

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBCUG-WTW-P23030304-1

FCC ID: B32M4250

Product: Point of Sale Terminal

Brand: Verifone

Model No.: M450-1

Received Date: 2023/3/9

Test Date: 2023/3/31 ~ 2023/4/20

Issued Date: 2023/5/8

Applicant: Verifone, Inc.

Address: 1400 West Stanford Ranch Road Suite 150 Rocklin CA 95765 USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location(1): No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan

Test Location (2): B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan

FCC Registration / 788550 / TW0003

Designation Number: 427177 / TW0011

Approved by:



Date:

2023/5/8

Jeremy Lin / Project Engineer

This test report consists of 119 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.



Prepared by : Gina Liu / Specialist

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Antenna Description of EUT	8
3.3 Channel List.....	9
3.4 Test Mode Applicability and Tested Channel Detail.....	11
3.5 Duty Cycle of Test Signal.....	13
3.6 Test Program Used and Operation Descriptions	15
3.7 Connection Diagram of EUT and Peripheral Devices	15
3.8 Configuration of Peripheral Devices and Cable Connections	15
4 Test Instruments	16
4.1 26 dB Bandwidth	16
4.2 RF Output Power.....	16
4.3 Power Spectral Density	16
4.4 6 dB Bandwidth	16
4.5 Occupied Bandwidth.....	16
4.6 Frequency Stability	17
4.7 AC Power Conducted Emissions	17
4.8 Unwanted Emissions below 1 GHz	18
4.9 Unwanted Emissions above 1 GHz.....	19
5 Limits of Test Items.....	20
5.1 26 dB Bandwidth	20
5.2 RF Output Power.....	20
5.3 Power Spectral Density	20
5.4 6 dB Bandwidth	20
5.5 Occupied Bandwidth.....	20
5.6 Frequency Stability	20
5.7 AC Power Conducted Emissions	21
5.8 Unwanted Emissions below 1 GHz	21
5.9 Unwanted Emissions above 1 GHz.....	22
6 Test Arrangements.....	23
6.1 26 dB Bandwidth	23
6.1.1 Test Setup	23
6.1.2 Test Procedure.....	23
6.2 RF Output Power.....	24
6.2.1 Test Setup	24
6.2.2 Test Procedure.....	24
6.3 Power Spectral Density	25
6.3.1 Test Setup	25
6.3.2 Test Procedure.....	25
6.4 6 dB Bandwidth	25
6.4.1 Test Setup	25
6.4.2 Test Procedure.....	25
6.5 Occupied Bandwidth.....	26
6.5.1 Test Setup	26
6.5.2 Test Procedure.....	26
6.6 Frequency Stability	26
6.6.1 Test Setup	26
6.6.2 Test Procedure.....	26
6.7 AC Power Conducted Emissions	27

6.7.1	Test Setup	27
6.7.2	Test Procedure	27
6.8	Unwanted Emissions below 1 GHz	28
6.8.1	Test Setup	28
6.8.2	Test Procedure	29
6.9	Unwanted Emissions above 1 GHz	30
6.9.1	Test Setup	30
6.9.2	Test Procedure	30
7	Test Results of Test Item	31
7.1	26 dB Bandwidth	31
7.2	RF Output Power	35
7.3	Power Spectral Density	42
7.4	6 dB Bandwidth	46
7.5	Occupied Bandwidth	48
7.6	Frequency Stability	53
7.7	AC Power Conducted Emissions	54
7.8	Unwanted Emissions below 1 GHz	56
7.9	Unwanted Emissions above 1 GHz	58
8	Pictures of Test Arrangements	118
9	Information of the Testing Laboratories	119

Release Control Record

Issue No.	Description	Date Issued
RFBCUG-WTW-P23030304-1	Original release.	2023/5/8

1 Certificate

Product: Point of Sale Terminal

Brand: Verifone

Test Model: M450-1

Sample Status: Engineering sample

Applicant: Verifone, Inc.

Test Date: 2023/3/31 ~ 2023/4/20

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement procedure: ANSI C63.10-2013
KDB 789033 D02 General UNII Test Procedure New Rules v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	Pass	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(1)(2)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1)(2)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -19.00 dB at 0.35800 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.2 dB at 31.48 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -1.6 dB at 5350.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex not a standard connector.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Occupied Bandwidth	-	491.896 Hz
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.02 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.01 dB
	18 GHz ~ 40 GHz	1.15 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Point of Sale Terminal
Brand	Verifone
Test Model	M450-1
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n: up to 150 Mbps 802.11ac: up to 433.3 Mbps
Operating Frequency	5180 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5720 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5.18 GHz ~ 5.24 GHz : 36.559 mW (15.63 dBm) 5.26 GHz ~ 5.32 GHz : 36.983 mW (15.68 dBm) 5.5 GHz ~ 5.72 GHz : 35.563 mW (15.51 dBm) 5.745 GHz ~ 5.825 GHz : 31.405 mW (14.97 dBm)
EUT Category	Client device

Note:

1. The accessory devices of EUT, please refer to external photo.
2. There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT. WLAN (2.4 GHz & 5 GHz) and Bluetooth technology cannot transmit at the same time, but use time slot technology to transmit at the same time.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	Gain (dBi)				Antenna Type	Connector Type
	5150 MHz	5350 MHz	5600 MHz	5850 MHz		
1	4.2	4.0	3.9	3.9	PCB	ipex(MHF)

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a SISO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
802.11ac (VHT20)	1TX	1RX
802.11ac (VHT40)	1TX	1RX
802.11ac (VHT80)	1TX	1RX

Note:

- The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz), therefore the investigated worst case to representative mode in test report.

3.3 Channel List

FOR 5180 ~ 5320 MHz

8 channels are provided for 802.11a, 802.11n (HT20) and 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

4 channels are provided for 802.11n (HT40) and 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20) and 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40) and 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20) and 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40) and 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channels are provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: Z-axis

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
26 dB Bandwidth	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11n (HT20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11n (HT40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ac (VHT80)	CDD	58, 106, 122, 138	BPSK	MCS0
RF Output Power	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11ac (VHT40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	144, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	CDD	144, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	CDD	142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	CDD	138, 155	BPSK	MCS0
Occupied Bandwidth / Power Spectral Density	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
	802.11ac (VHT80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0
Frequency Stability	802.11a	-	36	un-modulation	-
AC Power Conducted Emissions	802.11n (HT20)	CDD	60	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11n (HT20)	CDD	60	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	6Mb/s
	802.11n (HT20)	CDD	36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165	BPSK	MCS0
	802.11n (HT40)	CDD	38, 46, 54, 62, 102, 110, 134, 142, 151, 159	BPSK	MCS0
	802.11ac (VHT80)	CDD	42, 58, 106, 122, 138, 155	BPSK	MCS0

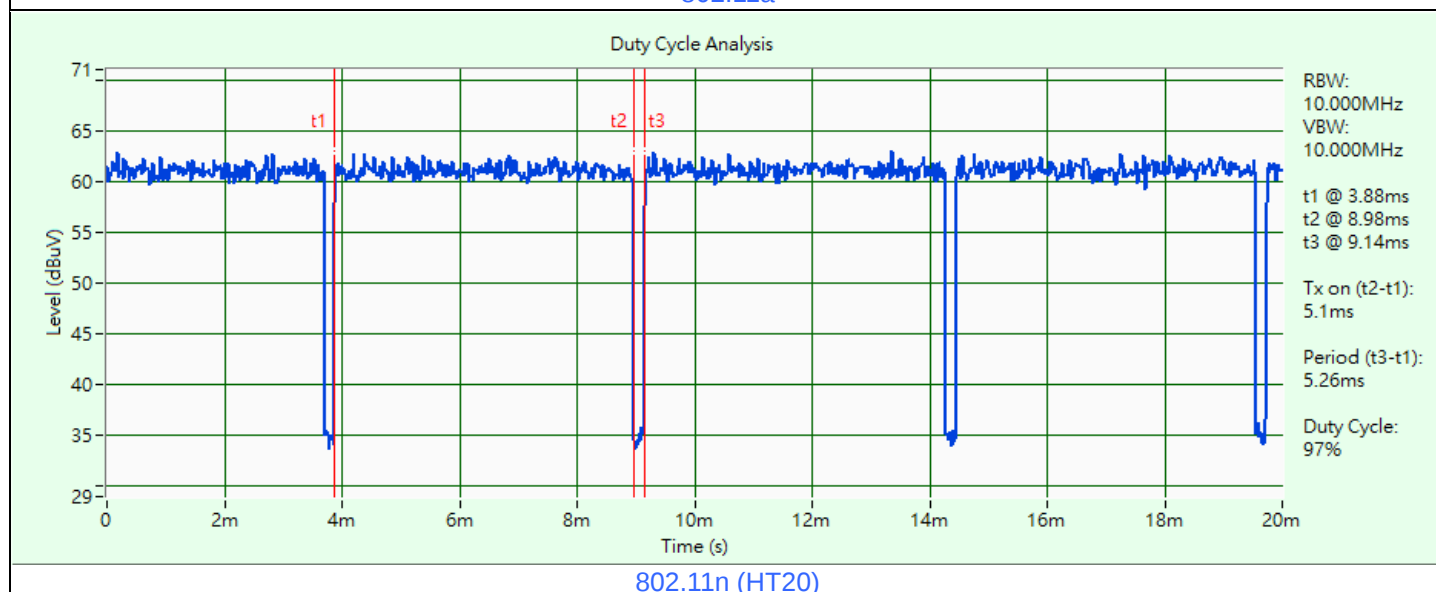
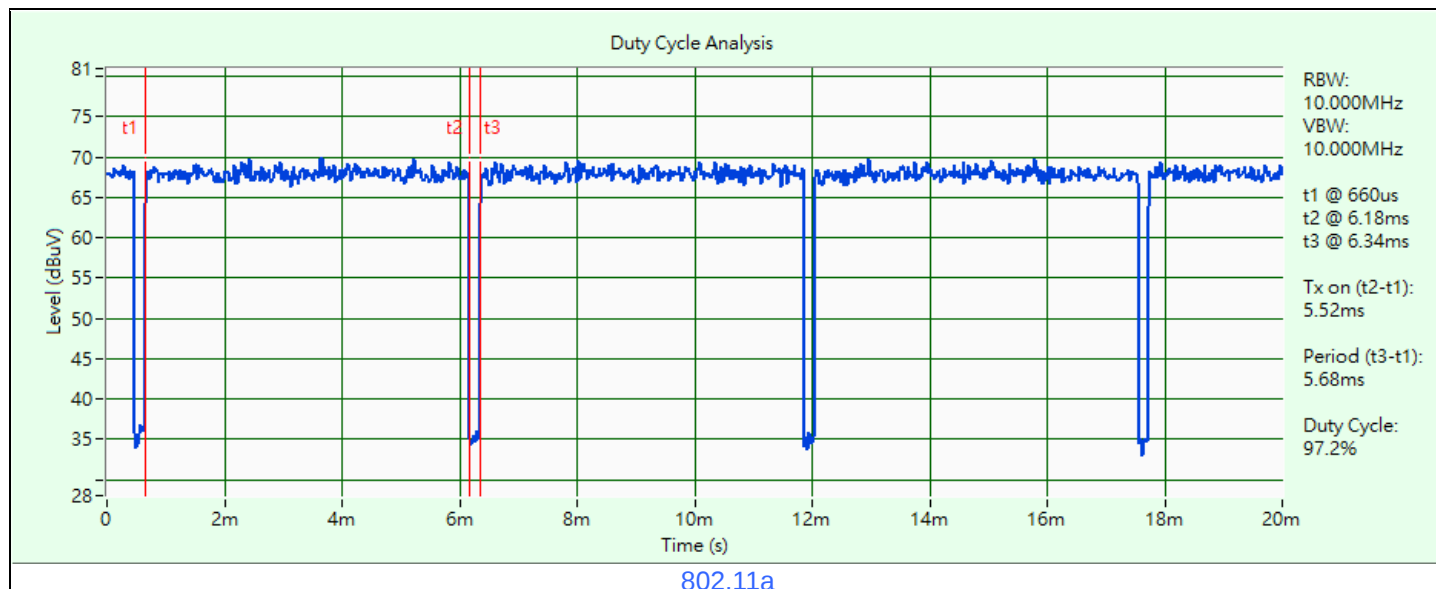
3.5 Duty Cycle of Test Signal

802.11a: Duty cycle = $5.52 \text{ ms} / 5.68 \text{ ms} \times 100\% = 97.2\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.12 \text{ dB}$

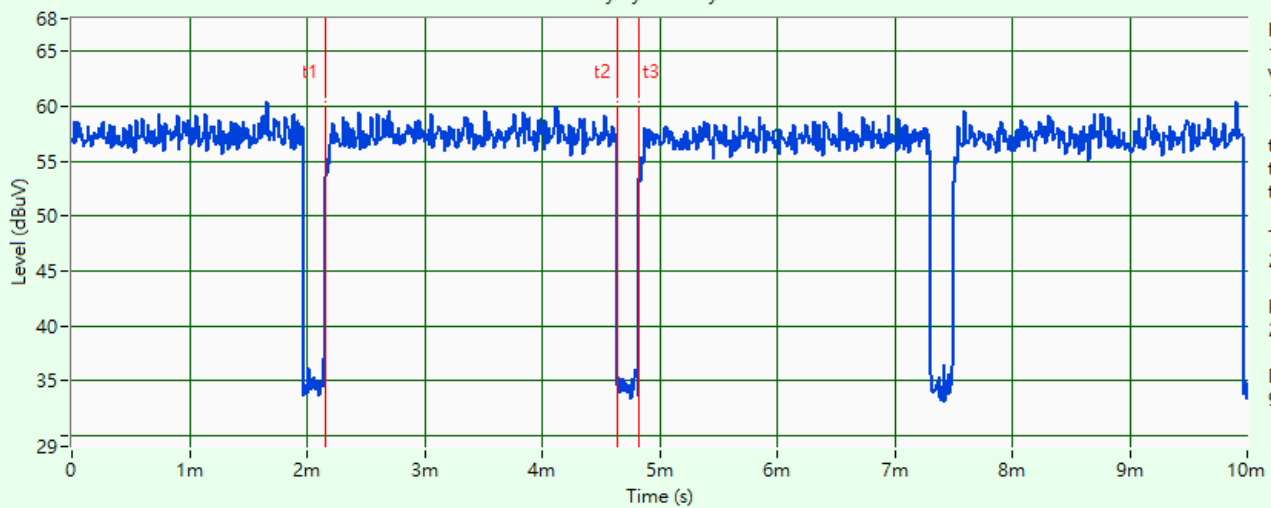
802.11n (HT20): Duty cycle = $5.1 \text{ ms} / 5.26 \text{ ms} \times 100\% = 97.0\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.13 \text{ dB}$

802.11n (HT40): Duty cycle = $2.48 \text{ ms} / 2.66 \text{ ms} \times 100\% = 93.2\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.30 \text{ dB}$

802.11ac (VHT80): Duty cycle = $0.249 \text{ ms} / 0.447 \text{ ms} \times 100\% = 55.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.54 \text{ dB}$

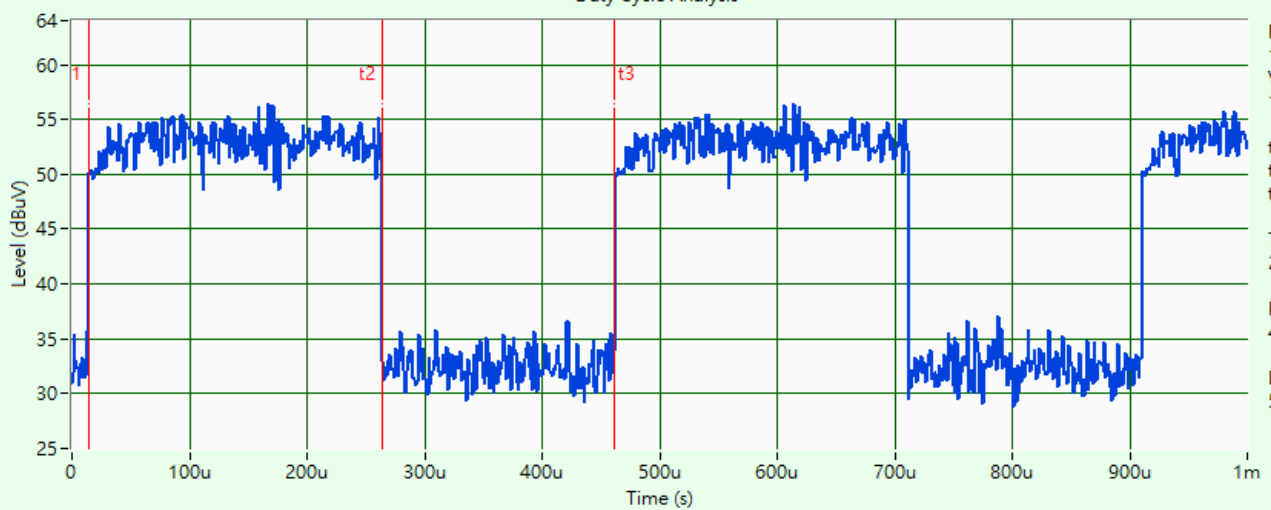


Duty Cycle Analysis



802.11n (HT40)

Duty Cycle Analysis

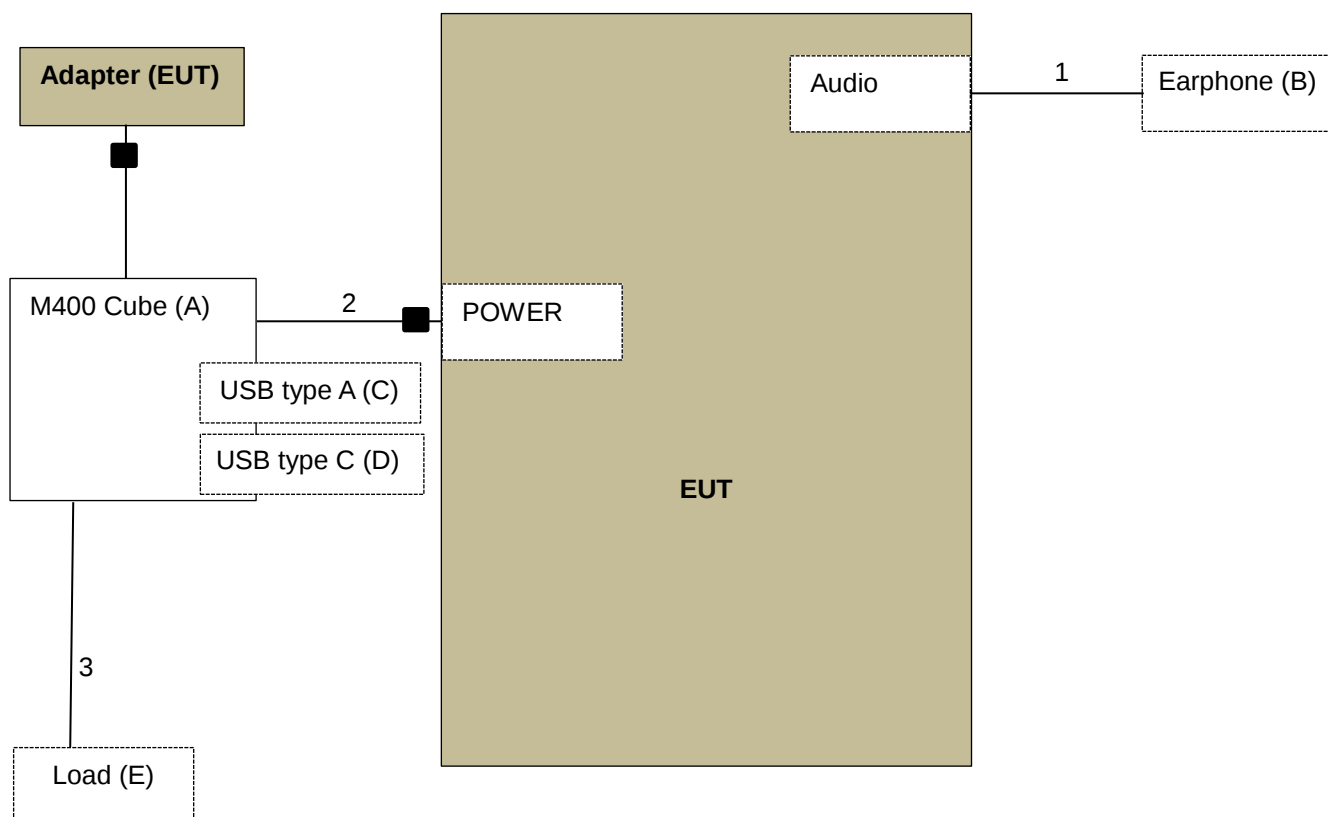


802.11ac (VHT80)

3.6 Test Program Used and Operation Descriptions

Controlling software QRCT 3 Version 3.0.264.0 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



Under Table

3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	M400 Cube	VeriFone	N/A	N/A	N/A	Supplied by applicant
B	Earphone	apple	MB77PFEB	N/A	N/A	Provided by Lab
C	USB Dongle	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab
D	USB Dongle	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab
E	Load	N/A	N/A	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Audio Cable	1	1.0	N	0	Provided by Lab
2	USB Cable	1	1.3	Y	1	Supplied by applicant
3	LAN Cable	2	1.5	N	0	Provided by Lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal and spectrum analyzer R&S	FSV3044	101105	2023/2/22	2024/2/21
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/1

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal and spectrum analyzer R&S	FSV3044	101105	2023/2/22	2024/2/21
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	2022/7/13	2023/7/12

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/1

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 6 dB Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.6 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
AC power supply JIN YIH Technology	6905S	1720444	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2022/6/23	2023/6/22
Signal and spectrum analyzer R&S	FSV3044	101105	2023/2/22	2024/2/21
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber TERCHY	HRM-120RF	931022	2022/12/27	2023/12/26

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/4/1

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC-LISN SCHWARZBECK MESS- ELETRONIK	NNBM 8126G	8126G-069	2022/11/9	2023/11/8
LISN R&S	ESH2-Z5	100100	2023/3/7	2024/3/6
	ESH3-Z5	100116	2023/2/15	2024/2/14
LISN Schwarzbeck	NNLK 8121	8121-731	2022/5/26	2023/5/25
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	2022/9/3	2023/9/2
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver R&S	ESR3	102783	2022/12/21	2023/12/20
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2023/4/20

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	UNAT_5+	PAD-CH6-01	N/A	N/A
Antenna Tower Controller Max-Full	MF-7802	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB9168	9168-616	2022/10/26	2023/10/25
Loop Antenna EMCI	EM-6879	269	2022/9/19	2023/9/18
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
Pre-amplifier EMCI	EMC001340	980201	2022/9/23	2023/9/22
Preamplifier Agilent	310N	187226	2022/6/14	2023/6/13
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/1/7	2024/1/6
RF Coaxial Cable ETS-Lindgren	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4	2022/6/14	2023/6/13
	RFC-SMS-100-SMS-24-IN	Cable-CH1-02(RFC-SMS-100-SMS-24)	2022/6/14	2023/6/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY52260177	2022/9/19	2023/9/18
Turn Table Max-Full	TT-1510	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802	N/A	N/A	N/A

Notes:

1. The test was performed in XD - 966 chamber 6.
2. Tested Date: 2023/4/8

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	UNAT_5+	PAD-CH6-01	N/A	N/A
Antenna Tower Controller Max-Full	MF-7802	N/A	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	8	N/A	N/A
Horn Antenna ETS-Lindgren	3117	00143293	2022/11/13	2023/11/12
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170241	2022/10/20	2023/10/19
Pre-Amplifier EMCI	EMC 184045	980116	2022/10/1	2023/9/30
Preamplifier Agilent	83017A	MY39501373	2022/6/14	2023/6/13
RF Coaxial Cable ETS-Lindgren	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4	2022/6/14	2023/6/13
	RFC-SMS-100-SMS-24-IN	Cable-CH1-02(RFC-SMS-100-SMS-24)	2022/6/14	2023/6/13
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2023/1/7	2024/1/6
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2023/1/7	2024/1/6
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY52260177	2022/9/19	2023/9/18
Turn Table Max-Full	TT-1510	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802	N/A	N/A	N/A

Notes:

1. The test was performed in XD - 966 chamber 6.
2. Tested Date: 2023/3/31 ~ 2023/4/5

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250mW (24 dBm)

Operation Band	Limit
U-NII-2A	250 mW (24 dBm) or 11 dBm+10 log B
U-NII-2C	250 mW (24 dBm) or 11 dBm+10 log B
U-NII-3	1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

5.3 Power Spectral Density

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	17 dBm/MHz
	Fixed point-to-point Access Point	
	Indoor Access Point	
	Mobile and Portable client device	11 dBm/MHz

Operation Band	Limit
U-NII-2A	11 dBm/MHz
U-NII-2C	11 dBm/MHz
U-NII-3	30 dBm/500 kHz

5.4 6 dB Bandwidth

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.5 Occupied Bandwidth

The results are for reference only.

5.6 Frequency Stability

The frequency of the carrier signal shall be maintained within band of operation.

5.7 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.8 Unwanted Emissions below 1 GHz

Radiated emissions which fall in the restricted bands 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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.9 Unwanted Emissions above 1 GHz

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, 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 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules v02r01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)

For transmitters operating in the 5.15-5.25 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

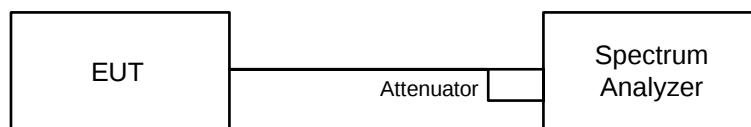
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

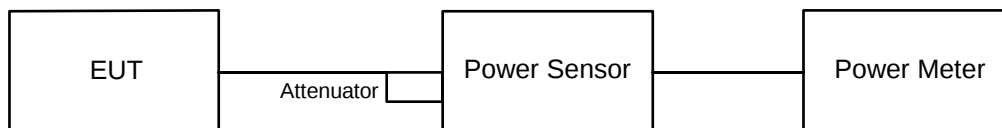


6.1.2 Test Procedure

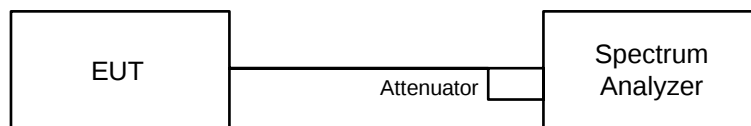
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

6.2 RF Output Power

6.2.1 Test Setup



For channel straddling:



6.2.2 Test Procedure

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

For channel straddling:

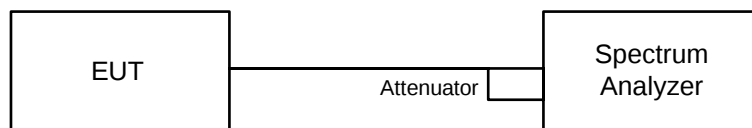
Method SA-2A

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Manually set sweep time $\geq 10 \times (\text{number of points in sweep}) \times (\text{total on/off period of the transmitted signal})$.
- Perform a single sweep.
- Record the max value and add 10 log (1/duty cycle).

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

For specified measurement bandwidth 1 MHz:

Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add 10 log (1/duty cycle).

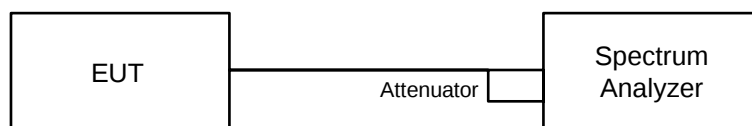
For specified measurement bandwidth 500 kHz:

Method SA-2

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- Sweep points $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to "free run".
- Trace average at least 100 traces in power averaging mode.
- Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- Record the max value and add 10 log (1/duty cycle).

6.4 6 dB Bandwidth

6.4.1 Test Setup

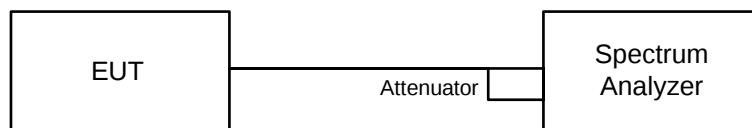


6.4.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.5 Occupied Bandwidth

6.5.1 Test Setup

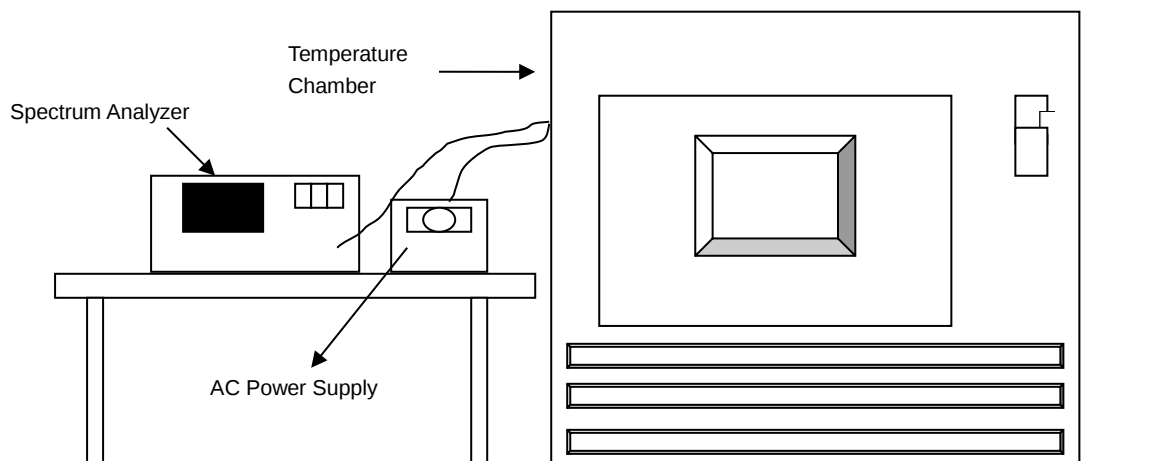


6.5.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

6.6 Frequency Stability

6.6.1 Test Setup

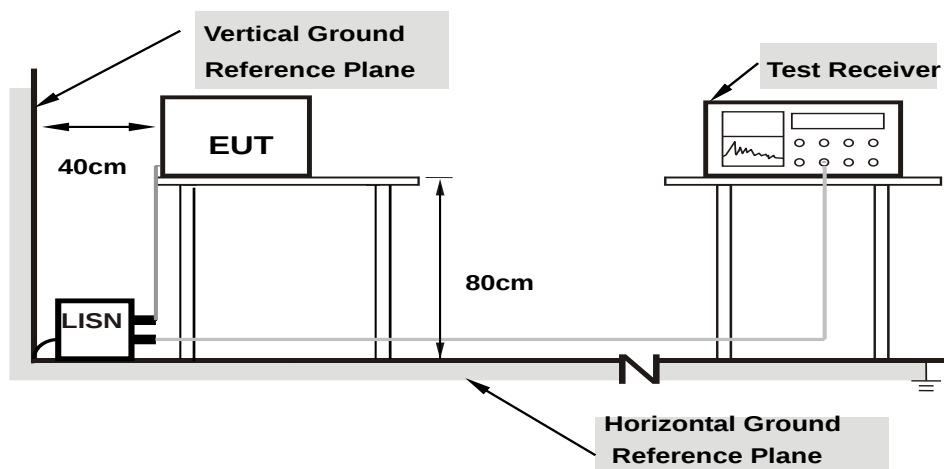


6.6.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- 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.

