

APPLICATION FOR CERTIFICATION

On Behalf of

Elitegroup Computer Systems Co., Ltd.

7" Pocketable Pad

Model No.: (1)MICA-07..... (2)TABLET TB71.....

FCC ID: WL6TB71A-W

Brand: (1)ADVANTECH (2)ECS

Prepared for : Elitegroup Computer Systems Co., Ltd.  
No. 239, Sec. 2, Ti Ding Blvd.,  
Taipei, Taiwan

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## TEST REPORT CERTIFICATION

Applicant : Elitegroup Computer Systems Co., Ltd.  
Manufacturer : Elitegroup Computer Systems Co., Ltd.  
EUT Description : 7" Pocketable Pad  
**FCC ID : WL6TB71A-W**  
(A) Model No. : (1)MICA-07.....  
(2)TABLET TB71.....  
(B) Serial No. : N/A  
(C) Brand : (1)ADVANTECH (2)ECS  
(D) Power Supply : DC 3.7V (Battery) or DC 5V (USB)  
(E) Test Voltage : AC 120V, 60Hz  
(Via Docking Power Adapter)

### Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C & E, Oct. 2013  
(FCC CFR 47 Part 15C & E, §15.205, §15.207, §15.209 and 15.407)  
AND ANSI C63.4:2003  
FCC 14-30

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C & E limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the requirements of FCC Part 15 standards.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: 2014. 05. 02~ 06. 25

Date of Report: 2014. 06. 25

Producer :   
(Tina Huang/Administrator)

Signatory :   
(Ben Cheng/Manager)

## 1. DESCRIPTION OF REVISION HISTORY

Edition No.	Date of Revision	Revision Summary	Report Number
0	2014. 06. 25	Original Report.	EM-F140296

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

Product	7" Pocketable Pad
Model Number	(1)MICA-07..... (2)TABLET TB71..... (The “.” in the model name can be 0 to 9, A to Z, a to z, "-", "_", "\", "/" or blank, for marketing use only.) Above two models difference in brand and model name, others are the same. The model TABLET TB71A-W is test in this report
Serial Number	N/A
Brand Name	(1)ADVANTECH (2)ECS
Applicant	Elitegroup Computer Systems Co., Ltd. No. 239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan
Manufacturer	Elitegroup Computer Systems Co., Ltd. No. 239, Sec. 2, Ti Ding Blvd., Taipei, Taiwan
FCC ID	WL6TB71A-W
Fundamental Range	802.11b/g/n-HT20: 2412MHz ~ 2462MHz 802.11a: 5180MHz ~ 5240MHz (UNII Band I) and 5260MHz ~ 5320MHz (UNII Band II-2A) and 5500MHz ~ 5700MHz (UNII Band II-2C) and 5745MHz ~ 5825MHz (UNII Band III) UNII Band II (DFS Function, Slave/no In service monitor, no Ad-Hoc mode) 802.11n-HT20: 2412MHz ~ 2462MHz and 5180MHz ~ 5240MHz (UNII Band I) and 5260MHz ~ 5320MHz (UNII Band II-2A) and 5500MHz ~ 5700MHz (UNII Band II-2C) and 5745MHz ~ 5825MHz (UNII Band III) UNII Band II (DFS Function, Slave/no In service monitor, no Ad-Hoc mode) 802.11n-HT40: 5190MHz ~ 5230MHz (UNII Band I) and 5270MHz ~ 5310MHz (UNII Band II-2A) and 5510MHz ~ 5670MHz (UNII Band II-2C) and 5755MHz ~ 5795MHz (UNII Band III) UNII Band II (DFS Function, Slave/no In service monitor, no Ad-Hoc mode) Bluetooth and BLE: 2402MHz ~ 2480MHz NFC: 13.56MHz GPS: 1575.42MHz

Frequency Channel	802.11b/g: 11 channels 802.11a: UNII Band I: 4 channels UNII Band II-2A: 4 channels UNII Band II-2C: 8 channels UNII Band III: 5 channels 802.11n-HT20: 2.4GHz: 11 channels 2.4G UNI Band I: 4channels UNII Band II-2A: 4 channels UNII Band II-2C: 8 channels UNII Band III: 5 channels 802.11n-HT40: UNII Band I: 2 channels UNII Band II-2A: 2 channels UNII Band II-2C: 3 channels UNII Band III: 2 channels Bluetooth: 79 channels BLE: 40 channels NFC: 1 Channel
Radio Technology	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11a: OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: OFDM Modulation (MIMO) (BPSK/QPSK/16QAM/64QAM) Bluetooth: FHSS (GFSK, $\pi/4$ DQPSK, 8-DPSK) BLE: GFSK NFC: ASK
Data Transfer Rate	802.11b: 1/2/5.5/11Mbps 802.11a/g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 270Mbps BT: 1/2/3Mbps BLE: 1Mbps
Date of Receipt of Sample	2014. 04. 21
<p>Note: This EUT has 2.4GHz (WLAN, Bluetooth and BLE), 5GHz and NFC function. See below for related test reports based on radio functionality.</p> <ol style="list-style-type: none"> <li>1. The 2.4GHz (WLAN and BLE) function has been test in other report of EM-F140296.</li> <li>2. The 5GHz function has been test in other report of EM-F140297.</li> <li>3. The Bluetooth function has been test in other report of EM-F140298.</li> <li>4. The DFS function has been test in other report of EM-F140303.</li> <li>5. The NFC function has been test in other report of EM-F140299.</li> </ol>	

## 2.2. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Peak Gain W/ Cable loss (dBi)			
			Frequency (MHz)		Max Gain (Peak) (dBi)	
WLAN/BT Antenna: E22-003-007-037-8014b (Main)	INNETECH (Tianjin) Electronics Co. Ltd.	PCB Antenna	2400	5180	1.33	-1.53
			2412	5190	1.92	-1.53
			2417	5310	2.07	0.66
			2422	5320	2.19	0.05
			2427	5500	2.44	-0.19
			2432	5510	2.59	-0.41
			2437	5670	2.78	-1.57
			2442	5700	2.83	-3.16
			2447	5745	2.87	-3.55
			2450	5765	2.78	-2.70
			2452	5785	2.76	-2.93
			2457	5805	2.68	-3.46
			2462	5825	2.47	-3.15
			2467		2.38	
			2472		2.52	
			2500		2.17	
WLAN Antenna: E22-003-007-037-8014b (AUX)	INNETECH (Tianjin) Electronics Co. Ltd.	PCB Antenna	2400	5180	3.08	0.61
			2412	5190	3.43	0.39
			2417	5310	3.10	0.91
			2422	5320	3.07	0.14
			2427	5500	2.78	-0.35
			2432	5510	2.68	-0.40
			2437	5670	2.63	-0.62
			2442	5700	2.49	-1.25
			2447	5745	2.68	-1.02
			2450	5765	2.60	0.06
			2452	5785	2.77	-0.30
			2457	5805	2.75	-0.23
			2462	5825	2.82	-0.09
			2467		2.77	
			2472		2.68	
			2500		2.58	
GPS Antenna	INNETECH (Tianjin) Electronics Co. Ltd.	PCB Antenna	1565		-3.38	
			1575		-2.87	
			1585		-3.25	
			1597		-2.42	
			1602		-2.22	
			1606		-1.98	
			1616		-1.37	



### 2.3. Description of Key Component Lists

Item		Supplier	Description	Character
System		Microsoft	Windows 8	---
Main Board		ECS	TB71A-W	
LCD Module		CPTF	CLAT070WP0D	7 inch CPT 800x1280 -10 point touch
CPU		Intel	Intel® Atom™ Processor Bay Trail	T Z3770, 1.46GHz Burst frequency 2.39GHz (Intel, BGA1380 pin)
GPU		Intel	---	HD Graphics
Memory		Hynix	H9CCNNN8KTMLBR-N TM	LP DDR3 2GB (up to 4G)
SSD		Sandisk	SDIN8DE4-32G	eMMC 32GB
Battery Pack		Sunwoda	MICA-071	3.7V / 4100 mAh /15.17Wh
Front Camera		LiteON	NL89A141	sensor Sony IMX175 .8MP
Rear Camera		LiteON	13P2SF206	sensor OV2722, 2MP
Barcode Scanner		Itermec	ED30	Decode Board + EA31 Imager
Touch Pad		CPTF	CLAA070WP03	--
WLAN+BT Combo Module		MITSUMI	DWM-W095A	WLAN: 2.412GHz to 2.472GHz 5.18GHz to 5.85GHz BT4.0+BLE: 2.402GHz to 2.480GHz
NFC		NXP	PN544PC	13.56MHz
GNSS		MITSUMI	SPG-SF102	GPS: 1575.42MHz GLONASS: 1598.0625 to 1605.375 MHz
WLAN/ BT Antenna	Main	INNETECH ELECTRONICS	e22-003-007-037-8014b	Laser Direct Structuring (LDS) Antenna on frame
	AUX	INNETECH ELECTRONICS	e22-003-007-037-8014b	Laser Direct Structuring (LDS) Antenna on frame
Stylus Pen		FO	BLACK/#8513.	CAPACITIVE TOUCH PEN
USB Charger		Chicony	W12-010N3A	I/P: 100-240V~, 50-60Hz, 0.3A O/P: 5V, 2A
Docking		AdvanTech	MICA-071-DCRE	DC 5V
		ECS	DOCKING TB71A-W	DC 5V
Docking Power Adapter		Asian	WA-20A05FU	I/P: 100-240V~, 0.6A, 50-60Hz O/P: 5V, 4A
		Power Cord: Non-Shielded, Undetached, 1.8m, Bonded a ferrite core		
USB Charge Docking Cable		Shielded, Detachable, 1.2m		
HDMI Docking Cable		Shielded, Detachable, 0.17m		
USB3.0 Docking Cable		Shielded, Detachable, 0.23m		

Remark: For a more detailed features description, please refer to the manufacturer's specifications or the user manual.

## 2.4. Data Rate Relative to Output Power

802.11a (UNII Band I)			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
36	BPSK	6	12.88
36	BPSK	9	12.85
36	QPSK	12	12.86
36	QPSK	18	12.83
36	16-QAM	24	12.84
36	16-QAM	36	12.85
36	64-QAM	48	12.81
36	64-QAM	54	12.80

NII 802.11n-HT20 (UNII Band I)				NII 802.11n-HT40 (UNII Band I)			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)	Channel	Modulation	Date Rate (Mbps)	Power (dBm)
36	BPSK	MCS0	12.47	38	BPSK	MCS0	12.75
36	QPSK	MCS1	12.46	38	QPSK	MCS1	12.74
36	QPSK	MCS2	12.44	38	QPSK	MCS2	12.71
36	16-QAM	MCS3	12.41	38	16-QAM	MCS3	12.70
36	16-QAM	MCS4	12.45	38	16-QAM	MCS4	12.69
36	64-QAM	MCS5	12.44	38	64-QAM	MCS5	12.71
36	64-QAM	MCS6	12.40	38	64-QAM	MCS6	12.73
36	64-QAM	MCS7	12.39	38	64-QAM	MCS7	12.71

Note: This assessment is measured at main Ant.

## 2.5. Test Configuration for Each Test Item

Test Item	802.11a	802.11n-HT20	802.11n-HT40
	Data Rate for Test(Mbps)		
26dB Bandwidth	6	MCS0	MCS0
Emission Limitations	6	MCS0	MCS0
Maximum peak output power	6	MCS0	MCS0
Power spectral density	6	MCS0	MCS0
Peak power Excursion	6	MCS0	MCS0
Frequency Stability	6	MCS0	MCS0

## 2.6. Tested Supporting System Details

### 2.6.1. Support Peripheral Unit

No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	LCD Monitor	PHILIPS	273P3L	AU5A1222002498	FCC DoC Approved
2.	USB Keyboard	LENOVO	SK-8825	0056462	FCC DoC Approved
3.	USB Mouse	LENOVO	M-U0025-0	N/A	FCC DoC Approved
4.	USB 3.0 Hard Drive	BUFFALO	HD-HX1.0TU3-AP	15564891205965	FCC DoC Approved
5.	I-POD Earphone	APPLE	N/A	N/A	N/A
6.	Power Socket	AUDIX	N/A	N/A	N/A
7.	Micro SD Card	Kingston	NSDC4/8GB	N/A	N/A

### 2.6.2. Cable Lists

No.	Signal Cable Description Of The Above Support Units
1.	HDMI Cable: Shielded, Detachable, 1.8m
2.	USB Cable: Shielded, Detachable, 1.8m
3.	USB Cable: Shielded, Detachable, 1.8m
4.	USB Cable: Shielded, Detachable, 1.0m
5.	Earphone Cable: Non-Shielded, Detachable, 0.9m
6.	N/A
7.	N/A

Note : 1. Support Unit 1 & 6: Power Cord: Non-Shielded, Detachable, 1.8m

2. Support Unit 4 AC Adapter: BUFFALO, M/N: WA-18H12, S/N: 219019279;  
Cord: Non-Shielded, Undetachable, 1.5m

## 2.7. Description of Test Facility

Name of Firm : **AUDIX Technology Corporation**  
 EMC Department  
 No. 53-11, Dingfu, Linkou Dist.,  
 New Taipei City 244, Taiwan, R.O.C.

Test Site : **No. 5 Shielded Room &**  
 (C5/Semi-AC) No. 67-4, Dingfu, Linkou Dist.,  
 New Taipei City 244, Taiwan, R.O.C.

**Semi-Anechoic Chamber**  
 No. 53-11, Dingfu, Linkou Dist.,  
 New Taipei City 244, Taiwan, R.O.C.

May 11, 2012 Renewal on  
 Federal Communication Commission  
 Registration Number: 90993

NVLAP Lab. Code : 200077-0

TAF Accreditation No : 1724

## 2.8. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	$\pm 3.43\text{dB}$
Radiation Test (Distance: 3m)	30MHz~300MHz	$\pm 2.91\text{dB}$
	300MHz~1000MHz	$\pm 2.74\text{dB}$
	Above 1GHz	$\pm 5.02\text{dB}$

Remark : Uncertainty =  $k_{uc}(y)$

Test Item	Uncertainty
Bandwidth	$\pm 0.2\text{kHz}$
Maximum peak output power	$\pm 0.33\text{dBm}$
Power spectral density	$\pm 0.13\text{dB}$
Peak power Excursion	$\pm 0.14\text{dB}$
Occupied Bandwidth 99% Power	$\pm 1\text{kHz}$

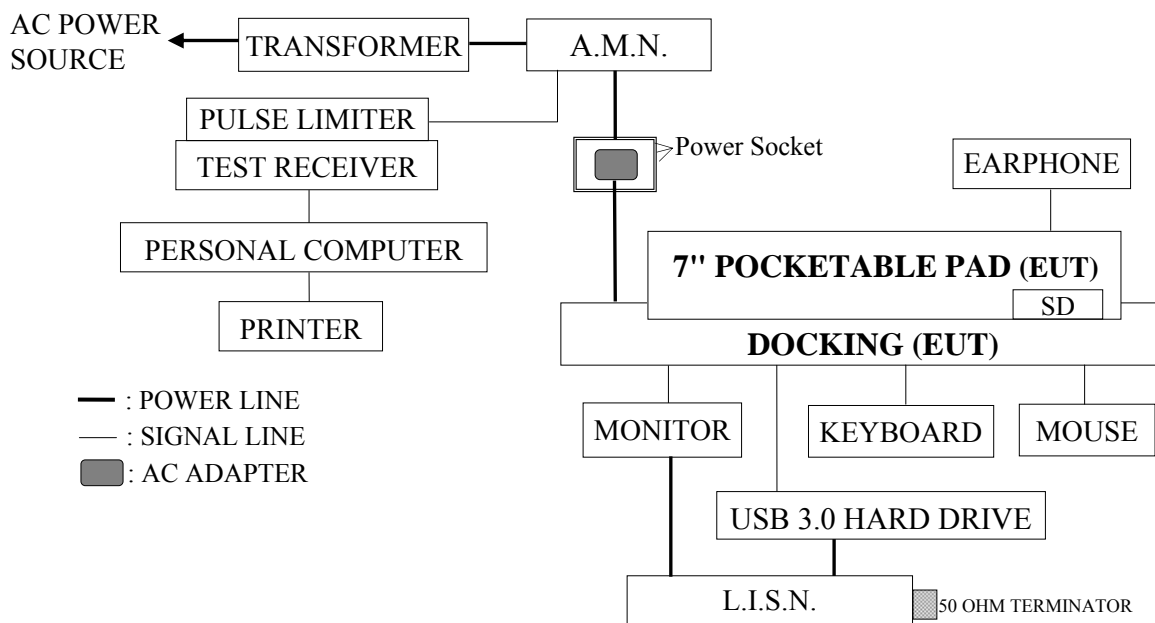
### 3. CONDUCTED EMISSION MEASUREMENT

#### 3.1. Test Equipment

The following test equipment was used during the powerline conducted emission measurement: (No. 5 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Test Receiver	R&S	ESCS30	100039	2014. 06. 18
2.	A.M.N.	R&S	ENV4200	100003	2014. 05. 30
3.	L.I.S.N.	Kyoritsu	KNW-407	8-1539-2	2015. 01. 07
4.	Pulse Limiter	R&S	ESH3-Z2	100355	2015. 01. 17

#### 3.2. Block Diagram of Test Setup



#### 3.3. Powerline Conducted Emission Limit (§15.207, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB $\mu$ V	56 ~ 46 dB $\mu$ V
500kHz ~ 5MHz	56 dB $\mu$ V	46 dB $\mu$ V
5MHz ~ 30MHz	60 dB $\mu$ V	50 dB $\mu$ V

- Remark:
1. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.
  2. The lower limit applies at the band edges.

### 3.4. Operating Condition of EUT

- 3.4.1. Setup the EUT and simulator as shown on 3.2.
- 3.4.2. Turn on the power of all equipment.
- 3.4.3. Set to EUT (7" Pocketable Pad) on transmitting and receiving during all testing.

### 3.5. Test Procedure

The EUT link to docking power adapter through docking was placed on the table which was above the ground by 80cm and adapter's power cord connected to the AC mains through an Artificial Mains Network (A.M.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to ANSI C63.4-2003 regulation during conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

### 3.6. Powerline Conducted Emission Measurement Results

#### **PASSED.**

(All the emissions not reported below are too low against the prescribed limits.)

EUT was performed during this section testing and all the test results are attached in next pages.

