Neutron Engineering Inc.

Radio Test Report

FCC ID: 2ABDN44313

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

Issued Date : Dec. 12, 2013
Project No. : 1310147
Equipment : Wi-Fi Handheld Microscope
Model Name : 44313

Applicant : CELESTRON, LLC.
Address : 2835 Columbia Street, Torrance, California 90503, United States.

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Oct. 22, 2013
Date of Test: Oct. 22, 2013 ~ Dec. 04, 2013

Testing Engineer : (Josh Lin)

Technical Manager : (Jeff Yang)

Authorized Signatory : (Andy Chiu)

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Testing Laboratory 0659

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.**

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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.

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REPORT ISSUED HISTORY

Revised Version No.	Description	Issued Date
-	Initial Issue.	Dec. 12, 2013

1 CERTIFICATION

Equipment	:	Wi-Fi Handheld Microscope
Brand Name	:	CELESTRON
Model Name	:	44313
Applicant	:	CELESTRON, LLC.
Date of Test	:	Oct. 22, 2013 ~ Dec. 04, 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-1-1310147) 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	**N/A**
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:

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 ± 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.

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	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	Wi-Fi Handheld Microscope
Brand Name	CELESTRON
Model Name	44313
OEM Brand/Model Name	N/A
Model Difference	N/A
Product Description	The EUT is a Wi-Fi Handheld Microscope. 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 150 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: 0.68 dBm IEEE 802.11g: 13.66 dBm IEEE 802.11n (20 MHz): 13.30 dBm IEEE 802.11n (40 MHz): 10.92 dBm More details of EUT technical specification, please refer to the User's Manual.
Power Source	Battery supplied.
Power Rating	I/P: DC 4.5V (3 * 1.5V AA)
Connecting I/O Port(s)	Please refer to the User's Manual
Products Covered	N/A
EUT Modification(s)	N/A

NOTE:

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

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		

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	N/A	N/A	WIRE	Solder	2.79

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.

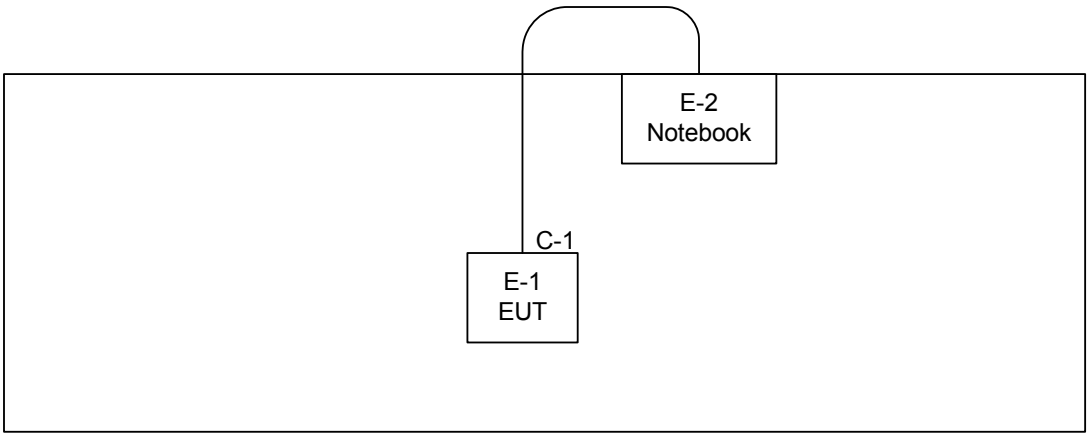
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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.

IEEE	802.11b			802.11g		
Test software Version	QA_RT3x7x_V1.5.6.6			QA_RT3x7x_V1.5.6.6		
Frequency	2412 MHz	2437 MHz	2462 MHz	2412 MHz	2437 MHz	2462 MHz
Parameter	1	1	1	1	1	1

IEEE	802.11n (20 MHz)			802.11n (40 MHz)		
Test software Version	QA_RT3x7x_V1.5.6.6			QA_RT3x7x_V1.5.6.6		
Frequency	2412 MHz	2437 MHz	2462 MHz	2422 MHz	2437 MHz	2452 MHz
Parameter	1	1	1	1	1	1

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



C-1 Data Cable

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	Wi-Fi Handheld Microscope	CELESTRON	44313	2ABDN44313	N/A	EUT
E-2	Notebook PC	DELL	D620	DOC	7T390 A03	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	1M	

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

4 ANTENNA CONDUCTED SPURIOUS EMISSION

4.1 LIMIT

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

4.2 MEASUREMENT INSTRUMENTS LIST

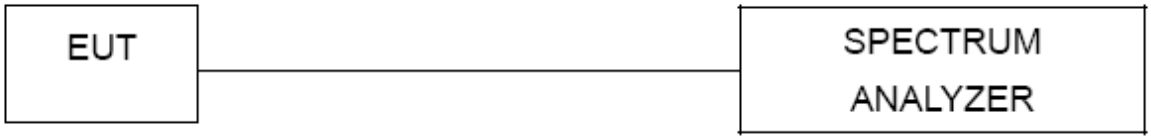
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

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

4.3 TEST PROCEDURES

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

4.4 TEST SETUP LAYOUT



4.5 DEVIATION FROM TEST STANDARD

No deviation

4.6 EUT OPERATING CONDITIONS

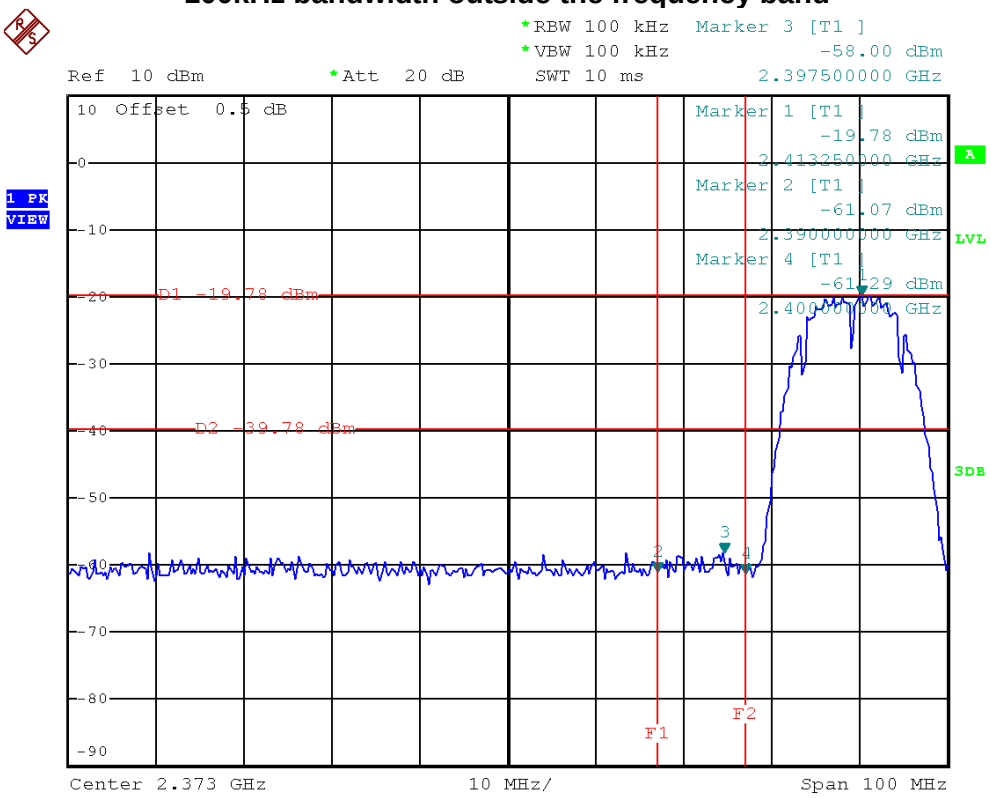
The EUT used during radiated emission measurement was designed to exercise in a manner similar to a typical use.

4.7 TEST RESULTS

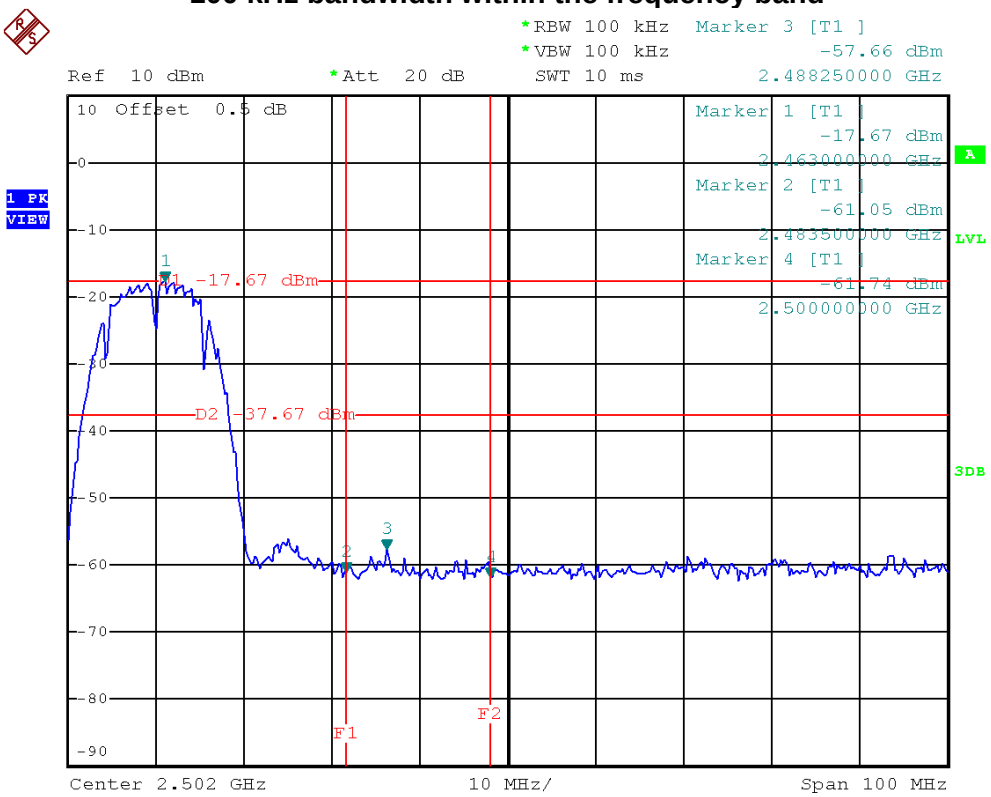
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b		

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)
2397.50	-58.00	2488.25	-57.66
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.			

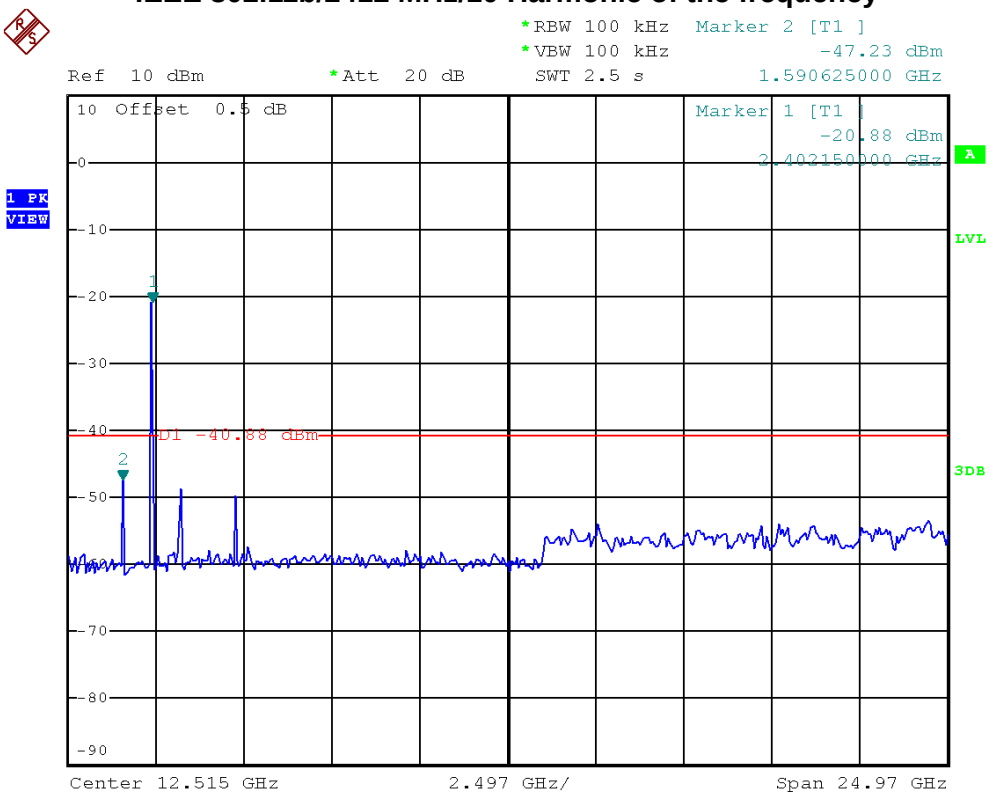
IEEE 802.11b/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



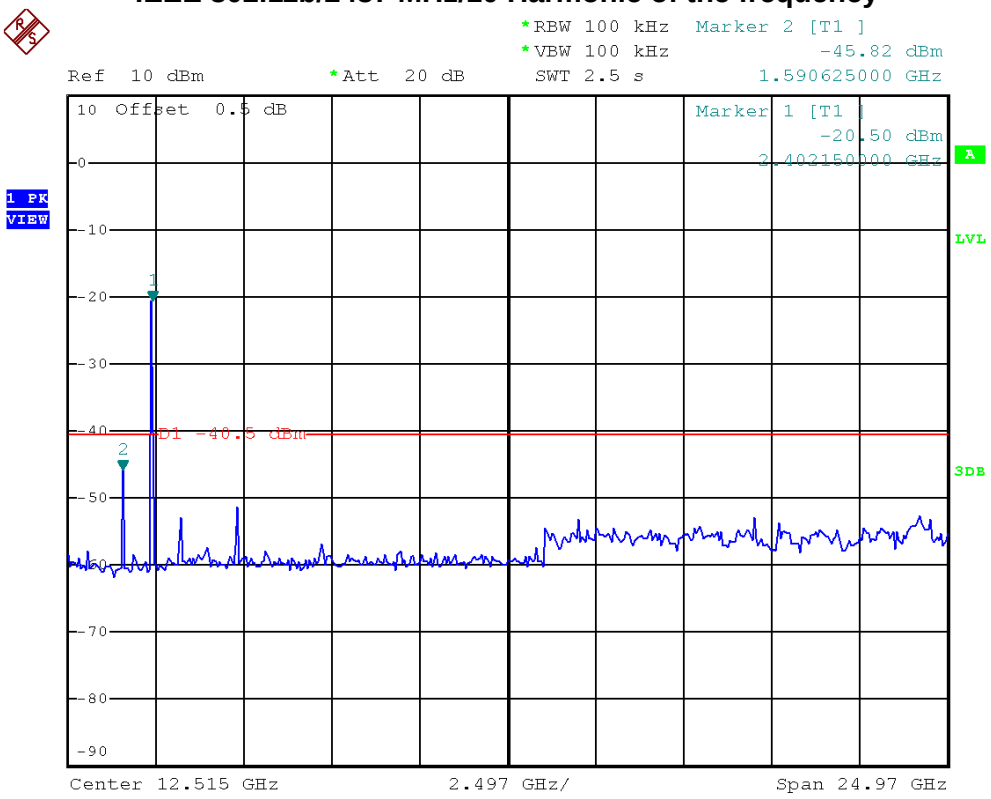
IEEE 802.11b/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



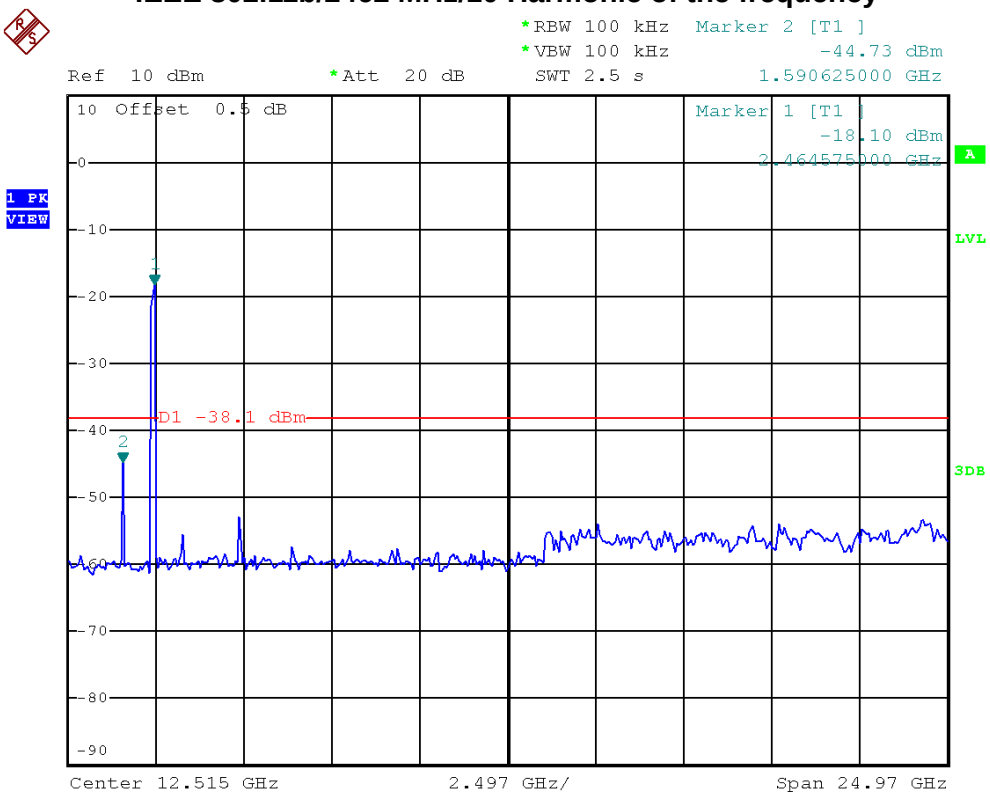
IEEE 802.11b/2412 MHz/10 Harmonic of the frequency



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



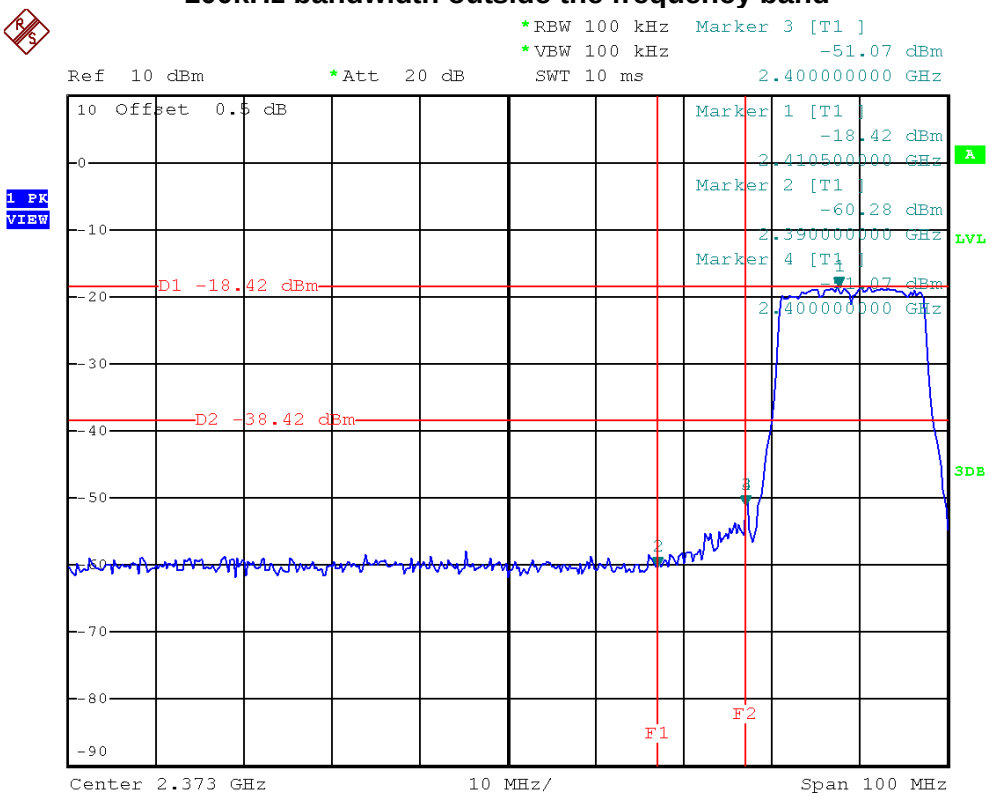
IEEE 802.11b/2462 MHz/10 Harmonic of the frequency



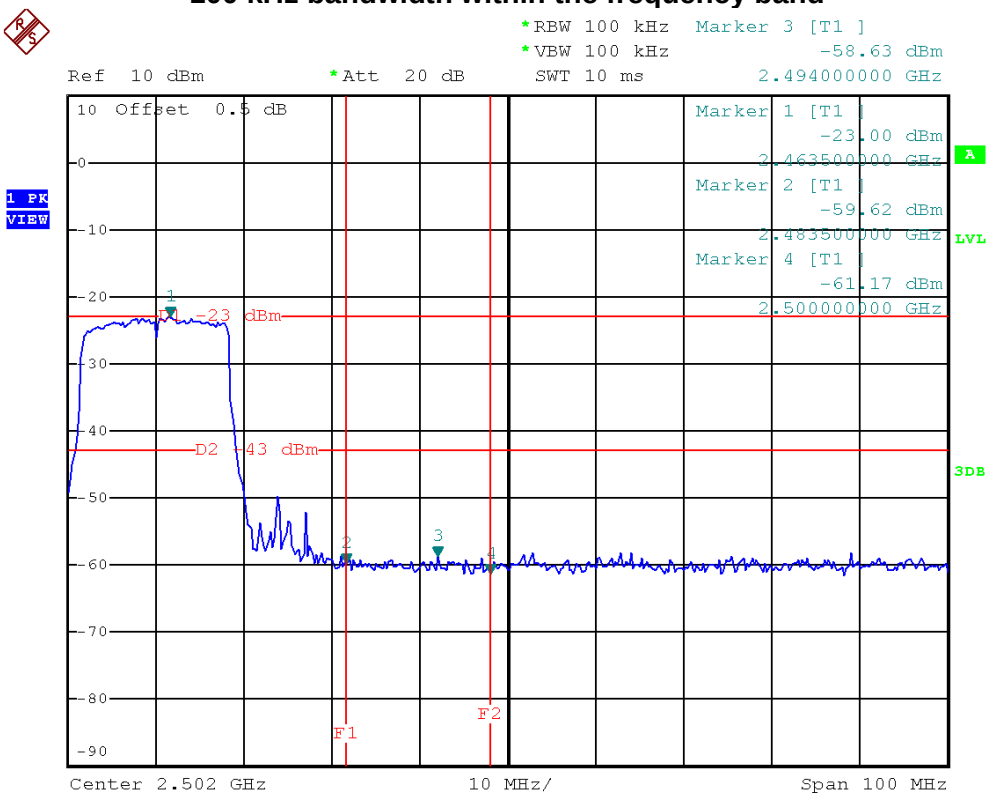
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g		

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)	FREQUENCY(MHz)	POWER(dBm)
2400.00	-51.07	2494.00	-58.63
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.			

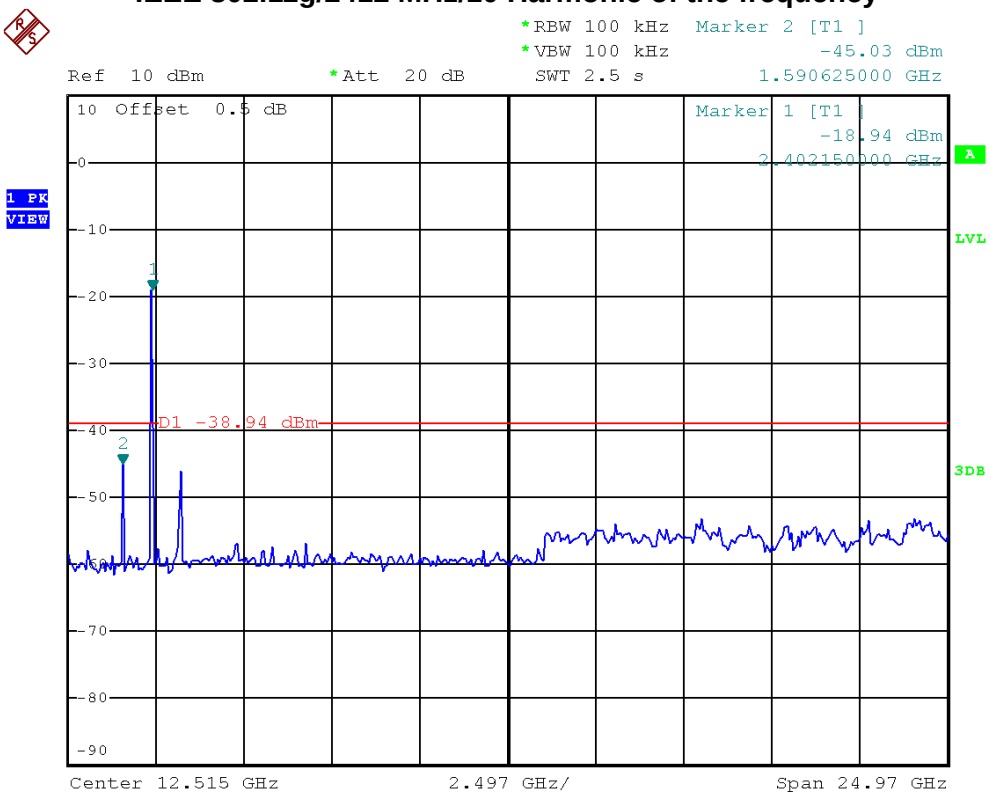
IEEE 802.11g/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



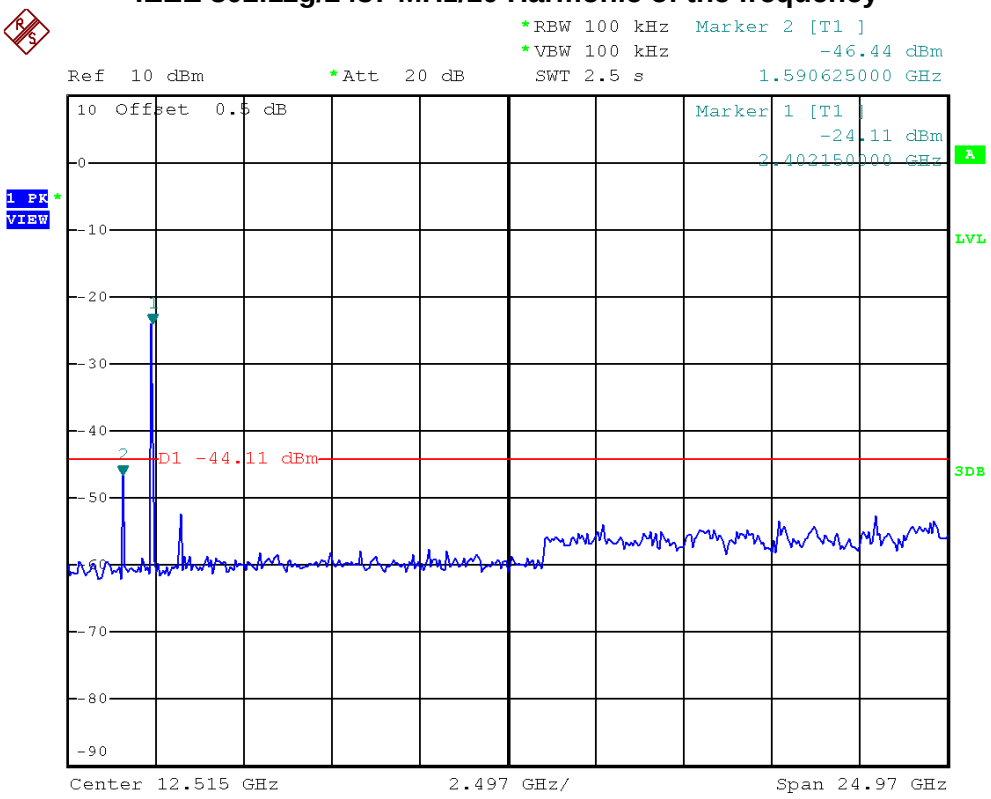
IEEE 802.11g/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



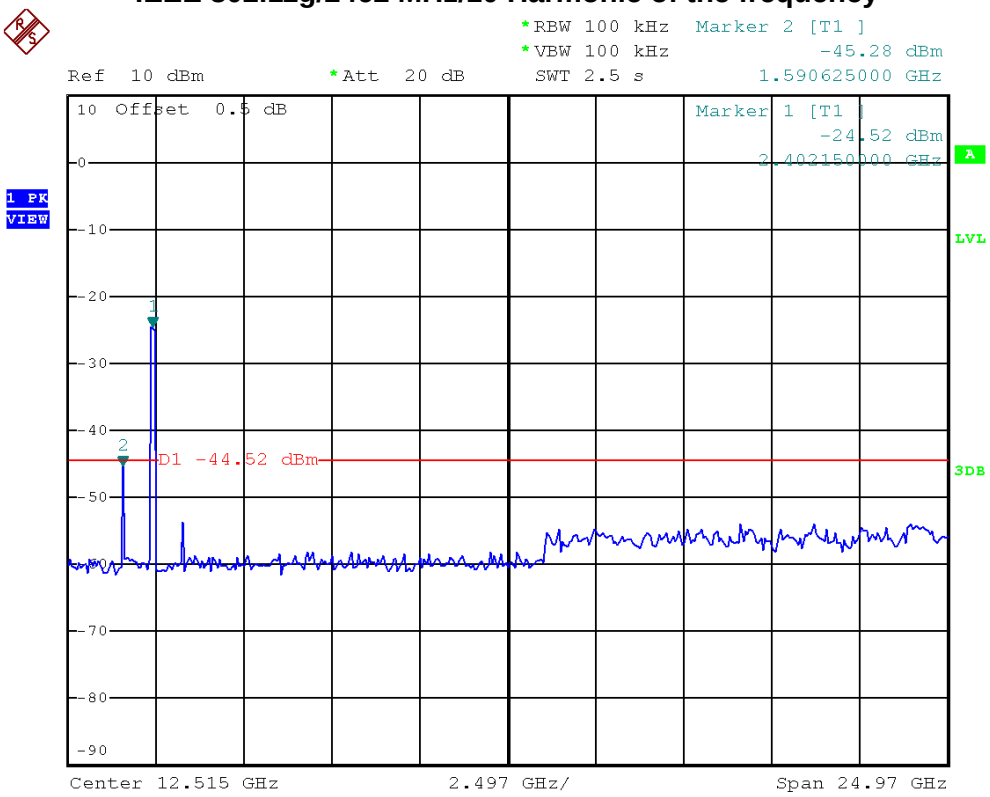
IEEE 802.11g/2412 MHz/10 Harmonic of the frequency



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



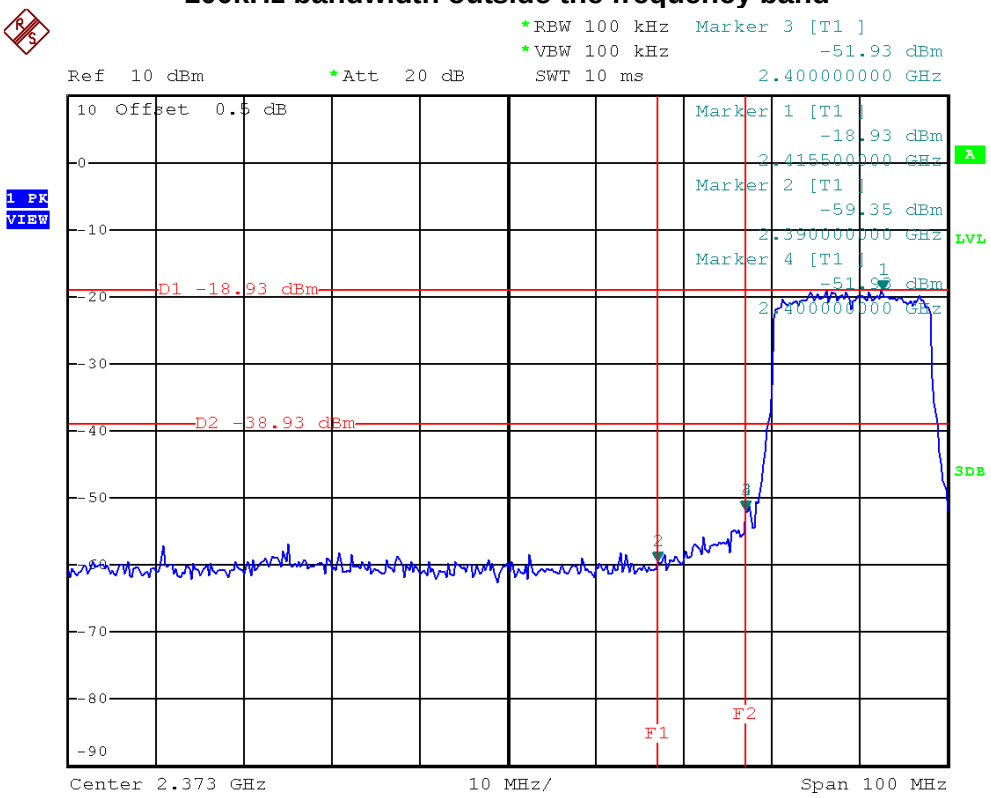
IEEE 802.11g/2462 MHz/10 Harmonic of the frequency



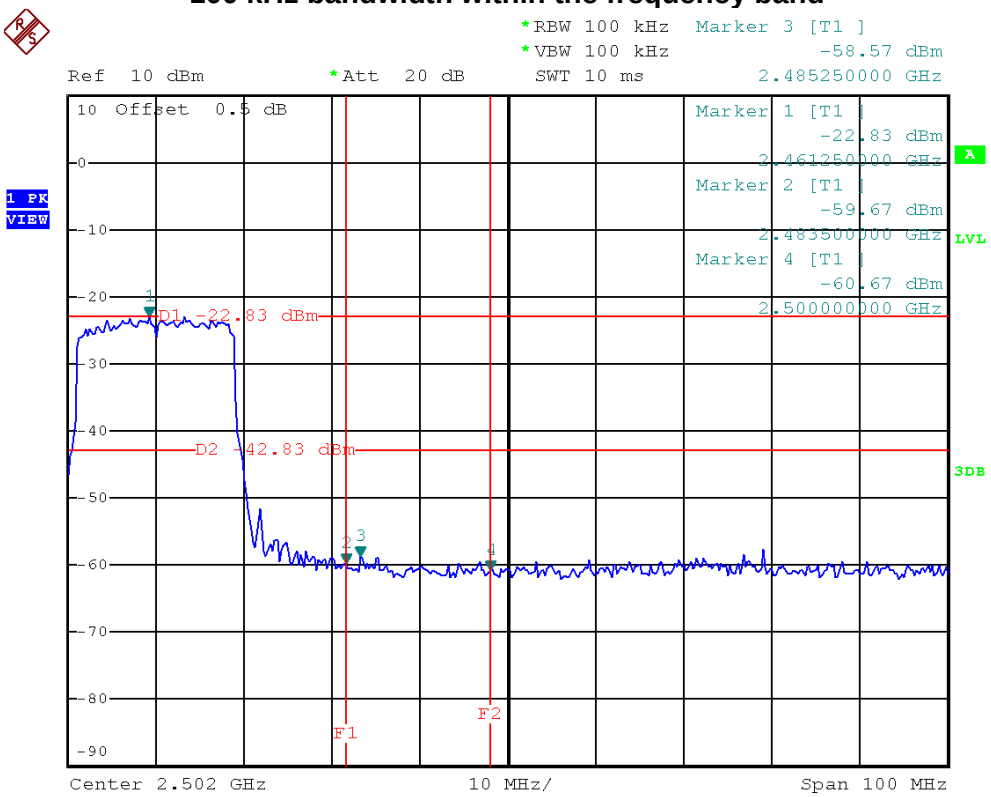
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)		

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)
2400.00	-51.93	2485.25	-58.57
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.			

