

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
Report No.: RFBCKS-WTW-P25030148A
FCC ID: 2AWHPR251
Product: Starlink Router
Brand: SPACEX, *SPACEX*, *X*, STARLINK
Model No.: UTR-251
Received Date: 2025/2/24
Test Date: 2025/2/24 ~ 2025/3/31
Issued Date: 2025/4/2
Applicant: Space Exploration Technologies Corp. (SPACEX)
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FCC Registration / (1) 788550 / TW0003
Designation Number: (2) 281270 / TW0032

Approved by: Jeremy Lin, Date: 2025/4/2
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Prepared by : Vera 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.....	9
3.4 Test Mode Applicability and Tested Channel Detail.....	10
3.5 Duty Cycle of Test Signal.....	11
3.6 Test Program Used and Operation Descriptions	13
3.7 Connection Diagram of EUT and Peripheral Devices	13
3.8 Configuration of Peripheral Devices and Cable Connections	13
4 Test Instruments	14
4.1 26 dB Bandwidth	14
4.2 RF Output Power.....	14
4.3 Power Spectral Density	14
4.4 6 dB Bandwidth	14
4.5 Occupied Bandwidth.....	14
4.6 AC Power Conducted Emissions	15
4.7 Unwanted Emissions below 1 GHz	16
4.8 Unwanted Emissions above 1 GHz.....	17
5 Limits of Test Items.....	18
5.1 26 dB Bandwidth	18
5.2 RF Output Power.....	18
5.3 Power Spectral Density	18
5.4 6 dB Bandwidth	18
5.5 Occupied Bandwidth.....	18
5.6 AC Power Conducted Emissions	19
5.7 Unwanted Emissions below 1 GHz	19
5.8 Unwanted Emissions above 1 GHz.....	20
6 Test Arrangements.....	21
6.1 26 dB Bandwidth	21
6.1.1 Test Setup	21
6.1.2 Test Procedure.....	21
6.2 RF Output Power.....	21
6.2.1 Test Setup	21
6.2.2 Test Procedure.....	21
6.3 Power Spectral Density	22
6.3.1 Test Setup	22
6.3.2 Test Procedure.....	22
6.4 6 dB Bandwidth	22
6.4.1 Test Setup	22
6.4.2 Test Procedure.....	22
6.5 Occupied Bandwidth.....	23
6.5.1 Test Setup	23
6.5.2 Test Procedure.....	23
6.6 AC Power Conducted Emissions	23
6.6.1 Test Setup	23
6.6.2 Test Procedure.....	23
6.7 Unwanted Emissions below 1 GHz	24
6.7.1 Test Setup	24
6.7.2 Test Procedure.....	25

6.8	Unwanted Emissions above 1 GHz.....	26
6.8.1	Test Setup	26
6.8.2	Test Procedure	26
7	Test Results of Test Item	27
7.1	26 dB Bandwidth	27
7.2	RF Output Power.....	32
7.3	Power Spectral Density	42
7.4	6 dB Bandwidth	49
7.5	Occupied Bandwidth.....	51
7.6	AC Power Conducted Emissions	54
7.7	Unwanted Emissions below 1 GHz	56
7.8	Unwanted Emissions above 1 GHz.....	58
8	Pictures of Test Arrangements	101
9	Information of the Testing Laboratories	102

Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P25030148A	Original Release	2025/4/2

1 Certificate

Product: Starlink Router

Brand: SPACEX, *SPACEX*, *X*, STARLINK

Test Model: UTR-251

Sample Status: Engineering sample

Applicant: Space Exploration Technologies Corp. (SPACEX)

Test Date: 2025/2/24 ~ 2025/3/31

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

Measurement ANSI C63.10-2013

procedure: KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(2)	26 dB Bandwidth	-	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
---	Occupied Bandwidth	-	Reference only.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -10.24 dB at 0.65400 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.3 dB at 66.82 MHz
15.407(b) (1/10) 15.407(b) (2/10) 15.407(b) (3/10) 15.407(b) (4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.2 dB at 5421.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Notes:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The "Dynamic Frequency Selection measurement" was recorded in DFS test report.

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) (±)
26 dB Bandwidth	-	206.5 Hz
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
6 dB Bandwidth	-	206.5 Hz
Occupied Bandwidth	-	72 Hz
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.90 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 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	SPACE X, <i>SPACE X</i> , <i>X</i> , STARLINK
Test Model	UTR-251
Status of EUT	Engineering sample
Power Supply Rating	Refer to note
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 450 Mbps 802.11ac: up to 2340 Mbps 802.11ax: up to 3602.9 Mbps
Operating Frequency	5.18 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 20 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 10 802.11ac (VHT80), 802.11ax (HE80): 5 802.11ac (VHT160), 802.11ax (HE160): 2
Output Power	5.18 GHz ~ 5.32 GHz : 219.893 mW (23.42 dBm) 5.5 GHz ~ 5.72 GHz : 239.445 mW (23.79 dBm)
EUT Category	Indoor Access Point

Note:

1. This report is issued as a supplementary report to BV CPS report no. RFBCKS-WTW-P25030148-1. The difference compared with original report is adding 5250 ~ 5320 MHz and 5500 ~ 5720 MHz by software. Therefore, the EUT was re-tested.
2. The EUT uses following accessories.

Item	Brand	Model	Part Number	Specification
AC Adapter	Starlink	UTP-251L	39005000-501/A	AC Input : 100-240V, 0.6A, 50/60Hz DC Output : 9.0V, 1.6A DC Output Cable : 1.55M

3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	RF Chain No.	Antenna Gain(dBi)	Frequency range	Antenna Type	Connector Type
0	0	3.13	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		3.49	5.25 GHz ~ 5.35 GHz	PCB	ipex(MHF)
		3.74	5.47 GHz ~ 5.725 GHz	PCB	ipex(MHF)
		3.25	5.725~5.85GHz	PCB	ipex(MHF)
1	1	3.66	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		3.35	5.25 GHz ~ 5.35 GHz	PCB	ipex(MHF)
		3.43	5.47 GHz ~ 5.725 GHz	PCB	ipex(MHF)
		3.54	5.725~5.85GHz	PCB	ipex(MHF)
2	2	1.08	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		1.81	5.25 GHz ~ 5.35 GHz	PCB	ipex(MHF)
		1.99	5.47 GHz ~ 5.725 GHz	PCB	ipex(MHF)
		2.23	5.725~5.85GHz	PCB	ipex(MHF)

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

2. The EUT incorporates a MIMO function:

5 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11a	3TX	3RX
802.11n (HT20)	3TX	3RX
802.11n (HT40)	3TX	3RX
802.11ac (VHT20)	3TX	3RX
802.11ac (VHT40)	3TX	3RX
802.11ac (VHT80)	3TX	3RX
802.11ac (VHT160)	3TX	3RX
802.11ax (HE20)	3TX	3RX
802.11ax (HE40)	3TX	3RX
802.11ax (HE80)	3TX	3RX
802.11ax (HE160)	3TX	3RX

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, 160 MHz), and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz). Therefore the investigated worst case is the representative mode in test report.

3.3 Channel List

For 5180 ~ 5320 MHz

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

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

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

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

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

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

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

Channel	Frequency
50	5250 MHz

For 5500 ~ 5720 MHz

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

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

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

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

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

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

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

Channel	Frequency
114	5570 MHz

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	The EUT is designed to be positioned on the z-plane only.

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
26 dB Bandwidth	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0
RF Output Power	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD & Beamforming	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD & Beamforming	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD & Beamforming	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD & Beamforming	50, 114	BPSK	MCS0
Power Spectral Density	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	144	BPSK	MCS0
	802.11ax (HE40)	CDD	142	BPSK	MCS0
	802.11ax (HE80)	CDD	138	BPSK	MCS0
Occupied Bandwidth	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0
AC Power Conducted Emissions	802.11ax (HE20)	CDD	100	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE20)	CDD	100	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	6Mb/s
	802.11ax (HE20)	CDD	52, 60, 64, 100, 116, 140, 144	BPSK	MCS0
	802.11ax (HE40)	CDD	54, 62, 102, 110, 134, 142	BPSK	MCS0
	802.11ax (HE80)	CDD	58, 106, 122, 138	BPSK	MCS0
	802.11ax (HE160)	CDD	50, 114	BPSK	MCS0

3.5 Duty Cycle of Test Signal

802.11a: Duty cycle = 2.77 ms / 2.81 ms x 100% = 98.6%

802.11ax (HE20): Duty cycle = 3.9 ms / 3.93 ms x 100% = 99.2%

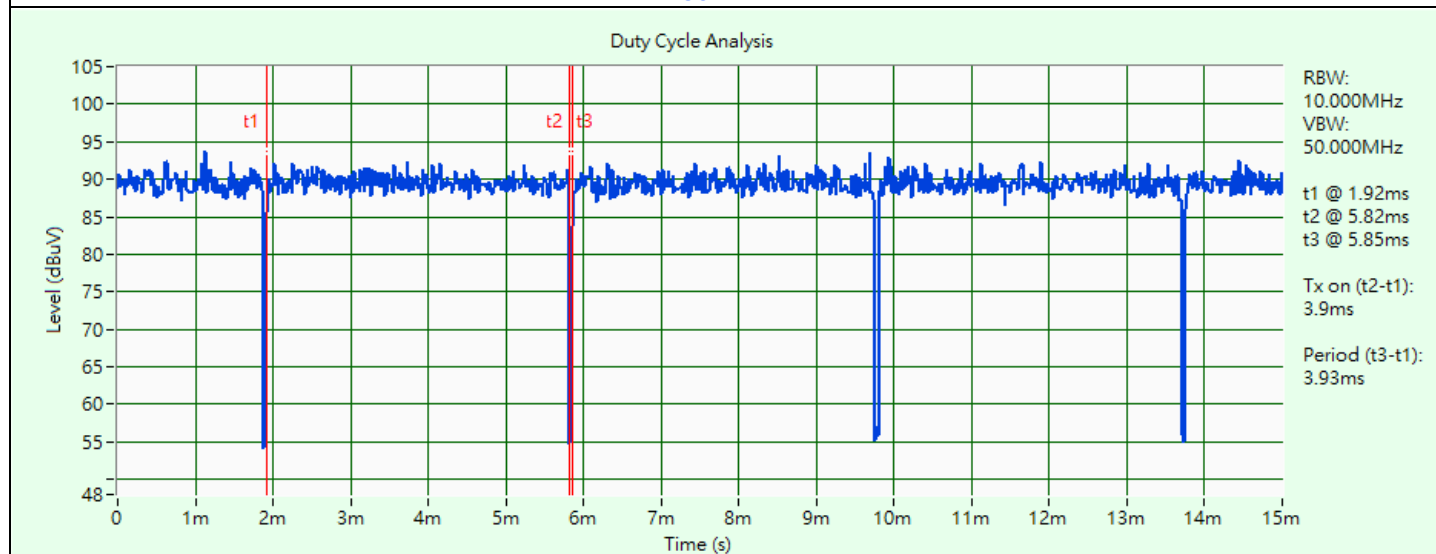
802.11ax (HE40): Duty cycle = 3.9 ms / 3.93 ms x 100% = 99.2%

802.11ax (HE80): Duty cycle = 3.735 ms / 3.75 ms x 100% = 99.6%

802.11ax (HE160): Duty cycle = 2.08 ms / 2.12 ms x 100% = 98.1%

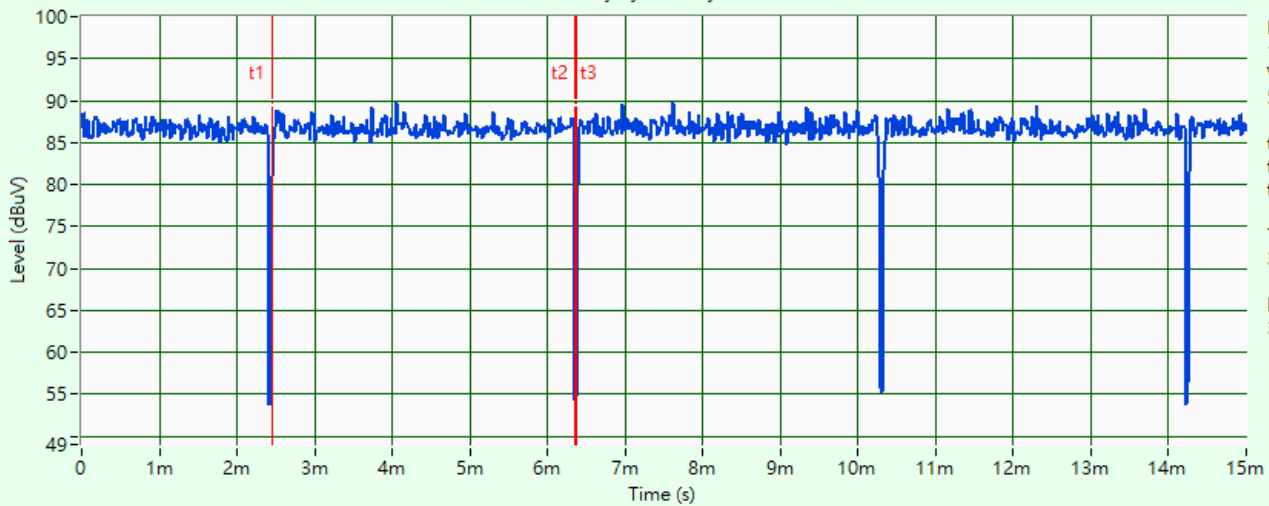


802.11a



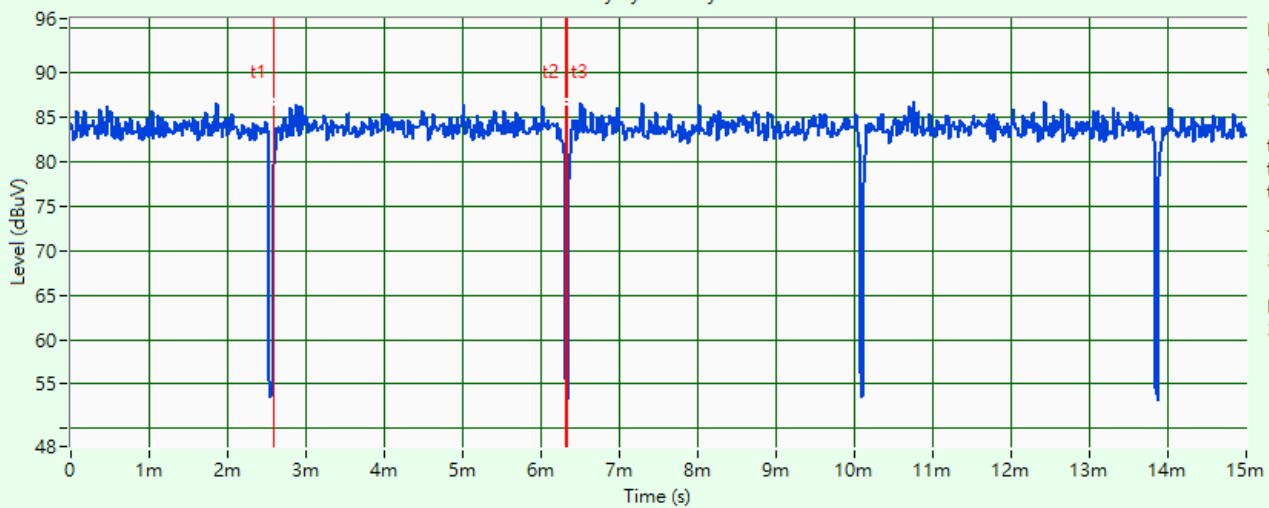
802.11ax (HE20)

Duty Cycle Analysis



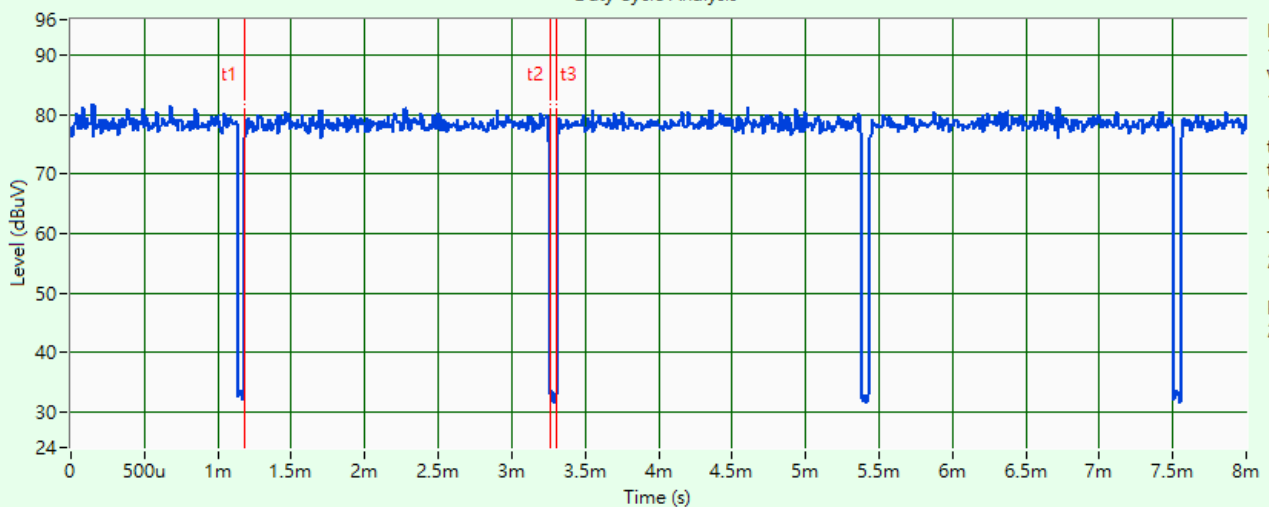
802.11ax (HE40)

Duty Cycle Analysis



802.11ax (HE80)

Duty Cycle Analysis

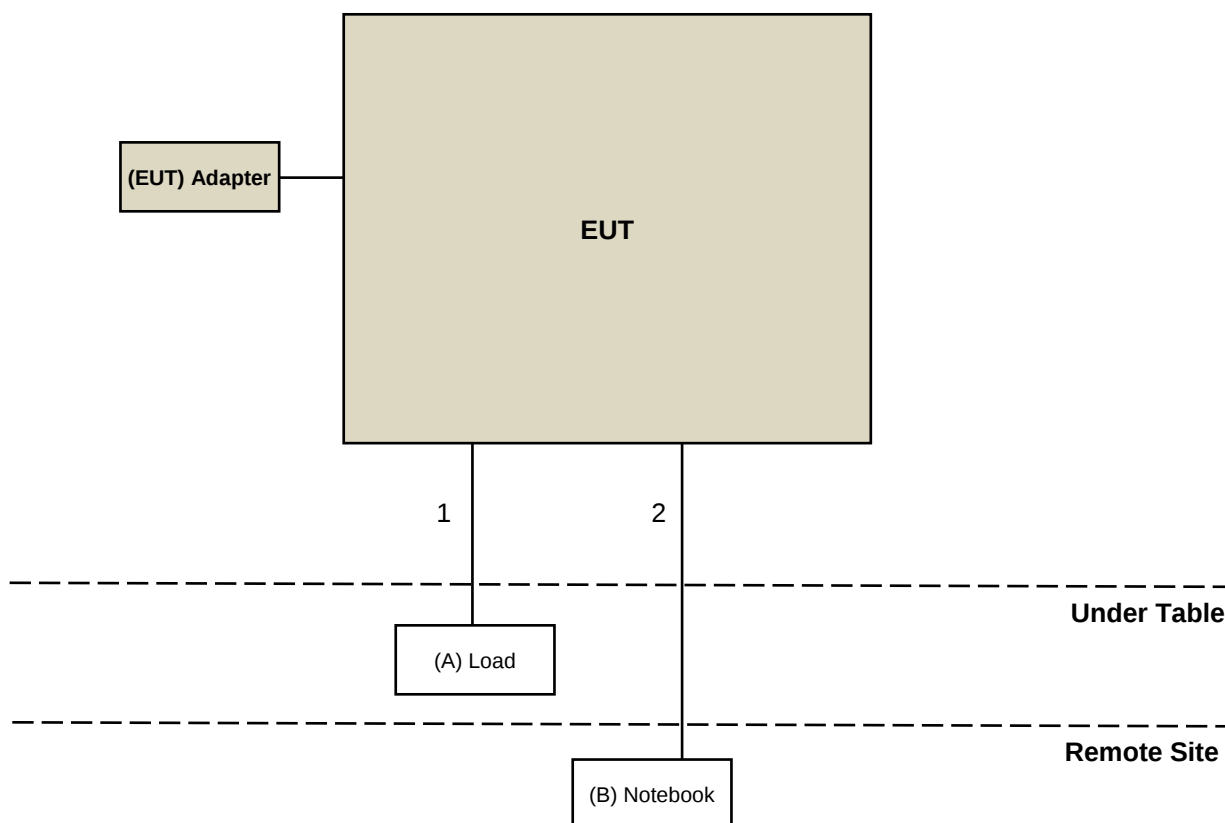


802.11ax (HE160)

3.6 Test Program Used and Operation Descriptions

Controlling software MT7981 QA Tool V0.0.2.78 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	Load	N/A	N/A	N/A	N/A	Provided by Lab
B	Notebook	Lenovo	L440	R9-0GFJKK	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	1.5	N0	0	Provided by Lab
2	RJ-45 Cable	1	10	N0	0	Provided by Lab

4 Test Instruments

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

4.1 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101105	2025/2/25	2026/2/24
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/3/20 ~ 2025/3/31

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer Keysight	8990B	MY51000538	2024/4/29	2025/4/28
Signal & Spectrum Analyzer R&S	FSV3044	101105	2025/2/25	2026/2/24
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Wideband Power Sensor Keysight	N1923A	MY58200003	2024/6/17	2025/6/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/3/20 ~ 2025/3/31

4.3 Power Spectral Density

Refer to section 4.1 to get the tested date and information of the instruments.

4.4 6 dB Bandwidth

Refer to section 4.1 to get the tested date and information of the instruments.

4.5 Occupied Bandwidth

Refer to section 4.1 to get the tested date and information of the instruments.