EUT : 7" Pocketable Pad

M/N : TABLET TB71A-W

Test Date : 2014. 05. 05

Temperature : 22

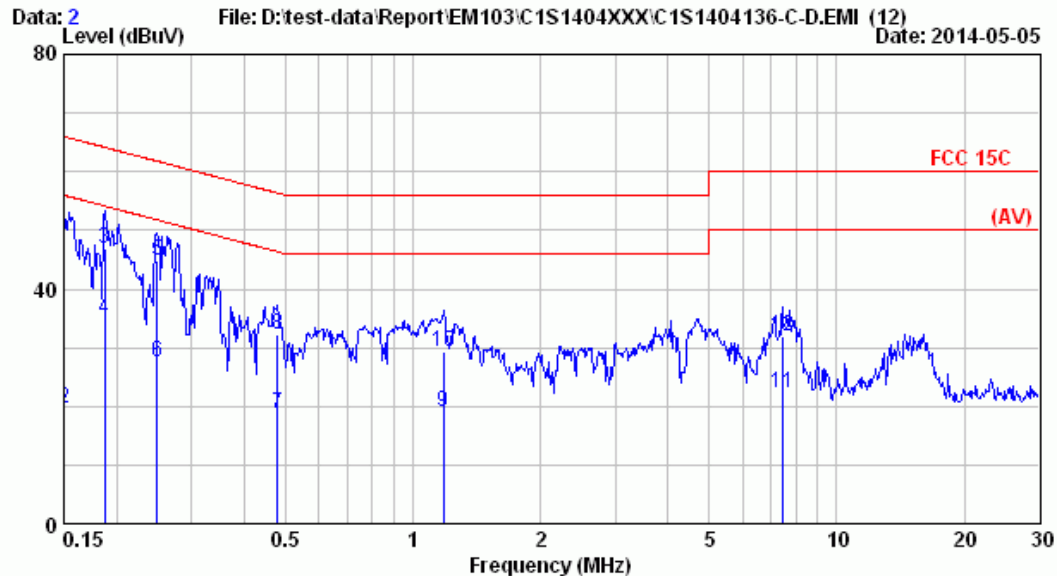
Humidity : 52%

The details are as follows :

Mode	Reference Test Data	
	Neutral	Line
1.	# 2	# 1



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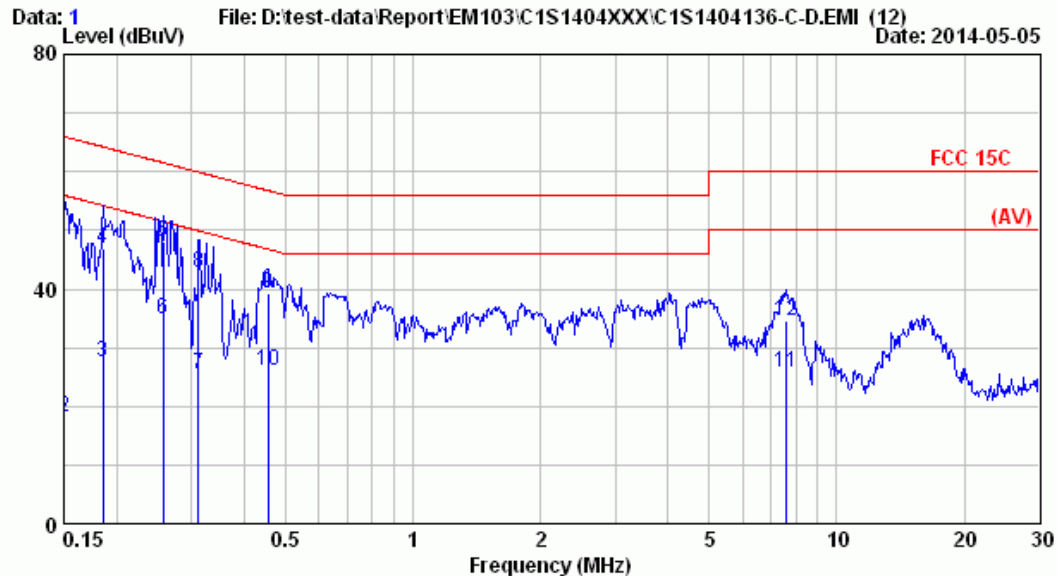
Site : No.5 Shielded Room Data : 2  
Condition : ENV 4200 Phase : NEUTRAL  
Limit : FCC 15C  
Env. / Ins. : 22°C / 52% ESCS 30 (039) Engineer: Gary-Tsai  
EUT : TB71A-W  
Power Rating : 120Vac / 60Hz  
Test Mode : Operating

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.150	10.10	0.20	33.47	43.77	66.00	22.23	QP
2	0.150	10.10	0.20	9.39	19.69	56.00	36.31	AVERAGE
3	0.187	10.05	0.20	36.61	46.86	64.15	17.29	QP
4	0.187	10.05	0.20	24.76	35.01	54.15	19.14	AVERAGE
5	0.249	9.98	0.20	34.78	44.96	61.78	16.81	QP
6	0.249	9.98	0.20	17.32	27.51	51.78	24.27	AVERAGE
7	0.479	9.88	0.20	8.53	18.62	46.36	27.75	AVERAGE
8	0.479	9.88	0.20	22.28	32.37	56.36	24.00	QP
9	1.178	9.80	0.40	8.76	18.96	46.00	27.04	AVERAGE
10	1.178	9.80	0.40	19.10	29.30	56.00	26.70	QP
11	7.446	9.91	0.60	11.74	22.25	50.00	27.75	AVERAGE
12	7.446	9.91	0.60	21.30	31.81	60.00	28.19	QP

Remarks: 1. Emission Level = AMN Factor + Cable Loss + Reading.  
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Site : No.5 Shielded Room Data : 1  
Condition : ENV 4200 Phase : LINE  
Limit : FCC 15C  
Env. / Ins. : 22°C / 52% ESCS 30 (039) Engineer: Gary-Tsai  
EUT : TB71A-W  
Power Rating : 120Vac / 60Hz  
Test Mode : Operating

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.150	10.10	0.20	34.58	44.88	66.00	21.12	QP
2	0.150	10.10	0.20	7.99	18.29	56.00	37.71	AVERAGE
3	0.185	10.05	0.20	17.32	27.57	54.24	26.67	AVERAGE
4	0.185	10.05	0.20	36.49	46.74	64.24	17.50	QP
5	0.258	9.97	0.20	37.84	48.01	61.51	13.50	QP
6	0.258	9.97	0.20	24.68	34.85	51.51	16.66	AVERAGE
7	0.312	9.95	0.20	15.45	25.60	49.93	24.33	AVERAGE
8	0.312	9.95	0.20	32.77	42.92	59.93	17.01	QP
9	0.454	9.89	0.20	29.09	39.18	56.80	17.62	QP
10	0.454	9.89	0.20	16.11	26.20	46.80	20.60	AVERAGE
11	7.566	9.86	0.60	15.26	25.72	50.00	24.28	AVERAGE
12	7.566	9.86	0.60	24.11	34.57	60.00	25.43	QP

Remarks: 1. Emission Level = AMN Factor + Cable Loss + Reading.  
2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



## 4. RADIATED EMISSION MEASUREMENT

### 4.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

#### 4.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

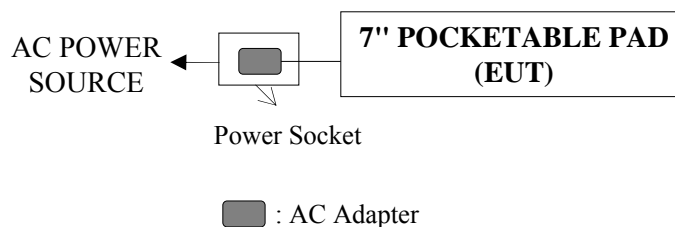
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29
2.	Test Receiver	R & S	ESCS30	100338	2014. 06. 30
3.	Amplifier	HP	8447D	2944A06305	2015. 02. 17
4.	Bilog Antenna	TESEQ	CBL6112D	33821	2014. 08. 07

#### 4.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

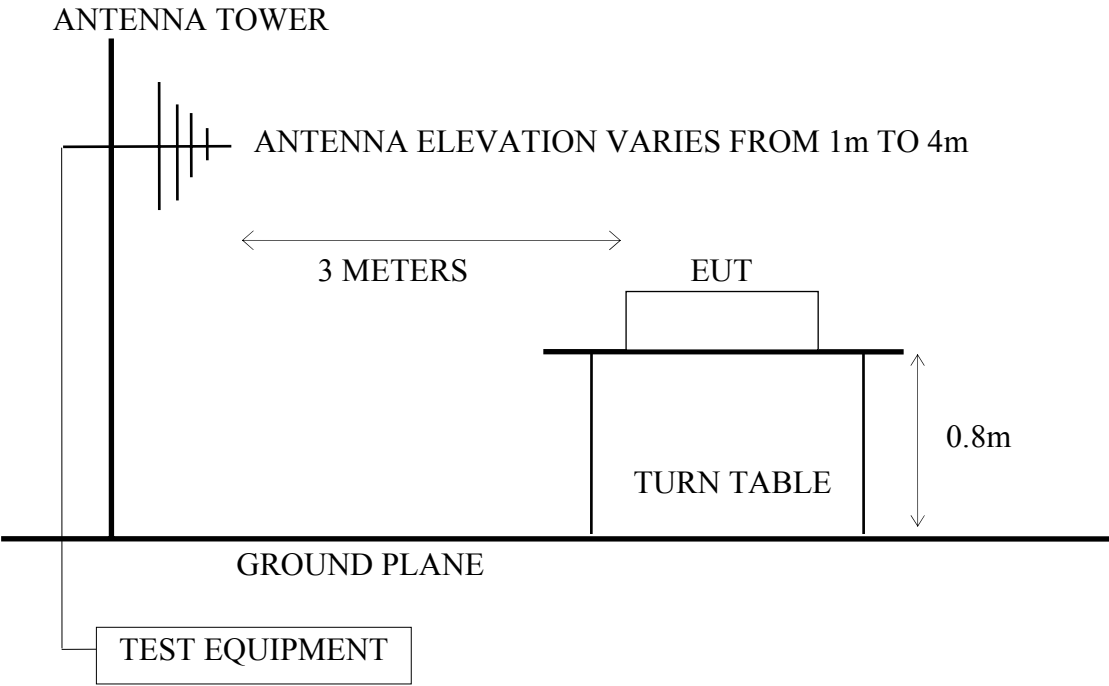
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29
2.	Test Receiver	R & S	ESCS30	100338	2014. 06. 30
3.	Pre-Amplifier	HP	8449B	3008A00529	2015. 01. 23
4.	5G Notch Filter	Microwave Circuits	N0452502	459775	2015. 01. 01
5.	5G Notch Filter	Microwave Circuits	N0555983	459481	2015. 01. 01
6.	5G Notch Filter	Microwave Circuits	N0258771	459776	2015. 01. 03
7.	Horn Antenna	EMCO	3115	9609-4927	2014. 06. 16
8.	Horn Antenna	EMCO	3116	2653	2014. 10. 10

### 4.2. Test Setup

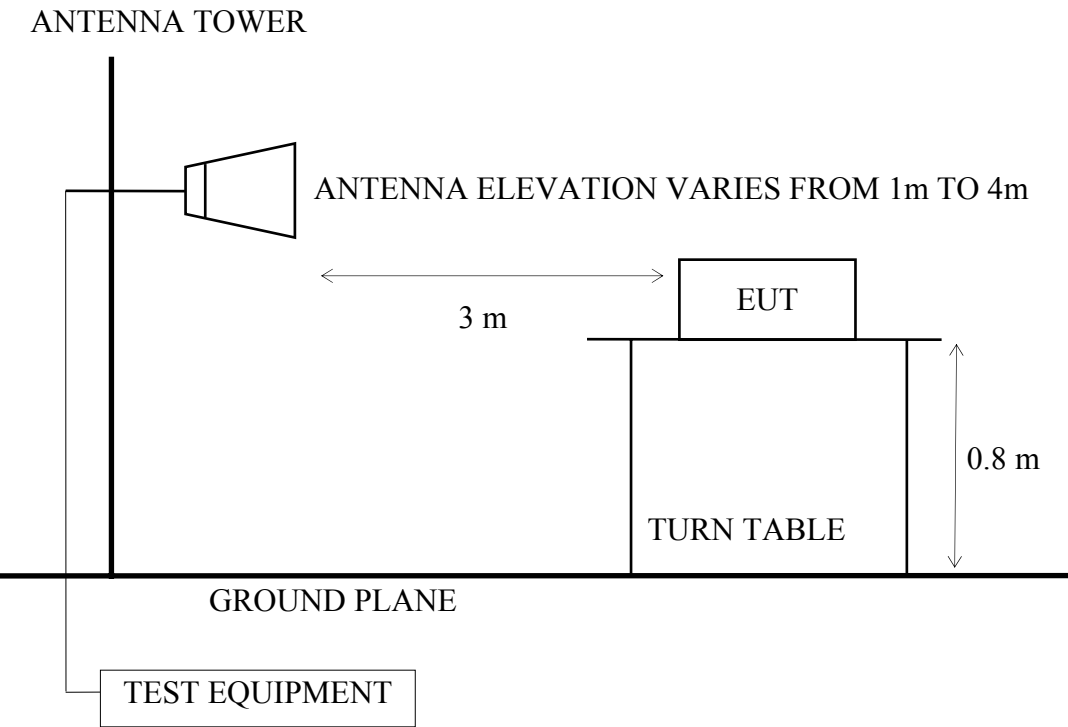
#### 4.2.1. Block Diagram of connection between EUT and simulators



4.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



4.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



### 4.3. Radiated Emission Limits (§15.209)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	

- Remark : (1) Emission level ( $\text{dB}\mu\text{V/m}$ ) = 20 log Emission level ( $\mu\text{V/m}$ )  
 (2) The tighter limit applies at the edge between two frequency bands.  
 (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.  
 (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).  
 (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

### 4.4. Operating Condition of EUT

- 4.4.1. Set up the EUT (7" Pocketable Pad) via Notebook PC and simulator as shown on 4.2.  
 4.4.2. To turn on the power of all equipments.  
 4.4.3. The EUT was set the Notebook PC using test program "WL Command" for WLAN test.  
 4.4.4. The EUT supports 802.11a/n-HT20/n-HT40 modes, we performed pre-scan high, middle, low channels for each mode for spurious emission and listed the worst channel of each mode in test report.

The worst channel of each mode as following:

Mode	Type of Network	UNII Band	Channel
1.	802.11a	UNII Band I	CH 48
2.		UNII Band II-2A	CH 64
3.		UNII Band II-2C	CH 140
4.		UNII Band III	CH 165
5.	802.11n-HT20	UNII Band I	CH 48
6.		UNII Band II-2A	CH 64
7.		UNII Band II-2C	CH 140
8.		UNII Band III	CH 165
9.	802.11n-HT40	UNII Band I	CH 46
10.		UNII Band II-2A	CH 54
11.		UNII Band II-2C	CH 134
12.		UNII Band III	CH 151

#### 4.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 40GHz (Up to 10<sup>th</sup> harmonics from fundamental frequency) was checked. 30MHz to 1000MHz was measured with Quasi-Peak detector.

Above 1GHz was measured with peak and average detector. For frequency from 1GHz to 40GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist.

Pursuant to ANSI C63.4 8.3.1.2, when peak value complies with the average limit, we didn't perform measurement in average detector.

#### 4.6. Test Results

##### **PASSED.**

(All emissions not reported below are too low against the prescribed limits.)

EUT : 7" Pocketable Pad

M/N : TABLET TB71A-W

Test Date : 2014. 05. 13      Temperature : 26      Humidity : 43%

##### **For Frequency Range 30MHz~1000MHz:**

The EUT emitted the fundamental frequency with data code at the stand, side and lying conditions.

The EUT with following test modes were performed during this section testing and all the test results are listed in section 4.6.1.

802.11a:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
1.	UNII Band I	CH 48	5240MHz	Transmit	# 12	# 11
2.	UNII Band II-2A	CH 64	5320MHz	Transmit	# 12	# 11
3.	UNII Band II-2C	CH 140	5700MHz	Transmit	# 12	# 11
4.	UNII Band III	CH 165	5825MHz	Transmit	# 12	# 11

802.11n-HT20:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
5.	UNII Band I	CH 48	5240MHz	Transmit	# 12	# 11
6.	UNII Band II-2A	CH 64	5320MHz	Transmit	# 11	# 12
7.	UNII Band II-2C	CH 140	5700MHz	Transmit	# 11	# 12
8.	UNII Band III	CH 165	5825MHz	Transmit	# 12	# 11

802.11n-H40:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
9.	UNII Band I	CH 46	5230MHz	Transmit	# 12	# 11
10.	UNII Band II-2A	CH 54	5270MHz	Transmit	# 12	# 11
11.	UNII Band II-2C	CH 134	5670MHz	Transmit	# 11	# 12
12.	UNII Band III	CH 151	5755MHz	Transmit	# 11	# 12

\* Above all final readings were measured with Quasi-Peak detector.

**For Frequency above 1GHz:**

The emissions (up to 40GHz) not reported are too low to be measured.

**For Restricted Bands:**

The EUT was tested in restricted bands and all the test results are listed in section 4.6.2. (The restricted bands defined in part 15.205(a))

802.11a:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
1.	UNII Band I	CH 36	5180MHz	Transmit	# 3, # 4	# 1, # 2
2.	UNII Band II-2A	CH 64	5320MHz	Transmit	# 7, # 8	# 5, # 6
3.	UNII Band II-2C	CH 100	5500MHz	Transmit	# 3, # 4	# 1, # 2

802.11n-HT20:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
4.	UNII Band I	CH 36	5180MHz	Transmit	# 3, # 4	# 1, # 2
5.	UNII Band II-2A	CH 64	5320MHz	Transmit	# 7, # 8	# 5, # 6
6.	UNII Band II-2C	CH 100	5500MHz	Transmit	# 3, # 4	# 1, # 2

802.11n-H40:

Mode	UNII Band	Channel	Frequency	Test Mode	Reference Test Data	
					Horizontal	Vertical
7.	UNII Band I	CH 38	5190MHz	Transmit	# 3, # 4	# 1, # 2
8.	UNII Band II-2A	CH 62	5310MHz	Transmit	# 3, # 4	# 1, # 2
9.	UNII Band II-2C	CH 102	5510MHz	Transmit	# 3, # 4	# 1, # 2

## 4.6.1. Frequency Range 30-1000MHz

**802.11a (UNII Band I), Frequency: 5240MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5240

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.22	34.87	43.50	8.63	QP
2	467.47	17.34	5.80	12.18	35.32	46.00	10.68	QP
3	767.20	20.34	6.80	4.04	31.18	46.00	14.82	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5240

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	49.40	9.63	1.50	19.26	30.39	40.00	9.61	QP
2	416.06	16.70	5.10	14.24	36.04	46.00	9.96	QP
3	696.39	19.50	6.50	4.65	30.65	46.00	15.35	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11a (UNII Band II-2A), Frequency: 5320MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5320

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	16.63	30.28	43.50	13.22	QP
2	486.87	17.61	6.20	12.10	35.91	46.00	10.09	QP
3	696.39	19.50	6.50	3.65	29.65	46.00	16.35	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5320

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	105.66	11.84	2.20	23.93	37.97	43.50	5.53	QP
2	477.17	17.48	6.00	10.19	33.67	46.00	12.33	QP
3	696.39	19.50	6.50	4.11	30.11	46.00	15.89	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



**802.11a (UNII Band II-2C), Frequency: 5700MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5700

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	165.80	10.20	2.70	15.19	28.09	43.50	15.41	QP
2	580.96	18.81	6.30	0.82	25.93	46.00	20.07	QP
3	867.11	21.34	7.20	-1.18	27.36	46.00	18.64	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5700

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	114.39	12.29	2.30	8.91	23.50	43.50	20.00	QP
2	537.31	18.32	7.10	0.54	25.96	46.00	20.04	QP
3	895.24	21.56	7.30	-1.23	27.63	46.00	18.37	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11a (UNII Band III), Transmit, Frequency: 5825MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5825

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Cable Factor (dB/m)	Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	197.81	10.08	3.00	11.03	24.11	43.50	19.39	QP
2	475.23	17.45	5.90	-1.34	22.01	46.00	23.99	QP
3	848.68	21.19	7.10	-3.90	24.39	46.00	21.61	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5825

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Cable Factor (dB/m)	Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	197.81	10.08	3.00	12.72	25.80	43.50	17.70	QP
2	424.79	16.80	5.10	0.11	22.01	46.00	23.99	QP
3	891.36	21.53	7.30	-2.98	25.85	46.00	20.15	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT20 (UNII Band I), Frequency: 5240MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5240

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	288.02	13.58	3.80	13.28	30.66	46.00	15.34	QP
2	486.87	17.61	6.20	11.25	35.06	46.00	10.94	QP
3	694.45	19.50	6.40	1.69	27.59	46.00	18.41	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5240

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	288.02	13.58	3.80	14.40	31.78	46.00	14.22	QP
2	484.93	17.58	6.20	11.67	35.45	46.00	10.55	QP
3	693.48	19.50	6.50	4.48	30.48	46.00	15.52	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT20 (UNII Band II-2A), Frequency: 5320MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5320

Data no. : 11  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.22	34.87	43.50	8.63	QP
2	467.47	17.34	5.80	12.18	35.32	46.00	10.68	QP
3	767.20	20.34	6.80	4.04	31.18	46.00	14.82	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5320

Data no. : 12  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.47	35.12	43.50	8.38	QP
2	460.68	17.25	5.70	12.27	35.22	46.00	10.78	QP
3	810.85	20.73	7.00	1.90	29.63	46.00	16.37	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT20 (UNII Band II-2C), Frequency: 5700MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5700

Data no. : 11  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	20.59	34.24	43.50	9.26	QP
2	463.59	17.29	5.70	12.77	35.76	46.00	10.24	QP
3	747.80	20.17	6.70	3.30	30.17	46.00	15.83	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5700

Data no. : 12  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	112.45	12.25	2.20	11.16	25.61	43.50	17.89	QP
2	208.48	10.53	3.12	22.31	35.96	43.50	7.54	QP
3	455.83	17.18	5.50	13.47	36.15	46.00	9.85	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT20 (UNII Band III), Transmit, Frequency: 5825MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5825

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	105.66	11.84	2.20	23.93	37.97	43.50	5.53	QP
2	486.87	17.61	6.20	11.90	35.71	46.00	10.29	QP
3	696.39	19.50	6.50	3.11	29.11	46.00	16.89	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5825

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	16.60	30.25	43.50	13.25	QP
2	486.87	17.61	6.20	11.25	35.06	46.00	10.94	QP
3	694.45	19.50	6.40	1.69	27.59	46.00	18.41	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT40 (UNII Band I), Frequency: 5230MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5230

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	105.66	11.84	2.20	20.93	34.97	43.50	8.53	QP
2	418.00	16.72	5.04	11.21	32.97	46.00	13.03	QP
3	696.39	19.50	6.50	3.11	29.11	46.00	16.89	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5230

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	13.60	27.25	43.50	16.25	QP
2	418.00	16.72	5.04	11.94	33.70	46.00	12.30	QP
3	694.45	19.50	6.40	1.69	27.59	46.00	18.41	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT40 (UNII Band II-2A), Frequency: 5270MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5270

