



# SPORTON International Inc.

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## FCC RADIO TEST REPORT

Applicant's company	Proxim Wireless Corporation
Applicant Address	1561 Buckeye Drive, Milpitas, CA 95035, USA
FCC ID	HZB-PROXMB82
Manufacturer's company	Proxim Wireless Corporation
Manufacturer Address	1561 Buckeye Drive, Milpitas, CA 95035, USA

Product Name	802.11 a/b/g/n Mini-PCI module
Brand Name	Proxim
Model No.	PROXMB82
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5250 MHz
Received Date	Jul. 25, 2014
Final Test Date	Aug. 08, 2014
Submission Type	Class II Change

### Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in ANSI C63.10-2009, 47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



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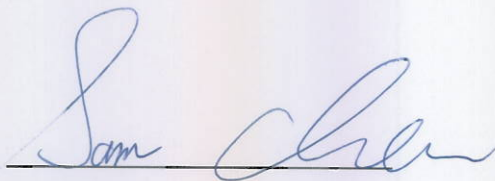
## History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR472587AA	Rev. 01	Initial issue of report	Aug. 18, 2014

## 1. CERTIFICATE OF COMPLIANCE

Product Name : 802.11 a/b/g/n Mini-PCI module  
Brand Name : Proxim  
Model No. : PROXMB82  
Applicant : Proxim Wireless Corporation  
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jul. 25, 2014 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



Sam Chen

SPORTON INTERNATIONAL INC.

## 2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.2	15.407(a)	Maximum Conducted Output Power	Complies	2.92 dB
4.3	15.407(a)	Power Spectral Density	Complies	0.01 dB
4.4	15.407(b)	Radiated Emissions	Complies	0.05 dB
4.5	15.407(b)	Band Edge Emissions	Complies	0.05 dB
4.6	15.407(g)	Frequency Stability	Complies	-
4.7	15.203	Antenna Requirements	Complies	-

### 3. GENERAL INFORMATION

#### 3.1. Product Details

##### IEEE 802.11n

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From host system
Modulation	see the below table for IEEE 802.11n
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n
Frequency Range	5150 ~ 5250 MHz
Channel Number	3 for 5 MHz bandwidth ; 3 for 10 MHz bandwidth ; 4 for 20 MHz bandwidth ; 2 for 40 MHz bandwidth
Channel Band Width (99%)	<p>Mode 1 / P to P MCS0 (5 MHz): 5.56 MHz ; MCS0 (10 MHz): 12.56 MHz MCS0 (20 MHz): 21.92 MHz ; MCS0 (40 MHz): 37.12 MHz</p> <p>Mode 1 / P to M MCS0 (5 MHz): 5.40 MHz ; MCS0 (10 MHz): 10.72 MHz MCS0 (20 MHz): 21.92 MHz ; MCS0 (40 MHz): 37.12 MHz</p> <p>Mode 2 / P to P MCS0 (5 MHz): 5.56 MHz ; MCS0 (10 MHz): 11.84 MHz MCS0 (20 MHz): 21.92 MHz ; MCS0 (40 MHz): 36.48 MHz</p> <p>Mode 2 / P to M MCS0 (5 MHz): 5.40 MHz ; MCS0 (10 MHz): 10.72 MHz MCS0 (20 MHz): 21.92 MHz ; MCS0 (40 MHz): 36.48 MHz</p> <p>Mode 3 / P to M MCS0 (5 MHz): 5.24 MHz ; MCS0 (10 MHz): 10.24 MHz MCS0 (20 MHz): 18.08 MHz ; MCS0 (40 MHz): 37.44 MHz</p>
Maximum Conducted Output Power	<p>Mode 1 / P to P MCS0 (5 MHz): 23.73 dBm ; MCS0 (10 MHz): 25.11 dBm MCS0 (20 MHz): 24.94 dBm ; MCS0 (40 MHz): 25.08 dBm</p> <p>Mode 1 / P to M MCS0 (5 MHz): 20.59 dBm ; MCS0 (10 MHz): 23.52 dBm MCS0 (20 MHz): 24.94 dBm ; MCS0 (40 MHz): 25.08 dBm</p> <p>Mode 2 / P to P MCS0 (5 MHz): 24.03 dBm ; MCS0 (10 MHz): 25.54 dBm MCS0 (20 MHz): 24.94 dBm ; MCS0 (40 MHz): 23.55 dBm</p>



	Mode 2 / P to M MCS0 (5 MHz): 20.59 dBm ; MCS0 (10 MHz): 23.52 dBm MCS0 (20 MHz): 24.94 dBm ; MCS0 (40 MHz): 23.55 dBm Mode 3 / P to M MCS0 (5 MHz): 17.60 dBm ; MCS0 (10 MHz): 20.60 dBm MCS0 (20 MHz): 23.55 dBm ; MCS0 (40 MHz): 23.81 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

**IEEE 802.11a**

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From host system
Modulation	OFDM for IEEE 802.11a
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
Frequency Range	5150 ~ 5250 MHz
Channel Number	3 for 5 MHz bandwidth ; 3 for 10 MHz bandwidth ; 4 for 20 MHz bandwidth
Channel Band Width (99%)	Mode 1 / P to P 11a (5 MHz): 5.44 MHz ; 11a (10 MHz): 11.12 MHz 11a (20 MHz): 20.48 MHz Mode 1 / P to M 11a (5 MHz): 5.28 MHz ; 11a (10 MHz): 10.16 MHz 11a (20 MHz): 20.48 MHz Mode 2 / P to P 11a (5 MHz): 5.44 MHz ; 11a (10 MHz): 11.04 MHz 11a (20 MHz): 20.48 MHz Mode 2 / P to M 11a (5 MHz): 5.28 MHz ; 11a (10 MHz): 10.32 MHz 11a (20 MHz): 20.48 MHz Mode 3 / P to M 11a (5 MHz): 5.20 MHz ; 11a (10 MHz): 9.60 MHz 11a (20 MHz): 17.76 MHz
Maximum Conducted Output Power	Mode 1 / P to P 11a (5 MHz): 24.38 dBm ; 11a (10 MHz): 24.56 dBm 11a (20 MHz): 25.07 dBm Mode 1 / P to M 11a (5 MHz): 20.57 dBm ; 11a (10 MHz): 23.55 dBm 11a (20 MHz): 25.07 dBm Mode 2 / P to P 11a (5 MHz): 24.02 dBm ; 11a (10 MHz): 25.65 dBm 11a (20 MHz): 25.07 dBm Mode 2 / P to M 11a (5 MHz): 20.57 dBm ; 11a (10 MHz): 23.55 dBm 11a (20 MHz): 25.07 dBm



	Mode 3 / P to M 11a (5 MHz): 17.61 dBm ; 11a (10 MHz): 20.64 dBm 11a (20 MHz): 23.52 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Communication Mode	<input checked="" type="checkbox"/> IP Based (Load Based)	<input type="checkbox"/> Frame Based
Beamforming Function	<input type="checkbox"/> With beamforming	<input checked="" type="checkbox"/> Without beamforming

#### Antenna and Band width

Antenna	Three (TX)			
Band width Mode	5 MHz	10 MHz	20 MHz	40 MHz
IEEE 802.11a	V	V	V	X
IEEE 802.11n	V	V	V	V

#### IEEE 11a/n Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11a (5 MHz)	3	6-54 Mbps
802.11a (10 MHz)	3	6-54 Mbps
802.11a (20 MHz)	3	6-54 Mbps
802.11n (5 MHz)	3	MCS0-23
802.11n (10 MHz)	3	MCS0-23
802.11n (20 MHz)	3	MCS0-23
802.11n (40 MHz)	3	MCS0-23

Note: Modulation modes consist of below configuration: 5 MHz/10 MHz/20 MHz: IEEE 802.11a,  
5 MHz/10 MHz/20 MHz/40 MHz: IEEE 802.11n

### 3.2. Accessories

N/A

### 3.3. Table for Filed Antenna

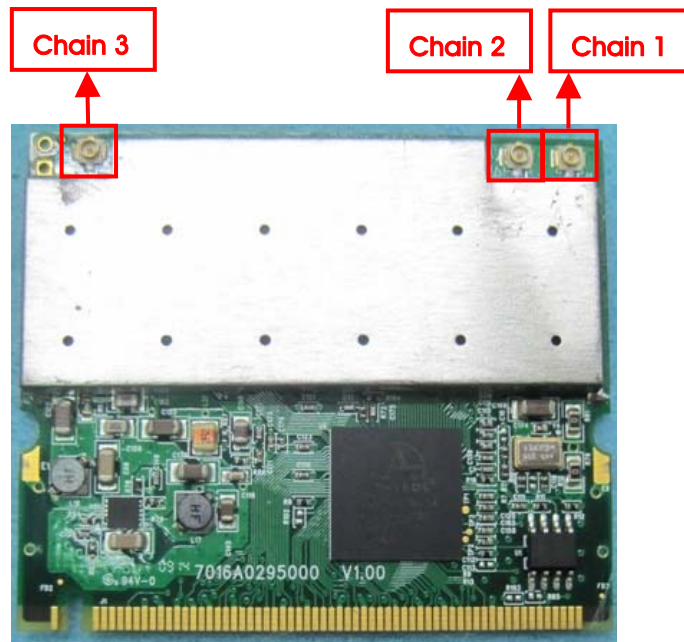
Set	Ant.	Chain	Brand	Model No.	Type	Connector	Attenuator (dBi)	Gain (dBi)	Cable Loss (dB)	True Gain (dBi)	Remark
1	1	1/2/3	MARS	MA-WA55-30	Panel	N-Type, Female	20	30	2	8	P to P/ P to M
2	2	1/2/3	MARS	MA-WB55-20	Sector	N-Type, Female	10	20	2	8	P to P/ P to M
3	3	1/2/3	SmartAnt	SAA08-220570	Omni	N-Type, Female / N-Type, Male (optional)	-	10	2	8	P to M

Note: The EUT has total antennas amounted to three sets.

**For IEEE 802.11a/n mode (3TX/3RX):**

Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antennas.

Chain 1, Chain 2 and Chain 3 could transmit/receive simultaneously.



### 3.4. Table for Carrier Frequencies

The EUT has four bandwidth system.

For 5MHz bandwidth systems, use Channel 36, 42, 48.

For 10MHz bandwidth systems, use Channel 36, 42, 48.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48.

For 40MHz bandwidth systems, use Channel 38, 46.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz Band 1	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz	-	-

### 3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode		Data Rate	Channel	Chain
Max. Conducted Output Power	11n (5 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (10 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (20 MHz)	Band 1	MCS0	36/40/48	1+2+3
	11n (40 MHz)	Band 1	MCS0	38/46	1+2+3
	11α/BPSK (5 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (10 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (20 MHz)	Band 1	6Mbps	36/40/48	1+2+3
Power Spectral Density	11n (5 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (10 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (20 MHz)	Band 1	MCS0	36/40/48	1+2+3
	11n (40 MHz)	Band 1	MCS0	38/46	1+2+3
	11α/BPSK (5 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (10 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (20 MHz)	Band 1	6Mbps	36/40/48	1+2+3
26dB&6dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	11n (5 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (10 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (20 MHz)	Band 1	MCS0	36/40/48	1+2+3
	11n (40 MHz)	Band 1	MCS0	38/46	1+2+3
	11α/BPSK (5 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (10 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (20 MHz)	Band 1	6Mbps	36/40/48	1+2+3
Radiated Emission Below 1GHz	CTX		-	-	-
Radiated Emission Above 1GHz	11n (5 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (10 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (20 MHz)	Band 1	MCS0	36/40/48	1+2+3
	11n (40 MHz)	Band 1	MCS0	38/46	1+2+3
	11α/BPSK (5 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (10 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11α/BPSK (20 MHz)	Band 1	6Mbps	36/40/48	1+2+3
Band Edge Emission	11n (5 MHz)	Band 1	MCS0	36/42/48	1+2+3

	11n (10 MHz)	Band 1	MCS0	36/42/48	1+2+3
	11n (20 MHz)	Band 1	MCS0	36/40/48	1+2+3
	11n (40 MHz)	Band 1	MCS0	38/46	1+2+3
	11a/BPSK (5 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11a/BPSK (10 MHz)	Band 1	6Mbps	36/42/48	1+2+3
	11a/BPSK (20 MHz)	Band 1	6Mbps	36/40/48	1+2+3
Frequency Stability	Un-modulation		-	42	1+2+3

The following test modes were performed for all tests:

**For Radiated Emission below 1GHz test:**

Mode 1 has been evaluated to be the worst case when Radiated Emission above 1GHz. Consequently, measurement under 30MHz~1GHz will follow this same test mode.

Mode 1. EUT + Ant. 1

**For Radiated Emission above 1GHz test:**

Mode 1. EUT + Ant. 1

Mode 2. EUT + Ant. 2

Mode 3. EUT + Ant. 3

Note: There are two modes of Ant. 1 and Ant 2, one is P to P, and the other is P to M, and all test results were recorded in the report.

### 3.6. Table for Testing Locations

Test Site Location					
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.				
TEL:	886-3-656-9065				
FAX:	886-3-656-9085				
Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

### 3.7. Table for Class II Change

This product is an extension of original one reported:

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
<ol style="list-style-type: none"> <li>1. Updating test rule to "New Rule" from "Old Rule".</li> <li>2. Adding one antenna "Model No.: SAA08-220570".</li> </ol>	<ol style="list-style-type: none"> <li>1. 26dB Spectrum Bandwidth and 99% Occupied Bandwidth.</li> <li>2. Maximum Conducted Output Power.</li> <li>3. Power Spectral Density.</li> <li>4. Radiated Emission</li> <li>5. Band Edge Emissions.</li> <li>6. Frequency Stability.</li> <li>7. Maximum Permissible Exposure.</li> </ol>

### 3.8. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
NB	DELL	D420	E2KWM3945ABG
Test Fixture	VICOMM	DA-1412	N/A

### 3.9. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

#### Test Mode 1 / P to P

#### Power Parameters of IEEE 802.11n MCS0 5 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 5 MHz	15	17.5	18.5

#### Power Parameters of IEEE 802.11n MCS0 10 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 10 MHz	19.5	20	20

#### Power Parameters of IEEE 802.11n MCS0 20 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 20 MHz	17.5	20	20

#### Power Parameters of IEEE 802.11n MCS0 40 MHz

Test Software Version	ART v0.9 b27	
Frequency	5190 MHz	5230 MHz
MCS0 40 MHz	14.5	20

#### Power Parameters of IEEE 802.11a 5 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 5MHz	15.5	17.5	19

#### Power Parameters of IEEE 802.11a 10 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 10MHz	17.5	19	20

#### Power Parameters of IEEE 802.11a 20 MHz

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
802.11a 20MHz	17.5	20	20

**Test Mode 1 / P to M**
**Power Parameters of IEEE 802.11n MCS0 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 5 MHz	14.5	15	15.5

**Power Parameters of IEEE 802.11n MCS0 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 10 MHz	18	18.5	19

**Power Parameters of IEEE 802.11n MCS0 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 20 MHz	17.5	20	20

**Power Parameters of IEEE 802.11n MCS0 40 MHz**

Test Software Version	ART v0.9 b27	
Frequency	5190 MHz	5230 MHz
MCS0 40 MHz	14.5	20

**Power Parameters of IEEE 802.11a 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 5MHz	14.5	15	15.5

**Power Parameters of IEEE 802.11a 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 10MHz	17.5	18.5	19

**Power Parameters of IEEE 802.11a 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
802.11a 20MHz	17.5	20	20



**Test Mode 2 / P to P**
**Power Parameters of IEEE 802.11n MCS0 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 5 MHz	17	18.5	18.5

**Power Parameters of IEEE 802.11n MCS0 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 10 MHz	20	20	20

**Power Parameters of IEEE 802.11n MCS0 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 20 MHz	15	20	20

**Power Parameters of IEEE 802.11n MCS0 40 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5190 MHz	5230 MHz	
MCS0 40 MHz	10	18.5	

**Power Parameters of IEEE 802.11a 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 5MHz	17.5	18.5	18.5

**Power Parameters of IEEE 802.11a 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 10MHz	20	20	20

**Power Parameters of IEEE 802.11a 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
802.11a 20MHz	15	20	20

**Test Mode 2 / P to M**
**Power Parameters of IEEE 802.11n MCS0 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 5 MHz	14.5	15	15.5

**Power Parameters of IEEE 802.11n MCS0 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 10 MHz	18	18.5	19

**Power Parameters of IEEE 802.11n MCS0 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 20 MHz	15	20	20

**Power Parameters of IEEE 802.11n MCS0 40 MHz**

Test Software Version	ART v0.9 b27	
Frequency	5190 MHz	5230 MHz
MCS0 40 MHz	10	18.5

**Power Parameters of IEEE 802.11a 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 5MHz	14.5	15	15.5

**Power Parameters of IEEE 802.11a 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 10MHz	18	18.5	19

**Power Parameters of IEEE 802.11a 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
802.11a 20MHz	15	20	20

**Test Mode 3 / P to M**
**Power Parameters of IEEE 802.11n MCS0 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 5 MHz	12	12.5	13

**Power Parameters of IEEE 802.11n MCS0 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
MCS0 10 MHz	15	15.5	16

**Power Parameters of IEEE 802.11n MCS0 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 20 MHz	15.5	19	19

**Power Parameters of IEEE 802.11n MCS0 40 MHz**

Test Software Version	ART v0.9 b27	
Frequency	5190 MHz	5230 MHz
MCS0 40 MHz	10.5	19

**Power Parameters of IEEE 802.11a 5 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 5MHz	12	12.5	13

**Power Parameters of IEEE 802.11a 10 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5210 MHz	5240 MHz
802.11a 10MHz	15	15.5	16

**Power Parameters of IEEE 802.11a 20 MHz**

Test Software Version	ART v0.9 b27		
Frequency	5180 MHz	5200 MHz	5240 MHz
802.11a 20MHz	16.5	18.5	19

### 3.10. EUT Operation during Test

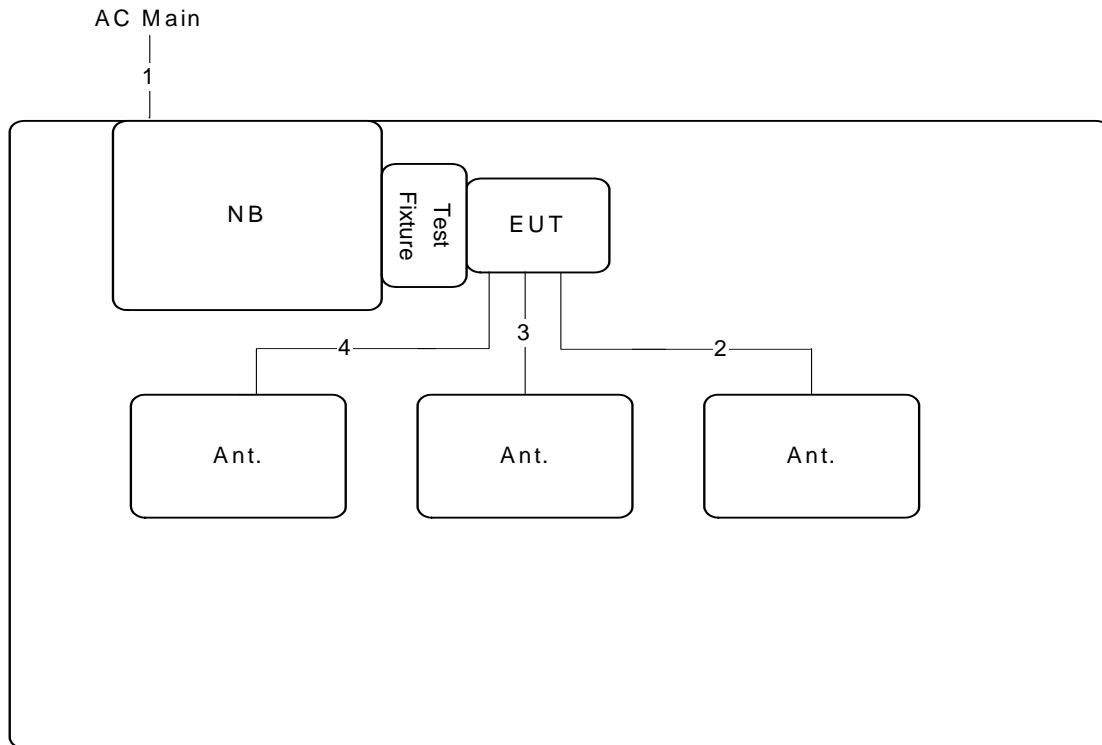
The EUT was programmed to be in continuously transmitting mode.

### 3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11n MCS0 5 MHz	11.640	11.680	99.66	0.015	0.09
802.11n MCS0 10 MHz	5.820	5.840	99.66	0.015	0.17
802.11n MCS0 20 MHz	2.910	2.920	99.66	0.015	0.34
802.11n MCS0 40 MHz	1.380	1.400	98.57	0.062	0.72
802.11a 5 MHz	12.480	12.520	99.68	0.014	0.08
802.11a 10 MHz	6.260	6.280	99.68	0.014	0.16
802.11a 20 MHz	3.130	3.150	99.37	0.028	0.32

### 3.12. Test Configurations

#### 3.12.1. Radiation Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	ANT cable	Yes	1m
3	ANT cable	Yes	1m
4	ANT cable	Yes	1m

## 4. TEST RESULT

### 4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

#### 4.1.1. Limit

No restriction limits.

#### 4.1.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

26dB Bandwidth	
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RBW	Approximately 1% of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth	
Spectrum Parameters	Setting
Span	1.5 times to 5.0 times the OBW
RBW	1 % to 5 % of the OBW
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold

#### 4.1.3. Test Procedures

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

#### 4.1.4. Test Setup Layout

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.4.4.

#### 4.1.5. Test Deviation

There is no deviation with the original standard.

#### 4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.1.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Mode	Mode 1 / P to P		

##### Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.88	5.48
42	5210 MHz	8.68	5.36
48	5240 MHz	8.12	5.56

##### Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	17.52	12.56
42	5210 MHz	17.68	11.84
48	5240 MHz	18.80	10.64

##### Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	27.52	19.36
40	5200 MHz	37.44	21.92
48	5240 MHz	29.28	19.20

##### Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	44.80	37.12
46	5230 MHz	62.40	36.48

**Configuration IEEE 802.11a 5MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.64	5.00
42	5210 MHz	8.16	5.16
48	5240 MHz	8.20	5.44

**Configuration IEEE 802.11a 10MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	16.00	10.16
42	5210 MHz	16.88	10.80
48	5240 MHz	20.64	11.12

**Configuration IEEE 802.11a 20MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	25.28	17.76
40	5200 MHz	33.44	20.48
48	5240 MHz	30.56	17.12



<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Configurations</b>	IEEE 802.11n/a
<b>Test Mode</b>	Mode 1 / P to M		

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.56	5.12
42	5210 MHz	7.68	5.40
48	5240 MHz	7.68	5.32

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	16.40	10.72
42	5210 MHz	19.76	10.16
48	5240 MHz	19.92	10.48

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	27.52	19.36
40	5200 MHz	37.44	21.92
48	5240 MHz	29.28	19.20

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	44.80	37.12
46	5230 MHz	62.40	36.48

**Configuration IEEE 802.11a 5MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.08	5.16
42	5210 MHz	8.16	5.28
48	5240 MHz	7.52	5.24

**Configuration IEEE 802.11a 10MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	16.00	10.16
42	5210 MHz	15.92	9.76
48	5240 MHz	15.60	10.00

**Configuration IEEE 802.11a 20MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	25.28	17.76
40	5200 MHz	33.44	20.48
48	5240 MHz	30.56	17.12

<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Configurations</b>	IEEE 802.11n/a
<b>Test Mode</b>	Mode 2 / P to P		

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	8.52	5.40
42	5210 MHz	9.68	5.56
48	5240 MHz	8.12	5.56

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	21.12	11.52
42	5210 MHz	17.68	11.84
48	5240 MHz	18.80	10.64

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	20.48	17.44
40	5200 MHz	37.44	21.92
48	5240 MHz	29.28	19.20

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	43.20	36.16
46	5230 MHz	55.04	36.48

**Configuration IEEE 802.11a 5MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.76	5.28
42	5210 MHz	8.16	5.32
48	5240 MHz	10.04	5.44

**Configuration IEEE 802.11a 10MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	20.24	11.04
42	5210 MHz	18.00	10.08
48	5240 MHz	18.40	10.96

**Configuration IEEE 802.11a 20MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	24.16	17.44
40	5200 MHz	33.44	20.48
48	5240 MHz	30.56	17.12

<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Configurations</b>	IEEE 802.11n/a
<b>Test Mode</b>	Mode 2 / P to M		

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.56	5.12
42	5210 MHz	7.68	5.40
48	5240 MHz	7.68	5.32

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	16.40	10.72
42	5210 MHz	19.76	10.16
48	5240 MHz	19.92	10.48

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	20.48	17.44
40	5200 MHz	37.44	21.92
48	5240 MHz	29.28	19.20

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	43.20	36.16
46	5230 MHz	55.04	36.48

**Configuration IEEE 802.11a 5MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.08	5.16
42	5210 MHz	8.16	5.28
48	5240 MHz	7.52	5.24

**Configuration IEEE 802.11a 10MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	19.28	10.32
42	5210 MHz	15.92	9.76
48	5240 MHz	15.60	10.00

**Configuration IEEE 802.11a 20MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	24.16	17.44
40	5200 MHz	33.44	20.48
48	5240 MHz	30.56	17.12

<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Configurations</b>	IEEE 802.11n/a
<b>Test Mode</b>	Mode 3 / P to M		

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.80	5.12
42	5210 MHz	7.48	5.24
48	5240 MHz	7.48	5.24

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	13.92	10.24
42	5210 MHz	14.00	9.52
48	5240 MHz	14.40	9.84

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	21.76	17.44
40	5200 MHz	29.76	18.08
48	5240 MHz	31.04	18.08

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	41.92	36.48
46	5230 MHz	74.24	37.44

**Configuration IEEE 802.11a 5MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	7.56	5.08
42	5210 MHz	7.44	5.12
48	5240 MHz	7.32	5.20

**Configuration IEEE 802.11a 10MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	13.84	9.60
42	5210 MHz	13.60	9.52
48	5240 MHz	14.00	9.44

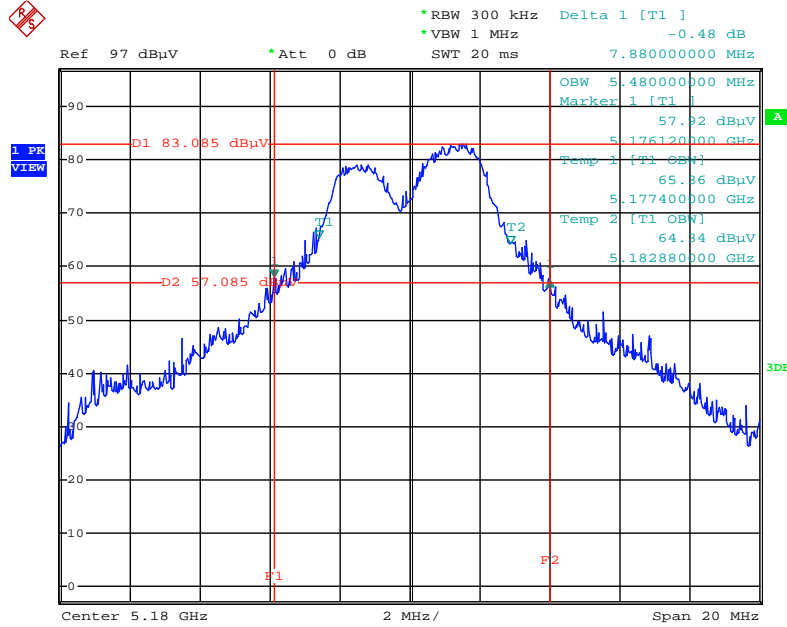
**Configuration IEEE 802.11a 20MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	24.48	17.28
40	5200 MHz	25.60	16.96
48	5240 MHz	27.20	17.76



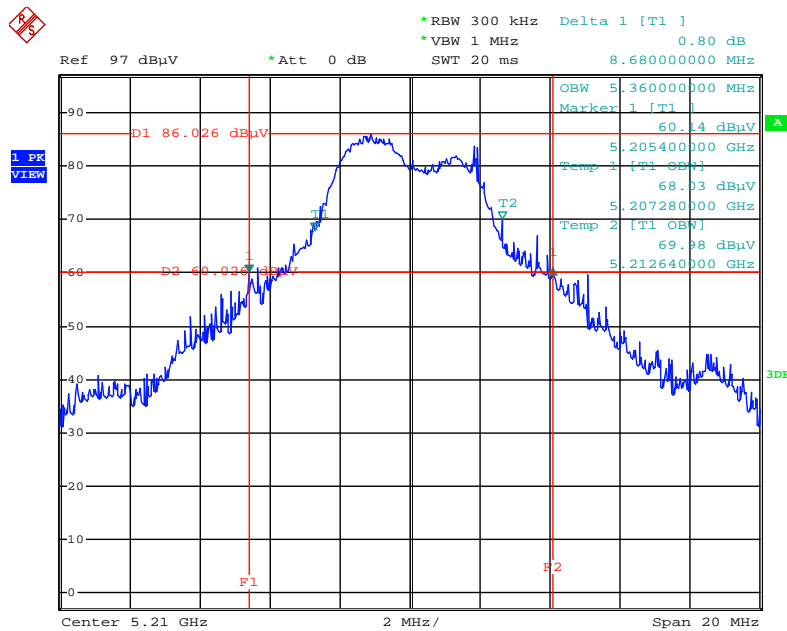
Test Mode 1 / P to P

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz



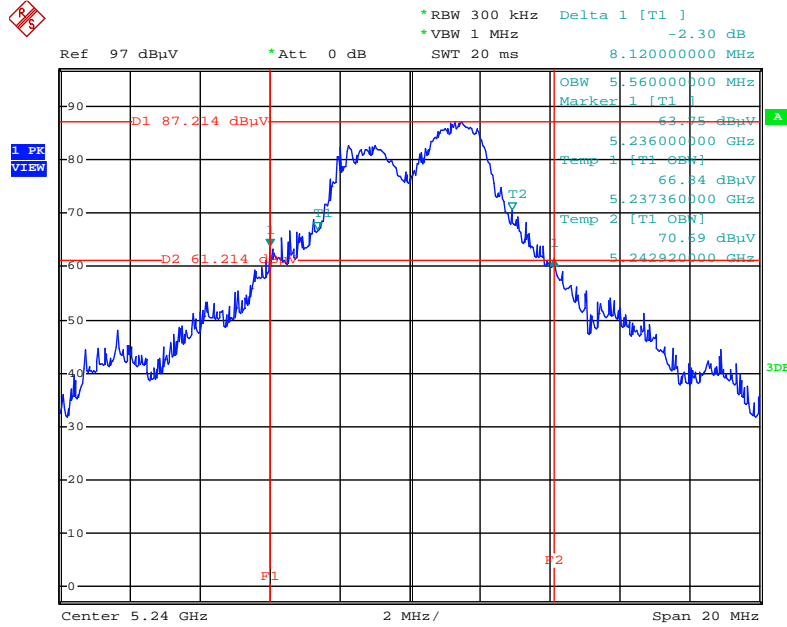
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz



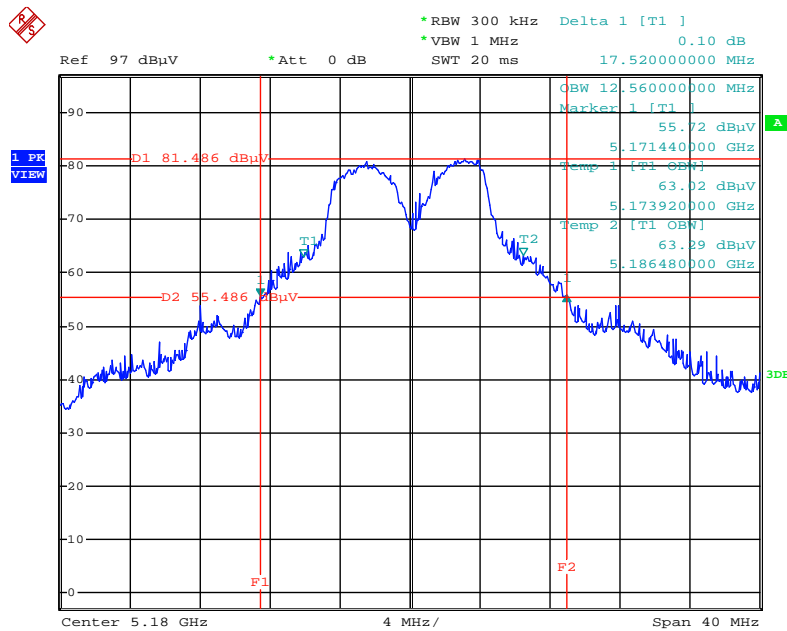
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



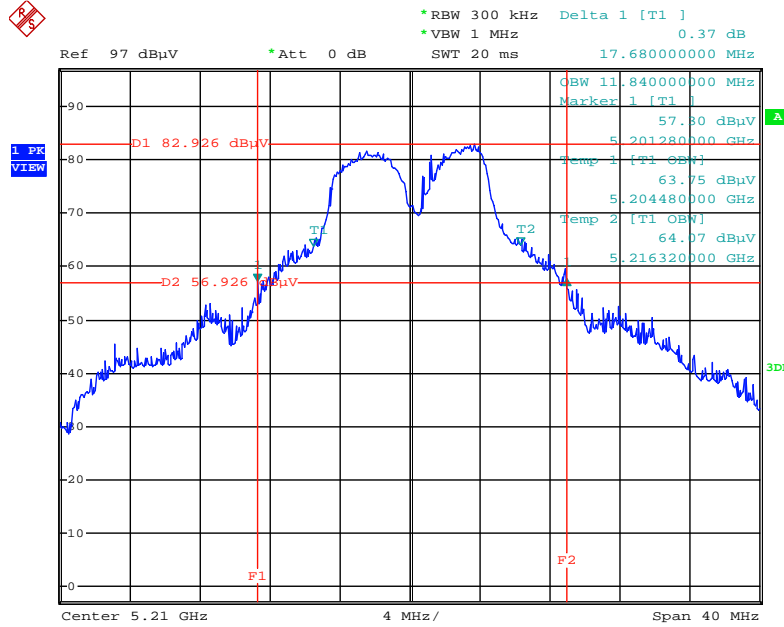
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



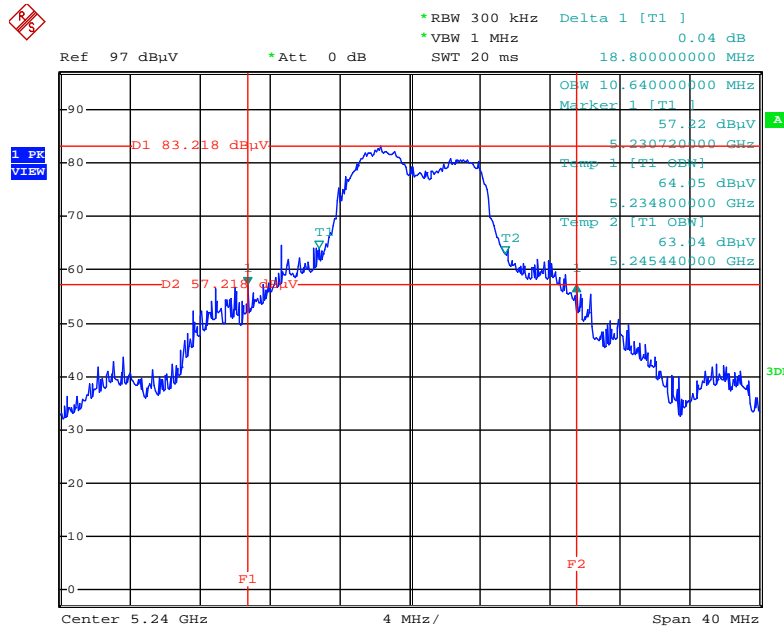
Date: 7.AUG.2014 20:23:08

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



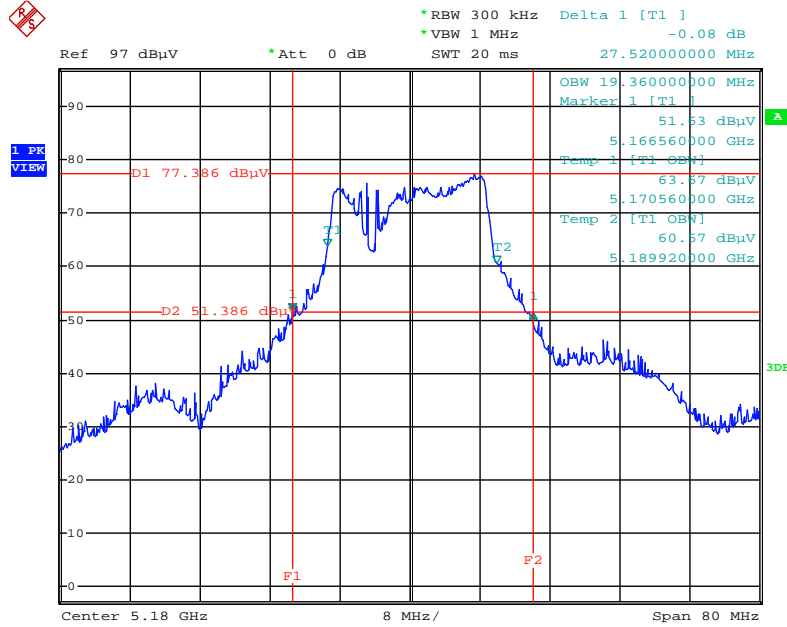
Date: 7.AUG.2014 20:24:12

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



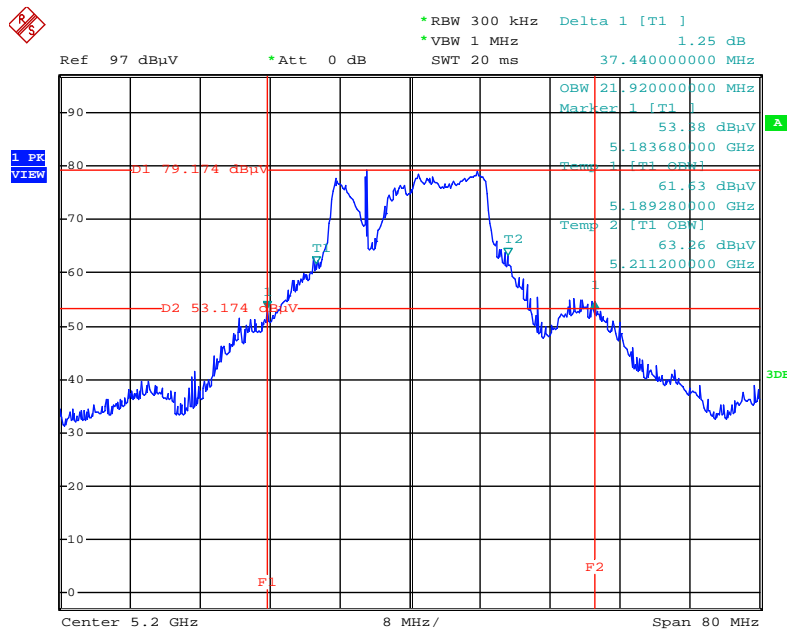
Date: 7.AUG.2014 20:24:58

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



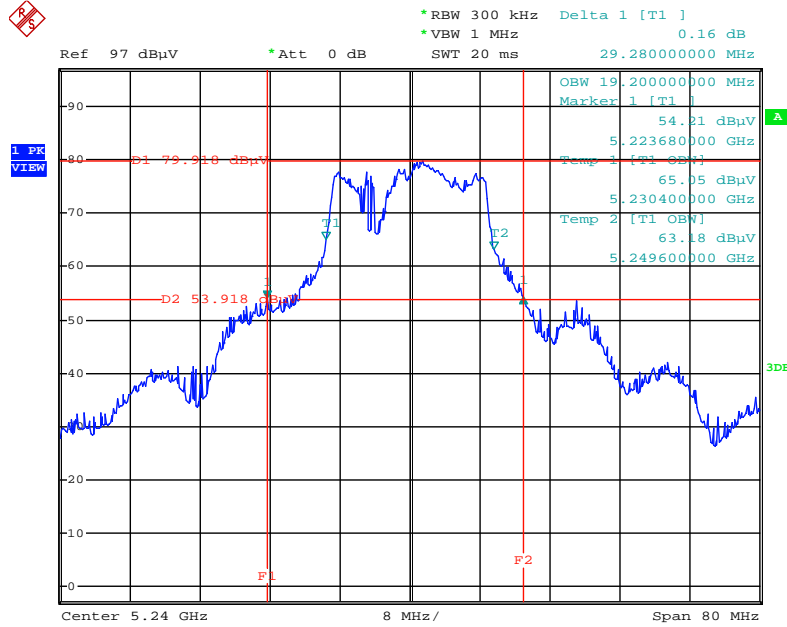
Date: 7.AUG.2014 19:33:22

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



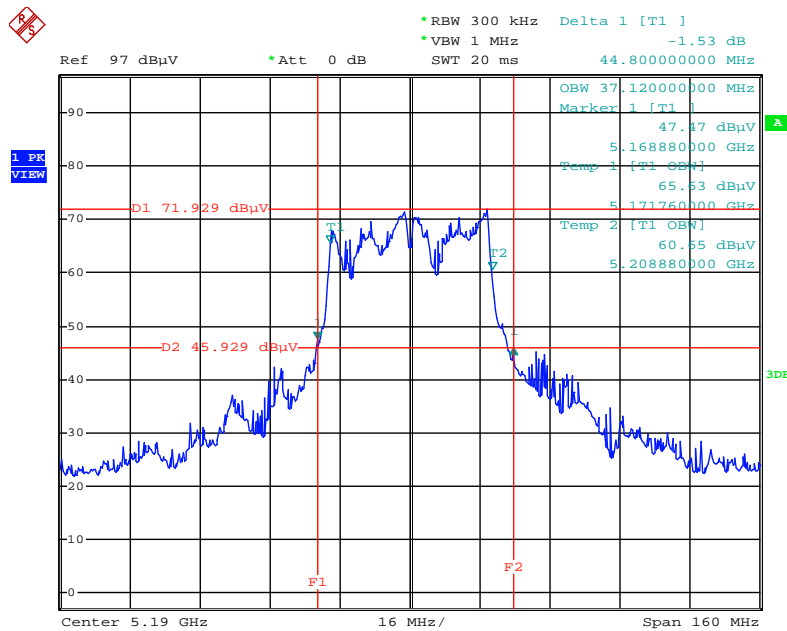
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



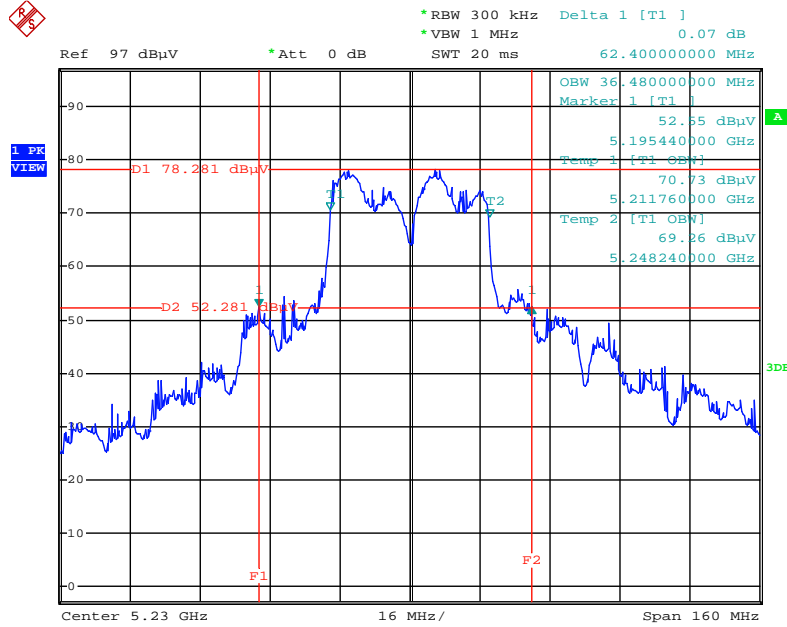
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5190 MHz**



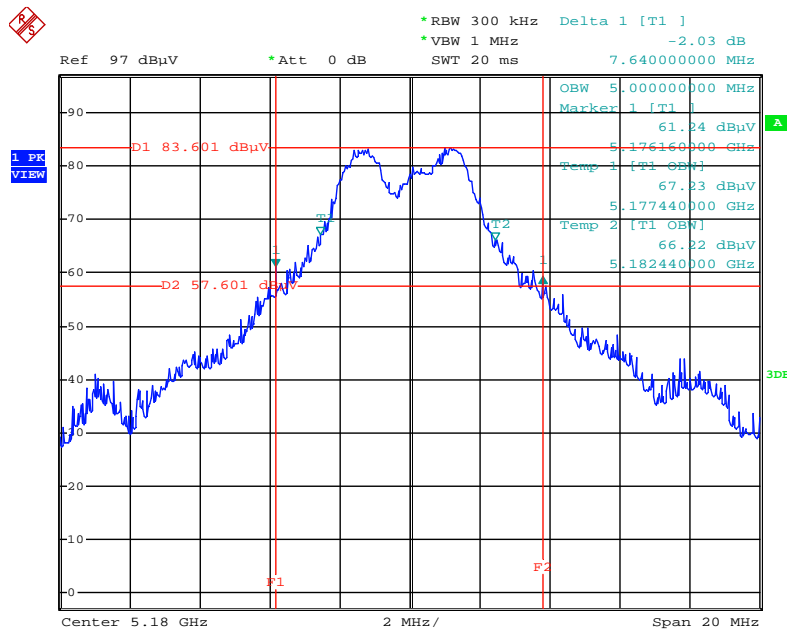
Date: 7.AUG.2014 19:44:20

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5230 MHz**



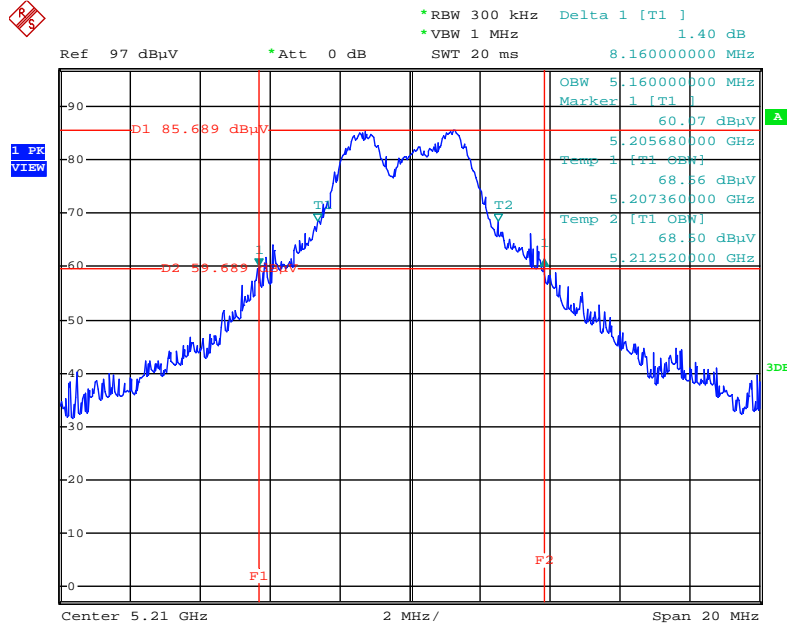
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



