

CENTRE OF TESTING SERVICE INTERNATIONAL

**OPERATE ACCORDING TO ISO/IEC 17025** 

# FCC ID TEST REPORT

# TEST REPORT NUMBER : CGZ3140820-00939-EF



CENTRE OF TESTING SERVICE CO., LTD. A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China



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TEST REPORT For FCC ID				
47 CFR PART 15 OCT, 2013				
Report Reference No	CGZ3140820-00939-EF			
Date of issue	01 September 2014			
Testing Laboratory Name	CENTRE OF TESTING SERVICE CO., LTD.			
Address	A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China			
Testing location/ procedure	Full application of Harmonised standards			
	Partial application of Harmonised standards $\Box$			
	Other standard testing method $\Box$			
Applicant's name	SHENZHEN ZHIBOTONG ELECTRONICS CO.,LTD.			
Address	Bldg., A, No.229 Renmin Rd., Yuexingwei Community, Guanlan, Longhua District, Shenzhen, China			
Test specification				
Standard	47 CFR PART 15 OCT, 2013			
Test Report Form No	CTSEMC-1.0			
TRF Originator	CENTRE OF TESTING SERVICE CO., LTD.			
Master TRF	Dated 2009-01			
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Test item description	: Wireless Router			
Trade Mark	1			
Manufacturer	SHENZHEN ZHIBOTONG ELECTRONICS CO., LTD.			
Model/Type reference	WR8305RT-B			
Ratings	DC 5V by Adpater;			
	Adapter Input: AC 100-240V, 50/60Hz; Output:DC 5V			
Operating Frequency	802.11b/g/n(20M):2412.0 MHz~2462.0 MHz			
	802.11n(40MHz):2422.0 MHz ~2452.0 MHz			
Result	Positive			

Compiled by:

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Supervised by:

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Approved by:

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Report No.: CGZ3140820-00939-EF





01 September 2014

# FCCID -- TEST REPORT

Test Report No. :	CGZ3140820-00939-EF	01 September 2014 Date of issue		
Type / Model	WR8305RT-B			
EUT	Wireless Router			
Applicant	SHENZHEN ZHIBOTONG ELECTRONICS	CO.,LTD.		
Address	Bldg., A, No.229 Renmin Rd., Yuexingwei C District, Shenzhen, China	ommunity, Guanlan, Longhua		
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Contact	BENSON MA			
Manufacturer	SHENZHEN ZHIBOTONG ELECTRONICS	CO.,LTD.		
Address	Bldg., A, No.229 Renmin Rd., Yuexingwei C District, Shenzhen, China	ommunity, Guanlan, Longhua		
Telephone	+86-755-29735015			
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Contact	BENSON MA			
Test report holder	SHENZHEN ZHIBOTONG ELECTRONICS	CO.,LTD.		
Address	Bldg., A, No.229 Renmin Rd., Yuexingwei C District, Shenzhen, China	ommunity, Guanlan, Longhua		
Telephone	+86-755-29735015			
Fax	+86-755-29567380			
Contact	BENSON MA			

Test Result according to the standards on page 1: PASSED

The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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FCC ID:2AC47-WS

**CENTRE OF TESTING SERVICE** 





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# CTS

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# **1.0 TEST STANDARDS**

The tests were performed according to following standards:

- 47 CFR PART 15 OCT, 2013
- ANSI C63.4-2009

# 2.0 SUMMARY

### 2.1 GENERAL REMARKS

Date of receipt of test sample	20 August 2014
Testing commenced on	20~29 August 2014
Testing concluded on	01 September 2014

#### 2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

- fulfilled.

- not fulfilled.

The equipment under test

- fulfils the FCC requirements cited on page 1.
- **does not** fulfil the FCC requirements cited on page 1.

# 3.0 EQUIPMENT UNDER TEST

#### 3.1 Power supply system utilised

Power supply voltage :

DC 5V by adapter, Adapter power supply by AC 120V/60Hz

### 3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: **1** Serial number: Prototype

### 3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

- □ Standby
- □ TX- Y position
- □ TX- Zposition
- TX- X position

802.11b/g/n(20M):TX-X Position Low (2412.0 MHz) , TX-X Position Middle (2437.0 MHz ), TX-X Position High (2462.0 MHz)

802.11n(40M): TX-X Position Low (2422.0 MHz) , TX-X Position Middle (2437.0 MHz ), TX-X Position High (2452.0 MHz)

Note:Operation mode TX -X position of EUT is the radiated test worst case. So only these test results be recorded in the test report.

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## 3.4 EUT configuration

#### 3.4.1. Description of configuration (EUT)

Description	:	Wireless Router
Model Number		WR8305RT-B
Operation frequency		802.11b/g/n(20M):2412.0 MHZ~2462.0 MHz
Operation frequency	•	802.11n(40MHz):2422.0 MHz ~2452.0 MHz
WiFi	:	802.11:b/g/n
Modulation Technology	:	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64QAM
Date Rate		802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: 300Mbps
Antenna 1	:	External antenna, met requirement of FCC 15.203

#### 3.4.2. Tested Supporting System Details

3.4.2.1. Notebook

M/N	:	F83VF
S/N	:	AEN0AS64740305D
Manufacturer	:	ASUS
Power Cord	:	Unshielded, Detachabled, 1.5m, 3Pin
FCC ID	:	By DoC

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# 4.0 TEST ENVIRONMENT

#### 4.1 Address of the test laboratory

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

### 4.2 Test facility

The test facility is recognized, certified, or accredited by the following organizations:

#### CNAS-Lab Code: L3394

CENTRE OF TESTING SERVICE CO., LTD has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

### **IC-Registration No.: 8374A**

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374A on May 22, 2014.

### FCC-Registration No.: 971995

CENTRE OF TESTING SERVICE CO., LTD, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration No.791995, July 13,2012.

#### 4.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 ° C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

#### 4.4 Definitions of symbols used in this test report

- - The black square indicates that the listed condition, standard or equipment is applicable for this report.
- □ The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

#### 4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

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#### 4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±1.22dB	(1)
Power disturbance	30MHz~300MHz	±1.38dB	(1)
	30MHz~300MHz	±3.14dB	(1)
Radiation emission (3m)	300MHz~1000MHz	±3.18dB	(1)
	1GHz~26.5GHz	±3.54dB	(1)

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

## 5.0 Summary of standards and results

### 5.1. Description of Standards and Results

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

EMISSION				
Description of Test Item	Standard	Results		
Conducted Emission Test	FCC Part 15 : 15.207 ANSI C63.4-2009	PASSED		
6dB Bandwidth Measurement	FCC Part 15.247(a)(2) ANSI C63.4-2009	PASSED		
Peak Power	FCC Part 15.247(b)(3)(4) ANSI C63.4-2009	PASSED		
Peak Power Spectral Density	15.247(e) Power Density ANSI C63.4-2009	PASSED		
Pand addaes measurement	FCC Part 15.247(d)	PASSED		
Band edges measurement	ANSI C63.4-2009	FASSED		
Spurious Emissions	FCC Part 15: 15.209	PASSED		
Spurious Emissions	ANSI C63.4-2009	FASSED		
Antonno Doguiromonto	FCC Part 15: 15.203	DASSED		
Antenna Requirements	ANSI C63.4-2009	PASSED		
N/A is an abbreviation for Not Applicable.				

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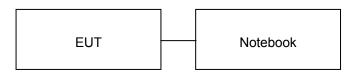


# 6.0 Power Line Conducted Emission Test

## 6.1.Test Equipment

Conducted Disturbance						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2013/11	
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2013/11	
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2013/11	
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2013/11	
5	EMI Test Software	EZ-EMC	Farad	N/A	N/A	

### 6.2. Block Diagram of Test Setup



(EUT: Wireless Router)

## 6.3. Power Line Conducted Emission Test Limits

### Standard: FCC Part 15 : 15.207, ANSI C63.4-2009

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

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

#### 6.4.Test Procedure

The XBOX Power connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC Part 15C on Conducted Emission Test.

### 6.5. Power Line Conducted Emission Test Results

### PASSED.

The frequency range from 150KHz~30MHz is investigated. Please see the following pages.

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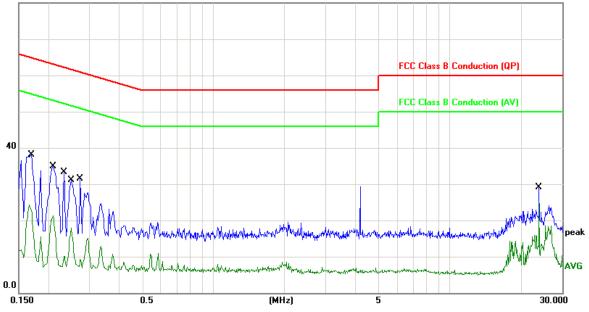




Test point:	L	Result:	- passed
Frequency range:	0.15MHz~30MHz		- not passed

EUT	Wireless Router
Operating Condition	TX
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	20~29 August 2014
Operator	Duke
MODEL NO	WR8305RT-B

80.0 dBuV



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	0.1700	9.78	22.96	32.74	64.96	-32.22	QP
2	0.1700	9.78	7.95	17.73	54.96	-37.23	AVG
3	0.2100	9.78	21.30	31.08	63.21	-32.13	QP
4	0.2100	9.78	6.78	16.56	53.21	-36.65	AVG
5	0.2340	9.78	4.11	13.89	62.31	-48.42	QP
6	0.2340	9.78	-3.05	6.73	52.31	-45.58	AVG
7	0.2500	9.78	17.57	27.35	61.76	-34.41	QP
8	0.2500	9.78	4.53	14.31	51.76	-37.45	AVG
9	0.2740	9.79	0.99	10.78	61.00	-50.22	QP
10	0.2740	9.79	-3.35	6.44	51.00	-44.56	AVG
11	23.9940	10.04	2.34	12.38	60.00	-47.62	QP
12	23.9940	10.04	-3.01	7.03	50.00	-42.97	AVG
Remark:	Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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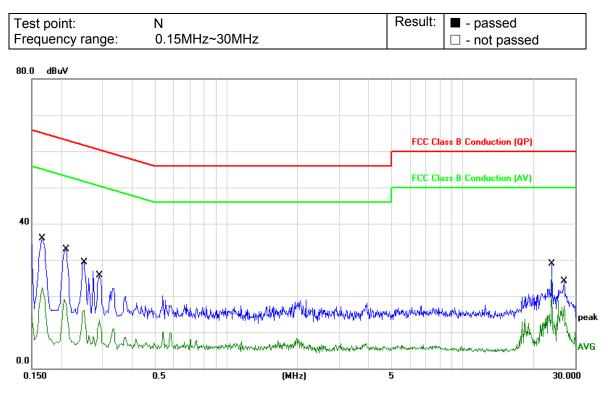
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	0.1660	9.78	24.61	34.39	65.16	-30.77	QP
2	0.1660	9.78	12.33	22.11	55.16	-33.05	AVG
3	0.2100	9.78	19.94	29.72	63.21	-33.49	QP
4	0.2100	9.78	7.39	17.17	53.21	-36.04	AVG
5	0.2500	9.78	16.87	26.65	61.76	-35.11	QP
6	0.2500	9.78	5.65	15.43	51.76	-36.33	AVG
7	0.2900	9.79	12.78	22.57	60.52	-37.95	QP
8	0.2900	9.79	3.29	13.08	50.52	-37.44	AVG
9	23.8860	10.04	17.05	27.09	60.00	-32.91	QP
10	23.8860	10.04	15.10	25.14	50.00	-24.86	AVG
11	26.9500	10.07	9.17	19.24	60.00	-40.76	QP
12	26.9500	10.07	3.80	13.87	50.00	-36.13	AVG
Remark:	Other frequer	icy mini ma	rgin all >6 dB o	of Limit			

Note:Level=Reading+Factor. Margin= Level-Limit

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# 7.0 6db BANDWIDTH MEASUREMENT

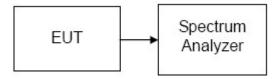
### 7.1 LIMITS

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

## 7.2 MEASUREMENT EQUIPMENT USED

20dB Bandwidth						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2014/03	

## **7.3 TEST CONFIGURATION**



## 7.4 TEST PROCEDURE

- 1. Place the EUT on the table and set it in the transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 100kHz, VBW = 300kHz, Span =1.5 times of bandwidth, Sweep = auto.
- 4. Mark the peak frequency and -6dB (upper and lower) frequency.
- 5. Repeat until all the rest channels are investigated

### **7.5 TEST RESULTS**

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### **CENTRE OF TESTING SERVICE**

Chain:a								
Modulation Standard	Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (KHz)	Result			
	Low	2412	8.90		PASSED			
802.11b	Middle	2437	8.90	>500	PASSED			
	High	2462	8.95		PASSED			
	Low	2412	16.55		PASSED			
802.11g	Middle	2437	16.55	>500	PASSED			
	High	2462	16.60		PASSED			
	Low	2412	17.75		PASSED			
802.11n(20)	Middle	2437	17.70	>500	PASSED			
	High	2462	17.75		PASSED			
	Low	2422	36.20		PASSED			
802.11n(40)	Middle	2437	36.40	>500	PASSED			
	High	2452	36.20		PASSED			
Remark:The Bandwidth is Delta 2 of following the graph. And the Delta 2 is Marker 2 subtract Marker 1.								

