

Radio Spectrum TEST REPORT

Report No.: 180300382TWN-001
Model No.: RW8300E-B3-a, RW8300E-NW, RW8300E-NL, RW8300E
Issued Date: Mar. 06, 2018

Applicant: Radicom Research Inc.
2148 Bering Drive San Jose, CA 95131

Test Method/ Standard: 47 CFR FCC Part 15.247 & ANSI C63.10 2013
KDB 558074 D01 v04
KDB 662911 D01 v02r01

Registration No.: 960839

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The test report was reviewed by:


Name Rico Deng
Title Supervisor

Revision History

Report No.	Issue Date	Revision Summary
180300382TWN-001	Mar. 06, 2018	Add serial models and enclosure. After engineer judgment, the difference does not affect the RF characteristic; the model was evaluated and deemed as meet the standards requirement, no additional tests were considered necessary. Then all test data and test items in this report based on report of 170300545TWN-001.(FCC ID: K7T-RW8300)

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Summary of Test Data

Test Requirement	Applicable Rule (Section 15.247)	Result
Minimum 6 dB Bandwidth	15.247(a)(2)	Pass
Maximum Peak Conducted Output Power	15.247(b)(3)	Pass
Power Spectral Density	15.247(e)	Pass
Emissions In Non-Restricted Frequency Bands	15.247(d)	Pass
Emissions In Restricted Frequency Bands (Radiated emission measurements)	15.247(d), 15.205, 15.209	Pass
Emission On The Band Edge	15.247(d), 15.205	Pass
AC Power Line Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass

1. General information

1.1. Identification of the EUT

Product:	Wireless universal adapter
Model No.:	RW8300E-B3-a
Operating Frequency:	1. 2412 MHz ~ 2462 MHz for 802.11b, 802.11g, 802.11n HT20 2. 2422 MHz ~ 2452 MHz for 802.11n HT40
Channel Number:	1. 11 channels for 2412 MHz ~ 2462 MHz 2. 9 channels for 2422 MHz ~ 2452 MHz
Frequency of Each Channel:	1. 2412+5 k, k = 0 ~ 10 for 802.11b, 802.11g, 802.11n HT20 2. 2422+5 k, k = 0 ~ 6 for 802.11b, 802.11g, 802.11n HT40
Access scheme:	DSSS, OFDM
Rated Power:	DC 5V
Power Cord:	N/A
Sample Received:	Workable
Test Date(s):	Mar. 1, 2018 ~ Mar. 9, 2018
Note:	1. The BT4.2(BLE) module has been granted under the FCC ID: K7T-RB8762 2. This case is host application.
<p>Note 1: The test report only allows to be revised within three years from its original issued date unless further standard or the requirement was noticed.</p> <p>Note 2: When determining the test conclusion, the Measurement Uncertainty of test has been considered.</p> <p>Note 3: Except where explicitly agreed in writing, all work and services performed by Intertek is subject to our standard Terms and Conditions which can be obtained at our website: http://www.intertek-twn.com/terms/. Intertek's responsibility and liability are limited to the terms and conditions of the agreement.</p> <p><i>This report is made solely on the basis of your instructions and / or information and materials supplied by you and provide no warranty on the tested sample(s) be truly representative of the sample source. The report is not intended to be a recommendation for any particular course of action, you are responsible for acting as you see fit on the basis of the report results. Intertek is under no obligation to refer to or report upon any facts or circumstances which are outside the specific instructions received and accepts no responsibility to any parties whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works. This report does not discharge or release you from your legal obligations and duties to any other person. You are the only one authorized to permit copying or distribution of this report (and then only in its entirety). Any such third parties to whom this report may be circulated rely on the content of the report solely at their own risk.</i></p>	

1.2. Description of the EUT

Modulation mode	Transmit path	
	Chain 0	Chain 1
802.11b	V	V
802.11g	V	V
802.11n (HT20)	V	V
802.11n (HT40)	V	V

Classification	Model name	Different
mini USB, RJ45 jack w/o enclosure	RW8300E-B3-a	produce with enclosure, with BT 4.2(RB8762), PIFA
	RW8300E-NW	produce with enclosure, no WLAN(w/o PIFA, IPEX)
	RW8300E-NL	produce with enclosure, with PIFA, no LAN(w/o RJ45 jack and 10/100 base transformer)
	RW8300E	produce with enclosure, with PIFA,LAN, WLAN

Note: The BT4.2(BLE) module has been granted under the FCC ID: K7T-RB8762

1.3. Antenna description

The EUT uses a permanently connected antenna.

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Antenna Gain : 2 dBi
Antenna Type : PIFA antenna
Connector Type : Fixed

1.4. Operation mode

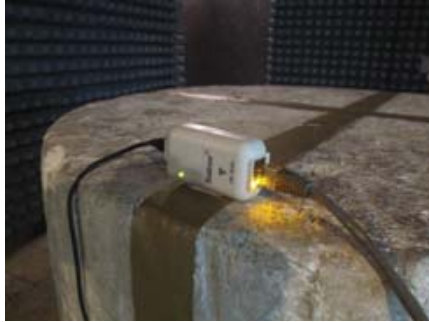
The EUT was supplied with DC 5.0 V from Notebook PC.

TX-MODE is based on a specific test program “RTL819x 3.3”, and the program can select different frequency and modulation.

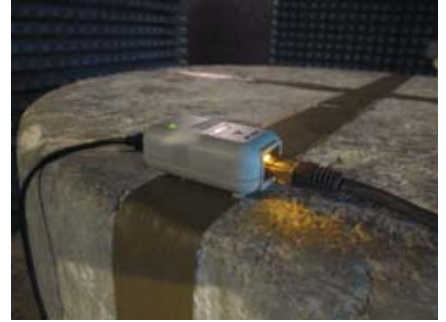
The signal is maximized through rotation and placement in the three orthogonal axes.



X axis



Y axis



Z axis

After verifying three axes, we found the maximum electromagnetic field was occurred at Z axis. The final test data was executed under this configuration.

With individual verifying, the maximum output power were found out 1 Mbps data rate for 802.11b mode, 6 Mbps data rate for 802.11g mode, 6.5 Mbps data rate for 802.11n(HT20) mode and, 13.5 Mbps data rate for 802.11n(HT40) mode the final tests were executed under these conditions recorded in this report individually.

Mode	Channel	Data rate	Chain0 AV (dBm)	Chain1 AV (dBm)
802.11b	ch6	1	14.49	15.45
802.11b	ch6	2	14.37	15.38
802.11b	ch6	5.5	14.31	15.33
802.11b	ch6	11	14.25	15.24
802.11g	ch6	6	2.16	6.86
802.11g	ch6	9	2.09	6.82
802.11g	ch6	12	2.03	6.74
802.11g	ch6	18	1.99	6.71
802.11g	ch6	24	1.92	6.65
802.11g	ch6	36	1.88	6.62
802.11g	ch6	48	1.86	6.58
802.11g	ch6	54	1.77	6.54
802.11n(HT20)	ch6	MCS0	2.29	6.88
802.11n(HT20)	ch6	MCS1	2.24	6.84
802.11n(HT20)	ch6	MCS2	2.20	6.79
802.11n(HT20)	ch6	MCS3	2.17	6.77
802.11n(HT20)	ch6	MCS4	2.12	6.71
802.11n(HT20)	ch6	MCS5	2.09	6.64
802.11n(HT20)	ch6	MCS6	2.03	6.60
802.11n(HT20)	ch6	MCS7	1.99	6.52
802.11n(HT40)	ch6	MCS0	9.29	14.13
802.11n(HT40)	ch6	MCS1	9.22	14.03
802.11n(HT40)	ch6	MCS2	9.18	13.98
802.11n(HT40)	ch6	MCS3	9.15	13.94
802.11n(HT40)	ch6	MCS4	9.09	13.89
802.11n(HT40)	ch6	MCS5	9.04	13.86
802.11n(HT40)	ch6	MCS6	9.01	13.81
802.11n(HT40)	ch6	MCS7	8.95	13.77

1.5. Applied test modes and channels

Test items	Mode	Data Rate (Mbps)	Channel	Antenna
Maximum Conducted Output Power	802.11b	1	1,6,11	Chain0/Chain1
	802.11g	6	1,6,11	Chain0/Chain1
	802.11n (HT20)	6.5	1,6,11	Chain0/Chain1
	802.11n (HT40)	13.5	3,6,9	Chain0/Chain1
Power Spectrum Density	802.11b	1	1,6,11	Chain0/Chain1
	802.11g	6	1,6,11	Chain0/Chain1
	802.11n (HT20)	6.5	1,6,11	Chain0/Chain1
	802.11n (HT40)	13.5	3,6,9	Chain0/Chain1
Emission BW	802.11b	1	1,6,11	Chain0/Chain1
	802.11g	6	1,6,11	Chain0/Chain1
	802.11n (HT20)	6.5	1,6,11	Chain0/Chain1
	802.11n (HT40)	13.5	3,6,9	Chain0/Chain1
Radiated spurious Emission 9kHz~1GHz	Worst case			
Emissions In Restricted Frequency Bands (Radiated emission measurements)	802.11b	1	1,6,11	Chain0/Chain1
	802.11g	6	1,6,11	Chain0/Chain1
	802.11n (HT20)	6.5	1,6,11	Chain0/Chain1
	802.11n (HT40)	13.5	3,6,9	Chain0/Chain1
Emission on The Band Edge	802.11b	1	1,6,11	Chain0/Chain1
	802.11g	6	1,6,11	Chain0/Chain1
	802.11n (HT20)	6.5	1,6,11	Chain0/Chain1
	802.11n (HT40)	13.5	3,6,9	Chain0/Chain1
AC Line Conducted Emission	Normal Link			

1.6. Power setting of test software

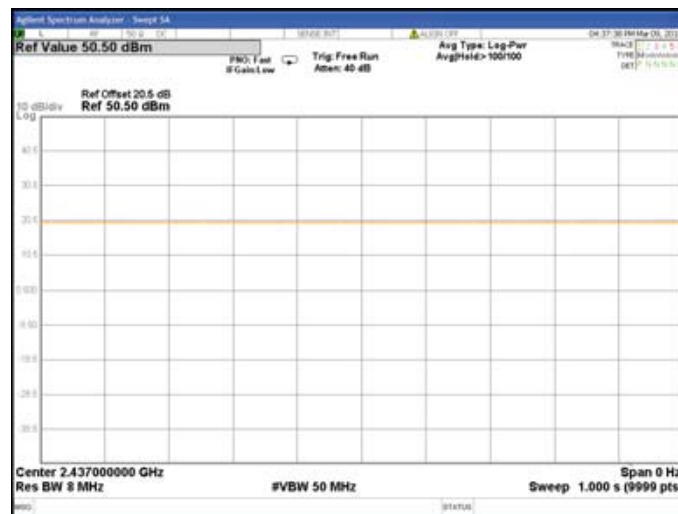
Channels & power setting software provided by the client was used to change the operating channels as well as the output power level and is going to be installed in the final end product.

Mode	Channel	Frequency	Power setting (Chain0)	Power setting (Chain1)
802.11b	1	2412	38	38
	6	2437	38	37
	11	2462	37	38
802.11g	1	2412	37	44
	6	2437	21	28
	11	2462	23	28
802.11n(HT 20)	1	2412	37	44
	6	2437	21	28
	11	2462	23	28
802.11n(HT40)	3	2422	38	45
	6	2437	38	45
	9	2452	39	44

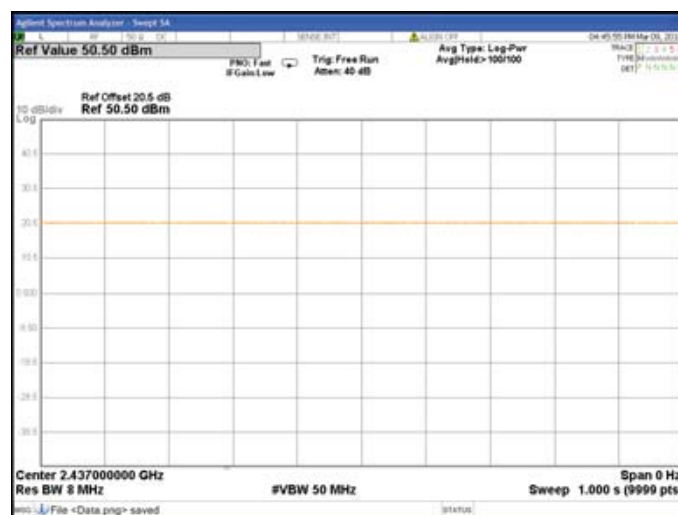
Note: The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

Mode	Chain	Channel	Frequency (MHz)	Data rate (Mbps)	Signal on time(s)	Total signal transmit time(s)	Duty cycle	Duty Cycle factor
802.11b	Chain 0	6	2437	1.00	1.00	1.00	1.00	0.00
802.11g	Chain 0	6	2437	6.00	1.00	1.00	1.00	0.00
802.11n (HT20)	Chain 0	6	2437	6.50	1.00	1.00	1.00	0.00
802.11n (HT40)	Chain 0	6	2437	13.50	1.00	1.00	1.00	0.00
802.11b	Chain 1	6	2437	1.00	1.00	1.00	1.00	0.00
802.11g	Chain 1	6	2437	6.00	1.00	1.00	1.00	0.00
802.11n (HT20)	Chain 1	6	2437	6.50	1.00	1.00	1.00	0.00
802.11n (HT40)	Chain 1	6	2437	13.50	1.00	1.00	1.00	0.00

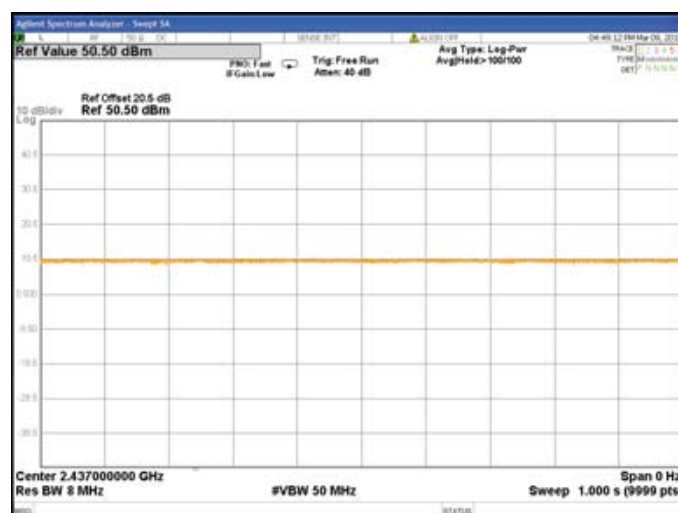
Chain0 : Ducty Cycle @ 802.11b Mode



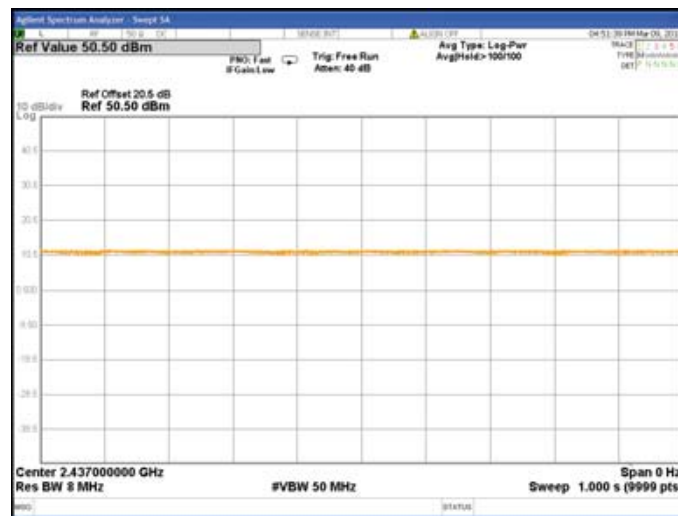
Chain1 : Ducty Cycle @ 802.11b Mode



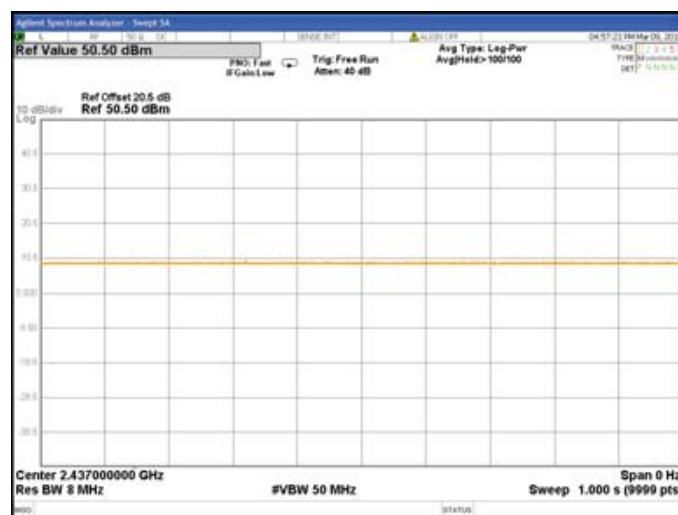
Chain0 : Ducty Cycle @ 802.11g Mode



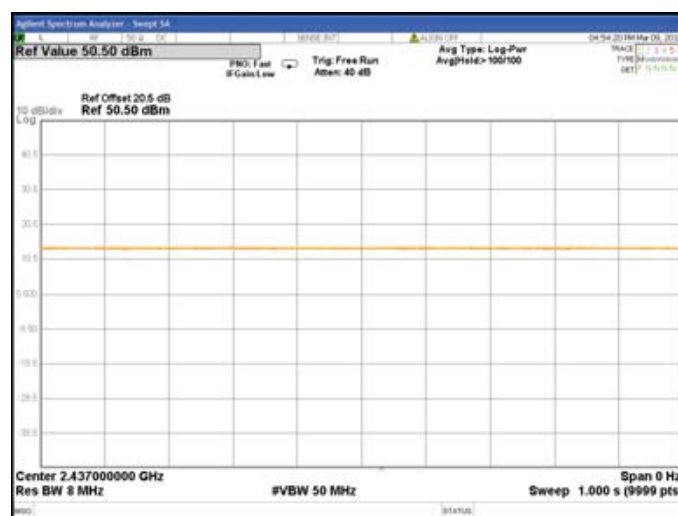
Chain1 : Ducty Cycle @ 802.11g Mode



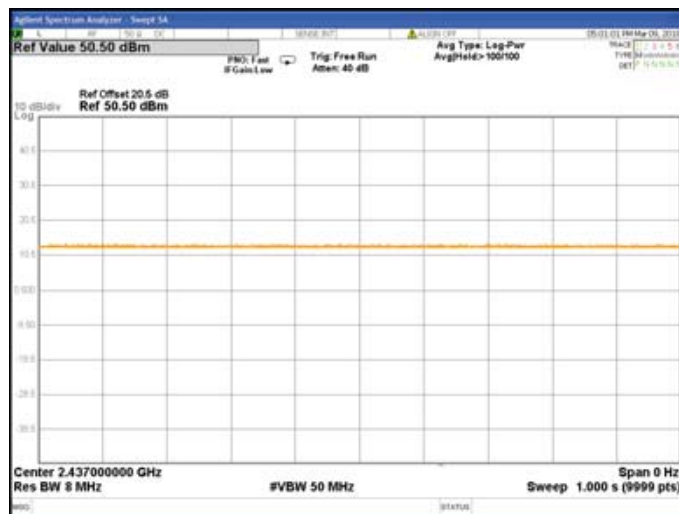
Chain0 : Ducty Cycle @ 802.11n(HT20) Mode



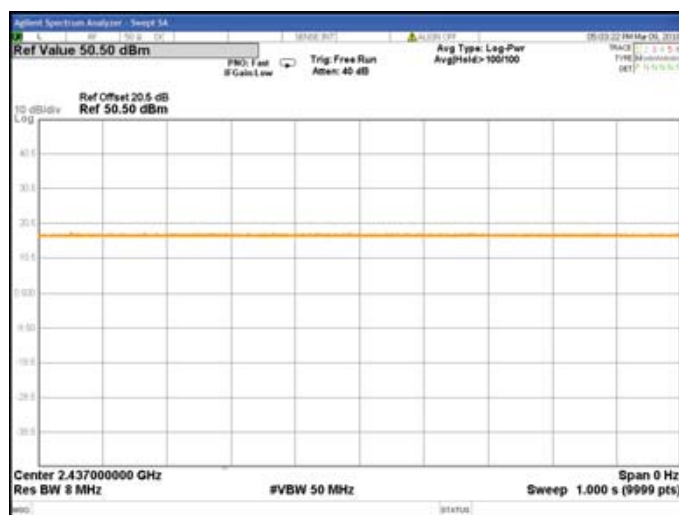
Chain1 : Ducty Cycle @ 802.11n(HT20) Mode



Chain0 : Ducty Cycle @ 802.11n(HT40) Mode



Chain1 : Ducty Cycle @ 802.11n(HT40) Mode



1.7. Peripherals equipment

Peripherals	Brand	Model No.	Serial No.	Data cable
Notebook PC	ASUS	UL20A	N/A	1. RJ-45 STP Cat.5 1meter × 1 2. USB shielded cable 1 meter× 1 3. Mini USB 1 meter× 1

2. Minimum 6 dB Bandwidth

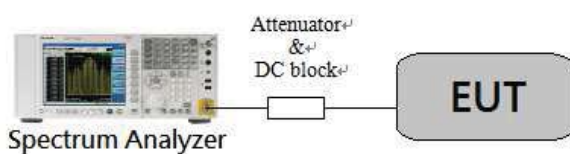
2.1. Instrument Setting

Spectrum Parameter	Setting
Detector	Peak
RBW	100kHz
VBW	$\geq 3 \times \text{RBW}$
Sweep	Auto couple
Trace	Allow the trace to stabilize.
Span	Between two times and five times the occupied bandwidth
Attenuation	Auto

2.2. Test Procedure

- Step 1 The transmitter output was connected to the spectrum analyzer.
- Step 2 Test was performed in accordance with clause 8.1 option1 of KDB 558074 D01.
- Step 3 Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

2.3. Test Diagram



2.4. Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

2.5. Operating Environment Condition

Temperature (°C) :	25
Relative Humidity (%) :	50
Atmospheric Pressure (hPa) :	1008
Test Date :	2018/3/6

2.6. Test Results

Mode	Chain	Channel	Frequency (MHz)	6dB BW (MHz)	Limit (MHz)
802.11b	Chain0	1	2412	10.027	>0.5
802.11b	Chain0	6	2437	10.023	>0.5
802.11b	Chain0	11	2462	10.032	>0.5
802.11b	Chain1	1	2412	10.047	>0.5
802.11b	Chain1	6	2437	10.073	>0.5
802.11b	Chain1	11	2462	10.051	>0.5
802.11g	Chain0	1	2412	16.580	>0.5
802.11g	Chain0	6	2437	16.554	>0.5
802.11g	Chain0	11	2462	16.558	>0.5
802.11g	Chain1	1	2412	16.595	>0.5
802.11g	Chain1	6	2437	16.563	>0.5
802.11g	Chain1	11	2462	16.584	>0.5
802.11n(HT20)	Chain0	1	2412	17.792	>0.5
802.11n(HT20)	Chain0	6	2437	17.784	>0.5
802.11n(HT20)	Chain0	11	2462	17.828	>0.5
802.11n(HT20)	Chain1	1	2412	17.715	>0.5
802.11n(HT20)	Chain1	6	2437	17.733	>0.5
802.11n(HT20)	Chain1	11	2462	17.792	>0.5
802.11n(HT40)	Chain0	3	2422	36.432	>0.5
802.11n(HT40)	Chain0	6	2437	36.405	>0.5
802.11n(HT40)	Chain0	9	2452	36.386	>0.5
802.11n(HT40)	Chain1	3	2422	36.429	>0.5
802.11n(HT40)	Chain1	6	2437	36.401	>0.5
802.11n(HT40)	Chain1	9	2452	36.372	>0.5

