

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBCKS-WTW-P23090477-1

FCC ID: 2AWHPR232

Product: Starlink Router

Brand: SPACEX



Model No.: UTR-232

Received Date: 2023/8/30

Test Date: 2023/9/6 ~ 2023/10/13

Issued Date: 2023/11/3

Applicant: Space Exploration Technologies Corp. (SPACEX)

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

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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: _____, **Date:** 2023/11/3
May Chen / Manager

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Prepared by : Phoenix Huang / Specialist



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Table of Contents

Release Control Record	4
1 Certificate	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Antenna Description of EUT	8
3.3 Channel List	10
3.4 Test Mode Applicability and Tested Channel Detail	11
3.5 Duty Cycle of Test Signal	13
3.6 Test Program Used and Operation Descriptions	17
3.7 Connection Diagram of EUT and Peripheral Devices	17
3.8 Configuration of Peripheral Devices and Cable Connections	17
4 Test Instruments	18
4.1 RF Output Power	18
4.2 Power Spectral Density	18
4.3 6 dB Bandwidth	18
4.4 Occupied Bandwidth	18
4.5 Frequency Stability	19
4.6 AC Power Conducted Emissions	19
4.7 Unwanted Emissions below 1 GHz	20
4.8 Unwanted Emissions above 1 GHz	20
5 Limits of Test Items	21
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
6 Test Arrangements	24
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	26
6.4.1 Test Setup	26
6.4.2 Test Procedure	26
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
7	Test Results of Test Item	31
7.1	RF Output Power.....	31
7.2	Power Spectral Density	39
7.3	6 dB Bandwidth	45
7.4	Occupied Bandwidth.....	47
7.5	Frequency Stability	57
7.6	AC Power Conducted Emissions	59
7.7	Unwanted Emissions below 1 GHz	63
7.8	Unwanted Emissions above 1 GHz.....	67
8	Pictures of Test Arrangements	113
9	Information of the Testing Laboratories	114

Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P23090477-1	Original release.	2023/11/3

1 Certificate

Product: Starlink Router

Brand: SPACEX



Test Model: UTR-232

Sample Status: Engineering sample

Applicant: Space Exploration Technologies Corp. (SPACEX)

Test Date: 2023/9/6 ~ 2023/10/13

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

Measurement procedure: ANSI C63.10-2013
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
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) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1) 15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -10.07 dB at 0.49812 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -12.3 dB at 564.25 MHz
15.407(b) (1/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 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) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	1050.00 Hz
Occupied Bandwidth	-	1050.00 Hz
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	Starlink Router
Brand	SPACEEX 
Test Model	UTR-232
Status of EUT	Engineering sample
Power Supply Rating	30 Vdc or 57 Vdc from power 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 1733.3 Mbps 802.11ax: up to 2401.9 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	CDD Mode: 5.18 GHz ~ 5.24 GHz: 980.355 mW (29.91 dBm) 5.745 GHz ~ 5.825 GHz: 996.887 mW (29.99 dBm) Beamforming Mode: 5.18 GHz ~ 5.24 GHz: 766.769 mW (28.85 dBm) 5.745 GHz ~ 5.825 GHz: 752.223 mW (28.76 dBm)
EUT Category	Indoor Access Point

Note:

1. The EUT uses following accessories.

AC Adapter 1		
Brand	Model	Specification
STARLINK	UTP-231L	AC Input : 100-240 V~1.6 A 50/60 Hz DC Output : 30 V-2.0 A (Total Max 60 W) LPS DC Output Cable : 1.5 m, unshielded without core Plug : FCC
AC Adapter 2		
Brand	Model	Specification
STARLINK	UTP-232C	AC Input : 100 V-240 V, 2.5 A, 50/60 Hz AC Input Cable : 1.55 m, shielded without core DC Output : 57 V, 3.42 A DC Output Cable : 1.55 m, unshielded without core Plug : FCC

2. The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3
WLAN 2.4GHz	WLAN 5GHz (Low)	WLAN 5GHz (High)

3. Simultaneously transmission condition.

Condition	Technology		
1	WLAN 2.4GHz	WLAN 5GHz (Low)	WLAN 5GHz (High)

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

4. 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
2G1	Ant1	4.49	2.4~2.4835	PIFA	ipex(MHF)
2G2	Ant2	4.89	2.4~2.4835	PIFA	ipex(MHF)
2G3	Ant3	2.63	2.4~2.4835	PIFA	ipex(MHF)
2G4	Ant4	4.88	2.4~2.4835	PIFA	ipex(MHF)
5L1	Ant1	4.35	5.15~5.25	PIFA	ipex(MHF)
		3.70	5.25~5.35		
5L2	Ant2	3.27	5.15~5.25	PIFA	ipex(MHF)
		3.09	5.25~5.35		
5L3	Ant3	4.22	5.15~5.25	PIFA	ipex(MHF)
		4.22	5.25~5.35		
5L4	Ant4	2.82	5.15~5.25	PIFA	ipex(MHF)
		2.56	5.25~5.35		
5H1	Ant1	5.14	5.47~5.725	PIFA	ipex(MHF)
		5.65	5.725~5.85		
5H2	Ant2	4.87	5.47~5.725	PIFA	ipex(MHF)
		4.26	5.725~5.85		
5H3	Ant3	5.46	5.47~5.725	PIFA	ipex(MHF)
		5.48	5.725~5.85		
5H4	Ant4	4.76	5.47~5.725	PIFA	ipex(MHF)
		4.33	5.725~5.85		

2. The directional gain table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Connector Type
2.4~2.4835	7.17	PIFA	ipex(MHF)
5.15 ~ 5.25	7.09	PIFA	ipex(MHF)
5.25 ~ 5.35	7.01	PIFA	ipex(MHF)
5.47 ~ 5.725	6.57	PIFA	ipex(MHF)
5.725 ~ 5.85	7.21	PIFA	ipex(MHF)

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

4. 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

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 (40 MHz, 80 MHz) therefore the manufacturer will control the power for 802.11n/ac mode is same as the 802.11ax mode 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), 802.11ax (HE20):

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80), 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), 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), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. The AC Adapter has the following models: UTP-231L/UTP-232C. Pre-scan these models of AC Adapters and find the worst case as a representative test condition. 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).
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: Z-axis 2. AC Adapter Worst Condition: UTP-231L

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

Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A	802.11a	CDD	36, 40, 48	BPSK	6Mb/s
		802.11ac (VHT20)	CDD & Beamforming	36, 40, 48	BPSK	MCS0
		802.11ac (VHT40)	CDD & Beamforming	38, 46	BPSK	MCS0
		802.11ac (VHT80)	CDD & Beamforming	42	BPSK	MCS0
		802.11ax (HE20)	CDD & Beamforming	36, 40, 48	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	38, 46	BPSK	MCS0
		802.11ax (HE80)	CDD & Beamforming	42	BPSK	MCS0
	B	802.11a	CDD	149, 157, 165	BPSK	6Mb/s
		802.11ac (VHT20)	CDD & Beamforming	149, 157, 165	BPSK	MCS0
		802.11ac (VHT40)	CDD & Beamforming	151, 159	BPSK	MCS0
		802.11ac (VHT80)	CDD & Beamforming	155	BPSK	MCS0
		802.11ax (HE20)	CDD & Beamforming	149, 157, 165	BPSK	MCS0
		802.11ax (HE40)	CDD & Beamforming	151, 159	BPSK	MCS0
		802.11ax (HE80)	CDD & Beamforming	155	BPSK	MCS0
6 dB Bandwidth	B	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	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
Power Spectral Density / Occupied Bandwidth	A	802.11a	CDD	36, 40, 48	BPSK	6Mb/s
		802.11ax (HE20)	CDD	36, 40, 48	BPSK	MCS0
		802.11ax (HE40)	CDD	38, 46	BPSK	MCS0
		802.11ax (HE80)	CDD	42	BPSK	MCS0
	B	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
Frequency Stability	A	802.11a	-	36	unmodulated	-
	B	802.11a	-	149	unmodulated	-
AC Power Conducted Emissions	A	802.11ax (HE40)	CDD	46	BPSK	MCS0
	B	802.11a	CDD	149	BPSK	6Mb/s
Unwanted Emissions below 1 GHz	A	802.11ax (HE40)	CDD	46	BPSK	MCS0
	B	802.11a	CDD	149	BPSK	6Mb/s
Unwanted Emissions above 1 GHz	A	802.11a	CDD	36, 40, 48	BPSK	6Mb/s
		802.11ax (HE20)	CDD	36, 40, 48	BPSK	MCS0
		802.11ax (HE40)	CDD	38, 46	BPSK	MCS0
		802.11ax (HE80)	CDD	42	BPSK	MCS0
	B	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
EUT Configure Mode:	A	5G Low Radio Chip Model: MT7976A				
	B	5G High Radio Chip Model: MT7975AN				
Note: Partial RU (resource unit) mechanism is not supported.						

3.5 Duty Cycle of Test Signal

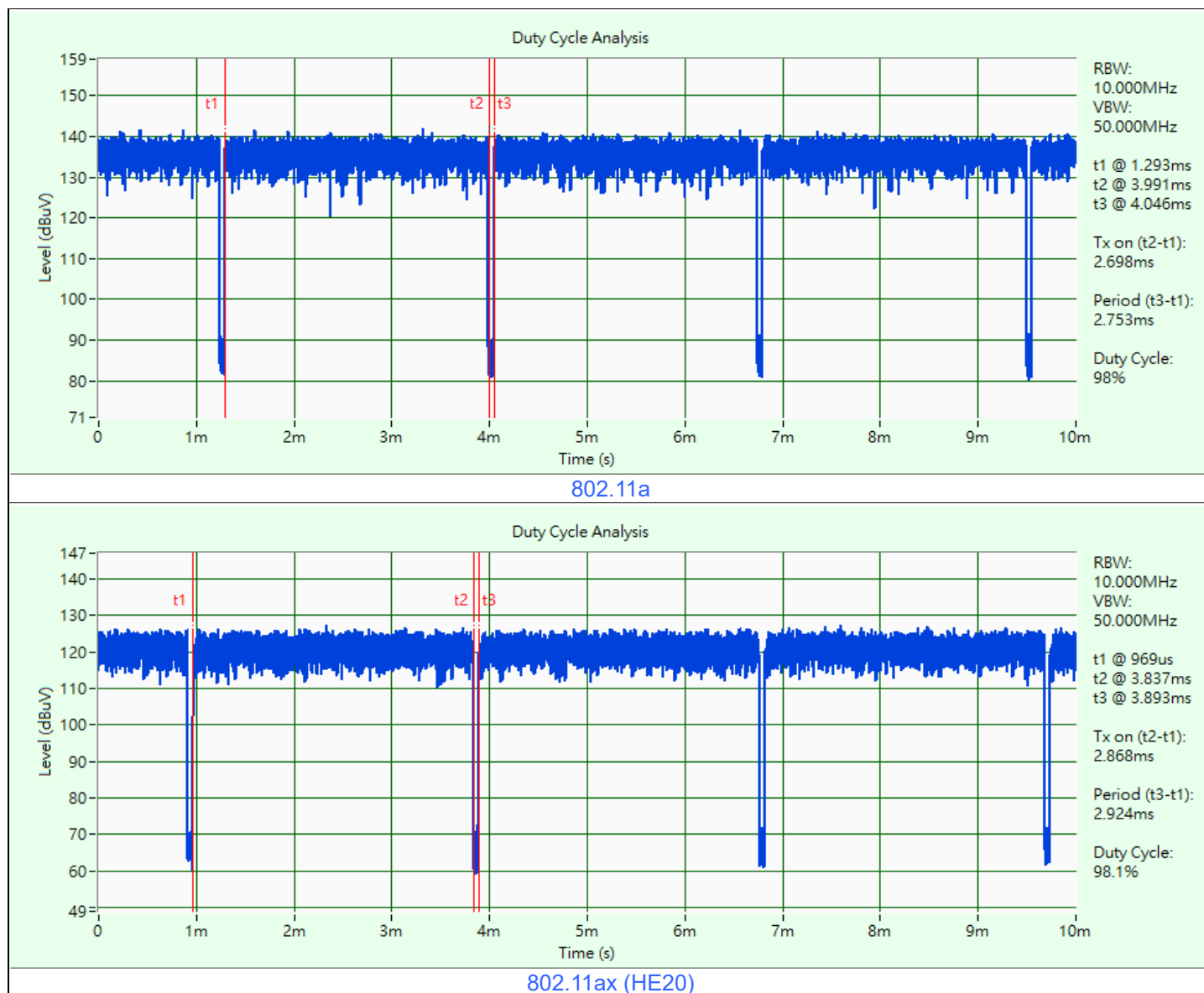
Mode A

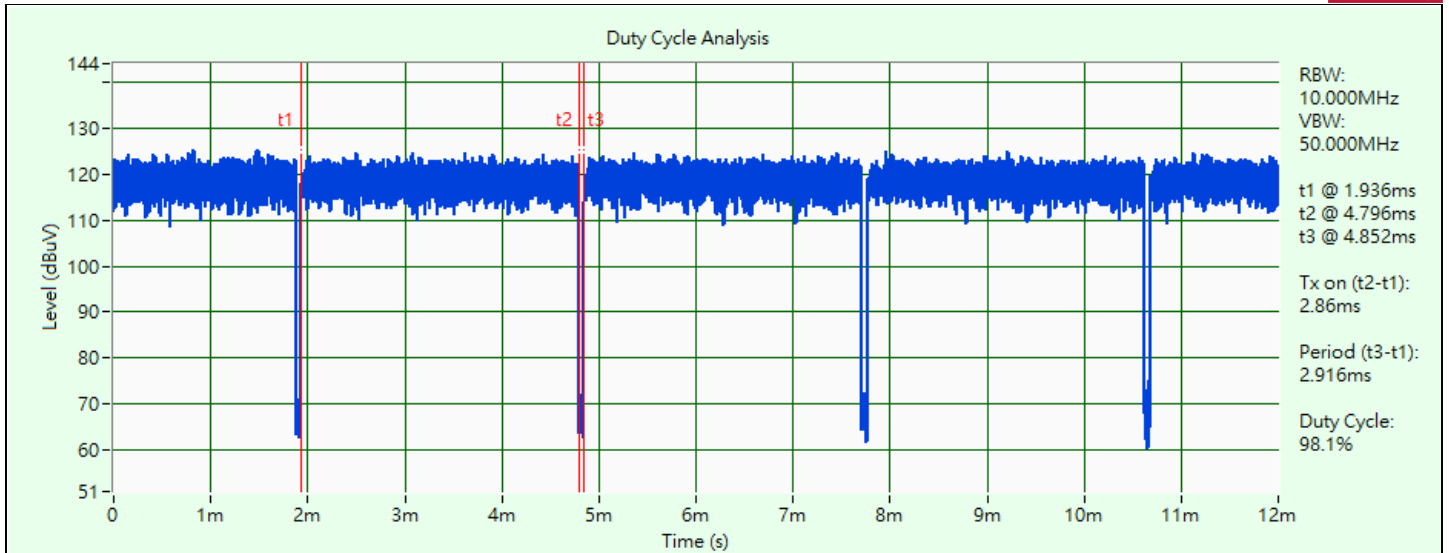
802.11a: Duty cycle = 2.698 ms / 2.753 ms x 100% = 98.0%

802.11ax (HE20): Duty cycle = 2.868 ms / 2.924 ms x 100% = 98.1%

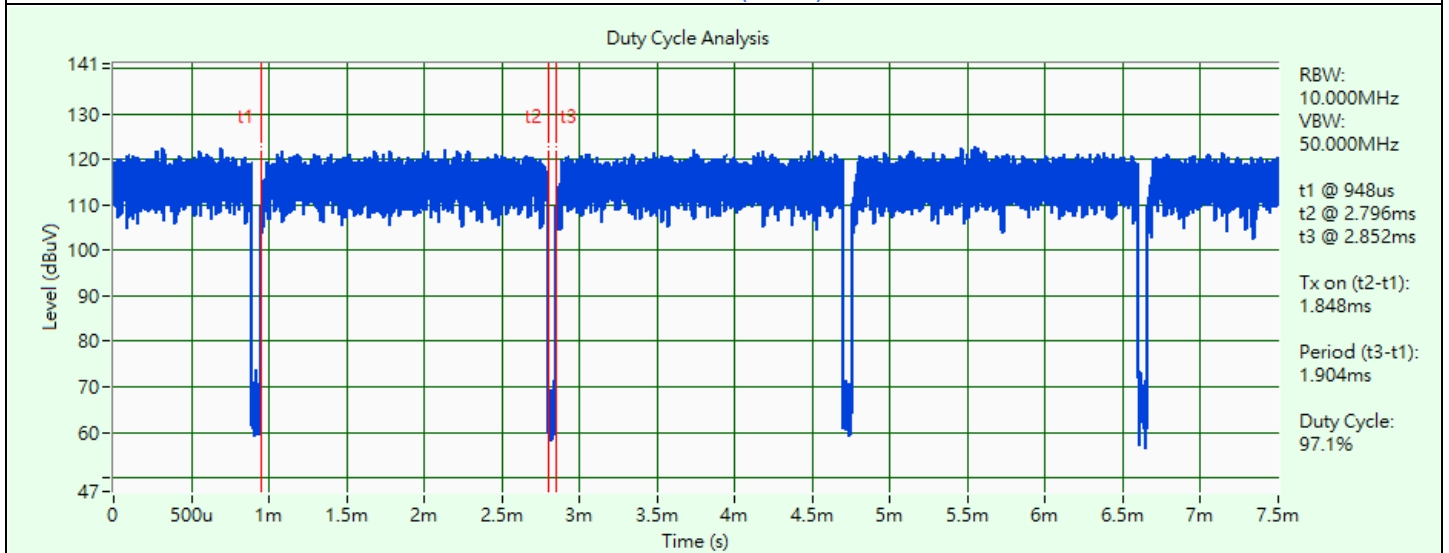
802.11ax (HE40): Duty cycle = 2.86 ms / 2.916 ms x 100% = 98.1%

802.11ax (HE80): Duty cycle = 1.848 ms / 1.904 ms x 100% = 97.1%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.13 \text{ dB}$





802.11ax (HE40)



802.11ax (HE80)

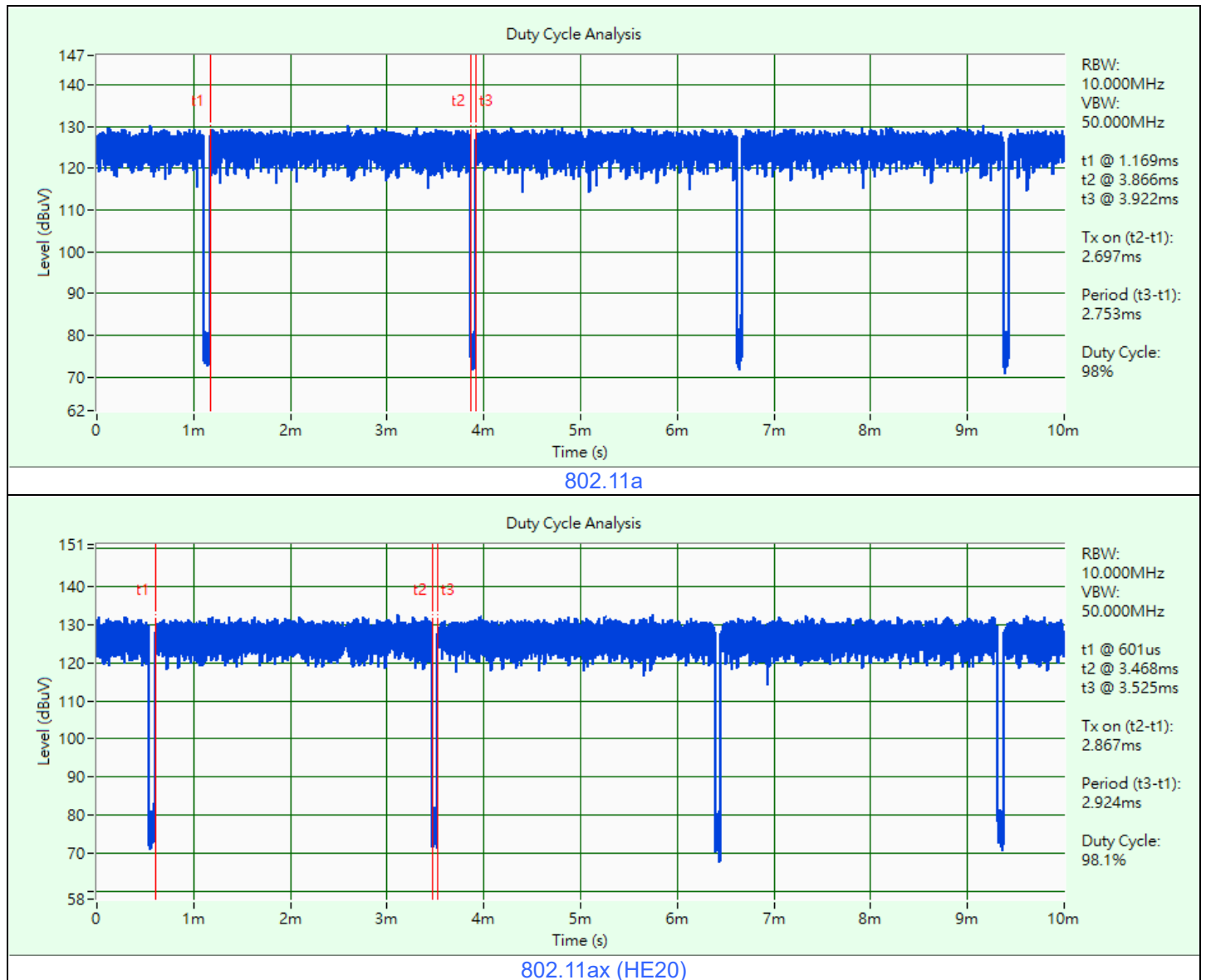
Mode B

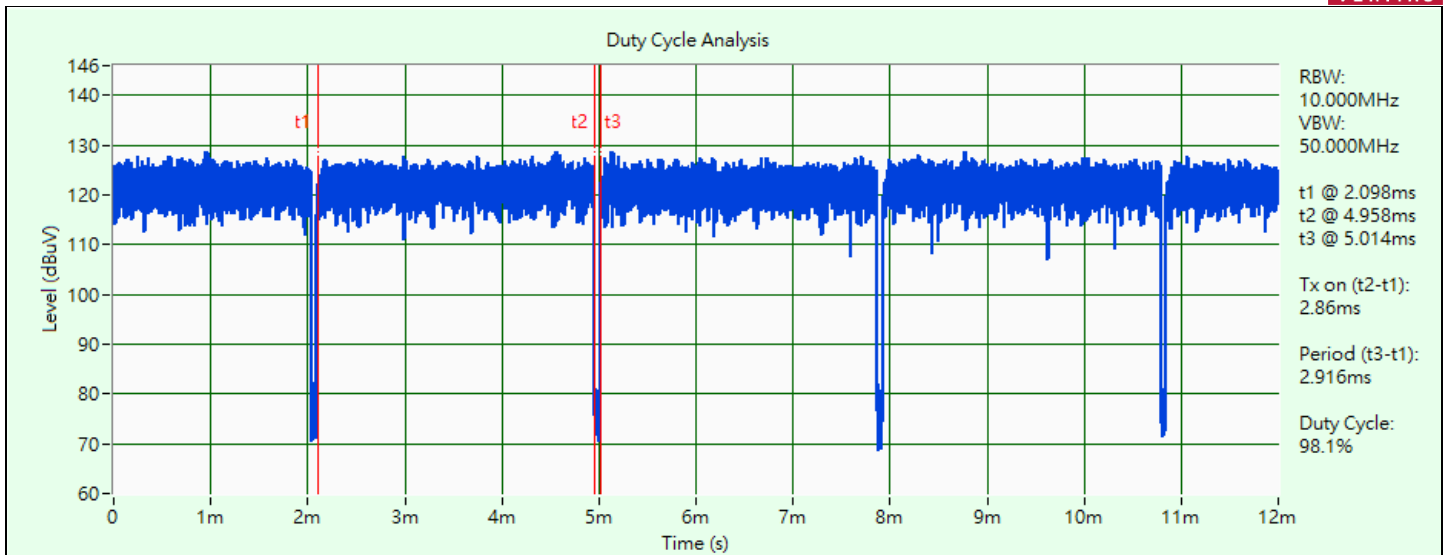
802.11a: Duty cycle = 2.697 ms / 2.753 ms x 100% = 98.0%

802.11ax (HE20): Duty cycle = 2.867 ms / 2.924 ms x 100% = 98.1%

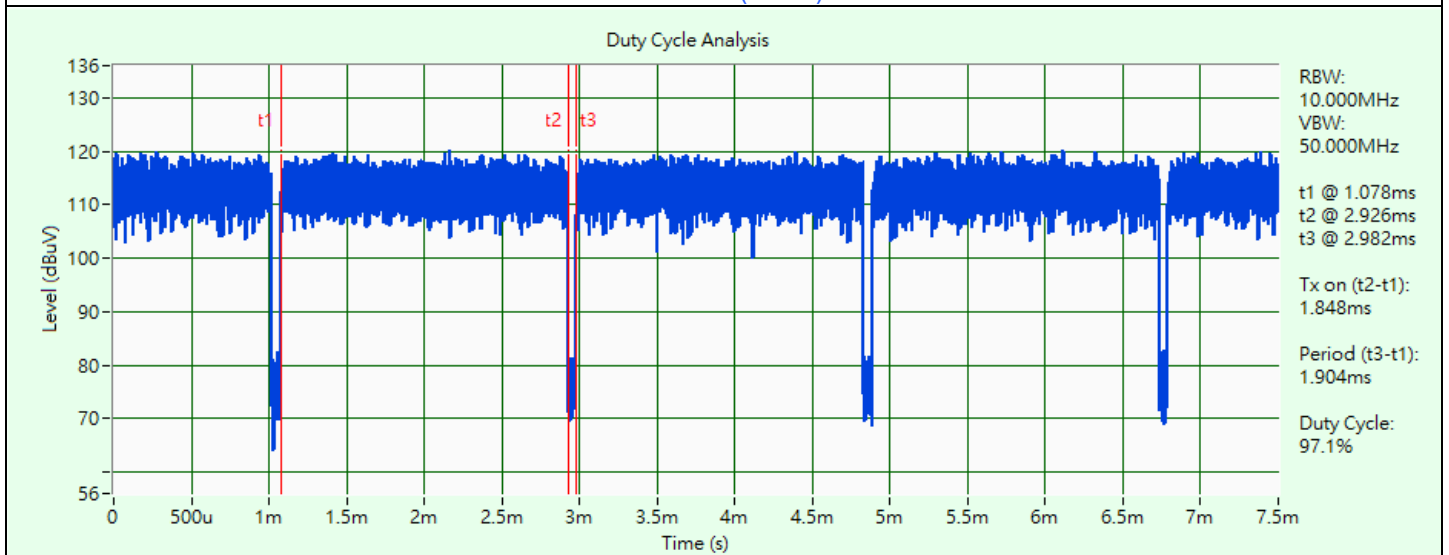
802.11ax (HE40): Duty cycle = 2.86 ms / 2.916 ms x 100% = 98.1%

802.11ax (HE80): Duty cycle = 1.848 ms / 1.904 ms x 100% = 97.1%, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.13 \text{ dB}$





802.11ax (HE40)

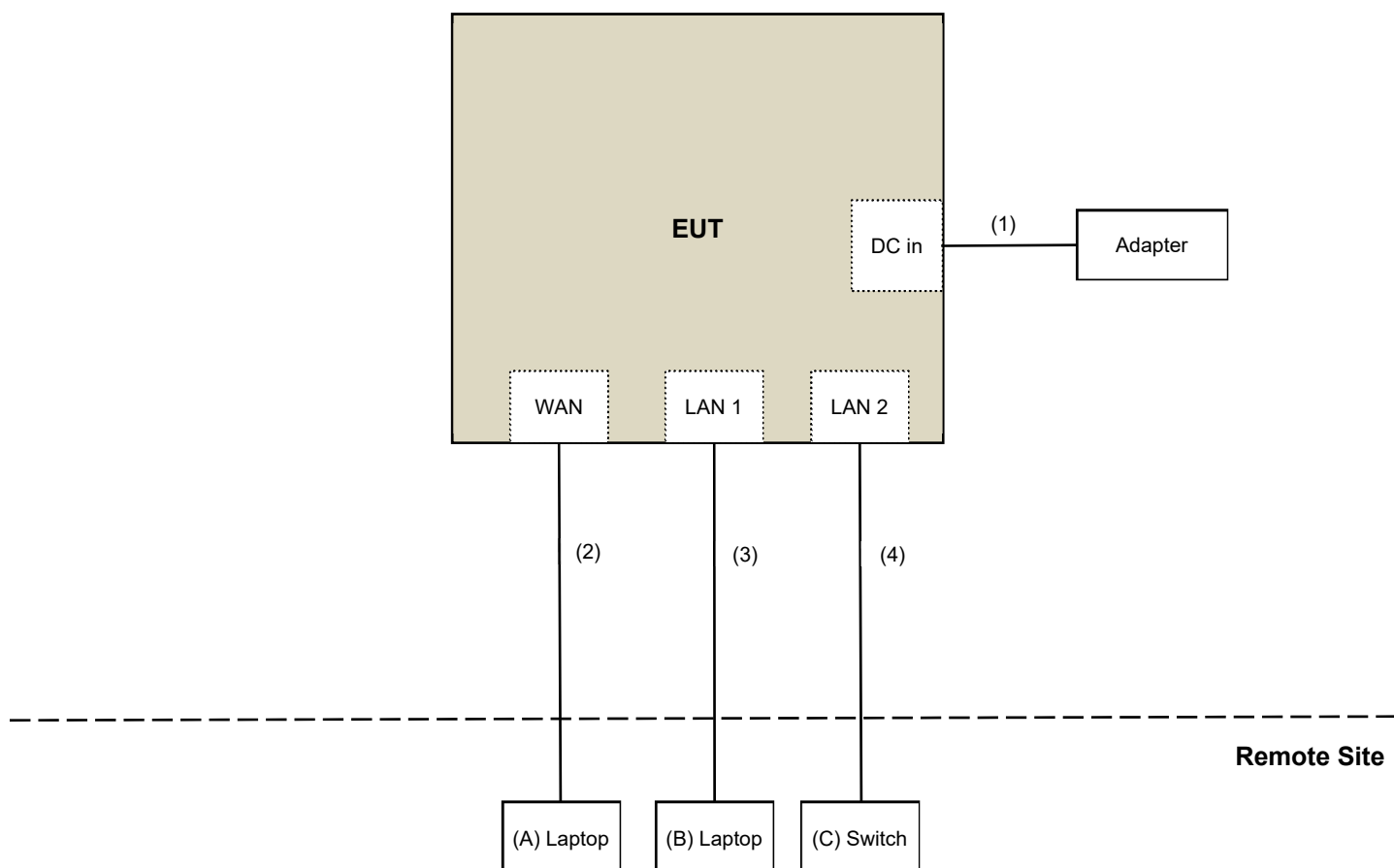


802.11ax (HE80)

3.6 Test Program Used and Operation Descriptions

Controlling software (QATool_Ulv2.88_DLLv6.93_ap_2022.01.04(V14)c) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	N/A	Provided by Lab
B	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Provided by Lab
C	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.5	No	0	Supplied by applicant
2	*RJ-45 Cable	1	10	Yes	0	Provided by Lab
3	RJ-45 Cable	1	10	No	0	Provided by Lab
4	RJ-45 Cable	1	10	No	0	Provided by Lab

Note: * The test configurations are defined by the applicant requirement.

