

FCC RADIO TEST REPORT

according to

47 CFR FCC Part 15 Subpart E § 15.407

Model Name : Cable Modem
Model No. : TC8717C
Filing Type : New Application
FCC ID : G95-TC8717C
Trade Name : technicolor
Applicant : Technicolor USA, Inc
101 West 103rd Street Indianapolis, IN 46290
United States

Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a/ac (5150 ~ 5250MHz) 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, KDB 789033 D01 v01r03, KDB 662911 D01 v02r01 and KDB644545 D01v01r02.**

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



SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR422438AB	Rev.01	Initial issue of report	Mar. 14, 2014

CERTIFICATE OF COMPLIANCE

according to

47 CFR FCC Part 15 Subpart E § 15.407

Model Name : Cable Modem

Model No. : TC8717C

Trade Name : technicolor

Applicant : Technicolor USA, Inc
101 West 103rd Street Indianapolis, IN 46290 United States

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jan. 13, 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.

No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

1 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	15.207	AC Power Line Conducted Emissions	Complies	12.99 dB
4.2	15.407(a)	Emission bandwidth Measurement	Complies	-
4.3	15.407(a)	Maximum Conducted Output Power	Complies	0.08 dB
4.4	15.407(a)	Power Spectral Density	Complies	0.12 dB
4.5	15.407(a)	Peak Excursion	Complies	0.02 dB
4.6	15.407(b)	Radiated Emissions	Complies	4.09 dB
4.7	15.407(b)	Band Edge Emissions	Complies	0.03 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	15.203	Antenna Requirements	Complies	-

1.1 Information provided by the manufacturer

Model Name: Cable Modem

Model No.: TC8717C

Trade Name: technicolor

Power Supply: 1. Internal AC-DC power pack, 12Vdc, 3.5A, Manufacturer: AcBel, Model: JSSTD003-AD0G2

2. Battery, Manufacturer: Getac, Model: BP-TC-8-22 / 2250S, Rating: 7.2V 4300mAh

AC Power Cord: 2pin

Hardware Version: LAB2

Interface Availability

Interface Model No.	Internal AC-DC power pack Input: 120V Output : 12Vdc3.5A	Battery	Cable modem: DOCSIS 3.0 Cable Modem MoCA: MoCA 2.0 D Band 1125MHz and 1525MHz	Ethernet 10/100/1000 Mbps	USB 2. 0	Line	WLAN IEEE 802.11a/b/g/n/a c(2.4GHz/5GHz 3*3)	DECT
TC8717C	●	●	●	●(4 port)	●(2 port)	●(2 port)	●	●

● : Equipped

○ : Not Equipped

1.2 Application of harmonized standard

US Standard: 47 CFR FCC Part 15 Subpart E § 15.407

ANSI C63.10-2009

KDB662911 D01 Multiple Transmitter Output v02r01, 10/31/2013

KDB789033 D01 General UNII Test Procedures v01r03, 04/08/2013

KDB644545 D01 Guidance for IEEE 802.11ac v01r02, 10/31/2013

1.3 Cabling Attached to the Equipment

Table 1- Cable and Interconnection

Interface	Cable type	Cable length delivered with the modem	"Real life" Cable length that can be attached to this type of interface	Cable length to be used for testing	Internal / external connection
Cable & MoCA	coaxial	2 meter	> 10 meter	10 meter	External
Eth1	UTP Cat 5	2 meter	> 10 meter	10 meter	Internal
Line1/2	UTP Cat 3	2 meter	> 10 meter	1 meter flat cable	Internal
USB1/2	STP	1 meter	< 3 meter	1 meter	Internal
AC power					Internal
Battery					Internal

1.4 Panel Drawing

2 GENERAL INFORMATION

2.1 Product Details

Items	Description			
Product	Stand alone			
Model No.	TC8717C			
FCC ID	G95-TC8717C			
Power Type	Internal power supply and Battery			
EUT Stage	☒	Product Unit	☐	Pre-Sample
Antenna Type	Please see Section 2.3			
Operating Band, EIRP power	5150~5250MHz	☒	IEEE 802.11a: 16.79dBm	
		☒	For Non-Beamforming IEEE 802.11ac (20MHz): 16.87dBm IEEE 802.11ac (40MHz): 16.88dBm IEEE 802.11ac (80MHz): 16.86dBm	
		☒	For Beamforming IEEE 802.11ac (20MHz): 16.76dBm IEEE 802.11ac (40MHz): 16.75dBm IEEE 802.11ac (80MHz): 16.73dBm	
Product Type	For IEEE 802.11a: WLAN (1/3TX, 3RX) For IEEE 802.11n: WLAN (1/3TX, 3RX) For IEEE 802.11ac: WLAN (1/3TX, 3RX)			
Nominal Chennel Bandwidth	20MHz / 40MHz / 80MHz			
Modulation	802.11a: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11n: (BPSK / QPSK / 16QAM / 64QAM).See the below table. 802.11ac:(BPSK / QPSK / 16QAM / 64QAM/ 256QAM).See the below table			
Data Rate (Mbps)	11a mode :OFDM (6/9/12/18/24/36/48/54) 11n(20MHz) mode(MCS0~MCS23) 11n(40MHz) mode(MCS0~MCS23) 11ac(20MHz) mode (MCS0~MCS9 for NSS1~NSS3) 11ac(40MHz) mode (MCS0~MCS9 for NSS1~NSS3) 11ac(80MHz) mode (MCS0~MCS9 for NSS1~NSS3)			
Beam forming Function	☒	With Beam forming for IEEE 802.11ac		☐ Without Beam forming
I/O Ports	LAN Port x 4 USB Host Port x 2 LINE Port x 2 Cable + MoCA Port x 1(Coaxial type)			
Software Version	5.5.10mp1			
Associated Devices	single-range internal AC-DC power pack			

2.2 Accessories

1. AC Power Cord*1, Unshielded 1.8m

2.3 Table for Filed Antenna

For 5150~5250MHz

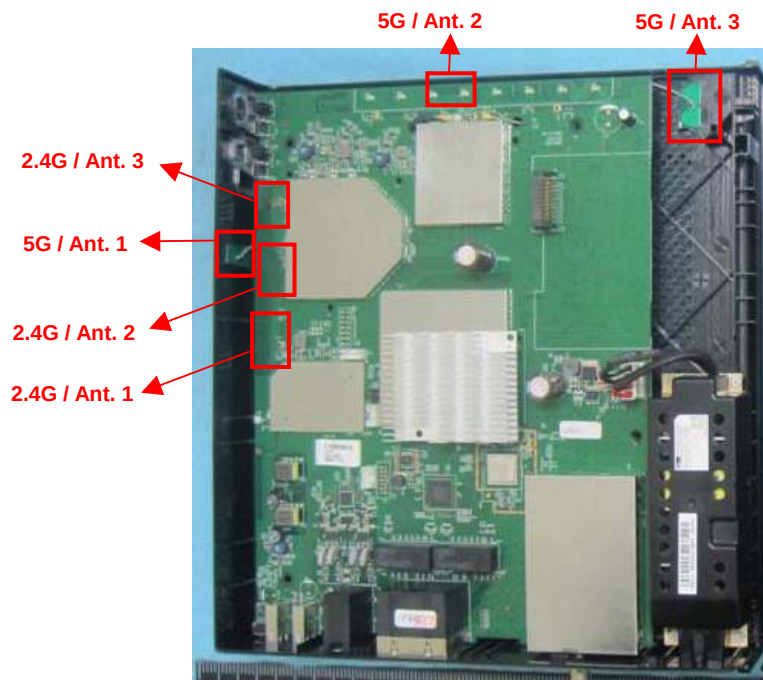
Ant.	Brand	Model Name	Antenna Type	Connector
1	WHAYU	C107-511031-A	PIFA Antenna	I-PEX
2	-	-	Printed Antenna	N/A
3	WHAYU	C107-511033-A	PIFA Antenna	I-PEX

Antenna & Bandwidth

Antenna	1st (TX)			2nd (TX)			3rd (TX)		
Bandwidth Mode	20 MHz	40 MHz	80 MHz	20 MHz	40 MHz	80 MHz	20 MHz	40 MHz	80MHz
802.11a	V	X	X	X	X	X	V	X	X
802.11n	V	V	X	X	X	X	V	V	X
802.11ac	V	V	V	X	X	X	V	V	V

Frequency	Antenna Gain (dBi)								
	Ant. 1 (WJ1)			Ant. 2 (WJ2)			Ant. 3 (WJ3)		
	20 MHz	40 MHz	80MHz	20 MHz	40 MHz	80MHz	20 MHz	40 MHz	80MHz
5180MHz	5.86	-	-	6.10	-	-	5.47	-	-
5190MHz	-	5.90	-	-	6.04	-	-	5.63	-
5200MHz	5.93	-	-	6.34	-	-	5.72	-	-
5210MHz	-	-	5.94	-	-	6.02	-	-	5.83
5230MHz	-	6.07	-	-	6.44	-	-	5.71	-
5240MHz	6.21	-	-	6.36	-	-	5.82	-	-

Frequency	Directional Gain (dBi) for Beamforming and CDD mode								
	1 Stream 3TX Ant. 1 + 2 + 3			2 Stream 3TX Ant. 1 + 2 + 3			3 Stream 3TX Ant. 1 + 2 + 3		
	20 MHz	40 MHz	80MHz	20 MHz	40 MHz	80MHz	20 MHz	40 MHz	80MHz
5180MHz	6.80	-	-	5.63	-	-	2.84	-	-
5190MHz	-	6.82	-	-	5.71	-	-	2.90	-
5200MHz	6.96	-	-	5.84	-	-	3.04	-	-
5210MHz	-	-	6.72	-	-	5.64	-	-	2.83
5230MHz	-	7.18	-	-	5.93	-	-	3.19	-
5240MHz	7.07	-	-	5.95	-	-	3.17	-	-



IEEE 802.11n Data Rate spec

Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)	
		LGI (800ns)	SGI (400ns)			LGI (800ns)	SGI (400ns)
11n 20MHz 1 stream	MCS0	6.5	7.2	11n 40MHz 1 stream	MCS0	13.5	15
	MCS1	13	14.4		MCS1	27	30
	MCS2	19.5	21.7		MCS2	40.5	45
	MCS3	26	28.9		MCS3	54	60
	MCS4	39	43.3		MCS4	81	90
	MCS5	52	57.8		MCS5	108	120
	MCS6	58.5	65		MCS6	121.5	135
11n 20MHz 2 stream	MCS7	65	72.2	11n 40MHz 2 stream	MCS7	135	150
	MCS8	13	14.4		MCS8	27	30
	MCS9	26	28.9		MCS9	54	60
	MCS10	39	43.3		MCS10	81	90
	MCS11	52	57.8		MCS11	108	120
	MCS12	78	86.7		MCS12	162	180
	MCS13	104	115.6		MCS13	216	240
11n 20MHz 3 stream	MCS14	117	130	11n 40MHz 3 stream	MCS14	243	270
	MCS15	130	144.4		MCS15	270	300
	MCS16	19.5	21.7		MCS16	40.5	45
	MCS17	39	43.3		MCS17	81	90
	MCS18	58.5	65		MCS18	121.5	135
	MCS19	78	86.7		MCS19	162	180
	MCS20	117	130		MCS20	243	270
11n 20MHz 3 stream	MCS21	156	173.3	11n 40MHz 3 stream	MCS21	324	360
	MCS22	175.5	195		MCS22	364.5	405
	MCS23	195	216.7		MCS23	405	450

IEEE 802.11ac Data Rate spec

Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)	
		LGI (800ns)	SGI (400ns)			LGI (800ns)	SGI (400ns)			LGI (800ns)	SGI (400ns)
11ac 20MHz 1 stream	MCS0	6.5	7.2	11ac 40MHz 1 stream	MCS0	13.5	15	11ac 80MHz 1 stream	MCS0	29.3	32.5
	MCS1	13	14.4		MCS1	27	30		MCS1	58.5	65.0
	MCS2	19.5	21.7		MCS2	40.5	45		MCS2	87.8	97.5
	MCS3	26	28.9		MCS3	54	60		MCS3	117.0	130.0
	MCS4	39	43.3		MCS4	81	90		MCS4	175.5	195.0
	MCS5	52	57.8		MCS5	108	120		MCS5	234.0	260.0
	MCS6	58.5	65		MCS6	121.5	135		MCS6	263.3	292.5
	MCS7	65	72.2		MCS7	135	150		MCS7	292.5	325.0
	MCS8	78	86.7		MCS8	162.0	180.0		MCS8	351.0	390.0
	MCS9	Note	Note		MCS9	180.0	200.0		MCS9	390.0	433.3

NOTE: MCS 9 is invalid due to mod(NCBPS/NES, DR) not being equal to 0.

11ac 20MHz 2 stream	MCS0	13.0	14.4	11ac 40MHz 2 stream	MCS0	27.0	30.0	11ac 80MHz 2 stream	MCS0	58.5	65.0
	MCS1	26.0	28.9		MCS1	54.0	60.0		MCS1	117.0	130.0
	MCS2	39.0	43.3		MCS2	81.0	90.0		MCS2	175.5	195.0
	MCS3	52.0	57.8		MCS3	108.0	120.0		MCS3	234.0	260.0
	MCS4	78.0	86.7		MCS4	162.0	180.0		MCS4	351.0	390.0
	MCS5	104.0	115.6		MCS5	216.0	240.0		MCS5	468.0	520.0
	MCS6	117.0	130.0		MCS6	243.0	270.0		MCS6	526.5	585.0
	MCS7	130.0	144.4		MCS7	270.0	300.0		MCS7	585.0	650.0
	MCS8	156.0	173.3		MCS8	324.0	360.0		MCS8	702.0	780.0
	MCS9	13.0	14.4		MCS9	360.0	400.0		MCS9	780.0	866.7
11ac 20MHz 3 stream	MCS0	19.5	21.7	11ac 40MHz 3 stream	MCS0	40.5	45	11ac 80MHz 3 stream	MCS0	87.8	97.5
	MCS1	39	43.3		MCS1	81	90		MCS1	175.5	195.0
	MCS2	58.5	65		MCS2	121.5	135		MCS2	263.3	292.5
	MCS3	78	86.7		MCS3	162	180		MCS3	351.0	190.0
	MCS4	117	130		MCS4	243	270		MCS4	526.5	585.0
	MCS5	156	173.3		MCS5	324	360		MCS5	702.0	780.0
	MCS6	175.5	195		MCS6	364.5	405		MCS6	Note	Note
	MCS7	195	216.7		MCS7	405	450		MCS7	877.5	975.0
	MCS8	234.0	260.0		MCS8	486.0	540.0		MCS8	1053.0	1170.0
	MCS9	260.0	228.9		MCS9	540.0	600.0		MCS9	1170.0	1300.0

NOTE: MCS 6 is invalid due to mod(NCBPS/NES, DR) not being equal to 0.

2.4 Transmit Operating Modes

Transmit Operating Mode						Transmit Multiple Antennas			
☐	Operating mode 1 (single antenna)					☒	1TX		
☐	Operating mode 2 (multiple antenna, no beam forming)					☒	2TX	☒	3TX ☐ 4TX
☐	Operating mode 3 (multiple antenna, with beam forming)					☐	2TX	☒	3TX ☐ 4TX
☐	802.11a	Operating mode	☒	1TX	☐	2TX	☒	3TX	☐ Cyclic shift
☐	802.11n(HT20)	Operating mode	☒	1TX	☒	2TX	☒	3TX	☐ Cyclic shift
☐	802.11n(HT40)	Operating mode	☒	1TX	☒	2TX	☒	3TX	☐ Cyclic shift
☐	802.11ac(VHT20)	Operating mode	☒	1TX	☒	2TX	☒	3TX	☐ Cyclic shift
☐	802.11ac(VHT40)	Operating mode	☒	1TX	☒	2TX	☒	3TX	☐ Cyclic shift

Note 1: For IEEE802.11n, MCS0~MCS7: 1TX; MCS8~MCS15: 2TX; MCS0~MCS23: 3TX

Note 2: For IEEE802.11ac VHT20/40/80, MCS0~MCS9: 1 Stream 3TX; MCS0~MCS9: 2 Stream 3TX;
MCS0~MCS9: 3 Stream 3TX

Note 3: For 2 stream 2TX without test due to covered by 2 stream 3TX MCS0 Nss2.

2.5 Table for Carrier Frequencies

Four channels are provided for 802.11a, 802.11n, 802.11ac Band 1 (20MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz	36	5180 MHz	44	5220 MHz
	40	5200 MHz	48	5240 MHz

Two channels are provided for 802.11n, 802.11ac Band 1 (40MHz):

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz	38	5190 MHz	46	5230MHz

One channels are provided for 802.11ac Band 1 (80MHz):

Frequency Band	Channel No.	Frequency
5150~5250 MHz	42	5210 MHz

2.6 Table for Test Modes

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	Note	Channel	Data Rate	Antenna
AC Power Line Conducted Emissions	CTX	BPSK	-	-	1+2+3
Emission bandwidth	11a	OFDM/BPSK	36/40/48	6Mbps	2
				6Mbps	1+2+3(CDD)
	11ac(20MHz)		36/40/48	Nss1MCS0	2
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(40MHz)		38/46	Nss1MCS0	3
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(80MHz)		42	Nss1MCS0	3
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
11ac(80MHz) Beamforming	42	Nss1MCS0	1+2+3(CDD)		
		Nss2MCS0	1+2+3(CDD)		
Maximum Conducted Output Power (Average)	11a	OFDM/BPSK	36/40/48	6Mbps	1, 2, 3
				6Mbps	1+2+3(CDD)
	11ac(20MHz)		36/40/48	Nss1MCS0	1, 2, 3
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
				Nss3MCS0	1+2+3(SDM)
	11ac(40MHz)		38/46	Nss1MCS0	1, 2, 3
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
				Nss3MCS0	1+2+3(SDM)
	11ac(80MHz)		42	Nss1MCS0	1, 2, 3
				Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)

				Nss3MCS0	1+2+3(SDM)
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3(CDD)
				Nss2MCS0	1+2+3(CDD)
	11ac(80MHz) Beamforming		42	Nss1MCS0	1+2+3(CDD)
Nss2MCS0		1+2+3(CDD)			
Power Spectral Density	11a	OFDM/BPSK	36/40/48	6Mbps	2
				6Mbps	1+2+3
	11ac(20MHz)		36/40/48	Nss1MCS0	2
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz)		38/46	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz)		42	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3
Nss2MCS0		1+2+3			
11ac(80MHz) Beamforming	42	Nss1MCS0	1+2+3		
		Nss2MCS0	1+2+3		
Peak Power Excursion	11a	OFDM/BPSK	36/40/48	6Mbps	2
				6Mbps	1+2+3
	11ac(20MHz)		36/40/48	Nss1MCS0	2
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz)		38/46	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz)		42	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3

	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz) Beamforming		42	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
Unwanted emissions in the restricted bands Above 1GHz (Radiated)	11a	OFDM/BPSK	36/40/48	6Mbps	1
				6Mbps	1+2+3
	11ac(20MHz)		36/40/48	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz)		38/46	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz)		42	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz) Beamforming		42	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
Unwanted Emission out of the restricted bands Above 1GHz (Radiated)	11a	OFDM/BPSK	36/40/48	6Mbps	1
				6Mbps	1+2+3
	11ac(20MHz)		36/40/48	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz)		38/46	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz)		42	Nss1MCS0	1
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3

	11ac(80MHz) Beamforming		42	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
Radiated Emissions Below 1GHz(Radiated)	CTX	OFDM/BPSK	-	-	1+2+3
Frequency Stability	11a	OFDM/BPSK	36/40/48	6Mbps	2
				6Mbps	1+2+3
	11ac(20MHz)		36/40/48	Nss1MCS0	2
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz)		38/46	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz)		42	Nss1MCS0	3
				Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(20MHz) Beamforming		36/40/48	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(40MHz) Beamforming		38/46	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3
	11ac(80MHz) Beamforming		42	Nss1MCS0	1+2+3
				Nss2MCS0	1+2+3

Note 1:11n HT20/40 1TX/2TX/3TX without test due to covered by 802.11ac VHT20/40 1TX/2TX/3TX which are same modulation, bandwidth and frequency.

Note 2:11ac VHT20/40/80 3TX MCS0 Nss3 without test due to covered by 802.11ac VHT20/40/80 3TX MCS0 Nss1, except Maximum conducted output power.

2.7 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	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

2.8 Table for Supporting Units

For Test Site No: CO01-CB and TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	DoC

For Test Site No: 03CH01-CB

For Non-Beamforming

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1330	DoC

For Beamforming

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1330	DoC
WLAN ac Dongle	Netgear	A6200	PY31220200
Notebook	DELL	E6430	DoC

2.9 Table for Parameters of Test Software Setting

During testing, Channel & 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.

For Non-Beamforming

The Power Setting Parameter						
Power Level		1				
Test Software Version		MTOOL 2.0.1.0				
Worst Modulation Mode		Number of Transmit Chains (NTX)	Frequency (MHz)	Maximum Output Power (dBm)	Power Setting	Data Rate / MCS
Ant. 1	802.11a	1 Stream 1TX	5180	16.75	61	6Mbps
Ant. 1	802.11a	1 Stream 1TX	5200	16.79	61	6Mbps
Ant. 1	802.11a	1 Stream 1TX	5240	16.54	60	6Mbps
Ant. 2	802.11a	1 Stream 1TX	5180	16.57	64	6Mbps
Ant. 2	802.11a	1 Stream 1TX	5200	16.48	63	6Mbps
Ant. 2	802.11a	1 Stream 1TX	5240	16.41	62	6Mbps
Ant. 3	802.11a	1 Stream 1TX	5180	16.78	64	6Mbps
Ant. 3	802.11a	1 Stream 1TX	5200	16.76	64	6Mbps
Ant. 3	802.11a	1 Stream 1TX	5240	16.75	63	6Mbps
Ant.1+2+3, CDD	802.11a	1 Stream 3TX	5180	16.06	40	6Mbps
Ant.1+2+3, CDD	802.11a	1 Stream 3TX	5200	15.71	39	6Mbps
Ant.1+2+3, CDD	802.11a	1 Stream 3TX	5240	15.76	39	6Mbps
Ant. 1	802.11ac20MHz	1 Stream 1TX	5180	16.78	61	Nss1MCS0
Ant. 1	802.11ac20MHz	1 Stream 1TX	5200	16.80	61	Nss1MCS0
Ant. 1	802.11ac20MHz	1 Stream 1TX	5240	16.53	60	Nss1MCS0
Ant. 2	802.11ac20MHz	1 Stream 1TX	5180	16.82	64	Nss1MCS0
Ant. 2	802.11ac20MHz	1 Stream 1TX	5200	16.57	63	Nss1MCS0
Ant. 2	802.11ac20MHz	1 Stream 1TX	5240	16.51	63	Nss1MCS0
Ant. 3	802.11ac20MHz	1 Stream 1TX	5180	16.86	64	Nss1MCS0
Ant. 3	802.11ac20MHz	1 Stream 1TX	5200	16.79	64	Nss1MCS0
Ant. 3	802.11ac20MHz	1 Stream 1TX	5240	16.87	64	Nss1MCS0
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5180	16.05	41	Nss1MCS0
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5200	15.89	40	Nss1MCS0
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5240	15.72	39	Nss1MCS0
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5180	16.68	43	Nss2MCS0
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5200	16.76	43	Nss2MCS0
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5240	16.79	43	Nss2MCS0
Ant.1+2+3, SDM	802.11ac20MHz	3 Stream 3TX	5180	16.40	41	Nss3MCS0
Ant.1+2+3, SDM	802.11ac20MHz	3 Stream 3TX	5200	16.15	40	Nss3MCS0
Ant.1+2+3, SDM	802.11ac20MHz	3 Stream 3TX	5240	15.96	39	Nss3MCS0

FCC TEST REPORT

Report No.: FR422438AB

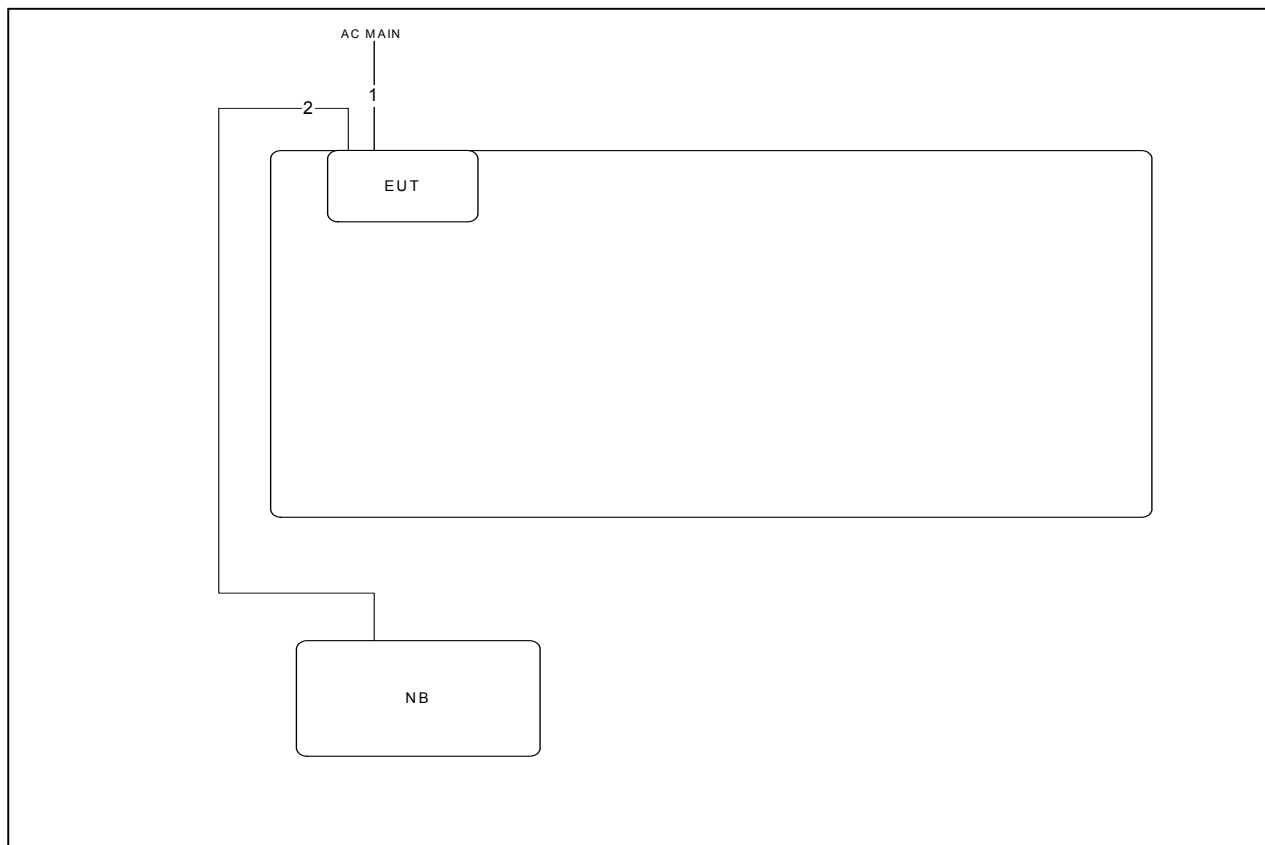
Ant. 1	802.11ac40MHz	1 Stream 1TX	5190	16.85	64	Nss1MCS0
Ant. 1	802.11ac40MHz	1 Stream 1TX	5230	16.73	63	Nss1MCS0
Ant. 2	802.11ac40MHz	1 Stream 1TX	5190	16.71	67	Nss1MCS0
Ant. 2	802.11ac40MHz	1 Stream 1TX	5230	16.28	65	Nss1MCS0
Ant. 3	802.11ac40MHz	1 Stream 1TX	5190	16.81	68	Nss1MCS0
Ant. 3	802.11ac40MHz	1 Stream 1TX	5230	16.88	67	Nss1MCS0
Ant.1+2+3, CDD	802.11ac40MHz	1 Stream 3TX	5190	15.95	44	Nss1MCS0
Ant.1+2+3, CDD	802.11ac40MHz	1 Stream 3TX	5230	15.70	43	Nss1MCS0
Ant.1+2+3, CDD	802.11ac40MHz	2 Stream 3TX	5190	16.85	47	Nss2MCS0
Ant.1+2+3, CDD	802.11ac40MHz	2 Stream 3TX	5230	16.79	47	Nss2MCS0
Ant.1+2+3, SDM	802.11ac40MHz	3 Stream 3TX	5190	16.23	44	Nss3MCS0
Ant.1+2+3, SDM	802.11ac40MHz	3 Stream 3TX	5230	16.02	43	Nss3MCS0
Ant. 1	802.11ac80MHz	1 Stream 1TX	5210	16.80	63	Nss1MCS0
Ant. 2	802.11ac80MHz	1 Stream 1TX	5210	16.75	67	Nss1MCS0
Ant. 3	802.11ac80MHz	1 Stream 1TX	5210	16.86	67	Nss1MCS0
Ant.1+2+3, CDD	802.11ac80MHz	1 Stream 3TX	5210	16.00	42	Nss1MCS0
Ant.1+2+3, CDD	802.11ac80MHz	2 Stream 3TX	5210	16.67	45	Nss2MCS0
Ant.1+2+3, SDM	802.11ac80MHz	3 Stream 3TX	5210	16.28	42	Nss3MCS0

For Beamforming

The Power Setting Parameter						
Power Level		1				
Test Software Version		MTOOL 2.0.1.0				
Worst Modulation Mode		Number of Transmit Chains (NTX)	Frequency (MHz)	Maximum Output Power (dBm)	Power Setting	Data Rate / MCS
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5180	15.91	41	MCS0Nss1
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5200	15.82	43	MCS0Nss1
Ant.1+2+3, CDD	802.11ac20MHz	1 Stream 3TX	5240	15.64	40	MCS0Nss1
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5180	16.75	44	MCS0Nss2
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5200	16.76	44	MCS0Nss2
Ant.1+2+3, CDD	802.11ac20MHz	2 Stream 3TX	5240	16.74	46	MCS0Nss2
Ant.1+2+3, CDD	802.11ac40MHz	1 Stream 3TX	5190	16.02	44	MCS0Nss1
Ant.1+2+3, CDD	802.11ac40MHz	1 Stream 3TX	5230	15.53	42	MCS0Nss1
Ant.1+2+3, CDD	802.11ac40MHz	2 Stream 3TX	5190	16.66	46	MCS0Nss2
Ant.1+2+3, CDD	802.11ac40MHz	2 Stream 3TX	5230	16.75	49	MCS0Nss2
Ant.1+2+3, CDD	802.11ac80MHz	1 Stream 3TX	5210	15.96	42	MCS0Nss1
Ant.1+2+3, CDD	802.11ac80MHz	2 Stream 3TX	5210	16.73	47	MCS0Nss2

2.10 Test Configuration

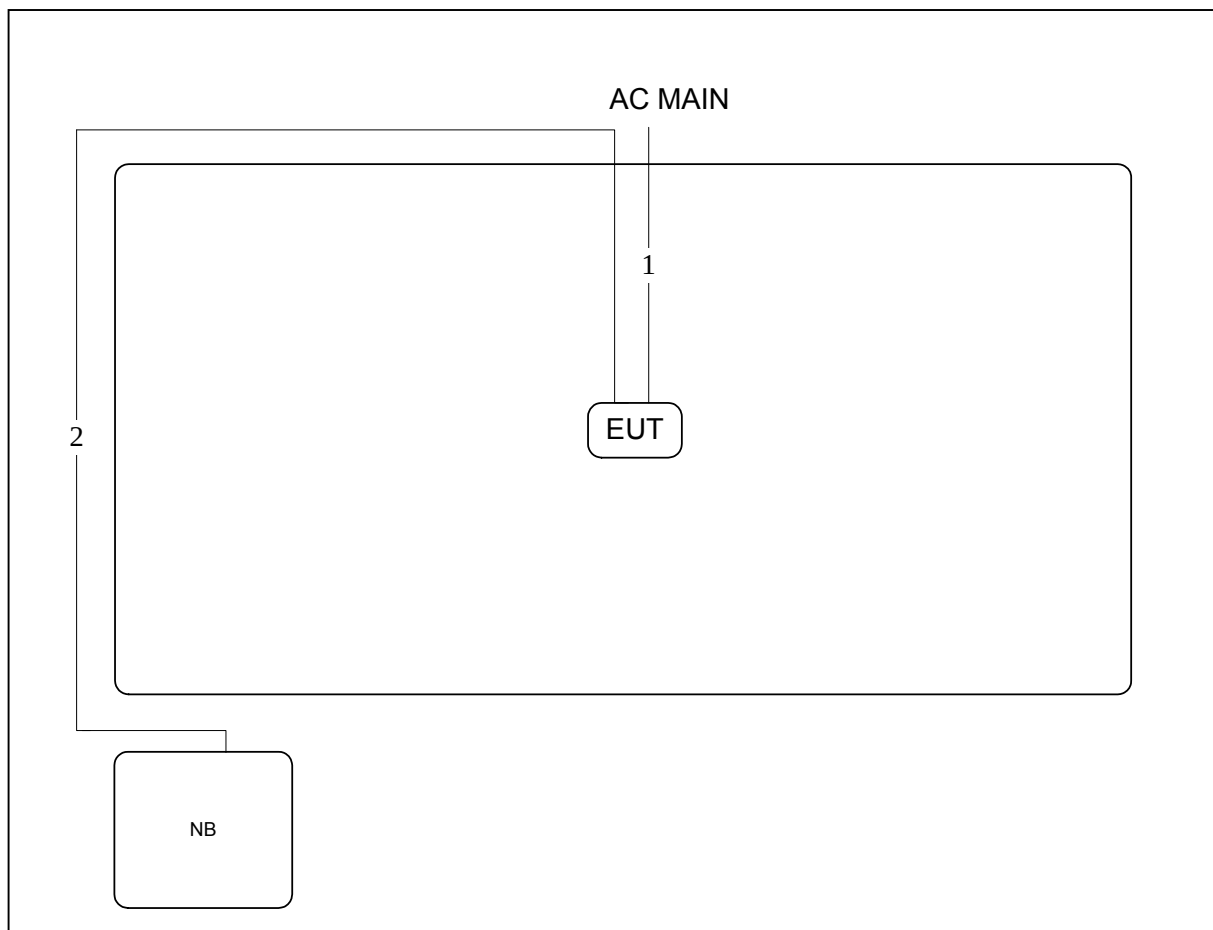
2.10.1 AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shield	Length
1	Power cable	No	1.8M
2	RJ-45 cable	No	10M

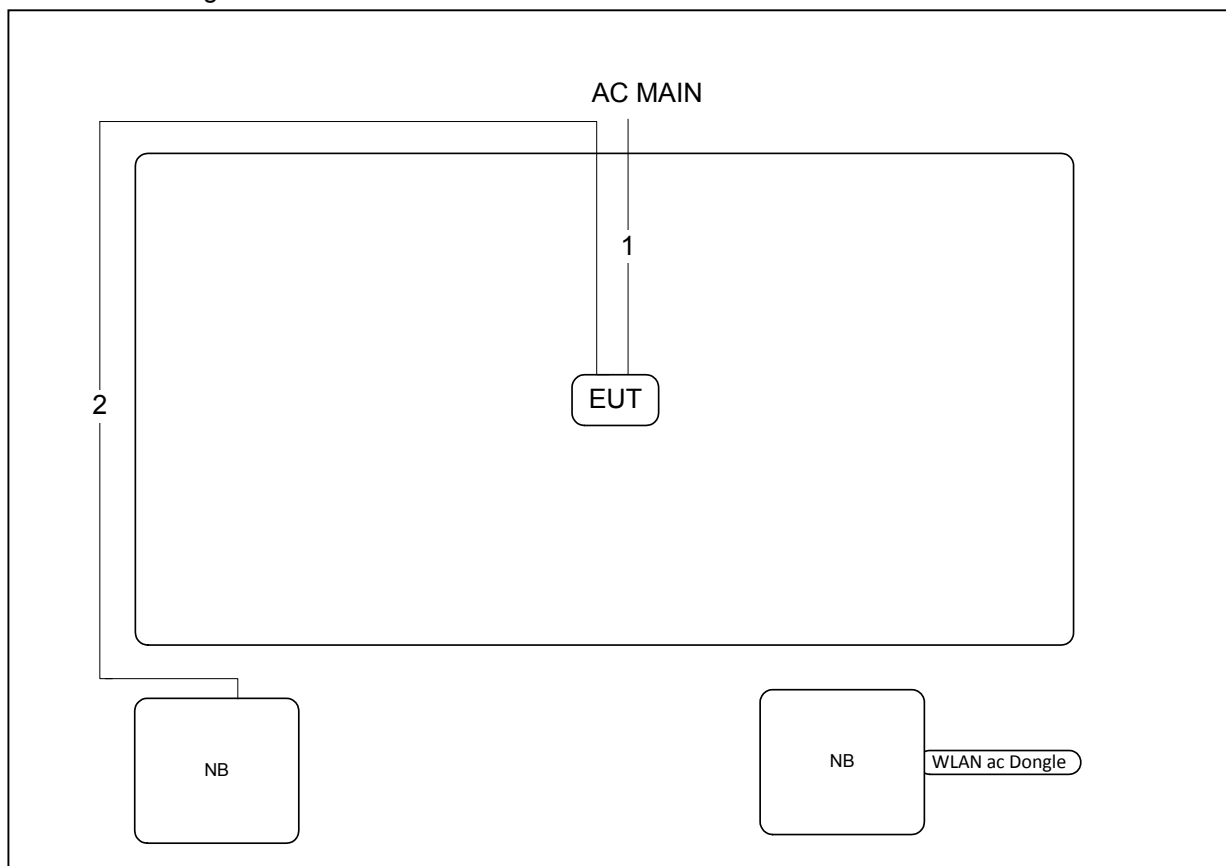
2.10.2 Radiation Emissions Test Configuration

For Non-Beamforming



Item	Connection	Shield	Length
1	Power cable	No	1.8M
2	RJ-45 cable	No	10M

For Beamforming



Item	Connection	Shield	Length
1	Power cable	No	1.8M
2	RJ-45 cable	No	10M

3 TEST RESULT

3.1 AC Power Line Conducted Emissions Measurement

3.1.1 Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

3.1.2 Measuring Instruments and Setting

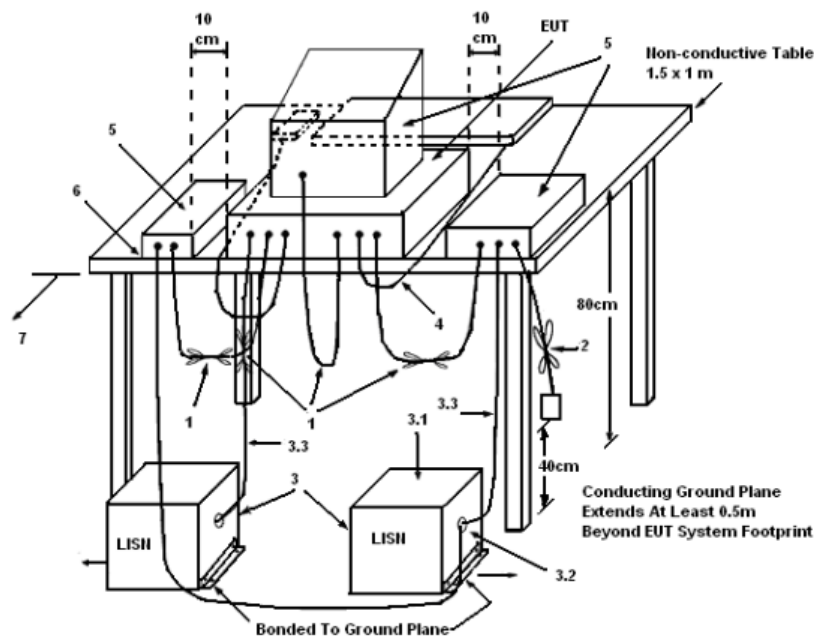
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

3.1.4 Test Setup Layout



LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
2. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3. EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
4. All other equipment powered from additional LISN(s).
5. Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
8. Non-EUT components of EUT system being tested.
9. Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
10. Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

3.1.5 Test Deviation

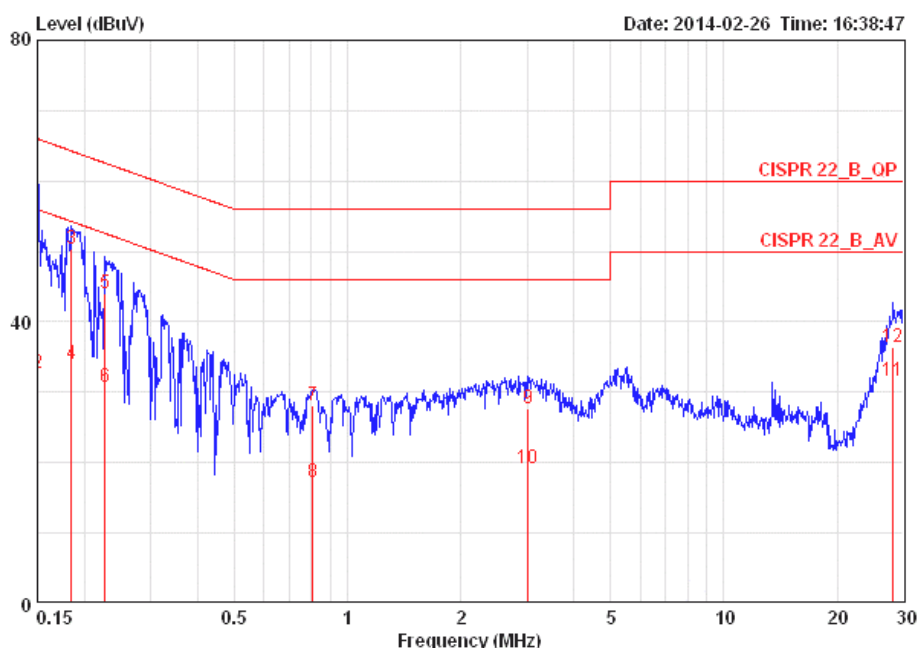
There is no deviation with the original standard.

3.1.6 EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

3.1.7 Results of AC Power Line Conducted Emissions Measurement

Temperature	24°C	Humidity	51%
Test Engineer	Justin Chiu	Phase	Line
Configuration	CTX		



	Freq	Level	Over	Limit	LISN	Read	Cable		
	MHz	dBuV	Limit	Line	Factor	Level	Loss	Pol/Phase	Remark
			dB	dBuV	dB	dBuV	dB		
1	0.15000	52.97	-13.03	66.00	0.15	52.66	0.16	LINE	QP
2	0.15000	32.63	-23.37	56.00	0.15	32.32	0.16	LINE	AVERAGE
3	0.18443	50.34	-13.94	64.28	0.15	50.03	0.16	LINE	QP
4	0.18443	33.96	-20.32	54.28	0.15	33.65	0.16	LINE	AVERAGE
5	0.22676	44.14	-18.43	62.57	0.15	43.82	0.17	LINE	QP
6	0.22676	30.65	-21.92	52.57	0.15	30.33	0.17	LINE	AVERAGE
7	0.80876	28.08	-27.92	56.00	0.16	27.73	0.20	LINE	QP
8	0.80876	17.24	-28.76	46.00	0.16	16.89	0.20	LINE	AVERAGE
9	3.025	27.61	-28.39	56.00	0.24	27.09	0.28	LINE	QP
10	3.025	19.22	-26.78	46.00	0.24	18.70	0.28	LINE	AVERAGE
11	28.152	31.53	-18.47	50.00	0.85	30.07	0.60	LINE	AVERAGE
12	28.152	36.44	-23.56	60.00	0.85	34.98	0.60	LINE	QP

Note 1: The test was passed at the minimum margin that marked by the frame in the following data

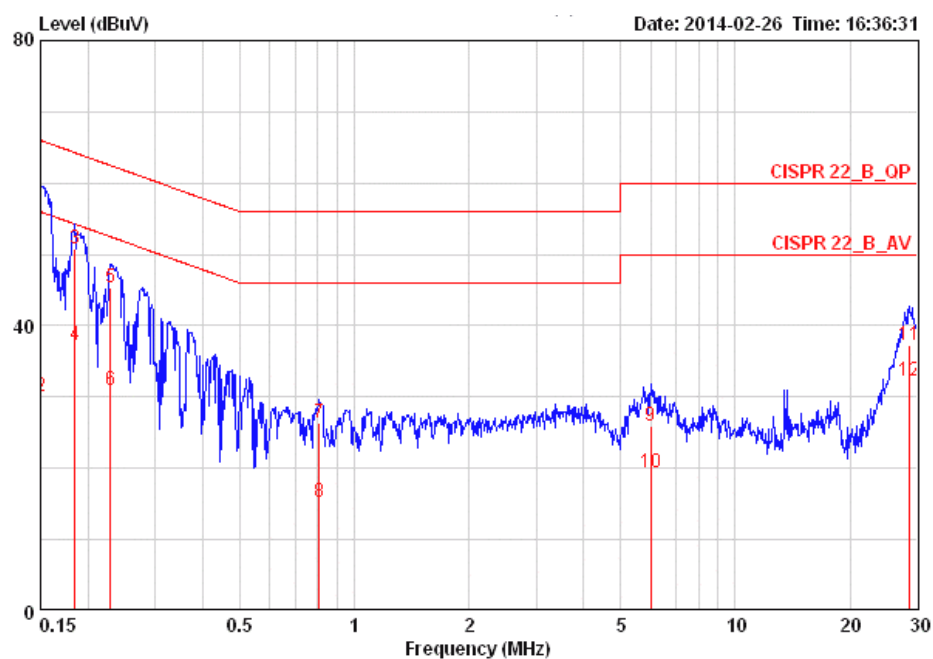
Note 2: The emission levels of other frequencies were very low against the limit.

Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.

Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

Note 5: Over Limit value = level - Limit value

Temperature	24°C	Humidity	51%
Test Engineer	Justin Chiu	Phase	Neutral
Configuration	CTX		



	Freq	Level	Over	Limit	LISN	Read	Cable	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dB	dBuV	dB		
1	0.15000	53.01	-12.99	66.00	0.07	52.78	0.16	NEUTRAL	QP
2	0.15000	29.98	-26.02	56.00	0.07	29.75	0.16	NEUTRAL	AVERAGE
3	0.18443	50.79	-13.49	64.28	0.07	50.56	0.16	NEUTRAL	QP
4	0.18443	37.23	-17.05	54.28	0.07	37.00	0.16	NEUTRAL	AVERAGE
5	0.22918	45.25	-17.23	62.48	0.07	45.01	0.17	NEUTRAL	QP
6	0.22918	30.85	-21.63	52.48	0.07	30.61	0.17	NEUTRAL	AVERAGE
7	0.80876	26.34	-29.66	56.00	0.08	26.07	0.20	NEUTRAL	QP
8	0.80876	15.26	-30.74	46.00	0.08	14.99	0.20	NEUTRAL	AVERAGE
9	5.993	25.92	-34.08	60.00	0.18	25.41	0.34	NEUTRAL	QP
10	5.993	19.39	-30.61	50.00	0.18	18.88	0.34	NEUTRAL	AVERAGE
11	28.755	37.19	-22.81	60.00	0.81	35.77	0.61	NEUTRAL	QP
12	28.755	32.17	-17.83	50.00	0.81	30.75	0.61	NEUTRAL	AVERAGE

Note 1: The test was passed at the minimum margin that marked by the frame in the following data

Note 2: The emission levels of other frequencies were very low against the limit.

Note 3: Q.P. and AV. are abbreviations of quasi-peak and average individually.

Note 4: Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level

Note 5: Over Limit value = level - Limit value

3.2 Emission bandwidth Measurement

3.2.1 Limit

No restriction limits

3.2.2 Measuring Instruments and Setting

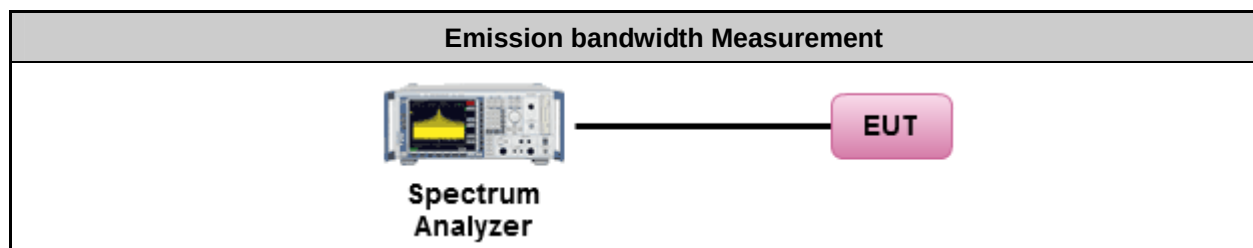
Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

3.2.3 Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under KDB789033 D01 General UNII Test Procedures v01r03, in section "Emission bandwidth", 04/08/2013
3. When measuring Emission bandwidth with multiple antenna systems, add every result of the values by mathematic formula.

3.2.4 Test Setup Layout



3.2.5 Test Deviation

There are no deviation with the original standard.

3.2.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.2.7 Test Result for Emission bandwidth

For Non-Beamforming

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11a
Duty Cycle	Ant. 2: 99.04% Ant. 1+2+3, CDD: 98.80%		

Configuration IEEE 802.11a

<Ant. 2>

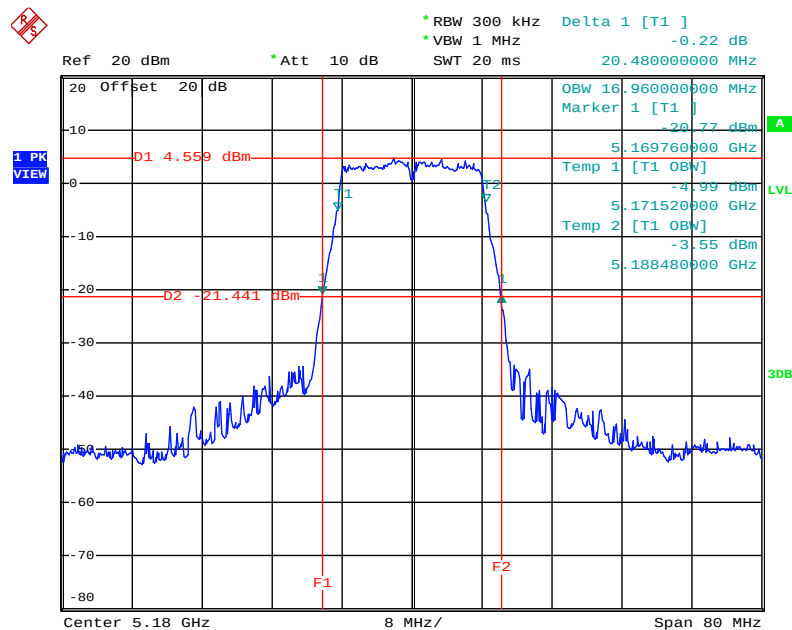
Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Data Rate / MCS
36	5180 MHz	20.48	16.96	6Mbps
40	5200 MHz	20.48	16.96	6Mbps
48	5240 MHz	20.16	16.96	6Mbps

<Ant. 1+2+3, CDD >

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
36	5180 MHz	20.48	20.32	20.48	16.96	16.80	16.80	6Mbps
40	5200 MHz	20.48	20.32	20.32	16.96	16.80	16.80	6Mbps
48	5240 MHz	20.32	20.32	20.16	16.96	16.80	16.96	6Mbps

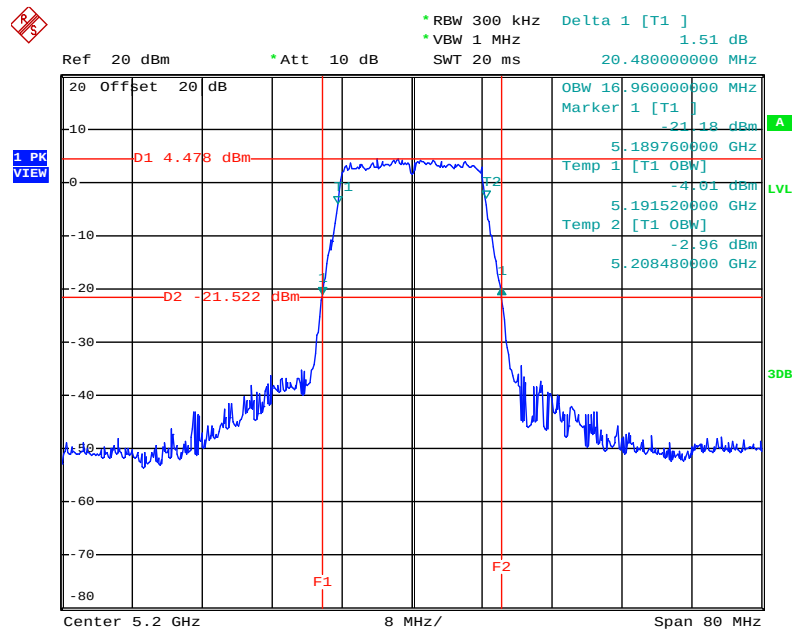
For <Ant. 2>:

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 36 / Ant. 2



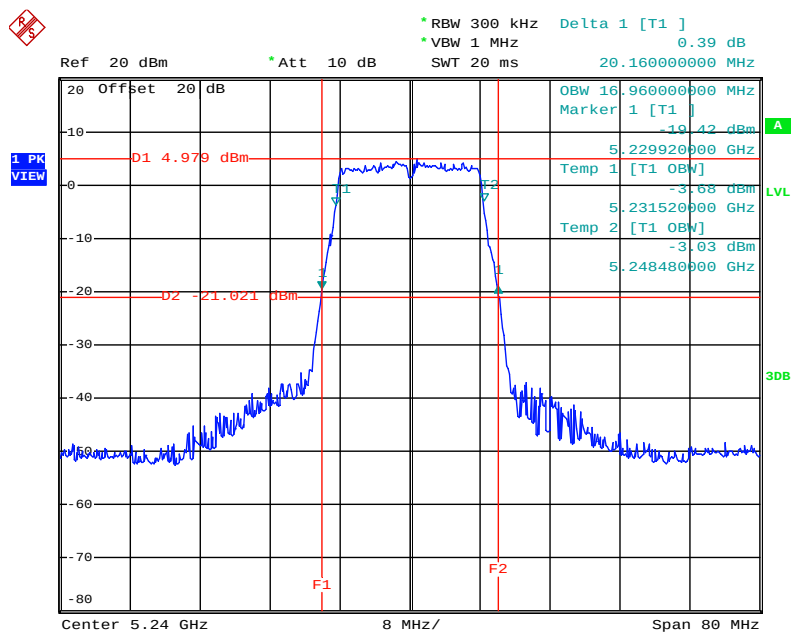
Date: 14.FEB.2014 13:00:18

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 40 / Ant. 2



Date: 14.FEB.2014 13:01:22

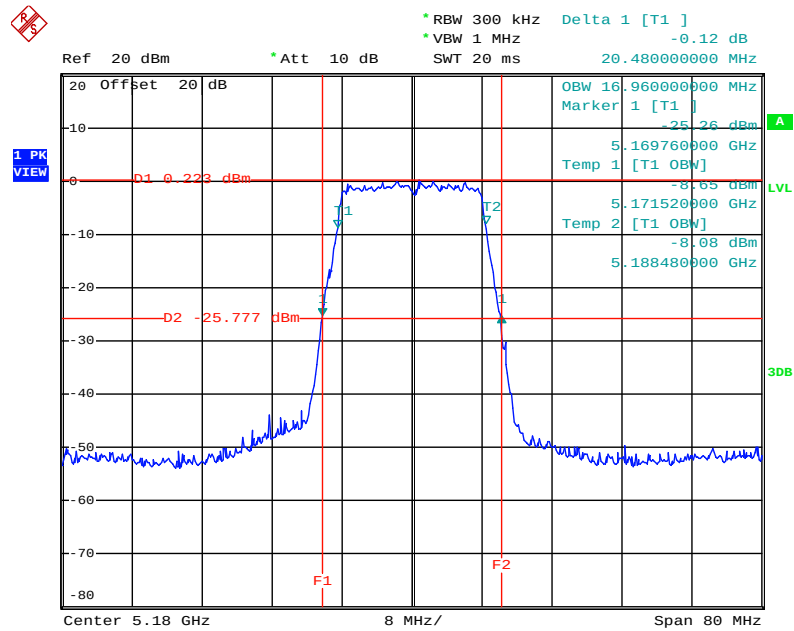
26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 48 / Ant. 2



Date: 14.FEB.2014 13:02:27

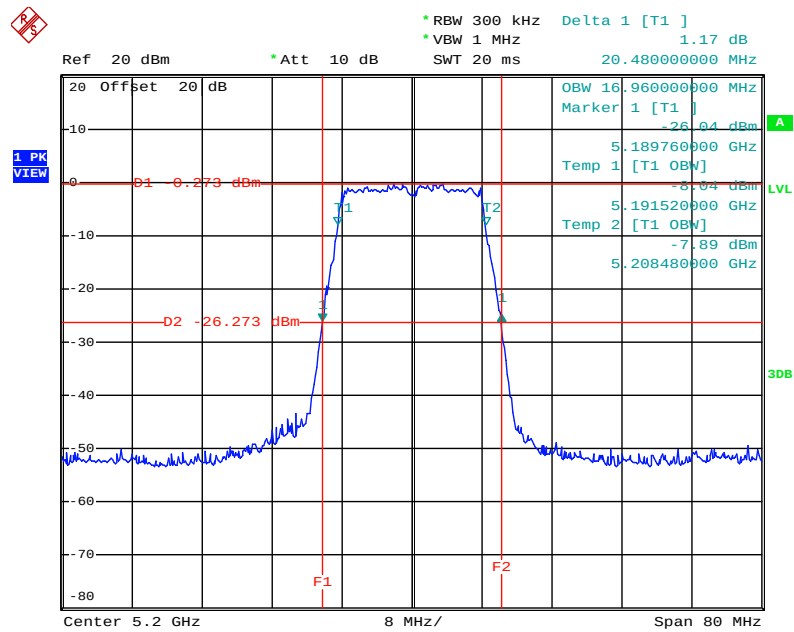
For <Ant. 1+2+3, CDD >:

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 36 / Ant. 1



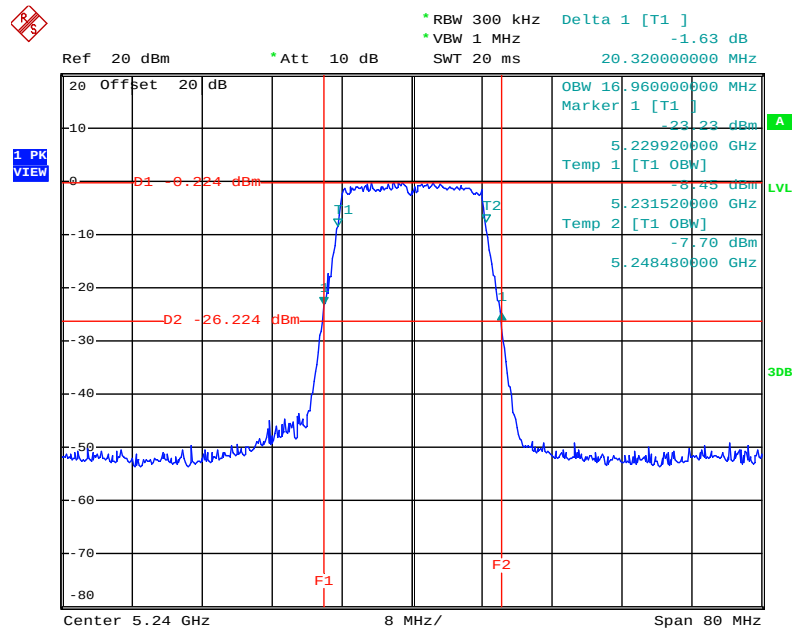
Date: 14.FEB.2014 13:11:51

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 40 / Ant. 1



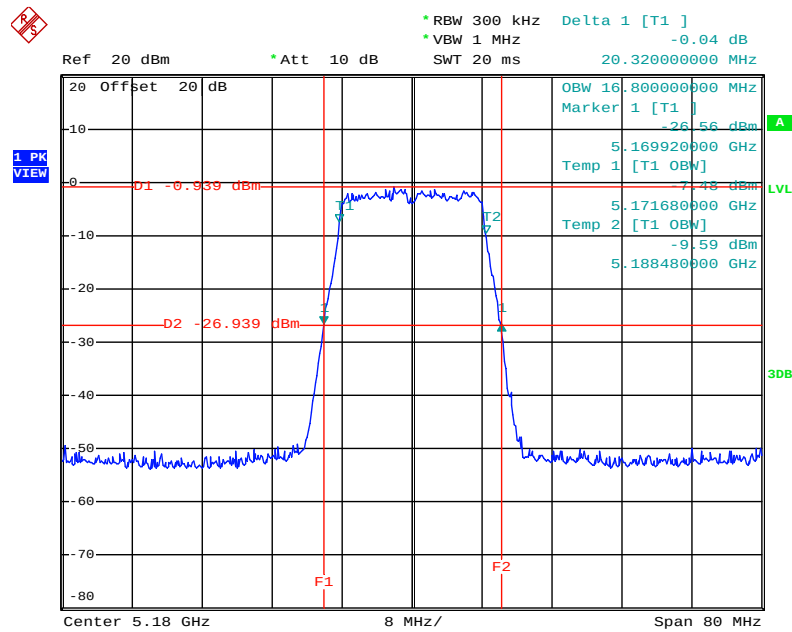
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26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 48 / Ant. 1



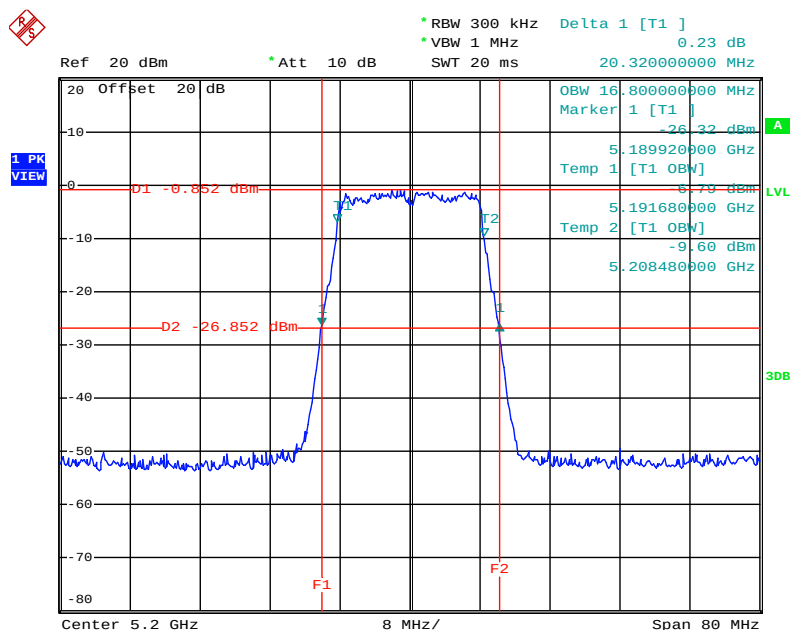
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26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 36 / Ant. 2



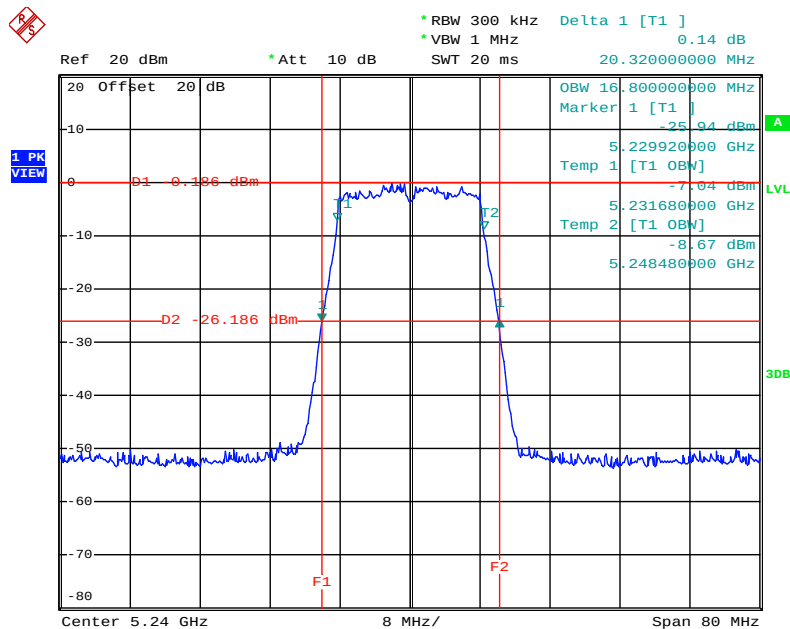
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26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 40 / Ant. 2



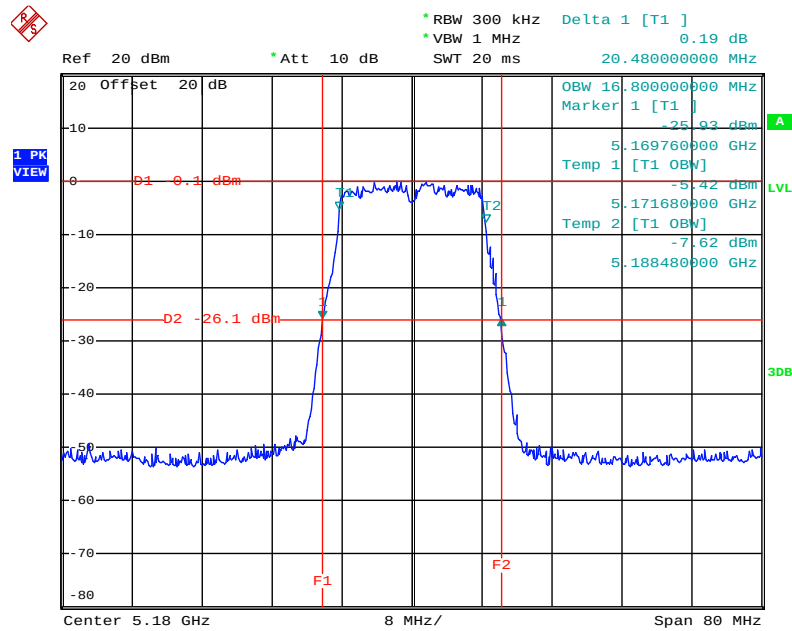
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26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 48 / Ant. 2



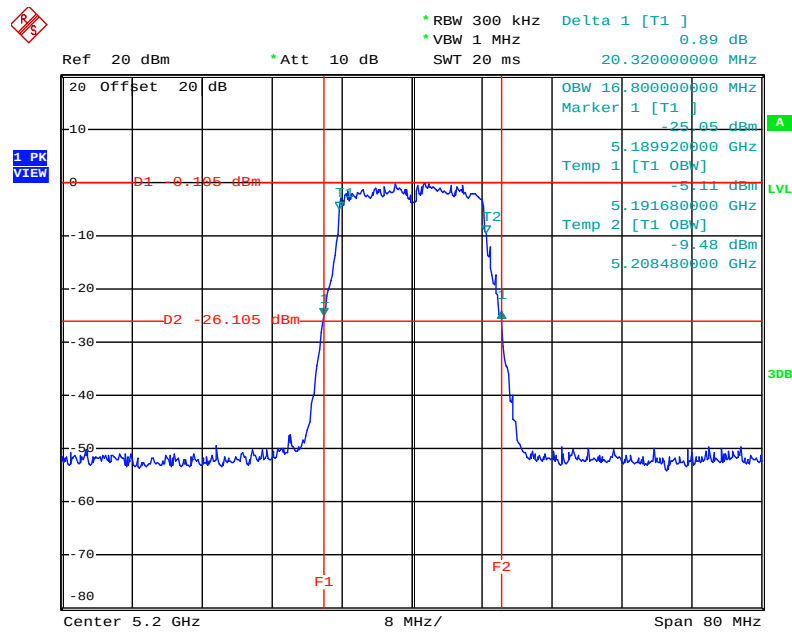
Date: 14.FEB.2014 13:16:34

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 36 / Ant. 3



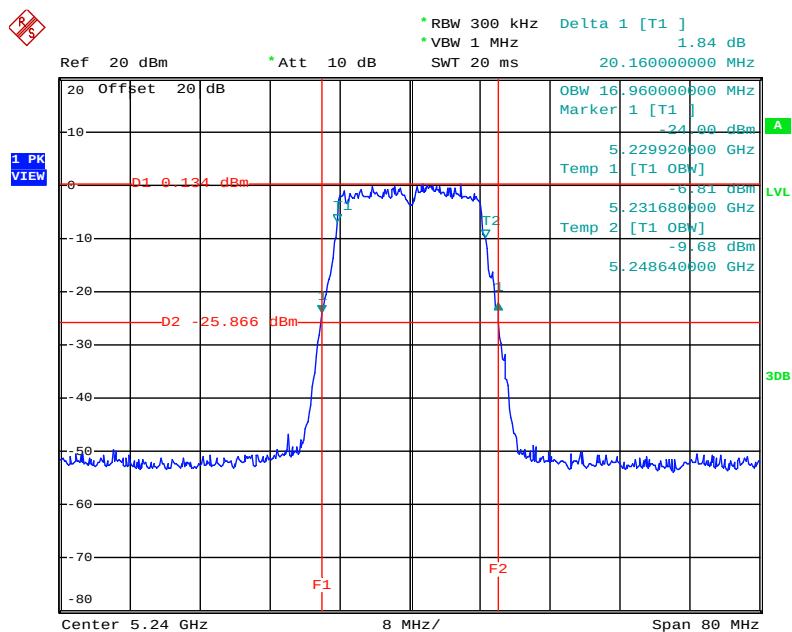
Date: 14.FEB.2014 13:13:05

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 40 / Ant. 3



Date: 14.FEB.2014 13:15:01

26dB Bandwidth Plot on Configuration IEEE 802.11a / CH 48 / Ant. 3



Date: 14.FEB.2014 13:17:06

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 2: 98.72% Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.29%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 2>

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Data Rate / MCS
36	5180 MHz	20.80	17.92	Nss1MCS0
40	5200 MHz	20.80	17.92	Nss1MCS0
48	5240 MHz	20.64	17.92	Nss1MCS0

<Nss1MCS0, Ant. 1+2+3, CDD>

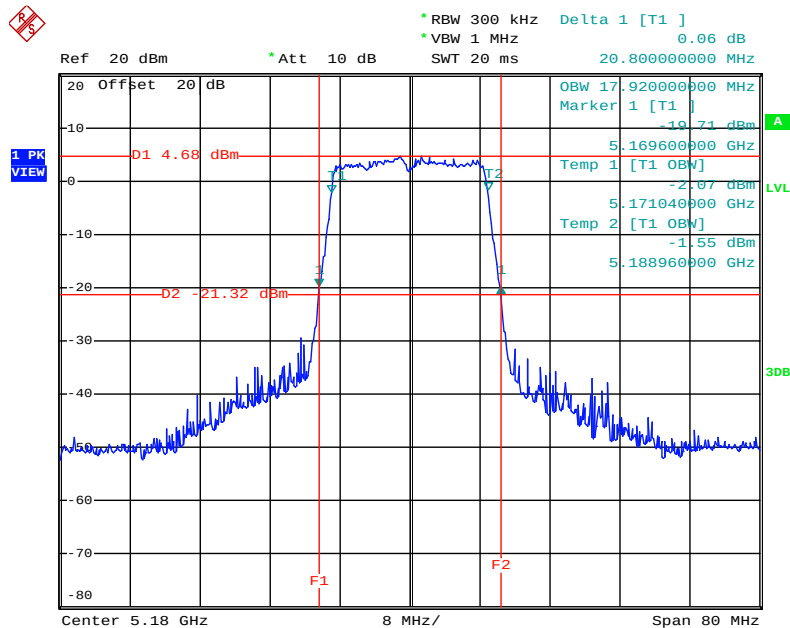
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
36	5180 MHz	20.80	20.32	20.80	18.08	17.92	17.92	Nss1MCS0
40	5200 MHz	20.80	20.64	20.64	18.08	17.92	17.92	Nss1MCS0
48	5240 MHz	20.64	20.32	20.32	17.92	17.92	17.92	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
36	5180 MHz	20.62	20.48	20.32	17.92	17.92	18.08	Nss2MCS0
40	5200 MHz	20.48	20.16	20.48	17.92	17.92	17.92	Nss2MCS0
48	5240 MHz	20.48	20.32	20.64	17.92	17.76	17.92	Nss2MCS0

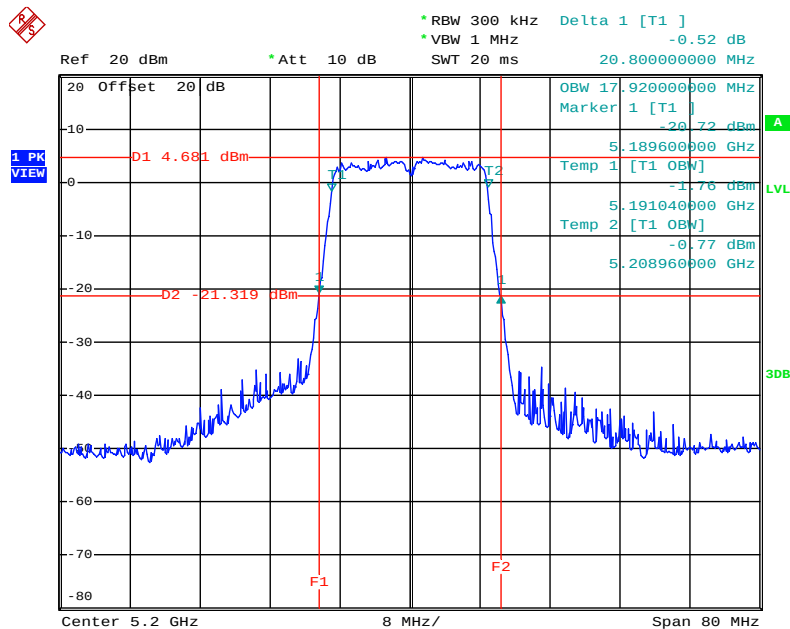
For <Nss1MCS0, Ant. 2>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 2



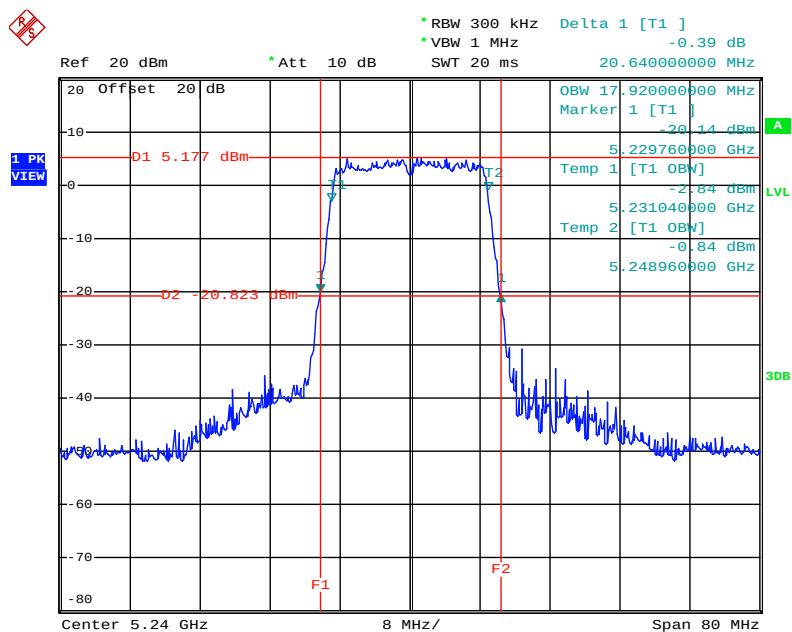
Date: 14.FEB.2014 13:23:36

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 2



Date: 14.FEB.2014 13:24:50

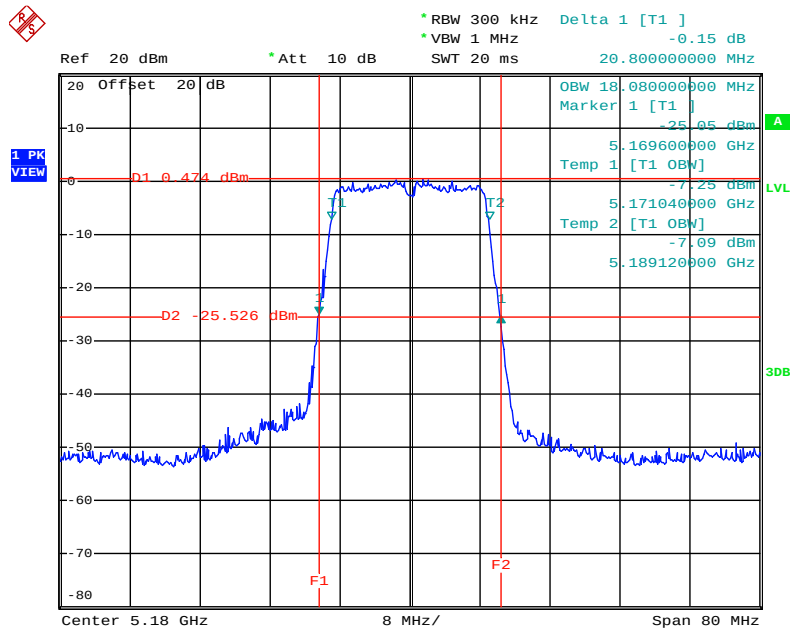
26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 2



Date: 14.FEB.2014 13:25:39

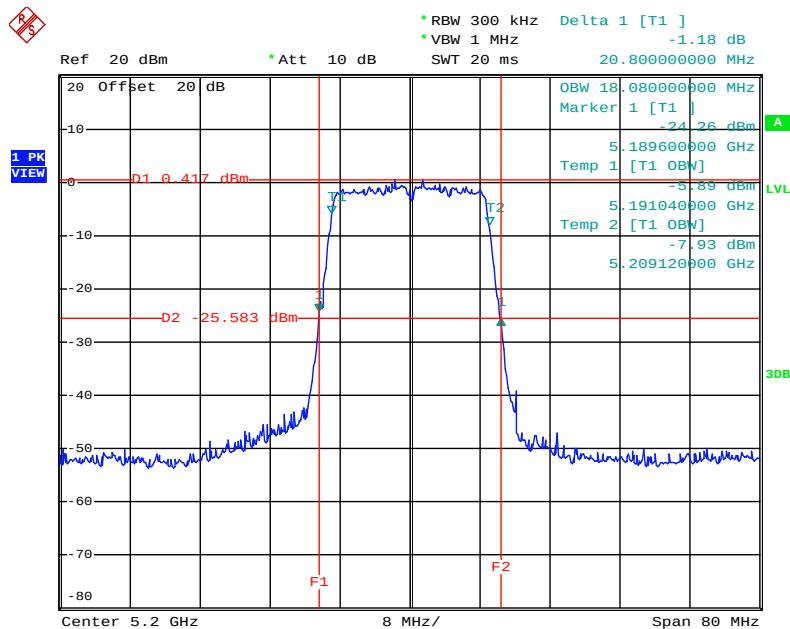
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 1



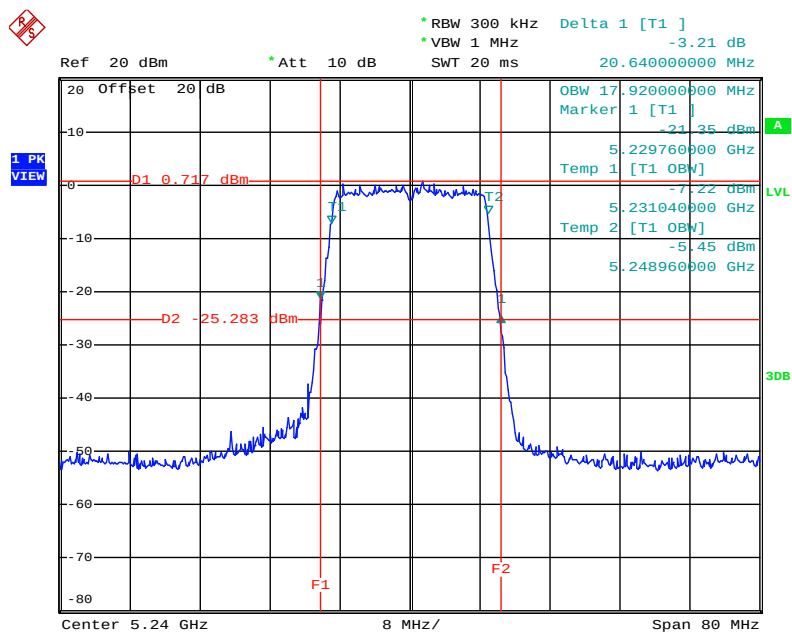
Date: 14.FEB.2014 13:31:50

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 1



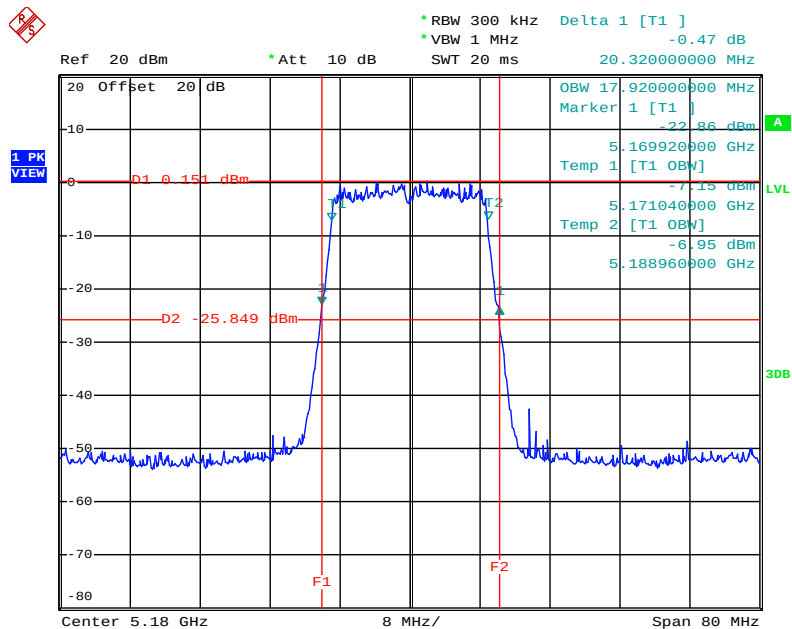
Date: 14.FEB.2014 13:34:00

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 1



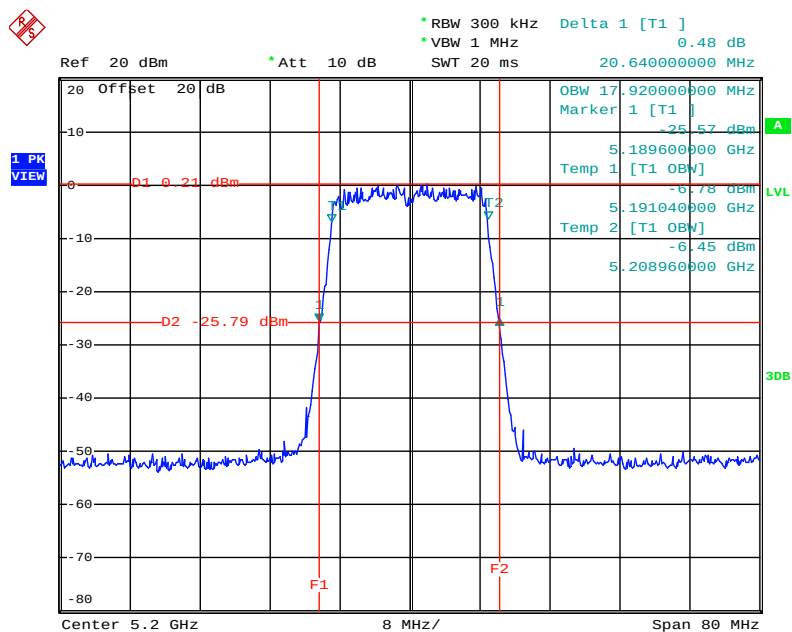
Date: 14.FEB.2014 13:36:11

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 2



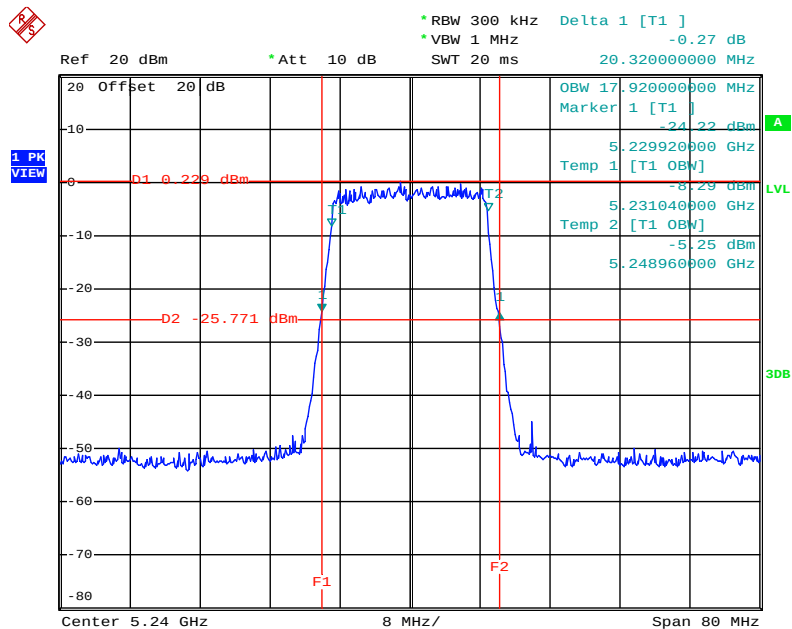
Date: 14.FEB.2014 13:32:22

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 2



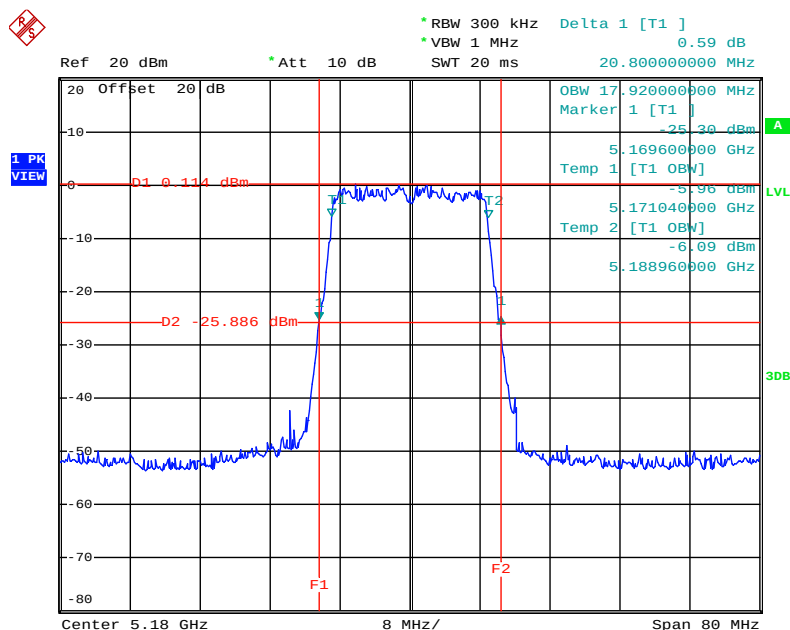
Date: 14.FEB.2014 13:34:30

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 2



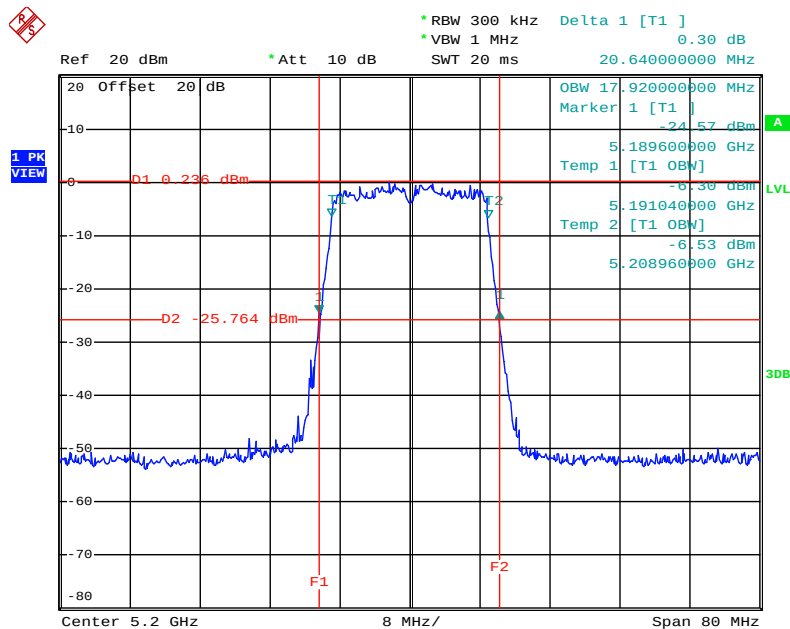
Date: 14.FEB.2014 13:36:53

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 3



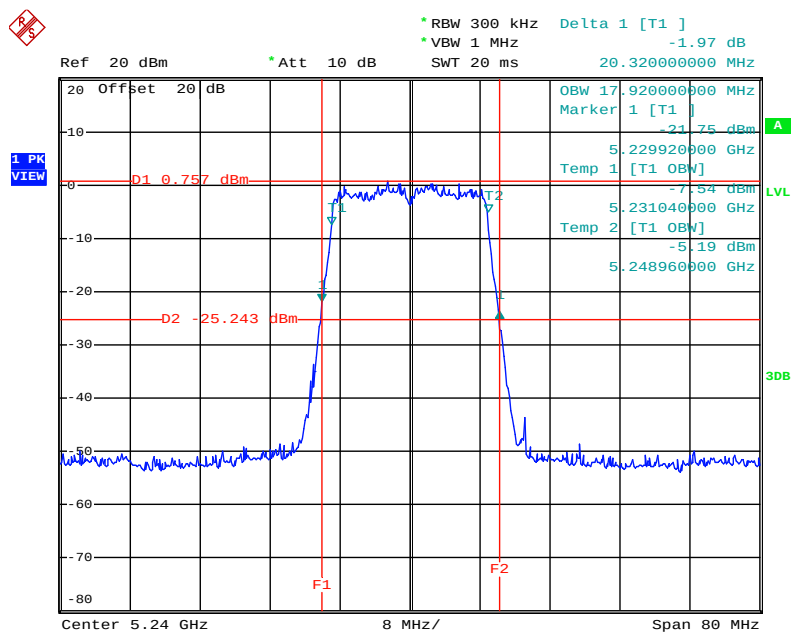
Date: 14.FEB.2014 13:33:08

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 3



Date: 14.FEB.2014 13:35:09

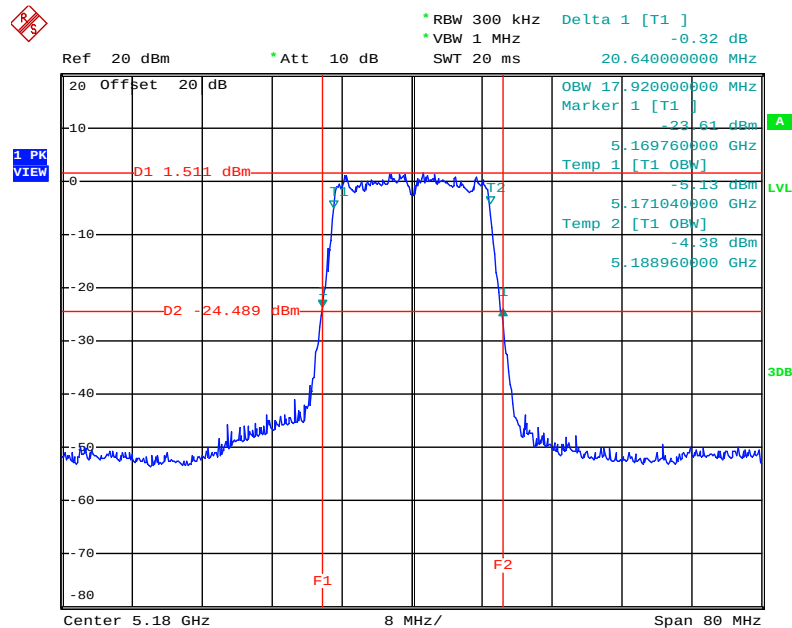
26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 3



Date: 14.FEB.2014 13:37:55

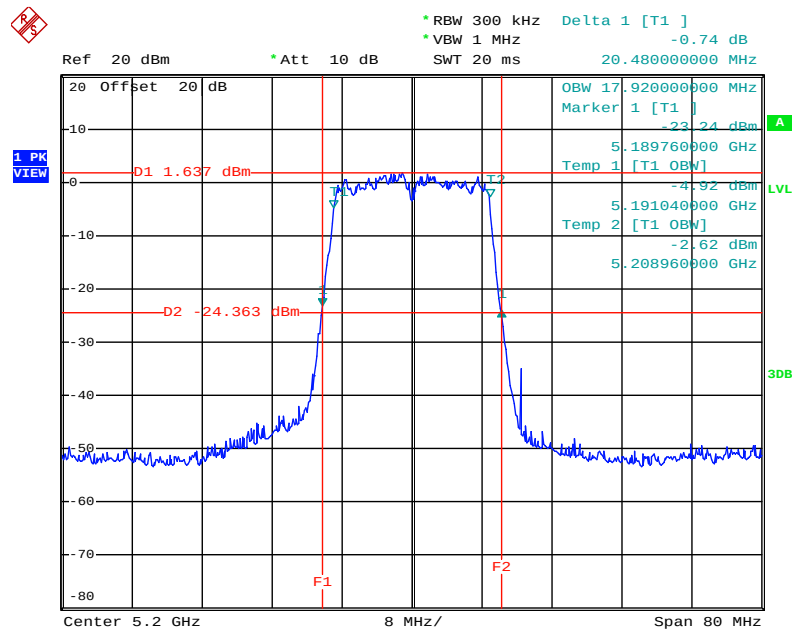
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 1



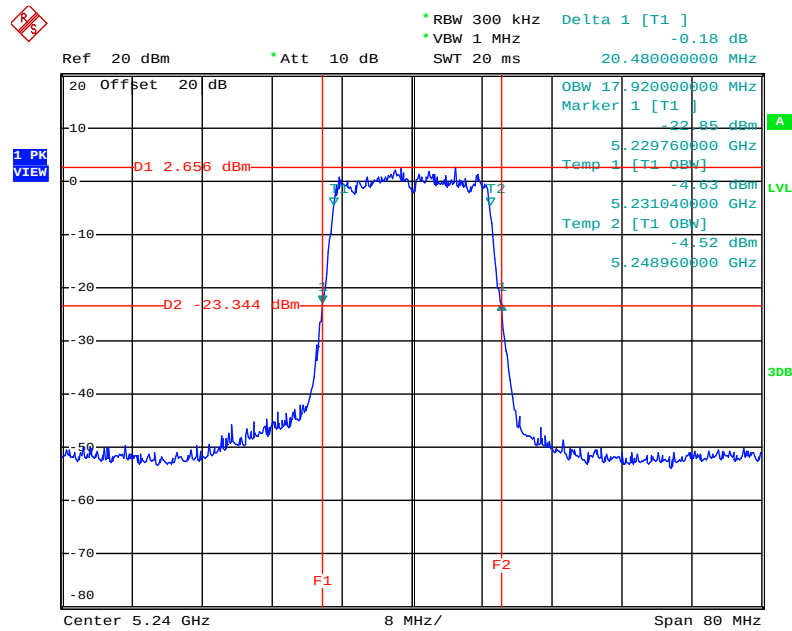
Date: 14.FEB.2014 13:41:41

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 1



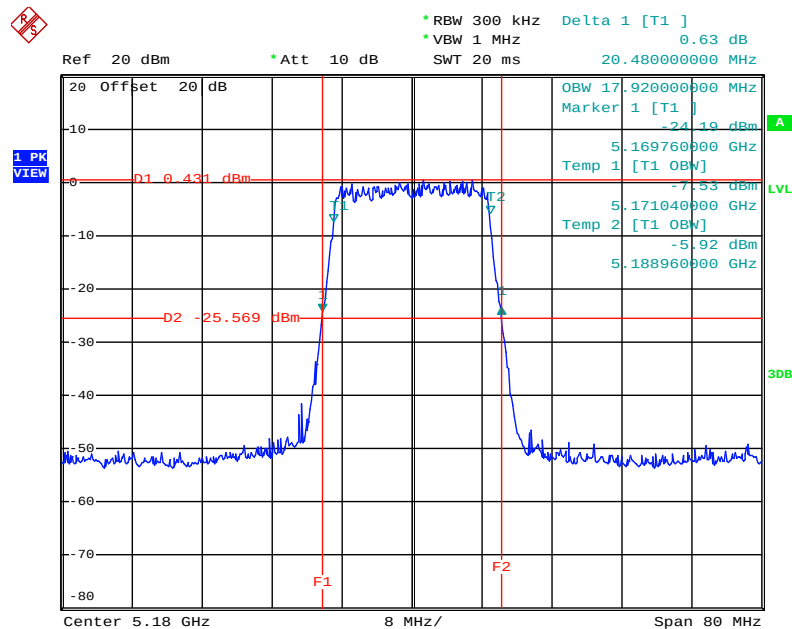
Date: 14.FEB.2014 13:44:31

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 1



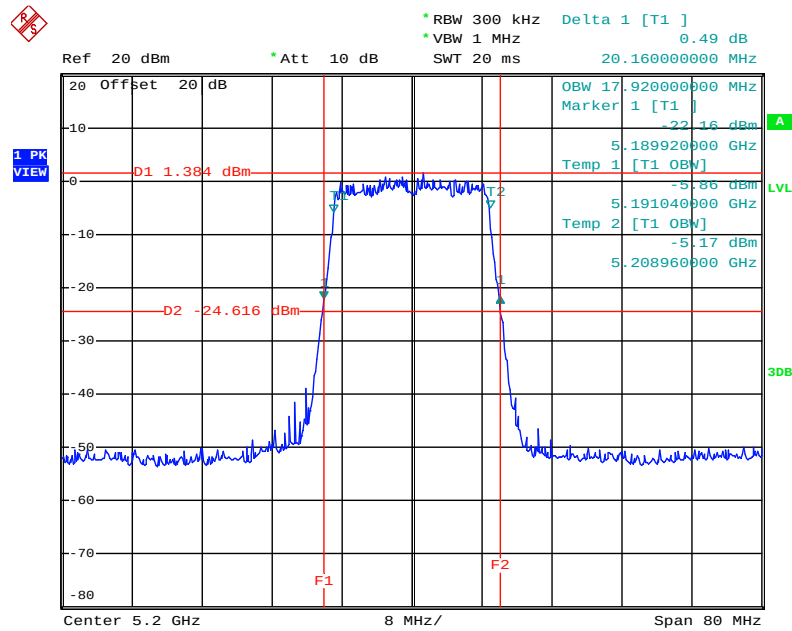
Date: 14.FEB.2014 13:47:55

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 2



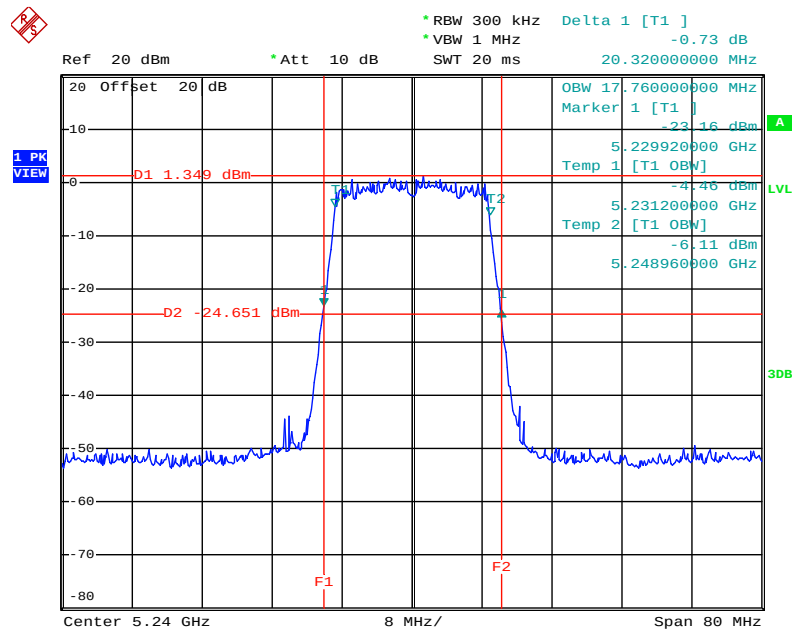
Date: 14.FEB.2014 13:42:17

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 2



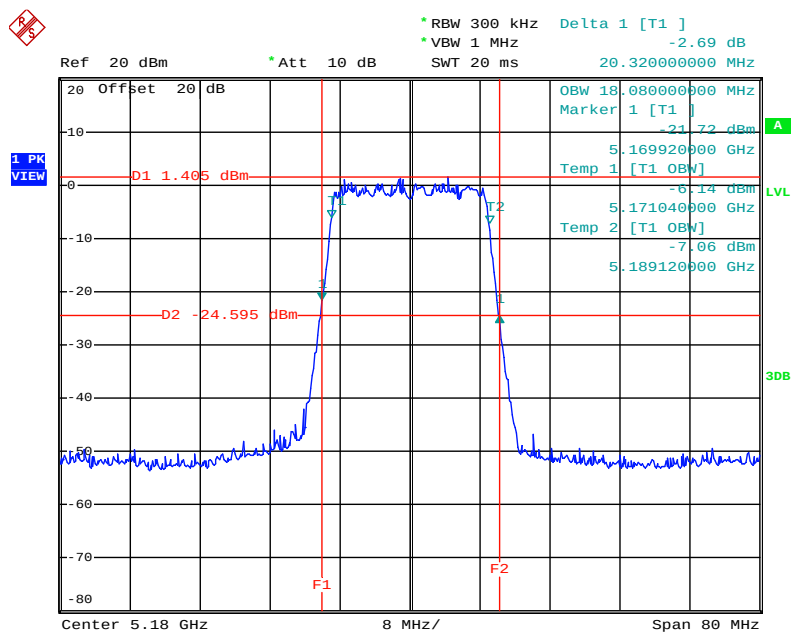
Date: 14.FEB.2014 13:45:07

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 2



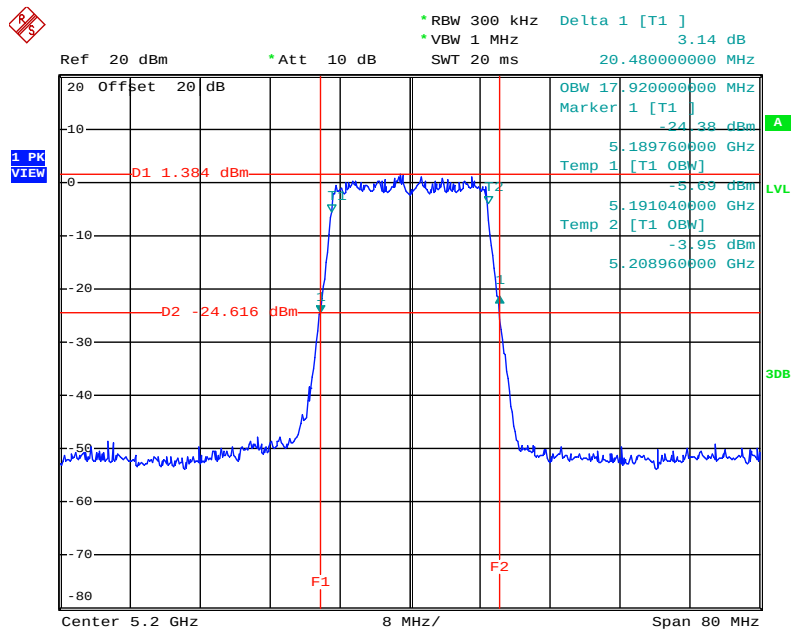
Date: 14.FEB.2014 13:47:19

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 3



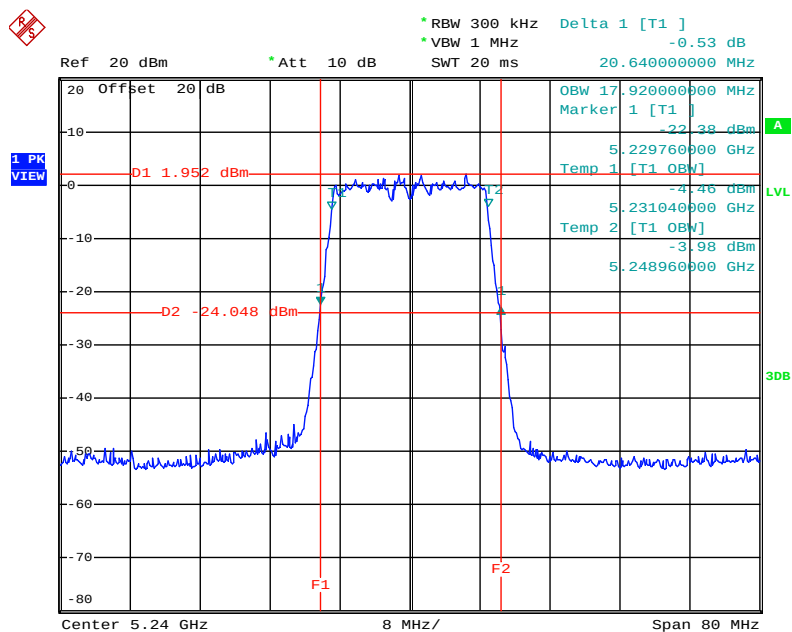
Date: 14.FEB.2014 13:43:37

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 3



Date: 14.FEB.2014 13:45:55

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 3



Date: 14.FEB.2014 13:46:49

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 3: 97.95% Nss1MCS0, Ant. 1+2+3, CDD: 97.95% Nss2MCS0, Ant. 1+2+3, CDD: 96.19%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 3>