Chain0 : 6dB Bandwidth @ 802.11b Mode Ch 1



Chain0 : 6dB Bandwidth @ 802.11b Mode Ch 6



Chain0 : 6dB Bandwidth @ 802.11b Mode Ch11



Chain1 : 6dB Bandwidth @ 802.11b Mode Ch 1



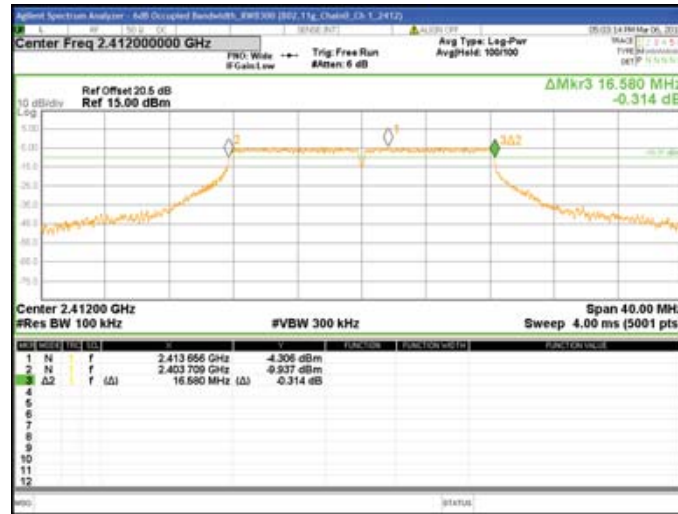
Chain1 : 6dB Bandwidth @ 802.11b Mode Ch 6



Chain1 : 6dB Bandwidth @ 802.11b Mode Ch11



Chain0 : 6dB Bandwidth @ 802.11g Mode Ch 1



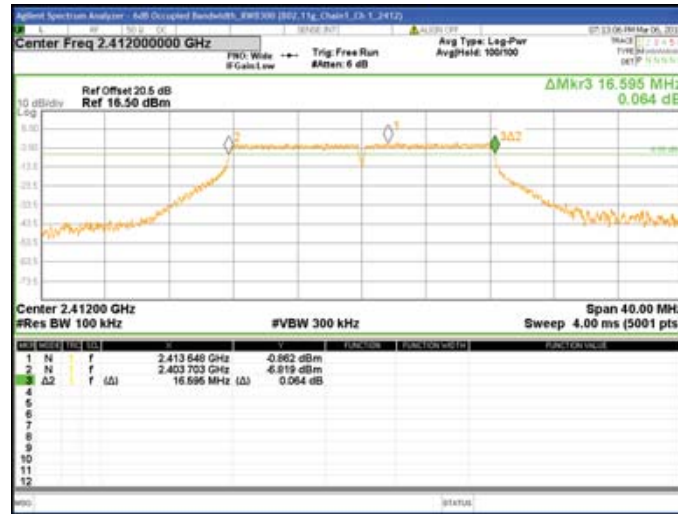
Chain0 : 6dB Bandwidth @ 802.11g Mode Ch 6



Chain0 : 6dB Bandwidth @ 802.11g Mode Ch11



Chain1 : 6dB Bandwidth @ 802.11g Mode Ch 1



Chain1 : 6dB Bandwidth @ 802.11g Mode Ch 6



Chain1 : 6dB Bandwidth @ 802.11g Mode Ch11



Chain0 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch 1



Chain0 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch 6



Chain0 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch11



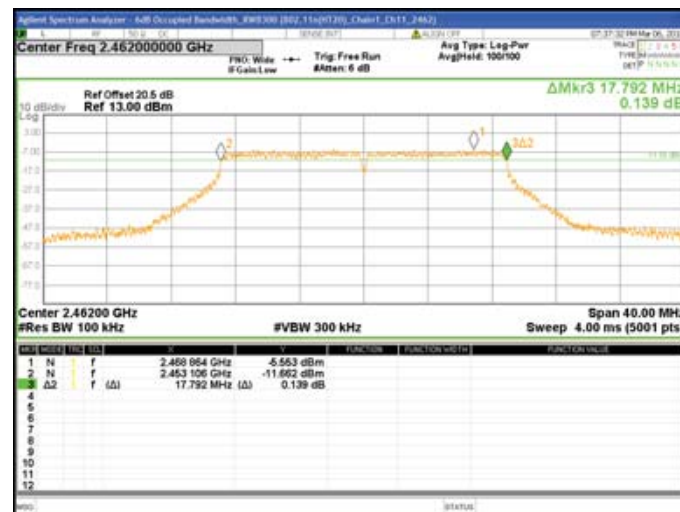
Chain1 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch 1



Chain1 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch 6



Chain1 : 6dB Bandwidth @ 802.11n(HT20) Mode Ch11



Chain0 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 3



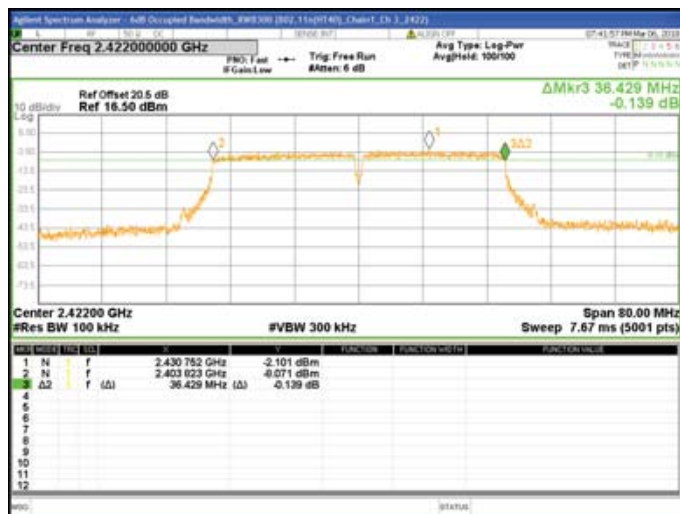
Chain0 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 6



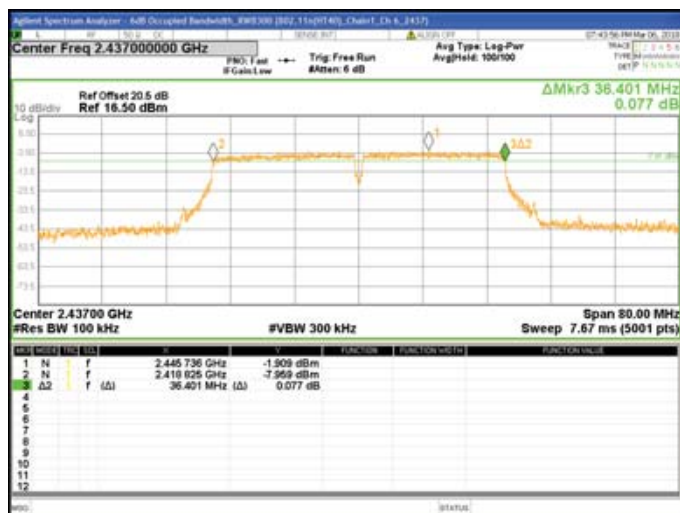
Chain0 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 9



Chain1 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 3



Chain1 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 6



Chain1 : 6dB Bandwidth @ 802.11n(HT40) Mode Ch 9



3. Maximum Peak Conducted Output Power

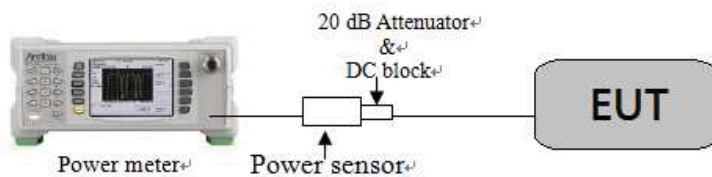
3.1. Instrument Setting

Power Meter Parameter	Setting
Bandwidth	65MHz bandwidth is greater than the EUT emission bandwidth
Detector	Peak & Average

3.2. Test Procedure

Test procedures refer to clause 9.1.3 peak power meter method and clause 9.2.3.2 measurement using a gated RF average power meter of KDB 558074 D01.

3.3. Test Diagram



3.4. Limit

For systems using digital modulation in the 2400-2483.5 MHz: 1 Watt (30dBm)

3.5. Operating Environment Condition

Temperature (°C) :	25
Relative Humidity (%) :	50
Atmospheric Pressure (hPa) :	1008
Test Date :	2018/3/9

3.6. Test Results

Single Tx Chain 0

Mode	Channel	Frequency (MHz)	Output Power (AV) (dBm)	Total Power (AV) (mW)	Maximun power (PK) (dBm)	Maximun power (PK) (mW)	Limit (dBm)	Margin (dB)
802.11b	1	2412	14.15	26.00	16.40	43.65	30	-13.60
	6	2437	14.49	28.12	16.65	46.24	30	-13.35
	11	2462	13.65	23.17	15.65	36.73	30	-14.35
802.11g	1	2412	9.64	9.20	19.87	97.05	30	-10.13
	6	2437	2.16	1.64	11.42	13.87	30	-18.58
	11	2462	3.02	2.00	12.20	16.60	30	-17.80

Chain 1

Mode	Channel	Frequency (MHz)	Output Power (AV) (dBm)	Total Power (AV) (mW)	Maximun power (PK) (dBm)	Maximun power (PK) (mW)	Limit (dBm)	Margin (dB)
802.11b	1	2412	14.85	30.55	16.91	49.09	30	-13.09
	6	2437	15.45	35.08	17.48	55.98	30	-12.52
	11	2462	16.38	43.45	18.46	70.15	30	-11.54
802.11g	1	2412	13.66	23.23	23.01	199.99	30	-6.99
	6	2437	6.86	4.85	16.61	45.81	30	-13.39
	11	2462	7.72	5.92	17.65	58.21	30	-12.35

2Tx

Mode	Ch	Freq. (MHz)	Output Power (dBm)				Output Power (mW)				Total Power (dBm)				Limit (dBm)	Margin (dB)
			Chian 0		Chain 1		Chain 0		Chian 1		AV		PK			
			AV	PK	AV	PK	AV	PK	AV	PK	0+1 (mW)	0+1 (dBm)	0+1 (mW)	0+1 (dBm)		
802.11n (HT20)	1	2412	10.07	19.05	13.72	22.89	10.16	80.35	23.55	194.54	33.71	15.28	274.89	24.39	30	-5.61
	6	2437	2.29	9.97	6.88	15.82	1.69	9.93	4.88	38.19	6.57	8.18	48.13	16.82	30	-13.18
	11	2462	3.11	11.38	7.62	17.4	2.05	13.74	5.78	54.95	7.83	8.94	68.69	18.37	30	-11.63
802.11n (HT40)	3	2422	9.27	18.10	13.56	21.27	8.45	64.57	22.70	133.97	31.15	14.93	198.53	22.98	30	-7.02
	6	2437	9.29	17.99	14.13	21.96	8.49	62.95	25.88	157.04	34.37	15.36	219.99	23.42	30	-6.58
	9	2452	9.62	18.49	14.05	22.18	9.16	70.63	25.41	165.20	34.57	15.39	235.83	23.73	30	-6.27

4. Power Spectral Density

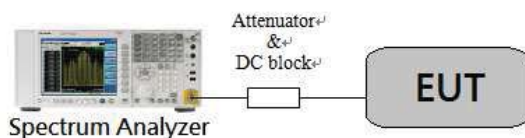
4.1. Instrument Setting

Spectrum Function	Setting
Detector	Peak
RBW	≥ 3 kHz
VBW	$\geq 3 \times$ RBW
Sweep	Auto couple
Trace	Max hold
Span	1.5 times x 6dB bandwidth
Attenuation	Auto

4.2. Test Procedure

- Step 1 Test procedure refer to clause 10.2 method PKPSD (peak PSD) of KDB 558074 D01 and clause E) 2) c) of KDB 662911 D01 measure and sum spectral maxima across the outputs.
- Step 2 Using the maximum conducted output power in the fundamental emission demonstrates compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
- Step 3 Use the peak marker function to determine the maximum amplitude level within the RBW.

4.3. Test Diagram



4.4. Limit

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

4.5. Operating Environment Condition

Temperature (°C) :	25
Relative Humidity (%) :	50
Atmospheric Pressure (hPa) :	1008
Test Date :	2018/3/6

4.6. Test Results

Note1: $RBW \text{ Correction} = 10 \cdot \log(10\text{kHz}/3\text{kHz}) = 5.229$

Note2: $PSD \text{ in } 3\text{kHz} = PSD \text{ in } 10\text{kHz} - RBW \text{ Correction}$

Note3: Because using KDB 662911 v02r01 D01 E) 2) c), we found the peak PSD and add $10 \log(N_{ANT})$ dB, where N_{ANT} is the number of outputs. Before adding $10 \log(N_{ANT})$, each PSD was subtracted by RBW factor.

Single TX

Chain 0

Mode	Channel	Frequency (MHz)	RBW factor	PSD in 10kHz	PSD in 3kHz		Limit (dBm)	Margin (dB)
					(dBm)	(mw)		
802.11b (chain0)	1	2412	5.23	-2.77	-8.00	0.16	8	-16.00
	6	2437	5.23	-2.82	-8.05	0.16	8	-16.05
	11	2462	5.23	-3.36	-8.59	0.14	8	-16.59
802.11g (chain0)	1	2412	5.23	-9.22	-14.45	0.04	8	-22.45
	6	2437	5.23	-17.34	-22.57	0.01	8	-30.57
	11	2462	5.23	-16.39	-21.62	0.01	8	-29.62

Chain 1

Mode	Channel	Frequency (MHz)	RBW factor	PSD in 10kHz	PSD in 3kHz		Limit (dBm)	Margin (dB)
					(dBm)	(mw)		
802.11b (chain1)	1	2412	5.23	-1.87	-7.10	0.20	8	-15.10
	6	2437	5.23	-1.75	-6.98	0.20	8	-14.98
	11	2462	5.23	-0.69	-5.92	0.26	8	-13.92
802.11g (chain1)	1	2412	5.23	-5.44	-10.67	0.09	8	-18.67
	6	2437	5.23	-12.29	-17.52	0.02	8	-25.52
	11	2462	5.23	-11.21	-16.44	0.02	8	-24.44

MIMO

Mode	Channel	Freq. (MHz)	Correction Factor	PSD (dBm) in 10kHz		PSD (dBm) in 3kHz		Total PSD		MIMO Corr.n	Result	Limit (dBm)	Margin (dB)
				chain0	chain1	chain0	chain1	mW	dBm				
802.11n (HT20)	1	2412	5.23	-8.74	-5.03	-13.97	-10.26	0.13	-8.72	3.00	-5.71	8	-13.71
	6	2437	5.23	-16.78	-11.77	-22.01	-17.00	0.03	-15.81	3.00	-12.80	8	-20.80
	11	2462	5.23	-15.15	-10.8	-20.38	-16.03	0.03	-14.67	3.00	-11.66	8	-19.66
802.11n (HT40)	3	2422	5.23	-10.63	-6.2	-15.86	-11.43	0.10	-10.09	3.00	-7.08	8	-15.08
	6	2437	5.23	-11.27	-5.95	-16.50	-11.18	0.10	-10.06	3.00	-7.05	8	-15.05
	9	2452	5.23	-10.13	-6.83	-15.36	-12.06	0.09	-10.39	3.00	-7.38	8	-15.38

Note: MIMO Correction: $10 \log(N_{ant}) = 10 \log(2) = 3$

Correction Factor = $10 \log(10\text{kHz}/3\text{kHz})$

Chain0 : Power Spectral Density @ 802.11b Mode Ch 1



Chain0 : Power Spectral Density @ 802.11b Mode Ch 6



Chain0 : Power Spectral Density @ 802.11b Mode Ch11



Chain1 : Power Spectral Density @ 802.11b Mode Ch 1



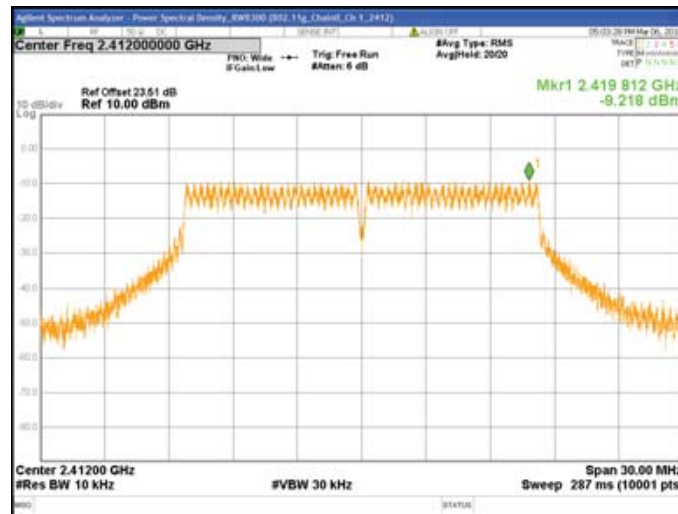
Chain1 : Power Spectral Density @ 802.11b Mode Ch 6



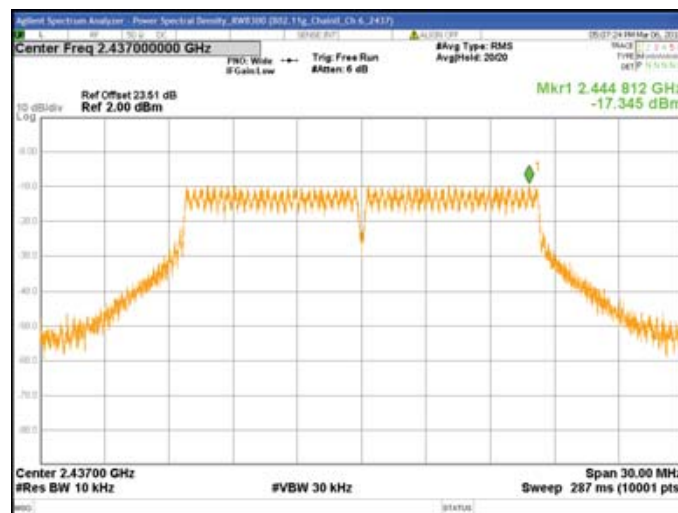
Chain1 : Power Spectral Density @ 802.11b Mode Ch11



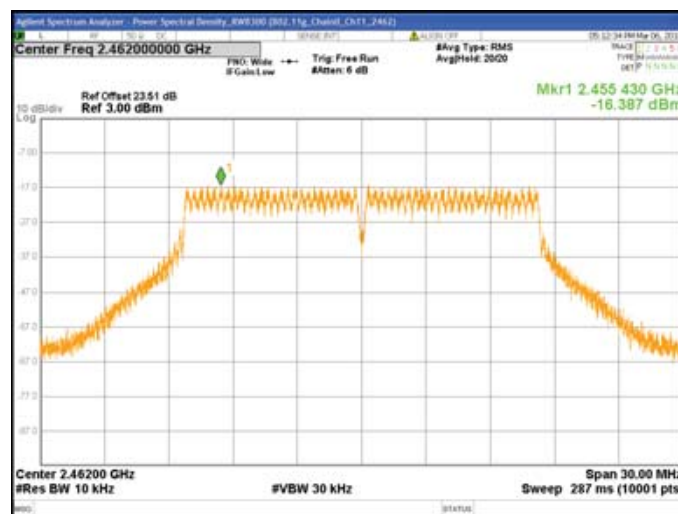
Chain0 : Power Spectral Density @ 802.11g Mode Ch 1



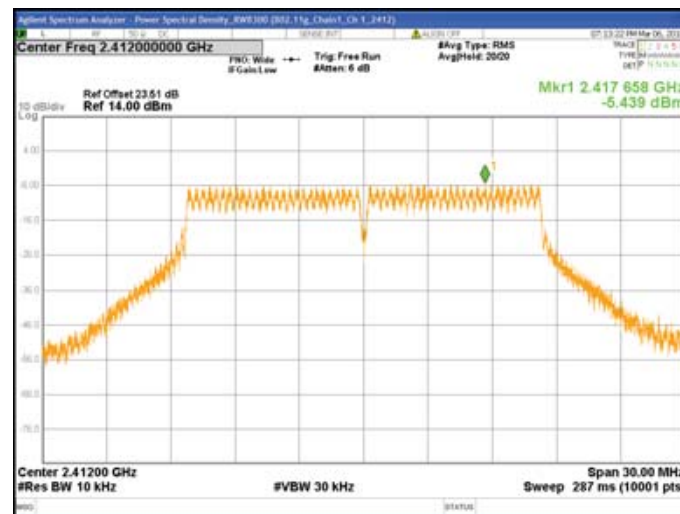
Chain0 : Power Spectral Density @ 802.11g Mode Ch 6



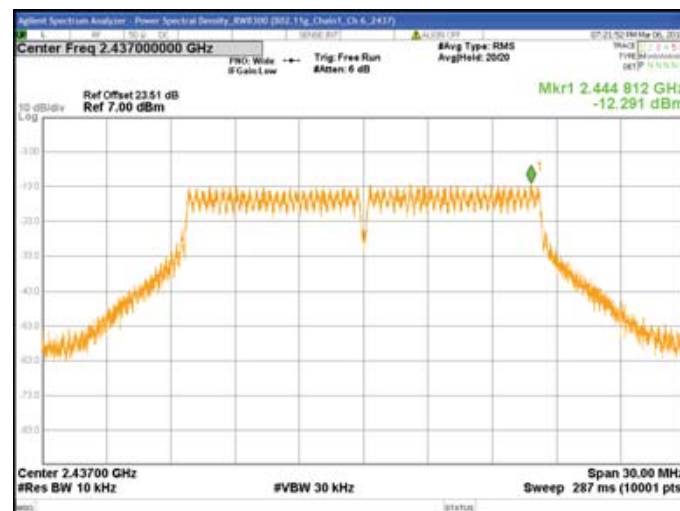
Chain0 : Power Spectral Density @ 802.11g Mode Ch11



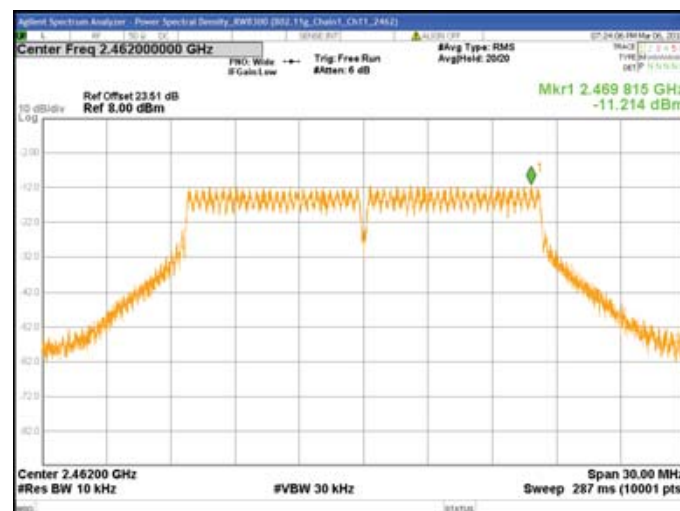
Chain1 : Power Spectral Density @ 802.11g Mode Ch 1