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	E1-011279	04	2024/11/28	2025/11/27
	E1-011280	05	2024/11/28	2025/11/27
	E1-011311	09	2024/11/28	2025/11/27
DC-LISN Schwarzbeck	NNBM 8126G	8126G-069	2024/11/5	2025/11/4
EMI Test Receiver R&S	ESCI	100613	2024/11/25	2025/11/24
Fixed Attenuator Mini-Circuits	HAT-10+	PAD-COND1-01	2025/1/5	2026/1/4
LISN R&S	ENV216	101826	2024/3/25	2025/3/24
	ESH3-Z5	100311	2024/9/5	2025/9/4
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2025/1/5	2026/1/4
Software BVADT	BVADT_Conc_ V7.4.1.0	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2024/8/28	2025/8/27

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2025/3/18

4.7 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-1213	2024/10/14	2025/10/13
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXE EMI Receiver Keysight	N9038B	MY60180019	2025/1/15	2026/1/14
Preamplifier EMCI	EMC330N	980782	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201233	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-3000	201235	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-9000	201236(with PAD)	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2025/3/20

4.8 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Horn Antenna RFSPIN	DRH18-E	210103A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2024/11/10	2025/11/9
MXE EMI Receiver Keysight	N9038B	MY60180019	2025/1/15	2026/1/14
Preamplifier EMCI	EMC118A45SE	980808	2024/12/26	2025/12/25
	EMC184045SE	980788	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210102	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201231	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201243	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2025/2/24 ~ 2025/3/28

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

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

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

*B is the 26 dB emission bandwidth in megahertz

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

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

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

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

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

5.3 Power Spectral Density

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

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

5.4 6 dB Bandwidth

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

5.5 Occupied Bandwidth

The results are for reference only.

5.6 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 5.25-5.35 GHz band:

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

For transmitters operating in the 5.47-5.725 GHz band:

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

For transmitters operating in the 5.725-5.850 GHz band:

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

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

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

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

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

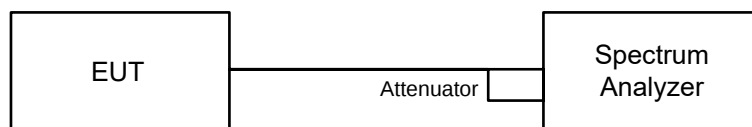
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

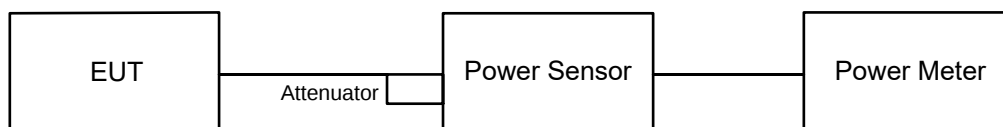


6.1.2 Test Procedure

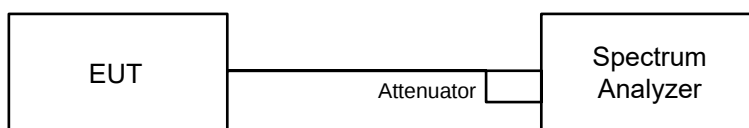
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement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

6.2 RF Output Power

6.2.1 Test Setup



For channel straddling:



6.2.2 Test Procedure

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

For channel straddling:

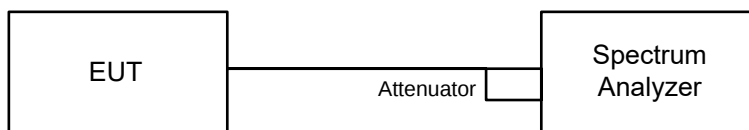
Method SA-1

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

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

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

For specified measurement bandwidth 1 MHz:

Method SA-1

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

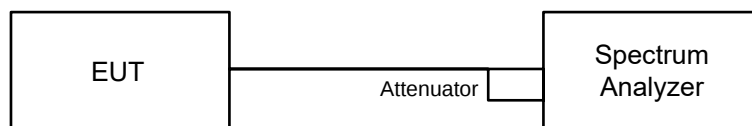
For specified measurement bandwidth 500 kHz:

Method SA-1

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

6.4 6 dB Bandwidth

6.4.1 Test Setup

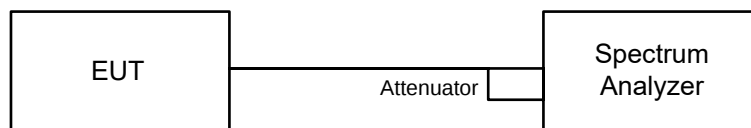


6.4.2 Test Procedure

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

6.5 Occupied Bandwidth

6.5.1 Test Setup

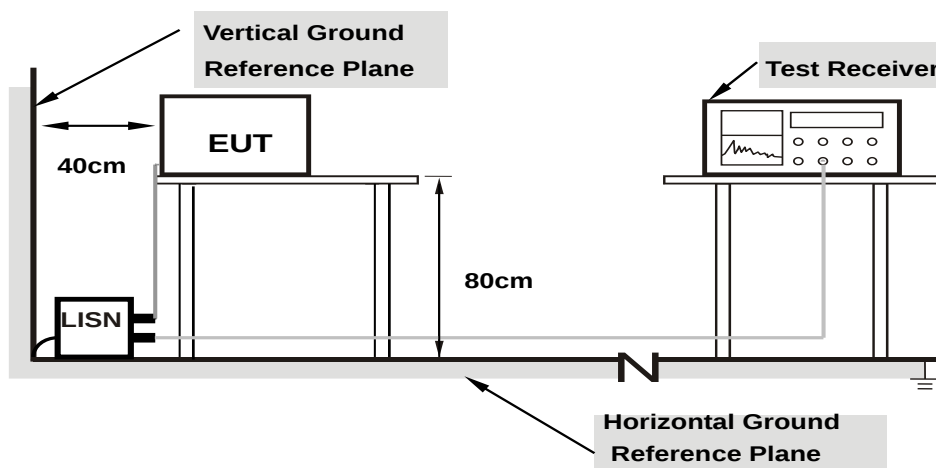


6.5.2 Test Procedure

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

6.6 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

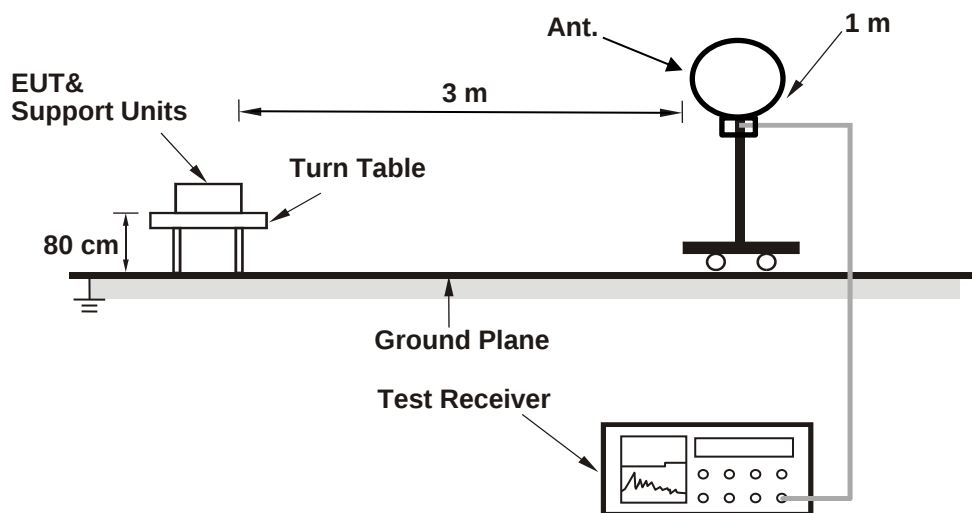
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

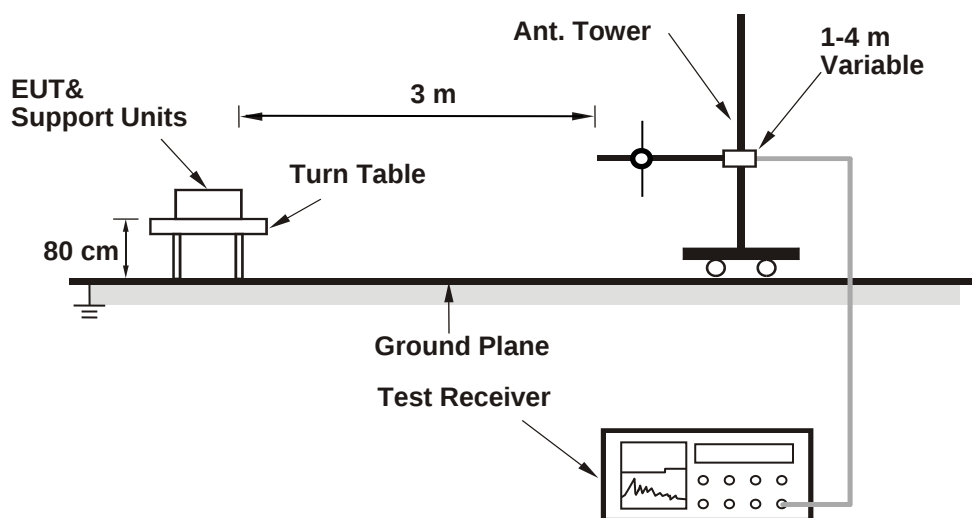
6.7 Unwanted Emissions below 1 GHz

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

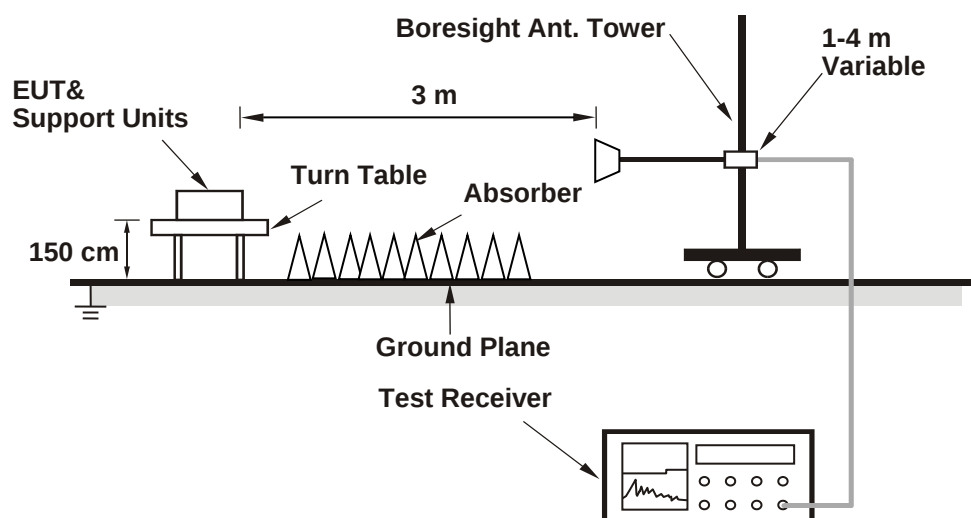
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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 26 dB Bandwidth

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

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.16	23.51	22.57
60	5300	24.91	27.90	28.88
64	5320	28.68	26.47	29.10
100	5500	27.96	32.69	29.05
116	5580	20.89	20.62	21.91
140	5700	29.56	29.18	26.50
144 (U-NII-2C)	5720	23.17	23.86	22.47
144 (U-NII-3)	5720	12.19	12.84	12.88

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	21.16	24.25 > 24
60	5300	24.91	24.96 > 24
64	5320	26.47	25.22 > 24
100	5500	27.96	25.46 > 24
116	5580	20.62	24.14 > 24
140	5700	26.50	25.23 > 24
144 (U-NII-2C)	5720	22.47	24.51 > 24

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

802.11ax (HE20)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	22.78	22.06	23.14
60	5300	24.38	27.93	31.43
64	5320	30.93	27.47	24.94
100	5500	28.03	27.54	26.15
116	5580	21.90	21.58	23.91
140	5700	28.01	27.74	26.36
144 (U-NII-2C)	5720	16.12	15.74	16.25
144 (U-NII-3)	5720	6.13	5.82	6.21

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.06	24.43 > 24
60	5300	24.38	24.87 > 24
64	5320	24.94	24.96 > 24
100	5500	26.15	25.17 > 24
116	5580	21.58	24.34 > 24
140	5700	26.36	25.2 > 24
144 (U-NII-2C)	5720	15.74	22.97 < 24

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

802.11ax (HE40)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	39.76	39.82	39.90
62	5310	40.57	50.08	45.42
102	5510	40.87	45.63	44.33
110	5550	39.78	39.83	39.70
134	5670	48.67	53.31	46.55
142 (U-NII-2C)	5710	34.88	34.77	34.85
142 (U-NII-3)	5710	4.82	4.89	4.94

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	39.76	26.99 > 24
62	5310	40.57	27.08 > 24
102	5510	40.87	27.11 > 24
110	5550	39.70	26.98 > 24
134	5670	46.55	27.67 > 24
142 (U-NII-2C)	5710	34.77	26.41 > 24

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

802.11ax (HE80)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	87.74	85.18	84.81
106	5530	89.83	96.46	87.83
122	5610	81.53	81.47	81.56
138 (U-NII-2C)	5690	75.65	75.53	75.59
138 (U-NII-3)	5690	5.77	6.16	5.90

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	84.81	30.28 > 24
106	5530	87.83	30.43 > 24
122	5610	81.47	30.1 > 24
138 (U-NII-2C)	5690	75.53	29.78 > 24

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

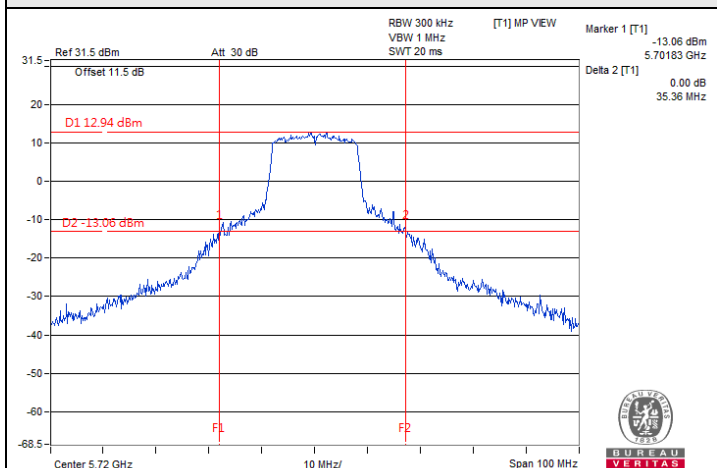
802.11ax (HE160)

Channel	Frequency (MHz)	26 dB Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
50 (U-NII-1)	5250	81.93	82.09	81.80
50 (U-NII-2A)	5250	84.00	85.18	82.46
114	5570	166.65	164.82	169.21

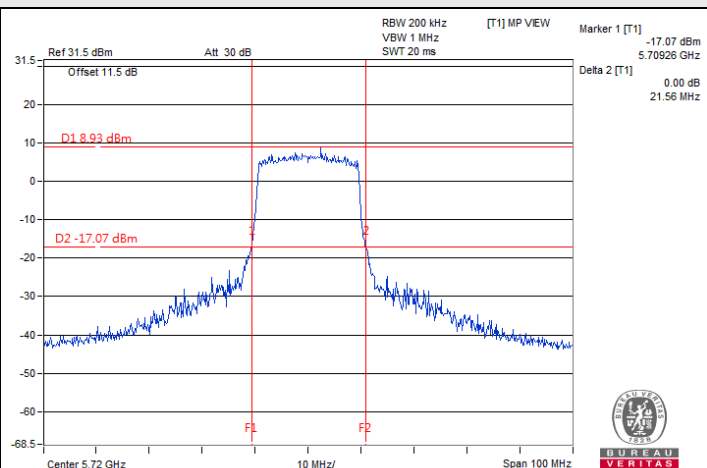
Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
50 (U-NII-2A)	5250	82.46	30.16 > 24
114	5570	164.82	33.17 > 24

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

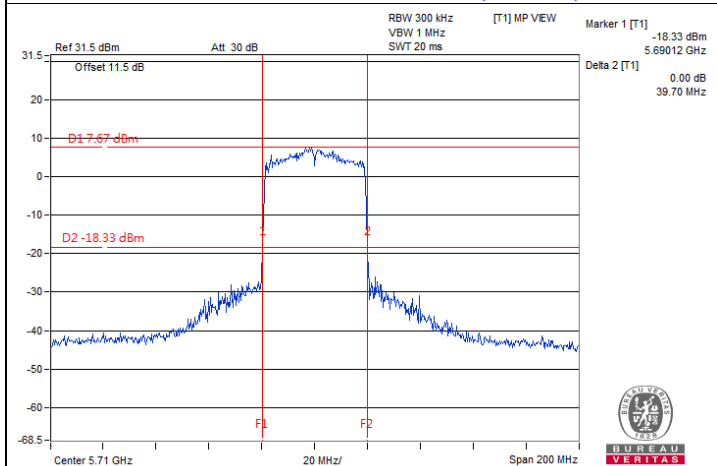
Spectrum Plot of Minimum Value



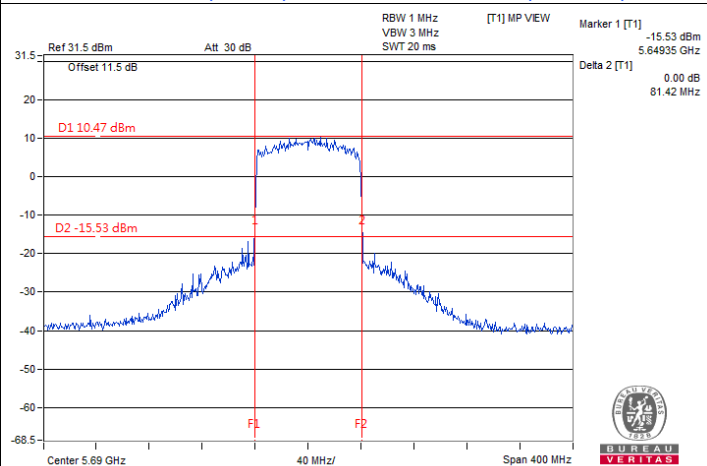
802.11a / Chain 0 : CH 144 (U-NII-3)



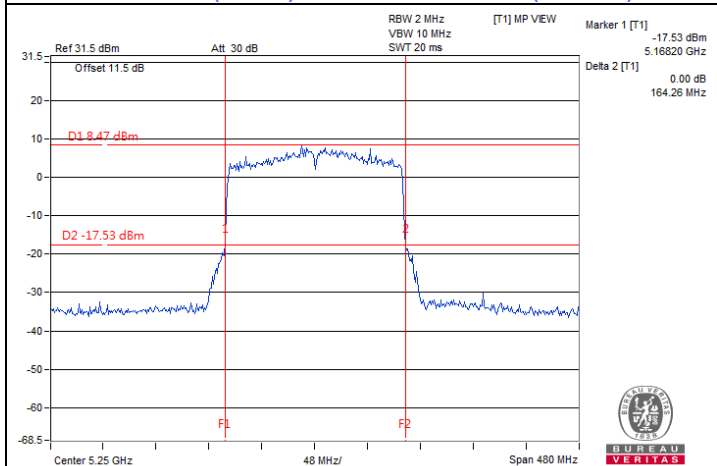
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)



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



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



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

Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1
2. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz
3. For U-NII-1 straddle channel = 5250 MHz - Marker 1
4. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

7.2 RF Output Power

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

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
52	5260	18.53	18.47	18.39	210.617	23.23	24	Pass
60	5300	18.27	18.24	18.22	200.198	23.01	24	Pass
64	5320	18.24	18.31	18.20	200.514	23.02	24	Pass
100	5500	18.16	18.31	18.59	205.505	23.13	24	Pass
116	5580	18.32	18.30	18.45	205.513	23.13	24	Pass
140	5700	18.16	18.74	18.57	212.225	23.27	24	Pass
*144 (U-NII-2C)	5720	17.05	17.44	17.52	162.655	22.11	24	Pass
*144 (U-NII-3)	5720	10.30	10.67	10.91	34.714	15.41	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.49 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.74 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.54 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
52	5260	18.02	18.31	18.48	201.62	23.05	24	Pass
60	5300	18.16	18.39	18.44	204.311	23.10	24	Pass
64	5320	18.13	18.34	18.43	202.909	23.07	24	Pass
100	5500	18.92	19.13	19.01	239.445	23.79	24	Pass
116	5580	18.16	18.47	18.91	213.575	23.30	24	Pass
140	5700	18.17	18.69	18.63	212.521	23.27	24	Pass
*144 (U-NII-2C)	5720	17.01	17.34	17.39	159.262	22.02	22.97	Pass
*144 (U-NII-3)	5720	11.37	11.51	11.67	42.556	16.29	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.49 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.74 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.54 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
54	5270	18.13	18.23	18.37	200.247	23.02	24	Pass
62	5310	18.77	18.62	18.56	219.893	23.42	24	Pass
102	5510	19.13	18.82	19.05	238.407	23.77	24	Pass
110	5550	18.34	18.50	18.69	212.989	23.28	24	Pass
134	5670	18.59	18.55	18.27	211.034	23.24	24	Pass
*142 (U-NII-2C)	5710	17.66	17.90	18.16	185.468	22.68	24	Pass
*142 (U-NII-3)	5710	6.59	6.70	7.19	14.474	11.61	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.49 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.74 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.54 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
58	5290	14.95	14.83	15.02	93.438	19.71	24	Pass
106	5530	16.54	16.86	16.67	140.062	21.46	24	Pass
122	5610	18.18	18.47	18.45	206.057	23.14	24	Pass
*138 (U-NII-2C)	5690	17.87	18.13	18.42	195.75	22.92	24	Pass
*138 (U-NII-3)	5690	3.53	3.46	4.19	7.097	8.51	30	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-2A, the maximum gain is 3.49 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.74 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 3.54 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1)	5250	12.16	11.82	11.86	46.995	16.72	30	Pass
*50 (U-NII-2A)	5250	12.51	12.28	12.31	51.75	17.14	24	Pass
114	5570	15.26	15.66	15.38	104.901	20.21	24	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 3.66 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 3.49 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 3.74 dBi < 6 dBi, so the output power limit shall not be reduced.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
52	5260	18.02	18.31	18.48	201.62	23.05	23.98	Pass
60	5300	18.16	18.39	18.44	204.311	23.10	23.98	Pass
64	5320	18.13	18.34	18.43	202.909	23.07	23.98	Pass
100	5500	18.92	19.13	19.01	239.445	23.79	23.83	Pass
116	5580	18.16	18.47	18.91	213.575	23.30	23.83	Pass
140	5700	18.17	18.69	18.63	212.521	23.27	23.83	Pass
*144 (U-NII-2C)	5720	17.01	17.34	17.39	159.262	22.02	22.8	Pass
*144 (U-NII-3)	5720	11.37	11.51	11.67	42.556	16.29	29.48	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
- For U-NII-2A, the directional gain is 6.02 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.02-6)].
- For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.17-6)].
- For U-NII-3, the directional gain is 6.52 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.52-6) = 29.48 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				
54	5270	18.13	18.23	18.37	200.247	23.02	23.98	Pass
62	5310	18.77	18.62	18.56	219.893	23.42	23.98	Pass
102	5510	19.13	18.82	19.05	238.407	23.77	23.83	Pass
110	5550	18.34	18.50	18.69	212.989	23.28	23.83	Pass
134	5670	18.59	18.55	18.27	211.034	23.24	23.83	Pass
*142 (U-NII-2C)	5710	17.66	17.90	18.16	185.468	22.68	23.83	Pass
*142 (U-NII-3)	5710	6.59	6.70	7.19	14.474	11.61	29.48	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
- For U-NII-2A, the directional gain is 6.02 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.02-6)].
- For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.17-6)].
- For U-NII-3, the directional gain is 6.52 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.52-6) = 29.48 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				
58	5290	14.95	14.83	15.02	93.438	19.71	23.98	Pass
106	5530	16.54	16.86	16.67	140.062	21.46	23.83	Pass
122	5610	18.18	18.47	18.45	206.057	23.14	23.83	Pass
*138 (U-NII-2C)	5690	17.87	18.13	18.42	195.75	22.92	23.83	Pass
*138 (U-NII-3)	5690	3.53	3.46	4.19	7.097	8.51	29.48	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
- For U-NII-2A, the directional gain is 6.02 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.02-6)].
- For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.17-6)].
- For U-NII-3, the directional gain is 6.52 dBi > 6 dBi, so the output power limit shall be reduced to 30-(6.52-6) = 29.48 dBm.

