TEST REPORT

DT&C Co., Ltd.

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Report No : DRTFCC1602-0029 Pages:(1) / (76) page



1. Customer

- Name : POINTMOBILE CO., LTD.
- Address : B-9F, Kabul Great Valley 32 Digital-ro 9-gil, Geumcheon-gu, Seoul, Korea 153-709
- 2. Use of Report : FCC & IC Original Grant
- 3. Product Name (FCCID, IC) : Mobile Computer (V2X-PM80W, 10664A-PM80W)
- 4. Date of Test : 2015-10-12 ~ 2015-11-25
- 5. Test Method Used: FCC Part 15 Subpart C.247, RSS-247
- 6. Testing Environment : See appended test report
- 7. Test Result : 🛛 Pass 📋 Fail

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

Affirmation	Tested by Name : Jaejin Lee	(Signature)	Technical Manager Name : Bongjin Kim	(Signation)
·		0040 00 00		
		2016.02.03	3.	
		DT&C Co.,	Ltd.	



Test Report Version

Test Report No.	Date	Description
DRTFCC1602-0029	Feb. 03, 2016	Initial issue



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1. GENERAL INFORMATION

Applicant	:	POINTMOBILE CO., LTD.
Address	:	B-9F, Kabul Great Valley 32 Digital-ro 9-gil, Geumcheon-gu, Seoul, Korea 153-709
FCC ID	:	V2X-PM80W
IC	:	10664A-PM80W
EUT	:	Mobile Computer
Model	:	PM80-W
Additional Model(s)	:	NA
Date of Test	:	2015-10-12 ~ 2015-11-25
Contact person	:	Wilson. Park

2. EUT DESCRIPTION

Product	Mobile Computer
Model Name	PM80-W
Add Model Name	NA
Power Supply	DC 3.8 V
Hardware version	Rev.5
Software version	80.02
Frequency Range	2.4GHz Band • 802.11b/g/n(20 MHz) : 2412 MHz ~ 2462 MHz
Max. RF Output Power	• 802.11b: 17.98 dBm • 802.11g: 22.34 dBm • 802.11n: 22.41 dBm
Modulation Type	• 802.11b: CCK, DSSS • 802.11g/n: OFDM
Antenna Specification	Internal Antenna (1TX) only • 2.4GHz Band Max. peak gain : -0.84 dBi



3. SUMMARY OF TESTS

FCC Part	RSS Std.	Parameter	Limit	Test Condition	Status Note 1				
15.247(a)	RSS-247 [5.2]	6 dB Bandwidth	> 500 kHz		С				
15.247(b)	RSS-247 [5.4]	Transmitter Output Power	< 1 Watt		С				
15.247(d)	RSS-247 [5.5]	Out of Band Emissions / Band Edge	20 dBc in any 100 kHz BW	Conducted	С				
15.247(e)	RSS-247 [5.2]	Transmitter Power Spectral Density	< 8 dBm/3 kHz		С				
-	RSS-Gen [6.6]	Occupied Bandwidth (99 %)	RSS-Gen(6.6)		С				
15.247(d) 15.205 15.209	RSS-247 [5.5] RSS-GEN [8.9] RSS-GEN [8.10]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	FCC 15.209 limits	Radiated	C Note 2				
15.207	RSS-Gen [8.8]	AC Line Conducted Emissions	FCC 15.207 limits	AC Line Conducted	С				
15.203	-	Antenna Requirements	FCC 15.203	-	С				
	Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: This test item was performed in each axis and the worst case data was reported.								



4. TEST METHODOLOGY

Generally the tests were performed according to the KDB558074 v03r03. And ANSI C63.10-2013 was used to reference appropriate EUT setup and maximizing procedures of radiated spurious emission and AC line conducted emission testing.

4.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT EXERCISE

The EUT was operated in the test mode to fix the TX frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

4.3 GENERAL TEST PROCEDURES

Conducted Emissions

The power-line conducted emission test procedure is not described on the KDB 558074. So this test was fulfilled with the requirements in Section 6.2 of ANSI C63.10.

The EUT is placed on the wooden table, which is 0.8 m above ground plane and the conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and Average detector.

Radiated Emissions

Basically the radiated tests were performed with KDB 558074. But some requirements and procedures like test site requirements, EUT setup and maximizing procedure were fulfilled with the requirements in Section 5 and 6 of the ANSI C63.10 as stated on section 12.1 of the KDB 558074.

The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the highest emission, the relative positions of the EUT were rotated through three orthogonal axes.

4.4 DESCRIPTION OF TEST MODES

The EUT has been tested with all modes of operating conditions to determine the worst case emission characteristics. A test program is used to control the EUT for staying in continuous transmitting mode.



5. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

The open area test site (OATS) or semi anechoic chamber and conducted measurement facility used to collect the radiated and conducted test data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 449-935. The site is constructed in conformance with the requirements.

- Semi anechoic chamber registration Number: 165783(FCC) & 5740A-2(IC)

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, loop, horn. Spectrum analyzers with pre-selectors and peak, quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

7. ANTENNA REQUIREMENTS

7.1 According to FCC 47 CFR §15.203:

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The internal antenna is attached on the main PCB using the special spring tension. Therefore this E.U.T Complies with the requirement of §15.203.



8. TEST RESULT

8.1 6 dB Bandwidth

Test Requirements and limit, §15.247(a)

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while the EUT is operating in transmission mode at the appropriate frequencies.

The minimum permissible 6 dB bandwidth is 500 kHz.

TEST CONFIGURATION

Refer to the APPENDIX I.

TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer and used following test procedure of KDB558074

- 1. Set resolution bandwidth (RBW) = 100 kHz.
- 2. Set the video bandwidth (VBW) \ge 3 x RBW.
- (<u>RBW : 100 kHz / VBW : 300 kHz</u>)
- 3. Detector = **Peak**.
- 4. Trace mode = **Max hold**.
- 5. Sweep = **Auto couple**.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST RESULTS: Comply

Test Mode	Data Rate	Frequency [MHz]	Test Results [MHz]
		2412	8.113
802.11b	1 Mbps	2437	8.085
		2462	8.575
		2412	16.390
802.11g	6 Mbps	2437	16.390
		2462	16.380
		2412	17.610
802.11n (20 MHz)	MCS 0	2437	17.600
		2462	17.620



RESULT PLOTS

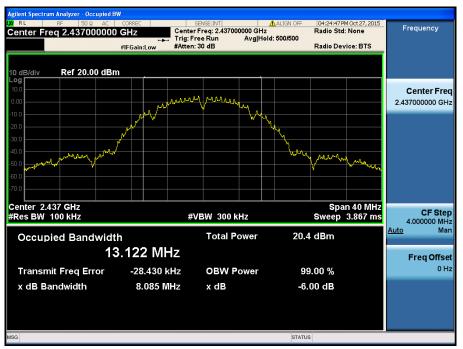
6 dB Bandwidth



6 dB Bandwidth

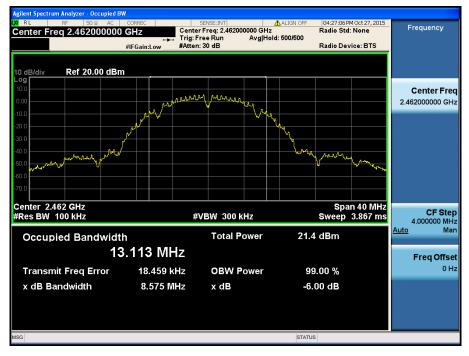
Test Mode: 802.11b & 1 Mbps & 2437 MHz

Test Mode: 802.11b & 1 Mbps & 2412 MHz





Test Mode: 802.11b & 1 Mbps & 2462 MHz





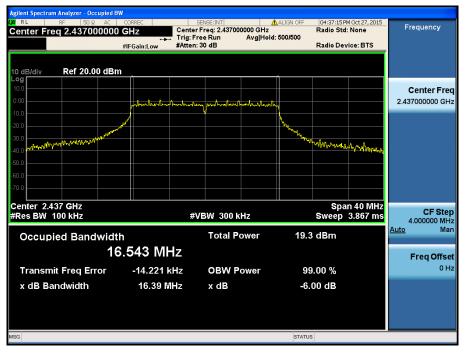
Test Mode: 802.11g & 6 Mbps & 2412 MHz



6 dB Bandwidth

Test Mode: 802.11g & 6 Mbps & 2437 MHz







Test Mode: 802.11g & 6 Mbps & 2462 MHz



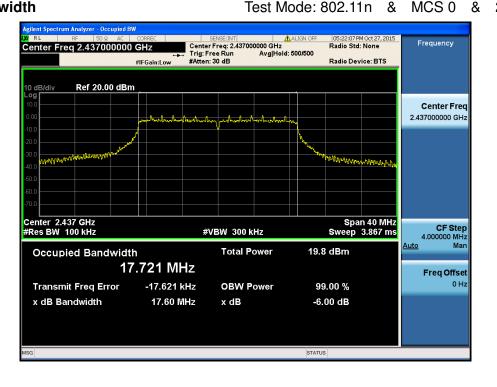


Test Mode: 802.11n & MCS 0 & 2412 MHz



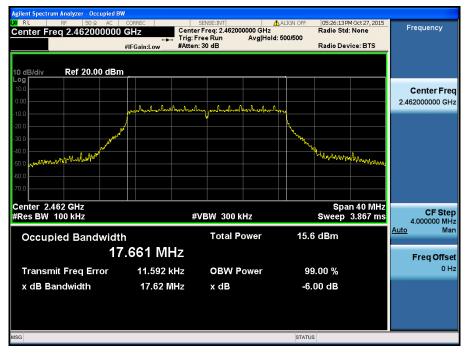
6 dB Bandwidth

& MCS 0 & 2437 MHz





Test Mode: 802.11n & MCS 0 & 2462 MHz



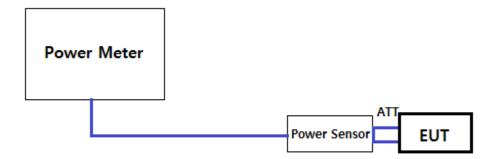


8.2 Maximum Peak Conducted Output Power

Test Requirements and limit, §15.247(b)

The maximum permissible conducted output power is 1 Watt.

TEST CONFIGURATION



TEST PROCEDURE

1. PKPM1 Peak power meter method of KDB558074

The maximum conducted output powers were measured using a broadband peak RF power meter which has greater video bandwidth than DUT's DTS bandwidth and utilize a fast-responding diode detector.

2. Method AVGPM-G (Measurement using a gated RF average power meter) of KDB558074

The average conducted output powers were measured using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.