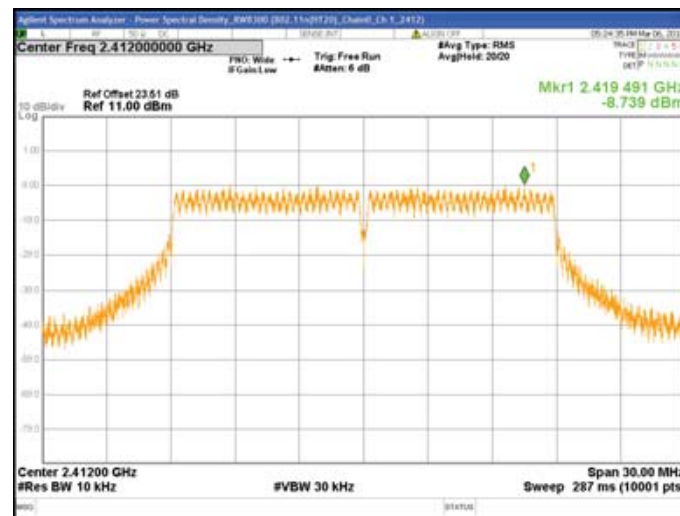
Chain1 : Power Spectral Density @ 802.11g Mode Ch 6



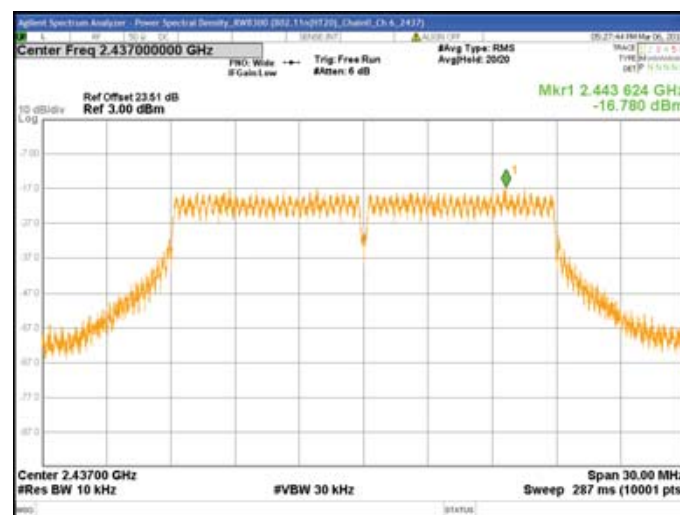
Chain1 : Power Spectral Density @ 802.11g Mode Ch11



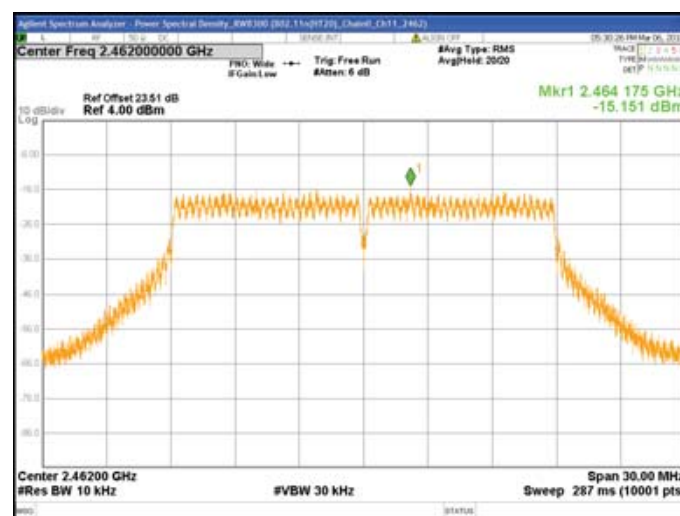
Chain0 : Power Spectral Density @ 802.11n(HT20) Mode Ch 1



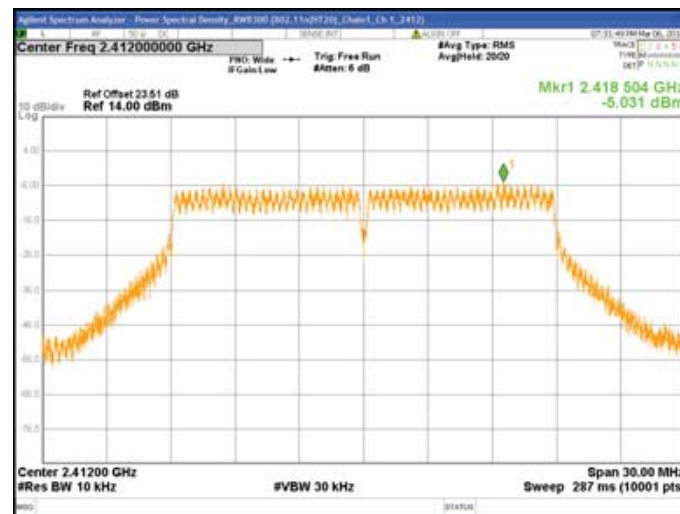
Chain0 : Power Spectral Density @ 802.11n(HT20) Mode Ch 6



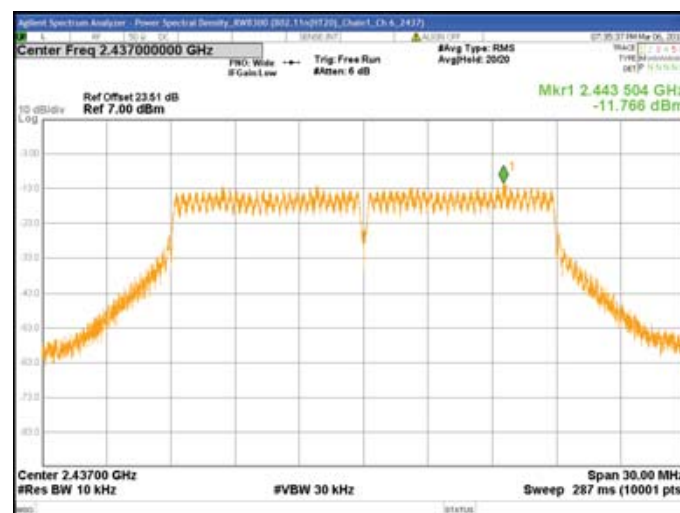
Chain0 : Power Spectral Density @ 802.11n(HT20) Mode Ch11



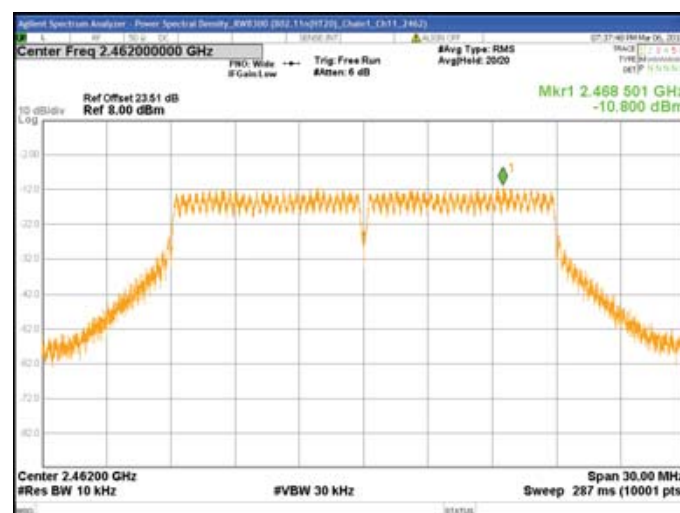
Chain1 : Power Spectral Density @ 802.11n(HT20) Mode Ch 1



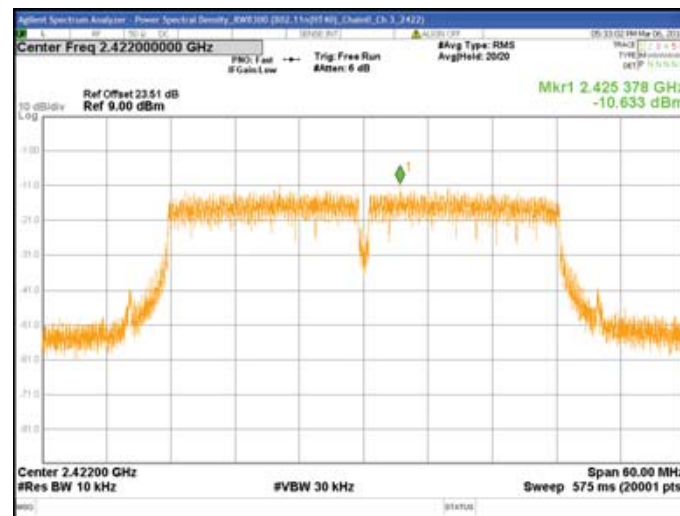
Chain1 : Power Spectral Density @ 802.11n(HT20) Mode Ch 6



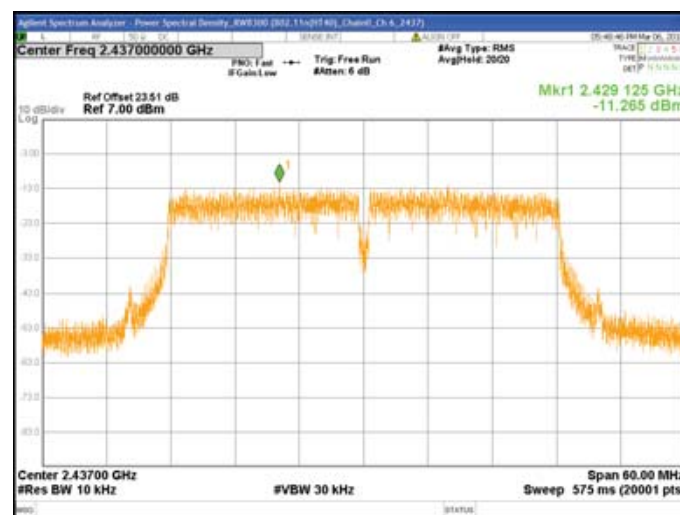
Chain1 : Power Spectral Density @ 802.11n(HT20) Mode Ch11



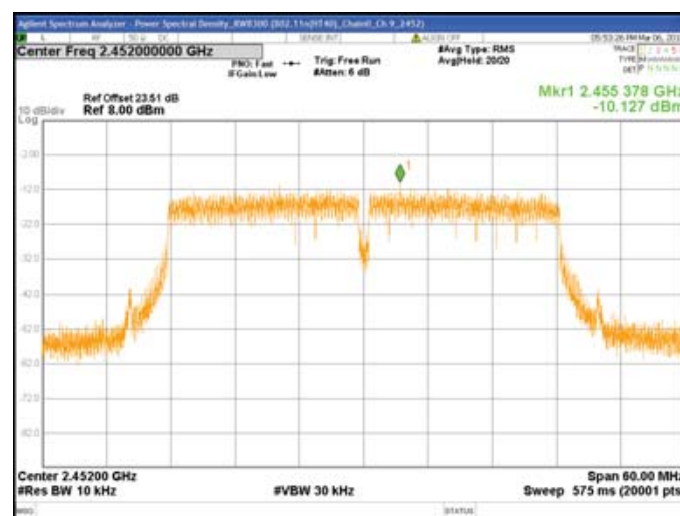
Chain0 : Power Spectral Density @ 802.11n(HT40) Mode Ch 3



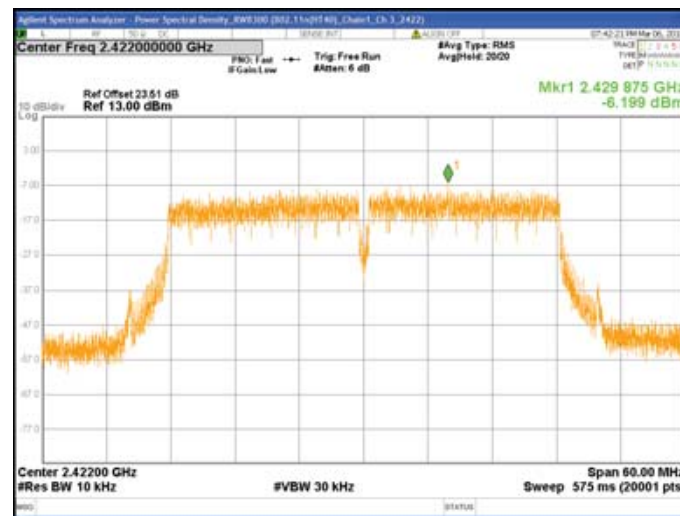
Chain0 : Power Spectral Density @ 802.11n(HT40) Mode Ch 6



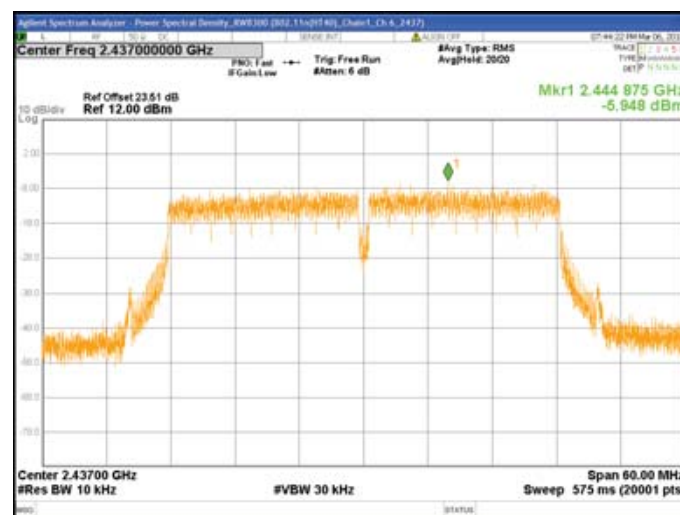
Chain0 : Power Spectral Density @ 802.11n(HT40) Mode Ch 9



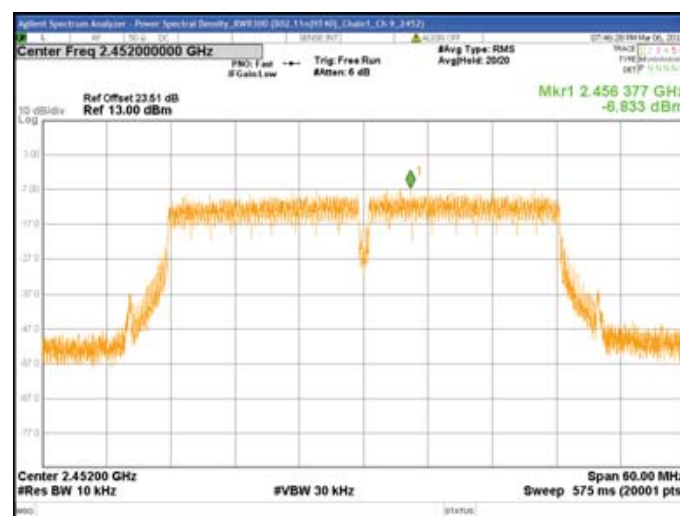
Chain1 : Power Spectral Density @ 802.11n(HT40) Mode Ch 3



Chain1 : Power Spectral Density @ 802.11n(HT40) Mode Ch 6



Chain1 : Power Spectral Density @ 802.11n(HT40) Mode Ch 9



5. Emissions in Non-Restricted Frequency Bands

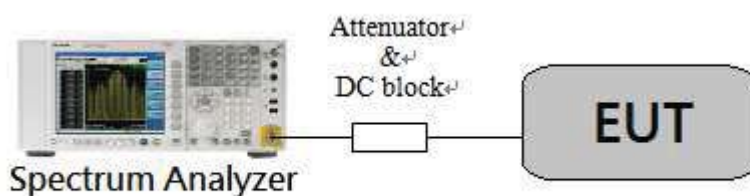
5.1. Instruments Setting

Spectrum Function	Setting (Reference Level)	Setting (Emission Level)
Detector	Peak	Peak
RBW	≥ 100 kHz	≥ 100 kHz
VBW	$\geq 3 \times$ RBW	$\geq 3 \times$ RBW
Sweep	Auto couple	Auto couple
Trace	Max hold	Max hold
Span	≥ 1.5 time 6dB bandwidth	
Attenuation	Auto	Auto

5.2. Test Procedure

- Step 1 The procedure was used in antenna-port conducted and connected to the spectrum analyzer.
- Step 2 Set instrument center frequency to center frequency.
- Step 3 Use the parameter configured in clause 5.1 to measure.
- Step 4 Use the peak marker function to determine the maximum amplitude level.

5.3. Test Diagram



5.4. Limit

The peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz

5.5. Operating Environment Condition

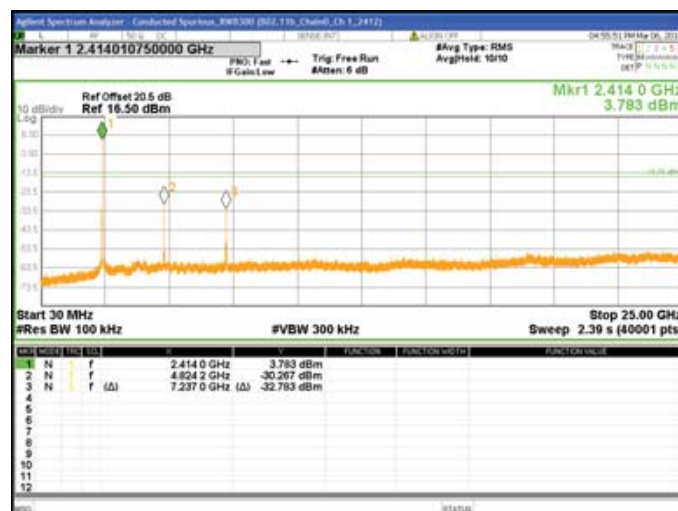
Temperature (°C) :	25
Relative Humidity (%) :	50
Atmospheric Pressure (hPa) :	1008
Test Date :	2018/3/6

5.6. Test Results

Chain0 : Conducted Spurious @ 802.11b Mode Ch 1



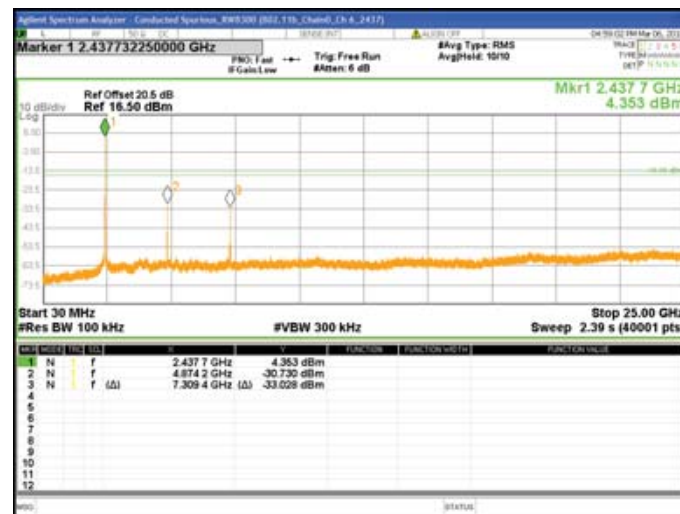
Chain0 : Conducted Spurious @ 802.11b Mode Ch 1



Chain0 : Conducted Spurious @ 802.11b Mode Ch 6



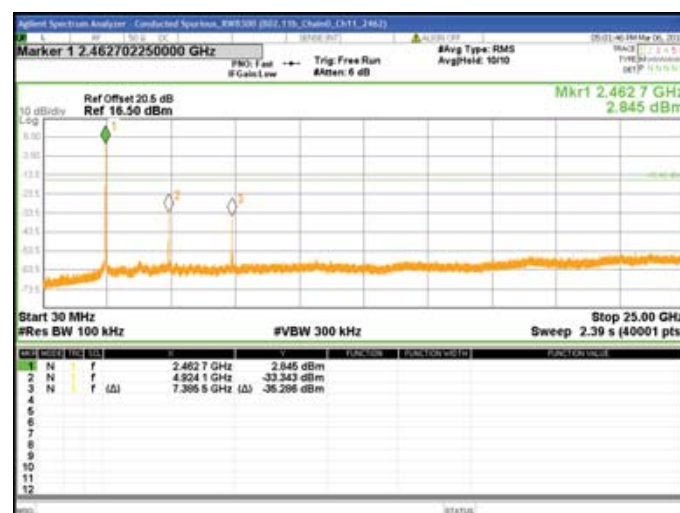
Chain0 : Conducted Spurious @ 802.11b Mode Ch 6



Chain0 : Conducted Spurious @ 802.11b Mode Ch11



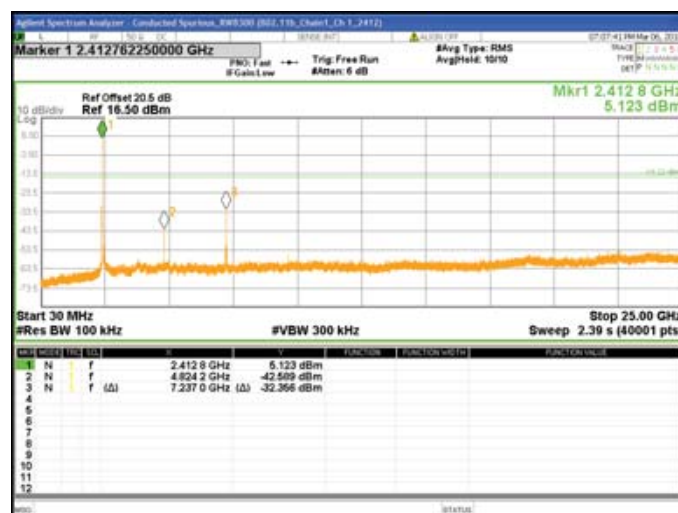
Chain0 : Conducted Spurious @ 802.11b Mode Ch11



Chain1 : Conducted Spurious @ 802.11b Mode Ch 1



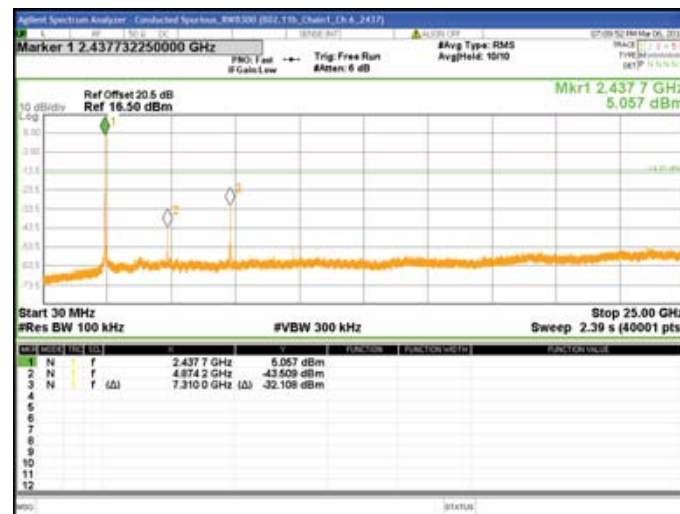
Chain1 : Conducted Spurious @ 802.11b Mode Ch 1