Data no. : 12  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	105.66	11.84	2.20	23.93	37.97	43.50	5.53	QP
2	416.06	16.70	5.10	12.38	34.18	46.00	11.82	QP
3	696.39	19.50	6.50	4.11	30.11	46.00	15.89	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5270

Data no. : 11  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	69.77	6.80	1.70	18.06	26.56	40.00	13.44	QP
2	359.80	15.54	4.40	12.05	31.99	46.00	14.01	QP
3	694.45	19.50	6.40	1.69	27.59	46.00	18.41	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



**802.11n-HT40 (UNII Band II-2C), Frequency: 5670MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5670

Data no. : 11  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.22	34.87	43.50	8.63	QP
2	467.47	17.34	5.80	12.18	35.32	46.00	10.68	QP
3	767.20	20.34	6.80	4.04	31.18	46.00	14.82	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5670

Data no. : 12  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.47	35.12	43.50	8.38	QP
2	460.68	17.25	5.70	12.27	35.22	46.00	10.78	QP
3	810.85	20.73	7.00	1.90	29.63	46.00	16.37	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

**802.11n-HT40 (UNII Band III), Transmit, Frequency: 5755MHz**

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5755

Data no. : 11  
 Ant. pol. : HORIZONTAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.22	34.87	43.50	8.63	QP
2	467.47	17.34	5.80	12.18	35.32	46.00	10.68	QP
3	767.20	20.34	6.80	4.04	31.18	46.00	14.82	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber  
 Dis. / Ant. : 3m CBL6112D 33821  
 Limit : 30M-1G  
 Env. / Ins. : 26°C / 43% N9010A  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : TX5755

Data no. : 12  
 Ant. pol. : VERTICAL  
 Engineer : Wenbin\_Yang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	208.48	10.53	3.12	21.47	35.12	43.50	8.38	QP
2	460.68	17.25	5.70	12.27	35.22	46.00	10.78	QP
3	810.85	20.73	7.00	1.90	29.63	46.00	16.37	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

## 4.6.2. Restricted Bands Measurement Results

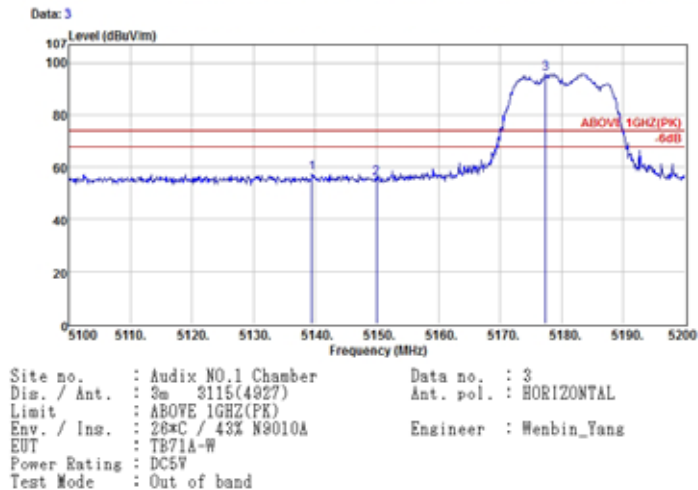
Date of Test: 2014. 05. 13

Temperature : 26

EUT: 7" Pocketable Pad

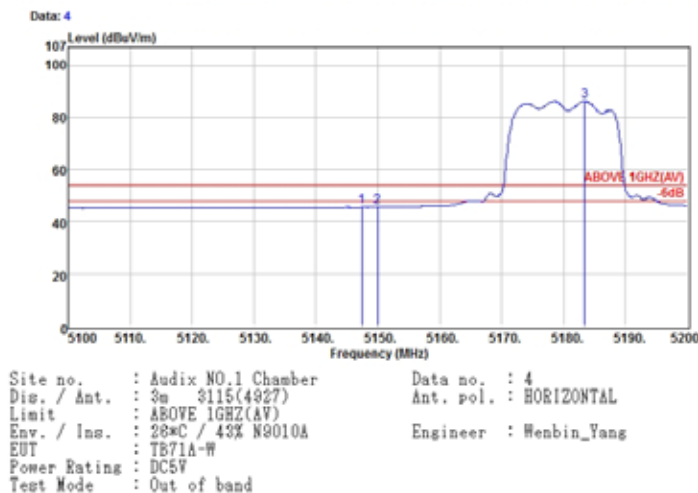
Humidity : 43%

Test Mode: 802.11a (UNII Band I), Frequency: 5180MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5138.50	33.64	9.42	14.48	57.55	74.00	16.45	Peak
2	5150.00	33.64	9.43	12.44	55.51	74.00	18.49	Peak
3	5177.40	33.63	9.48	52.82	95.77	74.00	-21.77	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



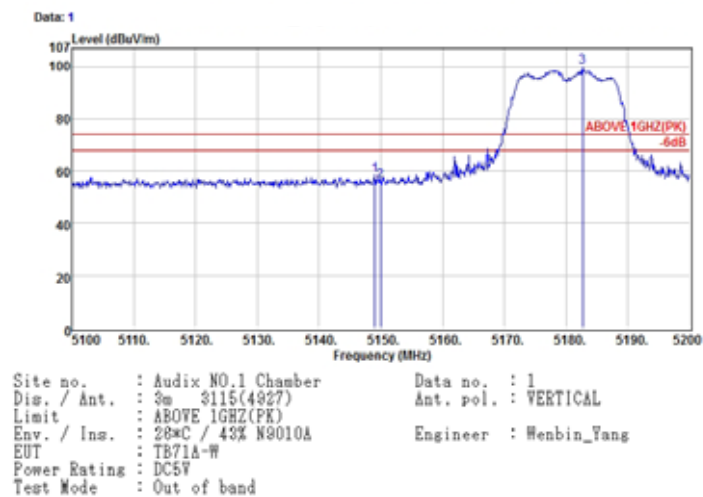
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5147.40	33.64	9.43	2.52	45.59	54.00	8.41	Average
2	5150.00	33.64	9.43	2.58	45.83	54.00	8.37	Average
3	5183.40	33.63	9.48	43.14	98.29	54.00	-32.29	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

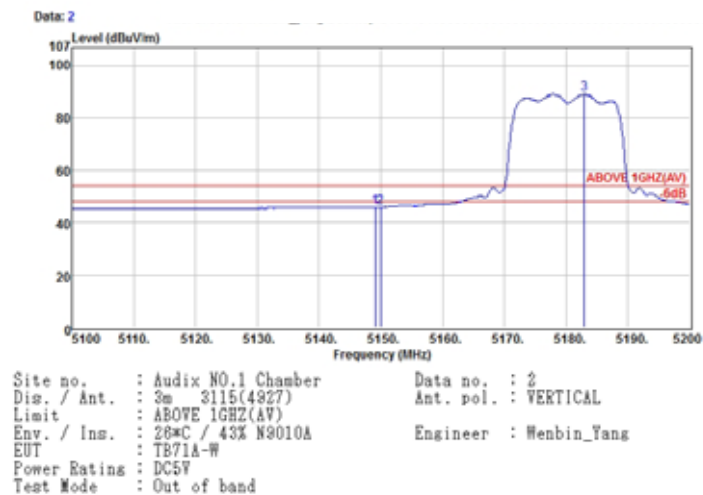
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11a (UNII Band I), Frequency: 5180MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5149.00	33.84	9.43	15.55	58.82	74.00	15.38	Peak
2	5150.00	33.84	9.43	13.18	58.25	74.00	17.75	Peak
3	5182.70	33.89	9.48	58.85	100.00	74.00	-28.00	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



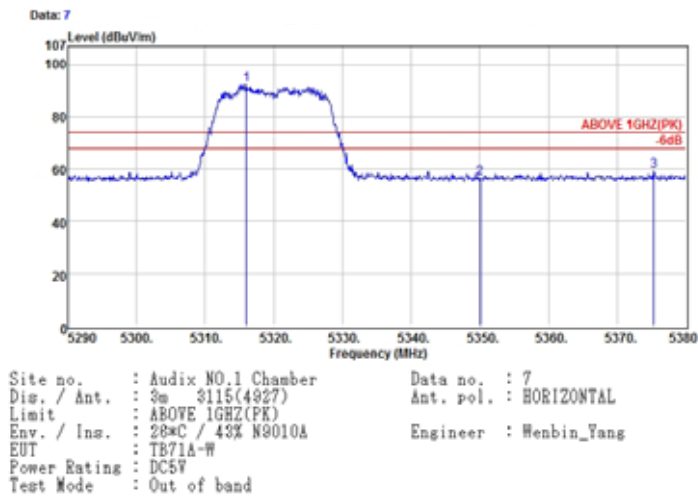
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5149.10	33.84	9.43	2.87	45.94	54.00	8.08	Average
2	5150.00	33.84	9.43	2.80	45.87	54.00	8.13	Average
3	5182.90	33.89	9.48	45.88	89.01	54.00	-35.01	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

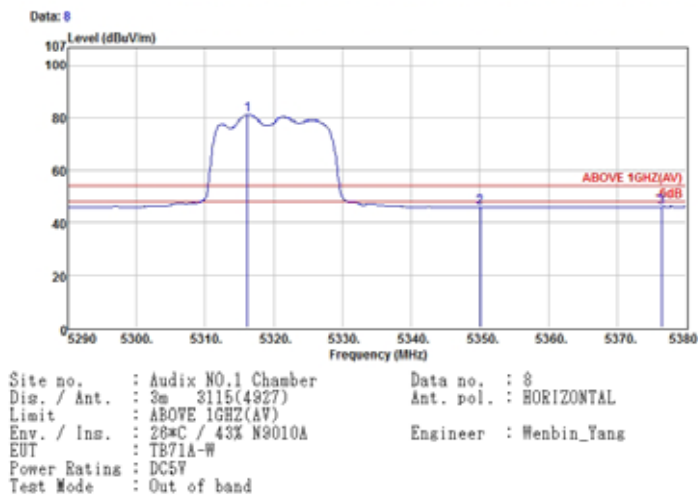
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11a (UNII Band II-2A), Frequency: 5320MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5318.01	33.91	9.59	48.93	92.43	74.00	-18.43	Peak
2	5350.03	33.98	9.82	12.85	56.43	74.00	17.57	Peak
3	5375.32	33.99	9.84	15.48	59.09	74.00	14.91	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5318.19	33.91	9.59	37.71	81.21	54.00	-27.21	Average
2	5350.03	33.98	9.82	2.26	45.84	54.00	8.16	Average
3	5375.49	33.99	9.84	2.31	45.94	54.00	8.06	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Test Mode: 802.11a (UNII Band II-2A), Frequency: 5320MHz



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

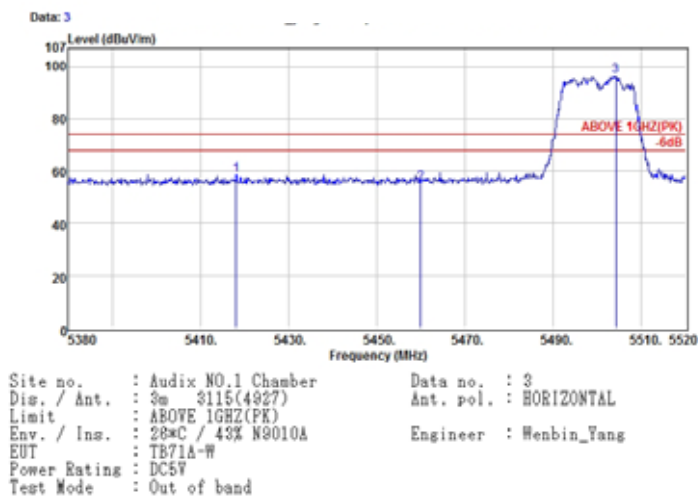


Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

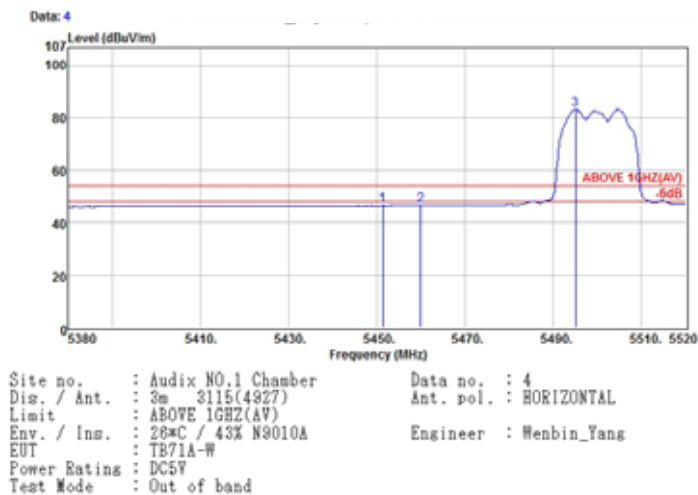
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11a (UNII Band II-2C), Frequency: 5500MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5418.08	34.07	9.88	14.82	58.57	74.00	15.43	Peak
2	5458.84	34.12	9.72	11.83	55.47	74.00	18.53	Peak
3	5504.18	34.20	9.74	52.50	98.44	74.00	-22.44	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5451.40	34.12	9.71	2.55	48.38	54.00	7.62	Average
2	5458.84	34.12	9.72	2.55	48.38	54.00	7.61	Average
3	5495.08	34.17	9.74	39.35	83.28	54.00	-29.28	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Test Mode: 802.11a (UNII Band II-2C), Frequency: 5500MHz



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.



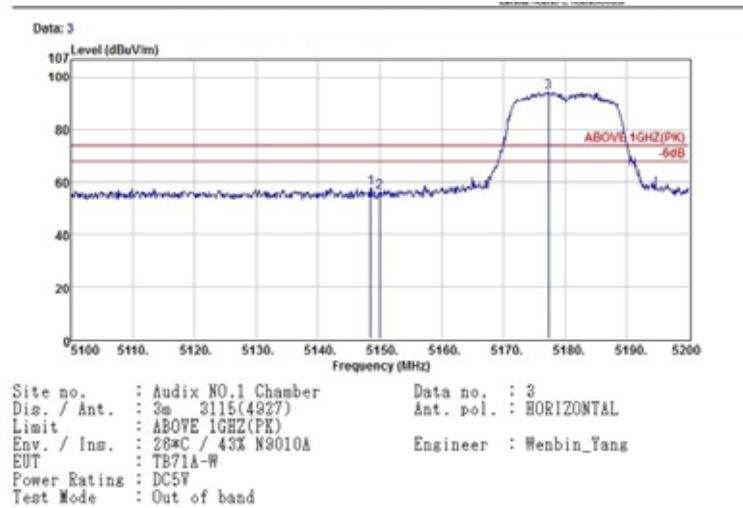
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.



Date of Test: 2014. 05. 13 Temperature : 26

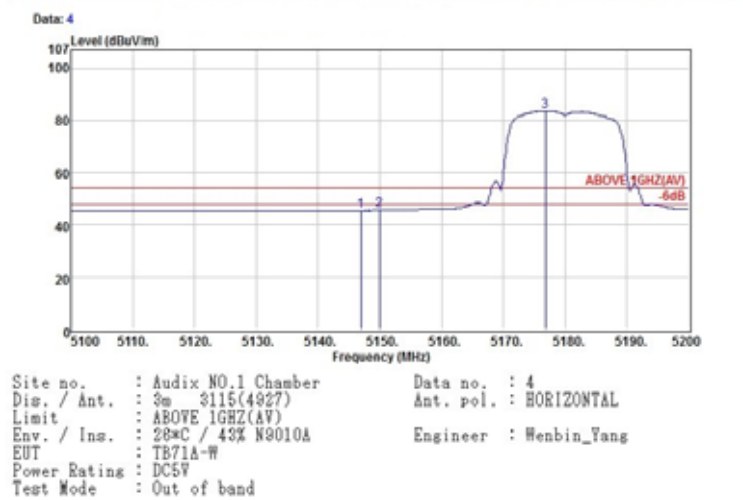
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11n-HT20 (UNII Band I), Frequency: 5180MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	5148.50	33.84	9.43	14.50	57.57	74.00	16.43	Peak
2	5150.00	33.84	9.43	13.20	56.27	74.00	17.73	Peak
3	5177.30	33.89	9.48	51.21	94.38	74.00	-20.38	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



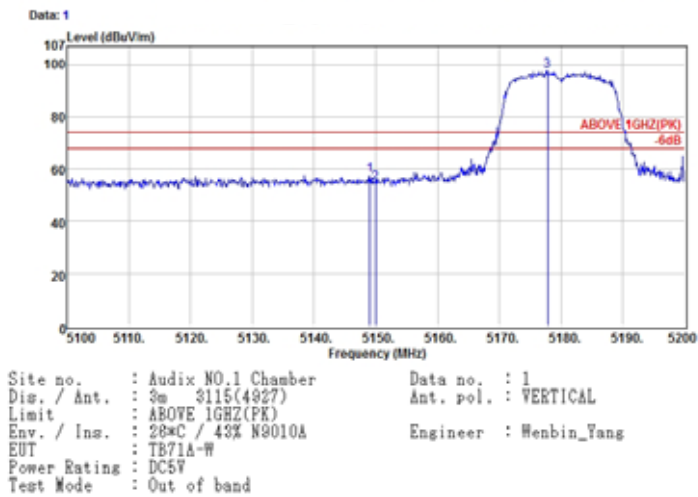
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
1	5148.80	33.84	9.43	2.47	45.54	54.00	8.46	Average
2	5150.00	33.84	9.43	2.54	45.61	54.00	8.39	Average
3	5178.80	33.89	9.48	40.50	83.85	54.00	-29.85	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

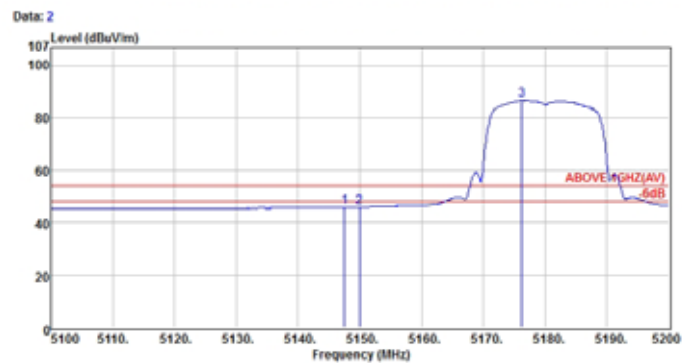
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11n-HT20 (UNII Band I), Frequency: 5180MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5149.00	33.64	9.43	14.52	57.59	74.00	16.41	Peak
2	5150.00	33.64	9.43	11.39	54.46	74.00	19.54	Peak
3	5177.80	33.69	9.48	54.17	97.32	74.00	-23.32	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5147.50	33.64	9.43	2.75	45.82	54.00	8.18	Average
2	5150.00	33.64	9.43	2.78	45.85	54.00	8.15	Average
3	5178.20	33.69	9.48	43.48	88.61	54.00	-32.61	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Test Mode: 802.11n-HT20 (UNII Band II-2A), Frequency: 5320MHz



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

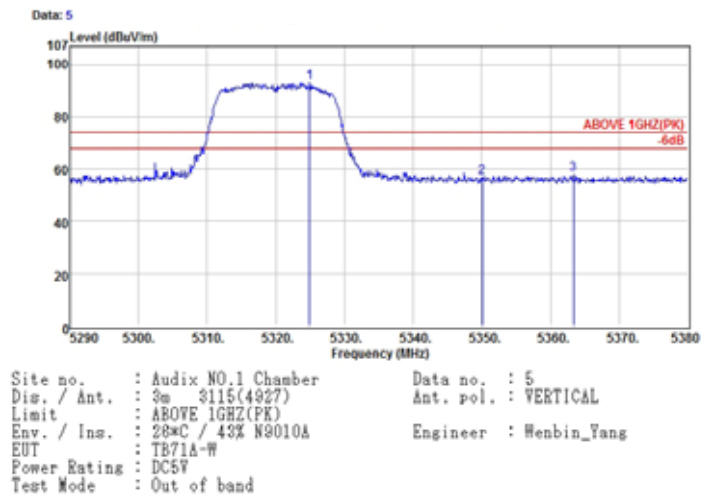


Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

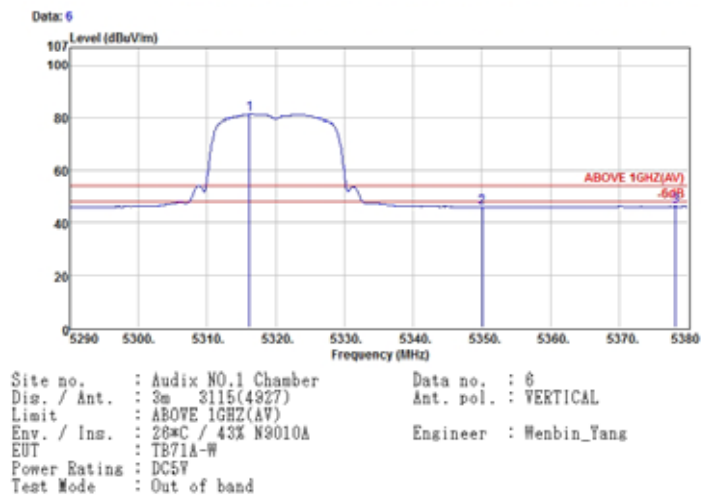
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11n-HT20 (UNII Band II-2A), Frequency: 5320MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5324.92	33.91	9.59	49.58	93.08	74.00	-19.08	Peak
2	5350.03	33.96	9.82	13.30	56.88	74.00	17.12	Peak
3	5388.35	33.99	9.84	14.38	58.01	74.00	15.99	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



