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Test Report AIR-CAP1532E-A-K9

FCC ID: LDK102089P IC: 2461B-102089P

Also Covers:

AIR-CAP1532E-D-K9

AIR-CAP1532E-N-K9

AIR-CAP1532E-T-K9

AIR-CAP1532E-Z-K9

2400-2483.5 MHz

Antenna Gain = 8 dBi

Against the following Specifications: CFR47 Part 15.247 RSS210

> **Cisco Systems** 170 West Tasman Drive San Jose, CA 95134

Test Engineer: Brd Child

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Section 1: Overview

1.1 Test Summary

The samples were assessed against the tests detailed in section 3 under the requirements of the following specifications:

Emission	Immunity
CFR47 Part 15.247 RSS210	N/A

The specifications listed above represent actual tests performed to demonstrate compliance against the specifications

and basic standards listed on the front cover of this report. This list is not a one to one match to the front cover for one or more of the following reasons.

or more of the following reasons.

- 1. Basic standards call up many different test phenomena specifications such as the 61000-4-X series. The basic standards define which elements and levels shall be applied from these specifications and as such it is not appropriate to list the individual specifications on the front cover.
- 2. A Standard listed on the front cover may be required in a particular country but is not appropriate for the particular technologies included in the equipment under test. E.g. You cannot test a DC product to the mains Harmonics requirements in EN61000-3-2. See section 3.2.
- 3. Test results against a particular standard or specification may be included in a different test report. See section 3.2 for an EDCS reference of this data.
- 4. Where appropriate, Cisco may have substituted a later revision of a basic standard to those referenced in the specification on the front sheet of this test report. This decision was based upon improved test methodology and repeatability and/or where the newer revision represented a more stringent test.
- 5. Where relevant, testing has been carried out to the requirements of both EN and IEC Specifications. This was possible because of the similarities of the test methods involved and the Cisco EMC test procedures.
- 6. Testing may have been performed to an equivalent test that satisfies the requirements of the standards and specifications listed on the front cover of the report. See section 3.2.
- Where radiated emissions testing has been performed to EN55022/CISPR22 the additional requirements of VCCI: V- 3/2006.04, EN55022: 1994 +A1/2 and CAN/CSA- CISPR 22-02 have also been evaluated unless otherwise stated.
- Testing to the requirements of CFR47 Part 15 was performed against the CISPR22 limits. The results are therefore deemed satisfactory evidence of compliance with Industry Canada Interference Causing Equipment Standard ICES-003.
- 9. Where assessment has been performed to CISPR24, all the applicable test requirements may have not been covered. Refer to the results section for the tests performed.

Notes:

- 1) Where a specification listed on the front cover of this report has deviations from the basic standards listed above, the additional technical requirements of the specification were also assessed.
- 2) Where appropriate, Cisco may have substituted a later revision of a basic standard to those referenced in the specification on the front sheet of this test report. This decision was based upon improved test methodology and repeatability and/or where the newer revision represented a more stringent test.
- 3) Where relevant, testing has been carried out to the requirements of both EN and IEC Specifications. This was possible because of the similarities of the test methods involved and the Cisco EMC test procedures.

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Section 2: Assessment Information

2.1 General

This report contains an assessment of an apparatus against Electromagnetic Compatibility Standards based upon tests carried out on the samples submitted. The testing was performed by and for the use of Cisco systems Inc:

With regard to this assessment, the following points should be noted:

- a) The results contained in this report relate only to the items tested and were obtained in the period between the date of the initial assessment and the date of issue of the report. Manufactured products will not necessarily give identical results due to production and measurement tolerances.
- b) The apparatus was set up and exercised using the configuration and modes of operation defined in this report only.
- c) Where relevant, the apparatus was only assessed using the susceptibility criteria defined in this report and the Test Assessment Plan (TAP).
- d) All testing was performed under the following environmental conditions:

Temperature15°C to 35°C (54°F to 95°F)

 Atmospheric Pressure
 860mbar to 1060mbar (25.4" to 31.3")

 Humidity
 10% to 75*%

*[Where applicable] For ESD testing the humidity limits used were 30% to 60% and for EFT/B tests the humidity limits used were 25% to 75%.

e) All AC testing was performed at one or more of the following supply voltages:

110V 60 Hz (+/-20%) 220V 50 Hz (+/-20%)

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2.2 Date of testing

01-November-2013

2.3 Report Issue Date

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2.4 Testing facilities

This assessment was performed by:

Testing Laboratory

Cisco Systems, Inc.,	Cisco Systems, Inc.
4125 Highlander Parkway	170 West Tasman Drive
Richfield, OH 44286	San Jose, CA 95134
USA	USA

Test Engineers

Bud Chiller

2.5 Equipment Assessed (EUT)

AIR-CAP1532E-A-K9

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2.6 EUT Description

The 1530 Series Cisco Aironet 802.11n Dual Band Access Points support the following modes of operation. The modes are further defined in the radio Theory of Operation. The modes included in this report represent the worst case data for all modes.

Legacy CCK, One Antenna, 1 to 11 Mbps Legacy CCK, Two Antennas, 1 to 11 Mbps

HT-20, One Antenna, M0 to M7 HT-20, Two Antennas, M0 to M15

Non HT-20, One Antenna, 6 to 54 Mbps Non HT-20, Two Antennas, 6 to 54 Mbps

HT-20 STBC, Two Antennas, M0 to M7

The following antennas are supported by this product series.

The data included in this report represent the worst case data for 8 dBi antennas.

Frequency	Part Number	Antenna Type	Antenna Gain (dBi)
	AIR-ANT2450V-N	Single Band Omni	5
2.4 GHz	AIR-ANT2480V-N	Single Band Omni	8
	AIR-ANT2413P2M-N	Single Band, Directional Patch	13
	AIR-ANT2547V-N=	Dual-band Omni	4/7
2.4/5 GHz	AIR-ANT2547VG-N=	Dual-band Omni, Gray	4/7
	AIR-ANT2588P3M-N=	Dual-band/Dual Polarized Directional, Patch	8/8

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Section 4: Sample Details

Note: Each sample was evaluated to ensure that its condition was suitable to be used as a test sample prior to the commencement of testing. Please also refer to the "Justification for worst Case test Configuration" section of this report for further details on the selection of EUT samples.

4.1 Sample Details (Photographs of the test samples, where appropriate can be found in appendix H)

Sample No.	Equipment Details	Part Number	Manufacturer	Hardware Rev.	Firmware Rev.	Software Rev.	Serial Number
S01	AIR-CAP1532E-A-K9		Cisco Systems	NA	NA	NA	
S02	AIR-PWR-B	341-0306-01	Cisco Systems	NA	NA	NA	

4.2 System Details

System #	Description	Samples		
1	EUT	S01, S02		

4.3 Mode of Operation Details

Mode#	Description	Comments
1	Continuous Transmitting	Continuous Transmitting

All tests in this report were performed as described in FCC KDB 662911 D01

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Appendix A: Emission Test Results

Testing Laboratory: Cisco Systems, Inc., 4125 Highlander Parkway, Richfield, OH, USA

Target Maximum Channel Power

The following table details the maximum supported Total Channel Power for all operating modes.

	Maximum Channel Power (dBm) Frequency (MHz)			
Operating Mode	2412 2437 2462			
CCK, 1 to 11 Mbps	26	27	24	
Non HT-20, 6 to 54 Mbps	18	27	16	
HT-20, M0 to M15	15	27	15	
HT-20 STBC, M0 to M7	15	27	15	

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6dB Bandwidth

15.247 / RSS-210 A8.2: Systems using digital modulation techniques may operate in the 2400-2483.5MHz band. The minimum 6 dB bandwidth shall be at least 500 kHz.

Connect the antenna port(s) to the spectrum analyzer input. Using the spectrum analyzer Channel Bandwidth mode, configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

Center Frequency:	Frequency from table below
Span:	2 x Nominal Bandwidth (e.g. 40MHz for a 20MHz channel)
Reference Level:	20 dBm
Attenuation:	10 dB
Sweep Time:	5 s
Resolution Bandwidth:	100 kHz
Video Bandwidth:	100 kHz
X dB Bandwidth:	6 dB
Detector:	Peak
Trace:	Single

Place the radio in continuous transmit mode. View the transmitter waveform on the spectrum analyzer, and record the pertinent measurements:

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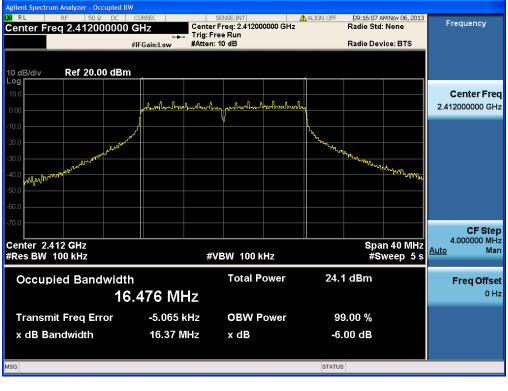
Frequency (MHz)	Mode	Data Rate (Mbps)	6dB BW (MHz)	Limit (kHz)	Margin (MHz)
	CCK, 1 to 11 Mbps	11	5.2	>500	4.7
2412	Non HT-20, 6 to 54 Mbps	6	16.4	>500	15.9
	HT-20, M0 to M15	m0	17.6	>500	17.1
	_	-		_	
	CCK, 1 to 11 Mbps	11	5.1	>500	4.6
2437	Non HT-20, 6 to 54 Mbps	6	16.4	>500	15.9
	HT-20, M0 to M15	m0	17.5	>500	17.0
	CCK, 1 to 11 Mbps	11	5.2	>500	4.7
2462	Non HT-20, 6 to 54 Mbps	6	16.3	>500	15.8
	HT-20, M0 to M15	m0	17.3	>500	16.8

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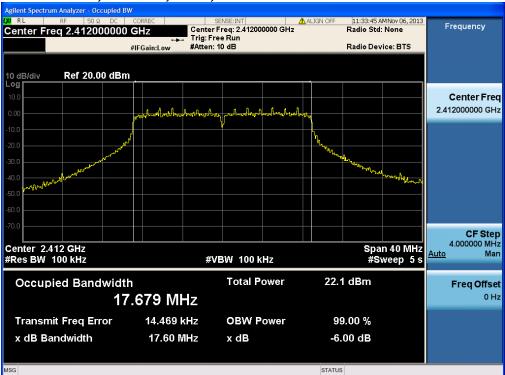


6dB Bandwidth, 2412 MHz, CCK, 1 to 11 Mbps

6dB Bandwidth, 2412 MHz, Non HT-20, 6 to 54 Mbps

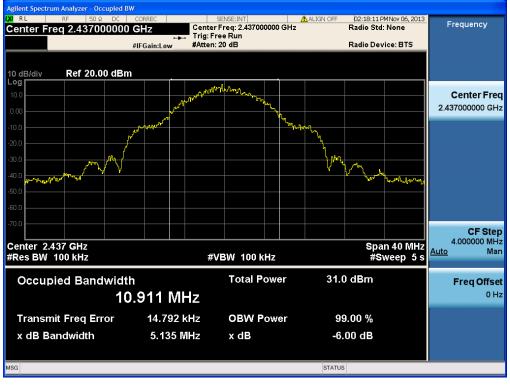


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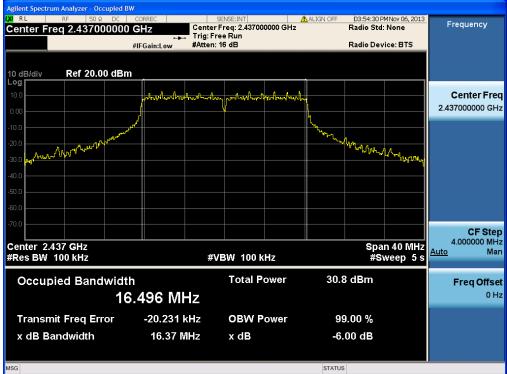