Chain1 : Conducted Spurious @ 802.11b Mode Ch 6



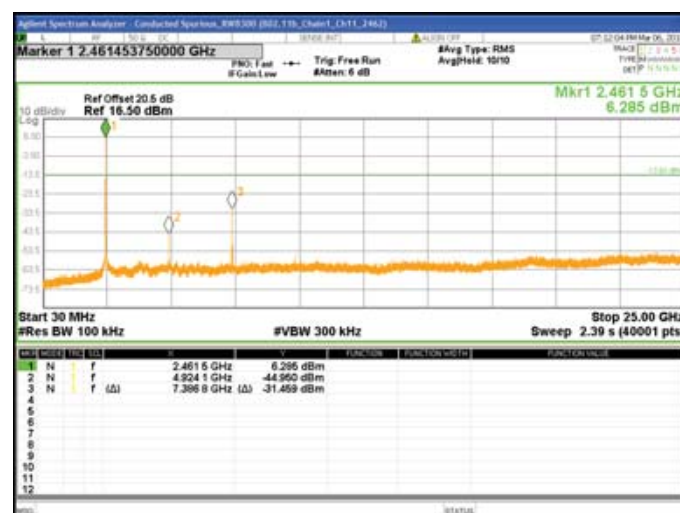
Chain1 : Conducted Spurious @ 802.11b Mode Ch 6



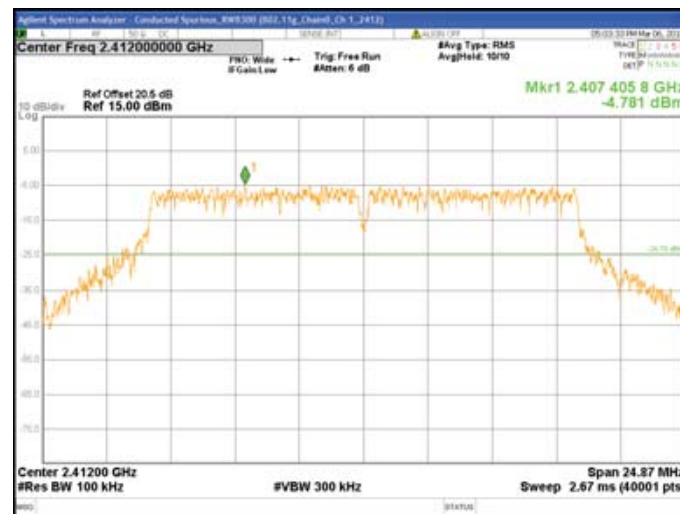
Chain1 : Conducted Spurious @ 802.11b Mode Ch11



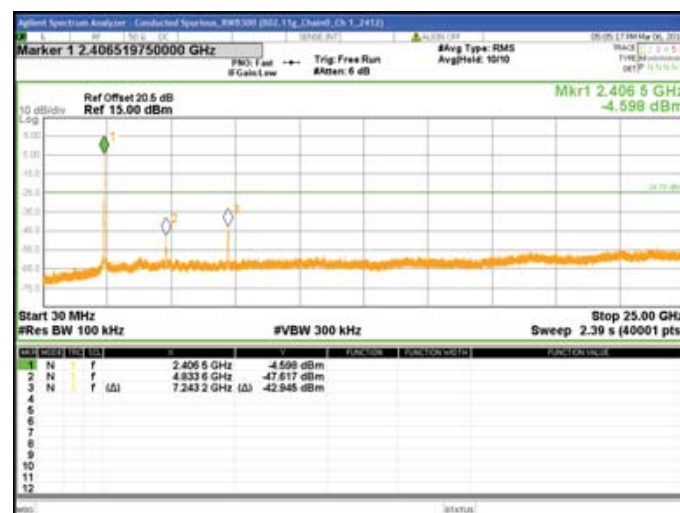
Chain1 : Conducted Spurious @ 802.11b Mode Ch11



Chain0 : Conducted Spurious @ 802.11g Mode Ch 1



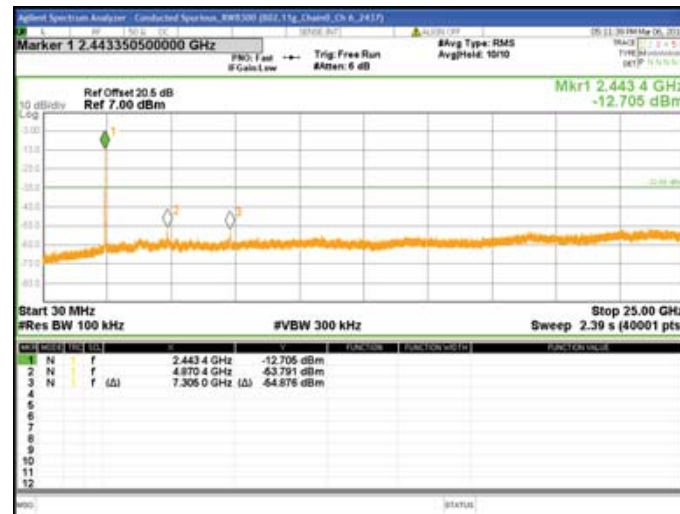
Chain0 : Conducted Spurious @ 802.11g Mode Ch 1



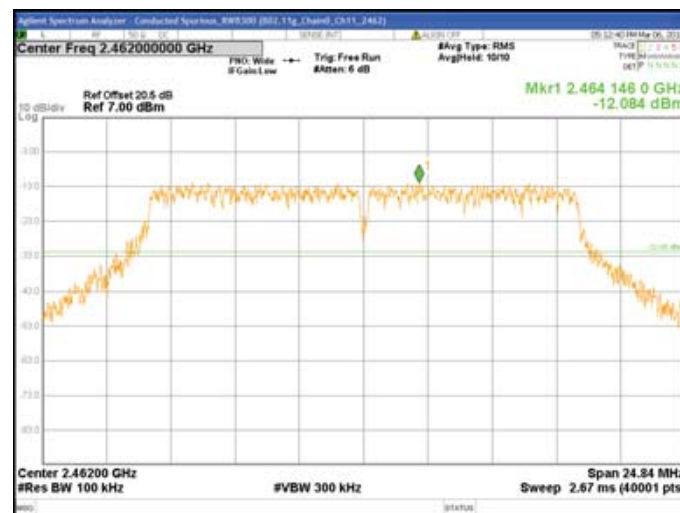
Chain0 : Conducted Spurious @ 802.11g Mode Ch 6



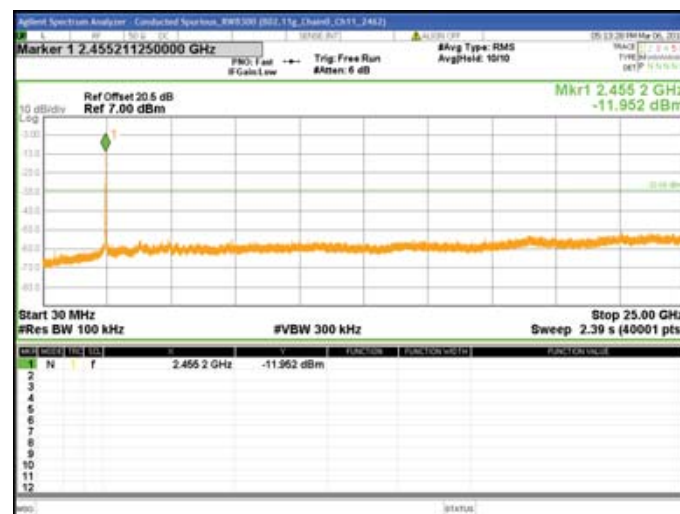
Chain0 : Conducted Spurious @ 802.11g Mode Ch 6



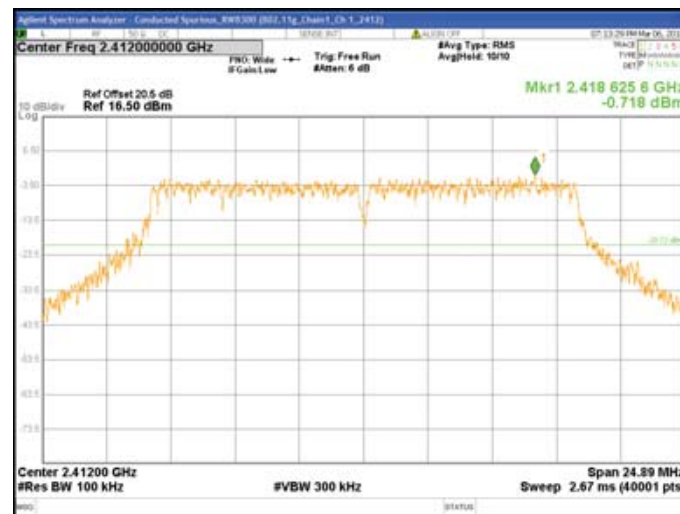
Chain0 : Conducted Spurious @ 802.11g Mode Ch11



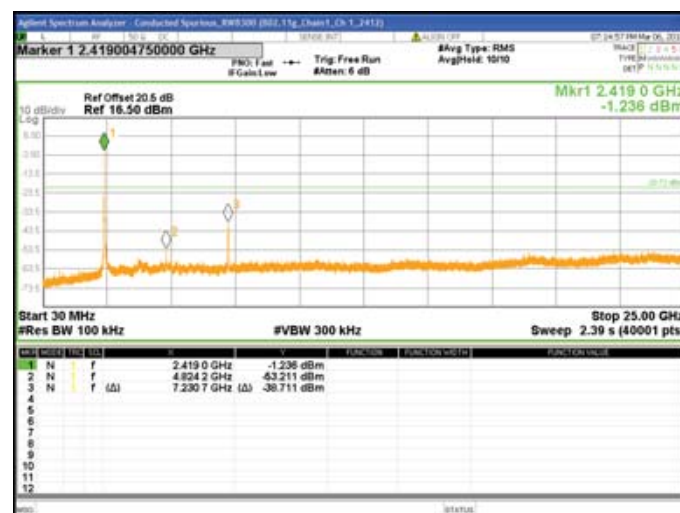
Chain0 : Conducted Spurious @ 802.11g Mode Ch11



Chain1 : Conducted Spurious @ 802.11g Mode Ch 1



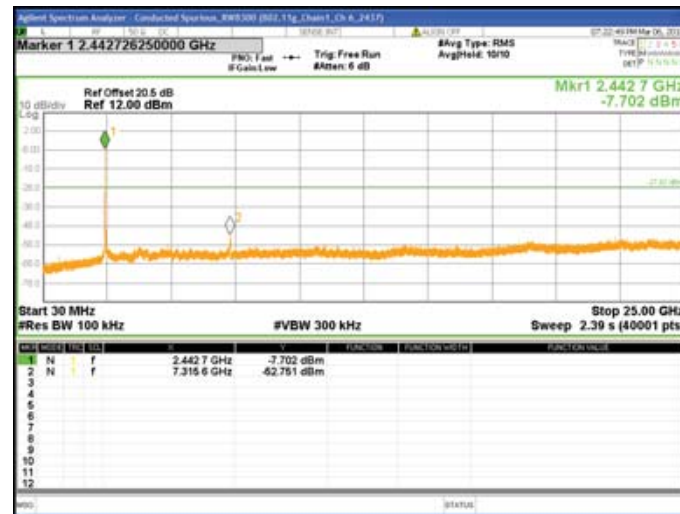
Chain1 : Conducted Spurious @ 802.11g Mode Ch 1



Chain1 : Conducted Spurious @ 802.11g Mode Ch 6



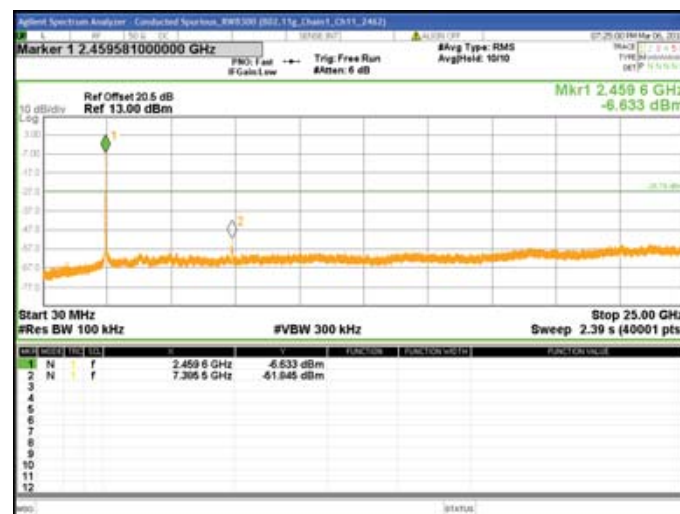
Chain1 : Conducted Spurious @ 802.11g Mode Ch 6



Chain1 : Conducted Spurious @ 802.11g Mode Ch11



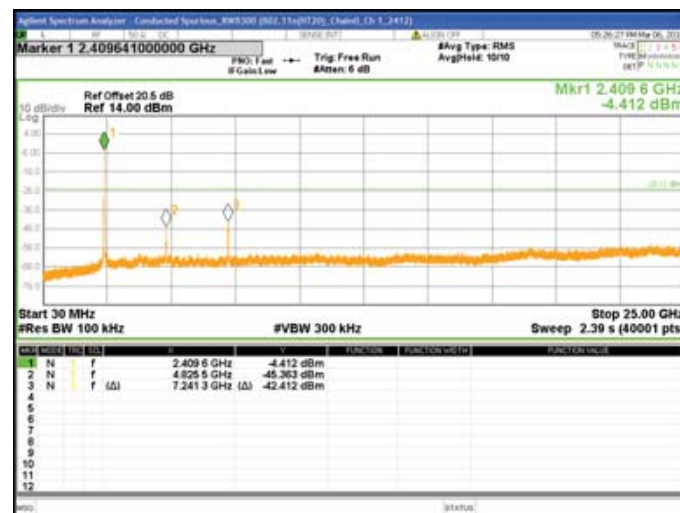
Chain1 : Conducted Spurious @ 802.11g Mode Ch11



Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch 1



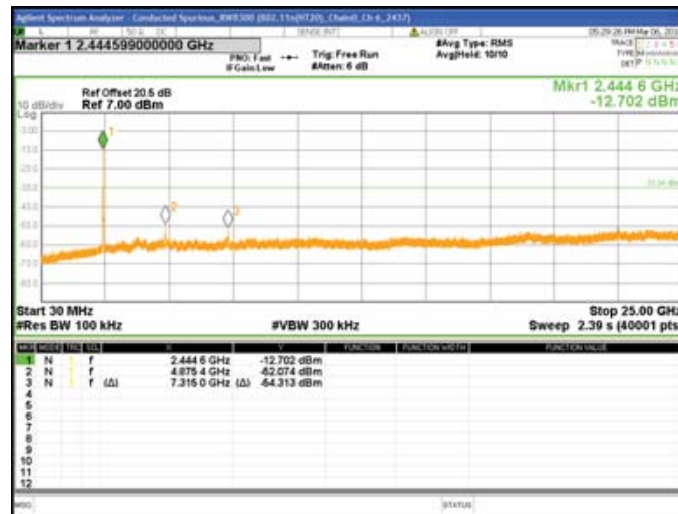
Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch 1



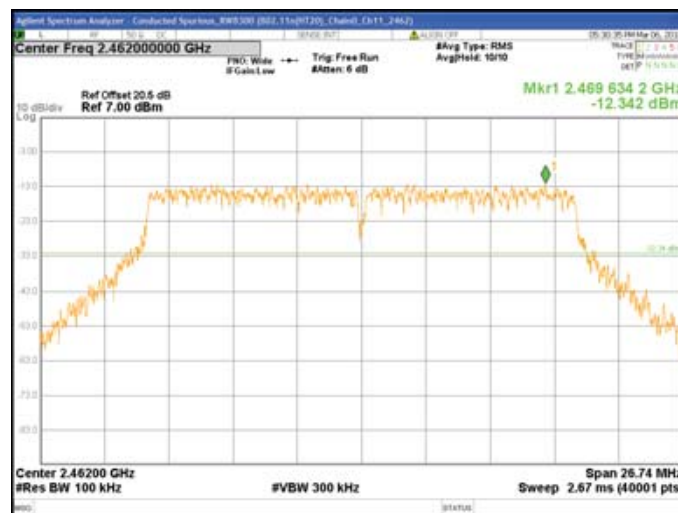
Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch 6



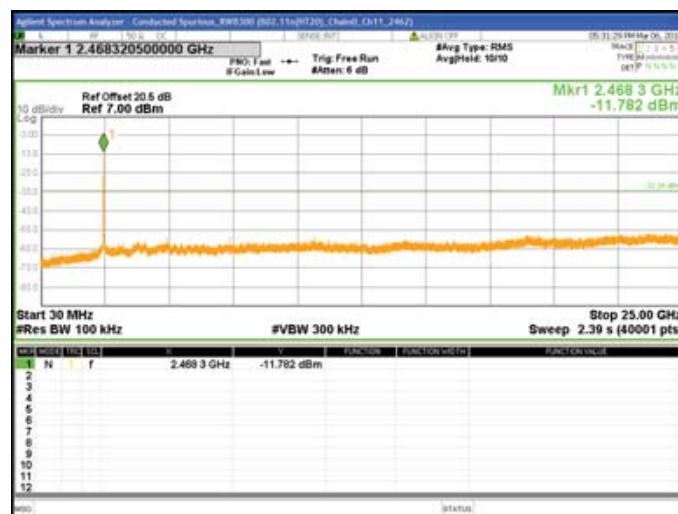
Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch 6



Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch11



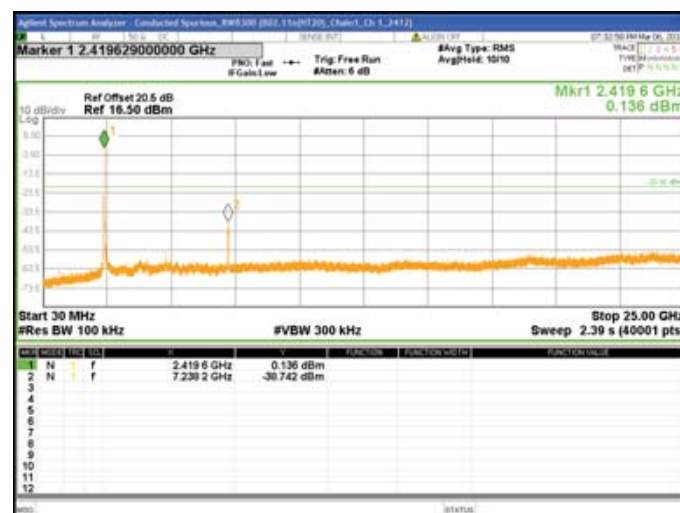
Chain0 : Conducted Spurious @ 802.11n(HT20) Mode Ch11



Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch 1



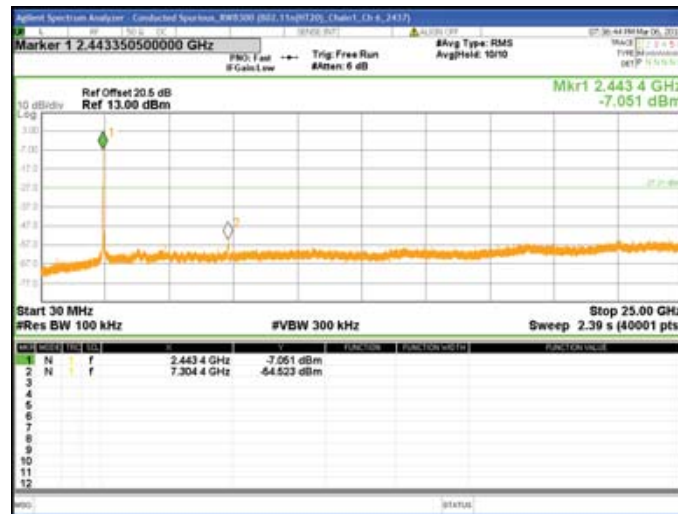
Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch 1



Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch 6



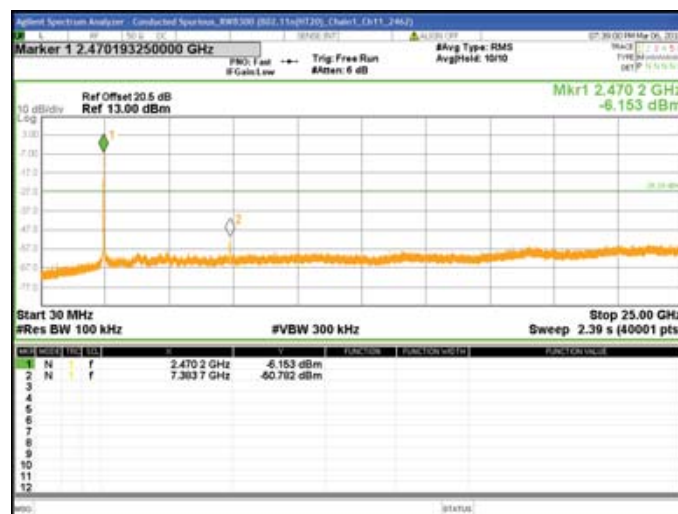
Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch 6



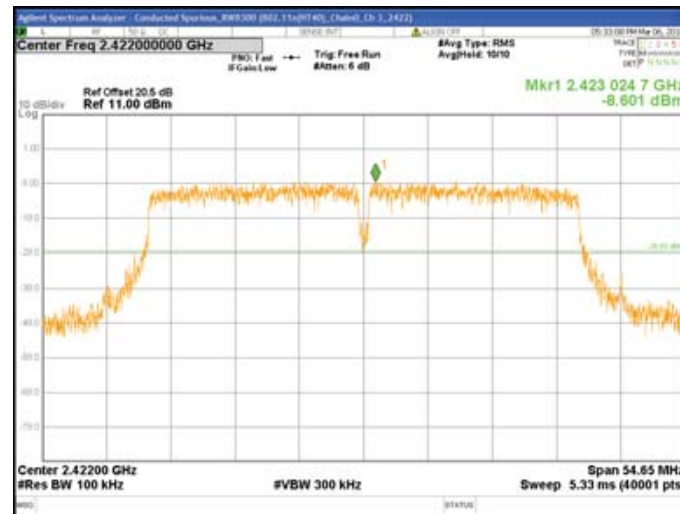
Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch11



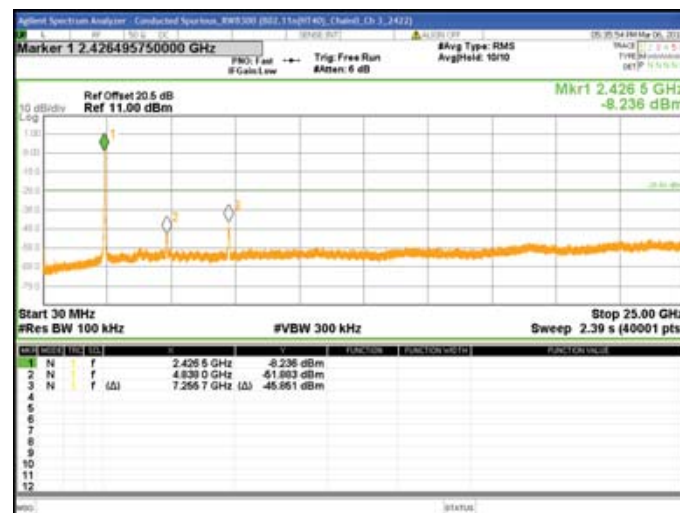
Chain1 : Conducted Spurious @ 802.11n(HT20) Mode Ch11



Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 3



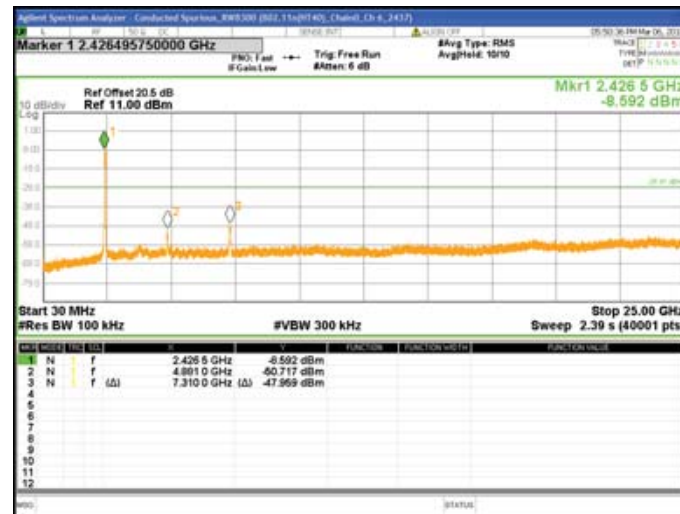
Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 3



Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 6



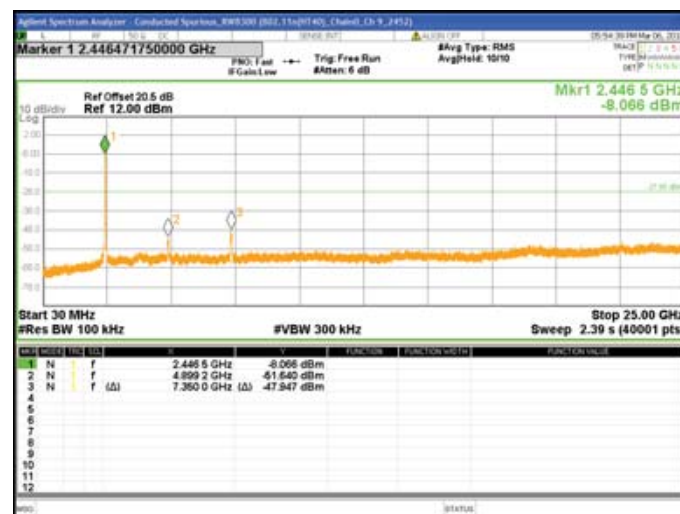
Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 6



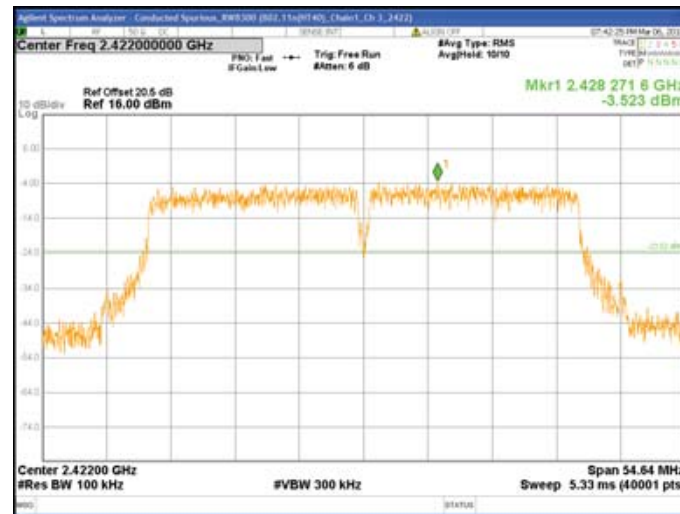
Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 9



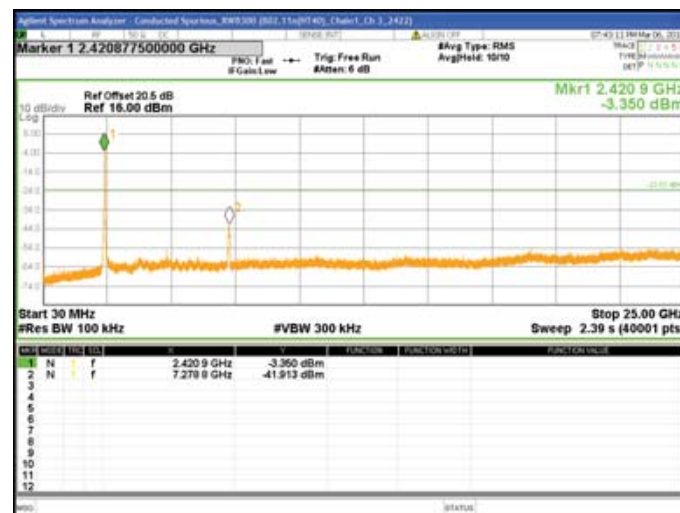
Chain0 : Conducted Spurious @ 802.11n(HT40) Mode Ch 9



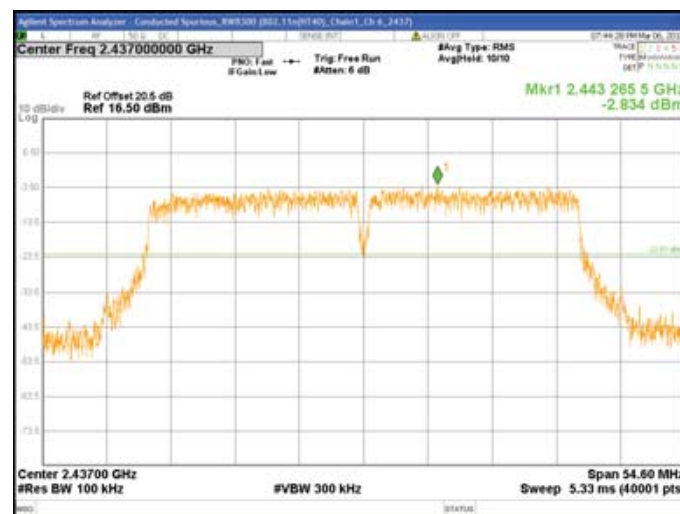
Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 3



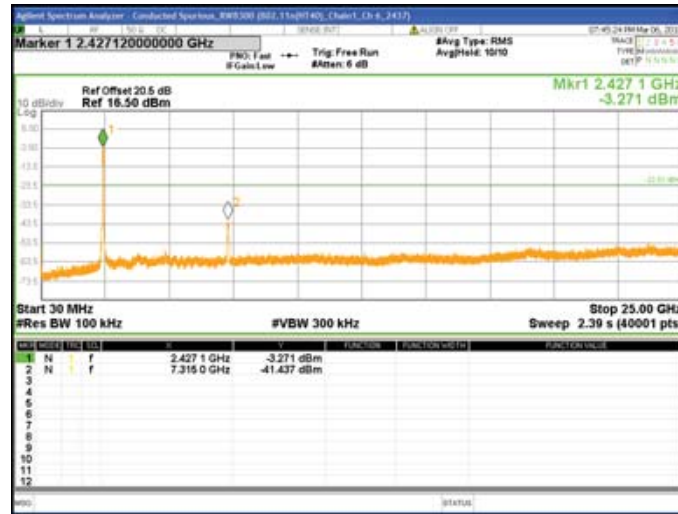
Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 3



Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 6



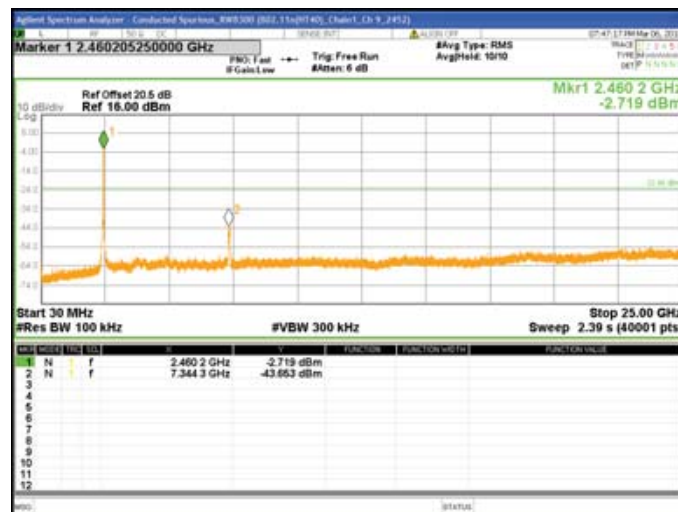
Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 6



Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 9



Chain1 : Conducted Spurious @ 802.11n(HT40) Mode Ch 9



6. Emissions in Restricted Frequency Bands (Radiated emission measurements)

6.1. Instrument Setting

Receiver Function	Setting (Below 1GHz)	Setting (Above 1GHz)
Detector	QP	Peak and Average
RBW	9-150 kHz ; 200-300 Hz 0.15-30 MHz; 9-10 kHz 30-1000 MHz; 100-120 kHz	1MHz
VBW	$\geq 3 \times$ RBW	3MHz
Sweep	Auto couple	Auto couple
Start Frequency	9 kHz	1GHz
Stop Frequency	1 GHz	Tenth harmonic
Attenuation	Auto	Auto

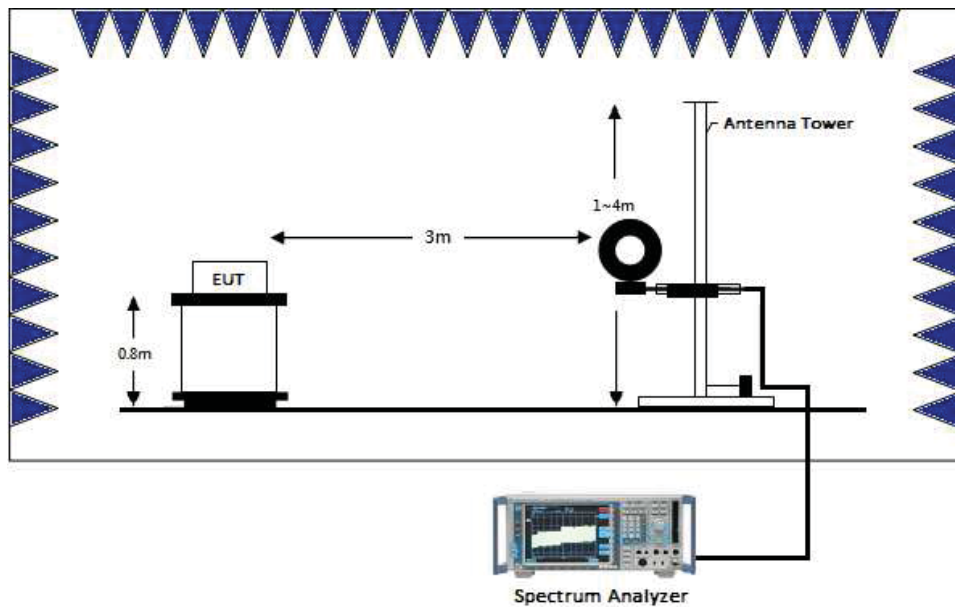
6.2. Test Procedure

- Step 1 Configure the EUT according to ANSI C63.10:2013. The EUT was placed on the top of the turntable 0.8 meter (below 1GHz) and 1.5 meter (above 1GHz) above ground. The center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- Step 2 Power on the EUT and all the companion devices. The turntable was rotated by 360 degree to find the position of the maximum emission level.
- Step 3 The height of the receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of the both horizontal and vertical polarization.
- Step 4 If find the frequencies above the limit or below within 3dB, the antenna tower was scan (from 1m to 4m) and then the turntable was rotated to find the maximum reading.
- Step 5 Set the test-receiver system to peak or CISPR quasi-peak detector with specified bandwidth under maximum hold mode.
- Step 6 For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for reading in spectrum analyzer.
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.
- Step 7 If the emissions level of the EUT in peak mode was 3dB lower than the average limit specified then testing will be stopped and peak values of the EUT will be reported. Otherwise, the emissions which do not have 3dB margin will be measured using the quasi-peak method for below 1GHz.
- Step 8 For testing above 1GHz, The emissions level of the EUT in peak mode was lower than average limit, then testing will be stopped and peak values of the EUT will be reported, otherwise, the emission will be measured in average mode again and reported.

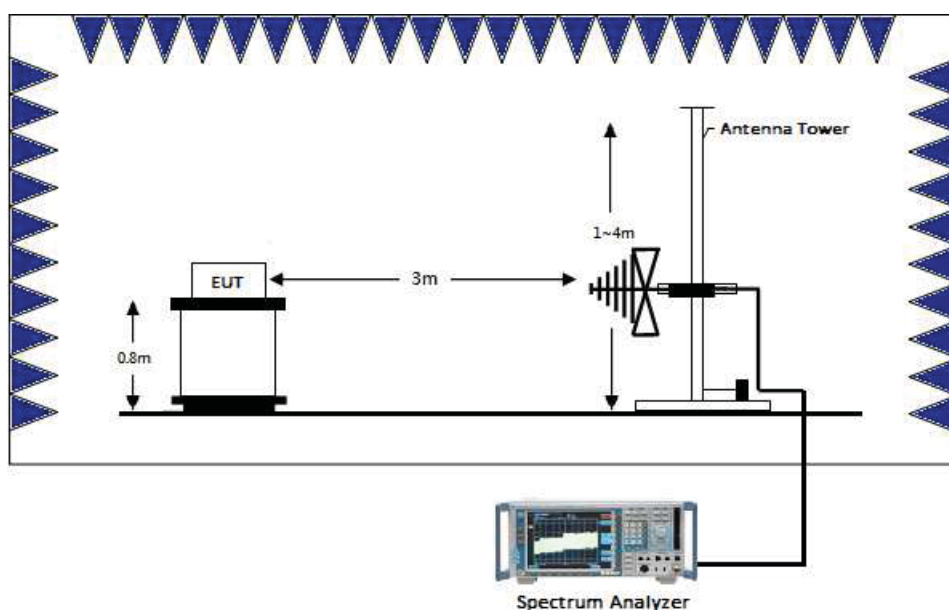
Step 9 In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be quasi-peak measured by receiver.

6.3. Test Diagram

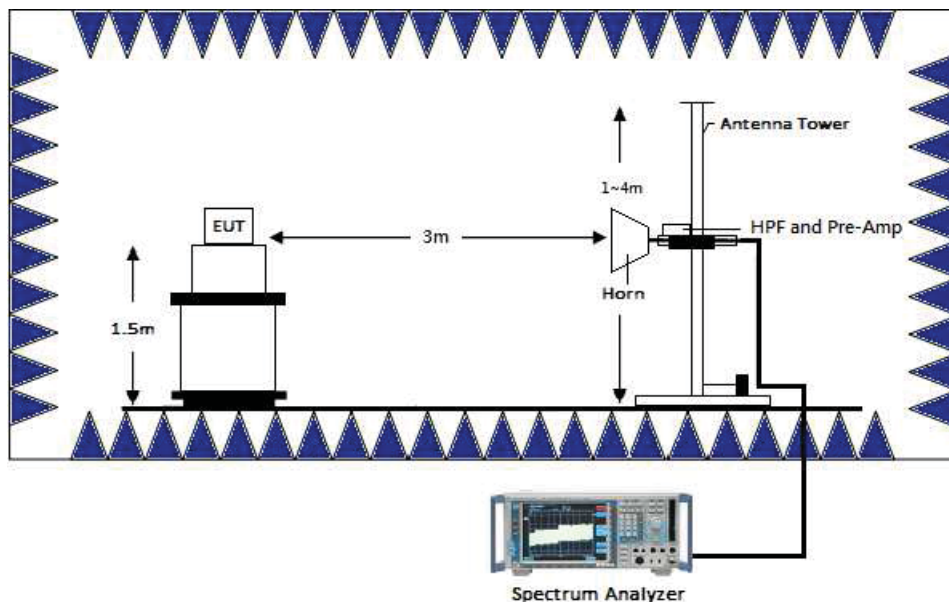
6.3.1. Radiated emission from 9kHz to 30MHz uses Loop Antenna:



6.3.2. Radiated emission below 1GHz using Bilog Antenna



6.3.3. Radiated emission above 1GHz using Horn Antenna



6.4. Limit

Frequency(MHz)	Field Strength(uV/m)	Measurement distance(m)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

6.5. Operating Environment Condition

Temperature (°C) : 25
Relative Humidity (%) : 50
Atmospheric Pressure (hPa) : 1008
Test Date : 2018/3/1~2018/3/5

6.6. Test Result

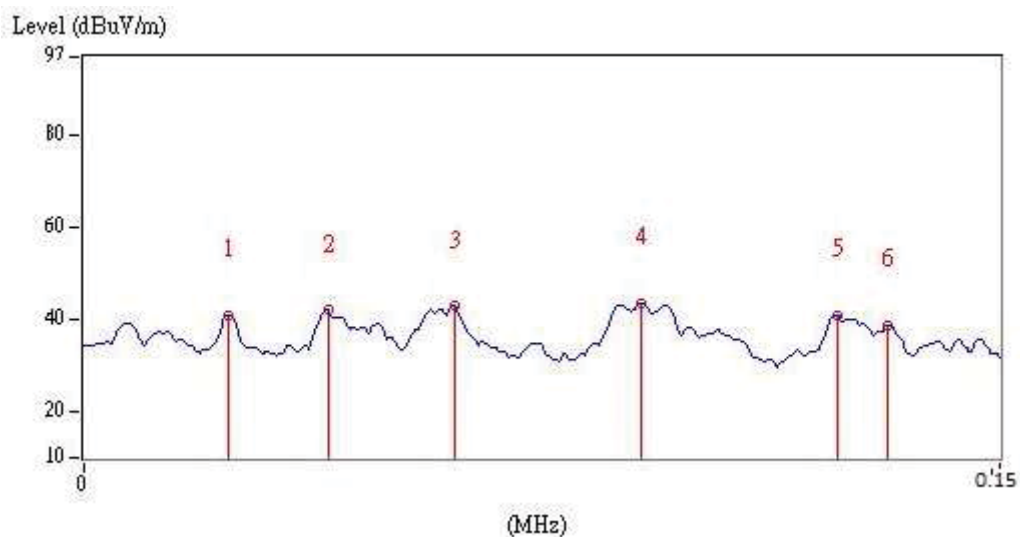
6.6.1. Measurement results: frequencies 9kHz to 30MHz

The test was performed on EUT under 802.11b/g/n continuously transmitting mode. The worst case occurred at 802.11b ch1

EUT: RW8300E-B3-a

Mode	Chain	Channel	Detector	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain0	1	QP	0.03	20.4	20.53	40.92	118.06	-77.14
802.11b	Chain0	1	QP	0.05	19.86	22.19	42.05	113.62	-71.57
802.11b	Chain0	1	QP	0.07	19.55	23.39	42.94	110.7	-67.76
802.11b	Chain0	1	QP	0.09	19.2	24.38	43.58	108.52	-64.94
802.11b	Chain0	1	QP	0.12	19.11	21.97	41.09	106.02	-64.93
802.11b	Chain0	1	QP	0.13	19.1	19.67	38.77	105.33	-66.56

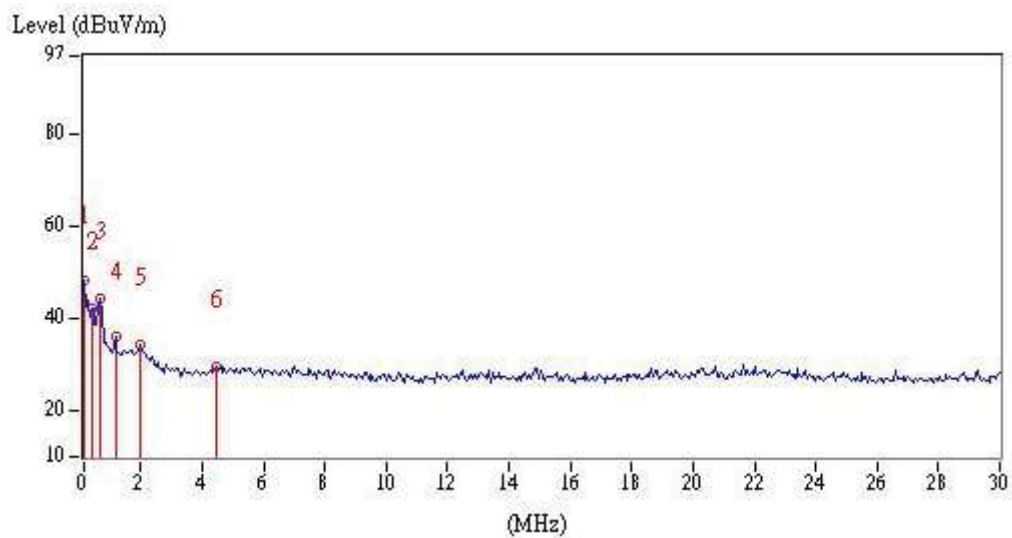
Remark: Corr. Factor = Antenna Factor + Cable Loss



EUT: RW8300E-B3-a

Mode	Chain	Channel	Detector	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain0	1	QP	0.15	19.09	29.09	48.18	104.08	-55.9
802.11b	Chain0	1	QP	0.39	18.95	23.33	42.28	95.78	-53.5
802.11b	Chain0	1	QP	0.69	18.99	25.53	44.52	70.83	-26.31
802.11b	Chain0	1	QP	1.16	19.07	16.97	36.04	66.32	-30.28
802.11b	Chain0	1	QP	2.00	18.87	15.55	34.42	70	-35.58
802.11b	Chain0	1	QP	4.45	19.83	9.75	29.58	70	-40.42

Remark: Corr. Factor = Antenna Factor + Cable Loss



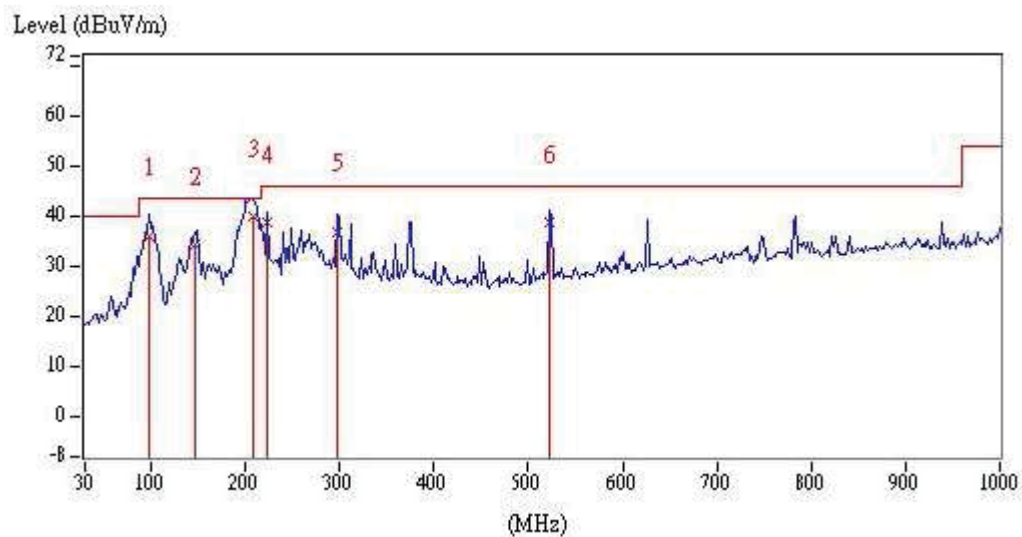
6.6.2. Measurement results: frequencies below 1 GHz