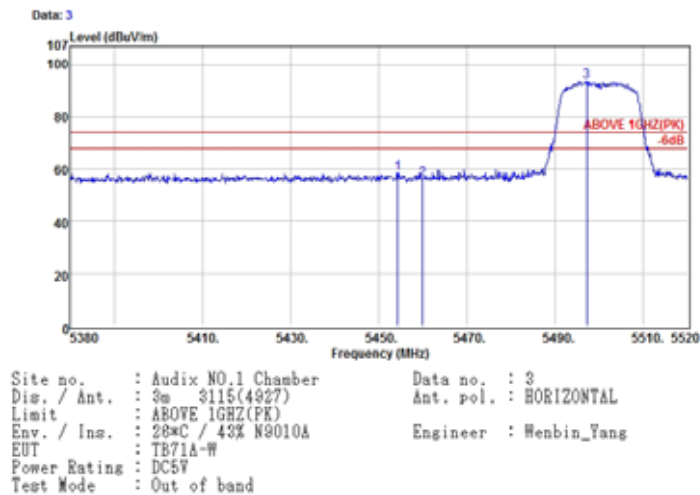
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5318.19	33.91	9.59	37.89	81.39	54.00	-27.39	Average
2	5350.03	33.96	9.82	2.30	45.88	54.00	8.12	Average
3	5378.20	34.01	9.85	2.31	45.97	54.00	8.03	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

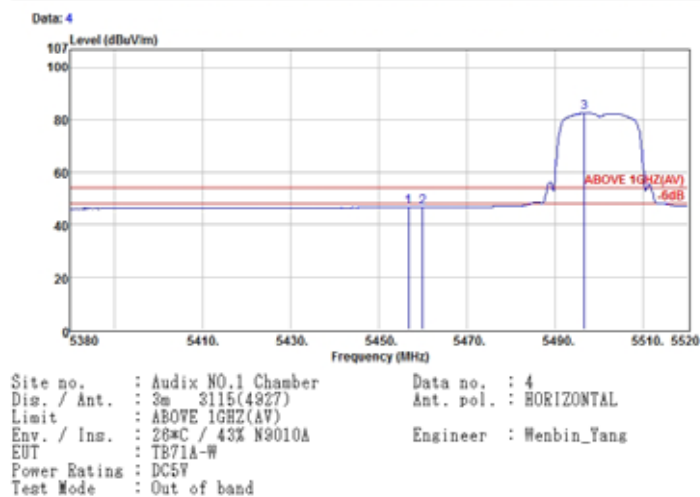
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11n-HT20 (UNII Band II-2C), Frequency: 5500MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
1	5454.34	34.12	9.71	14.85	58.48	74.00	15.52	Peak
2	5458.84	34.12	9.72	12.41	56.25	74.00	17.75	Peak
3	5498.84	34.20	9.74	49.87	93.81	74.00	-19.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
1	5458.72	34.12	9.71	2.70	48.53	54.00	7.47	Average
2	5458.84	34.12	9.72	2.88	48.50	54.00	7.50	Average
3	5498.82	34.20	9.74	38.81	82.85	54.00	-28.85	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

Test Mode: 802.11n-HT20 (UNII Band II-2C), Frequency: 5500MHz



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported

Test Mode: 802.11n-HT40 (UNII Band I), Frequency: 5190MHz



Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

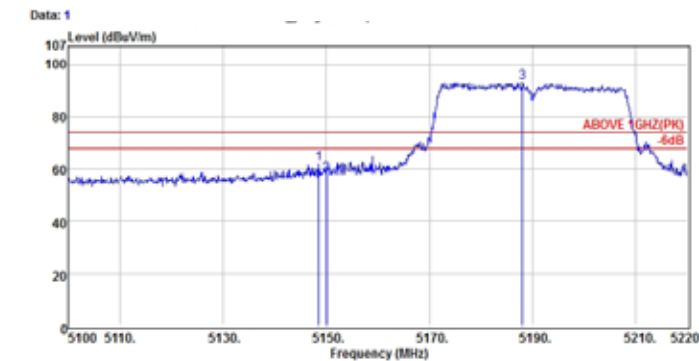


Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test: 2014. 05. 13 Temperature : 26

EUT: 7" Pocketable Pad Humidity : 43%

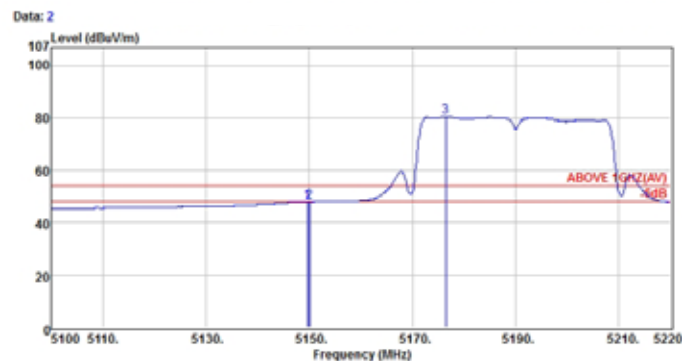
Test Mode: 802.11n-HT40 (UNII Band I), Frequency: 5190MHz



Site no. : Audix NO.1 Chamber Data no. : 1  
 Dis. / Ant. : 3m 3115(4327) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(PK)  
 Env. / Ins. : 28°C / 43% N9010A Engineer : Wenbin\_Yang  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : Out of band

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5148.80	33.84	9.43	18.88	61.93	74.00	12.07	Peak
2	5150.04	33.84	9.43	14.83	57.90	74.00	16.10	Peak
3	5188.08	33.89	9.48	49.88	93.05	74.00	-19.05	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



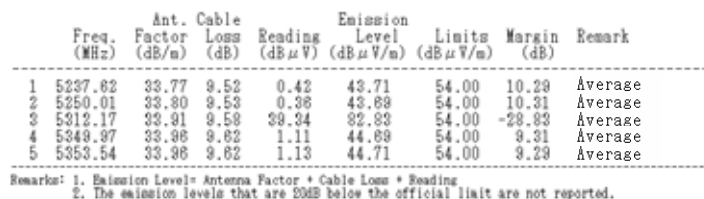
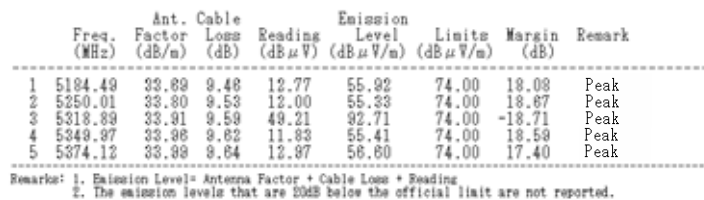
Site no. : Audix NO.1 Chamber Data no. : 2  
 Dis. / Ant. : 3m 3115(4327) Ant. pol. : VERTICAL  
 Limit : ABOVE 1GHZ(AV)  
 Env. / Ins. : 28°C / 43% N9010A Engineer : Wenbin\_Yang  
 EUT : TB71A-W  
 Power Rating : DC5V  
 Test Mode : Out of band

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	5148.88	33.84	9.43	4.72	47.79	54.00	6.21	Average
2	5150.04	33.84	9.43	4.78	47.83	54.00	6.17	Average
3	5178.44	33.89	9.48	37.18	80.31	54.00	-26.31	Average

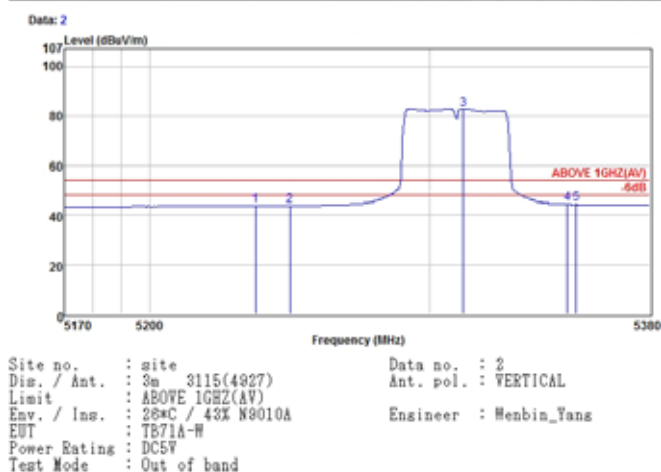
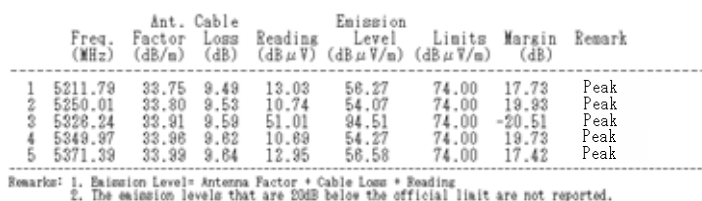
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



Test Mode: 802.11n-HT40 (UNII Band II-2A), Frequency: 5310MHz



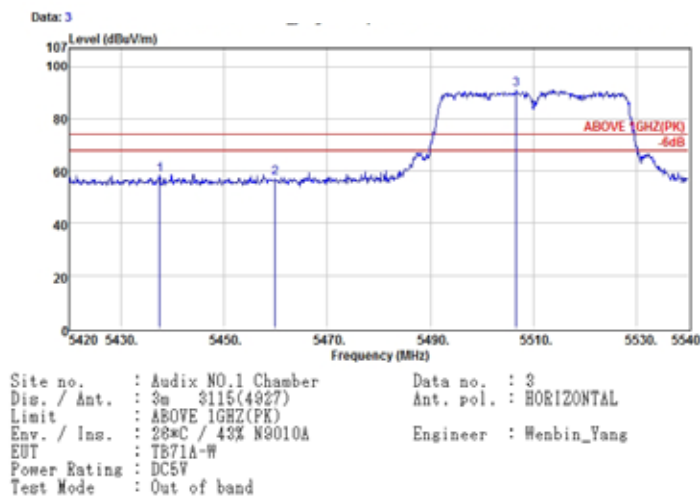
Test Mode: 802.11n-HT40 (UNII Band II-2A), Frequency: 5310MHz



Date of Test: 2014. 05. 13 Temperature : 26

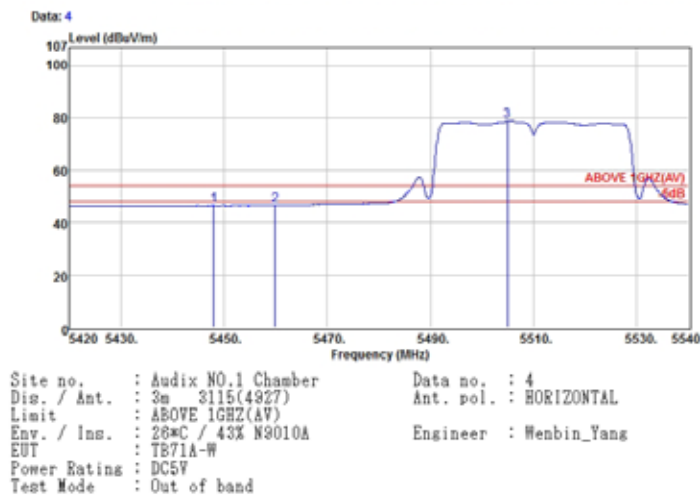
EUT: 7" Pocketable Pad Humidity : 43%

Test Mode: 802.11n-HT40 (UNII Band II-2C), Frequency: 5510MHz



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5437.52	34.09	9.89	14.86	58.84	74.00	15.36	Peak
2	5459.86	34.12	9.72	13.30	57.14	74.00	16.86	Peak
3	5508.84	34.20	9.74	47.08	91.02	74.00	-17.02	Peak

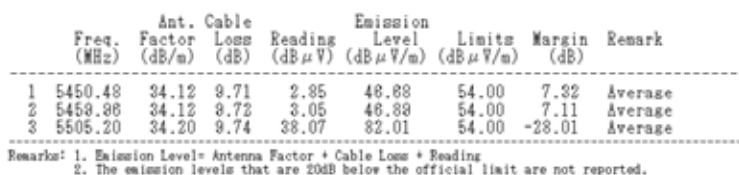
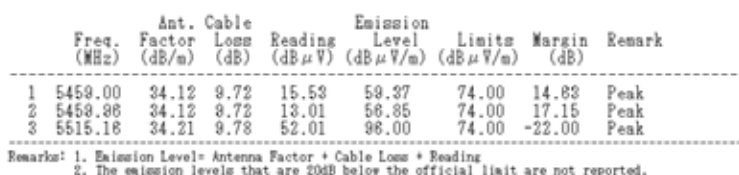
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
1	5448.08	34.12	9.71	2.53	48.38	54.00	7.84	Average
2	5459.86	34.12	9.72	2.80	48.44	54.00	7.56	Average
3	5504.98	34.20	9.74	34.77	78.71	54.00	-24.71	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 2. The emission levels that are 20dB below the official limit are not reported.

Test Mode: 802.11n-HT40 (UNII Band II-2C), Frequency: 5510MHz



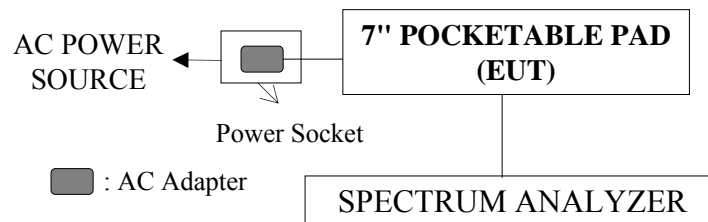
## 5. EMISSION BANDWIDTH MEASUREMENT

### 5.1. Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 30

### 5.2. Block Diagram of Test Setup



### 5.3. Operating Condition of EUT

The test program "WL command" was used to enable the EUT to transmit data at different channel frequency individually.

### 5.4. Test Procedure

#### 5.4.1. For 26dB & 99% Occupied Bandwidth

1. Set RBW=approximately 1% of the emission bandwidth.
2. Set the VBW>RBW
3. Detector=Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The measurement guideline was according to KDB789033 D01 v01r03

#### 5.4.2. For 6dB Bandwidth

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1.5% EBW,  $VBW \geq 3 \times RBW$ . The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

The measurement guideline was according to KDB 558074 D01 DTS meas Guidance is v03r01.

## 5.5. Test Results

**PASSED.** All the test results are attached in next pages.

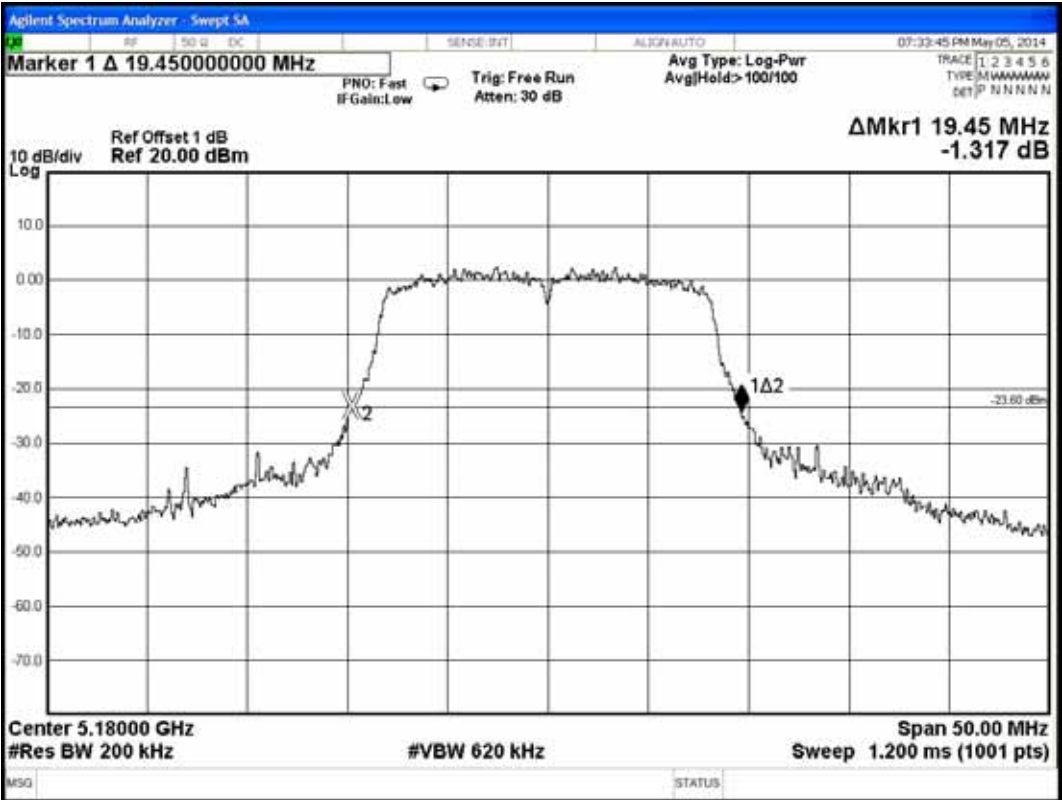
Test Date : 2014. 05. 02	Temperature : 26	Humidity : 50%
Test Date: 2014. 05. 05	Temperature: 24	Humidity: 48%
Test Date: 2014. 05. 06	Temperature: 23	Humidity: 48%
Test Date: 2014. 06. 25	Temperature: 23	Humidity: 48%

### 5.5.1. For 802.11a

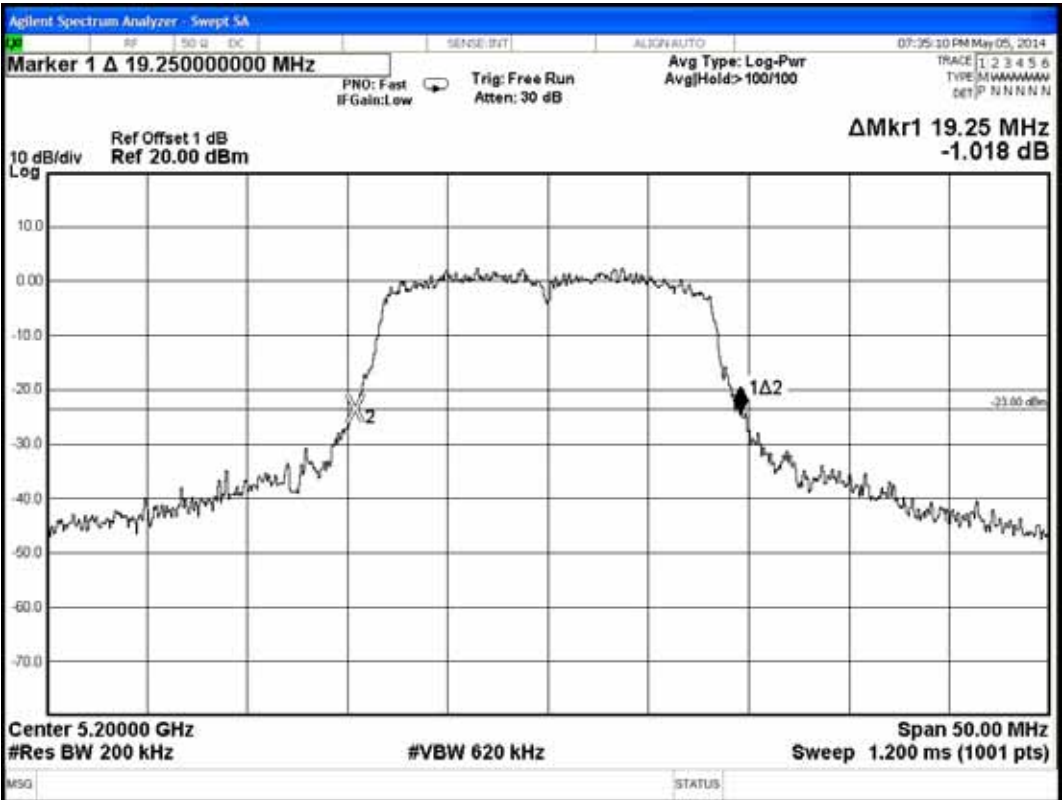
Mode	UNII Band	Channel	Frequency	26dB Bandwidth (MHz)
1.	UNII Band I	CH 36	5180MHz	<b>19.45</b>
2.		CH 40	5200MHz	<b>19.25</b>
3.		CH 48	5240MHz	<b>19.50</b>
4.	UNII Band II-2A	CH 52	5260MHz	<b>19.50</b>
5.		CH 56	5280MHz	<b>19.50</b>
6.		CH 64	5320MHz	<b>19.60</b>
7.	UNII Band II-2C	CH 100	5500MHz	<b>19.30</b>
8.		CH 116	5580MHz	<b>19.35</b>
9.		CH 140	5700MHz	<b>19.00</b>