TEST RESULTS: Comply

- Measurement Data:

- Test Results

Mode Channel							Test Resu	ult [dBm]					
	Channel	Frequency [MHz]	Detector	tor DATA RATE [Mbps]									
		[]		1	2	5.5	11	NA	NA	NA	NA		
	1	0410	PK	17.98	17.94	17.93	17.92	-	-	-	-		
	I	2412	AV	15.28	15.23	15.21	15.20	-	-	-	-		
000 115	c	0407	РК	17.41	17.39	17.39	17.38	-	-	-	-		
802.11b	6	2437	AV	14.63	14.62	14.61	14.61	-	-	-	-		
	11	11 2462	РК	17.75	17.73	17.72	17.72	-	-	-	-		
			AV	15.07	15.02	14.97	14.98	-	-	-	-		

Mode Channel			Test Result [dBm]									
	Channel	Frequency [MHz]	Detector	etector DATA RATE [Mbps]								
		[]	.,	6	9	12	18	24	36	48	54	
	4	0410	PK	21.14	21.11	21.12	21.11	21.09	21.08	21.08	21.06	
	1	2412	AV	12.55	12.54	12.53	12.53	12.54	12.52	12.50	12.48	
802.11g	6	2437	РК	22.34	22.15	22.29	22.32	22.32	22.26	22.23	22.24	
002.119	Ŭ	2437	AV	14.84	14.81	14.77	14.75	14.72	14.78	14.74	14.80	
			РК	19.63	19.62	19.62	19.60	19.61	19.59	19.58	19.55	
11	2462	AV	10.41	10.40	10.39	10.39	10.40	10.39	10.38	10.36		

Mode Channel				Test Result [dBm]							
	Channel	Frequency [MHz]	Detector	etector DATA RATE [MCS]							
				0	1	2	3	4	5	6	7
	1	2412	PK	20.54	20.53	20.52	20.53	20.52	20.51	20.49	20.47
	1	2412	AV	11.56	11.55	11.53	11.53	11.54	11.52	11.51	11.49
802.11n	6	0407	РК	22.41	22.32	22.31	22.40	22.36	22.35	22.27	22.41
(HT20)	D	2437	AV	14.93	14.93	14.85	14.95	14.87	14.91	14.86	14.90
		0460	РК	19.25	19.24	19.23	19.21	19.21	19.19	19.18	19.16
11	2462	AV	9.91	9.90	9.88	9.88	9.89	9.87	9.86	9.85	



8.3 Maximum Power Spectral Density

Test requirements and limit, §15.247(e)

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.

TEST CONFIGURATION

Refer to the APPENDIX I.

Test Procedure

Method PKPSD of KDB558074 is used.

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW to : **3 kHz** ≤ RBW ≤ **100 kHz**
- 4. Set the VBW \ge 3 x RBW
- 5. Detector = **Peak**
- 6. Sweep time = **Auto couple**
- 7. Trace mode = **Max hold**.
- 8. Allow trace to fully stabilize.

9. Use the **peak marker function** to determine the maximum amplitude level within the RBW.

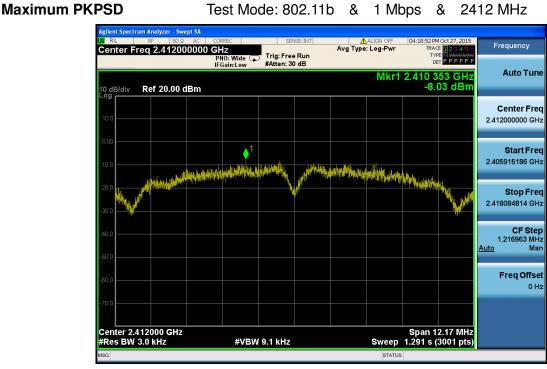
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST RESULTS: Comply

Test Mode	Data Rate	Frequency [MHz]	RBW	PKPSD [dBm]
		2412	3 kHz	-8.03
802.11b	1 Mbps	2437	3 kHz	-9.91
		2462	3 kHz	-8.68
		2412	3 kHz	-14.15
802.11g	6 Mbps	2437	3 kHz	-12.33
		2462	HBW 3 kHz 3 kHz 3 kHz 3 kHz 3 kHz	-17.24
		2412	3 kHz	-14.31
802.11n HT20	MCS 0	2437	3 kHz	-12.10
		2462	3 kHz	-16.98



RESULT PLOTS



Maximum PKPSD Test Mode: 802.11b & 1 Mbps & 2437 MHz



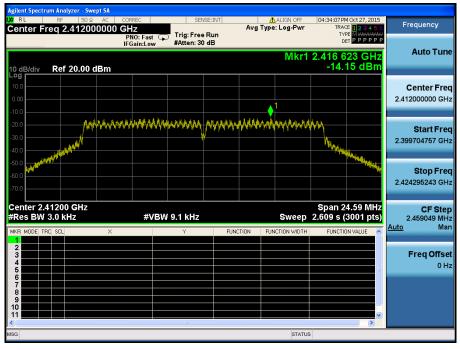


Test Mode: 802.11b & 1 Mbps & 2462 MHz





Test Mode: 802.11g & 6 Mbps & 2412 MHz



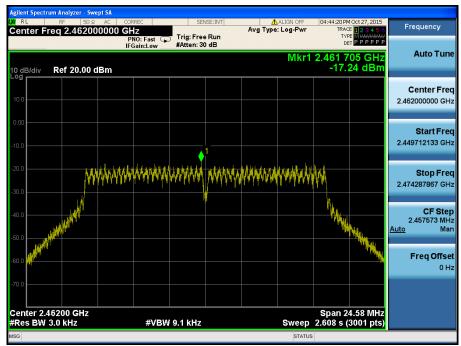
Maximum PKPSD

Test Mode: 802.11g & 6 Mbps & 2437 MHz



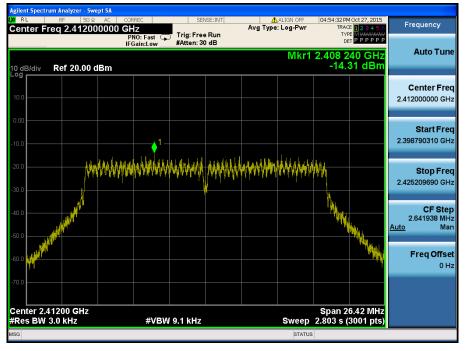


Test Mode: 802.11g & 6 Mbps & 2462 MHz



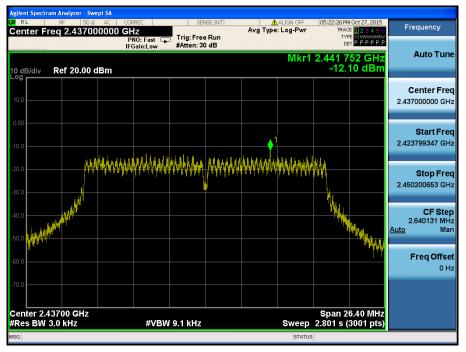


Test Mode: 802.11n(HT20) & MCS 0 & 2412 MHz



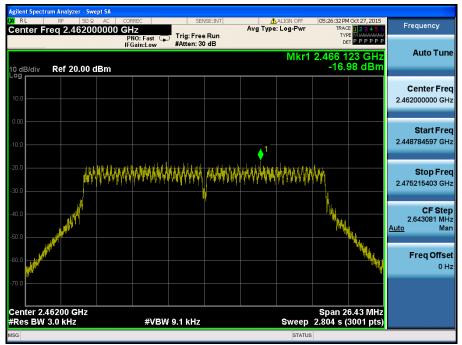
Maximum PKPSD

Test Mode: 802.11n(HT20) & MCS 0 & 2437 MHz





Test Mode: 802.11n(HT20) & MCS 0 & 2462 MHz





8.4 Out of Band Emissions at the Band Edge / Conducted Spurious Emissions

Test requirements and limit, §15.247(d)

§15.247(d) specifies that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions :

If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to **15.247(b)(3)** requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to **15.247(b)(3)** requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured inband average PSD level. In either case, attenuation to levels below the general emission limits specified in **§15.209(a)** is not required.

TEST CONFIGURATION

Refer to the APPENDIX I.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer.

- Measurement Procedure 1 – Reference Level

- 1. Set instrument center frequency to DTS channel center frequency.
- 2. Set the span to \geq 1.5 times the DTS bandwidth.
- 3. Set the RBW = **100 kHz.**
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = Peak.
- 6. Sweep time = **Auto couple.**
- 7. Trace mode = **Max hold.**
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum PSD level.

- Measurement Procedure 2 - Unwanted Emissions

- 1. Set the center frequency and span to encompass frequency range to be measured.
- 2. Set the RBW = 100 kHz. (Actual 1 MHz , See below note)
- 3. Set the VBW \geq 3 x RBW. (Actual 3 MHz, See below note)
- 4. Detector = **Peak**.
- 5. Ensure that the number of measurement points \geq Span / RBW.
- 6. Sweep time = Auto couple.
- 7. Trace mode = **Max hold.**
- 8. Allow the trace to stabilize. (this may take some time, depending on the extent of the span)
- 9. Use the peak marker function to determine the maximum amplitude level.

Note : The conducted spurious emission was tested with below settings.

Frequency range: 9 kHz ~ 30 MHz

RBW = 100 kHz, VBW = 300 kHz, SWEEP TIME = AUTO, DETECTOR = PEAK, TRACE = MAX HOLD, SWEEP POINT : 40001

Frequency range: 30 MHz ~ 10 GHz, 10 GHz ~25 GHz RBW = 1 MHz, VBW = 3 MHz, SWEEP TIME = AUTO, DETECTOR = PEAK, TRACE = MAX HOLD, SWEEP POINT : 40001

LIMIT LINE = 20 dB below of the reference level of above measurement procedure Step 2. (RBW = 100 kHz, VBW = 300 kHz)

If the emission level with above setting was close to the limit (ie, less than 3 dB margin) then zoom scan is required using RBW = 100 kHz, VBW = 300 kHz, SPAN = 100 MHz and BINS = 2001 to get accurate emission level within 100 kHz BW.

Also the path loss for conducted measurement setup was used as described on the Appendix I of this test report.