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
Power Meter Anritsu	ML2495A	1529002	2023/6/17	2024/6/16
Pulse Power Sensor Anritsu	MA2411B	1726434	2023/6/19	2024/6/18

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/9/27

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
MXA Signal Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/9/27

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
AC Power Source GOOD WILL	6905S	1991551	N/A	N/A
MXA Signal Analyzer Keysight	N9020B	MY60112409	2023/2/18	2024/2/17
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2022/12/26	2023/12/25
True RMS Clamp Meter FLUKE	325	31130711WS	2023/6/8	2024/6/7

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2023/9/27

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-04	2022/10/25	2023/10/24
EMI Test Receiver R&S	ESCS 30	100375	2023/5/17	2024/5/16
Fixed Attenuator STI	STI02-2200-10	005	2023/7/1	2024/6/30
LISN R&S	ENV216	100071	2022/10/26	2023/10/25
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2023/7/1	2024/6/30
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2023/10/6

4.7 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-406	2023/10/13	2024/10/12
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2022/12/28	2023/12/27
Loop Antenna Electro-Metrics	EM-6879	264	2023/2/21	2024/2/20
MXA Signal Analyzer Keysight	N9020B	MY60112408	2023/3/6	2024/3/5
MXE EMI Receiver Keysight	N9038A	MY59050100	2023/6/13	2024/6/12
Preamplifier EMCI	EMC330N	980701	2023/2/18	2024/2/17
	EMC001340	980142	2023/5/8	2024/5/7
RF Coaxial Cable JYBAO	5D-FB	LOOPCAB-001	2022/12/19	2023/12/18
		LOOPCAB-002	2022/12/19	2023/12/18
RF Coaxial Cable PEWC	8D	966-4-1	2023/2/18	2024/2/17
		966-4-2	2023/2/18	2024/2/17
		966-4-3	2023/2/18	2024/2/17
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2023/10/13

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	2022/11/13	2023/11/12
	BBHA 9170	9170-739	2022/11/13	2023/11/12
MXA Signal Analyzer Keysight	N9020B	MY60112408	2023/3/6	2024/3/5
Preamplifier EMCI	EMC12630SE	980688	2022/10/4	2023/10/3
	EMC184045SE	980387	2023/8/9	2024/8/8
RF Coaxial Cable EMCI	EMC-KM-KM-4000	200214	2023/2/20	2024/2/19
	EMC102-KM-KM-1200	160924	2023/8/9	2024/8/8
	EMC104-SM-SM-1200	160922	2023/8/9	2024/8/8
	EMC104-SM-SM-2000	180502	2023/3/27	2024/3/26
	EMC104-SM-SM-6000	210704	2022/11/4	2023/11/3
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2023/9/6 ~ 2023/9/29

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	250mW (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 ≥ 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)

For transmitters operating in the 5.15-5.25 GHz band:

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

For transmitters operating in the 5.725-5.850 GHz band:

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

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

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

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

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

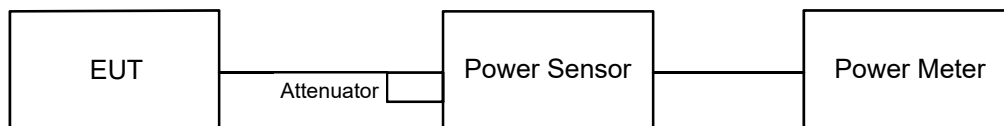
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

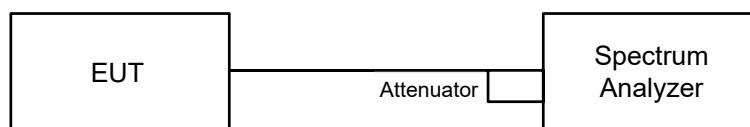


6.1.2 Test Procedure

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-1

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

For specified measurement bandwidth 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-1

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

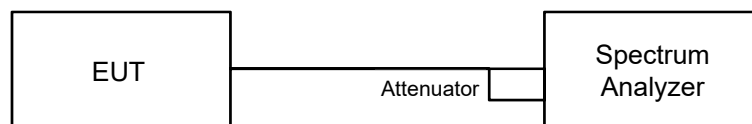
For specified measurement bandwidth 500 kHz:

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 $BWCF = 10\log(500 \text{ kHz}/300 \text{ kHz})$
- 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

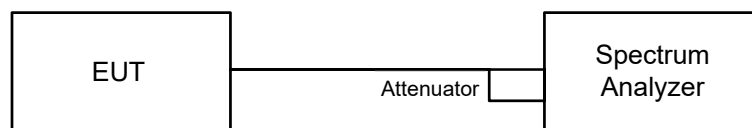


6.3.2 Test Procedure

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

6.4 Occupied Bandwidth

6.4.1 Test Setup

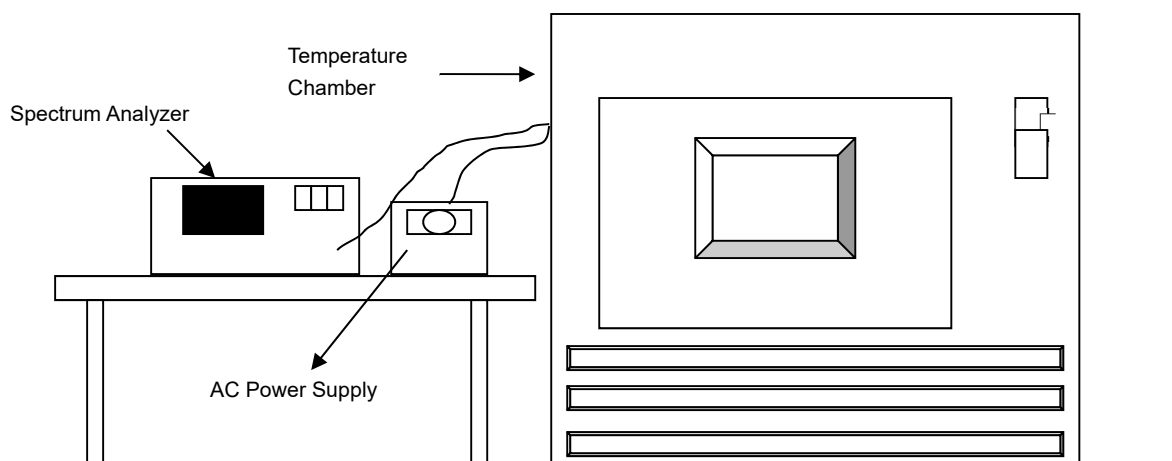


6.4.2 Test Procedure

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

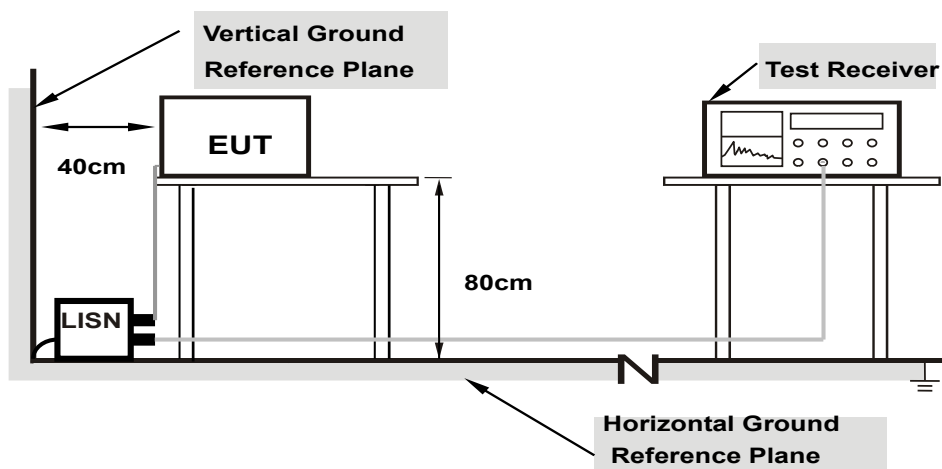


6.5.2 Test Procedure

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

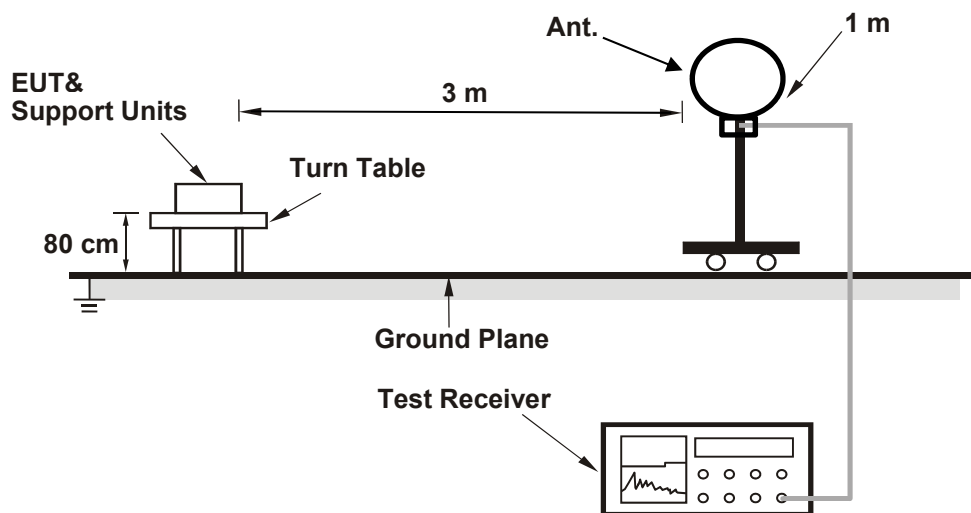
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

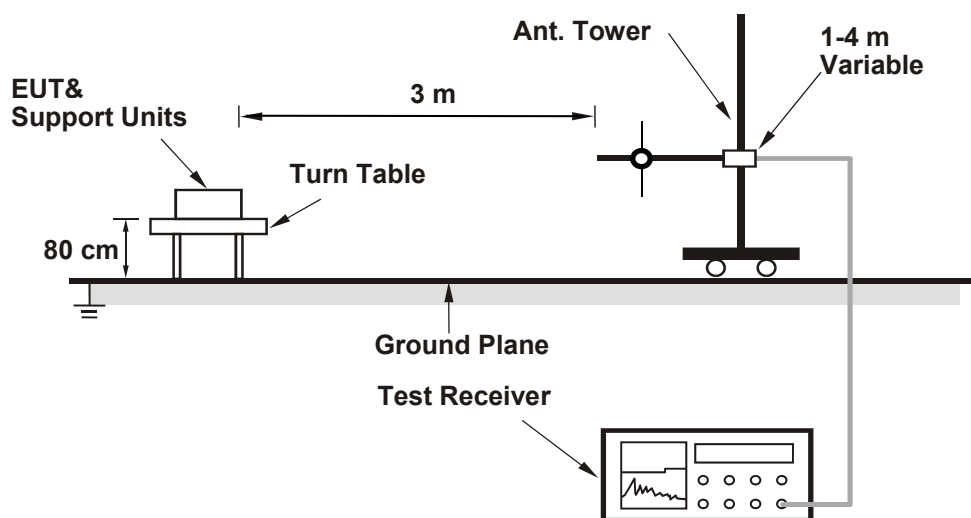
6.7 Unwanted Emissions below 1 GHz

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

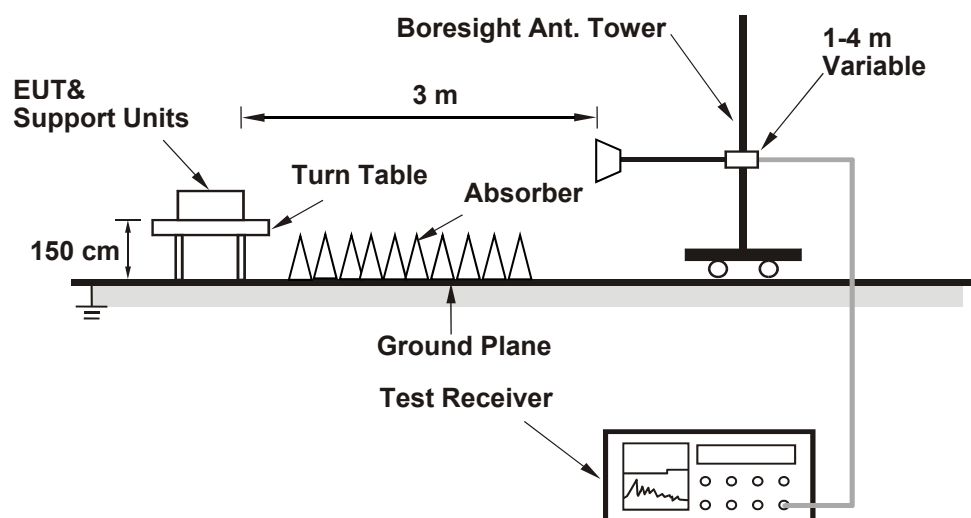
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode A

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	22.31	21.92	21.40	21.91	619.09	27.92	30	Pass
40	5200	22.22	21.96	21.32	21.76	609.248	27.85	30	Pass
48	5240	22.27	22.10	21.41	22.07	630.258	28.00	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 4.35 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	21.96	21.47	21.37	21.35	570.864	27.57	30	Pass
40	5200	22.08	21.74	21.79	21.54	604.284	27.81	30	Pass
48	5240	21.75	21.71	21.44	21.59	581.403	27.64	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 4.35 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	19.93	19.25	19.55	19.33	358.402	25.54	30	Pass
46	5230	23.75	23.70	23.50	23.59	923.992	29.66	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.35 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	16.40	16.09	16.05	15.97	164.104	22.15	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.35 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	22.21	21.75	21.65	21.58	606.062	27.83	30	Pass
40	5200	22.34	21.95	22.05	21.78	639.056	28.06	30	Pass
48	5240	22.02	21.98	21.73	21.88	620.088	27.92	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the directional gain is 4.35 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	20.18	19.49	19.81	19.58	379.653	25.79	30	Pass
46	5230	23.96	23.98	23.79	23.84	980.355	29.91	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.35 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	16.70	16.35	16.27	16.22	174.169	22.41	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-1, the maximum gain is 4.35 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	21.96	21.47	21.37	21.35	570.864	27.57	28.91	Pass
40	5200	22.08	21.74	21.79	21.54	604.284	27.81	28.91	Pass
48	5240	21.75	21.71	21.44	21.59	581.403	27.64	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ 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	19.93	19.25	19.55	19.33	358.402	25.54	28.91	Pass
46	5230	22.65	22.63	22.54	22.47	723.386	28.59	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ 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	16.40	16.09	16.05	15.97	164.104	22.15	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ 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	22.21	21.75	21.65	21.58	606.062	27.83	28.91	Pass
40	5200	22.34	21.95	22.05	21.78	639.056	28.06	28.91	Pass
48	5240	22.02	21.98	21.73	21.88	620.088	27.92	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ 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	20.18	19.49	19.81	19.58	379.653	25.79	28.91	Pass
46	5230	22.92	22.92	22.74	22.72	766.769	28.85	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ 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	16.70	16.35	16.27	16.22	174.169	22.41	28.91	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-1, the directional gain is 7.09 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.09-6) = 28.91$ dBm.

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode B

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				
149	5745	24.00	23.99	23.82	24.05	996.887	29.99	30	Pass
157	5785	24.24	23.91	23.50	24.16	995.985	29.98	30	Pass
165	5825	23.42	23.77	24.42	23.89	979.618	29.91	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the directional gain is 5.65 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				
149	5745	23.86	23.70	23.59	23.61	935.818	29.71	30	Pass
157	5785	23.79	23.47	23.15	23.97	917.66	29.63	30	Pass
165	5825	23.15	23.31	24.09	23.86	920.496	29.64	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the directional gain is 5.65 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				
151	5755	23.72	23.59	23.35	23.70	914.76	29.61	30	Pass
159	5795	23.84	23.53	23.12	23.76	910.327	29.59	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the maximum gain is 5.65 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				
155	5775	23.15	22.59	22.33	22.90	754.076	28.77	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the maximum gain is 5.65 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				
149	5745	24.12	23.97	23.79	23.85	989.678	29.95	30	Pass
157	5785	24.06	23.74	23.39	24.20	972.575	29.88	30	Pass
165	5825	23.39	23.57	24.30	24.08	970.795	29.87	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the directional gain is 5.65 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				
151	5755	24.00	23.85	23.55	23.91	966.351	29.85	30	Pass
159	5795	24.06	23.77	23.37	24.00	961.374	29.83	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the maximum gain is 5.65 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				
155	5775	23.37	22.80	22.62	23.18	798.596	29.02	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3, the maximum gain is 5.65 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				
149	5745	22.64	22.54	22.38	22.38	709.09	28.51	28.79	Pass
157	5785	22.60	22.24	21.94	22.71	692.417	28.40	28.79	Pass
165	5825	21.93	22.12	22.83	22.61	693.141	28.41	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ 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				
151	5755	22.65	22.48	22.26	22.56	709.657	28.51	28.79	Pass
159	5795	22.72	22.43	22.09	22.68	709.214	28.51	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ 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				
155	5775	22.54	22.05	21.90	22.41	668.86	28.25	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ 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				
149	5745	22.88	22.78	22.59	22.63	748.542	28.74	28.79	Pass
157	5785	22.84	22.50	22.18	22.99	734.401	28.66	28.79	Pass
165	5825	22.20	22.35	23.06	22.85	732.804	28.65	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ 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				
151	5755	22.89	22.76	22.47	22.79	750.047	28.75	28.79	Pass
159	5795	22.96	22.72	22.31	22.95	752.223	28.76	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ 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				
155	5775	22.83	22.32	22.11	22.69	710.81	28.52	28.79	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the output power limit shall be reduced to $30-(7.21-6) = 28.79$ dBm.

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode A

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	9.99	9.53	8.02	9.84	15.43	15.91	Pass
40	5200	9.87	9.53	9.04	9.66	15.56	15.91	Pass
48	5240	9.92	9.49	8.70	9.62	15.48	15.91	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 7.09 dBi > 6dBi, so the power density limit shall be reduced to $17-(7.09-6) = 15.91$ dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	9.87	9.26	9.89	8.98	15.54	15.91	Pass
40	5200	10.08	9.88	10.11	9.19	15.85	15.91	Pass
48	5240	9.76	9.55	10.03	9.17	15.66	15.91	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 7.09 dBi > 6dBi, so the power density limit shall be reduced to $17-(7.09-6) = 15.91$ dBm/MHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
38	5190	5.44	5.14	5.21	4.71	11.15	15.91	Pass
46	5230	9.68	8.68	9.92	8.80	15.32	15.91	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 7.09 dBi > 6dBi, so the power density limit shall be reduced to $17-(7.09-6) = 15.91$ dBm/MHz.

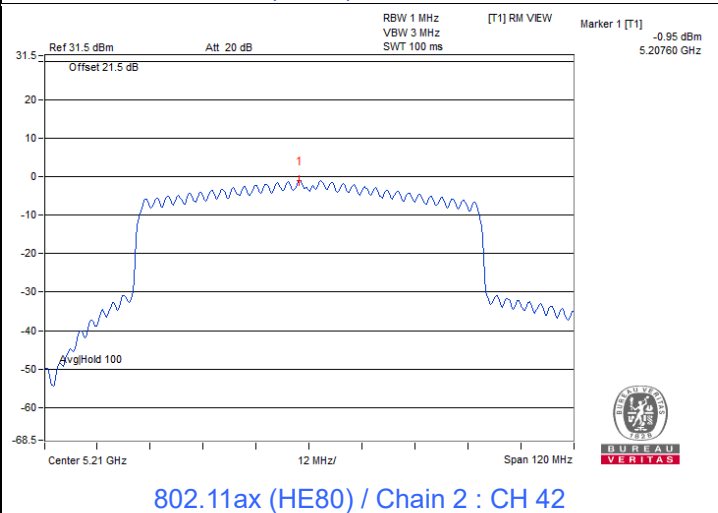
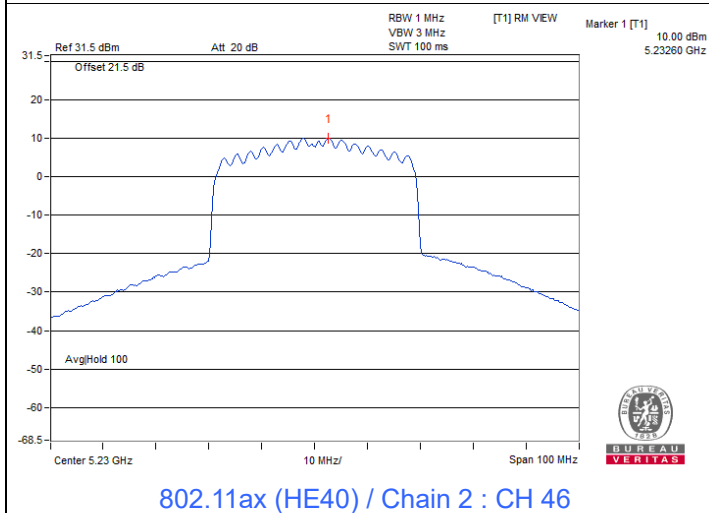
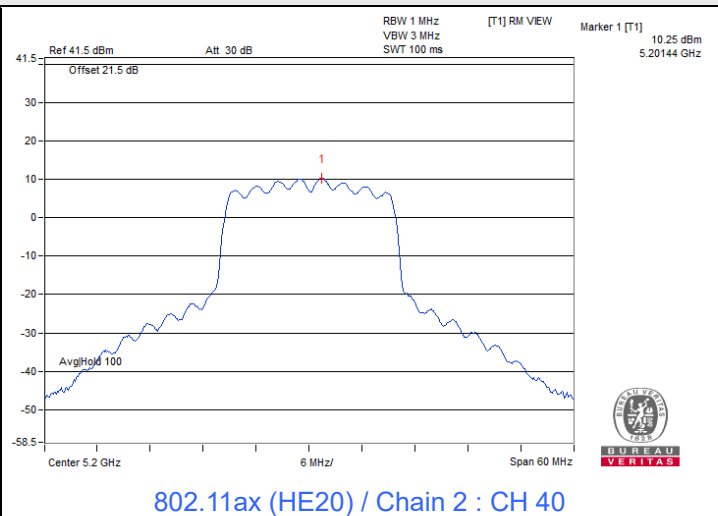
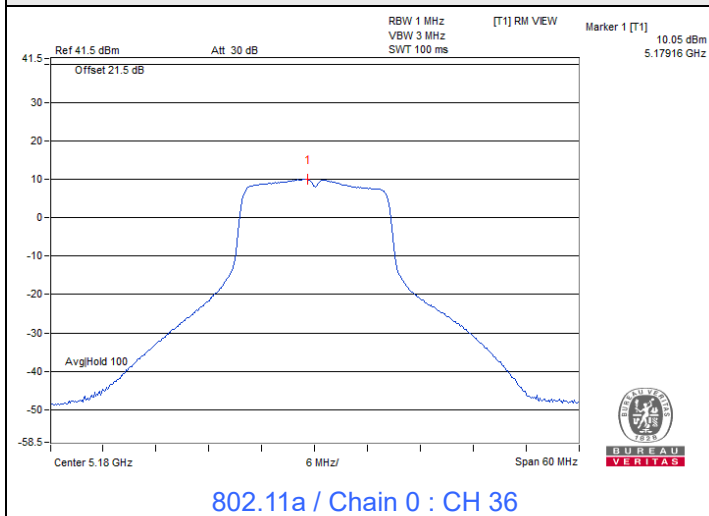
802.11ax (HE80)

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	-1.27	-1.48	-1.03	-1.78	0.13	4.77	15.91	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 7.09 dBi > 6dBi, so the power density limit shall be reduced to $17-(7.09-6) = 15.91$ dBm/MHz.

Spectrum Plot of Maximum Value



Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode B

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	6.73	6.45	6.18	7.97	12.91	15.13	28.79	Pass
157	5785	6.97	6.85	6.35	8.58	13.29	15.51	28.79	Pass
165	5825	6.37	6.90	7.52	7.66	13.16	15.38	28.79	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the power density limit shall be reduced to $30-(7.21-6) = 28.79$ dBm/500kHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	5.92	5.64	5.52	7.69	12.31	14.53	28.79	Pass
157	5785	6.35	5.87	5.48	8.33	12.68	14.90	28.79	Pass
165	5825	5.48	6.10	6.97	8.04	12.78	15.00	28.79	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the power density limit shall be reduced to $30-(7.21-6) = 28.79$ dBm/500kHz.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)				Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	2.95	2.60	2.42	5.28	9.5	11.72	28.79	Pass
159	5795	3.35	3.05	2.63	5.15	9.68	11.90	28.79	Pass

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the power density limit shall be reduced to $30-(7.21-6) = 28.79$ dBm/500kHz.

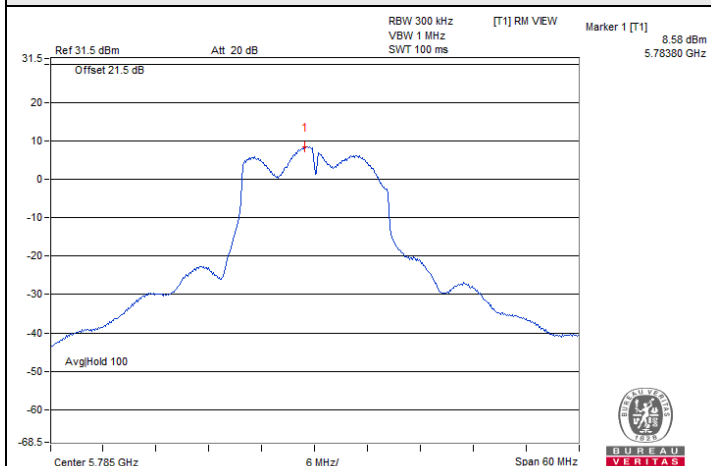
802.11ax (HE80)

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	0.00	-0.08	-0.70	2.25	6.54	0.13	8.89	28.79	Pass

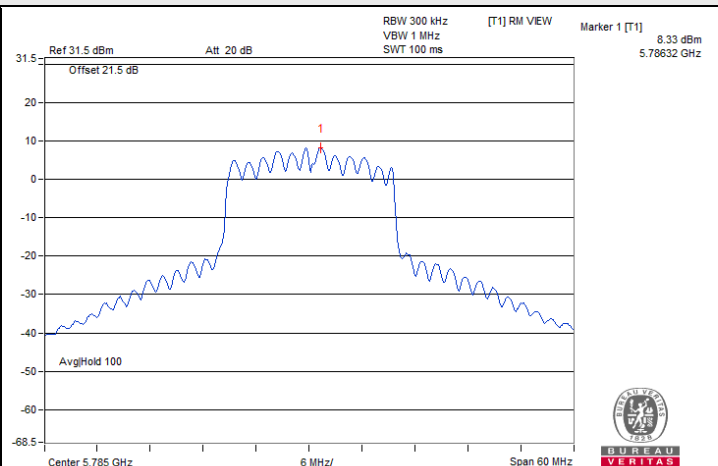
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-3, the directional gain is 7.21 dBi > 6 dBi, so the power density limit shall be reduced to $30-(7.21-6) = 28.79$ dBm/500kHz.