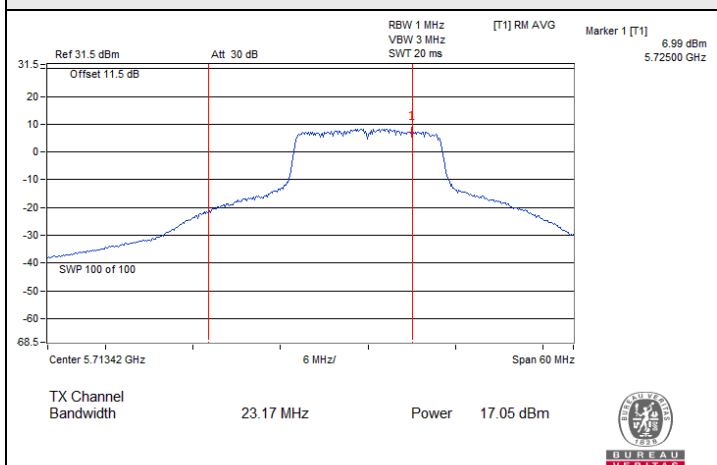
802.11ax (HE160) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2				
*50 (U-NII-1)	5250	12.16	11.82	11.86	46.995	16.72	30	Pass
*50 (U-NII-2A)	5250	12.51	12.28	12.31	51.75	17.14	23.98	Pass
114	5570	15.26	15.66	15.38	104.901	20.21	23.83	Pass

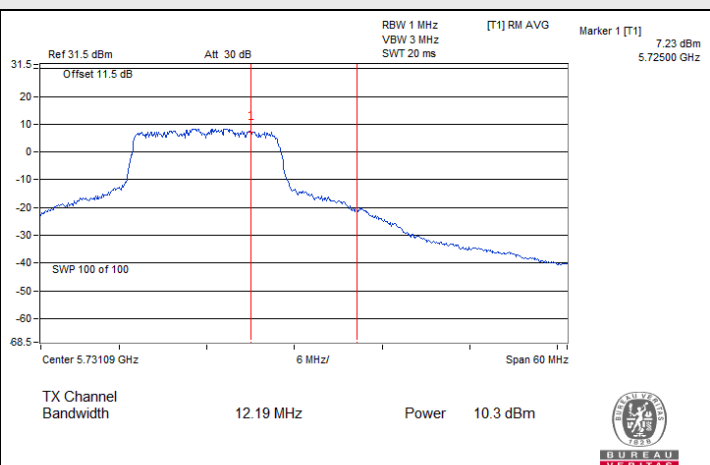
Notes:

1. * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
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 5.5 dBi < 6 dBi, so the output power limit shall not be reduced.
4. For U-NII-2A, the directional gain is 6.02 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.02-6)].
5. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.17-6)].

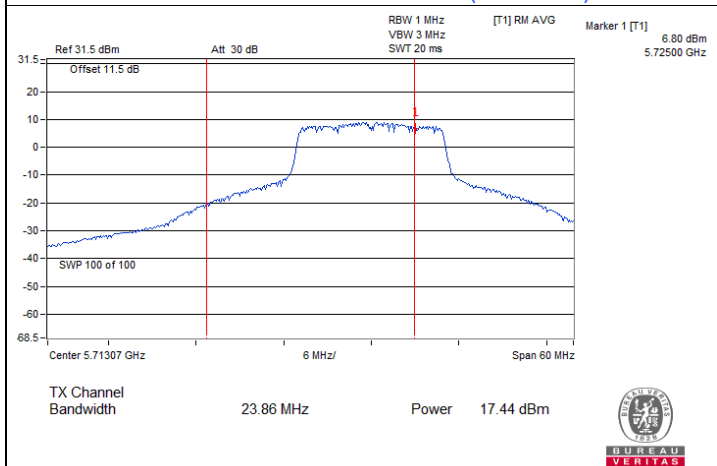
Spectrum Plot for channel straddling



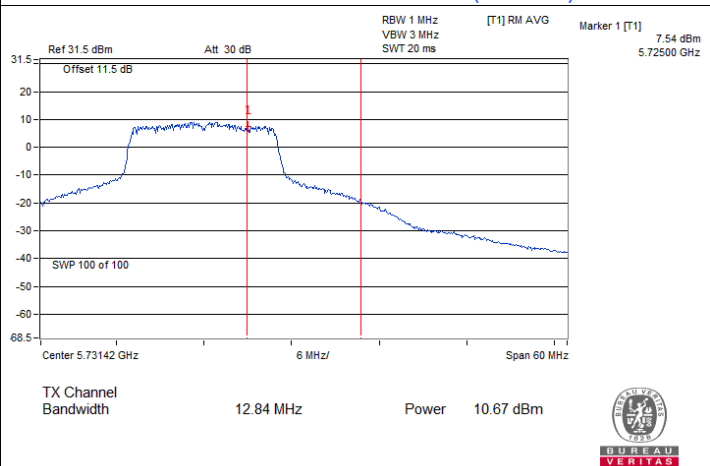
802.11a / Chain 0 : CH 144 (U-NII-2C)



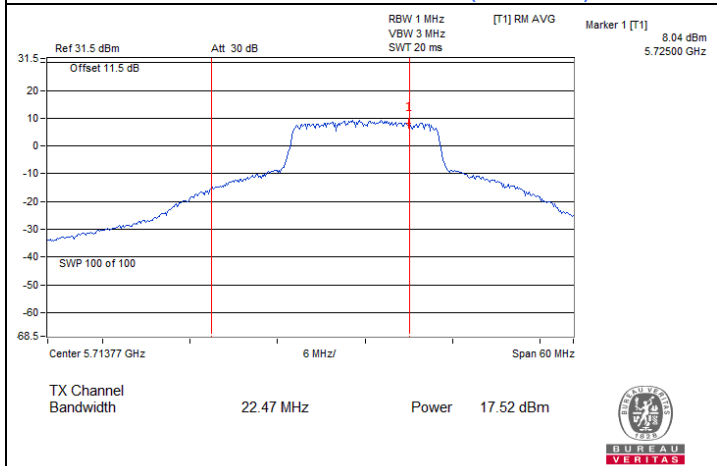
802.11a / Chain 0 : CH 144 (U-NII-3)



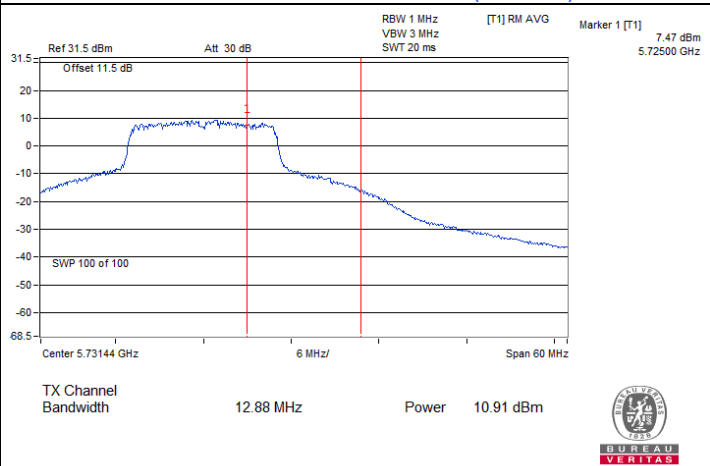
802.11a / Chain 1 : CH 144 (U-NII-2C)



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

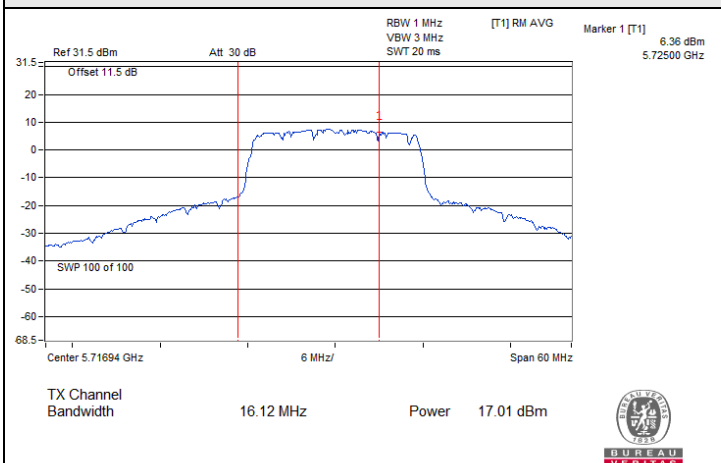


802.11a / Chain 2 : CH 144 (U-NII-2C)

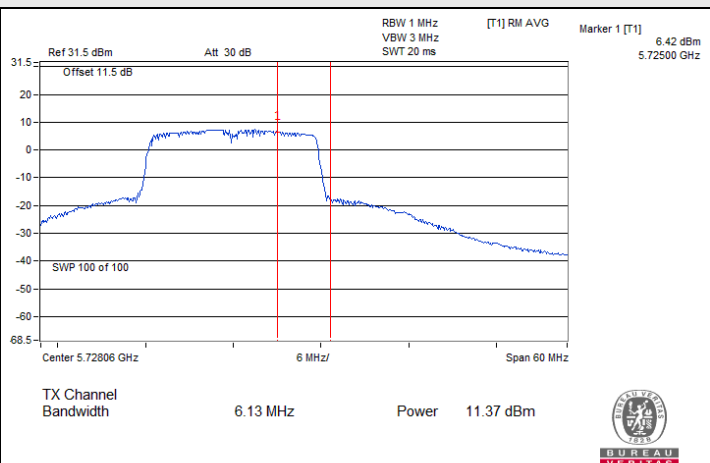


802.11a / Chain 2 : CH 144 (U-NII-3)

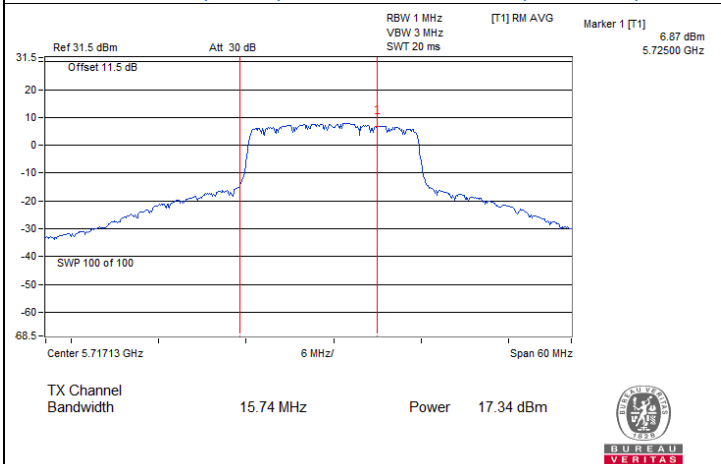
Spectrum Plot for channel straddling



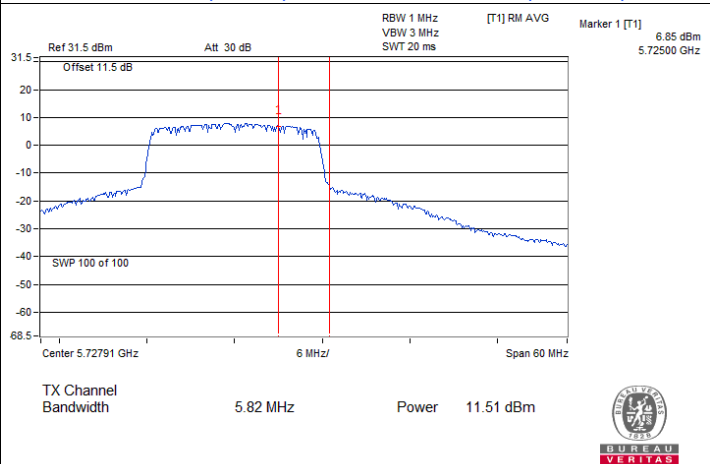
802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



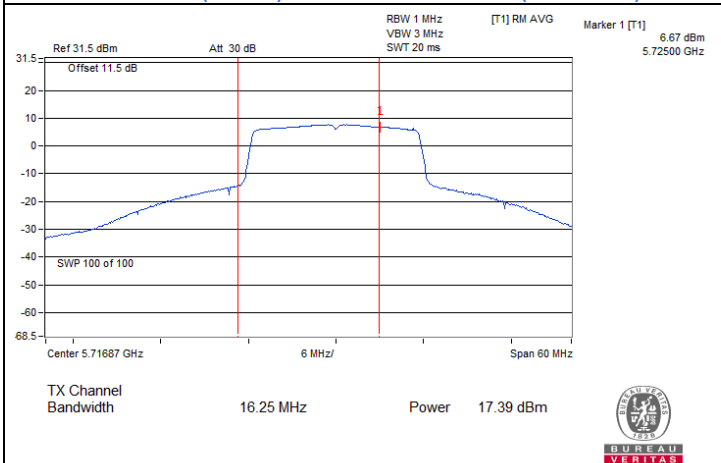
802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)



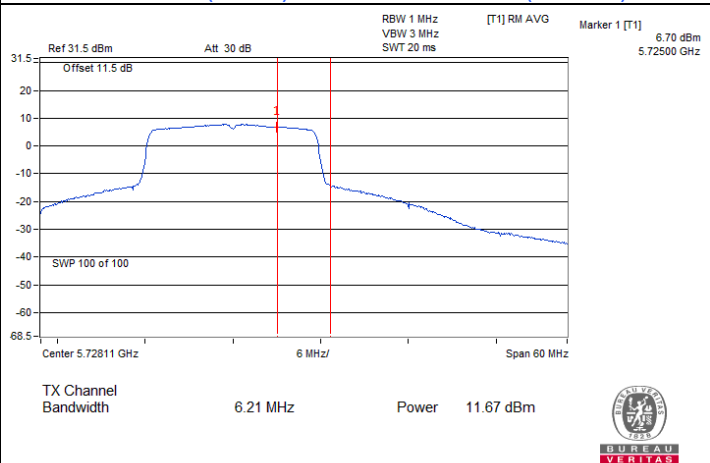
802.11ax (HE20) / Chain 1 : CH 144 (U-NII-2C)



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

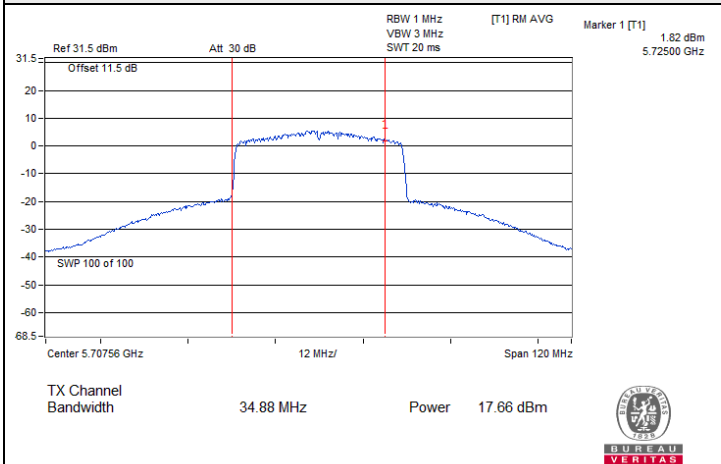


802.11ax (HE20) / Chain 2 : CH 144 (U-NII-2C)

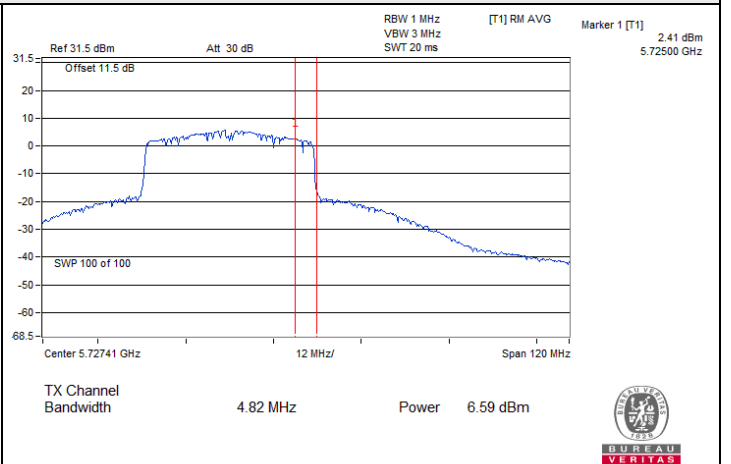


802.11ax (HE20) / Chain 2 : CH 144 (U-NII-3)

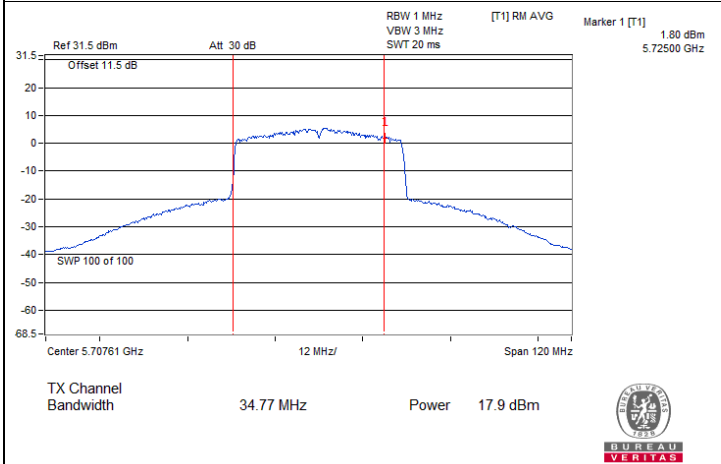
Spectrum Plot for channel straddling



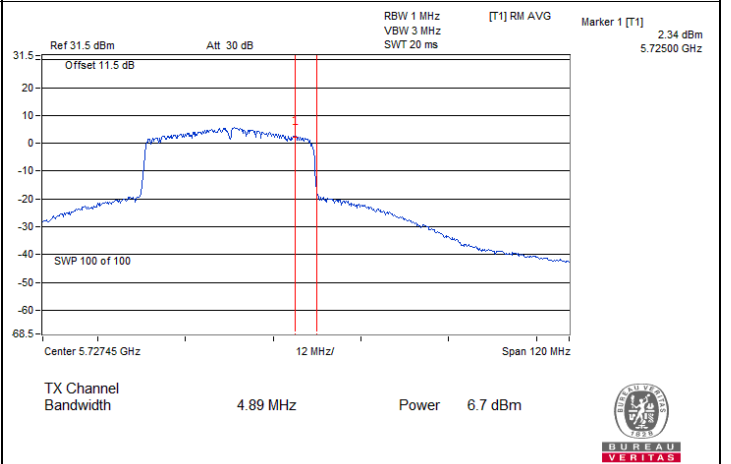
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-2C)



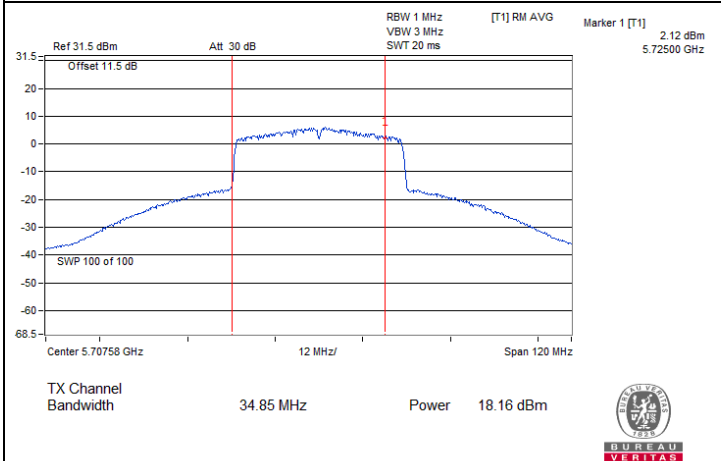
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



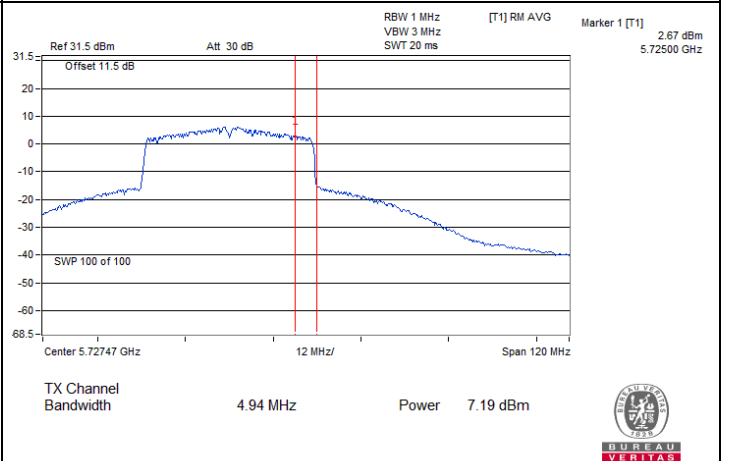
802.11ax (HE40) / Chain 1 : CH 142 (U-NII-2C)



