

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBELJ-WTW-P22080819-1

**FCC ID:** VBNNW6EAI-E

**Product:** Nokia DAC Wi-Fi 6E Indoor AP

**Brand:** Nokia

**Model No.:** NW6EAI-E

**Received Date:** 2022/8/31

**Test Date:** 2022/9/13 ~ 2022/10/27

**Issued Date:** 2023/2/16

**Applicant:** Nokia Solutions and Networks

**Address:** 3201 Olympus Blvd Dallas, Texas 75019 United States.

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

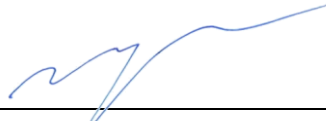
**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

**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: \_\_\_\_\_

2023/2/16

This test report consists of 101 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 : Vivian Huang / 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

<b>Release Control Record</b> .....	<b>4</b>
<b>1 Certificate</b> .....	<b>5</b>
<b>2 Summary of Test Results</b> .....	<b>6</b>
2.1 Measurement Uncertainty .....	6
2.2 Supplementary Information .....	6
<b>3 General Information</b> .....	<b>7</b>
3.1 General Description of EUT .....	7
3.2 Antenna Description of EUT .....	8
3.3 Channel List .....	9
3.4 Test Mode Applicability and Tested Channel Detail .....	10
3.5 Duty Cycle of Test Signal .....	12
3.6 Test Program Used and Operation Descriptions .....	14
3.7 Connection Diagram of EUT and Peripheral Devices .....	14
3.8 Configuration of Peripheral Devices and Cable Connections .....	16
<b>4 Test Instruments</b> .....	<b>17</b>
4.1 RF Output Power .....	17
4.2 Power Spectral Density .....	17
4.3 6 dB Bandwidth .....	17
4.4 Occupied Bandwidth .....	17
4.5 Frequency Stability .....	18
4.6 AC Power Conducted Emissions .....	19
4.7 Unwanted Emissions below 1 GHz .....	19
4.8 Unwanted Emissions above 1 GHz .....	20
<b>5 Limits of Test Items</b> .....	<b>21</b>
5.1 RF Output Power .....	21
5.2 Power Spectral Density .....	21
5.3 6 dB Bandwidth .....	21
5.4 Occupied Bandwidth .....	21
5.5 Frequency Stability .....	21
5.6 AC Power Conducted Emissions .....	22
5.7 Unwanted Emissions below 1 GHz .....	22
5.8 Unwanted Emissions above 1 GHz .....	23
<b>6 Test Arrangements</b> .....	<b>24</b>
6.1 RF Output Power .....	24
6.1.1 Test Setup .....	24
6.1.2 Test Procedure .....	24
6.2 Power Spectral Density .....	24
6.2.1 Test Setup .....	24
6.2.2 Test Procedure .....	24
6.3 6 dB Bandwidth .....	25
6.3.1 Test Setup .....	25
6.3.2 Test Procedure .....	25
6.4 Occupied Bandwidth .....	25
6.4.1 Test Setup .....	25
6.4.2 Test Procedure .....	25
6.5 Frequency Stability .....	26
6.5.1 Test Setup .....	26
6.5.2 Test Procedure .....	26
6.6 AC Power Conducted Emissions .....	27
6.6.1 Test Setup .....	27
6.6.2 Test Procedure .....	27
6.7 Unwanted Emissions below 1 GHz .....	28
6.7.1 Test Setup .....	28
6.7.2 Test Procedure .....	29



6.8	Unwanted Emissions above 1 GHz.....	30
6.8.1	Test Setup .....	30
6.8.2	Test Procedure.....	30
<b>7</b>	<b>Test Results of Test Item .....</b>	<b>31</b>
7.1	RF Output Power.....	31
7.2	Power Spectral Density .....	38
7.3	6 dB Bandwidth .....	42
7.4	Occupied Bandwidth.....	44
7.5	Frequency Stability .....	52
7.6	AC Power Conducted Emissions .....	53
7.7	Unwanted Emissions below 1 GHz .....	55
7.8	Unwanted Emissions above 1 GHz.....	57
<b>8</b>	<b>Pictures of Test Arrangements .....</b>	<b>100</b>
<b>9</b>	<b>Information of the Testing Laboratories .....</b>	<b>101</b>



## Release Control Record

Issue No.	Description	Date Issued
RFBELJ-WTW-P22080819-1	Original release.	2023/2/16

## 1 Certificate

**Product:** Nokia DAC Wi-Fi 6E Indoor AP

**Brand:** Nokia

**Test Model:** NW6EAI-E

**Sample Status:** Engineering sample

**Applicant:** Nokia Solutions and Networks

**Test Date:** 2022/9/13 ~ 2022/10/27

**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)(1/2/3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -6.53 dB at 0.47422 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -10.9 dB at 907.62 MHz
15.407(b)(1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 5150.00 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:

Measurement	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	5.5 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 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	Nokia DAC Wi-Fi 6E Indoor AP
Brand	Nokia
Test Model	NW6EAI-E
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc from AC adapter or 56 Vdc from POE adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax mode
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	5.18 GHz ~ 5.24 GHz 5.745 GHz ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	<b>CDD Mode</b> 5.18 GHz ~ 5.24 GHz : 585.586 mW (27.68 dBm) 5.745 GHz ~ 5.825 GHz : 978.629 mW (29.91 dBm) <b>Beamforming Mode</b> 5.18 GHz ~ 5.24 GHz : 322.167 mW (25.08 dBm) 5.745 GHz ~ 5.825 GHz : 324.383 mW (25.11 dBm)
EUT Category	Indoor Access Point

Note:

1. Simultaneously transmission condition.

Condition	Technology	
1	WLAN 2.4GHz	WLAN 5GHz

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

2. The above EUT information is declared by manufacturer and for more detailed features description, please refers 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.	Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type	Connector Type
1	scan	3.9/5.8	2.4 to 2.49 /5.15 to 5.85	PIFA	ipex(MHF)
2	chain 1	3.1	2.4~2.4835	PIFA	ipex(MHF)
3	chain 2	4	2.4~2.4835	PIFA	ipex(MHF)
4	chain 3	4.1	2.4~2.4835	PIFA	ipex(MHF)
5	chain 0	5	2.4~2.4835	PIFA	ipex(MHF)
6	BLE	4.9	2.4~2.4835	PIFA	ipex(MHF)
7	chain 1	3.7	5.15~5.85	PIFA	ipex(MHF)
8	chain 3	4.8	5.15~5.85	PIFA	ipex(MHF)
9	chain 2	5.4	5.15~5.85	PIFA	ipex(MHF)
10	chain 0	5.4	5.15~5.85	PIFA	ipex(MHF)
11	chain 1	4.9	5.925~7.125	PIFA	ipex(MHF)
12	chain 3	6.8	5.925~7.125	PIFA	ipex(MHF)
13	chain 2	7.3	5.925~7.125	PIFA	ipex(MHF)
14	chain 0	6.9	5.925~7.125	PIFA	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
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (RU242/484/996)	4TX	4RX

Note:

1. All of modulation mode support beamforming function except 802.11a modulation mode.
2. 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.
3. 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) and 802.11ax mode for 20 MHz (40MHz, 80MHz), 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.



### 3.3 Channel List

#### FOR 5180 ~ 5240 MHz

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

Channel	Frequency
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz

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

Channel	Frequency
38	5190 MHz
46	5230 MHz

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

Channel	Frequency
42	5210 MHz

#### FOR 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80) and 802.11ax (HE80):

Channel	Frequency
155	5775 MHz

### 3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	<p>1. The AC Adapter/POE Adapter has the following models: WA-30P12FU/ADP-36PR B. Pre-scan these models of AC Adaptor/POEs and find the worst case as a representative test condition.</p> <p>2. EUT can be used in the following ways: Lying/ Wall Mount. Pre-scan these ways and find the worst case as a representative test condition.</p> <p>3. 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).</p>
Worst Case:	<p>1. POE Worst Condition: ADP-36PR B</p> <p>2. Lying/ Wall Mount Worst Condition: Wall Mount</p>

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter	Remark
RF Output Power	802.11a	CDD & Beamforming	36, 40, 48, 149, 157, 165	BPSK	6Mb/s	-
	802.11ac (VHT20)	CDD & Beamforming	36, 40, 48, 149, 157, 165	BPSK	MCS0	-
	802.11ac (VHT40)	CDD & Beamforming	38, 46, 151, 159	BPSK	MCS0	-
	802.11ac (VHT80)	CDD & Beamforming	42, 155	BPSK	MCS0	-
	802.11ax (HE20)	CDD & Beamforming	36, 40, 48, 149, 157, 165	BPSK	MCS0	-
	802.11ax (HE40)	CDD & Beamforming	38, 46, 151, 159	BPSK	MCS0	-
	802.11ax (HE80)	CDD & Beamforming	42, 155	BPSK	MCS0	-
	20 MHz Preamble 802.11ax (RU242)	CDD & Beamforming	36, 40, 48, 149, 157, 165	BPSK	MCS0	HE20_(RU52)*4
	40 MHz Preamble 802.11ax (RU484)	CDD & Beamforming	38, 46, 151, 159	BPSK	MCS0	HE40_(RU52)*8
	80 MHz Preamble 802.11ax (RU996)	CDD & Beamforming	42, 155	BPSK	MCS0	HE80_(RU52)*16
Power Spectral Density	802.11a	CDD	36, 40, 48, 149, 157, 165	BPSK	6Mb/s	-
	802.11ax (HE20)	CDD	36, 40, 48, 149, 157, 165	BPSK	MCS0	-
	802.11ax (HE40)	CDD	38, 46, 151, 159	BPSK	MCS0	-
	802.11ax (HE80)	CDD	42, 155	BPSK	MCS0	-
6 dB Bandwidth	802.11a	CDD	149, 157, 165	BPSK	6Mb/s	-
	802.11ax (HE20)	CDD	149, 157, 165	BPSK	MCS0	-
	802.11ax (HE40)	CDD	151, 159	BPSK	MCS0	-
	802.11ax (HE80)	CDD	155	BPSK	MCS0	-

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter	Remark
Occupied Bandwidth	802.11a	CDD	36, 40, 48, 149, 157, 165	BPSK	6Mb/s	-
	802.11ax (HE20)	CDD	36, 40, 48, 149, 157, 165	BPSK	MCS0	-
	802.11ax (HE40)	CDD	38, 46, 151, 159	BPSK	MCS0	-
	802.11ax (HE80)	CDD	42, 155	BPSK	MCS0	-
Frequency Stability	802.11a	-	36	un-modulation	-	-
AC Power Conducted Emissions	802.11ax (HE20)	CDD	165	BPSK	MCS0	-
Unwanted Emissions below 1 GHz	802.11ax (HE20)	CDD	165	BPSK	MCS0	-
Unwanted Emissions above 1 GHz	802.11a	CDD	36, 40, 48, 149, 157, 165	BPSK	6Mb/s	-
	802.11ax (HE20)	CDD	36, 40, 48, 149, 157, 165	BPSK	MCS0	-
	802.11ax (HE40)	CDD	38, 46, 151, 159	BPSK	MCS0	-
	802.11ax (HE80)	CDD	42, 155	BPSK	MCS0	-

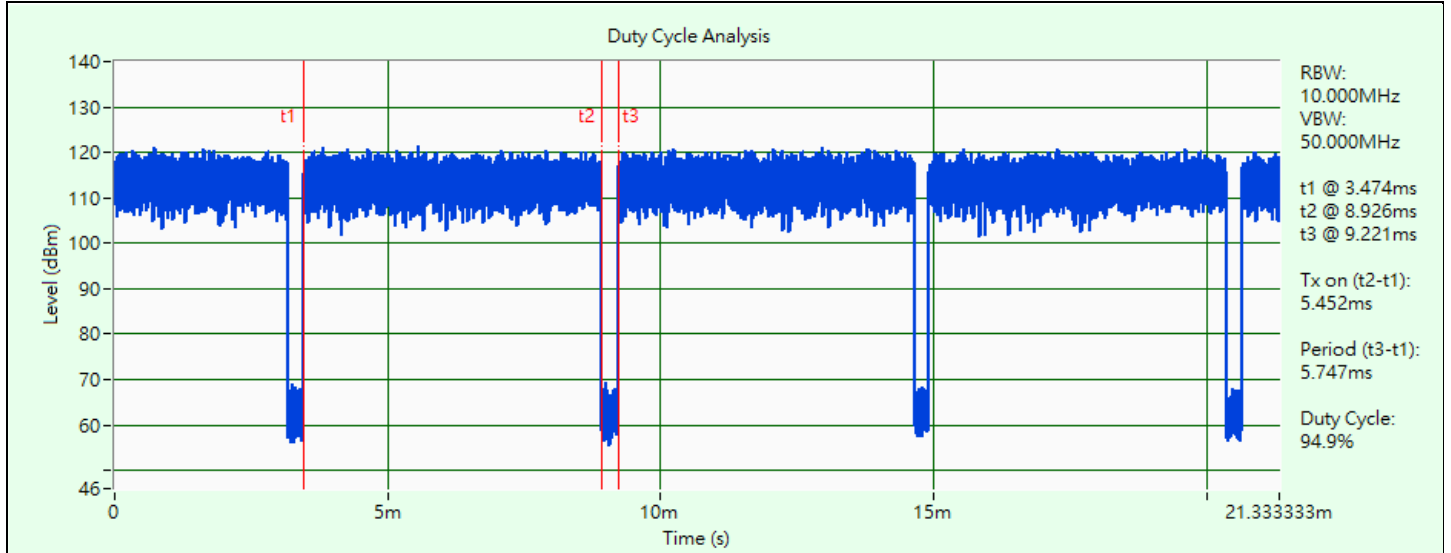
### 3.5 Duty Cycle of Test Signal

**802.11a:** Duty cycle = 5.452 ms / 5.747 ms x 100% = 94.9%, duty factor = 10 \* log (1/Duty cycle) = 0.23 dB

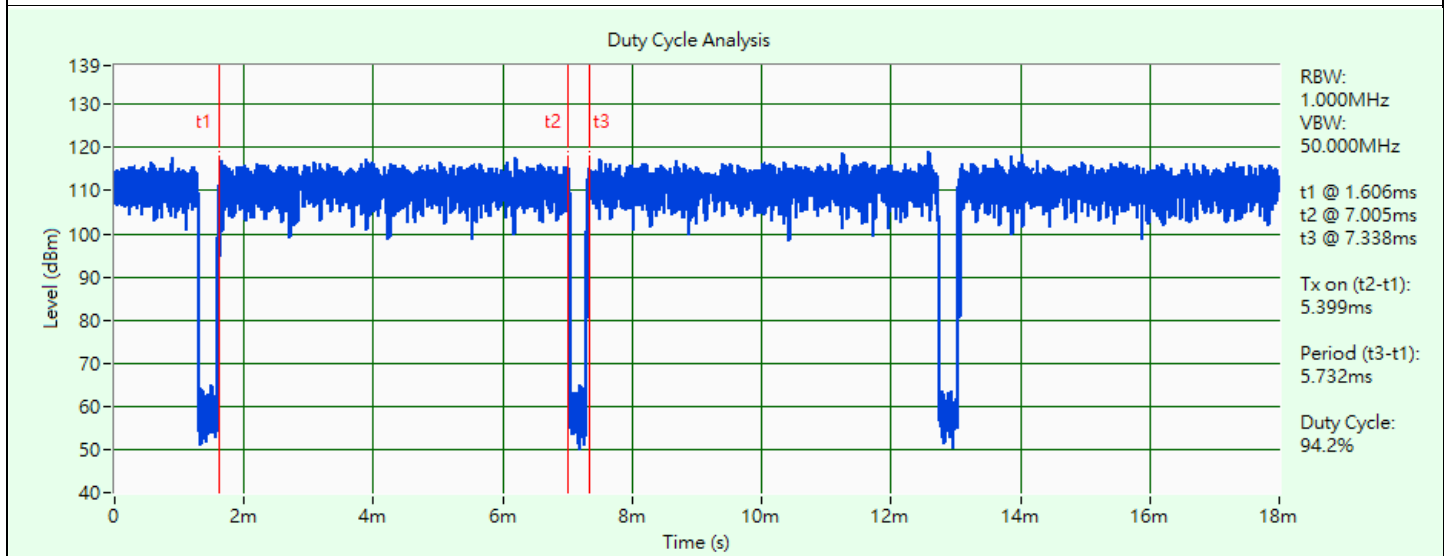
**802.11ax (HE20):** Duty cycle = 5.399 ms / 5.732 ms x 100% = 94.2%, duty factor = 10 \* log (1/Duty cycle) = 0.26 dB

**802.11ax (HE40):** Duty cycle = 5.452 ms / 5.719 ms x 100% = 95.3%, duty factor = 10 \* log (1/Duty cycle) = 0.21 dB

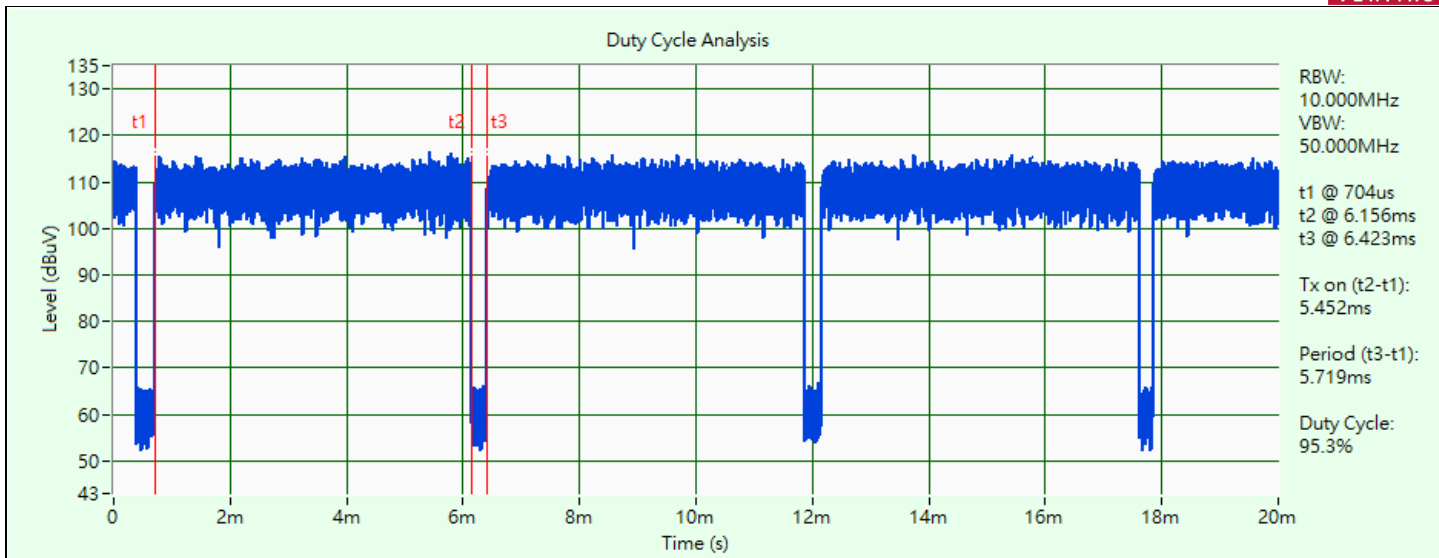
**802.11ax (HE80):** Duty cycle = 5.452 ms / 5.772 ms x 100% = 94.5%, duty factor = 10 \* log (1/Duty cycle) = 0.25 dB



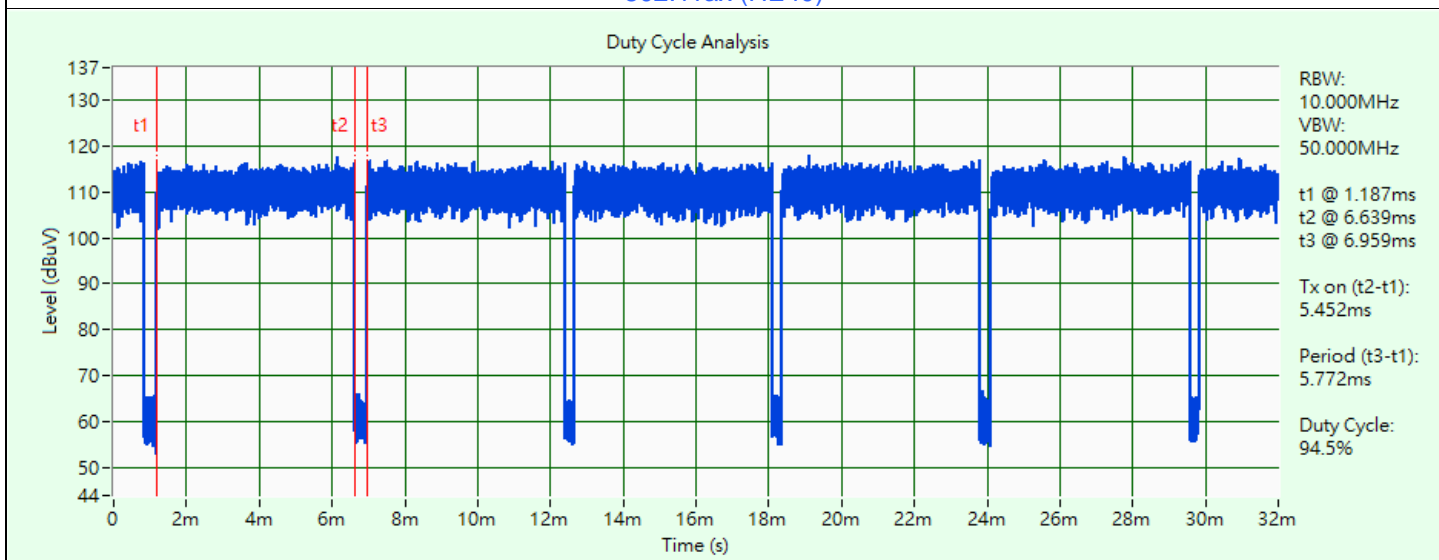
802.11a



802.11ax (HE20)



802.11ax (HE40)



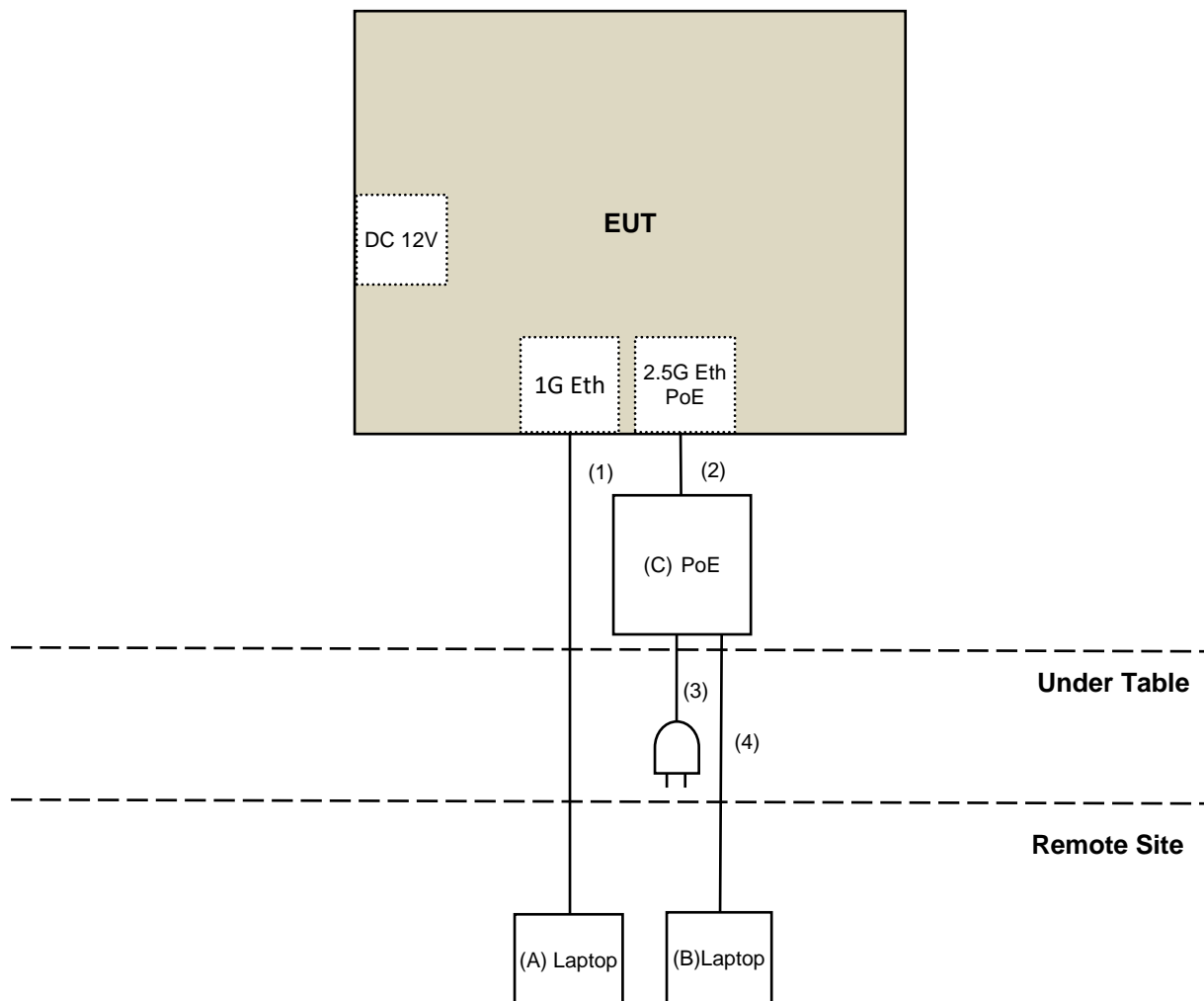
802.11ax (HE80)