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Data Rate / MCS
38	5190 MHz	39.36	36.48	Nss1MCS0
46	5230 MHz	39.36	36.48	Nss1MCS0

<Nss1MCS0, Ant. 1+2+3, CDD>

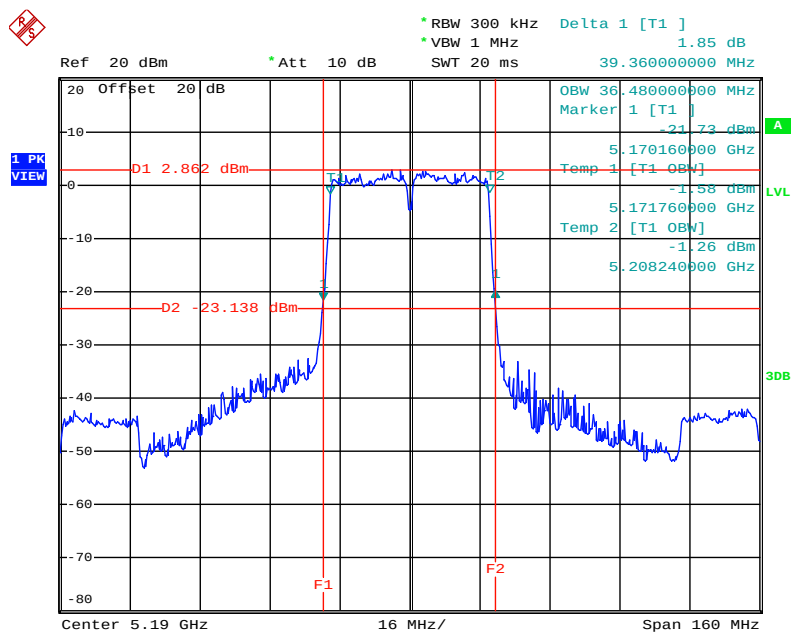
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
38	5190 MHz	39.68	39.36	39.36	36.48	36.48	36.48	Nss1MCS0
46	5230 MHz	39.04	38.72	39.04	36.48	36.48	36.48	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
38	5190 MHz	39.04	39.04	39.04	36.48	36.48	36.48	Nss2MCS0
46	5230 MHz	39.04	39.36	39.36	36.48	36.48	36.48	Nss2MCS0

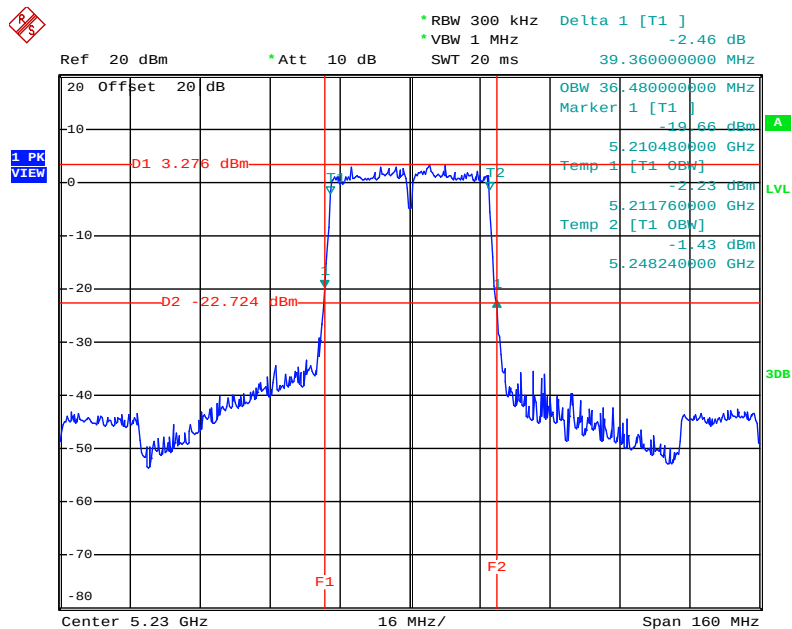
For <Nss1MCS0, Ant. 3>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 3



Date: 14.FEB.2014 13:54:06

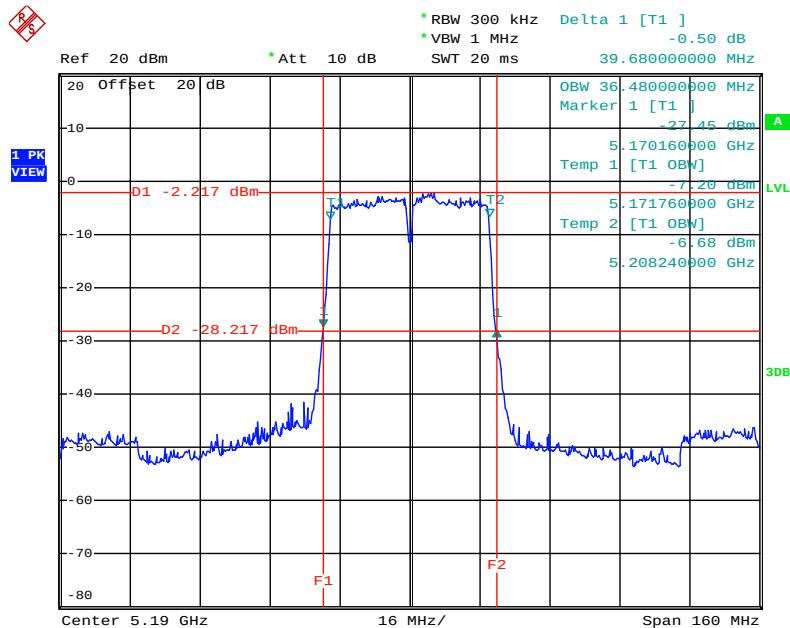
26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 3



Date: 14.FEB.2014 13:56:02

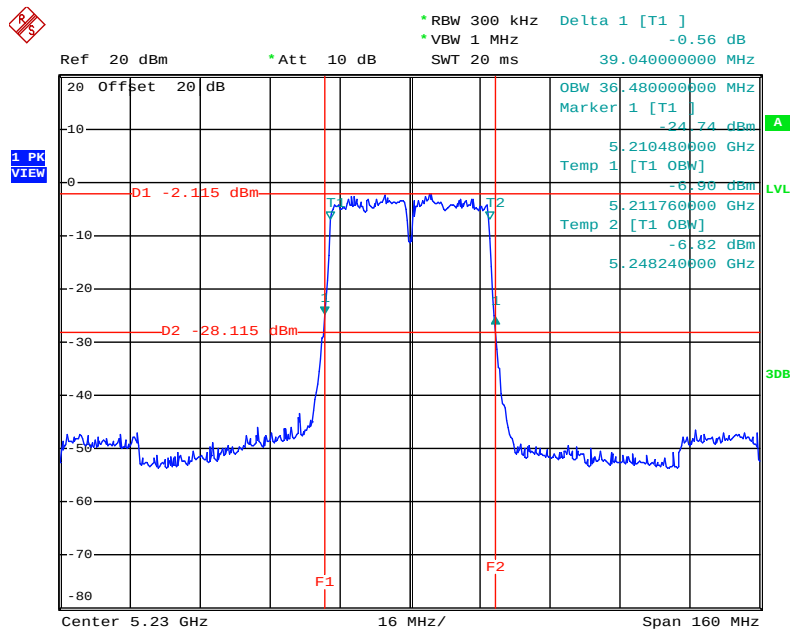
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 1



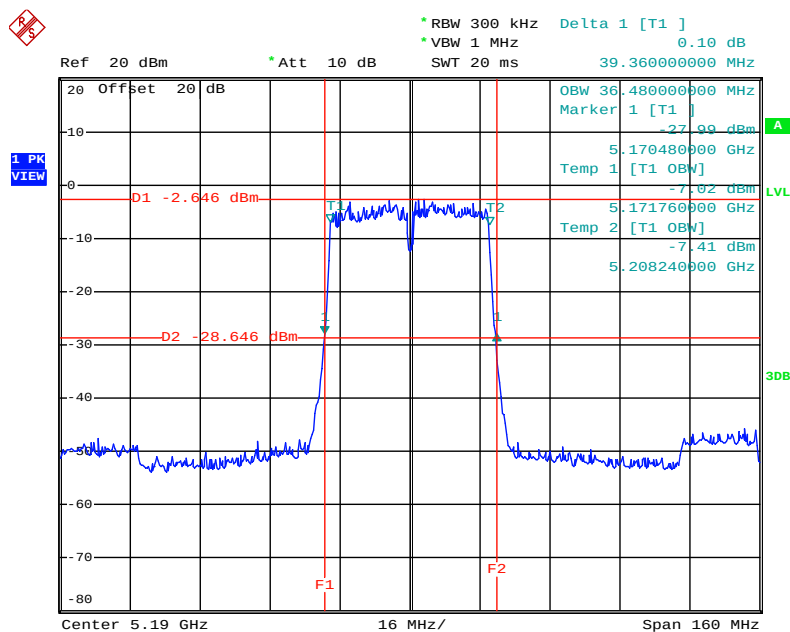
Date: 14.FEB.2014 14:00:44

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 1



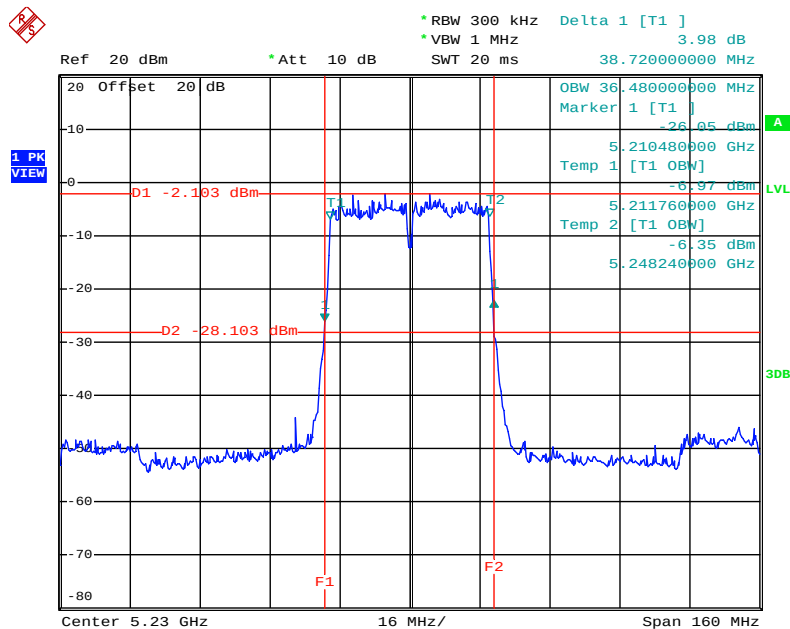
Date: 14.FEB.2014 14:04:31

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 2



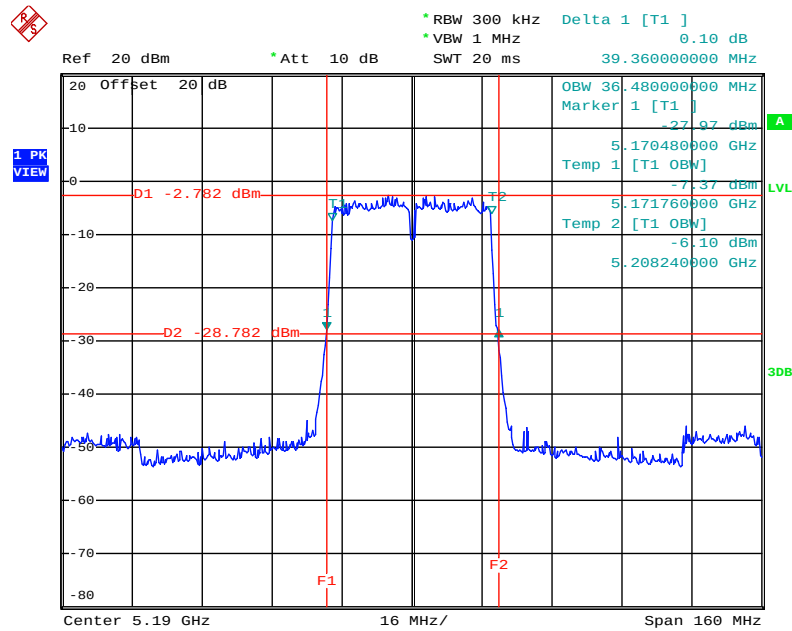
Date: 14.FEB.2014 14:01:43

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 2



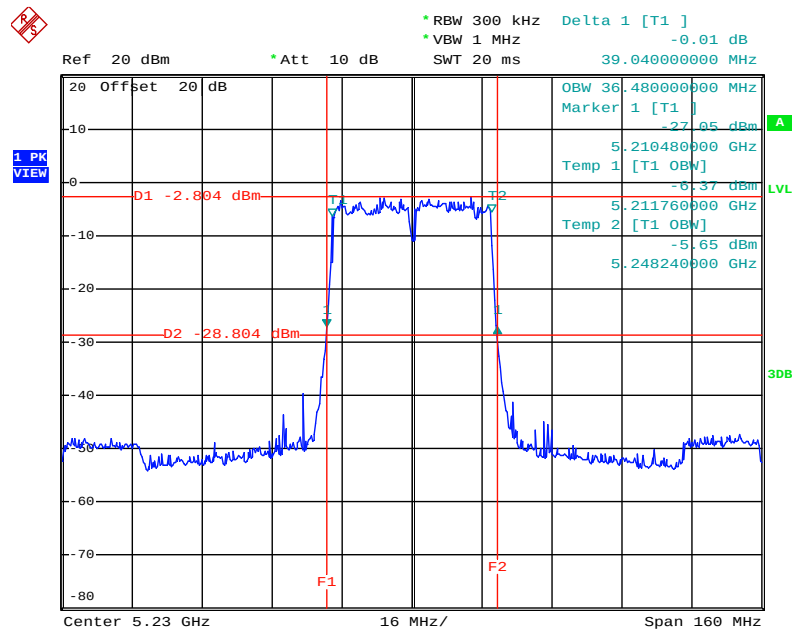
Date: 14.FEB.2014 14:05:16

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 3



Date: 14.FEB.2014 14:02:24

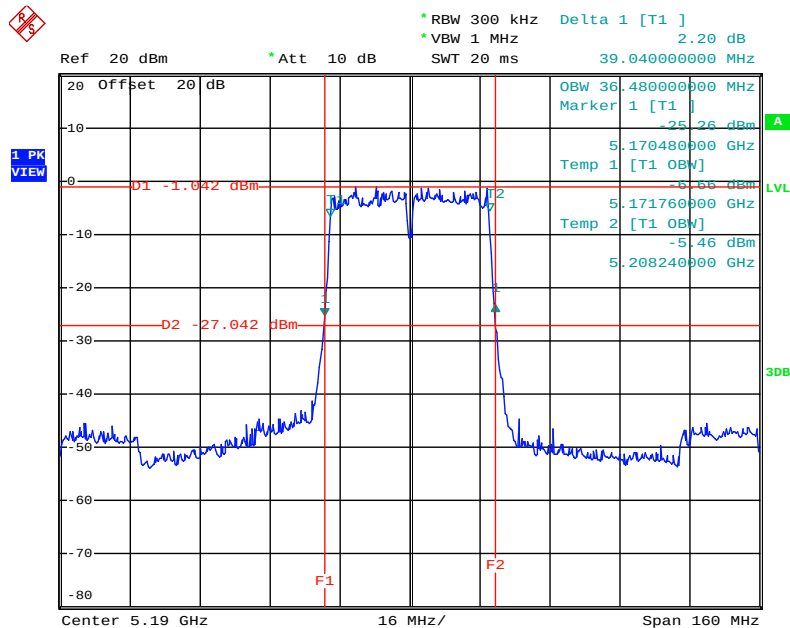
26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 3



Date: 14.FEB.2014 14:05:48

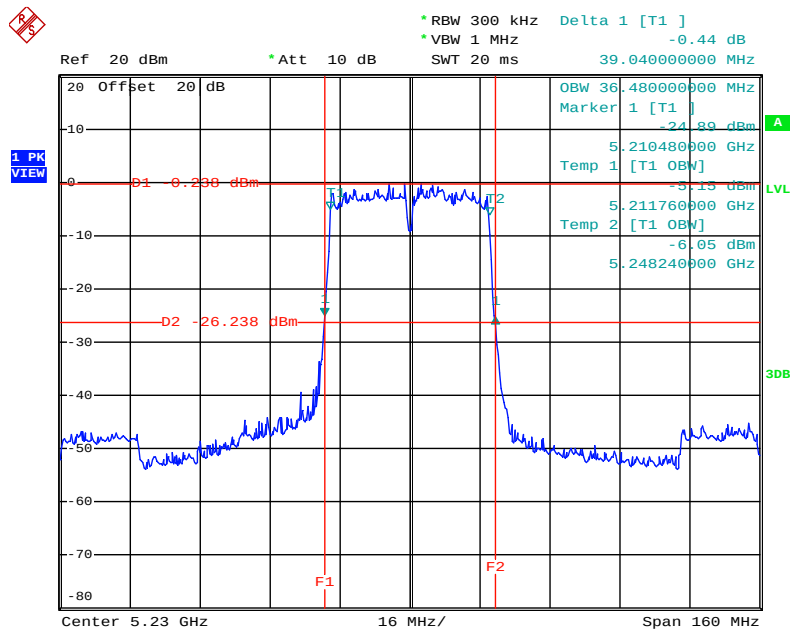
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 1



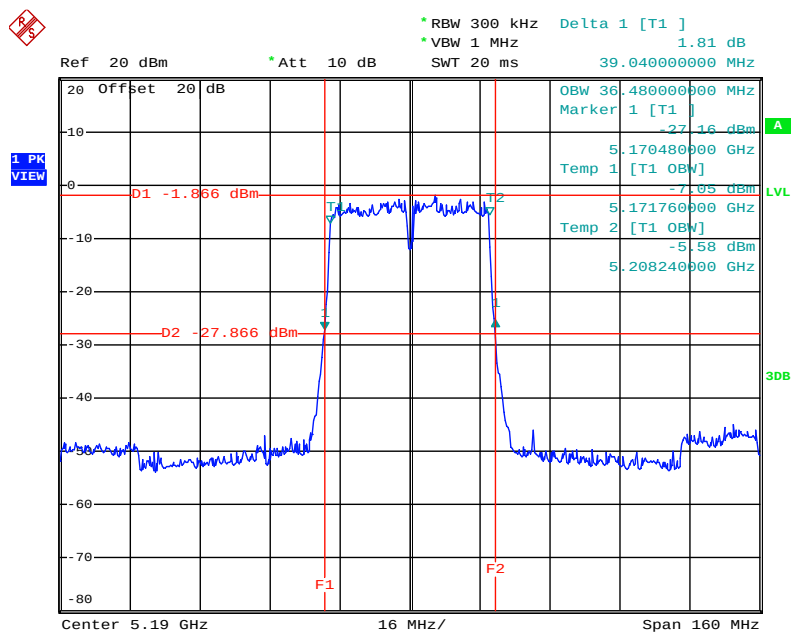
Date: 14.FEB.2014 14:08:10

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 1



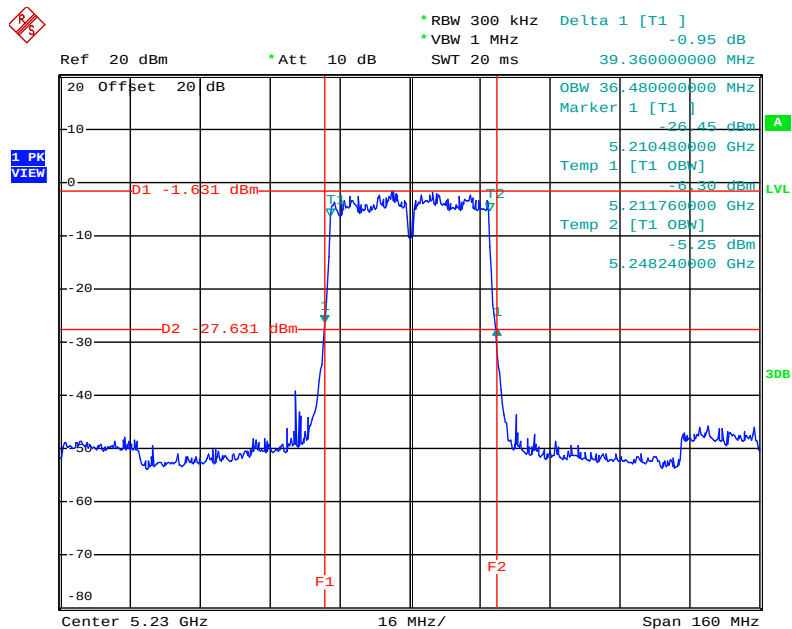
Date: 14.FEB.2014 14:09:16

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 2



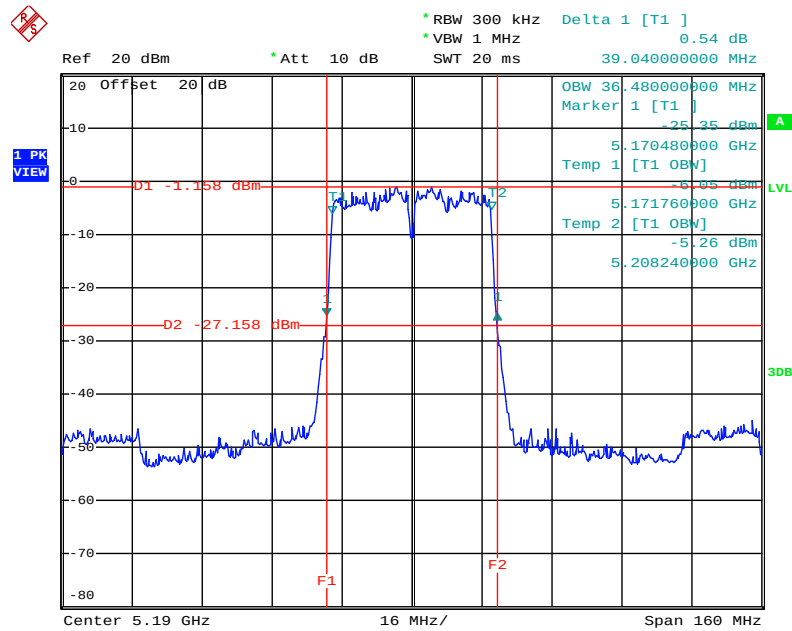
Date: 14.FEB.2014 14:07:37

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 2



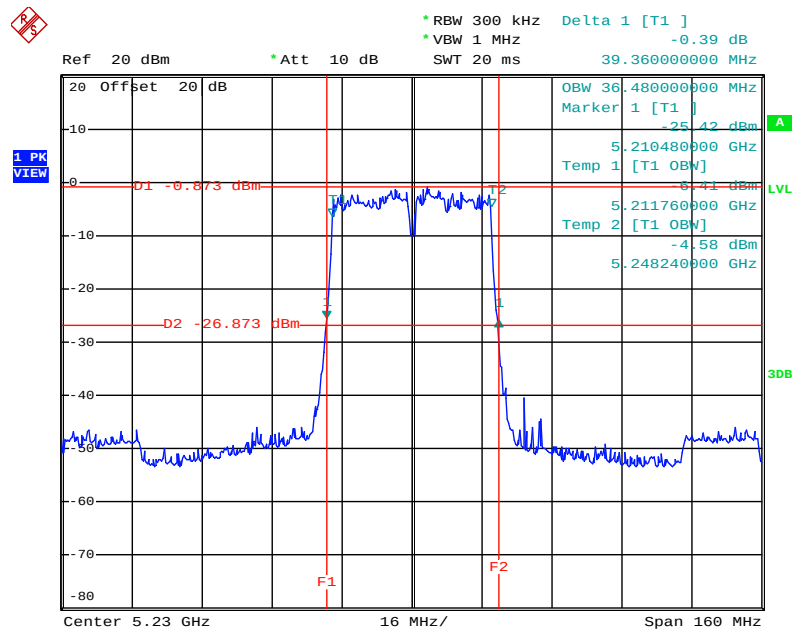
Date: 14.FEB.2014 14:09:51

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 3



Date: 14.FEB.2014 14:07:03

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 3



Date: 14.FEB.2014 14:10:19

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 3: 95.87% Nss1MCS0, Ant. 1+2+3, CDD: 95.87% Nss2MCS0, Ant. 1+2+3, CDD: 91.48%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 3>

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Data Rate / MCS
42	5210 MHz	80.64	76.16	Nss1MCS0

<Nss1MCS0, Ant. 1+2+3, CDD>

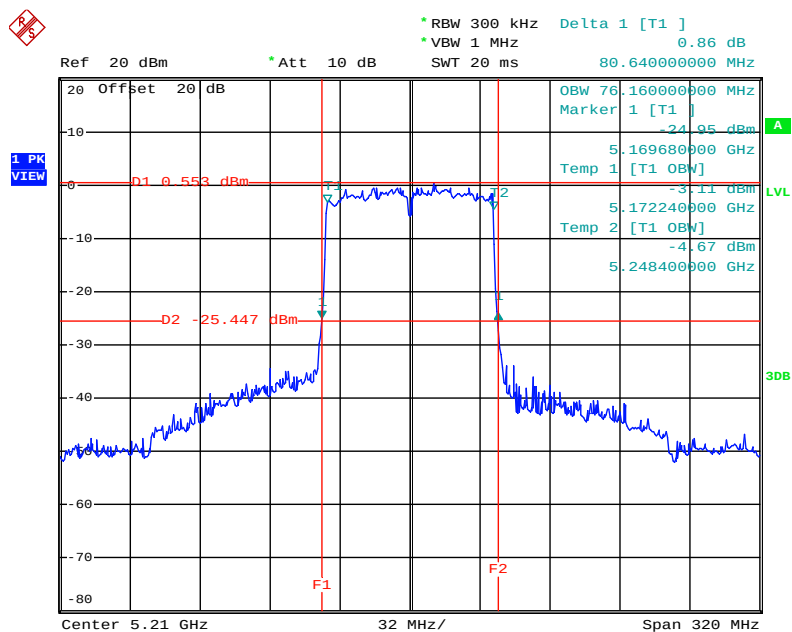
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
42	5210 MHz	80.64	80.00	80.64	76.16	76.16	76.16	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
42	5210 MHz	80.64	80.00	80.00	76.16	76.16	76.16	Nss2MCS0

For <Nss1MCS0, Ant. 3>:

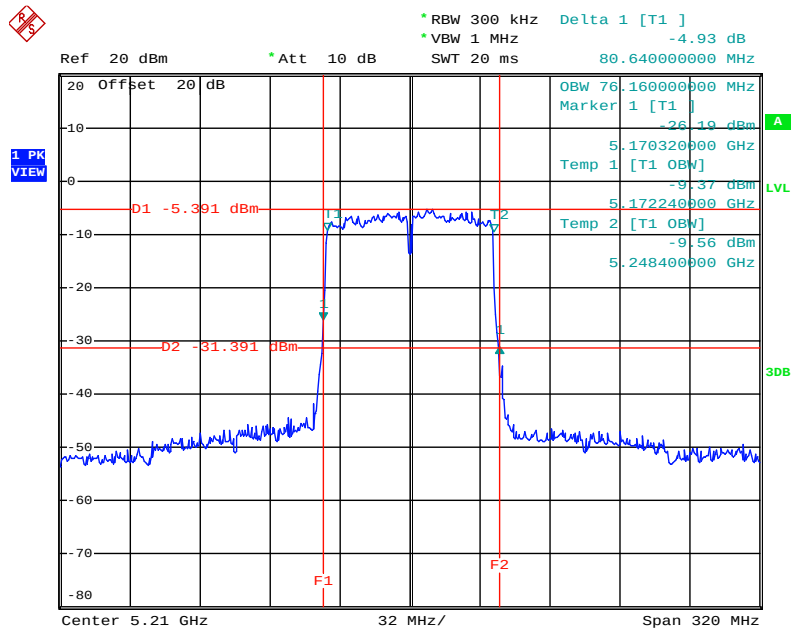
26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 3



Date: 14.FEB.2014 14:14:46

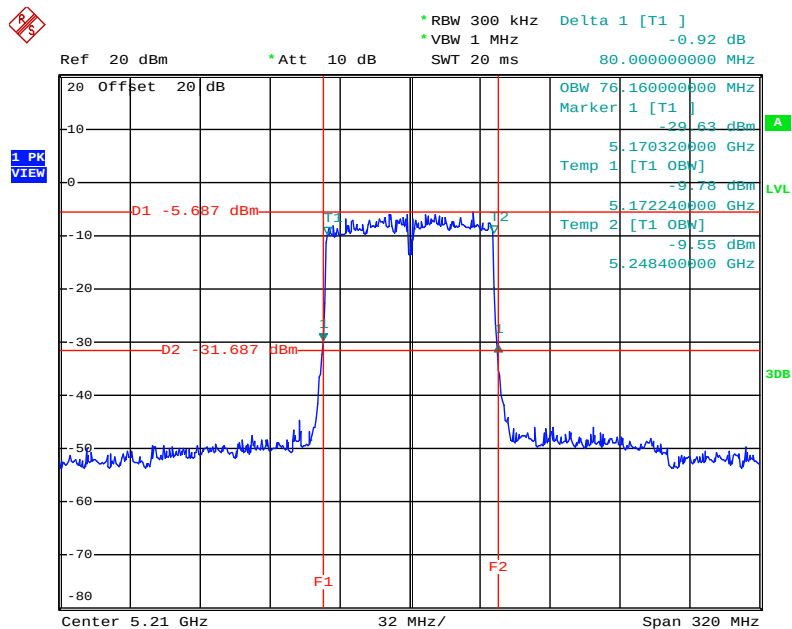
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 1



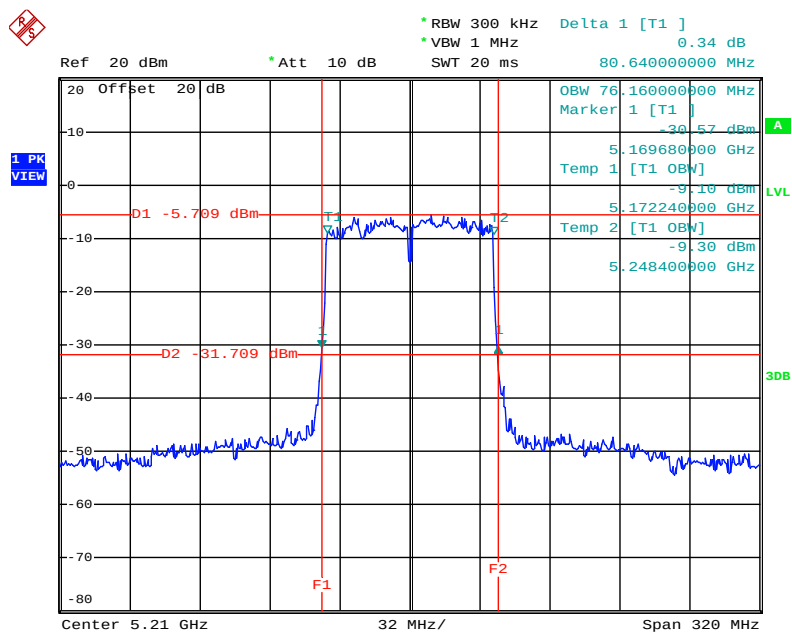
Date: 14.FEB.2014 14:16:41

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 2



Date: 14.FEB.2014 14:17:08

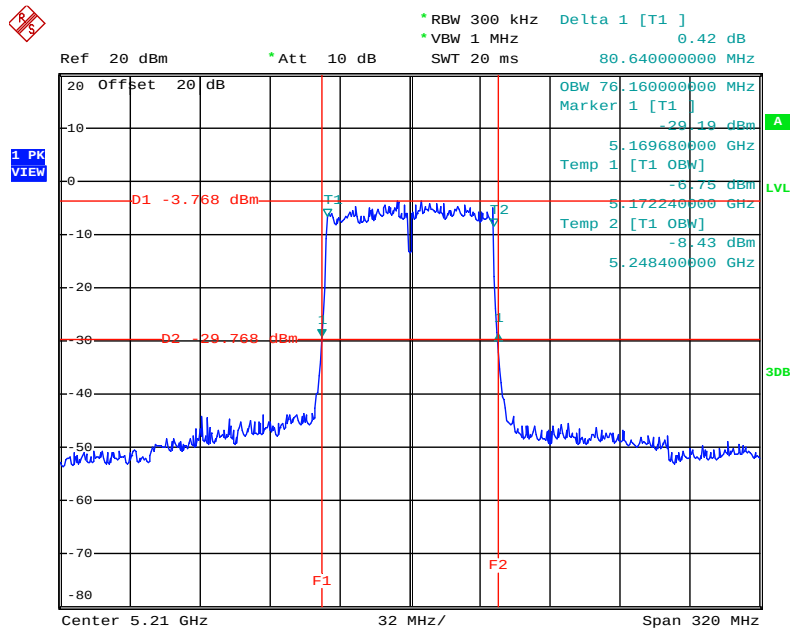
26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 3



Date: 14.FEB.2014 14:18:00

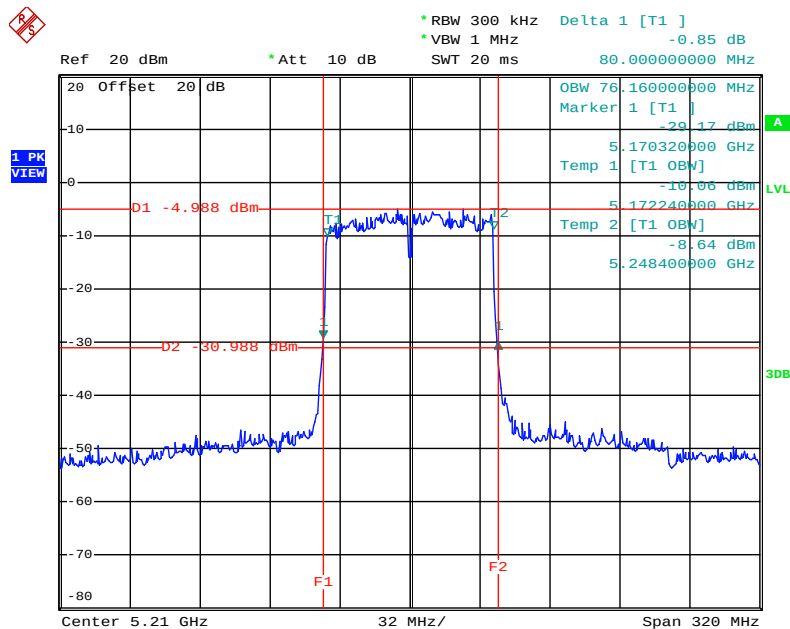
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 1



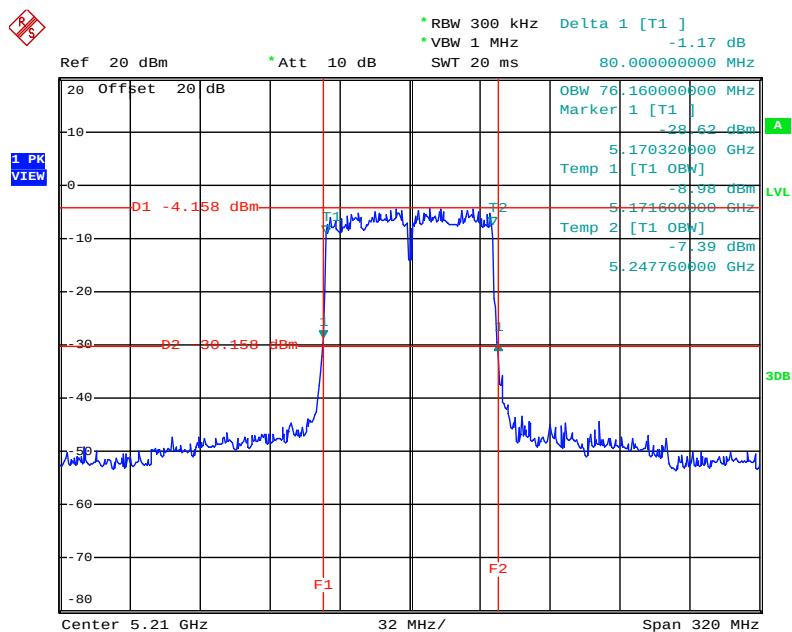
Date: 14.FEB.2014 14:19:06

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 2



Date: 14.FEB.2014 14:19:45

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 3



Date: 14.FEB.2014 14:20:20

For Beamforming

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.29%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

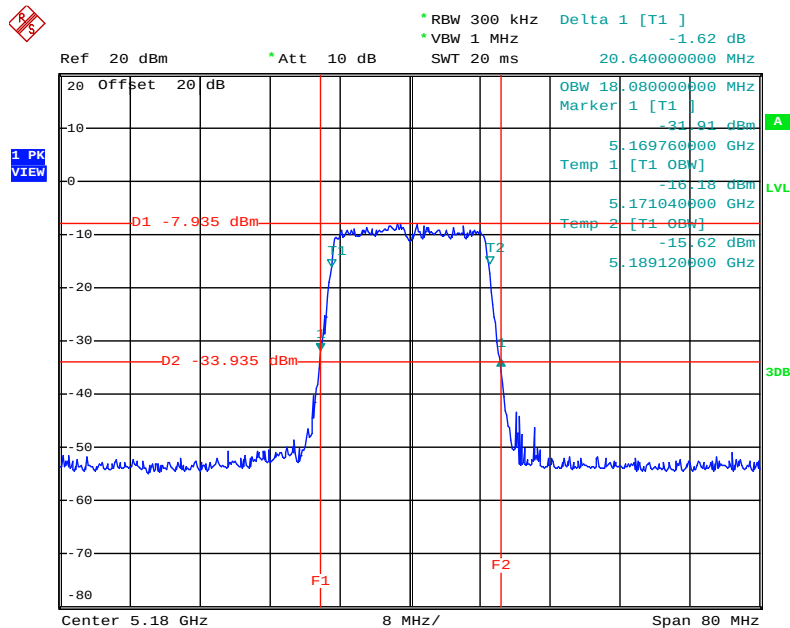
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
36	5180 MHz	20.64	20.64	20.48	18.08	17.92	17.92	Nss1MCS0
40	5200 MHz	20.80	20.80	20.64	18.08	17.92	17.92	Nss1MCS0
48	5240 MHz	20.80	20.48	20.64	18.08	18.08	17.92	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
36	5180 MHz	20.64	20.48	20.48	18.08	17.92	17.92	Nss2MCS0
40	5200 MHz	20.16	20.32	20.48	17.92	17.92	17.92	Nss2MCS0
48	5240 MHz	20.32	20.32	20.48	17.92	17.92	17.92	Nss2MCS0

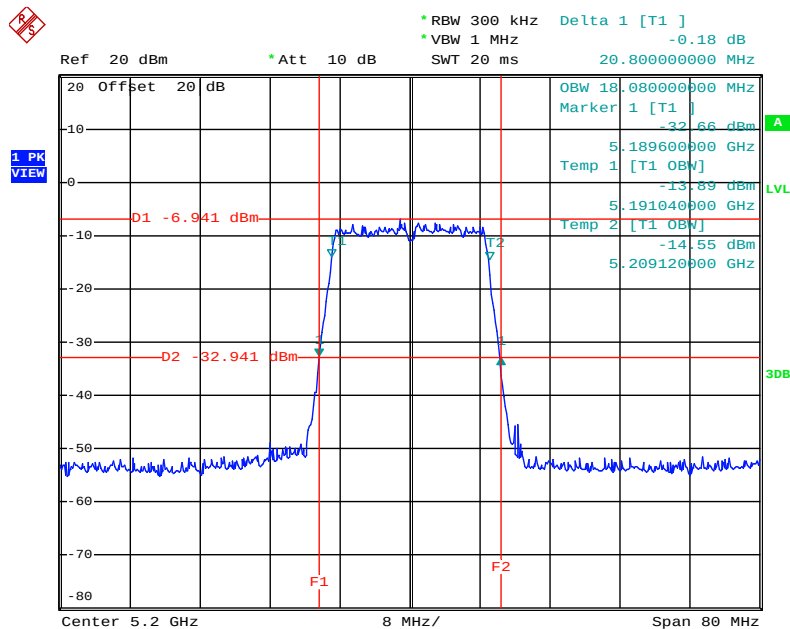
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 1



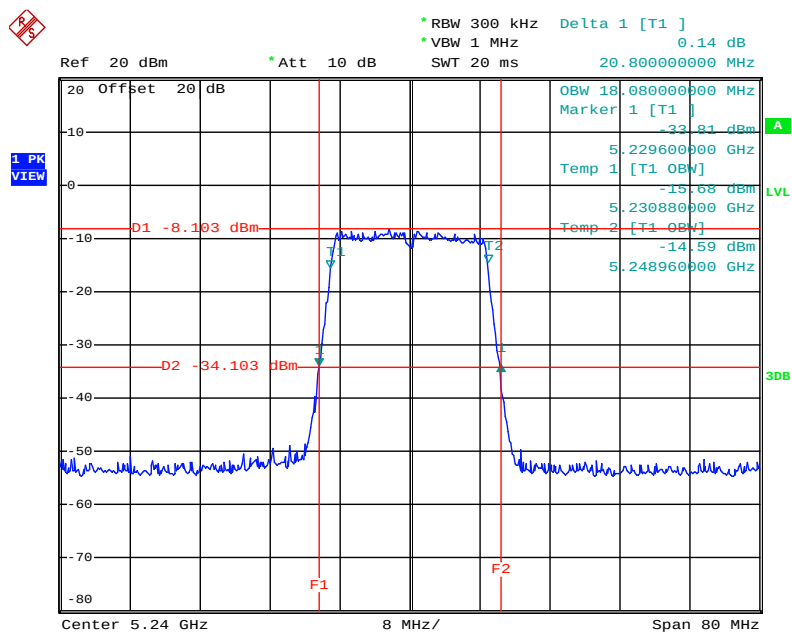
Date: 17.FEB.2014 15:54:00

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 1



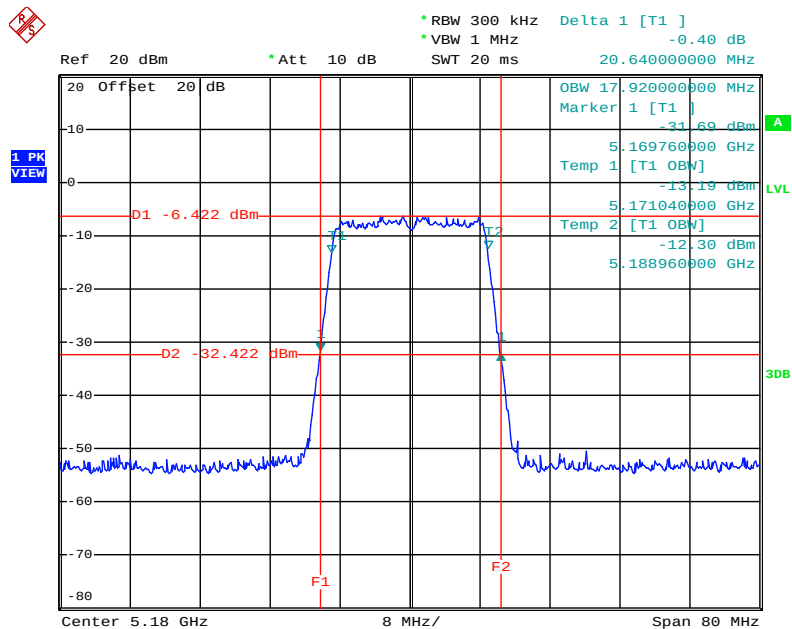
Date: 17.FEB.2014 15:54:45

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 1



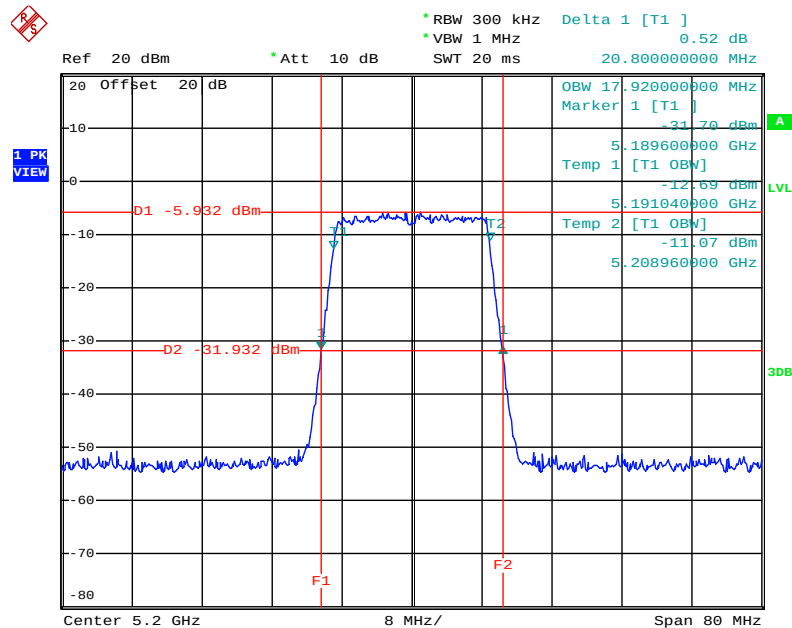
Date: 17.FEB.2014 15:57:08

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 2



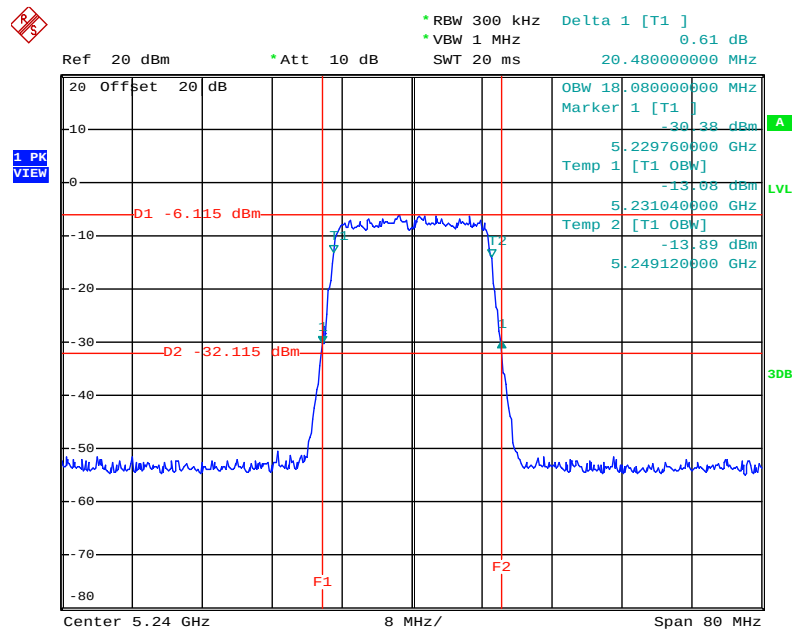
Date: 17.FEB.2014 15:53:19

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 2



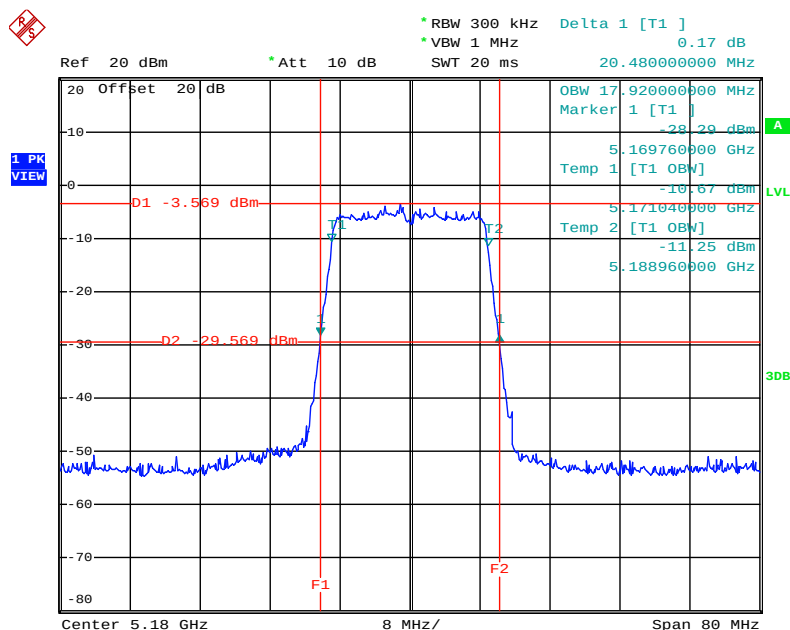
Date: 17.FEB.2014 15:55:10

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 2



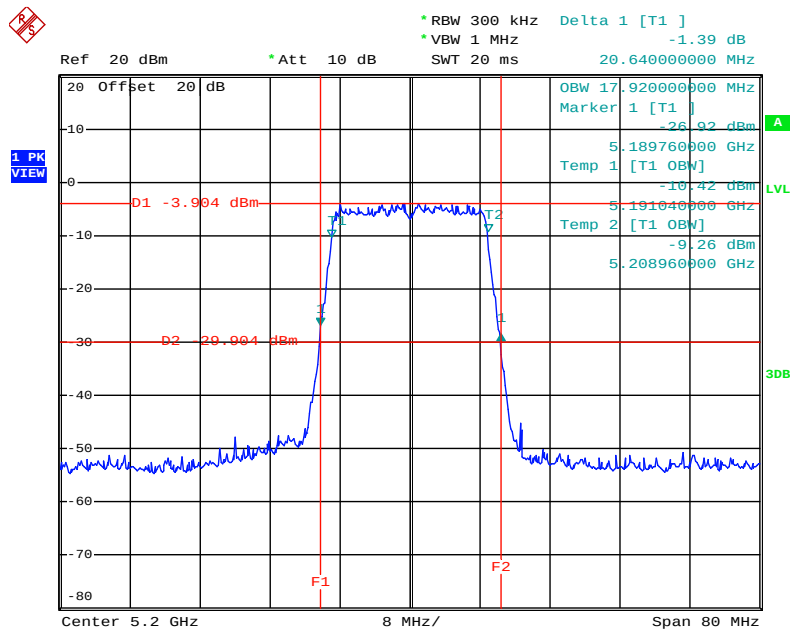
Date: 17.FEB.2014 15:56:42

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 3



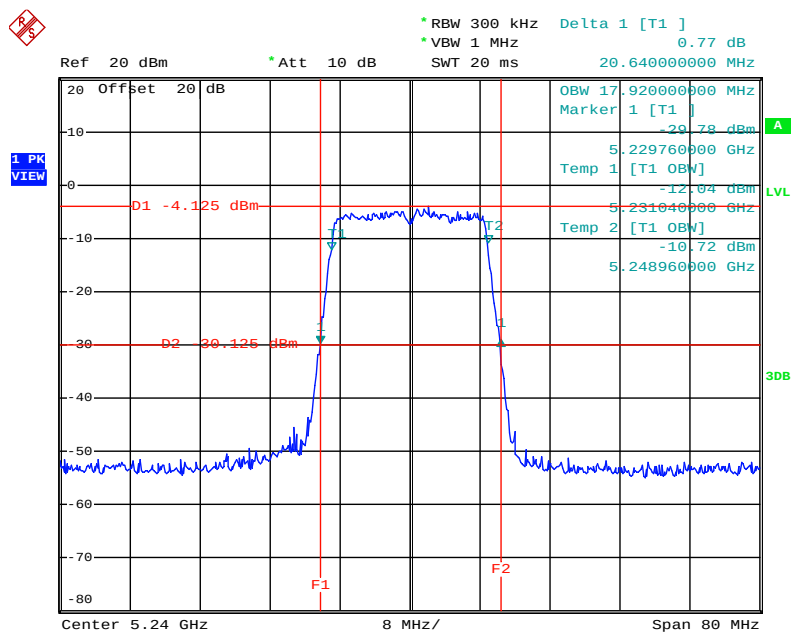
Date: 17.FEB.2014 15:52:54

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 3



Date: 17.FEB.2014 15:55:32

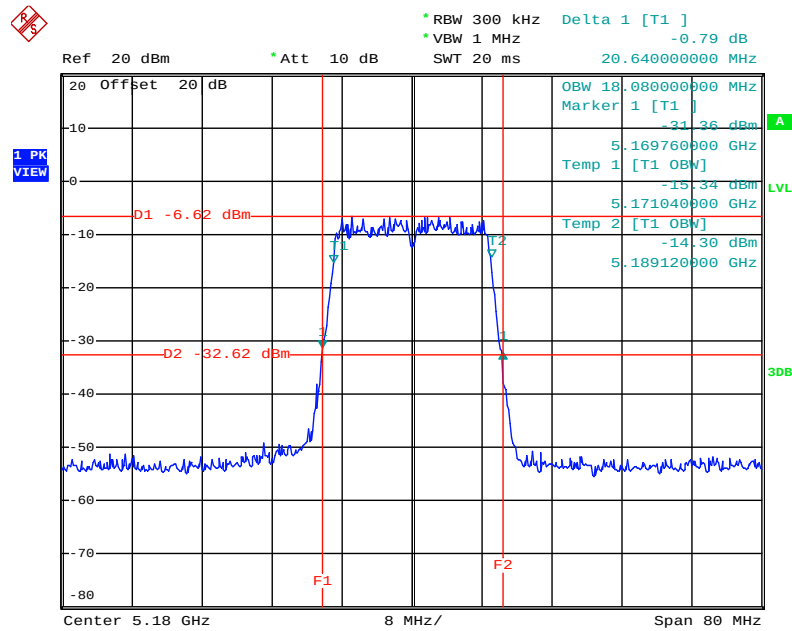
26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 3



Date: 17.FEB.2014 15:56:19

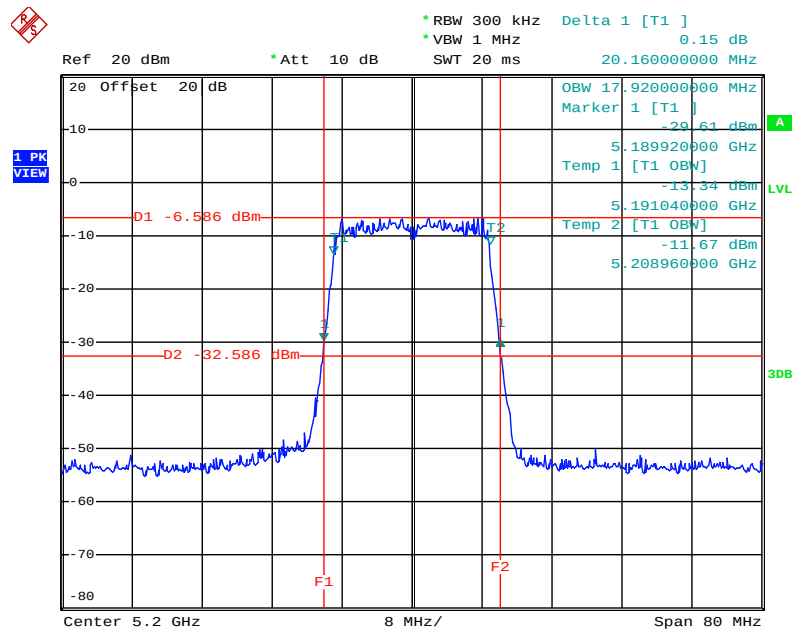
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 1



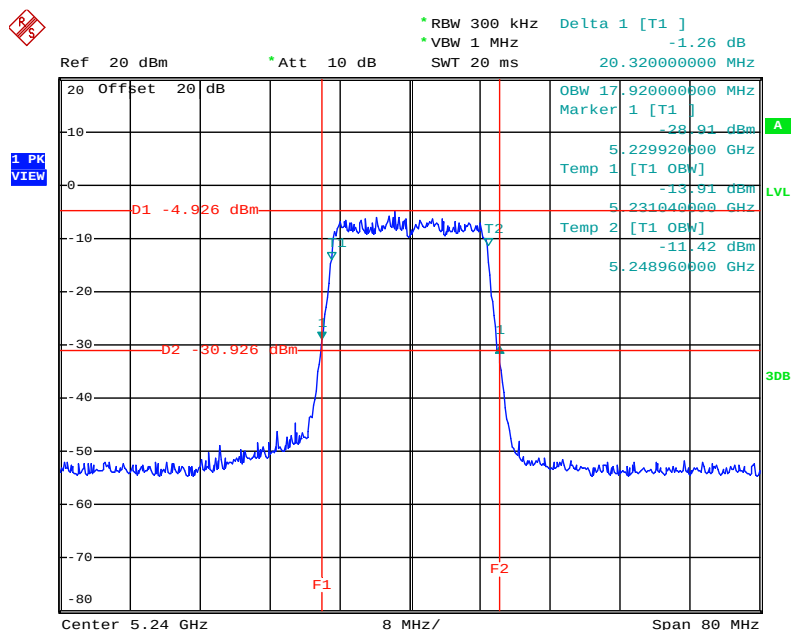
Date: 17.FEB.2014 16:12:24

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 1



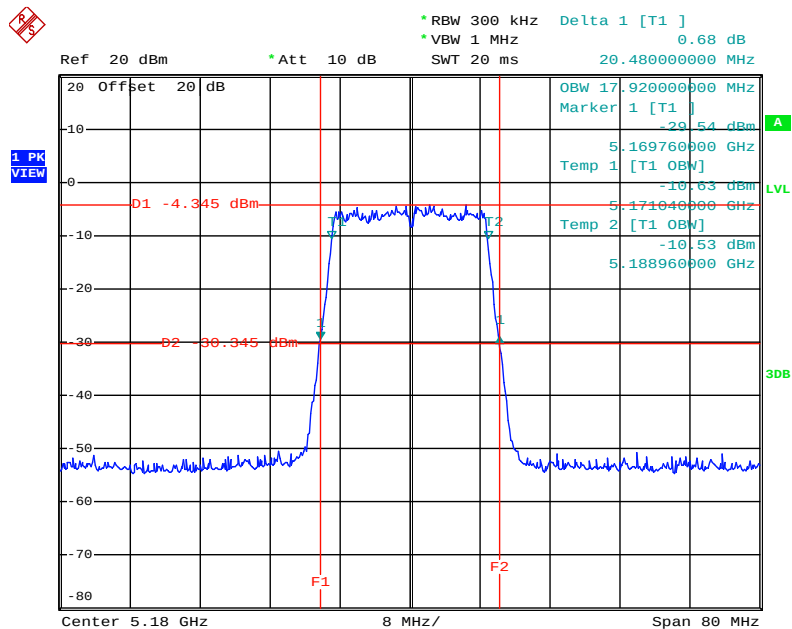
Date: 17.FEB.2014 16:14:40

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 1



Date: 17.FEB.2014 16:15:30

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 2



Date: 17.FEB.2014 16:12:42

RBW 300 kHz Delta 1 [T1]
 VBW 1 MHz -1.51 dB
 SWT 20 ms 20.320000000 MHz
 Ref 20 dBm Att 10 dB

20 Offset 20 dB

1 PK VIEW

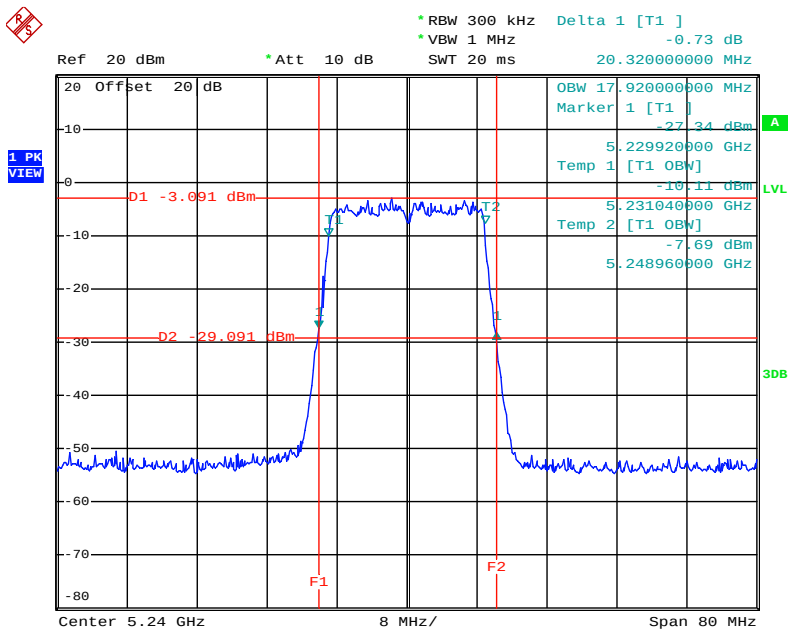
OBW 17.920000000 MHz
 Marker 1 [T1]
 -27.68 dBm
 5.189920000 GHz
 Temp 1 [T1 OBW]
 -9.76 dBm
 5.191040000 GHz
 Temp 2 [T1 OBW]
 -10.22 dBm
 5.208960000 GHz

D1 -3.552 dBm
 D2 -29.552 dBm

F1 F2

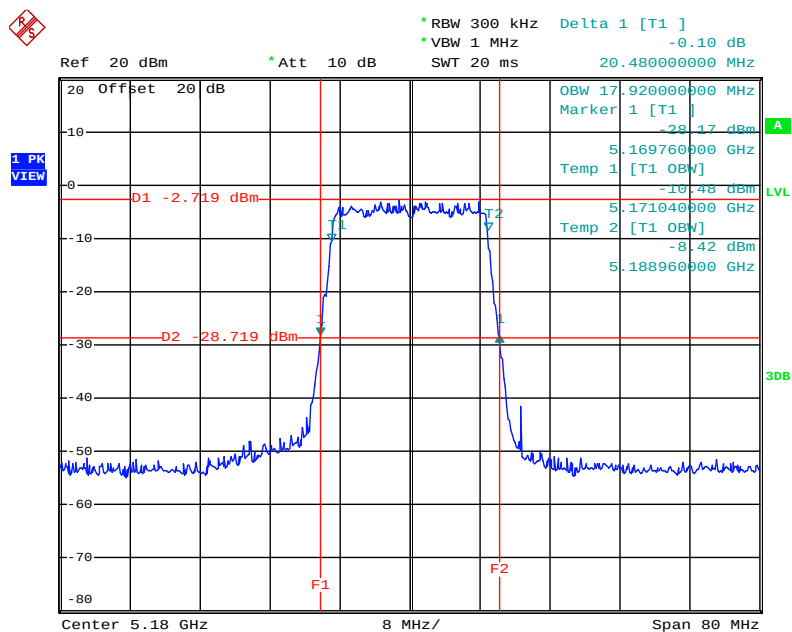
Center 5.2 GHz 8 MHz/
 Span 80 MHz

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 2



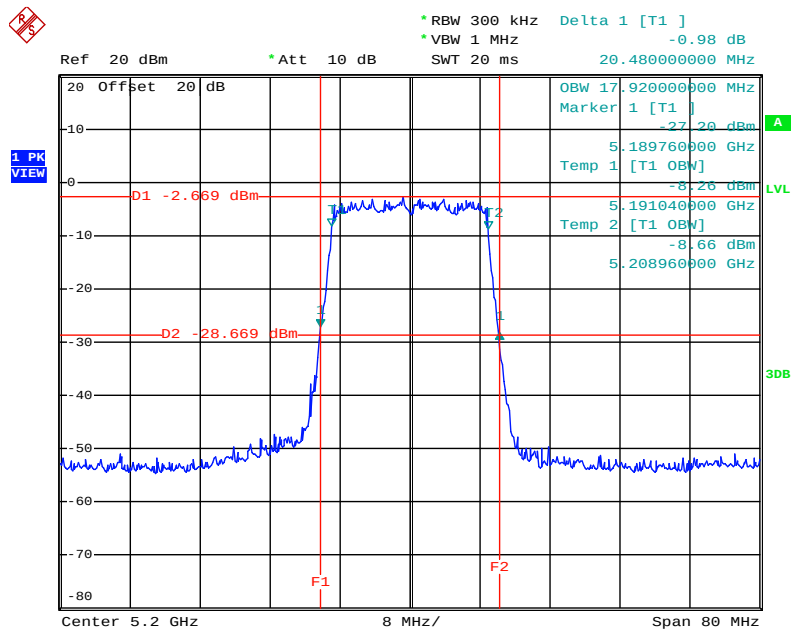
Date: 17.FEB.2014 16:15:49

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 3



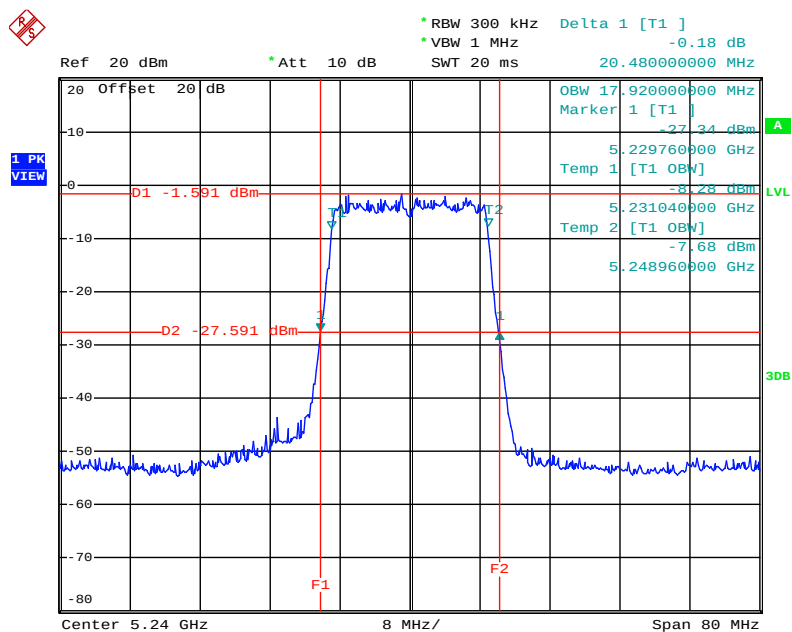
Date: 17.FEB.2014 16:13:12

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 3



Date: 17.FEB.2014 16:13:53

26dB Bandwidth Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 3



Date: 17.FEB.2014 16:16:11

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 97.46% Nss2MCS0, Ant. 1+2+3, CDD: 98.15%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

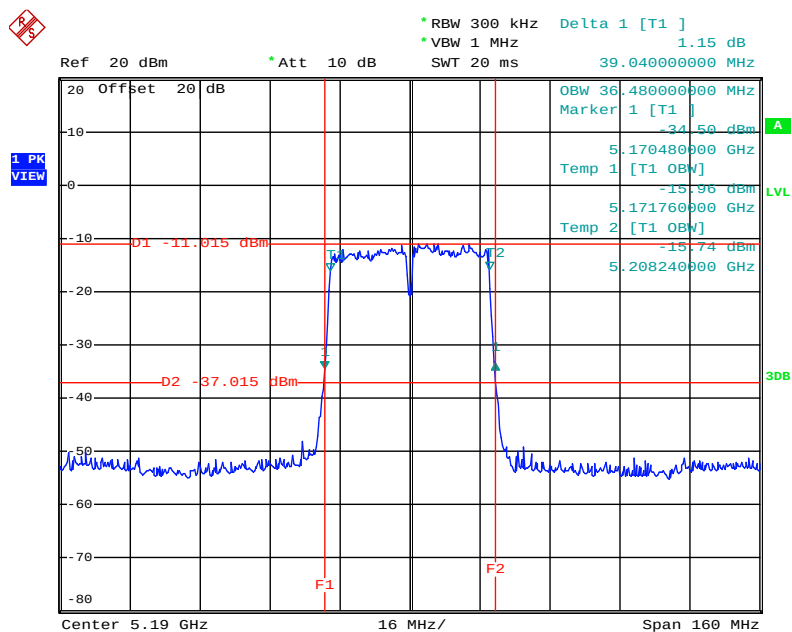
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
38	5190 MHz	39.04	39.36	39.04	36.48	36.48	36.48	Nss1MCS0
46	5230 MHz	38.72	39.68	39.68	36.48	36.48	36.48	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
38	5190 MHz	38.72	39.04	39.36	36.48	36.48	36.48	Nss2MCS0
46	5230 MHz	39.04	38.72	39.36	36.48	36.48	36.48	Nss2MCS0

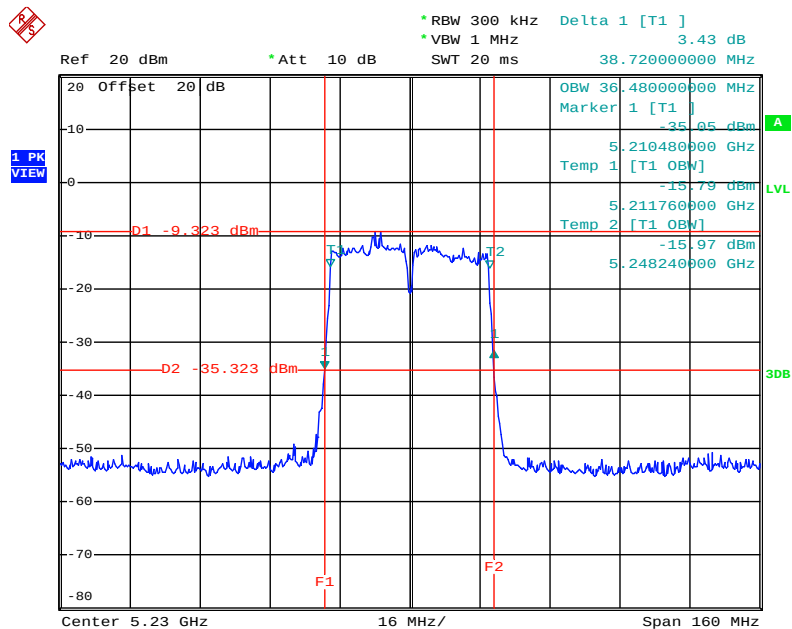
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 1



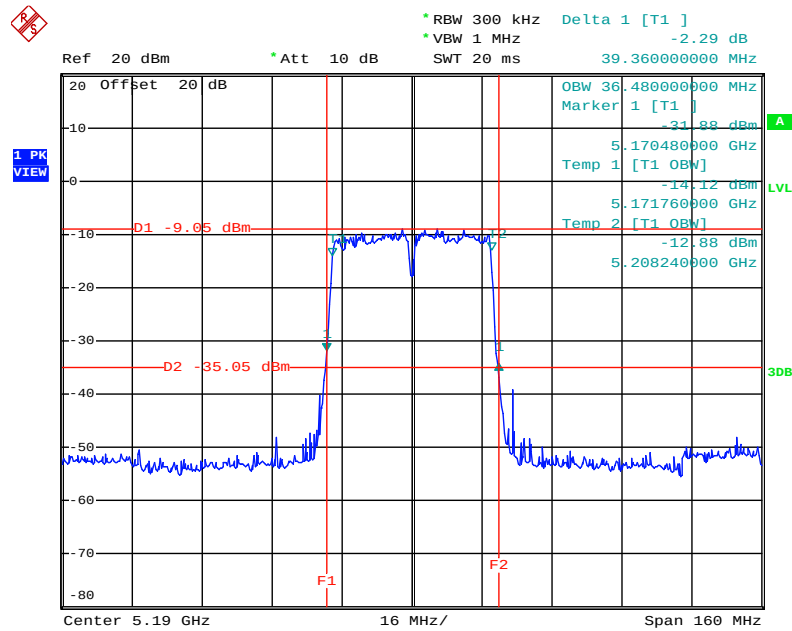
Date: 17.FEB.2014 15:58:45

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 1



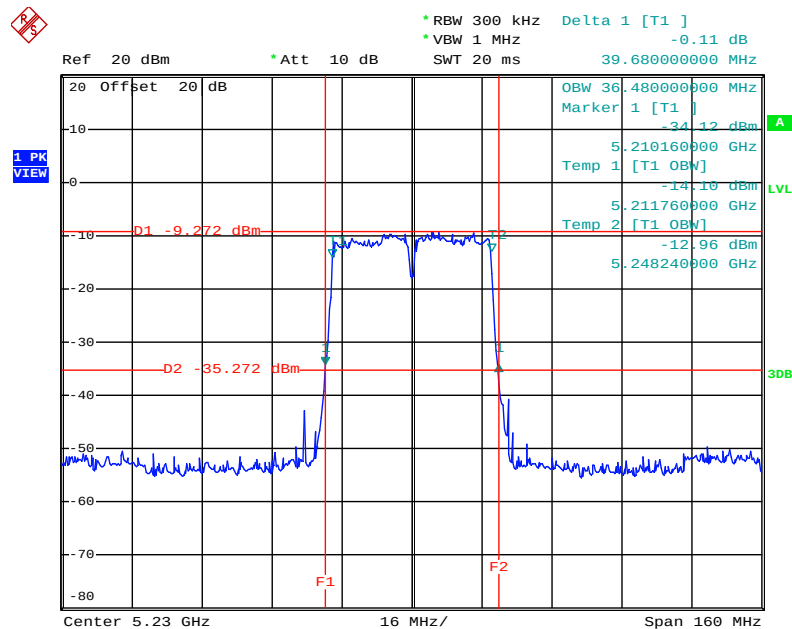
Date: 17.FEB.2014 16:01:27

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 2



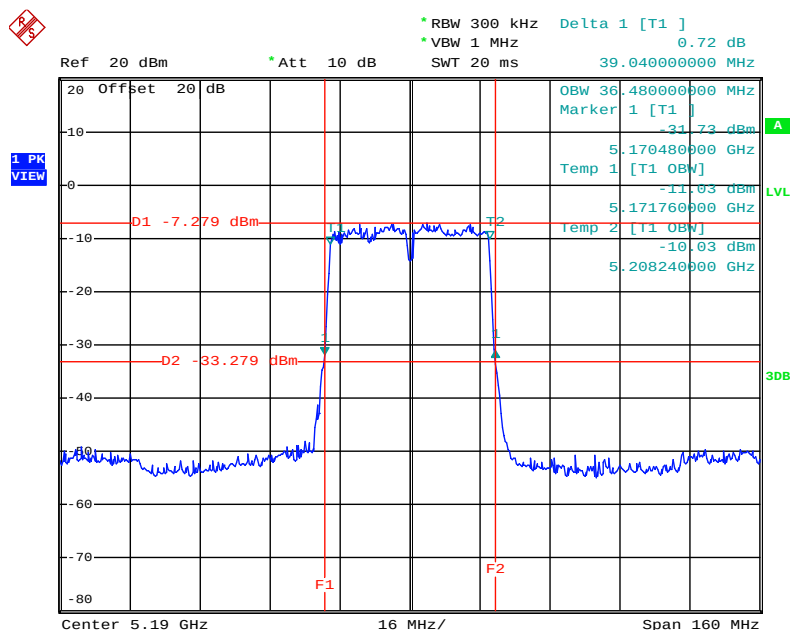
Date: 17.FEB.2014 15:59:16

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 2



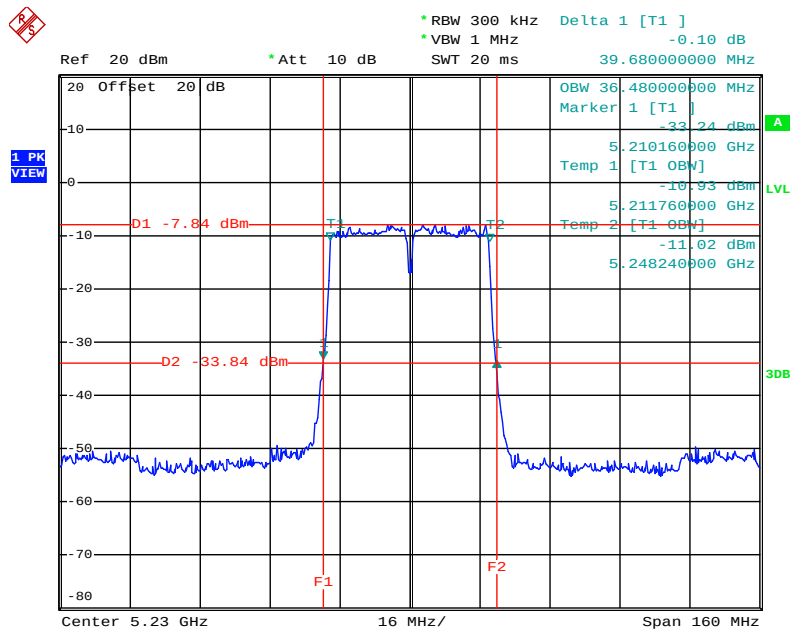
Date: 17.FEB.2014 16:01:05

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 3



Date: 17.FEB.2014 15:59:45

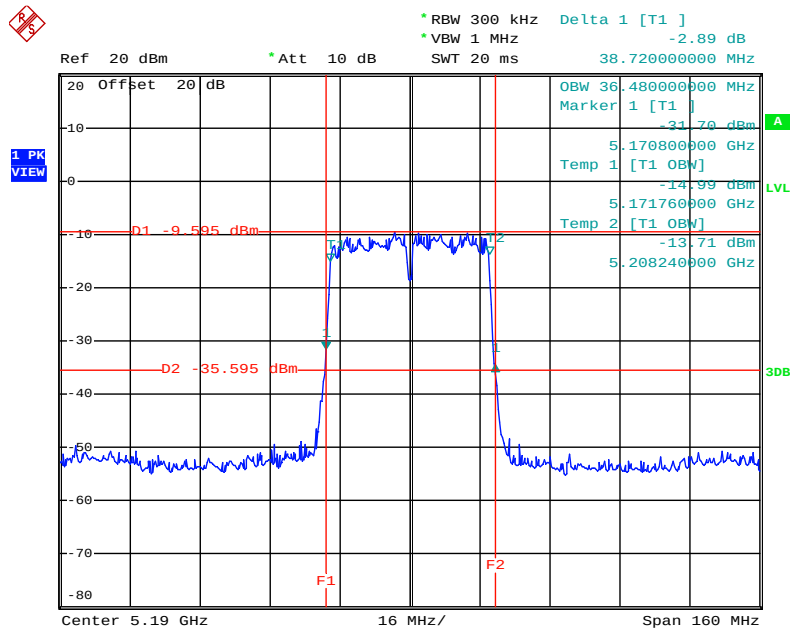
26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 3



Date: 17.FEB.2014 16:00:39

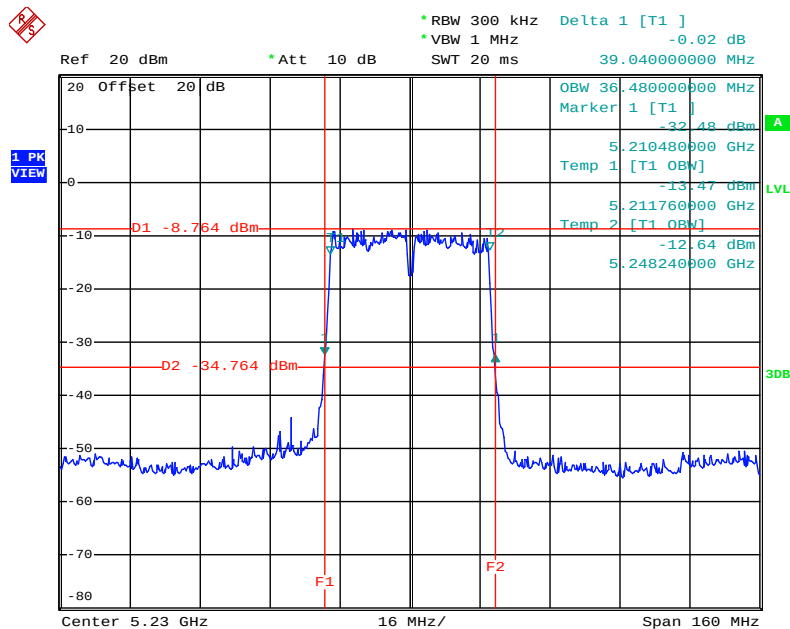
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 1



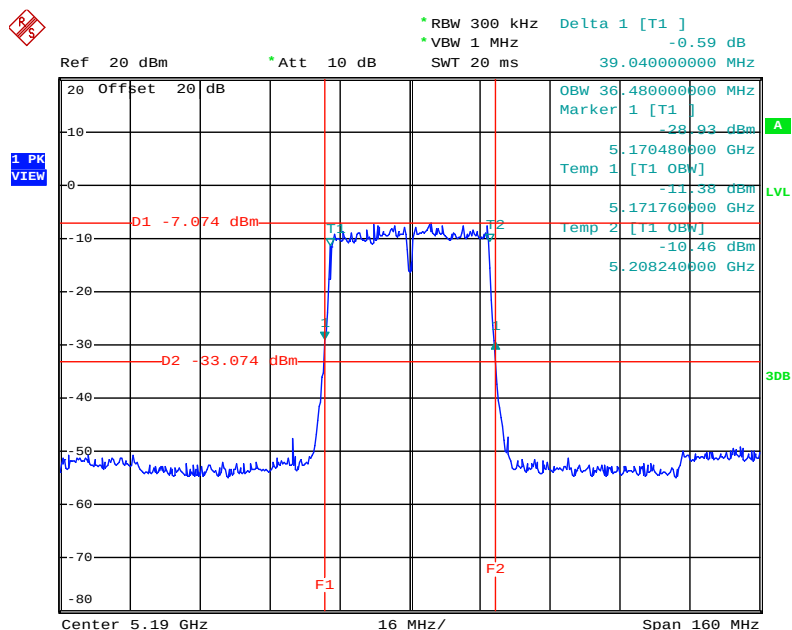
Date: 17.FEB.2014 16:08:34

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 1



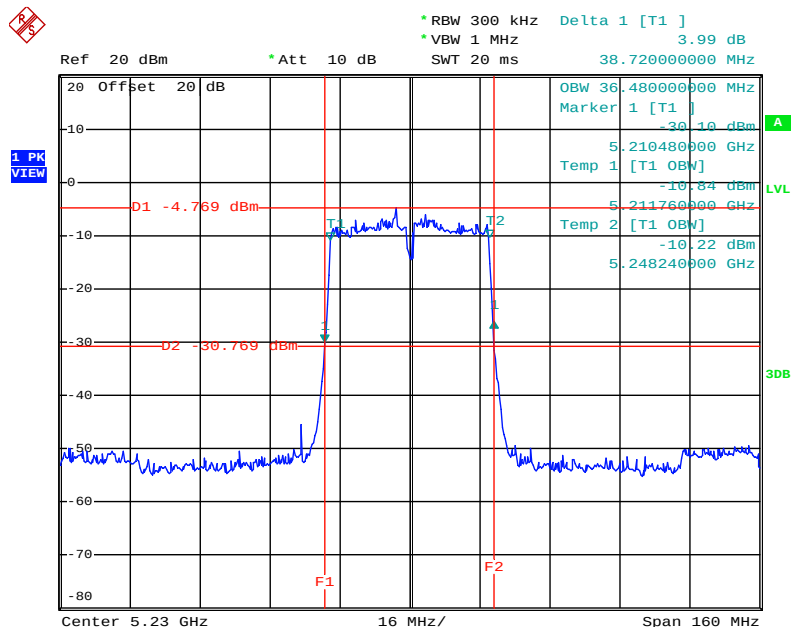
Date: 17.FEB.2014 16:11:06

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 2



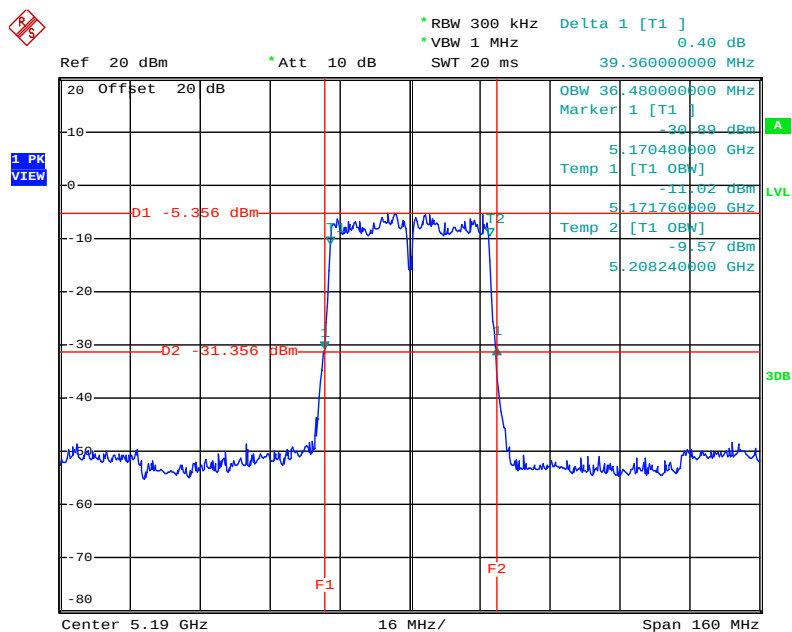
Date: 17.FEB.2014 16:08:57

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0/ CH 46 / Ant. 2



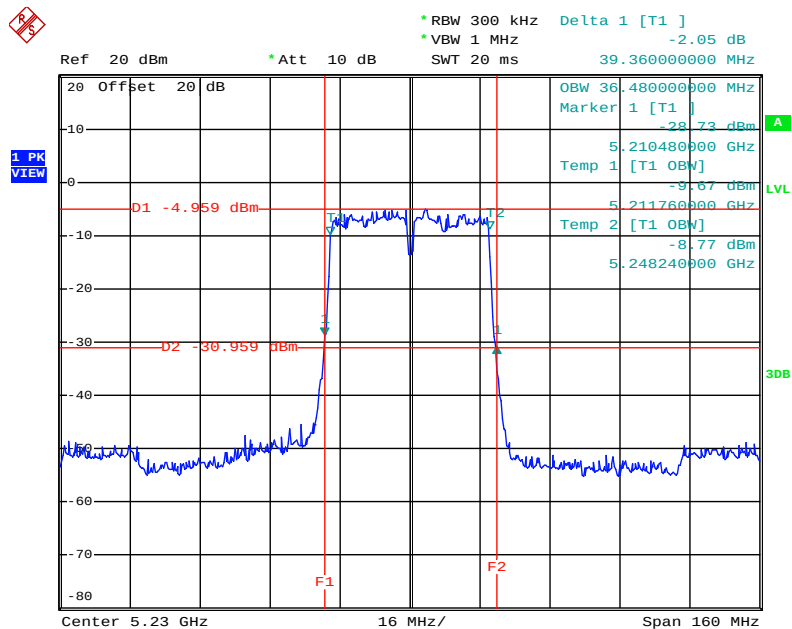
Date: 17.FEB.2014 16:10:43

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 3



Date: 17.FEB.2014 16:09:18

26dB Bandwidth Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 3



Date: 17.FEB.2014 16:10:11

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 95.49% Nss2MCS0, Ant. 1+2+3, CDD: 96.38%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

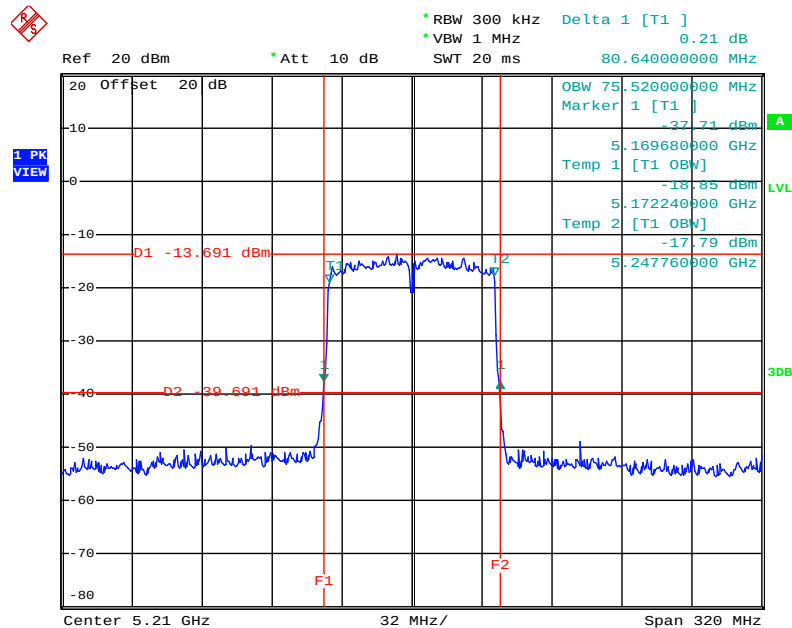
Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
42	5210 MHz	80.64	80.64	81.28	75.52	76.16	76.16	Nss1MCS0

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	26dB Bandwidth (MHz)			99% Occupied Bandwidth (MHz)			Data Rate / MCS
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	
42	5210 MHz	80.00	80.64	80.00	75.52	76.16	76.16	Nss2MCS0

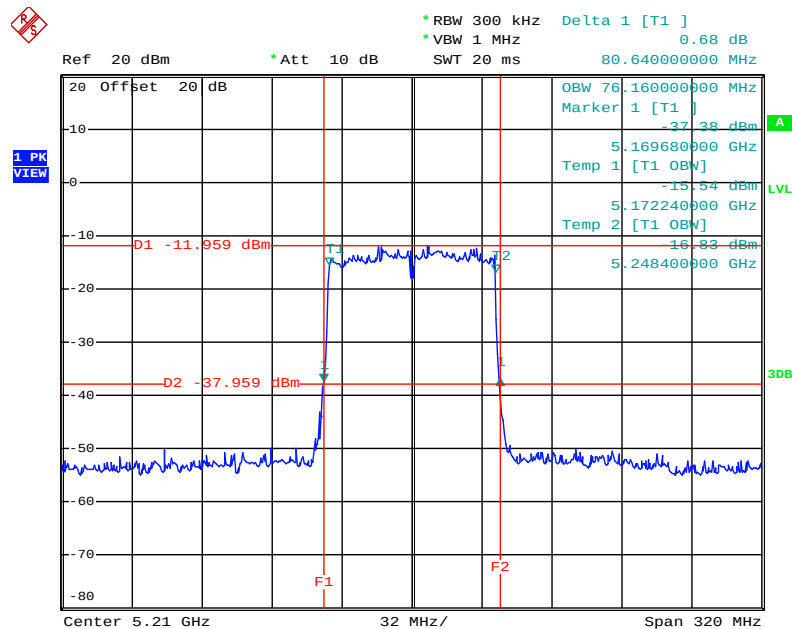
For <Nss1MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 1



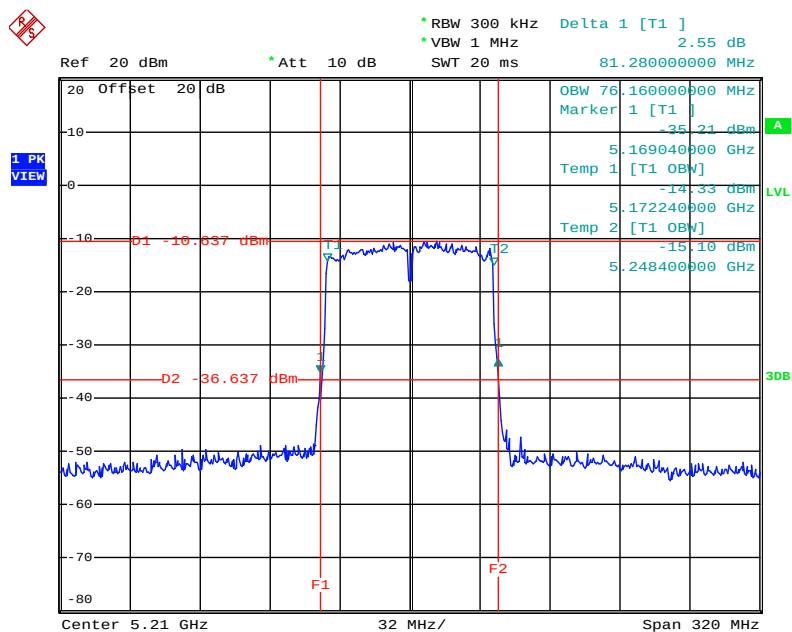
Date: 17.FEB.2014 16:03:11

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 2



Date: 17.FEB.2014 16:03:39

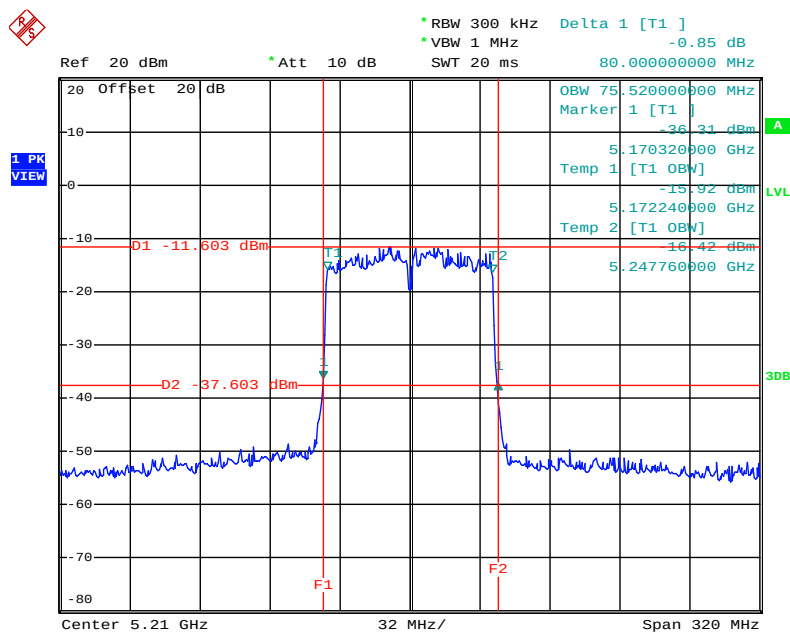
26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 3



Date: 17.FEB.2014 16:03:57

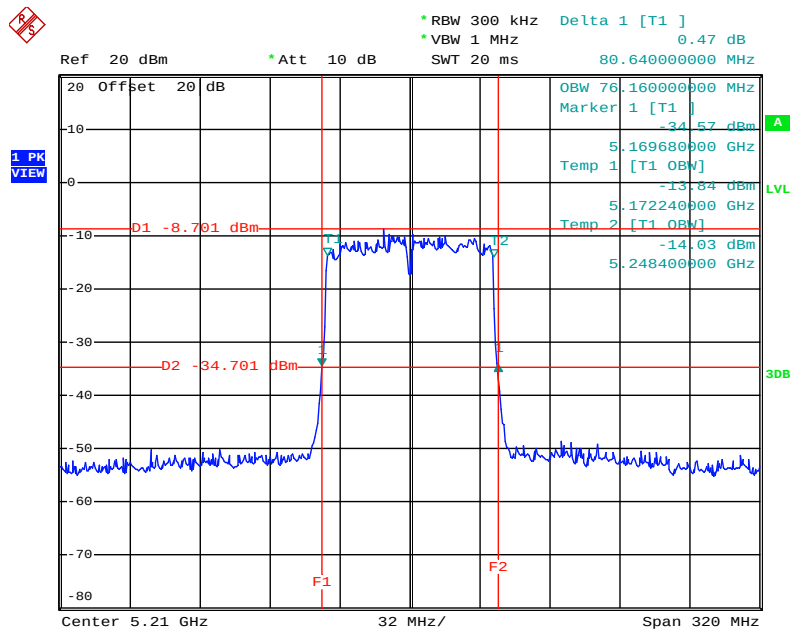
For <Nss2MCS0, Ant. 1+2+3, CDD>:

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 1



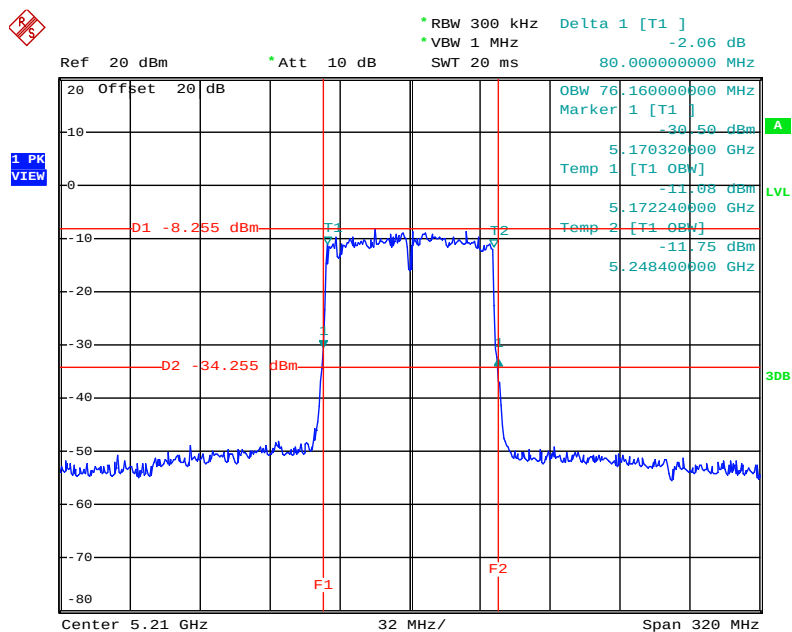
Date: 17.FEB.2014 16:06:31

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 2



Date: 17.FEB.2014 16:06:08

26dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 3



Date: 17.FEB.2014 16:05:44

3.3 Maximum Conducted Output Power Measurement

3.3.1 Limit

Frequency Band	Limit
5.15 ~ 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10log B

NOTE: Where B is the 26-dB emission bandwidth in MHz.