The test was performed on EUT under 802.11b/g/n continuously transmitting mode. The worst case occurred at 802.11b ch1

EUT: RW8300E-B3-a

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain0	1	H	QP	97.9	15.12	20.98	36.1	43.5	-7.4
802.11b	Chain0	1	H	QP	145.82	20.45	13.85	34.3	43.5	-9.2
802.11b	Chain0	1	H	QP	208.48	18.36	21.64	40	43.5	-3.5
802.11b	Chain0	1	H	QP	224	18.85	19.95	38.8	46	-7.2
802.11b	Chain0	1	H	QP	297.72	21.7	15.2	36.9	46	-9.1
802.11b	Chain0	1	H	QP	522.76	27.45	11.25	38.7	46	-7.3

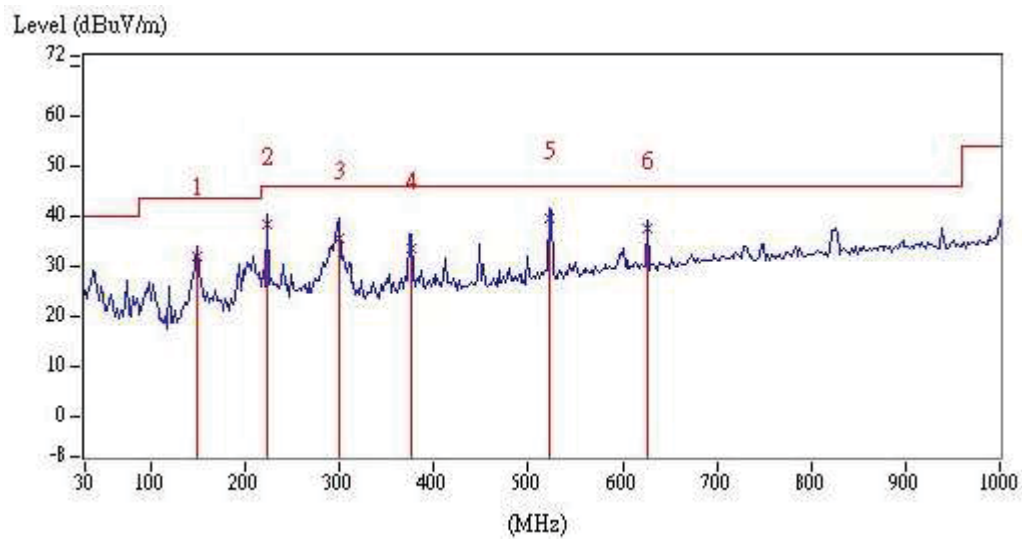
Remark: Corr. Factor = Antenna Factor + Cable Loss



EUT: RW8300E-B3-a

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain0	1	V	QP	148.34	20.51	11.59	32.1	43.5	-11.4
802.11b	Chain0	1	V	QP	224	18.85	19.45	38.3	46	-7.7
802.11b	Chain0	1	V	QP	299.39	21.74	13.76	35.5	46	-10.5
802.11b	Chain0	1	V	QP	375.32	23.69	9.91	33.6	46	-12.4
802.11b	Chain0	1	V	QP	522.76	27.45	12.05	39.5	46	-6.5
802.11b	Chain0	1	V	QP	625.58	29.48	8.12	37.6	46	-8.4

Remark: Corr. Factor = Antenna Factor + Cable Loss



6.6.3. Measurement results: frequency above 1GHz to 25GHz

EUT: RW8300E-B3-a

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamplifier (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain0	1	H	PK	1232	37.3	29.5	14.12	43.62	74	-30.38
802.11b	Chain0	1	H	PK	4824	37.14	5.76	48.55	54.31	74	-19.69
802.11b	Chain0	1	H	AV	4824	37.14	5.76	46.69	52.45	54	-1.55
802.11b	Chain0	1	H	PK	4995	37.08	6.47	38.75	45.22	74	-28.78
802.11b	Chain0	1	H	PK	7236	36.5	12.36	36.45	48.81	74	-25.19
802.11b	Chain0	1	V	PK	1028	37.25	29.13	13.92	43.05	74	-30.95
802.11b	Chain0	1	V	PK	1200	37.29	29.44	15.86	45.31	74	-28.69
802.11b	Chain0	1	V	PK	1232	37.3	29.5	20.56	50.06	74	-23.94
802.11b	Chain0	1	V	PK	1652	37.37	31.8	14.87	46.66	74	-27.34
802.11b	Chain0	1	V	PK	4824	37.14	5.76	48.98	54.74	74	-19.26
802.11b	Chain0	1	V	AV	4824	37.14	5.76	46.9	52.66	54	-1.34
802.11b	Chain0	1	V	PK	7236	36.5	12.36	38.62	50.98	74	-23.02
802.11b	Chain0	1	V	PK	9648	35.93	16.74	30.17	46.91	74	-27.09
802.11b	Chain0	6	H	PK	1236	37.3	29.51	15.23	44.74	74	-29.26
802.11b	Chain0	6	H	PK	4874	37.12	5.97	51.6	57.57	74	-16.43
802.11b	Chain0	6	H	AV	4874	37.12	5.97	47.36	53.33	54	-0.67
802.11b	Chain0	6	H	PK	4995	37.08	6.47	37.64	44.11	74	-29.89
802.11b	Chain0	6	H	PK	7311	36.47	12.65	38.02	50.66	74	-23.34
802.11b	Chain0	6	V	PK	1168	37.28	29.39	12.53	41.92	74	-32.08
802.11b	Chain0	6	V	PK	1208	37.29	29.46	15.87	45.33	74	-28.67
802.11b	Chain0	6	V	PK	1232	37.3	29.5	21.96	51.46	74	-22.54
802.11b	Chain0	6	V	PK	1644	37.37	31.7	15.98	47.69	74	-26.31
802.11b	Chain0	6	V	PK	4874	37.12	5.97	51	56.97	74	-17.03
802.11b	Chain0	6	V	AV	4874	37.12	5.97	47.28	53.25	54	-0.75
802.11b	Chain0	6	V	PK	4995	37.08	6.47	38.3	44.77	74	-29.23
802.11b	Chain0	6	V	PK	7311	36.47	12.65	40.35	53	74	-21
802.11b	Chain0	11	H	PK	1236	37.3	29.51	15.13	44.64	74	-29.36
802.11b	Chain0	11	H	PK	4924	37.1	6.18	49.63	55.81	74	-18.19
802.11b	Chain0	11	H	AV	4924	37.1	6.18	46.54	52.72	54	-1.28
802.11b	Chain0	11	H	PK	4995	37.08	6.47	37.43	43.9	74	-30.1
802.11b	Chain0	11	H	PK	7386	36.44	12.94	37.18	50.11	74	-23.89
802.11b	Chain0	11	V	PK	1212	37.3	29.47	12.99	42.46	74	-31.54
802.11b	Chain0	11	V	PK	1236	37.3	29.51	20.9	50.41	74	-23.59
802.11b	Chain0	11	V	PK	1300	37.32	29.63	11.87	41.5	74	-32.5
802.11b	Chain0	11	V	PK	1648	37.37	31.75	15.74	47.49	74	-26.51
802.11b	Chain0	11	V	PK	4924	37.1	6.18	47.08	53.25	74	-20.75
802.11b	Chain0	11	V	PK	7386	36.44	12.94	37.83	50.76	74	-23.24
802.11b	Chain0	11	V	PK	9848	35.94	17.25	29.4	46.65	74	-27.35

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamp (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11b	Chain1	1	H	PK	1236	37.3	29.51	13.63	43.14	74	-30.86
802.11b	Chain1	1	H	PK	4824	37.14	5.76	41.77	47.53	74	-26.47
802.11b	Chain1	1	H	PK	4995	37.08	6.47	37.32	43.79	74	-30.21
802.11b	Chain1	1	H	PK	7236	36.5	12.36	38.57	50.93	74	-23.07
802.11b	Chain1	1	V	PK	1032	37.25	29.14	12.63	41.76	74	-32.24
802.11b	Chain1	1	V	PK	1212	37.3	29.47	14.32	43.79	74	-30.21
802.11b	Chain1	1	V	PK	1236	37.3	29.51	21.1	50.61	74	-23.39
802.11b	Chain1	1	V	PK	1644	37.37	31.7	14.27	45.98	74	-28.02
802.11b	Chain1	1	V	PK	4824	37.14	5.76	44.74	50.5	74	-23.5
802.11b	Chain1	1	V	PK	4995	37.08	6.47	37.06	43.53	74	-30.47
802.11b	Chain1	1	V	PK	7236	36.5	12.36	44.14	56.5	74	-17.5
802.11b	Chain1	1	V	AV	7236	36.5	12.36	41.07	53.43	54	-0.57
802.11b	Chain1	6	H	PK	1236	37.3	29.51	15.67	45.18	74	-28.82
802.11b	Chain1	6	H	PK	4874	37.12	5.97	45.39	51.36	74	-22.64
802.11b	Chain1	6	H	PK	4995	37.08	6.47	37.63	44.1	74	-29.9
802.11b	Chain1	6	H	PK	7311	36.47	12.65	38.14	50.78	74	-23.22
802.11b	Chain1	6	V	PK	1024	37.25	29.12	16.19	45.32	74	-28.68
802.11b	Chain1	6	V	PK	1232	37.3	29.5	22.06	51.56	74	-22.44
802.11b	Chain1	6	V	PK	1644	37.37	31.7	15.33	47.03	74	-26.97
802.11b	Chain1	6	V	PK	4874	37.12	5.97	45.16	51.12	74	-22.88
802.11b	Chain1	6	V	PK	4995	37.08	6.47	35.82	42.29	74	-31.71
802.11b	Chain1	6	V	PK	7311	36.47	12.65	42.63	55.28	74	-18.72
802.11b	Chain1	6	V	AV	7311	36.47	12.65	40.3	52.95	54	-1.05
802.11b	Chain1	11	H	PK	1172	37.28	29.39	12.52	41.91	74	-32.09
802.11b	Chain1	11	H	PK	1232	37.3	29.5	14.2	43.7	74	-30.3
802.11b	Chain1	11	H	PK	4924	37.1	6.18	44.7	50.88	74	-23.12
802.11b	Chain1	11	H	PK	4995	37.08	6.47	37.28	43.75	74	-30.25
802.11b	Chain1	11	H	PK	7386	36.44	12.94	39.18	52.12	74	-21.88
802.11b	Chain1	11	V	PK	1236	37.3	29.51	22.34	51.85	74	-22.15
802.11b	Chain1	11	V	PK	1644	37.37	31.7	14.36	46.06	74	-27.94
802.11b	Chain1	11	V	PK	4924	37.1	6.18	45.6	51.77	74	-22.23
802.11b	Chain1	11	V	PK	4995	37.08	6.47	36.16	42.63	74	-31.37
802.11b	Chain1	11	V	PK	7386	36.44	12.94	41.38	54.31	74	-19.69
802.11g	Chain0	1	H	PK	1236	37.3	29.51	15.02	44.53	74	-29.47
802.11g	Chain0	1	H	PK	4824	37.14	5.76	39.56	45.32	74	-28.68
802.11g	Chain0	1	H	PK	4995	37.08	6.47	38.26	44.73	74	-29.27
802.11g	Chain0	1	H	PK	7236	36.5	12.36	34.95	47.31	74	-26.69
802.11g	Chain0	1	V	PK	1120	37.27	29.3	13.21	42.51	74	-31.49
802.11g	Chain0	1	V	PK	1236	37.3	29.51	20.97	50.48	74	-23.52
802.11g	Chain0	1	V	PK	1500	37.37	29.99	11.45	41.44	74	-32.56
802.11g	Chain0	1	V	PK	1652	37.37	31.8	16.31	48.11	74	-25.89
802.11g	Chain0	1	V	PK	4824	37.14	5.76	40.95	46.71	74	-27.29
802.11g	Chain0	1	V	PK	4995	37.08	6.47	36.19	42.66	74	-31.34

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamp (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11g	Chain0	1	V	PK	7236	36.5	12.36	34.21	46.57	74	-27.43
802.11g	Chain0	1	V	PK	9648	35.93	16.74	29.81	46.55	74	-27.45
802.11g	Chain0	6	H	PK	1168	37.28	29.39	13.65	43.04	74	-30.96
802.11g	Chain0	6	H	PK	1236	37.3	29.51	14.84	44.35	74	-29.65
802.11g	Chain0	6	H	PK	4874	37.12	5.97	43.49	49.45	74	-24.55
802.11g	Chain0	6	H	PK	4995	37.08	6.47	38.38	44.85	74	-29.15
802.11g	Chain0	6	H	PK	7311	36.47	12.65	36.09	48.73	74	-25.27
802.11g	Chain0	6	V	PK	1056	37.25	29.18	12.75	41.93	74	-32.07
802.11g	Chain0	6	V	PK	1236	37.3	29.51	22.38	51.89	74	-22.11
802.11g	Chain0	6	V	PK	1264	37.31	29.56	13.02	42.58	74	-31.42
802.11g	Chain0	6	V	PK	1648	37.37	31.75	15.58	47.34	74	-26.66
802.11g	Chain0	6	V	PK	4874	37.12	5.97	44.17	50.14	74	-23.86
802.11g	Chain0	6	V	PK	4995	37.08	6.47	37.41	43.88	74	-30.12
802.11g	Chain0	6	V	PK	7311	36.47	12.65	35.62	48.27	74	-25.73
802.11g	Chain0	11	H	PK	1236	37.3	29.51	15.14	44.65	74	-29.35
802.11g	Chain0	11	H	PK	4924	37.1	6.18	42.23	48.4	74	-25.6
802.11g	Chain0	11	H	PK	4995	37.08	6.47	38.21	44.68	74	-29.32
802.11g	Chain0	11	H	PK	7386	36.44	12.94	34.05	46.98	74	-27.02
802.11g	Chain0	11	V	PK	1056	37.25	29.18	12.35	41.53	74	-32.47
802.11g	Chain0	11	V	PK	1196	37.29	29.44	13	42.44	74	-31.56
802.11g	Chain0	11	V	PK	1236	37.3	29.51	21.5	51.01	74	-22.99
802.11g	Chain0	11	V	PK	1648	37.37	31.75	15.19	46.94	74	-27.06
802.11g	Chain0	11	V	PK	4924	37.1	6.18	41.75	47.92	74	-26.08
802.11g	Chain0	11	V	PK	4995	37.08	6.47	36.82	43.29	74	-30.71
802.11g	Chain0	11	V	PK	7386	36.44	12.94	35.32	48.25	74	-25.75
802.11g	Chain1	1	H	PK	1236	37.3	29.51	15.16	44.67	74	-29.33
802.11g	Chain1	1	H	PK	4824	37.14	5.76	36.07	41.83	74	-32.17
802.11g	Chain1	1	H	PK	4995	37.08	6.47	38.03	44.5	74	-29.5
802.11g	Chain1	1	H	PK	7236	36.5	12.36	34	46.36	74	-27.64
802.11g	Chain1	1	V	PK	1164	37.28	29.38	13.89	43.27	74	-30.73
802.11g	Chain1	1	V	PK	1216	37.3	29.47	17.43	46.9	74	-27.1
802.11g	Chain1	1	V	PK	1236	37.3	29.51	21.73	51.24	74	-22.76
802.11g	Chain1	1	V	PK	1652	37.37	31.8	18.06	49.86	74	-24.14
802.11g	Chain1	1	V	PK	4824	37.14	5.76	39.75	45.51	74	-28.49
802.11g	Chain1	1	V	PK	4995	37.08	6.47	35.63	42.1	74	-31.9
802.11g	Chain1	1	V	PK	7236	36.5	12.36	42.42	54.78	74	-19.22
802.11g	Chain1	1	V	AV	7236	36.5	12.36	39.75	52.11	54	-1.89
802.11g	Chain1	6	H	PK	1236	37.3	29.51	13.78	43.29	74	-30.71
802.11g	Chain1	6	H	PK	4874	37.12	5.97	35.11	41.08	74	-32.92
802.11g	Chain1	6	H	PK	4995	37.08	6.47	39.11	45.58	74	-28.42
802.11g	Chain1	6	H	PK	7311	36.47	12.65	29.98	42.63	74	-31.37
802.11g	Chain1	6	V	PK	1032	37.25	29.14	13.84	42.98	74	-31.02
802.11g	Chain1	6	V	PK	1236	37.3	29.51	21.09	50.61	74	-23.39

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamp (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11g	Chain1	6	V	PK	1648	37.37	31.75	14.3	46.05	74	-27.95
802.11g	Chain1	6	V	PK	4874	37.12	5.97	35.63	41.59	74	-32.41
802.11g	Chain1	6	V	PK	4995	37.08	6.47	37.1	43.57	74	-30.43
802.11g	Chain1	6	V	PK	7311	36.47	12.65	32.39	45.04	74	-28.96
802.11g	Chain1	11	H	PK	1236	37.3	29.51	13.17	42.68	74	-31.32
802.11g	Chain1	11	H	PK	4924	37.1	6.18	34.67	40.85	74	-33.15
802.11g	Chain1	11	H	PK	4995	37.08	6.47	37.4	43.87	74	-30.13
802.11g	Chain1	11	H	PK	7386	36.44	12.94	29.81	42.74	74	-31.26
802.11g	Chain1	11	V	PK	1080	37.26	29.23	12.92	42.15	74	-31.85
802.11g	Chain1	11	V	PK	1236	37.3	29.51	21.19	50.7	74	-23.3
802.11g	Chain1	11	V	PK	1648	37.37	31.75	16.97	48.72	74	-25.28
802.11g	Chain1	11	V	PK	4924	37.1	6.18	35.13	41.31	74	-32.69
802.11g	Chain1	11	V	PK	4995	37.08	6.47	37.03	43.5	74	-30.5
802.11g	Chain1	11	V	PK	7386	36.44	12.94	30.71	43.64	74	-30.36
802.11n (HT20)	Chain0+1	1	H	PK	1236	37.3	29.51	14.63	44.14	74	-29.86
802.11n (HT20)	Chain0+1	1	H	PK	4824	37.14	5.76	38.79	44.55	74	-29.45
802.11n (HT20)	Chain0+1	1	H	PK	4995	37.08	6.47	37.95	44.42	74	-29.58
802.11n (HT20)	Chain0+1	1	H	PK	7236	36.5	12.36	36.33	48.69	74	-25.31
802.11n (HT20)	Chain0+1	1	V	PK	1236	37.3	29.51	20.13	49.64	74	-24.36
802.11n (HT20)	Chain0+1	1	V	PK	1648	37.37	31.75	17.71	49.46	74	-24.54
802.11n (HT20)	Chain0+1	1	V	PK	4824	37.14	5.76	41.12	46.88	74	-27.12
802.11n (HT20)	Chain0+1	1	V	PK	4995	37.08	6.47	36.68	43.15	74	-30.85
802.11n (HT20)	Chain0+1	1	V	PK	7236	36.5	12.36	41.33	53.69	74	-20.31
802.11n (HT20)	Chain0+1	1	V	AV	7236	36.5	12.36	39.48	51.84	54	-2.16
802.11n (HT20)	Chain0+1	6	H	PK	1232	37.3	29.5	13.06	42.56	74	-31.44
802.11n (HT20)	Chain0+1	6	H	PK	4874	37.12	5.97	35.88	41.85	74	-32.15
802.11n (HT20)	Chain0+1	6	H	PK	4995	37.08	6.47	37.32	43.79	74	-30.21
802.11n (HT20)	Chain0+1	6	H	PK	7311	36.47	12.65	29.8	42.45	74	-31.55

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamp (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (HT20)	Chain0+1	6	V	PK	1088	37.26	29.24	13.04	42.28	74	-31.72
802.11n (HT20)	Chain0+1	6	V	PK	1212	37.3	29.47	14.75	44.22	74	-29.78
802.11n (HT20)	Chain0+1	6	V	PK	1236	37.3	29.51	22.36	51.87	74	-22.13
802.11n (HT20)	Chain0+1	6	V	PK	1644	37.37	31.7	15.1	46.81	74	-27.19
802.11n (HT20)	Chain0+1	6	V	PK	4874	37.12	5.97	35.34	41.31	74	-32.69
802.11n (HT20)	Chain0+1	6	V	PK	4995	37.08	6.47	36.36	42.83	74	-31.17
802.11n (HT20)	Chain0+1	6	V	PK	7311	36.47	12.65	30.15	42.79	74	-31.21
802.11n (HT20)	Chain0+1	11	H	PK	1236	37.3	29.51	13.38	42.89	74	-31.11
802.11n (HT20)	Chain0+1	11	H	PK	4924	37.1	6.18	34.61	40.78	74	-33.22
802.11n (HT20)	Chain0+1	11	H	PK	4995	37.08	6.47	37.61	44.08	74	-29.92
802.11n (HT20)	Chain0+1	11	H	PK	7386	36.44	12.94	29.01	41.95	74	-32.05
802.11n (HT20)	Chain0+1	11	V	PK	1196	37.29	29.44	12.78	42.22	74	-31.78
802.11n (HT20)	Chain0+1	11	V	PK	1216	37.3	29.47	15.43	44.9	74	-29.1
802.11n (HT20)	Chain0+1	11	V	PK	1236	37.3	29.51	19.4	48.91	74	-25.09
802.11n (HT20)	Chain0+1	11	V	PK	1644	37.37	31.7	16.15	47.85	74	-26.15
802.11n (HT20)	Chain0+1	11	V	PK	4924	37.1	6.18	34.71	40.89	74	-33.11
802.11n (HT20)	Chain0+1	11	V	PK	4995	37.08	6.47	36.22	42.69	74	-31.31
802.11n (HT20)	Chain0+1	11	V	PK	7386	36.44	12.94	30.74	43.67	74	-30.33
802.11n (HT40)	Chain0+1	3	H	PK	1232	37.3	29.5	13.63	43.13	74	-30.87
802.11n (HT40)	Chain0+1	3	H	PK	4844	37.13	5.84	39.33	45.17	74	-28.83
802.11n (HT40)	Chain0+1	3	H	PK	4995	37.08	6.47	38.31	44.79	74	-29.21

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamplifier (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (HT40)	Chain0+1	3	V	PK	1032	37.25	29.14	13.74	42.88	74	-31.12
802.11n (HT40)	Chain0+1	3	V	PK	1232	37.3	29.5	20.38	49.88	74	-24.12
802.11n (HT40)	Chain0+1	3	V	PK	1652	37.37	31.8	17.27	49.07	74	-24.93
802.11n (HT40)	Chain0+1	3	V	PK	2056	37.37	35.86	11.87	47.73	74	-26.27
802.11n (HT40)	Chain0+1	3	V	PK	4844	37.13	5.84	37.44	43.28	74	-30.72
802.11n (HT40)	Chain0+1	3	V	PK	4995	37.08	6.47	35.44	41.91	74	-32.09
802.11n (HT40)	Chain0+1	3	V	PK	7266	36.49	12.48	38.34	50.81	74	-23.19
802.11n (HT40)	Chain0+1	6	H	PK	1236	37.3	29.51	14.32	43.83	74	-30.17
802.11n (HT40)	Chain0+1	6	H	PK	4874	37.12	5.97	38.73	44.69	74	-29.31
802.11n (HT40)	Chain0+1	6	H	PK	4995	37.08	6.47	38.21	44.68	74	-29.32
802.11n (HT40)	Chain0+1	6	H	PK	7311	36.47	12.65	34.1	46.75	74	-27.25
802.11n (HT40)	Chain0+1	6	V	PK	1032	37.25	29.14	13.41	42.55	74	-31.45
802.11n (HT40)	Chain0+1	6	V	PK	1232	37.3	29.5	21.24	50.75	74	-23.25
802.11n (HT40)	Chain0+1	6	V	PK	1652	37.37	31.8	15.9	47.7	74	-26.3
802.11n (HT40)	Chain0+1	6	V	PK	1672	37.37	32.04	13.01	45.05	74	-28.95
802.11n (HT40)	Chain0+1	6	V	PK	4874	37.12	5.97	37.23	43.2	74	-30.8
802.11n (HT40)	Chain0+1	6	V	PK	4995	37.08	6.47	37.74	44.21	74	-29.79
802.11n (HT40)	Chain0+1	6	V	PK	7311	36.47	12.65	36.9	49.55	74	-24.45
802.11n (HT40)	Chain0+1	9	H	PK	1232	37.3	29.5	15.04	44.54	74	-29.46
802.11n (HT40)	Chain0+1	9	H	PK	4904	37.11	6.09	40.03	46.12	74	-27.88
802.11n (HT40)	Chain0+1	9	H	PK	4995	37.08	6.47	37.86	44.33	74	-29.67

Mode	Chain	Channel	Ant Polarity	Detector	Frequency (MHz)	Preamp (dB)	Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit (dBμV/m)	Margin (dB)
802.11n (HT40)	Chain0+1	3	H	PK	7266	36.49	12.48	32.41	44.88	74	-29.12
802.11n (HT40)	Chain0+1	9	H	PK	7356	36.45	12.82	33.03	45.85	74	-28.15
802.11n (HT40)	Chain0+1	9	V	PK	1032	37.25	29.14	12.63	41.77	74	-32.23
802.11n (HT40)	Chain0+1	9	V	PK	1164	37.28	29.38	12.12	41.49	74	-32.51
802.11n (HT40)	Chain0+1	9	V	PK	1232	37.3	29.5	20.36	49.86	74	-24.14
802.11n (HT40)	Chain0+1	9	V	PK	1648	37.37	31.75	14.71	46.46	74	-27.54
802.11n (HT40)	Chain0+1	9	V	PK	4904	37.11	6.09	38.01	44.1	74	-29.9
802.11n (HT40)	Chain0+1	9	V	PK	4995	37.08	6.47	36.12	42.59	74	-31.41
802.11n (HT40)	Chain0+1	9	V	PK	7356	36.45	12.82	34.89	47.71	74	-26.29

Remark: Correction Factor = Antenna Factor + Cable Loss + High Pass Filter Loss - Pre_Amplifier Gain

7. Emission on Band Edge

7.1. Instrument Setting

Spectrum Function	Setting
Detector	Peak and Average
RBW	1MHz
VBW	3MHz
Sweep	Auto couple
Restrict bands	2310 MHz ~ 2390 MHz 2483.5 MHz ~ 2500 MHz
Attenuation	Auto

7.2. Test Procedure

The test procedure is the same as Emissions in Restricted Frequency Bands (Radiated emission measurements).