6dB Bandwidth, 2412 MHz, HT-20, M0 to M15

6dB Bandwidth, 2437 MHz, CCK, 1 to 11 Mbps

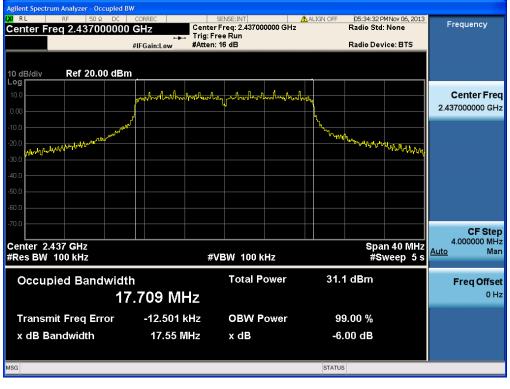


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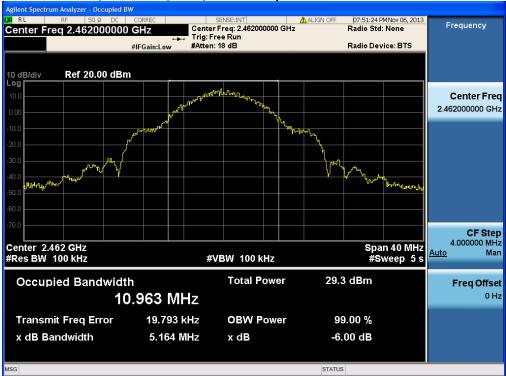


6dB Bandwidth, 2437 MHz, Non HT-20, 6 to 54 Mbps

6dB Bandwidth, 2437 MHz, HT-20, M0 to M15

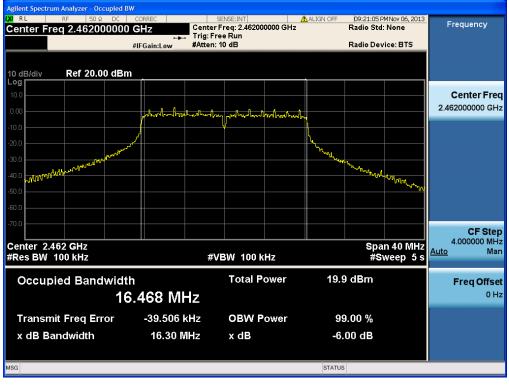


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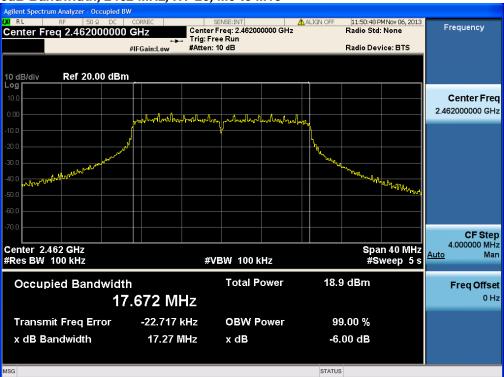


6dB Bandwidth, 2462 MHz, CCK, 1 to 11 Mbps

6dB Bandwidth, 2462 MHz, Non HT-20, 6 to 54 Mbps



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6dB Bandwidth, 2462 MHz, HT-20, M0 to M15

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99% and 26dB Bandwidth

Connect the antenna port(s) to the spectrum analyzer input. Using the spectrum analyzer Channel Bandwidth mode, configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

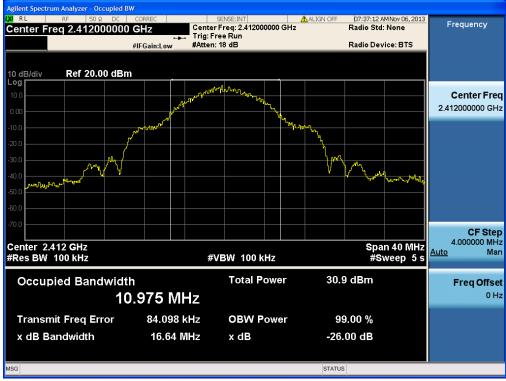
Center Frequency:	Frequency from table be.low
Span:	2 x Nominal Bandwidth (e.g. 40MHz for a 20MHz channel)
Reference Level:	20 dBm
Attenuation:	10 dB
Sweep Time:	5 s
Resolution Bandwidth:	1%-3% of 26 dB Bandwidth
Video Bandwidth:	≥Resolution Bandwidth
X dB Bandwidth:	26 dB
Detector:	Peak
Trace:	Single

Place the radio in continuous transmit mode. View the transmitter waveform on the spectrum analyzer, and record the pertinent measurements:

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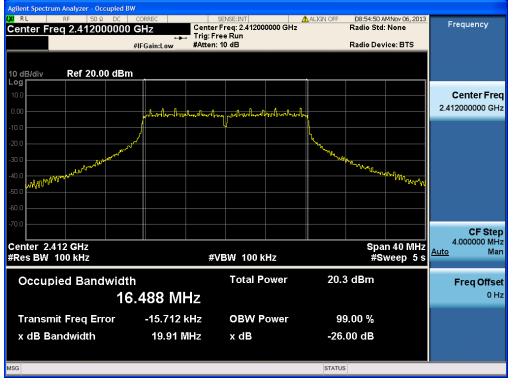
Frequency (MHz)	Mode	Data Rate (Mbps)	26dB BW (MHz)	99% BW (MHz)
	CCK, 1 to 11 Mbps	11	16.6	11
2412	Non HT-20, 6 to 54 Mbps	6	19.9	16.5
	HT-20, M0 to M15	m0	20.8	17.7
	_			
	CCK, 1 to 11 Mbps	11	16.7	10.9
2437	Non HT-20, 6 to 54 Mbps	6	20.1	16.5
	HT-20, M0 to M15	m0	21.1	17.7
	CCK, 1 to 11 Mbps	11	16.5	10.8
2462	Non HT-20, 6 to 54 Mbps	6	19.9	16.5
	HT-20, M0 to M15	m0	20.6	17.7

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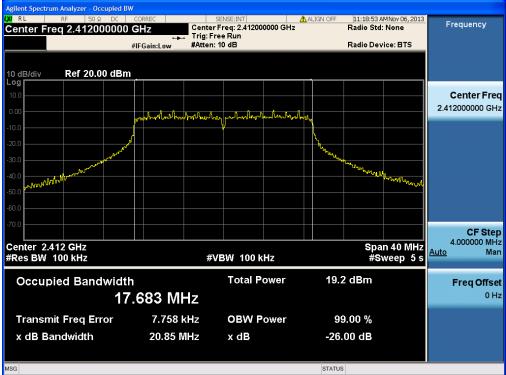


26dB / 99% Bandwidth, 2412 MHz, CCK, 1 to 11 Mbps

26dB / 99% Bandwidth, 2412 MHz, Non HT-20, 6 to 54 Mbps

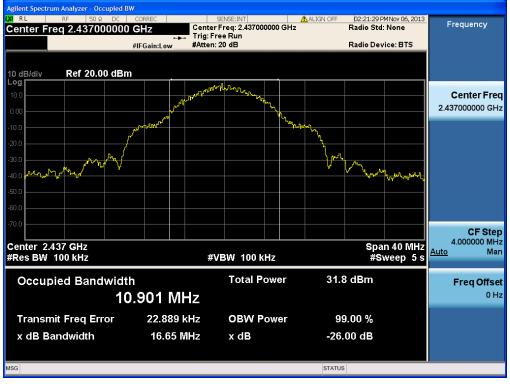


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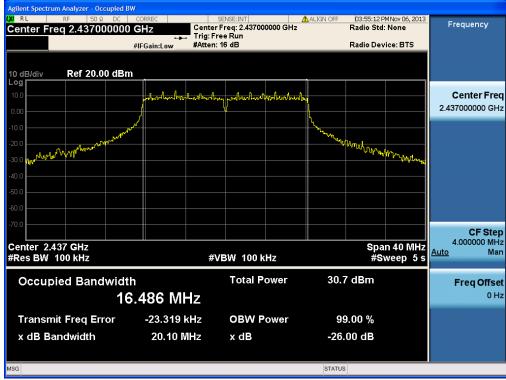


26dB / 99% Bandwidth, 2412 MHz, HT-20, M0 to M15

26dB / 99% Bandwidth, 2437 MHz, CCK, 1 to 11 Mbps

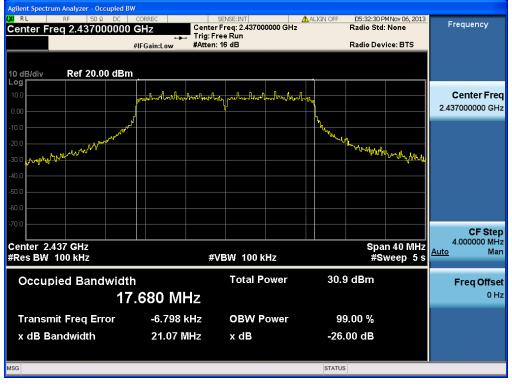


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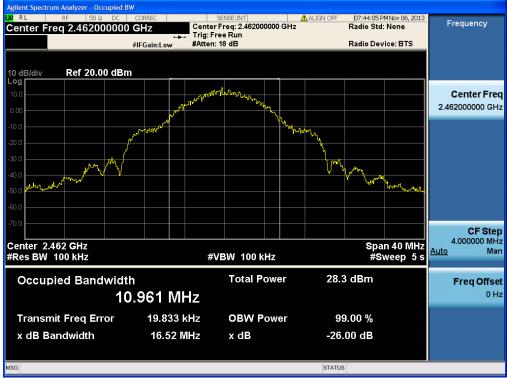
26dB / 99% Bandwidth, 2437 MHz, Non HT-20, 6 to 54 Mbps

26dB / 99% Bandwidth, 2437 MHz, HT-20, M0 to M15



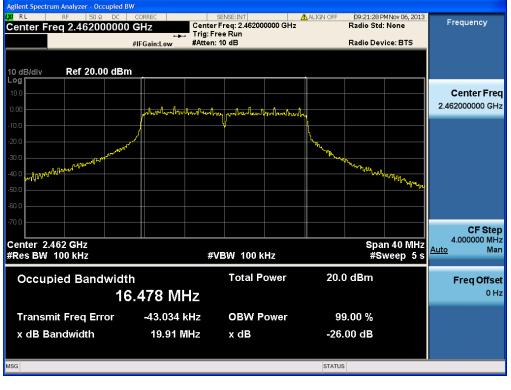
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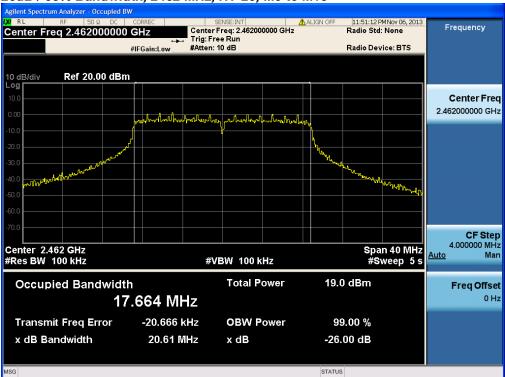


26dB / 99% Bandwidth, 2462 MHz, CCK, 1 to 11 Mbps

26dB / 99% Bandwidth, 2462 MHz, Non HT-20, 6 to 54 Mbps



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26dB / 99% Bandwidth, 2462 MHz, HT-20, M0 to M15

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Peak Output Power

15.247 / RSS-210 A8.4: The maximum conducted output power of the intentional radiator for systems using digital modulation in the 2400-2483.5 MHz band shall not exceed 1 Watt (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

This report covers antennas with 8 dBi gain. The peak correlated gain for each mode is listed in the table below. See the Theory of Operation for details on the correlated gain for each mode.

Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Configure the spectrum analyzer as shown below.

Enable "Channel Power" function of analyzer						
Center Frequency:	Frequency from table below					
Span:	20 MHz (must be greater than 26dB bandwidth, adjust as					
necessary)						
Ref Level Offset:	Correct for attenuator and cable loss.					
Reference Level:	20 dBm					
Attenuation:	20 dB					
Sweep Time:	100ms, Single sweep					
Resolution Bandwidth:	1 MHz					
Video Bandwidth:	3 MHz					
Detector:	Sample					
Trace:	Trace Average 100 traces in Power Averaging Mode					
Integration BW:	=26 dB BW from 26 dB Bandwidth Data					

After averaging 100 traces of the transmitter waveform on the spectrum analyzer, record the spectrum analyzer Channel Power.

The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units.

