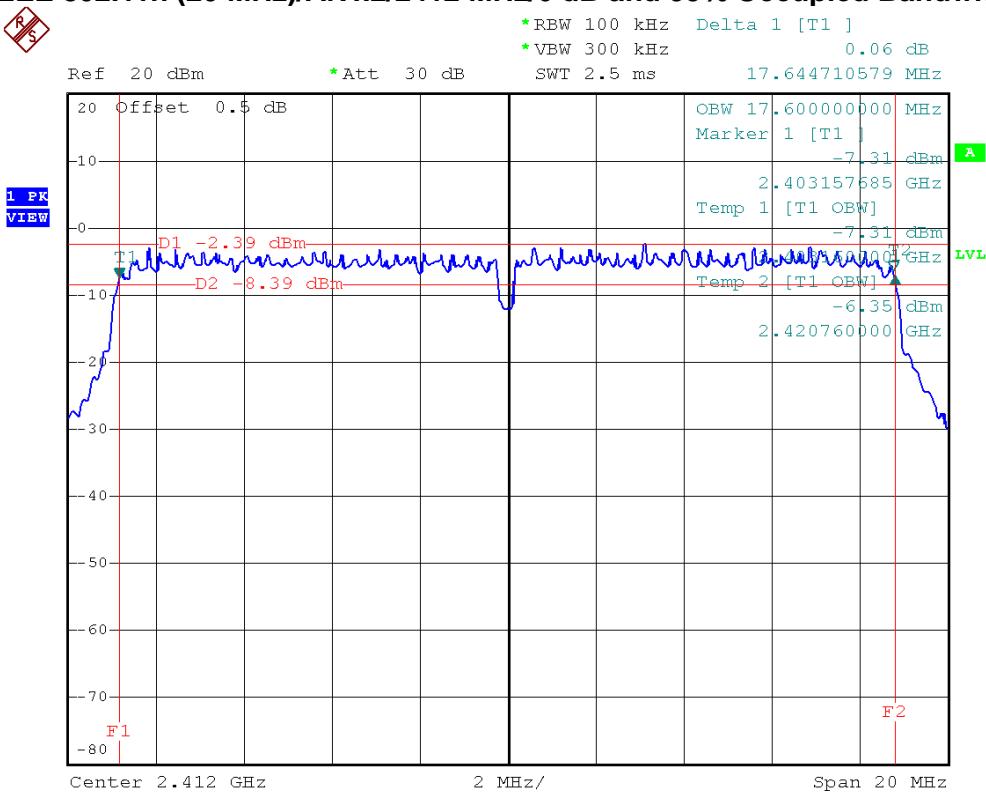
IEEE 802.11n (20 MHz)/ANT.1/2462 MHz/6 dB and 99% Occupied Bandwidth





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	17.64	17.60	>=500 kHz	PASS
2437 MHz	17.68	17.60	>=500 kHz	PASS
2462 MHz	17.72	17.60	>=500 kHz	PASS

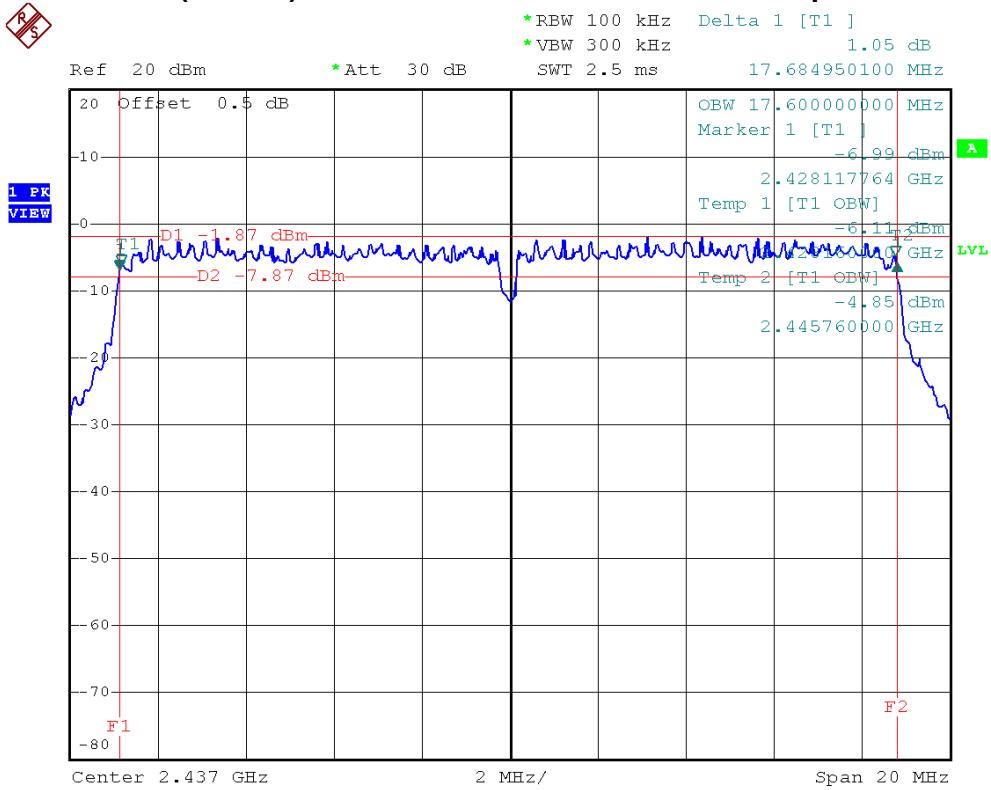
IEEE 802.11n (20 MHz)/ANT.2/2412 MHz/6 dB and 99% Occupied Bandwidth



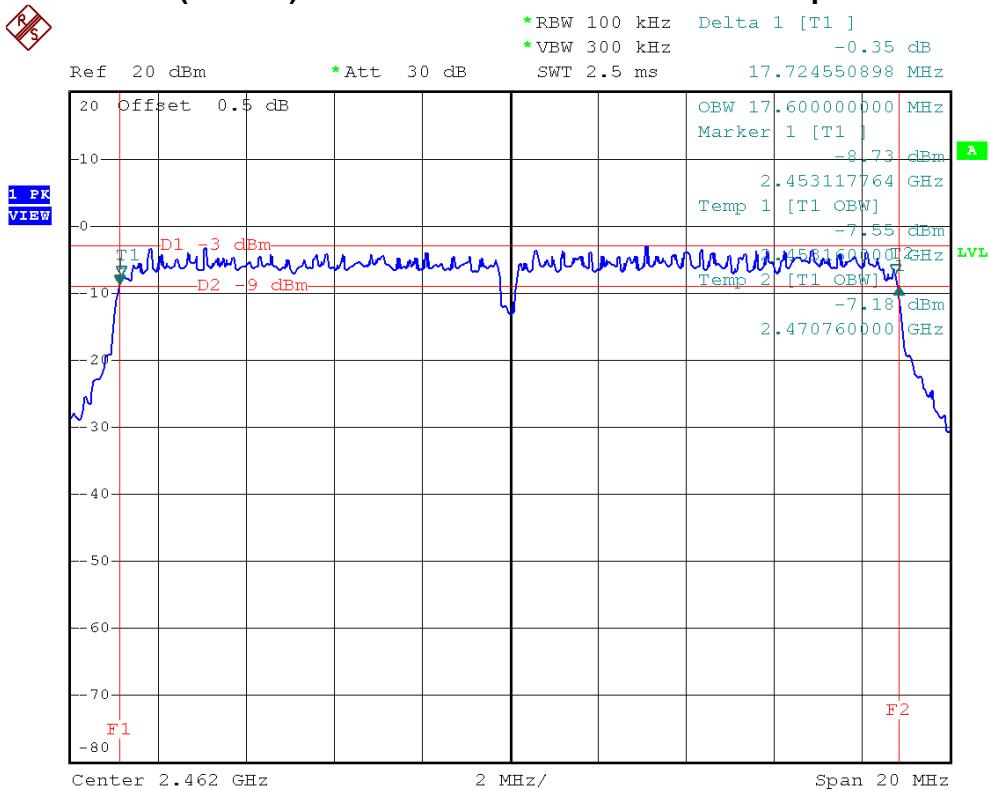
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.2/2437 MHz/6 dB and 99% Occupied Bandwidth



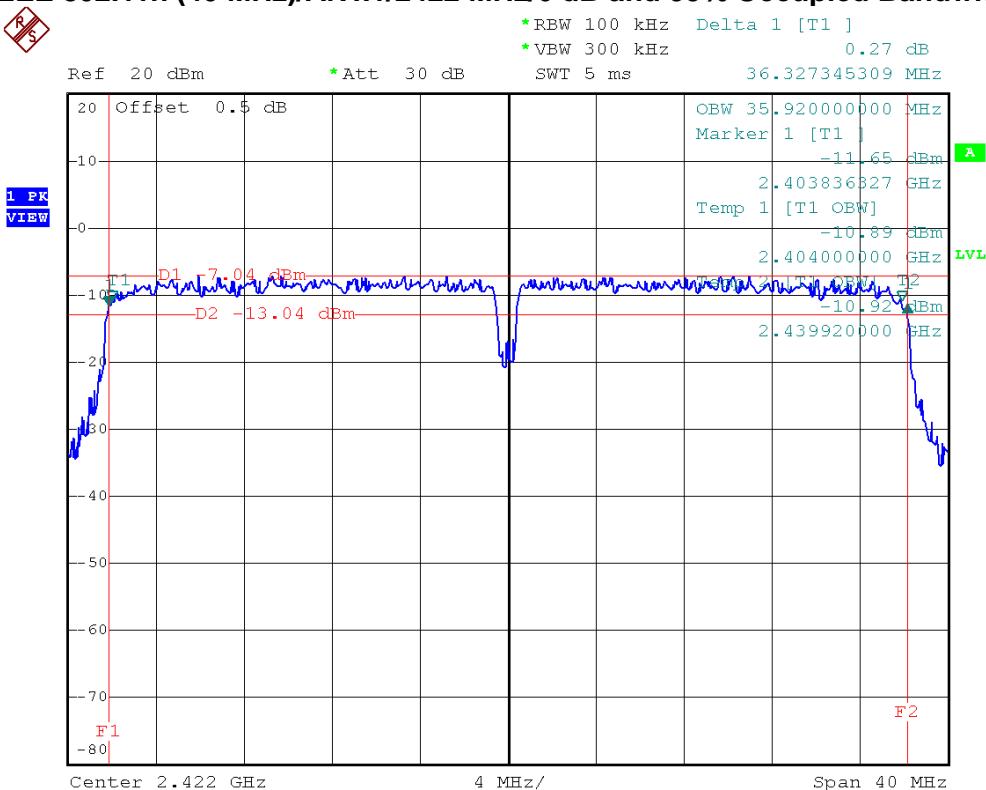
IEEE 802.11n (20 MHz)/ANT.2/2462 MHz/6 dB and 99% Occupied Bandwidth





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2422 MHz	36.33	35.92	>=500 kHz	PASS
2437 MHz	36.36	36.00	>=500 kHz	PASS
2452 MHz	36.25	36.00	>=500 kHz	PASS

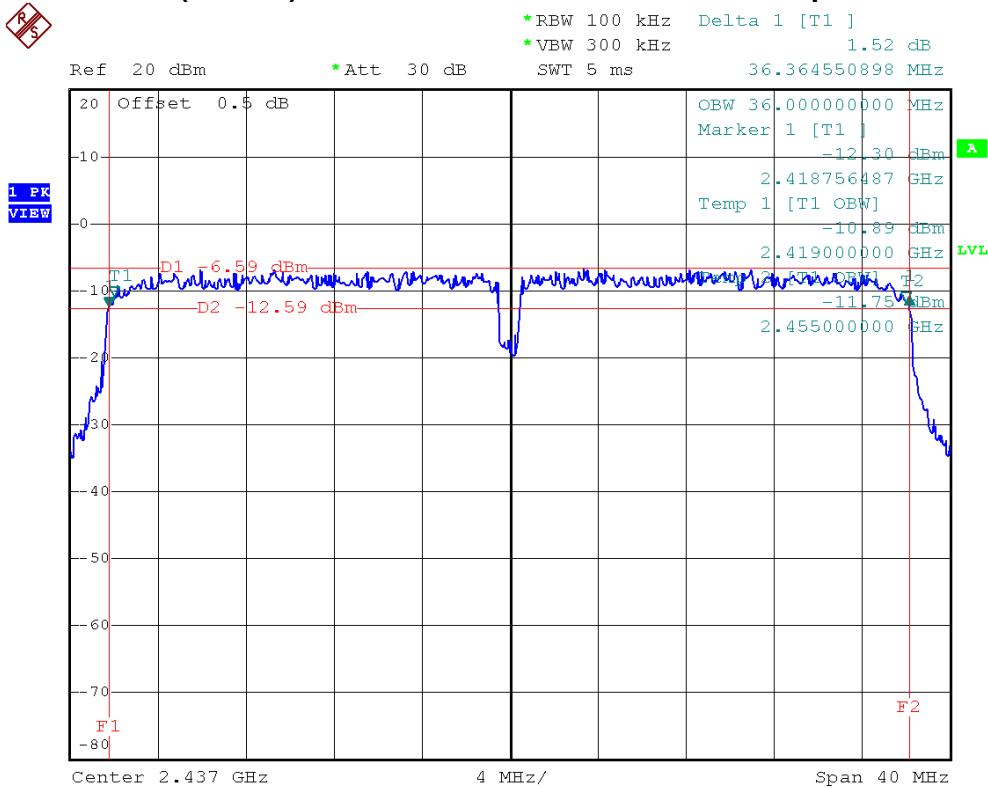
IEEE 802.11n (40 MHz)/ANT.1/2422 MHz/6 dB and 99% Occupied Bandwidth



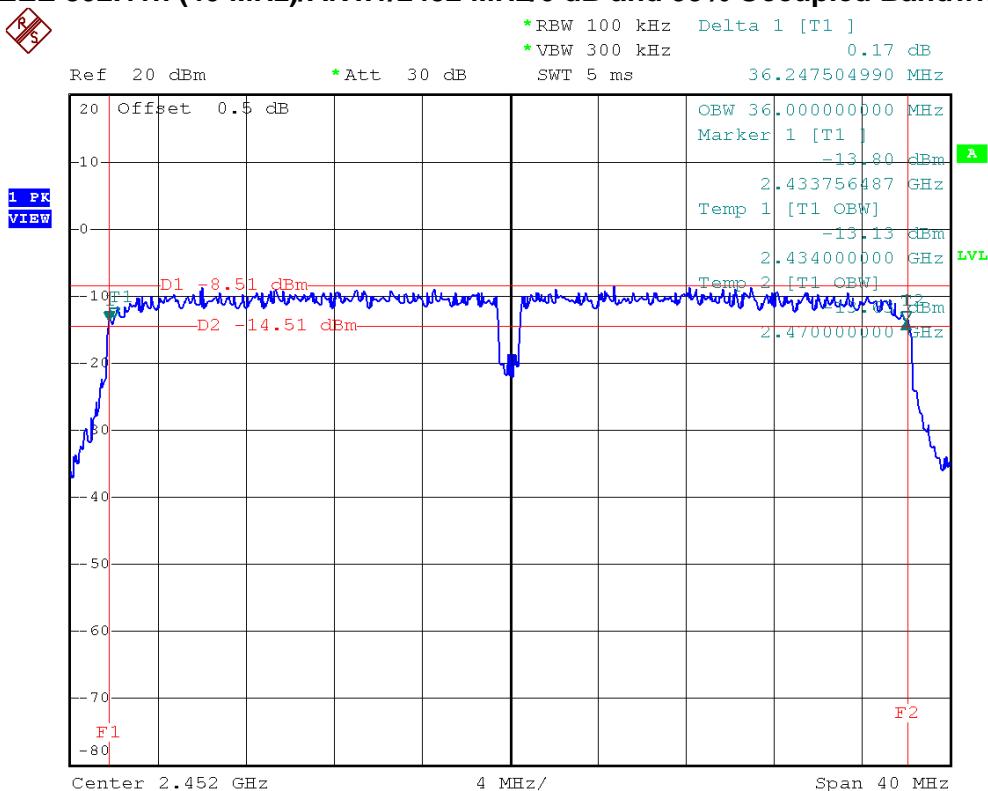
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.1/2437 MHz/6 dB and 99% Occupied Bandwidth



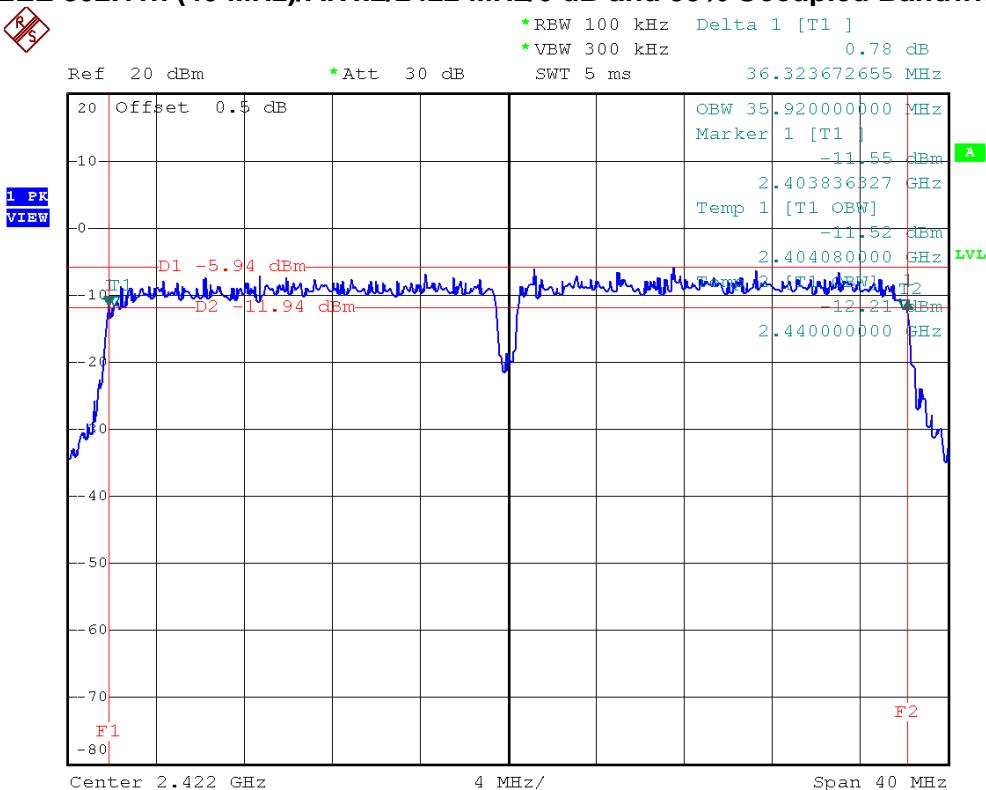
IEEE 802.11n (40 MHz)/ANT.1/2452 MHz/6 dB and 99% Occupied Bandwidth





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2422 MHz	36.32	35.92	>=500 kHz	PASS
2437 MHz	36.33	36.08	>=500 kHz	PASS
2452 MHz	36.41	36.08	>=500 kHz	PASS

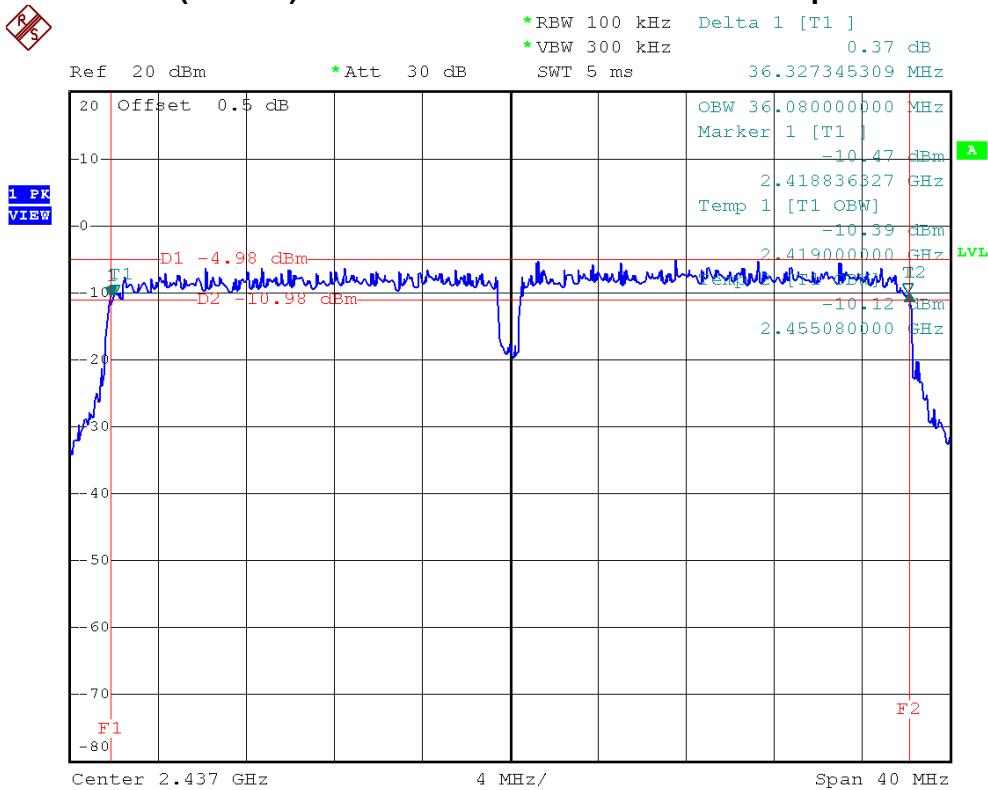
IEEE 802.11n (40 MHz)/ANT.2/2422 MHz/6 dB and 99% Occupied Bandwidth



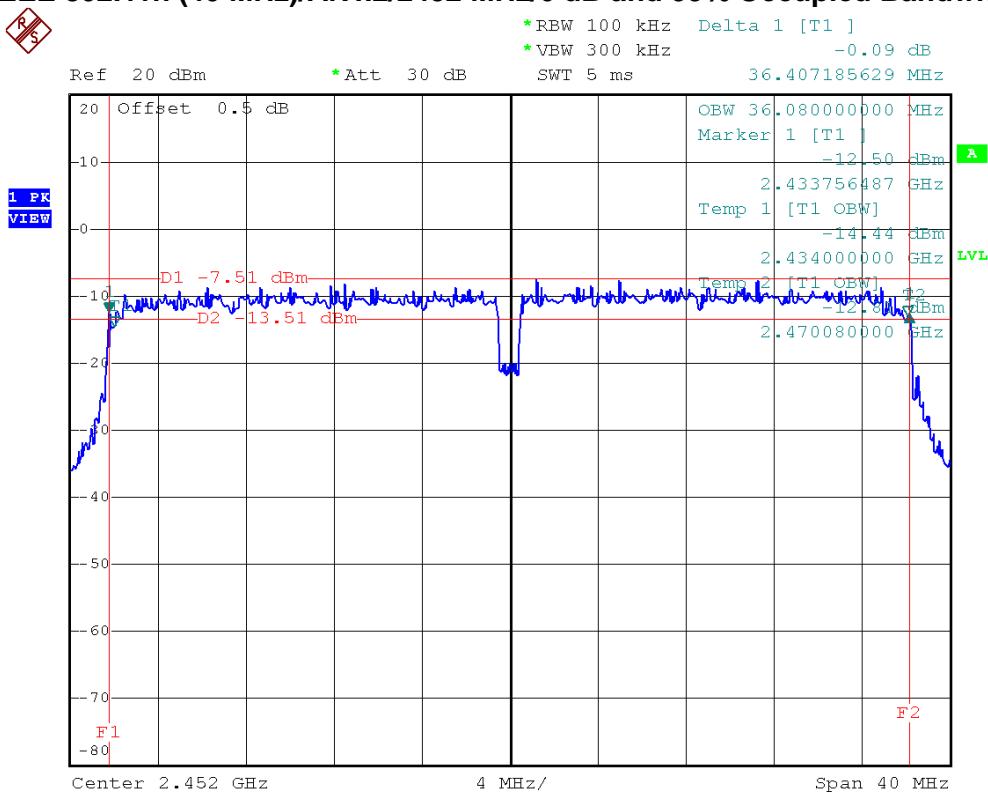
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.2/2437 MHz/6 dB and 99% Occupied Bandwidth



IEEE 802.11n (40 MHz)/ANT.2/2452 MHz/6 dB and 99% Occupied Bandwidth





7 MAXIMUM PEAK CONDUCTED OUTPUT POWER

7.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Maximum Peak Conducted Output Power	2400-2483.5	1 watt or 30 dBm

7.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

NOTE: **N/A:** denotes No Model Name, No Serial No. or No Calibration specified.

7.3 TEST PROCEDURES

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 3 MHz, VBW= 3 MHz, Sweep time = Auto.

7.4 TEST SETUP LAYOUT



7.5 DEVIATION FROM TEST STANDARD

No deviation

7.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



7.7 TEST RESULTS

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	19.46	30	PASS
2437 MHz	19.32	30	PASS
2462 MHz	19.47	30	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	22.50	30	PASS
2437 MHz	22.51	30	PASS
2462 MHz	22.94	30	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	21.17	30	PASS
2437 MHz	21.32	30	PASS
2462 MHz	19.33	30	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	20.68	30	PASS
2437 MHz	21.70	30	PASS
2462 MHz	20.88	30	PASS



EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	23.94	30	PASS
2437 MHz	24.52	30	PASS
2462 MHz	23.18	30	PASS

NOTE:

1. The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\log}) + ((\text{dBm}/\text{Chain 2})/10^{\log}) + ((\text{dBm}/\text{ChainN})/10^{\log}) = \text{Combined peak output power in mW.}$
2. Antenna Gain=2 dBi.



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	19.72	30	PASS
2437 MHz	20.02	30	PASS
2452 MHz	17.77	30	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	19.48	30	PASS
2437 MHz	20.37	30	PASS
2452 MHz	20.88	30	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	22.61	30	PASS
2437 MHz	23.21	30	PASS
2452 MHz	22.61	30	PASS

NOTE:

1. The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\log}) + ((\text{dBm}/\text{Chain 2})/10^{\log}) + ((\text{dBm}/\text{ChainN})/10^{\log}) = \text{Combined peak output power in mW.}$
2. Antenna Gain=2 dBi.



8 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

8.1 LIMIT

20 dB in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

1. The limit for radiated test was performed according to FCC PART 15B.

2. The tighter limit applies at the band edges.

3. Emission level (dBuV/m)=20log Emission level (uV/m).

4. The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)

Margin Level = Measurement Value – Limit Value



8.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 15, 2014
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 16, 2014
4	Microflex Cable	Harbour industries	27478LL142	1m	May. 13, 2014
5	Microflex Cable	EMC	S104-SMA	8m	May. 13, 2014
6	Microflex Cable	Harbour industries	27478LL142	3m	May. 13, 2014
7	Test Cable	LMR	LMR-400	12m	May. 14, 2014
8	Test Cable	LMR	LMR-400	3m	May. 14, 2014
9	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 18, 2014
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 11, 2014
11	Preamplifier With Adaptor	EMC	EMC2654045	980030	Feb. 18, 2014
12	Horn Antenna	Schwarzbeck	BBHA 9170	187	Dec. 24, 2013

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

8.3 MEASURING INSTRUMENTS SETTING

EMI Test Receiver	Parameter Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



8.4 TEST PROCEDURES

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- g. The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

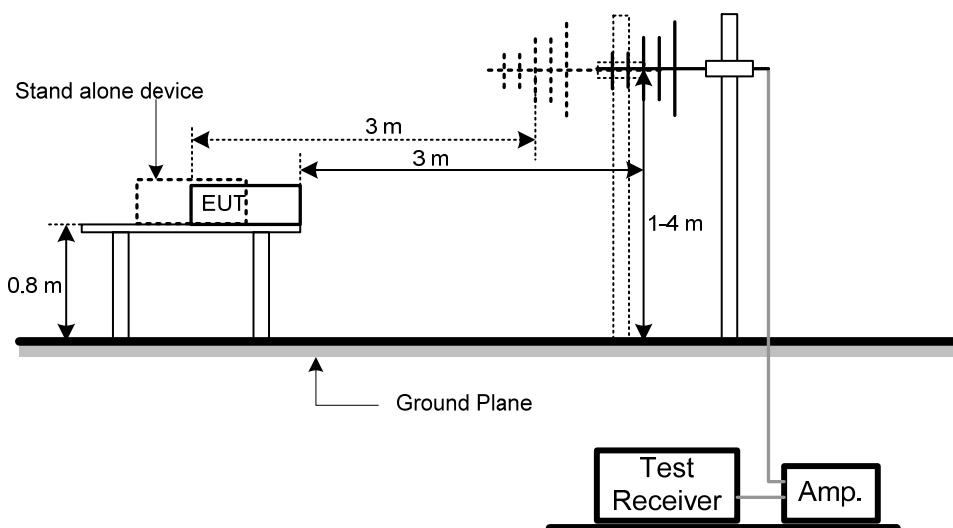
NOTE:

- a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=100 kHz, VBW =100 kHz, Swp. Time = 0.3 sec./ MHz.
- b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

8.5 DEVIATION FROM TEST STANDARD

No deviation

8.6 TEST SETUP LAYOUT





8.7 EUT OPERATING CONDITIONS

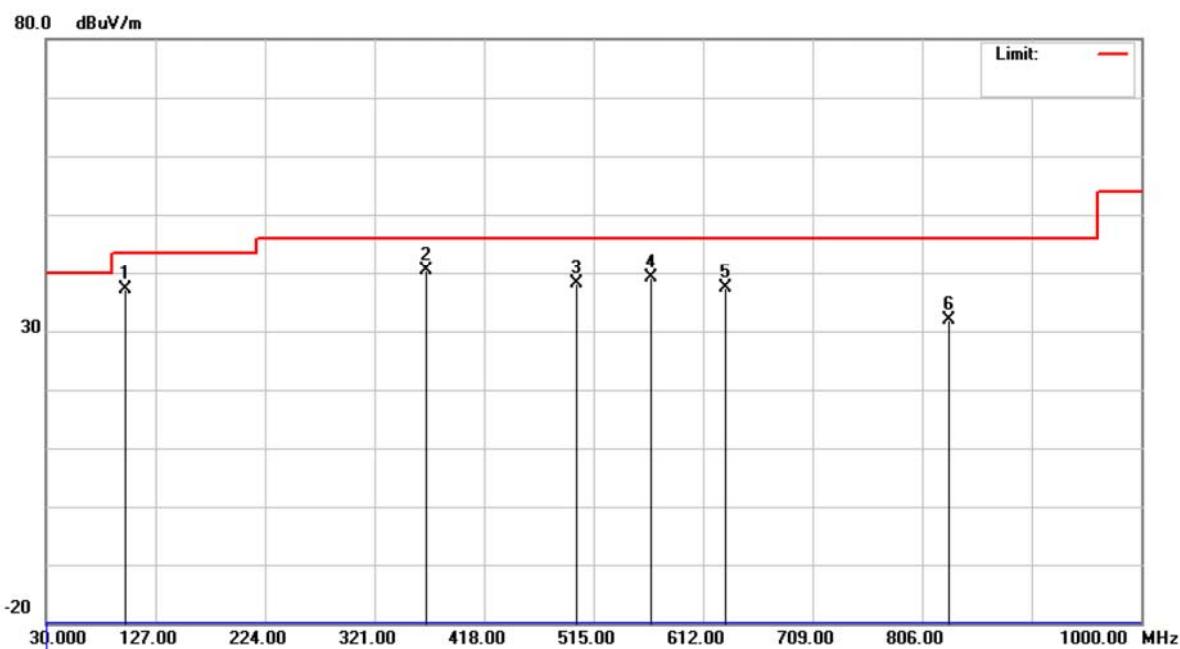
The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



8.8 TEST RESULTS

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	100.3249	56.21	-19.19	37.02	43.50	-6.48	peak
2 *	367.0750	52.60	-12.20	40.40	46.00	-5.60	peak
3	500.4500	47.58	-9.48	38.10	46.00	-7.90	peak
4	565.9249	46.90	-7.76	39.14	46.00	-6.86	peak
5	631.4000	44.15	-6.84	37.31	46.00	-8.69	peak
6	830.2500	36.27	-4.35	31.92	46.00	-14.08	peak