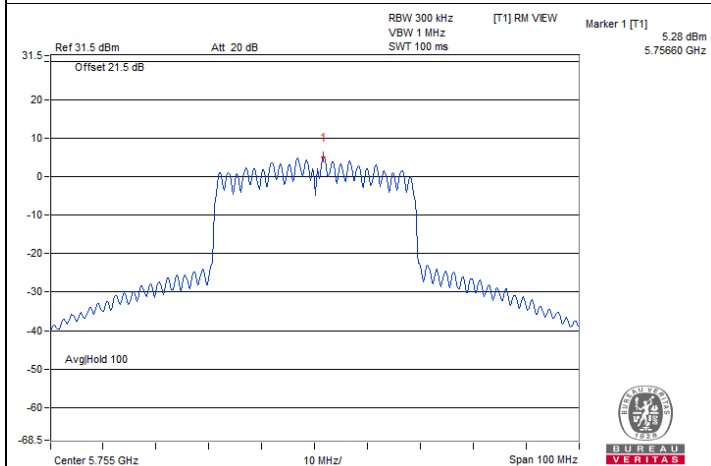
Spectrum Plot of Maximum Value



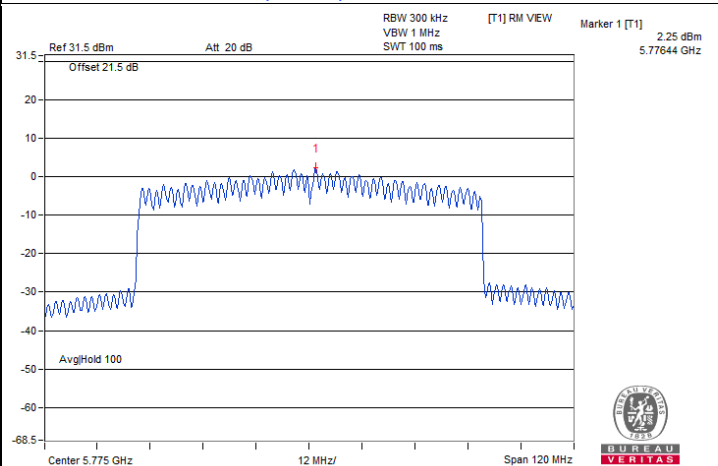
802.11a / Chain 3 : CH 157



802.11ax (HE20) / Chain 3 : CH 157



802.11ax (HE40) / Chain 3 : CH 151



802.11ax (HE80) / Chain 3 : CH 155

7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	15.03	13.16	14.42	12.49	0.5	Pass
157	5785	14.69	14.96	14.19	13.79	0.5	Pass
165	5825	15.05	15.05	15.01	15.07	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	18.52	17.37	17.44	16.60	0.5	Pass
157	5785	14.32	17.41	14.44	18.19	0.5	Pass
165	5825	16.54	18.21	18.62	17.18	0.5	Pass

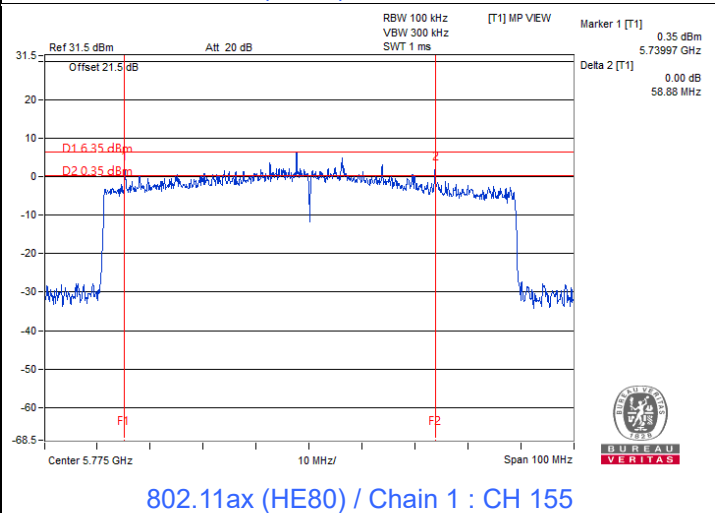
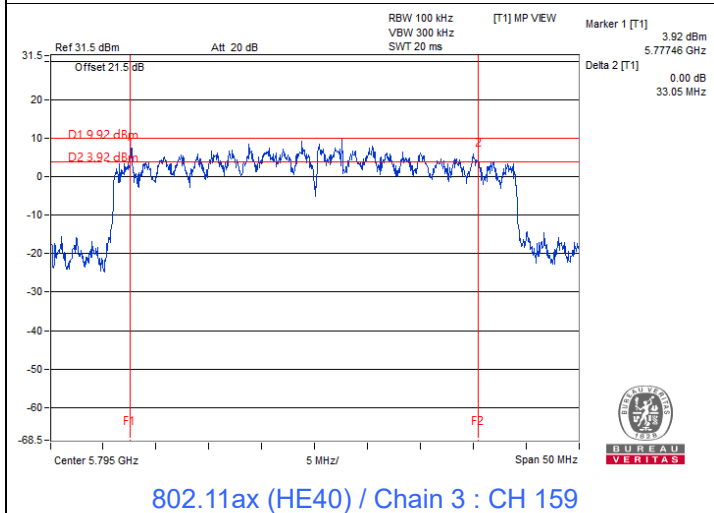
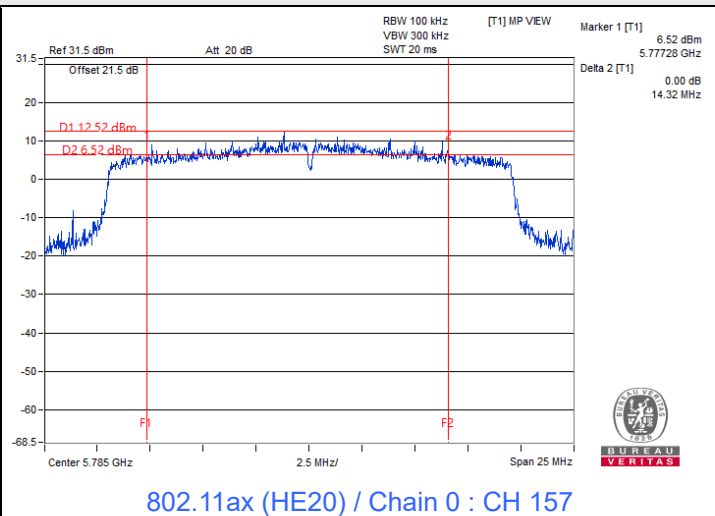
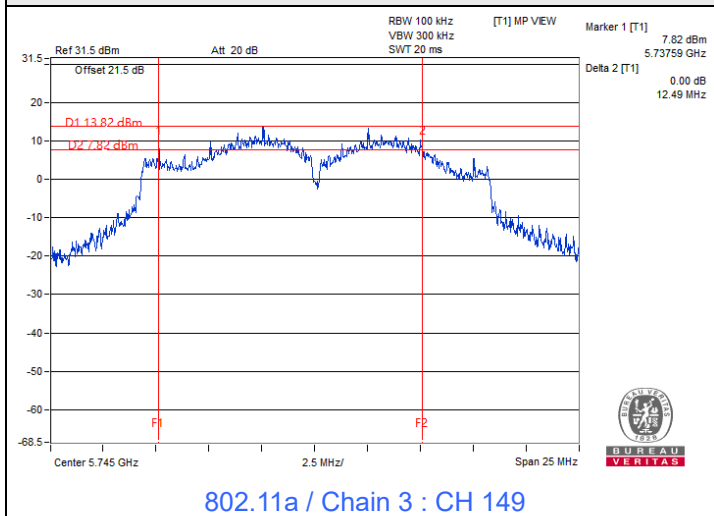
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	35.92	34.98	34.67	34.94	0.5	Pass
159	5795	35.14	33.78	35.94	33.05	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	74.87	58.88	76.20	72.86	0.5	Pass

Spectrum Plot of Minimum Value



7.4 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode A

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.50	16.62	16.74	16.44
40	5200	16.62	16.62	16.68	16.50
48	5240	16.56	16.50	16.80	16.50

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.90	18.84	18.90	18.84
40	5200	18.84	18.90	18.78	18.84
48	5240	18.72	18.84	18.78	18.78

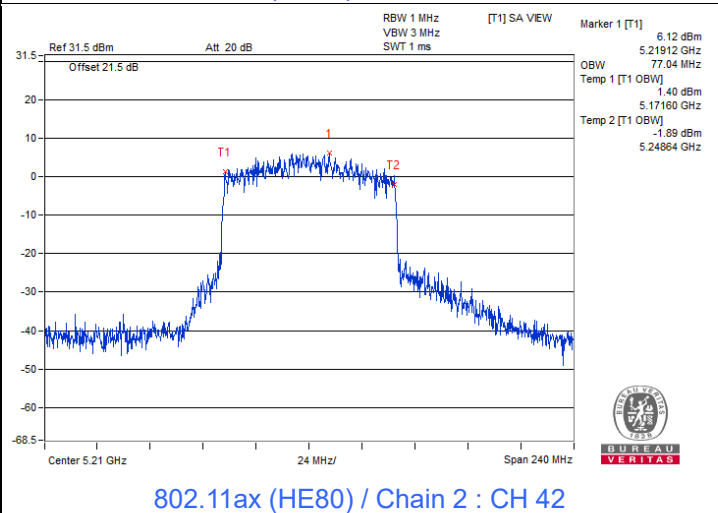
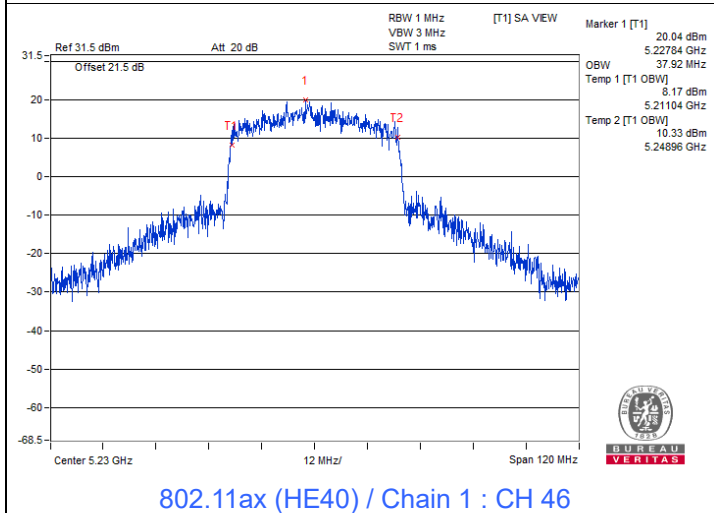
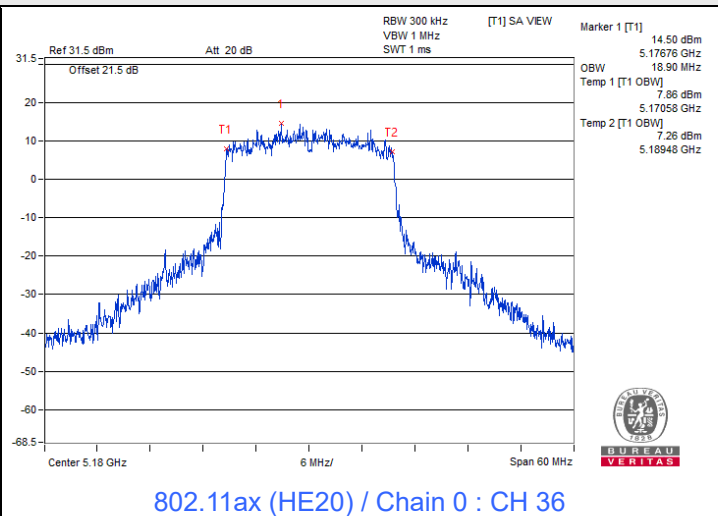
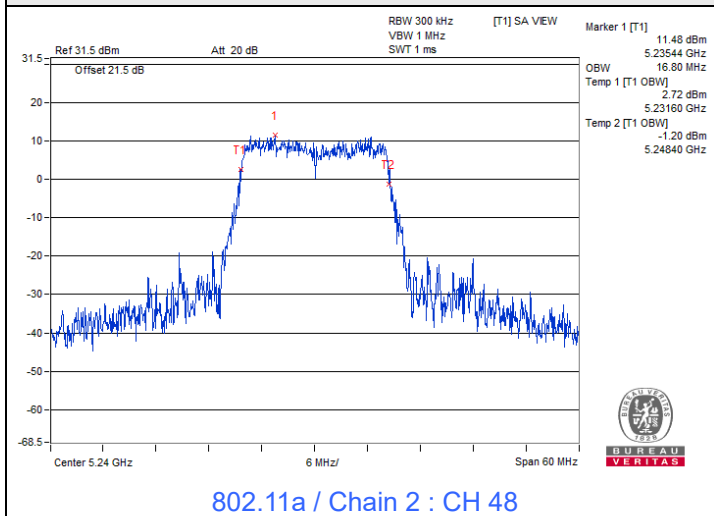
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	37.44	37.80	37.80	37.44
46	5230	37.68	37.92	37.80	37.80

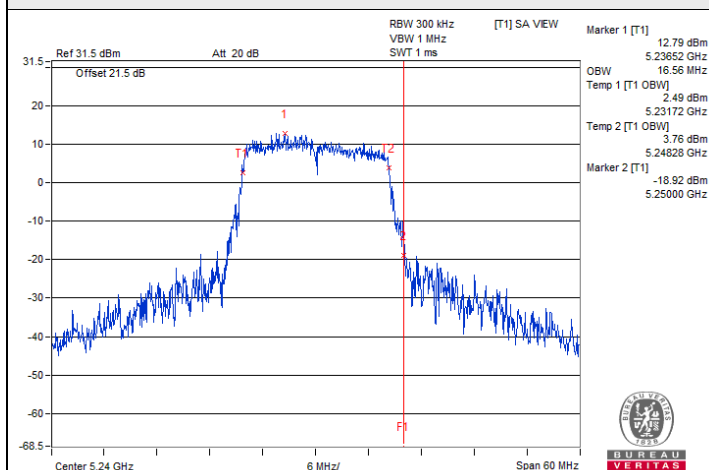
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	76.32	76.80	77.04	76.32

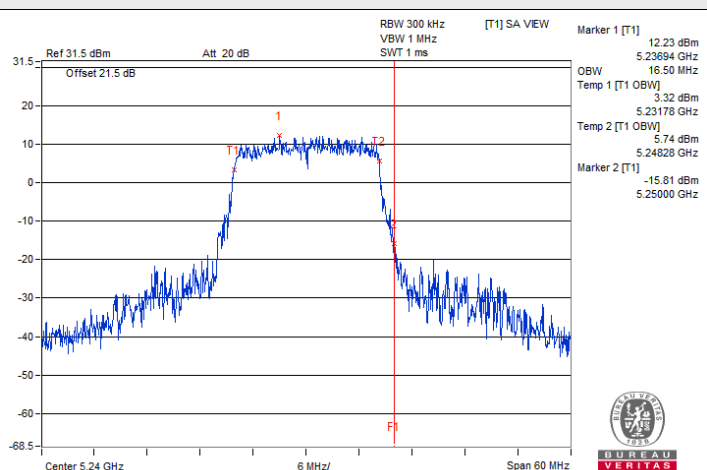
Spectrum Plot of Maximum Value



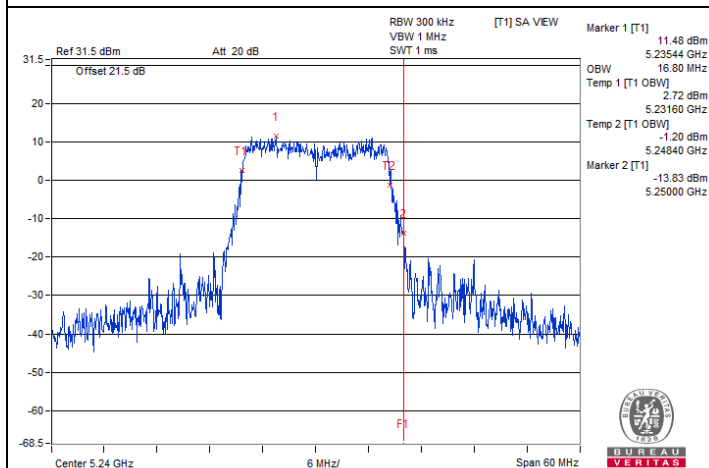
Spectrum Plot for nearby DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A)



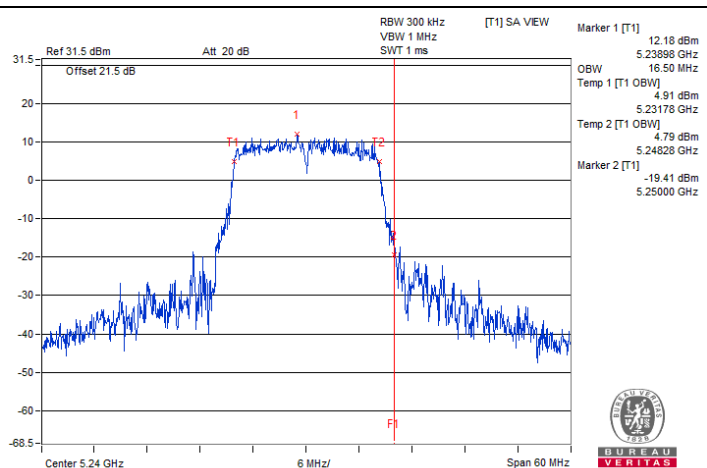
802.11a / Chain 0 : CH 48



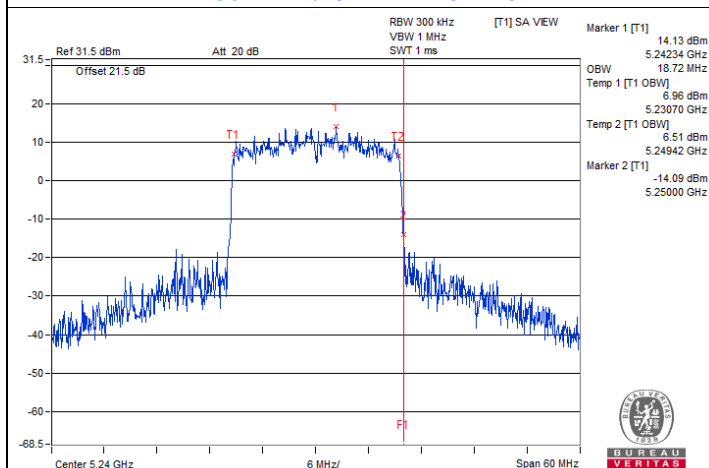
802.11a / Chain 1 : CH 48



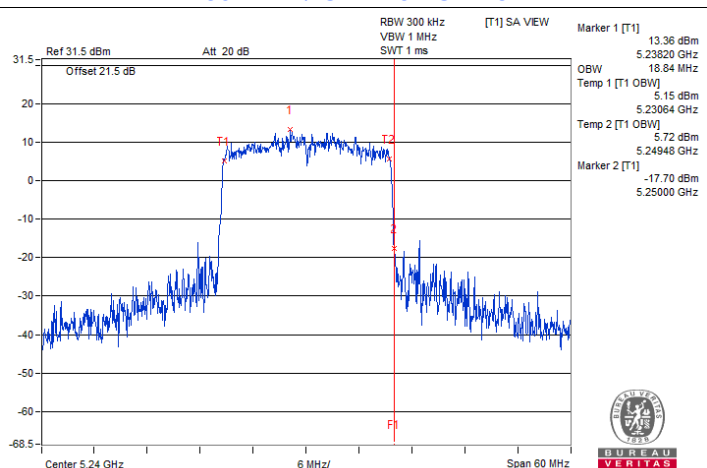
802.11a / Chain 2 : CH 48



802.11a / Chain 3 : CH 48

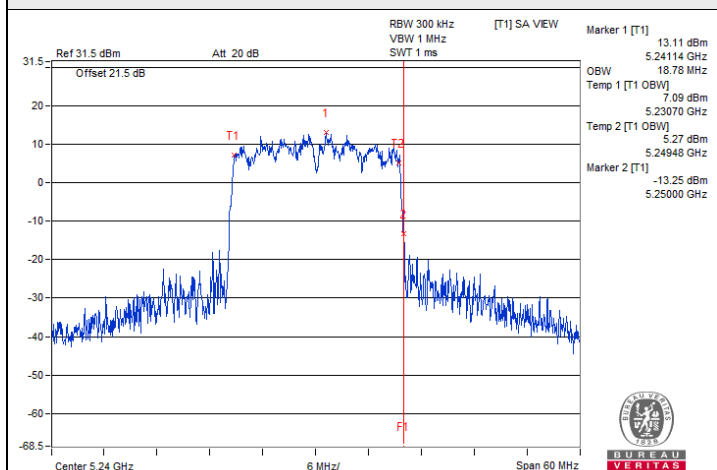


802.11ax (HE20) / Chain 0 : CH 48

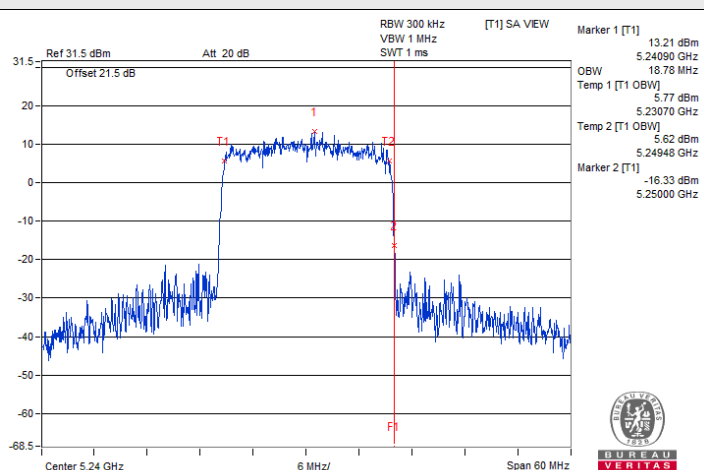


802.11ax (HE20) / Chain 1 : CH 48

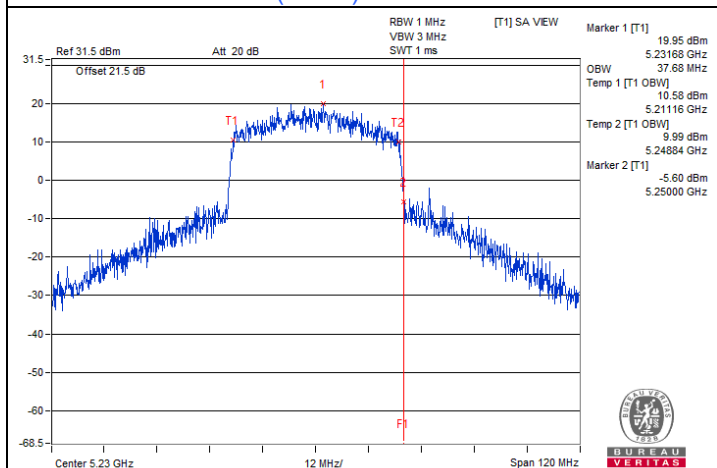
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



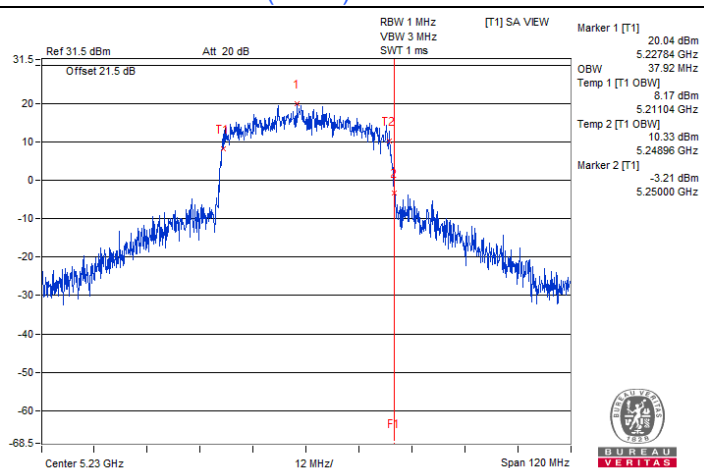
802.11ax (HE20) / Chain 2 : CH 48



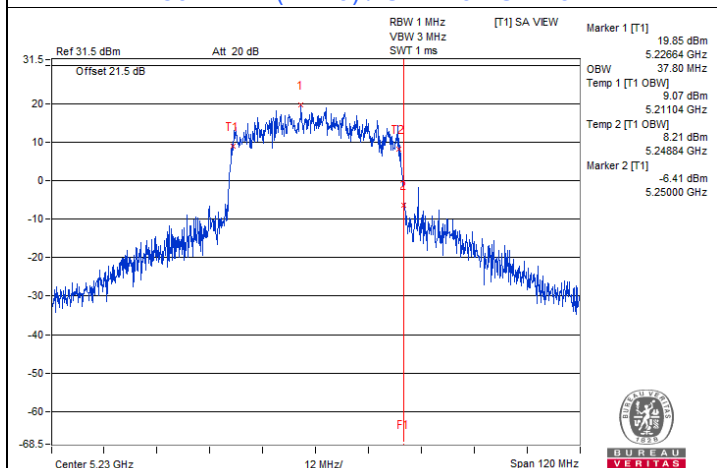
802.11ax (HE20) / Chain 3 : CH 48



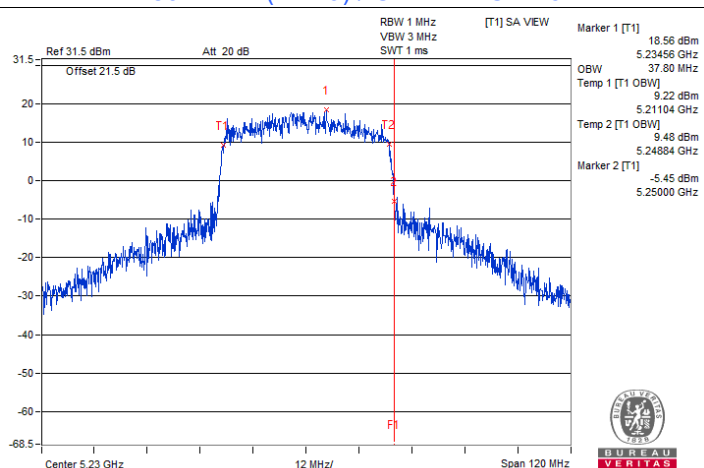
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46

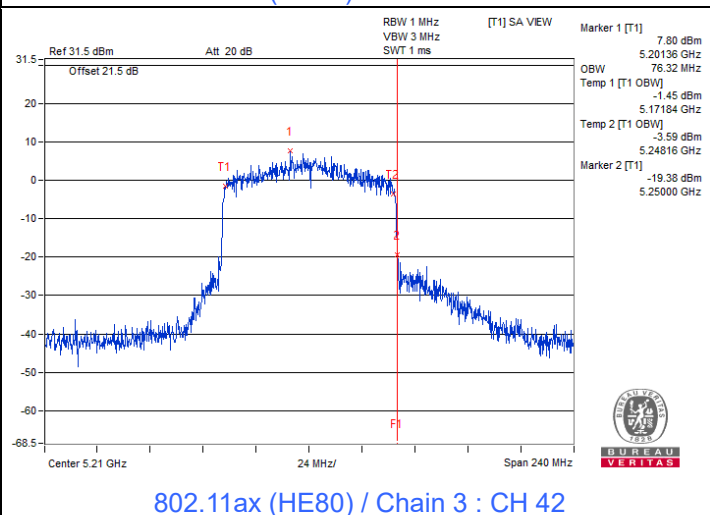
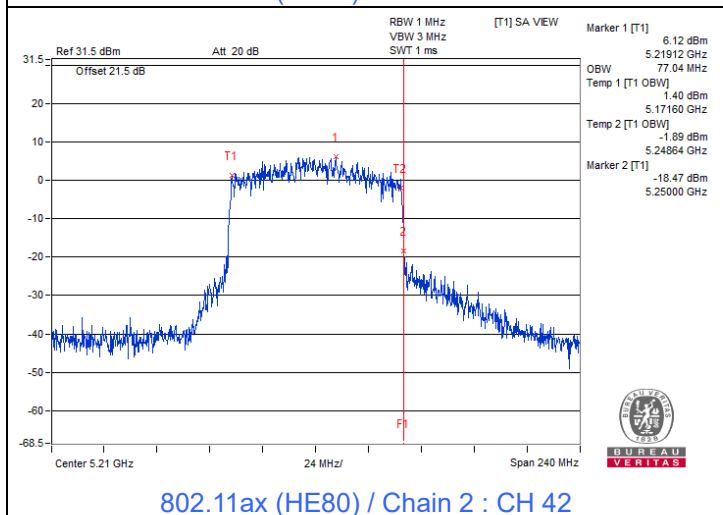
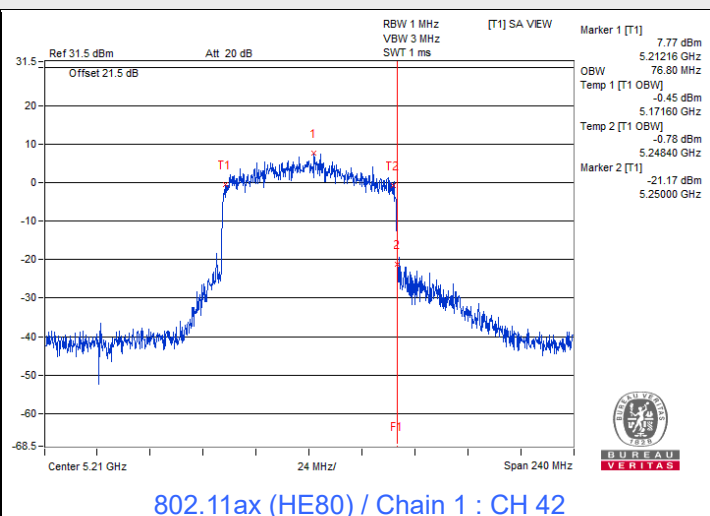
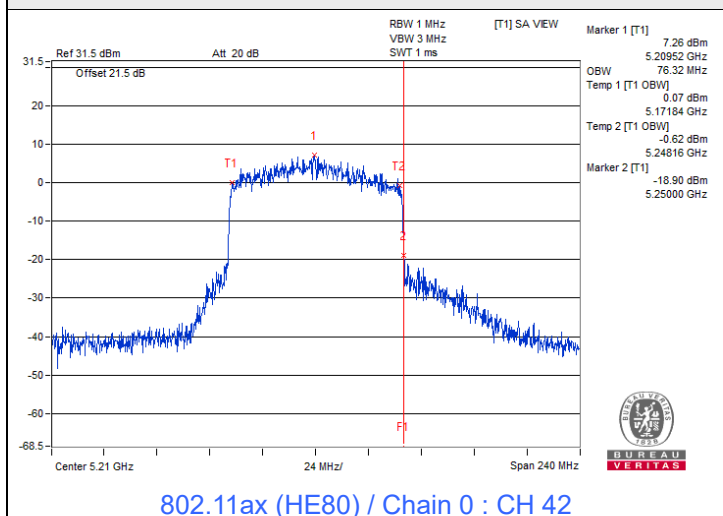


802.11ax (HE40) / Chain 2 : CH 46



802.11ax (HE40) / Chain 3 : CH 46

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



Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode B

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
149	5745	16.44	16.50	16.62	16.44
157	5785	16.50	16.44	16.44	16.56
165	5825	16.50	16.68	16.80	16.86

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
149	5745	18.96	18.96	18.90	18.96
157	5785	18.90	18.96	18.90	18.96
165	5825	19.02	19.14	19.14	19.14