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Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Max Power (dBm)	Tx 2 Max Power (dBm)	Total Tx Channel Power (dBm)	Limit (dBm)	Margin (dB)	
	CCK, 1 to 11 Mbps	1	8	23.4		23.4	28	4.6	
	CCK, 1 to 11 Mbps	2	8	22.3	22.7	25.5	28	2.5	
	Non HT-20, 6 to 54 Mbps	1	8	17.5		17.5	28	10.5	
2412	Non HT-20, 6 to 54 Mbps	2	8	13.5	13.7	16.6	28	11.4	
	HT-20, M0 to M7	1	8	15.2		15.2	28	12.8	
	HT-20, M0 to M7	2	8	12.4	12.4	15.4	28	12.6	
	HT-20, M8 to M15	2	8	12.4	12.4	15.4	28	12.6	
	HT-20 STBC, M0 to M7	2	8	12.4	12.4	15.4	28	12.6	
					_				
2437	CCK, 1 to 11 Mbps	1	8	23.4		23.4	28	4.6	
	CCK, 1 to 11 Mbps	2	8	23.4	24.3	26.9	28	1.1	
	Non HT-20, 6 to 54 Mbps	1	8	24.1		24.1	28	3.9	
	Non HT-20, 6 to 54 Mbps	2	8	24.1	24.3	27.2	28	0.8	
	HT-20, M0 to M7	1	8	24.2		24.2	28	3.8	
	HT-20, M0 to M7	2	8	24.2	24.3	27.3	28	0.7	
	HT-20, M8 to M15	2	8	24.2	24.3	27.3	28	0.7	
	HT-20 STBC, M0 to M7	2	8	24.2	24.3	27.3	28	0.7	
2462	CCK, 1 to 11 Mbps	1	8	21.8		21.8	28	6.2	
	CCK, 1 to 11 Mbps	2	8	20.8	21.4	24.1	28	3.9	
	Non HT-20, 6 to 54 Mbps	1	8	14.7		14.7	28	13.3	
	Non HT-20, 6 to 54 Mbps	2	8	12.7	13.4	16.1	28	11.9	
	HT-20, M0 to M7	1	8	13.7		13.7	28	14.3	
	HT-20, M0 to M7	2	8	11.5	12.2	14.9	28	13.1	
	HT-20, M8 to M15	2	8	11.5	12.2	14.9	28	13.1	
	HT-20 STBC, M0 to M7	2	8	11.5	12.2	14.9	28	13.1	

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Peak Output Power, 2412 MHz, CCK, 1 to 11 Mbps



Antenna A

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Peak Output Power, 2412 MHz, CCK, 1 to 11 Mbps

Mkr1 2.4114667 GHz 16.568 dBm 16.568 dBm

enter Freq: 2.4120 rig: Free Run Atten: 26 dB 0000 GHz AvgiHold uluilu cisco

Frequ

07:34:10 AMNov 06 Radio Std: None

Radio Device: BTS

Antenna A

Antenna B

g 2.412

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Peak Output Power, 2412 MHz, Non HT-20, 6 to 54 Mbps

Antenna A

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Peak Output Power, 2412 MHz, Non HT-20, 6 to 54 Mbps 08:52:19 AMNov 06, 20 Radio Std: None Frequency eq 2.412 Radio Device: BTS 2.4172667 GH 2.8050 dB Ref 20.00 dBm Center Free 2.412000000 GHz ¢ CF S 4.000000 Center 2.412 GH #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Freq Offs Channel Power Power Spectral Density 13.52 dBm / 16.47 MF -58.65 dBm /Hz



Antenna A

Antenna B

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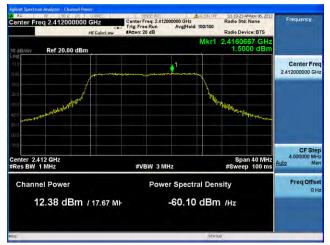
Peak Output Power, 2412 MHz, HT-20, M0 to M7



Antenna A

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Altern Spectrum Andream Andre



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Antenna B

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Peak Output Power, 2412 MHz, HT-20, M0 to M7



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Fredu

Center Free 2.412000000 GH

CFS

Freq Offs

11:19:23 AMINov 06 Radio Std: None

Radio Device: BTS

2.4160667 G 1.5000 dE



Peak Output Power, 2412 MHz, HT-20, M8 to M15

Center 2.412 GHz #Res BW 1 MHz train the second sec

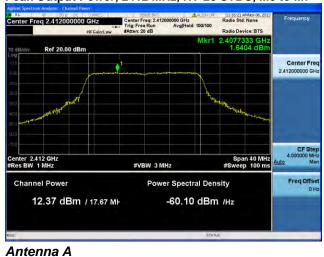
q 2.41

Ref 20.00 dB

enter Freq: 2.412000000 GHz ig: Free Run Avg|Hold: 100/100

Antenna A

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Peak Output Power, 2412 MHz, HT-20 STBC, M0 to M7



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11:19:23 AMNov 06 Radio Std: None

Antenna B

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Peak Output Power, 2437 MHz, CCK, 1 to 11 Mbps



Antenna A

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Peak Output Power, 2437 MHz, CCK, 1 to 11 Mbps

Antenna A



cisco

Antenna B

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Peak Output Power, 2437 MHz, Non HT-20, 6 to 54 Mbps

Antenna A

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CISCO 03:58:37 PM Nov O Radio Std: None Fredu 000 GHz enter Freq 2.437 Radio Device: BTS 2.4348 GI 13.601 dB Ref 20.00 dBm Center Fre 2,437000000 GH CFS Span 40 MHz #Sweep 100 ms #VBW 3 MHz

Power Spectral Density

-47.82 dBm /Hz

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Freq Offs

Peak Output Power, 2437 MHz, Non HT-20, 6 to 54 Mbps





Antenna B

Center 2.437 GHz #Res BW 1 MHz

Channel Power

24.35 dBm / 16.47 MF

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Peak Output Power, 2437 MHz, HT-20, M0 to M7



Antenna A

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Peak Output Power, 2437 MHz, HT-20, MO to MZ



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Antenna B

Antenna A

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Fredu

05:35:56 PM Nov D Radio Std: None

Radio Device: BTS

4325333 GI 13.581 dB

0000 GHz AvgHold



Peak Output Power, 2437 MHz, HT-20, M8 to M15

Center Free Center 2.437 GHz Res BW 1 MHz 24.32 dBm / 17.67 MH 25.32 dBm / 17.67 MH 26.32 dBm / 17.67 MH 27.32 dBm / 17.67 MH

Ref 20.00 dB

Antenna A

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Peak Output Power, 2437 MHz, HT-20 STBC, M0 to M7

0000 GHz AvgiHold Radio Device: BTS 4325333 GI 13.581 dB Ref 20.00 dB Center Free 2,437000000 GH CFS Center 2.437 GHz #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Channel Power Power Spectral Density Freq Offs 24.32 dBm / 17.67 MF -48.15 dBm /Hz

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05:35:56 PM Nov D Radio Std: None

Antenna A

Antenna B

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Peak Output Power, 2462 MHz, CCK, 1 to 11 Mbps



Antenna A

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Peak Output Power, 2462 MHz, CCK, 1 to 11 Mbps

000 GHz AvgiHold: q 2.462 100/100 Radio Device: BTS 2.4616667 G 15.089 dE Ref 20.00 dBm Center Free 2.462000000 GH CFS Center 2.462 GHz #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Channel Power Power Spectral Density Freq Offs 21.35 dBm / 10.83 MF -48.99 dBm /Hz

սիսիս cisco

Fredu

07:48:40 PM Nov DE Radio Std: None

Antenna A

Antenna B

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rijulu cisco



Peak Output Power, 2462 MHz, Non HT-20, 6 to 54 Mbps

Antenna A

Page No: 42 of 142

09-18:48 PM Nov 0 Radio Std: None Frequency Radio Device: BTS 2.4555333 G 2.0145 dB Ref 20.00 dBm Center Free 2.462000000 GHa •¹ CF S Center 2.462 GHz #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Freq Offs Channel Power Power Spectral Density 12.66 dBm / 16.49 MF -59.51 dBm /Hz





սիսիս cisco

Antenna A

Antenna B

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Peak Output Power, 2462 MHz, HT-20, M0 to M7



Antenna A

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Peak Output Power, 2462 MHz, HT-20, M0 to M7

Mikri 2.4583333 GHz 1.6979 dBm 1.6979 dBm 1.6979 dBm Center Free 2.45200000 dH Center Free 2.4520000 dH Center Free 2.4520000 dH Center Free 2.4520000 dH Span 40 MHz T2.22 dBm / 17.66 MH -60.25 dBm / Hz Span 40 MHz Channel Power 12.22 dBm / 17.66 MH State Span 40 MHz Spa

enter Freq: 2.462 rig: Free Run

eq 2.462

0000 GHz AvgiHold: 100/100 uluilu cisco

Fredu

11:51:43 PM Nov Or Radio Std: None

Radio Device: BTS

Antenna A

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11:51:43 PM Nov Or Radio Std: None Fredu enter Freq: 2.4620 rig: Free Run 0000 GHz AvgiHold: 100/100 Radio Device: BTS 2.4583333 G 1.6979 dE Ref 20.00 dBn Center Free 2.462000000 GH CFS Center 2.462 GHz #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Channel Power Power Spectral Density Freq Offs 12.22 dBm / 17.66 MF -60.25 dBm /Hz

Antenna B

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Peak Output Power, 2462 MHz, HT-20, M8 to M15

Antenna A



Peak Output Power, 2462 MHz, HT-20 STBC, M0 to M7

11:51:43 PM Nov Or Radio Std: None 0000 GHz AvgiHold: 100/100 eq 2.462 Radio Device: BTS 2.4583333 G 1.6979 dE Ref 20.00 dBn Center Free 2.462000000 GH CFS Center 2.462 GHz #Res BW 1 MHz Span 40 MHz #Sweep 100 ms #VBW 3 MHz Channel Power Power Spectral Density Freq Offs 12.22 dBm / 17.66 MF -60.25 dBm /Hz

սիսիս cisco

Fredu

Antenna A

Antenna B

Page No: 47 of 142

15.247 / RSS-210 A8.2: For digitally modulated systems, the peak 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.

Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Configure the spectrum analyzer as shown below.

Center Frequency:	Frequency from table below
Span:	20 MHz
Ref Level Offset:	Correct for attenuator and cable loss.
Reference Level:	20 dBm
Attenuation:	20 dB
Sweep Time:	10s
Resolution Bandwidth:	3 kHz
Video Bandwidth:	10 kHz
Detector:	Peak
Trace:	Single
Marker:	Peak Search

Record the Marker value.

The "Measure and add 10 log(N) dB technique", where N is the number of outputs, is used for measuring in-band Power Spectral Density. With this technique, spectrum measurements are performed at each output of the device, and the quantity 10 log(4) (or 6dB) is added to the worst case spectrum value before comparing to the emission limit.

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Frequency (MHz)	Mode	Data Rate (Mbps)	PSD / Antenna (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
	CCK, 1 to 11 Mbps	11	1.7	4.7	8.0	3.3
2412	Non HT-20, 6 to 54 Mbps	6	-3.6	-0.6	8.0	8.6
	HT-20, M0 to M15	m0	-3.3	-0.3	8.0	8.3
	CCK, 1 to 11 Mbps	11	2.1	5.1	8.0	2.9
2437	Non HT-20, 6 to 54 Mbps	6	-2	1.0	8.0	7.0
	HT-20, M0 to M15	m0	-3.4	-0.4	8.0	8.4
						_
	CCK, 1 to 11 Mbps	11	2.2	5.2	8.0	2.8
2462	Non HT-20, 6 to 54 Mbps	6	-3.2	-0.2	8.0	8.2
	HT-20, M0 to M15	m0	-3.4	-0.4	8.0	8.4

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Power Spectral Density, 2412 MHz, CCK, 1 to 11 Mbps

Power Spectral Density, 2412 MHz, Non HT-20, 6 to 54 Mbps



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Power Spectral Density, 2412 MHz, HT-20, M0 to M15

Power Spectral Density, 2437 MHz, CCK, 1 to 11 Mbps



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Power Spectral Density, 2437 MHz, Non HT-20, 6 to 54 Mbps

Power Spectral Density, 2437 MHz, HT-20, M0 to M15

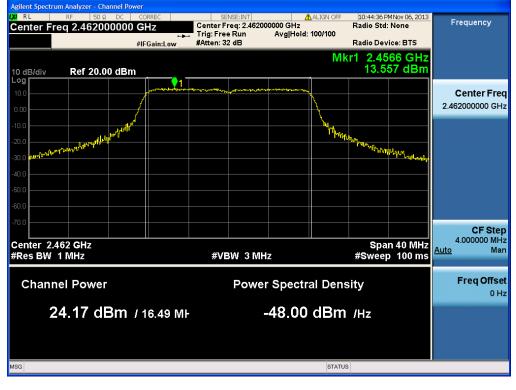


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Power Spectral Density, 2462 MHz, CCK, 1 to 11 Mbps

Power Spectral Density, 2462 MHz, Non HT-20, 6 to 54 Mbps



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Power Spectral Density, 2462 MHz, HT-20, M0 to M15

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Conducted Spurious Emissions

15.247 / RSS-210 A8.5: In any 100 kHz bandwidth outside the frequency band in which the digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer).

