

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBHQC-WTW-P22080379A-1

FCC ID: XCNUBN2309

Product: XGS-PON

Brand:



Model No.: UBN2309

Series Model: XSR250GK

Received Date: 2022/12/1

Test Date: 2022/12/1 ~ 2023/2/7

Issued Date: 2023/7/25

Applicant: Ubee Interactive Holding Corp. Taiwan Branch

Address: 10F-1, No.5, Taiyuan 1st St. Jhubei, Hsinchu, 302, Taiwan

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / 723255 / TW2022

Designation Number:

Approved by:



May Chen / Manager

Date:

2023/7/25

This test report consists of 125 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 : Vito Lung / 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	9
3.3 Channel List.....	10
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	16
4 Test Instruments	17
4.1 26 dB Bandwidth	17
4.2 RF Output Power.....	17
4.3 Power Spectral Density	17
4.4 6 dB Bandwidth	17
4.5 Occupied Bandwidth.....	17
4.6 Frequency Stability	18
4.7 AC Power Conducted Emissions	18
4.8 Unwanted Emissions below 1 GHz	19
4.9 Unwanted Emissions above 1 GHz.....	20
5 Limits of Test Items.....	21
5.1 26 dB Bandwidth	21
5.2 RF Output Power.....	21
5.3 Power Spectral Density	21
5.4 6 dB Bandwidth	21
5.5 Occupied Bandwidth.....	21
5.6 Frequency Stability	22
5.7 AC Power Conducted Emissions	22
5.8 Unwanted Emissions below 1 GHz	22
5.9 Unwanted Emissions above 1 GHz.....	23
6 Test Arrangements.....	24
6.1 26 dB Bandwidth	24
6.1.1 Test Setup	24
6.1.2 Test Procedure.....	24
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	36
7.3	Power Spectral Density	48
7.4	6 dB Bandwidth	54
7.5	Occupied Bandwidth	56
7.6	Frequency Stability	59
7.7	AC Power Conducted Emissions	60
7.8	Unwanted Emissions below 1 GHz	62
7.9	Unwanted Emissions above 1 GHz	64
8	Pictures of Test Arrangements	124
9	Information of the Testing Laboratories	125

Release Control Record

Issue No.	Description	Date Issued
RFBHQC-WTW-P22080379A-1	Original release.	2023/7/25

1 Certificate

Product: XGS-PON

Brand:



Test Model: UBN2309

Series Model: XSR250GK

Sample Status: Mass product

Applicant: Ubee Interactive Holding Corp. Taiwan Branch

Test Date: 2022/12/1 ~ 2023/2/7

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

Measurement ANSI C63.10-2013

procedure:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output 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) 15.407(a)(2) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1) 15.407(a)(2) 15.407(a)(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 -12.27 dB at 0.15000 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.0 dB at 650.00 MHz
15.407(b) (1/10) 15.407(b) (2/10) 15.407(b) (3/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.1 dB at 5460.00, 5470.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) 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:

Parameter	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.1 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.0 dB
	18 GHz ~ 40 GHz	5.3 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	XGS-PON
Brand	
Test Model	UBN2309
Series Model	XSR250GK
Status of EUT	Mass product
Power Supply Rating	12 Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode only
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 3466.7 Mbps 802.11ax: up to 4803.9 Mbps
Operating Frequency	5.25 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 8 802.11ac (VHT80), 802.11ax (HE80): 4 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	CDD Mode: 5.25 GHz ~ 5.32 GHz : 249.734 mW (23.97 dBm) 5.5 GHz ~ 5.72 GHz : 248.594 mW (23.95 dBm) Beamforming Mode: 5.25 GHz ~ 5.32 GHz : 103.263 mW (20.14dBm) 5.5 GHz ~ 5.72 GHz : 103.987 mW (20.17 dBm)
EUT Category	Indoor Access Point

Note:

1. All models are listed as below.

Brand	Model	Difference
	UBN2309	All models are electrically identical, different model names are for marketing purpose.
	XSR250GK	

From the above models, model: UBN2309 was selected as representative model for the test and its data was recorded in this report.

2. The EUT has three radios as following table:

Radio 1	Radio 2	Radio 3
WLAN(2.4GHz)	WLAN(5GHz)	WLAN(6GHz)

3. Simultaneously transmission condition.

Condition	Technology		
1	WLAN(2.4GHz)	WLAN(5GHz)	WLAN(6GHz)

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

4. The EUT uses following accessories.

Brand	Model	Specification
MOSO	MSS-V3500WR120-042A0-US	AC Input : 100-240Vac, 50/60Hz 1.2A DC Output : 12.0Vdc, 3.5A DC Output Cable : 1.8m non-shielded, without core.

5. 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.	RF Chain NO.	Brand	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
DB1	5G Chain 3	WHA YU	3.72	5.15~5.85GHz	Dipole	ipex(MHF)
DB2	2.4G Chain 0 5G Chain 0	WHA YU	3.32	2.4~2.4835GHz	Dipole	ipex(MHF)
		WHA YU	3.8	5.15~5.85GHz	Dipole	ipex(MHF)
DB3	2.4G Chain 1 5G Chain 1	WHA YU	2.93	2.4~2.4835GHz	Dipole	ipex(MHF)
		WHA YU	3.79	5.15~5.85GHz	Dipole	ipex(MHF)
DB4	2.4G Chain 2 5G Chain 2	WHA YU	3.40	2.4~2.4835GHz	Dipole	ipex(MHF)
		WHA YU	3.79	5.15~5.85GHz	Dipole	ipex(MHF)
6G5	6G Chain 3	WHA YU	3.34	5.925GHz~7.125GHz	Dipole	ipex(MHF)
6G6	6G Chain 2	WHA YU	3.49	5.925GHz~7.125GHz	Dipole	ipex(MHF)
6G7	6G Chain 1	WHA YU	3.47	5.925GHz~7.125GHz	Dipole	ipex(MHF)
6G8	6G Chain 0	WHA YU	3.49	5.925GHz~7.125GHz	Dipole	ipex(MHF)

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

2. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT160)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE160)	4TX	4RX

Note:

- All of modulation mode support beamforming function except 802.11a modulation mode.
- The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.
- For 802.11ax, the EUT not support partial RU.

3.3 Channel List

FOR 5250 ~ 5320 MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
58	5290 MHz

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
50	5250 MHz

FOR 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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), 802.11ac (VHT40), 802.11ax (HE40):

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), 802.11ax (HE80):

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

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

Channel	Frequency
114	5570 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
-----------	--

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
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	144	BPSK	MCS0
	802.11ax (HE40)	CDD	142	BPSK	MCS0
	802.11ax (HE80)	CDD	138	BPSK	MCS0
RF Output Power	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD & Beamforming	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD & Beamforming	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD & Beamforming	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD & Beamforming	50, 114	BPSK	MCS0
Power Spectral Density	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0

Occupied Bandwidth	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0
Frequency Stability	802.11a	-	100	un-modulation	-
AC Power Conducted Emissions	802.11ax (HE40)	CDD	62	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE40)	CDD	62	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0

3.5 Duty Cycle of Test Signal

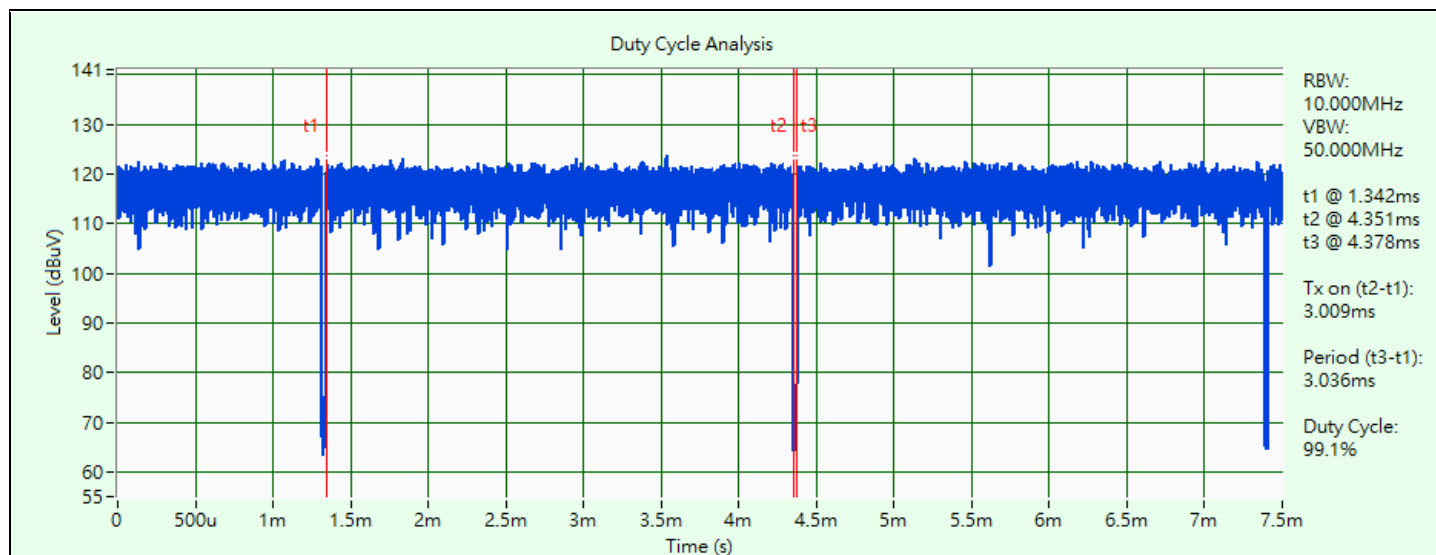
802.11a: Duty cycle = 3.009 ms / 3.036 ms x 100% = 99.1%

802.11ax (HE20): Duty cycle = 3.025 ms / 3.052 ms x 100% = 99.1%

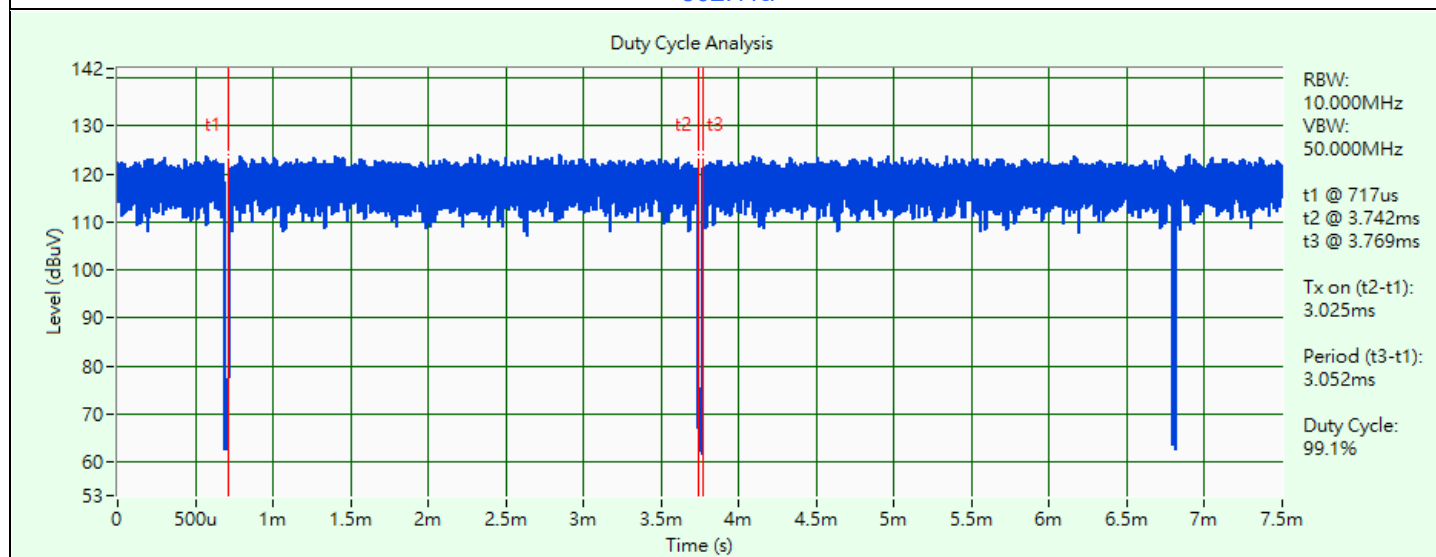
802.11ax (HE40): Duty cycle = 3.011 ms / 3.039 ms x 100% = 99.1%

802.11ax (HE80): Duty cycle = 2.998 ms / 3.025 ms x 100% = 99.1%

802.11ax (HE160): Duty cycle = 2.998 ms / 3.026 ms x 100% = 99.1%

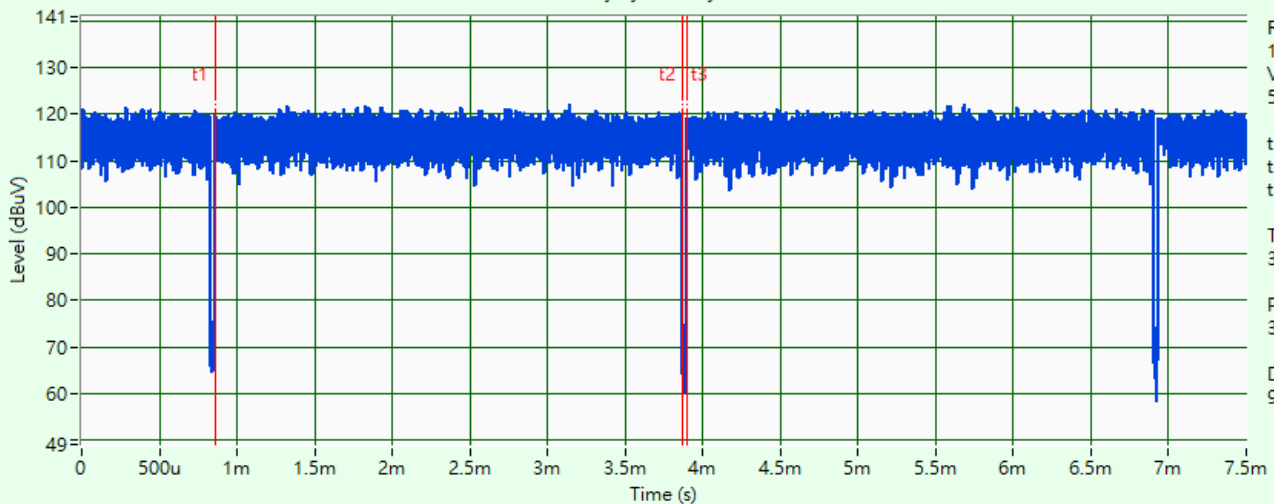


802.11a



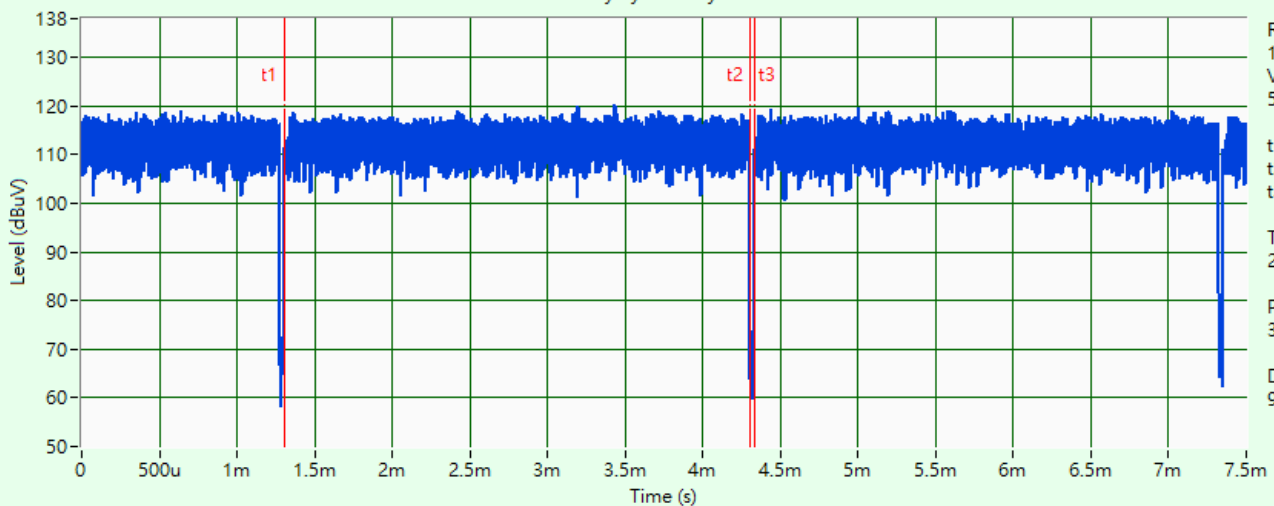
802.11ax (HE20)

Duty Cycle Analysis



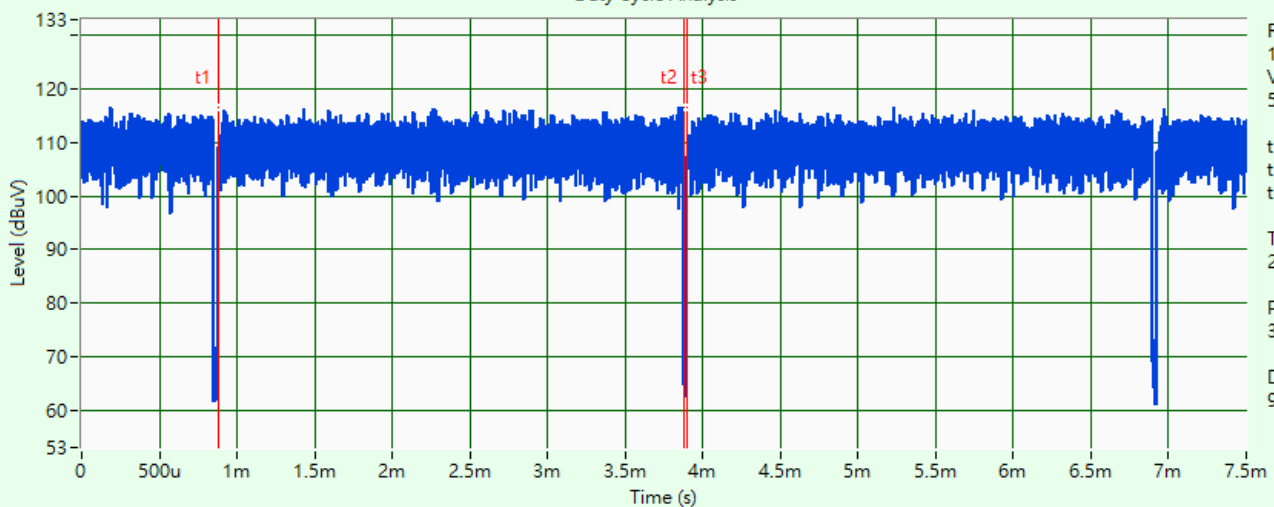
802.11ax (HE40)

Duty Cycle Analysis



802.11ax (HE80)

Duty Cycle Analysis

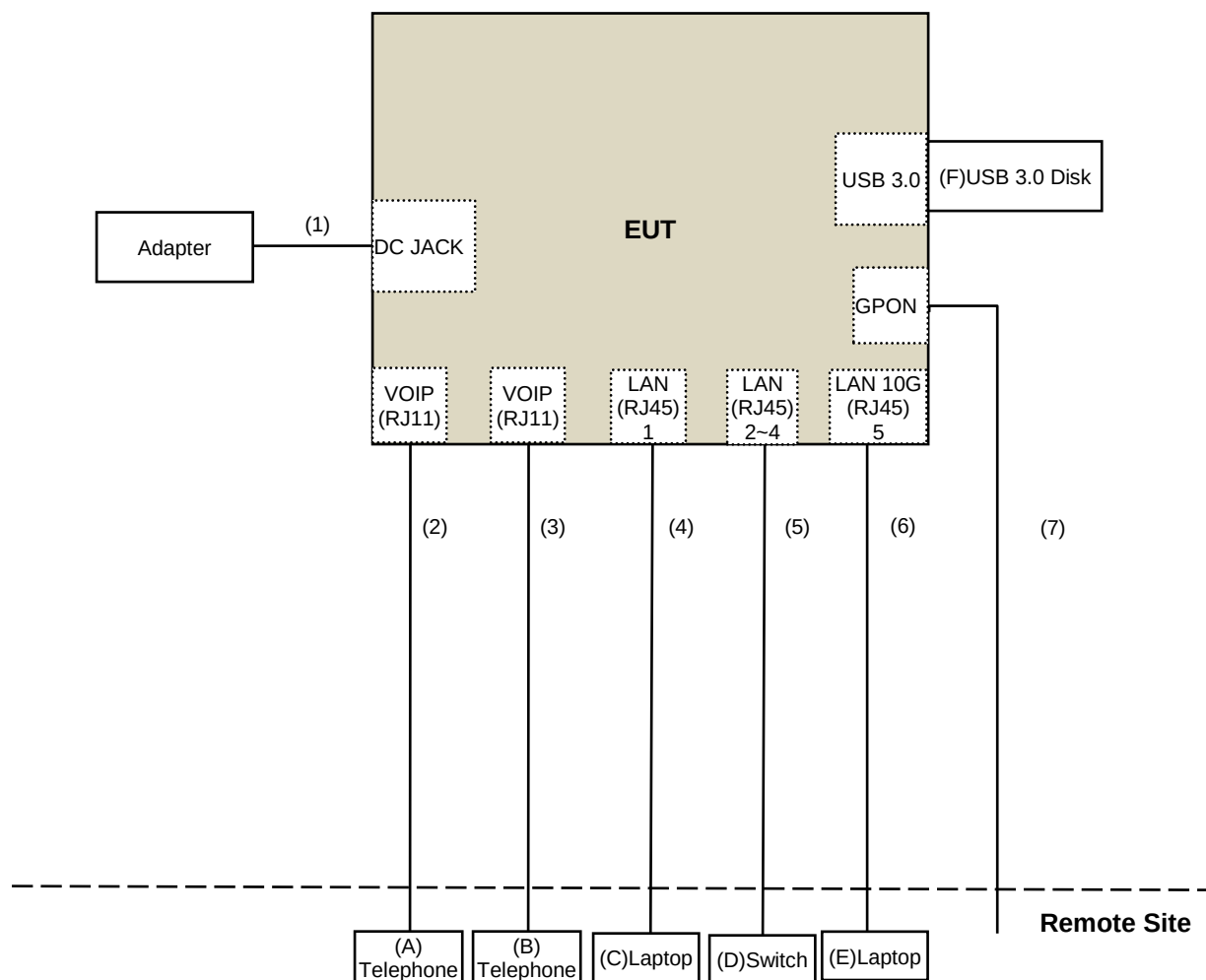


802.11ax (HE160)

3.6 Test Program Used and Operation Descriptions

Controlling software (accessMTool_REL_3_3_0_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



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	TELEPHONE	Romeo	TE-812	97285638	N/A	Provided by Lab
B	TELEPHONE	Romeo	TE-812	97280903	N/A	Provided by Lab
C	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	N/A	Provided by Lab
D	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab
E	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Provided by Lab
F	USB 3.0 Disk	SanDisk	BM181225896Z	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	0	Supplied by applicant
2	RJ-11 Cable	1	10	No	0	Provided by Lab
3	RJ-11 Cable	1	10	No	0	Provided by Lab
4	RJ-45 Cable	1	10	No	0	Provided by Lab
5	RJ-45 Cable	3	10	No	0	Provided by Lab
6	RJ-45 Cable	1	10	No	0	Provided by Lab
7	Fiber Cable	1	10	No	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
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
MXA Signal Analyzer Keysight	N9020B	MY60112409	2022/3/11	2023/3/10
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/2/6 ~ 2023/2/7

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
MXA Signal Analyzer Keysight	N9020B	MY60112409	2022/3/11	2023/3/10
Power Meter Anritsu	ML2495A	1529002	2022/6/22	2023/6/21
Pulse Power Sensor Anritsu	MA2411B	1726434	2022/6/22	2023/6/21
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/2/6 ~ 2023/2/7

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 Source GOOD WILL	6905S	1991551	N/A	N/A
Fixed Attenuator Woken	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
MXA Signal Analyzer Keysight	N9020B	MY60112409	2022/3/11	2023/3/10
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/12/26	2023/12/25
True RMS Clamp Meter Fluke	325	31130711WS	2022/6/9	2023/6/8

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/2/6 ~ 2023/2/7

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-01	2022/9/27	2023/9/26
EMI Test Receiver R&S	ESCS 30	847124/029	2022/10/14	2023/10/13
Fixed Attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2022/10/18	2023/10/17
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2022/8/24	2023/8/23
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/2/3

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0942	2022/10/20	2023/10/19
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-01	2022/12/28	2023/12/27
Loop Antenna Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
MXA Signal Analyzer Keysight	N9020B	MY60112410	2022/3/13	2023/3/12
MXE EMI Receiver Keysight	N9038A	MY59050100	2022/6/20	2023/6/19
Preamplifier EMCI	EMC330N	980852	2022/3/28	2023/3/27
	EMC001340	980142	2022/6/2	2023/6/1
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
RF Coaxial Cable PEWC	8D	966-6-1	2022/4/25	2023/4/24
		966-6-2	2022/4/25	2023/4/24
		966-6-3	2022/4/25	2023/4/24
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2023/2/3

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-2035	2022/11/13	2023/11/12
	BBHA 9170	BBHA9170519	2022/11/13	2023/11/12
MXA Signal Analyzer Keysight	N9020B	MY60112410	2022/3/13	2023/3/12
MXE EMI Receiver Keysight	N9038A	MY59050100	2022/6/20	2023/6/19
Preamplifier EMCI	EMC12630SE	980385	2022/8/15	2023/8/14
	EMC184045SE	980387	2022/1/10 2022/12/28	2023/1/9 2023/12/27
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC101G-KM-KM-10000	210708	2022/11/4	2023/11/3
	EMC102-KM-KM-1200	160924	2022/1/10 2022/12/28	2023/1/9 2023/12/27
	EMC104-SM-SM-1300	210205	2022/5/10	2023/5/9
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 6.
2. Tested Date: 2022/12/1 ~ 2023/2/2

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

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

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)

For transmitters operating in the 5.25-5.35 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

For transmitters operating in the 5.47-5.725 GHz band:

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

For transmitters operating in the 5.725-5.850 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1}	PK: 68.2 (dBμV/m) ^{*1}
	PK: 10 (dBm/MHz) ^{*2}	PK: 105.2 (dBμV/m) ^{*2}
	PK: 15.6 (dBm/MHz) ^{*3}	PK: 110.8 (dBμV/m) ^{*3}
	PK: 27 (dBm/MHz) ^{*4}	PK: 122.2 (dBμV/m) ^{*4}

^{*1} beyond 75 MHz or more above of the band edge.

^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

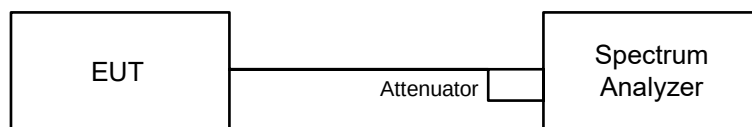
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

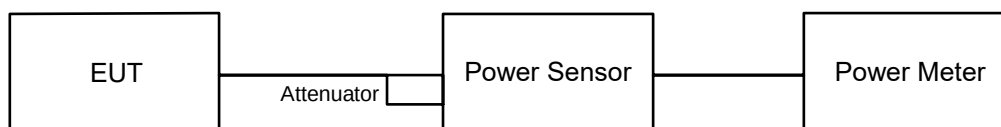


6.1.2 Test Procedure

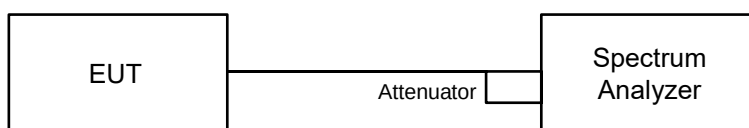
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

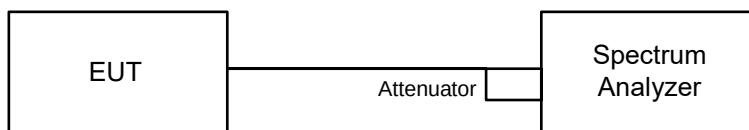
Method SA-1

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
- Sweep points ≥ $[2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing ≤ 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.
- Record the max value

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-1

- 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.
- Record the max value

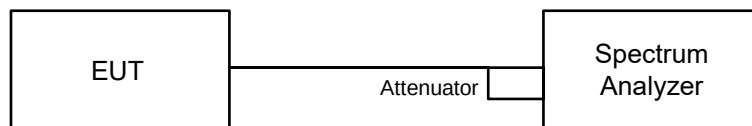
For specified measurement bandwidth 500 kHz:

Method SA-1

- 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.
- Record the max value

6.4 6 dB Bandwidth

6.4.1 Test Setup

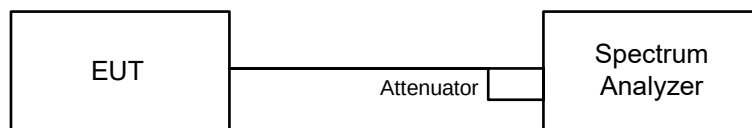


6.4.2 Test Procedure

- 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

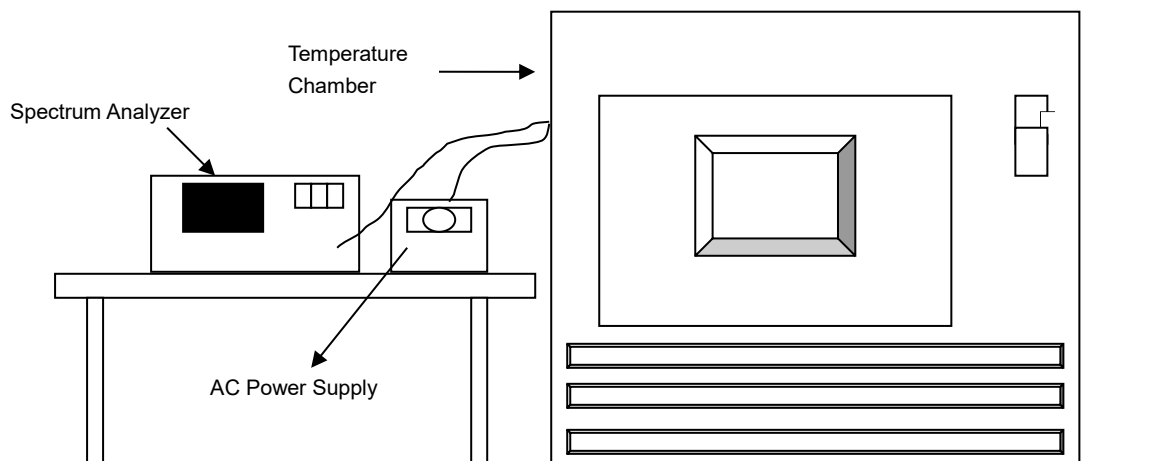


6.5.2 Test Procedure

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

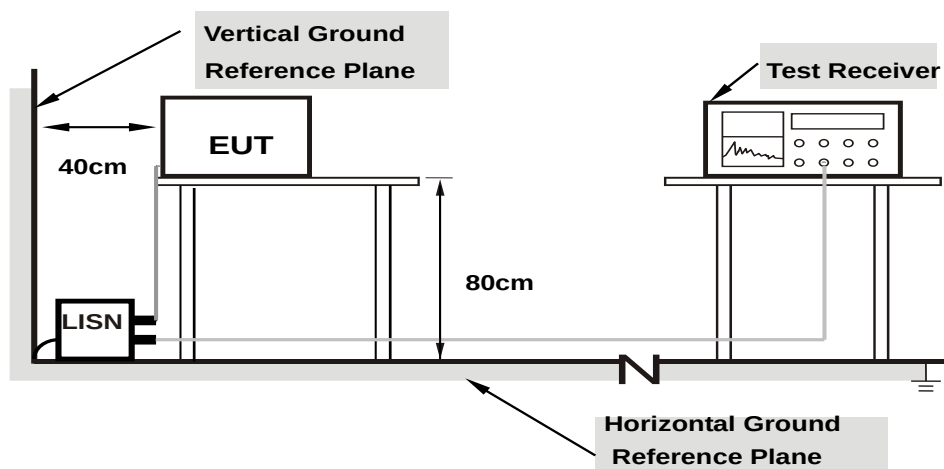


6.6.2 Test Procedure

- 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

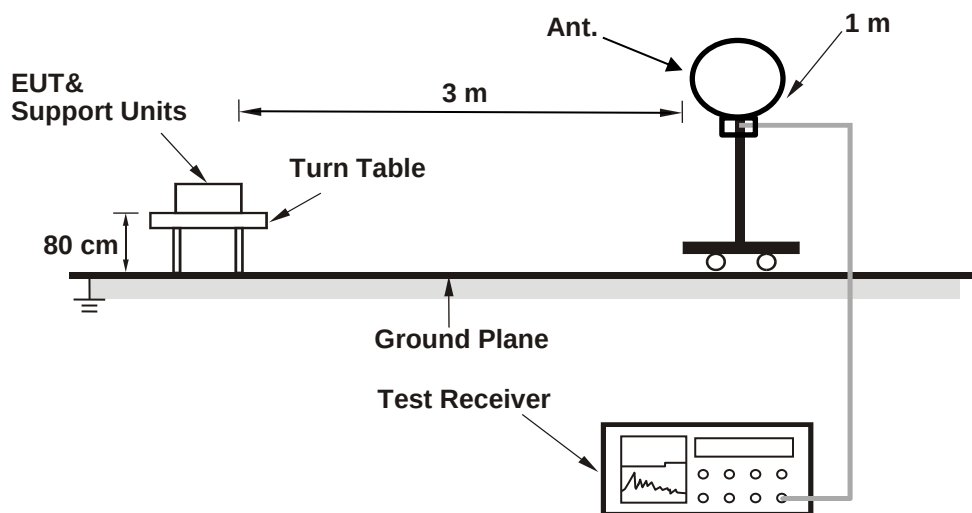
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The 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.