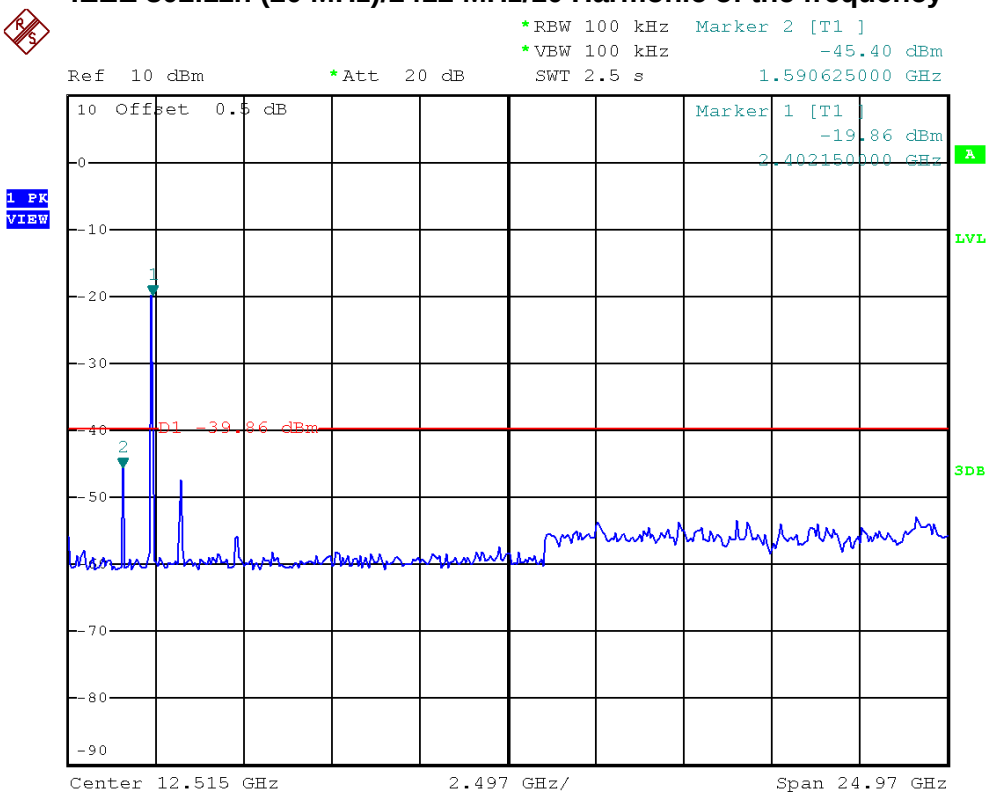
IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



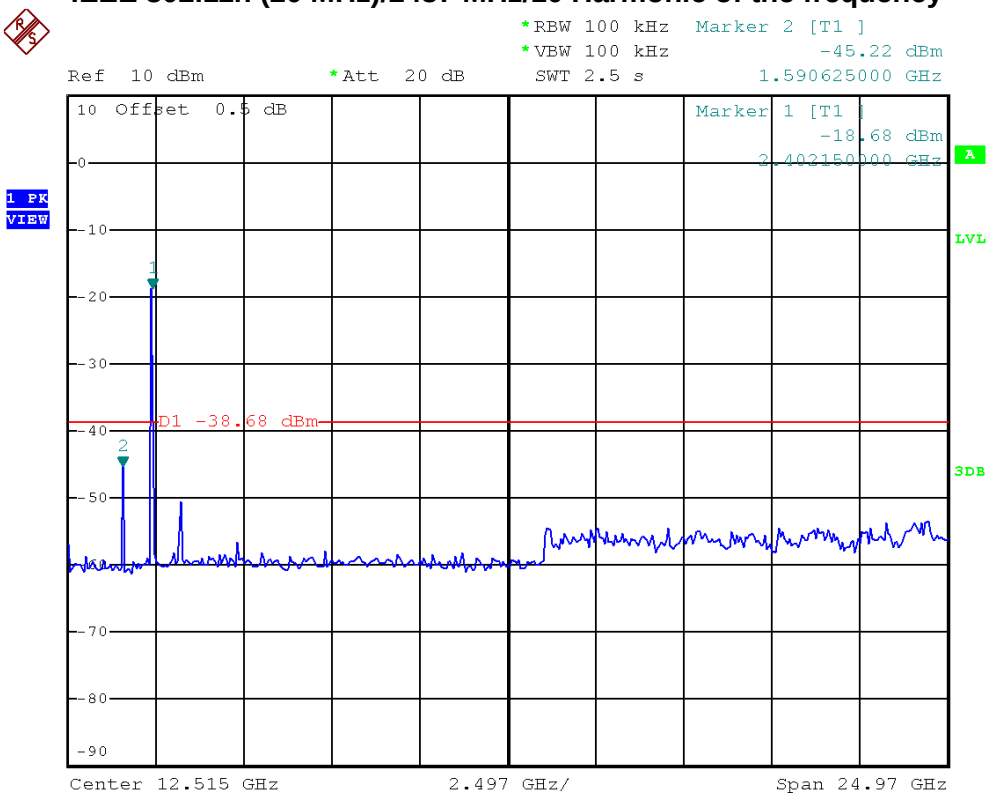
IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



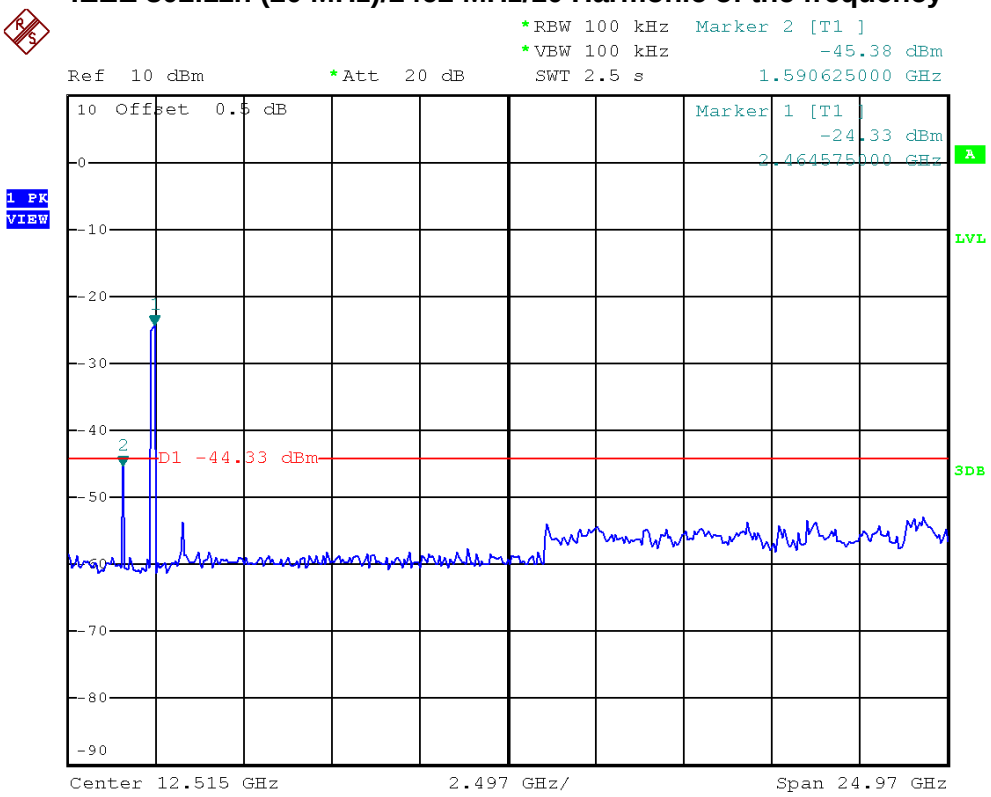
IEEE 802.11n (20 MHz)/2412 MHz/10 Harmonic of the frequency



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



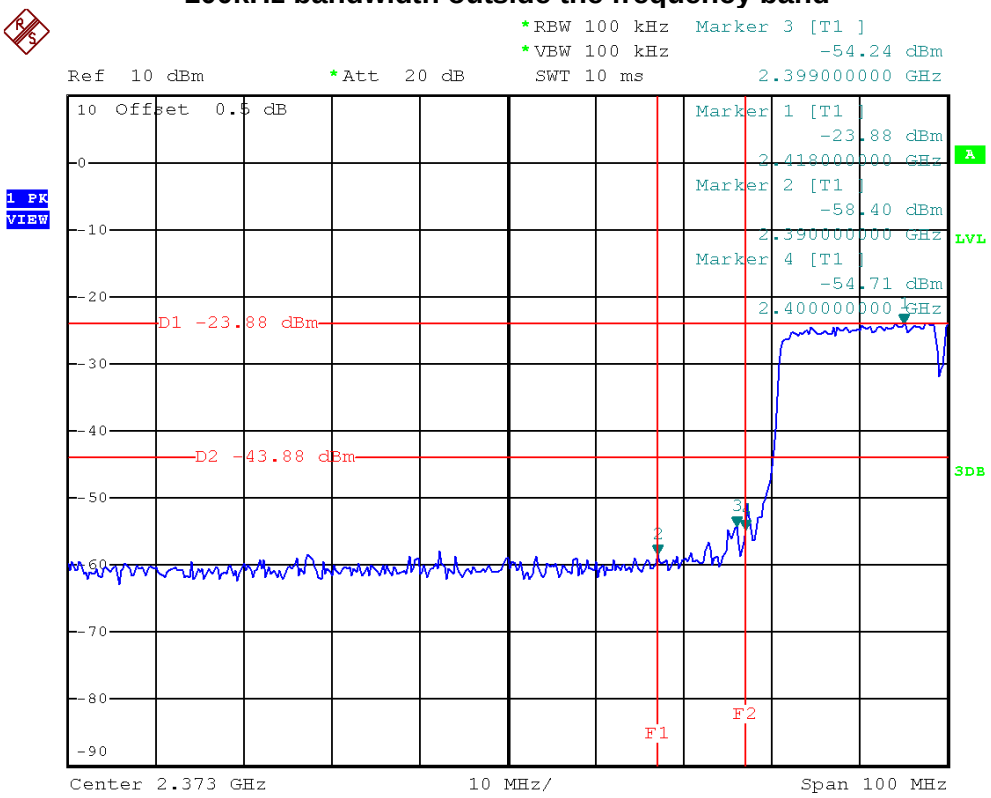
IEEE 802.11n (20 MHz)/2462 MHz/10 Harmonic of the frequency



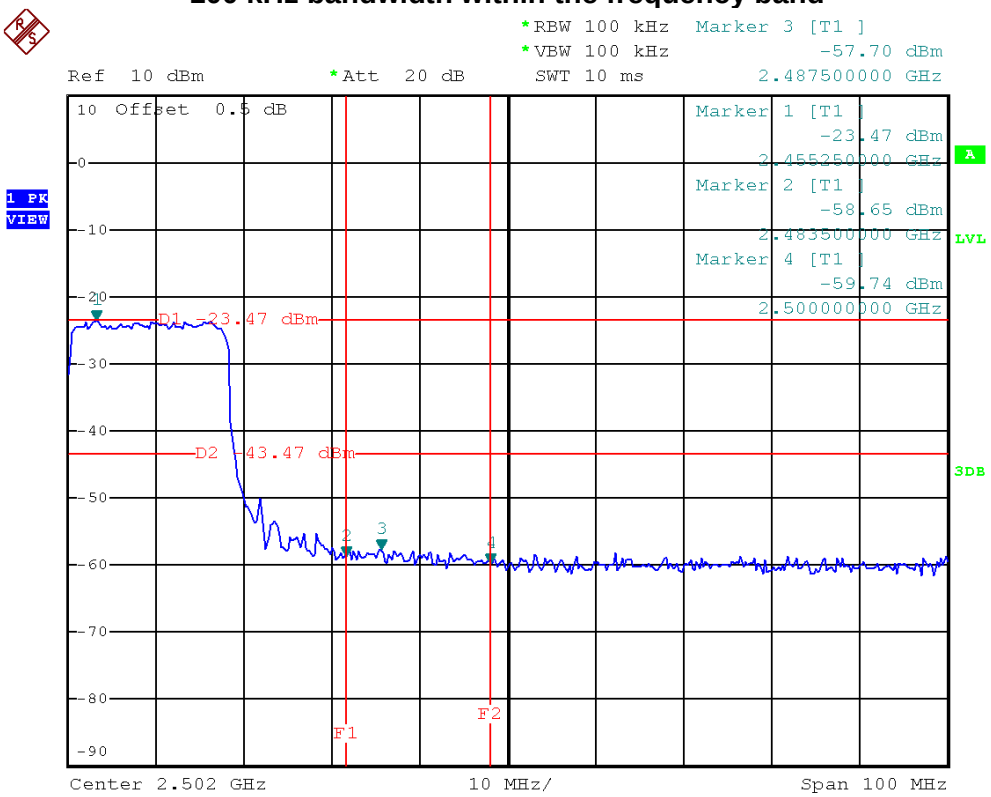
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)		

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)
2399.00	-54.24	2487.50	-57.70
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.			

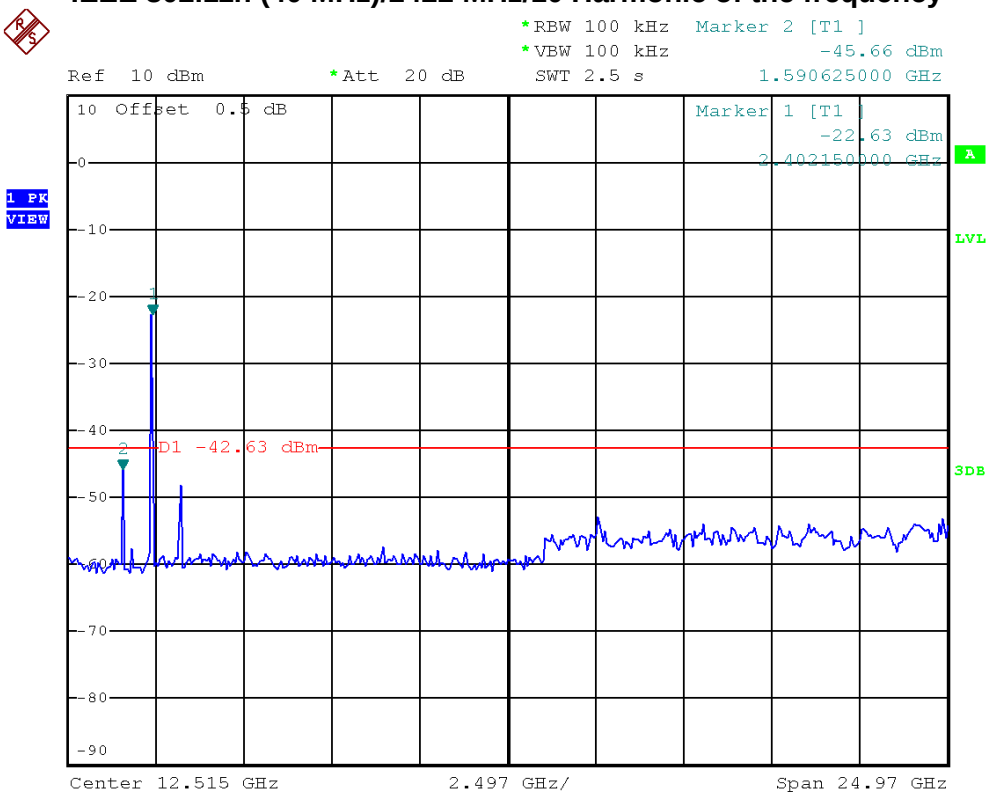
IEEE 802.11n (40 MHz)/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



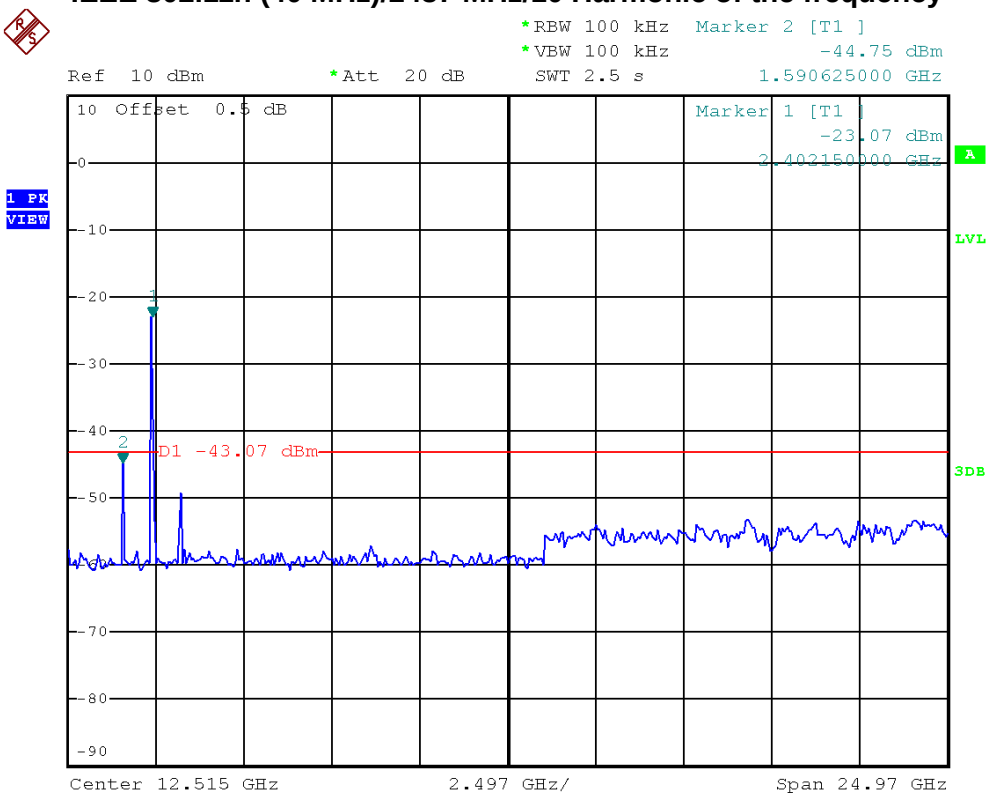
IEEE 802.11n (40 MHz)/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



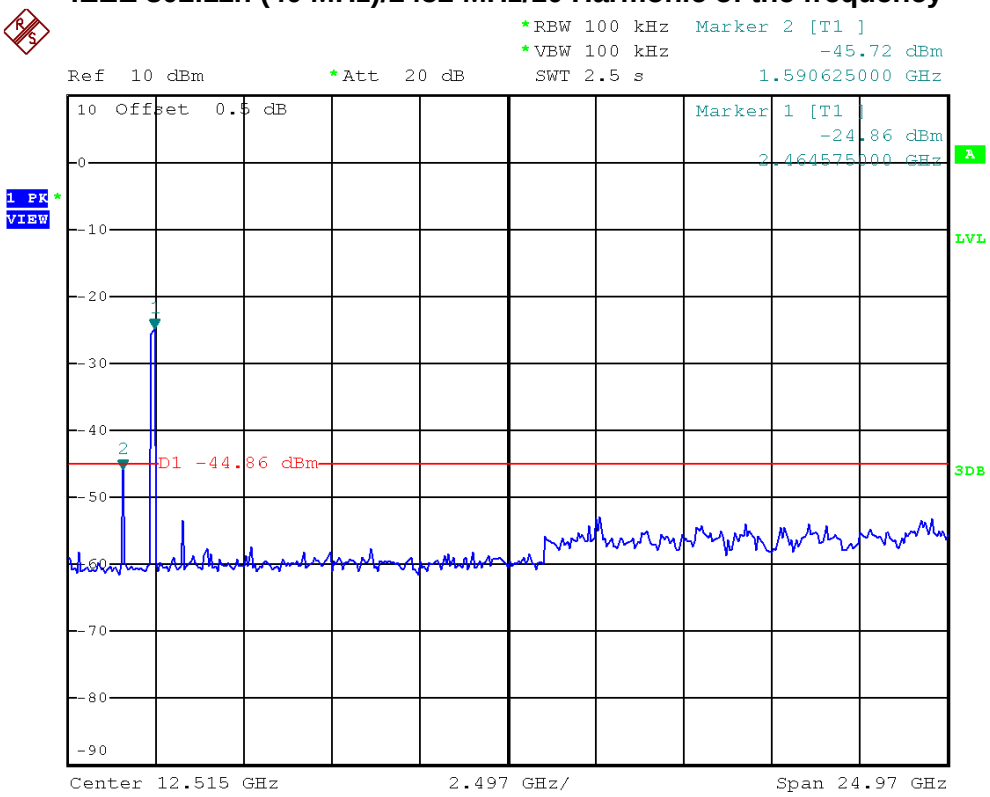
IEEE 802.11n (40 MHz)/2422 MHz/10 Harmonic of the frequency



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



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



5 6 DB BANDWIDTH

5.1 LIMIT

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

5.2 MEASUREMENT INSTRUMENTS LIST

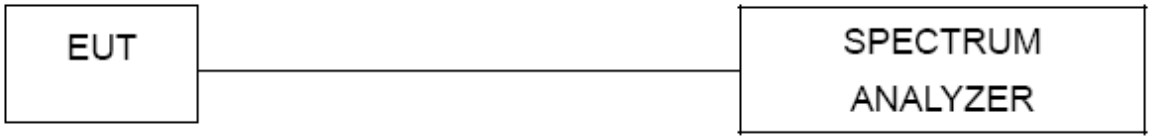
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

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

5.3 TEST PROCEDURES

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. 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

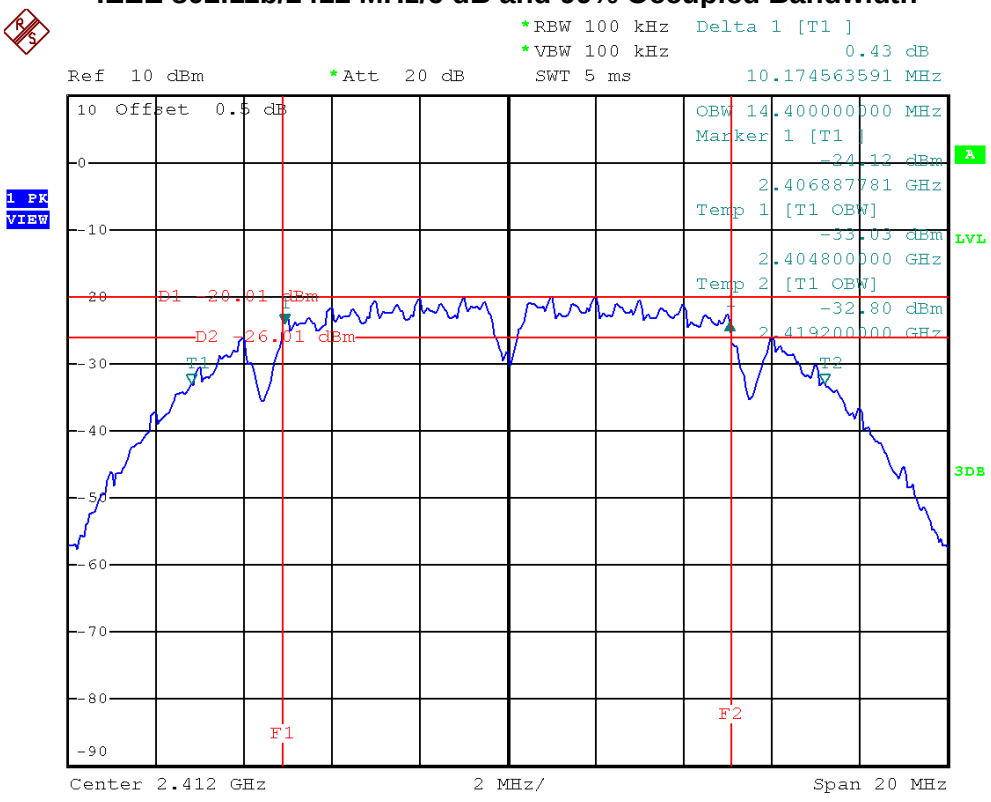
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.7 TEST RESULTS

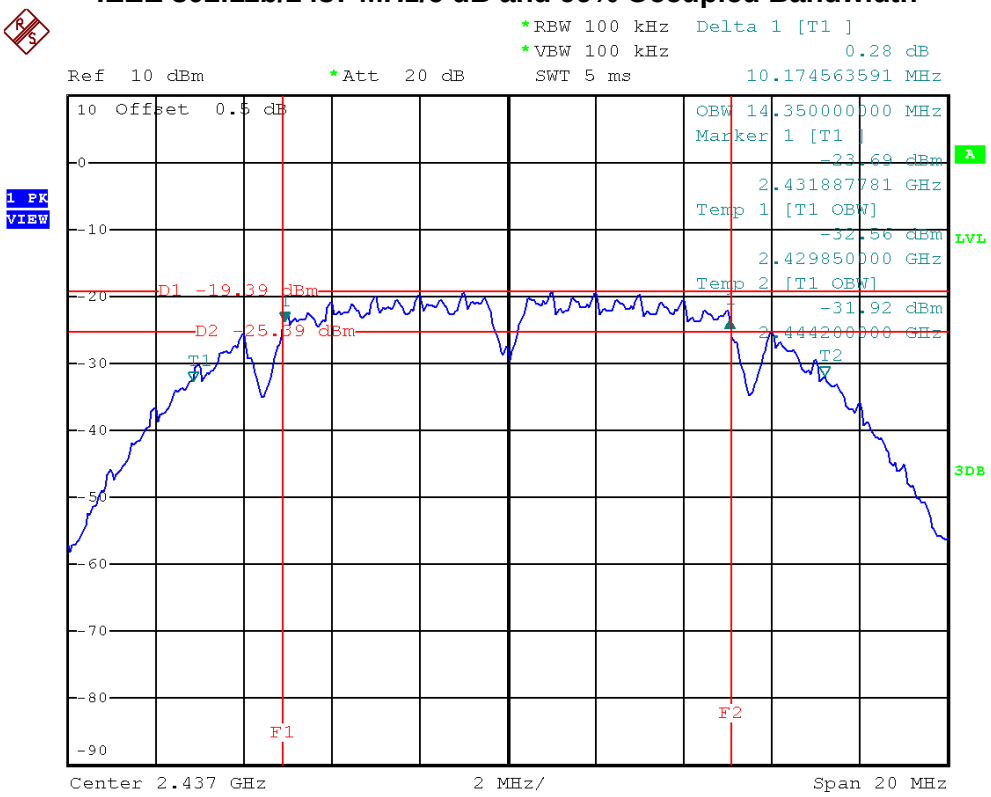
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	10.17	14.40	>=500 kHz	PASS
2437 MHz	10.17	14.35	>=500 kHz	PASS
2462 MHz	10.17	14.35	>=500 kHz	PASS

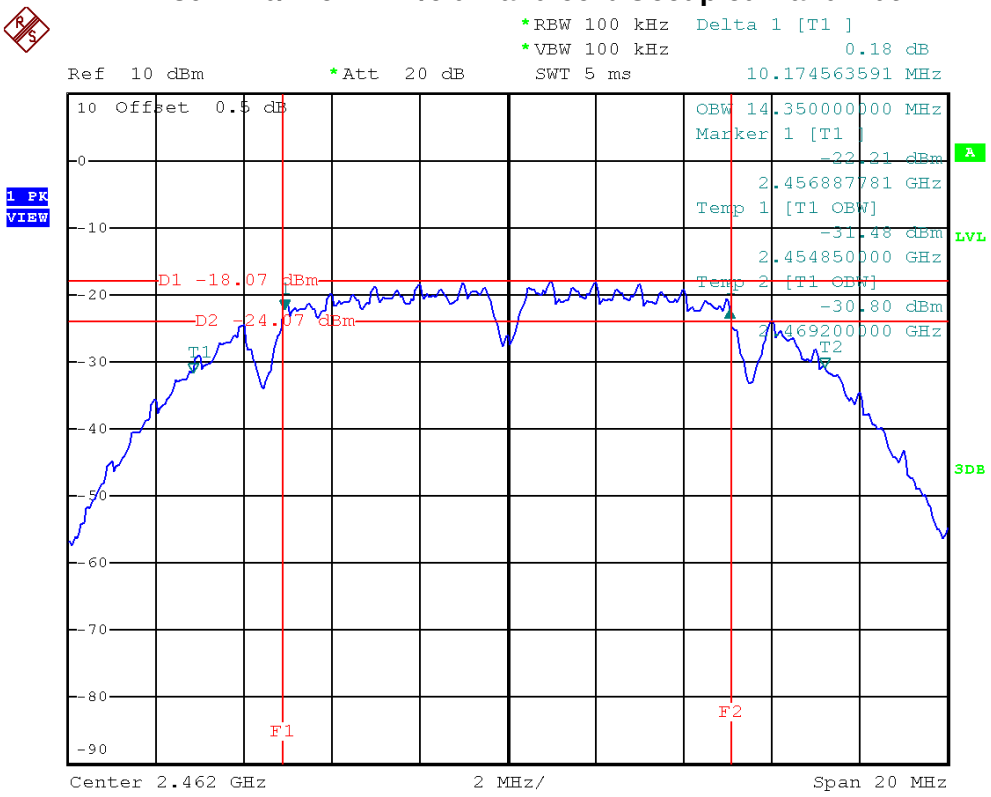
IEEE 802.11b/2412 MHz/6 dB and 99% Occupied Bandwidth



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



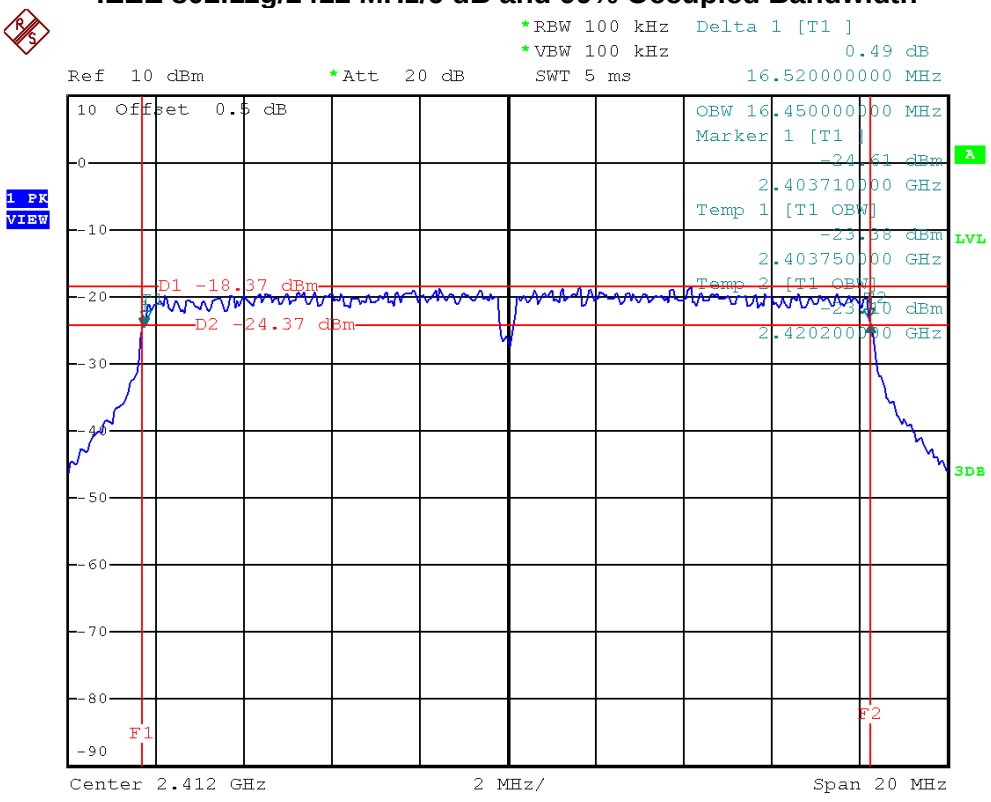
IEEE 802.11b/2462 MHz/6 dB and 99% Occupied Bandwidth



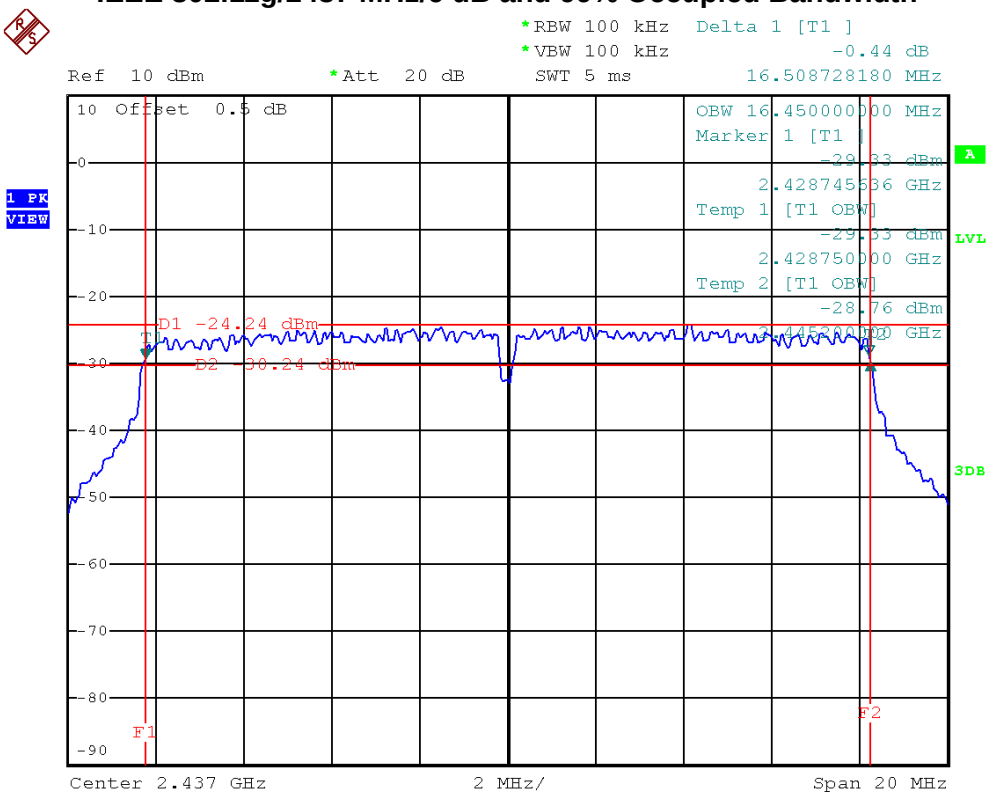
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	16.52	16.45	>=500 kHz	PASS
2437 MHz	16.51	16.45	>=500 kHz	PASS
2462 MHz	16.51	16.45	>=500 kHz	PASS

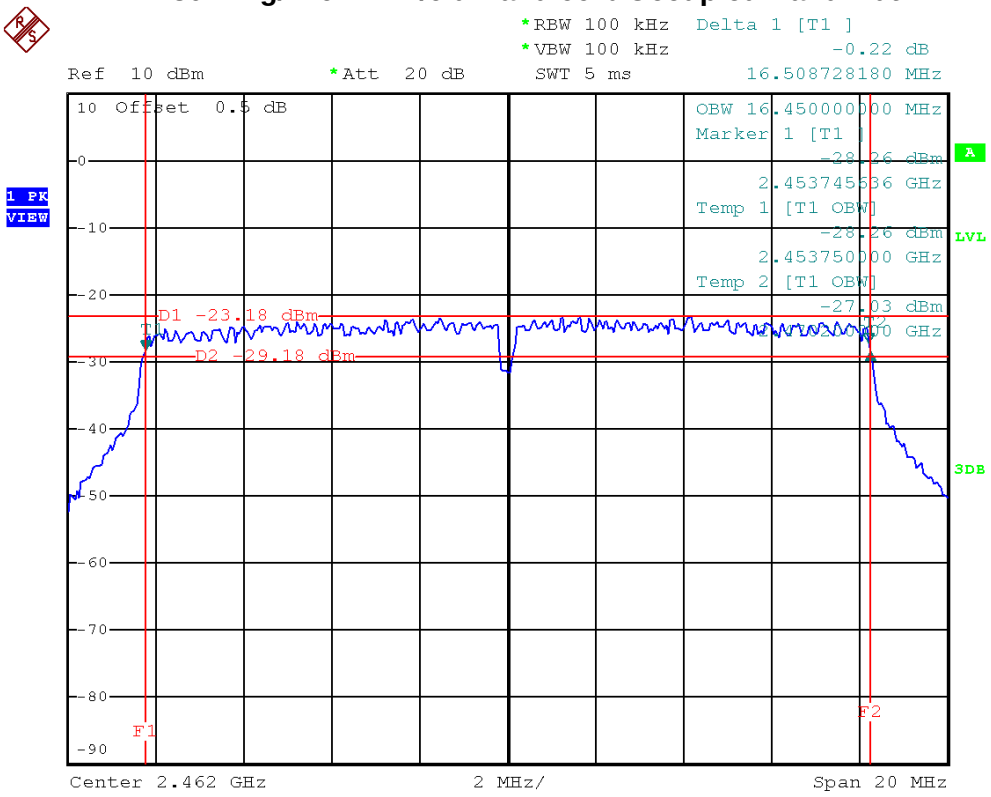
IEEE 802.11g/2412 MHz/6 dB and 99% Occupied Bandwidth



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



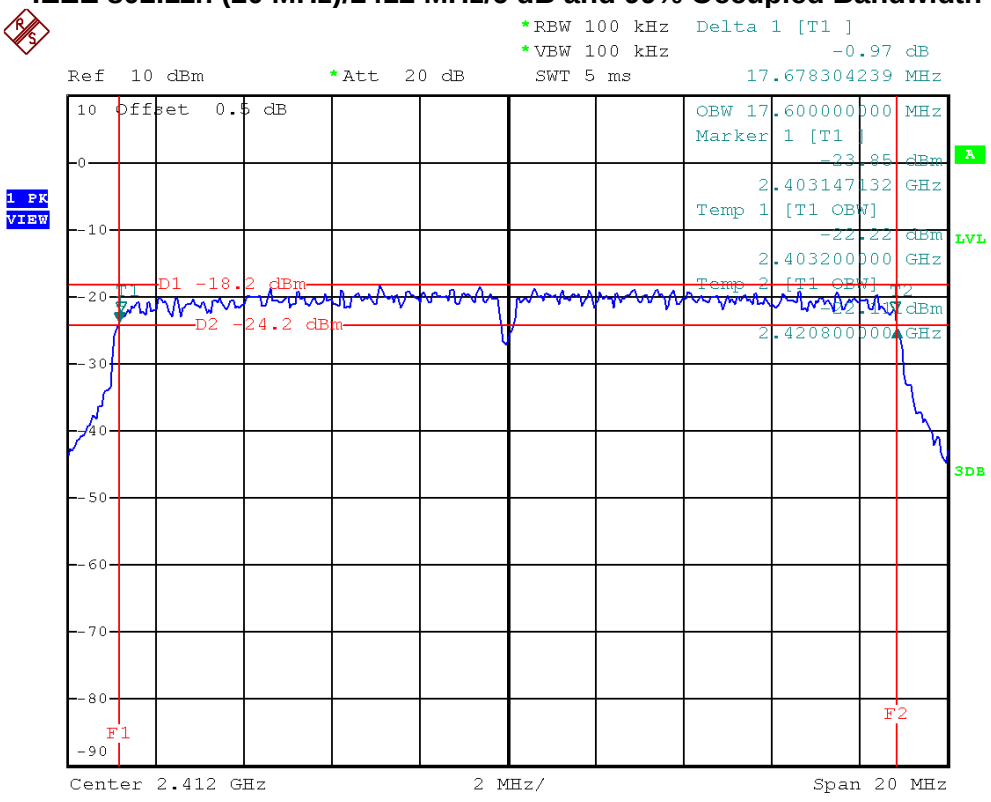
IEEE 802.11g/2462 MHz/6 dB and 99% Occupied Bandwidth