RESULT PLOTS

802.11b & 1 Mbps & 2412 MHz

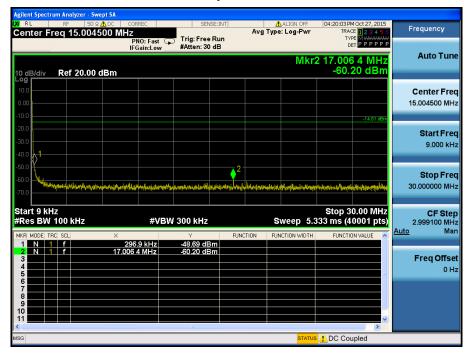


Reference

Low Band-edge







gilent Spectrum Analyzer - Sw RL RF 50 G	AC CORREC	SENSE:INT	ALIGN OFF	04:20:15PM Oct 27, 2015	
enter Freq 5.0150		Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE M WWWWW DET P P P P P P	Frequency
0 dB/div Ref 20.00	dBm		Mkr1	7.789 40 GHz -44.53 dBm	Auto Tune
og 10.0 0.00 10.0	1 			-14.51 dBm	Center Fre 5.015000000 GH
20.0 30.0 40.0		المراجع	↓ ↓ ↓ ↓	0 2 9 75	Start Free 30.000000 MH
50.0					Stop Fre 10.000000000 GH
tart 30 MHz Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 18	Stop 10.000 GHz 67 ms (40001 pts)	CF Ste 997.000000 MH Auto Ma
IKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f	× 2.411 09 GHz 8.398 82 GHz 3.292 93 GHz 7.379 88 GHz 9.538 64 GHz	Y FUN 8.75 dBm -44.03 dBm -44.10 dBm -44.11 dBm -44.23 dBm	CTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
0 N 1 f 7 N 1 f 7 N 1 f 8 N 1 f 9 N 1 f 10 N 1 f 11 1 1	7.841 74 GHz 9.369 65 GHz 7.939 45 GHz 8.975 83 GHz 7.789 40 GHz	-44.25 dBm -44.27 dBm -44.43 dBm -44.50 dBm -44.53 dBm			
		11	STATUS	>	



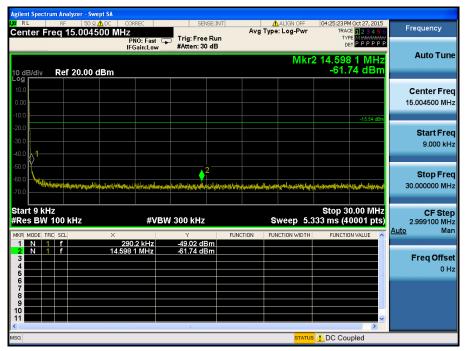
Agilent Spectrum Analyzer - Sv DØ RL RF 50	wept SA	SENSE:INT	ALIGN OFF	04:20:24 PM Oct 27, 2015	_
Center Freq 17.500	PNO: Fast G	🕞 Trig: Free Run	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET P P P P P P	Frequency
10 dB/div Ref 20.00	IFGain:Low	#Atten: 30 dB	Mkr5 2	23.136 250 GHz -35.22 dBm	Auto Tune
10.0 -10.0				-14,61 dBm	Center Fred 17.500000000 GHz
-20.0	CANADA STRATE CONTRACTOR STATES				Start Fred 10.000000000 GH;
-50.0 -60.0 -70.0					Stop Fred 25.000000000 GH;
Start 10.000 GHz #Res BW 1.0 MHz		V 3.0 MHz		Stop 25.000 GHz .00 ms (40001 pts)	CF Step 1.500000000 GH Auto Mai
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f 5 N 1 f 6	× 24.577 375 GHz 24.858 250 GHz 23.059 375 GHz 24.066 625 GHz 23.136 250 GHz	Y Fl -33.69 dBm -34.75 dBm -34.85 dBm -35.09 dBm -35.22 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
7 8 9 10 11 4				×	
ISG			STATUS	6	



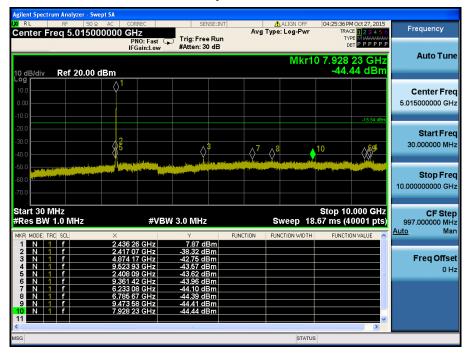
802.11b & 1 Mbps & 2437 MHz



Reference







Agilent Spectrum Analyzer - Swept SA					
μ RL RF 50Ω AC		SENSE:INT	ALIGN OFF	04:25:45 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency
Center Freq 17.5000000	PNO East Trig	; Free Run en: 30 dB	Rvg Type: Log-Pwr	TYPE MWWWWW DET PPPPP	
10 dB/div Ref 20.00 dBm			Mkr5 2	3.796 250 GHz -35.47 dBm	Auto Tune
Log 10.0 0.00 -10.0				-15.54 dBm	Center Freq 17.500000000 GHz
-20.0	enye yanî neye giranî heyan keryi yerî kirin			<u> </u>	Start Freq 10.000000000 GHz
-60.0 -70.0					Stop Freq 25.00000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VBW 3.0	MHz	Sweep 40.	Stop 25.000 GHz .00 ms (40001 pts)	CF Step 1.50000000 GHz Auto Man
MKR MODE TRC SCL X	۲ 1 125 GHz -34	FUNCTIO	N FUNCTION WIDTH	FUNCTION VALUE	
2 N 1 f 24.51 3 N 1 f 23.13 4 N 1 f 23.95	I3 625 GHz -34 39 625 GHz -35 34 500 GHz -35	57 dBm 19 dBm 41 dBm 47 dBm		s	Freq Offset 0 Hz
7 8 9 10					
11 <		III		>	
MSG			STATUS		



802.11b & 1 Mbps & 2462 MHz

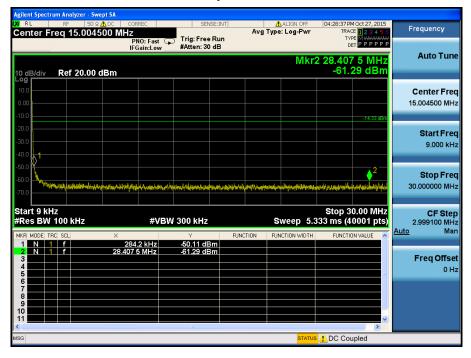




High Band-edge







RL RF 50 enter Freq 5.015		SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	04:28:50 PM Oct 27, 2015 TRACE 1 2 3 4 5 6 TYPE M WWWW	Frequency
dB/div Ref 20.0	PN0: Fast ⊂ IFGain:Low 0 dBm	#Atten: 30 dB	Mkr1	0 7.204 41 GHz -44.27 dBm	Auto Tun
og 0.0 0.00	1 			-14,33 dBm	Center Fre 5.015000000 G⊦
0.0		$\uparrow^2 \uparrow^4$	<u>0</u> 9 07 1 0 0		Start Fre 30.000000 MF
					Stop Fre 10.000000000 GF
tart 30 MHz Res BW 1.0 MHz		W 3.0 MHz	-	Stop 10.000 GHz .67 ms (40001 pts)	CF Ste 997.000000 MH Auto Ma
KM MODE TRC SLL 1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6 N 1 f	× 2.461 18 GHz 4.924 27 GHz 7.858 19 GHz 5.426 26 GHz 9.446 17 GHz 9.367 65 GHz	8.84 dBm -42.86 dBm -43.75 dBm -43.76 dBm -43.90 dBm -43.94 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offso
7 N 1 f 8 N 1 f 9 N 1 f 0 N 1 f 1	6.753 02 GHz 3.232 36 GHz 6.199 69 GHz 7.204 41 GHz	-44.14 dBm -44.16 dBm -44.25 dBm -44.27 dBm		× >	
G			STATUS		



Agilent Spectrum Analyzer - S					
Center Freq 17.50		SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	04:28:59 PM Oct 27, 2015 TRACE 1 2 3 4 5 6 TYPE MWWWW	Frequency
	PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 30 dB		DETPPPPP	
10 dB/div Ref 20.00) dBm		Mkr5 2	4.715 000 GHz -35.17 dBm	Auto Tune
10.0 0.00 -10.0				-14.33 dBm	Center Freq 17.50000000 GHz
-20.0 -30.0 -40.0				$\langle \rangle^2 \langle \rangle^4 \langle 5 \rangle$	Start Freq 10.000000000 GHz
-50.0					Stop Freq 25.00000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VB\	N 3.0 MHz	Sweep 40	Stop 25.000 GHz .00 ms (40001 pts)	CF Step 1.50000000 GHz Auto Man
MKR MADE TRC SCL 1 N 4 7 7 2 N 1 7 7 3 N 1 7 7 5 N 1 7 6 6	× 24 573 625 GHz 23 725 750 GHz 24 784 750 GHz 24 218 625 GHz 24 218 625 GHz 24 715 000 GHz	33.59 dBm -34.75 dBm -34.97 dBm -34.97 dBm -35.00 dBm -35.17 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
MSG			STATUS		



802.11g & 6 Mbps & 2412 MHz

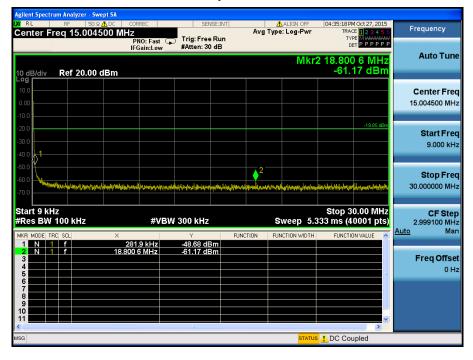




Low Band-edge







i <mark>gilent Spectrum Analyzer - Sv</mark> <mark>Ø</mark> RL RF 50	wept SA Ω AC CORREC	SENSE:INT	ALIGN OFF	04:35:31 PM Oct 27, 2015	E
enter Freq 5.0150	100000 GHz PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE M WWWWW DET P P P P P P	Frequency
10 dB/div Ref 20.00			Mkr1	0 6.907 56 GHz -44.59 dBm	Auto Tune
- 0 g 10.0 0.00					Center Free 5.015000000 GH
-20.0 			5 10 3	-19.85 dBm	Start Free 30.000000 MH:
-50.0					Stop Free 10.000000000 GH
Start 30 MHz Res BW 1.0 MHz	#VB\	V 3.0 MHz	Sweep 18	Stop 10.000 GHz .67 ms (40001 pts)	CF Ste 997.000000 MH <u>Auto</u> Ma
1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6 N 1 f	2.416 32 GHz 8.361 18 GHz 2.466 17 GHz 9.435 20 GHz 6.366 93 GHz 7.286 17 GHz	7.69 dBm -43.67 dBm -43.76 dBm -44.17 dBm -44.19 dBm -44.42 dBm			Freq Offse 0 H
7 N 1 f 8 N 1 f 9 N 1 f 10 N 1 f 11	7.869 91 GHz 7.268 47 GHz 6.765 48 GHz 6.907 56 GHz	-44.54 dBm -44.57 dBm -44.57 dBm -44.59 dBm		~	
SG			STATUS		