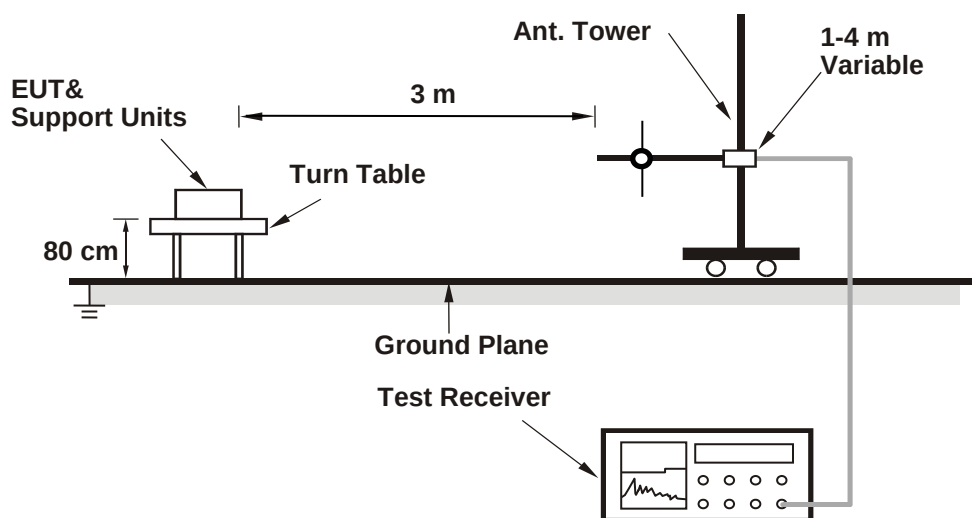
6.8 Unwanted Emissions below 1 GHz

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

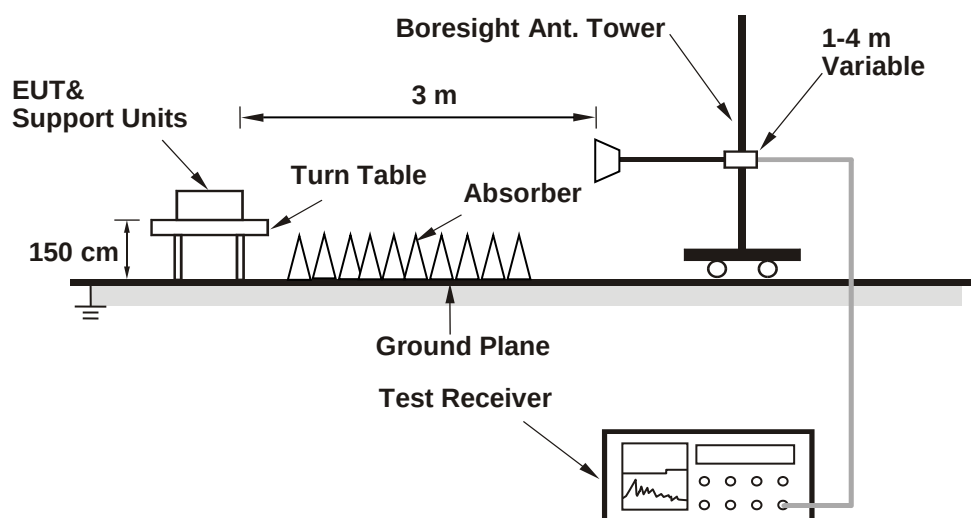
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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(QP) detect function, Average(AV) detect function, Peak(PK) 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), Average detection (AV), Peak detection (PK) at frequency (30MHz to 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:	Katina Lu
--------------	----------------	---------------------------	--------------	------------	-----------

802.11a

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	22.02	21.99	21.78	21.81
60	5300	22.07	21.96	21.72	21.89
64	5320	23.21	25.21	23.88	22.23
100	5500	22.84	24.38	23.55	23.07
116	5580	22.01	21.83	21.66	21.64
140	5700	22.05	22.14	21.92	21.92
144 (U-NII-2C)	5720	16.08	16.07	15.97	16.04
144 (U-NII-3)	5720	6.00	6.11	5.90	5.90

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	21.78	24.38 > 24
60	5300	21.72	24.36 > 24
64	5320	22.23	24.46 > 24
100	5500	22.84	24.58 > 24
116	5580	21.64	24.35 > 24
140	5700	21.92	24.4 > 24
144 (U-NII-2C)	5720	15.97	23.03 < 24

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

802.11ax (HE20)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	21.99	22.02	21.92	21.91
60	5300	21.97	21.98	21.92	21.92
64	5320	28.40	22.34	23.96	23.88
100	5500	26.20	25.75	26.29	25.06
116	5580	22.13	22.01	21.93	21.90
140	5700	22.28	22.14	22.26	22.02
144 (U-NII-2C)	5720	16.10	16.07	16.10	16.03
144 (U-NII-3)	5720	6.07	6.08	6.11	5.99

Determined Output Power Limit					
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)		
52	5260	21.91	24.4	>	24
60	5300	21.92	24.4	>	24
64	5320	22.34	24.49	>	24
100	5500	25.06	24.98	>	24
116	5580	21.90	24.4	>	24
140	5700	22.02	24.42	>	24
144 (U-NII-2C)	5720	16.03	23.04	<	24

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

802.11ax (HE40)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	42.11	42.03	41.94	41.87
62	5310	45.01	45.22	43.67	46.35
102	5510	44.40	45.66	45.62	44.32
110	5550	41.94	41.88	41.86	41.66
134	5670	41.94	42.20	42.01	41.62
142 (U-NII-2C)	5710	36.86	35.75	35.92	38.77
142 (U-NII-3)	5710	9.30	5.81	5.97	10.25

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	41.87	27.21 > 24
62	5310	43.67	27.4 > 24
102	5510	44.32	27.46 > 24
110	5550	41.66	27.19 > 24
134	5670	41.62	27.19 > 24
142 (U-NII-2C)	5710	35.75	26.53 > 24

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

802.11ax (HE80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	85.05	85.65	84.60	85.77
106	5530	84.23	86.20	85.13	87.63
122	5610	83.33	82.75	83.05	83.00
138 (U-NII-2C)	5690	76.58	76.36	76.58	76.41
138 (U-NII-3)	5690	6.59	6.42	6.38	6.23

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	84.60	30.27 > 24
106	5530	84.23	30.25 > 24
122	5610	82.75	30.17 > 24
138 (U-NII-2C)	5690	76.36	29.82 > 24

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

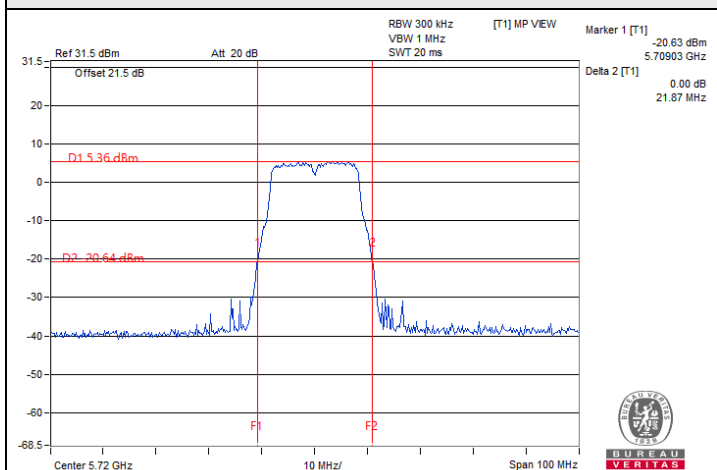
802.11ax (HE160)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1)	5250	83.89	84.84	84.32	83.78
50 (U-NII-2A)	5250	83.50	84.57	84.24	85.24
114	5570	169.43	169.56	169.51	168.36

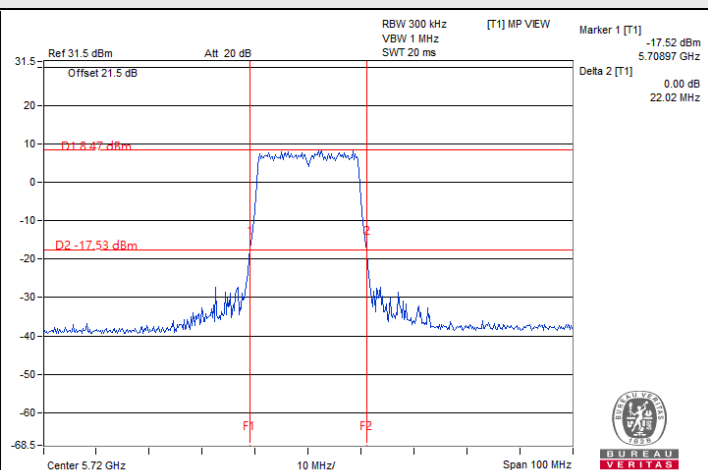
Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
50 (U-NII-2A)	5250	83.50	30.21 > 24
114	5570	168.36	33.26 > 24

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

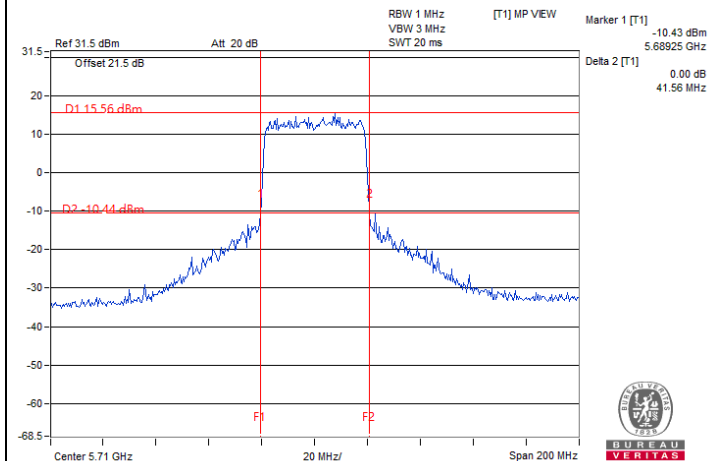
Spectrum Plot of Minimum Value



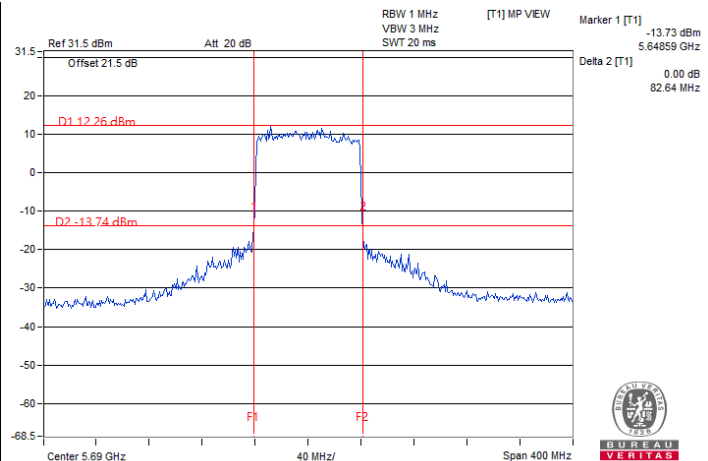
802.11a / Chain 2 : CH 144 (U-NII-3)



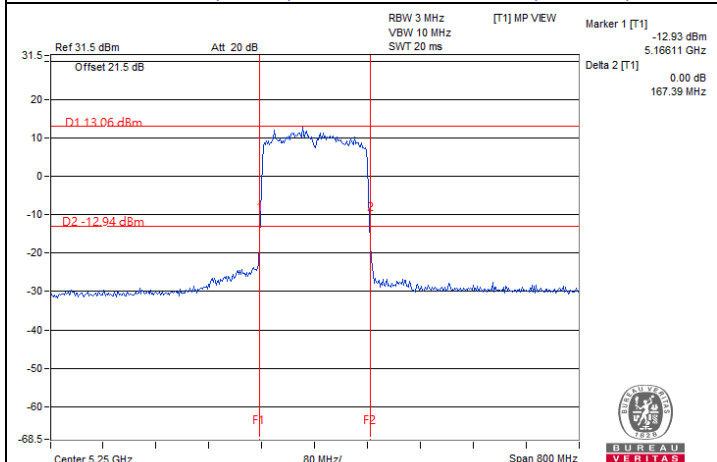
802.11ax (HE20) / Chain 3 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 3 : CH 138 (U-NII-3)



802.11ax (HE160) / Chain 0 : CH 50 (U-NII-2A)

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
3. For U-NII-1 straddle channel = 5250 MHz - Marker 1
4. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

7.2 RF Output Power

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

802.11a CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.88	13.87	13.57	13.62	94.578	19.76	24	Pass
60	5300	14.02	13.90	13.66	13.78	96.887	19.86	24	Pass
64	5320	14.07	13.72	13.68	13.93	97.129	19.87	24	Pass
100	5500	13.84	14.24	14.39	14.10	103.939	20.17	24	Pass
116	5580	13.81	14.26	14.33	14.18	103.996	20.17	24	Pass
140	5700	13.85	14.19	14.38	14.11	103.687	20.16	24	Pass
*144 (U-NII-2C)	5720	12.94	13.05	13.12	13.42	82.353	19.16	23.03	Pass
*144 (U-NII-3)	5720	6.81	7.22	7.33	6.83	20.297	13.07	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.41	13.90	14.01	13.76	95.42	19.80	24	Pass
60	5300	13.44	13.81	14.00	13.68	94.577	19.76	24	Pass
64	5320	13.45	13.85	14.00	13.77	95.339	19.79	24	Pass
100	5500	14.03	13.74	14.26	13.81	99.664	19.99	24	Pass
116	5580	14.06	13.62	14.08	13.92	98.729	19.94	24	Pass
140	5700	14.69	14.39	14.35	14.24	110.696	20.44	24	Pass
*144 (U-NII-2C)	5720	13.30	13.39	13.58	13.63	89.078	19.50	23.04	Pass
*144 (U-NII-3)	5720	8.11	8.37	8.54	8.39	27.389	14.38	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the directional gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	16.75	17.21	17.33	17.02	204.342	23.10	24	Pass
62	5310	17.28	17.03	16.61	16.90	198.715	22.98	24	Pass
102	5510	16.90	17.13	17.27	17.09	205.121	23.12	24	Pass
110	5550	16.77	17.19	17.34	17.02	204.444	23.11	24	Pass
134	5670	16.74	17.08	17.25	17.03	201.811	23.05	24	Pass
*142 (U-NII-2C)	5710	17.81	17.40	17.41	17.76	230.133	23.62	24	Pass
*142 (U-NII-3)	5710	8.20	8.13	8.06	8.09	25.947	14.14	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE80) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	17.69	18.06	18.19	17.86	249.734	23.97	24	Pass
106	5530	17.60	17.98	18.14	17.84	246.326	23.92	24	Pass
122	5610	17.64	17.99	18.18	17.91	248.594	23.95	24	Pass
*138 (U-NII-2C)	5690	17.87	18.22	17.95	17.56	246.999	23.93	24	Pass
*138 (U-NII-3)	5690	4.47	5.65	5.08	4.21	12.329	10.91	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE160) CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1)	5250	13.18	13.19	12.69	13.73	83.825	19.23	30	Pass
*50 (U-NII-2A)	5250	12.37	12.69	12.42	13.92	77.955	18.92	24	Pass
114	5570	17.47	17.27	17.18	17.30	215.123	23.33	24	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.8 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.41	13.90	14.01	13.76	95.42	19.80	20.204	Pass
60	5300	13.44	13.81	14.00	13.68	94.577	19.76	20.204	Pass
64	5320	13.45	13.85	14.00	13.77	95.339	19.79	20.204	Pass
100	5500	14.03	13.74	14.26	13.81	99.664	19.99	20.204	Pass
116	5580	14.06	13.62	14.08	13.92	98.729	19.94	20.204	Pass
140	5700	14.24	13.77	14.19	14.10	102.315	20.10	20.204	Pass
*144 (U-NII-2C)	5720	13.30	13.39	12.60	13.12	81.916	19.13	19.204	Pass
*144 (U-NII-3)	5720	8.11	8.37	7.53	7.84	25.086	13.99	26.204	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to $30-(9.796-6) = 26.2$ dBm.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	14.07	13.83	14.37	13.98	102.038	20.09	20.204	Pass
62	5310	14.12	13.98	14.09	14.28	103.263	20.14	20.204	Pass
102	5510	13.72	13.81	14.48	14.25	102.256	20.10	20.204	Pass
110	5550	13.79	14.18	14.49	13.95	103.065	20.13	20.204	Pass
134	5670	14.02	14.33	14.25	13.79	102.877	20.12	20.204	Pass
*142 (U-NII-2C)	5710	14.55	14.06	13.95	14.01	103.987	20.17	20.204	Pass
*142 (U-NII-3)	5710	4.94	4.82	4.61	4.29	11.729	10.69	26.204	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain = $10 \log[(10^{\text{Chain0/20}} + 10^{\text{Chain1/20}} + 10^{\text{Chain2/20}} + 10^{\text{Chain3/20}})^2 / 4]$
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to $30-(9.796-6) = 26.2$ dBm.

802.11ax (HE80) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	13.74	14.28	14.27	14.04	102.532	20.11	20.204	Pass
106	5530	13.60	14.29	14.41	13.93	102.085	20.09	20.204	Pass
122	5610	14.02	14.06	14.37	13.93	102.773	20.12	20.204	Pass
*138 (U-NII-2C)	5690	14.17	14.03	14.02	14.32	103.689	20.16	20.204	Pass
*138 (U-NII-3)	5690	0.77	1.52	1.25	0.94	5.188	7.15	26.204	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain = $10 \log[(10^{\text{Chain0/20}} + 10^{\text{Chain1/20}} + 10^{\text{Chain2/20}} + 10^{\text{Chain3/20}})^2 / 4]$
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to $30-(9.796-6) = 26.2$ dBm.

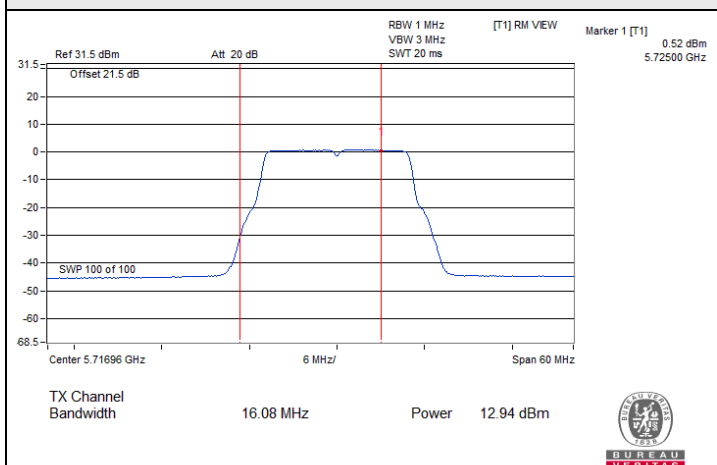
802.11ax (HE160) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1)	5250	13.18	13.19	12.69	13.73	83.825	19.23	26.204	Pass
*50 (U-NII-2A)	5250	12.37	12.69	12.42	13.92	77.955	18.92	20.204	Pass
114	5570	14.05	14.23	13.81	14.07	101.465	20.06	20.204	Pass

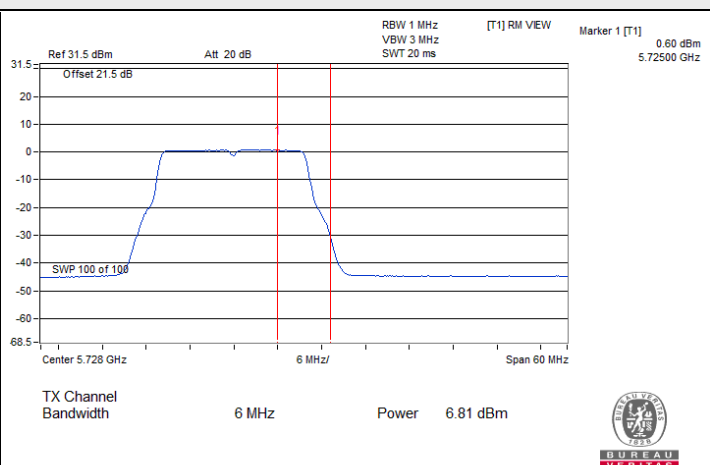
Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-1, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to $30 - (9.796 - 6) = 26.2$ dBm.
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(9.796-6)].

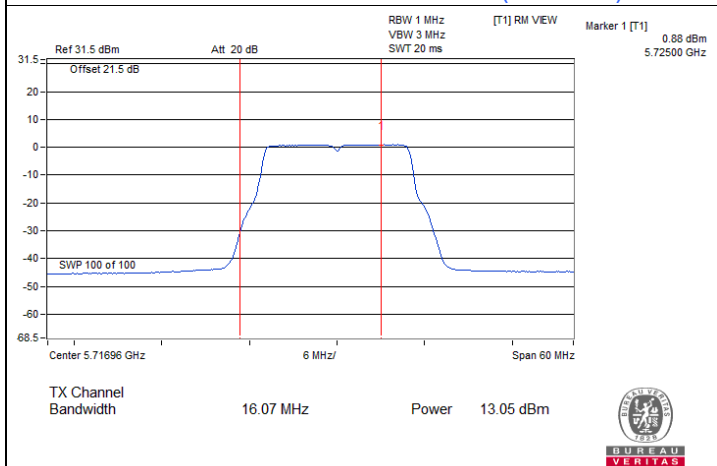
Spectrum Plot for channel straddling



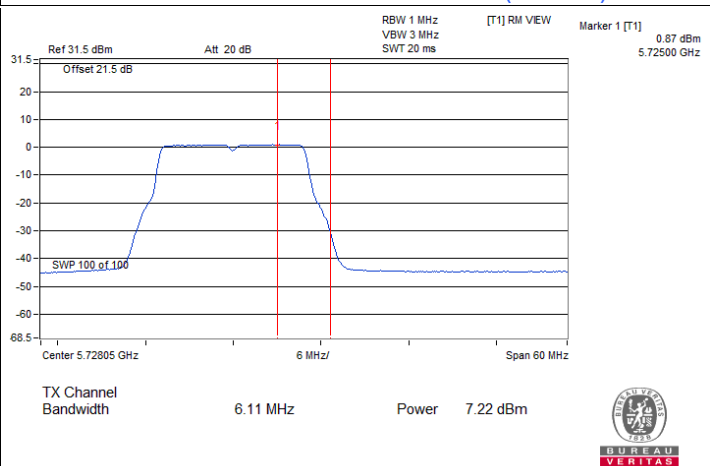
802.11a CDD / Chain 0 : CH 144 (U-NII-2C)



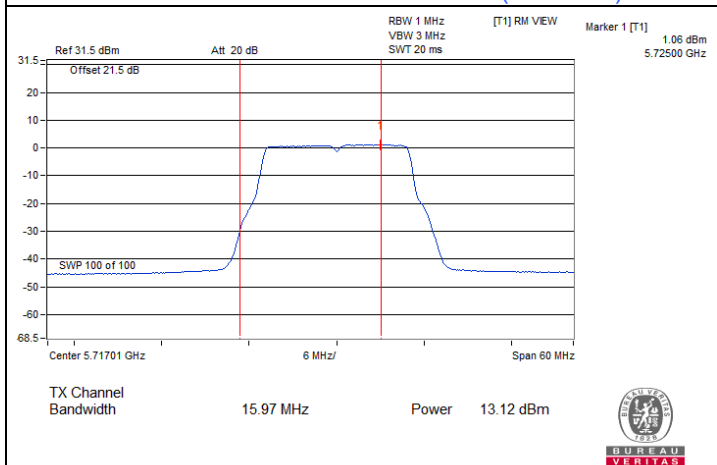
802.11a CDD / Chain 0 : CH 144 (U-NII-3)



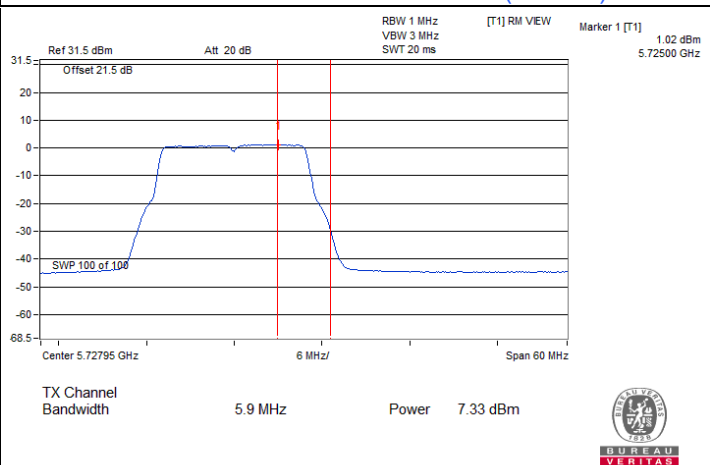
802.11a CDD / Chain 1 : CH 144 (U-NII-2C)



802.11a CDD / Chain 1 : CH 144 (U-NII-3)

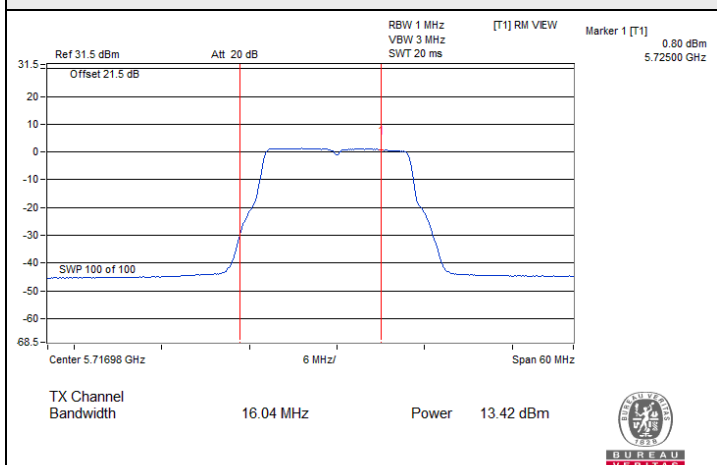


802.11a CDD / Chain 2 : CH 144 (U-NII-2C)

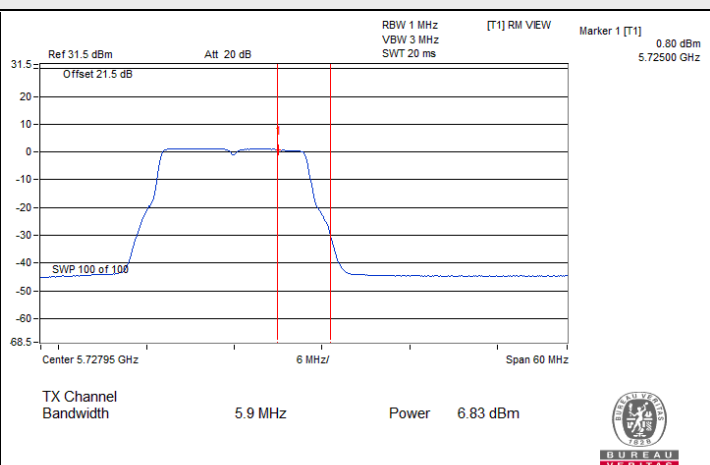


802.11a CDD / Chain 2 : CH 144 (U-NII-3)