7.3. Operating Environment Condition

Temperature (°C) : 25
Relative Humidity (%) : 50
Atmospheric Pressure (hPa) : 1008
Test Date : 2018/3/1~2018/3/9

7.4. Test Results

EUT: RW8300E-B3-a

Mode	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)	Restricted band (MHz)
802.11b Chain0	PK	V	35.38	12.52	47.90	74	-26.10	2310~2390
	AV	V	35.37	-0.26	35.11	54	-18.89	
	PK	V	35.21	11.20	46.41	74	-27.59	2483.5~2500
	AV	V	35.22	-0.89	34.33	54	-19.67	
802.11b Chain1	PK	V	35.37	10.02	45.39	74	-28.61	2310~2390
	AV	V	35.37	-2.58	32.79	54	-21.21	
	PK	V	35.22	12.23	47.45	74	-26.55	2483.5~2500
	AV	V	35.22	0.13	35.35	54	-18.65	
802.11g Chain0	PK	V	35.36	15.31	50.67	74	-23.33	2310~2390
	AV	V	35.36	1.56	36.92	54	-17.08	
	PK	V	35.22	17.17	52.39	74	-21.61	2483.5~2500
	AV	V	35.23	2.65	37.88	54	-16.12	
802.11g Chain1	PK	V	35.37	15.66	51.03	74	-22.97	2310~2390
	AV	V	35.36	2.15	37.51	54	-16.49	
	PK	V	35.22	13.45	48.67	74	-25.33	2483.5~2500
	AV	V	35.23	0.49	35.72	54	-18.28	
802.11n (HT20) Chain0+1	PK	V	35.36	15.23	50.59	74	-23.41	2310~2390
	AV	V	35.36	3.99	39.35	54	-14.65	
	PK	V	35.22	11.13	46.35	74	-27.65	2483.5~2500
	AV	V	35.23	-0.43	34.80	54	-19.20	
802.11n (HT40) Chain0+1	PK	V	35.37	19.03	54.40	74	-19.60	2310~2390
	AV	V	35.36	7.05	42.41	54	-11.59	
	PK	V	35.22	21.26	56.48	74	-17.52	2483.5~2500
	AV	V	35.23	7.39	42.62	54	-11.38	

Remark: Correction Factor = Antenna Factor + Cable Loss

Spectrum **Receiver**

Ref Level 72.00 dBuV RBW 1 MHz
 Att 0 dB SWF 7.6 μ s VBW 3 MHz Mode Auto FFT Input 1 AC

PS PA TDF

1Pk Max

Line 1

Line 2

60 dBuV

40 dBuV

30 dBuV

20 dBuV

10 dBuV

0 dBuV

-10 dBuV

-20 dBuV

M1

M2[1]

M1[1]

F1

S1

46.41 dBuV

2.493590 GHz

96.67 dBuV

2.461980 GHz

Start 2.44 GHz 501 pts Stop 2.5 GHz

Measuring...

Date: 1, MAR, 2018 18:56:20

Spectrum **Receiver**

Ref Level 72.00 dBμV ATT 0 dB SWT 127 ms RBW 1 MHz VBW 10 Hz Mode Auto FFT Input 1 AC

PS PA TDF

IPI Map

Line 1 34.23 dBμV 2.488800 GHz 91.87 dBμV 2.461260 GHz

Line 2 34.23 dBμV 2.488800 GHz 91.87 dBμV 2.461260 GHz

Start 2.44 GHz 501 pts Stop 2.5 GHz

Measuring...

Date: 1, MAR, 2018 18:57:42

Spectrum **Receiver** **3**

Ref Level 72.00 dBu/V RBW 1 MHz
 Att 0 dB SWT 17.1 μs VBW 3 MHz Mode Auto FFT Input 1 AC
 PS PA TDF
 IPI Max

Line 1 47.90 dBu/V
 2.381490 GHz
 99.52 dBu/V
 2.412110 GHz

Line 2 50.00 dBu/V

Start 2.31 GHz 501 pts Stop 2.44 GHz

Measuring... 81.83.2018 18:36:15

Spectrum

Receiver

Ref Level 72.00 dB μ V RBW 1 MHz
 ATT 0 dB SWT 282 ms VBW 10 Hz Mode Auto FFT Input 1 AC
 PS PA TDF

LPI Mag

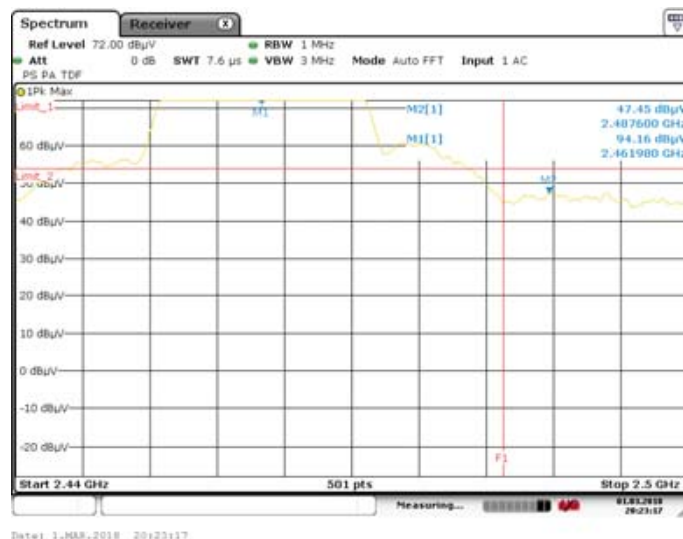
M0[1] M1[1] F1 M1

35.11 dB μ V
 2.386420 GHz
 94.23 dB μ V
 2.411300 GHz

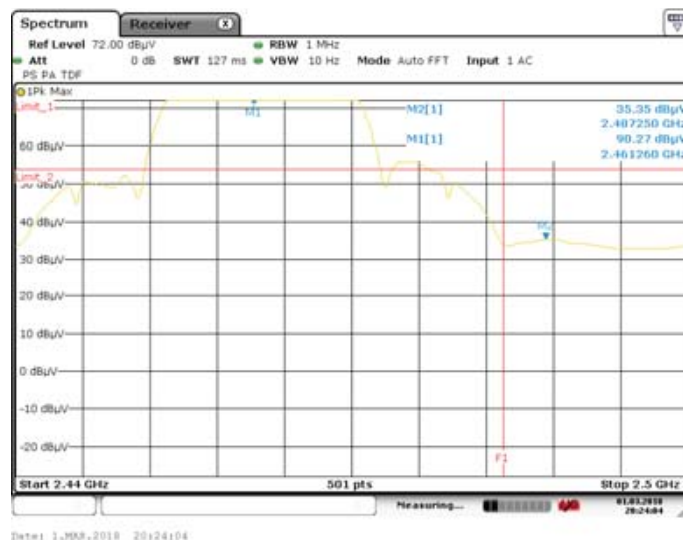
Start 2.31 GHz 501 pts Stop 2.44 GHz

Date: 1.MAR.2018 18:39:08

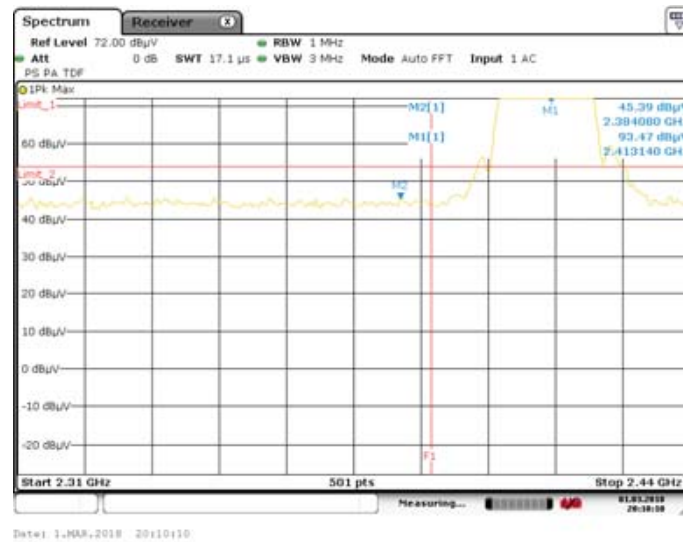
Chain1 : Restricted Band Bandedge @ 802.11b Mode Ch11 PK



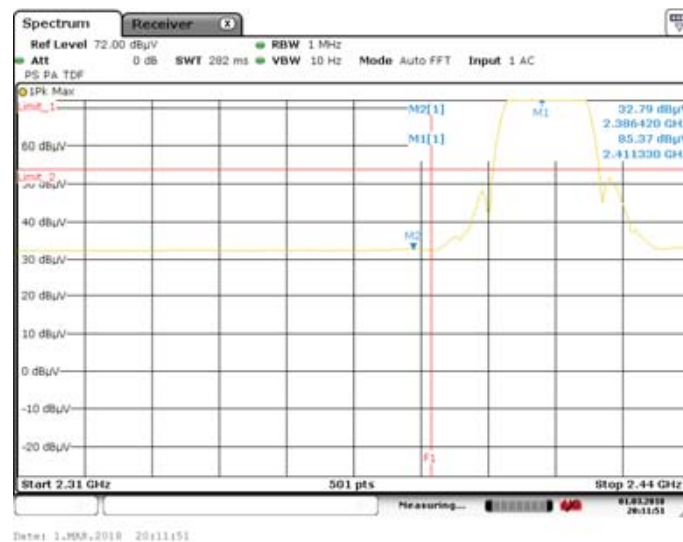
Chain1 : Restricted Band Bandedge @ 802.11b Mode Ch11 AV



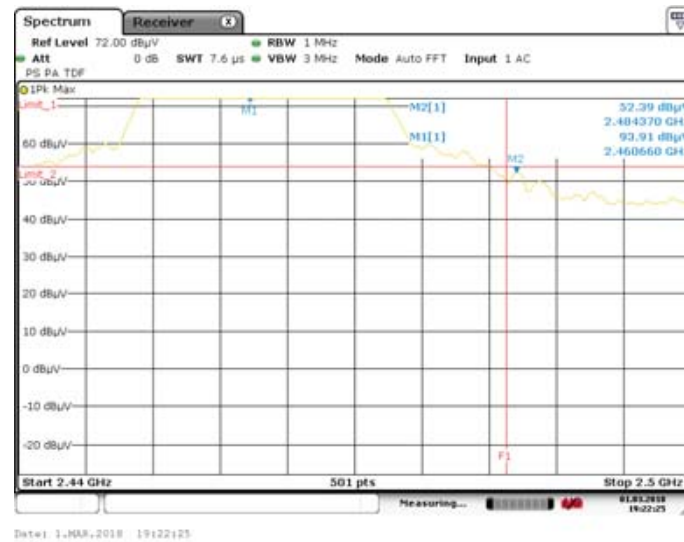
Chain1 : Restricted Band Bandedge @ 802.11b Mode Ch1 PK



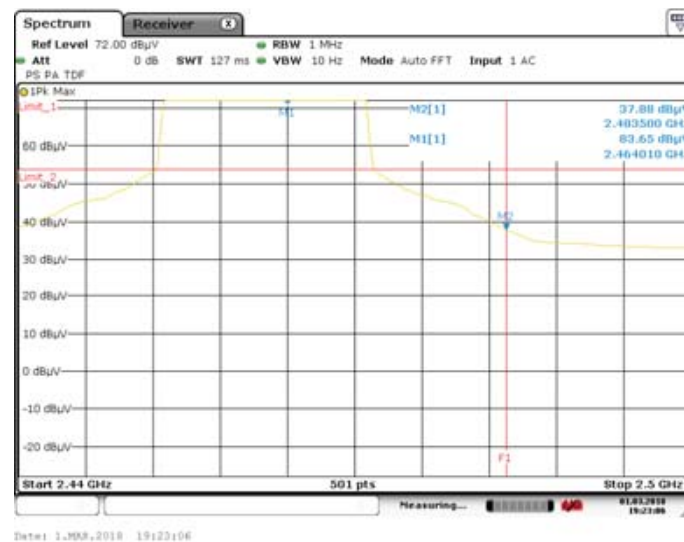
Chain1 : Restricted Band Bandedge @ 802.11b Mode Ch1 AV



Chain0 : Restricted Band Bandedge @ 802.11g Mode Ch11 PK



Chain0 : Restricted Band Bandedge @ 802.11g Mode Ch11 AV



Spectrum **Receiver**

Ref Level 72.00 dBμV RBW 1 MHz
 Att 0 dB SWT 17.1 μs VBW 3 MHz Mode Auto FFT Input 1 AC
 PS PA TDF
 LPL Max

Limit 1 50.67 dBμV 2.389740 GHz
 Limit 2 30.00 dBμV 2.409470 GHz

Start 2.31 GHz 501 pts Stop 2.44 GHz

Measuring... 40 01.01.2019 15:09:38

Date: 1.MAR.2018 19:09:30

Spectrum **Receiver** **RBW** 1 MHz

Ref Level 72.00 dBμV

ATT 0 dB SWT 292 ms VBW 10 Hz Mode Auto FFT Input 1 AC

PS PA TDF

① IPI Max

Limit 1 36.92 dBμV 2.390000 GHz 84.47 dBμV 2.409510 GHz

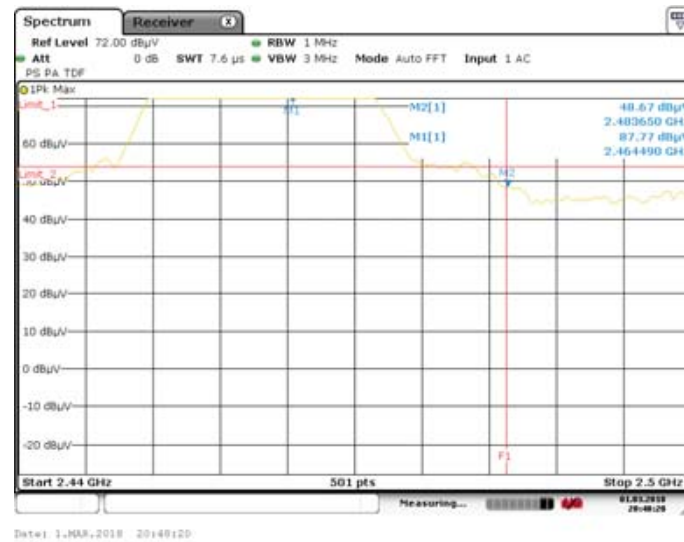
Limit 2

Start 2.31 GHz 501 pts Stop 2.44 GHz

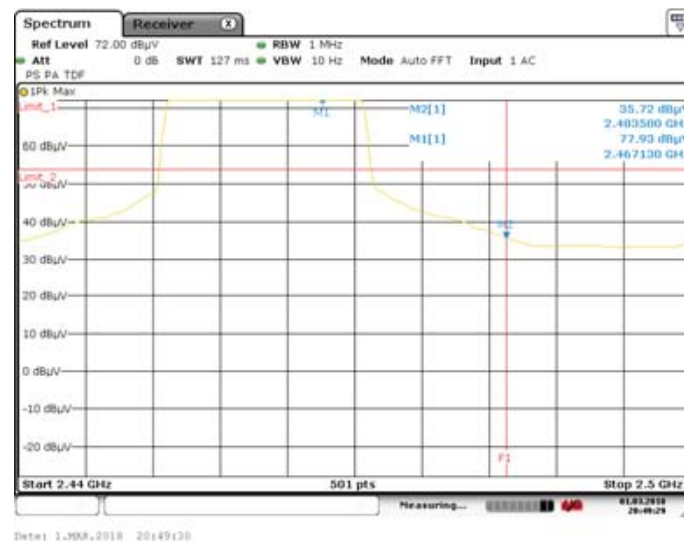
Measuring...

Date: 1,NOV,2018 19:10:42

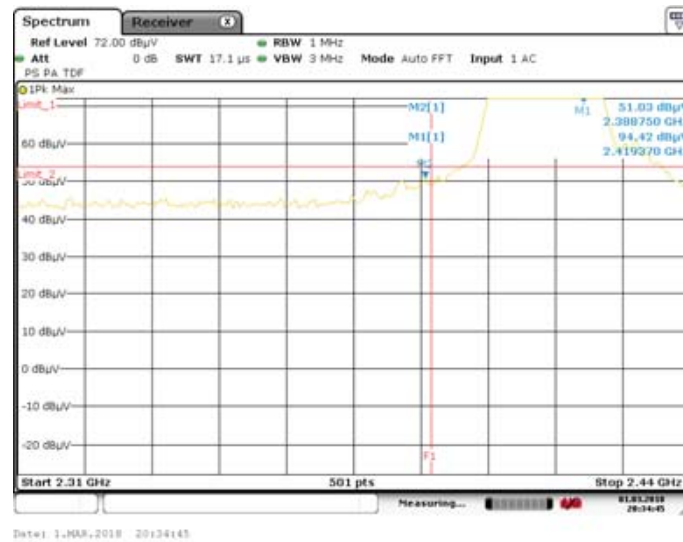
Chain1 : Restricted Band Bandedge @ 802.11g Mode Ch11 PK



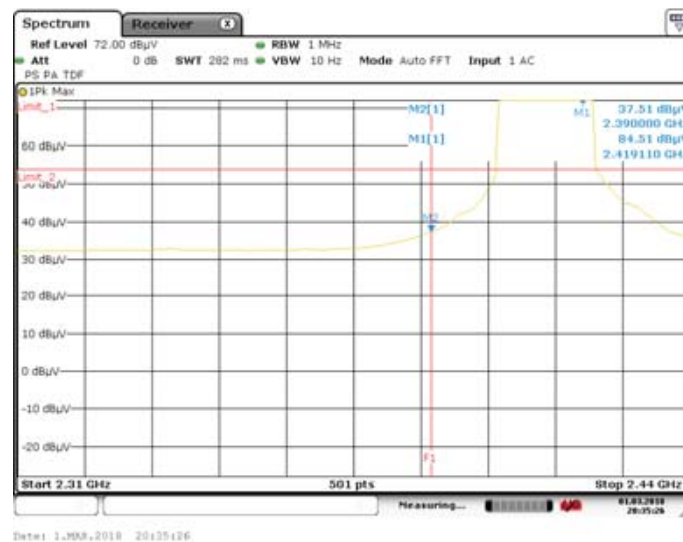
Chain1 : Restricted Band Bandedge @ 802.11g Mode Ch11 AV



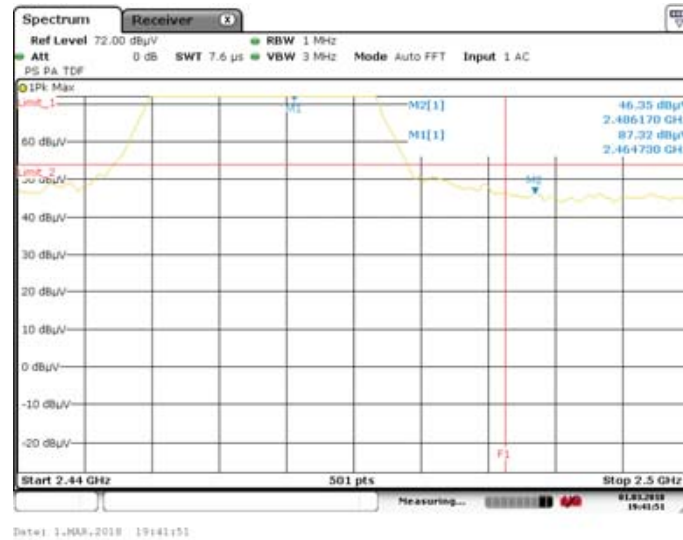
Chain1 : Restricted Band Bandedge @ 802.11g Mode Ch1 PK