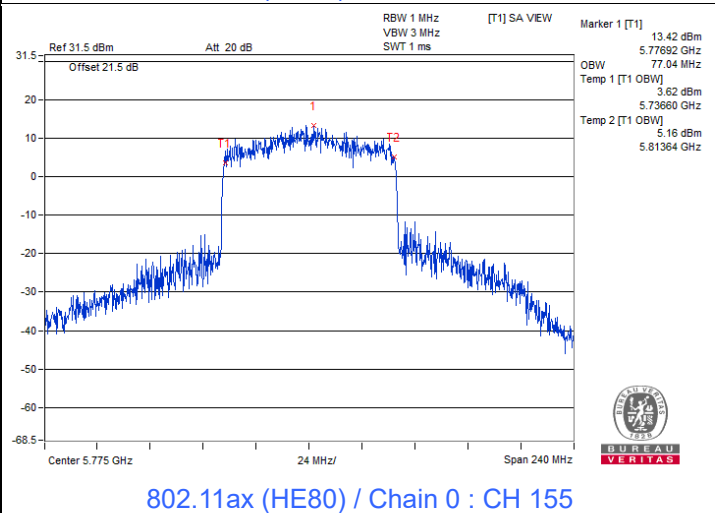
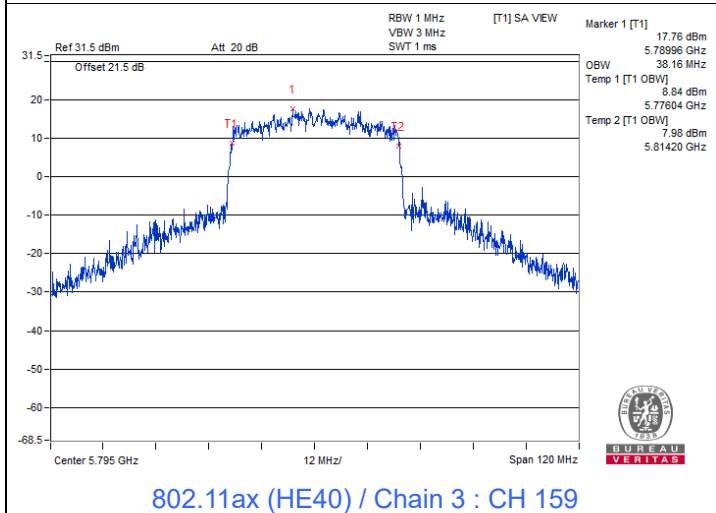
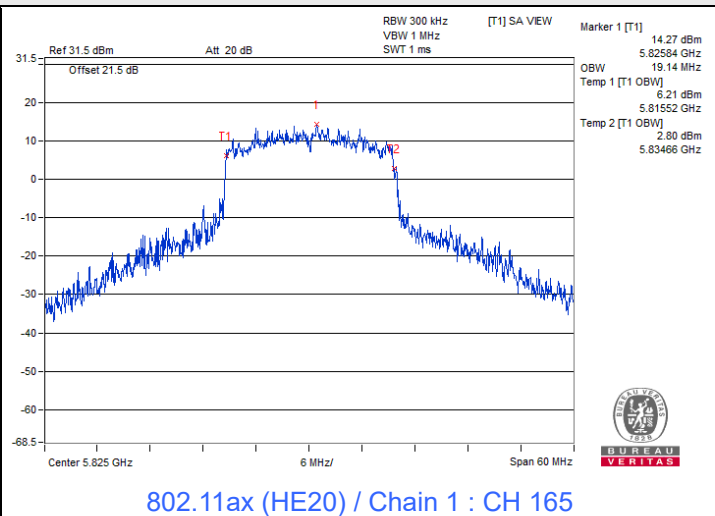
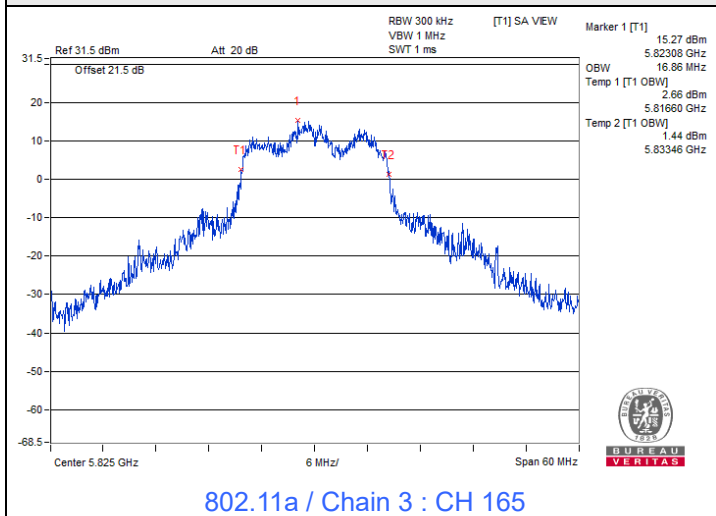
802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
151	5755	37.80	37.80	37.80	37.92
159	5795	37.92	37.80	37.92	38.16

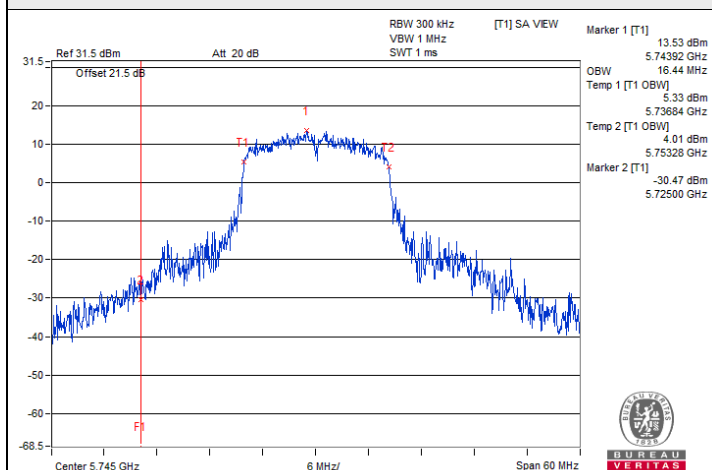
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
155	5775	77.04	76.32	76.56	77.04

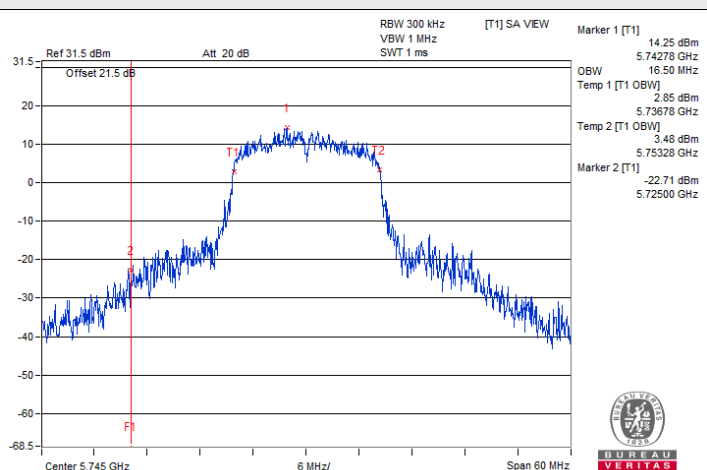
Spectrum Plot of Maximum Value



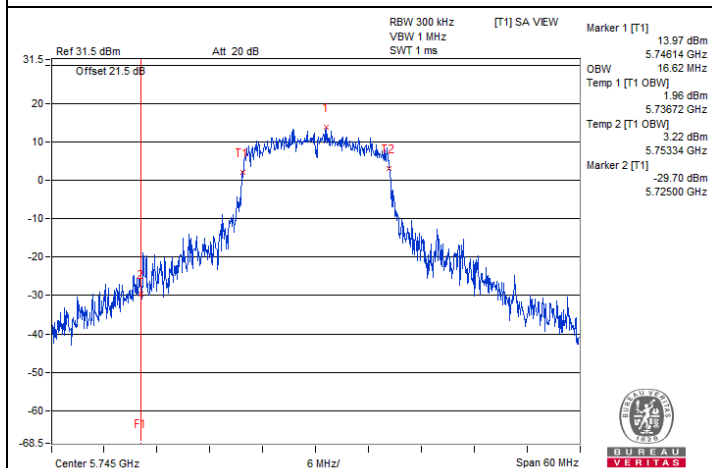
Spectrum Plot for nearby DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C)



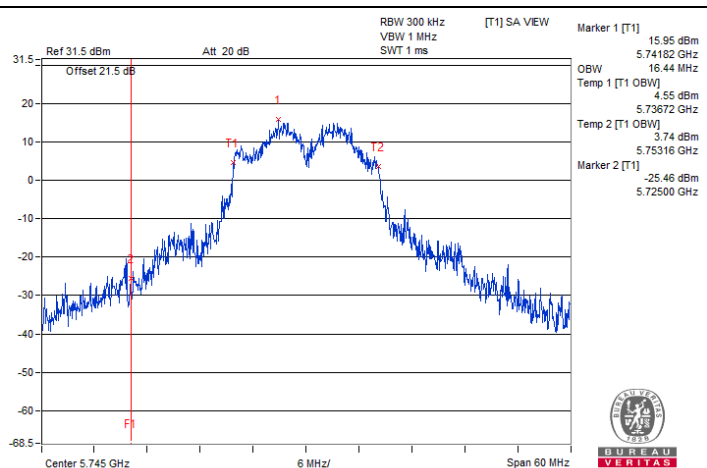
802.11a / Chain 0 : CH 149



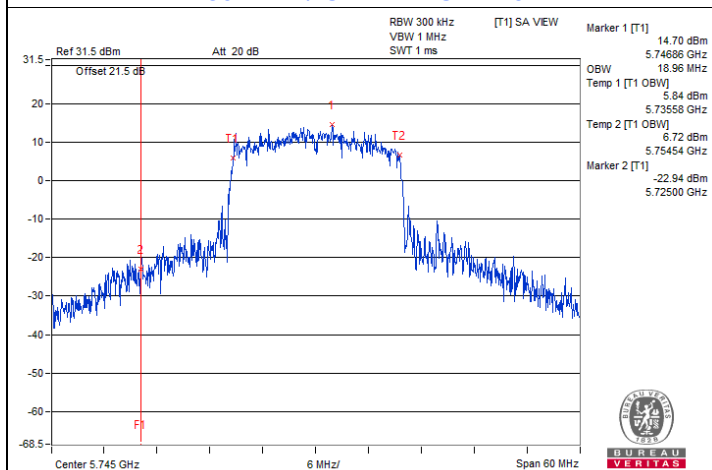
802.11a / Chain 1 : CH 149



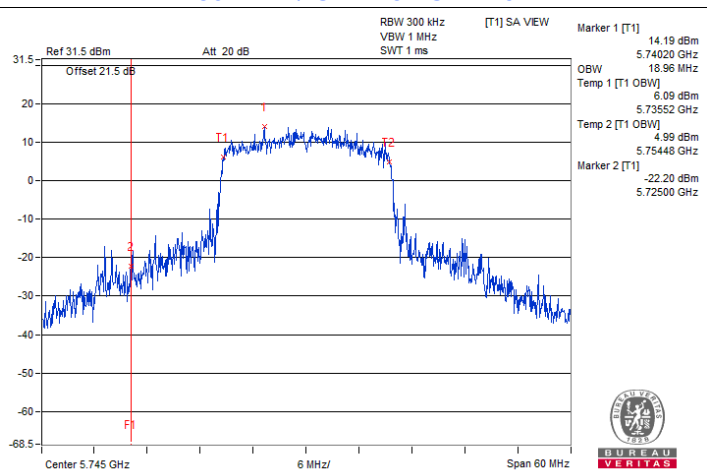
802.11a / Chain 2 : CH 149



802.11a / Chain 3 : CH 149

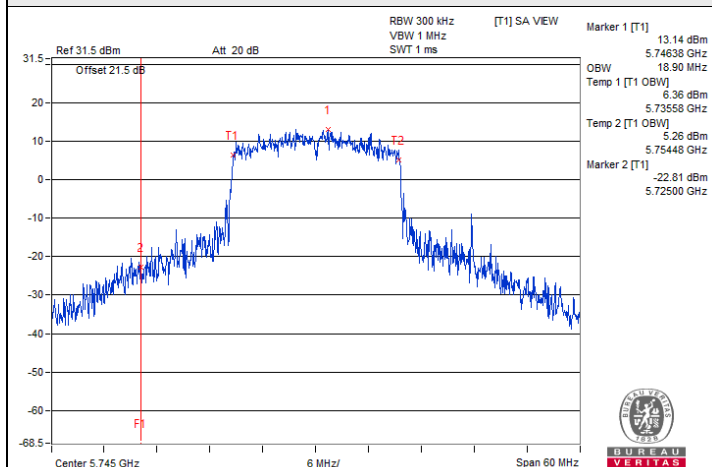


802.11ax (HE20) / Chain 0 : CH 149

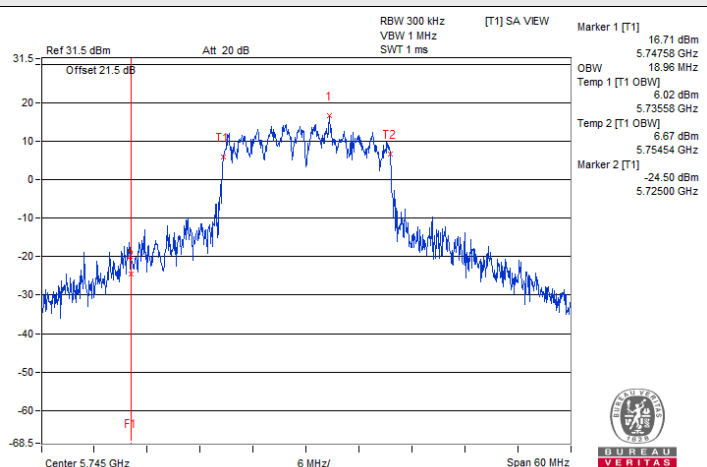


802.11ax (HE20) / Chain 1 : CH 149

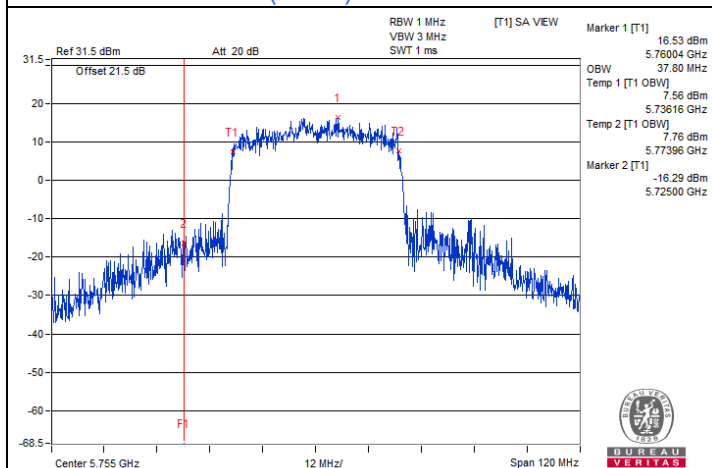
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



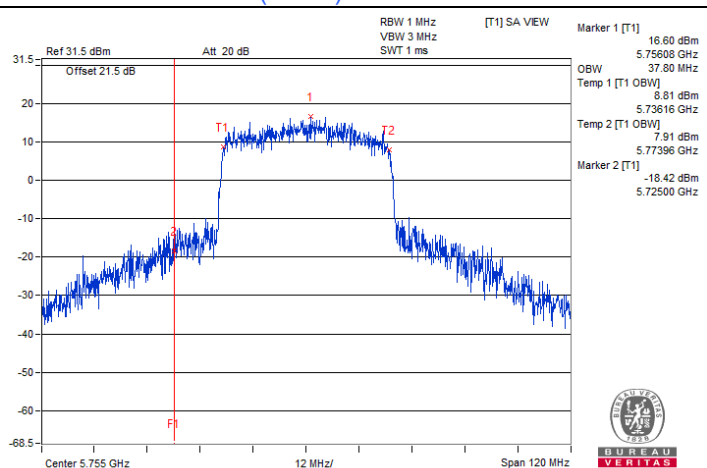
802.11ax (HE20) / Chain 2 : CH 149



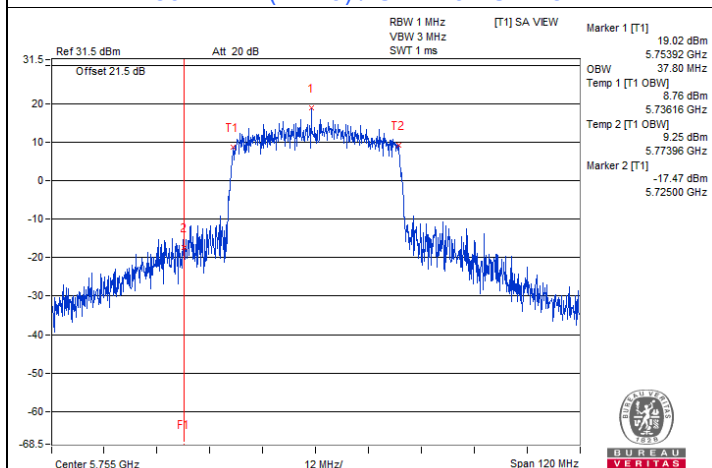
802.11ax (HE20) / Chain 3 : CH 149



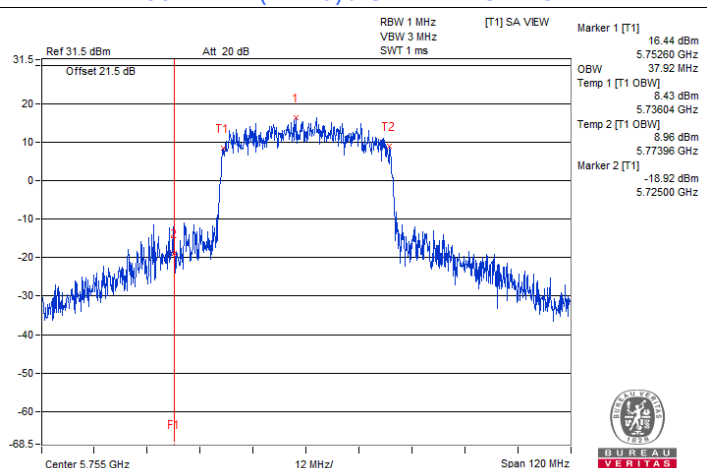
802.11ax (HE40) / Chain 0 : CH 151



802.11ax (HE40) / Chain 1 : CH 151

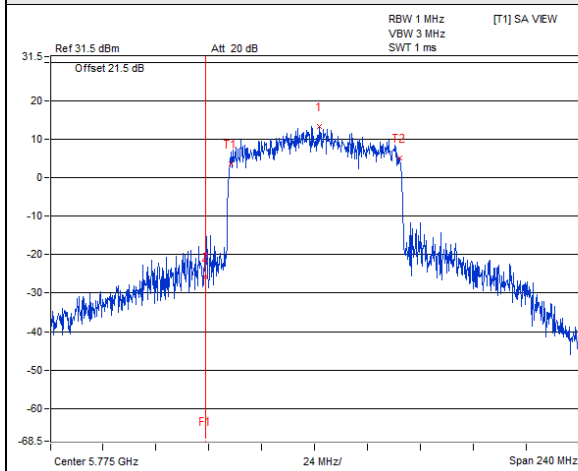


802.11ax (HE40) / Chain 2 : CH 151

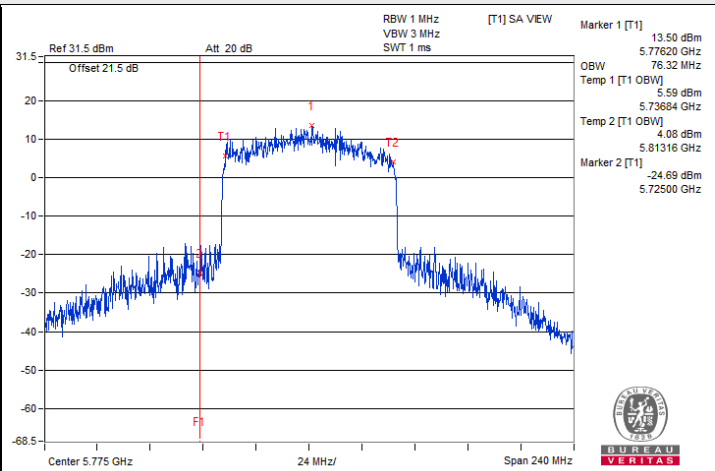


802.11ax (HE40) / Chain 3 : CH 151

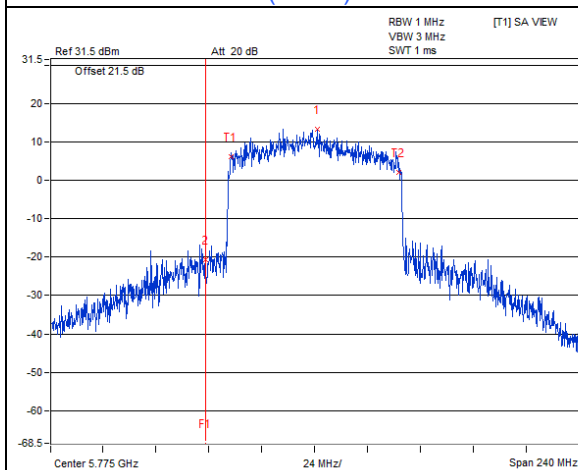
Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



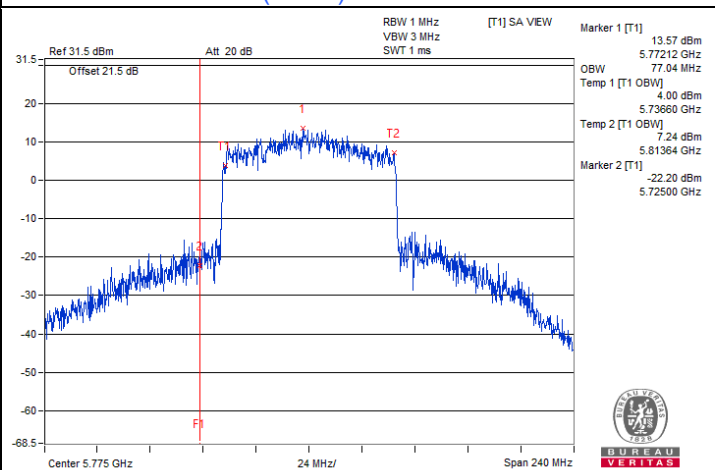
802.11ax (HE80) / Chain 0 : CH 155



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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode A

Frequency Stability Versus Temperature									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
50	120	5179.9807	Pass	5179.9795	Pass	5179.9764	Pass	5179.9806	Pass
40	120	5180.0137	Pass	5180.0147	Pass	5180.0182	Pass	5180.0181	Pass
30	120	5180.0094	Pass	5180.0121	Pass	5180.0092	Pass	5180.0104	Pass
20	120	5180.0207	Pass	5180.0224	Pass	5180.021	Pass	5180.0214	Pass
10	120	5179.9857	Pass	5179.9855	Pass	5179.9849	Pass	5179.9815	Pass
0	120	5179.9783	Pass	5179.9805	Pass	5179.9777	Pass	5179.9783	Pass
-10	120	5179.9983	Pass	5179.9986	Pass	5179.9949	Pass	5179.997	Pass
-20	120	5179.9986	Pass	5179.9996	Pass	5179.9991	Pass	5179.9969	Pass
-30	120	5180.0075	Pass	5180.0029	Pass	5180.0048	Pass	5180.0043	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	138	5180.0145	Pass	5180.0154	Pass	5180.0154	Pass	5180.0153	Pass
	120	5180.0207	Pass	5180.0224	Pass	5180.021	Pass	5180.0214	Pass
	102	5180.0321	Pass	5180.0314	Pass	5180.0321	Pass	5180.0299	Pass

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Kevin Ko
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Mode B

Frequency Stability Versus Temperature									
Operating Frequency: 5745 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
50	120	5745.0036	Pass	5745.0023	Pass	5745.0046	Pass	5745.0035	Pass
40	120	5744.9884	Pass	5744.9896	Pass	5744.9877	Pass	5744.9876	Pass
30	120	5744.9837	Pass	5744.9809	Pass	5744.9834	Pass	5744.979	Pass
20	120	5744.9905	Pass	5744.9924	Pass	5744.9908	Pass	5744.9913	Pass
10	120	5745.0092	Pass	5745.009	Pass	5745.0083	Pass	5745.0103	Pass
0	120	5745.001	Pass	5745.0034	Pass	5745.0061	Pass	5745.0052	Pass
-10	120	5745.0121	Pass	5745.0124	Pass	5745.0083	Pass	5745.0107	Pass
-20	120	5745.0125	Pass	5745.0078	Pass	5745.013	Pass	5745.0105	Pass
-30	120	5745.0166	Pass	5745.0188	Pass	5745.0209	Pass	5745.0203	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5745 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	138	5744.9919	Pass	5744.9929	Pass	5744.9929	Pass	5744.9927	Pass
	120	5744.9905	Pass	5744.9924	Pass	5744.9908	Pass	5744.9913	Pass
	102	5744.9883	Pass	5744.9876	Pass	5744.9884	Pass	5744.9917	Pass

7.6 AC Power Conducted Emissions

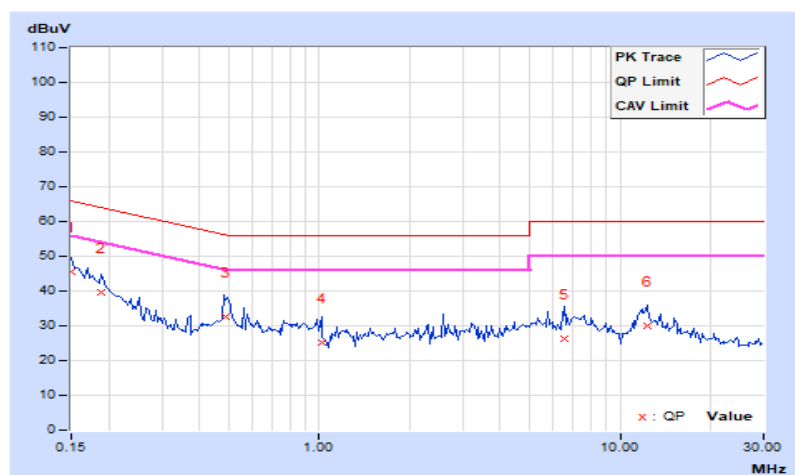
Mode A

RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 74% RH
Tested By	Sampson Chen		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.96	35.50	20.19	45.46	30.15	66.00	56.00	-20.54	-25.85
2	0.18906	9.95	29.81	15.44	39.76	25.39	64.08	54.08	-24.32	-28.69
3	0.49041	9.97	22.65	14.90	32.62	24.87	56.16	46.16	-23.54	-21.29
4	1.01563	10.00	15.17	8.33	25.17	18.33	56.00	46.00	-30.83	-27.67
5	6.53906	10.41	16.05	9.67	26.46	20.08	60.00	50.00	-33.54	-29.92
6	12.30078	10.78	19.39	14.51	30.17	25.29	60.00	50.00	-29.83	-24.71

Remarks:

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

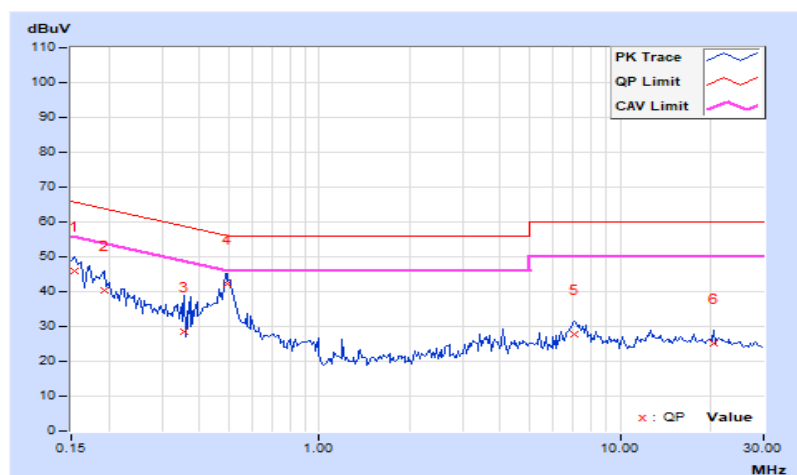


RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 74% RH
Tested By	Sampson Chen		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.00	35.78	23.11	45.78	33.11	65.79	55.79	-20.01	-22.68
2	0.19297	10.00	30.49	20.56	40.49	30.56	63.91	53.91	-23.42	-23.35
3	0.35703	10.01	18.57	8.94	28.58	18.95	58.80	48.80	-30.22	-29.85
4	0.49812	10.02	32.17	25.94	42.19	35.96	56.03	46.03	-13.84	-10.07
5	7.01563	10.46	17.30	11.07	27.76	21.53	60.00	50.00	-32.24	-28.47
6	20.54688	11.05	14.16	10.91	25.21	21.96	60.00	50.00	-34.79	-28.04

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



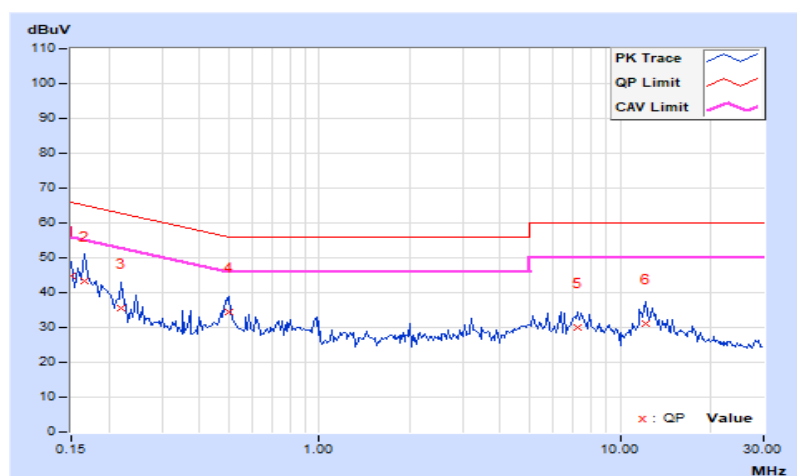
Mode B

RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 74% RH
Tested By	Sampson Chen		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.96	34.90	19.76	44.86	29.72	66.00	56.00	-21.14	-26.28
2	0.16562	9.95	33.38	18.89	43.33	28.84	65.18	55.18	-21.85	-26.34
3	0.22031	9.95	25.65	13.62	35.60	23.57	62.81	52.81	-27.21	-29.24
4	0.50156	9.97	24.44	16.27	34.41	26.24	56.00	46.00	-21.59	-19.76
5	7.21875	10.46	19.66	13.74	30.12	24.20	60.00	50.00	-29.88	-25.80
6	12.17578	10.77	20.28	14.69	31.05	25.46	60.00	50.00	-28.95	-24.54