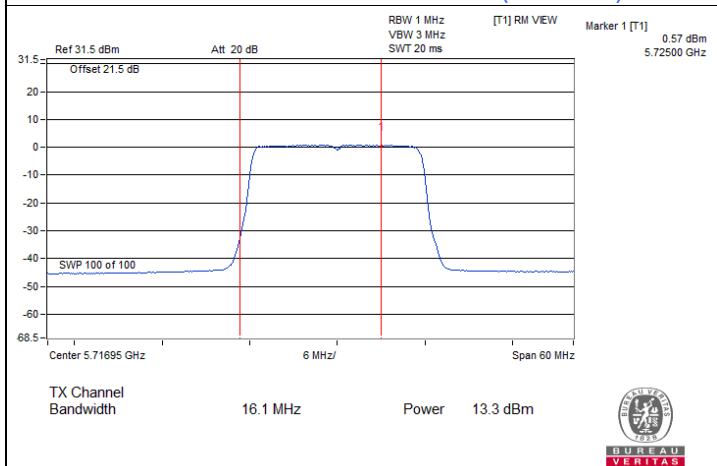
Spectrum Plot for channel straddling



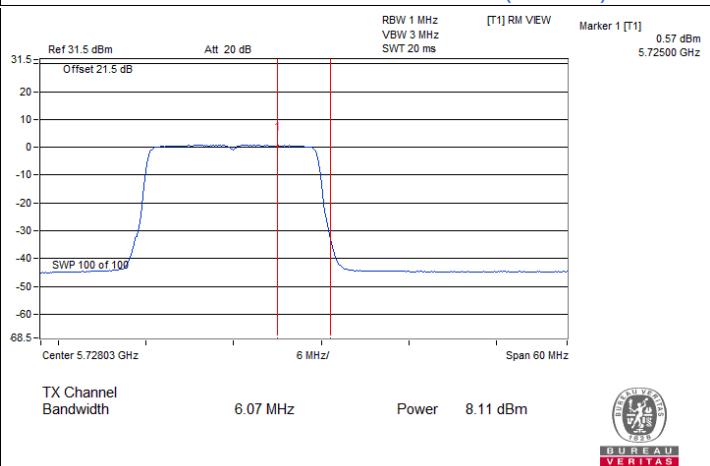
802.11a CDD / Chain 3 : CH 144 (U-NII-2C)



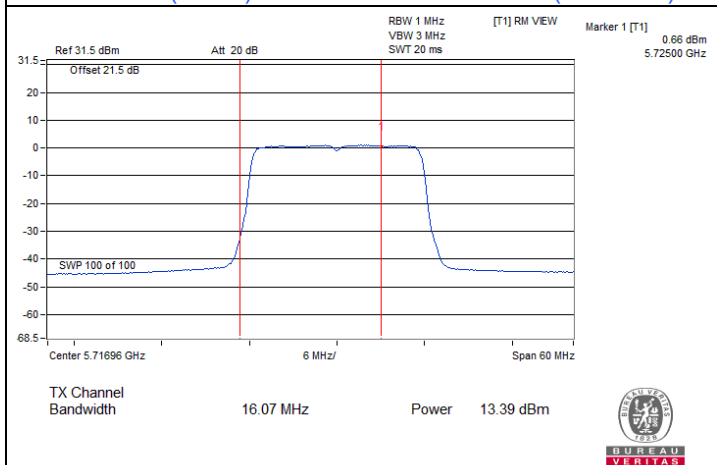
802.11a CDD / Chain 3 : CH 144 (U-NII-3)



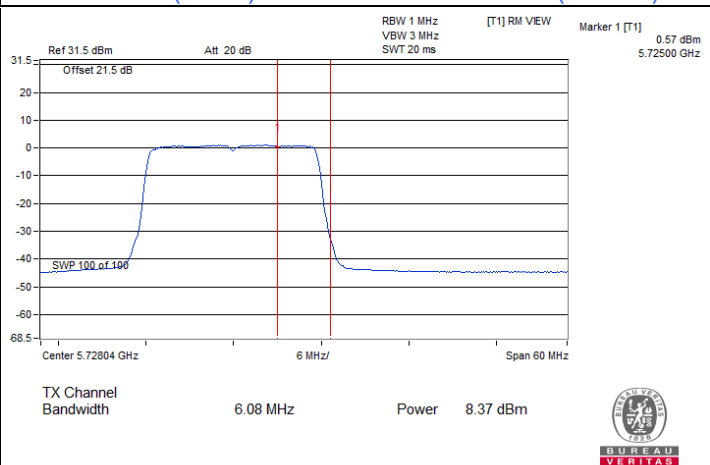
802.11ax (HE20) CDD / Chain 0 : CH 144 (U-NII-2C)



802.11ax (HE20) CDD / Chain 0 : CH 144 (U-NII-3)

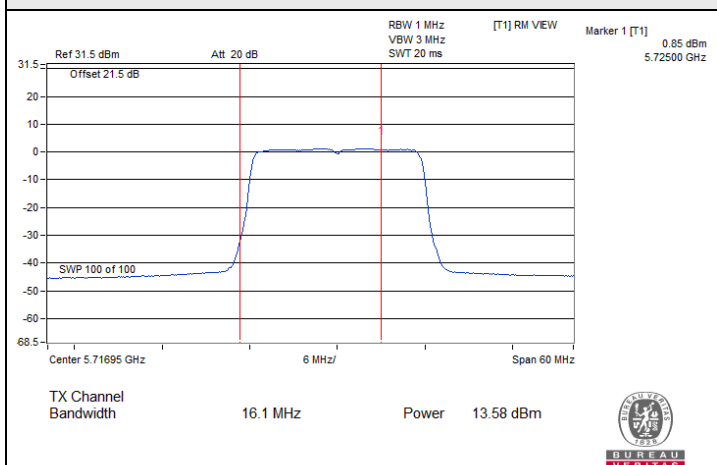


802.11ax (HE20) CDD / Chain 1 : CH 144 (U-NII-2C)

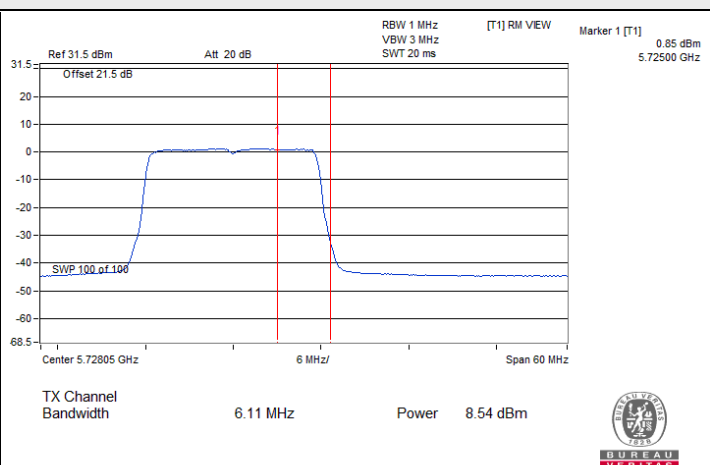


802.11ax (HE20) CDD / Chain 1 : CH 144 (U-NII-3)

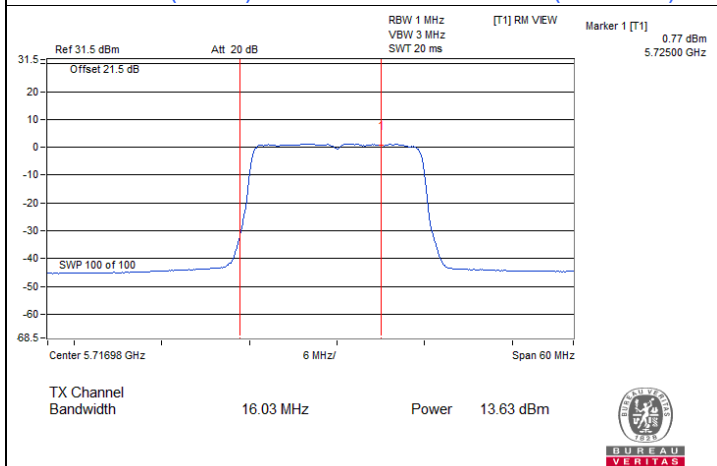
Spectrum Plot for channel straddling



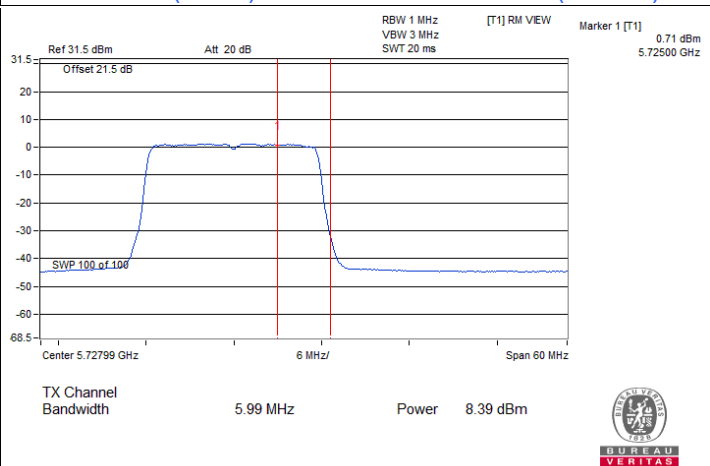
802.11ax (HE20) CDD / Chain 2 : CH 144 (U-NII-2C)



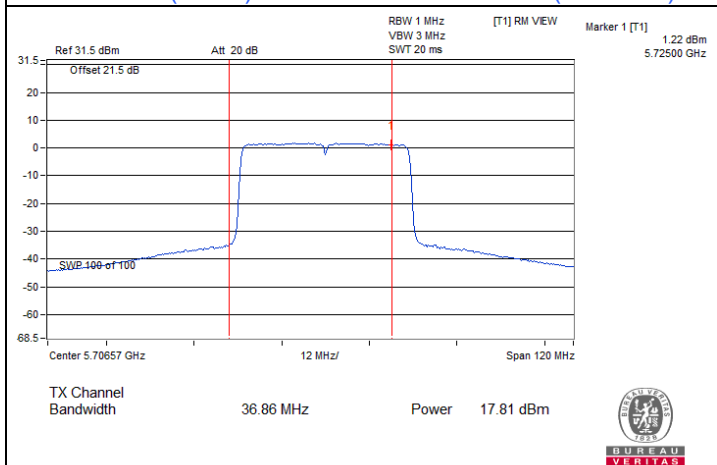
802.11ax (HE20) CDD / Chain 2 : CH 144 (U-NII-3)



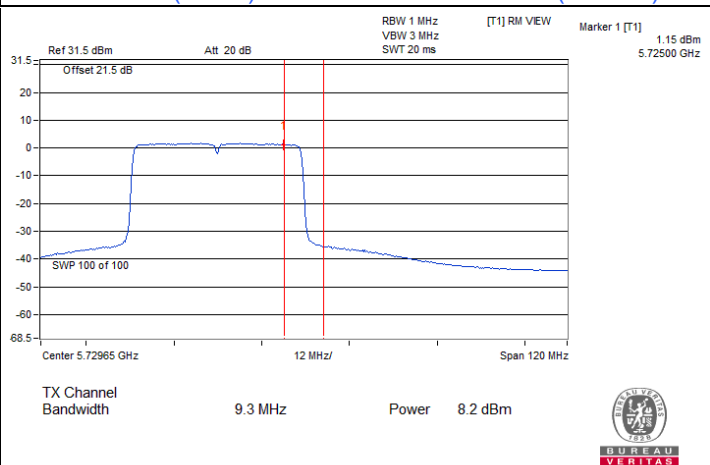
802.11ax (HE20) CDD / Chain 3 : CH 144 (U-NII-2C)



802.11ax (HE20) CDD / Chain 3 : CH 144 (U-NII-3)

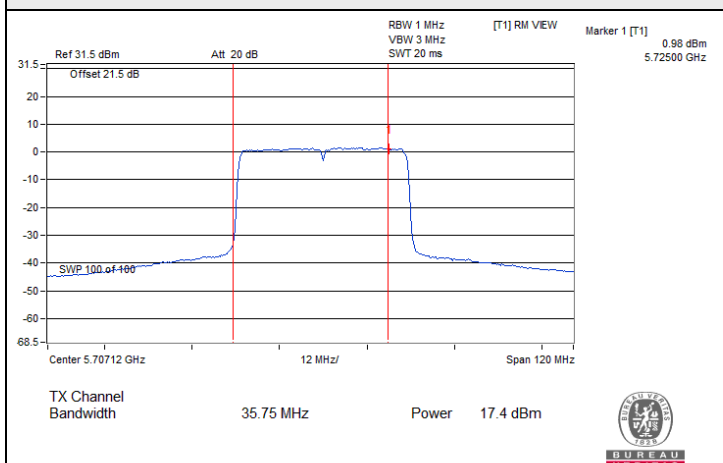


802.11ax (HE40) CDD / Chain 0 : CH 142 (U-NII-2C)

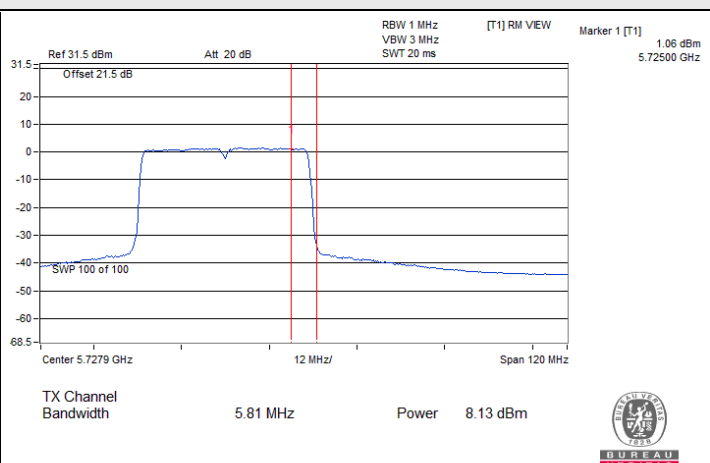


802.11ax (HE40) CDD / Chain 0 : CH 142 (U-NII-3)

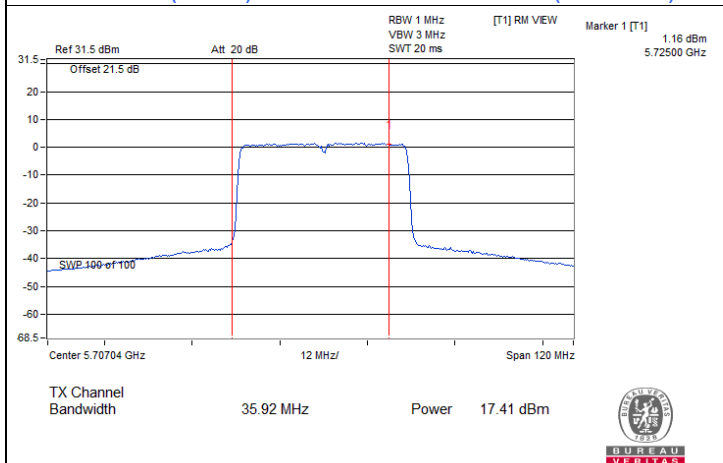
Spectrum Plot for channel straddling



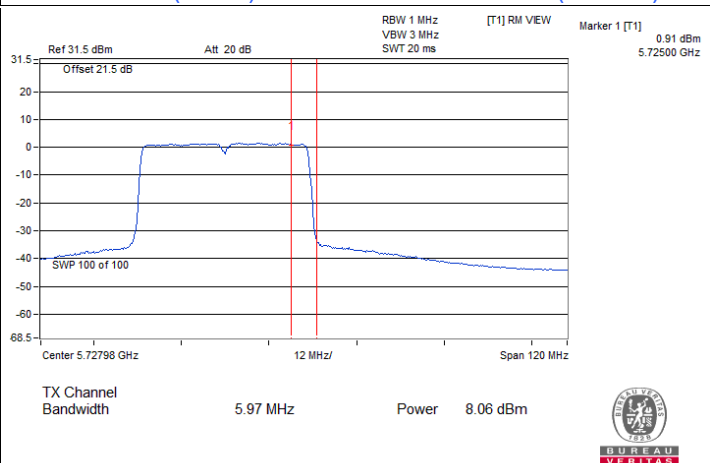
802.11ax (HE40) CDD / Chain 1 : CH 142 (U-NII-2C)



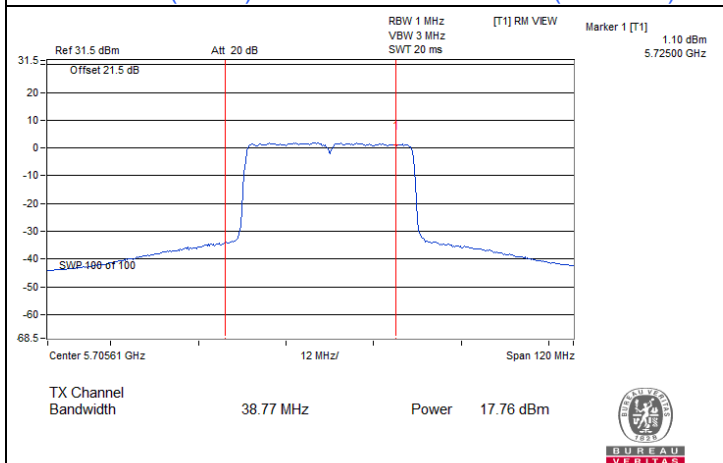
802.11ax (HE40) CDD / Chain 1 : CH 142 (U-NII-3)



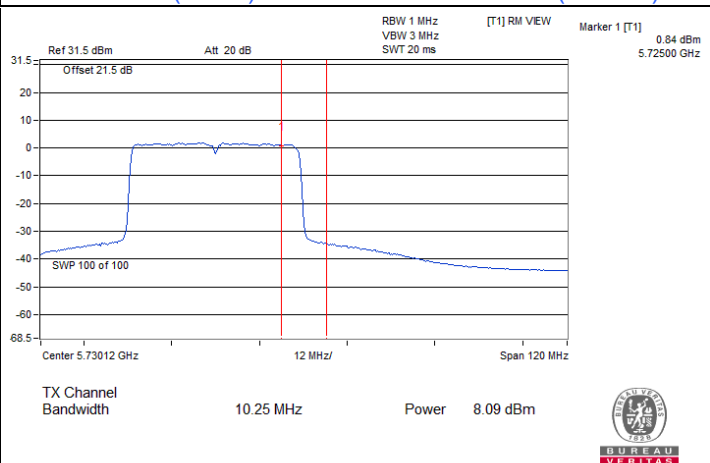
802.11ax (HE40) CDD / Chain 2 : CH 142 (U-NII-2C)



802.11ax (HE40) CDD / Chain 2 : CH 142 (U-NII-3)

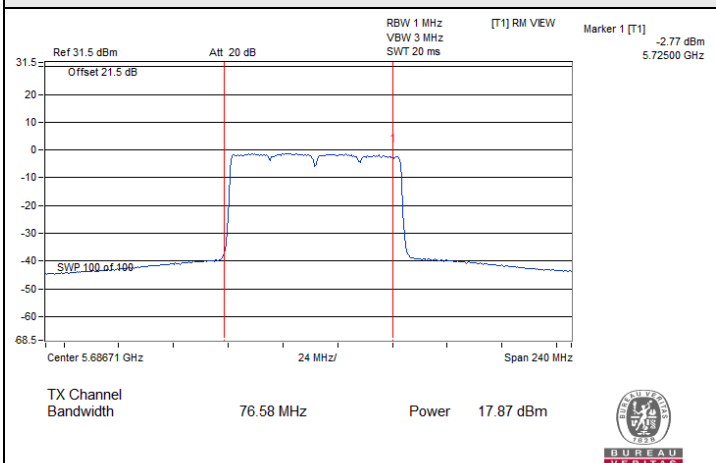


802.11ax (HE40) CDD / Chain 3 : CH 142 (U-NII-2C)

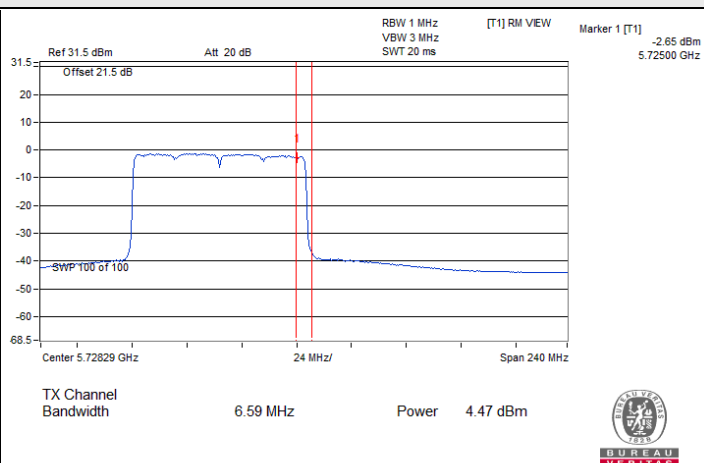


802.11ax (HE40) CDD / Chain 3 : CH 142 (U-NII-3)

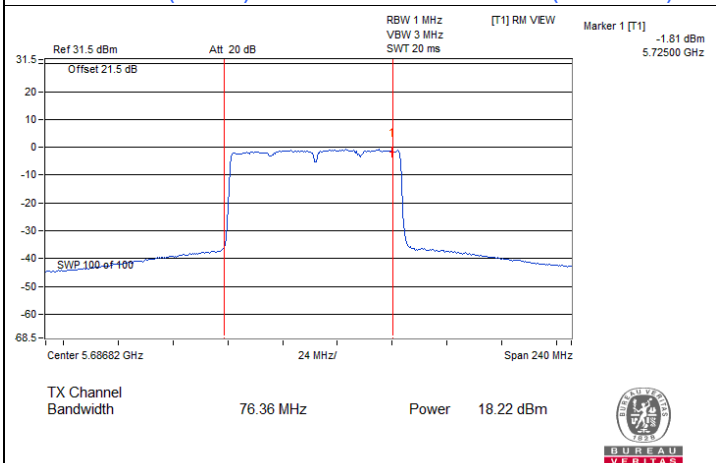
Spectrum Plot for channel straddling



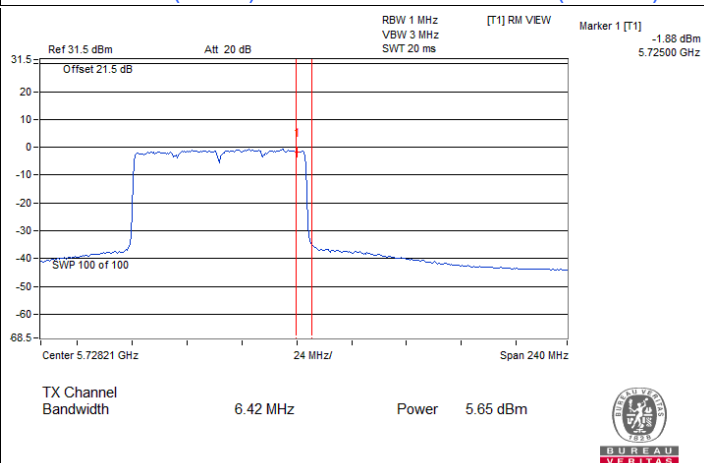
802.11ax (HE80) CDD / Chain 0 : CH 138 (U-NII-2C)



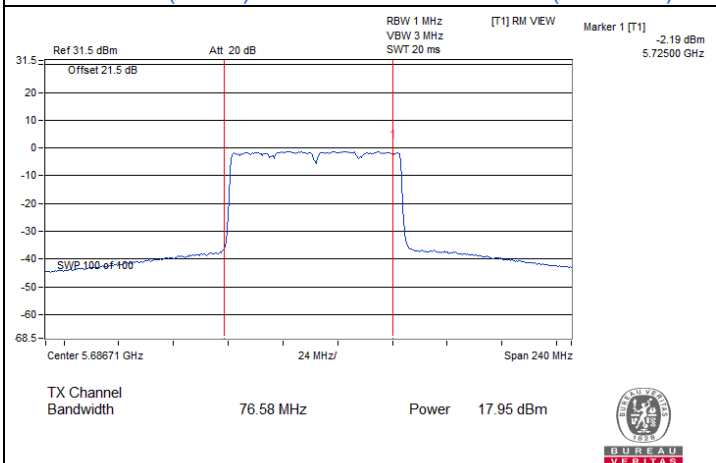
802.11ax (HE80) CDD / Chain 0 : CH 138 (U-NII-3)



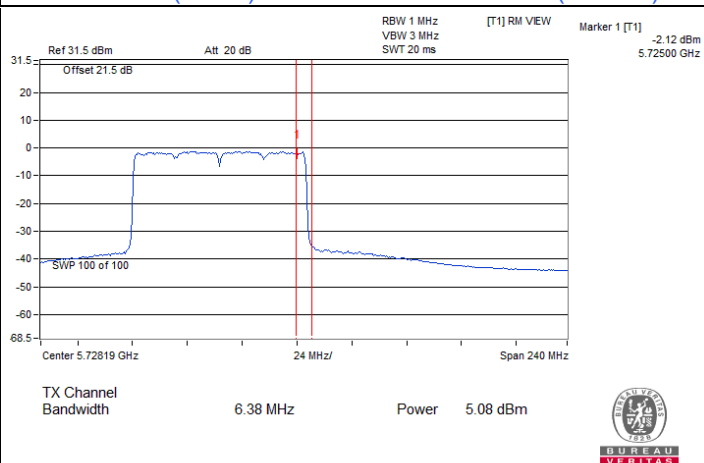
802.11ax (HE80) CDD / Chain 1 : CH 138 (U-NII-2C)



802.11ax (HE80) CDD / Chain 1 : CH 138 (U-NII-3)

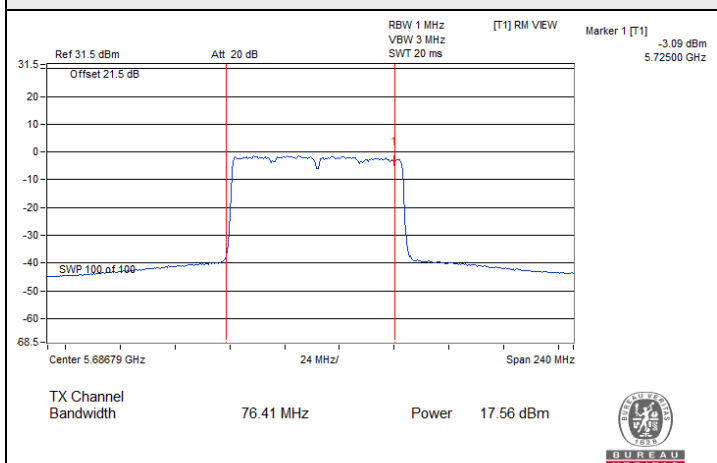


802.11ax (HE80) CDD / Chain 2 : CH 138 (U-NII-2C)

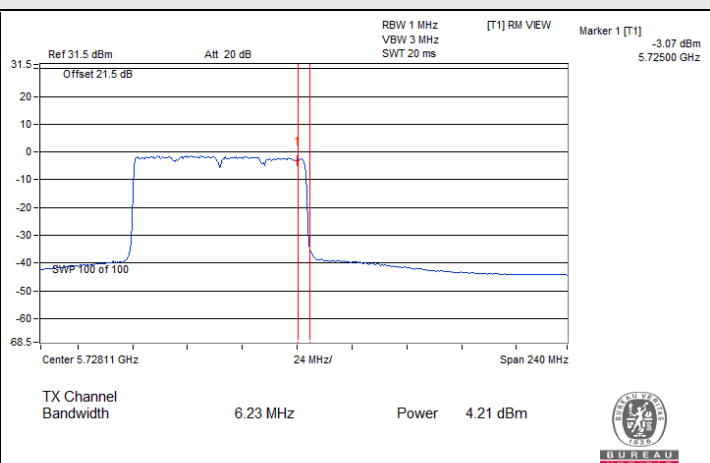


802.11ax (HE80) CDD / Chain 2 : CH 138 (U-NII-3)

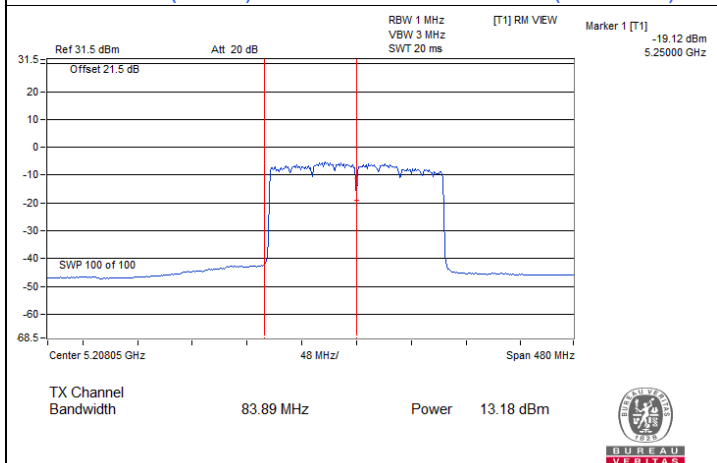
Spectrum Plot for channel straddling



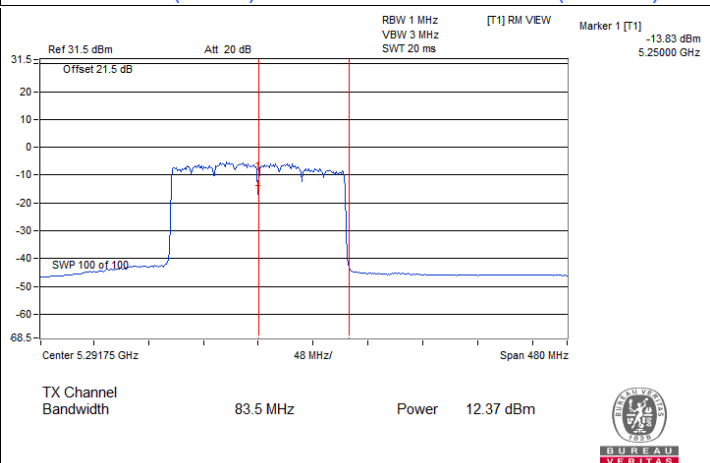
802.11ax (HE80) CDD / Chain 3 : CH 138 (U-NII-2C)



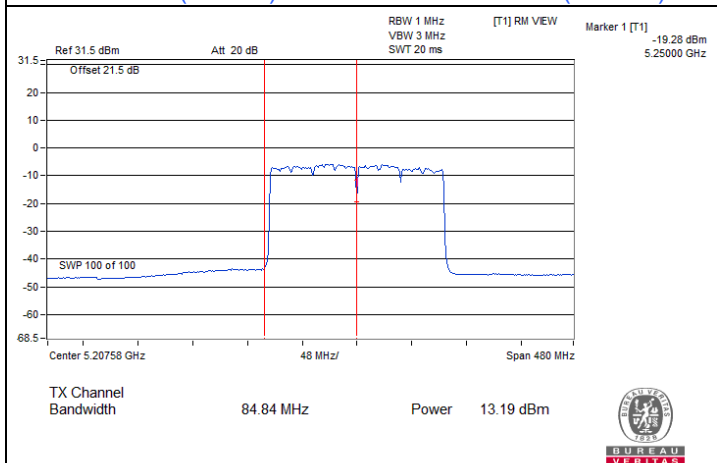
802.11ax (HE80) CDD / Chain 3 : CH 138 (U-NII-3)



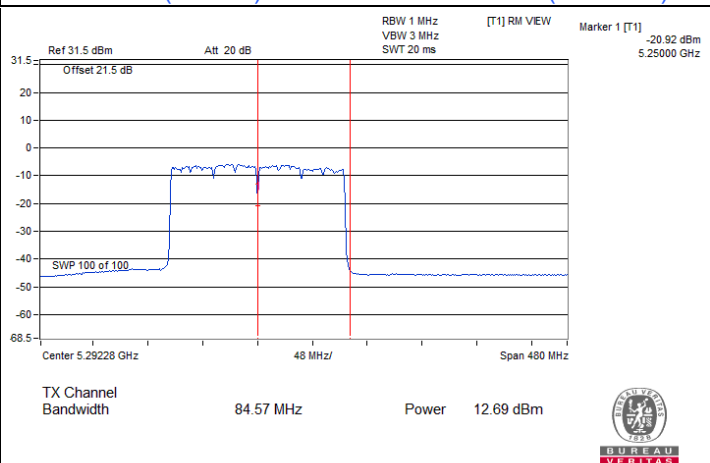
802.11ax (HE160) CDD / Chain 0 : CH 50 (U-NII-1)