3.3.2 Measuring Instruments and Setting

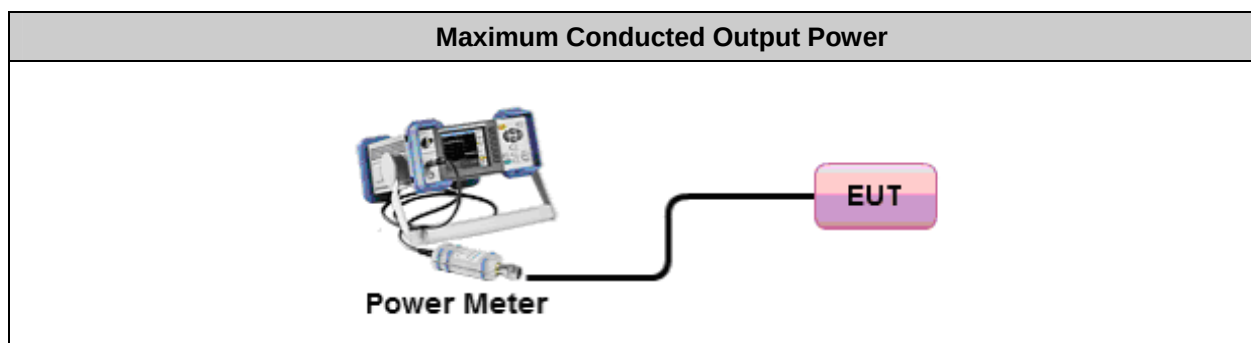
Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer.

Power Meter Parameter	Setting
Detector	AVERAGE

3.3.3 Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor to get the all on time transmission. Record the average power level.
3. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.
4. Adjust the measurement in dBm by adding 10 log(1/x) where x is the duty cycle. Record the average power level.

3.3.4 Test Setup Layout



3.3.5 Test Deviation

There is no deviation with the original standard.

3.3.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.3.7 Test Result for Maximum Conducted Output Power

For Non-Beamforming

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11a
Duty Cycle	Ant. 1: 99.04% Ant. 2: 99.04% Ant. 3: 99.04% Ant. 1+2+3, CDD: 98.80%		

Configuration IEEE 802.11a

<Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.75	5.86	17.00	Complies
40	5200 MHz	16.79	5.93	17.00	Complies
48	5240 MHz	16.54	6.21	16.79	Complies

Note:

5240MHz Gain =6.21dBi >6dBi, So Conducted Output Power Limit =17-(6.21-6)=16.79dBm

<Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.57	6.10	16.90	Complies
40	5200 MHz	16.48	6.34	16.66	Complies
48	5240 MHz	16.41	6.36	16.64	Complies

Note:

5180MHz Gain =6.10dBi >6dBi, So Conducted Output Power Limit =17-(6.10-6)=16.90dBm

5200MHz Gain =6.34dBi >6dBi, So Conducted Output Power Limit =17-(6.34-6)=16.66dBm

5240MHz Gain =6.36dBi >6dBi, So Conducted Output Power Limit =17-(6.36-6)=16.64dBm

<Ant. 3>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.78	5.47	17.00	Complies
40	5200 MHz	16.76	5.72	17.00	Complies
48	5240 MHz	16.75	5.82	17.00	Complies

<Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	11.48	11.07	11.14	16.06	6.80	16.20	Complies
40	5200 MHz	11.23	10.78	10.64	15.71	6.96	16.04	Complies
48	5240 MHz	11.21	10.82	10.76	15.76	7.07	15.93	Complies

Note:

5180MHz Directional Gain =6.80dBi >6dBi,So Conducted Output Power Limit =17-(6.80-6)=16.20dBm

5200MHz Directional Gain =6.96dBi >6dBi,So Conducted Output Power Limit =17-(6.96-6)=16.04dBm

5240MHz Directional Gain =7.07dBi >6dBi,So Conducted Output Power Limit =17-(7.07-6)=15.93dBm

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 1: 98.72% Nss1MCS0, Ant. 2: 98.72% Nss1MCS0, Ant. 3: 98.87% Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.29% Nss3MCS0, Ant. 1+2+3, SDM: 96.29%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.78	5.86	17.00	Complies
40	5200 MHz	16.80	5.93	17.00	Complies
48	5240 MHz	16.53	6.21	16.79	Complies

Note:

5240MHz Gain =6.21dBi >6dBi, So Conducted Output Power Limit =17-(6.21-6)=16.79dBm

<Nss1MCS0, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.82	6.10	16.90	Complies
40	5200 MHz	16.57	6.34	16.66	Complies
48	5240 MHz	16.51	6.36	16.64	Complies

Note:

5180MHz Gain =6.10dBi >6dBi, So Conducted Output Power Limit =17-(6.10-6)=16.90dBm

5200MHz Gain =6.34dBi >6dBi, So Conducted Output Power Limit =17-(6.34-6)=16.66dBm

5240MHz Gain =6.36dBi >6dBi, So Conducted Output Power Limit =17-(6.36-6)=16.64dBm

<Nss1MCS0, Ant. 3>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
36	5180 MHz	16.86	5.47	17.00	Complies
40	5200 MHz	16.79	5.72	17.00	Complies
48	5240 MHz	16.87	5.82	17.00	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	11.74	10.86	11.04	16.05	6.80	16.20	Complies
40	5200 MHz	11.52	10.78	10.87	15.89	6.96	16.04	Complies
48	5240 MHz	11.24	10.52	10.91	15.72	7.07	15.93	Complies

Note:

5180MHz Directional Gain =6.80dBi >6dBi,So Conducted Output Power Limit =17-(6.80-6)=16.20dBm

5200MHz Directional Gain =6.96dBi >6dBi,So Conducted Output Power Limit =17-(6.96-6)=16.04dBm

5240MHz Directional Gain =7.07dBi >6dBi,So Conducted Output Power Limit =17-(7.07-6)=15.93dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	12.21	11.46	11.52	16.68	5.63	17.00	Complies
40	5200 MHz	12.23	11.57	11.63	16.76	5.84	17.00	Complies
48	5240 MHz	12.24	11.43	11.86	16.79	5.95	17.00	Complies

<Nss3MCS0, Ant. 1+2+3, SDM>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	12.06	10.92	11.35	16.40	2.84	17.00	Complies
40	5200 MHz	11.73	10.72	11.13	16.15	3.04	17.00	Complies
48	5240 MHz	11.54	10.46	11.00	15.96	3.17	17.00	Complies

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 1: 97.46% Nss1MCS0, Ant. 2: 97.95% Nss1MCS0, Ant. 3: 97.95% Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.19% Nss3MCS0, Ant. 1+2+3, SDM: 96.19%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
38	5190 MHz	16.85	5.90	17.00	Complies
46	5230 MHz	16.73	6.07	16.93	Complies

Note:

5230MHz Gain =6.07dBi >6dBi, So Conducted Output Power Limit =17-(6.07-6)=16.93dBm

<Nss1MCS0, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
38	5190 MHz	16.71	6.04	16.96	Complies
46	5230 MHz	16.28	6.44	16.56	Complies

Note:

5190MHz Gain =6.04dBi >6dBi, So Conducted Output Power Limit =17-(6.04-6)=16.96dBm

5230MHz Gain =6.44dBi >6dBi, So Conducted Output Power Limit =17-(6.44-6)=16.56dBm

<Nss1MCS0, Ant. 3>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
38	5190 MHz	16.81	5.63	17.00	Complies
46	5230 MHz	16.88	5.71	17.00	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
38	5190 MHz	11.76	10.72	10.69	15.95	6.82	16.18	Complies
46	5230 MHz	11.59	10.49	10.33	15.70	7.18	15.82	Complies

Note:

5190MHz Directional Gain =6.82dBi >6dBi,So Conducted Output Power Limit =17-(6.82-6)=16.18dBm

5230MHz Directional Gain =7.18dBi >6dBi,So Conducted Output Power Limit =17-(7.18-6)=15.82dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
38	5190 MHz	12.41	11.56	11.71	16.85	5.71	17.00	Complies
46	5230 MHz	12.36	11.52	11.61	16.79	5.93	17.00	Complies

<Nss3MCS0, Ant. 1+2+3, SDM>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
38	5190 MHz	11.73	10.75	11.32	16.23	2.90	17.00	Complies
46	5230 MHz	11.56	10.64	10.98	16.02	3.19	17.00	Complies

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 1: 95.91% Nss1MCS0, Ant. 2: 95.87% Nss1MCS0, Ant. 3: 95.87% Nss1MCS0, Ant. 1+2+3, CDD: 95.87% Nss2MCS0, Ant. 1+2+3, CDD: 91.48% Nss3MCS0, Ant. 1+2+3, SDM: 91.48%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 1>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
42	5210 MHz	16.80	5.94	17.00	Complies

<Nss1MCS0, Ant. 2>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
42	5210 MHz	16.75	6.02	16.98	Complies

Note:

5210MHz Gain =6.02dBi >6dBi, So Conducted Output Power Limit =17-(6.02-6)=16.98dBm

<Nss1MCS0, Ant. 3>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain	Max. Limit (dBm)	Result
42	5210 MHz	16.86	5.83	17.00	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
42	5210 MHz	11.72	10.58	10.75	16.00	6.72	16.28	Complies

Note:

5210MHz Directional Gain =6.72dBi >6dBi,So Conducted Output Power Limit =17-(6.72-6)=16.28dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
42	5210 MHz	12.06	11.18	11.25	16.67	5.64	17.00	Complies

<Nss3MCS0, Ant. 1+2+3, SDM>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
42	5210 MHz	11.65	10.51	11.12	16.28	2.83	17.00	Complies

For Beamforming

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 98.97% Nss2MCS0, Ant. 1+2+3, CDD: 98.20%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	11.75	10.83	10.62	15.91	6.80	16.20	Complies
40	5200 MHz	10.17	11.55	11.17	15.82	6.96	16.04	Complies
48	5240 MHz	11.44	10.85	10.09	15.64	7.07	15.93	Complies

Note:

5180MHz Directional Gain =6.80dBi >6dBi,So Conducted Output Power Limit =17-(6.80-6)=16.20dBm

5200MHz Directional Gain =6.96dBi >6dBi,So Conducted Output Power Limit =17-(6.96-6)=16.04dBm

5240MHz Directional Gain =7.07dBi >6dBi,So Conducted Output Power Limit =17-(7.07-6)=15.93dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
36	5180 MHz	12.42	11.83	11.40	16.75	5.63	17.00	Complies
40	5200 MHz	12.50	11.72	11.45	16.76	5.84	17.00	Complies
48	5240 MHz	11.77	12.27	11.59	16.74	5.95	17.00	Complies

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 97.46% Nss2MCS0, Ant. 1+2+3, CDD: 98.15%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
38	5190 MHz	11.61	10.91	10.85	16.02	6.82	16.18	Complies
46	5230 MHz	11.22	10.77	9.84	15.53	7.18	15.82	Complies

Note:

5190MHz Directional Gain =6.82dBi >6dBi, So Conducted Output Power Limit =17-(6.82-6)=16.18dBm

5230MHz Directional Gain =7.18dBi >6dBi, So Conducted Output Power Limit =17-(7.18-6)=15.82dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
38	5190 MHz	12.38	11.58	11.39	16.66	5.71	17.00	Complies
46	5230 MHz	11.97	12.16	11.53	16.75	5.93	17.00	Complies

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 95.49% Nss2MCS0, Ant. 1+2+3, CDD: 96.38%		

Configuration IEEE 802.11ac 80MHz**<Nss1MCS0, Ant. 1+2+3, CDD>**

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
42	5210 MHz	12.00	10.49	10.28	15.96	6.72	16.28	Complies

Note:

5210MHz Directional Gain =6.72dBi >6dBi, So Conducted Output Power Limit =17-(6.72-6)=16.28dBm

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Conducted Power (dBm)				Directional Gain	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total			
42	5210 MHz	12.08	11.71	11.59	16.73	5.64	17.00	Complies

EX:

5210MHz <Nss2MCS0, Ant. 1+2+3, CDD> total conducted power

= Ant. 1 + Ant. 2 + Ant. 3 + duty factor

= (12.08dBm + 11.71dBm + 11.59dBm) + 0.16dBm

= (0.0161W + 0.0148W + 0.0144W) + 0.16dBm = 0.0453W + 0.16dBm

=16.57dBm + 0.16dBm = 16.73dBm

3.4 Power Spectral Density Measurement

3.4.1 Limit

Frequency Band	Limit
5.15 ~ 5.25GHz	4 dBm/MHz

3.4.2 Measuring Instruments and Setting

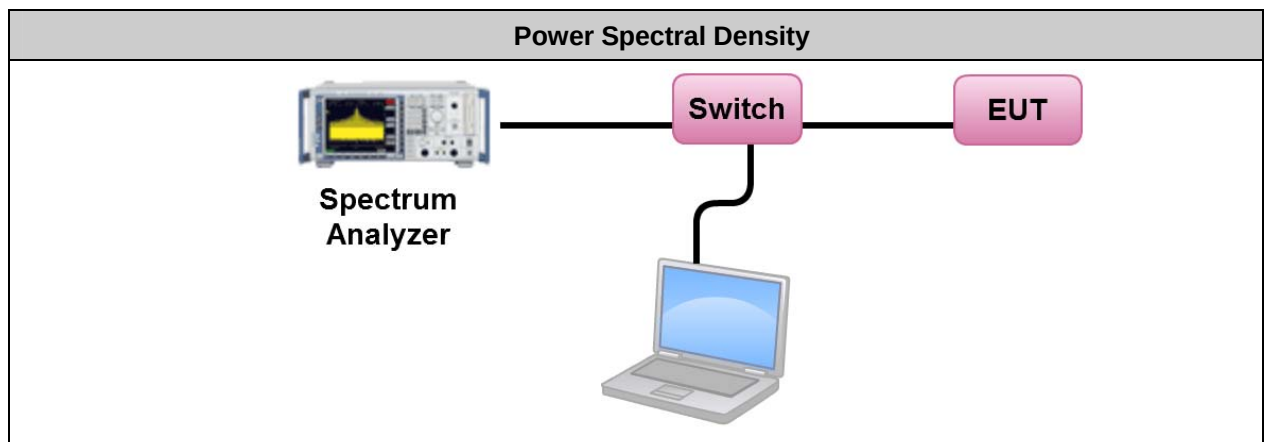
Please refer to section 4 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

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

3.4.3 Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB 789033 D01 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E, section (C) Maximum conducted output power => (d) Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).
3. Multiple antenna systems was performed in accordance KDB 662911 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.

3.4.4 Test Setup Layout



3.4.5 Test Deviation

There is no deviation with the original standard.

3.4.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.4.7 Test Result of Power Spectral Density

For Non-Beamforming

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11a
Duty Cycle	Ant. 2: 99.04% Ant. 1+2+3, CDD: 98.80%		

Configuration IEEE 802.11a

<Ant. 2>

Channel	Frequency	Power Density (dBm/MHz)	Antenna Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	3.14	6.10	3.90	Complies
40	5200 MHz	3.22	6.34	3.66	Complies
48	5240 MHz	2.93	6.36	3.64	Complies

Note:

5180MHz Gain =6.10dBi >6dBi,So Power Density Limit =4-(6.10-6)=3.90dBm/MHz

5200MHz Gain =6.34dBi >6dBi,So Power Density Limit =4-(6.34-6)=3.66dBm/MHz

5240MHz Gain =6.36dBi >6dBi,So Power Density Limit =4-(6.36-6)=3.64dBm/MHz

<Ant. 1+2+3, CDD >

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.66	6.80	3.20	Complies
40	5200 MHz	2.60	6.96	3.04	Complies
48	5240 MHz	2.81	7.07	2.93	Complies

Note:

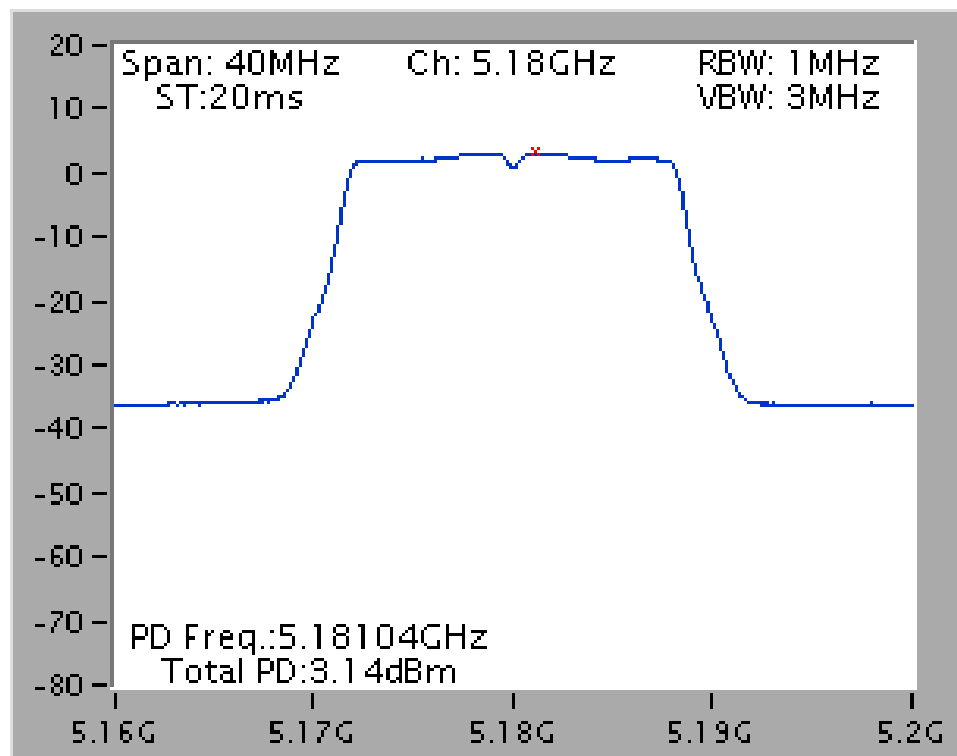
5180MHz Directional Gain =6.80dBi >6dBi,So Power Density Limit =4-(6.80-6)=3.20dBm/MHz

5200MHz Directional Gain =6.96dBi >6dBi,So Power Density Limit =4-(6.96-6)=3.04dBm/MHz

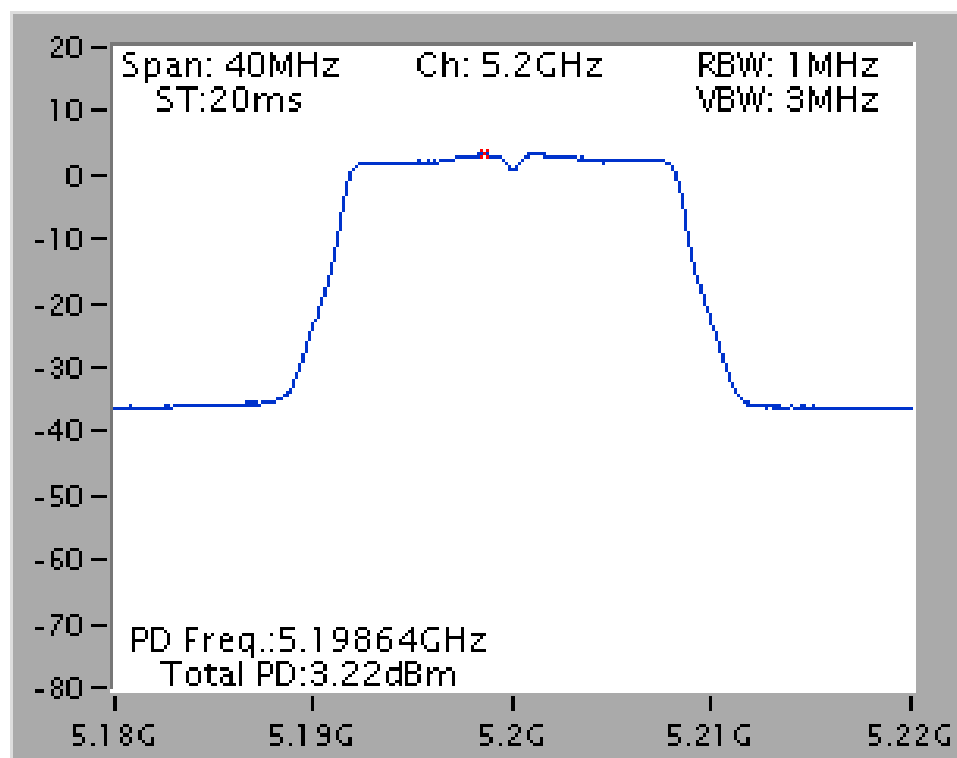
5240MHz Directional Gain =7.07dBi >6dBi,So Power Density Limit =4-(7.07-6)=2.93dBm/MHz

For <Ant. 2>:

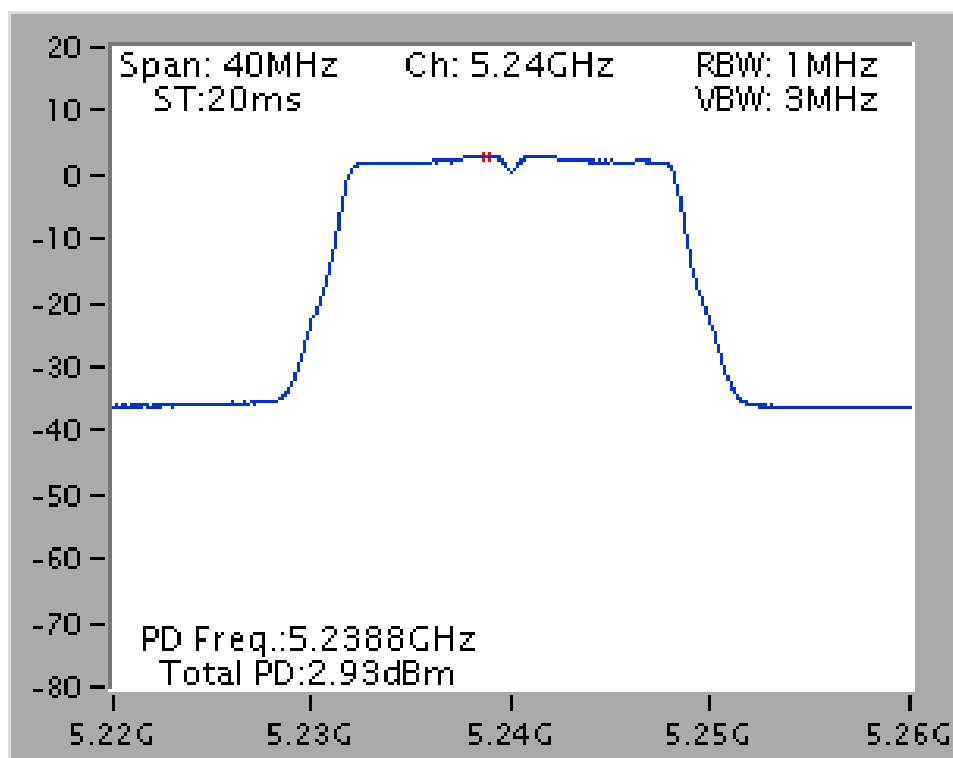
Power Density Plot on Configuration IEEE 802.11a / CH 36 / Ant. 2



Power Density Plot on Configuration IEEE 802.11a / CH 40 / Ant. 2

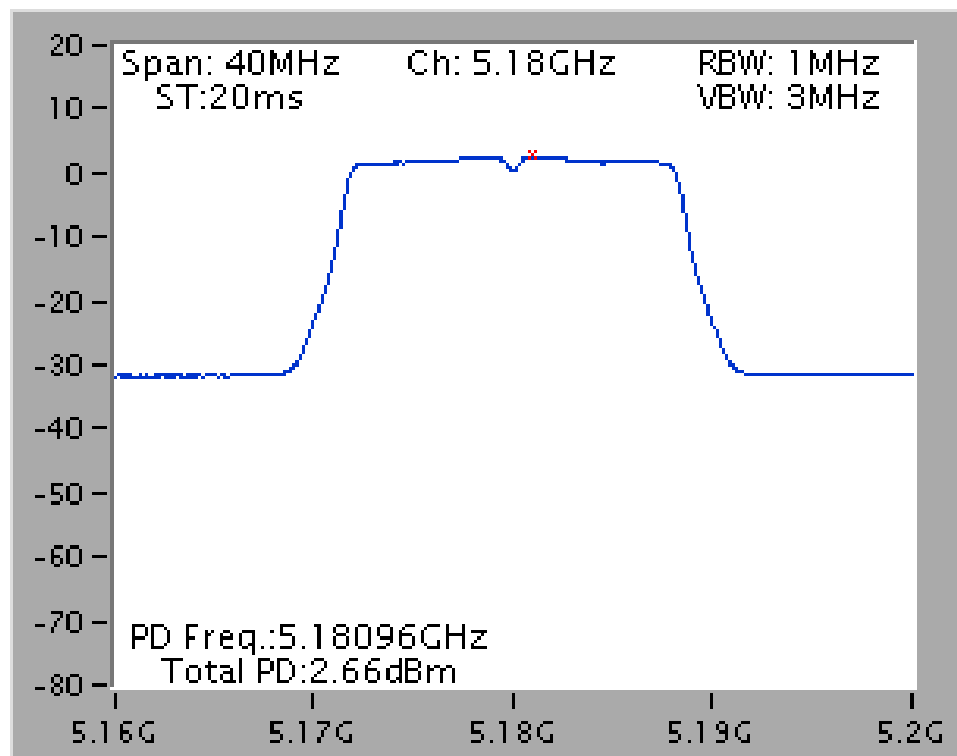


Power Density Plot on Configuration IEEE 802.11a / CH 48 / Ant. 2

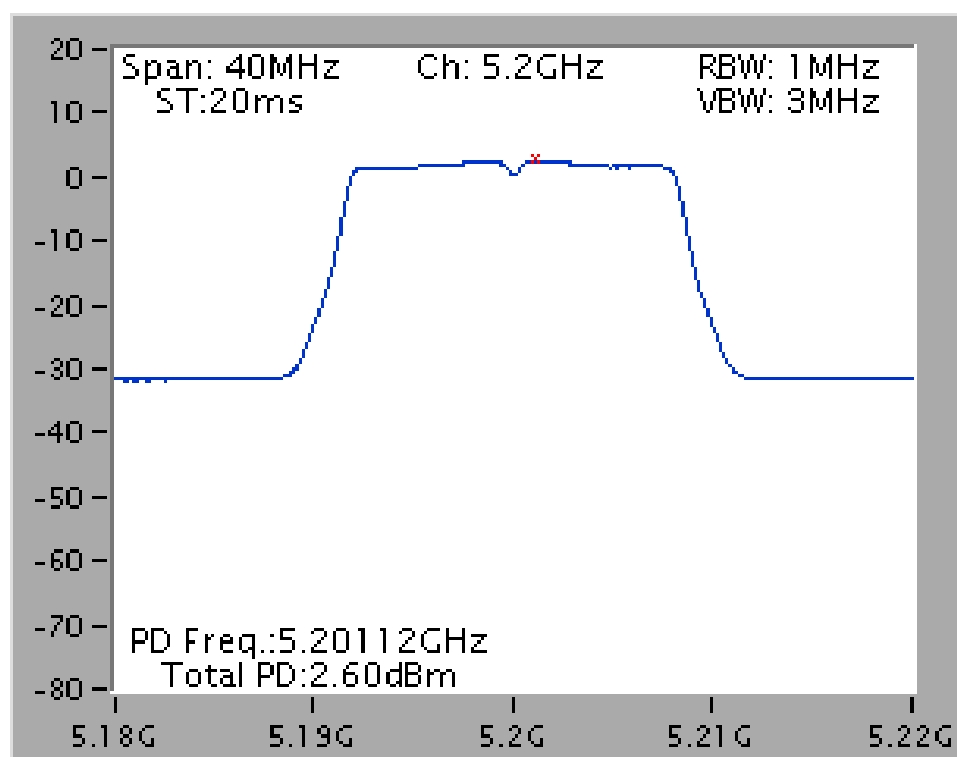


For <Ant. 1+2+3, CDD >:

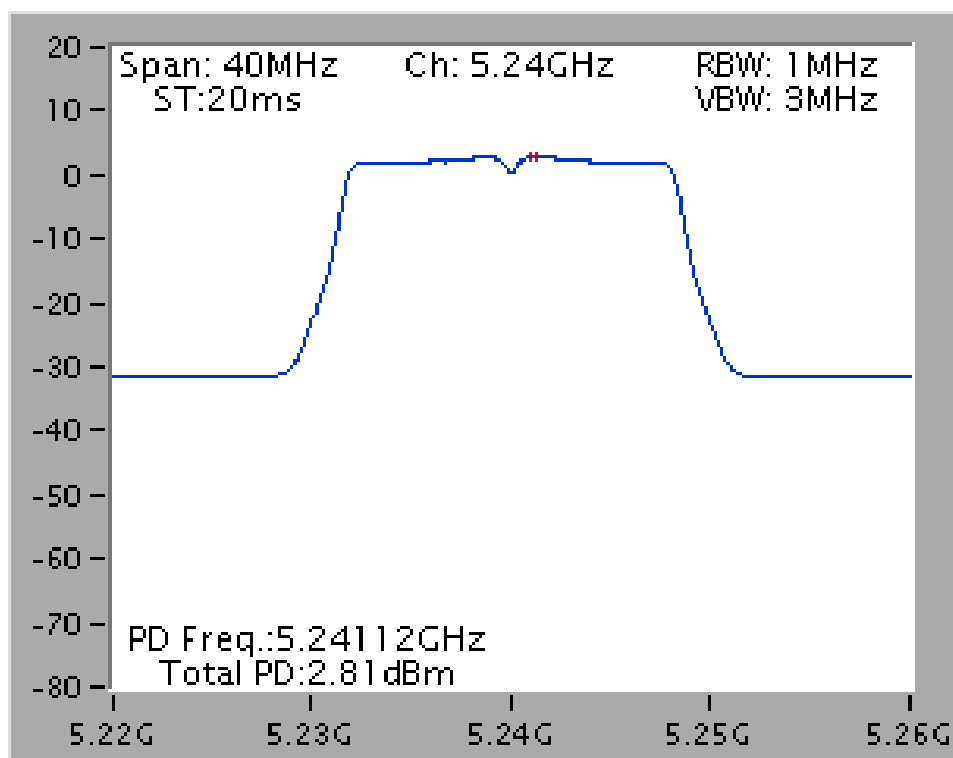
Power Density Plot on Configuration IEEE 802.11a / CH 36 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11a / CH 40 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11a / CH 48 / Ant. 1+2+3



Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 2: 98.72% Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.29%		

Configuration IEEE 802.11ac 20MHz**<Nss1MCS0, Ant. 2>**

Channel	Frequency	Power Density (dBm/MHz)	Antenna Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.99	6.10	3.90	Complies
40	5200 MHz	2.83	6.34	3.66	Complies
48	5240 MHz	3.07	6.36	3.64	Complies

Note:

5180MHz Gain =6.10dBi >6dBi, So Power Density Limit =4-(6.10-6)=3.90dBm/MHz

5200MHz Gain =6.34dBi >6dBi, So Power Density Limit =4-(6.34-6)=3.66dBm/MHz

5240MHz Gain =6.36dBi >6dBi, So Power Density Limit =4-(6.36-6)=3.64dBm/MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.56	6.80	3.20	Complies
40	5200 MHz	2.49	6.96	3.04	Complies
48	5240 MHz	2.44	7.07	2.93	Complies

Note:

5180MHz Directional Gain =6.80dBi >6dBi, So Power Density Limit =4-(6.80-6)=3.20dBm/MHz

5200MHz Directional Gain =6.96dBi >6dBi, So Power Density Limit =4-(6.96-6)=3.04dBm/MHz

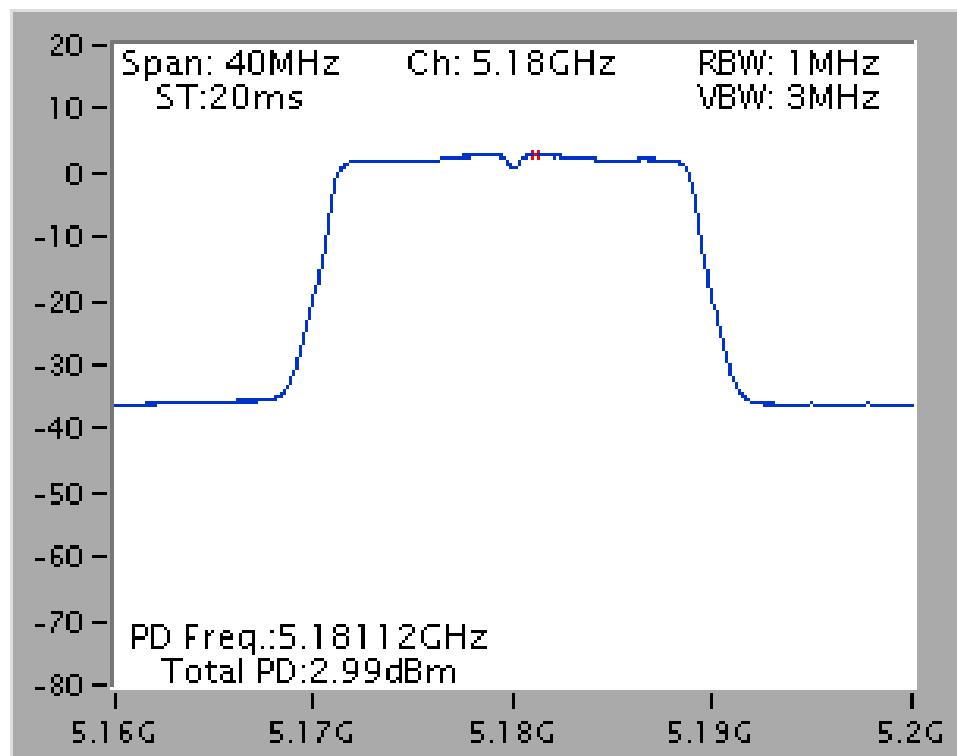
5240MHz Directional Gain =7.07dBi >6dBi, So Power Density Limit =4-(7.07-6)=2.93dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

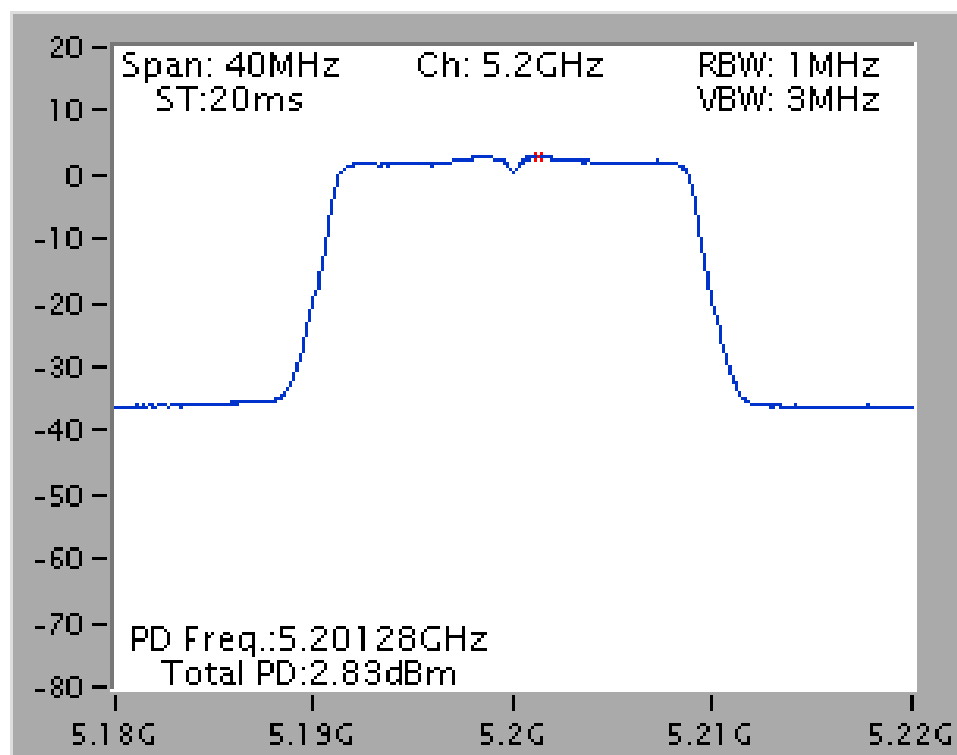
Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.91	5.63	4.00	Complies
40	5200 MHz	3.21	5.84	4.00	Complies
48	5240 MHz	3.23	5.95	4.00	Complies

For <Nss1MCS0, Ant. 2>:

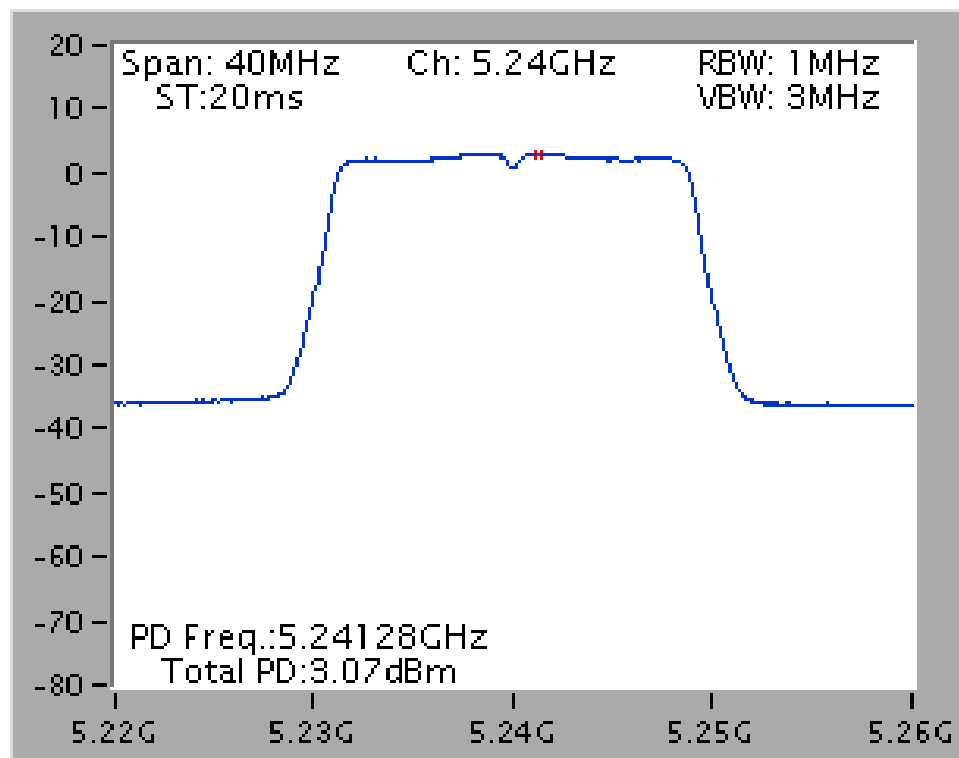
Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 2



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 2

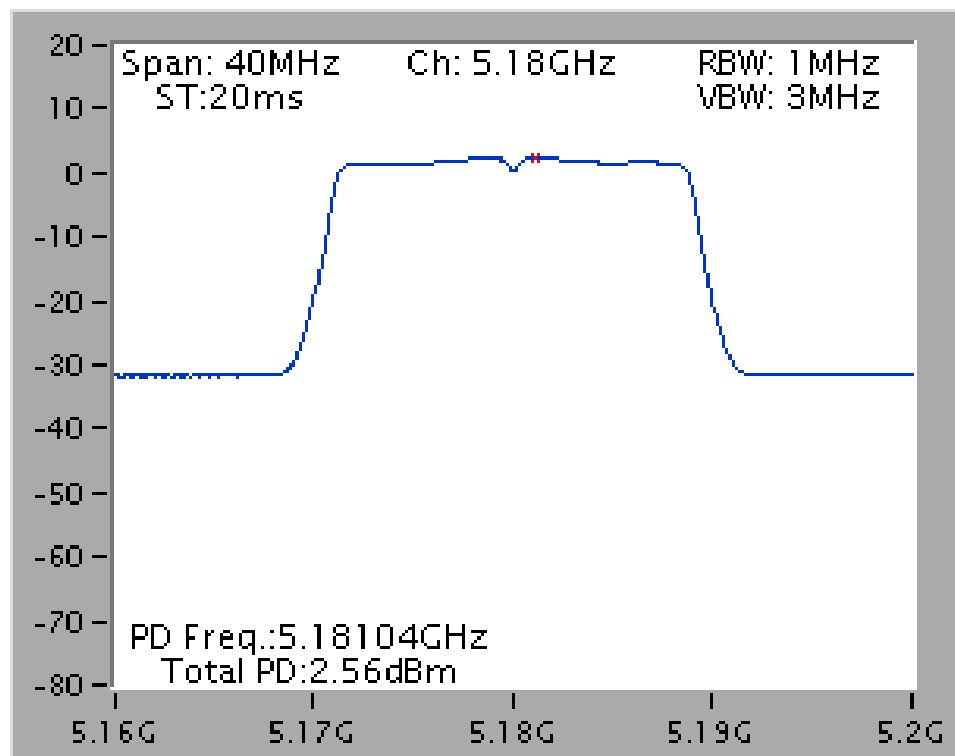


Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 2

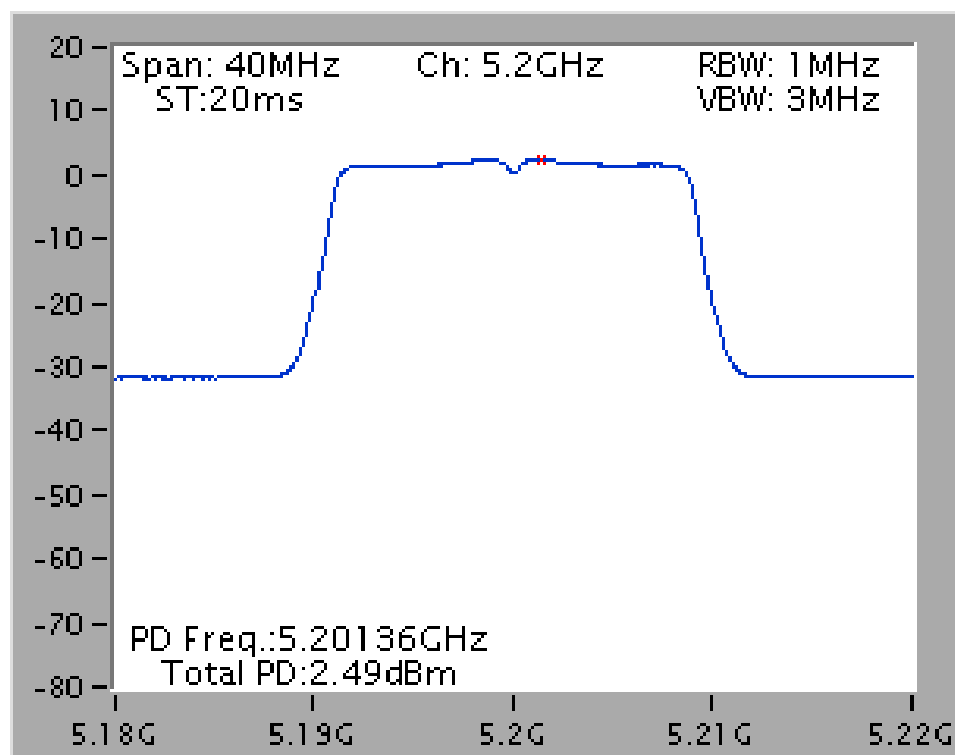


For <Nss1MCS0, Ant. 1+2+3, CDD>:

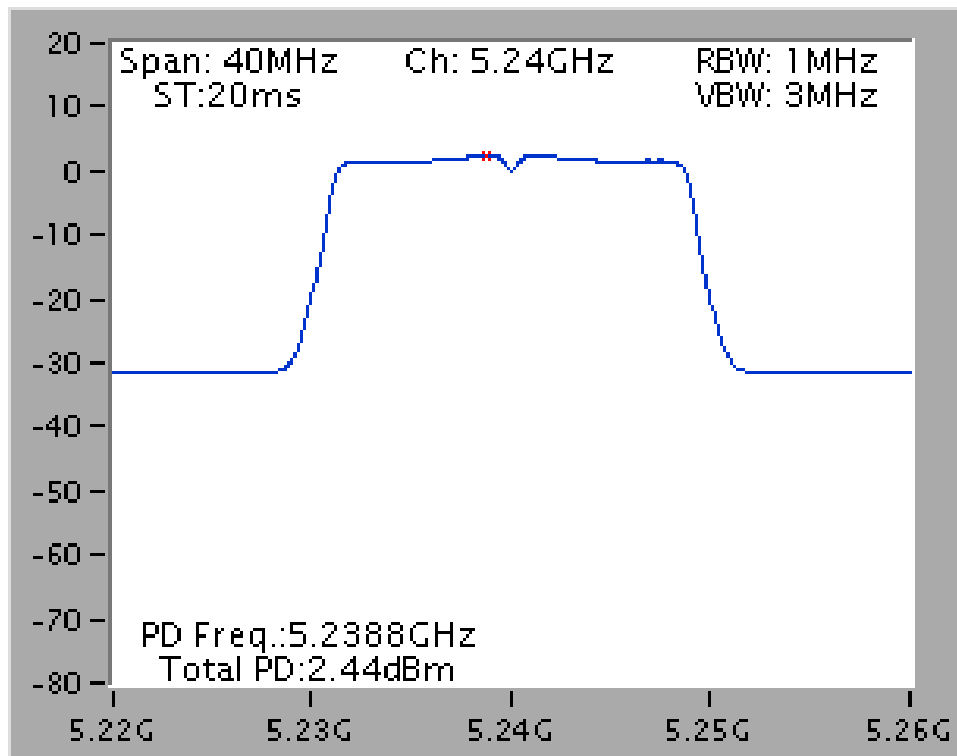
Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 1+2+3

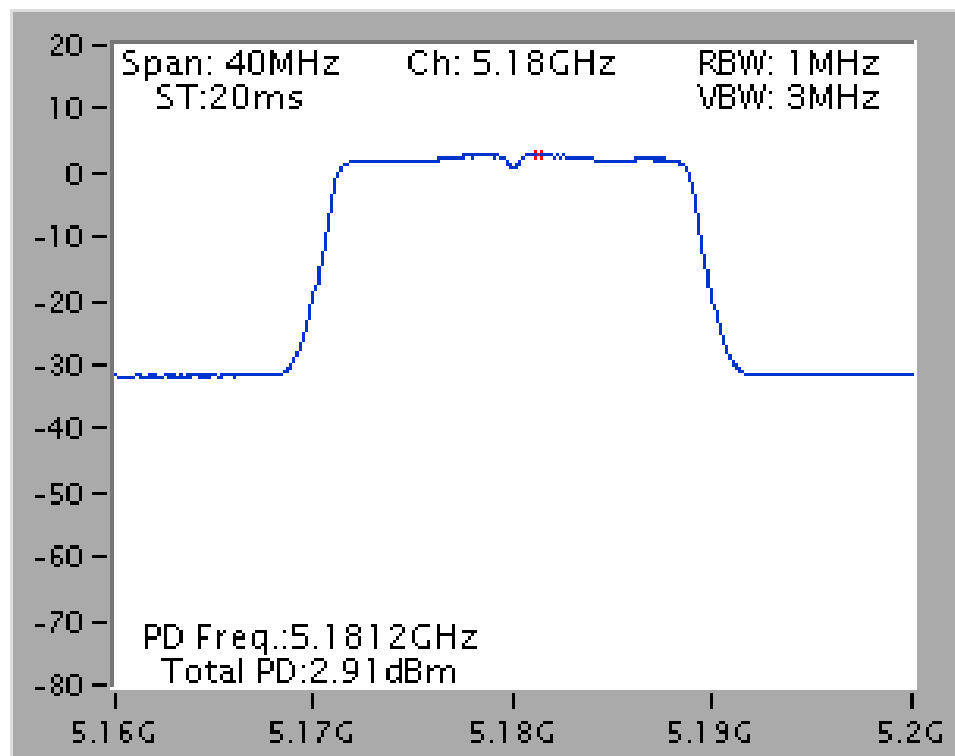


Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 1+2+3

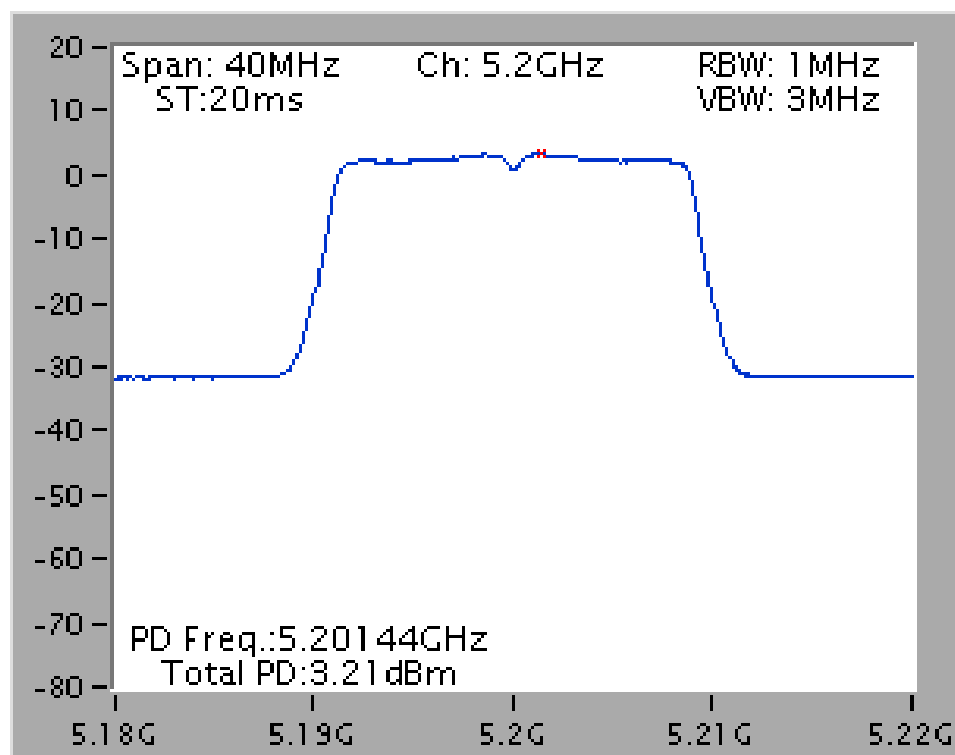


For <Nss2MCS0, Ant. 1+2+3, CDD>:

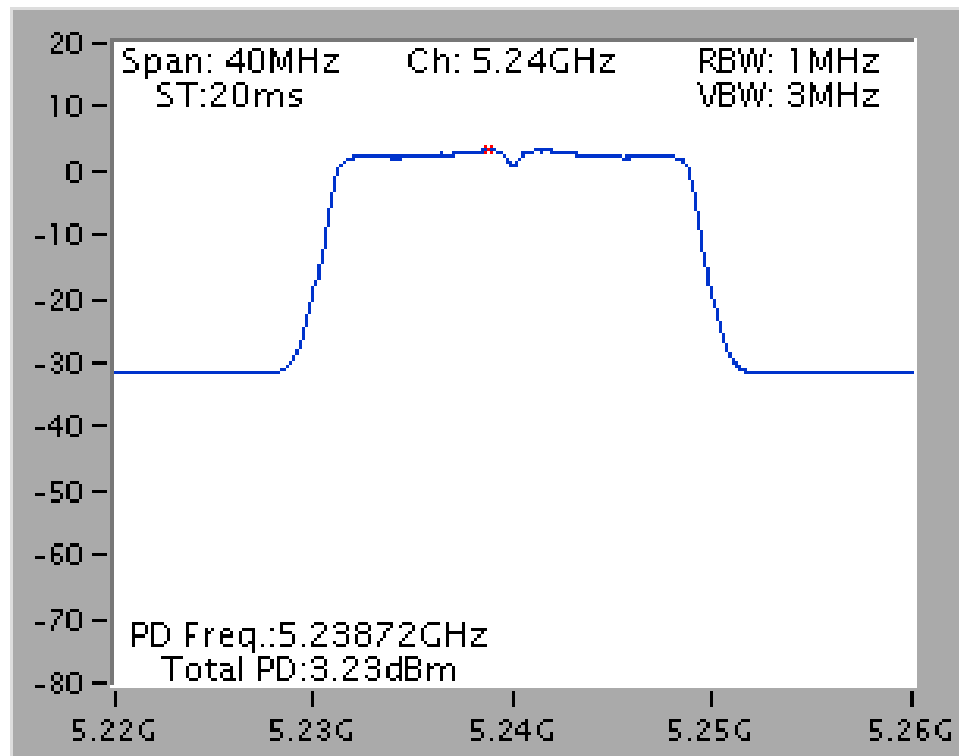
Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 1+2+3



Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 3: 97.95% Nss1MCS0, Ant. 1+2+3, CDD: 97.95% Nss2MCS0, Ant. 1+2+3, CDD: 96.19%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 3>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
38	5190 MHz	0.93	5.63	4.00	Complies
46	5230 MHz	0.79	5.71	4.00	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-0.15	6.82	3.18	Complies
46	5230 MHz	-0.25	7.18	2.82	Complies

Note:

5190MHz Directional Gain =6.82dBi >6dBi,So Power Density Limit =4-(6.82-6)=3.18dBm/MHz

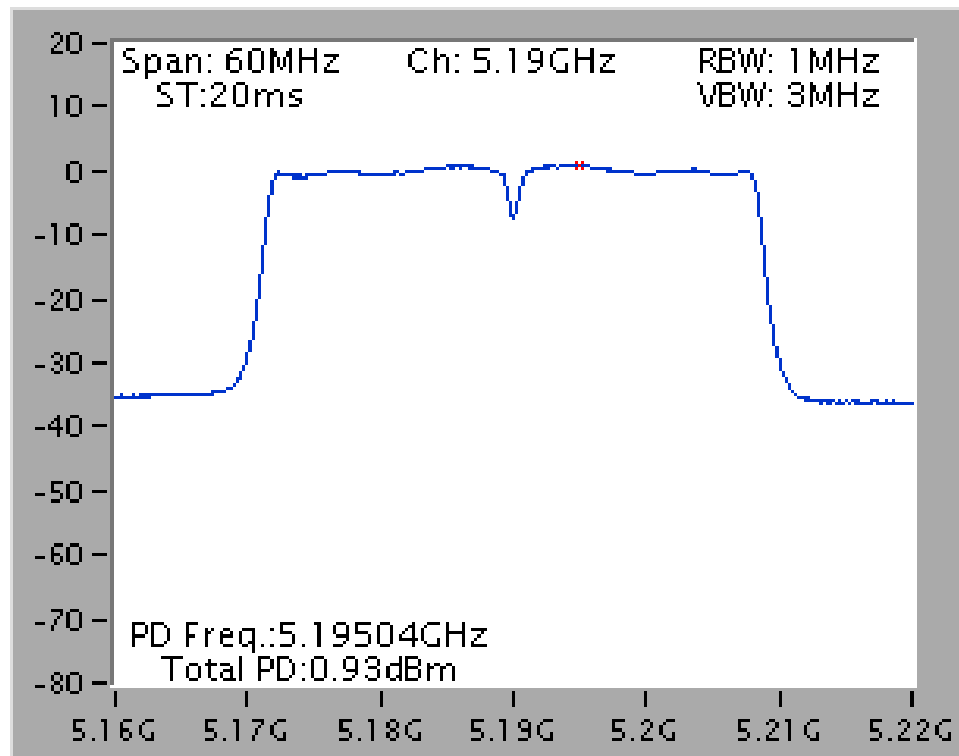
5230MHz Directional Gain =7.18dBi >6dBi,So Power Density Limit =4-(7.18-6)=2.82dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

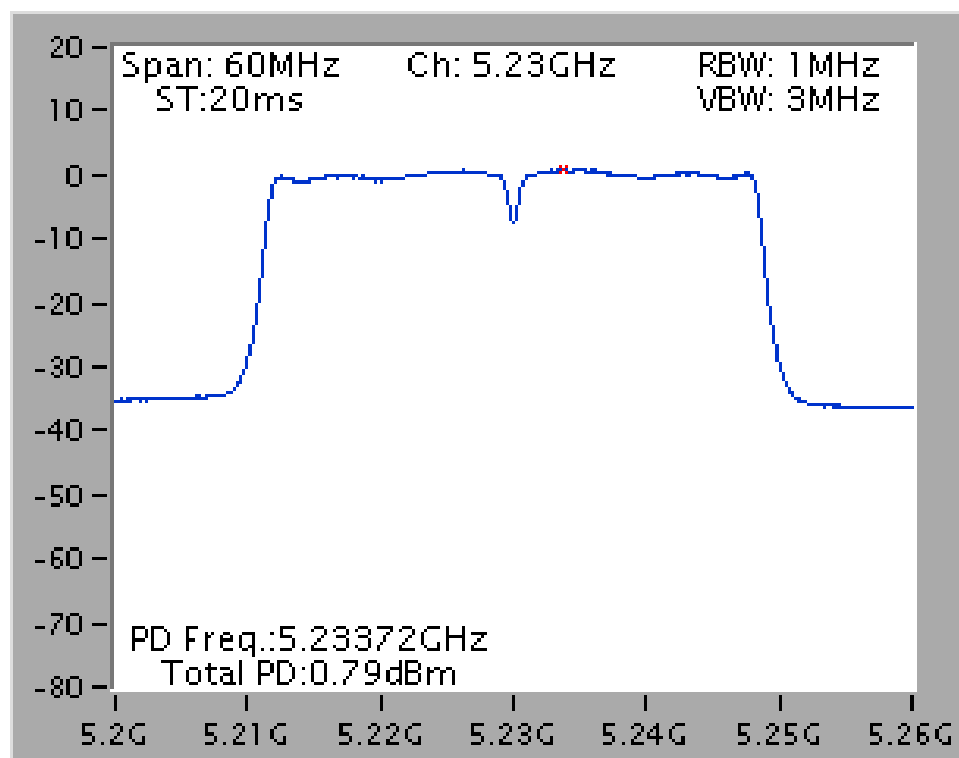
Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
38	5190 MHz	0.52	5.71	4.00	Complies
46	5230 MHz	0.68	5.93	4.00	Complies

For <Nss1MCS0, Ant. 3>:

Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 3

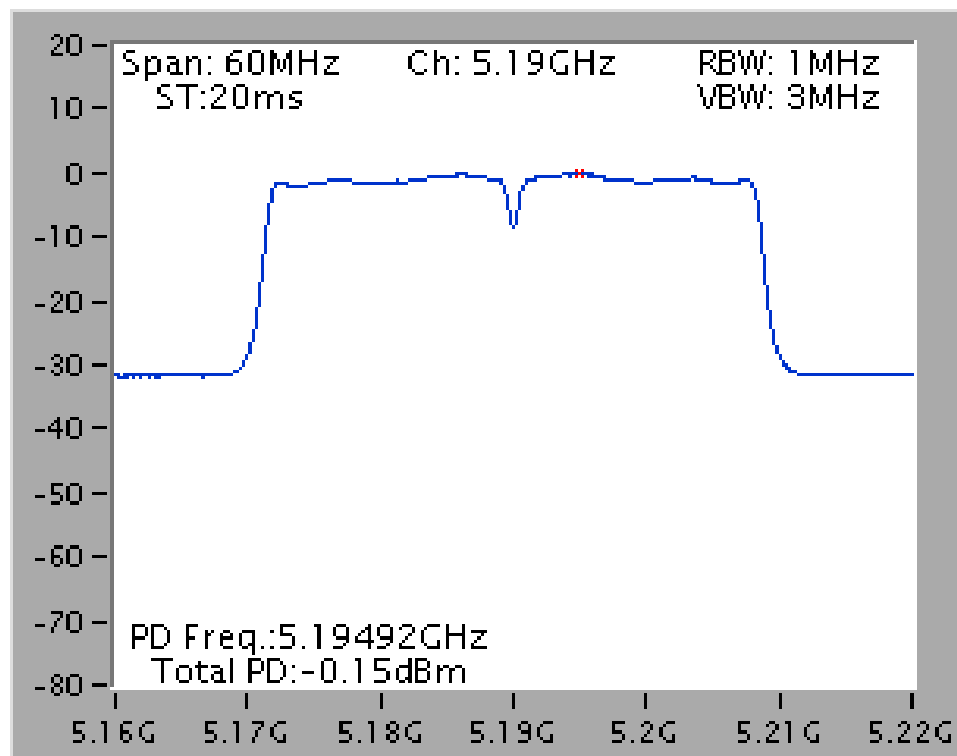


Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 3

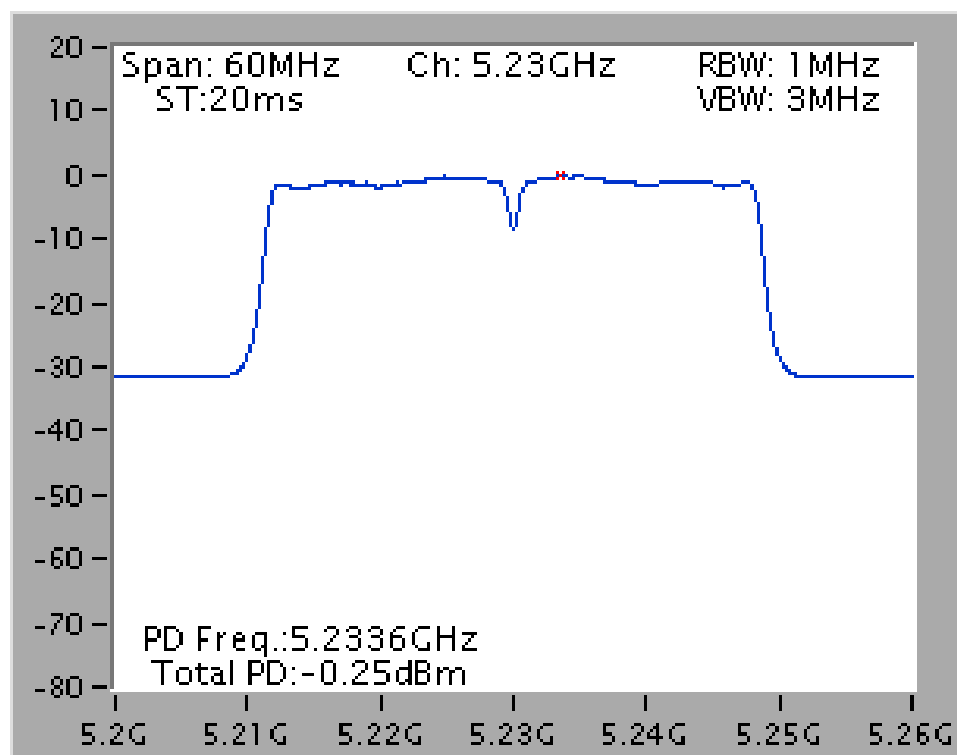


For <Nss1MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 1+2+3

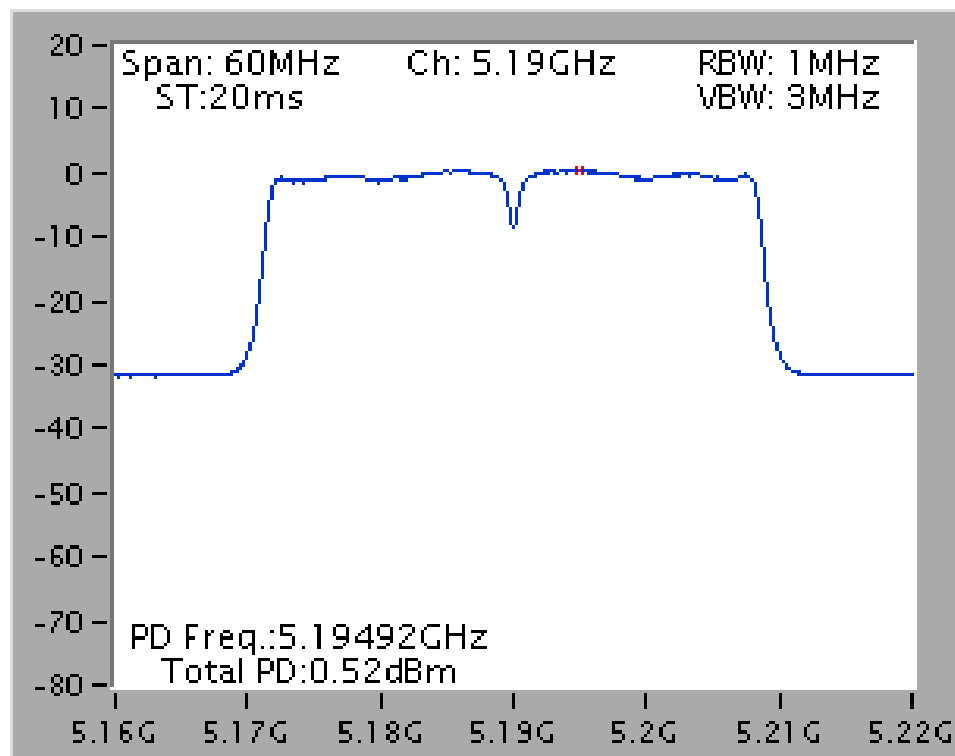


Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 1+2+3

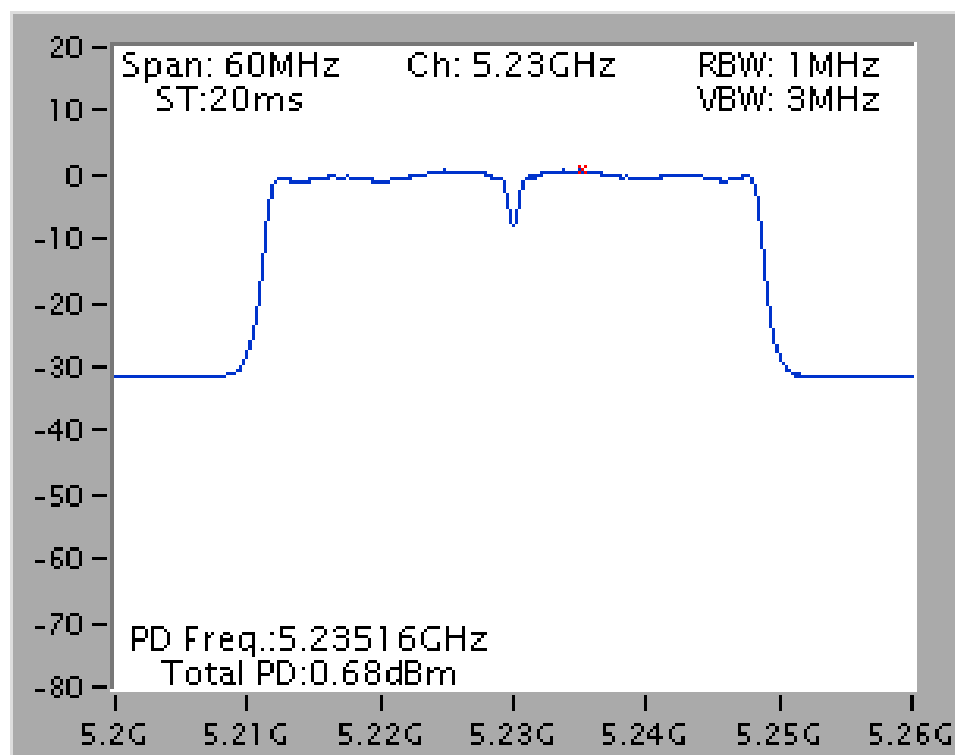


For <Nss2MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 1+2+3



Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 3: 95.87% Nss1MCS0, Ant. 1+2+3, CDD: 95.87% Nss2MCS0, Ant. 1+2+3, CDD: 91.48%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 3>

Channel	Frequency	Power Density (dBm/MHz)	Antenna Gain	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-2.21	5.83	4.00	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-3.30	6.72	3.28	Complies

Note:

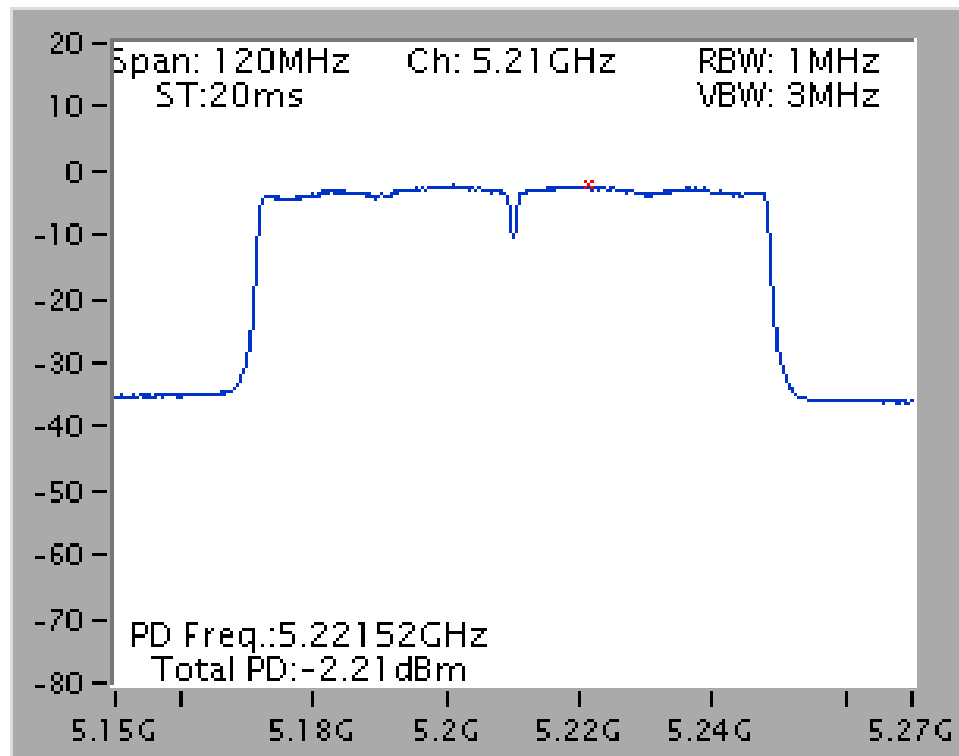
5210MHz Directional Gain =6.72dBi >6dBi, So Power Density Limit =4-(6.72-6)=3.28dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-2.68	5.64	4.00	Complies

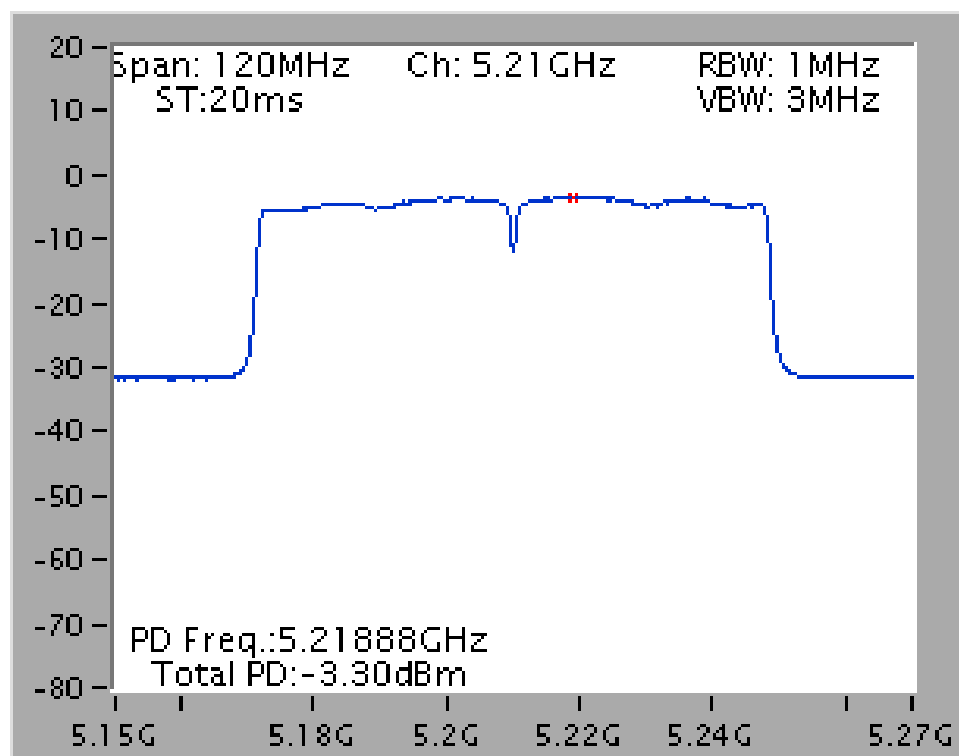
For <Nss1MCS0, Ant. 3>:

Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 3



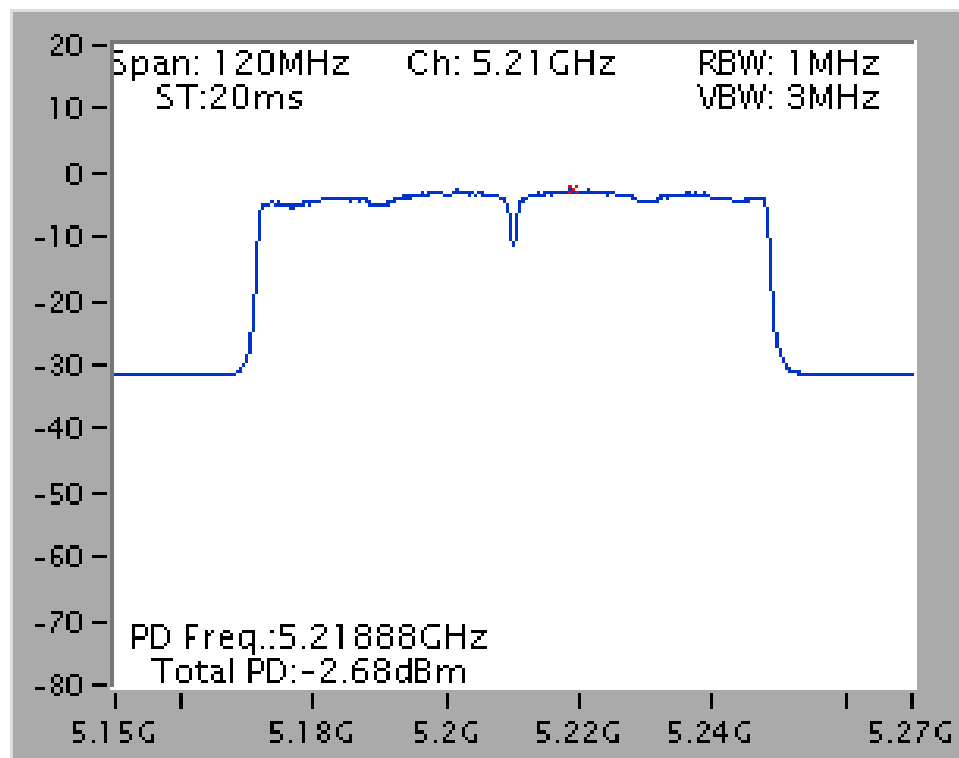
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 1+2+3



For <Nss2MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 1+2+3



For Beamforming

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 98.97% Nss2MCS0, Ant. 1+2+3, CDD: 98.20%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.12	6.80	3.20	Complies
40	5200 MHz	2.03	6.96	3.04	Complies
48	5240 MHz	1.95	7.07	2.93	Complies

Note:

5180MHz Directional Gain =6.80dBi >6dBi,So Power Density Limit =4-(6.80-6)=3.20dBm/MHz

5200MHz Directional Gain =6.96dBi >6dBi,So Power Density Limit =4-(6.96-6)=3.04dBm/MHz

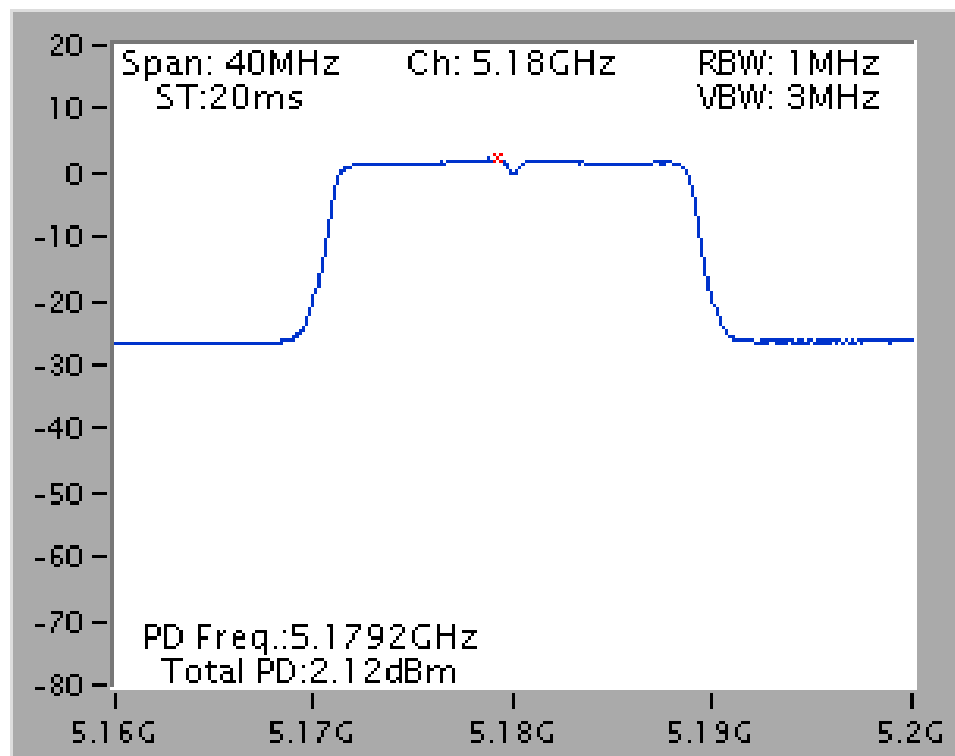
5240MHz Directional Gain =7.07dBi >6dBi,So Power Density Limit =4-(7.07-6)=2.93dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

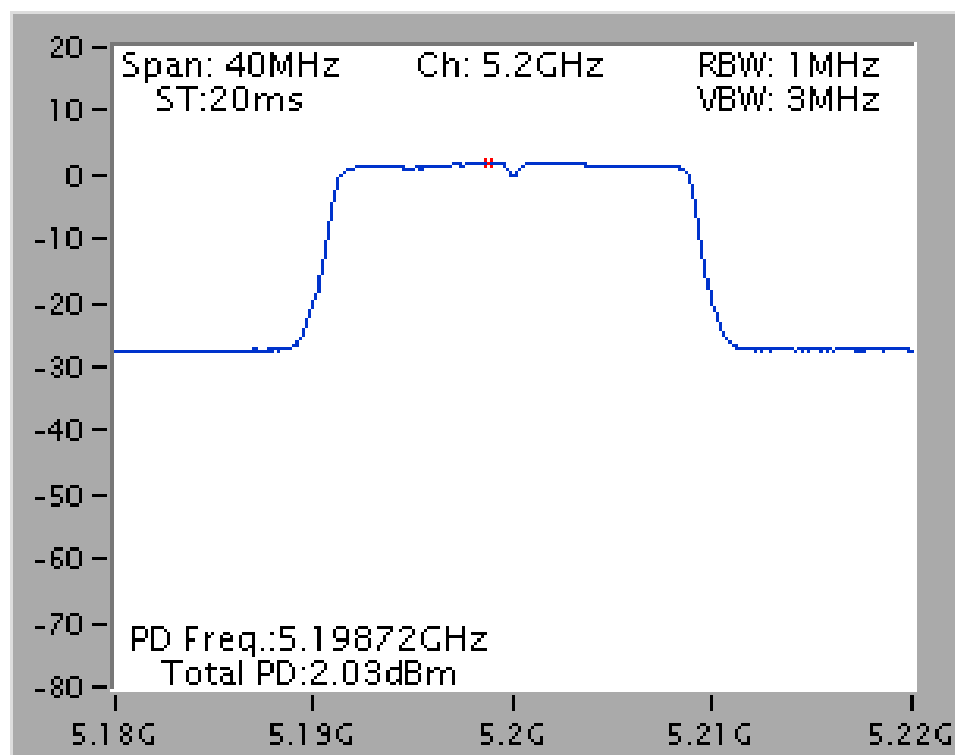
Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
36	5180 MHz	2.83	5.63	4.00	Complies
40	5200 MHz	2.83	5.84	4.00	Complies
48	5240 MHz	3.32	5.95	4.00	Complies

For <Nss1MCS0, Ant. 1+2+3, CDD>:

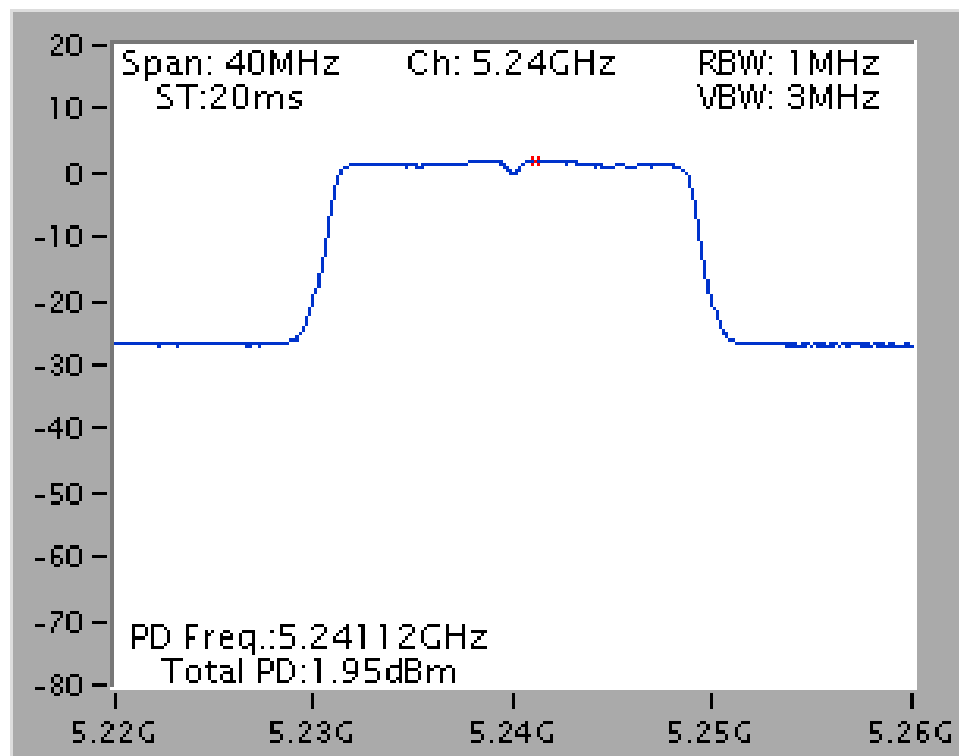
Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 36 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 40 / Ant. 1+2+3

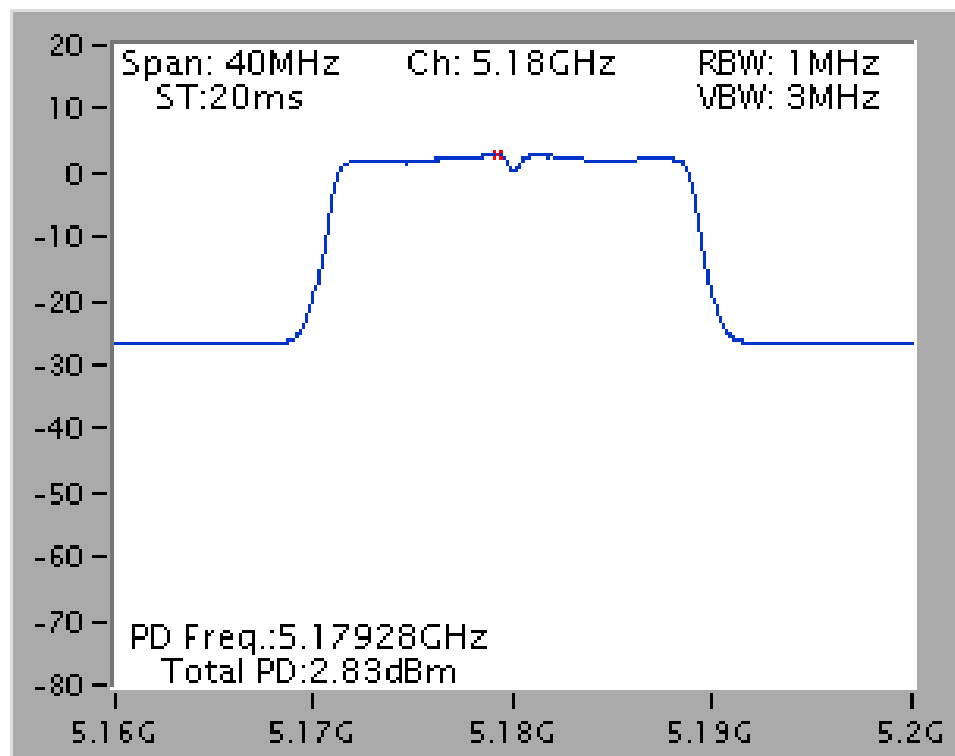


Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss1MCS0 / CH 48 / Ant. 1+2+3

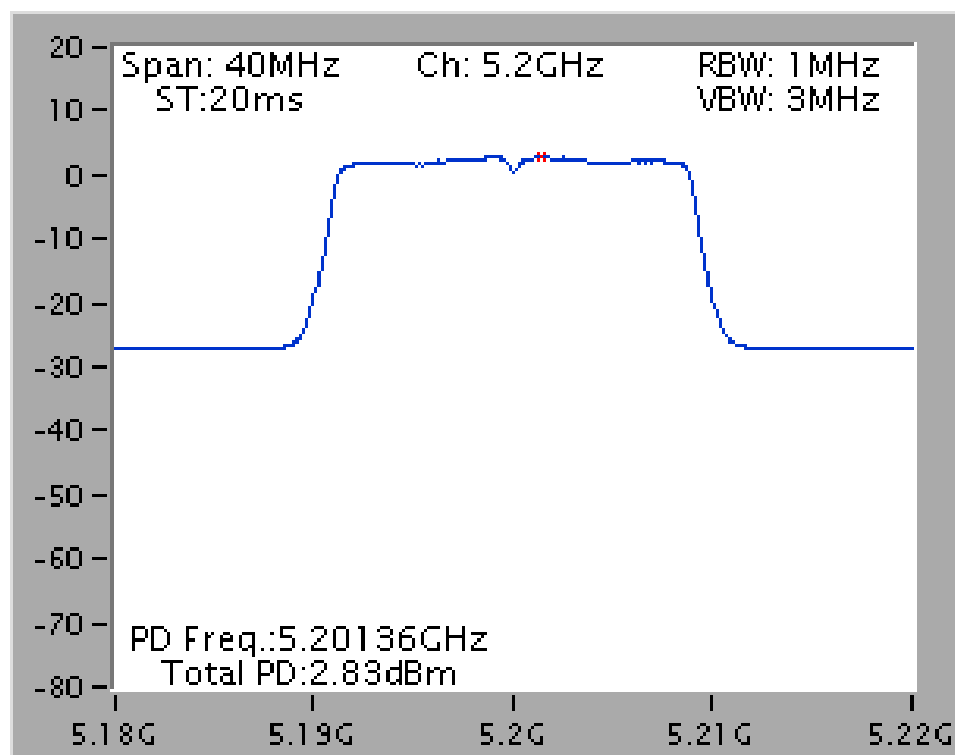


For <Nss2MCS0, Ant. 1+2+3, CDD>:

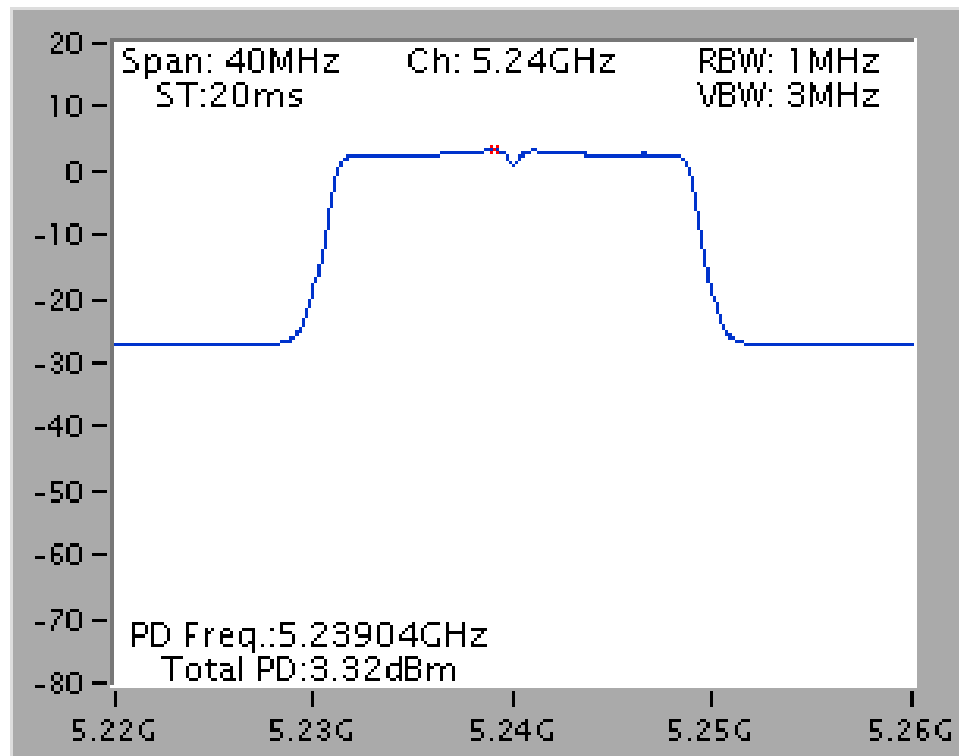
Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 36 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 40 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 20MHz Nss2MCS0 / CH 48 / Ant. 1+2+3



Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 97.46% Nss2MCS0, Ant. 1+2+3, CDD: 98.15%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
38	5190 MHz	-0.16	6.82	3.18	Complies
46	5230 MHz	-0.67	7.18	2.82	Complies

Note:

5190MHz Directional Gain =6.82dBi >6dBi,So Power Density Limit =4-(6.82-6)=3.18dBm/MHz

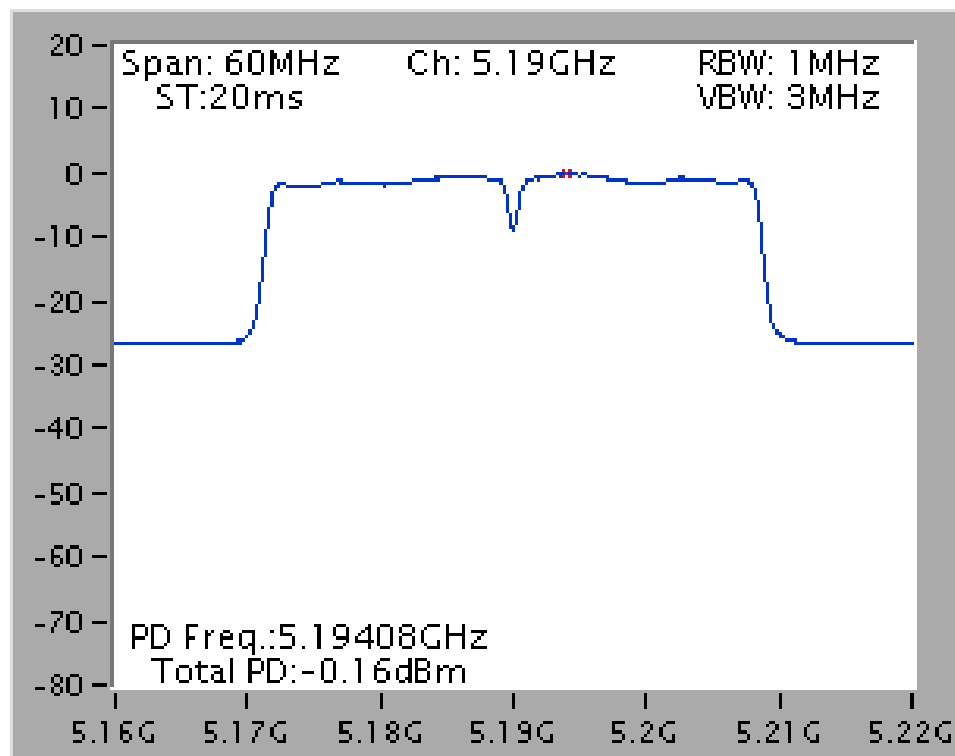
5230MHz Directional Gain =7.18dBi >6dBi,So Power Density Limit =4-(7.18-6)=2.82dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

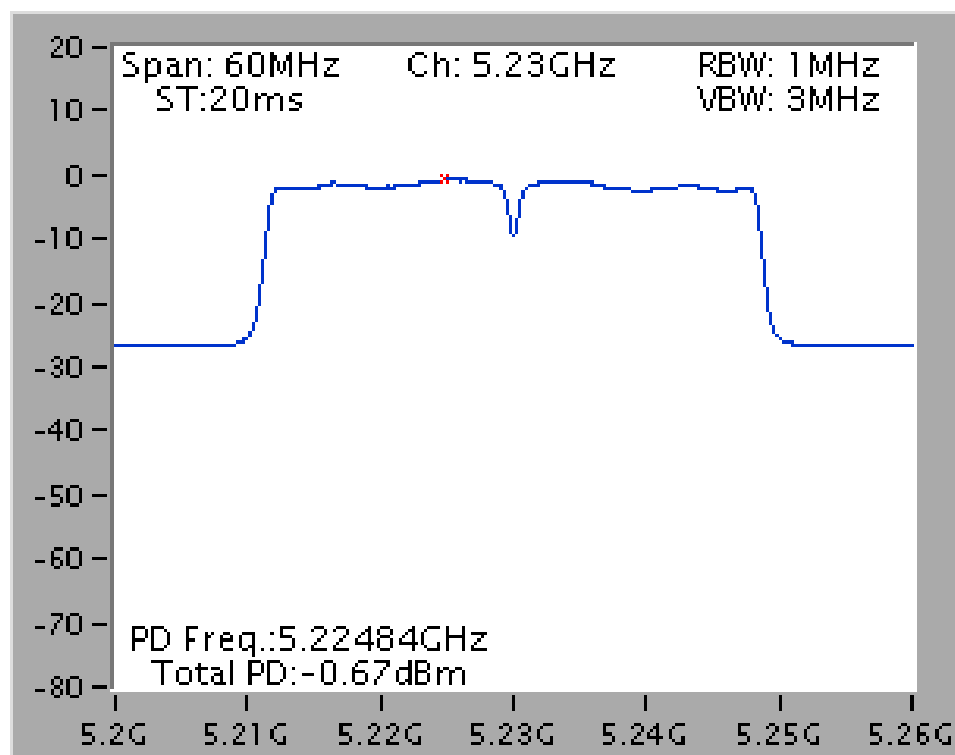
Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
38	5190 MHz	0.01	5.71	4.00	Complies
46	5230 MHz	0.05	5.93	4.00	Complies

For <Nss1MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 38 / Ant. 1+2+3

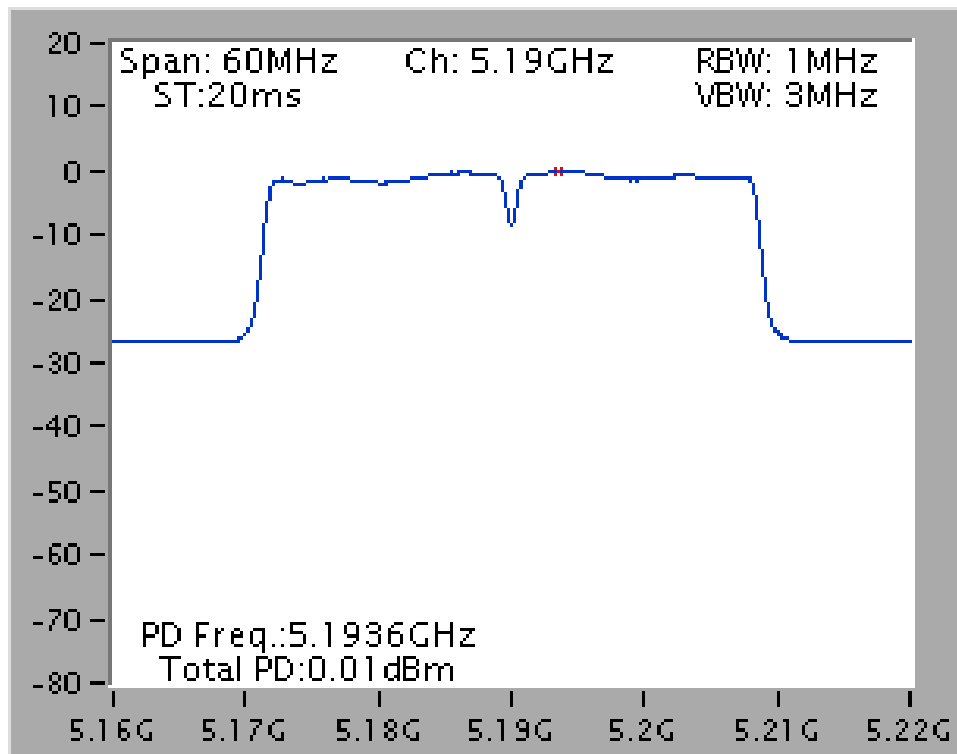


Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss1MCS0 / CH 46 / Ant. 1+2+3

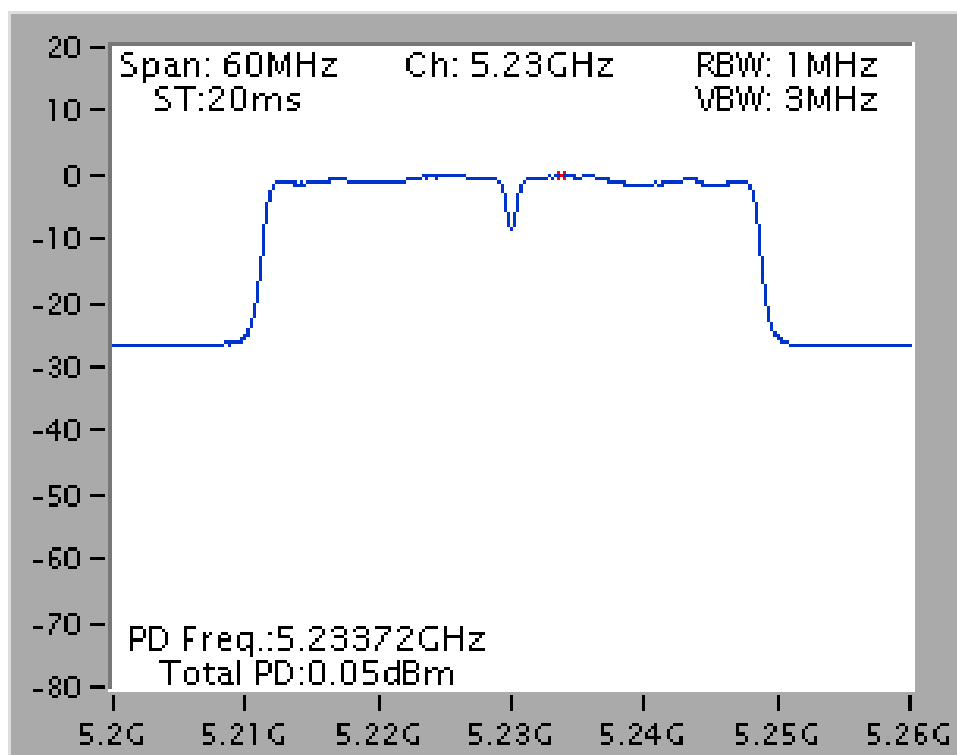


For <Nss2MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 38 / Ant. 1+2+3



Power Density Plot on Configuration IEEE 802.11ac 40MHz Nss2MCS0 / CH 46 / Ant. 1+2+3



Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 95.49% Nss2MCS0, Ant. 1+2+3, CDD: 96.38%		

Configuration IEEE 802.11ac 80MHz**<Nss1MCS0, Ant. 1+2+3, CDD>**

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-3.42	6.72	3.28	Complies

Note:

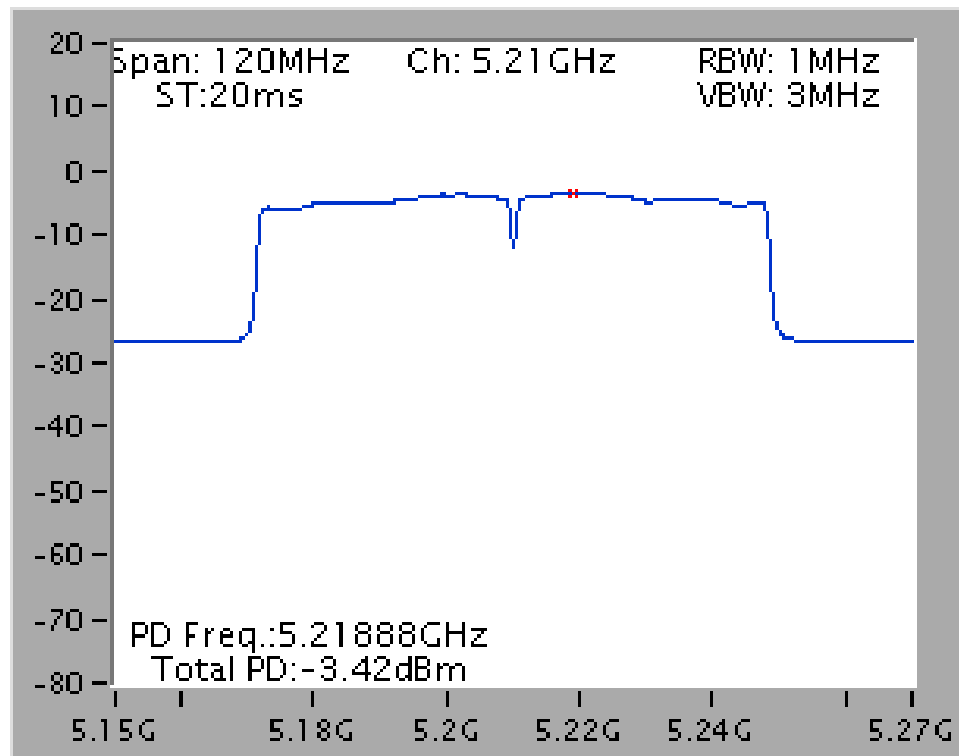
5210MHz Directional Gain =6.72dBi >6dBi,So Power Density Limit =4-(6.72-6)=3.28dBm/MHz

<Nss2MCS0, Ant. 1+2+3, CDD>

Channel	Frequency	Power Density (dBm/MHz)	Directional Gain	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-2.52	5.64	4.00	Complies

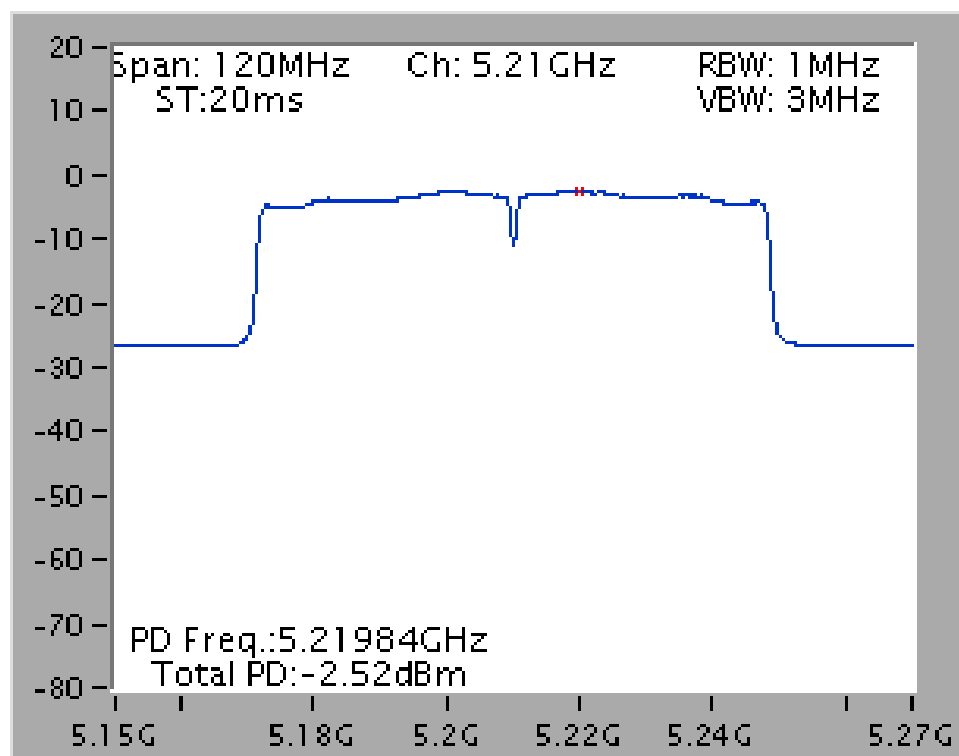
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss1MCS0 / CH 42 / Ant. 1+2+3



For <Nss2MCS0, Ant. 1+2+3, CDD>:

Power Density Plot on Configuration IEEE 802.11ac 80MHz Nss2MCS0 / CH 42 / Ant. 1+2+3



3.5 Peak Excursion Measurement

3.5.1 Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emissions bandwidth whichever is less.