Mode	UNII Band	Channel	Frequency	6dB Bandwidth (MHz)
10.	UNII Band III	CH 149	5745MHz	<b>16.00</b>
11.		CH 157	5785MHz	<b>16.00</b>
12.		CH 165	5825MHz	<b>16.00</b>

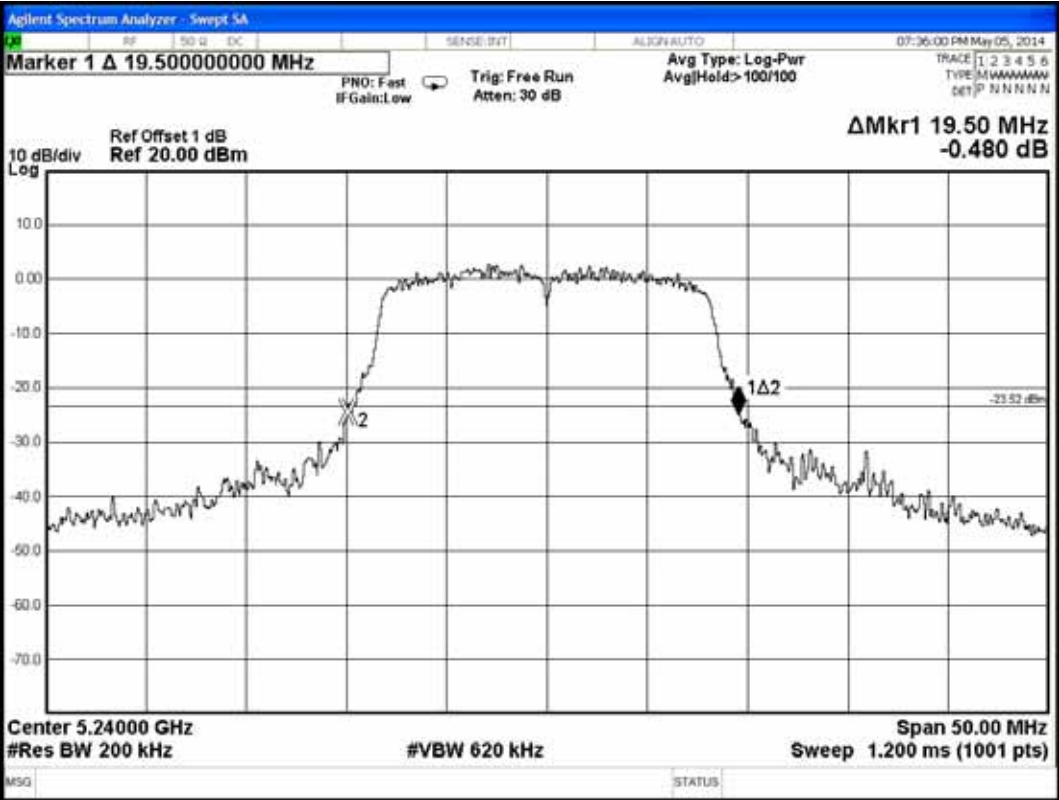
802.11a (UNII Band I), Frequency: 5180MHz



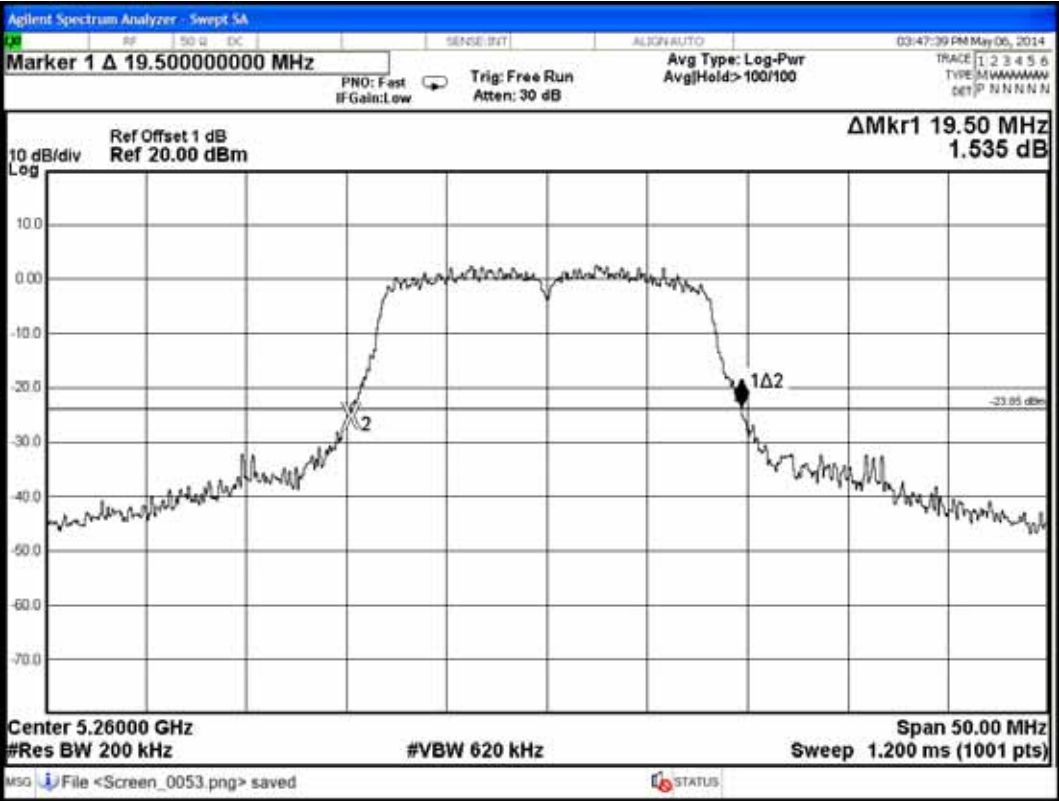
802.11a (UNII Band I), Frequency: 5200MHz



802.11a (UNII Band I), Frequency: 5240MHz

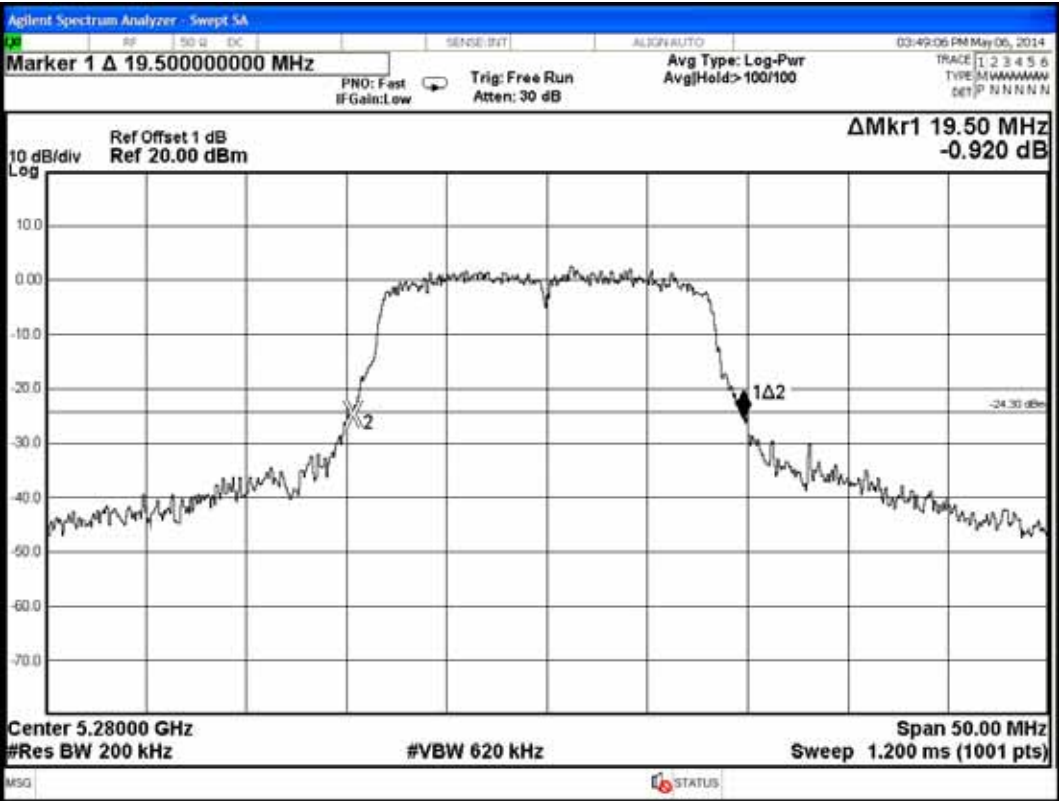


802.11a (UNII Band II-2A), Frequency: 5260MHz

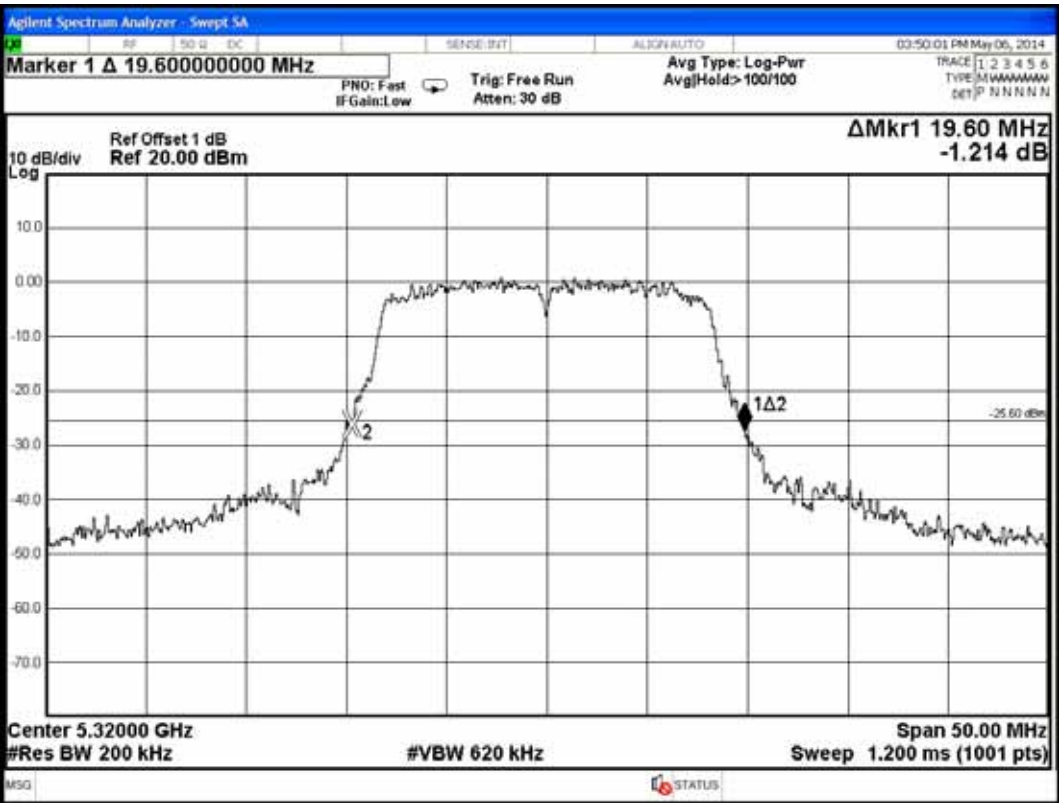




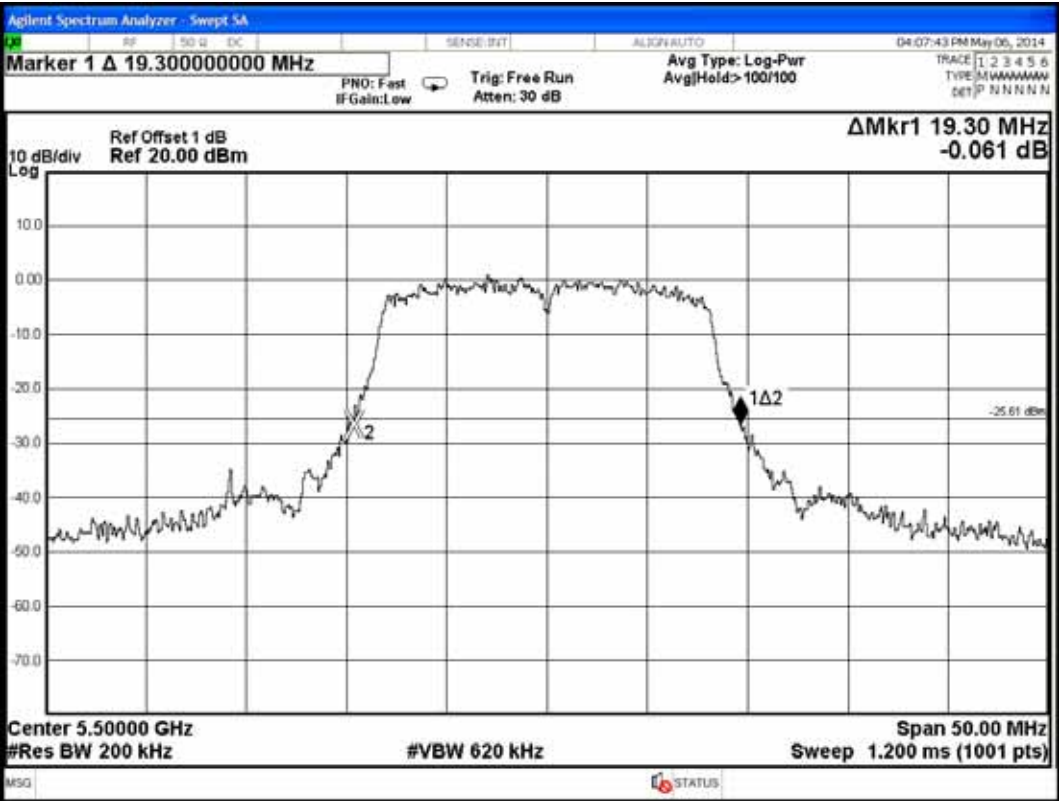
802.11a (UNII Band II-2A), Frequency: 5280MHz



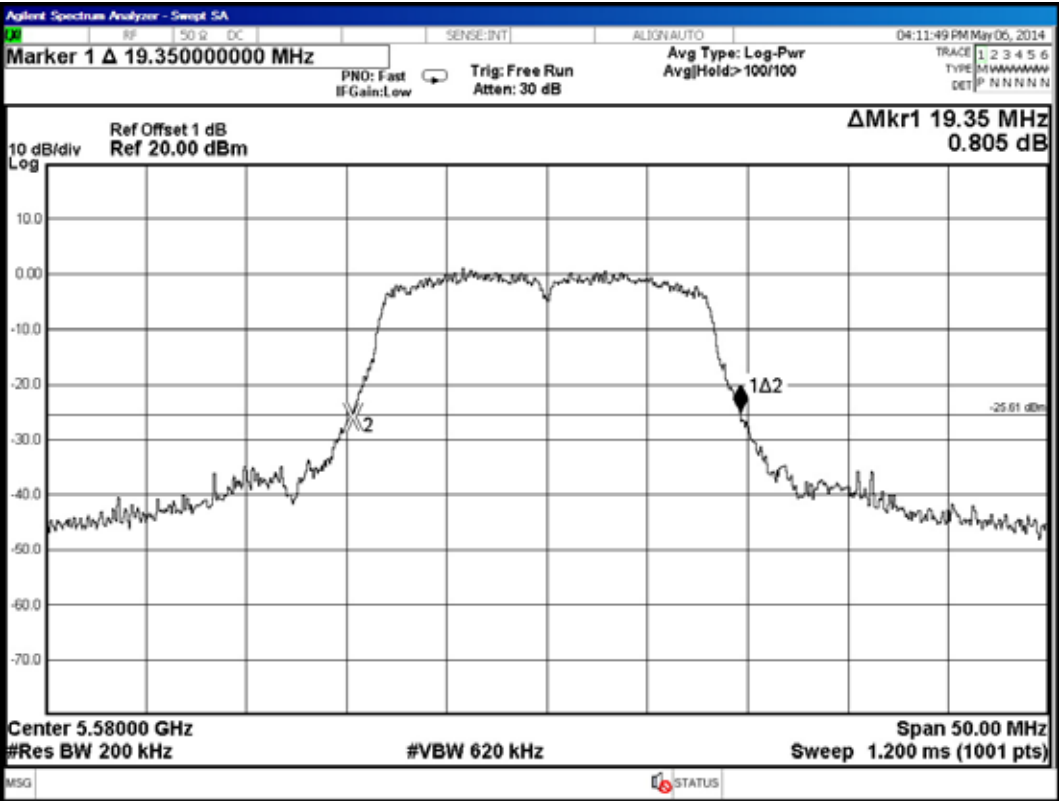
802.11a (UNII Band II-2A), Frequency: 5320MHz



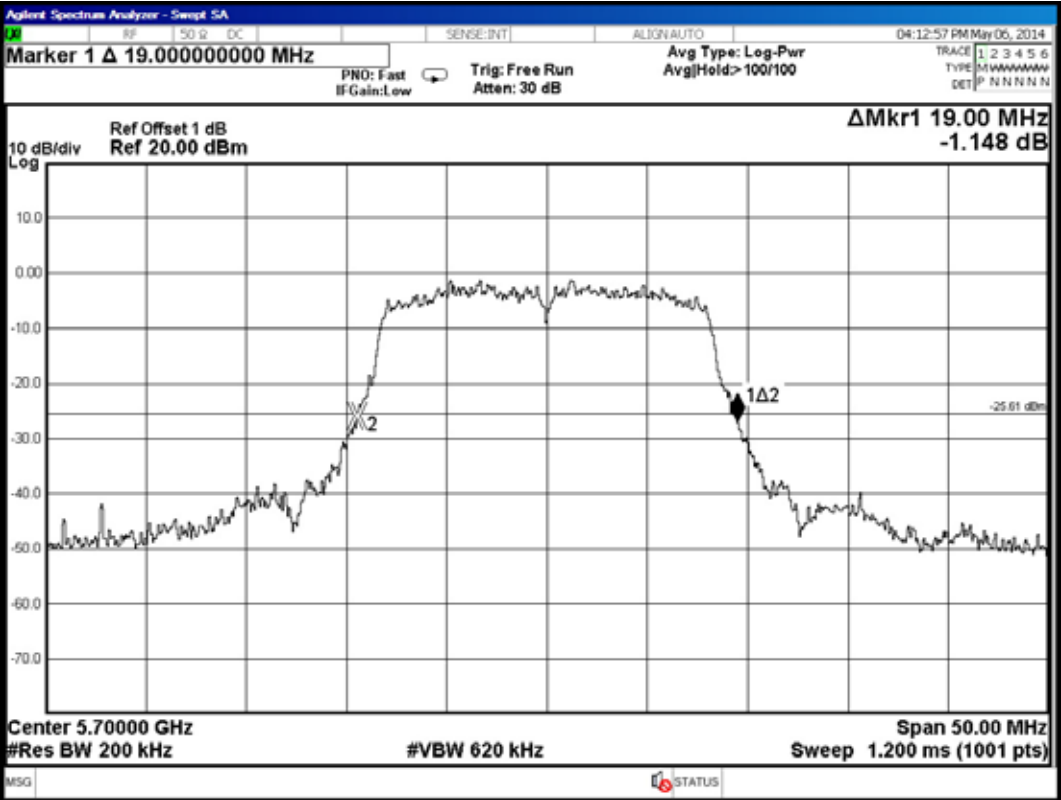
802.11a (UNII Band II-2C), Frequency: 5500MHz