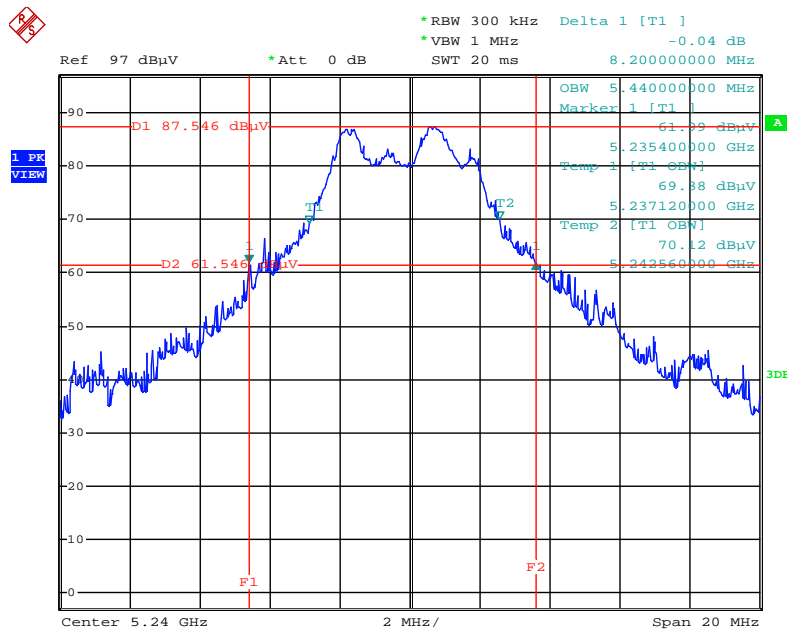
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



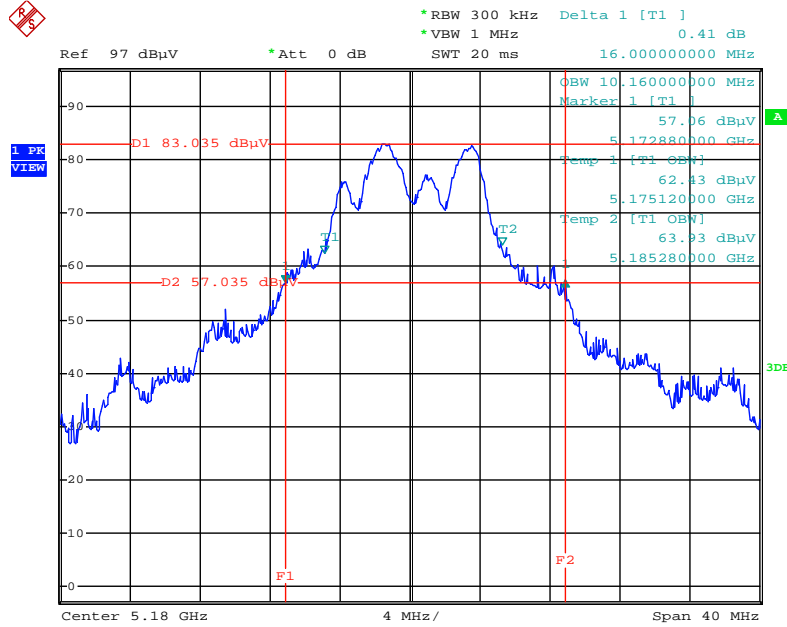
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



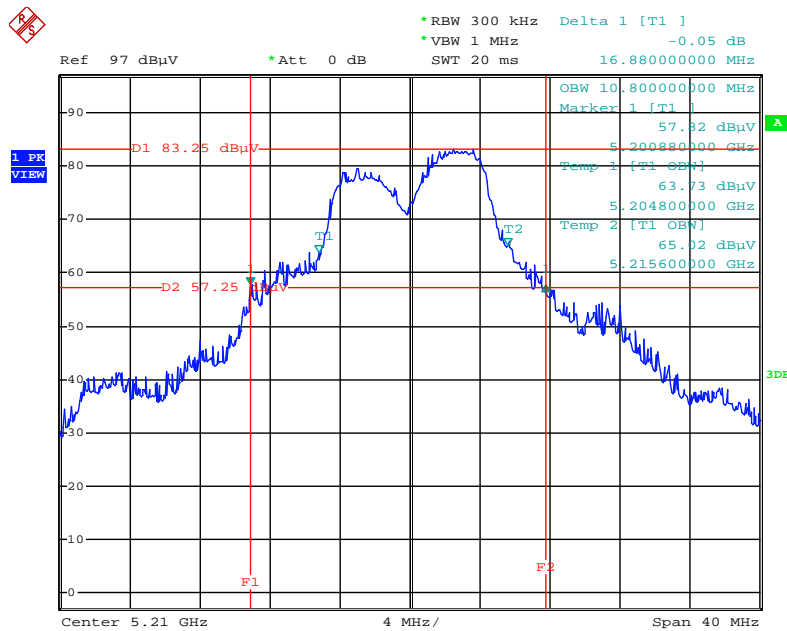
Date: 7.AUG.2014 20:10:33

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 14:17:14

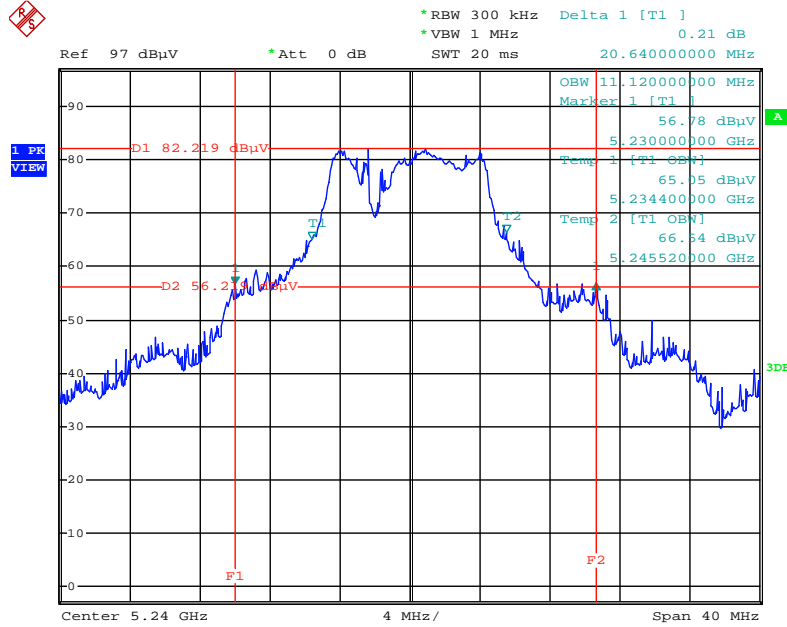
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



Date: 7.AUG.2014 20:18:19

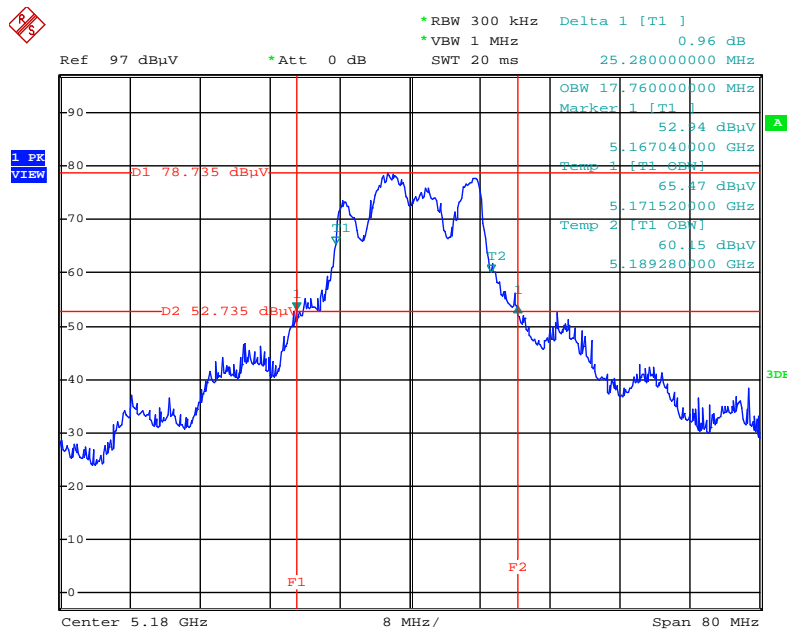


**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



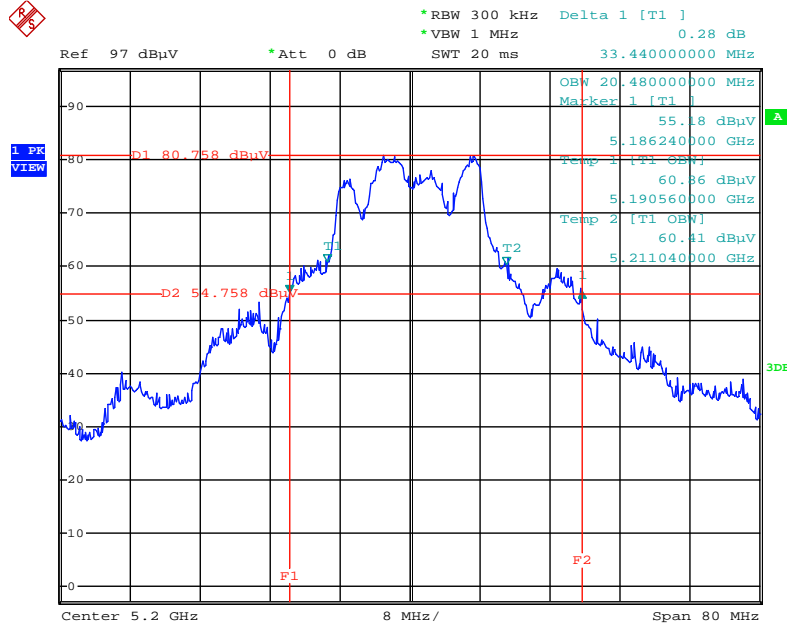
Date: 7.AUG.2014 20:19:15

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 19:41:15

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 7.AUG.2014 19:40:12

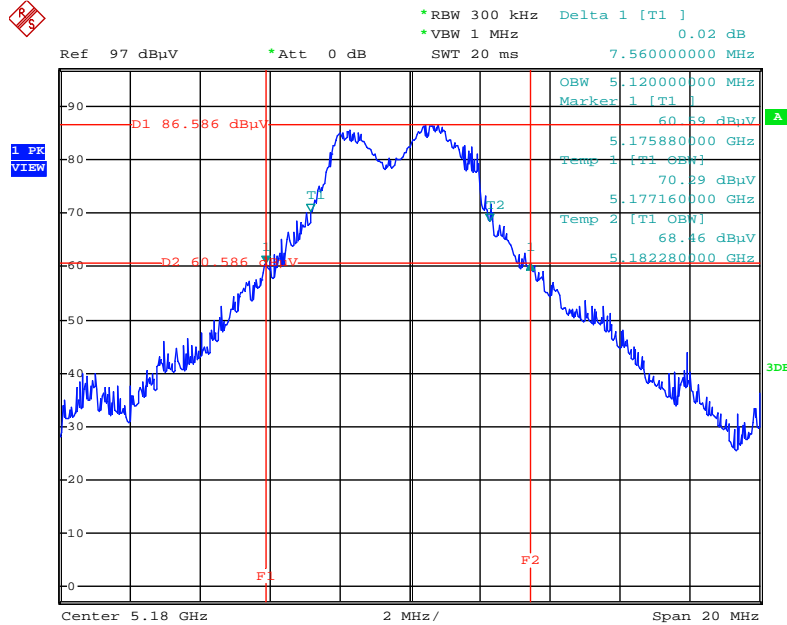
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



Date: 7.AUG.2014 19:39:18

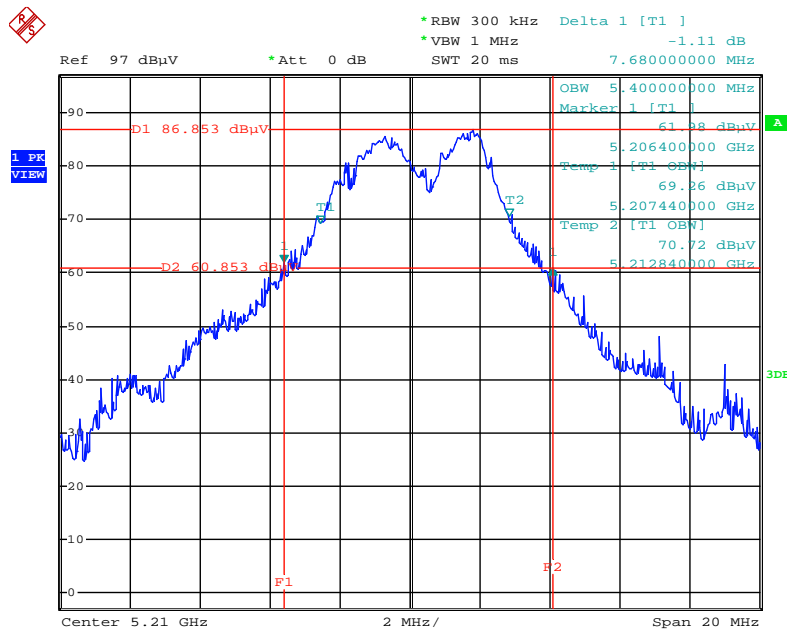
Test Mode 1 / P to M

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz



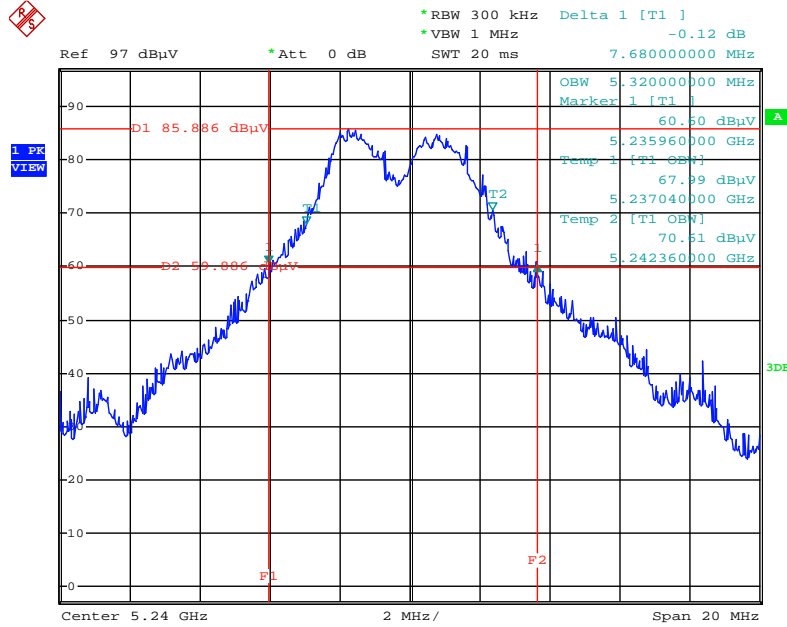
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz



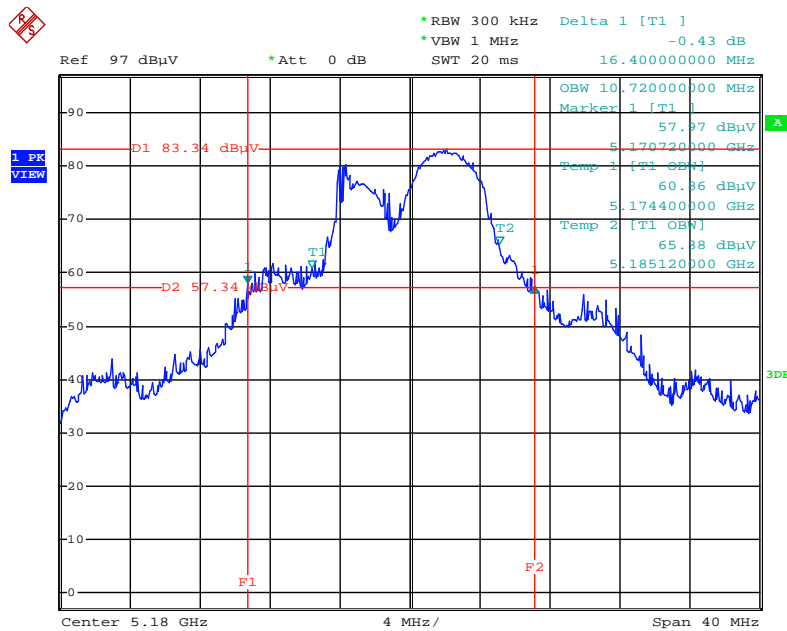
Date: 7.AUG.2014 14:03:45

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



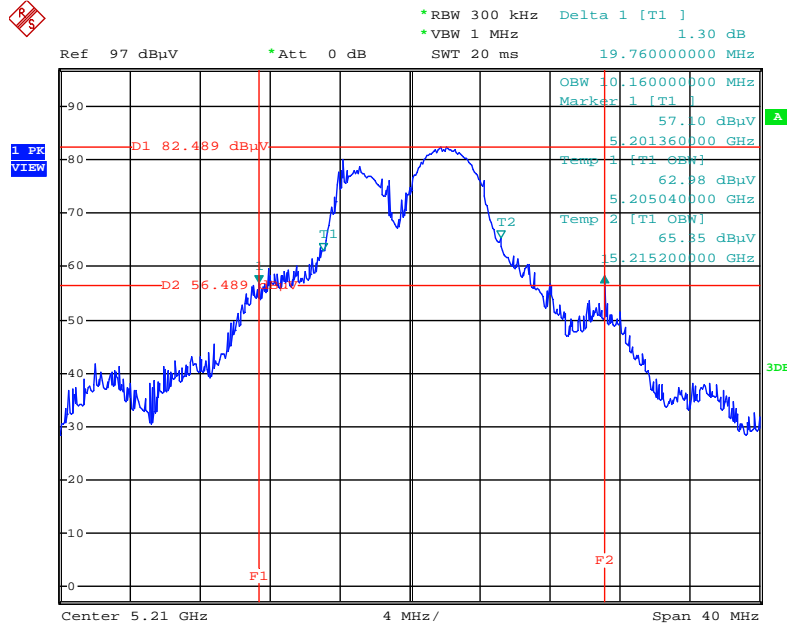
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



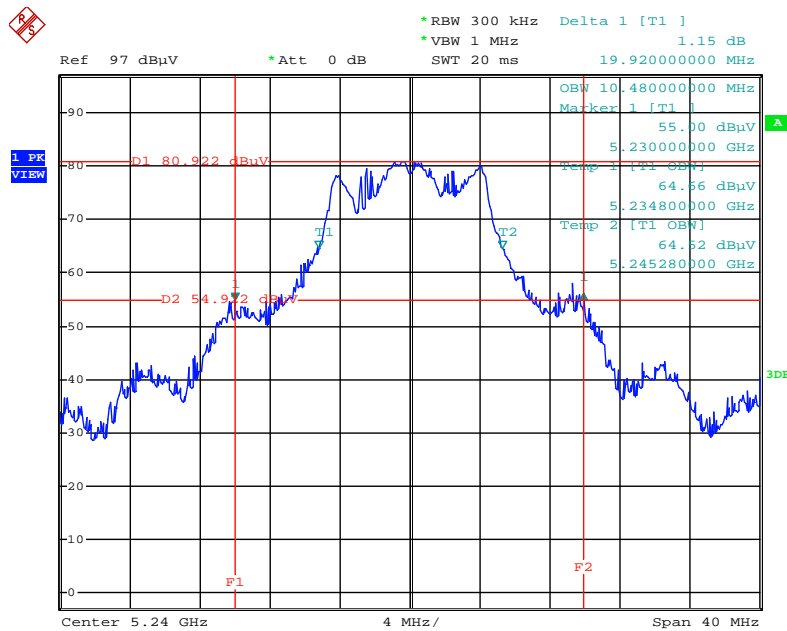
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



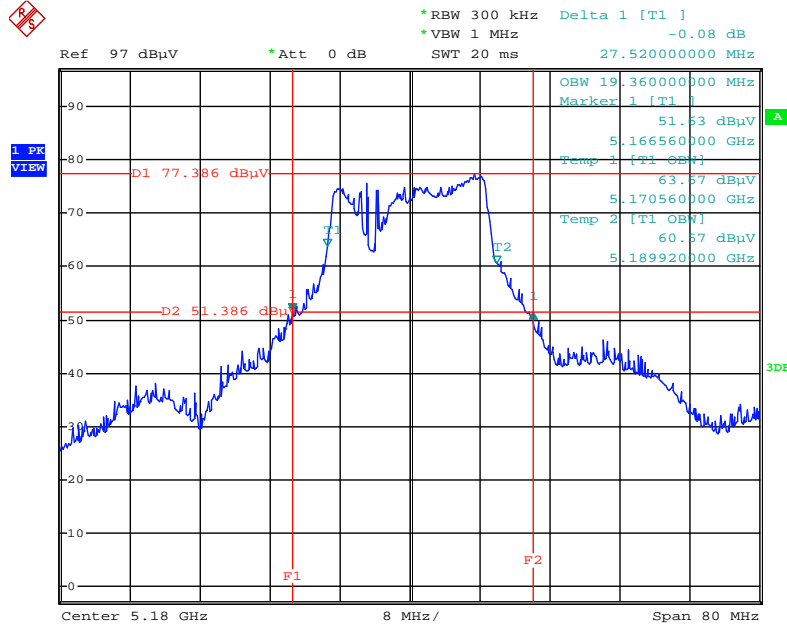
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



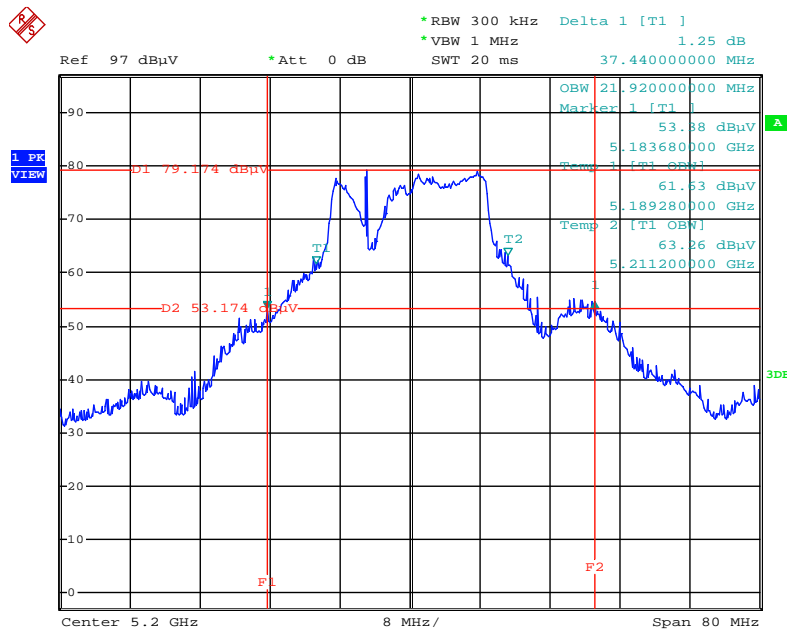
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



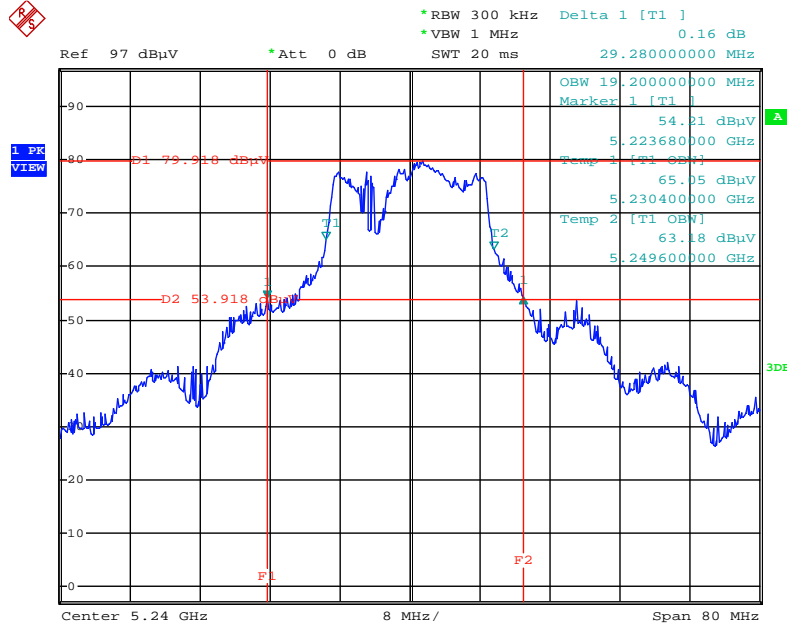
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



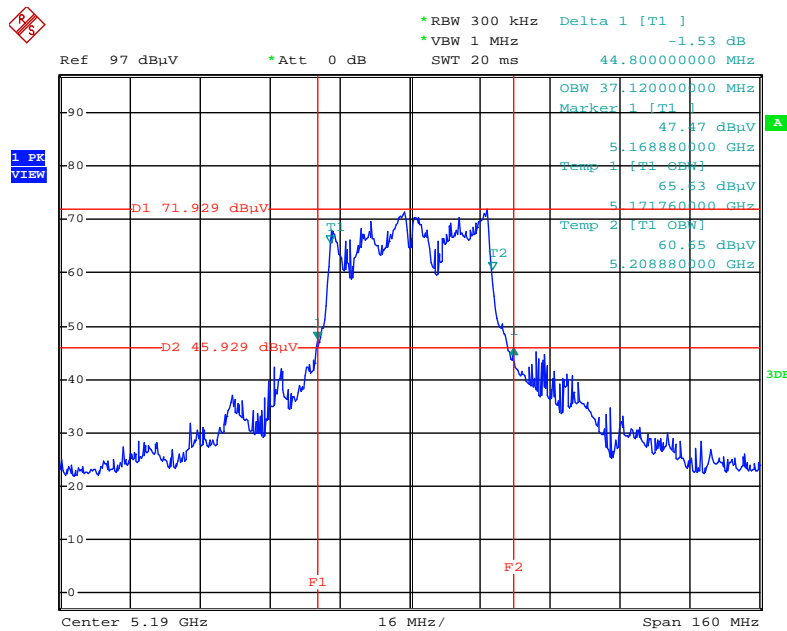
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**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



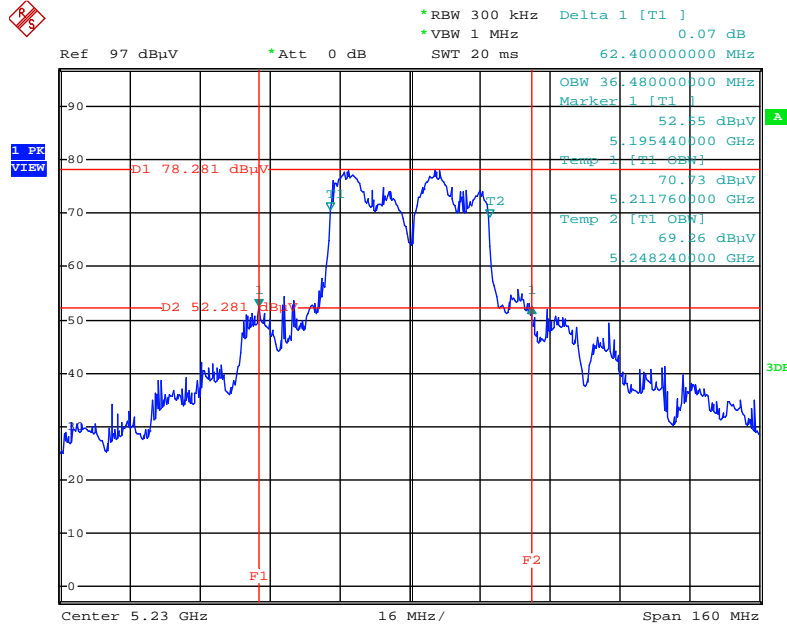
Date: 7.AUG.2014 19:36:52

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5190 MHz**



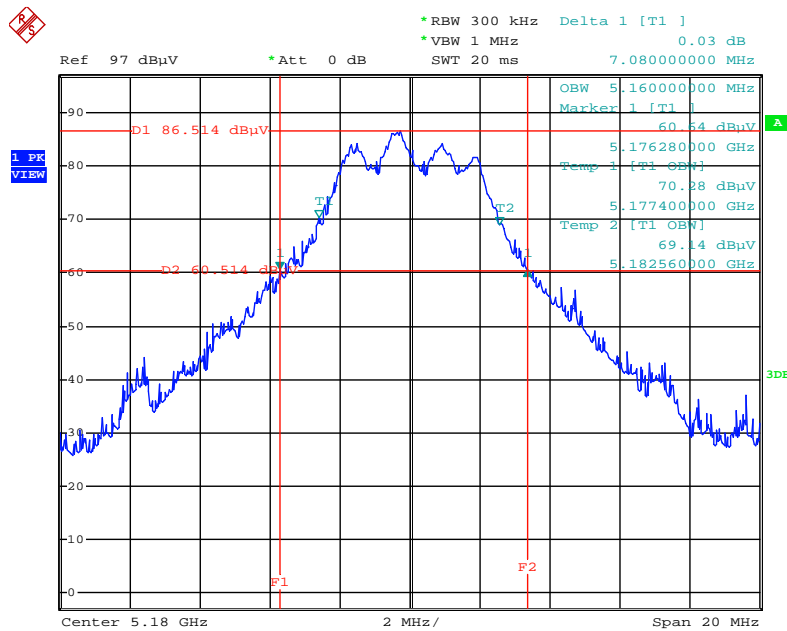
Date: 7.AUG.2014 19:44:20

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5230 MHz**



Date: 7.AUG.2014 19:45:14

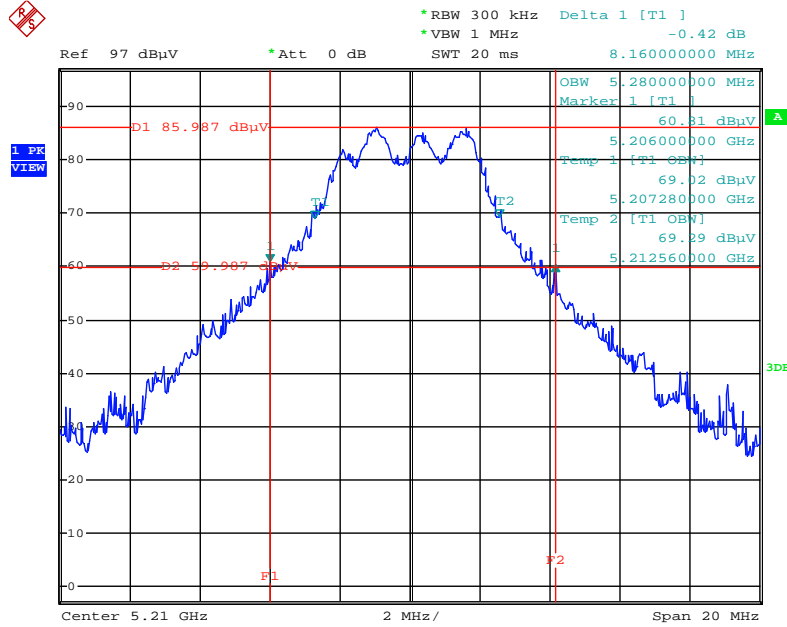
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 13:55:48

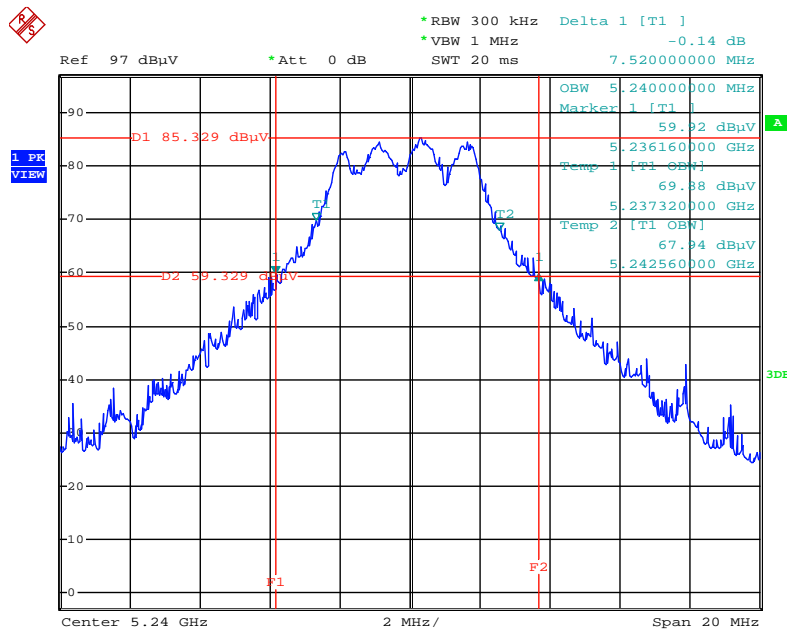


**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



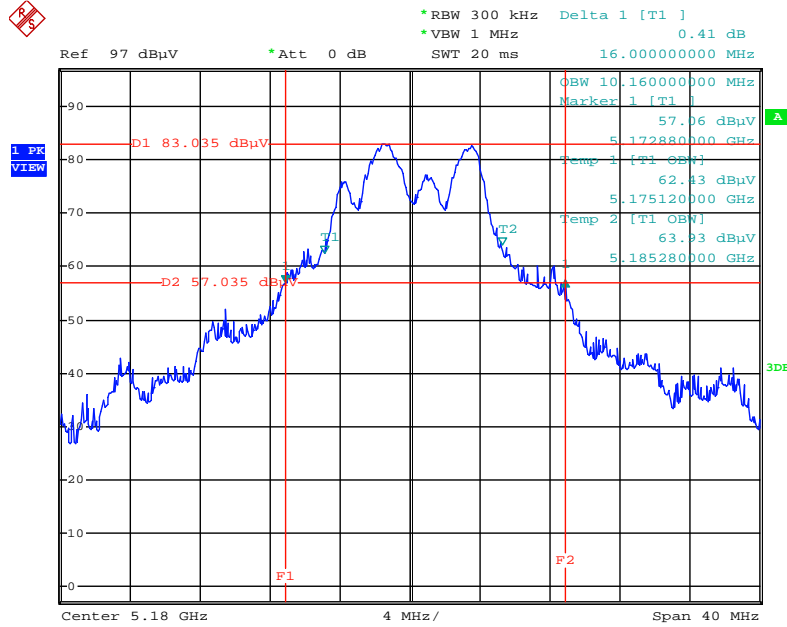
Date: 7.AUG.2014 13:56:46

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



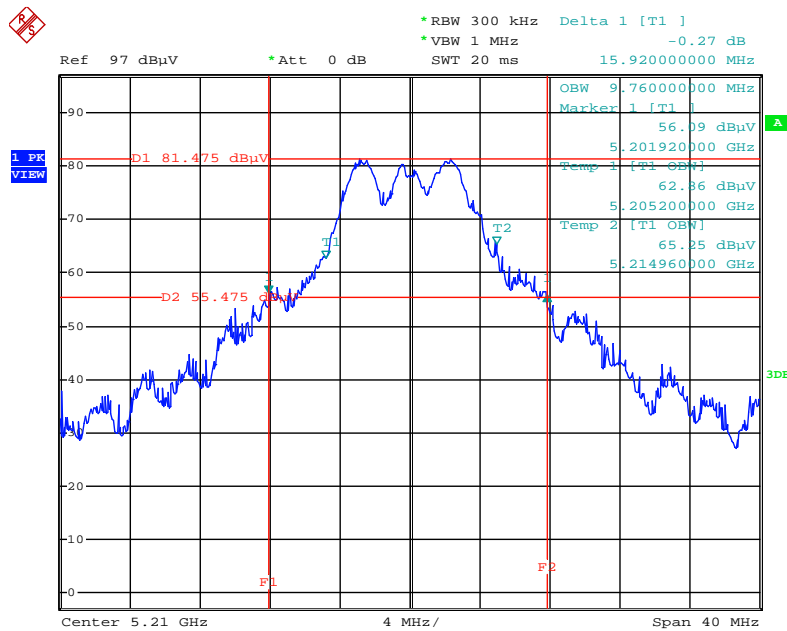
Date: 7.AUG.2014 13:57:51

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



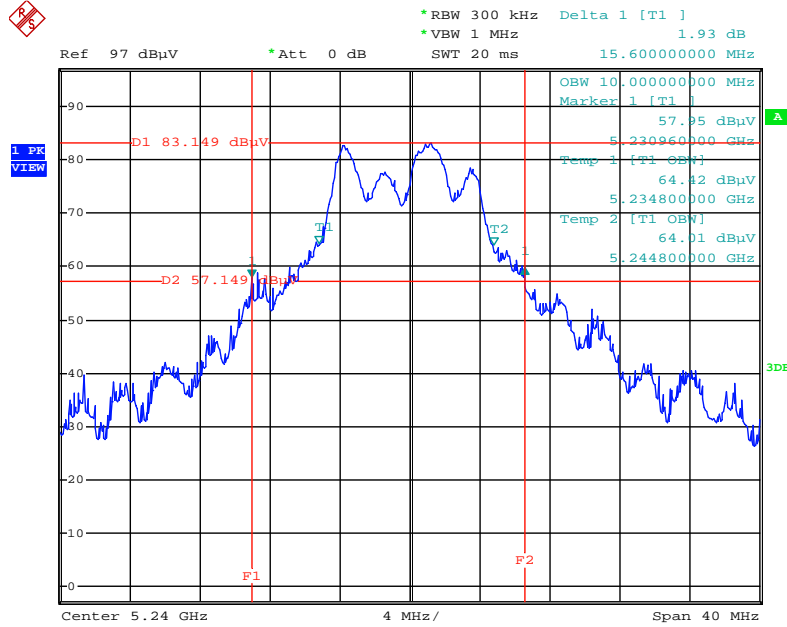
Date: 7.AUG.2014 14:17:14

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



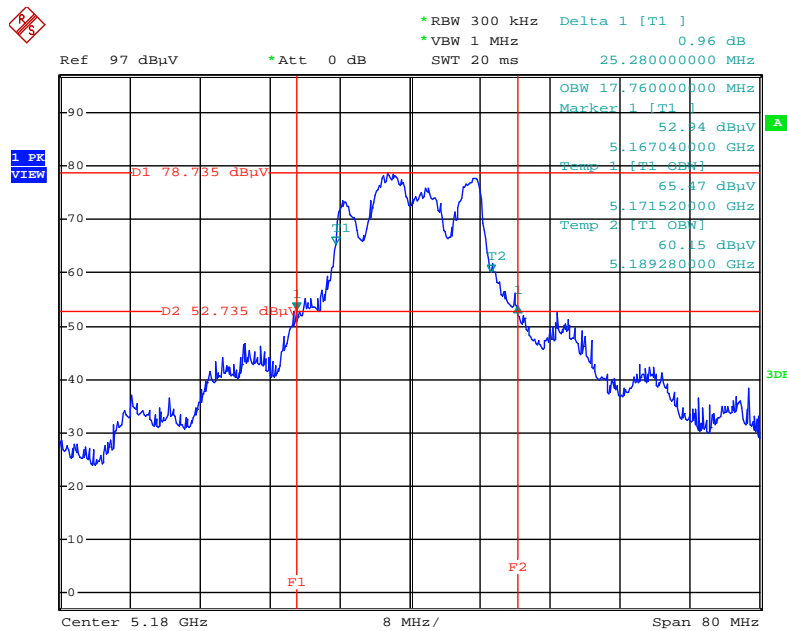
Date: 7.AUG.2014 14:18:24

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



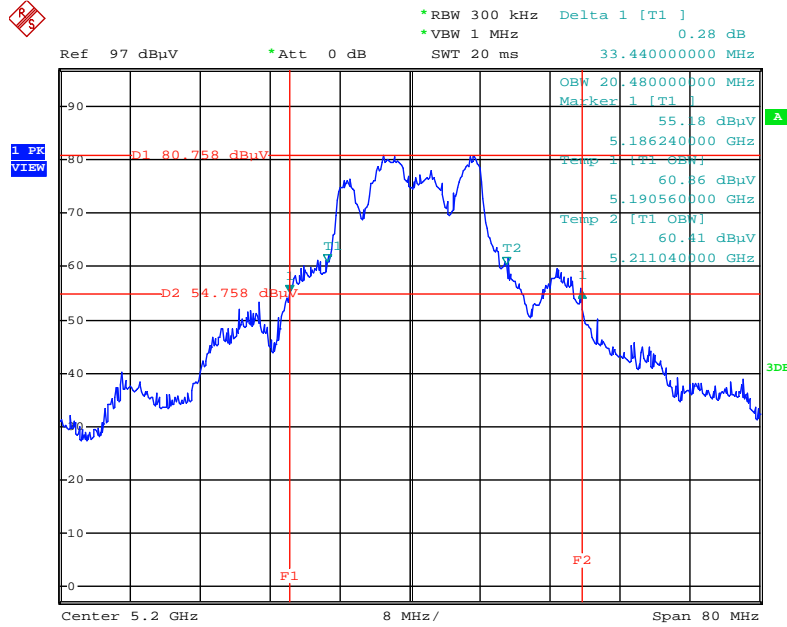
Date: 7.AUG.2014 14:19:26

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 19:41:15

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 7.AUG.2014 19:40:12

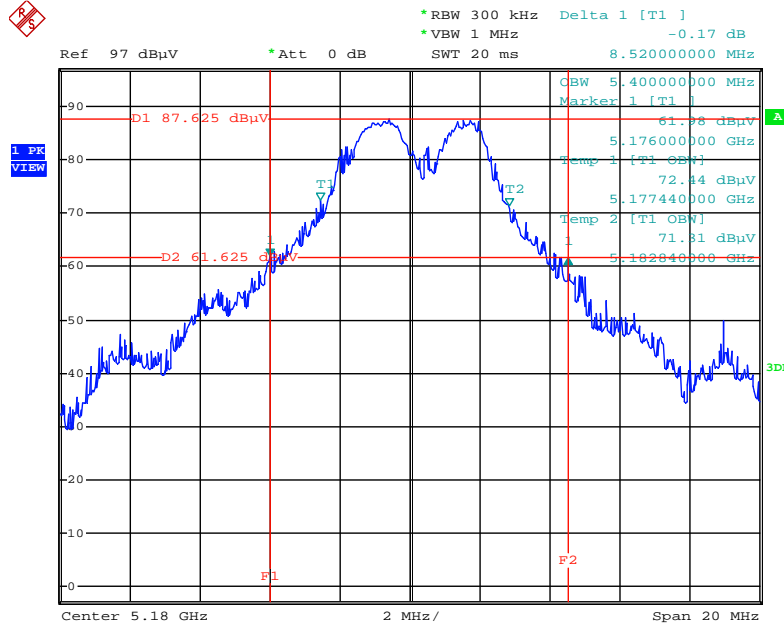
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



Date: 7.AUG.2014 19:39:18

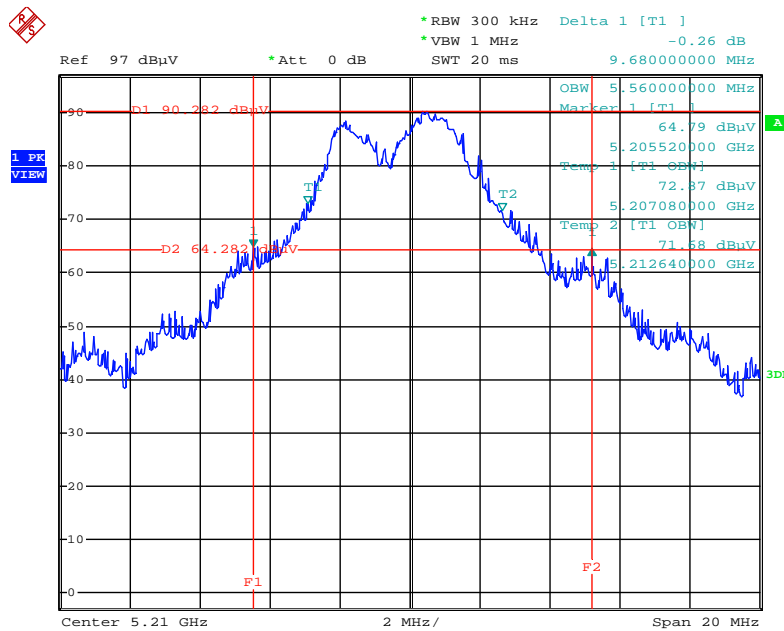
Test Mode 2 / P to P

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz



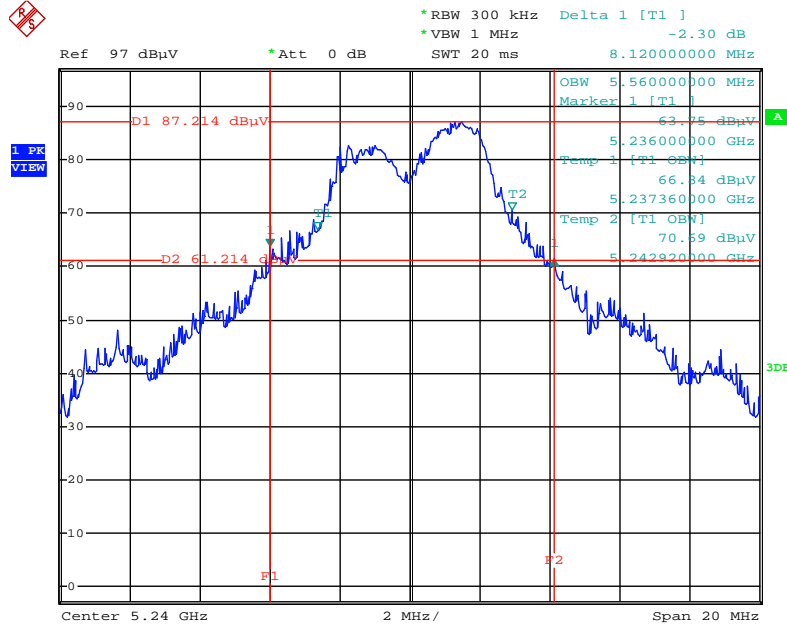
Date: 8.AUG.2014 10:48:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz



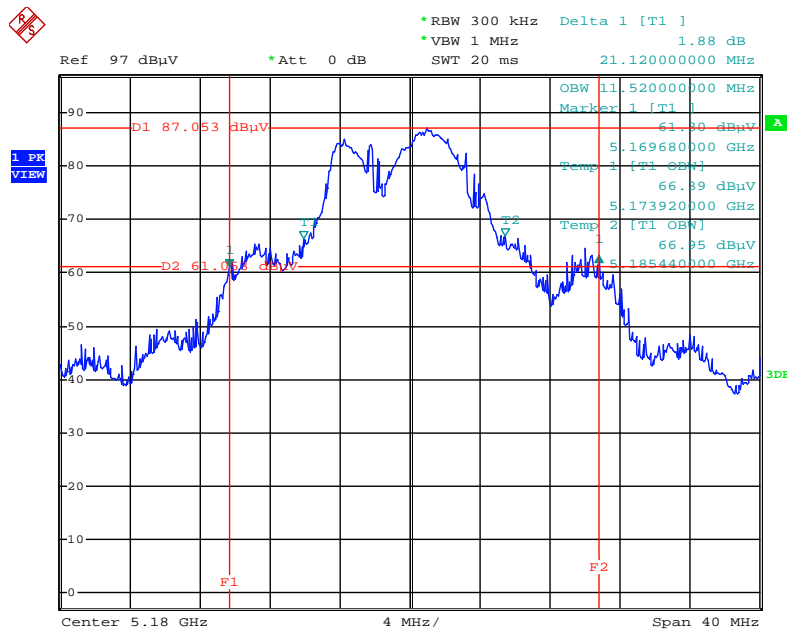
Date: 8.AUG.2014 10:47:46

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



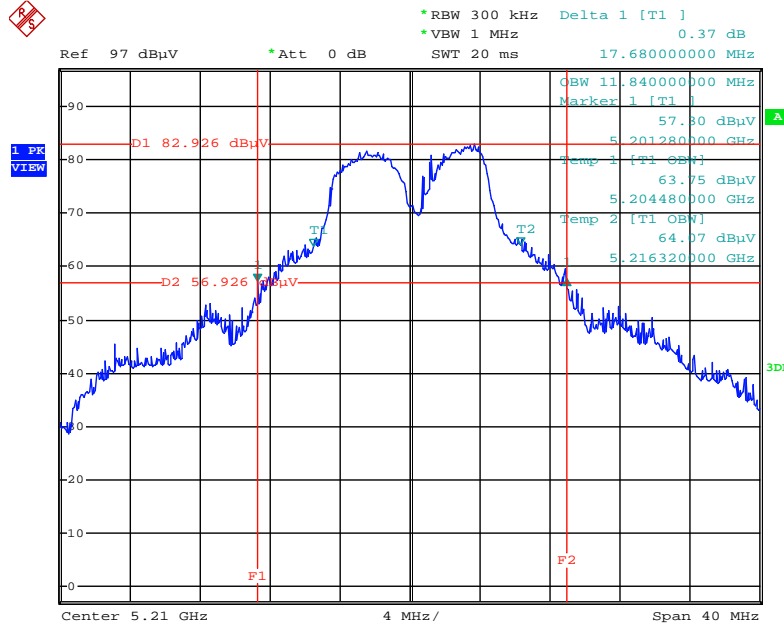
Date: 7.AUG.2014 20:12:16

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



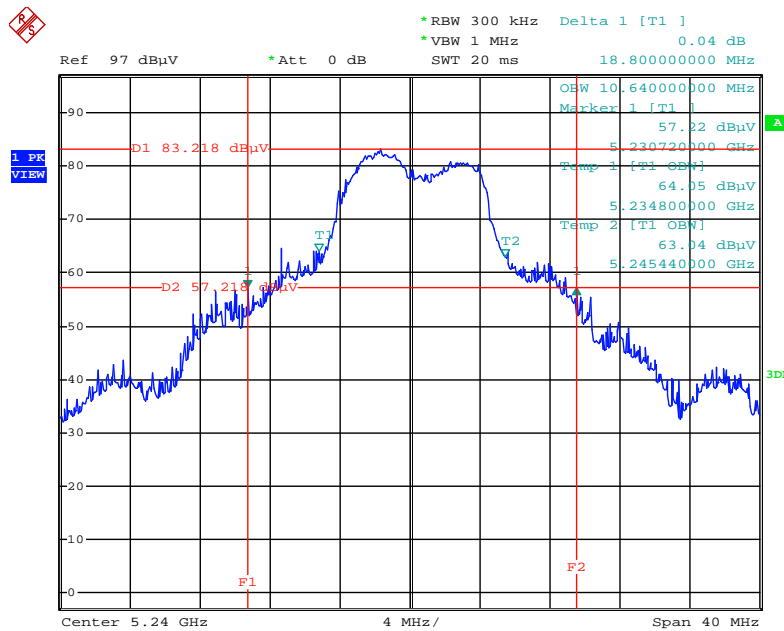
Date: 8.AUG.2014 10:56:06

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



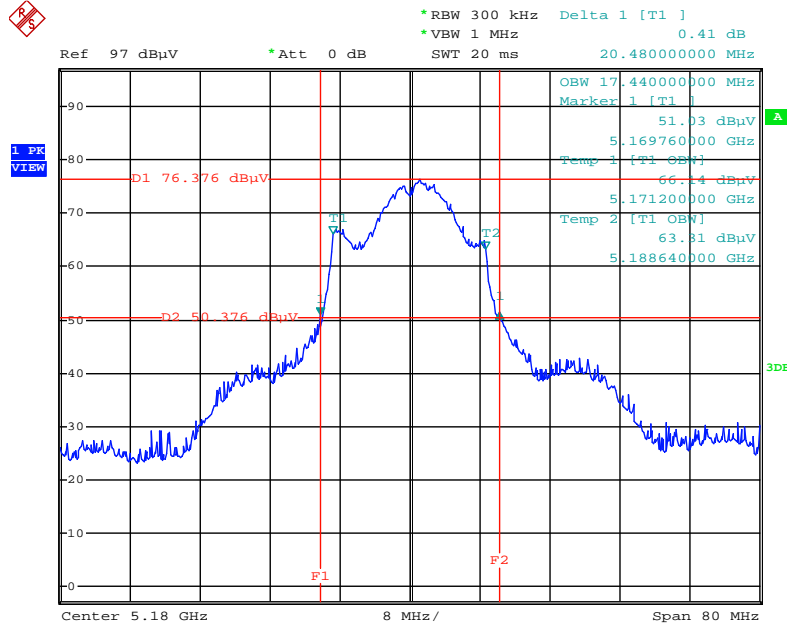
Date: 7.AUG.2014 20:24:12

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



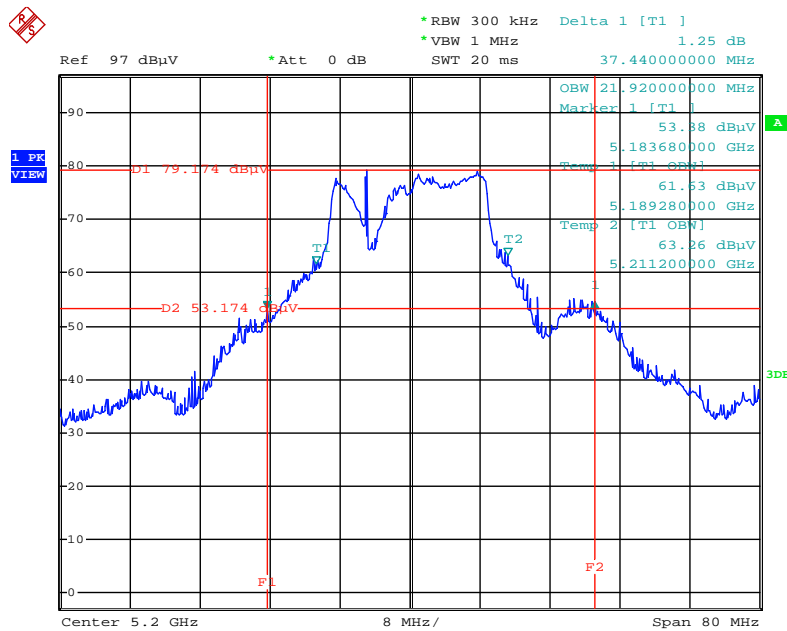
Date: 7.AUG.2014 20:24:58

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 21:02:35

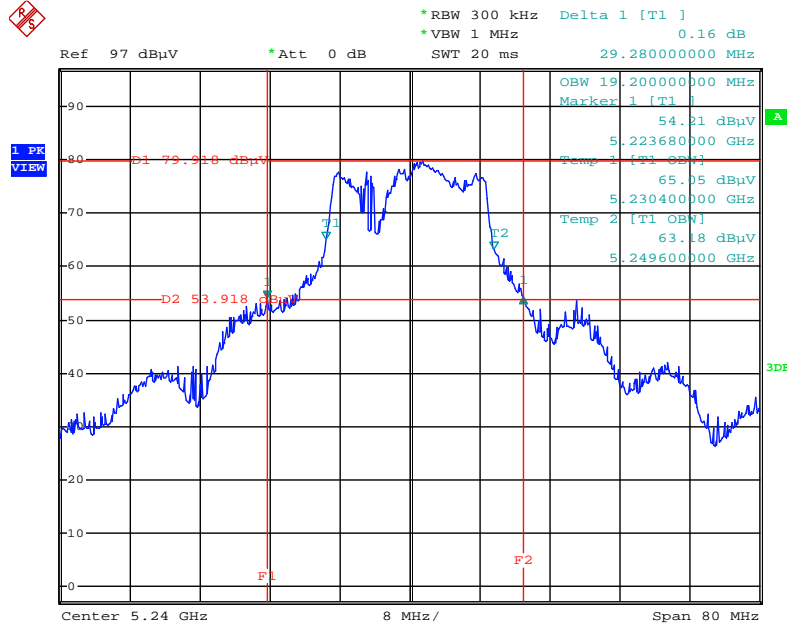
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 7.AUG.2014 19:36:13

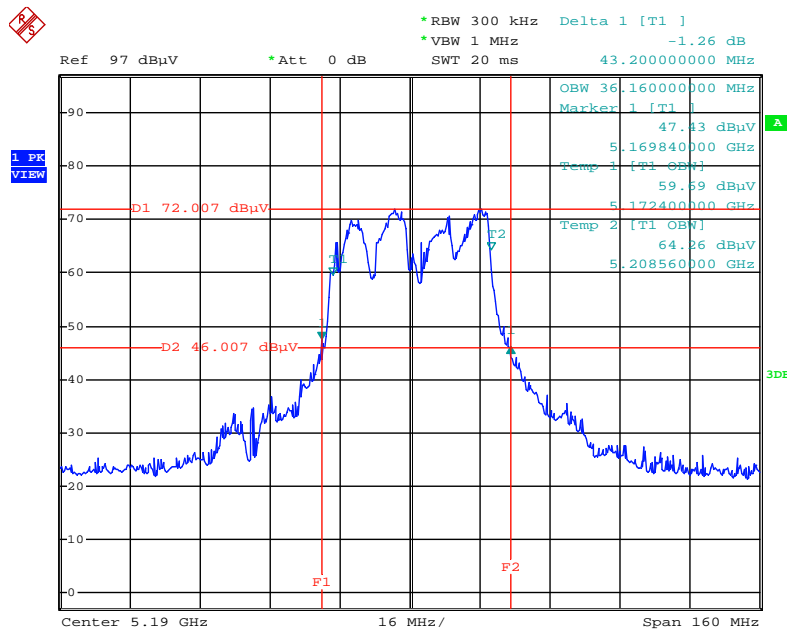


**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



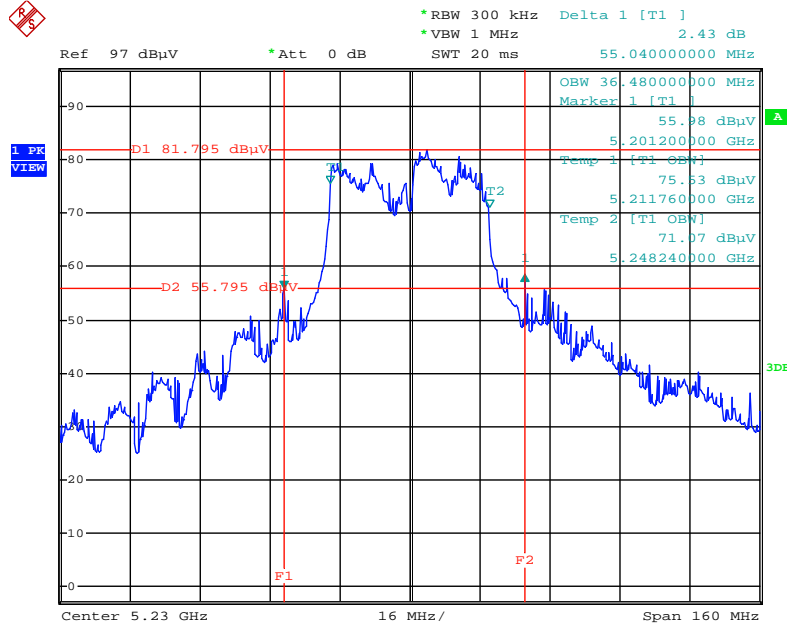
Date: 7.AUG.2014 19:36:52

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5190 MHz**



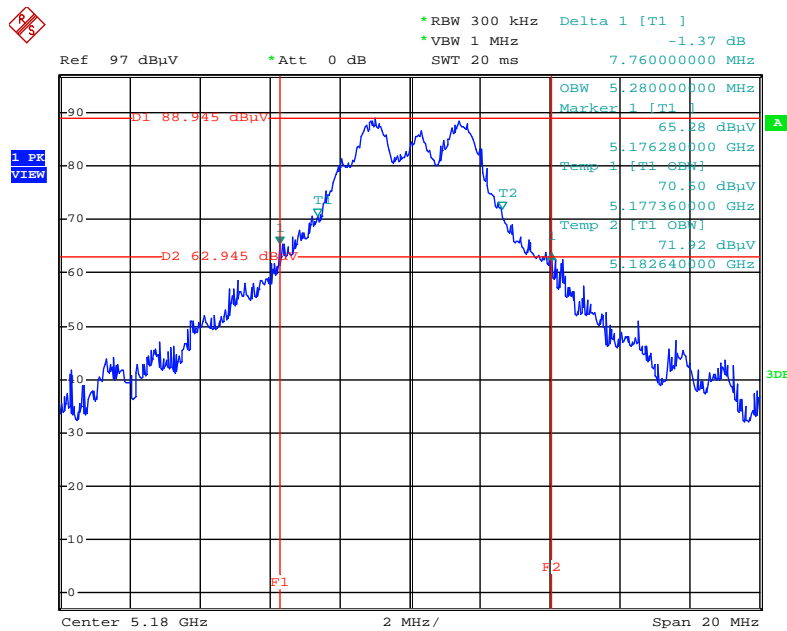
Date: 7.AUG.2014 21:05:13

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5230 MHz**



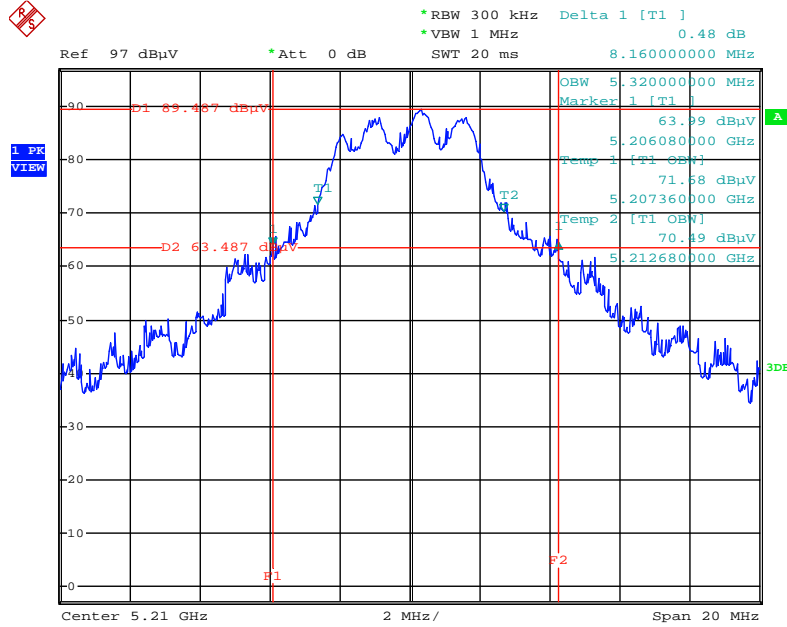
Date: 7.AUG.2014 21:07:04

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



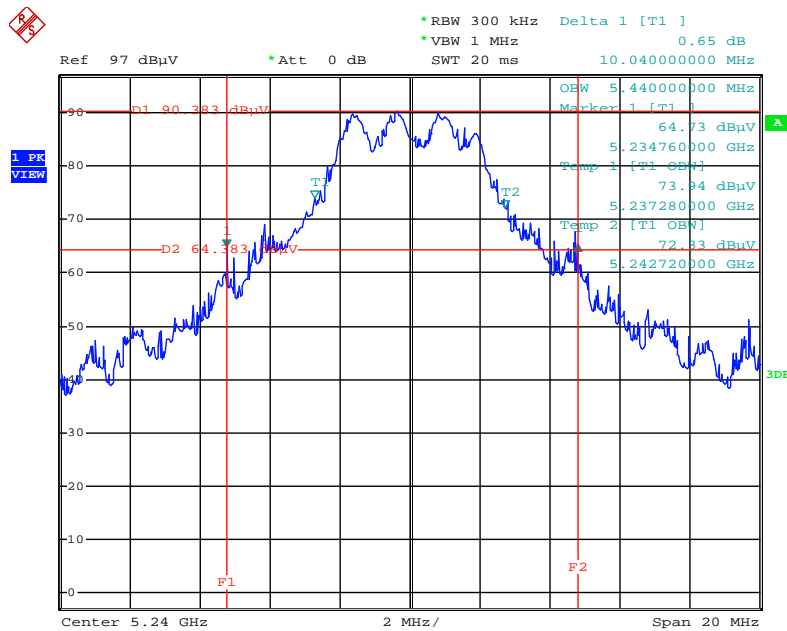
Date: 8.AUG.2014 10:41:46

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



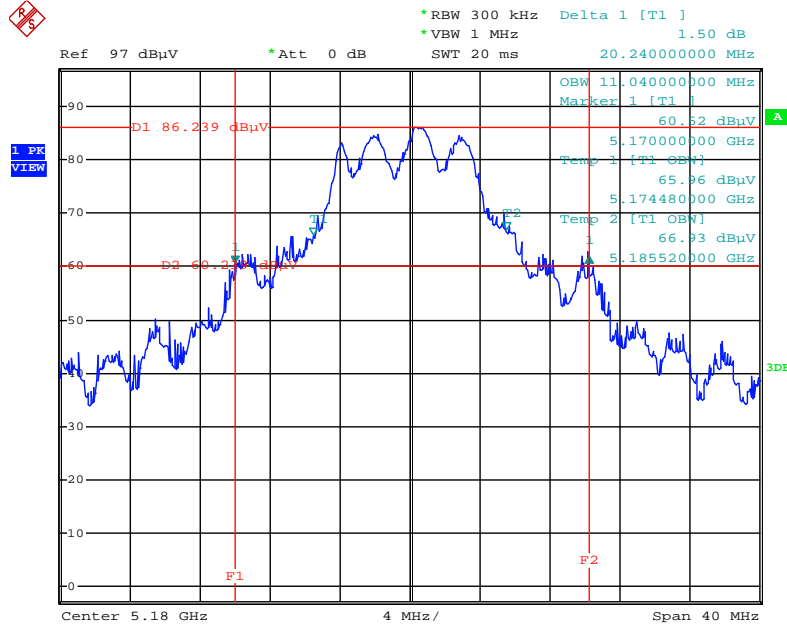
Date: 8.AUG.2014 10:42:59

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



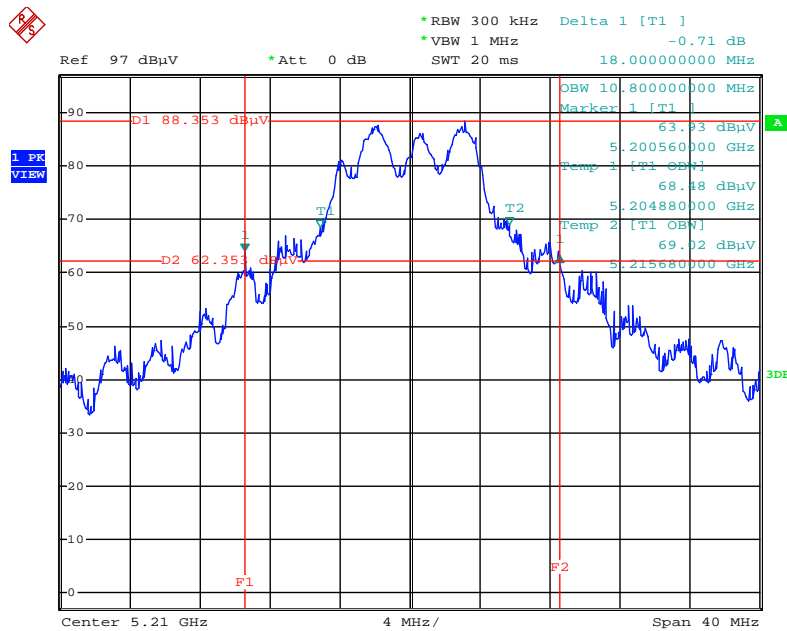
Date: 8.AUG.2014 10:46:21

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



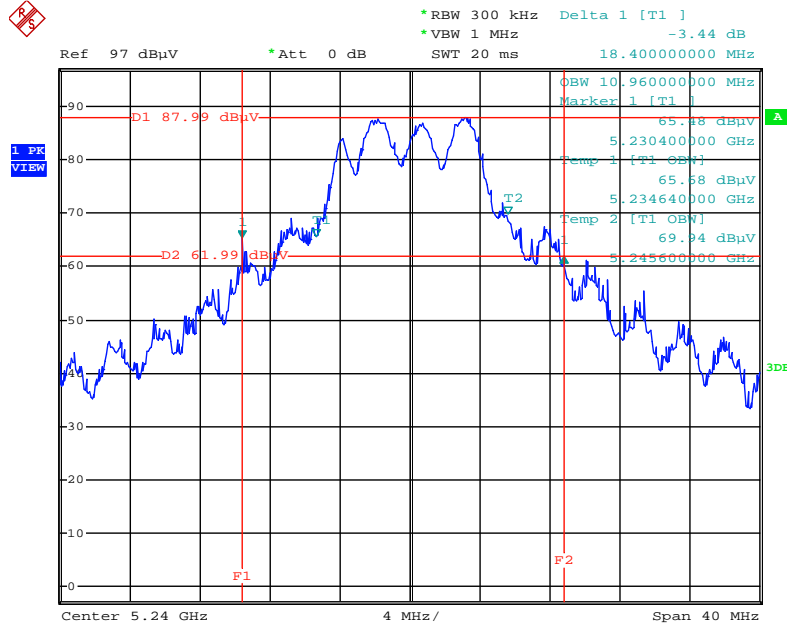
Date: 8.AUG.2014 10:52:37

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



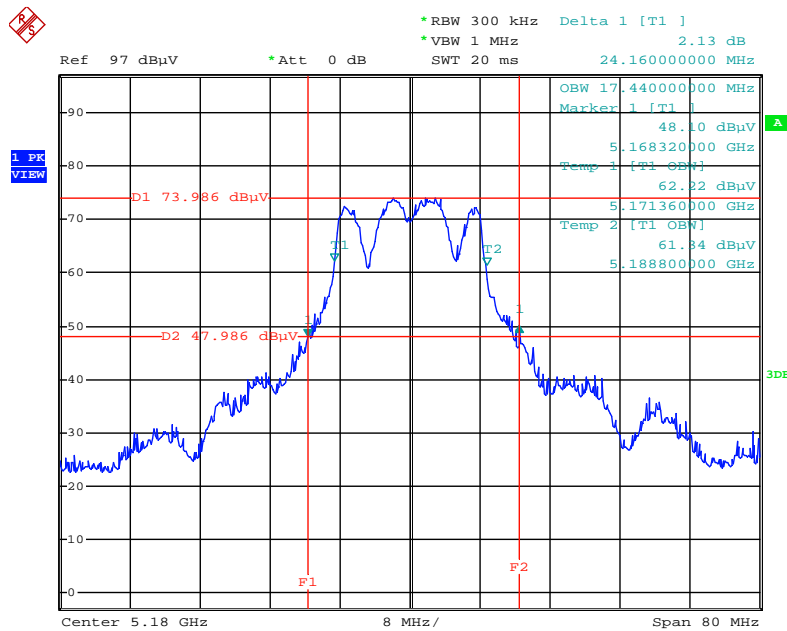
Date: 8.AUG.2014 10:53:26

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



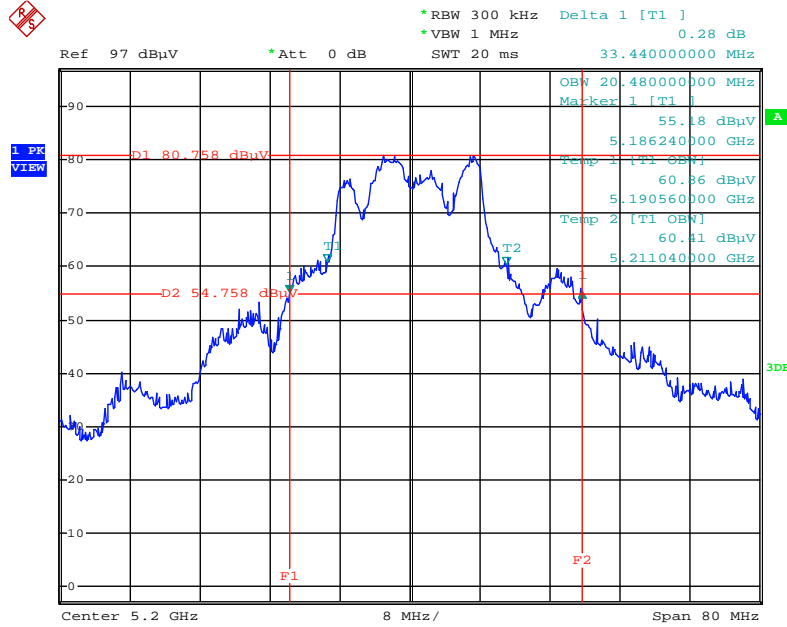
Date: 8.AUG.2014 10:54:16

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



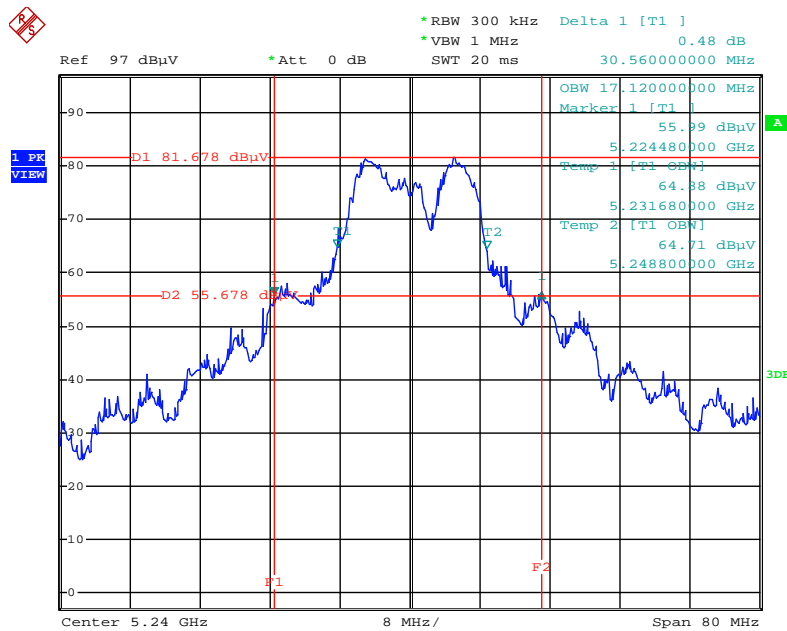
Date: 7.AUG.2014 20:59:44

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 7.AUG.2014 19:40:12

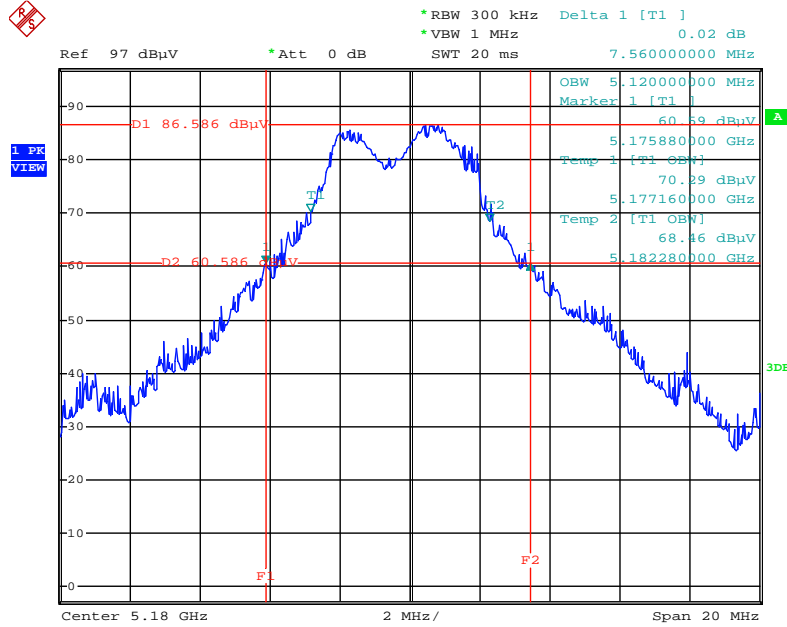
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



Date: 7.AUG.2014 19:39:18

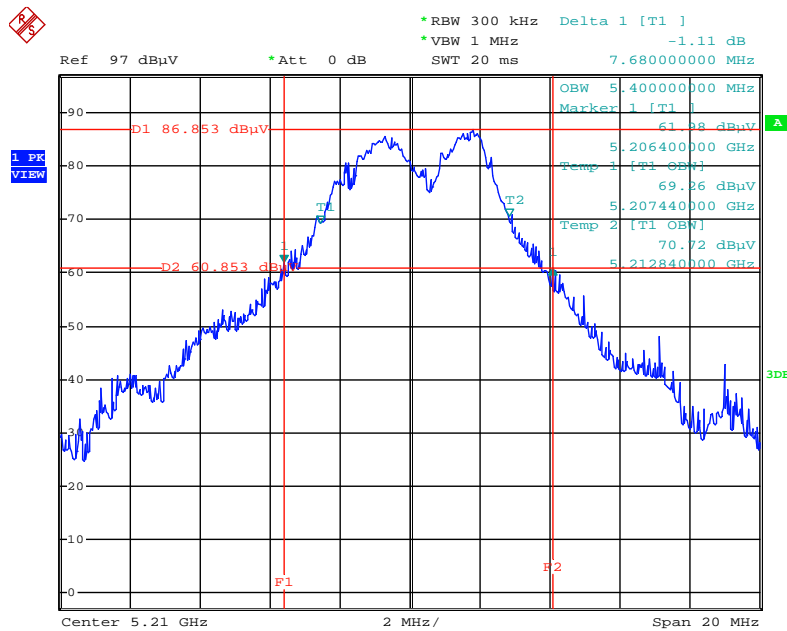
**Test Mode 2 / P to M**

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



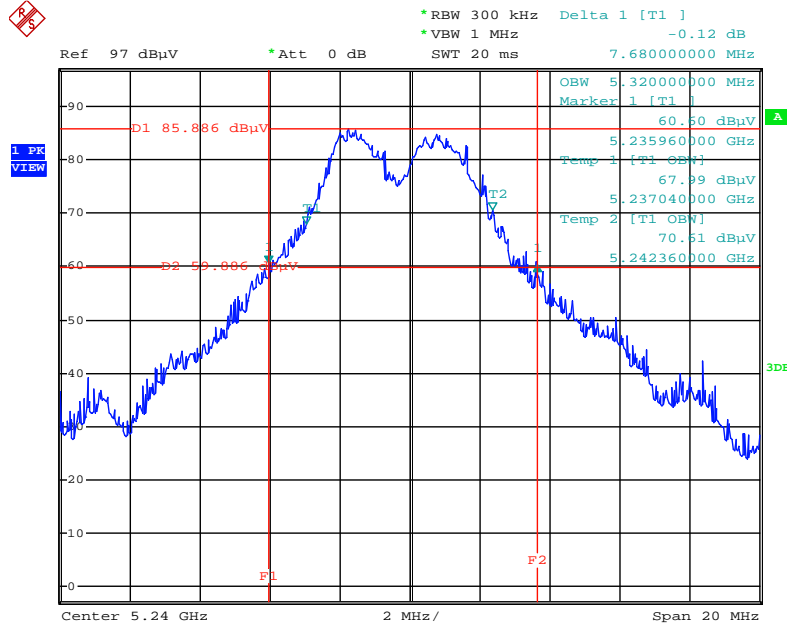
Date: 7.AUG.2014 14:04:42

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



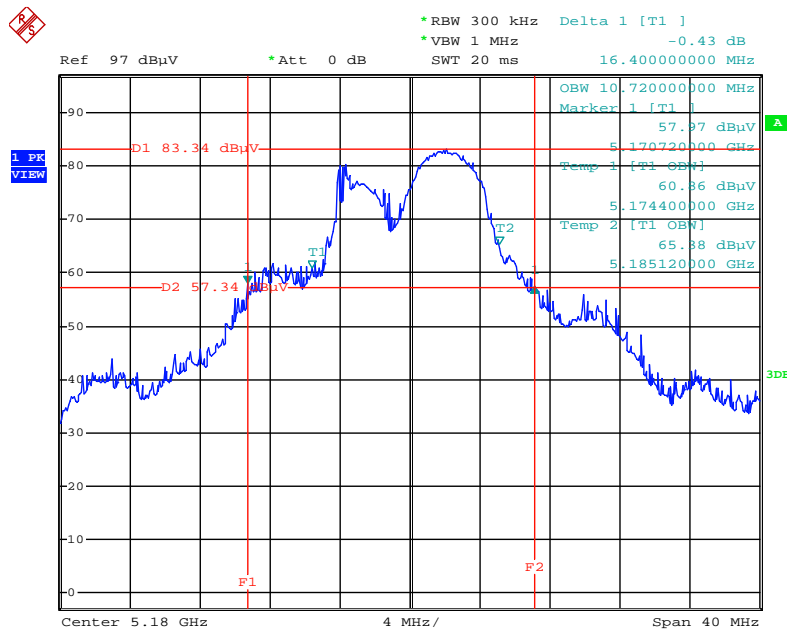
Date: 7.AUG.2014 14:03:45

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



Date: 7.AUG.2014 14:00:14

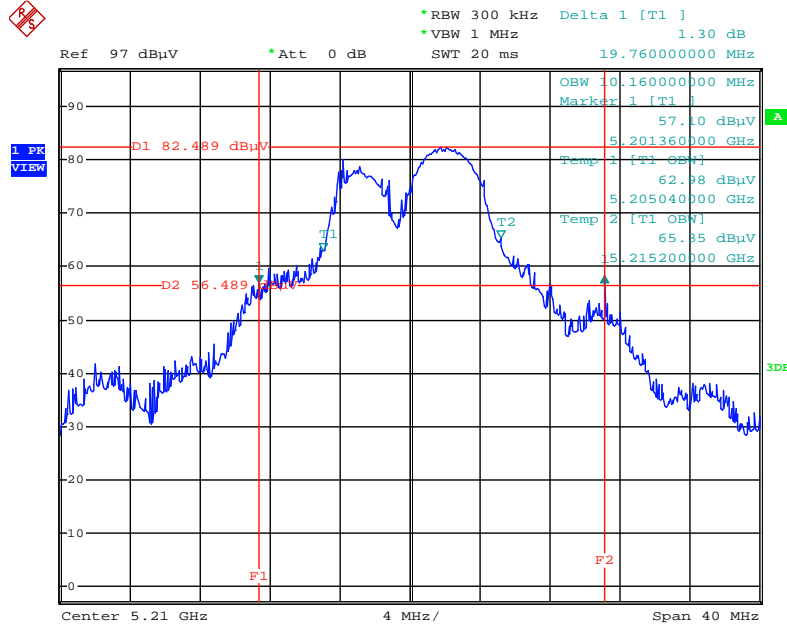
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 14:24:33