3.5.2 Measuring Instruments and Setting

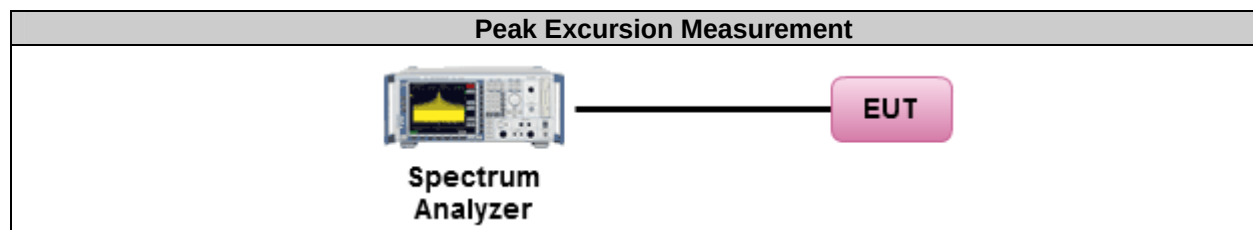
Please refer to section 4 of equipments list in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1MHz (Peak Trace) / 1MHz (Average Trace)
VBW	$\geq 3\text{MHz}$ (Peak Trace) / $\geq 3\text{MHz}$ (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Trace: Max hold (Peak Trace) / Trace Average Sweep Count 100 (Average Trace)
Sweep Time	AUTO

3.5.3 Test Procedures

- Trace A, Set RBW = 1MHz, VBW = 3MHz, Span > 26dB bandwidth, Detector : Peak ,Max. hold.
- Trace B, Set RBW = 1MHz, VBW = 3MHz, Span > 26dB bandwidth, Detector : RMS , Trace Average count 100.
- Delta Mark trace A Maximum frequency and trace B same frequency.
- Repeat the above procedure until measurements for all frequencies were complete.
- Testing each modulation mode on a single channel in a single operating band is sufficient to demonstrate compliance with the peak excursion requirement. signal types (e.g., direct sequence spread spectrum (DSSS) and OFDM); All modulation types (e.g., BPSK, QPSK, 16-QAM, 64-QAM, and 256-QAM)

3.5.4 Test Setup Layout



3.5.5 Test Deviation

There are no deviation with the original standard.

3.5.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.5.7 Test Result of Peak excursion

For Non-Beamforming

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11a
Duty Cycle	Ant. 2: 99.04% Ant. 1+2+3, CDD: 98.80%		

Configuration IEEE 802.11a

<Ant. 2>

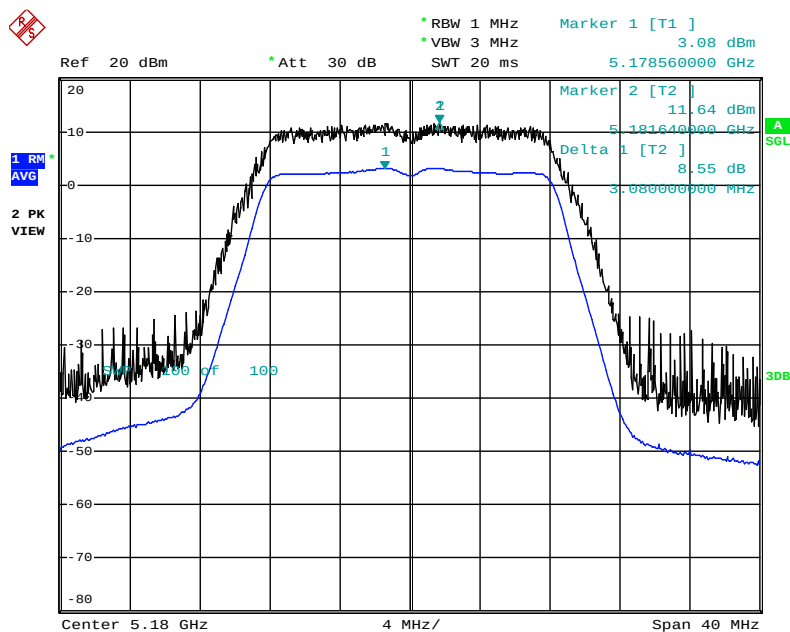
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(6Mbps)	5180MHz	8.55	13	Complies
QPSK(12Mbps)	5180MHz	8.66	13	Complies
16QAM(24Mbps)	5180MHz	8.71	13	Complies
64QAM(48Mbps)	5180MHz	9.21	13	Complies

<Ant. 1+2+3, CDD >

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(6Mbps)	5180MHz	8.48	13	Complies
QPSK(12Mbps)	5180MHz	8.52	13	Complies
16QAM(24Mbps)	5180MHz	8.63	13	Complies
64QAM(48Mbps)	5180MHz	8.89	13	Complies

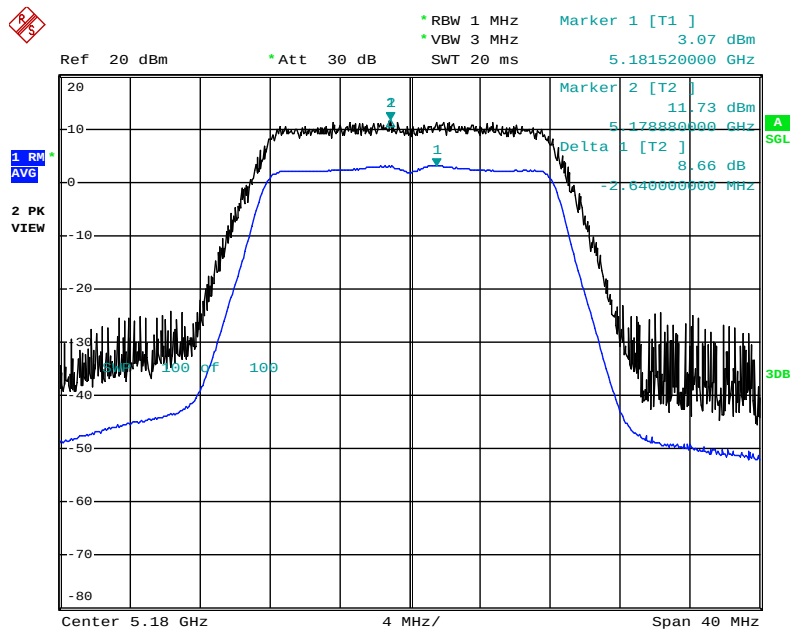
For <Ant. 2>

Peak excursion Plot on Configuration IEEE 802.11a / BSPK(6Mbps) / CH 36 / Ant. 2



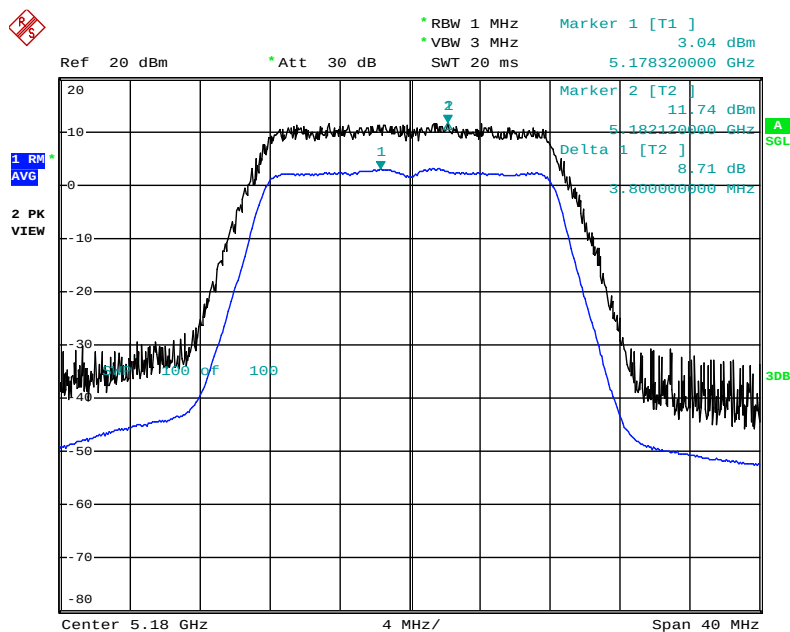
Date: 14.FEB.2014 15:42:41

Peak excursion Plot on Configuration IEEE 802.11a / QPSK(12Mbps) / CH 36 / Ant. 2



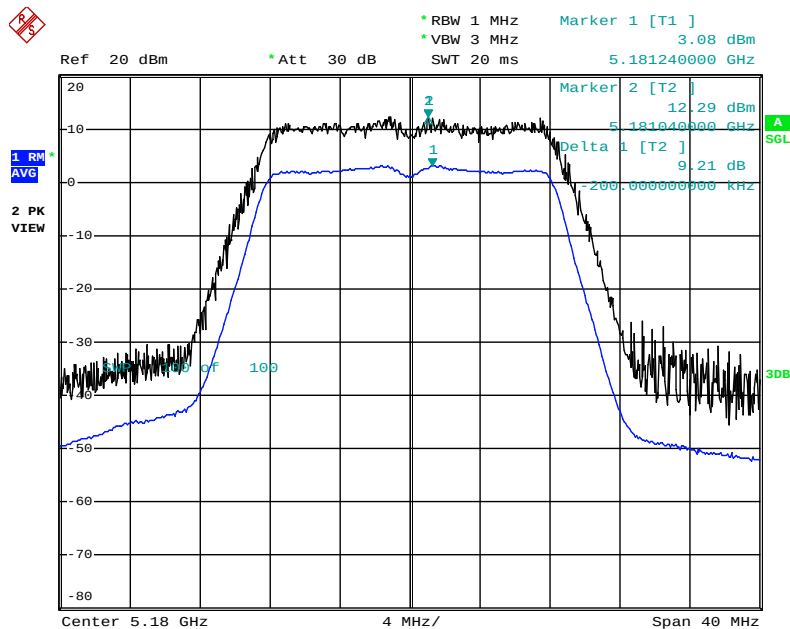
Date: 14.FEB.2014 15:42:02

Peak excursion Plot on Configuration IEEE 802.11a / 16QAM(24Mbps) / CH 36 / Ant. 2



Date: 14.FEB.2014 15:41:25

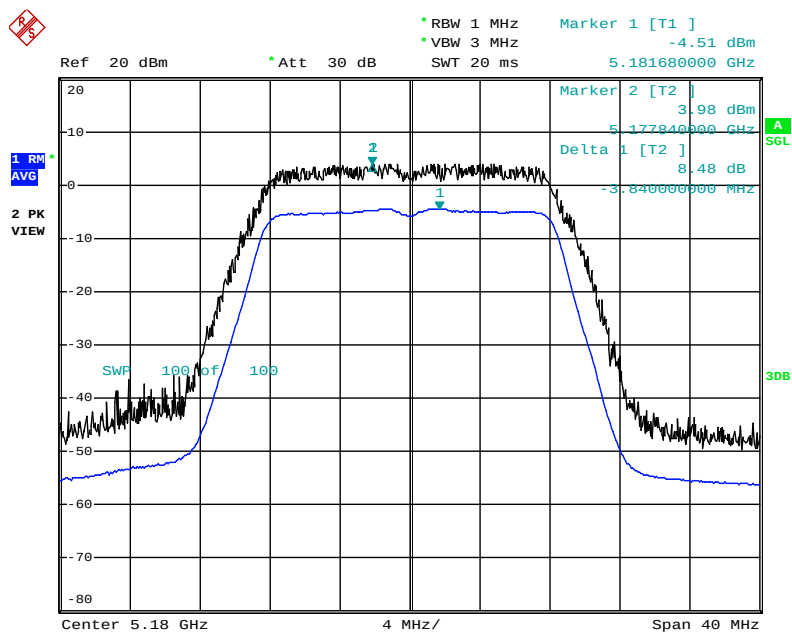
Peak excursion Plot on Configuration IEEE 802.11a / 64QAM(48Mbps) / CH 36 / Ant. 2



Date: 14.FEB.2014 15:40:39

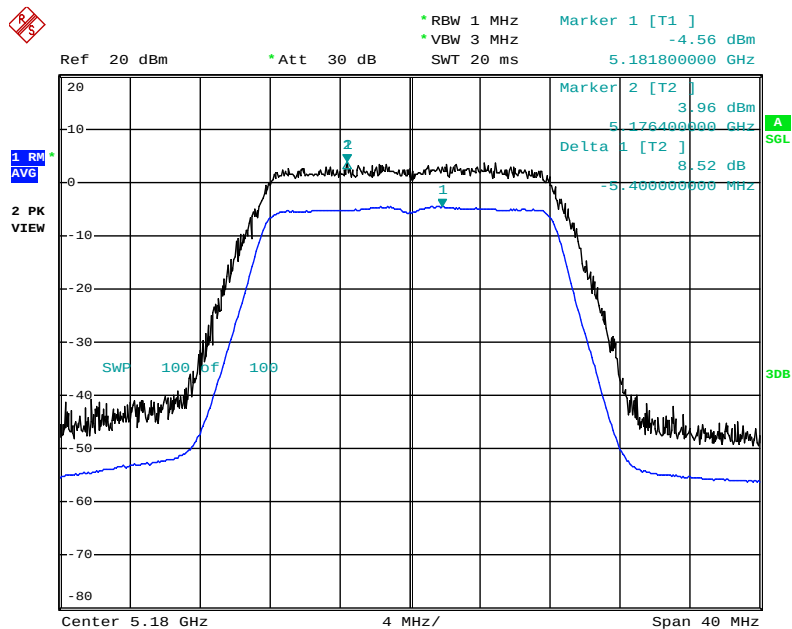
For <Ant. 1+2+3, CDD >:

Peak excursion Plot on Configuration IEEE 802.11a / BSPK(6Mbps) / CH 36 / Ant. 1+2+3



Date: 14.FEB.2014 15:49:31

Peak excursion Plot on Configuration IEEE 802.11a / QPSK(12Mbps) / CH 36 / Ant. 1+2+3



Date: 14.FEB.2014 15:48:52

Ref 20 dBm * Att 30 dB * RBW 1 MHz * VBW 3 MHz * SWT 20 ms

Marker 1 [T1] -4.77 dBm
5.181120000 GHz

Marker 2 [T2] 3.86 dBm
5.181060000 GHz

Delta 1 [T2] 8.63 dB
840.000000000 kHz

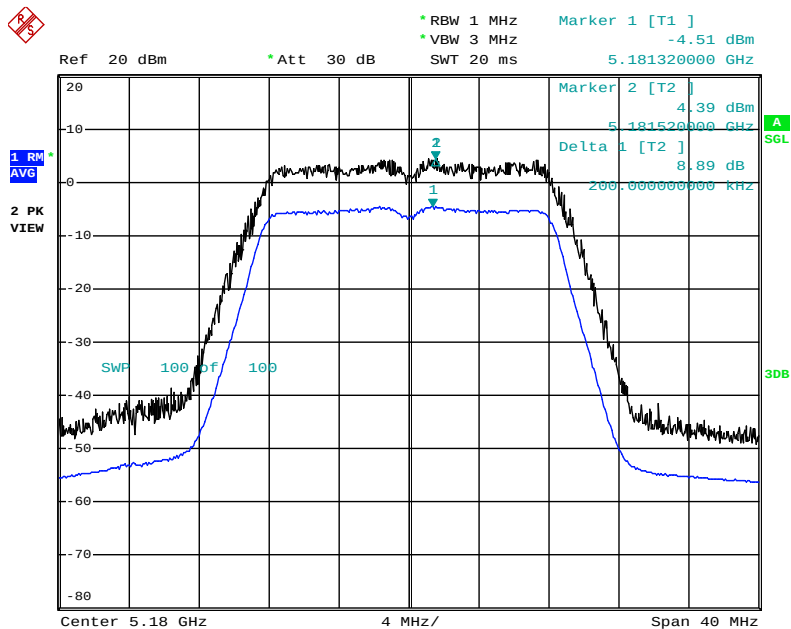
1 RM *
AVG

2 PK VIEW

SWP 100 ns

Center 5.18 GHz 4 MHz/ Span 40 MHz

Peak excursion Plot on Configuration IEEE 802.11a / 64QAM(48Mbps) / CH 36 / Ant. 1+2+3



Date: 14.FEB.2014 15:47:35

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 2: 98.72% Nss1MCS0, Ant. 1+2+3, CDD: 98.98% Nss2MCS0, Ant. 1+2+3, CDD: 96.29%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 2>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5180MHz	8.35	13	Complies
QPSK(MCS1)	5180MHz	9.29	13	Complies
16QAM(MCS3)	5180MHz	9.24	13	Complies
64QAM(MCS5)	5180MHz	9.51	13	Complies
256QAM(MCS8)	5180MHz	9.79	13	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

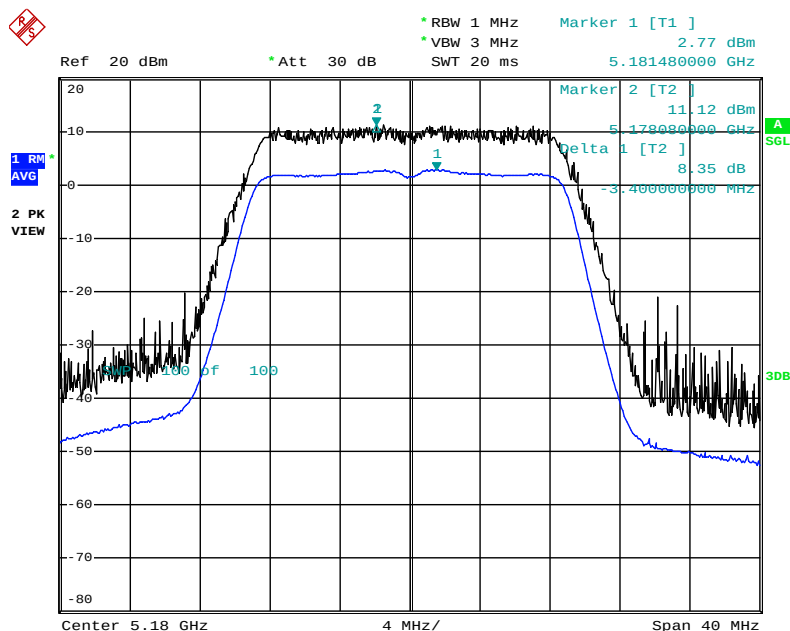
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5180MHz	8.64	13	Complies
QPSK(MCS1)	5180MHz	9.37	13	Complies
16QAM(MCS3)	5180MHz	9.08	13	Complies
64QAM(MCS5)	5180MHz	9.35	13	Complies
256QAM(MCS8)	5180MHz	9.60	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5240MHz	9.66	13	Complies
QPSK(MCS1)	5240MHz	9.72	13	Complies
16QAM(MCS3)	5240MHz	9.89	13	Complies
64QAM(MCS5)	5240MHz	10.43	13	Complies
256QAM(MCS8)	5240MHz	9.77	13	Complies

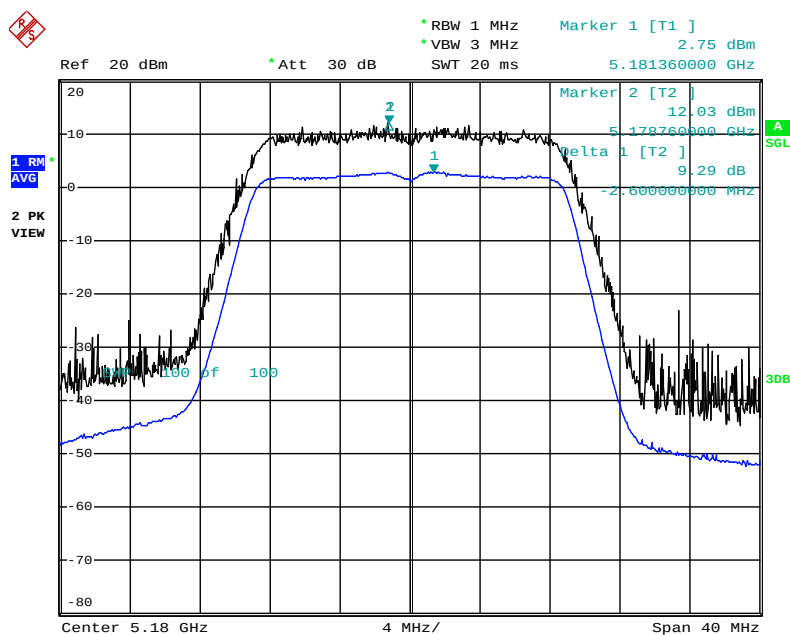
For <Nss1MCS0, Ant. 2>:

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / BSPK(MCS0) / CH 36
/ Ant. 2



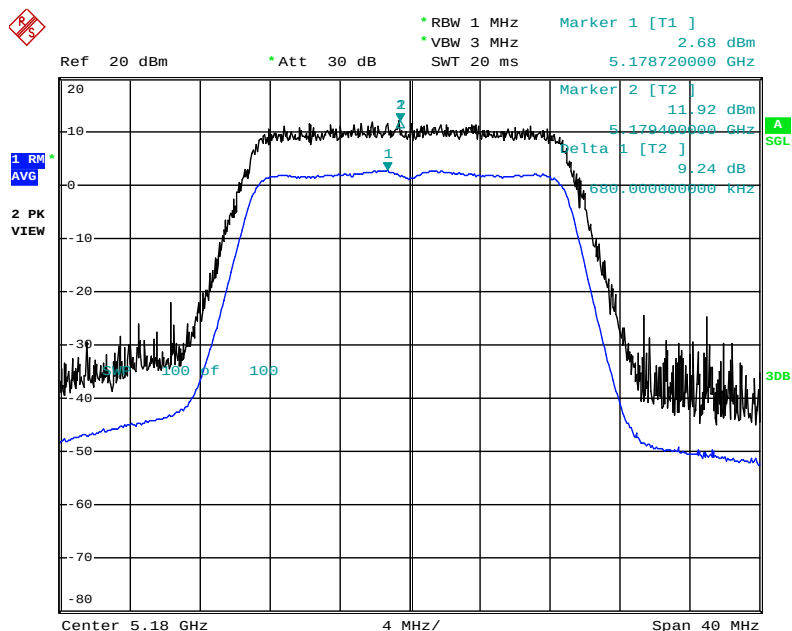
Date: 14.FEB.2014 16:15:32

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / QPSK(MCS1) / CH 36
/ Ant. 2



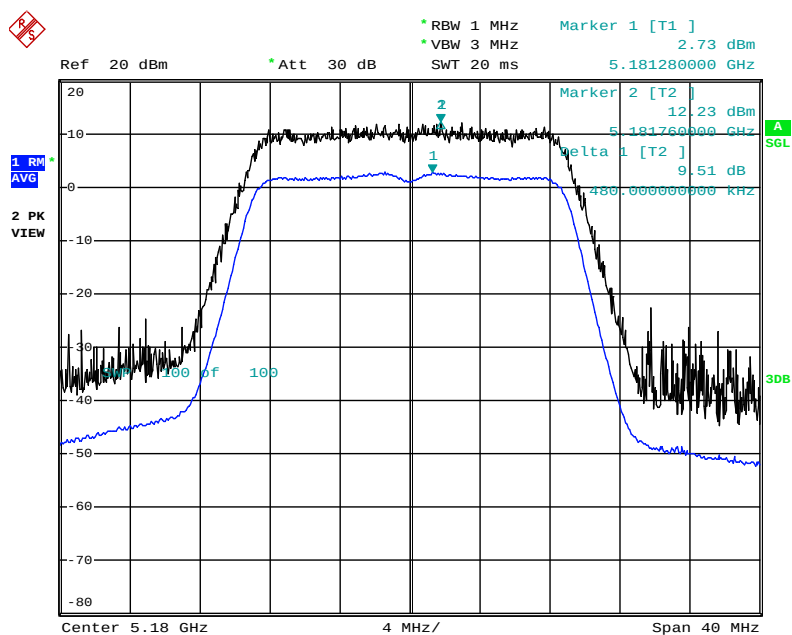
Date: 14.FEB.2014 16:14:55

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 16QAM(MCS3) / CH 36
/ Ant. 2



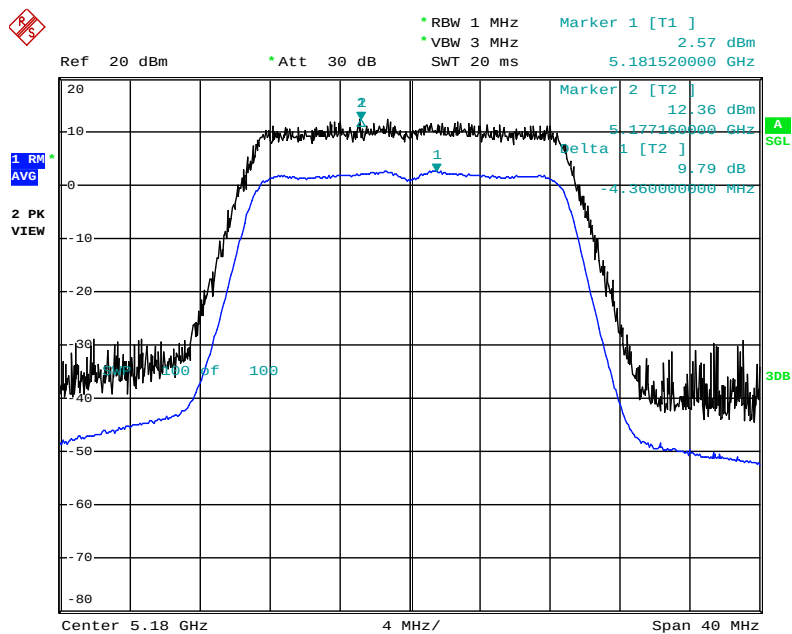
Date: 14.FEB.2014 16:14:20

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 64QAM(MCS5) / CH 36
/ Ant. 2



Date: 14.FEB.2014 16:13:30

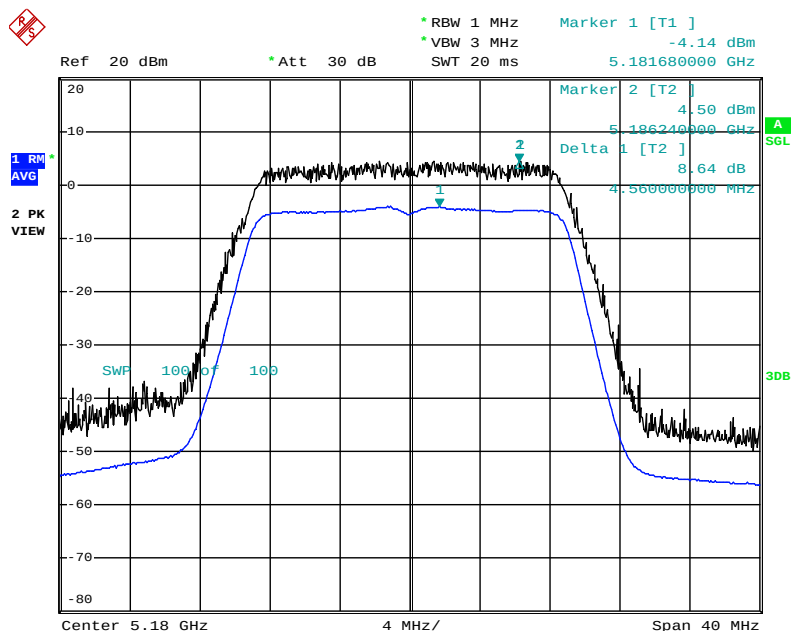
Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 256QAM(MCS8) / CH 36
/ Ant. 2



Date: 14.FEB.2014 16:12:50

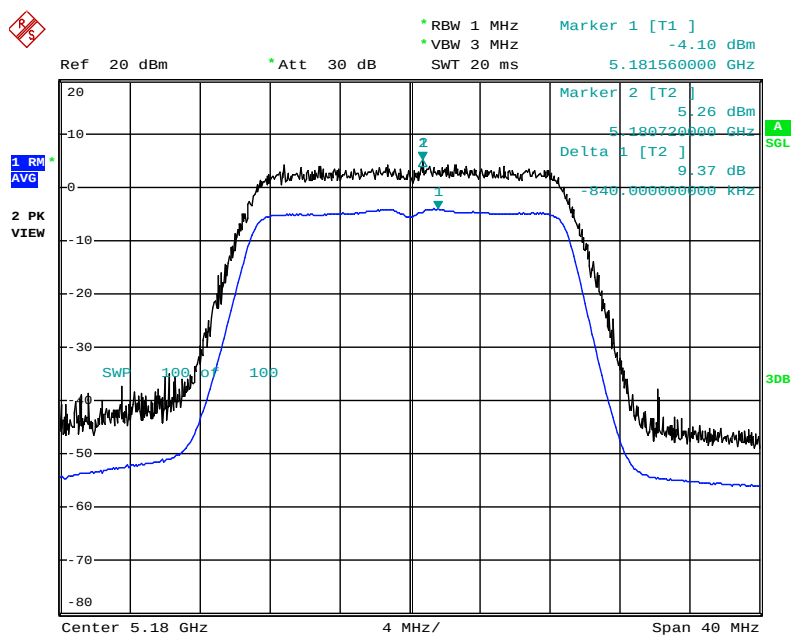
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / BSPK(MCS0) / CH 36
/ Ant. 1+2+3



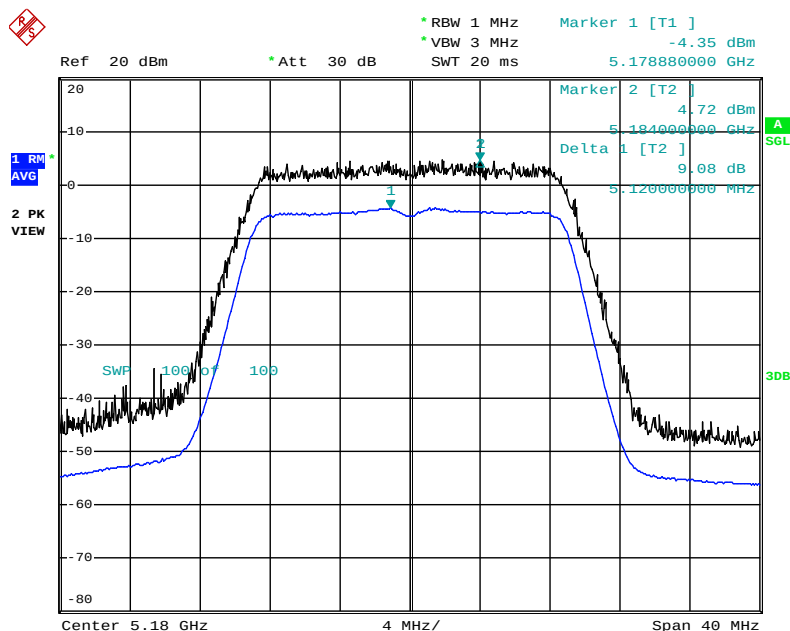
Date: 14.FEB.2014 16:52:33

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / QPSK(MCS1) / CH 36
/ Ant. 1+2+3



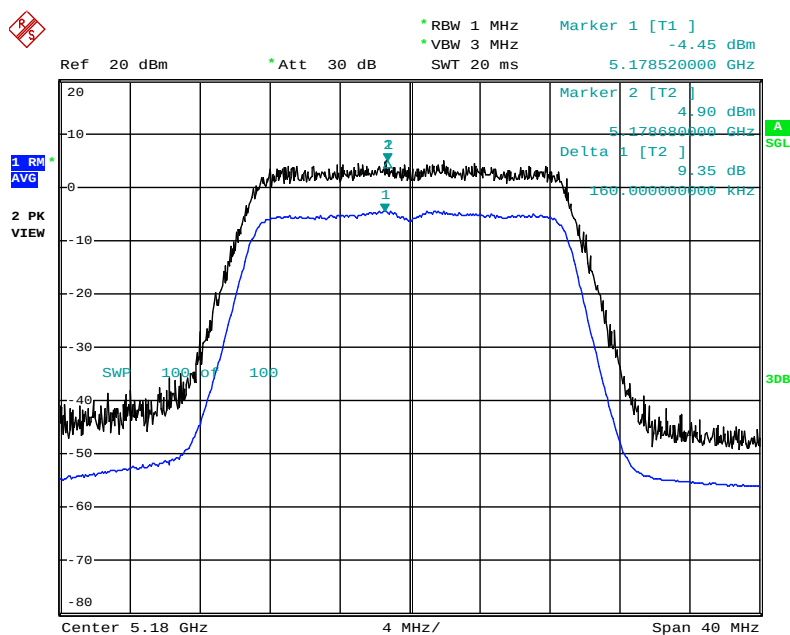
Date: 14.FEB.2014 16:53:07

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 16QAM(MCS3) / CH 36
/ Ant. 1+2+3



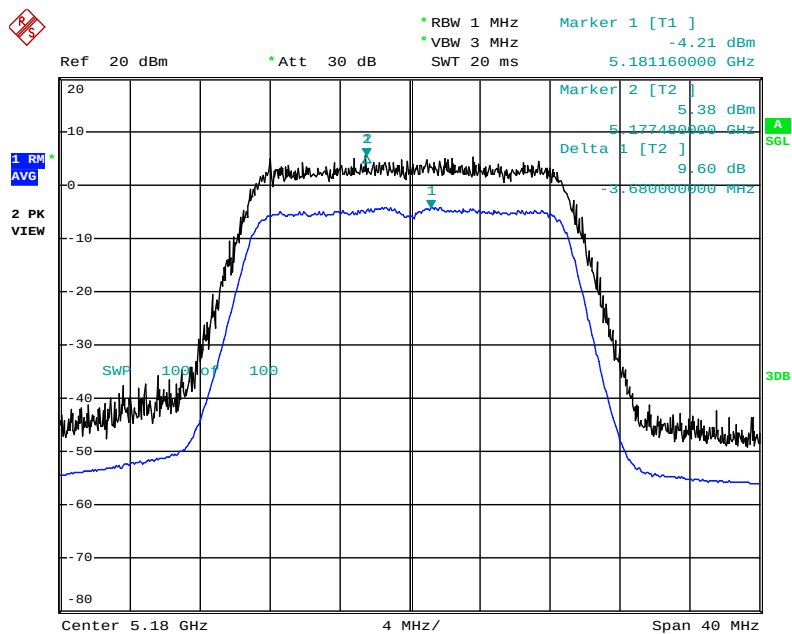
Date: 14.FEB.2014 16:53:46

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 64QAM(MCS5) / CH 36
/ Ant. 1+2+3



Date: 14.FEB.2014 16:54:22

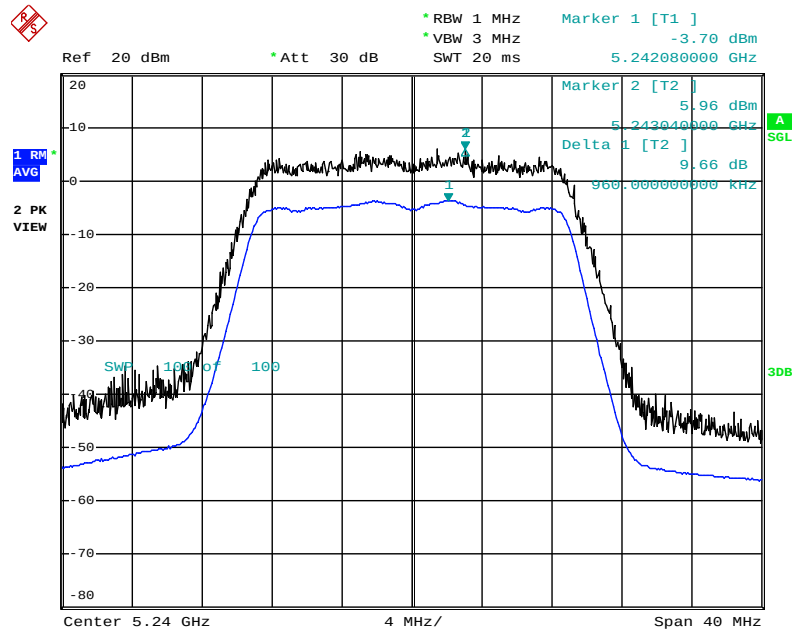
Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 256QAM(MCS8) / CH 36
/ Ant. 1+2+3



Date: 14.FEB.2014 16:54:59

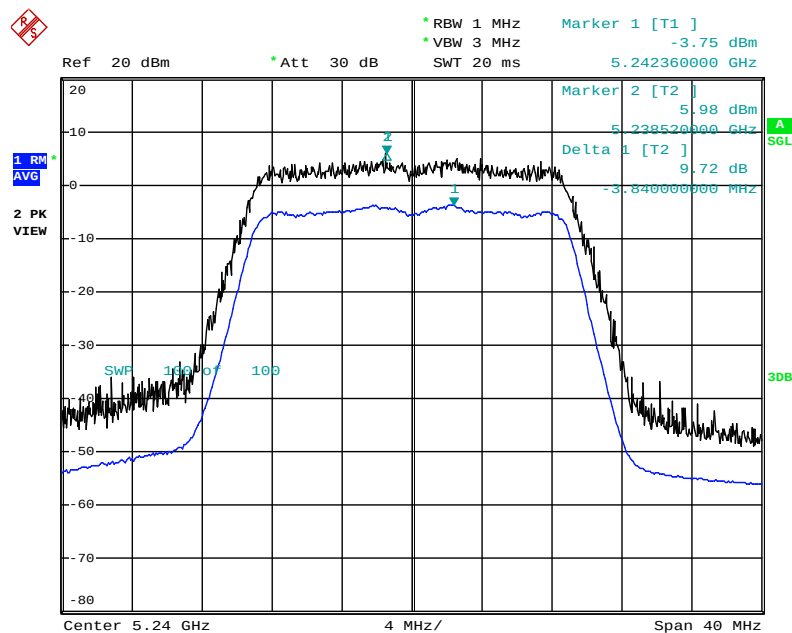
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / BSPK(MCS0) / CH 48
/ Ant. 1+2+3



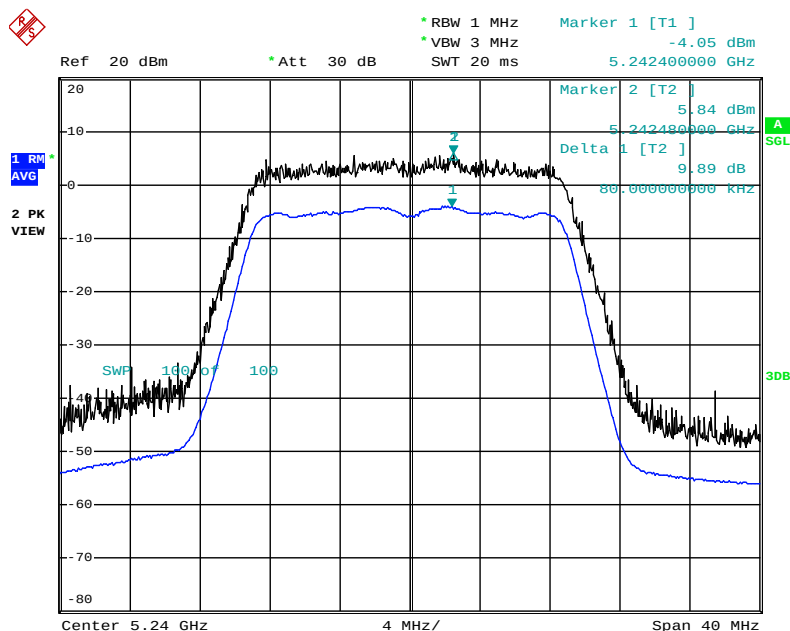
Date: 14.FEB.2014 16:56:12

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / QPSK(MCS1) / CH 48
/ Ant. 1+2+3



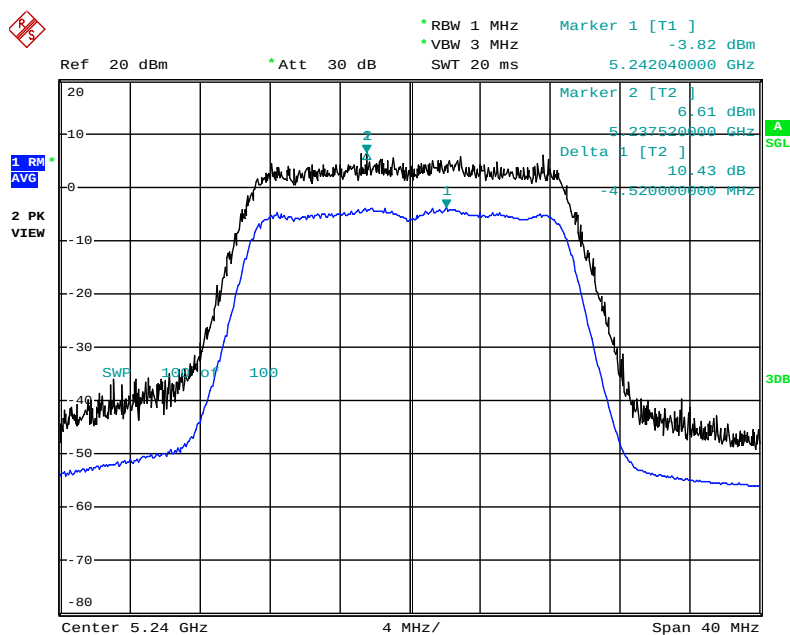
Date: 14.FEB.2014 16:56:49

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 16QAM(MCS3) / CH 48
/ Ant. 1+2+3



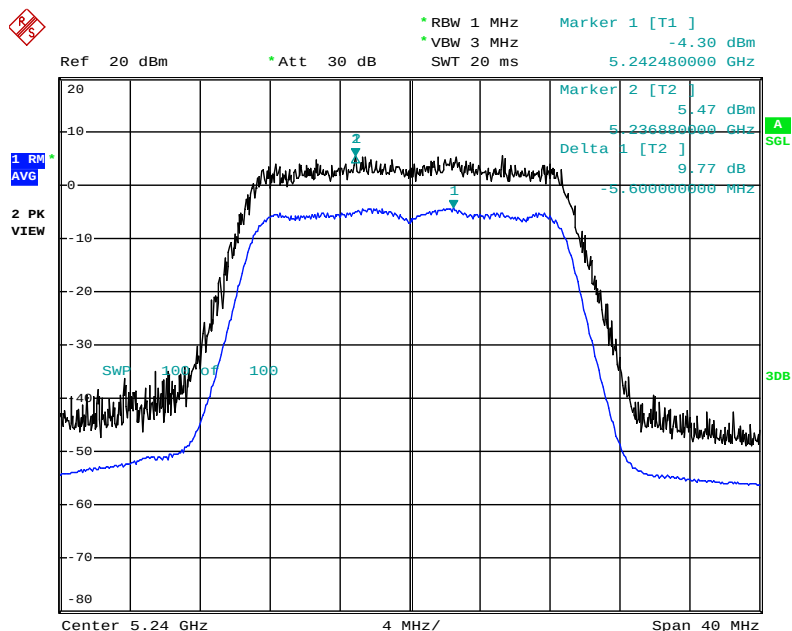
Date: 14.FEB.2014 16:57:33

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 64QAM(MCS5) / CH 48
/ Ant. 1+2+3



Date: 14.FEB.2014 16:58:29

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 256QAM(MCS8) / CH 48
/ Ant. 1+2+3



Date: 14.FEB.2014 16:59:06

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 3: 97.95% Nss1MCS0, Ant. 1+2+3, CDD: 97.95% Nss2MCS0, Ant. 1+2+3, CDD: 96.19%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 3>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5230MHz	9.11	13	Complies
QPSK(MCS1)	5230MHz	9.43	13	Complies
16QAM(MCS3)	5230MHz	9.48	13	Complies
64QAM(MCS5)	5230MHz	9.96	13	Complies
256QAM(MCS8)	5230MHz	10.29	13	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

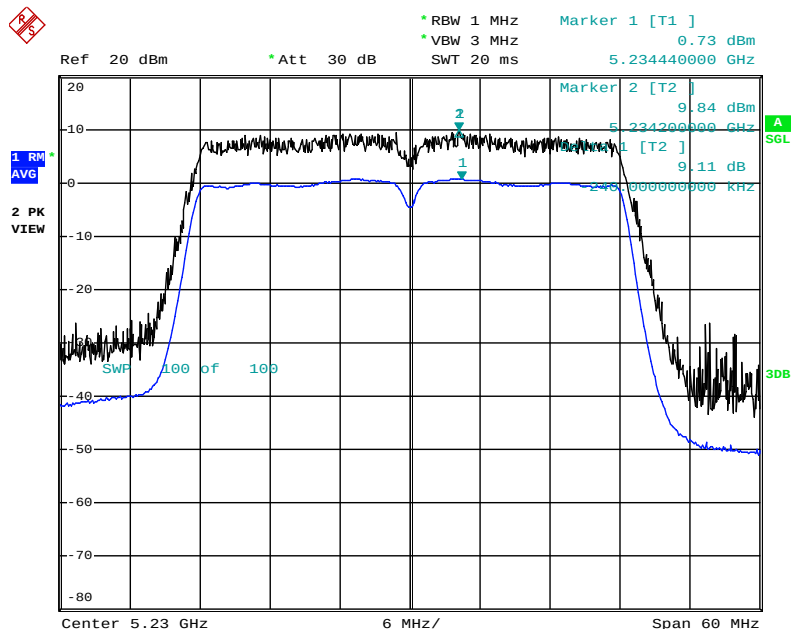
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5190MHz	9.60	13	Complies
QPSK(MCS1)	5190MHz	9.81	13	Complies
16QAM(MCS3)	5190MHz	9.02	13	Complies
64QAM(MCS5)	5190MHz	9.92	13	Complies
256QAM(MCS8)	5190MHz	11.14	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5190MHz	9.74	13	Complies
QPSK(MCS1)	5190MHz	9.06	13	Complies
16QAM(MCS3)	5190MHz	9.70	13	Complies
64QAM(MCS5)	5190MHz	10.03	13	Complies
256QAM(MCS8)	5190MHz	9.33	13	Complies

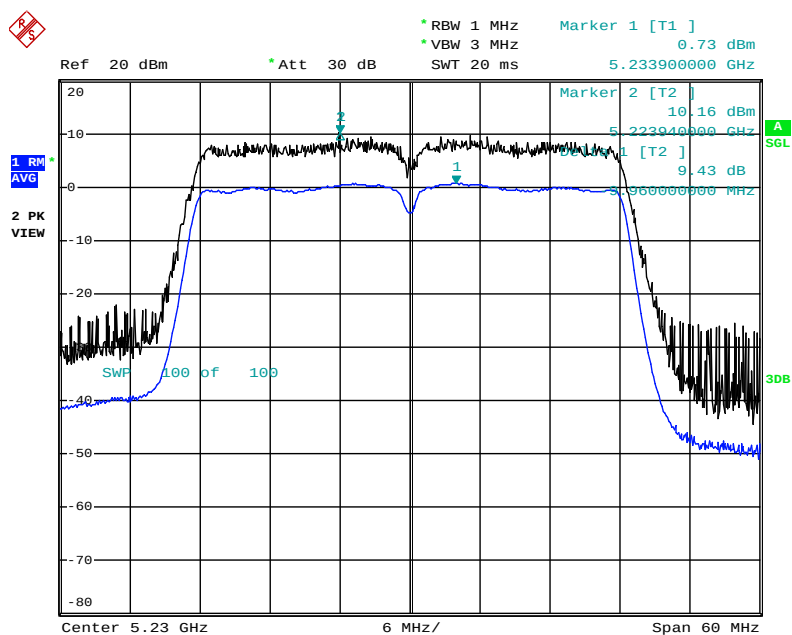
For <Nss1MCS0, Ant. 3>:

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / BSPK(MCS0) / CH 46
/ Ant. 3



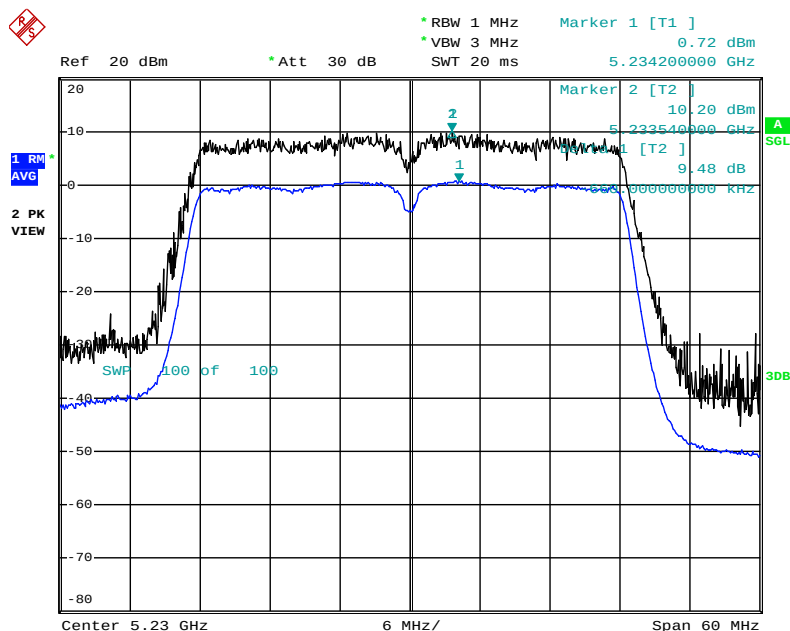
Date: 14.FEB.2014 16:23:20

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / QPSK(MCS1) / CH 46
/ Ant. 3



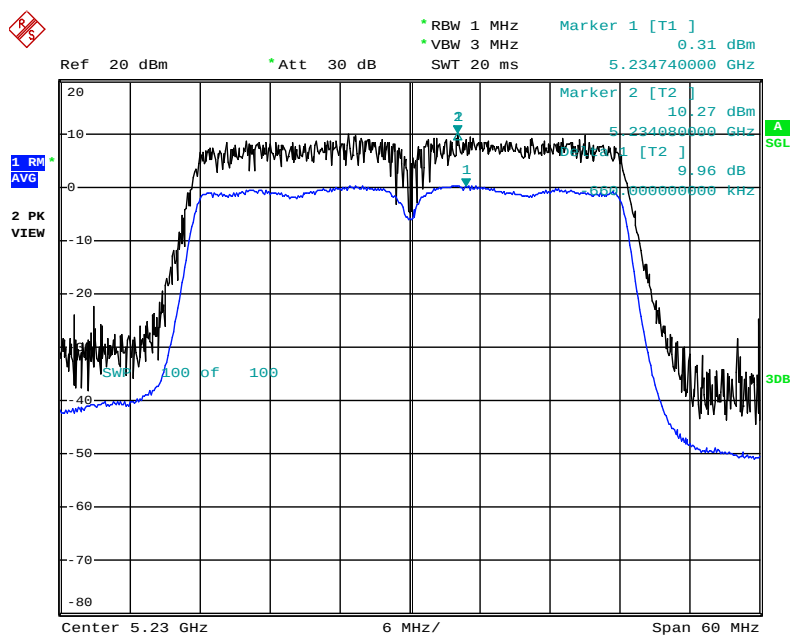
Date: 14.FEB.2014 16:22:44

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 16QAM(MCS3) / CH 46
/ Ant. 3



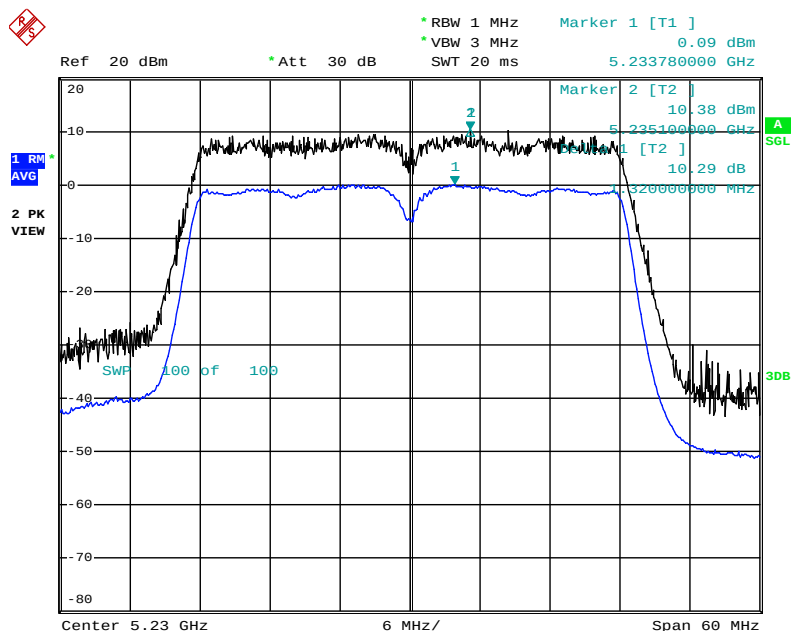
Date: 14.FEB.2014 16:22:08

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 64QAM(MCS5) / CH 46
/ Ant. 3



Date: 14.FEB.2014 16:21:29

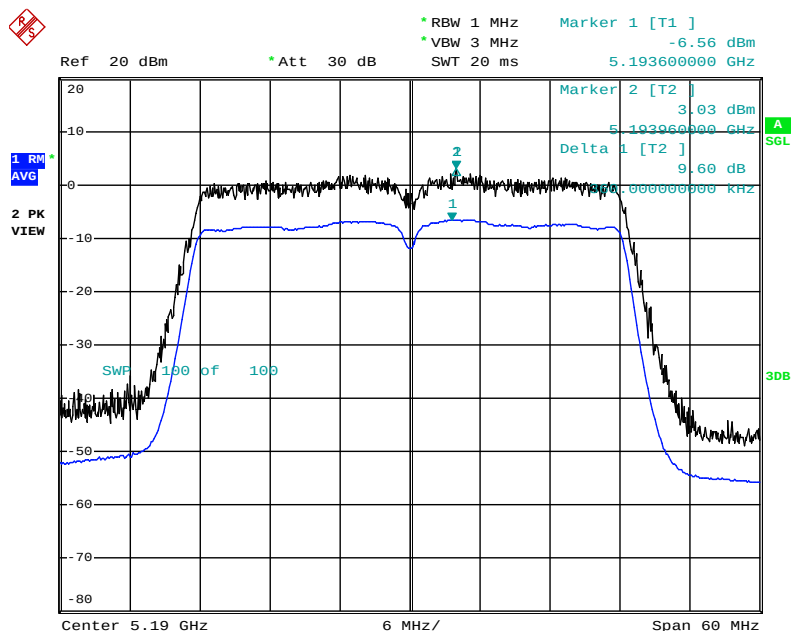
Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 256QAM(MCS8) / CH 46
/ Ant. 3



Date: 14.FEB.2014 16:20:53

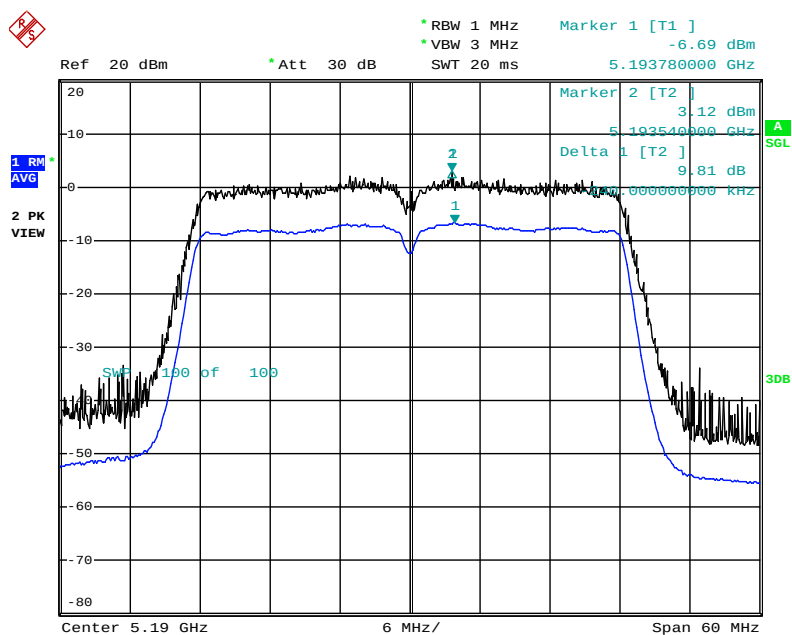
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / BSPK(MCS0) / CH 38
/ Ant. 1+2+3



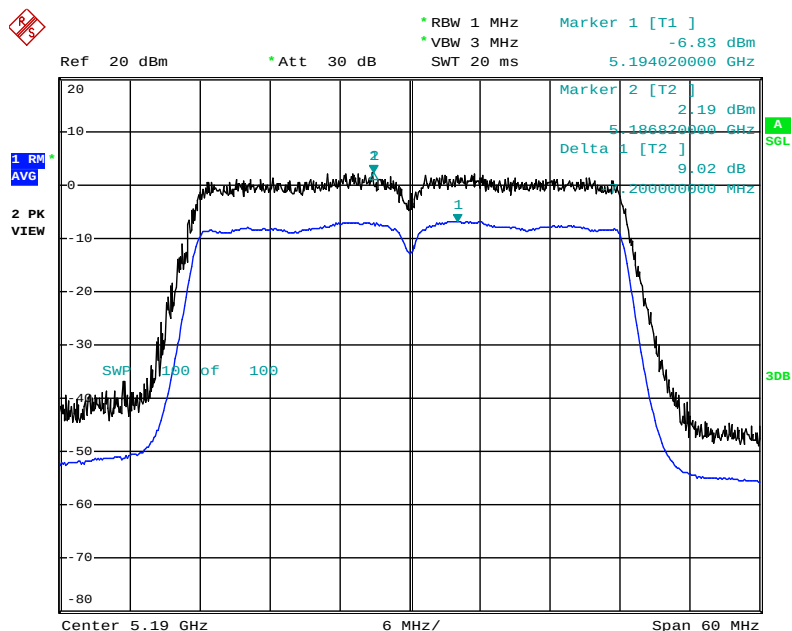
Date: 14.FEB.2014 16:51:35

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / QPSK(MCS1) / CH 38
/ Ant. 1+2+3



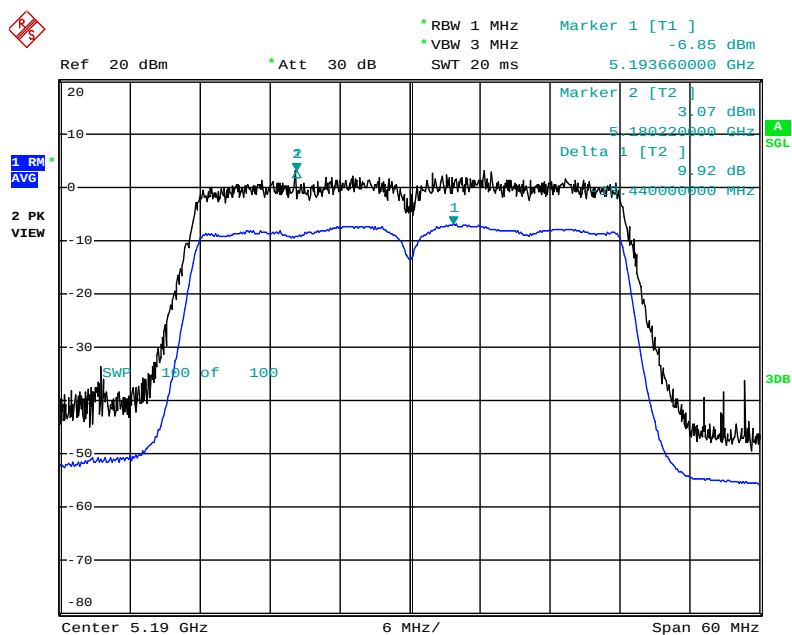
Date: 14.FEB.2014 16:50:58

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 16QAM(MCS3) / CH 38
/ Ant. 1+2+3



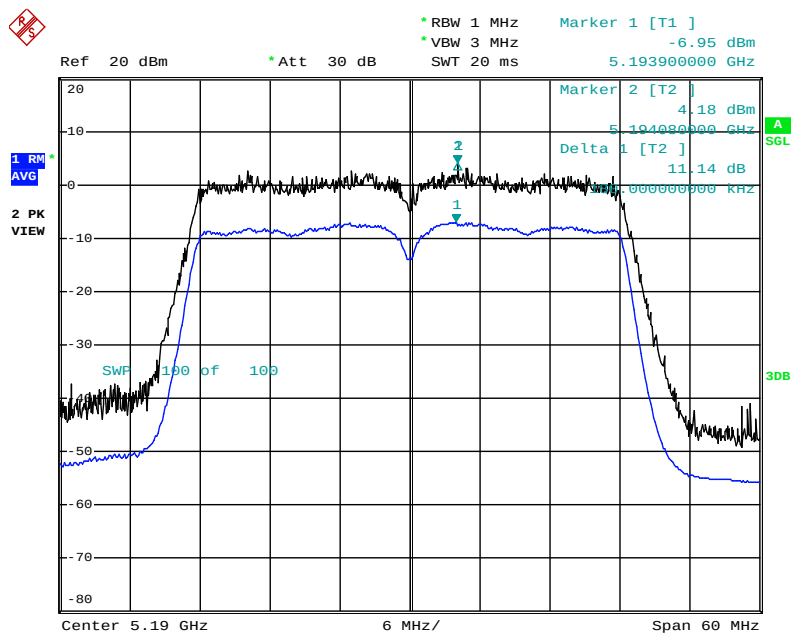
Date: 14.FEB.2014 16:50:22

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 64QAM(MCS5) / CH 38
/ Ant. 1+2+3



Date: 14.FEB.2014 16:49:45

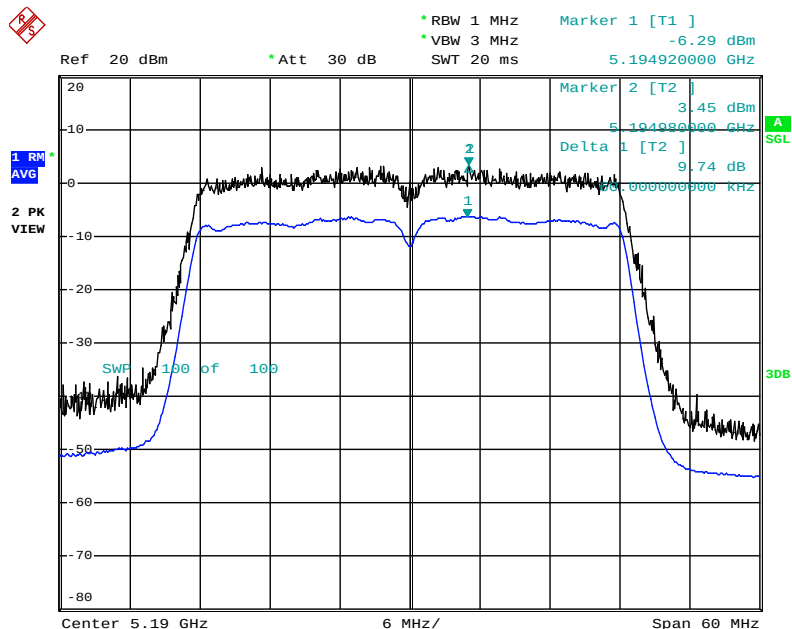
Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 256QAM(MCS8) / CH 38
/ Ant. 1+2+3



Date: 14.FEB.2014 16:49:07

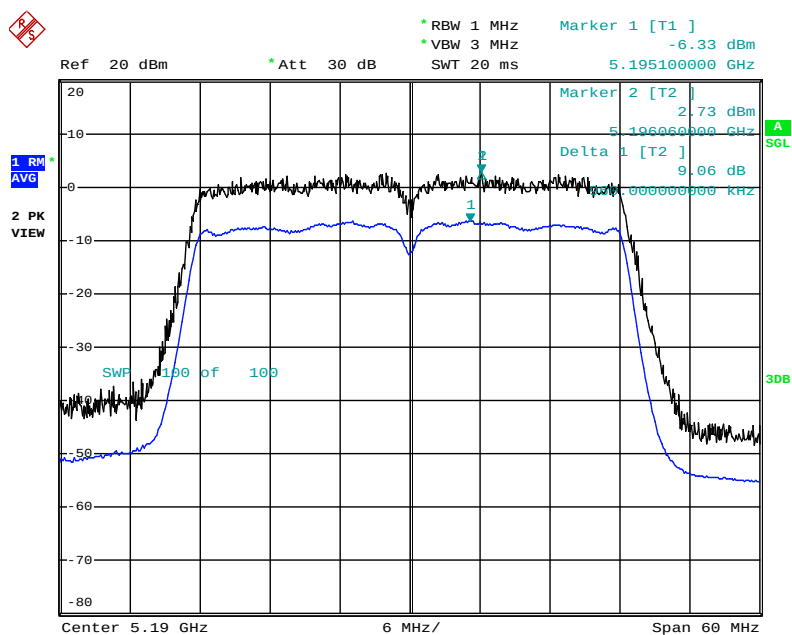
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / BSPK(MCS0) / CH 38
/ Ant. 1+2+3



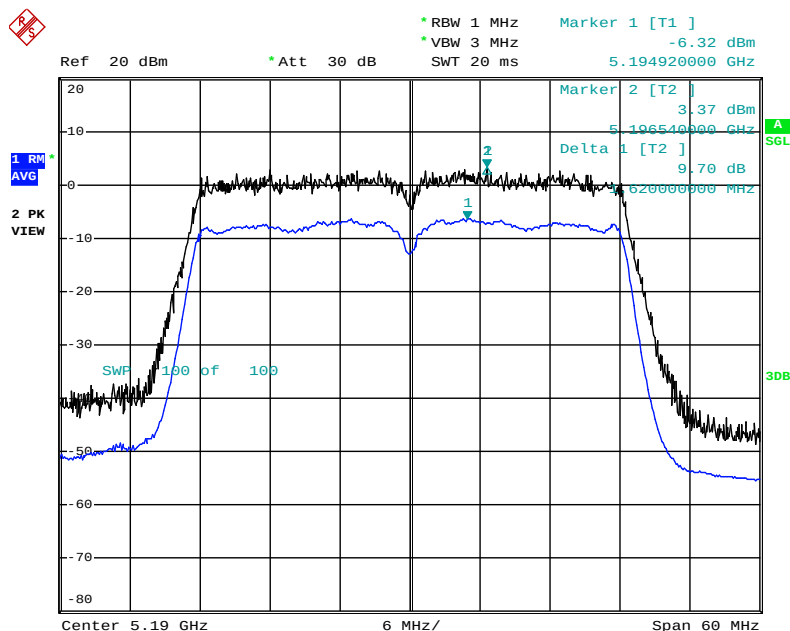
Date: 14.FEB.2014 17:04:32

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / QPSK(MCS1) / CH 38
/ Ant. 1+2+3



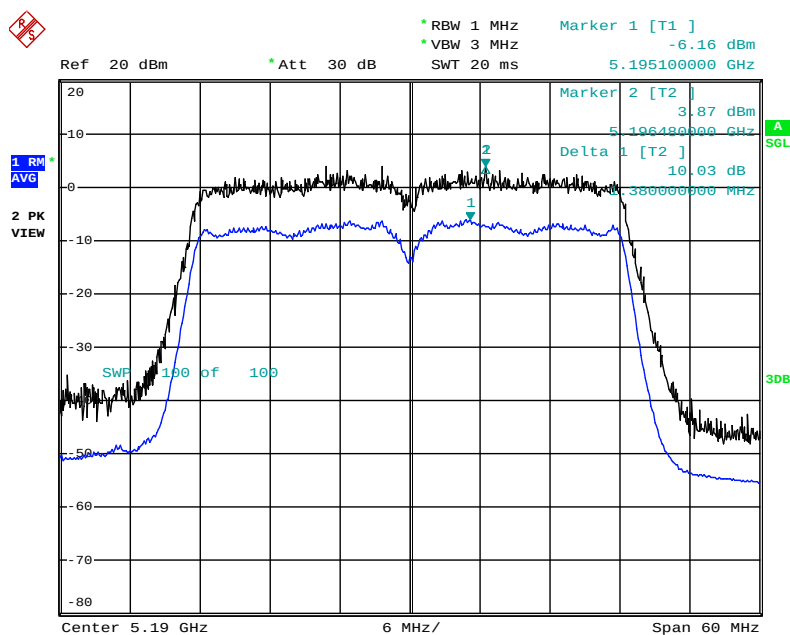
Date: 14.FEB.2014 17:03:55

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 16QAM(MCS3) / CH 38
/ Ant. 1+2+3



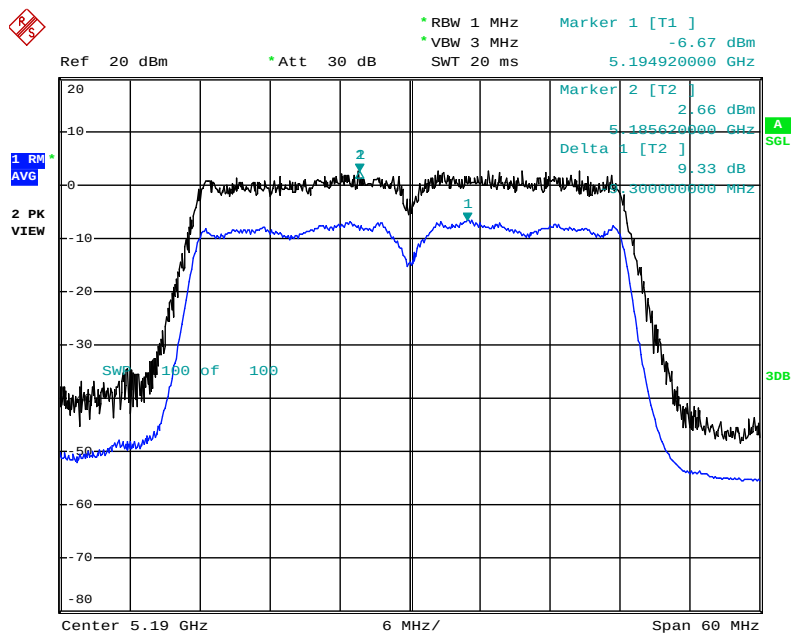
Date: 14.FEB.2014 17:03:07

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 64QAM(MCS5) / CH 38
/ Ant. 1+2+3



Date: 14.FEB.2014 17:02:23

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 256QAM(MCS8) / CH 38
/ Ant. 1+2+3



Date: 14.FEB.2014 17:00:43

Test date	Feb. 14, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 3: 95.87% Nss1MCS0, Ant. 1+2+3, CDD: 95.87% Nss2MCS0, Ant. 1+2+3, CDD: 91.48%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 3>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5210MHz	8.86	13	Complies
QPSK(MCS1)	5210MHz	10.34	13	Complies
16QAM(MCS3)	5210MHz	9.46	13	Complies
64QAM(MCS5)	5210MHz	10.22	13	Complies
256QAM(MCS8)	5210MHz	9.57	13	Complies

<Nss1MCS0, Ant. 1+2+3, CDD>

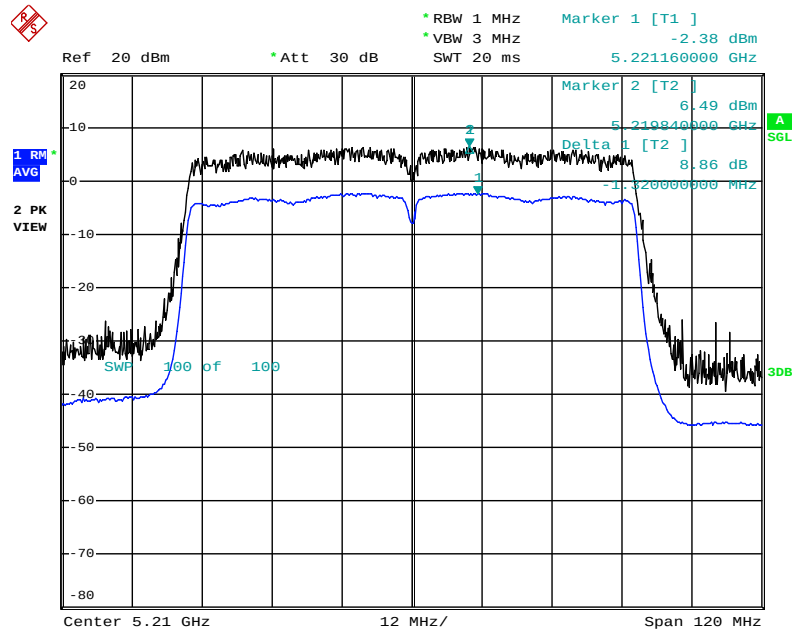
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5210MHz	9.20	13	Complies
QPSK(MCS1)	5210MHz	9.72	13	Complies
16QAM(MCS3)	5210MHz	9.17	13	Complies
64QAM(MCS5)	5210MHz	9.17	13	Complies
256QAM(MCS8)	5210MHz	9.51	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5210MHz	9.75	13	Complies
QPSK(MCS1)	5210MHz	9.22	13	Complies
16QAM(MCS3)	5210MHz	9.50	13	Complies
64QAM(MCS5)	5210MHz	9.90	13	Complies
256QAM(MCS8)	5210MHz	9.49	13	Complies

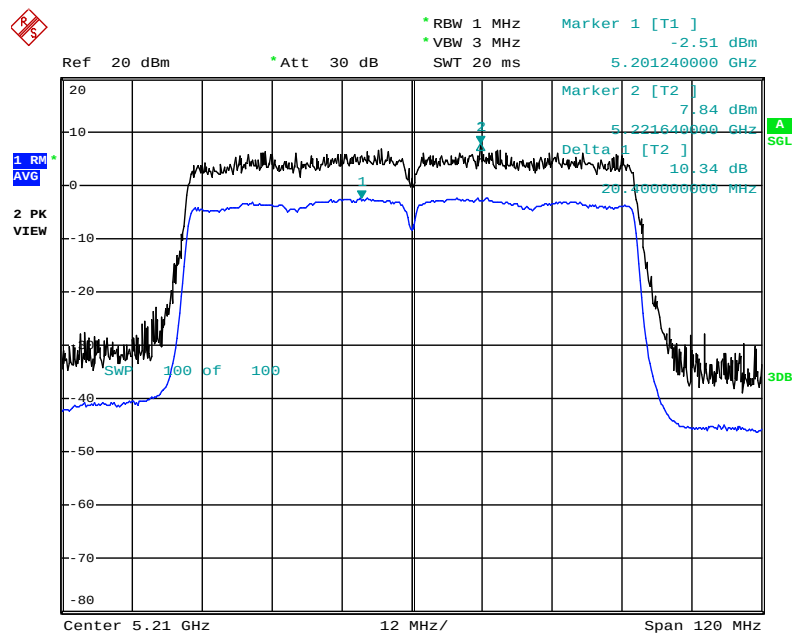
For <Nss1MCS0, Ant. 3>:

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / BSPK(MCS0) / CH 42
/ Ant. 3



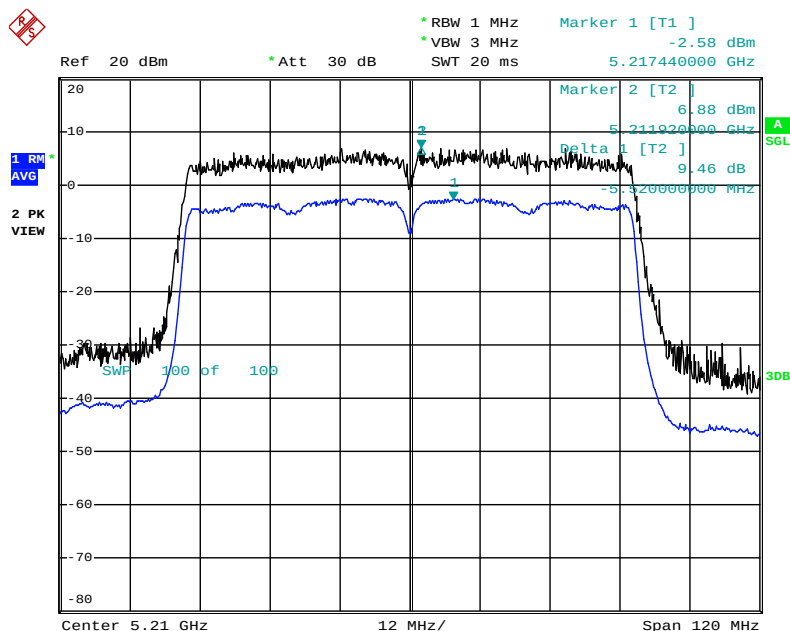
Date: 14.FEB.2014 16:24:19

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / QPSK(MCS1) / CH 42
/ Ant. 3



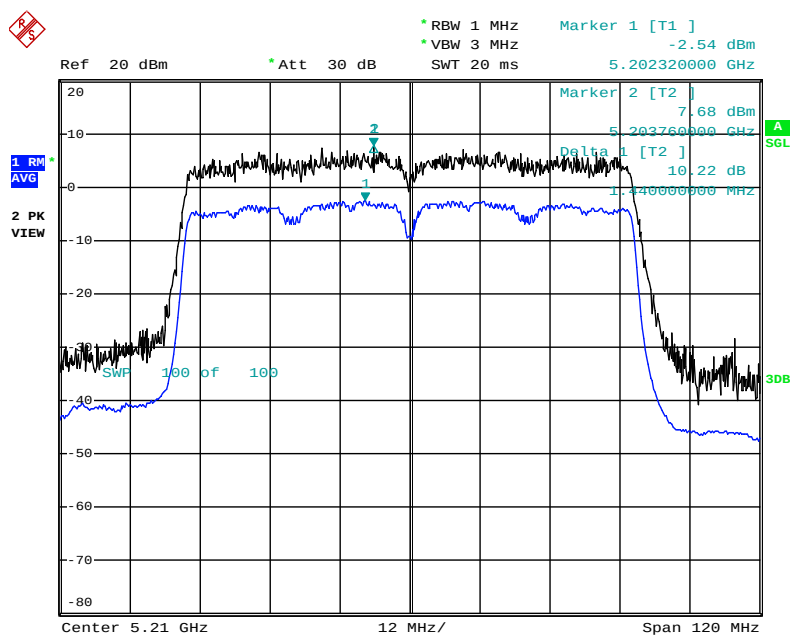
Date: 14.FEB.2014 16:24:54

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 16QAM(MCS3) / CH 42
/ Ant. 3



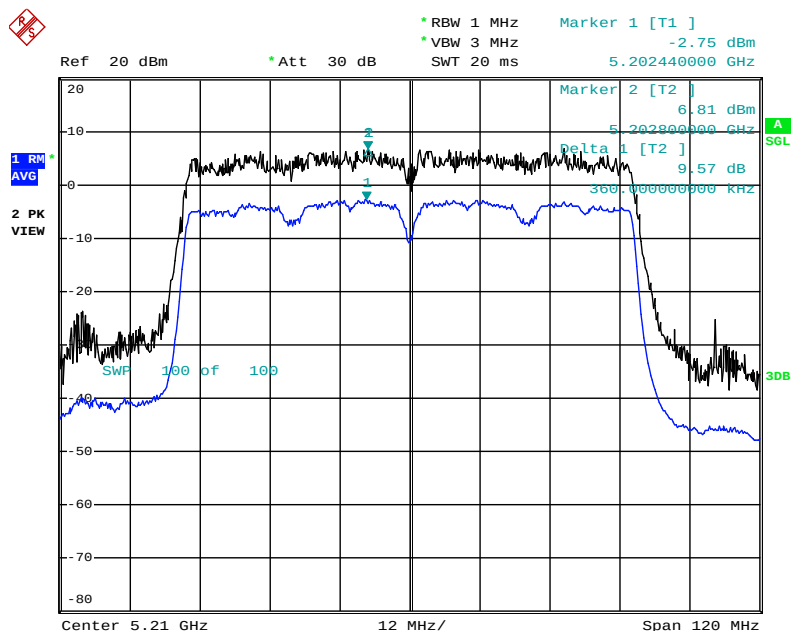
Date: 14.FEB.2014 16:25:30

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 64QAM(MCS5) / CH 42
/ Ant. 3



Date: 14.FEB.2014 16:26:06

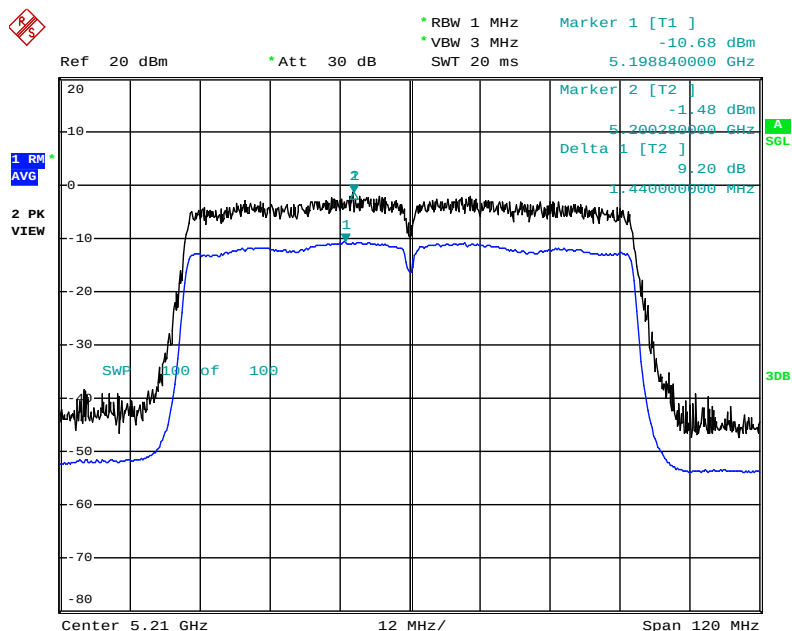
Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 256QAM(MCS8) / CH 42
/ Ant. 3



Date: 14.FEB.2014 16:26:42

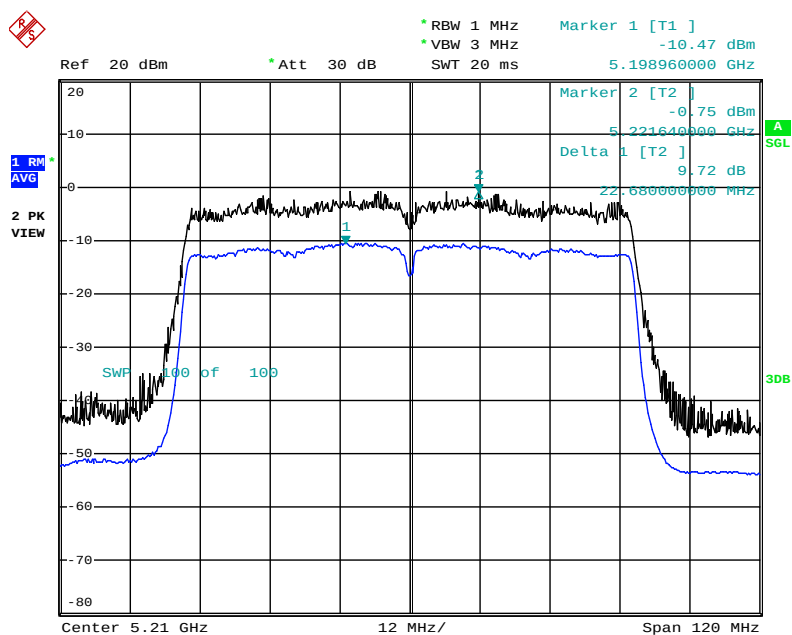
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / BSPK(MCS0) / CH 42
/ Ant. 1+2+3



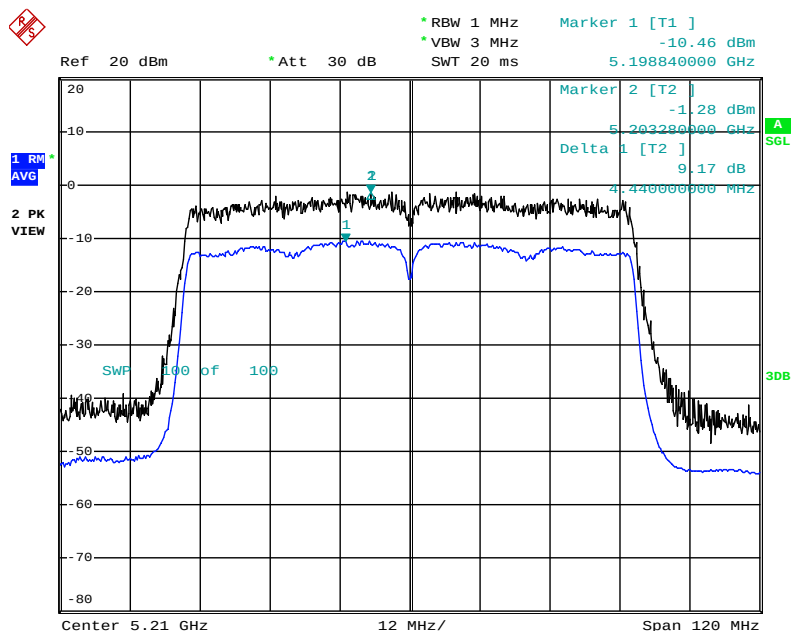
Date: 14.FEB.2014 16:28:28

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / QPSK(MCS1) / CH 42
/ Ant. 1+2+3



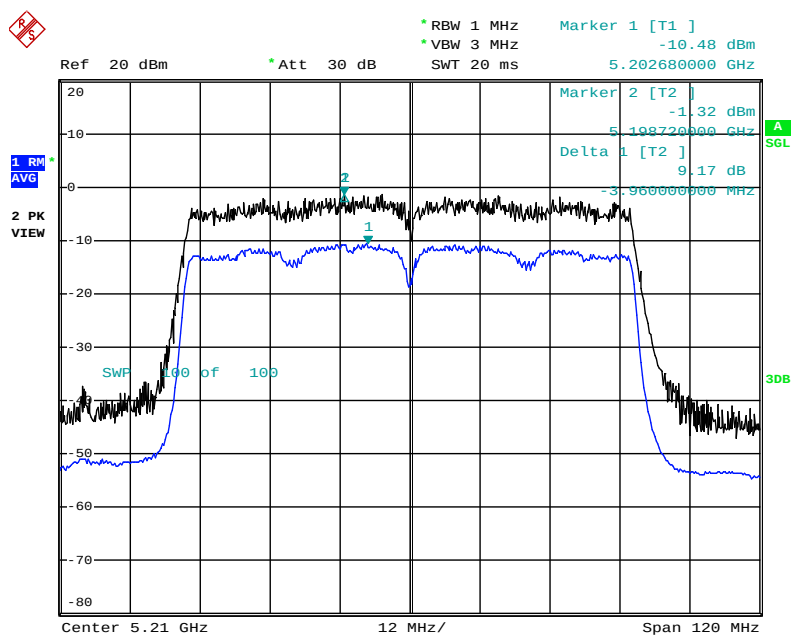
Date: 14.FEB.2014 16:29:06

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 16QAM(MCS3) / CH 42
/ Ant. 1+2+3



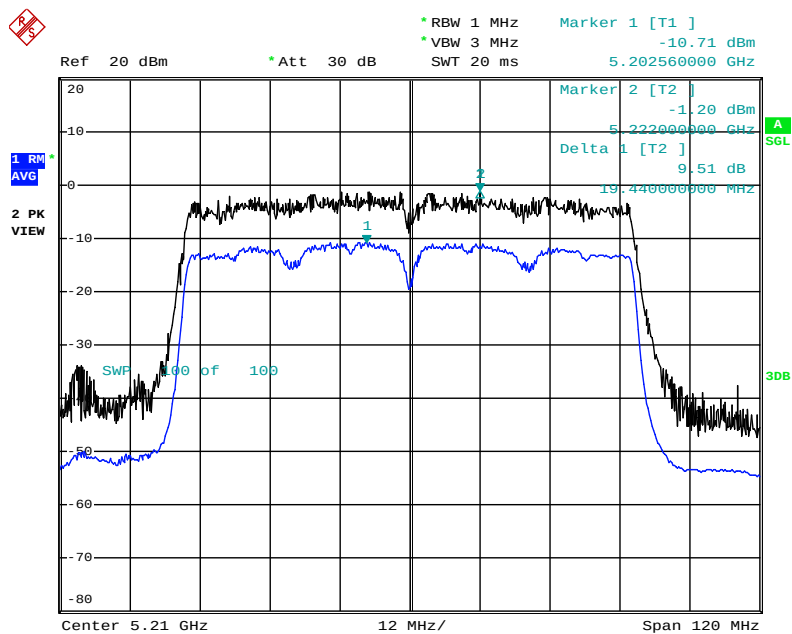
Date: 14.FEB.2014 16:29:44

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 64QAM(MCS5) / CH 42
/ Ant. 1+2+3



Date: 14.FEB.2014 16:30:23

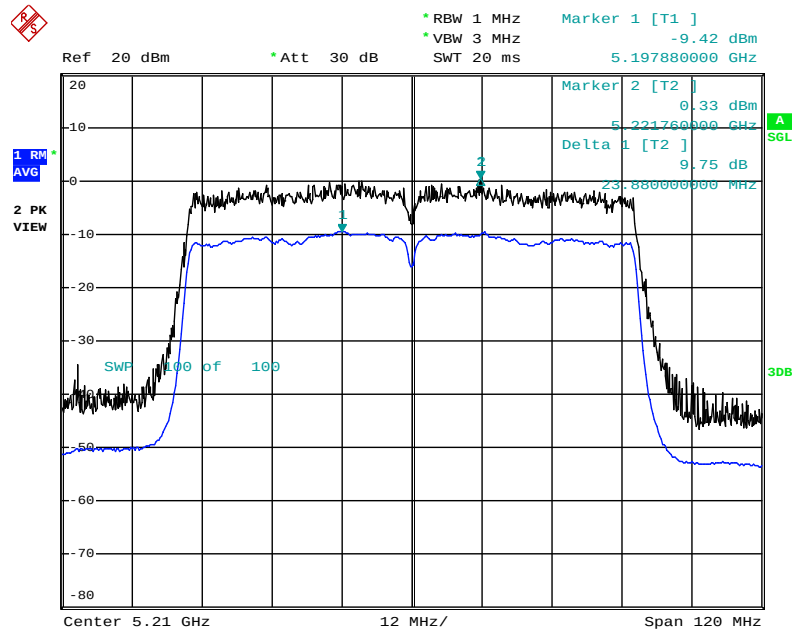
Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 256QAM(MCS8) / CH 42
/ Ant. 1+2+3



Date: 14.FEB.2014 16:31:15

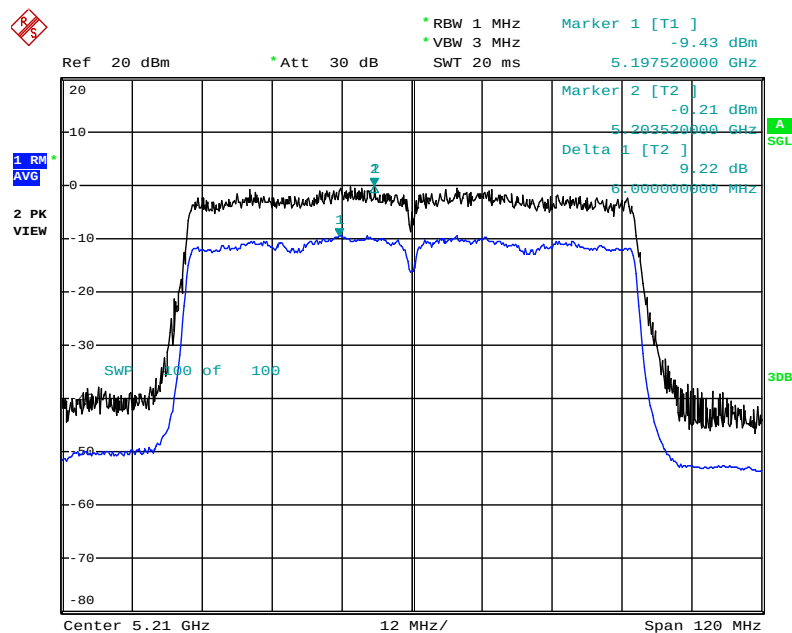
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / BSPK(MCS0) / CH 42
/ Ant. 1+2+3



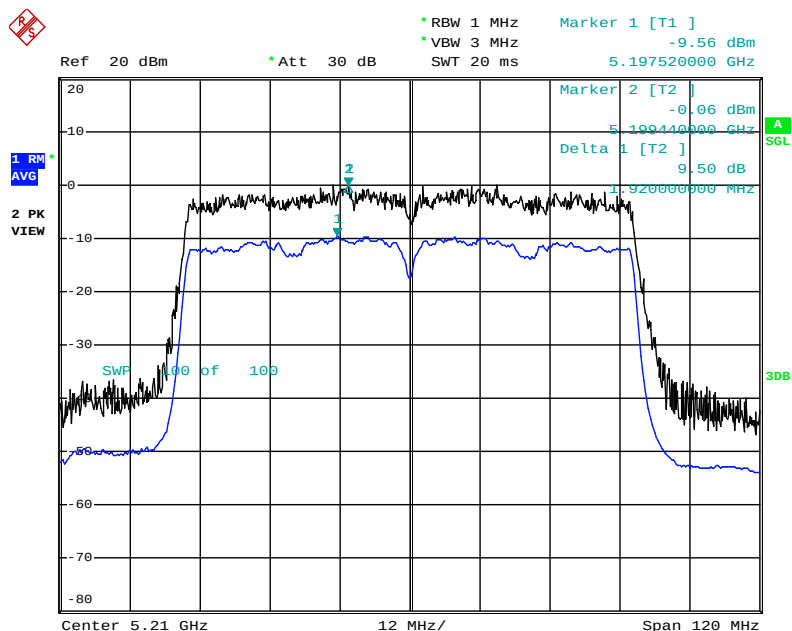
Date: 14.FEB.2014 17:05:36

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / QPSK(MCS1) / CH 42
/ Ant. 1+2+3