802.11a (UNII Band II-2C), Frequency: 5580MHz



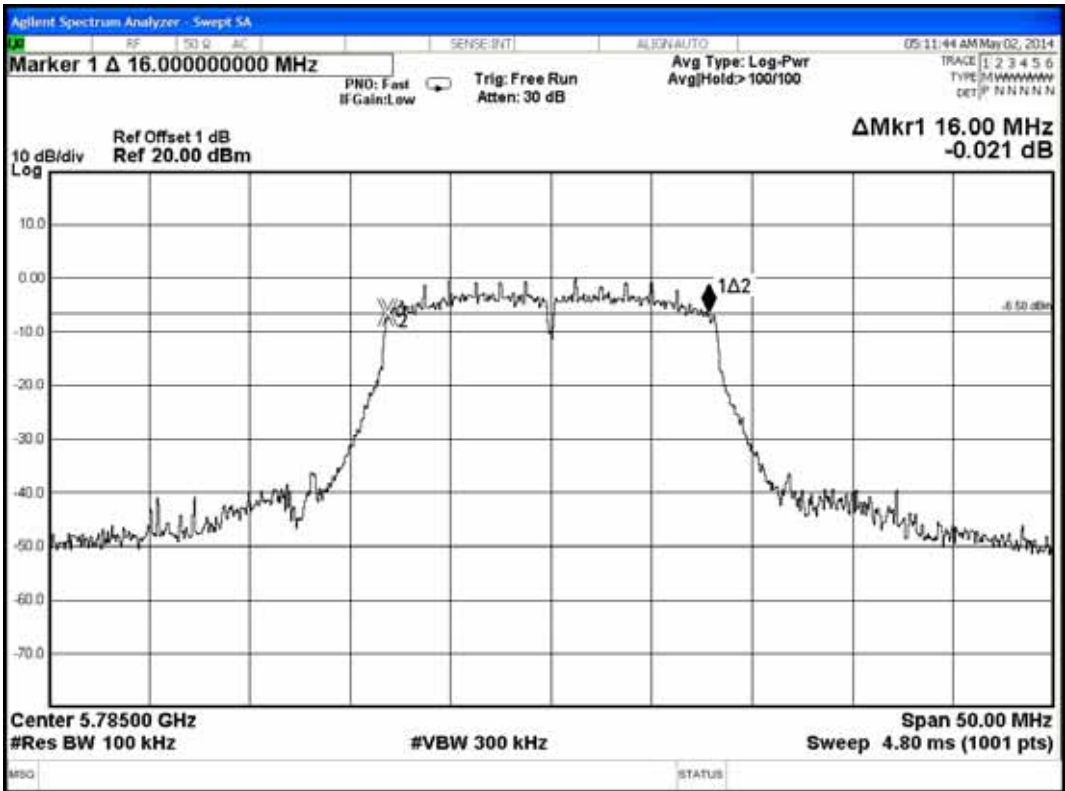
802.11a (UNII Band II-2C), Frequency: 5700MHz



802.11a (UNII Band III), Frequency: 5745MHz



802.11a (UNII Band III), Frequency: 5785MHz



802.11a (UNII Band III), Frequency: 5825MHz



## 5.5.2. For 802.11n-HT20

Mode	UNII Band	Channel	Frequency	26dB Bandwidth (MHz)
1.	UNII Band I	CH 36	5180MHz	19.90
2.		CH 40	5200MHz	19.90
3.		CH 48	5240MHz	19.90
4.	UNII Band II-2A	CH 52	5260MHz	19.20
5.		CH 56	5280MHz	19.55
6.		CH 64	5320MHz	19.50
7.	UNII Band II-2C	CH 100	5500MHz	19.65
8.		CH 116	5580MHz	19.90
9.		CH 140	5700MHz	19.70

Mode	UNII Band	Channel	Frequency	6dB Bandwidth (MHz)
10.	UNII Band III	CH 149	5745MHz	15.45
11.		CH 157	5785MHz	16.00
12.		CH 165	5825MHz	16.00

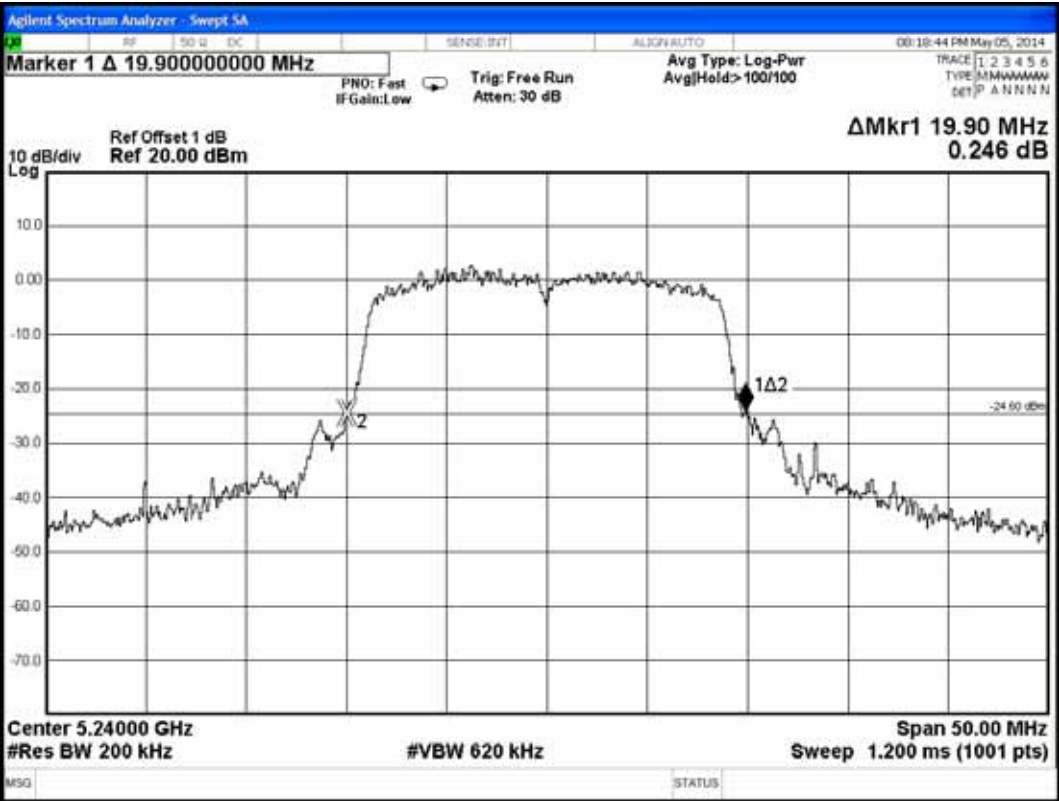
## 802.11n-HT20 (UNII Band I), Frequency: 5180MHz



802.11n-HT20 (UNII Band I), Frequency: 5200MHz

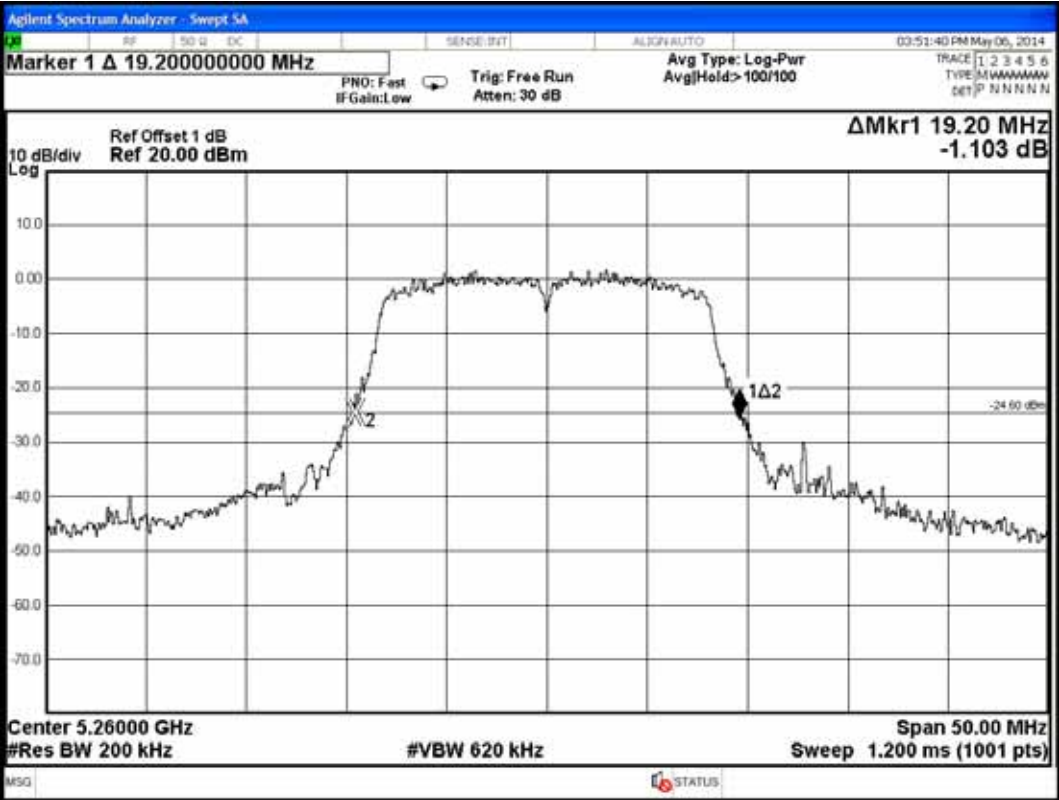


802.11n-HT20 (UNII Band I), Frequency: 5240MHz

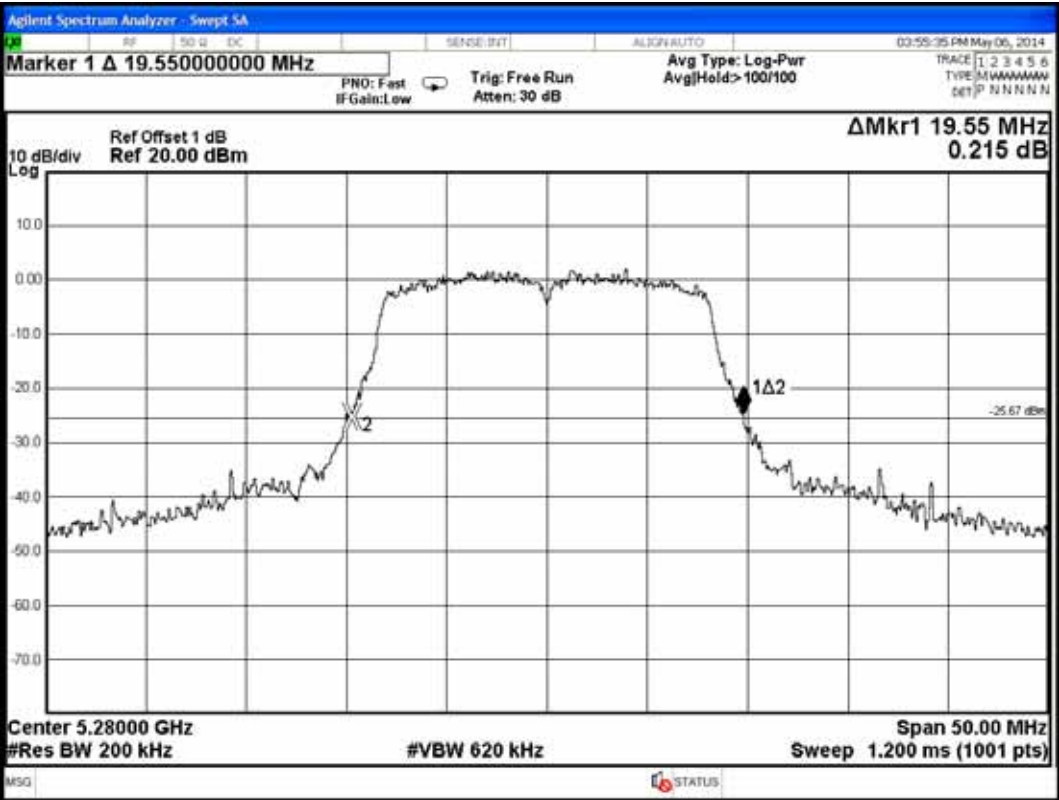




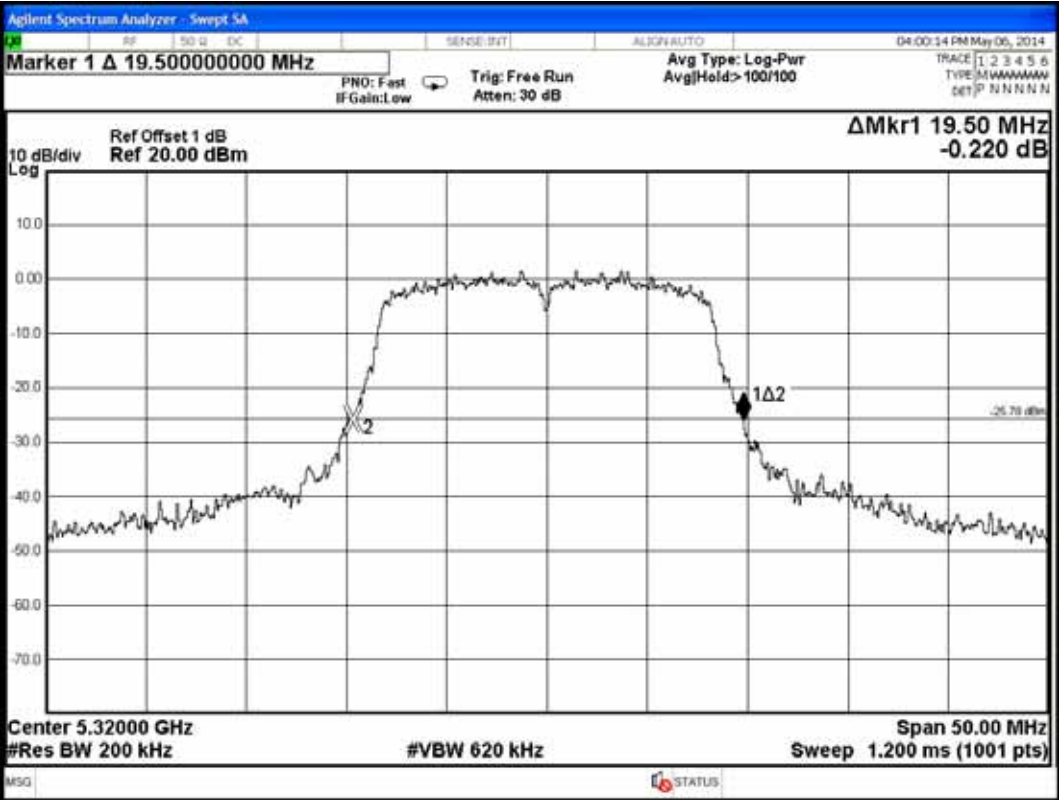
802.11n-HT20 (UNII Band II-2A), Frequency: 5260MHz



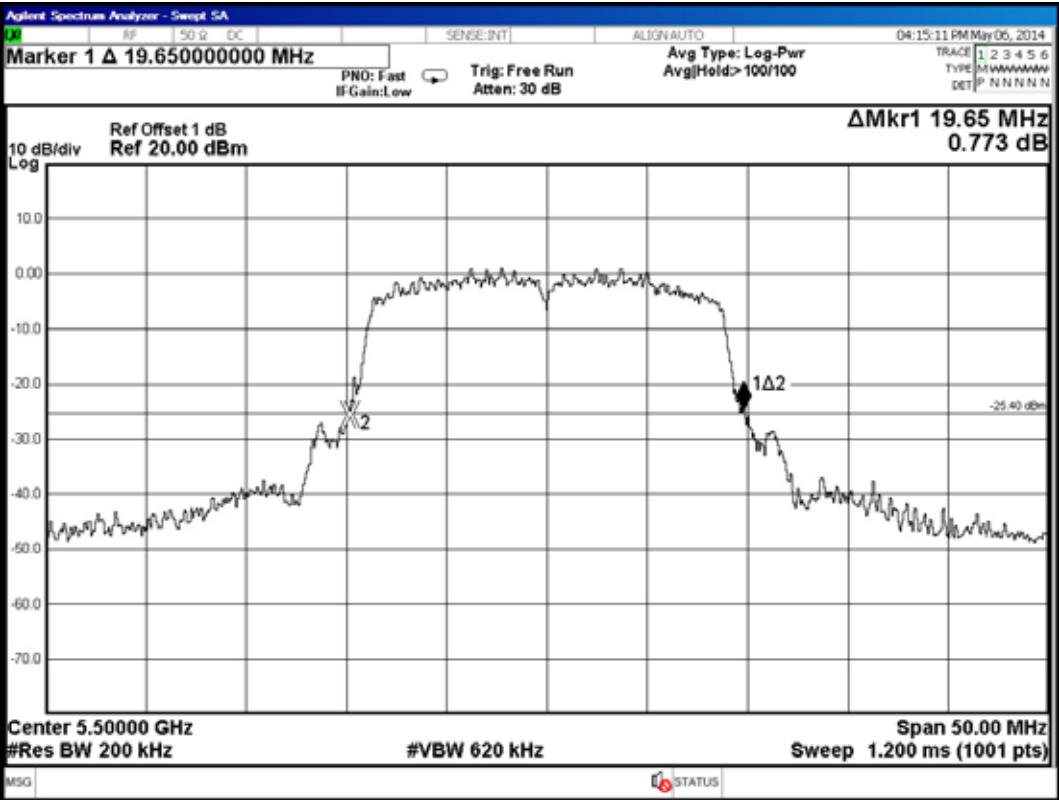
802.11n-HT20 (UNII Band II-2A), Frequency: 5280MHz