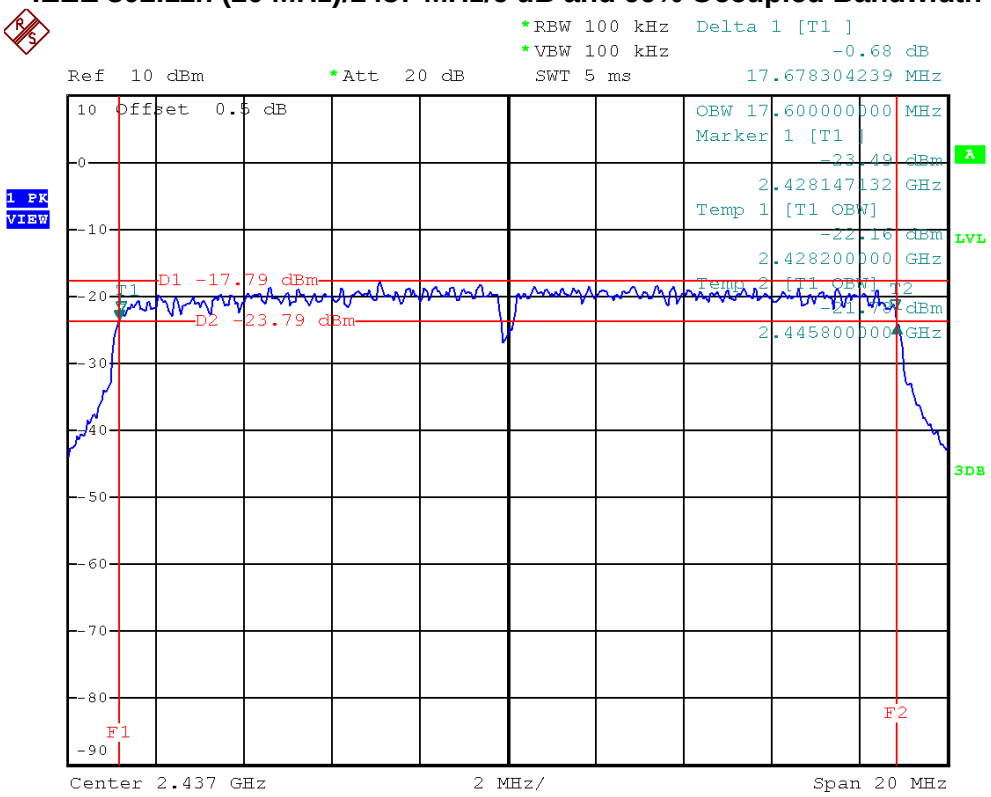
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2412 MHz	17.68	17.60	>=500 kHz	PASS
2437 MHz	17.68	17.60	>=500 kHz	PASS
2462 MHz	17.56	17.60	>=500 kHz	PASS

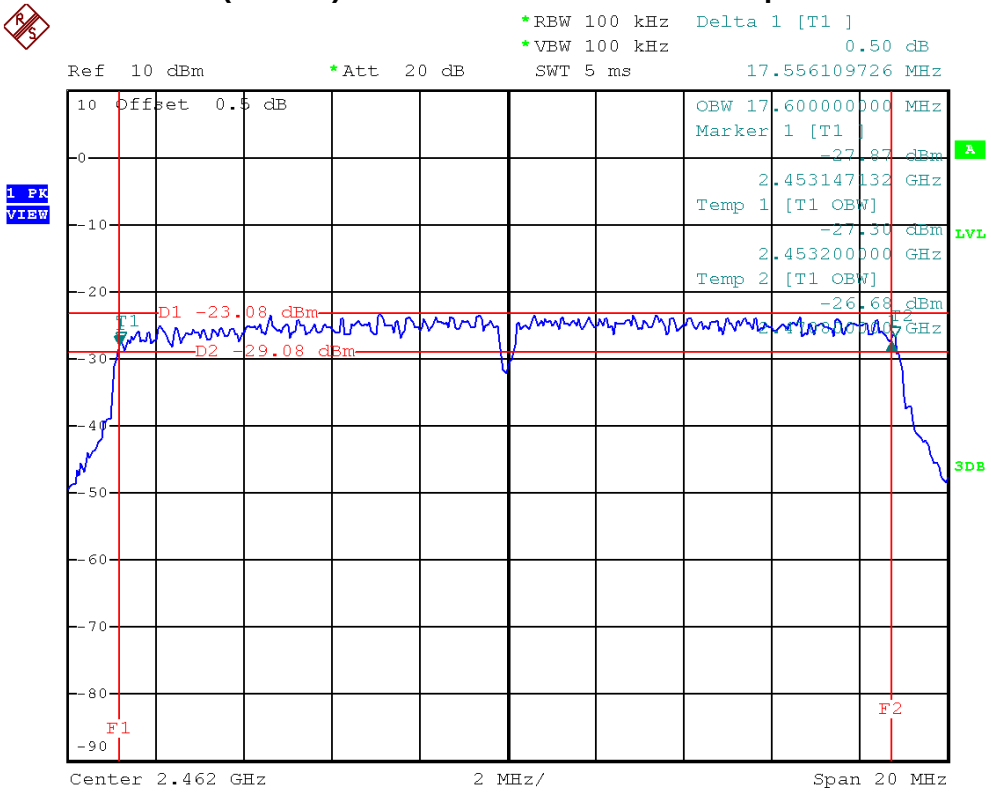
IEEE 802.11n (20 MHz)/2412 MHz/6 dB and 99% Occupied Bandwidth



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



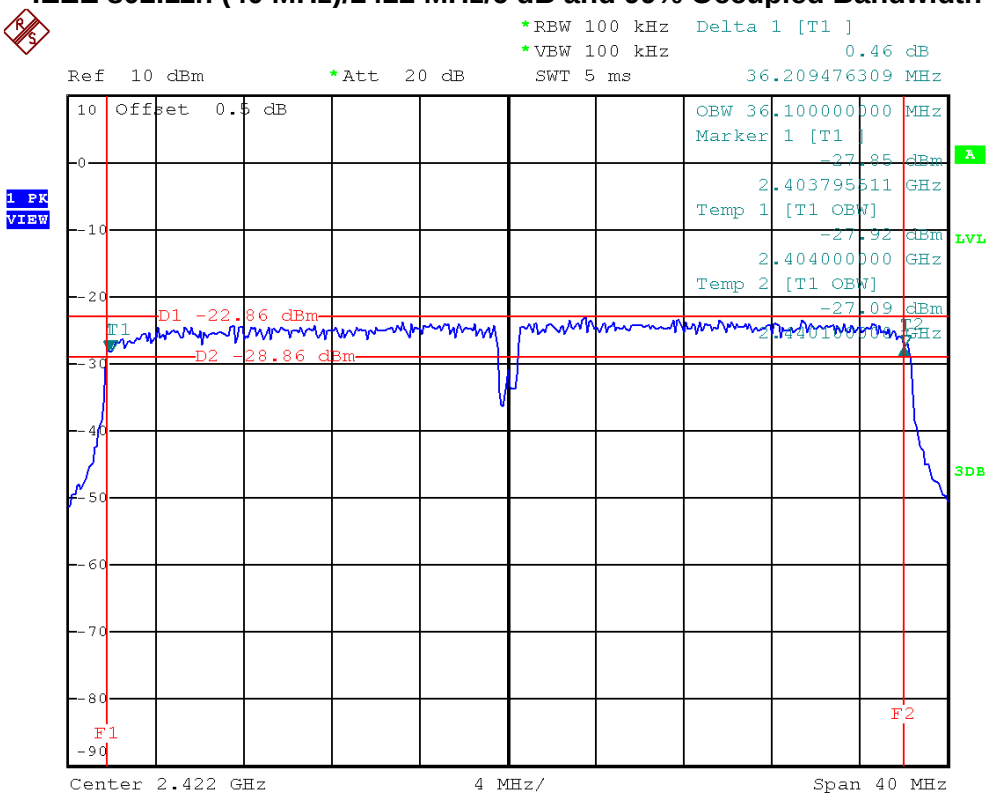
IEEE 802.11n (20 MHz)/2462 MHz/6 dB and 99% Occupied Bandwidth



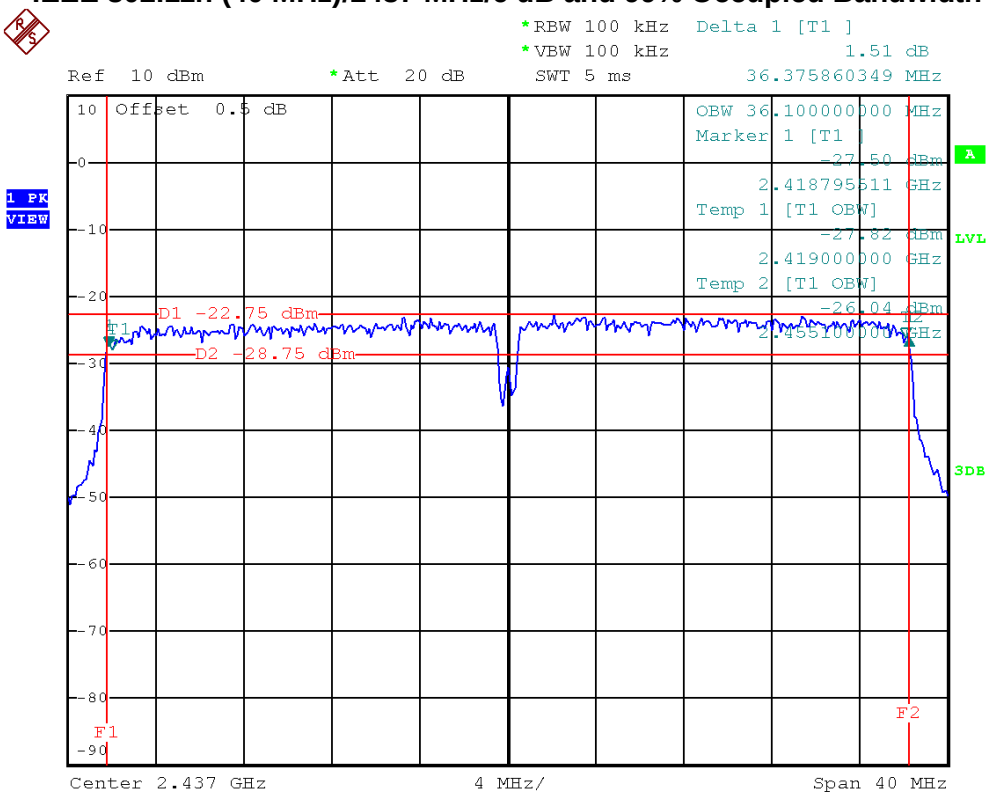
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Limit	Result
2422 MHz	32.21	36.10	>=500 kHz	PASS
2437 MHz	36.38	36.10	>=500 kHz	PASS
2452 MHz	36.40	36.10	>=500 kHz	PASS

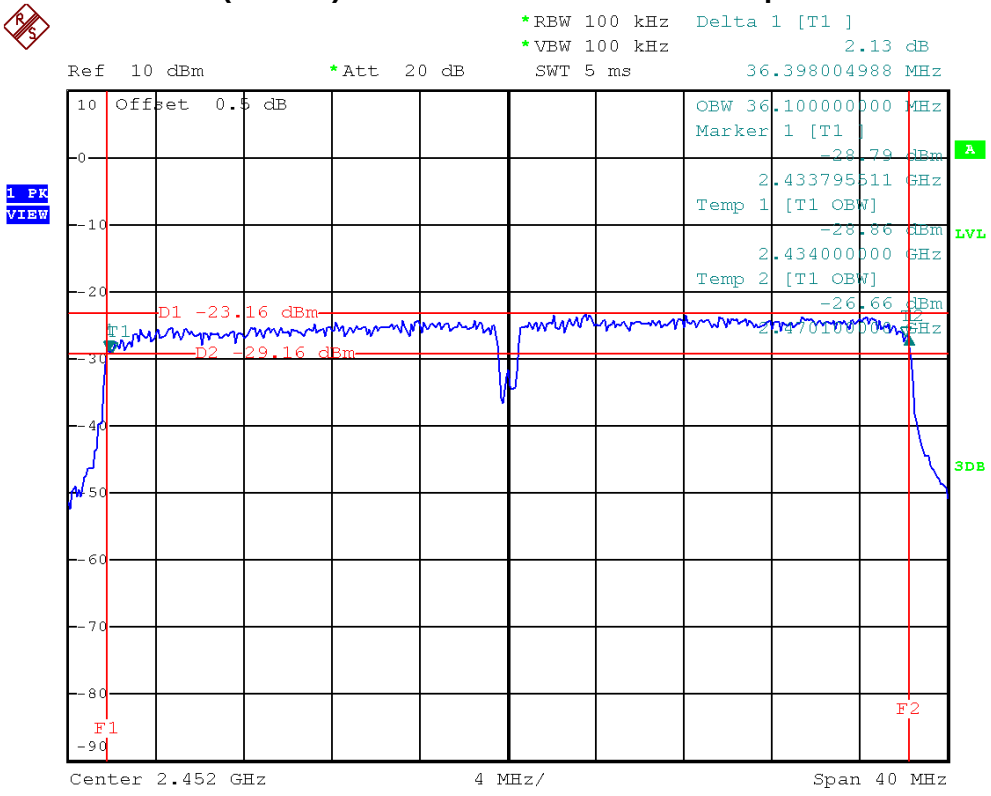
IEEE 802.11n (40 MHz)/2422 MHz/6 dB and 99% Occupied Bandwidth



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



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



6 MAXIMUM PEAK CONDUCTED OUTPUT POWER

6.1 LIMIT

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

6.2 MEASUREMENT INSTRUMENTS LIST

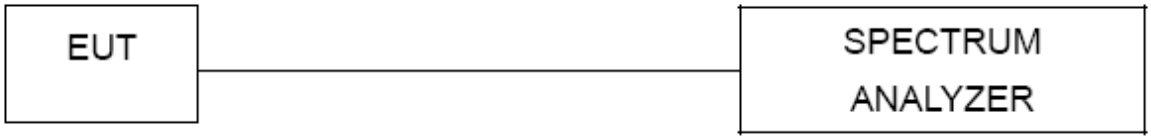
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

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

6.3 TEST PROCEDURES

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW= 3 MHz, VBW= 3 MHz, 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	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	0.55	30	PASS
2437 MHz	0.68	30	PASS
2462 MHz	0.42	30	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	13.66	30	PASS
2437 MHz	5.99	30	PASS
2462 MHz	5.85	30	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2412 MHz	13.30	30	PASS
2437 MHz	12.48	30	PASS
2462 MHz	4.39	30	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Peak Output Power (dBm)	LIMIT (dBm)	Result
2422 MHz	9.60	30	PASS
2437 MHz	10.92	30	PASS
2452 MHz	2.48	30	PASS

7 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

7.1 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 (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

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
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.

7.3 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

7.4 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.

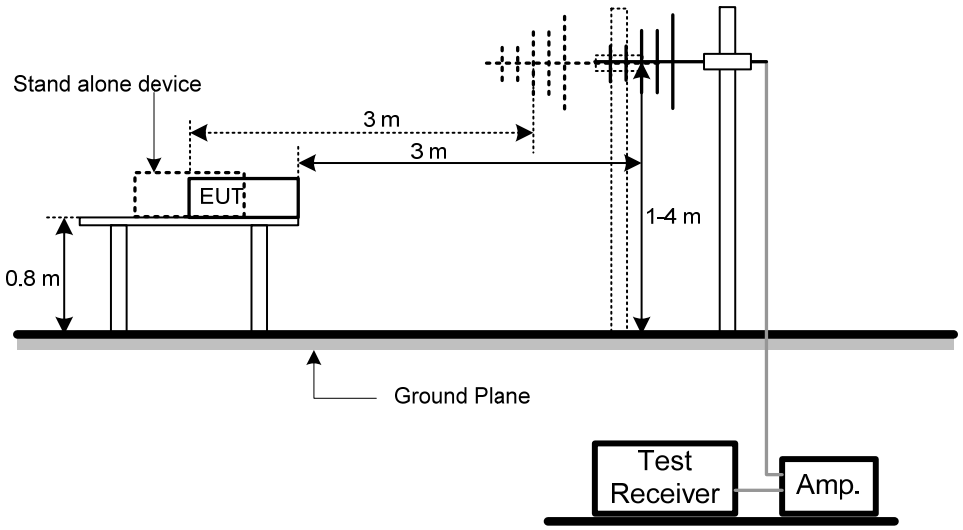
NOTE:

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.

7.5 DEVIATION FROM TEST STANDARD

No deviation

7.6 TEST SETUP LAYOUT



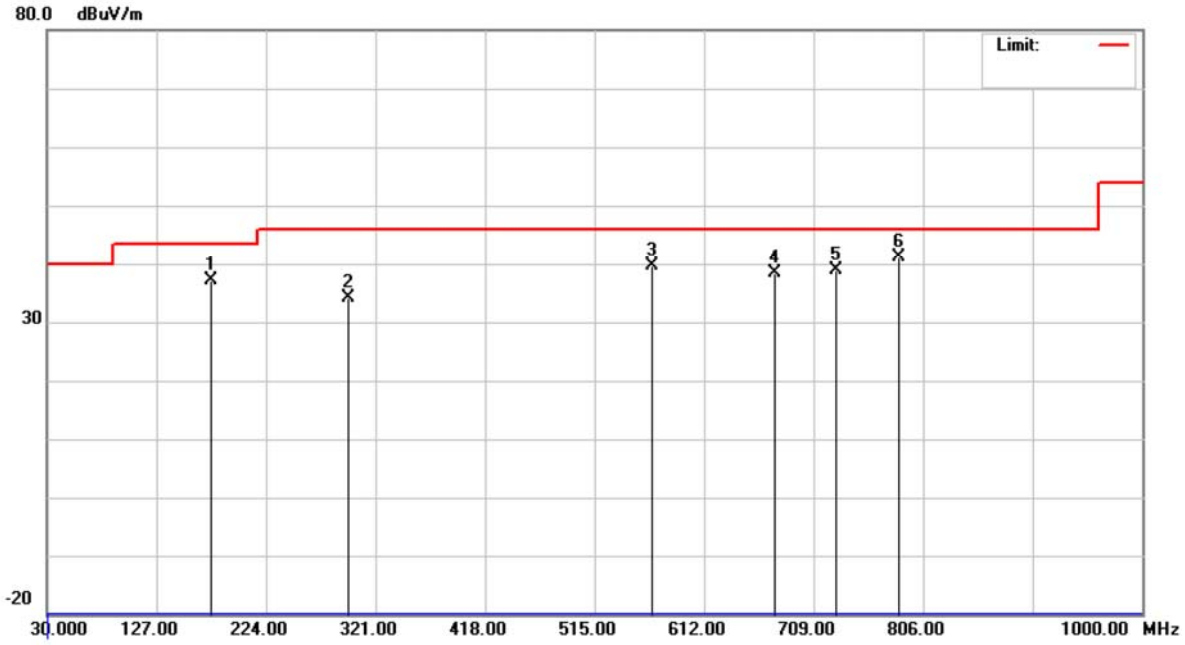
7.7 EUT OPERATING CONDITIONS

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.

7.8 TEST RESULTS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2437 MHz		

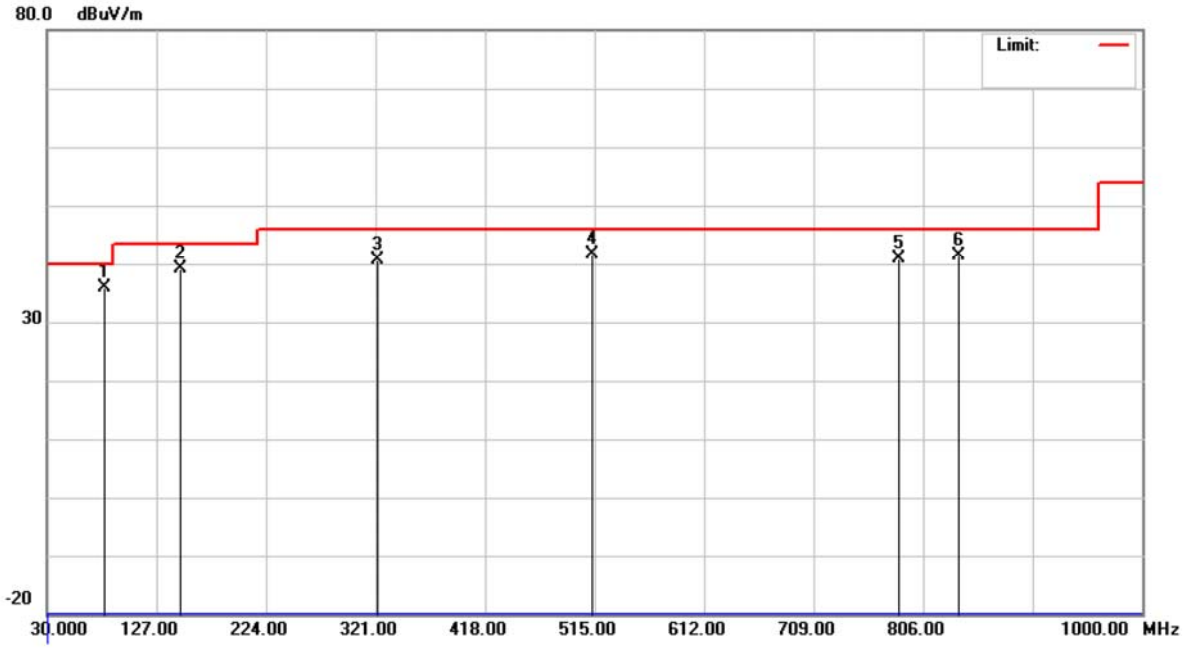
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		175.5000	52.35	-15.27	37.08	43.50	-6.42	peak	
2		296.7500	48.09	-14.03	34.06	46.00	-11.94	peak	
3		565.9249	47.28	-7.76	39.52	46.00	-6.48	peak	
4		675.0499	45.14	-6.68	38.46	46.00	-7.54	peak	
5		728.4000	44.69	-5.83	38.86	46.00	-7.14	peak	
6	*	784.1749	46.11	-5.00	41.11	46.00	-4.89	peak	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
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	*	80.9250	54.67	-18.84	35.83	40.00	-4.17	peak	
2		148.8249	53.41	-14.17	39.24	43.50	-4.26	peak	
3		323.4249	53.55	-13.02	40.53	46.00	-5.47	peak	
4		512.5750	50.91	-9.17	41.74	46.00	-4.26	peak	
5		784.1749	45.87	-5.00	40.87	46.00	-5.13	peak	
6		837.5250	45.65	-4.23	41.42	46.00	-4.58	peak	

8 RADIATED SPURIOUS EMISSION (ABOVE 1 GHZ)

8.1 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

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

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

8.4 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.

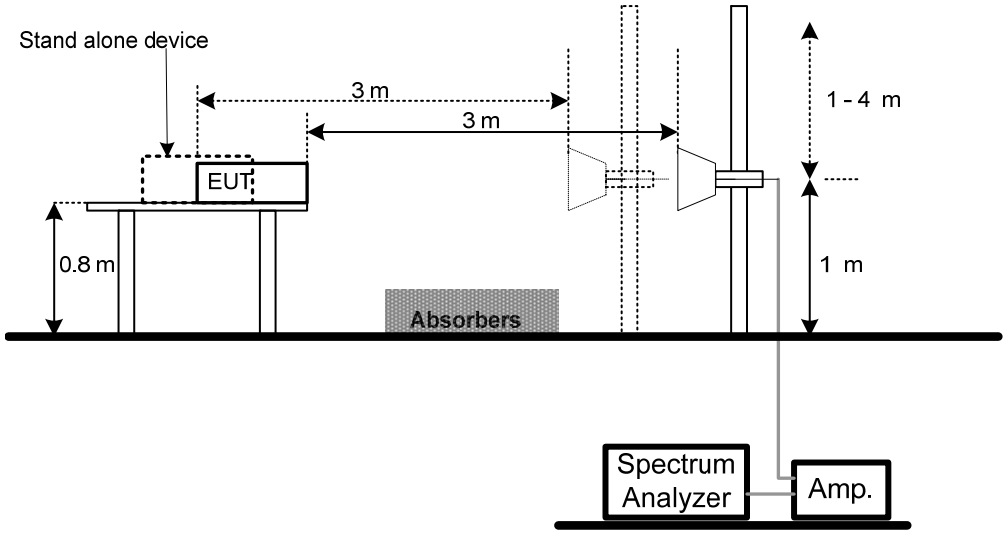
NOTE:

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 AV 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.

8.5 DEVIATION FROM TEST STANDARD

No deviation

8.6 TEST SETUP LAYOUT



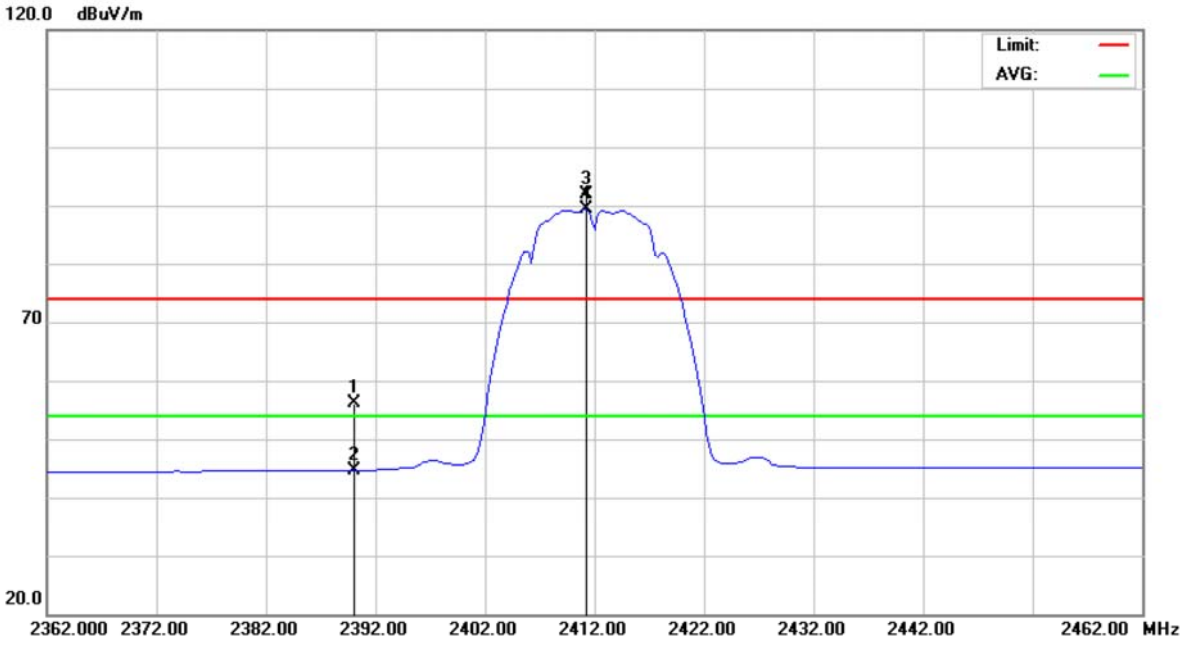
8.7 EUT OPERATING CONDITIONS

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

8.8 TEST RESULTS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz		

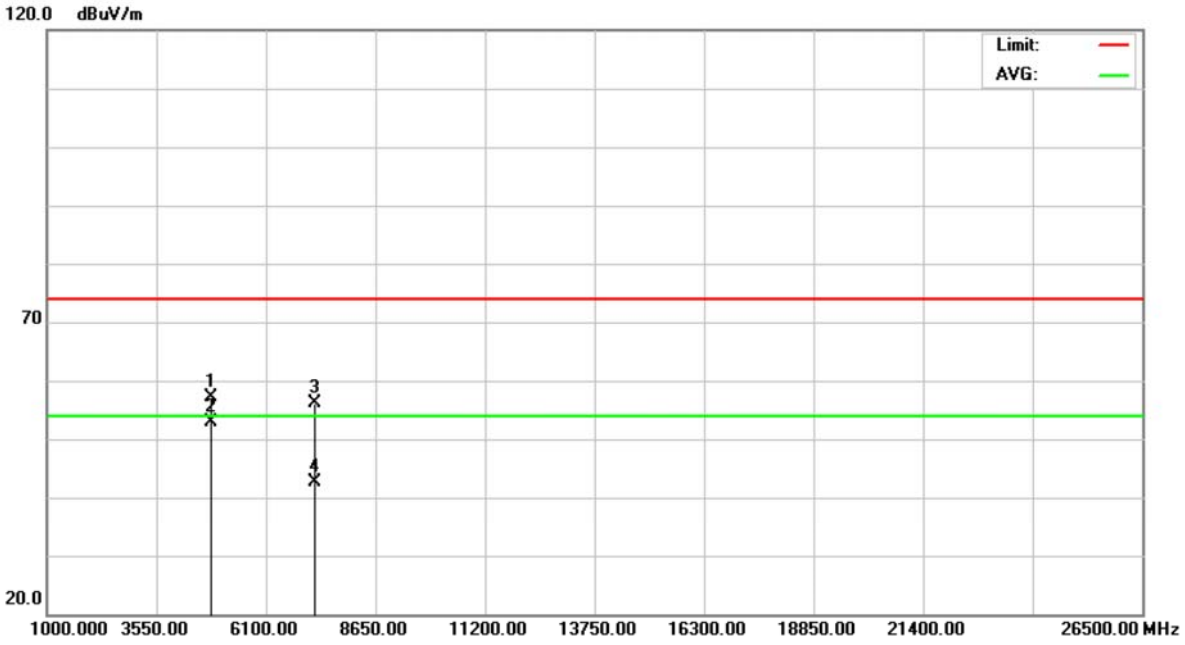
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	24.57	31.67	56.24	74.00	-17.76	peak	
2		2390.000	13.01	31.67	44.68	54.00	-9.32	AVG	
3	X	2411.250	60.24	31.76	92.00	74.00	18.00	peak	
4	*	2411.250	57.55	31.76	89.31	54.00	35.31	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz		

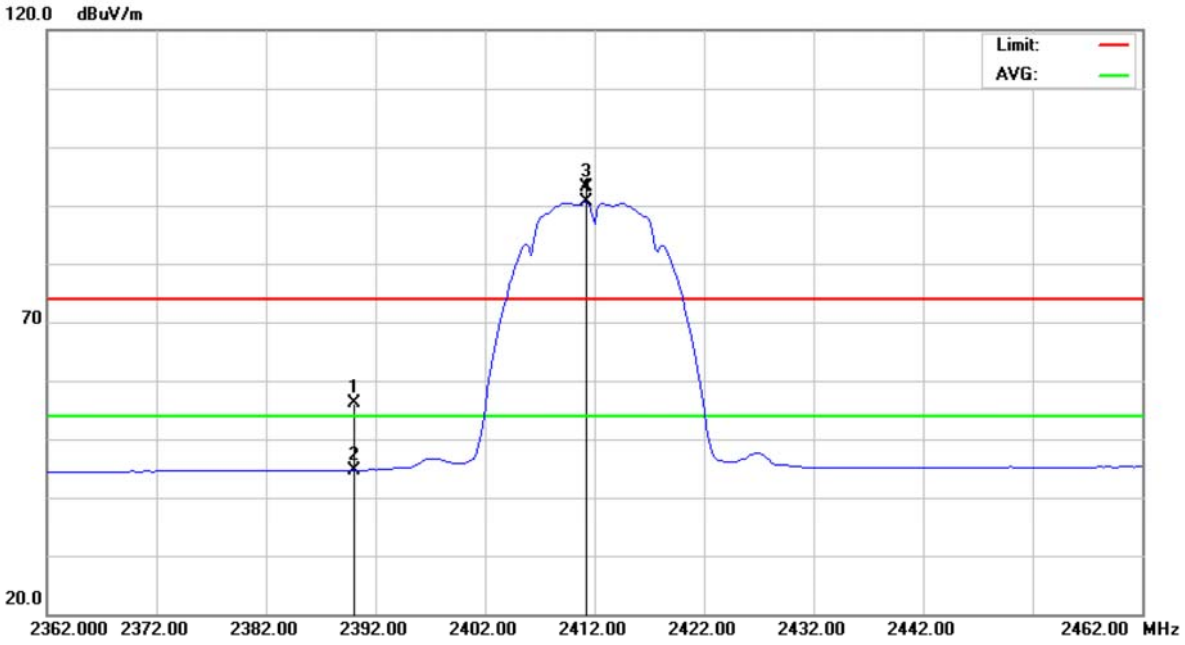
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4823.945	51.42	5.71	57.13	74.00	-16.87	peak	
2	*	4823.945	47.15	5.71	52.86	54.00	-1.14	AVG	
3		7235.985	43.93	12.29	56.22	74.00	-17.78	peak	
4		7235.985	30.29	12.29	42.58	54.00	-11.42	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz		

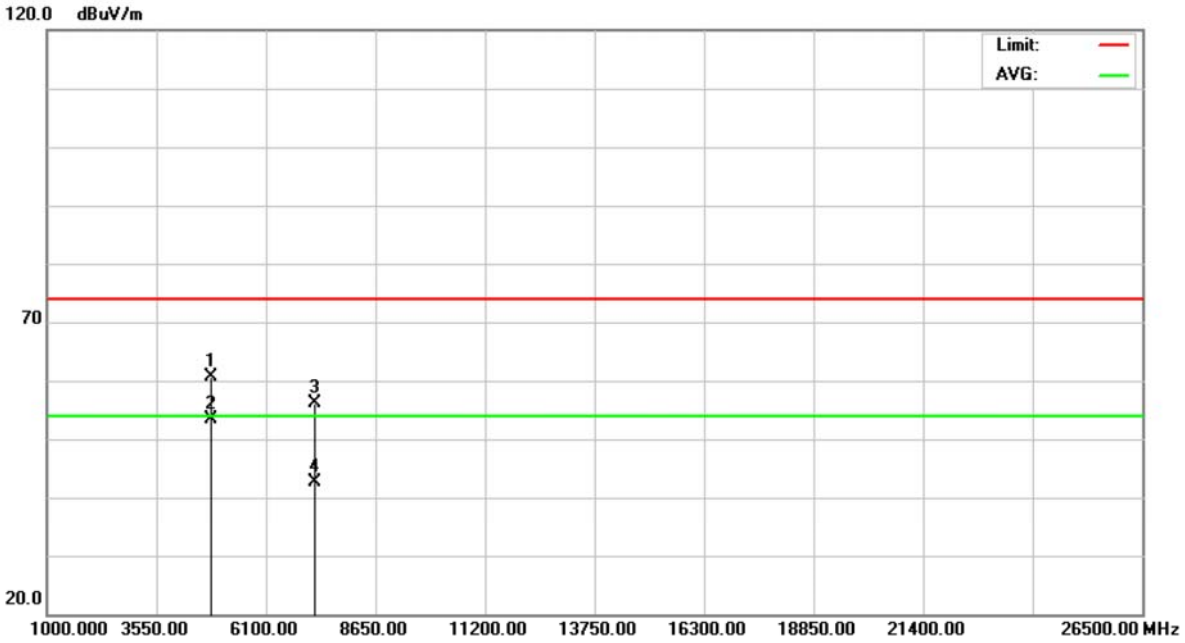
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	24.54	31.67	56.21	74.00	-17.79	peak	
2		2390.000	13.07	31.67	44.74	54.00	-9.26	AVG	
3	X	2411.250	61.37	31.76	93.13	74.00	19.13	peak	
4	*	2411.250	58.77	31.76	90.53	54.00	36.53	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz		

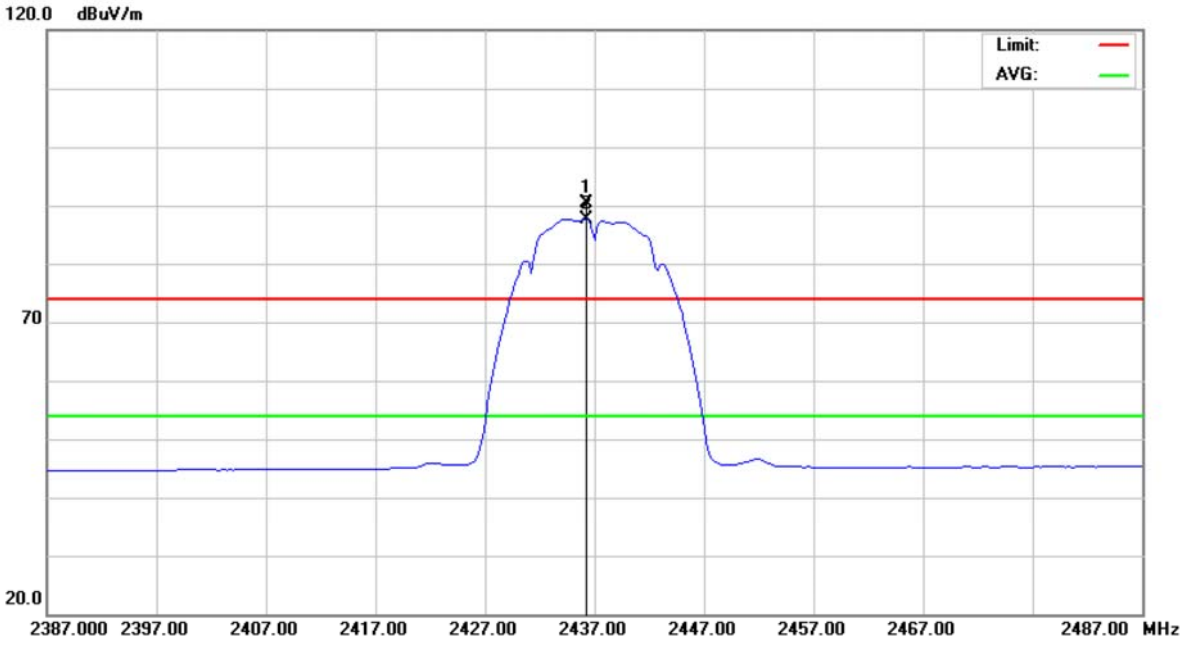
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4823.950	54.86	5.71	60.57	74.00	-13.43	peak	
2	*	4823.950	47.64	5.71	53.35	54.00	-0.65	AVG	
3		7235.975	43.72	12.29	56.01	74.00	-17.99	peak	
4		7235.975	30.22	12.29	42.51	54.00	-11.49	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2437 MHz		