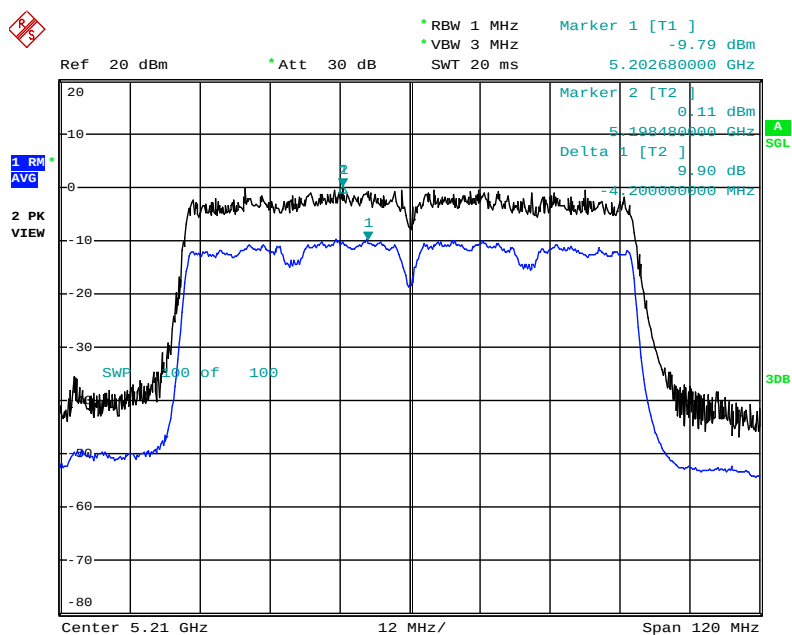
Date: 14.FEB.2014 17:06:15

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 16QAM(MCS3) / CH 42
/ Ant. 1+2+3



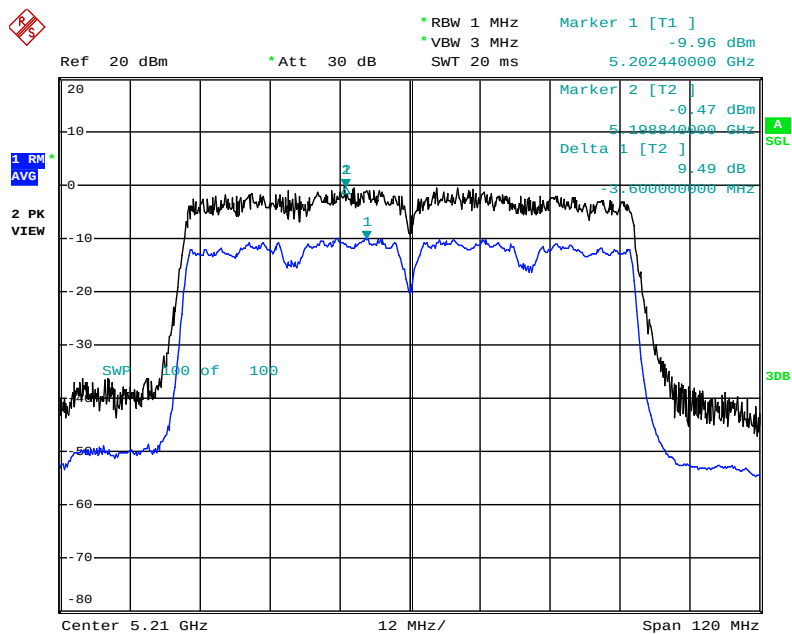
Date: 14.FEB.2014 17:06:54

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 64QAM(MCS5) / CH 42
/ Ant. 1+2+3



Date: 14.FEB.2014 17:07:31

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 256QAM(MCS8) / CH 42
/ Ant. 1+2+3



Date: 14.FEB.2014 17:08:08

For Beamforming

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 20MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 98.97% Nss2MCS0, Ant. 1+2+3, CDD: 98.20%		

Configuration IEEE 802.11ac 20MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

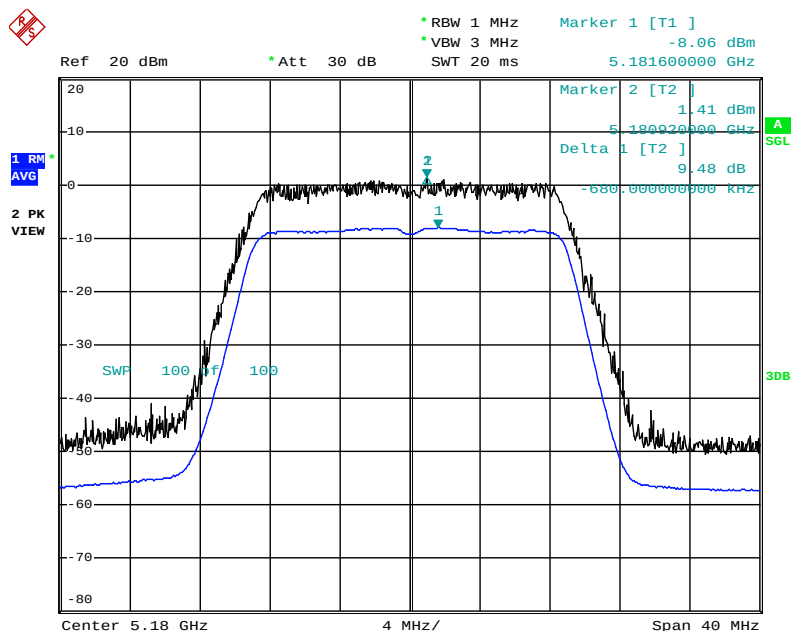
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5180MHz	9.48	13	Complies
QPSK(MCS1)	5180MHz	9.68	13	Complies
16QAM(MCS3)	5180MHz	9.20	13	Complies
64QAM(MCS5)	5180MHz	10.07	13	Complies
256QAM(MCS8)	5180MHz	9.17	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5200MHz	8.75	13	Complies
QPSK(MCS1)	5200MHz	7.60	13	Complies
16QAM(MCS3)	5200MHz	9.01	13	Complies
64QAM(MCS5)	5200MHz	8.77	13	Complies
256QAM(MCS8)	5200MHz	12.10	13	Complies

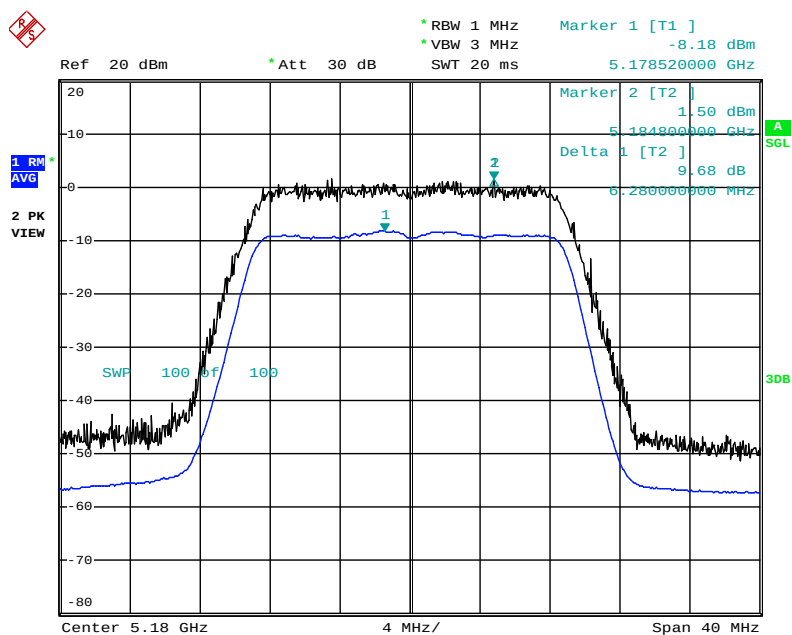
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / BSPK(MCS0) / CH 36
/ Ant. 1+2+3



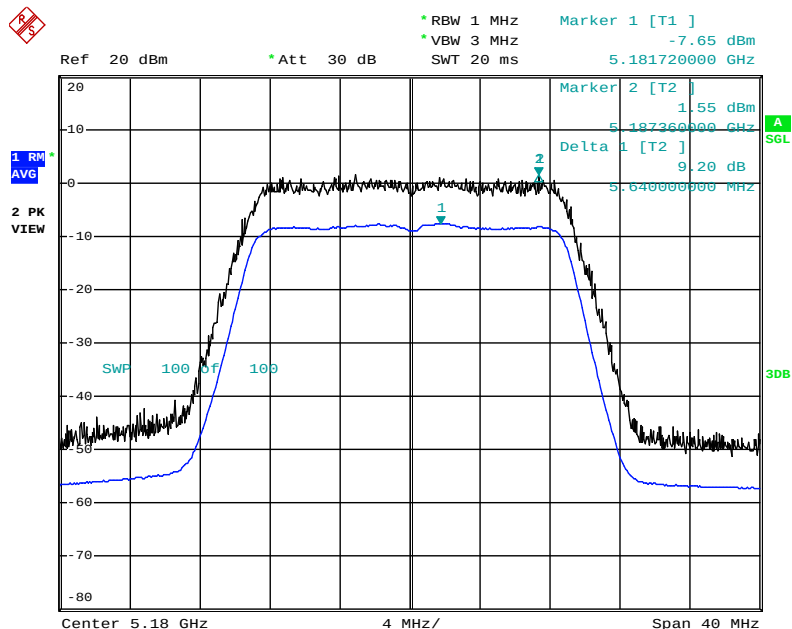
Date: 17.FEB.2014 16:32:10

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / QPSK(MCS1) / CH 36
/ Ant. 1+2+3



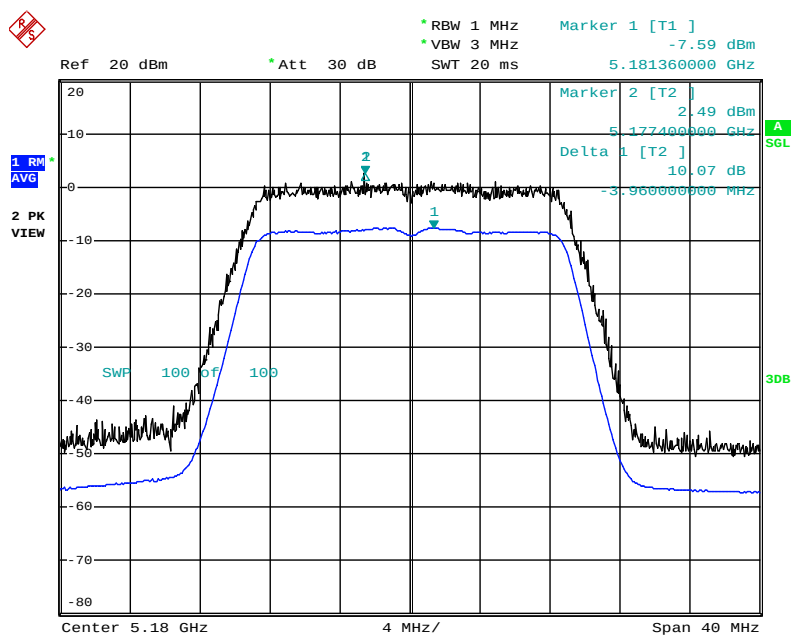
Date: 17.FEB.2014 16:33:27

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 16QAM(MCS3) / CH 36
/ Ant. 1+2+3



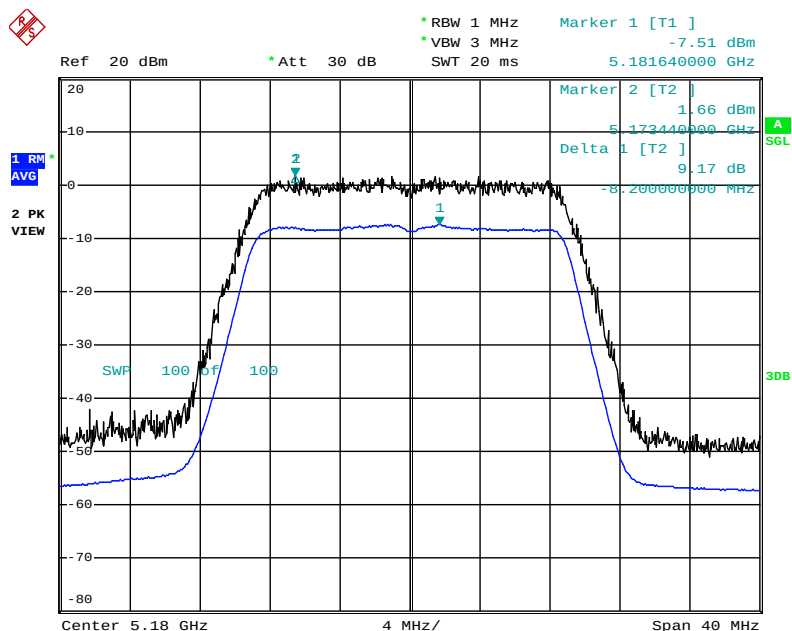
Date: 17.FEB.2014 16:37:24

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 64QAM(MCS5) / CH 36
/ Ant. 1+2+3



Date: 17.FEB.2014 16:36:42

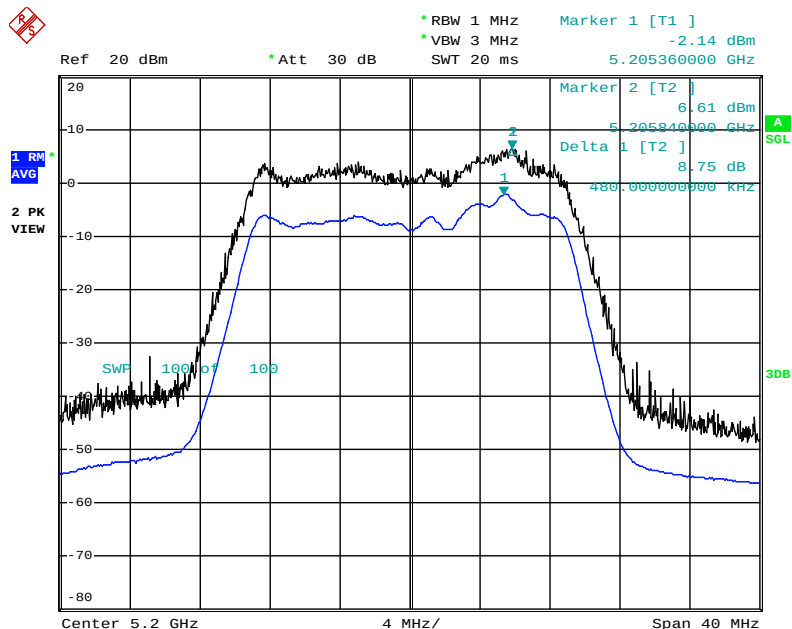
Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss1MCS0 / 256QAM(MCS8) / CH 36
/ Ant. 1+2+3



Date: 17.FEB.2014 16:37:59

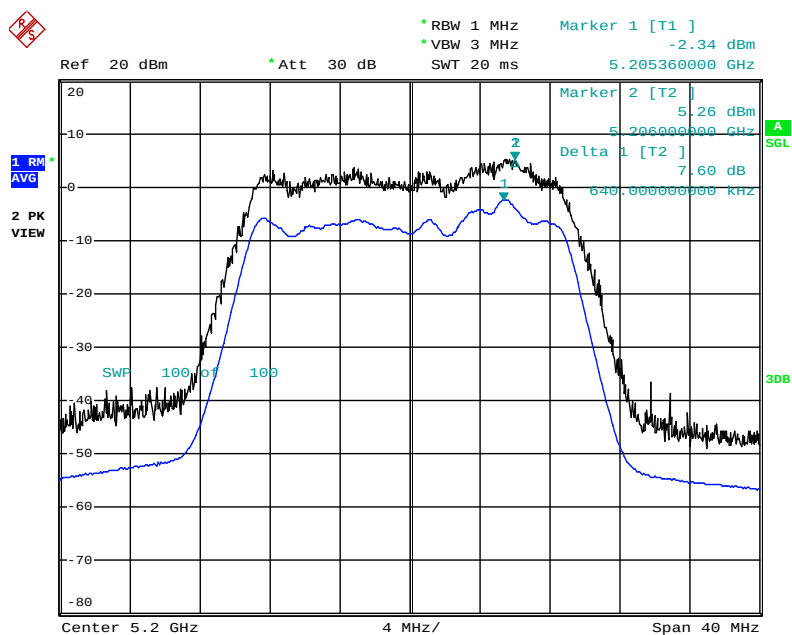
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / BSPK(MCS0) / CH 40
/ Ant. 1+2+3



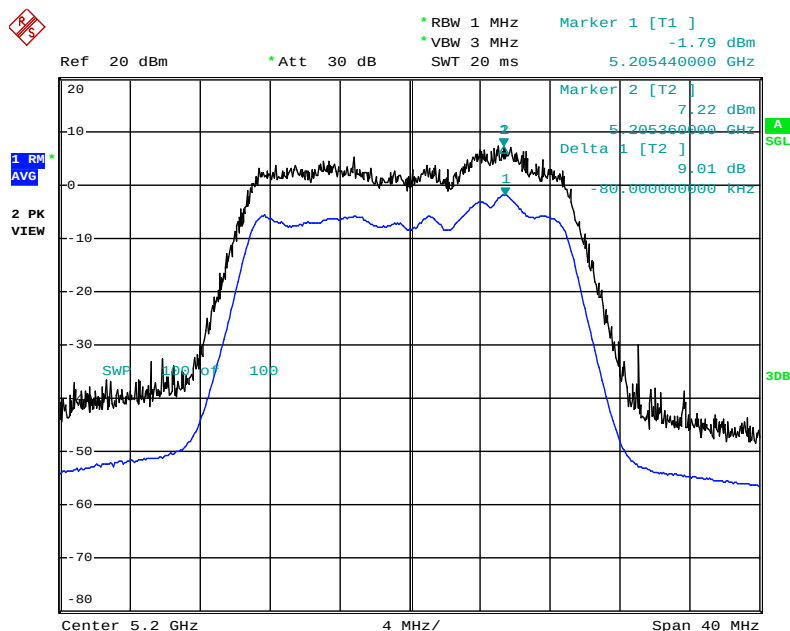
Date: 17.FEB.2014 18:11:38

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / QPSK(MCS1) / CH 40
/ Ant. 1+2+3



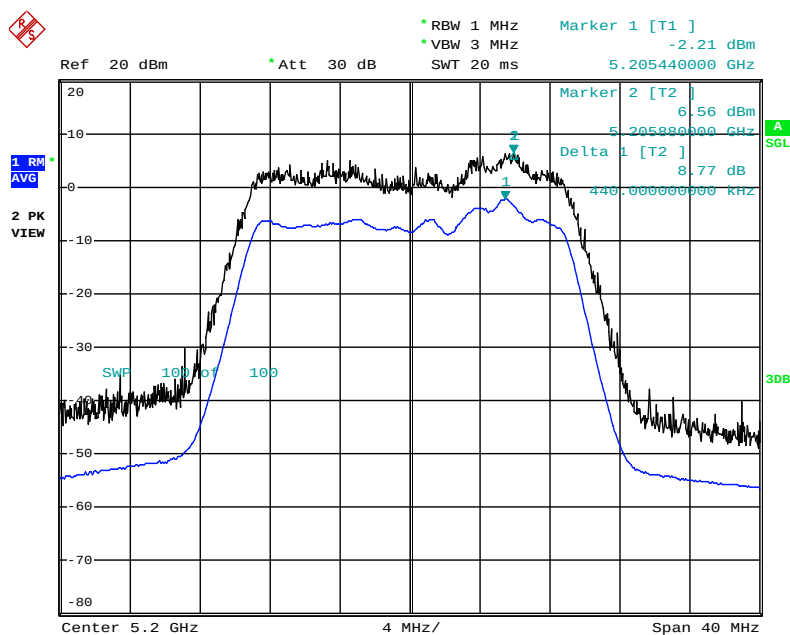
Date: 17.FEB.2014 18:11:04

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 16QAM(MCS3) / CH 40
/ Ant. 1+2+3



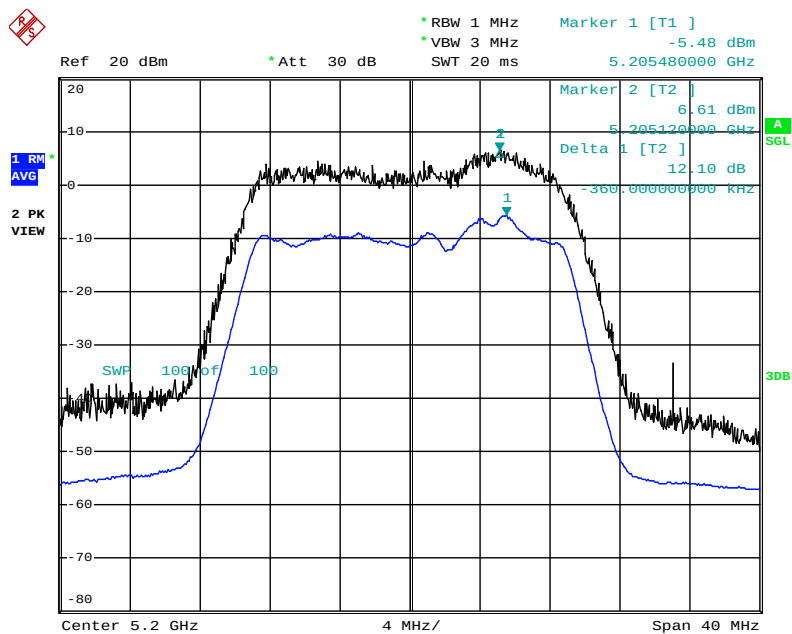
Date: 17.FEB.2014 18:10:29

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 64QAM(MCS5) / CH 40
/ Ant. 1+2+3



Date: 17.FEB.2014 18:09:50

Peak excursion Plot on Configuration IEEE 802.11ac 20 MHz Nss2MCS0 / 256QAM(MCS8) / CH 40
/ Ant. 1+2+3



Date: 17.FEB.2014 18:09:11

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 40MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 97.46% Nss2MCS0, Ant. 1+2+3, CDD: 98.15%		

Configuration IEEE 802.11ac 40MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

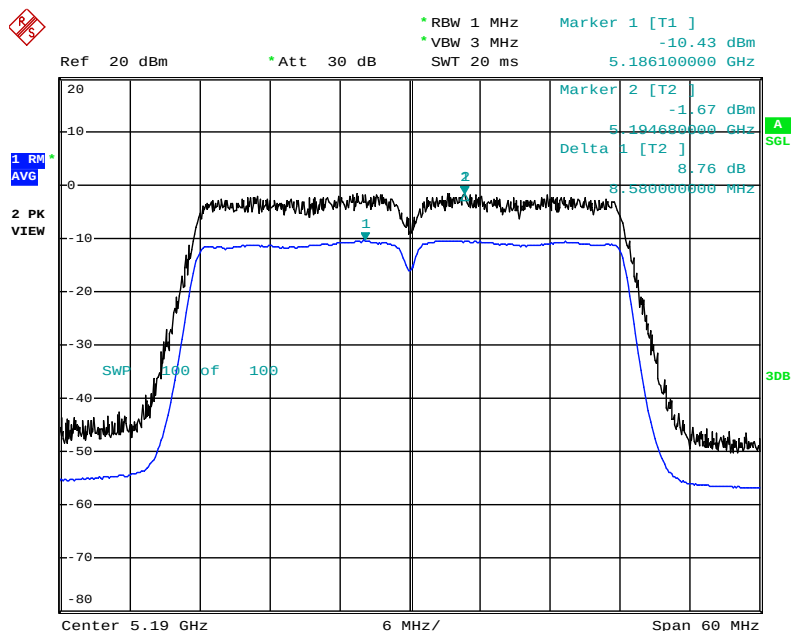
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5190MHz	8.76	13	Complies
QPSK(MCS1)	5190MHz	9.38	13	Complies
16QAM(MCS3)	5190MHz	9.58	13	Complies
64QAM(MCS5)	5190MHz	10.57	13	Complies
256QAM(MCS8)	5190MHz	9.55	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5230MHz	9.62	13	Complies
QPSK(MCS1)	5230MHz	10.89	13	Complies
16QAM(MCS3)	5230MHz	12.03	13	Complies
64QAM(MCS5)	5230MHz	11.76	13	Complies
256QAM(MCS8)	5230MHz	11.23	13	Complies

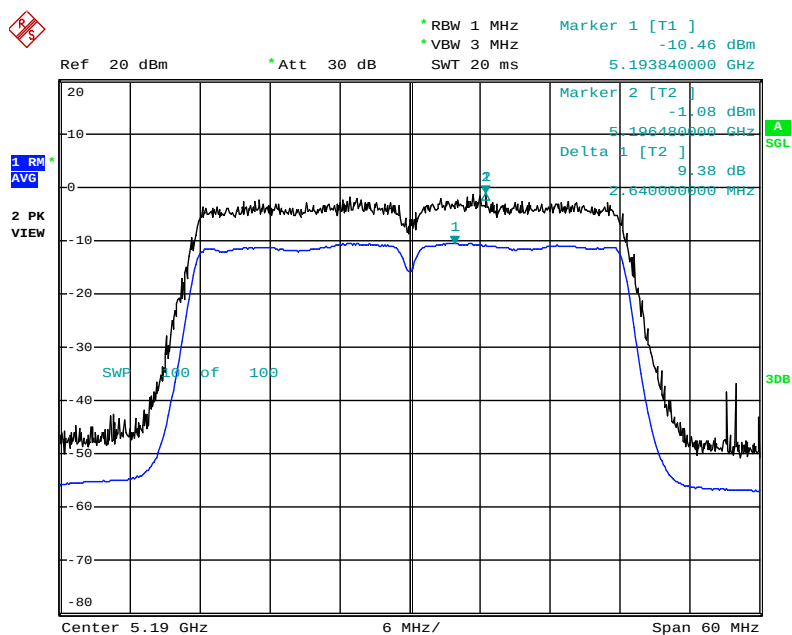
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / BSPK(MCS0) / CH 38
/ Ant. 1+2+3



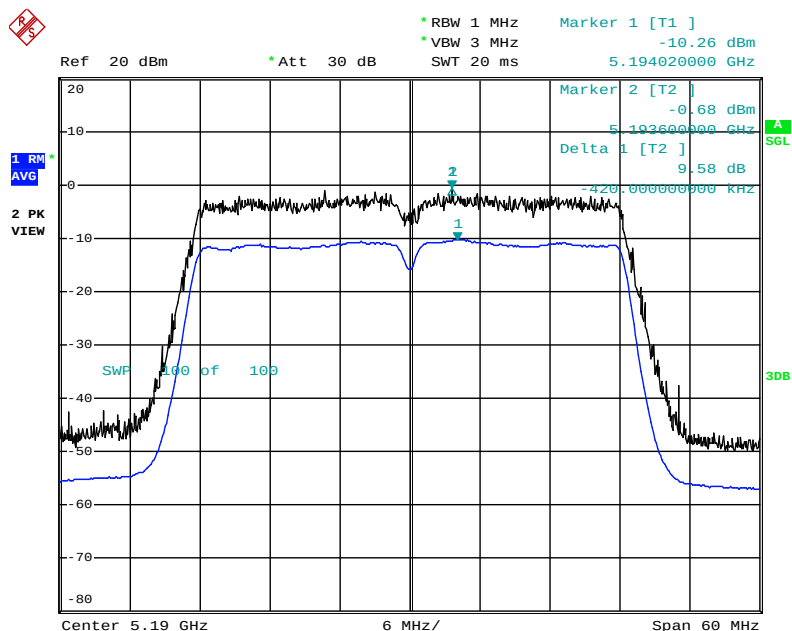
Date: 17.FEB.2014 16:39:14

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / QPSK(MCS1) / CH 38
/ Ant. 1+2+3



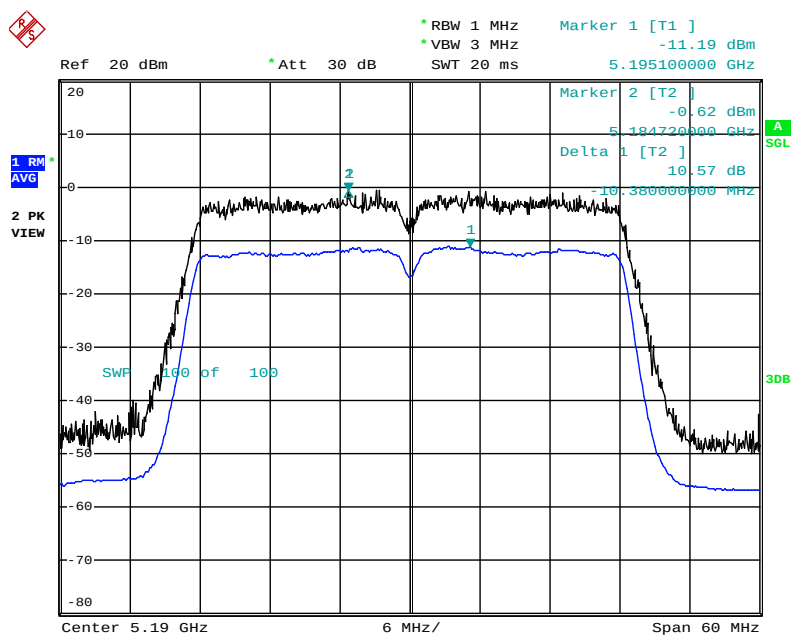
Date: 17.FEB.2014 16:40:06

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 16QAM(MCS3) / CH 38
/ Ant. 1+2+3



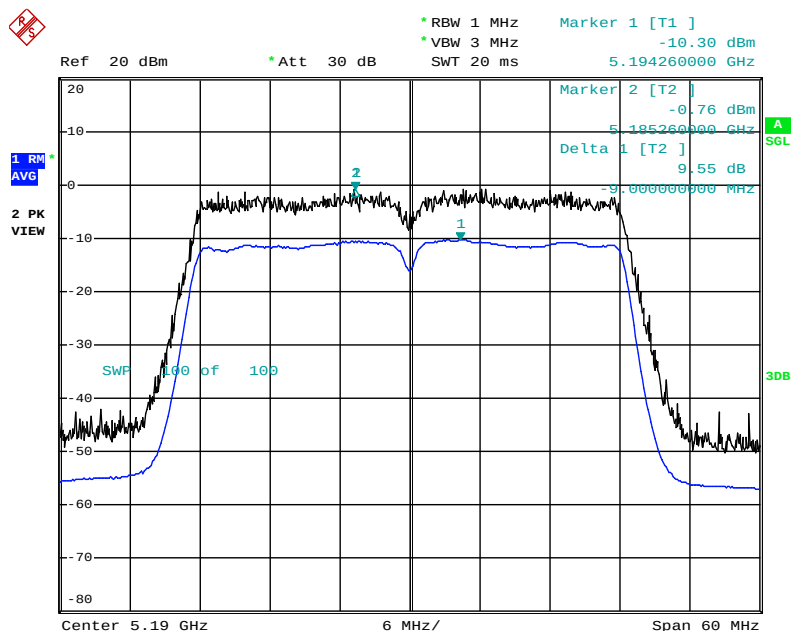
Date: 17.FEB.2014 16:40:39

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 64QAM(MCS5) / CH 38
/ Ant. 1+2+3



Date: 17.FEB.2014 16:41:14

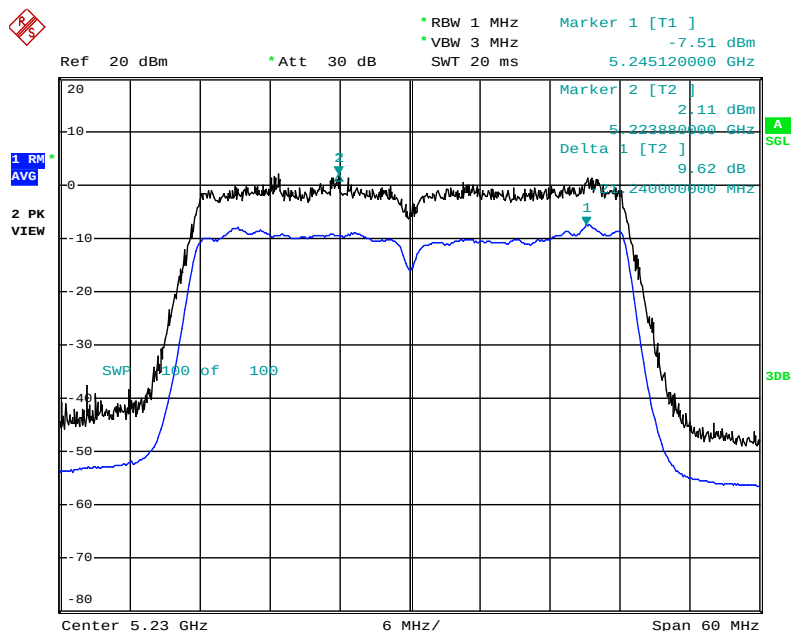
Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss1MCS0 / 256QAM(MCS8) / CH 38
/ Ant. 1+2+3



Date: 17.FEB.2014 16:50:48

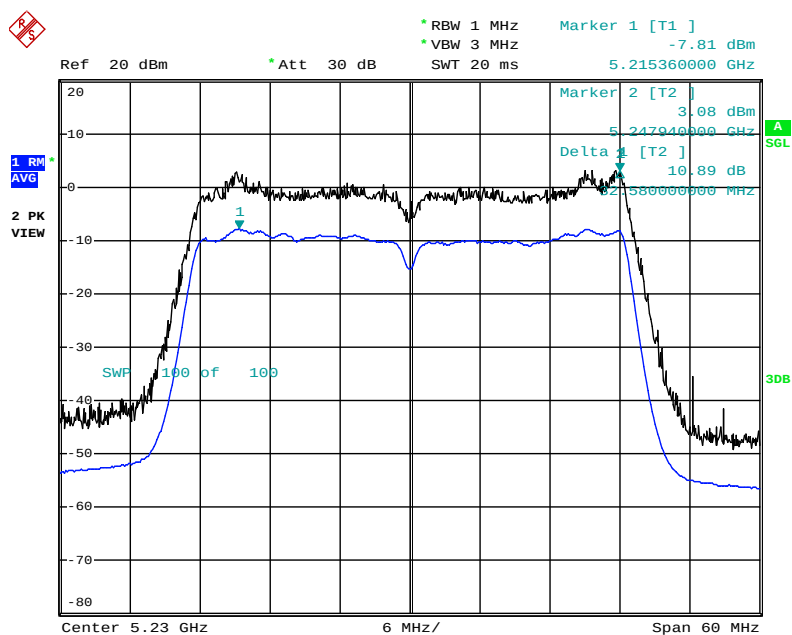
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / BSPK(MCS0) / CH 46
/ Ant. 1+2+3



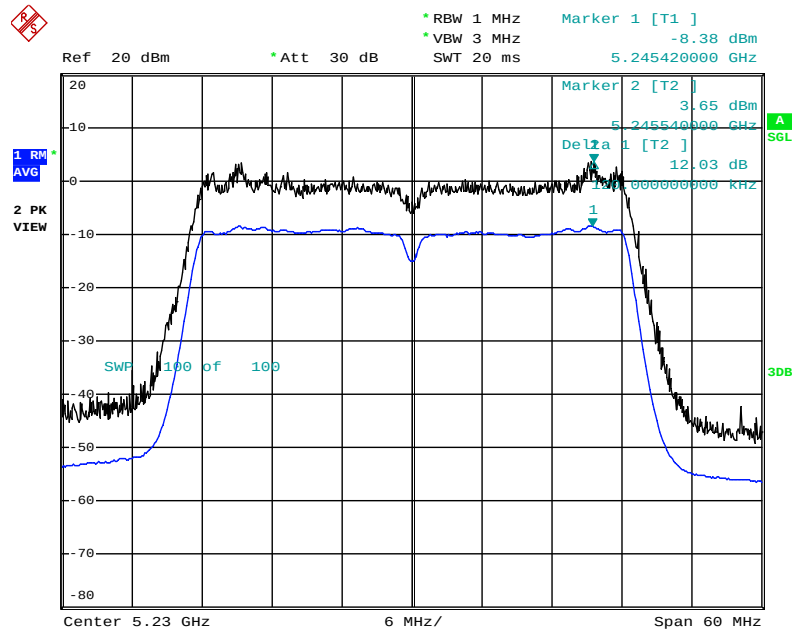
Date: 17.FEB.2014 18:07:50

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / QPSK(MCS1) / CH 46
/ Ant. 1+2+3



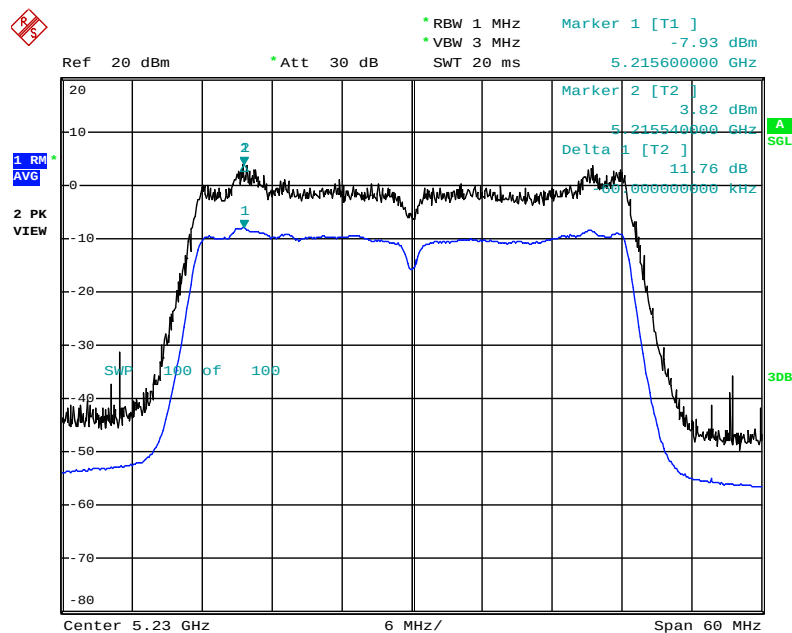
Date: 17.FEB.2014 18:07:11

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 16QAM(MCS3) / CH 46
/ Ant. 1+2+3



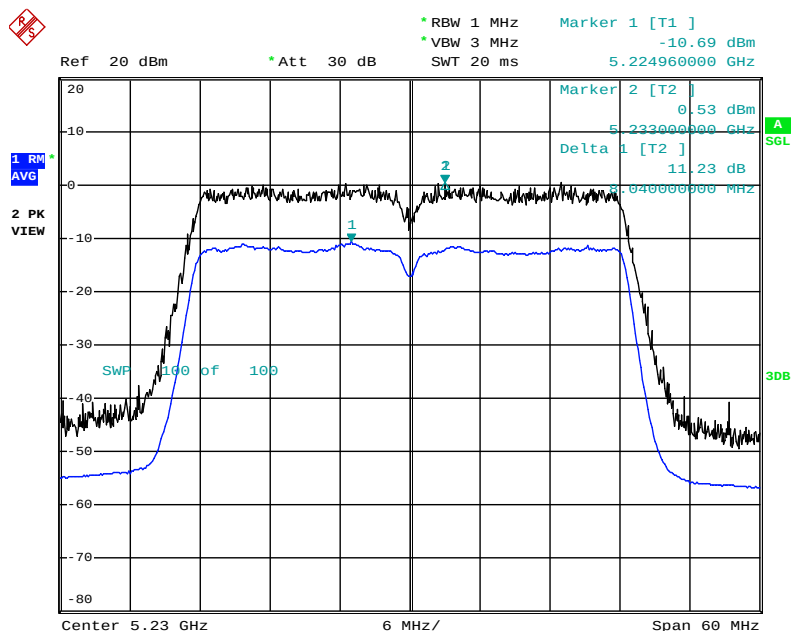
Date: 17.FEB.2014 18:06:31

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 64QAM(MCS5) / CH 46
/ Ant. 1+2+3



Date: 17.FEB.2014 18:05:48

Peak excursion Plot on Configuration IEEE 802.11ac 40 MHz Nss2MCS0 / 256QAM(MCS8) / CH 46
/ Ant. 1+2+3



Date: 17.FEB.2014 18:04:36

Test date	Feb. 17, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Magic Lai	Configuration	802.11ac 80MHz
Duty Cycle	Nss1MCS0, Ant. 1+2+3, CDD: 95.49% Nss2MCS0, Ant. 1+2+3, CDD: 96.38%		

Configuration IEEE 802.11ac 80MHz

<Nss1MCS0, Ant. 1+2+3, CDD>

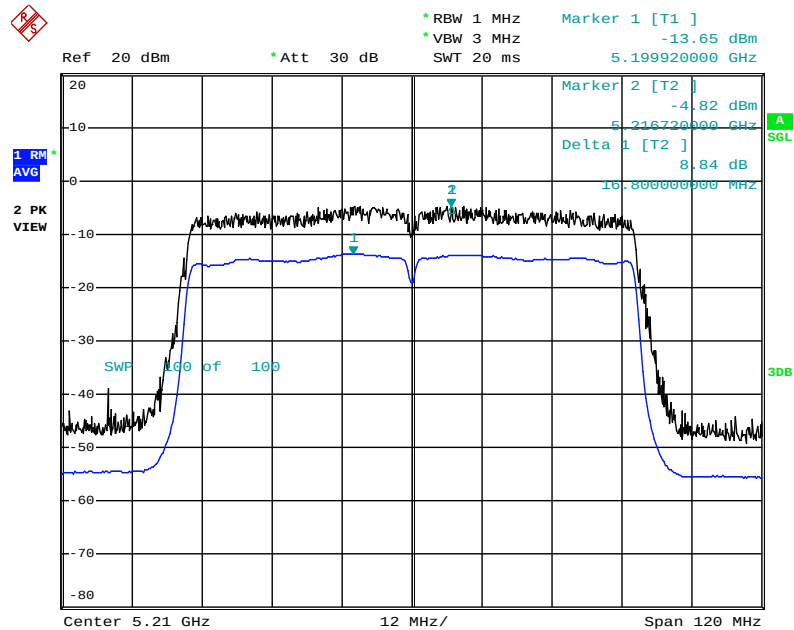
Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5210MHz	8.84	13	Complies
QPSK(MCS1)	5210MHz	8.50	13	Complies
16QAM(MCS3)	5210MHz	10.67	13	Complies
64QAM(MCS5)	5210MHz	9.88	13	Complies
256QAM(MCS8)	5210MHz	11.60	13	Complies

<Nss2MCS0, Ant. 1+2+3, CDD>

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK(MCS0)	5210MHz	10.36	13	Complies
QPSK(MCS1)	5210MHz	9.58	13	Complies
16QAM(MCS3)	5210MHz	10.96	13	Complies
64QAM(MCS5)	5210MHz	10.14	13	Complies
256QAM(MCS8)	5210MHz	12.98	13	Complies

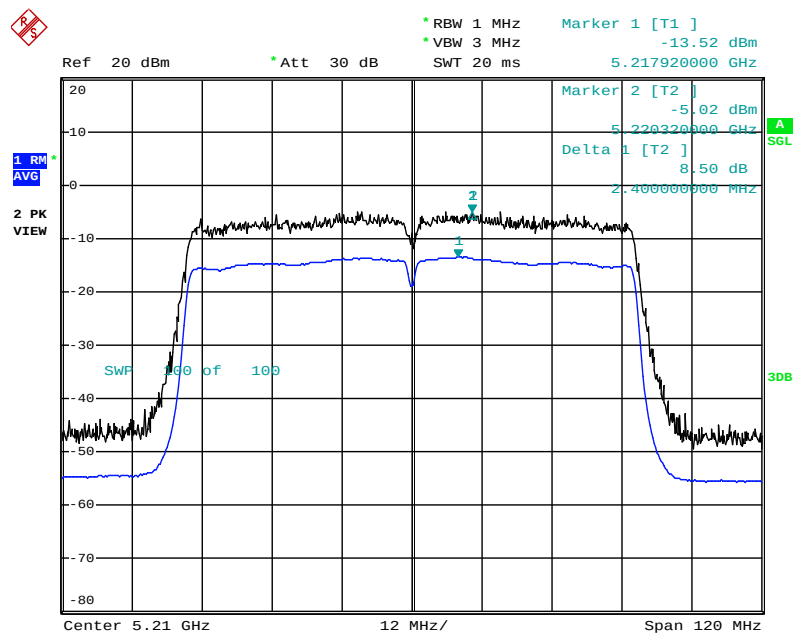
For <Nss1MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / BSPK(MCS0) / CH 42
/ Ant. 1+2+3



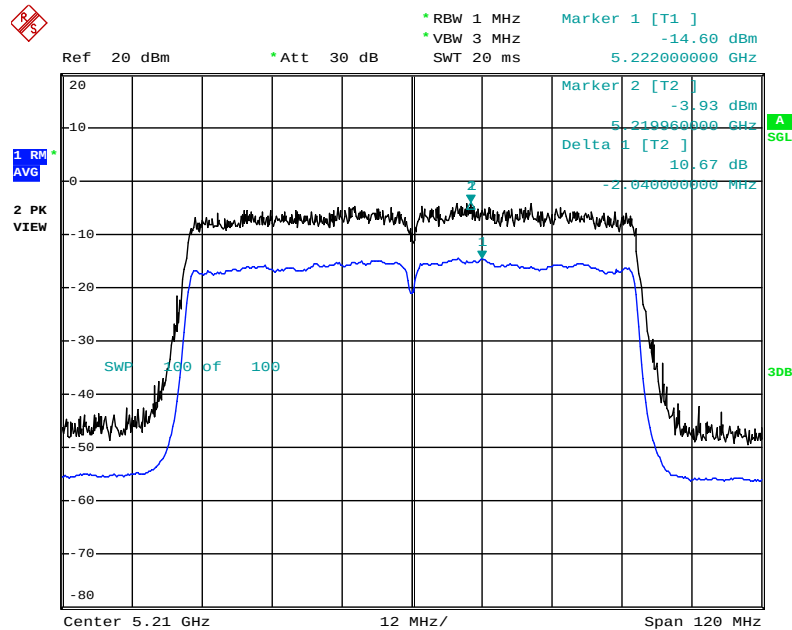
Date: 17.FEB.2014 16:42:52

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / QPSK(MCS1) / CH 42
/ Ant. 1+2+3



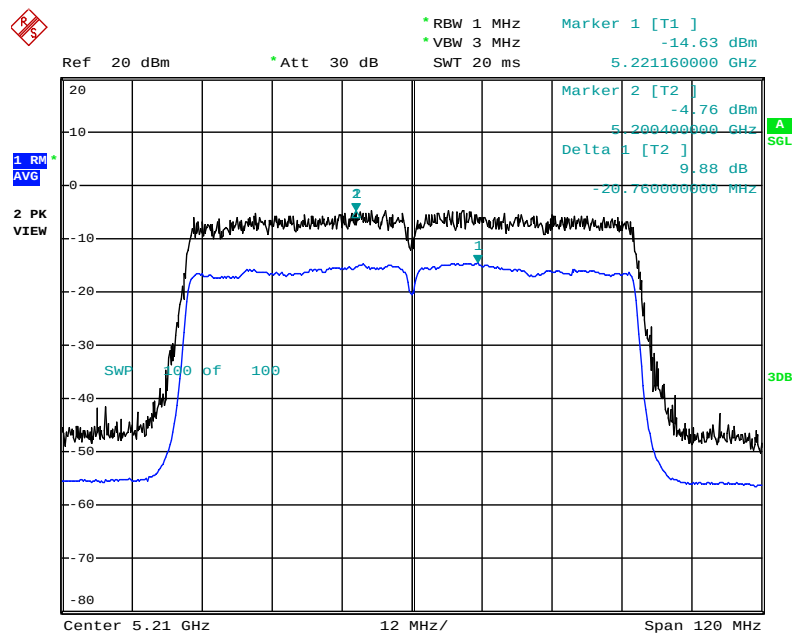
Date: 17.FEB.2014 16:43:22

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 16QAM(MCS3) / CH 42
/ Ant. 1+2+3



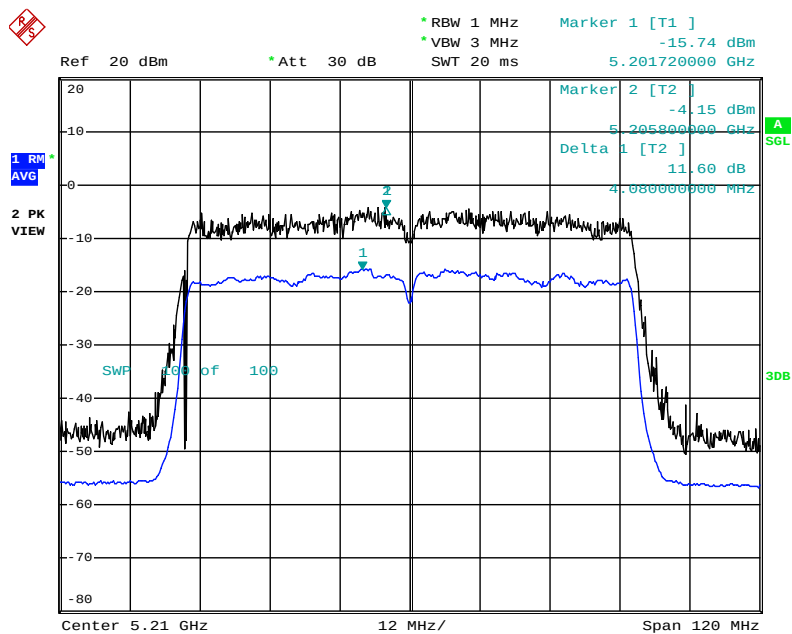
Date: 17.FEB.2014 16:43:58

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 64QAM(MCS5) / CH 42
/ Ant. 1+2+3



Date: 17.FEB.2014 16:49:31

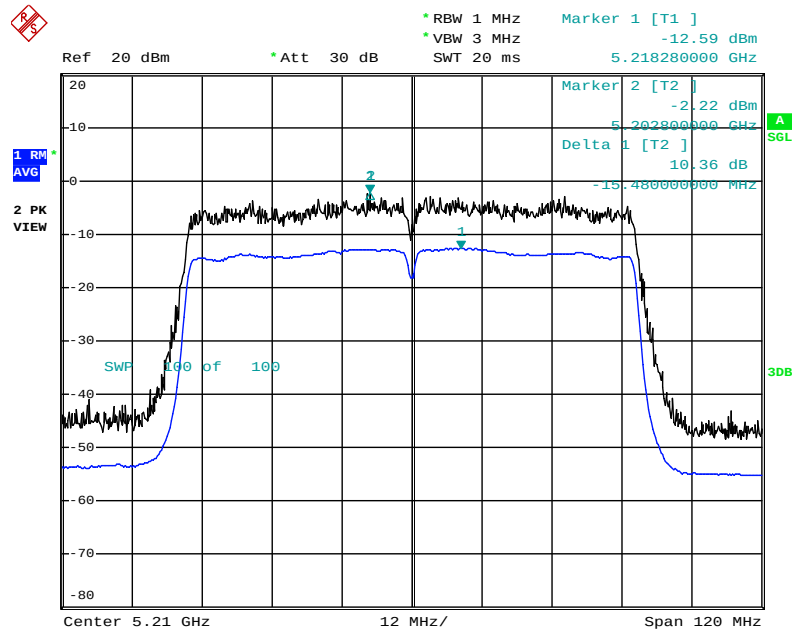
Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss1MCS0 / 256QAM(MCS8) / CH 42
/ Ant. 1+2+3



Date: 17.FEB.2014 16:48:18

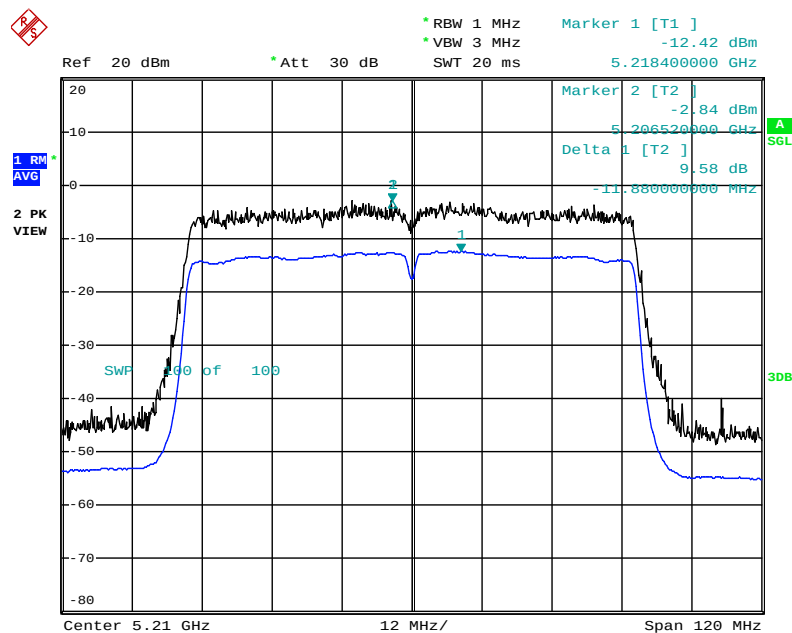
For <Nss2MCS0, Ant. 1+2+3, CDD>:

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / BSPK(MCS0) / CH 42
/ Ant. 1+2+3



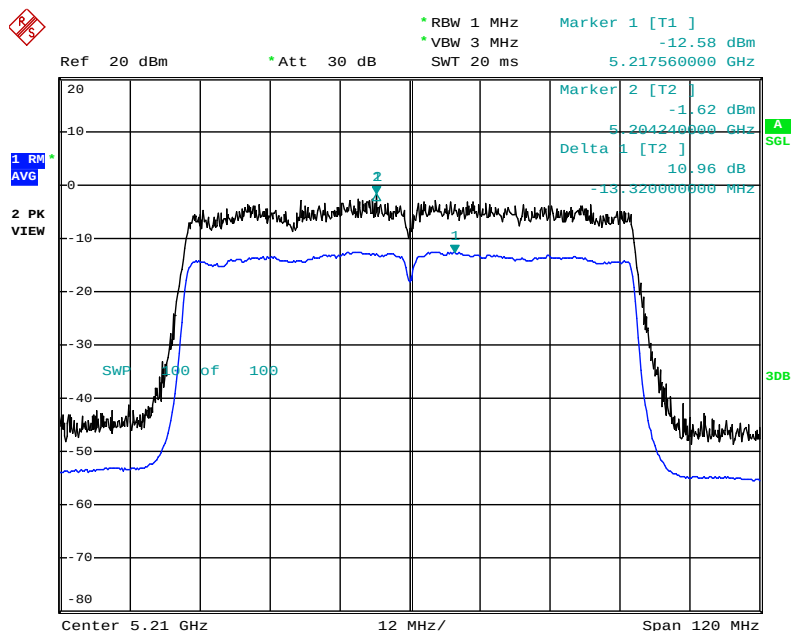
Date: 17.FEB.2014 16:52:03

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / QPSK(MCS1) / CH 42
/ Ant. 1+2+3



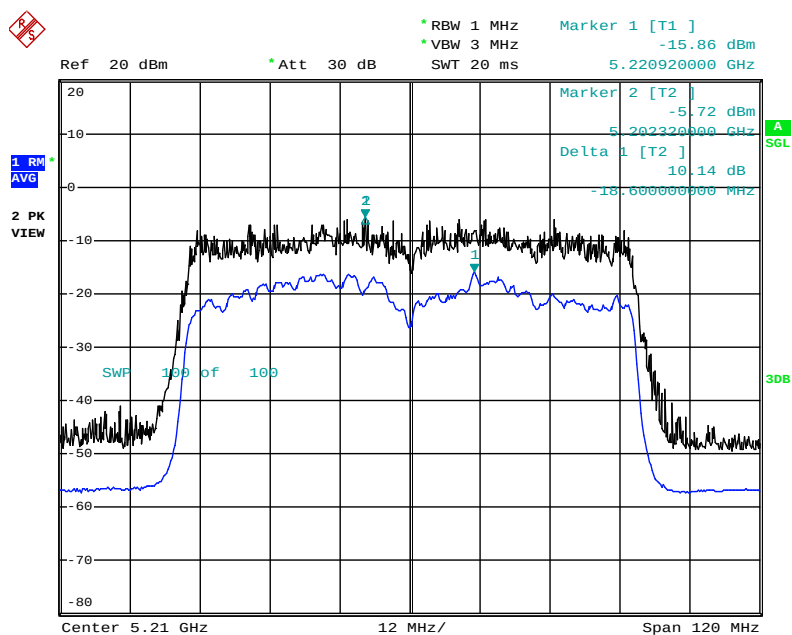
Date: 17.FEB.2014 16:52:37

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 16QAM(MCS3) / CH 42
/ Ant. 1+2+3



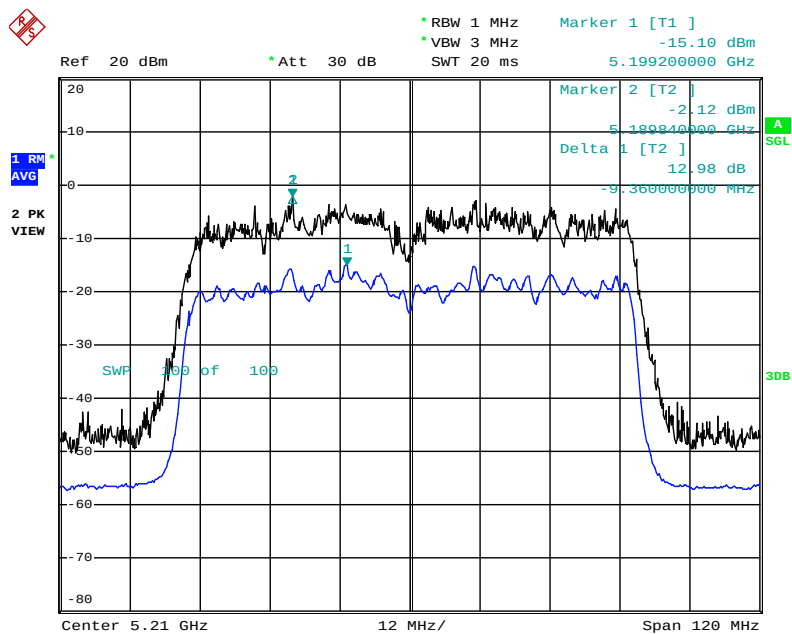
Date: 17.FEB.2014 16:53:12

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 64QAM(MCS5) / CH 42
/ Ant. 1+2+3



Date: 17.FEB.2014 17:41:23

Peak excursion Plot on Configuration IEEE 802.11ac 80 MHz Nss2MCS0 / 256QAM(MCS8) / CH 42
/ Ant. 1+2+3



Date: 17.FEB.2014 17:46:33

3.6 Radiated Emissions Measurement

3.6.1 Limit of Unwanted emissions in the restricted bands

Radiated emissions which fall within the restricted band specified on 15.205(a) must comply with the radiated emission limits specified as below table:

Frequencies (MHz)	Field Strength (microvolts/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

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBμV/m) = 20 log Emission level (μV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.6.2 Limits of Unwanted Emission out of the restricted bands

EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)	
Peak	Peak	Peak / Average
-27	68.3	74 / 54

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{100000\sqrt{30P}}{3} \mu\text{V/m, where } P \text{ is the eirp (Watts).}$$

3.6.3 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	1GHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average (Method VB)
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak
Detector	Peak
Trace mode	Max hold.

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~1GHz / RBW 120kHz for QP

3.6.4 Test Procedures

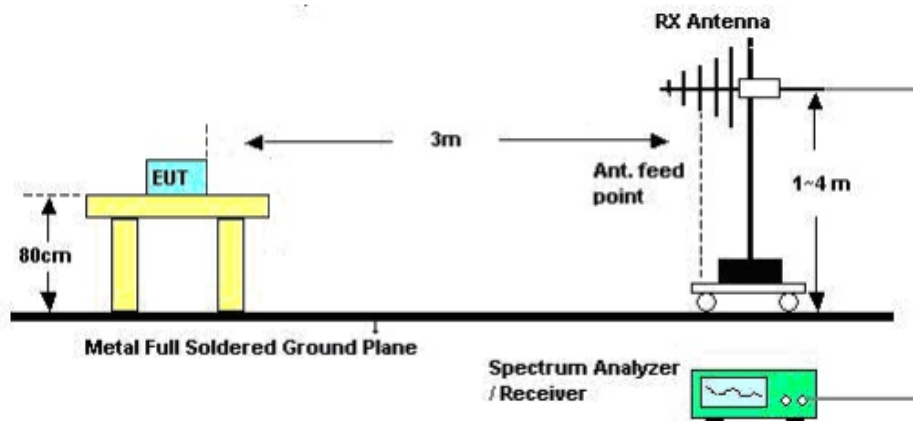
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases

where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

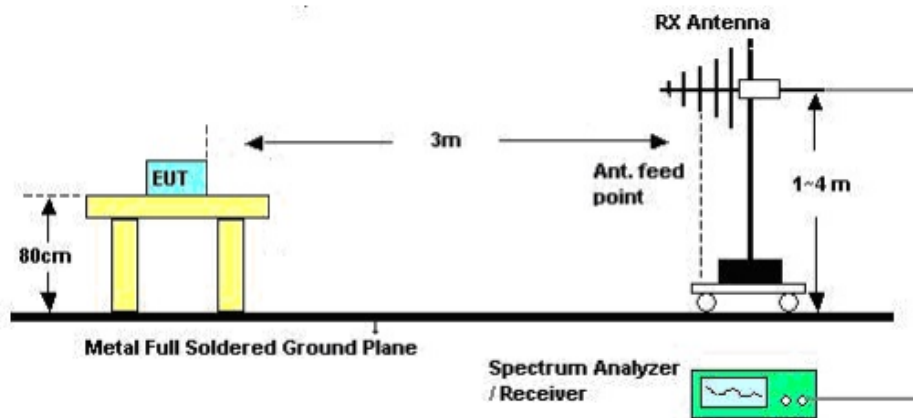
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For 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.
10. 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.

3.6.5 Test Setup Layout

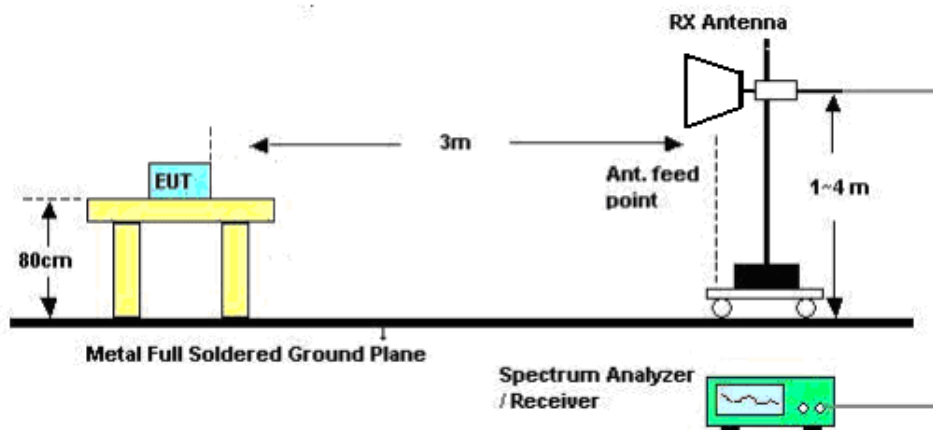
For Radiated Emissions below 1GHz (9kHz~30MHz)



For Radiated Emissions below 1GHz (30MHz~1GHz)



For Radiated Emissions above 1GHz



3.6.6 Test Deviation

There are no deviations with the original standard.

3.6.7 EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

3.6.8 Results of Radiated Emissions (9kHz~30MHz)

Frequency Range	9kHz~30MHz	Test Site No.	03CH01-CB
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Configurations	CTX
Test Date	Feb. 26, 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 20 dB below the permissible value has no need to be reported.

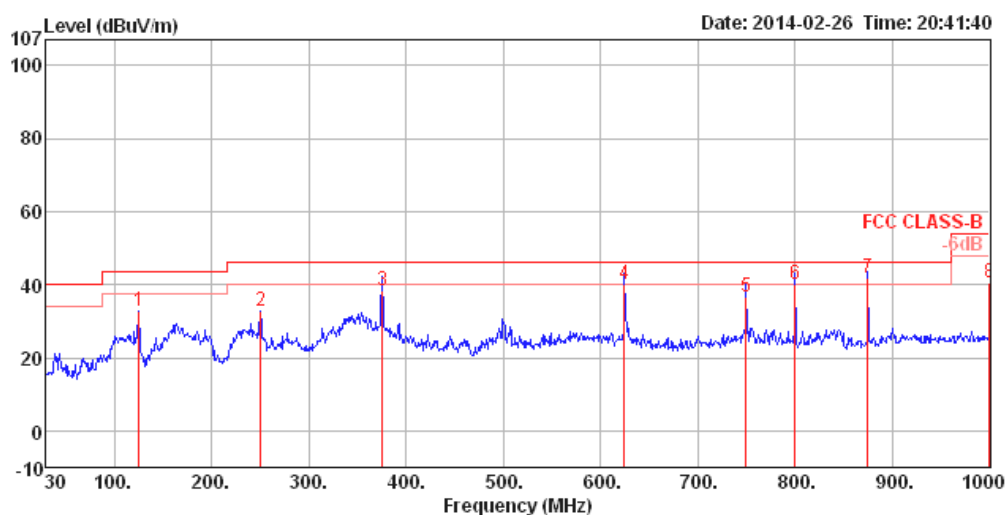
Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

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

3.6.9 Results of Radiated Emissions (30MHz~1GHz)

Frequency Range	30MHz~1GHz	Test Site No.	03CH01-CB
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Configurations	CTX

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	125.06	32.73	43.50	-10.77	51.24	1.33	11.73	31.57	150	211	HORIZONTAL	Peak
2	250.19	32.73	46.00	-13.27	50.41	1.90	11.91	31.49	125	119	HORIZONTAL	Peak
3	375.32	38.52	46.00	-7.48	52.58	2.44	14.93	31.43	100	301	HORIZONTAL	QP
4	624.61	40.23	46.00	-5.77	49.84	3.18	18.61	31.40	131	289	HORIZONTAL	QP
5	749.74	36.53	46.00	-9.47	44.68	3.53	19.69	31.37	100	329	HORIZONTAL	QP
6	800.18	40.17	46.00	-5.83	48.01	3.67	19.76	31.27	103	107	HORIZONTAL	QP
7	874.87	41.91	46.00	-4.09	48.93	3.89	20.24	31.15	100	296	HORIZONTAL	QP
8	1000.00	40.65	54.00	-13.35	46.18	4.21	21.44	31.18	125	327	HORIZONTAL	Peak

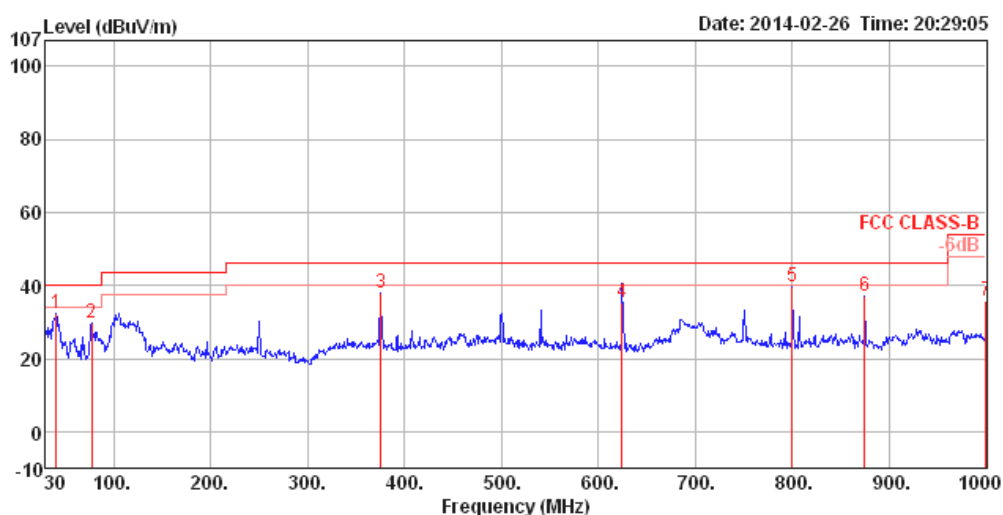
Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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.

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	40.67	32.41	40.00	-7.59	51.68	0.75	11.85	31.87	100	191	VERTICAL	Peak
2	77.53	29.58	40.00	-10.42	53.72	1.03	6.53	31.70	150	312	VERTICAL	Peak
3	375.32	38.14	46.00	-7.86	52.20	2.44	14.93	31.43	150	102	VERTICAL	Peak
4	624.61	35.41	46.00	-10.59	45.02	3.18	18.61	31.40	100	56	VERTICAL	QP
5	800.18	39.72	46.00	-6.28	47.56	3.67	19.76	31.27	100	91	VERTICAL	Peak
6	874.87	37.08	46.00	-8.92	44.10	3.89	20.24	31.15	125	303	VERTICAL	Peak
7	1000.00	35.96	54.00	-18.04	41.49	4.21	21.44	31.18	100	291	VERTICAL	Peak

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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.

3.6.10 Results of Emission not in Restricted Bands

Following channel(s) was (were) selected for the final test as listed below.

For Non-Beamforming

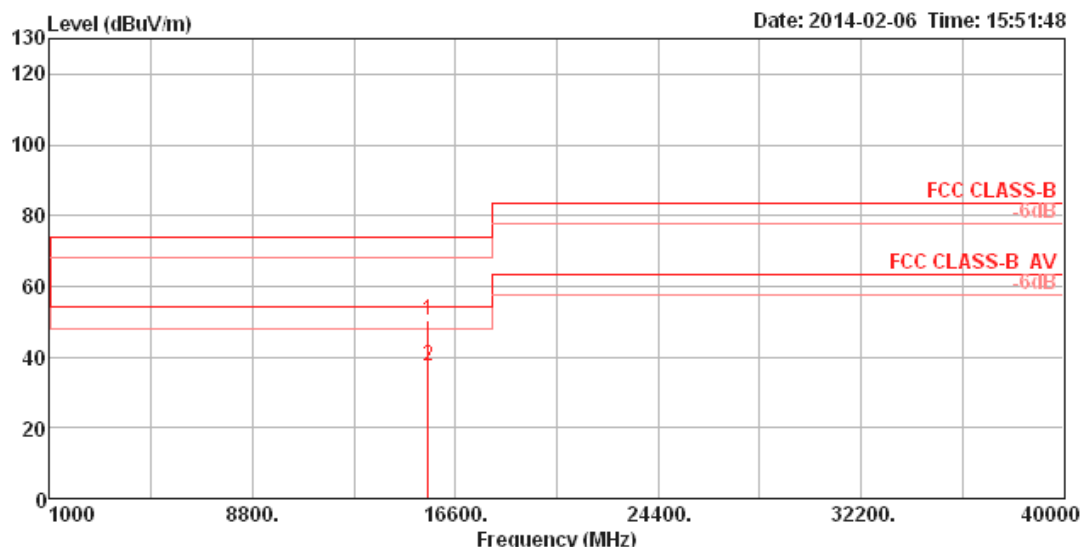
Mode	TX Antenna	Test Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	Ant.1	36, 40, 48	OFDM	BPSK	6
802.11a	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	6
802.11ac 20MHz	Ant.1	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (13)
802.11ac 40MHz	Ant.1	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (27)
802.11ac 80MHz	Ant.1	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (58.5)

For Beamforming

Mode	TX Antenna	Test Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (13)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (27)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (58.5)

For Non-Beamforming

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	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	15534.71	50.56	74.00	-23.44	42.05	6.13	37.67	35.29	Peak	100	102	HORIZONTAL
2	15543.49	37.47	54.00	-16.53	29.00	6.13	37.65	35.31	Average	100	102	HORIZONTAL

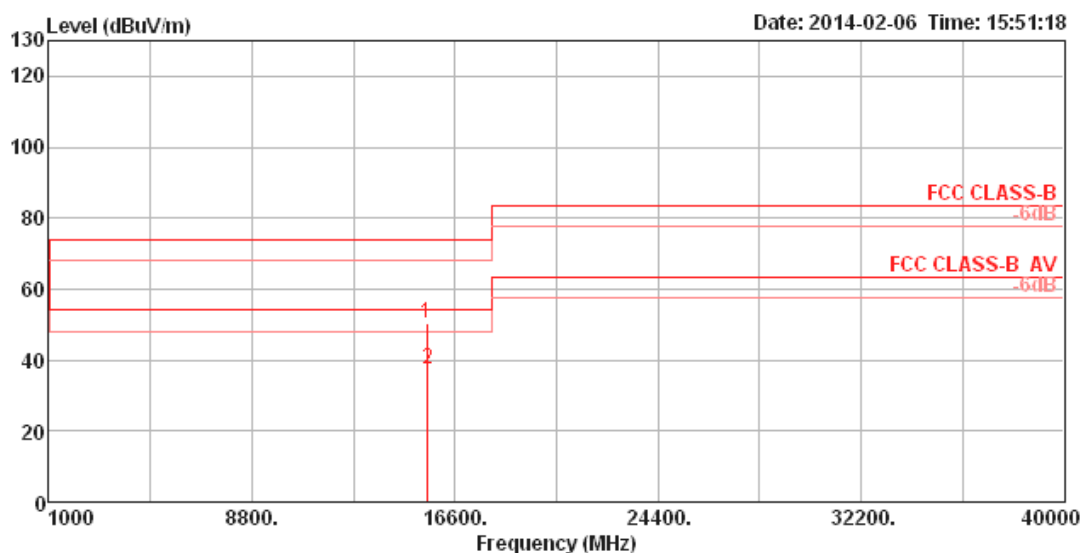
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15530.83	50.17	74.00	-23.83	41.60	6.13	37.73	35.29	Peak	100	274	VERTICAL
2	15536.47	37.53	54.00	-16.47	28.96	6.13	37.73	35.29	Average	100	274	VERTICAL

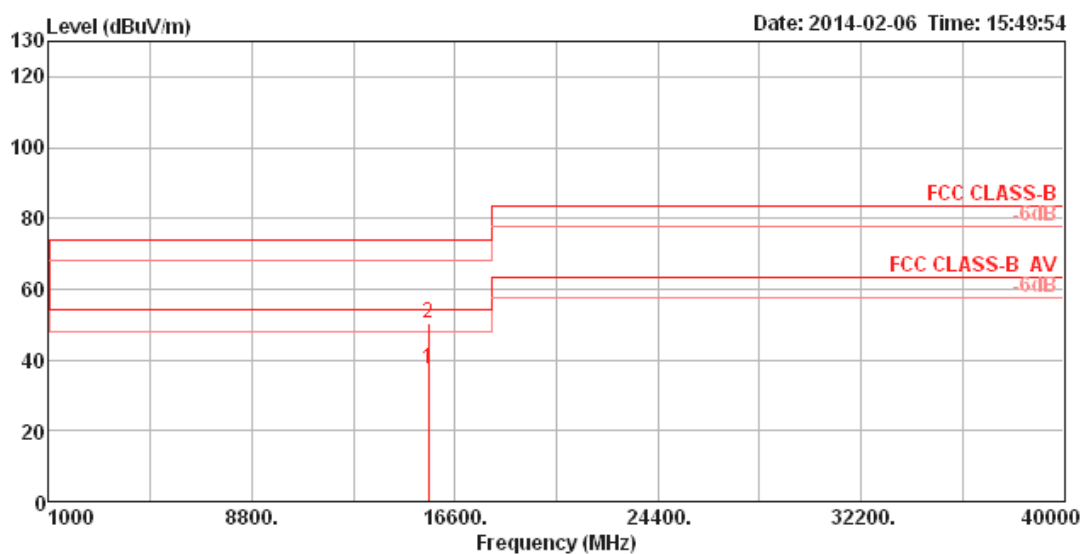
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15591.31	37.50	54.00	-16.50	29.11	6.13	37.60	35.34	Average	100	297	HORIZONTAL
2	15596.86	50.19	74.00	-23.81	41.80	6.13	37.60	35.34	Peak	100	297	HORIZONTAL

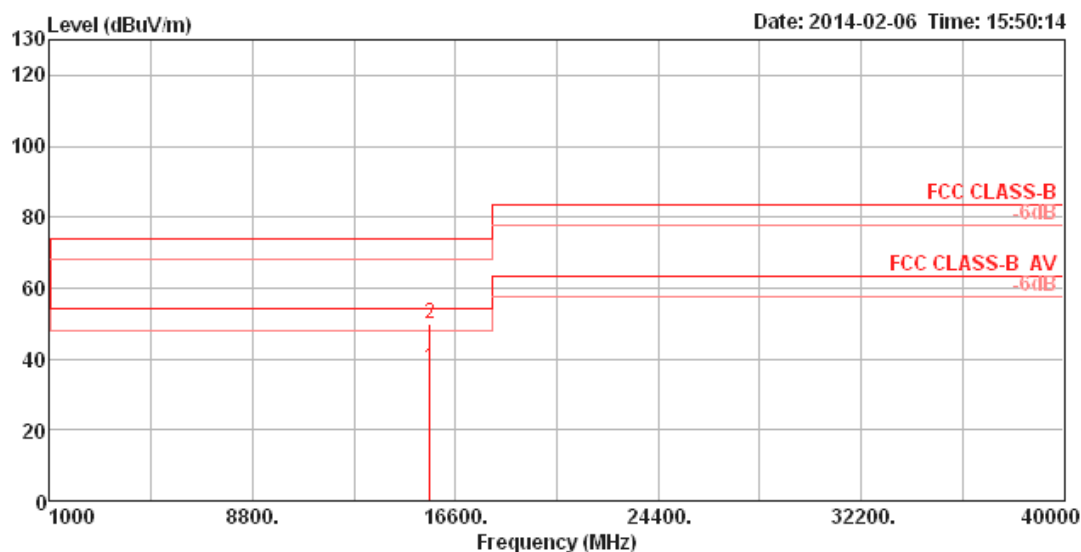
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15599.78	37.49	54.00	-16.51	29.10	6.13	37.60	35.34	Average	100	183	VERTICAL
2	15600.06	49.82	74.00	-24.18	41.43	6.13	37.60	35.34	Peak	100	183	VERTICAL

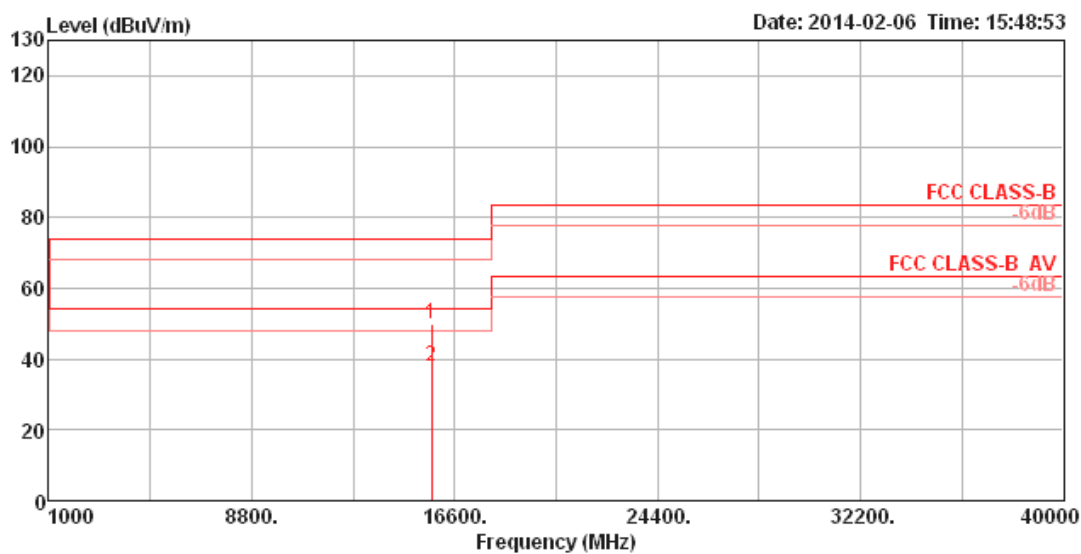
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15710.61	50.10	74.00	-23.90	41.86	6.14	37.48	35.38	Peak	100	141	HORIZONTAL
2	15713.30	37.81	54.00	-16.19	29.57	6.14	37.48	35.38	Average	100	141	HORIZONTAL

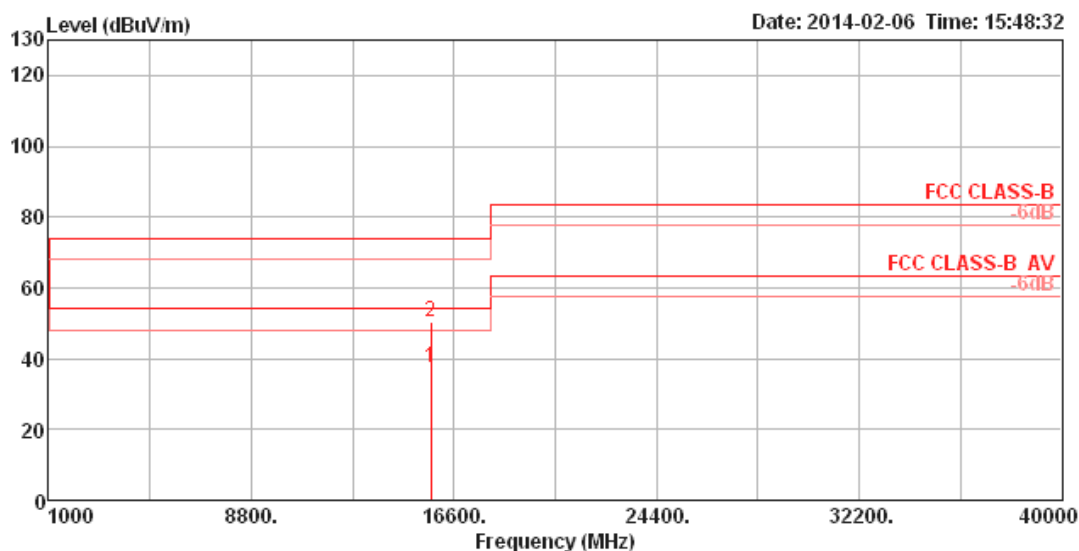
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15711.31	37.55	54.00	-16.45	29.31	6.14	37.48	35.38	Average	100	251	VERTICAL
2	15726.70	50.21	74.00	-23.79	42.00	6.14	37.46	35.39	Peak	100	251	VERTICAL

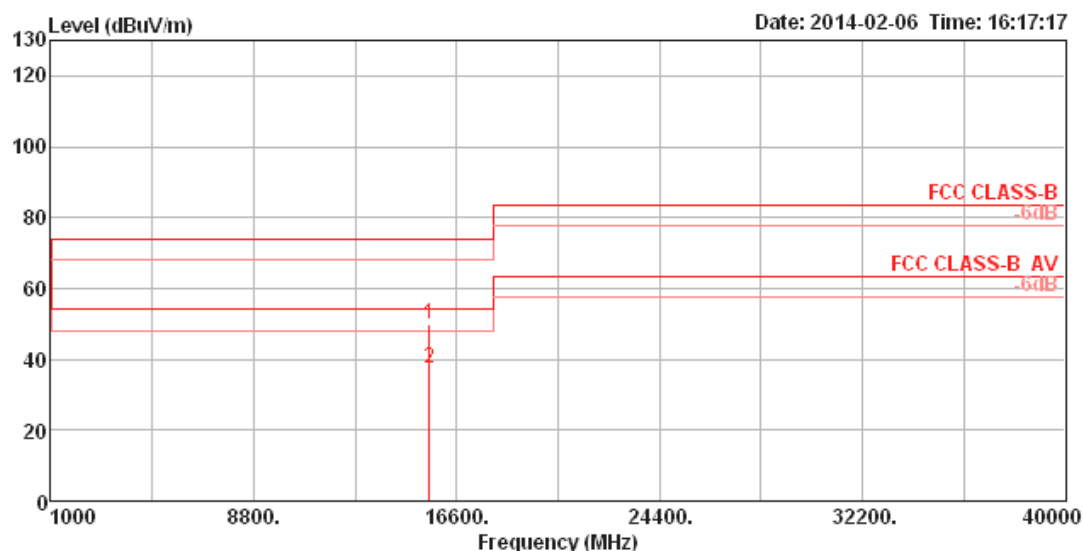
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15541.73	49.83	74.00	-24.17	41.32	6.13	37.69	35.31	Peak	100	335 VERTICAL
2	15544.10	37.40	54.00	-16.60	28.89	6.13	37.69	35.31	Average	100	335 VERTICAL

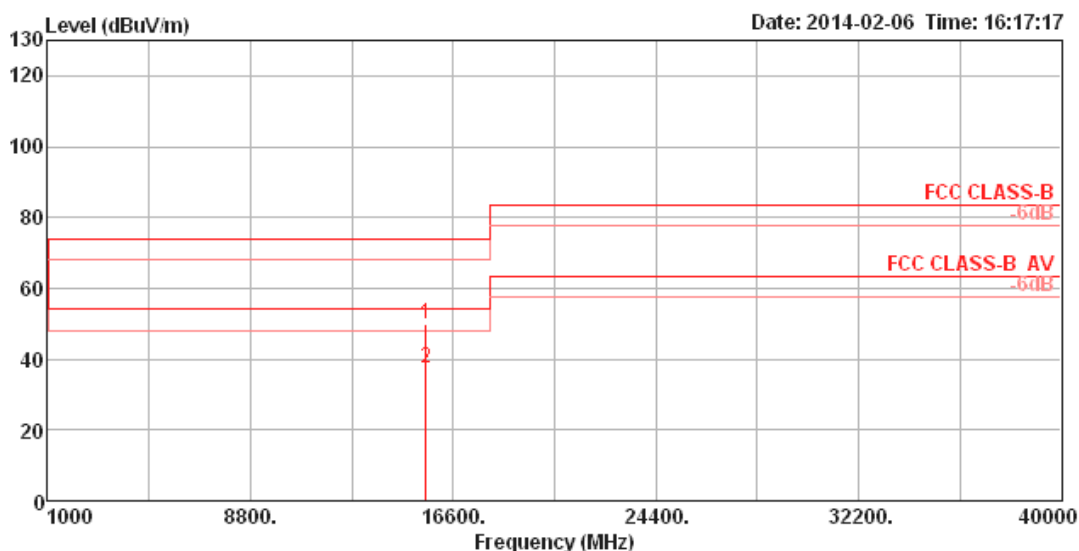
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15541.73	49.83	74.00	-24.17	41.32	6.13	37.69	35.31	Peak	100	335	VERTICAL
2	15544.10	37.40	54.00	-16.60	28.89	6.13	37.69	35.31	Average	100	335	VERTICAL

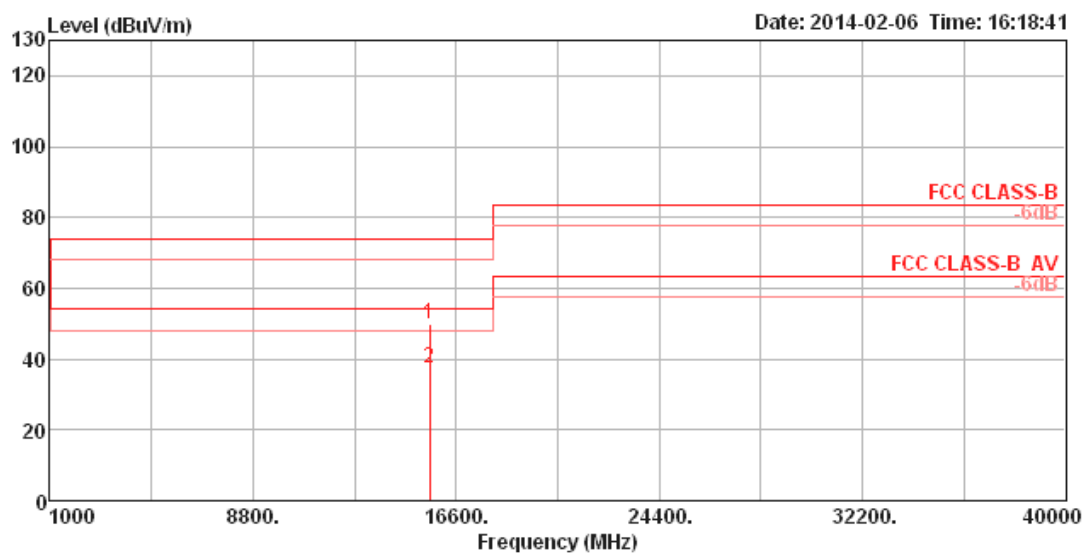
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	15590.26	49.76	74.00	-24.24	41.37	6.13	37.60	35.34	Peak	100	324	HORIZONTAL
2	15591.44	37.40	54.00	-16.60	29.01	6.13	37.60	35.34	Average	100	324	HORIZONTAL

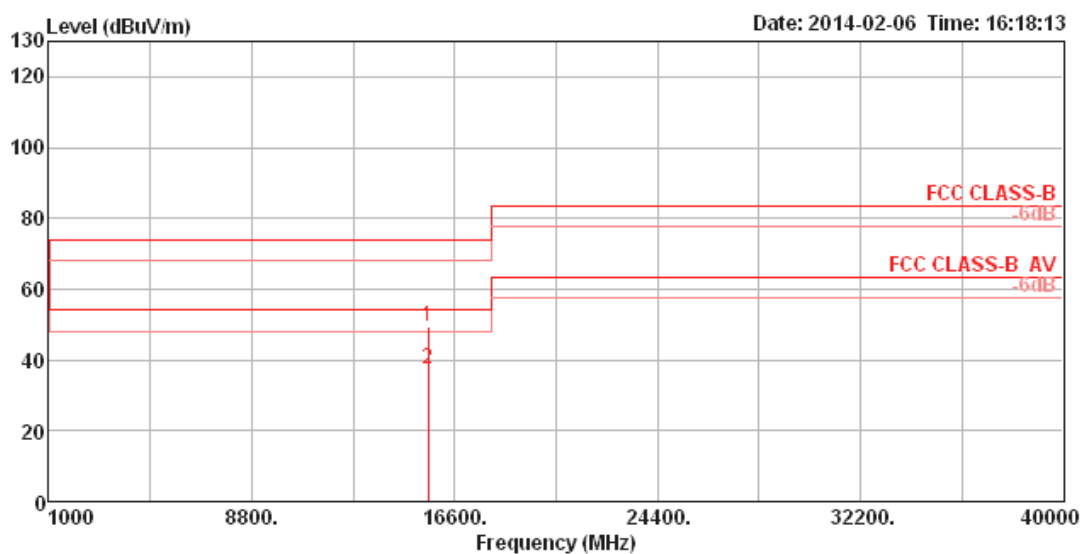
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15590.83	49.53	74.00	-24.47	41.14	6.13	37.60	35.34	Peak	100	145 VERTICAL
2	15591.73	37.34	54.00	-16.66	28.95	6.13	37.60	35.34	Average	100	145 VERTICAL

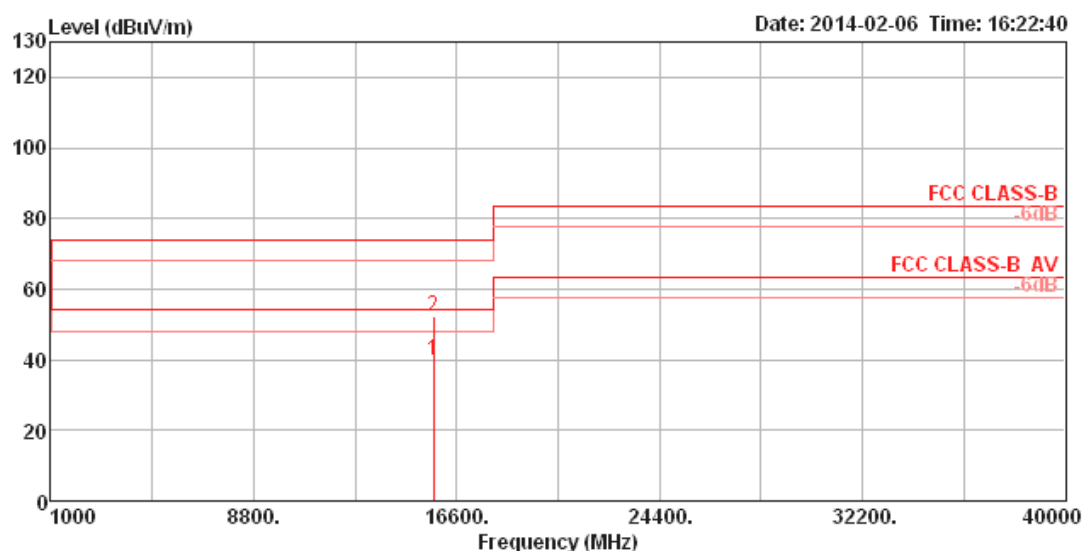
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	15716.38	39.59	54.00	-14.41	31.36	6.14	37.48	35.39	Average	100	317	HORIZONTAL
2	15722.02	52.09	74.00	-21.91	43.86	6.14	37.48	35.39	Peak	100	317	HORIZONTAL

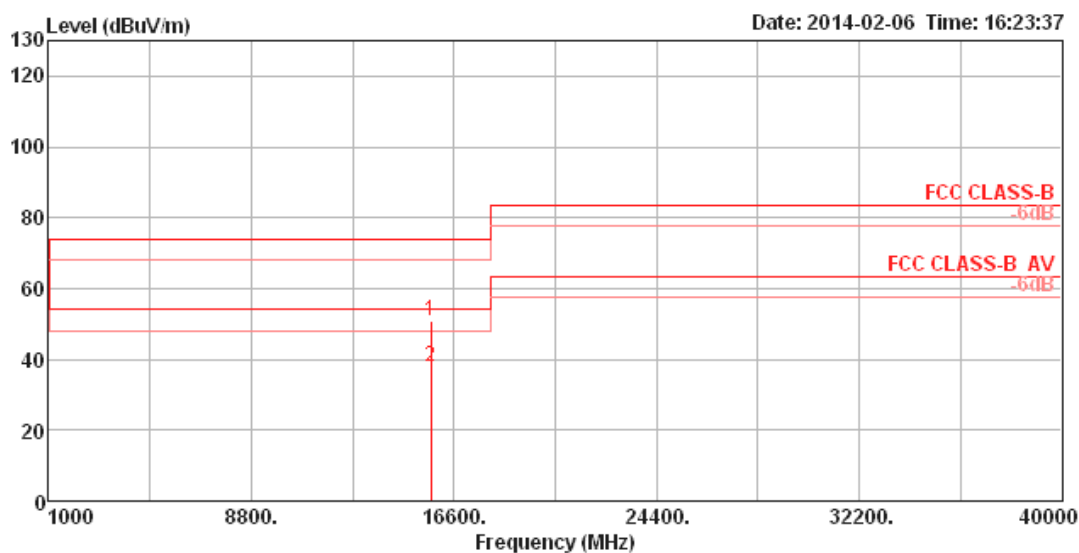
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15710.67	50.61	74.00	-23.39	42.37	6.14	37.48	35.38	Peak	100	13	VERTICAL
2	15716.12	37.90	54.00	-16.10	29.67	6.14	37.48	35.39	Average	100	13	VERTICAL

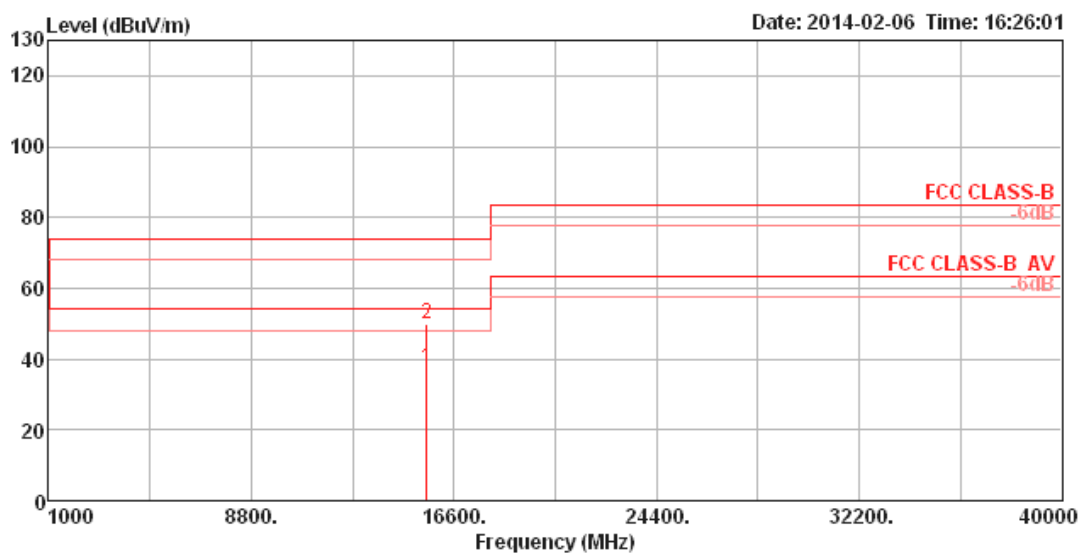
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15541.63	37.41	54.00	-16.59	28.94	6.13	37.65	35.31	Average	100	353	HORIZONTAL
2	15547.98	49.83	74.00	-24.17	41.36	6.13	37.65	35.31	Peak	100	353	HORIZONTAL

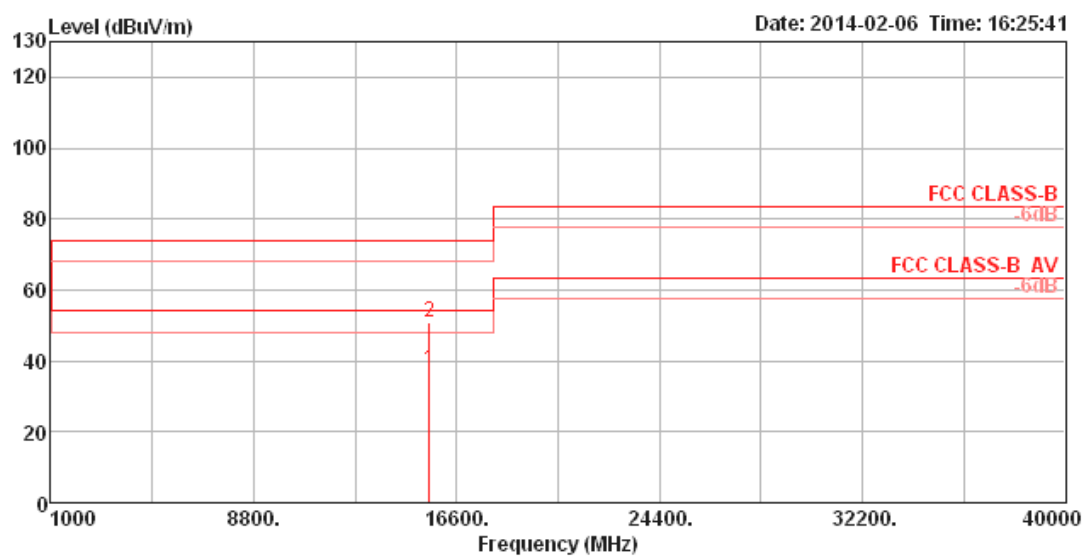
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15539.26	37.62	54.00	-16.38	29.11	6.13	37.69	35.31	Average	100	282	VERTICAL
2	15541.86	50.82	74.00	-23.18	42.31	6.13	37.69	35.31	Peak	100	282	VERTICAL

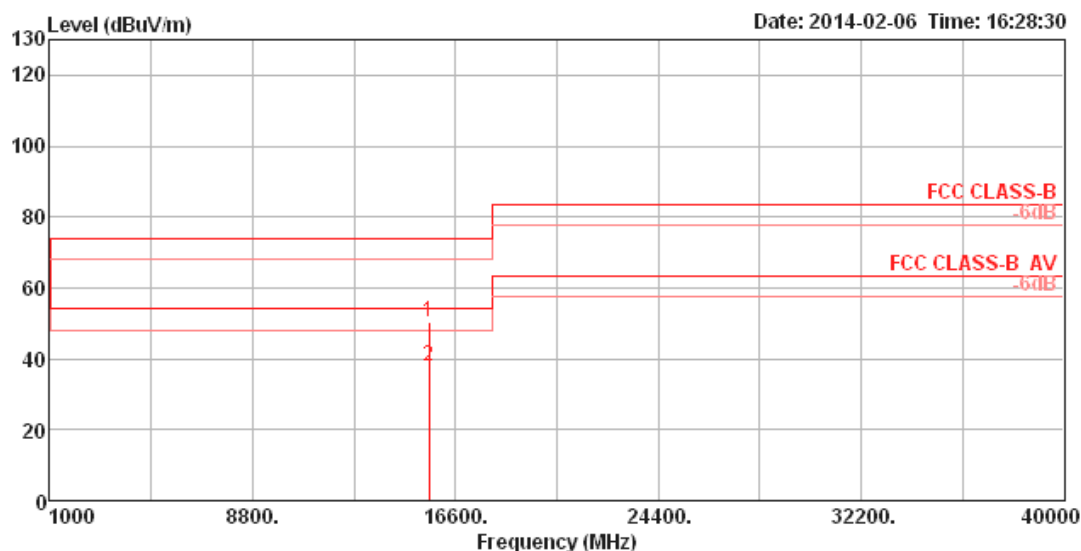
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15591.99	50.40	74.00	-23.60	42.01	6.13	37.60	35.34	Peak	100	333	HORIZONTAL
2	15597.31	37.97	54.00	-16.03	29.58	6.13	37.60	35.34	Average	100	333	HORIZONTAL