802.11n-HT20 (UNII Band II-2A), Frequency: 5320MHz

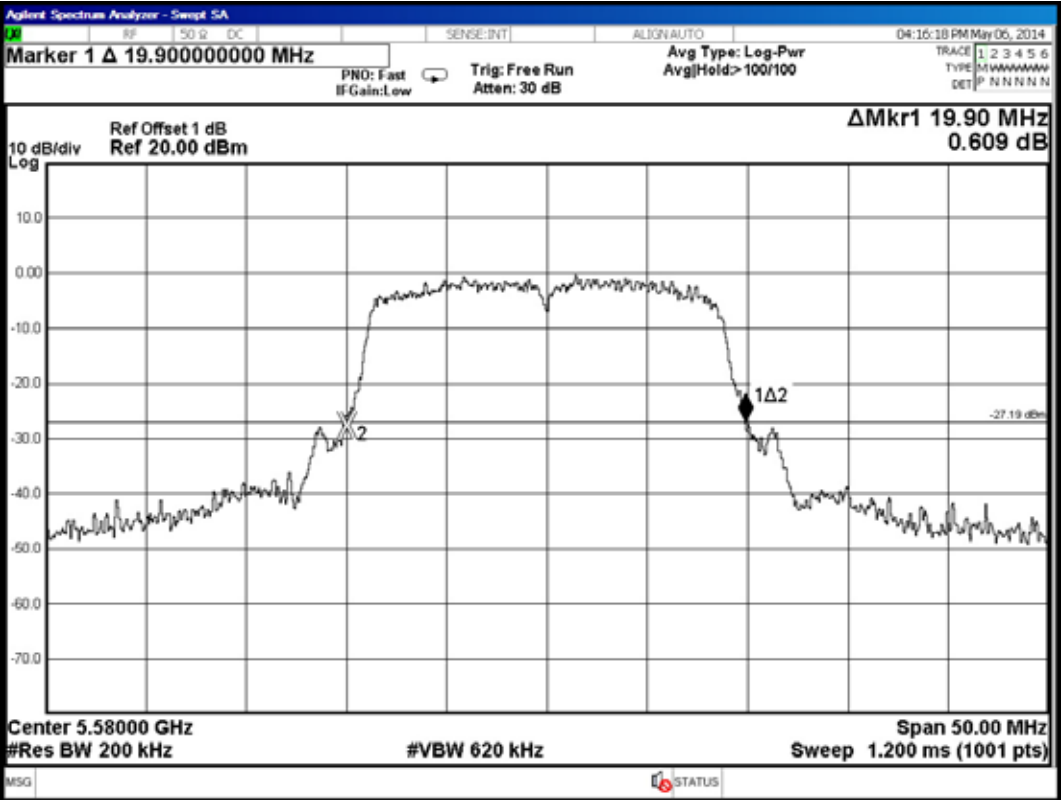


802.11n-HT20 (UNII Band II-2C), Frequency: 5500MHz

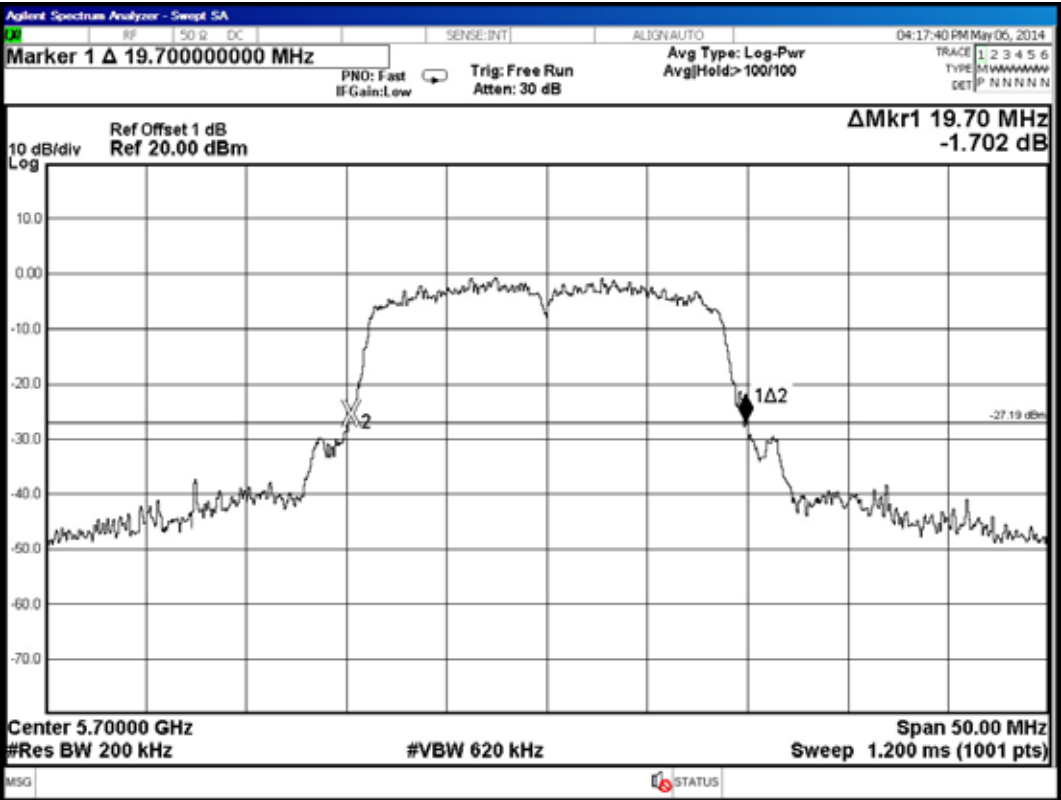




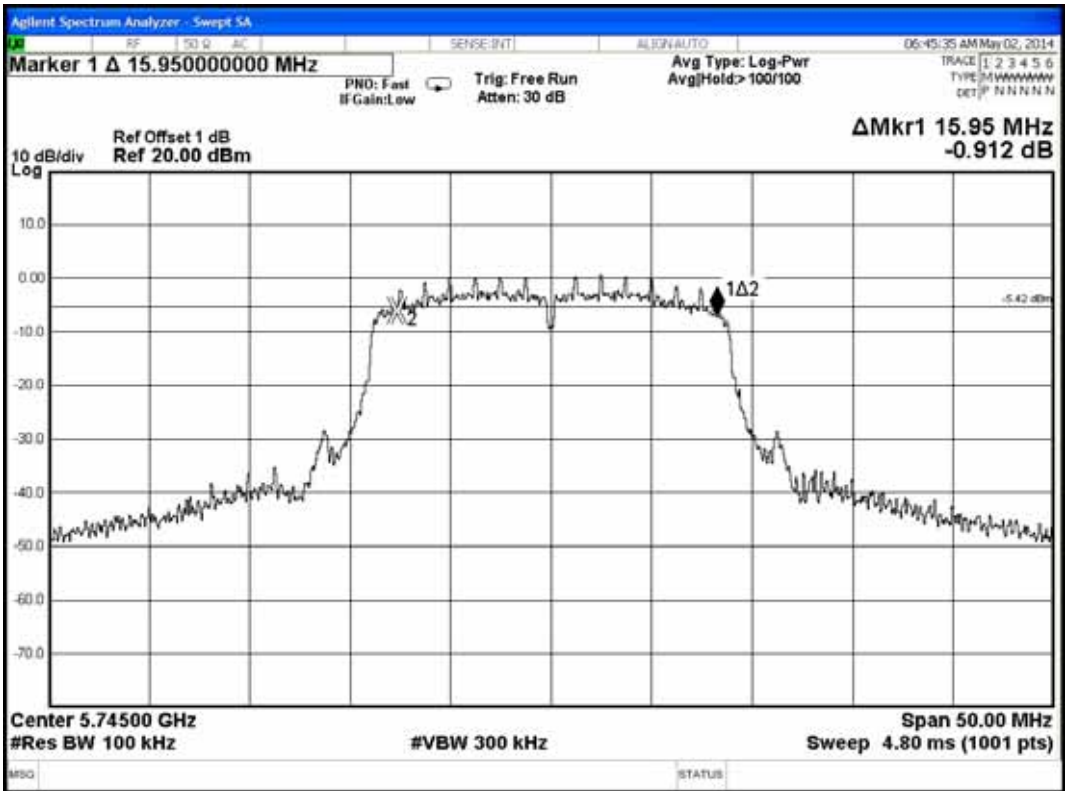
802.11n-HT20 (UNII Band II-2C), Frequency: 5580MHz



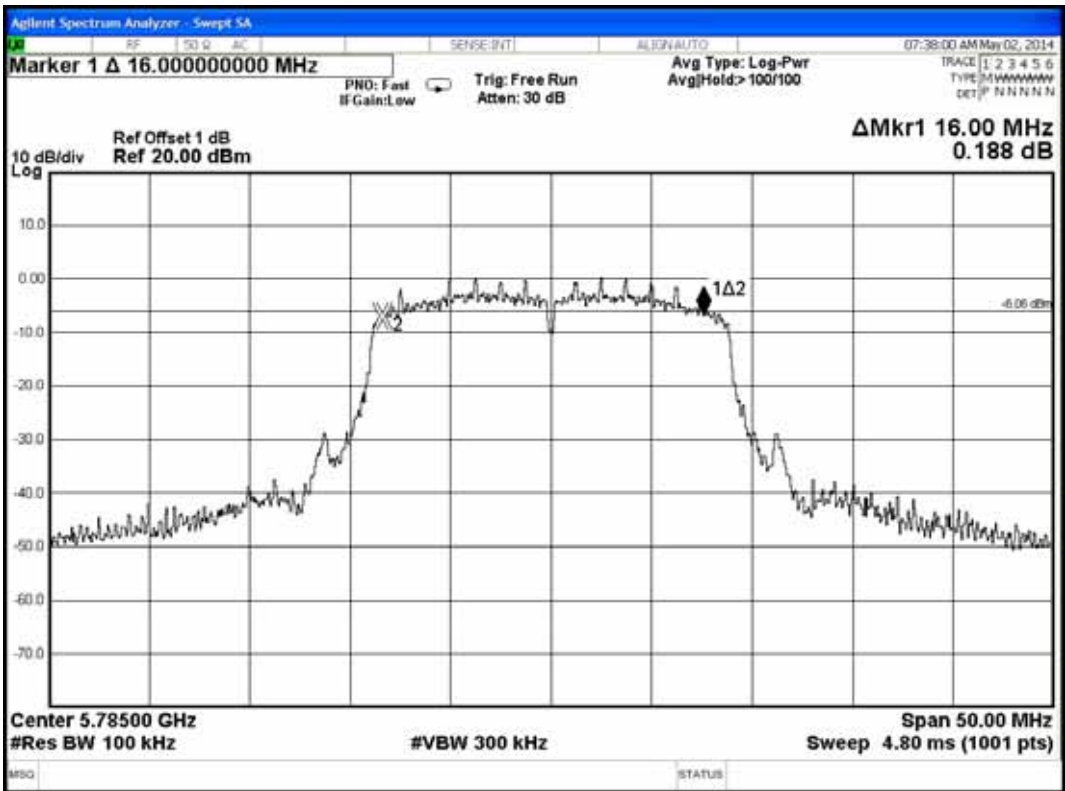
802.11n-HT20 (UNII Band II-2C), Frequency: 5700MHz



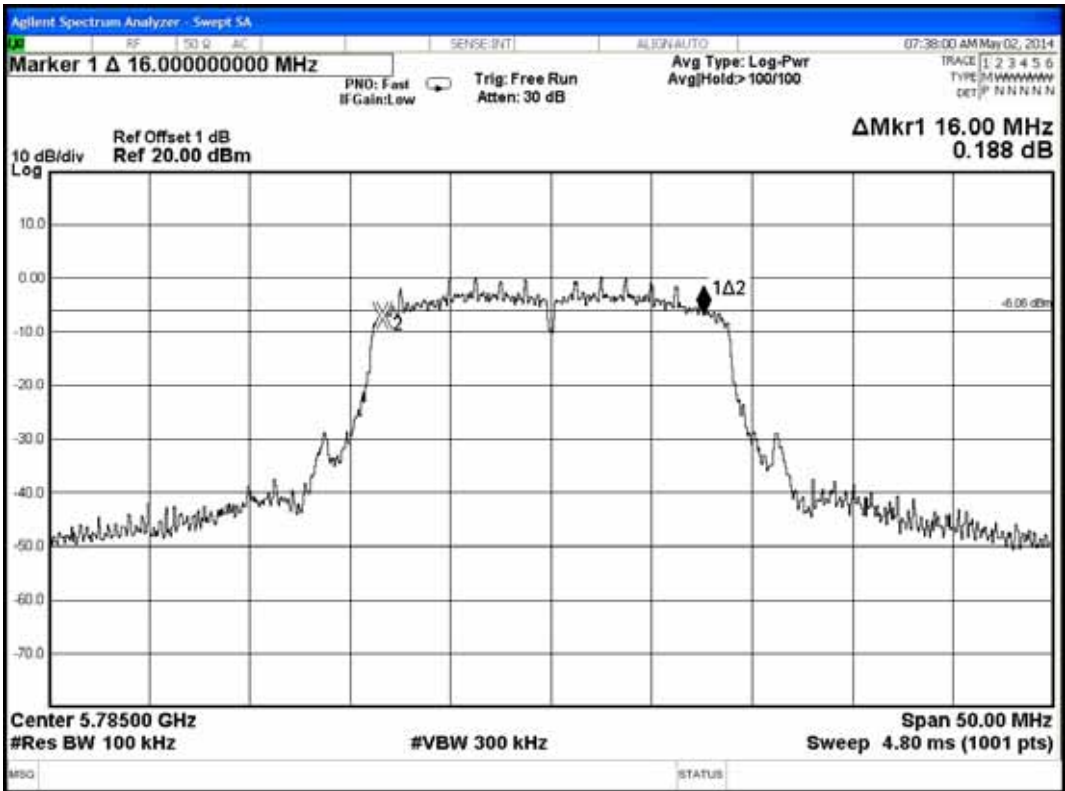
802.11n-HT20 (UNII Band III), Frequency: 5745MHz



802.11n-HT20 (UNII Band III), Frequency: 5785MHz



802.11n-HT20 (UNII Band III), Frequency: 5825MHz

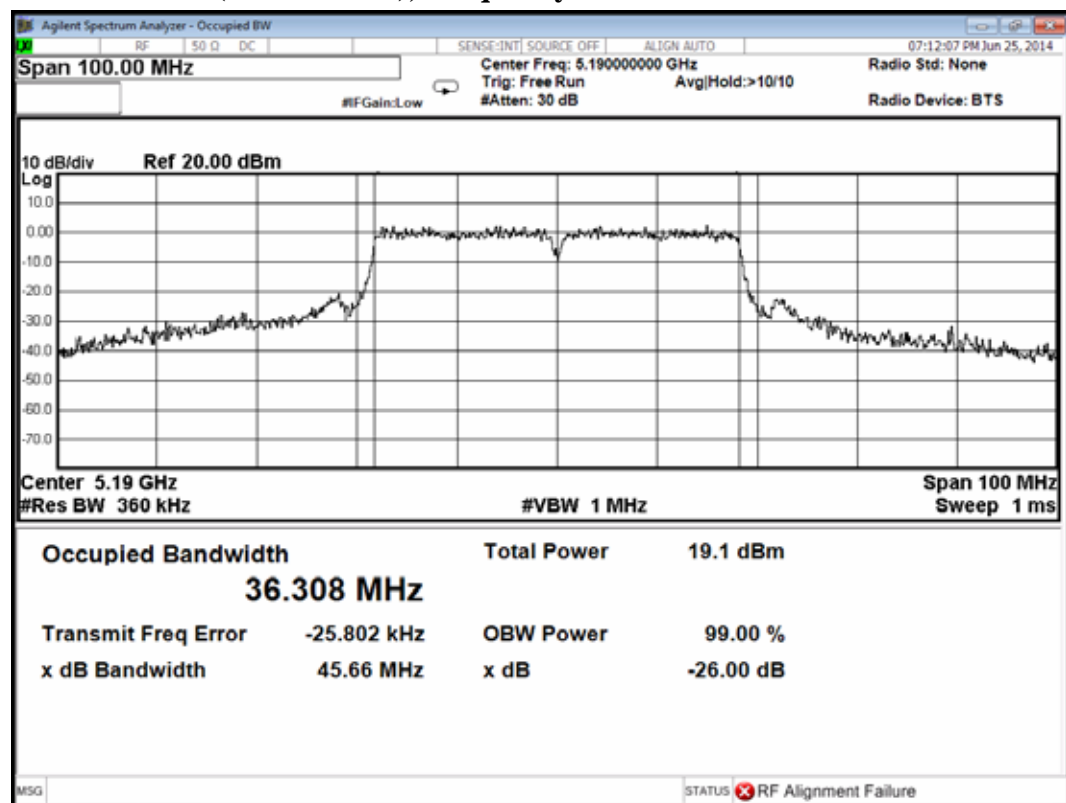


## 5.5.3. For 802.11n-HT40

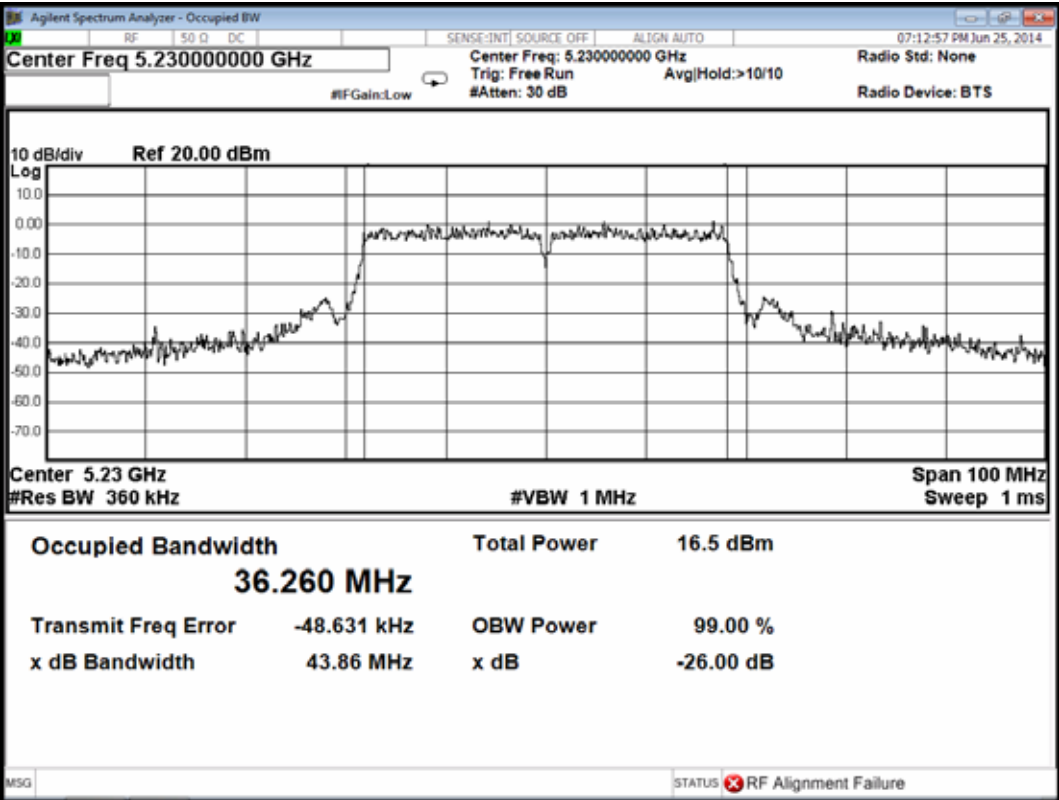
Mode	UNII Band	Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
1.	UNII Band I	CH 38	5190MHz	45.66	36.308
2.		CH 46	5230MHz	43.86	36.260
3.	UNII Band II-2A	CH 54	5270MHz	45.37	36.311
4.		CH 62	5310MHz	46.51	36.303
5.	UNII Band II-2C	CH 102	5510MHz	41.43	36.082
6.		CH 110	5550MHz	45.01	36.231
7.		CH 134	5670MHz	44.67	36.284

Mode	UNII Band	Channel	Frequency	6dB Bandwidth (MHz)
10.	UNII Band III	CH 151	5755MHz	36.00
11.		CH 159	5795MHz	36.00

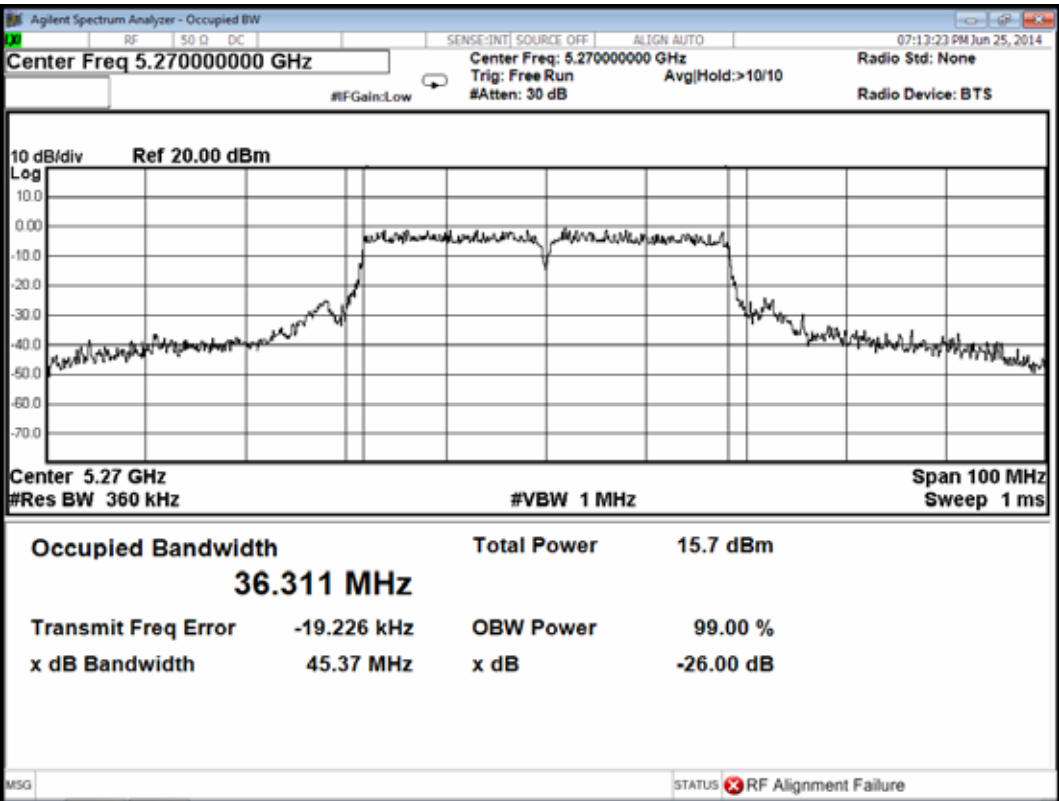
## 802.11n-HT40 (UNII Band I), Frequency: 5190MHz



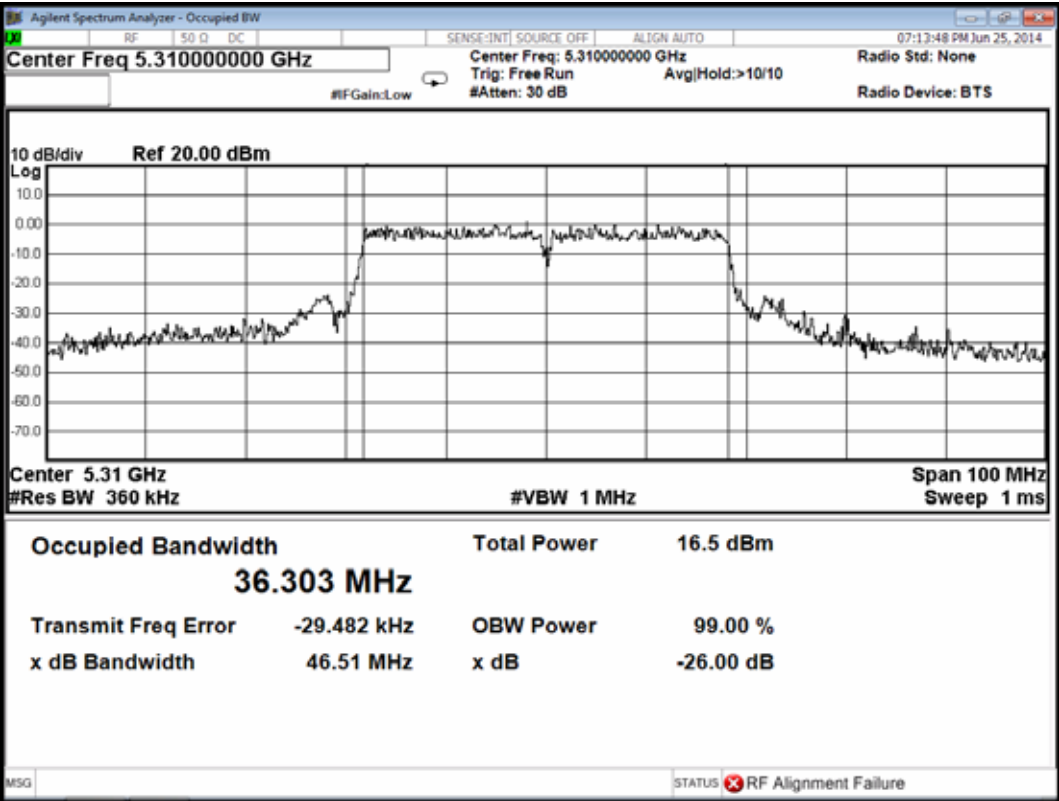
802.11n-HT40 (UNII Band I), Frequency: 5230MHz