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

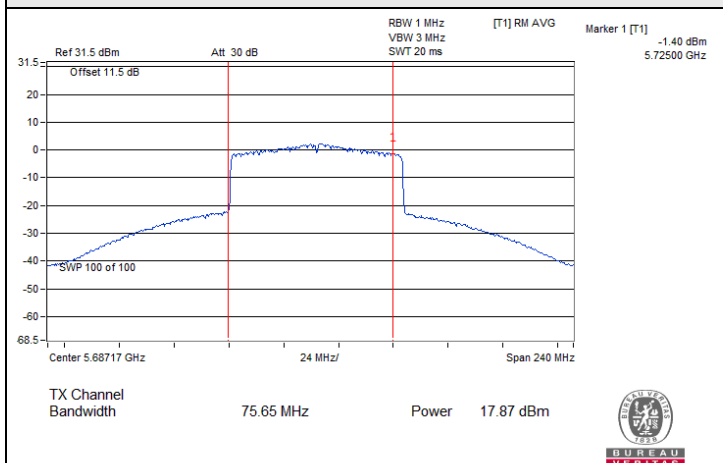


802.11ax (HE40) / Chain 2 : CH 142 (U-NII-2C)

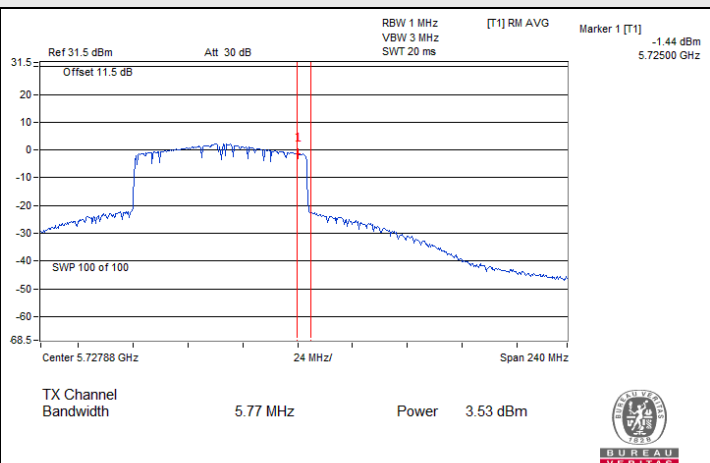


802.11ax (HE40) / Chain 2 : CH 142 (U-NII-3)

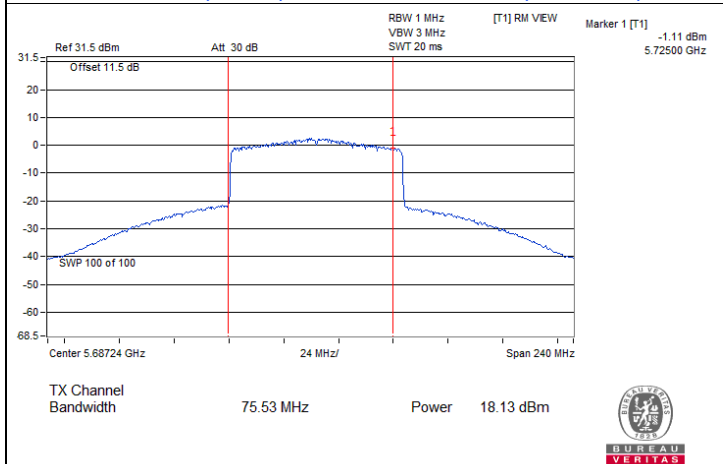
Spectrum Plot for channel straddling



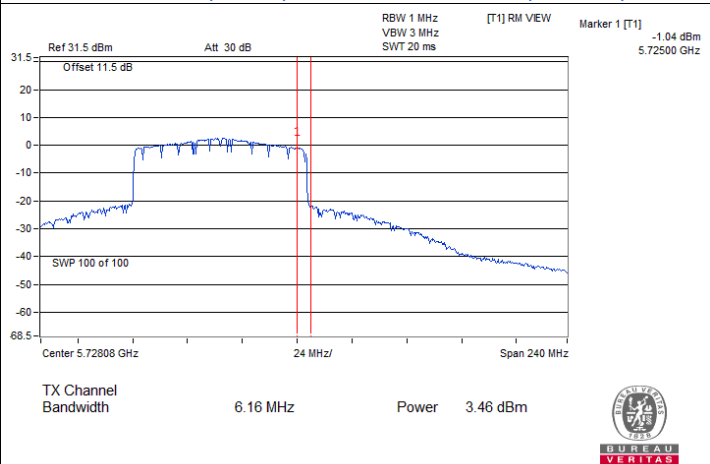
802.11ax (HE80) / Chain 0 : CH 138 (U-NII-2C)



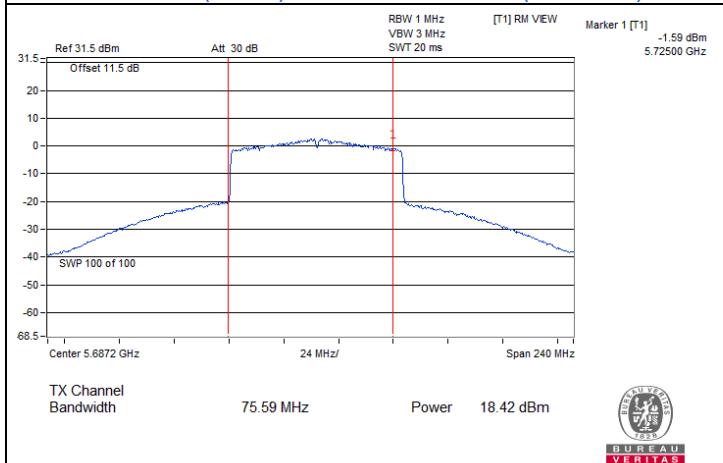
802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)



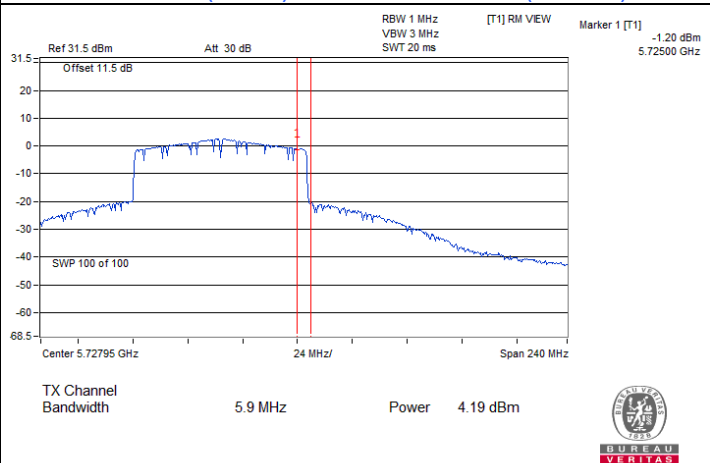
802.11ax (HE80) / Chain 1 : CH 138 (U-NII-2C)



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

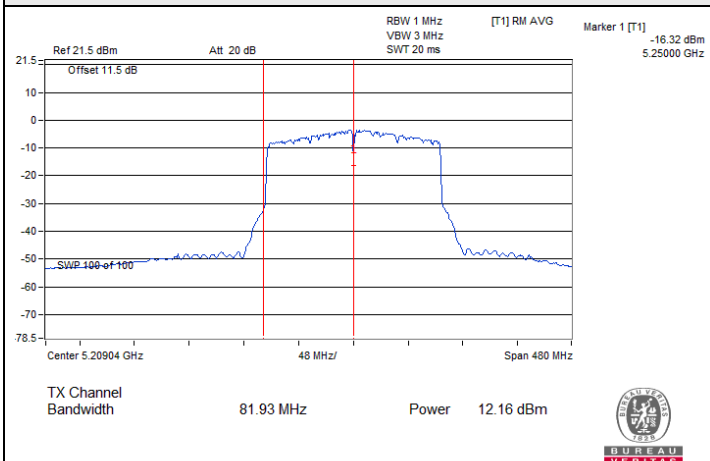


802.11ax (HE80) / Chain 2 : CH 138 (U-NII-2C)

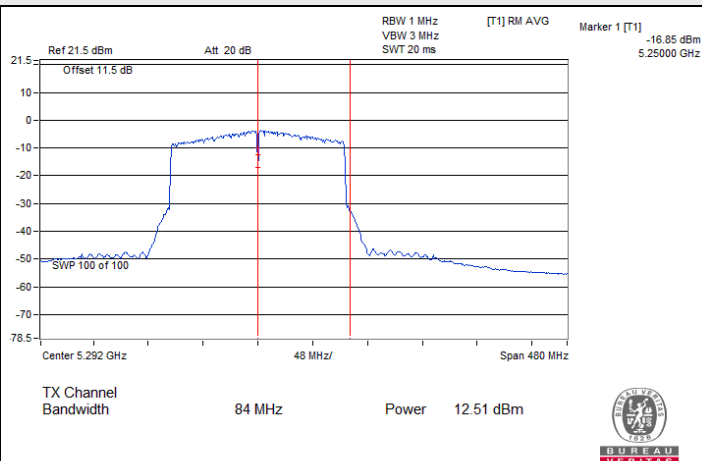


802.11ax (HE80) / Chain 2 : CH 138 (U-NII-3)

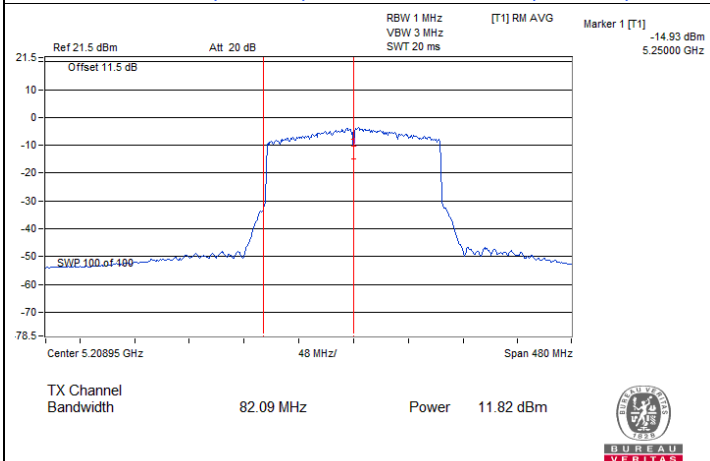
Spectrum Plot for channel straddling



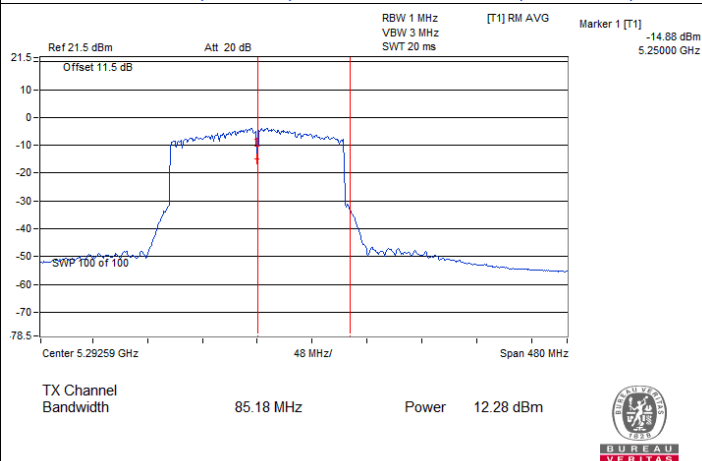
802.11ax (HE160) / Chain 0 : CH 50 (U-NII-1)



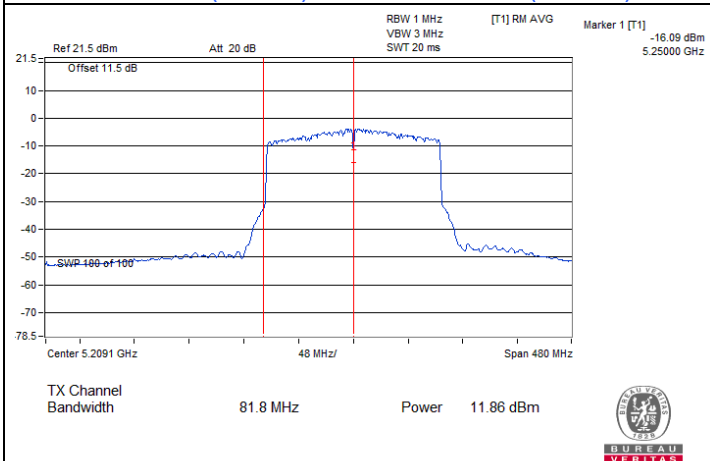
802.11ax (HE160) / Chain 0 : CH 50 (U-NII-2A)



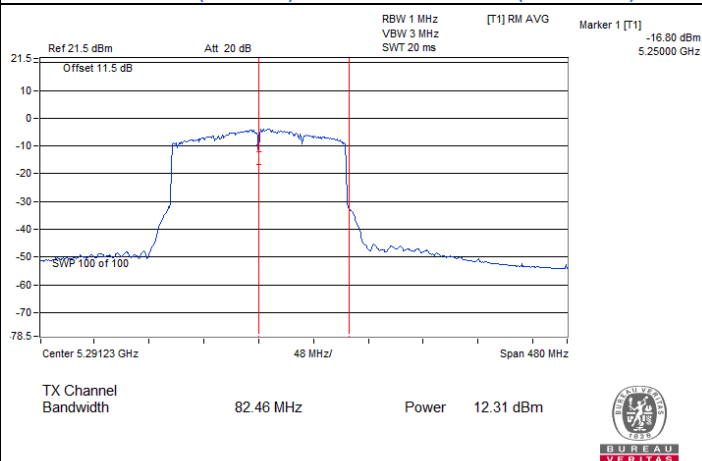
802.11ax (HE160) / Chain 1 : CH 50 (U-NII-1)



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



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



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

7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin
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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			
52	5260	5.89	5.56	5.60	10.46	10.98	Pass
60	5300	5.72	5.73	5.76	10.51	10.98	Pass
64	5320	5.69	5.79	5.72	10.50	10.98	Pass
100	5500	5.12	5.38	5.66	10.16	10.83	Pass
116	5580	5.41	5.31	5.47	10.17	10.83	Pass
140	5700	5.08	5.85	5.69	10.32	10.83	Pass
144 (U-NII-2C)	5720	5.56	5.82	5.85	10.52	10.83	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-2A, the directional gain is 6.02 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.02-6) = 10.98 dBm/MHz.
4. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.17-6) = 10.83 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			
52	5260	5.13	5.43	5.49	10.12	10.98	Pass
60	5300	5.21	5.49	5.50	10.17	10.98	Pass
64	5320	5.19	5.22	5.40	10.04	10.98	Pass
100	5500	5.54	5.91	5.86	10.54	10.83	Pass
116	5580	5.29	5.39	5.85	10.29	10.83	Pass
140	5700	5.15	5.75	5.59	10.28	10.83	Pass
144 (U-NII-2C)	5720	5.28	5.57	5.20	10.12	10.83	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-2A, the directional gain is 6.02 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.02-6) = 10.98 dBm/MHz.
4. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.17-6) = 10.83 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			
54	5270	2.71	2.57	2.77	7.46	10.98	Pass
62	5310	3.25	2.97	2.90	7.81	10.98	Pass
102	5510	3.44	3.20	3.42	8.13	10.83	Pass
110	5550	2.02	2.17	2.35	6.95	10.83	Pass
134	5670	2.84	2.81	2.37	7.45	10.83	Pass
142 (U-NII-2C)	5710	2.19	2.43	2.63	7.19	10.83	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-2A, the directional gain is 6.02 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.02-6) = 10.98 dBm/MHz.
4. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.17-6) = 10.83 dBm/MHz.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2			
58	5290	-4.58	-4.43	-4.37	0.31	10.98	Pass
106	5530	-2.79	-2.51	-2.65	2.12	10.83	Pass
122	5610	-0.90	-0.64	-0.77	4.00	10.83	Pass
138 (U-NII-2C)	5690	-0.82	-0.50	-0.36	4.22	10.83	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-2A, the directional gain is 6.02 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.02-6) = 10.98 dBm/MHz.
4. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.17-6) = 10.83 dBm/MHz.

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2			
50 (U-NII-1)	5250	-6.82	-7.05	-7.21	-2.25	17	Pass
50 (U-NII-2A)	5250	-6.63	-6.88	-6.85	-2.01	10.98	Pass
114	5570	-7.09	-6.63	-6.86	-2.08	10.83	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 5.5 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 6.02 dBi > 6 dBi, so the power density limit shall be reduced to $11-(6.02-6) = 10.98$ dBm/MHz.
5. For U-NII-2C, the directional gain is 6.17 dBi > 6 dBi, so the power density limit shall be reduced to $11-(6.17-6) = 10.83$ dBm/MHz.

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2				
144 (U-NII-3)	5720	-1.35	-1.37	-1.04	3.52	5.74	29.48	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 6.52 dBi > 6 dBi, so the power density limit shall be reduced to $30-(6.52-6) = 29.48$ 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				
144 (U-NII-3)	5720	-6.80	-6.24	-6.88	-1.86	0.36	29.48	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 6.52 dBi > 6 dBi, so the power density limit shall be reduced to $30-(6.52-6) = 29.48$ 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				
142 (U-NII-3)	5710	-10.81	-10.33	-10.93	-5.91	-3.69	29.48	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 6.52 dBi > 6 dBi, so the power density limit shall be reduced to $30-(6.52-6) = 29.48$ dBm/500kHz.

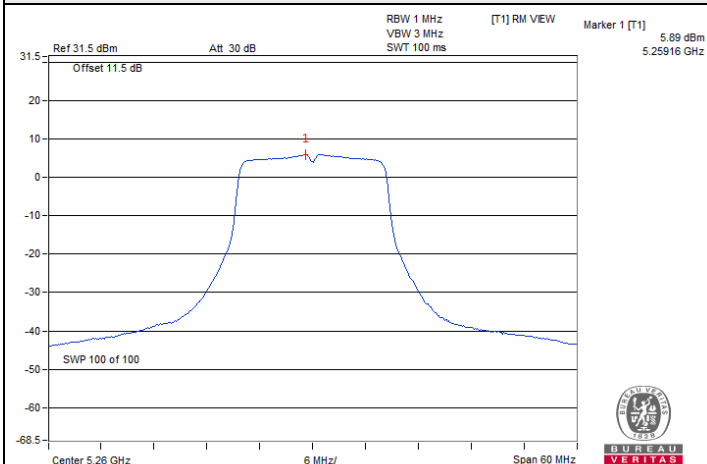
802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)			Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Test Result
		Chain 0	Chain 1	Chain 2				
138 (U-NII-3)	5690	-13.92	-13.81	-14.13	-9.18	-6.96	29.48	Pass

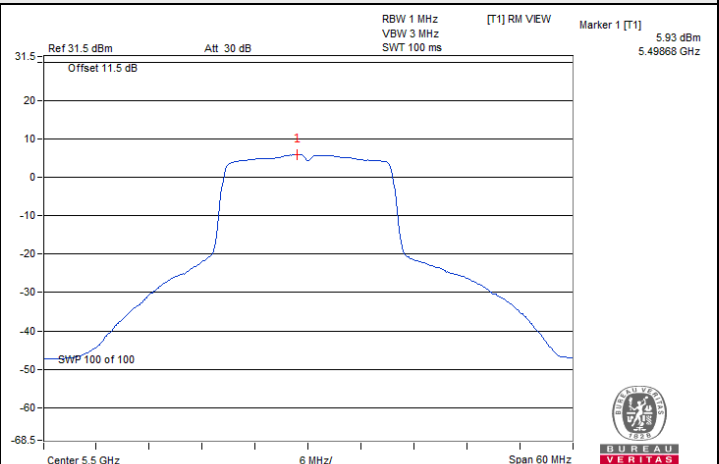
Notes:

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 6.52 dBi > 6 dBi, so the power density limit shall be reduced to $30 - (6.52 - 6) = 29.48$ dBm/500kHz.