Span:	30 MHz-26 GHz
Reference Level:	20 dBm
Attenuation;	10 dB
Sweep Time:	5s
Resolution Bandwidth:	100 kHz
Video Bandwidth:	300 kHz
Detector:	Peak
Trace:	Single
Marker:	Peak

Record the marker waveform peak to spur difference

Out-of-band and spurious emissions tests are performed on each output individually without summing or adding 10 log(N) since the measurements are made relative to the in-band emissions on the individual outputs. The worst case output is recorded.

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Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	MargIn (dB)
	CCK, 1 to 11 Mbps	1	8	-61.5		-53.5	-41.25	12.3
	CCK, 1 to 11 Mbps	2	8	-68.3	-59.0	-50.5	-41.25	9.3
	Non HT-20, 6 to 54 Mbps	1	8	-74.9		-66.9	-41.25	25.7
2412	Non HT-20, 6 to 54 Mbps	2	8	-75.8	-75.0	-64.4	-41.25	23.1
24	HT-20, M0 to M7	1	8	-75.5		-67.5	-41.25	26.3
	HT-20, M0 to M7	2	8	-75.6	-75.2	-64.4	-41.25	23.1
	HT-20, M8 to M15	2	8	-75.6	-75.2	-64.4	-41.25	23.1
	HT-20 STBC, M0 to M7	2	8	-75.6	-75.2	-64.4	-41.25	23.1
	CCK, 1 to 11 Mbps	1	8	-64.4		-56.4	-41.25	15.2
	CCK, 1 to 11 Mbps	2	8	-64.4	-63.6	-53.0	-41.25	11.7
	Non HT-20, 6 to 54 Mbps	1	8	-70.7		-62.7	-41.25	21.5
2437	Non HT-20, 6 to 54 Mbps	2	8	-70.7	-70.3	-59.5	-41.25	18.2
24	HT-20, M0 to M7	1	8	-71.1		-63.1	-41.25	21.9
	HT-20, M0 to M7	2	8	-71.1	-70.8	-59.9	-41.25	18.7
	HT-20, M8 to M15	2	8	-71.1	-70.8	-59.9	-41.25	18.7
	HT-20 STBC, M0 to M7	2	8	-71.1	-70.8	-59.9	-41.25	18.7
	CCK, 1 to 11 Mbps	1	8	-74.8		-66.8	-41.25	25.6
	CCK, 1 to 11 Mbps	2	8	-75.2	-74.3	-63.7	-41.25	22.5
	Non HT-20, 6 to 54 Mbps	1	8	-75.5		-67.5	-41.25	26.3
2462	Non HT-20, 6 to 54 Mbps	2	8	-75.3	-75.5	-64.4	-41.25	23.1
24	HT-20, M0 to M7	1	8	-75.4		-67.4	-41.25	26.2
	HT-20, M0 to M7	2	8	-75.5	-75.7	-64.6	-41.25	23.3
	HT-20, M8 to M15	2	8	-75.5	-75.7	-64.6	-41.25	23.3
	HT-20 STBC, M0 to M7	2	8	-75.5	-75.7	-64.6	-41.25	23.3

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Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Spur Power (dBm)	Tx 2 Spur Power (dBm)	Total Conducted Spur (dBm)	Limit (dBm)	Margin (dB)
	CCK, 1 to 11 Mbps	1	8	-70.1		-62.1	-27	35.1
	CCK, 1 to 11 Mbps	2	8	-75.6	-70.1	-61.0	-27	34.0
	Non HT-20, 6 to 54 Mbps	1	8	-80.2		-72.2	-27	45.2
2412	Non HT-20, 6 to 54 Mbps	2	8	-79.2	-79.0	-68.1	-27	41.1
24	HT-20, M0 to M7	1	8	-80.4		-72.4	-27	45.4
	HT-20, M0 to M7	2	8	-79.8	-80.7	-69.2	-27	42.2
	HT-20, M8 to M15	2	8	-79.8	-80.7	-69.2	-27	42.2
	HT-20 STBC, M0 to M7	2	8	-79.8	-80.7	-69.2	-27	42.2
	CCK, 1 to 11 Mbps	1	8	-77.8		-69.8	-27	42.8
	CCK, 1 to 11 Mbps	2	8	-77.8	-71.4	-62.5	-27	35.5
	Non HT-20, 6 to 54 Mbps	1	8	-75.0		-67.0	-27	40.0
2437	Non HT-20, 6 to 54 Mbps	2	8	-75.0	-74.3	-63.6	-27	36.6
24	HT-20, M0 to M7	1	8	-75.7		-67.7	-27	40.7
	HT-20, M0 to M7	2	8	-75.7	-75.3	-64.5	-27	37.5
	HT-20, M8 to M15	2	8	-75.7	-75.3	-64.5	-27	37.5
	HT-20 STBC, M0 to M7	2	8	-75.7	-75.3	-64.5	-27	37.5
	CCK, 1 to 11 Mbps	1	8	-78.4		-70.4	-27	43.4
	CCK, 1 to 11 Mbps	2	8	-79.2	-79.3	-68.2	-27	41.2
	Non HT-20, 6 to 54 Mbps	1	8	-79.0		-71.0	-27	44.0
2462	Non HT-20, 6 to 54 Mbps	2	8	-80.4	-79.7	-69.0	-27	42.0
24	HT-20, M0 to M7	1	8	-80.7		-72.7	-27	45.7
	HT-20, M0 to M7	2	8	-79.5	-80.8	-69.1	-27	42.1
	HT-20, M8 to M15	2	8	-79.5	-80.8	-69.1	-27	42.1
	HT-20 STBC, M0 to M7	2	8	-79.5	-80.8	-69.1	-27	42.1

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Conducted Spurs, All Antennas

Agilent Spectrum Analyzer - Swept SA					
X RL RF 50 Ω DC Center Freq 22.000000000		Avg Type	: Log-Pwr TRAC	MNov 18, 2013 CE 1 2 3 4 5 6 PE WWWWWWW	Frequency
10 dB/div Ref -20.00 dBm	IFGain:High #Atten: 0 d		D		Auto Tune
-30.0 -40.0 -50.0					Center Freq 22.000000000 GHz
-60.0 -70.0 -80.0 400-000-000-000-000-000-000-000-000-00	ารสารเราสาราชานาร์	warman and an and a star and a st	WILLANS CANCENTING AND	-57.00 dBm	Start Freq 18.000000000 GHz
-90.0 -100 -110					Stop Freq 26.000000000 GHz
Start 18.000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 26 Sweep 13.3 ms (.000 GHz 1001 pts)	CF Step 800.000000 MHz
MKR MODE TRC SCL X	Y	FUNCTION FUN	ICTION WIDTH FUNCTION	ON VALUE	<u>Auto</u> Man
2 3 4 5 6					Freq Offset 0 Hz
7 8 9 9 10 11					
12 MSG			STATUS		

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Conducted Spurs Average, 2412 MHz, CCK, 1 to 11 Mbps

Antenna A

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Conducted Spurs Average, 2412 MHz, CCK, 1 to 11 Mbps



enter Freq 9.015000000		Trig: Free Run #Atten: 0 dB	Avg	ALIGN SFF Type: Log-Pwr	05:29:59 AMNOV 07, 20 TRACE 2 2 4 TYPE DET P MININ	Frequency
0 dB/div Ref -20.00 dBm				N	lkr2 4,824 GH -58.96 dB	
	2				-50.00 d	Center Freq 9.015000000 GHz
		Å ³				Start Freq 30.000000 MHz
100						Stop Freq 18.00000000 GHz
tart 30 MHz Res BW 1.0 MHz	#VB	W 1.0 kHz		Sweep	Stop 18.000 GH 14.0 s (1001 pt	1z S) 1.797000000 GHz
KR MODE TRC SCL X	2.412 GHz	-40.04 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE.	Auto Man
3 N 1 7 : 5 . 6 . 7 . 8 .	4.824 GHz 7.236 GHz	-58.96 dBm -75.82 dBm				Freq Offset 0 Hz

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Antenna A

Antenna B

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Conducted Spurs Average, 2412 MHz, Non HT-20, 6 to 54 Mbps



Antenna A

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Conducted Spurs Average, 2412 MHz, Non HT-20, 6 to 54 Mbps



PNO: Fast IFGain:High	Trig: Free Run #Atten: 0 dB	Avg Type: Log-Pwr	TRACE 2 345	Frequency
		1	/kr2 4.824 GHz -74.97 dBm	Auto Tune
			-50 00 00	Center Fred 9.015000000 GHz
2	x ³			Start Free 30.000000 MH:
				Stop Free 18.000000000 GH
#VB	W 1.0 kHz	Swee	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1.797000000 GH
2.412 GHz	-52.89 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
4.824 GHz 7.236 GHz	-74.97 dBm -75.81 dBm			Freq Offse 0 H
	#VB	#VBW 1.0 kHz 2412 GHz 52 59 GBm 2423 GHz 74 57 GBm	#VBW 1.0 kHz Sweep 2.412 GHz 52.89 dBm 2.412 GHz 52.89 dBm 4.423 GHz 52.89 dBm	#2 3 #VBW 1.0 kHz Stop 18.000 GHz \$2415 GHz 52.09 SHm 2415 GHz 52.09 SHm 2415 GHz 52.09 SHm

Antenna A

Antenna B

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Avg Type: Log-P quency eq 9.0150 0000 GHz Trig: Free Run Auto Tun 75 48 dl Ref -20.00 dBm Center Free 9.015000000 GH <u>λ</u>1 Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF Ste 1.79700 2.412 GHz 4.824 GHz 7.236 GHz -52.04 dBm -75.48 dBm -75.64 dBm Freq Offs

Conducted Spurs Average, 2412 MHz, HT-20, M0 to M7

Antenna A

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Conducted Spurs Average, 2412 MHz, HT-20, M0 to M7



Antenna A

Auto Tune	0 dBidity Ref -20.00 dBm -75.17 dBm							
Center Freq 9.015000000 GHz	-50.00 date					n, m		
Start Freq 30.000000 MHz				\$ ³	2			
Stop Freq 18.00000000 GHz							0 0 1	
						_	_	
	Stop 18.000 GHz 14.0 s (1001 pts)	Sweep		W 1.0 kHz	#VB	iz .0 MHz	es BV	
1.797000000 GH	14.0 s (1001 pts)	Sweep	PUNCTION	¥	×	.0 MHz	ES BV	
1.797000000 GH: Auto Mar	14.0 s (1001 pts)	Sweep	FUNCTION	-54.17 dBm -75.17 dBm	× 2.412 GHz 4.824 GHz	sa f	MDDE N	
CF Step 1.79700000 GHz <u>Auto</u> Man Freq Offset 0 Hz	14.0 s (1001 pts)	Sweep	PUNCTION	-54,17 dBm	× 2.412 GHz	sal	MDDE N	
1.797000000 GH Auto Mar Freq Offse	14.0 s (1001 pts)	Sweep	PUNCTION	-54.17 dBm -75.17 dBm	× 2.412 GHz 4.824 GHz	sa f	MDDE N	
1.797000000 GH2 <u>Auto</u> Man Freq Offset	14.0 s (1001 pts)	Sweep	FUNCTION	-54.17 dBm -75.17 dBm	× 2.412 GHz 4.824 GHz	sa f	MDDE N	