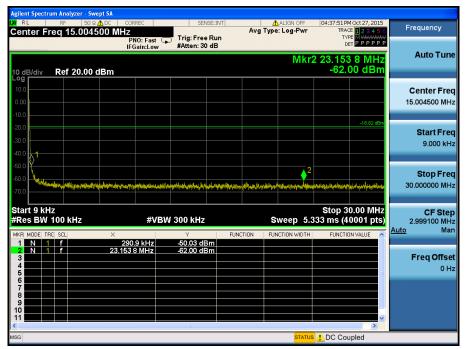
Agilent Spectrum Analyzer - S LXV RL RF 50	Swept SA	SENSE:INT	ALIGN OFF	04:35:40 PM Oct 27, 2015	E
Center Freq 17.500	0000000 GHz PNO: Fast	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE M WARMAN	Frequency
	IFGain:Low	#Atten: 30 dB		DETPPPPP	Auto Tune
10 dB/div Ref 20.00	0 dBm		MKr5 2	3.763 625 GHz -34.95 dBm	
10.0					Center Freq
0.00					17.50000000 GHz
-10.0				-19.85 dBm	
-20.0				∆ ³⁴ 5 🕅	Start Freq
-40.0					10.000000000 GHz
-50.0					Stop Freq
-60.0					25.00000000 GHz
-70.0					
Start 10.000 GHz #Res BW 1.0 MHz	#VB	N 3.0 MHz	Sweep 40	Stop 25.000 GHz .00 ms (40001 pts)	CF Step 1.50000000 GHz
MKR MODE TRC SCL	×		INCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Man
1 N 1 f 2 N 1 f	24.659 875 GHz 24.504 625 GHz	-33.36 dBm -33.56 dBm			
3 N 1 f 4 N 1 f	23.087 875 GHz 23.268 625 GHz	-34.62 dBm -34.86 dBm			Freq Offset
5 N 1 f	23.763 625 GHz	-34.95 dBm		=	0112
8					
9					
<pre>11</pre>		111		×	
MSG			STATUS	6	



802.11g & 6 Mbps & 2437 MHz









Agilent Spectrum Analyzer - Sw					
Center Freq 5.0150		SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	04:38:04 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast G	Trig: Free Run #Atten: 30 dB		DET PPPP	
	II Gam.cow		Mkr1	0 7.508 25 GHz	Auto Tune
10 dB/div Ref 20.00	dBm			-44.51 dBm	
Log 10.0	1				Conton Enve
0.00					Center Freq 5.015000000 GHz
-10.0	2				5.015000000 GH2
-20.0	A)3			-18.82 dBm	
-30.0	4				Start Freq
-30.0			1 0 £	9 ∧7 ∆ ⁵	30.000000 MHz
-50.0		والمراجع والمربسة والمربية والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع	and the second states and the stranger	any statements press	
-50.0	a particular de la companya de la co	and a state of the	الشاهير ويريادة الانتبار والانتقادة وسلواه التقادية باللل		Stop Freq
-70.0					10.00000000 GHz
-70.0					
Start 30 MHz				Stop 10.000 GHz	CF Step
#Res BW 1.0 MHz	#VBV	/ 3.0 MHz	Sweep 18	.67 ms (40001 pts)	997.000000 MHz Auto Man
MKR MODE TRC SCL	× 2.439 75 GHz	Y FU 8.36 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	Adto Mari
2 N 1 f	2.450 47 GHz	-18.95 dBm			
3 N 1 f	2.418 31 GHz 2.412 33 GHz	-23.14 dBm -36.92 dBm			Freq Offset
5 N 1 F	9.431 21 GHz	-43.03 dBm		3	0 Hz
6 N 1 F 7 N 1 F	3.299 91 GHz 8.416 76 GHz	-44.18 dBm -44.39 dBm			
8 N 1 f 9 N 1 f	7.792 39 GHz 7.874 89 GHz	-44.45 dBm -44.51 dBm			
10 N 1 f	7.508 25 GHz	-44.51 dBm			
11				~	
MSG			STATUS	3	
				1	

Agilent Spectrum Analyzer - Sv					
KE RE 501 Center Freg 17.500		SENSE:INT	ALIGN OFF	04:38:13 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency
Center Freq 17.500	PNO: Fast (IFGain:Low	Trig: Free Run #Atten: 30 dB	ing type rog th	TYPE M WAAWAAAA DET P P P P P P	
			Mkr5 2	3.629 000 GHz	Auto Tune
10 dB/div Ref 20.00	dBm			-35.49 dBm	
10.0					Center Fre
0.00					17.50000000 GH
10.0					
20.0				-18.82 dBm	
30.0					Start Fre
-40.0			And the second		10.00000000 GH
50.0 sectors and sectors and sectors			the of the state o	and the second	
-60.0					Stop Fre
-70.0					25.00000000 GH
-70.0					
Start 10.000 GHz				Stop 25.000 GHz	CF Ste
Res BW 1.0 MHz	#VB	W 3.0 MHz	Sweep 40	00 ms (40001 pts)	1.50000000 GH
MKR MODE TRC SCL	×	Y	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N 1 f 2 N 1 f	24.622 750 GHz 23.155 750 GHz	-34.46 dBm -34.82 dBm			
3 N 1 f	23.998 750 GHz 24.462 625 GHz	-34.86 dBm -35.33 dBm			Freq Offse
5 N 1 f	23.629 000 GHz	-35.49 dBm		Ξ	0 H
6					
8					
10					
		10		~	
SG			STATUS		
				1	



802.11g & 6 Mbps & 2462 MHz



Reference

High Band-edge





Agilent Spectrum Analyzer - Swept SA				
IM RF 50 Ω ▲ DC Center Freq 15.004500 M		Avg Type: Log-Pwr	04:45:32 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 dBm	PNO: Fast Tig: Free Ru IFGain:Low #Atten: 30 dB		2 28.824 4 MHz -60.92 dBm	Auto Tune
10.0 0.00 -10.0				Center Freq 15.004500 MHz
-20.0				Start Freq 9.000 kHz
-50.0 -60.0 -70.0	abangkinebianturinenang terdikaturap kana wisasiti turandi da	substantibeliussus charachteastantiantan	en han han han han han han han han han ha	Stop Freq 30.000000 MHz
Start 9 kHz #Res BW 100 kHz	#VBW 300 kHz	Sweep 5.	Stop 30.00 MHz 333 ms (40001 pts)	CF Step 2.999100 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 4 5 6 7 8 9 10 11 4 4 5 6 7 8 9 10 11 1 1 1 1 1 1 1 1	283.4 kHz 48.07 dBm 1824 4 MHz 60.92 dBm			Freq Offset 0 Hz
MSG		STATU	s <u>1</u> DC Coupled	

	Inalyzer - Swept SA	CORREC	SENS	E:INT	1	ALIGN OFF	04:45:45 PM	4 Oct 27, 2015	
Center Freq	5.01500000	0 GHz PN0: Fast	Trig: Free	Run	Avg Type	: Log-Pwr	TYE	E 123456 E M WAWAW	Frequency
		IFGain:Low	#Atten: 30	dB				TPPPPP	Auto Tune
10 dB/div 🛛	ef 20.00 dBm					Mkr1		44 GHz 40 dBm	
10.0	ļ,	<u>}</u> 1							Center Free
0.00		Y							5.015000000 GH
-10.0									
-20.0								-22.05 dBm	Start Free 30.000000 MH
-40.0		3		10 0 ⁹	\∕ <mark>7</mark> _ (()	2		⁴⁶	30.000000 MH
-50.0			and the second state of the line of the li	and Replace Replace Angle Anna State					Stop Fre
-60.0									10.00000000 GH
Start 30 MHz #Res BW 1.0		#VE	3W 3.0 MHz		s	weep 18	Stop 10 .67 ms (4	.000 GHz 0001 pts)	CF Ste 997.000000 MH
MKR MODE TRC S			Y	FUNC	TION FUN	ICTION WIDTH	FUNCTIO	IN VALUE	<u>Auto</u> Ma
1 N 1 1 2 N 1 1		.468 16 GHz .888 36 GHz	4.40 dB -43.49 dB						
3 N 1		.434 02 GHz .410 03 GHz	-43.56 dB -43.70 dB						Freq Offse
5 N 1 1	F 6	.777 70 GHz	-43.91 dB	m				=	0 H
6 N 1	F 9	.471 59 GHz	-44.03 dB	m					
7 N 1 8 N 1		.106 47 GHz .680 24 GHz	-44.24 dB						
9 N 1	f 5	.827 31 GHz	-44.39 dB	m					
<mark>10 N 1</mark> f	f 5	.284 44 GHz	-44.40 dB	m					
11								~	
SG						STATUS			
-						onnioe			



Agilent Spectru	m Analyzer - Swept SA RF 50 Q AC		SENSE:INT		ALIGN OFF	04:45:54 PM	oct 27, 2015	
	eq 17.500000			Avg T	ype: Log-Pwr	TRACE	123456 Mutatatatatatatatatatatatatatatatatatata	Frequency
10 dB/div	Ref 20.00 dBm		PARTER: OU UE		Mkr5 2	4.763 75 -35.2	i0 GHz 6 dBm	Auto Tune
10.0								Center Fred 17.500000000 GHz
-20.0	الم بدل رامه الدرب بحض		A Page of Party of State of St	ner; flats		3		Start Fred 10.000000000 GHz
-50.0								Stop Fred 25.00000000 GH
Start 10.00 #Res BW 1	1.0 MHz		V 3.0 MHz		Sweep 40		001 pts)	CF Ste 1.50000000 GH Auto Ma
MKR MODE TRO 1 N 1 2 N 1 3 N 1 4 N 1 5 N 1 6 - -	f 24. f 24. f 23. f 23.	 550 375 GHz 688 375 GHz 120 875 GHz 856 000 GHz 763 750 GHz 	-34,33 dBm -34,63 dBm -35.17 dBm -35,23 dBm -35,26 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION	VALUE	Freq Offse
7 8 9 10 11							×	
WSG					STATUS			