6.7 AC Power Conducted Emissions

6.7.1 Test Setup



Note: 1. Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.7.2 Test Procedure

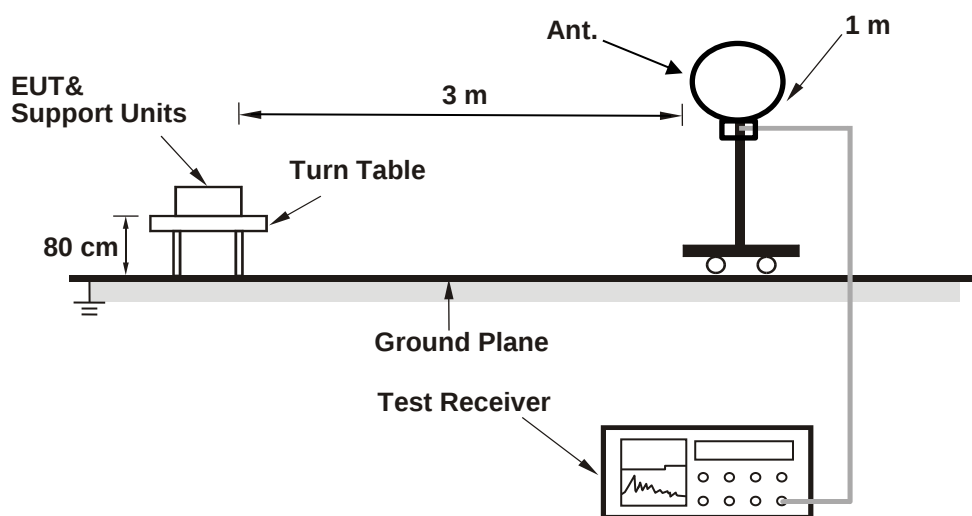
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

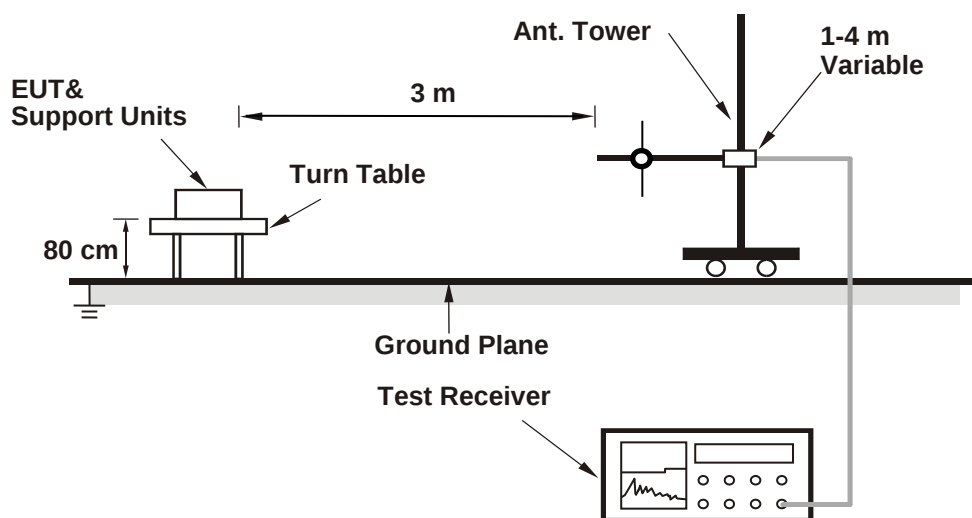
6.8 Unwanted Emissions below 1 GHz

6.8.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.8.2 Test Procedure

For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

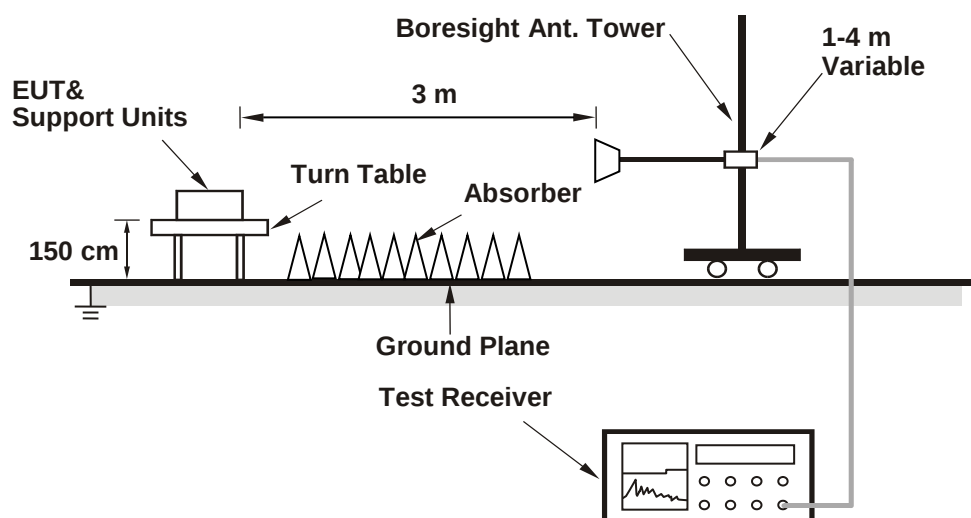
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.9.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 26 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	22.95
60	5300	22.55
64	5320	25.9
100	5500	22.66
116	5580	23.03
140	5700	23.58
144 (U-NII-2C)	5720	17.33
144 (U-NII-3)	5720	6.25

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.95	24.6 > 24
60	5300	22.55	24.53 > 24
64	5320	25.90	25.13 > 24
100	5500	22.66	24.55 > 24
116	5580	23.03	24.62 > 24
140	5700	23.58	24.72 > 24
144 (U-NII-2C)	5720	17.33	23.38 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11n (HT20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	26.89
60	5300	26.45
64	5320	29.26
100	5500	22.99
116	5580	23.11
140	5700	24.14
144 (U-NII-2C)	5720	17.35
144 (U-NII-3)	5720	6.52

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	26.89	25.29 > 24
60	5300	26.45	25.22 > 24
64	5320	29.26	25.66 > 24
100	5500	22.99	24.61 > 24
116	5580	23.11	24.63 > 24
140	5700	24.14	24.82 > 24
144 (U-NII-2C)	5720	17.35	23.39 < 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

802.11n (HT40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
54	5270	46.21
62	5310	45.86
102	5510	46.28
110	5550	45.93
134	5670	45.82
142 (U-NII-2C)	5710	37.64
142 (U-NII-3)	5710	7.11

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	46.21	27.64 > 24
62	5310	45.86	27.61 > 24
102	5510	46.28	27.65 > 24
110	5550	45.93	27.62 > 24
134	5670	45.82	27.61 > 24
142 (U-NII-2C)	5710	37.64	26.75 > 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

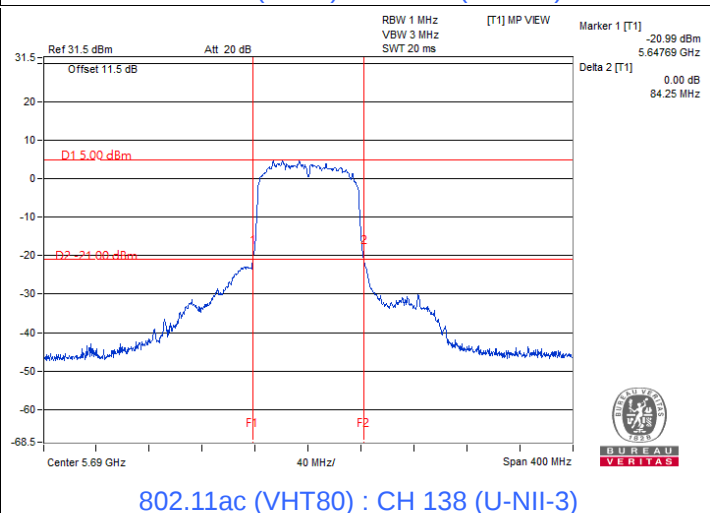
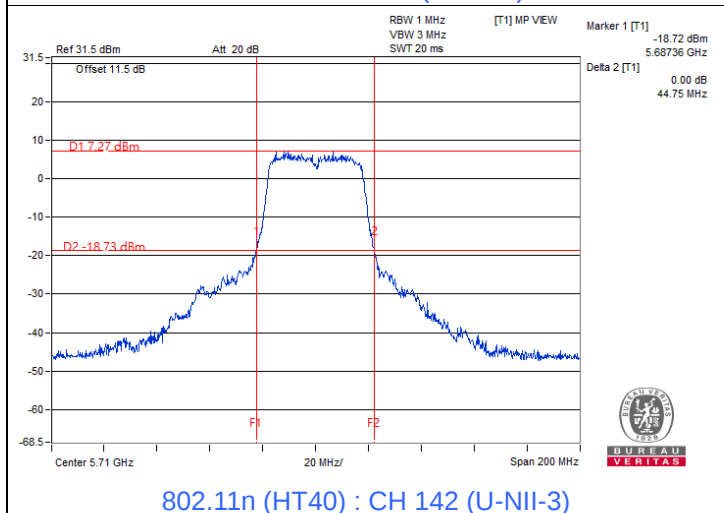
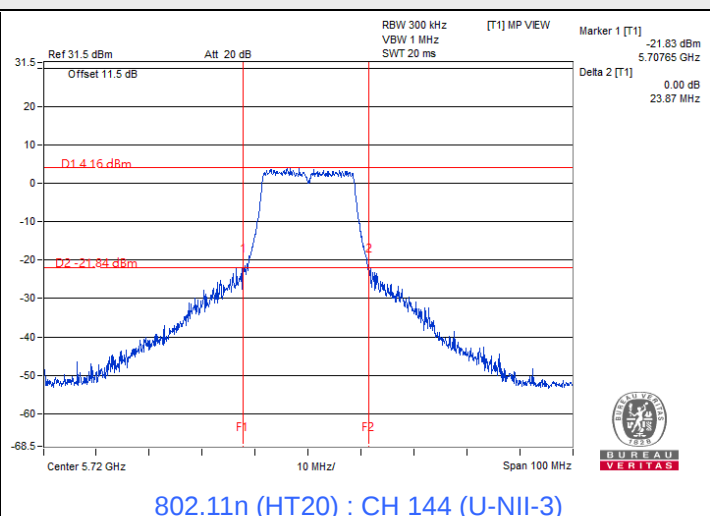
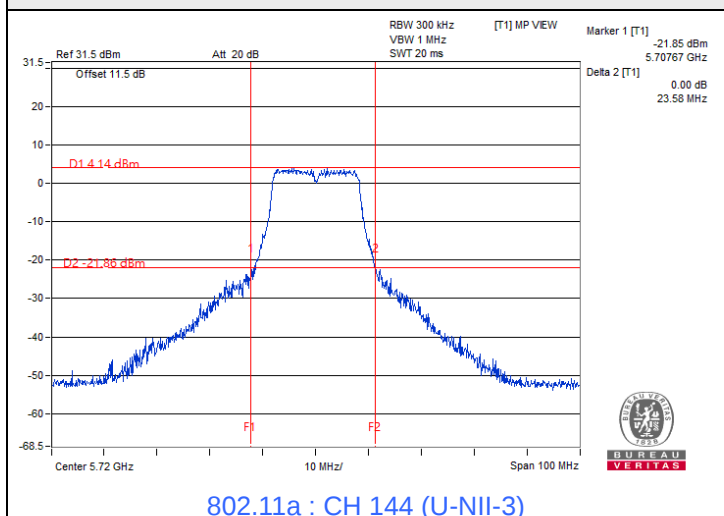
802.11ac (VHT80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
58	5290	85.37
106	5530	85.53
122	5610	85.68
138 (U-NII-2C)	5690	77.31
138 (U-NII-3)	5690	6.94

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	85.37	30.31 > 24
106	5530	85.53	30.32 > 24
122	5610	85.68	30.32 > 24
138 (U-NII-2C)	5690	77.31	29.88 > 24

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Spectrum Plot of Minimum Value



Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1
2. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

7.2 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	35.563	15.51	24	Pass
40	5200	34.834	15.42	24	Pass
48	5240	36.559	15.63	24	Pass
52	5260	35.892	15.55	24	Pass
60	5300	36.559	15.63	24	Pass
64	5320	36.728	15.65	24	Pass
100	5500	33.266	15.22	24	Pass
116	5580	33.963	15.31	24	Pass
140	5700	32.211	15.08	24	Pass
*144 (U-NII-2C)	5720	26.449	14.22	23.38	Pass
*144 (U-NII-3)	5720	5.217	7.17	30	Pass
149	5745	31.405	14.97	30	Pass
157	5785	29.58	14.71	30	Pass
165	5825	29.444	14.69	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	35.075	15.45	24	Pass
40	5200	35.645	15.52	24	Pass
48	5240	35.975	15.56	24	Pass
52	5260	36.392	15.61	24	Pass
60	5300	36.983	15.68	24	Pass
64	5320	36.898	15.67	24	Pass
100	5500	33.574	15.26	24	Pass
116	5580	35.563	15.51	24	Pass
140	5700	31.696	15.01	24	Pass
*144 (U-NII-2C)	5720	25.907	14.13	23.39	Pass
*144 (U-NII-3)	5720	5.694	7.55	30	Pass
149	5745	31.333	14.96	30	Pass
157	5785	30.061	14.78	30	Pass
165	5825	31.117	14.93	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
38	5190	27.925	14.46	24	Pass
46	5230	28.907	14.61	24	Pass
54	5270	28.314	14.52	24	Pass
62	5310	29.444	14.69	24	Pass
102	5510	26.546	14.24	24	Pass
110	5550	26.122	14.17	24	Pass
134	5670	28.054	14.48	24	Pass
*142 (U-NII-2C)	5710	23.737	13.75	24	Pass
*142 (U-NII-3)	5710	1.427	1.54	30	Pass
151	5755	24.946	13.97	30	Pass
159	5795	23.335	13.68	30	Pass

Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
2. For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
5. For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
36	5180	31.842	15.03	24	Pass
40	5200	31.989	15.05	24	Pass
48	5240	31.915	15.04	24	Pass
52	5260	31.696	15.01	24	Pass
60	5300	32.211	15.08	24	Pass
64	5320	33.037	15.19	24	Pass
100	5500	31.696	15.01	24	Pass
116	5580	30.69	14.87	24	Pass
140	5700	29.854	14.75	24	Pass
*144 (U-NII-2C)	5720	23.303	13.67	24	Pass
*144 (U-NII-3)	5720	5.122	7.09	30	Pass
149	5745	28.054	14.48	30	Pass
157	5785	27.669	14.42	30	Pass
165	5825	27.353	14.37	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
38	5190	25.823	14.12	24	Pass
46	5230	25.763	14.11	24	Pass
54	5270	25.882	14.13	24	Pass
62	5310	26.363	14.21	24	Pass
102	5510	24.717	13.93	24	Pass
110	5550	24.889	13.96	24	Pass
134	5670	23.823	13.77	24	Pass
*142 (U-NII-2C)	5710	21.799	13.38	24	Pass
*142 (U-NII-3)	5710	1.31	1.17	30	Pass
151	5755	22.131	13.45	30	Pass
159	5795	22.182	13.46	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

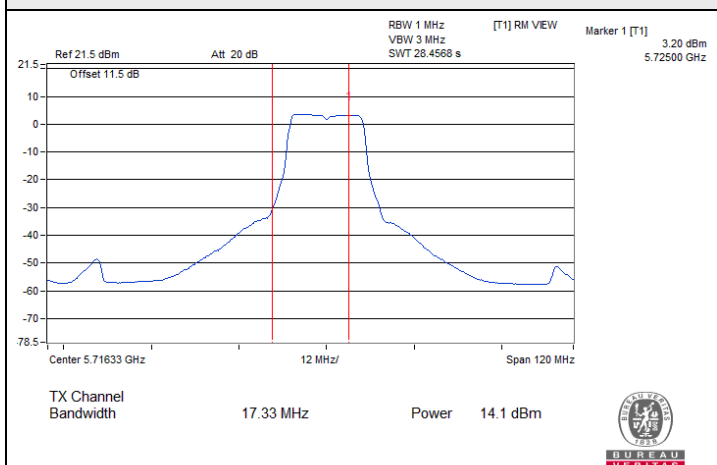
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
42	5210	25.882	14.13	24	Pass
58	5290	25.527	14.07	24	Pass
106	5530	24.889	13.96	24	Pass
122	5610	24.946	13.97	24	Pass
*138 (U-NII-2C)	5690	22.444	13.51	24	Pass
*138 (U-NII-3)	5690	0.3812	-4.19	30	Pass
155	5775	22.233	13.47	30	Pass

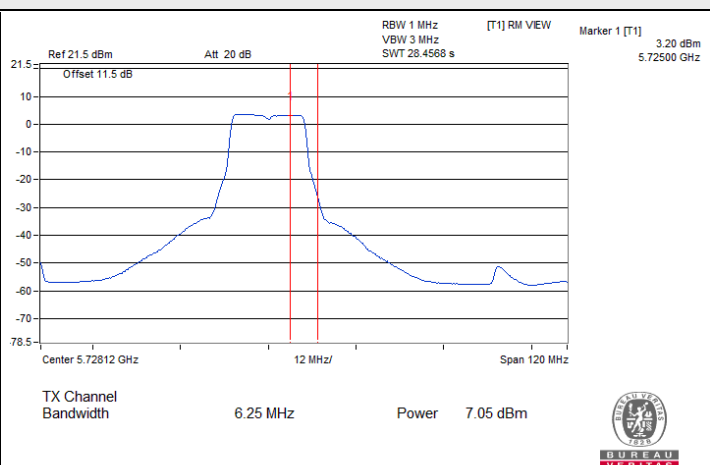
Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2A and use spectrum analyzer test , the duty factor was included in the total power.
- For U-NII-1, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the output power limit shall not be reduced.

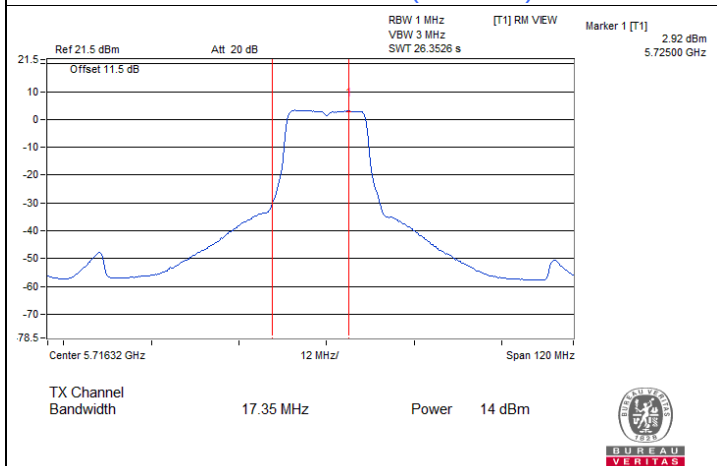
Spectrum Plot for channel straddling



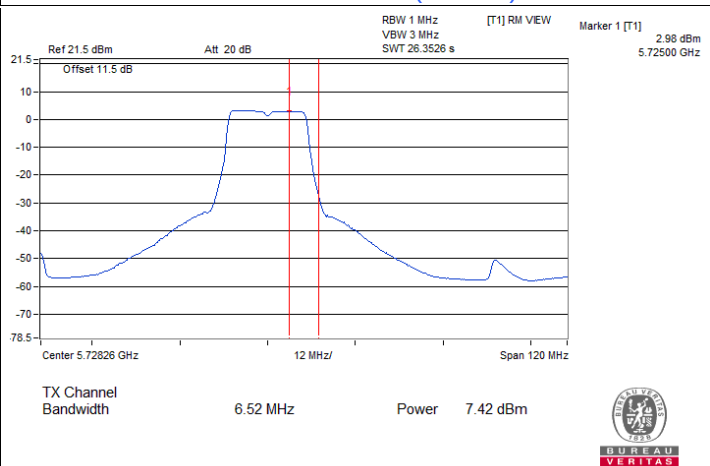
802.11a : CH 144 (U-NII-2C)



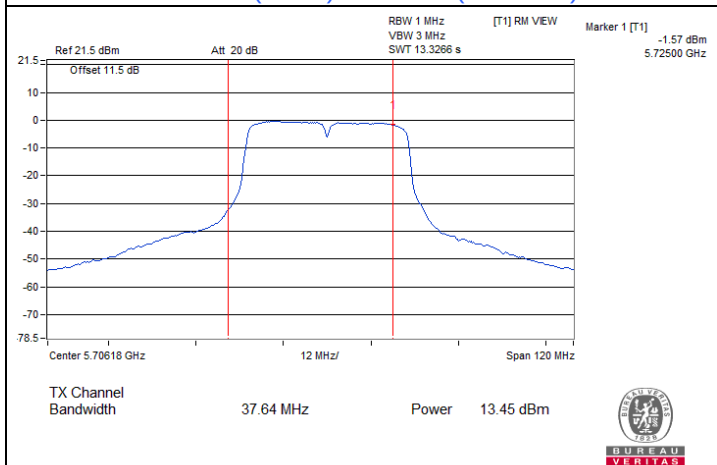
802.11a : CH 144 (U-NII-3)



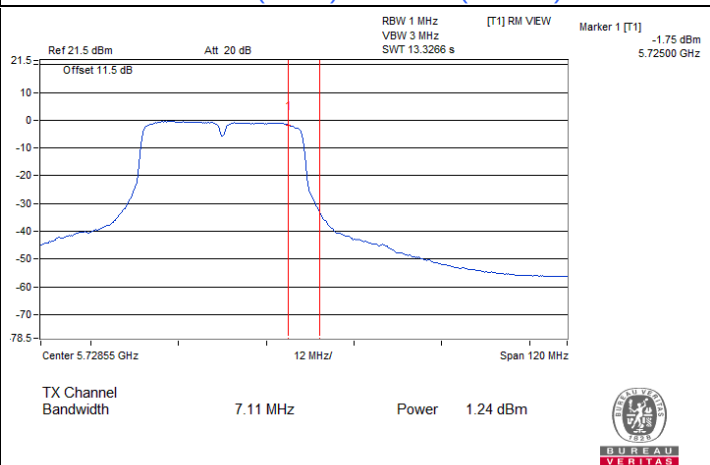
802.11n (HT20) : CH 144 (U-NII-2C)



802.11n (HT20) : CH 144 (U-NII-3)

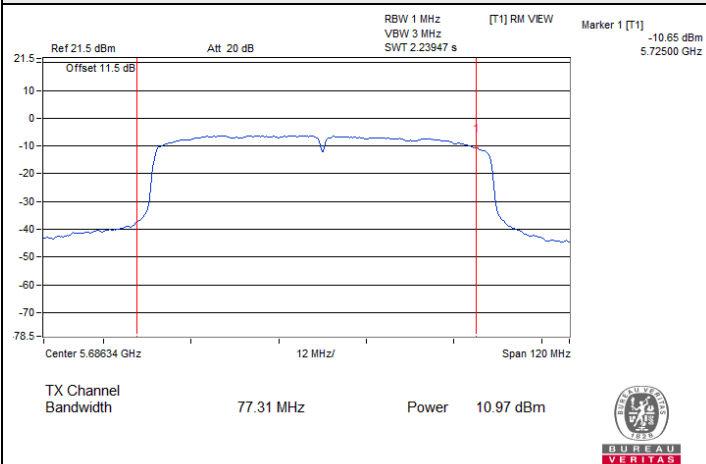


802.11n (HT40) : CH 142 (U-NII-2C)

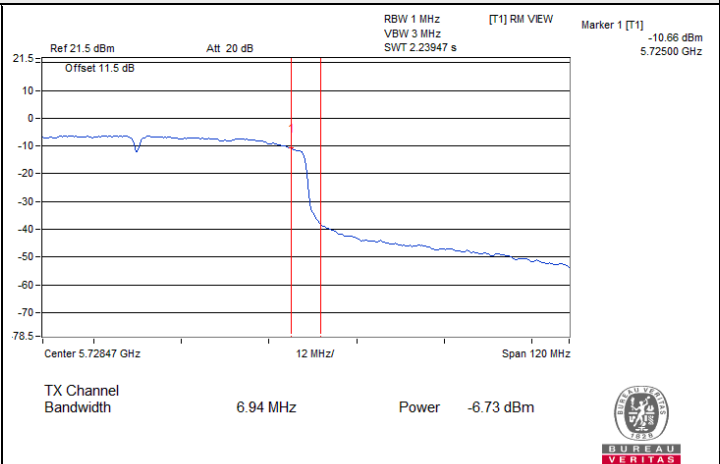


802.11n (HT40) : CH 142 (U-NII-3)

Spectrum Plot for channel straddling



802.11ac (VHT80) : CH 138 (U-NII-2C)



802.11ac (VHT80) : CH 138 (U-NII-3)

7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
36	5180	2.57	0.12	2.69	11	Pass
40	5200	2.48	0.12	2.60	11	Pass
48	5240	2.64	0.12	2.76	11	Pass
52	5260	2.55	0.12	2.67	11	Pass
60	5300	2.61	0.12	2.73	11	Pass
64	5320	2.65	0.12	2.77	11	Pass
100	5500	2.29	0.12	2.41	11	Pass
116	5580	2.36	0.12	2.48	11	Pass
140	5700	2.02	0.12	2.14	11	Pass
144 (U-NII-2C)	5720	2.02	0.12	2.14	11	Pass

Notes:

1. For U-NII-1, the antenna gain is 4.2 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the power density limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
36	5180	2.30	0.13	2.43	11	Pass
40	5200	2.45	0.13	2.58	11	Pass
48	5240	2.55	0.13	2.68	11	Pass
52	5260	2.57	0.13	2.70	11	Pass
60	5300	2.67	0.13	2.80	11	Pass
64	5320	2.64	0.13	2.77	11	Pass
100	5500	2.19	0.13	2.32	11	Pass
116	5580	2.45	0.13	2.58	11	Pass
140	5700	2.05	0.13	2.18	11	Pass
144 (U-NII-2C)	5720	2.08	0.13	2.21	11	Pass

Notes:

1. For U-NII-1, the antenna gain is 4.2 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the power density limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
38	5190	-1.54	0.30	-1.24	11	Pass
46	5230	-1.29	0.30	-0.99	11	Pass
54	5270	-1.40	0.30	-1.10	11	Pass
62	5310	-1.43	0.30	-1.13	11	Pass
102	5510	-1.80	0.30	-1.50	11	Pass
110	5550	-1.83	0.30	-1.53	11	Pass
134	5670	-1.59	0.30	-1.29	11	Pass
142 (U-NII-2C)	5710	-1.93	0.30	-1.63	11	Pass

Notes:

1. For U-NII-1, the antenna gain is 4.2 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the power density limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
42	5210	-4.80	2.54	-2.26	11	Pass
58	5290	-4.95	2.54	-2.41	11	Pass
106	5530	-5.02	2.54	-2.48	11	Pass
122	5610	-4.96	2.54	-2.42	11	Pass
138 (U-NII-2C)	5690	-5.25	2.54	-2.71	11	Pass

Notes:

1. For U-NII-1, the antenna gain is 4.2 dBi < 6dBi, so the power density limit shall not be reduced.
2. For U-NII-2A, the antenna gain is 4.2 dBi < 6 dBi, so the power density limit shall not be reduced.
3. For U-NII-2C, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
144 (U-NII-3)	5720	-5.81	0.12	-3.47	30	Pass
149	5745	-5.68	0.12	-3.34	30	Pass
157	5785	-5.94	0.12	-3.60	30	Pass
165	5825	-5.94	0.12	-3.60	30	Pass

Note: For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
144 (U-NII-3)	5720	-5.46	0.13	-3.11	30	Pass
149	5745	-5.85	0.13	-3.50	30	Pass
157	5785	-6.07	0.13	-3.72	30	Pass
165	5825	-5.87	0.13	-3.52	30	Pass

Note: For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

802.11n (HT40)

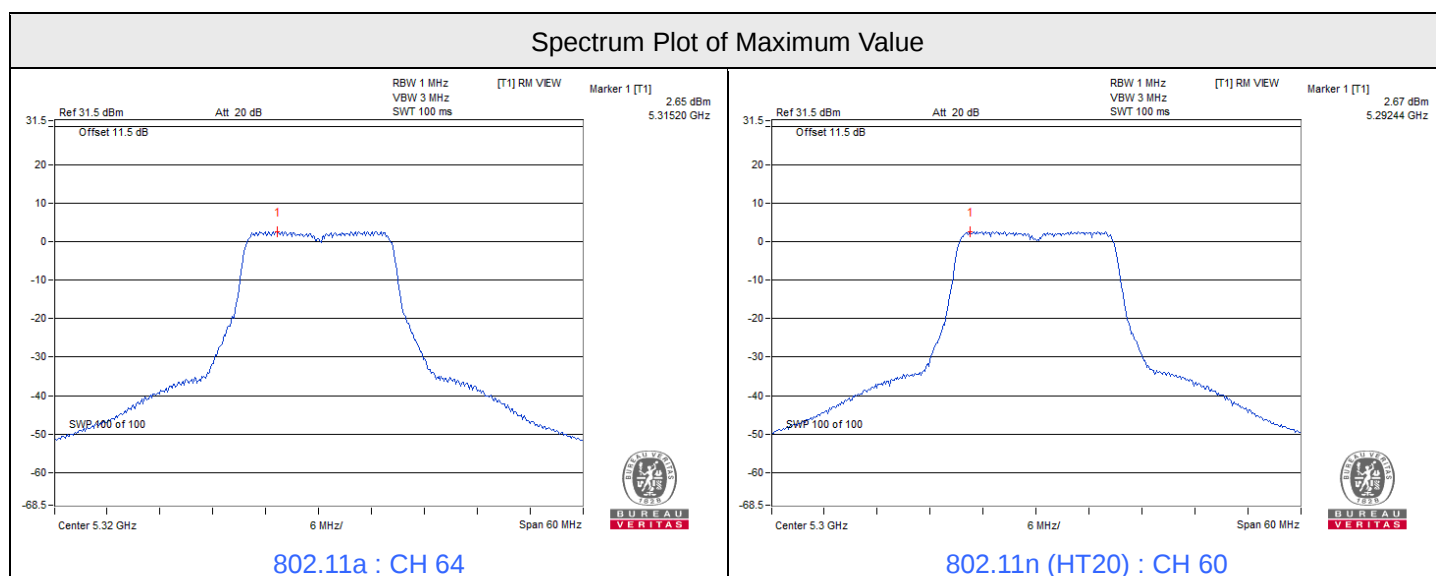
Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
142 (U-NII-3)	5710	-11.28	0.3	-8.76	30	Pass
151	5755	-9.96	0.3	-7.44	30	Pass
159	5795	-10.28	0.3	-7.76	30	Pass

Note: For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.