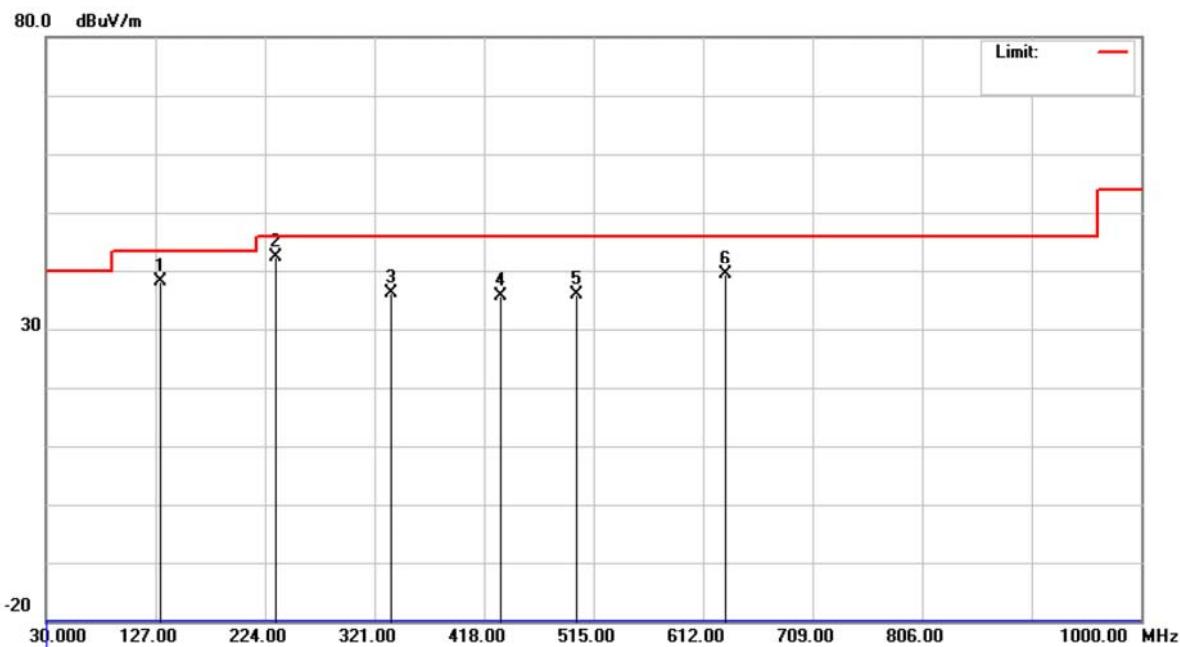


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	131.8500	53.69	-15.66	38.03	43.50	-5.47	peak
2 *	233.6999	58.28	-15.99	42.29	46.00	-3.71	peak
3	335.5499	48.81	-12.73	36.08	46.00	-9.92	peak
4	432.5499	45.81	-10.26	35.55	46.00	-10.45	peak
5	500.4500	45.36	-9.48	35.88	46.00	-10.12	peak
6	631.4000	46.10	-6.84	39.26	46.00	-6.74	peak



9 RADIATED SPURIOUS EMISSION (ABOVE 1 GHZ)

9.1 LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

(1) The limit for radiated test was performed according to FCC PART 15B.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

(4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)

Margin Level = Measurement Value – Limit Value



9.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 15, 2014
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 16, 2014
4	Microflex Cable	Harbour industries	27478LL142	1m	May. 13, 2014
5	Microflex Cable	EMC	S104-SMA	8m	May. 13, 2014
6	Microflex Cable	Harbour industries	27478LL142	3m	May. 13, 2014
7	Test Cable	LMR	LMR-400	12m	May. 14, 2014
8	Test Cable	LMR	LMR-400	3m	May. 14, 2014
9	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 18, 2014
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 11, 2014
11	Preamplifier With Adaptor	EMC	EMC2654045	980030	Feb. 18, 2014
12	Horn Antenna	Schwarzbeck	BBHA 9170	187	Dec. 24, 2013

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

9.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average



9.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- f. The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

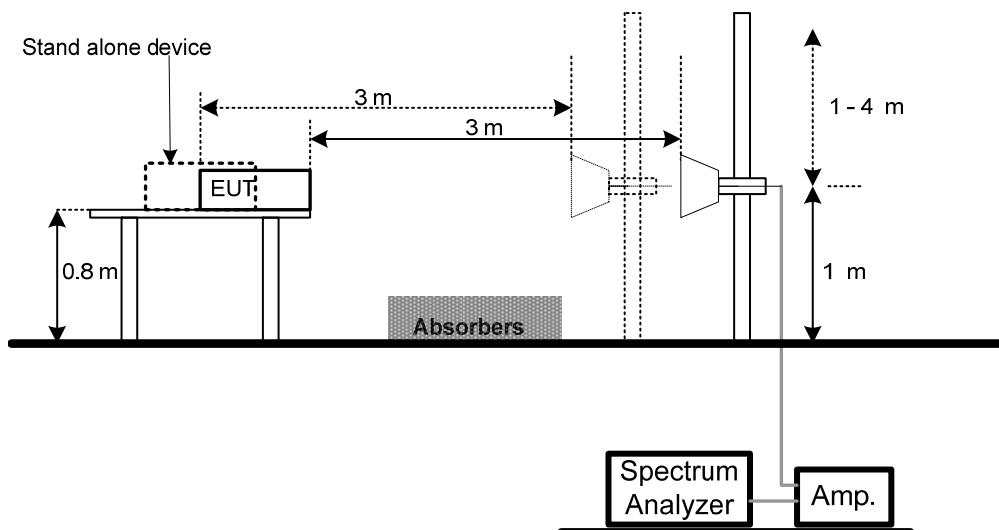
NOTE:

- a. Reading in which marked as Peak means measurements by using are Peak Mode with instrument setting in RBW= 1 MHz, VBW= 1 MHz, Swp. Time = Auto.
Reading in which marked as AVG means measurements by using are Average Mode with instrument setting in RBW= 1 MHz, VBW= 10 Hz, Swp. Time = Auto.
- b. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform.

9.5 DEVIATION FROM TEST STANDARD

No deviation

9.6 TEST SETUP LAYOUT





9.7 EUT OPERATING CONDITIONS

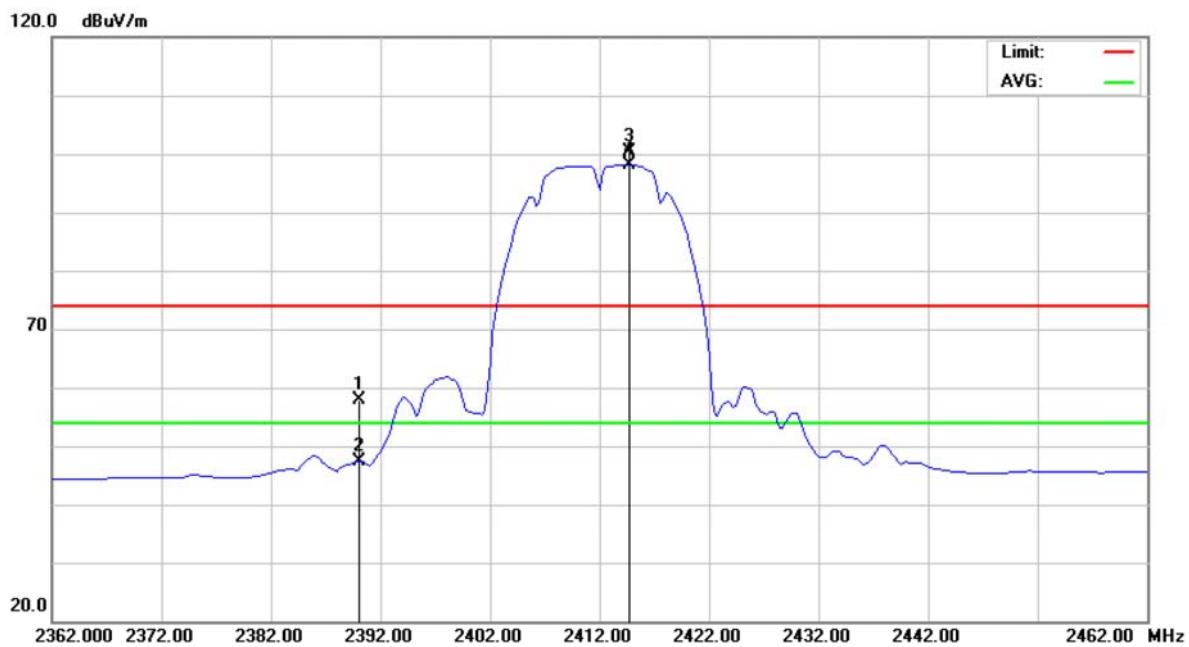
The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



9.8 TEST RESULTS

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2390.000	26.13	31.67	57.80	74.00	-16.20	peak
2		2390.000	15.73	31.67	47.40	54.00	-6.60	AVG
3	X	2414.750	68.64	31.78	100.42	74.00	26.42	peak
4	*	2414.750	66.40	31.78	98.18	54.00	44.18	AVG

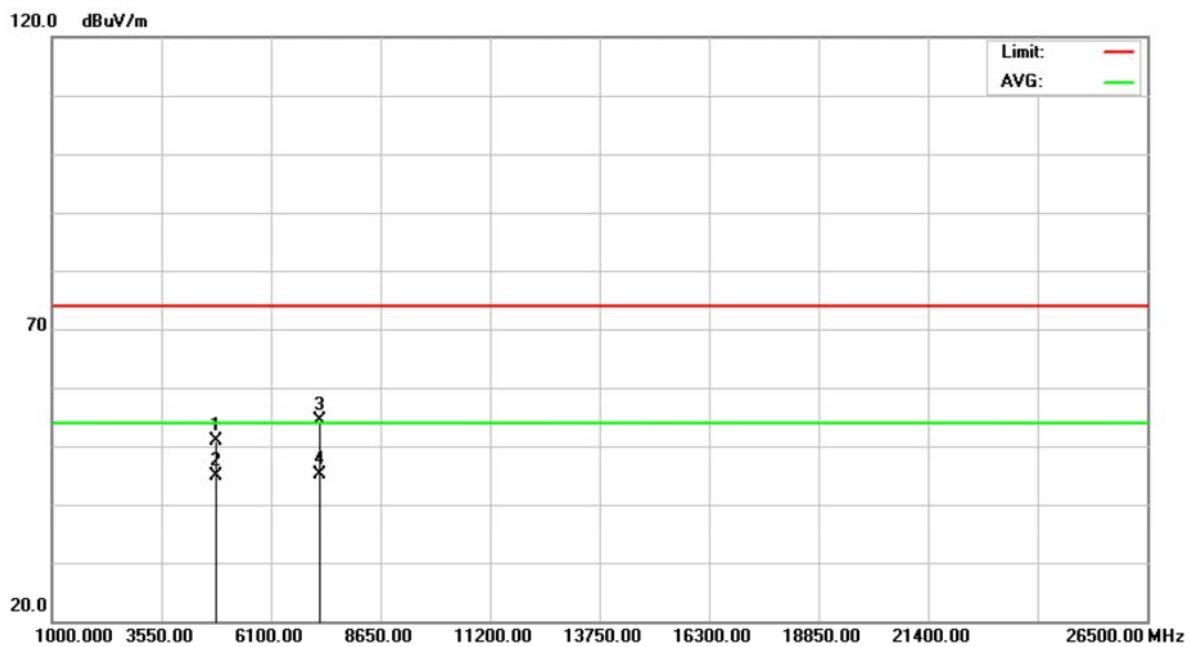


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4823.930	45.12	5.71	50.83	74.00	-23.17	peak
2		4823.930	39.19	5.71	44.90	54.00	-9.10	AVG
3		7235.000	42.03	12.28	54.31	74.00	-19.69	peak
4	*	7235.000	32.84	12.28	45.12	54.00	-8.88	AVG

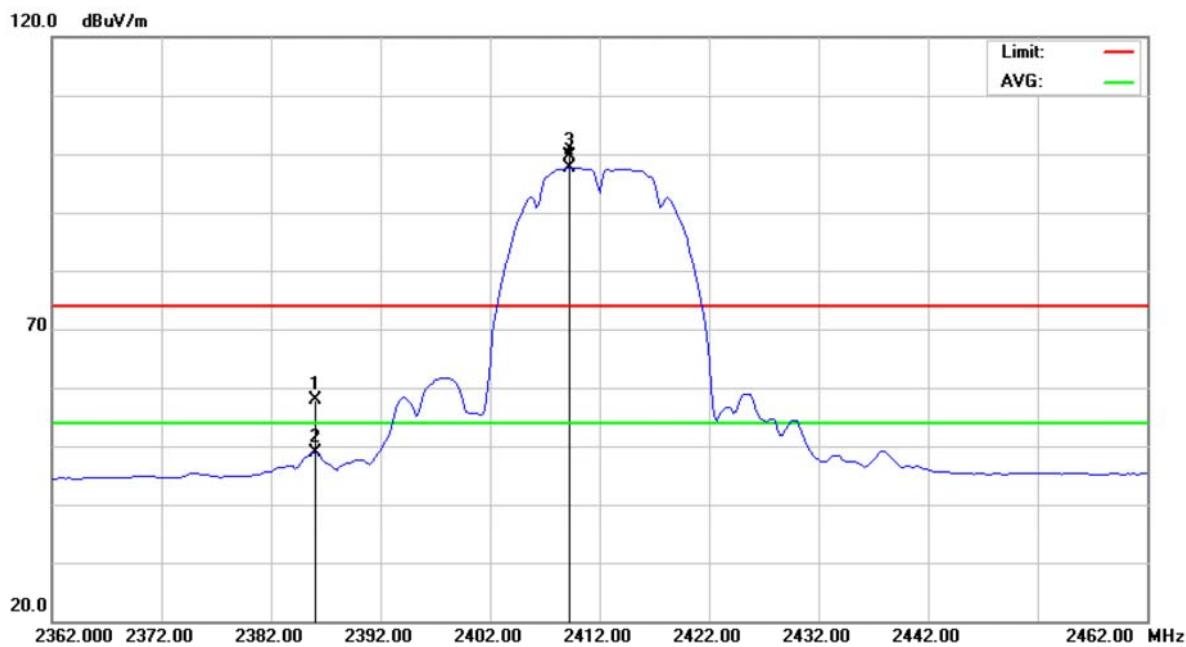


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	2386.000	26.18	31.65	57.83	74.00	-16.17	peak
2	2386.000	17.27	31.65	48.92	54.00	-5.08	AVG
3	X 2409.250	67.92	31.75	99.67	74.00	25.67	peak
4	* 2409.250	65.87	31.75	97.62	54.00	43.62	AVG

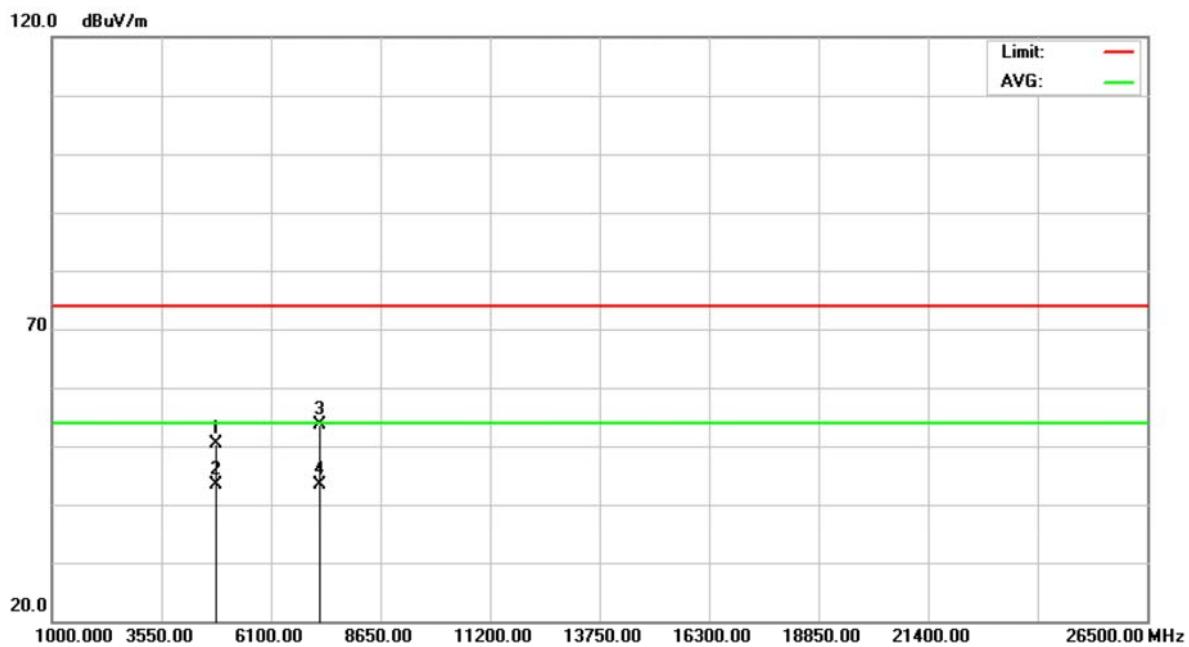


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	4823.925	44.78	5.71	50.49	74.00	-23.51	peak
2	4823.925	37.56	5.71	43.27	54.00	-10.73	Avg
3	7236.660	41.44	12.29	53.73	74.00	-20.27	peak
4 *	7236.660	31.00	12.29	43.29	54.00	-10.71	Avg

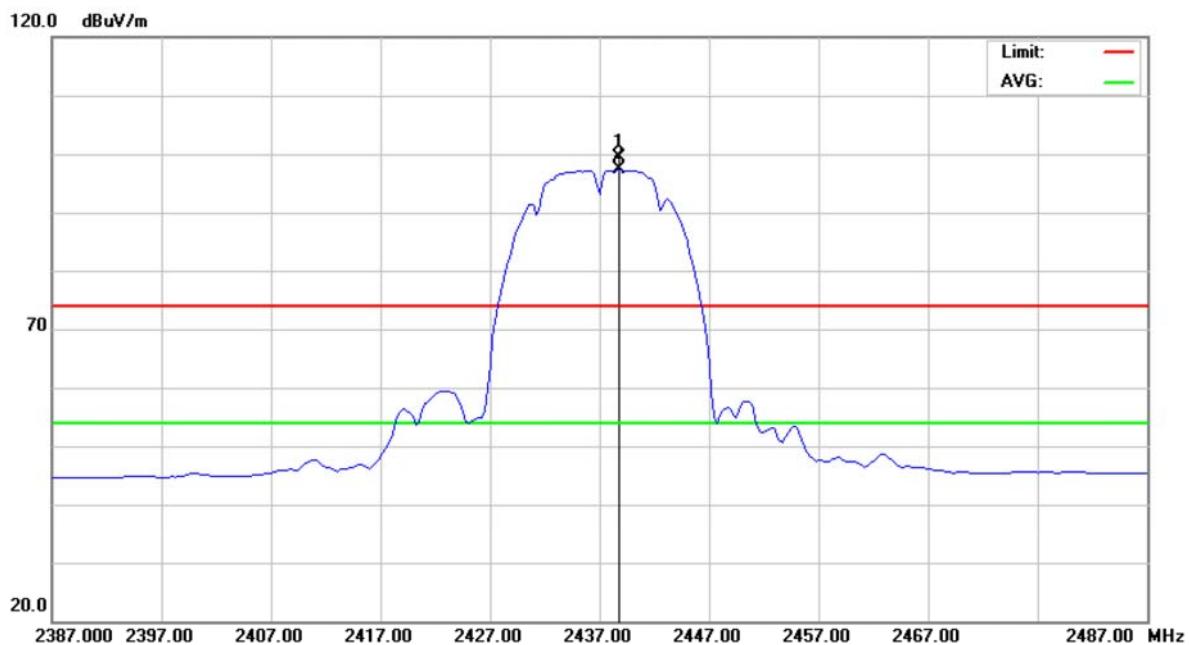


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2438.750	67.59	31.89	99.48	74.00	25.48	peak	
2 *	2438.750	65.38	31.89	97.27	54.00	43.27	Avg	

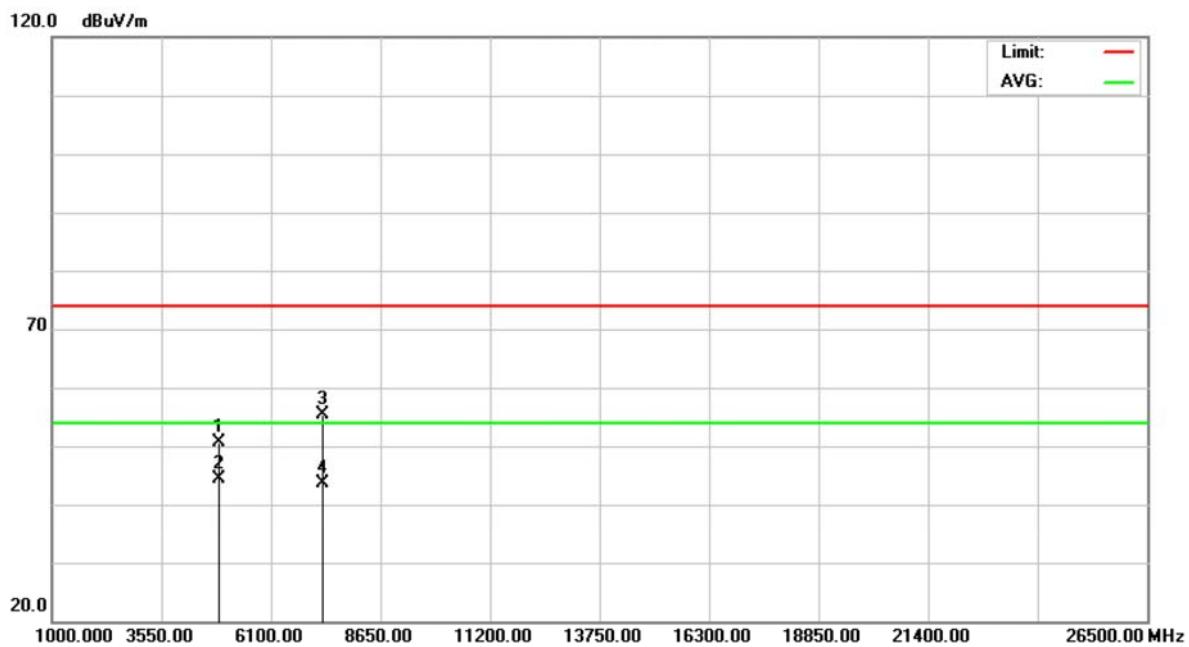


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	4873.935	44.91	5.78	50.69	74.00	-23.31	peak	
2 *	4873.935	38.51	5.78	44.29	54.00	-9.71	AVG	
3	7310.005	42.73	12.56	55.29	74.00	-18.71	peak	
4	7310.005	30.99	12.56	43.55	54.00	-10.45	AVG	

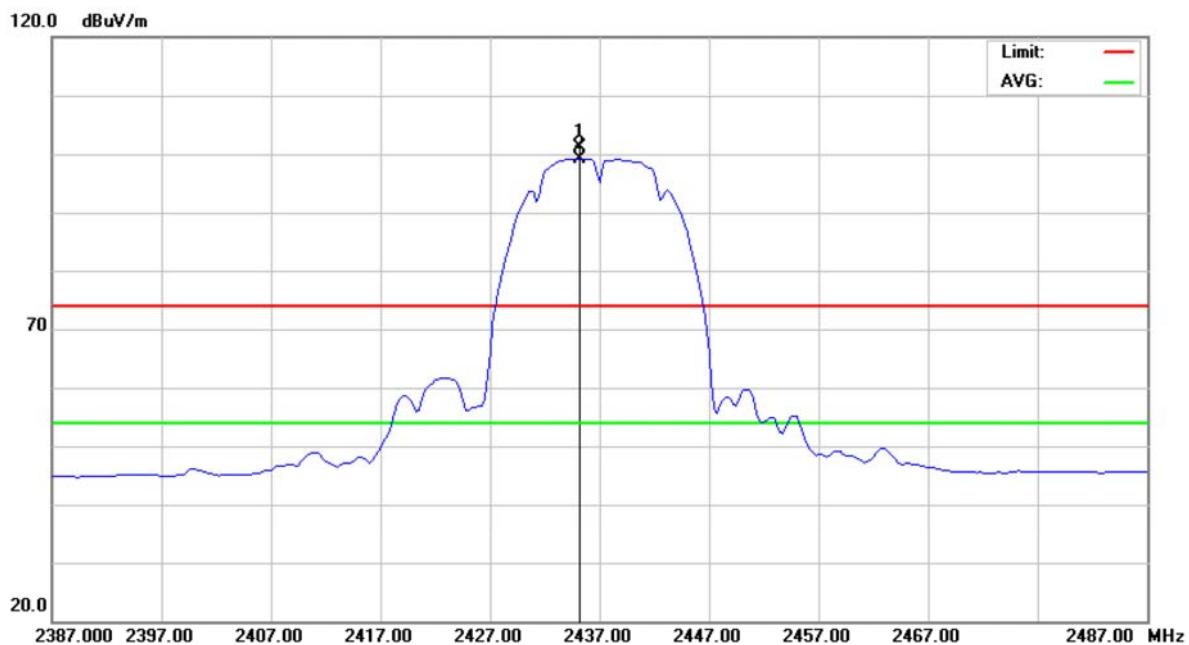


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X 2435.250	69.33	31.87	101.20	74.00	27.20	peak	
2	* 2435.250	67.33	31.87	99.20	54.00	45.20	Avg	

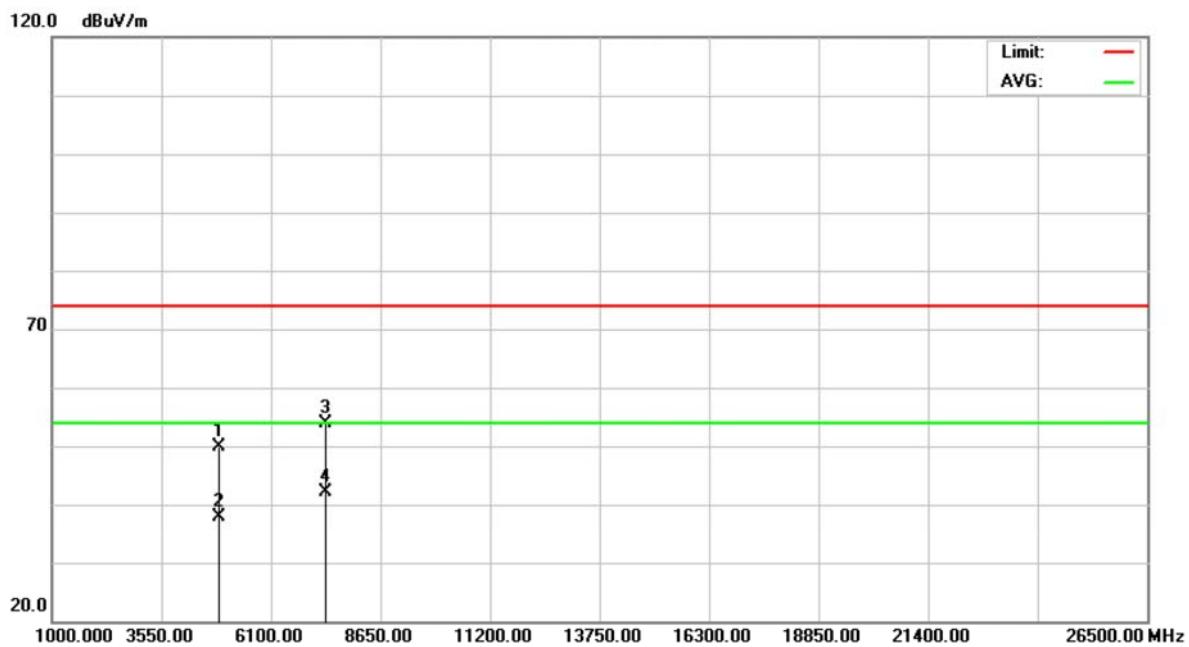


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	4873.920	44.09	5.78	49.87	74.00	-24.13	peak
2	4873.920	32.01	5.78	37.79	54.00	-16.21	AVG
3	7311.790	41.26	12.57	53.83	74.00	-20.17	peak
4 *	7311.790	29.65	12.57	42.22	54.00	-11.78	AVG

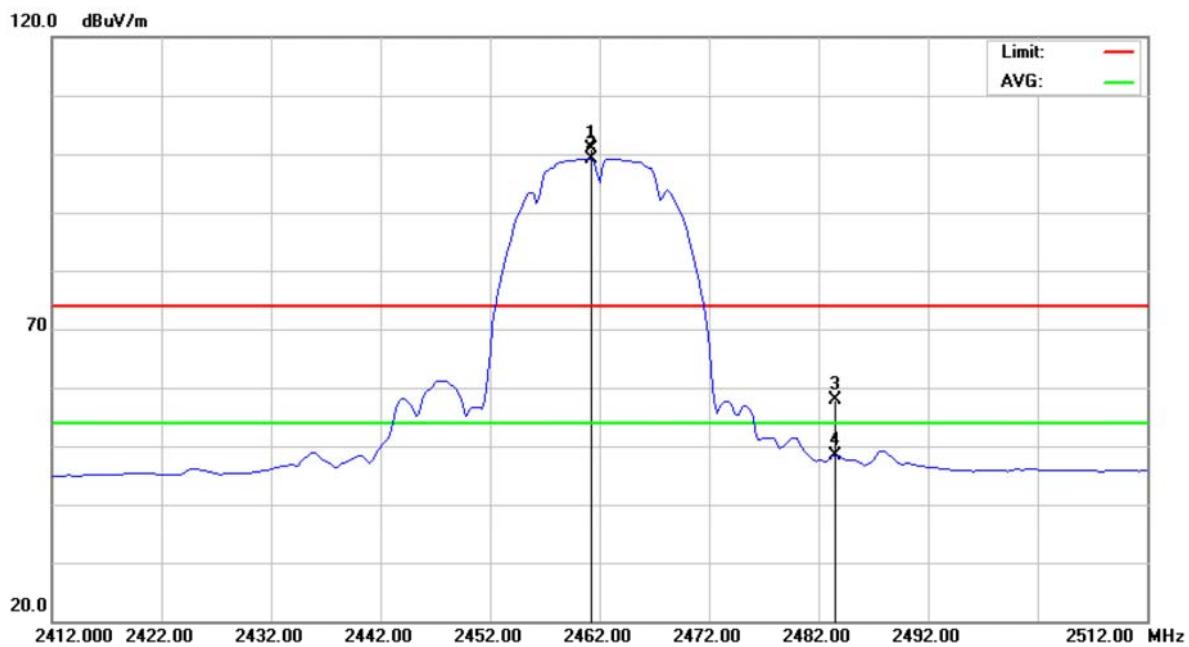


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2462 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1 X	2461.250	68.89	31.99	100.88	74.00	26.88	peak
2 *	2461.250	67.21	31.99	99.20	54.00	45.20	AVG
3	2483.500	25.67	32.09	57.76	74.00	-16.24	peak
4	2483.500	16.40	32.09	48.49	54.00	-5.51	AVG

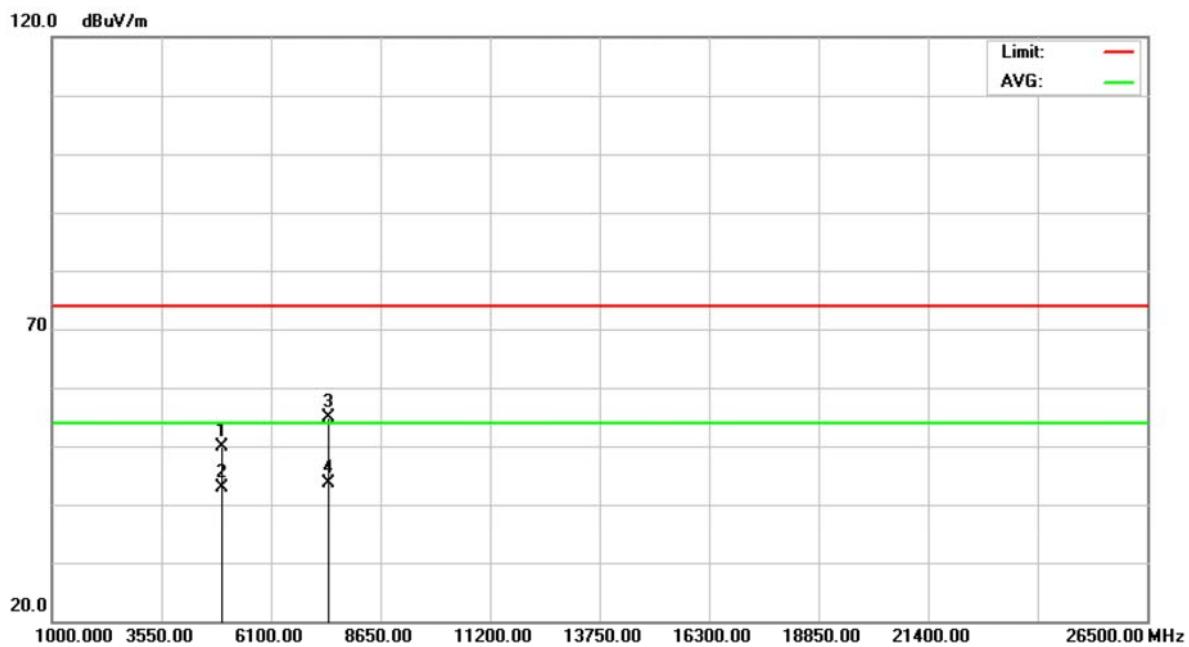


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2462 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	4923.910	44.07	5.84	49.91	74.00	-24.09	peak	
2	4923.910	37.08	5.84	42.92	54.00	-11.08	Avg	
3	7385.145	41.93	12.84	54.77	74.00	-19.23	peak	
4 *	7385.145	30.71	12.84	43.55	54.00	-10.45	Avg	