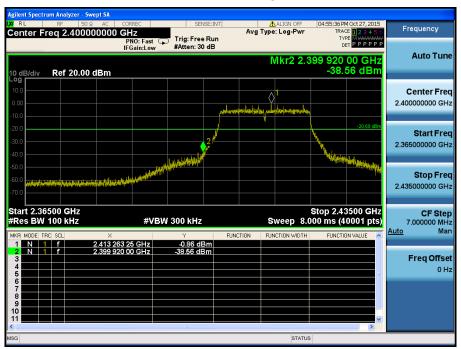


802.11n(HT20) & MCS 0 & 2412 MHz



Reference

Low Band-edge





		ım Ana	ılyzer - Sı												
LXI RI Cen		RF ed 1	50 5.004	2 <u>∧</u> DC 500 I		EC	S	ENSE:INT			ALIGN OFF	TRA	M Oct 27, 2015 CE 123456	Fre	quency
		oq i			PN	0:Fast ⊂ ain:Low	Trig: Fre #Atten:					TY D			Auto Tune
10 di	B/div	Ref	20.00	dBm							Mk		3 5 MHz 59 dBm		
Log 10.0 0.00															e nter Freq 004500 MHz
-10.0 -20.0 -30.0 -40.0													-20.69 dEm		Start Freq 9.000 kHz
-50.0 -60.0 -70.0		2 huping	hannbandy	adulydiriyllyn	forman the fact	ungalagi (ana' ling	nalettiyeraweide	use we have	hi sha di ki	nitinasima	hybytytuistuipyt	ertiffenerende tiel	telanoitel _{ent} erinteisie		Stop Freq 000000 MHz
	t9 kH sBW		kHz			#VB	W 300 KH	z		s	weep 5.	Stop 3 333 ms (4	0.00 MHz 0001 pts)		CF Step 999100 MHz Man
MKR I	MODE TR	C SCL		×	: 340.4	kHz	۲ -48.68 c	Bm	FUNCTIO	IN FUI	ICTION WIDTH	FUNCTI	ON VALUE	<u>Auto</u>	Man
2 3 4 5	N 1	f			2.623 5	MHz	-61.59 (Bm					=	F	r eq Offset 0 Hz
6 7 9 10															
< MSG											OTATIO	DC Co	>		
MSG											STATUS		upied		

Agilent Spectrum Analyzer - Swep (X RL RF 50 Q Center Freq 5.015000	AC CORREC	SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	04:55:56 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 dl	PNO: Fast ⊂ IFGain:Low BM	#Atten: 30 dB	Mkr1	түре Мининин Det РРРРРР 0 7.339 75 GHz -44.30 dBm	Auto Tune
Log 10.0 0.00	1				Center Freq 5.015000000 GHz
-20.0 -30.0 -40.0	4 4		<u>69 ≬10 </u> 4	-20.69 dBm	Start Freq 30.000000 MHz
-50.0 expert tool register to a child of the set e60.0 -70.0					Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz		W 3.0 MHz	-	Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MHz Auto Man
MKR MODE TRC SCL 1 N 1 F 2 N 1 F 3 N 1 F 4 N 1 F 5 N 1 F 6 N 1 F 7 N 1 F 8 N 1 F 9 N 1 F 10 N 1 F	X 2.407 35 GHz 2.397 63 GHz 2.431 03 GHz 2.454 18 GHz 7.852 96 GHz 6.058 61 GHz 9.501 50 GHz 8.394 58 GHz 6.978 34 GHz 7.339 75 GHz	Y F 6,53 dBm - -29,45 dBm - -32,14 dBm - -42,51 dBm - -43,63 dBm - -43,63 dBm - -43,65 dBm - -44,04 dBm - -44,20 dBm -		FUNCTION VALUE	Freq Offset 0 Hz
MSG			STATUS	3	



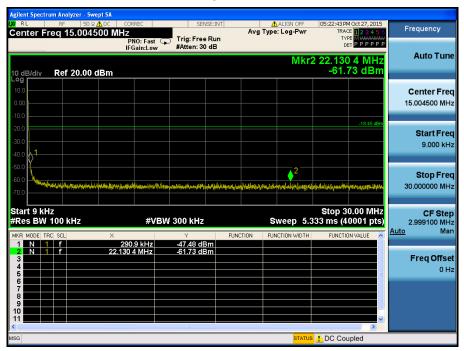
Agilent Spectrum Analyzer - S					
KI RE 50 Center Freq 17.500		SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	04:56:05 PM Oct 27, 2015 TRACE 1 2 3 4 5 6 TYPE M WARMAN	Frequency
	PNO: Fast G IFGain:Low	#Atten: 30 dB		DETPPPPP	
10 dB/div Ref 20.00	dBm		Mkr5 :	24.890 500 GHz -35.42 dBm	Auto Tune
10.0 0.00					Center Freq 17.500000000 GHz
-20.0 -30.0 -40.0	ne o przywanie polski proch Kwyni bili starodni	a a ga ata Mithing a data manga data data data data data data data da			Start Freq 10.000000000 GHz
-50.0 -60.0 -70.0					Stop Freq 25.000000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VBV	V 3.0 MHz	Sweep 40	Stop 25.000 GHz 0.00 ms (40001 pts)	CF Step 1.50000000 GHz Auto Man
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6 - - 7 - - 8 - - 10 - -	× 24,551 125 GHz 24,551 125 GHz 23,770 375 GHz 23,170 875 GHz 24,890 500 GHz	Y 0 -34.21 dBm		FUNCTION VALUE	Freq Offset 0 Hz
ISG			STATU		



802.11n(HT20) & MCS 0 & 2437 MHz



Reference





Agilent Spectrum Analyzer - Swe									
Center Freq 5.01500		SENSE:INT	Aug Type: Log-Pwr	05:22:56 PM Oct 27, 2015 TRACE 1 2 3 4 5 6	Frequency				
	PNO: Fast G	Trig: Free Run #Atten: 30 dB		DET PPPPP					
			Mkr1	0 5.964 14 GHz	Auto Tune				
10 dB/div Ref 20.00 d									
Log 10.0	1				Center Freq				
0.00					5.015000000 GHz				
-10.0	2								
-20.0	\$?			-18,45 dBm					
-30.0					Start Freq				
-40.0	8			5	30.000000 MHz				
-50.0	trans. Transmission in the local sector	A REAL PROPERTY AND A DESCRIPTION	and mathematication of the sector of the sec	a part the sector day of the sector of					
-60.0 mining and a second seco					Stop Freq				
-70.0					10.00000000 GHz				
10.0									
Start 30 MHz	<i></i>			Stop 10.000 GHz	CF Step				
#Res BW 1.0 MHz	#VBV	V 3.0 MHz		.67 ms (40001 pts)	997.000000 MHz Auto Man				
MKR MODE TRC SCL	× 2.429 53 GHz	Y FL 8.63 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	- taro				
2 N 1 f	2.422 05 GHz	-17.75 dBm							
3 N 1 f	2.423 05 GHz	-20.41 dBm			Freq Offset				
	2.418 06 GHz 7.833 27 GHz	-22.03 dBm -43.34 dBm			0 Hz				
6 N 1 f	6.242 06 GHz	-43.43 dBm							
7 N 1 F	6.391 86 GHz	-43.53 dBm							
8 N 1 f	2.488 35 GHz	-43.70 dBm							
9 N 1 f	7.224 35 GHz 5.964 14 GHz	-43.70 dBm -43.81 dBm							
11	5.304 14 GHZ	-45.01 abiii		~					
<				>					
MSG			STATU	5					

Agilent Spectrum Analyzer - Sw						
	AC CORREC	SENSE:INT		ALIGN OFF	05:23:05 PM Oct 27, 201 TRACE 1 2 3 4 5	
Center Freq 17.500	UUUUUU GHZ PNO: Fast ⊂ IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type	. Log-Pwr	TYPE MWWW DET PPPP	WP I
10 dB/div Ref 20.00	dBm			Mkr5 2	3.210 875 GH -35.26 dBr	
10.0 -10.0						Center Freq 17.500000000 GHz
-20.0 -30.0 -40.0					-18.45 dE	Start Freq 10.00000000 GHz
-50.0 -60.0 -70.0						Stop Freq 25.000000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VBI	N 3.0 MHz	S	weep 40	Stop 25.000 GH .00 ms (40001 pt	s) 1.50000000 GHz
MKR MODE TRC SCL	× 24.599 125 GHz	Y -33.17 dBm	FUNCTION FUN	ICTION WIDTH	FUNCTION VALUE	Auto Man
2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6	24.682 375 GHz 24.792 625 GHz 23.835 625 GHz 23.210 875 GHz	-34.20 dBm -34.58 dBm -35.10 dBm -35.26 dBm				Freq Offset 0 Hz
7 8 9 10 11						
K ISG				STATUS		



802.11n(HT20) & MCS 0 & 2462 MHz

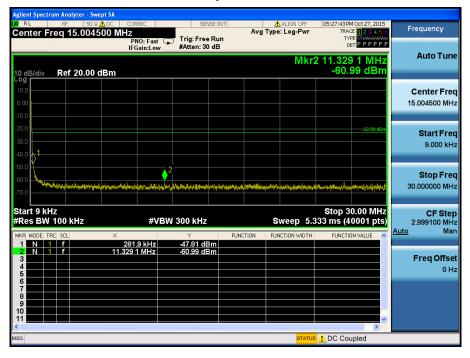


Reference

High Band-edge







Agilent Spectrum Analyzer - Sw X/ RL RF 50 ໑	AC CORREC	SENSE:INT	ALIGN OFF	05:27:56 PM Oct 27, 2015	Frequency
Center Freq 5.0150	00000 GHz PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE M WWWWWWW DET P P P P P P	
10 dB/div Ref 20.00	dBm		Mkr1	0 9.404 79 GHz -44.26 dBm	Auto Tune
-og 10.0 -0.00	¹				Center Free 5.015000000 GH:
20.0		a contraction of the start day of parameters	<u>5</u> 0 04 08		Start Free 30.000000 MH;
-50.0 U					Stop Fred 10.000000000 GH;
Start 30 MHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 18	Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MH
IKR MODE TRC SCL	× 2.457 20 GHz	4.26 dBm	ICTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f	2.479 38 GHz 2.446 48 GHz 6.808 35 GHz 6.106 96 GHz	-32.45 dBm -32.77 dBm -43.67 dBm -44.01 dBm			Freq Offse 0 Hi
6 N 1 f 7 N 1 f 8 N 1 f 9 N 1 f	2.411 09 GHz 3.410 58 GHz 7.778 43 GHz 6.416 78 GHz	-44.04 dBm -44.17 dBm -44.19 dBm -44.25 dBm			
10 N 1 f 11	9.404 79 GHz	-44.26 dBm		~	
SG			STATUS		



Agilent Spectrum Analyzer - So XI RL RF 50 Center Freq 17.500	Ω AC CORREC 10000000 GHz PN0: Fast ⊂	SENSE:INT	Aug Type: Log-Pwr	05:28:05 PM Oct 27, 2015 TRACE 1 2 3 4 5 6 TYPE M WWWWW	Frequency
10 dB/div Ref 20.00	IFGain:Low	#Atten: 30 dB	Mkr5 :	23.142 625 GHz -35.44 dBm	Auto Tune
Log 10.0 0.00					Center Freq 17.50000000 GHz
-20.0 -30.0 -40.0				-22.00 dDn ↓15 ↓22 ↓1	Start Freq 10.000000000 GHz
-50.0 -60.0 -70.0					Stop Freq 25.00000000 GHz
Start 10.000 GHz #Res BW 1.0 MHz	#VB\ ×	N 3.0 MHz	Sweep 40	Stop 25.000 GHz 0.00 ms (40001 pts)	CF Step 1.50000000 GHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6 7	24.616 750 GHz 24.068 500 GHz 23.801 500 GHz 22.966 375 GHz 23.142 625 GHz	-34.33 dBm -34.81 dBm -34.84 dBm -35.27 dBm -35.44 dBm			Freq Offset 0 Hz
8 9 10 11				×	
MSG			STATU	s	



8.5 Radiated Spurious Emissions

Test Requirements and limit,

§15.247(d), §15.205, §15.209

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

• FCC Part 15.209(a) and (b)

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 - 0.490	2400/F (KHz)	300
0.490 – 1.705	24000/F (KHz)	30
1.705 – 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 - 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. 15.231 and 15.241.