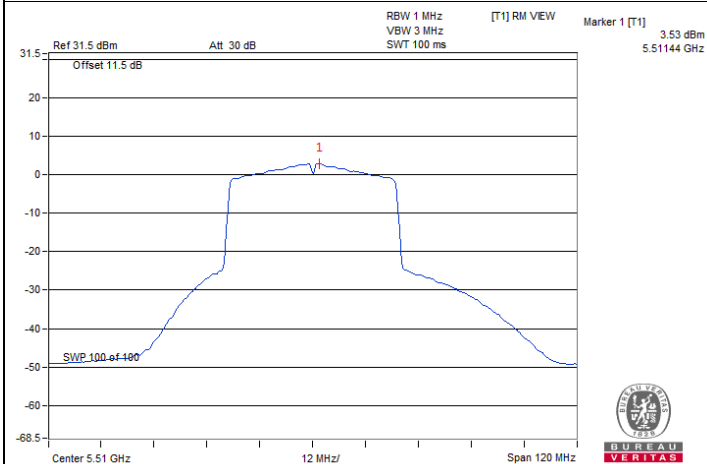
Spectrum Plot of Maximum Value



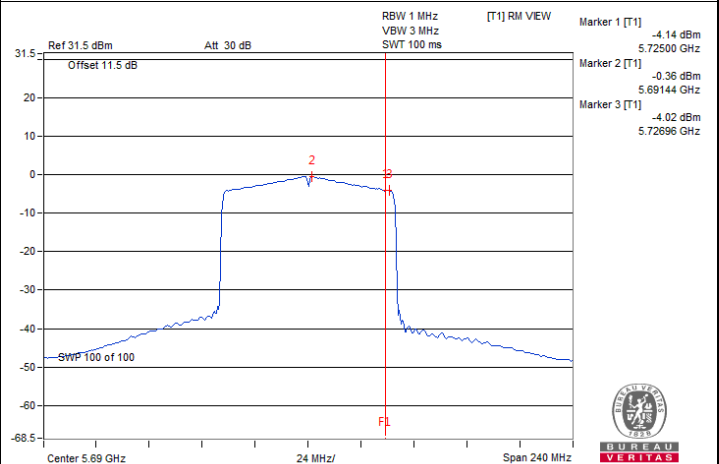
802.11a / Chain 0 : CH 52



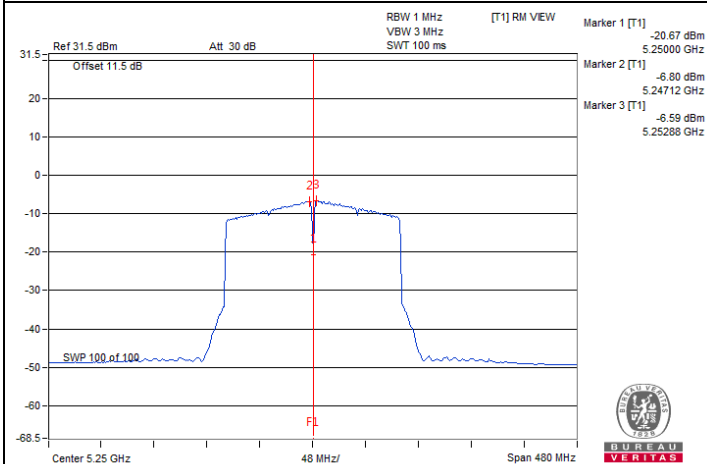
802.11ax (HE20) / Chain 1 : CH 100



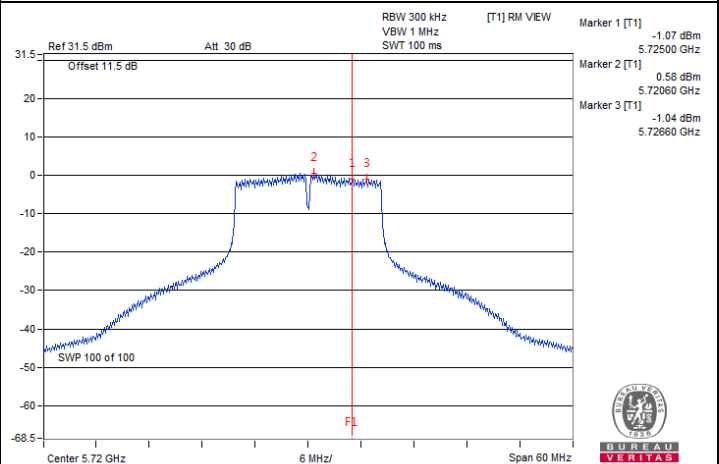
802.11ax (HE40) / Chain 0 : CH 102



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

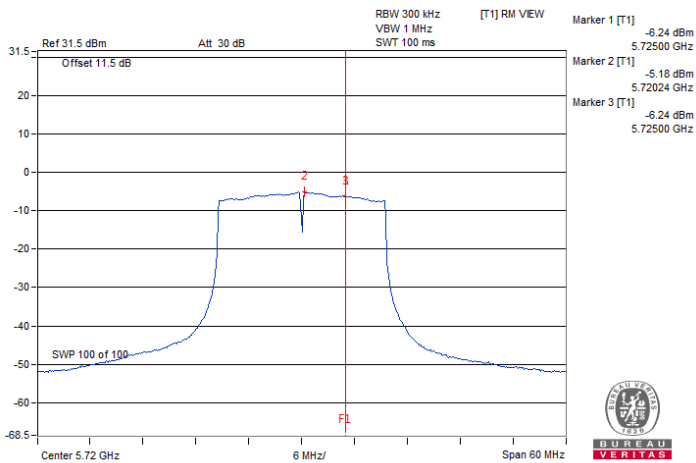


802.11ax (HE160) / Chain 0 : CH 50 (U-NII-2A)

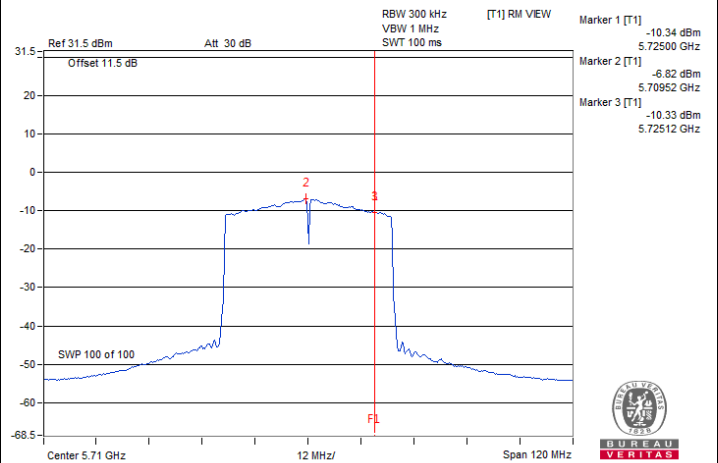


802.11a / Chain 2 : CH 144 (U-NII-3)

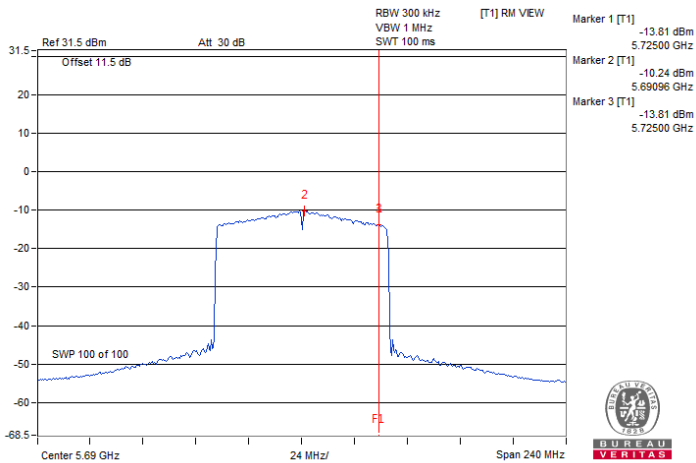
Spectrum Plot of Maximum Value



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



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



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

7.4 6 dB Bandwidth

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

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
144 (U-NII-3)	5720	3.16	3.16	3.17	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
144 (U-NII-3)	5720	4.42	4.39	4.46	0.5	Pass

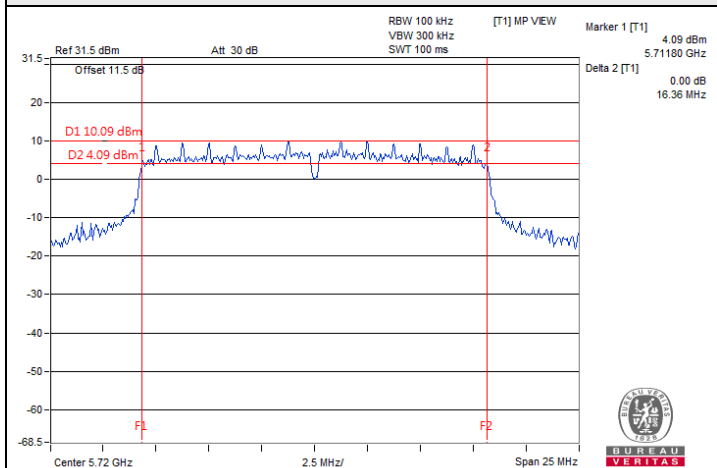
802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
142 (U-NII-3)	5710	3.51	2.57	2.67	0.5	Pass

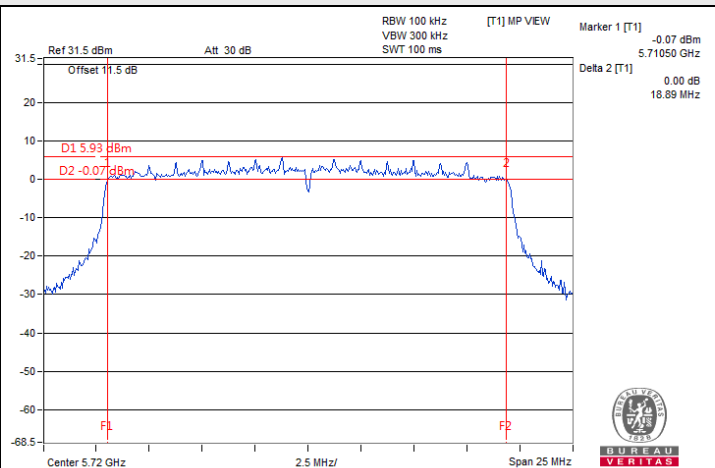
802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
138 (U-NII-3)	5690	3.42	2.70	2.74	0.5	Pass

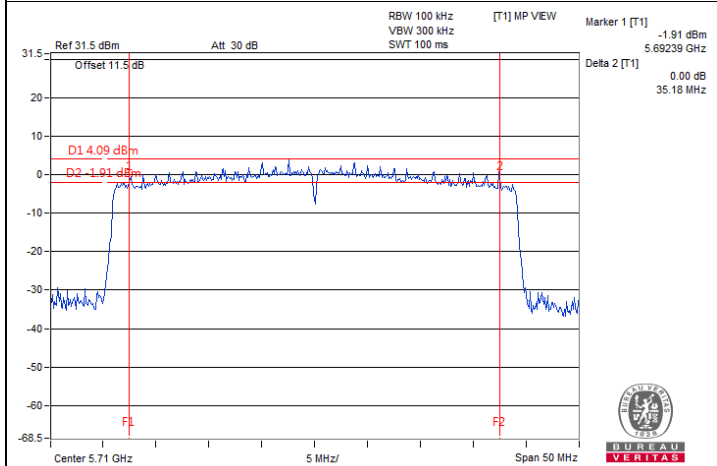
Spectrum Plot of Minimum Value



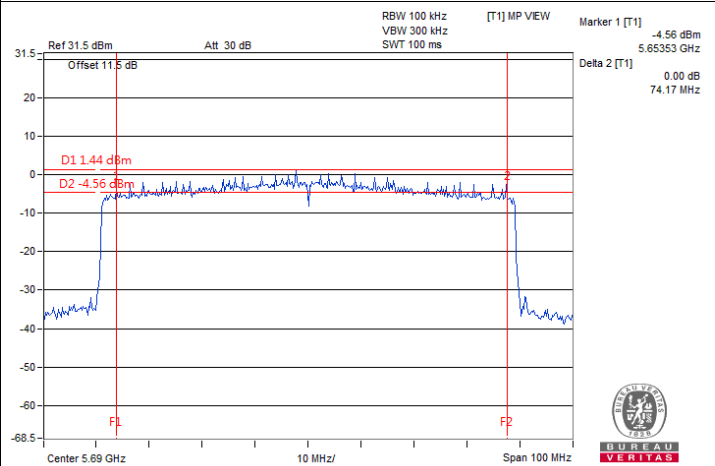
802.11a / Chain 0 : CH 144 (U-NII-3)



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



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



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

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

7.5 Occupied Bandwidth

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

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	16.68	16.80	16.68
60	5300	16.92	16.92	16.80
64	5320	16.92	16.80	16.68
100	5500	16.80	16.92	16.68
116	5580	16.80	16.68	16.56
140	5700	16.80	16.80	16.80
144 (U-NII-2C)	5720	13.75	13.76	13.64
144 (U-NII-3)	5720	3.56	3.64	3.64

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	19.08	19.08	19.20
60	5300	19.08	19.08	19.20
64	5320	19.08	19.08	19.08
100	5500	19.20	19.08	19.08
116	5580	19.08	19.08	18.96
140	5700	19.08	19.08	19.08
144 (U-NII-2C)	5720	14.60	14.52	14.62
144 (U-NII-3)	5720	4.48	4.42	4.42

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	37.68	37.68	37.92
62	5310	37.92	38.16	38.16
102	5510	37.92	37.92	38.16
110	5550	37.68	37.68	37.92
134	5670	38.16	38.16	38.16
142 (U-NII-2C)	5710	33.85	33.96	34.04
142 (U-NII-3)	5710	3.85	3.96	3.85

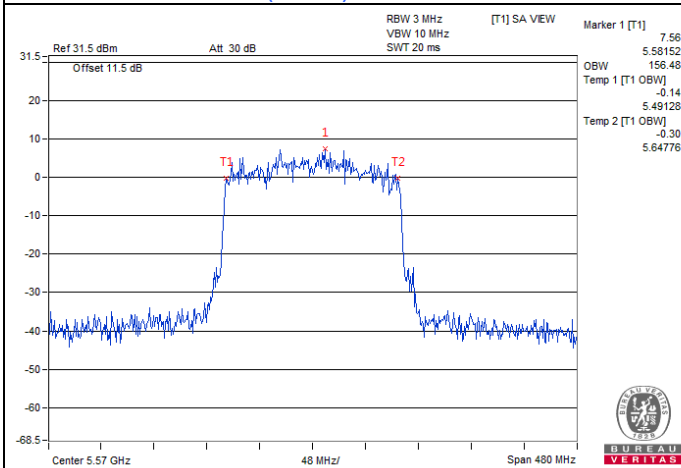
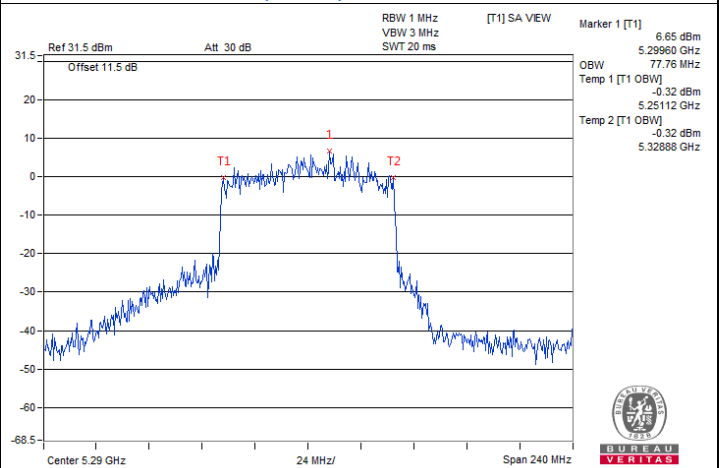
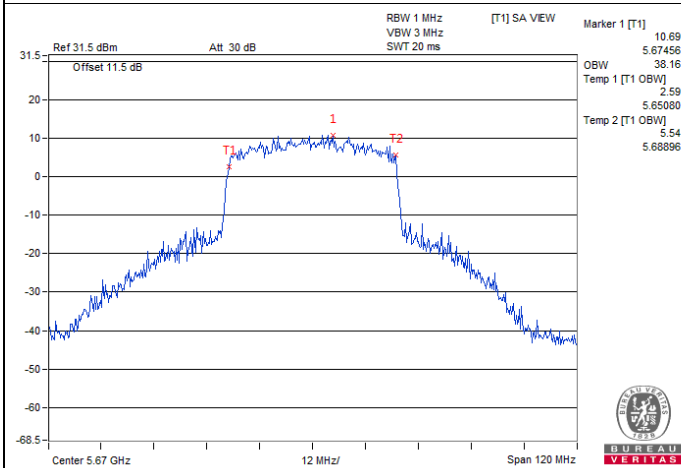
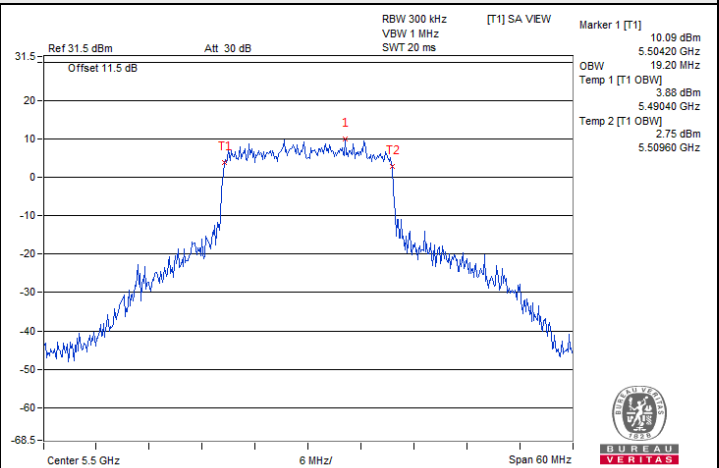
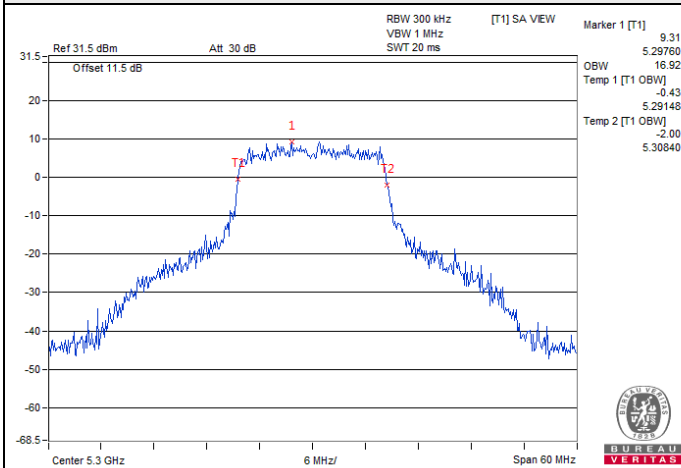
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	76.80	77.28	77.76
106	5530	77.28	77.28	77.76
122	5610	77.28	77.28	77.28
138 (U-NII-2C)	5690	73.88	73.88	73.88
138 (U-NII-3)	5690	2.92	3.40	3.40

802.11ax (HE160)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
50 (U-NII-1)	5250	78.46	77.76	77.76
50 (U-NII-2A)	5250	77.69	77.76	77.76
114	5570	156.48	155.52	155.52

Spectrum Plot of Maximum Value



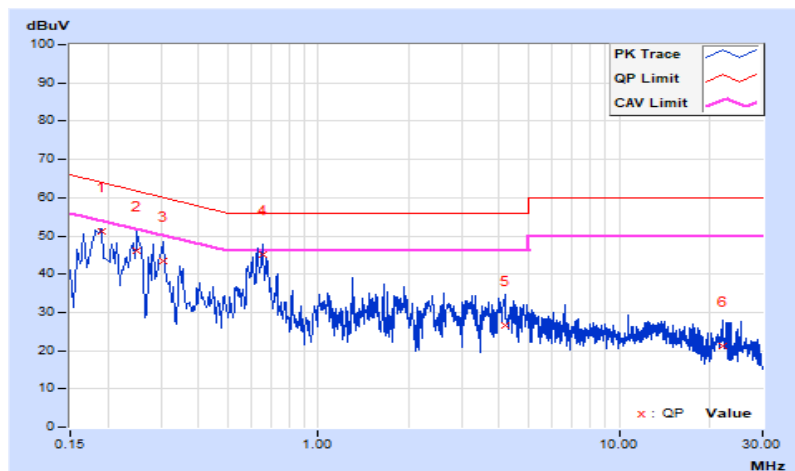
7.6 AC Power Conducted Emissions

RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 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	25 °C, 75 % RH
Tested By	Charles Hsiao		

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	0.19000	9.76	41.43	31.37	51.19	41.13	64.04	54.04	-12.85	-12.91
2	0.25000	9.79	36.23	25.76	46.02	35.55	61.76	51.76	-15.74	-16.21
3	0.30550	9.82	33.54	23.26	43.36	33.08	60.09	50.09	-16.73	-17.01
4	0.65400	9.93	35.15	25.83	45.08	35.76	56.00	46.00	-10.92	-10.24
5	4.16600	10.20	16.33	8.79	26.53	18.99	56.00	46.00	-29.47	-27.01
6	22.14200	10.82	10.32	5.20	21.14	16.02	60.00	50.00	-38.86	-33.98

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

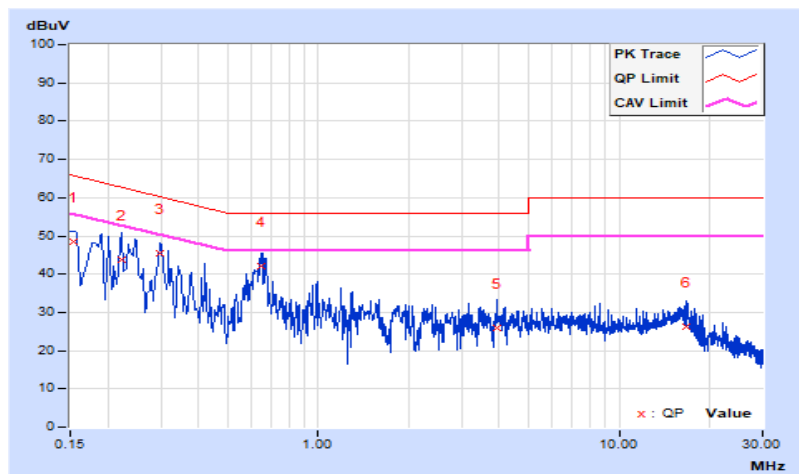


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Charles Hsiao		

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	0.15400	9.71	38.68	22.64	48.39	32.35	65.78	55.78	-17.39	-23.43
2	0.22200	9.75	34.04	18.98	43.79	28.73	62.74	52.74	-18.95	-24.01
3	0.29800	9.82	35.54	24.30	45.36	34.12	60.30	50.30	-14.94	-16.18
4	0.65000	9.96	32.04	22.94	42.00	32.90	56.00	46.00	-14.00	-13.10
5	3.93400	10.27	15.64	9.19	25.91	19.46	56.00	46.00	-30.09	-26.54
6	16.73400	10.84	15.33	9.95	26.17	20.79	60.00	50.00	-33.83	-29.21

Remarks:

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



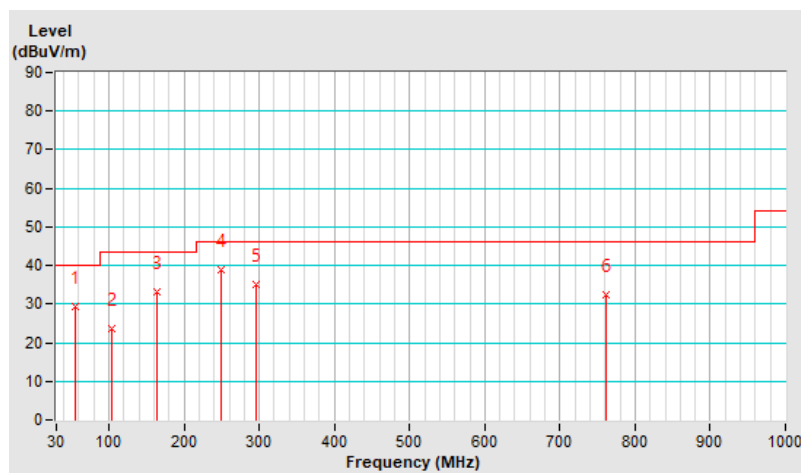
7.7 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 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, 67 % RH
Tested By	Karl Lee		

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	56.04	29.4 QP	40.0	-10.6	1.94 H	59	42.8	-13.4
2	103.55	23.6 QP	43.5	-19.9	1.12 H	149	40.4	-16.8
3	164.32	33.3 QP	43.5	-10.2	1.21 H	140	46.1	-12.8
4	248.26	38.8 QP	46.0	-7.2	1.35 H	281	52.8	-14.0
5	295.20	35.1 QP	46.0	-10.9	1.04 H	18	47.5	-12.4
6	761.93	32.5 QP	46.0	-13.5	1.58 H	226	34.2	-1.7

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.