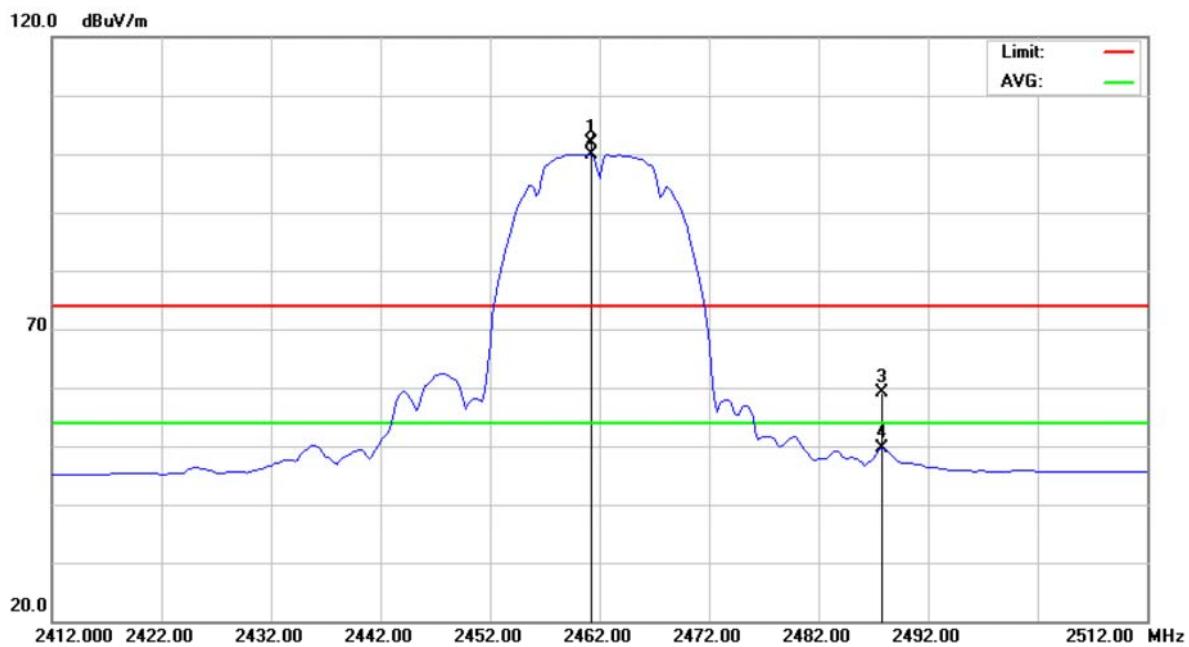


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2462 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	X 2461.250	69.96	31.99	101.95	74.00	27.95	peak
2	*	67.99	31.99	99.98	54.00	45.98	AVG
3	2487.750	26.97	32.11	59.08	74.00	-14.92	peak
4	2487.750	17.44	32.11	49.55	54.00	-4.45	AVG

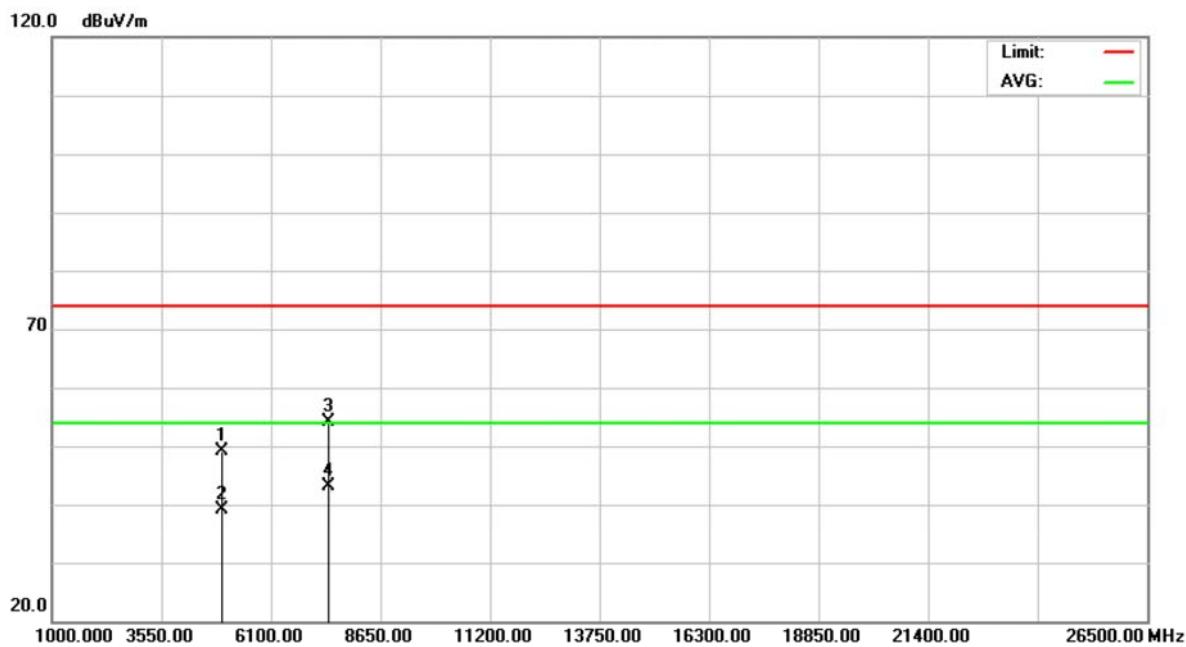


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2462 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4923.940	43.26	5.84	49.10	74.00	-24.90	peak
2		4923.940	33.36	5.84	39.20	54.00	-14.80	AVG
3		7385.170	41.26	12.84	54.10	74.00	-19.90	peak
4	*	7385.170	30.17	12.84	43.01	54.00	-10.99	AVG

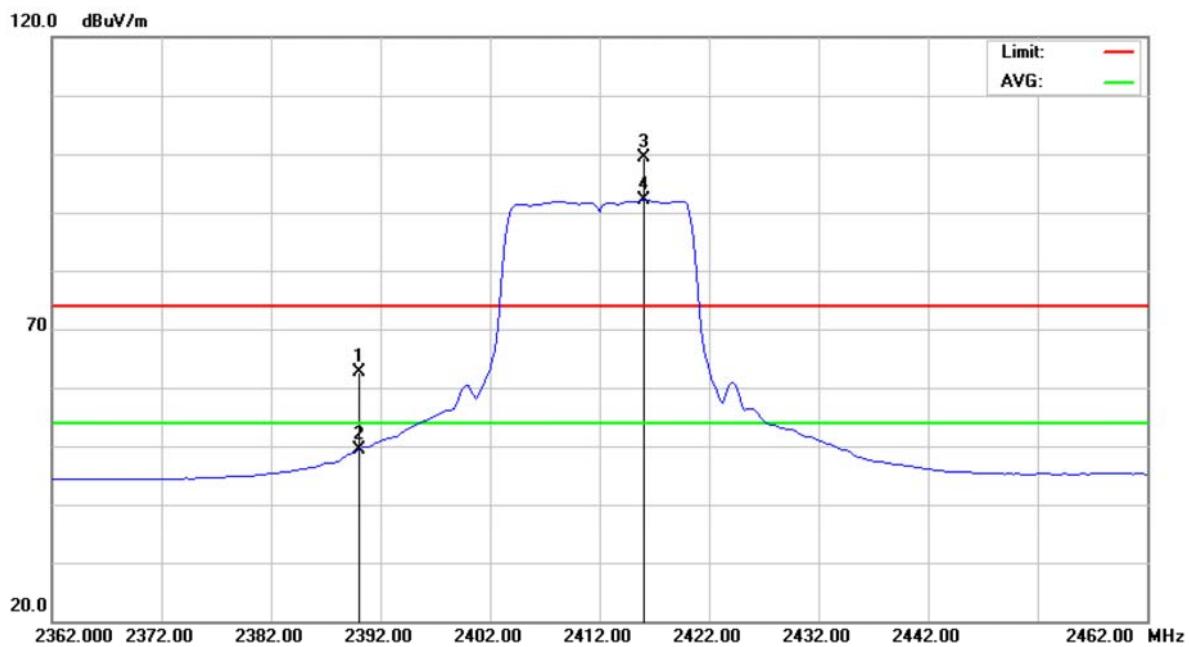


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.000	31.08	31.67	62.75	74.00	-11.25	peak	
2	2390.000	17.66	31.67	49.33	54.00	-4.67	AVG	
3	X 2416.000	67.65	31.78	99.43	74.00	25.43	peak	
4	* 2416.000	60.27	31.78	92.05	54.00	38.05	AVG	

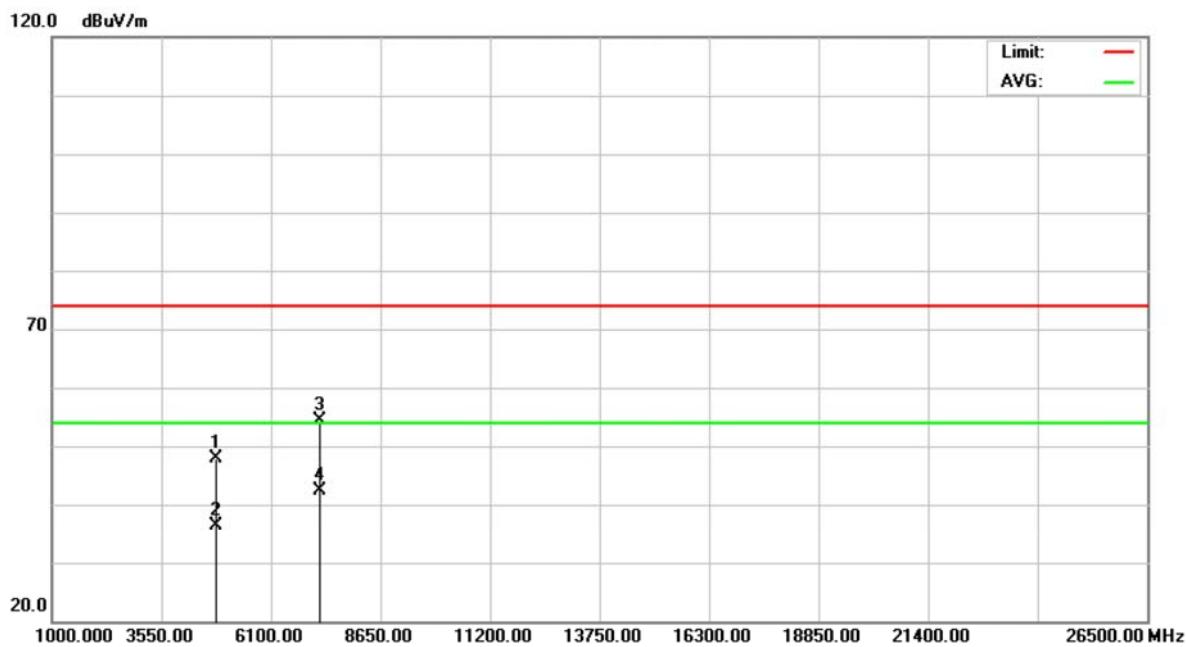


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4823.965	42.24	5.71	47.95	74.00	-26.05	peak
2		4823.965	30.58	5.71	36.29	54.00	-17.71	AVG
3		7236.180	42.17	12.29	54.46	74.00	-19.54	peak
4	*	7236.180	30.02	12.29	42.31	54.00	-11.69	AVG

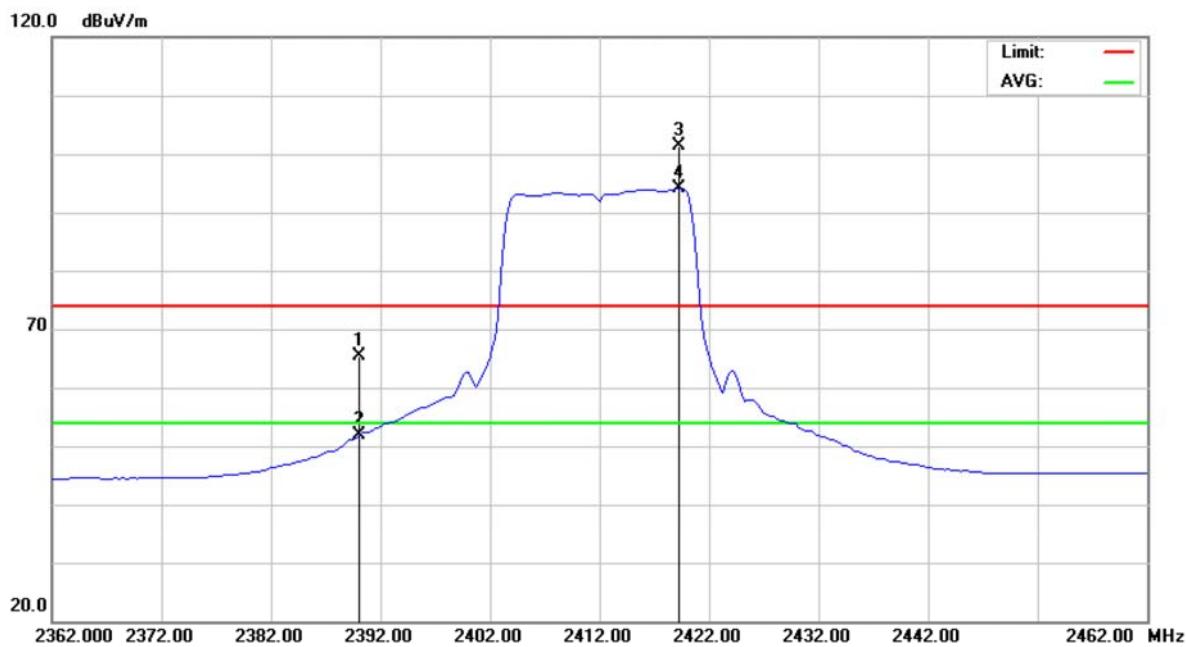


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2390.000	33.62	31.67	65.29	74.00	-8.71	peak
2		2390.000	20.11	31.67	51.78	54.00	-2.22	AVG
3	X	2419.250	69.48	31.80	101.28	74.00	27.28	peak
4	*	2419.250	62.23	31.80	94.03	54.00	40.03	AVG

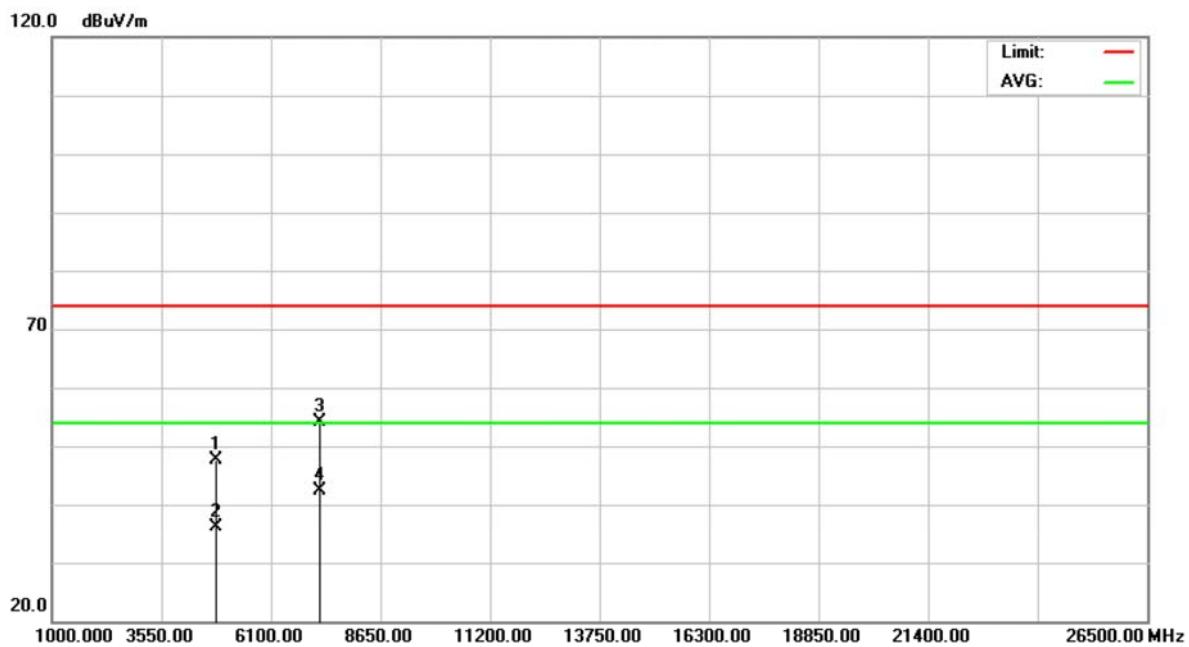


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4824.065	42.01	5.71	47.72	74.00	-26.28	peak
2		4824.065	30.32	5.71	36.03	54.00	-17.97	AVG
3		7236.045	41.95	12.29	54.24	74.00	-19.76	peak
4	*	7236.045	29.99	12.29	42.28	54.00	-11.72	AVG

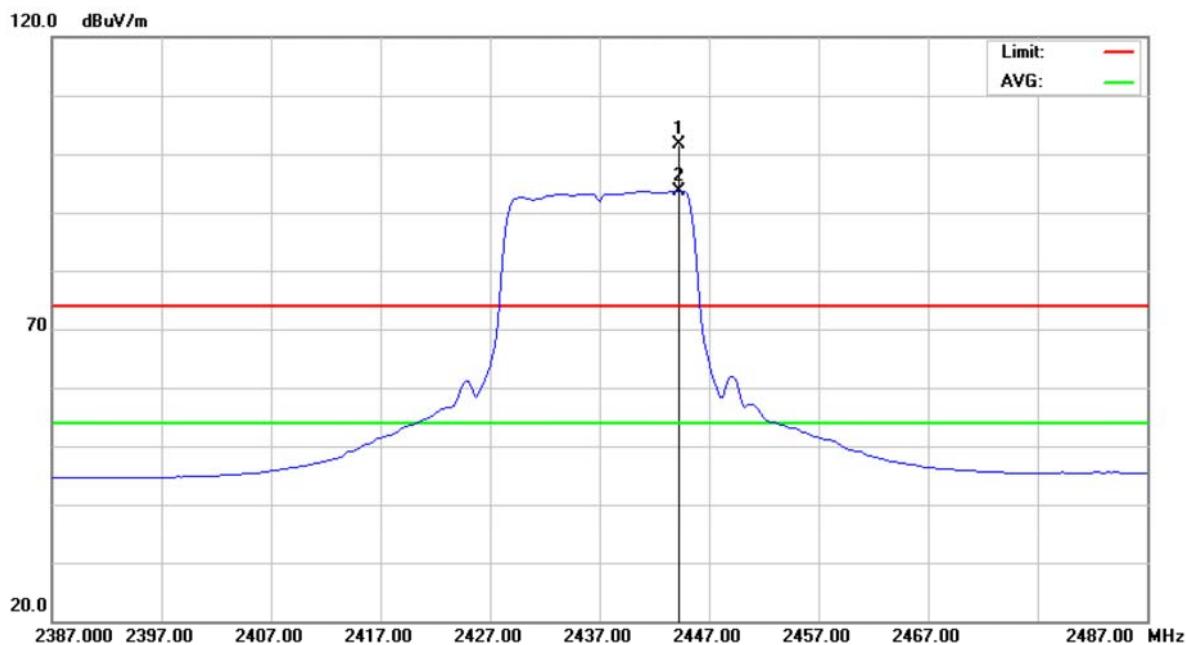


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2437 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X 2444.250	69.74	31.91	101.65	74.00	27.65	peak	
2	* 2444.250	61.81	31.91	93.72	54.00	39.72	Avg	

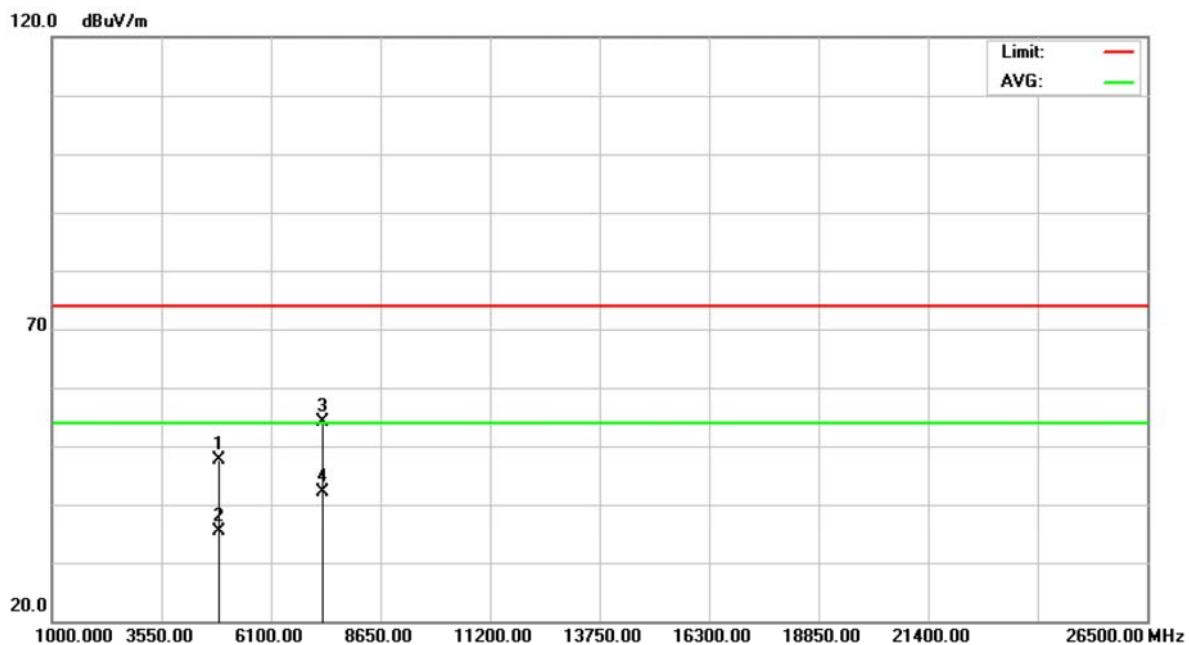


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2437 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4873.765	41.80	5.78	47.58	74.00	-26.42	peak
2		4873.765	29.69	5.78	35.47	54.00	-18.53	AVG
3		7310.465	41.63	12.56	54.19	74.00	-19.81	peak
4	*	7310.465	29.61	12.56	42.17	54.00	-11.83	AVG

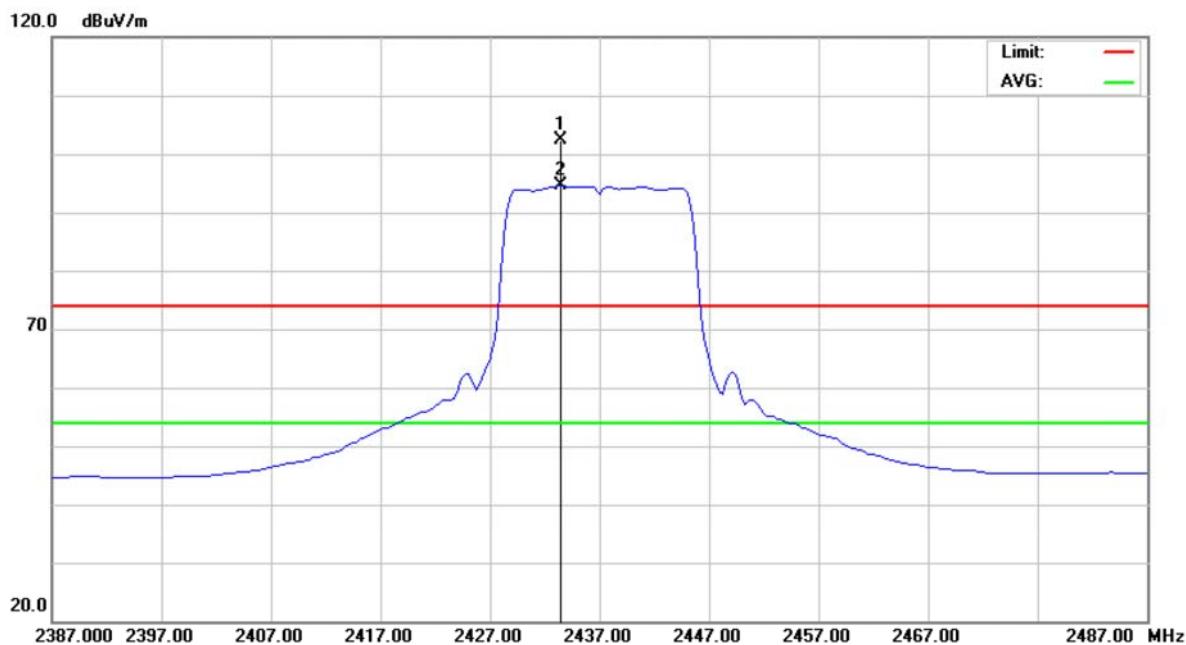


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X 2433.500	70.44	31.86	102.30	74.00	28.30	peak	
2	* 2433.500	62.66	31.86	94.52	54.00	40.52	AVG	

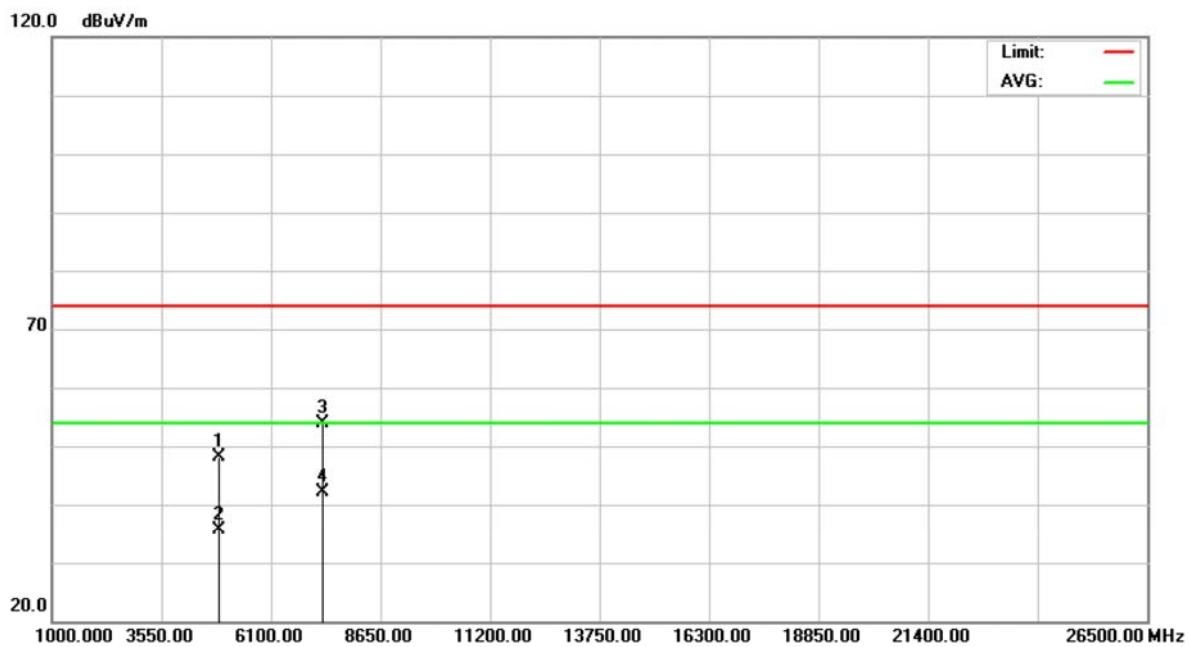


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2437 MHz		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.930	42.32	5.78	48.10	74.00	-25.90	peak	
2		4873.930	29.89	5.78	35.67	54.00	-18.33	Avg	
3		7310.905	41.35	12.57	53.92	74.00	-20.08	peak	
4	*	7310.905	29.57	12.57	42.14	54.00	-11.86	Avg	

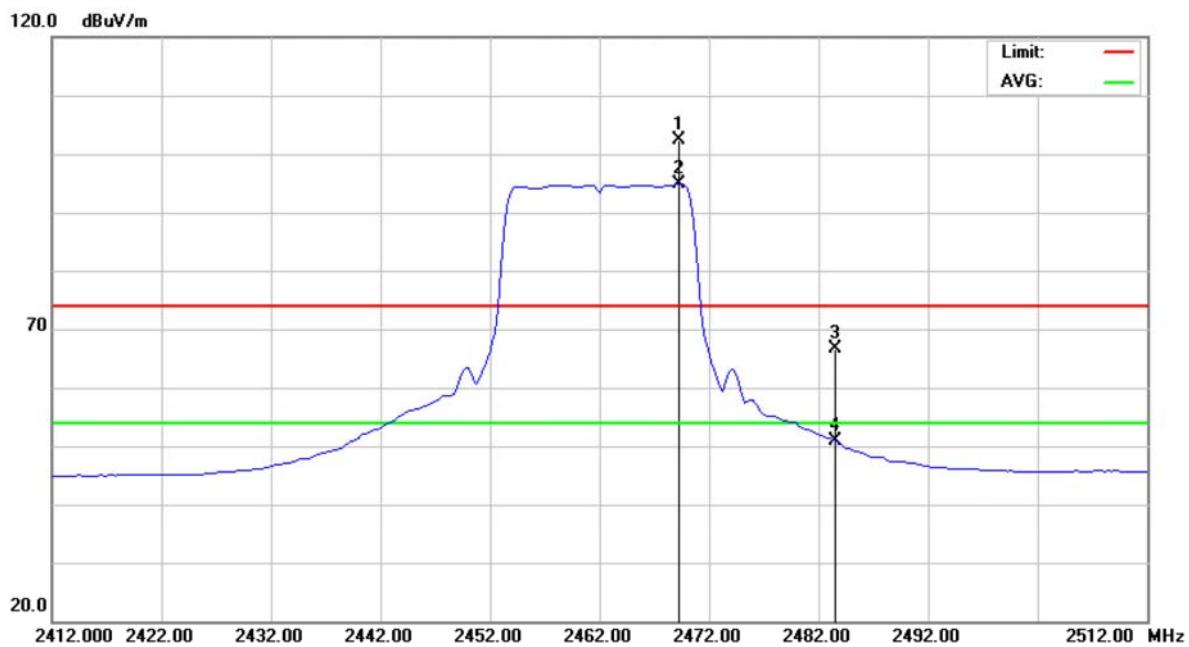


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2462 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1 X	2469.250	70.36	32.02	102.38	74.00	28.38	peak
2 *	2469.250	62.79	32.02	94.81	54.00	40.81	AVG
3	2483.500	34.47	32.09	66.56	74.00	-7.44	peak
4	2483.500	18.82	32.09	50.91	54.00	-3.09	AVG