802.11ax (HE160) CDD / Chain 0 : CH 50 (U-NII-2A)

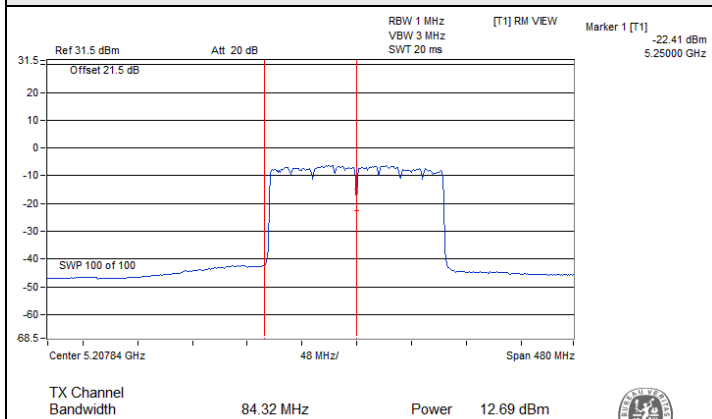


802.11ax (HE160) CDD / Chain 1 : CH 50 (U-NII-1)

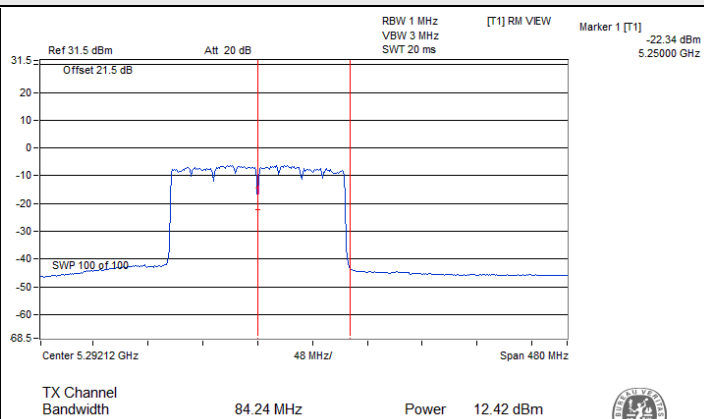


802.11ax (HE160) CDD / Chain 1 : CH 50 (U-NII-2A)

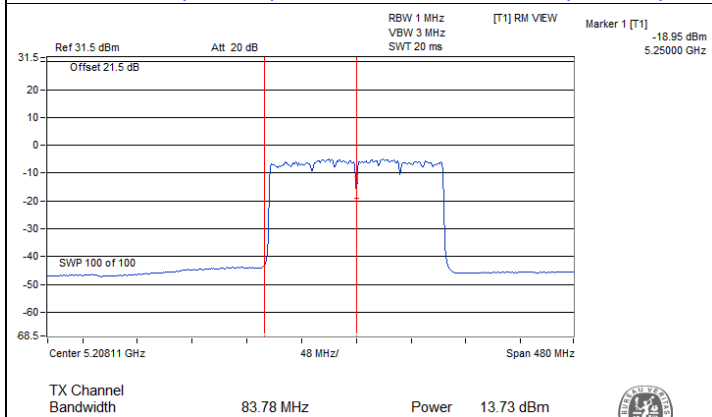
Spectrum Plot for channel straddling



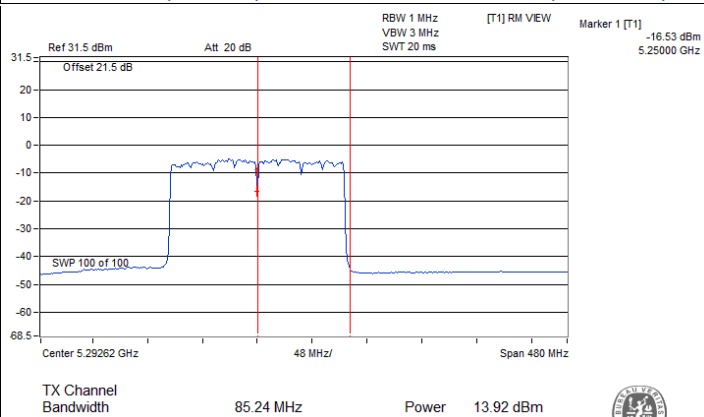
802.11ax (HE160) CDD / Chain 2 : CH 50 (U-NII-1)



802.11ax (HE160) CDD / Chain 2 : CH 50 (U-NII-2A)



802.11ax (HE160) CDD / Chain 3 : CH 50 (U-NII-1)



802.11ax (HE160) CDD / Chain 3 : CH 50 (U-NII-2A)

7.3 Power Spectral Density

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	1.23	1.07	1.27	1.03	7.17	7.204	Pass
60	5300	1.25	1.02	1.21	1.10	7.17	7.204	Pass
64	5320	1.16	0.80	0.98	1.15	7.05	7.204	Pass
100	5500	0.95	0.12	1.23	0.60	6.77	7.204	Pass
116	5580	1.03	0.31	1.38	1.12	7.00	7.204	Pass
140	5700	1.15	0.64	0.97	1.20	7.02	7.204	Pass
144 (U-NII-2C)	5720	0.90	0.64	1.04	0.96	6.91	7.204	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to 11-(9.796-6) = 7.2 dBm/MHz.
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to 11-(9.796-6) = 7.2 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	1.18	0.65	0.64	0.39	6.75	7.204	Pass
60	5300	0.91	1.00	0.94	0.75	6.92	7.204	Pass
64	5320	1.15	0.71	0.38	0.48	6.71	7.204	Pass
100	5500	0.90	0.09	0.91	0.34	6.60	7.204	Pass
116	5580	0.95	0.17	0.77	0.53	6.64	7.204	Pass
140	5700	1.28	0.73	0.79	0.85	6.94	7.204	Pass
144 (U-NII-2C)	5720	1.23	0.66	0.80	0.73	6.88	7.204	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to 11-(9.796-6) = 7.2 dBm/MHz.
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to 11-(9.796-6) = 7.2 dBm/MHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
54	5270	1.22	1.18	0.89	0.96	7.09	7.204	Pass
62	5310	1.24	0.92	0.55	1.02	6.96	7.204	Pass
102	5510	0.83	0.79	0.69	0.59	6.75	7.204	Pass
110	5550	1.37	0.85	0.78	0.75	6.97	7.204	Pass
134	5670	1.31	0.63	0.62	0.65	6.83	7.204	Pass
142 (U-NII-2C)	5710	1.20	0.65	0.68	0.66	6.82	7.204	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
3. For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.
4. For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
58	5290	-2.15	-1.56	-1.16	-1.43	4.46	7.204	Pass
106	5530	-0.89	-1.07	-1.53	-1.00	4.90	7.204	Pass
122	5610	-0.82	-0.88	-1.41	-1.45	4.89	7.204	Pass
138 (U-NII-2C)	5690	-1.20	-0.99	-1.31	-1.64	4.74	7.204	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
3. For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.
4. For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
50 (U-NII-1)	5250	-5.89	-5.94	-5.57	-5.90	0.20	13.204	Pass
50 (U-NII-2A)	5250	-6.01	-6.08	-6.26	-6.13	-0.10	7.204	Pass
114	5570	-4.44	-5.13	-4.63	-4.48	1.36	7.204	Pass

Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-1, the directional gain is 9.796 dBi > 6dBi, so the power density limit shall be reduced to $17-(9.796-6) = 13.2 \text{ dBm/MHz}$.
- For U-NII-2A, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.
- For U-NII-2C, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $11-(9.796-6) = 7.2 \text{ dBm/MHz}$.

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
144 (U-NII-3)	5720	-7.23	-7.74	-7.52	-7.63	-1.51	0.71	26.2	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $30-(9.796-6) = 26.2 \text{ dBm/500kHz}$.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
144 (U-NII-3)	5720	-8.01	-8.73	-8.07	-8.46	-2.29	-0.07	26.2	Pass

Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $30-(9.796-6) = 26.2 \text{ dBm/500kHz}$.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
142 (U-NII-3)	5710	-8.26	-9.05	-8.86	-8.72	-2.69	-0.47	26.2	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
3. For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (9.796 - 6) = 26.2$ dBm/500kHz.

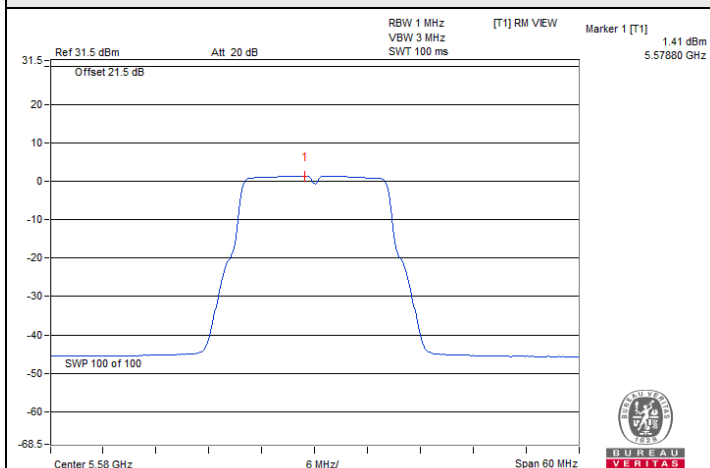
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
138 (U-NII-3)	5690	-10.93	-11.30	-11.56	-11.45	-5.28	-3.06	26.2	Pass

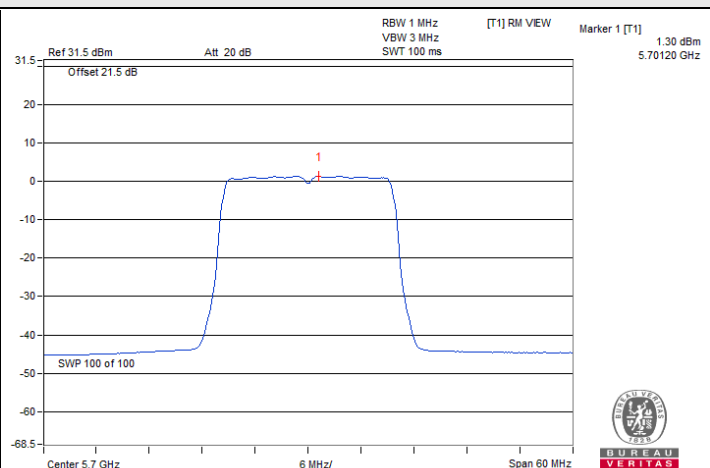
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
3. For U-NII-3, the directional gain is 9.796 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (9.796 - 6) = 26.2$ dBm/500kHz.

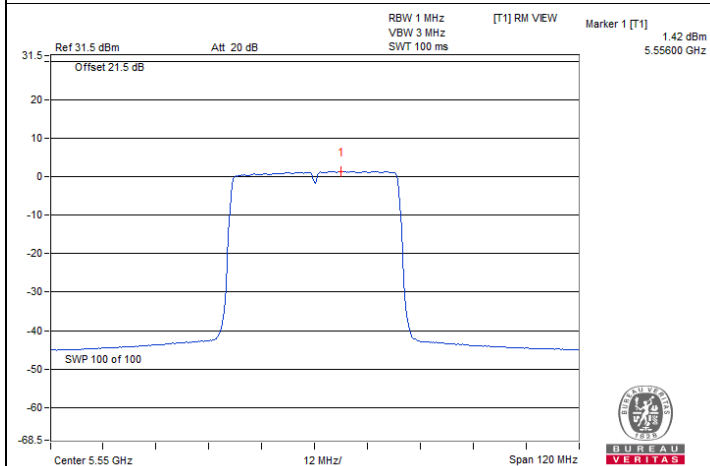
Spectrum Plot of Maximum Value



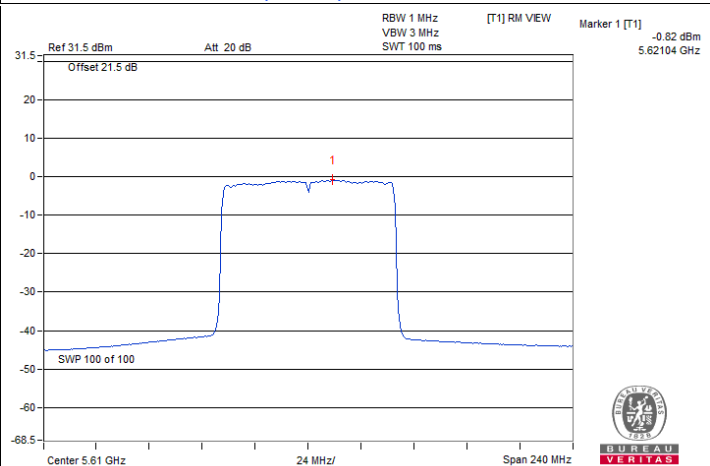
802.11a / Chain 2 : CH 116



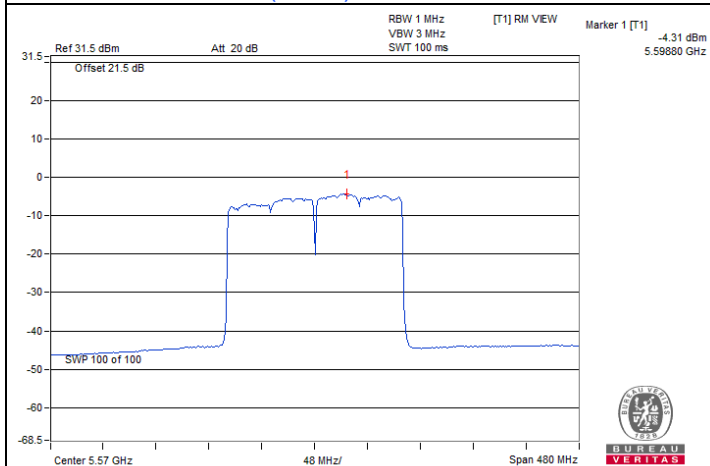
802.11ax (HE20) / Chain 0 : CH 140



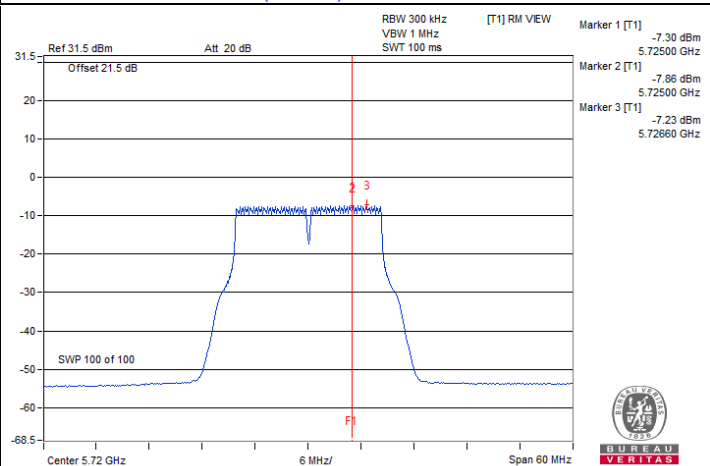
802.11ax (HE40) / Chain 0 : CH 110



802.11ax (HE80) / Chain 0 : CH 122

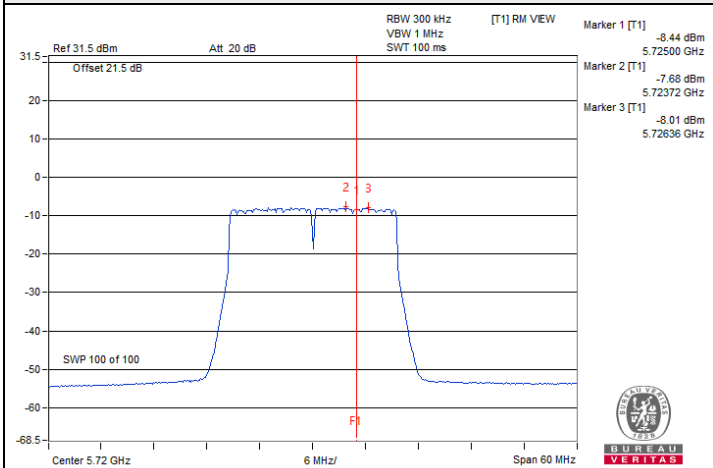


802.11ax (HE160) / Chain 0 : CH 114

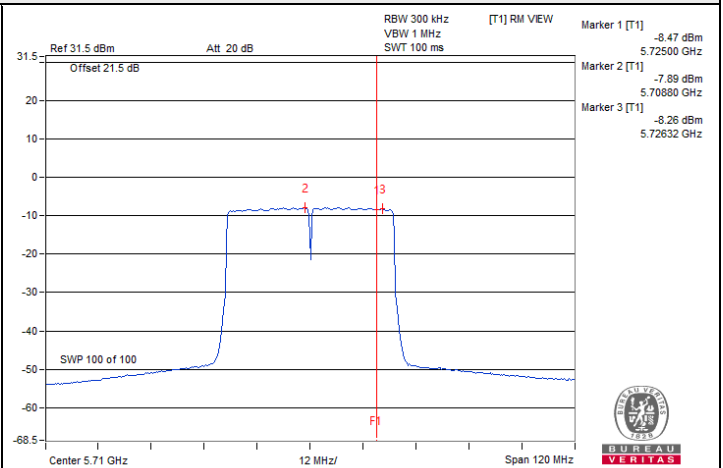


802.11a / Chain 0 : CH 144 (U-NII-3)

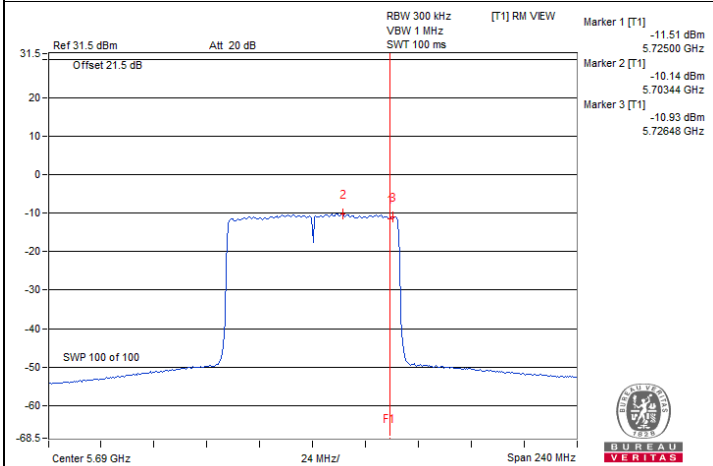
Spectrum Plot of Maximum Value



802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

7.4 6 dB Bandwidth

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

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3)	5720	3.17	3.19	3.18	3.19	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3)	5720	4.53	4.50	4.53	4.50	0.5	Pass

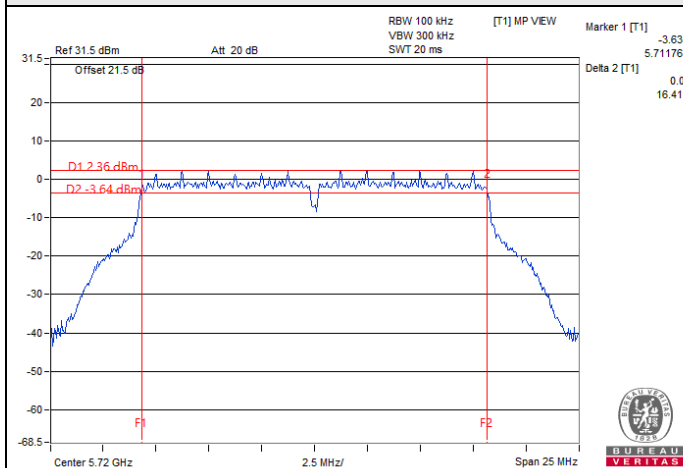
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
142 (U-NII-3)	5710	4.04	4.08	3.98	3.88	0.5	Pass

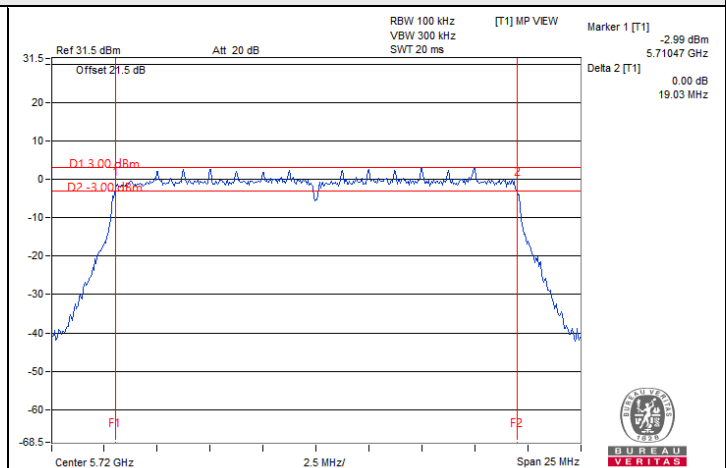
802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
138 (U-NII-3)	5690	4.03	4.11	4.04	3.91	0.5	Pass

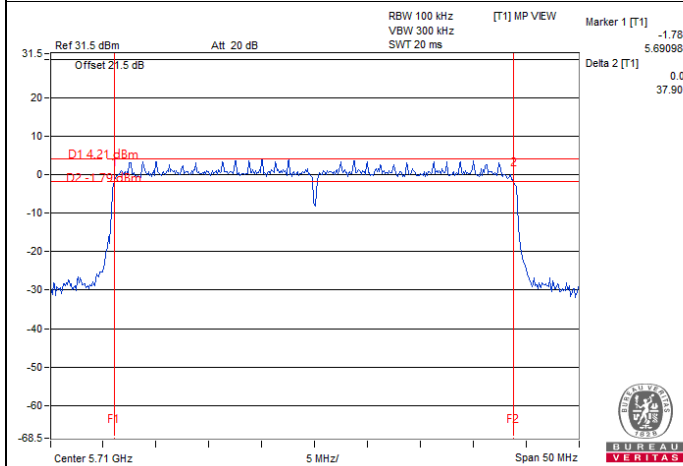
Spectrum Plot of Minimum Value



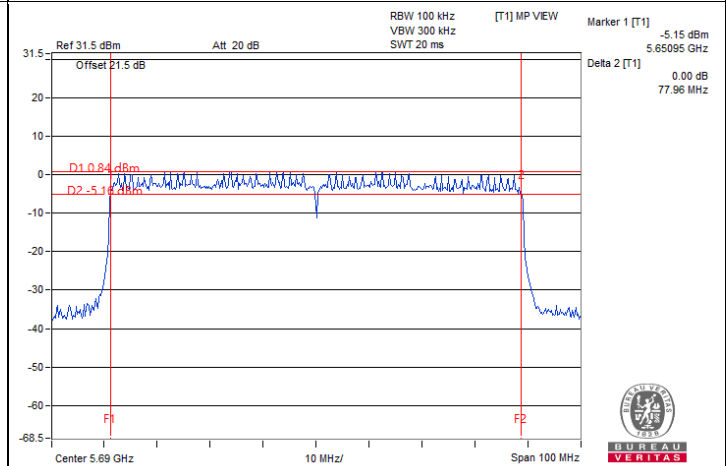
802.11a / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)



802.11ax (HE40) / Chain 3 : CH 142 (U-NII-3)



802.11ax (HE80) / Chain 3 : 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:	Katina Lu
--------------	----------------	---------------------------	--------------	------------	-----------

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.16	16.92	16.92	16.80
60	5300	17.16	17.04	16.92	16.92
64	5320	17.40	17.40	17.28	17.28
100	5500	17.40	17.28	17.28	17.40
116	5580	17.04	17.16	16.92	16.92
140	5700	17.52	17.28	17.04	17.04
144 (U-NII-2C)	5720	13.64	13.64	13.52	13.64
144 (U-NII-3)	5720	3.76	3.76	3.52	3.40

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.20	19.20	19.20	19.08
60	5300	19.20	19.08	19.08	19.20
64	5320	19.32	19.32	19.32	19.20
100	5500	19.32	19.32	19.32	19.20
116	5580	19.20	19.20	19.08	19.08
140	5700	19.20	19.08	19.20	19.08
144 (U-NII-2C)	5720	14.72	14.60	14.60	14.60
144 (U-NII-3)	5720	4.60	4.48	4.60	4.60

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	38.16	38.16	38.16	37.92
62	5310	38.16	38.16	38.16	38.16
102	5510	38.40	38.40	38.16	38.40
110	5550	38.16	38.16	38.16	38.16
134	5670	38.16	38.16	38.16	38.16
142 (U-NII-2C)	5710	34.20	33.96	34.20	34.20
142 (U-NII-3)	5710	3.96	3.96	3.96	3.96

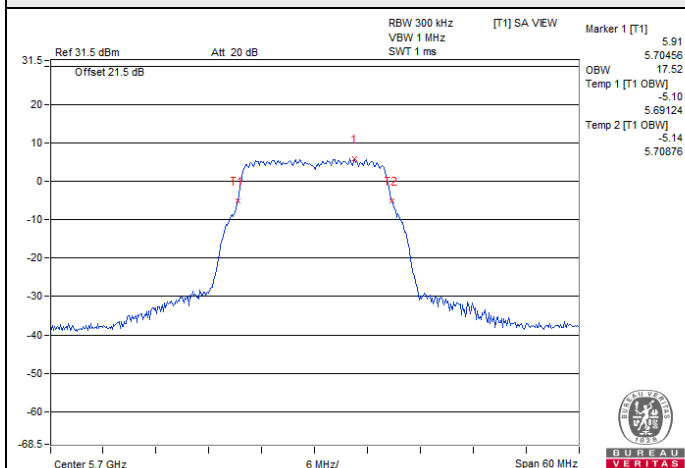
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	77.28	77.28	77.76
106	5530	78.24	77.76	77.76	77.76
122	5610	77.28	77.76	77.28	77.28
138 (U-NII-2C)	5690	73.88	73.88	73.88	73.88
138 (U-NII-3)	5690	3.40	3.88	3.88	3.88

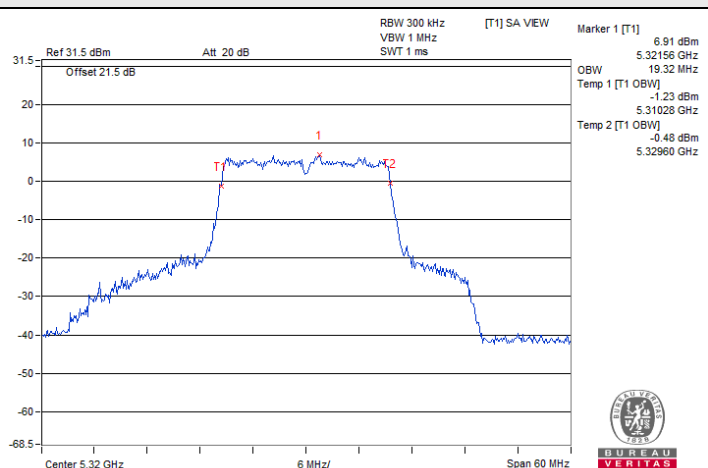
802.11ax (HE160)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1)	5250	78.72	78.72	78.72	78.72
50 (U-NII-2A)	5250	77.76	78.72	78.72	78.72
114	5570	157.44	157.44	157.44	157.44

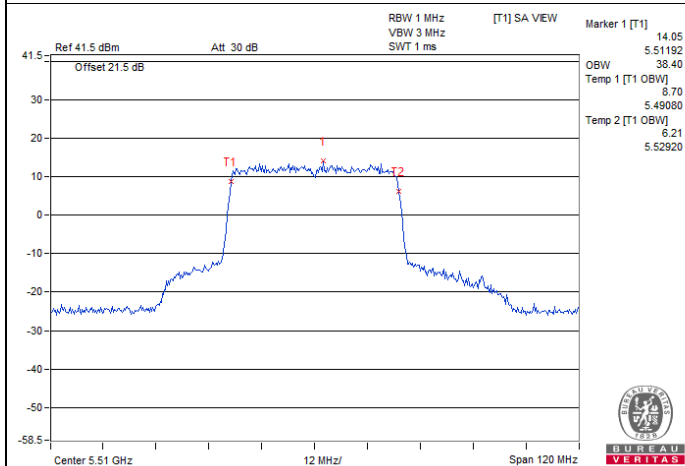
Spectrum Plot of Maximum Value



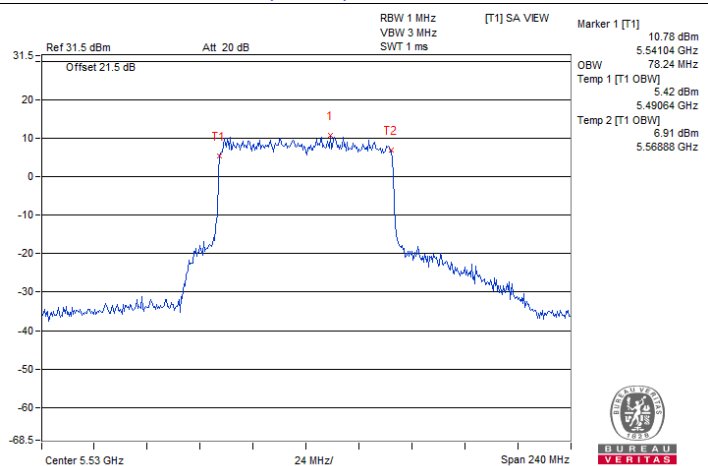
802.11a / Chain 0 : CH 140



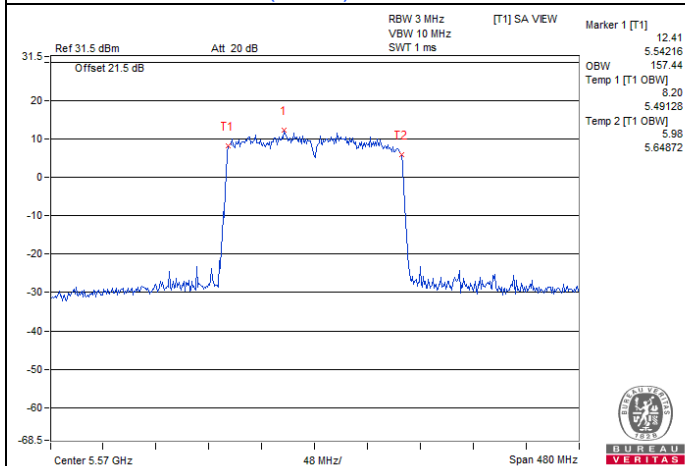
802.11ax (HE20) / Chain 0 : CH 64



802.11ax (HE40) / Chain 0 : CH 102



802.11ax (HE80) / Chain 0 : CH 106



802.11ax (HE160) / Chain 0 : CH 114

Notes:

1. For U-NII-1 straddle channel = 5250 MHz - Marker 1
2. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

7.6 Frequency Stability

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

802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5260 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
40	120	5259.9789	Pass	5259.9777	Pass	5259.9745	Pass	5259.9788	Pass
30	120	5260.0124	Pass	5260.0135	Pass	5260.017	Pass	5260.0169	Pass
20	120	5260.0081	Pass	5260.0108	Pass	5260.0078	Pass	5260.0091	Pass
10	120	5260.0196	Pass	5260.0213	Pass	5260.0199	Pass	5260.0203	Pass
0	120	5259.984	Pass	5259.9838	Pass	5259.9832	Pass	5259.9798	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 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	5259.9987	Pass	5260.0009	Pass	5259.9981	Pass	5259.9987	Pass
	120	5260.0081	Pass	5260.0108	Pass	5260.0078	Pass	5260.0091	Pass
	102	5260.0073	Pass	5260.0076	Pass	5260.0091	Pass	5260.006	Pass

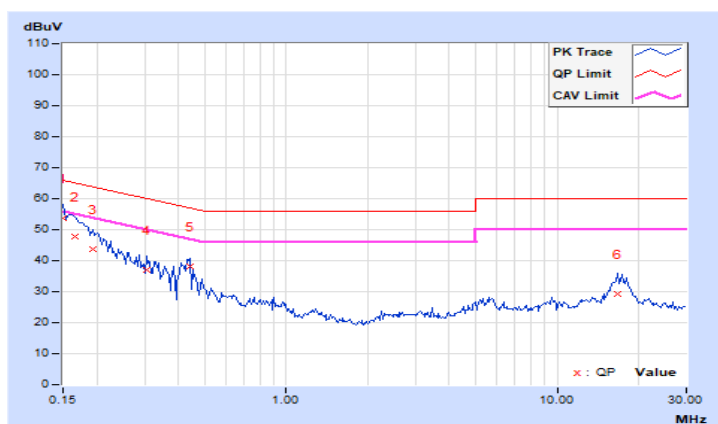
7.7 AC Power Conducted Emissions

RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 71% RH
Tested By	Sampson Chen		

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	9.95	43.78	28.65	53.73	38.60	66.00	56.00	-12.27	-17.40
2	0.16562	9.95	37.99	23.61	47.94	33.56	65.18	55.18	-17.24	-21.62
3	0.19297	9.96	33.64	20.69	43.60	30.65	63.91	53.91	-20.31	-23.26
4	0.30625	9.96	26.94	18.54	36.90	28.50	60.07	50.07	-23.17	-21.57
5	0.43906	9.96	28.26	22.50	38.22	32.46	57.08	47.08	-18.86	-14.62
6	16.64063	11.01	18.09	14.31	29.10	25.32	60.00	50.00	-30.90	-24.68

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

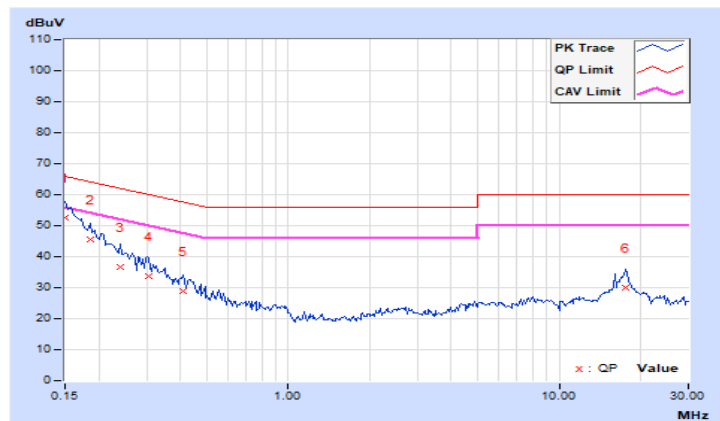


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 71% RH
Tested By	Sampson Chen		

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	0.15000	9.95	42.69	28.32	52.64	38.27	66.00	56.00	-13.36	-17.73
2	0.18516	9.96	35.68	20.39	45.64	30.35	64.25	54.25	-18.61	-23.90
3	0.23984	9.96	26.57	13.86	36.53	23.82	62.10	52.10	-25.57	-28.28
4	0.30625	9.96	23.91	12.24	33.87	22.20	60.07	50.07	-26.20	-27.87
5	0.40781	9.96	19.07	3.69	29.03	13.65	57.69	47.69	-28.66	-34.04
6	17.62109	10.88	18.96	14.94	29.84	25.82	60.00	50.00	-30.16	-24.18

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



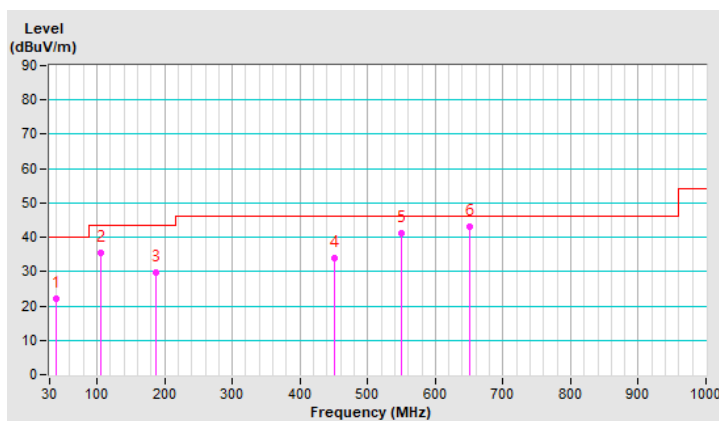
7.8 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 66% RH
Tested By	Tom Yang		

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	40.31	22.2 QP	40.0	-17.8	2.00 H	271	35.1	-12.9
2	105.85	35.5 QP	43.5	-8.0	3.00 H	268	51.8	-16.3
3	187.43	29.6 QP	43.5	-13.9	1.00 H	264	44.5	-14.9
4	450.01	33.8 QP	46.0	-12.2	2.00 H	119	41.9	-8.1
5	550.02	41.1 QP	46.0	-4.9	1.50 H	316	47.8	-6.7
6	650.00	43.0 QP	46.0	-3.0	1.00 H	80	47.3	-4.3

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 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.

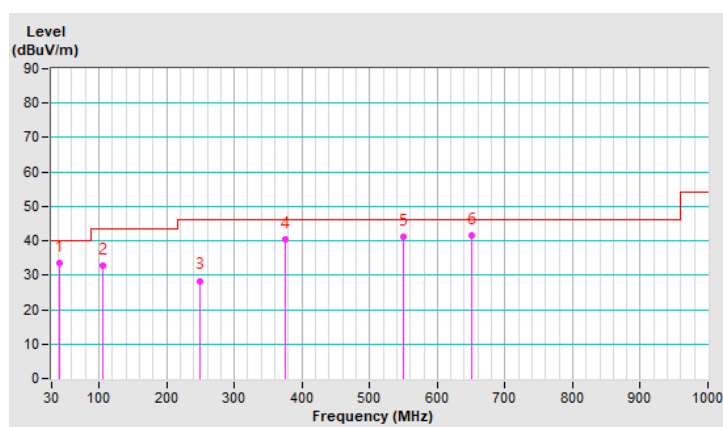


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	24°C, 66% RH
Tested By	Tom Yang		

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	41.20	33.5 QP	40.0	-6.5	1.00 V	176	46.2	-12.7
2	105.81	32.9 QP	43.5	-10.6	1.00 V	250	49.2	-16.3
3	250.02	28.4 QP	46.0	-17.6	1.00 V	191	42.4	-14.0
4	375.42	40.5 QP	46.0	-5.5	1.50 V	132	50.8	-10.3
5	550.02	41.2 QP	46.0	-4.8	1.00 V	264	47.9	-6.7
6	650.00	41.7 QP	46.0	-4.3	1.00 V	249	46.0	-4.3

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 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.



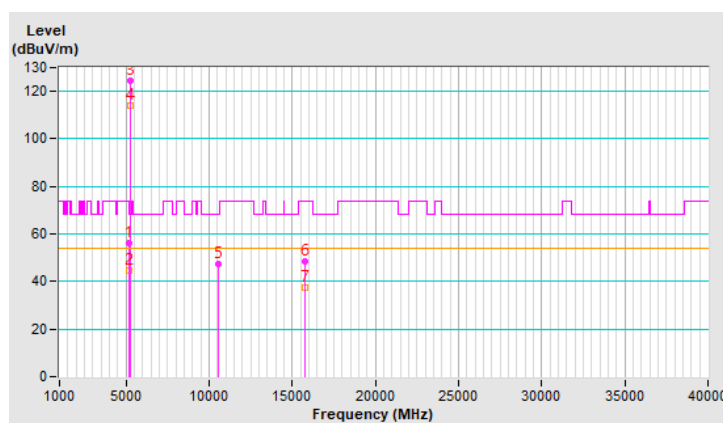
7.9 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	56.3 PK	74.0	-17.7	2.10 H	8	51.1	5.2
2	5150.00	44.7 AV	54.0	-9.3	2.10 H	8	39.5	5.2
3	*5260.00	124.5 PK			2.10 H	8	119.8	4.7
4	*5260.00	113.8 AV			2.10 H	8	109.1	4.7
5	#10520.00	47.6 PK	68.2	-20.6	2.11 H	15	31.3	16.3
6	15780.00	48.2 PK	74.0	-25.8	2.13 H	5	31.5	16.7
7	15780.00	37.4 AV	54.0	-16.6	2.13 H	5	20.7	16.7

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.

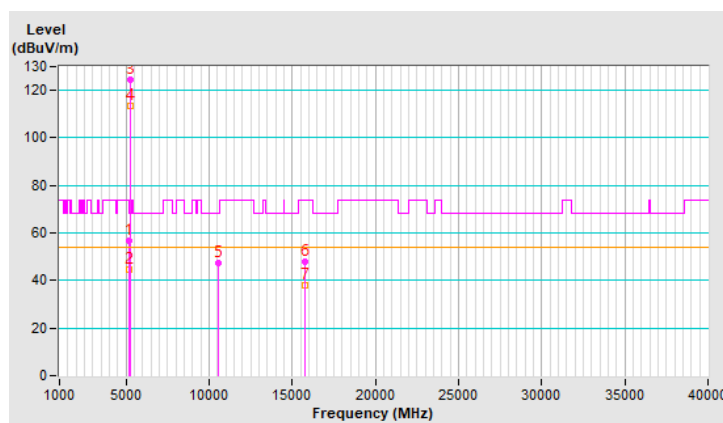


RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	56.8 PK	74.0	-17.2	2.10 V	6	51.6	5.2
2	5150.00	44.5 AV	54.0	-9.5	2.10 V	6	39.3	5.2
3	*5260.00	124.5 PK			2.10 V	6	119.8	4.7
4	*5260.00	113.2 AV			2.10 V	6	108.5	4.7
5	#10520.00	47.3 PK	68.2	-20.9	2.13 V	5	31.0	16.3
6	15780.00	48.1 PK	74.0	-25.9	1.83 V	5	31.4	16.7
7	15780.00	38.1 AV	54.0	-15.9	1.83 V	5	21.4	16.7

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.

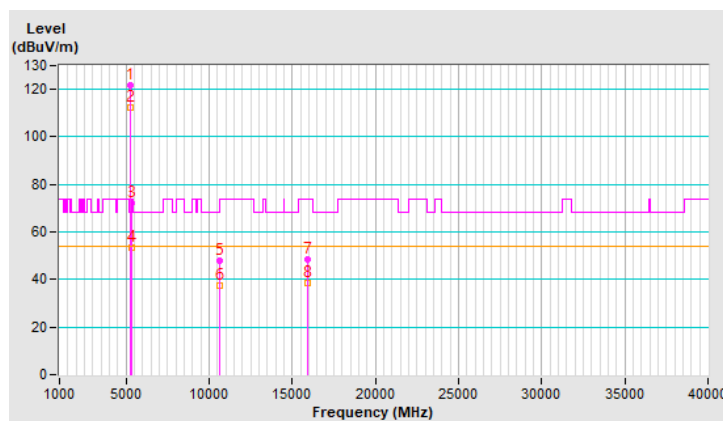


RF Mode	802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.9 PK			2.24 H	5	117.1	4.8
2	*5300.00	112.6 AV			2.24 H	5	107.8	4.8
3	5350.00	72.0 PK	74.0	-2.0	2.24 H	5	67.0	5.0
4	5350.00	53.6 AV	54.0	-0.4	2.24 H	5	48.6	5.0
5	10600.00	47.8 PK	74.0	-26.2	2.10 H	15	31.9	15.9
6	10600.00	37.5 AV	54.0	-16.5	2.10 H	15	21.6	15.9
7	15900.00	48.6 PK	74.0	-25.4	2.11 H	6	32.0	16.6
8	15900.00	38.4 AV	54.0	-15.6	2.11 H	6	21.8	16.6

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.

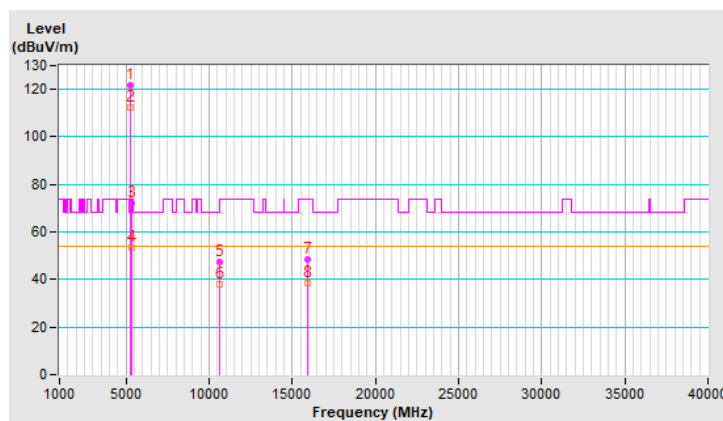


RF Mode	802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.5 PK			2.10 V	6	116.7	4.8
2	*5300.00	112.5 AV			2.10 V	6	107.7	4.8
3	5350.00	72.1 PK	74.0	-1.9	2.10 V	6	67.1	5.0
4	5350.00	53.4 AV	54.0	-0.6	2.10 V	6	48.4	5.0
5	10600.00	47.6 PK	74.0	-26.4	2.11 V	16	31.7	15.9
6	10600.00	37.8 AV	54.0	-16.2	2.11 V	16	21.9	15.9
7	15900.00	48.6 PK	74.0	-25.4	2.10 V	5	32.0	16.6
8	15900.00	38.4 AV	54.0	-15.6	2.10 V	5	21.8	16.6

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.

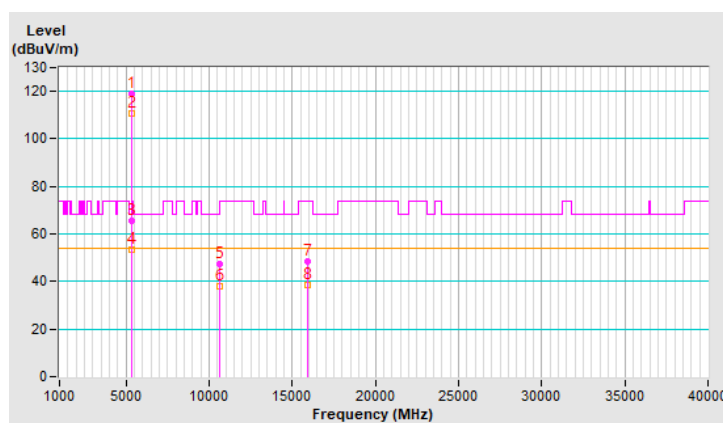


RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	119.1 PK			2.23 H	35	114.2	4.9
2	*5320.00	110.7 AV			2.23 H	35	105.8	4.9
3	5350.00	65.4 PK	74.0	-8.6	2.23 H	35	60.4	5.0
4	5350.00	53.3 AV	54.0	-0.7	2.23 H	35	48.3	5.0
5	10640.00	47.6 PK	74.0	-26.4	2.22 H	25	31.8	15.8
6	10640.00	37.8 AV	54.0	-16.2	2.22 H	25	22.0	15.8
7	15960.00	48.3 PK	74.0	-25.7	2.15 H	32	31.6	16.7
8	15960.00	38.4 AV	54.0	-15.6	2.15 H	32	21.7	16.7

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.

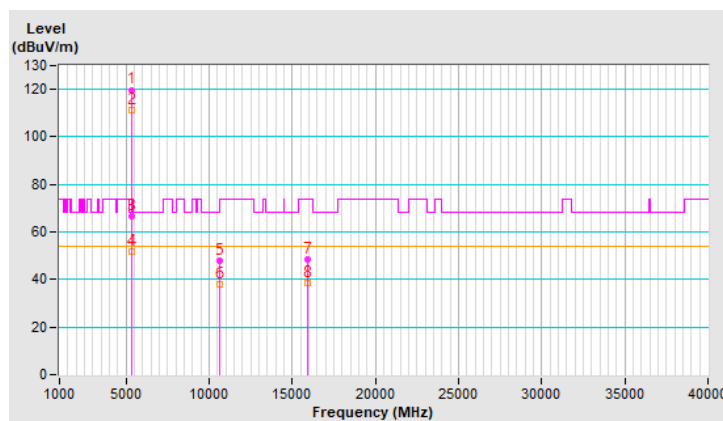


RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	119.8 PK			2.17 V	0	114.9	4.9
2	*5320.00	111.4 AV			2.17 V	0	106.5	4.9
3	5350.00	66.7 PK	74.0	-7.3	2.17 V	0	61.7	5.0
4	5350.00	51.6 AV	54.0	-2.4	2.17 V	0	46.6	5.0
5	10640.00	47.8 PK	74.0	-26.2	2.10 V	4	32.0	15.8
6	10640.00	37.8 AV	54.0	-16.2	2.10 V	4	22.0	15.8
7	15960.00	48.3 PK	74.0	-25.7	2.11 V	6	31.6	16.7
8	15960.00	38.4 AV	54.0	-15.6	2.11 V	6	21.7	16.7

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.

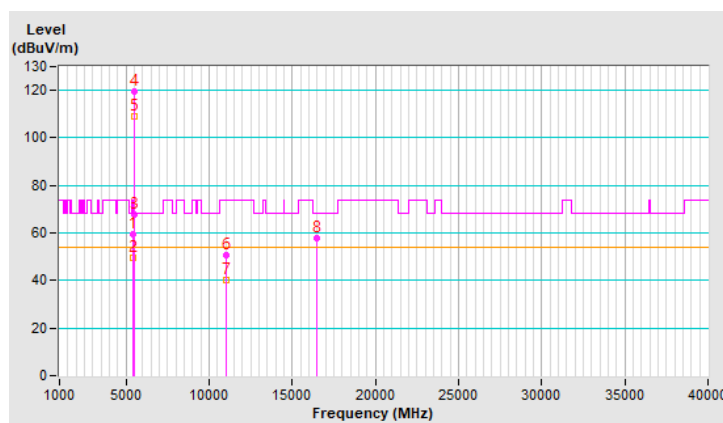


RF Mode	802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	59.4 PK	74.0	-14.6	2.37 H	9	54.2	5.2
2	5460.00	49.5 AV	54.0	-4.5	2.37 H	9	44.3	5.2
3	#5470.00	67.5 PK	68.2	-0.7	2.37 H	9	62.3	5.2
4	*5500.00	119.3 PK			2.37 H	9	114.1	5.2
5	*5500.00	109.1 AV			2.37 H	9	103.9	5.2
6	11000.00	50.7 PK	74.0	-23.3	2.31 H	0	34.2	16.5
7	11000.00	40.2 AV	54.0	-13.8	2.31 H	0	23.7	16.5
8	#16500.00	57.6 PK	68.2	-10.6	3.22 H	305	39.0	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.

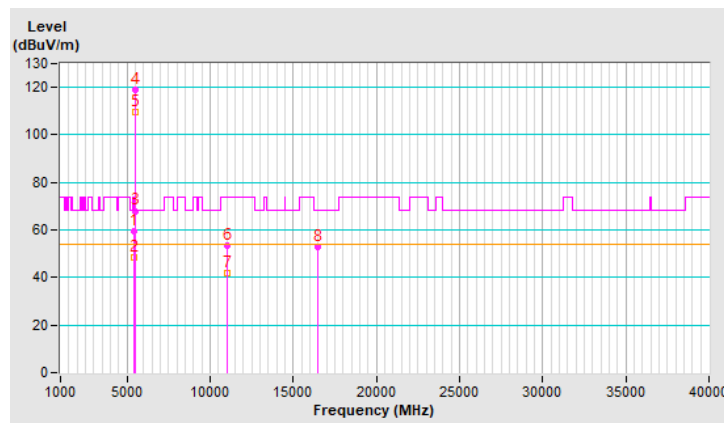


RF Mode	802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	59.4 PK	74.0	-14.6	2.00 V	0	54.2	5.2
2	5460.00	48.2 AV	54.0	-5.8	2.00 V	0	43.0	5.2
3	#5470.00	68.0 PK	68.2	-0.2	2.00 V	0	62.8	5.2
4	*5500.00	119.1 PK			2.00 V	0	113.9	5.2
5	*5500.00	109.8 AV			2.00 V	0	104.6	5.2
6	11000.00	53.4 PK	74.0	-20.6	2.06 V	74	36.9	16.5
7	11000.00	41.8 AV	54.0	-12.2	2.06 V	74	25.3	16.5
8	#16500.00	52.7 PK	68.2	-15.5	2.14 V	130	34.1	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.

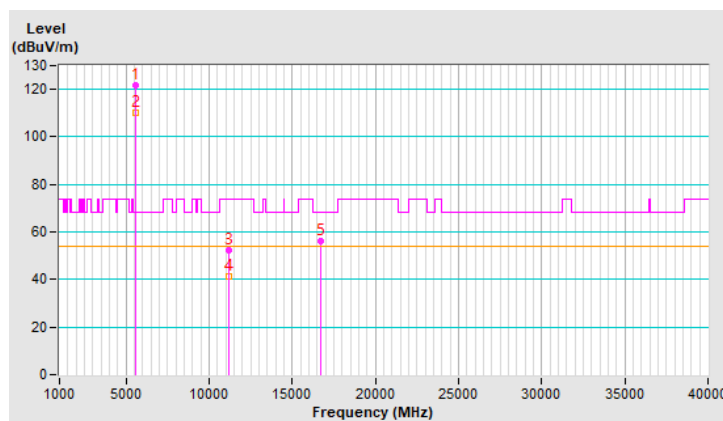


RF Mode	802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.6 PK			2.31 H	8	116.0	5.6
2	*5580.00	110.4 AV			2.31 H	8	104.8	5.6
3	11160.00	52.4 PK	74.0	-21.6	2.32 H	1	35.8	16.6
4	11160.00	41.3 AV	54.0	-12.7	2.32 H	1	24.7	16.6
5	#16740.00	56.4 PK	68.2	-11.8	3.21 H	312	36.4	20.0

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.

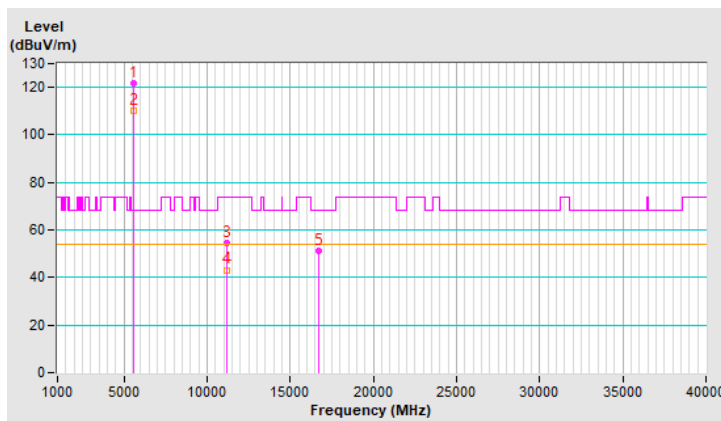


RF Mode	802.11a	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.5 PK			1.48 V	26	115.9	5.6
2	*5580.00	110.4 AV			1.48 V	26	104.8	5.6
3	11160.00	54.6 PK	74.0	-19.4	2.06 V	74	38.0	16.6
4	11160.00	43.2 AV	54.0	-10.8	2.06 V	74	26.6	16.6
5	#16740.00	51.1 PK	68.2	-17.1	2.14 V	130	31.1	20.0

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.

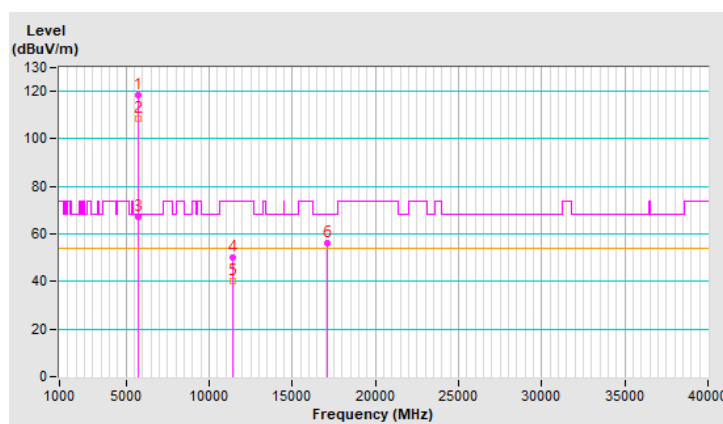


RF Mode	802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	118.4 PK			2.38 H	10	112.7	5.7
2	*5700.00	108.5 AV			2.38 H	10	102.8	5.7
3	#5725.00	67.2 PK	68.2	-1.0	2.38 H	10	61.5	5.7
4	11400.00	50.1 PK	74.0	-23.9	2.36 H	0	33.0	17.1
5	11400.00	40.4 AV	54.0	-13.6	2.36 H	0	23.3	17.1
6	#17100.00	56.4 PK	68.2	-11.8	3.28 H	301	36.3	20.1

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.

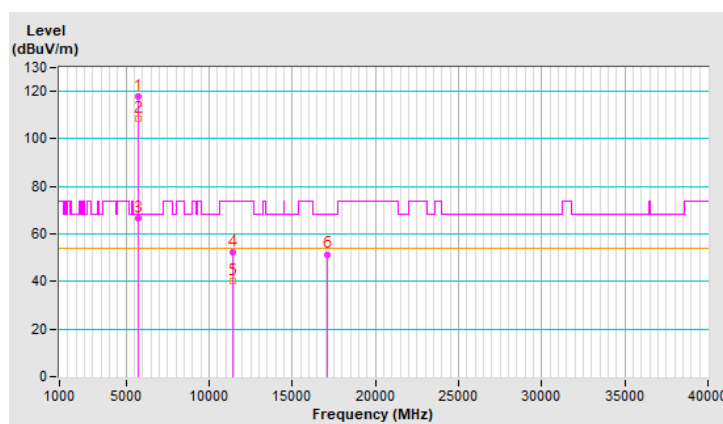


RF Mode	802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	118.1 PK			1.94 V	2	112.4	5.7
2	*5700.00	108.3 AV			1.94 V	2	102.6	5.7
3	#5725.00	66.7 PK	68.2	-1.5	1.94 V	2	61.0	5.7
4	11400.00	52.1 PK	74.0	-21.9	2.00 V	75	35.0	17.1
5	11400.00	40.3 AV	54.0	-13.7	2.00 V	75	23.2	17.1
6	#17100.00	51.5 PK	68.2	-16.7	2.15 V	131	31.4	20.1

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.

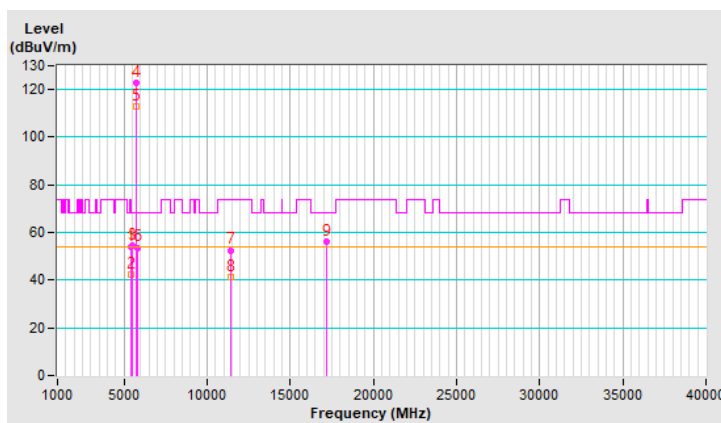


RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.0 PK	74.0	-20.0	2.37 H	14	48.8	5.2
2	5460.00	42.6 AV	54.0	-11.4	2.37 H	14	37.4	5.2
3	#5470.00	54.7 PK	68.2	-13.5	2.37 H	14	49.5	5.2
4	*5720.00	122.6 PK			2.37 H	14	116.9	5.7
5	*5720.00	112.7 AV			2.37 H	14	107.0	5.7
6	#5850.00	53.7 PK	68.2	-14.5	2.37 H	14	47.7	6.0
7	11440.00	52.6 PK	74.0	-21.4	2.31 H	2	35.4	17.2
8	11440.00	41.4 AV	54.0	-12.6	2.31 H	2	24.2	17.2
9	#17160.00	56.4 PK	68.2	-11.8	3.22 H	314	36.2	20.2

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.

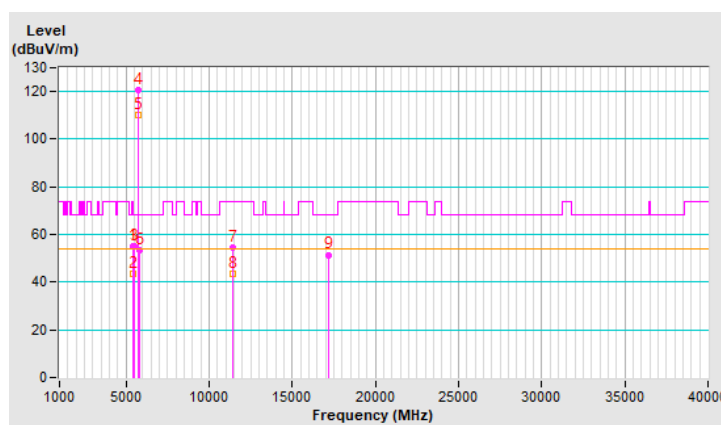


RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.9 PK	74.0	-19.1	2.48 V	4	49.7	5.2
2	5460.00	43.5 AV	54.0	-10.5	2.48 V	4	38.3	5.2
3	#5470.00	55.1 PK	68.2	-13.1	2.48 V	4	49.9	5.2
4	*5720.00	120.6 PK			2.48 V	4	114.9	5.7
5	*5720.00	110.4 AV			2.48 V	4	104.7	5.7
6	#5850.00	53.5 PK	68.2	-14.7	2.48 V	4	47.5	6.0
7	11440.00	54.5 PK	74.0	-19.5	2.04 V	74	37.3	17.2
8	11440.00	43.5 AV	54.0	-10.5	2.04 V	74	26.3	17.2
9	#17160.00	51.5 PK	68.2	-16.7	2.15 V	130	31.3	20.2

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.