Remarks:

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



RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 74% RH
Tested By	Sampson Chen		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.00	35.06	22.60	45.06	32.60	65.79	55.79	-20.73	-23.19
2	0.31797	10.01	21.82	14.91	31.83	24.92	59.76	49.76	-27.93	-24.84
3	0.49934	10.02	32.19	25.90	42.21	35.92	56.01	46.01	-13.80	-10.09
4	0.57578	10.02	18.83	10.88	28.85	20.90	56.00	46.00	-27.15	-25.10
5	6.95313	10.45	16.84	10.60	27.29	21.05	60.00	50.00	-32.71	-28.95
6	12.00781	10.73	11.52	4.79	22.25	15.52	60.00	50.00	-37.75	-34.48

Remarks:

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



7.7 Unwanted Emissions below 1 GHz

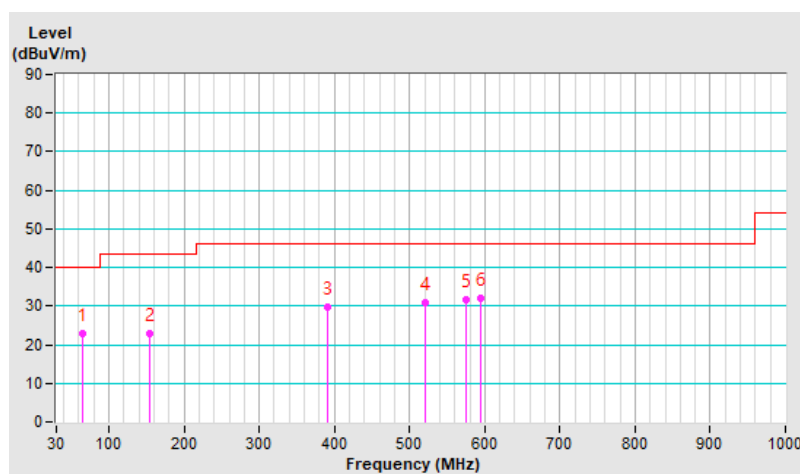
Mode A

RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 72% RH
Tested By	Sampson Chen		

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	64.46	22.9 QP	40.0	-17.1	3.50 H	269	37.2	-14.3
2	155.06	22.8 QP	43.5	-20.7	2.00 H	281	35.9	-13.1
3	389.99	29.8 QP	46.0	-16.2	1.00 H	162	40.1	-10.3
4	519.87	30.8 QP	46.0	-15.2	2.00 H	247	38.2	-7.4
5	575.67	31.5 QP	46.0	-14.5	1.50 H	245	38.0	-6.5
6	594.56	32.1 QP	46.0	-13.9	1.50 H	360	37.8	-5.7

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

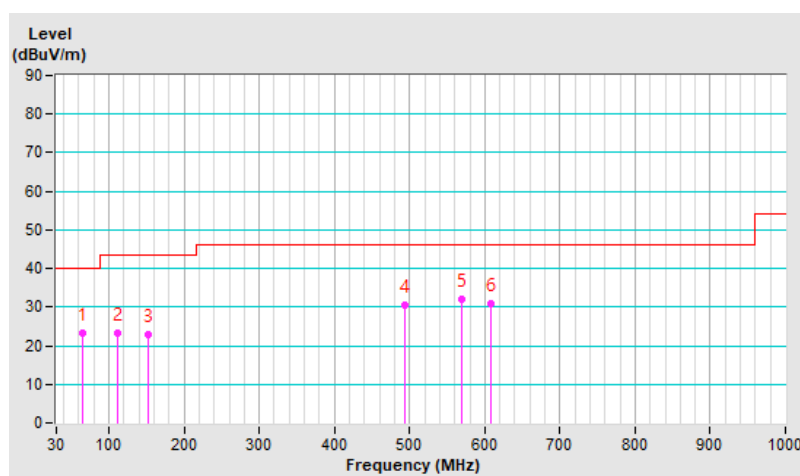


RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 72% RH
Tested By	Sampson Chen		

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	64.80	23.4 QP	40.0	-16.6	2.00 V	112	37.8	-14.4
2	111.65	23.1 QP	43.5	-20.4	1.00 V	349	39.4	-16.3
3	151.54	22.9 QP	43.5	-20.6	1.00 V	112	36.1	-13.2
4	493.54	30.5 QP	46.0	-15.5	1.00 V	341	38.6	-8.1
5	569.30	32.1 QP	46.0	-13.9	1.00 V	360	38.7	-6.6
6	607.80	30.8 QP	46.0	-15.2	1.00 V	360	35.9	-5.1

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



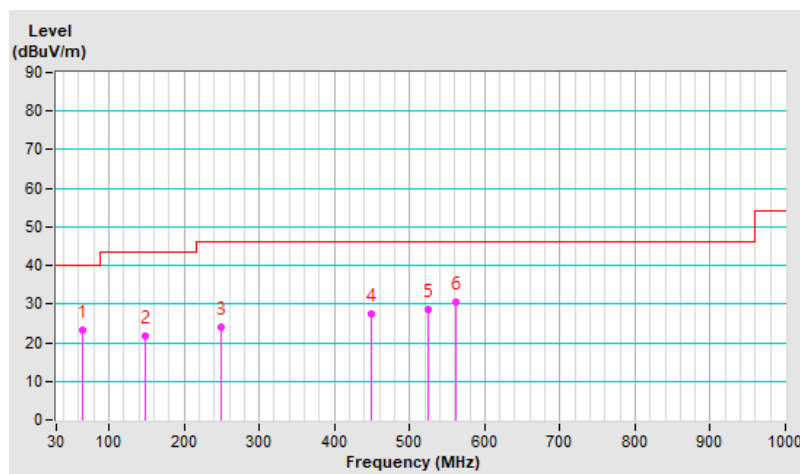
Mode B

RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 72% RH
Tested By	Sampson Chen		

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	65.38	23.3 QP	40.0	-16.7	3.50 H	263	37.7	-14.4
2	149.12	21.8 QP	43.5	-21.7	3.50 H	74	35.0	-13.2
3	250.00	24.1 QP	46.0	-21.9	1.00 H	79	38.4	-14.3
4	448.14	27.6 QP	46.0	-18.4	2.00 H	281	36.3	-8.7
5	524.41	28.7 QP	46.0	-17.3	3.50 H	338	35.9	-7.2
6	561.71	30.5 QP	46.0	-15.5	3.50 H	322	37.2	-6.7

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

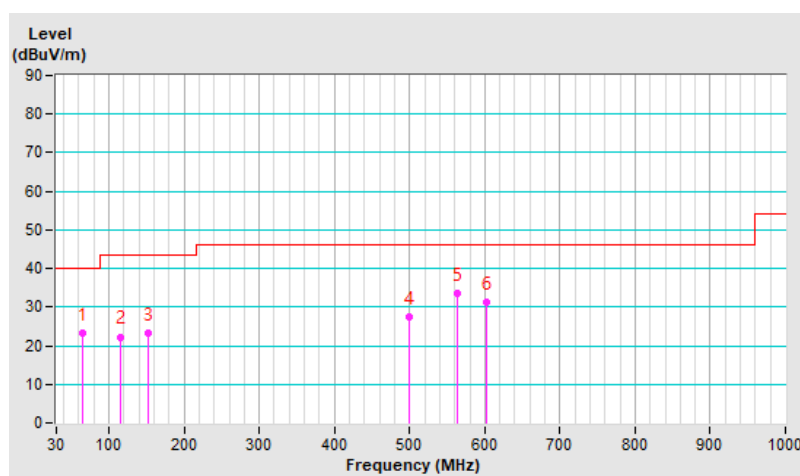


RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 72% RH
Tested By	Sampson Chen		

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	64.77	23.3 QP	40.0	-16.7	2.00 V	132	37.7	-14.4
2	115.09	22.3 QP	43.5	-21.2	2.00 V	2	38.3	-16.0
3	151.57	23.2 QP	43.5	-20.3	1.00 V	98	36.4	-13.2
4	499.99	27.4 QP	46.0	-18.6	1.00 V	15	35.3	-7.9
5	564.25	33.7 QP	46.0	-12.3	1.00 V	23	40.5	-6.8
6	602.13	31.3 QP	46.0	-14.7	1.00 V	360	36.6	-5.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.8 Unwanted Emissions above 1 GHz

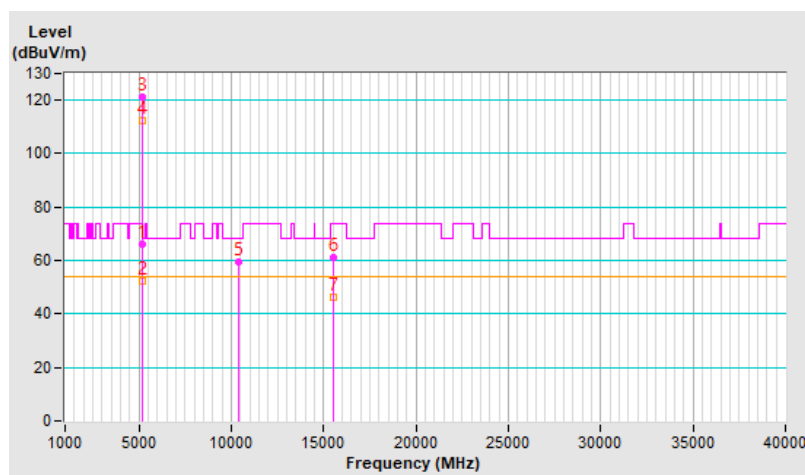
Mode A

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, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5147.42	66.3 PK	74.0	-7.7	1.94 H	265	60.8	5.5
2	5147.42	52.2 AV	54.0	-1.8	1.94 H	265	46.7	5.5
3	*5180.00	121.2 PK			1.94 H	265	115.7	5.5
4	*5180.00	112.2 AV			1.94 H	265	106.7	5.5
5	#10360.00	59.6 PK	68.2	-8.6	1.71 H	144	44.0	15.6
6	15540.00	60.9 PK	74.0	-13.1	2.59 H	12	43.9	17.0
7	15540.00	46.4 AV	54.0	-7.6	2.59 H	12	29.4	17.0

Remarks:

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

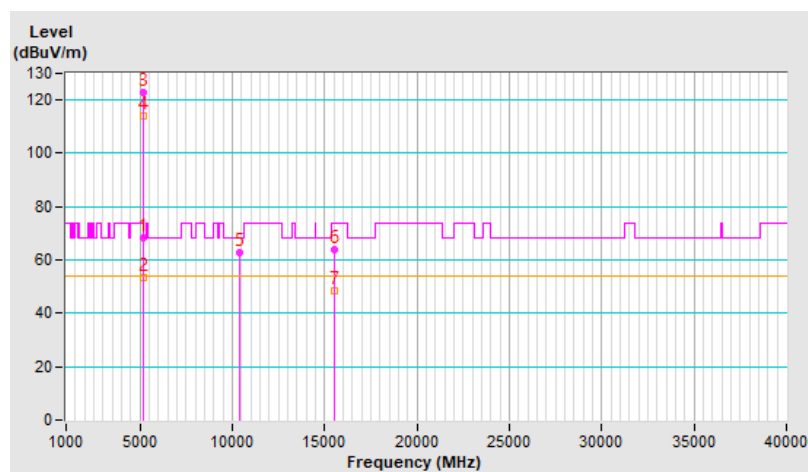


RF Mode	802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5147.42	68.4 PK	74.0	-5.6	1.80 V	206	62.9	5.5
2	5147.42	53.2 AV	54.0	-0.8	1.80 V	206	47.7	5.5
3	*5180.00	122.9 PK			1.80 V	206	117.4	5.5
4	*5180.00	113.9 AV			1.80 V	206	108.4	5.5
5	#10360.00	63.0 PK	68.2	-5.2	1.46 V	358	47.4	15.6
6	15540.00	63.7 PK	74.0	-10.3	1.69 V	122	46.7	17.0
7	15540.00	48.2 AV	54.0	-5.8	1.69 V	122	31.2	17.0

Remarks:

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

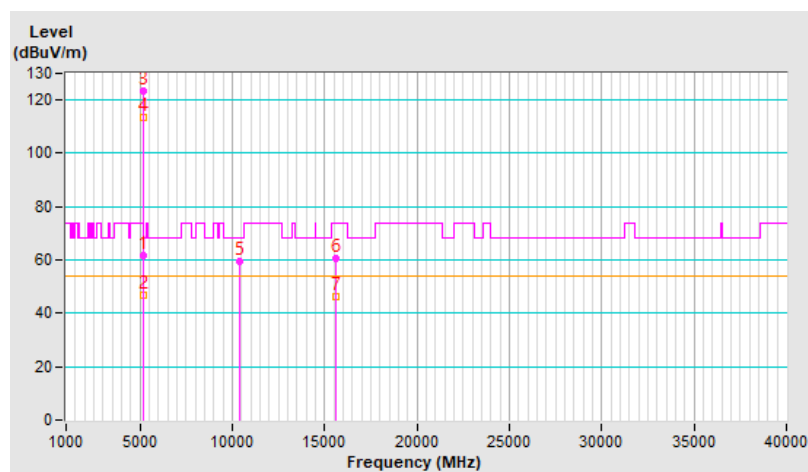


RF Mode	802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5147.40	61.8 PK	74.0	-12.2	1.99 H	270	56.3	5.5
2	5147.40	46.8 AV	54.0	-7.2	1.99 H	270	41.3	5.5
3	*5200.00	123.4 PK			1.99 H	270	118.0	5.4
4	*5200.00	113.2 AV			1.99 H	270	107.8	5.4
5	#10400.00	59.3 PK	68.2	-8.9	1.61 H	172	43.7	15.6
6	15600.00	60.4 PK	74.0	-13.6	2.61 H	16	43.4	17.0
7	15600.00	46.0 AV	54.0	-8.0	2.61 H	16	29.0	17.0

Remarks:

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

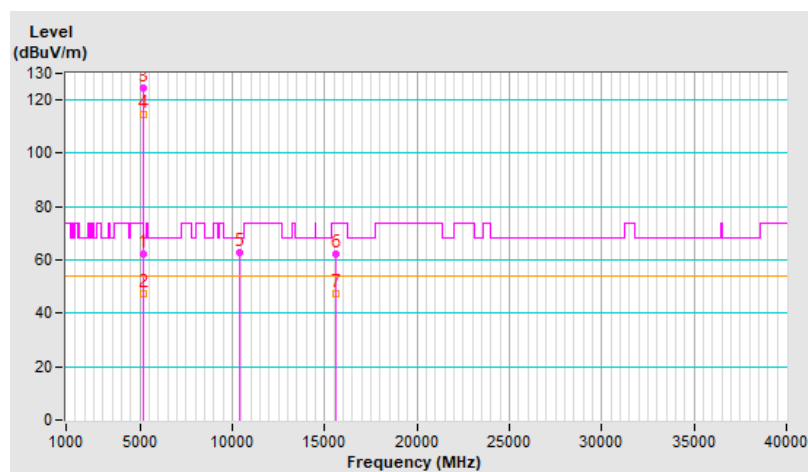


RF Mode	802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5147.40	62.2 PK	74.0	-11.8	1.66 V	206	56.7	5.5
2	5147.40	47.6 AV	54.0	-6.4	1.66 V	206	42.1	5.5
3	*5200.00	124.3 PK			1.66 V	206	118.9	5.4
4	*5200.00	114.7 AV			1.66 V	206	109.3	5.4
5	#10400.00	62.8 PK	68.2	-5.4	1.50 V	346	47.2	15.6
6	15600.00	62.3 PK	74.0	-11.7	1.68 V	114	45.3	17.0
7	15600.00	47.3 AV	54.0	-6.7	1.68 V	114	30.3	17.0

Remarks:

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

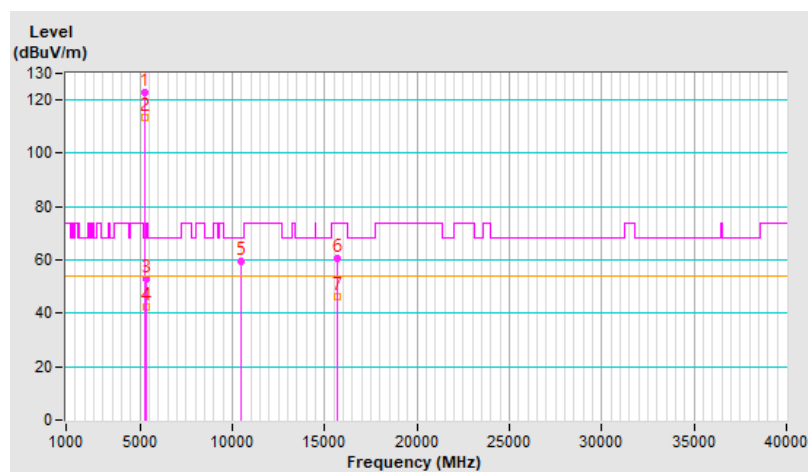


RF Mode	802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	122.6 PK			2.06 H	271	117.5	5.1
2	*5240.00	113.4 AV			2.06 H	271	108.3	5.1
3	5355.80	53.0 PK	74.0	-21.0	2.06 H	271	47.6	5.4
4	5355.80	42.6 AV	54.0	-11.4	2.06 H	271	37.2	5.4
5	#10480.00	59.3 PK	68.2	-8.9	1.66 H	157	43.3	16.0
6	15720.00	60.8 PK	74.0	-13.2	2.55 H	20	44.2	16.6
7	15720.00	46.2 AV	54.0	-7.8	2.55 H	20	29.6	16.6

Remarks:

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

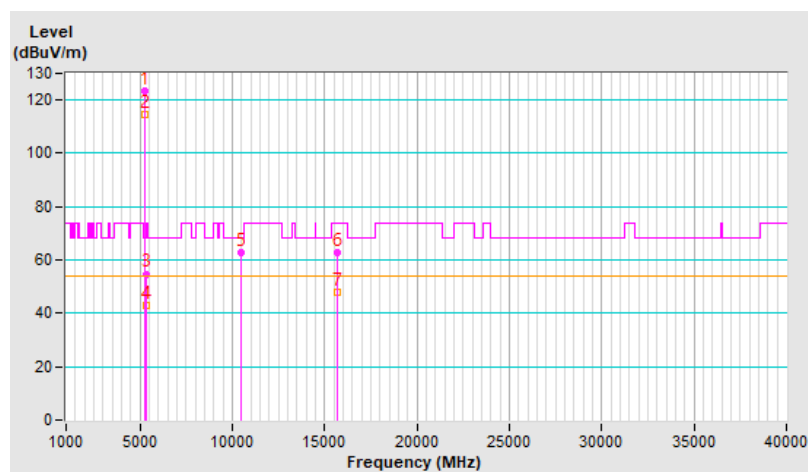


RF Mode	802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	123.6 PK			1.08 V	203	118.5	5.1
2	*5240.00	114.4 AV			1.08 V	203	109.3	5.1
3	5355.80	54.8 PK	74.0	-19.2	1.08 V	203	49.4	5.4
4	5355.80	42.9 AV	54.0	-11.1	1.08 V	203	37.5	5.4
5	#10480.00	62.6 PK	68.2	-5.6	1.50 V	352	46.6	16.0
6	15720.00	62.9 PK	74.0	-11.1	1.65 V	106	46.3	16.6
7	15720.00	47.7 AV	54.0	-6.3	1.65 V	106	31.1	16.6

Remarks:

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

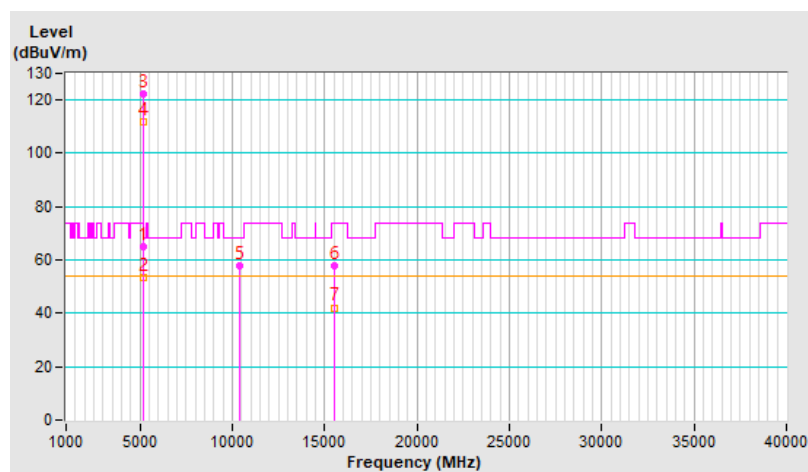


RF Mode	802.11ax (HE20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5146.80	64.8 PK	74.0	-9.2	2.03 H	272	59.3	5.5
2	5146.80	53.2 AV	54.0	-0.8	2.03 H	272	47.7	5.5
3	*5180.00	122.3 PK			2.03 H	272	116.8	5.5
4	*5180.00	111.6 AV			2.03 H	272	106.1	5.5
5	#10360.00	57.6 PK	68.2	-10.6	1.77 H	157	42.0	15.6
6	15540.00	57.6 PK	74.0	-16.4	2.59 H	12	40.6	17.0
7	15540.00	42.1 AV	54.0	-11.9	2.59 H	12	25.1	17.0

Remarks:

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

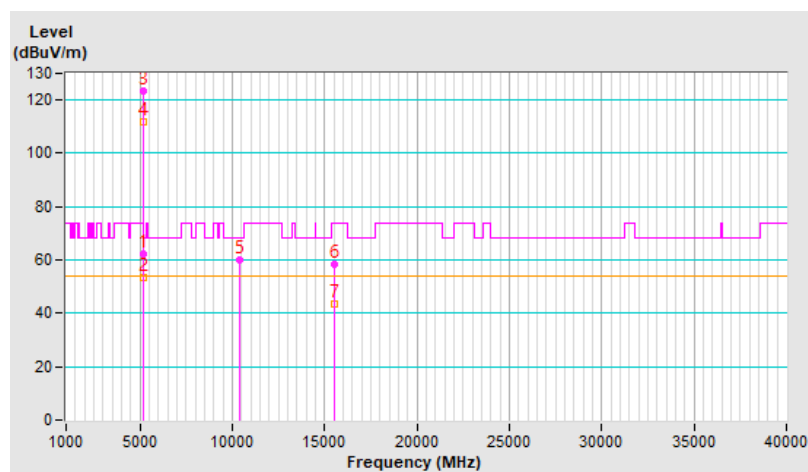


RF Mode	802.11ax (HE20)	Channel	CH 36 : 5180 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.2 PK	74.0	-11.8	1.22 V	199	56.7	5.5
2	5150.00	53.4 AV	54.0	-0.6	1.22 V	199	47.9	5.5
3	*5180.00	123.5 PK			1.22 V	199	118.0	5.5
4	*5180.00	111.9 AV			1.22 V	199	106.4	5.5
5	#10360.00	59.8 PK	68.2	-8.4	1.51 V	321	44.2	15.6
6	15540.00	58.5 PK	74.0	-15.5	1.57 V	130	41.5	17.0
7	15540.00	43.6 AV	54.0	-10.4	1.57 V	130	26.6	17.0

Remarks:

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

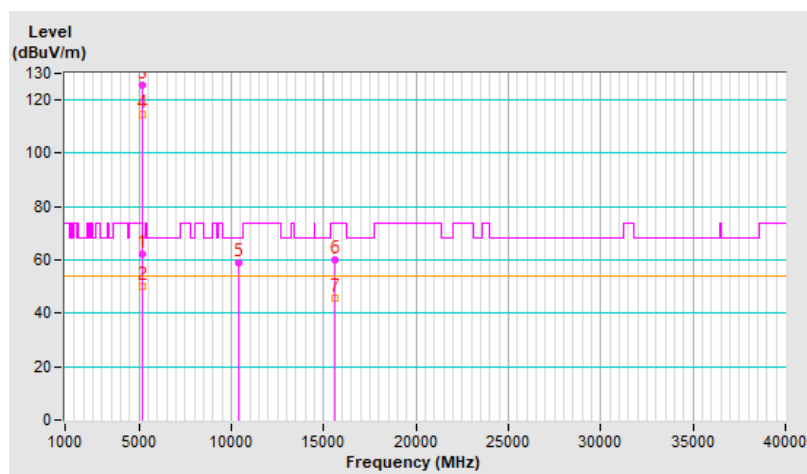


RF Mode	802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5146.70	62.1 PK	74.0	-11.9	1.90 H	269	56.6	5.5
2	5146.70	50.3 AV	54.0	-3.7	1.90 H	269	44.8	5.5
3	*5200.00	125.7 PK			1.90 H	269	120.3	5.4
4	*5200.00	114.4 AV			1.90 H	269	109.0	5.4
5	#10400.00	59.0 PK	68.2	-9.2	1.59 H	186	43.4	15.6
6	15600.00	59.8 PK	74.0	-14.2	2.64 H	30	42.8	17.0
7	15600.00	45.6 AV	54.0	-8.4	2.64 H	30	28.6	17.0

Remarks:

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

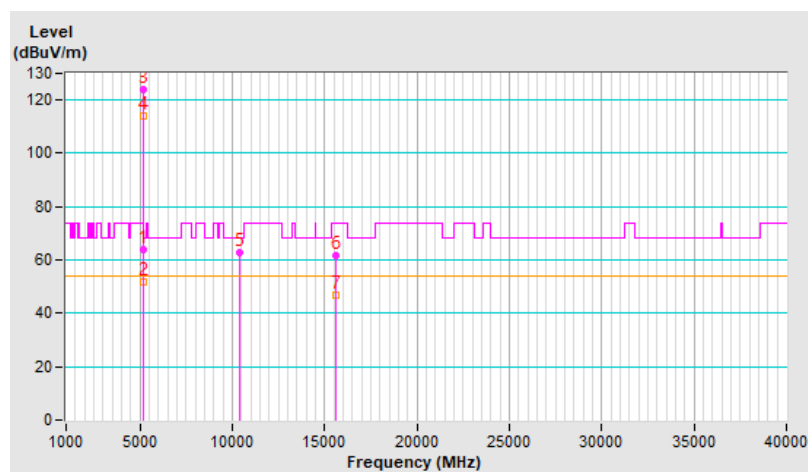


RF Mode	802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	1.00 V	179	58.5	5.5
2	5150.00	51.7 AV	54.0	-2.3	1.00 V	179	46.2	5.5
3	*5200.00	123.9 PK			1.00 V	179	118.5	5.4
4	*5200.00	114.0 AV			1.00 V	179	108.6	5.4
5	#10400.00	63.0 PK	68.2	-5.2	1.54 V	336	47.4	15.6
6	15600.00	61.7 PK	74.0	-12.3	1.62 V	117	44.7	17.0
7	15600.00	46.9 AV	54.0	-7.1	1.62 V	117	29.9	17.0

Remarks:

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

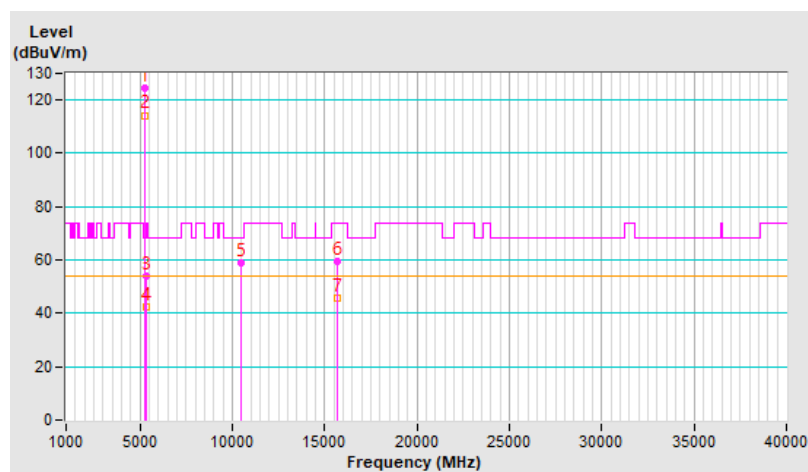


RF Mode	802.11ax (HE20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	124.4 PK			1.94 H	274	119.3	5.1
2	*5240.00	114.3 AV			1.94 H	274	109.2	5.1
3	5353.50	53.9 PK	74.0	-20.1	1.94 H	274	48.5	5.4
4	5353.50	42.6 AV	54.0	-11.4	1.94 H	274	37.2	5.4
5	#10480.00	59.0 PK	68.2	-9.2	1.62 H	187	43.0	16.0
6	15720.00	59.7 PK	74.0	-14.3	2.58 H	8	43.1	16.6
7	15720.00	45.5 AV	54.0	-8.5	2.58 H	8	28.9	16.6

Remarks:

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

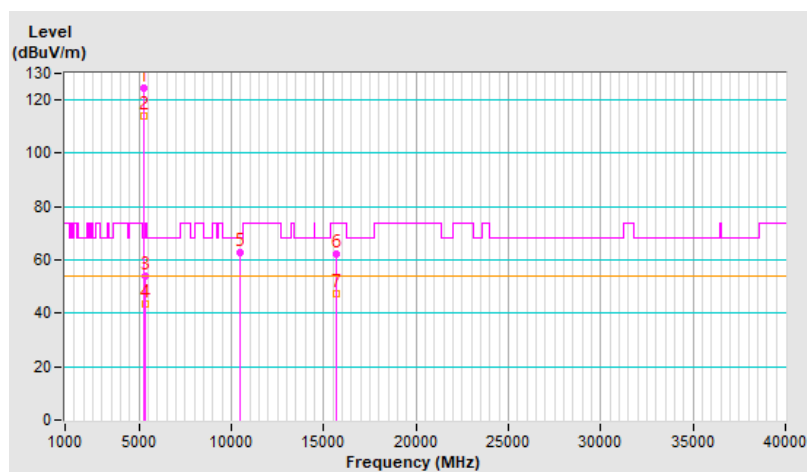


RF Mode	802.11ax (HE20)	Channel	CH 48 : 5240 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	124.3 PK			1.00 V	178	119.2	5.1
2	*5240.00	114.2 AV			1.00 V	178	109.1	5.1
3	5353.50	54.0 PK	74.0	-20.0	1.00 V	178	48.6	5.4
4	5353.50	43.5 AV	54.0	-10.5	1.00 V	178	38.1	5.4
5	#10480.00	63.0 PK	68.2	-5.2	1.46 V	337	47.0	16.0
6	15720.00	62.3 PK	74.0	-11.7	1.68 V	128	45.7	16.6
7	15720.00	47.5 AV	54.0	-6.5	1.68 V	128	30.9	16.6