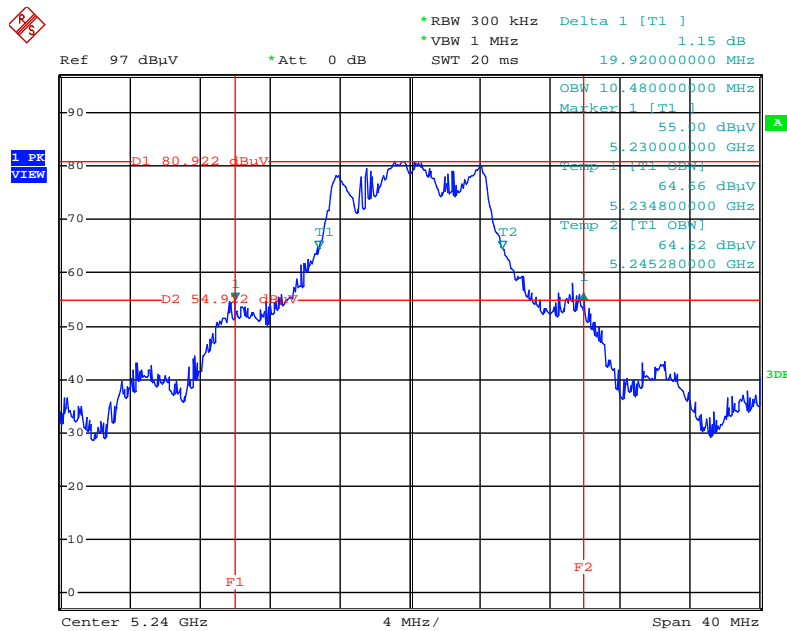


**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



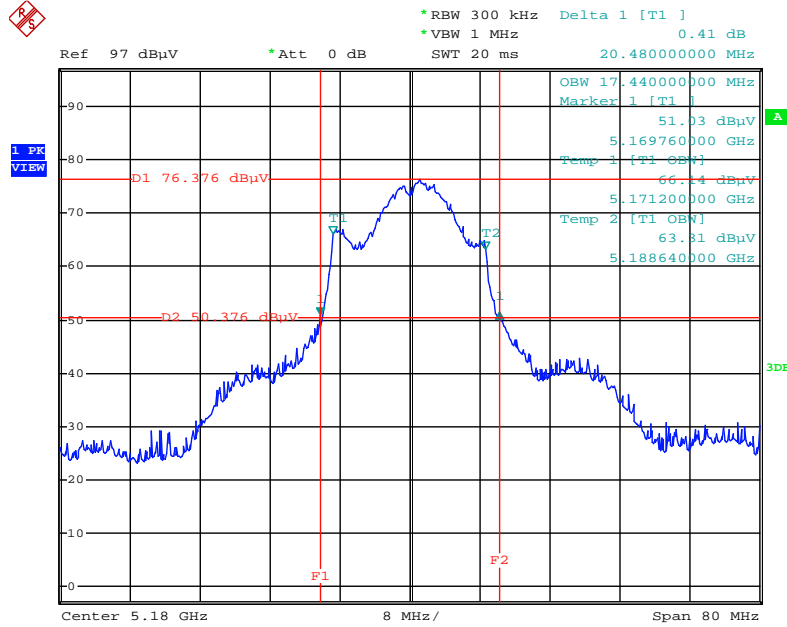
Date: 7.AUG.2014 14:23:31

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



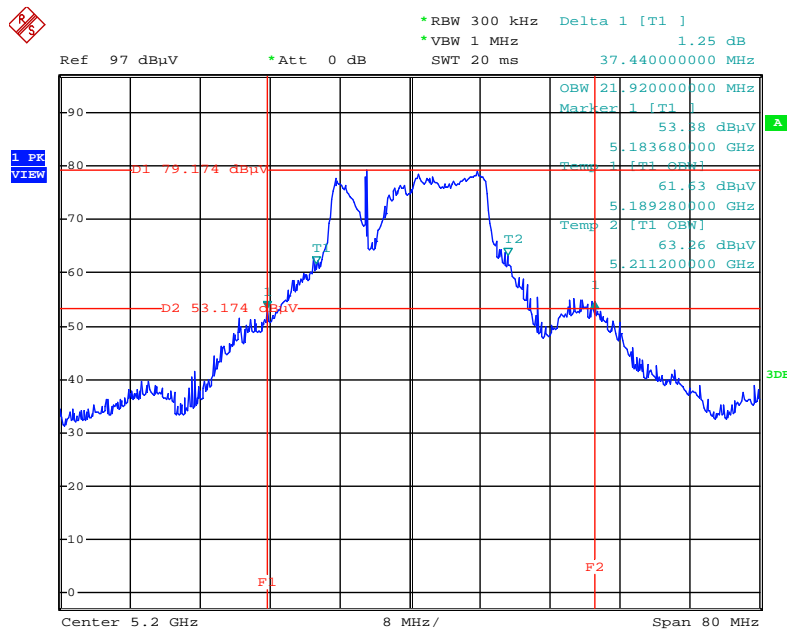
Date: 7.AUG.2014 14:22:25

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



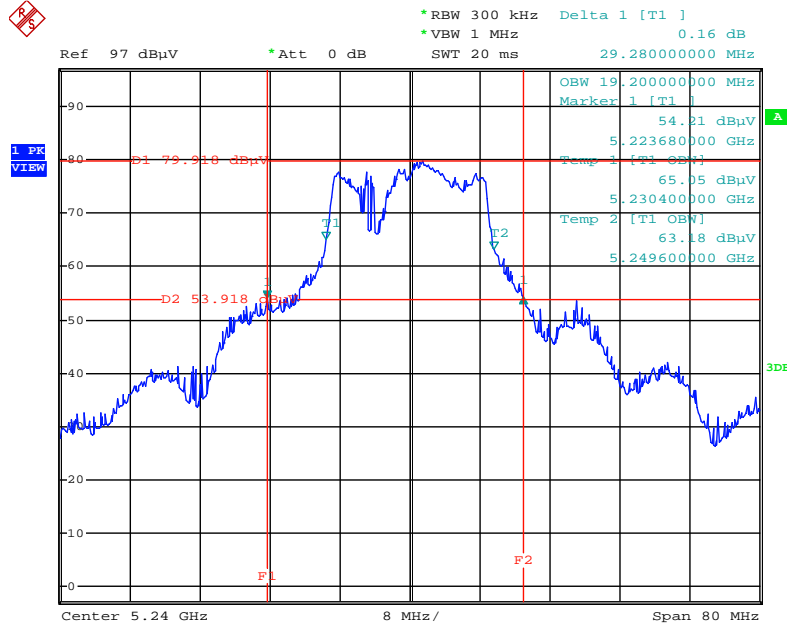
Date: 7.AUG.2014 21:02:35

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



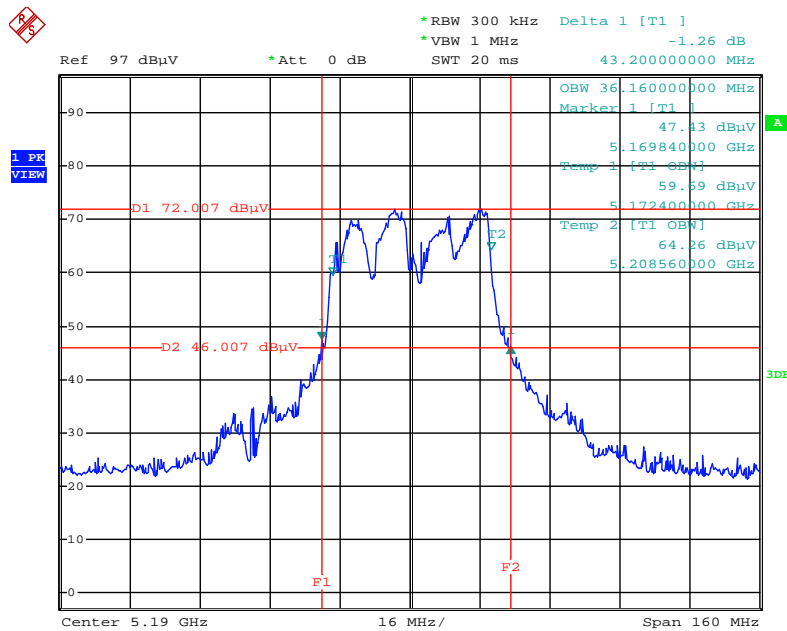
Date: 7.AUG.2014 19:36:13

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



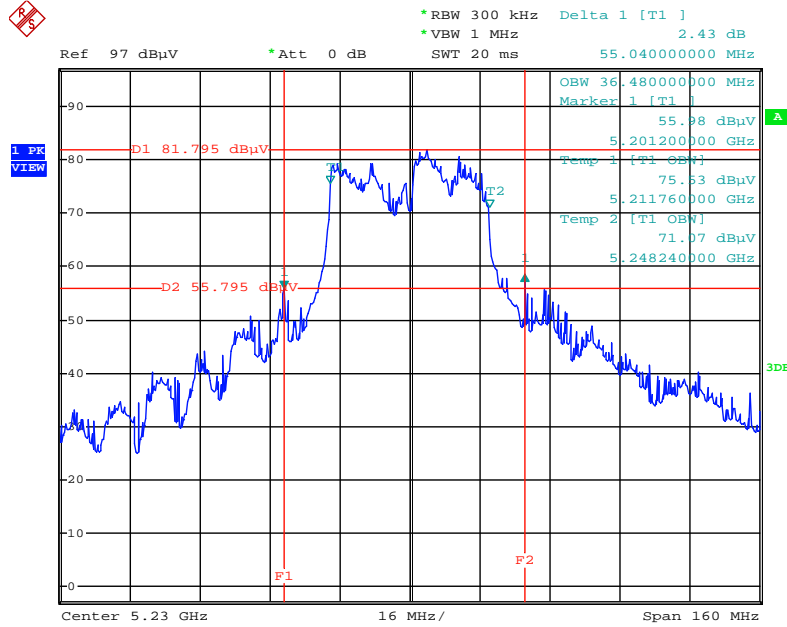
Date: 7.AUG.2014 19:36:52

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5190 MHz**



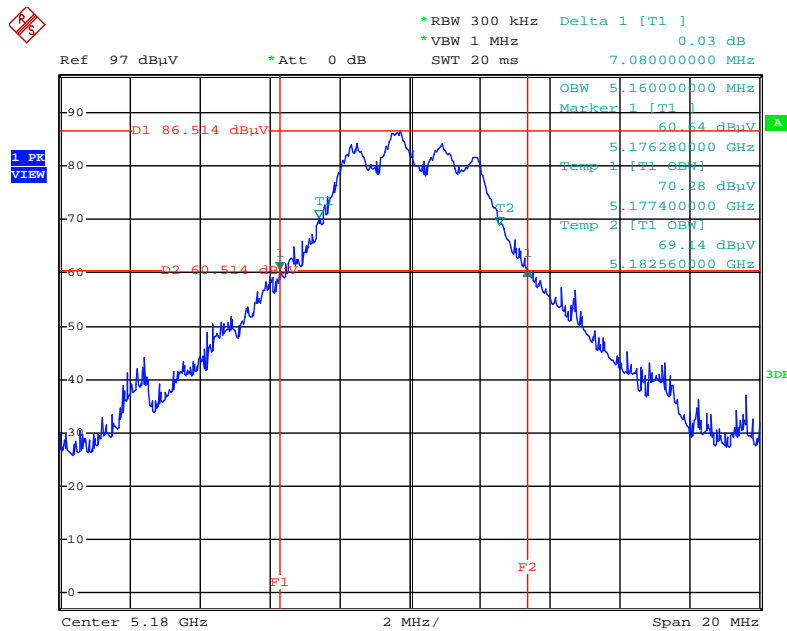
Date: 7.AUG.2014 21:05:13

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5230 MHz**



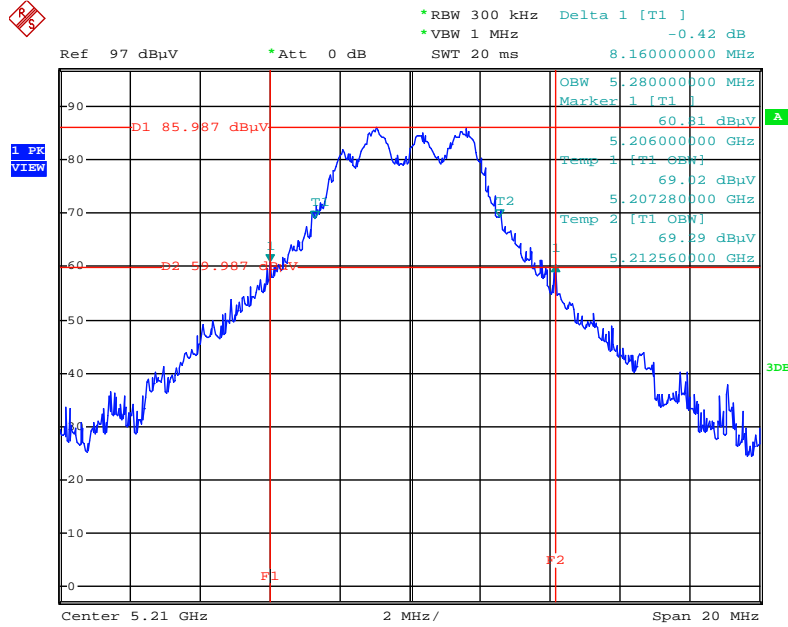
Date: 7.AUG.2014 21:07:04

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



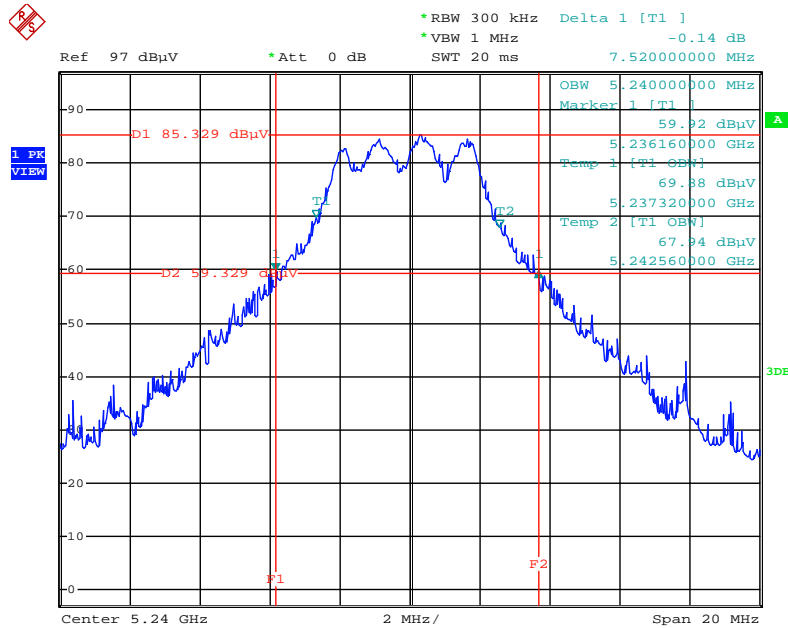
Date: 7.AUG.2014 13:55:48

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



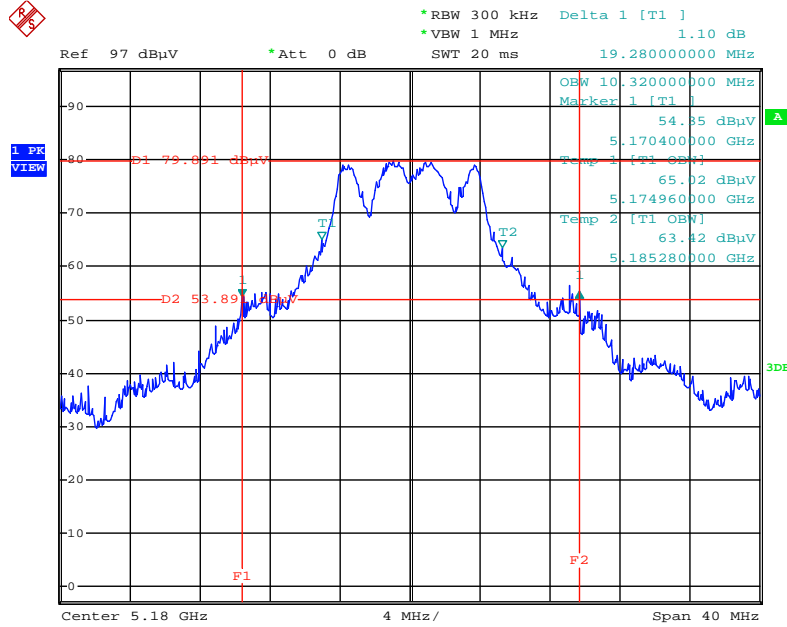
Date: 7.AUG.2014 13:56:46

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



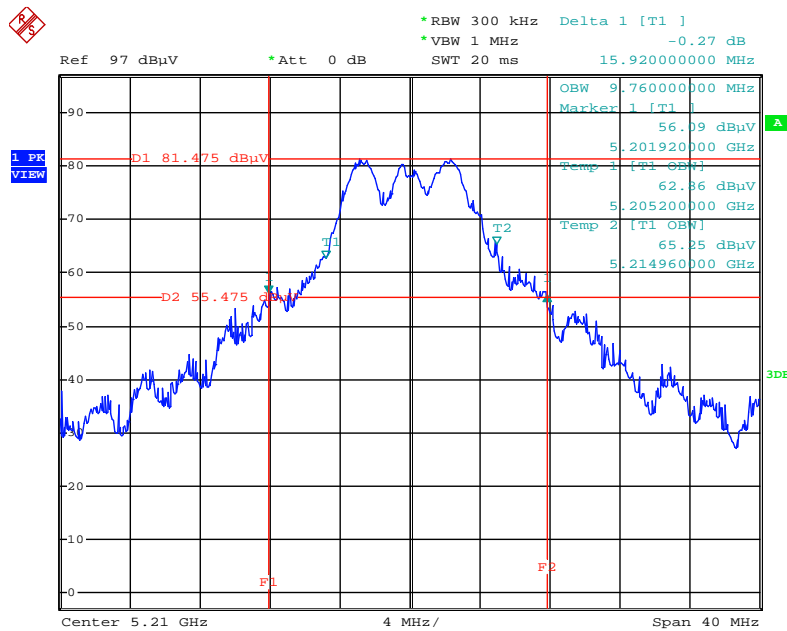
Date: 7.AUG.2014 13:57:51

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



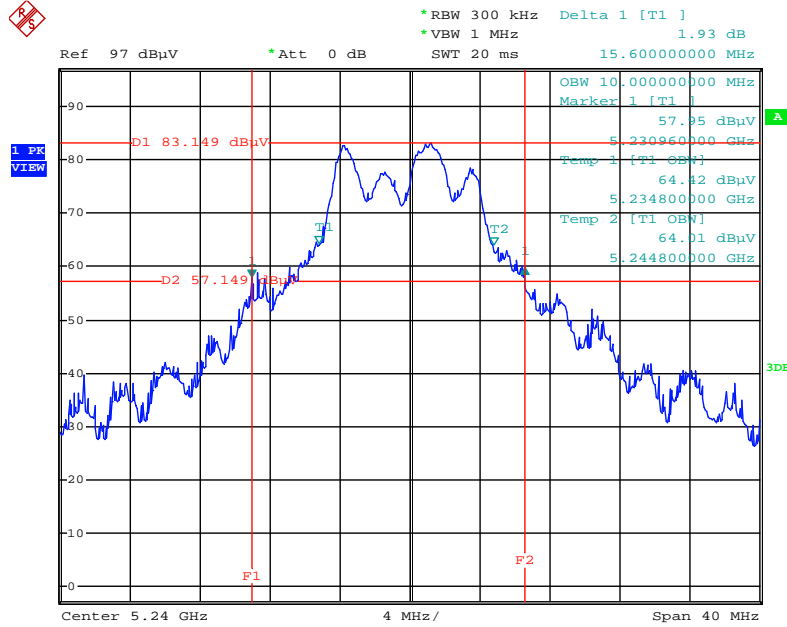
Date: 7.AUG.2014 20:57:05

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



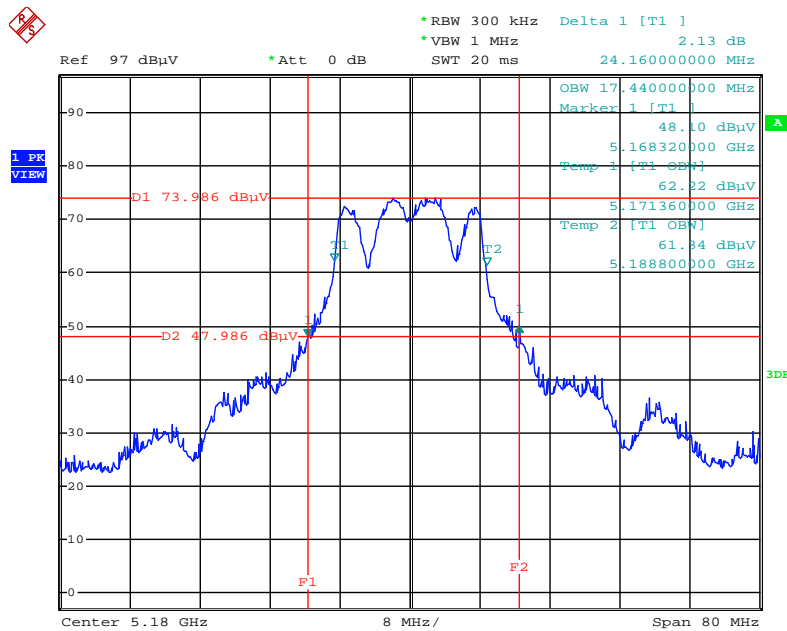
Date: 7.AUG.2014 14:18:24

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



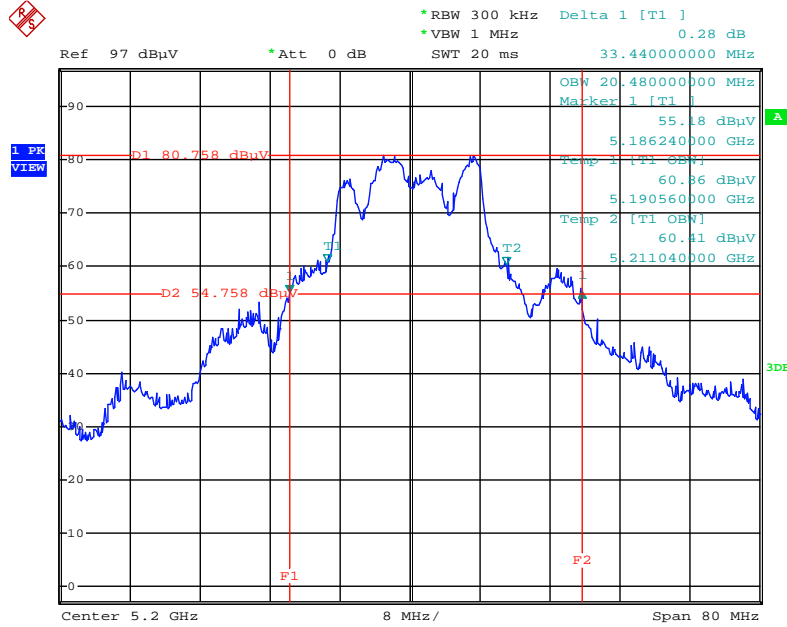
Date: 7.AUG.2014 14:19:26

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 7.AUG.2014 20:59:44

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 7.AUG.2014 19:40:12

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**

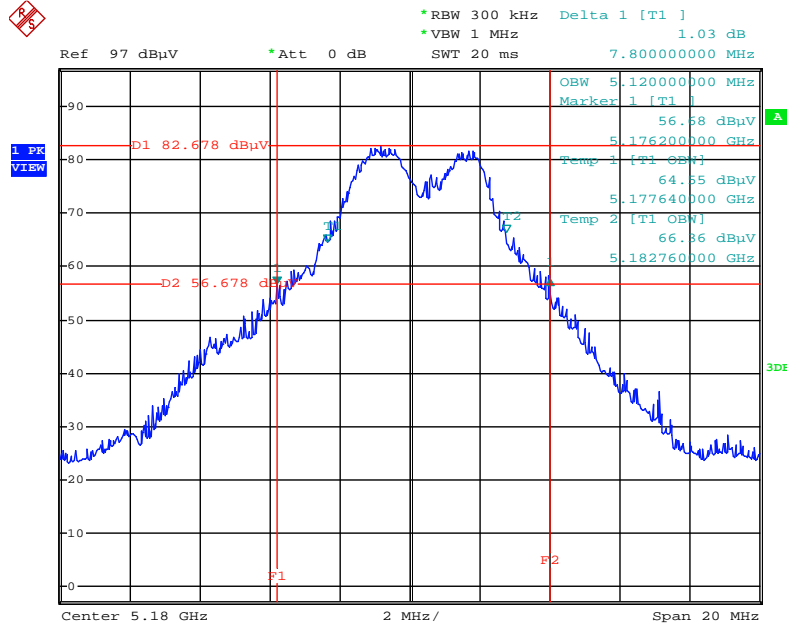


Date: 7.AUG.2014 19:39:18



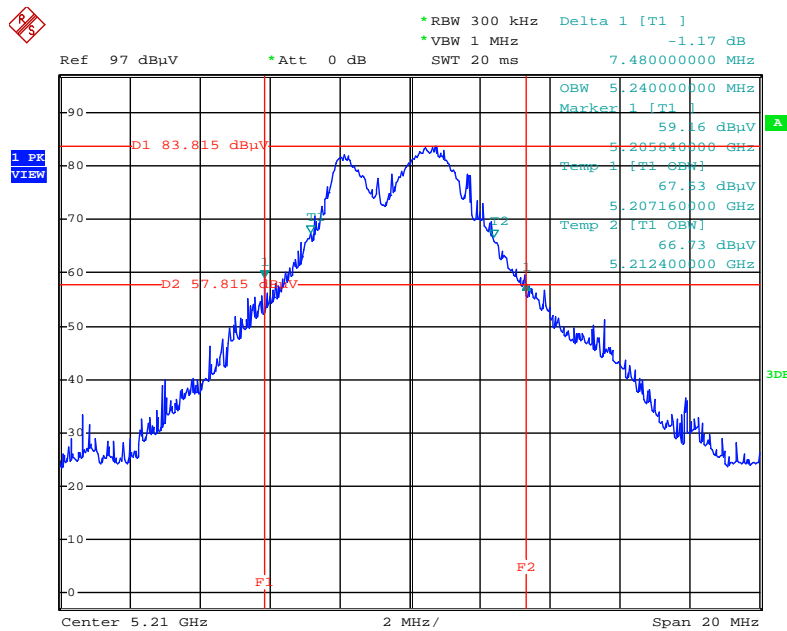
**Test Mode 3 / P to M**

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



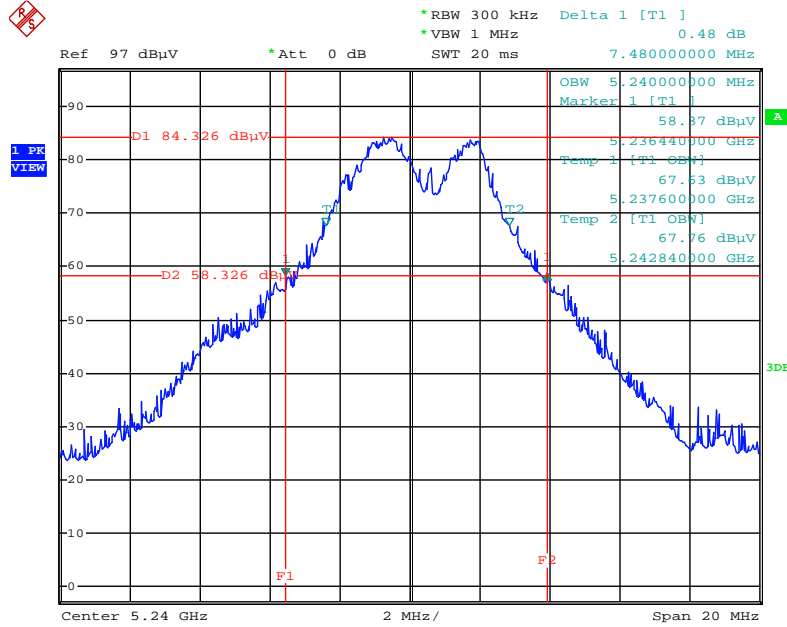
Date: 8.AUG.2014 11:31:08

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



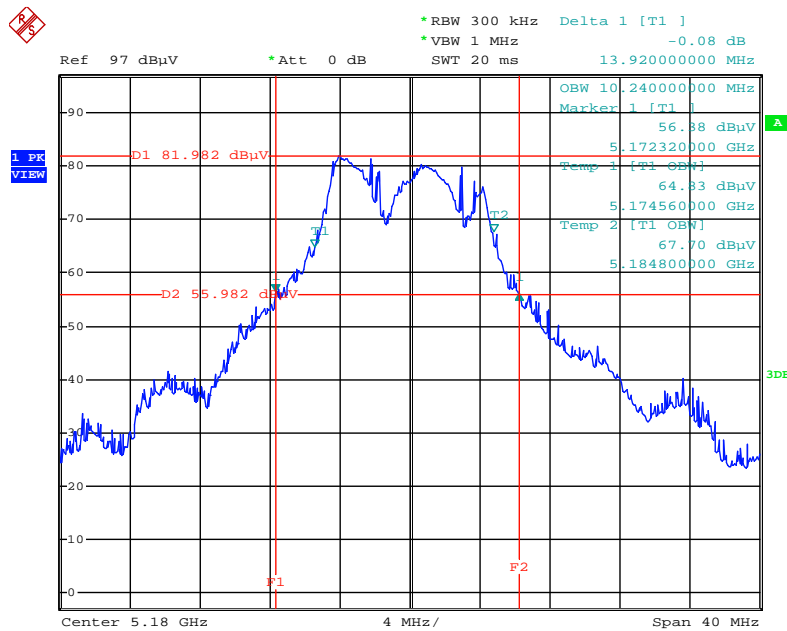
Date: 8.AUG.2014 11:30:32

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



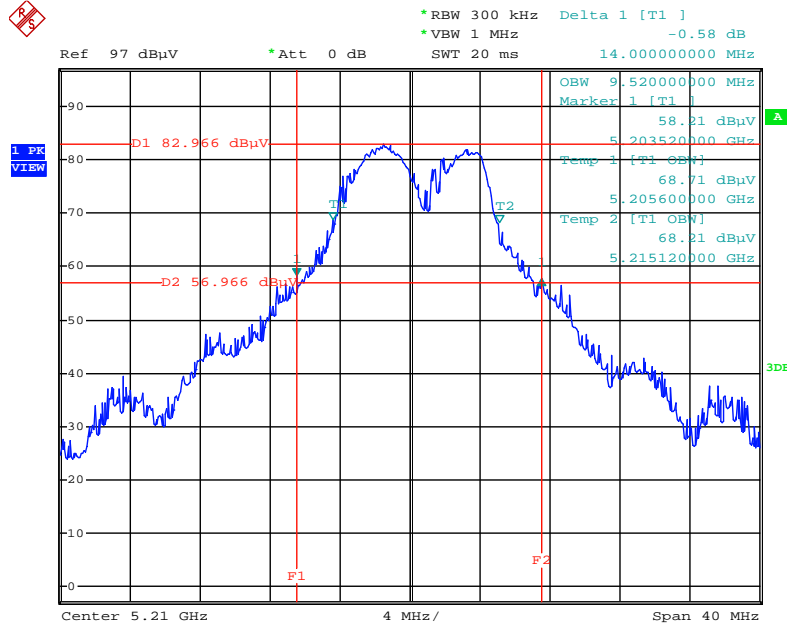
Date: 8.AUG.2014 11:29:39

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



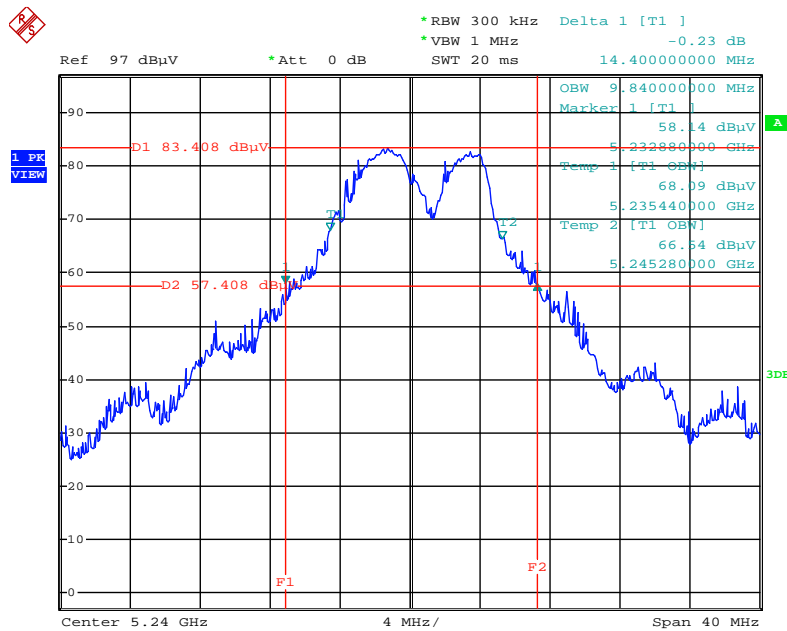
Date: 8.AUG.2014 11:39:12

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



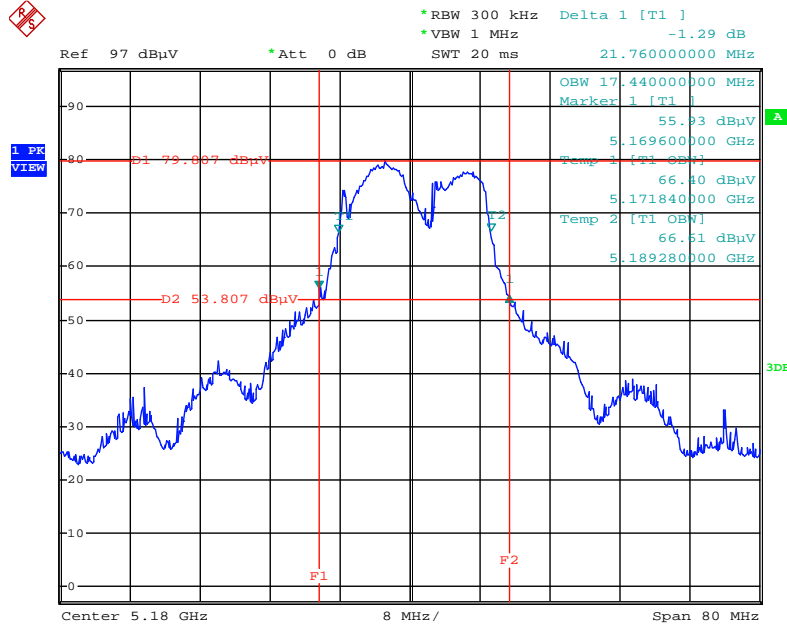
Date: 8.AUG.2014 11:37:04

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



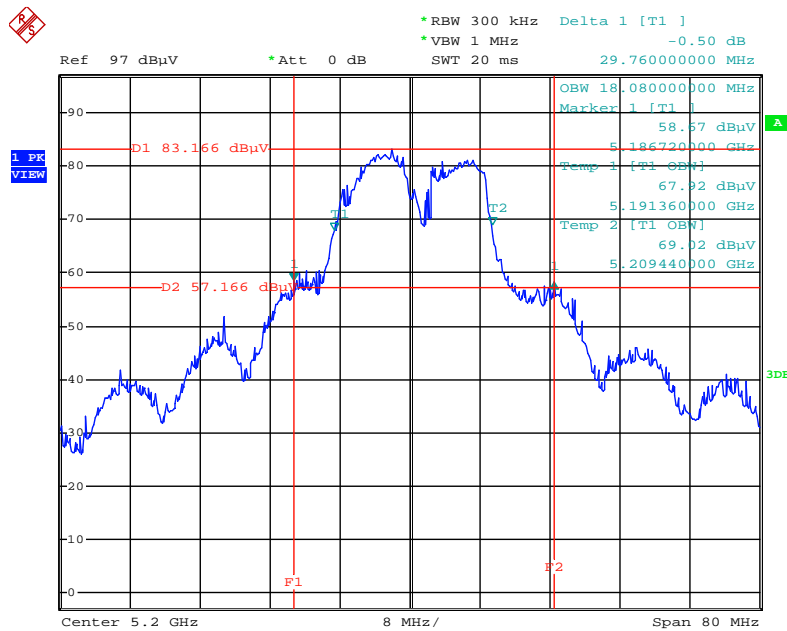
Date: 8.AUG.2014 11:36:24

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



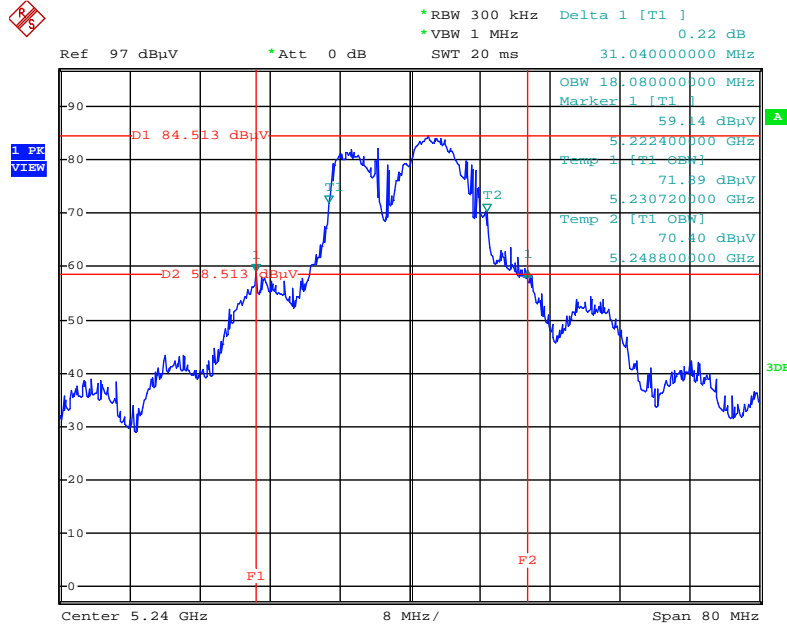
Date: 8.AUG.2014 11:46:04

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



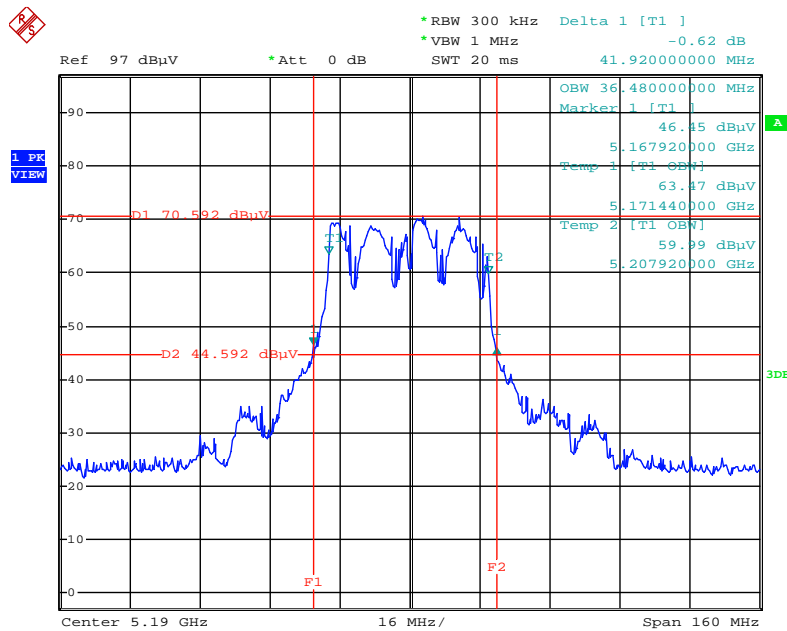
Date: 8.AUG.2014 11:45:07

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



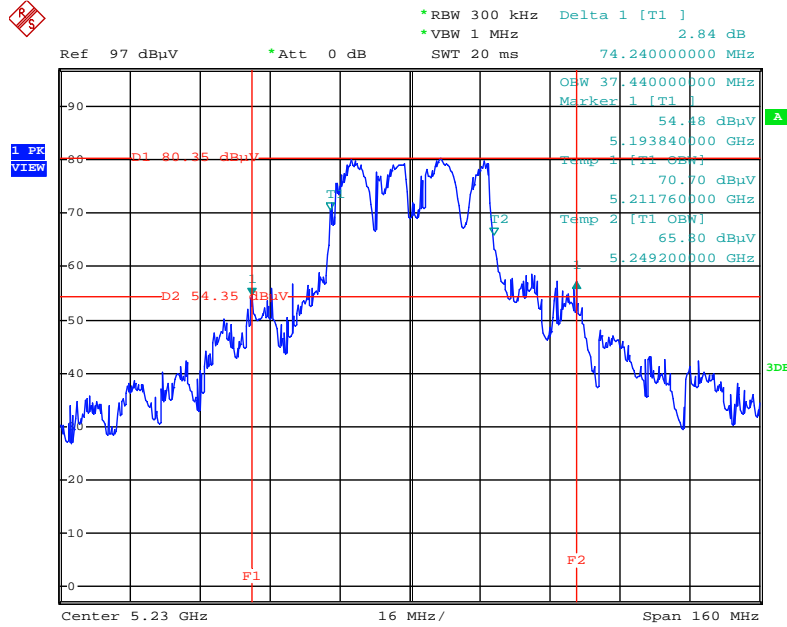
Date: 8.AUG.2014 11:44:22

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5190 MHz**



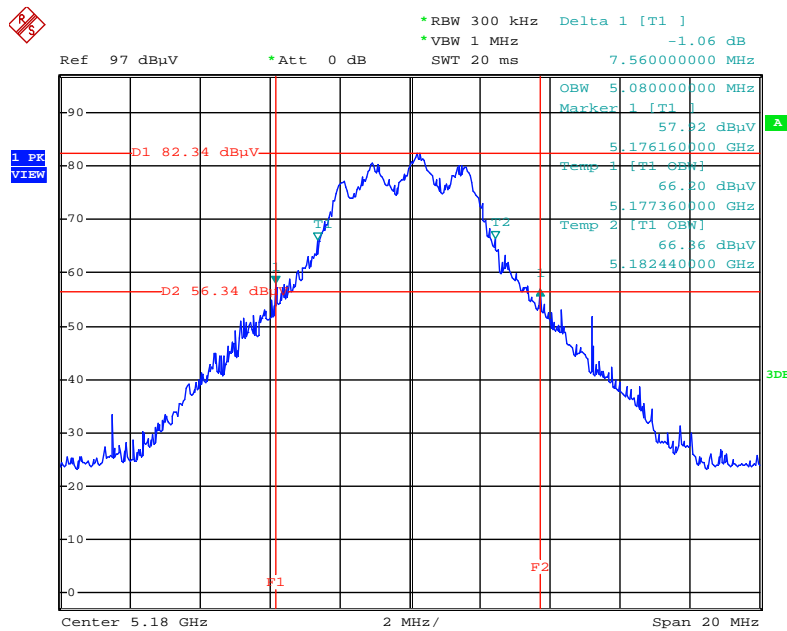
Date: 8.AUG.2014 11:47:26

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 / 5230 MHz**



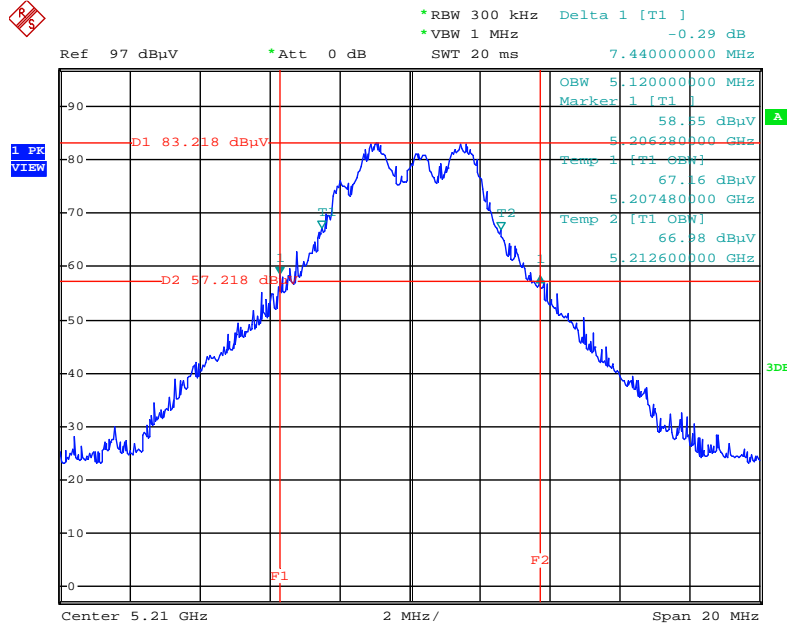
Date: 8.AUG.2014 11:48:57

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



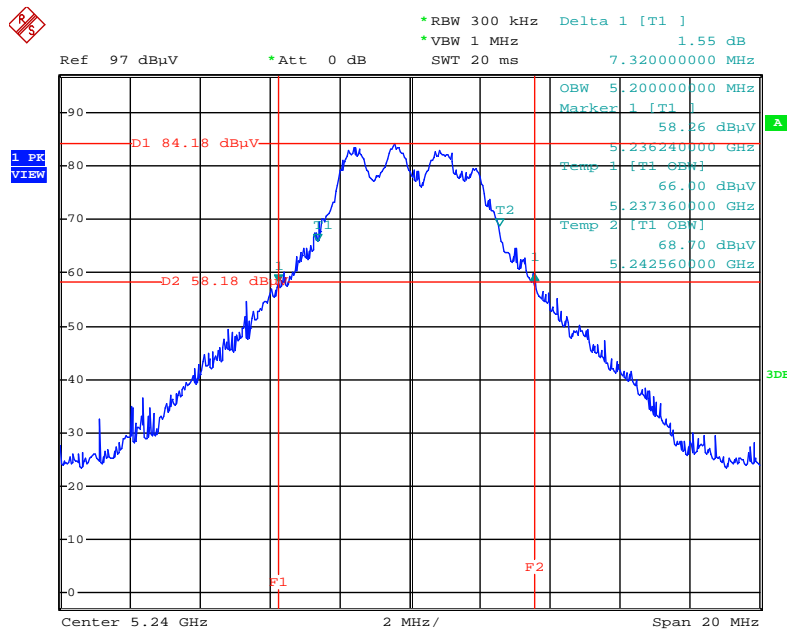
Date: 8.AUG.2014 11:26:59

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



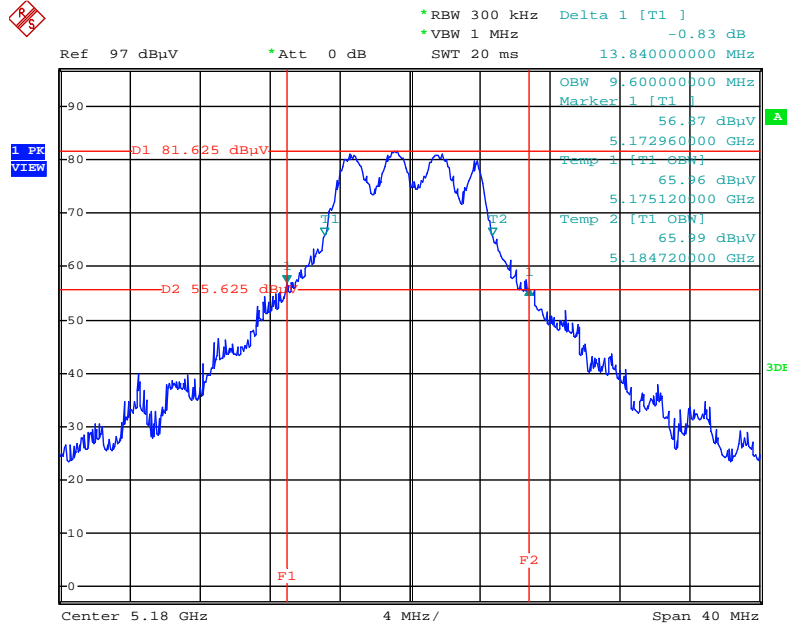
Date: 8.AUG.2014 11:28:14

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



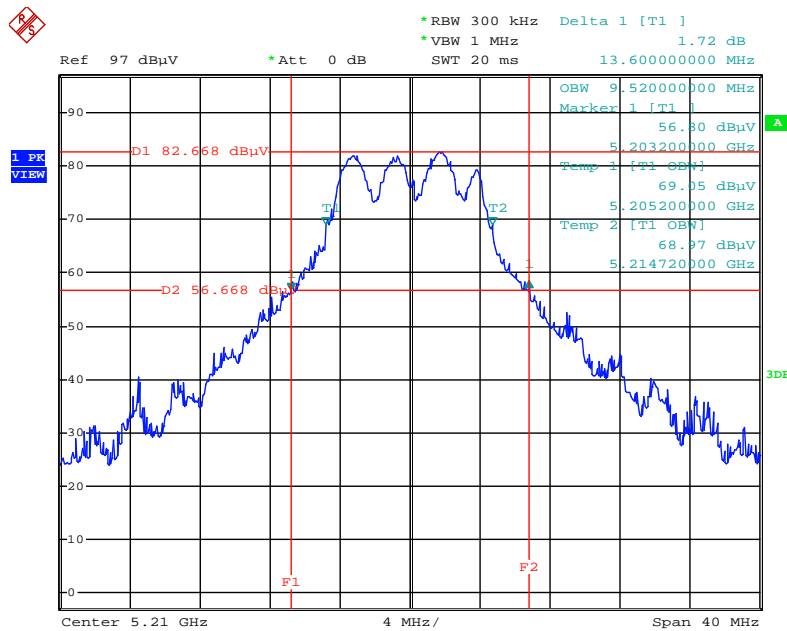
Date: 8.AUG.2014 11:28:57

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



Date: 8.AUG.2014 11:33:23

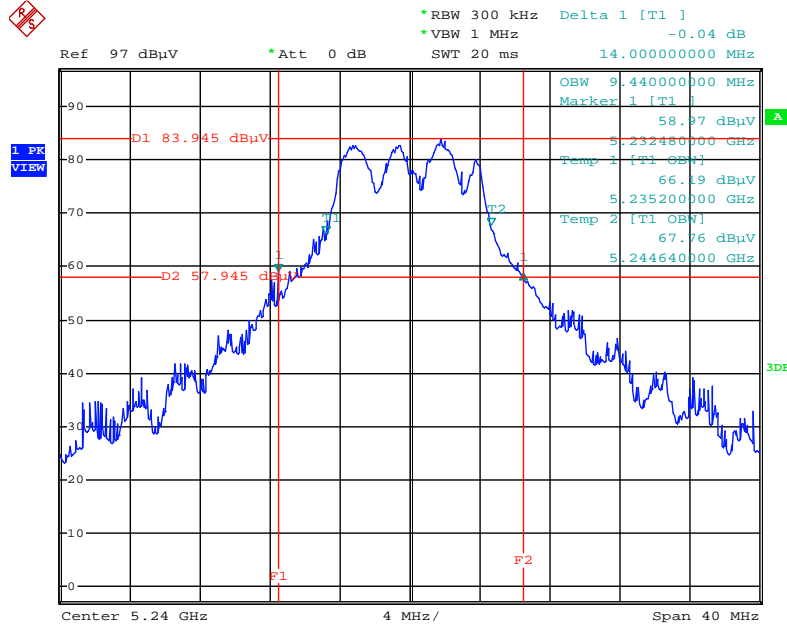
**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz**



Date: 8.AUG.2014 11:34:08

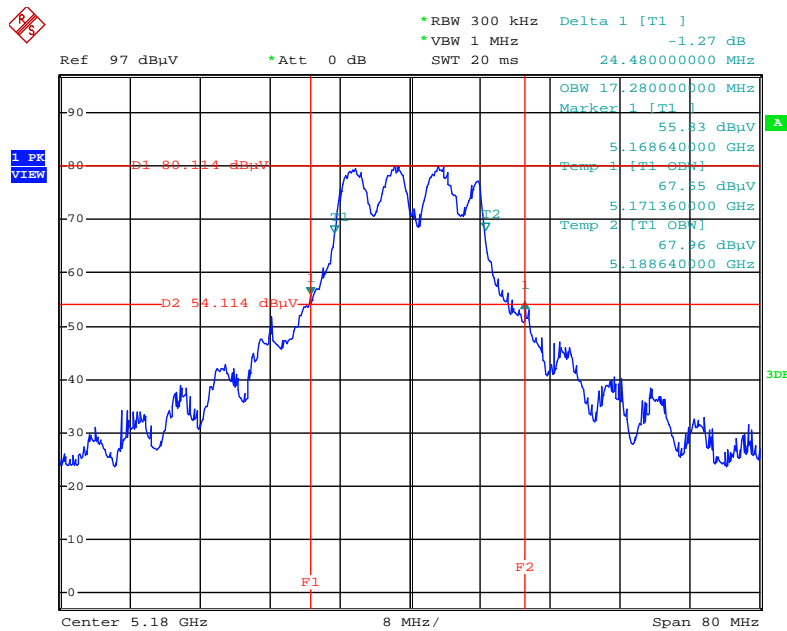


**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



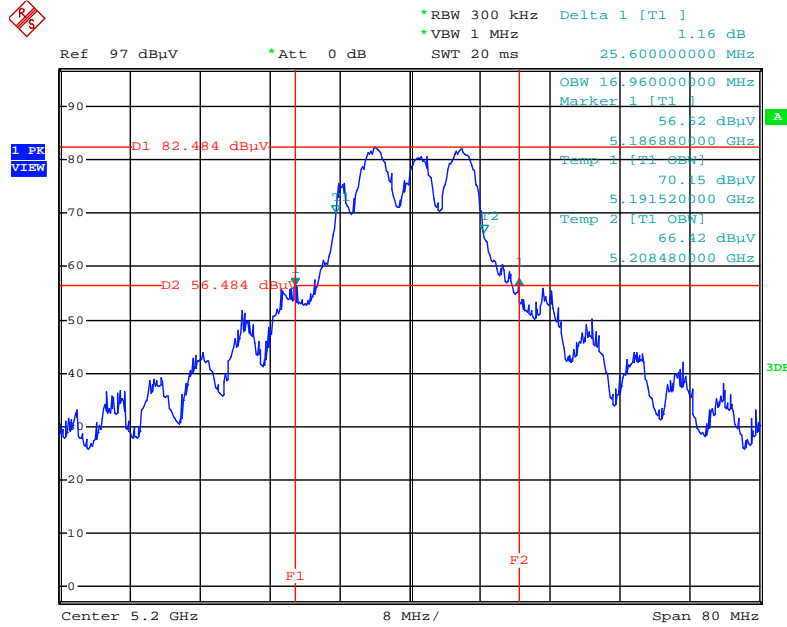
Date: 8.AUG.2014 11:34:56

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**



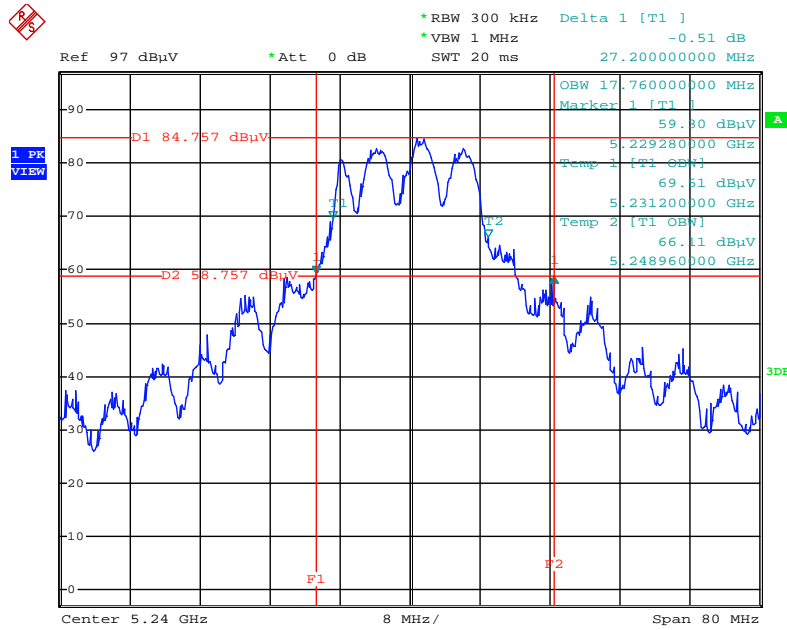
Date: 8.AUG.2014 11:41:00

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz**



Date: 8.AUG.2014 11:41:36

**26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**



Date: 8.AUG.2014 11:43:18

## 4.2. Maximum Conducted Output Power Measurement

### 4.2.1. Limit

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

### 4.2.2. Measuring Instruments and Setting

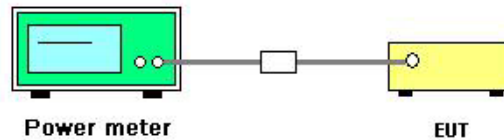
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	AVERAGE

#### 4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

#### 4.2.4. Test Setup Layout



#### 4.2.5. Test Deviation

There is no deviation with the original standard.

#### 4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.2.7. Test Result of Maximum Conducted Output Power

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 1 / P to P

##### Configuration IEEE 802.11n MCS0 5 MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.76	16.01	16.15	21.09	30.00	Complies
42	5210 MHz	18.99	18.22	17.9	23.17	30.00	Complies
48	5240 MHz	19.25	18.02	19.48	23.73	30.00	Complies

##### Configuration IEEE 802.11n MCS0 10 MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	20.44	20.55	20	25.11	30.00	Complies
42	5210 MHz	20.42	19.31	19.98	24.70	30.00	Complies
48	5240 MHz	20.26	18.93	19.96	24.52	30.00	Complies

##### Configuration IEEE 802.11n MCS0 20 MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	18.65	18.51	18.2	23.23	30.00	Complies
40	5200 MHz	20.43	20.46	19.57	24.94	30.00	Complies
48	5240 MHz	20.52	19.77	19.63	24.76	30.00	Complies

##### Configuration IEEE 802.11n MCS0 40 MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
38	5190 MHz	14.78	14.93	14.79	19.61	30.00	Complies
46	5230 MHz	20.49	20.62	19.78	25.08	30.00	Complies

**Configuration IEEE 802.11a 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	17.11	16.88	16.8	21.70	30.00	Complies
42	5210 MHz	18.88	18.22	18.17	23.21	30.00	Complies
48	5240 MHz	20.14	19.01	19.61	24.38	30.00	Complies

**Configuration IEEE 802.11a 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.11	17.88	18.02	23.14	30.00	Complies
42	5210 MHz	19.74	19.35	19.16	24.19	30.00	Complies
48	5240 MHz	20.26	18.96	20.04	24.56	30.00	Complies

**Configuration IEEE 802.11a 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	18.60	18.46	18.04	23.14	30.00	Complies
40	5200 MHz	20.63	20.57	19.64	25.07	30.00	Complies
48	5240 MHz	20.61	19.70	19.77	24.82	30.00	Complies

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 1 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.32	15.03	15.83	20.53	28.00	Complies
42	5210 MHz	16.12	14.92	16.28	20.59	28.00	Complies
48	5240 MHz	16.29	14.69	16.13	20.53	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm.