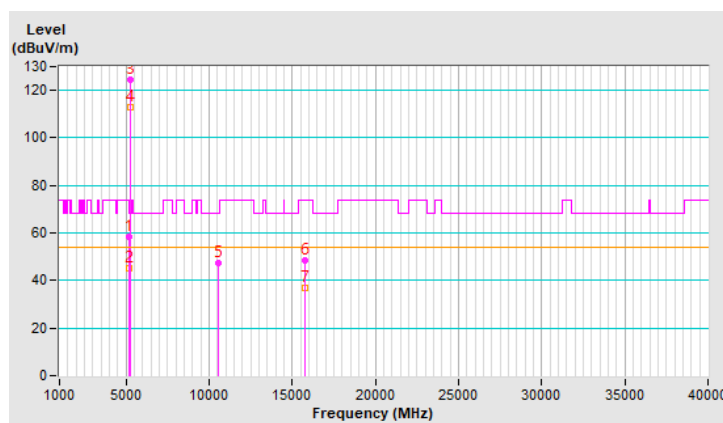


RF Mode	802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	58.4 PK	74.0	-15.6	2.09 H	6	53.2	5.2
2	5150.00	45.1 AV	54.0	-8.9	2.09 H	6	39.9	5.2
3	*5260.00	124.3 PK			2.09 H	6	119.6	4.7
4	*5260.00	112.8 AV			2.09 H	6	108.1	4.7
5	#10520.00	47.5 PK	68.2	-20.7	2.01 H	6	31.2	16.3
6	15780.00	48.6 PK	74.0	-25.4	2.11 H	5	31.9	16.7
7	15780.00	37.1 AV	54.0	-16.9	2.11 H	5	20.4	16.7

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.

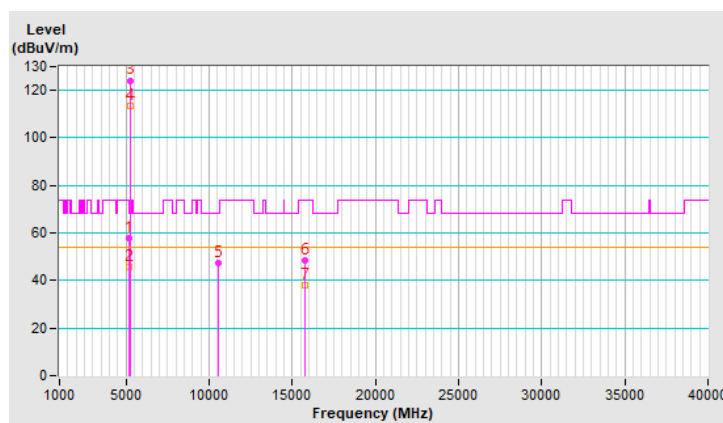


RF Mode	802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	57.6 PK	74.0	-16.4	2.10 V	5	52.4	5.2
2	5150.00	45.8 AV	54.0	-8.2	2.10 V	5	40.6	5.2
3	*5260.00	124.2 PK			2.10 V	5	119.5	4.7
4	*5260.00	113.4 AV			2.10 V	5	108.7	4.7
5	#10520.00	47.6 PK	68.2	-20.6	2.10 V	6	31.3	16.3
6	15780.00	48.4 PK	74.0	-25.6	2.12 V	5	31.7	16.7
7	15780.00	38.1 AV	54.0	-15.9	2.12 V	5	21.4	16.7

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.

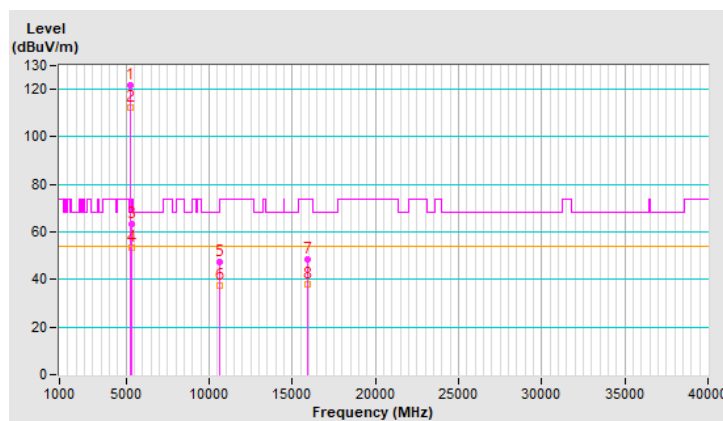


RF Mode	802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.8 PK			2.01 H	8	117.0	4.8
2	*5300.00	112.5 AV			2.01 H	8	107.7	4.8
3	5350.00	63.1 PK	74.0	-10.9	2.01 H	8	58.1	5.0
4	5350.00	53.5 AV	54.0	-0.5	2.01 H	8	48.5	5.0
5	10600.00	47.3 PK	74.0	-26.7	2.11 H	16	31.4	15.9
6	10600.00	37.4 AV	54.0	-16.6	2.11 H	16	21.5	15.9
7	15900.00	48.5 PK	74.0	-25.5	2.14 H	7	31.9	16.6
8	15900.00	38.2 AV	54.0	-15.8	2.14 H	7	21.6	16.6

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.

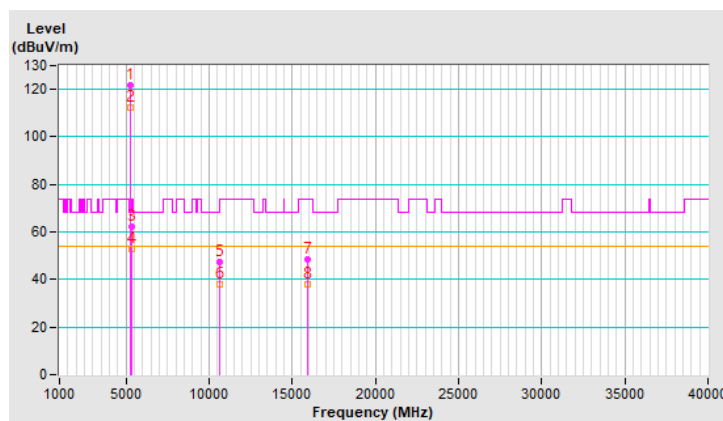


RF Mode	802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	121.6 PK			2.11 V	6	116.8	4.8
2	*5300.00	112.1 AV			2.11 V	6	107.3	4.8
3	5350.00	62.3 PK	74.0	-11.7	2.11 V	6	57.3	5.0
4	5350.00	53.1 AV	54.0	-0.9	2.11 V	6	48.1	5.0
5	10600.00	47.5 PK	74.0	-26.5	2.11 V	16	31.6	15.9
6	10600.00	37.9 AV	54.0	-16.1	2.11 V	16	22.0	15.9
7	15900.00	48.2 PK	74.0	-25.8	2.10 V	5	31.6	16.6
8	15900.00	38.1 AV	54.0	-15.9	2.10 V	5	21.5	16.6

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.

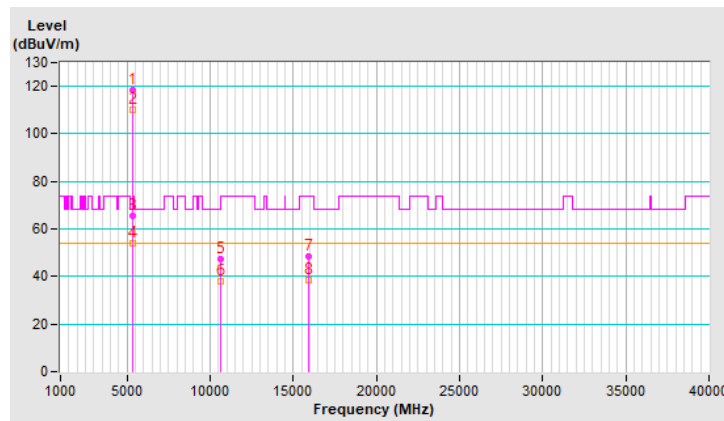


RF Mode	802.11ax (HE20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	118.4 PK			2.35 H	3	113.5	4.9
2	*5320.00	110.1 AV			2.35 H	3	105.2	4.9
3	5350.00	65.4 PK	74.0	-8.6	2.35 H	3	60.4	5.0
4	5350.00	53.8 AV	54.0	-0.2	2.35 H	3	48.8	5.0
5	10640.00	47.5 PK	74.0	-26.5	2.10 H	5	31.7	15.8
6	10640.00	37.8 AV	54.0	-16.2	2.10 H	5	22.0	15.8
7	15960.00	48.5 PK	74.0	-25.5	2.16 H	5	31.8	16.7
8	15960.00	38.6 AV	54.0	-15.4	2.16 H	5	21.9	16.7

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.

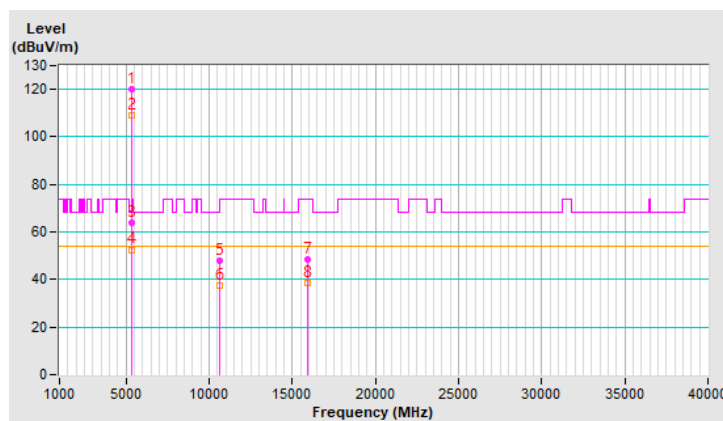


RF Mode	802.11ax (HE20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	119.9 PK			2.19 V	2	115.0	4.9
2	*5320.00	109.2 AV			2.19 V	2	104.3	4.9
3	5350.00	64.1 PK	74.0	-9.9	2.19 V	2	59.1	5.0
4	5350.00	52.6 AV	54.0	-1.4	2.19 V	2	47.6	5.0
5	10640.00	47.8 PK	74.0	-26.2	2.13 V	3	32.0	15.8
6	10640.00	37.6 AV	54.0	-16.4	2.13 V	3	21.8	15.8
7	15960.00	48.6 PK	74.0	-25.4	2.11 V	4	31.9	16.7
8	15960.00	38.4 AV	54.0	-15.6	2.11 V	4	21.7	16.7

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.

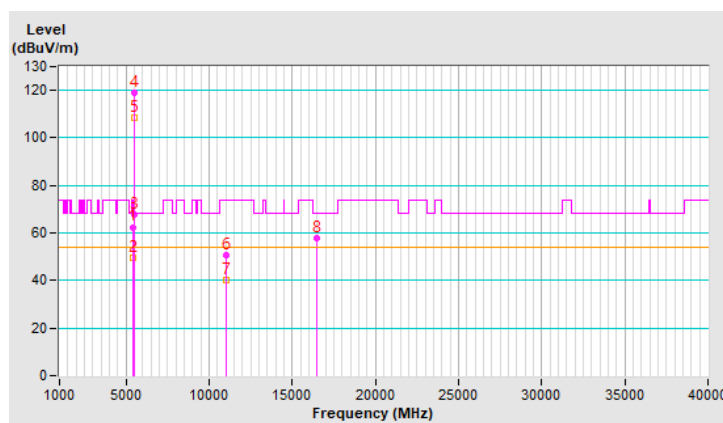


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	62.5 PK	74.0	-11.5	2.37 H	15	57.3	5.2
2	5460.00	49.4 AV	54.0	-4.6	2.37 H	15	44.2	5.2
3	#5470.00	67.5 PK	68.2	-0.7	2.37 H	15	62.3	5.2
4	*5500.00	118.8 PK			2.37 H	15	113.6	5.2
5	*5500.00	108.7 AV			2.37 H	15	103.5	5.2
6	11000.00	50.5 PK	74.0	-23.5	2.31 H	0	34.0	16.5
7	11000.00	40.4 AV	54.0	-13.6	2.31 H	0	23.9	16.5
8	#16500.00	57.6 PK	68.2	-10.6	3.22 H	305	39.0	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.

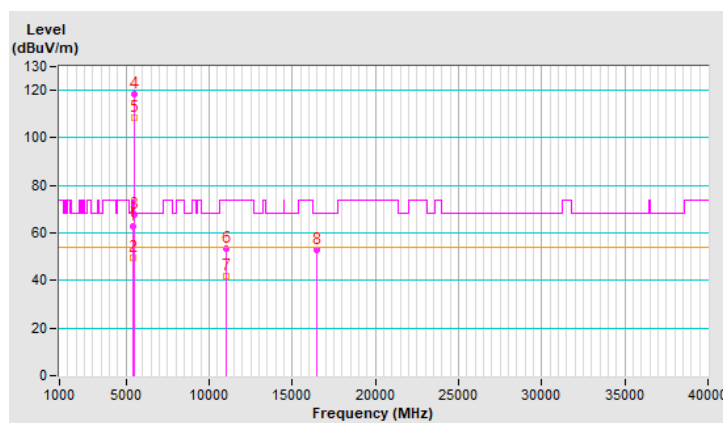


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	62.6 PK	74.0	-11.4	2.00 V	0	57.4	5.2
2	5460.00	49.8 AV	54.0	-4.2	2.00 V	0	44.6	5.2
3	#5470.00	67.8 PK	68.2	-0.4	2.00 V	0	62.6	5.2
4	*5500.00	118.2 PK			2.00 V	0	113.0	5.2
5	*5500.00	108.5 AV			2.00 V	0	103.3	5.2
6	11000.00	53.4 PK	74.0	-20.6	2.06 V	74	36.9	16.5
7	11000.00	41.8 AV	54.0	-12.2	2.06 V	74	25.3	16.5
8	#16500.00	52.7 PK	68.2	-15.5	2.14 V	130	34.1	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.

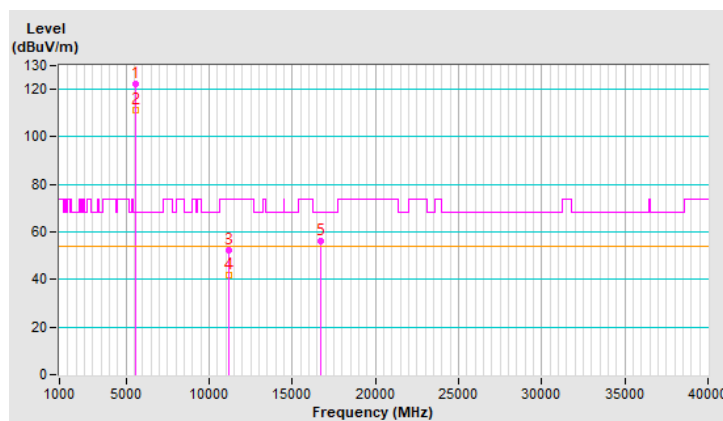


RF Mode	802.11ax (HE20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	122.2 PK			2.31 H	8	116.6	5.6
2	*5580.00	111.3 AV			2.31 H	8	105.7	5.6
3	11160.00	52.4 PK	74.0	-21.6	2.32 H	1	35.8	16.6
4	11160.00	41.6 AV	54.0	-12.4	2.32 H	1	25.0	16.6
5	#16740.00	56.4 PK	68.2	-11.8	3.21 H	312	36.4	20.0

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.

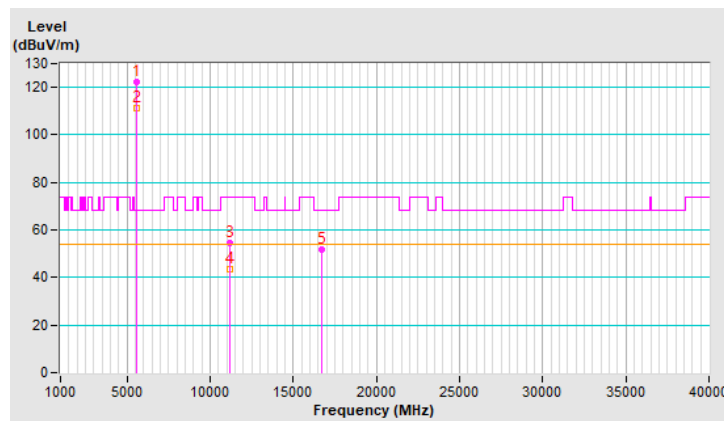


RF Mode	802.11ax (HE20)	Channel	CH 116 : 5580 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	122.2 PK			1.48 V	26	116.6	5.6
2	*5580.00	111.5 AV			1.48 V	26	105.9	5.6
3	11160.00	54.5 PK	74.0	-19.5	2.06 V	74	37.9	16.6
4	11160.00	43.4 AV	54.0	-10.6	2.06 V	74	26.8	16.6
5	#16740.00	51.6 PK	68.2	-16.6	2.14 V	130	31.6	20.0

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.

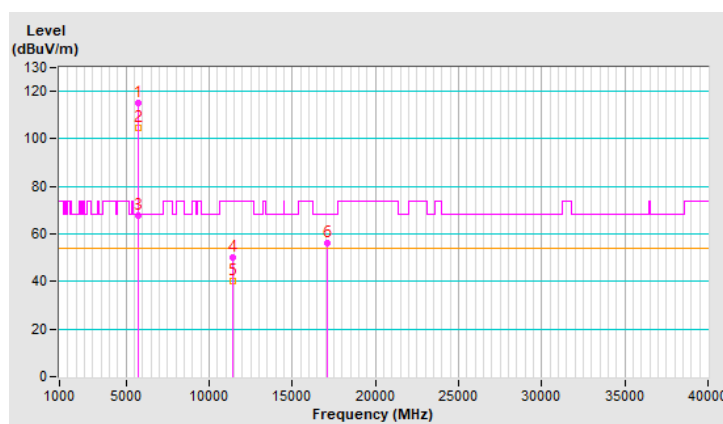


RF Mode	802.11ax (HE20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	115.3 PK			2.38 H	10	109.6	5.7
2	*5700.00	104.4 AV			2.38 H	10	98.7	5.7
3	#5725.00	67.6 PK	68.2	-0.6	2.38 H	10	61.9	5.7
4	11400.00	50.1 PK	74.0	-23.9	2.36 H	0	33.0	17.1
5	11400.00	40.4 AV	54.0	-13.6	2.36 H	0	23.3	17.1
6	#17100.00	56.4 PK	68.2	-11.8	3.28 H	301	36.3	20.1

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.

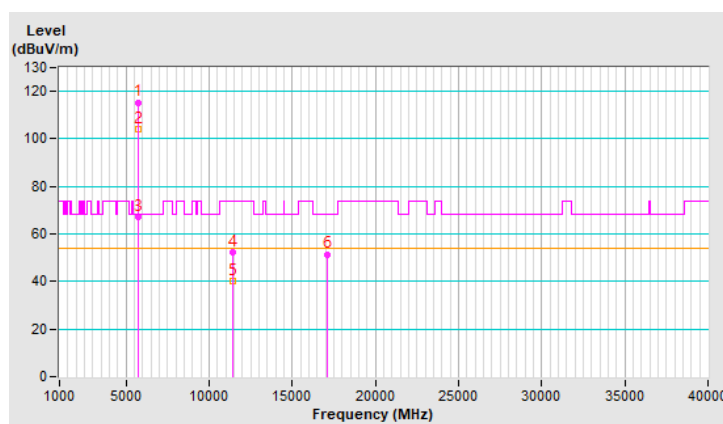


RF Mode	802.11ax (HE20)	Channel	CH 140 : 5700 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	115.4 PK			1.94 V	2	109.7	5.7
2	*5700.00	104.2 AV			1.94 V	2	98.5	5.7
3	#5725.00	67.2 PK	68.2	-1.0	1.94 V	2	61.5	5.7
4	11400.00	52.1 PK	74.0	-21.9	2.00 V	75	35.0	17.1
5	11400.00	40.3 AV	54.0	-13.7	2.00 V	75	23.2	17.1
6	#17100.00	51.5 PK	68.2	-16.7	2.15 V	131	31.4	20.1

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.

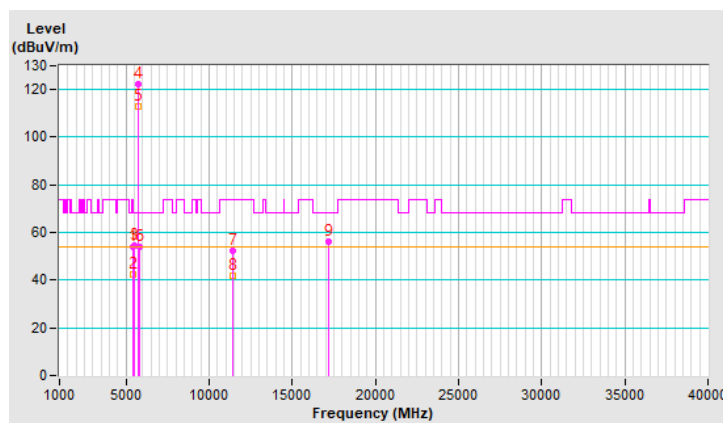


RF Mode	802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.1 PK	74.0	-19.9	2.37 H	14	48.9	5.2
2	5460.00	42.3 AV	54.0	-11.7	2.37 H	14	37.1	5.2
3	#5470.00	54.5 PK	68.2	-13.7	2.37 H	14	49.3	5.2
4	*5720.00	122.5 PK			2.37 H	14	116.8	5.7
5	*5720.00	112.8 AV			2.37 H	14	107.1	5.7
6	#5850.00	53.8 PK	68.2	-14.4	2.37 H	14	47.8	6.0
7	11440.00	52.4 PK	74.0	-21.6	2.31 H	2	35.2	17.2
8	11440.00	41.6 AV	54.0	-12.4	2.31 H	2	24.4	17.2
9	#17160.00	56.4 PK	68.2	-11.8	3.22 H	314	36.2	20.2

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.

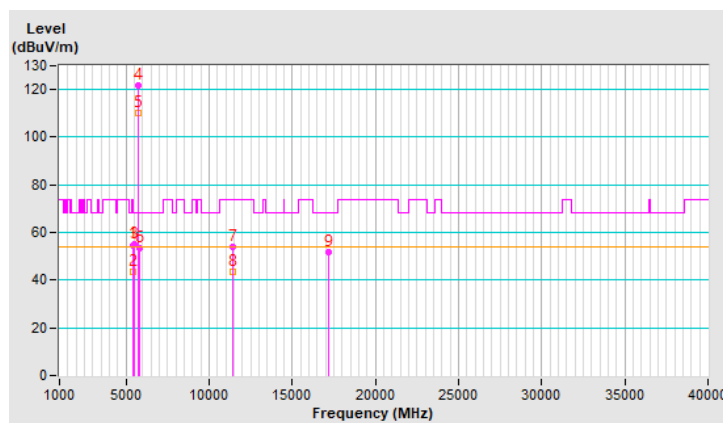


RF Mode	802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.8 PK	74.0	-19.2	2.48 V	4	49.6	5.2
2	5460.00	43.5 AV	54.0	-10.5	2.48 V	4	38.3	5.2
3	#5470.00	55.3 PK	68.2	-12.9	2.48 V	4	50.1	5.2
4	*5720.00	121.5 PK			2.48 V	4	115.8	5.7
5	*5720.00	110.3 AV			2.48 V	4	104.6	5.7
6	#5850.00	53.4 PK	68.2	-14.8	2.48 V	4	47.4	6.0
7	11440.00	54.2 PK	74.0	-19.8	2.04 V	74	37.0	17.2
8	11440.00	43.4 AV	54.0	-10.6	2.04 V	74	26.2	17.2
9	#17160.00	51.6 PK	68.2	-16.6	2.15 V	130	31.4	20.2

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.

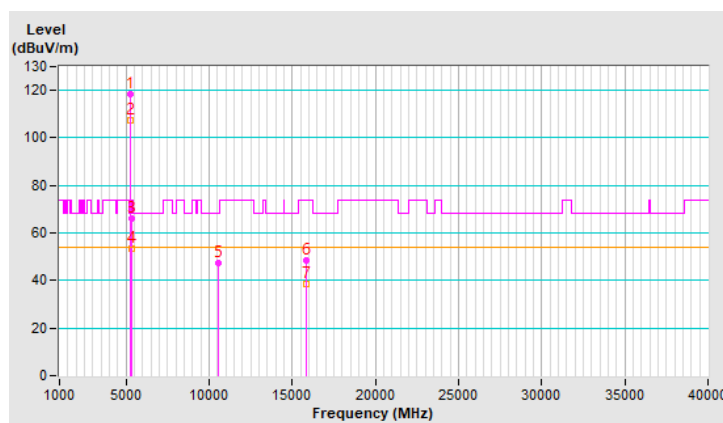


RF Mode	802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5270.00	118.3 PK			2.19 H	2	113.6	4.7
2	*5270.00	107.5 AV			2.19 H	2	102.8	4.7
3	5350.00	66.3 PK	74.0	-7.7	2.19 H	2	61.3	5.0
4	5350.00	53.5 AV	54.0	-0.5	2.19 H	2	48.5	5.0
5	#10540.00	47.5 PK	68.2	-20.7	2.10 H	4	31.3	16.2
6	15810.00	48.3 PK	74.0	-25.7	2.14 H	6	31.7	16.6
7	15810.00	38.4 AV	54.0	-15.6	2.14 H	6	21.8	16.6

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.

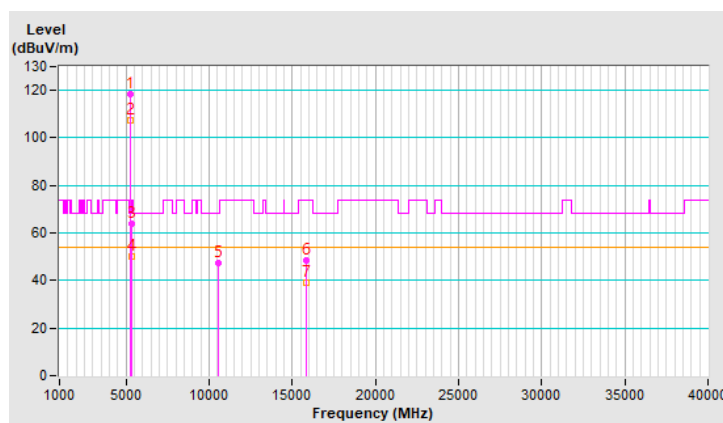


RF Mode	802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5270.00	118.5 PK			2.36 V	2	113.8	4.7
2	*5270.00	107.3 AV			2.36 V	2	102.6	4.7
3	5350.00	64.1 PK	74.0	-9.9	2.36 V	2	59.1	5.0
4	5350.00	50.3 AV	54.0	-3.7	2.36 V	2	45.3	5.0
5	#10540.00	47.6 PK	68.2	-20.6	2.22 V	8	31.4	16.2
6	15810.00	48.6 PK	74.0	-25.4	2.22 V	4	32.0	16.6
7	15810.00	38.9 AV	54.0	-15.1	2.22 V	4	22.3	16.6

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.

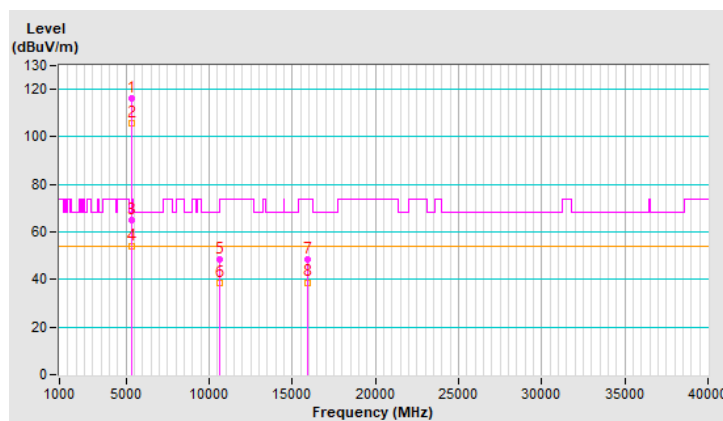


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5310.00	116.3 PK			2.33 H	5	111.5	4.8
2	*5310.00	105.7 AV			2.33 H	5	100.9	4.8
3	5350.00	65.0 PK	74.0	-9.0	2.33 H	5	60.0	5.0
4	5350.00	53.8 AV	54.0	-0.2	2.33 H	5	48.8	5.0
5	10620.00	48.6 PK	74.0	-25.4	2.22 H	7	32.7	15.9
6	10620.00	38.5 AV	54.0	-15.5	2.22 H	7	22.6	15.9
7	15930.00	48.4 PK	74.0	-25.6	2.31 H	10	31.8	16.6
8	15930.00	38.8 AV	54.0	-15.2	2.31 H	10	22.2	16.6

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.

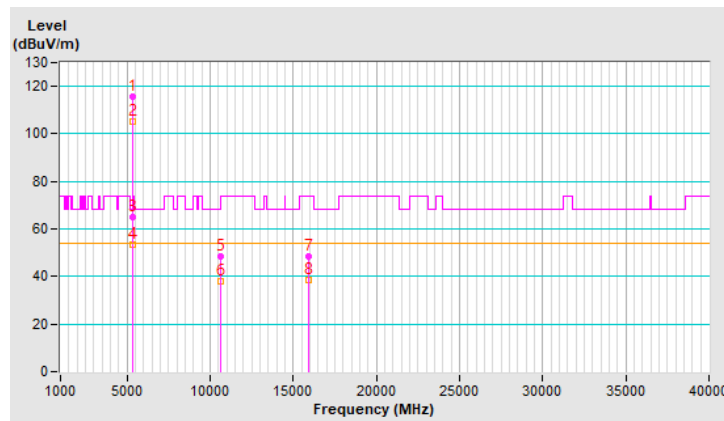


RF Mode	802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5310.00	115.6 PK			2.30 V	5	110.8	4.8
2	*5310.00	105.3 AV			2.30 V	5	100.5	4.8
3	5350.00	64.8 PK	74.0	-9.2	2.30 V	5	59.8	5.0
4	5350.00	53.4 AV	54.0	-0.6	2.30 V	5	48.4	5.0
5	10620.00	48.5 PK	74.0	-25.5	2.22 V	6	32.6	15.9
6	10620.00	38.2 AV	54.0	-15.8	2.22 V	6	22.3	15.9
7	15930.00	48.7 PK	74.0	-25.3	2.31 V	8	32.1	16.6
8	15930.00	38.4 AV	54.0	-15.6	2.31 V	8	21.8	16.6

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.

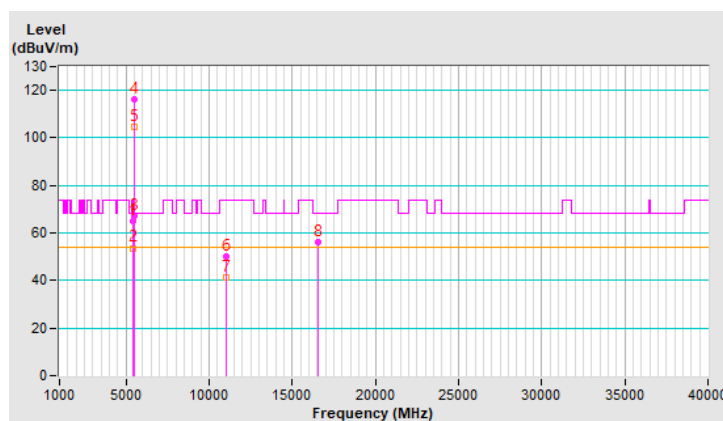


RF Mode	802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	65.0 PK	74.0	-9.0	2.37 H	13	59.8	5.2
2	5460.00	53.7 AV	54.0	-0.3	2.37 H	13	48.5	5.2
3	#5470.00	67.2 PK	68.2	-1.0	2.37 H	13	62.0	5.2
4	*5510.00	116.1 PK			2.37 H	13	110.8	5.3
5	*5510.00	104.8 AV			2.37 H	13	99.5	5.3
6	11020.00	50.3 PK	74.0	-23.7	2.31 H	0	33.7	16.6
7	11020.00	41.2 AV	54.0	-12.8	2.31 H	0	24.6	16.6
8	#16530.00	56.4 PK	68.2	-11.8	3.22 H	305	37.8	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.