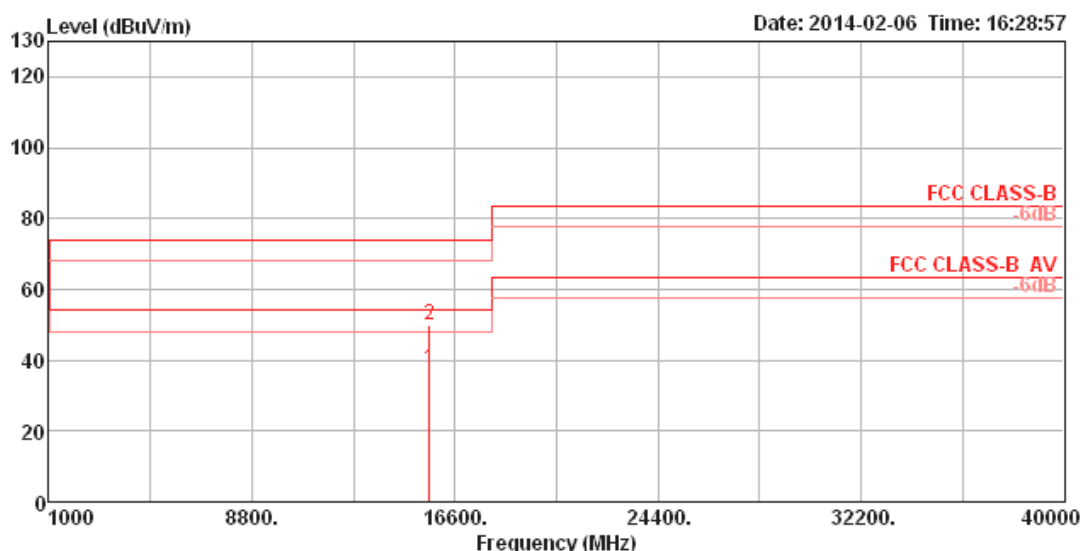
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15599.81	37.35	54.00	-16.65	28.96	6.13	37.60	35.34	Average	100	134	VERTICAL
2	15603.04	49.66	74.00	-24.34	41.27	6.13	37.60	35.34	Peak	100	134	VERTICAL

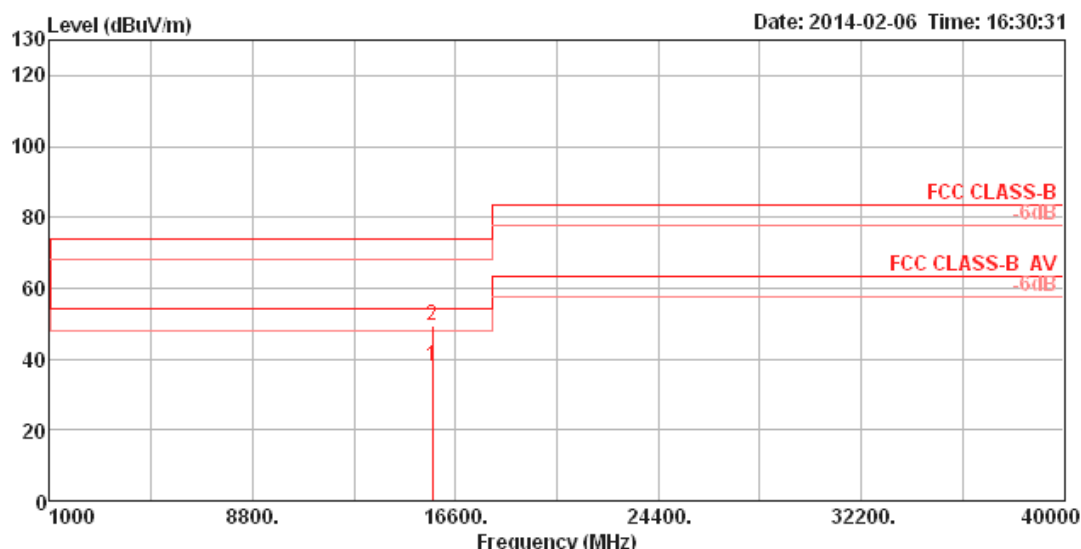
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15710.29	38.00	54.00	-16.00	29.76	6.14	37.48	35.38	Average	100	72	HORIZONTAL
2	15716.31	49.61	74.00	-24.39	41.38	6.14	37.48	35.39	Peak	100	72	HORIZONTAL

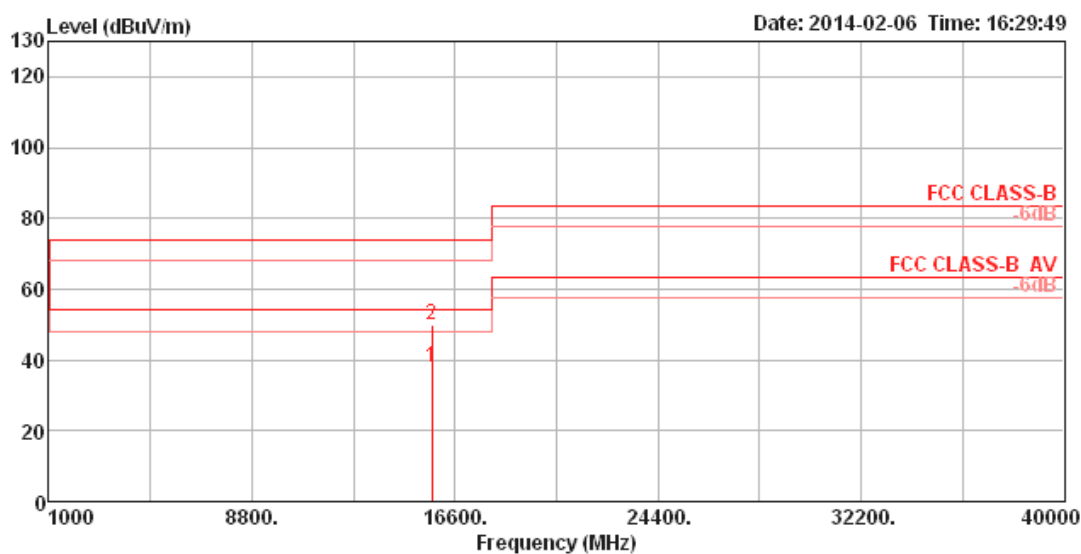
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15715.19	37.68	54.00	-16.32	29.44	6.14	37.48	35.38	Average	100	317	VERTICAL
2	15728.01	50.03	74.00	-23.97	41.82	6.14	37.46	35.39	Peak	100	317	VERTICAL

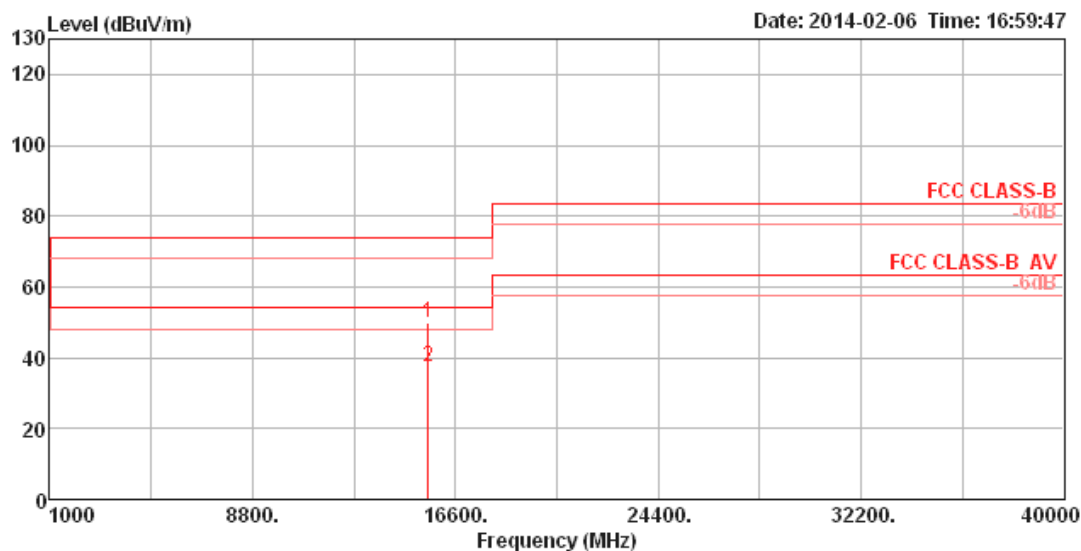
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15537.85	49.78	74.00	-24.22	41.29	6.13	37.65	35.29	Peak	100	93	HORIZONTAL
2	15543.91	37.29	54.00	-16.71	28.82	6.13	37.65	35.31	Average	100	93	HORIZONTAL

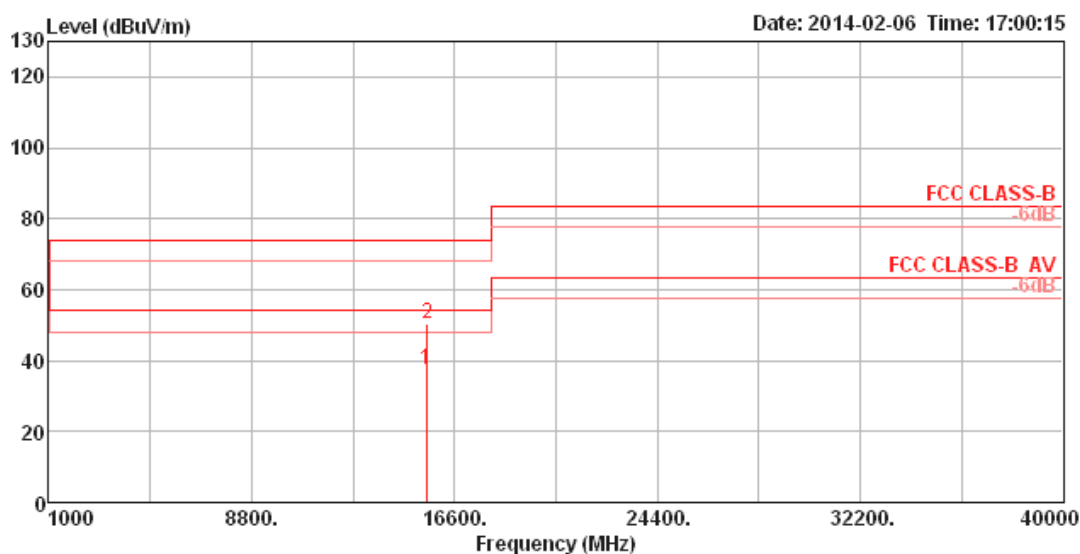
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15531.73	37.35	54.00	-16.65	28.78	6.13	37.73	35.29	Average	100	296	VERTICAL
2	15543.97	50.23	74.00	-23.77	41.72	6.13	37.69	35.31	Peak	100	296	VERTICAL

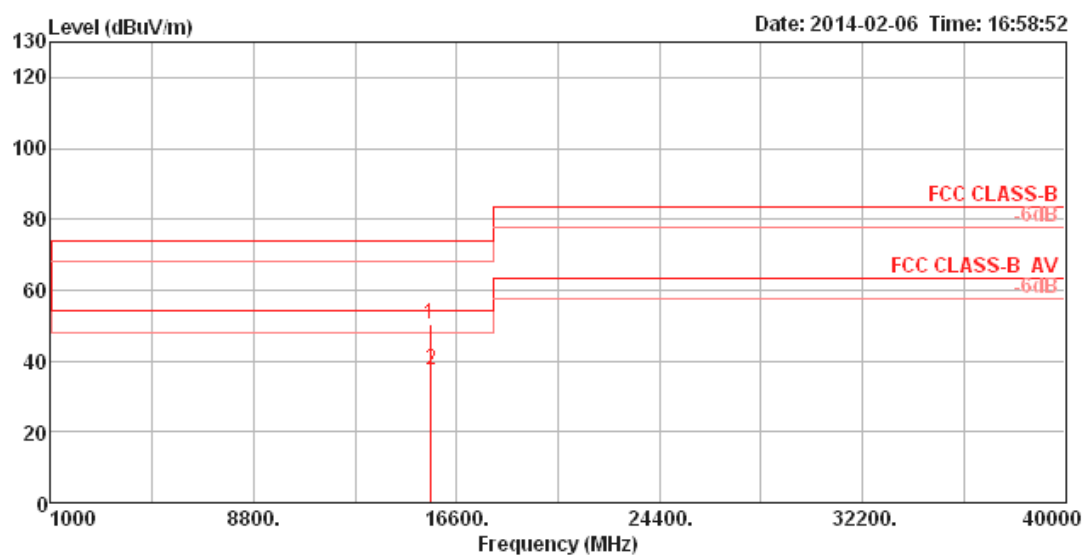
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15596.92	50.54	74.00	-23.46	42.15	6.13	37.60	35.34	Peak	100	353 HORIZONTAL
2	15600.19	37.23	54.00	-16.77	28.84	6.13	37.60	35.34	Average	100	353 HORIZONTAL

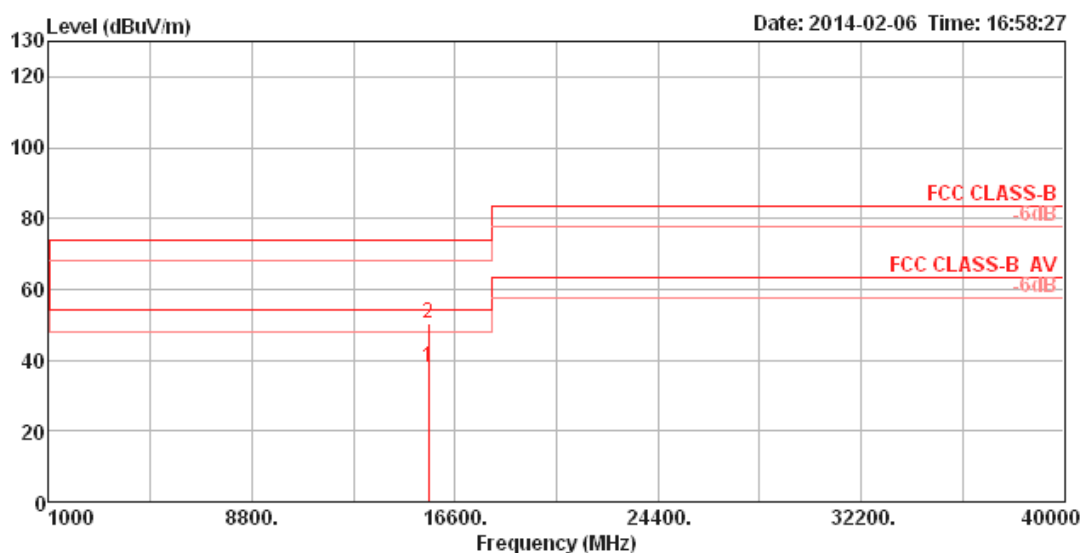
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15593.27	37.78	54.00	-16.22	29.39	6.13	37.60	35.34	Average	100	202	VERTICAL
2	15595.13	50.39	74.00	-23.61	42.00	6.13	37.60	35.34	Peak	100	202	VERTICAL

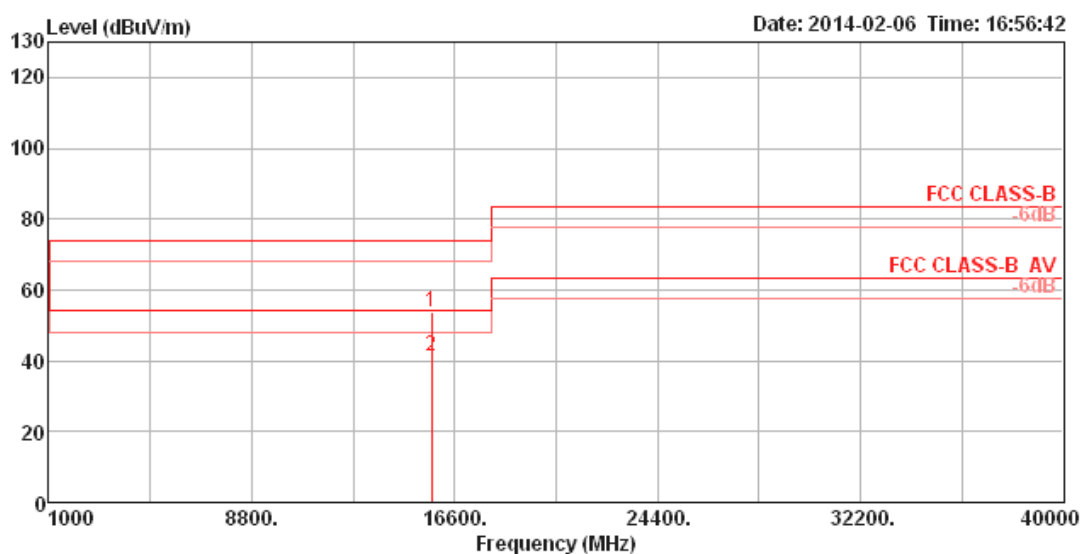
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15710.29	53.95	74.00	-20.05	45.71	6.14	37.48	35.38	Peak	100	317	HORIZONTAL
2	15716.06	41.24	54.00	-12.76	33.00	6.14	37.48	35.38	Average	100	317	HORIZONTAL

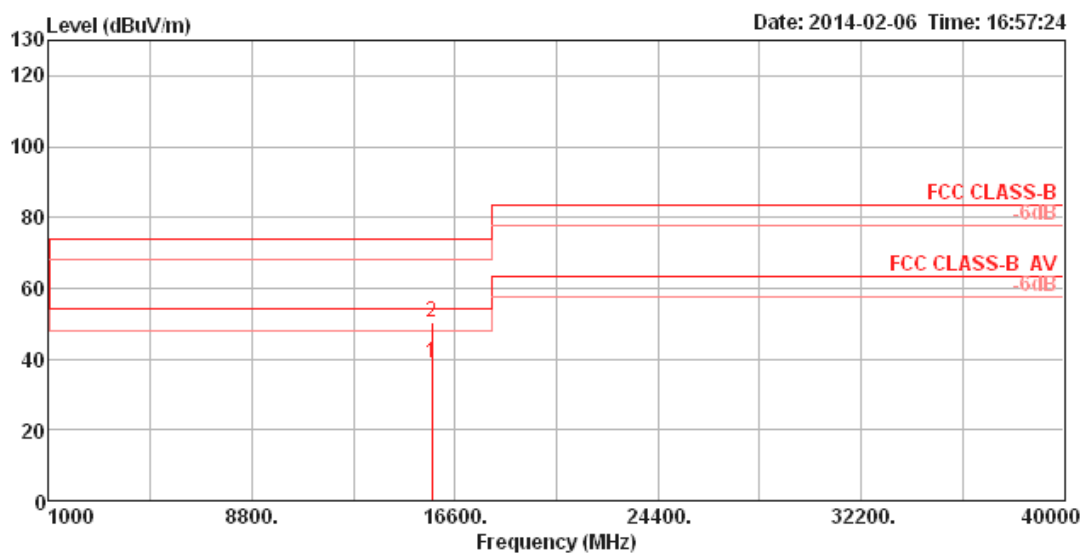
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15717.82	38.66	54.00	-15.34	30.43	6.14	37.48	35.39	Average	100	44	VERTICAL
2	15719.62	50.39	74.00	-23.61	42.16	6.14	37.48	35.39	Peak	100	44	VERTICAL

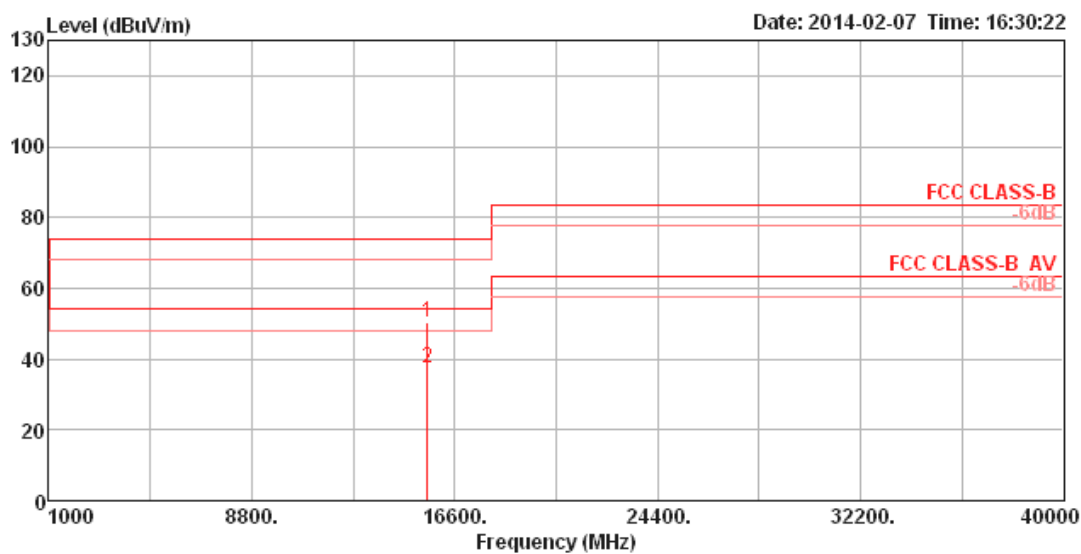
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	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	15535.45	50.53	74.00	-23.47	42.02	6.13	37.67	35.29	Peak	100	262	HORIZONTAL
2	15542.53	37.60	54.00	-16.40	29.13	6.13	37.65	35.31	Average	100	262	HORIZONTAL

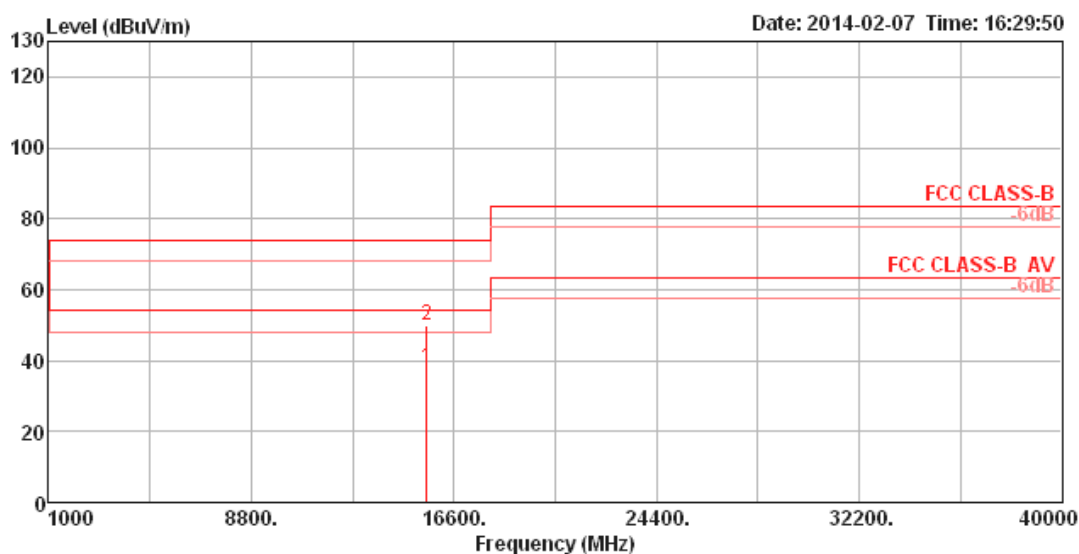
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15540.72	37.87	54.00	-16.13	29.36	6.13	37.69	35.31	Average	100	27 VERTICAL
2	15541.47	50.07	74.00	-23.93	41.56	6.13	37.69	35.31	Peak	100	27 VERTICAL

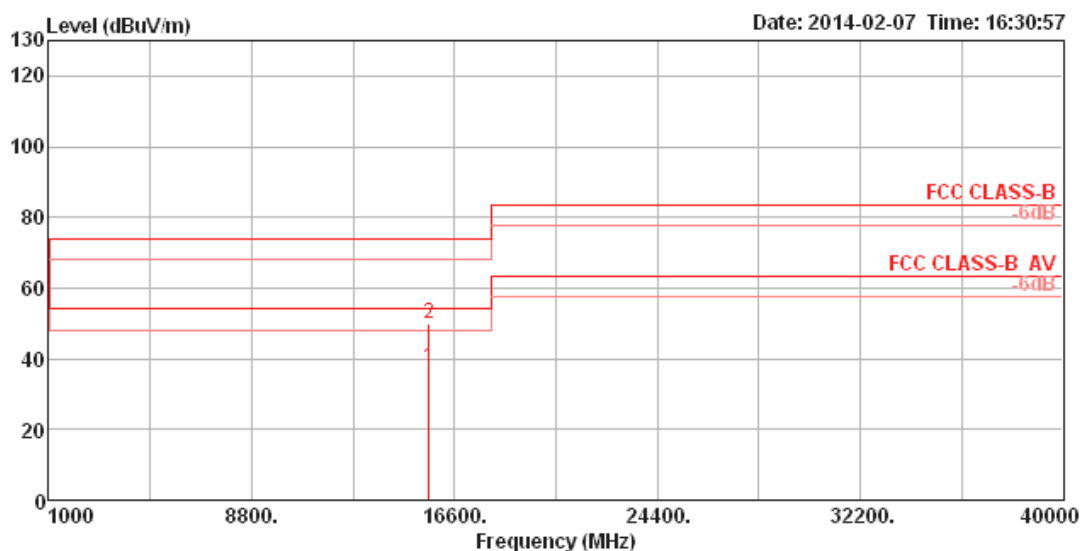
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15602.21	37.47	54.00	-16.53	29.08	6.13	37.60	35.34	Average	100	297	HORIZONTAL
2	15602.48	49.81	74.00	-24.19	41.42	6.13	37.60	35.34	Peak	100	297	HORIZONTAL

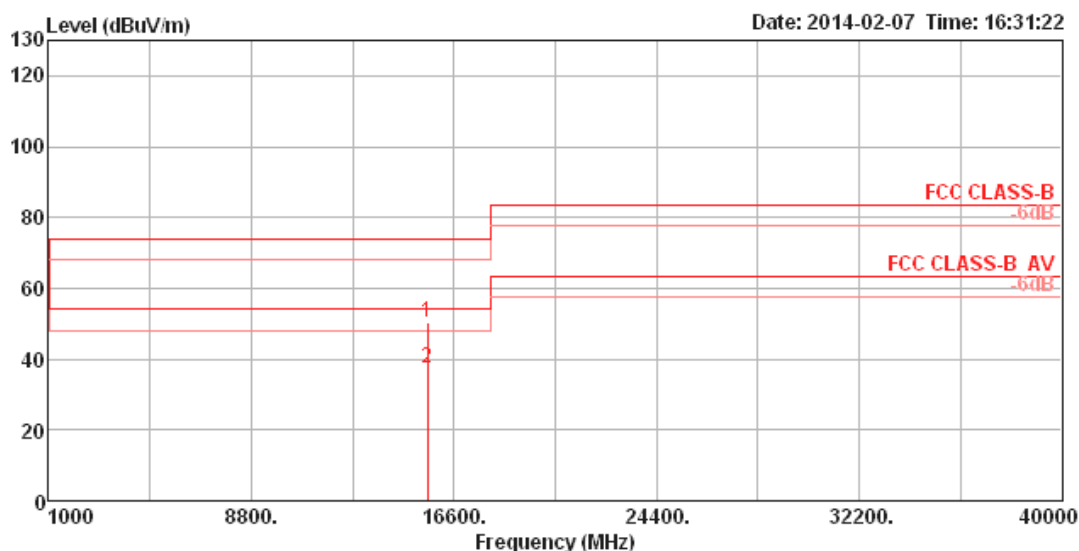
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15597.02	50.26	74.00	-23.74	41.87	6.13	37.60	35.34	Peak	100	154 VERTICAL
2	15598.14	37.36	54.00	-16.64	28.97	6.13	37.60	35.34	Average	100	154 VERTICAL

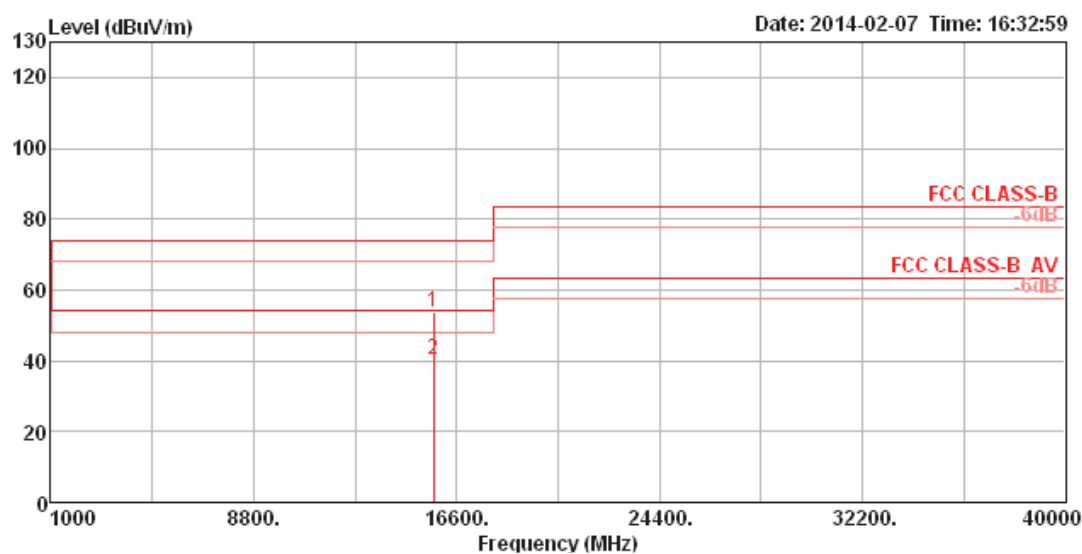
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	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	15718.22	53.57	74.00	-20.43	45.34	6.14	37.48	35.39	Peak	100	328	HORIZONTAL
2	15720.67	40.14	54.00	-13.86	31.91	6.14	37.48	35.39	Average	100	328	HORIZONTAL

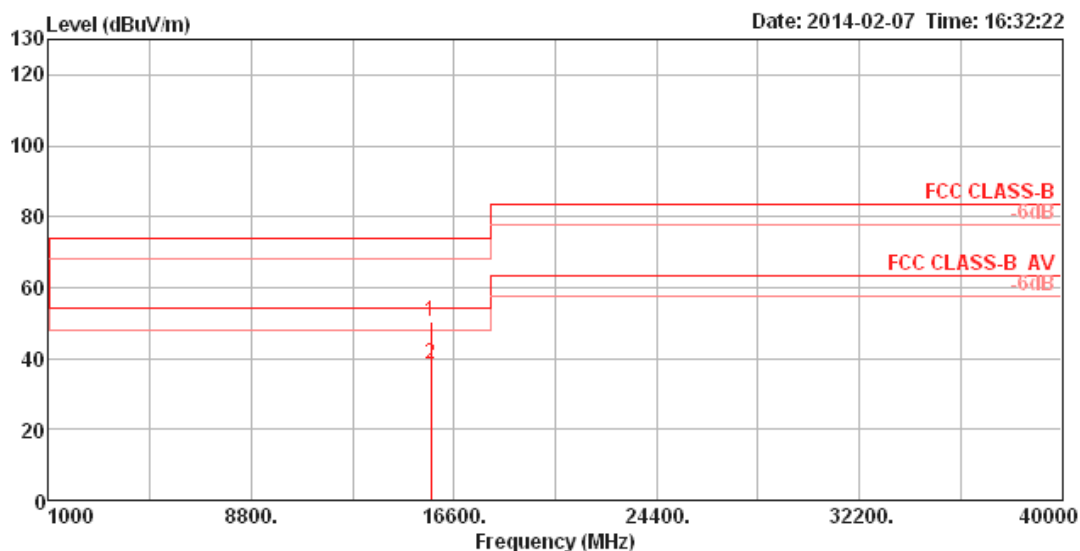
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	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	15720.13	50.44	74.00	-23.56	42.21	6.14	37.48	35.39	Peak	100	191	VERTICAL
2	15721.01	38.38	54.00	-15.62	30.15	6.14	37.48	35.39	Average	100	191	VERTICAL

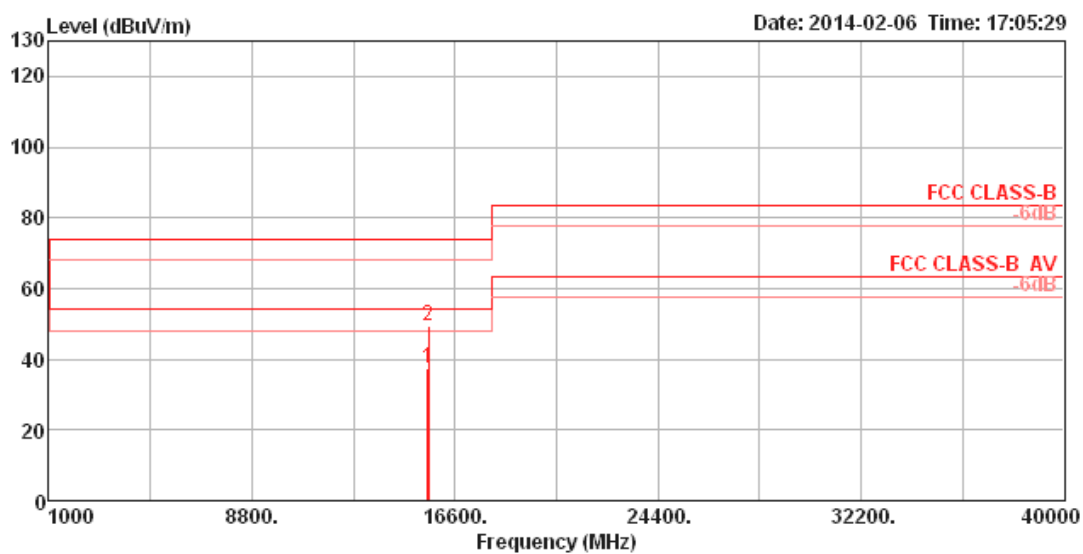
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15560.32	37.47	54.00	-16.53	29.02	6.13	37.63	35.31	Average	100	299	HORIZONTAL
2	15570.10	49.63	74.00	-24.37	41.20	6.13	37.63	35.33	Peak	100	299	HORIZONTAL

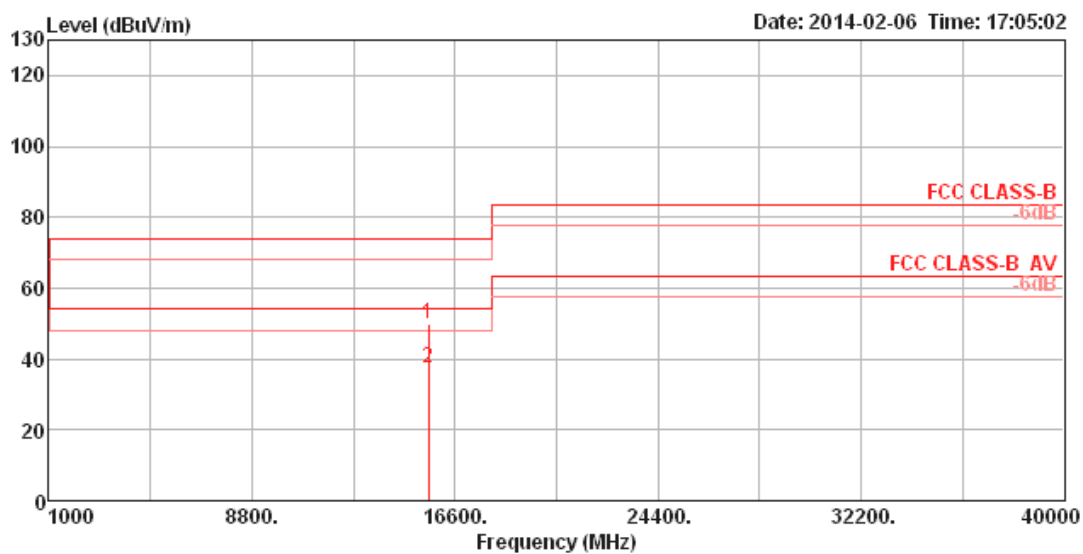
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15568.78	50.03	74.00	-23.97	41.58	6.13	37.65	35.33	Peak	100	121	VERTICAL
2	15574.13	37.43	54.00	-16.57	29.02	6.13	37.61	35.33	Average	100	121	VERTICAL

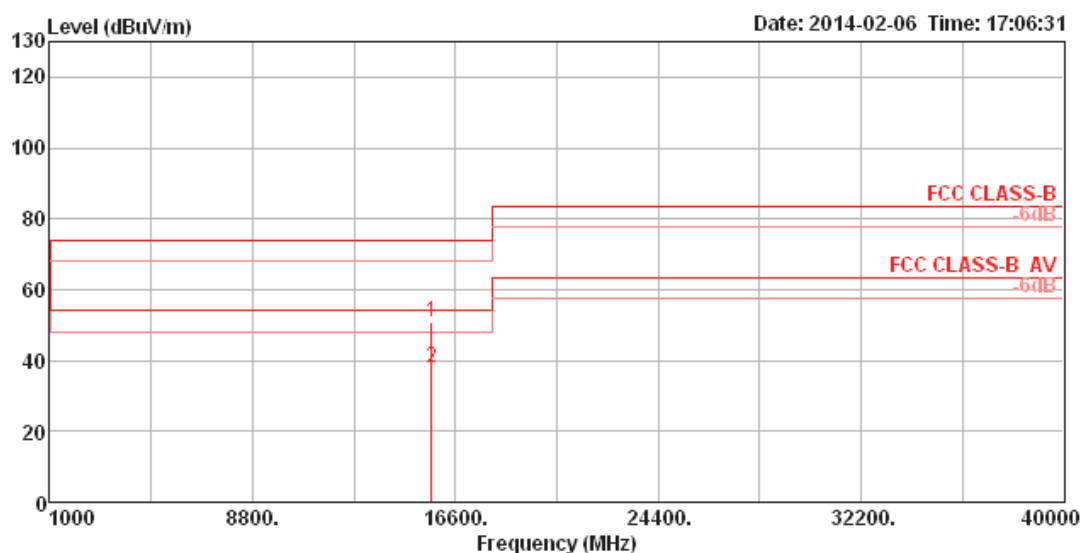
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	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	15681.63	50.64	74.00	-23.36	42.36	6.14	37.51	35.37	Peak	100	59	HORIZONTAL
2	15696.25	38.08	54.00	-15.92	29.83	6.14	37.49	35.38	Average	100	59	HORIZONTAL

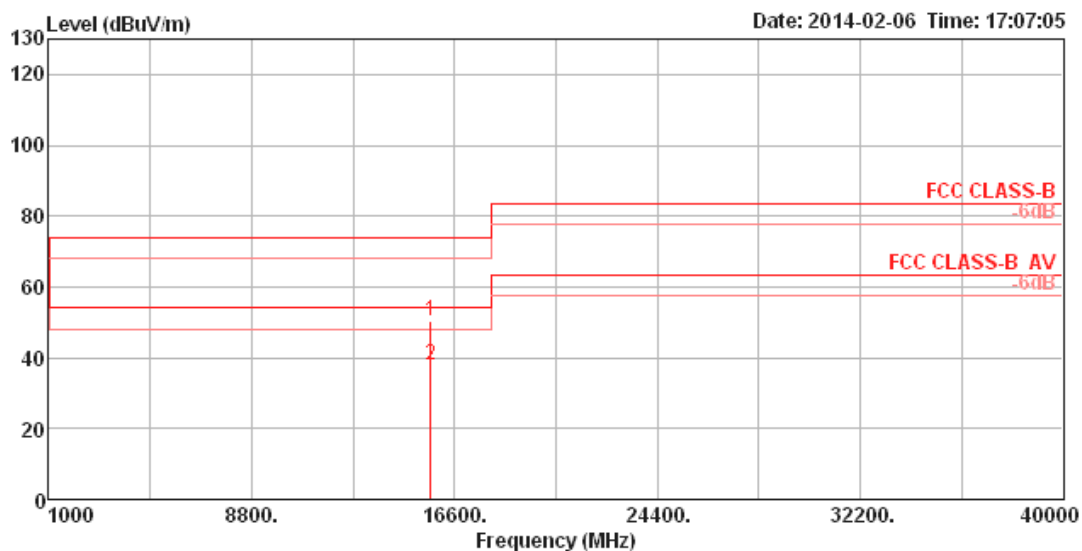
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15680.32	50.18	74.00	-23.82	41.90	6.14	37.51	35.37	Peak	100	322	VERTICAL
2	15695.16	37.85	54.00	-16.15	29.60	6.14	37.49	35.38	Average	100	322	VERTICAL

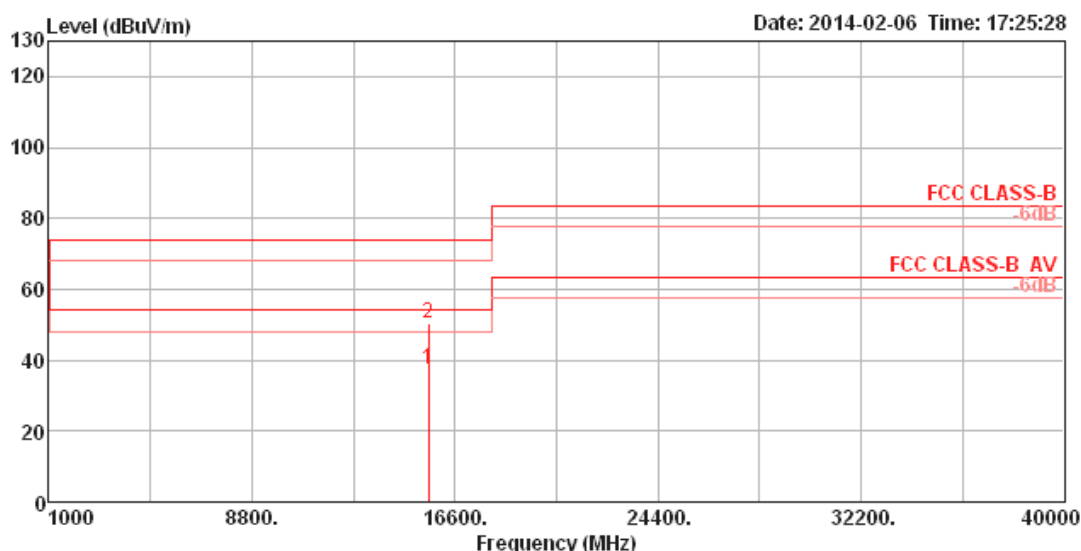
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15569.65	37.45	54.00	-16.55	29.02	6.13	37.63	35.33	Average	100	207	HORIZONTAL
2	15572.40	50.22	74.00	-23.78	41.81	6.13	37.61	35.33	Peak	100	207	HORIZONTAL

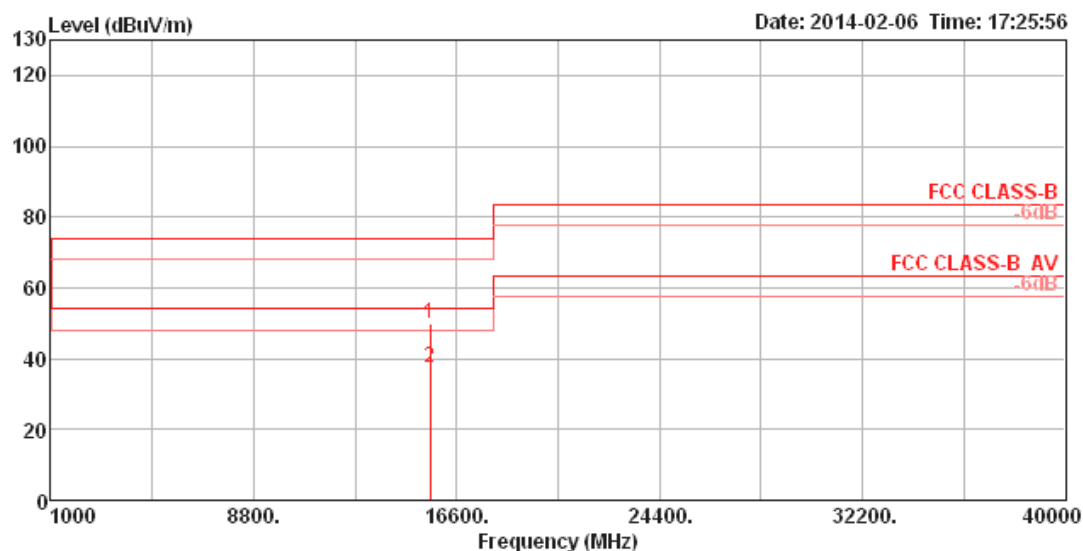
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15571.51	49.99	74.00	-24.01	41.54	6.13	37.65	35.33	Peak	100	80 VERTICAL
2	15578.59	37.33	54.00	-16.67	28.92	6.13	37.61	35.33	Average	100	80 VERTICAL

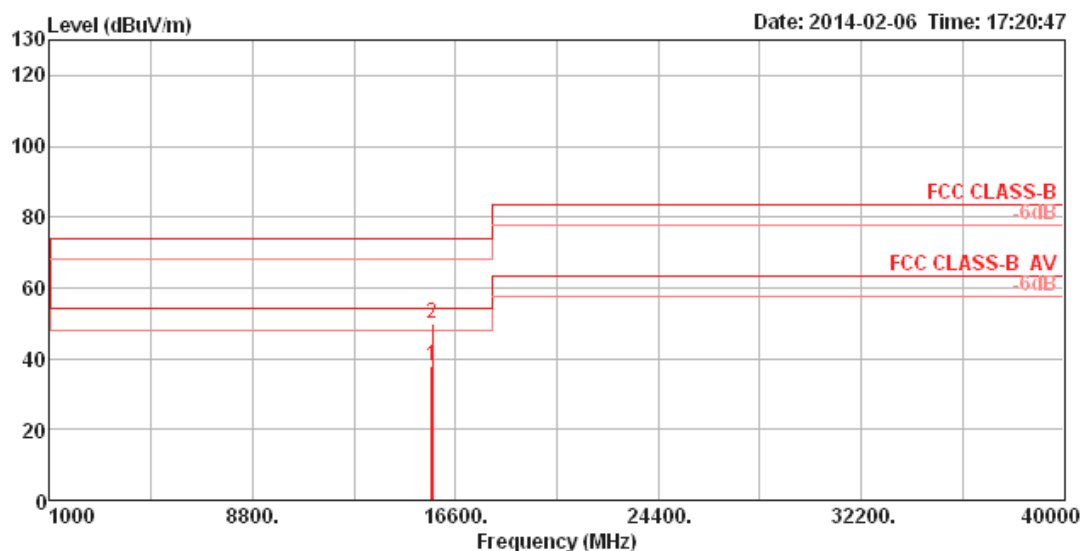
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15690.96	37.81	54.00	-16.19	29.54	6.14	37.51	35.38	Average	100	151	HORIZONTAL
2	15698.37	49.74	74.00	-24.26	41.49	6.14	37.49	35.38	Peak	100	151	HORIZONTAL

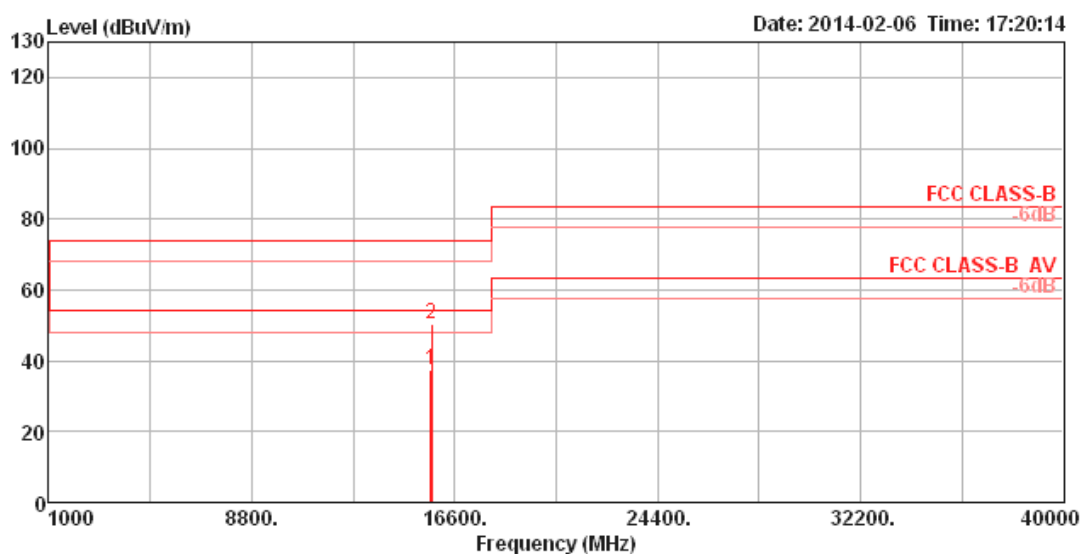
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15683.81	37.62	54.00	-16.38	29.34	6.14	37.51	35.37	Average	100	339	VERTICAL
2	15697.85	50.60	74.00	-23.40	42.35	6.14	37.49	35.38	Peak	100	339	VERTICAL

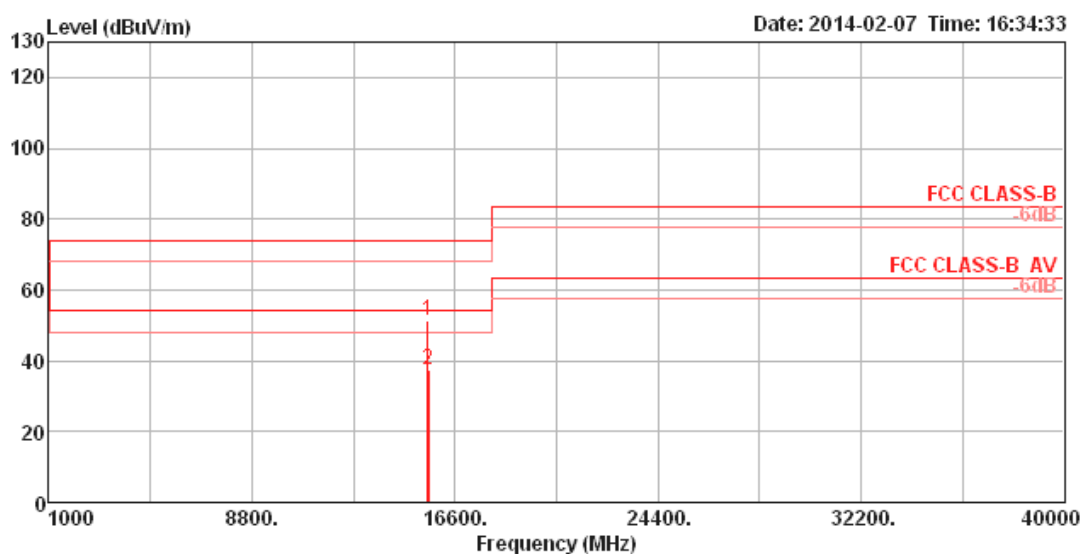
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15565.63	51.26	74.00	-22.74	42.83	6.13	37.63	35.33	Peak	100	109	HORIZONTAL
2	15568.67	37.41	54.00	-16.59	28.98	6.13	37.63	35.33	Average	100	109	HORIZONTAL

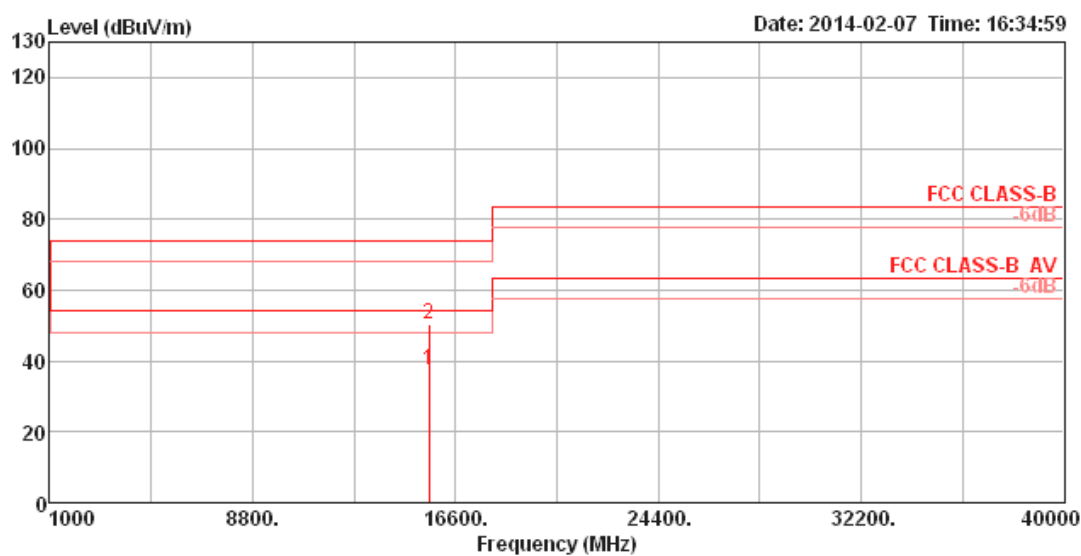
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15568.88	37.40	54.00	-16.60	28.95	6.13	37.65	35.33	Average	100	270	VERTICAL
2	15570.66	50.35	74.00	-23.65	41.90	6.13	37.65	35.33	Peak	100	270	VERTICAL

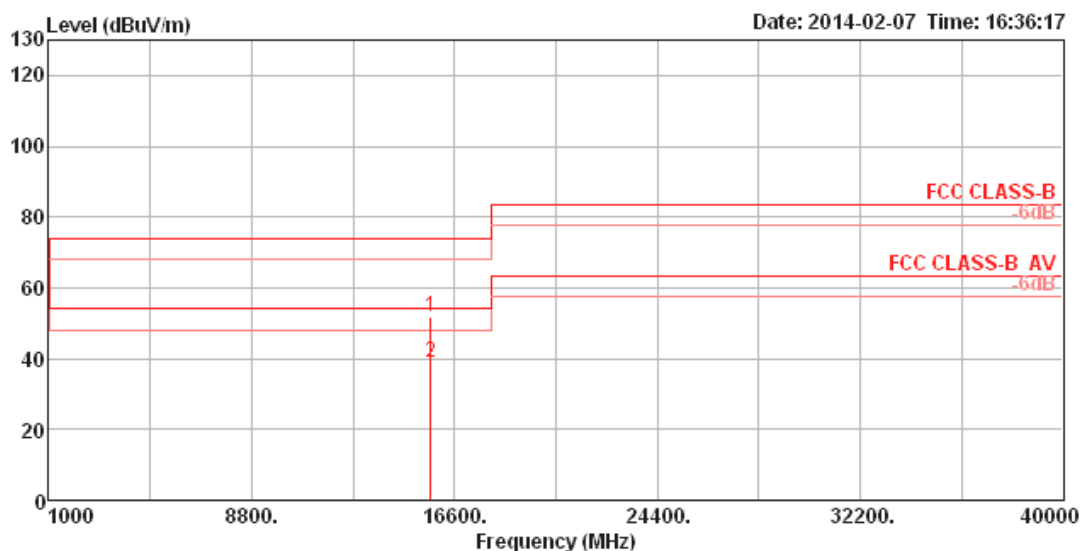
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15689.02	51.61	74.00	-22.39	43.33	6.14	37.51	35.37	Peak	100	324	HORIZONTAL
2	15694.20	39.06	54.00	-14.94	30.81	6.14	37.49	35.38	Average	100	324	HORIZONTAL

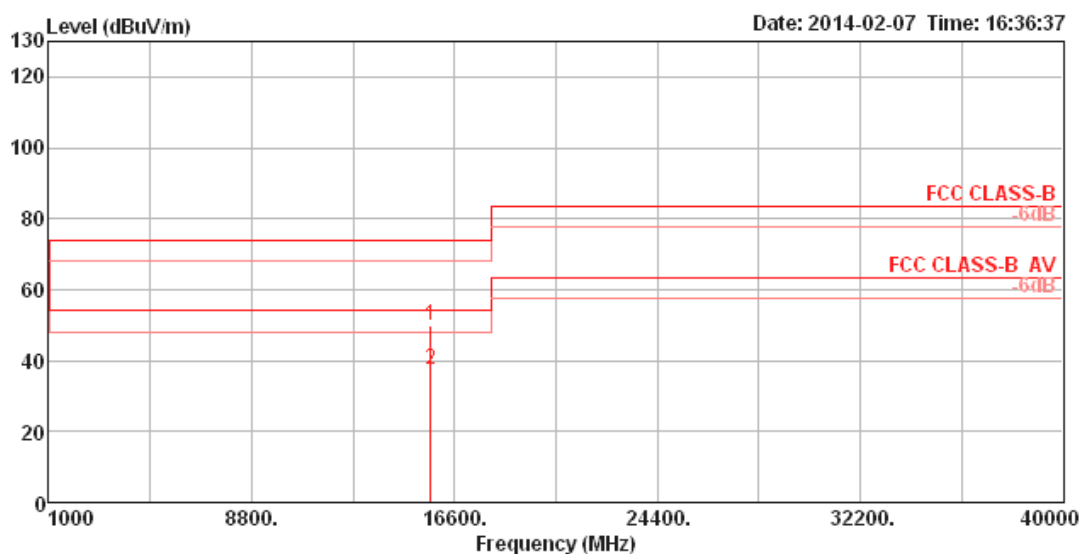
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15685.27	49.98	74.00	-24.02	41.70	6.14	37.51	35.37	Peak	100	176	VERTICAL
2	15693.93	37.41	54.00	-16.59	29.16	6.14	37.49	35.38	Average	100	176	VERTICAL

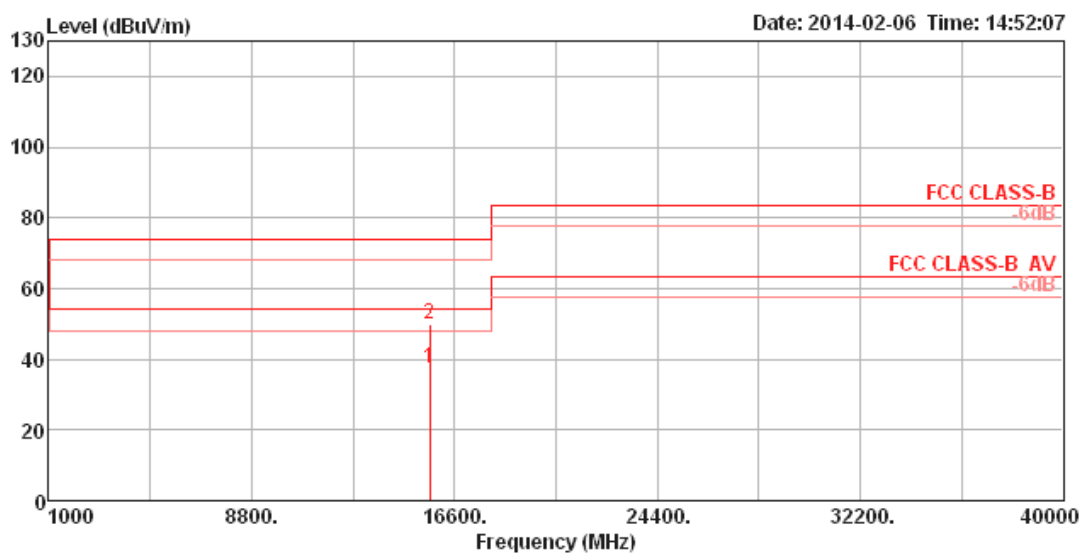
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15633.04	37.50	54.00	-16.50	29.15	6.14	37.56	35.35	Average	100	88	HORIZONTAL
2	15637.82	50.10	74.00	-23.90	41.75	6.14	37.56	35.35	Peak	100	88	HORIZONTAL

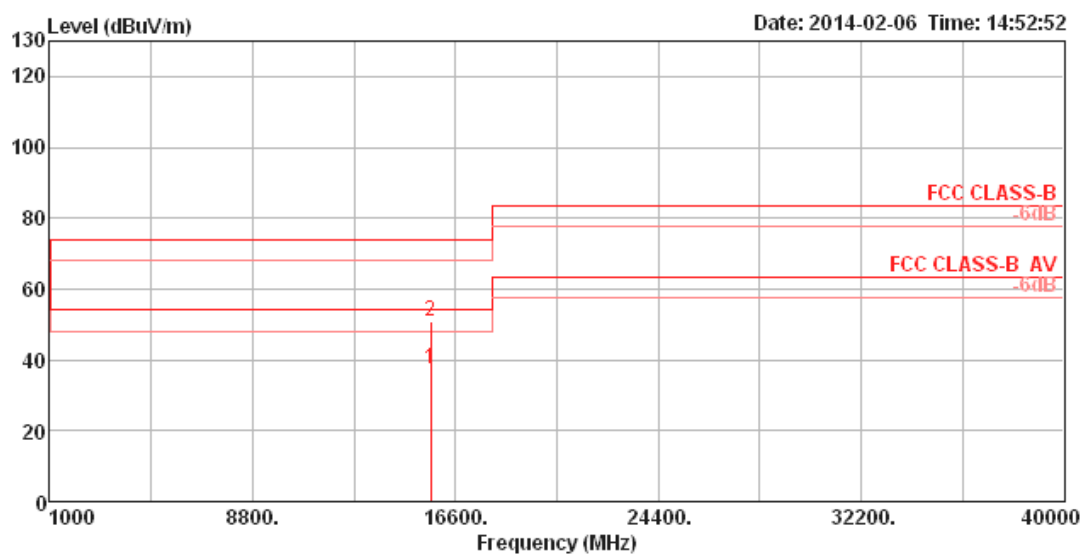
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15635.51	37.48	54.00	-16.52	29.13	6.14	37.56	35.35	Average	100	274	VERTICAL
2	15639.46	50.70	74.00	-23.30	42.35	6.14	37.56	35.35	Peak	100	274	VERTICAL

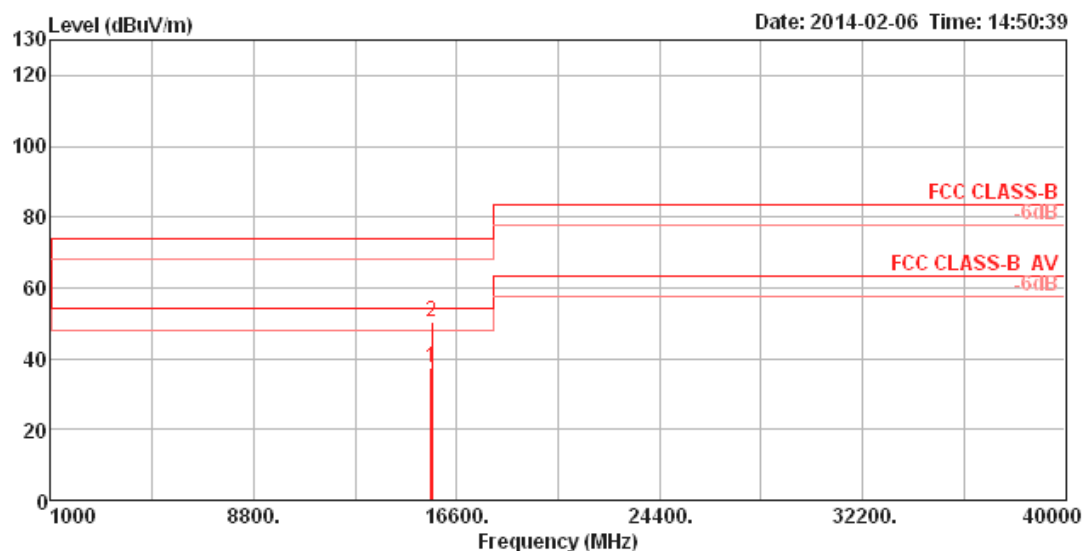
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15629.36	37.51	54.00	-16.49	29.16	6.14	37.56	35.35	Average	100	306	HORIZONTAL
2	15639.62	50.39	74.00	-23.61	42.04	6.14	37.56	35.35	Peak	100	306	HORIZONTAL

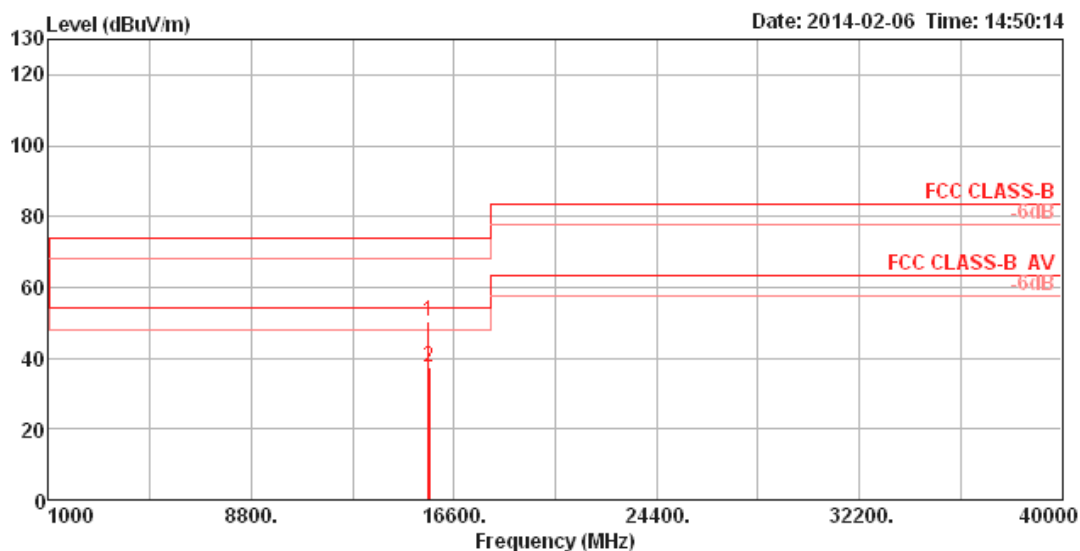
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15623.75	50.23	74.00	-23.77	41.89	6.13	37.56	35.35	Peak	100	151	VERTICAL
2	15637.08	37.62	54.00	-16.38	29.27	6.14	37.56	35.35	Average	100	151	VERTICAL

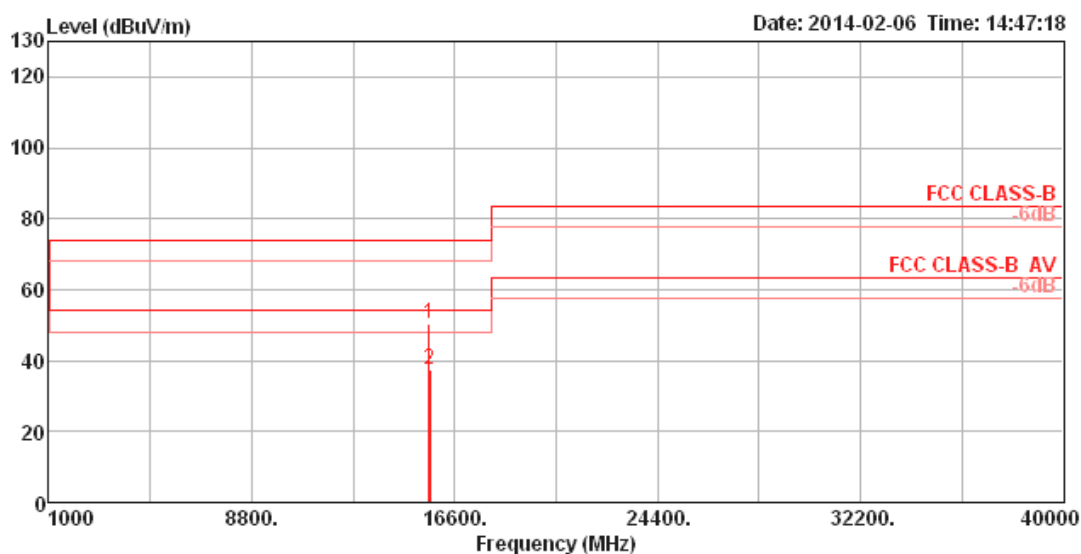
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15622.12	50.15	74.00	-23.85	41.79	6.13	37.58	35.35	Peak	100	246	HORIZONTAL
2	15639.84	37.61	54.00	-16.39	29.27	6.14	37.56	35.36	Average	100	246	HORIZONTAL

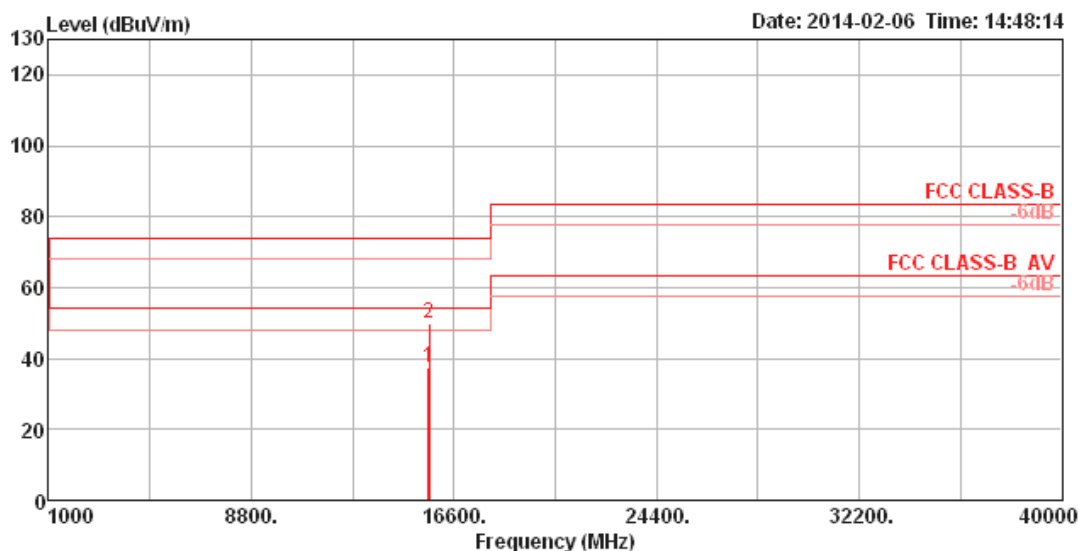
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15626.67	37.47	54.00	-16.53	29.12	6.14	37.56	35.35	Average	100	46	VERTICAL
2	15638.53	50.05	74.00	-23.95	41.70	6.14	37.56	35.35	Peak	100	46	VERTICAL

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

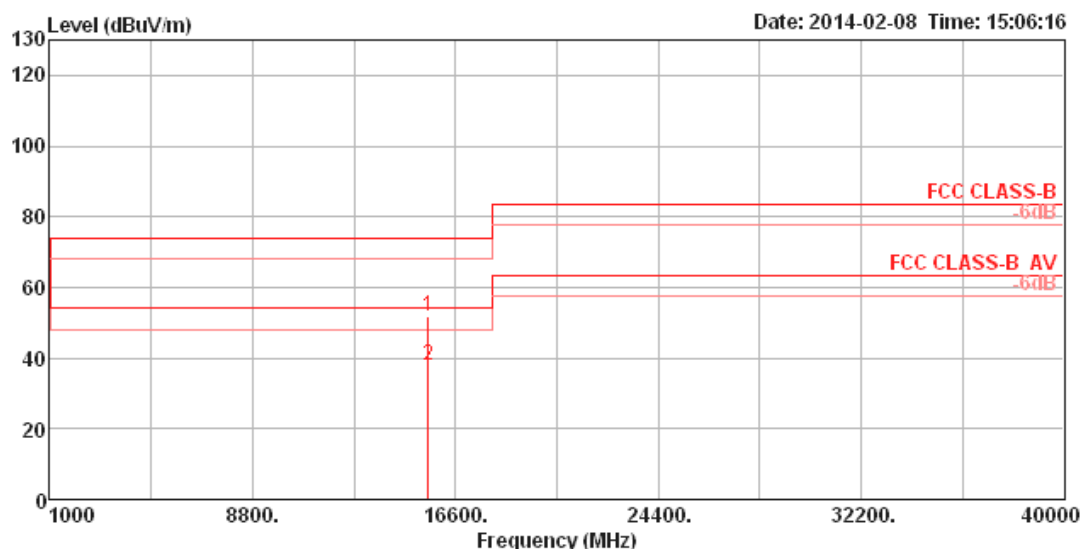
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

For Beamforming

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15539.58	51.70	74.00	-22.30	43.23	6.13	37.65	35.31	Peak	100	285	HORIZONTAL
2	15539.74	38.08	54.00	-15.92	29.61	6.13	37.65	35.31	Average	100	285	HORIZONTAL

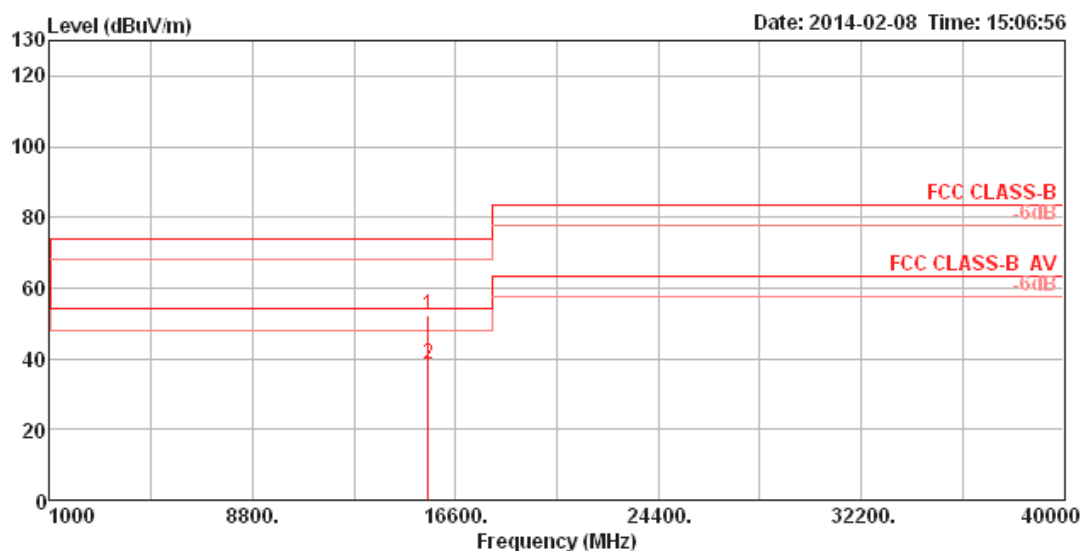
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15539.80	52.22	74.00	-21.78	43.71	6.13	37.69	35.31	Peak	100	179	VERTICAL
2	15540.16	38.26	54.00	-15.74	29.75	6.13	37.69	35.31	Average	100	179	VERTICAL

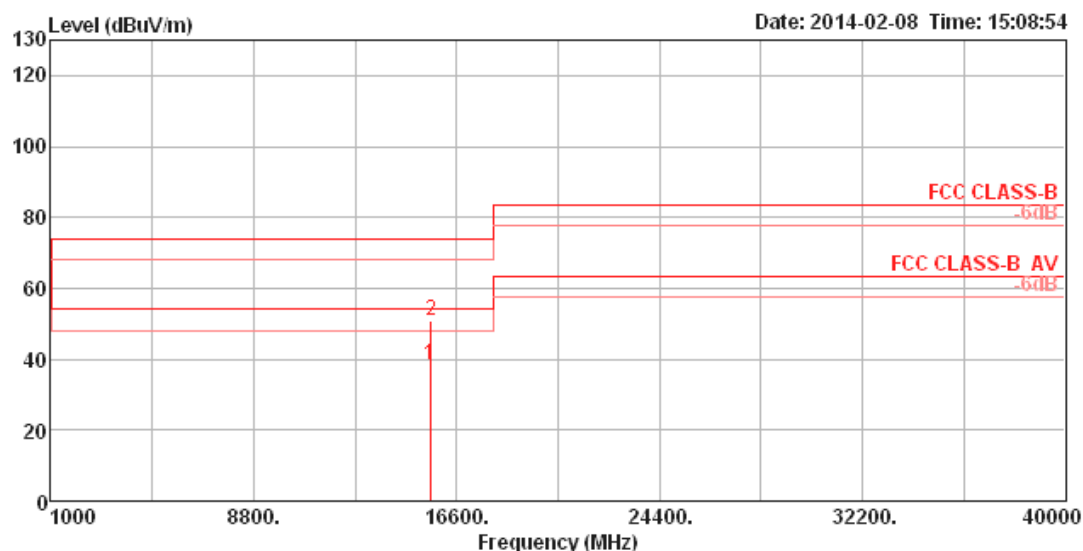
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	15594.55	38.40	54.00	-15.60	30.01	6.13	37.60	35.34	Average	100	317	HORIZONTAL
2	15605.19	50.81	74.00	-23.19	42.42	6.13	37.60	35.34	Peak	100	317	HORIZONTAL

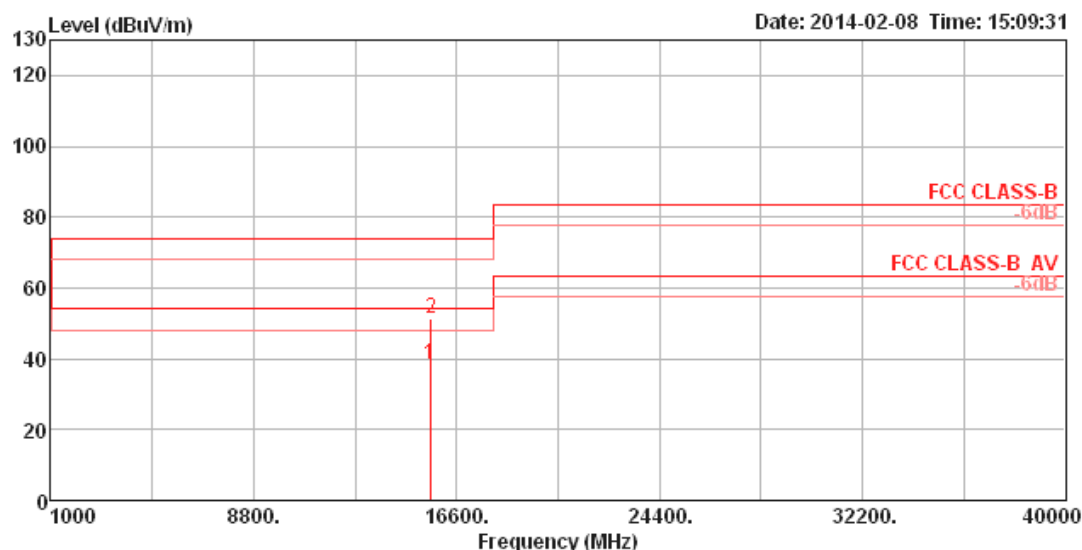
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15592.95	38.47	54.00	-15.53	30.08	6.13	37.60	35.34	Average	100	193 VERTICAL
2	15600.64	51.45	74.00	-22.55	43.06	6.13	37.60	35.34	Peak	100	193 VERTICAL

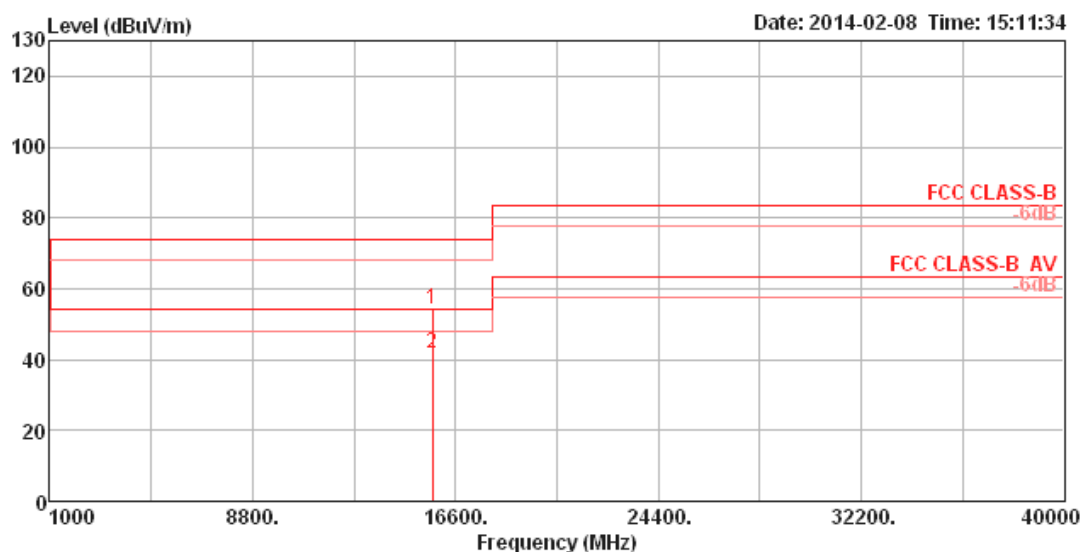
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15719.70	54.04	74.00	-19.96	45.81	6.14	37.48	35.39	Peak	100	46	HORIZONTAL
2	15720.23	41.93	54.00	-12.07	33.70	6.14	37.48	35.39	Average	100	46	HORIZONTAL

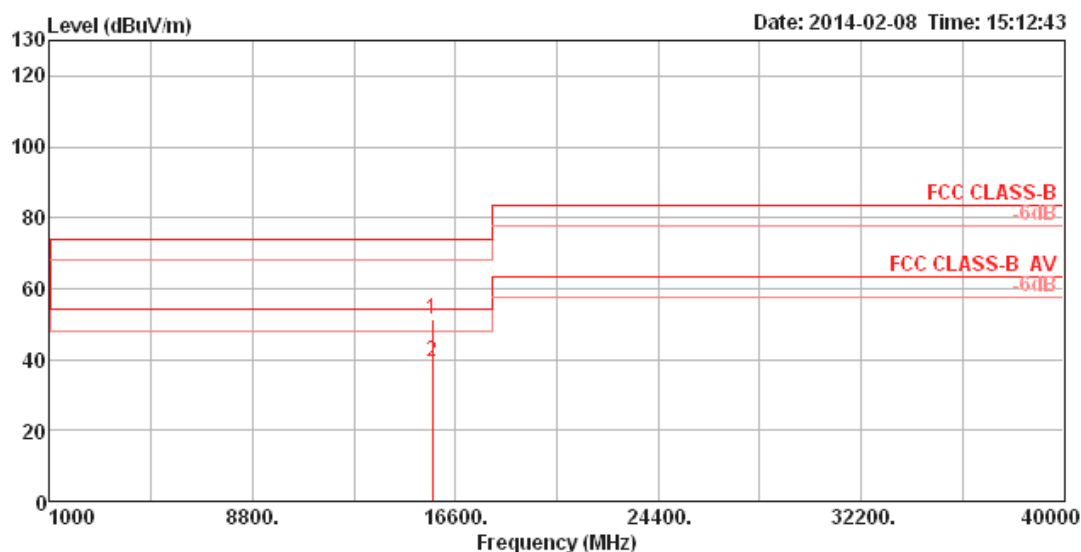
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	15711.54	51.54	74.00	-22.46	43.30	6.14	37.48	35.38	Peak	106	274 VERTICAL
2	15721.15	39.24	54.00	-14.76	31.01	6.14	37.48	35.39	Average	106	274 VERTICAL

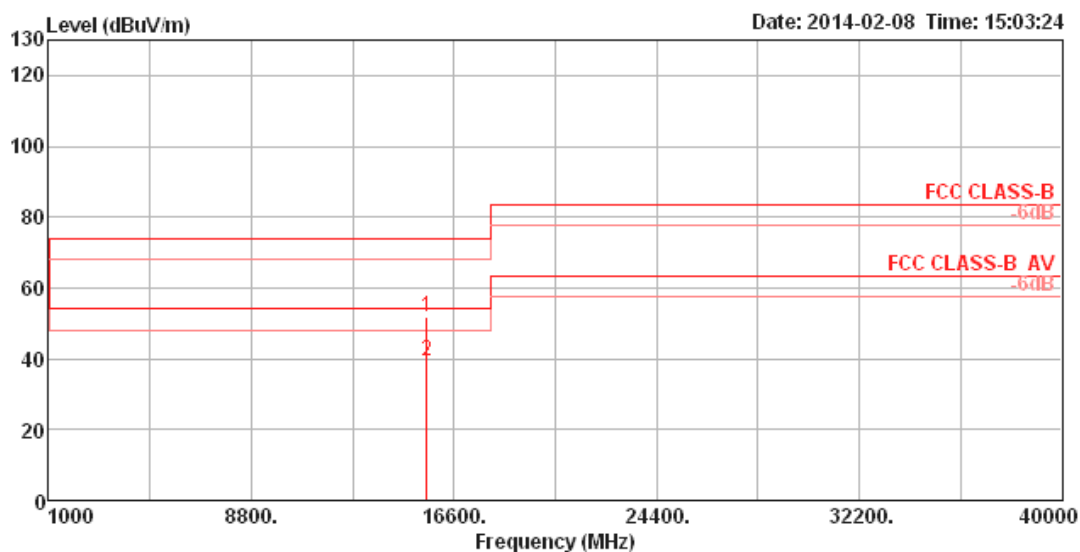
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	15539.76	51.63	74.00	-22.37	43.16	6.13	37.65	35.31	Peak	100	241	HORIZONTAL
2	15539.95	39.45	54.00	-14.55	30.98	6.13	37.65	35.31	Average	100	241	HORIZONTAL

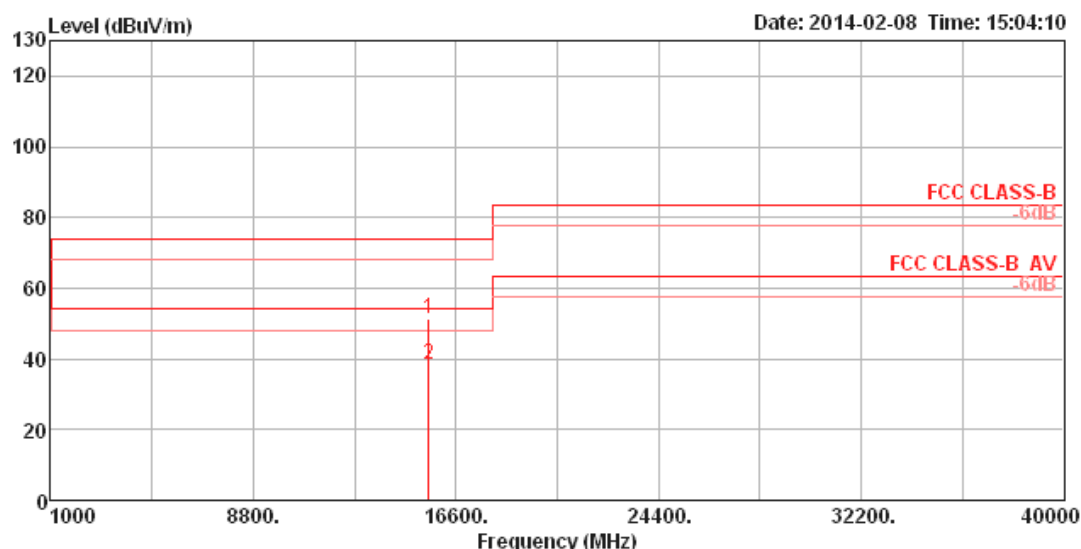
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15540.13	51.25	74.00	-22.75	42.74	6.13	37.69	35.31	Peak	100	167	VERTICAL
2	15540.45	38.38	54.00	-15.62	29.87	6.13	37.69	35.31	Average	100	167	VERTICAL

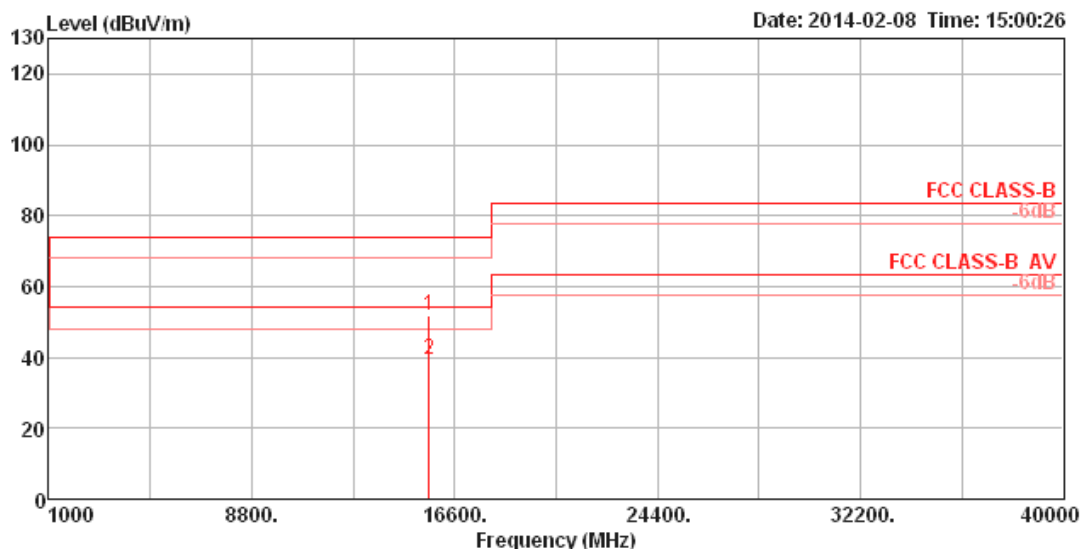
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15599.52	51.57	74.00	-22.43	43.18	6.13	37.60	35.34	Peak	100	234	HORIZONTAL
2	15600.25	39.36	54.00	-14.64	30.97	6.13	37.60	35.34	Average	100	234	HORIZONTAL

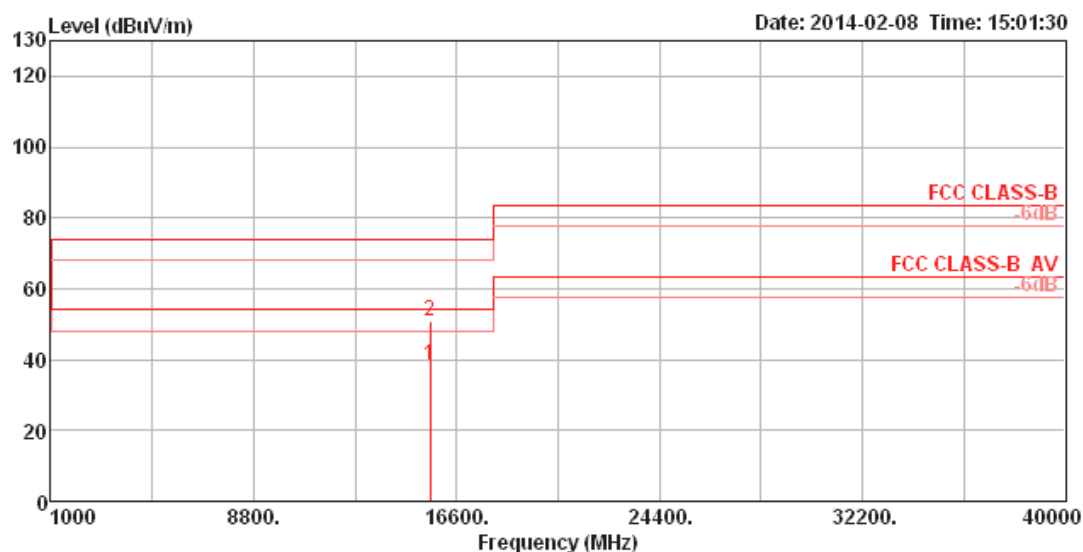
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15594.58	38.39	54.00	-15.61	30.00	6.13	37.60	35.34	Average	100	98	VERTICAL
2	15595.80	51.07	74.00	-22.93	42.68	6.13	37.60	35.34	Peak	100	98	VERTICAL

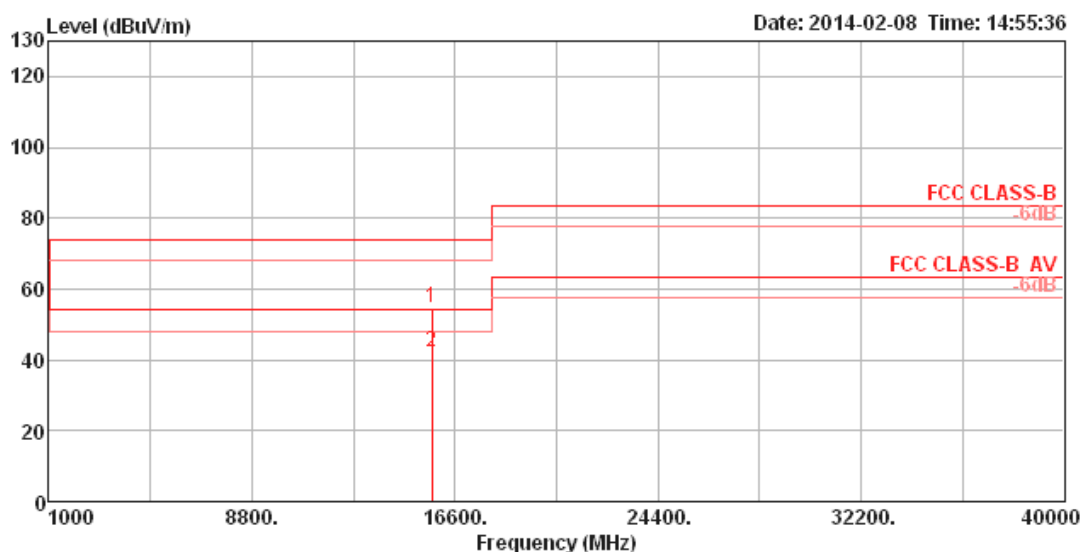
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	15719.68	54.48	74.00	-19.52	46.25	6.14	37.48	35.39	Peak	109	331 HORIZONTAL
2	15720.48	42.13	54.00	-11.87	33.90	6.14	37.48	35.39	Average	109	331 HORIZONTAL

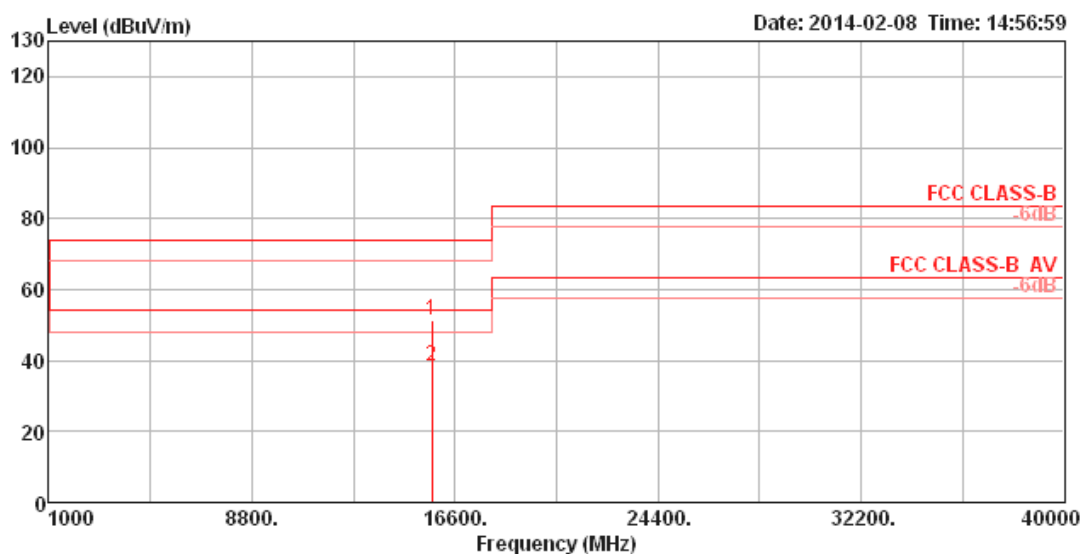
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15719.96	51.46	74.00	-22.54	43.23	6.14	37.48	35.39	Peak	100	76	VERTICAL
2	15720.20	38.14	54.00	-15.86	29.91	6.14	37.48	35.39	Average	100	76	VERTICAL

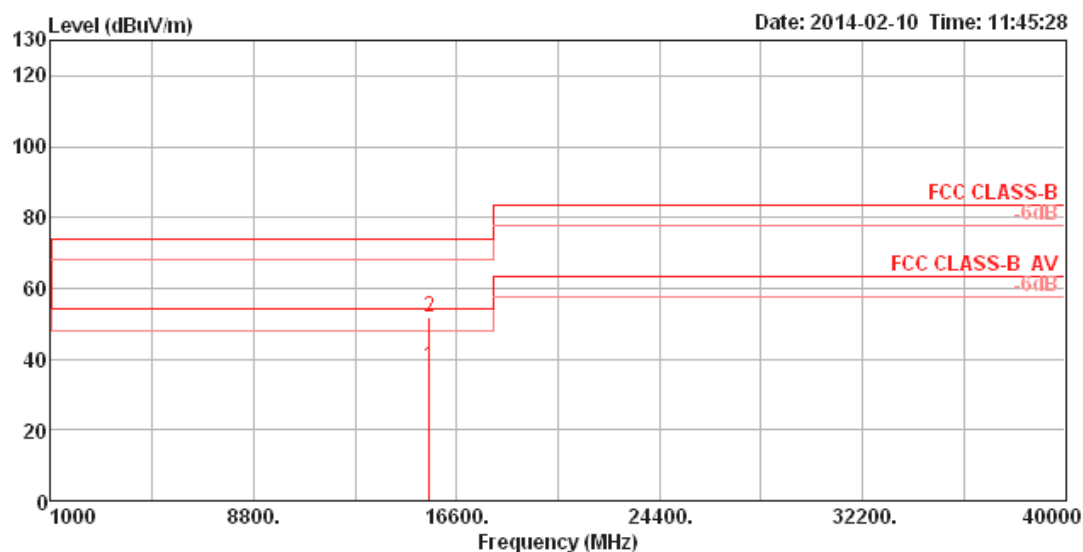
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15562.44	37.94	54.00	-16.06	29.49	6.13	37.63	35.31	Average	100	70	HORIZONTAL
2	15564.36	51.91	74.00	-22.09	43.48	6.13	37.63	35.33	Peak	100	70	HORIZONTAL

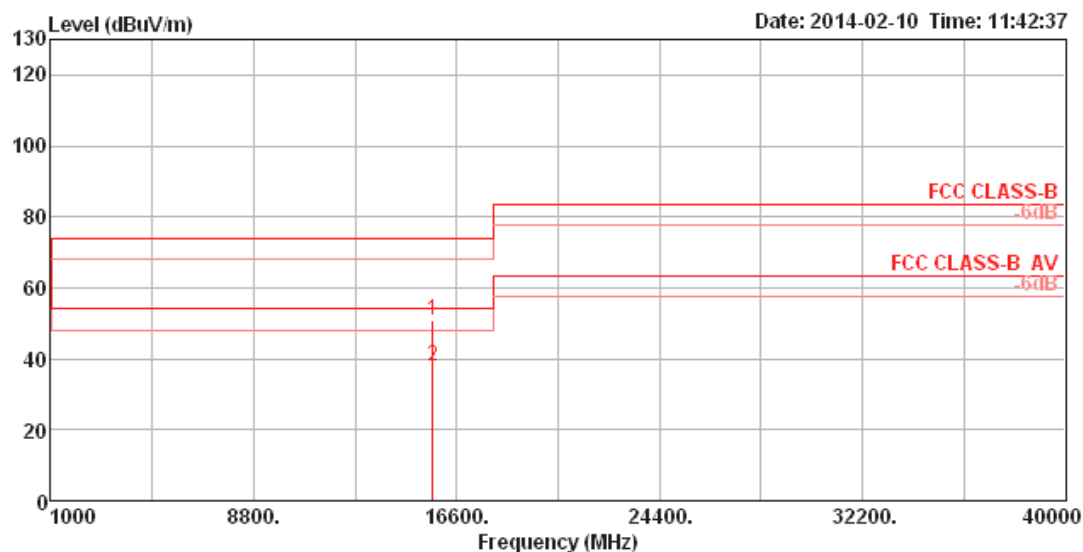
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15688.85	50.90	74.00	-23.10	42.62	6.14	37.51	35.37	Peak	100	101 VERTICAL
2	15691.89	37.86	54.00	-16.14	29.61	6.14	37.49	35.38	Average	100	101 VERTICAL