### 3.6 Test Program Used and Operation Descriptions

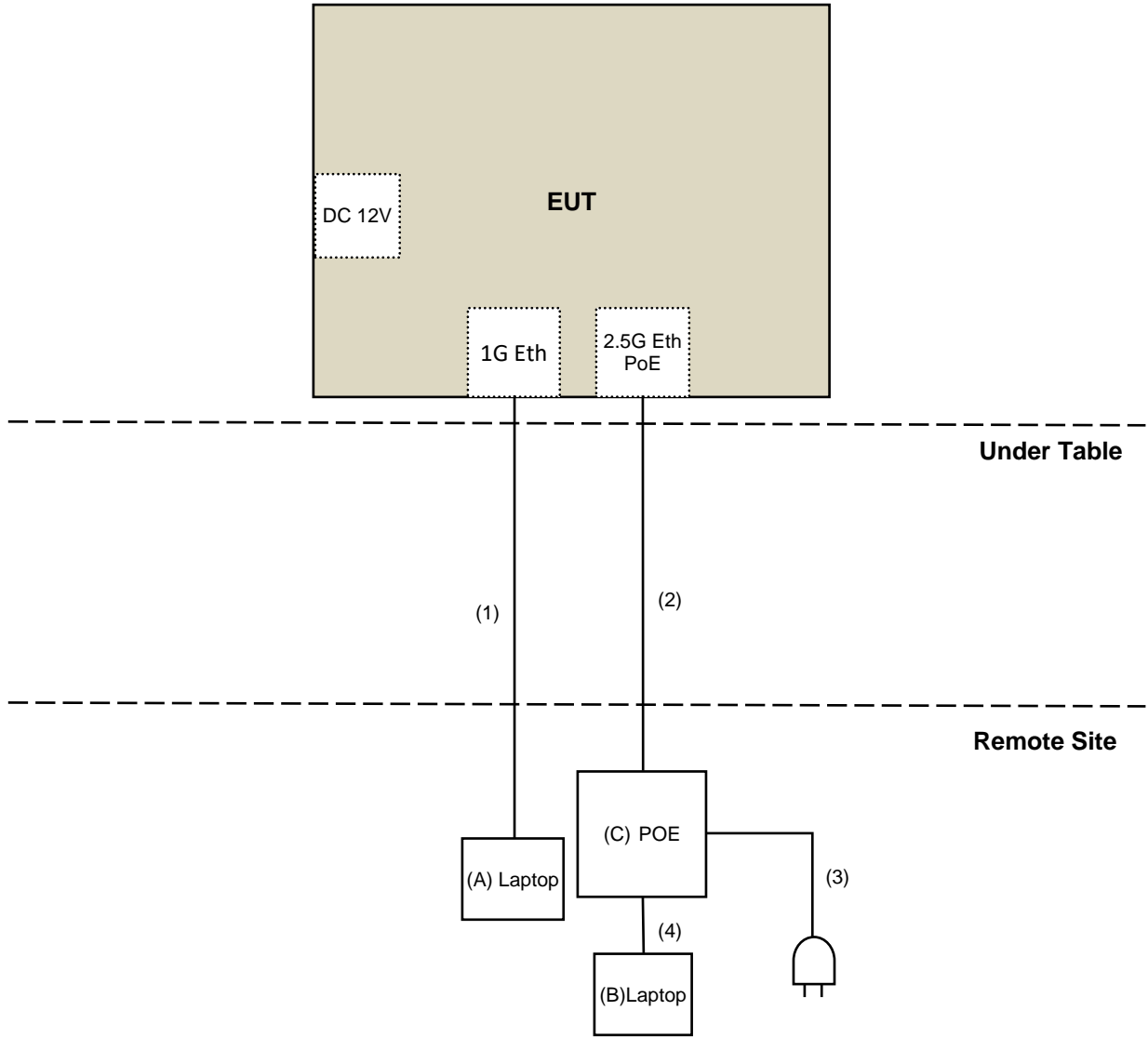
Controlling software (qdart\_conn.win.1.0\_installer\_00082.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices

For AC Power Conducted Emission test



For Unwanted Emission test



### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Supplied by applicant
B	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	N/A	Supplied by applicant
C	POE Adapter	DELTA ELECTRONICS, INC.	ADH-45AR B	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	10	No	0	Provided by Lab
2	RJ-45 Cable	1	1.5	No	0	Provided by Lab
3	AC Cable	1	1.8	No	0	Provided by Lab
4	RJ-45 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 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
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: 2022/10/15

### 4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2022/10/15

### 4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

### 4.4 Occupied Bandwidth

Refer to section 4.2 to get information of the instruments.

#### 4.5 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/4/5	2023/4/4
DC POWER SUPPLY Topward	6603D	795558	N/A	N/A
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	101516	2022/3/7	2023/3/6
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/1/14	2023/1/13
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: 2022/10/15

#### 4.6 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
Fixed attenuator STI	STI02-2200-10	005	2022/8/24	2023/8/23
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
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
TEST RECEIVER R&S	ESCS 30	847124/029	2022/10/14	2023/10/13

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2022/10/27

#### 4.7 Unwanted Emissions below 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
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2022/1/10	2023/1/9
LOOP ANTENNA Electro-Metrics	EM-6879	264	2022/3/18	2023/3/17
Pre_Amplifier Agilent	8447D	2944A10636	2022/3/19	2023/3/18
Pre_Amplifier EMCI	EMC330N	980701	2022/3/8	2023/3/7
RF Coaxial Cable COMMATE/PEWC	8D	966-4-1	2022/3/8	2023/3/7
		966-4-2	2022/3/8	2023/3/7
		966-4-3	2022/3/8	2023/3/7
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2022/1/6	2023/1/5
		LOOPCAB-002	2022/1/6	2023/1/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-406	2022/10/21	2023/10/20

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/10/27

#### 4.8 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-783	2021/11/14	2022/11/13
	BBHA 9170	9170-739	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC 12630 SE	980638	2022/4/5	2023/4/4
	EMC184045SE	980387	2022/1/10	2023/1/9
RF Cable-Frequency Range : 1- 26.5GHz EMCI	EMC104-SM-SM-1200	160922	2021/12/24	2022/12/23
RF Cable-Frequency range: 1- 40GHz EMCI	EMC102-KM-KM-1200	160924	2022/1/10	2023/1/9
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2022/3/8	2023/3/7
	EMC104-SM-SM-2000	180502	2022/4/25	2023/4/24
	EMC104-SM-SM-6000	210704	2021/11/9	2022/11/8
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY51210202	2021/11/19	2022/11/18

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2022/9/13 ~ 2022/10/14

## 5 Limits of Test Items

### 5.1 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	250 mW (24 dBm)

Operation Band	Limit
U-NII-3	1 Watt (30 dBm)

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  $\geq 40$  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.

### 5.2 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-3	30 dBm/ 500 kHz

### 5.3 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.

### 5.4 Occupied Bandwidth

The results are for reference only.

### 5.5 Frequency Stability

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

## 5.6 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.

## 5.7 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).

## 5.8 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)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) <sup>*1</sup> PK: 10 (dBm/MHz) <sup>*2</sup> PK: 15.6 (dBm/MHz) <sup>*3</sup> PK: 27 (dBm/MHz) <sup>*4</sup>	PK: 68.2 (dBµV/m) <sup>*1</sup> PK: 105.2 (dBµV/m) <sup>*2</sup> PK: 110.8 (dBµV/m) <sup>*3</sup> PK: 122.2 (dBµV/m) <sup>*4</sup>
*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.	

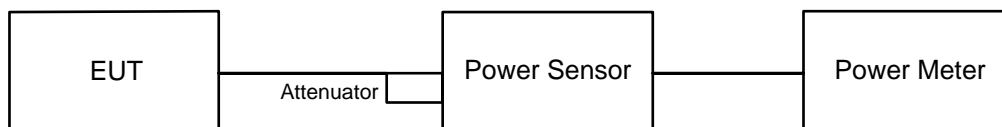
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup

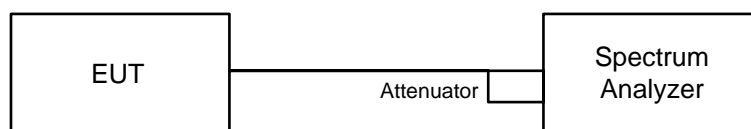


#### 6.1.2 Test Procedure

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.

### 6.2 Power Spectral Density

#### 6.2.1 Test Setup



#### 6.2.2 Test Procedure

##### For specified measurement bandwidth 1 MHz:

Method SA-2

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

##### For specified measurement bandwidth 500 kHz:

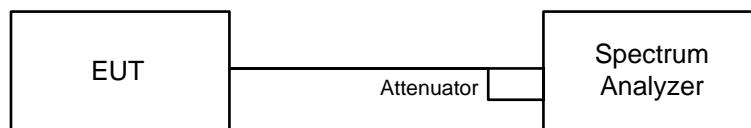
Method SA-2

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



## 6.3 6 dB Bandwidth

### 6.3.1 Test Setup

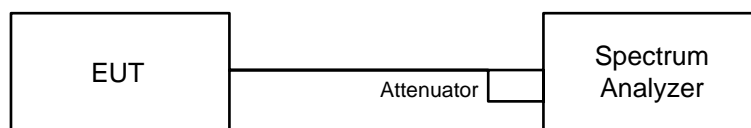


### 6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  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.

## 6.4 Occupied Bandwidth

### 6.4.1 Test Setup

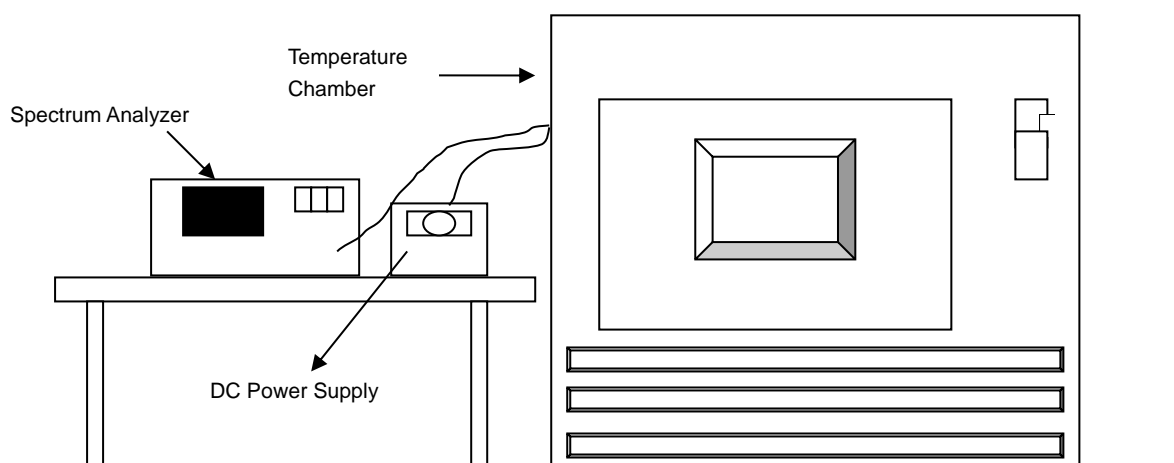
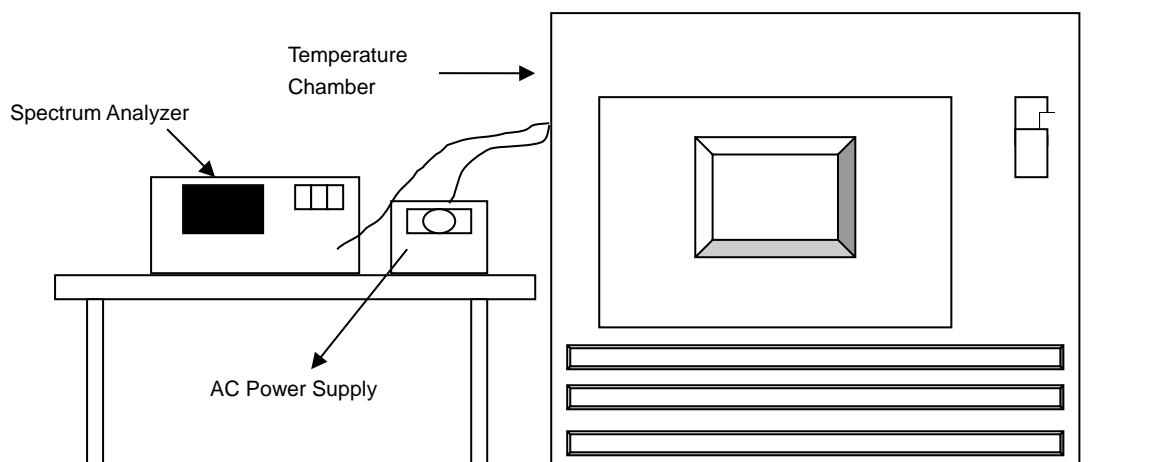


### 6.4.2 Test Procedure

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.

## 6.5 Frequency Stability

### 6.5.1 Test Setup

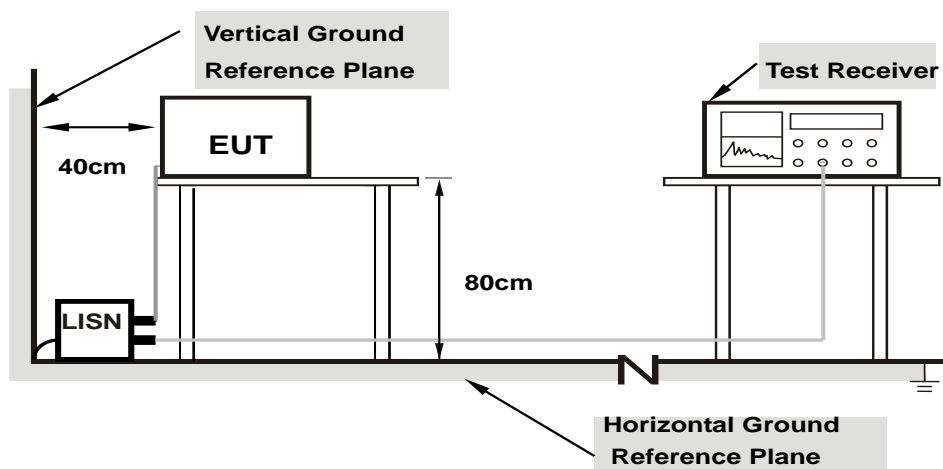


### 6.5.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- The EUT was placed inside the environmental test chamber and powered by nominal DC 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.

## 6.6 AC Power Conducted Emissions

### 6.6.1 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).

### 6.6.2 Test Procedure

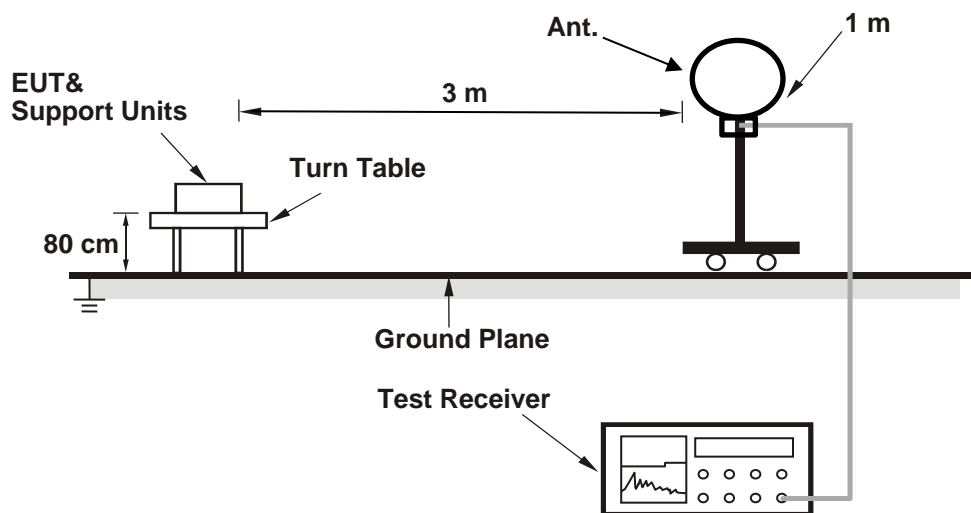
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

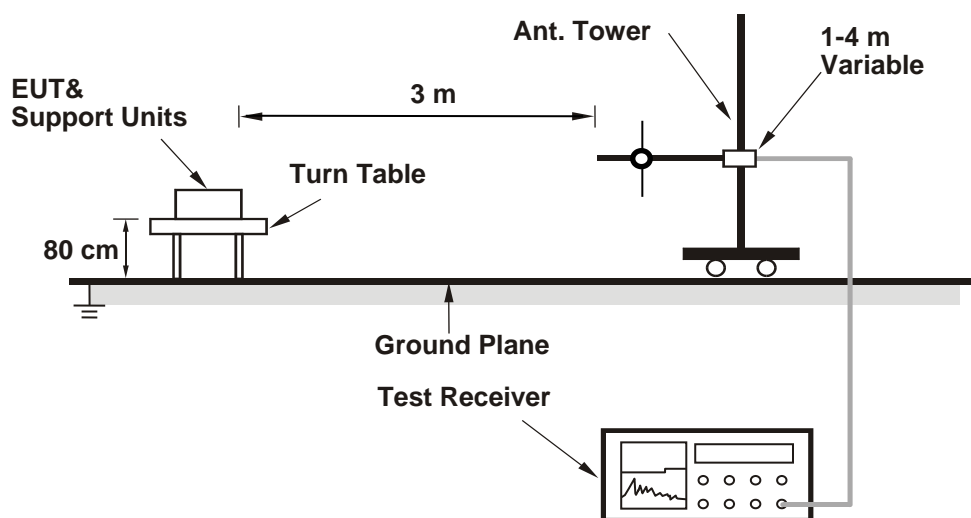
## 6.7 Unwanted Emissions below 1 GHz

### 6.7.1 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).

## 6.7.2 Test Procedure

### For Radiated emission below 30 MHz

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

#### Notes:

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

### For Radiated emission above 30 MHz

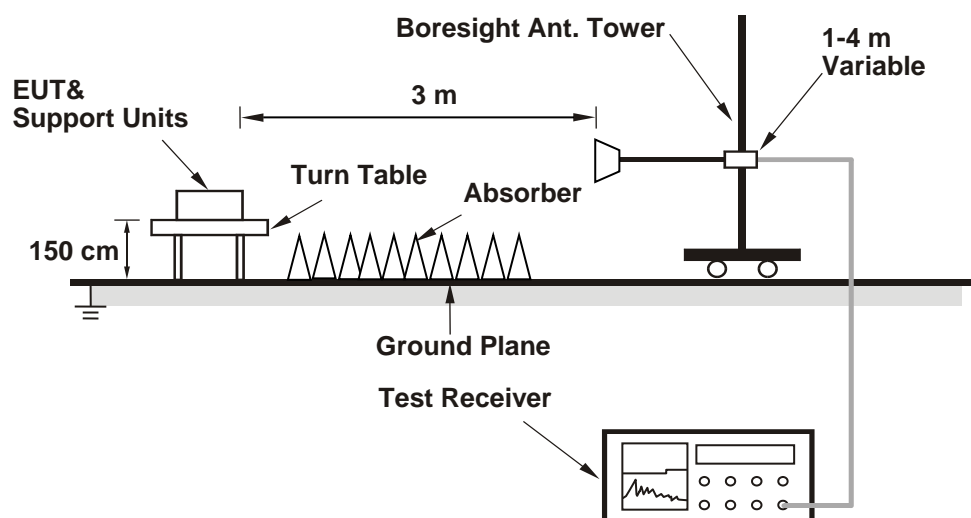
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

#### Notes:

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

## 6.8 Unwanted Emissions above 1 GHz

### 6.8.1 Test Setup



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

### 6.8.2 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 RF Output Power

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	John Peng
--------------	--------	---------------------------	--------------	------------	-----------

#### 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				
36	5180	18.32	18.17	18.05	17.69	256.11	24.08	30	Pass
40	5200	17.92	17.89	18.09	17.66	246.223	23.91	30	Pass
48	5240	18.05	18.38	18.60	18.38	274	24.38	30	Pass
149	5745	24.24	24.12	23.79	23.25	974.367	29.89	30	Pass
157	5785	24.25	23.89	23.59	23.61	969.154	29.86	30	Pass
165	5825	24.29	24.04	23.34	23.54	963.765	29.84	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

#### 802.11ac (VHT20) 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				
36	5180	18.41	18.05	17.78	17.55	250.033	23.98	30	Pass
40	5200	18.21	18.05	17.87	17.36	245.733	23.90	30	Pass
48	5240	17.90	18.28	17.89	17.42	245.683	23.90	30	Pass
149	5745	23.91	24.05	23.61	22.92	925.633	29.66	30	Pass
157	5785	23.92	23.69	23.69	23.40	933.148	29.70	30	Pass
165	5825	23.78	23.84	23.75	23.16	925.036	29.66	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT40) 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				
38	5190	19.01	19.26	19.15	18.69	320.134	25.05	30	Pass
46	5230	21.15	21.68	21.60	21.25	555.444	27.45	30	Pass
151	5755	23.68	24.15	23.85	23.01	936.009	29.71	30	Pass
159	5795	24.02	23.88	23.94	23.22	954.327	29.80	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT80) 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				
42	5210	18.61	18.75	18.94	18.38	294.808	24.70	30	Pass
155	5775	23.39	23.28	23.75	23.20	877.154	29.43	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 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				
36	5180	18.61	18.29	17.99	17.82	263.548	24.21	30	Pass
40	5200	18.43	18.32	18.16	17.59	260.458	24.16	30	Pass
48	5240	18.12	18.49	18.13	17.67	258.987	24.13	30	Pass
149	5745	24.16	24.18	23.88	23.03	967.686	29.86	30	Pass
157	5785	24.13	23.78	23.92	23.52	969.112	29.86	30	Pass
165	5825	24.05	23.93	23.99	23.34	967.655	29.86	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the directional gain is 5.4 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				
38	5190	19.20	19.38	19.32	18.89	332.825	25.22	30	Pass
46	5230	21.36	21.89	21.82	21.53	585.586	27.68	30	Pass
151	5755	23.95	24.21	23.92	23.10	962.724	29.84	30	Pass
159	5795	24.10	23.97	24.08	23.35	978.629	29.91	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 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				
42	5210	18.72	18.88	19.05	18.55	303.708	24.82	30	Pass
155	5775	23.54	23.42	23.91	23.34	907.541	29.58	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE20) CDD RU242

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				
36	5180	18.40	18.30	17.57	17.42	249.147	23.96	30	Pass
40	5200	18.49	18.36	18.03	16.96	252.373	24.02	30	Pass
48	5240	18.09	18.45	17.54	17.15	243.036	23.86	30	Pass
149	5745	23.88	23.66	23.54	22.84	894.869	29.52	30	Pass
157	5785	23.78	23.92	24.03	23.55	964.779	29.84	30	Pass
165	5825	23.73	23.35	23.44	23.00	872.646	29.41	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the directional gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE40) CDD RU484

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				
38	5190	18.73	19.22	19.19	18.56	312.97	24.96	30	Pass
46	5230	20.91	22.07	21.68	21.27	565.574	27.52	30	Pass
151	5755	24.08	24.01	23.91	22.94	950.452	29.78	30	Pass
159	5795	24.08	23.41	23.63	22.78	895.484	29.52	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE80) CDD RU996

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				
42	5210	18.61	18.32	19.17	18.04	286.814	24.58	30	Pass
155	5775	23.48	23.16	24.04	22.78	873.041	29.41	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.
3. For U-NII-3, the maximum gain is 5.4 dBi < 6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT20) 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				
36	5180	18.41	18.05	17.78	17.55	250.033	23.98	25.13	Pass
40	5200	18.21	18.05	17.87	17.36	245.733	23.90	25.13	Pass
48	5240	17.90	18.28	17.89	17.42	245.683	23.90	25.13	Pass
149	5745	19.07	18.77	18.02	18.09	283.863	24.53	25.13	Pass
157	5785	18.42	19.44	17.84	18.71	292.52	24.66	25.13	Pass
165	5825	19.22	18.79	18.43	18.91	306.71	24.87	25.13	Pass

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.

### 802.11ac (VHT40) 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				
38	5190	18.37	18.88	19.30	18.60	303.532	24.82	25.13	Pass
46	5230	18.42	19.10	19.04	18.66	304.405	24.83	25.13	Pass
151	5755	18.86	18.86	18.85	18.13	295.575	24.71	25.13	Pass
159	5795	18.70	19.16	18.68	18.67	303.956	24.83	25.13	Pass

#### Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.

### 802.11ac (VHT80) 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				
42	5210	18.61	18.75	18.94	18.38	294.808	24.70	25.13	Pass
155	5775	18.31	18.69	18.09	17.99	269.092	24.30	25.13	Pass

#### Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.