**Configuration IEEE 802.11n MCS0 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.26	18.21	18.66	23.50	28.00	Complies
42	5210 MHz	19.36	17.51	19.01	23.47	28.00	Complies
48	5240 MHz	19.49	17.69	18.88	23.52	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	18.65	18.51	18.2	23.23	28.00	Complies
40	5200 MHz	20.43	20.46	19.57	24.94	28.00	Complies
48	5240 MHz	20.52	19.77	19.63	24.76	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 40 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
38	5190 MHz	14.78	14.93	14.79	19.61	28.00	Complies
46	5230 MHz	20.49	20.62	19.78	25.08	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11a 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.21	15.09	16.03	20.57	28.00	Complies
42	5210 MHz	16.13	15.01	16.02	20.52	28.00	Complies
48	5240 MHz	16.28	14.65	16.12	20.51	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.11	17.88	18.02	23.14	28.00	Complies
42	5210 MHz	19.19	17.96	18.95	23.50	28.00	Complies
48	5240 MHz	19.32	17.65	19.18	23.55	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	18.60	18.46	18.04	23.14	28.00	Complies
40	5200 MHz	20.63	20.57	19.64	25.07	28.00	Complies
48	5240 MHz	20.61	19.70	19.77	24.82	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm



Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 2 / P to P

**Configuration IEEE 802.11n MCS0 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	18.99	17.58	18.17	23.06	30.00	Complies
42	5210 MHz	19.81	18.08	19.67	24.03	30.00	Complies
48	5240 MHz	19.25	18.02	19.48	23.73	30.00	Complies

**Configuration IEEE 802.11n MCS0 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	21.27	20.35	20.62	25.54	30.00	Complies
42	5210 MHz	20.42	19.31	19.98	24.70	30.00	Complies
48	5240 MHz	20.26	18.93	19.96	24.52	30.00	Complies

**Configuration IEEE 802.11n MCS0 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	15.66	15.3	15.47	20.25	30.00	Complies
40	5200 MHz	20.43	20.46	19.57	24.94	30.00	Complies
48	5240 MHz	20.52	19.77	19.63	24.76	30.00	Complies

**Configuration IEEE 802.11n MCS0 40 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
38	5190 MHz	10.54	10.23	10.11	15.07	30.00	Complies
46	5230 MHz	18.98	18.97	18.35	23.55	30.00	Complies

**Configuration IEEE 802.11a 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.01	17.52	18.12	23.03	30.00	Complies
42	5210 MHz	19.84	18.32	19.46	24.02	30.00	Complies
48	5240 MHz	19.53	17.72	19.36	23.71	30.00	Complies

**Configuration IEEE 802.11a 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	21.11	20.39	21.11	25.65	30.00	Complies
42	5210 MHz	20.39	19.27	20.09	24.71	30.00	Complies
48	5240 MHz	20.26	18.96	20.04	24.56	30.00	Complies

**Configuration IEEE 802.11a 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.26	16.01	15.82	20.80	30.00	Complies
40	5200 MHz	20.63	20.57	19.64	25.07	30.00	Complies
48	5240 MHz	20.61	19.70	19.77	24.82	30.00	Complies

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 2 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.32	15.03	15.83	20.53	28.00	Complies
42	5210 MHz	16.12	14.92	16.28	20.59	28.00	Complies
48	5240 MHz	16.29	14.69	16.13	20.53	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.26	18.21	18.66	23.50	28.00	Complies
42	5210 MHz	19.36	17.51	19.01	23.47	28.00	Complies
48	5240 MHz	19.49	17.69	18.88	23.52	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	15.66	15.3	15.47	20.25	28.00	Complies
40	5200 MHz	20.43	20.46	19.57	24.94	28.00	Complies
48	5240 MHz	20.52	19.77	19.63	24.76	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 40 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
38	5190 MHz	10.54	10.23	10.11	15.07	28.00	Complies
46	5230 MHz	18.98	18.97	18.35	23.55	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11a 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.21	15.09	16.03	20.57	28.00	Complies
42	5210 MHz	16.13	15.01	16.02	20.52	28.00	Complies
48	5240 MHz	16.28	14.65	16.12	20.51	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	19.59	18.31	18.19	23.52	28.00	Complies
42	5210 MHz	19.19	17.96	18.95	23.50	28.00	Complies
48	5240 MHz	19.32	17.65	19.18	23.55	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.26	16.01	15.82	20.80	28.00	Complies
40	5200 MHz	20.63	20.57	19.64	25.07	28.00	Complies
48	5240 MHz	20.61	19.70	19.77	24.82	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 3 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	13.09	12.36	12.89	17.56	28.00	Complies
42	5210 MHz	13.27	11.72	13.12	17.53	28.00	Complies
48	5240 MHz	13.57	11.71	13.01	17.60	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.28	15.42	15.73	20.60	28.00	Complies
42	5210 MHz	16.01	15.02	16.09	20.50	28.00	Complies
48	5240 MHz	16.21	14.92	16.23	20.60	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.54	14.99	16.08	20.69	28.00	Complies
40	5200 MHz	19.22	17.84	19.02	23.51	28.00	Complies
48	5240 MHz	19.39	17.51	19.19	23.55	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11n MCS0 40 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
38	5190 MHz	11.31	10.22	10.68	15.53	28.00	Complies
46	5230 MHz	19.52	18.49	19.04	23.81	28.00	Complies

Note: Antenna Gain= 8dBi>6dBi,So B1 Power Limit=30-(8-6)=28dBm

**Configuration IEEE 802.11a 5 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	13.34	12.12	12.72	17.53	28.00	Complies
42	5210 MHz	13.12	11.98	13.01	17.50	28.00	Complies
48	5240 MHz	13.52	11.72	13.08	17.61	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 10 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	16.49	15.29	15.62	20.60	28.00	Complies
42	5210 MHz	16.02	15.01	16.21	20.55	28.00	Complies
48	5240 MHz	16.46	14.73	16.21	20.64	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

**Configuration IEEE 802.11a 20 MHz**

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
36	5180 MHz	17.68	16.56	16.98	21.87	28.00	Complies
40	5200 MHz	19.32	17.85	18.91	23.51	28.00	Complies
48	5240 MHz	19.25	17.78	19.06	23.52	28.00	Complies

Note: Antenna Gain = 8dBi > 6dBi, So B1 Power Limit =  $30 - (8 - 6) = 28$  dBm

Note: Maximum e.i.r.p. at any elevation angle above 30 degrees data (please refer to Appendix C).

### 4.3. Power Spectral Density Measurement

#### 4.3.1. Limit

The power spectral density is defined as the highest level of power in dBm per MHz generated by the transmitter within the power envelope. The following table is power spectral density limits and decrease power density limit rule refer to section 4.2.1.

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.15~5.25 GHz	17

#### 4.3.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

For 5.15-5.25 GHz

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times

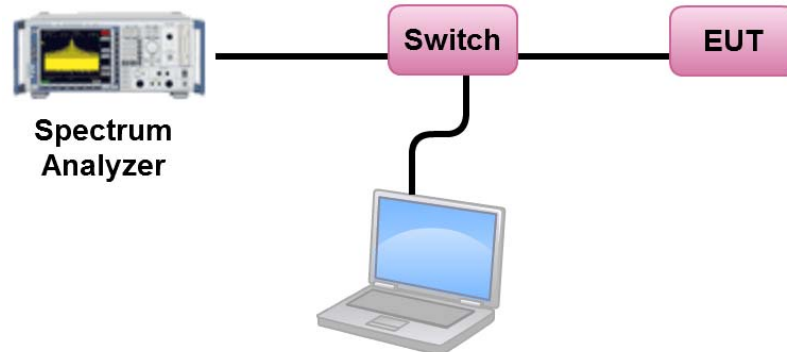
#### 4.3.3. Test Procedures

For 5.15-5.25 GHz / 5.470-5.725 GHz

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

#### 4.3.4. Test Setup Layout

For 5.15-5.25 GHz



#### 4.3.5. Test Deviation

There is no deviation with the original standard.

#### 4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.



#### 4.3.7. Test Result of Power Spectral Density

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 1 / P to P

##### Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.31	17.00	Complies
42	5210 MHz	15.57	17.00	Complies
48	5240 MHz	16.41	17.00	Complies

##### Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	14.69	17.00	Complies
42	5210 MHz	14.41	17.00	Complies
48	5240 MHz	14.19	17.00	Complies

##### Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.30	17.00	Complies
40	5200 MHz	11.10	17.00	Complies
48	5240 MHz	11.47	17.00	Complies

##### Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	2.82	17.00	Complies
46	5230 MHz	8.38	17.00	Complies

**Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	14.18	17.00	Complies
42	5210 MHz	15.85	17.00	Complies
48	5240 MHz	16.68	17.00	Complies

**Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	12.71	17.00	Complies
42	5210 MHz	13.81	17.00	Complies
48	5240 MHz	14.23	17.00	Complies

**Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.25	17.00	Complies
40	5200 MHz	11.24	17.00	Complies
48	5240 MHz	11.40	17.00	Complies

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 1 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.13	13.24	Complies
42	5210 MHz	13.17	13.24	Complies
48	5240 MHz	13.13	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.18	13.24	Complies
42	5210 MHz	13.18	13.24	Complies
48	5240 MHz	13.13	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.30	13.24	Complies
40	5200 MHz	11.10	13.24	Complies
48	5240 MHz	11.47	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	2.82	13.24	Complies
46	5230 MHz	8.38	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.18	13.24	Complies
42	5210 MHz	13.06	13.24	Complies
48	5240 MHz	13.11	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$

**Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	12.71	13.24	Complies
42	5210 MHz	13.06	13.24	Complies
48	5240 MHz	13.21	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$

**Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.25	13.24	Complies
40	5200 MHz	11.24	13.24	Complies
48	5240 MHz	11.40	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$

<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Configurations</b>	IEEE 802.11n/a
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 2 / P to P

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	15.87	17.00	Complies
42	5210 MHz	16.68	17.00	Complies
48	5240 MHz	16.41	17.00	Complies

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	15.08	17.00	Complies
42	5210 MHz	14.41	17.00	Complies
48	5240 MHz	14.19	17.00	Complies

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.82	17.00	Complies
40	5200 MHz	11.10	17.00	Complies
48	5240 MHz	11.47	17.00	Complies

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-1.51	17.00	Complies
46	5230 MHz	6.98	17.00	Complies

**Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	15.72	17.00	Complies
42	5210 MHz	16.74	17.00	Complies
48	5240 MHz	16.48	17.00	Complies

**Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	15.38	17.00	Complies
42	5210 MHz	14.34	17.00	Complies
48	5240 MHz	14.23	17.00	Complies

**Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.94	17.00	Complies
40	5200 MHz	11.24	17.00	Complies
48	5240 MHz	11.40	17.00	Complies

Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 2 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.13	13.24	Complies
42	5210 MHz	13.17	13.24	Complies
48	5240 MHz	13.13	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{i=1}^{N_{ANT}} g_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.18	13.24	Complies
42	5210 MHz	13.18	13.24	Complies
48	5240 MHz	13.13	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{i=1}^{N_{ANT}} g_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.82	13.24	Complies
40	5200 MHz	11.10	13.24	Complies
48	5240 MHz	11.47	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{i=1}^{N_{ANT}} g_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-1.51	13.24	Complies
46	5230 MHz	6.98	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{i=1}^{N_{ANT}} g_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76\text{dBi} > 6\text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24\text{dBm/MHz}$

**Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.18	13.24	Complies
42	5210 MHz	13.06	13.24	Complies
48	5240 MHz	13.11	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$

**Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	13.12	13.24	Complies
42	5210 MHz	13.06	13.24	Complies
48	5240 MHz	13.21	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$

**Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.94	13.24	Complies
40	5200 MHz	11.24	13.24	Complies
48	5240 MHz	11.40	13.24	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ch}} \left\{ \sum_{i=1}^{N_{ant}} S_{j,i} \right\}^2}{N_{ANT}} \right] = 9.76 \text{dBi} > 6 \text{dBi}$ , So Band1 Limit =  $17 - (9.76 - 6) = 13.24 \text{dBm/MHz}$



Temperature	24°C	Humidity	63%
Test Engineer	Magic Lai	Configurations	IEEE 802.11n/a
Test Date	Aug. 07, 2014	Test Mode	Mode 3 / P to M

**Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.09	10.23	Complies
42	5210 MHz	10.22	10.23	Complies
48	5240 MHz	10.13	10.23	Complies

Note:  $^{1}DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.15	10.23	Complies
42	5210 MHz	10.14	10.23	Complies
48	5240 MHz	10.18	10.23	Complies

Note:  $^{1}DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	7.46	10.23	Complies
40	5200 MHz	10.13	10.23	Complies
48	5240 MHz	10.20	10.23	Complies

Note:  $^{1}DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

**Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-0.86	10.23	Complies
46	5230 MHz	7.63	10.23	Complies

Note:  $^{1}DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

**Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.13	10.23	Complies
42	5210 MHz	10.18	10.23	Complies
48	5240 MHz	10.18	10.23	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

**Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	10.18	10.23	Complies
42	5210 MHz	10.08	10.23	Complies
48	5240 MHz	10.20	10.23	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

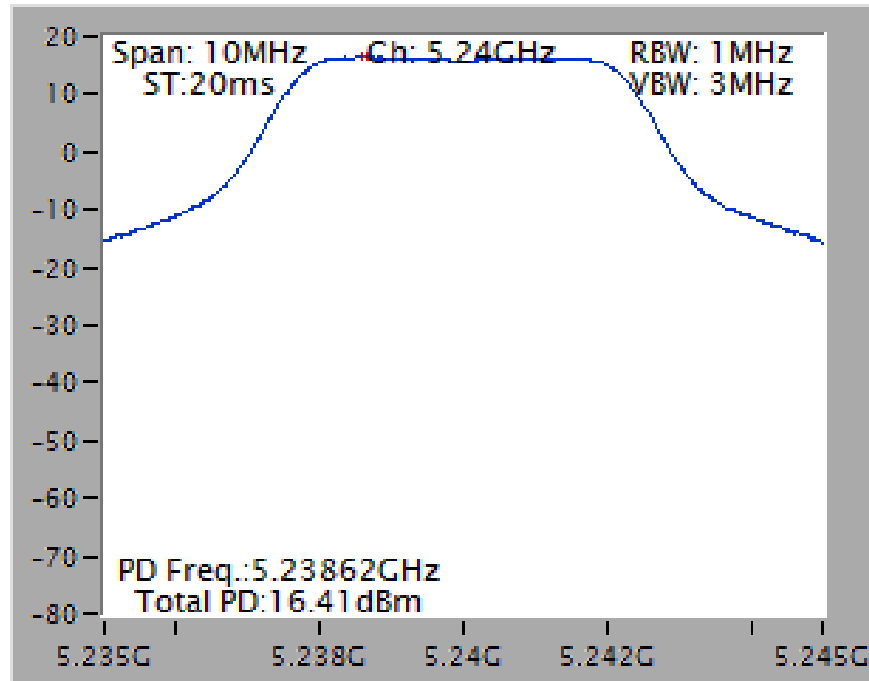
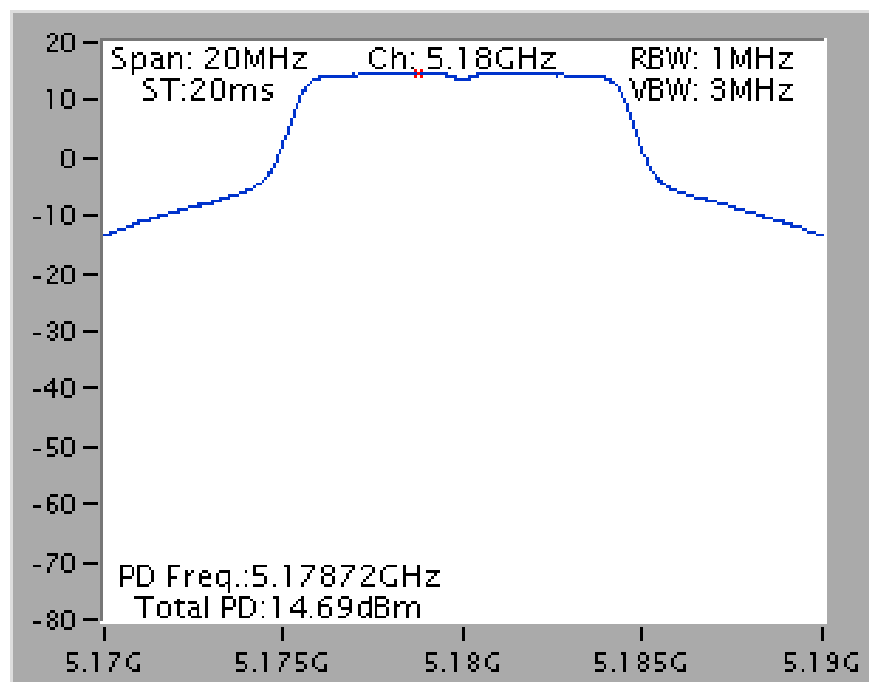
**Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3**

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	8.71	10.23	Complies
40	5200 MHz	10.17	10.23	Complies
48	5240 MHz	10.16	10.23	Complies

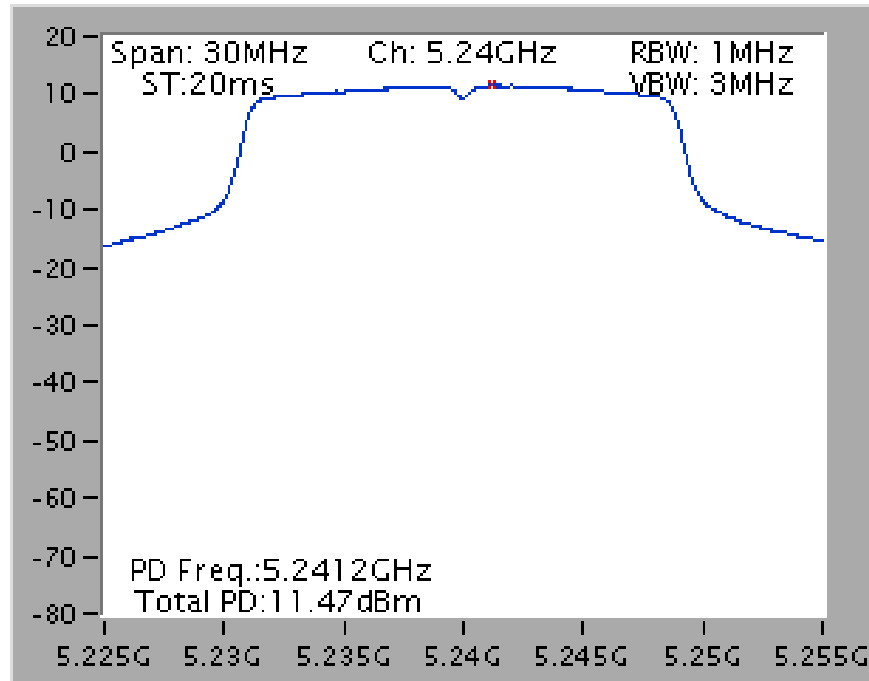
Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{dBi} < 6 \text{dBi}$ , So Band1 Limit =  $17 - (12.77 - 6) = 10.23 \text{dBm/MHz}$

Note: All the test values were listed in the report.

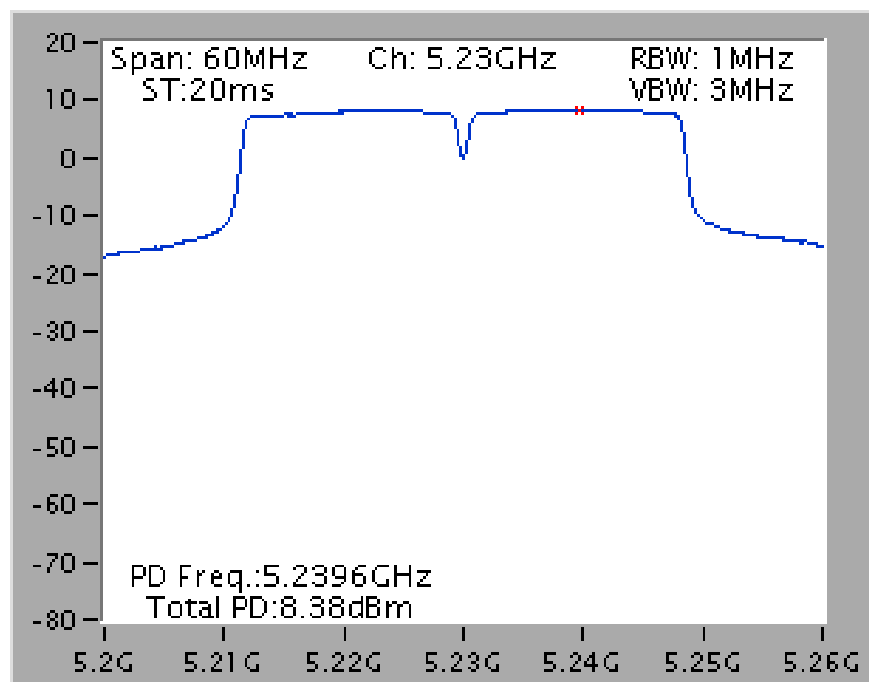
For plots, only the channel with worse result was shown.

**Test Mode 1 / P to P****Power Density Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz****Power Density Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**

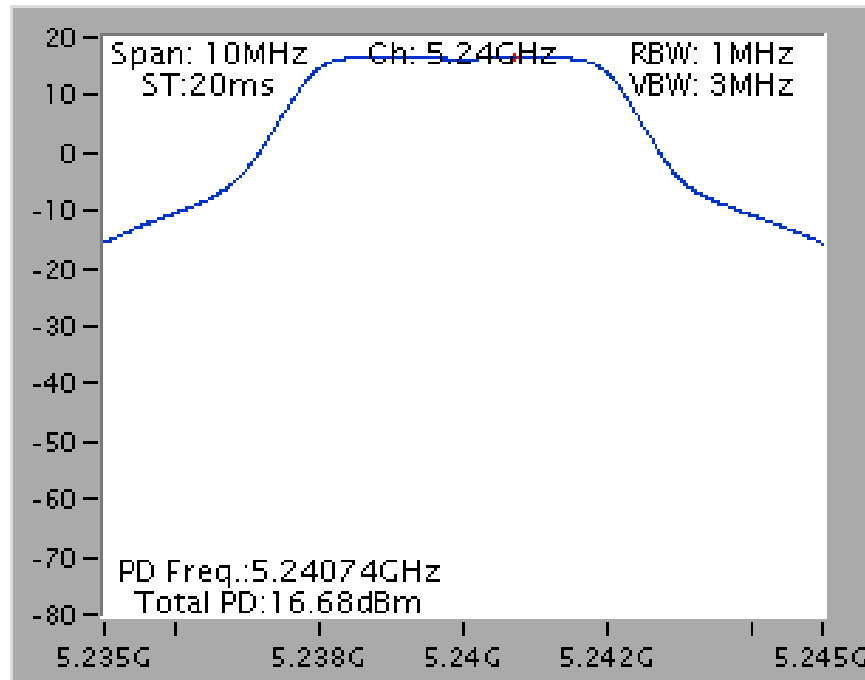
Power Density Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 /  
5240 MHz



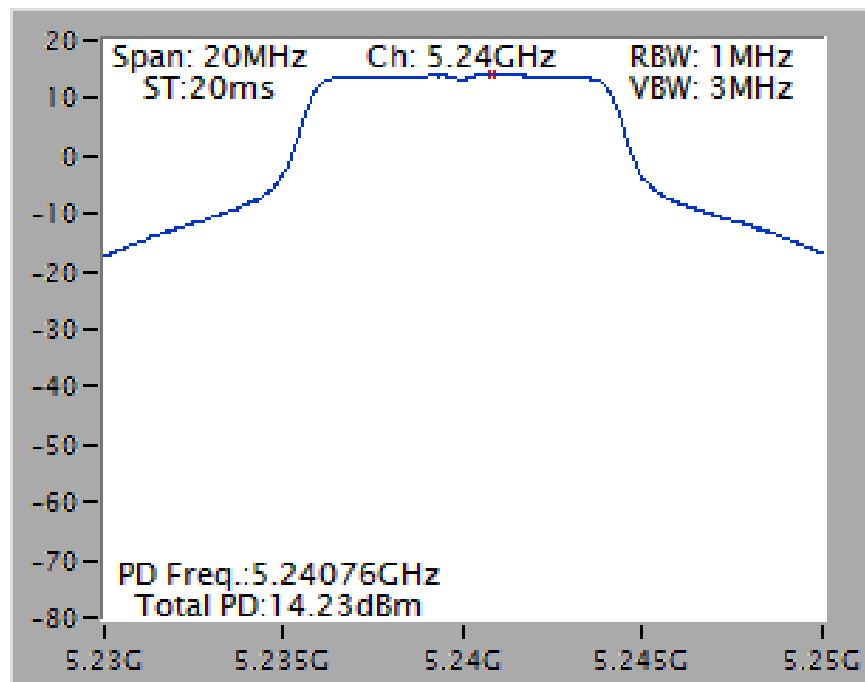
Power Density Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 /  
5230 MHz



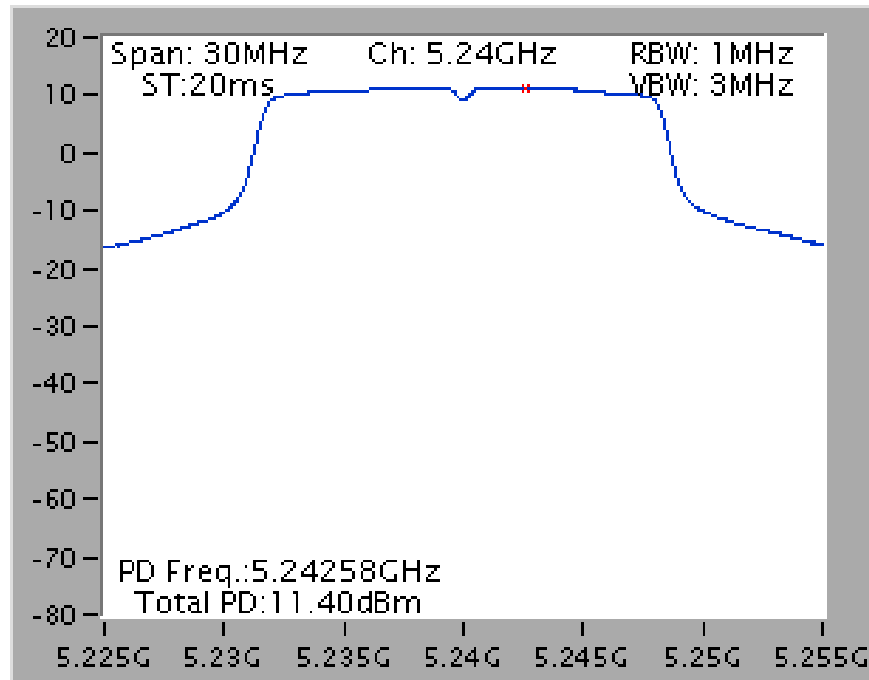
## Power Density Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

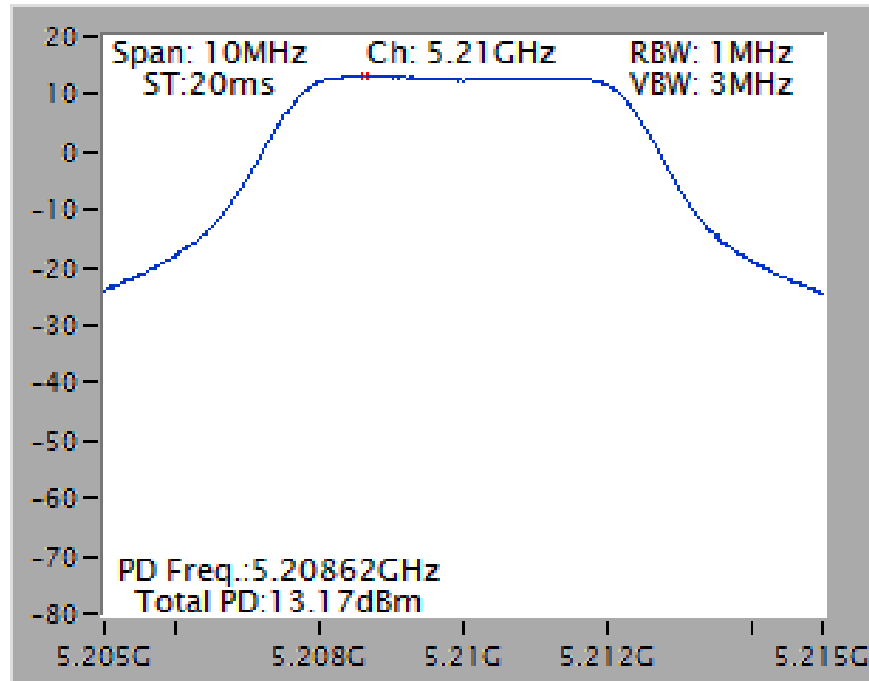
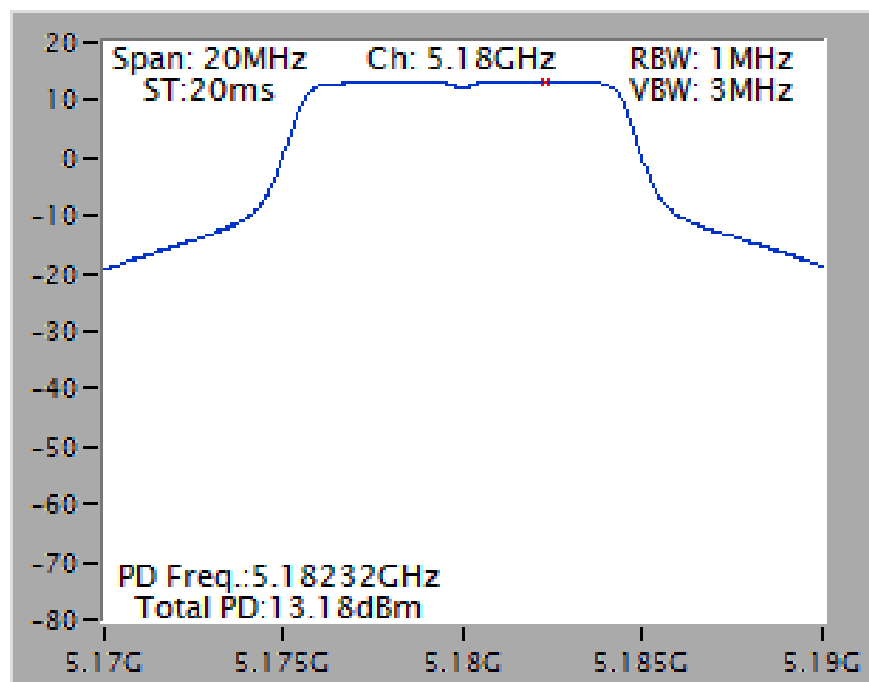


## Power Density Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

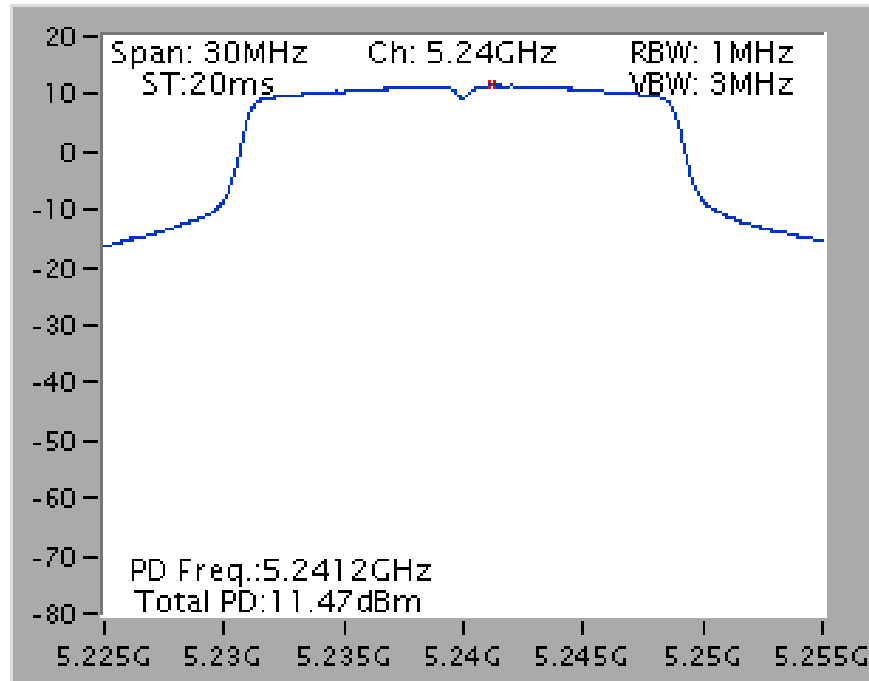


Power Density Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

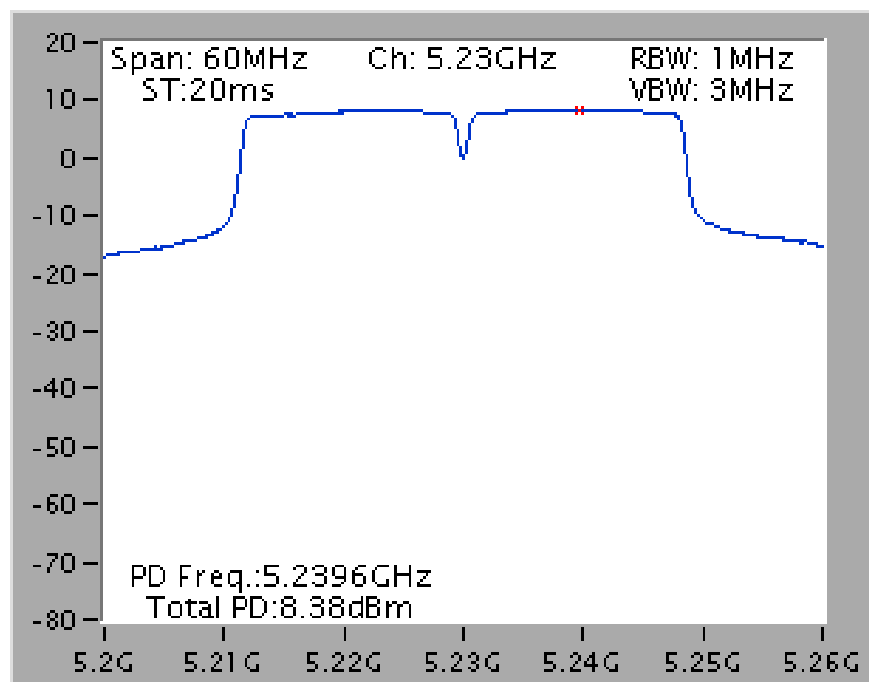


**Test Mode 1 / P to M****Power Density Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz****Power Density Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**

Power Density Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 /  
5240 MHz

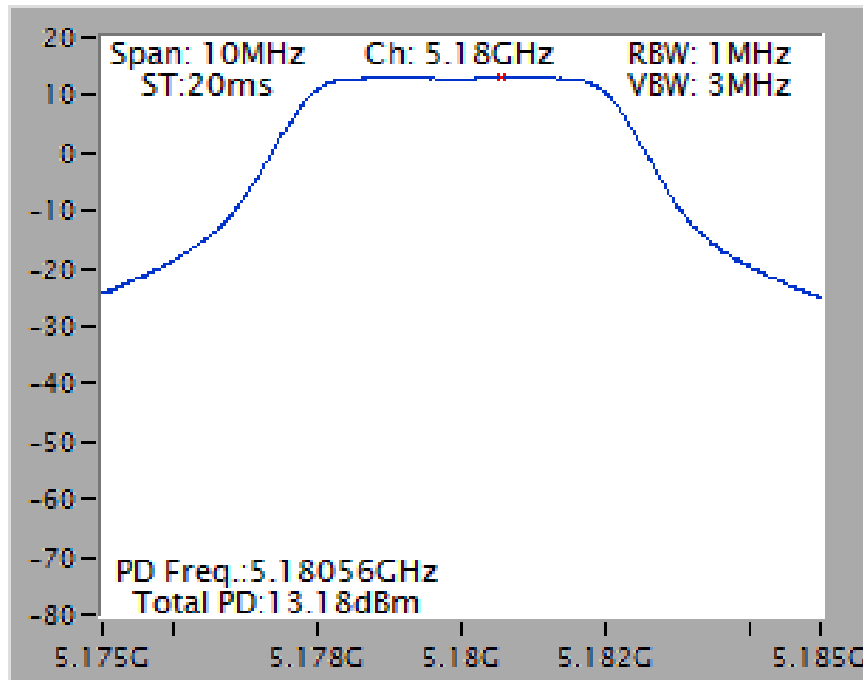


Power Density Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 /  
5230 MHz

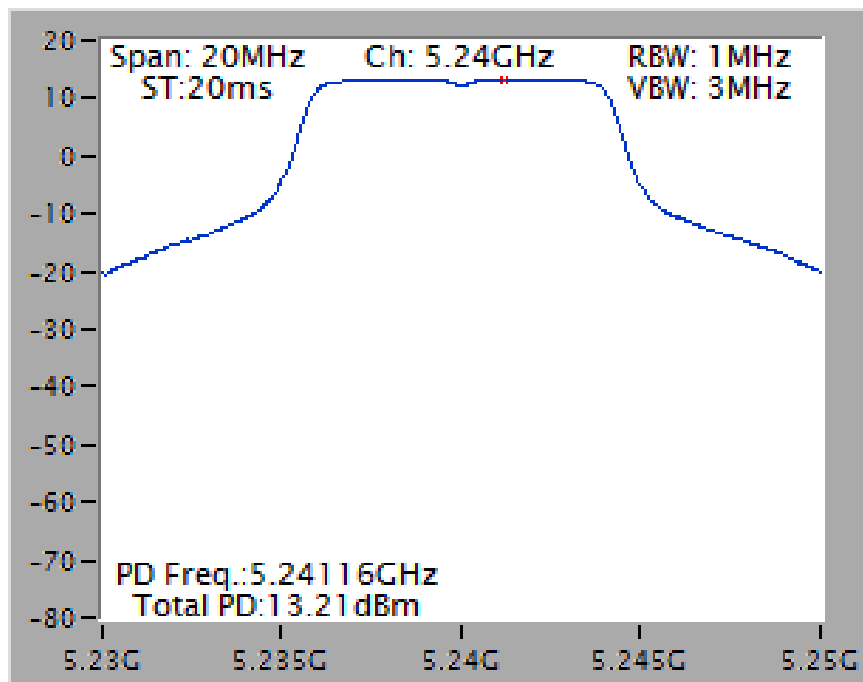




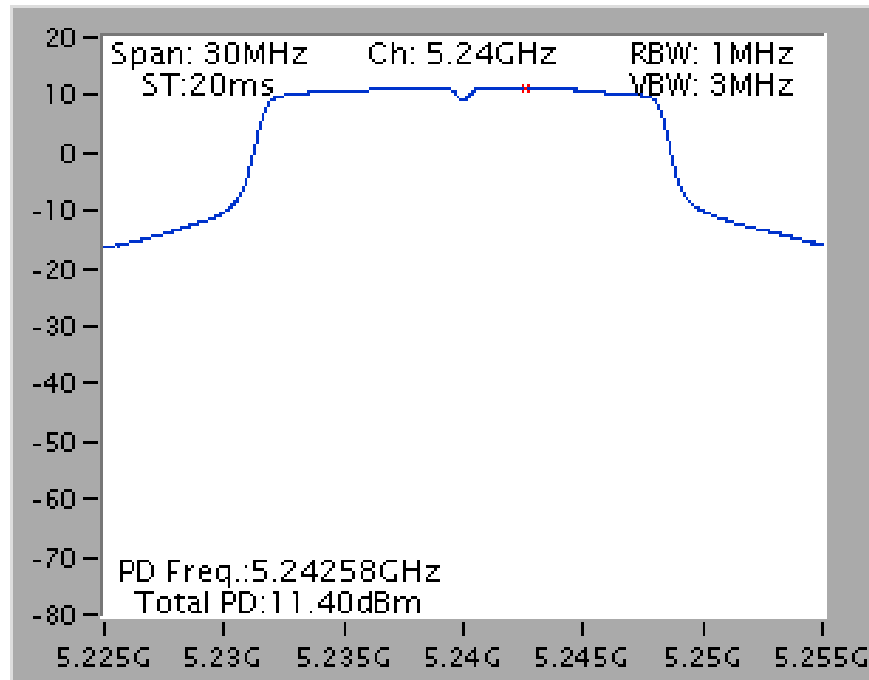
Power Density Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz

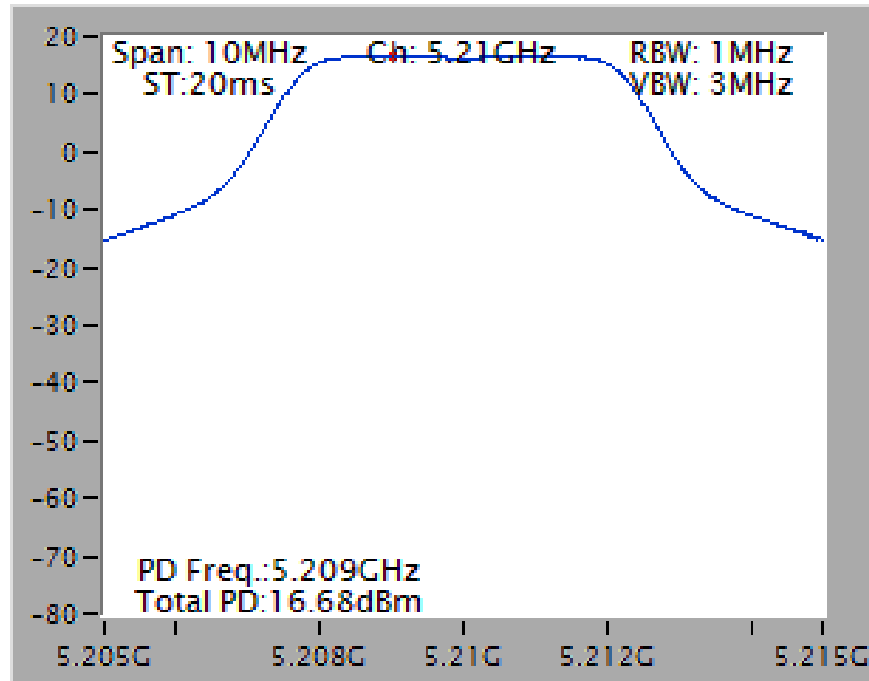
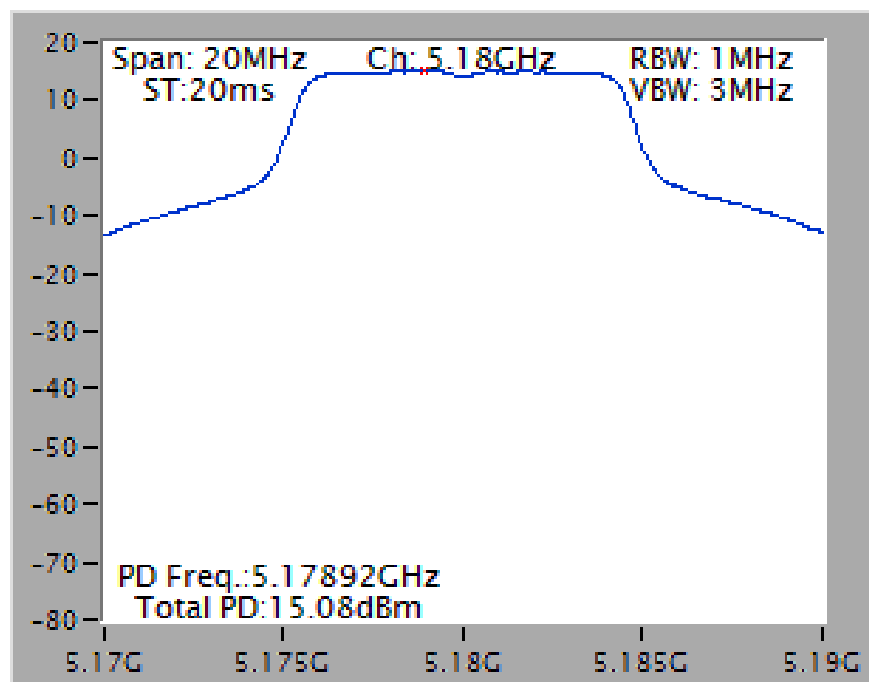


Power Density Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

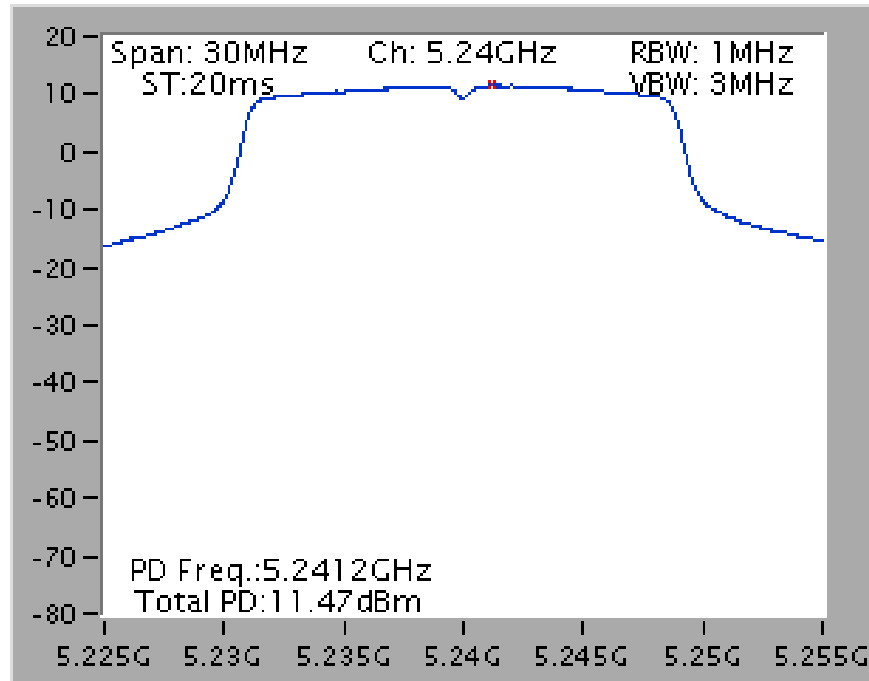


Power Density Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

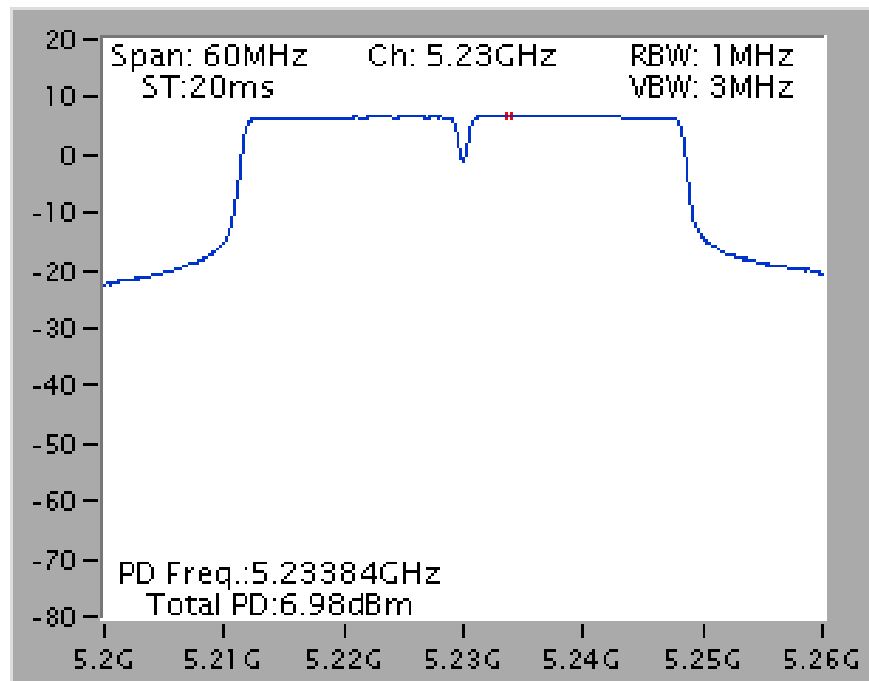


**Test Mode 2 / P to P****Power Density Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz****Power Density Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**