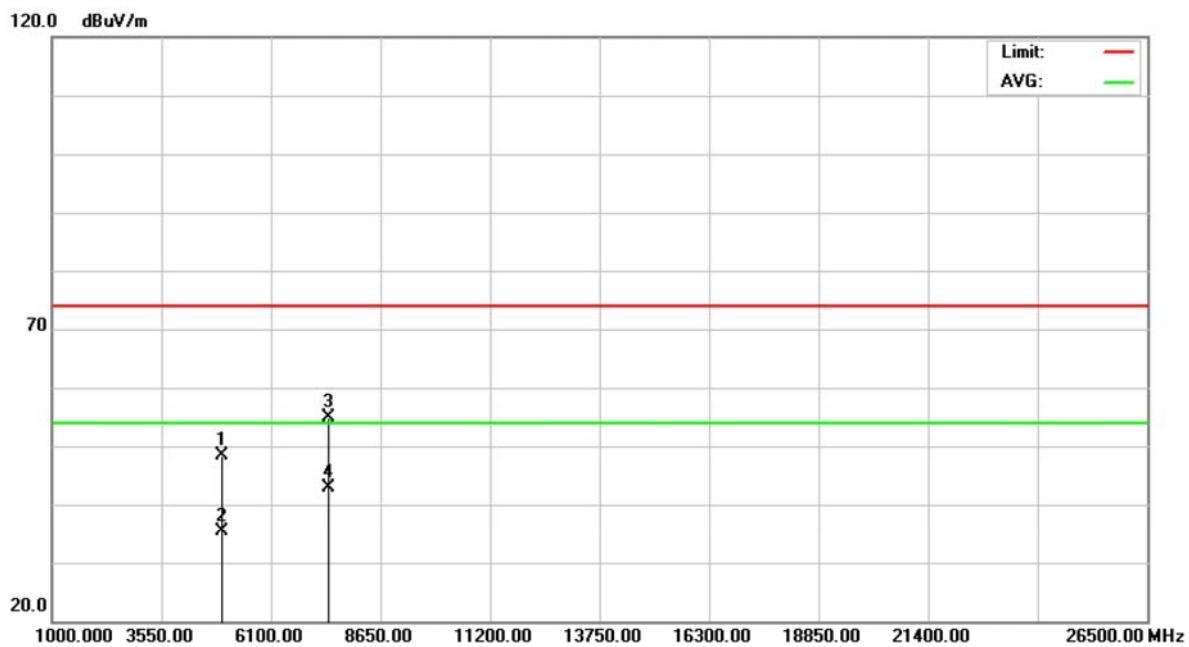


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2462 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4923.120	42.55	5.84	48.39	74.00	-25.61	peak
2		4923.120	29.61	5.84	35.45	54.00	-18.55	AVG
3		7385.190	42.13	12.84	54.97	74.00	-19.03	peak
4	*	7385.190	29.92	12.84	42.76	54.00	-11.24	AVG

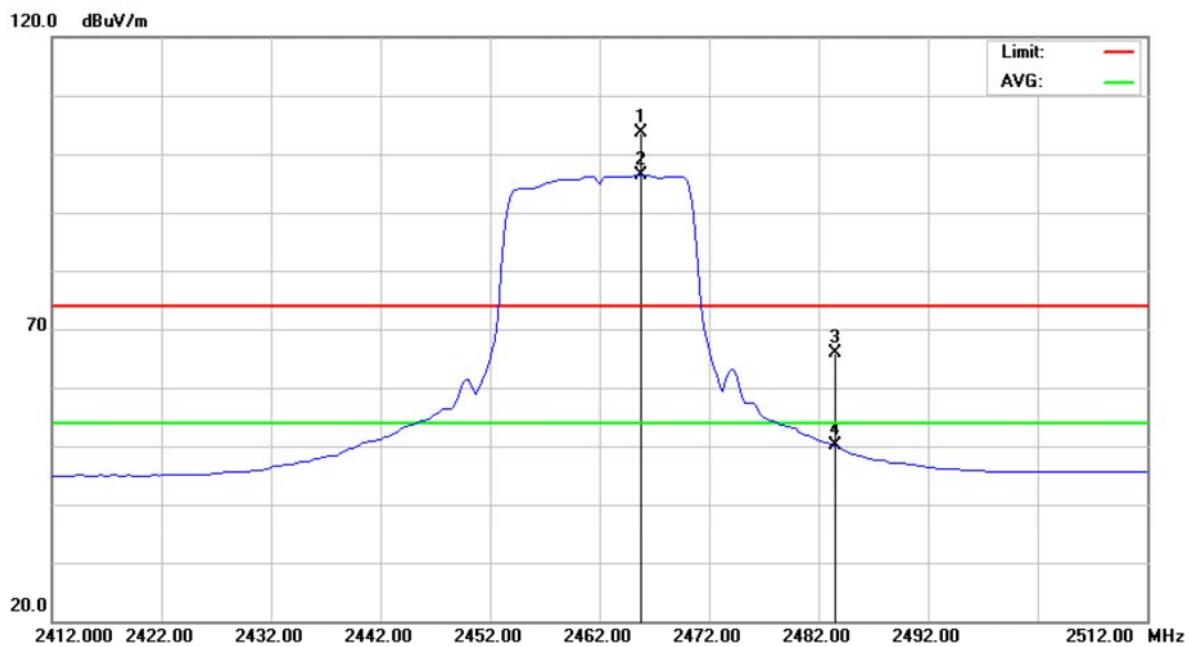


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2462 MHz		

Polarization: Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1 X	2465.750	71.56	32.01	103.57	74.00	29.57	peak
2 *	2465.750	64.36	32.01	96.37	54.00	42.37	AVG
3	2483.500	33.87	32.09	65.96	74.00	-8.04	peak
4	2483.500	17.94	32.09	50.03	54.00	-3.97	AVG

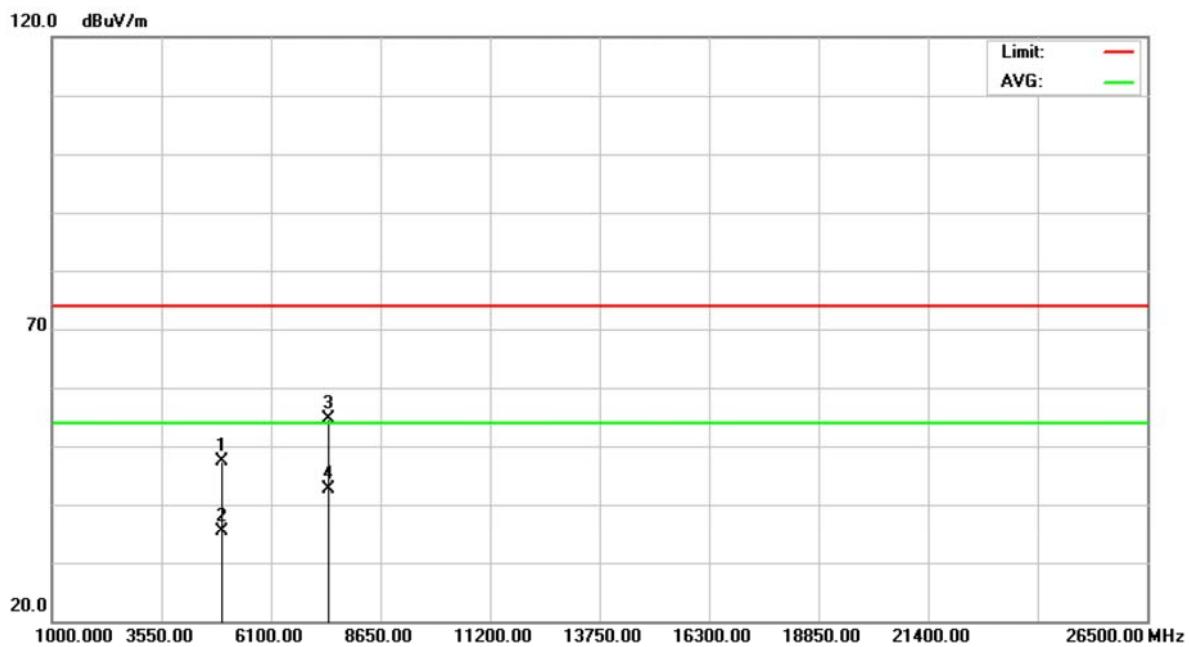


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2462 MHz		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4923.505	41.43	5.84	47.27	74.00	-26.73	peak	
2		4923.505	29.60	5.84	35.44	54.00	-18.56	Avg	
3		7385.875	41.85	12.85	54.70	74.00	-19.30	peak	
4	*	7385.875	29.77	12.85	42.62	54.00	-11.38	Avg	

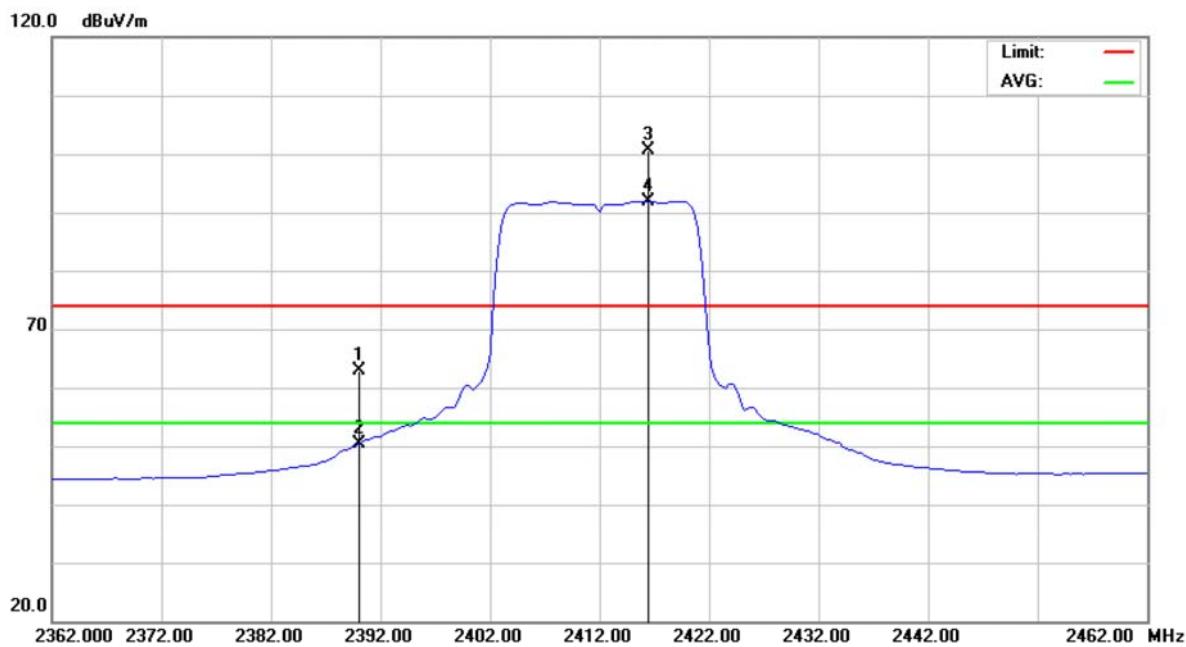


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390.000	31.27	31.67	62.94	74.00	-11.06	peak	
2	2390.000	18.69	31.67	50.36	54.00	-3.64	Avg	
3	X 2416.500	68.77	31.79	100.56	74.00	26.56	peak	
4	* 2416.500	60.14	31.79	91.93	54.00	37.93	Avg	

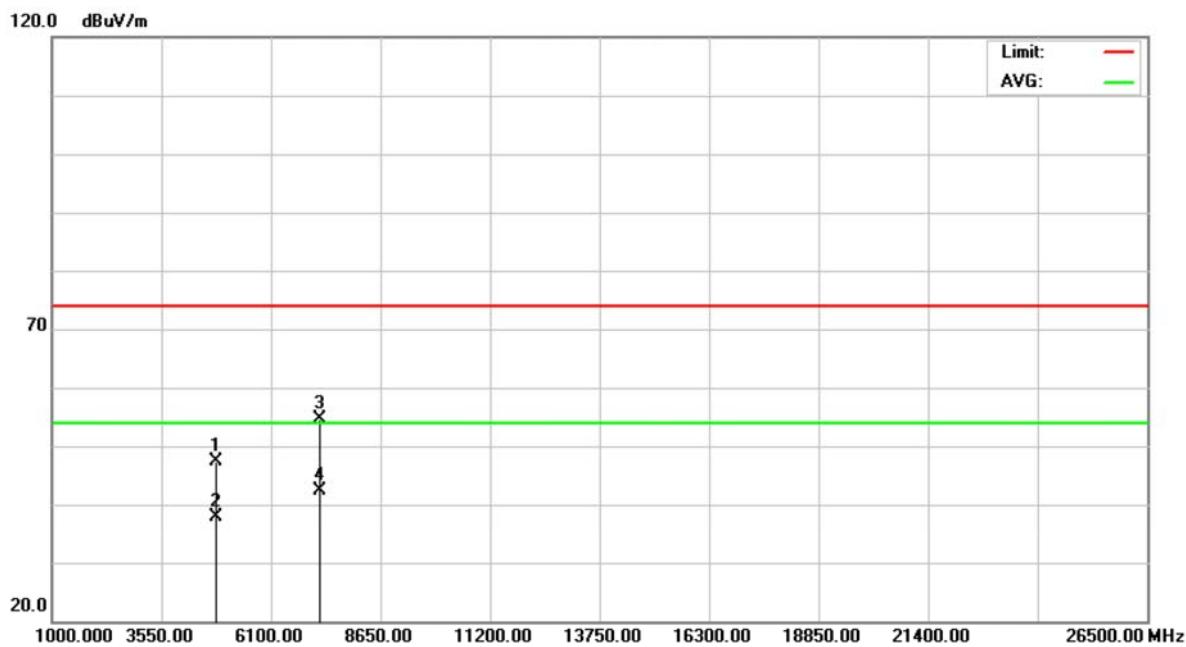


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4823.715	41.66	5.71	47.37	74.00	-26.63	peak
2		4823.715	32.14	5.71	37.85	54.00	-16.15	AVG
3		7236.965	42.26	12.29	54.55	74.00	-19.45	peak
4	*	7236.965	30.15	12.29	42.44	54.00	-11.56	AVG

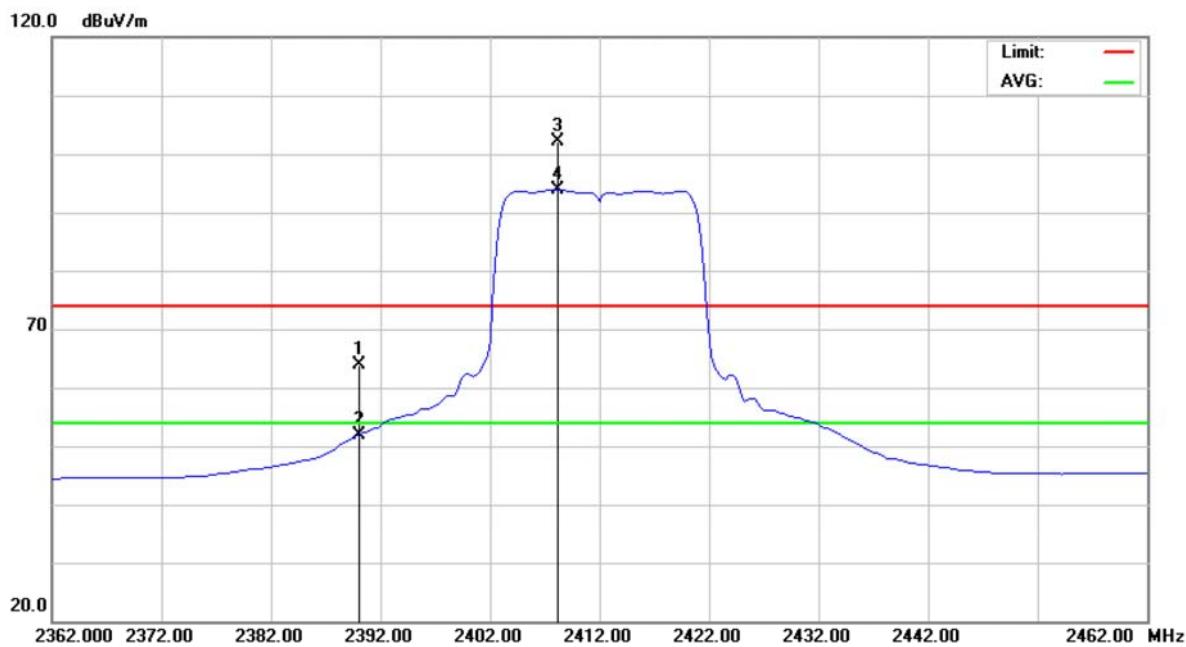


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2390.000	32.15	31.67	63.82	74.00	-10.18	peak
2		2390.000	20.30	31.67	51.97	54.00	-2.03	AVG
3	X	2408.250	70.49	31.75	102.24	74.00	28.24	peak
4	*	2408.250	62.15	31.75	93.90	54.00	39.90	AVG

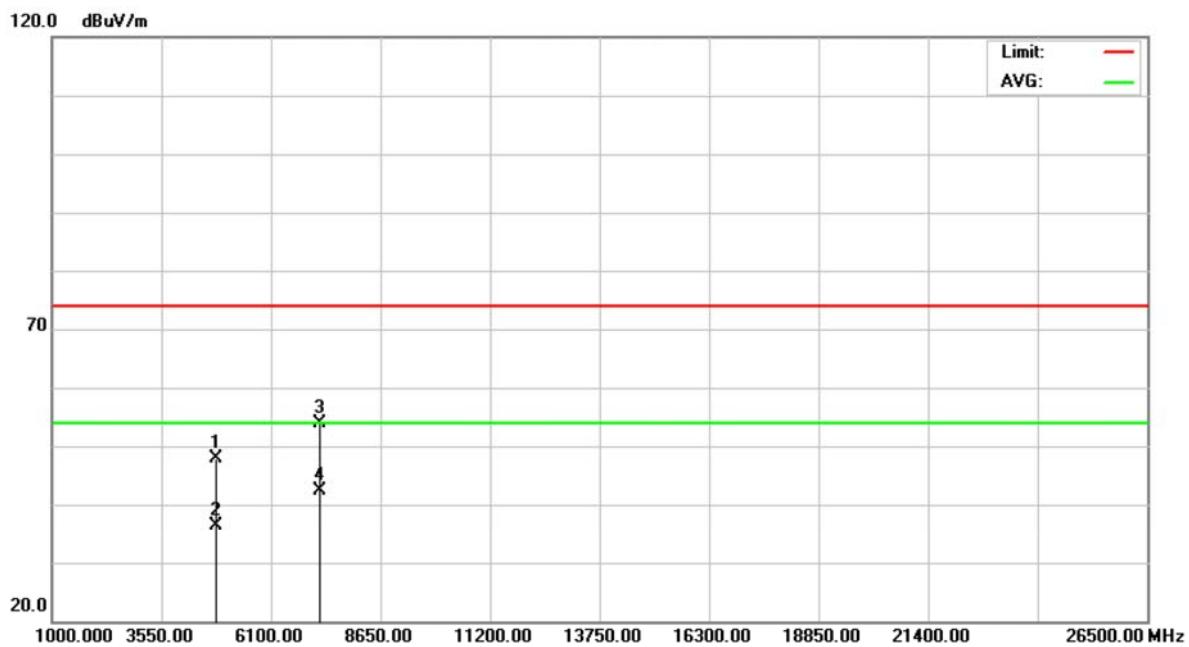


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4824.520	42.27	5.72	47.99	74.00	-26.01	peak
2		4824.520	30.75	5.72	36.47	54.00	-17.53	AVG
3		7236.605	41.71	12.29	54.00	74.00	-20.00	peak
4	*	7236.605	30.10	12.29	42.39	54.00	-11.61	AVG

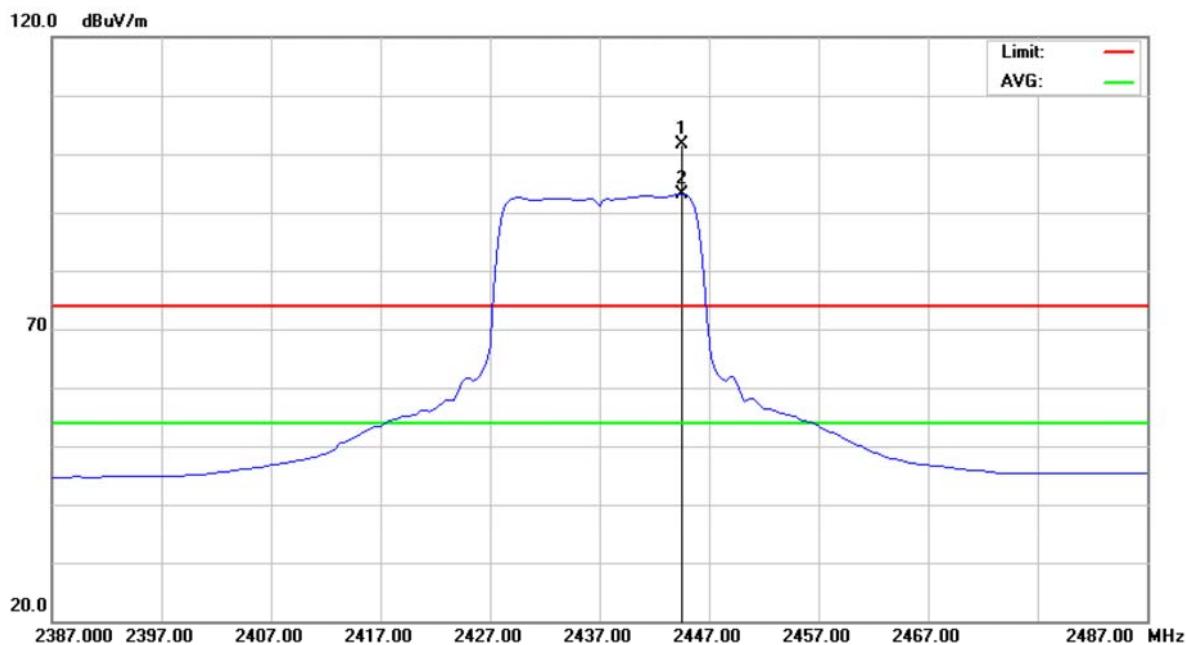


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1 X	2444.500	69.76	31.91	101.67	74.00	27.67	peak
2 *	2444.500	61.16	31.91	93.07	54.00	39.07	AVG

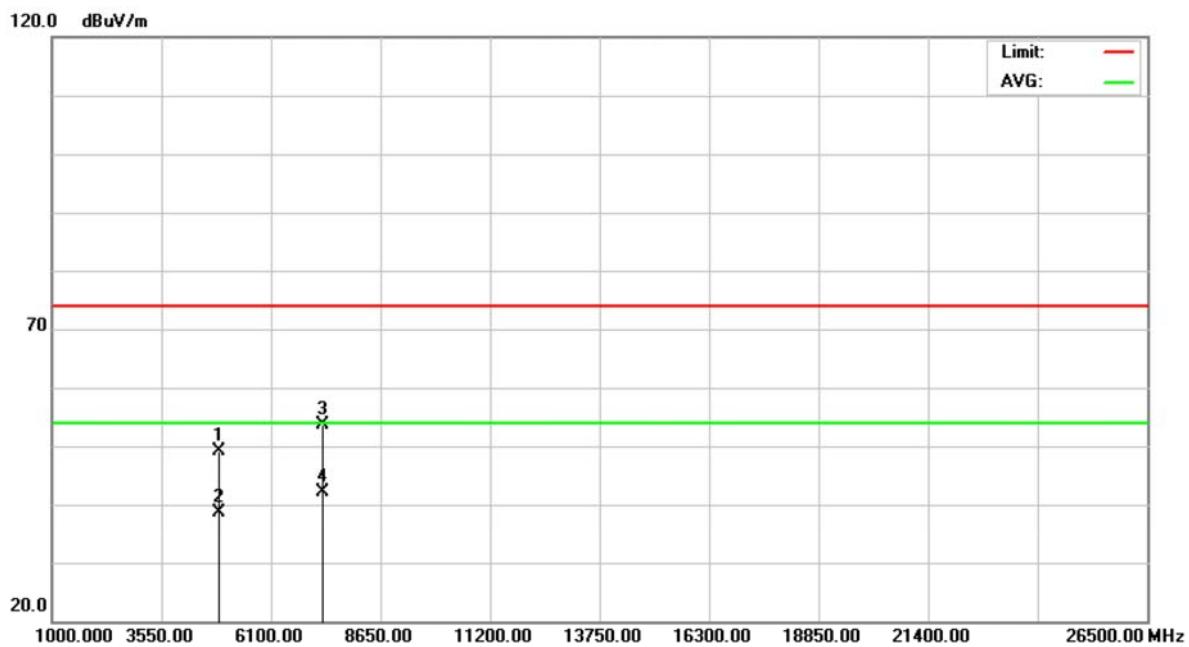


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4873.805	43.28	5.78	49.06	74.00	-24.94	peak
2		4873.805	32.89	5.78	38.67	54.00	-15.33	AVG
3		7310.215	41.01	12.56	53.57	74.00	-20.43	peak
4	*	7310.215	29.59	12.56	42.15	54.00	-11.85	AVG

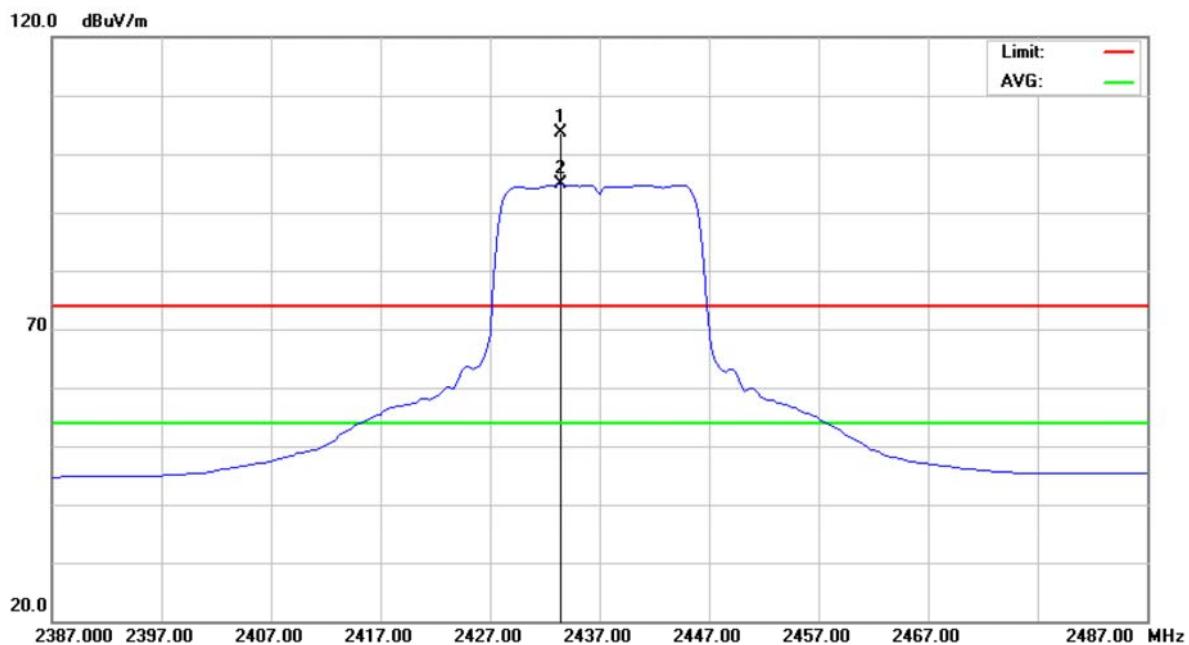


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2433.500	71.73	31.86	103.59	74.00	29.59	peak	
2 *	2433.500	62.92	31.86	94.78	54.00	40.78	AVG	

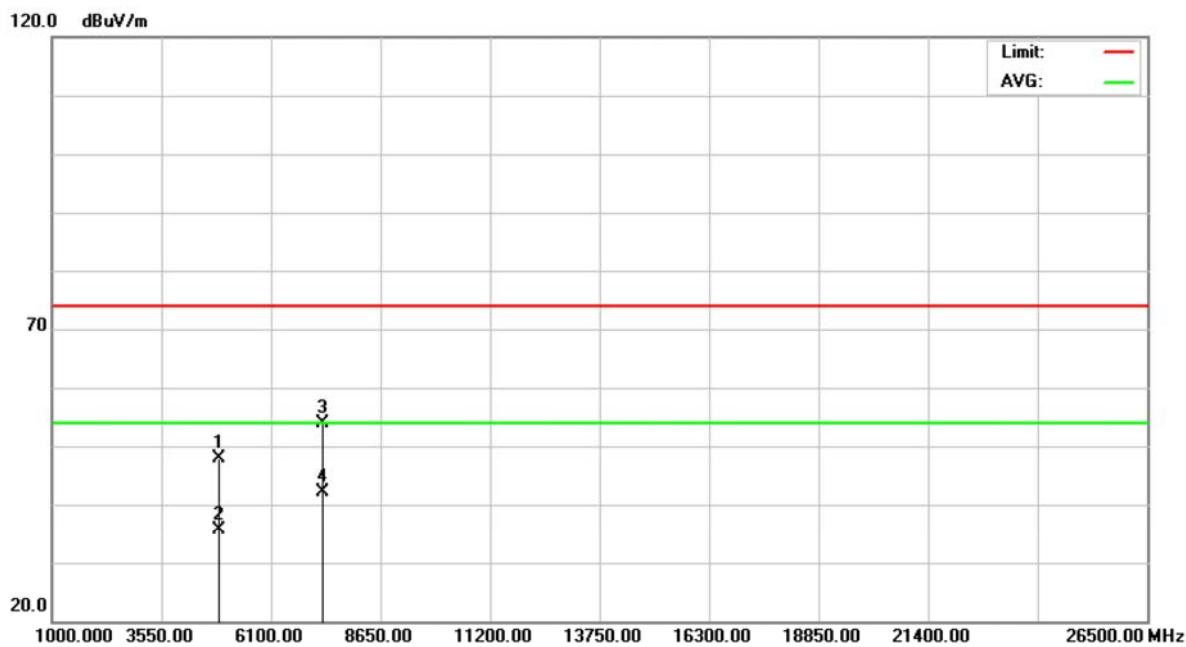


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4873.380	41.98	5.78	47.76	74.00	-26.24	peak
2		4873.380	29.73	5.78	35.51	54.00	-18.49	AVG
3		7310.715	41.19	12.57	53.76	74.00	-20.24	peak
4	*	7310.715	29.52	12.57	42.09	54.00	-11.91	AVG

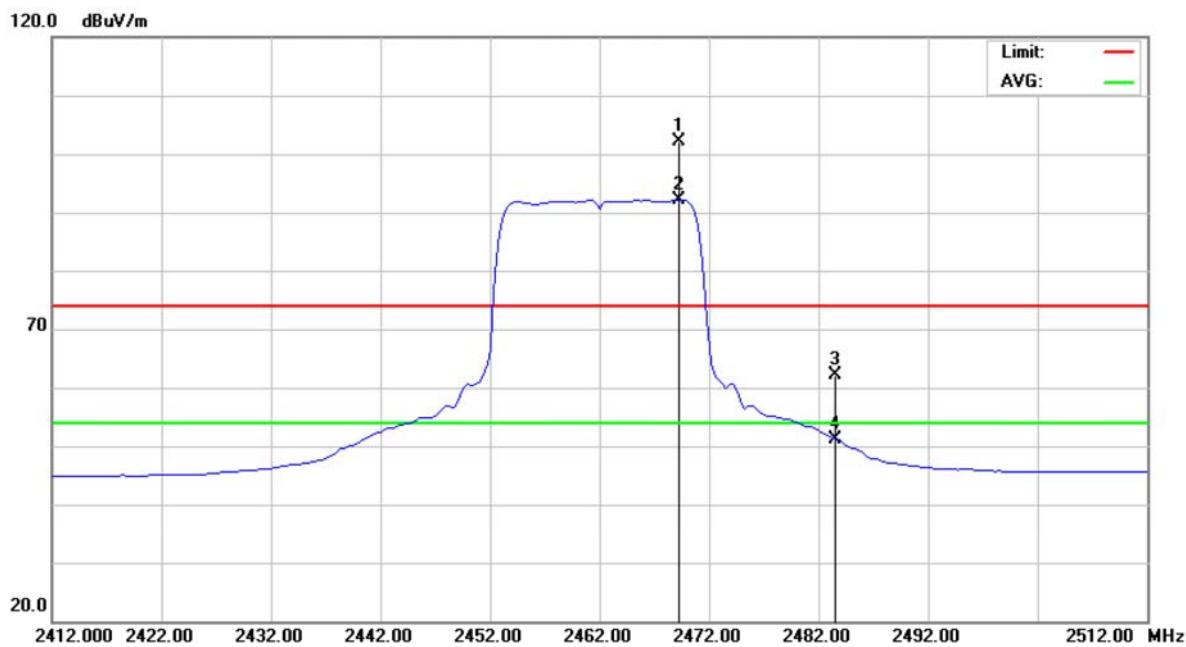


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2469.250	70.14	32.02	102.16	74.00	28.16	peak	
2 *	2469.250	60.13	32.02	92.15	54.00	38.15	Avg	
3	2483.500	30.11	32.09	62.20	74.00	-11.80	peak	
4	2483.500	19.16	32.09	51.25	54.00	-2.75	Avg	