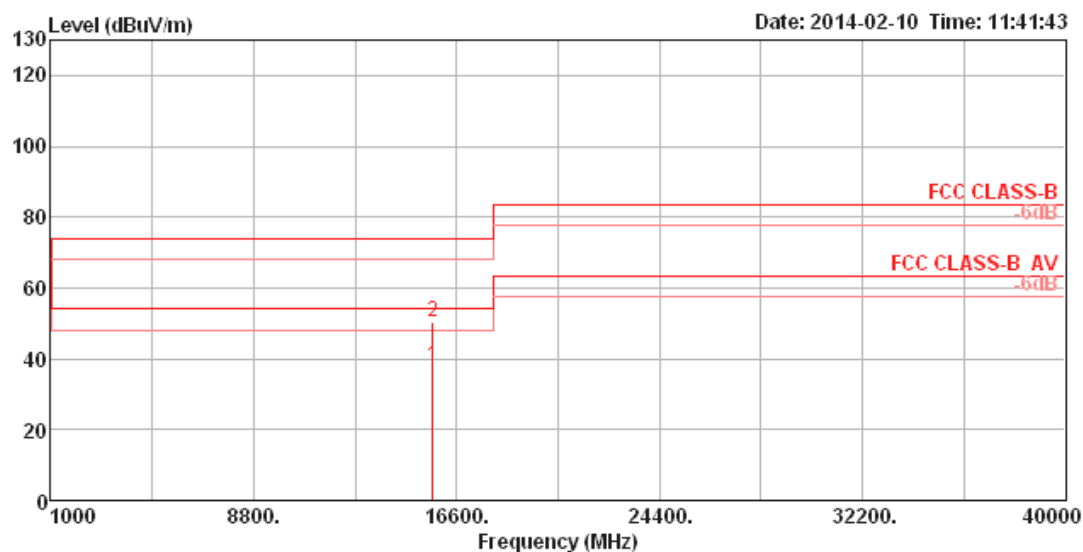
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	15681.09	38.05	54.00	-15.95	29.77	6.14	37.51	35.37	Average	100	273	HORIZONTAL
2	15685.67	50.49	74.00	-23.51	42.21	6.14	37.51	35.37	Peak	100	273	HORIZONTAL

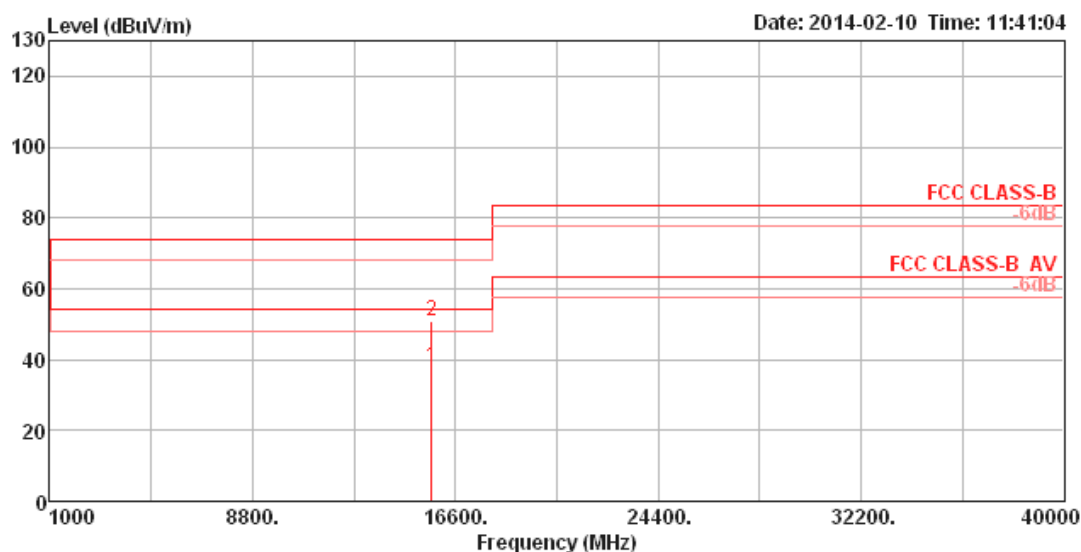
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	15680.93	37.94	54.00	-16.06	29.66	6.14	37.51	35.37	Average	100	75 VERTICAL
2	15689.39	50.89	74.00	-23.11	42.61	6.14	37.51	35.37	Peak	100	75 VERTICAL

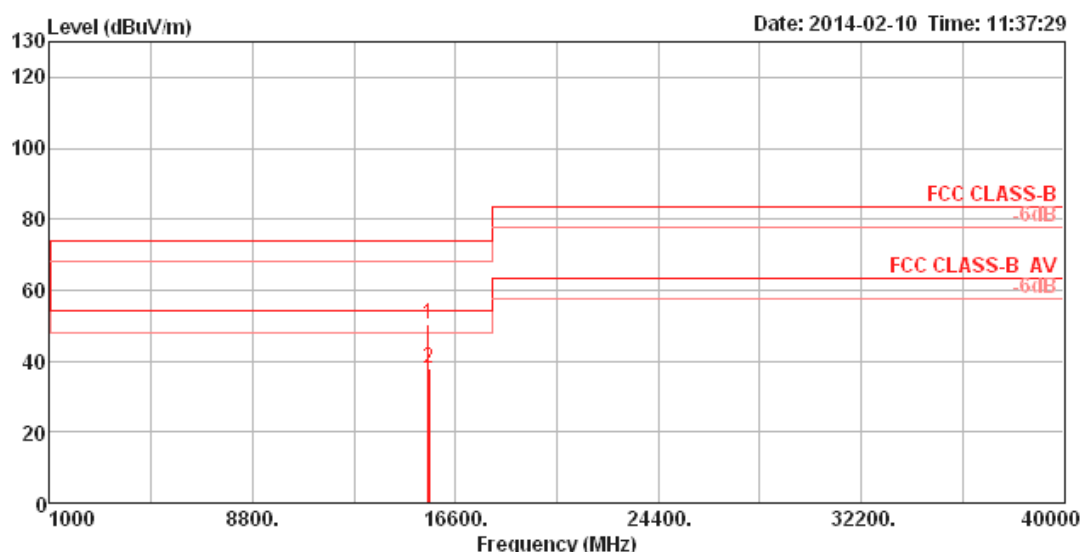
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15565.45	50.34	74.00	-23.66	41.91	6.13	37.63	35.33	Peak	100	170	HORIZONTAL
2	15573.75	38.09	54.00	-15.91	29.68	6.13	37.61	35.33	Average	100	170	HORIZONTAL

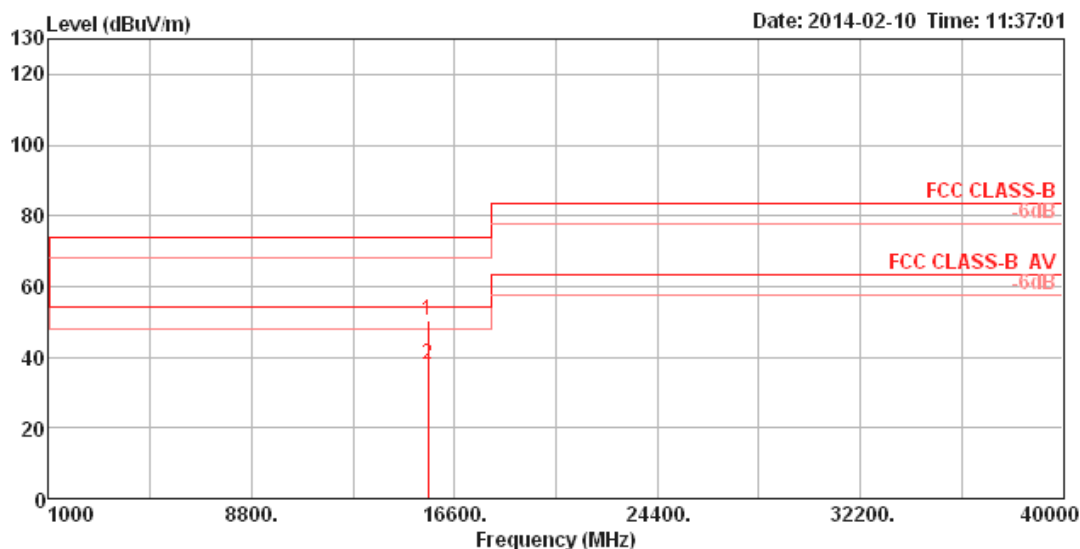
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15570.67	50.28	74.00	-23.72	41.83	6.13	37.65	35.33	Peak	100	347	VERTICAL
2	15579.04	38.03	54.00	-15.97	29.62	6.13	37.61	35.33	Average	100	347	VERTICAL

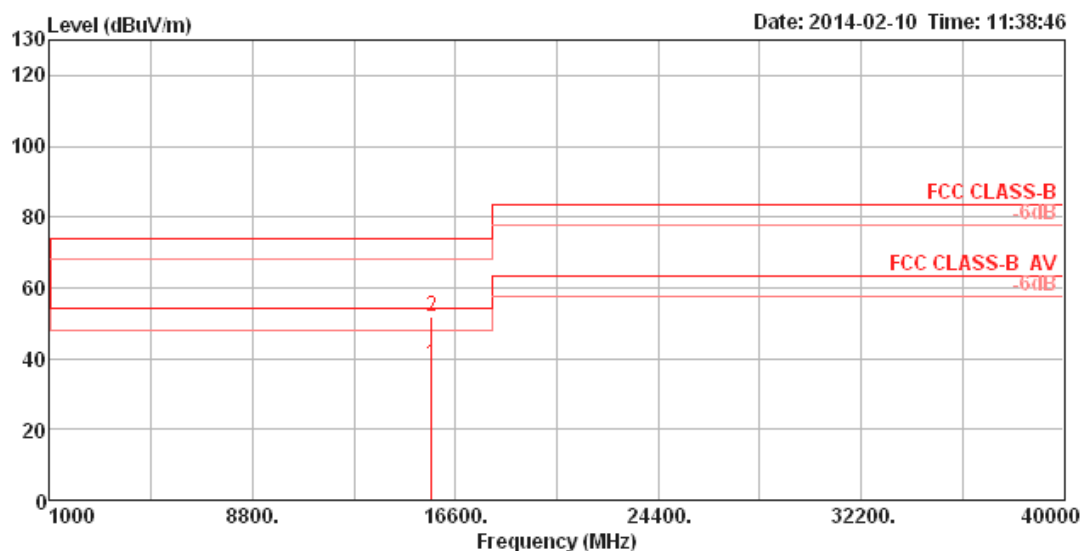
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15687.12	38.50	54.00	-15.50	30.22	6.14	37.51	35.37	Average	100	325	HORIZONTAL
2	15690.06	51.79	74.00	-22.21	43.51	6.14	37.51	35.37	Peak	100	325	HORIZONTAL

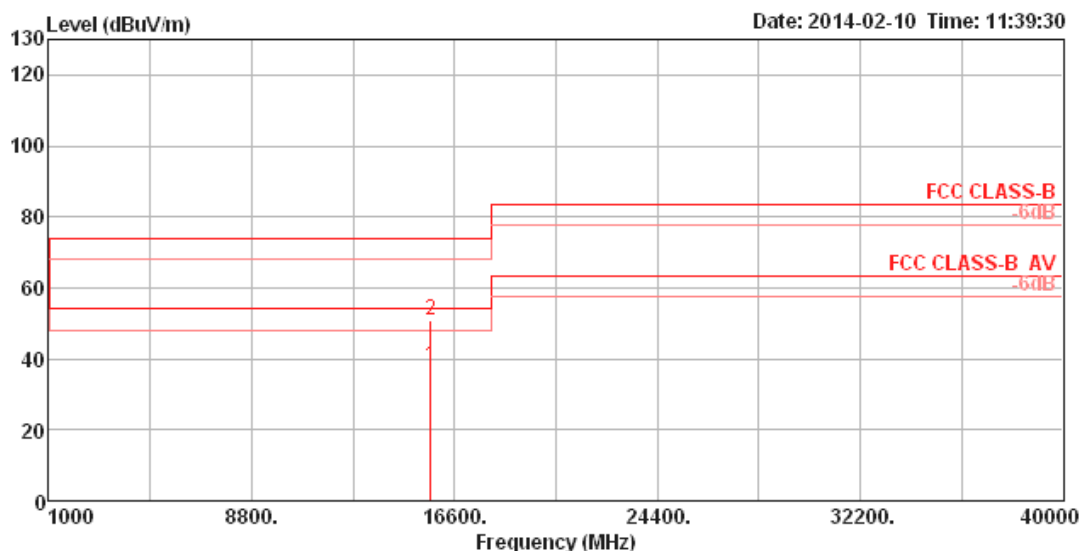
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	15682.44	37.95	54.00	-16.05	29.67	6.14	37.51	35.37	Average	100	224 VERTICAL
2	15690.03	50.88	74.00	-23.12	42.60	6.14	37.51	35.37	Peak	100	224 VERTICAL

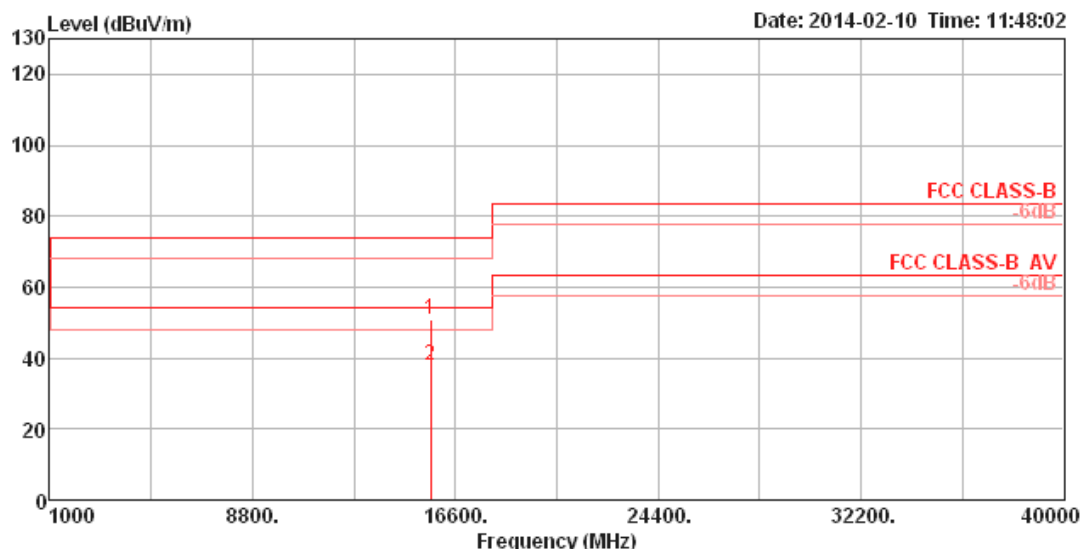
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15633.77	50.64	74.00	-23.36	42.29	6.14	37.56	35.35	Peak	100	49	HORIZONTAL
2	15634.33	37.83	54.00	-16.17	29.48	6.14	37.56	35.35	Average	100	49	HORIZONTAL

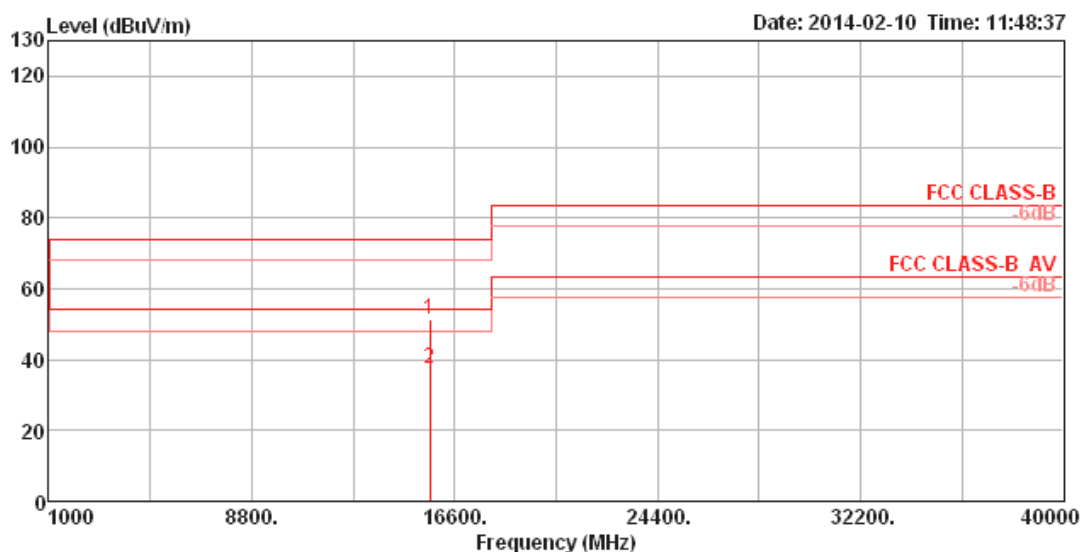
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15633.88	51.56	74.00	-22.44	43.21	6.14	37.56	35.35	Peak	100	313	VERTICAL
2	15634.15	37.49	54.00	-16.51	29.14	6.14	37.56	35.35	Average	100	313	VERTICAL

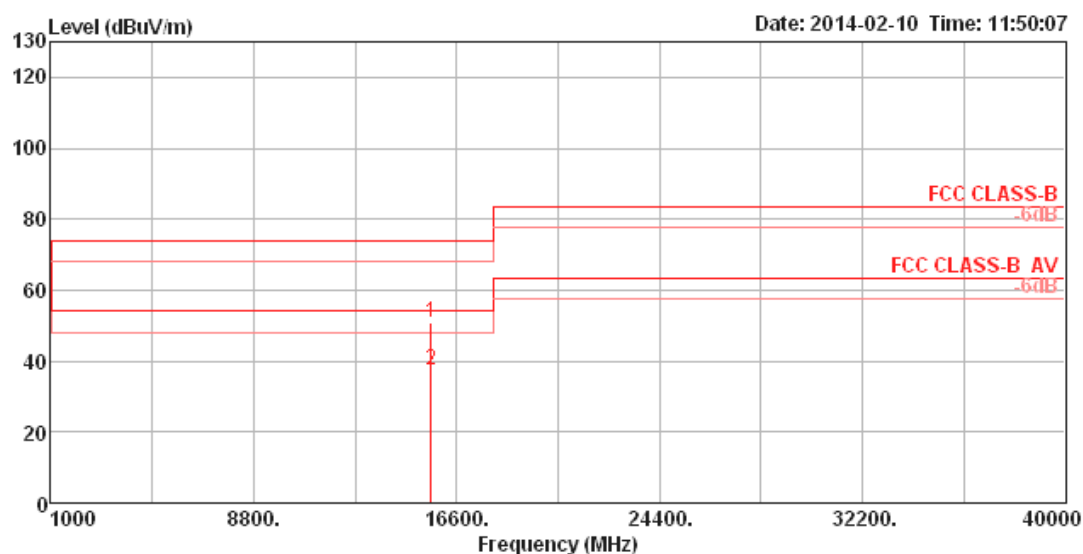
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	15627.39	50.72	74.00	-23.28	42.37	6.14	37.56	35.35	Peak	100	262	HORIZONTAL
2	15628.69	37.47	54.00	-16.53	29.12	6.14	37.56	35.35	Average	100	262	HORIZONTAL

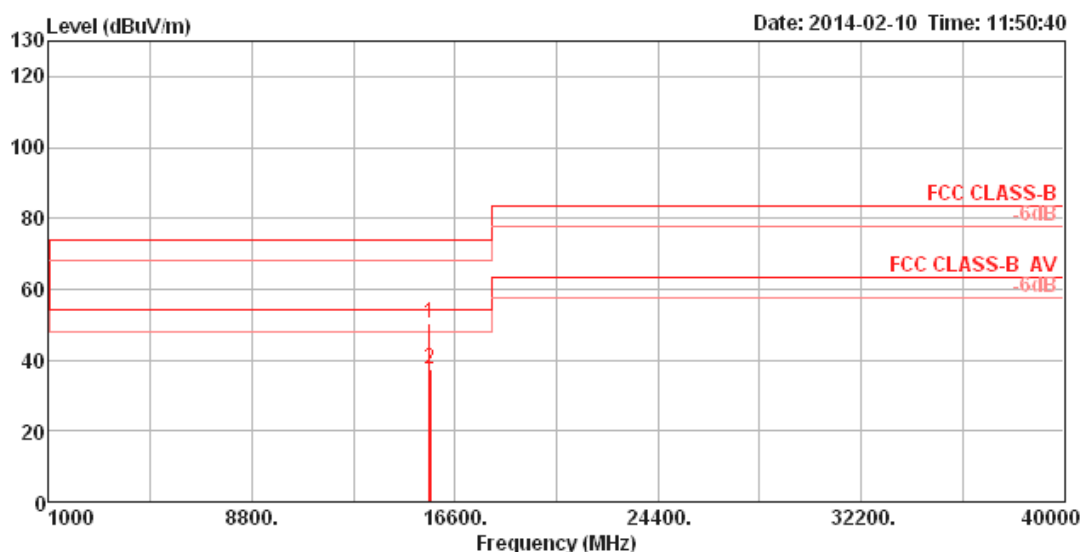
Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Unwanted emissions in the restricted bands (Above 1GHz)			
Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
				dB	dBuV	dB	dB/m	dB			
1	15625.24	50.54	74.00	-23.46	42.19	6.14	37.56	35.35	Peak	100	111 VERTICAL
2	15631.59	37.38	54.00	-16.62	29.03	6.14	37.56	35.35	Average	100	111 VERTICAL

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

3.7 Band Edge Emissions Measurement

3.7.1 Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed a -27dBm peak limit or average 54dBuV/m and peak 74dBuV/m limits. 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 (microvolt/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

3.7.2 Measuring Instruments and Setting

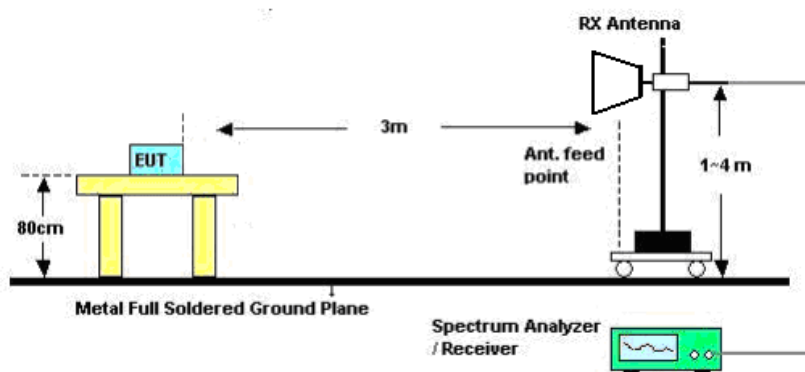
Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Analyzer	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	100 kHz / 300 kHz for Peak

3.7.3 Test Procedures

1. The test procedure is the same as section 3.6.4, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC KDB789033 D01 v01r03 will be followed.

3.7.4 Test Setup Layout



3.7.5 Test Deviation

There are no deviations with the original standard.

3.7.6 EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

3.7.7 Test Result of Band Edge and Fundamental Emissions

Following channel(s) was (were) selected for the final test as listed below.

For Non-Beamforming

Mode	TX Antenna	Test Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	Ant.1	36, 40, 48	OFDM	BPSK	6
802.11a	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	6
802.11ac 20MHz	Ant.1	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (13)
802.11ac 40MHz	Ant.1	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (27)
802.11ac 80MHz	Ant.1	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (58.5)

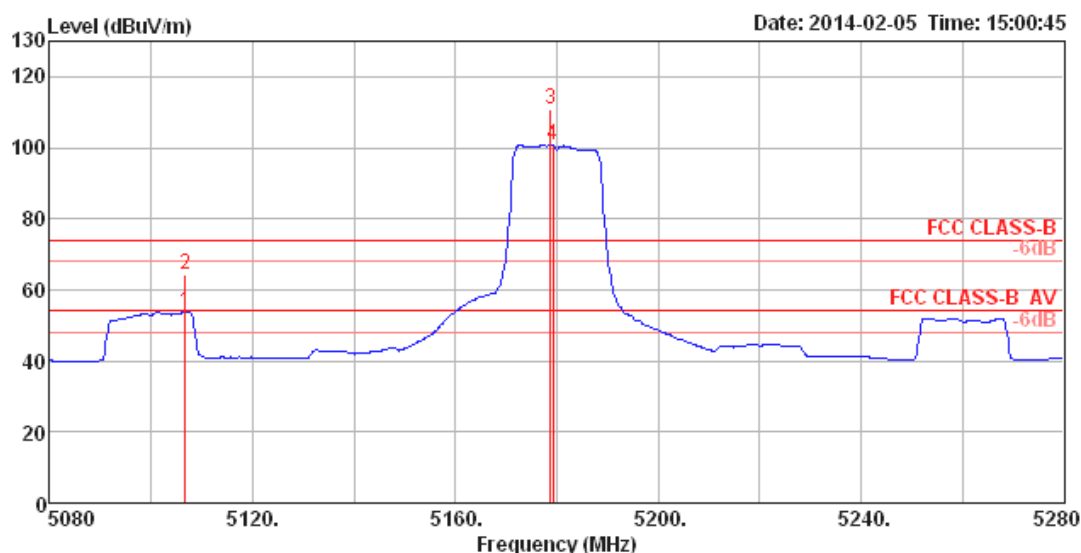
For Beamforming

Mode	TX Antenna	Test Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (6.5)
802.11ac 20MHz	Ant.1+2+3, CDD	36, 40, 48	OFDM	BPSK	MCS0 (13)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (13.5)
802.11ac 40MHz	Ant.1+2+3, CDD	38, 46	OFDM	BPSK	MCS0 (27)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (29.3)
802.11ac 80MHz	Ant.1+2+3, CDD	42	OFDM	BPSK	MCS0 (58.5)

For Non-Beamforming

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	5106.73	53.85	54.00	-0.15	51.87	3.42	33.58	35.02	Average	115	344
2	5106.73	64.15	74.00	-9.85	62.17	3.42	33.58	35.02	Peak	115	344
3	5178.80	110.74			108.61	3.44	33.73	35.04	Peak	115	344
4	5179.20	100.74			98.61	3.44	33.73	35.04	Average	115	344

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

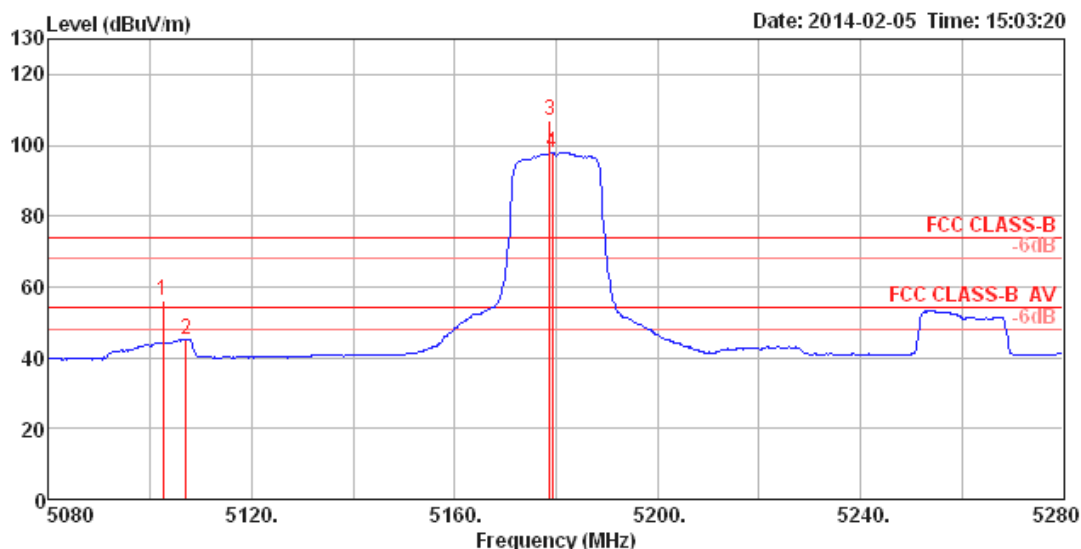
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5102.56	55.97	74.00	-18.03	53.99	3.42	33.58	35.02	Peak	152	94	VERTICAL
2	5107.05	44.99	54.00	-9.01	43.01	3.42	33.58	35.02	Average	152	94	VERTICAL
3	5178.80	107.12			104.99	3.44	33.73	35.04	Peak	152	94	VERTICAL
4	5179.20	97.99			95.86	3.44	33.73	35.04	Average	152	94	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

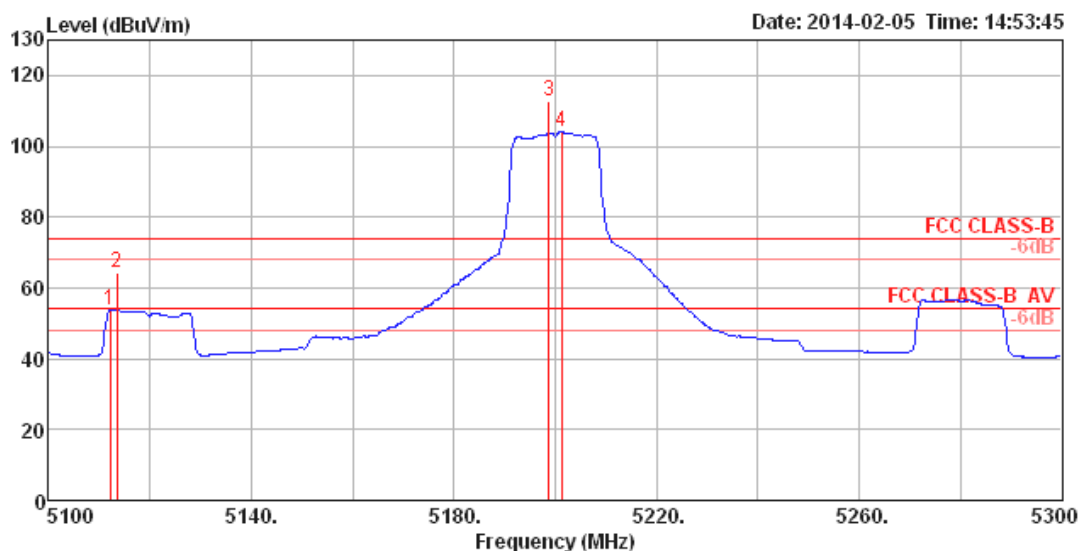
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5112.18	53.78	54.00	-0.22	51.77	3.42	33.61	35.02	104	344	HORIZONTAL
2	5113.46	64.12	74.00	-9.88	62.11	3.42	33.61	35.02	104	344	HORIZONTAL
3	5198.80	112.59			110.42	3.45	33.76	35.04	104	344	HORIZONTAL
4	5201.20	103.93			101.76	3.45	33.76	35.04	104	344	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

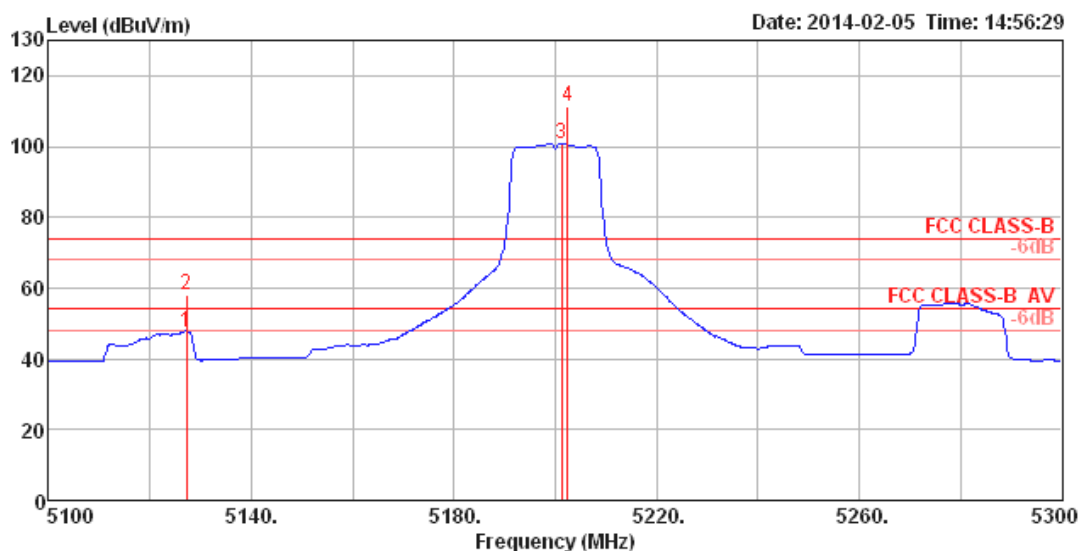
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5127.24	47.73	54.00	-6.27	45.69	3.43	33.64	35.03	Average	129	88 VERTICAL
2	5127.24	58.22	74.00	-15.78	56.18	3.43	33.64	35.03	Peak	129	88 VERTICAL
3	5201.20	100.82			98.65	3.45	33.76	35.04	Average	129	88 VERTICAL
4	5202.40	111.07			108.90	3.45	33.76	35.04	Peak	129	88 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

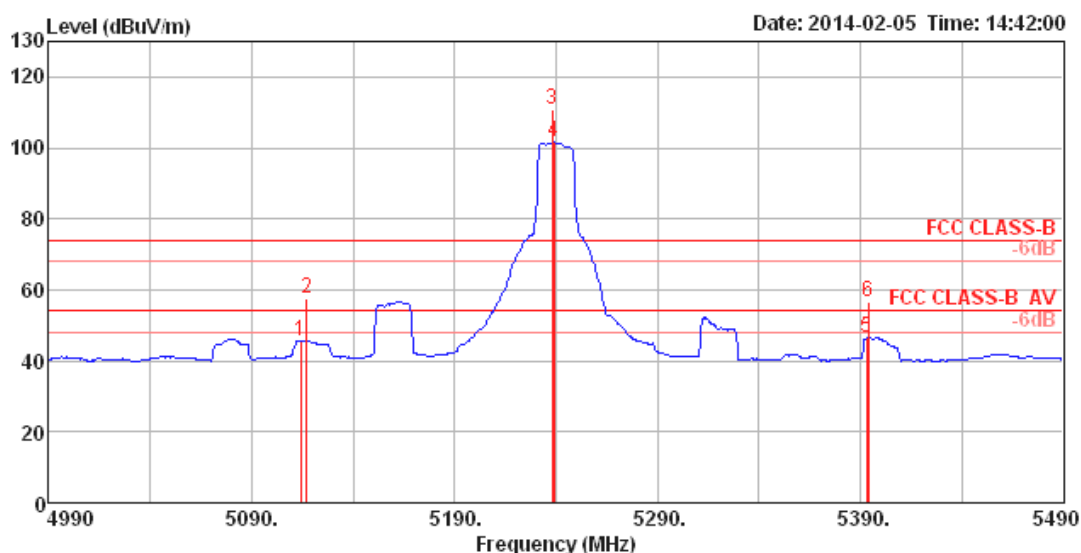
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5113.94	45.52	54.00	-8.48	43.51	3.42	33.61	35.02	100	197	HORIZONTAL
2	5117.15	57.43	74.00	-16.57	55.42	3.42	33.61	35.02	100	197	HORIZONTAL
3	5238.00	110.76			108.53	3.46	33.82	35.05	100	197	HORIZONTAL
4	5239.00	101.50			99.27	3.46	33.82	35.05	100	197	HORIZONTAL
5	5393.27	46.56	54.00	-7.44	44.05	3.50	34.09	35.08	100	197	HORIZONTAL
6	5394.07	56.61	74.00	-17.39	54.10	3.50	34.09	35.08	100	197	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

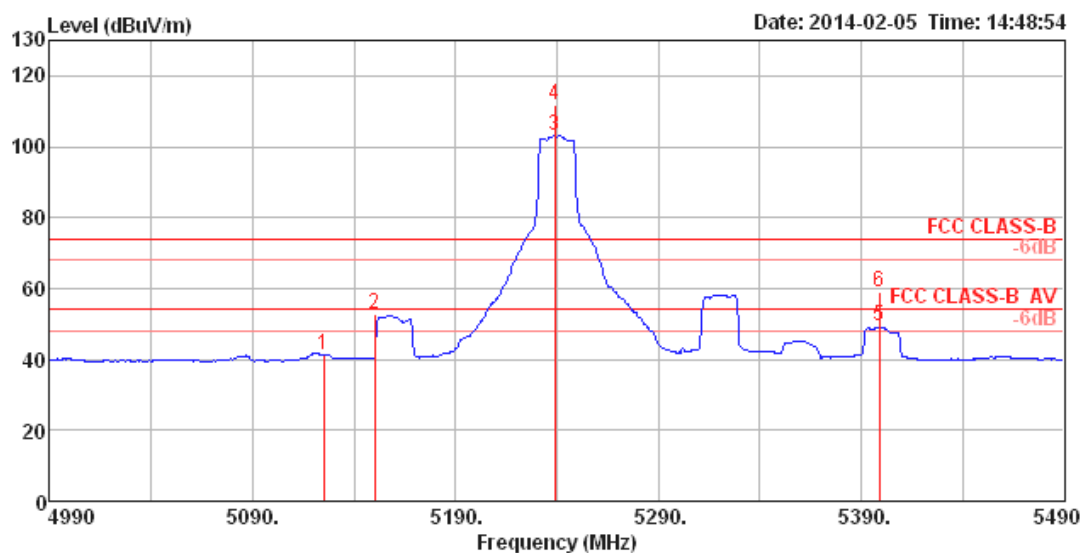
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5125.16	41.38	54.00	-12.62	39.37	3.43	33.61	35.03	Average	117	92	VERTICAL
2	5150.00	52.75	74.00	-21.25	50.68	3.43	33.67	35.03	Peak	117	92	VERTICAL
3	5239.00	103.12			100.89	3.46	33.82	35.05	Average	117	92	VERTICAL
4	5239.00	111.85			109.62	3.46	33.82	35.05	Peak	117	92	VERTICAL
5	5398.88	49.17	54.00	-4.83	46.65	3.51	34.09	35.08	Average	117	92	VERTICAL
6	5398.88	59.15	74.00	-14.85	56.63	3.51	34.09	35.08	Peak	117	92	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

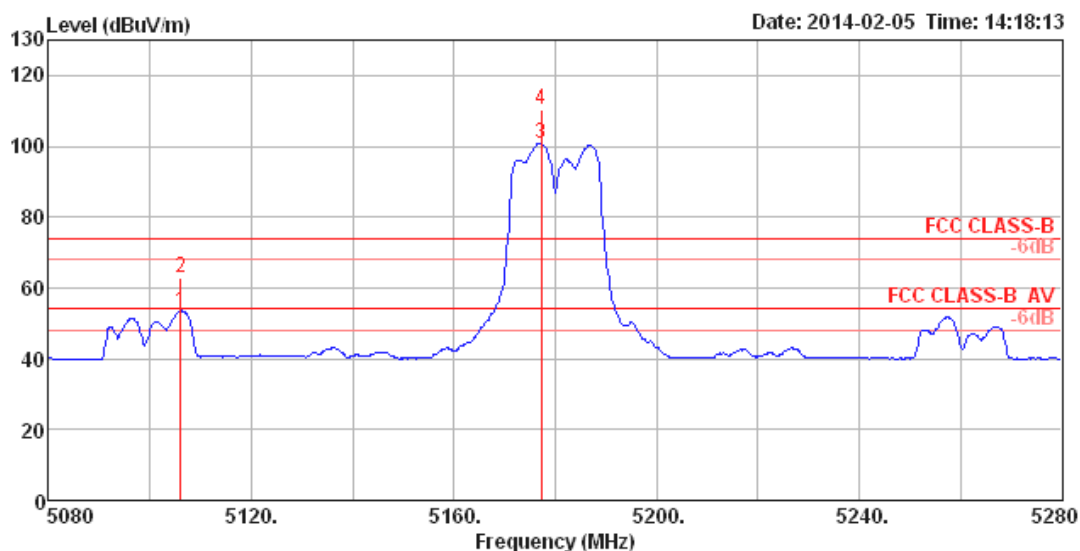
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5106.01	53.32	54.00	-0.68	51.34	3.42	33.58	35.02	Average	100	264	HORIZONTAL
2	5106.09	62.88	74.00	-11.12	60.90	3.42	33.58	35.02	Peak	100	264	HORIZONTAL
3	5177.20	100.74			98.64	3.44	33.70	35.04	Average	100	264	HORIZONTAL
4	5177.20	110.44			108.34	3.44	33.70	35.04	Peak	100	264	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

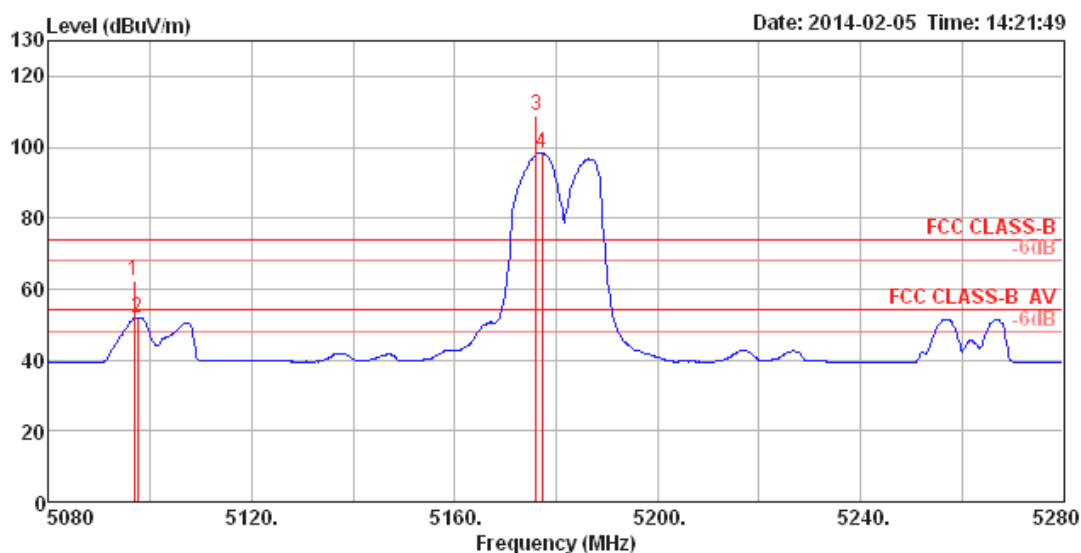
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	5096.80	62.36	74.00	-11.64	60.38	3.42	33.58	35.02	Peak	100	59	VERTICAL
2	5097.44	52.00	54.00	-2.00	50.02	3.42	33.58	35.02	Average	100	59	VERTICAL
3	5176.00	108.88			106.78	3.44	33.70	35.04	Peak	100	59	VERTICAL
4	5177.20	98.52			96.42	3.44	33.70	35.04	Average	100	59	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

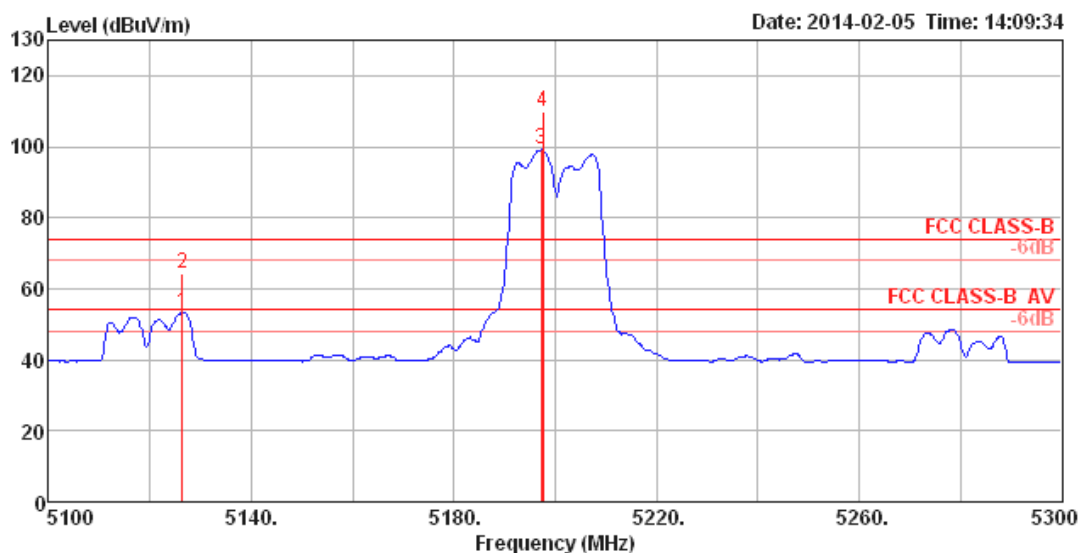
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5126.28	53.47	54.00	-0.53	51.43	3.43	33.64	35.03	Average	100	260 HORIZONTAL
2	5126.28	64.16	74.00	-9.84	62.12	3.43	33.64	35.03	Peak	100	260 HORIZONTAL
3	5197.20	99.08			96.91	3.45	33.76	35.04	Average	100	260 HORIZONTAL
4	5197.60	109.70			107.53	3.45	33.76	35.04	Peak	100	260 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

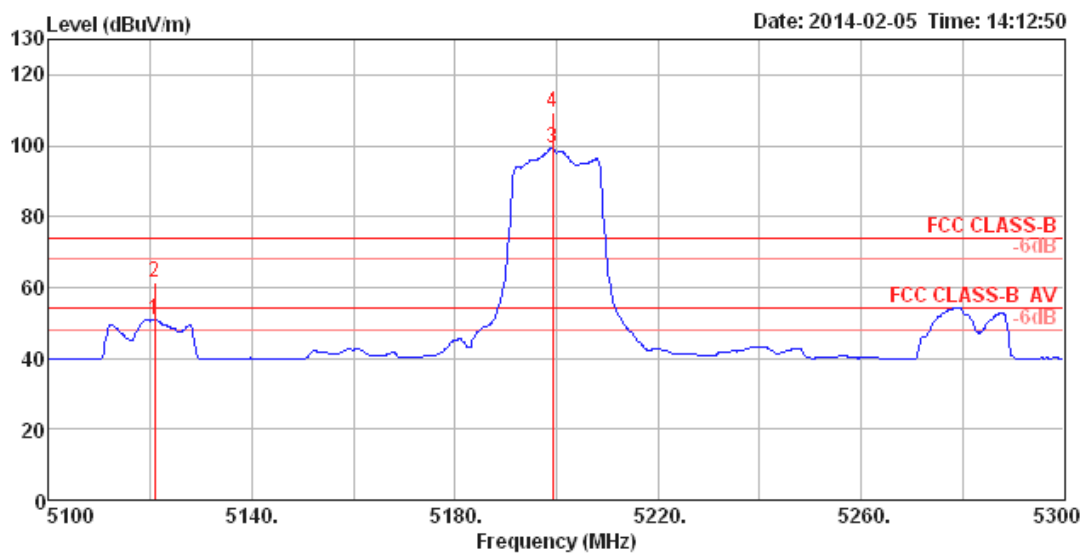
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5120.83	50.99	54.00	-3.01	48.97	3.43	33.61	35.02	Average	100	286 VERTICAL
2	5120.83	61.57	74.00	-12.43	59.55	3.43	33.61	35.02	Peak	100	286 VERTICAL
3	5199.20	99.18			97.01	3.45	33.76	35.04	Average	100	286 VERTICAL
4	5199.20	109.37			107.20	3.45	33.76	35.04	Peak	100	286 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

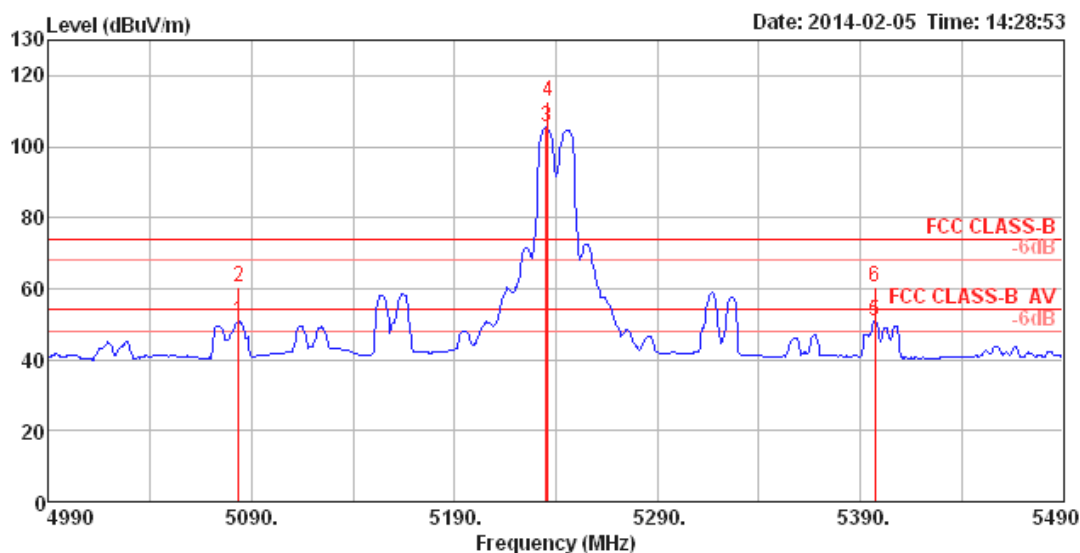
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5083.49	50.67	54.00	-3.33	48.73	3.41	33.55	35.02	Average	100	233	HORIZONTAL
2	5083.49	60.25	74.00	-13.75	58.31	3.41	33.55	35.02	Peak	100	233	HORIZONTAL
3	5235.00	105.37			103.14	3.46	33.82	35.05	Average	100	233	HORIZONTAL
4	5236.00	112.68			110.45	3.46	33.82	35.05	Peak	100	233	HORIZONTAL
5	5397.28	50.63	54.00	-3.37	48.12	3.50	34.09	35.08	Average	100	233	HORIZONTAL
6	5397.28	60.24	74.00	-13.76	57.73	3.50	34.09	35.08	Peak	100	233	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

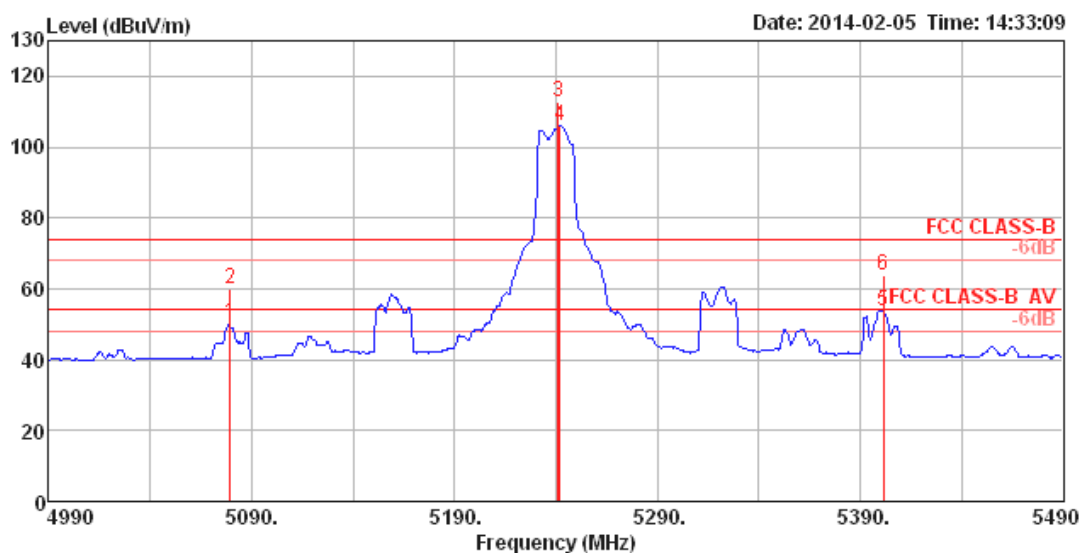
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11a 20MHz 6Mbps / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5079.49	50.19	54.00	-3.81	48.25	3.41	33.55	35.02	Average	100	272	VERTICAL
2	5079.49	60.10	74.00	-13.90	58.16	3.41	33.55	35.02	Peak	100	272	VERTICAL
3	5241.00	112.76			110.53	3.46	33.82	35.05	Peak	100	272	VERTICAL
4	5242.00	106.15			103.92	3.46	33.82	35.05	Average	100	272	VERTICAL
5	5401.28	53.85	54.00	-0.15	51.30	3.51	34.12	35.08	Average	100	272	VERTICAL
6	5401.28	63.81	74.00	-10.19	61.26	3.51	34.12	35.08	Peak	100	272	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

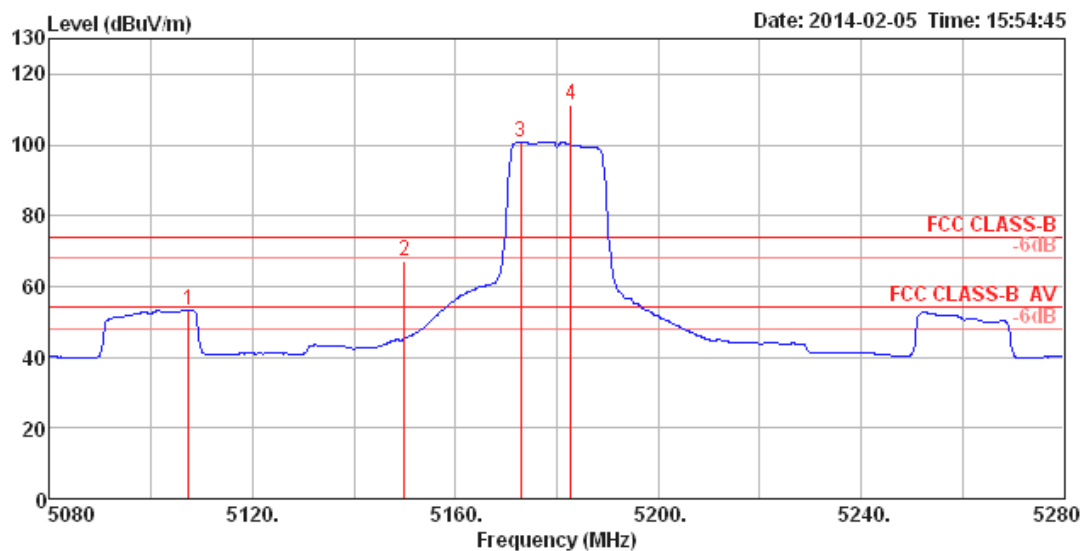
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5107.37	53.43	54.00	-0.57	51.45	3.42	33.58	35.02	Average	116	340
2	5150.00	67.29	74.00	-6.71	65.22	3.43	33.67	35.03	Peak	116	340
3	5172.80	100.94			98.83	3.44	33.70	35.03	Average	116	340
4	5182.80	111.27			109.14	3.44	33.73	35.04	Peak	116	340

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

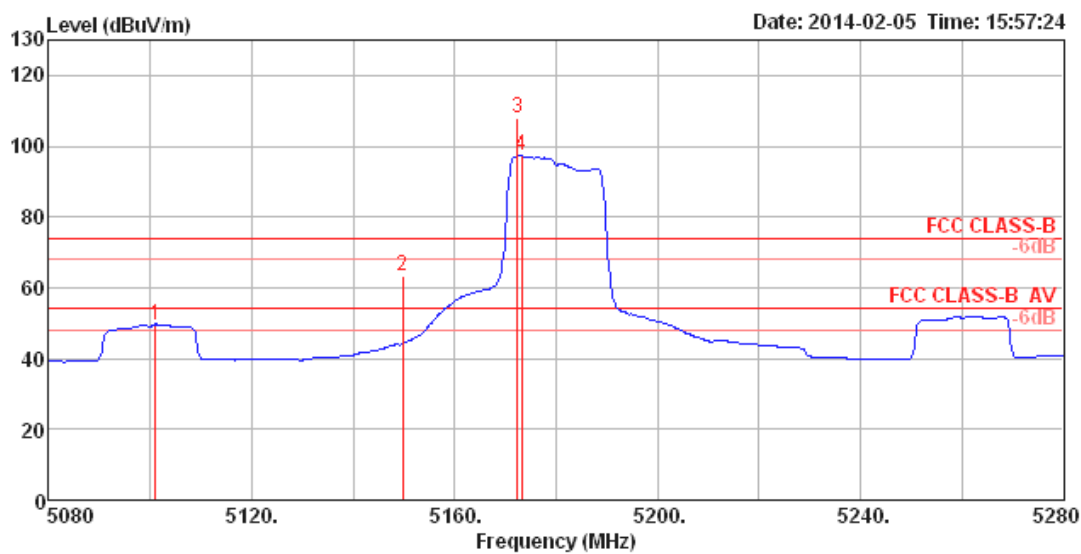
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5100.96	49.61	54.00	-4.39	47.63	3.42	33.58	35.02	Average	130	93	VERTICAL
2	5149.68	63.40	74.00	-10.60	61.33	3.43	33.67	35.03	Peak	130	93	VERTICAL
3	5172.40	107.81			105.70	3.44	33.70	35.03	Peak	130	93	VERTICAL
4	5173.20	97.22			95.11	3.44	33.70	35.03	Average	130	93	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

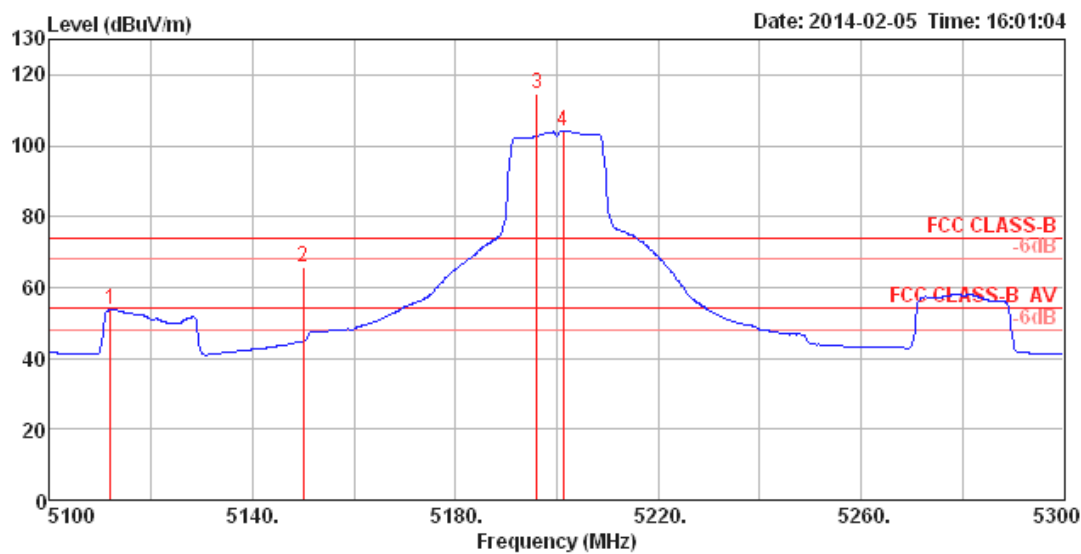
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5111.94	53.74	54.00	-0.26	51.73	3.42	33.61	35.02	Average	104	344 HORIZONTAL
2	5150.00	65.65	74.00	-8.35	63.58	3.43	33.67	35.03	Peak	104	344 HORIZONTAL
3	5196.00	114.61			112.44	3.45	33.76	35.04	Peak	104	344 HORIZONTAL
4	5201.20	104.14			101.97	3.45	33.76	35.04	Average	104	344 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

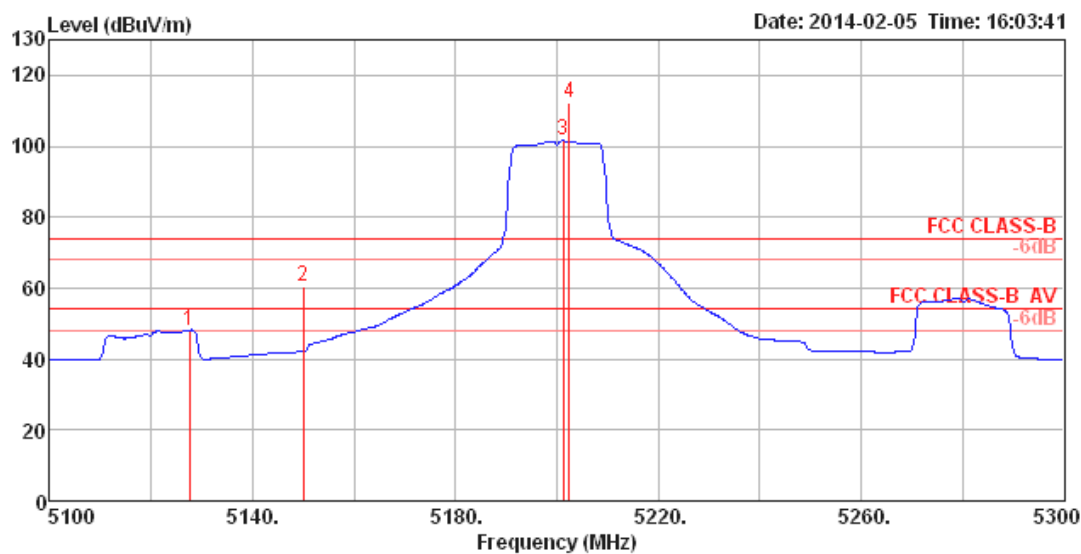
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5127.56	48.14	54.00	-5.86	46.10	3.43	33.64	35.03	Average	129	89 VERTICAL
2	5150.00	60.68	74.00	-13.32	58.61	3.43	33.67	35.03	Peak	129	89 VERTICAL
3	5201.20	101.55			99.38	3.45	33.76	35.04	Average	129	89 VERTICAL
4	5202.40	112.06			109.89	3.45	33.76	35.04	Peak	129	89 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

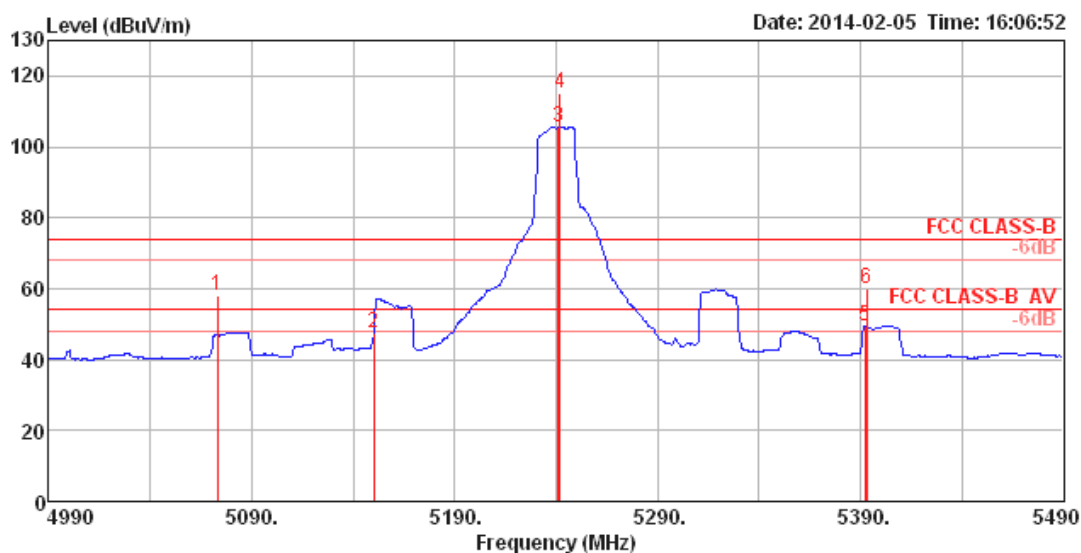
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5073.08	57.83	74.00	-16.17	55.92	3.41	33.52	35.02	Peak	104	353	HORIZONTAL
2	5150.00	47.54	54.00	-6.46	45.47	3.43	33.67	35.03	Average	104	353	HORIZONTAL
3	5241.00	105.66			103.43	3.46	33.82	35.05	Average	104	353	HORIZONTAL
4	5242.00	114.97			112.74	3.46	33.82	35.05	Peak	104	353	HORIZONTAL
5	5392.47	49.26	54.00	-4.74	46.75	3.50	34.09	35.08	Average	104	353	HORIZONTAL
6	5393.27	60.10	74.00	-13.90	57.59	3.50	34.09	35.08	Peak	104	353	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

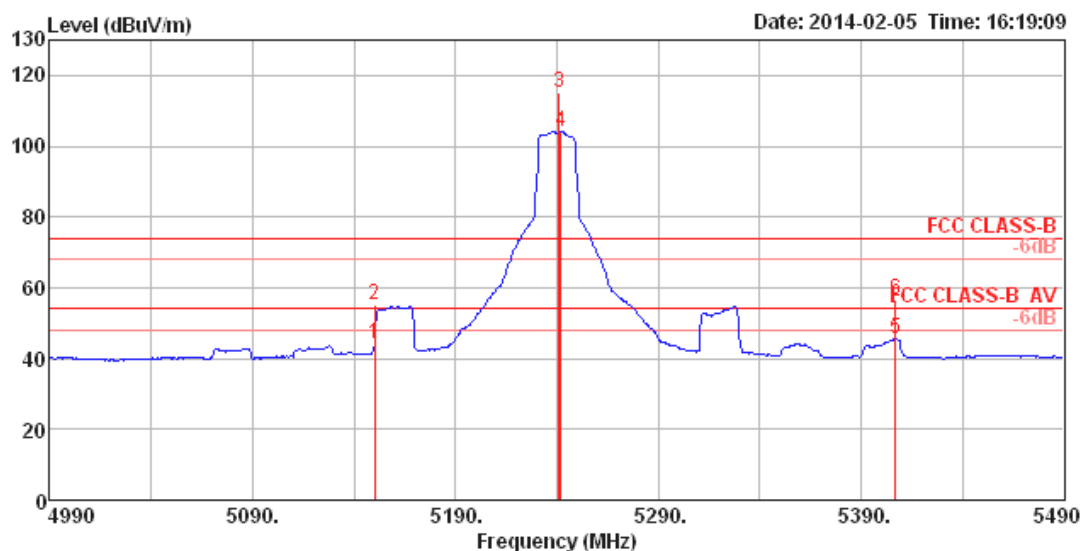
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5150.00	44.03	54.00	-9.97	41.96	3.43	33.67	35.03	Average	119	97 VERTICAL
2	5150.00	55.30	74.00	-18.70	53.23	3.43	33.67	35.03	Peak	119	97 VERTICAL
3	5241.00	115.01			112.78	3.46	33.82	35.05	Peak	119	97 VERTICAL
4	5242.00	104.08			101.85	3.46	33.82	35.05	Average	119	97 VERTICAL
5	5406.89	45.41	54.00	-8.59	42.86	3.51	34.12	35.08	Average	119	97 VERTICAL
6	5406.89	56.62	74.00	-17.38	54.07	3.51	34.12	35.08	Peak	119	97 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

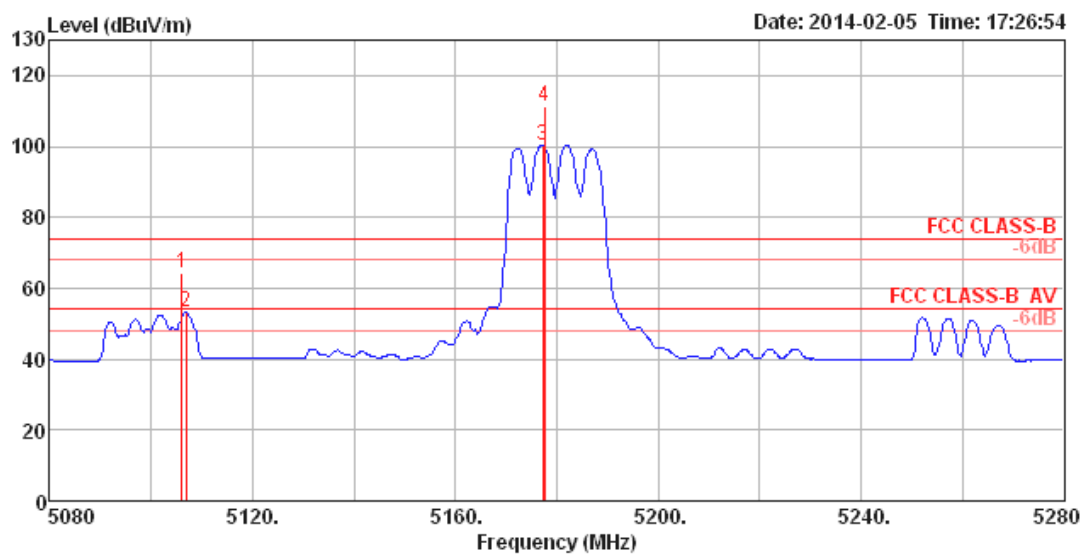
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5106.09	64.33	74.00	-9.67	62.35	3.42	33.58	35.02	Peak	100	265
2	5106.92	53.15	54.00	-0.85	51.17	3.42	33.58	35.02	Average	100	265
3	5177.20	100.30			98.20	3.44	33.70	35.04	Average	100	265
4	5177.60	111.09			108.96	3.44	33.73	35.04	Peak	100	265

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

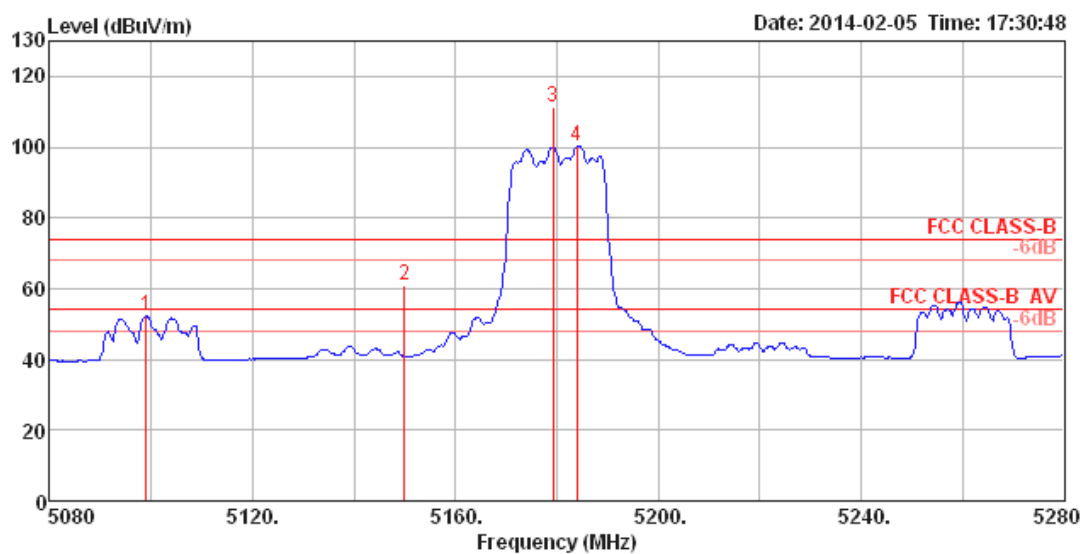
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5099.04	52.12	54.00	-1.88	50.14	3.42	33.58	35.02	Average	100	289	VERTICAL
2	5150.00	60.90	74.00	-13.10	58.83	3.43	33.67	35.03	Peak	100	289	VERTICAL
3	5179.20	111.24			109.11	3.44	33.73	35.04	Peak	100	289	VERTICAL
4	5184.00	100.29			98.16	3.44	33.73	35.04	Average	100	289	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

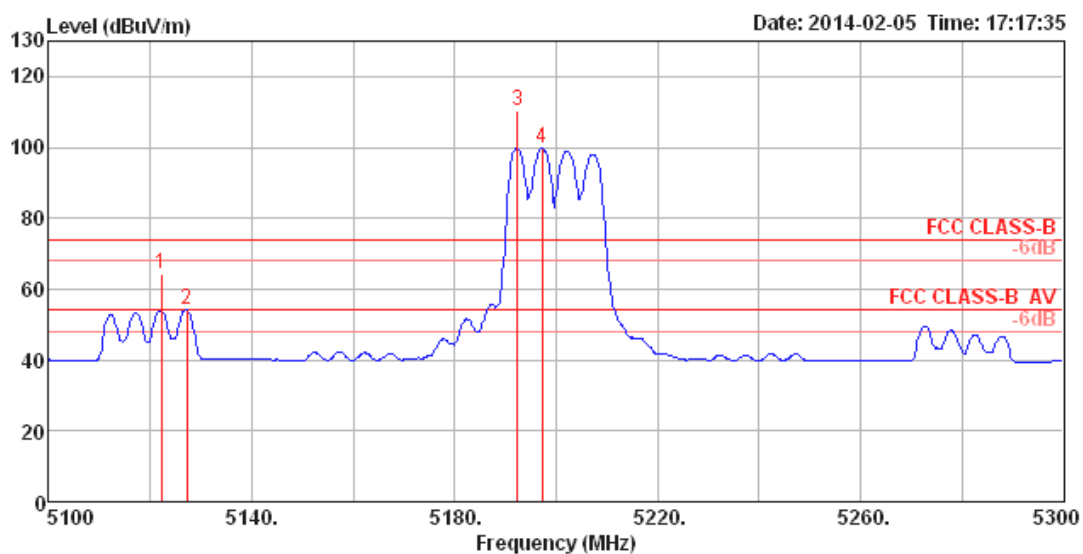
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5122.12	64.18	74.00	-9.82	62.16	3.43	33.61	35.02	Peak	100	262	HORIZONTAL
2	5127.24	53.97	54.00	-0.03	51.93	3.43	33.64	35.03	Average	100	262	HORIZONTAL
3	5192.40	110.22			108.09	3.44	33.73	35.04	Peak	100	262	HORIZONTAL
4	5197.20	99.76			97.59	3.45	33.76	35.04	Average	100	262	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

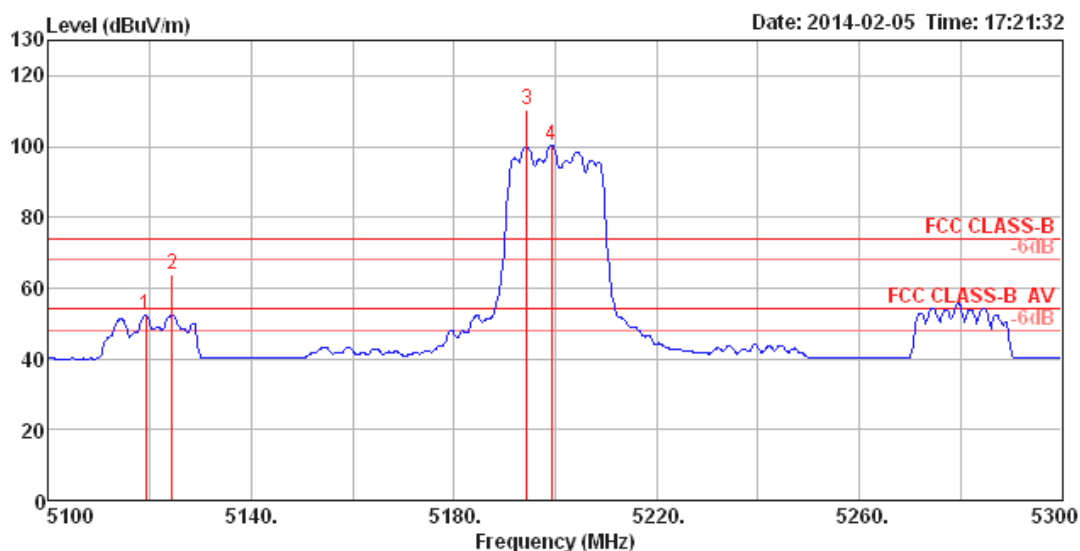
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	5119.23	52.28	54.00	-1.72	50.26	3.43	33.61	35.02	Average	100	289	VERTICAL
2	5124.36	63.72	74.00	-10.28	61.71	3.43	33.61	35.03	Peak	100	289	VERTICAL
3	5194.40	110.52			108.39	3.44	33.73	35.04	Peak	100	289	VERTICAL
4	5199.20	100.26			98.09	3.45	33.76	35.04	Average	100	289	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

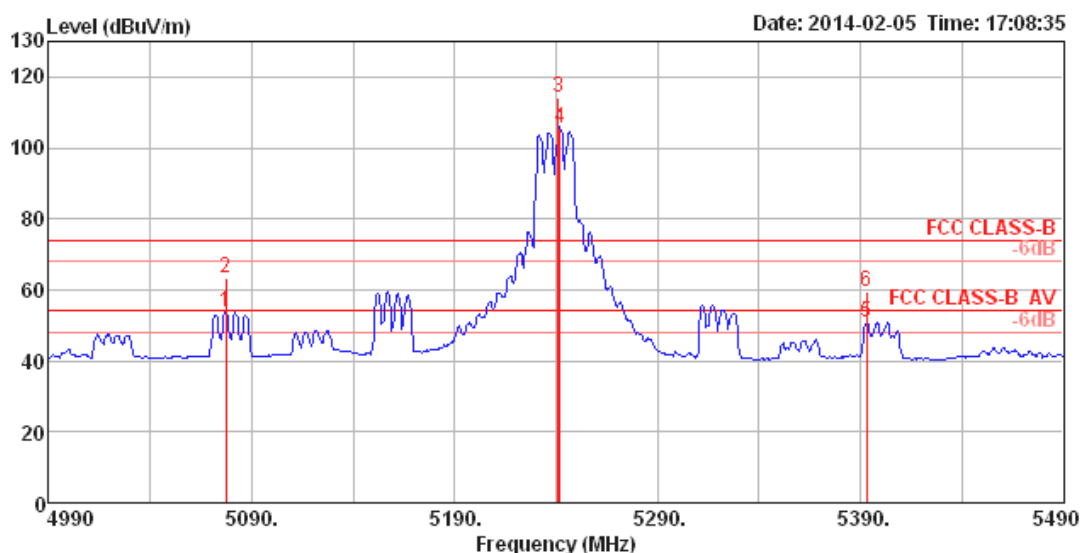
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5077.08	53.62	54.00	-0.38	51.68	3.41	33.55	35.02	Average	100	276 HORIZONTAL
2	5077.08	63.54	74.00	-10.46	61.60	3.41	33.55	35.02	Peak	100	276 HORIZONTAL
3	5241.00	114.09			111.86	3.46	33.82	35.05	Peak	100	276 HORIZONTAL
4	5242.00	105.77			103.54	3.46	33.82	35.05	Average	100	276 HORIZONTAL
5	5393.27	50.82	54.00	-3.18	48.31	3.50	34.09	35.08	Average	100	276 HORIZONTAL
6	5393.27	59.63	74.00	-14.37	57.12	3.50	34.09	35.08	Peak	100	276 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

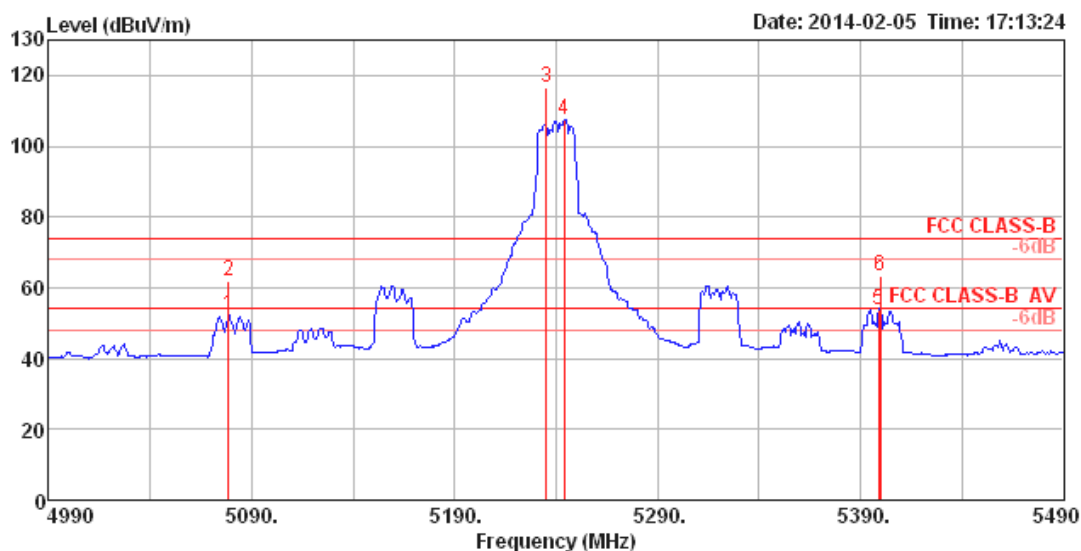
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5078.69	52.43	54.00	-1.57	50.49	3.41	33.55	35.02	100	286	VERTICAL
2	5078.69	62.08	74.00	-11.92	60.14	3.41	33.55	35.02	100	286	VERTICAL
3	5235.00	116.68			114.45	3.46	33.82	35.05	100	286	VERTICAL
4	5244.00	107.31			105.08	3.46	33.82	35.05	100	286	VERTICAL
5	5398.88	53.95	54.00	-0.05	51.43	3.51	34.09	35.08	100	286	VERTICAL
6	5399.68	63.32	74.00	-10.68	60.77	3.51	34.12	35.08	100	286	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

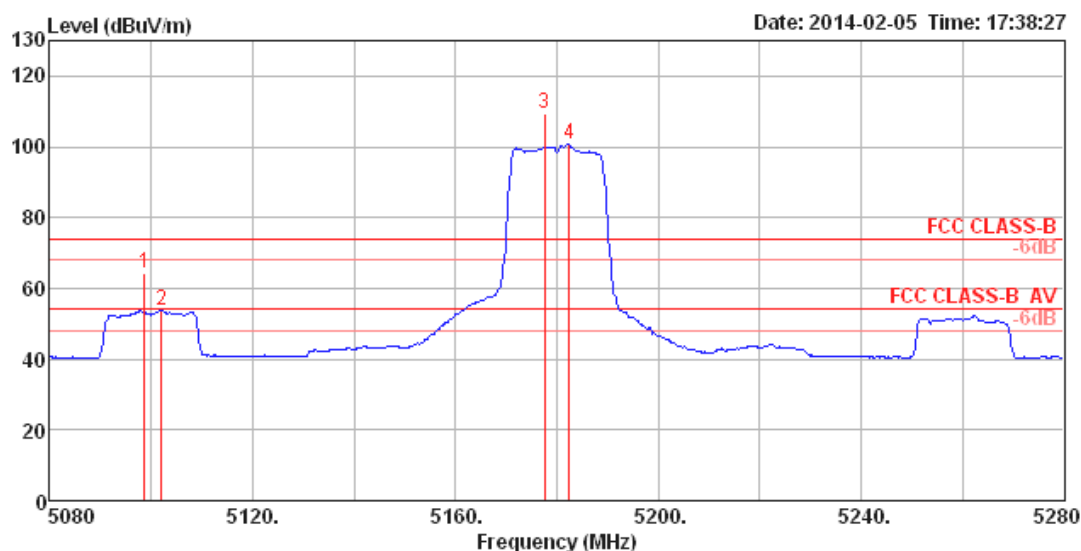
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5098.72	64.21	74.00	-9.79	62.23	3.42	33.58	35.02	Peak	100	207 HORIZONTAL
2	5101.92	53.82	54.00	-0.18	51.84	3.42	33.58	35.02	Average	100	207 HORIZONTAL
3	5177.60	109.58			107.45	3.44	33.73	35.04	Peak	100	207 HORIZONTAL
4	5182.40	100.74			98.61	3.44	33.73	35.04	Average	100	207 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

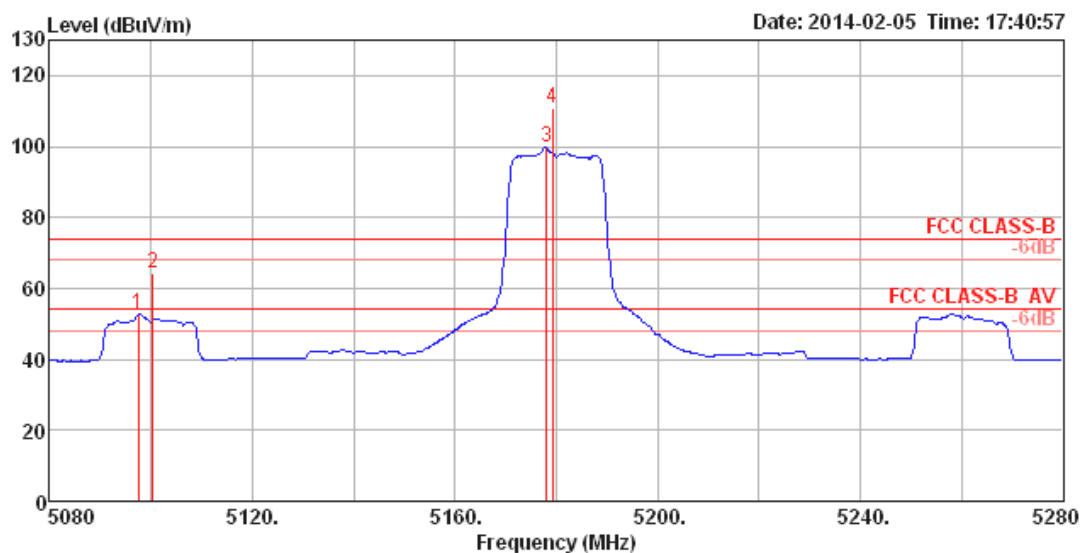
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	Pol/Phase
1	5097.44	52.84	54.00	-1.16	50.86	3.42	33.58	35.02	100	78	VERTICAL
2	5100.32	64.07	74.00	-9.93	62.09	3.42	33.58	35.02	100	78	VERTICAL
3	5178.00	99.70			97.57	3.44	33.73	35.04	100	78	VERTICAL
4	5179.20	110.63			108.50	3.44	33.73	35.04	100	78	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

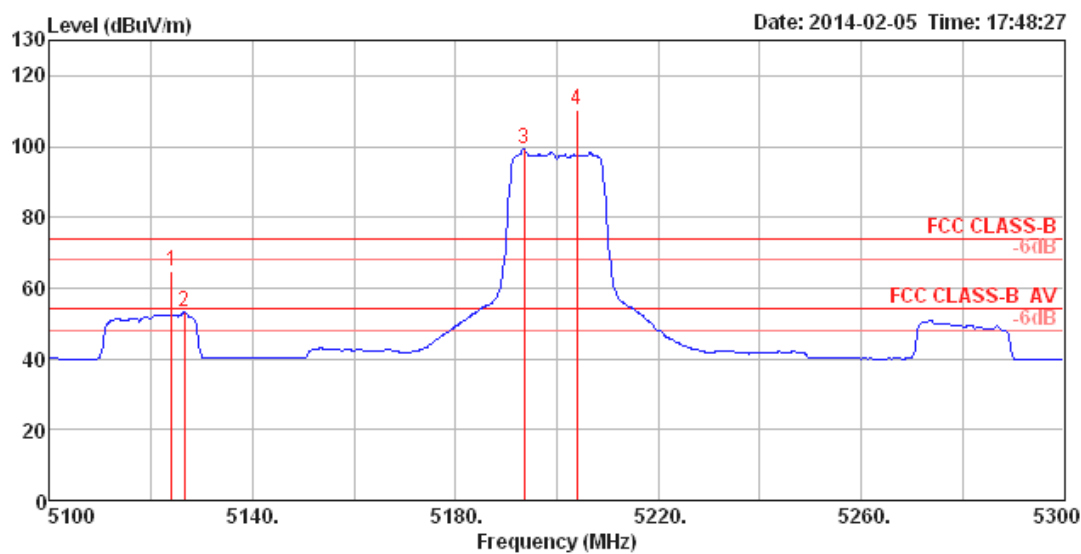
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5124.04	64.98	74.00	-9.02	62.97	3.43	33.61	35.03	100	245	HORIZONTAL
2	5126.53	53.17	54.00	-0.83	51.13	3.43	33.64	35.03	100	245	HORIZONTAL
3	5193.60	99.10			96.97	3.44	33.73	35.04	100	245	HORIZONTAL
4	5204.00	110.26			108.09	3.45	33.76	35.04	100	245	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

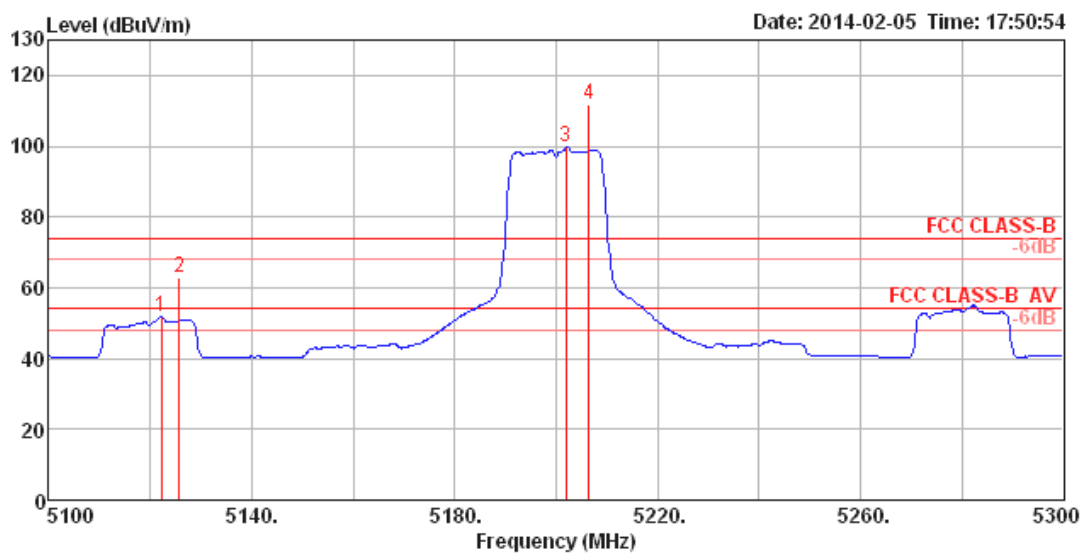
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	5122.12	51.85	54.00	-2.15	49.83	3.43	33.61	35.02	Average	100	283	VERTICAL
2	5125.64	63.00	74.00	-11.00	60.99	3.43	33.61	35.03	Peak	100	283	VERTICAL
3	5202.00	99.56			97.39	3.45	33.76	35.04	Average	100	283	VERTICAL
4	5206.40	111.61			109.44	3.45	33.76	35.04	Peak	100	283	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

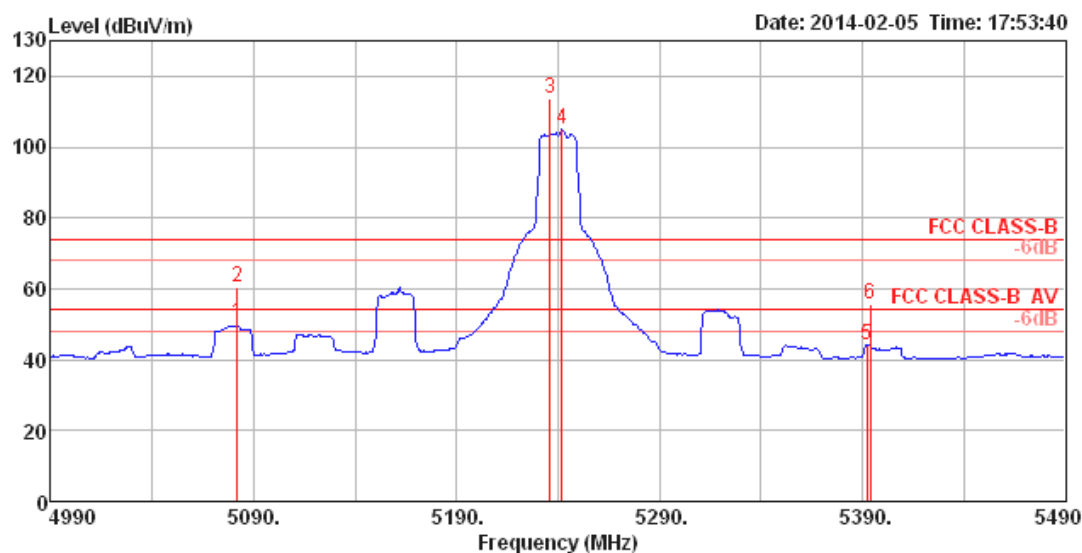
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5081.89	50.23	54.00	-3.77	48.29	3.41	33.55	35.02	Average	100	204	HORIZONTAL
2	5081.89	60.65	74.00	-13.35	58.71	3.41	33.55	35.02	Peak	100	204	HORIZONTAL
3	5236.00	113.69			111.46	3.46	33.82	35.05	Peak	100	204	HORIZONTAL
4	5242.00	104.92			102.69	3.46	33.82	35.05	Average	100	204	HORIZONTAL
5	5392.47	44.19	54.00	-9.81	41.68	3.50	34.09	35.08	Average	100	204	HORIZONTAL
6	5394.07	55.52	74.00	-18.48	53.01	3.50	34.09	35.08	Peak	100	204	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

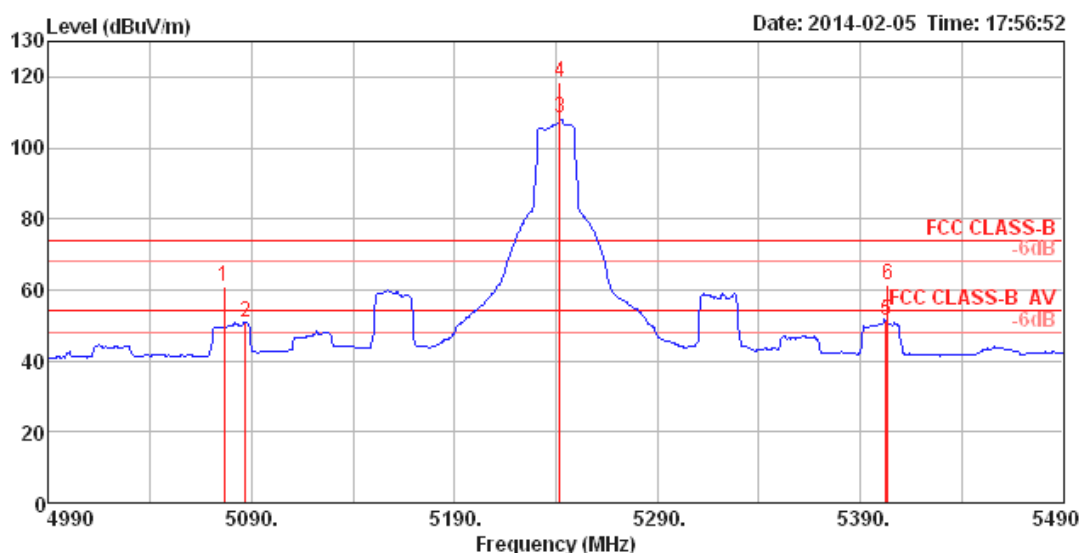
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5076.28	61.05	74.00	-12.95	59.11	3.41	33.55	35.02	Peak	100	286	VERTICAL
2	5086.70	50.83	54.00	-3.17	48.89	3.41	33.55	35.02	Average	100	286	VERTICAL
3	5242.00	108.20			105.97	3.46	33.82	35.05	Average	100	286	VERTICAL
4	5242.00	118.40			116.17	3.46	33.82	35.05	Peak	100	286	VERTICAL
5	5402.89	51.49	54.00	-2.51	48.94	3.51	34.12	35.08	Average	100	286	VERTICAL
6	5403.69	61.41	74.00	-12.59	58.86	3.51	34.12	35.08	Peak	100	286	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

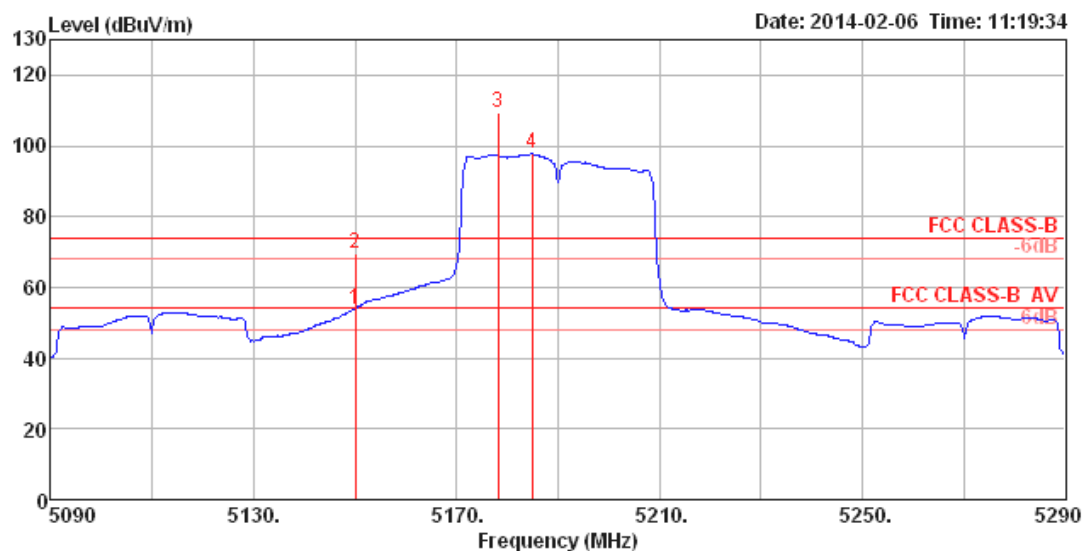
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5150.00	53.86	54.00	-0.14	51.79	3.43	33.67	35.03	Average	104	350 HORIZONTAL
2	5150.00	69.50	74.00	-4.50	67.43	3.43	33.67	35.03	Peak	104	350 HORIZONTAL
3	5178.14	109.44			107.31	3.44	33.73	35.04	Peak	104	350 HORIZONTAL
4	5184.87	97.70			95.57	3.44	33.73	35.04	Average	104	350 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

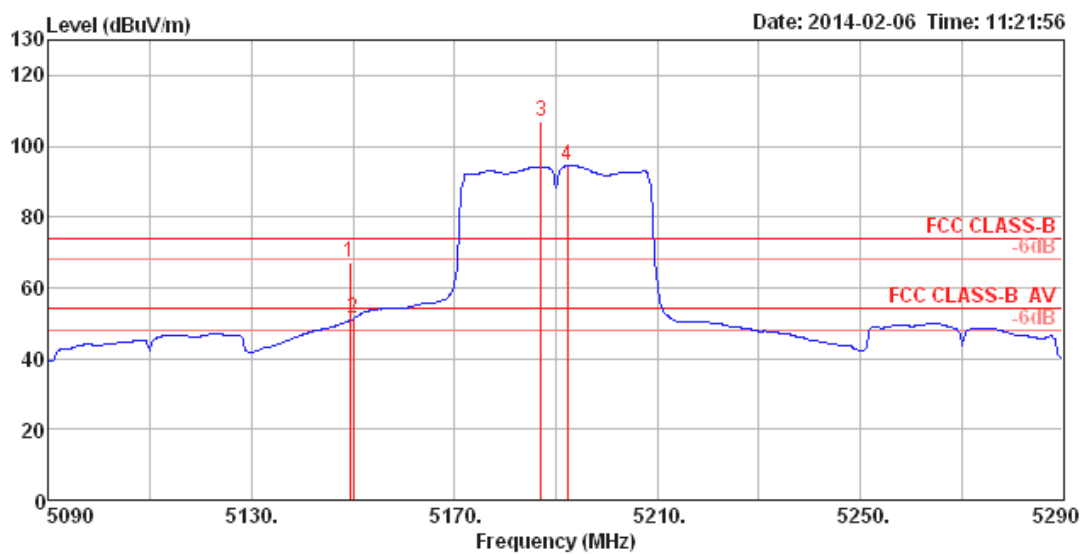
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5149.36	67.23	74.00	-6.77	65.16	3.43	33.67	35.03	Peak	100	99 VERTICAL
2	5150.00	51.13	54.00	-2.87	49.06	3.43	33.67	35.03	Average	100	99 VERTICAL
3	5187.12	106.76			104.63	3.44	33.73	35.04	Peak	100	99 VERTICAL
4	5192.24	94.58			92.45	3.44	33.73	35.04	Average	100	99 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