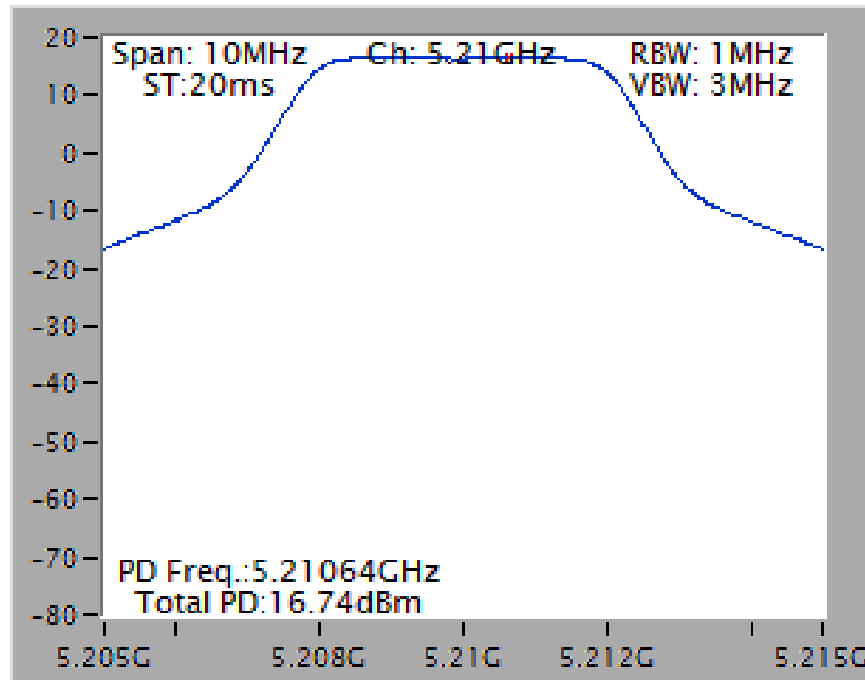
Power Density Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 /  
5240 MHz



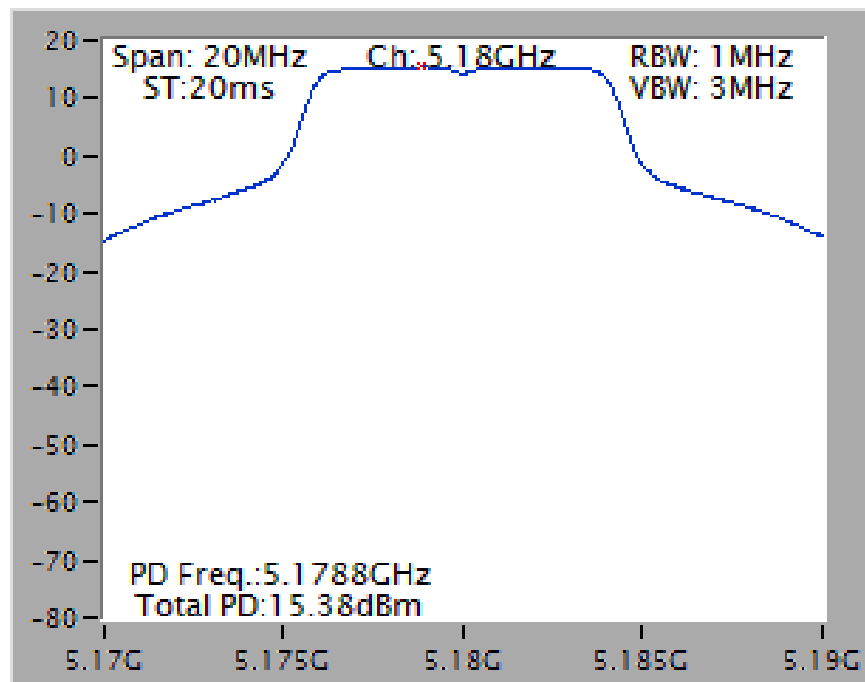
Power Density Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 /  
5230 MHz



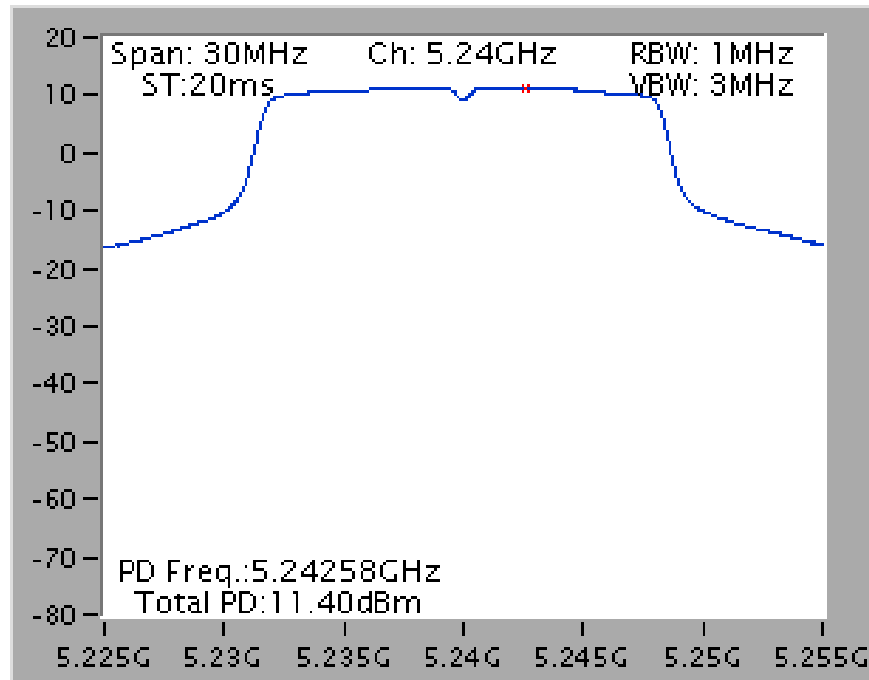
Power Density Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz

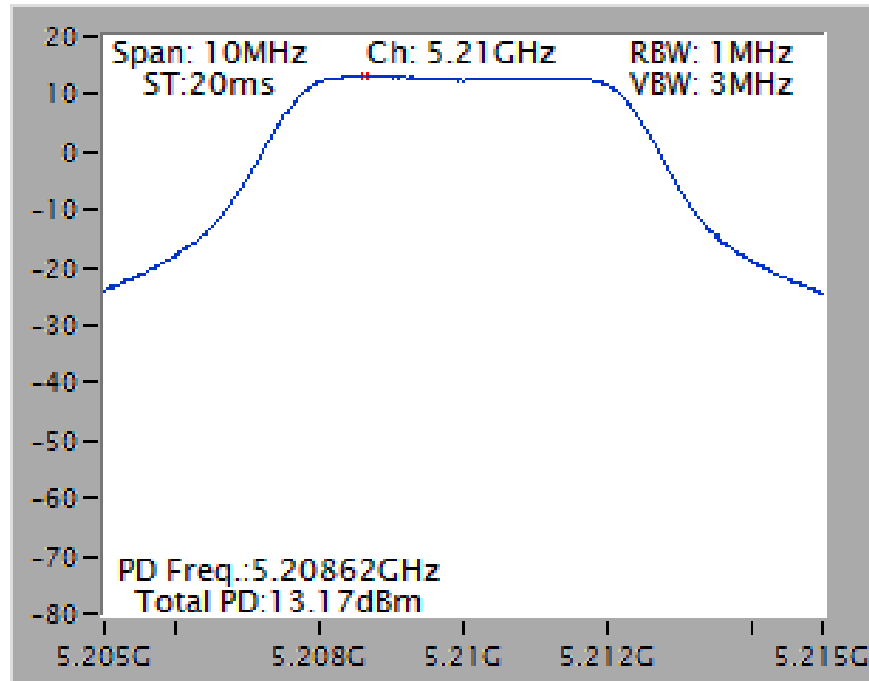
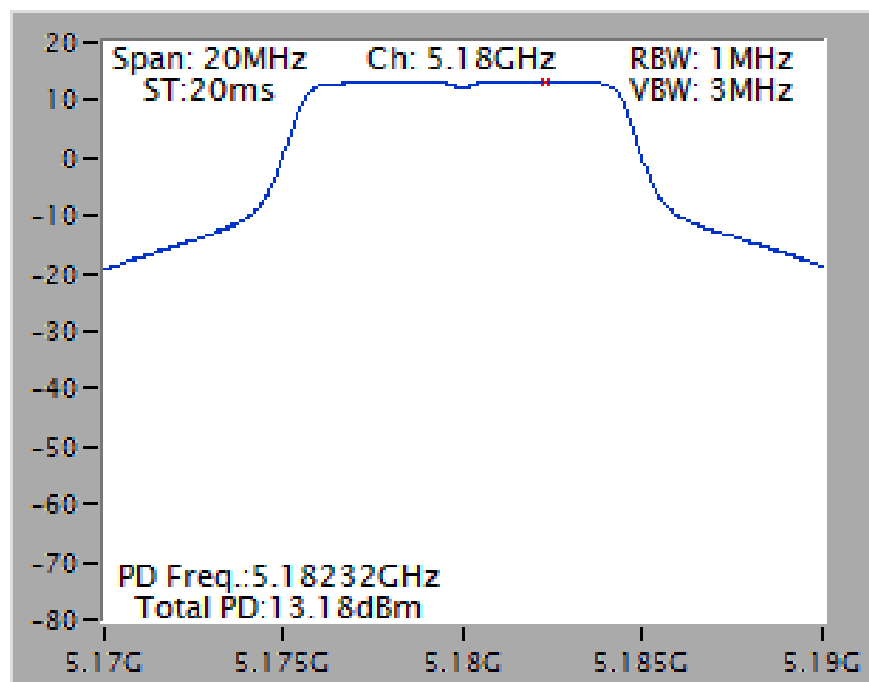


Power Density Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz

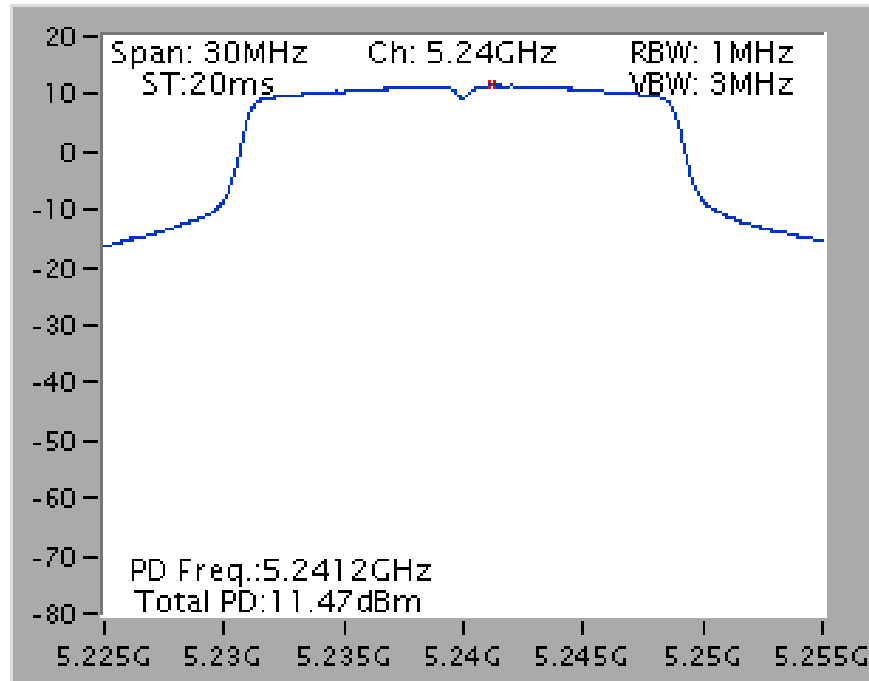


Power Density Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

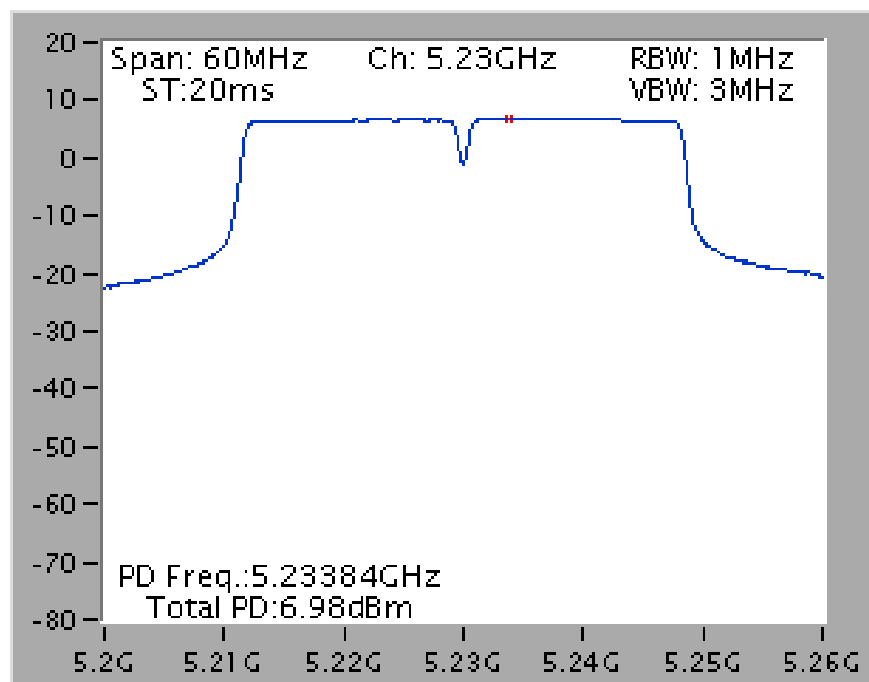


**Test Mode 2 / P to M****Power Density Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz****Power Density Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz**

Power Density Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 /  
5240 MHz

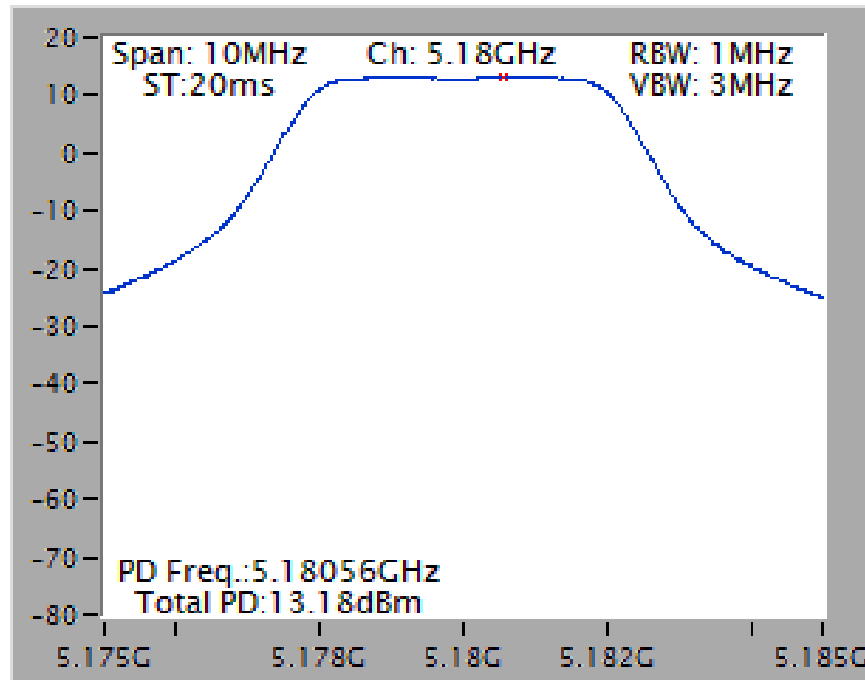


Power Density Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 /  
5230 MHz

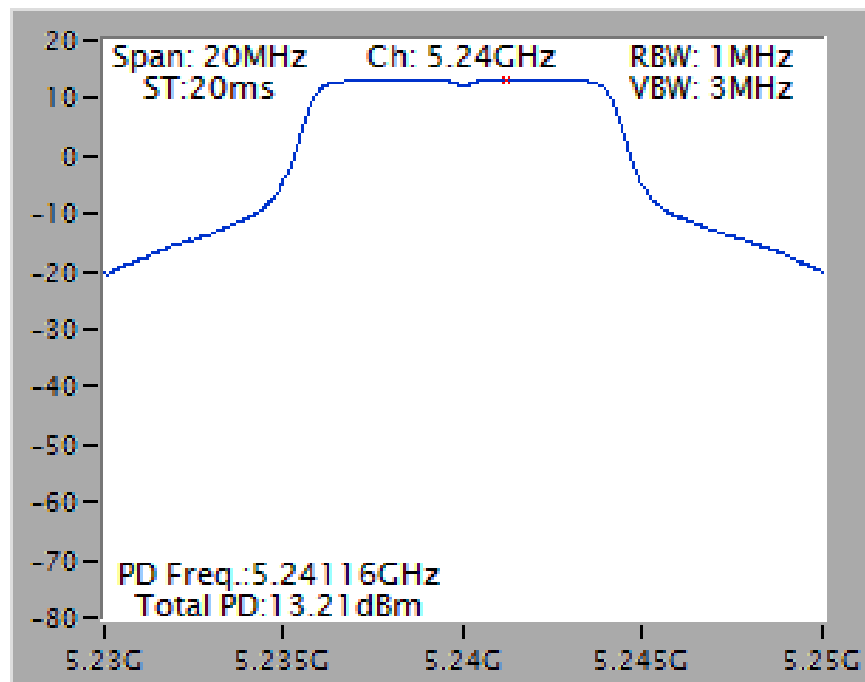




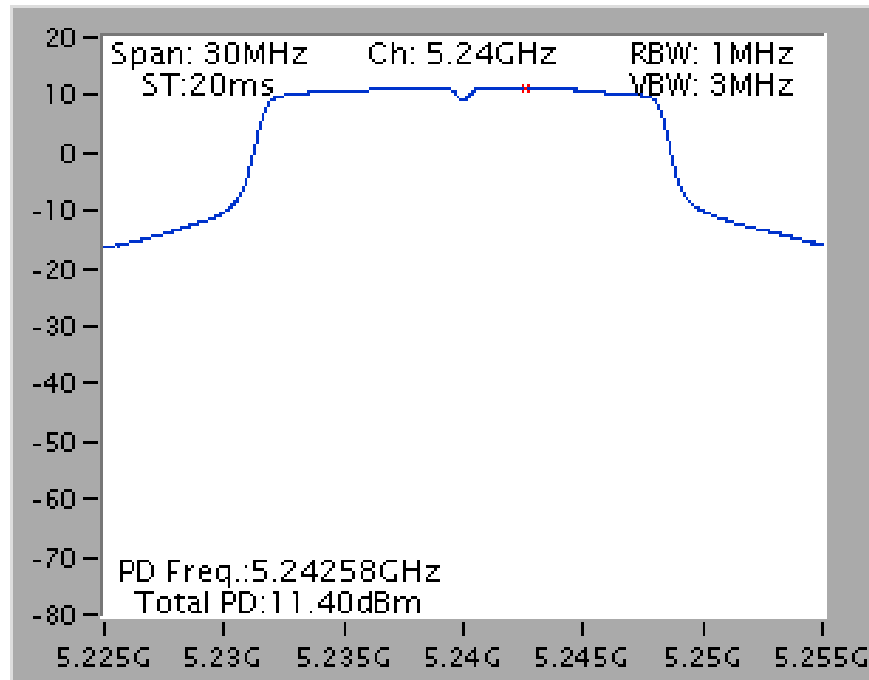
Power Density Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5180 MHz

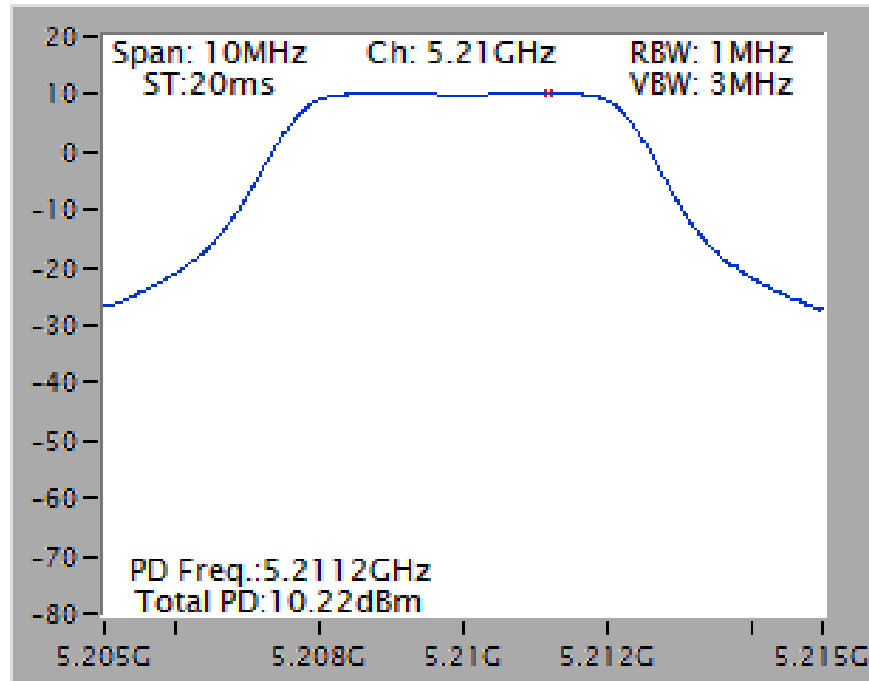
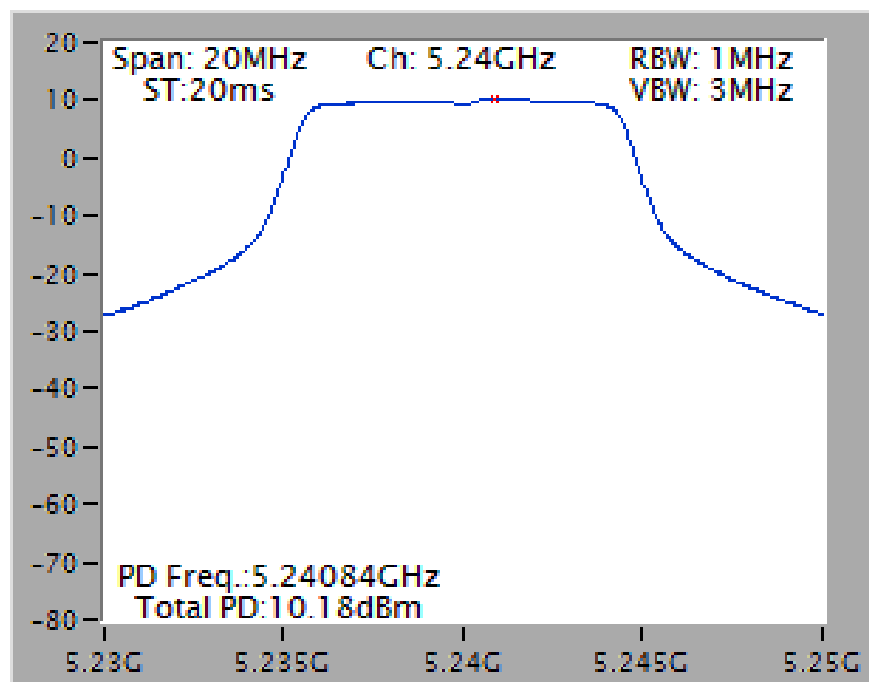


Power Density Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

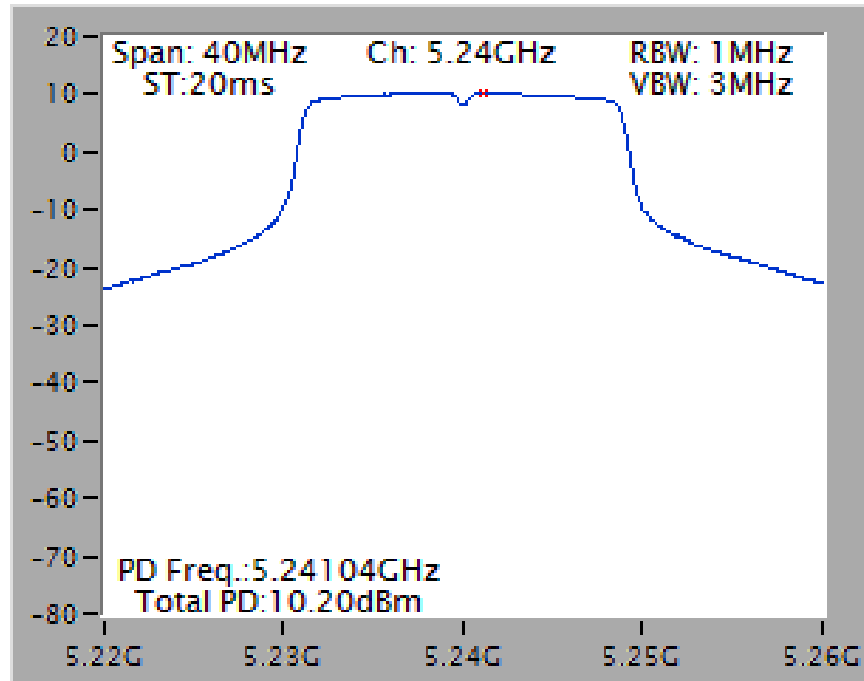


Power Density Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz

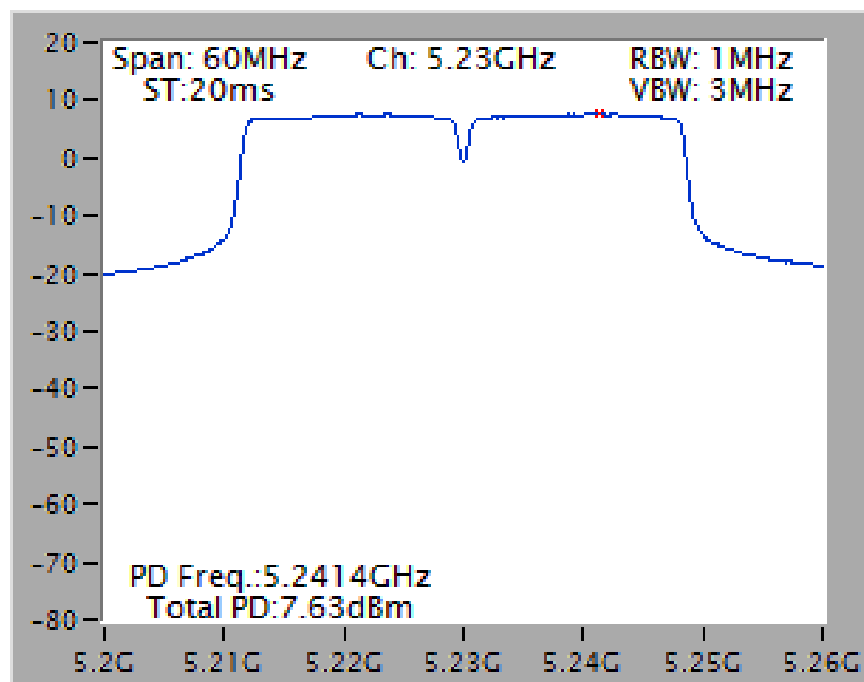


**Test Mode 3 / P to M****Power Density Plot on Configuration IEEE 802.11n MCS0 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz****Power Density Plot on Configuration IEEE 802.11n MCS0 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz**

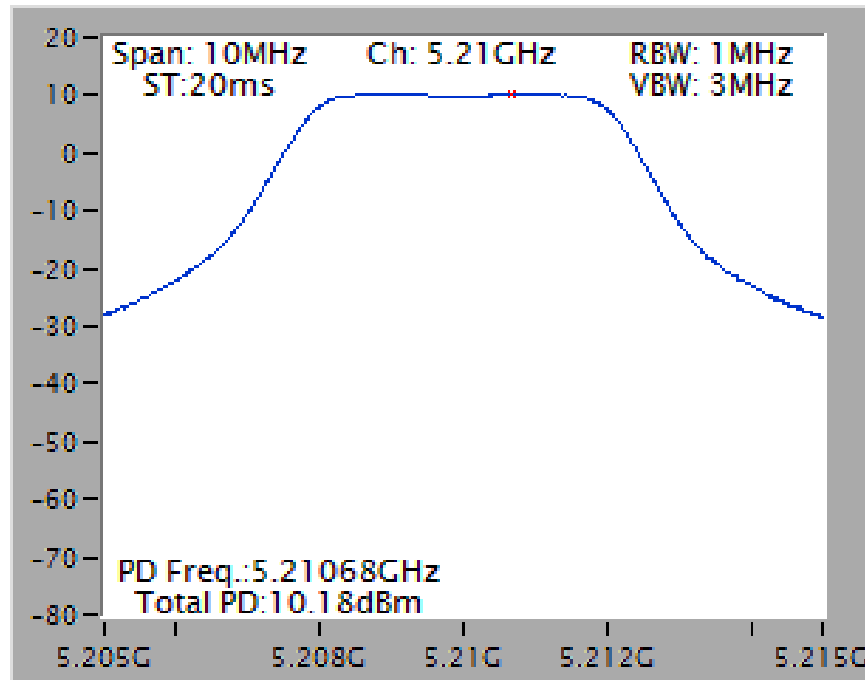
Power Density Plot on Configuration IEEE 802.11n MCS0 20 MHz / Chain 1 + Chain 2 + Chain 3 /  
5240 MHz



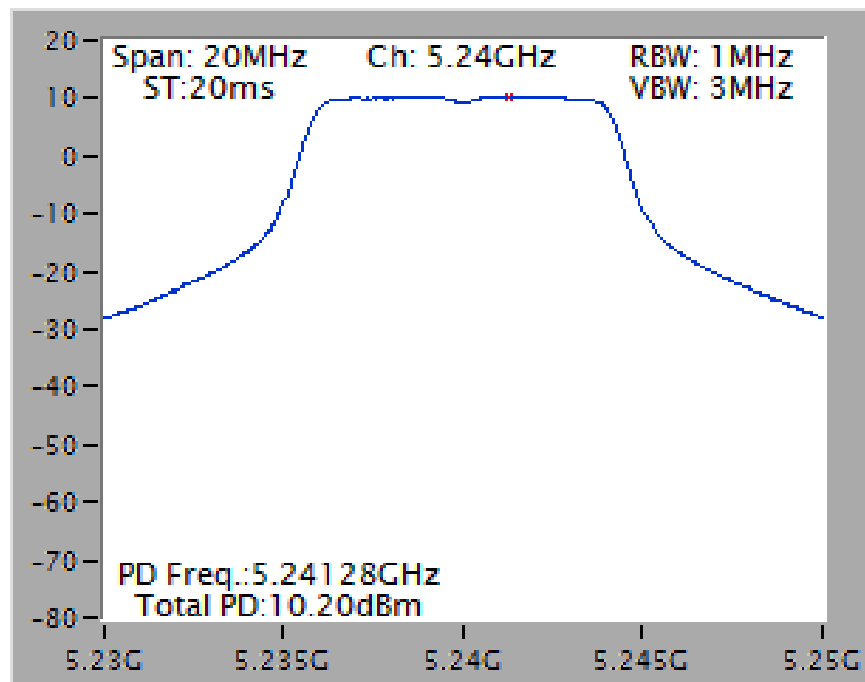
Power Density Plot on Configuration IEEE 802.11n MCS0 40 MHz / Chain 1 + Chain 2 + Chain 3 /  
5230 MHz



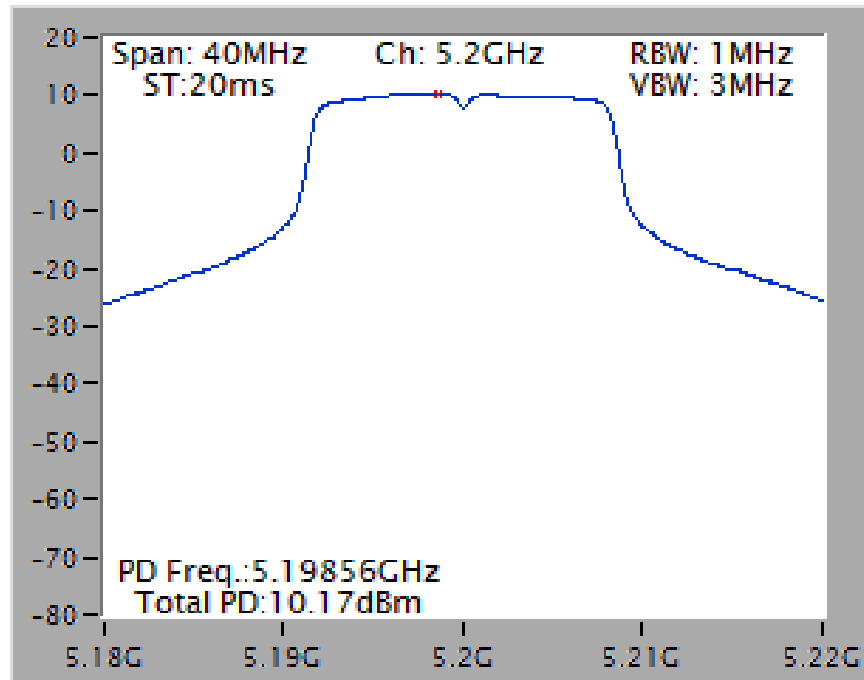
Power Density Plot on Configuration IEEE 802.11a 5 MHz / Chain 1 + Chain 2 + Chain 3 / 5210 MHz



Power Density Plot on Configuration IEEE 802.11a 10 MHz / Chain 1 + Chain 2 + Chain 3 / 5240 MHz



Power Density Plot on Configuration IEEE 802.11a 20 MHz / Chain 1 + Chain 2 + Chain 3 / 5200 MHz



## 4.4. Radiated Emissions Measurement

### 4.4.1. Limit

For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.25 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### 4.4.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1 MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1 MHz / 3MHz for peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

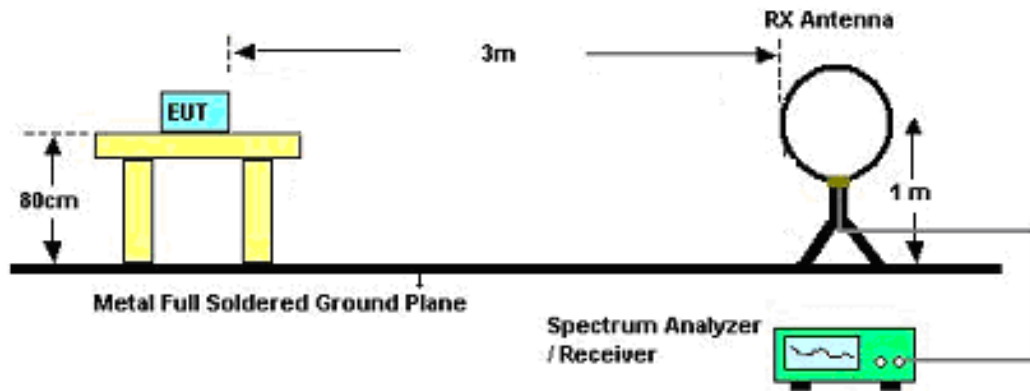
#### 4.4.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

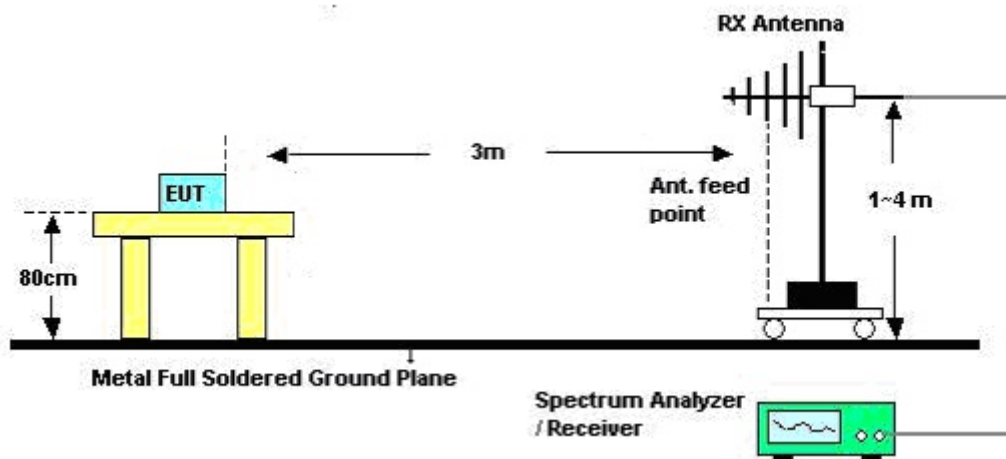


#### 4.4.4. Test Setup Layout

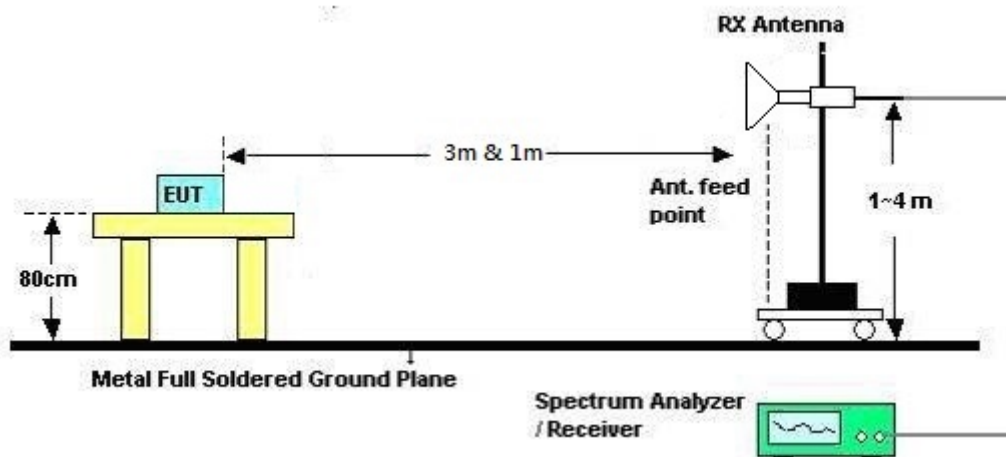
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



#### 4.4.5. Test Deviation

There is no deviation with the original standard.

#### 4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.4.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	23°C	Humidity	56%
Test Engineer	Will Tung	Configurations	CTX
Test Date	Aug. 06, 2014		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

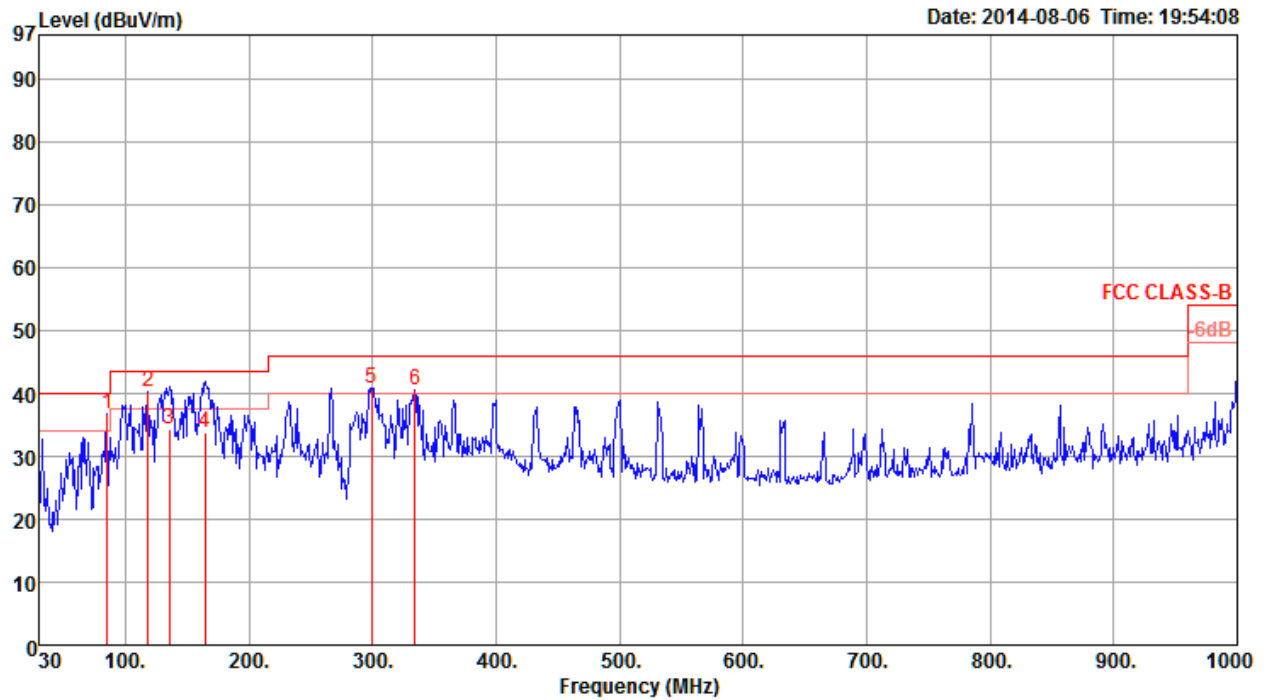
Distance extrapolation factor =  $40 \log(\text{specific distance} / \text{test distance})$  (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.4.8. Results of Radiated Emissions (30MHz~1GHz)

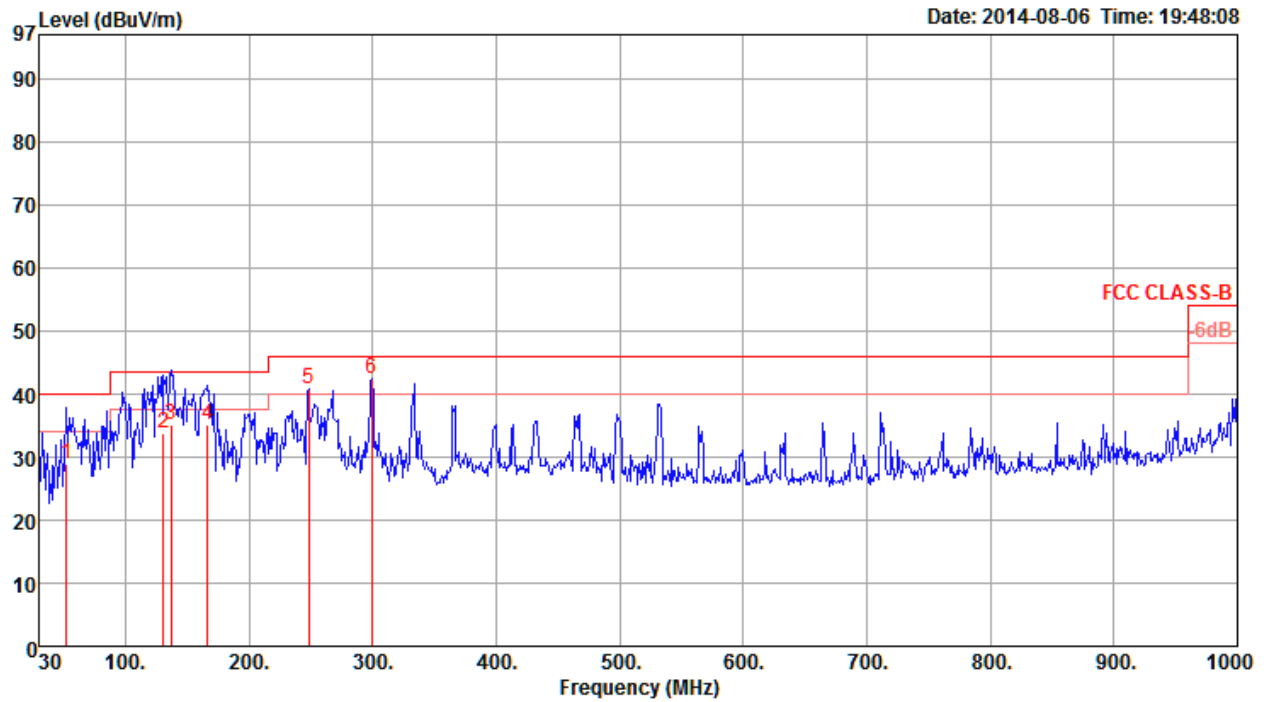
Temperature	23°C	Humidity	56%
Test Engineer	Will Tung	Configurations	CTX

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	85.29	36.66	40.00	-3.34	55.28	0.77	8.50	27.89	100	0	Peak
2	118.27	40.29	43.50	-3.21	54.46	0.93	12.60	27.70	100	0	Peak
3	135.73	34.21	43.50	-9.29	48.65	0.97	12.18	27.59	100	87	QP
4	164.83	33.82	43.50	-9.68	49.54	1.14	10.55	27.41	100	58	QP
5	299.66	40.92	46.00	-5.08	52.25	1.60	13.90	26.83	100	0	Peak
6	334.58	40.43	46.00	-5.57	50.64	1.69	15.08	26.98	100	0	Peak

**Vertical**



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	52.31	28.90	40.00	-11.10	47.85	0.56	8.40	27.91	100	278	QP
2	130.88	33.86	43.50	-9.64	48.00	0.95	12.53	27.62	100	58	QP
3	136.70	35.09	43.50	-8.41	49.58	0.98	12.11	27.58	100	287	Average
4	166.77	35.10	43.50	-8.40	50.87	1.15	10.49	27.41	100	67	QP
5	248.25	40.91	46.00	-5.09	53.46	1.39	13.02	26.96	400	0	Peak
6	299.66	42.30	46.00	-3.70	53.63	1.60	13.90	26.83	400	0	Peak

**Note:**

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

## 4.4.9. Results for Radiated Emissions (1GHz~40GHz)

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.94	49.18	54.00	-4.82	37.38	7.85	38.67	34.72	HORIZONTAL	100	119	Average
2	15540.26	62.45	74.00	-11.55	50.65	7.85	38.67	34.72	HORIZONTAL	100	119	Peak

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.44	68.37	74.00	-5.63	56.57	7.85	38.67	34.72	VERTICAL	124	133	Peak
2	15539.72	53.57	54.00	-0.43	41.77	7.85	38.67	34.72	VERTICAL	124	133	Average

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15631.28	50.94	54.00	-3.06	39.27	7.89	38.59	34.81	HORIZONTAL	100	130	Average
2	15631.36	64.98	74.00	-9.02	53.31	7.89	38.59	34.81	HORIZONTAL	100	130	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15631.16	53.63	54.00	-0.37	41.96	7.89	38.59	34.81	VERTICAL	119	150	Average
2	15631.26	66.69	74.00	-7.31	55.02	7.89	38.59	34.81	VERTICAL	119	150	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15720.20	51.20	54.00	-2.80	39.64	7.92	38.52	34.88	HORIZONTAL	136	116	Average
2	15720.26	64.17	74.00	-9.83	52.61	7.92	38.52	34.88	HORIZONTAL	136	116	Peak