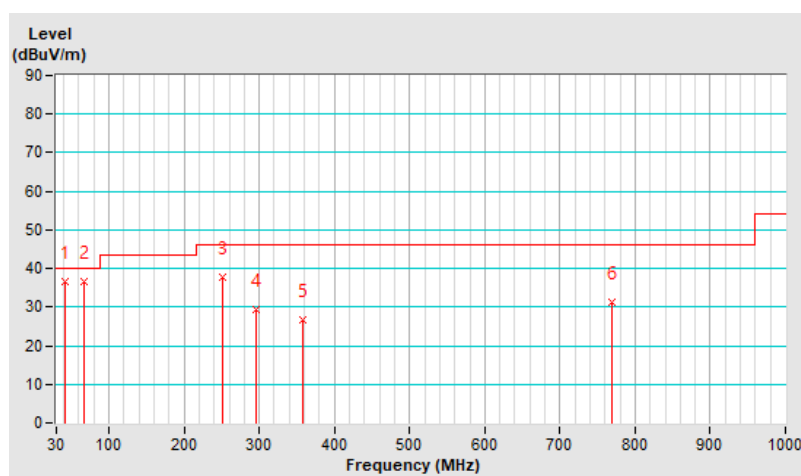


RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.58	36.6 QP	40.0	-3.4	1.04 V	18	49.8	-13.2
2	66.82	36.7 QP	40.0	-3.3	1.01 V	24	51.4	-14.7
3	250.23	37.9 QP	46.0	-8.1	1.93 V	226	51.8	-13.9
4	294.81	29.2 QP	46.0	-16.8	1.52 V	34	41.6	-12.4
5	357.74	26.6 QP	46.0	-19.4	1.01 V	316	37.2	-10.6
6	768.41	31.3 QP	46.0	-14.7	1.85 V	226	32.9	-1.6

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 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

RF Mode	802.11a	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	117.4 PK			1.04 H	1	77.3	40.1
2	*5260.00	106.6 AV			1.04 H	1	66.5	40.1
3	5350.00	61.1 PK	74.0	-12.9	1.04 H	1	58.8	2.3
4	5350.00	47.7 AV	54.0	-6.3	1.04 H	1	45.4	2.3
5	#10520.00	62.3 PK	68.2	-5.9	2.38 H	217	53.2	9.1
6	15780.00	65.0 PK	74.0	-9.0	2.41 H	212	54.1	10.9
7	15780.00	51.4 AV	54.0	-2.6	2.41 H	212	40.5	10.9
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	*5260.00	125.3 PK			1.00 V	102	85.2	40.1
2	*5260.00	115.4 AV			1.00 V	102	75.3	40.1
3	5421.00	66.9 PK	74.0	-7.1	1.00 V	102	64.4	2.5
4	5421.00	50.4 AV	54.0	-3.6	1.00 V	102	47.9	2.5
5	#10520.00	59.7 PK	68.2	-8.5	2.03 V	32	50.6	9.1
6	15780.00	65.4 PK	74.0	-8.6	1.91 V	196	54.5	10.9
7	15780.00	51.5 AV	54.0	-2.5	1.91 V	196	40.6	10.9

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 60 : 5300 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	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	114.2 PK			1.00 H	0	74.1	40.1
2	*5300.00	103.6 AV			1.00 H	0	63.5	40.1
3	5380.00	59.6 PK	74.0	-14.4	1.00 H	0	57.2	2.4
4	5380.00	47.7 AV	54.0	-6.3	1.00 H	0	45.3	2.4
5	10600.00	58.0 PK	74.0	-16.0	1.45 H	144	48.9	9.1
6	10600.00	45.3 AV	54.0	-8.7	1.45 H	144	36.2	9.1
7	15900.00	62.2 PK	74.0	-11.8	1.05 H	200	50.3	11.9
8	15900.00	50.2 AV	54.0	-3.8	1.05 H	200	38.3	11.9
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	123.2 PK			1.04 V	120	83.1	40.1
2	*5300.00	113.4 AV			1.04 V	120	73.3	40.1
3	5380.00	65.1 PK	74.0	-8.9	1.04 V	120	62.7	2.4
4	5380.00	53.3 AV	54.0	-0.7	1.04 V	120	50.9	2.4
5	10600.00	58.4 PK	74.0	-15.6	2.23 V	41	49.3	9.1
6	10600.00	45.5 AV	54.0	-8.5	2.23 V	41	36.4	9.1
7	15900.00	64.1 PK	74.0	-9.9	1.91 V	196	52.2	11.9
8	15900.00	51.3 AV	54.0	-2.7	1.91 V	196	39.4	11.9

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.

RF Mode	802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.3 PK			1.02 H	359	73.2	40.1
2	*5320.00	103.4 AV			1.02 H	359	63.3	40.1
3	5400.00	59.1 PK	74.0	-14.9	1.02 H	359	56.5	2.6
4	5400.00	48.6 AV	54.0	-5.4	1.02 H	359	46.0	2.6
5	10640.00	56.6 PK	74.0	-17.4	2.37 H	216	47.7	8.9
6	10640.00	44.0 AV	54.0	-10.0	2.37 H	216	35.1	8.9
7	15960.00	63.0 PK	74.0	-11.0	2.38 H	212	51.2	11.8
8	15960.00	49.3 AV	54.0	-4.7	2.38 H	212	37.5	11.8
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	123.2 PK			1.00 V	122	83.1	40.1
2	*5320.00	113.0 AV			1.00 V	122	72.9	40.1
3	5400.00	67.1 PK	74.0	-6.9	1.00 V	122	64.5	2.6
4	5400.00	53.6 AV	54.0	-0.4	1.00 V	122	51.0	2.6
5	10640.00	57.7 PK	74.0	-16.3	2.17 V	39	48.8	8.9
6	10640.00	45.3 AV	54.0	-8.7	2.17 V	39	36.4	8.9
7	15960.00	64.1 PK	74.0	-9.9	1.93 V	202	52.3	11.8
8	15960.00	50.9 AV	54.0	-3.1	1.93 V	202	39.1	11.8

Remarks:

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

RF Mode	802.11a	Channel	CH 100 : 5500 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5421.00	59.0 PK	74.0	-15.0	1.00 H	350	56.5	2.5
2	5421.00	48.9 AV	54.0	-5.1	1.00 H	350	46.4	2.5
3	#5470.00	59.5 PK	68.2	-8.7	1.00 H	350	57.0	2.5
4	*5500.00	114.4 PK			1.00 H	350	74.0	40.4
5	*5500.00	104.3 AV			1.00 H	350	63.9	40.4
6	11000.00	56.8 PK	74.0	-17.2	1.05 H	200	47.6	9.2
7	11000.00	44.5 AV	54.0	-9.5	1.05 H	200	35.3	9.2
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	5421.00	65.3 PK	74.0	-8.7	1.01 V	125	62.8	2.5
2	5421.00	53.8 AV	54.0	-0.2	1.01 V	125	51.3	2.5
3	#5470.00	61.0 PK	68.2	-7.2	1.01 V	125	58.5	2.5
4	*5500.00	122.9 PK			1.01 V	125	82.5	40.4
5	*5500.00	112.9 AV			1.01 V	125	72.5	40.4
6	11000.00	57.1 PK	74.0	-16.9	2.26 V	43	47.9	9.2
7	11000.00	44.6 AV	54.0	-9.4	2.26 V	43	35.4	9.2

Remarks:

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

RF Mode	802.11a	Channel	CH 116 : 5580 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5421.00	58.8 PK	74.0	-15.2	1.04 H	354	56.3	2.5
2	5421.00	47.5 AV	54.0	-6.5	1.04 H	354	45.0	2.5
3	#5470.00	59.0 PK	68.2	-9.2	1.04 H	354	56.5	2.5
4	*5580.00	118.0 PK			1.04 H	354	77.2	40.8
5	*5580.00	108.1 AV			1.04 H	354	67.3	40.8
6	11160.00	56.8 PK	74.0	-17.2	1.54 H	210	47.1	9.7
7	11160.00	44.3 AV	54.0	-9.7	1.54 H	210	34.6	9.7
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	5421.00	63.5 PK	74.0	-10.5	1.01 V	69	61.0	2.5
2	5421.00	52.2 AV	54.0	-1.8	1.01 V	69	49.7	2.5
3	#5470.00	60.4 PK	68.2	-7.8	1.01 V	69	57.9	2.5
4	*5580.00	127.7 PK			1.01 V	69	86.9	40.8
5	*5580.00	117.8 AV			1.01 V	69	77.0	40.8
6	11160.00	57.9 PK	74.0	-16.1	2.27 V	41	48.2	9.7
7	11160.00	45.2 AV	54.0	-8.8	2.27 V	41	35.5	9.7

Remarks:

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

RF Mode	802.11a	Channel	CH 140 : 5700 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	114.0 PK			1.04 H	354	72.5	41.5
2	*5700.00	104.5 AV			1.04 H	354	63.0	41.5
3	#5725.00	61.1 PK	68.2	-7.1	1.04 H	354	57.2	3.9
4	11400.00	56.7 PK	74.0	-17.3	1.45 H	101	46.6	10.1
5	11400.00	44.4 AV	54.0	-9.6	1.45 H	101	34.3	10.1
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	123.6 PK			1.14 V	90	82.1	41.5
2	*5700.00	113.6 AV			1.14 V	90	72.1	41.5
3	#5730.00	67.4 PK	68.2	-0.8	1.14 V	90	63.4	4.0
4	11400.00	57.9 PK	74.0	-16.1	2.24 V	39	47.8	10.1
5	11400.00	45.4 AV	54.0	-8.6	2.24 V	39	35.3	10.1

Remarks:

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

RF Mode	802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.8 PK	68.2	-9.4	1.04 H	355	56.3	2.5
2	*5720.00	117.5 PK			1.04 H	355	76.0	41.5
3	*5720.00	107.7 AV			1.04 H	355	66.2	41.5
4	#5850.00	60.0 PK	68.2	-8.2	1.04 H	355	55.9	4.1
5	11440.00	57.6 PK	74.0	-16.4	1.05 H	322	47.4	10.2
6	11440.00	45.8 AV	54.0	-8.2	1.05 H	322	35.6	10.2
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	#5470.00	58.8 PK	68.2	-9.4	1.00 V	91	56.3	2.5
2	*5720.00	126.1 PK			1.00 V	91	84.6	41.5
3	*5720.00	116.2 AV			1.00 V	91	74.7	41.5
4	#5850.00	64.4 PK	68.2	-3.8	1.00 V	91	60.3	4.1
5	11440.00	58.7 PK	74.0	-15.3	2.14 V	37	48.5	10.2
6	11440.00	46.0 AV	54.0	-8.0	2.14 V	37	35.8	10.2

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	117.2 PK			1.02 H	3	77.1	40.1
2	*5260.00	104.4 AV			1.02 H	3	64.3	40.1
3	5380.00	58.9 PK	74.0	-15.1	1.02 H	3	56.5	2.4
4	5380.00	47.6 AV	54.0	-6.4	1.02 H	3	45.2	2.4
5	#10520.00	58.4 PK	68.2	-9.8	1.45 H	15	49.3	9.1
6	15780.00	62.6 PK	74.0	-11.4	1.75 H	109	51.7	10.9
7	15780.00	49.1 AV	54.0	-4.9	1.75 H	109	38.2	10.9
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	*5260.00	125.0 PK			1.16 V	114	84.9	40.1
2	*5260.00	111.9 AV			1.16 V	114	71.8	40.1
3	5380.00	63.3 PK	74.0	-10.7	1.16 V	114	60.9	2.4
4	5380.00	49.7 AV	54.0	-4.3	1.16 V	114	47.3	2.4
5	#10520.00	59.3 PK	68.2	-8.9	1.97 V	38	50.2	9.1
6	15780.00	65.2 PK	74.0	-8.8	1.87 V	198	54.3	10.9
7	15780.00	51.2 AV	54.0	-2.8	1.87 V	198	40.3	10.9

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 60 : 5300 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	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	115.4 PK			1.10 H	1	75.3	40.1
2	*5300.00	103.8 AV			1.10 H	1	63.7	40.1
3	5380.00	59.0 PK	74.0	-15.0	1.10 H	1	56.6	2.4
4	5380.00	48.0 AV	54.0	-6.0	1.10 H	1	45.6	2.4
5	10600.00	57.4 PK	74.0	-16.6	1.56 H	291	48.3	9.1
6	10600.00	44.3 AV	54.0	-9.7	1.56 H	291	35.2	9.1
7	15900.00	61.4 PK	74.0	-12.6	2.00 H	219	49.5	11.9
8	15900.00	49.2 AV	54.0	-4.8	2.00 H	219	37.3	11.9
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	123.7 PK			1.02 V	116	83.6	40.1
2	*5300.00	111.0 AV			1.02 V	116	70.9	40.1
3	5380.00	65.5 PK	74.0	-8.5	1.02 V	116	63.1	2.4
4	5380.00	53.3 AV	54.0	-0.7	1.02 V	116	50.9	2.4
5	10600.00	58.8 PK	74.0	-15.2	2.14 V	39	49.7	9.1
6	10600.00	45.4 AV	54.0	-8.6	2.14 V	39	36.3	9.1
7	15900.00	64.2 PK	74.0	-9.8	1.93 V	201	52.3	11.9
8	15900.00	51.5 AV	54.0	-2.5	1.93 V	201	39.6	11.9

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.

RF Mode	802.11ax (HE20)	Channel	CH 64 : 5320 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.8 PK			1.02 H	0	75.7	40.1
2	*5320.00	103.7 AV			1.02 H	0	63.6	40.1
3	5350.00	66.4 PK	74.0	-7.6	1.02 H	0	64.1	2.3
4	5350.00	48.3 AV	54.0	-5.7	1.02 H	0	46.0	2.3
5	10640.00	56.0 PK	74.0	-18.0	1.57 H	77	47.1	8.9
6	10640.00	44.9 AV	54.0	-9.1	1.57 H	77	36.0	8.9
7	15960.00	61.6 PK	74.0	-12.4	1.58 H	215	49.8	11.8
8	15960.00	49.2 AV	54.0	-4.8	1.58 H	215	37.4	11.8
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	123.8 PK			1.07 V	116	83.7	40.1
2	*5320.00	110.7 AV			1.07 V	116	70.6	40.1
3	5350.00	67.6 PK	74.0	-6.4	1.07 V	116	65.3	2.3
4	5350.00	53.2 AV	54.0	-0.8	1.07 V	116	50.9	2.3
5	10640.00	57.3 PK	74.0	-16.7	2.23 V	46	48.4	8.9
6	10640.00	45.2 AV	54.0	-8.8	2.23 V	46	36.3	8.9
7	15960.00	63.5 PK	74.0	-10.5	1.98 V	201	51.7	11.8
8	15960.00	50.7 AV	54.0	-3.3	1.98 V	201	38.9	11.8

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 100 : 5500 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5421.00	58.7 PK	74.0	-15.3	1.04 H	167	56.2	2.5
2	5421.00	47.4 AV	54.0	-6.6	1.04 H	167	44.9	2.5
3	#5470.00	59.1 PK	68.2	-9.1	1.04 H	167	56.6	2.5
4	*5500.00	116.7 PK			1.04 H	167	76.3	40.4
5	*5500.00	105.1 AV			1.04 H	167	64.7	40.4
6	11000.00	56.3 PK	74.0	-17.7	1.59 H	222	47.1	9.2
7	11000.00	44.2 AV	54.0	-9.8	1.59 H	222	35.0	9.2
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	5421.00	63.8 PK	74.0	-10.2	1.76 V	158	61.3	2.5
2	5421.00	51.3 AV	54.0	-2.7	1.76 V	158	48.8	2.5
3	#5470.00	65.4 PK	68.2	-2.8	1.76 V	158	62.9	2.5
4	*5500.00	125.5 PK			1.76 V	158	85.1	40.4
5	*5500.00	107.8 AV			1.76 V	158	67.4	40.4
6	11000.00	57.3 PK	74.0	-16.7	2.05 V	19	48.1	9.2
7	11000.00	44.8 AV	54.0	-9.2	2.05 V	19	35.6	9.2

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 116 : 5580 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5421.00	58.8 PK	74.0	-15.2	1.05 H	166	18.6	40.2
2	5421.00	47.5 AV	54.0	-6.5	1.05 H	166	7.3	40.2
3	#5470.00	58.8 PK	68.2	-9.4	1.05 H	166	56.3	2.5
4	*5580.00	117.5 PK			1.05 H	166	76.7	40.8
5	*5580.00	105.4 AV			1.05 H	166	64.6	40.8
6	11160.00	57.0 PK	74.0	-17.0	1.56 H	333	47.3	9.7
7	11160.00	44.6 AV	54.0	-9.4	1.56 H	333	34.9	9.7
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	5421.00	62.8 PK	74.0	-11.2	1.00 V	68	60.3	2.5
2	5421.00	50.6 AV	54.0	-3.4	1.00 V	68	48.1	2.5
3	#5470.00	59.2 PK	68.2	-9.0	1.00 V	68	56.7	2.5
4	*5580.00	128.4 PK			1.00 V	68	87.6	40.8
5	*5580.00	115.6 AV			1.00 V	68	74.8	40.8
6	11160.00	57.8 PK	74.0	-16.2	2.23 V	45	48.1	9.7
7	11160.00	45.1 AV	54.0	-8.9	2.23 V	45	35.4	9.7

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 140 : 5700 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	115.4 PK			1.04 H	166	73.9	41.5
2	*5700.00	103.3 AV			1.04 H	166	61.8	41.5
3	#5725.00	61.3 PK	68.2	-6.9	1.04 H	166	57.4	3.9
4	11400.00	57.3 PK	74.0	-16.7	1.14 H	101	47.2	10.1
5	11400.00	45.0 AV	54.0	-9.0	1.14 H	101	34.9	10.1
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	125.2 PK			1.13 V	89	83.7	41.5
2	*5700.00	112.4 AV			1.13 V	89	70.9	41.5
3	#5726.80	67.6 PK	68.2	-0.6	1.13 V	89	63.6	4.0
4	11400.00	58.0 PK	74.0	-16.0	2.17 V	46	47.9	10.1
5	11400.00	45.5 AV	54.0	-8.5	2.17 V	46	35.4	10.1

Remarks:

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

RF Mode	802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.7 PK	68.2	-9.5	1.04 H	165	56.2	2.5
2	*5720.00	117.1 PK			1.04 H	165	75.6	41.5
3	*5720.00	105.2 AV			1.04 H	165	63.7	41.5
4	#5850.00	60.3 PK	68.2	-7.9	1.04 H	165	56.2	4.1
5	11440.00	58.2 PK	74.0	-15.8	1.45 H	337	48.0	10.2
6	11440.00	45.4 AV	54.0	-8.6	1.45 H	337	35.2	10.2
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	#5470.00	58.8 PK	68.2	-9.4	1.08 V	89	56.3	2.5
2	*5720.00	125.7 PK			1.08 V	89	84.2	41.5
3	*5720.00	113.0 AV			1.08 V	89	71.5	41.5
4	#5850.00	62.9 PK	68.2	-5.3	1.08 V	89	58.8	4.1
5	11440.00	58.8 PK	74.0	-15.2	2.19 V	36	48.6	10.2
6	11440.00	45.7 AV	54.0	-8.3	2.19 V	36	35.5	10.2

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	111.0 PK			1.02 H	3	70.9	40.1
2	*5270.00	99.3 AV			1.02 H	3	59.2	40.1
3	5350.00	62.1 PK	74.0	-11.9	1.02 H	3	59.8	2.3
4	5350.00	48.8 AV	54.0	-5.2	1.02 H	3	46.5	2.3
5	#10540.00	57.2 PK	68.2	-11.0	1.14 H	124	48.1	9.1
6	15810.00	61.6 PK	74.0	-12.4	2.16 H	229	50.6	11.0
7	15810.00	49.8 AV	54.0	-4.2	2.16 H	229	38.8	11.0
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	119.5 PK			1.06 V	123	79.4	40.1
2	*5270.00	106.7 AV			1.06 V	123	66.6	40.1
3	5350.00	71.6 PK	74.0	-2.4	1.06 V	123	69.3	2.3
4	5350.00	53.2 AV	54.0	-0.8	1.06 V	123	50.9	2.3
5	#10540.00	58.4 PK	68.2	-9.8	2.08 V	41	49.3	9.1
6	15810.00	63.3 PK	74.0	-10.7	1.87 V	199	52.3	11.0
7	15810.00	50.4 AV	54.0	-3.6	1.87 V	199	39.4	11.0

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 62 : 5310 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	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	112.0 PK			1.06 H	4	71.9	40.1
2	*5310.00	100.5 AV			1.06 H	4	60.4	40.1
3	5350.00	60.8 PK	74.0	-13.2	1.06 H	4	58.5	2.3
4	5350.00	48.9 AV	54.0	-5.1	1.06 H	4	46.6	2.3
5	10620.00	56.8 PK	74.0	-17.2	1.57 H	209	47.8	9.0
6	10620.00	44.4 AV	54.0	-9.6	1.57 H	209	35.4	9.0
7	15930.00	61.9 PK	74.0	-12.1	2.15 H	219	50.0	11.9
8	15930.00	49.9 AV	54.0	-4.1	2.15 H	219	38.0	11.9
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	119.9 PK			1.72 V	158	79.8	40.1
2	*5310.00	106.1 AV			1.72 V	158	66.0	40.1
3	5350.00	68.0 PK	74.0	-6.0	1.72 V	158	65.7	2.3
4	5350.00	53.6 AV	54.0	-0.4	1.72 V	158	51.3	2.3
5	10620.00	57.2 PK	74.0	-16.8	2.19 V	52	48.2	9.0
6	10620.00	45.1 AV	54.0	-8.9	2.19 V	52	36.1	9.0
7	15930.00	62.6 PK	74.0	-11.4	1.88 V	203	50.7	11.9
8	15930.00	49.7 AV	54.0	-4.3	1.88 V	203	37.8	11.9

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.