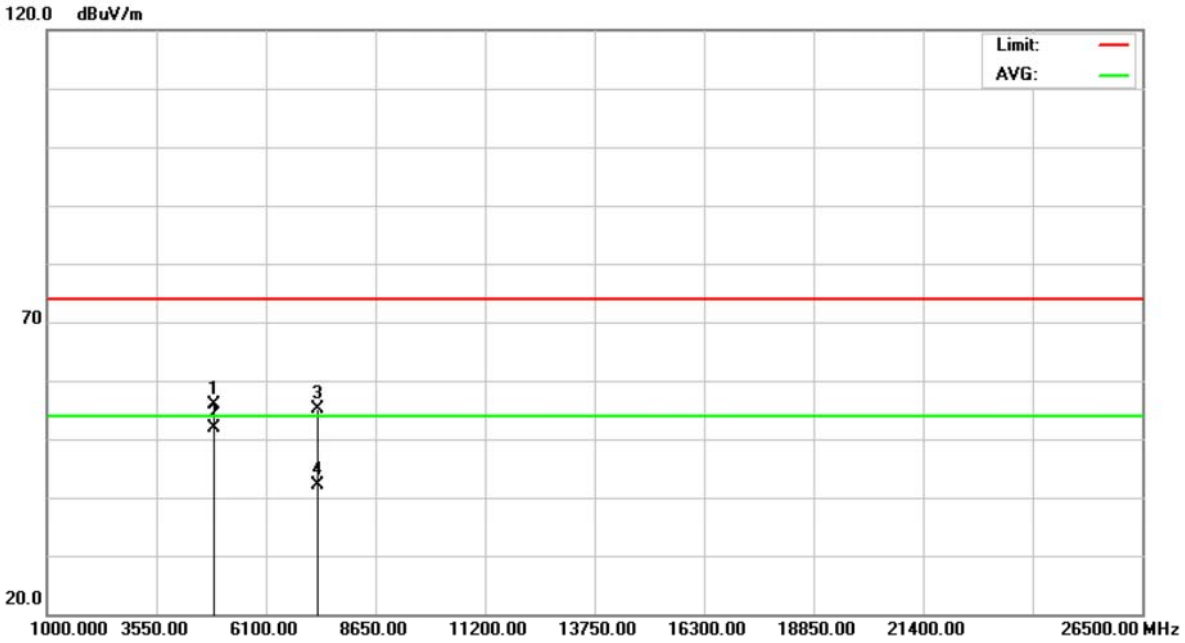
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2436.250	58.57	31.87	90.44	74.00	16.44	peak	
2	*	2436.250	55.84	31.87	87.71	54.00	33.71	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2437 MHz		

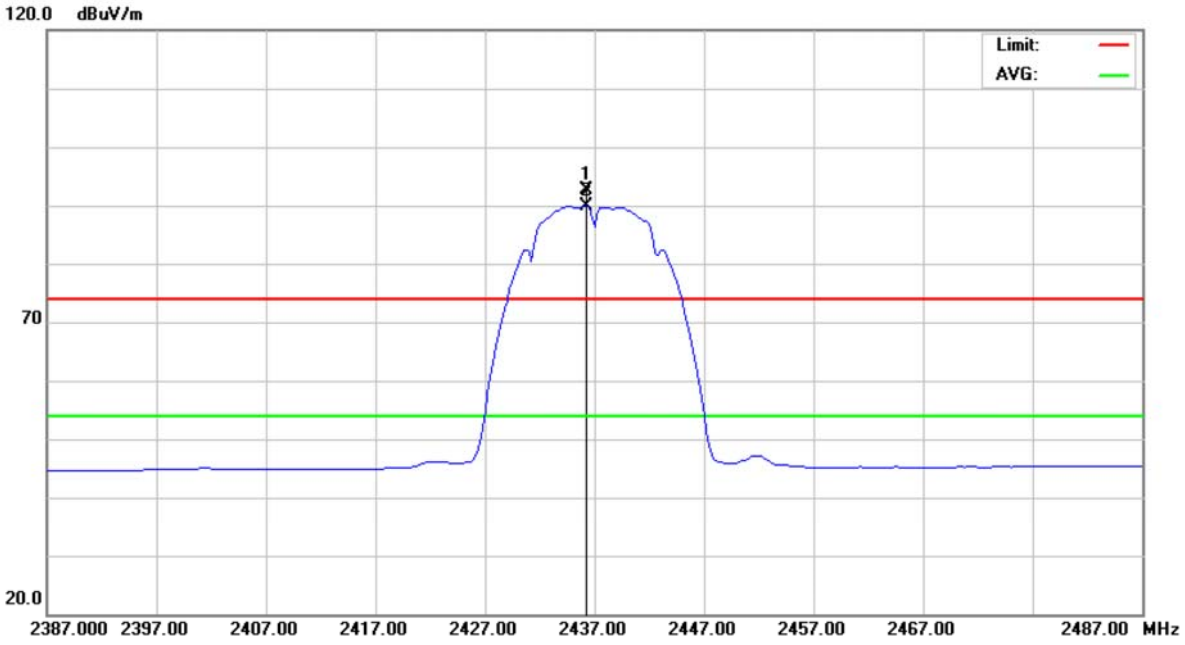
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.945	50.18	5.78	55.96	74.00	-18.04	peak	
2	*	4873.945	46.02	5.78	51.80	54.00	-2.20	AVG	
3		7310.705	42.51	12.57	55.08	74.00	-18.92	peak	
4		7310.705	29.57	12.57	42.14	54.00	-11.86	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2437 MHz		

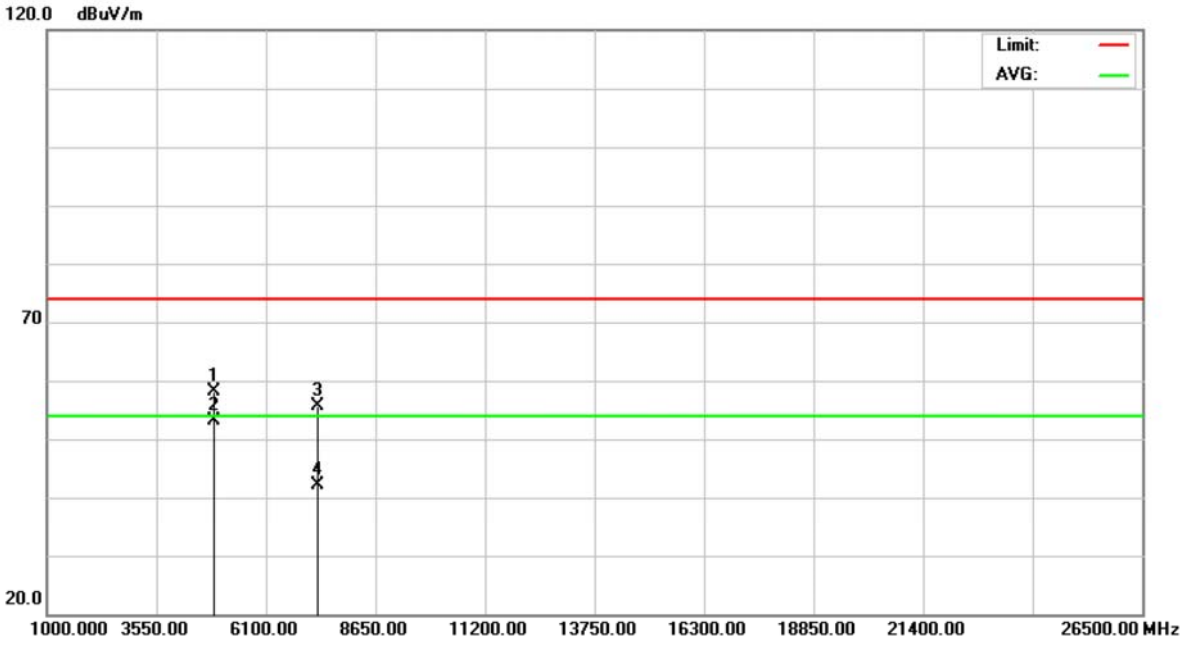
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2436.250	60.83	31.87	92.70	74.00	18.70	peak	
2	*	2436.250	58.12	31.87	89.99	54.00	35.99	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2437 MHz		

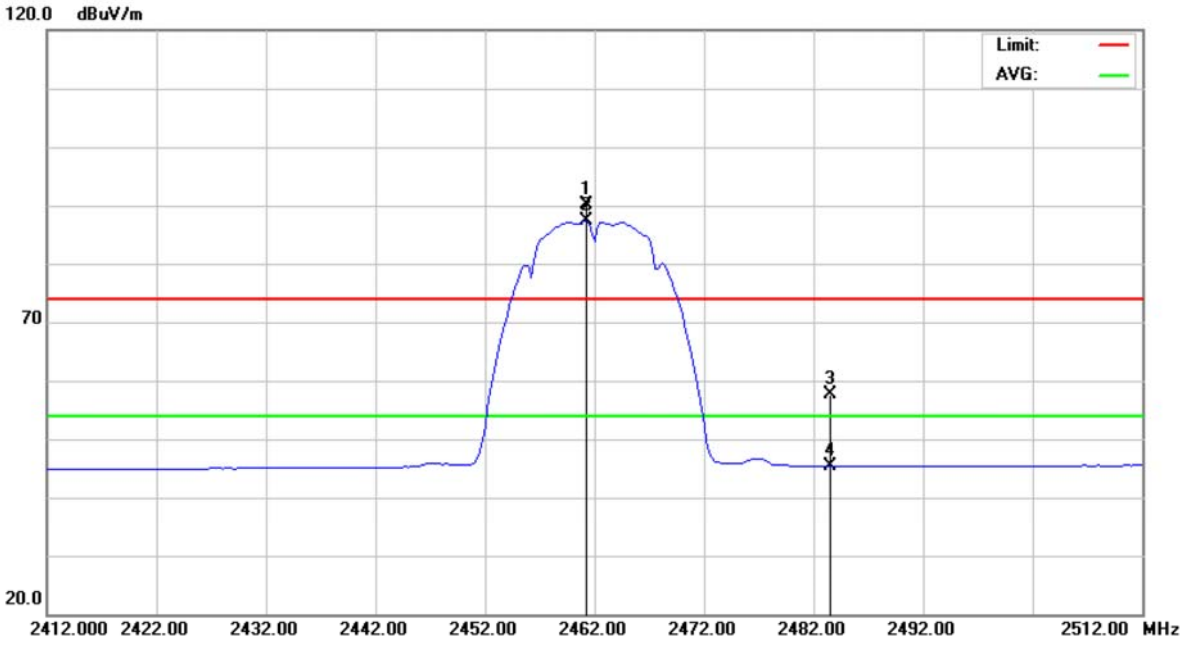
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.945	52.41	5.78	58.19	74.00	-15.81	peak	
2	*	4873.945	47.25	5.78	53.03	54.00	-0.97	AVG	
3		7310.685	42.95	12.57	55.52	74.00	-18.48	peak	
4		7310.685	29.52	12.57	42.09	54.00	-11.91	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2462 MHz		

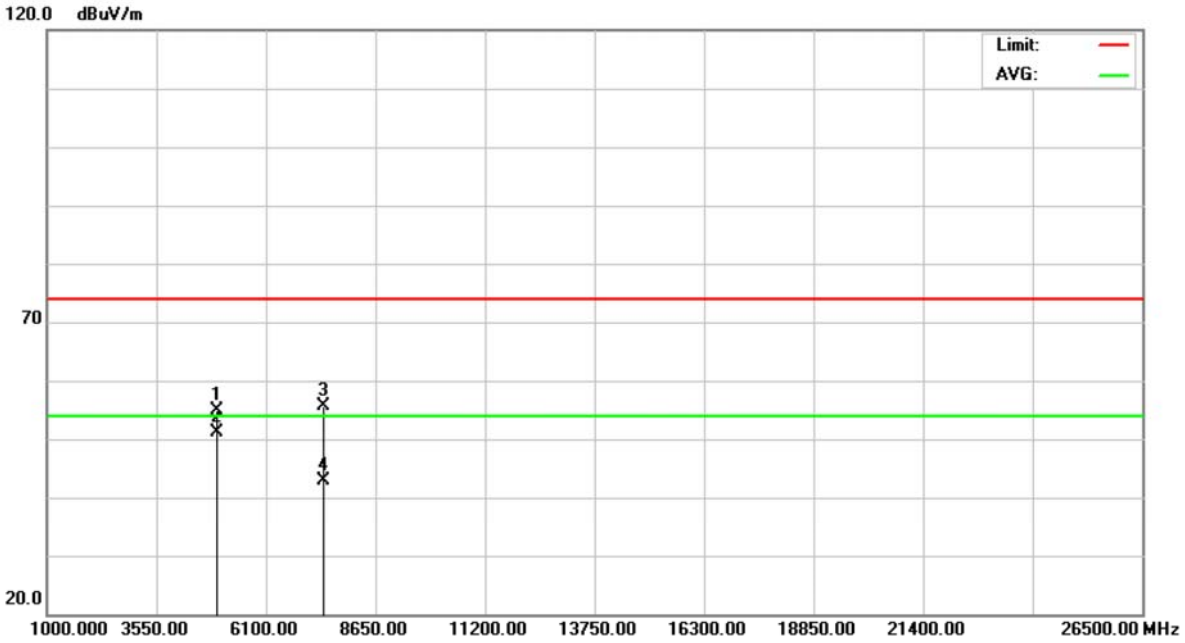
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2461.250	58.13	31.99	90.12	74.00	16.12	peak	
2	*	2461.250	55.40	31.99	87.39	54.00	33.39	AVG	
3		2483.500	25.50	32.09	57.59	74.00	-16.41	peak	
4		2483.500	13.20	32.09	45.29	54.00	-8.71	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2462 MHz		

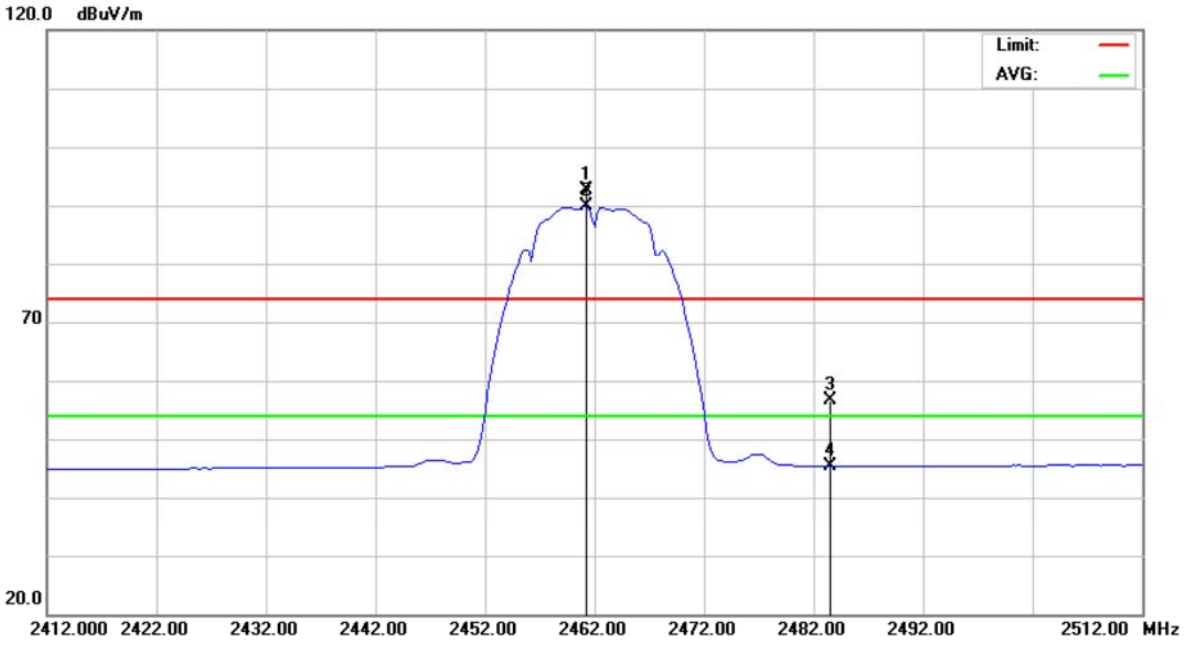
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.940	49.12	5.84	54.96	74.00	-19.04	peak	
2	*	4923.940	45.31	5.84	51.15	54.00	-2.85	AVG	
3		7385.995	42.84	12.85	55.69	74.00	-18.31	peak	
4		7385.995	29.97	12.85	42.82	54.00	-11.18	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2462 MHz		

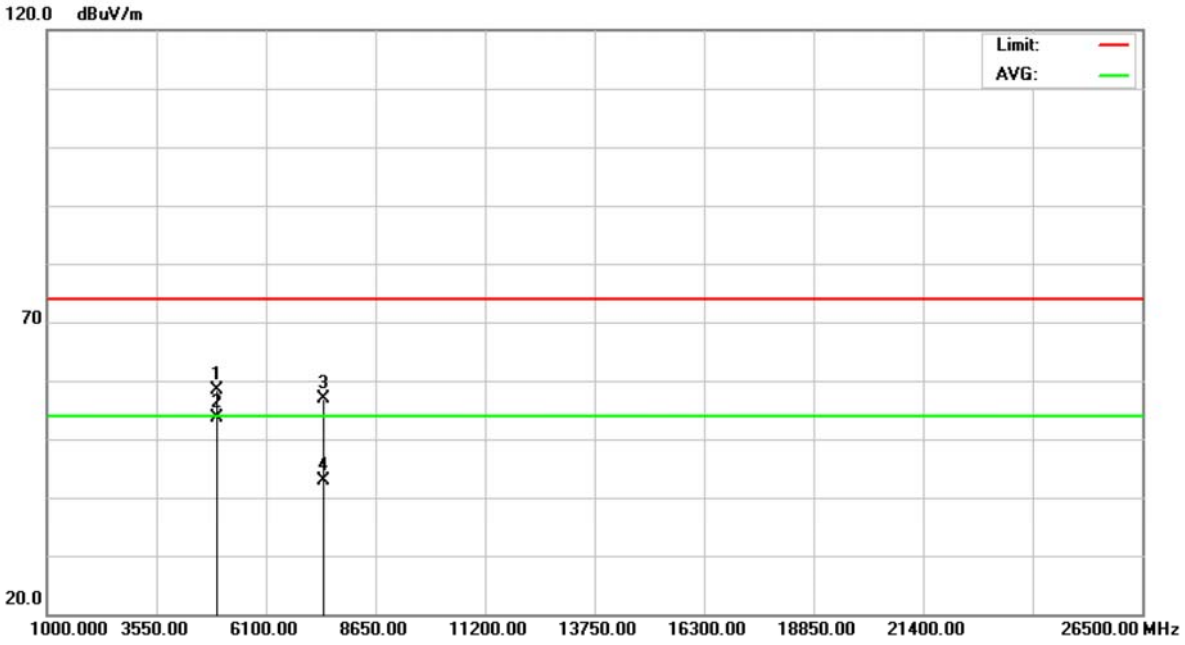
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2461.250	60.65	31.99	92.64	74.00	18.64	peak	
2	*	2461.250	57.92	31.99	89.91	54.00	35.91	AVG	
3		2483.500	24.42	32.09	56.51	74.00	-17.49	peak	
4		2483.500	13.26	32.09	45.35	54.00	-8.65	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2462 MHz		

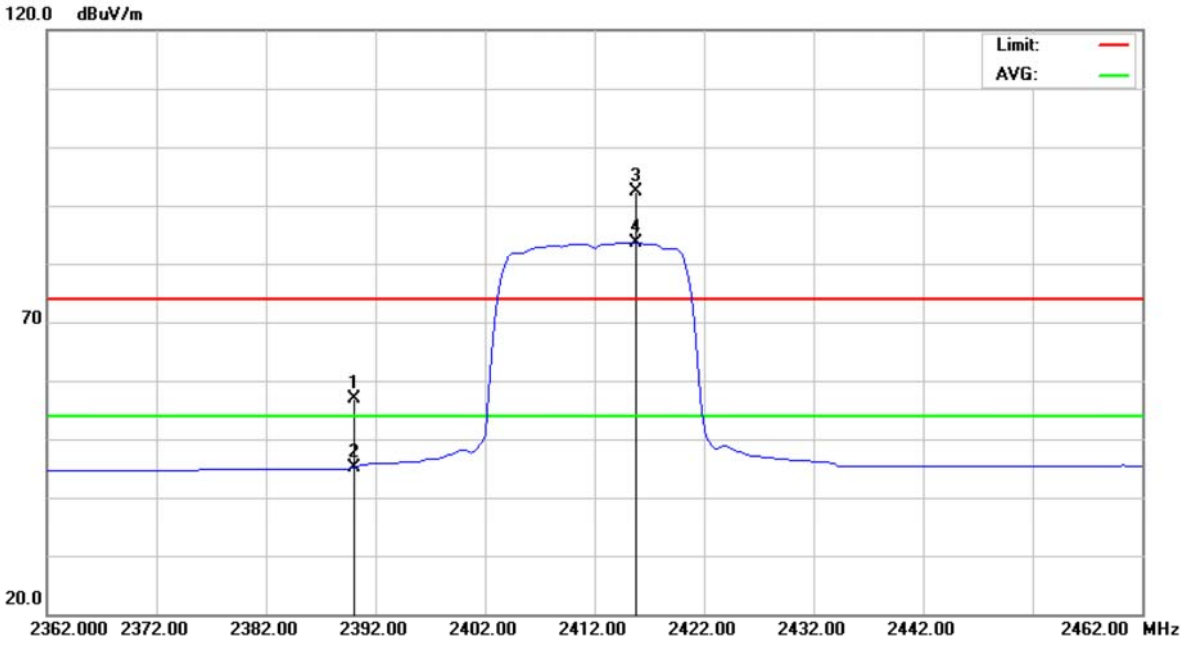
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.955	52.47	5.84	58.31	74.00	-15.69	peak	
2	*	4923.955	47.73	5.84	53.57	54.00	-0.43	AVG	
3		7385.895	44.00	12.85	56.85	74.00	-17.15	peak	
4		7385.895	29.95	12.85	42.80	54.00	-11.20	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz		

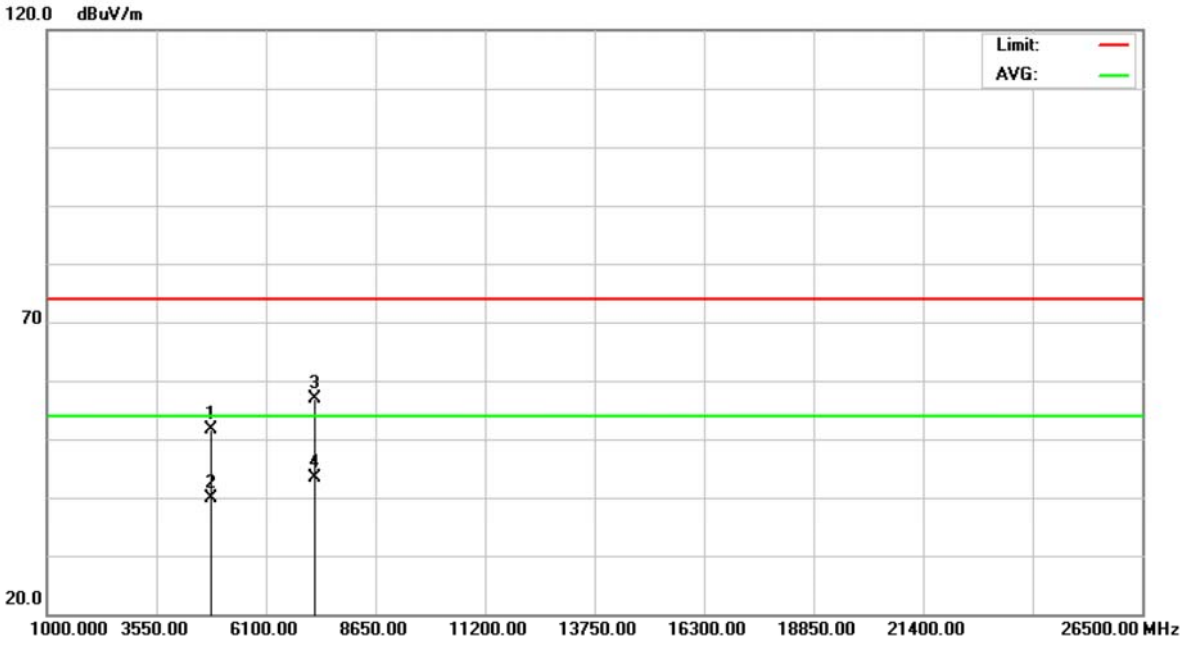
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.32	31.67	56.99	74.00	-17.01	peak	
2		2390.000	13.51	31.67	45.18	54.00	-8.82	AVG	
3	X	2415.750	60.63	31.78	92.41	74.00	18.41	peak	
4	*	2415.750	51.78	31.78	83.56	54.00	29.56	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz		

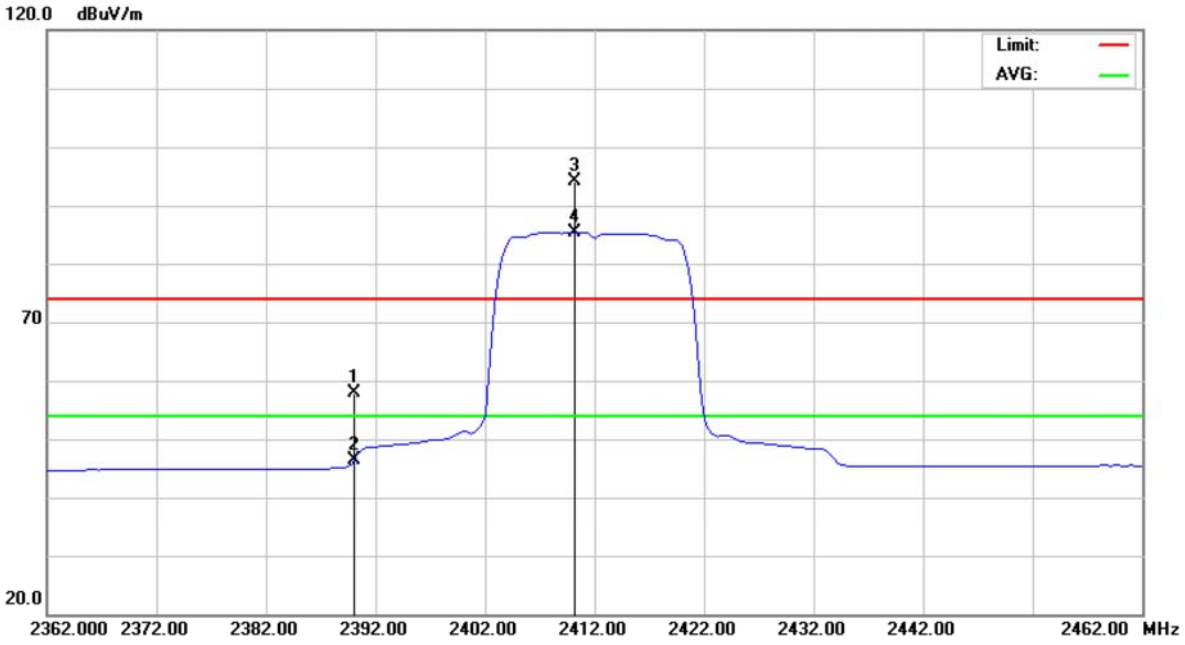
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.010	45.95	5.71	51.66	74.00	-22.34	peak	
2		4824.010	34.05	5.71	39.76	54.00	-14.24	AVG	
3		7236.375	44.63	12.29	56.92	74.00	-17.08	peak	
4	*	7236.375	31.00	12.29	43.29	54.00	-10.71	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz		

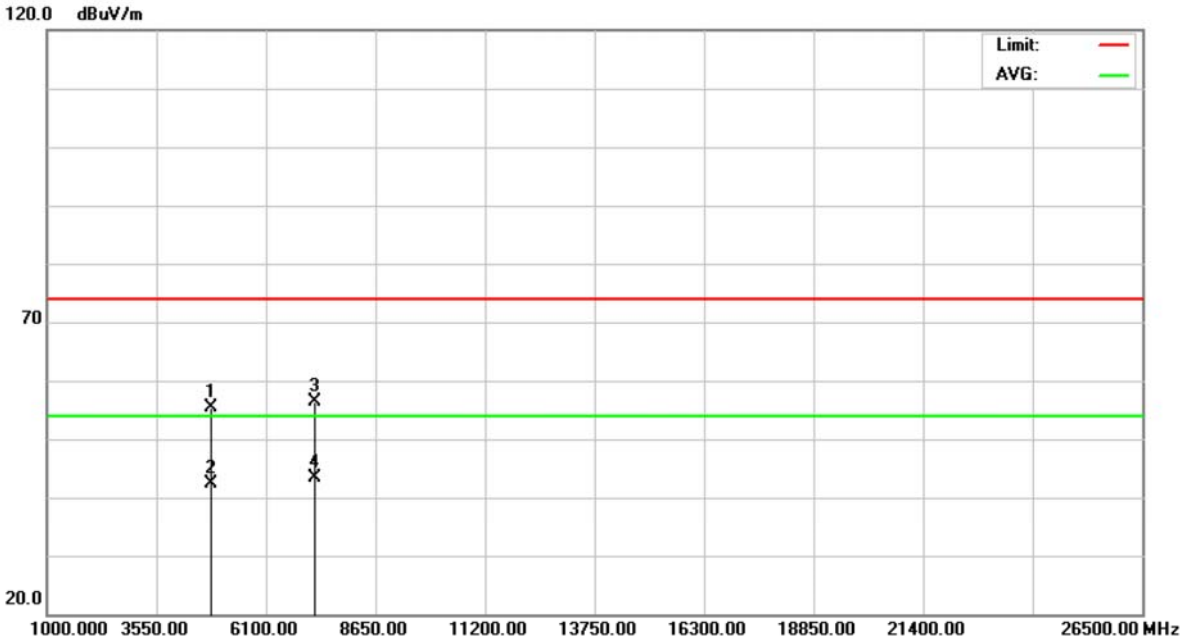
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	26.19	31.67	57.86	74.00	-16.14	peak	
2		2390.000	14.72	31.67	46.39	54.00	-7.61	AVG	
3	X	2410.250	62.41	31.76	94.17	74.00	20.17	peak	
4	*	2410.250	53.71	31.76	85.47	54.00	31.47	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz		

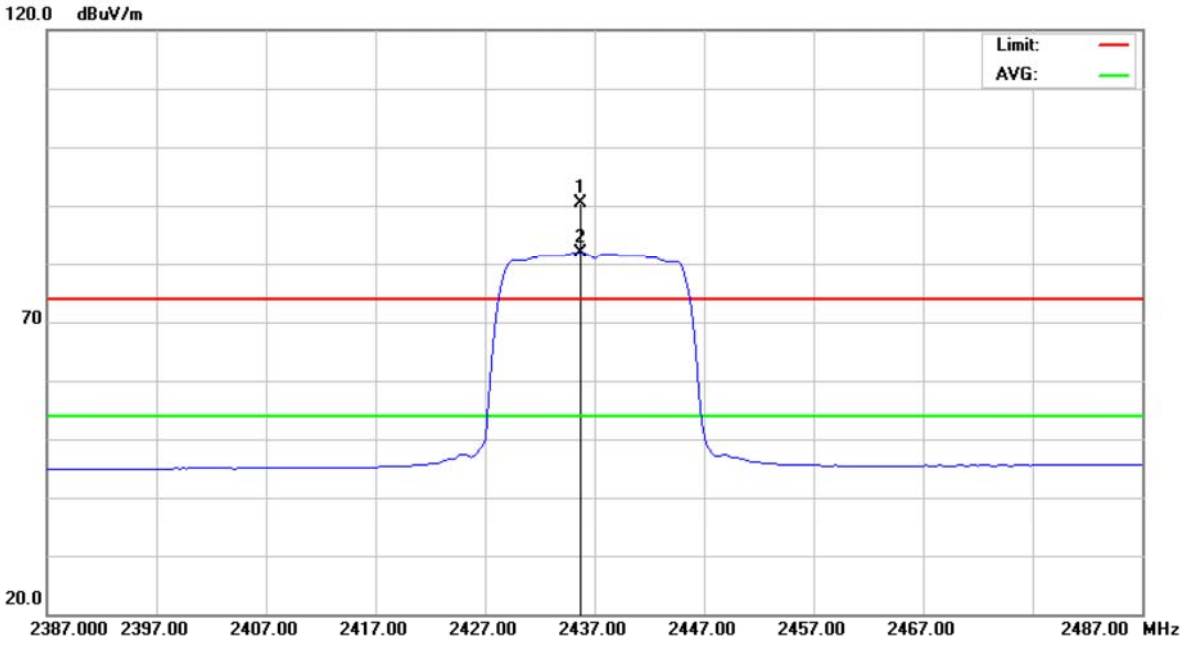
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4823.960	49.68	5.71	55.39	74.00	-18.61	peak	
2		4823.960	36.79	5.71	42.50	54.00	-11.50	AVG	
3		7235.865	44.17	12.29	56.46	74.00	-17.54	peak	
4	*	7235.865	30.97	12.29	43.26	54.00	-10.74	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2437 MHz		

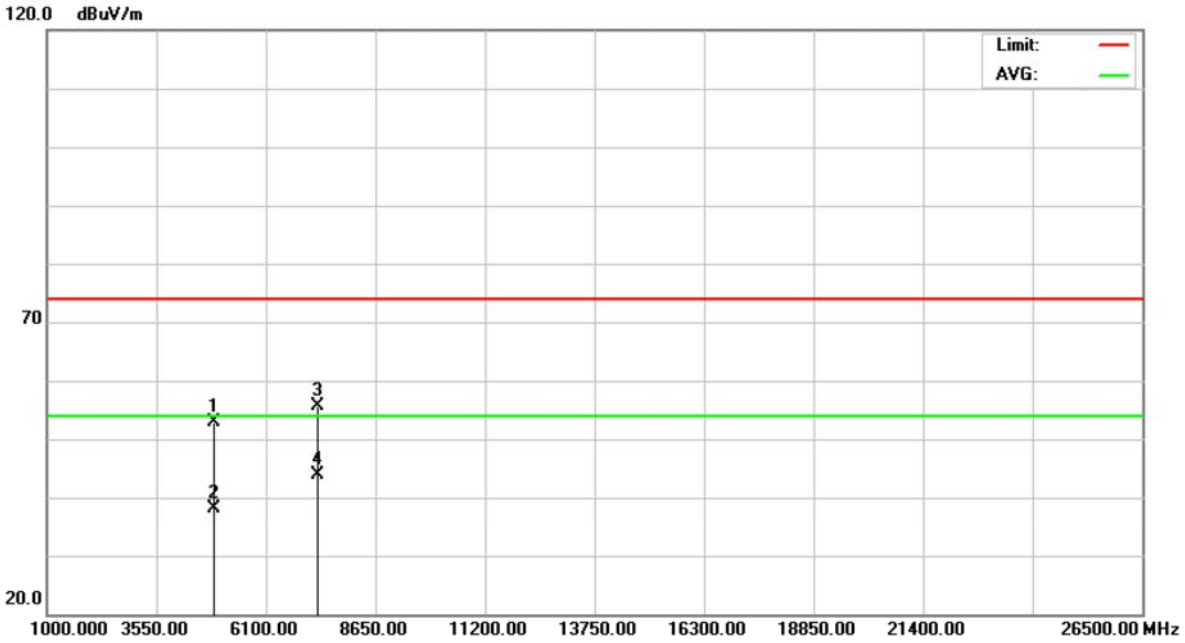
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.750	58.54	31.87	90.41	74.00	16.41	peak	
2	*	2435.750	49.94	31.87	81.81	54.00	27.81	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2437 MHz		

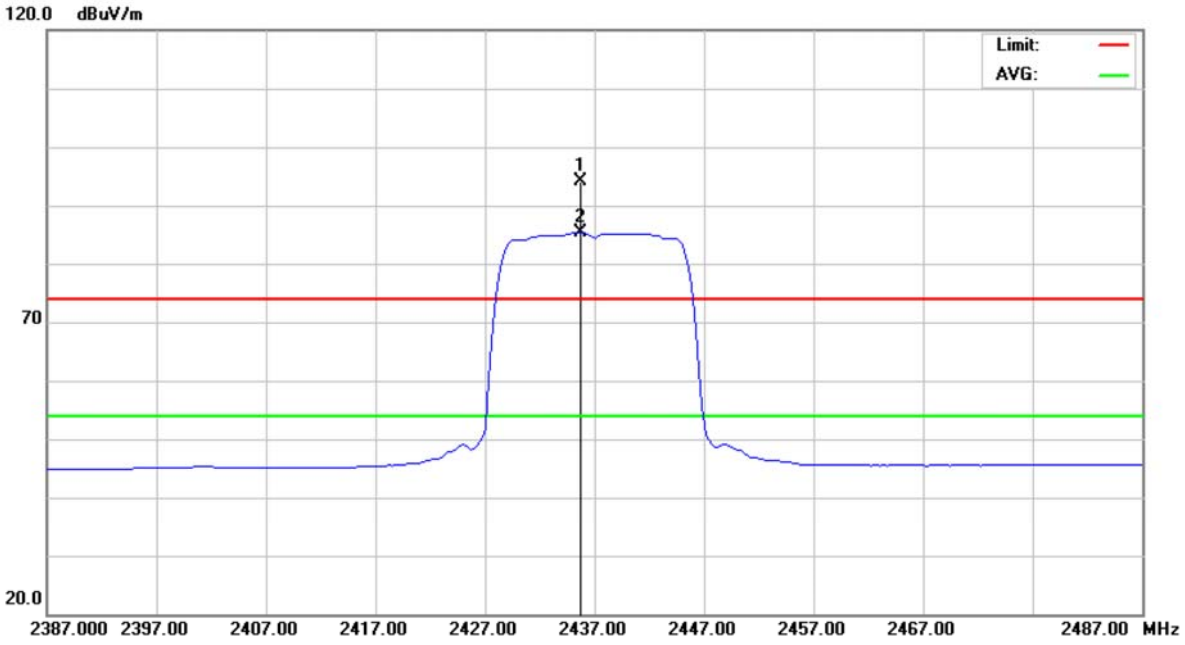
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.065	47.05	5.78	52.83	74.00	-21.17	peak	
2		4874.065	32.37	5.78	38.15	54.00	-15.85	AVG	
3		7310.865	43.08	12.57	55.65	74.00	-18.35	peak	
4	*	7310.865	31.29	12.57	43.86	54.00	-10.14	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2437 MHz		