### 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				
36	5180	18.61	18.29	17.99	17.82	263.548	24.21	25.13	Pass
40	5200	18.43	18.32	18.16	17.59	260.458	24.16	25.13	Pass
48	5240	18.12	18.49	18.13	17.67	258.987	24.13	25.13	Pass
149	5745	19.33	19.05	18.24	18.33	300.814	24.78	25.13	Pass
157	5785	18.65	19.69	18.06	18.99	309.617	24.91	25.13	Pass
165	5825	19.46	19.01	18.65	19.20	324.383	25.11	25.13	Pass

#### Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  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				
38	5190	18.64	19.17	19.52	18.86	322.167	25.08	25.13	Pass
46	5230	18.70	19.34	19.25	18.91	321.976	25.08	25.13	Pass
151	5755	19.14	19.15	19.10	18.34	313.776	24.97	25.13	Pass
159	5795	18.99	19.45	18.94	18.87	322.788	25.09	25.13	Pass

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  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				
42	5210	18.72	18.88	19.05	18.55	303.708	24.82	25.13	Pass
155	5775	18.54	18.90	18.37	18.25	284.616	24.54	25.13	Pass

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm.

### 802.11ax (HE20) Beamforming RU242

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				
36	5180	18.80	18.01	18.08	17.22	256.091	24.08	25.13	Pass
40	5200	18.07	18.51	18.03	17.70	257.496	24.11	25.13	Pass
48	5240	18.14	18.52	17.93	17.64	256.448	24.09	25.13	Pass
149	5745	19.07	19.19	18.04	17.95	289.762	24.62	25.13	Pass
157	5785	18.66	19.15	17.63	18.90	291.243	24.64	25.13	Pass
165	5825	19.29	18.85	18.21	18.92	305.859	24.86	25.13	Pass

Notes:

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm.

### 802.11ax (HE40) Beamforming RU484

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				
38	5190	18.49	18.71	19.57	18.54	306.957	24.87	25.13	Pass
46	5230	18.44	19.16	19.43	18.37	308.644	24.89	25.13	Pass
151	5755	18.95	19.12	19.08	18.12	305.955	24.86	25.13	Pass
159	5795	18.41	19.38	19.01	18.47	305.962	24.86	25.13	Pass

**Notes:**

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.

### 802.11ax (HE80) Beamforming RU996

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				
42	5210	18.18	18.35	18.93	18.22	278.694	24.45	25.13	Pass
155	5775	18.51	18.83	18.38	17.78	276.186	24.41	25.13	Pass

**Notes:**

1. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
2. For U-NII-1, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.
3. For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the output power limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm.

## 7.2 Power Spectral Density

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	John Peng
--------------	--------	---------------------------	--------------	------------	-----------

### 802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	4.59	4.57	5.15	5.08	0.23	11.11	12.13	Pass
40	5200	5.04	4.83	5.33	4.44	0.23	11.17	12.13	Pass
48	5240	5.59	5.09	5.79	5.33	0.23	11.71	12.13	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 10.87 dBi > 6dBi, so the power density limit shall be reduced to  $17 - (10.87 - 6) = 12.13$  dBm/MHz.

### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	2.66	4.14	4.84	3.40	0.26	10.12	12.13	Pass
40	5200	3.70	3.71	4.32	4.13	0.26	10.25	12.13	Pass
48	5240	4.22	4.40	4.48	4.08	0.26	10.58	12.13	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 10.87 dBi > 6dBi, so the power density limit shall be reduced to  $17 - (10.87 - 6) = 12.13$  dBm/MHz.

### 802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	2.24	1.91	3.73	1.89	0.21	8.74	12.13	Pass
46	5230	5.09	4.90	6.13	4.27	0.21	11.38	12.13	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 10.87 dBi > 6dBi, so the power density limit shall be reduced to  $17 - (10.87 - 6) = 12.13$  dBm/MHz.

### 802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-0.44	-0.96	0.81	-1.49	0.25	5.84	12.13	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 10.87 dBi > 6dBi, so the power density limit shall be reduced to  $17-(10.87-6) = 12.13$  dBm/MHz.

### 802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	7.16	6.78	6.93	6.31	12.83	0.23	15.28	25.13	Pass
157	5785	6.36	6.95	5.61	6.33	12.36	0.23	14.81	25.13	Pass
165	5825	6.64	7.45	5.61	6.15	12.54	0.23	14.99	25.13	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 10.87 dBi > 6 dBi, so the power density limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm/500kHz.

### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3					
149	5745	5.34	5.09	5.31	5.73	11.39	0.26	13.87	25.13	Pass
157	5785	5.23	5.64	4.03	6.13	11.34	0.26	13.82	25.13	Pass
165	5825	6.16	5.68	4.35	6.13	11.66	0.26	14.14	25.13	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 10.87 dBi > 6 dBi, so the power density limit shall be reduced to  $30-(10.87-6) = 25.13$  dBm/500kHz.

**802.11ax (HE40)**

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3					
151	5755	4.09	4.50	4.24	3.75	10.17	0.21	12.60	25.13	Pass
159	5795	5.00	4.70	4.63	4.22	10.67	0.21	13.10	25.13	Pass

Notes:

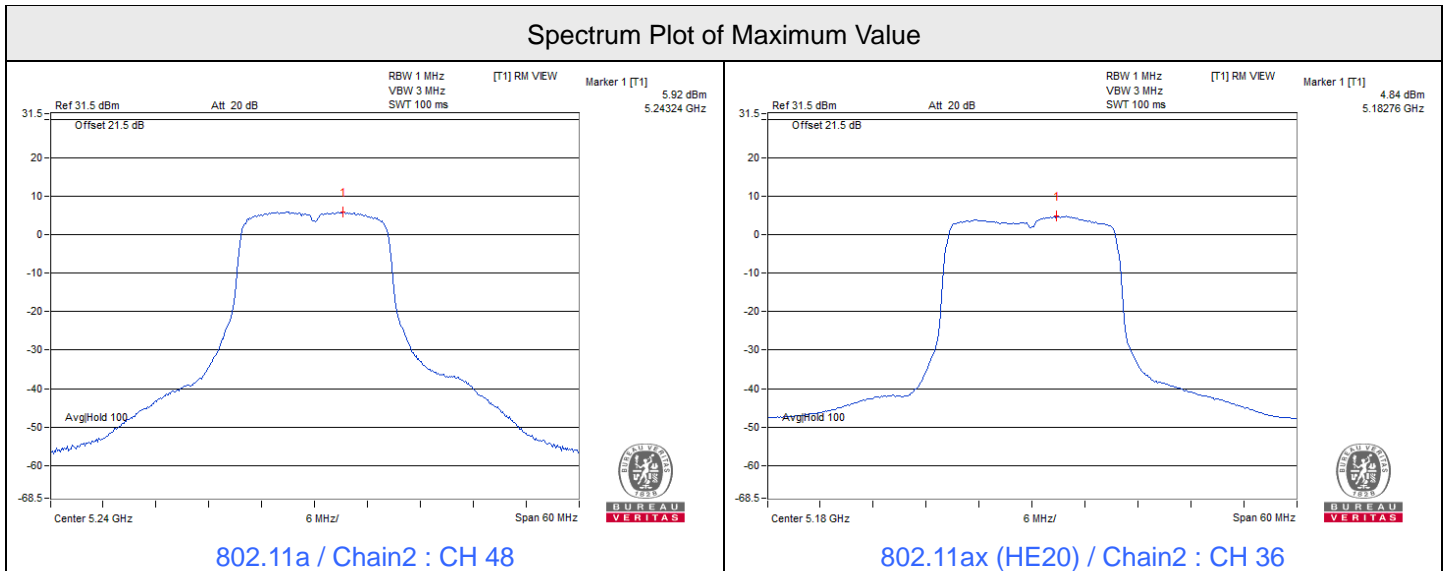
- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the power density limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm/500kHz.

**802.11ax (HE80)**

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3					
155	5775	0.09	1.14	0.55	-0.12	6.46	0.25	8.93	25.13	Pass

Notes:

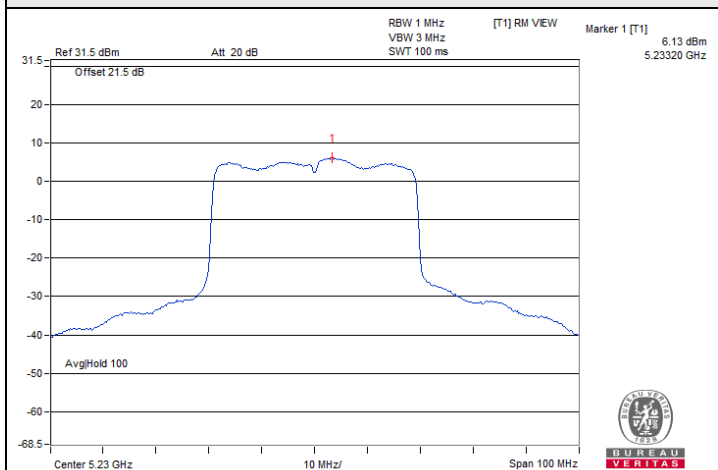
- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20} + 10^{\text{Chain2}/20} + 10^{\text{Chain3}/20})^2 / 4]$
- For U-NII-3, the directional gain is 10.87 dBi > 6 dBi, so the power density limit shall be reduced to  $30 - (10.87 - 6) = 25.13$  dBm/500kHz.



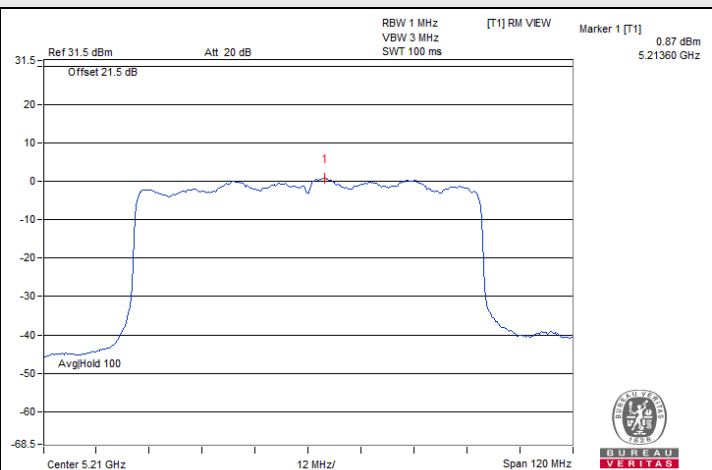




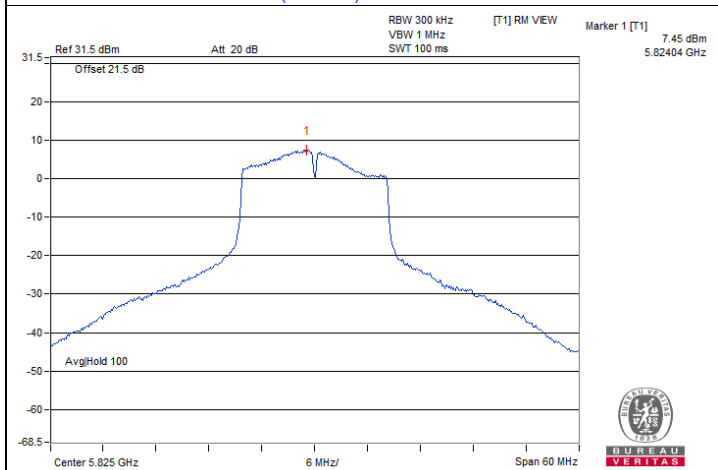
### Spectrum Plot of Maximum Value



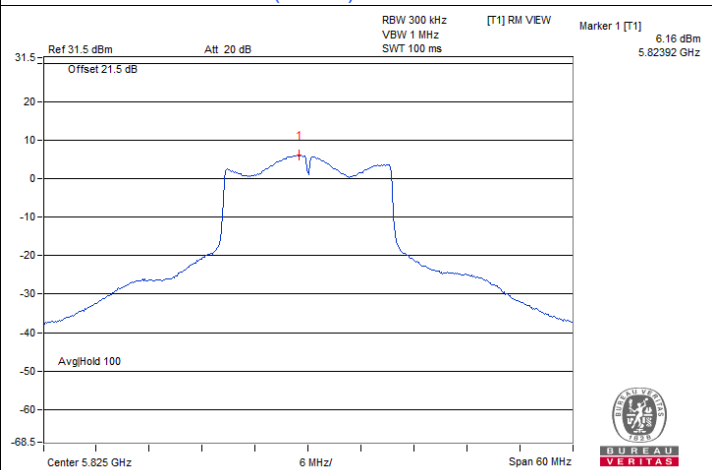
802.11ax (HE40) / Chain2 : CH 46



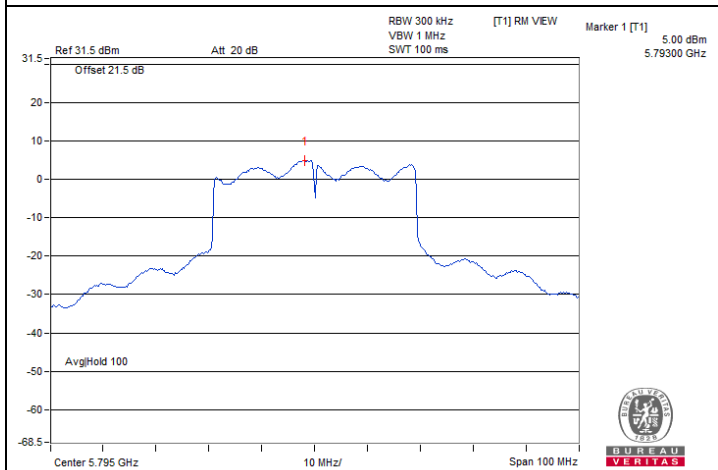
802.11ax (HE80) / Chain2 : CH 42



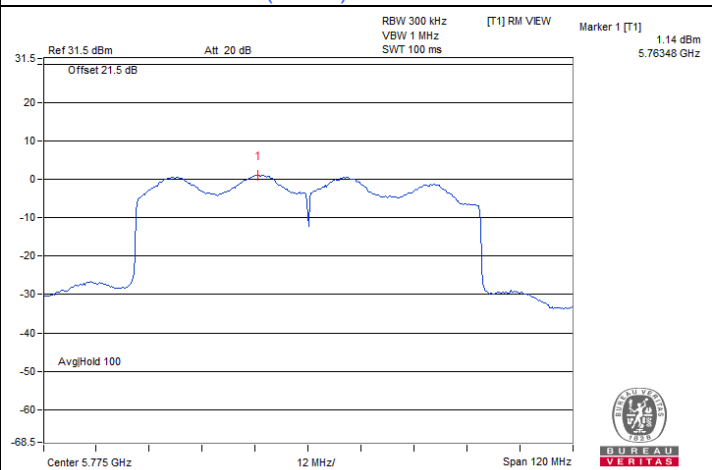
802.11a / Chain1 : CH 165



802.11ax (HE20) / Chain0 : CH 165



802.11ax (HE40) / Chain0 : CH 159



802.11ax (HE80) / Chain1 : CH 155

### 7.3 6 dB Bandwidth

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	John Peng
--------------	--------	---------------------------	--------------	------------	-----------

#### 802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	15.65	15.68	15.68	14.69	0.5	Pass
157	5785	12.83	14.05	11.94	16.03	0.5	Pass
165	5825	16.33	15.26	15.63	15.71	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		
149	5745	18.50	18.87	16.37	17.14	0.5	Pass
157	5785	18.33	16.66	18.93	18.18	0.5	Pass
165	5825	18.55	14.24	14.96	19.08	0.5	Pass

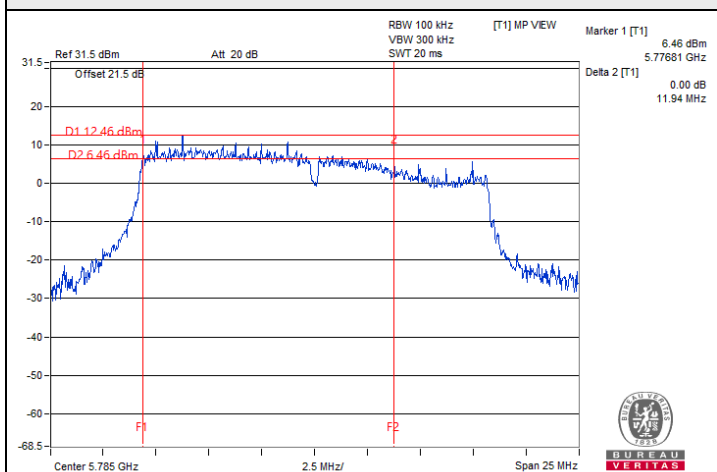
#### 802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.35	33.04	32.91	37.04	0.5	Pass
159	5795	32.67	37.25	33.40	37.07	0.5	Pass

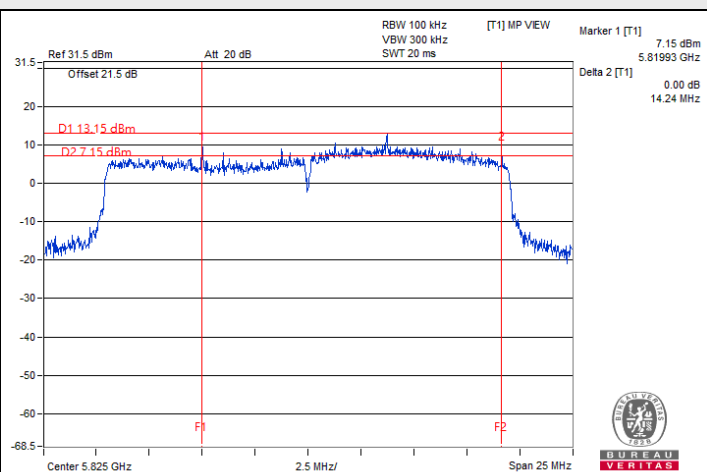
#### 802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	77.33	66.41	69.54	76.17	0.5	Pass

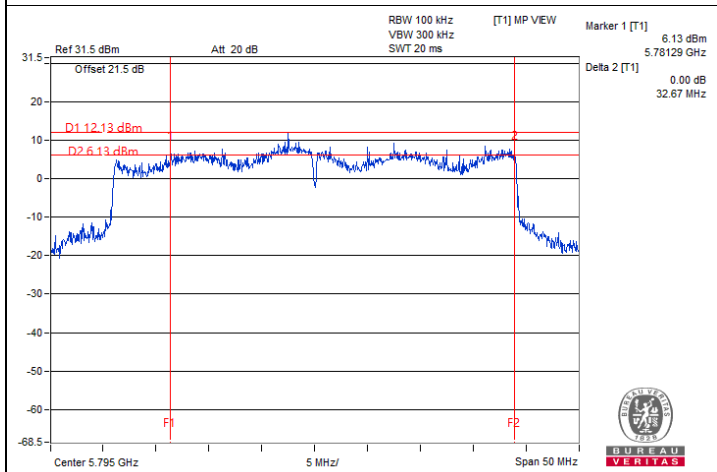
### Spectrum Plot of Minimum Value



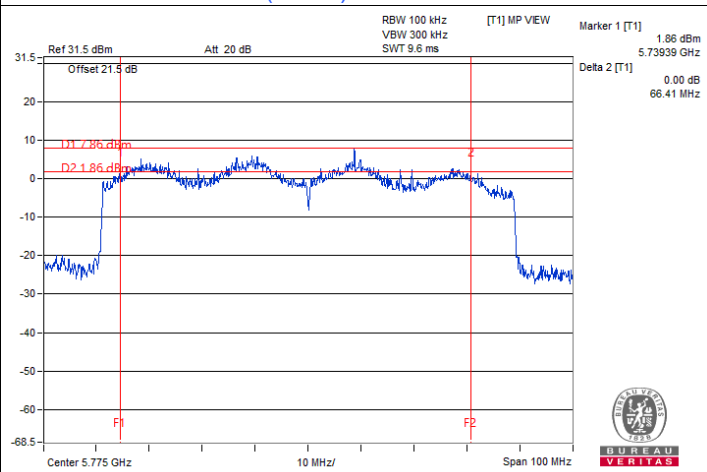
802.11a / Chain2 : CH 157



802.11ax (HE20) / Chain1 : CH 165



802.11ax (HE40) / Chain0 : CH 159



802.11ax (HE80) / Chain1 : CH 155

**Notes:**

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

## 7.4 Occupied Bandwidth

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	John Peng
--------------	--------	---------------------------	--------------	------------	-----------

### 802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.50	16.44	16.50	16.38
40	5200	16.32	16.38	16.38	16.50
48	5240	16.38	16.50	16.38	16.44
149	5745	16.44	16.50	16.44	16.38
157	5785	16.26	16.38	16.44	16.44
165	5825	16.98	16.38	16.62	16.62

### 802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.96	18.90	18.96	18.84
40	5200	18.84	18.84	18.90	18.90
48	5240	18.84	19.02	18.96	18.96
149	5745	19.02	19.08	19.02	18.78
157	5785	18.90	18.96	19.02	18.90
165	5825	19.14	19.08	18.84	19.14

### 802.11ax (HE40)

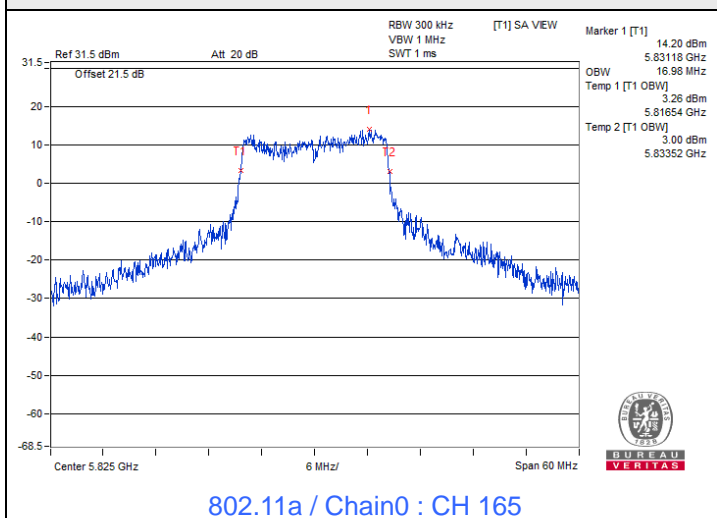
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.92	37.80	37.80	37.92
46	5230	37.80	38.04	38.04	37.92
151	5755	38.16	37.80	38.16	37.92
159	5795	38.52	38.64	38.28	38.04

### 802.11ax (HE80)

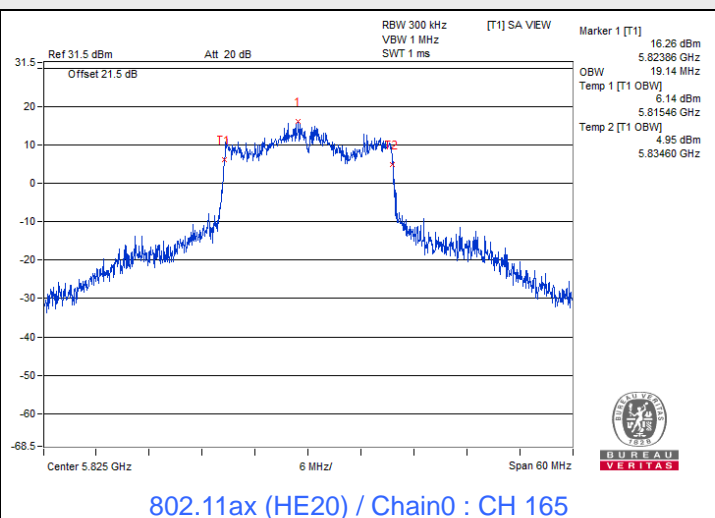
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	77.04	76.80	77.04	77.04
155	5775	77.52	76.56	77.28	76.80