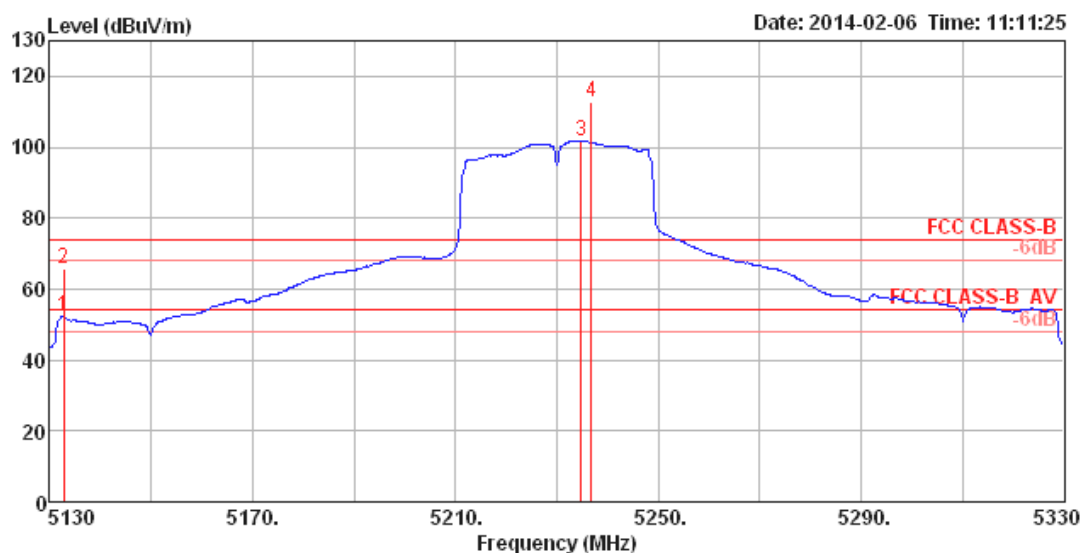
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5132.69	52.06	54.00	-1.94	50.02	3.43	33.64	35.03	Average	102	3 HORIZONTAL
2	5132.69	65.85	74.00	-8.15	63.81	3.43	33.64	35.03	Peak	102	3 HORIZONTAL
3	5234.81	101.71			99.48	3.46	33.82	35.05	Average	102	3 HORIZONTAL
4	5236.73	112.74			110.51	3.46	33.82	35.05	Peak	102	3 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

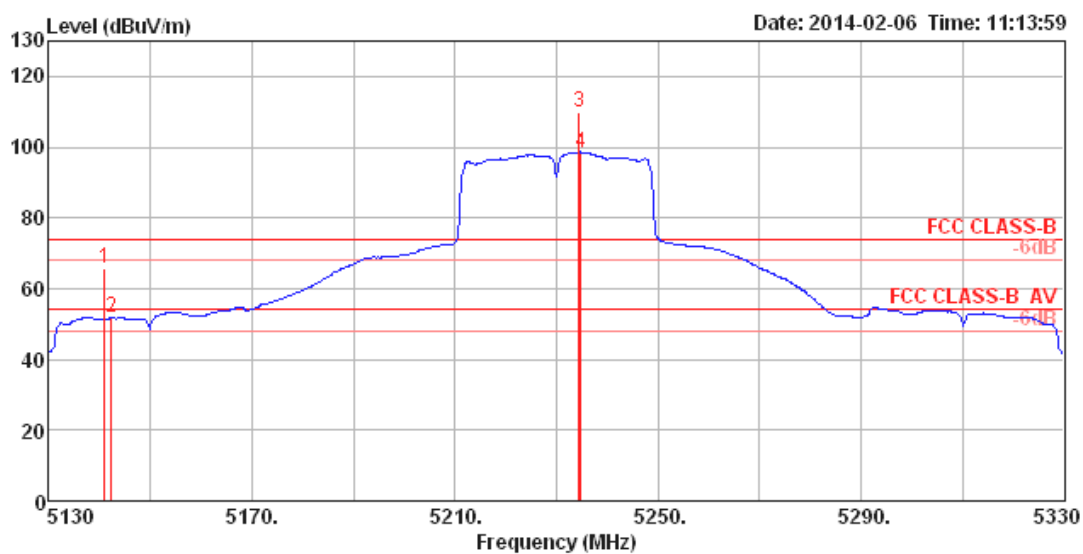
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5141.03	65.89	74.00	-8.11	63.85	3.43	33.64	35.03	Peak	100	100 VERTICAL
2	5142.31	51.65	54.00	-2.35	49.61	3.43	33.64	35.03	Average	100	100 VERTICAL
3	5234.49	109.78			107.55	3.46	33.82	35.05	Peak	100	100 VERTICAL
4	5234.81	98.53			96.30	3.46	33.82	35.05	Average	100	100 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

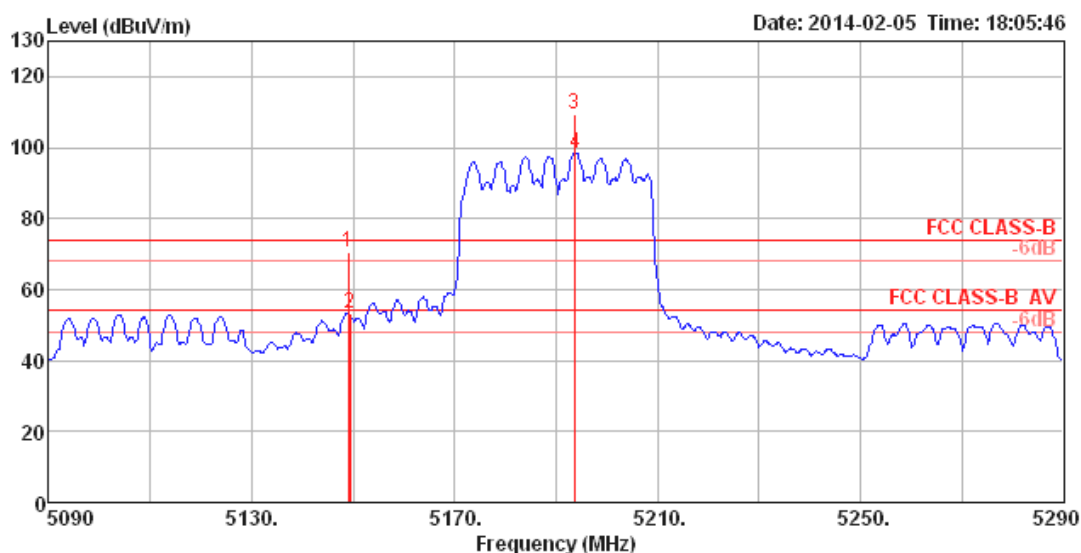
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.04	70.58	74.00	-3.42	68.51	3.43	33.67	35.03	Peak	100	228	HORIZONTAL
2	5149.36	53.41	54.00	-0.59	51.34	3.43	33.67	35.03	Average	100	228	HORIZONTAL
3	5193.53	109.24			107.11	3.44	33.73	35.04	Peak	100	228	HORIZONTAL
4	5193.85	98.55			96.42	3.44	33.73	35.04	Average	100	228	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

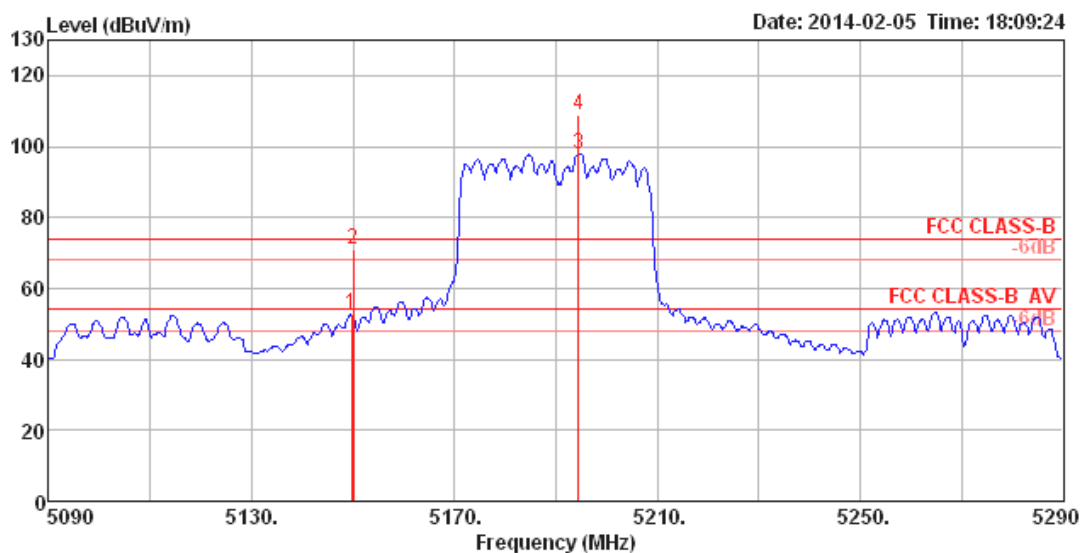
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5149.68	52.55	54.00	-1.45	50.48	3.43	33.67	35.03	Average	100	291	VERTICAL
2	5150.00	71.03	74.00	-2.97	68.96	3.43	33.67	35.03	Peak	100	291	VERTICAL
3	5194.49	98.10			95.94	3.44	33.76	35.04	Average	100	291	VERTICAL
4	5194.49	109.03			106.87	3.44	33.76	35.04	Peak	100	291	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

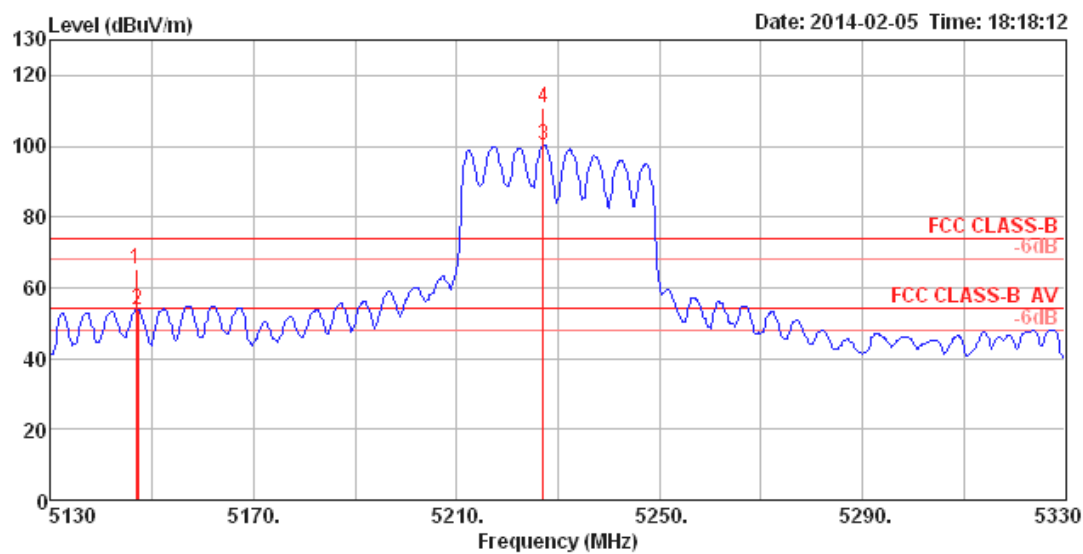
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5146.80	65.19	74.00	-8.81	63.12	3.43	33.67	35.03	Peak	100	271 HORIZONTAL
2	5147.12	53.95	54.00	-0.05	51.88	3.43	33.67	35.03	Average	100	271 HORIZONTAL
3	5227.12	100.26			98.06	3.46	33.79	35.05	Average	100	271 HORIZONTAL
4	5227.12	111.00			108.80	3.46	33.79	35.05	Peak	100	271 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

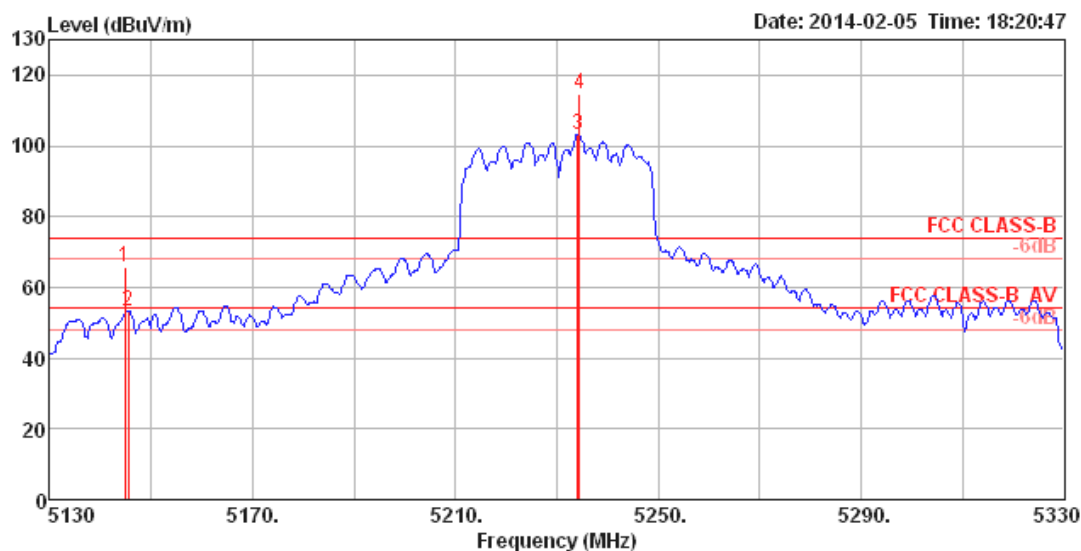
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5144.87	65.64	74.00	-8.36	63.57	3.43	33.67	35.03	Peak	100	259 VERTICAL
2	5145.51	53.24	54.00	-0.76	51.17	3.43	33.67	35.03	Average	100	259 VERTICAL
3	5234.17	103.05			100.82	3.46	33.82	35.05	Average	100	259 VERTICAL
4	5234.49	114.67			112.44	3.46	33.82	35.05	Peak	100	259 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

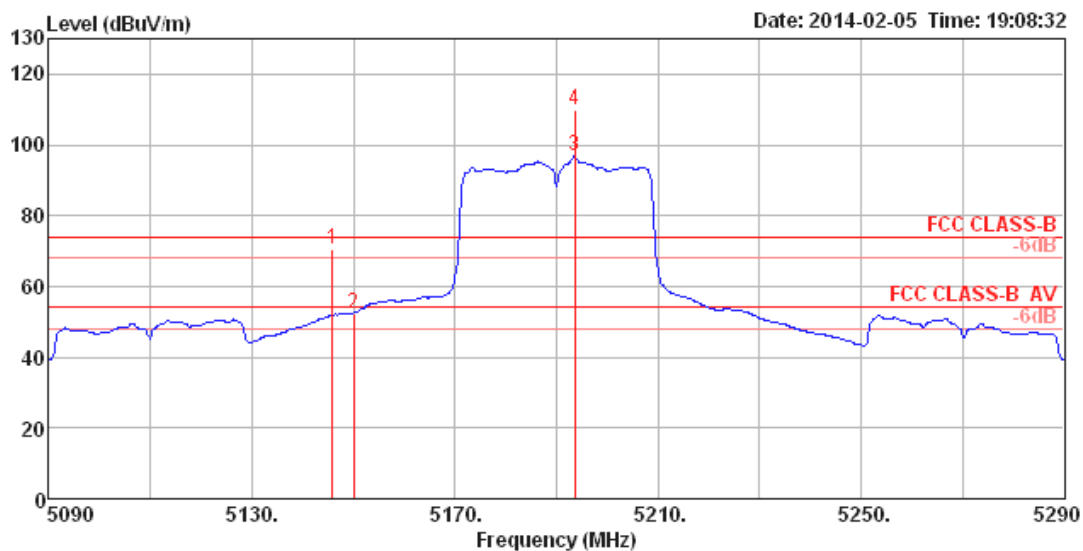
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	5145.83	70.34	74.00	-3.66	68.27	3.43	33.67	35.03	Peak	100	246	HORIZONTAL
2	5150.00	52.53	54.00	-1.47	50.46	3.43	33.67	35.03	Average	100	246	HORIZONTAL
3	5193.60	96.75			94.62	3.44	33.73	35.04	Average	100	246	HORIZONTAL
4	5193.60	109.96			107.83	3.44	33.73	35.04	Peak	100	246	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

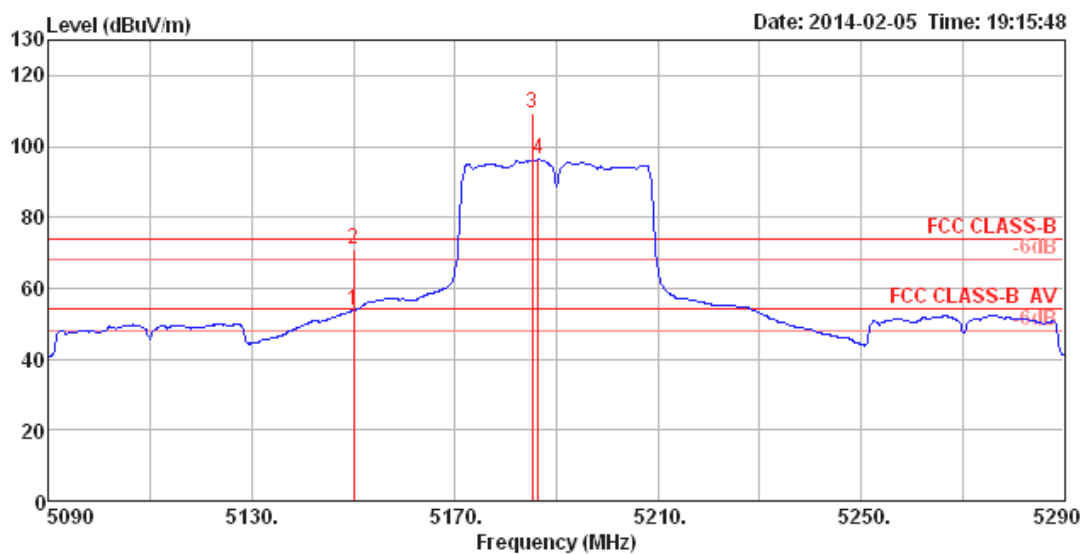
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	53.68	54.00	-0.32	51.61	3.43	33.67	35.03	100	289	VERTICAL
2	5150.00	71.00	74.00	-3.00	68.93	3.43	33.67	35.03	100	289	VERTICAL
3	5185.20	109.34			107.21	3.44	33.73	35.04	100	289	VERTICAL
4	5186.40	96.47			94.34	3.44	33.73	35.04	100	289	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

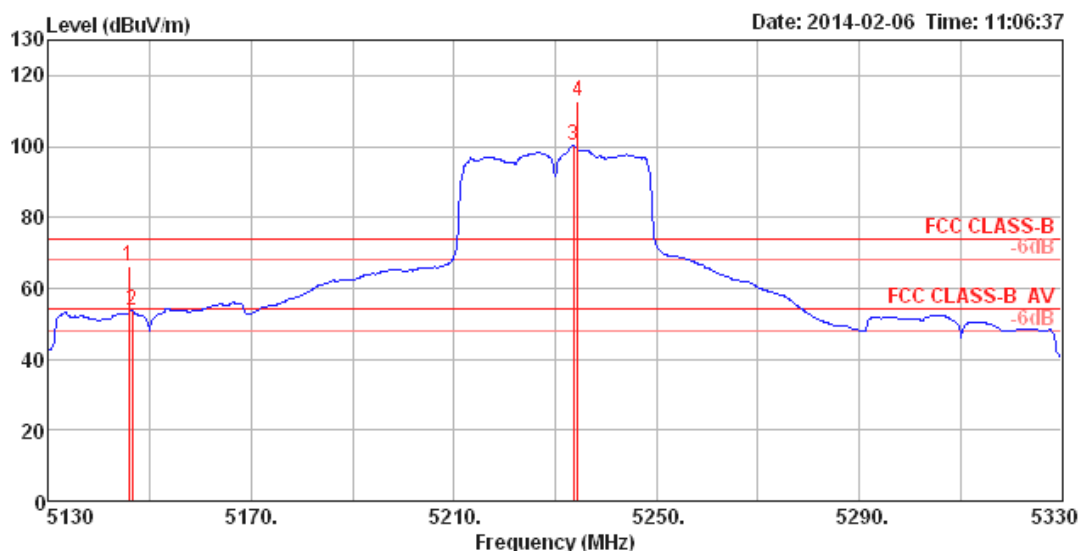
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5145.83	65.97	74.00	-8.03	63.90	3.43	33.67	35.03	Peak	100	258 HORIZONTAL
2	5146.47	53.67	54.00	-0.33	51.60	3.43	33.67	35.03	Average	100	258 HORIZONTAL
3	5233.53	100.43			98.20	3.46	33.82	35.05	Average	100	258 HORIZONTAL
4	5234.49	112.95			110.72	3.46	33.82	35.05	Peak	100	258 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

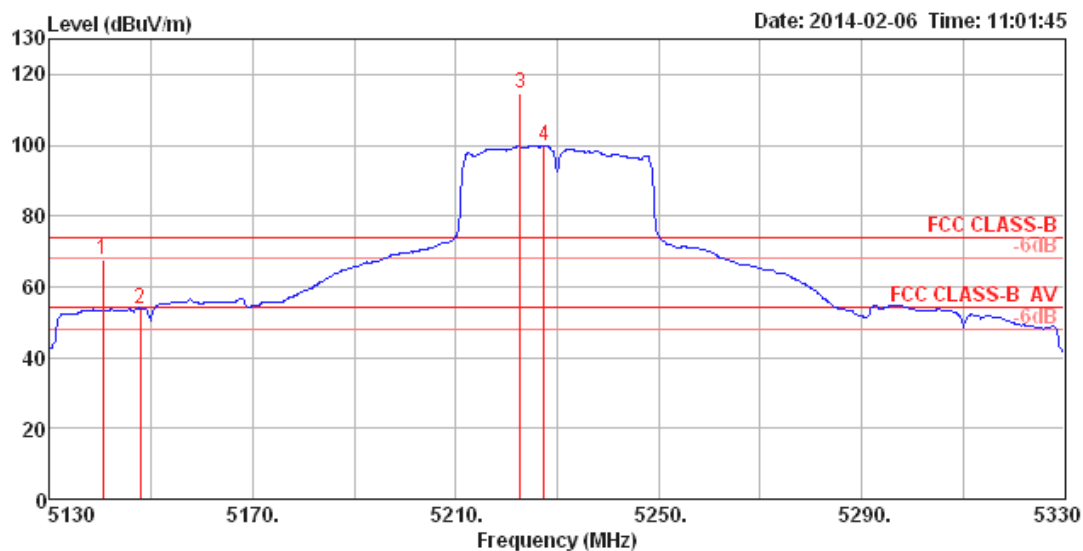
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5140.39	67.46	74.00	-6.54	65.42	3.43	33.64	35.03	100	80	VERTICAL
2	5147.76	53.93	54.00	-0.07	51.86	3.43	33.67	35.03	100	80	VERTICAL
3	5222.63	114.45			112.24	3.46	33.79	35.04	100	80	VERTICAL
4	5227.44	99.92			97.72	3.46	33.79	35.05	100	80	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

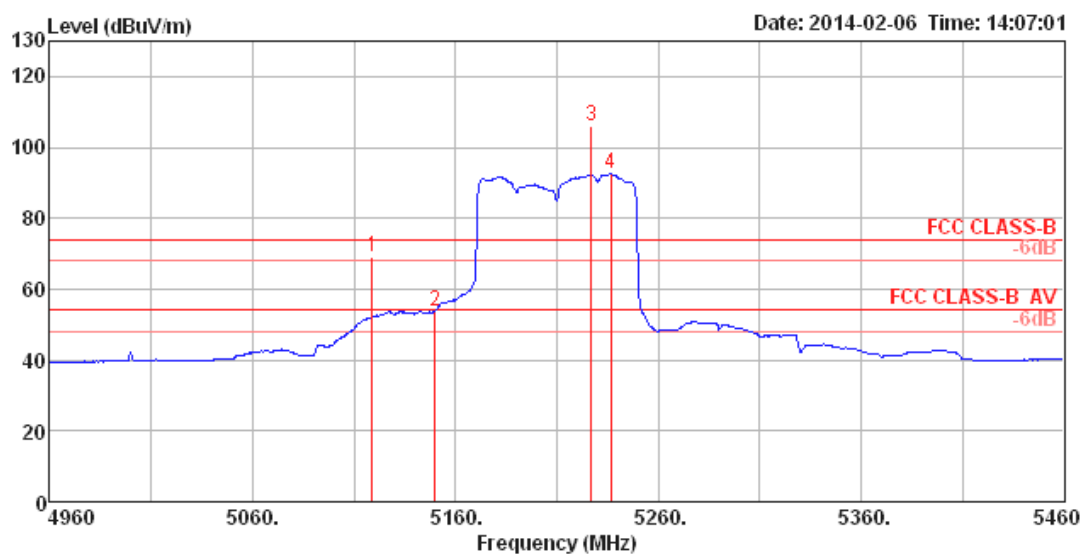
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5118.75	69.26	74.00	-4.74	67.24	3.43	33.61	35.02	Peak	103	1	HORIZONTAL
2	5150.00	53.91	54.00	-0.09	51.84	3.43	33.67	35.03	Average	103	1	HORIZONTAL
3	5226.83	106.13			103.93	3.46	33.79	35.05	Peak	103	1	HORIZONTAL
4	5236.44	92.41			90.18	3.46	33.82	35.05	Average	103	1	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

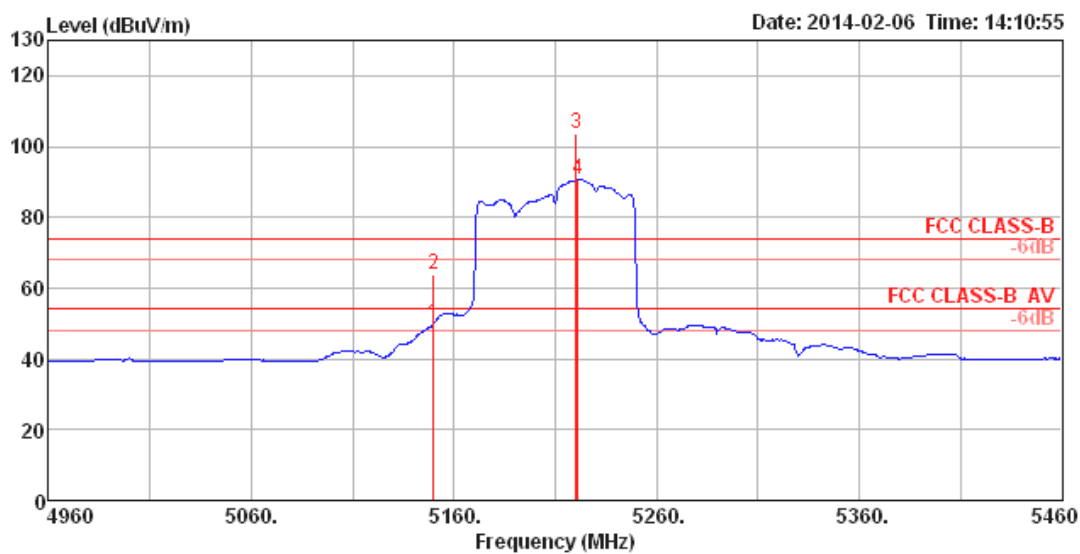
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	49.76	54.00	-4.24	47.69	3.43	33.67	35.03	129	95	VERTICAL
2	5150.00	63.71	74.00	-10.29	61.64	3.43	33.67	35.03	129	95	VERTICAL
3	5220.42	103.38			101.17	3.46	33.79	35.04	129	95	VERTICAL
4	5221.22	90.85			88.64	3.46	33.79	35.04	129	95	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

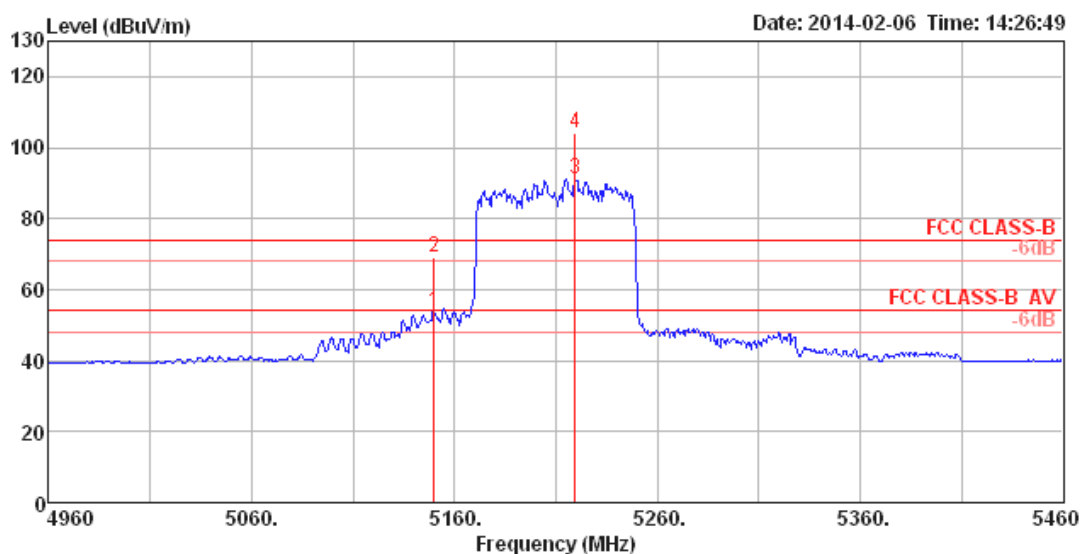
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	5150.00	53.84	54.00	-0.16	51.77	3.43	33.67	35.03	Average	100	204	HORIZONTAL
2	5150.00	68.93	74.00	-5.07	66.86	3.43	33.67	35.03	Peak	100	204	HORIZONTAL
3	5219.62	91.30			89.10	3.45	33.79	35.04	Average	100	204	HORIZONTAL
4	5219.62	103.94			101.74	3.45	33.79	35.04	Peak	100	204	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

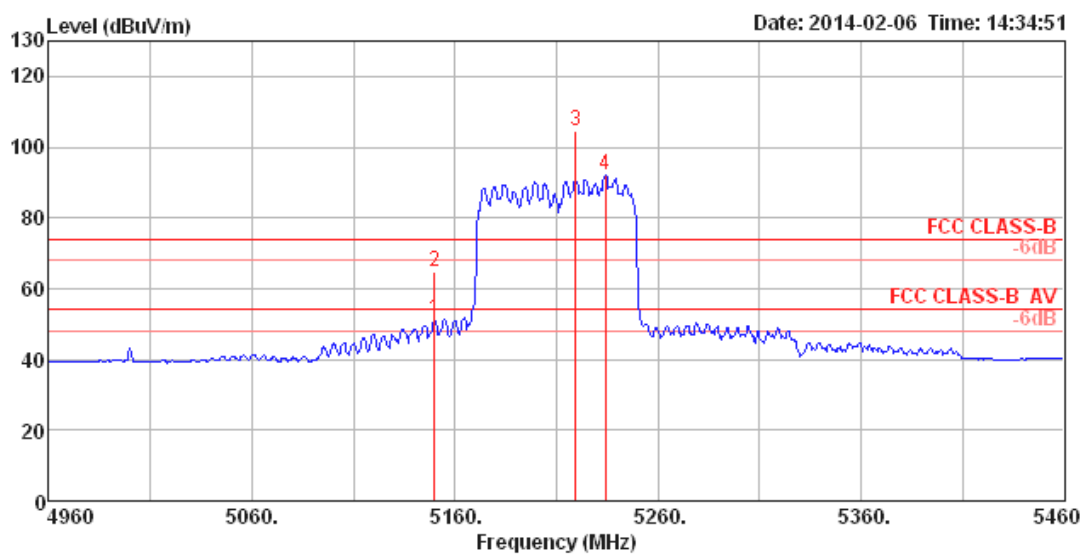
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	51.09	54.00	-2.91	49.02	3.43	33.67	35.03	Average	100	260	VERTICAL
2	5150.00	64.86	74.00	-9.14	62.79	3.43	33.67	35.03	Peak	100	260	VERTICAL
3	5219.62	104.34			102.14	3.45	33.79	35.04	Peak	100	260	VERTICAL
4	5234.04	92.01			89.78	3.46	33.82	35.05	Average	100	260	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

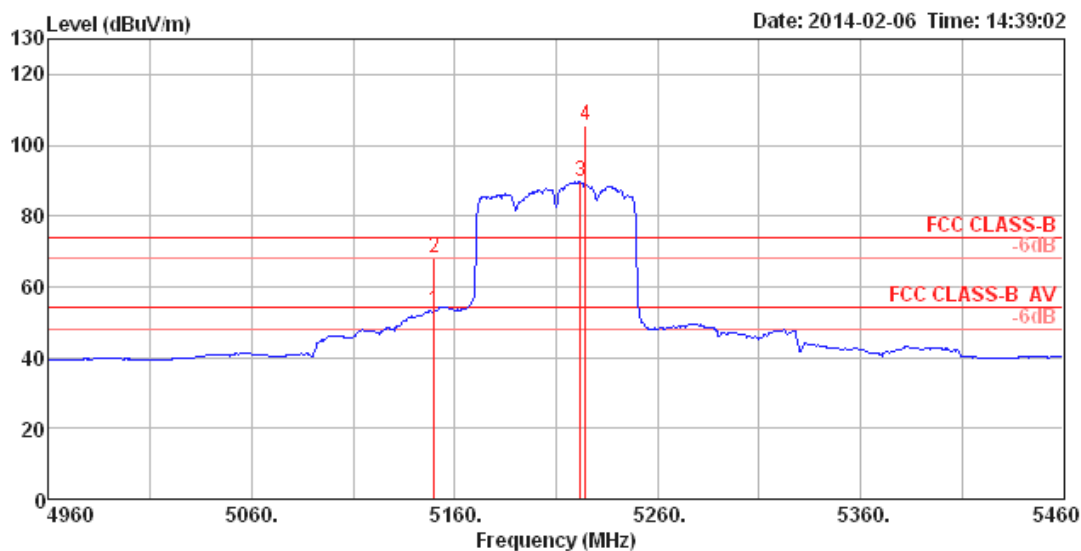
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	5150.00	53.11	54.00	-0.89	51.04	3.43	33.67	35.03	Average	100	203	HORIZONTAL
2	5150.00	67.96	74.00	-6.04	65.89	3.43	33.67	35.03	Peak	100	203	HORIZONTAL
3	5222.02	89.78			87.57	3.46	33.79	35.04	Average	100	203	HORIZONTAL
4	5224.42	105.74			103.53	3.46	33.79	35.04	Peak	100	203	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

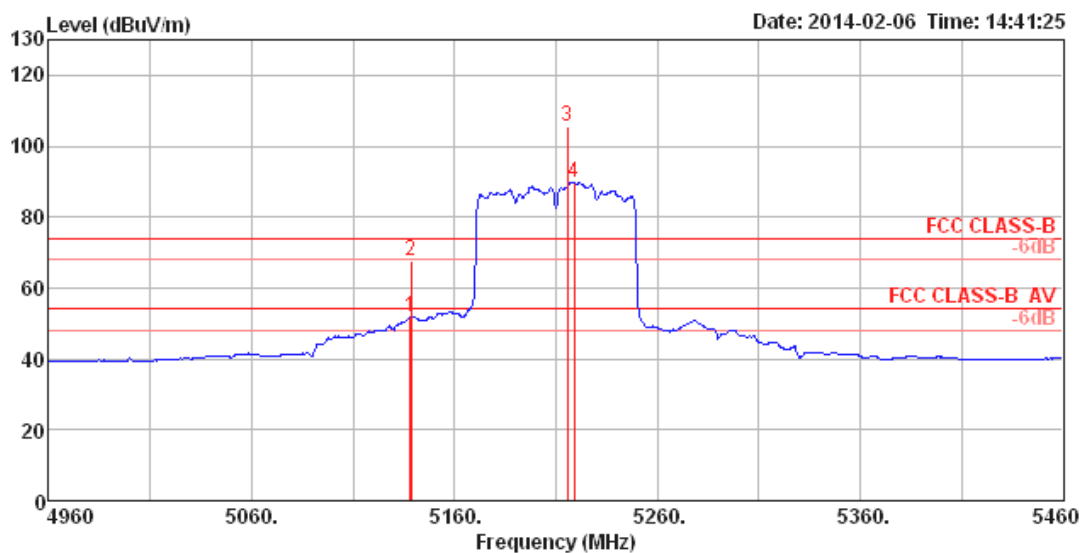
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5137.98	51.81	54.00	-2.19	49.77	3.43	33.64	35.03	Average	100	78	VERTICAL
2	5138.78	67.80	74.00	-6.20	65.76	3.43	33.64	35.03	Peak	100	78	VERTICAL
3	5215.61	105.57			103.37	3.45	33.79	35.04	Peak	100	78	VERTICAL
4	5218.81	89.89			87.69	3.45	33.79	35.04	Average	100	78	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

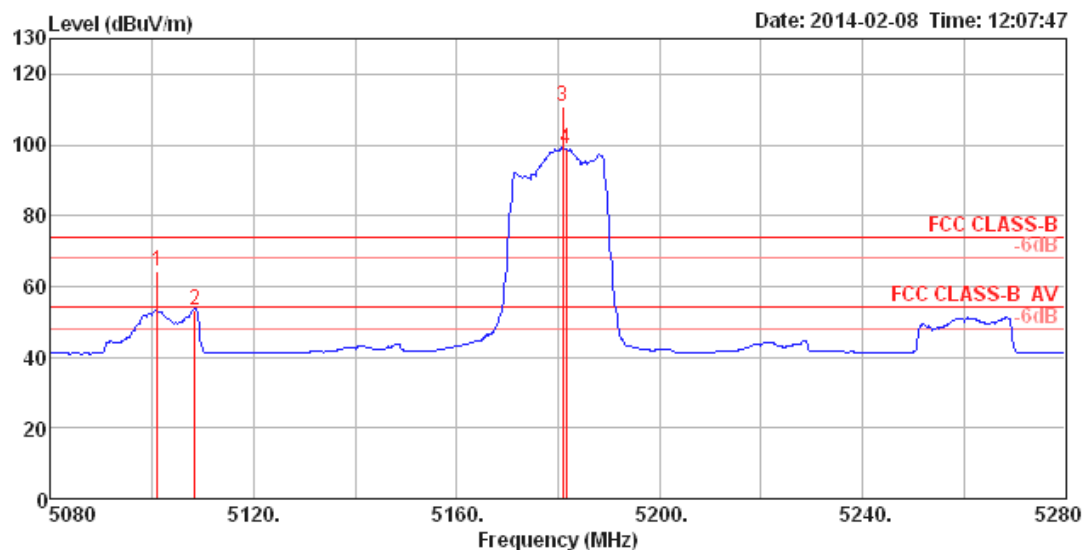
Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

For Beamforming

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	5100.96	64.42	74.00	-9.58	62.44	3.42	33.58	35.02	Peak	100	149	HORIZONTAL
2	5108.33	53.47	54.00	-0.53	51.49	3.42	33.58	35.02	Average	100	149	HORIZONTAL
3	5180.96	110.61			108.48	3.44	33.73	35.04	Peak	100	149	HORIZONTAL
4	5181.60	98.99			96.86	3.44	33.73	35.04	Average	100	149	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

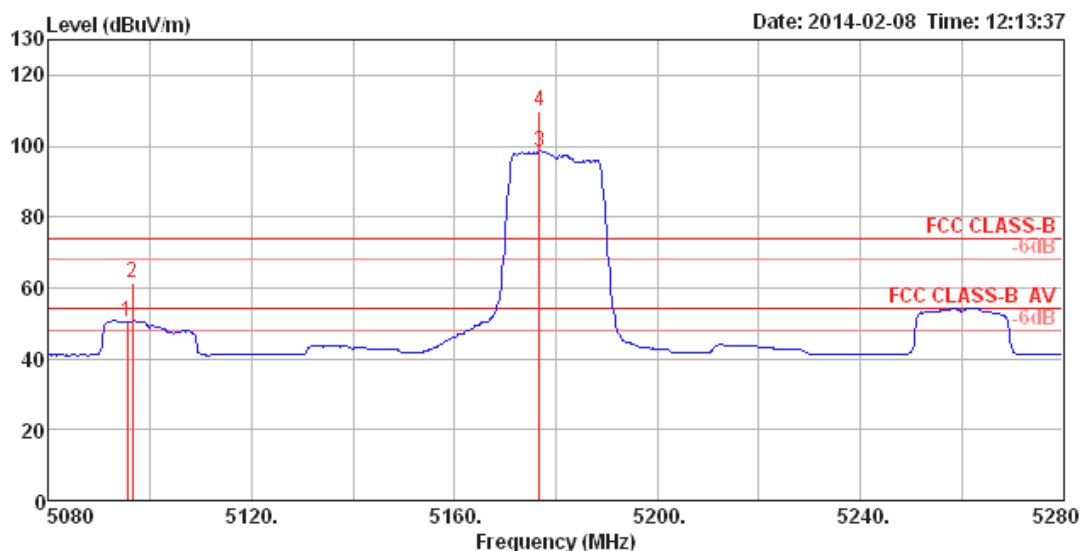
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	5095.51	50.50	54.00	-3.50	48.52	3.42	33.58	35.02	Average	111	99	VERTICAL
2	5096.47	61.40	74.00	-12.60	59.42	3.42	33.58	35.02	Peak	111	99	VERTICAL
3	5176.80	98.56			96.46	3.44	33.70	35.04	Average	111	99	VERTICAL
4	5176.80	109.66			107.56	3.44	33.70	35.04	Peak	111	99	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

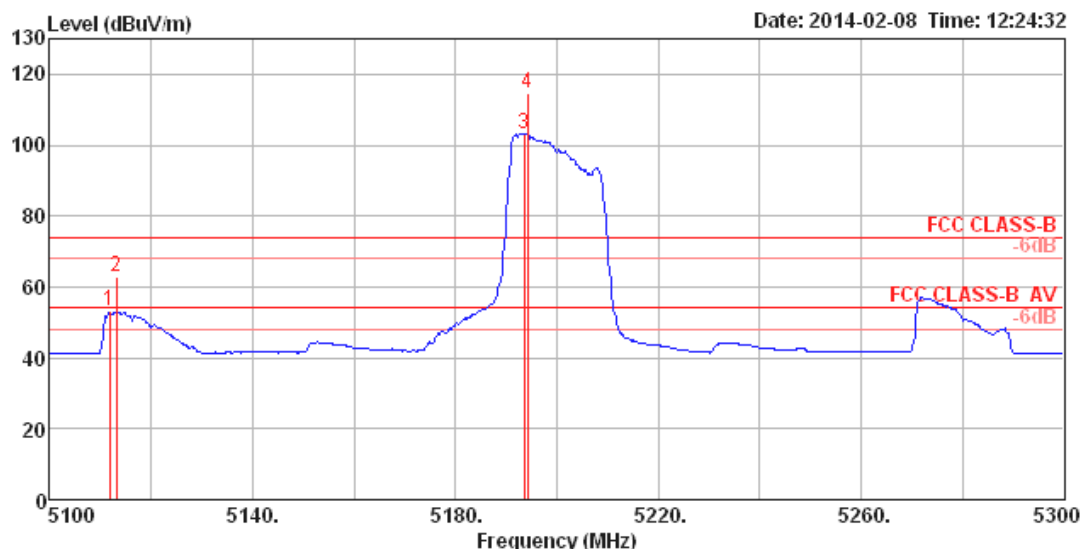
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	5111.86	53.13	54.00	-0.87	51.12	3.42	33.61	35.02	Average	100	247	HORIZONTAL
2	5113.14	63.01	74.00	-10.99	61.00	3.42	33.61	35.02	Peak	100	247	HORIZONTAL
3	5193.59	103.16			101.03	3.44	33.73	35.04	Average	100	247	HORIZONTAL
4	5194.23	114.73			112.60	3.44	33.73	35.04	Peak	100	247	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

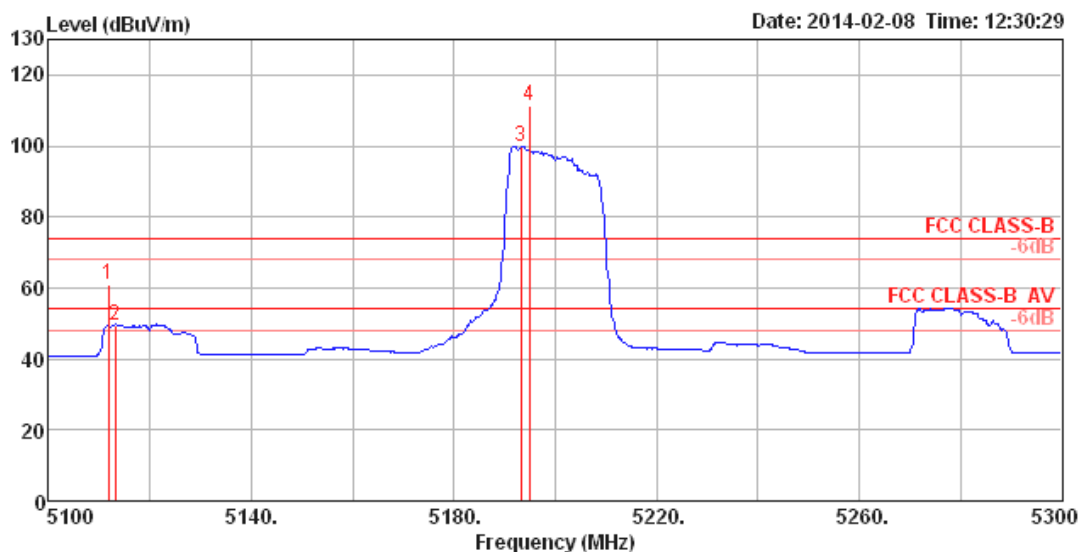
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5111.86	60.89	74.00	-13.11	58.88	3.42	33.61	35.02	Peak	126	6	VERTICAL
2	5113.14	49.60	54.00	-4.40	47.59	3.42	33.61	35.02	Average	126	6	VERTICAL
3	5193.27	99.87			97.74	3.44	33.73	35.04	Average	126	6	VERTICAL
4	5194.87	111.34			109.17	3.45	33.76	35.04	Peak	126	6	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

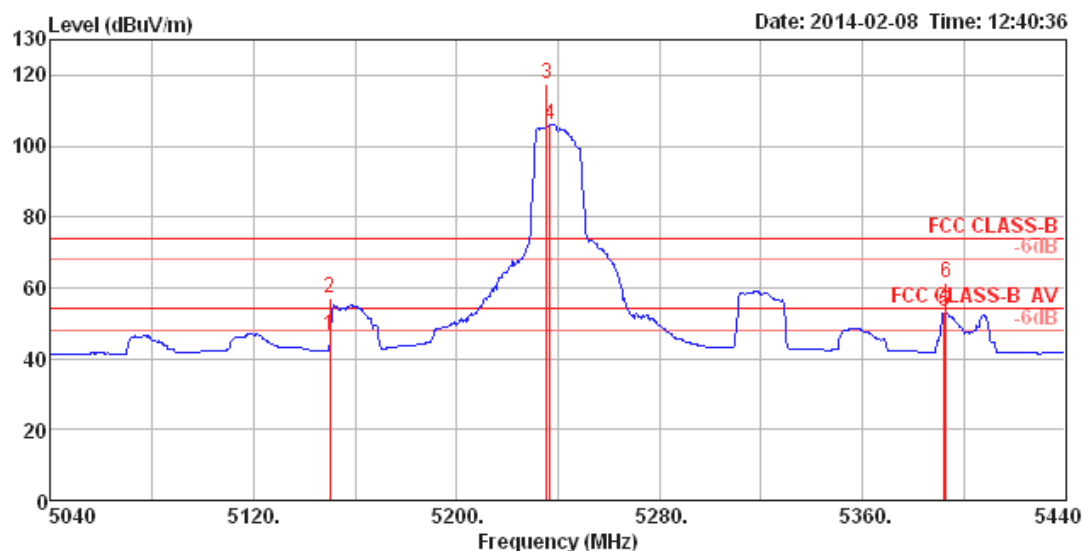
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5150.00	46.38	54.00	-7.62	44.31	3.43	33.67	35.03	100	239	HORIZONTAL
2	5150.00	57.10	74.00	-16.90	55.03	3.43	33.67	35.03	100	239	HORIZONTAL
3	5235.51	117.48			115.25	3.46	33.82	35.05	100	239	HORIZONTAL
4	5236.80	106.20			103.97	3.46	33.82	35.05	100	239	HORIZONTAL
5	5392.31	53.16	54.00	-0.84	50.65	3.50	34.09	35.08	100	239	HORIZONTAL
6	5392.95	61.25	74.00	-12.75	58.74	3.50	34.09	35.08	100	239	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

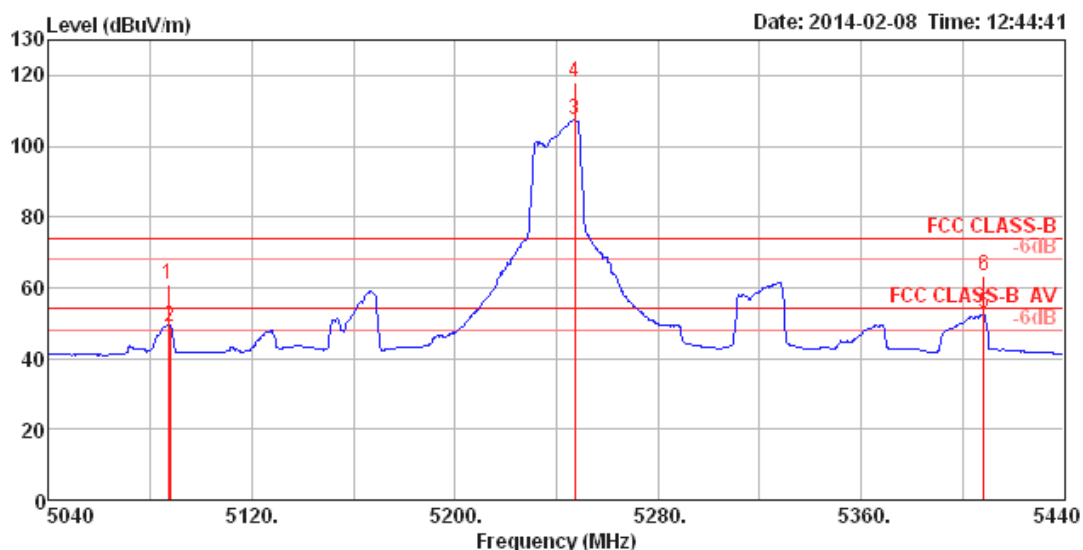
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss1MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5087.18	61.11	74.00	-12.89	59.17	3.41	33.55	35.02	Peak	100	274 VERTICAL
2	5087.82	49.13	54.00	-4.87	47.19	3.41	33.55	35.02	Average	100	274 VERTICAL
3	5247.05	107.26			105.00	3.46	33.85	35.05	Average	100	274 VERTICAL
4	5247.05	118.15			115.89	3.46	33.85	35.05	Peak	100	274 VERTICAL
5	5408.33	52.70	54.00	-1.30	50.15	3.51	34.12	35.08	Average	100	274 VERTICAL
6	5408.33	63.52	74.00	-10.48	60.97	3.51	34.12	35.08	Peak	100	274 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

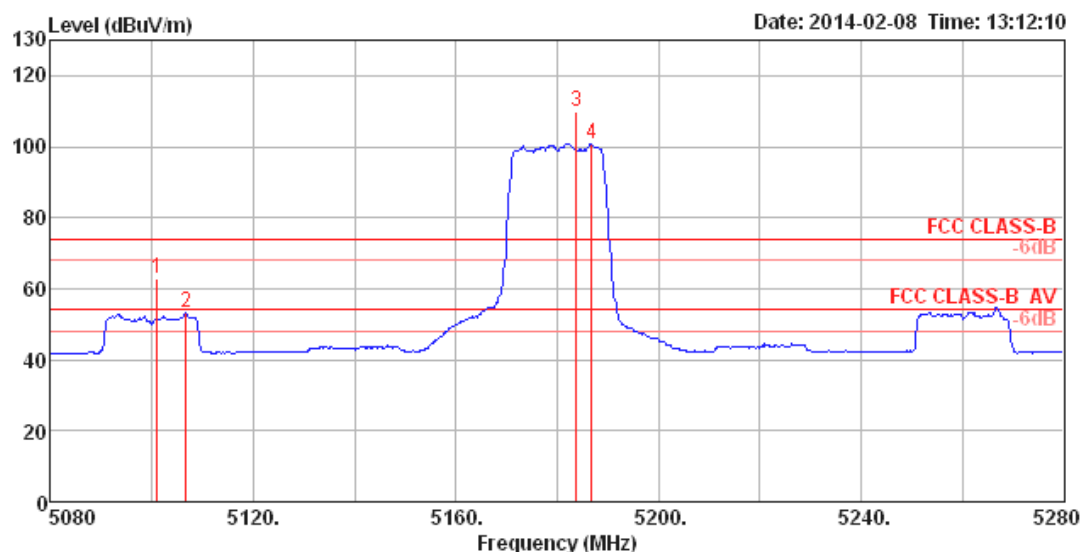
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	5100.96	62.67	74.00	-11.33	60.69	3.42	33.58	35.02	Peak	100	151	HORIZONTAL
2	5106.73	53.09	54.00	-0.91	51.11	3.42	33.58	35.02	Average	100	151	HORIZONTAL
3	5183.85	109.96			107.83	3.44	33.73	35.04	Peak	100	151	HORIZONTAL
4	5186.73	100.87			98.74	3.44	33.73	35.04	Average	100	151	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

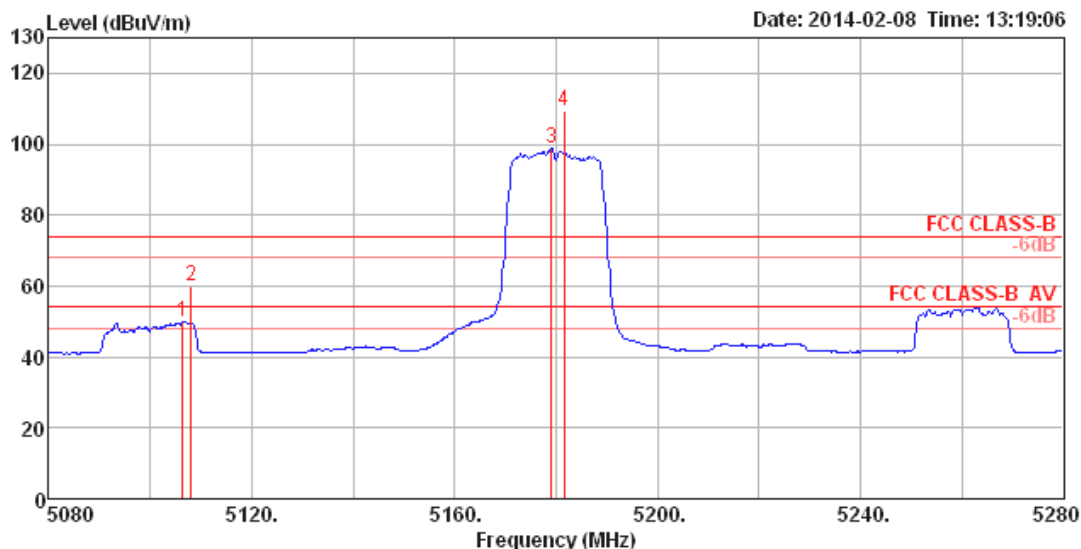
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH36 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
				dB	dBuV	dB	dB/m	dB			Pol/Phase
1	5106.41	49.71	54.00	-4.29	47.73	3.42	33.58	35.02	Average	100	277 VERTICAL
2	5108.01	60.09	74.00	-13.91	58.11	3.42	33.58	35.02	Peak	100	277 VERTICAL
3	5179.04	98.91			96.78	3.44	33.73	35.04	Average	100	277 VERTICAL
4	5181.60	109.41			107.28	3.44	33.73	35.04	Peak	100	277 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5180 MHz

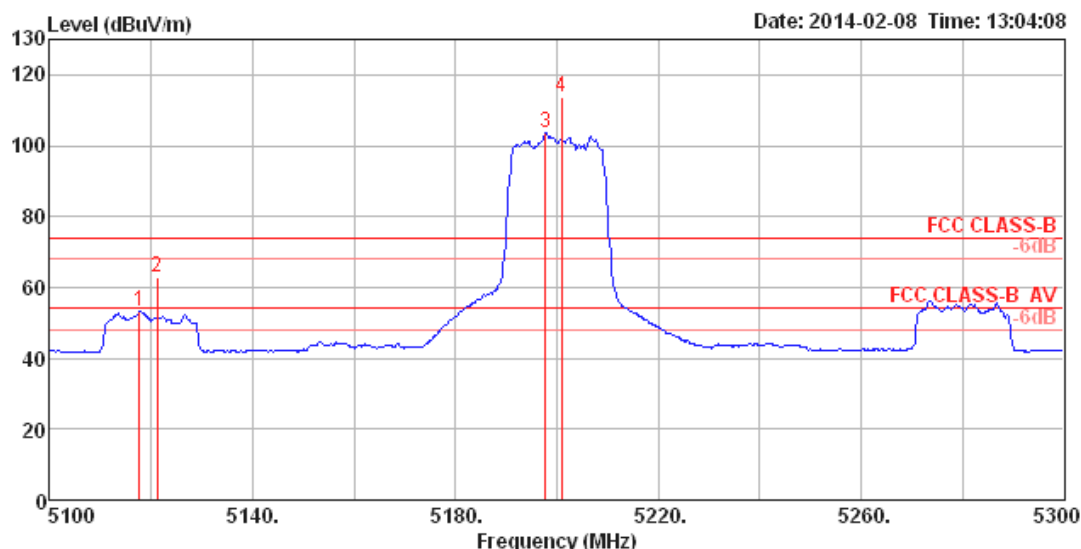
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	5117.63	53.37	54.00	-0.63	51.36	3.42	33.61	35.02	Average	100	141	HORIZONTAL
2	5121.15	62.83	74.00	-11.17	60.81	3.43	33.61	35.02	Peak	100	141	HORIZONTAL
3	5197.76	103.60			101.43	3.45	33.76	35.04	Average	100	141	HORIZONTAL
4	5200.96	113.76			111.59	3.45	33.76	35.04	Peak	100	141	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

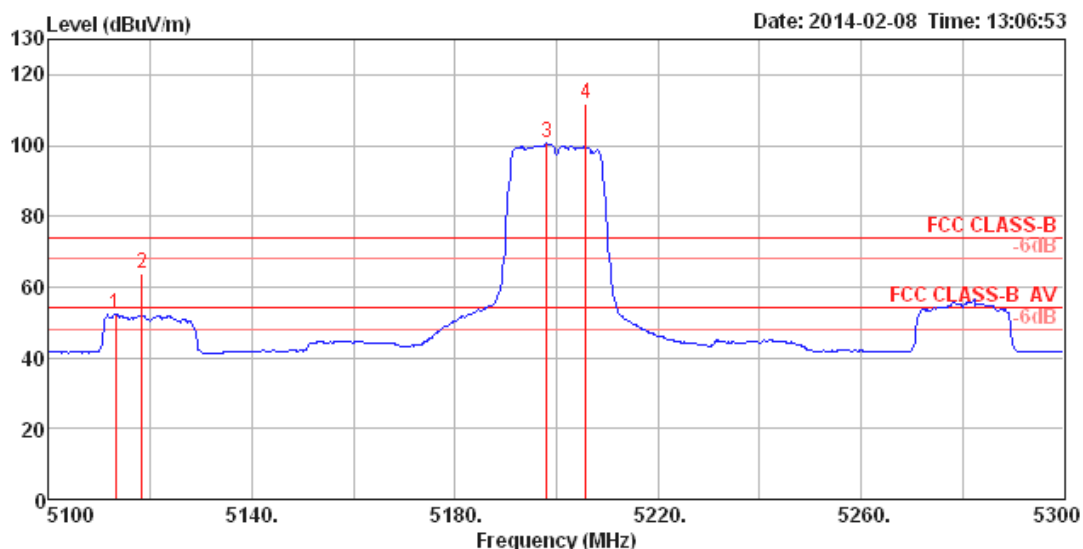
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH40 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	
1	5113.14	52.36	54.00	-1.64	50.35	3.42	33.61	35.02	Average	100	279	VERTICAL
2	5118.27	63.96	74.00	-10.04	61.94	3.43	33.61	35.02	Peak	100	279	VERTICAL
3	5198.08	100.53			98.36	3.45	33.76	35.04	Average	100	279	VERTICAL
4	5205.77	111.58			109.41	3.45	33.76	35.04	Peak	100	279	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5200 MHz

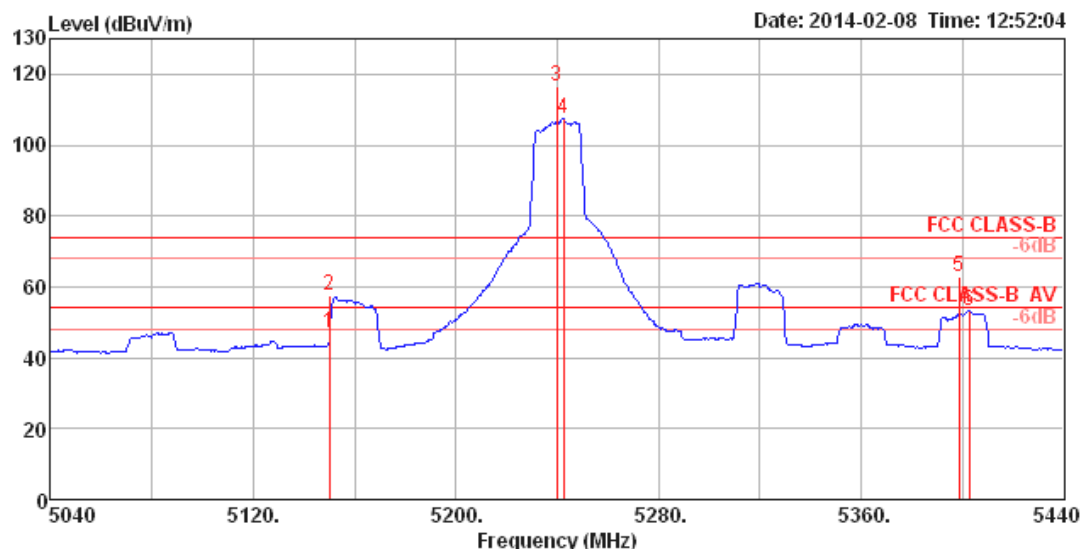
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5150.00	46.79	54.00	-7.21	44.72	3.43	33.67	35.03	Average	100	1	HORIZONTAL
2	5150.00	57.47	74.00	-16.53	55.40	3.43	33.67	35.03	Peak	100	1	HORIZONTAL
3	5240.00	116.65			114.42	3.46	33.82	35.05	Peak	100	1	HORIZONTAL
4	5242.56	107.56			105.33	3.46	33.82	35.05	Average	100	1	HORIZONTAL
5	5398.72	62.74	74.00	-11.26	60.23	3.50	34.09	35.08	Peak	100	1	HORIZONTAL
6	5402.56	53.29	54.00	-0.71	50.74	3.51	34.12	35.08	Average	100	1	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

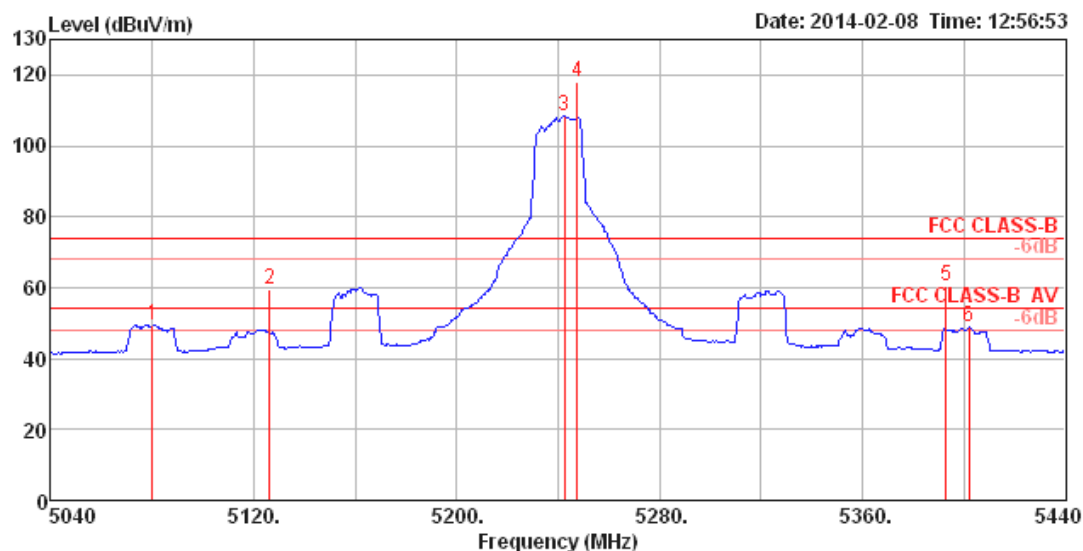
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 20MHz Nss2MCS0 / CH48 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5080.13	49.38	54.00	-4.62	47.44	3.41	33.55	35.02	Average	113	269 VERTICAL
2	5126.28	59.27	74.00	-14.73	57.23	3.43	33.64	35.03	Peak	113	269 VERTICAL
3	5242.56	108.31			106.08	3.46	33.82	35.05	Average	113	269 VERTICAL
4	5247.69	117.79			115.53	3.46	33.85	35.05	Peak	113	269 VERTICAL
5	5392.95	60.36	74.00	-13.64	57.85	3.50	34.09	35.08	Peak	113	269 VERTICAL
6	5401.92	48.83	54.00	-5.17	46.28	3.51	34.12	35.08	Average	113	269 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5240 MHz

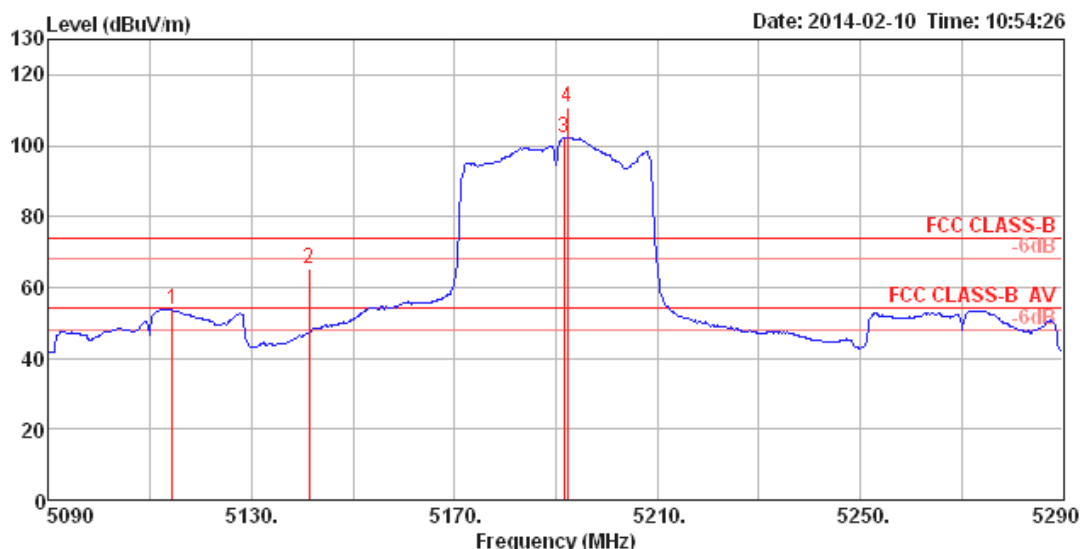
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	5114.42	53.73	54.00	-0.27	51.72	3.42	33.61	35.02	Average	100	143 HORIZONTAL
2	5141.35	65.42	74.00	-8.58	63.38	3.43	33.64	35.03	Peak	100	143 HORIZONTAL
3	5191.60	102.12			99.99	3.44	33.73	35.04	Average	100	143 HORIZONTAL
4	5192.24	111.04			108.91	3.44	33.73	35.04	Peak	100	143 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

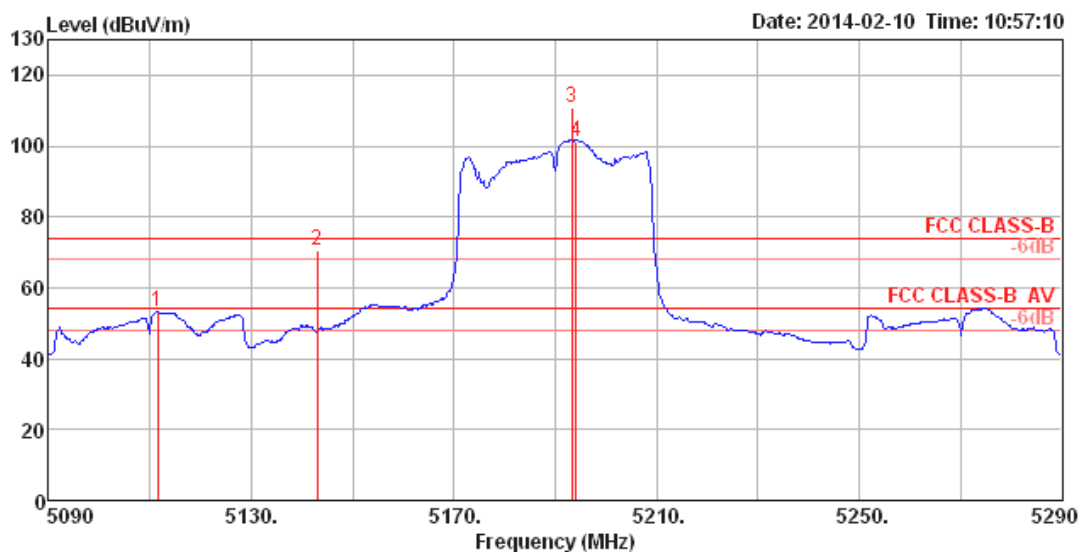
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5111.54	53.46	54.00	-0.54	51.45	3.42	33.61	35.02	Average	100	84 VERTICAL
2	5142.95	70.57	74.00	-3.43	68.53	3.43	33.64	35.03	Peak	100	84 VERTICAL
3	5193.21	110.79			108.66	3.44	33.73	35.04	Peak	100	84 VERTICAL
4	5194.17	101.36			99.23	3.44	33.73	35.04	Average	100	84 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

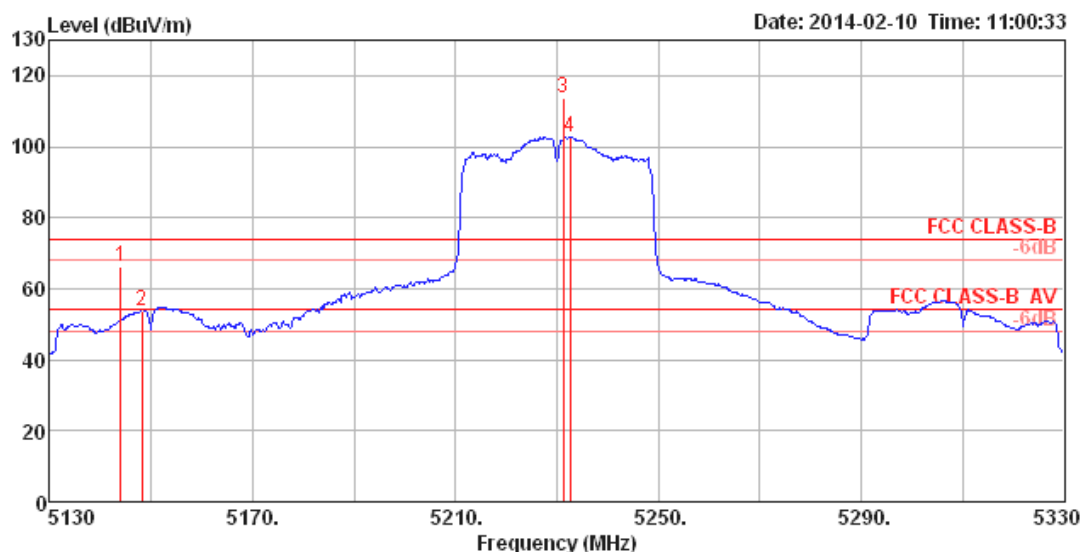
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
				dB	dBuV	dB	dB/m	dB			
1	5143.91	66.03	74.00	-7.97	63.96	3.43	33.67	35.03	Peak	100	233
2	5148.08	53.83	54.00	-0.17	51.76	3.43	33.67	35.03	Average	100	233
3	5231.28	113.48			111.25	3.46	33.82	35.05	Peak	100	233
4	5232.56	102.78			100.55	3.46	33.82	35.05	Average	100	233

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

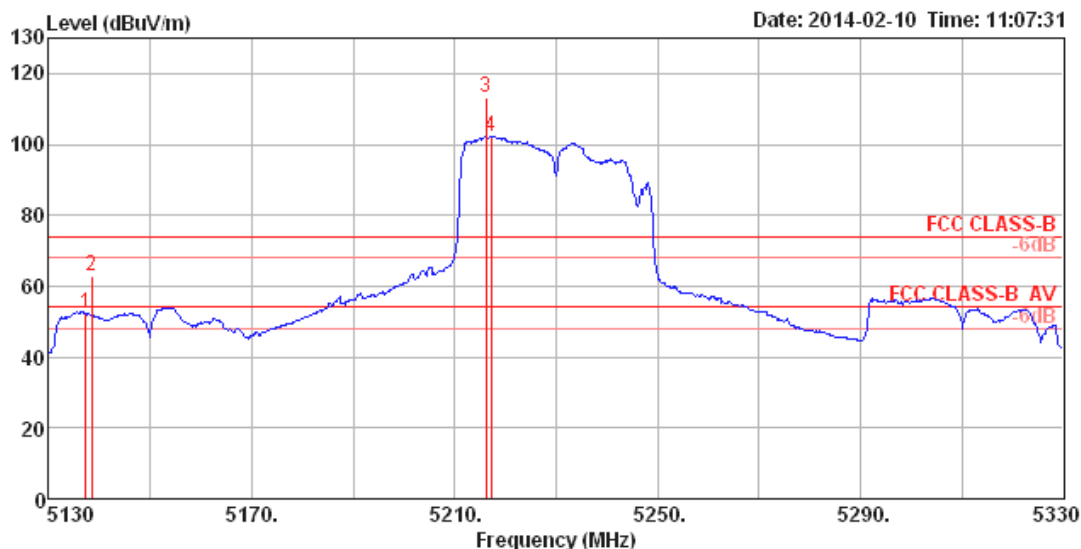
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss1MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5137.18	52.27	54.00	-1.73	50.23	3.43	33.64	35.03	Average	100	263	VERTICAL
2	5138.46	63.04	74.00	-10.96	61.00	3.43	33.64	35.03	Peak	100	263	VERTICAL
3	5216.22	113.09			110.89	3.45	33.79	35.04	Peak	100	263	VERTICAL
4	5217.18	102.38			100.18	3.45	33.79	35.04	Average	100	263	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

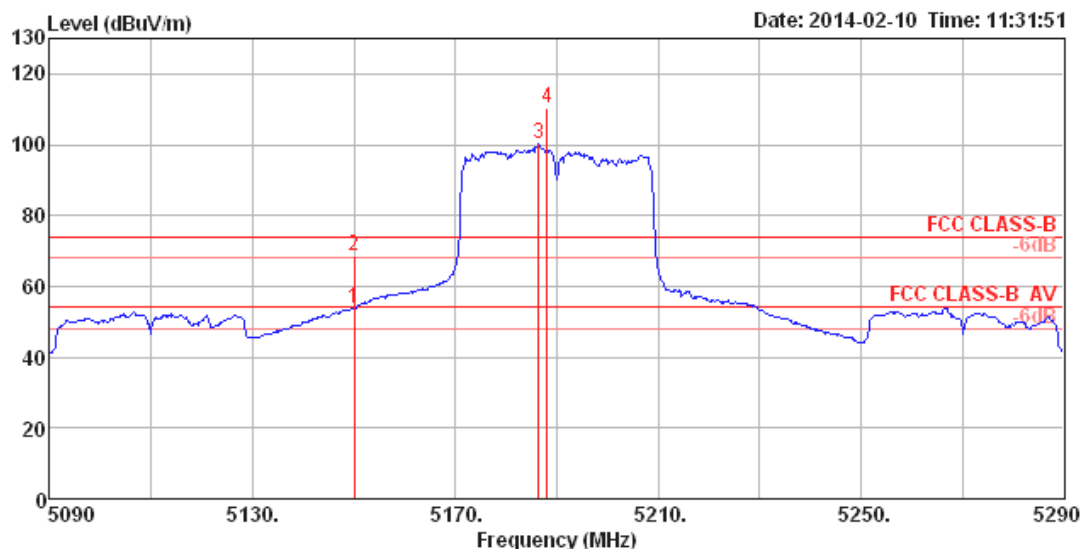
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5150.00	53.62	54.00	-0.38	51.55	3.43	33.67	35.03	Average	100	231 HORIZONTAL
2	5150.00	68.45	74.00	-5.55	66.38	3.43	33.67	35.03	Peak	100	231 HORIZONTAL
3	5186.47	100.45			98.32	3.44	33.73	35.04	Average	100	231 HORIZONTAL
4	5188.08	110.29			108.16	3.44	33.73	35.04	Peak	100	231 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

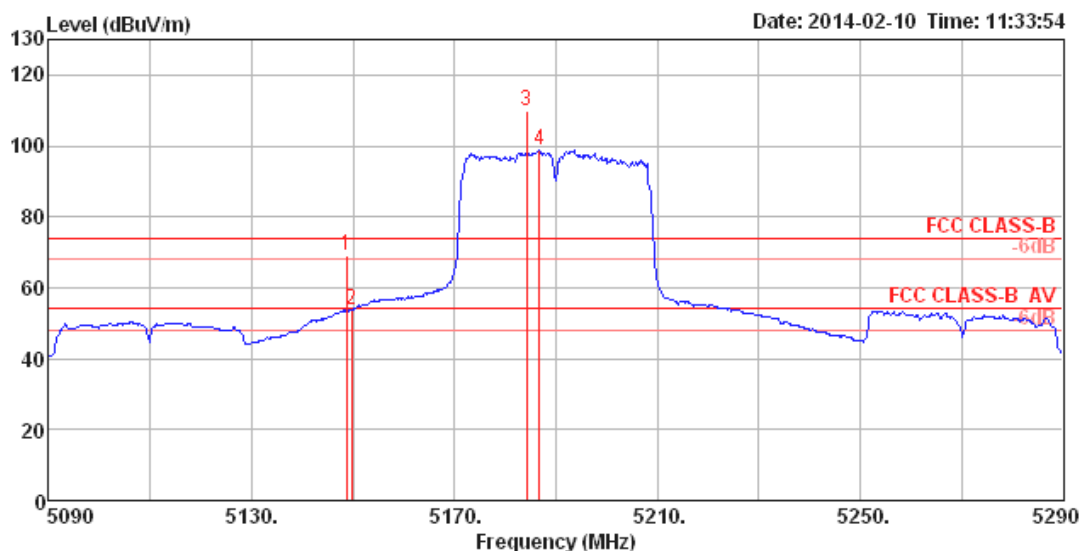
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH38 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	5148.72	69.08	74.00	-4.92	67.01	3.43	33.67	35.03	Peak	100	102 VERTICAL
2	5149.68	53.86	54.00	-0.14	51.79	3.43	33.67	35.03	Average	100	102 VERTICAL
3	5184.23	109.68			107.55	3.44	33.73	35.04	Peak	100	102 VERTICAL
4	5186.80	98.92			96.79	3.44	33.73	35.04	Average	100	102 VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5190 MHz

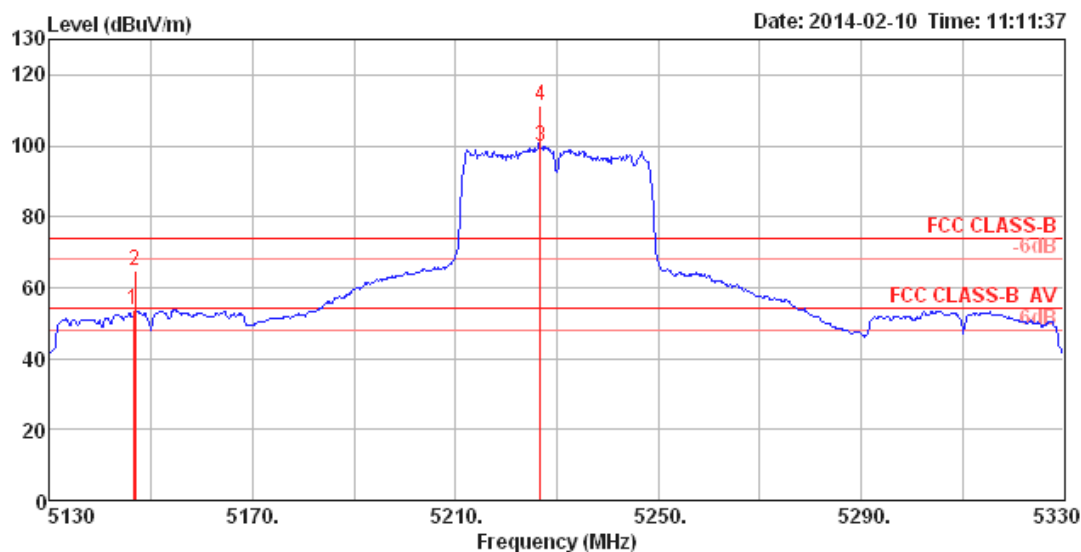
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp			A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5146.47	53.66	54.00	-0.34	51.59	3.43	33.67	35.03	Average	100	237	HORIZONTAL
2	5146.80	64.81	74.00	-9.19	62.74	3.43	33.67	35.03	Peak	100	237	HORIZONTAL
3	5226.80	99.84			97.64	3.46	33.79	35.05	Average	100	237	HORIZONTAL
4	5226.80	111.27			109.07	3.46	33.79	35.05	Peak	100	237	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

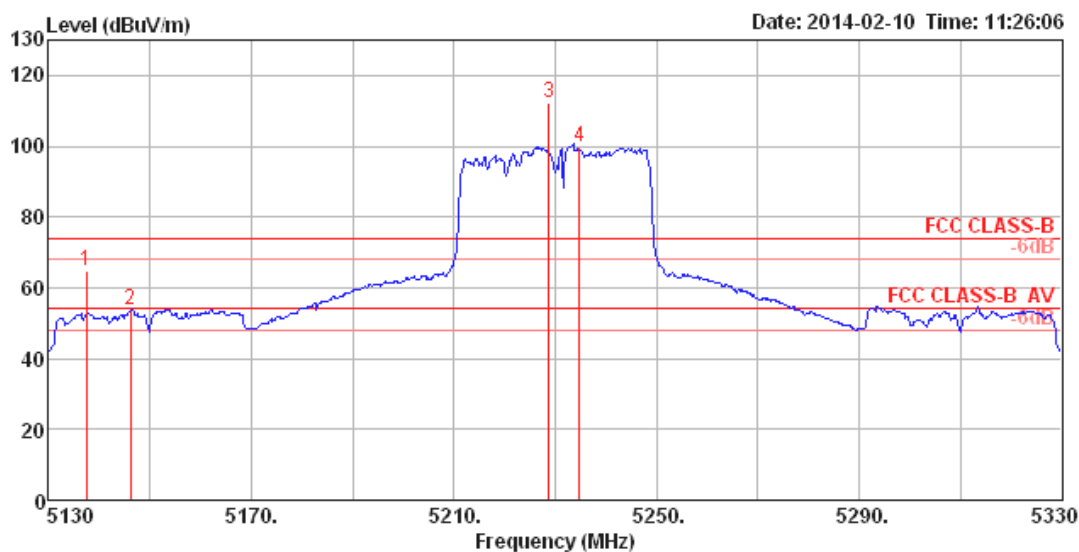
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 40MHz Nss2MCS0 / CH46 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	
1	5137.50	65.00	74.00	-9.00	62.96	3.43	33.64	35.03	Peak	100	297	VERTICAL
2	5146.15	53.53	54.00	-0.47	51.46	3.43	33.67	35.03	Average	100	297	VERTICAL
3	5228.72	112.12			109.89	3.46	33.82	35.05	Peak	100	297	VERTICAL
4	5234.81	99.54			97.31	3.46	33.82	35.05	Average	100	297	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5230 MHz

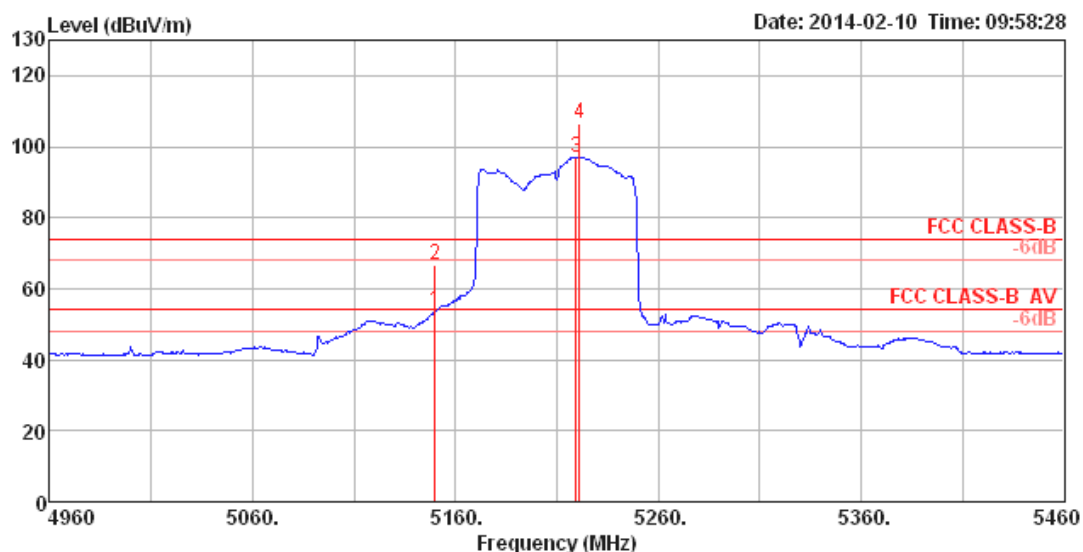
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	5150.00	53.64	54.00	-0.36	51.57	3.43	33.67	35.03	Average	100	350	HORIZONTAL
2	5150.00	66.80	74.00	-7.20	64.73	3.43	33.67	35.03	Peak	100	350	HORIZONTAL
3	5219.62	97.02			94.82	3.45	33.79	35.04	Average	100	350	HORIZONTAL
4	5221.22	106.34			104.13	3.46	33.79	35.04	Peak	100	350	HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

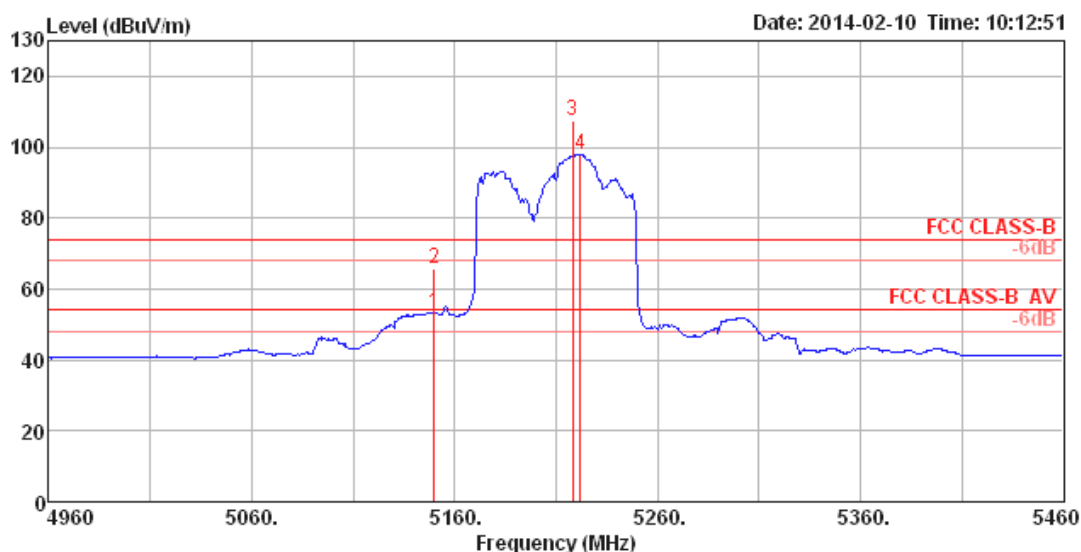
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss1MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	5150.00	53.42	54.00	-0.58	51.35	3.43	33.67	35.03	Average	100	96	VERTICAL
2	5150.00	65.70	74.00	-8.30	63.63	3.43	33.67	35.03	Peak	100	96	VERTICAL
3	5218.01	107.43			105.23	3.45	33.79	35.04	Peak	100	96	VERTICAL
4	5222.02	97.74			95.53	3.46	33.79	35.04	Average	100	96	VERTICAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

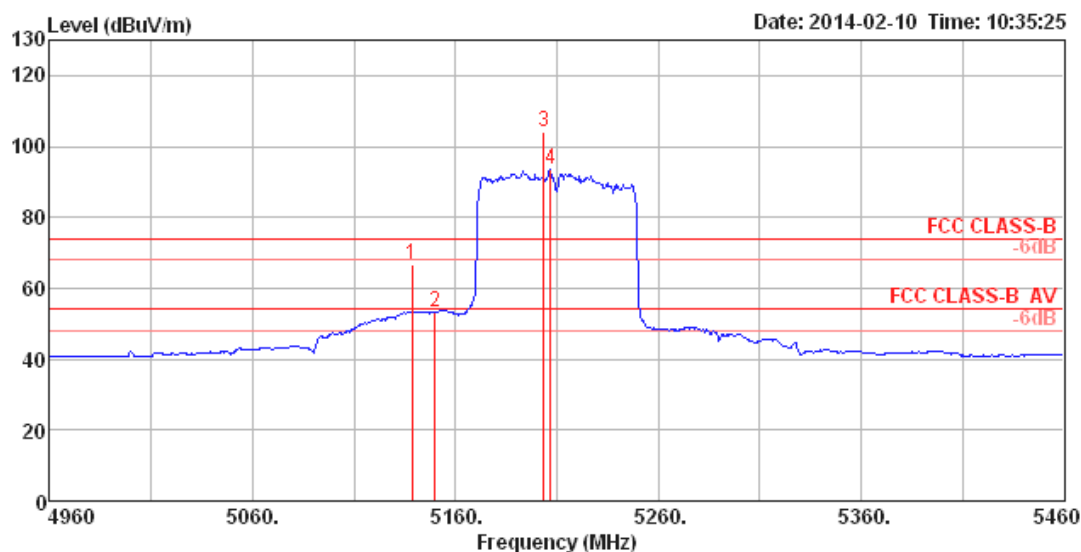
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	H



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
				dB	dBuV	dB	dB/m	dB			
1	5138.78	66.76	74.00	-7.24	64.72	3.43	33.64	35.03	Peak	100	226 HORIZONTAL
2	5150.00	53.44	54.00	-0.56	51.37	3.43	33.67	35.03	Average	100	226 HORIZONTAL
3	5203.59	103.93			101.76	3.45	33.76	35.04	Peak	100	226 HORIZONTAL
4	5206.80	93.41			91.24	3.45	33.76	35.04	Average	100	226 HORIZONTAL

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

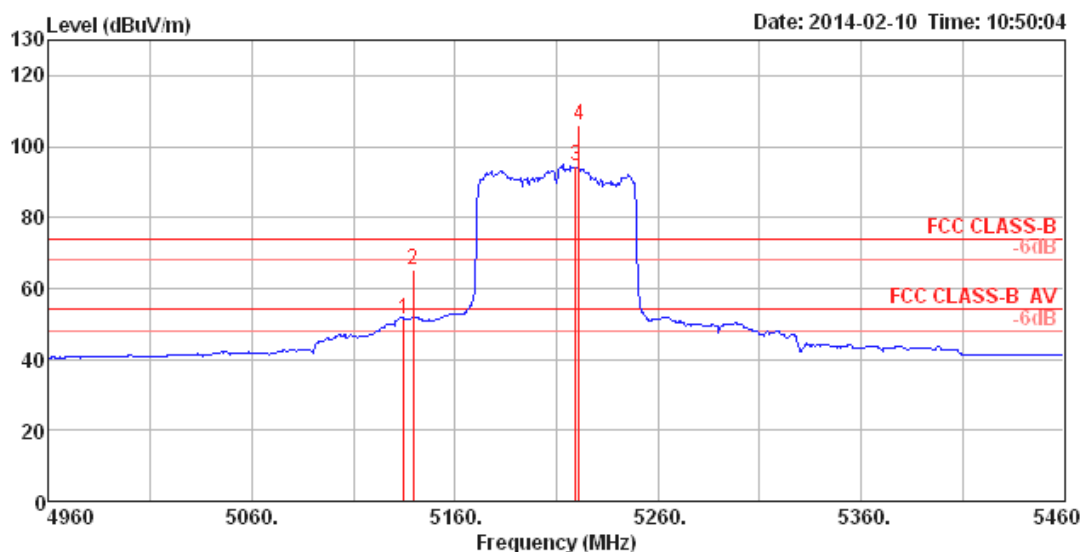
Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Band Edge and Fundamental Emissions

Operating Mode	IEEE 802.11ac 80MHz Nss2MCS0 / CH42 / Ant. 1+2+3		
Temperature	24°C	Humidity	55%
Test Engineer	David Tseng	Polarization	V



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	5134.78	51.49	54.00	-2.51	49.45	3.43	33.64	35.03	Average	100	284
2	5139.58	65.44	74.00	-8.56	63.40	3.43	33.64	35.03	Peak	100	284
3	5219.62	94.51			92.31	3.45	33.79	35.04	Average	100	284
4	5221.22	105.97			103.76	3.46	33.79	35.04	Peak	100	284

Note 1: Item 3, 4 are the fundamental frequency at 5210 MHz

Note 2: Emission level (dBuV/m) = 20 log Emission level (uV/m).

Note 3: Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Note 4: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

3.8 Frequency Stability Measurement

3.8.1 Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or ± 20 ppm (IEEE 802.11n specification).

3.8.2 Measuring Instruments and Setting

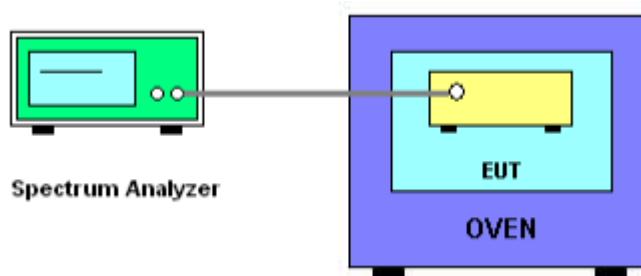
Please refer to section 4 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

3.8.3 Test Procedures

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. The EUT was programmed to be in continuously un-modulation transmitting mode.
3. Set the spectrum analyzer span to view the entire un-modulation emissions bandwidth.
4. Turn the EUT on and couple its output to a spectrum analyzer.
5. Turn the EUT off and set the chamber to the highest temperature specified.
6. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
7. Extreme temperature rule is -30°C ~ 50°C .
8. Repeat step 4 and 5 with the temperature chamber set to the lowest temperature.
9. The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

3.8.4 Test Setup Layout



3.8.5 Test Deviation

There is no deviation with the original standard.

3.8.6 EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

3.8.7 Test Result of Frequency Stability

Test date	Feb. 13, 2014	Test Site No.	TH01-CB
Temperature	26°C	Humidity	63%
Test Engineer	Wen Chao		

<Ant. 1>

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5199.9926
110.00	5199.9928
93.50	5199.9930
Max. Deviation (MHz)	0.007400
Max. Deviation (ppm)	1.42

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9924
-20	5199.9924
-10	5199.9924
0	5199.9926
10	5199.9928
20	5199.9928
30	5199.9928
40	5199.9930
50	5199.9932
Max. Deviation (MHz)	0.007600
Max. Deviation (ppm)	1.46

<Ant. 2>

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5199.9922
110.00	5199.9922
93.50	5199.9922
Max. Deviation (MHz)	0.007800
Max. Deviation (ppm)	1.50

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9918
-20	5199.9920
-10	5199.9920
0	5199.9920
10	5199.9922
20	5199.9922
30	5199.9922
40	5199.9924
50	5199.9926
Max. Deviation (MHz)	0.008200
Max. Deviation (ppm)	1.58

<Ant. 3>

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5199.9928
110.00	5199.9928
93.50	5199.9930
Max. Deviation (MHz)	0.007200
Max. Deviation (ppm)	1.38

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9924
-20	5199.9924
-10	5199.9926
0	5199.9928
10	5199.9928
20	5199.9928
30	5199.9928
40	5199.9930
50	5199.9932
Max. Deviation (MHz)	0.007600
Max. Deviation (ppm)	1.46

<Ant. 1+2+3, CDD>

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5199.9926
110.00	5199.9928
93.50	5199.9928
Max. Deviation (MHz)	0.007400
Max. Deviation (ppm)	1.42

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9924
-20	5199.9924
-10	5199.9926
0	5199.9926
10	5199.9928
20	5199.9928
30	5199.9928
40	5199.9930
50	5199.9930
Max. Deviation (MHz)	0.007600
Max. Deviation (ppm)	1.46

3.9 Antenna Requirements

3.9.1 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.

3.9.2 Antenna Connector Construction

Please refer to section 2.4 in this test report; antenna connector complied with the requirements.

4 LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75 GHz	Apr. 12, 2013	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100 MHz	Nov. 23, 2013	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Nov. 23, 2013	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30 MHz	Dec. 04, 2013	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	-	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	Apr. 16, 2013	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 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-1	N/A	1 GHz – 26.5 GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-2	N/A	1 GHz – 26.5 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. 04, 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)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
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)

Note: Calibration Interval of instruments listed above is one year.

*Calibration Interval of instruments listed above is two year.

N.C.R. means Non-Calibration required.

5 MEASUREMENT UNCERTAINTY

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	0.026	dB	normal(k=2)	0.013
Cable loss	0.002	dB	normal(k=2)	0.001
AMN/LISN specification	1.200	dB	normal(k=2)	0.600
Mismatch Receiver VSWR 1= AMN/LISN VSWR 2=	-0.080	dB	U-shaped	0.060
Combined standard uncertainty Uc(y)				1.2
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				2.4

Uncertainty of Radiated Emission Measurement (30MHz ~ 1,000MHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.173	dB	K=1	0.086
Cable loss	±0.174	dB	K=2	0.087
Antenna gain	±0.169	dB	K=2	0.084
Site imperfection	±0.433	dB	Triangular	0.214
Pre-amplifier gain	±0.366	dB	K=2	0.183
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.778
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.555

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.191	dB	K=1	0.095
Cable loss	±0.169	dB	K=2	0.084
Antenna gain	±0.191	dB	K=2	0.096
Site imperfection	±0.582	dB	Triangular	0.291
Pre-amplifier gain	±0.304	dB	K=2	0.152
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.839
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.678

Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.186	dB	K=1	0.093
Cable loss	±0.167	dB	K=2	0.083
Antenna gain	±0.190	dB	K=2	0.095
Site imperfection	±0.488	dB	Triangular	0.244
Pre-amplifier gain	±0.269	dB	K=2	0.134
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.771
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.541

Uncertainty of Conducted Emission Measurement

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Cable loss	±0.038	dB	K=2	0.019
Attenuator	±0.047	dB	K=2	0.024
Power Meter specification	±0.300	dB	Triangular	0.150
Power Sensor specification	±0.300	dB	Rectangular	0.150
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty $U_c(y)$				0.863
Measuring uncertainty for a level of confidence of 95% $U=2U_c(y)$				1.726