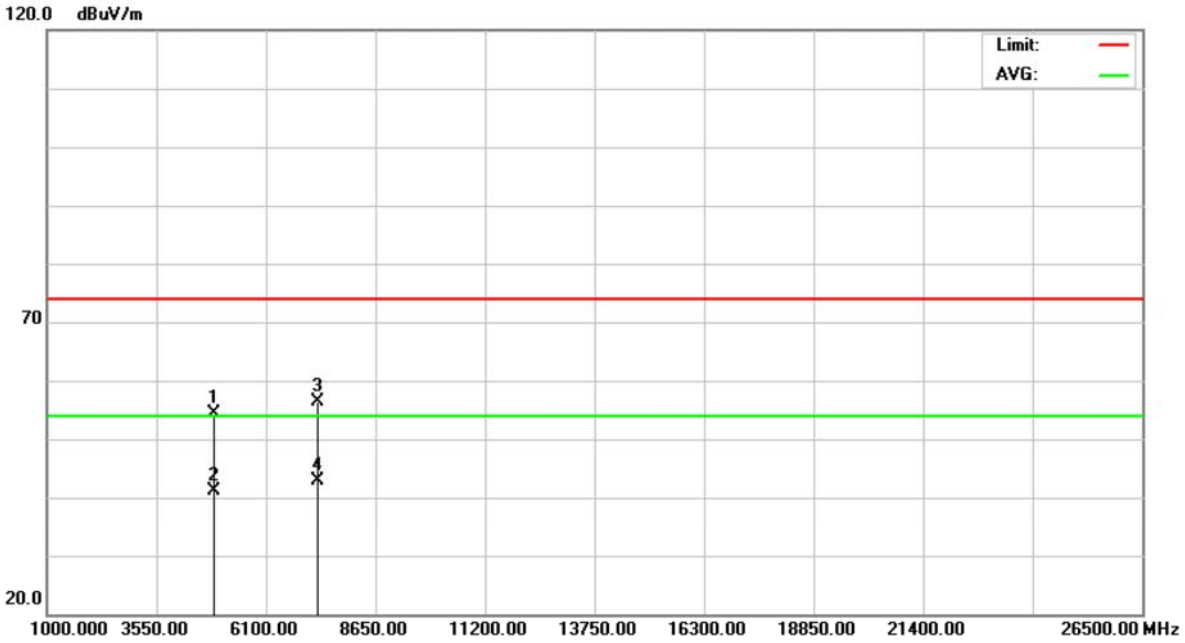
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.750	62.15	31.87	94.02	74.00	20.02	peak	
2	*	2435.750	53.46	31.87	85.33	54.00	31.33	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2437 MHz		

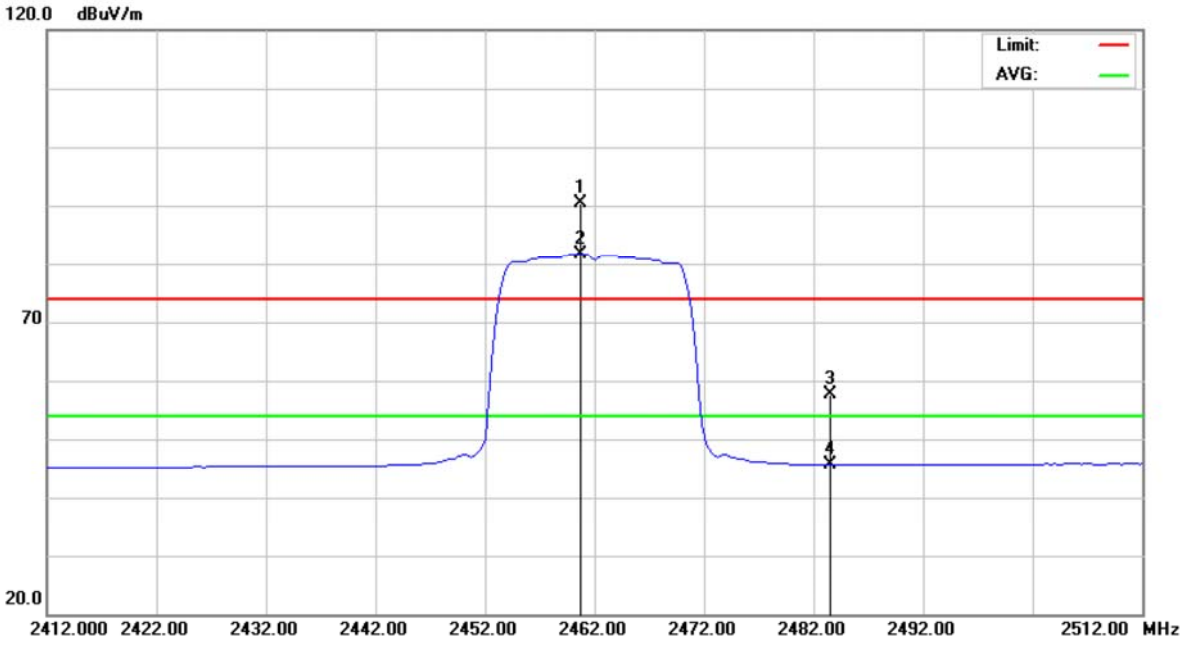
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.965	48.60	5.78	54.38	74.00	-19.62	peak	
2		4873.965	35.32	5.78	41.10	54.00	-12.90	AVG	
3		7310.940	43.89	12.57	56.46	74.00	-17.54	peak	
4	*	7310.940	30.24	12.57	42.81	54.00	-11.19	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2462 MHz		

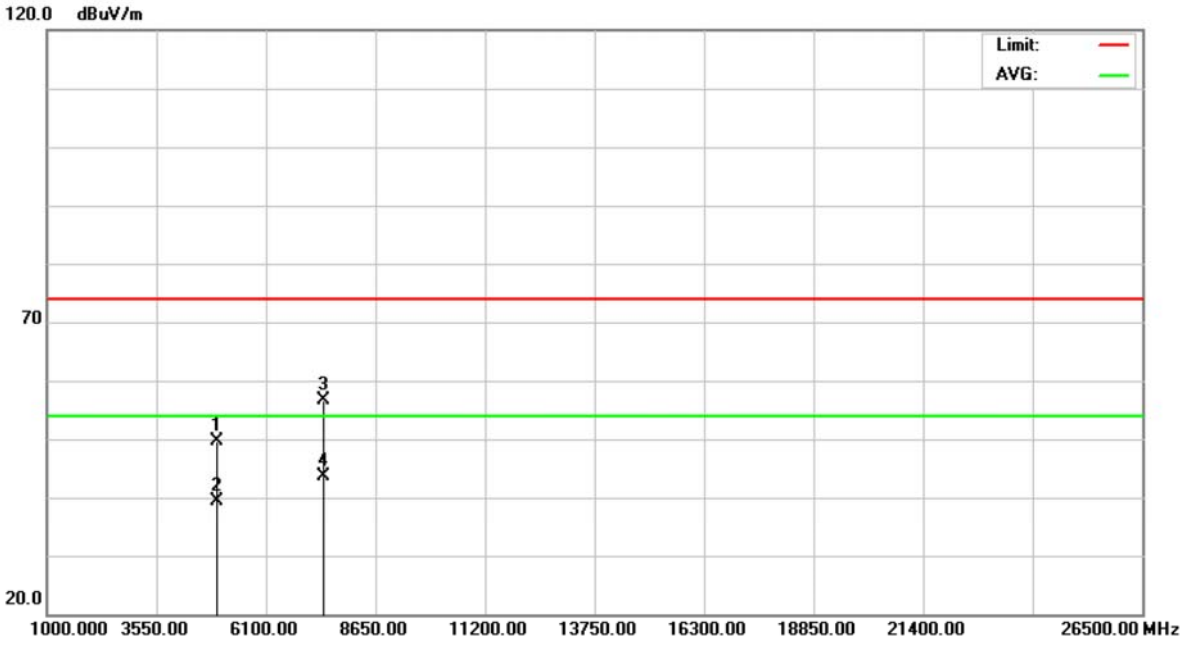
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2460.750	58.38	31.98	90.36	74.00	16.36	peak	
2	*	2460.750	49.66	31.98	81.64	54.00	27.64	AVG	
3		2483.500	25.62	32.09	57.71	74.00	-16.29	peak	
4		2483.500	13.49	32.09	45.58	54.00	-8.42	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2462 MHz		

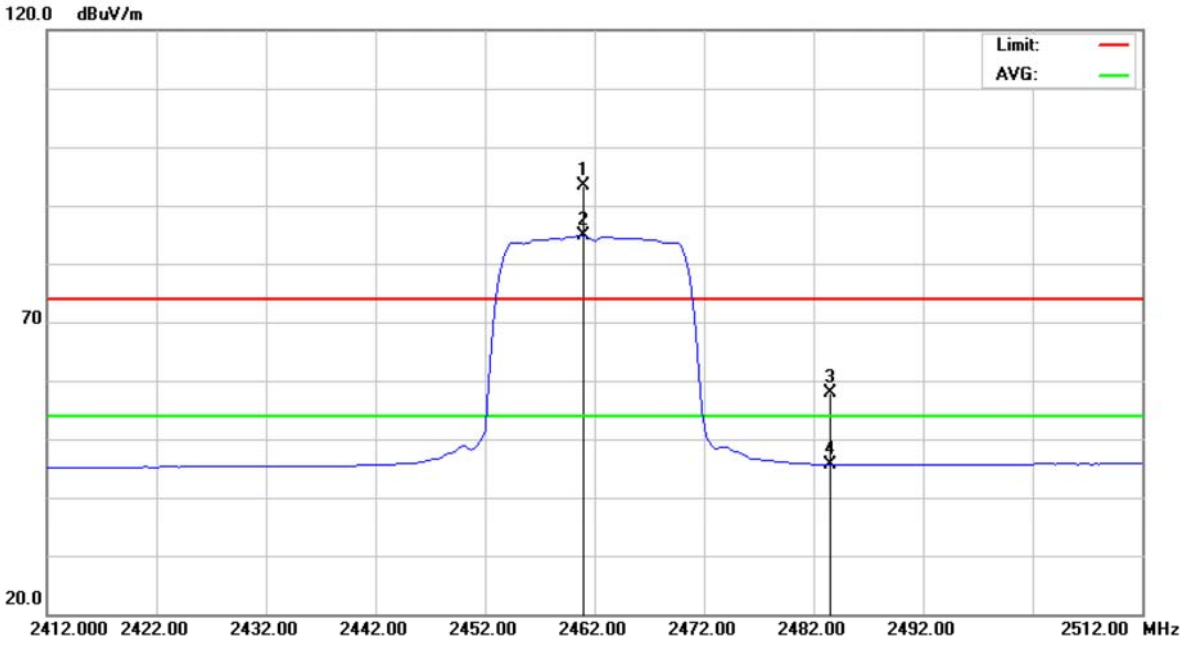
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.965	43.78	5.84	49.62	74.00	-24.38	peak	
2		4923.965	33.49	5.84	39.33	54.00	-14.67	AVG	
3		7385.720	43.91	12.84	56.75	74.00	-17.25	peak	
4	*	7385.720	30.71	12.84	43.55	54.00	-10.45	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/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	2461.000	61.40	31.99	93.39	74.00	19.39	peak	
2	*	2461.000	52.77	31.99	84.76	54.00	30.76	AVG	
3		2483.500	25.74	32.09	57.83	74.00	-16.17	peak	
4		2483.500	13.55	32.09	45.64	54.00	-8.36	AVG	

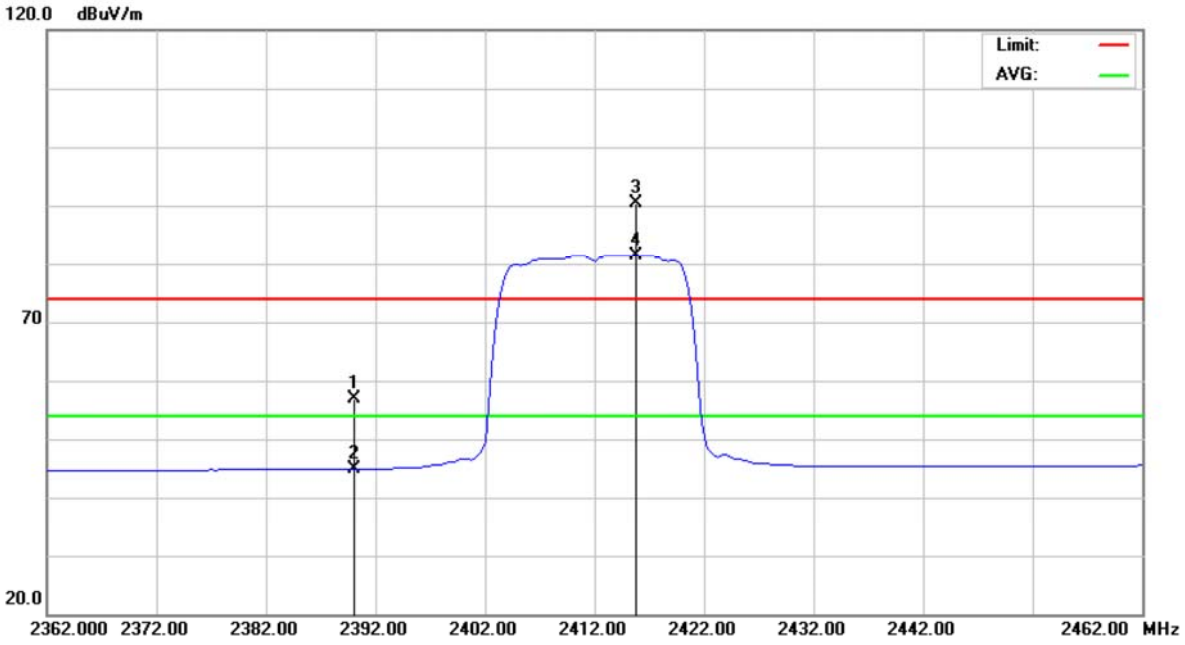
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2462 MHz		

Polarization: Horizontal

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.865	44.86	5.84	50.70	74.00	-23.30	peak	
2		4923.865	31.28	5.84	37.12	54.00	-16.88	AVG	
3		7385.925	43.52	12.85	56.37	74.00	-17.63	peak	
4	*	7385.925	30.73	12.85	43.58	54.00	-10.42	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

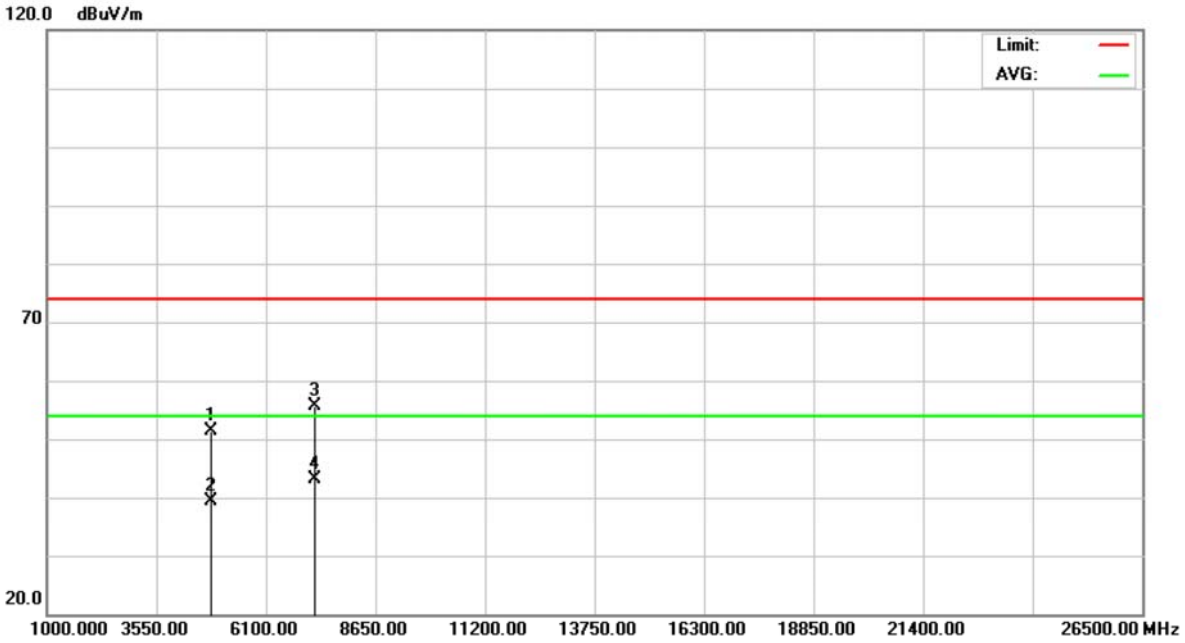
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.24	31.67	56.91	74.00	-17.09	peak	
2		2390.000	13.23	31.67	44.90	54.00	-9.10	AVG	
3	X	2415.750	58.57	31.78	90.35	74.00	16.35	peak	
4	*	2415.750	49.67	31.78	81.45	54.00	27.45	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

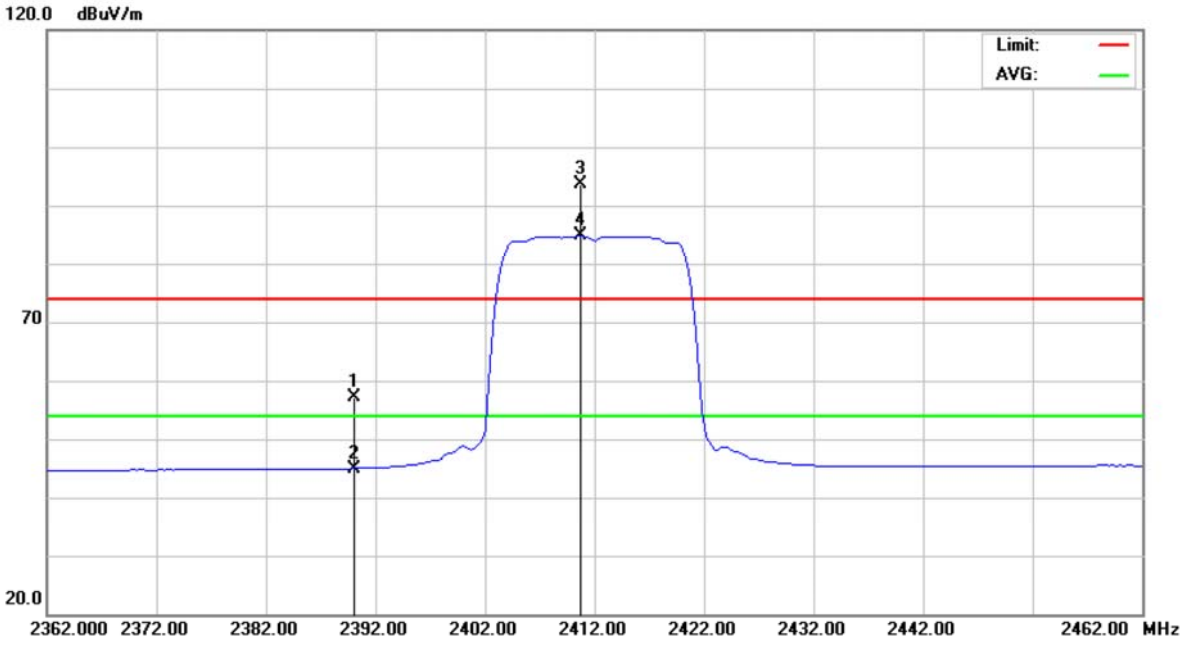
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4823.900	45.69	5.71	51.40	74.00	-22.60	peak	
2		4823.900	33.68	5.71	39.39	54.00	-14.61	AVG	
3		7236.055	43.39	12.29	55.68	74.00	-18.32	peak	
4	*	7236.055	30.77	12.29	43.06	54.00	-10.94	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

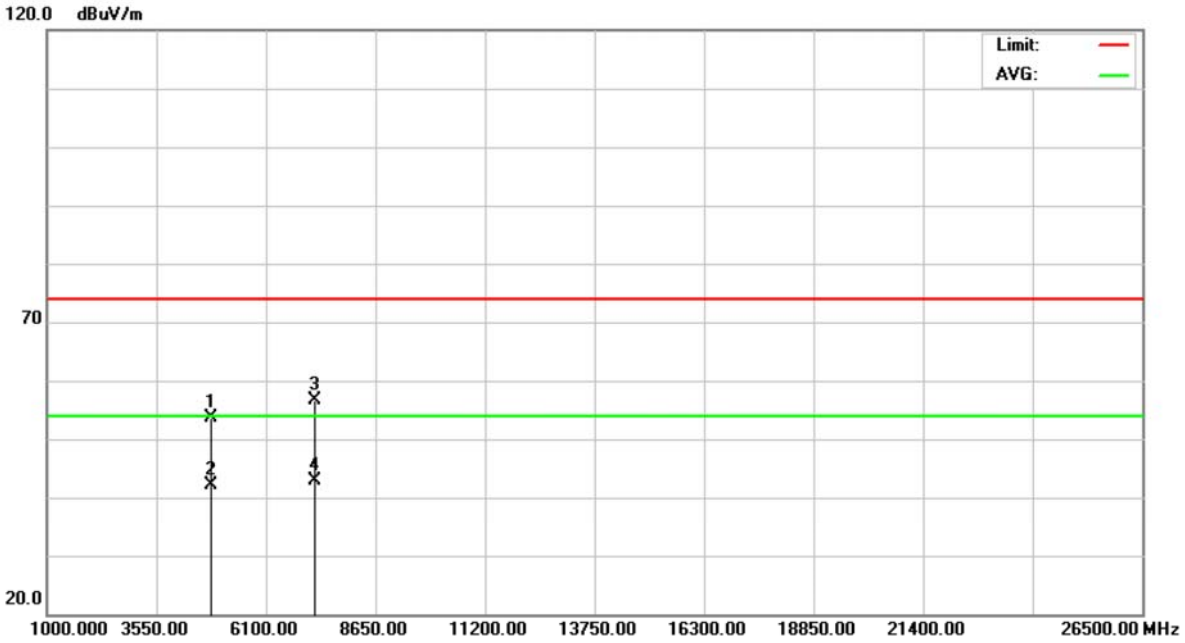
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.34	31.67	57.01	74.00	-16.99	peak	
2		2390.000	13.33	31.67	45.00	54.00	-9.00	AVG	
3	X	2410.750	61.76	31.76	93.52	74.00	19.52	peak	
4	*	2410.750	53.00	31.76	84.76	54.00	30.76	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz		

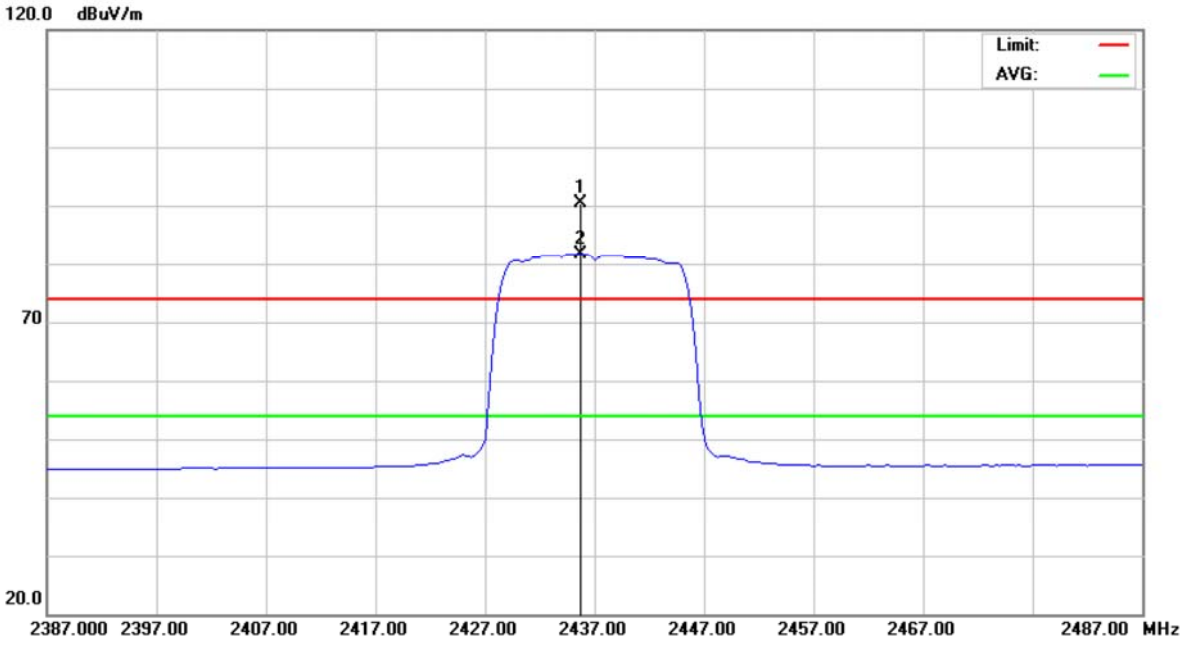
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.145	47.93	5.71	53.64	74.00	-20.36	peak	
2		4824.145	36.43	5.71	42.14	54.00	-11.86	AVG	
3		7236.000	44.41	12.29	56.70	74.00	-17.30	peak	
4	*	7236.000	30.67	12.29	42.96	54.00	-11.04	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

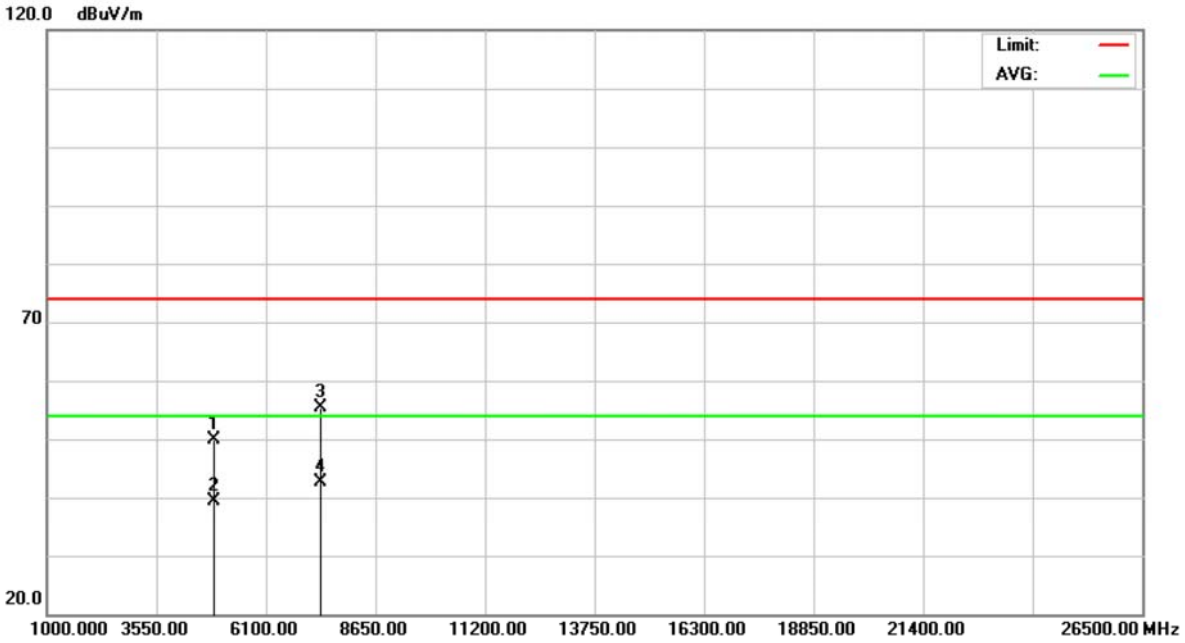
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.750	58.44	31.87	90.31	74.00	16.31	peak	
2	*	2435.750	49.82	31.87	81.69	54.00	27.69	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

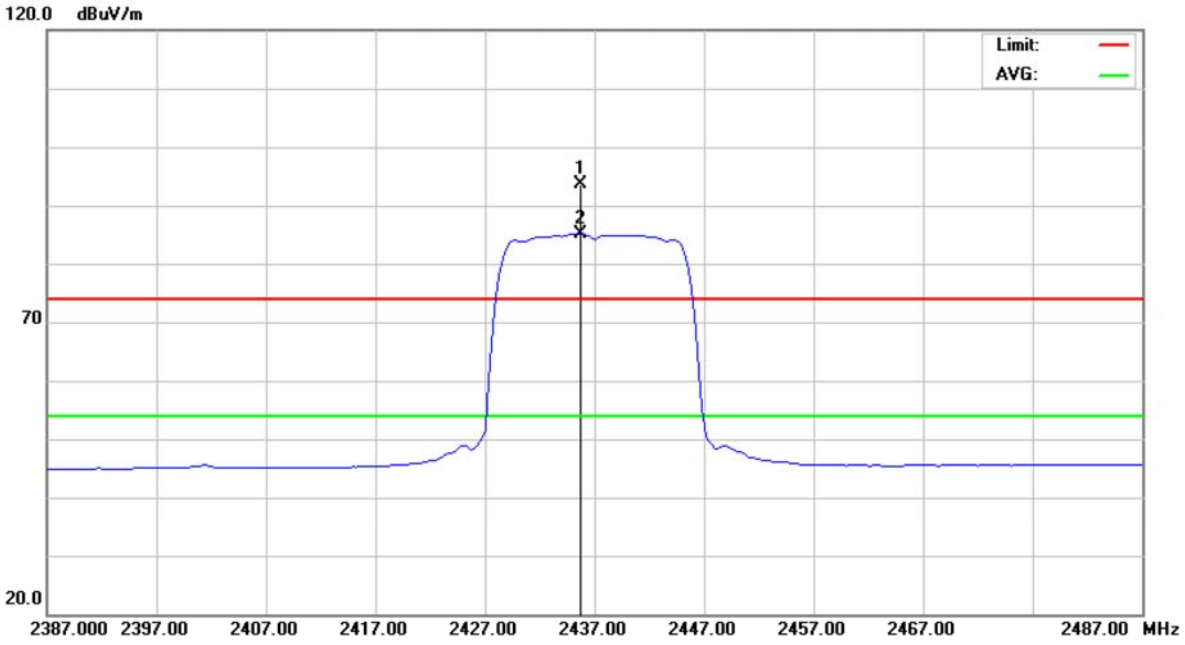
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.075	44.14	5.78	49.92	74.00	-24.08	peak	
2		4874.075	33.50	5.78	39.28	54.00	-14.72	AVG	
3		7311.740	42.73	12.57	55.30	74.00	-18.70	peak	
4	*	7311.740	30.17	12.57	42.74	54.00	-11.26	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

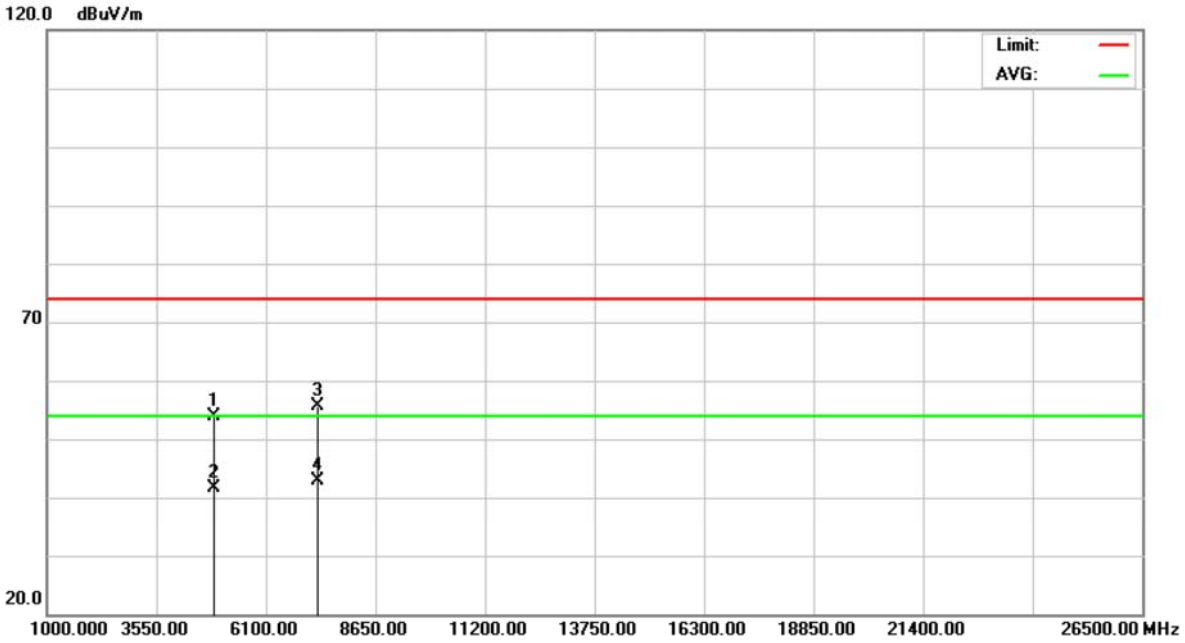
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.750	61.87	31.87	93.74	74.00	19.74	peak	
2	*	2435.750	53.26	31.87	85.13	54.00	31.13	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2437 MHz		

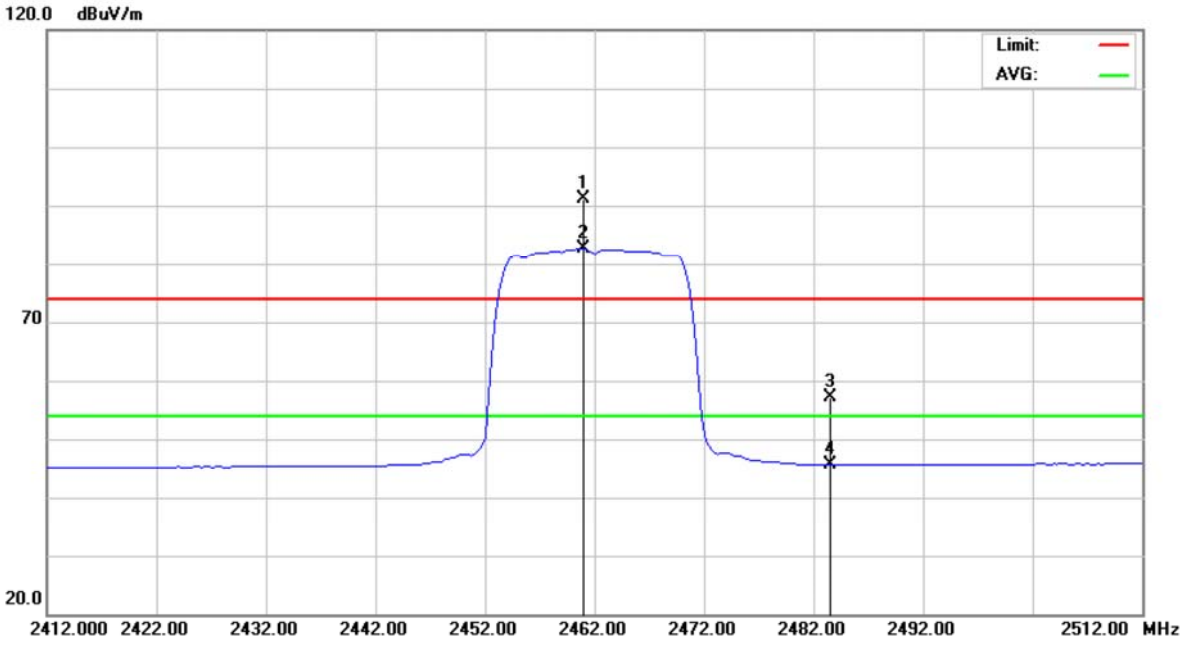
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.785	48.17	5.78	53.95	74.00	-20.05	peak	
2		4873.785	35.87	5.78	41.65	54.00	-12.35	AVG	
3		7310.225	43.04	12.56	55.60	74.00	-18.40	peak	
4	*	7310.225	30.22	12.56	42.78	54.00	-11.22	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

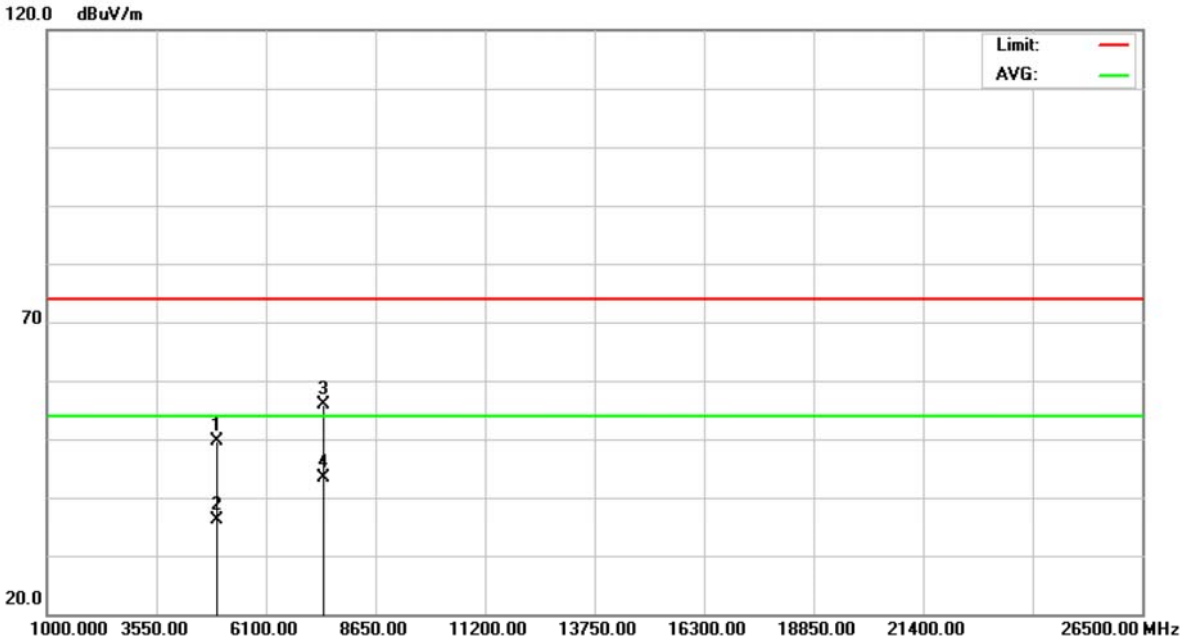
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2461.000	59.16	31.99	91.15	74.00	17.15	peak	
2	*	2461.000	50.57	31.99	82.56	54.00	28.56	AVG	
3		2483.500	25.12	32.09	57.21	74.00	-16.79	peak	
4		2483.500	13.57	32.09	45.66	54.00	-8.34	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