Remarks:

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

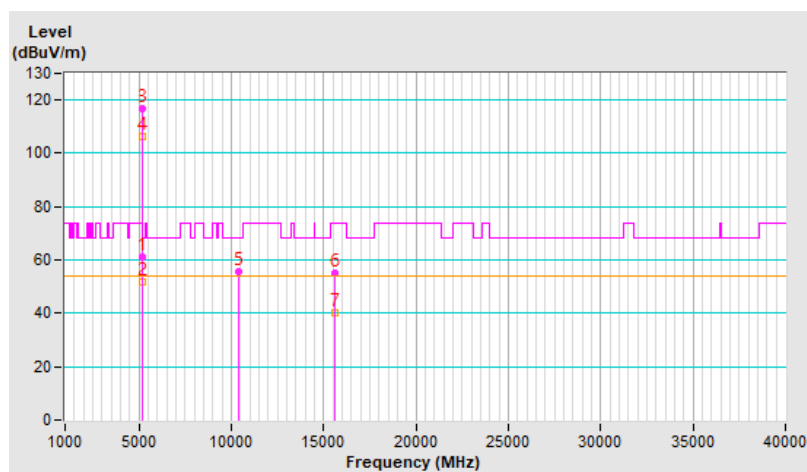


RF Mode	802.11ax (HE40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5147.00	61.1 PK	74.0	-12.9	2.01 H	264	55.6	5.5
2	5147.00	51.9 AV	54.0	-2.1	2.01 H	264	46.4	5.5
3	*5190.00	116.7 PK			2.01 H	264	111.3	5.4
4	*5190.00	106.2 AV			2.01 H	264	100.8	5.4
5	#10380.00	55.6 PK	68.2	-12.6	1.71 H	181	40.0	15.6
6	15570.00	55.1 PK	74.0	-18.9	2.52 H	12	38.2	16.9
7	15570.00	40.1 AV	54.0	-13.9	2.52 H	12	23.2	16.9

Remarks:

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

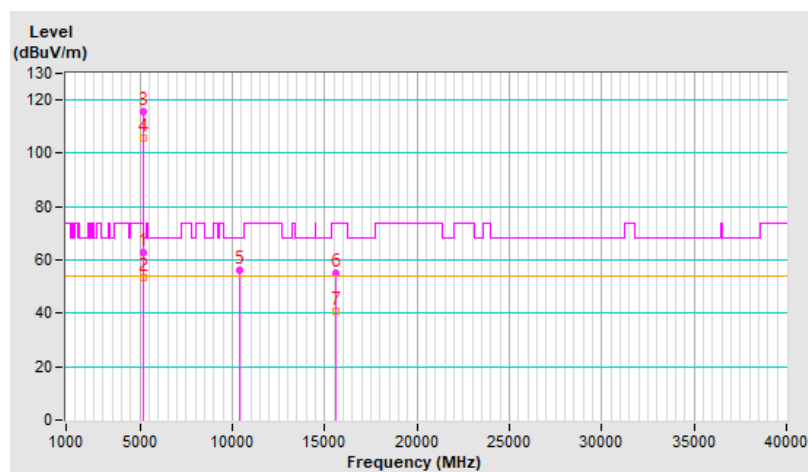


RF Mode	802.11ax (HE40)	Channel	CH 38 : 5190 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5148.90	62.6 PK	74.0	-11.4	1.21 V	198	57.1	5.5
2	5148.90	53.2 AV	54.0	-0.8	1.21 V	198	47.7	5.5
3	*5190.00	115.7 PK			1.21 V	198	110.3	5.4
4	*5190.00	105.9 AV			1.21 V	198	100.5	5.4
5	#10380.00	56.3 PK	68.2	-11.9	1.56 V	319	40.7	15.6
6	15570.00	55.3 PK	74.0	-18.7	1.55 V	123	38.4	16.9
7	15570.00	40.6 AV	54.0	-13.4	1.55 V	123	23.7	16.9

Remarks:

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

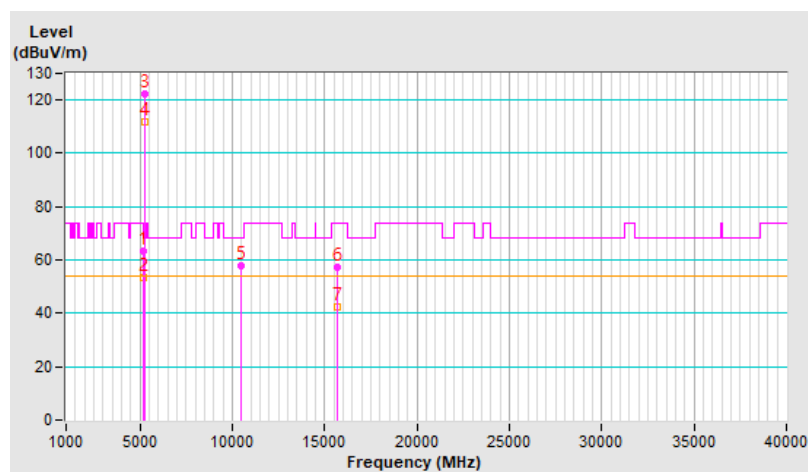


RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	63.5 PK	74.0	-10.5	2.07 H	272	58.0	5.5
2	5150.00	53.3 AV	54.0	-0.7	2.07 H	272	47.8	5.5
3	*5230.00	122.2 PK			2.07 H	272	117.0	5.2
4	*5230.00	111.9 AV			2.07 H	272	106.7	5.2
5	#10460.00	58.0 PK	68.2	-10.2	1.76 H	168	42.2	15.8
6	15690.00	57.5 PK	74.0	-16.5	2.57 H	21	40.8	16.7
7	15690.00	42.2 AV	54.0	-11.8	2.57 H	21	25.5	16.7

Remarks:

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

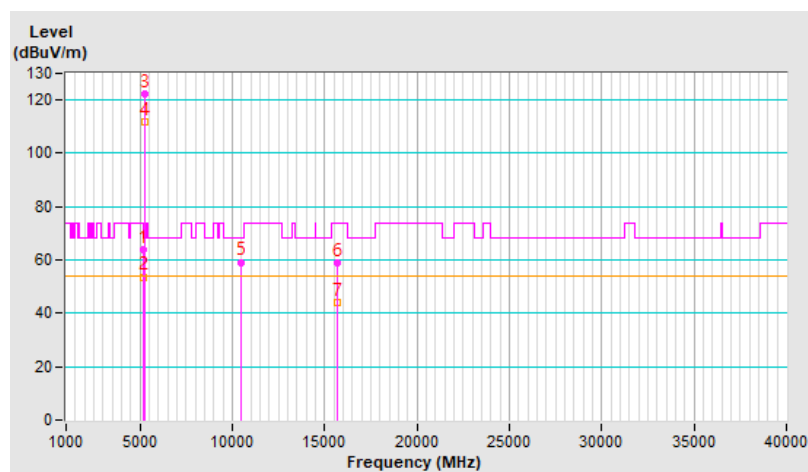


RF Mode	802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	64.1 PK	74.0	-9.9	1.02 V	201	58.6	5.5
2	5150.00	53.7 AV	54.0	-0.3	1.02 V	201	48.2	5.5
3	*5230.00	122.2 PK			1.02 V	201	117.0	5.2
4	*5230.00	111.9 AV			1.02 V	201	106.7	5.2
5	#10460.00	59.2 PK	68.2	-9.0	1.56 V	325	43.4	15.8
6	15690.00	58.8 PK	74.0	-15.2	1.61 V	137	42.1	16.7
7	15690.00	43.9 AV	54.0	-10.1	1.61 V	137	27.2	16.7

Remarks:

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

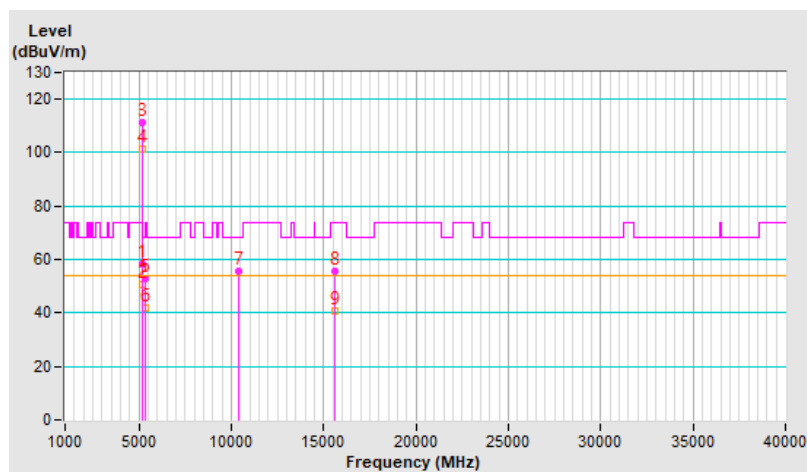


RF Mode	802.11ax (HE80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	5146.60	58.2 PK	74.0	-15.8	1.99 H	273	52.7	5.5
2	5146.60	50.6 AV	54.0	-3.4	1.99 H	273	45.1	5.5
3	*5210.00	111.1 PK			1.99 H	273	105.8	5.3
4	*5210.00	101.3 AV			1.99 H	273	96.0	5.3
5	5350.00	52.7 PK	74.0	-21.3	1.99 H	273	47.3	5.4
6	5350.00	41.7 AV	54.0	-12.3	1.99 H	273	36.3	5.4
7	#10420.00	55.5 PK	68.2	-12.7	1.67 H	186	39.8	15.7
8	15630.00	55.4 PK	74.0	-18.6	2.55 H	22	38.5	16.9
9	15630.00	40.6 AV	54.0	-13.4	2.55 H	22	23.7	16.9

Remarks:

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

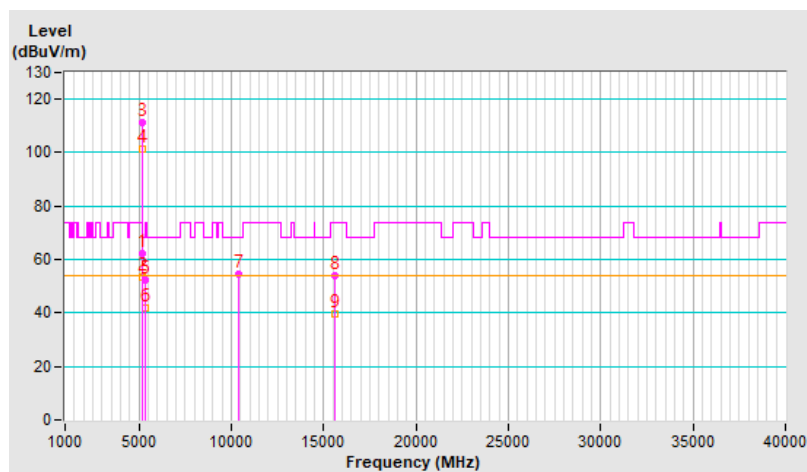


RF Mode	802.11ax (HE80)	Channel	CH 42 : 5210 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.4 PK	74.0	-11.6	1.02 V	180	56.9	5.5
2	5150.00	53.3 AV	54.0	-0.7	1.02 V	180	47.8	5.5
3	*5210.00	111.5 PK			1.02 V	180	106.2	5.3
4	*5210.00	101.4 AV			1.02 V	180	96.1	5.3
5	5350.00	52.2 PK	74.0	-21.8	1.02 V	180	46.8	5.4
6	5350.00	41.9 AV	54.0	-12.1	1.02 V	180	36.5	5.4
7	#10420.00	54.3 PK	68.2	-13.9	1.56 V	316	38.6	15.7
8	15630.00	53.8 PK	74.0	-20.2	1.53 V	114	36.9	16.9
9	15630.00	39.7 AV	54.0	-14.3	1.53 V	114	22.8	16.9

Remarks:

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



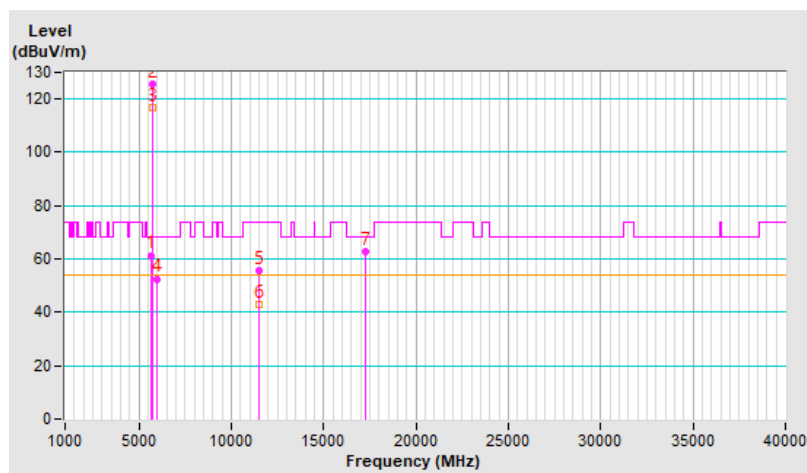
Mode B

RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5635.58	61.4 PK	68.2	-6.8	2.08 H	126	55.7	5.7
2	*5745.00	125.5 PK			2.08 H	126	119.7	5.8
3	*5745.00	116.6 AV			2.08 H	126	110.8	5.8
4	#5942.04	52.6 PK	68.2	-15.6	2.08 H	126	46.4	6.2
5	11490.00	55.6 PK	74.0	-18.4	1.12 H	143	38.9	16.7
6	11490.00	43.1 AV	54.0	-10.9	1.12 H	143	26.4	16.7
7	#17235.00	62.8 PK	68.2	-5.4	1.84 H	334	41.9	20.9

Remarks:

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

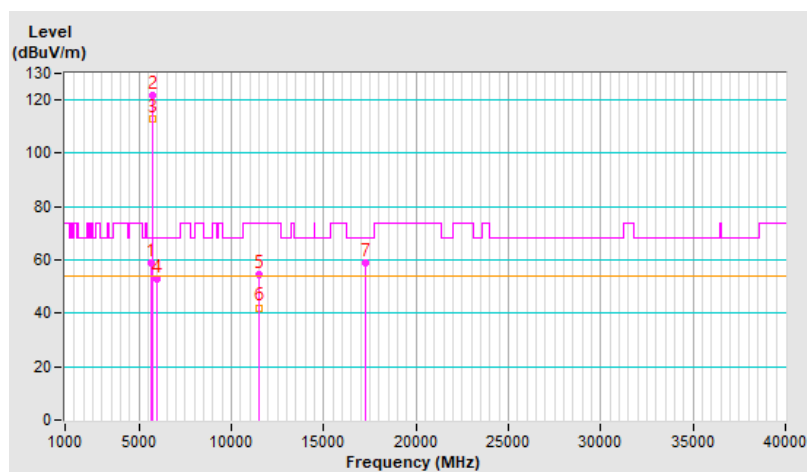


RF Mode	802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5626.19	59.1 PK	68.2	-9.1	1.14 V	146	53.4	5.7
2	*5745.00	121.6 PK			1.14 V	146	115.8	5.8
3	*5745.00	113.0 AV			1.14 V	146	107.2	5.8
4	#5948.09	52.8 PK	68.2	-15.4	1.14 V	146	46.6	6.2
5	11490.00	54.4 PK	74.0	-19.6	1.41 V	209	37.7	16.7
6	11490.00	42.1 AV	54.0	-11.9	1.41 V	209	25.4	16.7
7	#17235.00	58.9 PK	68.2	-9.3	2.85 V	353	38.0	20.9

Remarks:

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

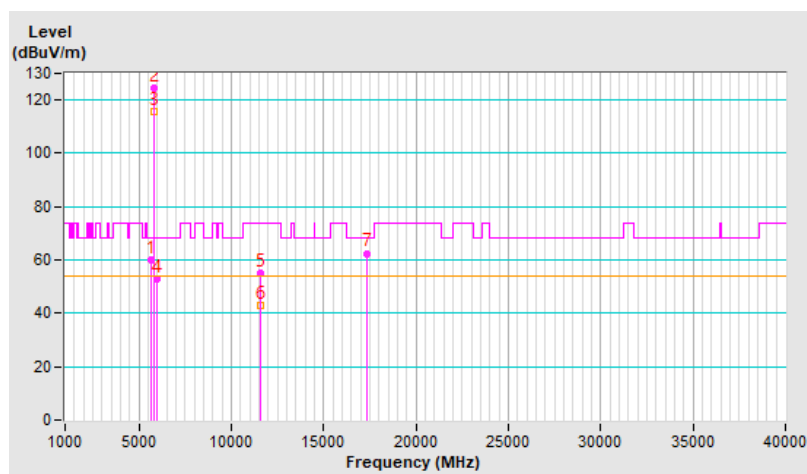


RF Mode	802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5646.60	59.9 PK	68.2	-8.3	1.29 H	171	54.1	5.8
2	*5785.00	124.6 PK			1.29 H	171	118.6	6.0
3	*5785.00	115.7 AV			1.29 H	171	109.7	6.0
4	#5946.84	52.9 PK	68.2	-15.3	1.29 H	171	46.7	6.2
5	11570.00	55.2 PK	74.0	-18.8	1.13 H	141	38.5	16.7
6	11570.00	42.7 AV	54.0	-11.3	1.13 H	141	26.0	16.7
7	#17355.00	62.5 PK	68.2	-5.7	1.81 H	349	40.7	21.8

Remarks:

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

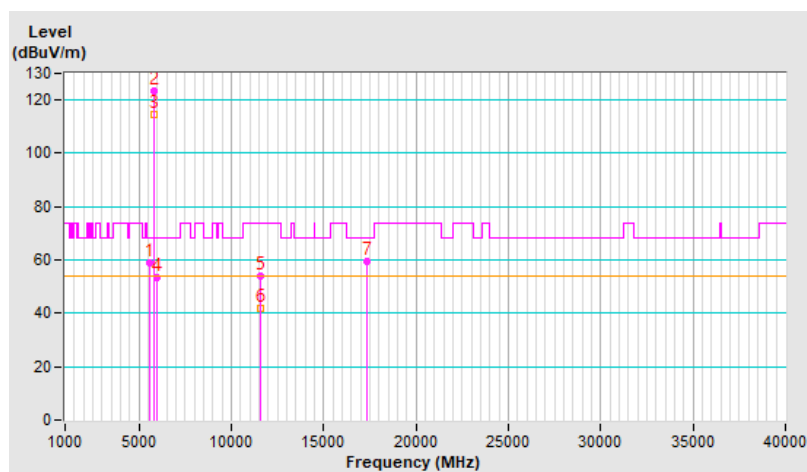


RF Mode	802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5609.91	58.9 PK	68.2	-9.3	1.15 V	149	53.4	5.5
2	*5785.00	123.3 PK			1.15 V	149	117.3	6.0
3	*5785.00	114.5 AV			1.15 V	149	108.5	6.0
4	#5959.32	53.5 PK	68.2	-14.7	1.15 V	149	47.3	6.2
5	11570.00	53.8 PK	74.0	-20.2	1.44 V	193	37.1	16.7
6	11570.00	41.7 AV	54.0	-12.3	1.44 V	193	25.0	16.7
7	#17355.00	59.4 PK	68.2	-8.8	2.93 V	353	37.6	21.8

Remarks:

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

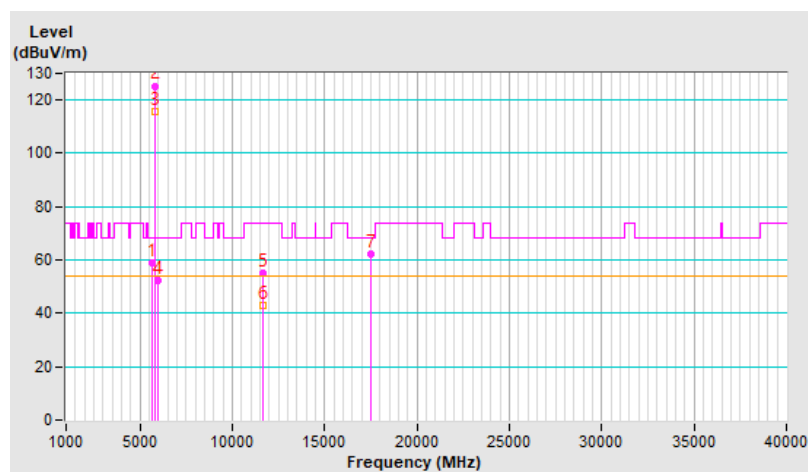


RF Mode	802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5644.77	58.8 PK	68.2	-9.4	1.22 H	141	53.0	5.8
2	*5825.00	125.3 PK			1.22 H	141	119.1	6.2
3	*5825.00	115.9 AV			1.22 H	141	109.7	6.2
4	#5940.38	52.5 PK	68.2	-15.7	1.22 H	141	46.4	6.1
5	11650.00	55.1 PK	74.0	-18.9	1.15 H	130	38.5	16.6
6	11650.00	42.7 AV	54.0	-11.3	1.15 H	130	26.1	16.6
7	#17475.00	62.3 PK	68.2	-5.9	1.84 H	337	39.8	22.5

Remarks:

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

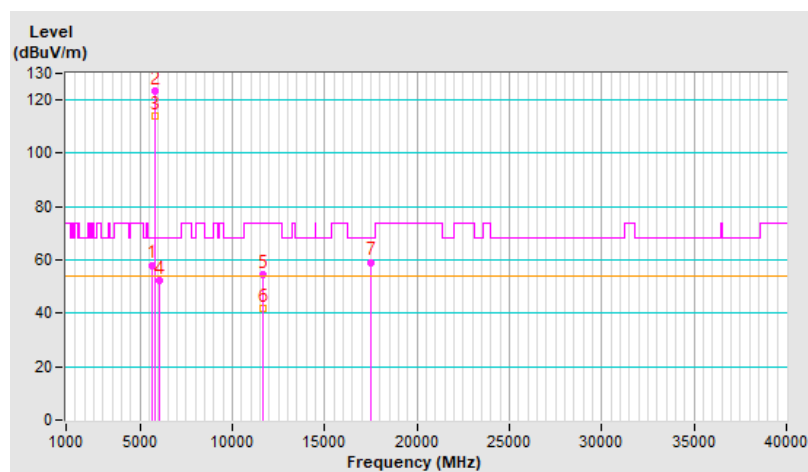


RF Mode	802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5645.66	58.1 PK	68.2	-10.1	1.18 V	147	52.3	5.8
2	*5825.00	123.5 PK			1.18 V	147	117.3	6.2
3	*5825.00	114.2 AV			1.18 V	147	108.0	6.2
4	#6013.77	52.5 PK	68.2	-15.7	1.18 V	147	46.3	6.2
5	11650.00	54.3 PK	74.0	-19.7	1.44 V	202	37.7	16.6
6	11650.00	42.0 AV	54.0	-12.0	1.44 V	202	25.4	16.6
7	#17475.00	59.2 PK	68.2	-9.0	2.88 V	360	36.7	22.5

Remarks:

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

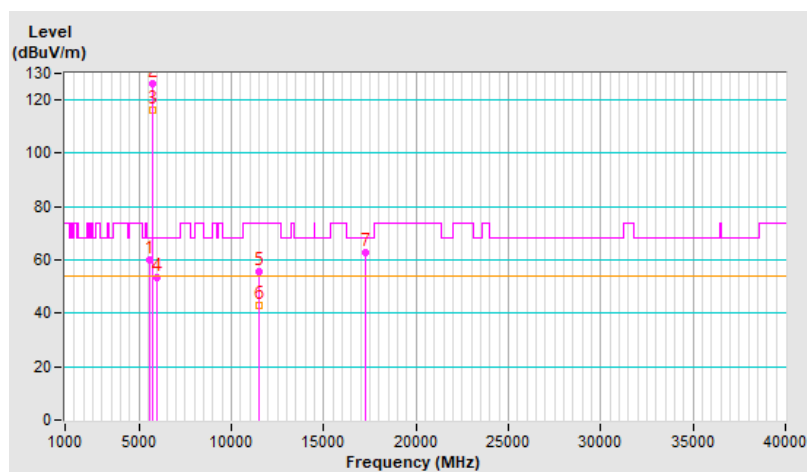


RF Mode	802.11ax (HE20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5617.69	60.2 PK	68.2	-8.0	2.00 H	311	54.6	5.6
2	*5745.00	126.0 PK			2.00 H	311	120.2	5.8
3	*5745.00	116.3 AV			2.00 H	311	110.5	5.8
4	#5949.58	53.2 PK	68.2	-15.0	2.00 H	311	47.0	6.2
5	11490.00	55.4 PK	74.0	-18.6	1.15 H	133	38.7	16.7
6	11490.00	42.8 AV	54.0	-11.2	1.15 H	133	26.1	16.7
7	#17235.00	62.7 PK	68.2	-5.5	1.89 H	345	41.8	20.9

Remarks:

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

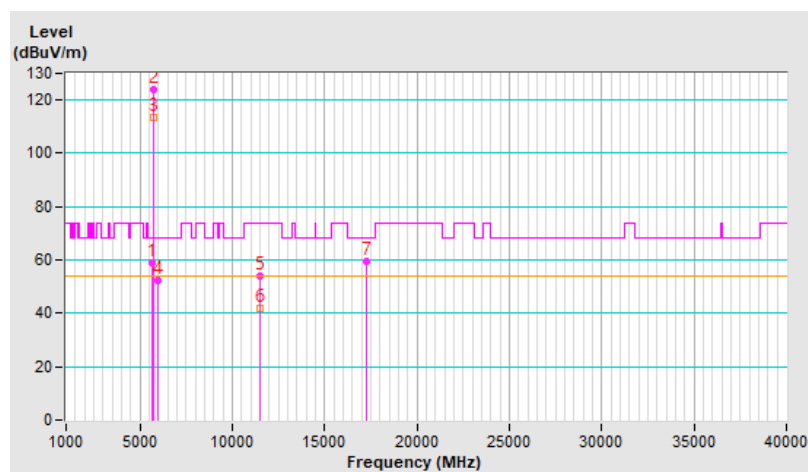


RF Mode	802.11ax (HE20)	Channel	CH 149 : 5745 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5647.21	58.9 PK	68.2	-9.3	1.37 V	141	53.1	5.8
2	*5745.00	123.9 PK			1.37 V	141	118.1	5.8
3	*5745.00	113.2 AV			1.37 V	141	107.4	5.8
4	#5951.21	52.5 PK	68.2	-15.7	1.37 V	141	46.3	6.2
5	11490.00	53.9 PK	74.0	-20.1	1.42 V	218	37.2	16.7
6	11490.00	41.8 AV	54.0	-12.2	1.42 V	218	25.1	16.7
7	#17235.00	59.3 PK	68.2	-8.9	2.82 V	352	38.4	20.9

Remarks:

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

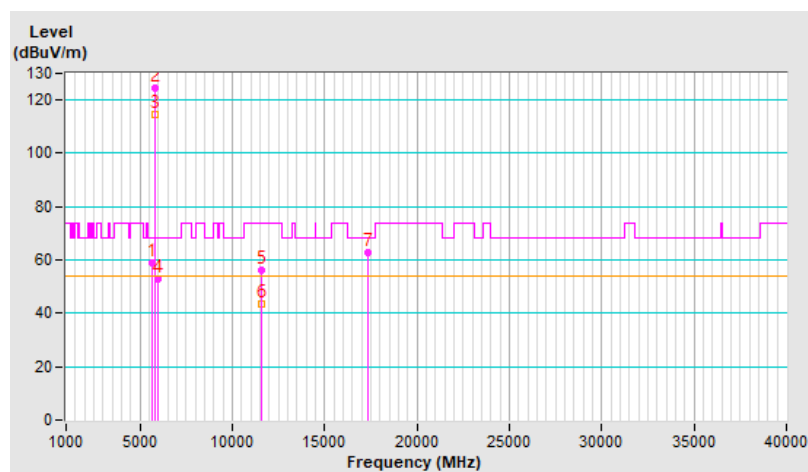


RF Mode	802.11ax (HE20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.21	58.9 PK	68.2	-9.3	1.65 H	182	53.2	5.7
2	*5785.00	124.6 PK			1.65 H	182	118.6	6.0
3	*5785.00	114.5 AV			1.65 H	182	108.5	6.0
4	#5942.66	52.8 PK	68.2	-15.4	1.65 H	182	46.6	6.2
5	11570.00	56.2 PK	74.0	-17.8	1.07 H	152	39.5	16.7
6	11570.00	43.5 AV	54.0	-10.5	1.07 H	152	26.8	16.7
7	#17355.00	62.6 PK	68.2	-5.6	1.79 H	319	40.8	21.8

Remarks:

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

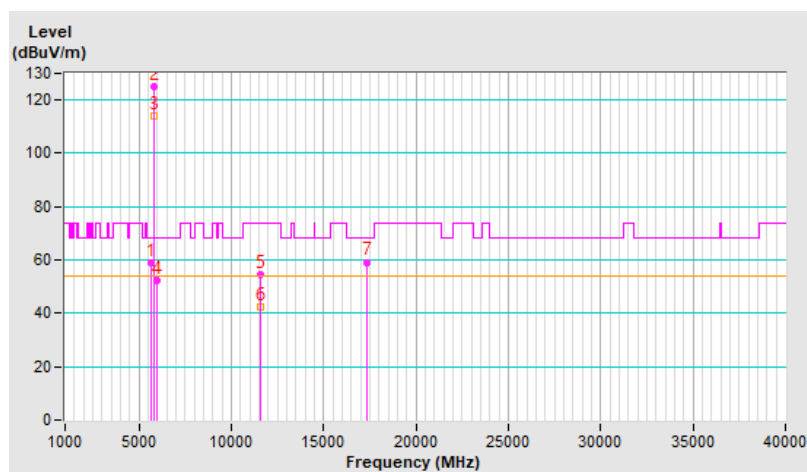


RF Mode	802.11ax (HE20)	Channel	CH 157 : 5785 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5618.48	58.9 PK	68.2	-9.3	1.22 V	140	53.3	5.6
2	*5785.00	125.2 PK			1.22 V	140	119.2	6.0
3	*5785.00	114.2 AV			1.22 V	140	108.2	6.0
4	#5953.74	52.4 PK	68.2	-15.8	1.22 V	140	46.2	6.2
5	11570.00	54.7 PK	74.0	-19.3	1.36 V	223	38.0	16.7
6	11570.00	42.5 AV	54.0	-11.5	1.36 V	223	25.8	16.7
7	#17355.00	59.2 PK	68.2	-9.0	2.90 V	360	37.4	21.8