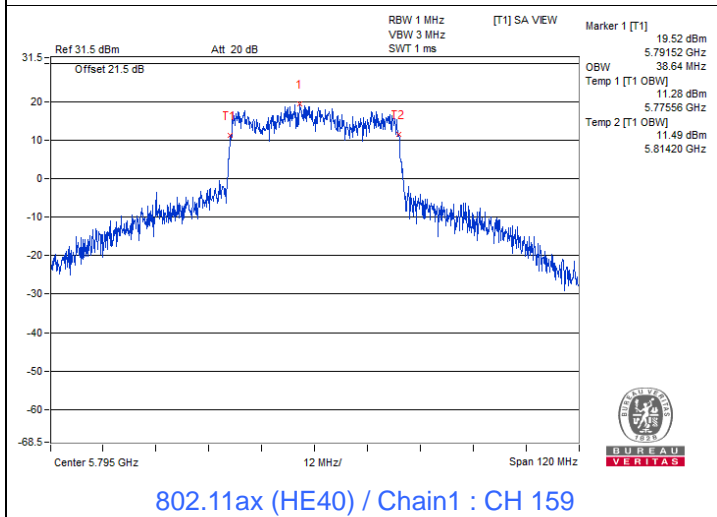
### Spectrum Plot of Maximum Value



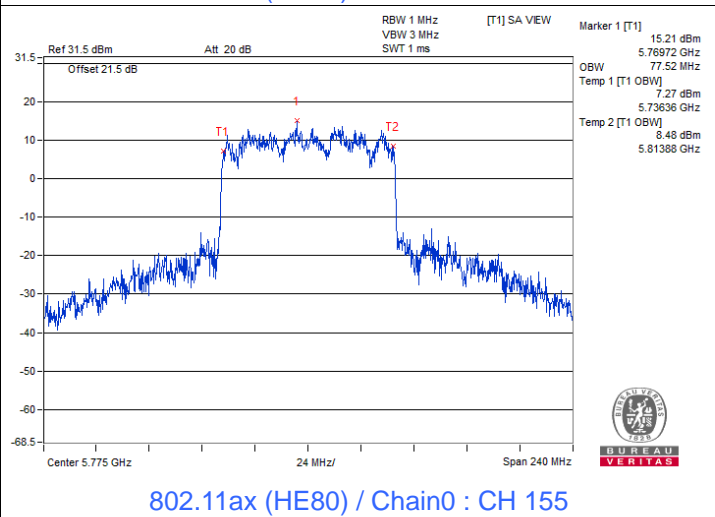
802.11a / Chain0 : CH 165



802.11ax (HE20) / Chain0 : CH 165

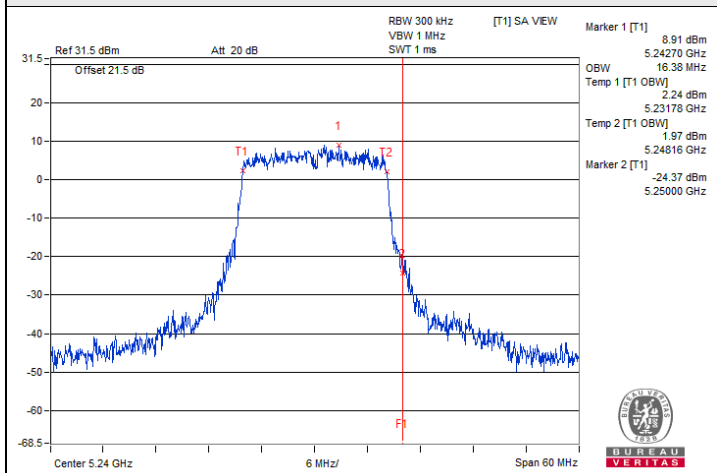


802.11ax (HE40) / Chain1 : CH 159

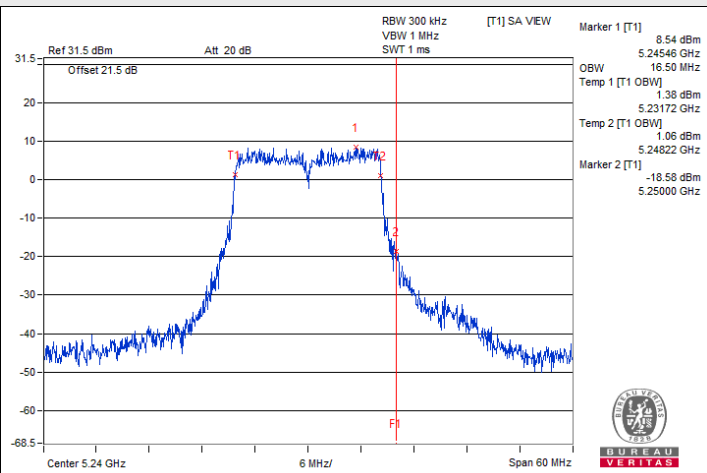


802.11ax (HE80) / Chain0 : CH 155

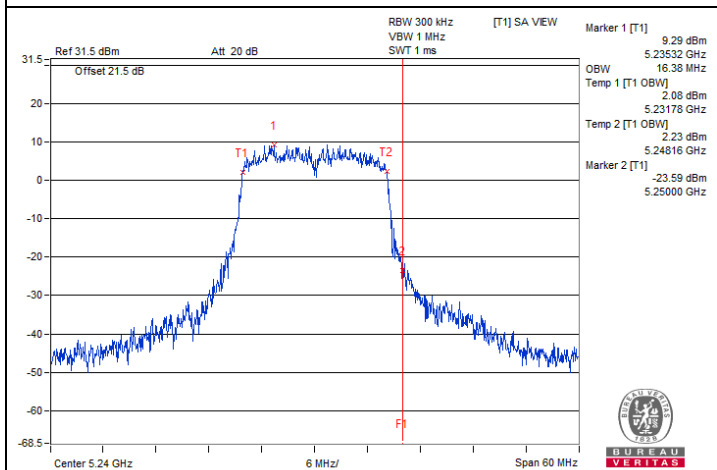
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



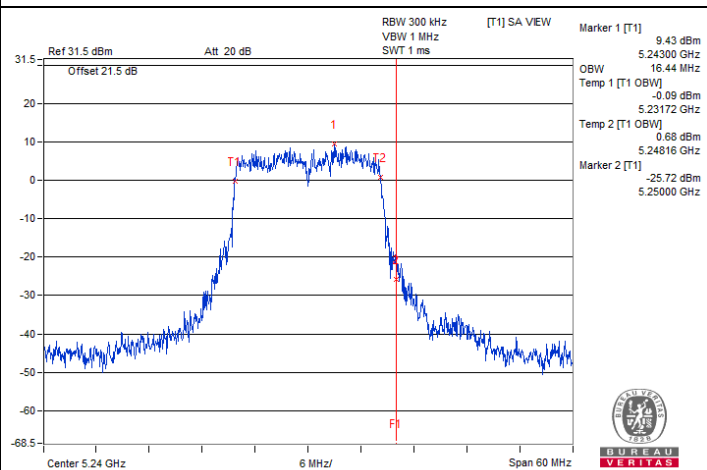
802.11a / Chain 0 : CH 48



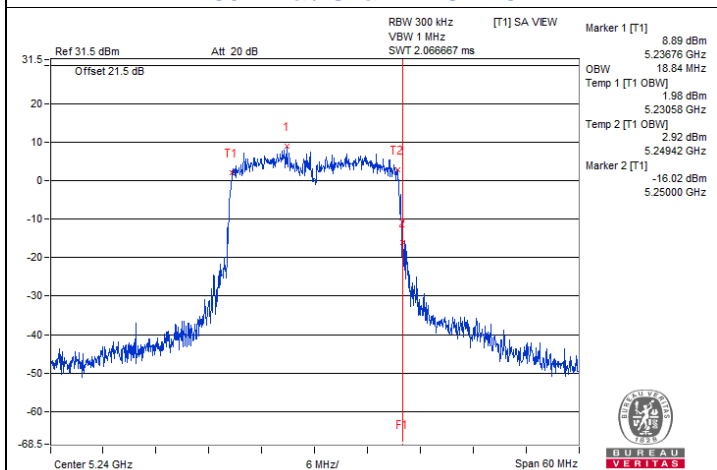
802.11a / Chain 1 : CH 48



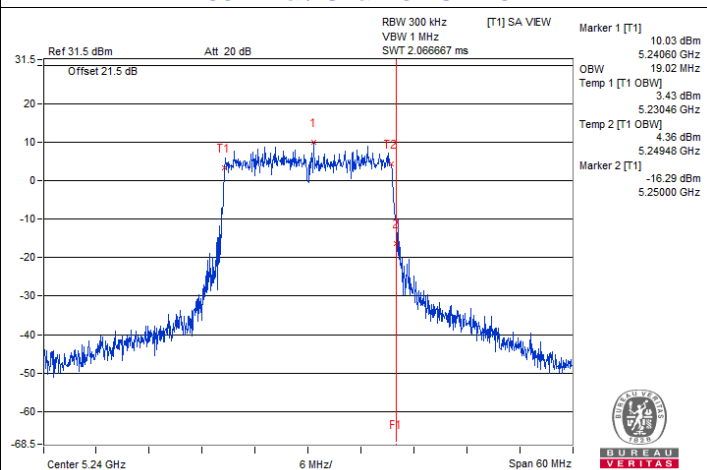
802.11a / Chain 2 : CH 48



802.11a / Chain 3 : CH 48



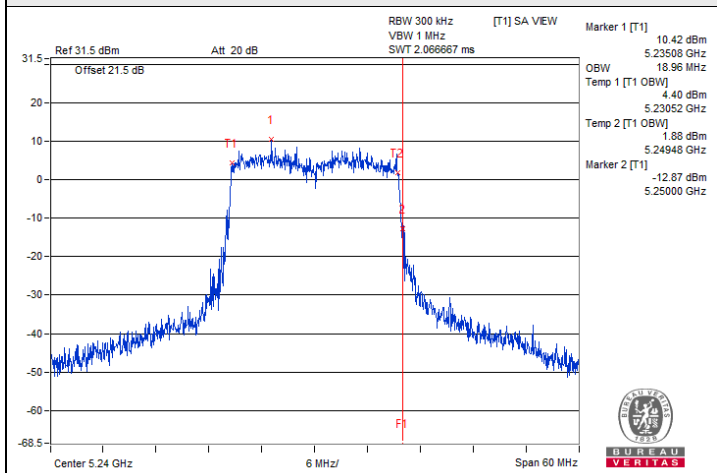
802.11ax (HE20) / Chain 0 : CH 48



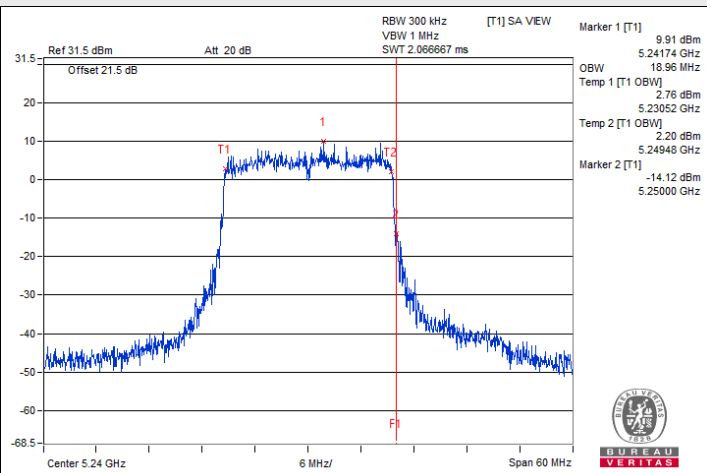
802.11ax (HE20) / Chain 1 : CH 48



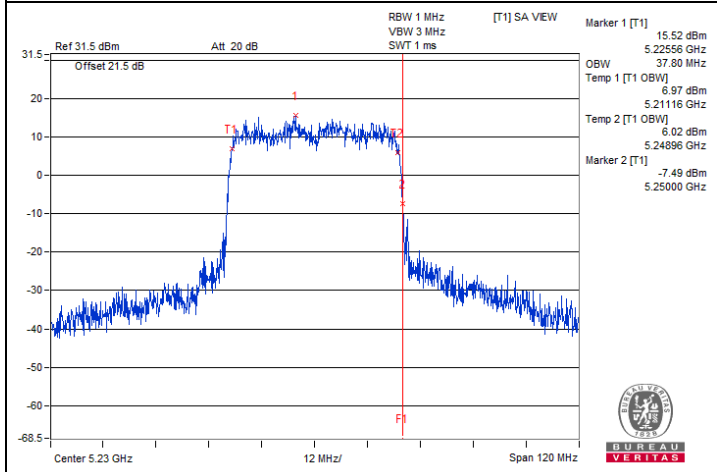
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



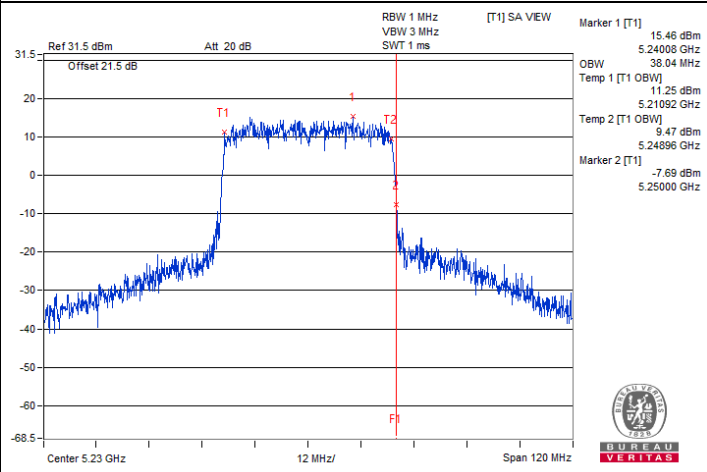
802.11ax (HE20) / Chain 2 : CH 48



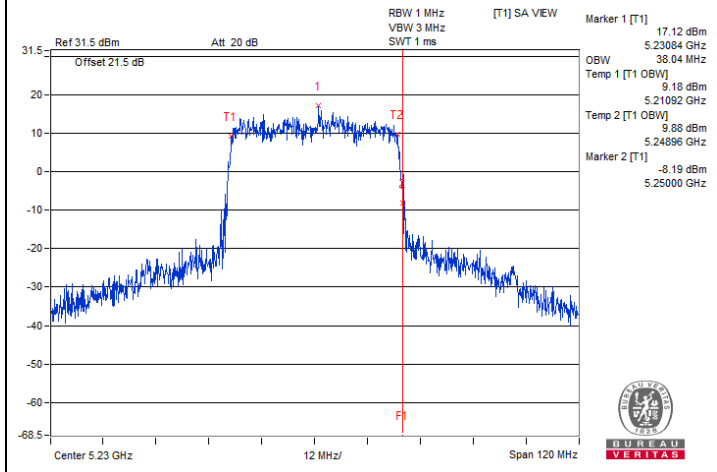
802.11ax (HE20) / Chain 3 : CH 48



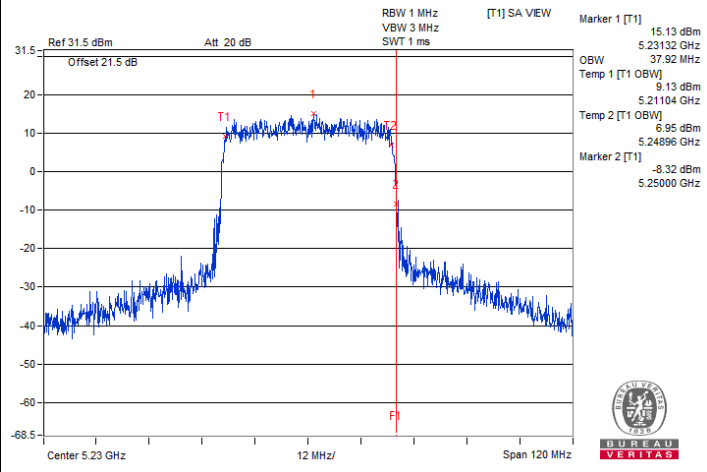
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46

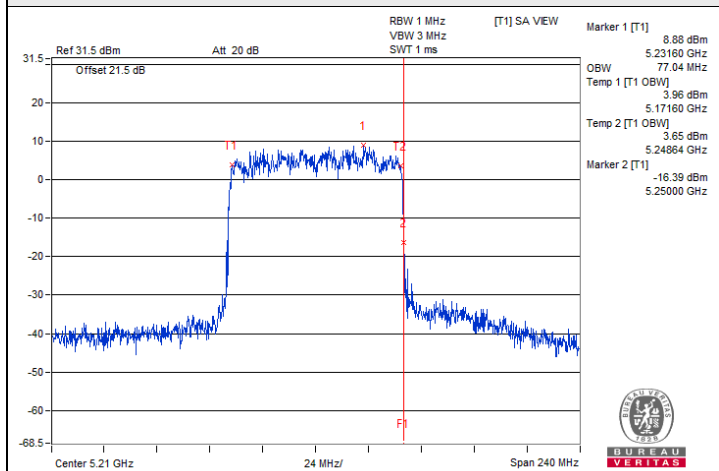


802.11ax (HE40) / Chain 2 : CH 46

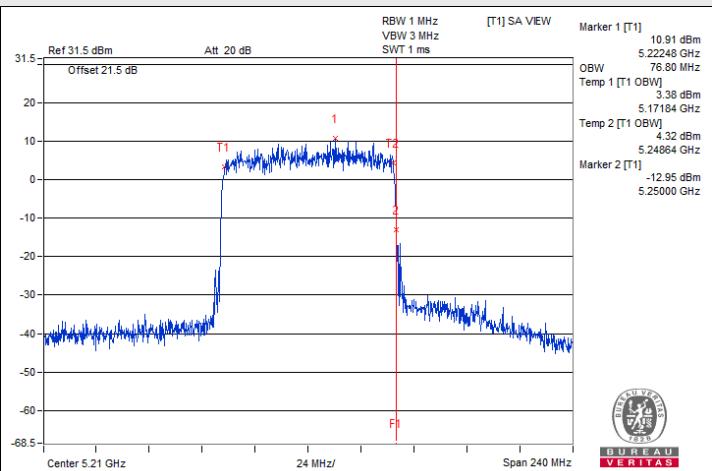


802.11ax (HE40) / Chain 3 : CH 46

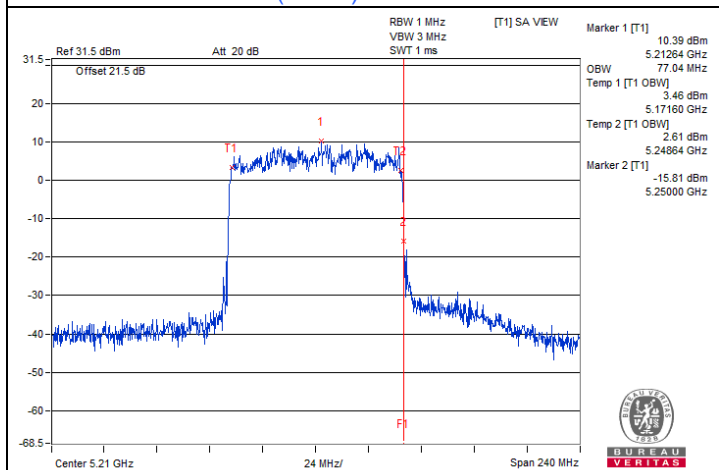
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



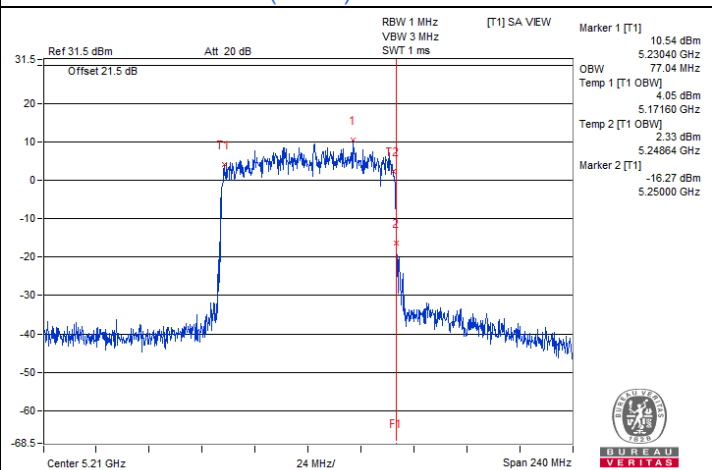
802.11ax (HE80) / Chain 0 : CH 42



802.11ax (HE80) / Chain 1 : CH 42



802.11ax (HE80) / Chain 2 : CH 42

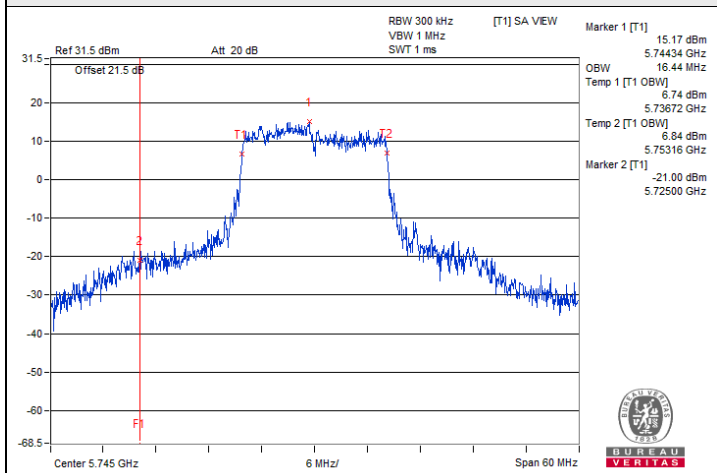


802.11ax (HE80) / Chain 3 : CH 42

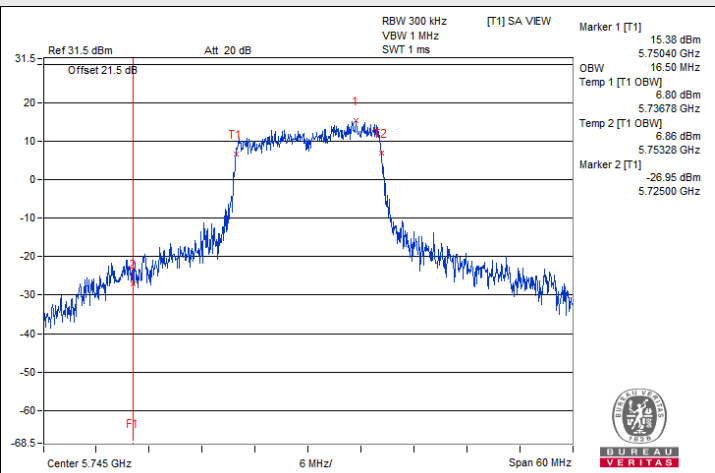




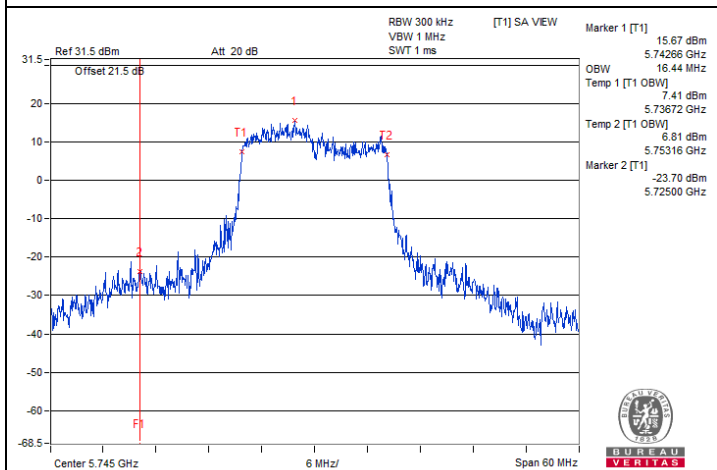
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