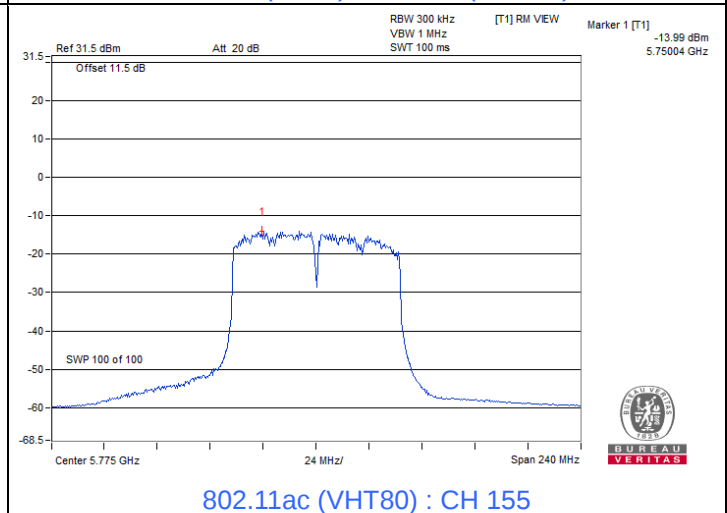
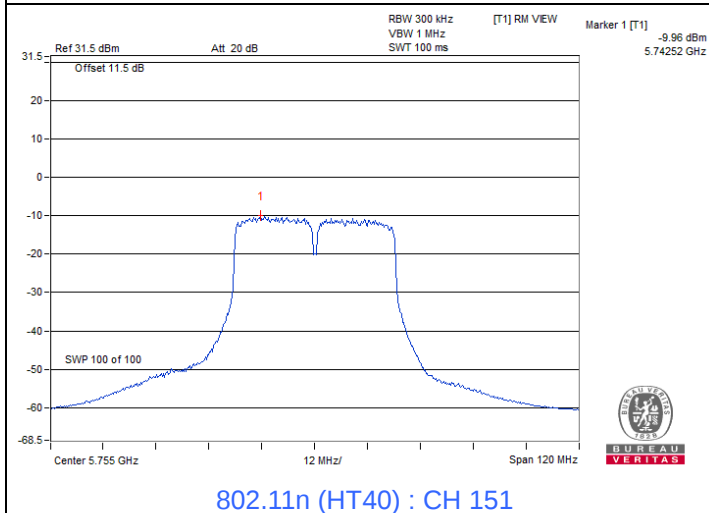
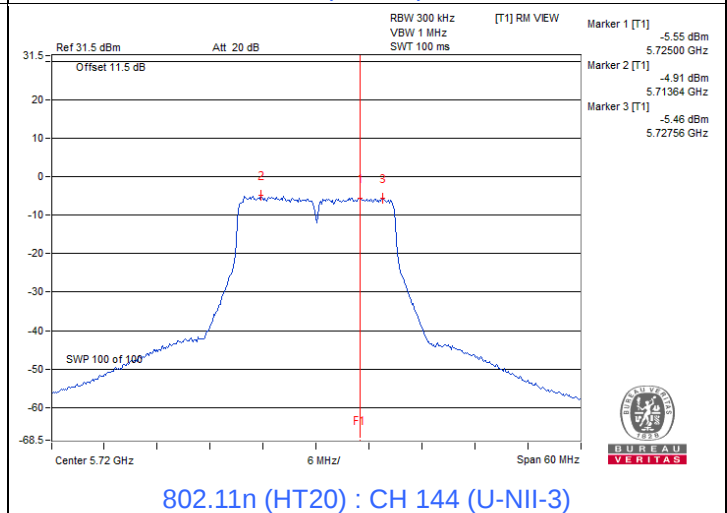
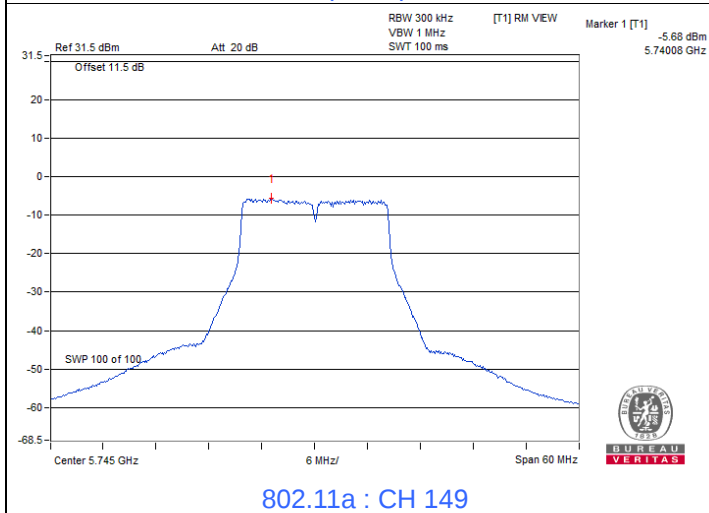
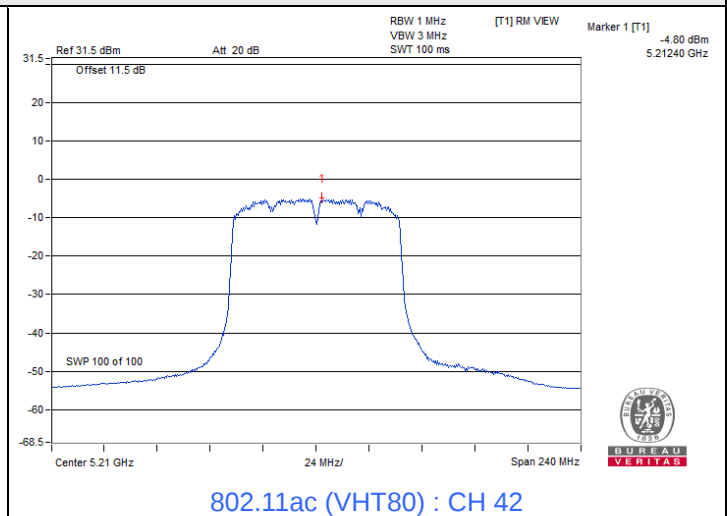
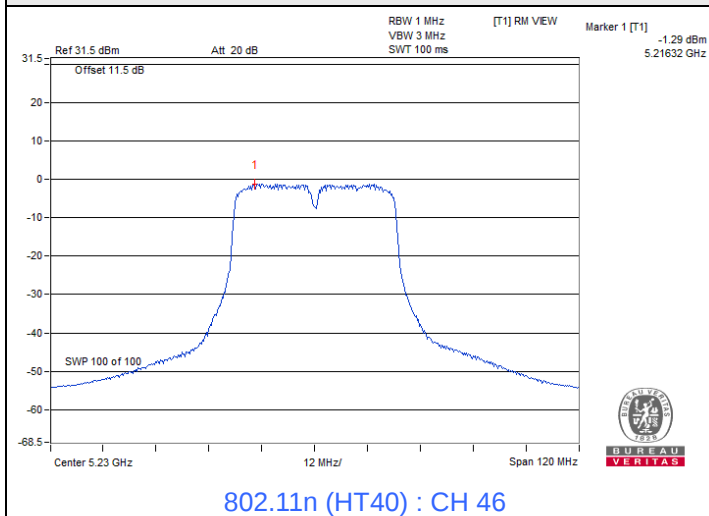
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
138 (U-NII-3)	5690	-18.78	2.54	-14.02	30	Pass
155	5775	-13.99	2.54	-9.23	30	Pass

Note: For U-NII-3, the antenna gain is 3.9 dBi < 6 dBi, so the power density limit shall not be reduced.



Spectrum Plot of Maximum Value



7.4 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
144 (U-NII-3)	5720	3.22	0.5	Pass
149	5745	16.44	0.5	Pass
157	5785	16.45	0.5	Pass
165	5825	16.45	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
144 (U-NII-3)	5720	3.83	0.5	Pass
149	5745	17.65	0.5	Pass
157	5785	17.66	0.5	Pass
165	5825	17.66	0.5	Pass

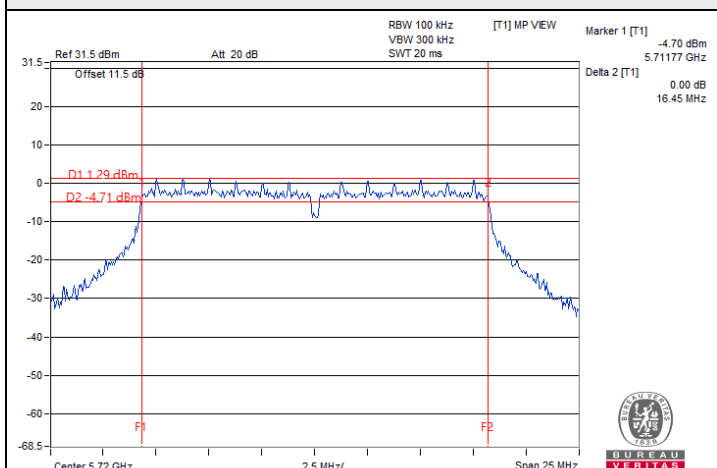
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
142 (U-NII-3)	5710	2.66	0.5	Pass
151	5755	35.57	0.5	Pass
159	5795	35.59	0.5	Pass

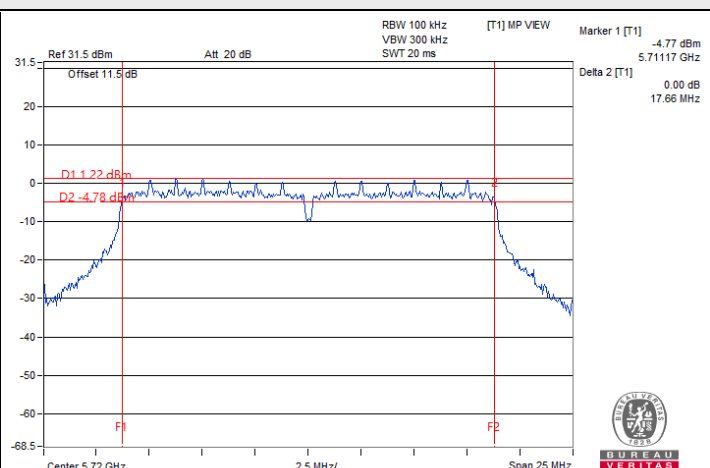
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
138 (U-NII-3)	5690	2.6	0.5	Pass
155	5775	74.11	0.5	Pass

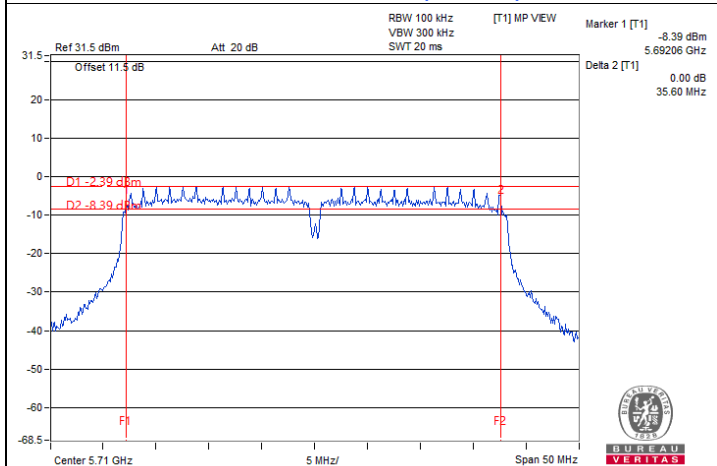
Spectrum Plot of Minimum Value



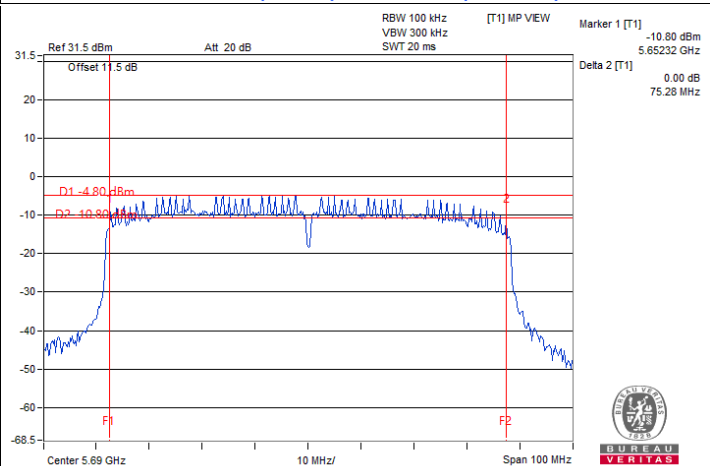
802.11a : CH 144 (U-NII-3)



802.11n (HT20) : CH 144 (U-NII-3)



802.11n (HT40) : CH 142 (U-NII-3)



802.11ac (VHT80) : CH 138 (U-NII-3)

Note: For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

7.5 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.16
40	5200	17.16
48	5240	17.28
52	5260	17.16
60	5300	17.16
64	5320	17.16
100	5500	17.16
116	5580	17.16
140	5700	17.16
144 (U-NII-2C)	5720	13.64
144 (U-NII-3)	5720	3.52
149	5745	17.16
157	5785	17.16
165	5825	17.16

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.24
40	5200	18.12
48	5240	18.12
52	5260	18.24
60	5300	18.24
64	5320	18.24
100	5500	18.12
116	5580	18.12
140	5700	18.12
144 (U-NII-2C)	5720	14.12
144 (U-NII-3)	5720	4
149	5745	18.12
157	5785	18.12
165	5825	18.12

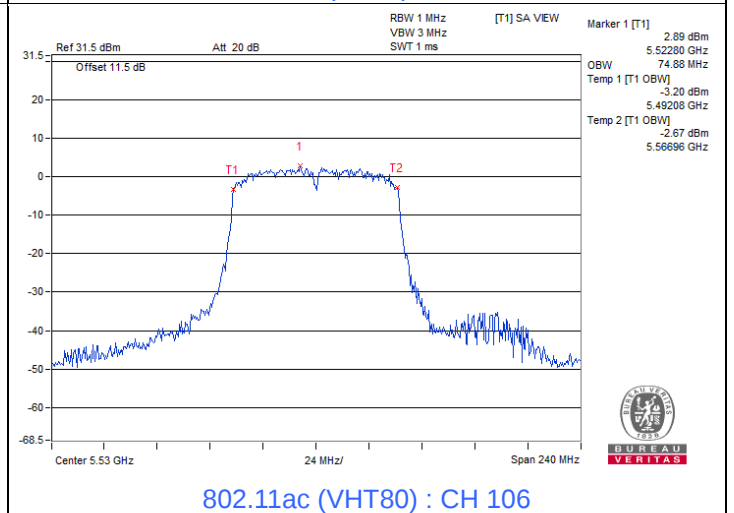
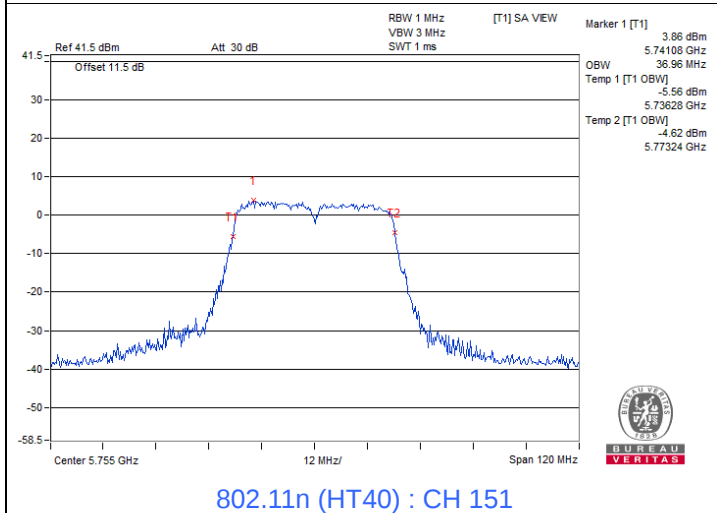
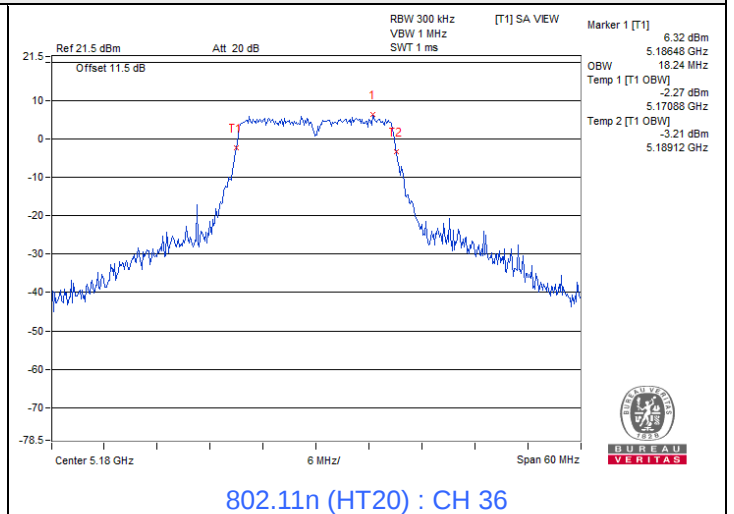
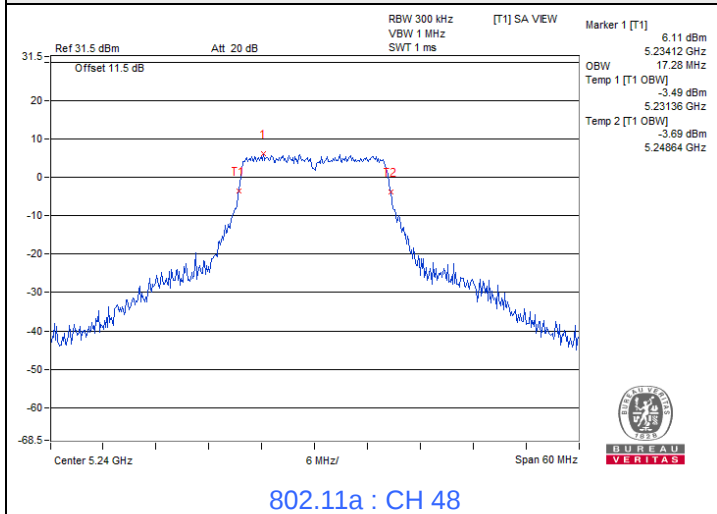
802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.72
46	5230	36.72
54	5270	36.72
62	5310	36.48
102	5510	36.72
110	5550	36.72
134	5670	36.48
142 (U-NII-2C)	5710	33.48
142 (U-NII-3)	5710	3
151	5755	36.96
159	5795	36.48

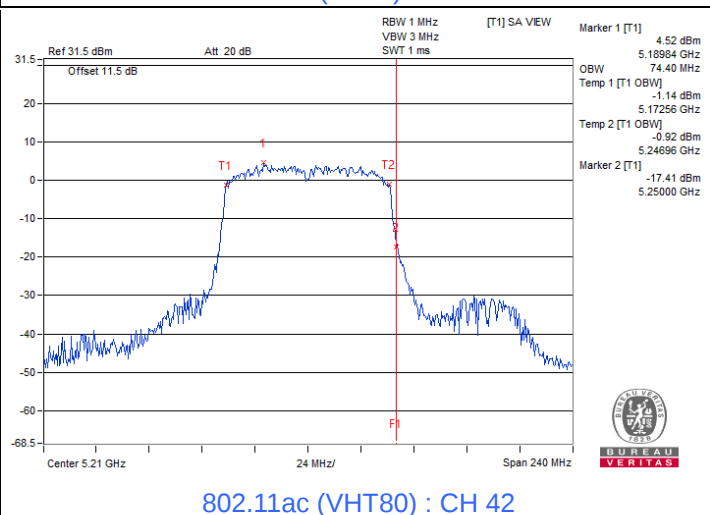
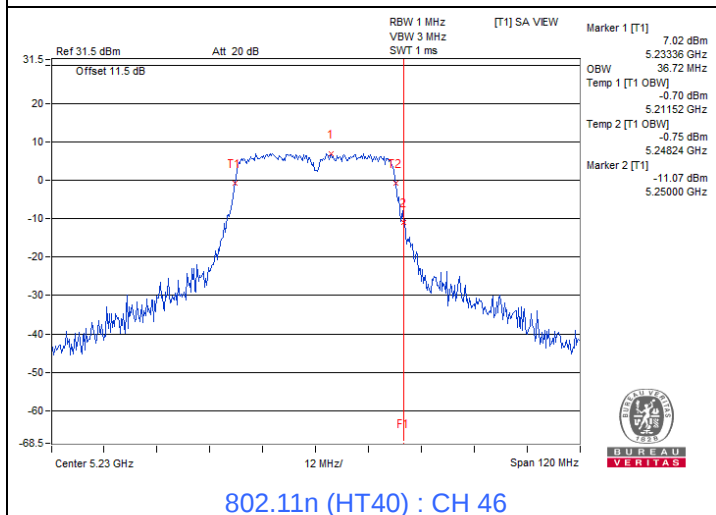
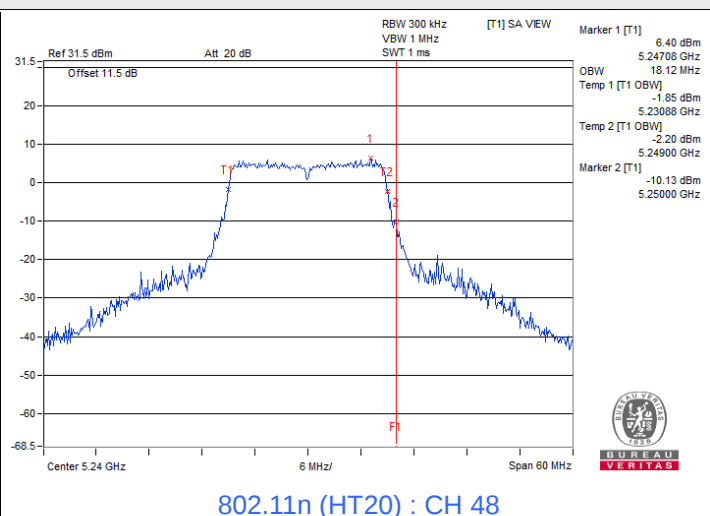
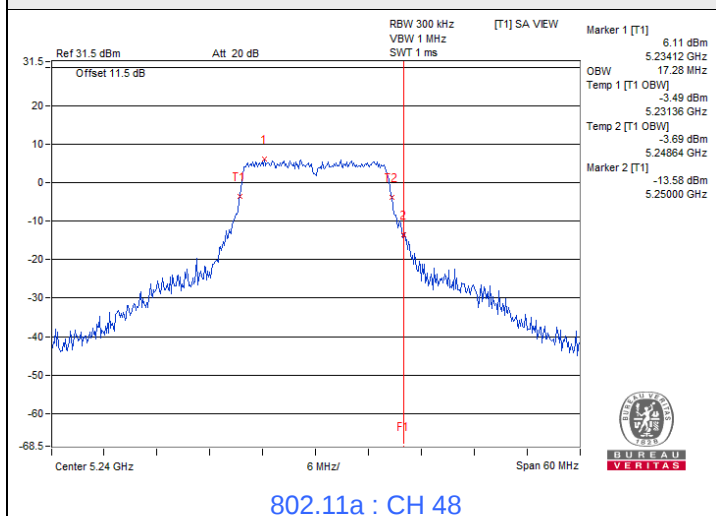
802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	74.4
58	5290	74.4
106	5530	74.88
122	5610	74.88
138 (U-NII-2C)	5690	72.92
138 (U-NII-3)	5690	1.96
155	5775	74.88

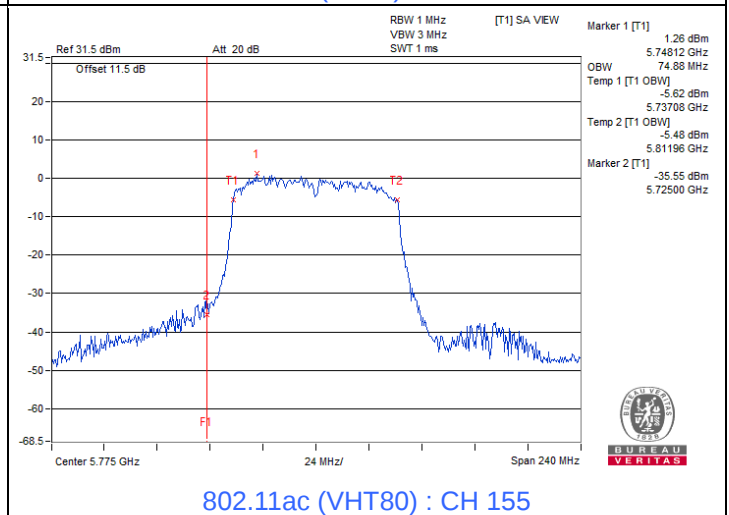
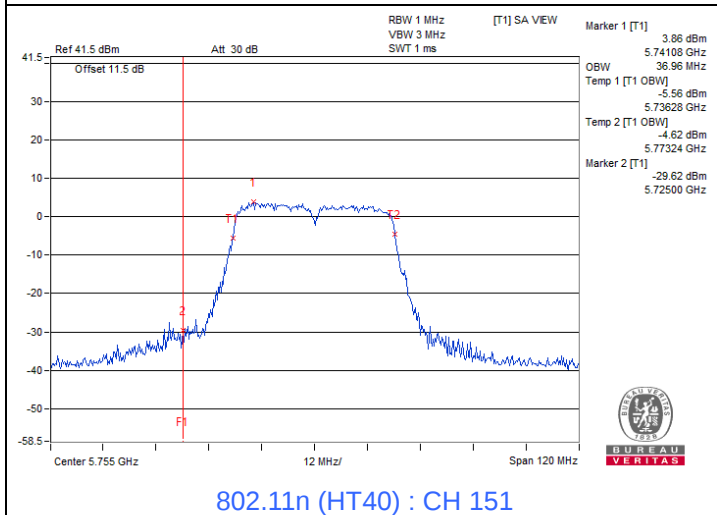
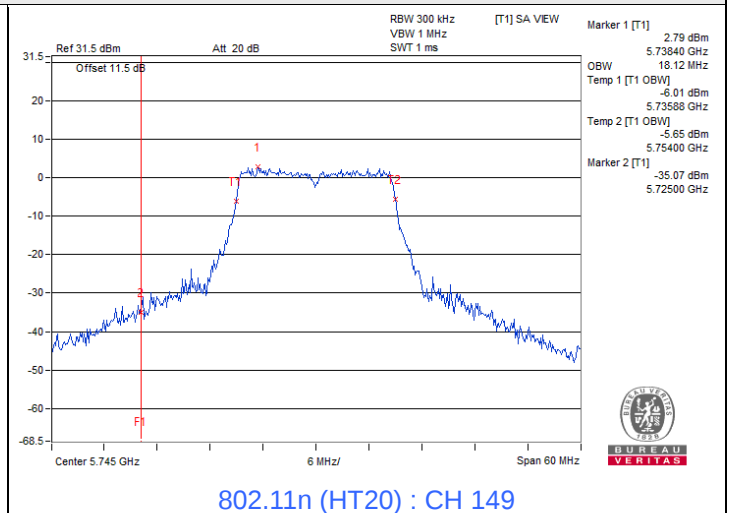
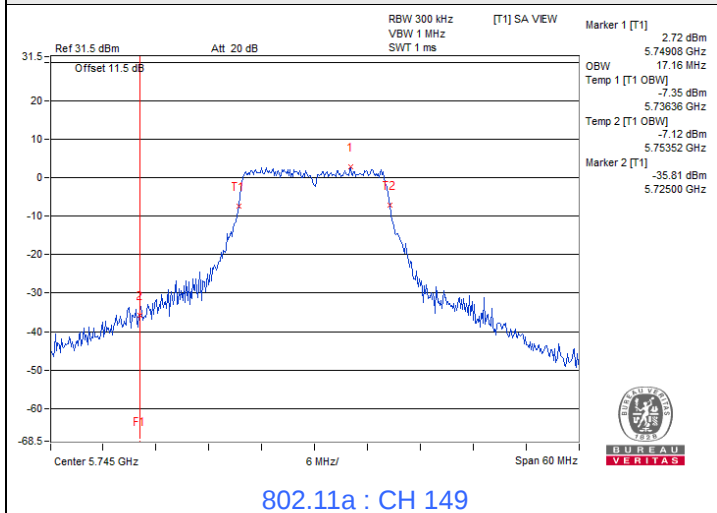
Spectrum Plot of Maximum Value



Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



7.6 Frequency Stability

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
--------------	----------------	---------------------------	--------------	------------	------------

802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
50	120	5179.996	Pass	5179.9917	Pass	5179.9918	Pass	5179.9916	Pass
40	120	5179.9884	Pass	5179.9877	Pass	5179.9884	Pass	5179.9863	Pass
30	120	5180.0159	Pass	5180.0123	Pass	5180.0127	Pass	5180.0129	Pass
20	120	5179.9762	Pass	5179.9777	Pass	5179.977	Pass	5179.9754	Pass
10	120	5179.9726	Pass	5179.9747	Pass	5179.9723	Pass	5179.9728	Pass
0	120	5179.993	Pass	5179.9951	Pass	5179.9913	Pass	5179.9952	Pass
-10	120	5180.0096	Pass	5180.0119	Pass	5180.0117	Pass	5180.0094	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	138	5179.9811	Pass	5179.9849	Pass	5179.9853	Pass	5179.9827	Pass
	120	5179.9762	Pass	5179.9777	Pass	5179.977	Pass	5179.9754	Pass
	102	5179.9844	Pass	5179.9838	Pass	5179.9856	Pass	5179.9853	Pass

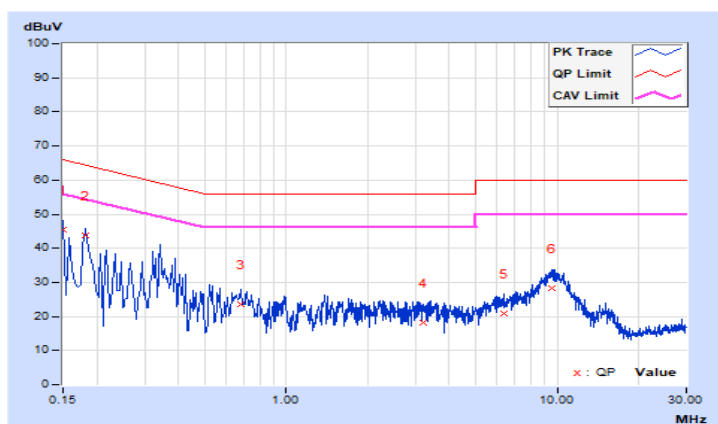
7.7 AC Power Conducted Emissions

RF Mode	802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23.5°C, 72.3% RH
Tested By	Thomas Cheng		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.11	35.45	17.93	45.56	28.04	66.00	56.00	-20.44	-27.96
2	0.18180	10.12	33.80	14.78	43.92	24.90	64.40	54.40	-20.48	-29.50
3	0.68200	10.15	13.38	5.54	23.53	15.69	56.00	46.00	-32.47	-30.31
4	3.19400	10.23	7.88	1.96	18.11	12.19	56.00	46.00	-37.89	-33.81
5	6.36600	10.26	10.62	1.23	20.88	11.49	60.00	50.00	-39.12	-38.51
6	9.57000	10.27	18.01	8.17	28.28	18.44	60.00	50.00	-31.72	-31.56

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

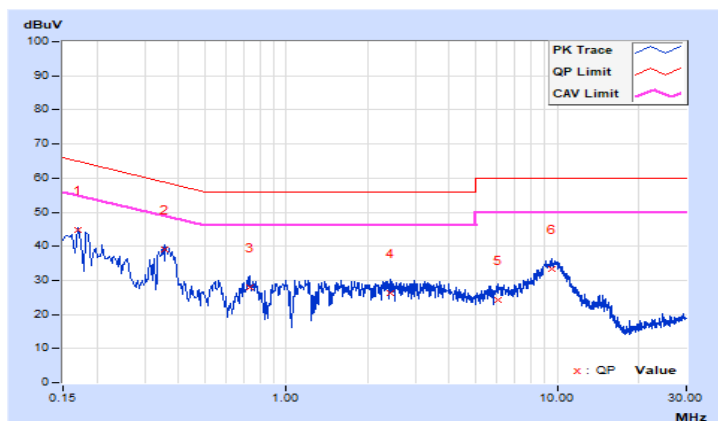


RF Mode	802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23.5°C, 72.3% RH
Tested By	Thomas Cheng		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17000	10.13	34.59	23.72	44.72	33.85	64.96	54.96	-20.24	-21.11
2	0.35800	10.16	28.99	19.61	39.15	29.77	58.77	48.77	-19.62	-19.00
3	0.73000	10.17	17.80	9.53	27.97	19.70	56.00	46.00	-28.03	-26.30
4	2.42200	10.23	16.06	5.88	26.29	16.11	56.00	46.00	-29.71	-29.89
5	6.04200	10.31	13.87	5.16	24.18	15.47	60.00	50.00	-35.82	-34.53
6	9.56600	10.35	22.84	14.17	33.19	24.52	60.00	50.00	-26.81	-25.48

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



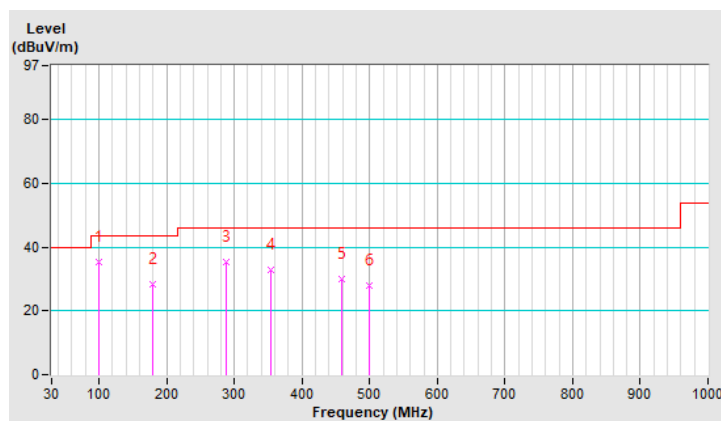
7.8 Unwanted Emissions below 1 GHz

RF Mode	802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.89	35.4 QP	43.5	-8.1	1.54 H	115	38.8	-3.4
2	178.82	28.3 QP	43.5	-15.2	1.63 H	309	31.7	-3.4
3	287.48	35.3 QP	46.0	-10.7	1.15 H	29	38.7	-3.4
4	354.45	32.9 QP	46.0	-13.1	1.16 H	99	36.3	-3.4
5	458.81	29.8 QP	46.0	-16.2	1.56 H	228	33.2	-3.4
6	500.10	27.8 QP	46.0	-18.2	1.57 H	189	31.2	-3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

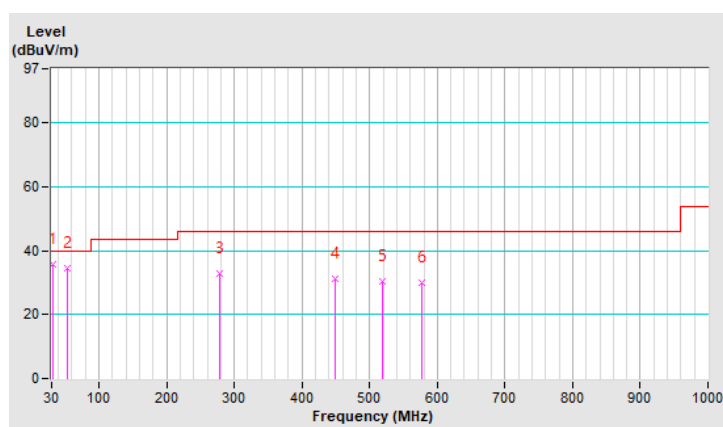


RF Mode	802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.48	35.8 QP	40.0	-4.2	1.00 V	240	39.2	-3.4
2	53.33	34.6 QP	40.0	-5.4	1.92 V	359	38.0	-3.4
3	278.84	33.0 QP	46.0	-13.0	1.64 V	217	36.4	-3.4
4	448.81	31.2 QP	46.0	-14.8	1.34 V	206	34.6	-3.4
5	518.64	30.3 QP	46.0	-15.7	1.35 V	306	33.7	-3.4
6	577.49	29.9 QP	46.0	-16.1	1.67 V	99	33.3	-3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.9 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.00 H	128	53.7	12.1
2	5150.00	50.0 AV	54.0	-4.0	1.00 H	128	37.9	12.1
3	*5180.00	107.0 PK			1.00 H	128	64.2	42.8
4	*5180.00	100.2 AV			1.00 H	128	57.4	42.8
5	#10360.00	57.1 PK	68.2	-11.1	1.75 H	188	39.4	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.5 PK	74.0	-12.5	1.08 V	268	49.4	12.1
2	5150.00	48.4 AV	54.0	-5.6	1.08 V	268	36.3	12.1
3	*5180.00	104.9 PK			1.08 V	268	62.1	42.8
4	*5180.00	97.7 AV			1.08 V	268	54.9	42.8
5	#10360.00	56.8 PK	68.2	-11.4	1.36 V	3	39.1	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	107.2 PK			1.00 H	128	64.4	42.8
2	*5200.00	100.5 AV			1.00 H	128	57.7	42.8
3	#10400.00	57.0 PK	68.2	-11.2	1.65 H	39	39.5	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	104.6 PK			1.08 V	268	61.8	42.8
2	*5200.00	97.5 AV			1.08 V	268	54.7	42.8
3	#10400.00	56.9 PK	68.2	-11.3	1.56 V	228	39.4	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	107.2 PK			1.00 H	128	64.2	43.0
2	*5240.00	100.2 AV			1.00 H	128	57.2	43.0
3	5350.00	56.0 PK	74.0	-18.0	1.00 H	128	43.7	12.3
4	5350.00	45.2 AV	54.0	-8.8	1.00 H	128	32.9	12.3
5	#10480.00	57.3 PK	68.2	-10.9	1.78 H	117	39.6	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	103.7 PK			1.08 V	268	60.7	43.0
2	*5240.00	96.6 AV			1.08 V	268	53.6	43.0
3	5350.00	55.7 PK	74.0	-18.3	1.08 V	268	43.4	12.3
4	5350.00	45.3 AV	54.0	-8.7	1.08 V	268	33.0	12.3
5	#10480.00	56.7 PK	68.2	-11.5	1.75 V	318	39.0	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.1 PK	74.0	-9.9	2.15 H	132	52.0	12.1
2	5150.00	47.5 AV	54.0	-6.5	2.15 H	132	35.4	12.1
3	*5180.00	107.1 PK			2.15 H	132	64.3	42.8
4	*5180.00	99.8 AV			2.15 H	132	57.0	42.8
5	#10360.00	56.6 PK	68.2	-11.6	1.52 H	207	38.9	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.6 PK	74.0	-13.4	1.08 V	268	48.5	12.1
2	5150.00	46.7 AV	54.0	-7.3	1.08 V	268	34.6	12.1
3	*5180.00	106.4 PK			1.08 V	268	63.6	42.8
4	*5180.00	98.1 AV			1.08 V	268	55.3	42.8
5	#10360.00	56.4 PK	68.2	-11.8	1.55 V	291	38.7	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	106.9 PK			1.94 H	128	64.1	42.8
2	*5200.00	99.5 AV			1.94 H	128	56.7	42.8
3	#10400.00	56.0 PK	68.2	-12.2	2.63 H	104	38.5	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	106.2 PK			1.08 V	264	63.4	42.8
2	*5200.00	98.0 AV			1.08 V	264	55.2	42.8
3	#10400.00	56.4 PK	68.2	-11.8	1.12 V	42	38.9	17.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	108.2 PK			2.15 H	133	65.2	43.0
2	*5240.00	100.6 AV			2.15 H	133	57.6	43.0
3	5350.00	54.6 PK	74.0	-19.4	2.15 H	133	42.3	12.3
4	5350.00	44.6 AV	54.0	-9.4	2.15 H	133	32.3	12.3
5	#10480.00	56.0 PK	68.2	-12.2	1.75 H	182	38.3	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	106.0 PK			1.04 V	267	63.0	43.0
2	*5240.00	98.2 AV			1.04 V	267	55.2	43.0
3	5350.00	54.0 PK	74.0	-20.0	2.15 V	111	41.7	12.3
4	5350.00	43.4 AV	54.0	-10.6	2.15 V	111	31.1	12.3
5	#10480.00	56.8 PK	68.2	-11.4	1.85 V	126	39.1	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.7 PK	74.0	-8.3	2.15 H	132	53.6	12.1
2	5150.00	49.5 AV	54.0	-4.5	2.15 H	132	37.4	12.1
3	*5190.00	104.4 PK			2.15 H	132	61.6	42.8
4	*5190.00	96.7 AV			2.15 H	132	53.9	42.8
5	5350.00	54.0 PK	74.0	-20.0	2.15 H	132	41.7	12.3
6	5350.00	43.9 AV	54.0	-10.1	2.15 H	132	31.6	12.3
7	#10380.00	56.2 PK	68.2	-12.0	1.29 H	301	38.6	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.6 PK	74.0	-10.4	1.08 V	268	51.5	12.1
2	5150.00	48.9 AV	54.0	-5.1	1.08 V	268	36.8	12.1
3	*5190.00	101.9 PK			1.08 V	268	59.1	42.8
4	*5190.00	94.5 AV			1.08 V	268	51.7	42.8
5	5350.00	54.2 PK	74.0	-19.8	1.08 V	268	41.9	12.3
6	5350.00	43.6 AV	54.0	-10.4	1.08 V	268	31.3	12.3
7	#10380.00	56.6 PK	68.2	-11.6	2.53 V	59	39.0	17.6
8	#10380.00	46.9 AV	54.0	-7.1	2.53 V	59	29.3	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.1 PK	74.0	-20.9	2.15 H	133	41.0	12.1
2	5150.00	44.6 AV	54.0	-9.4	2.15 H	133	32.5	12.1
3	*5230.00	105.2 PK			2.15 H	133	62.3	42.9
4	*5230.00	96.6 AV			2.15 H	133	53.7	42.9
5	5350.00	54.0 PK	74.0	-20.0	2.15 H	133	41.7	12.3
6	5350.00	43.5 AV	54.0	-10.5	2.15 H	133	31.2	12.3
7	#10460.00	56.4 PK	68.2	-11.8	1.83 H	157	38.7	17.7
8	#10460.00	46.8 AV	54.0	-7.2	1.83 H	157	29.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.0 PK	74.0	-20.0	1.04 V	267	41.9	12.1
2	5150.00	44.0 AV	54.0	-10.0	1.04 V	267	31.9	12.1
3	*5230.00	101.0 PK			1.04 V	267	58.1	42.9
4	*5230.00	94.0 AV			1.04 V	267	51.1	42.9
5	5350.00	54.0 PK	74.0	-20.0	1.04 V	267	41.7	12.3
6	5350.00	43.7 AV	54.0	-10.3	1.04 V	267	31.4	12.3
7	#10460.00	56.1 PK	68.2	-12.1	2.62 V	194	38.4	17.7
8	#10460.00	46.3 AV	54.0	-7.7	2.62 V	194	28.6	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11ac (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.7 PK	74.0	-10.3	2.19 H	125	51.6	12.1
2	5150.00	49.2 AV	54.0	-4.8	2.19 H	125	37.1	12.1
3	*5210.00	101.7 PK			2.19 H	125	58.8	42.9
4	*5210.00	93.5 AV			2.19 H	125	50.6	42.9
5	5350.00	55.2 PK	74.0	-18.8	2.19 H	125	42.9	12.3
6	5350.00	43.7 AV	54.0	-10.3	2.19 H	125	31.4	12.3
7	#10420.00	56.8 PK	68.2	-11.4	1.61 H	249	39.2	17.6
8	#10420.00	47.0 AV	54.0	-7.0	1.61 H	249	29.4	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	1.14 V	259	50.0	12.1
2	5150.00	47.3 AV	54.0	-6.7	1.14 V	259	35.2	12.1
3	*5210.00	99.2 PK			1.14 V	259	56.3	42.9
4	*5210.00	91.1 AV			1.14 V	259	48.2	42.9
5	5350.00	55.4 PK	74.0	-18.6	1.14 V	259	43.1	12.3
6	5350.00	43.6 AV	54.0	-10.4	1.14 V	259	31.3	12.3
7	#10420.00	55.8 PK	68.2	-12.4	1.26 V	49	38.2	17.6
8	#10420.00	46.1 AV	54.0	-7.9	1.26 V	49	28.5	17.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.6 PK	74.0	-18.4	1.00 H	128	43.5	12.1
2	5150.00	45.4 AV	54.0	-8.6	1.00 H	128	33.3	12.1
3	*5260.00	106.0 PK			1.00 H	128	63.1	42.9
4	*5260.00	99.4 AV			1.00 H	128	56.5	42.9
5	#10520.00	57.2 PK	68.2	-11.0	1.05 H	200	39.4	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.3 PK	74.0	-18.7	1.08 V	268	43.2	12.1
2	5150.00	45.2 AV	54.0	-8.8	1.08 V	268	33.1	12.1
3	*5260.00	103.1 PK			1.08 V	268	60.2	42.9
4	*5260.00	96.5 AV			1.08 V	268	53.6	42.9
5	#10520.00	57.0 PK	68.2	-11.2	1.15 V	288	39.2	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	106.5 PK			1.00 H	128	63.5	43.0
2	*5300.00	99.7 AV			1.00 H	128	56.7	43.0
3	10600.00	56.6 PK	74.0	-17.4	1.92 H	3	38.9	17.7
4	10600.00	46.7 AV	54.0	-7.3	1.92 H	3	29.0	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	103.6 PK			1.08 V	268	60.6	43.0
2	*5300.00	96.5 AV			1.08 V	268	53.5	43.0
3	10600.00	56.4 PK	74.0	-17.6	1.19 V	52	38.7	17.7
4	10600.00	46.5 AV	54.0	-7.5	1.19 V	52	28.8	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.4 PK			1.00 H	128	63.4	43.0
2	*5320.00	99.5 AV			1.00 H	128	56.5	43.0
3	5350.00	61.8 PK	74.0	-12.2	1.00 H	128	49.5	12.3
4	5350.00	49.3 AV	54.0	-4.7	1.00 H	128	37.0	12.3
5	10640.00	56.6 PK	74.0	-17.4	1.15 H	250	38.8	17.8
6	10640.00	46.3 AV	54.0	-7.7	1.15 H	250	28.5	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	102.8 PK			1.08 V	268	59.8	43.0
2	*5320.00	95.7 AV			1.08 V	268	52.7	43.0
3	5350.00	59.8 PK	74.0	-14.2	1.08 V	268	47.5	12.3
4	5350.00	47.1 AV	54.0	-6.9	1.08 V	268	34.8	12.3
5	10640.00	56.4 PK	74.0	-17.6	1.95 V	336	38.6	17.8
6	10640.00	46.2 AV	54.0	-7.8	1.95 V	336	28.4	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11n (HT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.2 PK	74.0	-19.8	2.19 H	134	42.1	12.1
2	5150.00	44.3 AV	54.0	-9.7	2.19 H	134	32.2	12.1
3	*5260.00	109.1 PK			2.19 H	134	66.2	42.9
4	*5260.00	100.6 AV			2.19 H	134	57.7	42.9
5	#10520.00	56.4 PK	68.2	-11.8	2.16 H	133	38.6	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.1 PK	74.0	-19.9	1.17 V	265	42.0	12.1
2	5150.00	43.8 AV	54.0	-10.2	1.17 V	265	31.7	12.1
3	*5260.00	105.4 PK			1.17 V	265	62.5	42.9
4	*5260.00	98.1 AV			1.17 V	265	55.2	42.9
5	#10520.00	56.2 PK	68.2	-12.0	1.84 V	24	38.4	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	109.0 PK			2.19 H	132	66.0	43.0
2	*5300.00	100.5 AV			2.19 H	132	57.5	43.0
3	10600.00	56.4 PK	74.0	-17.6	1.06 H	46	38.7	17.7
4	10600.00	46.8 AV	54.0	-7.2	1.06 H	46	29.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	105.4 PK			1.19 V	261	62.4	43.0
2	*5300.00	98.0 AV			1.19 V	261	55.0	43.0
3	10600.00	56.2 PK	74.0	-17.8	1.95 V	151	38.5	17.7
4	10600.00	46.5 AV	54.0	-7.5	1.95 V	151	28.8	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11n (HT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.1 PK			2.18 H	133	65.1	43.0
2	*5320.00	100.9 AV			2.18 H	133	57.9	43.0
3	5350.00	62.1 PK	74.0	-11.9	2.18 H	133	49.8	12.3
4	5350.00	47.7 AV	54.0	-6.3	2.18 H	133	35.4	12.3
5	10640.00	56.7 PK	74.0	-17.3	2.46 H	174	38.9	17.8
6	10640.00	47.0 AV	54.0	-7.0	2.46 H	174	29.2	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.2 PK			1.24 V	265	63.2	43.0
2	*5320.00	98.5 AV			1.24 V	265	55.5	43.0
3	5350.00	59.7 PK	74.0	-14.3	1.24 V	265	47.4	12.3
4	5350.00	46.2 AV	54.0	-7.8	1.24 V	265	33.9	12.3
5	10640.00	56.2 PK	74.0	-17.8	1.82 V	107	38.4	17.8
6	10640.00	46.4 AV	54.0	-7.6	1.82 V	107	28.6	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11n (HT40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.2 PK	74.0	-19.8	2.04 H	134	42.1	12.1
2	5150.00	43.5 AV	54.0	-10.5	2.04 H	134	31.4	12.1
3	*5270.00	104.3 PK			2.04 H	134	61.4	42.9
4	*5270.00	96.8 AV			2.04 H	134	53.9	42.9
5	5350.00	55.1 PK	74.0	-18.9	2.04 H	134	42.8	12.3
6	5350.00	44.7 AV	54.0	-9.3	2.04 H	134	32.4	12.3
7	#10540.00	56.2 PK	68.2	-12.0	1.95 H	115	38.4	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.5 PK	74.0	-19.5	1.18 V	265	42.4	12.1
2	5150.00	43.4 AV	54.0	-10.6	1.18 V	265	31.3	12.1
3	*5270.00	102.7 PK			1.18 V	265	59.8	42.9
4	*5270.00	94.5 AV			1.18 V	265	51.6	42.9
5	5350.00	54.5 PK	74.0	-19.5	1.18 V	265	42.2	12.3
6	5350.00	44.1 AV	54.0	-9.9	1.18 V	265	31.8	12.3
7	#10540.00	56.0 PK	68.2	-12.2	1.64 V	185	38.2	17.8
8	#10540.00	46.4 AV	54.0	-7.6	1.64 V	185	28.6	17.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.0 PK	74.0	-20.0	2.00 H	134	41.9	12.1
2	5150.00	43.4 AV	54.0	-10.6	2.00 H	134	31.3	12.1
3	*5310.00	104.3 PK			2.00 H	134	61.3	43.0
4	*5310.00	97.0 AV			2.00 H	134	54.0	43.0
5	5350.00	69.8 PK	74.0	-4.2	2.00 H	134	57.5	12.3
6	5350.00	52.4 AV	54.0	-1.6	2.00 H	134	40.1	12.3
7	10620.00	56.5 PK	74.0	-17.5	1.88 H	342	38.8	17.7
8	10620.00	46.8 AV	54.0	-7.2	1.88 H	342	29.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.6 PK	74.0	-20.4	2.00 V	113	41.5	12.1
2	5150.00	43.4 AV	54.0	-10.6	2.00 V	113	31.3	12.1
3	*5310.00	102.8 PK			1.26 V	265	59.8	43.0
4	*5310.00	94.6 AV			1.26 V	265	51.6	43.0
5	5350.00	64.8 PK	74.0	-9.2	1.26 V	265	52.5	12.3
6	5350.00	48.3 AV	54.0	-5.7	1.26 V	265	36.0	12.3
7	10620.00	56.2 PK	74.0	-17.8	1.66 V	19	38.5	17.7
8	10620.00	46.6 AV	54.0	-7.4	1.66 V	19	28.9	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11ac (VHT80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.6 PK	74.0	-20.4	2.04 H	135	41.5	12.1
2	5150.00	43.4 AV	54.0	-10.6	2.04 H	135	31.3	12.1
3	*5290.00	101.8 PK			2.04 H	135	58.8	43.0
4	*5290.00	93.5 AV			2.04 H	135	50.5	43.0
5	5350.00	65.5 PK	74.0	-8.5	2.04 H	135	53.2	12.3
6	5350.00	50.4 AV	54.0	-3.6	2.04 H	135	38.1	12.3
7	#10580.00	56.5 PK	68.2	-11.7	1.71 H	201	38.8	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.7 PK	74.0	-19.3	1.19 V	259	42.6	12.1
2	5150.00	43.4 AV	54.0	-10.6	1.19 V	259	31.3	12.1
3	*5290.00	99.2 PK			1.19 V	259	56.2	43.0
4	*5290.00	90.9 AV			1.19 V	259	47.9	43.0
5	5350.00	63.8 PK	74.0	-10.2	1.19 V	259	51.5	12.3
6	5350.00	48.7 AV	54.0	-5.3	1.19 V	259	36.4	12.3
7	#10580.00	56.2 PK	68.2	-12.0	2.31 V	126	38.5	17.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.0 PK	74.0	-16.0	1.00 H	128	45.3	12.7
2	5460.00	47.8 AV	54.0	-6.2	1.00 H	128	35.1	12.7
3	#5470.00	62.5 PK	68.2	-5.7	1.00 H	128	49.8	12.7
4	*5500.00	106.0 PK			1.00 H	128	62.8	43.2
5	*5500.00	99.4 AV			1.00 H	128	56.2	43.2
6	11000.00	56.8 PK	74.0	-17.2	1.75 H	105	38.7	18.1
7	11000.00	47.0 AV	54.0	-7.0	1.75 H	105	28.9	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.5 PK	74.0	-18.5	1.93 V	223	42.8	12.7
2	5460.00	45.3 AV	54.0	-8.7	1.93 V	223	32.6	12.7
3	#5470.00	59.5 PK	68.2	-8.7	1.93 V	223	46.8	12.7
4	*5500.00	102.0 PK			1.93 V	223	58.8	43.2
5	*5500.00	95.4 AV			1.93 V	223	52.2	43.2
6	11000.00	56.7 PK	74.0	-17.3	1.35 V	209	38.6	18.1
7	11000.00	46.6 AV	54.0	-7.4	1.35 V	209	28.5	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	105.6 PK			1.00 H	128	62.2	43.4
2	*5580.00	98.7 AV			1.00 H	128	55.3	43.4
3	11160.00	56.9 PK	74.0	-17.1	1.85 H	6	38.8	18.1
4	11160.00	46.8 AV	54.0	-7.2	1.85 H	6	28.7	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	101.8 PK			1.93 V	223	58.4	43.4
2	*5580.00	94.4 AV			1.93 V	223	51.0	43.4
3	11160.00	56.8 PK	74.0	-17.2	1.67 V	318	38.7	18.1
4	11160.00	46.8 AV	54.0	-7.2	1.67 V	318	28.7	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	106.3 PK			1.00 H	128	62.9	43.4
2	*5700.00	99.6 AV			1.00 H	128	56.2	43.4
3	#5725.00	65.2 PK	68.2	-3.0	1.00 H	128	52.4	12.8
4	11400.00	57.0 PK	74.0	-17.0	1.15 H	164	38.4	18.6
5	11400.00	47.1 AV	54.0	-6.9	1.15 H	164	28.5	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	101.2 PK			2.00 V	141	57.8	43.4
2	*5700.00	94.5 AV			2.00 V	141	51.1	43.4
3	#5725.00	60.5 PK	68.2	-7.7	2.00 V	141	47.7	12.8
4	11400.00	56.7 PK	74.0	-17.3	1.63 V	329	38.1	18.6
5	11400.00	46.5 AV	54.0	-7.5	1.63 V	329	27.9	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.7 PK	74.0	-18.3	1.00 H	128	43.0	12.7
2	5460.00	45.8 AV	54.0	-8.2	1.00 H	128	33.1	12.7
3	#5470.00	56.1 PK	68.2	-12.1	1.00 H	128	43.4	12.7
4	*5720.00	105.4 PK			1.00 H	128	61.8	43.6
5	*5720.00	98.7 AV			1.00 H	128	55.1	43.6
6	11440.00	56.8 PK	74.0	-17.2	1.02 H	229	38.2	18.6
7	11440.00	47.0 AV	54.0	-7.0	1.02 H	229	28.4	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.6 PK	74.0	-18.4	2.00 V	141	42.9	12.7
2	5460.00	45.7 AV	54.0	-8.3	2.00 V	141	33.0	12.7
3	#5470.00	56.0 PK	68.2	-12.2	2.00 V	141	43.3	12.7
4	*5720.00	100.1 PK			2.00 V	141	56.5	43.6
5	*5720.00	93.6 AV			2.00 V	141	50.0	43.6
6	11440.00	56.6 PK	74.0	-17.4	1.63 V	229	38.0	18.6
7	11440.00	46.5 AV	54.0	-7.5	1.63 V	229	27.9	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.4 PK	74.0	-17.6	2.45 H	142	43.7	12.7
2	5460.00	47.8 AV	54.0	-6.2	2.45 H	142	35.1	12.7
3	#5470.00	66.3 PK	68.2	-1.9	2.45 H	142	53.6	12.7
4	*5500.00	109.7 PK			2.45 H	142	66.5	43.2
5	*5500.00	101.7 AV			2.45 H	142	58.5	43.2
6	11000.00	57.2 PK	74.0	-16.8	1.92 H	157	39.1	18.1
7	11000.00	47.5 AV	54.0	-6.5	1.92 H	157	29.4	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.0 PK	74.0	-19.0	1.32 V	259	42.3	12.7
2	5460.00	47.2 AV	54.0	-6.8	1.32 V	259	34.5	12.7
3	#5470.00	65.8 PK	68.2	-2.4	1.32 V	259	53.1	12.7
4	*5500.00	107.6 PK			1.32 V	259	64.4	43.2
5	*5500.00	99.1 AV			1.32 V	259	55.9	43.2
6	11000.00	56.7 PK	74.0	-17.3	1.36 V	92	38.6	18.1
7	11000.00	46.9 AV	54.0	-7.1	1.36 V	92	28.8	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	109.6 PK			2.45 H	139	66.2	43.4
2	*5580.00	101.7 AV			2.45 H	139	58.3	43.4
3	11160.00	56.4 PK	74.0	-17.6	1.83 H	257	38.3	18.1
4	11160.00	46.8 AV	54.0	-7.2	1.83 H	257	28.7	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	107.8 PK			1.27 V	242	64.4	43.4
2	*5580.00	99.1 AV			1.27 V	242	55.7	43.4
3	11160.00	56.6 PK	74.0	-17.4	1.37 V	263	38.5	18.1
4	11160.00	46.9 AV	54.0	-7.1	1.37 V	263	28.8	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11n (HT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	110.0 PK			1.32 H	140	66.6	43.4
2	*5700.00	102.3 AV			1.32 H	140	58.9	43.4
3	#5725.00	64.6 PK	68.2	-3.6	1.32 H	140	51.8	12.8
4	11400.00	57.0 PK	74.0	-17.0	1.04 H	198	38.4	18.6
5	11400.00	47.2 AV	54.0	-6.8	1.04 H	198	28.6	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	107.2 PK			1.42 V	237	63.8	43.4
2	*5700.00	99.7 AV			1.42 V	237	56.3	43.4
3	#5725.00	63.3 PK	68.2	-4.9	1.42 V	237	50.5	12.8
4	11400.00	57.2 PK	74.0	-16.8	1.82 V	27	38.6	18.6
5	11400.00	47.4 AV	54.0	-6.6	1.82 V	27	28.8	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	1.47 H	141	41.9	12.7
2	5460.00	44.0 AV	54.0	-10.0	1.47 H	141	31.3	12.7
3	#5470.00	53.9 PK	68.2	-14.3	1.47 H	141	41.2	12.7
4	*5720.00	110.4 PK			1.47 H	141	66.8	43.6
5	*5720.00	102.7 AV			1.47 H	141	59.1	43.6
6	11440.00	57.4 PK	74.0	-16.6	1.54 H	81	38.8	18.6
7	11440.00	47.7 AV	54.0	-6.3	1.54 H	81	29.1	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.0 PK	74.0	-19.0	1.33 V	237	42.3	12.7
2	5460.00	43.9 AV	54.0	-10.1	1.33 V	237	31.2	12.7
3	#5470.00	55.4 PK	68.2	-12.8	1.33 V	237	42.7	12.7
4	*5720.00	107.8 PK			1.33 V	237	64.2	43.6
5	*5720.00	100.2 AV			1.33 V	237	56.6	43.6
6	11440.00	56.9 PK	74.0	-17.1	2.39 V	161	38.3	18.6
7	11440.00	47.3 AV	54.0	-6.7	2.39 V	161	28.7	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	2.44 H	142	45.6	12.7
2	5460.00	46.8 AV	54.0	-7.2	2.44 H	142	34.1	12.7
3	#5470.00	64.1 PK	68.2	-4.1	2.44 H	142	51.4	12.7
4	*5510.00	105.5 PK			2.44 H	142	62.1	43.4
5	*5510.00	97.6 AV			2.44 H	142	54.2	43.4
6	#5725.00	55.3 PK	68.2	-12.9	2.44 H	142	42.5	12.8
7	11020.00	57.1 PK	74.0	-16.9	1.64 H	101	39.0	18.1
8	11020.00	47.3 AV	54.0	-6.7	1.64 H	101	29.2	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.6 PK	74.0	-14.4	1.32 V	257	46.9	12.7
2	5460.00	46.2 AV	54.0	-7.8	1.32 V	257	33.5	12.7
3	#5470.00	62.2 PK	68.2	-6.0	1.32 V	257	49.5	12.7
4	*5510.00	103.2 PK			1.32 V	257	59.8	43.4
5	*5510.00	95.3 AV			1.32 V	257	51.9	43.4
6	#5725.00	54.8 PK	68.2	-13.4	1.32 V	257	42.0	12.8
7	11020.00	56.5 PK	74.0	-17.5	1.49 V	83	38.4	18.1
8	11020.00	46.7 AV	54.0	-7.3	1.49 V	83	28.6	18.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	105.2 PK			1.27 H	242	61.8	43.4
2	*5550.00	97.4 AV			1.27 H	242	54.0	43.4
3	11100.00	57.2 PK	74.0	-16.8	1.90 H	314	38.6	18.6
4	11100.00	47.5 AV	54.0	-6.5	1.90 H	314	28.9	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	102.9 PK			2.45 V	141	59.5	43.4
2	*5550.00	95.1 AV			2.45 V	141	51.7	43.4
3	11100.00	56.9 PK	74.0	-17.1	2.04 V	198	38.3	18.6
4	11100.00	47.2 AV	54.0	-6.8	2.04 V	198	28.6	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11n (HT40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.4 PK	74.0	-19.6	1.38 H	140	41.7	12.7
2	5460.00	44.0 AV	54.0	-10.0	1.38 H	140	31.3	12.7
3	#5470.00	55.0 PK	68.2	-13.2	1.38 H	140	42.3	12.7
4	*5670.00	107.3 PK			1.38 H	140	63.8	43.5
5	*5670.00	99.1 AV			1.38 H	140	55.6	43.5
6	#5725.00	57.8 PK	68.2	-10.4	1.38 H	140	45.0	12.8
7	11340.00	57.5 PK	74.0	-16.5	1.92 H	177	39.1	18.4
8	11340.00	47.7 AV	54.0	-6.3	1.92 H	177	29.3	18.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.5 PK	74.0	-19.5	1.44 V	230	41.8	12.7
2	5460.00	44.0 AV	54.0	-10.0	1.44 V	230	31.3	12.7
3	#5470.00	54.8 PK	68.2	-13.4	1.44 V	230	42.1	12.7
4	*5670.00	104.6 PK			1.44 V	230	61.1	43.5
5	*5670.00	96.7 AV			1.44 V	230	53.2	43.5
6	#5725.00	56.7 PK	68.2	-11.5	1.44 V	230	43.9	12.8
7	11340.00	56.7 PK	74.0	-17.3	1.51 V	167	38.3	18.4
8	11340.00	47.0 AV	54.0	-7.0	1.51 V	167	28.6	18.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	1.45 H	145	41.9	12.7
2	5460.00	43.9 AV	54.0	-10.1	1.45 H	145	31.2	12.7
3	#5470.00	54.9 PK	68.2	-13.3	1.45 H	145	42.2	12.7
4	*5710.00	106.7 PK			1.45 H	145	63.3	43.4
5	*5710.00	98.5 AV			1.45 H	145	55.1	43.4
6	11420.00	57.3 PK	74.0	-16.7	1.38 H	180	38.7	18.6
7	11420.00	47.6 AV	54.0	-6.4	1.38 H	180	29.0	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.4 PK	74.0	-19.6	1.33 V	238	41.7	12.7
2	5460.00	43.9 AV	54.0	-10.1	1.33 V	238	31.2	12.7
3	#5470.00	55.1 PK	68.2	-13.1	1.33 V	238	42.4	12.7
4	*5710.00	103.4 PK			1.33 V	238	60.0	43.4
5	*5710.00	95.9 AV			1.33 V	238	52.5	43.4
6	11420.00	57.1 PK	74.0	-16.9	1.24 V	224	38.5	18.6
7	11420.00	47.3 AV	54.0	-6.7	1.24 V	224	28.7	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11ac (VHT80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	1.61 H	139	47.4	12.7
2	5460.00	48.2 AV	54.0	-5.8	1.61 H	139	35.5	12.7
3	#5470.00	63.4 PK	68.2	-4.8	1.61 H	139	50.7	12.7
4	*5530.00	102.5 PK			1.61 H	139	59.1	43.4
5	*5530.00	94.5 AV			1.61 H	139	51.1	43.4
6	#5725.00	54.8 PK	68.2	-13.4	1.61 H	139	42.0	12.8
7	11060.00	56.8 PK	74.0	-17.2	2.13 H	115	38.5	18.3
8	11060.00	47.0 AV	54.0	-7.0	2.13 H	115	28.7	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.9 PK	74.0	-16.1	1.32 V	258	45.2	12.7
2	5460.00	47.0 AV	54.0	-7.0	1.32 V	258	34.3	12.7
3	#5470.00	57.9 PK	68.2	-10.3	1.32 V	258	45.2	12.7
4	*5530.00	100.0 PK			1.32 V	258	56.6	43.4
5	*5530.00	91.9 AV			1.32 V	258	48.5	43.4
6	#5725.00	54.4 PK	68.2	-13.8	1.32 V	258	41.6	12.8
7	11060.00	56.5 PK	74.0	-17.5	2.72 V	231	38.2	18.3
8	11060.00	46.8 AV	54.0	-7.2	2.72 V	231	28.5	18.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11ac (VHT80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.8 PK	74.0	-19.2	1.54 H	140	42.1	12.7
2	5460.00	44.2 AV	54.0	-9.8	1.54 H	140	31.5	12.7
3	#5470.00	56.0 PK	68.2	-12.2	1.54 H	140	43.3	12.7
4	*5610.00	104.0 PK			1.54 H	140	60.6	43.4
5	*5610.00	95.8 AV			1.54 H	140	52.4	43.4
6	#5725.00	54.5 PK	68.2	-13.7	1.54 H	140	41.7	12.8
7	11220.00	56.5 PK	74.0	-17.5	1.64 H	188	38.6	17.9
8	11220.00	46.8 AV	54.0	-7.2	1.64 H	188	28.9	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.1 PK	74.0	-18.9	1.27 V	242	42.4	12.7
2	5460.00	44.1 AV	54.0	-9.9	1.27 V	242	31.4	12.7
3	#5470.00	56.4 PK	68.2	-11.8	1.27 V	242	43.7	12.7
4	*5610.00	101.5 PK			1.27 V	242	58.1	43.4
5	*5610.00	93.2 AV			1.27 V	242	49.8	43.4
6	#5725.00	54.1 PK	68.2	-14.1	1.27 V	242	41.3	12.8
7	11220.00	56.8 PK	74.0	-17.2	1.25 V	192	38.9	17.9
8	11220.00	47.2 AV	54.0	-6.8	1.25 V	192	29.3	17.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11ac (VHT80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.6 PK	74.0	-19.4	1.30 H	144	41.9	12.7
2	5460.00	44.0 AV	54.0	-10.0	1.30 H	144	31.3	12.7
3	#5470.00	55.1 PK	68.2	-13.1	1.30 H	144	42.4	12.7
4	*5690.00	103.8 PK			1.30 H	144	60.4	43.4
5	*5690.00	95.6 AV			1.30 H	144	52.2	43.4
6	11380.00	56.9 PK	74.0	-17.1	1.39 H	183	38.4	18.5
7	11380.00	47.1 AV	54.0	-6.9	1.39 H	183	28.6	18.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	1.29 V	241	41.5	12.7
2	5460.00	43.9 AV	54.0	-10.1	1.29 V	241	31.2	12.7
3	#5470.00	55.3 PK	68.2	-12.9	1.29 V	241	42.6	12.7
4	*5690.00	101.1 PK			1.29 V	241	57.7	43.4
5	*5690.00	93.1 AV			1.29 V	241	49.7	43.4
6	11380.00	56.9 PK	74.0	-17.1	2.24 V	127	38.4	18.5
7	11380.00	47.3 AV	54.0	-6.7	2.24 V	127	28.8	18.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.43	55.1 PK	68.2	-13.1	1.00 H	128	42.4	12.7
2	*5745.00	106.2 PK			1.00 H	128	62.5	43.7
3	*5745.00	99.3 AV			1.00 H	128	55.6	43.7
4	#5997.60	56.2 PK	68.2	-12.0	1.00 H	128	42.9	13.3
5	11490.00	56.9 PK	74.0	-17.1	1.05 H	278	38.1	18.8
6	11490.00	46.9 AV	54.0	-7.1	1.05 H	278	28.1	18.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.04	55.1 PK	68.2	-13.1	2.00 V	146	42.4	12.7
2	*5745.00	102.1 PK			2.00 V	146	58.4	43.7
3	*5745.00	95.5 AV			2.00 V	146	51.8	43.7
4	#5993.19	55.9 PK	68.2	-12.3	2.00 V	146	42.6	13.3
5	11490.00	56.8 PK	74.0	-17.2	1.34 V	113	38.0	18.8
6	11490.00	47.1 AV	54.0	-6.9	1.34 V	113	28.3	18.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.05	55.4 PK	68.2	-12.8	1.00 H	128	42.6	12.8
2	*5785.00	105.5 PK			1.00 H	128	61.7	43.8
3	*5785.00	98.3 AV			1.00 H	128	54.5	43.8
4	#5998.40	55.3 PK	68.2	-12.9	1.00 H	128	42.0	13.3
5	11570.00	56.5 PK	74.0	-17.5	1.13 H	317	37.9	18.6
6	11570.00	46.5 AV	54.0	-7.5	1.13 H	317	27.9	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.04	55.2 PK	68.2	-13.0	2.00 V	146	42.5	12.7
2	*5785.00	102.2 PK			2.00 V	146	58.4	43.8
3	*5785.00	95.4 AV			2.00 V	146	51.6	43.8
4	#5982.78	55.3 PK	68.2	-12.9	2.00 V	146	42.0	13.3
5	11570.00	56.4 PK	74.0	-17.6	1.25 V	300	37.8	18.6
6	11570.00	46.5 AV	54.0	-7.5	1.25 V	300	27.9	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5629.63	55.0 PK	68.2	-13.2	1.00 H	128	42.3	12.7
2	*5825.00	105.0 PK			1.00 H	128	61.1	43.9
3	*5825.00	98.2 AV			1.00 H	128	54.3	43.9
4	#5963.56	56.2 PK	68.2	-12.0	1.00 H	128	43.0	13.2
5	11650.00	57.0 PK	74.0	-17.0	1.15 H	221	38.1	18.9
6	11650.00	47.1 AV	54.0	-6.9	1.15 H	221	28.2	18.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5604.80	55.9 PK	68.2	-12.3	2.00 V	146	43.2	12.7
2	*5825.00	101.7 PK			2.00 V	146	57.8	43.9
3	*5825.00	94.5 AV			2.00 V	146	50.6	43.9
4	#5987.59	55.5 PK	68.2	-12.7	2.00 V	146	42.2	13.3
5	11650.00	56.5 PK	74.0	-17.5	1.45 V	189	37.6	18.9
6	11650.00	46.7 AV	54.0	-7.3	1.45 V	189	27.8	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5611.20	56.1 PK	68.2	-12.1	1.55 H	147	43.4	12.7
2	*5745.00	111.0 PK			1.55 H	147	67.3	43.7
3	*5745.00	102.9 AV			1.55 H	147	59.2	43.7
4	#5973.60	56.9 PK	68.2	-11.3	1.55 H	147	43.6	13.3
5	11490.00	57.1 PK	74.0	-16.9	1.64 H	178	38.3	18.8
6	11490.00	47.6 AV	54.0	-6.4	1.64 H	178	28.8	18.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.60	56.8 PK	68.2	-11.4	1.36 V	234	44.1	12.7
2	*5745.00	108.3 PK			1.36 V	234	64.6	43.7
3	*5745.00	100.4 AV			1.36 V	234	56.7	43.7
4	#5934.00	56.6 PK	68.2	-11.6	1.36 V	234	43.4	13.2
5	11490.00	57.0 PK	74.0	-17.0	1.58 V	116	38.2	18.8
6	11490.00	47.3 AV	54.0	-6.7	1.58 V	116	28.5	18.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5633.60	56.6 PK	68.2	-11.6	1.55 H	149	43.9	12.7
2	*5785.00	110.7 PK			1.55 H	149	66.9	43.8
3	*5785.00	102.7 AV			1.55 H	149	58.9	43.8
4	#5945.20	57.0 PK	68.2	-11.2	1.55 H	149	43.8	13.2
5	11570.00	57.4 PK	74.0	-16.6	1.09 H	172	38.8	18.6
6	11570.00	47.8 AV	54.0	-6.2	1.09 H	172	29.2	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.60	56.3 PK	68.2	-11.9	1.36 V	231	43.5	12.8
2	*5785.00	109.2 PK			1.36 V	231	65.4	43.8
3	*5785.00	100.3 AV			1.36 V	231	56.5	43.8
4	#5947.60	56.3 PK	68.2	-11.9	1.36 V	231	43.1	13.2
5	11570.00	57.2 PK	74.0	-16.8	3.14 V	108	38.6	18.6
6	11570.00	47.5 AV	54.0	-6.5	3.14 V	108	28.9	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.40	56.3 PK	68.2	-11.9	1.55 H	146	43.6	12.7
2	*5825.00	110.4 PK			1.55 H	146	66.5	43.9
3	*5825.00	102.6 AV			1.55 H	146	58.7	43.9
4	#5928.40	56.4 PK	68.2	-11.8	1.55 H	146	43.2	13.2
5	11650.00	57.9 PK	74.0	-16.1	1.87 H	164	39.0	18.9
6	11650.00	48.1 AV	54.0	-5.9	1.87 H	164	29.2	18.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.80	56.8 PK	68.2	-11.4	1.34 V	237	44.1	12.7
2	*5825.00	107.6 PK			1.34 V	237	63.7	43.9
3	*5825.00	100.2 AV			1.34 V	237	56.3	43.9
4	#5971.60	57.1 PK	68.2	-11.1	1.34 V	237	43.8	13.3
5	11650.00	57.4 PK	74.0	-16.6	1.35 V	167	38.5	18.9
6	11650.00	47.7 AV	54.0	-6.3	1.35 V	167	28.8	18.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.20	57.3 PK	68.2	-10.9	1.55 H	148	44.5	12.8
2	*5755.00	106.6 PK			1.55 H	148	62.9	43.7
3	*5755.00	98.8 AV			1.55 H	148	55.1	43.7
4	#5935.20	55.9 PK	68.2	-12.3	1.55 H	148	42.7	13.2
5	11510.00	57.3 PK	74.0	-16.7	1.93 H	52	38.6	18.7
6	11510.00	47.6 AV	54.0	-6.4	1.93 H	52	28.9	18.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5622.00	56.2 PK	68.2	-12.0	1.36 V	234	43.5	12.7
2	*5755.00	103.9 PK			1.36 V	234	60.2	43.7
3	*5755.00	96.2 AV			1.36 V	234	52.5	43.7
4	#5933.60	56.1 PK	68.2	-12.1	1.36 V	234	42.9	13.2
5	11510.00	57.1 PK	74.0	-16.9	2.63 V	104	38.4	18.7
6	11510.00	47.3 AV	54.0	-6.7	2.63 V	104	28.6	18.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