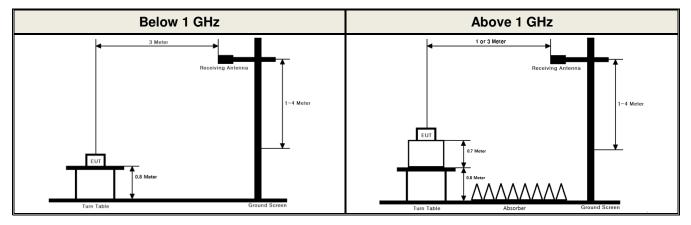
• FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.52025	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	12.57675 ~	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	12.57725	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	13.36 ~ 13.41	162.0125 ~ 167.17	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.42 ~ 16.423	167.72 ~ 173.2	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	16.69475 ~	240 ~ 285	2655 ~ 2900		
8.291 ~ 8.294	16.69525	322 ~ 335.4	3260 ~ 3267		
8.362 ~ 8.366	16.80425 ~	399.90 ~ 410	3332 ~ 3339		
8.37625 ~ 8.38675	16.80475	608 ~ 614	3345.8 ~ 3358		
	25.5 ~ 25.67	960 ~ 1240	3600 ~ 4400		
	37.5 ~ 38.25				
	73 ~ 74.6				
	74.8 ~ 75.2				

• FCC Part 15.205(b): The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.



Test Configuration



TEST PROCEDURE

- 1. The EUT is placed on a non-conductive table, emission measurements at below 1 GHz, the table height is 80 cm and above 1 GHz, the table height is 1.5 m.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 1 or 3 m away from the receiving antenna, which is varied from 1 m to 4 m 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.

Measurement Instrument Setting for Radiated Emission Measurements.

The radiated emission was tested according to the section 6.3, 6.4, 6.5 and 6.6 of the ANSI C63.10-2013 with following settings.

Peak Measurement:

RBW = As specified in below table , VBW ≥ 3 x RBW, Sweep = Auto, Detector = Peak, Trace mode = Max Hold until the trace stabilizes.

Frequency	RBW
9 - 150 kHz	200 - 300 Hz
0.15 - 30 MHz	9 - 10 kHz
30 - 1000 MHz	100 - 120 kHz
> 1000 MHz	1 MHz

Average Measurement:

- 1. RBW = 1 MHz (unless otherwise specified).
- 2. VBW ≥ 3 x RBW.
- 3. Detector = RMS (Number of points \ge 2 x Span / RBW)
- 4. Averaging type = power. (i.e., RMS)
- 5. Sweep time = auto.
- 6. Perform a trace average of at least 100 traces.
- 7. A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
- 1) If power averaging (RMS) mode was used in step 4, then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
- 2) If linear voltage averaging mode was used in step 4, then the applicable correction factor is $20 \log(1/x)$, where x is the duty cycle.
- 3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

Duty Cycle Corrections (Refer to appendix II for duty cycle measurement procedure and plots)

Band	Duty Cycle (%)	T _{on} (ms)	T _{on} + T _{off} (ms)	DCF = 10log(1 / Duty) (dB)
TM 1	97.62	8.200	8.400	0.10
TM 2	87.18	1.360	1.560	0.60
TM 3	86.39	1.270	1.470	0.64
-	-	-	-	-



9 kHz ~ 25 GHz Data(802.11b & 1 Mbps)

Lowest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2389.87	Н	Y	PK	62.24	2.84	N/A	N/A	65.08	74.00	8.92
2389.17	Н	Y	AV	44.95	2.84	0.10	N/A	47.89	54.00	6.11
4824.07	Н	Y	PK	46.16	7.99	N/A	N/A	54.15	74.00	19.85
4824.01	Н	Y	AV	37.25	7.99	0.10	N/A	45.34	54.00	8.66

Middle Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4873.99	Н	Y	PK	49.19	8.03	N/A	N/A	57.22	74.00	16.78
4873.99	Н	Y	AV	43.72	8.03	0.10	N/A	51.85	54.00	2.15

Highest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2486.57	Н	Y	PK	59.57	3.19	N/A	N/A	62.76	74.00	11.24
2483.62	Н	Y	AV	44.77	3.19	0.10	N/A	48.06	54.00	5.94
4924.11	Н	Y	PK	47.31	8.19	N/A	N/A	55.50	74.00	18.50
4924.03	Н	Y	AV	40.05	8.19	0.10	N/A	48.34	54.00	5.66

Note.

1. Measurement Distance = 3 m for below 10 GHz, Measurement Distance = 1 m for above 10 GHz. So Distance Correction Factor : - 9.54 dB = 20*log(1 m / 3 m)

2. No other spurious and harmonic emissions were found greater than listed emissions on above table.

3. The band edge test has performed between 2310-2390 MHz for low channel and 2483.5-2500 MHz for high channel. The worst results were reported in the table.

4. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCF + Distance Factor / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCF = Duty Cycle Correction Factor.



9 kHz ~ 25 GHz Data(802.11g & 6 Mbps)

Lowest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2389.79	Н	Y	PK	60.91	2.84	N/A	N/A	63.75	74.00	10.25
2389.84	Н	Y	AV	46.51	2.84	0.60	N/A	49.95	54.00	4.05
4823.63	Н	Y	PK	43.88	7.99	N/A	N/A	51.87	74.00	22.13
4823.80	Н	Y	AV	32.55	7.99	0.60	N/A	41.14	54.00	12.86

Middle Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4873.24	Н	Y	PK	44.18	8.03	N/A	N/A	52.21	74.00	21.79
4873.93	Н	Y	AV	33.44	8.03	0.60	N/A	42.07	54.00	11.93

Highest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2483.64	Н	Y	PK	62.09	3.19	N/A	N/A	65.28	74.00	8.72
2483.51	Н	Y	AV	47.90	3.19	0.60	N/A	51.69	54.00	2.31
4923.88	Н	Y	PK	44.60	8.19	N/A	N/A	52.79	74.00	21.21
4924.28	Н	Y	AV	33.14	8.19	0.60	N/A	41.93	54.00	12.07

Note.

1. Measurement Distance = 3 m for below 10 GHz, Measurement Distance = 1 m for above 10 GHz. So Distance Correction Factor : - 9.54 dB = 20*log(1 m / 3 m)

2. No other spurious and harmonic emissions were found greater than listed emissions on above table.

3. The band edge test has performed between 2310-2390 MHz for low channel and 2483.5-2500 MHz for high channel. The worst results were reported in the table.

4. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCF + Distance Factor / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCF = Duty Cycle Correction Factor.



9 kHz ~ 25 GHz Data(802.11n HT20 & MCS 0)

Lowest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2389.47	Н	Y	PK	59.94	2.84	N/A	N/A	62.78	74.00	11.22
2389.92	н	Y	AV	46.58	2.84	0.64	N/A	50.06	54.00	3.94
4824.72	Н	Y	PK	44.52	7.99	N/A	N/A	52.51	74.00	21.49
4823.69	Н	Y	AV	33.05	7.99	0.64	N/A	41.68	54.00	12.32

Middle Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCF (dB)	Distance Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
4874.22	Н	Y	PK	44.18	8.03	N/A	N/A	52.21	74.00	21.79
4874.12	Н	Y	AV	33.48	8.03	0.64	N/A	42.15	54.00	11.85

Highest Channel

Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)			Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2484.03	Н	Y	PK	63.81	3.19	N/A	N/A	67.00	74.00	7.00
2483.68	Н	Y	AV	47.52	3.19	0.64	N/A	51.35	54.00	2.65
4924.42	Н	Y	PK	43.90	8.19	N/A	N/A	52.09	74.00	21.91
4924.36	Н	Y	AV	33.20	8.19	0.64	N/A	42.03	54.00	11.97

Note.

1. Measurement Distance = 3 m for below 10 GHz, Measurement Distance = 1 m for above 10 GHz. So Distance Correction Factor : - 9.54 dB = 20*log(1 m / 3 m)

2. No other spurious and harmonic emissions were found greater than listed emissions on above table.

3. The band edge test has performed between 2310-2390 MHz for low channel and 2483.5-2500 MHz for high channel. The worst results were reported in the table.

4. Sample Calculation.

Margin = Limit – Result / Result = Reading + T.F+ DCF + Distance Factor / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCF = Duty Cycle Correction Factor.



8.6 Power-line conducted emissions

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network(LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency Range	Conducted Limit (dBuV)						
(MHz)	Quasi-Peak	Average					
0.15 ~ 0.5	66 to 56 *	56 to 46 *					
0.5 ~ 5	56	46					
5 ~ 30	60	50					

* Decreases with the logarithm of the frequency

TEST PROCEDURE

- 1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
- 2. The EUT is connected via LISN to the test power supply.
- 3. The measurement results are obtained as described below:
- 4. Detectors Quasi Peak and Average Detector.

Test Results: Comply(Refer to next page.)