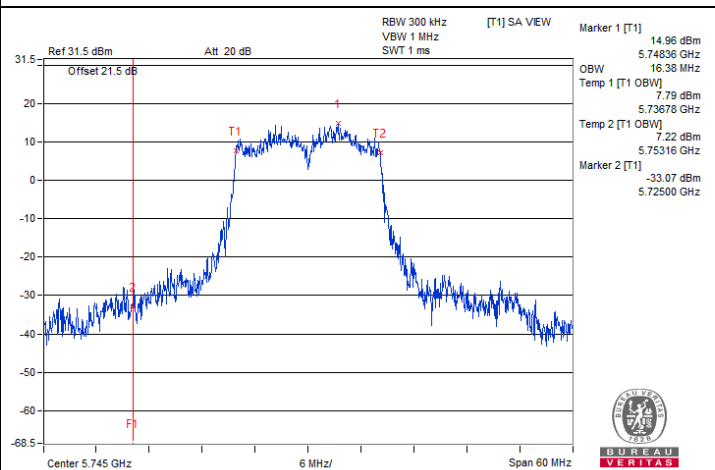
802.11a / Chain 0 : CH 149



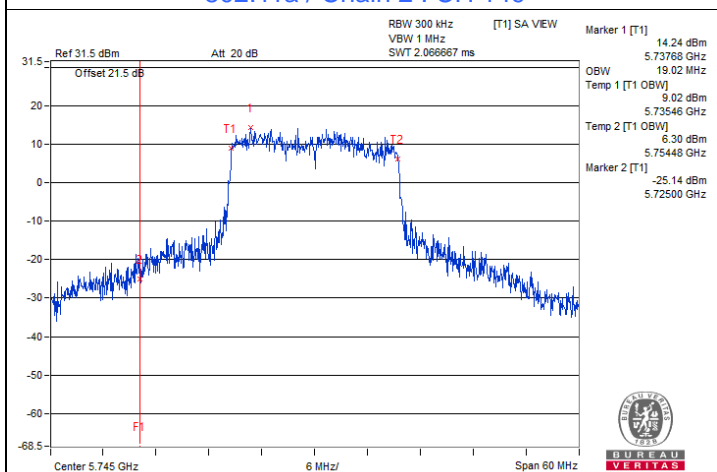
802.11a / Chain 1 : CH 149



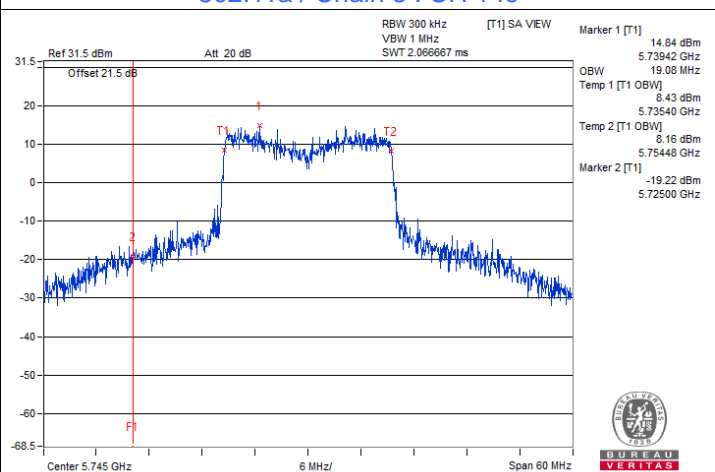
802.11a / Chain 2 : CH 149



802.11a / Chain 3 : CH 149

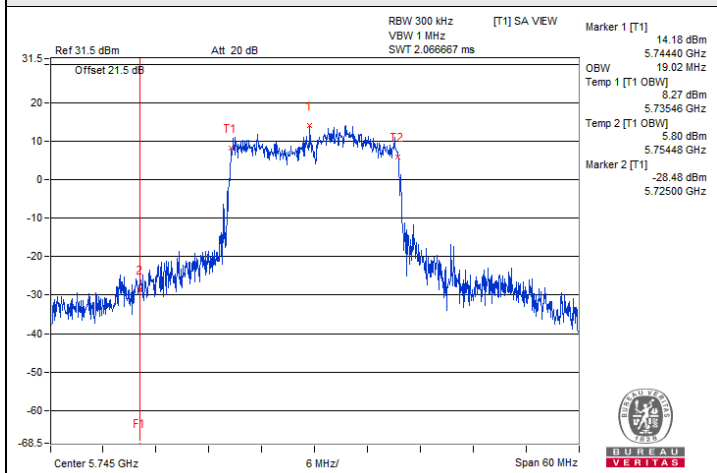


802.11ax (HE20) / Chain 0 : CH 149

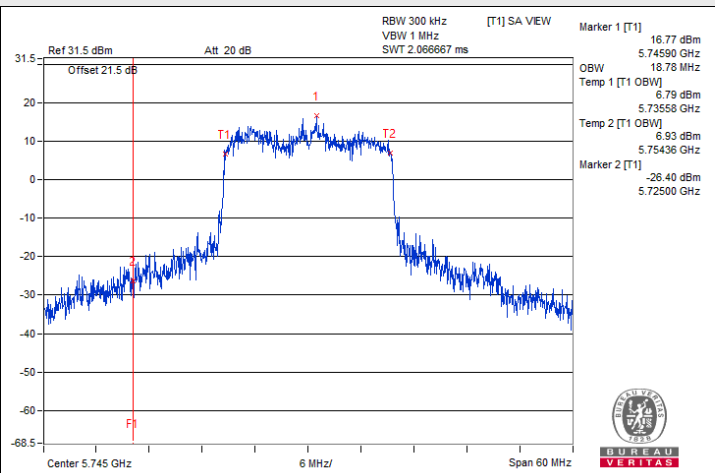


802.11ax (HE20) / Chain 1 : CH 149

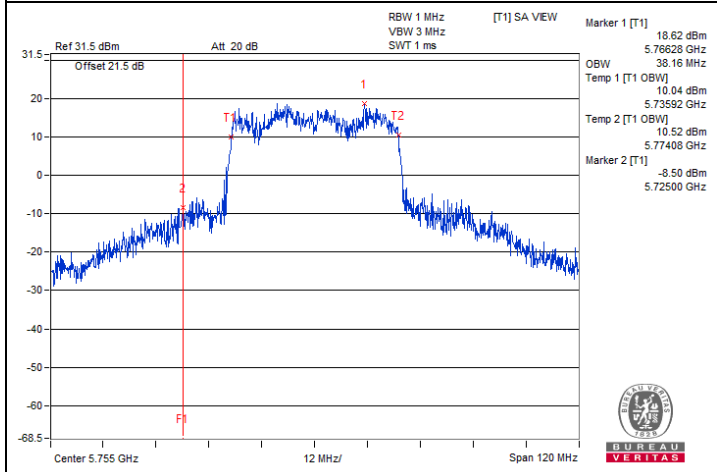
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



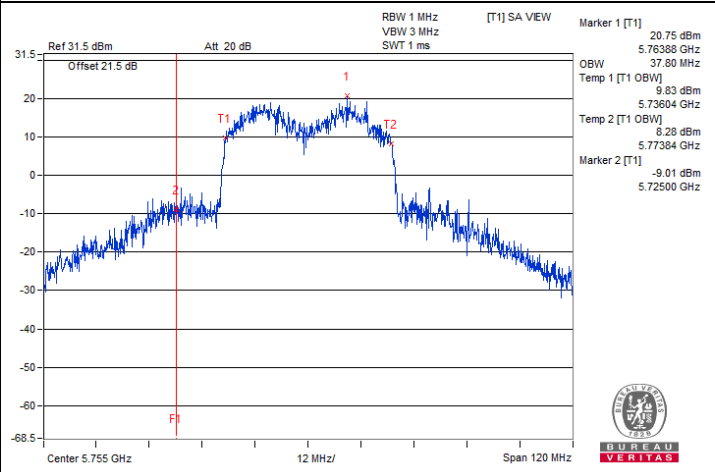
802.11ax (HE20) / Chain 2 : CH 149



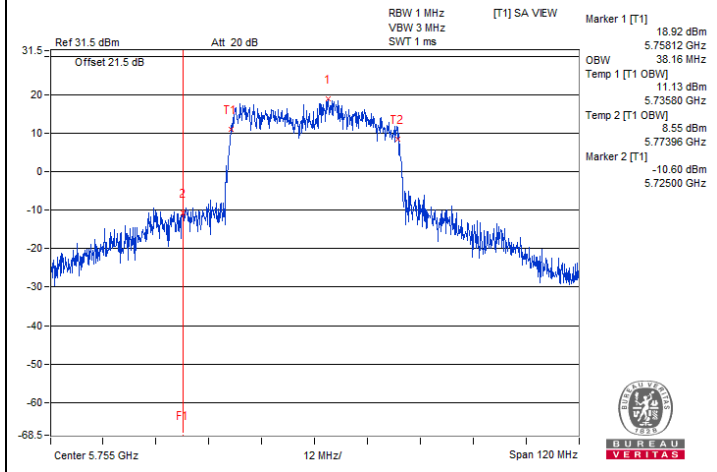
802.11ax (HE20) / Chain 3 : CH 149



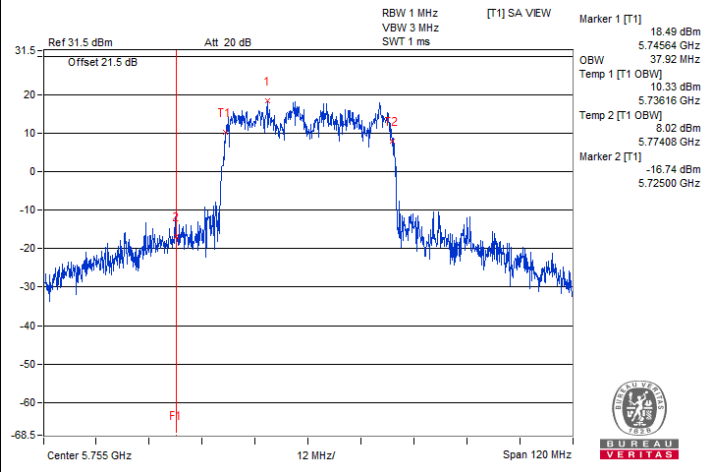
802.11ax (HE40) / Chain 0 : CH 151



802.11ax (HE40) / Chain 1 : CH 151



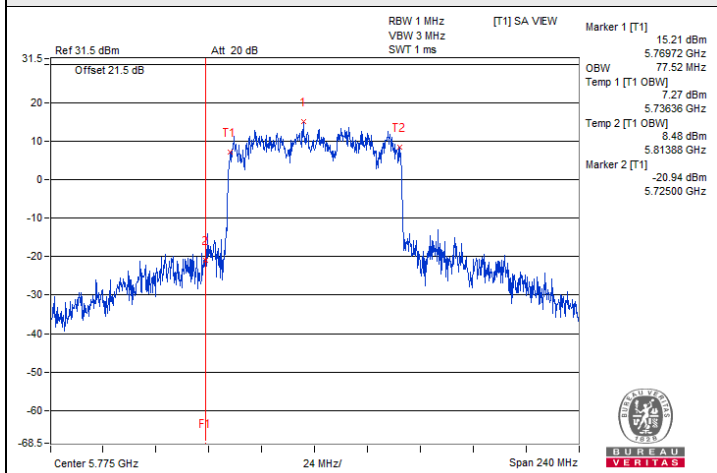
802.11ax (HE40) / Chain 2 : CH 151



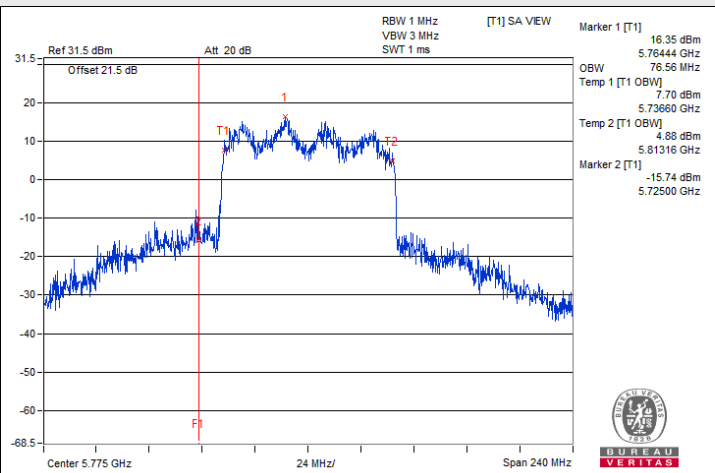
802.11ax (HE40) / Chain 3 : CH 151



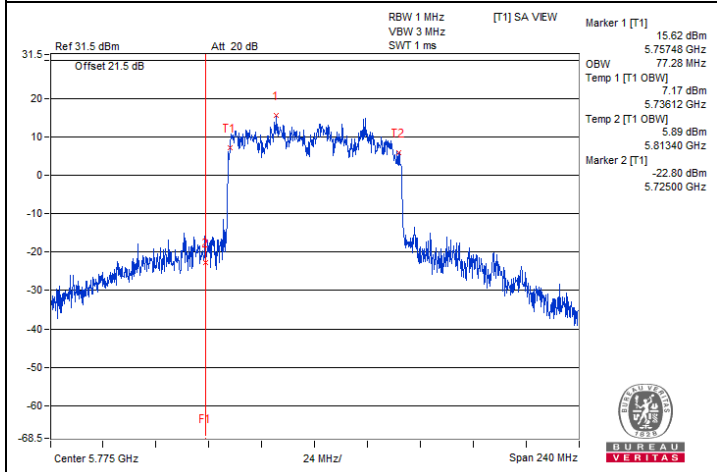
### Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



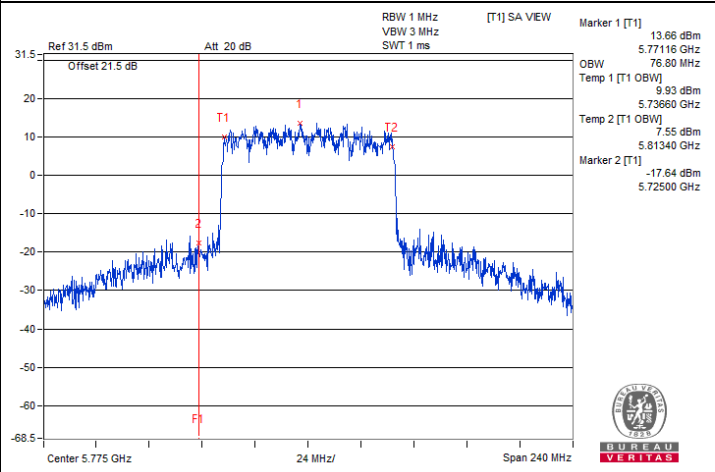
802.11ax (HE80) / Chain 0 : CH 155



802.11ax (HE80) / Chain 1 : CH 155



802.11ax (HE80) / Chain 2 : CH 155



802.11ax (HE80) / Chain 3 : CH 155

## 7.5 Frequency Stability

Input Power:	12 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	John Peng
--------------	--------	---------------------------	--------------	------------	-----------

### 802.11a

Frequency Stability Versus Temperature									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
50	12	5180.0038	Pass	5180.0026	Pass	5180.0036	Pass	5180.0026	Pass
40	12	5179.9785	Pass	5179.9795	Pass	5179.9778	Pass	5179.9778	Pass
30	12	5180.026	Pass	5180.0236	Pass	5180.0244	Pass	5180.0257	Pass
20	12	5180.0222	Pass	5180.024	Pass	5180.0226	Pass	5180.023	Pass
10	12	5179.9873	Pass	5179.986	Pass	5179.9854	Pass	5179.9872	Pass
0	12	5180.0201	Pass	5180.0223	Pass	5180.0195	Pass	5180.0201	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vdc)	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	13.8	5180.0106	Pass	5180.0109	Pass	5180.0124	Pass	5180.0145	Pass
	12	5180.0222	Pass	5180.024	Pass	5180.0226	Pass	5180.023	Pass
	10.2	5180.0106	Pass	5180.0116	Pass	5180.0111	Pass	5180.014	Pass

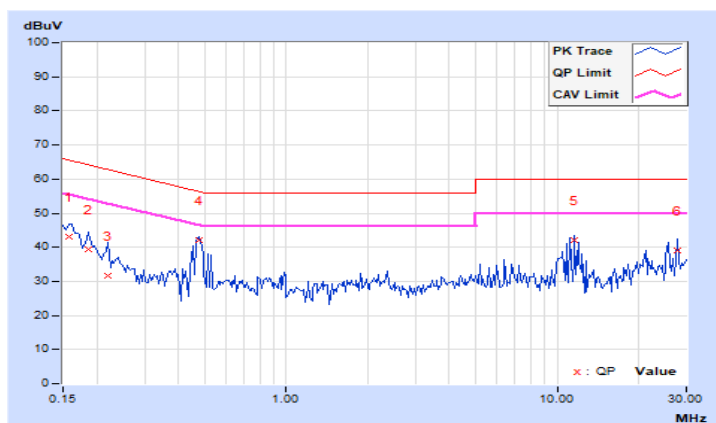
## 7.6 AC Power Conducted Emissions

<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	0.15781	9.96	33.12	22.25	43.08	32.21	65.58	55.58	-22.50	-23.37
2	0.18516	9.96	29.28	22.05	39.24	32.01	64.25	54.25	-25.01	-22.24
3	0.22031	9.96	21.67	12.39	31.63	22.35	62.81	52.81	-31.18	-30.46
<b>4</b>	<b>0.47422</b>	<b>9.97</b>	<b>32.11</b>	<b>29.94</b>	<b>42.08</b>	<b>39.91</b>	<b>56.44</b>	<b>46.44</b>	<b>-14.36</b>	<b>-6.53</b>
5	11.60156	10.59	31.38	29.67	41.97	40.26	60.00	50.00	-18.03	-9.74
6	27.72266	11.22	27.79	20.25	39.01	31.47	60.00	50.00	-20.99	-18.53

### 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

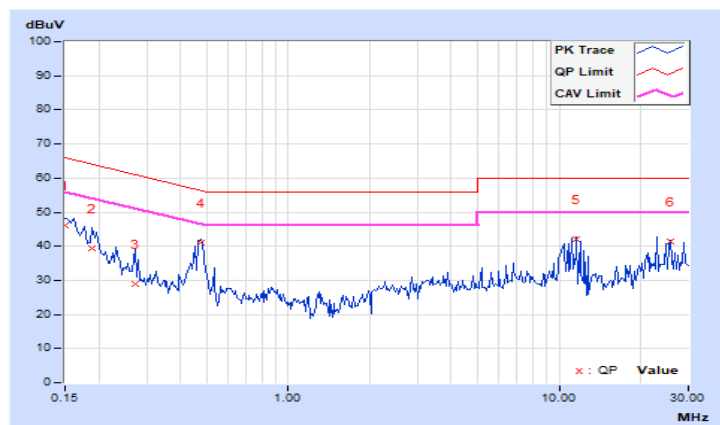


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Sampson 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	9.93	36.28	23.24	46.21	33.17	66.00	56.00	-19.79	-22.83
2	0.18906	9.94	29.59	19.95	39.53	29.89	64.08	54.08	-24.55	-24.19
3	0.27109	9.94	19.16	10.08	29.10	20.02	61.08	51.08	-31.98	-31.06
4	0.47422	9.94	31.21	29.13	41.15	39.07	56.44	46.44	-15.29	-7.37
5	11.60547	10.45	31.75	27.72	42.20	38.17	60.00	50.00	-17.80	-11.83
6	25.87500	10.86	30.67	29.96	41.53	40.82	60.00	50.00	-18.47	-9.18

**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



## 7.7 Unwanted Emissions below 1 GHz

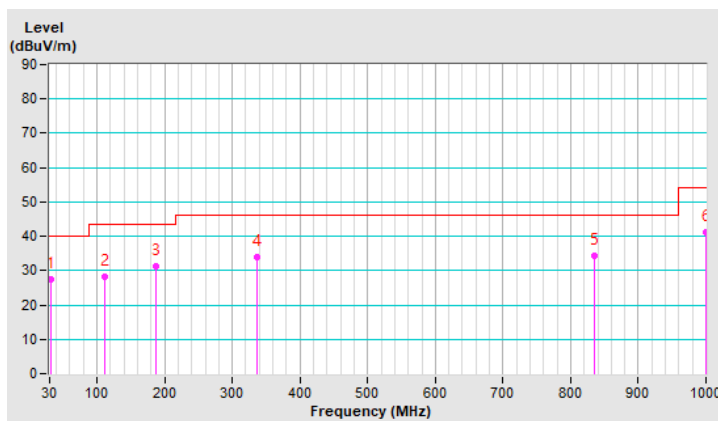
RF Mode	802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	21°C, 69% RH
Tested By	Carter Lin		

### 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	32.09	27.4 QP	40.0	-12.6	1.00 H	279	40.6	-13.2
2	111.88	28.2 QP	43.5	-15.3	1.50 H	273	42.8	-14.6
3	186.20	31.4 QP	43.5	-12.1	1.50 H	250	45.2	-13.8
4	336.08	33.8 QP	46.0	-12.2	1.00 H	56	43.1	-9.3
5	834.90	34.4 QP	46.0	-11.6	2.00 H	325	31.8	2.6
6	999.66	41.0 QP	54.0	-13.0	1.50 H	315	35.6	5.4

### Remarks:

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

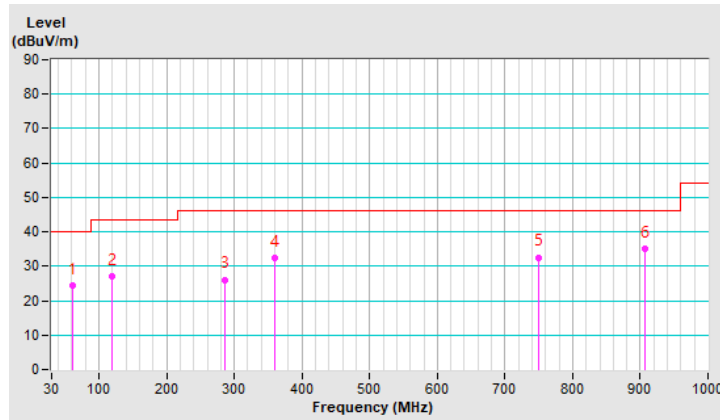


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	9 kHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	(QP) RB = 120kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 69% RH
<b>Tested By</b>	Carter Lin		

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	60.49	24.4 QP	40.0	-15.6	1.50 V	35	37.3	-12.9
2	119.90	26.9 QP	43.5	-16.6	1.50 V	264	40.7	-13.8
3	285.27	26.1 QP	46.0	-19.9	1.00 V	300	36.9	-10.8
4	360.01	32.3 QP	46.0	-13.7	1.00 V	35	41.0	-8.7
5	749.67	32.6 QP	46.0	-13.4	1.50 V	266	31.5	1.1
6	<b>907.62</b>	<b>35.1 QP</b>	<b>46.0</b>	<b>-10.9</b>	<b>2.00 V</b>	<b>347</b>	<b>31.2</b>	<b>3.9</b>

**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.





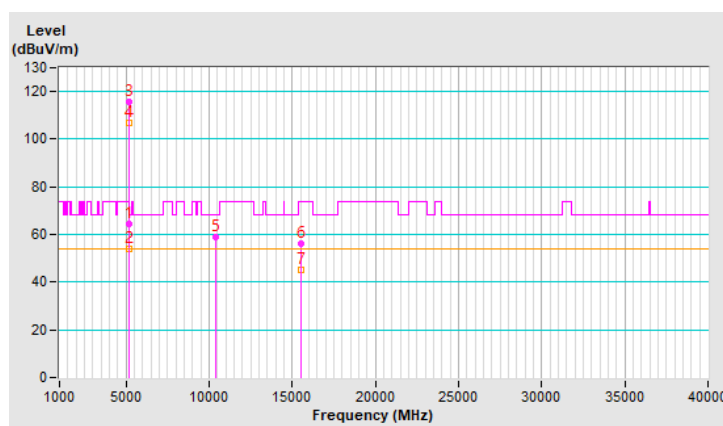
## 7.8 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% 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	5150.00	64.4 PK	74.0	-9.6	2.10 H	291	63.0	1.4
2	<b>5150.00</b>	<b>53.8 AV</b>	<b>54.0</b>	<b>-0.2</b>	<b>2.10 H</b>	<b>291</b>	<b>52.4</b>	<b>1.4</b>
3	*5180.00	115.5 PK			2.10 H	291	114.4	1.1
4	*5180.00	106.7 AV			2.10 H	291	105.6	1.1
5	#10360.00	59.0 PK	68.2	-9.2	3.05 H	133	47.8	11.2
6	15540.00	56.3 PK	74.0	-17.7	3.10 H	277	44.9	11.4
7	15540.00	44.9 AV	54.0	-9.1	3.10 H	277	33.5	11.4

### 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.

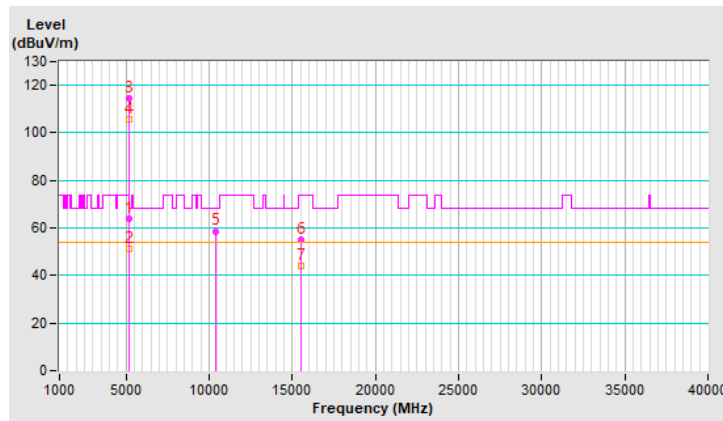


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

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	5150.00	64.0 PK	74.0	-10.0	1.76 V	19	62.6	1.4
2	5150.00	51.0 AV	54.0	-3.0	1.76 V	19	49.6	1.4
3	*5180.00	114.6 PK			1.76 V	19	113.5	1.1
4	*5180.00	105.6 AV			1.76 V	19	104.5	1.1
5	#10360.00	58.7 PK	68.2	-9.5	1.79 V	245	47.5	11.2
6	15540.00	55.1 PK	74.0	-18.9	1.62 V	108	43.7	11.4
7	15540.00	43.8 AV	54.0	-10.2	1.62 V	108	32.4	11.4

**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.

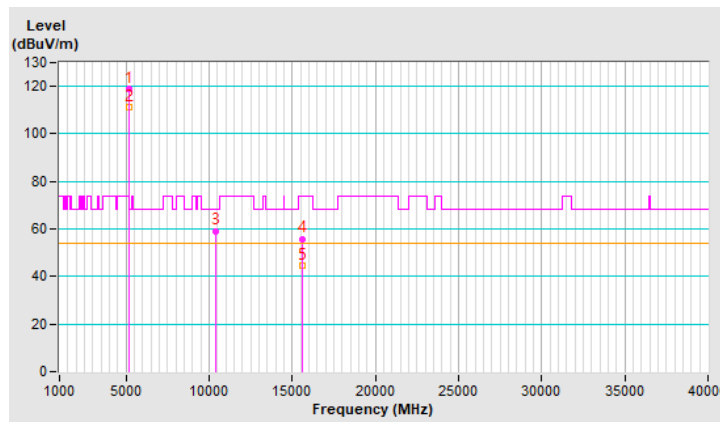


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

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	*5200.00	118.9 PK			2.60 H	287	118.0	0.9
2	*5200.00	111.3 AV			2.60 H	287	110.4	0.9
3	#10400.00	59.2 PK	68.2	-9.0	1.83 H	256	47.8	11.4
4	15600.00	55.9 PK	74.0	-18.1	3.09 H	277	44.5	11.4
5	15600.00	44.7 AV	54.0	-9.3	3.09 H	277	33.3	11.4