### Chain:b

Modulation Standard	Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (KHz)	Result	
Otandara	Low	2412	8.97	(1112)	PASSED	
802.11b	Middle	2437	8.95	>500	PASSED	
	High	2462	9.05		PASSED	
	Low	2412	16.60		PASSED	
802.11g	Middle	2437	16.60	>500	PASSED	
	High	2462	16.55		PASSED	
	Low	2412	17.75		PASSED	
802.11n(20)	Middle	2437	17.70	>500	PASSED	
	High	2462	17.75		PASSED	
	Low	2422	36.36		PASSED	
802.11n(40)	Middle	2437	36.16	>500	PASSED	
	High	2452	36.50		PASSED	
Remark:The Bandwidth is Delta 2 of following the graph. And the Delta 2 is Marker 2 subtract Marker 1.						

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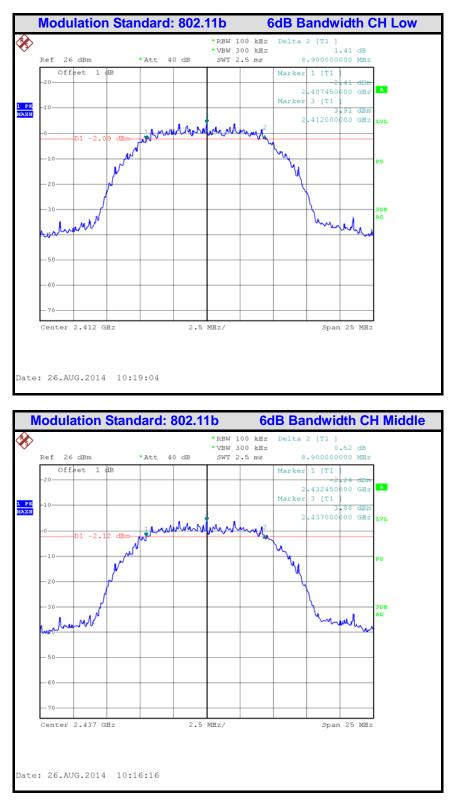
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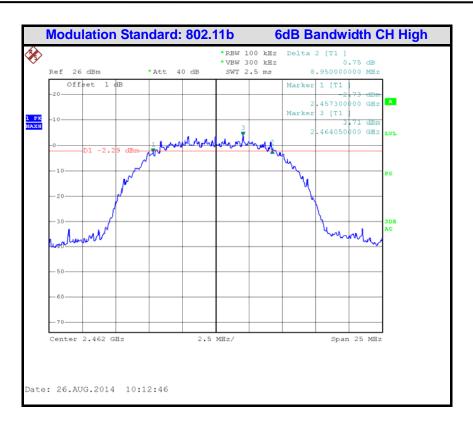
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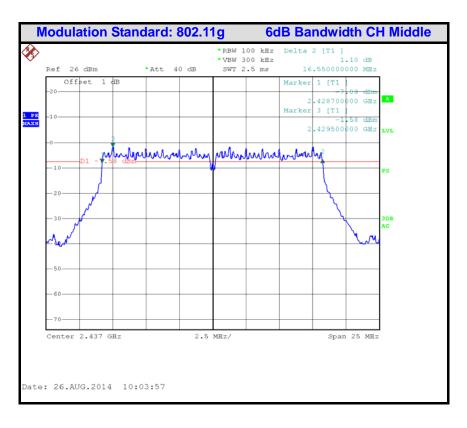
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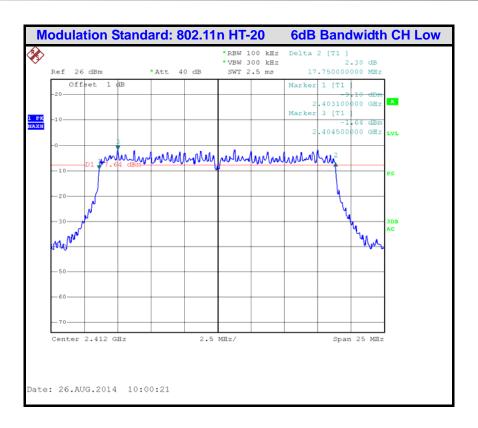
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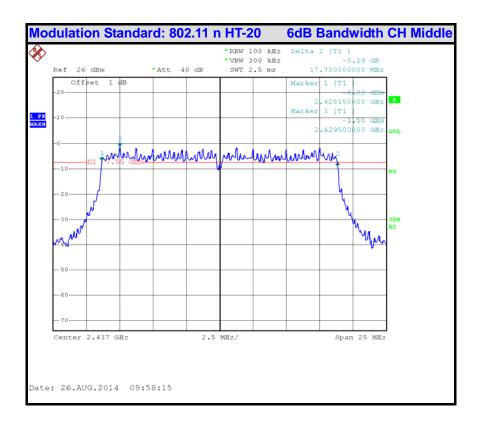
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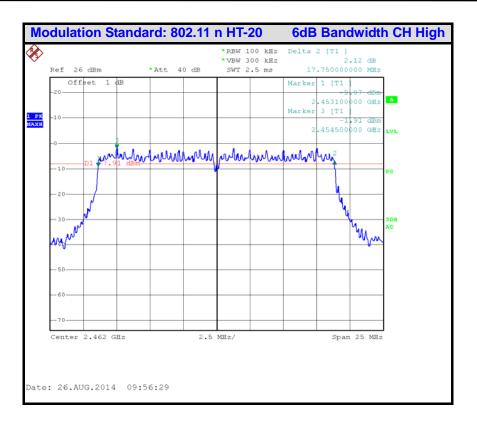
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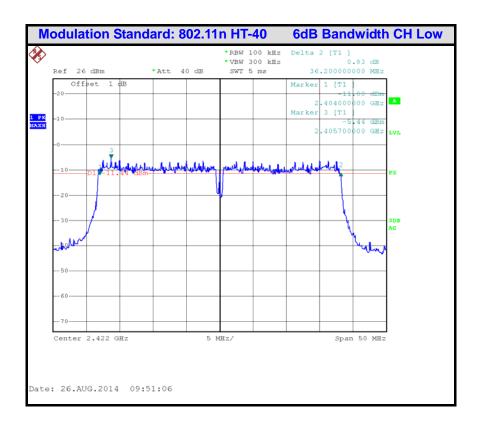
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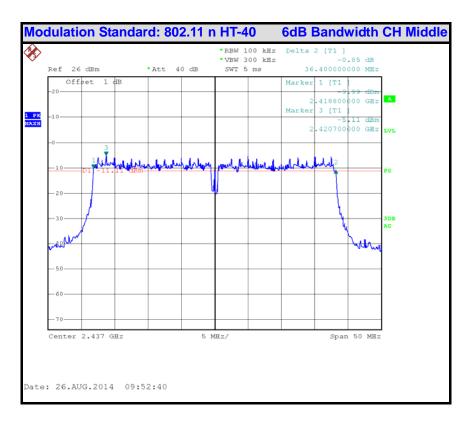
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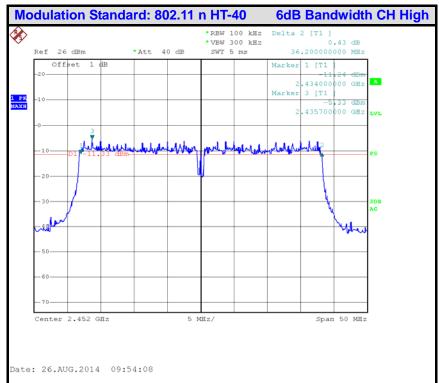
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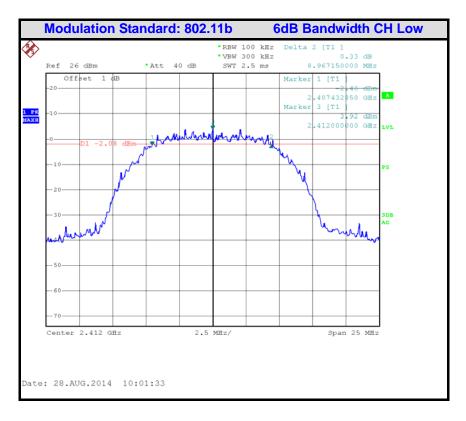
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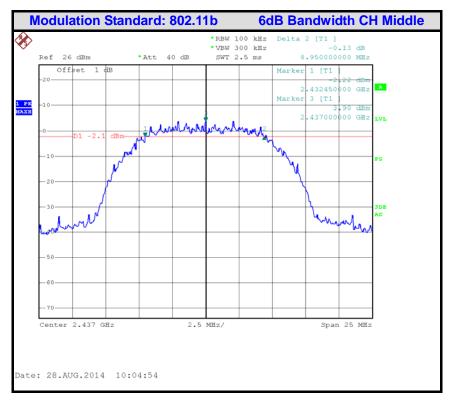
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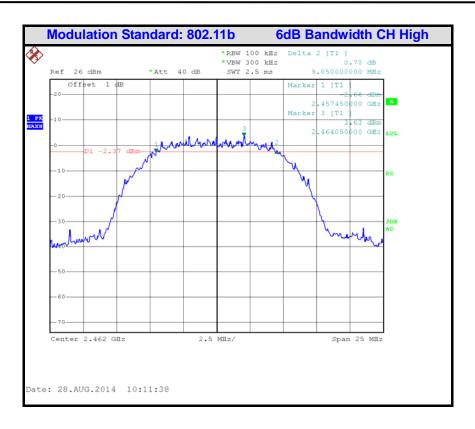
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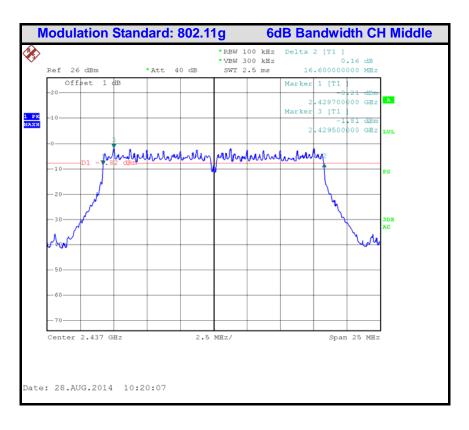
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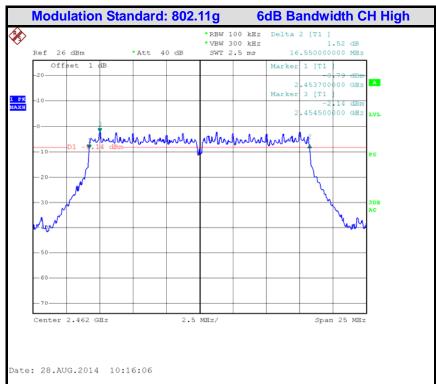
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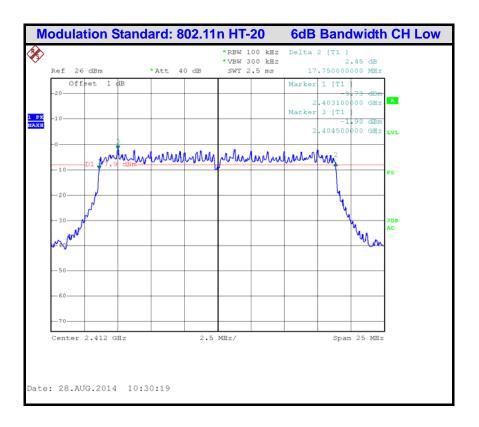
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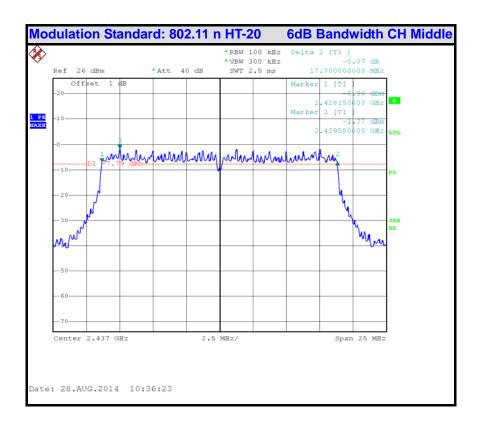
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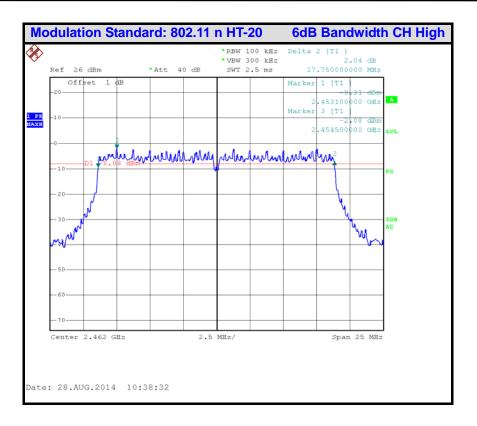
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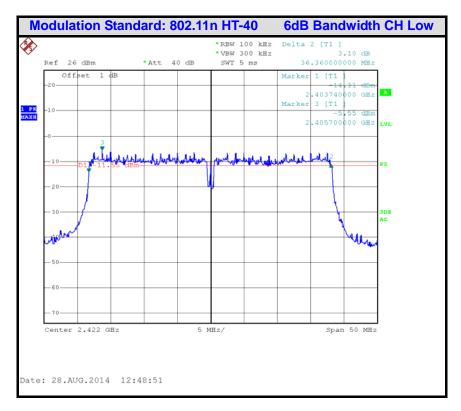
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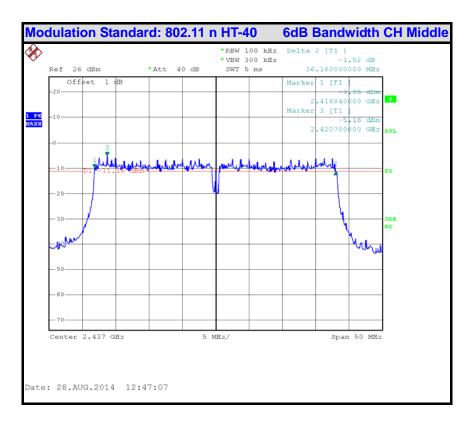
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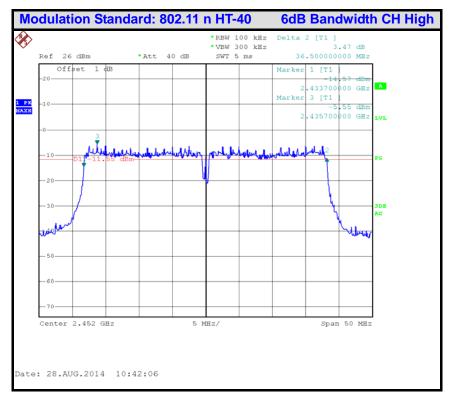
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# 8.0 PEAK POWER