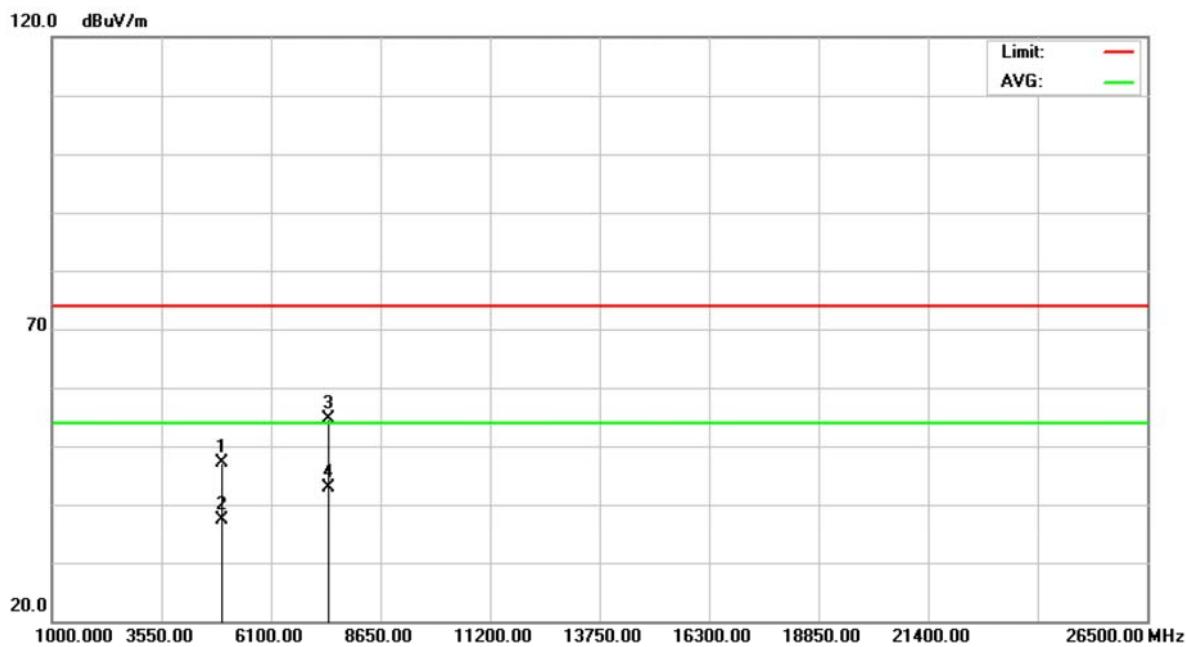


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4924.745	41.17	5.84	47.01	74.00	-26.99	peak
2		4924.745	31.47	5.84	37.31	54.00	-16.69	AVG
3		7385.800	41.71	12.85	54.56	74.00	-19.44	peak
4	*	7385.800	30.04	12.85	42.89	54.00	-11.11	AVG

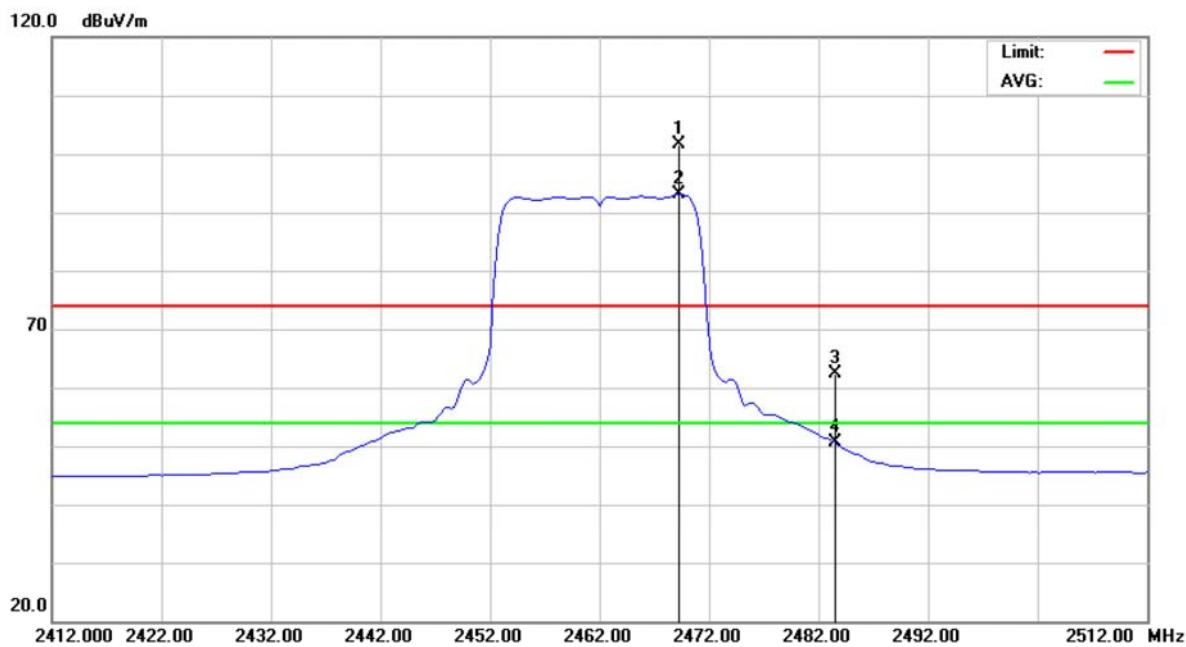


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

Polarization: Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2469.250	69.52	32.02	101.54	74.00	27.54	peak	
2 *	2469.250	61.01	32.02	93.03	54.00	39.03	Avg	
3	2483.500	30.20	32.09	62.29	74.00	-11.71	peak	
4	2483.500	18.46	32.09	50.55	54.00	-3.45	Avg	

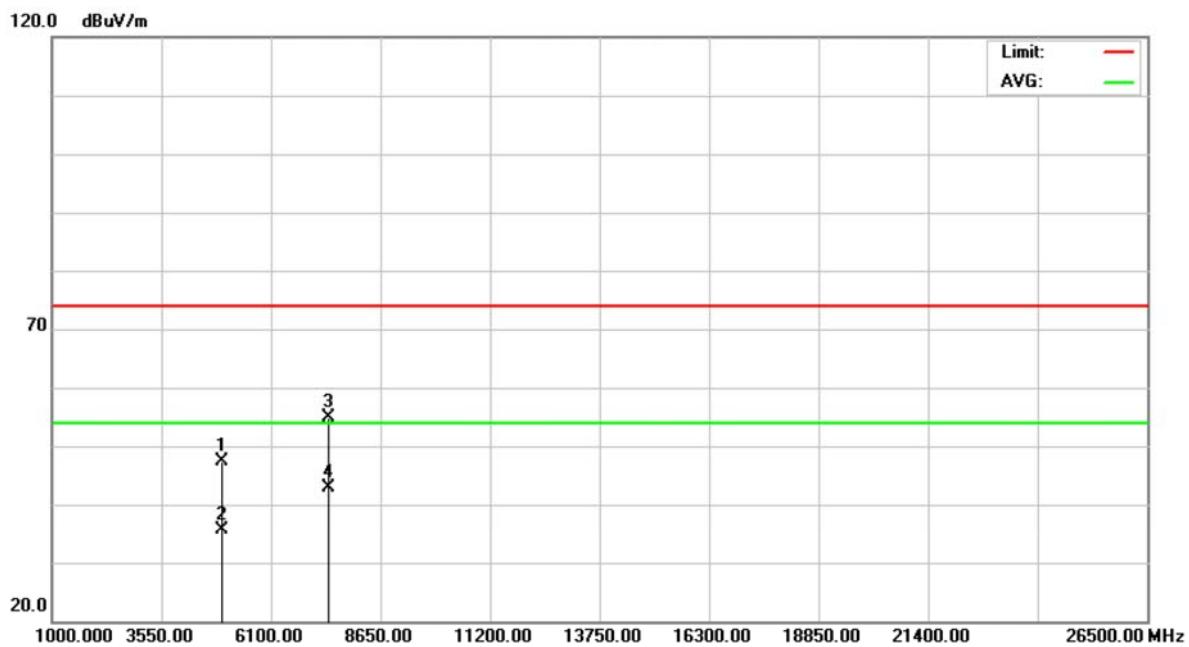


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4924.730	41.64	5.84	47.48	74.00	-26.52	peak
2		4924.730	29.90	5.84	35.74	54.00	-18.26	AVG
3		7385.330	42.13	12.84	54.97	74.00	-19.03	peak
4	*	7385.330	30.09	12.84	42.93	54.00	-11.07	AVG

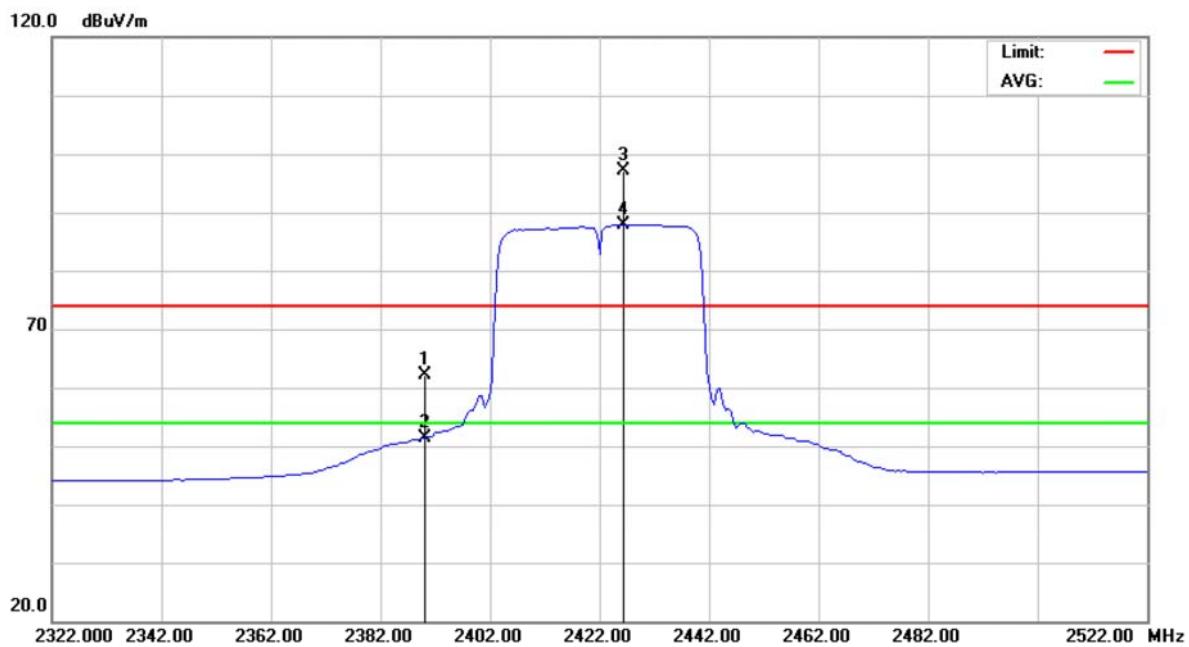


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

Polarization: Vertical



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1	2390.000	30.41	31.67	62.08	74.00	-11.92	peak
2	2390.000	19.77	31.67	51.44	54.00	-2.56	AVG
3 X	2426.500	65.22	31.83	97.05	74.00	23.05	peak
4 *	2426.500	56.13	31.83	87.96	54.00	33.96	AVG

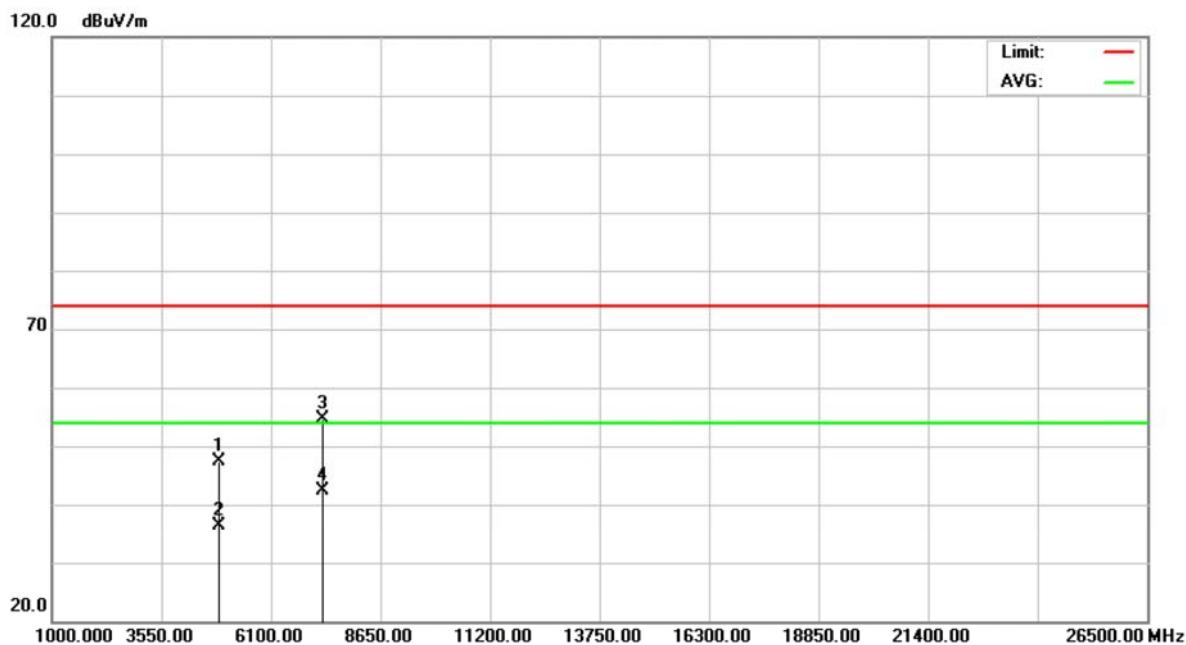


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4843.040	41.76	5.74	47.50	74.00	-26.50	peak
2		4843.040	30.75	5.74	36.49	54.00	-17.51	AVG
3		7265.215	42.30	12.40	54.70	74.00	-19.30	peak
4	*	7265.215	30.10	12.40	42.50	54.00	-11.50	AVG

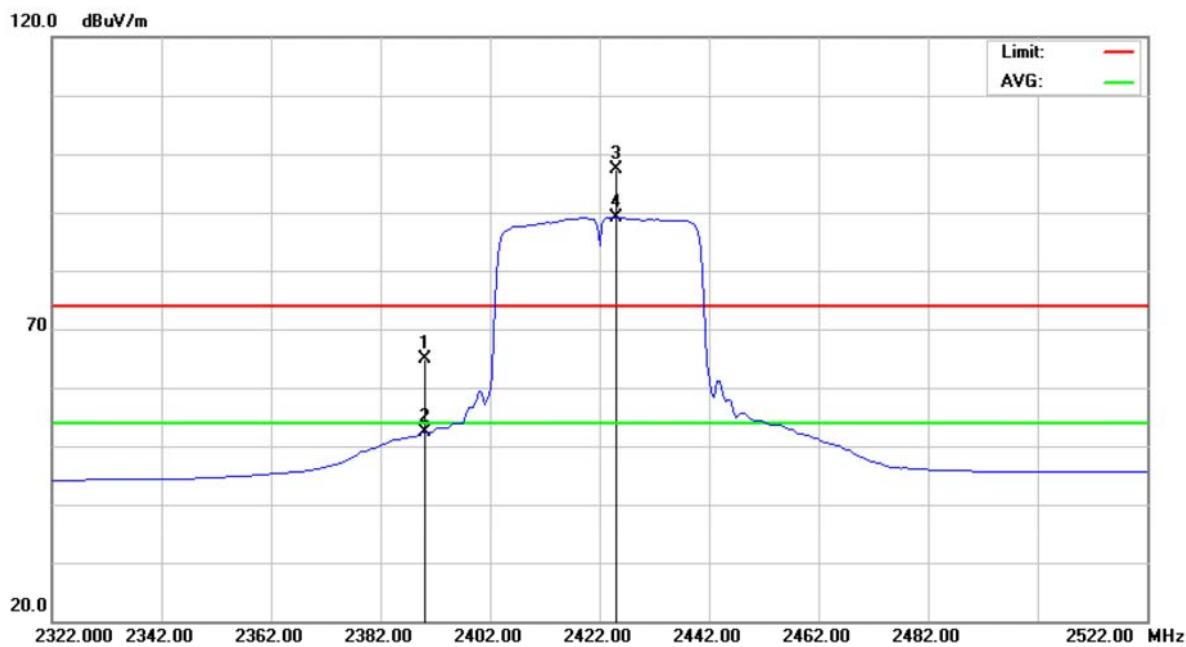


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2390.000	33.22	31.67	64.89	74.00	-9.11	peak
2		2390.000	20.70	31.67	52.37	54.00	-1.63	AVG
3	X	2425.000	65.68	31.82	97.50	74.00	23.50	peak
4	*	2425.000	57.32	31.82	89.14	54.00	35.14	AVG

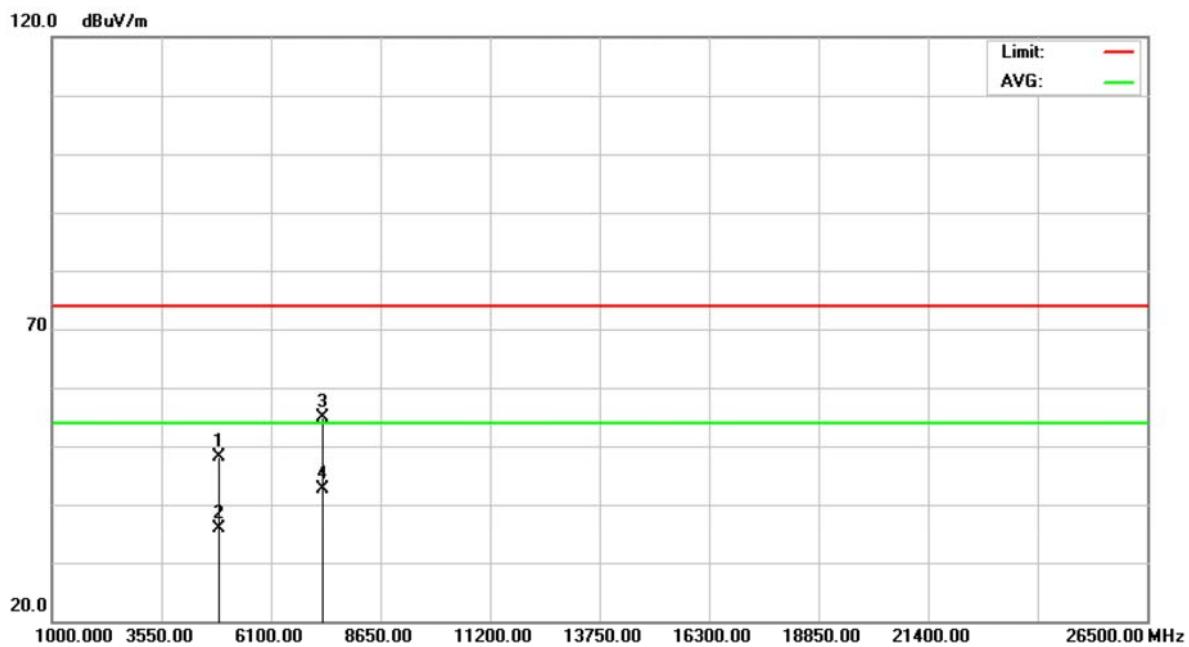


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4844.205	42.48	5.74	48.22	74.00	-25.78	peak
2		4844.205	30.05	5.74	35.79	54.00	-18.21	AVG
3		7265.835	42.55	12.40	54.95	74.00	-19.05	peak
4	*	7265.835	30.17	12.40	42.57	54.00	-11.43	AVG

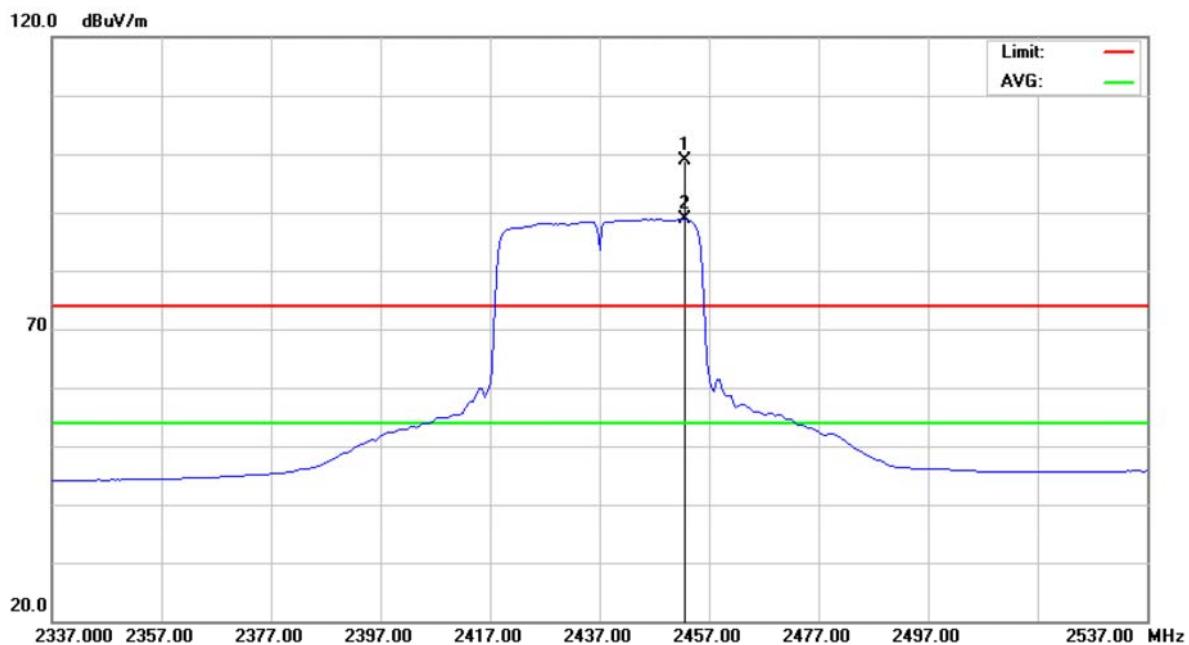


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

Polarization: Vertical



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2452.500	66.85	31.95	98.80	74.00	24.80	peak	
2 *	2452.500	56.98	31.95	88.93	54.00	34.93	Avg	

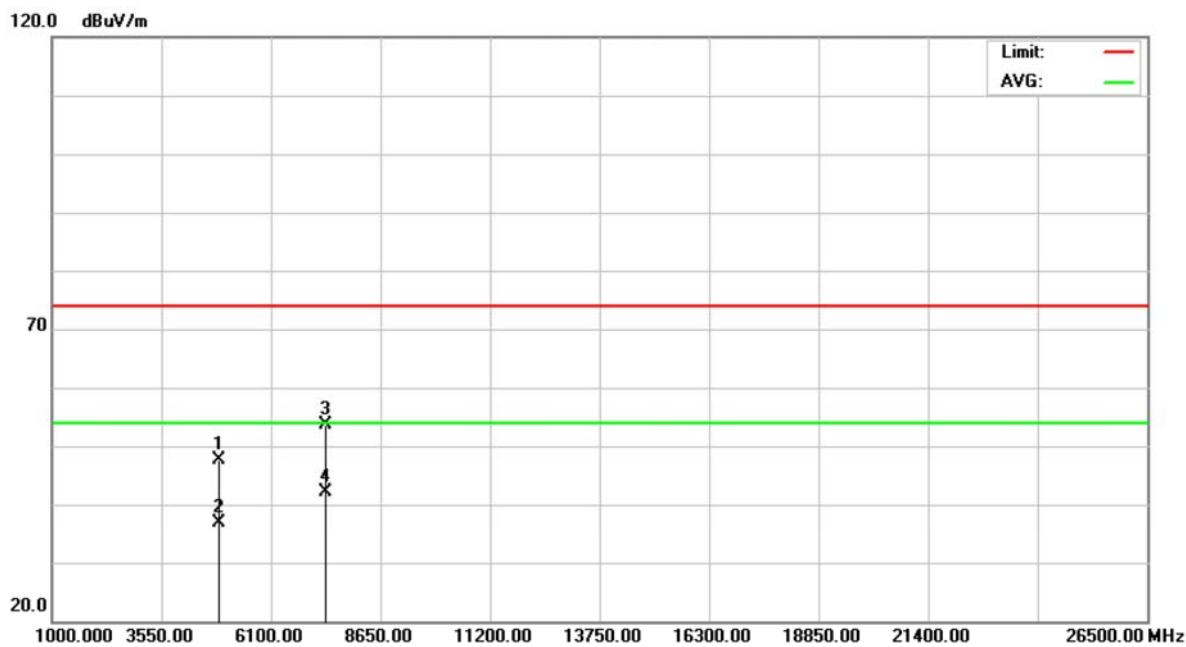


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4873.005	41.87	5.78	47.65	74.00	-26.35	peak
2		4873.005	31.01	5.78	36.79	54.00	-17.21	AVG
3		7311.820	41.01	12.57	53.58	74.00	-20.42	peak
4	*	7311.820	29.58	12.57	42.15	54.00	-11.85	AVG

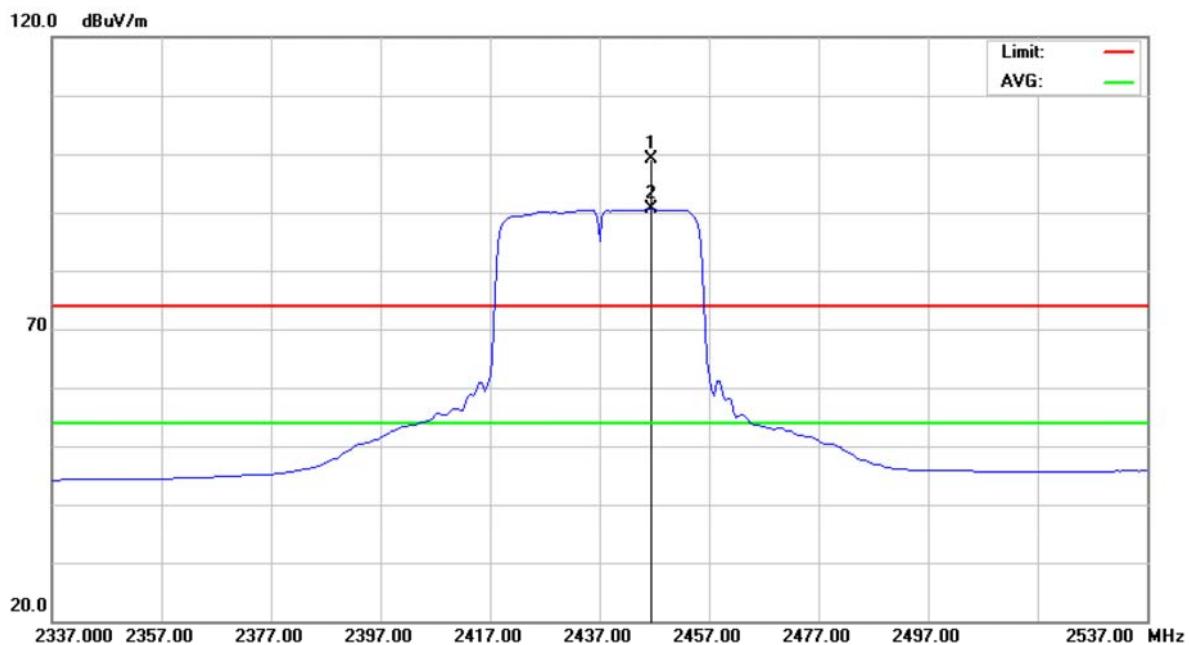


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

Polarization: Horizontal



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2446.500	67.29	31.92	99.21	74.00	25.21	peak	
2 *	2446.500	58.68	31.92	90.60	54.00	36.60	AVG	

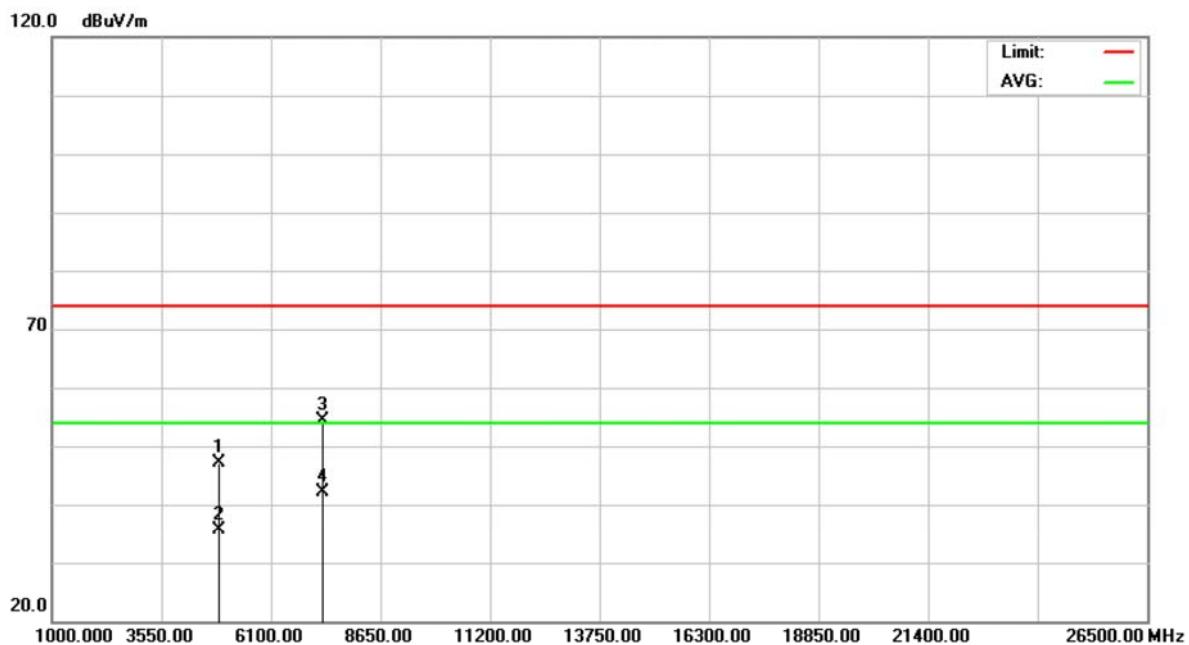


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4874.505	41.37	5.78	47.15	74.00	-26.85	peak
2		4874.505	29.97	5.78	35.75	54.00	-18.25	AVG
3		7311.025	41.71	12.57	54.28	74.00	-19.72	peak
4	*	7311.025	29.64	12.57	42.21	54.00	-11.79	AVG

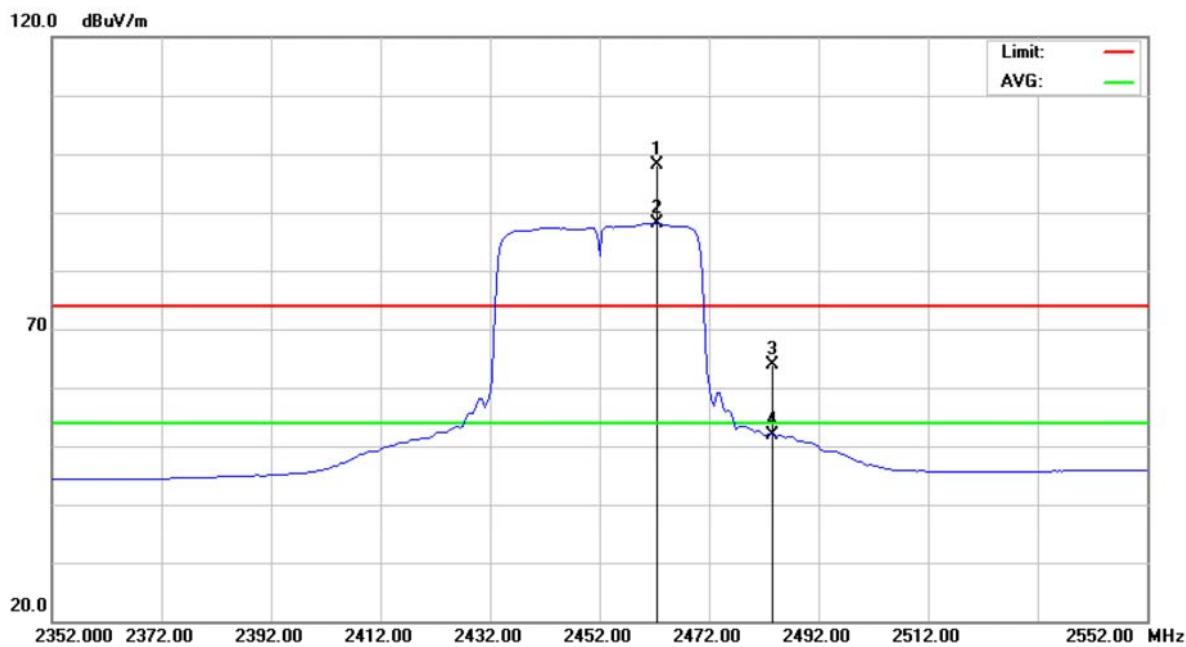


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1	X	2462.500	66.06	31.99	98.05	74.00	24.05	peak
2	*	2462.500	56.18	31.99	88.17	54.00	34.17	AVG
3		2483.500	31.72	32.09	63.81	74.00	-10.19	peak
4		2483.500	19.87	32.09	51.96	54.00	-2.04	AVG