**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.

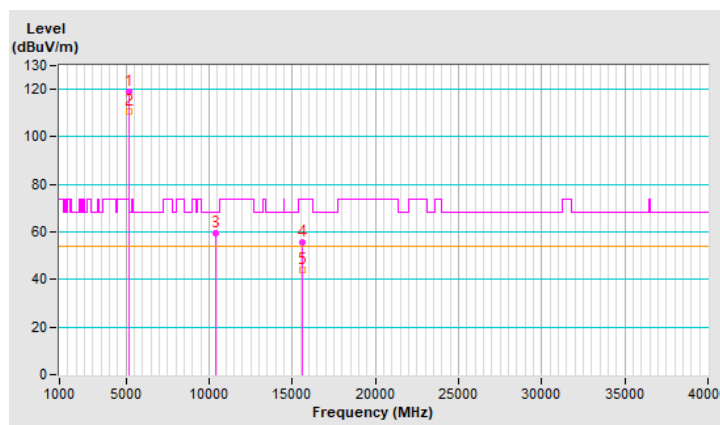


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

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	*5200.00	118.7 PK			3.02 V	356	117.8	0.9
2	*5200.00	110.9 AV			3.02 V	356	110.0	0.9
3	#10400.00	59.7 PK	68.2	-8.5	2.91 V	147	48.3	11.4
4	15600.00	55.6 PK	74.0	-18.4	1.58 V	121	44.2	11.4
5	15600.00	44.2 AV	54.0	-9.8	1.58 V	121	32.8	11.4

**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.



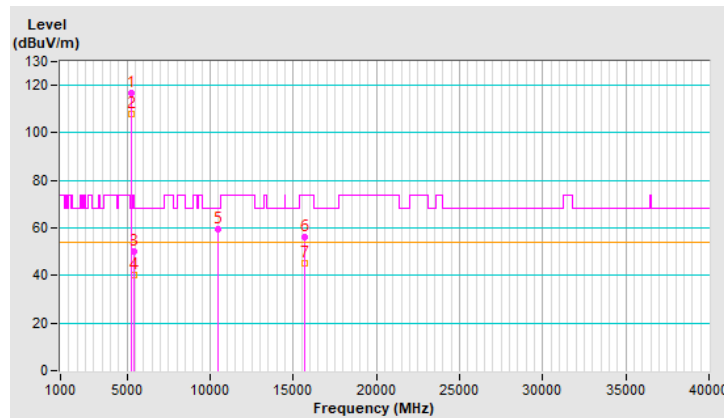
<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

**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	*5240.00	116.9 PK			3.85 H	294	116.0	0.9
2	*5240.00	108.1 AV			3.85 H	294	107.2	0.9
3	5431.00	50.1 PK	74.0	-23.9	3.85 H	294	48.9	1.2
4	5431.00	40.1 AV	54.0	-13.9	3.85 H	294	38.9	1.2
5	#10480.00	59.4 PK	68.2	-8.8	3.10 H	149	48.2	11.2
6	15720.00	56.0 PK	74.0	-18.0	3.09 H	259	44.9	11.1
7	15720.00	44.9 AV	54.0	-9.1	3.09 H	259	33.8	11.1

**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.

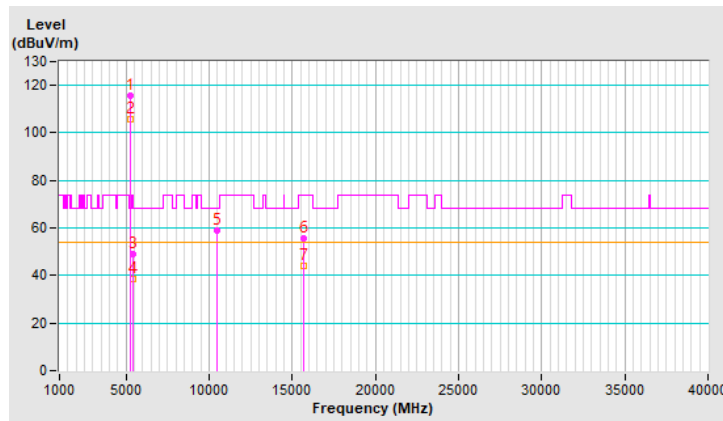


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

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	*5240.00	115.6 PK			1.61 V	356	114.7	0.9
2	*5240.00	105.8 AV			1.61 V	356	104.9	0.9
3	5423.00	49.2 PK	74.0	-24.8	1.61 V	356	48.0	1.2
4	5423.00	38.6 AV	54.0	-15.4	1.61 V	356	37.4	1.2
5	#10480.00	58.8 PK	68.2	-9.4	2.58 V	261	47.6	11.2
6	15720.00	55.6 PK	74.0	-18.4	1.59 V	99	44.5	11.1
7	15720.00	44.3 AV	54.0	-9.7	1.59 V	99	33.2	11.1

**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.

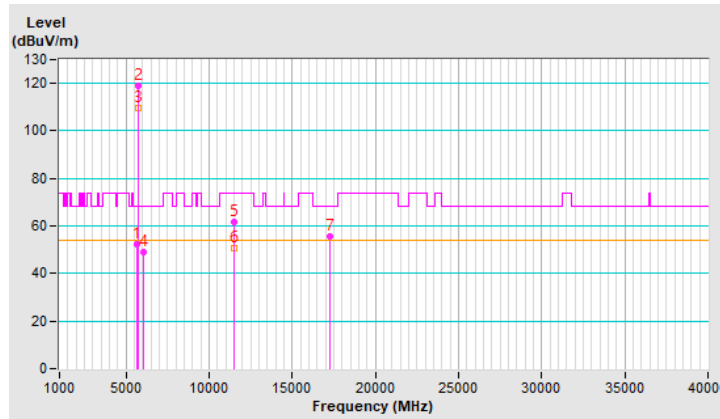


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5644.19	52.1 PK	68.2	-16.1	2.11 H	78	50.5	1.6
2	*5745.00	118.9 PK			2.11 H	78	116.8	2.1
3	*5745.00	109.7 AV			2.11 H	78	107.6	2.1
4	#6023.69	48.9 PK	68.2	-19.3	2.11 H	78	46.3	2.6
5	11490.00	61.5 PK	74.0	-12.5	1.60 H	251	49.7	11.8
6	11490.00	50.9 AV	54.0	-3.1	1.60 H	251	39.1	11.8
7	#17235.00	55.8 PK	68.2	-12.4	3.15 H	256	40.1	15.7

**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.

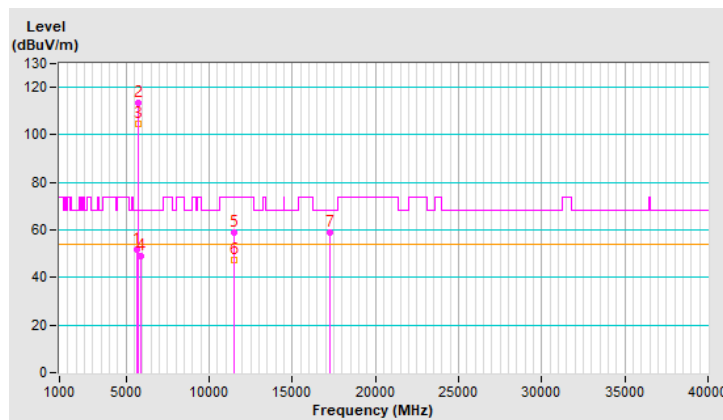


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5642.99	51.9 PK	68.2	-16.3	1.50 V	18	50.3	1.6
2	*5745.00	113.7 PK			1.50 V	18	111.6	2.1
3	*5745.00	104.4 AV			1.50 V	18	102.3	2.1
4	#5930.76	49.0 PK	68.2	-19.2	1.50 V	18	46.7	2.3
5	11490.00	58.9 PK	74.0	-15.1	2.32 V	194	47.1	11.8
6	11490.00	47.6 AV	54.0	-6.4	2.32 V	194	35.8	11.8
7	#17235.00	58.7 PK	68.2	-9.5	2.36 V	184	43.0	15.7

**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.



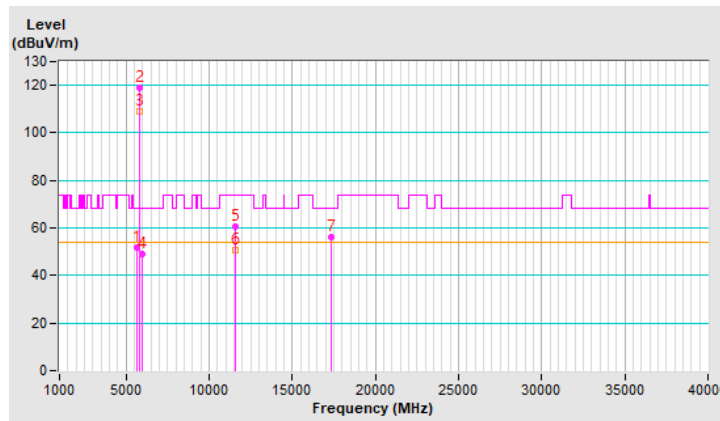


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5645.84	51.6 PK	68.2	-16.6	3.44 H	73	50.0	1.6
2	*5785.00	118.9 PK			3.44 H	73	116.8	2.1
3	*5785.00	109.3 AV			3.44 H	73	107.2	2.1
4	#5942.71	49.2 PK	68.2	-19.0	3.44 H	73	46.8	2.4
5	11570.00	60.8 PK	74.0	-13.2	1.83 H	250	49.1	11.7
6	11570.00	50.5 AV	54.0	-3.5	1.83 H	250	38.8	11.7
7	#17355.00	56.3 PK	68.2	-11.9	3.17 H	275	40.0	16.3

**Remarks:**

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

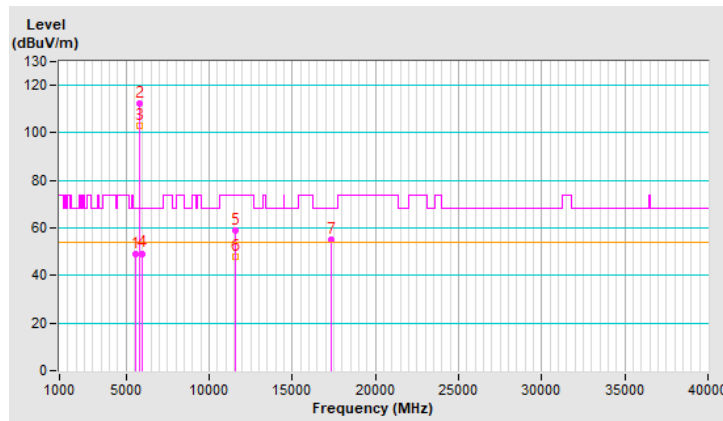


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5591.41	49.2 PK	68.2	-19.0	1.49 V	27	47.8	1.4
2	*5785.00	112.2 PK			1.49 V	27	110.1	2.1
3	*5785.00	103.1 AV			1.49 V	27	101.0	2.1
4	#6001.49	49.3 PK	68.2	-18.9	1.49 V	27	46.8	2.5
5	11570.00	59.1 PK	74.0	-14.9	2.30 V	187	47.4	11.7
6	11570.00	48.0 AV	54.0	-6.0	2.30 V	187	36.3	11.7
7	#17355.00	55.1 PK	68.2	-13.1	1.63 V	99	38.8	16.3

**Remarks:**

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

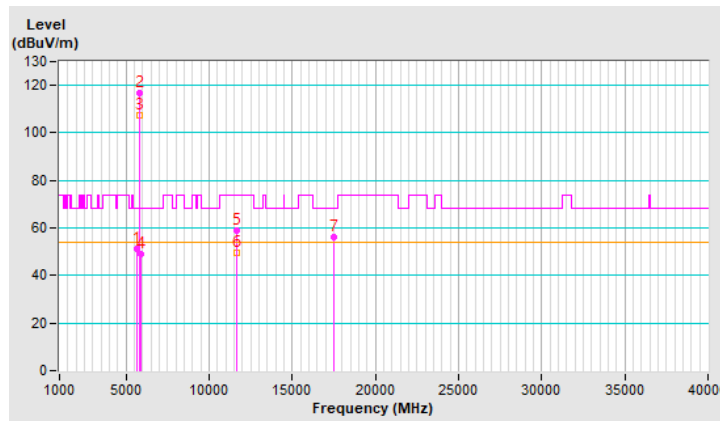


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5633.33	51.1 PK	68.2	-17.1	3.61 H	309	49.5	1.6
2	*5825.00	116.6 PK			3.61 H	309	114.5	2.1
3	*5825.00	107.2 AV			3.61 H	309	105.1	2.1
4	#5931.54	48.9 PK	68.2	-19.3	3.61 H	309	46.6	2.3
5	11650.00	59.1 PK	74.0	-14.9	1.86 H	247	47.5	11.6
6	11650.00	49.5 AV	54.0	-4.5	1.86 H	247	37.9	11.6
7	#17475.00	56.2 PK	68.2	-12.0	3.15 H	276	38.9	17.3

**Remarks:**

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

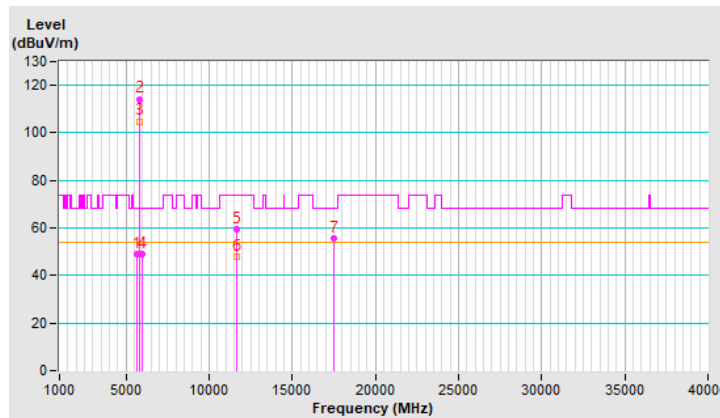


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom 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	#5628.55	49.2 PK	68.2	-19.0	1.60 V	22	47.6	1.6
2	*5825.00	114.3 PK			1.60 V	22	112.2	2.1
3	*5825.00	104.9 AV			1.60 V	22	102.8	2.1
4	#5980.23	48.9 PK	68.2	-19.3	1.60 V	22	46.5	2.4
5	11650.00	59.4 PK	74.0	-14.6	2.25 V	179	47.8	11.6
6	11650.00	48.1 AV	54.0	-5.9	2.25 V	179	36.5	11.6
7	#17475.00	55.4 PK	68.2	-12.8	1.64 V	113	38.1	17.3

**Remarks:**

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

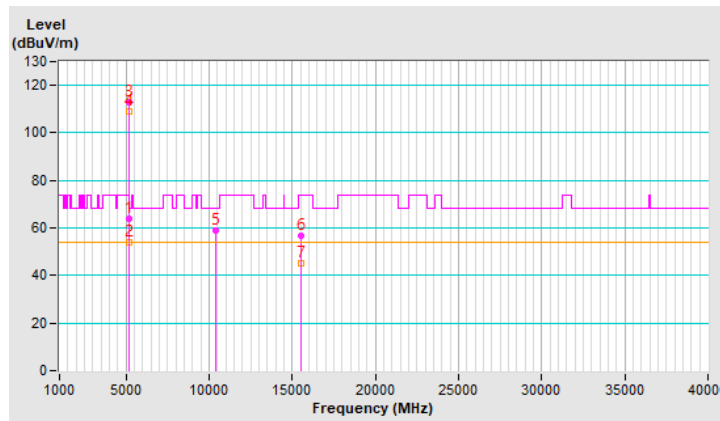


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	63.9 PK	74.0	-10.1	3.88 H	289	62.5	1.4
2	<b>5150.00</b>	<b>53.8 AV</b>	<b>54.0</b>	<b>-0.2</b>	<b>3.88 H</b>	<b>289</b>	<b>52.4</b>	<b>1.4</b>
3	*5180.00	113.0 PK			3.88 H	289	111.9	1.1
4	*5180.00	109.0 AV			3.88 H	289	107.9	1.1
5	#10360.00	58.7 PK	68.2	-9.5	3.23 H	172	47.5	11.2
6	15540.00	56.6 PK	74.0	-17.4	3.14 H	268	45.2	11.4
7	15540.00	45.1 AV	54.0	-8.9	3.14 H	268	33.7	11.4

**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.

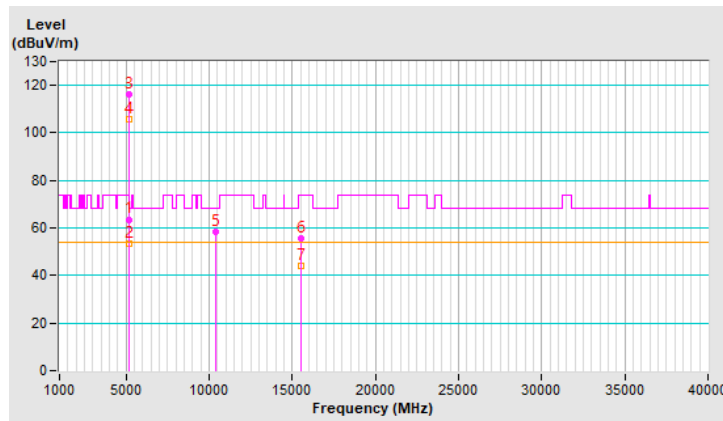


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 36 : 5180 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	63.6 PK	74.0	-10.4	1.20 V	11	62.2	1.4
2	5150.00	53.2 AV	54.0	-0.8	1.20 V	11	51.8	1.4
3	*5180.00	116.0 PK			1.20 V	11	114.9	1.1
4	*5180.00	105.5 AV			1.20 V	11	104.4	1.1
5	#10360.00	58.1 PK	68.2	-10.1	2.75 V	173	46.9	11.2
6	15540.00	55.4 PK	74.0	-18.6	1.62 V	103	44.0	11.4
7	15540.00	44.1 AV	54.0	-9.9	1.62 V	103	32.7	11.4

**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.

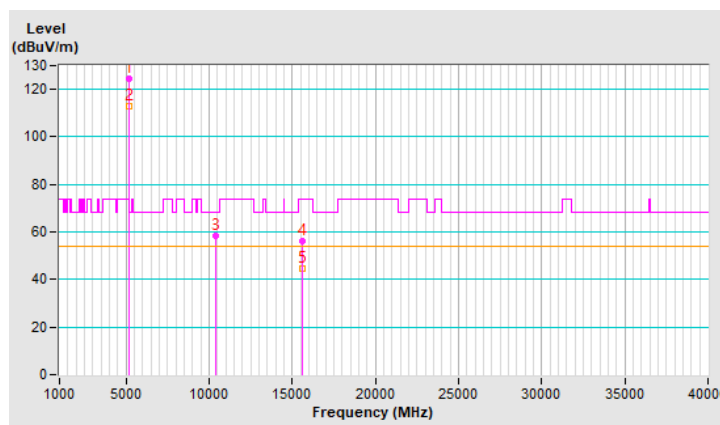


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	*5200.00	124.3 PK			3.06 H	288	123.4	0.9
2	*5200.00	113.1 AV			3.06 H	288	112.2	0.9
3	#10400.00	58.4 PK	68.2	-9.8	3.36 H	174	47.0	11.4
4	15600.00	56.3 PK	74.0	-17.7	3.07 H	273	44.9	11.4
5	15600.00	44.7 AV	54.0	-9.3	3.07 H	273	33.3	11.4

**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.

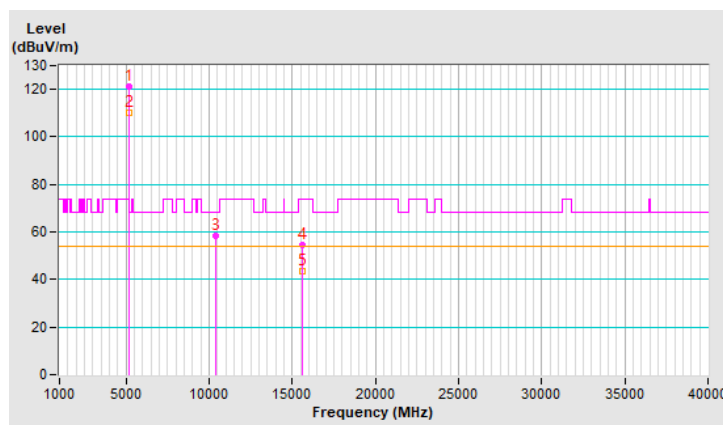


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 40 : 5200 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	*5200.00	121.3 PK			3.03 V	355	120.4	0.9
2	*5200.00	110.4 AV			3.03 V	355	109.5	0.9
3	#10400.00	58.3 PK	68.2	-9.9	2.79 V	188	46.9	11.4
4	15600.00	54.4 PK	74.0	-19.6	1.61 V	123	43.0	11.4
5	15600.00	43.4 AV	54.0	-10.6	1.61 V	123	32.0	11.4

**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.



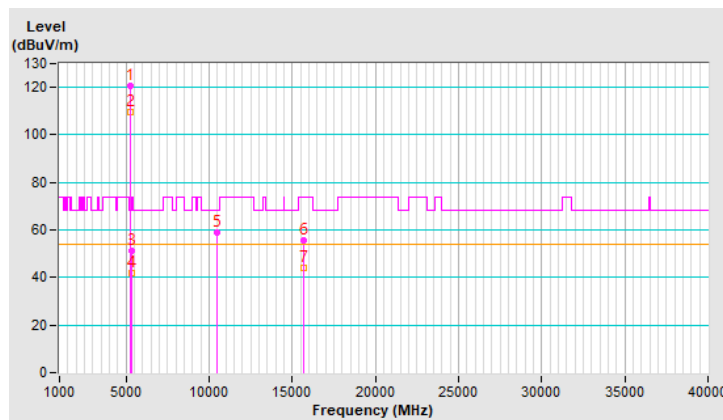


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	*5240.00	120.4 PK			3.48 H	294	119.5	0.9
2	*5240.00	109.4 AV			3.48 H	294	108.5	0.9
3	5350.00	51.3 PK	74.0	-22.7	3.48 H	294	50.2	1.1
4	5350.00	41.7 AV	54.0	-12.3	3.48 H	294	40.6	1.1
5	#10480.00	59.1 PK	68.2	-9.1	3.30 H	169	47.9	11.2
6	15720.00	55.5 PK	74.0	-18.5	3.12 H	251	44.4	11.1
7	15720.00	44.2 AV	54.0	-9.8	3.12 H	251	33.1	11.1

**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.

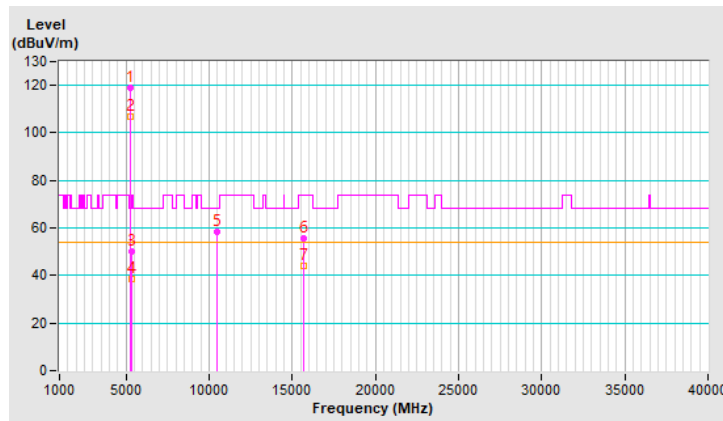


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 48 : 5240 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	*5240.00	118.9 PK			1.39 V	11	118.0	0.9
2	*5240.00	106.9 AV			1.39 V	11	106.0	0.9
3	5350.00	50.3 PK	74.0	-23.7	1.39 V	11	49.2	1.1
4	5350.00	38.5 AV	54.0	-15.5	1.39 V	11	37.4	1.1
5	#10480.00	58.6 PK	68.2	-9.6	2.82 V	184	47.4	11.2
6	15720.00	55.4 PK	74.0	-18.6	1.61 V	99	44.3	11.1
7	15720.00	44.2 AV	54.0	-9.8	1.61 V	99	33.1	11.1

**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.

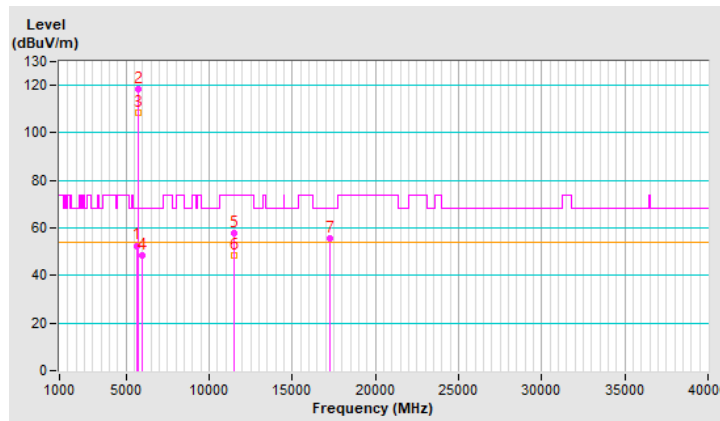


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5646.73	52.6 PK	68.2	-15.6	2.11 H	73	51.0	1.6
2	*5745.00	118.4 PK			2.11 H	73	116.3	2.1
3	*5745.00	108.3 AV			2.11 H	73	106.2	2.1
4	#5935.45	48.4 PK	68.2	-19.8	2.11 H	73	46.1	2.3
5	11490.00	57.7 PK	74.0	-16.3	1.48 H	246	45.9	11.8
6	11490.00	48.4 AV	54.0	-5.6	1.48 H	246	36.6	11.8
7	#17235.00	55.5 PK	68.2	-12.7	3.16 H	264	39.8	15.7