Remarks:

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

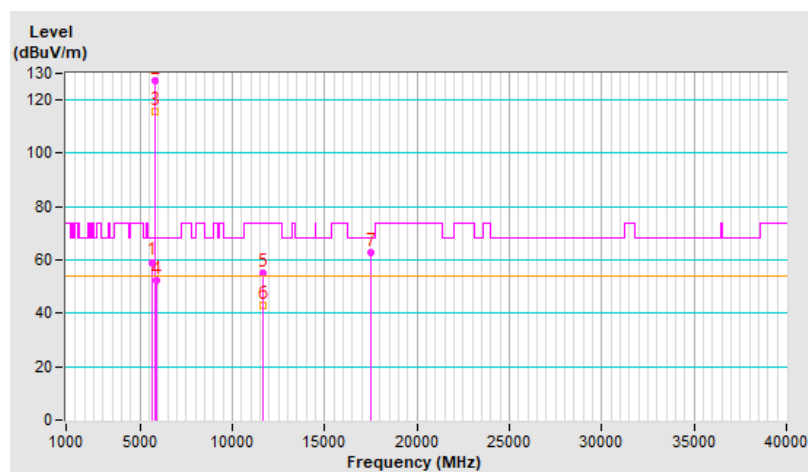


RF Mode	802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5645.37	59.2 PK	68.2	-9.0	2.16 H	123	53.4	5.8
2	*5825.00	127.0 PK			2.16 H	123	120.8	6.2
3	*5825.00	115.9 AV			2.16 H	123	109.7	6.2
4	#5927.71	52.3 PK	68.2	-15.9	2.16 H	123	46.2	6.1
5	11650.00	55.2 PK	74.0	-18.8	1.13 H	127	38.6	16.6
6	11650.00	43.0 AV	54.0	-11.0	1.13 H	127	26.4	16.6
7	#17475.00	62.9 PK	68.2	-5.3	1.82 H	344	40.4	22.5

Remarks:

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

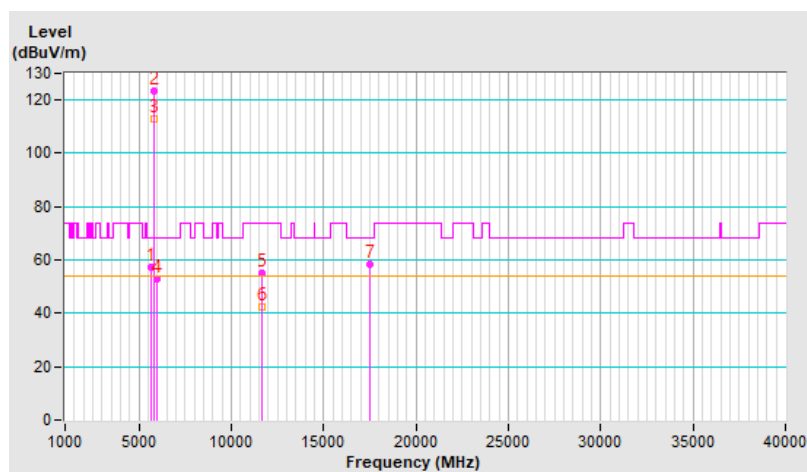


RF Mode	802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5647.35	57.2 PK	68.2	-11.0	1.21 V	149	51.4	5.8
2	*5825.00	123.6 PK			1.21 V	149	117.4	6.2
3	*5825.00	112.8 AV			1.21 V	149	106.6	6.2
4	#5958.87	53.0 PK	68.2	-15.2	1.21 V	149	46.8	6.2
5	11650.00	54.9 PK	74.0	-19.1	1.46 V	200	38.3	16.6
6	11650.00	42.4 AV	54.0	-11.6	1.46 V	200	25.8	16.6
7	#17475.00	58.4 PK	68.2	-9.8	2.90 V	353	35.9	22.5

Remarks:

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

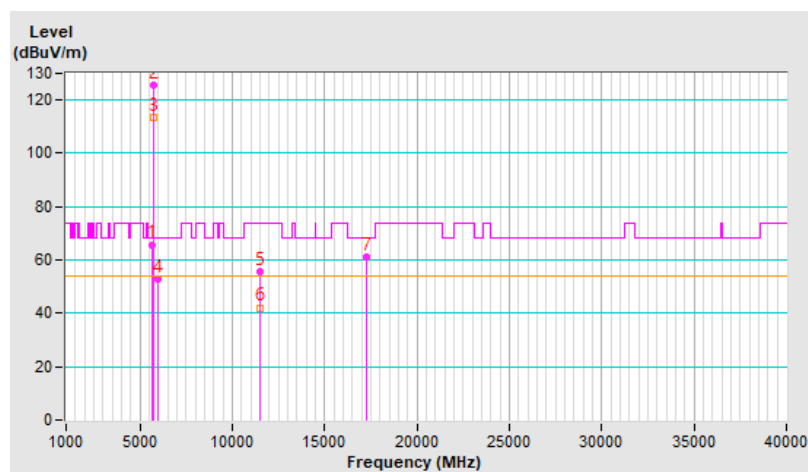


RF Mode	802.11ax (HE40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5643.67	65.8 PK	68.2	-2.4	2.02 H	310	60.0	5.8
2	*5755.00	125.5 PK			2.02 H	310	119.8	5.7
3	*5755.00	113.2 AV			2.02 H	310	107.5	5.7
4	#5946.71	53.0 PK	68.2	-15.2	2.02 H	310	46.8	6.2
5	11510.00	55.8 PK	74.0	-18.2	1.13 H	158	39.1	16.7
6	11510.00	42.1 AV	54.0	-11.9	1.13 H	158	25.4	16.7
7	#17265.00	61.3 PK	68.2	-6.9	1.82 H	334	40.3	21.0

Remarks:

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

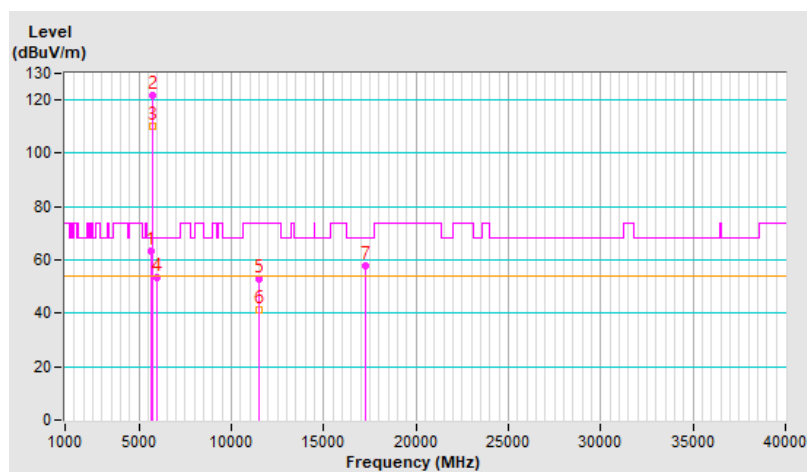


RF Mode	802.11ax (HE40)	Channel	CH 151 : 5755 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.91	63.4 PK	68.2	-4.8	1.45 V	141	57.7	5.7
2	*5755.00	121.5 PK			1.45 V	141	115.8	5.7
3	*5755.00	110.2 AV			1.45 V	141	104.5	5.7
4	#5946.60	53.5 PK	68.2	-14.7	1.45 V	141	47.3	6.2
5	11510.00	52.9 PK	74.0	-21.1	1.37 V	203	36.2	16.7
6	11510.00	41.2 AV	54.0	-12.8	1.37 V	203	24.5	16.7
7	#17265.00	57.8 PK	68.2	-10.4	2.92 V	344	36.8	21.0

Remarks:

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

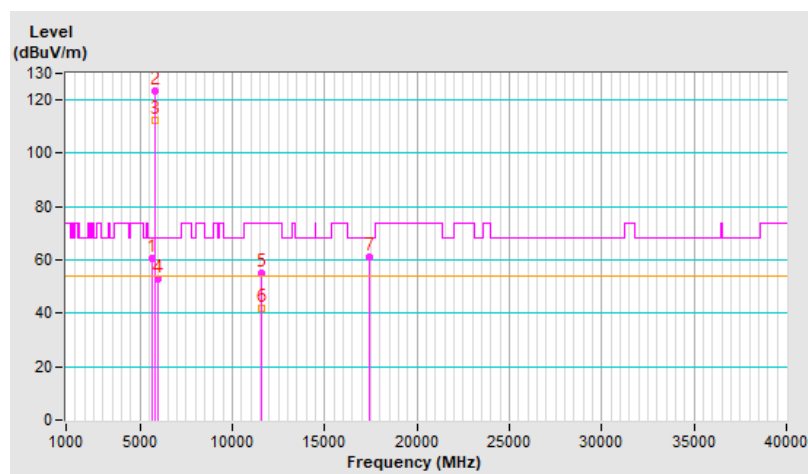


RF Mode	802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5647.56	60.7 PK	68.2	-7.5	1.98 H	180	54.9	5.8
2	*5795.00	123.3 PK			1.98 H	180	117.2	6.1
3	*5795.00	112.3 AV			1.98 H	180	106.2	6.1
4	#5958.50	52.9 PK	68.2	-15.3	1.98 H	180	46.7	6.2
5	11590.00	55.2 PK	74.0	-18.8	1.16 H	153	38.6	16.6
6	11590.00	41.7 AV	54.0	-12.3	1.16 H	153	25.1	16.6
7	#17385.00	61.3 PK	68.2	-6.9	1.87 H	325	39.3	22.0

Remarks:

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

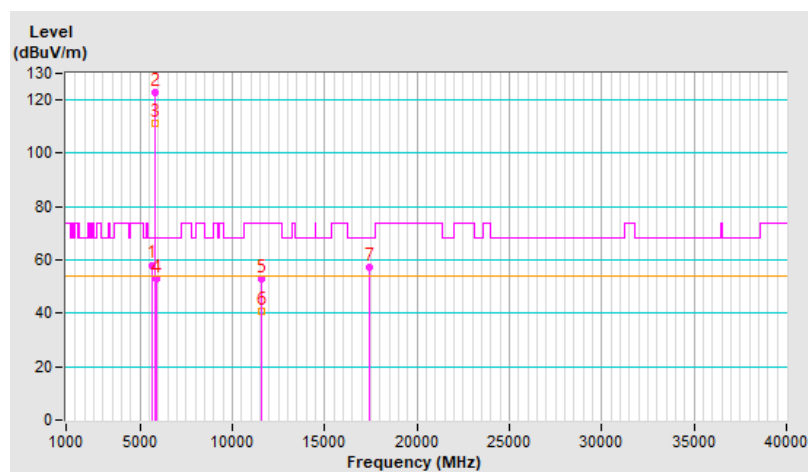


RF Mode	802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.14	58.1 PK	68.2	-10.1	1.14 V	139	52.4	5.7
2	*5795.00	122.7 PK			1.14 V	139	116.6	6.1
3	*5795.00	111.2 AV			1.14 V	139	105.1	6.1
4	#5933.05	52.9 PK	68.2	-15.3	1.14 V	139	46.8	6.1
5	11590.00	52.8 PK	74.0	-21.2	1.37 V	219	36.2	16.6
6	11590.00	40.9 AV	54.0	-13.1	1.37 V	219	24.3	16.6
7	#17385.00	57.5 PK	68.2	-10.7	2.90 V	349	35.5	22.0

Remarks:

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

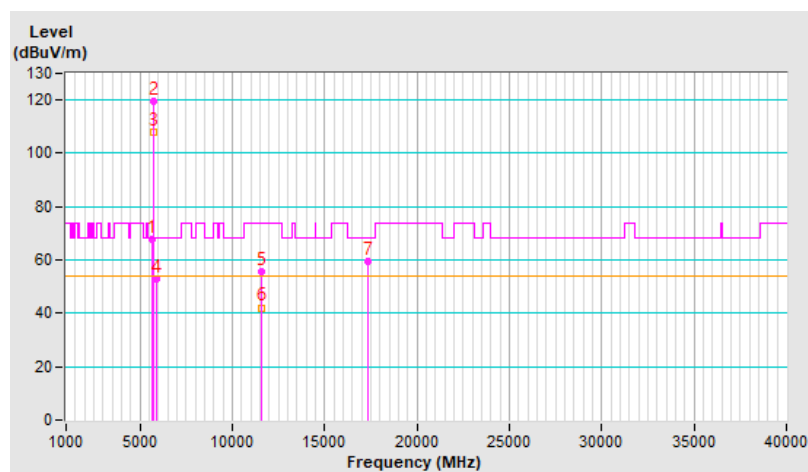


RF Mode	802.11ax (HE80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5649.42	67.8 PK	68.2	-0.4	2.06 H	312	62.0	5.8
2	*5775.00	119.6 PK			2.06 H	312	113.7	5.9
3	*5775.00	107.8 AV			2.06 H	312	101.9	5.9
4	#5927.03	52.8 PK	68.2	-15.4	2.06 H	312	46.7	6.1
5	11550.00	55.7 PK	74.0	-18.3	1.16 H	167	39.0	16.7
6	11550.00	42.1 AV	54.0	-11.9	1.16 H	167	25.4	16.7
7	#17325.00	59.3 PK	68.2	-8.9	1.81 H	323	37.9	21.4

Remarks:

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

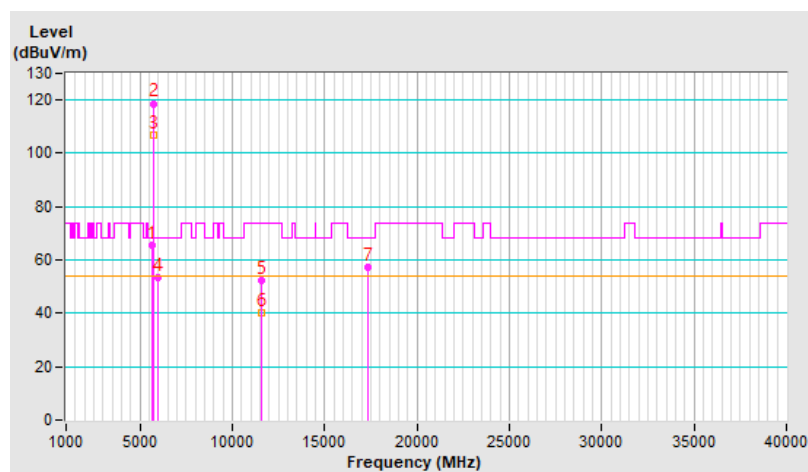


RF Mode	802.11ax (HE80)	Channel	CH 155 : 5775 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Sampson Chen		

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	#5642.21	65.5 PK	68.2	-2.7	1.27 V	139	59.7	5.8
2	*5775.00	118.7 PK			1.27 V	139	112.8	5.9
3	*5775.00	106.6 AV			1.27 V	139	100.7	5.9
4	#5968.99	53.2 PK	68.2	-15.0	1.27 V	139	47.0	6.2
5	11550.00	52.1 PK	74.0	-21.9	1.35 V	213	35.4	16.7
6	11550.00	40.4 AV	54.0	-13.6	1.35 V	213	23.7	16.7
7	#17325.00	57.5 PK	68.2	-10.7	2.87 V	351	36.1	21.4

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.

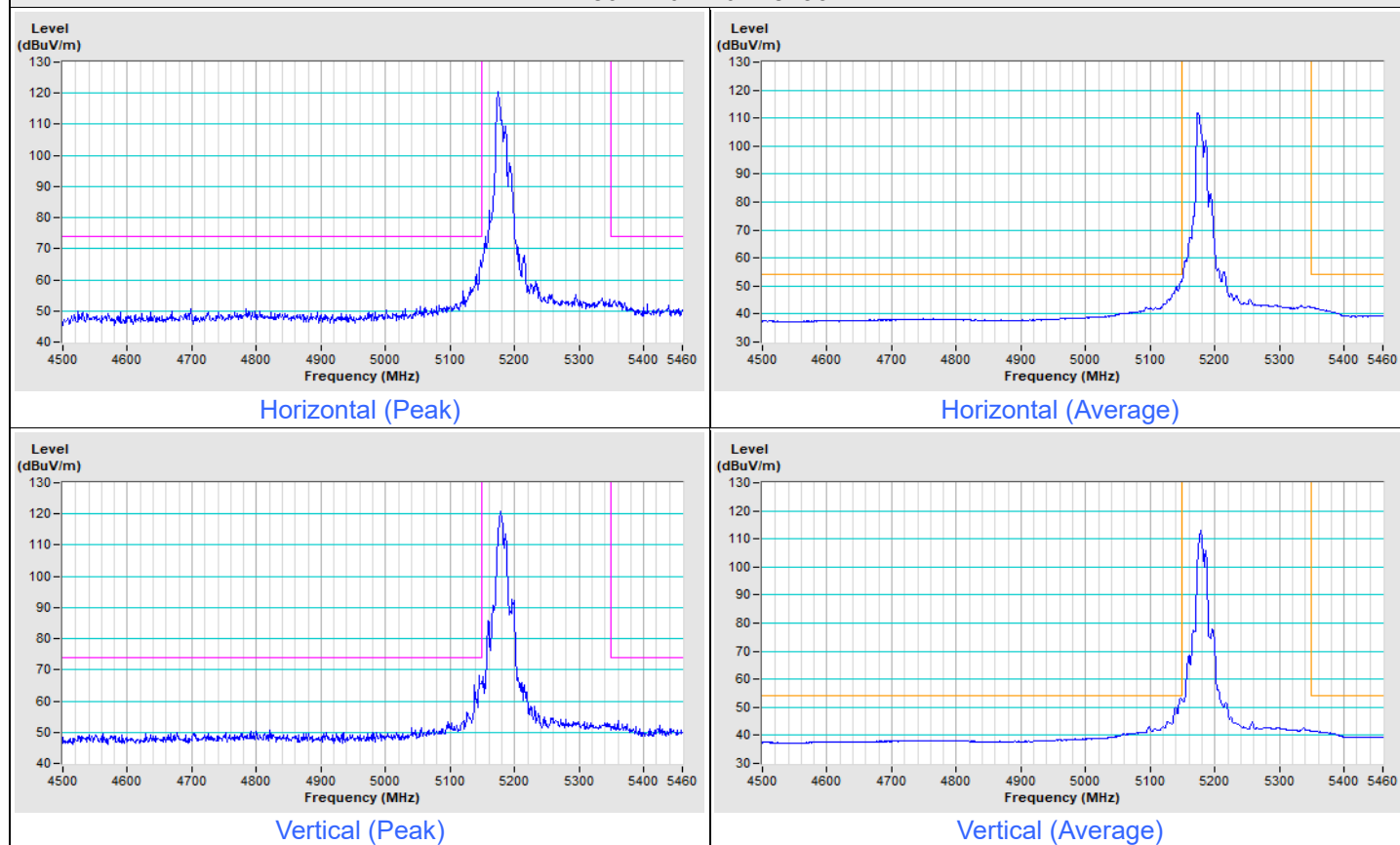


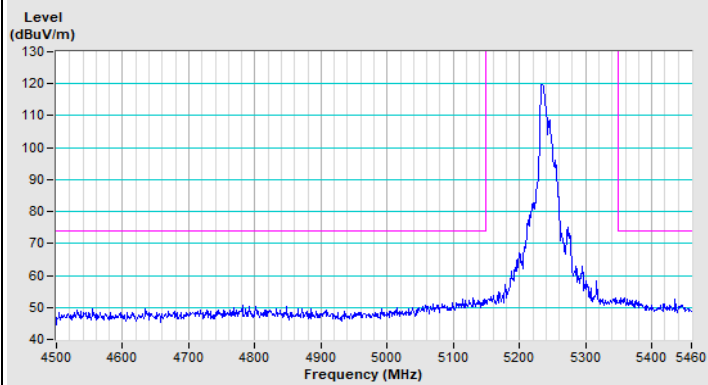
Plot of Band Edge

Mode A

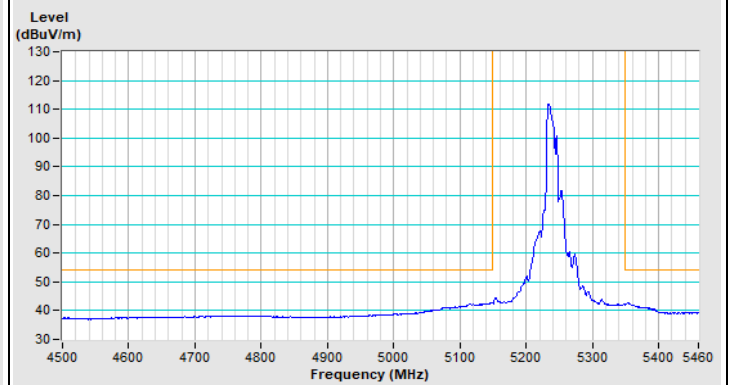
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11a Channel 36

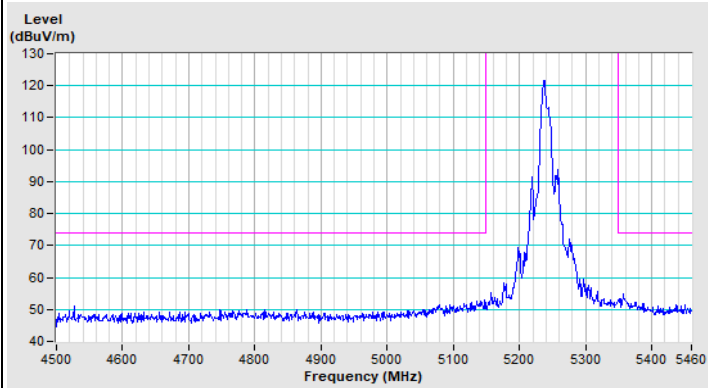


802.11a Channel 48

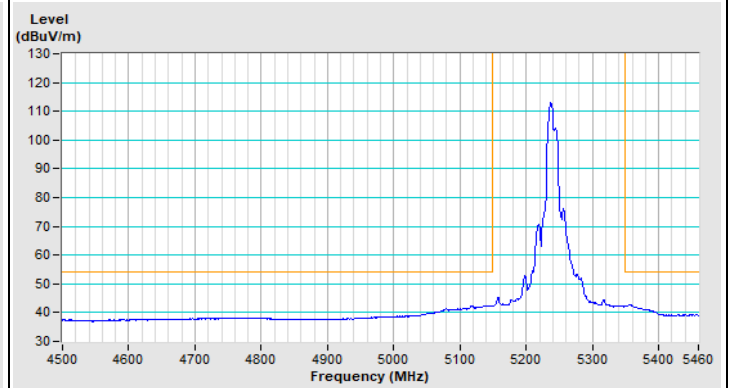
Horizontal (Peak)



Horizontal (Average)



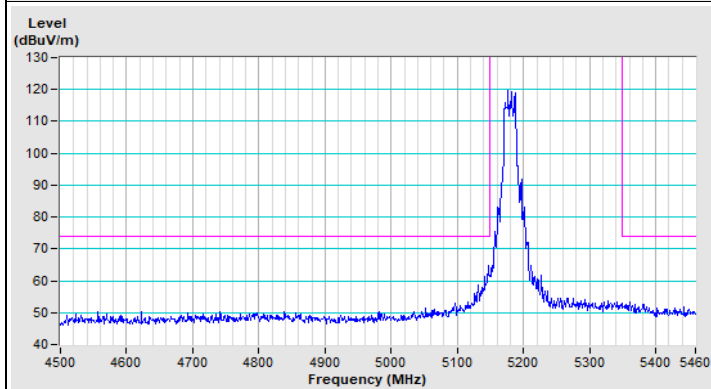
Vertical (Peak)



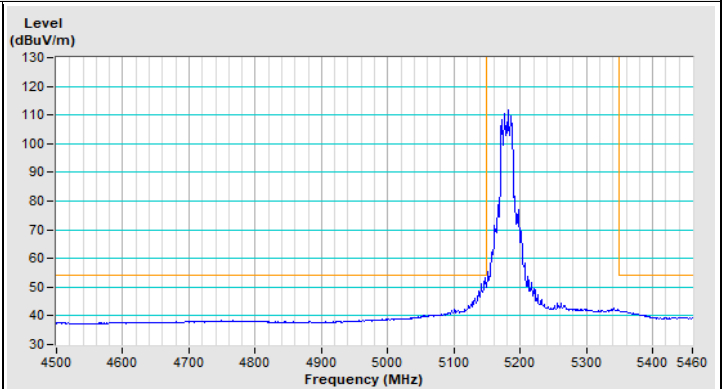
Vertical (Average)

Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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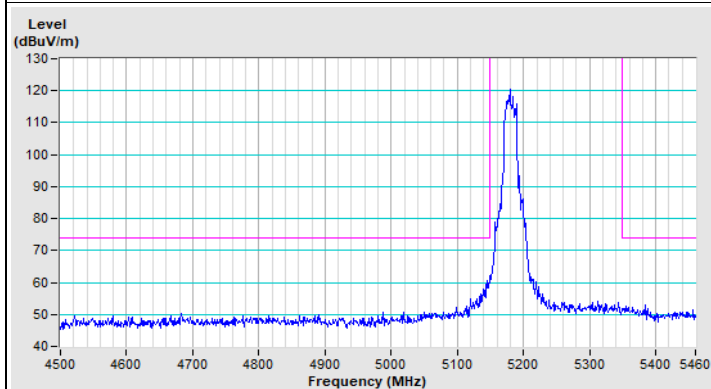
802.11ax (HE20) Channel 36



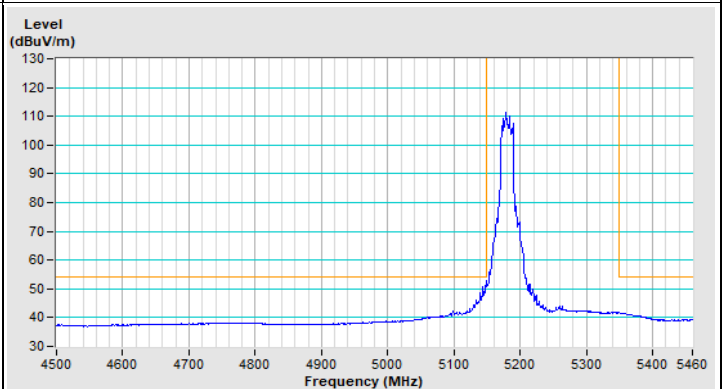
Horizontal (Peak)



Horizontal (Average)

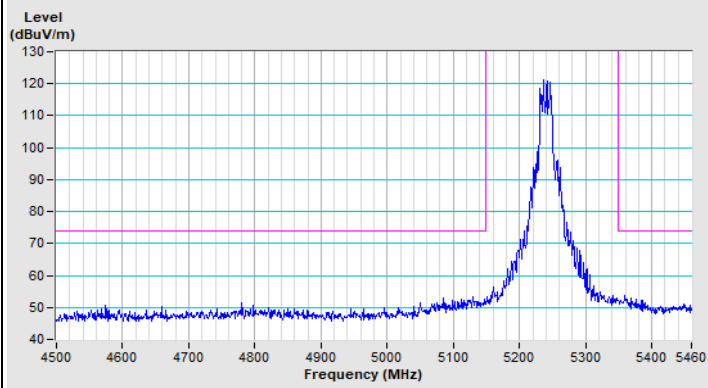


Vertical (Peak)

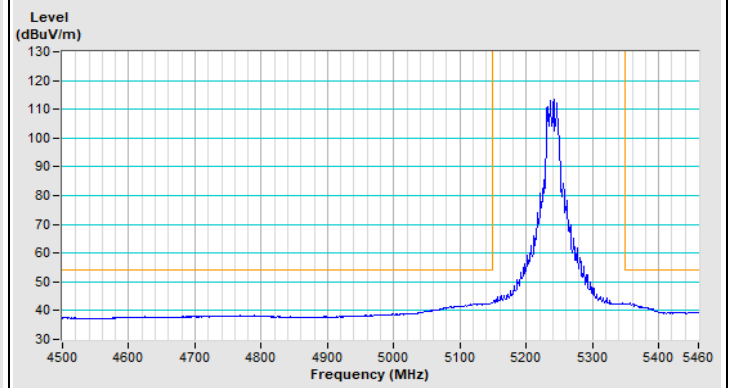


Vertical (Average)

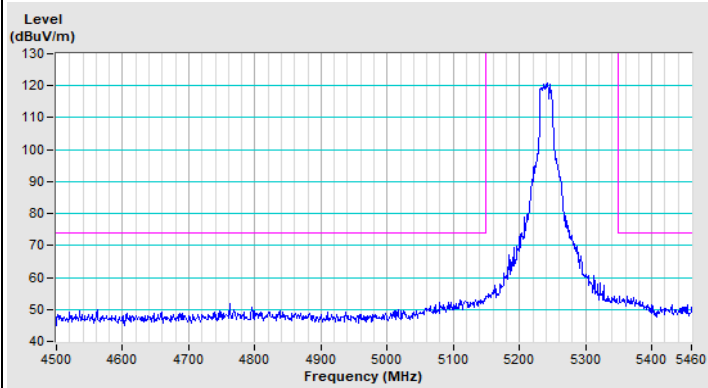
802.11ax (HE20) Channel 48



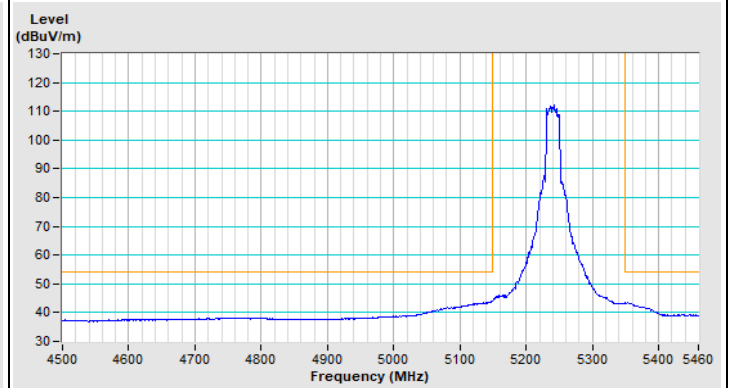
Horizontal (Peak)