Trig: Free Run

Avg Type: Log-Pw

Antenna B

enter Freq 9.015000000 GHz

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Avg Type: Log-P equency g 9.0150 0000 GHz Trig: Free Run Auto Tun -75.64 dE Ref -20.00 dBm Center Free 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CFS 1.79700 2 412 GHz 4.824 GHz 7.236 GHz -54.89 dBm -75.79 dBm -75.64 dBm Freq Offs Antenna A

RL RF SD DC enter Freq 9.015000000		Aug Type: Log-Pwr	05:00:53 AMNov 07, 2013 TRACE 2 2 4 4 TYPE Wooddawood DET P NN N NN	Frequency
dB/div Ref -20.00 dBm		N	1kr2 4.824 GHz -75.17 dBm	Auto Tune
			-50 (0) (1)	Center Freq 9.015000000 GHz
	2 3 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Free 30.000000 MH:
10 90 10				Stop Free 18.00000000 GH
art 30 MHz Res BW 1.0 MHz	#VBW 1.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1,797000000 GH
N 1 F	Y B 2412 GHz 64.17 dBm 4524 GHz -75.17 dBm 7.236 GHz -75.86 dBm	FUNCTION VIDTH	FUNCTION VALUE	<u>Auto</u> Mar Freq Offset 0 H:
		STATUS		

Antenna B

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Conducted Spurs Average, 2412 MHz, HT-20, M8 to M15

Conducted Spurs Average, 2412 MHz, HT-20 STBC, M0 to M7



enter Freq 9.01500000		Barrow and		ALCHOFF Type: Log-Pwr	DBIDDISSI AM TRACE TYPE DET	NDF 07, 2013	Frequency
0 dB/div Ref -20.00 dBn	n			N	kr2 4.82 -75.1	4 GHz 7 dBm	Auto Tune
						-50.00 cmm	Center Fred 9.015000000 GHz
	2	\$ ³					Start Free 30.000000 MH
аа ^с ра на							Stop Fre 18.00000000 GH
tart 30 MHz Res BW 1.0 MHz	#VB	W 1.0 kHz		Sweep	Stop 18.0 14.0 s (1	000 GHz 001 pts)	CF Step 1.797000000 GH
KR MODE TRC SCL	2.412 GHz 4.824 GHz	-54.17 dBm	PUNCTION	FUNCTION WIDTH	FUNCTION	VALUE	<u>Auto</u> Mar
3 N 1 F 4 5 6 7	4.824 GHz 7.236 GHz	-75.65 dBm					Freq Offse
			_	STATUS			

Antenna B

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Conducted Spurs Average, 2437 MHz, CCK, 1 to 11 Mbps



Antenna A

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Conducted Spurs Average, 2437 MHz, CCK, 1 to 11 Mbps



RL # 500 00 Center Freq 9.015000000		Trig: Free Run #Atten: 0 dB	Avg	ALIGN CFF Type: Log-Pwr	DB:30:06 AMM TRACE TYPE DET		Frequency
10 dB/div Ref -20.00 dBm				N	lkr2 4.87 -63.59	4 GHz dBm	Auto Tune
						-50:00 (000	Center Freq 9.015000000 GHz
60 0 70 0 60 0	2	Januar L					Start Freq 30.000000 MHz
50 0 - 100 - 110							Stop Freq 18.00000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VB	W 1.0 kHz		Sweep	Stop 18.0 14.0 s (10	00 GHz 001 pts)	CF Step 1.797000000 GHz
MKP MODE TRC SCL X	2.437 GHz	-38.60 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION	VALUE	Auto Man
2 N 1 F	4.874 GHz 7.311 GHz	-63.59 dBm -76.64 dBm					Freq Offset 0 Hz
7 8 9 10 11							
12 12 12 12 12 12 12 12 12 12 12 12 12 1							

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Antenna A

Antenna B

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Avg Type: Log-P equency g 9.015 0000 GHz Trig: Free Run Auto Tun 70 Ref -20.00 dBm Center Free 9.015000000 GH Start Fre 3 Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF St 1.79700 2.437 GHz 4.874 GHz 7.311 GHz -43.41 dBm -70.73 dBm -76.59 dBm Freq Offs Antenna A

Conducted Spurs Average, 2437 MHz, Non HT-20, 6 to 54 Mbps

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Conducted Spurs Average, 2437 MHz, Non HT-20, 6 to 54 Mbps



RL RF 500 DC enter Freq 9.0150000		Trig: Free Run #Atten: 0 dB		ALIGN OF Type: Log-Pwr	D9:30:35 AMINO TRACE TYPE DET	NNNN
Mkr2 4.874 GHz 10 dB/div Ref 20.00 dBm - 70.30 dBm -70.30 dBm						
						Center Free 9.015000000 GH:
	2		~~~~			Start Free 30.000000 MH
10 10						Stop Fre 18.00000000 GH
tart 30 MHz Stop 18.000 GHz Res BW 1.0 MHz #VBW 1.0 kHz Sweep 14.0 s (1001 pts)						0 GHz 1 pts) CF Ste 1.797000000 GH
IN I F	2.437 GHz	-43.71 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VA	
2 N 1 (3 N 1 f 6	4.874 GHz 7.311 GHz	-70.30 dBm -76.65 dBm				Freq Offse 0 H
9				STATUS		

Antenna A

Antenna B

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Avg Type: Log-P equency eq 9.015 0000 GHz Trig: Free Run Auto Tun -71.07 dl Ref -20.00 dBm Center Free 9.015000000 GH Start Fre 3 Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF St 1.79700 2.437 GHz 4.874 GHz 7.311 GHz -43.40 dBm -71.07 dBm -76.71 dBm Freq Offs

Conducted Spurs Average, 2437 MHz, HT-20, M0 to M7

Antenna A

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Conducted Spurs Average, 2437 MHz, HT-20, M0 to M7

RL RF 800 DC Center Freq 9.01500000		Trig: Free Run #Atten: 0 dB	Aug Type: Log-Pwr	10:30:06 AMNov 07, 2013 TRACE 2 2 4 4 TYPE WWWAAH	Frequency
0 dB/div Ref -20.00 dBm			N	1kr2 4.874 GHz -71.07 dBm	Auto Tune
				-50 (0) (1)	Center Fred 9.015000000 GH
200 700 800	2	4 ³	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Free 30.000000 MH:
900 110					Stop Free 18.000000000 GH
tart 30 MHz Res BW 1.0 MHz	#VB	N 1.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1,797000000 GH
WKR MODE TRC SCL X	2.437 GHz	Y R -43.40 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Mar
1 N 1 f					-
2 N 1 F 3 4 5 5 6 7	4.874 GHz 7.311 GHz	-71.07 dBm -76.71 dBm			Freq Offse 0 H
2 N 1 f 3 N 1 f 5 6	4874 GHz 7.311 GHz		Status		

 V
 V
 V
 Stop 18.000 GHz

 art 30 MHz
 #VBW 1.0 kHz
 Sweep 14.0 s (1001 pts)

 N
 1
 f
 2.437 GHz
 4.402 dBm

 N
 1
 f
 4.402 dBm
 Faction
 Faction value

 N
 1
 f
 7.311 GHz
 -76.52 dBm
 Faction
 Faction value

Antenna B

er Freq 9.015

20.00 dBm

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CF St 1.797000000 (

Freq Offse

Avg Type: Log-P 00 GHz quency a 9.015 Trig: Free Run Auto Tun 71.07 d Ref -20.00 dBm Center Fre 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MH #VBW 1.0 kHz CFS 1.79700 2.437 GHz 4.874 GHz 7.311 GHz -43.40 dBm -71.07 dBm -76.71 dBm Freq Offs Antenna A

enter Freq 9.01500000	D GHZ PNO: Fast	Trig: Free Run #Atten: 0 dB	Avg Type: Log-Pwr		Frequency
dB/div Ref -20.00 dBm				Mkr2 4.874 GHz -70.77 dBm	Auto Tune
				-30.00 (84	Center Freq 9.015000000 GHz
	2 	2 ³	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Free 30.000000 MH:
а за ла					Stop Free 18.00000000 GH
art 30 MHz les BW 1.0 MHz	#VBW	1.0 kHz	Swee	Stop 18.000 GHz p 14.0 s (1001 pts)	CF Step 1,797000000 GH
R MODE TRC SCL X	2.437 GHz 4.874 GHz	-44.02 dBm	FUNCTION FUNCTION WIDT	TH FUNCTION VALUE	Auto Mar
N I Ż	7.311 GHz	-76.62 dBm			Freq Offse 0 Hi

Antenna B

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Conducted Spurs Average, 2437 MHz, HT-20, M8 to M15

Conducted Spurs Average, 2437 MHz, HT-20 STBC, M0 to M7



PNO: Fast -	Trig: Free F	Run	ALCONOF wg Type: Log-Pwr	10:31:27 AMNov 07, 20 TRACE 2 4 TYPE W DET P 100 M	Frequency
IF-Gain:nigh	anten. o u		N	lkr2 4.874 GH -70.77 dBr	
				-30.00 cm	Center Freq 9,015000000 GHz
2	¢3				Start Free 30.000000 MH:
					Stop Free 18.00000000 GH:
#VB	N 1.0 kHz		Sweep	Stop 18.000 GH 14.0 s (1001 pts	2 CF Step
2.437 GHz 4.874 GHz 7.311 GHz	-70,77 dBr	m	N FUNCTION WIDTH	FUNCTION VALUE	Auto Mar Freg Offse
					0.11
	2 GHz PRO: End	2 3 #VBW 1.0 kHz #00:Frag #VBW 1.0 kHz 4402.98 #374 6Hz -70.77 8B	2 3 #/BWW 1.0 kHz #/WWW 1.0 kHz #/BWW 1.0 kHz #/WWW 1.0 kHz	2 GHz IFG-land tag Trig: Free Run Action: 0 aB Avg Type: Log-Pvir #VBW 1.0 kHz N #VBW 1.0 kHz Sweep 2.437 GHz 4402 GBm 2.437 GHz 4402 GBm 2.437 GHz 4402 GBm	2 GHz IFGain:High Trig: Free Run #Atter: 0 dB Avg Type: Leg-Pwr Iffice Internation (c) This of Iffice (c) This of Iffice (c) <ththis iffice<br="" of="">(c) <ththis iffice<="" of="" td=""></ththis></ththis>

Antenna B

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Conducted Spurs Average, 2462 MHz, CCK, 1 to 11 Mbps

RL RF 500 DC Center Freq 9.015000000	PNO: Fast -+-	SBISEINT Trig: Free Run #Atten: 0 dB	Avg Type: Log-Pwr	11.36/08 AMNov 07, 2013 TRACE 2 3 4 5 Type DET 2 NNNH 0	Frequency
10 dB/div Ref -20.00 dBm			N	lkr2 4.924 GHz -74.79 dBm	Auto Tune
42 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				-30.00 000	Center Fred 9.015000000 GH:
60.0 70.0 60.0	• ²	3			Start Free 30.000000 MH
-100 -100					Stop Free 18.000000000 GH
Start 30 MHz #Res BW 1.0 MHz	#VBW 1	.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1.797000000 GH
MR MODE TRC SCL X	4.924 GHz	44.71 dBm -74.79 dBm -76.72 dBm	ICTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma Freg Offse
4 5 6 7 8 9					OH
9 10 11 12 12					

Antenna A

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Conducted Spurs Average, 2462 MHz, CCK, 1 to 11 Mbps



Avg Type: Log-Pw Auto Tur 74 31 Ref -20.00 dBm Center Fre 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MH CF Ste #VBW 1.0 kHz 1.797000 2.462 GHz 4.924 GHz 7.386 GHz -44.49 dBn -74.31 dBn -76.83 dBn Freq Offse

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Antenna A

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Conducted Spurs Average, 2462 MHz, Non HT-20, 6 to 54 Mbps



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Conducted Spurs Average, 2462 MHz, Non HT-20, 6 to 54 Mbps