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.88	67.78	74.00	-6.22	56.22	7.92	38.52	34.88	VERTICAL	157	136	Peak
2	15719.92	53.52	54.00	-0.48	41.96	7.92	38.52	34.88	VERTICAL	157	136	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15536.40	50.12	54.00	-3.88	38.32	7.85	38.67	34.72	HORIZONTAL	100	130	Average
2	15545.76	64.36	74.00	-9.64	52.56	7.86	38.66	34.72	HORIZONTAL	100	130	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15535.76	53.61	54.00	-0.39	41.81	7.85	38.67	34.72	VERTICAL	121	150	Average
2	15545.20	66.57	74.00	-7.43	54.77	7.86	38.66	34.72	VERTICAL	121	150	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15630.48	51.32	54.00	-2.68	39.65	7.89	38.59	34.81	HORIZONTAL	100	136	Average
2	15632.08	63.28	74.00	-10.72	51.61	7.89	38.59	34.81	HORIZONTAL	100	136	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15629.68	65.24	74.00	-8.76	53.57	7.89	38.59	34.81	VERTICAL	100	149	Peak
2	15629.72	53.77	54.00	-0.23	42.10	7.89	38.59	34.81	VERTICAL	100	149	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.04	61.90	74.00	-12.10	50.34	7.92	38.52	34.88	HORIZONTAL	100	118	Peak
2	15718.08	49.33	54.00	-4.67	37.77	7.92	38.52	34.88	HORIZONTAL	100	118	Average

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.84	52.42	54.00	-1.58	40.86	7.92	38.52	34.88	VERTICAL	100	152	Average
2	15718.04	64.83	74.00	-9.17	53.27	7.92	38.52	34.88	VERTICAL	100	152	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15534.40	60.50	74.00	-13.50	48.70	7.85	38.67	34.72	HORIZONTAL	124	118	Peak
2	15536.30	47.22	54.00	-6.78	35.42	7.85	38.67	34.72	HORIZONTAL	124	118	Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15535.90	64.96	74.00	-9.04	53.16	7.85	38.67	34.72	VERTICAL	162	207	Peak
2	15536.20	52.50	54.00	-1.50	40.70	7.85	38.67	34.72	VERTICAL	162	207	Average

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15597.10	49.28	54.00	-4.72	37.55	7.88	38.62	34.77	HORIZONTAL	129	315 Average
2	15597.90	60.93	74.00	-13.07	49.20	7.88	38.62	34.77	HORIZONTAL	129	315 Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15596.50	64.00	74.00	-10.00	52.27	7.88	38.62	34.77	VERTICAL	160	134 Peak
2	15605.20	52.02	54.00	-1.98	40.31	7.88	38.62	34.79	VERTICAL	160	134 Average

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15725.40	49.10	54.00	-4.90	37.54	7.92	38.52	34.88	HORIZONTAL	100	145	Average
2	15726.80	61.84	74.00	-12.16	50.30	7.92	38.52	34.90	HORIZONTAL	100	145	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15724.16	64.38	74.00	-9.62	52.82	7.92	38.52	34.88	VERTICAL	100	150	Peak
2	15724.24	51.45	54.00	-2.55	39.89	7.92	38.52	34.88	VERTICAL	100	150	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15558.80	55.81	74.00	-18.19	44.03	7.86	38.66	34.74	HORIZONTAL	100	360	Peak
2	15561.40	43.49	54.00	-10.51	31.73	7.86	38.64	34.74	HORIZONTAL	100	360	Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15560.50	44.72	54.00	-9.28	32.94	7.86	38.66	34.74	VERTICAL	100	43	Average
2	15562.40	55.76	74.00	-18.24	44.00	7.86	38.64	34.74	VERTICAL	100	43	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06~07, 2014	<b>Test Mode</b>	Mode 1

### Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15691.30	47.22	54.00	-6.78	35.62	7.90	38.55	34.85	HORIZONTAL	100	128	Average
2	15693.10	59.28	74.00	-14.72	47.68	7.90	38.55	34.85	HORIZONTAL	100	128	Peak

### Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15688.40	60.79	74.00	-13.21	49.19	7.90	38.55	34.85	VERTICAL	155	203	Peak
2	15689.40	49.05	54.00	-4.95	37.45	7.90	38.55	34.85	VERTICAL	155	203	Average





<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15538.68	48.10	54.00	-5.90	36.30	7.85	38.67	34.72	HORIZONTAL	100	157	Average
2	15539.00	62.23	74.00	-11.77	50.43	7.85	38.67	34.72	HORIZONTAL	100	157	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15538.68	68.20	74.00	-5.80	56.40	7.85	38.67	34.72	VERTICAL	125	133	Peak
2	15539.84	53.95	54.00	-0.05	42.15	7.85	38.67	34.72	VERTICAL	125	133	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15630.00	63.86	74.00	-10.14	52.19	7.89	38.59	34.81	HORIZONTAL	100	144	Peak
2	15630.00	50.01	54.00	-3.99	38.34	7.89	38.59	34.81	HORIZONTAL	100	144	Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15629.84	65.98	74.00	-8.02	54.31	7.89	38.59	34.81	VERTICAL	167	134	Peak
2	15629.92	53.55	54.00	-0.45	41.88	7.89	38.59	34.81	VERTICAL	167	134	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.30	65.25	74.00	-8.75	53.69	7.92	38.52	34.88	HORIZONTAL	100	145	Peak
2	15720.80	51.36	54.00	-2.64	39.80	7.92	38.52	34.88	HORIZONTAL	100	145	Average

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.30	53.64	54.00	-0.36	42.08	7.92	38.52	34.88	VERTICAL	161	136	Average
2	15720.58	66.42	74.00	-7.58	54.86	7.92	38.52	34.88	VERTICAL	161	136	Peak



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15538.60	62.14	74.00	-11.86	50.34	7.85	38.67	34.72	HORIZONTAL	100	146	Peak
2	15538.84	48.31	54.00	-5.69	36.51	7.85	38.67	34.72	HORIZONTAL	100	146	Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15538.80	53.60	54.00	-0.40	41.80	7.85	38.67	34.72	VERTICAL	150	128	Average
2	15543.60	65.52	74.00	-8.48	53.72	7.86	38.66	34.72	VERTICAL	150	128	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	15628.92	49.04	54.00	-4.96	37.37	7.89	38.59	34.81	HORIZONTAL	100	158	Average
2	15629.04	61.40	74.00	-12.60	49.73	7.89	38.59	34.81	HORIZONTAL	100	158	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	15627.56	53.45	54.00	-0.55	41.78	7.88	38.60	34.81	VERTICAL	128	134	Average
2	15627.68	67.52	74.00	-6.48	55.85	7.88	38.60	34.81	VERTICAL	128	134	Peak



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15717.92	61.78	74.00	-12.22	50.22	7.92	38.52	34.88	HORIZONTAL	100	128	Peak
2	15722.32	49.73	54.00	-4.27	38.17	7.92	38.52	34.88	HORIZONTAL	100	128	Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15717.64	53.40	54.00	-0.60	41.84	7.92	38.52	34.88	VERTICAL	107	134	Average
2	15717.76	66.01	74.00	-7.99	54.45	7.92	38.52	34.88	VERTICAL	107	134	Peak



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15535.48	61.00	74.00	-13.00	49.20	7.85	38.67	34.72	HORIZONTAL	107	158	Peak
2	15536.16	48.28	54.00	-5.72	36.48	7.85	38.67	34.72	HORIZONTAL	107	158	Average

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15545.00	65.62	74.00	-8.38	53.82	7.86	38.66	34.72	VERTICAL	129	135	Peak
2	15545.08	51.89	54.00	-2.11	40.09	7.86	38.66	34.72	VERTICAL	129	135	Average

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15600.72	49.85	54.00	-4.15	38.14	7.88	38.62	34.79	HORIZONTAL	100	130	Average
2	15600.96	62.45	74.00	-11.55	50.74	7.88	38.62	34.79	HORIZONTAL	100	130	Peak

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Pol/Phase	cm	deg	
1	15600.08	64.17	74.00	-9.83	52.46	7.88	38.62	34.79	VERTICAL	100	151	Peak
2	15600.52	52.44	54.00	-1.56	40.73	7.88	38.62	34.79	VERTICAL	100	151	Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

#### Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.72	49.02	54.00	-4.98	37.46	7.92	38.52	34.88	HORIZONTAL	100	145	Average
2	15727.44	61.43	74.00	-12.57	49.89	7.92	38.52	34.90	HORIZONTAL	100	145	Peak

#### Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.60	51.31	54.00	-2.69	39.75	7.92	38.52	34.88	VERTICAL	100	151	Average
2	15717.76	64.01	74.00	-9.99	52.45	7.92	38.52	34.88	VERTICAL	100	151	Peak

#### Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15540.46	53.62	54.00	-0.38	40.32	10.77	38.12	35.59	Average	113	208	HORIZONTAL
2	15540.56	69.80	74.00	-4.20	56.50	10.77	38.12	35.59	Peak	113	208	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.70	64.96	74.00	-9.04	51.66	10.77	38.12	35.59	Peak	100	208	VERTICAL
2	15539.84	52.56	54.00	-1.44	39.26	10.77	38.12	35.59	Average	100	208	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15629.23	53.42	54.00	-0.58	40.22	10.78	37.99	35.57	Average	104	209	HORIZONTAL
2	15633.77	70.55	74.00	-3.45	57.35	10.78	37.99	35.57	Peak	104	209	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15630.99	65.79	74.00	-8.21	52.59	10.78	37.99	35.57	Peak	104	208	VERTICAL
2	15631.03	52.57	54.00	-1.43	39.37	10.78	37.99	35.57	Average	104	208	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.17	72.41	74.00	-1.59	59.33	10.79	37.85	35.56	Peak	100	212	HORIZONTAL
2	15719.20	53.49	54.00	-0.51	40.41	10.79	37.85	35.56	Average	100	212	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.91	53.09	54.00	-0.91	40.01	10.79	37.85	35.56	Average	115	108	VERTICAL
2	15723.19	67.05	74.00	-6.95	53.97	10.79	37.85	35.56	Peak	115	108	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15541.17	52.98	54.00	-1.02	39.68	10.77	38.12	35.59 Average	113	208	HORIZONTAL
2	15541.51	67.17	74.00	-6.83	53.87	10.77	38.12	35.59 Peak	113	208	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15539.90	51.15	54.00	-2.85	37.85	10.77	38.12	35.59 Average	146	109	VERTICAL
2	15540.50	63.78	74.00	-10.22	50.48	10.77	38.12	35.59 Peak	146	109	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15628.37	53.04	54.00	-0.96	39.84	10.78	37.99	35.57	Average	105	211	HORIZONTAL
2	15629.07	67.52	74.00	-6.48	54.32	10.78	37.99	35.57	Peak	105	211	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15628.06	59.65	74.00	-14.35	46.45	10.78	37.99	35.57	Peak	100	142	VERTICAL
2	15628.27	46.54	54.00	-7.46	33.34	10.78	37.99	35.57	Average	100	142	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15720.85	65.87	74.00	-8.13	52.79	10.79	37.85	35.56	Peak	114	209	HORIZONTAL
2	15721.30	50.77	54.00	-3.23	37.69	10.79	37.85	35.56	Average	114	209	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.74	60.98	74.00	-13.02	47.90	10.79	37.85	35.56	Peak	139	106	VERTICAL
2	15720.34	47.53	54.00	-6.47	34.45	10.79	37.85	35.56	Average	139	106	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.87	42.44	54.00	-11.56	29.14	10.77	38.12	35.59	Average	100	2	HORIZONTAL
2	15542.63	55.73	74.00	-18.27	42.43	10.77	38.12	35.59	Peak	100	2	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.01	55.64	74.00	-18.36	42.34	10.77	38.12	35.59	Peak	100	140	VERTICAL
2	15539.42	42.48	54.00	-11.52	29.18	10.77	38.12	35.59	Average	100	140	VERTICAL





<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15595.19	45.09	54.00	-8.91	31.85	10.78	38.04	35.58	Average	100	138 HORIZONTAL
2	15596.71	57.00	74.00	-17.00	43.76	10.78	38.04	35.58	Peak	100	138 HORIZONTAL

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15591.35	45.42	54.00	-8.58	32.18	10.78	38.04	35.58	Average	100	343 VERTICAL
2	15591.91	56.87	74.00	-17.13	43.63	10.78	38.04	35.58	Peak	100	343 VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15714.15	59.45	74.00	-14.55	46.37	10.79	37.85	35.56	Peak	100	359	HORIZONTAL
2	15714.87	46.31	54.00	-7.69	33.23	10.79	37.85	35.56	Average	100	359	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15710.38	58.77	74.00	-15.23	45.69	10.79	37.85	35.56	Peak	100	116	VERTICAL
2	15729.29	46.74	54.00	-7.26	33.68	10.79	37.83	35.56	Average	100	116	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15561.03	55.09	74.00	-18.91	41.80	10.78	38.09	35.58	Peak	100	257	HORIZONTAL
2	15565.61	42.65	54.00	-11.35	29.36	10.78	38.09	35.58	Average	100	257	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15562.72	55.33	74.00	-18.67	42.04	10.78	38.09	35.58	Peak	100	44	VERTICAL
2	15569.97	42.47	54.00	-11.53	29.18	10.78	38.09	35.58	Average	100	44	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15684.65	55.64	74.00	-18.36	42.50	10.79	37.91	35.56 Peak	100	11	HORIZONTAL
2	15686.70	43.23	54.00	-10.77	30.09	10.79	37.91	35.56 Average	100	11	HORIZONTAL

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15682.53	56.61	74.00	-17.39	43.47	10.79	37.91	35.56 Peak	100	305	VERTICAL
2	15689.78	43.29	54.00	-10.71	30.15	10.79	37.91	35.56 Average	100	305	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15538.21	70.36	74.00	-3.64	57.06	10.77	38.12	35.59	Peak	112	211	HORIZONTAL
2	15540.10	53.86	54.00	-0.14	40.56	10.77	38.12	35.59	Average	112	211	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.73	64.84	74.00	-9.16	51.54	10.77	38.12	35.59	Peak	116	210	VERTICAL
2	15539.92	52.45	54.00	-1.55	39.15	10.77	38.12	35.59	Average	116	210	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15627.90	72.24	74.00	-1.76	59.04	10.78	37.99	35.57	Peak	108	211	HORIZONTAL
2	15630.30	53.58	54.00	-0.42	40.38	10.78	37.99	35.57	Average	108	211	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15629.97	52.56	54.00	-1.44	39.36	10.78	37.99	35.57	Average	148	112	VERTICAL
2	15630.06	67.09	74.00	-6.91	53.89	10.78	37.99	35.57	Peak	148	112	VERTICAL

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.29	72.59	74.00	-1.41	59.51	10.79	37.85	35.56	Peak	104	212	HORIZONTAL
2	15720.35	53.60	54.00	-0.40	40.52	10.79	37.85	35.56	Average	104	212	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.76	67.48	74.00	-6.52	54.40	10.79	37.85	35.56	Peak	152	107	VERTICAL
2	15720.06	52.93	54.00	-1.07	39.85	10.79	37.85	35.56	Average	152	107	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.01	52.13	54.00	-1.87	38.83	10.77	38.12	35.59	Average	100	208	HORIZONTAL
2	15541.73	66.73	74.00	-7.27	53.43	10.77	38.12	35.59	Peak	100	208	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15538.59	61.71	74.00	-12.29	48.41	10.77	38.12	35.59	Peak	107	114	VERTICAL
2	15538.91	49.29	54.00	-4.71	35.99	10.77	38.12	35.59	Average	107	114	VERTICAL





<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15629.29	52.55	54.00	-1.45	39.35	10.78	37.99	35.57	Average	106	209	HORIZONTAL
2	15629.36	66.80	74.00	-7.20	53.60	10.78	37.99	35.57	Peak	106	209	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15631.11	48.22	54.00	-5.78	35.02	10.78	37.99	35.57	Average	109	112	VERTICAL
2	15633.54	61.22	74.00	-12.78	48.02	10.78	37.99	35.57	Peak	109	112	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15715.85	64.70	74.00	-9.30	51.62	10.79	37.85	35.56	Peak	120	208	HORIZONTAL
2	15720.34	50.58	54.00	-3.42	37.50	10.79	37.85	35.56	Average	120	208	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.94	60.89	74.00	-13.11	47.81	10.79	37.85	35.56	Peak	119	108	VERTICAL
2	15720.00	47.62	54.00	-6.38	34.54	10.79	37.85	35.56	Average	119	108	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15535.59	42.64	54.00	-11.36	29.31	10.77	38.15	35.59	Average	100	111	HORIZONTAL
2	15551.78	55.29	74.00	-18.71	41.98	10.78	38.12	35.59	Peak	100	111	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15518.21	42.74	54.00	-11.26	29.39	10.77	38.17	35.59	Average	100	20	VERTICAL
2	15547.45	55.15	74.00	-18.85	41.84	10.78	38.12	35.59	Peak	100	20	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15598.40	45.97	54.00	-8.03	32.73	10.78	38.04	35.58 Average	100	336	HORIZONTAL
2	15608.25	57.35	74.00	-16.65	44.13	10.78	38.01	35.57 Peak	100	336	HORIZONTAL

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15592.55	57.68	74.00	-16.32	44.44	10.78	38.04	35.58 Peak	100	4	VERTICAL
2	15603.04	46.89	54.00	-7.11	33.65	10.78	38.04	35.58 Average	100	4	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15722.40	45.62	54.00	-8.38	32.54	10.79	37.85	35.56	Average	100	356	HORIZONTAL
2	15735.71	56.64	74.00	-17.36	43.57	10.79	37.83	35.55	Peak	100	356	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15720.16	47.12	54.00	-6.88	34.04	10.79	37.85	35.56	Average	100	116	VERTICAL
2	15729.29	57.42	74.00	-16.58	44.36	10.79	37.83	35.56	Peak	100	116	VERTICAL

**Note:**

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15539.20	66.92	74.00	-7.08	52.28	10.37	38.78	34.51	136	236	HORIZONTAL Peak
2	15539.33	53.80	54.00	-0.20	39.16	10.37	38.78	34.51	136	236	HORIZONTAL Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15539.23	53.86	54.00	-0.14	39.22	10.37	38.78	34.51	141	237	VERTICAL Average
2	15539.26	66.62	74.00	-7.38	51.98	10.37	38.78	34.51	141	237	VERTICAL Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

### Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15627.76	61.99	74.00	-12.01	47.50	10.36	38.75	34.62	154	218	HORIZONTAL	Peak
2	15628.23	53.09	54.00	-0.91	38.61	10.36	38.75	34.63	154	218	HORIZONTAL	Average

### Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15627.84	53.52	54.00	-0.48	39.03	10.36	38.75	34.62	152	220	VERTICAL	Average
2	15628.27	69.43	74.00	-4.57	54.95	10.36	38.75	34.63	152	220	VERTICAL	Peak

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15716.56	64.04	74.00	-9.96	49.70	10.36	38.72	34.74	141	235	HORIZONTAL	Peak
2	15721.72	50.82	54.00	-3.18	36.48	10.36	38.72	34.74	141	235	HORIZONTAL	Average

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15719.13	53.09	54.00	-0.91	38.75	10.36	38.72	34.74	140	218	VERTICAL	Average
2	15723.88	66.33	74.00	-7.67	51.99	10.36	38.72	34.74	140	218	VERTICAL	Peak





<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.04	62.67	74.00	-11.33	53.26	6.13	38.45	35.17	Peak	138	359	HORIZONTAL
2	15545.68	49.14	54.00	-4.86	39.75	6.13	38.43	35.17	Average	138	359	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15544.32	53.93	54.00	-0.07	44.54	6.13	38.43	35.17	Average	109	290	VERTICAL
2	15545.92	68.02	74.00	-5.98	58.63	6.13	38.43	35.17	Peak	109	290	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15631.52	46.74	54.00	-7.26	37.48	6.14	38.31	35.19	Average	100	354	HORIZONTAL
2	15632.00	59.63	74.00	-14.37	50.37	6.14	38.31	35.19	Peak	100	354	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15628.96	64.84	74.00	-9.16	55.58	6.14	38.31	35.19	Peak	108	290	VERTICAL
2	15629.52	51.03	54.00	-2.97	41.77	6.14	38.31	35.19	Average	108	290	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15716.08	57.27	74.00	-16.73	48.15	6.14	38.19	35.21	Peak	127	313	HORIZONTAL
2	15717.20	43.69	54.00	-10.31	34.57	6.14	38.19	35.21	Average	127	313	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15715.84	48.10	54.00	-5.90	38.98	6.14	38.19	35.21	Average	100	290	VERTICAL
2	15716.56	62.34	74.00	-11.66	53.22	6.14	38.19	35.21	Peak	100	290	VERTICAL

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15537.12	54.58	74.00	-19.42	45.17	6.13	38.45	35.17	Peak	103	156	HORIZONTAL
2	15546.92	40.31	54.00	-13.69	30.92	6.13	38.43	35.17	Average	103	156	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15544.08	60.84	74.00	-13.16	51.45	6.13	38.43	35.17	Peak	100	290	VERTICAL
2	15544.88	46.12	54.00	-7.88	36.73	6.13	38.43	35.17	Average	100	290	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15593.40	51.29	54.00	-2.71	41.96	6.13	38.38	35.18	Average	136	354	HORIZONTAL
2	15594.20	67.61	74.00	-6.39	58.28	6.13	38.38	35.18	Peak	136	354	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15590.80	65.07	74.00	-8.93	55.74	6.13	38.38	35.18	Peak	100	291	VERTICAL
2	15590.90	50.24	54.00	-3.76	40.91	6.13	38.38	35.18	Average	100	291	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15721.60	56.51	74.00	-17.49	47.39	6.14	38.19	35.21	Peak	123	313	HORIZONTAL
2	15722.60	42.82	54.00	-11.18	33.70	6.14	38.19	35.21	Average	123	313	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15719.80	62.70	74.00	-11.30	53.58	6.14	38.19	35.21	Peak	100	289	VERTICAL
2	15720.00	48.79	54.00	-5.21	39.67	6.14	38.19	35.21	Average	100	289	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15561.24	40.51	54.00	-13.49	31.15	6.13	38.40	35.17	Average	100	199	HORIZONTAL
2	15576.52	52.70	74.00	-21.30	43.35	6.13	38.40	35.18	Peak	100	199	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15560.56	40.98	54.00	-13.02	31.62	6.13	38.40	35.17	Average	100	99	VERTICAL
2	15576.32	53.37	74.00	-20.63	44.02	6.13	38.40	35.18	Peak	100	99	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	15680.88	52.67	74.00	-21.33	43.51	6.14	38.23	35.21	Peak	100	75	HORIZONTAL
2	15685.68	41.05	54.00	-12.95	31.89	6.14	38.23	35.21	Average	100	75	HORIZONTAL

**Vertical**

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	15685.68	57.05	74.00	-16.95	47.89	6.14	38.23	35.21	Peak	100	288	VERTICAL
2	15694.76	45.80	54.00	-8.20	36.64	6.14	38.23	35.21	Average	100	288	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

### Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10358.60	41.12	54.00	-12.88	29.06	8.34	38.58	34.86	160	260	HORIZONTAL	Average
2	10361.02	52.49	74.00	-21.51	40.43	8.34	38.58	34.86	160	260	HORIZONTAL	Peak
3	15538.48	65.50	74.00	-8.50	50.86	10.37	38.78	34.51	138	236	HORIZONTAL	Peak
4	15540.76	52.33	54.00	-1.67	37.70	10.37	38.78	34.52	138	236	HORIZONTAL	Average

### Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10358.91	40.04	54.00	-13.96	27.98	8.34	38.58	34.86	143	360	VERTICAL	Average
2	10361.53	53.29	74.00	-20.71	41.23	8.34	38.58	34.86	143	360	VERTICAL	Peak
3	15539.32	66.08	74.00	-7.92	51.44	10.37	38.78	34.51	139	217	VERTICAL	Peak
4	15539.40	53.64	54.00	-0.36	39.00	10.37	38.78	34.51	139	217	VERTICAL	Average

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

### Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10418.79	57.89	74.00	-16.11	45.71	8.37	38.67	34.86	151	245	HORIZONTAL Peak
2	10422.42	53.23	54.00	-0.77	41.05	8.37	38.67	34.86	151	245	HORIZONTAL Average
3	15627.44	66.26	74.00	-7.74	51.77	10.36	38.75	34.62	128	236	HORIZONTAL Peak
4	15630.24	52.24	54.00	-1.76	37.76	10.36	38.75	34.63	128	236	HORIZONTAL Average

### Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10418.41	52.84	54.00	-1.16	40.66	8.37	38.67	34.86	100	193	VERTICAL Average
2	10418.79	53.93	74.00	-20.07	41.75	8.37	38.67	34.86	100	193	VERTICAL Peak
3	15627.30	68.45	74.00	-5.55	53.96	10.36	38.75	34.62	140	216	VERTICAL Peak
4	15630.05	53.73	54.00	-0.27	39.25	10.36	38.75	34.63	140	216	VERTICAL Average



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10478.66	54.97	74.00	-19.03	42.67	8.40	38.76	34.86	149	244	HORIZONTAL Peak
2	10481.25	43.61	54.00	-10.39	31.31	8.40	38.76	34.86	149	244	HORIZONTAL Average
3	15719.46	65.69	74.00	-8.31	51.35	10.36	38.72	34.74	149	235	HORIZONTAL Peak
4	15719.80	52.25	54.00	-1.75	37.91	10.36	38.72	34.74	149	235	HORIZONTAL Average

**Vertical**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	10478.80	41.88	54.00	-12.12	29.58	8.40	38.76	34.86	100	193	VERTICAL Average
2	10481.18	54.13	74.00	-19.87	41.83	8.40	38.76	34.86	100	193	VERTICAL Peak
3	15718.90	53.18	54.00	-0.82	38.84	10.36	38.72	34.74	145	218	VERTICAL Average
4	15723.56	65.99	74.00	-8.01	51.65	10.36	38.72	34.74	145	218	VERTICAL Peak



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15542.80	47.07	54.00	-6.93	37.66	6.13	38.45	35.17	Average	100	257	HORIZONTAL
2	15542.96	61.38	74.00	-12.62	51.97	6.13	38.45	35.17	Peak	100	257	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15532.56	67.76	74.00	-6.24	58.35	6.13	38.45	35.17	Peak	109	291	VERTICAL
2	15542.24	53.73	54.00	-0.27	44.32	6.13	38.45	35.17	Average	109	291	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 42 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15621.68	61.95	74.00	-12.05	52.68	6.13	38.33	35.19	Peak	101	354	HORIZONTAL
2	15630.96	47.63	54.00	-6.37	38.37	6.14	38.31	35.19	Average	101	354	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15630.16	65.13	74.00	-8.87	55.87	6.14	38.31	35.19	Peak	115	290	VERTICAL
2	15630.24	50.78	54.00	-3.22	41.52	6.14	38.31	35.19	Average	115	290	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15722.96	45.80	54.00	-8.20	36.68	6.14	38.19	35.21	Average	135	315	HORIZONTAL
2	15723.04	58.74	74.00	-15.26	49.62	6.14	38.19	35.21	Peak	135	315	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15722.48	49.66	54.00	-4.34	40.54	6.14	38.19	35.21	Average	112	289	VERTICAL
2	15722.80	64.39	74.00	-9.61	55.27	6.14	38.19	35.21	Peak	112	289	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15542.88	42.98	54.00	-11.02	33.57	6.13	38.45	35.17	Average	120	261	HORIZONTAL
2	15543.24	57.37	74.00	-16.63	47.96	6.13	38.45	35.17	Peak	120	261	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15541.68	61.71	74.00	-12.29	52.30	6.13	38.45	35.17	Peak	100	294	VERTICAL
2	15542.04	47.24	54.00	-6.76	37.83	6.13	38.45	35.17	Average	100	294	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 40 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

**Horizontal**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15598.08	47.22	54.00	-6.78	37.91	6.13	38.36	35.18	Average	134	317	HORIZONTAL
2	15598.72	62.33	74.00	-11.67	53.02	6.13	38.36	35.18	Peak	134	317	HORIZONTAL

**Vertical**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15592.32	64.38	74.00	-9.62	55.05	6.13	38.38	35.18	Peak	102	292	VERTICAL
2	15601.96	50.30	54.00	-3.70	41.00	6.13	38.36	35.19	Average	102	292	VERTICAL



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 29, 2014	<b>Test Mode</b>	Mode 3

### Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.72	58.13	74.00	-15.87	49.01	6.14	38.19	35.21	Peak	154	314	HORIZONTAL
2	15718.24	43.79	54.00	-10.21	34.67	6.14	38.19	35.21	Average	154	314	HORIZONTAL

### Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.76	48.65	54.00	-5.35	39.53	6.14	38.19	35.21	Average	106	290	VERTICAL
2	15717.92	62.76	74.00	-11.24	53.64	6.14	38.19	35.21	Peak	106	290	VERTICAL

### Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

## 4.5. Band Edge Emissions Measurement

### 4.5.1. Limit

For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.25 GHz band shall not exceed an e.i.r.p. of  $-27$  dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### 4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1 MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1 MHz / 3MHz for Peak

### 4.5.3. Test Procedures

1. The test procedure is the same as section 4.4.3, only the frequency range investigated is limited to 100MHz around bandedges.

#### **4.5.4. Test Setup Layout**

This test setup layout is the same as that shown in section 4.4.4.

#### **4.5.5. Test Deviation**

There is no deviation with the original standard.

#### **4.5.6. EUT Operation during Test**

The EUT was programmed to be in continuously transmitting mode.

#### 4.5.7. Test Result of Band Edge and Fundamental Emissions

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

##### Channel 36

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	53.51	74.00	-20.49	50.56	4.34	33.14	34.53	HORIZONTAL	100	11	Peak
2	5150.00	42.95	54.00	-11.05	40.00	4.34	33.14	34.53	HORIZONTAL	100	11	Average
3	5178.60	115.45			112.43	4.36	33.19	34.53	HORIZONTAL	100	11	Peak
4	5179.60	103.01			99.99	4.36	33.19	34.53	HORIZONTAL	100	11	Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

##### Channel 42

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	53.35	74.00	-20.65	50.40	4.34	33.14	34.53	HORIZONTAL	107	10	Peak
2	5150.00	43.54	54.00	-10.46	40.59	4.34	33.14	34.53	HORIZONTAL	107	10	Average
3	5208.80	115.13			112.03	4.38	33.25	34.53	HORIZONTAL	107	10	Peak
4	5208.80	105.10			102.00	4.38	33.25	34.53	HORIZONTAL	107	10	Average

Item 3, 4 are the fundamental frequency at 5210 MHz.

##### Channel 48

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	54.97	74.00	-19.03	52.02	4.34	33.14	34.53	HORIZONTAL	105	12	Peak
2	5150.00	43.71	54.00	-10.29	40.76	4.34	33.14	34.53	HORIZONTAL	105	12	Average
3	5240.00	115.79			112.66	4.39	33.27	34.53	HORIZONTAL	105	12	Peak
4	5240.00	106.23			103.10	4.39	33.27	34.53	HORIZONTAL	105	12	Average

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	64.25	74.00	-9.75	61.30	4.34	33.14	34.53	HORIZONTAL	100	10	Peak
2	5150.00	45.49	54.00	-8.51	42.54	4.34	33.14	34.53	HORIZONTAL	100	10	Average
3	5180.80	104.85			101.83	4.36	33.19	34.53	HORIZONTAL	100	10	Average
4	5181.00	115.57			112.55	4.36	33.19	34.53	HORIZONTAL	100	10	Peak

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.60	54.16	74.00	-19.84	51.21	4.34	33.14	34.53	HORIZONTAL	112	10	Peak
2	5150.00	43.49	54.00	-10.51	40.54	4.34	33.14	34.53	HORIZONTAL	112	10	Average
3	5212.00	114.55			111.45	4.38	33.25	34.53	HORIZONTAL	112	10	Peak
4	5212.00	104.29			101.19	4.38	33.25	34.53	HORIZONTAL	112	10	Average

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	54.23	74.00	-19.77	51.28	4.34	33.14	34.53	HORIZONTAL	108	11	Peak
2	5150.00	43.51	54.00	-10.49	40.56	4.34	33.14	34.53	HORIZONTAL	108	11	Average
3	5241.20	104.65			101.52	4.39	33.27	34.53	HORIZONTAL	108	11	Average
4	5242.40	115.61			112.44	4.40	33.30	34.53	HORIZONTAL	108	11	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Channel 36**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.60	69.88	74.00	-4.12	66.93	4.34	33.14	34.53	HORIZONTAL	100	12 Peak
2	5150.00	53.81	54.00	-0.19	50.86	4.34	33.14	34.53	HORIZONTAL	100	12 Average
3	5174.00	110.87			107.85	4.36	33.19	34.53	HORIZONTAL	100	12 Peak
4	5174.80	100.02			97.00	4.36	33.19	34.53	HORIZONTAL	100	12 Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 40**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.60	65.44	74.00	-8.56	62.49	4.34	33.14	34.53	HORIZONTAL	100	12 Peak
2	5150.00	46.76	54.00	-7.24	43.81	4.34	33.14	34.53	HORIZONTAL	100	12 Average
3	5198.40	111.10			108.04	4.37	33.22	34.53	HORIZONTAL	100	12 Peak
4	5201.20	101.56			98.50	4.37	33.22	34.53	HORIZONTAL	100	12 Average

Item 3, 4 are the fundamental frequency at 5200 MHz.

**Channel 48**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.20	55.83	74.00	-18.17	52.88	4.34	33.14	34.53	HORIZONTAL	107	11 Peak
2	5150.00	43.55	54.00	-10.45	40.60	4.34	33.14	34.53	HORIZONTAL	107	11 Average
3	5238.40	101.68			98.55	4.39	33.27	34.53	HORIZONTAL	107	11 Average
4	5241.20	112.50			109.37	4.39	33.27	34.53	HORIZONTAL	107	11 Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38, 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	70.29	74.00	-3.71	67.34	4.34	33.14	34.53	HORIZONTAL	111	10	Peak
2	5150.00	53.51	54.00	-0.49	50.56	4.34	33.14	34.53	HORIZONTAL	111	10	Average
3	5183.20	92.63			89.61	4.36	33.19	34.53	HORIZONTAL	111	10	Average
4	5185.60	103.72			100.70	4.36	33.19	34.53	HORIZONTAL	111	10	Peak

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	64.60	74.00	-9.40	61.65	4.34	33.14	34.53	HORIZONTAL	100	10	Peak
2	5150.00	49.93	54.00	-4.07	46.98	4.34	33.14	34.53	HORIZONTAL	100	10	Average
3	5244.40	108.98			105.81	4.40	33.30	34.53	HORIZONTAL	100	10	Peak
4	5245.20	97.34			94.17	4.40	33.30	34.53	HORIZONTAL	100	10	Average

Item 3, 4 are the fundamental frequency at 5230 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Channel 36**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	55.09	74.00	-18.91	52.14	4.34	33.14	34.53	HORIZONTAL	100	10 Peak
2	5150.00	43.35	54.00	-10.65	40.40	4.34	33.14	34.53	HORIZONTAL	100	10 Average
3	5181.00	115.38			112.36	4.36	33.19	34.53	HORIZONTAL	100	10 Peak
4	5181.00	104.01			100.99	4.36	33.19	34.53	HORIZONTAL	100	10 Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.00	55.94	74.00	-18.06	52.99	4.34	33.14	34.53	VERTICAL	125	345 Peak
2	5150.00	43.51	54.00	-10.49	40.56	4.34	33.14	34.53	VERTICAL	125	345 Average
3	5208.80	105.20			102.10	4.38	33.25	34.53	VERTICAL	125	345 Average
4	5209.20	115.49			112.39	4.38	33.25	34.53	VERTICAL	125	345 Peak

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5145.20	56.78	74.00	-17.22	53.83	4.34	33.14	34.53	HORIZONTAL	100	9 Peak
2	5150.00	43.26	54.00	-10.74	40.31	4.34	33.14	34.53	HORIZONTAL	100	9 Average
3	5240.80	115.73			112.60	4.39	33.27	34.53	HORIZONTAL	100	9 Peak
4	5240.80	106.21			103.08	4.39	33.27	34.53	HORIZONTAL	100	9 Average

Item 3, 4 are the fundamental frequency at 5240 MHz.



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 07, 2014	<b>Test Mode</b>	Mode 1

**Channel 36**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5149.40	57.90	74.00	-16.10	54.95	4.34	33.14	34.53	HORIZONTAL	100	10 Peak
2	5150.00	43.87	54.00	-10.13	40.92	4.34	33.14	34.53	HORIZONTAL	100	10 Average
3	5178.40	114.00			110.98	4.36	33.19	34.53	HORIZONTAL	100	10 Peak
4	5178.40	103.19			100.17	4.36	33.19	34.53	HORIZONTAL	100	10 Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	54.71	74.00	-19.29	51.76	4.34	33.14	34.53	HORIZONTAL	106	11 Peak
2	5150.00	43.58	54.00	-10.42	40.63	4.34	33.14	34.53	HORIZONTAL	106	11 Average
3	5212.00	114.57			111.47	4.38	33.25	34.53	HORIZONTAL	106	11 Peak
4	5212.00	103.36			100.26	4.38	33.25	34.53	HORIZONTAL	106	11 Average

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5147.20	55.92	74.00	-18.08	52.97	4.34	33.14	34.53	VERTICAL	124	347 Peak
2	5150.00	43.51	54.00	-10.49	40.56	4.34	33.14	34.53	VERTICAL	124	347 Average
3	5238.40	114.02			110.89	4.39	33.27	34.53	VERTICAL	124	347 Peak
4	5239.20	103.67			100.54	4.39	33.27	34.53	VERTICAL	124	347 Average

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 1

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.60	70.16	74.00	-3.84	67.21	4.34	33.14	34.53	HORIZONTAL	107	10	Peak
2	5150.00	53.48	54.00	-0.52	50.53	4.34	33.14	34.53	HORIZONTAL	107	10	Average
3	5179.40	112.26			109.24	4.36	33.19	34.53	HORIZONTAL	107	10	Peak
4	5184.40	100.55			97.53	4.36	33.19	34.53	HORIZONTAL	107	10	Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5144.80	63.15	74.00	-10.85	60.20	4.34	33.14	34.53	HORIZONTAL	108	10	Peak
2	5150.00	45.08	54.00	-8.92	42.13	4.34	33.14	34.53	HORIZONTAL	108	10	Average
3	5194.00	112.51			109.45	4.37	33.22	34.53	HORIZONTAL	108	10	Peak
4	5203.60	101.59			98.53	4.37	33.22	34.53	HORIZONTAL	108	10	Average

Item 3, 4 are the fundamental frequency at 5200 MHz.

**Channel 48**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5147.60	55.62	74.00	-18.38	52.67	4.34	33.14	34.53	HORIZONTAL	107	11	Peak
2	5150.00	42.87	54.00	-11.13	39.92	4.34	33.14	34.53	HORIZONTAL	107	11	Average
3	5240.80	111.68			108.55	4.39	33.27	34.53	HORIZONTAL	107	11	Peak
4	5240.80	101.07			97.94	4.39	33.27	34.53	HORIZONTAL	107	11	Average

Item 3, 4 are the fundamental frequency at 5240 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

### Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.04	60.41	74.00	-13.59	55.47	6.13	34.01	35.20	Peak	125	9	HORIZONTAL
2	5150.00	48.09	54.00	-5.91	43.15	6.13	34.01	35.20	Average	125	9	HORIZONTAL
3	5180.64	124.87			119.84	6.15	34.08	35.20	Peak	125	9	HORIZONTAL
4	5180.80	113.76			108.73	6.15	34.08	35.20	Average	125	9	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5143.91	61.72	74.00	-12.28	56.78	6.13	34.01	35.20	Peak	112	6	VERTICAL
2	5150.00	47.86	54.00	-6.14	42.92	6.13	34.01	35.20	Average	112	6	VERTICAL
3	5210.96	125.39			120.31	6.17	34.11	35.20	Peak	112	6	VERTICAL
4	5211.28	115.06			109.98	6.17	34.11	35.20	Average	112	6	VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

### Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5144.23	60.34	74.00	-13.66	55.40	6.13	34.01	35.20	Peak	104	9	HORIZONTAL
2	5150.00	48.11	54.00	-5.89	43.17	6.13	34.01	35.20	Average	104	9	HORIZONTAL
3	5239.04	114.95			109.79	6.18	34.18	35.20	Average	104	9	HORIZONTAL
4	5239.68	124.77			119.61	6.18	34.18	35.20	Peak	104	9	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5144.71	73.10	74.00	-0.90	68.16	6.13	34.01	35.20	Peak	113	6	HORIZONTAL
2	5150.00	50.52	54.00	-3.48	45.58	6.13	34.01	35.20	Average	113	6	HORIZONTAL
3	5183.21	112.95			107.92	6.15	34.08	35.20	Average	113	6	HORIZONTAL
4	5183.53	123.49			118.46	6.15	34.08	35.20	Peak	113	6	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5146.80	60.51	74.00	-13.49	55.57	6.13	34.01	35.20	Peak	102	9	HORIZONTAL
2	5150.00	47.62	54.00	-6.38	42.68	6.13	34.01	35.20	Average	102	9	HORIZONTAL
3	5212.89	124.14			119.02	6.17	34.15	35.20	Peak	102	9	HORIZONTAL
4	5213.21	113.21			108.09	6.17	34.15	35.20	Average	102	9	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	47.77	54.00	-6.23	42.83	6.13	34.01	35.20	Average	123	2	VERTICAL
2	5150.00	59.25	74.00	-14.75	54.31	6.13	34.01	35.20	Peak	123	2	VERTICAL
3	5237.76	112.44			107.28	6.18	34.18	35.20	Average	123	2	VERTICAL
4	5237.76	123.17			118.01	6.18	34.18	35.20	Peak	123	2	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 05, 2014	<b>Test Mode</b>	Mode 2

### Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.68	72.93	74.00	-1.07	67.99	6.13	34.01	35.20	Peak	107	7	HORIZONTAL
2	5150.00	53.91	54.00	-0.09	48.97	6.13	34.01	35.20	Average	107	7	HORIZONTAL
3	5186.09	115.08			110.05	6.15	34.08	35.20	Peak	107	7	HORIZONTAL
4	5186.73	104.68			99.65	6.15	34.08	35.20	Average	107	7	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.04	72.77	74.00	-1.23	67.83	6.13	34.01	35.20	Peak	105	6	HORIZONTAL
2	5150.00	52.01	54.00	-1.99	47.07	6.13	34.01	35.20	Average	105	6	HORIZONTAL
3	5204.81	119.69			114.62	6.16	34.11	35.20	Peak	105	6	HORIZONTAL
4	5208.01	108.96			103.88	6.17	34.11	35.20	Average	105	6	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

### Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5148.72	61.48	74.00	-12.52	56.54	6.13	34.01	35.20	Peak	118	0	VERTICAL
2	5150.00	48.39	54.00	-5.61	43.45	6.13	34.01	35.20	Average	118	0	VERTICAL
3	5237.44	120.33			115.17	6.18	34.18	35.20	Peak	118	0	VERTICAL
4	5238.40	110.53			105.37	6.18	34.18	35.20	Average	118	0	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38, 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 06, 2014	<b>Test Mode</b>	Mode 2

**Channel 38**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	53.62	54.00	-0.38	48.68	6.13	34.01	35.20 Average	116	1	VERTICAL
2	5150.00	66.26	74.00	-7.74	61.32	6.13	34.01	35.20 Peak	116	1	VERTICAL
3	5193.21	107.64			102.60	6.16	34.08	35.20 Peak	116	1	VERTICAL
4	5193.53	96.30			91.26	6.16	34.08	35.20 Average	116	1	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel 46**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	53.68	54.00	-0.32	48.74	6.13	34.01	35.20 Average	110	2	VERTICAL
2	5150.00	70.04	74.00	-3.96	65.10	6.13	34.01	35.20 Peak	110	2	VERTICAL
3	5228.08	104.56			99.43	6.18	34.15	35.20 Average	110	2	VERTICAL
4	5231.44	114.72			109.56	6.18	34.18	35.20 Peak	110	2	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

### Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5146.64	60.92	74.00	-13.08	55.98	6.13	34.01	35.20	Peak	112	8	HORIZONTAL
2	5150.00	48.07	54.00	-5.93	43.13	6.13	34.01	35.20	Average	112	8	HORIZONTAL
3	5179.36	114.30			109.27	6.15	34.08	35.20	Average	112	8	HORIZONTAL
4	5179.52	124.43			119.40	6.15	34.08	35.20	Peak	112	8	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5146.80	60.39	74.00	-13.61	55.45	6.13	34.01	35.20	Peak	125	6	HORIZONTAL
2	5150.00	48.04	54.00	-5.96	43.10	6.13	34.01	35.20	Average	125	6	HORIZONTAL
3	5208.72	116.01			110.93	6.17	34.11	35.20	Average	125	6	HORIZONTAL
4	5211.28	126.29			121.21	6.17	34.11	35.20	Peak	125	6	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

### Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	48.18	54.00	-5.82	43.24	6.13	34.01	35.20	Average	127	7	HORIZONTAL
2	5150.00	60.39	74.00	-13.61	55.45	6.13	34.01	35.20	Peak	127	7	HORIZONTAL
3	5238.08	126.65			121.49	6.18	34.18	35.20	Peak	127	7	HORIZONTAL
4	5240.64	115.15			109.99	6.18	34.18	35.20	Average	127	7	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 04, 2014	<b>Test Mode</b>	Mode 2

### Channel 36

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.40	72.45	74.00	-1.55	67.51	6.13	34.01	35.20	Peak	112	8 HORIZONTAL
2	5149.20	50.93	54.00	-3.07	45.99	6.13	34.01	35.20	Average	112	8 HORIZONTAL
3	5178.08	123.84			118.81	6.15	34.08	35.20	Peak	112	8 HORIZONTAL
4	5182.72	113.54			108.51	6.15	34.08	35.20	Average	112	8 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 42

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	47.66	54.00	-6.34	42.72	6.13	34.01	35.20	Average	117	6 HORIZONTAL
2	5150.00	58.43	74.00	-15.57	53.49	6.13	34.01	35.20	Peak	117	6 HORIZONTAL
3	5209.36	112.58			107.50	6.17	34.11	35.20	Average	117	6 HORIZONTAL
4	5209.36	122.80			117.72	6.17	34.11	35.20	Peak	117	6 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

### Channel 48

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5142.31	60.36	74.00	-13.64	55.45	6.13	33.98	35.20	Peak	116	8 VERTICAL
2	5150.00	47.56	54.00	-6.44	42.62	6.13	34.01	35.20	Average	116	8 VERTICAL
3	5238.08	113.14			107.98	6.18	34.18	35.20	Average	116	8 VERTICAL
4	5242.89	123.43			118.25	6.20	34.18	35.20	Peak	116	8 VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 05, 2014	<b>Test Mode</b>	Mode 2

### Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	53.64	54.00	-0.36	48.70	6.13	34.01	35.20	Average	111	4	HORIZONTAL
2	5150.00	71.48	74.00	-2.52	66.54	6.13	34.01	35.20	Peak	111	4	HORIZONTAL
3	5178.56	105.88			100.85	6.15	34.08	35.20	Average	111	4	HORIZONTAL
4	5178.72	117.00			111.97	6.15	34.08	35.20	Peak	111	4	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5143.27	71.97	74.00	-2.03	67.06	6.13	33.98	35.20	Peak	107	6	HORIZONTAL
2	5150.00	51.48	54.00	-2.52	46.54	6.13	34.01	35.20	Average	107	6	HORIZONTAL
3	5200.96	111.86			106.79	6.16	34.11	35.20	Average	107	6	HORIZONTAL
4	5201.28	121.75			116.68	6.16	34.11	35.20	Peak	107	6	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

### Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	48.79	54.00	-5.21	43.85	6.13	34.01	35.20	Average	116	2	VERTICAL
2	5150.00	60.11	74.00	-13.89	55.17	6.13	34.01	35.20	Peak	116	2	VERTICAL
3	5240.96	111.01			105.85	6.18	34.18	35.20	Average	116	2	VERTICAL
4	5241.60	120.30			115.12	6.20	34.18	35.20	Peak	116	2	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

### Channel 36

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	44.54	54.00	-9.46	40.94	5.99	33.02	35.41	196	271	VERTICAL	Average
2	5150.00	56.05	74.00	-17.95	52.45	5.99	33.02	35.41	196	271	VERTICAL	Peak
3	5179.40	123.19			119.56	6.01	33.04	35.42	196	271	VERTICAL	Peak
4	5179.50	111.05			107.42	6.01	33.04	35.42	196	271	VERTICAL	Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 42

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.60	55.75	74.00	-18.25	52.15	5.99	33.02	35.41	197	290	VERTICAL	Peak
2	5150.00	44.44	54.00	-9.56	40.84	5.99	33.02	35.41	197	290	VERTICAL	Average
3	5210.80	110.82			107.17	6.03	33.06	35.44	197	290	VERTICAL	Average
4	5211.00	121.44			117.79	6.03	33.06	35.44	197	290	VERTICAL	Peak

Item 3, 4 are the fundamental frequency at 5210 MHz.