Horizontal (Average)



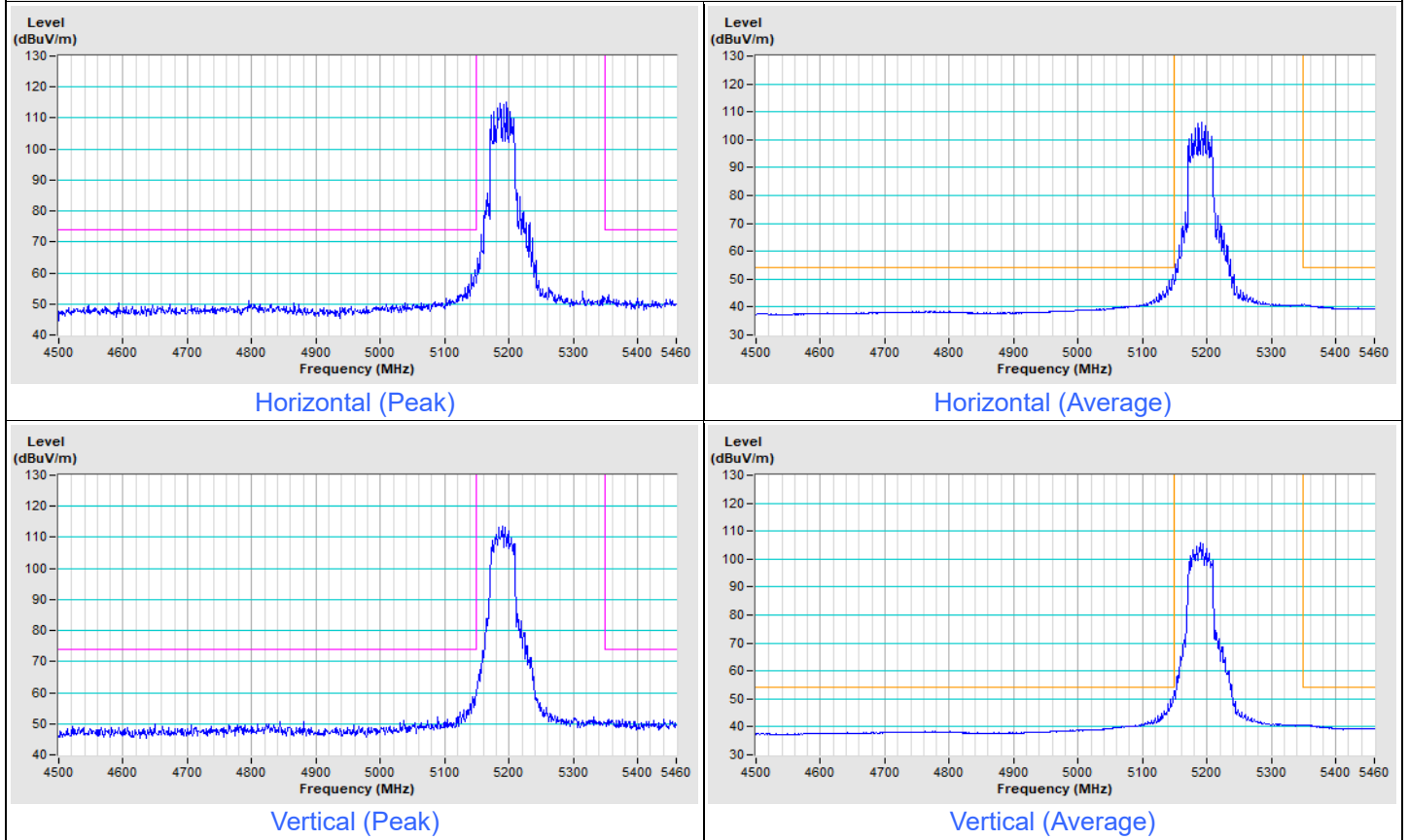
Vertical (Peak)



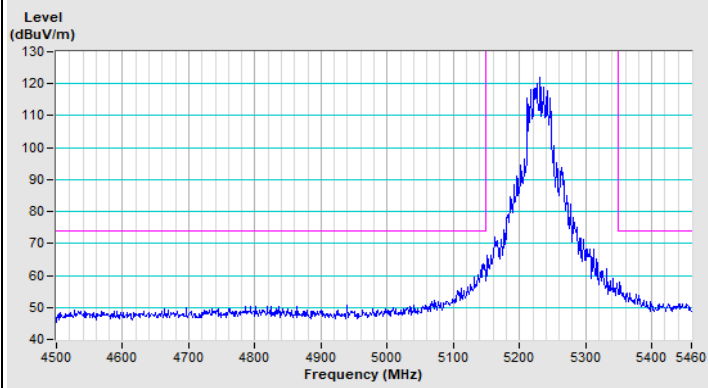
Vertical (Average)

Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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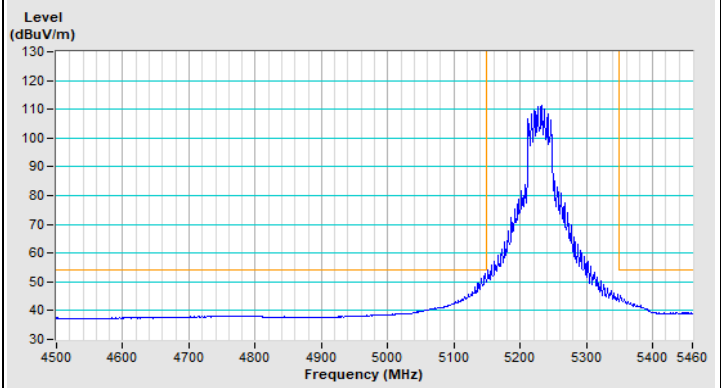
802.11ax (HE40) Channel 38



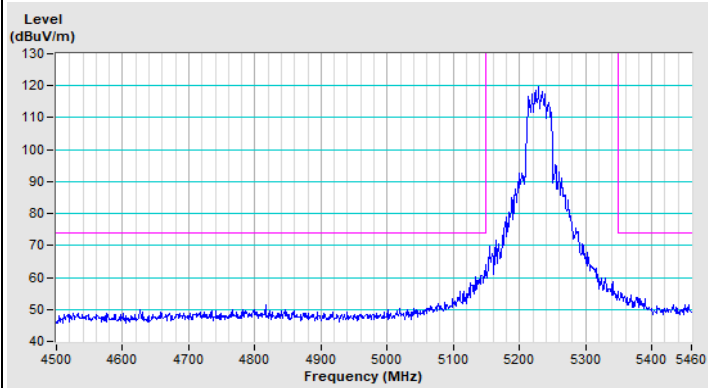
802.11ax (HE40) Channel 46



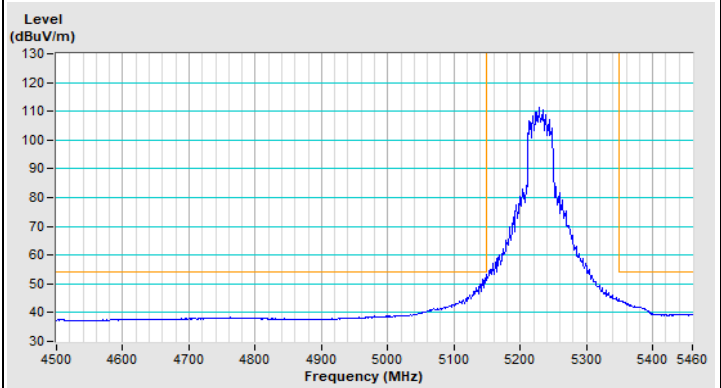
Horizontal (Peak)



Horizontal (Average)



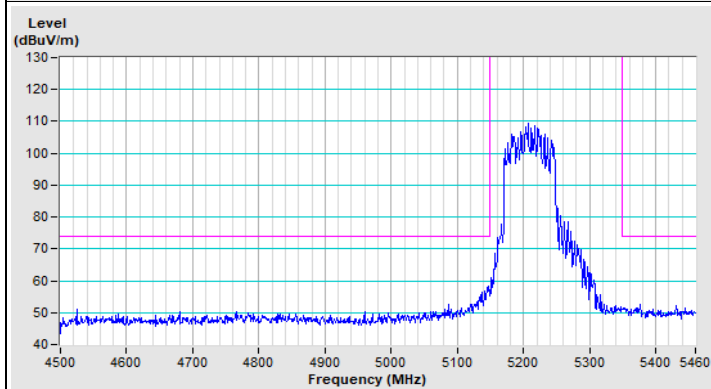
Vertical (Peak)



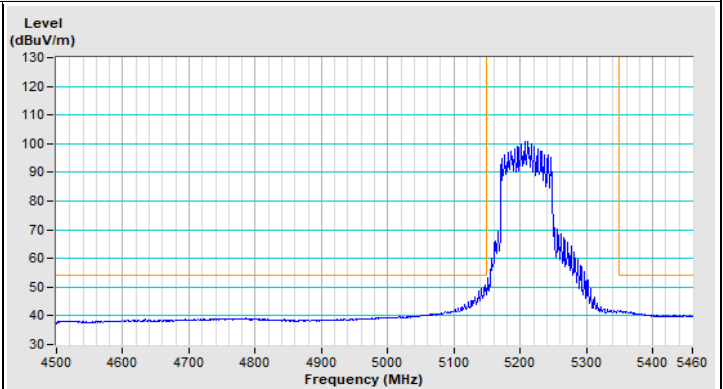
Vertical (Average)

Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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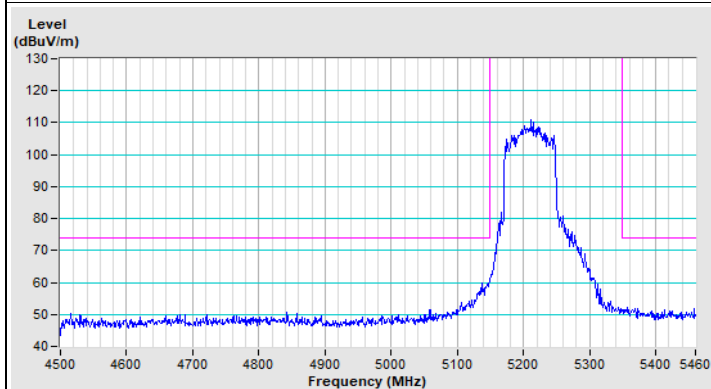
802.11ax (HE80) Channel 42



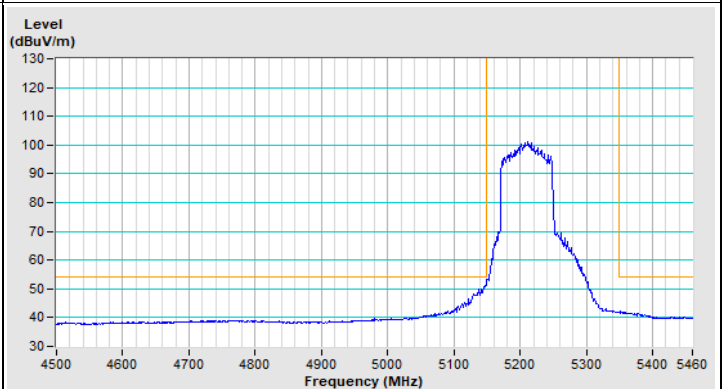
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

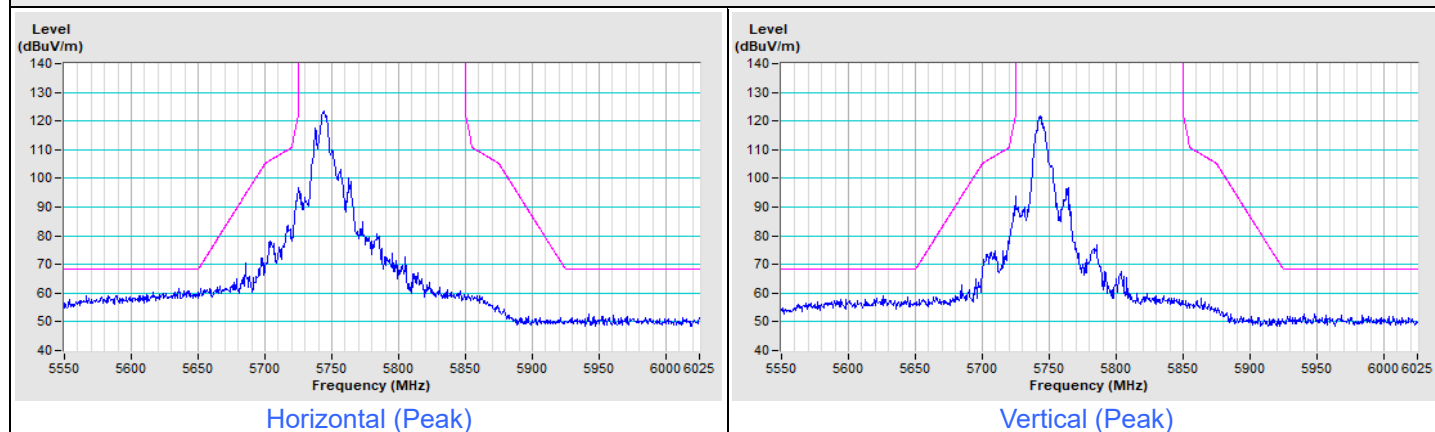


Vertical (Average)

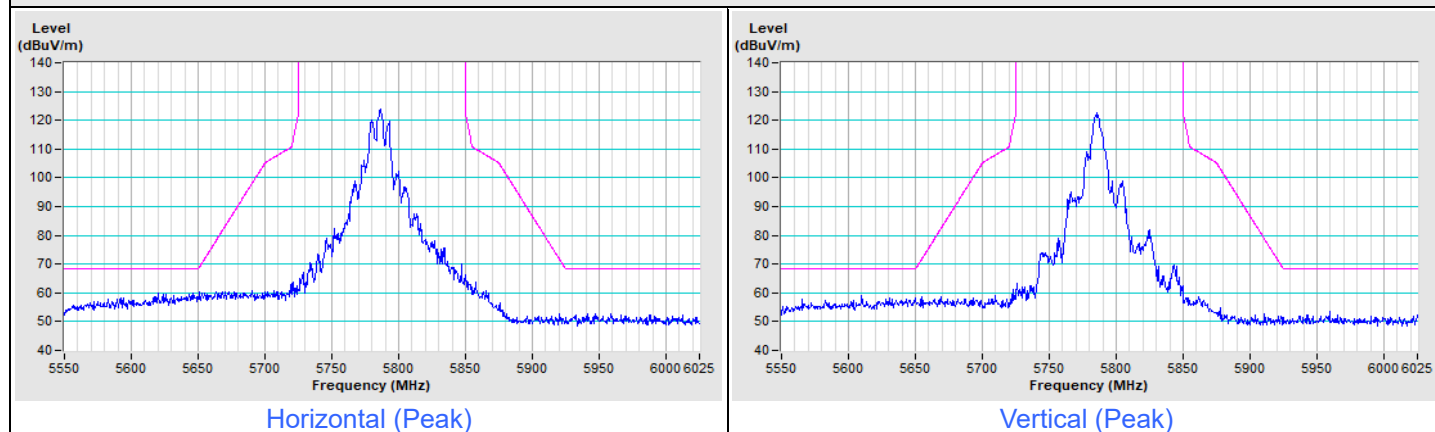
Mode B

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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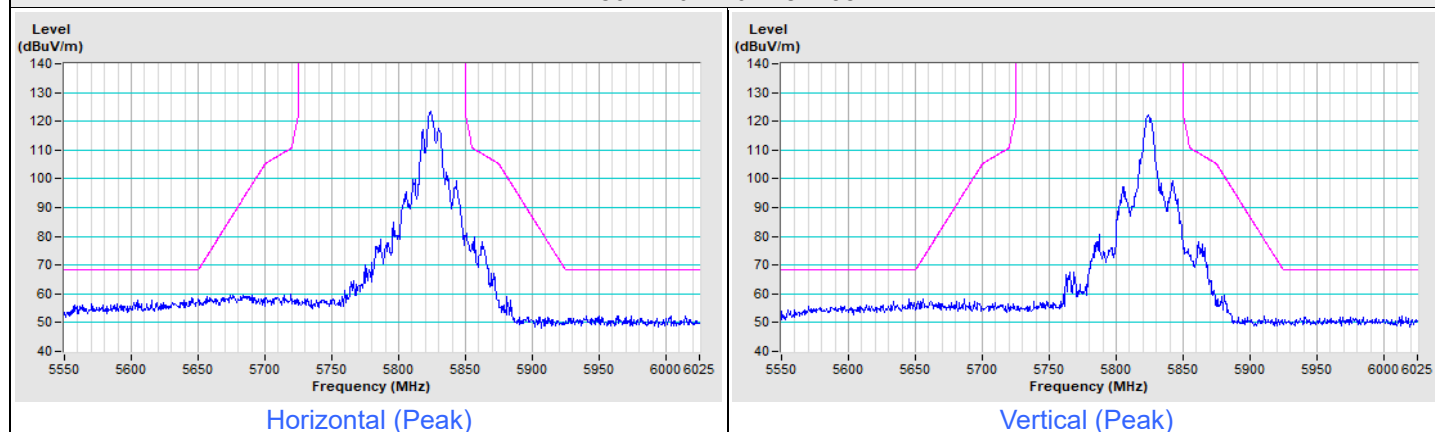
802.11a Channel 149



802.11a Channel 157

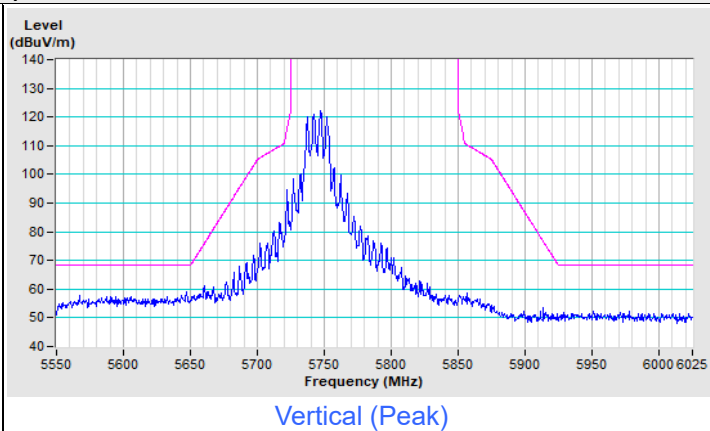
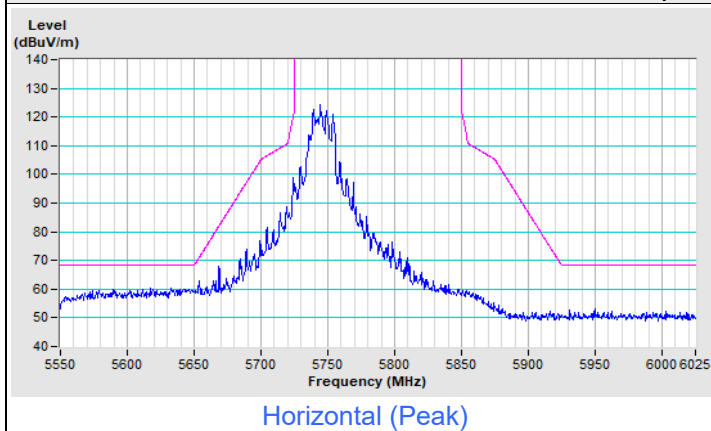


802.11a Channel 165

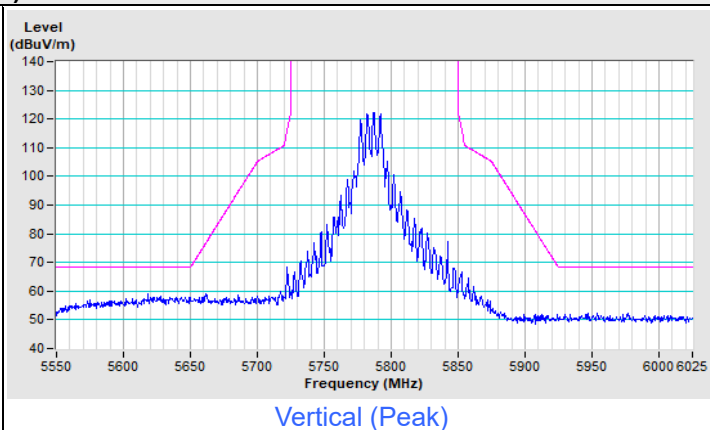
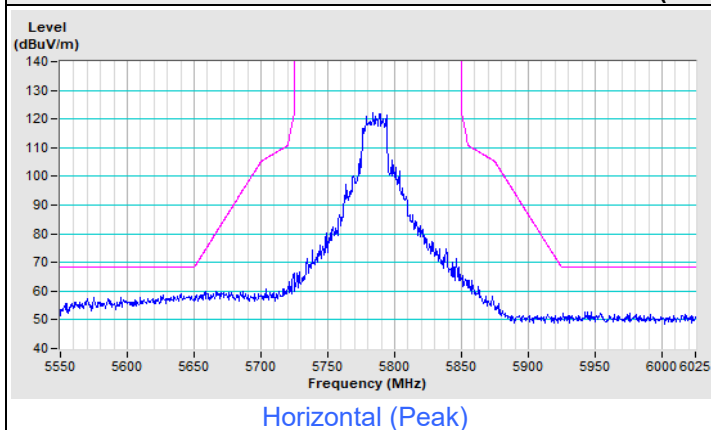


Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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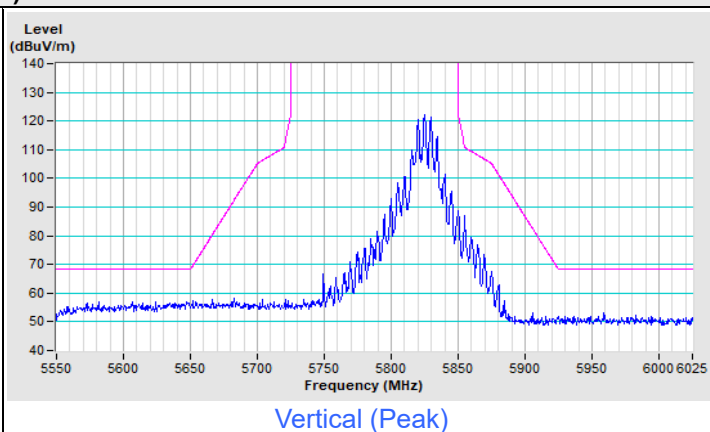
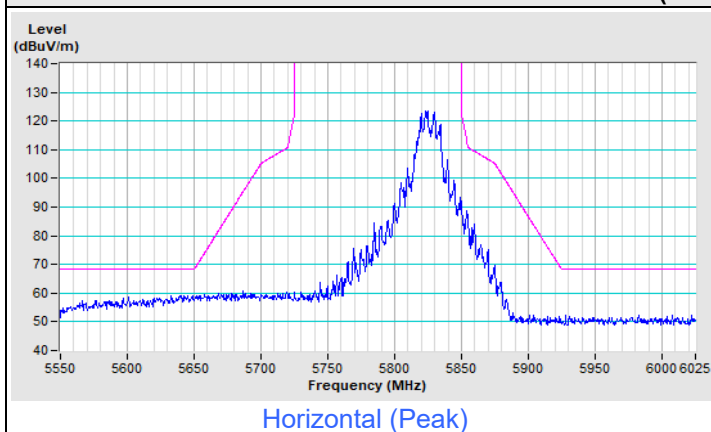
802.11ax (HE20) Channel 149



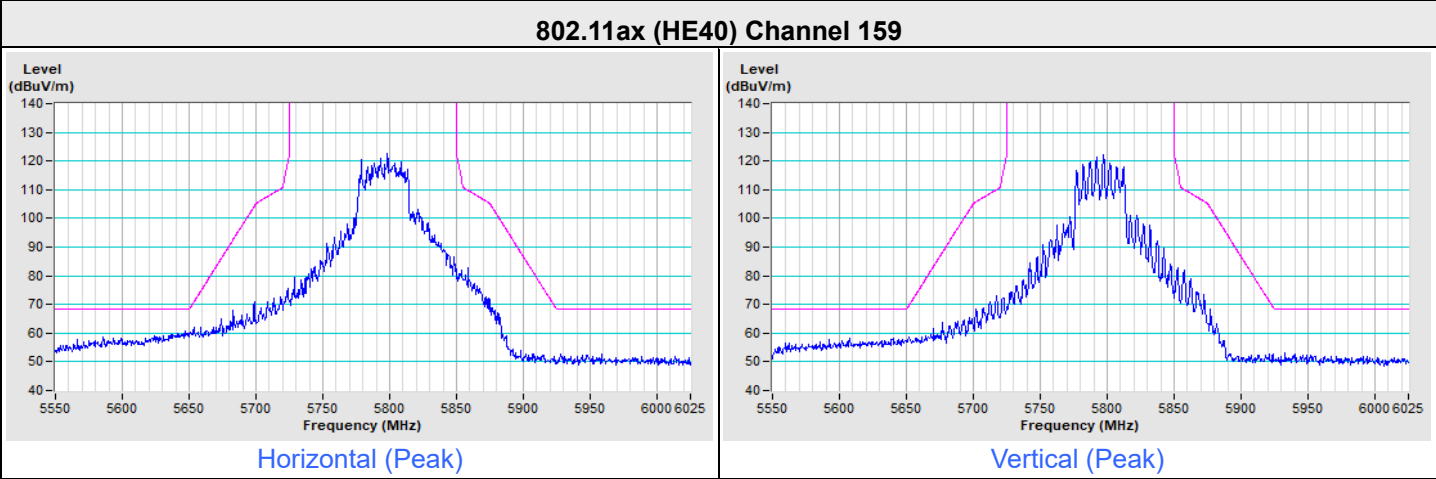
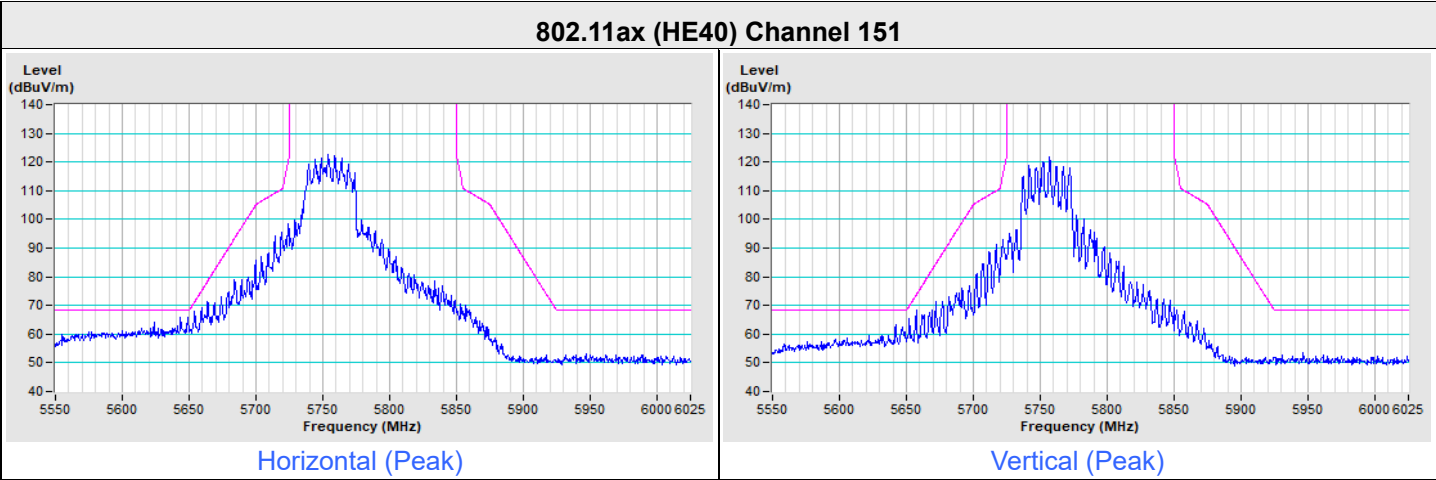
802.11ax (HE20) Channel 157



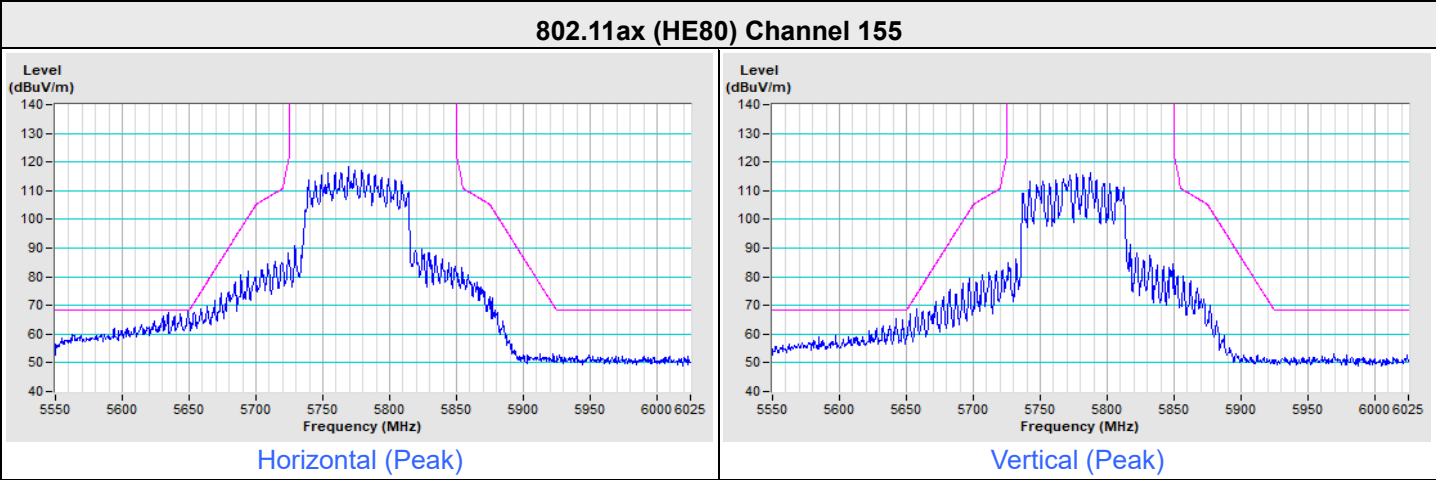
802.11ax (HE20) Channel 165



Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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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:

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

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

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