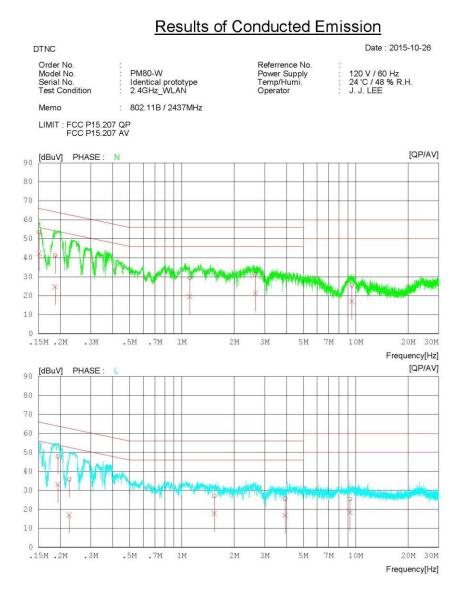
The worst data was reported.



RESULT PLOTS

AC Line Conducted Emissions (Graph)

Test Mode: 802.11b & 1 Mbps & 2437 MHz





AC Line Conducted Emissions (List)

Test Mode: 802.11b & 1 Mbps & 2437 MHz

Results of Conducted Emission

Referrence No. Power Supply Temp/Humi.

Operator

רח	г	Ν	ю	2	
-	•			-	

Date : 2015-10-26

120 V / 60 Hz 24 'C / 48 % R.H. J. J. LEE

Order No.
Model No.
Serial No.
Test Condition

PM80-W Identical prototype 2.4GHz_WLAN

: 802.11B / 2437MHz

Memo

LIMIT : FCC P15.207 QP FCC P15.207 AV

NO	FREQ	READI QP [dBuV] [AV	C.FACTOR	QP	ULT AV [dBuV]	LIM QP	IT AV [dBuV]	QP	RGIN AV 1 [dBuV]	PHASE
	[rinz]	[ασαν][авалі	נמםן	[ubuv]	[ubuv]	[ubuv]	[ασαν]	lapav	Jlapavj	
1	0.15137	43.4	32.3	10.1	53.5	42.4	65.9	55.9	12.4	13.5	Ν
2	0.18668	31.2	14.7	10.1	41.3	24.8	64.2	54.2	22.9	29.4	N
3	1.11040	19.3	9.4	10.2	29.5	19.6	56.0	46.0	26.5	26.4	N
4	2.64880	21.1	11.1	10.2	31.3	21.3	56.0	46.0	24.7	24.7	N
5	9.51100	14.8	6.5	10.6	25.4	17.1	60.0	50.0	34.6	32.9	Ν
б	0.19395	37.7	23.0	10.1	47.8	33.1	63.9	53.9	16.1	20.8	L
7	0.22526	25.7	7.0	10.1	35.8	17.1	62.6	52.6	26.8	35.5	L
8	1.53640	16.8	7.5	10.2	27.0	17.7	56.0	46.0	29.0	28.3	L
9	3.92620	15.3	6.6	10.2	25.5	16.8	56.0	46.0	30.5	29.2	L
10	9.25660	14.7	7.8	10.6	25.3	18.4	60.0	50.0	34.7	31.6	L



Test Requirements, RSS-Gen [4.6.1]

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99 % emission bandwidth, as calculated or measured.

TEST CONFIGURATION

Refer to the APPENDIX I.

TEST PROCEDURE

The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1 %. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual.

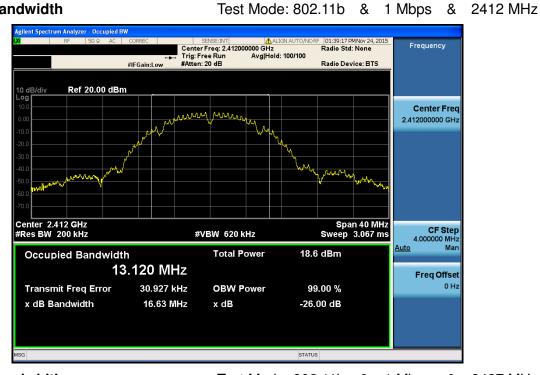
TEST RESULTS: Comply

Test Mode	Data Rate	Frequency [MHz]	Test Results [MHz]			
		2412	13.120			
802.11b	1 Mbps	2437	13.253			
		2462	13.081			
		2412	16.652			
802.11g	6 Mbps	2437	16.741			
		2462	16.633			
		2412	17.754			
802.11n (20 MHz)	MCS 0	2437	17.807			
(/		2462	17.720			



RESULT PLOTS

Occupied Bandwidth



Occupied Bandwidth

Test Mode: 802.11b & 1 Mbps & 2437 MHz





Test Mode: 802.11b & 1 Mbps & 2462 MHz





Test Mode: 802.11g & 6 Mbps & 2412 MHz



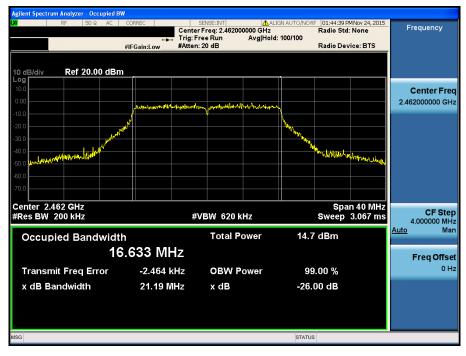
Occupied Bandwidth

Test Mode: 802.11g & 6 Mbps & 2437 MHz





Test Mode: 802.11g & 6 Mbps & 2462 MHz





Test Mode: 802.11n & MCS 0 & 2412 MHz



Occupied Bandwidth

Test Mode: 802.11n & MCS 0 & 2437 MHz





Test Mode: 802.11n & MCS 0 & 2462 MHz





9. LIST OF TEST EQUIPMENT

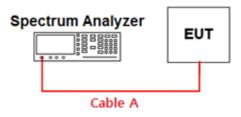
Туре	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N	
MXA Signal Analyzer	Agilent Technologies	N9020A	15/09/09	16/09/09	MY46471248	
Multimeter	FLUKE	17B	15/04/27	16/04/27	26030065WS	
DC Power Supply	HP	66332A	15/01/22	16/01/22	US37471368	
Power Meter Power Sensor	Anritsu	ML2496A / MA2411B	15/06/25	16/06/25	1338004 1306053	
Vector Signal Generator	Rohde Schwarz	SMBV100A	15/01/06	16/01/06	255571	
Signal Generator	Rohde Schwarz	SMF100A	15/06/29	16/06/29	102341	
Thermohygrometer	BODYCOM	BJ5478	15/02/26	16/02/26	1209	
LOOP Antenna	Schwarzbeck	FMZB1513	14/04/29 16/04/29		1513-128	
TRILOG Broadband Test-Antenna	Schwarzbeck	VULB 9160	14/04/30 16/04/30		3358	
Double-Ridged Guide Antenna	ETS	3117	14/05/12	16/05/12	140394	
Horn Antenna	A.H.Systems	SAS-574	15/04/30	17/04/30	154	
Low Noise Pre Amplifier	tsj	MLA-010K01-B01-27	15/04/09	16/04/09	1844538	
PreAmplifier	Agilent	8449B	15/02/26	16/02/26	3008A00370	
High-pass filter (3GHz)	Wainwright Instruments	WHKX3.0	15/01/06	16/01/06	12	
EMI TEST RECEIVER	R&S	ESR7	15/10/19	16/10/19	101109	
EMI TEST RECEIVER	R&S	ESCI	15/02/25	16/02/25	100364	
SINGLE-PHASE MASTER	NF	4420	15/09/09	16/09/09	3049354420023	
ARTIFICIAL MAINS NETWORK	Narda S.T.S. / PMM	PMM L2-16B	15/06/26	16/06/26	000WX20305	



APPENDIX I

Conducted Test set up Diagram & Path loss Information

Conducted Measurement



Path loss information

Frequency (GHz)	Path Loss (dB)	Frequency (GHz)	Path Loss (dB)
0.03	0.10	15	4.43
1	1.15	20	5.74
2.412 & 2.437 & 2.462	1.70	25	7.02
5	3.55	-	-
10	4.15	-	-

Note. 1: The path loss from EUT to Spectrum analyzer was measured and used for test.

Path loss (S/A's offset value) = Cable A (Attenuator, Applied only when it was used externally)



APPENDIX II

Duty cycle plots

TEST PROCEDURE

Duty Cycle measured using section 6.0 b) of KDB558074

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.

Set the center frequency of the instrument to the center frequency of the transmission. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T \leq 16.7 microseconds.)

Test Plots :

Duty Cycle

Test Mode: 802.11b & 1 Mbps & 2437 MHz

Agilent Spectr	um Analyzer - Sv	went SA							
LXI	RF 50	Ω AC CO	ORREC PNO: Fast ↔ =Gain:Low	SENSI	Run	ALIGN AUTO :: Log-Pwr	TRAC	4 Oct 29, 2015 E 1 2 3 4 5 6 W M M M M M T P N N N N N	Frequency
10 dB/div	Ref 30.00		-Gam.Low			Δ		400 ms 0.12 dB	Auto Tune
20.0 10.0 0.00	Xz			3∆4					Center Freq 2.437000000 GHz
-10.0 -20.0 -30.0									Start Freq 2.437000000 GHz
-40.0 -50.0 -60.0									Stop Freq 2.437000000 GHz
Res BW 8	RC SCL	×		V 8.0 MHz	FUNCTIO	Sweep 2	5.00 ms (pan 0 Hz 1001 pts) IN VALUE	CF Step 8.000000 MHz <u>Auto</u> Man
1 Δ2 1 2 F 1 3 Δ4 1 4 F 1 5 6 7	t (Δ) t t (Δ) t t	<u>1.</u> 8.	200 ms (Δ) 900 ms 400 ms (Δ) 900 ms	17.23 dBr	n B				Freq Offset 0 Hz
8 9 9 10 11 11 10 11 10 10 10 10 10 10 10 10						STATUS		>	

Duty Cycle

nem spec	RF	alyzer - Sw	AC AC	CORREC		CENC	E:INT		01	IGNAUTO	01-02-201	PM Oct 29, 20		
		JU X	AC					Avg Ty		.og-Pwr	TR	ACE 1 2 3 4 1 YPE W/WW/W/	5 6	Frequency
B/div	Re	f 30.00	dBm	PNO: Fa IFGain:L		Atten: 40 o				Δ	Mkr3 1	DET <mark>PNNNI</mark>	s N	Auto Tune
eritan	Jone L	hathathan	uluranaa al	hiller Har Har Your Y	γX	Artistinsk-mortallet 2	analwahina		142		คุณุลงสูงสูง	dar a llation and a		Center Freq 2.437000000 GHz
	~/16/JU				ll-njlyser				Horeh					Start Freq 2.437000000 GHz
	11													Stop Freq 2.437000000 GHz
BW	8 MH		GHZ	# 1.360 ms		7 8.0 MHz Y 0.77 d		CTION		veep 5	.000 ms	Span 0 H (1001 pt ION VALUE	s)	CF Step 8.000000 MHz <u>Auto</u> Man
F ∆4 F	1 t	(Δ) (Δ)		1.560 ms 1.975 ms 1.560 ms 1.975 ms	s s (Δ)	14.84 dB -0.06 d 14.84 dB	m B						111	Freq Offset 0 Hz
						Ш							×	
										STATU	6			