RF Mode	802.11n (HT40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.80	56.1 PK	68.2	-12.1	1.53 H	148	43.4	12.7
2	*5795.00	107.1 PK			1.53 H	148	63.3	43.8
3	*5795.00	98.9 AV			1.53 H	148	55.1	43.8
4	#5995.20	56.4 PK	68.2	-11.8	1.53 H	148	43.1	13.3
5	11590.00	57.3 PK	74.0	-16.7	2.57 H	112	38.7	18.6
6	11590.00	47.7 AV	54.0	-6.3	2.57 H	112	29.1	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5649.20	55.9 PK	68.2	-12.3	1.32 V	233	43.1	12.8
2	*5795.00	104.4 PK			1.32 V	233	60.6	43.8
3	*5795.00	96.3 AV			1.32 V	233	52.5	43.8
4	#5989.20	56.2 PK	68.2	-12.0	1.32 V	233	42.9	13.3
5	11590.00	57.1 PK	74.0	-16.9	2.11 V	150	38.5	18.6
6	11590.00	47.4 AV	54.0	-6.6	2.11 V	150	28.8	18.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

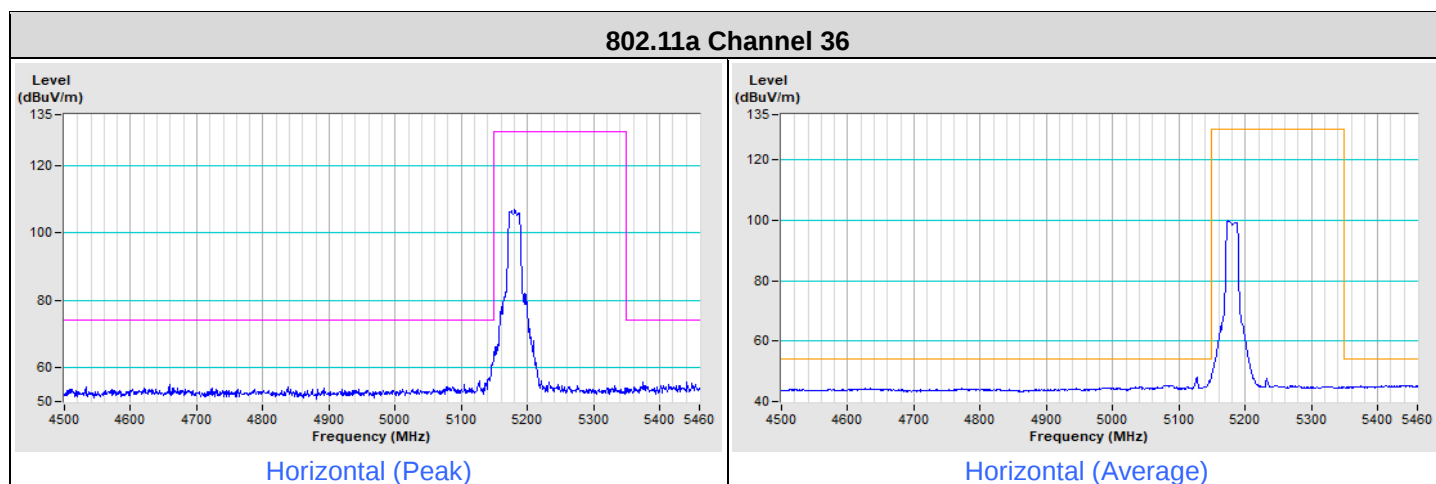
RF Mode	802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 5.1 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 60% RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5629.60	56.7 PK	68.2	-11.5	1.53 H	148	44.0	12.7
2	*5775.00	103.9 PK			1.53 H	148	60.1	43.8
3	*5775.00	95.8 AV			1.53 H	148	52.0	43.8
4	#5994.80	56.0 PK	68.2	-12.2	1.53 H	148	42.7	13.3
5	11550.00	57.1 PK	74.0	-16.9	2.83 H	142	38.5	18.6
6	11550.00	47.3 AV	54.0	-6.7	2.83 H	142	28.7	18.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5627.60	57.0 PK	68.2	-11.2	1.36 V	231	44.3	12.7
2	*5775.00	101.2 PK			1.36 V	231	57.4	43.8
3	*5775.00	93.1 AV			1.36 V	231	49.3	43.8
4	#5980.40	56.9 PK	68.2	-11.3	1.36 V	231	43.6	13.3
5	11550.00	57.6 PK	74.0	-16.4	1.57 V	208	39.0	18.6
6	11550.00	47.8 AV	54.0	-6.2	1.57 V	208	29.2	18.6

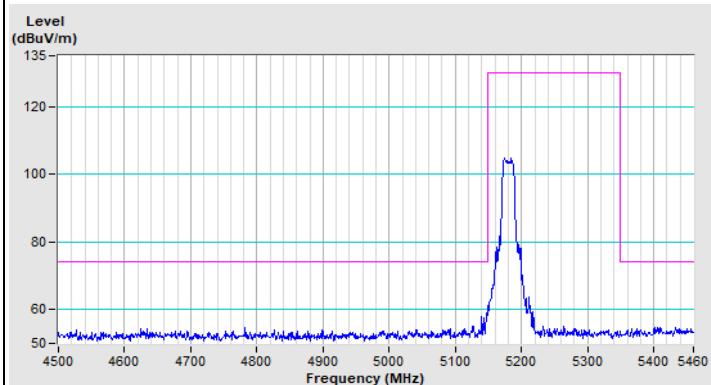
Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

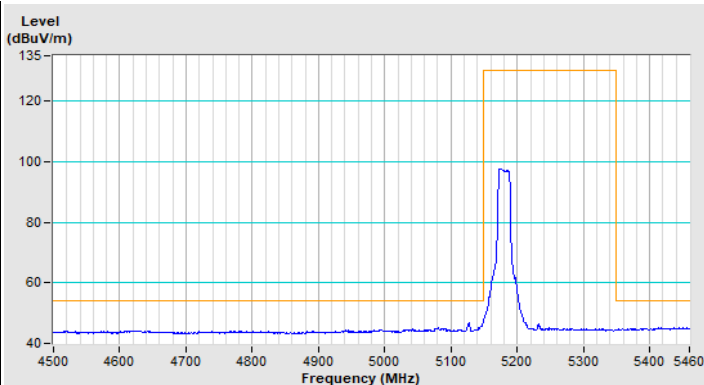
Plot of Band Edge



802.11a Channel 36

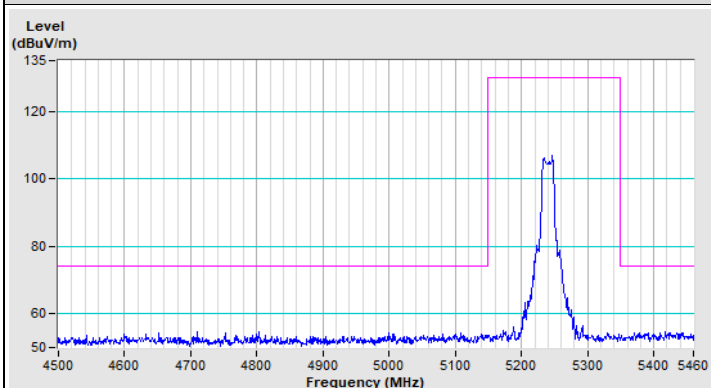


Vertical (Peak)

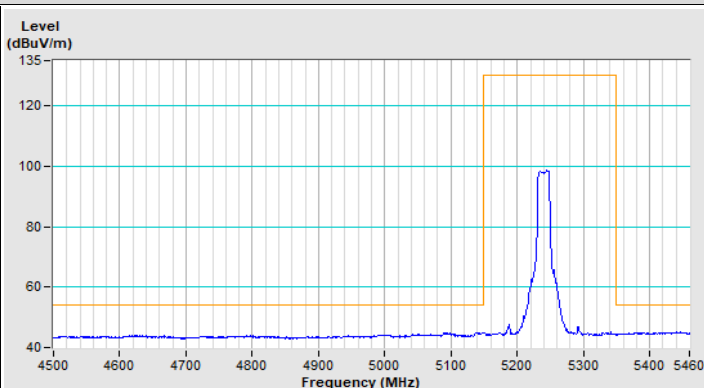


Vertical (Average)

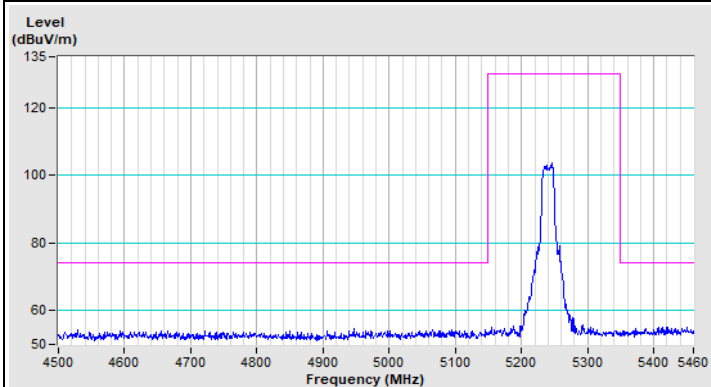
802.11a Channel 48



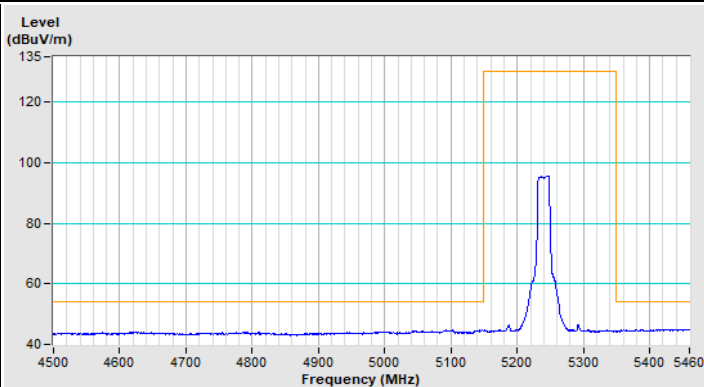
Horizontal (Peak)



Horizontal (Average)

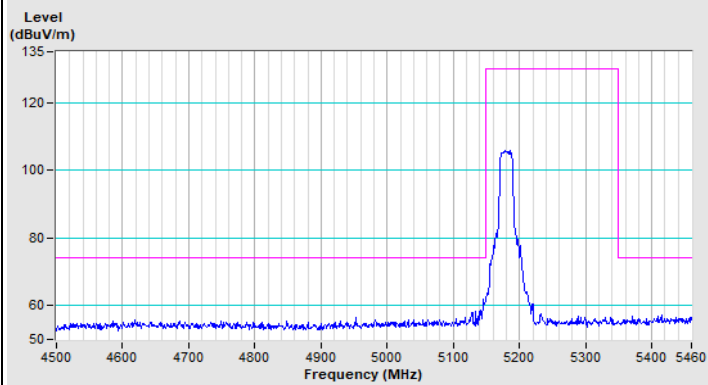


Vertical (Peak)

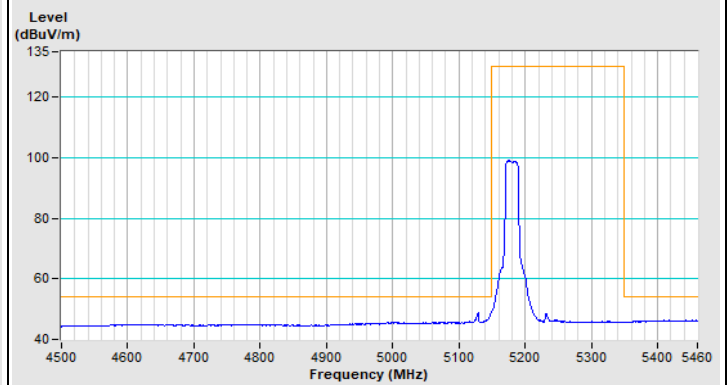


Vertical (Average)