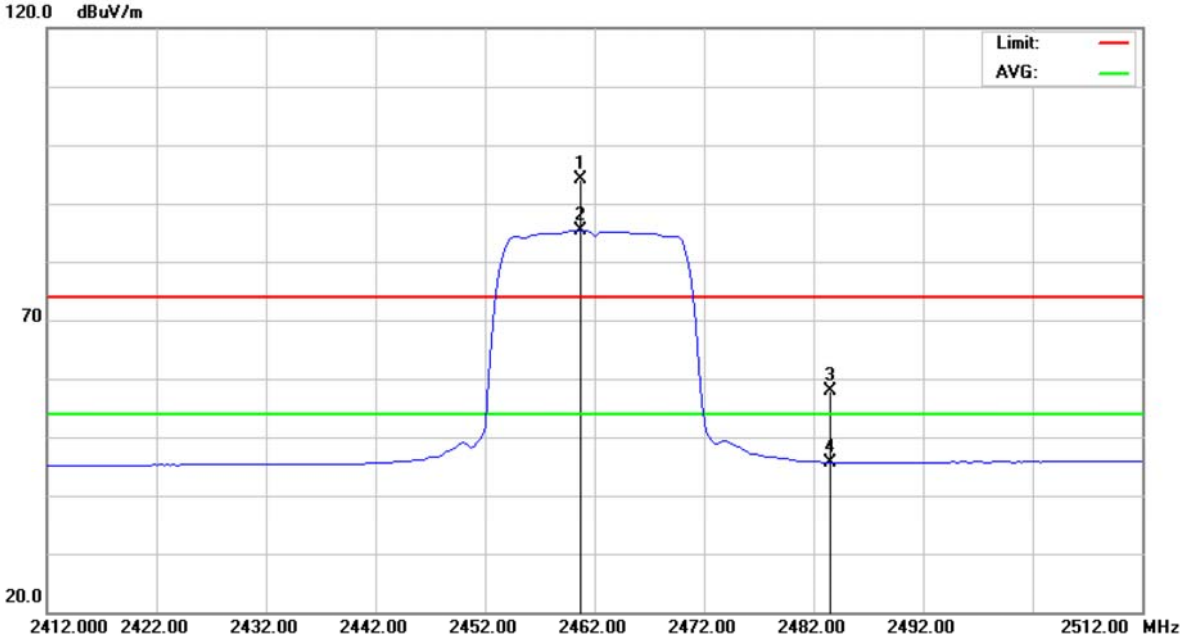
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.275	43.76	5.84	49.60	74.00	-24.40	peak	
2		4924.275	30.28	5.84	36.12	54.00	-17.88	AVG	
3		7385.915	43.08	12.85	55.93	74.00	-18.07	peak	
4	*	7385.915	30.49	12.85	43.34	54.00	-10.66	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

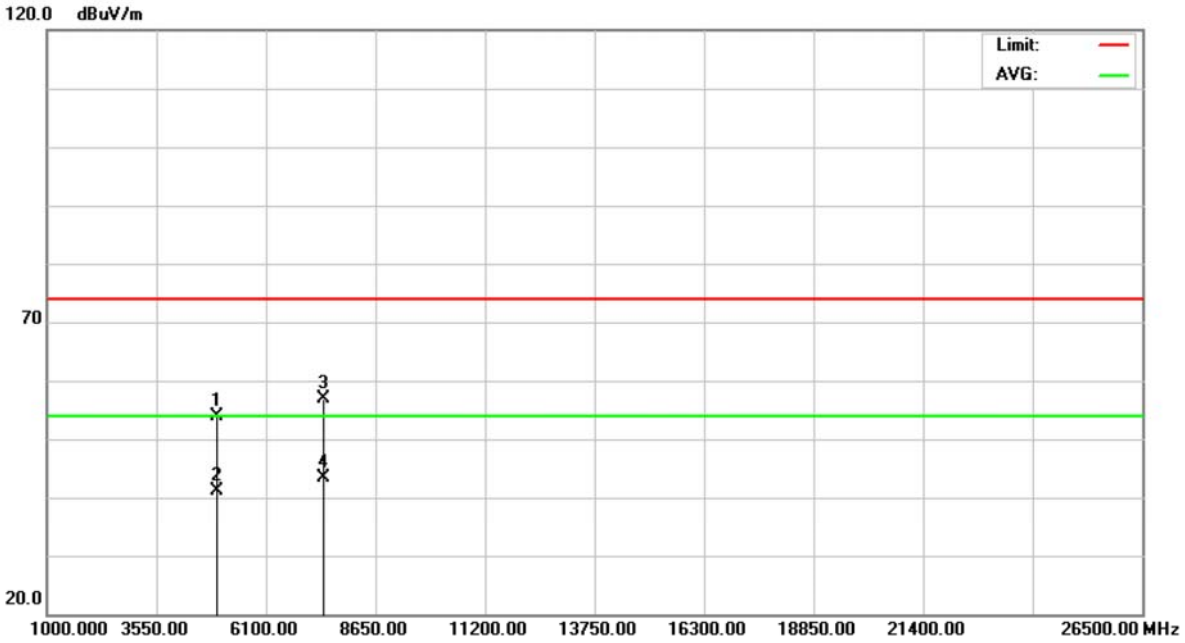
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2460.750	62.08	31.98	94.06	74.00	20.06	peak	
2	*	2460.750	53.44	31.98	85.42	54.00	31.42	AVG	
3		2483.500	25.71	32.09	57.80	74.00	-16.20	peak	
4		2483.500	13.61	32.09	45.70	54.00	-8.30	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2462 MHz		

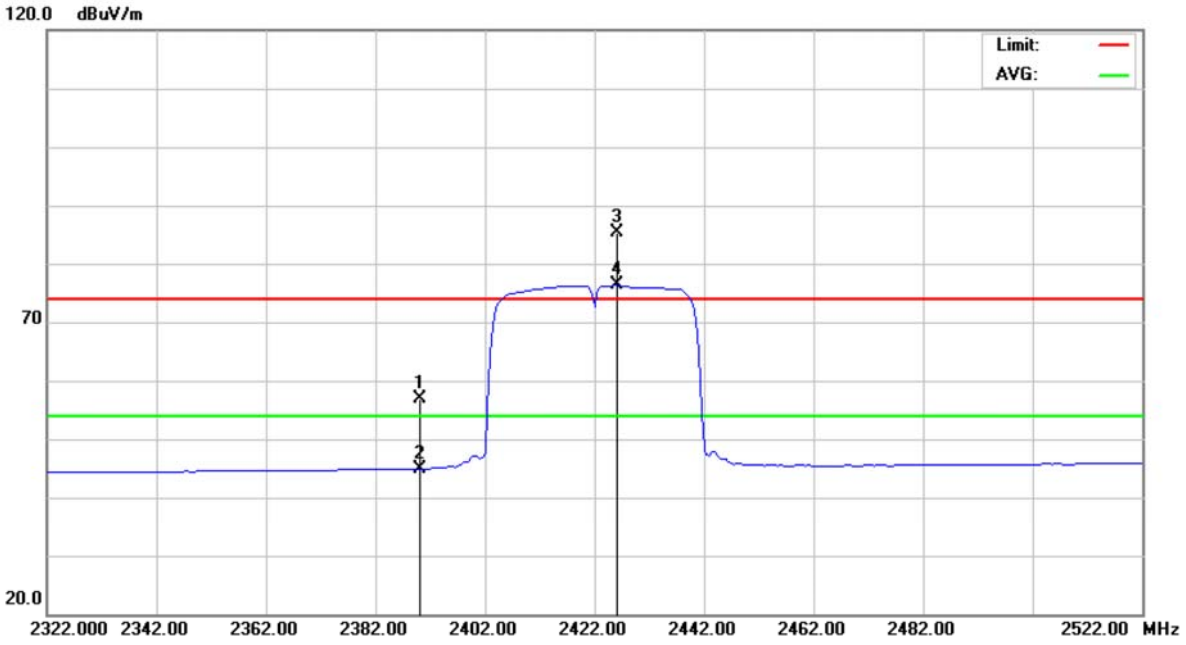
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.910	47.99	5.84	53.83	74.00	-20.17	peak	
2		4923.910	35.18	5.84	41.02	54.00	-12.98	AVG	
3		7386.095	44.00	12.85	56.85	74.00	-17.15	peak	
4	*	7386.095	30.46	12.85	43.31	54.00	-10.69	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

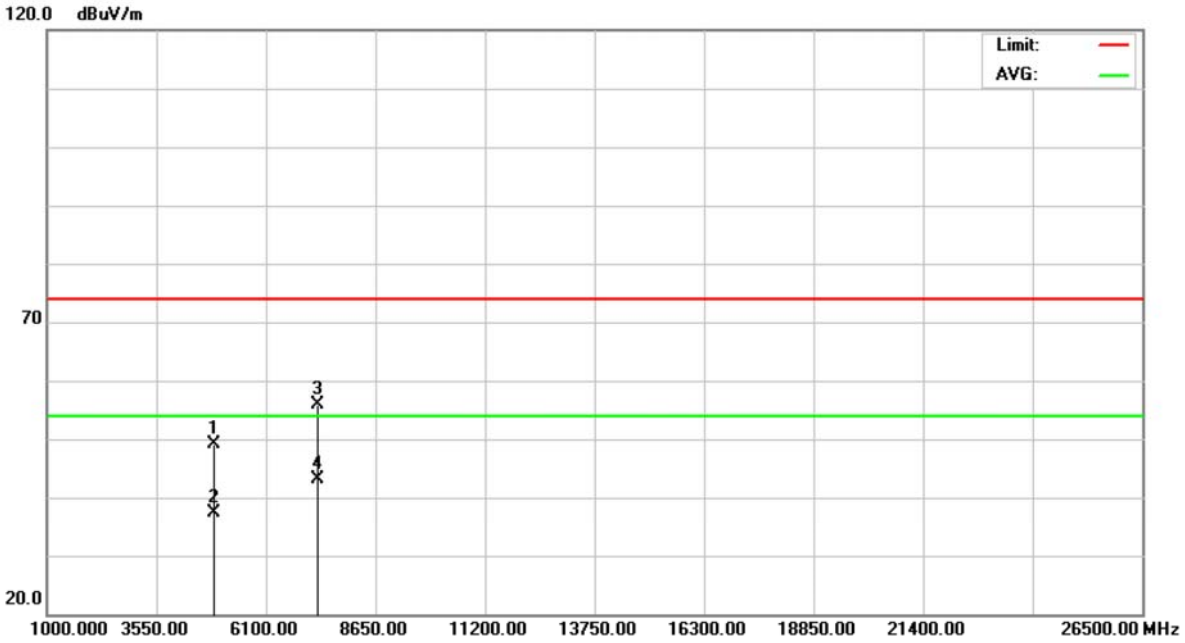
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.23	31.67	56.90	74.00	-17.10	peak	
2		2390.000	13.29	31.67	44.96	54.00	-9.04	AVG	
3	X	2426.000	53.49	31.83	85.32	74.00	11.32	peak	
4	*	2426.000	44.45	31.83	76.28	54.00	22.28	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

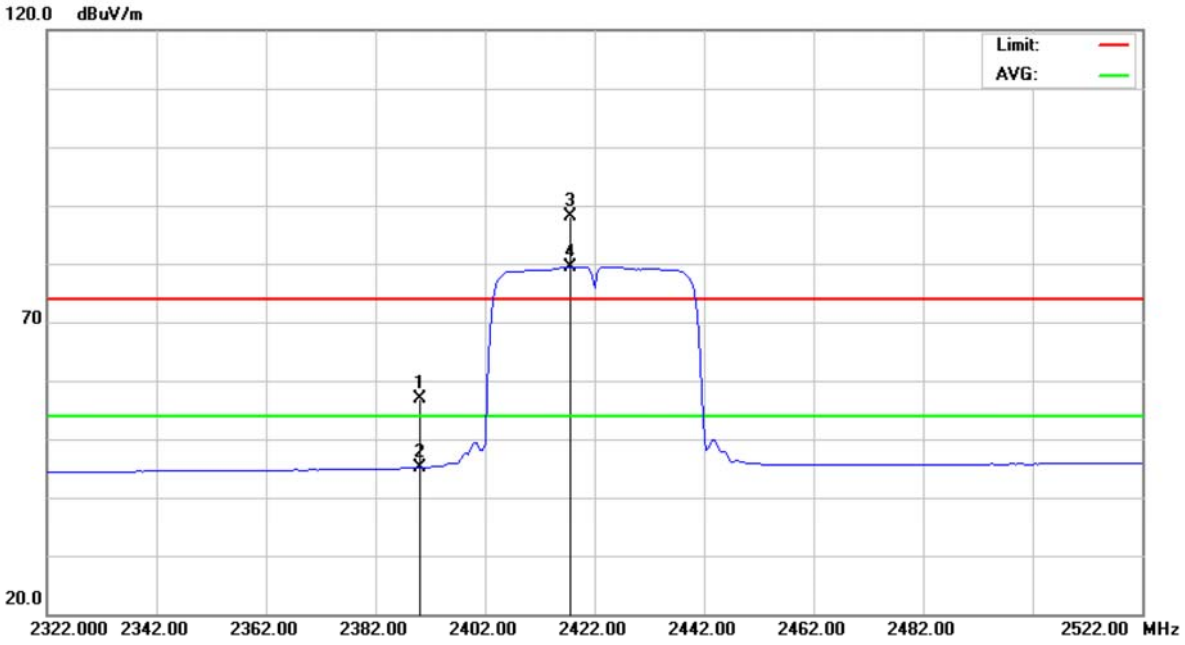
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4844.170	43.46	5.74	49.20	74.00	-24.80	peak	
2		4844.170	31.70	5.74	37.44	54.00	-16.56	AVG	
3		7266.405	43.44	12.40	55.84	74.00	-18.16	peak	
4	*	7266.405	30.81	12.40	43.21	54.00	-10.79	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

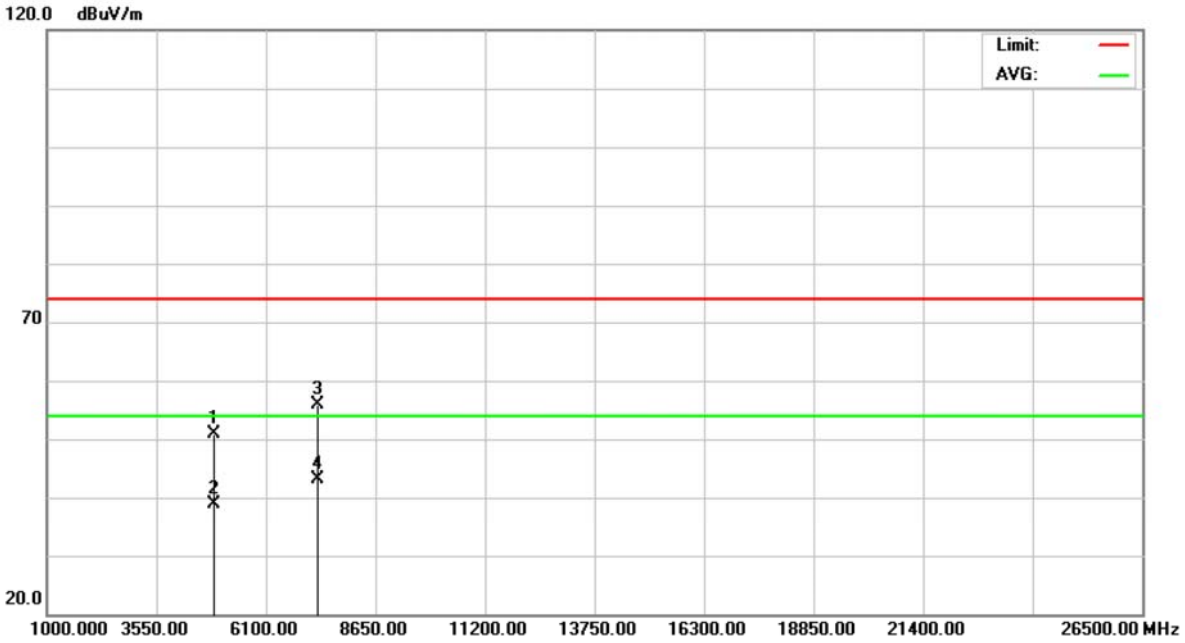
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.25	31.67	56.92	74.00	-17.08	peak	
2		2390.000	13.48	31.67	45.15	54.00	-8.85	AVG	
3	X	2417.500	56.39	31.79	88.18	74.00	14.18	peak	
4	*	2417.500	47.62	31.79	79.41	54.00	25.41	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz		

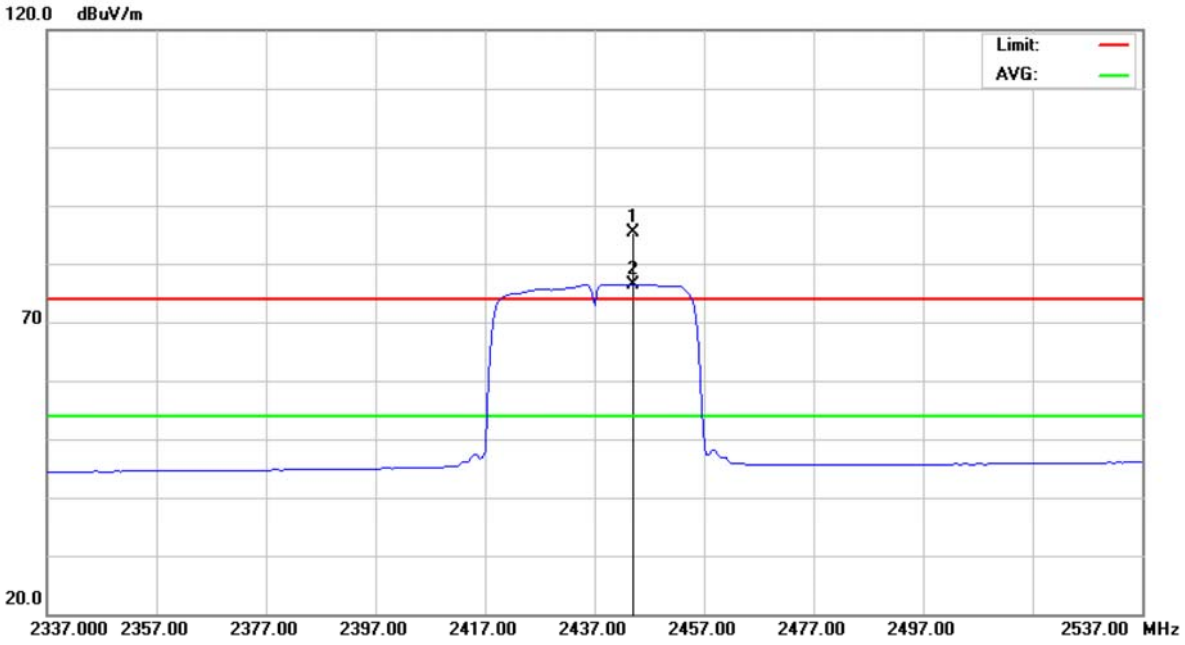
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4843.890	45.19	5.74	50.93	74.00	-23.07	peak	
2		4843.890	33.23	5.74	38.97	54.00	-15.03	AVG	
3		7265.905	43.49	12.40	55.89	74.00	-18.11	peak	
4	*	7265.905	30.78	12.40	43.18	54.00	-10.82	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

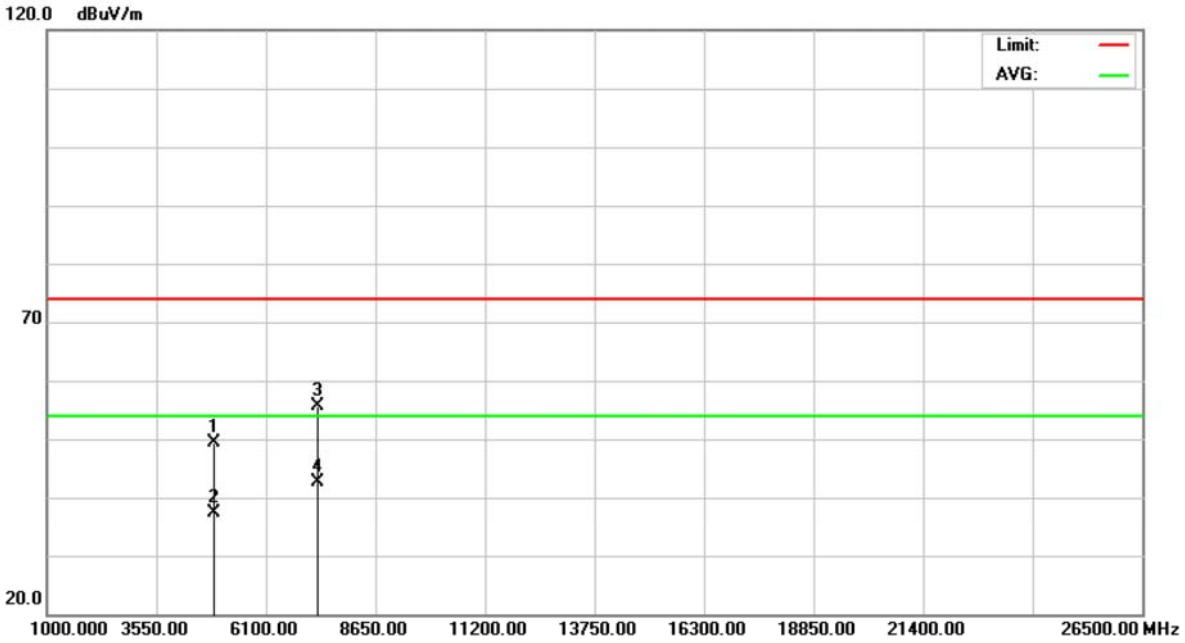
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2444.000	53.41	31.91	85.32	74.00	11.32	peak	
2	*	2444.000	44.53	31.91	76.44	54.00	22.44	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

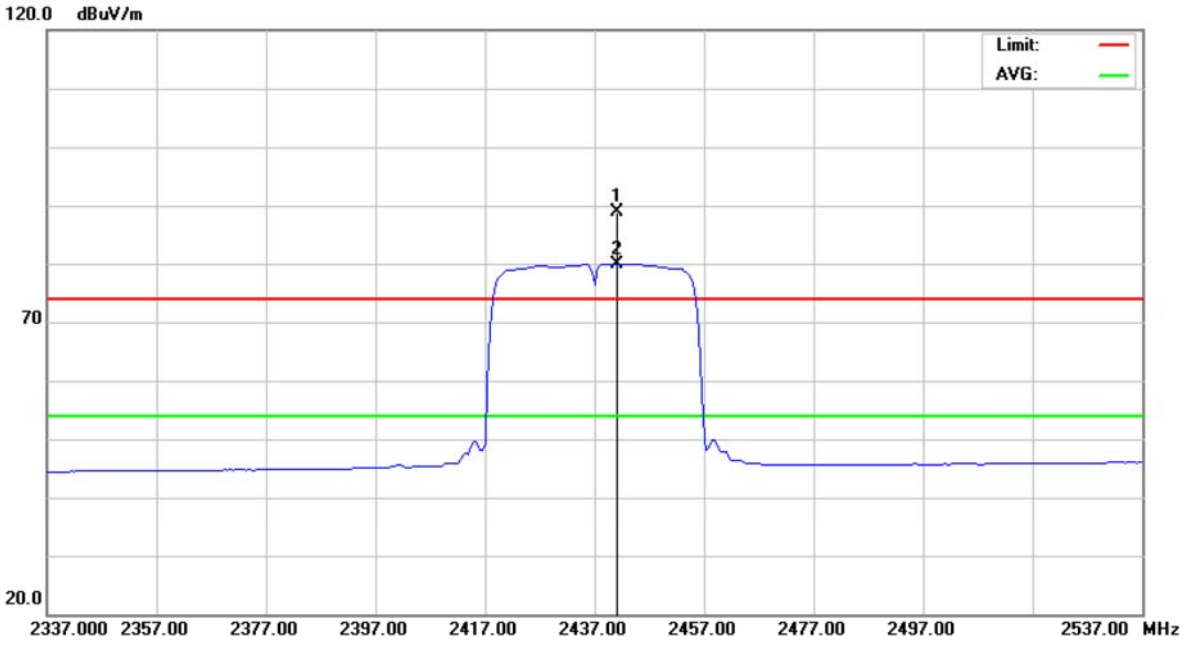
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.950	43.66	5.78	49.44	74.00	-24.56	peak	
2		4873.950	31.59	5.78	37.37	54.00	-16.63	AVG	
3		7310.470	43.19	12.56	55.75	74.00	-18.25	peak	
4	*	7310.470	30.05	12.56	42.61	54.00	-11.39	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

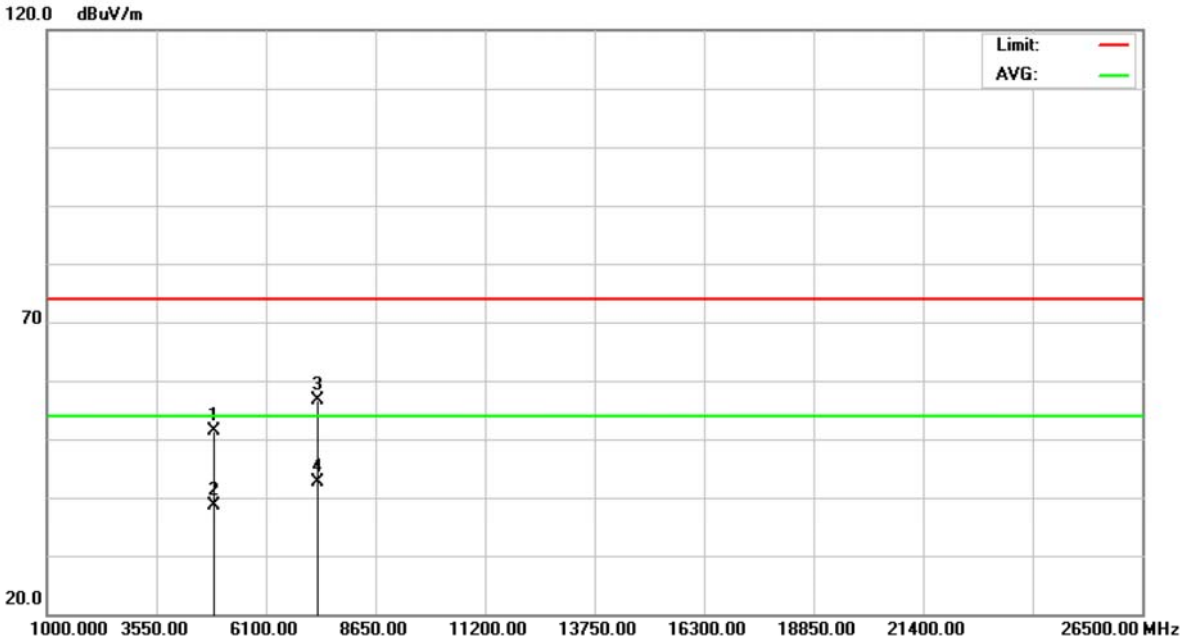
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2441.000	56.96	31.90	88.86	74.00	14.86	peak	
2	*	2441.000	48.02	31.90	79.92	54.00	25.92	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2437 MHz		

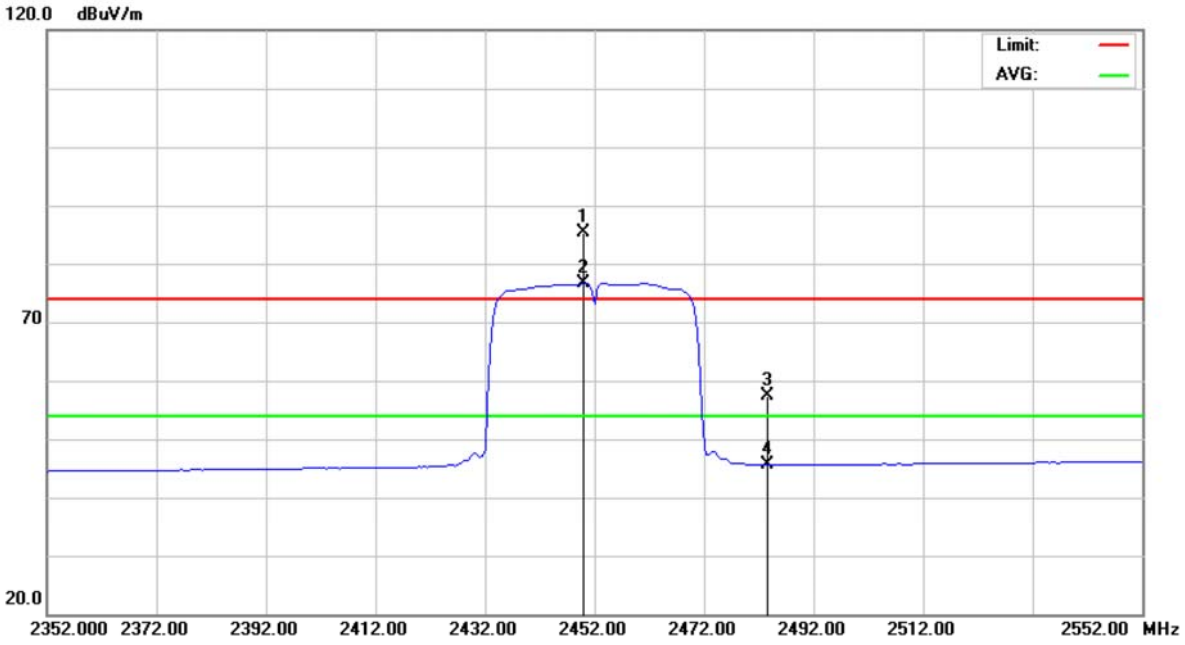
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.915	45.50	5.78	51.28	74.00	-22.72	peak	
2		4873.915	32.80	5.78	38.58	54.00	-15.42	AVG	
3		7310.360	44.00	12.56	56.56	74.00	-17.44	peak	
4	*	7310.360	30.06	12.56	42.62	54.00	-11.38	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

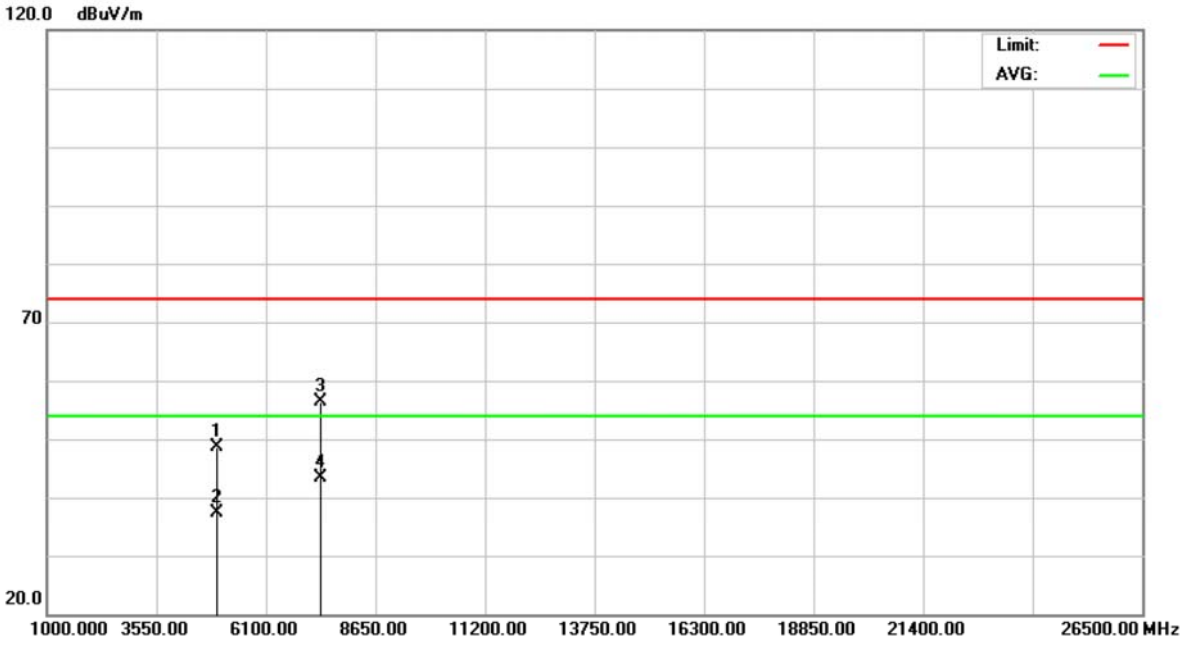
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2450.000	53.32	31.94	85.26	74.00	11.26	peak	
2	*	2450.000	44.63	31.94	76.57	54.00	22.57	AVG	
3		2483.500	25.35	32.09	57.44	74.00	-16.56	peak	
4		2483.500	13.55	32.09	45.64	54.00	-8.36	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

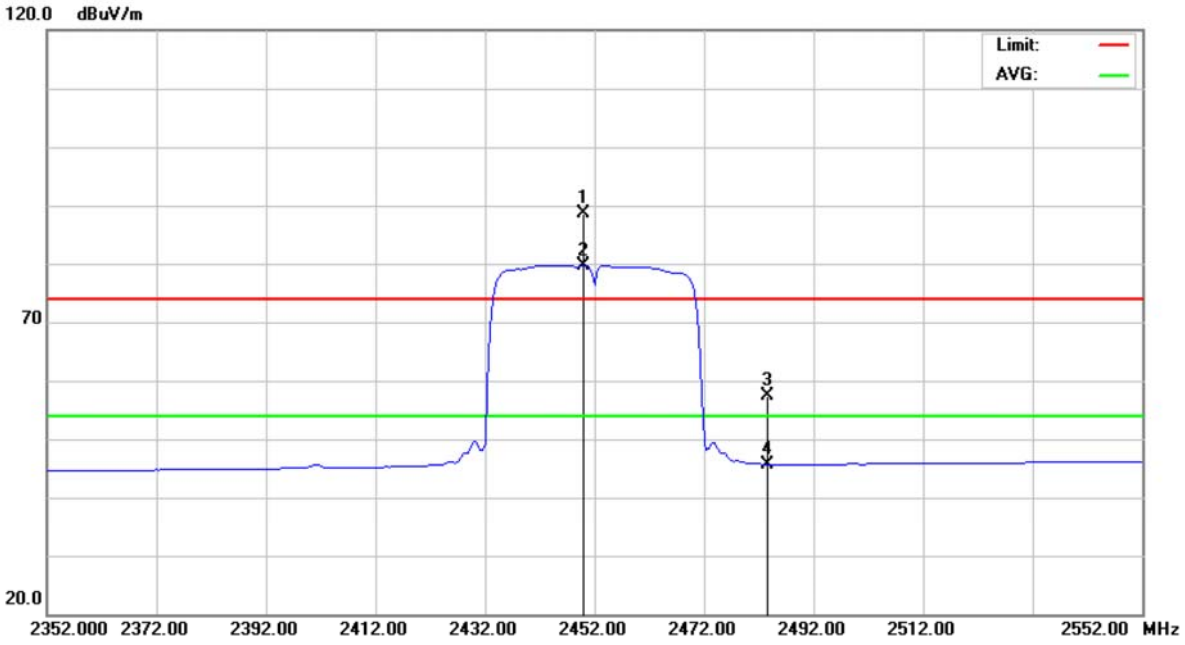
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4903.775	42.74	5.82	48.56	74.00	-25.44	peak	
2		4903.775	31.53	5.82	37.35	54.00	-16.65	AVG	
3		7356.145	43.60	12.73	56.33	74.00	-17.67	peak	
4	*	7356.145	30.74	12.73	43.47	54.00	-10.53	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

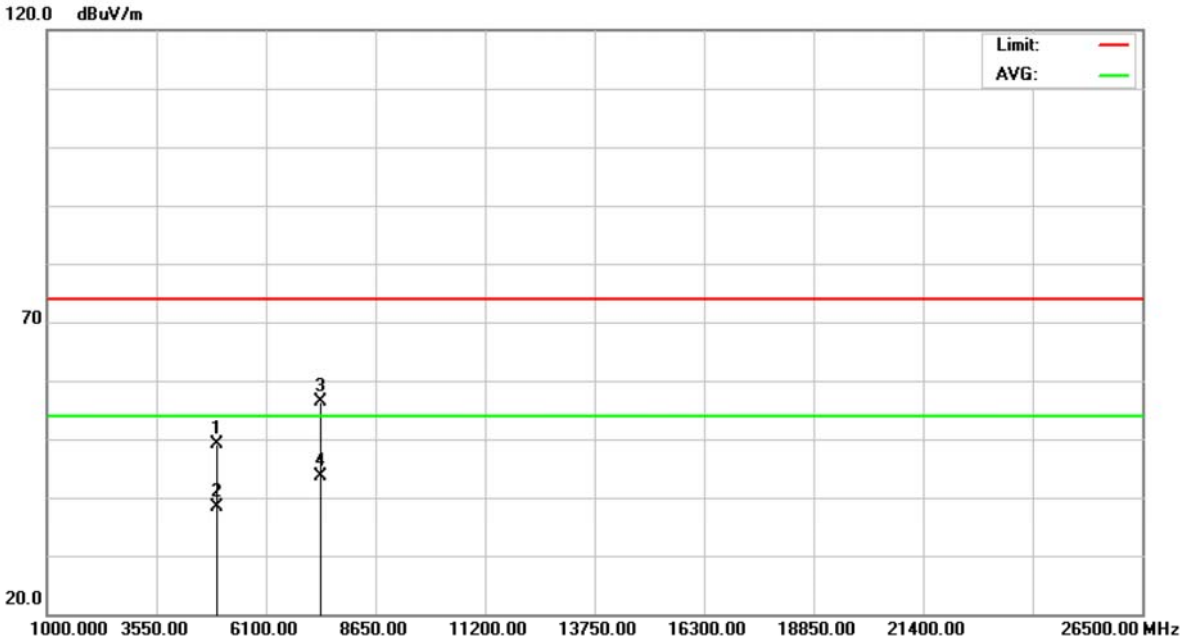
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2450.000	56.65	31.94	88.59	74.00	14.59	peak	
2	*	2450.000	47.74	31.94	79.68	54.00	25.68	AVG	
3		2483.500	25.30	32.09	57.39	74.00	-16.61	peak	
4		2483.500	13.63	32.09	45.72	54.00	-8.28	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2452 MHz		