**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.

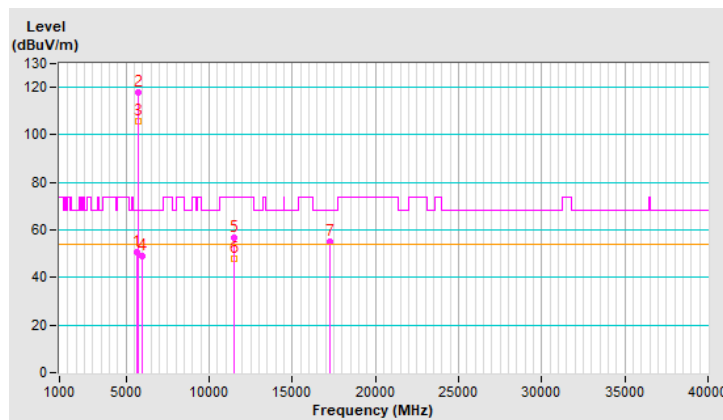


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 149 : 5745 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5647.68	50.6 PK	68.2	-17.6	1.09 V	6	49.0	1.6
2	*5745.00	117.7 PK			1.09 V	6	115.6	2.1
3	*5745.00	105.9 AV			1.09 V	6	103.8	2.1
4	#5983.98	48.8 PK	68.2	-19.4	1.09 V	6	46.4	2.4
5	11490.00	56.9 PK	74.0	-17.1	1.78 V	211	45.1	11.8
6	11490.00	47.7 AV	54.0	-6.3	1.78 V	211	35.9	11.8
7	#17235.00	55.0 PK	68.2	-13.2	1.60 V	110	39.3	15.7

**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.

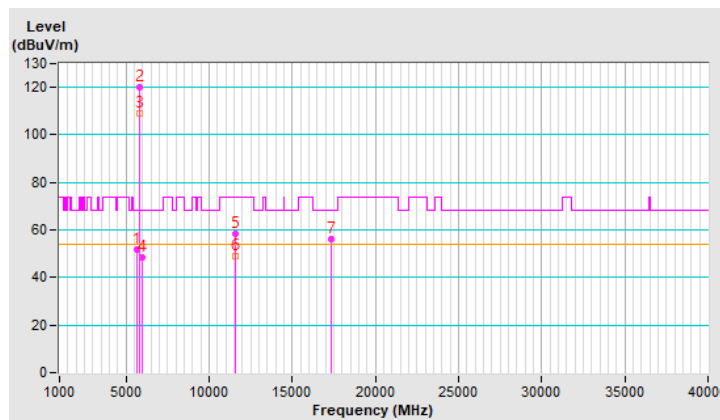


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5645.97	51.6 PK	68.2	-16.6	2.37 H	75	50.0	1.6
2	*5785.00	120.1 PK			2.37 H	75	118.0	2.1
3	*5785.00	108.9 AV			2.37 H	75	106.8	2.1
4	#6010.36	48.7 PK	68.2	-19.5	2.37 H	75	46.2	2.5
5	11570.00	58.1 PK	74.0	-15.9	1.46 H	243	46.4	11.7
6	11570.00	48.8 AV	54.0	-5.2	1.46 H	243	37.1	11.7
7	#17355.00	56.2 PK	68.2	-12.0	3.08 H	265	39.9	16.3

**Remarks:**

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

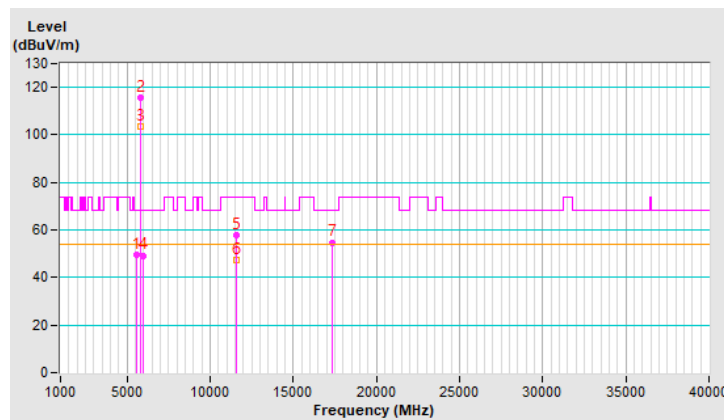


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 157 : 5785 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5584.37	49.6 PK	68.2	-18.6	1.21 V	196	48.2	1.4
2	*5785.00	115.6 PK			1.21 V	196	113.5	2.1
3	*5785.00	103.6 AV			1.21 V	196	101.5	2.1
4	#5984.55	49.3 PK	68.2	-18.9	1.21 V	196	46.9	2.4
5	11570.00	57.8 PK	74.0	-16.2	1.92 V	236	46.1	11.7
6	11570.00	47.3 AV	54.0	-6.7	1.92 V	236	35.6	11.7
7	#17355.00	54.8 PK	68.2	-13.4	1.62 V	98	38.5	16.3

**Remarks:**

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

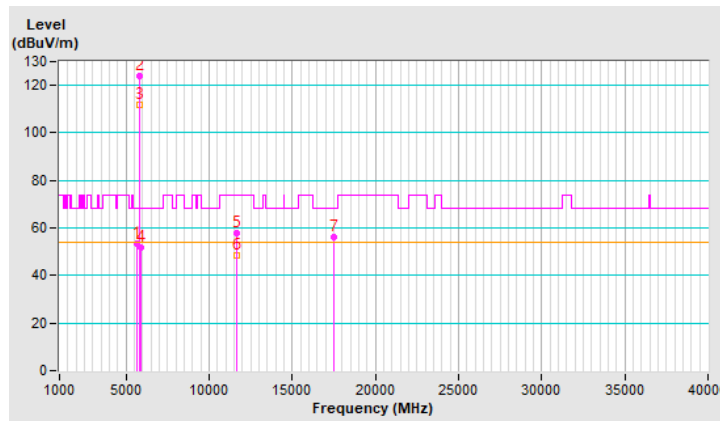


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5642.30	53.2 PK	68.2	-15.0	2.27 H	63	51.6	1.6
2	*5825.00	124.1 PK			2.27 H	63	122.0	2.1
3	*5825.00	111.6 AV			2.27 H	63	109.5	2.1
4	#5929.63	52.0 PK	68.2	-16.2	2.27 H	63	49.7	2.3
5	11650.00	57.6 PK	74.0	-16.4	1.41 H	238	46.0	11.6
6	11650.00	48.3 AV	54.0	-5.7	1.41 H	238	36.7	11.6
7	#17475.00	56.2 PK	68.2	-12.0	3.15 H	273	38.9	17.3

**Remarks:**

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

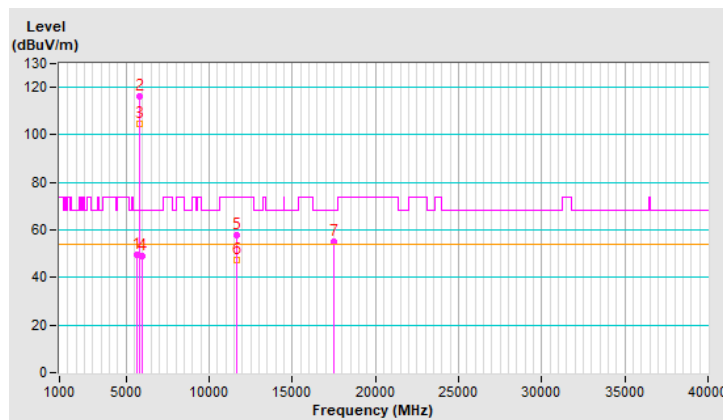


<b>RF Mode</b>	802.11ax (HE20)	<b>Channel</b>	CH 165 : 5825 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5636.05	49.6 PK	68.2	-18.6	1.21 V	195	48.0	1.6
2	*5825.00	116.3 PK			1.21 V	195	114.2	2.1
3	*5825.00	104.8 AV			1.21 V	195	102.7	2.1
4	#6001.51	49.0 PK	68.2	-19.2	1.21 V	195	46.5	2.5
5	11650.00	57.7 PK	74.0	-16.3	2.26 V	212	46.1	11.6
6	11650.00	47.2 AV	54.0	-6.8	2.26 V	212	35.6	11.6
7	#17475.00	55.3 PK	68.2	-12.9	1.60 V	107	38.0	17.3

**Remarks:**

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



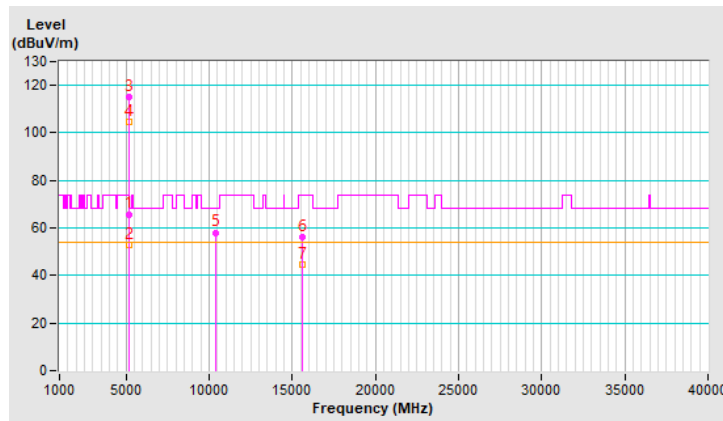


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 38 : 5190 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	65.8 PK	74.0	-8.2	2.23 H	57	64.4	1.4
2	5150.00	53.1 AV	54.0	-0.9	2.23 H	57	51.7	1.4
3	*5190.00	115.2 PK			2.23 H	57	114.2	1.0
4	*5190.00	104.7 AV			2.23 H	57	103.7	1.0
5	#10380.00	58.1 PK	68.2	-10.1	3.02 H	193	46.8	11.3
6	15570.00	56.3 PK	74.0	-17.7	3.12 H	279	45.0	11.3
7	15570.00	44.8 AV	54.0	-9.2	3.12 H	279	33.5	11.3

**Remarks:**

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

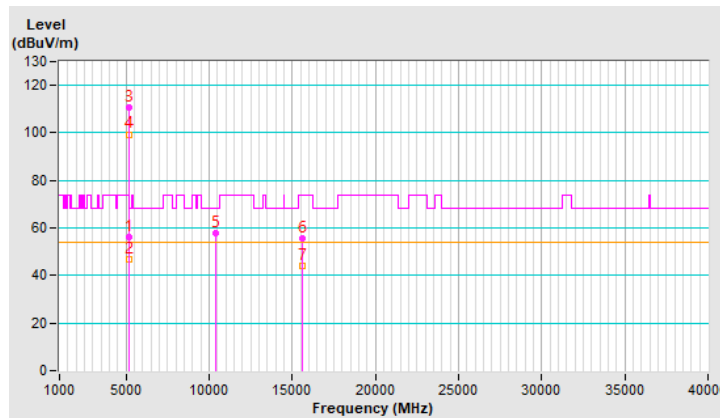


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 38 : 5190 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	56.2 PK	74.0	-17.8	2.07 V	14	54.8	1.4
2	5150.00	46.9 AV	54.0	-7.1	2.07 V	14	45.5	1.4
3	*5190.00	110.7 PK			2.07 V	14	109.7	1.0
4	*5190.00	99.4 AV			2.07 V	14	98.4	1.0
5	#10380.00	57.6 PK	68.2	-10.6	2.75 V	177	46.3	11.3
6	15570.00	55.6 PK	74.0	-18.4	1.56 V	115	44.3	11.3
7	15570.00	44.1 AV	54.0	-9.9	1.56 V	115	32.8	11.3

**Remarks:**

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

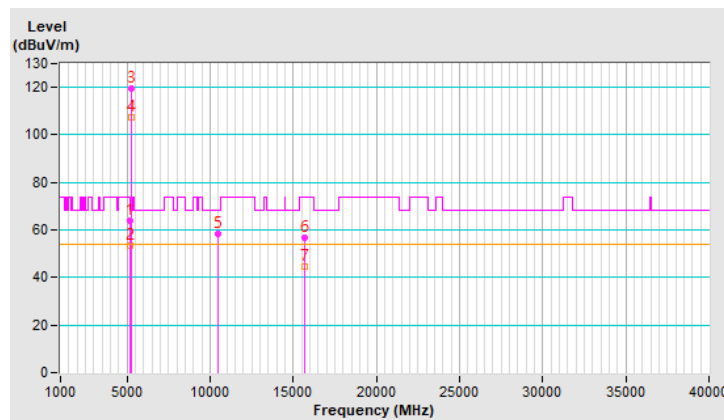


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 46 : 5230 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	64.0 PK	74.0	-10.0	2.33 H	69	62.6	1.4
2	5150.00	53.5 AV	54.0	-0.5	2.33 H	69	52.1	1.4
3	*5230.00	119.4 PK			2.33 H	69	118.6	0.8
4	*5230.00	107.3 AV			2.33 H	69	106.5	0.8
5	#10460.00	58.3 PK	68.2	-9.9	3.13 H	188	47.0	11.3
6	15690.00	56.5 PK	74.0	-17.5	3.16 H	261	45.3	11.2
7	15690.00	44.8 AV	54.0	-9.2	3.16 H	261	33.6	11.2

**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.

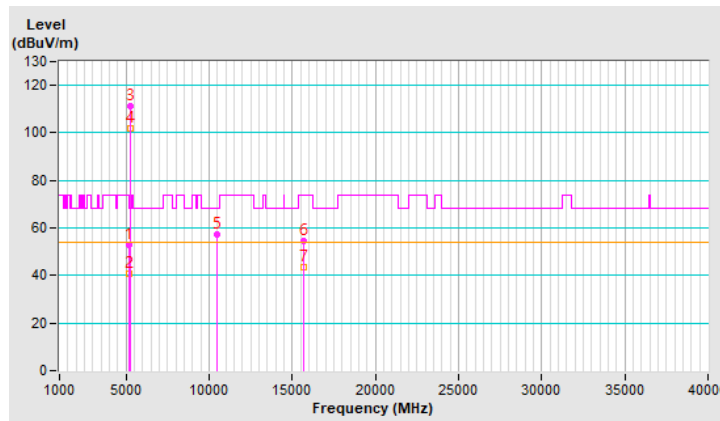


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 46 : 5230 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	53.0 PK	74.0	-21.0	1.28 V	12	51.6	1.4
2	5150.00	40.6 AV	54.0	-13.4	1.28 V	12	39.2	1.4
3	*5230.00	111.5 PK			1.28 V	12	110.7	0.8
4	*5230.00	101.7 AV			1.28 V	12	100.9	0.8
5	#10460.00	57.0 PK	68.2	-11.2	2.79 V	182	45.7	11.3
6	15690.00	54.7 PK	74.0	-19.3	1.63 V	94	43.5	11.2
7	15690.00	43.6 AV	54.0	-10.4	1.63 V	94	32.4	11.2

**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.

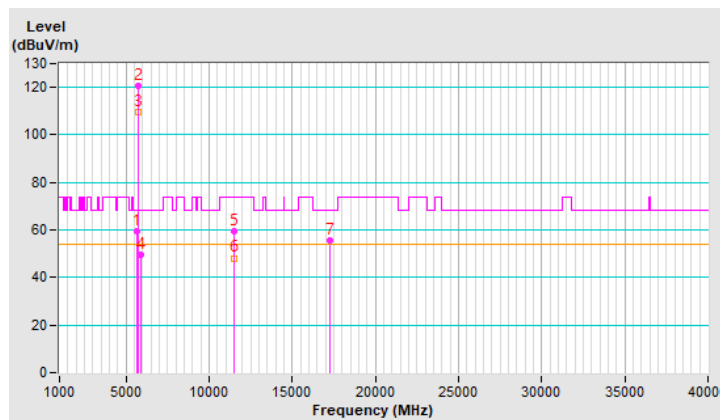


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 151 : 5755 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5647.28	59.5 PK	68.2	-8.7	2.36 H	64	57.9	1.6
2	*5755.00	120.5 PK			2.36 H	64	118.4	2.1
3	*5755.00	109.5 AV			2.36 H	64	107.4	2.1
4	#5929.61	49.5 PK	68.2	-18.7	2.36 H	64	47.2	2.3
5	11510.00	59.2 PK	74.0	-14.8	1.46 H	249	47.4	11.8
6	11510.00	48.2 AV	54.0	-5.8	1.46 H	249	36.4	11.8
7	#17265.00	55.5 PK	68.2	-12.7	3.09 H	264	39.8	15.7

**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.

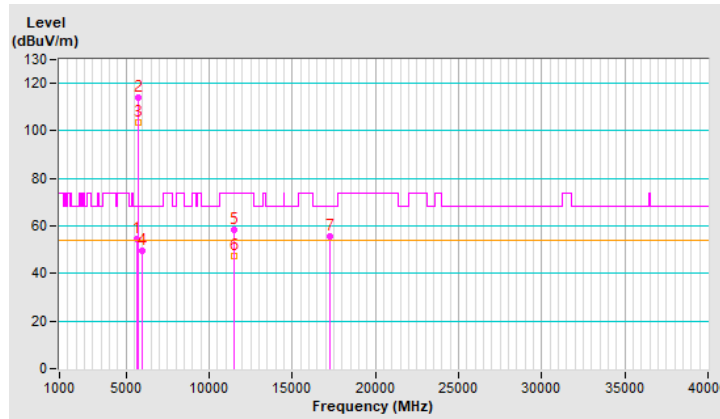


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 151 : 5755 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5648.56	54.6 PK	68.2	-13.6	1.10 V	3	53.0	1.6
2	*5755.00	114.2 PK			1.10 V	3	112.1	2.1
3	*5755.00	103.4 AV			1.10 V	3	101.3	2.1
4	#5947.41	49.6 PK	68.2	-18.6	1.10 V	3	47.2	2.4
5	11510.00	58.5 PK	74.0	-15.5	2.38 V	196	46.7	11.8
6	11510.00	47.6 AV	54.0	-6.4	2.38 V	196	35.8	11.8
7	#17265.00	55.4 PK	68.2	-12.8	1.66 V	108	39.7	15.7

**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.

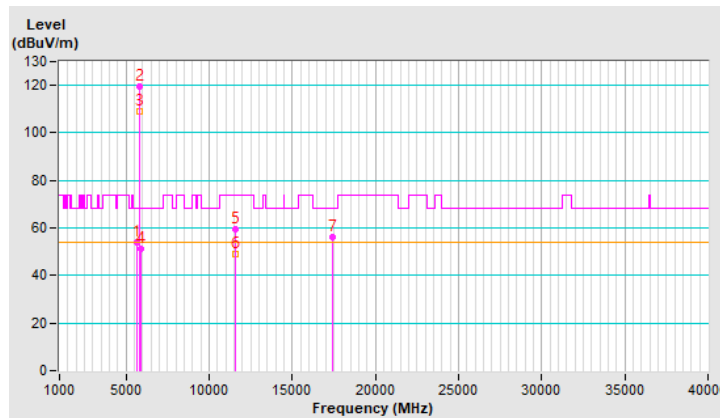


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 159 : 5795 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5649.55	54.0 PK	68.2	-14.2	2.40 H	66	52.4	1.6
2	*5795.00	119.6 PK			2.40 H	66	117.5	2.1
3	*5795.00	109.1 AV			2.40 H	66	107.0	2.1
4	#5934.17	51.2 PK	68.2	-17.0	2.40 H	66	48.9	2.3
5	11590.00	59.7 PK	74.0	-14.3	1.68 H	213	48.1	11.6
6	11590.00	48.8 AV	54.0	-5.2	1.68 H	213	37.2	11.6
7	#17385.00	56.1 PK	68.2	-12.1	3.18 H	253	39.6	16.5

**Remarks:**

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

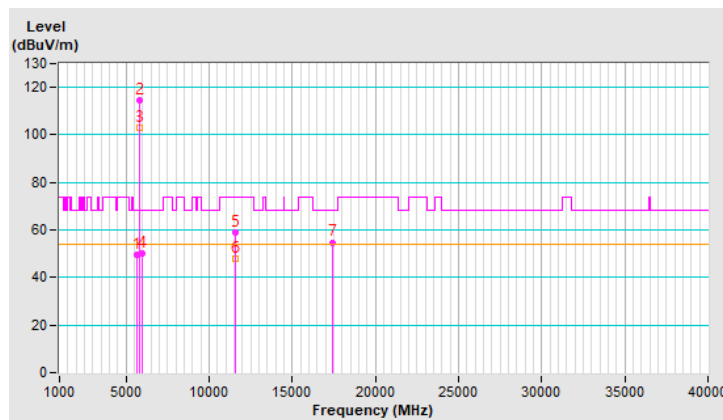


<b>RF Mode</b>	802.11ax (HE40)	<b>Channel</b>	CH 159 : 5795 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5630.57	49.8 PK	68.2	-18.4	1.86 V	23	48.2	1.6
2	*5795.00	114.7 PK			1.86 V	23	112.6	2.1
3	*5795.00	103.0 AV			1.86 V	23	100.9	2.1
4	#6000.22	50.1 PK	68.2	-18.1	1.86 V	23	47.6	2.5
5	11590.00	58.9 PK	74.0	-15.1	2.47 V	194	47.3	11.6
6	11590.00	48.0 AV	54.0	-6.0	2.47 V	194	36.4	11.6
7	#17385.00	54.8 PK	68.2	-13.4	1.64 V	93	38.3	16.5

**Remarks:**

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



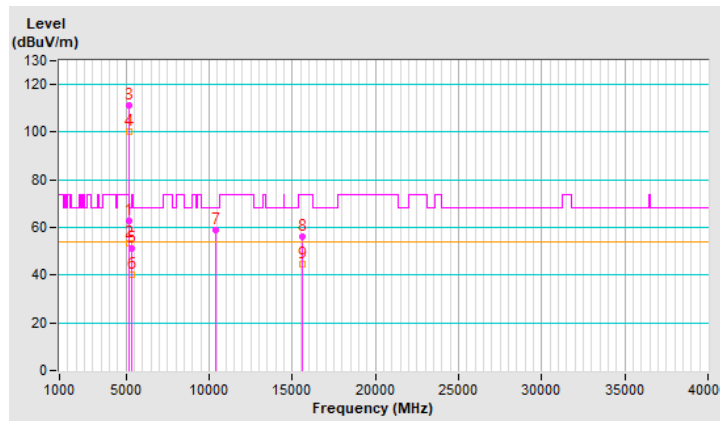


<b>RF Mode</b>	802.11ax (HE80)	<b>Channel</b>	CH 42 : 5210 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	63.0 PK	74.0	-11.0	2.52 H	62	61.6	1.4
2	5150.00	53.4 AV	54.0	-0.6	2.52 H	62	52.0	1.4
3	*5210.00	111.2 PK			2.52 H	62	110.3	0.9
4	*5210.00	100.1 AV			2.52 H	62	99.2	0.9
5	5369.90	51.2 PK	74.0	-22.8	2.52 H	62	50.1	1.1
6	5369.90	40.1 AV	54.0	-13.9	2.52 H	62	39.0	1.1
7	#10420.00	58.7 PK	68.2	-9.5	2.97 H	159	47.4	11.3
8	15630.00	56.1 PK	74.0	-17.9	3.13 H	266	44.8	11.3
9	15630.00	44.7 AV	54.0	-9.3	3.13 H	266	33.4	11.3

**Remarks:**

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

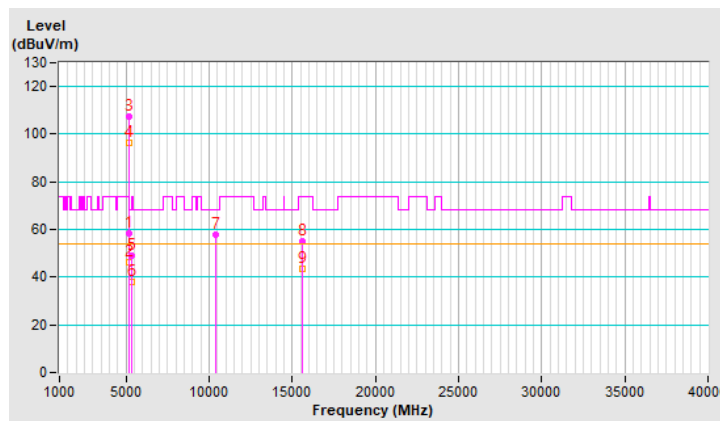


<b>RF Mode</b>	802.11ax (HE80)	<b>Channel</b>	CH 42 : 5210 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	5150.00	58.5 PK	74.0	-15.5	1.36 V	13	57.1	1.4
2	5150.00	46.0 AV	54.0	-8.0	1.36 V	13	44.6	1.4
3	*5210.00	107.2 PK			1.36 V	13	106.3	0.9
4	*5210.00	96.2 AV			1.36 V	13	95.3	0.9
5	5356.97	49.0 PK	74.0	-25.0	1.36 V	13	47.9	1.1
6	5356.97	37.9 AV	54.0	-16.1	1.36 V	13	36.8	1.1
7	#10420.00	57.6 PK	68.2	-10.6	2.64 V	176	46.3	11.3
8	15630.00	55.2 PK	74.0	-18.8	1.66 V	122	43.9	11.3
9	15630.00	43.7 AV	54.0	-10.3	1.66 V	122	32.4	11.3