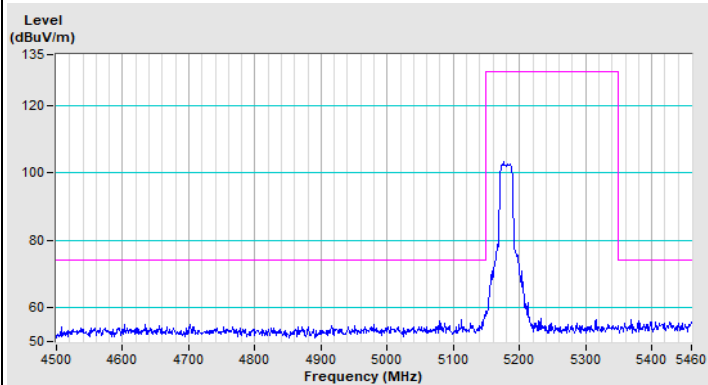
802.11n (HT20) Channel 36



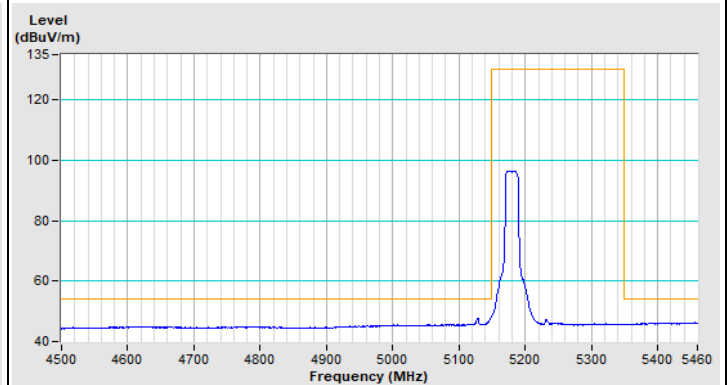
Horizontal (Peak)



Horizontal (Average)

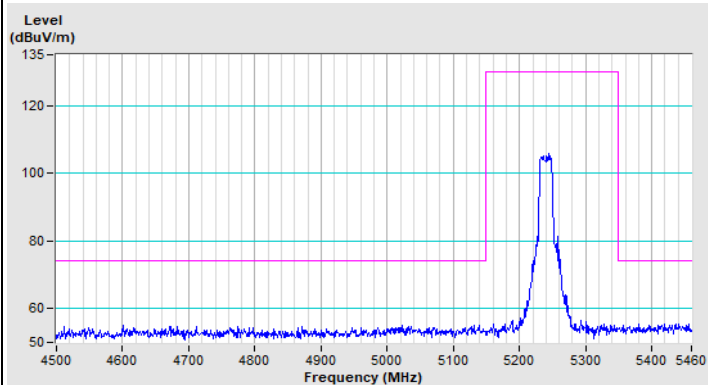


Vertical (Peak)

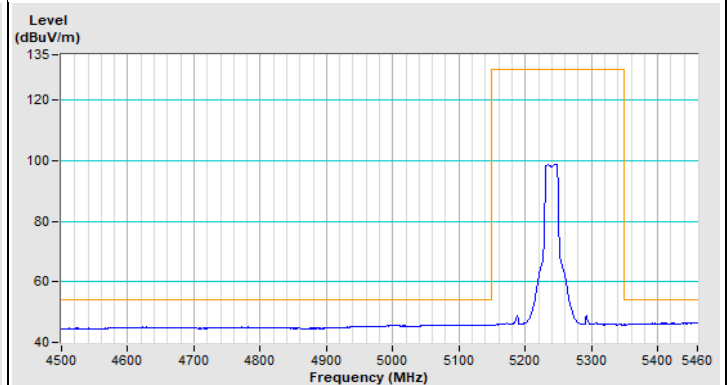


Vertical (Average)

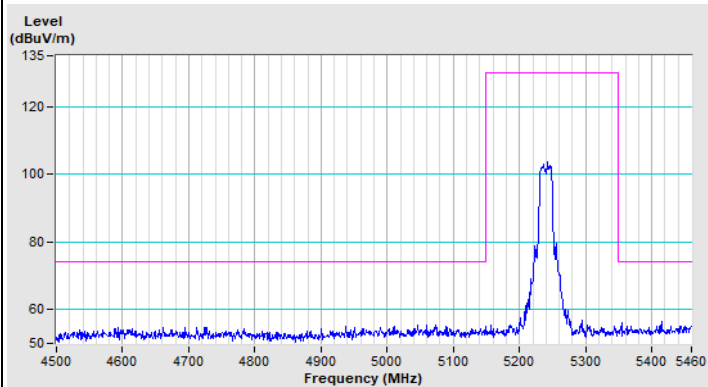
802.11n (HT20) Channel 48



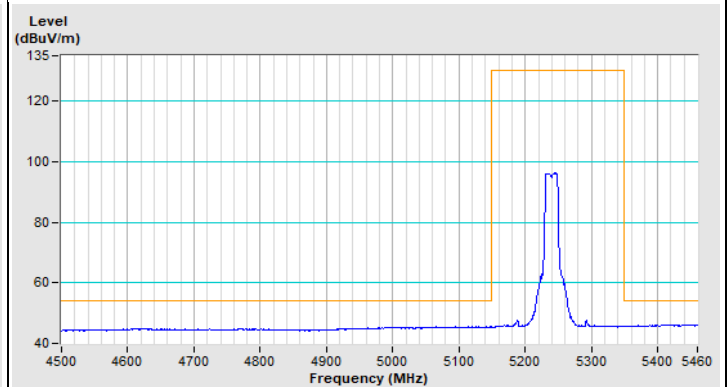
Horizontal (Peak)



Horizontal (Average)

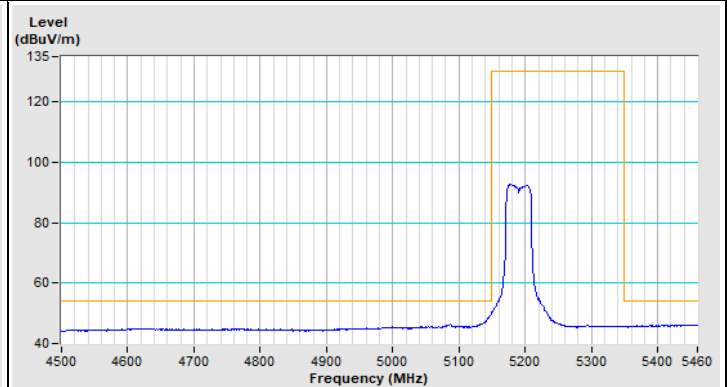
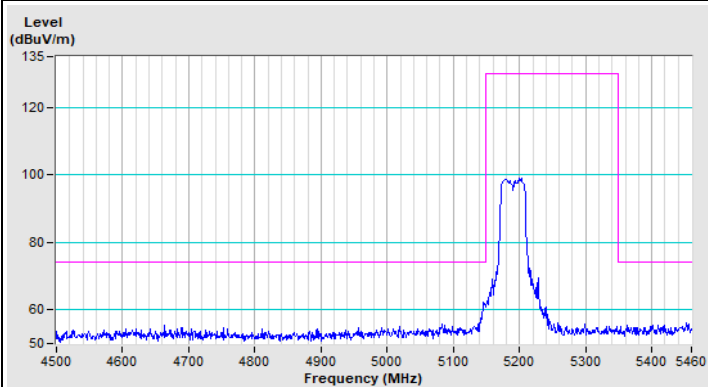
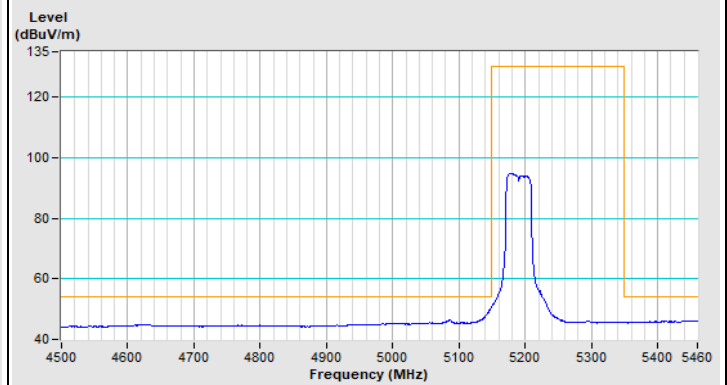
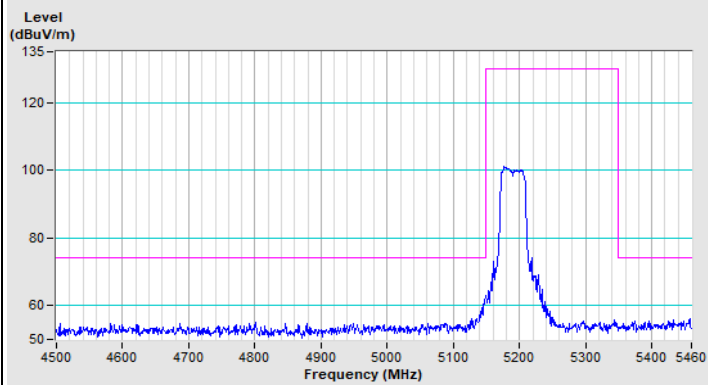


Vertical (Peak)

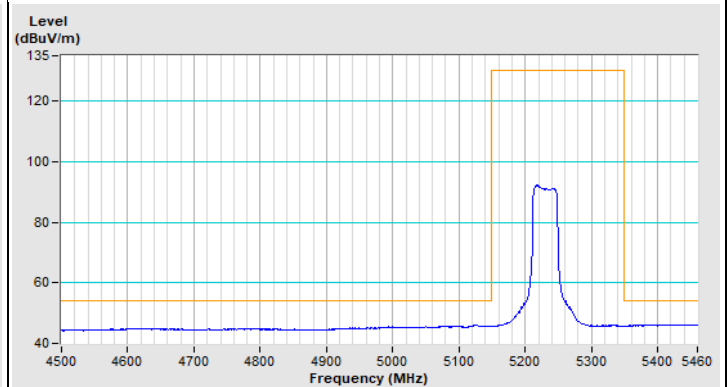
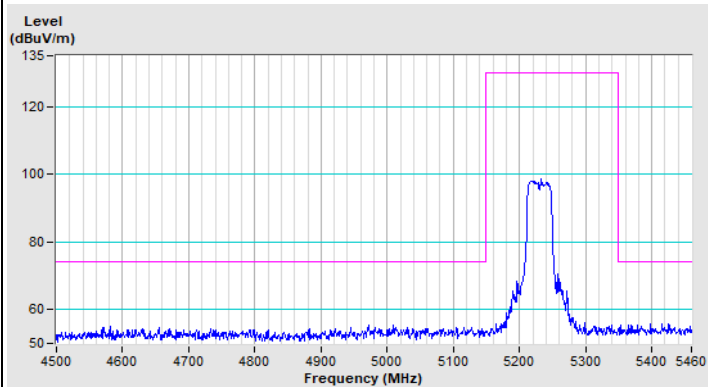
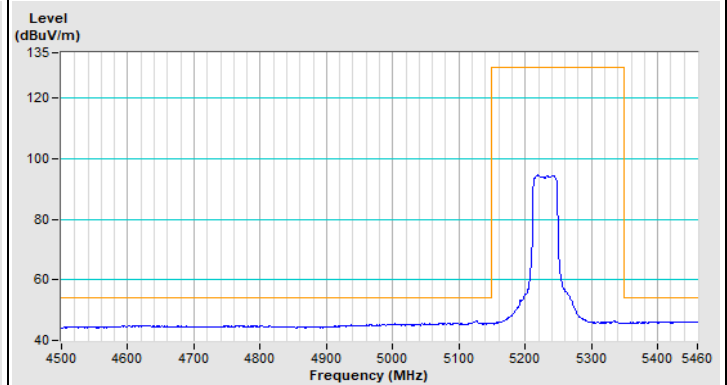
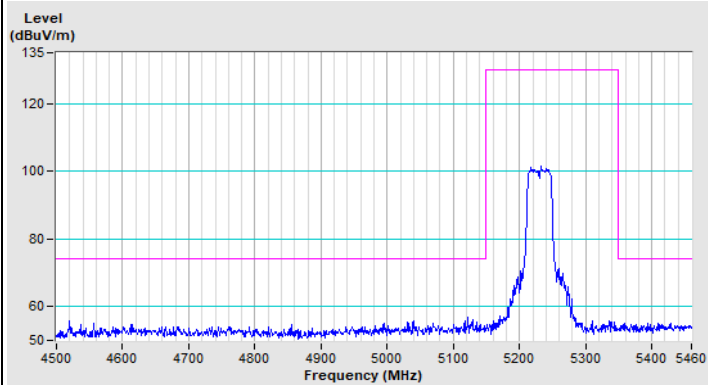


Vertical (Average)

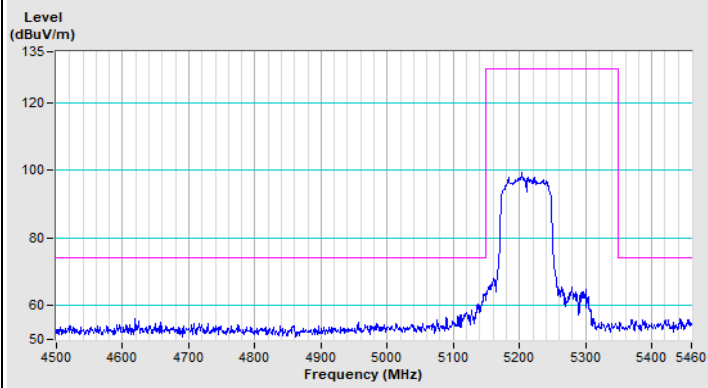
802.11n (HT40) Channel 38



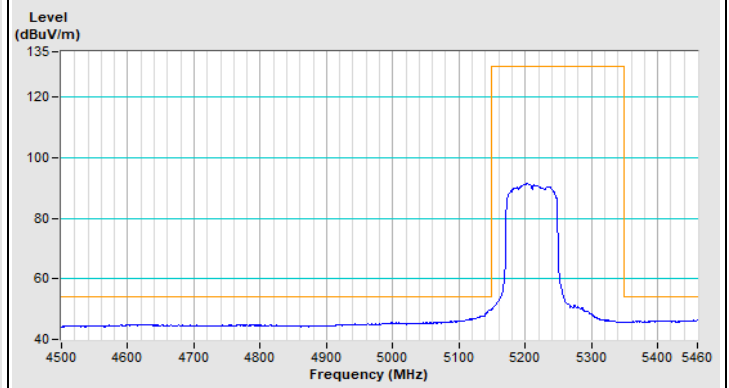
802.11n (HT40) Channel 46



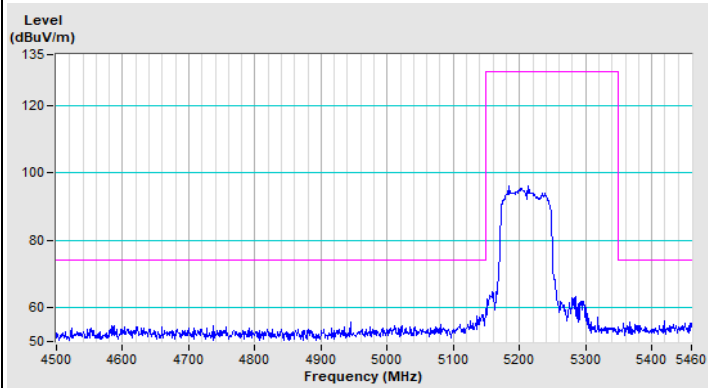
802.11ac (VHT80) Channel 42



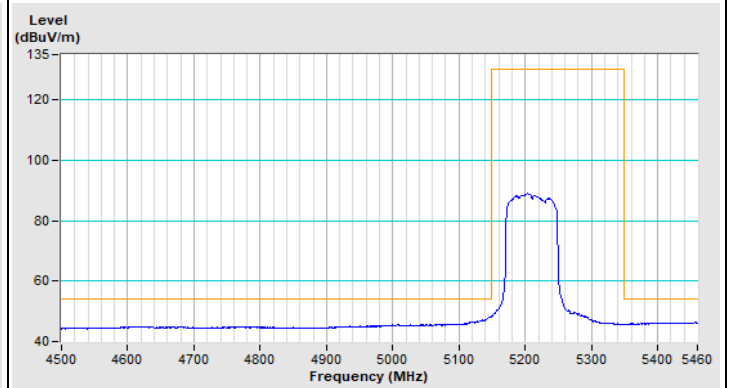
Horizontal (Peak)



Horizontal (Average)

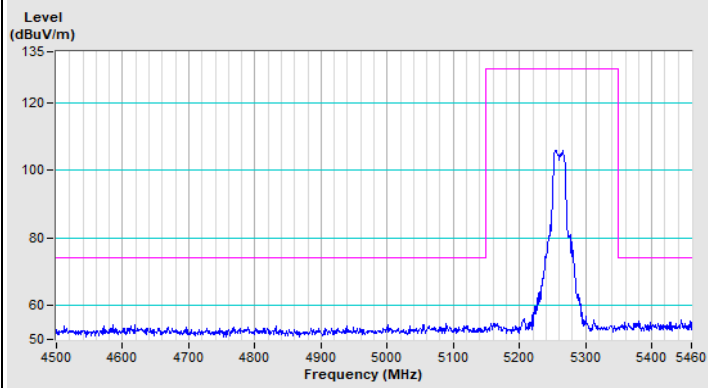


Vertical (Peak)

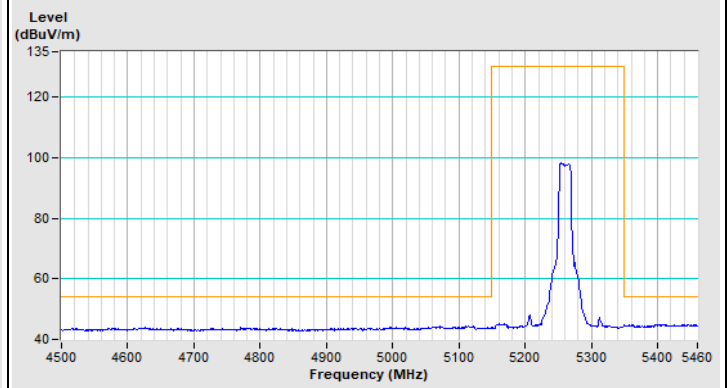


Vertical (Average)

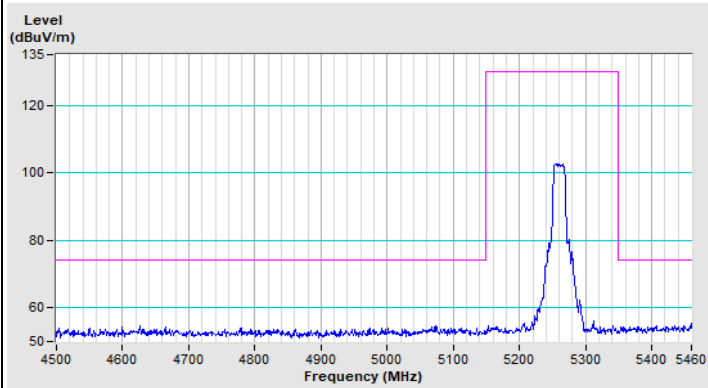
802.11a Channel 52



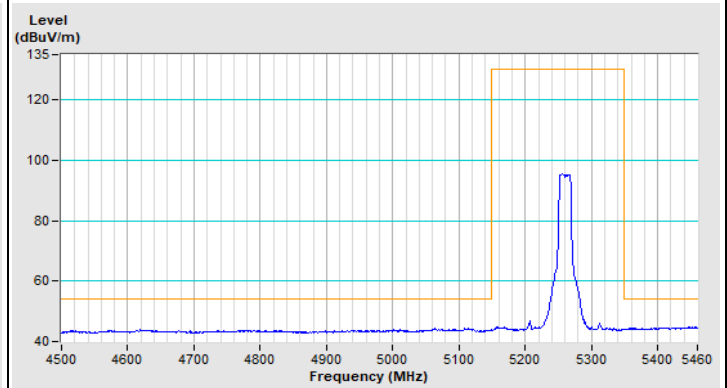
Horizontal (Peak)



Horizontal (Average)

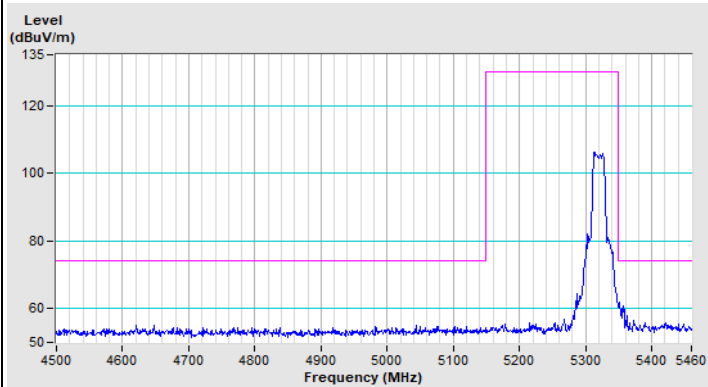


Vertical (Peak)

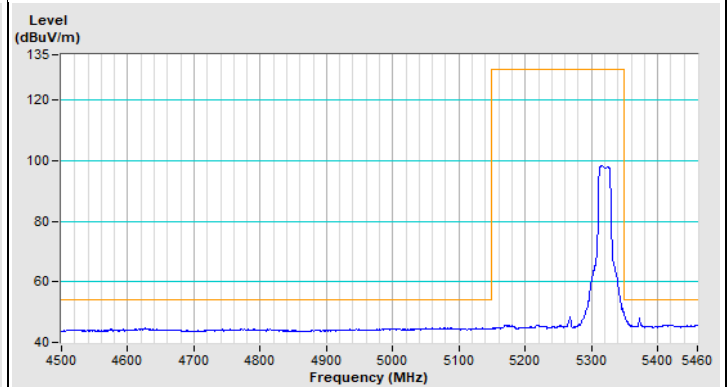


Vertical (Average)

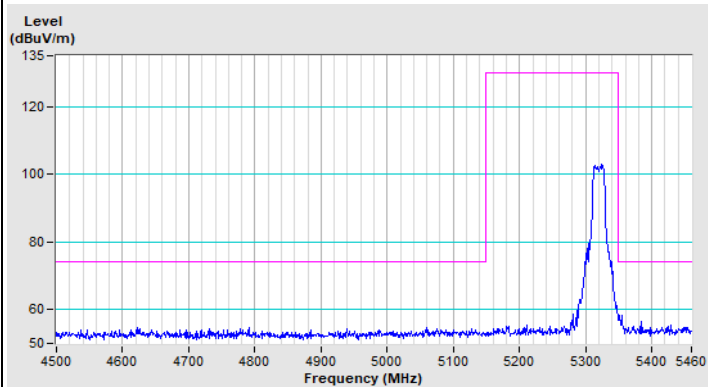
802.11a Channel 64



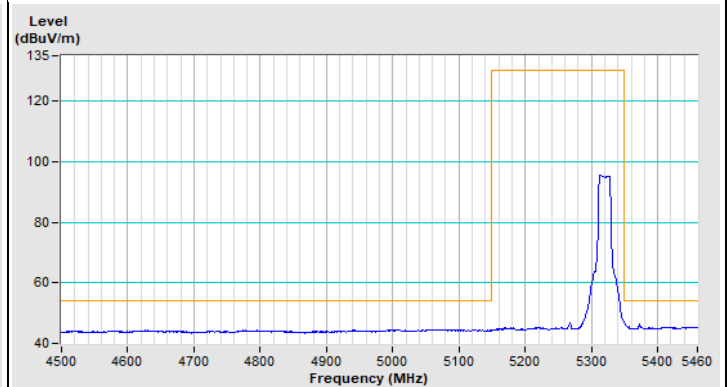
Horizontal (Peak)



Horizontal (Average)

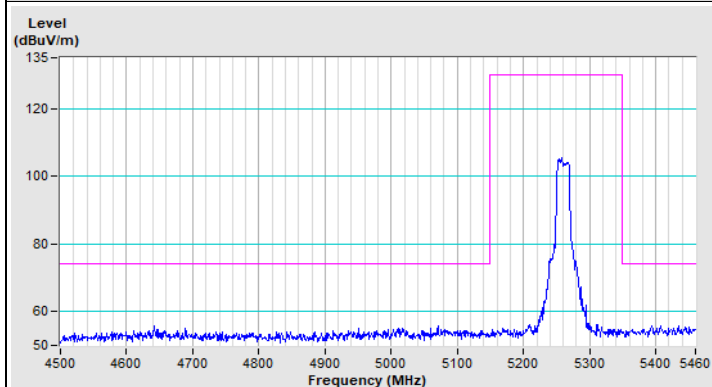


Vertical (Peak)

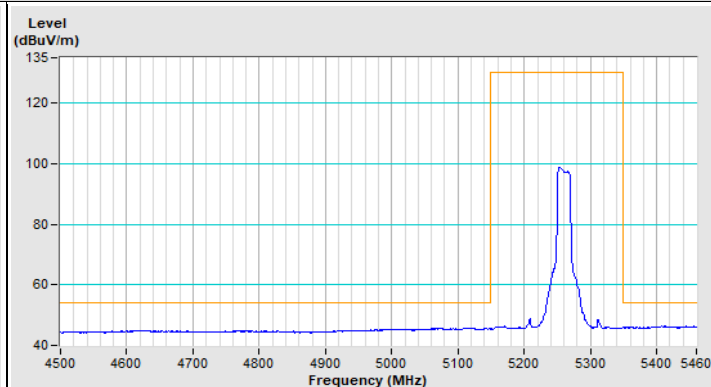


Vertical (Average)

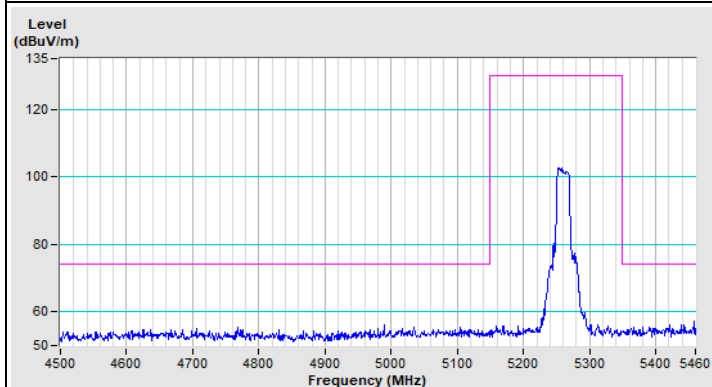
802.11n (HT20) Channel 52



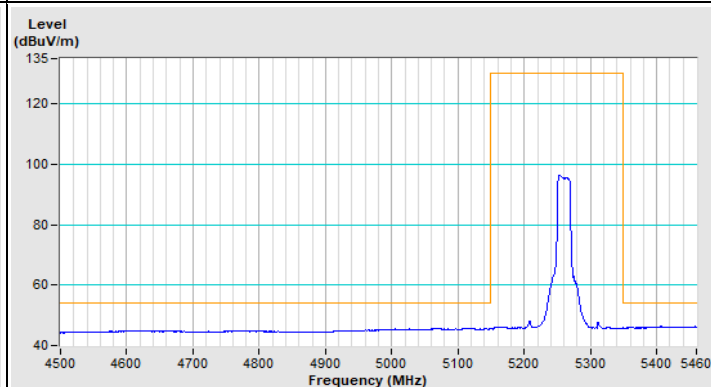
Horizontal (Peak)



Horizontal (Average)

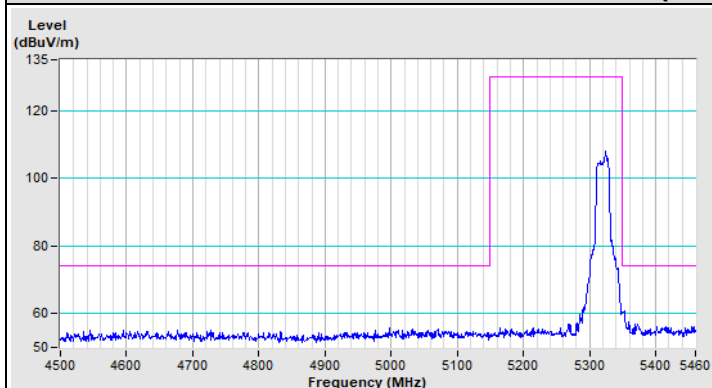


Vertical (Peak)

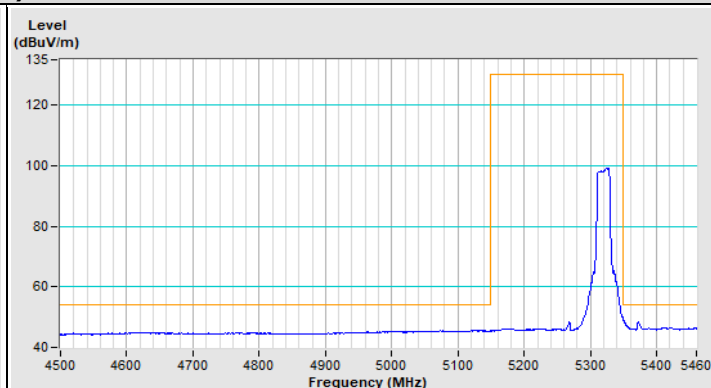


Vertical (Average)