Test Mode: 802.11n (HT20) & MCS 0 & 2437 MHz

Duty Cycle

Agilent Spectrum Analyzer - Swept SA				
🕅 RF 50Ω AC CO	ORREC SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	01:04:29 PM Oct 29, 2015 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast 🟎 Trig: Free Run FGain:Low Atten: 40 dB		DET PNNNN	
10 dB/div Ref 30.00 dBm		ΔΙ	Mkr3 1.470 ms -0.12 dB	Auto Tune
20.0 10.0 0.00	v-mellensiskelen areten van 16334	ndignalingan madalapan sa	peljohhaadadamanananananananananananananananana	Center Freq 2.437000000 GHz
-10.0 -20.0 -30.0			q.	Start Freq 2.437000000 GHz
-40.0				Stop Freq 2.437000000 GHz
Center 2.437000000 GHz Res BW 8 MHz	#VBW 8.0 MHz		Span 0 Hz 000 ms (1001 pts)	CF Step 8.000000 MHz Auto Man
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	γ FI .270 ms (Δ) 0.26 dB .155 ms 15.02 dBm .470 ms (Δ) -0.12 dB .155 ms 15.02 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
6 7 8 9 9 10 11			~	
MSG .		STATUS		

Test Mode: 802.11g & 6Mbps & 2437 MHz

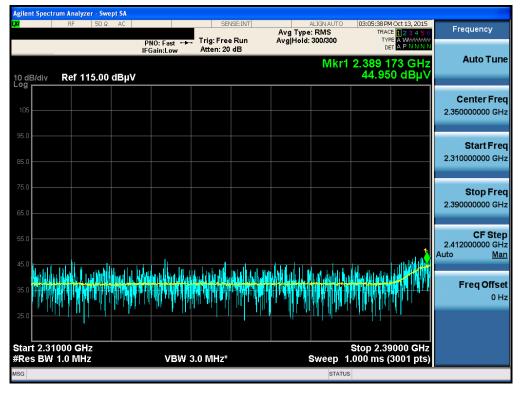


APPENDIX III

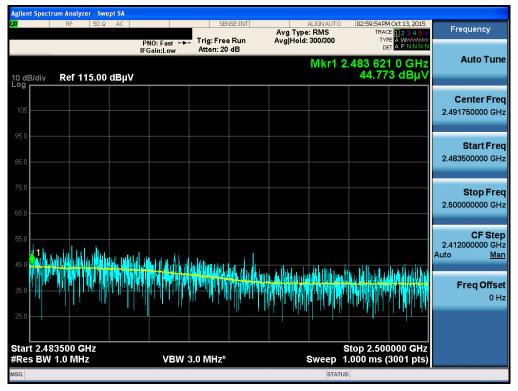
Unwanted Emissions (Radiated) Test Plot

802.11b & Lowest & Edge

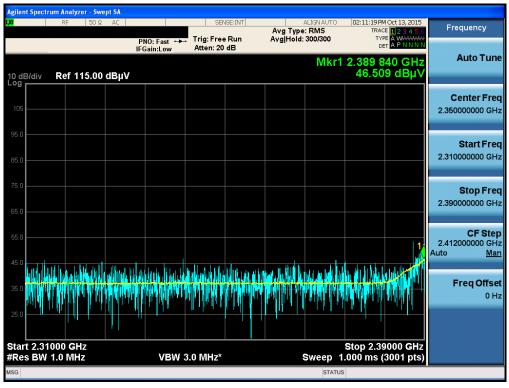
Detector Mode : AV



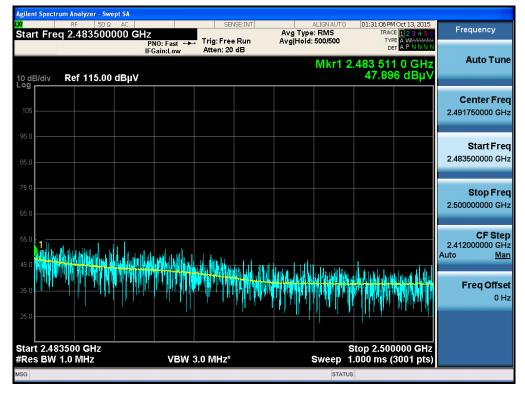
802.11b & Highest & Edge



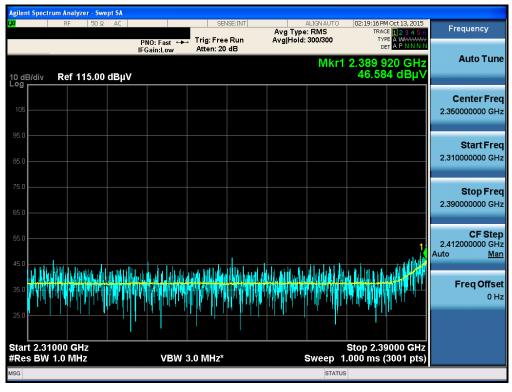
802.11g & Lowest & Edge



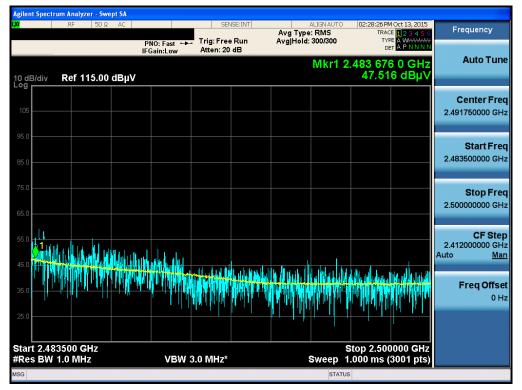
802.11g & Highest & Edge



802.11n (HT20) & Lowest & Edge

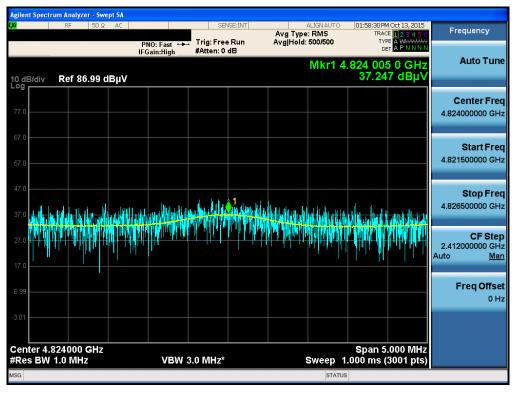


802.11n (HT20) & Highest & Edge





802.11b & Lowest & Harmonic



802.11b & Middle & Harmonic

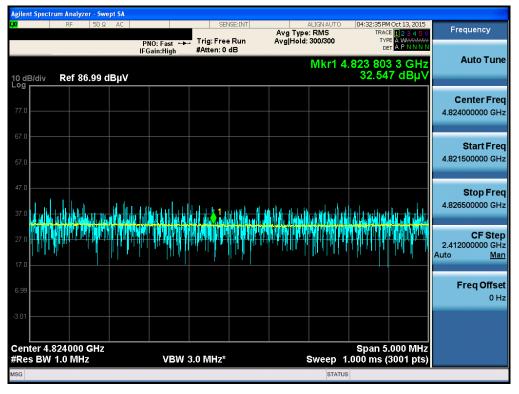


802.11b & Highest & Harmonic



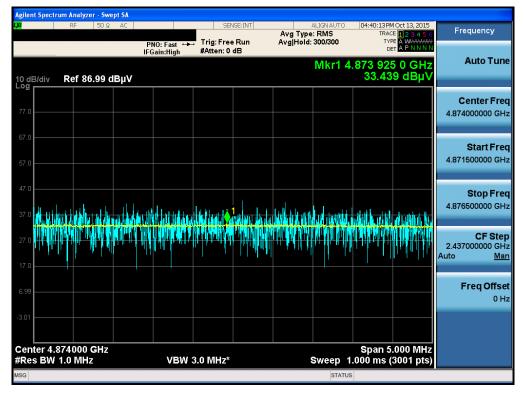


802.11g & Lowest & Harmonic

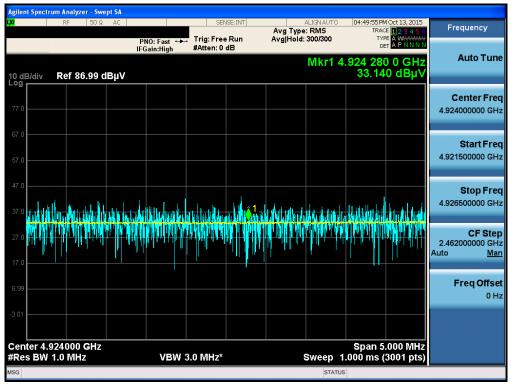


802.11g & Middle & Harmonic

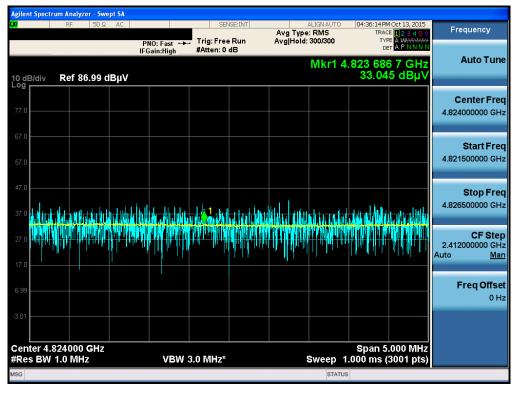
Detector Mode : AV



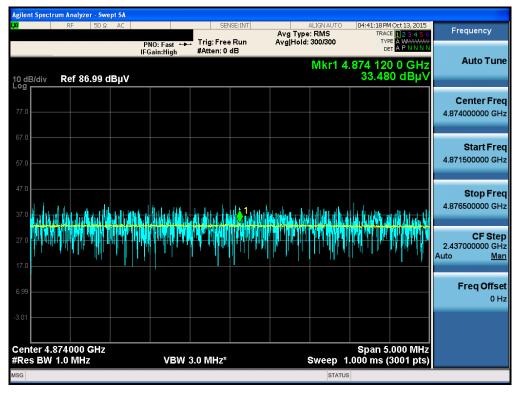
802.11g & Highest & Harmonic



802.11n (HT20) & Lowest & Harmonic



802.11n (HT20) & Middle & Harmonic





802.11n (HT20) & Highest & Harmonic