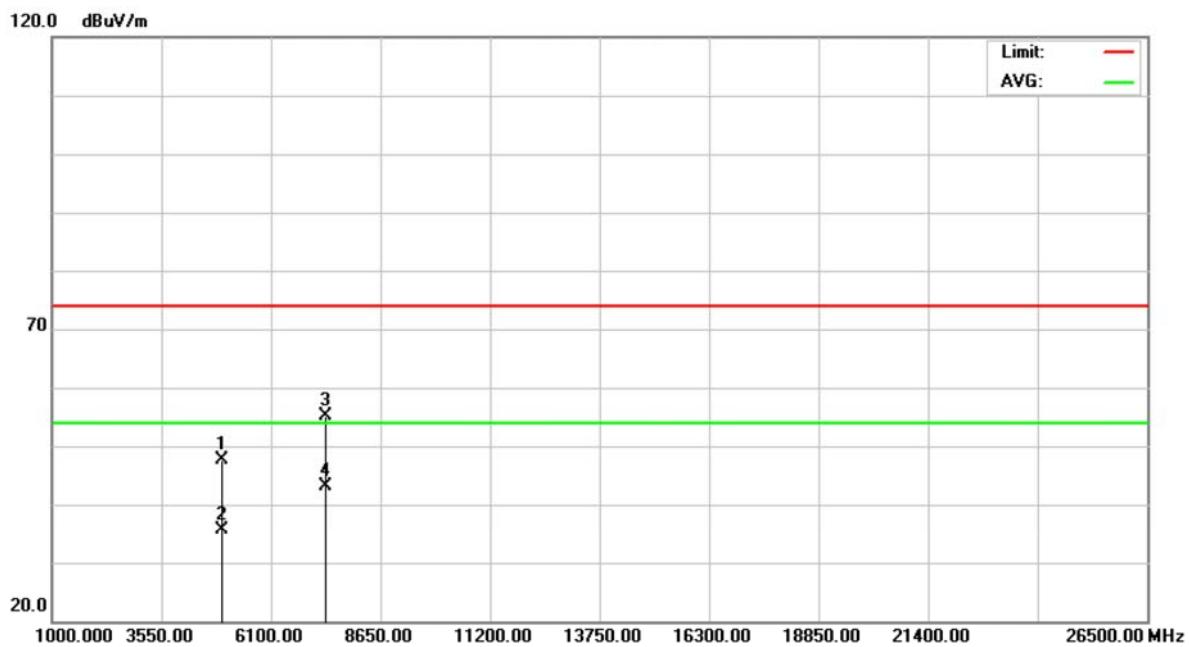


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

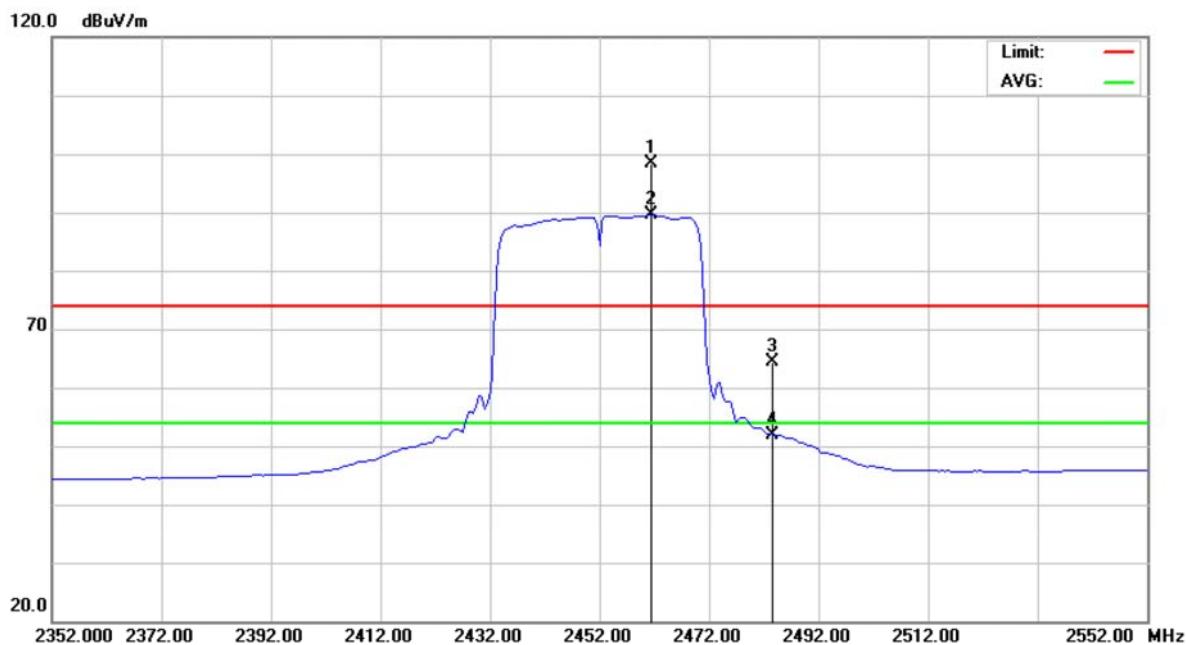
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4904.130	41.72	5.82	47.54	74.00	-26.46	peak
2		4904.130	29.90	5.82	35.72	54.00	-18.28	AVG
3		7355.915	42.39	12.73	55.12	74.00	-18.88	peak
4	*	7355.915	30.39	12.73	43.12	54.00	-10.88	AVG



EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

Polarization: Horizontal

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over	
						Detector	Comment
1 X	2461.500	66.27	31.99	98.26	74.00	24.26	peak
2 *	2461.500	57.60	31.99	89.59	54.00	35.59	AVG
3	2483.500	32.21	32.09	64.30	74.00	-9.70	peak
4	2483.500	19.87	32.09	51.96	54.00	-2.04	AVG

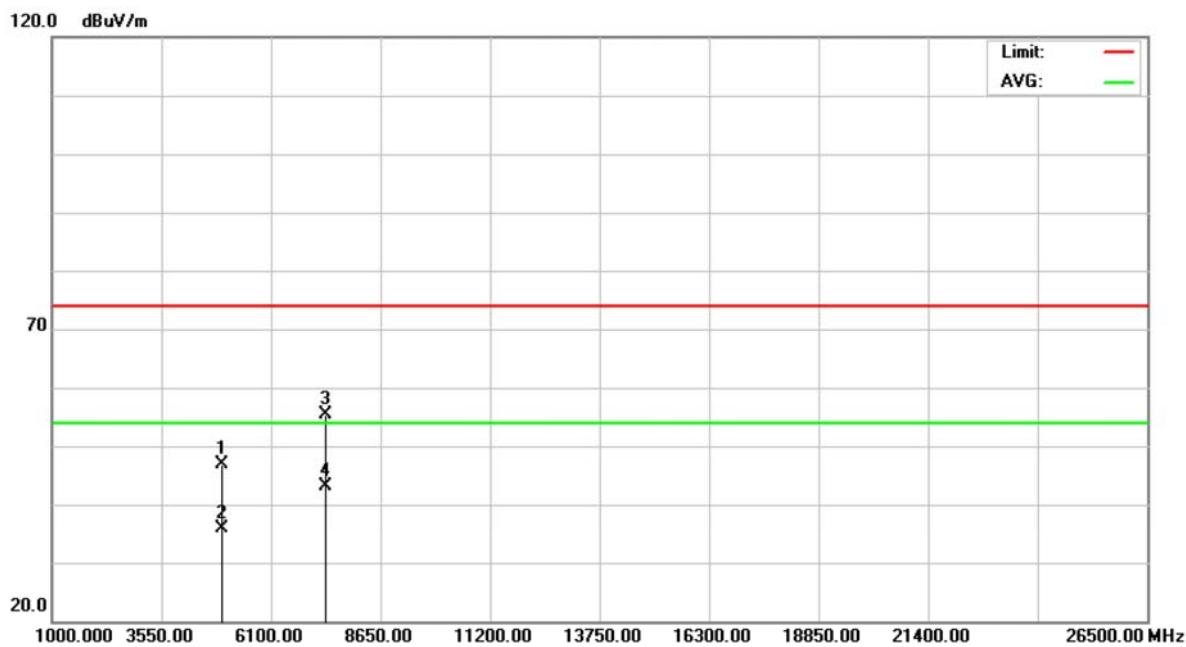


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

Polarization: Horizontal



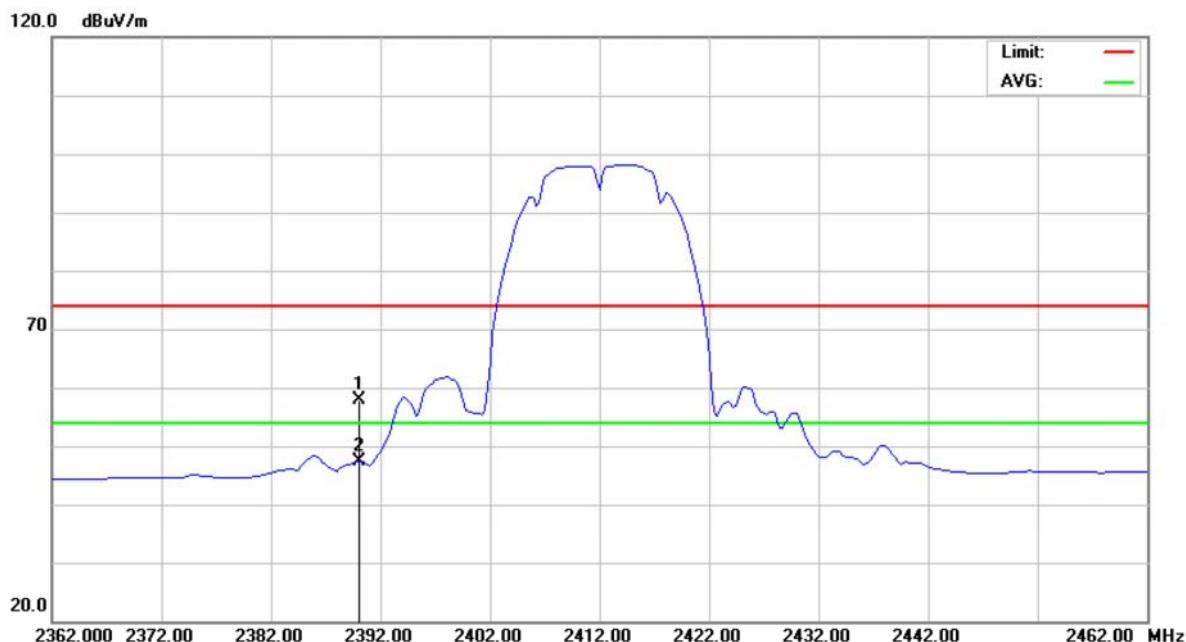
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4903.250	40.98	5.82	46.80	74.00	-27.20	peak
2		4903.250	29.94	5.82	35.76	54.00	-18.24	AVG
3		7355.880	42.69	12.73	55.42	74.00	-18.58	peak
4	*	7355.880	30.32	12.73	43.05	54.00	-10.95	AVG



9.9 TEST RESULTS (RESTRICTED BANDS)

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2390.000	26.13	31.67	57.80	74.00	-16.20	peak	
2	*	2390.000	15.73	31.67	47.40	54.00	-6.60	Avg	

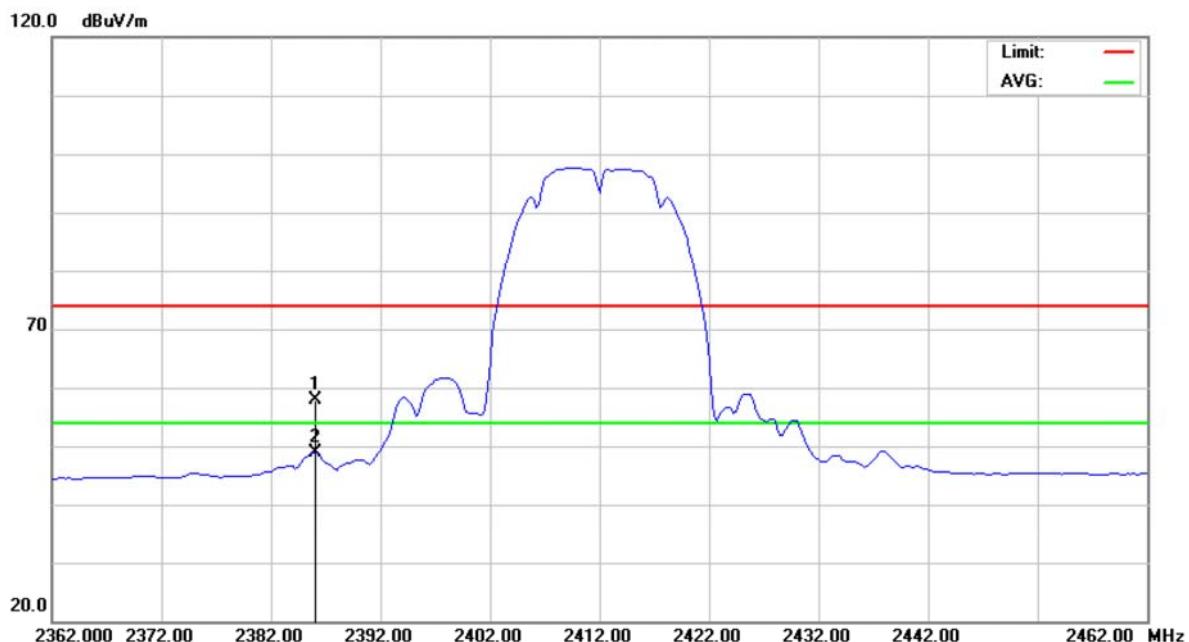


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2386.000	26.18	31.65	57.83	74.00	-16.17	peak	
2	*	2386.000	17.27	31.65	48.92	54.00	-5.08	Avg	

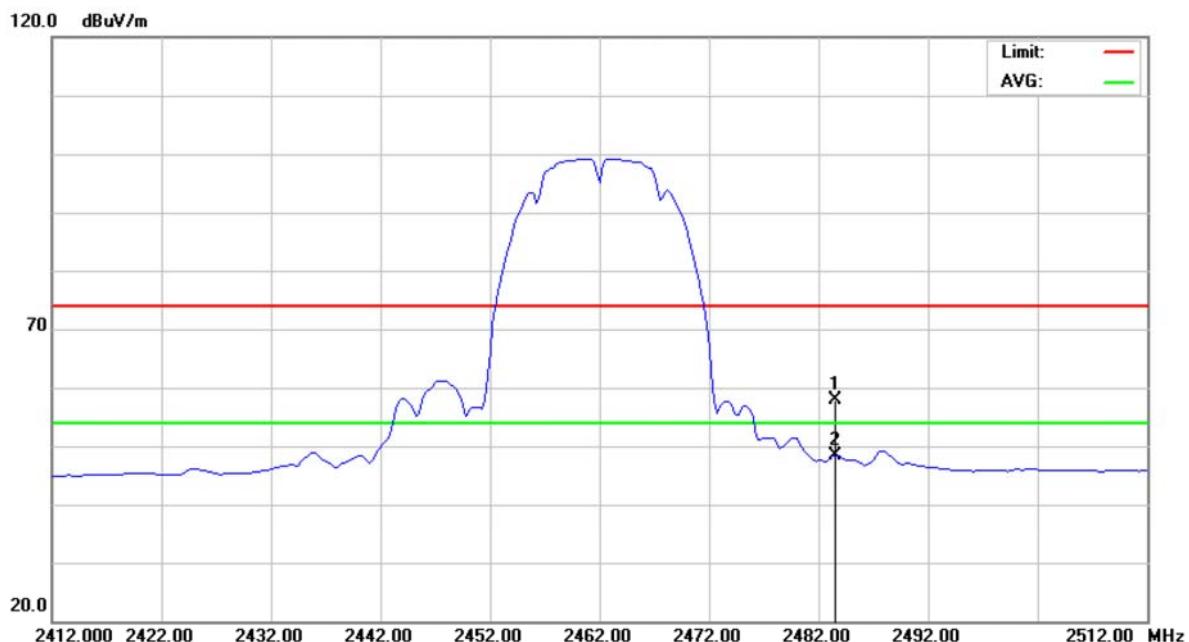


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Vertical



No.	Mk.	Freq. MHz	Reading Level dB _{uV}	Correct Factor dB	Measure- ment dB _{uV/m}	Limit dB _{uV/m}	Over	Detector	Comment
1		2483.500	25.67	32.09	57.76	74.00	-16.24	peak	
2	*	2483.500	16.40	32.09	48.49	54.00	-5.51	Avg	

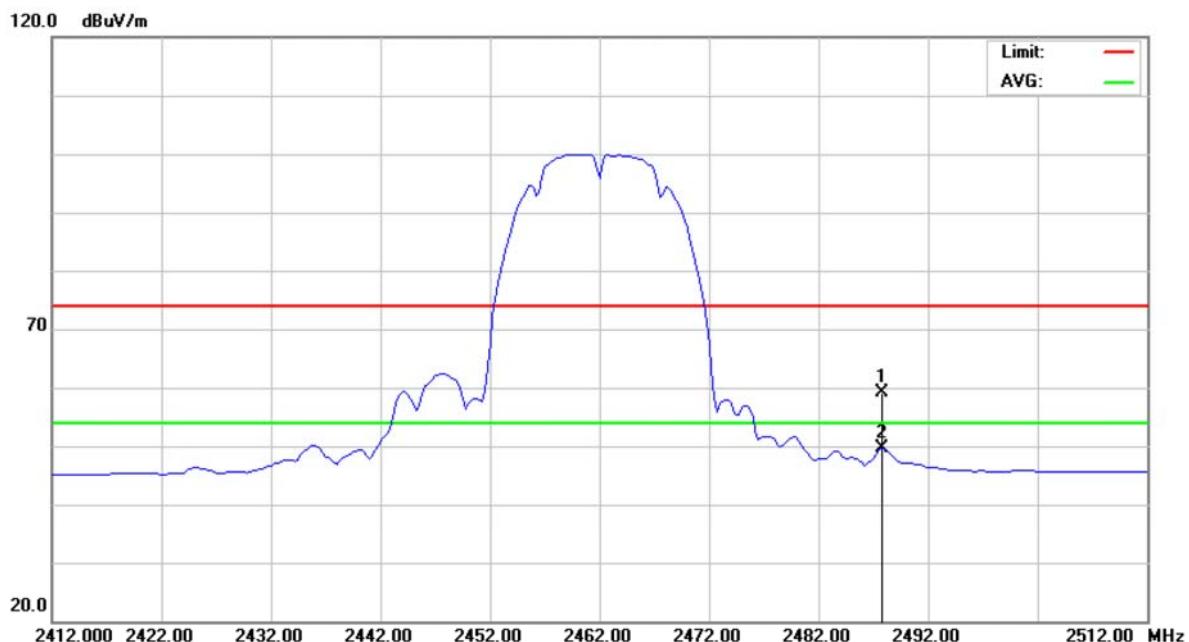


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector	Comment
1		2487.750	26.97	32.11	59.08	74.00	-14.92	peak	
2	*	2487.750	17.44	32.11	49.55	54.00	-4.45	Avg	

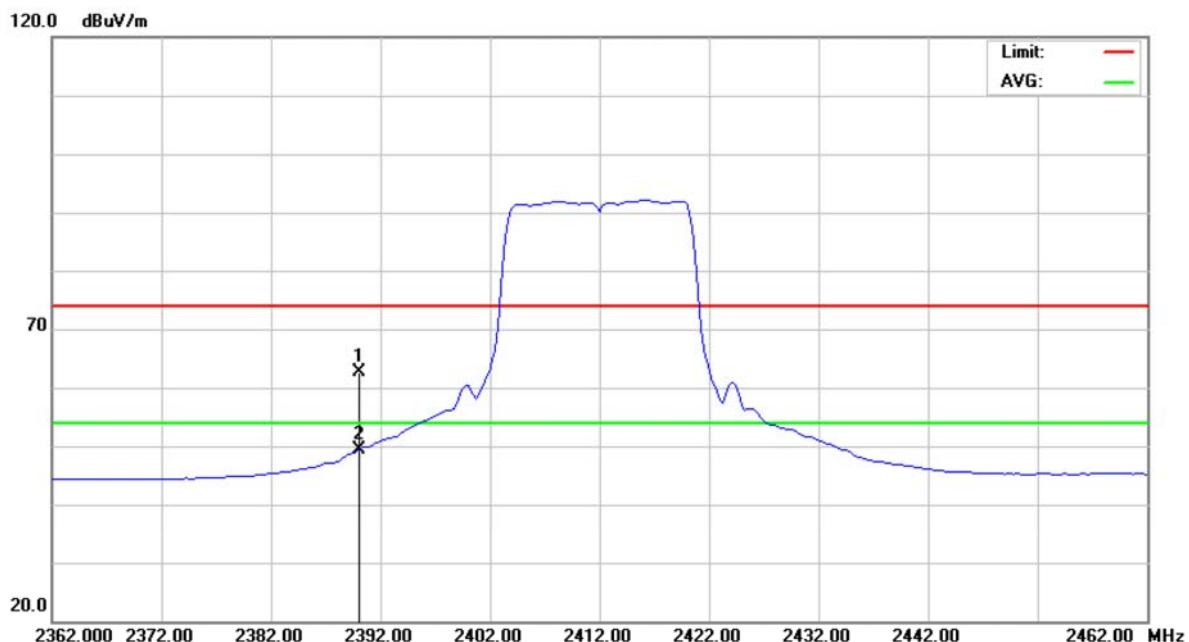


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2390.000	31.08	31.67	62.75	74.00	-11.25	peak	
2	*	2390.000	17.66	31.67	49.33	54.00	-4.67	Avg	

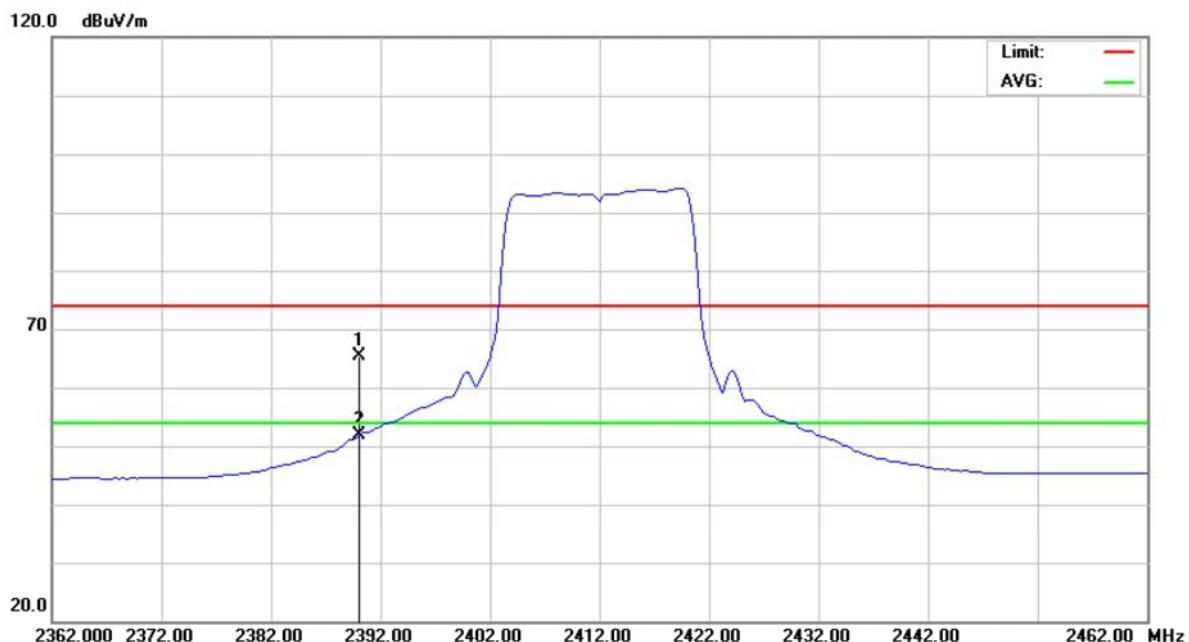


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2390.000	33.62	31.67	65.29	74.00	-8.71	peak
2	*	2390.000	20.11	31.67	51.78	54.00	-2.22	Avg

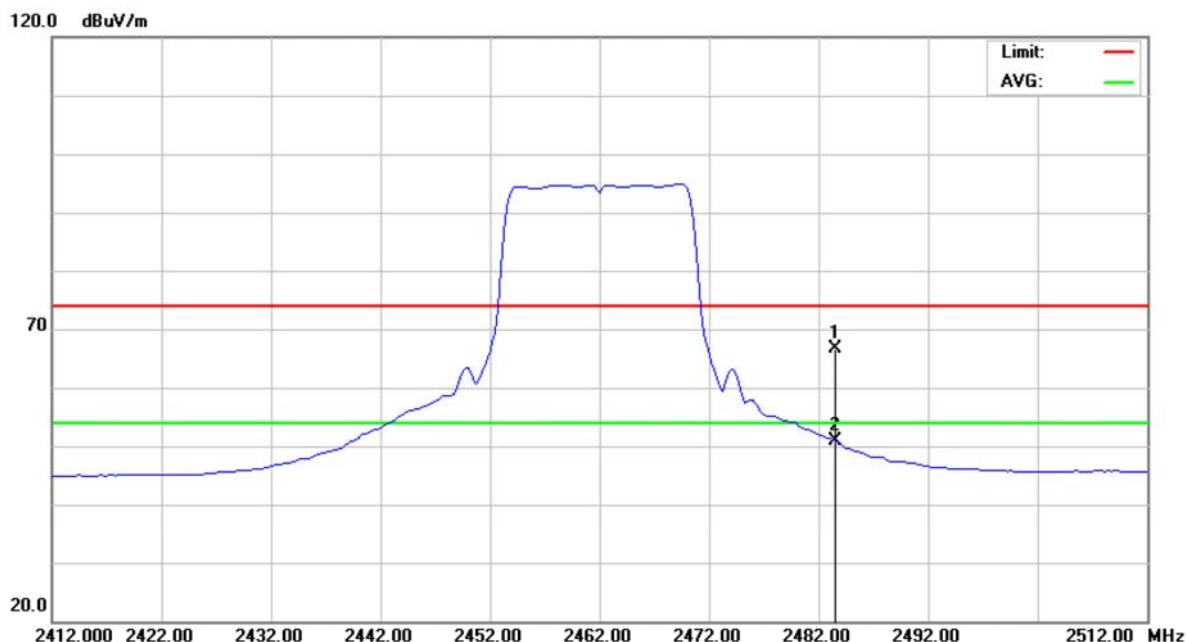


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector Comment
1		2483.500	34.47	32.09	66.56	74.00	-7.44	peak
2	*	2483.500	18.82	32.09	50.91	54.00	-3.09	Avg

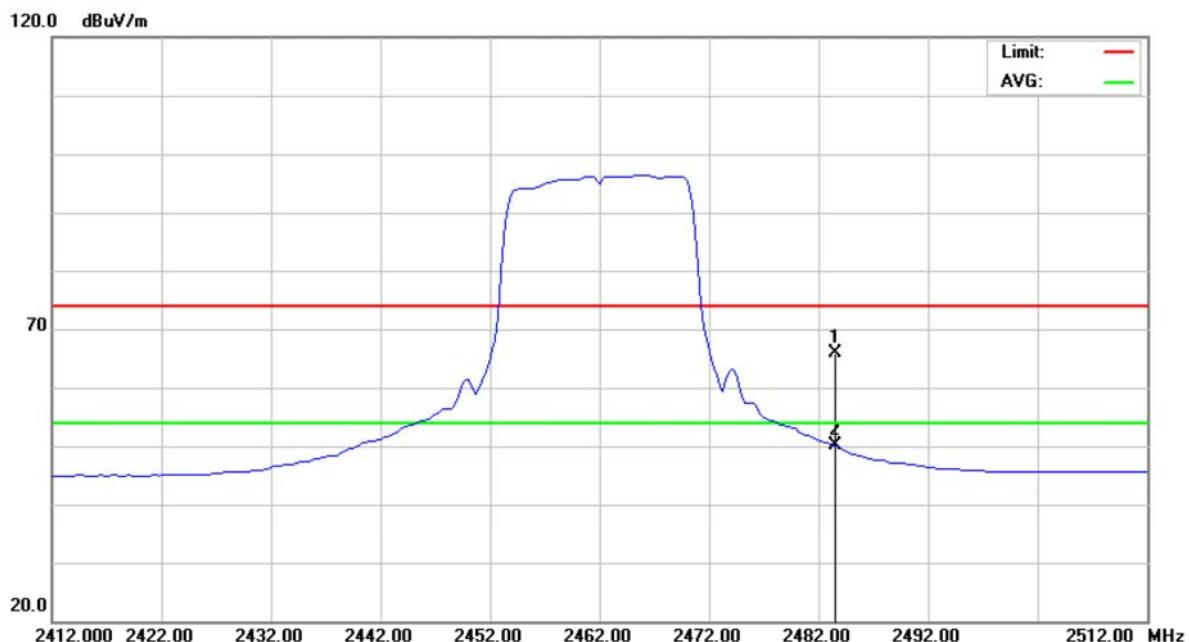


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2483.500	33.87	32.09	65.96	74.00	-8.04	peak
2	*	2483.500	17.94	32.09	50.03	54.00	-3.97	Avg

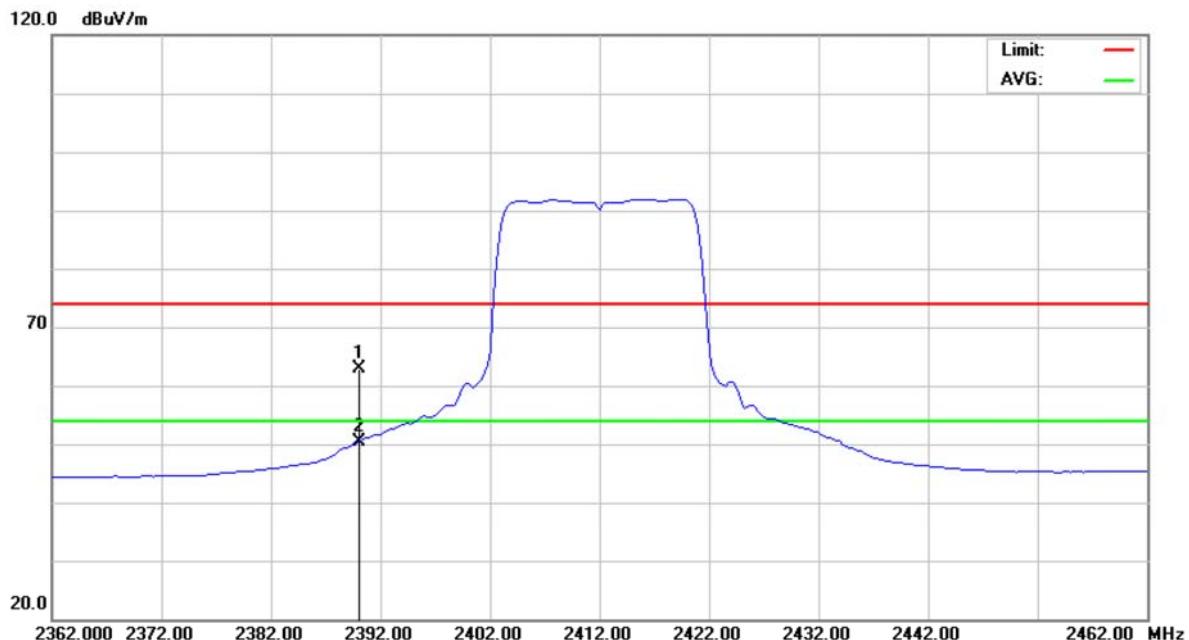


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2390.000	31.27	31.67	62.94	74.00	-11.06	peak	
2	*	2390.000	18.69	31.67	50.36	54.00	-3.64	Avg	