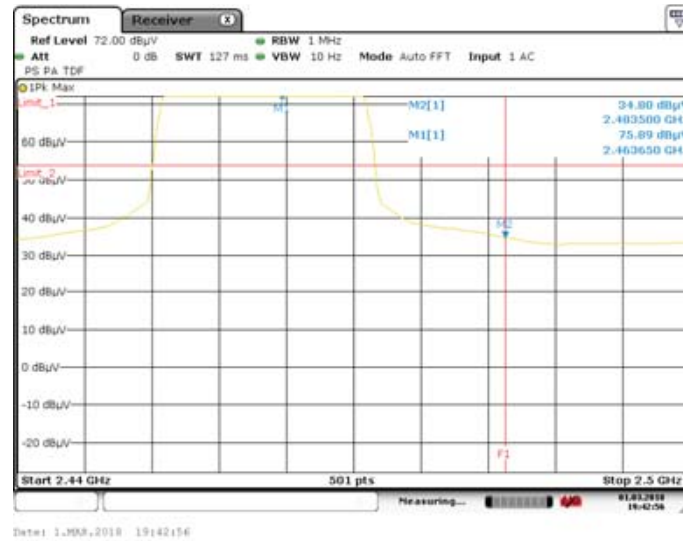
Chain1 : Restricted Band Bandedge @ 802.11g Mode Ch1 AV



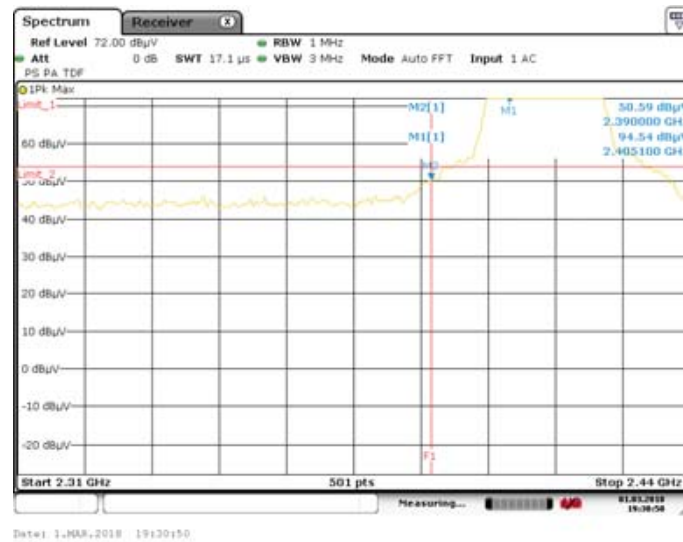
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT20) Mode Ch11 PK



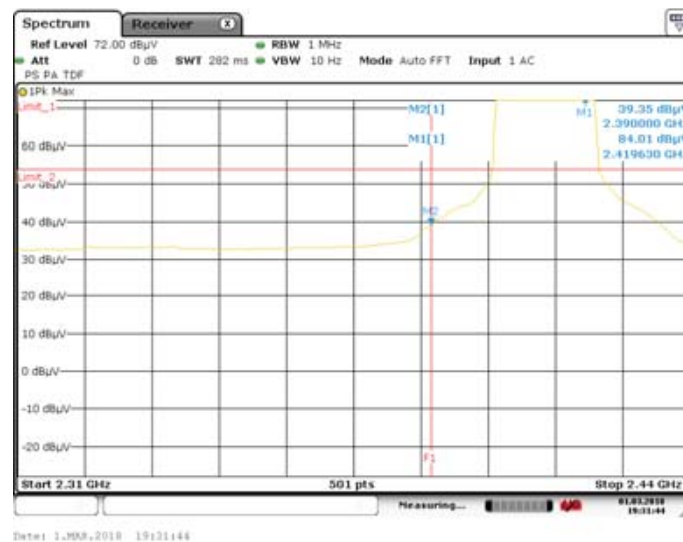
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT20) Mode Ch11 AV



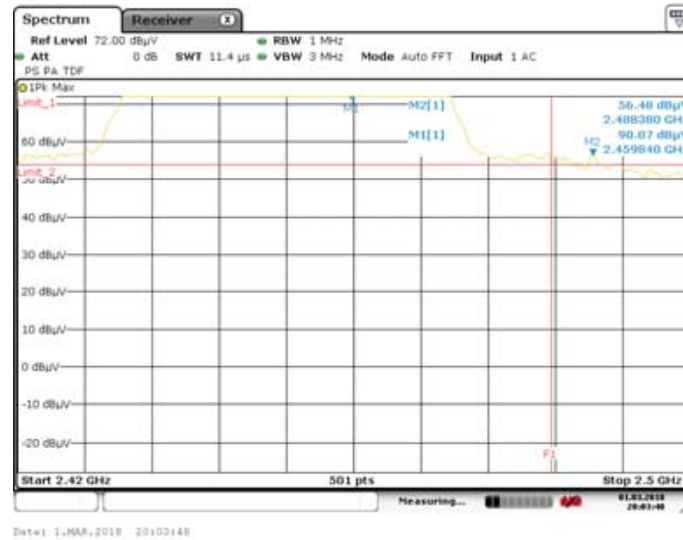
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT20) Mode Ch1 PK



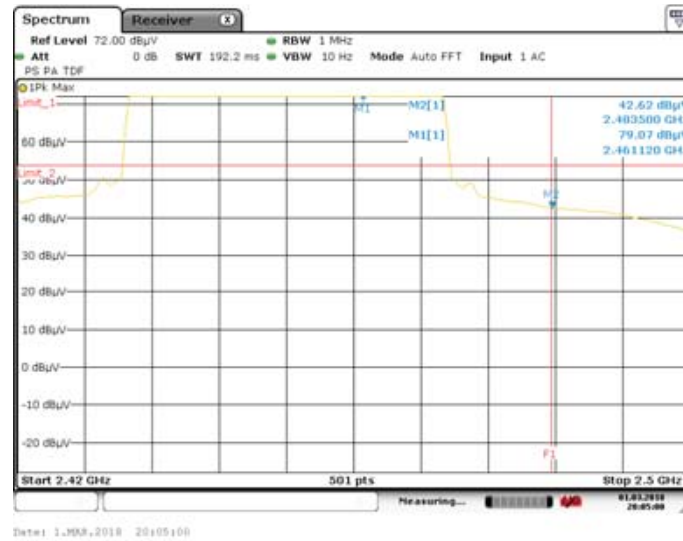
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT20) Mode Ch1 AV



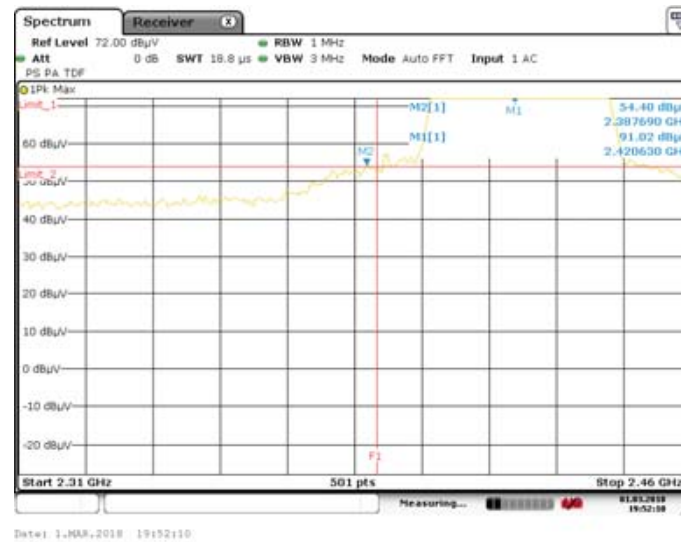
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT40) Mode Ch11 PK



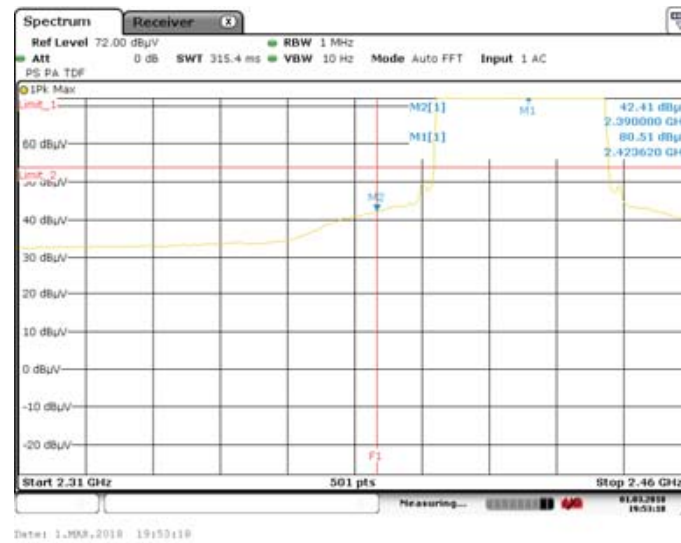
Chain0+1 : Restricted Band Bandedge @ 802.11n(HT40) Mode Ch11 AV



Chain0+1 : Restricted Band Bandedge @ 802.11n(HT40) Mode Ch1 PK



Chain0+1 : Restricted Band Bandedge @ 802.11n(HT40) Mode Ch1 AV



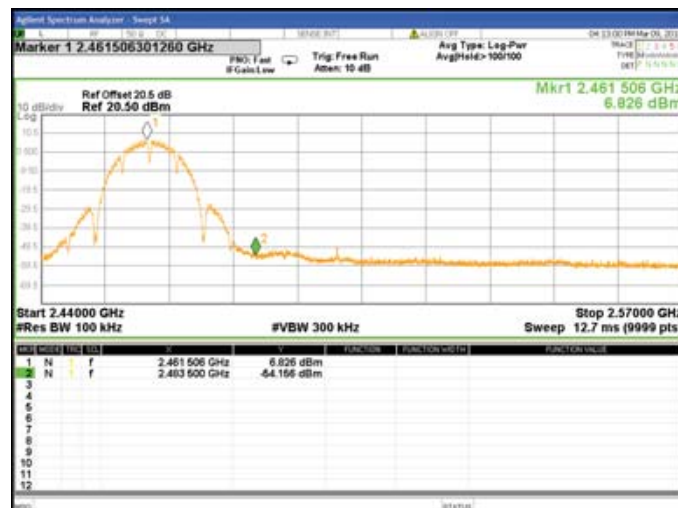
Chain0 : Authorized Band Bandedge @ 802.11b Mode High



Chain0 : Authorized Band Bandedge @ 802.11b Mode Low



Chain1 : Authorized Band Bandedge @ 802.11b Mode High



Chain1 : Authorized Band Bandedge @ 802.11b Mode Low



Chain0 : Authorized Band Bandedge @ 802.11g Mode High



Chain0 : Authorized Band Bandedge @ 802.11g Mode Low



Chain1 : Authorized Band Bandedge @ 802.11g Mode High



Chain1 : Authorized Band Bandedge @ 802.11g Mode Low



Chain0 : Authorized Band Bandedge @ 802.11n(HT20) Mode High



Chain0 : Authorized Band Bandedge @ 802.11n(HT20) Mode Low



Chain1 : Authorized Band Bandedge @ 802.11n(HT20) Mode High



Chain1 : Authorized Band Bandedge @ 802.11n(HT20) Mode Low



Chain0 : Authorized Band Bandedge @ 802.11n(HT40) Mode High



Chain0 : Authorized Band Bandedge @ 802.11n(HT40) Mode Low



Chain1 : Authorized Band Bandedge @ 802.11n(HT40) Mode High



Chain1 : Authorized Band Bandedge @ 802.11n(HT40) Mode Low



8. AC Power Line Conducted Emission

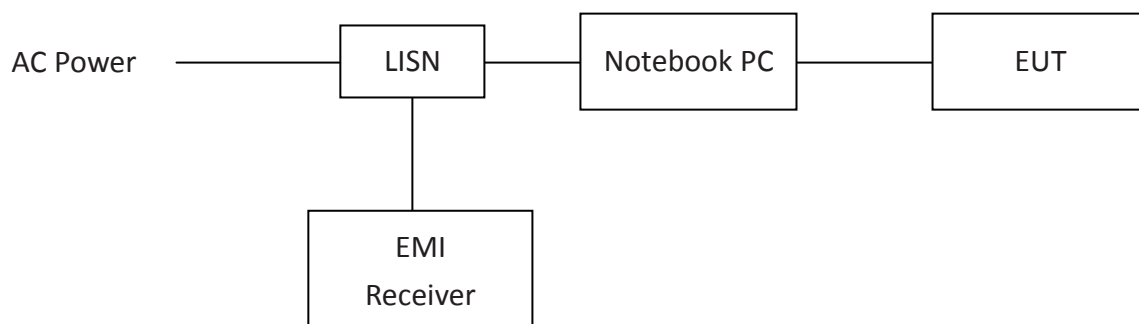
8.1. Measuring instrument setting

Receiver Function	Setting
Detector	QP
Start frequency	0.15MHz
Stop frequency	30MHz
IF bandwidth	9 kHz
Attenuation	10dB

8.2. Test Procedure

- Step 1 Configure the EUT according to ANSI C63.10:2013. The EUT or host of EHT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
- Step 2 Connect EUT or host of EUT to the power mains through a line impedance stabilization network.
- Step 3 All the companion devices are connected to the other LISN. The LISN should provide 50Uh/50ohms coupling impedance.
- Step 4 The frequency range from 150 kHz to 30MHz was searched.
- Step 5 Set the test-receiver system to peak detector and specified bandwidth with maximum hold mode.
- Step 6 The measurement has to be done between each power line and ground at the power terminal.

8.3. Test Diagram



8.4. Limit

Freq. (MHz)	Conducted Limit (dBuV)	
	Q.P.	Ave.
0.15~0.50	66 – 56	56 – 46
0.50~5.00	56	46
5.00~30.0	60	50

8.5. Operating Environment Condition

Temperature (°C) : 23
 Relative Humidity (%) : 54
 Atmospheric Pressure (hPa) : 1009
 Test Date : 2018/3/8

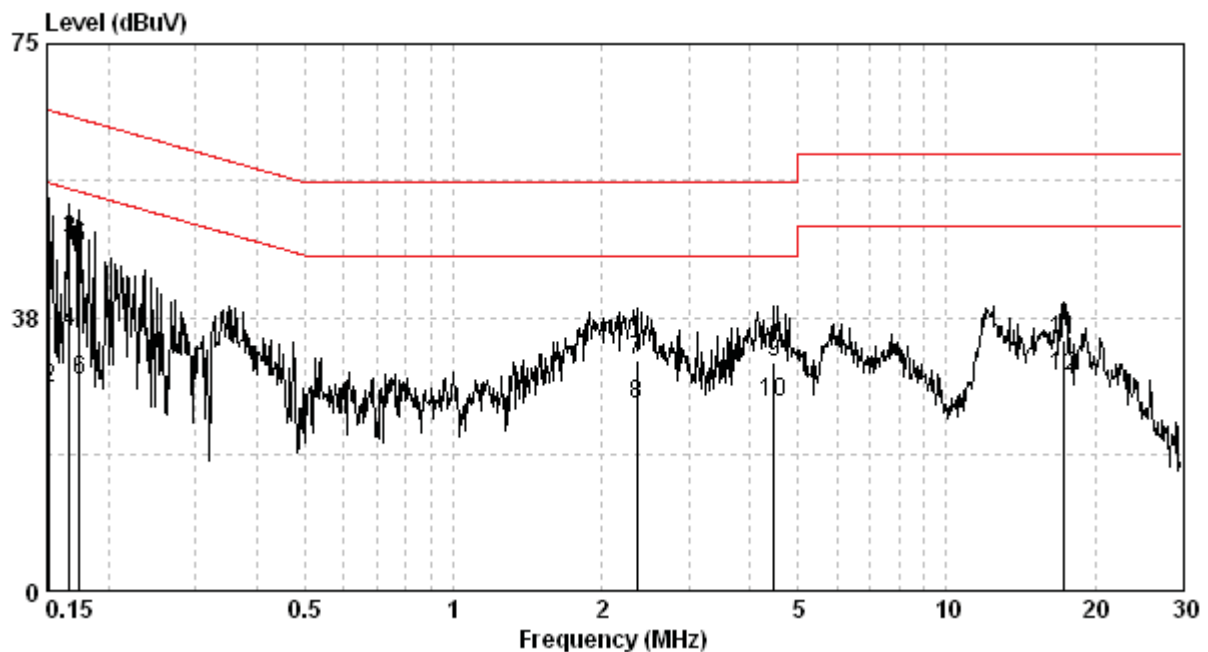
8.6. Test Results

Phase: Live Line
Model No.: RW8300E-B3-a
Test Condition: Tx mode

Frequency (MHz)	Corr. Factor (dB)	Reading QP (dBuV)	Level QP (dBuV)	Limit QP (dBuV)	Reading AV (dBuV)	Level AV (dBuV)	Limit AV (dBuV)	Margin (dB)	
								QP	AV
0.152	9.36	40.88	50.23	65.91	18.35	27.70	55.91	-15.68	-28.21
0.167	9.36	38.68	48.04	65.12	26.10	35.46	55.12	-17.08	-19.66
0.175	9.36	37.60	46.96	64.72	19.52	28.88	54.72	-17.77	-25.84
2.358	9.52	22.16	31.68	56.00	16.09	25.61	46.00	-24.32	-20.39
4.478	9.54	21.78	31.33	56.00	16.27	25.81	46.00	-24.67	-20.19
17.291	9.57	24.76	34.33	60.00	19.81	29.38	50.00	-25.67	-20.62

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)

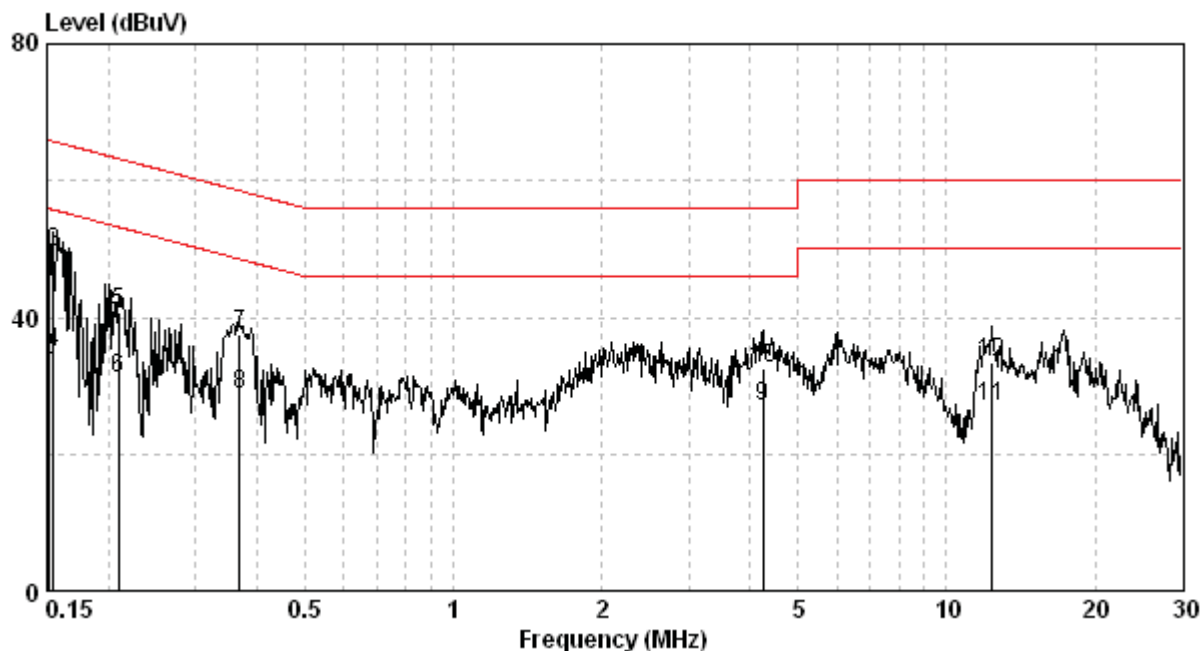


Phase: Neutral Line
Model No.: RW8300E-B3-a
Test Condition: Tx mode

Frequency (MHz)	Corr. Factor (dB)	Reading QP (dBuV)	Level QP (dBuV)	Limit QP (dBuV)	Reading AV (dBuV)	Level AV (dBuV)	Limit AV (dBuV)	Margin (dB)	
								QP	AV
0.151	9.62	40.03	49.65	65.96	23.97	33.59	55.96	-16.31	-22.37
0.155	9.62	39.84	49.46	65.74	25.35	34.97	55.74	-16.28	-20.77
0.209	9.62	31.02	40.64	63.23	21.32	30.94	53.23	-22.58	-22.28
0.369	9.63	27.92	37.55	58.52	19.03	28.65	48.52	-20.97	-19.87
4.247	9.79	22.67	32.46	56.00	17.13	26.93	46.00	-23.54	-19.07
12.384	9.87	23.43	33.30	60.00	17.19	27.05	50.00	-26.70	-22.95

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
3. Margin (dB) = Level (dBuV) – Limit (dBuV)



Appendix A: Test equipment list

Test Equipment/ Test site	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
ESCI EMI Test Receiver	Rohde & Schwarz	ESCI	100018	2017/11/21	2018/11/20
Spectrum Analyzer	Rohde & Schwarz	FSP30	100245	2018/02/23	2019/02/22
Horn Antenna (1-18G)	SHWARZBECK	BBHA 9120 D	9120D-456	2018/01/23	2019/01/22
Horn Antenna (14-42G)	SHWARZBECK	BBHA 9170	BBHA9170159	2017/09/04	2020/09/02
Broadband Antenna	SHWARZBECK	VULB 9168	9168-172	2017/04/05	2018/04/04
Pre-Amplifier	EMC Co.	EMC12635SE	980205	2017/11/28	2018/11/27
Pre-Amplifier	MITEQ	JS4-26004000--27-8A	828825	2017/08/23	2018/08/22
Power Meter	Anritsu	ML2495A	0844001	2017/10/18	2018/10/17
Power Sensor	Anritsu	MA2411B	0738452	2017/05/23	2018/05/22
Signal Analyzer	Agilent	N9030A	MY51380492	2017/08/29	2018/08/28
966-2(A) Cable 9kHz~26.5GHz	SUHNER	SMA / EX 100	N/A	2017/08/15	2018/08/14
966-2(B) Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 104P	CB0005	2017/08/15	2018/08/14
RF Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 102	CB0006	2017/05/04	2018/05/03
966-2_3m Semi-Anechoic Chamber	966_2	CEM-966_2	N/A	2017/03/29	2018/03/28
High Pass Filter	Wainwright	WHKX3.0/18G-12SS	N/A	2017/06/02	2018/06/01
Active Loop Antenna	SCHWARZBECK MESS-ELEKTRONIC	FMZB1519	1519-067	2017/03/30	2018/03/29

Note: No Calibration Required (NCR).

Test Equipment/ Test site	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
EMI Receiver	R&S	ESCI	100059	2017/11/13	2018/11/12
Two-Line V-Network	R&S	ENV216	101159	2017/06/03	2018/06/02
Artificial Mains Network (LISN)	SCHAFFNER	MN2050D	1586	2017/05/31	2018/05/30
CON-1 Shielded Room	N/A	N/A	N/A	NCR	NCR
CON-1 Cable	SUHNER	SUCOFLEX-104	26438414	2017/05/04	2018/05/03
Test software	Audix	e3	4.20040112L	NCR	NCR

Note: No Calibration Required (NCR).

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k=2$.

Item	Uncertainty
Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.14 dB
Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.22 dB
Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.68 dB
Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.68 dB
Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m	3.54 dB
Emission on the Band Edge Test	3.64 dB
Minimum 6dB Bandwidth	0.85 dB
Maximum Conducted Output Power	0.42 dB
Power Spectral Density	0.85 dB
Emissions In Non-Restricted Frequency Bands	0.85 dB
AC Power Line Conducted Emission	2.48 dB