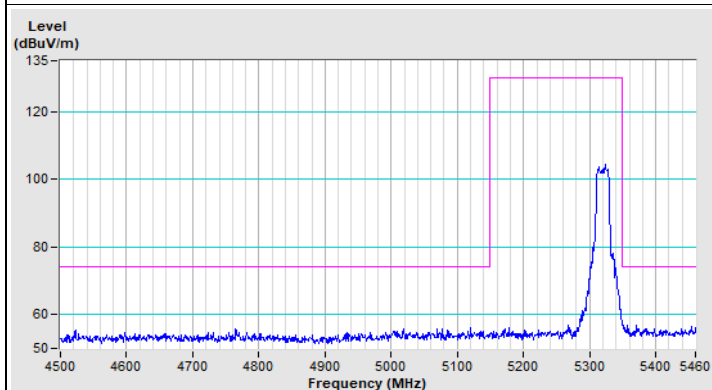
802.11n (HT20) Channel 64



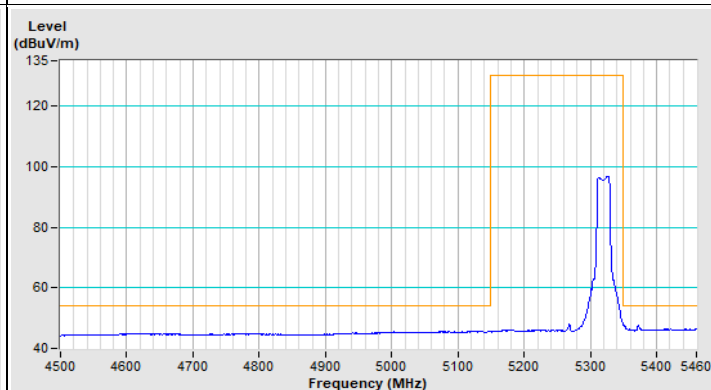
Horizontal (Peak)



Horizontal (Average)

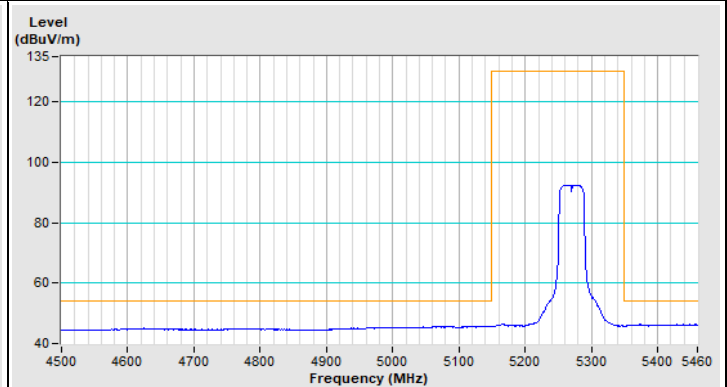
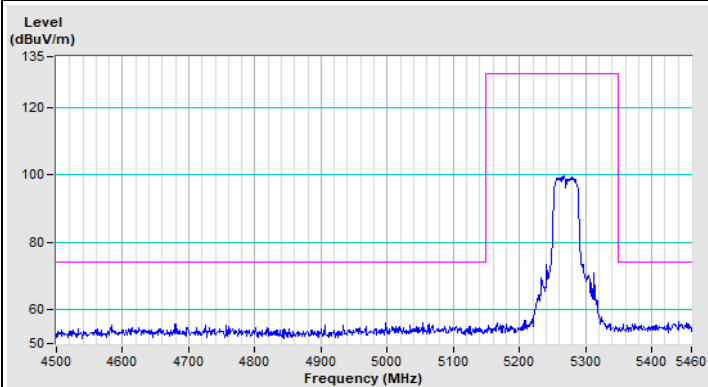
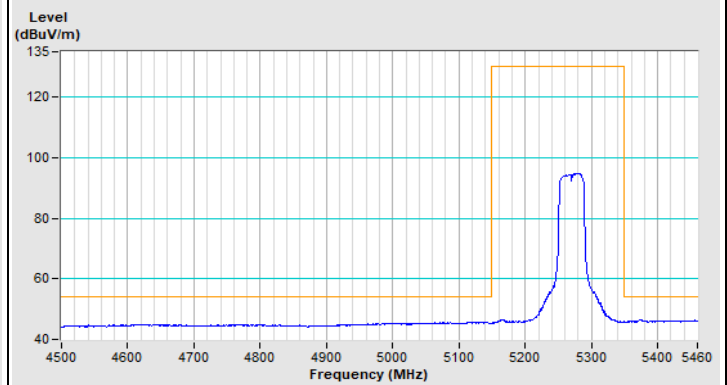
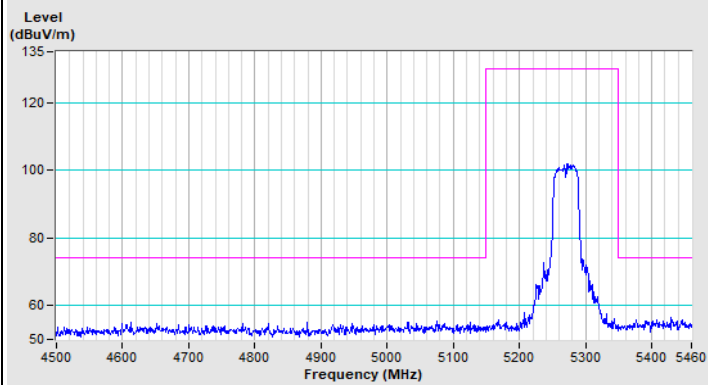


Vertical (Peak)

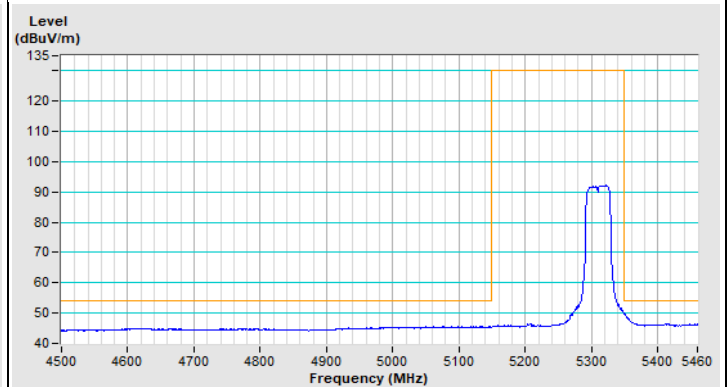
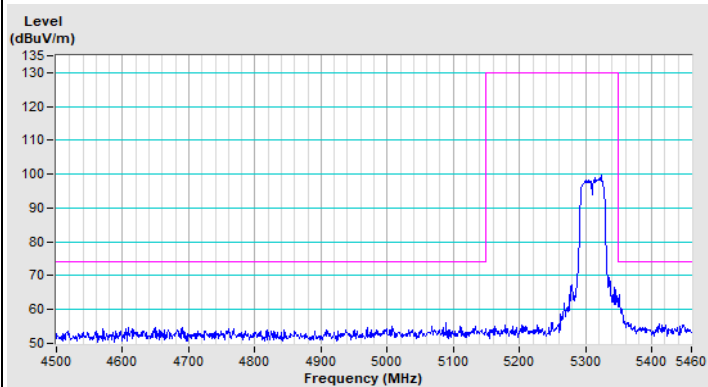
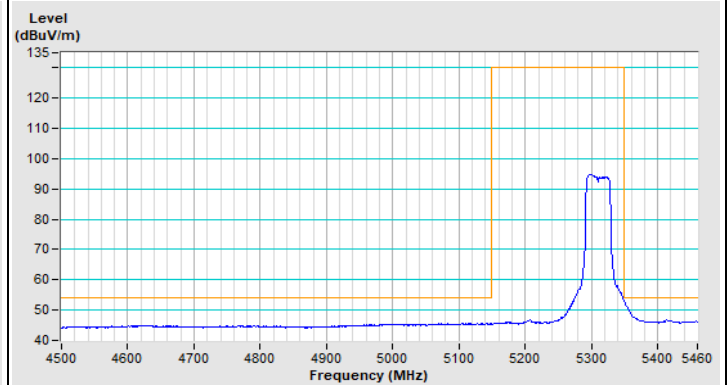
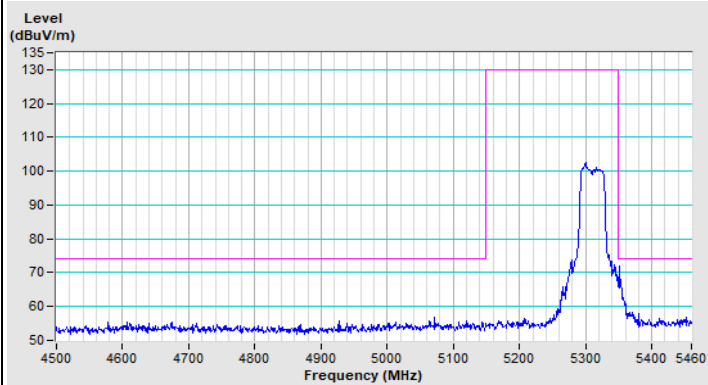


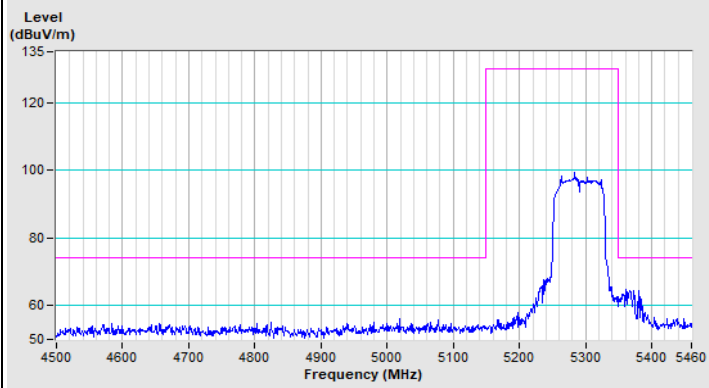
Vertical (Average)

802.11n (HT40) Channel 54

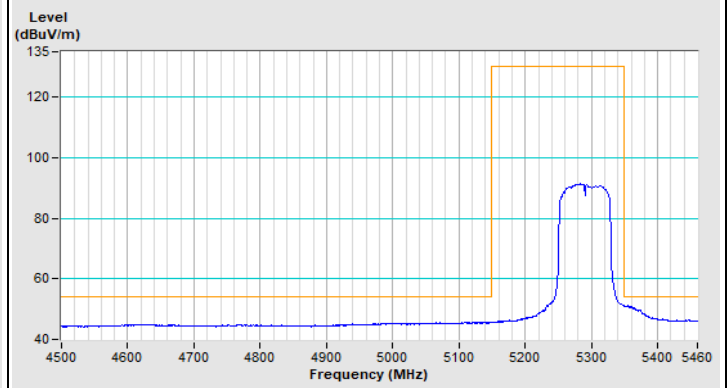


802.11n (HT40) Channel 62

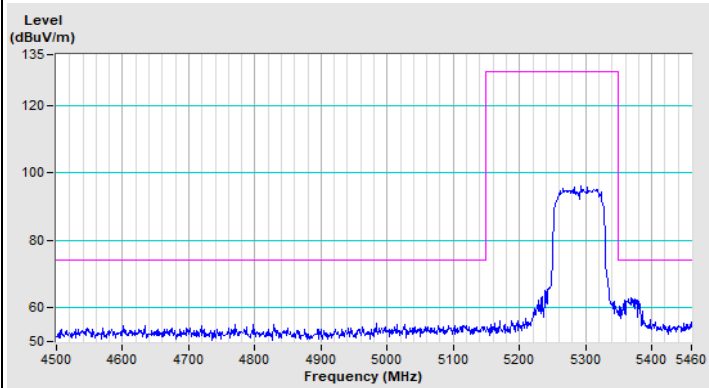


802.11ac (VHT80) Channel 58

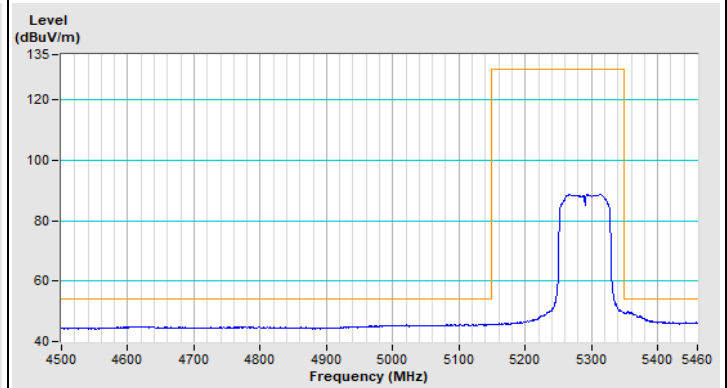
Horizontal (Peak)



Horizontal (Average)

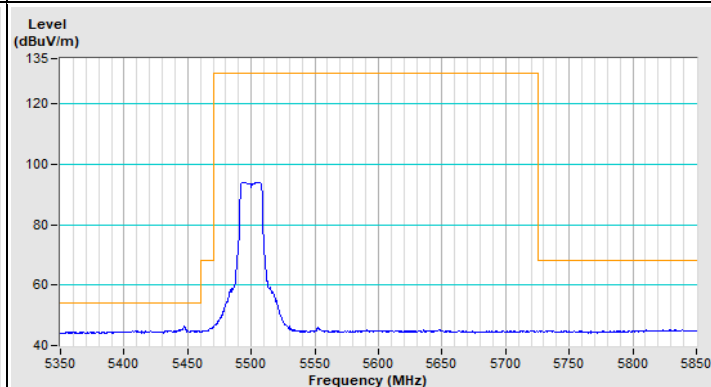
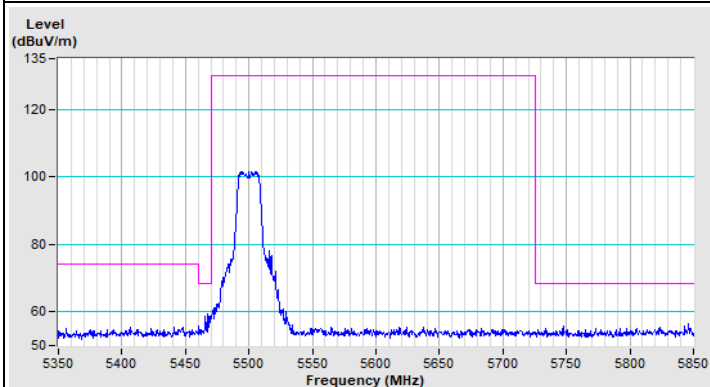
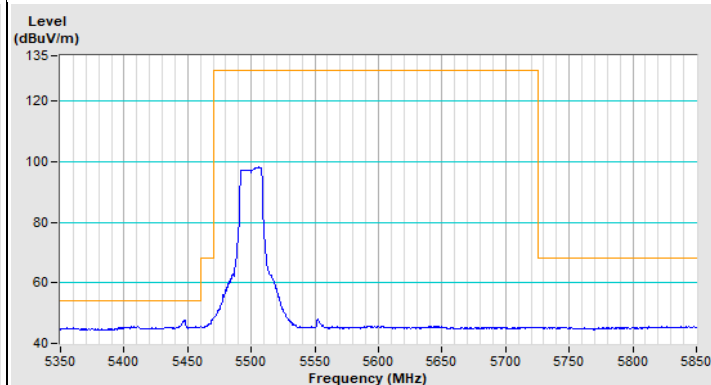
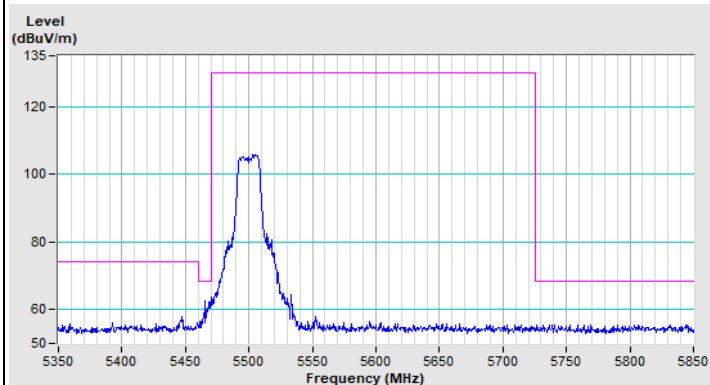


Vertical (Peak)

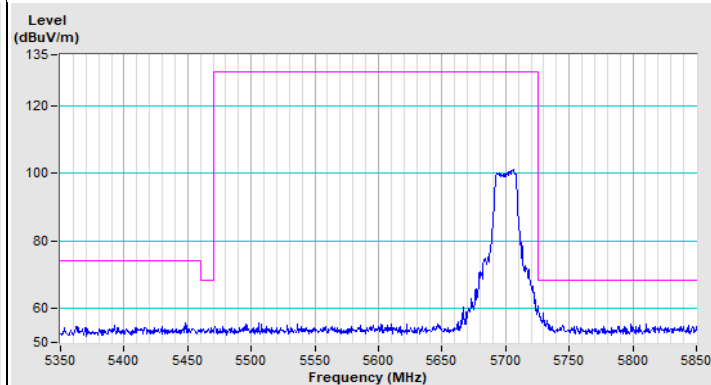
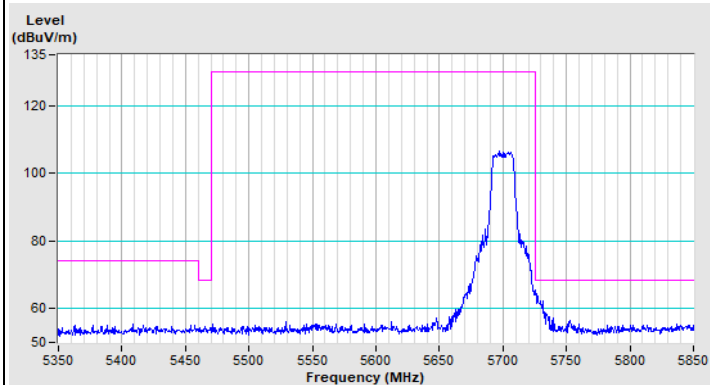


Vertical (Average)

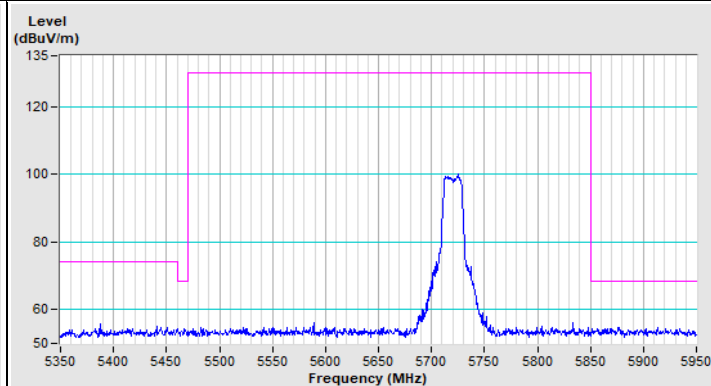
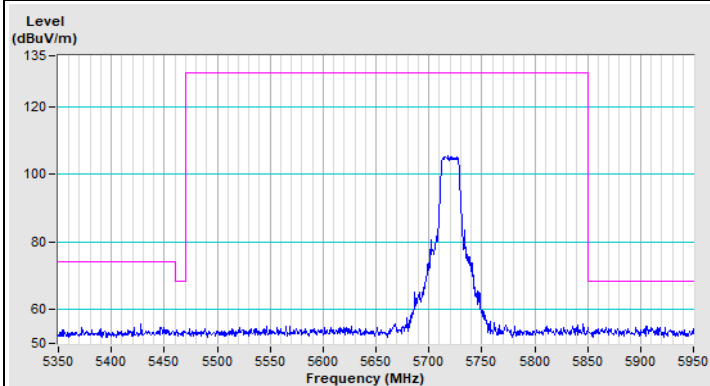
802.11a Channel 100



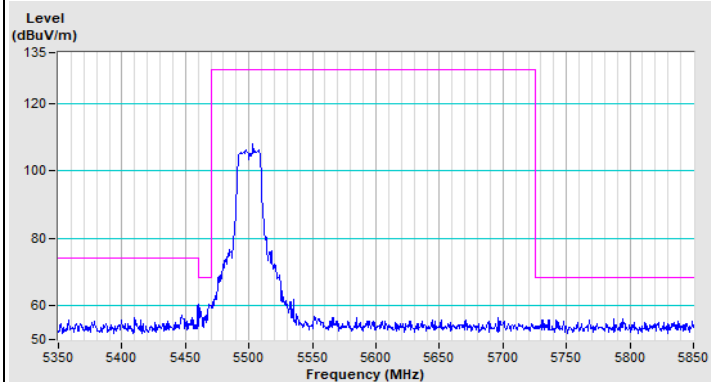
802.11a Channel 140



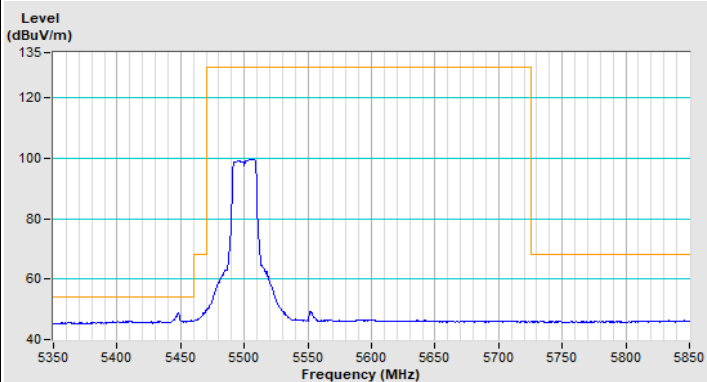
802.11a Channel 144



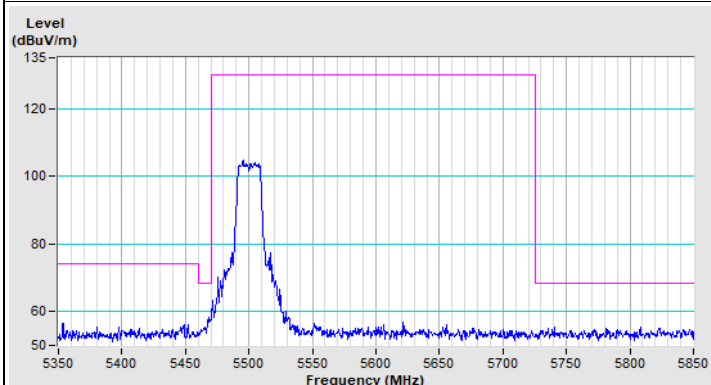
802.11n (HT20) Channel 100



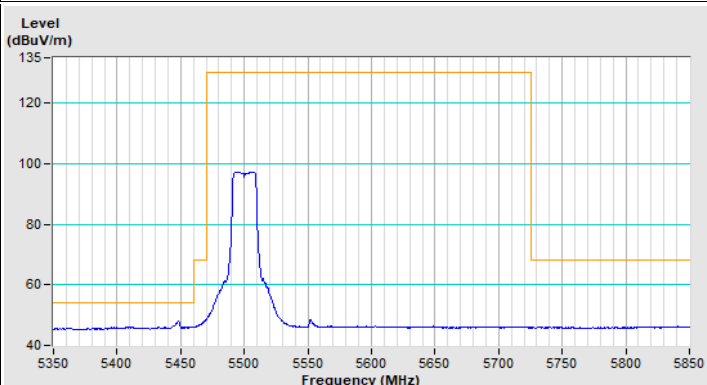
Horizontal (Peak)



Horizontal (Average)

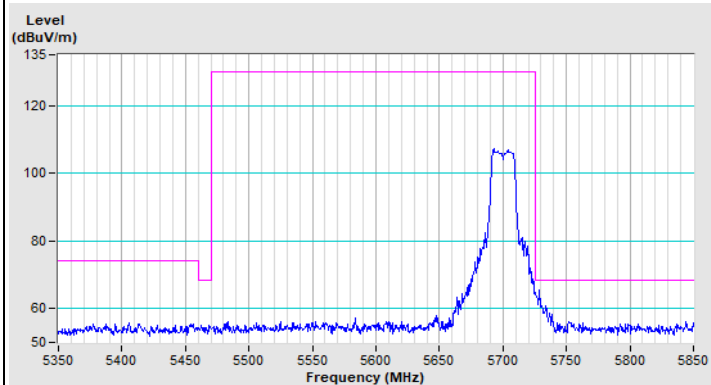


Vertical (Peak)

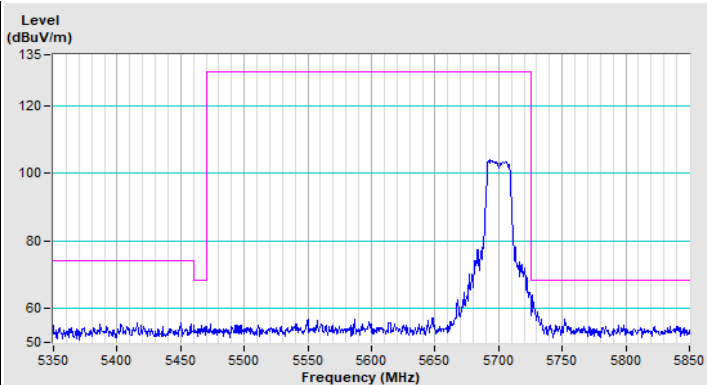


Vertical (Average)

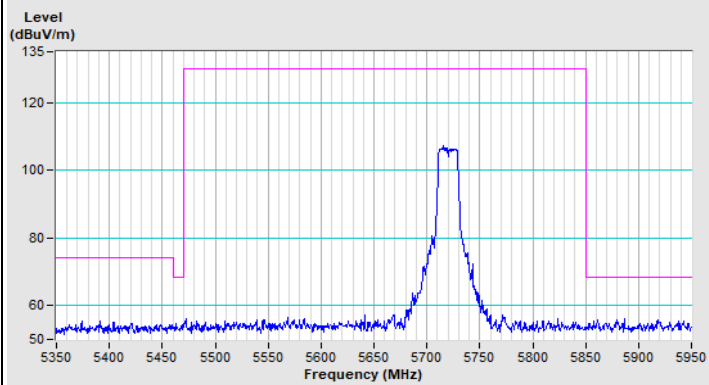
802.11n (HT20) Channel 140



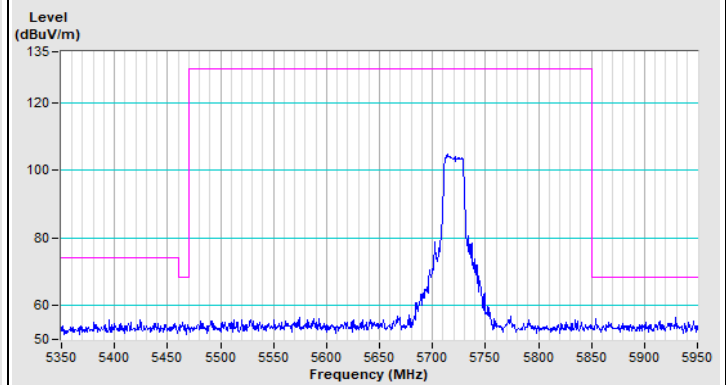
Horizontal (Peak)



Vertical (Peak)

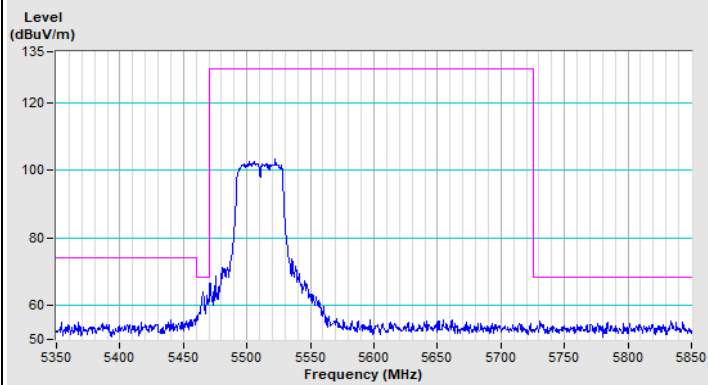
802.11n (HT20) Channel 144

Horizontal (Peak)

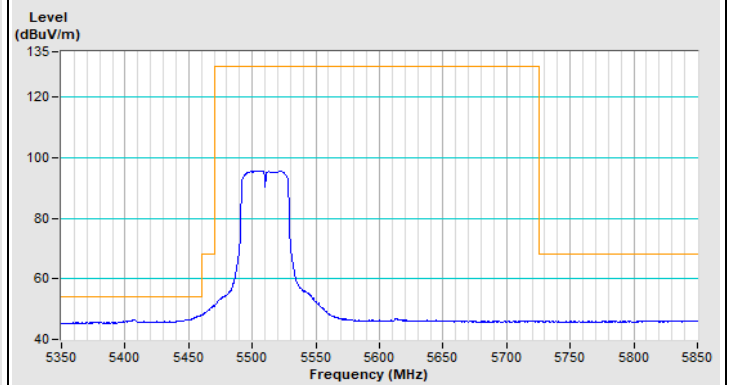


Vertical (Peak)

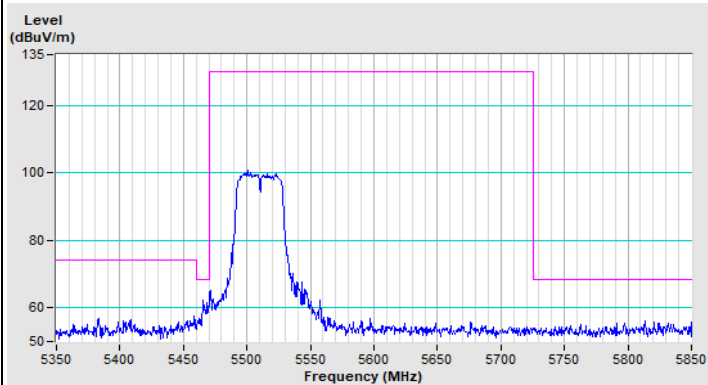
802.11n (HT40) Channel 102



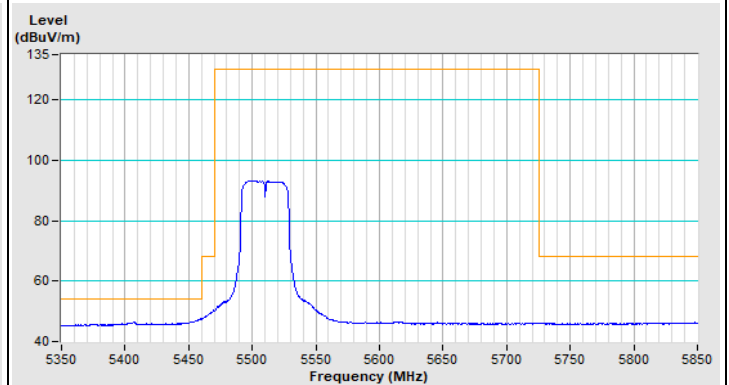
Horizontal (Peak)