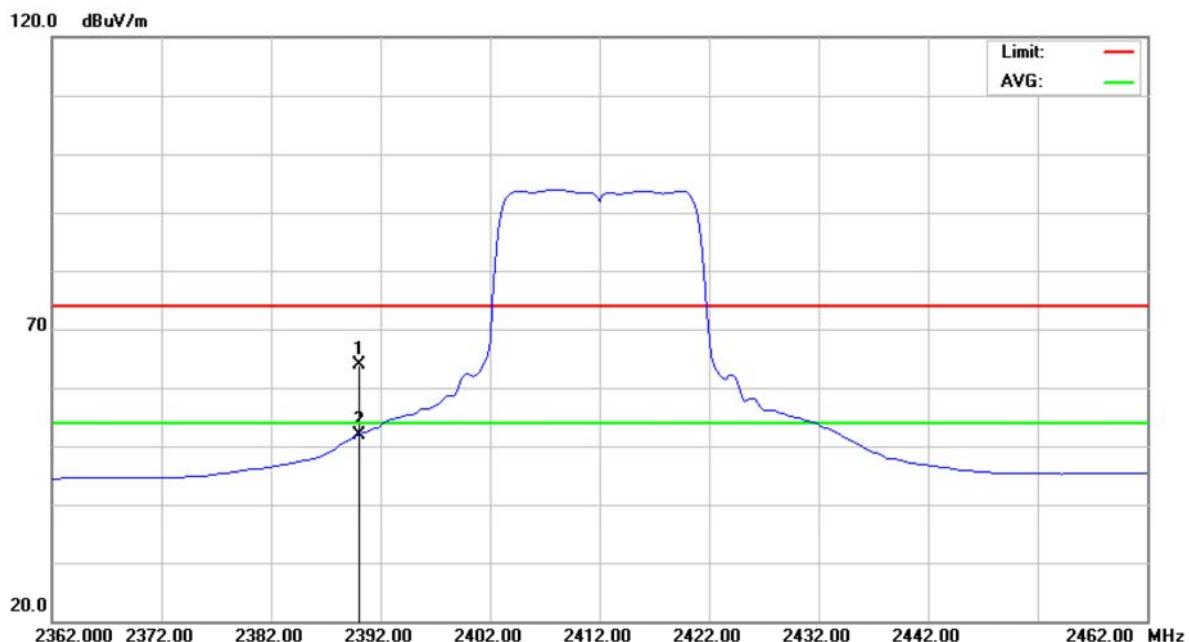


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2390.000	32.15	31.67	63.82	74.00	-10.18	peak	
2	*	2390.000	20.30	31.67	51.97	54.00	-2.03	Avg	

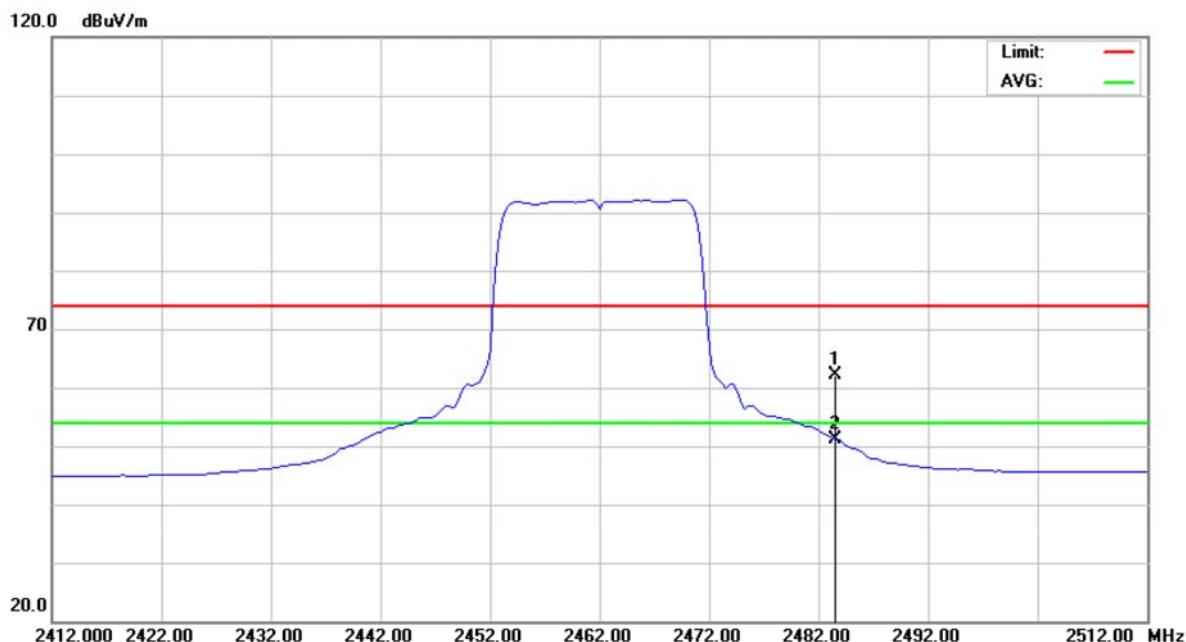


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2483.500	30.11	32.09	62.20	74.00	-11.80	peak	
2	*	2483.500	19.16	32.09	51.25	54.00	-2.75	Avg	

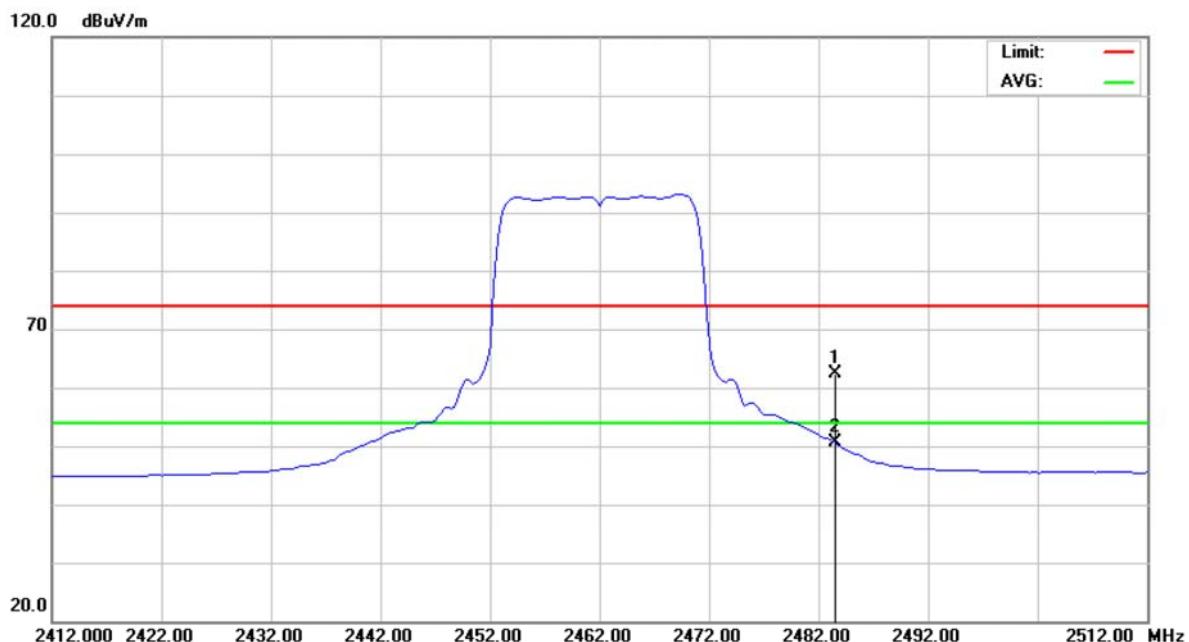


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		2483.500	30.20	32.09	62.29	74.00	-11.71	peak
2	*	2483.500	18.46	32.09	50.55	54.00	-3.45	AVG

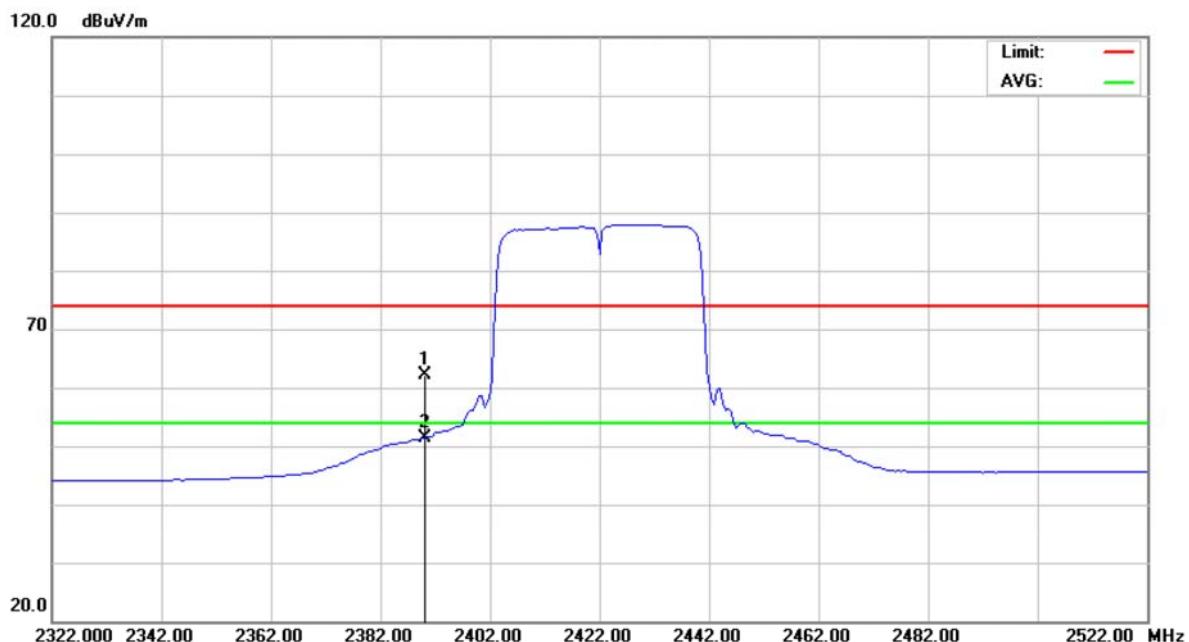


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB		
1		2390.000	30.41	31.67	62.08	74.00	-11.92	peak	
2	*	2390.000	19.77	31.67	51.44	54.00	-2.56	Avg	

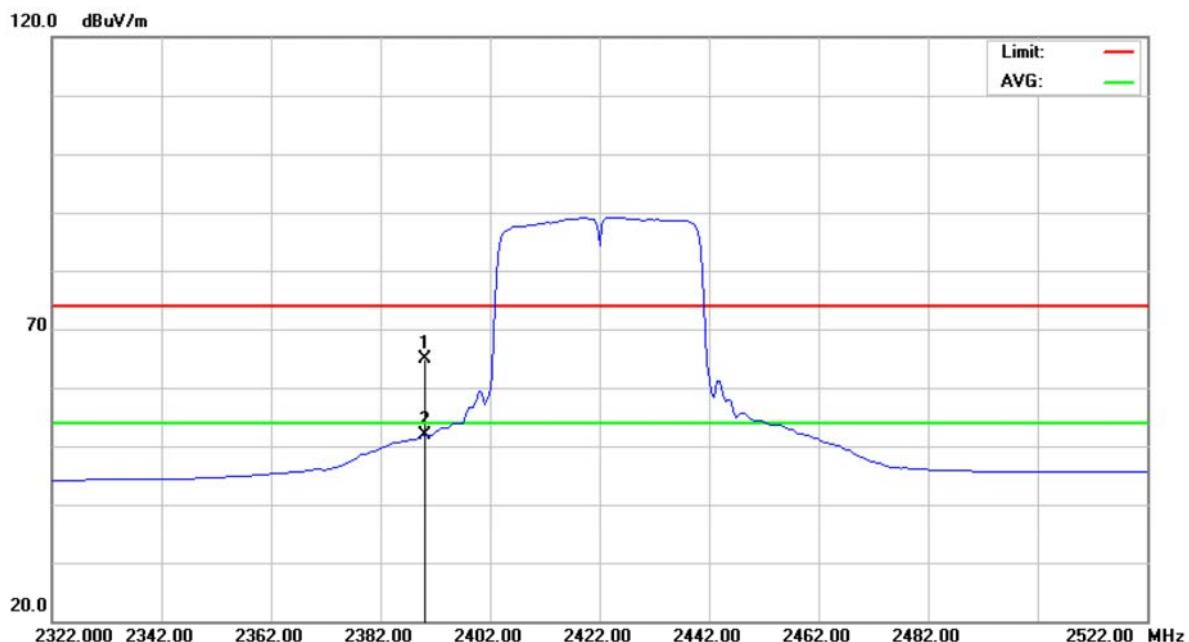


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector Comment
1		2390.000	33.22	31.67	64.89	74.00	-9.11	peak
2	*	2390.000	20.20	31.67	51.87	54.00	-2.13	Avg

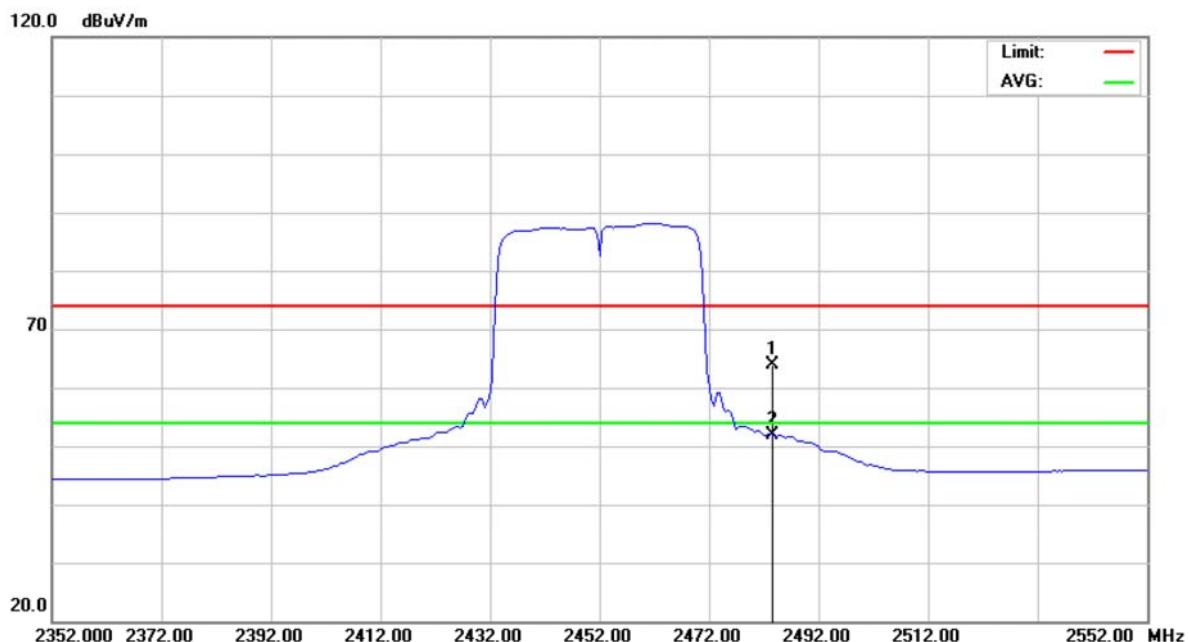


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Vertical



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		2483.500	31.72	32.09	63.81	74.00	-10.19	peak	
2 *		2483.500	19.87	32.09	51.96	54.00	-2.04	Avg	

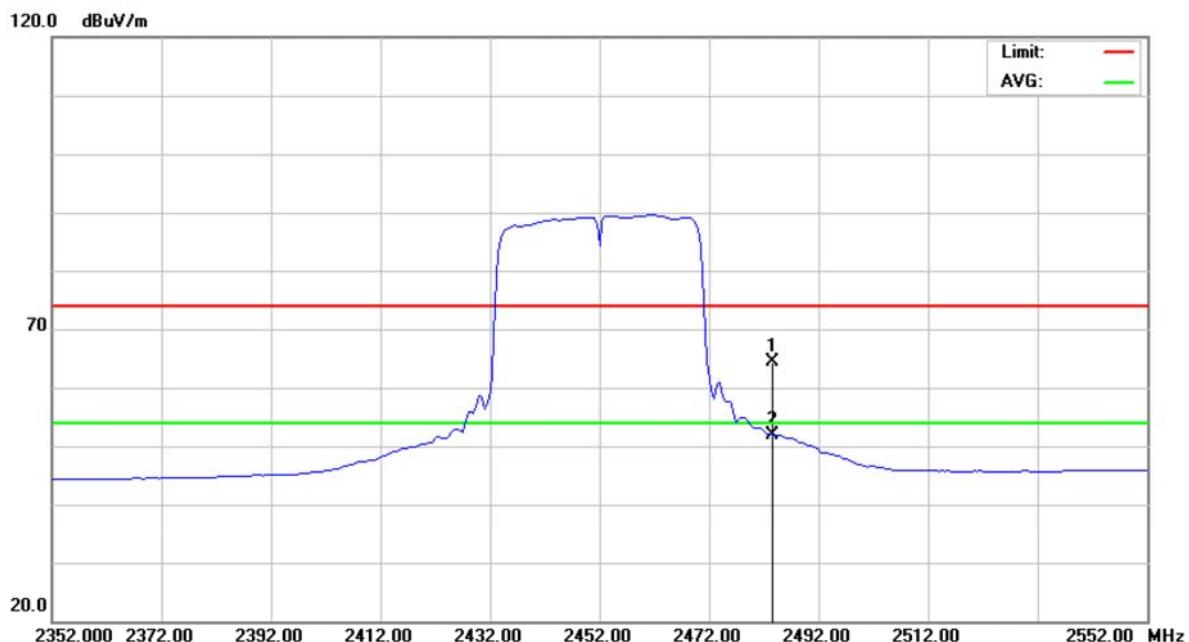


Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



No.	Mk.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
	MHz	dB _{uV}	dB	dB _{uV/m}	dB _{uV/m}	dB	Detector Comment
1	2483.500	32.21	32.09	64.30	74.00	-9.70	peak
2 *	2483.500	19.87	32.09	51.96	54.00	-2.04	Avg



10 POWER SPECTRAL DENSITY

10.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Power Spectral Density	2400-2483.5	8 dBm (in any 3 kHz)

10.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

NOTE: **N/A:** denotes No Model Name, No Serial No. or No Calibration specified.

10.3 TEST PROCEDURES

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW=3 kHz, VBW=30 kHz, Sweep time = 500s.

10.4 TEST SETUP LAYOUT



10.5 DEVIATION FROM TEST STANDARD

No deviation

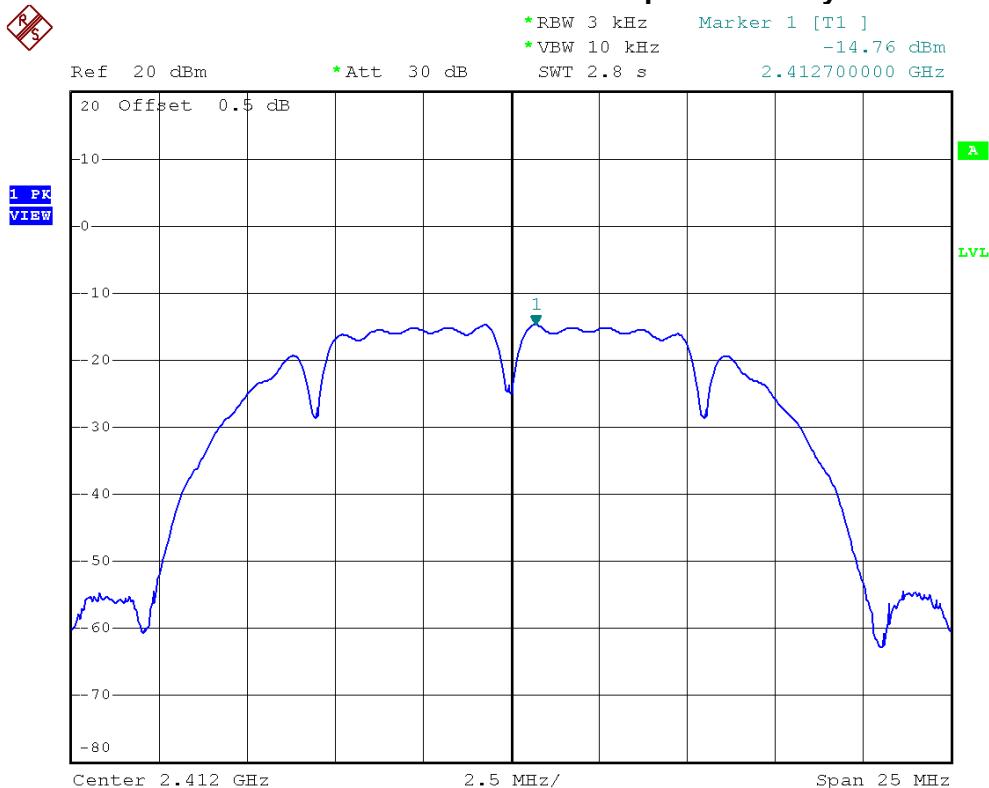
10.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**10.7 TEST RESULTS**

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-14.76	8	PASS
2437 MHz	-14.68	8	PASS
2462 MHz	-14.45	8	PASS

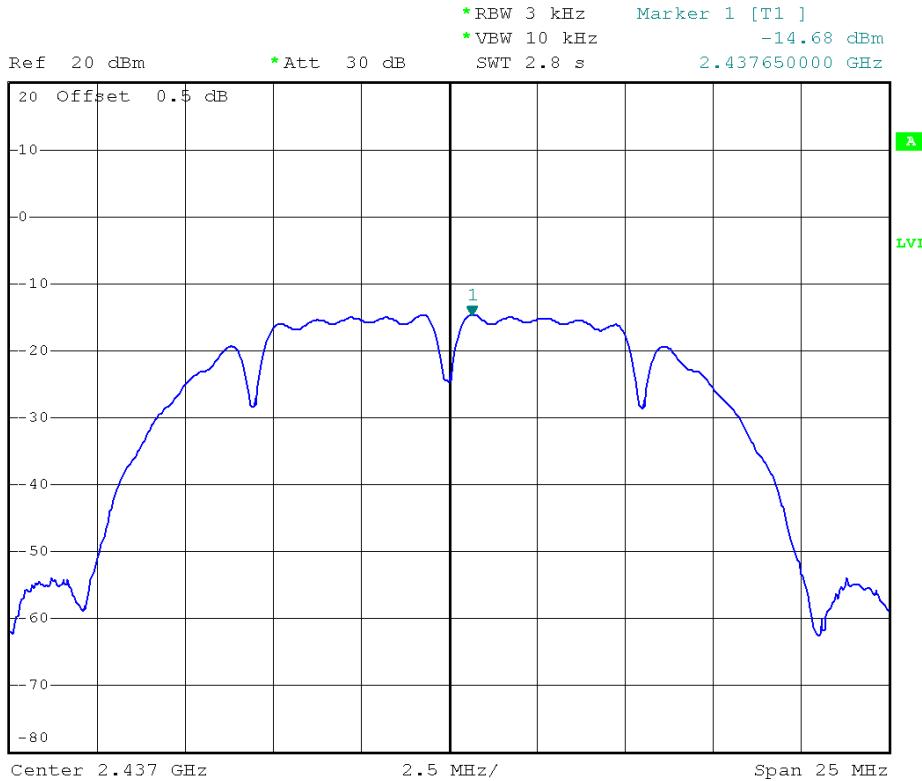
IEEE 802.11b/2412 MHz/Power Sepctral Density



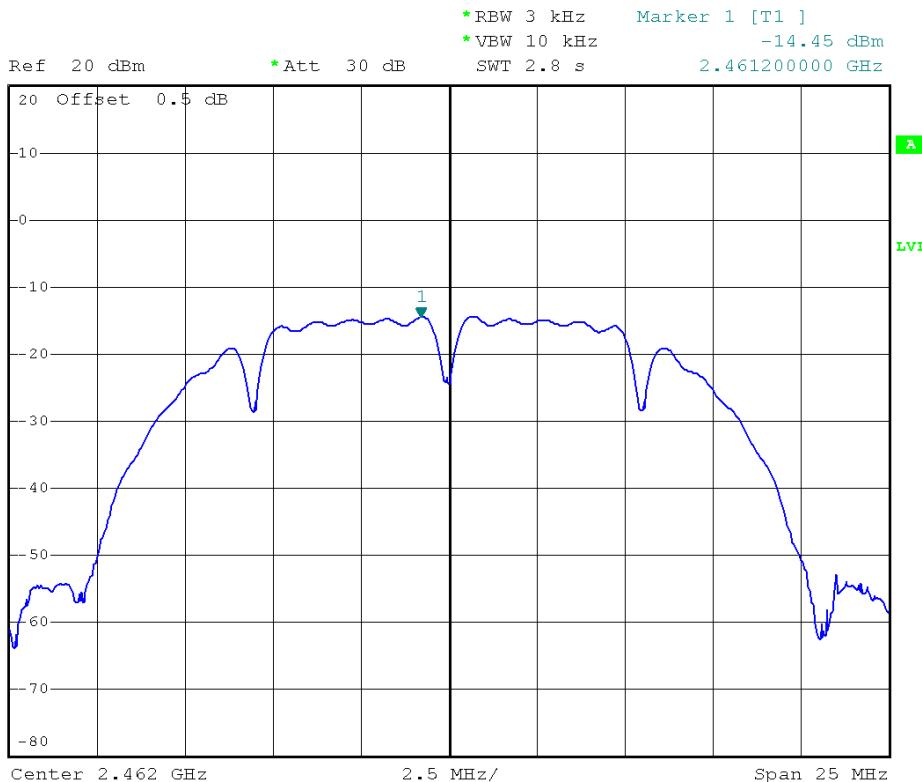
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11b/2437 MHz/Power Sepctral Density



IEEE 802.11b/2462 MHz/Power Sepctral Density





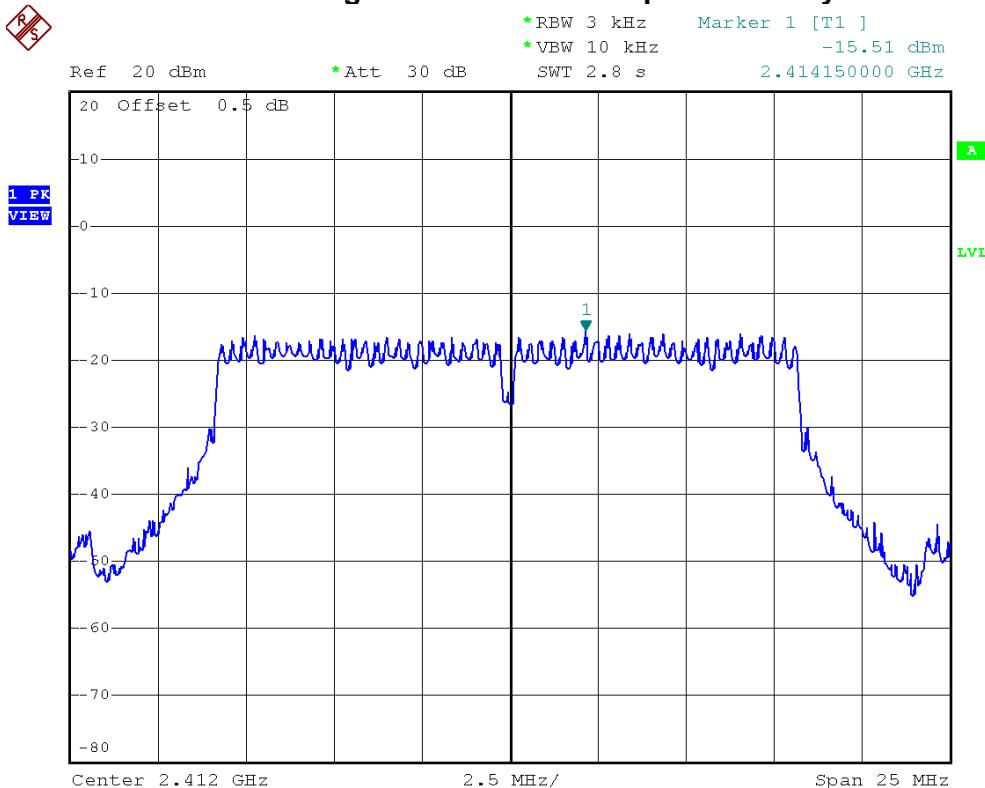
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-15.51	8	PASS
2437 MHz	-15.55	8	PASS
2462 MHz	-14.45	8	PASS

IEEE 802.11g/2412 MHz/Power Sepctral Density

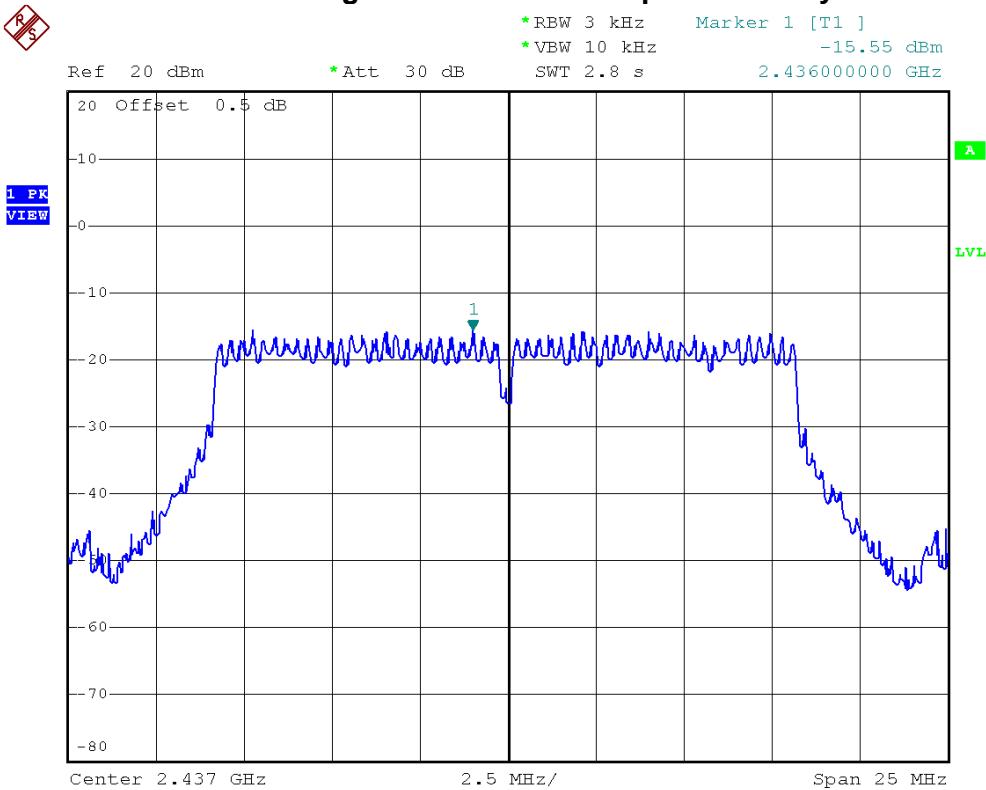




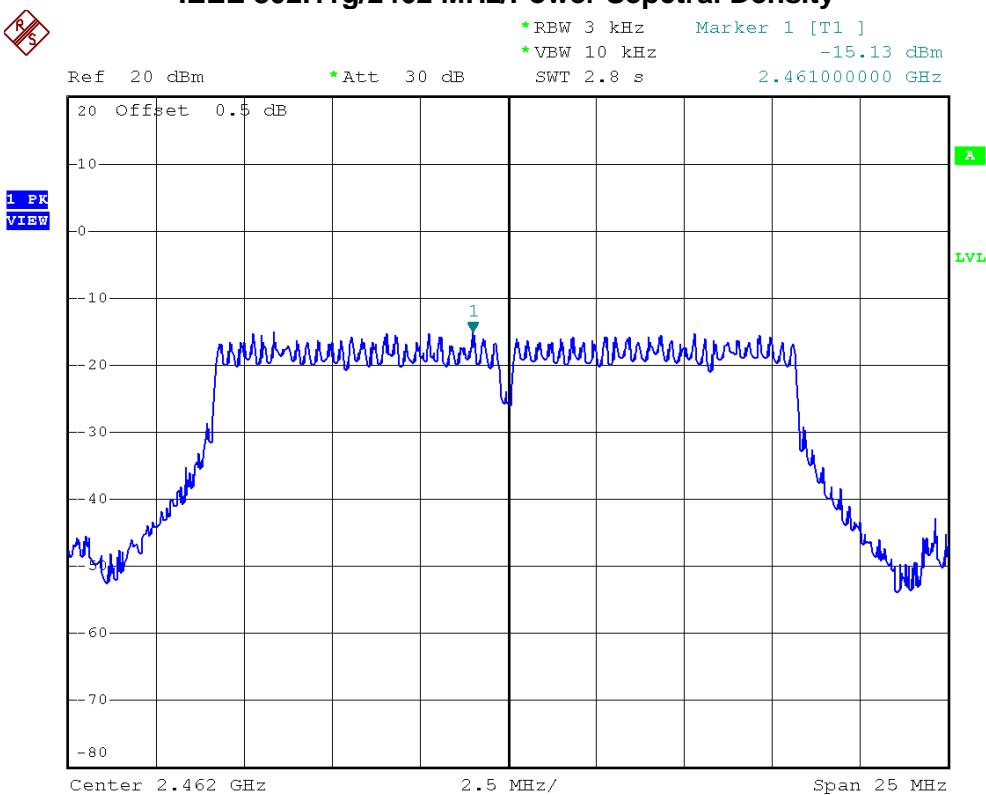
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11g/2437 MHz/Power Sepctral Density