RL № 500 bc Center Freq 9.01500000		Run	AutoNor Type: Log-Pwr	01:02:57 PM Nov 07, 2013 TRACE 2 2 4 5 TYPE DET 2 N.N.N.N.	Frequency
10 dB/div Ref -20.00 dBm	n		M	kr2 4.924 GHz -75.35 dBm	Auto Tune
				-50.00 day	Center Free 9.015000000 GH:
	2 3 3				Start Free 30.000000 MH
90.0 1900					Stop Free 18.000000000 GH:
Start 30 MHz #Res BW 1.0 MHz	#VBW 1.0 kHz		Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1,797000000 GH
MKR MODE TRC SCL X	2.462 GHz -58.35 dB	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Mar
2 N 1 F 3 N 1 F 3 4 5 6 7	4.924 GHz -75.35 dB 7.386 GHz -76.86 dB	m			Freq Offset 0 Hz
8					
10					

nter Freq 9.0150	00000 GHz PN0: Fast - IFGain:High	Trig: Free Run #Atten: 0 dB	Avg Type: Log-Pwr	01:04:16 PM Nov 07, 2013 TRACE 2 3 4 E TYPE Wooddoord DET P NN N NN	Frequency
dB/div Ref -20.00	dBm		N	1kr2 4,924 GHz -75,49 dBm	Auto Tune
				-50 00 00	Center Fred 9,015000000 GHz
	ment 2	A3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Free 30.000000 MH:
10 10 10					Stop Free 18.00000000 GH
art 30 MHz tes BW 1.0 MHz	#VB	W 1.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1.797000000 GH
R MODE TRC SCL	X 2.462 GHz	-57.42 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Mar
	4.924 GHz 7.386 GHz	-75.49 dBm -76.88 dBm			Freq Offse
			STATUS		

Antenna B

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Avg Type: Log-P equency eq 9.0150 0000 GHz Trig: Free Run Auto Tun 75 41 dl Ref -20.00 dBm Center Free 9.015000000 GH ╢ Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF Ste 1.79700 2.462 GHz 4.924 GHz 7.386 GHz -57.55 dBm -75.41 dBm -76.87 dBm Freq Offs

Conducted Spurs Average, 2462 MHz, HT-20, M0 to M7

Antenna A

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Avg Type: Log-P quency g 9.015 000 GHz Trig: Free Run Auto Tun 75 47 dl Ref -20.00 dBm Center Free 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF St 1.79700 2.462 GHz 4.924 GHz 7.386 GHz -59.33 dBm -75.47 dBm -77.08 dBm Freq Offs

RL RF 500 DC enter Freq 9.015000000	GHZ PN0: Fast ~• IFGain:High	Trig: Free Run #Atten: 0 dB	Aug Type: Log-Pwr	0208:07 PM Nov 07, 2013 TRACE 2 3 4 8 TYPE WOMMON	Frequency
dB/div Ref -20.00 dBm			Ν	4kr2 4.924 GHz -75.66 dBm	Auto Tune
				-50 00 00	Center Fred 9.015000000 GHz
	2	\$ ³			Start Free 30.000000 MH:
					Stop Free 18.00000000 GH
tart 30 MHz Res BW 1.0 MHz	#VBV	V 1.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1.797000000 GH
KR MODE TRC SCL X	2.462 GHz	-59.02 dBm	UNCTION FUNCTION WIDTH	PUNCTION VALUE	Auto Mar
	4.924 GHz 7.386 GHz	-75.66 dBm -76.77 dBm			Freq Offse
a			STATUS		

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Conducted Spurs Average, 2462 MHz, HT-20, M0 to M7

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Conducted Spurs Average, 2462 MHz, HT-20, M8 to M15 Avg Type: Log-P quency g 9.015 000 GHz Trig: Free Run Auto Tun 75 47 dl Ref -20.00 dBm Center Free 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 14.0 s (1001 pts) tart 30 MHz Res BW 1.0 MHz #VBW 1.0 kHz CF St 1.79700 2.462 GHz 4.924 GHz 7.386 GHz -59.33 dBm -75.47 dBm -77.08 dBm Freq Offs

RL # 500 to enter Freq 9.01500000		Trig: Free Run #Atten: 0 dB	Aug Type: Log-Pwr	0208:07 PM Nov 07, 2013 TRACE 2 3 4 8 TYPE WOMMON	Frequency
dB/div Ref -20.00 dBm			Ν	4kr2 4.924 GHz -75.66 dBm	Auto Tune
				-50 00 miles	Center Fred 9.015000000 GH
	2 	¢ ³	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Start Free 30.000000 MH:
00					Stop Free 18.00000000 GH
tart 30 MHz Res BW 1.0 MHz	#VBV	V 1.0 kHz	Sweep	Stop 18.000 GHz 14.0 s (1001 pts)	CF Step 1.797000000 GH
KR MODE TRC SCL X	2.462 GHz	-59.02 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mar
2 N 1 F 3 N 1 F 4 5 6 7 7	4.924 GHz 7.386 GHz	-75.66 dBm -76.77 dBm			Freq Offse 0 Hz
9 9 1 2					
a			STATUS	-	

Antenna A

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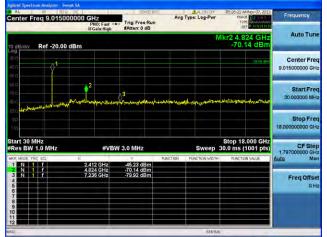
Conducted Spurs Average, 2462 MHz, HT-20 STBC, M0 to M7



enter Freq 9.01500000	BNO: Fast -t-	SBISE INT	Avg Type:		32-08:07 PM Nov 07, 2 TRACE TYPE DET PM NOV	Frequency
0 dB/div Ref -20.00 dBm	n ounange			Mk	r2 4,924 Gi -75.66 dB	
					-50 (0	Center Freq 9.015000000 GHz
	2 ²	3	·····		·····	Start Free 30.000000 MH
100						Stop Free 18.00000000 GH:
tart 30 MHz Res BW 1.0 MHz	#VBW 1	.0 kHz		Sweep 1	top 18.000 G 4.0 s (1001 p	Hz ts) CF Step
2 N 1 F 3 N 1 F 4 5 6 7	4.924 GHz	-59.02 dBm -75.66 dBm -76.77 dBm	UNCTION FUNC	TION WIDTH	FUNCTION VALUE	Auto Mar Freq Offse 0 H:
8 9 0 1 2						

Antenna B

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Conducted Spurs Peak, 2412 MHz, CCK, 1 to 11 Mbps

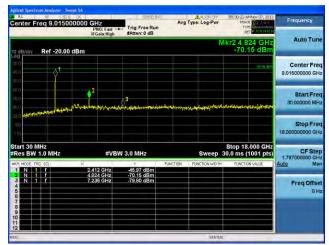
Antenna A

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Conducted Spurs Peak, 2412 MHz, CCK, 1 to 11 Mbps





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Conducted Spurs Peak, 2412 MHz, Non HT-20, 6 to 54 Mbps



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Conducted Spurs Peak, 2412 MHz, Non HT-20, 6 to 54 Mbps

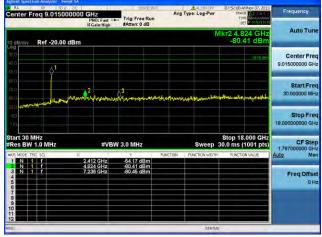


RL RE Center Freq		00000 GH	NO: Fast	Trig: Free F	tun		Log-Pwr	TRAI	MND/ 07, 2013	Frequency
IO dB/div Re	r -20.00		sam.mgn	arrend o de			N		24 GHz 02 dBm	Auto Tune
40.0	۵ ¹								-tai thi din	Center Freq 9.015000000 GHz
60 0 73.0 60 0	- yara	2- Marina		3 Arymany prom	andran	nueriesein	miliniansa	horenafargeben	drangetarrati	Start Freq 30.000000 MHz
10.0										Stop Freq 18.00000000 GHz
tart 30 MHz Res BW 1.0 I		×	#VB	W 3.0 MHz	FUNC	TION FIL	Sweep	30.0 ms (.000 GHz 1001 pts)	CF Step 1.797000000 GHz Auto Man
1 N 1 f 2 N 1 f 3 N 1 f 5 5 7 8 9 9 10		2.41	2 GHz 4 GHz 6 GHz	-66.17 dBr -79.02 dBr -80.13 dBr	n					Freq Offset Q Hz

Antenna B

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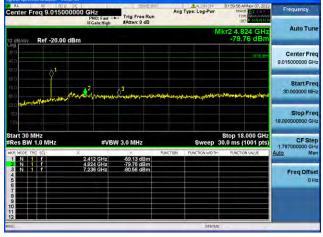
Conducted Spurs Peak, 2412 MHz, HT-20, M0 to M7



Antenna A

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Conducted Spurs Peak, 2412 MHz, HT-20, M0 to M7



Avg Type: Log-Pw 0000 GHz er Freq 9.0150 : Fast --- Trig: Free Run Auto Tur Ref -20.00 dBm Center Fre 9.015000000 GH Start Fre Stop Fre Stop 18.000 GHz Sweep 30.0 ms (1001 pts) tart 30 MHz Res BW 1.0 MHz CF Ste #VBW 3.0 MHz 1.797000 2.412 GHz 4.824 GHz 7.236 GHz -57.43 dBn -80.71 dBn -80.72 dBn Freq Offse

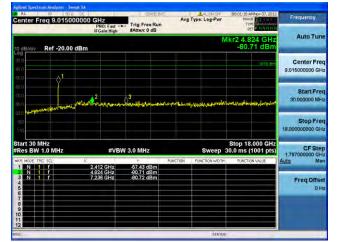
Antenna B

Antenna A

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er Freg 9.0150 Avg Type: Log-P 0000 GHz Trig: Free Run Auto Tun Ref -20.00 dBm 79 76 Center Fred 9.015000000 GHa Start Free 30.000000 MH: Stop Fre Stop 18.000 GHz Sweep 30.0 ms (1001 pts) CF Ster tart 30 MHz Res BW 1.0 MH #VBW 3.0 MHz 1.797000 2.412 GHz 4.824 GHz 7.236 GHz -59.13 dBm -79.76 dBm -80.56 dBm Freq Offse

Antenna A



Antenna B

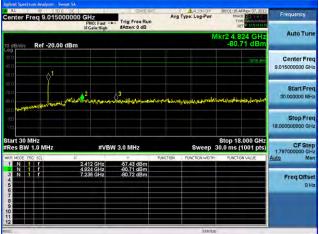
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Conducted Spurs Peak, 2412 MHz, HT-20, M8 to M15



Conducted Spurs Peak, 2412 MHz, HT-20 STBC, M0 to M7





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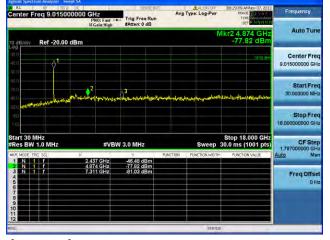
Conducted Spurs Peak, 2437 MHz, CCK, 1 to 11 Mbps

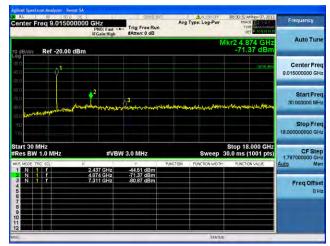


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Conducted Spurs Peak, 2437 MHz, CCK, 1 to 11 Mbps





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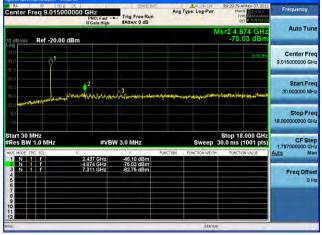
Antenna B

Antenna A

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Conducted Spurs Peak, 2437 MHz, Non HT-20, 6 to 54 Mbps

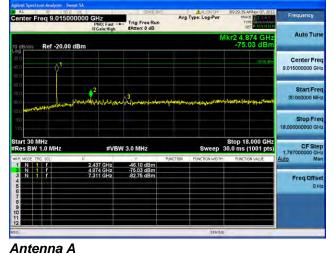


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Conducted Spurs Peak, 2437 MHz, Non HT-20, 6 to 54 Mbps





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Conducted Spurs Peak, 2437 MHz, HT-20, M0 to M7



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Avg Type: Log eg 9.015 000 GHz Trig: Free Run Auto Tun Ref -20.00 dBm Center Fred 9.015000000 GHa Start Free 30.000000 MH: Stop Fre Stop 18.000 GHz Sweep 30.0 ms (1001 pts) CF Ster 000000 GH Ma tart 30 MHz Res BW 1.0 MH #VBW 3.0 MHz 1.797000 2.437 GHz 4.874 GHz 7.311 GHz -47.42 dBm -75.73 dBm -79.01 dBm Freq Offse