## **8.1 LIMIT**

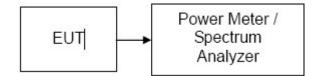
The maximum peak output power of the intentional radiator shall not exceed the followina:

- 1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
- 2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

## **8.2 MEASUREMENT EQUIPMENT USED**

Peak Power							
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.		
1	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2014/03		
2	Power meter	ROHDE & SCHWARZ	NRVS	842856/049	2014/03		

### **8.3 TEST CONDIGURATION**



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## **8.4 TEST PROCEDURE**

- 1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2. Set RBW = 1 MHz.
- 3. Set VBW ≥ 3 MHz.
- 4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
- 5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power Intervals, the trigger may be set to "free run".
- 6. Trace average 100 traces in power averaging mode.
- 7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

## **8.5 TEST RESULTS**

Modulation	Channel Frequency		0	utput Powe (dBm)	Limit	Result	
Standard	onamer	(MHz)	Chain a	Chain b	Mix	(dBm)	Result
802.11b:	Low	2412	18.07	18.13	21.11		PASSED
5.5Mbps	Middle	2437	18.15	18.18	21.18	30dBm	PASSED
(Worst Case)	High	2462	17.90	17.88	20.90		PASSED
802.11g:	Low	2412	17.61	17.42	20.53		PASSED
54Mbps	Middle	2437	17.59	17.53	20.57	30dBm	PASSED
(Worst Case)	High	2462	17.37	17.31	20.35		PASSED
802.11n(20):	Low	2412	17.18	17.15	20.18		PASSED
300Mbps (Worst Case)	Middle	2437	17.47	17.23	20.36	30dBm	PASSED
	High	2462	17.19	17.10	20.16		PASSED
802.11n(40):	Low	2422	16.02	15.91	18.98		PASSED
300Mbps	Middle	2437	16.20	16.15	19.19	30dBm	PASSED
(Worst Case)	High	2452	16.15	16.03	19.10		PASSED