Polarization: Horizontal

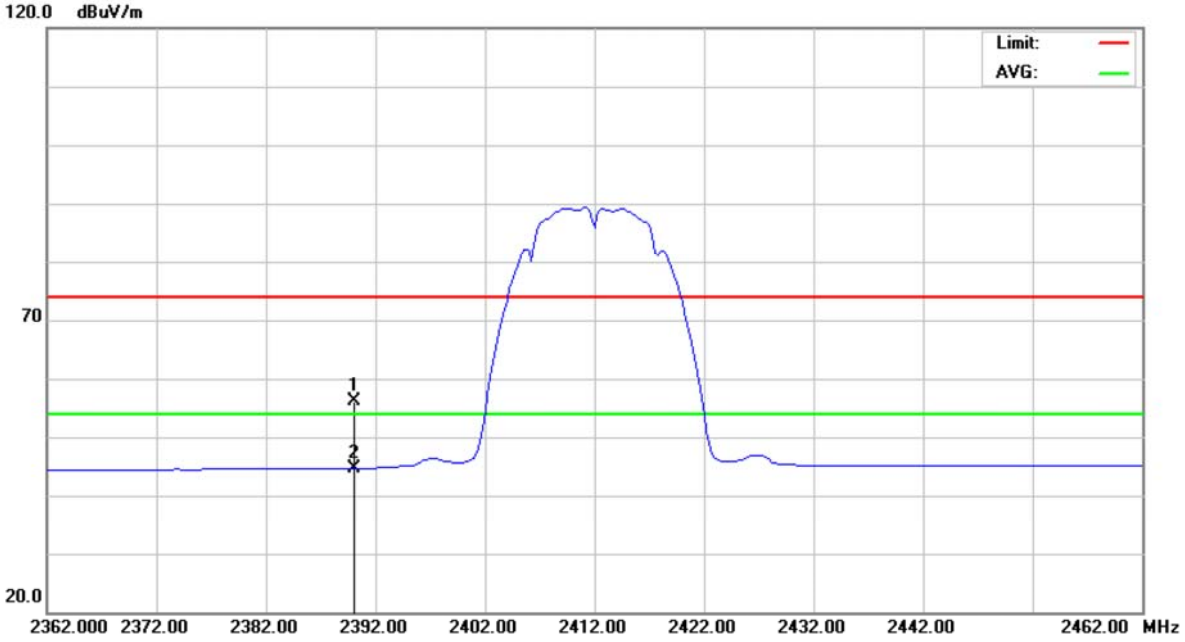


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4903.995	43.31	5.82	49.13	74.00	-24.87	peak	
2		4903.995	32.50	5.82	38.32	54.00	-15.68	AVG	
3		7356.360	43.67	12.74	56.41	74.00	-17.59	peak	
4	*	7356.360	30.80	12.74	43.54	54.00	-10.46	AVG	

8.9 TEST RESULTS (RESTRICTED BANDS)

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

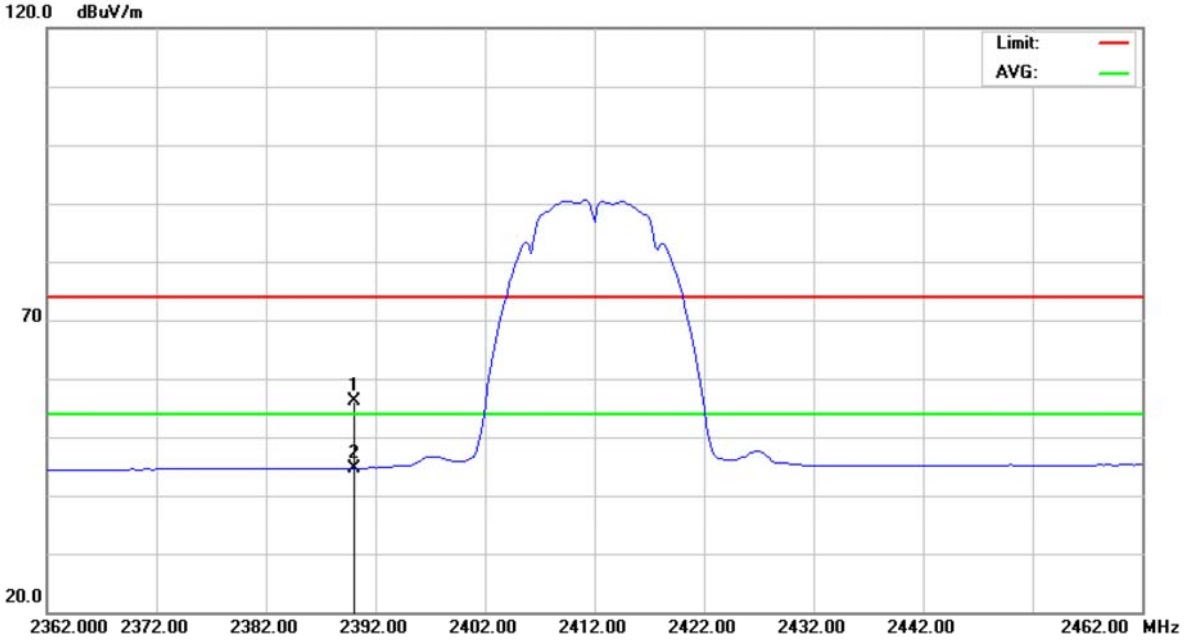
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	24.57	31.67	56.24	74.00	-17.76	peak	
2	*	2390.000	13.01	31.67	44.68	54.00	-9.32	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

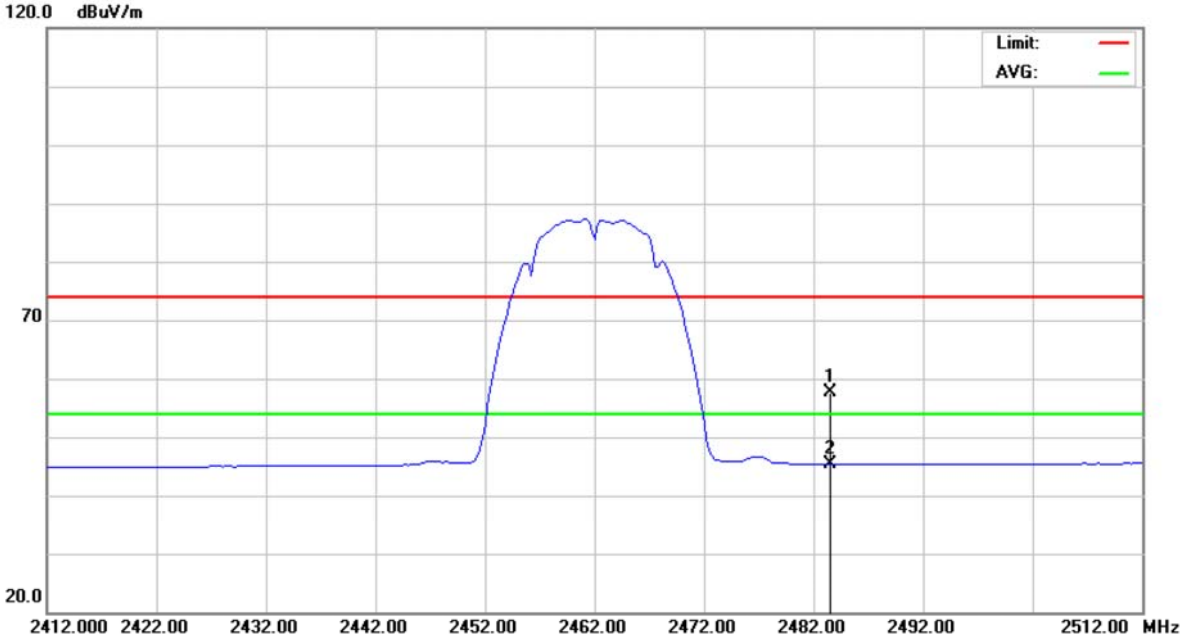
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	24.54	31.67	56.21	74.00	-17.79	peak	
2	*	2390.000	13.07	31.67	44.74	54.00	-9.26	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

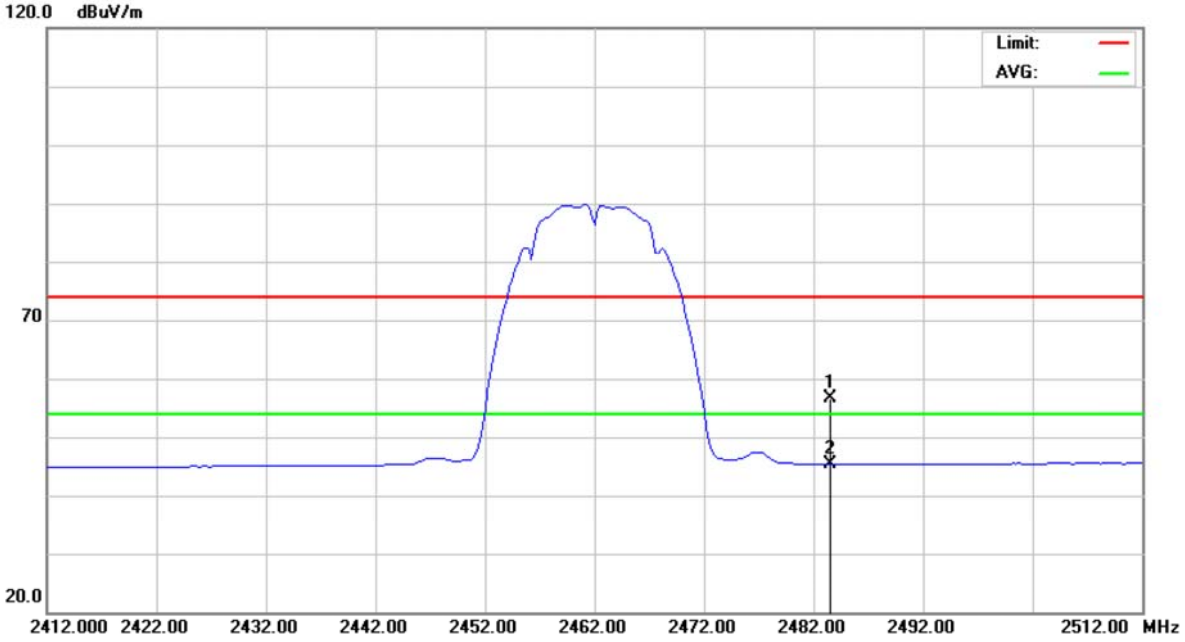
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.50	32.09	57.59	74.00	-16.41	peak	
2	*	2483.500	13.20	32.09	45.29	54.00	-8.71	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

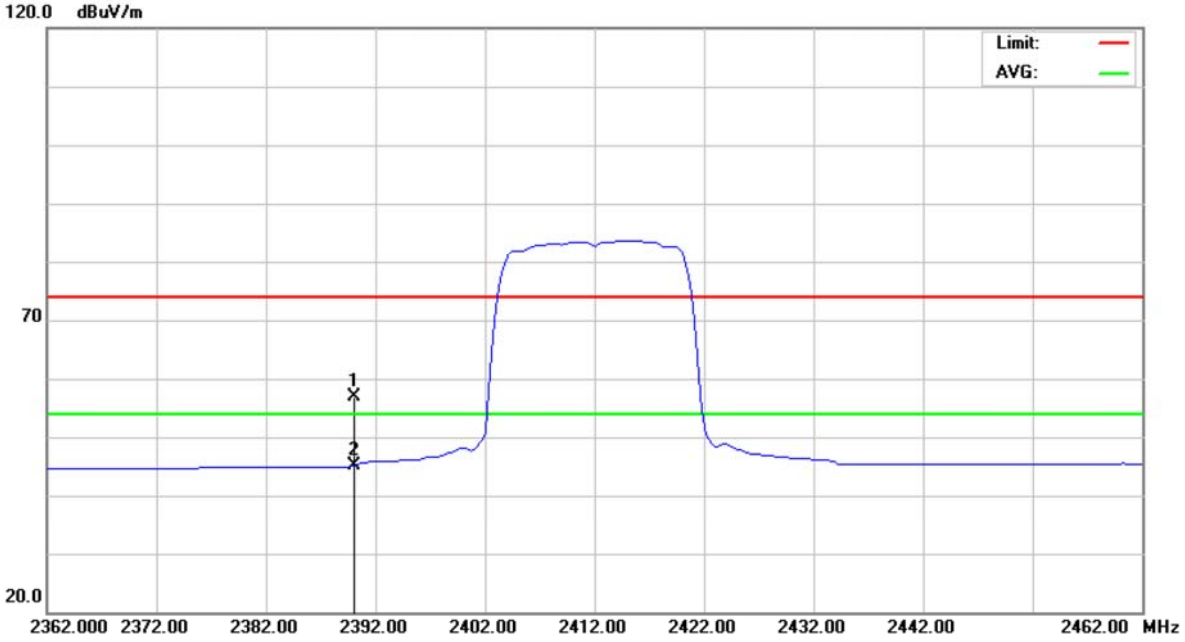
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	24.42	32.09	56.51	74.00	-17.49	peak	
2	*	2483.500	13.26	32.09	45.35	54.00	-8.65	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

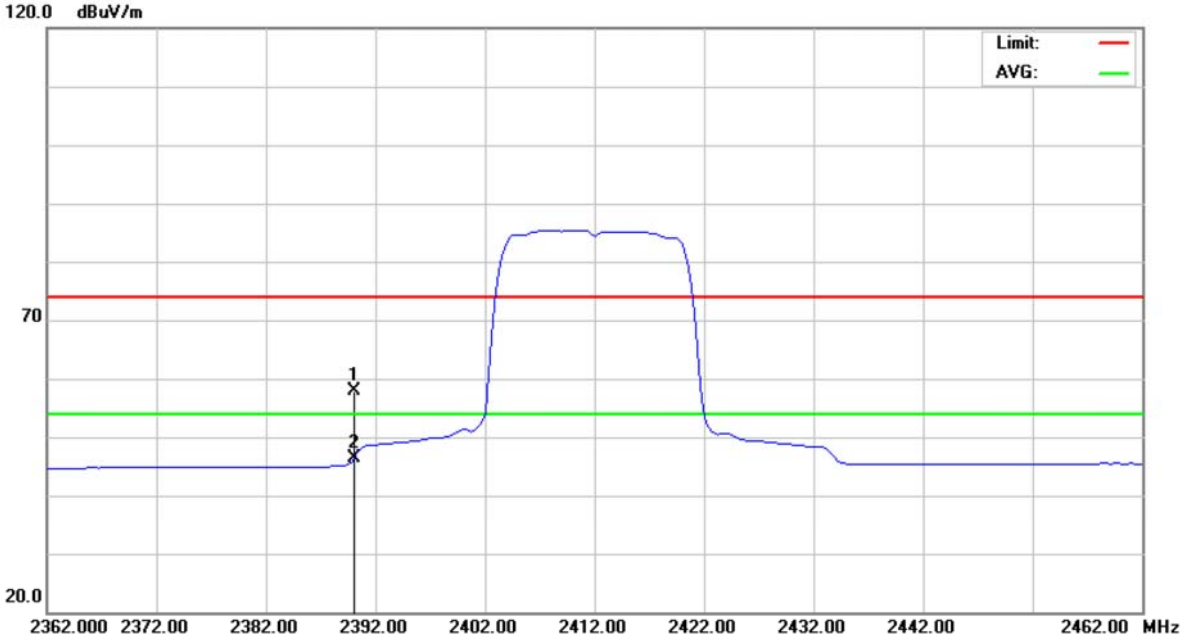
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.32	31.67	56.99	74.00	-17.01	peak	
2	*	2390.000	13.51	31.67	45.18	54.00	-8.82	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

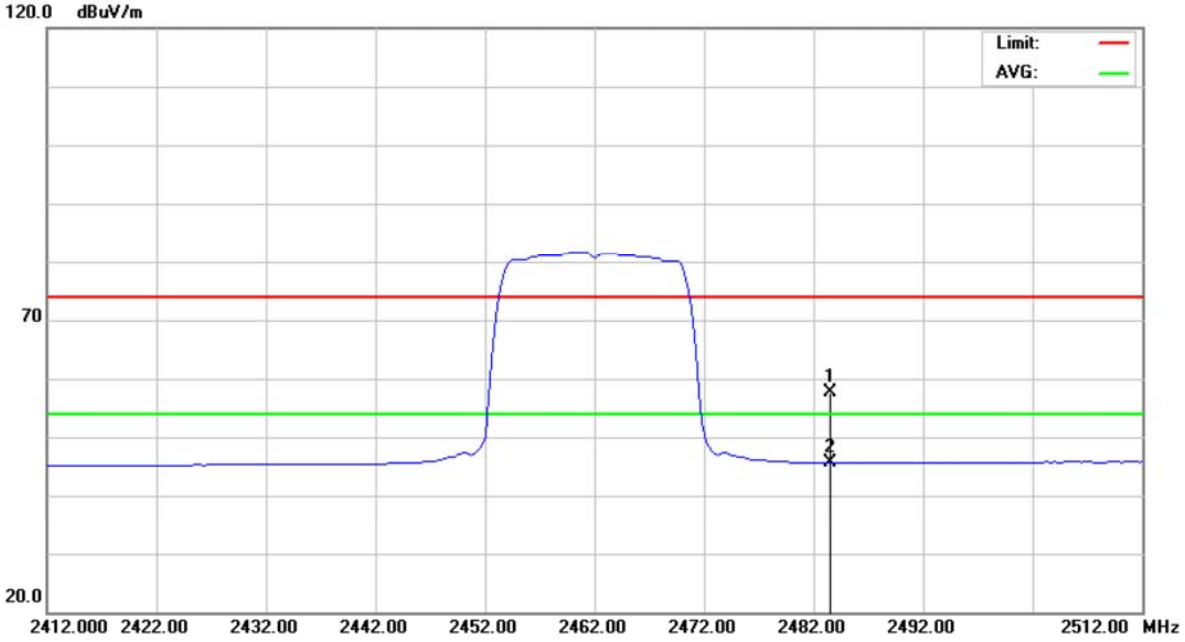
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	26.19	31.67	57.86	74.00	-16.14	peak	
2	*	2390.000	14.72	31.67	46.39	54.00	-7.61	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

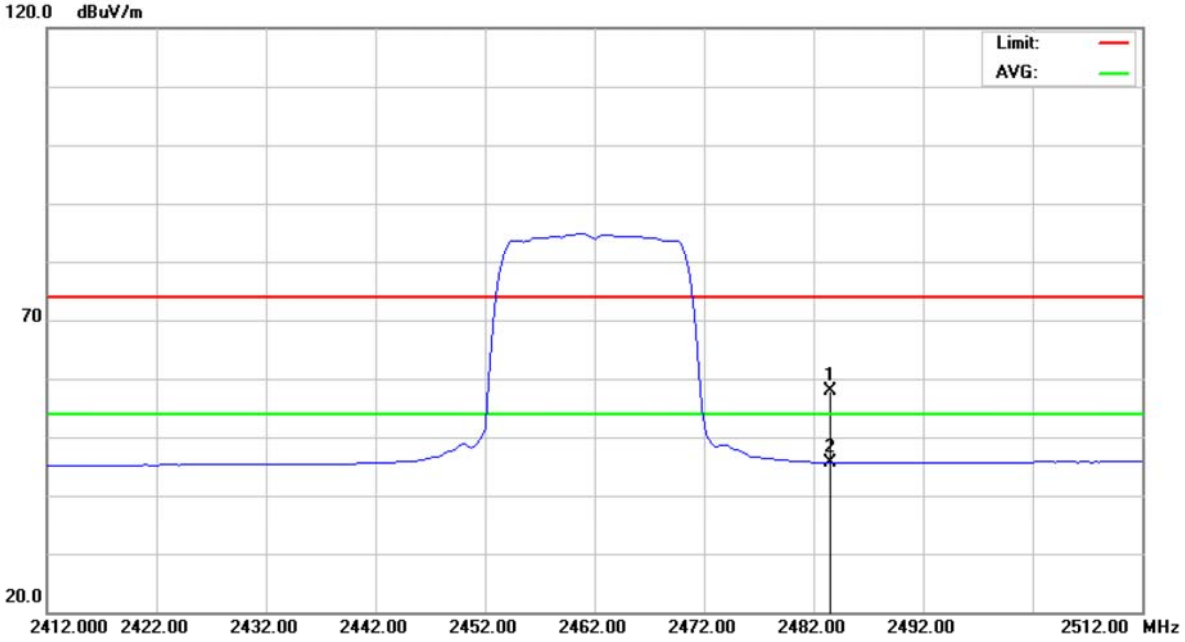
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.62	32.09	57.71	74.00	-16.29	peak	
2	*	2483.500	13.49	32.09	45.58	54.00	-8.42	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

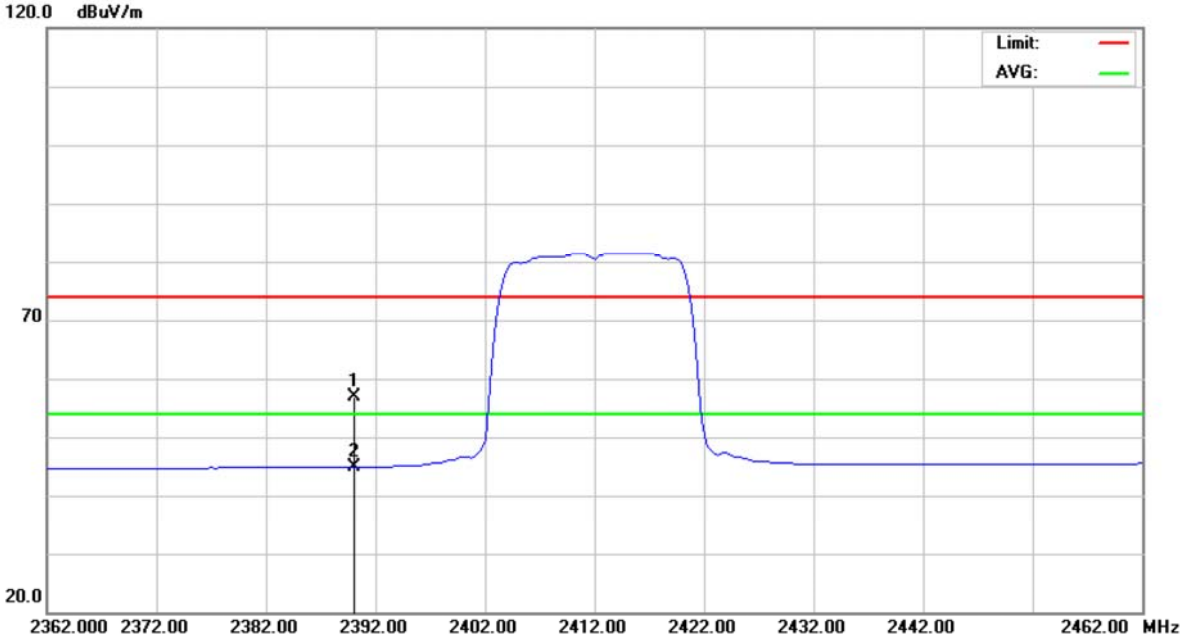
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.74	32.09	57.83	74.00	-16.17	peak	
2	*	2483.500	13.55	32.09	45.64	54.00	-8.36	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

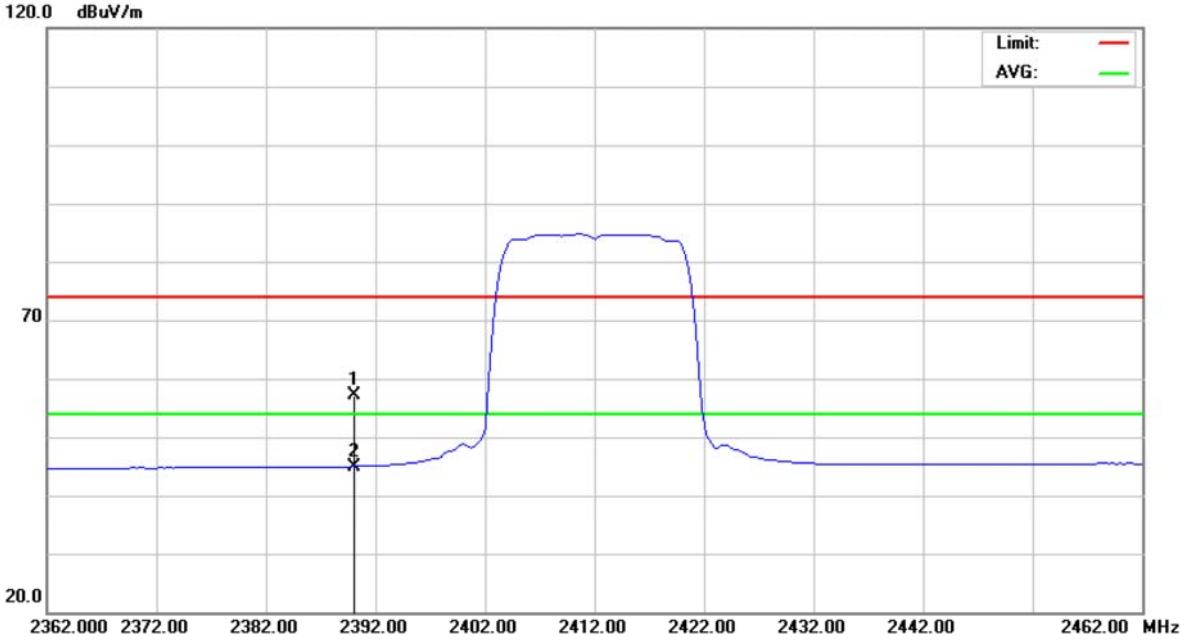
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.24	31.67	56.91	74.00	-17.09	peak	
2	*	2390.000	13.23	31.67	44.90	54.00	-9.10	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

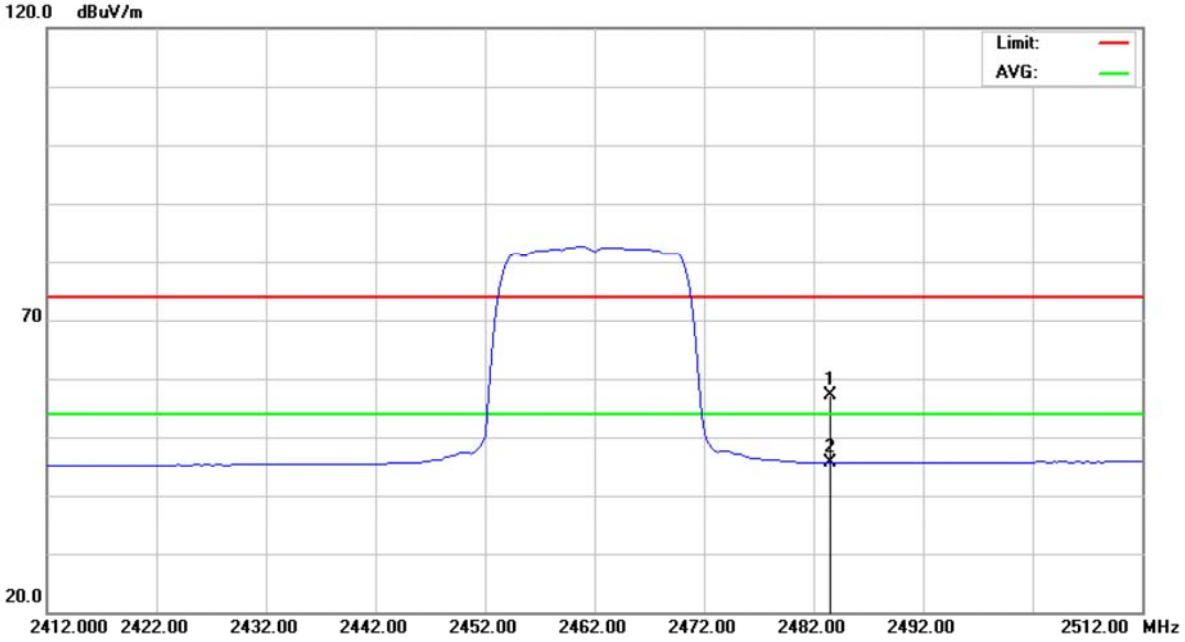
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.34	31.67	57.01	74.00	-16.99	peak	
2	*	2390.000	13.33	31.67	45.00	54.00	-9.00	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

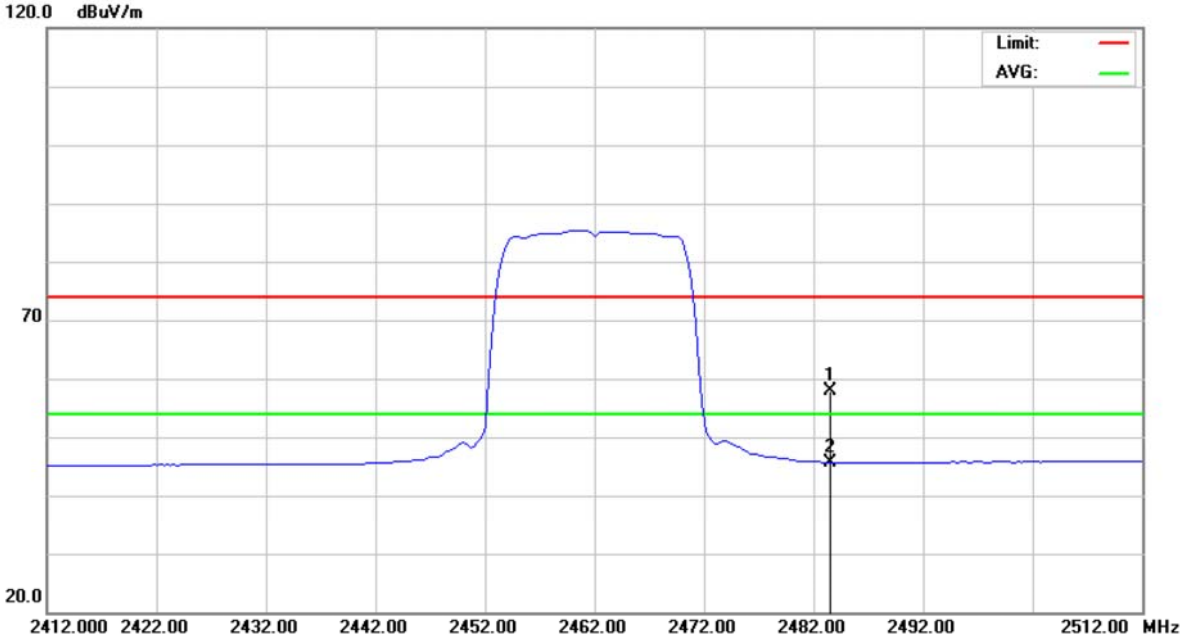
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.12	32.09	57.21	74.00	-16.79	peak	
2	*	2483.500	13.57	32.09	45.66	54.00	-8.34	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

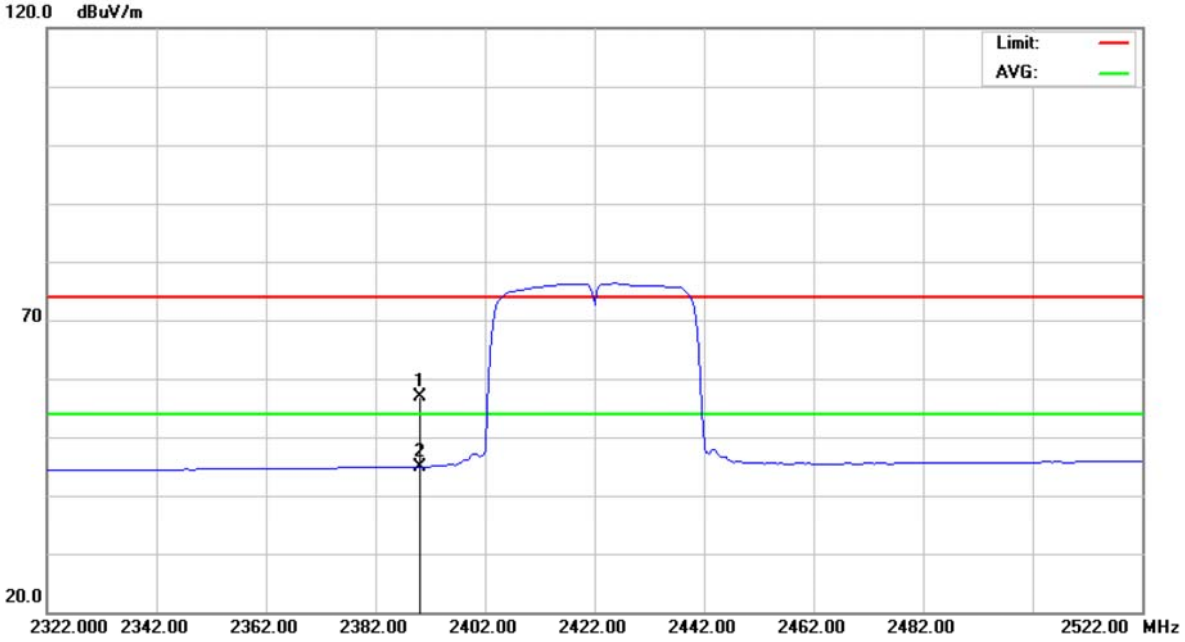
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.71	32.09	57.80	74.00	-16.20	peak	
2	*	2483.500	13.61	32.09	45.70	54.00	-8.30	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

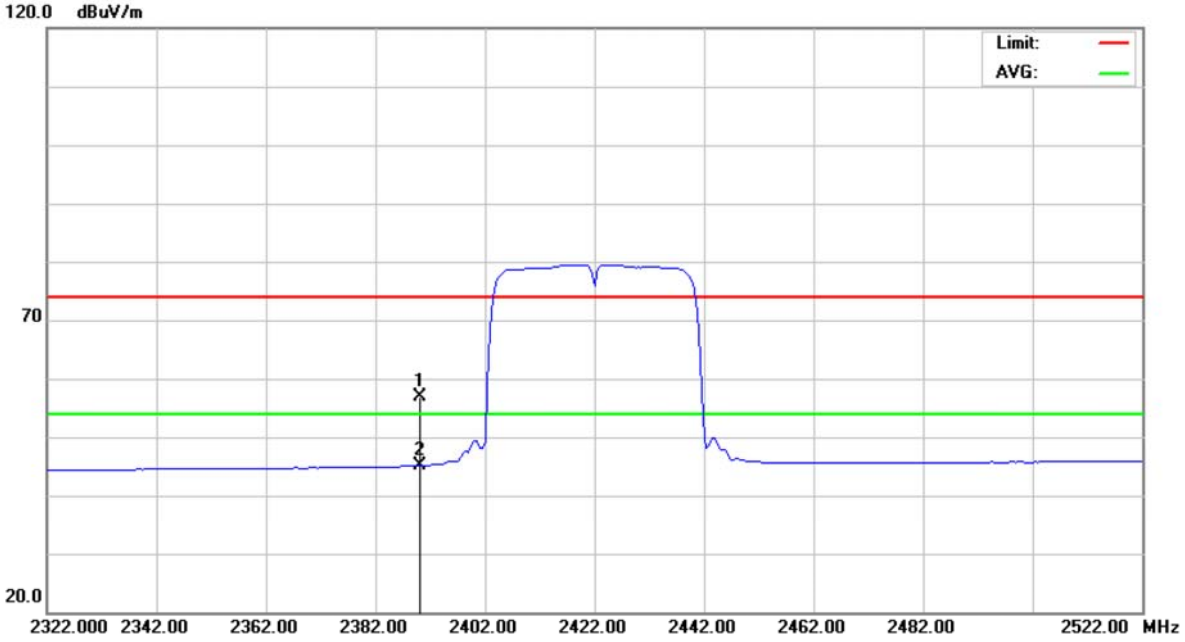
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.23	31.67	56.90	74.00	-17.10	peak	
2	*	2390.000	13.29	31.67	44.96	54.00	-9.04	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

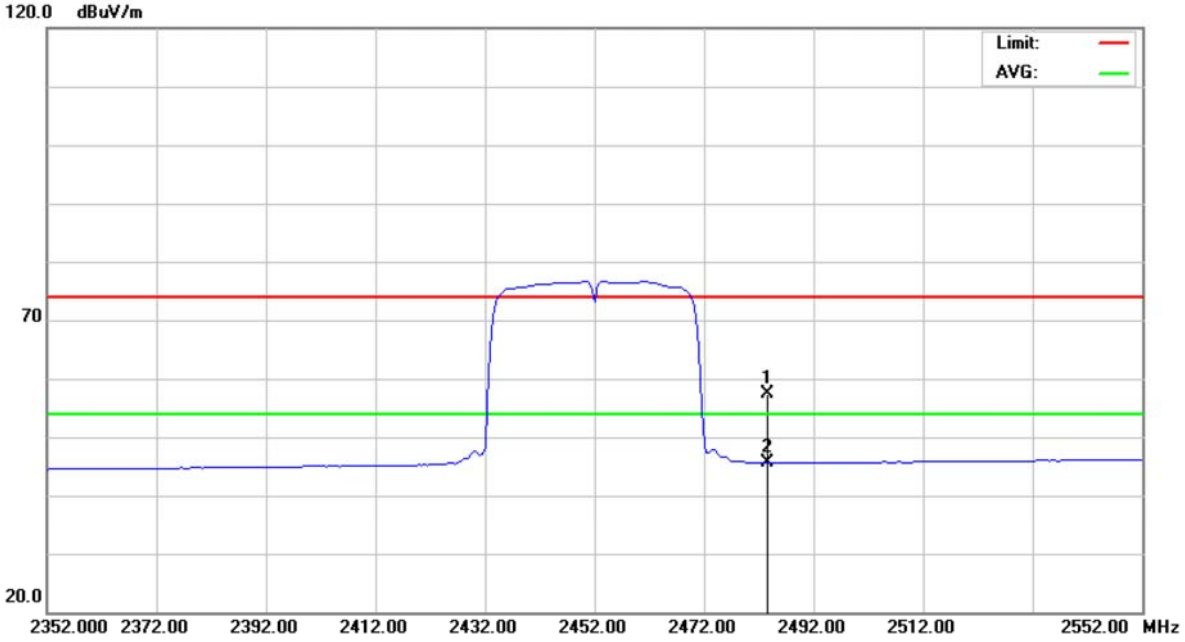
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	25.25	31.67	56.92	74.00	-17.08	peak	
2	*	2390.000	13.48	31.67	45.15	54.00	-8.85	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.		