RF Mode	802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	1.00 H	21	56.1	2.5
2	5460.00	47.3 AV	54.0	-6.7	1.00 H	21	44.8	2.5
3	#5470.00	58.9 PK	68.2	-9.3	1.00 H	21	56.4	2.5
4	*5510.00	113.7 PK			1.00 H	21	73.3	40.4
5	*5510.00	101.1 AV			1.00 H	21	60.7	40.4
6	11020.00	56.6 PK	74.0	-17.4	1.59 H	93	47.3	9.3
7	11020.00	44.1 AV	54.0	-9.9	1.59 H	93	34.8	9.3
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.6 PK	74.0	-11.4	1.80 V	158	60.1	2.5
2	5460.00	51.2 AV	54.0	-2.8	1.80 V	158	48.7	2.5
3	#5460.50	67.6 PK	68.2	-0.6	1.80 V	158	65.1	2.5
4	*5510.00	123.1 PK			1.80 V	158	82.7	40.4
5	*5510.00	109.2 AV			1.80 V	158	68.8	40.4
6	11020.00	56.7 PK	74.0	-17.3	2.09 V	88	47.4	9.3
7	11020.00	44.3 AV	54.0	-9.7	2.09 V	88	35.0	9.3

Remarks:

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

RF Mode	802.11ax (HE40)	Channel	CH 110 : 5550 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.7 PK	74.0	-15.3	1.00 H	21	56.2	2.5
2	5460.00	47.5 AV	54.0	-6.5	1.00 H	21	45.0	2.5
3	#5470.00	59.2 PK	68.2	-9.0	1.00 H	21	56.7	2.5
4	*5550.00	113.3 PK			1.00 H	21	72.6	40.7
5	*5550.00	100.2 AV			1.00 H	21	59.5	40.7
6	11100.00	56.7 PK	74.0	-17.3	1.67 H	119	47.1	9.6
7	11100.00	44.3 AV	54.0	-9.7	1.67 H	119	34.7	9.6
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	5456.00	69.3 PK	74.0	-4.7	1.03 V	68	66.8	2.5
2	5456.00	51.6 AV	54.0	-2.4	1.03 V	68	49.1	2.5
3	#5466.00	67.6 PK	68.2	-0.6	1.03 V	68	65.1	2.5
4	*5550.00	122.1 PK			1.03 V	68	81.4	40.7
5	*5550.00	109.4 AV			1.03 V	68	68.7	40.7
6	11100.00	57.4 PK	74.0	-16.6	2.28 V	39	47.8	9.6
7	11100.00	44.8 AV	54.0	-9.2	2.28 V	39	35.2	9.6

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 134 : 5670 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	113.3 PK			1.00 H	21	72.0	41.3
2	*5670.00	101.2 AV			1.00 H	21	59.9	41.3
3	#5725.00	59.9 PK	68.2	-8.3	1.00 H	21	56.0	3.9
4	11340.00	57.4 PK	74.0	-16.6	1.55 H	163	47.4	10.0
5	11340.00	45.2 AV	54.0	-8.8	1.55 H	163	35.2	10.0
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	123.1 PK			1.00 V	70	81.8	41.3
2	*5670.00	110.5 AV			1.00 V	70	69.2	41.3
3	#5725.00	67.3 PK	68.2	-0.9	1.00 V	70	63.4	3.9
4	11340.00	57.7 PK	74.0	-16.3	2.29 V	40	47.7	10.0
5	11340.00	45.3 AV	54.0	-8.7	2.29 V	40	35.3	10.0

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 142 : 5710 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.0 PK	68.2	-9.2	1.00 H	21	56.5	2.5
2	*5710.00	116.6 PK			1.00 H	21	75.0	41.6
3	*5710.00	103.6 AV			1.00 H	21	62.0	41.6
4	#5850.00	59.9 PK	68.2	-8.3	1.00 H	21	55.8	4.1
5	11420.00	57.8 PK	74.0	-16.2	1.15 H	101	47.7	10.1
6	11420.00	45.0 AV	54.0	-9.0	1.15 H	101	34.9	10.1
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	#5470.00	59.6 PK	68.2	-8.6	1.00 V	70	57.1	2.5
2	*5710.00	125.0 PK			1.00 V	70	83.4	41.6
3	*5710.00	112.5 AV			1.00 V	70	70.9	41.6
4	#5850.00	67.6 PK	68.2	-0.6	1.00 V	70	63.5	4.1
5	11420.00	58.3 PK	74.0	-15.7	2.25 V	34	48.2	10.1
6	11420.00	45.4 AV	54.0	-8.6	2.25 V	34	35.3	10.1

Remarks:

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

RF Mode	802.11ax (HE80)	Channel	CH 58 : 5290 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	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	106.3 PK			1.02 H	0	66.2	40.1
2	*5290.00	93.6 AV			1.02 H	0	53.5	40.1
3	5350.00	63.0 PK	74.0	-11.0	1.02 H	0	60.7	2.3
4	5350.00	49.4 AV	54.0	-4.6	1.02 H	0	47.1	2.3
5	#10580.00	56.6 PK	68.2	-11.6	1.59 H	299	47.6	9.0
6	15870.00	60.4 PK	74.0	-13.6	2.20 H	228	48.8	11.6
7	15870.00	49.7 AV	54.0	-4.3	2.20 H	228	38.1	11.6
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	114.0 PK			1.72 V	158	73.9	40.1
2	*5290.00	100.0 AV			1.72 V	158	59.9	40.1
3	5350.00	64.7 PK	74.0	-9.3	1.72 V	158	62.4	2.3
4	5350.00	53.7 AV	54.0	-0.3	1.72 V	158	51.4	2.3
5	#10580.00	57.4 PK	68.2	-10.8	2.07 V	43	48.4	9.0
6	15870.00	62.8 PK	74.0	-11.2	1.86 V	199	51.2	11.6
7	15870.00	50.3 AV	54.0	-3.7	1.86 V	199	38.7	11.6

Remarks:

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

RF Mode	802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.7 PK	74.0	-15.3	1.00 H	22	56.2	2.5
2	5460.00	47.6 AV	54.0	-6.4	1.00 H	22	45.1	2.5
3	#5470.00	62.3 PK	68.2	-5.9	1.00 H	22	59.8	2.5
4	*5530.00	107.4 PK			1.00 H	22	66.8	40.6
5	*5530.00	94.1 AV			1.00 H	22	53.5	40.6
6	#5725.00	60.2 PK	68.2	-8.0	1.00 H	22	56.3	3.9
7	11060.00	56.3 PK	74.0	-17.7	1.57 H	295	46.8	9.5
8	11060.00	44.2 AV	54.0	-9.8	1.57 H	295	34.7	9.5
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.8 PK	74.0	-8.2	1.76 V	158	63.3	2.5
2	5460.00	53.6 AV	54.0	-0.4	1.76 V	158	51.1	2.5
3	#5470.00	67.6 PK	68.2	-0.6	1.76 V	158	65.1	2.5
4	*5530.00	116.5 PK			1.76 V	158	75.9	40.6
5	*5530.00	103.3 AV			1.76 V	158	62.7	40.6
6	#5725.00	61.2 PK	68.2	-7.0	1.76 V	158	57.3	3.9
7	11060.00	57.0 PK	74.0	-17.0	2.21 V	74	47.5	9.5
8	11060.00	44.6 AV	54.0	-9.4	2.21 V	74	35.1	9.5

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 (HE80)	Channel	CH 122 : 5610 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.8 PK	74.0	-15.2	1.00 H	21	56.3	2.5
2	5460.00	47.4 AV	54.0	-6.6	1.00 H	21	44.9	2.5
3	#5470.00	59.6 PK	68.2	-8.6	1.00 H	21	57.1	2.5
4	*5610.00	110.4 PK			1.00 H	21	69.4	41.0
5	*5610.00	97.8 AV			1.00 H	21	56.8	41.0
6	#5725.00	60.1 PK	68.2	-8.1	1.00 H	21	56.2	3.9
7	11220.00	57.0 PK	74.0	-17.0	1.99 H	215	47.1	9.9
8	11220.00	44.9 AV	54.0	-9.1	1.99 H	215	35.0	9.9
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.6 PK	74.0	-12.4	1.70 V	159	59.1	2.5
2	5460.00	48.9 AV	54.0	-5.1	1.70 V	159	46.4	2.5
3	#5470.00	64.6 PK	68.2	-3.6	1.70 V	159	62.1	2.5
4	*5610.00	119.0 PK			1.70 V	159	78.0	41.0
5	*5610.00	105.2 AV			1.70 V	159	64.2	41.0
6	#5725.00	66.2 PK	68.2	-2.0	1.70 V	159	62.3	3.9
7	11220.00	57.7 PK	74.0	-16.3	2.25 V	104	47.8	9.9
8	11220.00	45.2 AV	54.0	-8.8	2.25 V	104	35.3	9.9

Remarks:

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

RF Mode	802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.3 PK	68.2	-8.9	1.00 H	20	56.8	2.5
2	*5690.00	110.5 PK			1.00 H	20	69.1	41.4
3	*5690.00	98.7 AV			1.00 H	20	57.3	41.4
4	#5850.00	59.9 PK	68.2	-8.3	1.00 H	20	55.8	4.1
5	11380.00	57.0 PK	74.0	-17.0	1.64 H	204	46.9	10.1
6	11380.00	44.8 AV	54.0	-9.2	1.64 H	204	34.7	10.1
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	#5466.00	61.2 PK	68.2	-7.0	1.00 V	69	58.7	2.5
2	*5690.00	119.8 PK			1.00 V	69	78.4	41.4
3	*5690.00	107.2 AV			1.00 V	69	65.8	41.4
4	#5852.00	67.4 PK	68.2	-0.8	1.00 V	69	63.3	4.1
5	11380.00	57.6 PK	74.0	-16.4	2.29 V	34	47.5	10.1
6	11380.00	45.1 AV	54.0	-8.9	2.29 V	34	35.0	10.1

Remarks:

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

RF Mode	802.11ax (HE160)	Channel	CH 50 : 5250 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	21 °C, 69 % RH
Tested By	Charles Hsiao		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.7 PK	74.0	-15.3	1.05 H	0	56.1	2.6
2	5150.00	47.7 AV	54.0	-6.3	1.05 H	0	45.1	2.6
3	*5250.00	105.2 PK			1.05 H	0	65.1	40.1
4	*5250.00	92.4 AV			1.05 H	0	52.3	40.1
5	5350.00	58.8 PK	74.0	-15.2	1.05 H	0	56.5	2.3
6	5350.00	47.9 AV	54.0	-6.1	1.05 H	0	45.6	2.3
7	#10500.00	56.4 PK	68.2	-11.8	1.45 H	190	47.4	9.0
8	15750.00	62.6 PK	74.0	-11.4	2.14 H	199	51.8	10.8
9	15750.00	49.9 AV	54.0	-4.1	2.14 H	199	39.1	10.8
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	1.70 V	159	60.9	2.6
2	5150.00	52.0 AV	54.0	-2.0	1.70 V	159	49.4	2.6
3	*5250.00	112.8 PK			1.70 V	159	72.7	40.1
4	*5250.00	98.9 AV			1.70 V	159	58.8	40.1
5	5354.00	65.3 PK	74.0	-8.7	1.70 V	159	63.0	2.3
6	5354.00	53.2 AV	54.0	-0.8	1.70 V	159	50.9	2.3
7	#10500.00	58.4 PK	68.2	-9.8	1.51 V	36	49.4	9.0
8	15750.00	65.2 PK	74.0	-8.8	1.09 V	58	54.4	10.8
9	15750.00	52.5 AV	54.0	-1.5	1.09 V	58	41.7	10.8

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 (HE160)	Channel	CH 114 : 5570 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	23 °C, 67 % RH
Tested By	Charles Hsiao		

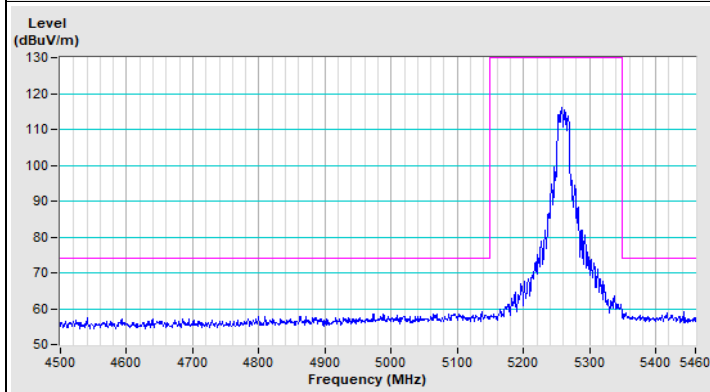
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.4 PK	74.0	-15.6	1.00 H	21	55.9	2.5
2	5460.00	47.3 AV	54.0	-6.7	1.00 H	21	44.8	2.5
3	#5470.00	60.4 PK	68.2	-7.8	1.00 H	21	57.9	2.5
4	*5570.00	105.4 PK			1.00 H	21	64.6	40.8
5	*5570.00	97.3 AV			1.00 H	21	56.5	40.8
6	#5725.00	59.8 PK	68.2	-8.4	1.00 H	21	55.9	3.9
7	11140.00	56.9 PK	74.0	-17.1	1.75 H	115	47.1	9.8
8	11140.00	44.7 AV	54.0	-9.3	1.75 H	115	34.9	9.8
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	66.5 PK	74.0	-7.5	1.70 V	158	64.0	2.5
2	5460.00	53.4 AV	54.0	-0.6	1.70 V	158	50.9	2.5
3	#5470.00	66.3 PK	68.2	-1.9	1.70 V	158	63.8	2.5
4	*5570.00	113.7 PK			1.70 V	158	72.9	40.8
5	*5570.00	99.8 AV			1.70 V	158	59.0	40.8
6	#5725.00	62.4 PK	68.2	-5.8	1.70 V	158	58.5	3.9
7	11140.00	57.5 PK	74.0	-16.5	2.09 V	35	47.7	9.8
8	11140.00	45.0 AV	54.0	-9.0	2.09 V	35	35.2	9.8

Remarks:

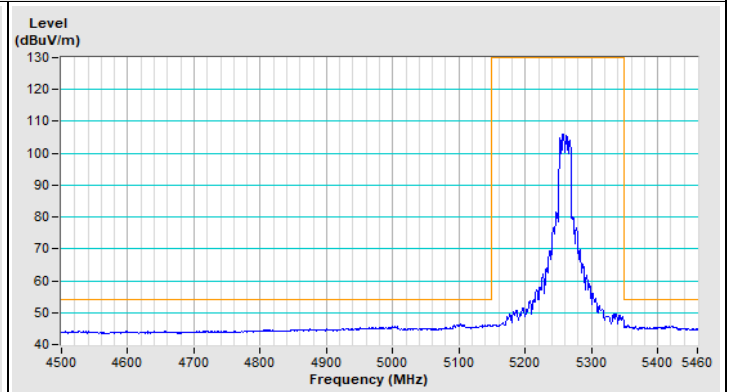
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

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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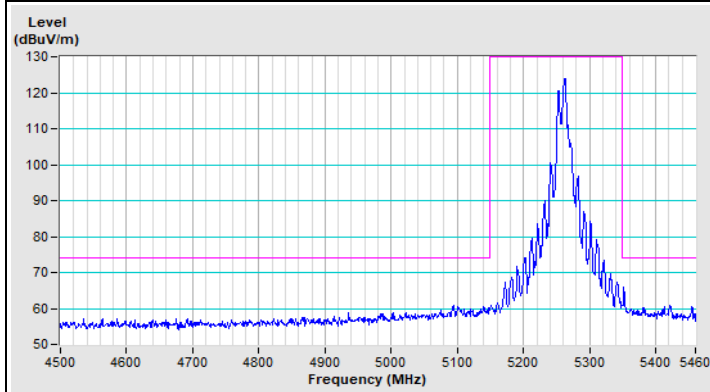
802.11a Channel 52



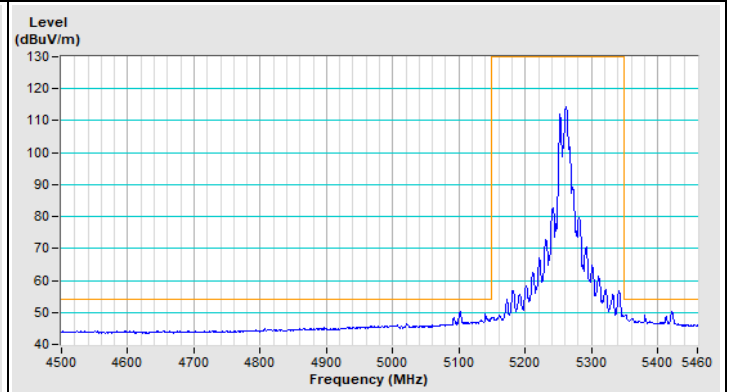
Vertical (Peak)



Vertical (Average)

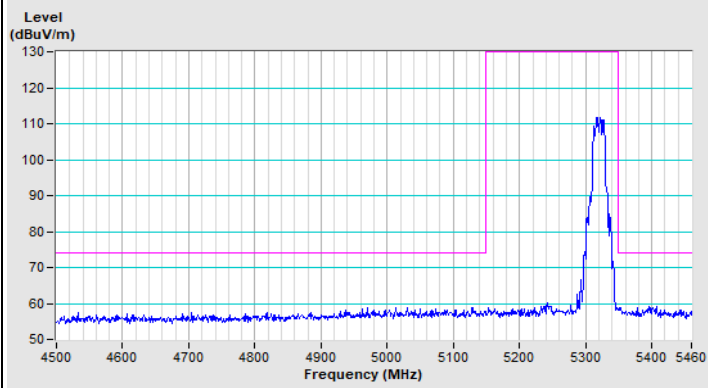


Horizontal (Peak)

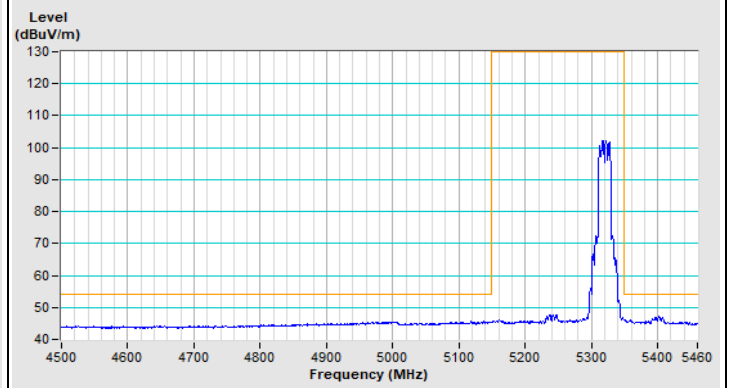


Horizontal (Average)

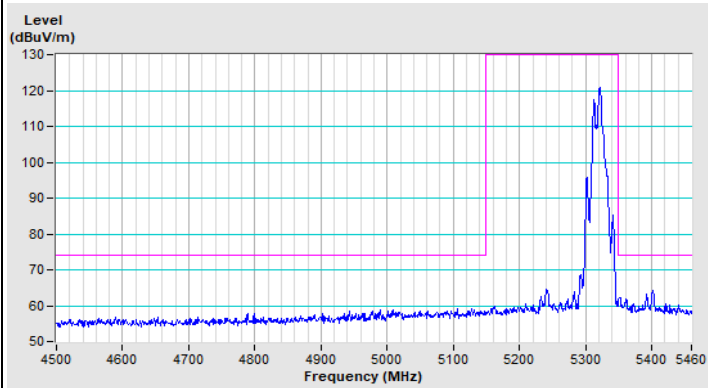
802.11a Channel 64



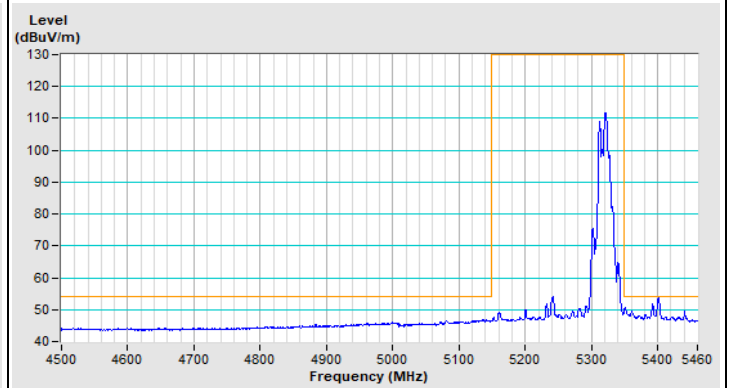
Vertical (Peak)



Vertical (Average)