# Passed

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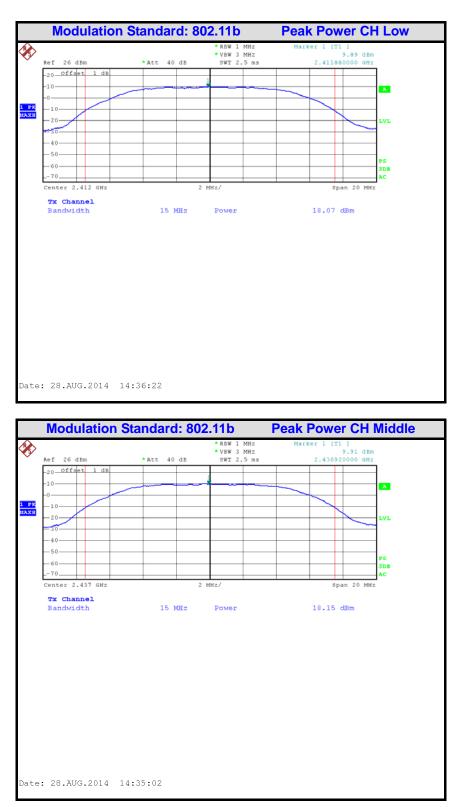
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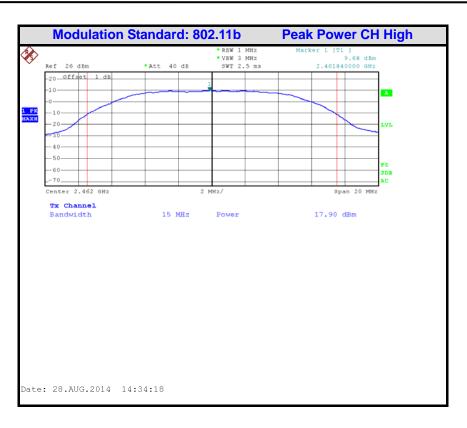
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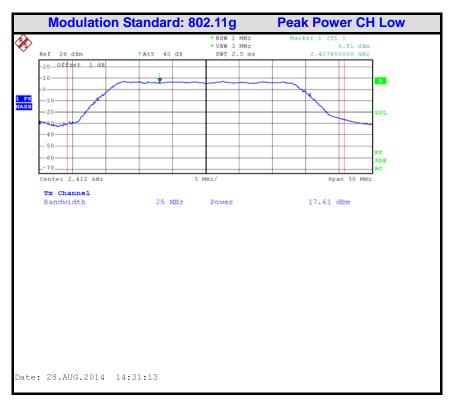
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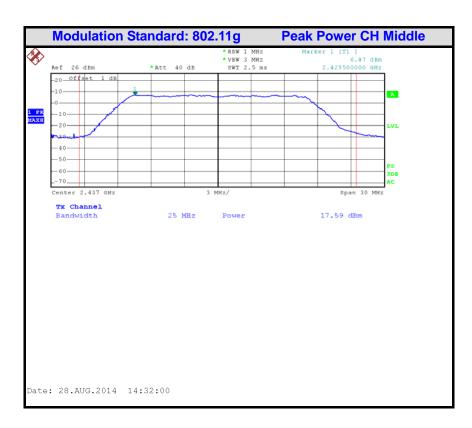
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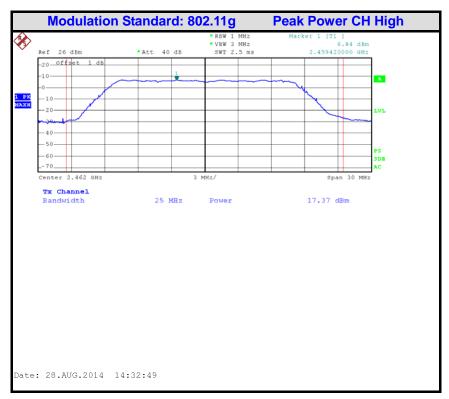
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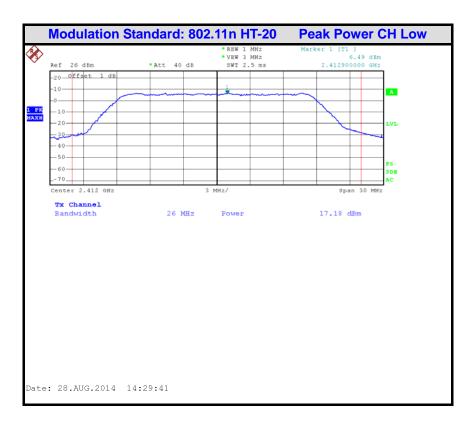
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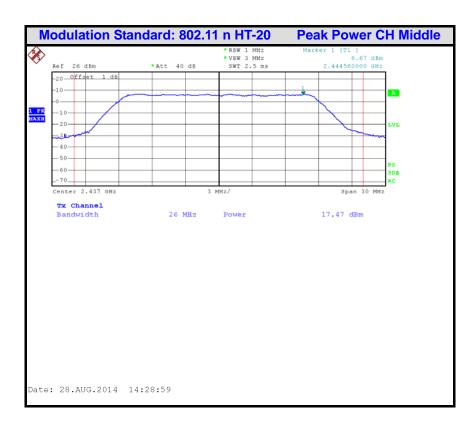
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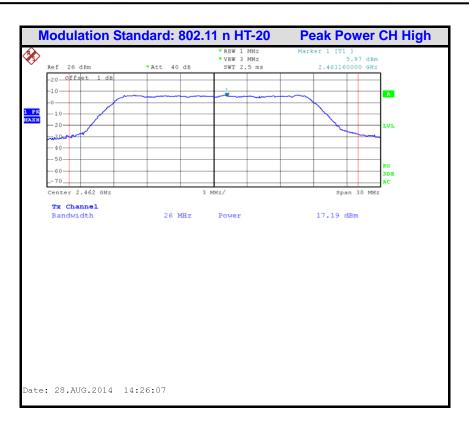
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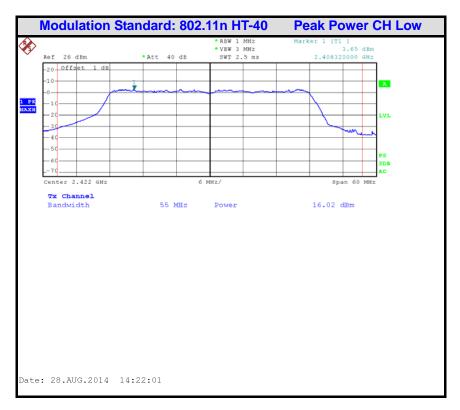
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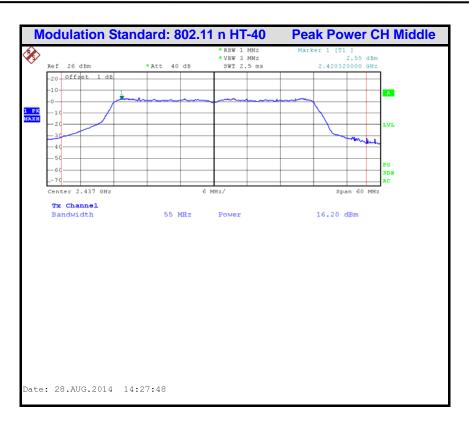
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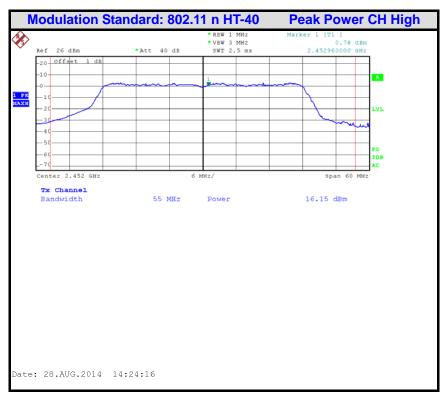
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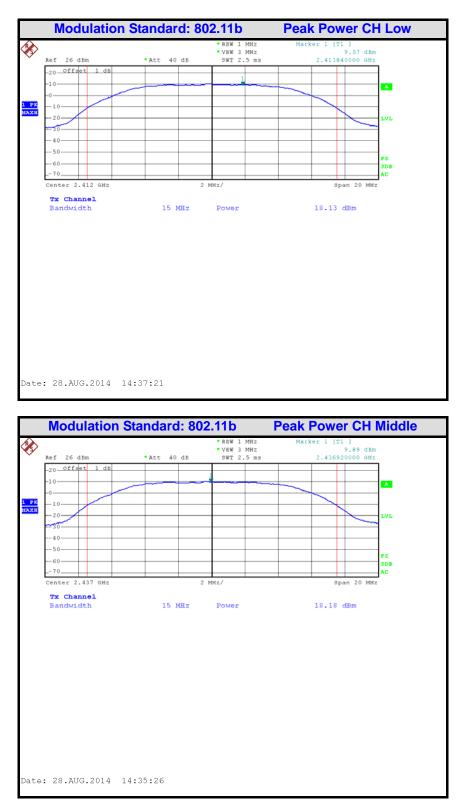
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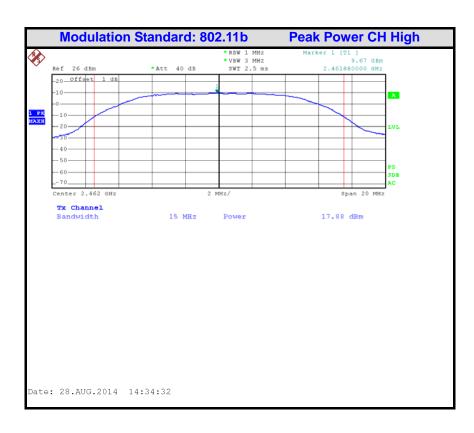
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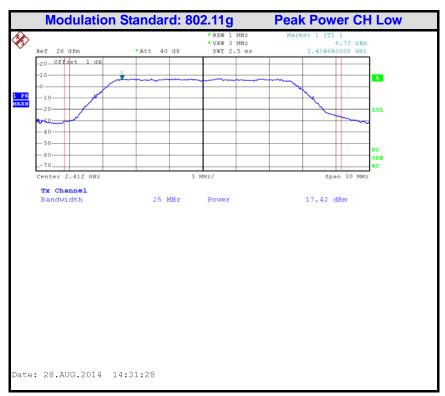
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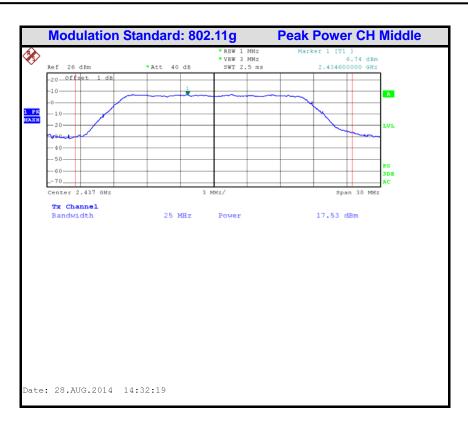
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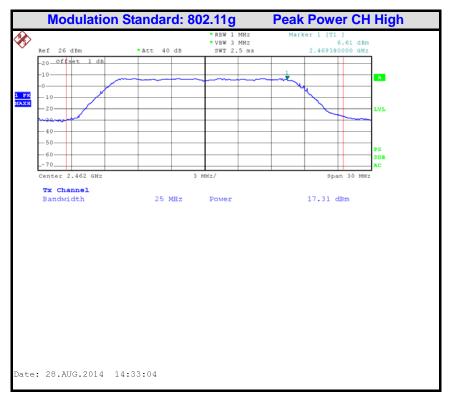
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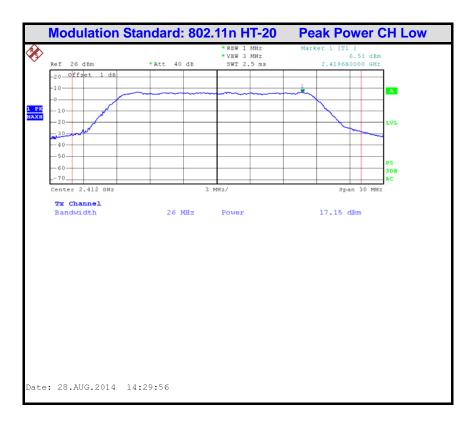
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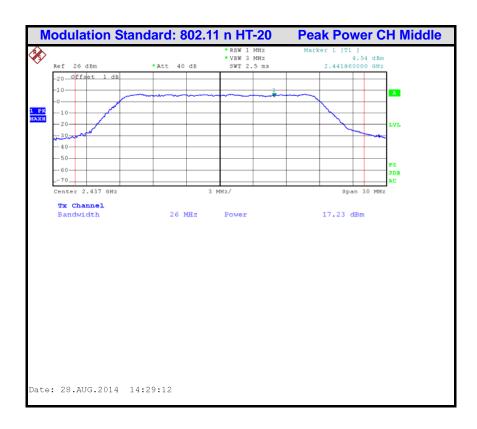
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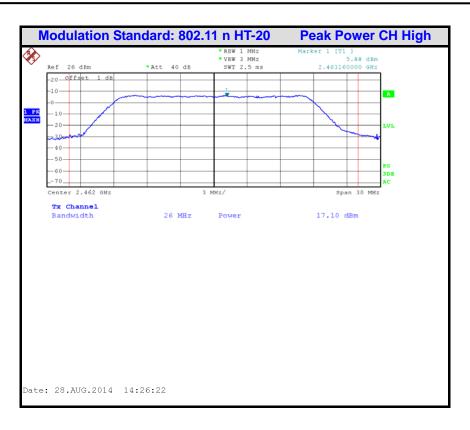
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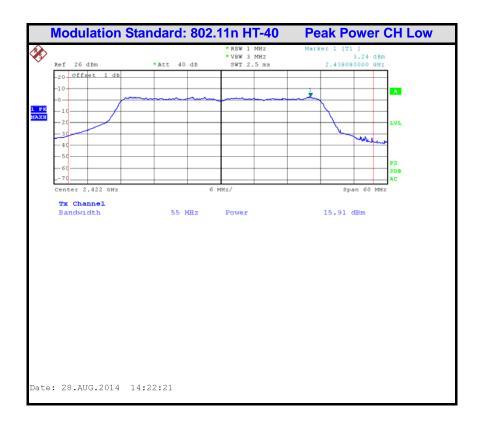
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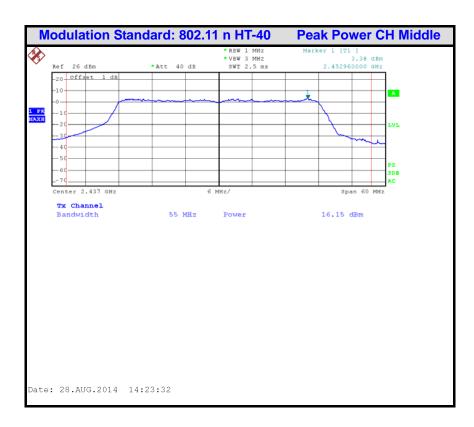
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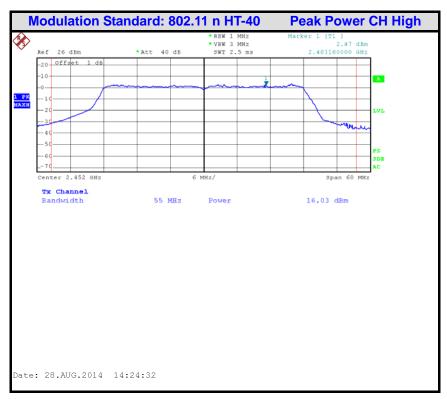
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# 9.0 PEAK POWER SPECTRAL DENSITY

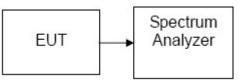
# **9.1 LIMIT**

- 1. For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
- 2. The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section

# 9.2 MEASUREMENT EQUIPMENT USED

Peak Power Spectral Density						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2014/03	

# 9.3 TEST CONFIGURATION



# 9.4 TEST PROCEDURE

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 100kHz, VBW = 300kHz, Span = 1.5 times the bandwidth, Sweep=Auto couple
- 4. Record the max. reading.
- 5. Repeat the above procedure until the measurements for all frequencies are completed.

# 9.5 TEST RESULTS

PASSED

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## **Test Data**

Modulation		Frequency	PPSD (dBm)		Limit	Result	
Standard		(MHz)	Chain a	Chain b	Mix	(dBm)	Result
802.11b:	Low	2412	3.74	3.69	6.73	8	PASSED
5.5Mbps	Middle	2437	3.94	3.71	6.84		PASSED
(Worst Case)	High	2462	3.64	3.64	6.64		PASSED
802.11g:	Low	2412	-1.92	-2.11	1.00	8	PASSED
54Mbps	Middle	2437	-1.78	-1.91	1.17		PASSED
(Worst Case)	High	2462	-2.15	-2.13	0.87		PASSED
802.11n(20):	Low	2412	-1.85	-1.94	1.12		PASSED
300Mbps	Middle	2437	-1.75	-1.87	1.20	8	PASSED
(Worst Case)	High	2462	-2.05	-2.22	0.88		PASSED
802.11n(40):	Low	2422	-5.68	-6.79	-3.19		PASSED
300Mbps	Middle	2437	-5.28	-6.49	-2.83	8	PASSED
(Worst Case)	High	2452	-5.52	-6.40	-2.93		PASSED

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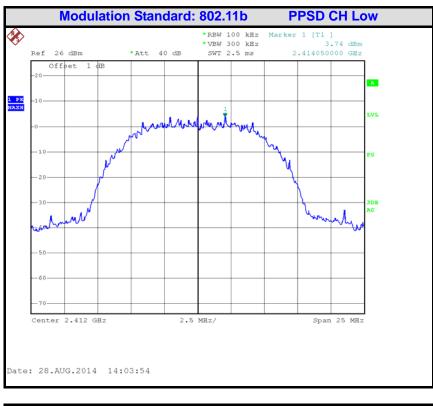
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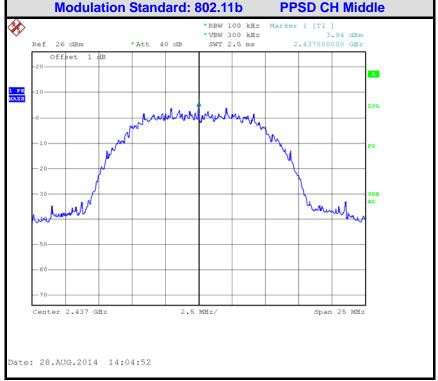
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## **Test Plot** Chain:a