Horizontal (Average)

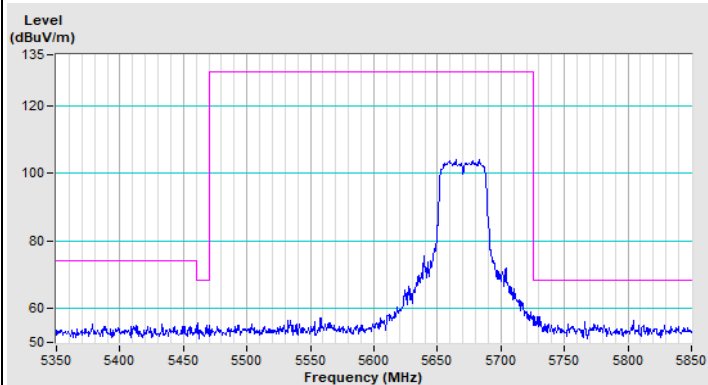


Vertical (Peak)

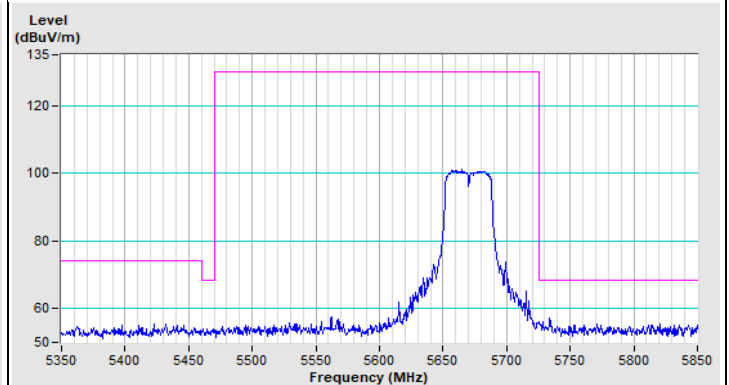


Vertical (Average)

802.11n (HT40) Channel 134

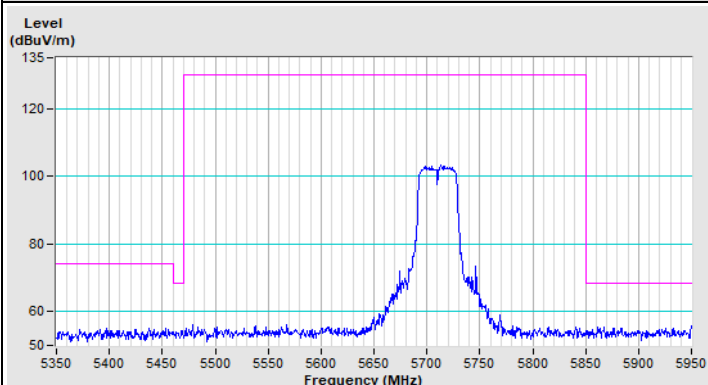


Horizontal (Peak)

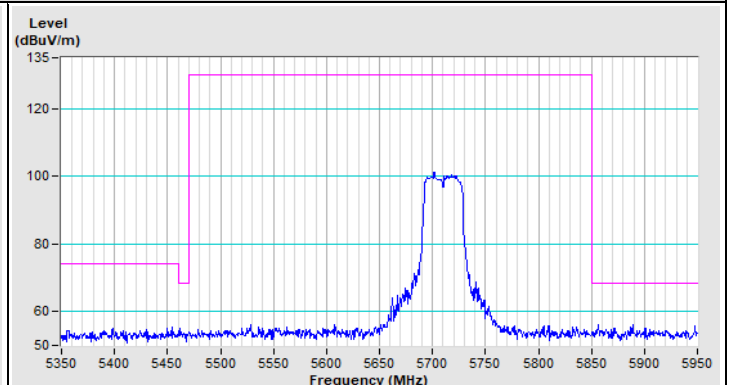


Vertical (Peak)

802.11n (HT40) Channel 142

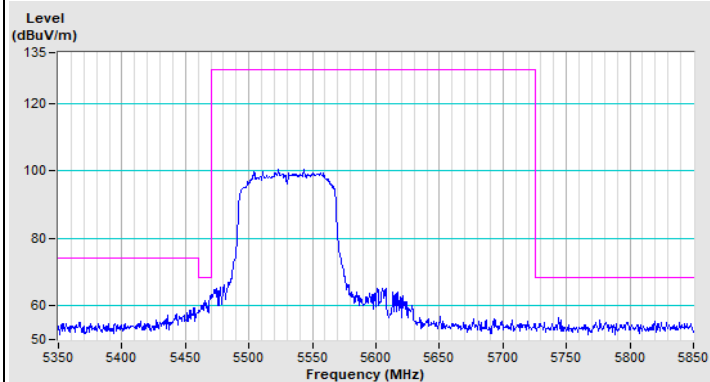


Horizontal (Peak)

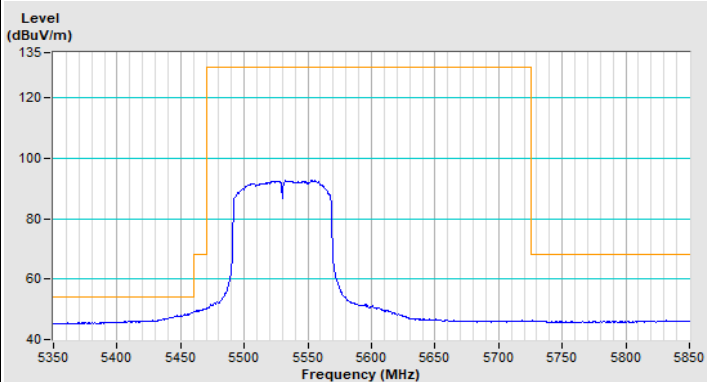


Vertical (Peak)

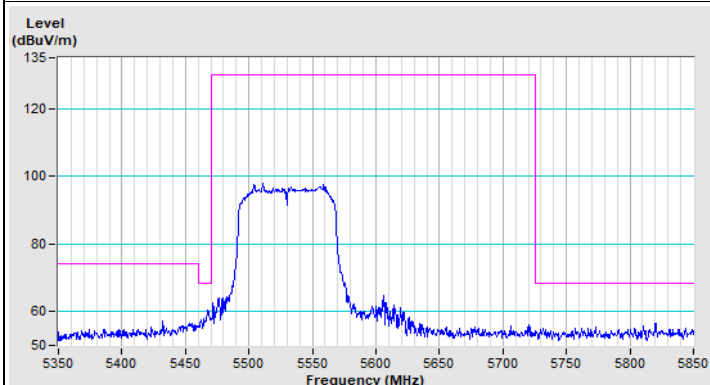
802.11ac (VHT80) Channel 106



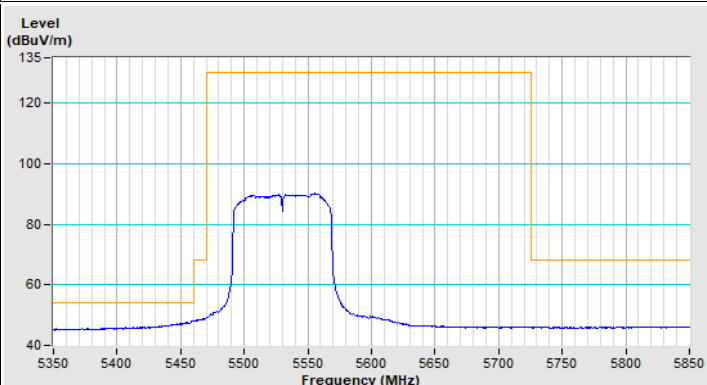
Horizontal (Peak)



Horizontal (Average)

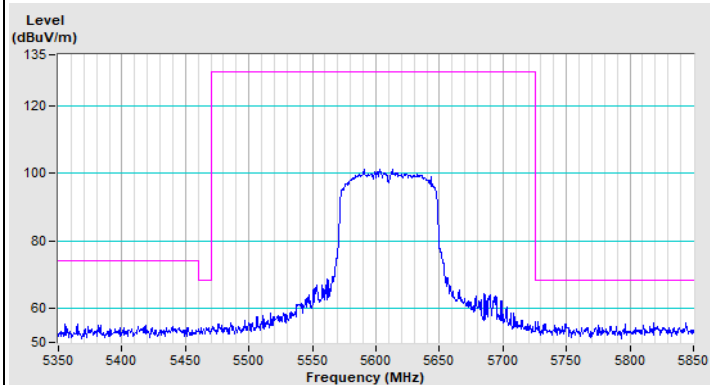


Vertical (Peak)

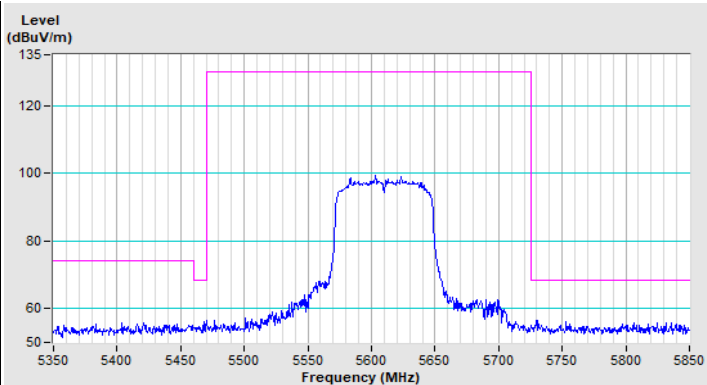


Vertical (Average)

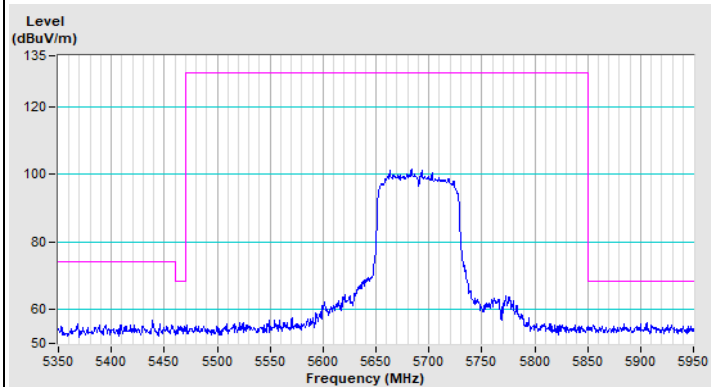
802.11ac (VHT80) Channel 122



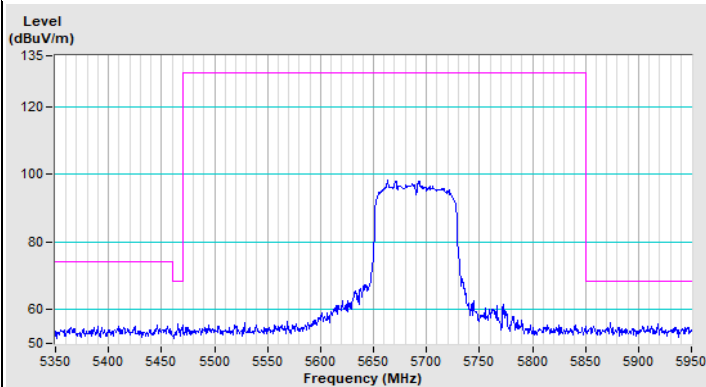
Horizontal (Peak)



Vertical (Peak)

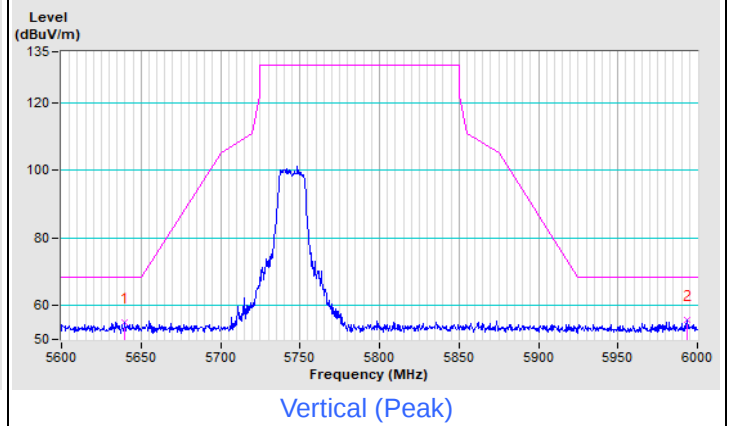
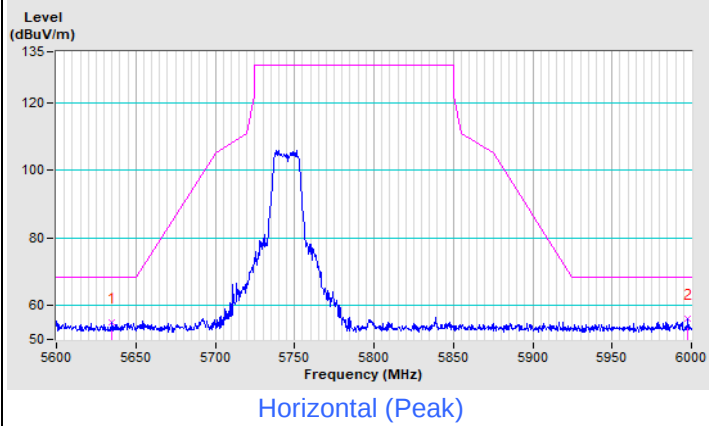
802.11ac (VHT80) Channel 138

Horizontal (Peak)

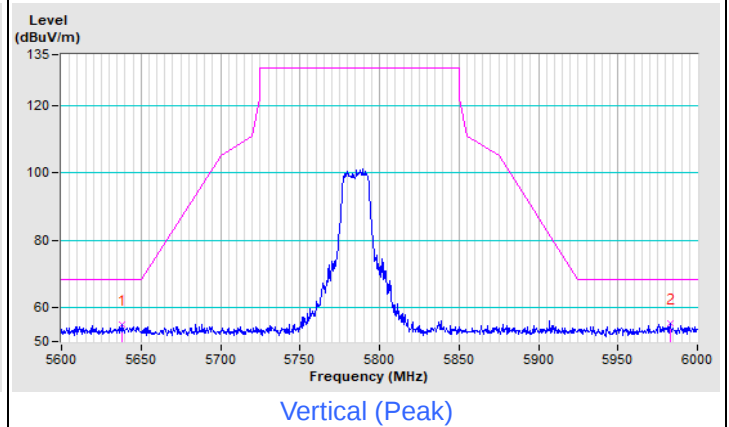
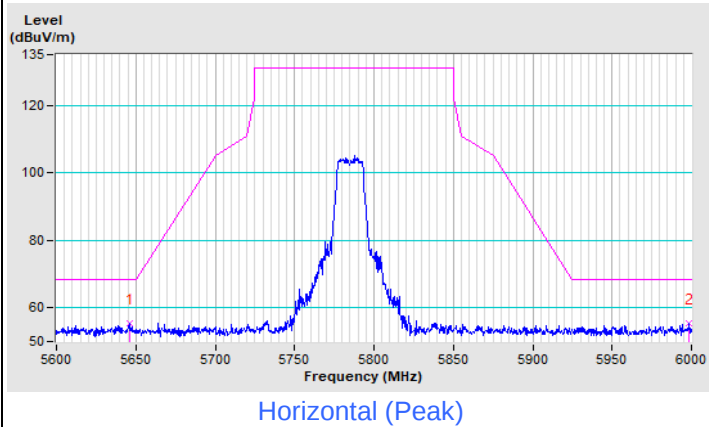


Vertical (Peak)

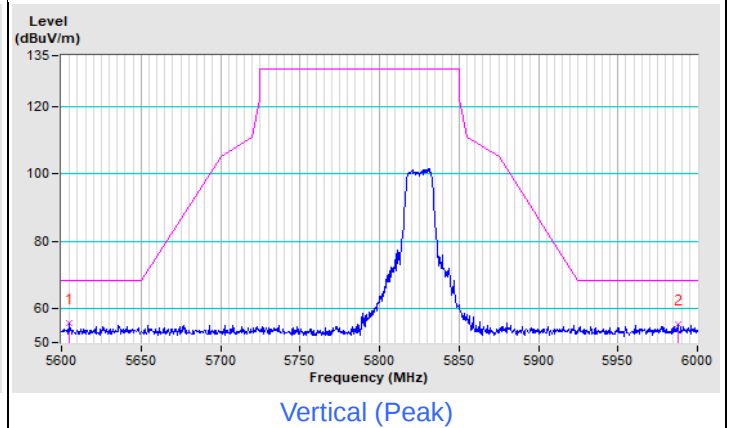
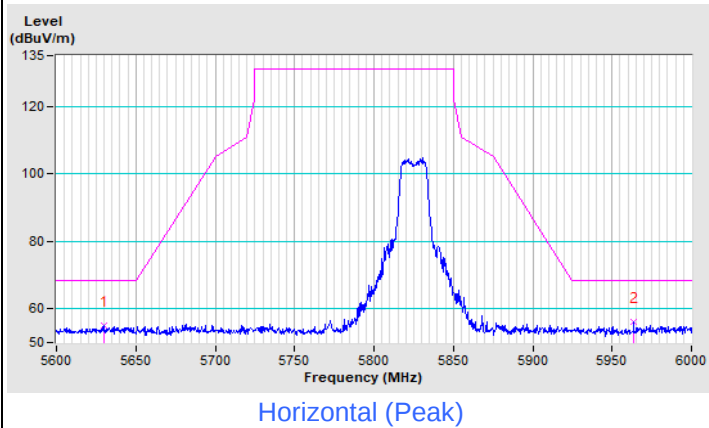
802.11a Channel 149



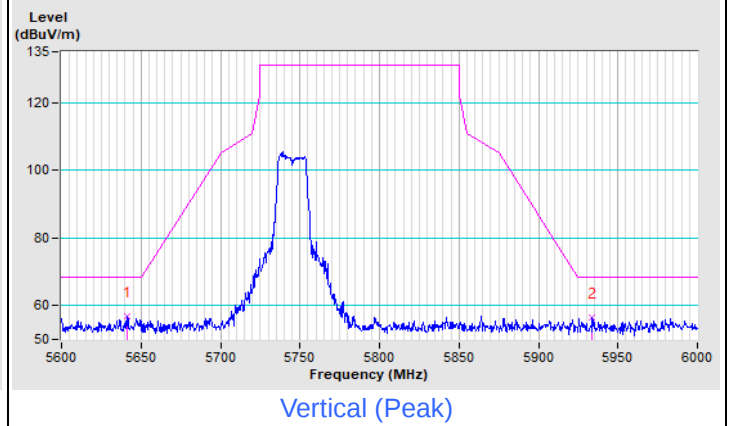
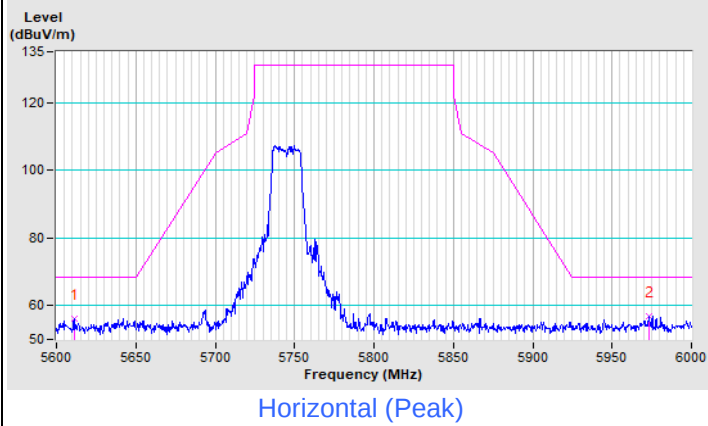
802.11a Channel 157



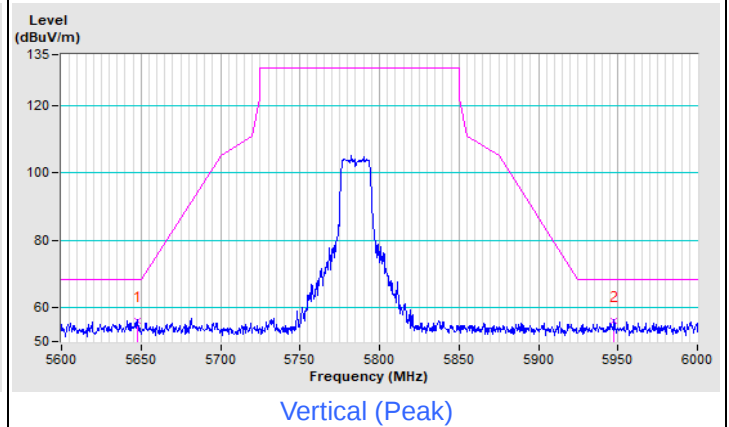
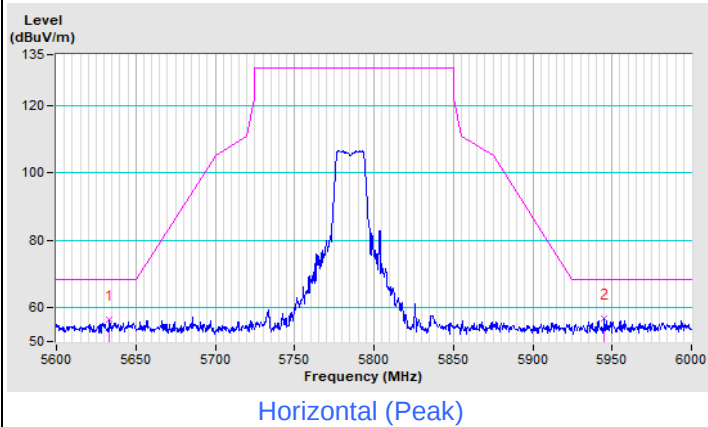
802.11a Channel 165



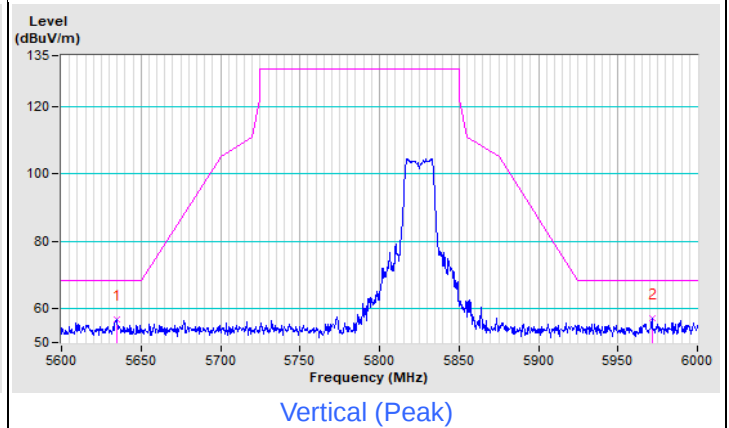
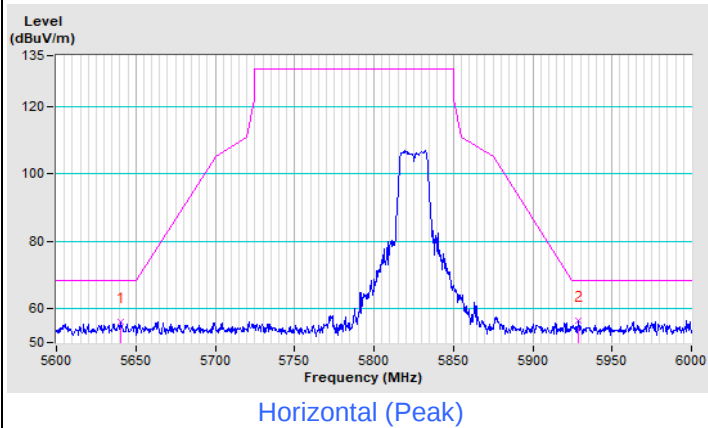
802.11n (HT20) Channel 149

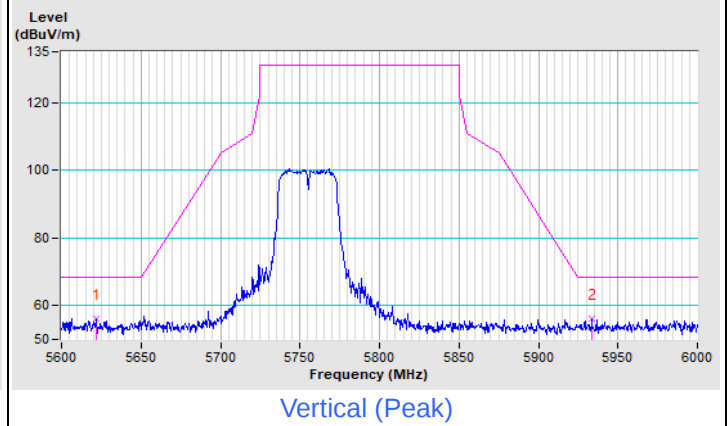
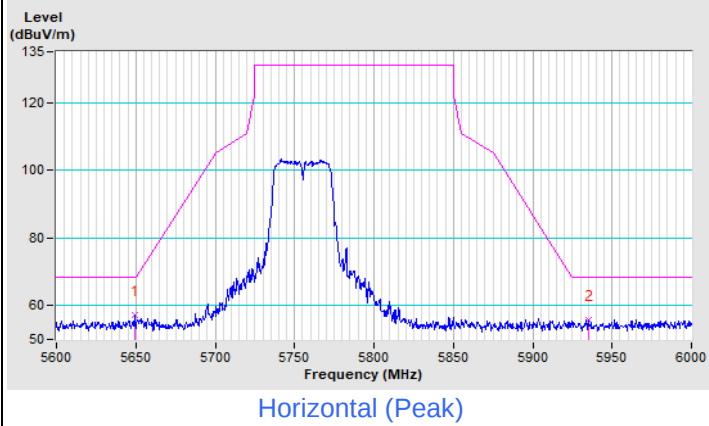
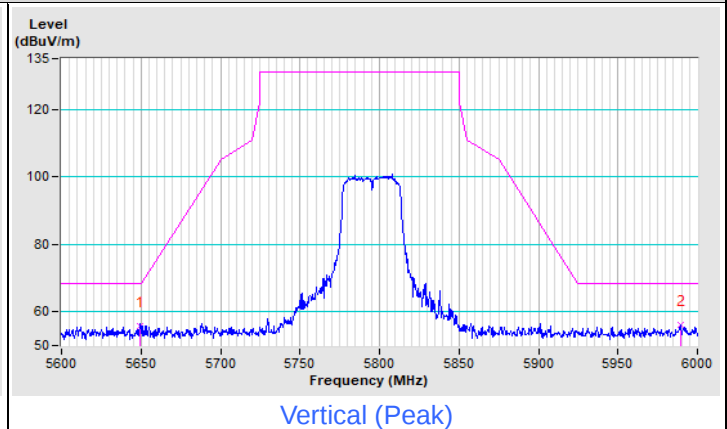
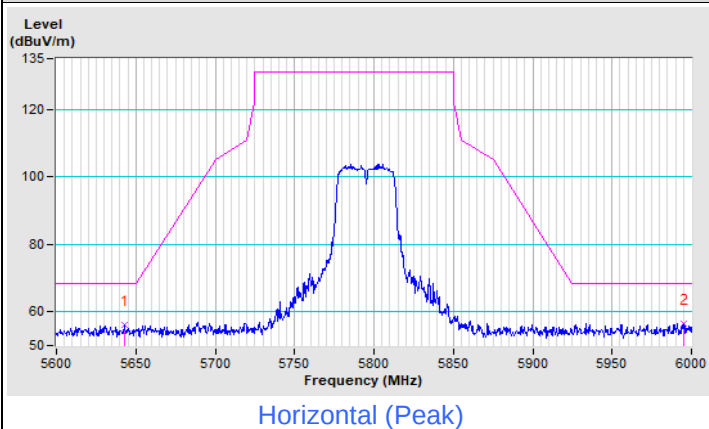


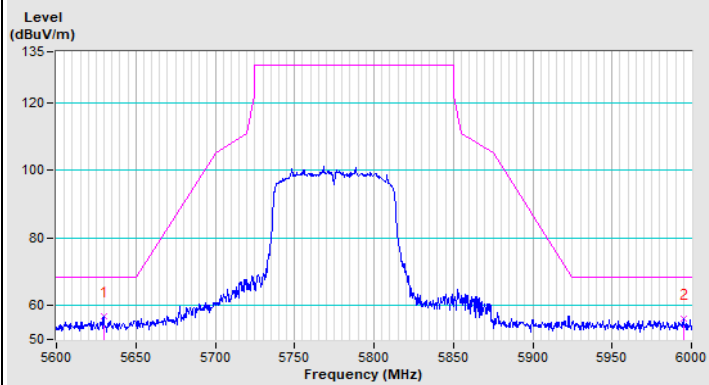
802.11n (HT20) Channel 157



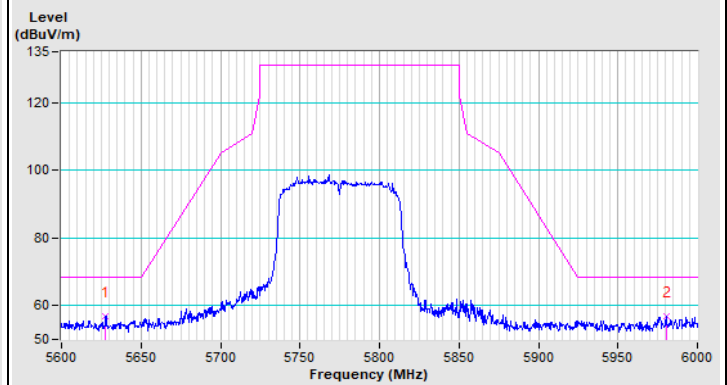
802.11n (HT20) Channel 165



802.11n (HT40) Channel 151**802.11n (HT40) Channel 159**

802.11ac (VHT80) Channel 155

Horizontal (Peak)



Vertical (Peak)

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

The address and road map of all our labs can be found in our web site also.

--- END ---