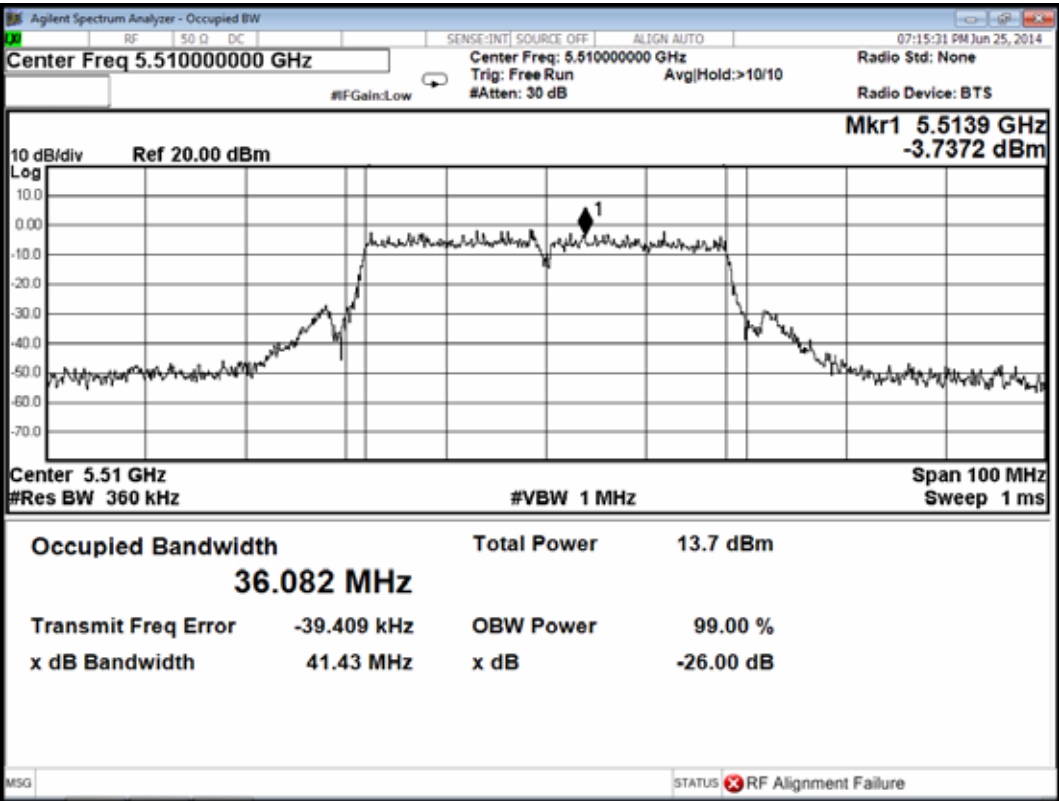
802.11n-HT40 (UNII Band II-2A), Frequency: 5270MHz



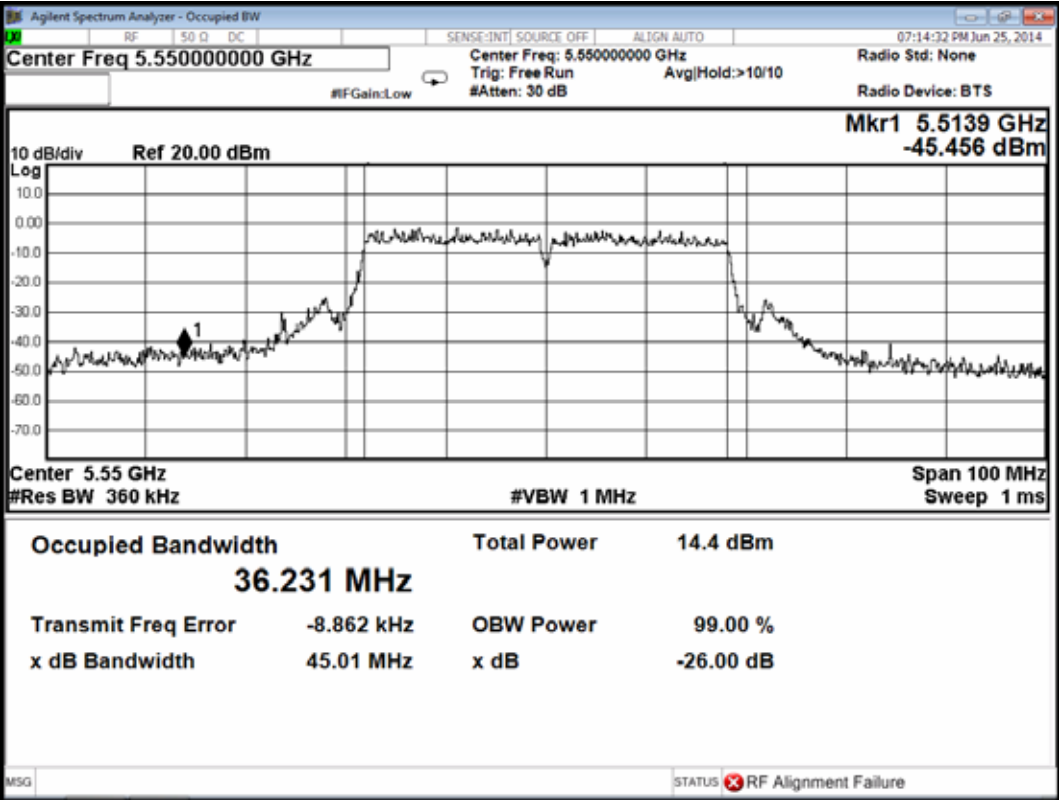
802.11n-HT40 (UNII Band II-2A), Frequency: 5310MHz



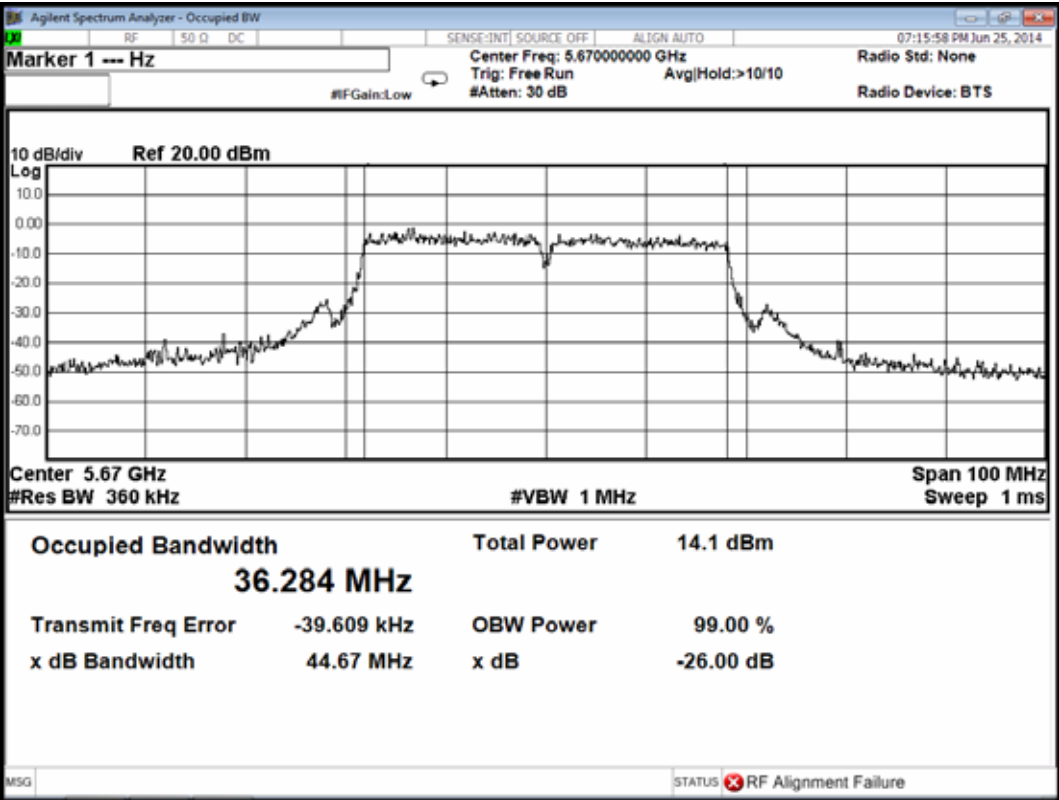
802.11n-HT40 (UNII Band II-2C), Frequency: 5510MHz



802.11n-HT40 (UNII Band II-2C), Frequency: 5550MHz

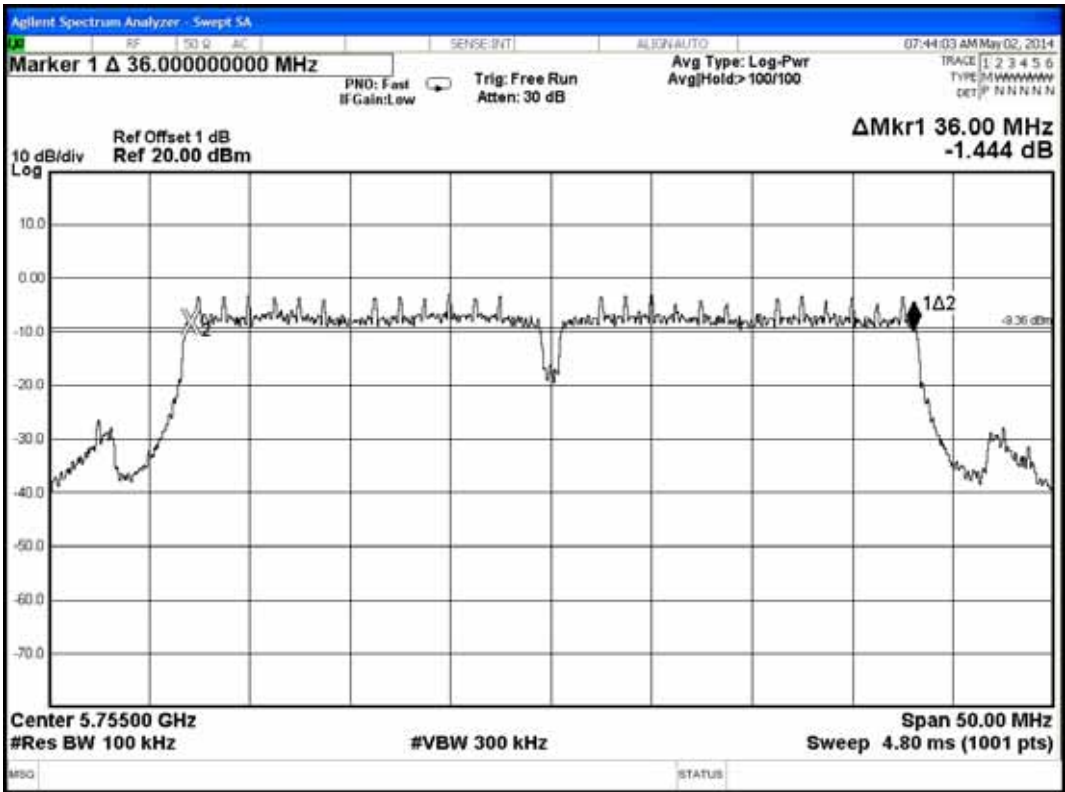


802.11n-HT40 (UNII Band II-2C), Frequency: 5670MHz

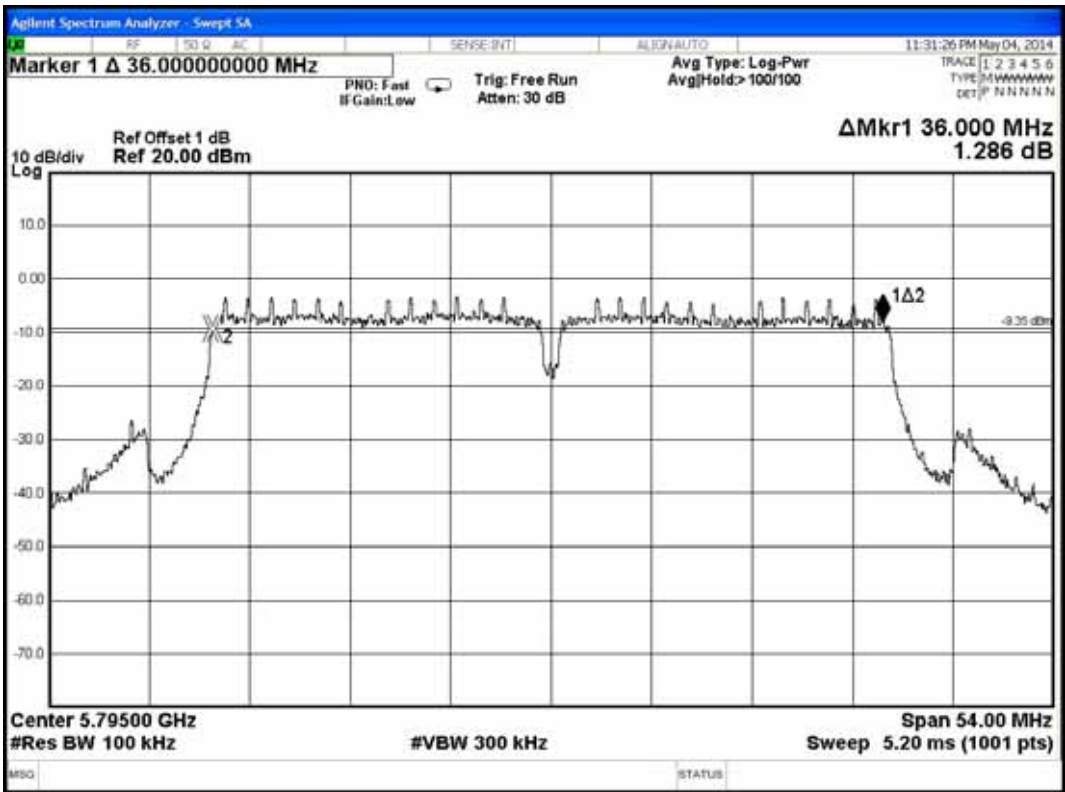




802.11n-HT40 (UNII Band III), Frequency: 5755MHz



802.11n-HT40 (UNII Band III), Frequency: 5795MHz





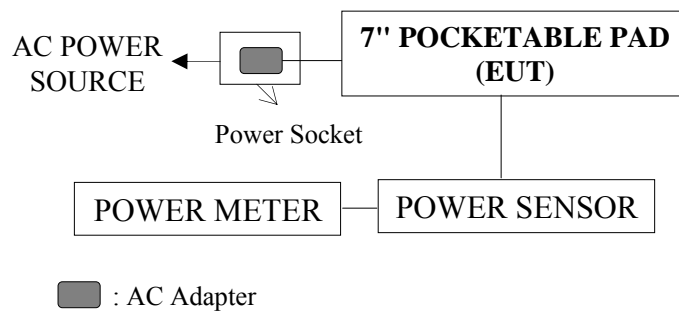
## 6. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

### 6.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Power Meter	Anritsu	ML2495A	1145008	2014. 10. 22
2.	Power Sensor	Anritsu	MA2411B	1126096	2014. 10. 22

### 6.2. Block Diagram of Test Setup



### 6.3. Specification Limits [§15.407(a)-(1)(2)(3)]

#### 6.3.1. For 802.11a

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	16.90dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	23.92dBm
5470~5725MHz	250mW (24dBm)	23.87dBm

Remark: B= 26dB Bandwidth

Frequency	Limit
5725~5850MHz	1W. (30dBm)

## 6.3.2. For 802.11n-HT20

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	16.99dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	23.91dBm
5470~5725MHz	250mW (24dBm)	23.99dBm

Remark: B= 26dB Bandwidth

Frequency	Limit
5725~5850MHz	1W. (30dBm)

## 6.3.3. For 802.11n-HT40

Frequency	Limit 1	Limit 2 (4dBm+10log B)
5150~5250MHz	50mW (17dBm)	20.66dBm

Frequency	Limit 1	Limit 2 (11dBm+10log B)
5250~5350MHz	250mW (24dBm)	27.65dBm
5470~5725MHz	250mW (24dBm)	27.66dBm

Remark: B= 26dB Bandwidth

Frequency	Limit
5725~5850MHz	1W. (30dBm)

## 6.4. Operating Condition of EUT

The test program “WL command” was used to enable the EUT to transmit data at different channel frequency individually.

## 6.5. Test Procedure

The EUT connected to power meter and sensor and record the average value  
The measurement guideline was according to KDB789033 D01 v01r03

## 6.6. Test Results

**PASSED.** All the test results are listed below.

Test Date: 2014. 05. 02    Temperature: 26    Humidity: 50%

### 6.6.1. For 802.11a

UNII Band	Channel	Frequency (MHz)	Maximum Output Power (dBm)			Power Setting
			Main (Chain 0)	AUX (Chain 1)	Total	
UNII Band I	CH 36	5180	12.88	12.21	<b>15.57</b>	9.5
	CH 40	5200	12.65	12.17	<b>15.43</b>	9.5
	CH 48	5240	12.72	12.92	<b>15.83</b>	9.5
UNII Band II-2A	CH 52	5260	13.82	12.79	<b>16.35</b>	9.5
	CH 56	5280	13.81	12.96	<b>16.42</b>	9.5
	CH 64	5320	14.05	12.05	<b>16.17</b>	9.5
UNII Band II-2C	CH 100	5500	12.10	12.51	<b>15.32</b>	9.5
	CH 116	5580	12.11	12.96	<b>15.57</b>	9.5
	CH 140	5700	11.66	12.44	<b>15.08</b>	9.5
UNII Band III	CH 149	5745MHz	12.36	13.28	<b>15.85</b>	9.5
	CH 157	5785MHz	11.51	12.49	<b>15.04</b>	9.5
	CH 165	5825MHz	11.38	12.46	<b>14.96</b>	9.5

## 6.6.2. For 802.11n-HT20

UNII Band	Channel	Frequency (MHz)	Maximum Output Power (dBm)			Power Setting
			Main (Chain 0)	AUX (Chain 1)	Total	
UNII Band I	CH 36	5180	12.47	11.97	<b>15.24</b>	9.5
	CH 40	5200	13.01	12.25	<b>15.66</b>	9.5
	CH 48	5240	12.77	11.65	<b>15.26</b>	9.5
UNII Band II-2A	CH 52	5260	12.77	11.69	<b>15.27</b>	9.5
	CH 56	5280	13.15	11.72	<b>15.50</b>	9.5
	CH 64	5320	13.14	11.79	<b>15.53</b>	9.5
UNII Band II-2C	CH 100	5500	11.69	12.31	<b>15.02</b>	9.5
	CH 116	5580	12.10	12.78	<b>15.46</b>	9.5
	CH 140	5700	11.69	12.44	<b>15.09</b>	9.5
UNII Band III	CH 149	5745MHz	12.17	13.36	<b>15.82</b>	9.5
	CH 157	5785MHz	11.85	12.79	<b>15.36</b>	9.5
	CH 165	5825MHz	11.48	12.41	<b>14.98</b>	9.5

## 6.6.3. For 802.11n-HT40

UNII Band	Channel	Frequency (MHz)	Maximum Output Power (dBm)			Power Setting
			Main (Chain 0)	AUX (Chain 1)	Total	
UNII Band I	CH 38	5190	12.75	12.73	<b>15.75</b>	9.5
	CH 46	5230	12.69	12.68	<b>15.70</b>	9.5
UNII Band II-2A	CH 54	5270	12.45	12.73	<b>15.60</b>	9.5
	CH 62	5310	12.44	12.95	<b>15.71</b>	9.5
UNII Band II-2C	CH 102	5510	12.15	11.79	<b>14.98</b>	9.5
	CH 110	5550	12.44	11.69	<b>15.09</b>	9.5
	CH 134	5670	12.49	11.68	<b>15.11</b>	9.5
UNII Band III	CH 151	5755MHz	12.38	12.08	<b>15.24</b>	9.5
	CH 159	5795MHz	11.89	11.81	<b>14.86</b>	9.5