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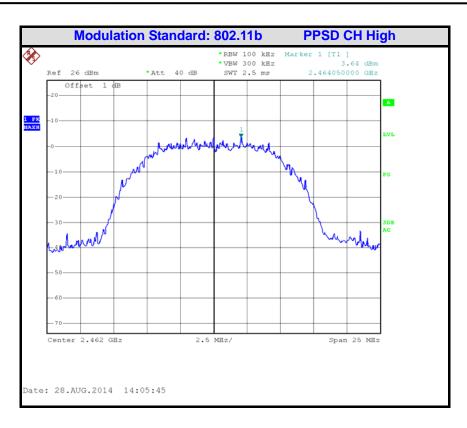
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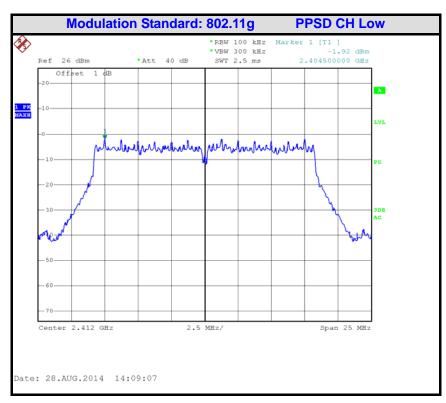
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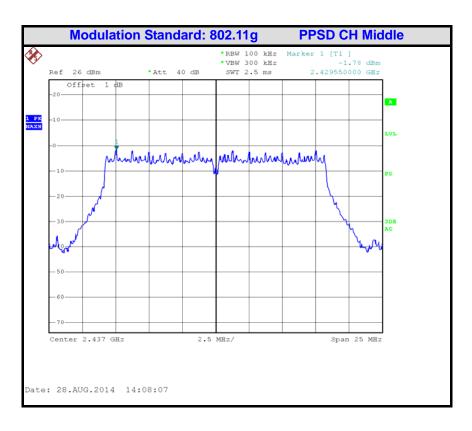
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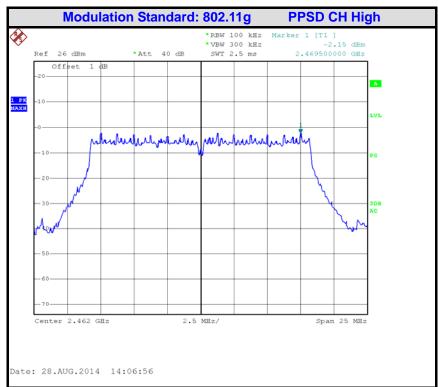
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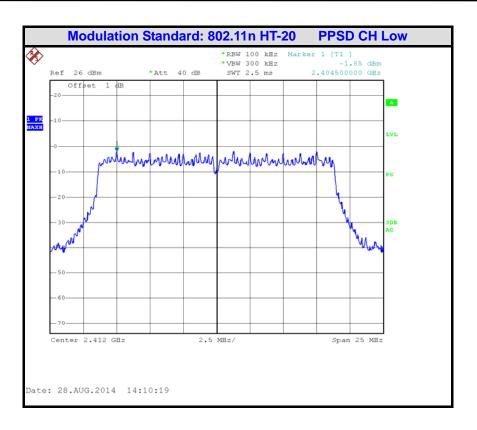
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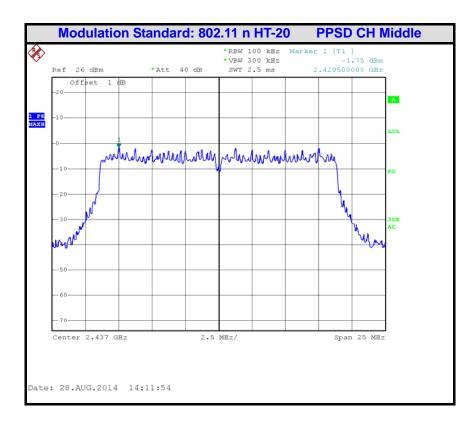
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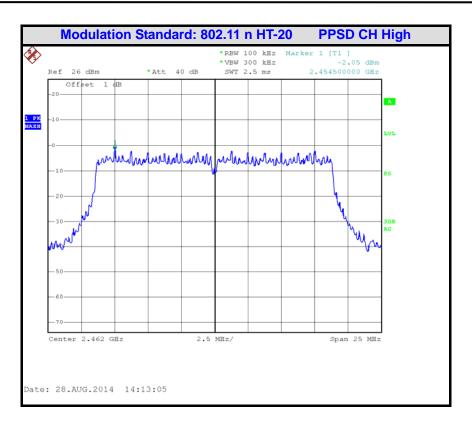
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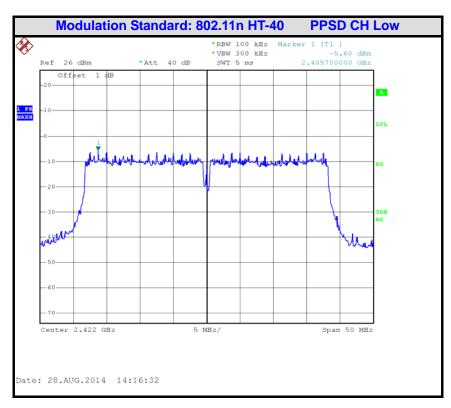
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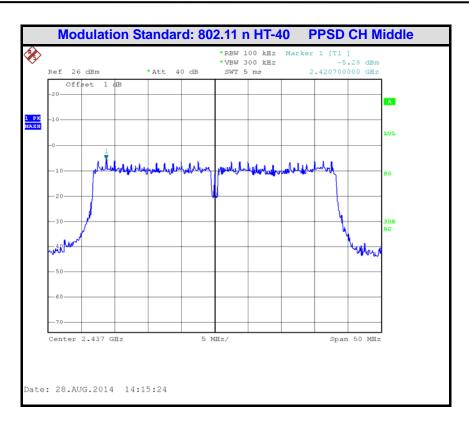
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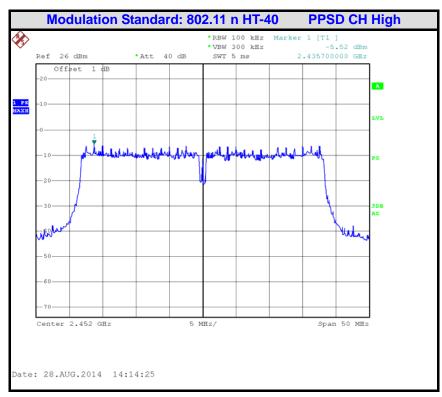
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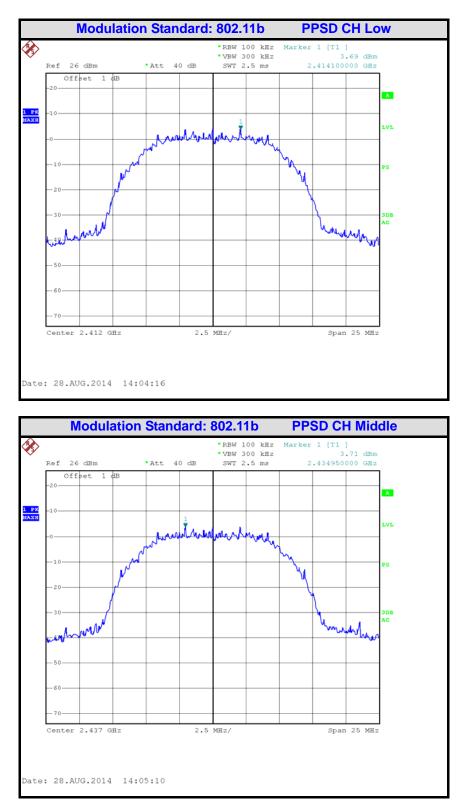
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# Chain:b



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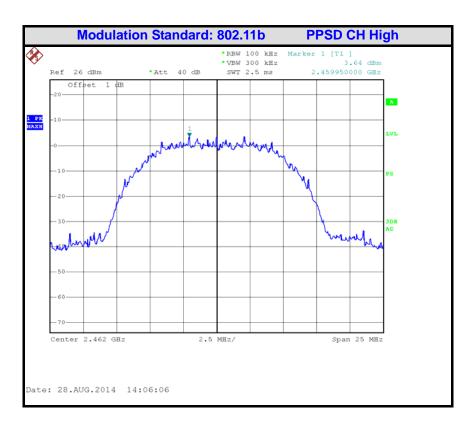
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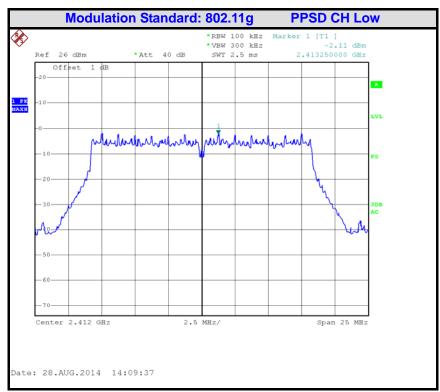
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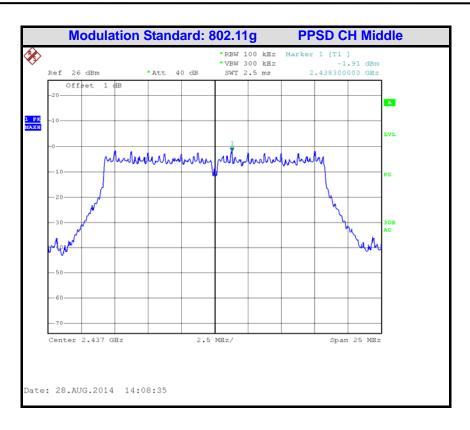
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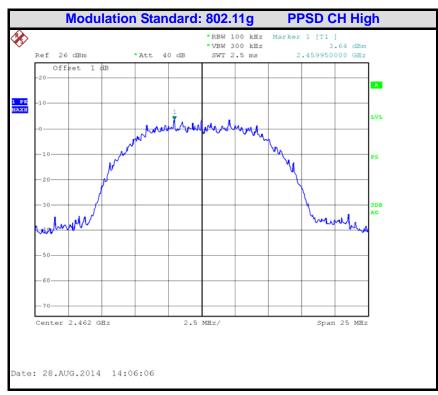
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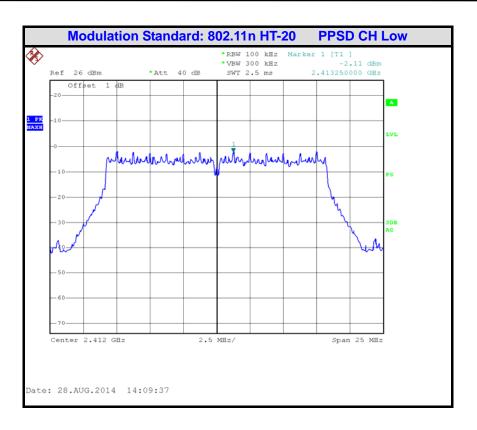
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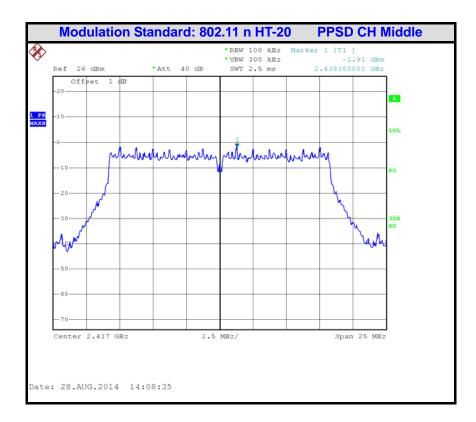
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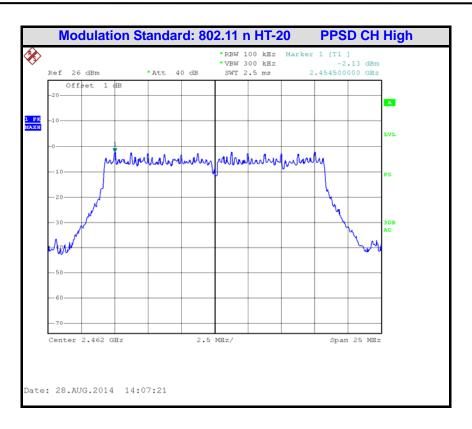
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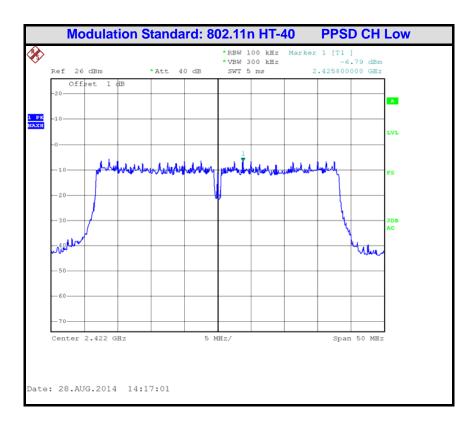
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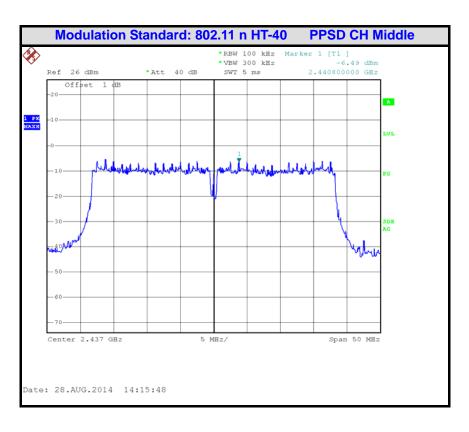
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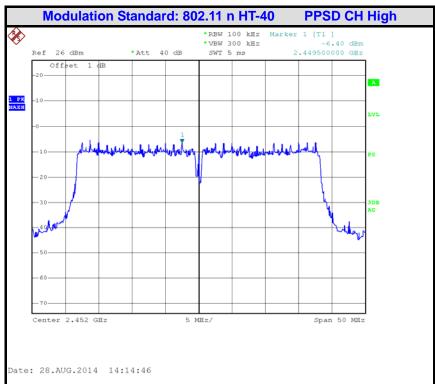
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# **10.0 BAND EDGES MEASUREMENT**