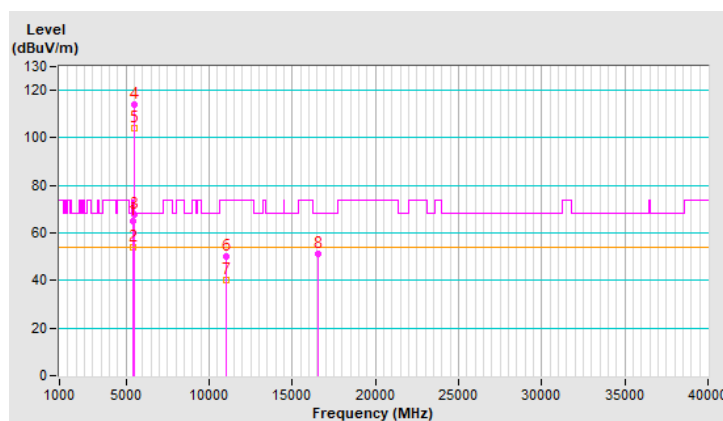


RF Mode	802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	65.0 PK	74.0	-9.0	2.35 V	32	59.8	5.2
2	5460.00	53.9 AV	54.0	-0.1	2.35 V	32	48.7	5.2
3	#5470.00	67.6 PK	68.2	-0.6	2.35 V	32	62.4	5.2
4	*5510.00	114.2 PK			2.35 V	32	108.9	5.3
5	*5510.00	104.2 AV			2.35 V	32	98.9	5.3
6	11020.00	50.1 PK	74.0	-23.9	2.06 V	74	33.5	16.6
7	11020.00	40.2 AV	54.0	-13.8	2.06 V	74	23.6	16.6
8	#16530.00	51.1 PK	68.2	-17.1	2.11 V	130	32.5	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.

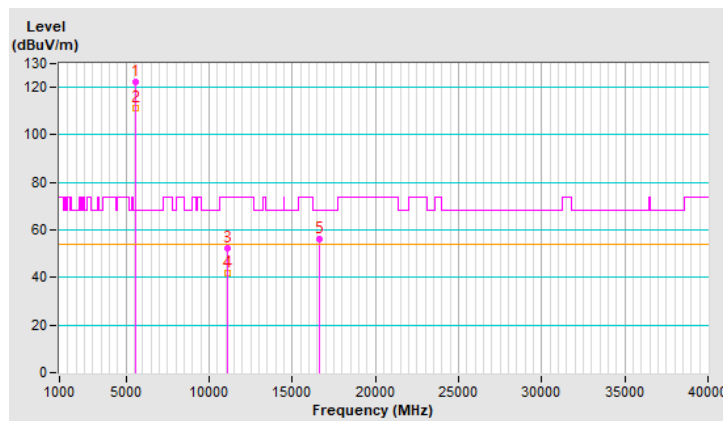


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	122.2 PK			2.31 H	8	116.9	5.3
2	*5550.00	111.3 AV			2.31 H	8	106.0	5.3
3	11100.00	52.4 PK	74.0	-21.6	2.32 H	1	35.7	16.7
4	11100.00	41.6 AV	54.0	-12.4	2.32 H	1	24.9	16.7
5	#16650.00	56.4 PK	68.2	-11.8	3.21 H	312	37.0	19.4

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.

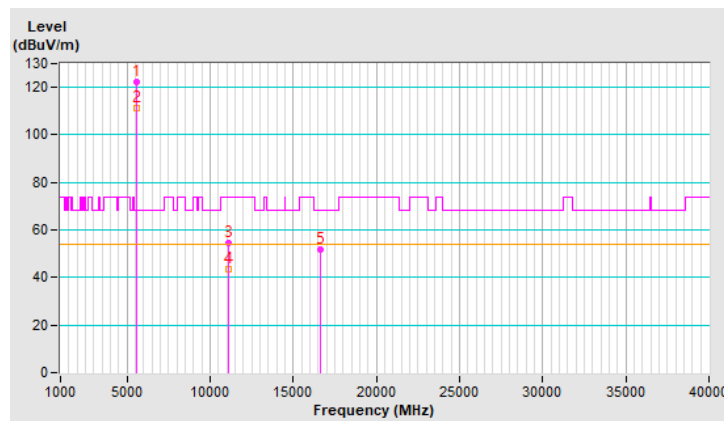


RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	122.2 PK			1.48 V	26	116.9	5.3
2	*5550.00	111.5 AV			1.48 V	26	106.2	5.3
3	11100.00	54.5 PK	74.0	-19.5	2.06 V	74	37.8	16.7
4	11100.00	43.4 AV	54.0	-10.6	2.06 V	74	26.7	16.7
5	#16650.00	51.6 PK	68.2	-16.6	2.14 V	130	32.2	19.4

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.

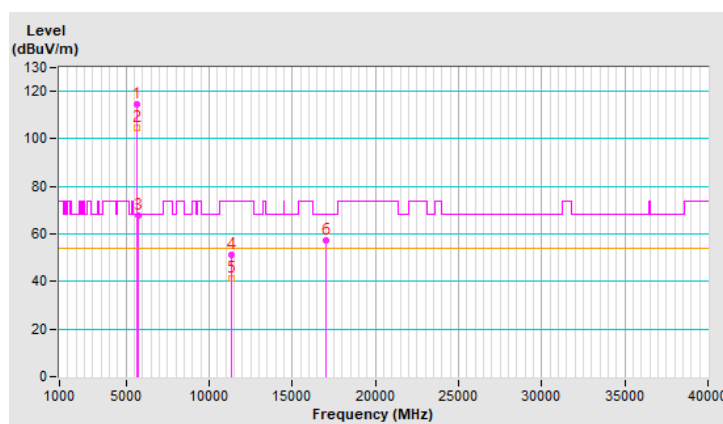


RF Mode	802.11ax (HE40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5670.00	114.8 PK			2.37 H	13	109.1	5.7
2	*5670.00	104.4 AV			2.37 H	13	98.7	5.7
3	#5725.00	67.5 PK	68.2	-0.7	2.37 H	13	61.8	5.7
4	11340.00	51.3 PK	74.0	-22.7	2.31 H	0	34.4	16.9
5	11340.00	41.2 AV	54.0	-12.8	2.31 H	0	24.3	16.9
6	#17010.00	57.3 PK	68.2	-10.9	3.22 H	305	37.1	20.2

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.

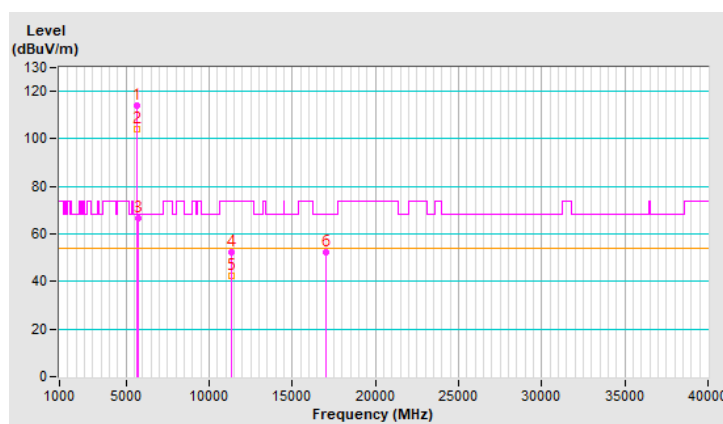


RF Mode	802.11ax (HE40)	Channel	CH 134 : 5670 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5670.00	114.1 PK			2.00 V	1	108.4	5.7
2	*5670.00	104.2 AV			2.00 V	1	98.5	5.7
3	#5725.00	66.8 PK	68.2	-1.4	2.00 V	1	61.1	5.7
4	11340.00	52.2 PK	74.0	-21.8	2.06 V	74	35.3	16.9
5	11340.00	42.3 AV	54.0	-11.7	2.06 V	74	25.4	16.9
6	#17010.00	52.4 PK	68.2	-15.8	2.14 V	130	32.2	20.2

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.

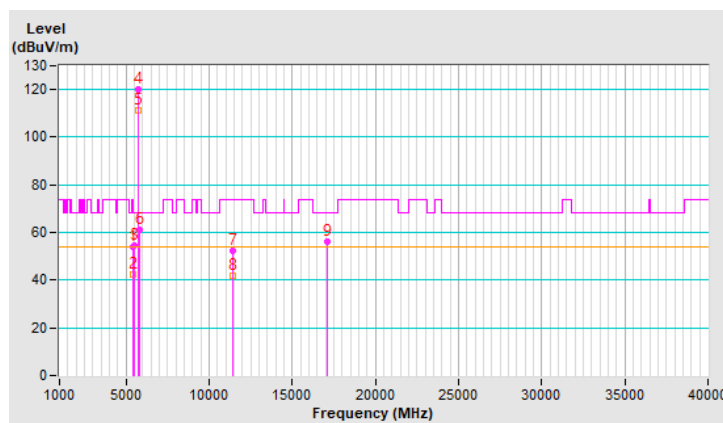


RF Mode	802.11ax (HE40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.1 PK	74.0	-19.9	2.37 H	14	48.9	5.2
2	5460.00	42.3 AV	54.0	-11.7	2.37 H	14	37.1	5.2
3	#5470.00	54.5 PK	68.2	-13.7	2.37 H	14	49.3	5.2
4	*5710.00	119.9 PK			2.37 H	14	114.1	5.8
5	*5710.00	111.5 AV			2.37 H	14	105.7	5.8
6	#5850.00	61.3 PK	68.2	-6.9	2.37 H	14	55.3	6.0
7	11420.00	52.4 PK	74.0	-21.6	2.31 H	2	35.3	17.1
8	11420.00	41.6 AV	54.0	-12.4	2.31 H	2	24.5	17.1
9	#17130.00	56.4 PK	68.2	-11.8	3.22 H	314	36.2	20.2

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.

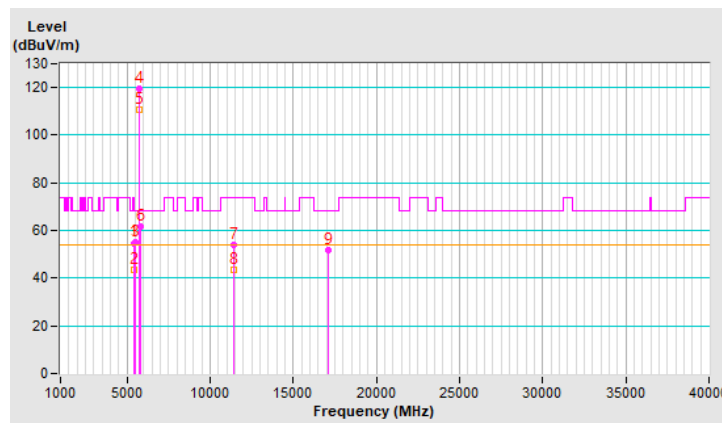


RF Mode	802.11ax (HE40)	Channel	CH 142 : 5710 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	54.8 PK	74.0	-19.2	2.48 V	4	49.6	5.2
2	5460.00	43.5 AV	54.0	-10.5	2.48 V	4	38.3	5.2
3	#5470.00	55.3 PK	68.2	-12.9	2.48 V	4	50.1	5.2
4	*5710.00	119.4 PK			2.48 V	4	113.6	5.8
5	*5710.00	110.5 AV			2.48 V	4	104.7	5.8
6	#5850.00	61.8 PK	68.2	-6.4	2.48 V	4	55.8	6.0
7	11420.00	54.2 PK	74.0	-19.8	2.04 V	74	37.1	17.1
8	11420.00	43.4 AV	54.0	-10.6	2.04 V	74	26.3	17.1
9	#17130.00	51.6 PK	68.2	-16.6	2.15 V	130	31.4	20.2

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.

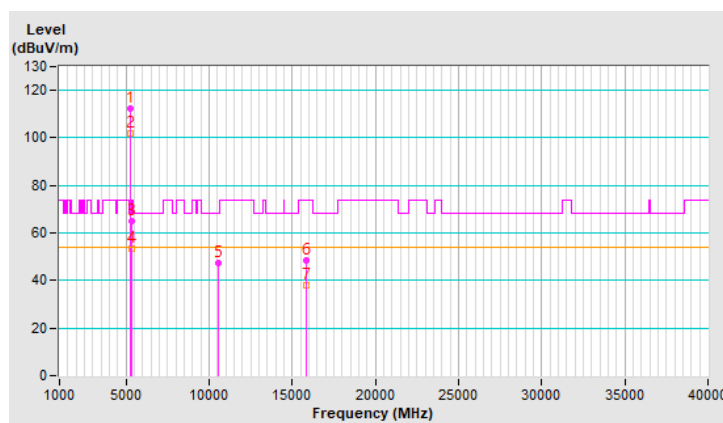


RF Mode	802.11ax (HE80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5290.00	112.3 PK			2.17 H	1	107.6	4.7
2	*5290.00	102.1 AV			2.17 H	1	97.4	4.7
3	5350.00	64.8 PK	74.0	-9.2	2.17 H	1	59.8	5.0
4	5350.00	53.5 AV	54.0	-0.5	2.17 H	1	48.5	5.0
5	#10580.00	47.5 PK	68.2	-20.7	2.22 H	5	31.4	16.1
6	15870.00	48.3 PK	74.0	-25.7	2.12 H	3	31.7	16.6
7	15870.00	38.1 AV	54.0	-15.9	2.12 H	3	21.5	16.6

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.

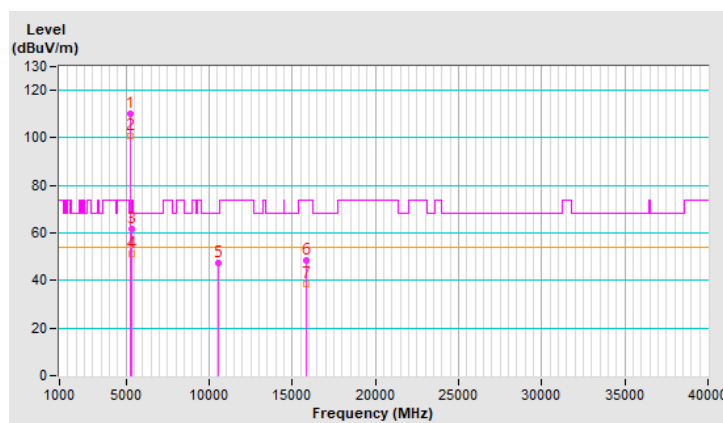


RF Mode	802.11ax (HE80)	Channel	CH 58 : 5290 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5290.00	110.2 PK			1.83 V	26	105.5	4.7
2	*5290.00	100.8 AV			1.83 V	26	96.1	4.7
3	5350.00	61.5 PK	74.0	-12.5	1.83 V	26	56.5	5.0
4	5350.00	51.4 AV	54.0	-2.6	1.83 V	26	46.4	5.0
5	#10580.00	47.5 PK	68.2	-20.7	1.83 V	25	31.4	16.1
6	15870.00	48.6 PK	74.0	-25.4	1.90 V	15	32.0	16.6
7	15870.00	38.5 AV	54.0	-15.5	1.90 V	15	21.9	16.6

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.

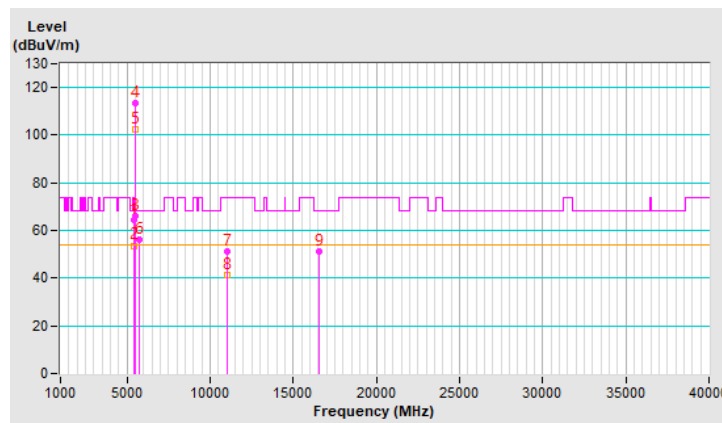


RF Mode	802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	64.5 PK	74.0	-9.5	2.07 H	4	59.3	5.2
2	5460.00	53.7 AV	54.0	-0.3	2.07 H	4	48.5	5.2
3	#5470.00	66.2 PK	68.2	-2.0	2.07 H	4	61.0	5.2
4	*5530.00	113.5 PK			2.07 H	4	108.2	5.3
5	*5530.00	102.3 AV			2.07 H	4	97.0	5.3
6	#5725.00	56.4 PK	68.2	-11.8	2.07 H	4	50.7	5.7
7	11060.00	51.2 PK	74.0	-22.8	2.31 H	0	34.5	16.7
8	11060.00	41.5 AV	54.0	-12.5	2.31 H	0	24.8	16.7
9	#16590.00	51.4 PK	68.2	-16.8	3.22 H	305	32.7	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.

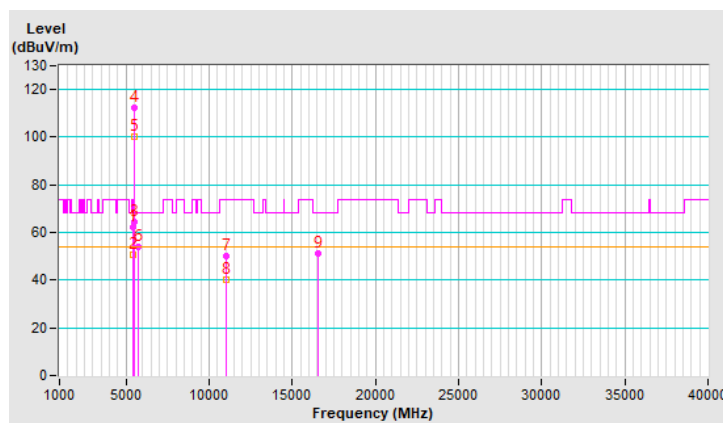


RF Mode	802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	62.1 PK	74.0	-11.9	1.72 V	345	56.9	5.2
2	5460.00	50.5 AV	54.0	-3.5	1.72 V	345	45.3	5.2
3	#5470.00	64.3 PK	68.2	-3.9	1.72 V	345	59.1	5.2
4	*5530.00	112.1 PK			1.72 V	345	106.8	5.3
5	*5530.00	100.4 AV			1.72 V	345	95.1	5.3
6	#5725.00	54.2 PK	68.2	-14.0	1.72 V	345	48.5	5.7
7	11060.00	50.1 PK	74.0	-23.9	2.06 V	74	33.4	16.7
8	11060.00	40.2 AV	54.0	-13.8	2.06 V	74	23.5	16.7
9	#16590.00	51.1 PK	68.2	-17.1	2.11 V	130	32.4	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.

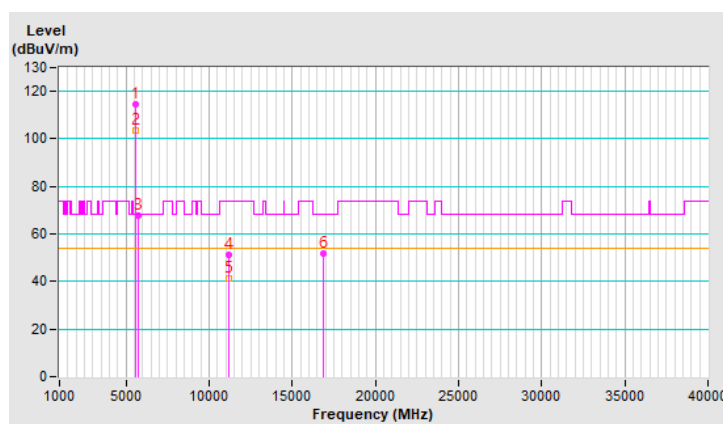


RF Mode	802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5610.00	114.8 PK			2.16 H	4	109.1	5.7
2	*5610.00	103.7 AV			2.16 H	4	98.0	5.7
3	#5725.00	67.5 PK	68.2	-0.7	2.16 H	4	61.8	5.7
4	11220.00	51.3 PK	74.0	-22.7	2.31 H	0	34.7	16.6
5	11220.00	41.5 AV	54.0	-12.5	2.31 H	0	24.9	16.6
6	#16830.00	51.6 PK	68.2	-16.6	3.22 H	305	31.7	19.9

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.

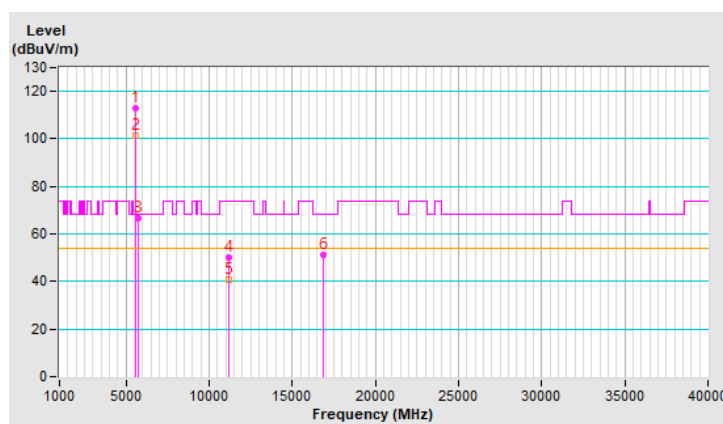


RF Mode	802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	*5610.00	113.1 PK			2.02 V	6	107.4	5.7
2	*5610.00	101.5 AV			2.02 V	6	95.8	5.7
3	#5725.00	66.5 PK	68.2	-1.7	2.02 V	6	60.8	5.7
4	11220.00	50.3 PK	74.0	-23.7	2.06 V	74	33.7	16.6
5	11220.00	40.8 AV	54.0	-13.2	2.06 V	74	24.2	16.6
6	#16830.00	51.2 PK	68.2	-17.0	2.11 V	130	31.3	19.9

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.

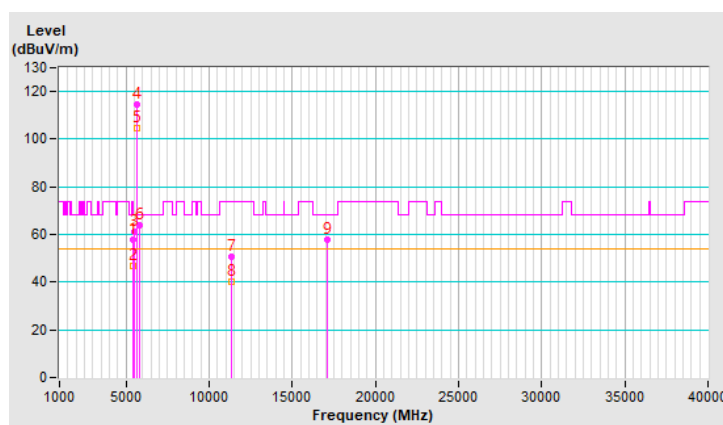


RF Mode	802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	57.6 PK	74.0	-16.4	2.06 H	5	52.4	5.2
2	5460.00	46.7 AV	54.0	-7.3	2.06 H	5	41.5	5.2
3	#5470.00	61.2 PK	68.2	-7.0	2.06 H	5	56.0	5.2
4	*5690.00	114.4 PK			2.06 H	5	108.7	5.7
5	*5690.00	104.8 AV			2.06 H	5	99.1	5.7
6	#5850.00	63.8 PK	68.2	-4.4	2.06 H	5	57.8	6.0
7	11380.00	50.5 PK	74.0	-23.5	2.31 H	0	33.5	17.0
8	11380.00	40.4 AV	54.0	-13.6	2.31 H	0	23.4	17.0
9	#17070.00	57.6 PK	68.2	-10.6	3.22 H	305	37.5	20.1

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.

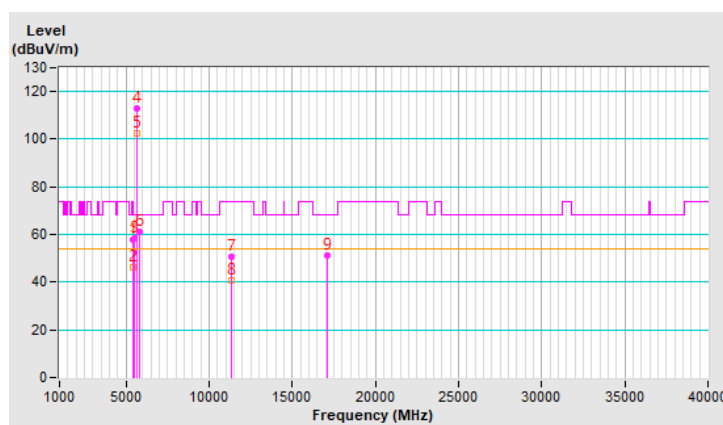


RF Mode	802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	58.0 PK	74.0	-16.0	1.77 V	38	52.8	5.2
2	5460.00	46.1 AV	54.0	-7.9	1.77 V	38	40.9	5.2
3	#5470.00	58.3 PK	68.2	-9.9	1.77 V	38	53.1	5.2
4	*5690.00	112.9 PK			1.77 V	38	107.2	5.7
5	*5690.00	102.5 AV			1.77 V	38	96.8	5.7
6	#5850.00	61.2 PK	68.2	-7.0	1.77 V	38	55.2	6.0
7	11380.00	50.6 PK	74.0	-23.4	2.00 V	75	33.6	17.0
8	11380.00	40.8 AV	54.0	-13.2	2.00 V	75	23.8	17.0
9	#17070.00	51.4 PK	68.2	-16.8	2.15 V	132	31.3	20.1

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.

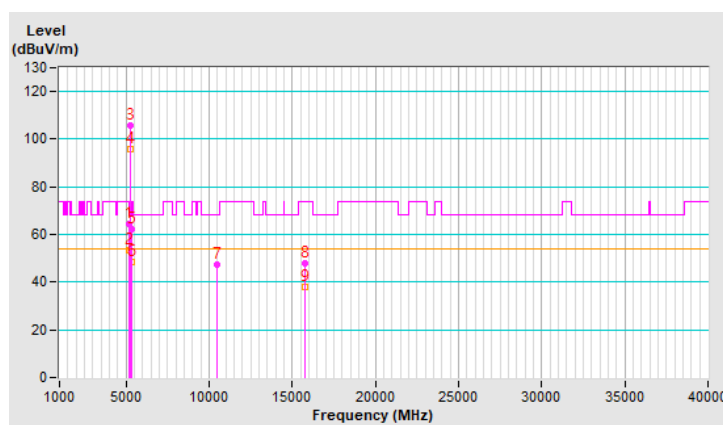


RF Mode	802.11ax (HE160)	Channel	CH 50 : 5250 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	64.6 PK	74.0	-9.4	2.16 H	11	59.4	5.2
2	5150.00	53.5 AV	54.0	-0.5	2.16 H	11	48.3	5.2
3	*5250.00	105.5 PK			2.16 H	11	100.8	4.7
4	*5250.00	95.7 AV			2.16 H	11	91.0	4.7
5	5350.00	62.0 PK	74.0	-12.0	2.16 H	11	57.0	5.0
6	5350.00	48.2 AV	54.0	-5.8	2.16 H	11	43.2	5.0
7	#10500.00	47.6 PK	68.2	-20.6	2.10 H	14	31.2	16.4
8	15750.00	47.8 PK	74.0	-26.2	2.22 H	13	31.2	16.6
9	15750.00	37.8 AV	54.0	-16.2	2.22 H	13	21.2	16.6

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.

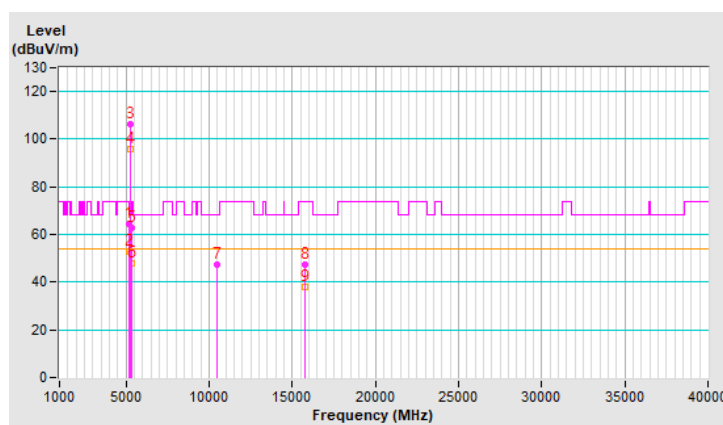


RF Mode	802.11ax (HE160)	Channel	CH 50 : 5250 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	64.2 PK	74.0	-9.8	2.17 V	0	59.0	5.2
2	5150.00	53.0 AV	54.0	-1.0	2.17 V	0	47.8	5.2
3	*5250.00	106.1 PK			2.17 V	0	101.4	4.7
4	*5250.00	95.8 AV			2.17 V	0	91.1	4.7
5	5350.00	62.6 PK	74.0	-11.4	2.17 V	0	57.6	5.0
6	5350.00	48.1 AV	54.0	-5.9	2.17 V	0	43.1	5.0
7	#10500.00	47.5 PK	68.2	-20.7	2.11 V	10	31.1	16.4
8	15750.00	47.6 PK	74.0	-26.4	2.02 V	5	31.0	16.6
9	15750.00	37.8 AV	54.0	-16.2	2.02 V	5	21.2	16.6

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.

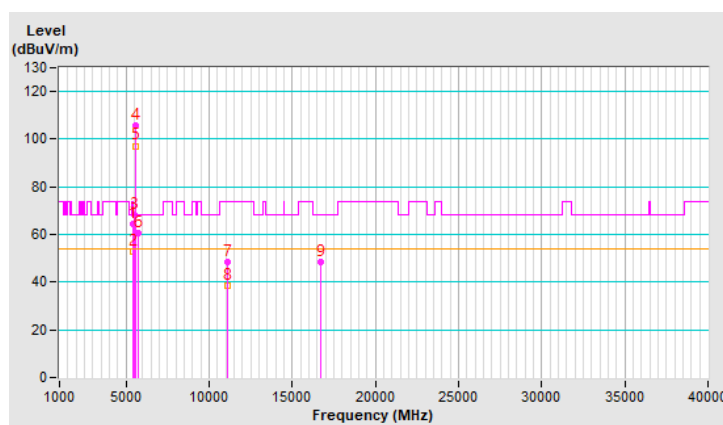


RF Mode	802.11ax (HE160)	Channel	CH 114 : 5570 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

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	64.5 PK	74.0	-9.5	2.33 H	4	59.3	5.2
2	5460.00	53.1 AV	54.0	-0.9	2.33 H	4	47.9	5.2
3	#5470.00	68.1 PK	68.2	-0.1	2.33 H	4	62.9	5.2
4	*5570.00	105.7 PK			2.33 H	4	100.3	5.4
5	*5570.00	97.2 AV			2.33 H	4	91.8	5.4
6	#5725.00	60.8 PK	68.2	-7.4	2.33 H	4	55.1	5.7
7	11140.00	48.5 PK	74.0	-25.5	2.11 H	14	31.9	16.6
8	11140.00	38.6 AV	54.0	-15.4	2.11 H	14	22.0	16.6
9	#16710.00	48.5 PK	68.2	-19.7	2.21 H	13	28.4	20.1

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.