IEEE 802.11g/2462 MHz/Power Sepctral Density





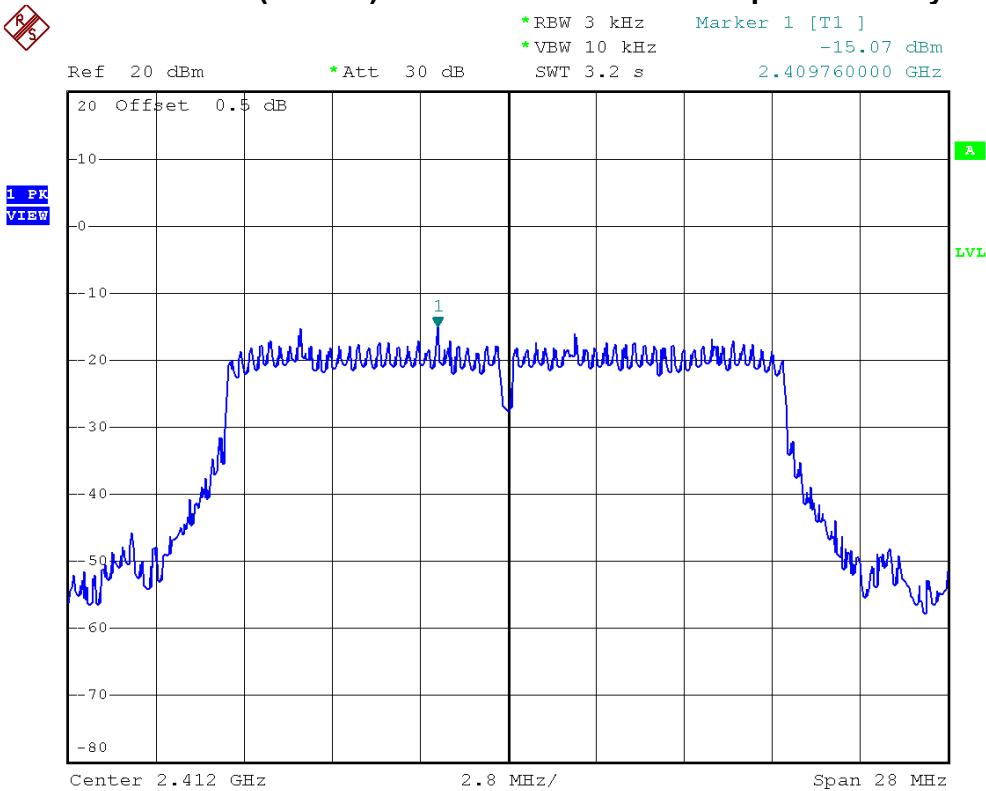
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-15.07	8	PASS
2437 MHz	-15.89	8	PASS
2462 MHz	-17.94	8	PASS

IEEE 802.11n (20 MHz)/ANT.1/2412 MHz/Power Sepctral Density

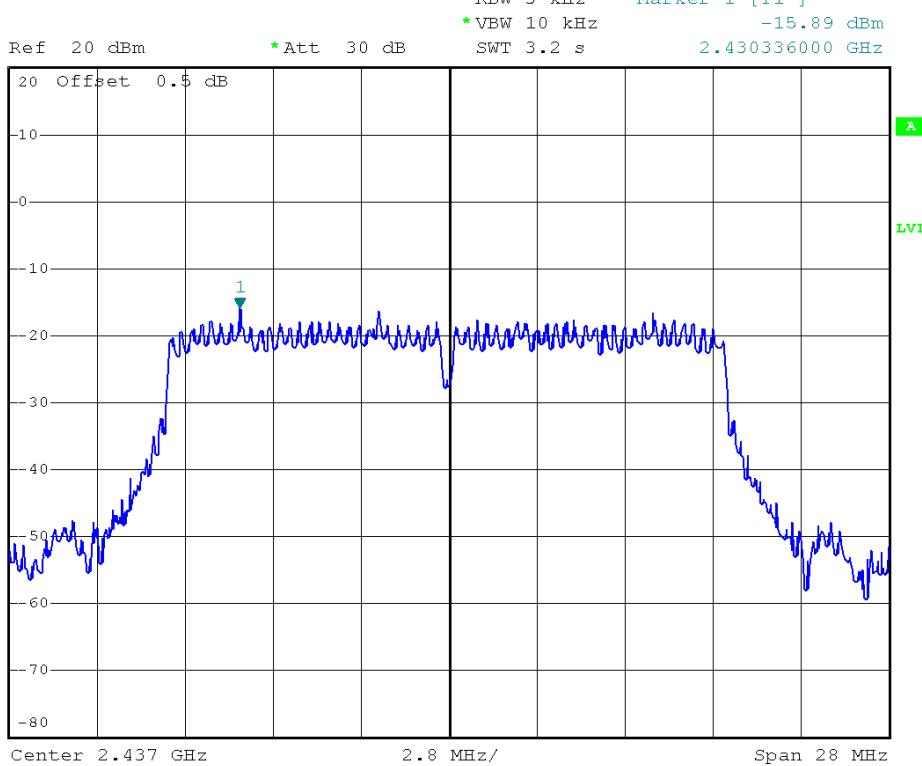




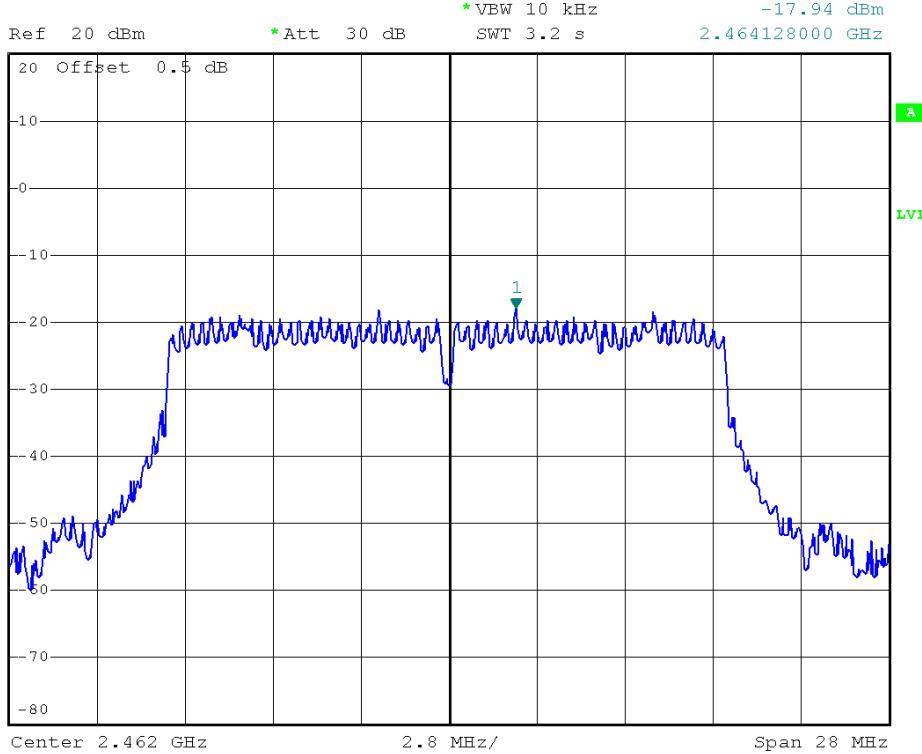
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.1/2437 MHz/Power Sepctral Density



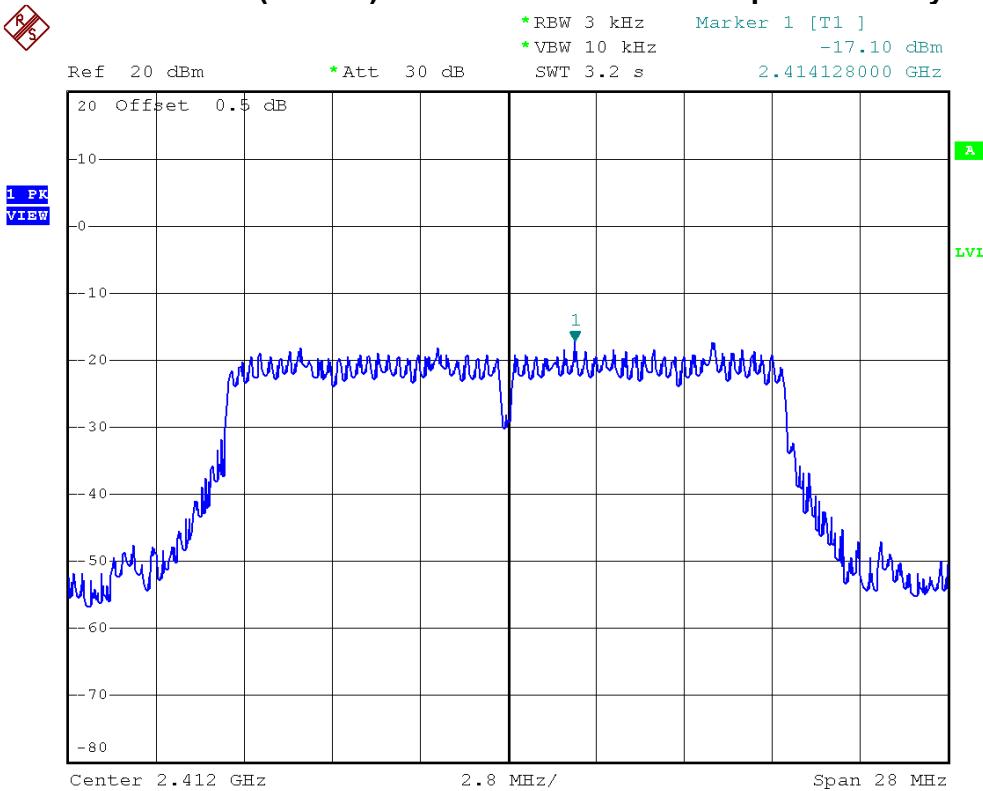
IEEE 802.11n (20 MHz)/ANT.1/2462 MHz/Power Sepctral Density





EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-17.10	8	PASS
2437 MHz	-15.96	8	PASS
2462 MHz	-17.72	8	PASS

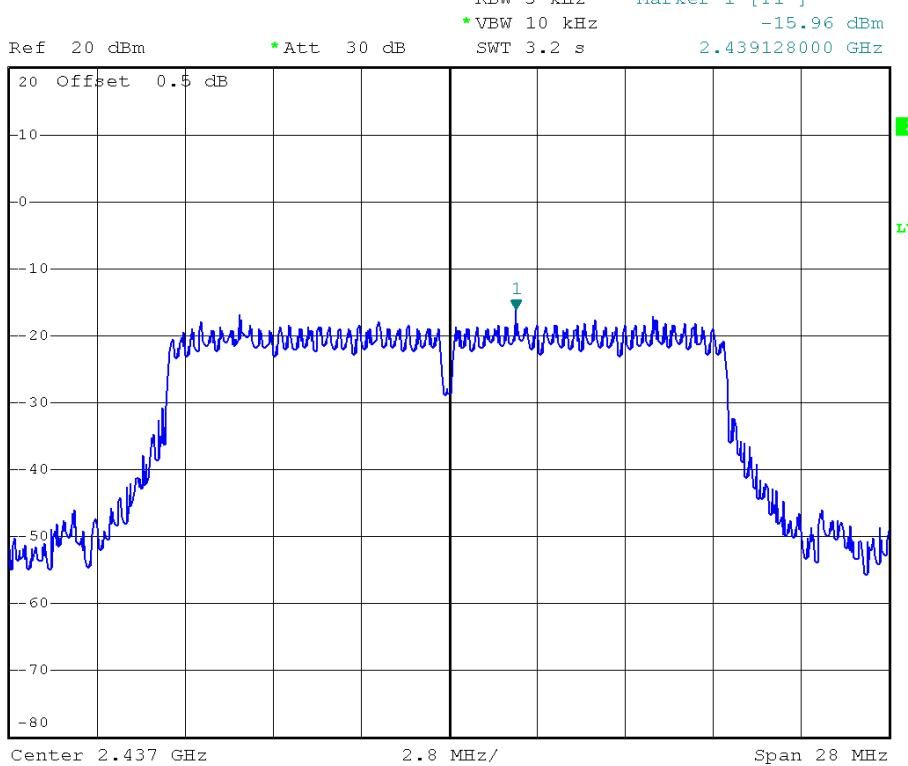
IEEE 802.11n (20 MHz)/ANT.2/2412 MHz/Power Sepctral Density



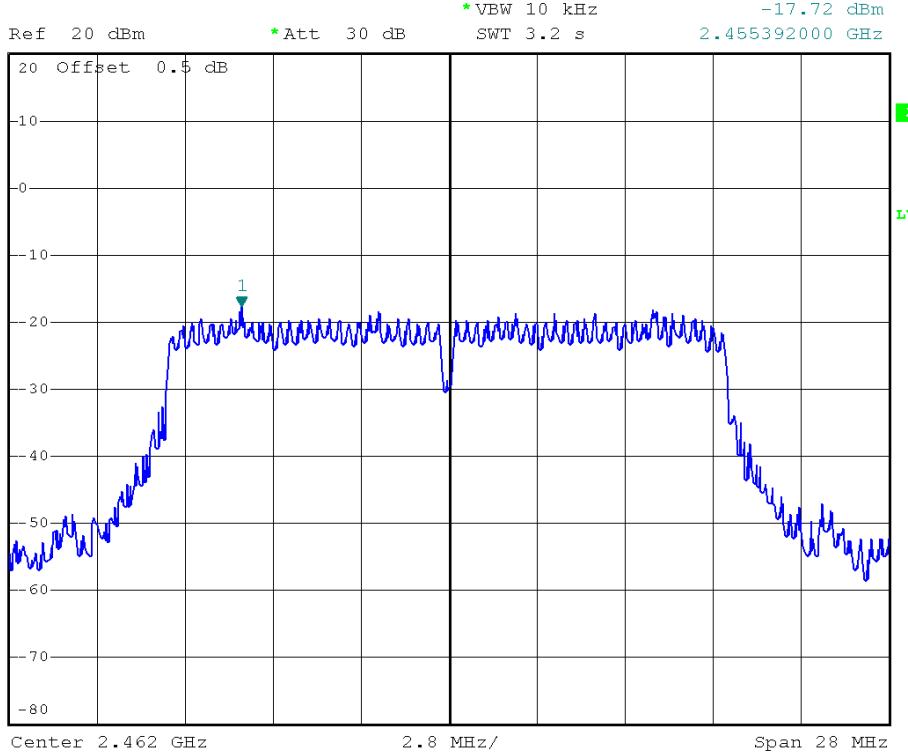
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (20 MHz)/ANT.2/2437 MHz/Power Sepctral Density



IEEE 802.11n (20 MHz)/ANT.2/2462 MHz/Power Sepctral Density





Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-12.96	8	PASS
2437 MHz	-12.91	8	PASS
2462 MHz	-14.82	8	PASS



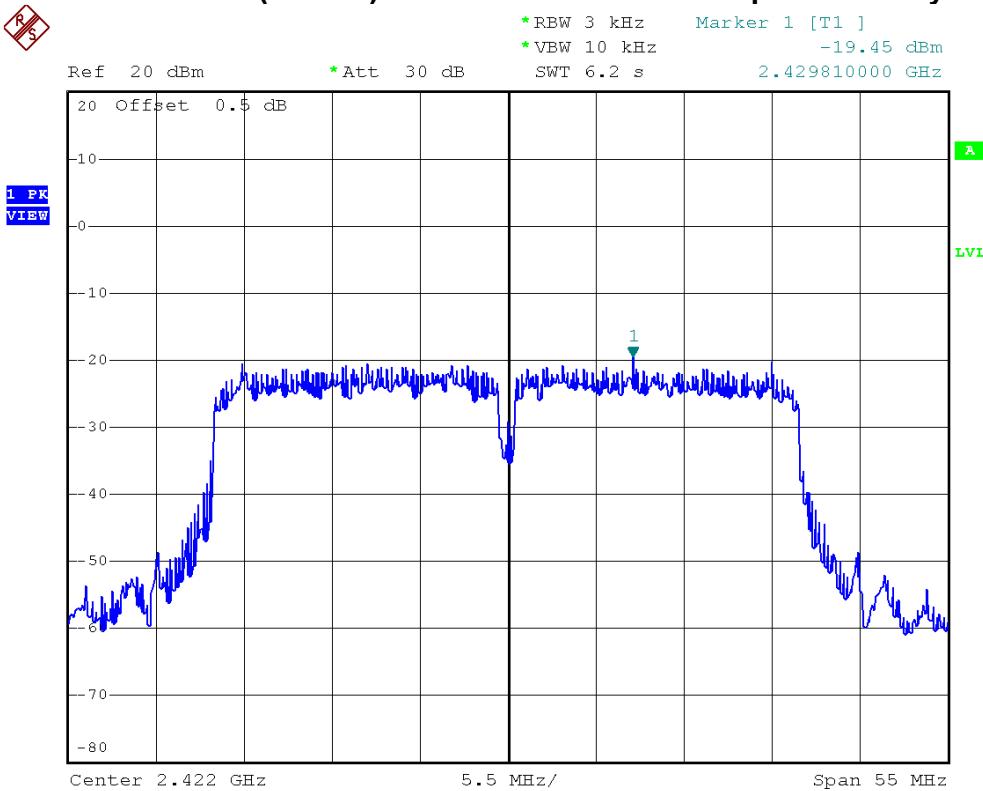
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-19.45	8	PASS
2437 MHz	-20.22	8	PASS
2452 MHz	-21.52	8	PASS

IEEE 802.11n (40 MHz)/ANT.1/2422 MHz/Power Sepctral Density





Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.1/2437 MHz/Power Sepctral Density

R
S

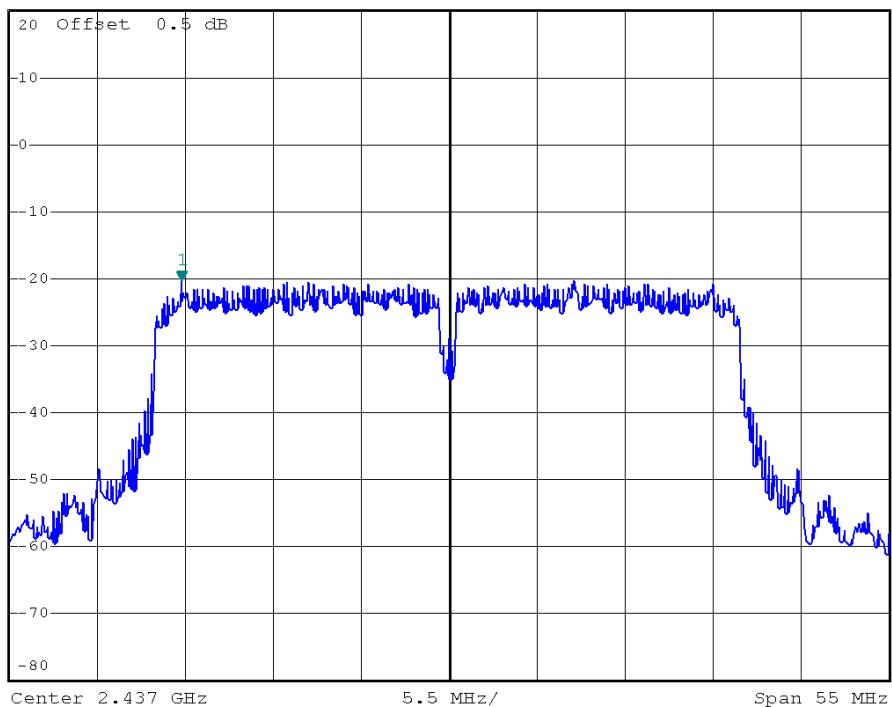
Ref 20 dBm * Att 30 dB SWT 6.2 s 2.420280000 GHz

* RBW 3 kHz Marker 1 [T1] -20.22 dBm
* VBW 10 kHz

1 PK
VIEW

A

LVL



IEEE 802.11n (40 MHz)/ANT.1/2452 MHz/Power Sepctral Density

R
S

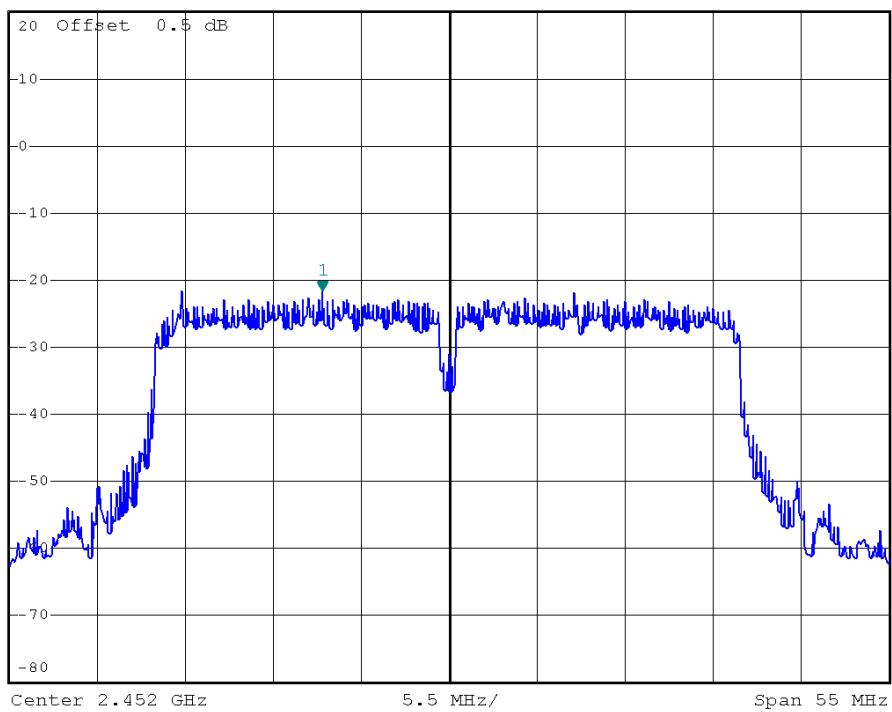
Ref 20 dBm * Att 30 dB SWT 6.2 s 2.444080000 GHz

* RBW 3 kHz Marker 1 [T1] -21.52 dBm
* VBW 10 kHz

1 PK
VIEW

A

LVL





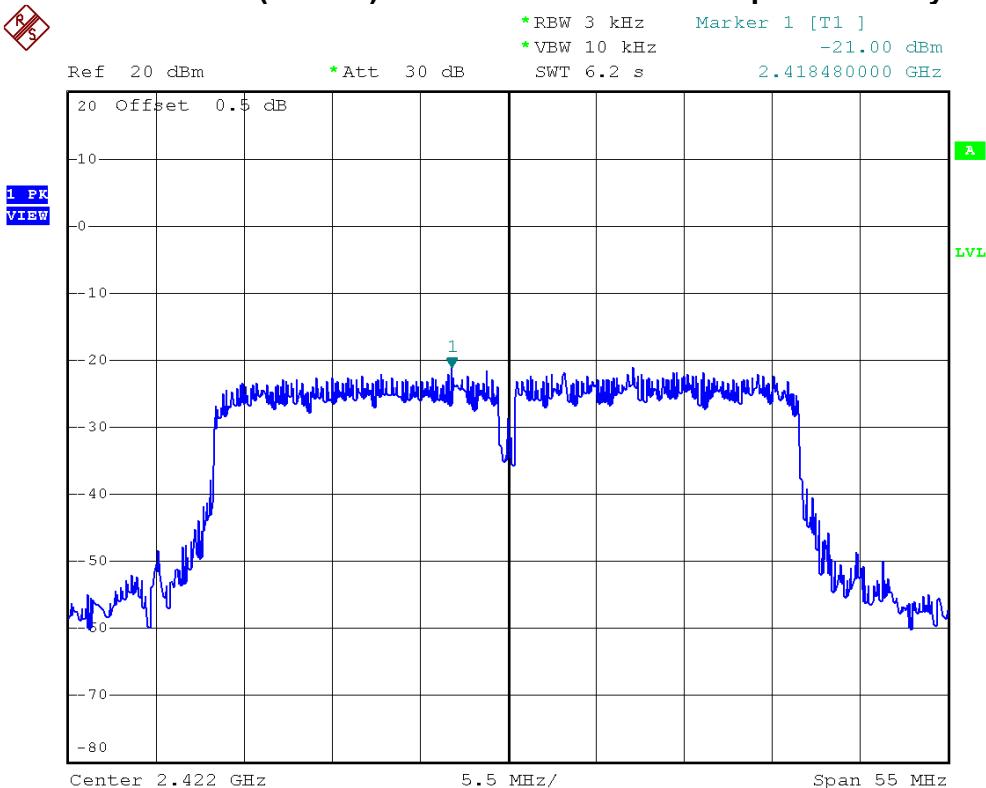
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-21.00	8	PASS
2437 MHz	-20.58	8	PASS
2452 MHz	-22.44	8	PASS

IEEE 802.11n (40 MHz)/ANT.2/2422 MHz/Power Sepctral Density

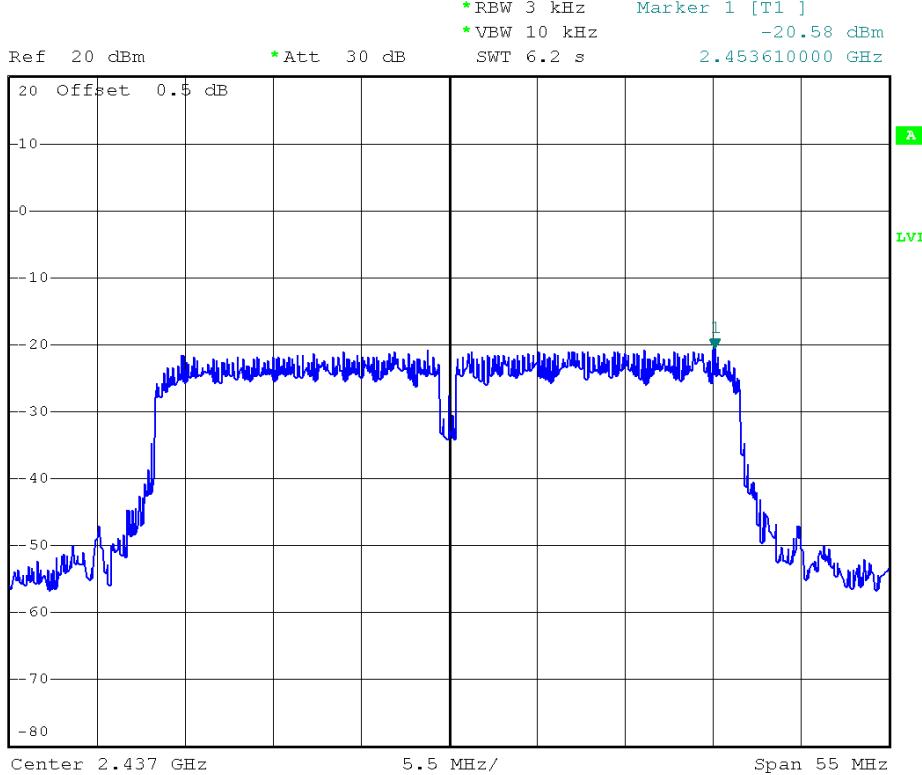




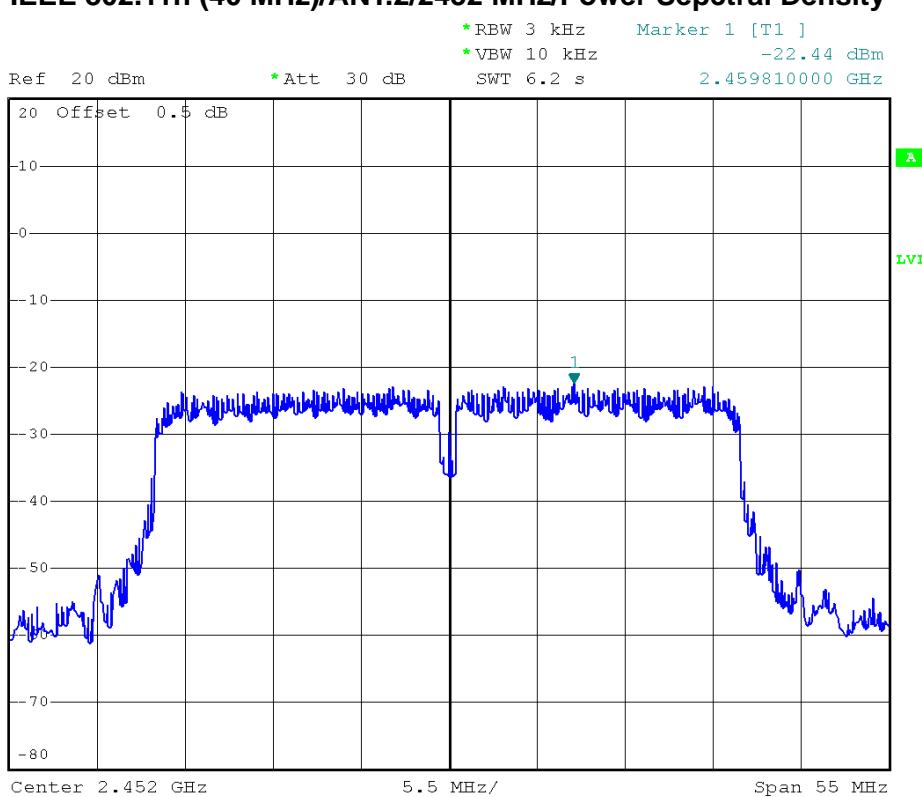
Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

IEEE 802.11n (40 MHz)/ANT.2/2437 MHz/Power Sepctral Density



IEEE 802.11n (40 MHz)/ANT.2/2452 MHz/Power Sepctral Density





Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-17.15	8	PASS
2437 MHz	-17.39	8	PASS
2452 MHz	-18.95	8	PASS



11 RF EXPOSURE COMPLIANCE

11.1 LIMIT

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E ², H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E ², H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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

11.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Jul. 22, 2013
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Jul. 22, 2013

NOTE: N/A: denotes No Model Name, No Serial No. or No Calibration specified.

11.3 MPE CALCULATION METHOD

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained



11.4 TEST SETUP LAYOUT



11.5 DEVIATION FROM TEST STANDARD

No deviation

11.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**11.7 TEST RESULTS**

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	19.4600	88.3080	0.027858	1	PASS
2437 MHz	2.00	1.5849	19.3200	85.5067	0.026974	1	PASS
2462 MHz	2.00	1.5849	19.4700	88.5116	0.027922	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	22.5000	177.8279	0.056098	1	PASS
2437 MHz	2.00	1.5849	22.5100	178.2379	0.056228	1	PASS
2462 MHz	2.00	1.5849	22.9400	196.7886	0.062080	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	21.1700	130.9182	0.041300	1	PASS
2437 MHz	2.00	1.5849	21.3200	135.5189	0.042751	1	PASS
2462 MHz	2.00	1.5849	19.3300	85.7038	0.027036	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.2/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	20.6800	116.9499	0.036894	1	PASS
2437 MHz	2.00	1.5849	21.7000	147.9108	0.046661	1	PASS
2462 MHz	2.00	1.5849	20.8800	122.4616	0.038632	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	23.9422	247.8681	0.078194	1	PASS
2437 MHz	2.00	1.5849	24.5245	283.4298	0.089412	1	PASS
2462 MHz	2.00	1.5849	23.1841	208.1654	0.065669	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	19.7200	93.7562	0.029577	1	PASS
2437 MHz	2.00	1.5849	20.0200	100.4616	0.031692	1	PASS
2462 MHz	2.00	1.5849	17.7700	59.8412	0.018878	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.2/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	19.4800	88.7156	0.027987	1	PASS
2437 MHz	2.00	1.5849	20.3700	108.8930	0.034352	1	PASS
2437 MHz	2.00	1.5849	20.8800	122.4616	0.038632	1	PASS



Neutron Engineering Inc.

FCC ID: XBG-BCCWLAN02R

EUT	RF module	Model Name	BCC-WLAN-02R
Temperature	25°C	Relative Humidity	62%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Result
2412 MHz	2.00	1.5849	22.6120	182.4718	0.057563	1	PASS
2437 MHz	2.00	1.5849	23.2088	209.3546	0.066044	1	PASS
2462 MHz	2.00	1.5849	22.6079	182.3028	0.057510	1	PASS