### Channel 48

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5146.00	58.36	74.00	-15.64	54.76	5.99	33.02	35.41	173	164	VERTICAL	Peak
2	5150.00	43.94	54.00	-10.06	40.34	5.99	33.02	35.41	173	164	VERTICAL	Average
3	5238.50	124.06			120.37	6.05	33.09	35.45	173	164	VERTICAL	Peak
4	5238.75	111.98			108.29	6.05	33.09	35.45	173	164	VERTICAL	Average
5	5350.00	44.90	54.00	-9.10	40.88	6.11	33.40	35.49	173	164	VERTICAL	Average
6	5351.75	57.82	74.00	-16.18	53.80	6.11	33.40	35.49	173	164	VERTICAL	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 28, 2014	<b>Test Mode</b>	Mode 3

### Channel 36

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		dB	cm		deg
1	5149.20	73.18	74.00	-0.82	70.23	4.34	33.14	34.53	VERTICAL	201	122	Peak
2	5150.00	49.57	54.00	-4.43	46.62	4.34	33.14	34.53	VERTICAL	201	122	Average
3	5177.60	126.08			123.06	4.36	33.19	34.53	VERTICAL	201	122	Peak
4	5178.40	114.77			111.75	4.36	33.19	34.53	VERTICAL	201	122	Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

### Channel 42

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		dB	cm		deg
1	5134.80	60.20	74.00	-13.80	57.29	4.33	33.11	34.53	VERTICAL	186	314	Peak
2	5150.00	47.51	54.00	-6.49	44.56	4.34	33.14	34.53	VERTICAL	186	314	Average
3	5207.20	115.24			112.18	4.37	33.22	34.53	VERTICAL	186	314	Average
4	5207.60	126.17			123.07	4.38	33.25	34.53	VERTICAL	186	314	Peak

Item 3, 4 are the fundamental frequency at 5210 MHz.

### Channel 48

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		dB	cm		deg
1	5133.80	61.76	74.00	-12.24	58.85	4.33	33.11	34.53	VERTICAL	191	316	Peak
2	5150.00	47.56	54.00	-6.44	44.61	4.34	33.14	34.53	VERTICAL	191	316	Average
3	5237.00	114.28			111.15	4.39	33.27	34.53	VERTICAL	191	316	Average
4	5237.60	125.43			122.30	4.39	33.27	34.53	VERTICAL	191	316	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 28, 2014	<b>Test Mode</b>	Mode 3

**Channel 36**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	71.53	74.00	-2.47	68.58	4.34	33.14	34.53	VERTICAL	206	145	Peak
2	5150.00	53.78	54.00	-0.22	50.83	4.34	33.14	34.53	VERTICAL	206	145	Average
3	5150.00	53.95	54.00	-0.05	51.00	4.34	33.14	34.53	VERTICAL	206	145	Average
4	5172.40	118.02			115.03	4.35	33.17	34.53	VERTICAL	206	145	Peak
5	5172.80	107.87			104.88	4.35	33.17	34.53	VERTICAL	206	145	Average

Item 4, 5 are the fundamental frequency at 5180 MHz.

**Channel 40**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.60	70.17	74.00	-3.83	67.22	4.34	33.14	34.53	VERTICAL	186	302	Peak
2	5150.00	50.85	54.00	-3.15	47.90	4.34	33.14	34.53	VERTICAL	186	302	Average
3	5195.60	120.44			117.38	4.37	33.22	34.53	VERTICAL	186	302	Peak
4	5208.00	109.57			106.47	4.38	33.25	34.53	VERTICAL	186	302	Average

Item 3, 4 are the fundamental frequency at 5200 MHz.

**Channel 48**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5143.40	60.12	74.00	-13.88	57.17	4.34	33.14	34.53	VERTICAL	188	303	Peak
2	5147.00	47.18	54.00	-6.82	44.23	4.34	33.14	34.53	VERTICAL	188	303	Average
3	5234.00	120.92			117.79	4.39	33.27	34.53	VERTICAL	188	303	Peak
4	5234.00	110.80			107.67	4.39	33.27	34.53	VERTICAL	188	303	Average
5	5350.00	47.22	54.00	-6.78	43.82	4.47	33.46	34.53	VERTICAL	188	303	Average
6	5361.40	61.24	74.00	-12.76	57.80	4.48	33.49	34.53	VERTICAL	188	303	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.



<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11n MCS0 40 MHz CH 38, 46 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 28, 2014	<b>Test Mode</b>	Mode 3

**Channel 38**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.80	69.28	74.00	-4.72	66.33	4.34	33.14	34.53	VERTICAL	178	96 Peak
2	5150.00	53.46	54.00	-0.54	50.51	4.34	33.14	34.53	VERTICAL	178	96 Average
3	5188.00	95.88			92.86	4.36	33.19	34.53	VERTICAL	178	96 Average
4	5198.00	106.10			103.04	4.37	33.22	34.53	VERTICAL	178	96 Peak

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel 46**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5148.20	53.92	54.00	-0.08	50.97	4.34	33.14	34.53	VERTICAL	190	304 Average
2	5148.80	70.67	74.00	-3.33	67.72	4.34	33.14	34.53	VERTICAL	190	304 Peak
3	5228.20	106.55			103.42	4.39	33.27	34.53	VERTICAL	190	304 Average
4	5228.80	116.55			113.42	4.39	33.27	34.53	VERTICAL	190	304 Peak
5	5356.00	67.14	74.00	-6.86	63.74	4.47	33.46	34.53	VERTICAL	190	304 Peak
6	5372.80	50.92	54.00	-3.08	47.48	4.48	33.49	34.53	VERTICAL	190	304 Average

Item 3, 4 are the fundamental frequency at 5230 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 5 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Aug. 01, 2014	<b>Test Mode</b>	Mode 3

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.60	57.62	74.00	-16.38	54.02	5.99	33.02	35.41	192	267	VERTICAL	Peak
2	5150.00	44.25	54.00	-9.75	40.65	5.99	33.02	35.41	192	267	VERTICAL	Average
3	5179.70	109.49			105.86	6.01	33.04	35.42	192	267	VERTICAL	Average
4	5179.80	120.62			116.99	6.01	33.04	35.42	192	267	VERTICAL	Peak

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5143.60	57.68	74.00	-16.32	54.08	5.99	33.02	35.41	192	101	VERTICAL	Peak
2	5150.00	44.00	54.00	-10.00	40.40	5.99	33.02	35.41	192	101	VERTICAL	Average
3	5209.20	122.82			119.17	6.03	33.06	35.44	192	101	VERTICAL	Peak
4	5211.60	110.67			107.02	6.03	33.06	35.44	192	101	VERTICAL	Average

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5142.25	58.40	74.00	-15.60	54.80	5.99	33.02	35.41	196	296	VERTICAL	Peak
2	5150.00	44.45	54.00	-9.55	40.85	5.99	33.02	35.41	196	296	VERTICAL	Average
3	5239.50	111.62			107.93	6.05	33.09	35.45	196	296	VERTICAL	Average
4	5239.50	123.65			119.96	6.05	33.09	35.45	196	296	VERTICAL	Peak
5	5350.00	44.92	54.00	-9.08	40.90	6.11	33.40	35.49	196	296	VERTICAL	Average
6	5356.50	59.17	74.00	-14.83	55.09	6.12	33.45	35.49	196	296	VERTICAL	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 10 MHz CH 36, 42, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 28, 2014	<b>Test Mode</b>	Mode 3

**Channel 36**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5146.40	68.37	74.00	-5.63	65.42	4.34	33.14	34.53	VERTICAL	184	99 Peak
2	5150.00	49.44	54.00	-4.56	46.49	4.34	33.14	34.53	VERTICAL	184	99 Average
3	5180.80	125.73			122.71	4.36	33.19	34.53	VERTICAL	184	99 Peak
4	5180.80	115.45			112.43	4.36	33.19	34.53	VERTICAL	184	99 Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 42**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5133.80	60.93	74.00	-13.07	58.02	4.33	33.11	34.53	VERTICAL	189	285 Peak
2	5133.80	48.73	54.00	-5.27	45.82	4.33	33.11	34.53	VERTICAL	189	285 Average
3	5209.40	125.44			122.34	4.38	33.25	34.53	VERTICAL	189	285 Peak
4	5209.40	114.99			111.89	4.38	33.25	34.53	VERTICAL	189	285 Average
5	5350.00	47.82	54.00	-6.18	44.42	4.47	33.46	34.53	VERTICAL	189	285 Average
6	5352.40	61.02	74.00	-12.98	57.62	4.47	33.46	34.53	VERTICAL	189	285 Peak

Item 3, 4 are the fundamental frequency at 5210 MHz.

**Channel 48**

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5141.00	61.01	74.00	-12.99	58.06	4.34	33.14	34.53	VERTICAL	188	274 Peak
2	5150.00	47.77	54.00	-6.23	44.82	4.34	33.14	34.53	VERTICAL	188	274 Average
3	5237.00	113.74			110.61	4.39	33.27	34.53	VERTICAL	188	274 Average
4	5241.80	123.65			120.48	4.40	33.30	34.53	VERTICAL	188	274 Peak
5	5350.00	47.65	54.00	-6.35	44.25	4.47	33.46	34.53	VERTICAL	188	274 Average
6	5356.00	60.40	74.00	-13.60	57.00	4.47	33.46	34.53	VERTICAL	188	274 Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

<b>Temperature</b>	23°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Will Tung	<b>Configurations</b>	IEEE 802.11a 20 MHz CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
<b>Test Date</b>	Jul. 28, 2014	<b>Test Mode</b>	Mode 3

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.60	72.49	74.00	-1.51	69.54	4.34	33.14	34.53	VERTICAL	188	315	Peak
2	5150.00	53.47	54.00	-0.53	50.52	4.34	33.14	34.53	VERTICAL	188	315	Average
3	5178.80	117.14			114.12	4.36	33.19	34.53	VERTICAL	188	315	Peak
4	5179.60	107.39			104.37	4.36	33.19	34.53	VERTICAL	188	315	Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.20	68.39	74.00	-5.61	65.44	4.34	33.14	34.53	VERTICAL	189	303	Peak
2	5150.00	49.35	54.00	-4.65	46.40	4.34	33.14	34.53	VERTICAL	189	303	Average
3	5199.20	121.47			118.41	4.37	33.22	34.53	VERTICAL	189	303	Peak
4	5199.20	112.03			108.97	4.37	33.22	34.53	VERTICAL	189	303	Average

Item 3, 4 are the fundamental frequency at 5200 MHz.

**Channel 48**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Pol/Phase	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5147.00	60.03	74.00	-13.97	57.08	4.34	33.14	34.53	VERTICAL	191	272	Peak
2	5147.00	47.43	54.00	-6.57	44.48	4.34	33.14	34.53	VERTICAL	191	272	Average
3	5243.60	110.90			107.73	4.40	33.30	34.53	VERTICAL	191	272	Average
4	5244.20	121.54			118.37	4.40	33.30	34.53	VERTICAL	191	272	Peak
5	5350.00	47.26	54.00	-6.74	43.86	4.47	33.46	34.53	VERTICAL	191	272	Average
6	5360.80	60.31	74.00	-13.69	56.87	4.48	33.49	34.53	VERTICAL	191	272	Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level



## 4.6. Frequency Stability Measurement

### 4.6.1. Limit

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be  $\pm 20$  ppm maximum for the 5 GHz band (IEEE 802.11n specification).

### 4.6.2. Measuring Instruments and Setting

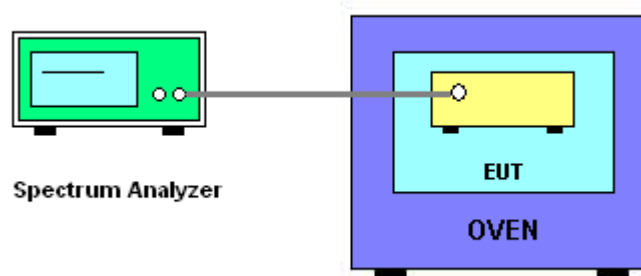
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

### 4.6.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5.  $f_c$  is declaring of channel frequency. Then the frequency error formula is  $(f_c - f) / f_c \times 10^6$  ppm and the limit is less than  $\pm 20$  ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is  $-40^\circ\text{C} \sim 60^\circ\text{C}$ .

### 4.6.4. Test Setup Layout



#### 4.6.5. Test Deviation

There is no deviation with the original standard.

#### 4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

#### 4.6.7. Test Result of Frequency Stability

<b>Temperature</b>	24°C	<b>Humidity</b>	63%
<b>Test Engineer</b>	Magic Lai	<b>Test Date</b>	Aug. 07, 2014

#### Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5210 MHz
126.50	5199.9920
110.00	5200.0000
93.50	5200.0320
Max. Deviation (MHz)	0.032
Max. Deviation (ppm)	6.15

#### Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5210 MHz
-40	5199.9890
-30	5199.9940
-20	5199.9974
-10	5199.9988
0	5199.9848
10	5199.9794
20	5199.9720
30	5199.9640
40	5199.9620
50	5199.9692
60	5199.9862
Max. Deviation (MHz)	0.038
Max. Deviation (ppm)	7.31

## 4.7. Antenna Requirements

### 4.7.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

### 4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

## 5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
BILOG ANTENNA	Schaffner	CBL6112D	2888	20MHz ~ 2GHz	Jan. 15, 2014	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9 kHz - 30 MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 01, 2013	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Dec. 17, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 12, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Dec. 16, 2013	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Oct. 23, 2013	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100019	9kHz~40GHz	Dec. 02, 2013	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Dec. 12, 2013	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz - 1 GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1 GHz - 40 GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1 GHz - 40 GHz	Nov. 17, 2013	Radiation (03CH01-CB)
Signal analyzer	R&S	FSV40	100979	9kHz~40GHz	Nov. 29, 2013	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2014	Conducted (TH01-CB)
RF Power Divider	Woken	2 Way	0120A02056002D	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	3 Way	MDC2366	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	4 Way	0120A04056002D	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1 GHz - 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1 GHz - 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-9	-	1 GHz - 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1 GHz - 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1 GHz - 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)



Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)
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Note: Calibration Interval of instruments listed above is one year.

“\*” Calibration Interval of instruments listed above is two years.

NCR means Non-Calibration required.

## 6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%

## Appendix A. Test Photos

## 1. Photographs of Radiated Emissions Test Configuration

Test Configuration: 9kHz ~30MHz / Test Mode: Mode 1

FRONT VIEW



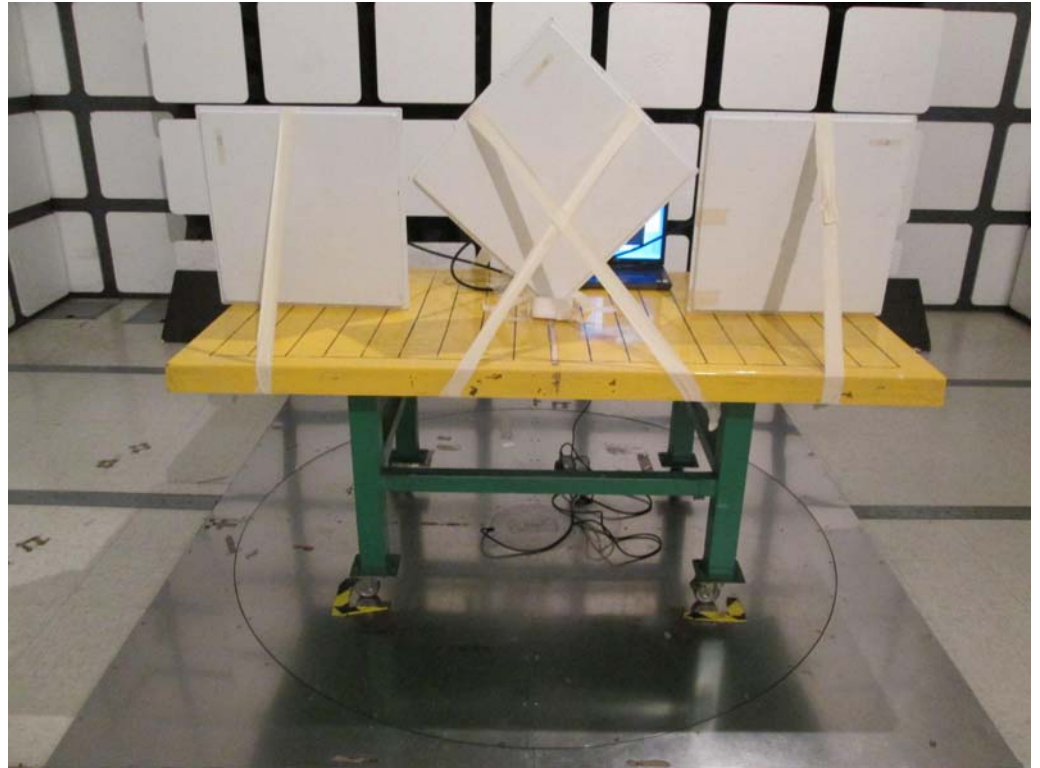
REAR VIEW





Test Configuration: 30MHz~1GHz / Test Mode: Mode 1

FRONT VIEW

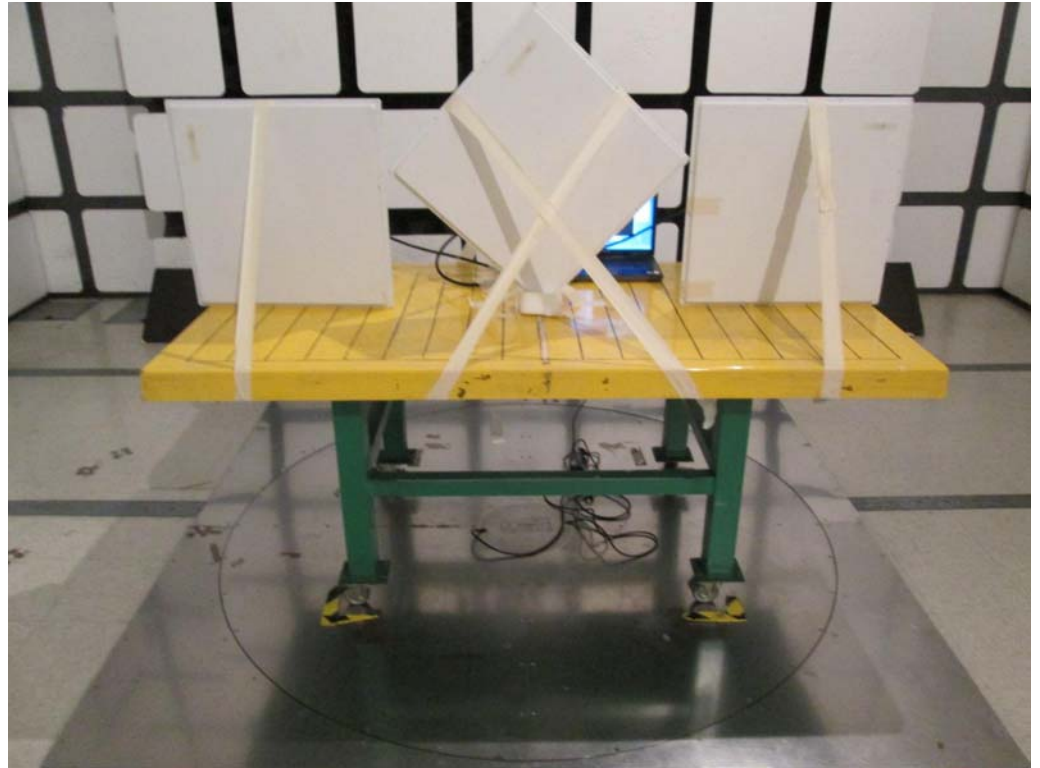


REAR VIEW



Test Configuration: Above 1GHz / Test Mode: Mode 1

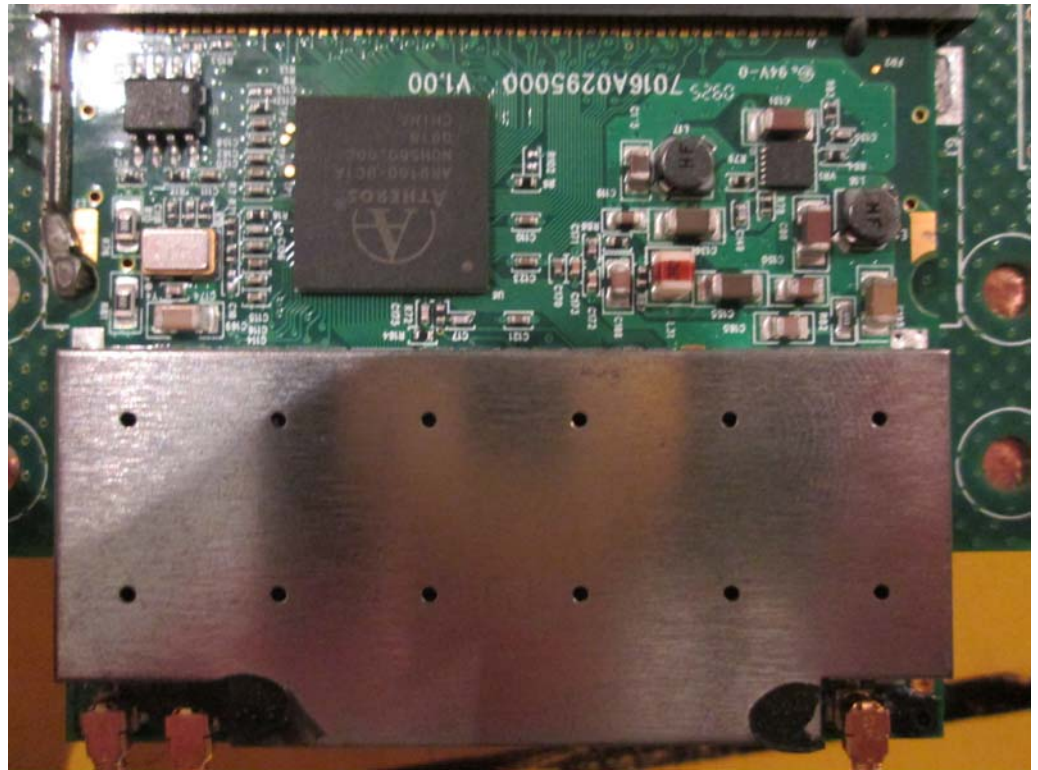
FRONT VIEW



REAR VIEW

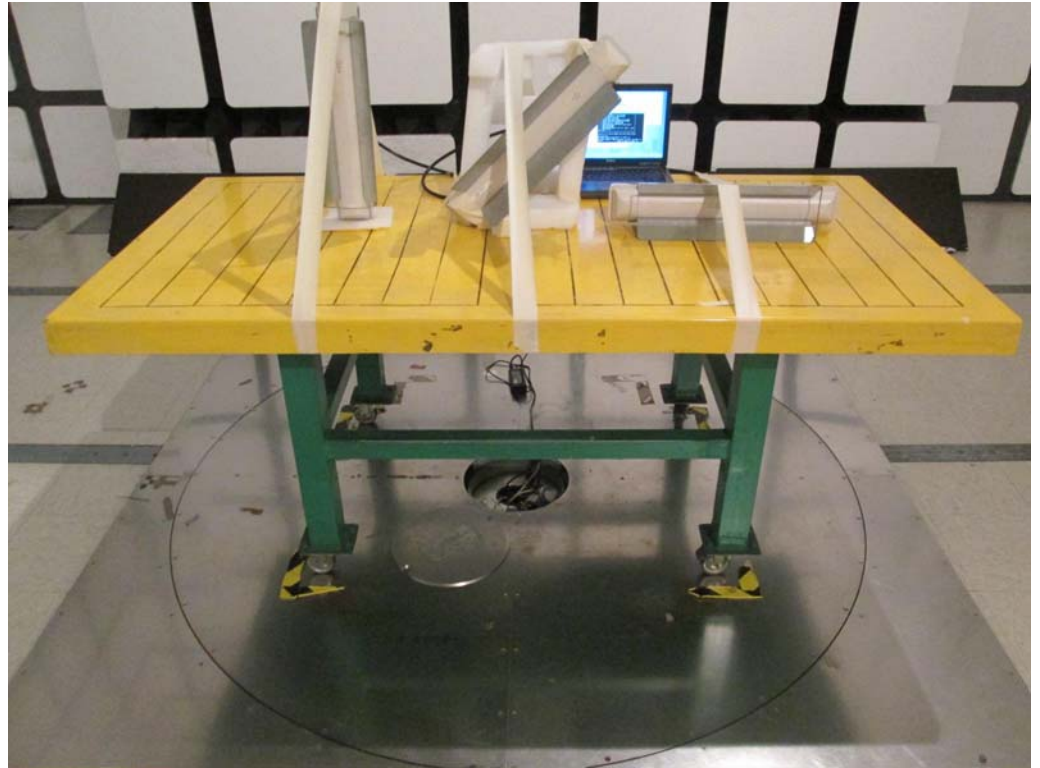


CLOSE-UP VIEW

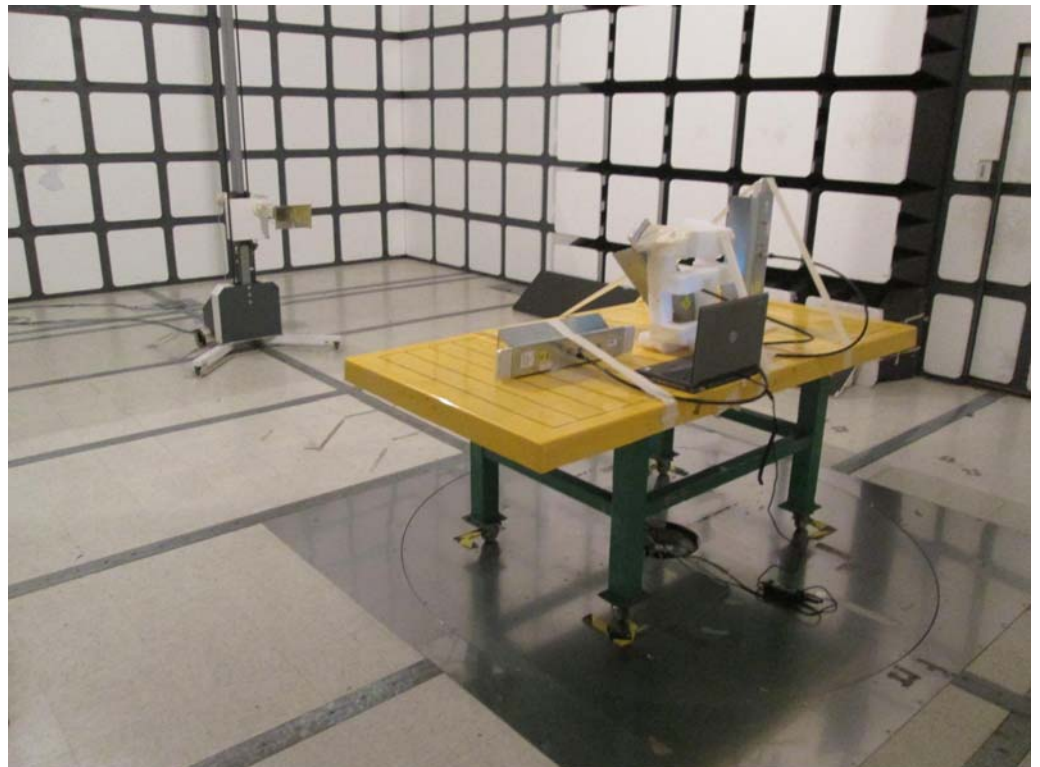


Test Configuration: Above 1GHz / Test Mode: Mode 2

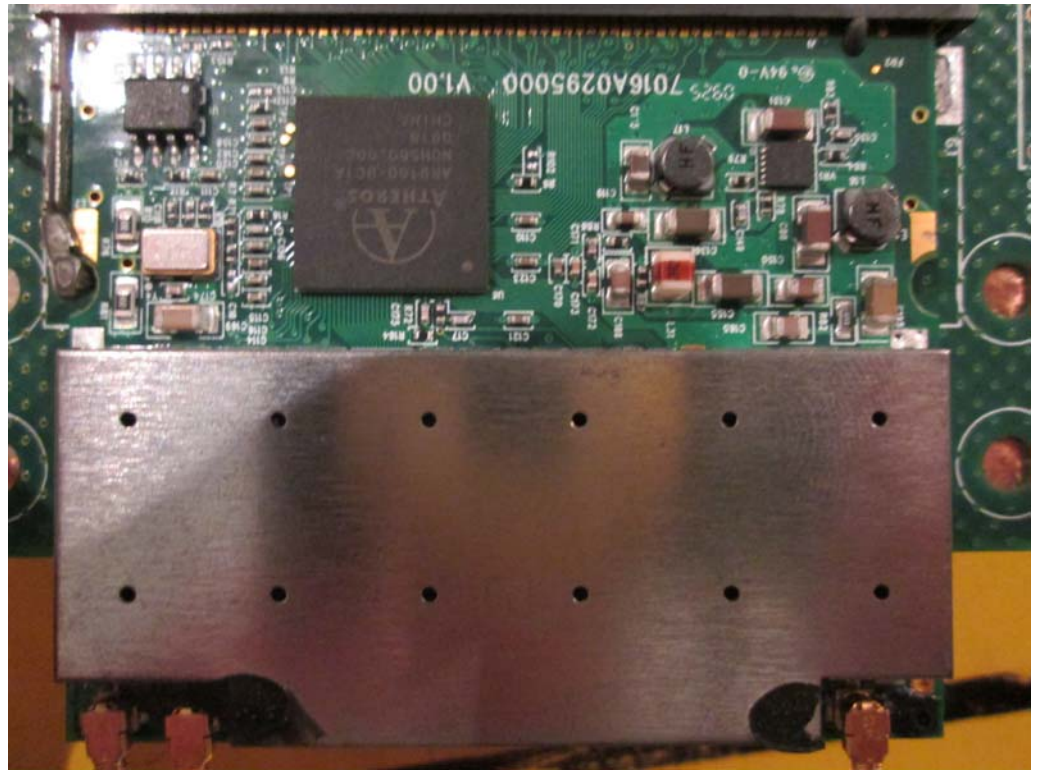
FRONT VIEW



REAR VIEW

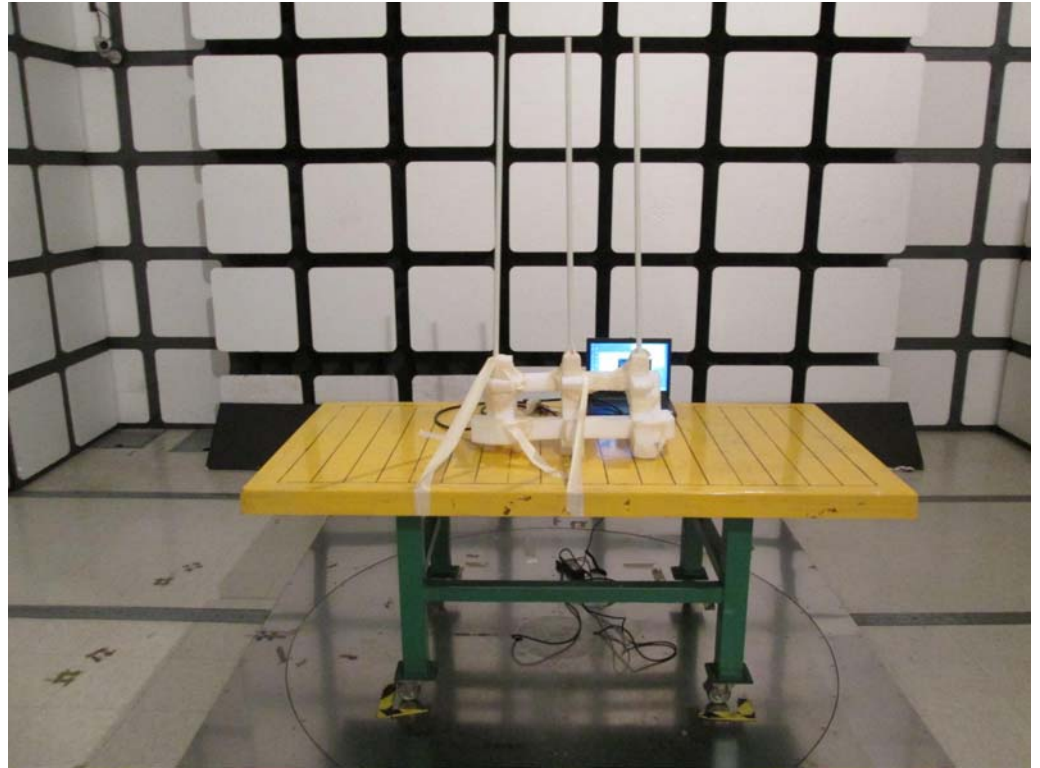


CLOSE-UP VIEW

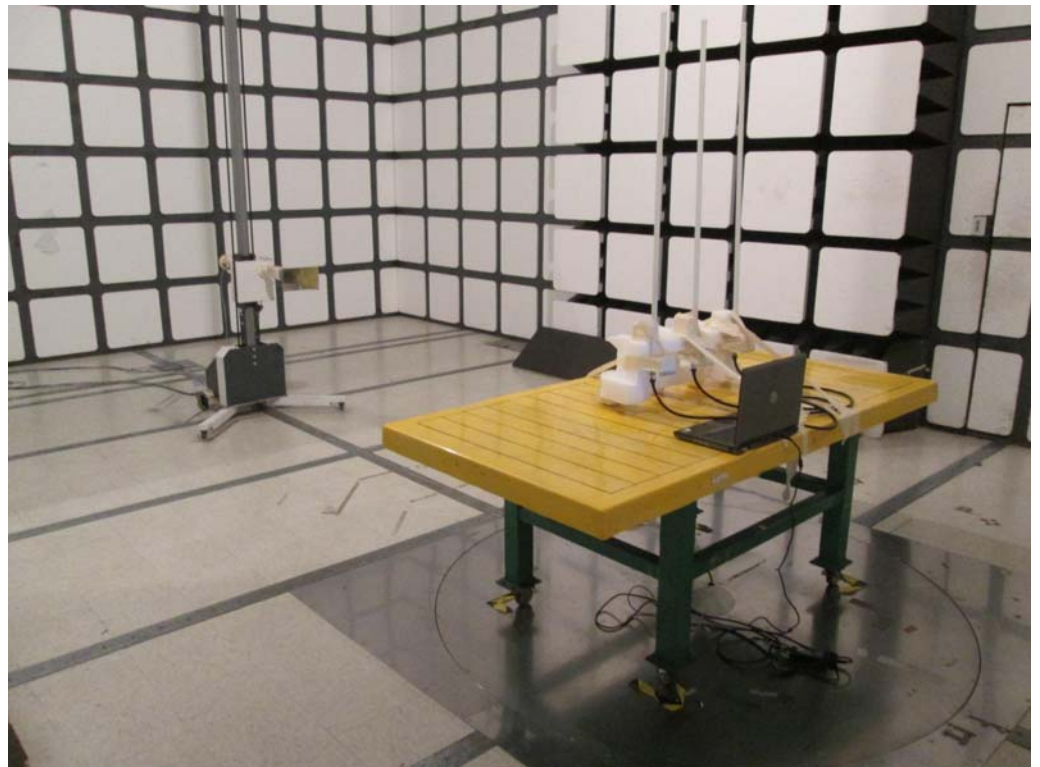


Test Configuration: Above 1GHz / Test Mode: Mode 3

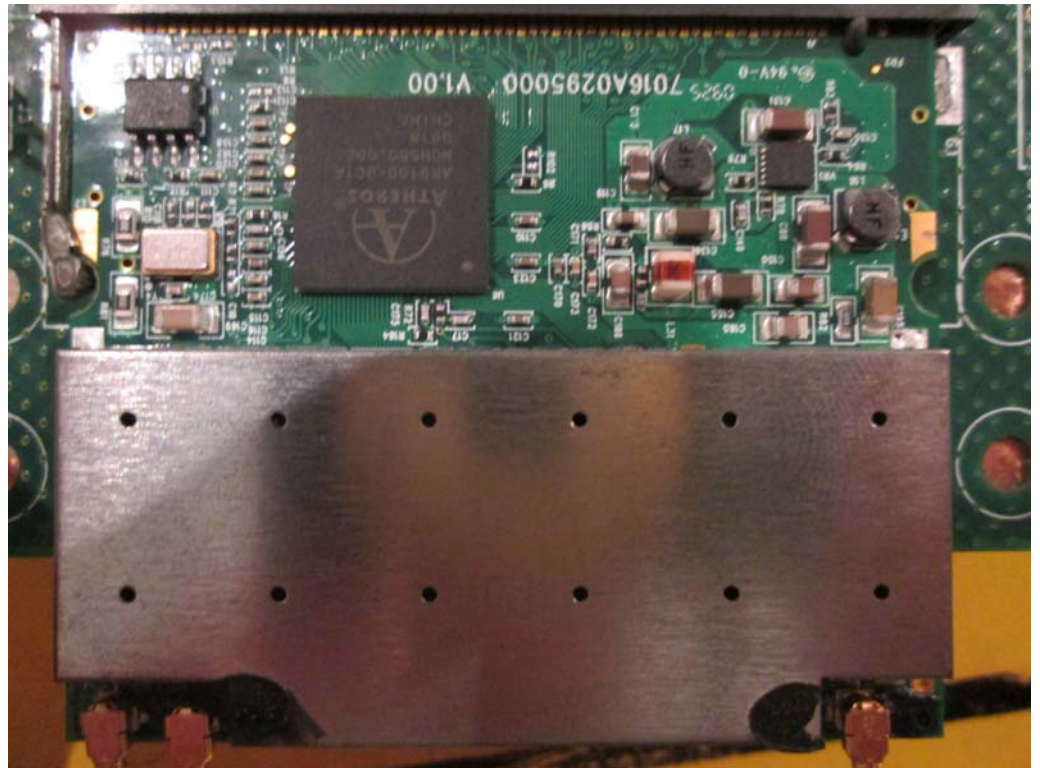
FRONT VIEW



REAR VIEW



CLOSE-UP VIEW



## Appendix B. Maximum Permissible Exposure



## 1. Maximum Permissible Exposure

### 1.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 1.2. MPE Calculation Method

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

**E** = Electric field (V/m)

**P** = Average RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

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

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

### 1.3. Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For 5GHz Band 1:

Antenna Type : Panel Antenna (Ant. 1 / P to P)

Conducted Power for IEEE 802.11n MCS0 10 MHz : 25.11 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.2	8.00	6.3096	25.1076	324.1635	0.407112	1	Complies

Antenna Type : Panel Antenna (Ant. 1 / P to M)

Conducted Power for IEEE 802.11n MCS0 40 MHz : 25.08 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.2	8.00	6.3096	25.0833	322.3496	0.404834	1	Complies

Antenna Type : Sector Antenna (Ant. 2 / P to P)

Conducted Power for IEEE 802.11a 10 MHz : 25.65 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.2	8.00	6.3096	25.6542	367.6395	0.461713	1	Complies

Antenna Type : Sector Antenna (Ant. 2 / P to M)

Conducted Power for IEEE 802.11a 20 MHz : 25.07 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.2	8.00	6.3096	25.0743	321.6812	0.403995	1	Complies

Antenna Type : Omni Antenna (Ant. 3 / P to M)

Conducted Power for IEEE 802.11n MCS0 40 MHz : 23.81 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.2	8.00	6.3096	23.8082	240.3360	0.301835	1	Complies

## Appendix C. Maximum e.i.r.p. at any elevation angle above 30 degrees

## 1. Maximum e.i.r.p. at any elevation angle above 30 degrees

Antenna Type : Panel Antenna (Ant. 1)

Mode	Bandwidth (MHz)	Frequency (MHz)	Setting	Maximum Conducted Output Power (dBm)	Attenuator (dB)	Cable loss (dB)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	Limit (dBm)	Complies
Configuration IEEE 802.11a	5	5180	14.5	20.57	20.00	2.00	4.046	2.62	21	Pass
		5210	15	20.52	20.00	2.00	4.046	2.57	21	Pass
		5240	15.5	20.51	20.00	2.00	4.046	2.56	21	Pass
Configuration IEEE 802.11n	5	5180	14.5	20.53	20.00	2.00	4.046	2.58	21	Pass
		5210	15	20.59	20.00	2.00	4.046	2.63	21	Pass
		5240	15.5	20.53	20.00	2.00	4.046	2.58	21	Pass
Configuration IEEE 802.11a	10	5180	17.5	23.14	20.00	2.00	4.046	5.19	21	Pass
		5210	18.5	23.50	20.00	2.00	4.046	5.55	21	Pass
		5240	19	23.55	20.00	2.00	4.046	5.60	21	Pass
Configuration IEEE 802.11n	10	5180	18	23.50	20.00	2.00	4.046	5.55	21	Pass
		5210	18.5	23.47	20.00	2.00	4.046	5.51	21	Pass
		5240	19	23.52	20.00	2.00	4.046	5.57	21	Pass
Configuration IEEE 802.11a	20	5180	17.5	23.14	20.00	2.00	4.046	5.19	21	Pass
		5200	20	25.07	20.00	2.00	4.046	7.12	21	Pass
		5240	20	24.82	20.00	2.00	4.046	6.86	21	Pass
Configuration IEEE 802.11n	20	5180	17.5	23.23	20.00	2.00	4.046	5.27	21	Pass
		5200	20	24.94	20.00	2.00	4.046	6.99	21	Pass
		5240	20	24.76	20.00	2.00	4.046	6.81	21	Pass
Configuration IEEE 802.11n	40	5190	14.5	19.61	20.00	2.00	4.046	1.65	21	Pass
		5230	20	25.08	20.00	2.00	4.046	7.13	21	Pass

**Antenna Type : Sector Antenna (Ant. 2)**

Mode	Bandwidth (MHz)	Frequency (MHz)	Setting	Maximum Conducted Output Power (dBm)	Attenuator (dB)	Cable loss (dB)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	Limit (dBm)	Complies
Configuration IEEE 802.11a	5	5180	14.5	20.57	10.00	2.00	-1.589	6.99	21	Pass
		5210	15	20.52	10.00	2.00	-1.589	6.93	21	Pass
		5240	15.5	20.51	10.00	2.00	-1.589	6.92	21	Pass
Configuration IEEE 802.11n	5	5180	14.5	20.53	10.00	2.00	-1.589	6.94	21	Pass
		5210	15	20.59	10.00	2.00	-1.589	7.00	21	Pass
		5240	15.5	20.53	10.00	2.00	-1.589	6.94	21	Pass
Configuration IEEE 802.11a	10	5180	18	23.52	10.00	2.00	-1.589	9.93	21	Pass
		5210	18.5	23.50	10.00	2.00	-1.589	9.91	21	Pass
		5240	19	23.55	10.00	2.00	-1.589	9.96	21	Pass
Configuration IEEE 802.11n	10	5180	18	23.50	10.00	2.00	-1.589	9.91	21	Pass
		5210	18.5	23.47	10.00	2.00	-1.589	9.88	21	Pass
		5240	19	23.52	10.00	2.00	-1.589	9.93	21	Pass
Configuration IEEE 802.11a	20	5180	15	20.80	10.00	2.00	-1.589	7.22	21	Pass
		5200	20	25.07	10.00	2.00	-1.589	11.49	21	Pass
		5240	20	24.82	10.00	2.00	-1.589	11.23	21	Pass
Configuration IEEE 802.11n	20	5180	15	20.25	10.00	2.00	-1.589	6.66	21	Pass
		5200	20	24.94	10.00	2.00	-1.589	11.35	21	Pass
		5240	20	24.76	10.00	2.00	-1.589	11.17	21	Pass
Configuration IEEE 802.11n	40	5190	10	15.07	10.00	2.00	-1.589	1.48	21	Pass
		5230	18.5	23.55	10.00	2.00	-1.589	9.96	21	Pass

**Antenna Type : Omni Antenna (Ant. 3)**

Mode	Bandwidth (MHz)	Frequency (MHz)	Setting	Maximum Conducted Output Power (dBm)	Attenuator (dB)	Cable loss (dB)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	Limit (dBm)	Complies
Configuration IEEE 802.11a	5	5180	12	17.53	0.00	2.00	-2.725	12.80	21	Pass
		5210	12.5	17.50	0.00	2.00	-2.725	12.78	21	Pass
		5240	13	17.61	0.00	2.00	-2.725	12.89	21	Pass
Configuration IEEE 802.11n	5	5180	12	17.56	0.00	2.00	-2.725	12.84	21	Pass
		5210	12.5	17.53	0.00	2.00	-2.725	12.80	21	Pass
		5240	13	17.60	0.00	2.00	-2.725	12.88	21	Pass
Configuration IEEE 802.11a	10	5180	15	20.60	0.00	2.00	-2.725	15.88	21	Pass
		5210	15.5	20.55	0.00	2.00	-2.725	15.82	21	Pass
		5240	16	20.64	0.00	2.00	-2.725	15.91	21	Pass
Configuration IEEE 802.11n	10	5180	15	20.60	0.00	2.00	-2.725	15.87	21	Pass
		5210	15.5	20.50	0.00	2.00	-2.725	15.78	21	Pass
		5240	16	20.60	0.00	2.00	-2.725	15.87	21	Pass
Configuration IEEE 802.11a	20	5180	16.5	21.87	0.00	2.00	-2.725	17.14	21	Pass
		5200	18.5	23.51	0.00	2.00	-2.725	18.78	21	Pass
		5240	19	23.52	0.00	2.00	-2.725	18.79	21	Pass
Configuration IEEE 802.11n	20	5180	15.5	20.69	0.00	2.00	-2.725	15.96	21	Pass
		5200	19	23.51	0.00	2.00	-2.725	18.78	21	Pass
		5240	19	23.55	0.00	2.00	-2.725	18.82	21	Pass
Configuration IEEE 802.11n	40	5190	10.5	15.53	0.00	2.00	-2.725	10.81	21	Pass
		5230	19	23.81	0.00	2.00	-2.725	19.08	21	Pass