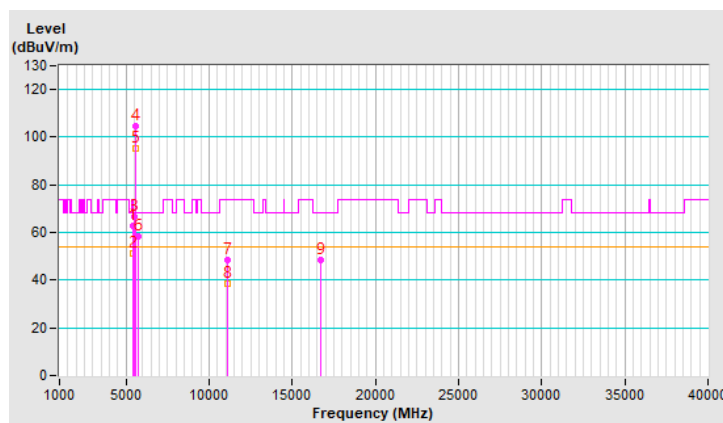


RF Mode	802.11ax (HE160)	Channel	CH 114 : 5570 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 66% RH
Tested By	Randy Wu		

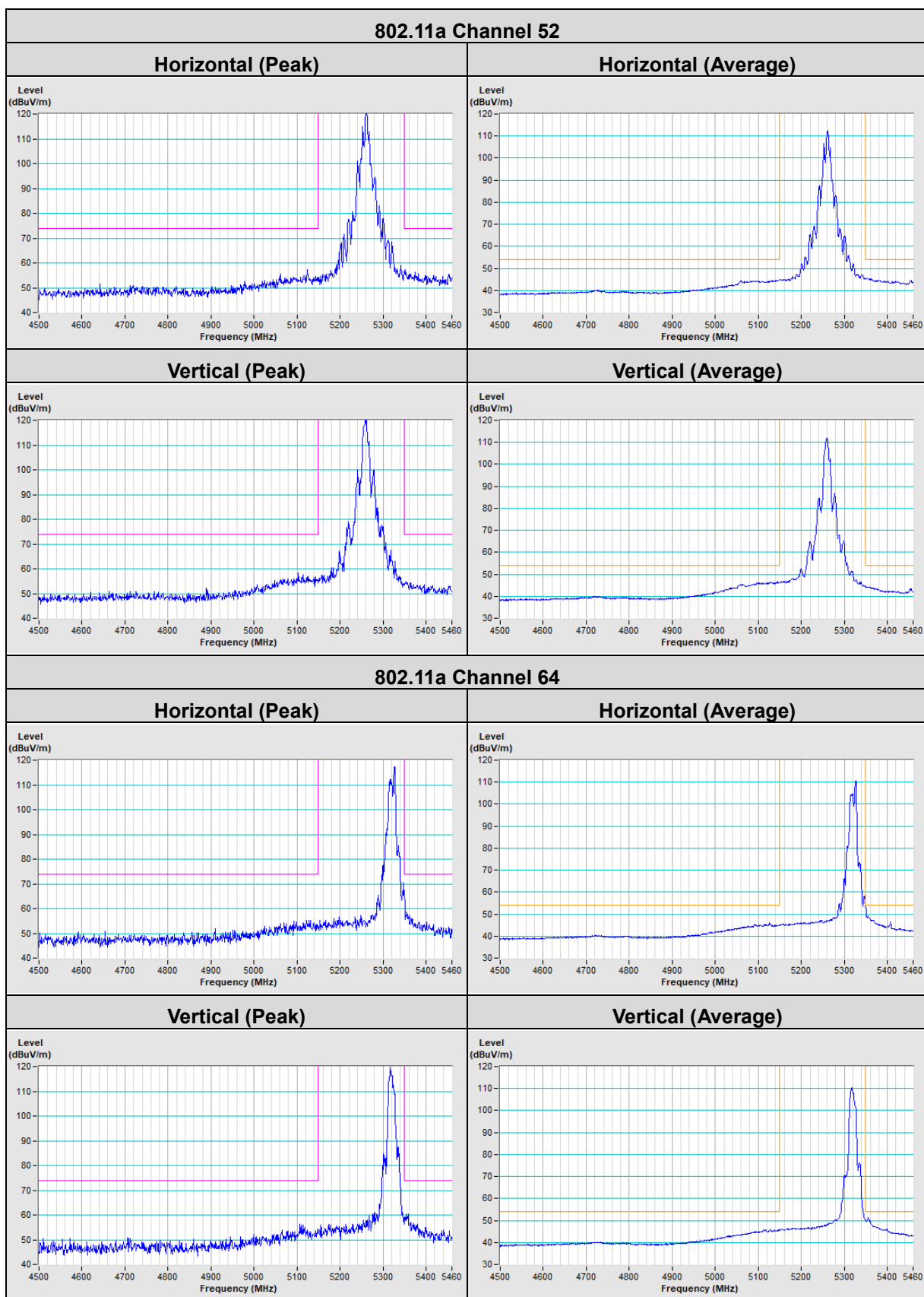
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.6 PK	74.0	-11.4	2.23 V	0	57.4	5.2
2	5460.00	51.1 AV	54.0	-2.9	2.23 V	0	45.9	5.2
3	#5470.00	66.5 PK	68.2	-1.7	2.23 V	0	61.3	5.2
4	*5570.00	104.7 PK			2.23 V	0	99.3	5.4
5	*5570.00	95.1 AV			2.23 V	0	89.7	5.4
6	#5725.00	58.4 PK	68.2	-9.8	2.23 V	0	52.7	5.7
7	11140.00	48.3 PK	74.0	-25.7	2.15 V	2	31.7	16.6
8	11140.00	38.4 AV	54.0	-15.6	2.15 V	2	21.8	16.6
9	#16710.00	48.6 PK	68.2	-19.6	2.12 V	6	28.5	20.1

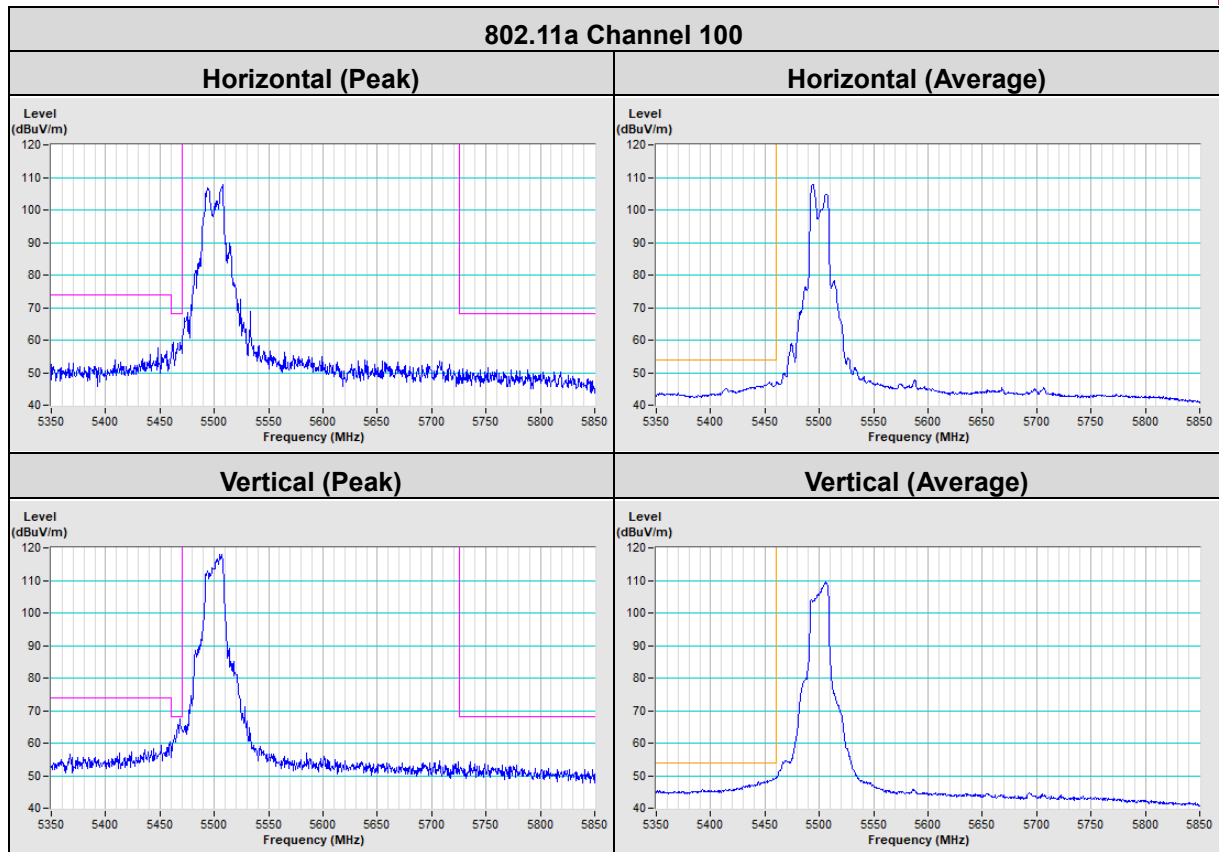
Remarks:

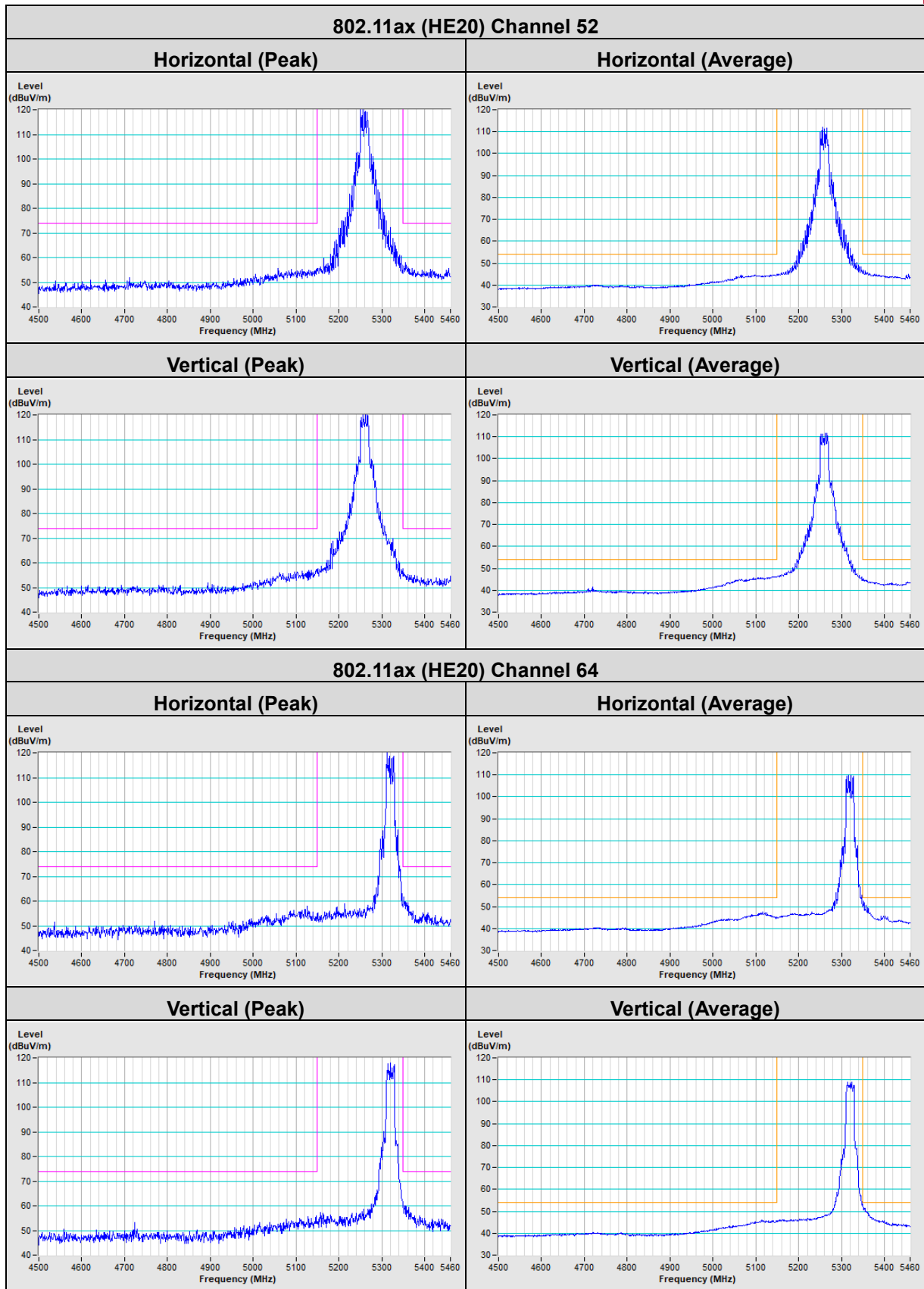
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

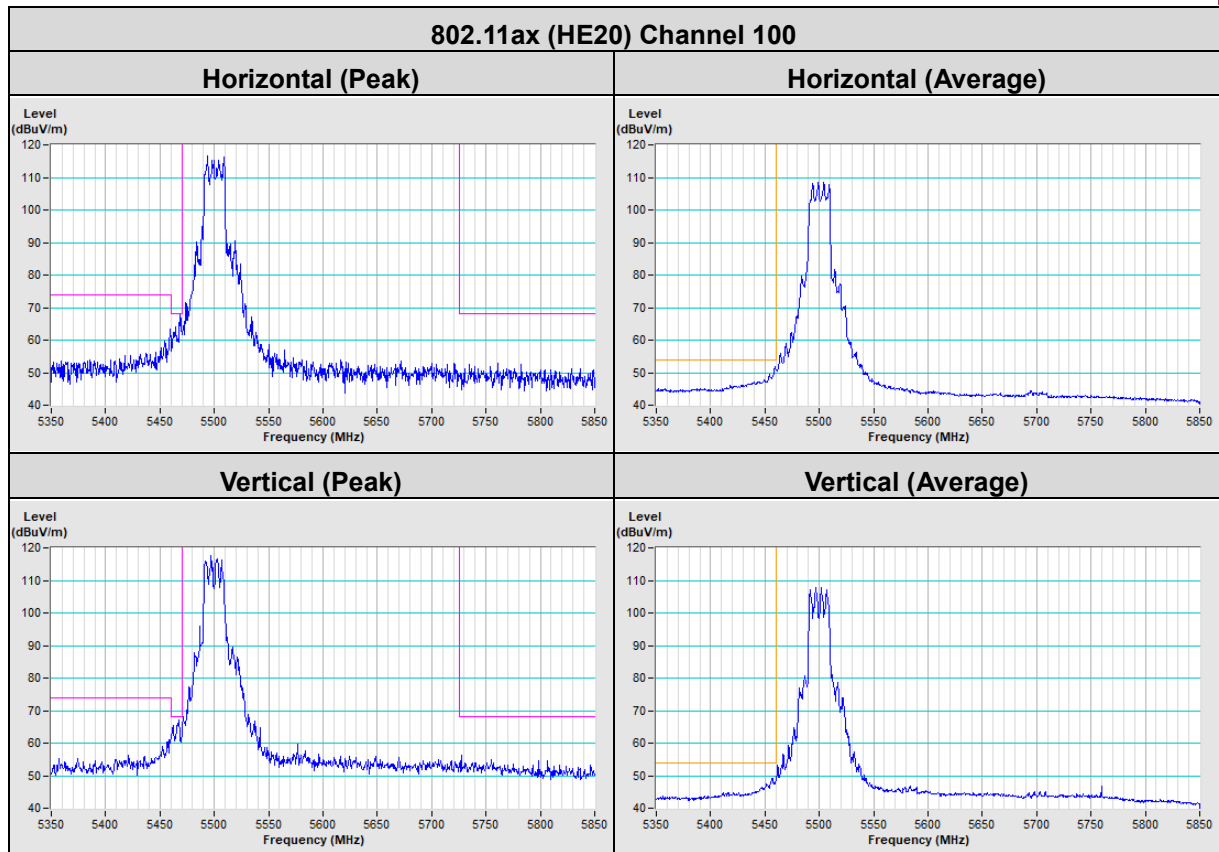


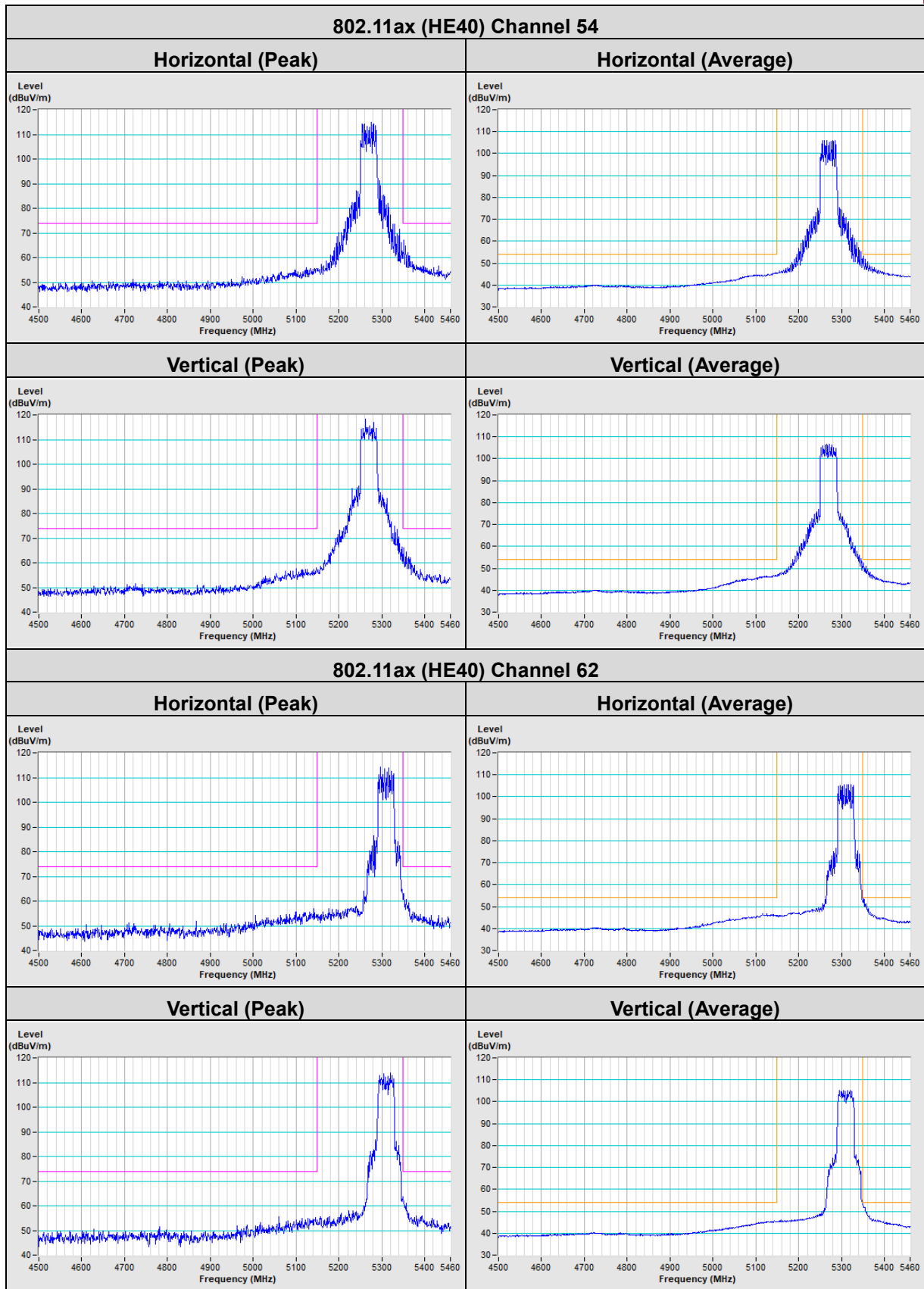
Plot of Band Edge

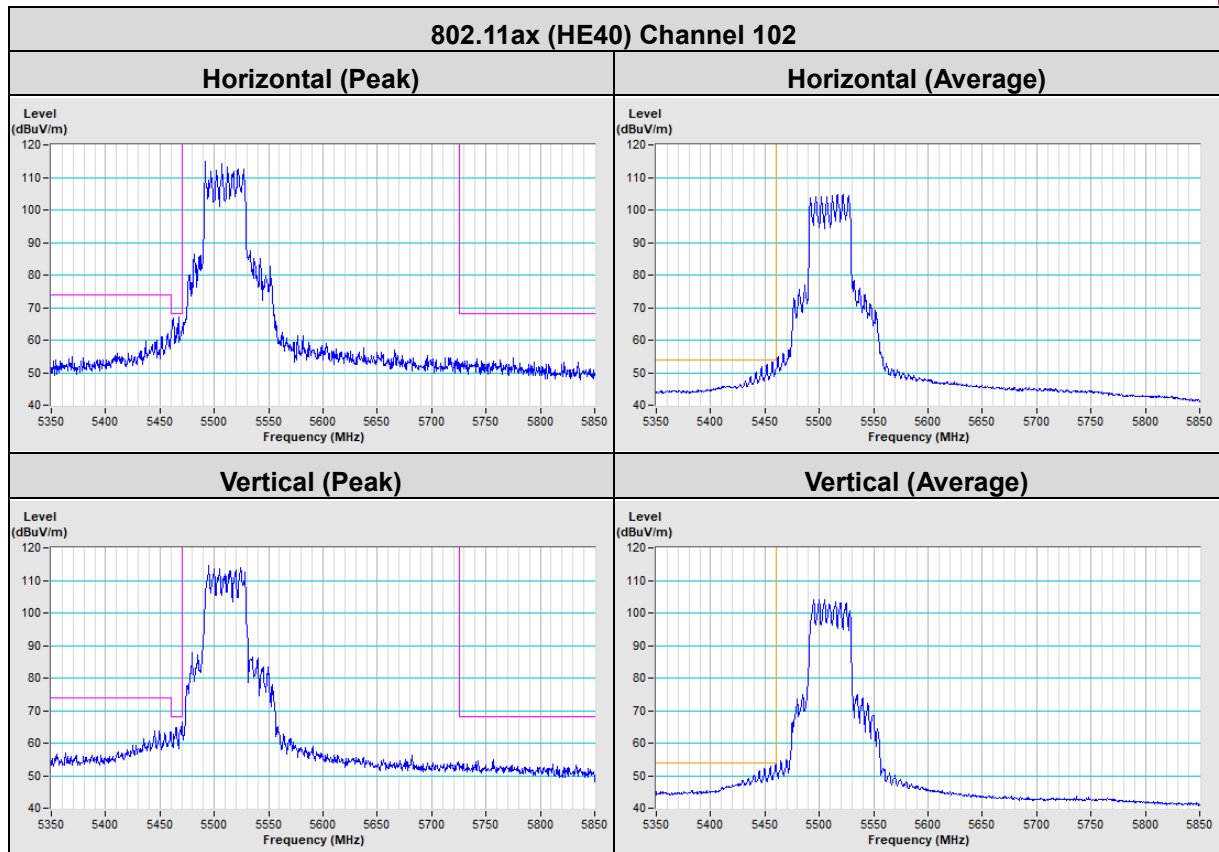


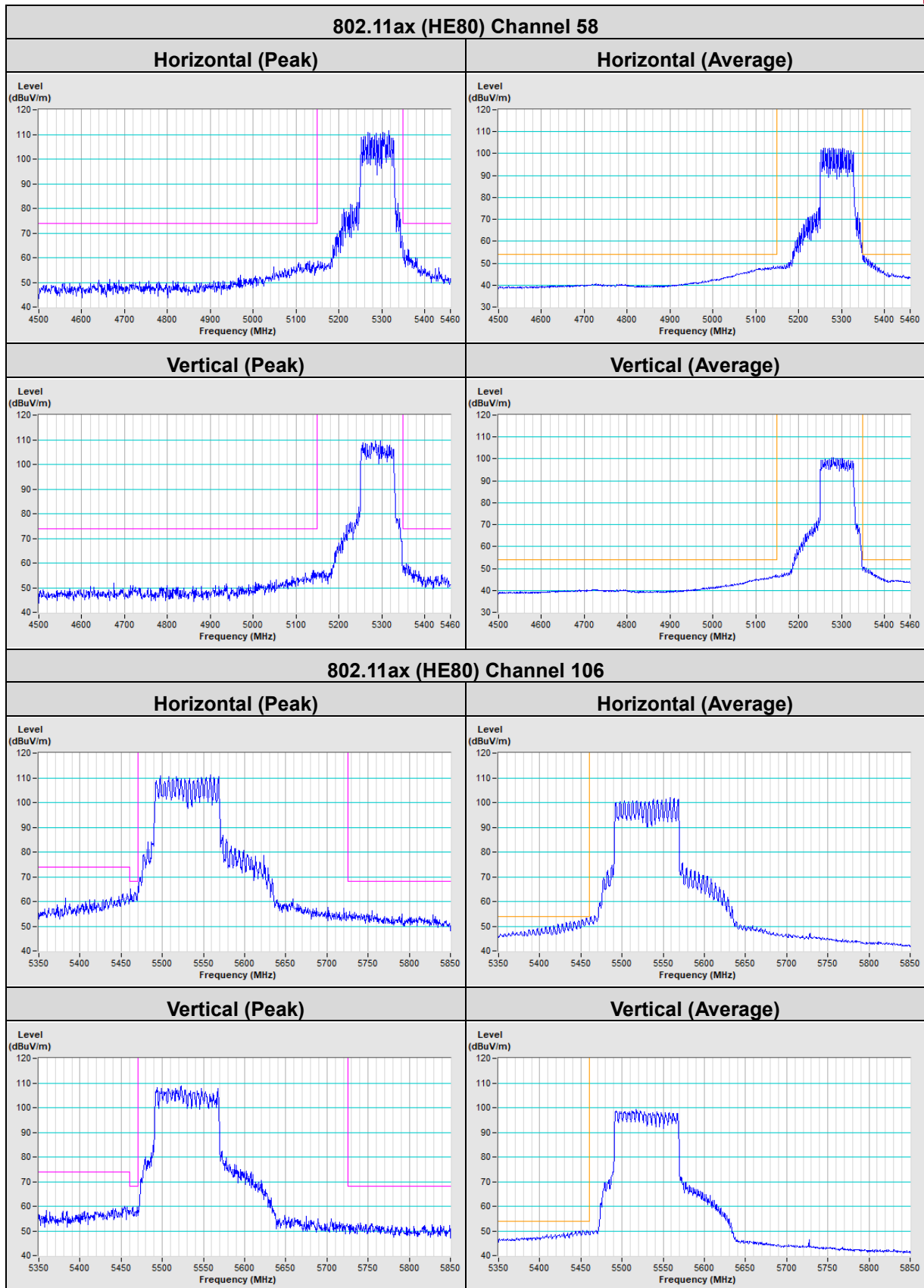


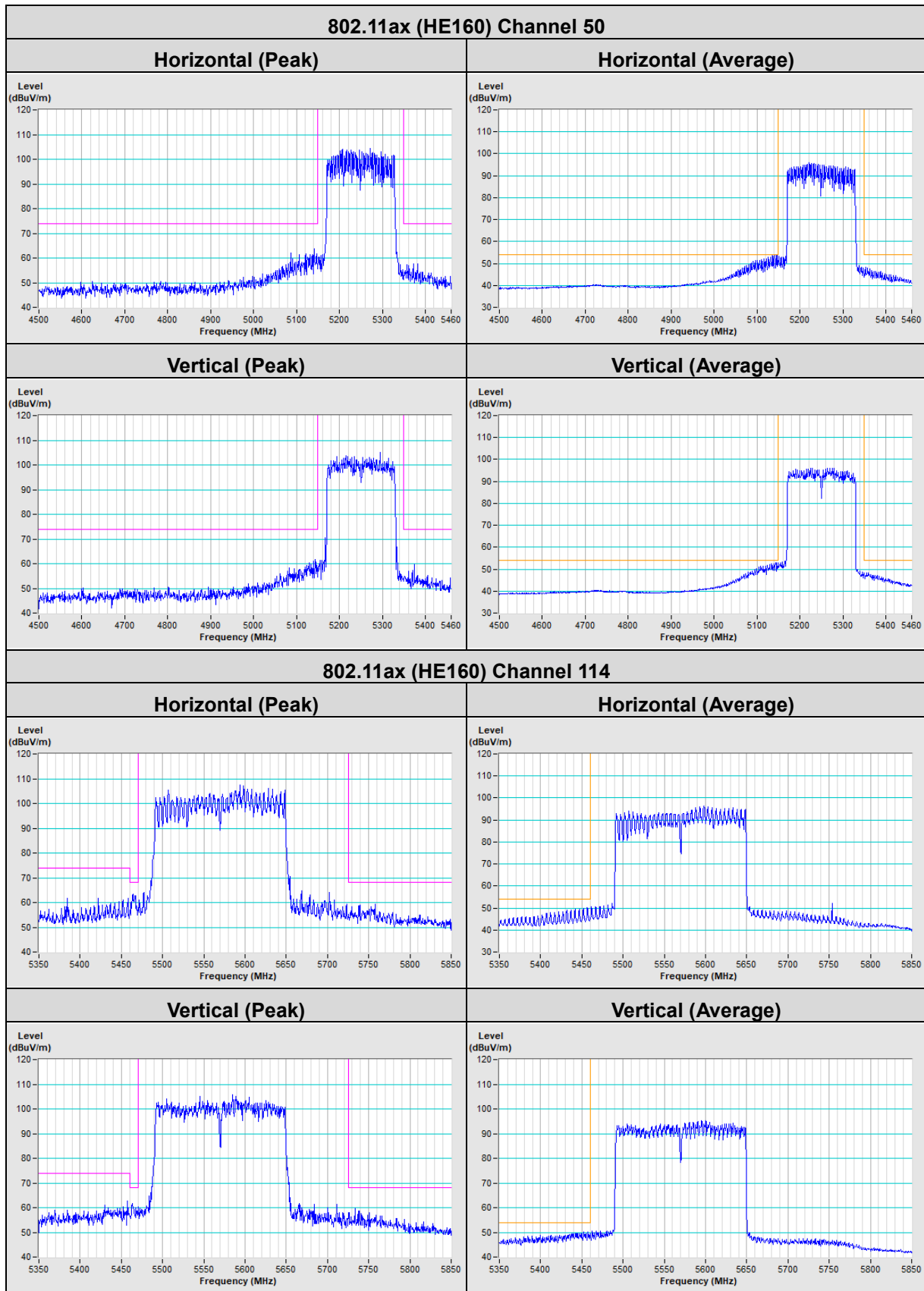












8 Pictures of Test Arrangements

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 ---