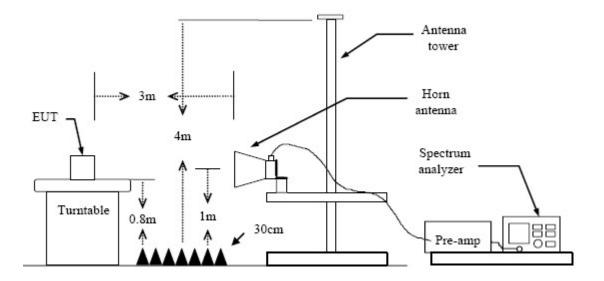
# **10.1 LIMIT**

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

Radia	Radiated disturbance (electric field)						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.		
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2013/11		
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2014/03		
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2014/03		
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2014/03		
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2014/03		
6	Loop Antenna	A.R.A	PLA-1030/B	1030	2013/11		
7	EMI Test Software	EZ-EMC	Farad	N/A	N/A		

# **10.2 MEASUREMENT EQUIPMENT USED**

# **10.3 Test Configuration**



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# **10.4 TEST PROCEDURE**

- 1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
- 5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

# **10.5 TEST RESULTS**

Refer to attach spectrum analyzer data chart.

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# CTS

Test Polt:





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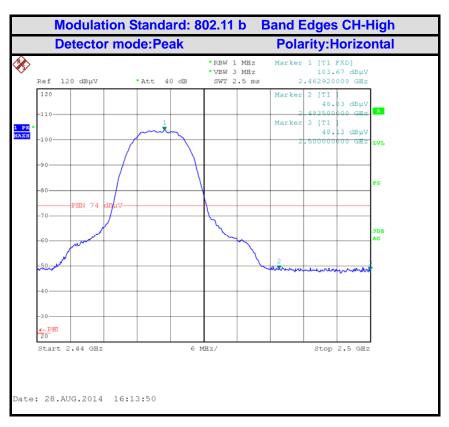
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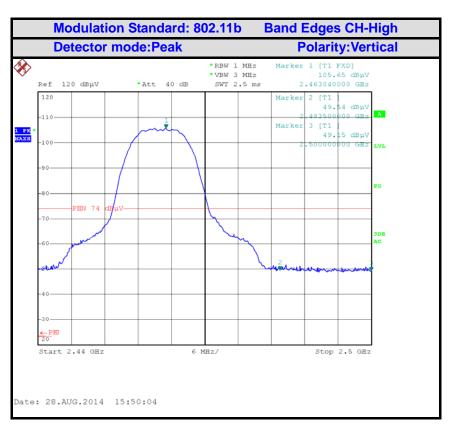
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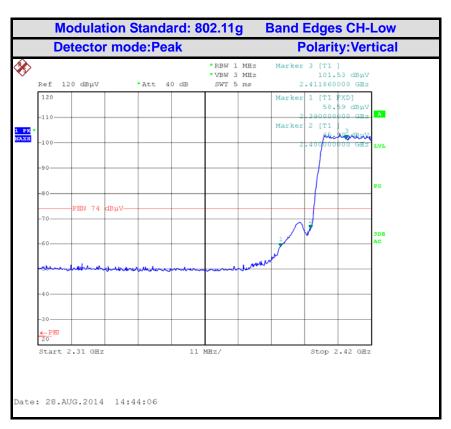
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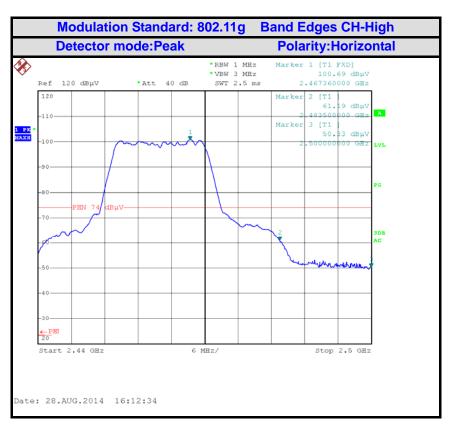
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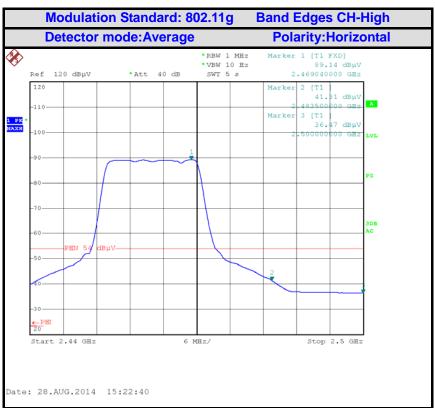
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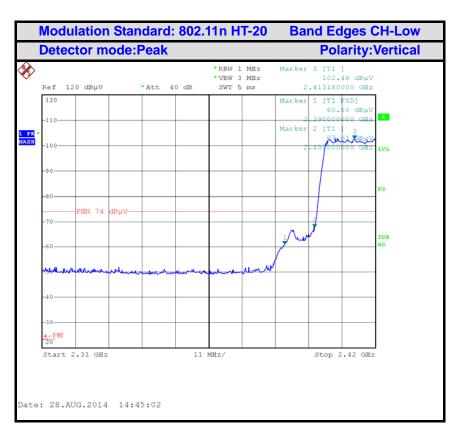
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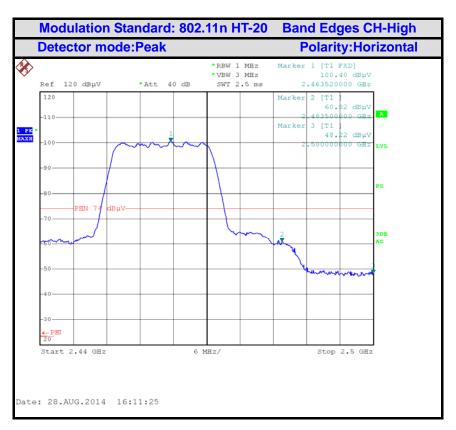
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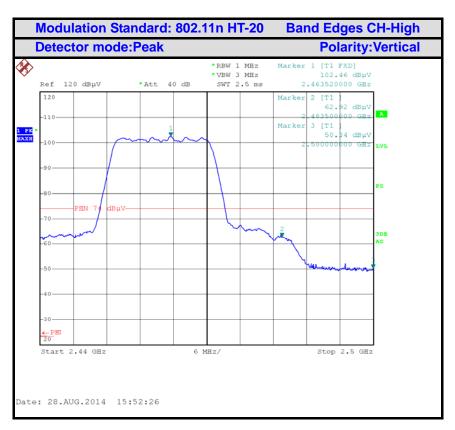
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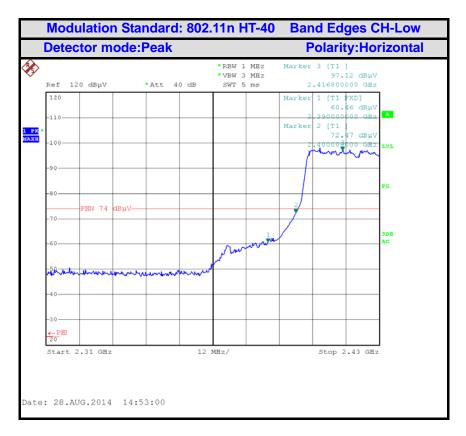
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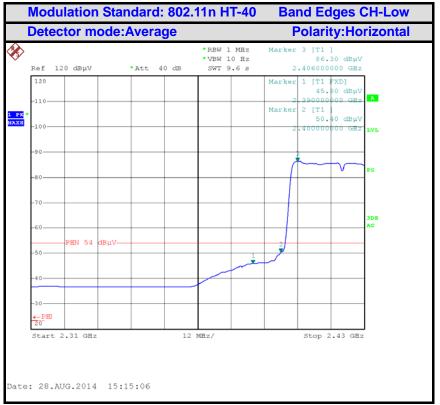
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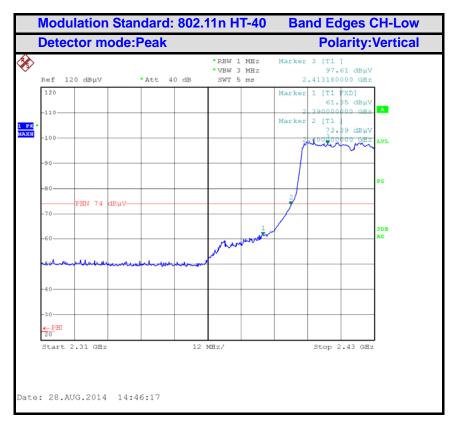
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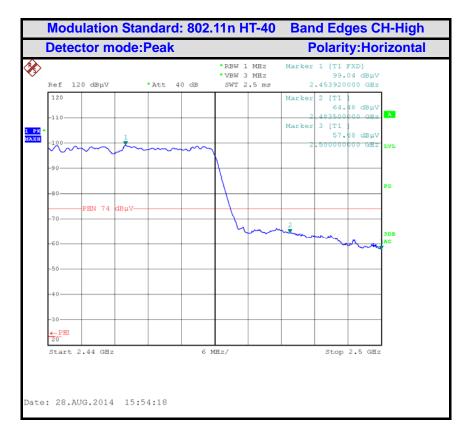
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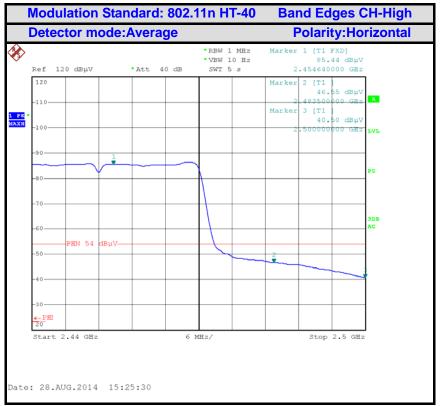
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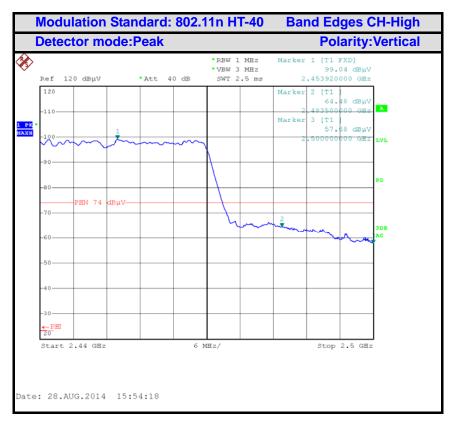
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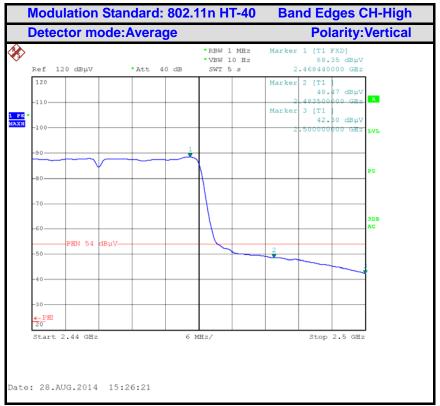
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# **11.0 SPURIOUS EMISSIONS**