Conducted Spurs Peak, 2437 MHz, HT-20, M0 to M7



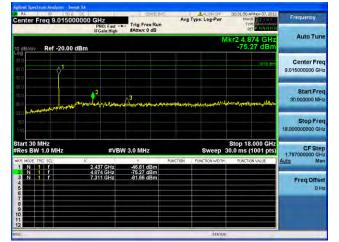
Antenna B

Antenna A

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Avg Type: Log-P uency eg 9.015 0000 GHz Trig: Free Run Auto Tun Ref -20.00 dBm Center Fred 9.015000000 GHa Start Free 30.000000 MH: Stop Fre Stop 18.000 GHz Sweep 30.0 ms (1001 pts) CF Ster 000000 GH Ma tart 30 MHz Res BW 1.0 MH #VBW 3.0 MHz 1.797000 2.437 GHz 4.874 GHz 7.311 GHz -47.42 dBm -75.73 dBm -79.01 dBm Freq Offse

Antenna A



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Antenna B

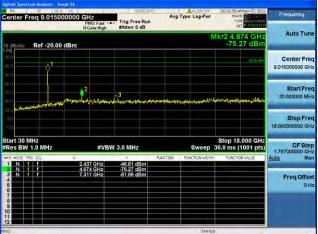
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Conducted Spurs Peak, 2437 MHz, HT-20, M8 to M15

Conducted Spurs Peak, 2437 MHz, HT-20 STBC, M0 to M7





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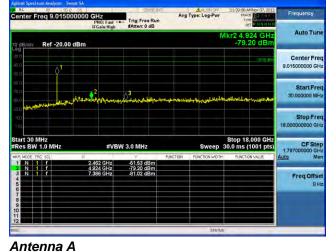
Conducted Spurs Peak, 2462 MHz, CCK, 1 to 11 Mbps



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Conducted Spurs Peak, 2462 MHz, CCK, 1 to 11 Mbps



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Conducted Spurs Peak, 2462 MHz, Non HT-20, 6 to 54 Mbps



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Conducted Spurs Peak, 2462 MHz, Non HT-20, 6 to 54 Mbps





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Conducted Spurs Peak, 2462 MHz, HT-20, M0 to M7



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Conducted Spurs Peak, 2462 MHz, HT-20, M0 to M7





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Freq 9.0150 Avg Type: Log-P encv 0000 GHz Trig: Free Run Auto Tun Ref -20.00 dBm Center Fred 9.015000000 GHa Start Free 30.000000 MH: Stop Fre Stop 18.000 GHz Sweep 30.0 ms (1001 pts) CF Ster tart 30 MHz Res BW 1.0 MH #VBW 3.0 MHz 1.797000 2.462 GHz 4.924 GHz 7.386 GHz -61.20 dBm -79.50 dBm -80.72 dBm Freq Offse

Antenna A



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Antenna B

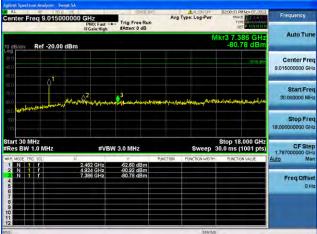
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Conducted Spurs Peak, 2462 MHz, HT-20, M8 to M15

Conducted Spurs Peak, 2462 MHz, HT-20 STBC, M0 to M7





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Antenna B

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15.205 / RSS-210 2.7: Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Use the procedures in 718828 D01 DTS Meas Guidance v01 to substitute conducted measurements in place of radiated measurements.

Connect the antenna port(s) to the spectrum analyzer input. Place the radio in continuous transmit mode. Be sure to enter all losses between the transmitter output and the spectrum analyzer.

Reference Level:	10 dBm
Attenuation:	4 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	1 MHz for peak, 100 Hz for average
Detector:	Peak

Save 2 plots:1) Average Plot (Vertical and Horizontal), Limit= -41.25 dBm eirp (54dBuV/m @3m)2) Peak plot (Vertical and Horizontal), Limit = -21.25 dBm eirp (74dBuV/m @3m)

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands.

The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in linear power units.

This report represents the worst case data for all supported operating modes and antennas.

Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
	CCK, 1 to 11 Mbps	1	8	-52.0		-44.0	-41.25	2.8
	CCK, 1 to 11 Mbps	2	8	-52.6	-54.1	-42.3	-41.25	1.0
	Non HT-20, 6 to 54 Mbps	1	8	-49.4		-41.4	-41.25	0.2
2412	Non HT-20, 6 to 54 Mbps	2	8	-55.7	-52.3	-42.7	-41.25	1.4
24	HT-20, M0 to M7	1	8	-50.9		-42.9	-41.25	1.7
	HT-20, M0 to M7	2	8	-55.1	-52.0	-42.3	-41.25	1.0
	HT-20, M8 to M15	2	8	-55.1	-52.0	-42.3	-41.25	1.0
	HT-20 STBC, M0 to M7	2	8	-55.1	-52.0	-42.3	-41.25	1.0
	CCK, 1 to 11 Mbps	1	8	-50.1		-42.1	-41.25	0.8
	CCK, 1 to 11 Mbps	2	8	-52.3	-53.0	-41.6	-41.25	0.4
	Non HT-20, 6 to 54 Mbps	1	8	-50.0		-42.0	-41.25	0.8
62	Non HT-20, 6 to 54 Mbps	2	8	-52.9	-52.7	-41.8	-41.25	0.5
2462	HT-20, M0 to M7	1	8	-49.7		-41.7	-41.25	0.5
	HT-20, M0 to M7	2	8	-52.9	-52.8	-41.8	-41.25	0.6
	HT-20, M8 to M15	2	8	-52.9	-52.8	-41.8	-41.25	0.6
	HT-20 STBC, M0 to M7	2	8	-52.9	-52.8	-41.8	-41.25	0.6

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Frequency (MHz)	Mode	Tx Paths	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
	CCK, 1 to 11 Mbps	1	8	-39.4		-31.4	-21.25	10.2
	CCK, 1 to 11 Mbps	2	8	-39.5	-41.5	-29.4	-21.25	8.1
	Non HT-20, 6 to 54 Mbps	1	8	-38.2		-30.2	-21.25	9.0
2412	Non HT-20, 6 to 54 Mbps	2	8	-43.6	-39.4	-30.0	-21.25	8.8
24	HT-20, M0 to M7	1	8	-38.3		-30.3	-21.25	9.1
	HT-20, M0 to M7	2	8	-40.4	-39.8	-29.1	-21.25	7.8
	HT-20, M8 to M15	2	8	-40.4	-39.8	-29.1	-21.25	7.8
	HT-20 STBC, M0 to M7	2	8	-40.4	-39.8	-29.1	-21.25	7.8
	CCK, 1 to 11 Mbps	1	8	-39.2		-31.2	-21.25	10.0
	CCK, 1 to 11 Mbps	2	8	-41.2	-40.4	-29.8	-21.25	8.5
	Non HT-20, 6 to 54 Mbps	1	8	-34.8		-26.8	-21.25	5.6
62	Non HT-20, 6 to 54 Mbps	2	8	-37.5	-36.5	-26.0	-21.25	4.7
2462	HT-20, M0 to M7	1	8	-31.7		-23.7	-21.25	2.5
	HT-20, M0 to M7	2	8	-37.4	-37.0	-26.2	-21.25	4.9
	HT-20, M8 to M15	2	8	-37.4	-37.0	-26.2	-21.25	4.9
	HT-20 STBC, M0 to M7	2	8	-37.4	-37.0	-26.2	-21.25	4.9

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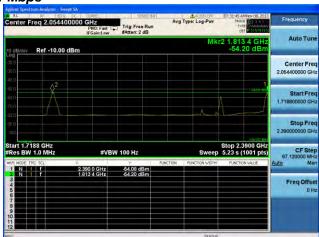
Conducted Bandedge Average, 2412 MHz, CCK, 1 to 11 Mbps

Antenna A

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Conducted Bandedge Average, 2412 MHz, CCK, 1 to 11 Mbps





Antenna A

Antenna B

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Conducted Bandedge Average, 2412 MHz, Non HT-20, 6 to 54 Mbps



Antenna A

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Frequency

Center Fre 2.054400000 GH

Auto Tur

Start Fre

Stop Fre

CF St 67.120000 M

Freq Offs

01

uto

Conducted Bandedge Average, 2412 MHz, Non HT-20, 6 to 54 Mbps



Antenna A



tart 1.7188 GHz Res BW 1.0 MHz

er Freq 2.054400000 GHz

Ref -10.00 dBm

Avg Type: Log-P

Stop 2.3900 GHz Sweep 5.23 s (1001 pts)

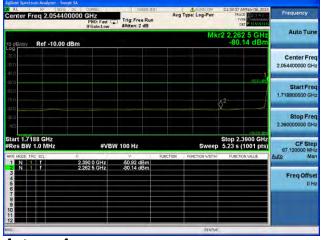
ast C Trig: Free Run #Atten: 2 dB

#VBW 100 Hz

Page No: 113 of 142



Conducted Bandedge Average, 2412 MHz, HT-20, M0 to M7



Antenna A

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Frequency

Center Fre

1.718800000 G

uto

Stop 2.3900 GHz Sweep 5.23 s (1001 pts) Start Fre

Stop Fre

CF St 67.120000 M

Freq Offs

01

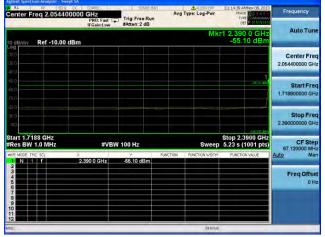
Auto Tun

Avg Type: Log-Pw

ast Trig: Free Run #Atten: 2 dB

#VBW 100 Hz

Conducted Bandedge Average, 2412 MHz, HT-20, M0 to M7



Antenna A

Antenna B

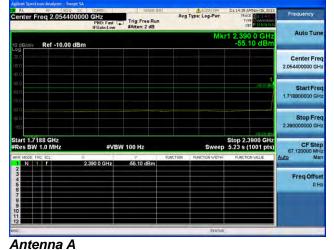
tart 1.7188 GHz Res BW 1.0 MH

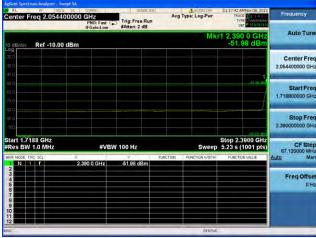
enter Freq 2.054400000 GHz

Ref -10.00 dBm

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Conducted Bandedge Average, 2412 MHz, HT-20, M8 to M15





Antenna B

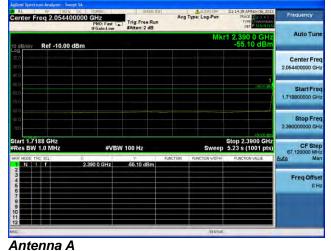
Page No: 116 of 142

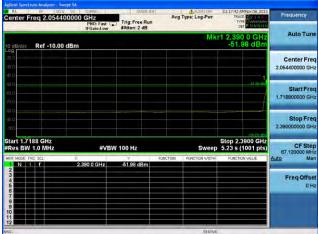
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Conducted Bandedge Average, 2412 MHz, HT-20 STBC, M0 to M7





Antenna B

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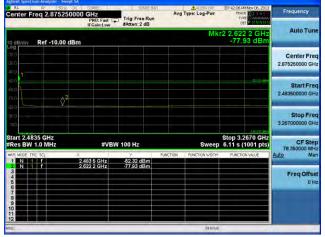
Conducted Bandedge Average, 2462 MHz, CCK, 1 to 11 Mbps



Antenna A

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Conducted Bandedge Average, 2462 MHz, CCK, 1 to 11 Mbps



nter Freq 2.875250000 GHz Avg Type: Log-P Frequency Trig: Free Run #Atten: 2 dB Auto Tun Ref -10.00 dBm Center Fre 2.875250000 G Start Fre 2.48 500000 G Stop Fre 3.26700000 GH CF St. 78.350000 tart 2.4835 GHz Res BW 1.0 MH Stop 3.2670 GHz Sweep 6.11 s (1001 pts) #VBW 100 Hz -53.05 dB -77.38 dB N 1 F 2.483 5 GHz 2.640 2 GHz Freq Offs 01