**Remarks:**

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

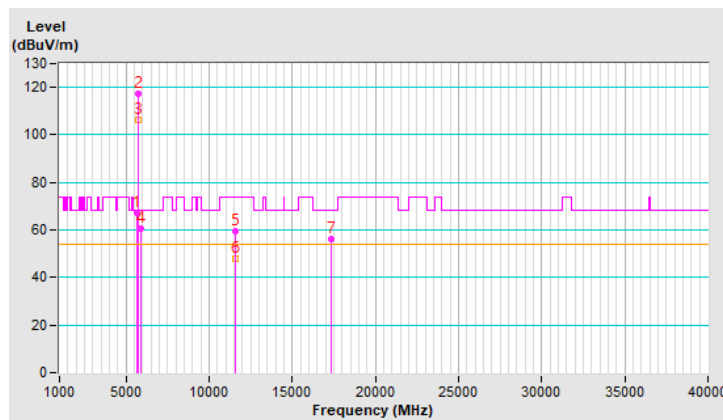


<b>RF Mode</b>	802.11ax (HE80)	<b>Channel</b>	CH 155 : 5775 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	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	#5647.32	67.4 PK	68.2	-0.8	2.34 H	74	65.8	1.6
2	*5775.00	117.1 PK			2.34 H	74	115.0	2.1
3	*5775.00	106.3 AV			2.34 H	74	104.2	2.1
4	#5926.09	60.4 PK	68.2	-7.8	2.34 H	74	58.1	2.3
5	11550.00	59.5 PK	74.0	-14.5	1.49 H	247	47.8	11.7
6	11550.00	47.8 AV	54.0	-6.2	1.49 H	247	36.1	11.7
7	#17325.00	56.2 PK	68.2	-12.0	3.13 H	279	40.2	16.0

**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.

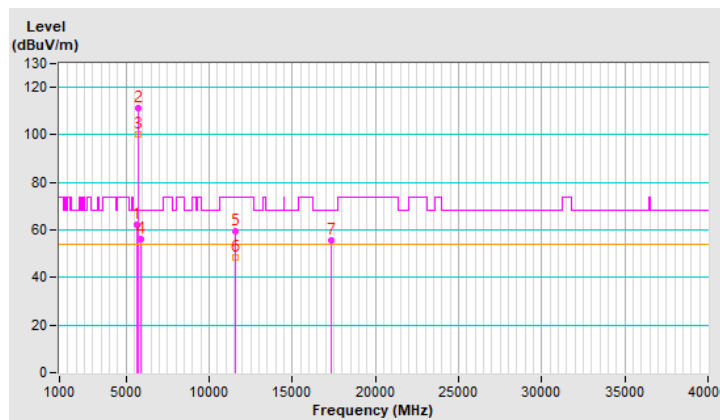


<b>RF Mode</b>	802.11ax (HE80)	<b>Channel</b>	CH 155 : 5775 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 200 Hz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	25°C, 75% RH
<b>Tested By</b>	Tom Yang		

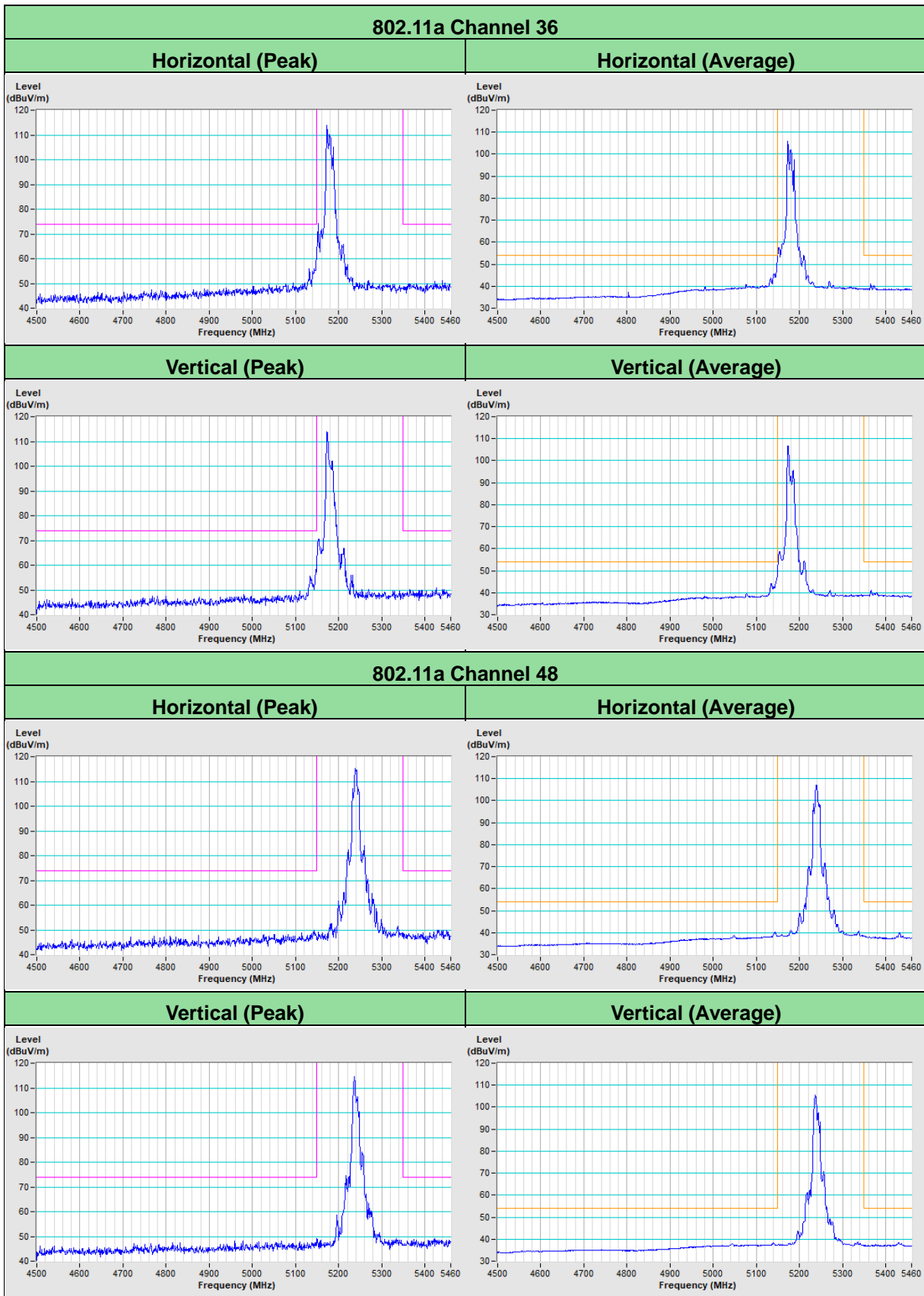
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.65	62.1 PK	68.2	-6.1	1.51 V	355	60.5	1.6
2	*5775.00	111.4 PK			1.51 V	355	109.3	2.1
3	*5775.00	100.3 AV			1.51 V	355	98.2	2.1
4	#5928.76	56.4 PK	68.2	-11.8	1.51 V	355	54.1	2.3
5	11550.00	59.5 PK	74.0	-14.5	2.51 V	187	47.8	11.7
6	11550.00	48.3 AV	54.0	-5.7	2.51 V	187	36.6	11.7
7	#17325.00	55.5 PK	68.2	-12.7	1.64 V	99	39.5	16.0

**Remarks:**

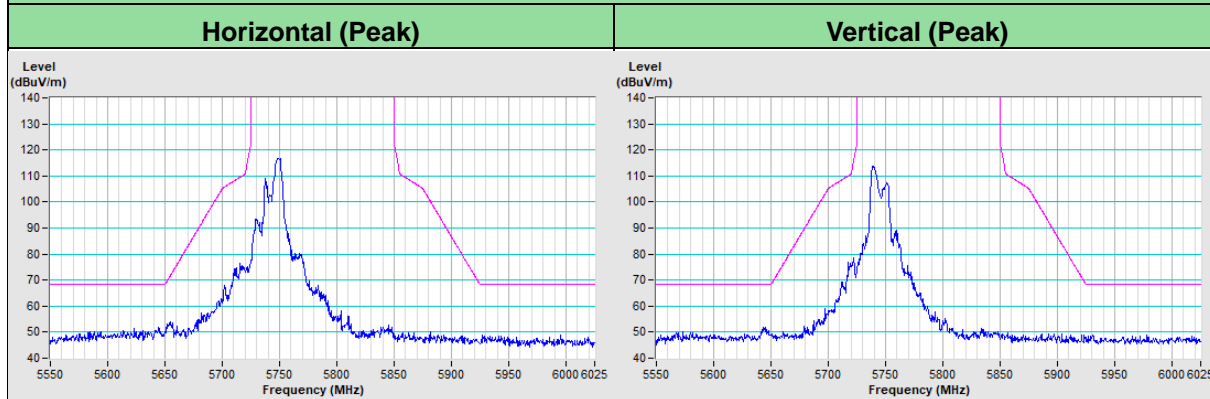
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency,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



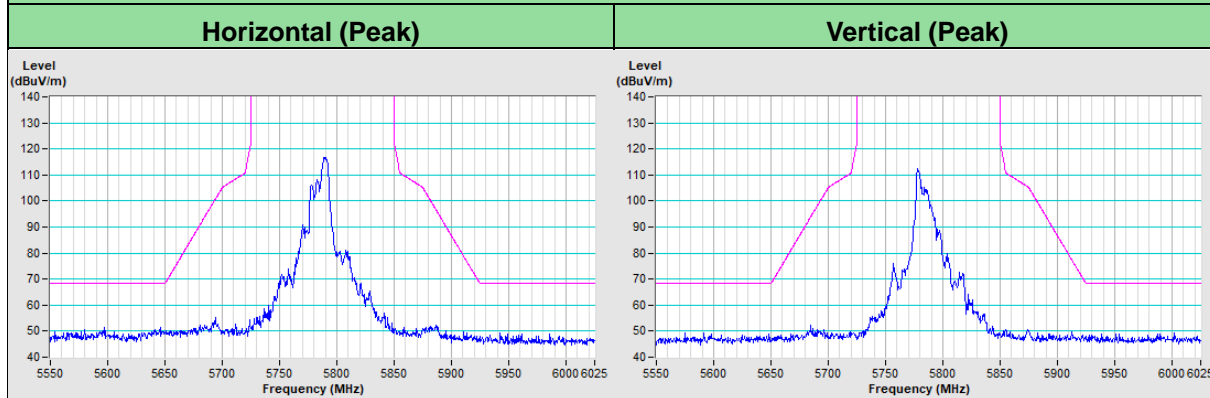
Plot of Band Edge



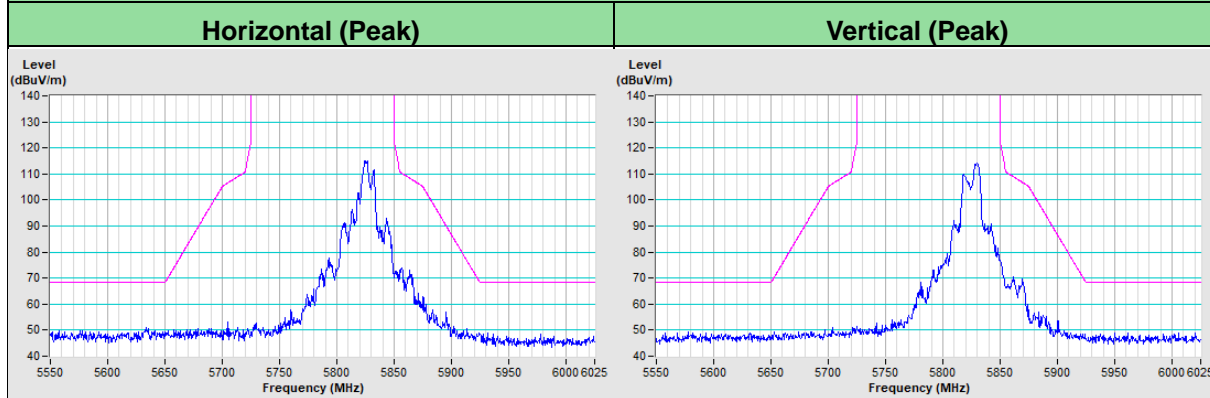
### 802.11a Channel 149



### 802.11a Channel 157

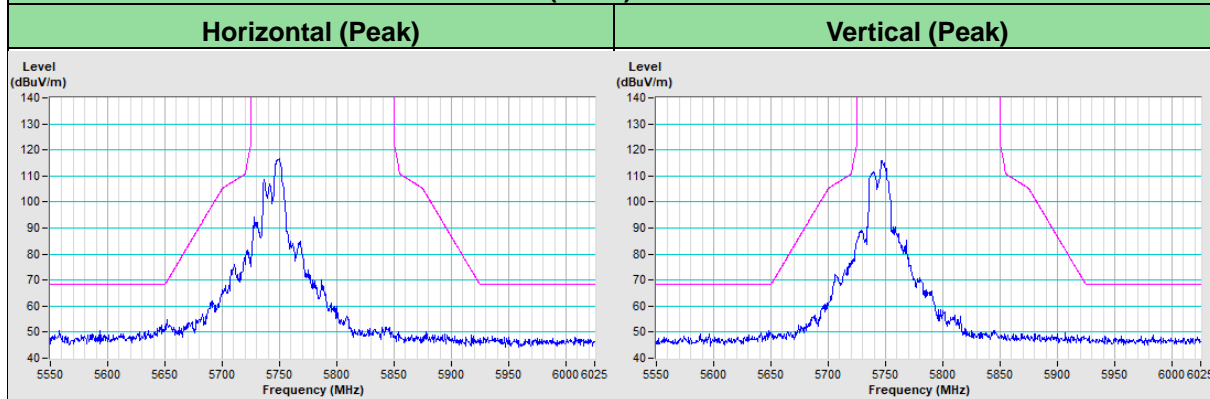


### 802.11a Channel 165

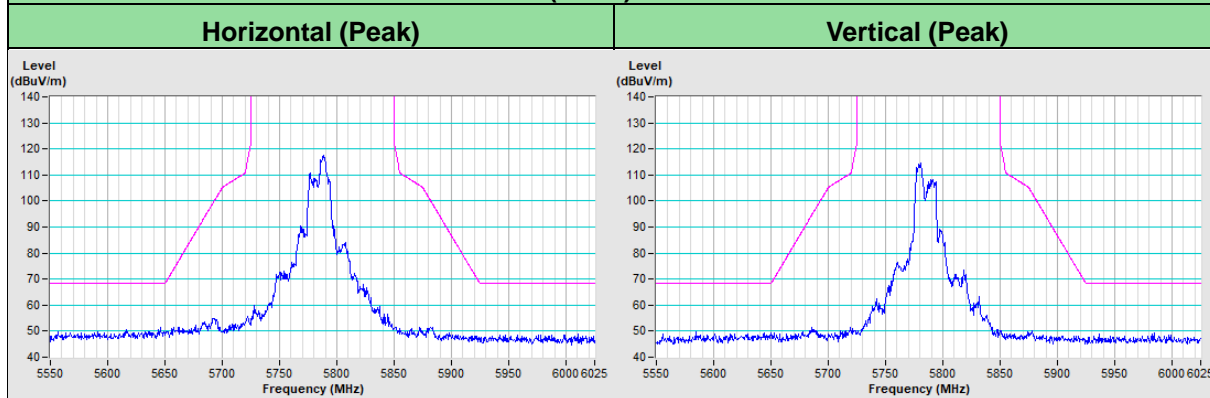




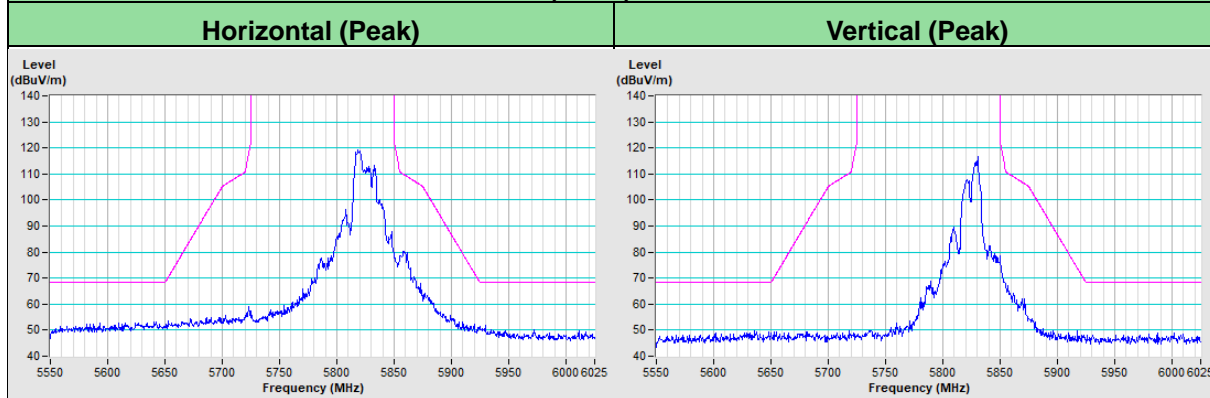
### 802.11ax (HE20) Channel 149



### 802.11ax (HE20) Channel 157



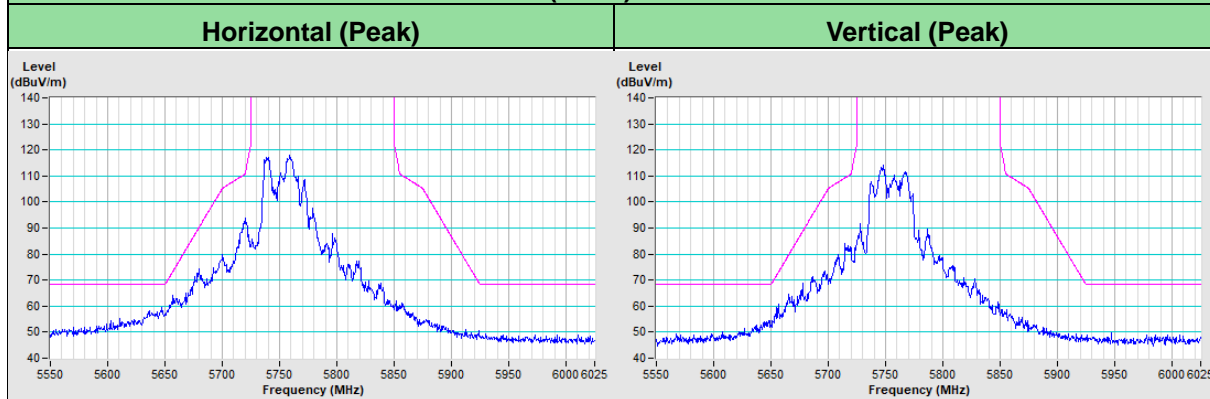
### 802.11ax (HE20) Channel 165



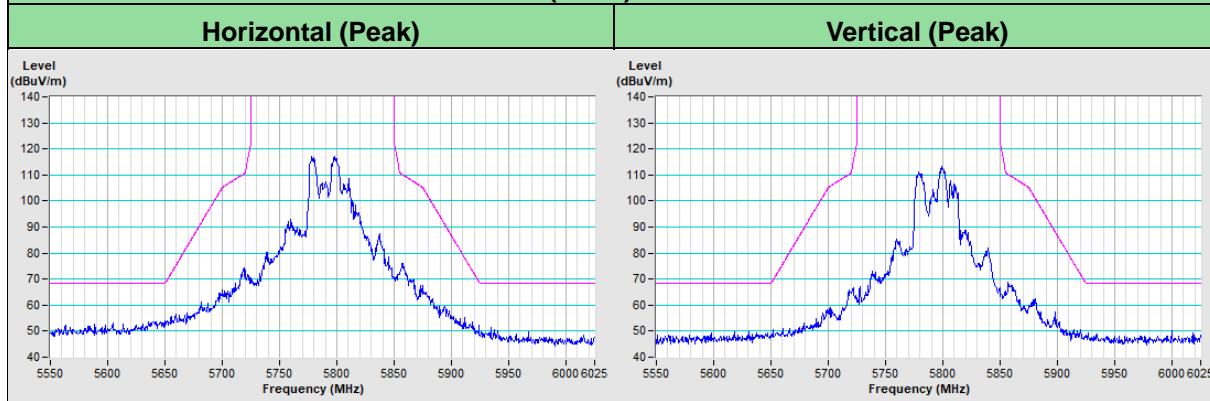




### 802.11ax (HE40) Channel 151

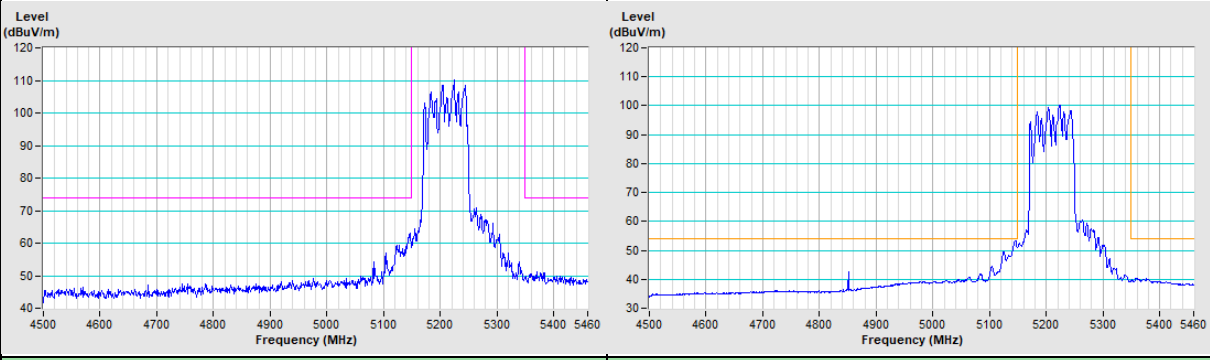


### 802.11ax (HE40) Channel 159

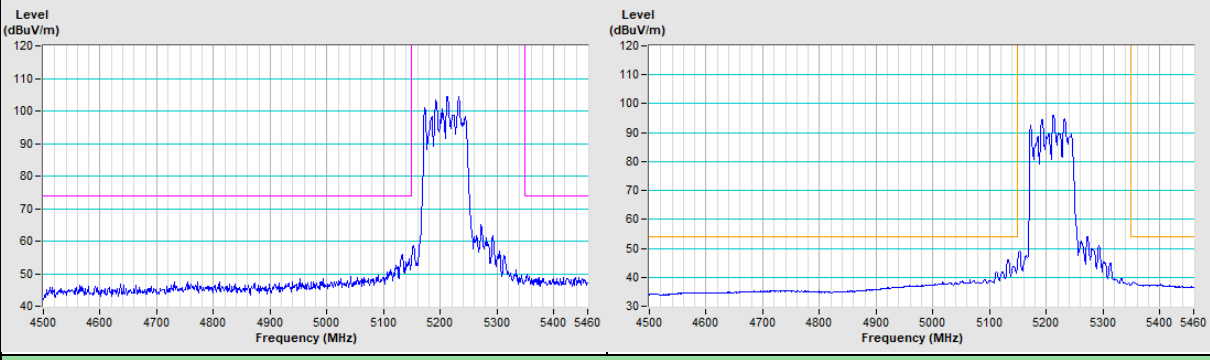


**802.11ax (HE80) Channel 42**

<b>Horizontal (Peak)</b>	<b>Horizontal (Average)</b>
--------------------------	-----------------------------

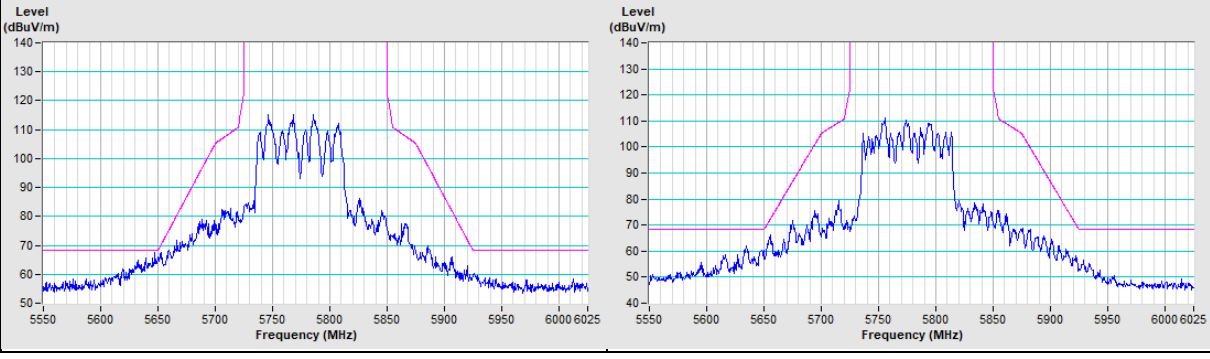


<b>Vertical (Peak)</b>	<b>Vertical (Average)</b>
------------------------	---------------------------



**802.11ax (HE80) Channel 155**

<b>Horizontal (Peak)</b>	<b>Vertical (Peak)</b>
--------------------------	------------------------



## 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](mailto: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 ---