# 11.1 LIMIT

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FRE	QUEN	CY	DISTANCE	FIELD STREN	GTHS LIMIT
	MHz		Meters	μV/m	dB(μV)/m
0.009	~	0.490	300	2400/F(kHz)	
0.490	~	1.705	30	24000/F(kHz)	
1.705	~	30	30	30	
30	~	88	3	100	40.0
88	~	216	3	150	43.5
216	~	960	3	200	46.0
960	~	1000	3	500	54.0
٨٢	Above 1000		3	Other:74.0 dB(µV)/m (Peak)	
			5	54.0 dB(μV)/m (Average)	

Note: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

### **11.2 Test Equipment**

Radia	Radiated disturbance (electric field)								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.				
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2013/11				
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2014/03				
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2014/03				
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2014/03				
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2014/03				
6	Loop Antenna	A.R.A	PLA-1030/B	1030	2013/11				
7	EMI Test Software	EZ-EMC	Farad	N/A	N/A				

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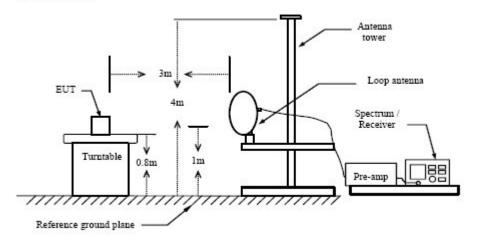




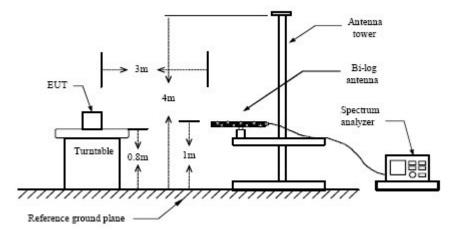


# **11.3 TEST CONFIGURATION**

Below 30MHz



#### Below 1 GHz



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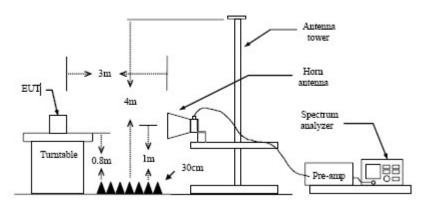
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# CTS

Above 1 GHz



# **11.4 TEST PROCEDURE**

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.

# **11.5 TEST RESULTS**

The frequency range from 9KHz~30MHz,30MHz to 230MHz, 230MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

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Test Mode: Frequency range:	TX –X Position Mode 9KHz~30MHz	Result:	<ul> <li>passed</li> <li>not passed</li> </ul>
--------------------------------	-----------------------------------	---------	--

No.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
Rem	ark: The test re	esult readi	ng value is to l	ow, margin a	ll > 10dB of t	he limit.	

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#### FCC ID:2AC47-WS

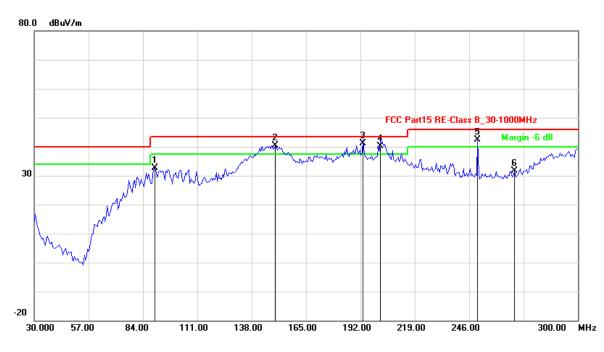


# CTS

### **CENTRE OF TESTING SERVICE**

EUT	Wireless Router
Operating Condition	DC 5V by adapter
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	20~29 August 2014
Operator	Duke
MODEL NO	WR8305RT-B

Channel:	TX –X Position	Result:	- passed
Test point:	Horizontal		- not passed
Frequency range:	30MHz-1GHz		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	90.0601	-22.62	55.23	32.61	43.50	-10.89	QP		
2	149.5792	-17.30	57.67	40.37	43.50	-3.13	QP		
3	193.4068	-12.23	53.39	41.16	43.50	-2.34	QP		
4	202.0641	-12.54	52.55	40.01	43.50	-3.49	QP		
5	250.2204	-12.77	55.27	42.50	46.00	-3.50	QP		
6	268.6172	-11.87	43.48	31.61	46.00	-14.39	QP		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

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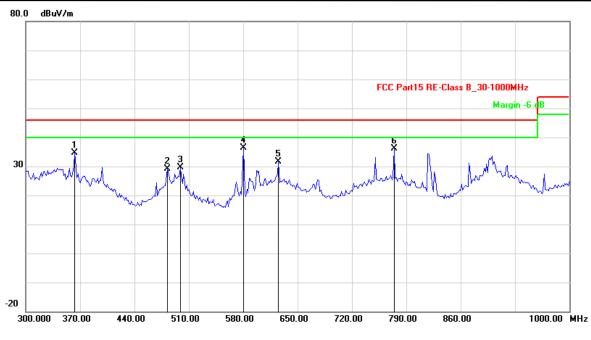
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	363.1263	-14.04	48.69	34.65	46.00	-11.35	QP
2	482.3647	-9.75	38.90	29.15	46.00	-16.85	QP
3	499.1984	-10.15	39.81	29.66	46.00	-16.34	QP
4	580.5611	-14.67	51.11	36.44	46.00	-9.56	QP
5	625.4509	-7.22	38.74	31.52	46.00	-14.48	QP
6	774.1483	-5.82	42.05	36.23	46.00	-9.77	QP
Remark:	Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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Modulation Standard:	802.11 b	Result:	- passed
Channel:	Low Channel		□ - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	1551.102	-1.36	39.51	38.15	74.00	-35.85	peak		
2	1551.102	-1.36	26.05	24.69	54.00	-29.31	AVG		
3	3424.850	7.96	38.50	46.46	74.00	-27.54	peak		
4	3424.850	7.96	23.58	31.54	54.00	-22.46	AVG		
5	4725.451	11.51	36.13	47.64	74.00	-26.36	peak		
6	4725.451	11.51	21.20	32.71	54.00	-21.29	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Modulation Standard:	802.11 b	Result:	- passed
Channel:	Middle Channel		□ - not passed
Test point:	Horizontal		•
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	1705.411	-1.29	40.43	39.14	74.00	-34.86	peak		
2	1705.411	-1.29	25.87	24.58	54.00	-29.42	AVG		
3	3689.379	8.81	39.84	48.65	74.00	-25.35	peak		
4	3689.379	8.81	24.81	33.62	54.00	-20.38	AVG		
5	4923.848	11.98	36.25	48.23	74.00	-25.77	peak		
6	4923.848	11.98	21.76	33.74	54.00	-20.26	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Modulation Standard:	802.11 b	Result:	- passed
Channel:	High Channel		□ - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3535.070	8.32	40.55	48.87	74.00	-25.13	peak
2	3535.070	8.32	24.89	33.21	54.00	-20.79	AVG
3	4196.393	10.27	37.70	47.97	74.00	-26.03	peak
4	4196.393	10.27	22.31	32.58	54.00	-21.42	AVG
5	5078.156	12.41	36.01	48.42	74.00	-25.58	peak
6	5078.156	12.41	21.28	33.69	54.00	-20.31	AVG
Remark:	Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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Modulation Standard: Channel:	802.11 g Low Channel	Result:	- passed
Test point:	Horizontal		- not passed
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3182.365	7.19	39.60	46.79	74.00	-27.21	peak
2	3182.365	7.19	24.07	31.26	54.00	-22.74	AVG
3	3821.643	9.24	38.28	47.52	74.00	-26.48	peak
4	3821.643	9.24	22.81	32.05	54.00	-21.95	AVG
5	5364.730	13.33	35.69	49.02	74.00	-24.98	peak
6	5364.730	13.33	21.48	34.81	54.00	-19.19	AVG
Remark	: Other frequer	icy mini ma	rgin all >6 dB o	of Limit			

Modulation Standard: 802.11 g Result: - passed Middle Channel Channel: □ - not passed Test point: Horizontal Frequency range: 1GHz-26.5GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3623.246	8.60	39.45	48.05	74.00	-25.95	peak
2	3623.246	8.60	24.66	33.26	54.00	-20.74	AVG
3	4218.437	10.32	37.07	47.39	74.00	-26.61	peak
4	4218.437	10.32	22.25	32.57	54.00	-21.43	AVG
5	5893.788	15.04	39.79	54.83	74.00	-19.17	peak
6	5893.788	15.04	25.13	40.17	54.00	-13.83	AVG
Remark	: Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

Modulation Standard:	802.11 g	Result:	- passed
Channel:	High Channel		in ot passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3821.643	9.24	37.76	47.00	74.00	-27.00	peak
2	3821.643	9.24	23.36	32.60	54.00	-21.40	AVG
3	4416.834	10.79	35.89	46.68	74.00	-27.32	peak
4	4416.834	10.79	20.50	31.29	54.00	-22.71	AVG
5	5651.303	14.26	37.07	51.33	74.00	-22.67	peak
6	5651.303	14.26	21.98	36.24	54.00	-17.76	AVG
Remark	: Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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#### Modulation Standard: 802.11n-HT20 Result: - passed Channel: Low Channel □ - not passed Test point: Horizontal Frequency range: 1GHz-26.5GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3380.762	7.82	39.94	47.76	74.00	-26.24	peak		
2	3380.762	7.82	24.86	32.68	54.00	-21.32	AVG		
3	4262.525	10.43	36.94	47.37	74.00	-26.63	peak		
4	4262.525	10.43	21.74	32.17	54.00	-21.83	AVG		
5	5232.465	12.91	36.35	49.26	74.00	-24.74	peak		
6	5232.465	12.91	21.30	34.21	54.00	-19.79	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Modulation Standard:	802.11n-HT20	Result:	- passed
Channel:	Middle Channel		□ - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	3557.114	8.39	39.45	47.84	74.00	-26.16	peak	
2	3557.114	8.39	23.66	32.05	54.00	-21.95	AVG	
3	4350.701	10.63	35.74	46.37	74.00	-27.63	peak	
4	4350.701	10.63	20.66	31.29	54.00	-22.71	AVG	
5	5342.685	13.26	36.00	49.26	74.00	-24.74	peak	
6	5342.685	13.26	21.48	34.74	54.00	-19.26	AVG	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

Modulation Standard:	802.11n-HT20	Result:	- passed
Channel:	High Channel		□ - not passed
Test point:	Horizontal		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3931.864	9.59	38.08	47.67	74.00	-26.33	peak
2	3931.864	9.59	22.57	32.16	54.00	-21.84	AVG
3	4681.363	11.41	36.32	47.73	74.00	-26.27	peak
4	4681.363	11.41	21.16	32.57	54.00	-21.43	AVG
5	5893.788	15.04	39.17	54.21	74.00	-19.79	peak
6	5893.788	15.04	25.14	40.18	54.00	-13.82	AVG
Remark:	Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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Modulation Standard: Channel:	802.11n-HT40 Low Channel	Result:	<ul> <li>passed</li> <li>not passed</li> </ul>
Test point: Frequency range:	Horizontal 1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3975.952	9.73	38.55	48.28	74.00	-25.72	peak
2	3975.952	9.73	23.55	33.28	54.00	-20.72	AVG
3	4571.142	11.15	37.69	48.84	74.00	-25.16	peak
4	4571.142	11.15	22.47	33.62	54.00	-20.38	AVG
5	5849.699	14.90	38.52	53.42	74.00	-20.58	peak
6	5849.699	14.90	22.59	37.49	54.00	-16.51	AVG
Remark	· Other frequen	cv mini ma	rain all >6 dB a	of Limit			