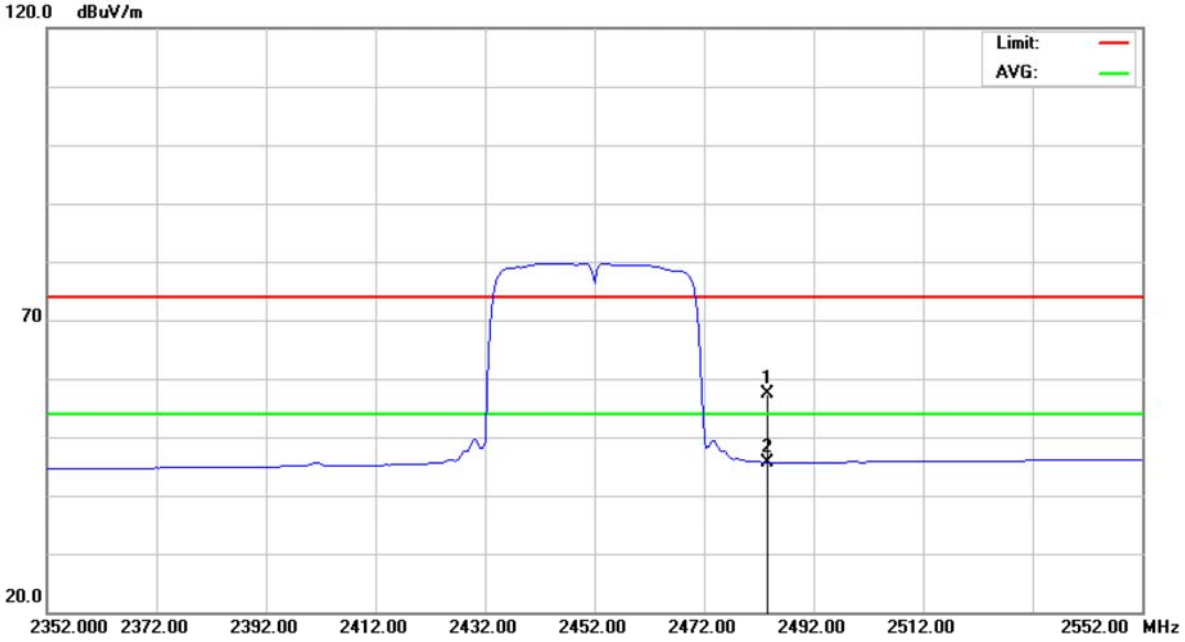
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.35	32.09	57.44	74.00	-16.56	peak	
2	*	2483.500	13.55	32.09	45.64	54.00	-8.36	AVG	

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 4.5V		
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.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	25.30	32.09	57.39	74.00	-16.61	peak	
2	*	2483.500	13.63	32.09	45.72	54.00	-8.28	AVG	

9 POWER SPECTRAL DENSITY

9.1 LIMIT

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

9.2 MEASUREMENT INSTRUMENTS LIST

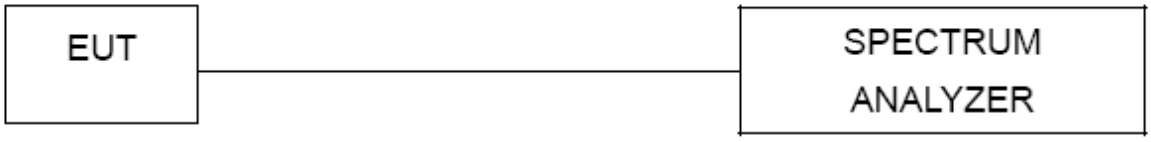
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Sep. 08, 2014

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

9.3 TEST PROCEDURES

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

9.4 TEST SETUP LAYOUT



9.5 DEVIATION FROM TEST STANDARD

No deviation

9.6 EUT OPERATING CONDITIONS

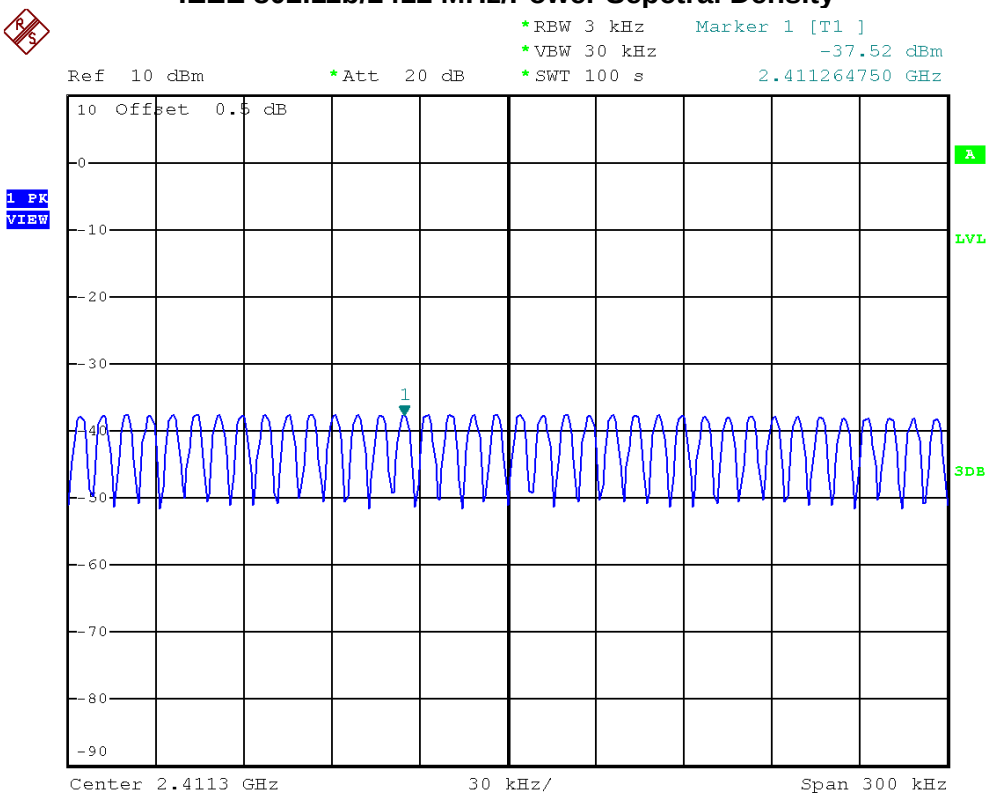
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.7 TEST RESULTS

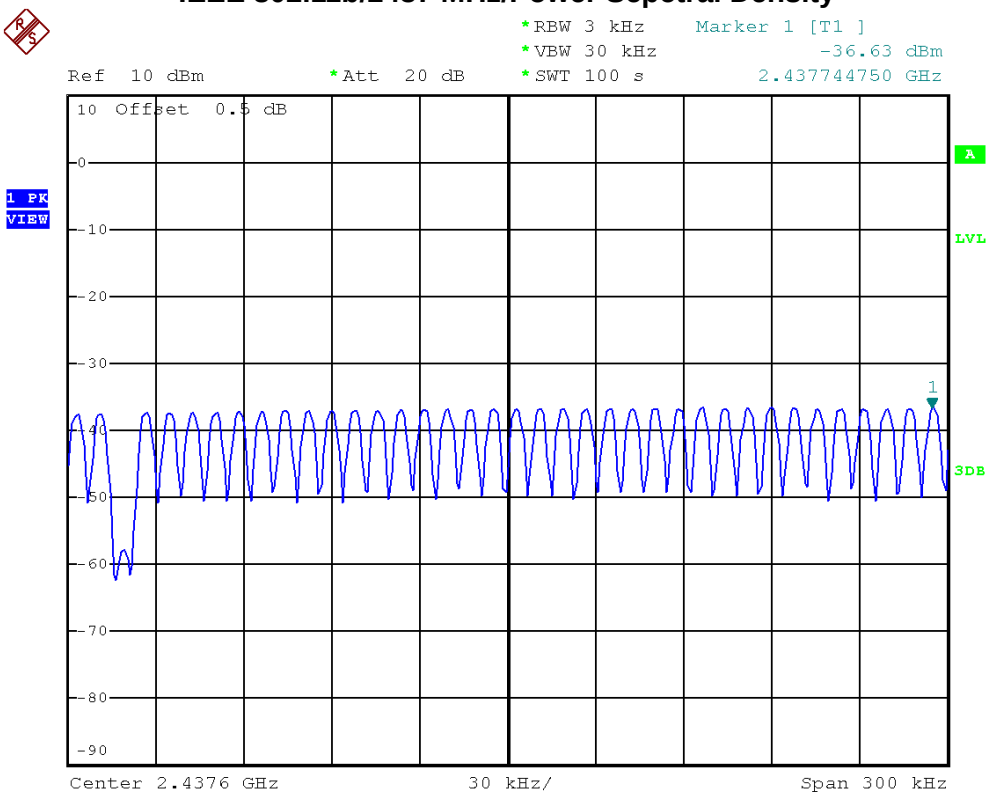
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-37.52	8	PASS
2437 MHz	-36.63	8	PASS
2462 MHz	-35.07	8	PASS

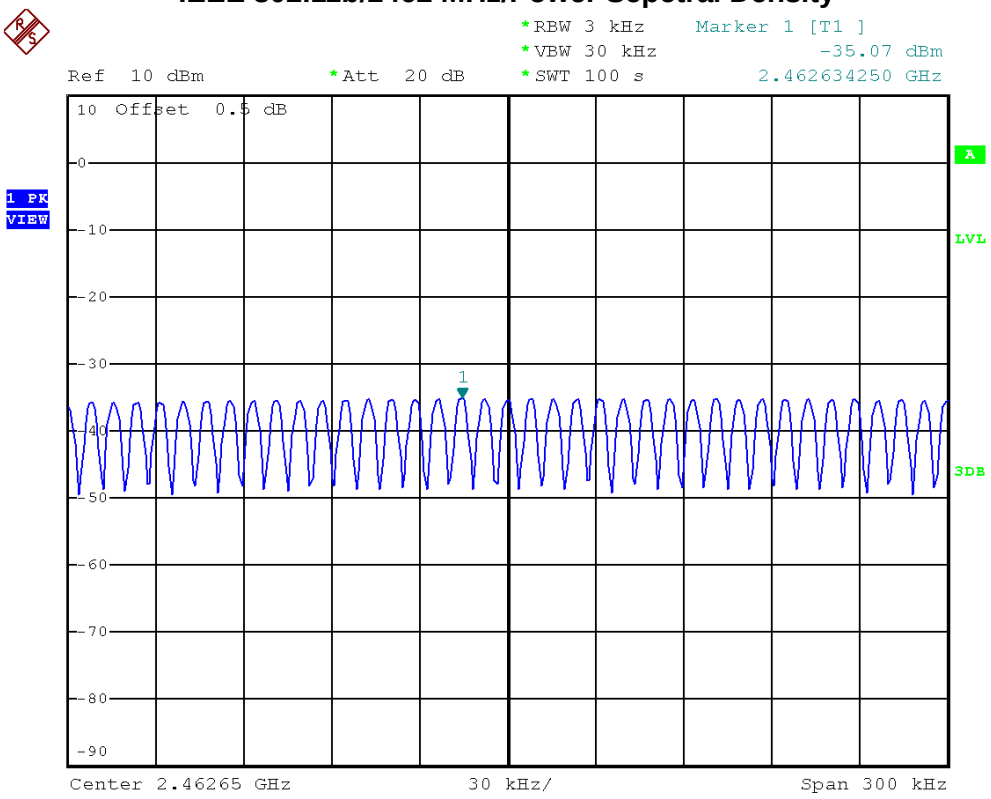
IEEE 802.11b/2412 MHz/Power Sepctral Density



IEEE 802.11b/2437 MHz/Power Sepctral Density



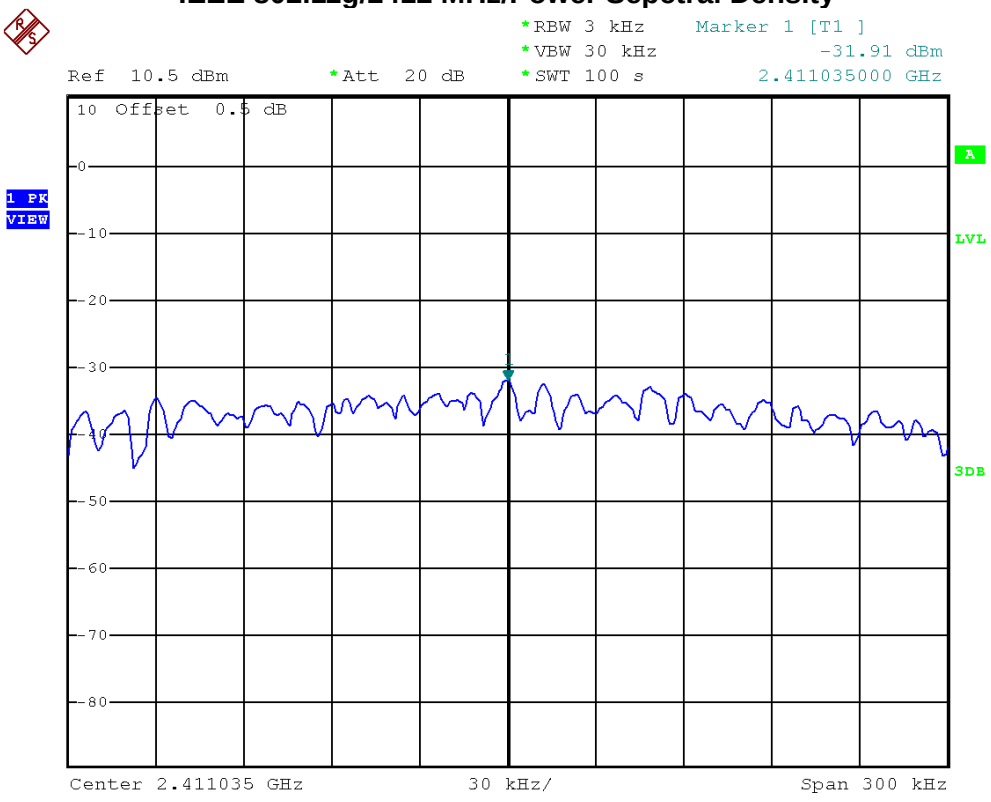
IEEE 802.11b/2462 MHz/Power Sepctral Density



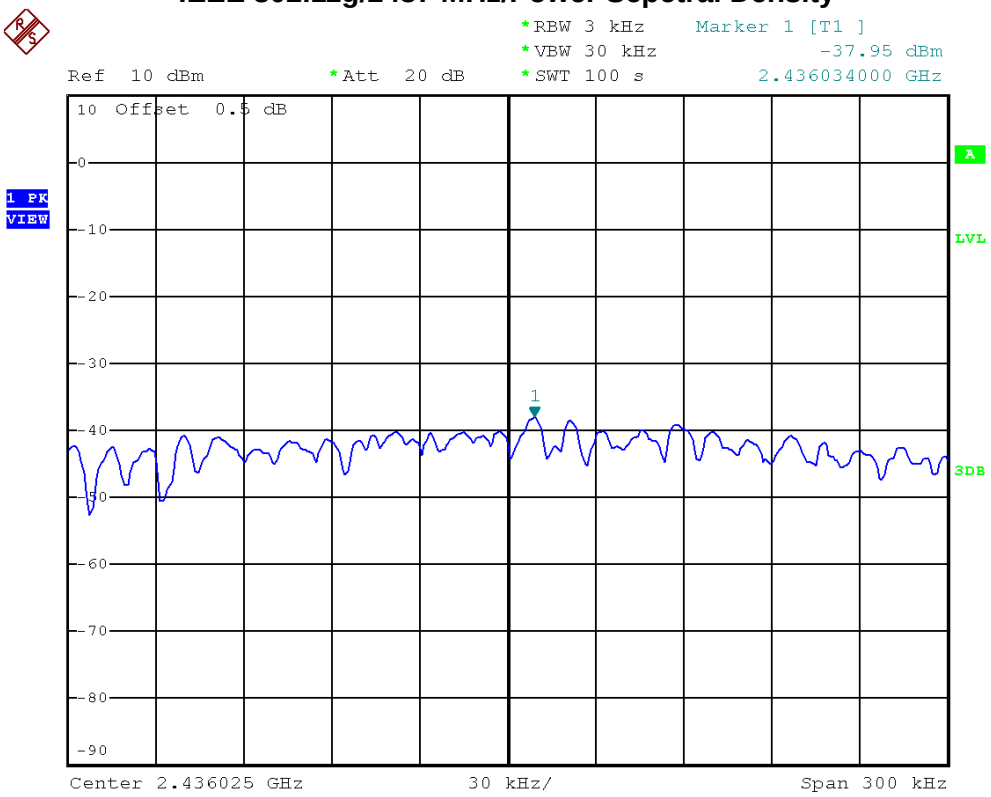
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-31.91	8	PASS
2437 MHz	-37.95	8	PASS
2462 MHz	-36.57	8	PASS

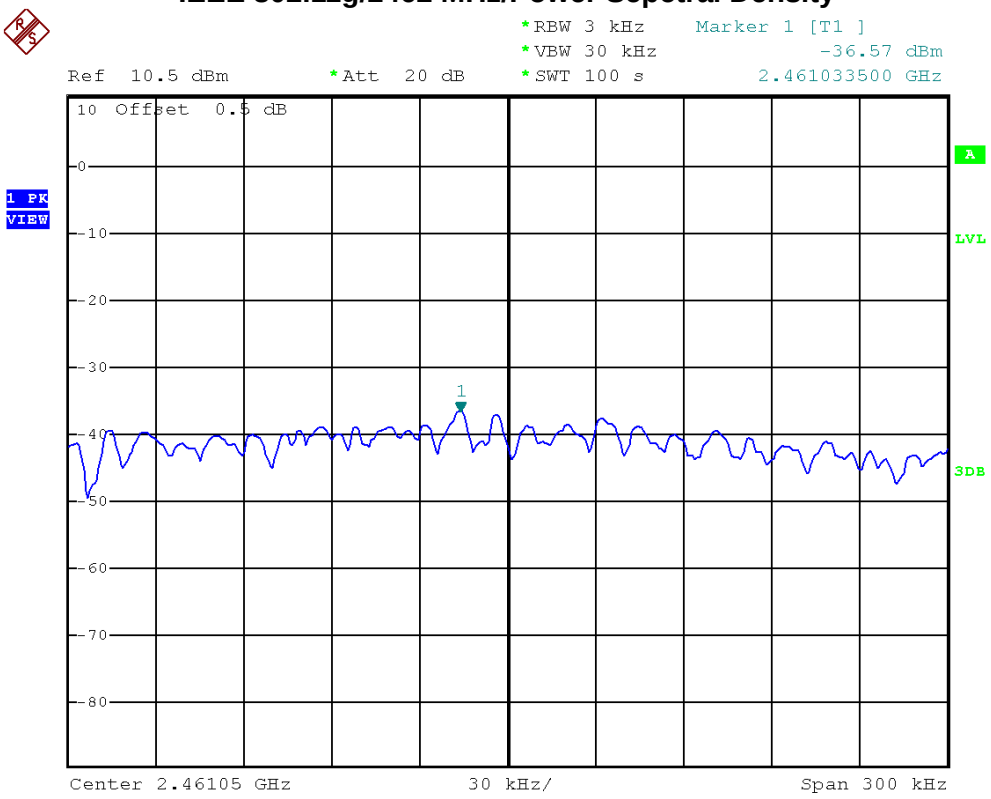
IEEE 802.11g/2412 MHz/Power Sepctral Density



IEEE 802.11g/2437 MHz/Power Sepctral Density



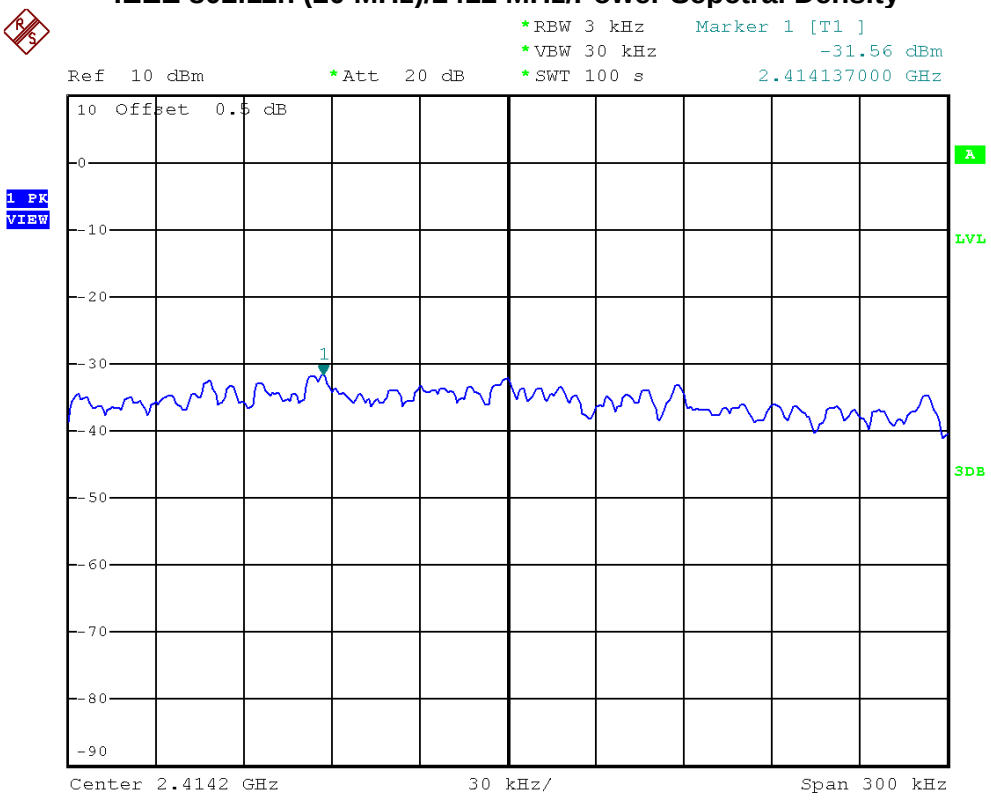
IEEE 802.11g/2462 MHz/Power Sepctral Density



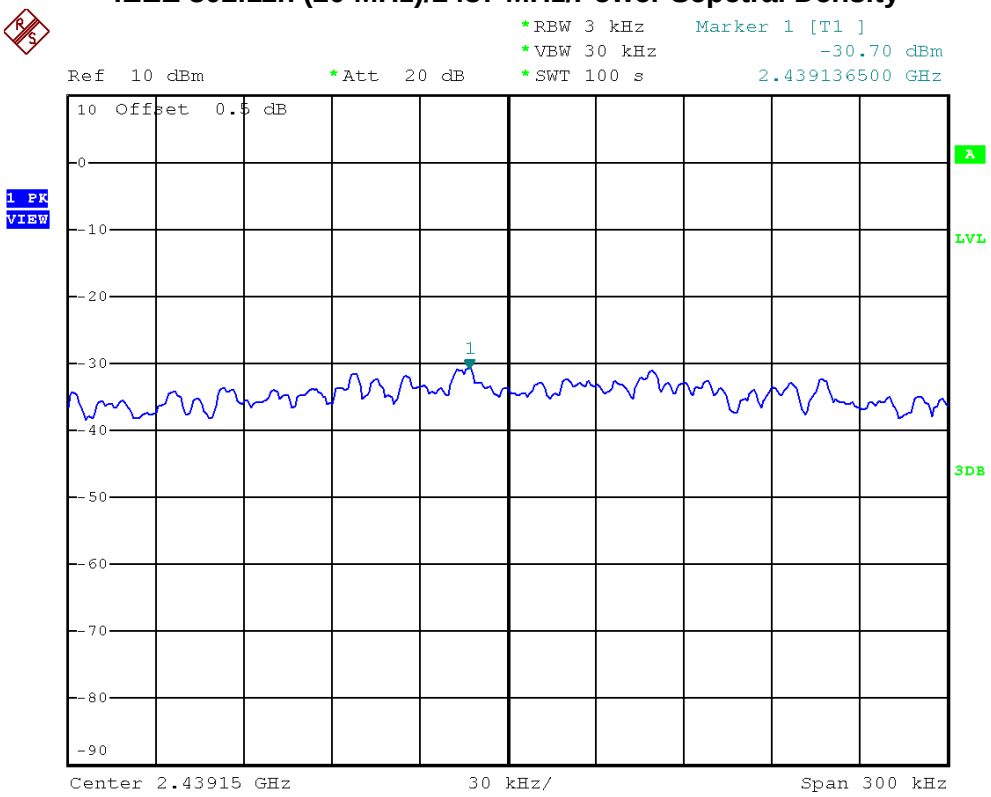
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-31.56	8	PASS
2437 MHz	-30.70	8	PASS
2462 MHz	-35.93	8	PASS

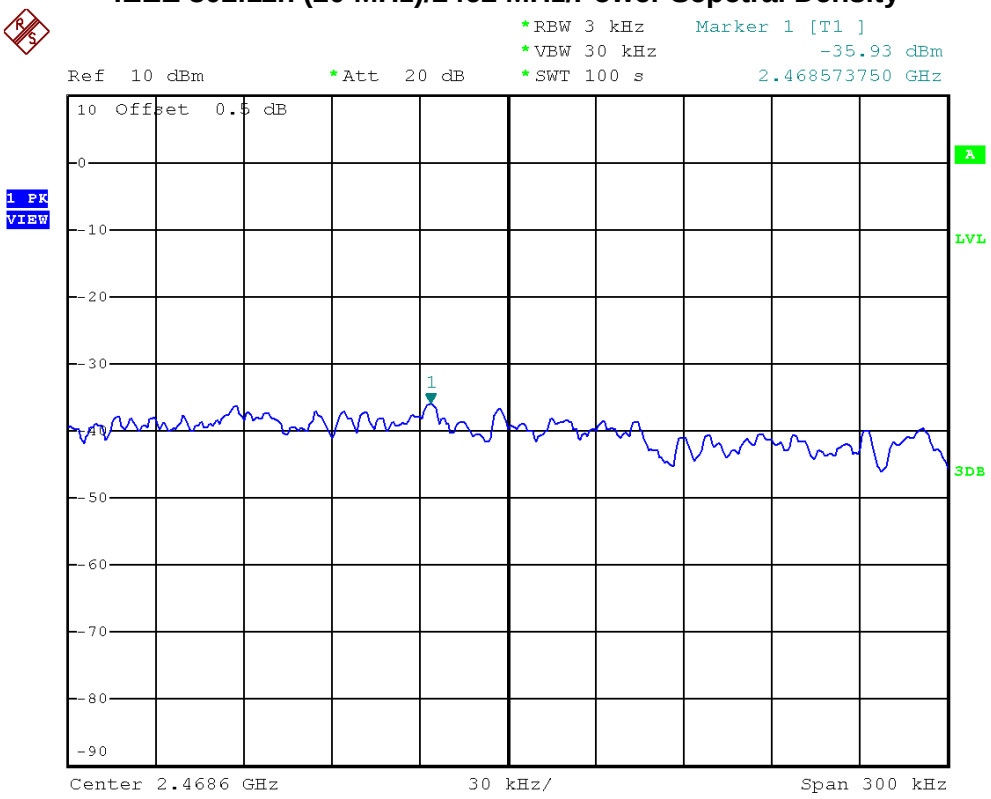
IEEE 802.11n (20 MHz)/2412 MHz/Power Sepctral Density



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



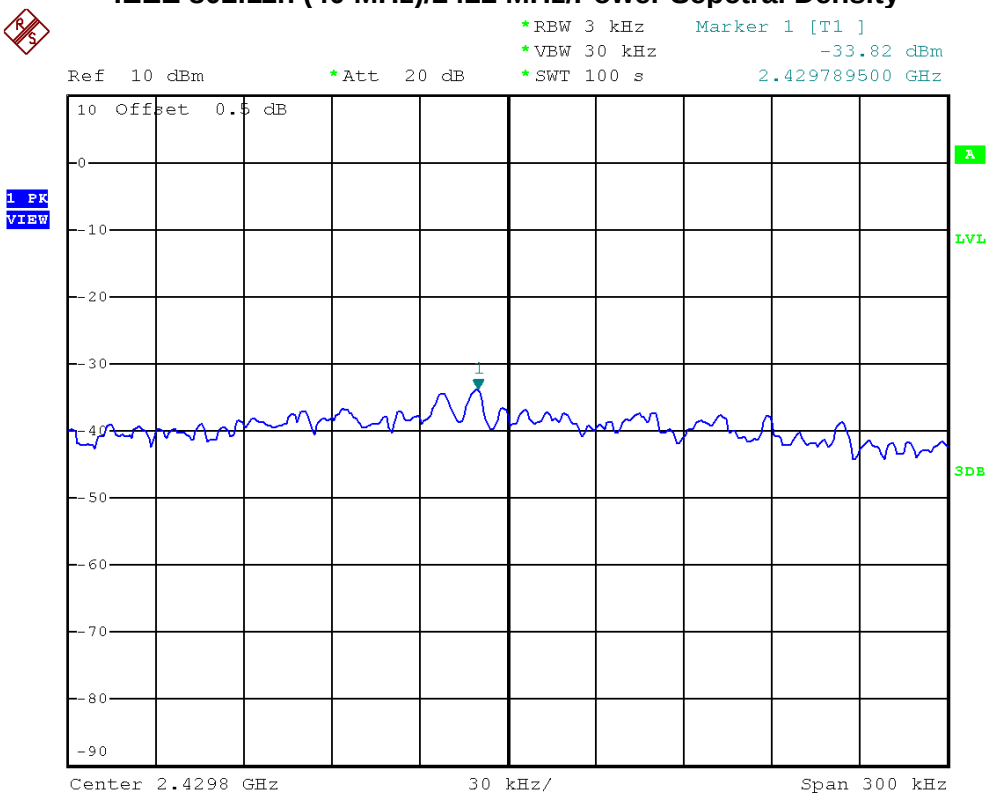
IEEE 802.11n (20 MHz)/2462 MHz/Power Sepctral Density



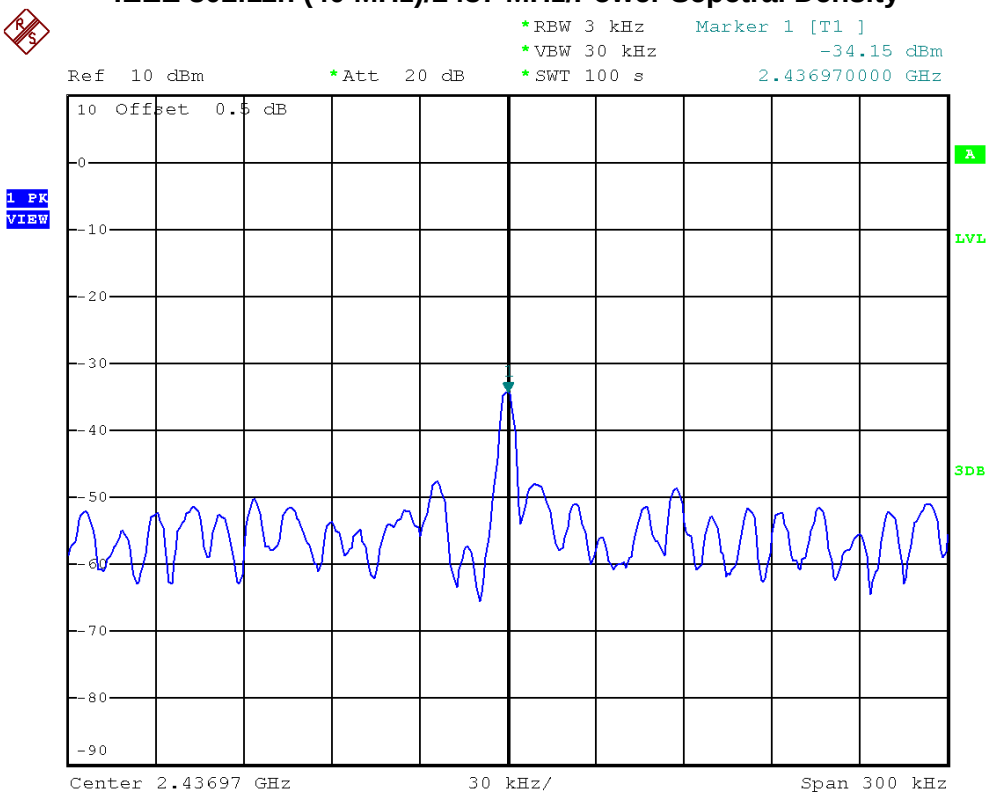
EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/2422 MHz, 2437 MHz, 2452 MHz		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-33.82	8	PASS
2437 MHz	-34.15	8	PASS
2452 MHz	-35.37	8	PASS

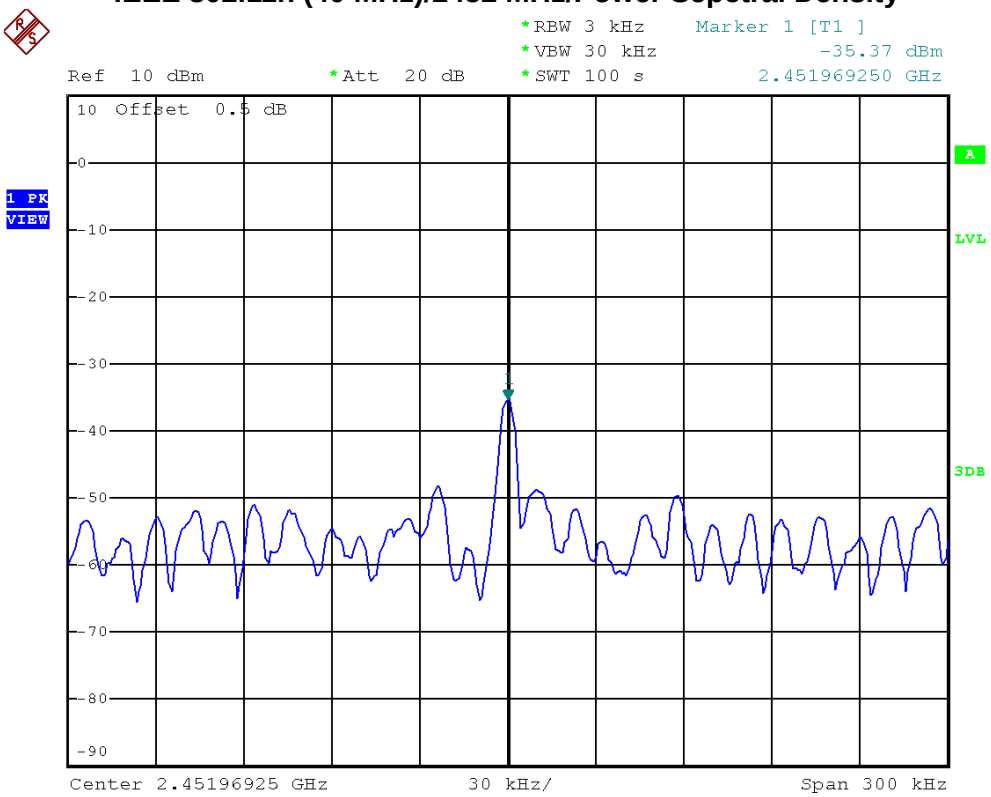
IEEE 802.11n (40 MHz)/2422 MHz/Power Sepctral Density



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



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



10 RF EXPOSURE COMPLIANCE

10.1 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/ cm^2)	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/ cm^2)	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.

10.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Aug. 15, 2014
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Aug. 15, 2014

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

10.3 MPE CALCULATION METHOD

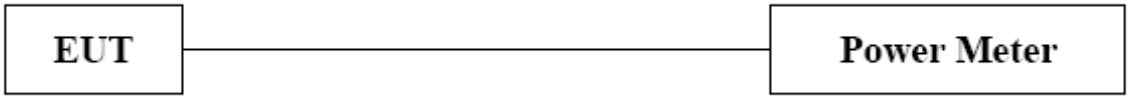
$$\text{E (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m²)} = \frac{E^2}{377}$$

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

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

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

10.4TEST SETUP LAYOUT



10.5DEVIATION FROM TEST STANDARD

No deviation

10.6EUT 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.

10.7TEST RESULTS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
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	2.79	1.9011	0.5500	1.1350	0.000429	1	PASS
2437 MHz	2.79	1.9011	0.6800	1.1695	0.000443	1	PASS
2462 MHz	2.79	1.9011	0.4200	1.1015	0.000417	1	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
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	2.79	1.9011	13.6600	23.2274	0.008789	1	PASS
2437 MHz	2.79	1.9011	5.9900	3.9719	0.001503	1	PASS
2462 MHz	2.79	1.9011	5.8500	3.8459	0.001455	1	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (20 MHz)/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	2.79	1.9907	13.3000	21.3796	0.008471	1	PASS
2437 MHz	2.79	1.9907	12.4800	17.7011	0.007014	1	PASS
2462 MHz	2.79	1.9907	4.3900	2.7479	0.001089	1	PASS

EUT	Wi-Fi Handheld Microscope	Model Name	44313
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 4.5V		
Test Mode	IEEE 802.11n (40 MHz)/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	2.79	1.9907	9.6000	9.1201	0.003614	1	PASS
2437 MHz	2.79	1.9907	10.9200	12.3595	0.004897	1	PASS
2462 MHz	2.79	1.9907	2.4800	1.7701	0.000701	1	PASS