Antenna A

Antenna B

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Conducted Bandedge Average, 2462 MHz, Non HT-20, 6 to 54 Mbps



Antenna A

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Conducted Bandedge Average, 2462 MHz, Non HT-20, 6 to 54 Mbps



er Freq 2.875250000 GHz PRC Freq 2.875250000 GHz PRC Fast Control and Atten: 2 dB Avg Type: Log-P Frequency Auto Tun Ref -10.00 dBm Center Fre 2.875250000 G Start Fre 2.483500000 G Stop Fre 3.26700000 GH CF St. 78.350000 tart 2.4835 GHz Res BW 1.0 MH Stop 3.2670 GHz Sweep 6.11 s (1001 pts) #VBW 100 Hz -52.65 dBr -77.47 dBr N 1 F 2.483 5 GHz 2.640 2 GHz Freq Offs 01

Antenna A

Antenna B

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Conducted Bandedge Average, 2462 MHz, HT-20, M0 to M7



Antenna A

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Conducted Bandedge Average, 2462 MHz, HT-20, M0 to M7



anter Freq 2.875250000 GHz Avg Type: Log-P Frequency ast C Trig: Free Run #Atten: 2 dB Auto Tun Ref -10.00 dBm Center Fre Start Fre 2.48 500000 G Stop Fre 3.26700000 GH CF St 78.350000 tart 2.4835 GHz Res BW 1.0 MH Stop 3.2670 GHz Sweep 6.11 s (1001 pts) #VBW 100 Hz -52.84 dB -77.39 dB N 1 F 2.483 5 GHz 2.640 2 GHz Freq Offs 01

Antenna A

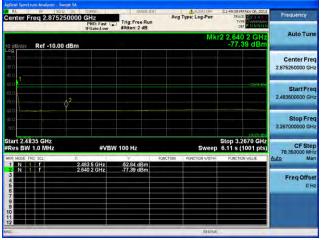
Antenna B

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Conducted Bandedge Average, 2462 MHz, HT-20, M8 to M15







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Antenna B

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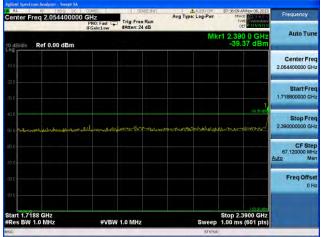
Conducted Bandedge Average, 2462 MHz, HT-20 STBC, M0 to M7



enter Freq 2,875250	DOOD GHz PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 2 dB	Avg	ALIGN OFF Type: Log-Pwr	11:49:59 PMNov 06, 2013 TRACE 2 3 4 E TYPE 21 OET P N N N N	Frequency
dB/div Ref -10.00 d	Bm			Mk	r2 2.640 2 GHz -77.39 dBm	Auto Tune
99 100						Center Fred 2.875250000 GHz
	2					Start Fred 2.483500000 GH:
0 0 0 0						Stop Free 3.267000000 GH:
tart 2.4835 GHz Res BW 1.0 MHz	#VB	W 100 Hz		Sweep	Stop 3.2670 GHz 6.11 s (1001 pts)	CF Step 78 350000 MH
KR MODE TRC SCL	× 2.483 5 GHz	-52.84 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mar
2 N 1 F 3 4 5 6 7 8	2.640 2 GHz	-77.39 dBm				Freq Offsel 0 H
9						

Antenna B

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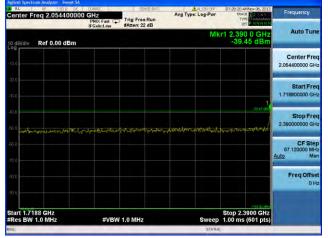


Conducted Bandedge Peak, 2412 MHz, CCK, 1 to 11 Mbps

Antenna A

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Conducted Bandedge Peak, 2412 MHz, CCK, 1 to 11 Mbps



enter Freq 2.05440000		Aug Type: Log-Pwr	07:32:19 AMNov 06, 2013 TRACE 2 2 4 5 5 TYPE 2 04 5 5 DET P NNNNN	Frequency
D dB/div Ref 0.00 dBm		Mk	r1 2.390 0 GHz -41.51 dBm	Auto Tuni
0.0				Center Free 2.054400000 GH
n 0 m 0				Start Free 1.718800000 GH
0.0			1	
	and a state of the	addeered son offer the benefits	and an and a second sec	
21.0 เป็นประวัตรุปสู่สีรัฐประสุดข้อมีคราม 50.0	anganganigaladaranggantantiya ^{da} nan raya	water the second second		2.39000000 GH CF Step 67.120000 MH
		wateriotise citationer por		Stop Free 2.3900000 GH3 CF Step 67.120000 MH3 Auto Mar Freq Offset 0 H3

Antenna A

Antenna B

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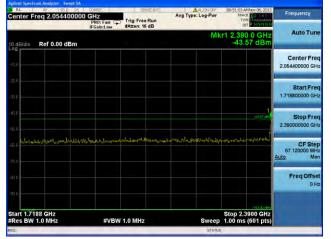
Avg Type: Log-Pw enter Freq 2.054400000 GHz Frequency Fast C Trig: Free Run Auto Tun 2.390 0 0 -38.68 d Ref 0.00 dBm Center Free 2.054400000 GH Start Fre Stop Fre CF Ste 67.120000 M ite Freq Offse Start 1.7188 GHz #Res BW 1.0 MHz Stop 2.3900 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

Conducted Bandedge Peak, 2412 MHz, Non HT-20, 6 to 54 Mbps

Antenna A

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Conducted Bandedge Peak, 2412 MHz, Non HT-20, 6 to 54 Mbps



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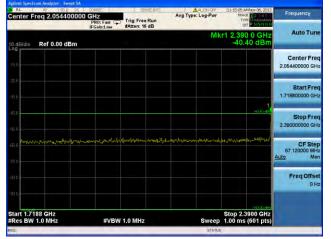
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Conducted Bandedge Peak, 2412 MHz, HT-20, M0 to M7 Avg Type: Log-Pw enter Freq 2.054400000 GHz Fast C Trig: Free Run Auto Tun 2.390 0 0 -38.32 d Ref 0.00 dBm Center Free 2.054400000 GH Start Fre Stop Fri CF Ste 67.120000 M uto Freq Offs Start 1.7188 GHz #Res BW 1.0 MHz Stop 2.3900 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

Antenna A

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Conducted Bandedge Peak, 2412 MHz, HT-20, M0 to M7



Antenna A



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Avg Type: Log-Pw

2.390 0 0 -40.40 d

Stop 2.3900 GHz Sweep 1.00 ms (601 pts) Auto Tun

Center Free 2.054400000 GH

Start Fre 1.718800000 GH

Stop Fre

CF Ste 67.120000 Mi to Mi Freq Offs

Center Freq 2.054400000		Aug Type: Log-Pwr	11:18:07 AMNov 06, 2013 TRACE 1 2 3 4 5 1 TYPE N WWWWW DET P N N N N N	Frequency
10 dB/div Ref 0.00 dBm		MI	(r1 2.390 0 GHz -39.77 dBm	Auto Tune
ια.ύ				Center Freq 2.054400000 GHz
an.d				Start Freq 1.718800000 GHz
400			-3111 182	Stop Freq 2.390000000 GHz
50.0 <mark>allan langet land and and benere</mark> 70.0	sudianananananada arada	gend ¹ 94-01-204 ⁰ engyzhilder-e-senge		CF Step 67.120000 MHz Auto Man
80.0				Freq Offset 0 Hz
Start 1.7188 GHz			Stop 2.3900 GHz	

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Conducted Bandedge Peak, 2412 MHz, HT-20, M8 to M15

Fast C Trig: Free Run

#VBW 1.0 MHz

Antenna A

Start 1.7188 GHz #Res BW 1.0 MHz

enter Freq 2.054400000 GHz

Ref 0.00 dBm

Antenna B

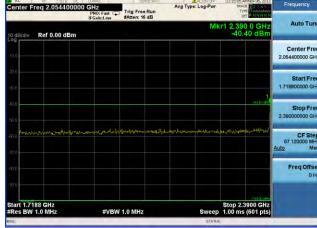
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Avg Type: Log-Pw Avg Type: Log-Pw Frequency enter Freq 2.054400000 GHz PN0: Fast IfGain: Inv #Atten: 16 dB Auto Tun 2.390 0 0 -40.40 d 2.390 0 (-39.77 c Ref 0.00 dBm Center Free 2.054400000 GHz Start Free 1.718800000 GH Stop Fre CF Ste 67.120000 MH uto Freq Offse Start 1.7188 GHz #Res BW 1.0 MHz Stop 2.3900 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

Conducted Bandedge Peak, 2412 MHz, HT-20 STBC, M0 to M7

Antenna A

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Auto Tur

Center Fre 2.054400000 GH

Start Free 1.718800000 GH

Stop Fre

CF Ste 67.120000 Mi

Freq Offse

ito



Avg Type: Log-Pw enter Freq 2.875250000 GHz Frequency Fast Trig: Free Run Auto Tun 2.483 5 Ref 0.00 dBm Center Free 2.875250000 GH Start Fre 2.483500000 GH Stop Fre 3.96 CF St 78.350000 M Freq Offs Start 2.4835 GHz #Res BW 1.0 MHz Stop 3.2670 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

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Conducted Bandedge Peak, 2462 MHz, CCK, 1 to 11 Mbps

Conducted Bandedge Peak, 2462 MHz, CCK, 1 to 11 Mbps



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Antenna A

Antenna B

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Of ALL Horizontal Description Aut/19/0F Description Program Program</th

#VBW 1.0 MHz

Freq Offs

Stop 3.2670 GHz Sweep 1.00 ms (601 pts)

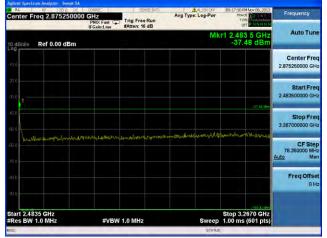
Conducted Bandedge Peak, 2462 MHz, Non HT-20, 6 to 54 Mbps

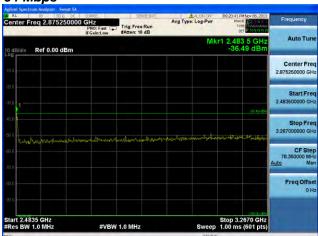
Antenna A

Start 2.4835 GHz #Res BW 1.0 MHz

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Conducted Bandedge Peak, 2462 MHz, Non HT-20, 6 to 54 Mbps





Antenna A

Antenna B

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Conducted Bandedge Peak, 2462 MHz, HT-20, M0 to M7 Avg Type: Log-Pw enter Freq 2.875250000 GHz Fast C Trig: Free Run Auto Tun 2.483 5 0 -31.66 d Ref 0.00 dBm Center Free 2.875250000 GH Start Fre 2.483500000 GH Stop Fre 3 267 CF St 78.350000 M Freq Offs Start 2.4835 GHz #Res BW 1.0 MHz Stop 3.2670 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

Antenna A

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Conducted Bandedge Peak, 2462 MHz, HT-20, M0 to M7





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Antenna A

Antenna B

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Frequency

Avg Type: Log-Pw enter Freq 2.875250000 GHz PN0: Fast Trig: Free Run (FGain: Low #Atten; 16 dB Auto Tur 2.483 5 Ref 0.00 dBm Center Fre 2.875250000 GH Start Fre 2.483500000 GH Stop Fr 3 26700 CF St 78.350000 M Freq Offs Start 2.4835 GHz #Res BW 1.0 MHz Stop 3.2670 GHz Sweep 1.00 ms (601 pts) #VBW 1.0 MHz

Conducted Bandedge Peak, 2462 MHz, HT-20, M8 to M15

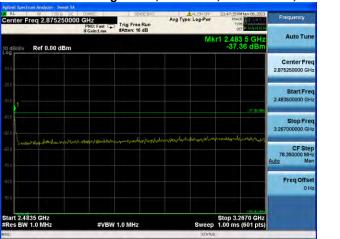
Antenna A

Antenna B

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Conducted Bandedge Peak, 2462 MHz, HT-20 STBC, M0 to M7

Antenna A



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