Remark: Other frequency mini margin all >6 dB of Limit

Modulation Standard:	802.11n-HT40	Result:	- passed
Channel:	Middle Channel		□ - not passed
Test point:	Horizontal		·
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3446.894	8.03	40.81	48.84	74.00	-25.16	peak
2	3446.894	8.03	25.02	33.05	54.00	-20.95	AVG
3	4108.216	10.06	37.60	47.66	74.00	-26.34	peak
4	4108.216	10.06	22.63	32.69	54.00	-21.31	AVG
5	5232.465	12.91	36.13	49.04	74.00	-24.96	peak
6	5232.465	12.91	21.27	34.18	54.00	-19.82	AVG
Remark	Remark: Other frequency mini margin all >6 dB of Limit						

Modulation Standard: 802.11n-HT40 Result: - passed High Channel Channel: □ - not passed Test point: Horizontal 1GHz-26.5GHz Frequency range:

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2961.924	6.38	41.15	47.53	74.00	-26.47	peak
2	2961.924	6.38	26.20	32.58	54.00	-21.42	AVG
3	3711.423	8.88	38.35	47.23	74.00	-26.77	peak
4	3711.423	8.88	23.81	32.69	54.00	-21.31	AVG
5	5364.730	13.33	36.54	49.87	74.00	-24.13	peak
6	5364.730	13.33	20.84	34.17	54.00	-19.83	AVG
Remark	Remark: Other frequency mini margin all >6 dB of Limit						

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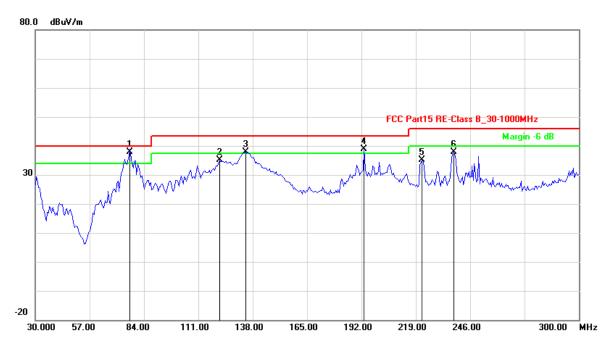
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Channel:	TX –X Position	Result:	- passed
Test point:	Vertical		□ - not passed
Frequency range:	30MHz-1GHz		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	77.0741	-21.43	59.23	37.80	40.00	-2.20	QP
2	121.4428	-17.98	53.03	35.05	43.50	-8.45	QP
3	134.4288	-16.76	54.75	37.99	43.50	-5.51	QP
4	193.4068	-12.23	51.09	38.86	43.50	-4.64	QP
5	222.0841	-12.41	47.47	35.06	46.00	-10.94	QP
6	237.7755	-12.95	50.86	37.91	46.00	-8.09	QP
Remark:	Remark: Other frequency mini margin all >6 dB of Limit						

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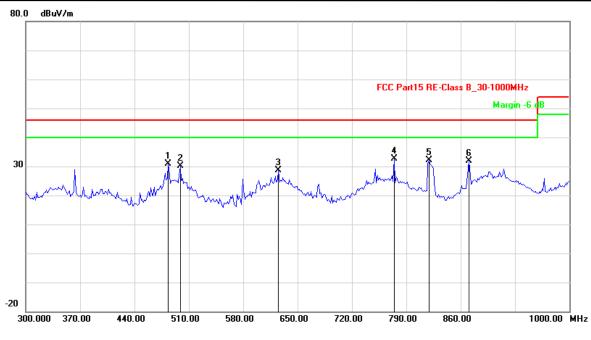
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	483.7675	-9.78	40.74	30.96	46.00	-15.04	QP
2	499.1984	-10.15	40.23	30.08	46.00	-15.92	QP
3	625.4509	-7.22	35.74	28.52	46.00	-17.48	QP
4	774.1483	-5.82	38.42	32.60	46.00	-13.40	QP
5	819.0381	-9.74	41.88	32.14	46.00	-13.86	QP
6	870.9419	-6.92	38.90	31.98	46.00	-14.02	QP
Remark:	Remark: Other frequency mini margin all >6 dB of Limit						

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Frequency range:

Modulation Standard: Channel:	802.11 b Low Channel	Result:	<ul> <li>passed</li> <li>not passed</li> </ul>
Test point: Frequency range:	Vertical 1GHz-26.5GHz		·

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	1947.896	-1.17	47.26	46.09	74.00	-27.91	peak	
2	1947.896	-1.17	31.72	30.55	54.00	-23.45	AVG	
3	3865.731	9.38	40.17	49.55	74.00	-24.45	peak	
4	3865.731	9.38	25.20	34.58	54.00	-19.42	AVG	
5	4571.142	11.15	38.88	50.03	74.00	-23.97	peak	
6	4571.142	11.15	24.49	35.64	54.00	-18.36	AVG	
Remark	Remark: Other frequency mini margin all >6 dB of Limit							

Modulation Standard: 802.11 b Result: - passed Channel: Middle Channel □ - not passed Test point: Vertical

1GHz-26.5GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3402.806	7.89	39.87	47.76	74.00	-26.24	peak
2	3402.806	7.89	24.68	32.57	54.00	-21.43	AVG
3	4218.437	10.32	37.36	47.68	74.00	-26.32	peak
4	4218.437	10.32	22.29	32.61	54.00	-21.39	AVG
5	5034.068	12.27	35.73	48.00	74.00	-26.00	peak
6	5034.068	12.27	21.44	33.71	54.00	-20.29	AVG
Remark	Remark: Other frequency mini margin all >6 dB of Limit						

Modulation Standard:	802.11 b	Result:	- passed
Channel:	High Channel		□ - not passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3953.908	9.66	37.79	47.45	74.00	-26.55	peak
2	3953.908	9.66	22.48	32.14	54.00	-21.86	AVG
3	4703.407	11.46	36.88	48.34	74.00	-25.66	peak
4	4703.407	11.46	21.83	33.29	54.00	-20.71	AVG
5	5849.699	14.90	37.42	52.32	74.00	-21.68	peak
6	5849.699	14.90	22.55	37.45	54.00	-16.55	AVG
Remark	Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

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Modulation Standard: Channel:	Low Channel	Result:	<ul> <li>passed</li> <li>not passed</li> </ul>
Test point: Frequency range:	Vertical 1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3270.541	7.47	41.20	48.67	74.00	-25.33	peak
2	3270.541	7.47	25.77	33.24	54.00	-20.76	AVG
3	4615.230	11.26	37.54	48.80	74.00	-25.20	peak
4	4615.230	11.26	22.41	33.67	54.00	-20.33	AVG
5	5915.832	15.11	40.44	55.55	74.00	-18.45	peak
6	5915.832	15.11	25.08	40.19	54.00	-13.81	AVG
Remark	· Other frequen	cy mini ma	rain all >6 dB a	of Limit			

Remark: Other frequency mini margin all >6 dB of Limit

Modulation Standard: Channel: Test point:	Middle Channel Vertical	<ul> <li>passed</li> <li>not passed</li> </ul>
Frequency range:	1GHz-26.5GHz	

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3402.806	7.89	40.63	48.52	74.00	-25.48	peak
2	3402.806	7.89	25.39	33.28	54.00	-20.72	AVG
3	4174.349	10.22	36.67	46.89	74.00	-27.11	peak
4	4174.349	10.22	21.52	31.74	54.00	-22.26	AVG
5	5739.479	14.54	36.79	51.33	74.00	-22.67	peak
6	5739.479	14.54	21.72	36.26	54.00	-17.74	AVG
Remark	: Other frequen	icy mini ma	rgin all >6 dB o	of Limit			

Modulation Standard:	802.11 g	Result:	- passed
Channel:	High Channel		in the passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.			
1	3050.100	6.76	40.91	47.67	74.00	-26.33	peak			
2	3050.100	6.76	25.30	32.06	54.00	-21.94	AVG			
3	3711.423	8.88	39.57	48.45	74.00	-25.55	peak			
4	3711.423	8.88	24.26	33.14	54.00	-20.86	AVG			
5	5100.200	12.48	35.63	48.11	74.00	-25.89	peak			
6	5100.200	12.48	21.43	33.91	54.00	-20.09	AVG			
Remark	: Other frequen	Remark: Other frequency mini margin all >6 dB of Limit								

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Modulation Standard: Channel:	802.11n-HT20 Low Channel	Result:	<ul> <li>passed</li> <li>not passed</li> </ul>
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3535.070	8.32	40.01	48.33	74.00	-25.67	peak
2	3535.070	8.32	24.70	33.02	54.00	-20.98	AVG
3	4042.084	9.91	38.75	48.66	74.00	-25.34	peak
4	4042.084	9.91	23.37	33.28	54.00	-20.72	AVG
5	5783.567	14.68	38.52	53.20	74.00	-20.80	peak
6	5783.567	14.68	23.79	38.47	54.00	-15.53	AVG
Remark	· Other frequer	cv mini ma	rain all >6 dB a	of Limit			

Remark: Other frequency mini margin all >6 dB of Limit

Modulation Standard:	802.11n-HT20	Result:	- passed
Channel:	Middle Channel		- not passed
Test point:	Vertical		·
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	3204.409	7.26	39.65	46.91	74.00	-27.09	peak
2	3204.409	7.26	23.79	31.05	54.00	-22.95	AVG
3	4020.040	9.86	37.12	46.98	74.00	-27.02	peak
4	4020.040	9.86	21.72	31.58	54.00	-22.42	AVG
5	5232.465	12.91	36.50	49.41	74.00	-24.59	peak
6	5232.465	12.91	21.78	34.69	54.00	-19.31	AVG
Remark	: Other frequer	icy mini ma	rgin all >6 dB o	of Limit			

Modulation Standard:	802.11n-HT20	Result:	- passed
Channel:	High Channel		in the passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3028.056	6.69	40.62	47.31	74.00	-26.69	peak		
2	3028.056	6.69	25.87	32.56	54.00	-21.44	AVG		
3	3843.687	9.31	38.00	47.31	74.00	-26.69	peak		
4	3843.687	9.31	22.86	32.17	54.00	-21.83	AVG		
5	4945.892	12.03	36.76	48.79	74.00	-25.21	peak		
6	4945.892	12.03	21.66	33.69	54.00	-20.31	AVG		
Remark	Remark: Other frequency mini margin all >6 dB of Limit								

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Modulation Standard:	802.11n-HT40	Result:	- passed
Channel:	Low Channel		□ - not passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3050.100	6.76	41.08	47.84	74.00	-26.16	peak		
2	3050.100	6.76	25.92	32.68	54.00	-21.32	AVG		
3	3645.291	8.67	38.45	47.12	74.00	-26.88	peak		
4	3645.291	8.67	23.87	32.54	54.00	-21.46	AVG		
5	5078.156	12.41	35.74	48.15	74.00	-25.85	peak		
6	5078.156	12.41	21.28	33.69	54.00	-20.31	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Modulation Standard:	802.11n-HT40	Result:	- passed
Channel:	Middle Channel		□ - not passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3689.379	8.81	38.69	47.50	74.00	-26.50	peak		
2	3689.379	8.81	23.77	32.58	54.00	-21.42	AVG		
3	4703.407	11.46	35.63	47.09	74.00	-26.91	peak		
4	4703.407	11.46	21.20	32.66	54.00	-21.34	AVG		
5	5937.876	15.18	37.70	52.88	74.00	-21.12	peak		
6	5937.876	15.18	22.01	37.19	54.00	-16.81	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Modulation Standard:	802.11n-HT40	Result:	- passed
Channel:	High Channel		- not passed
Test point:	Vertical		
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	1947.896	-1.17	43.79	42.62	74.00	-31.38	peak	
2	1947.896	-1.17	28.75	27.58	54.00	-26.42	AVG	
3	3402.806	7.89	40.33	48.22	74.00	-25.78	peak	
4	3402.806	7.89	25.76	33.65	54.00	-20.35	AVG	
5	4989.980	12.14	39.14	51.28	74.00	-22.72	peak	
6	4989.980	12.14	24.60	36.74	54.00	-17.26	AVG	
Remark: Other frequency mini margin all >6 dB of Limit								

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# 12.0 Antenna Requirements

# **12.1 Standard Applicable**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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

#### **12.2 Antenna Construction and Directional Gain**

Antenna type: External antenna Antenna Gain: 5 dBi

# 13.0 Deviation to test specifications

The following identical model(s):

WE126, WE526

Belong to the tested device:

Product description: Wireless Router Model name: WR8305RT-B

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