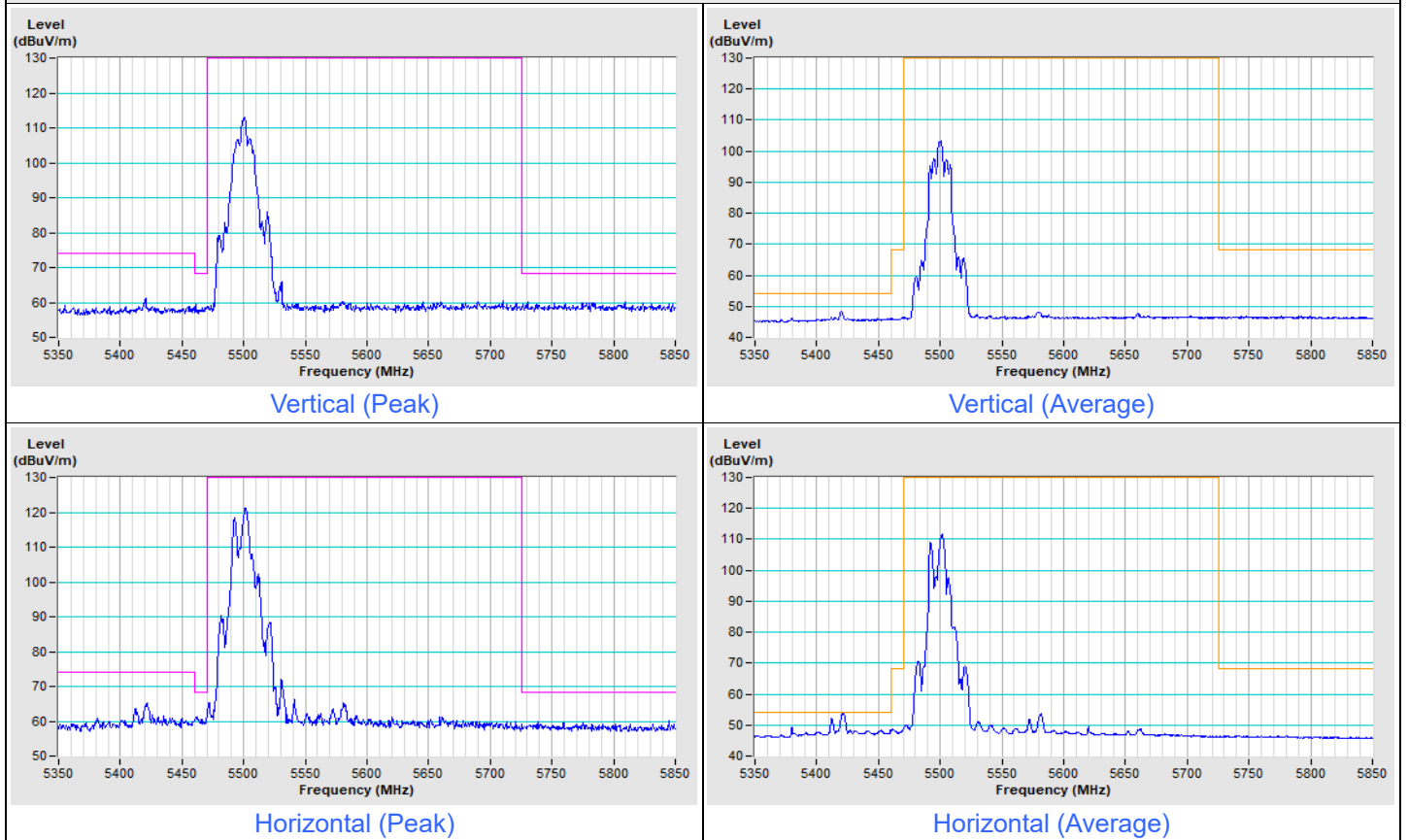
Horizontal (Peak)



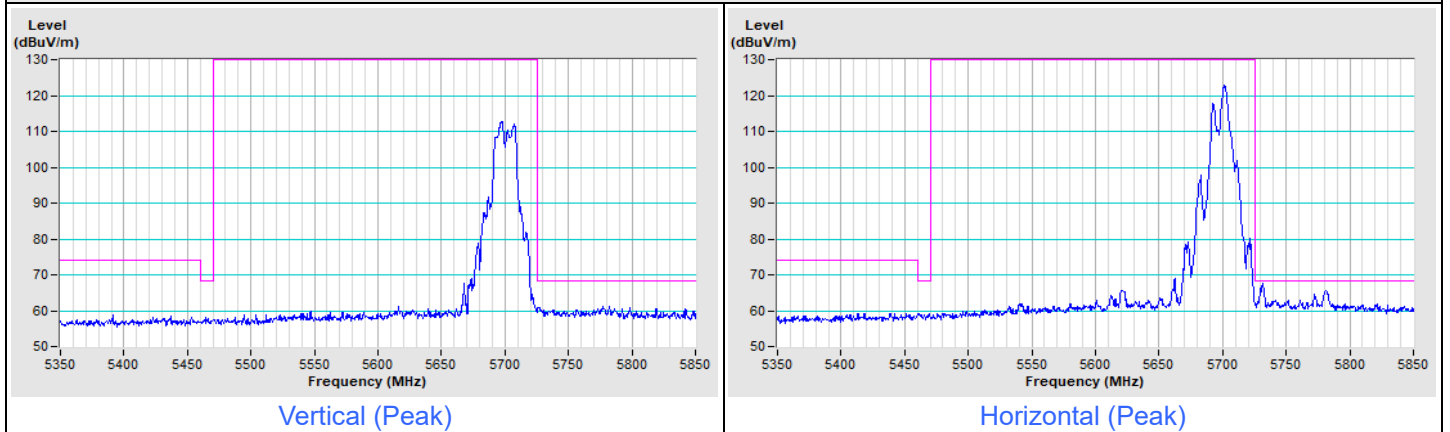
Horizontal (Average)

Frequency Range	5.35 GHz ~ 5.85 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 100

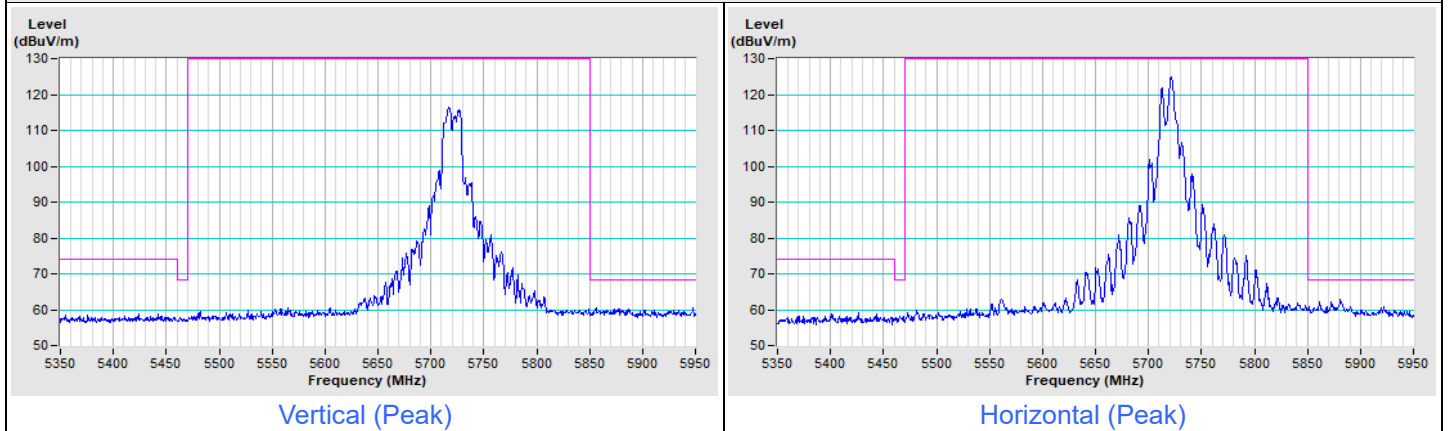


802.11a Channel 140



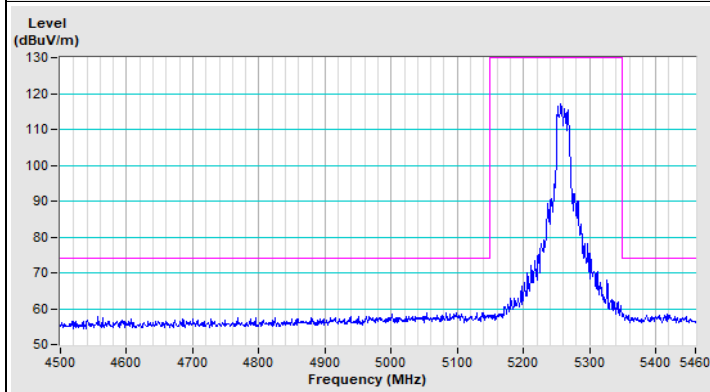
Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11a Channel 144

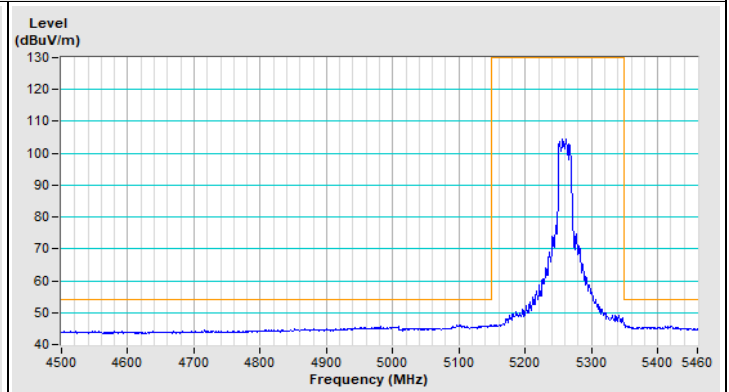


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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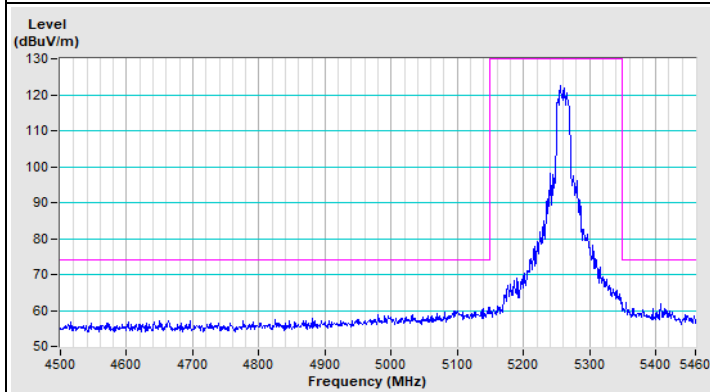
802.11ax (HE20) Channel 52



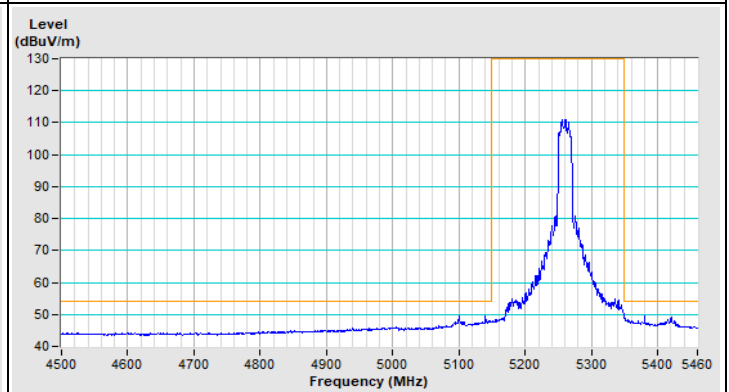
Vertical (Peak)



Vertical (Average)

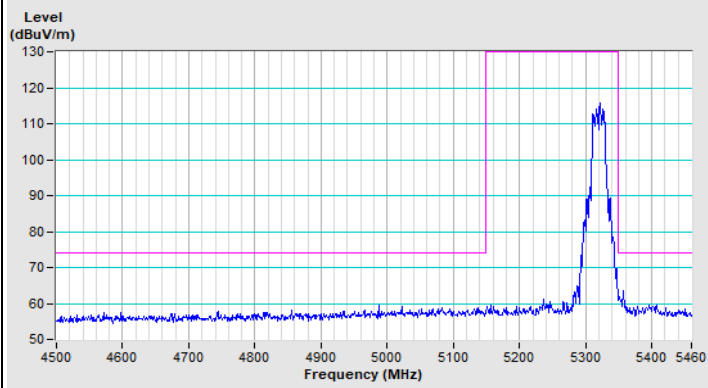


Horizontal (Peak)

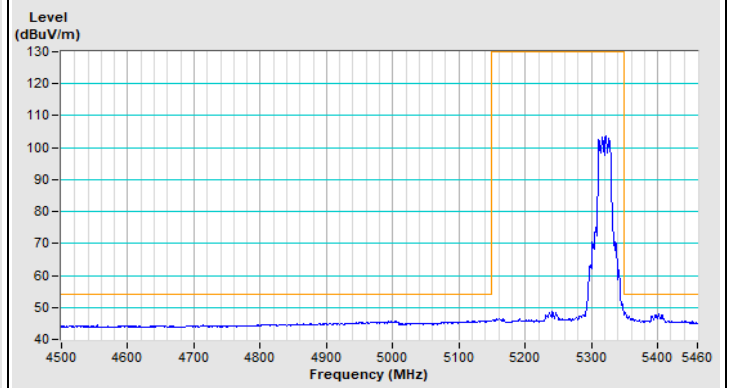


Horizontal (Average)

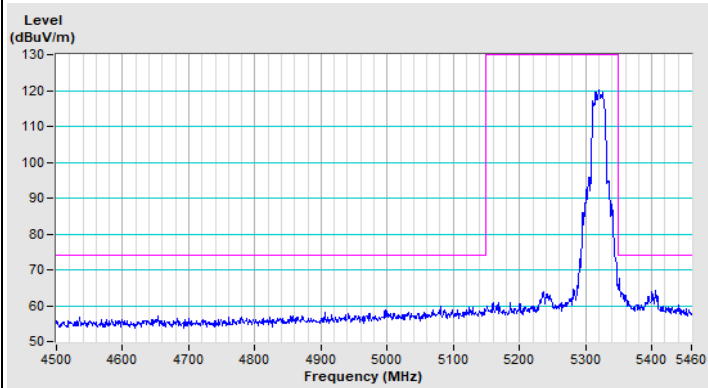
802.11ax (HE20) Channel 64



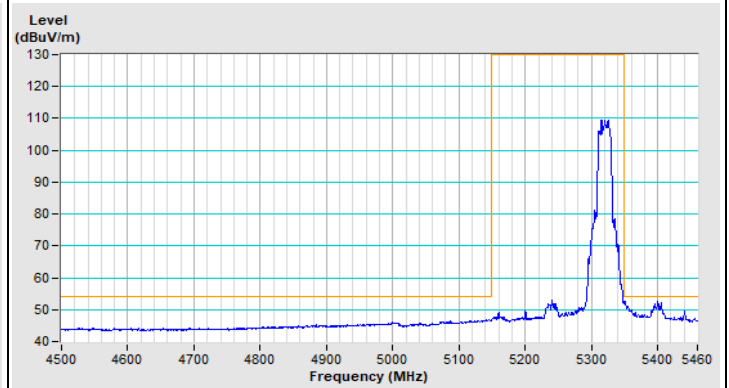
Vertical (Peak)



Vertical (Average)



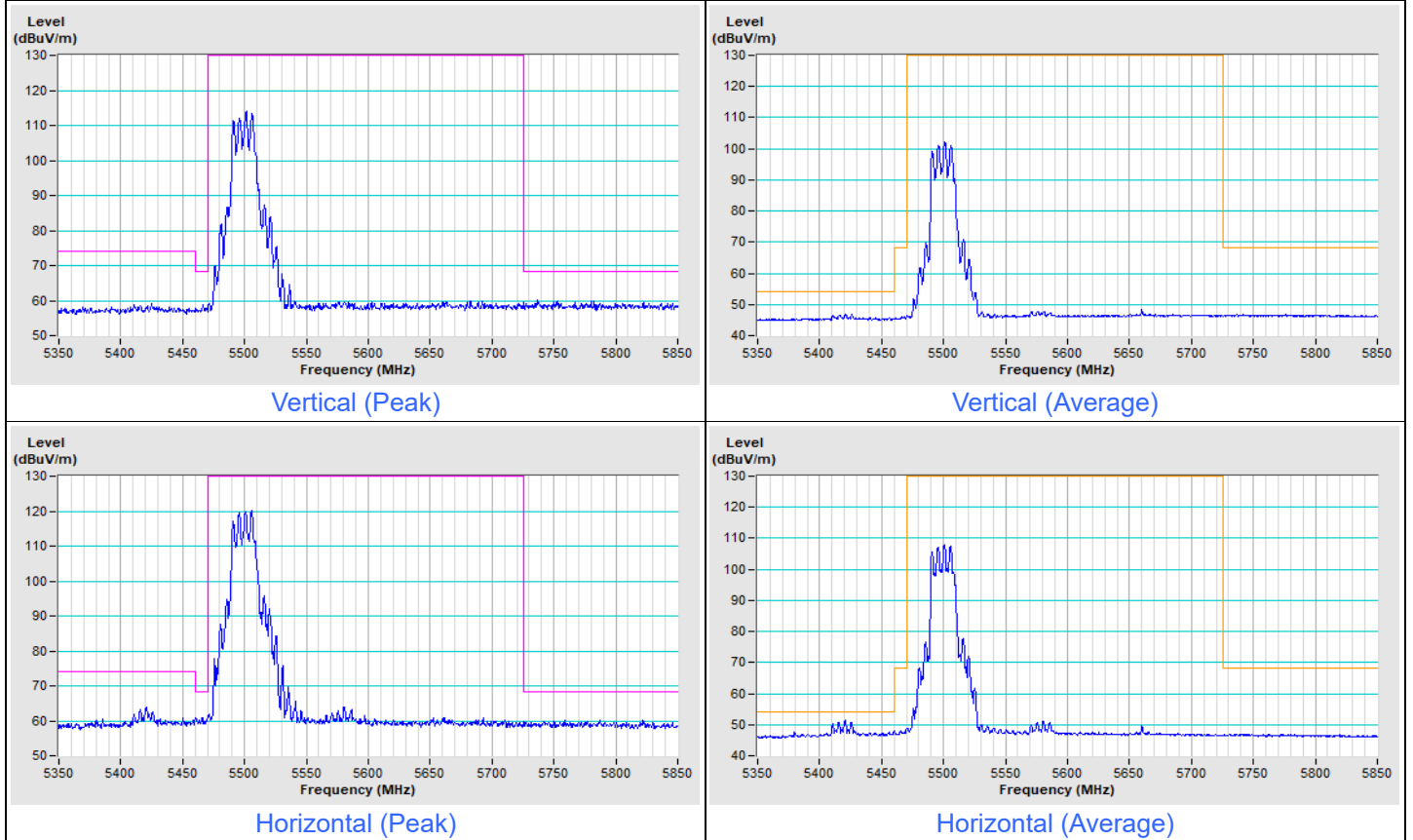
Horizontal (Peak)



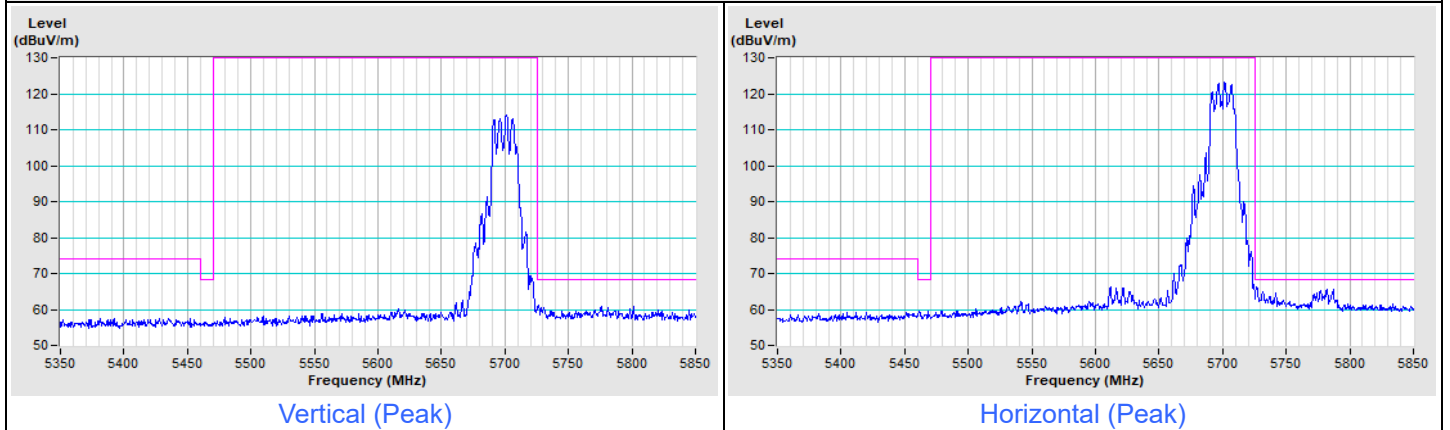
Horizontal (Average)

Frequency Range	5.35 GHz ~ 5.85 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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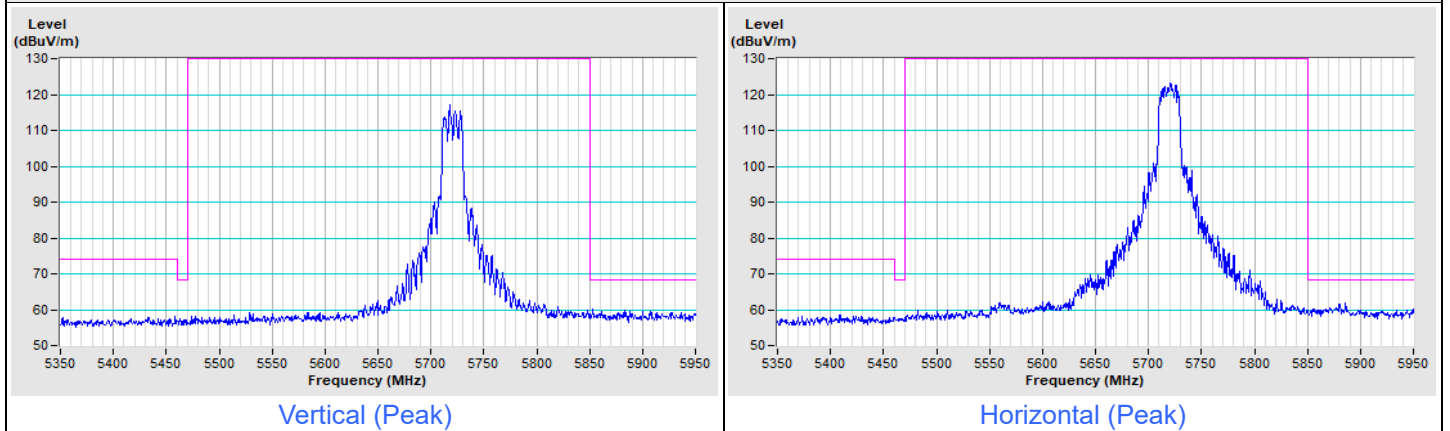
802.11ax (HE20) Channel 100



802.11ax (HE20) Channel 140

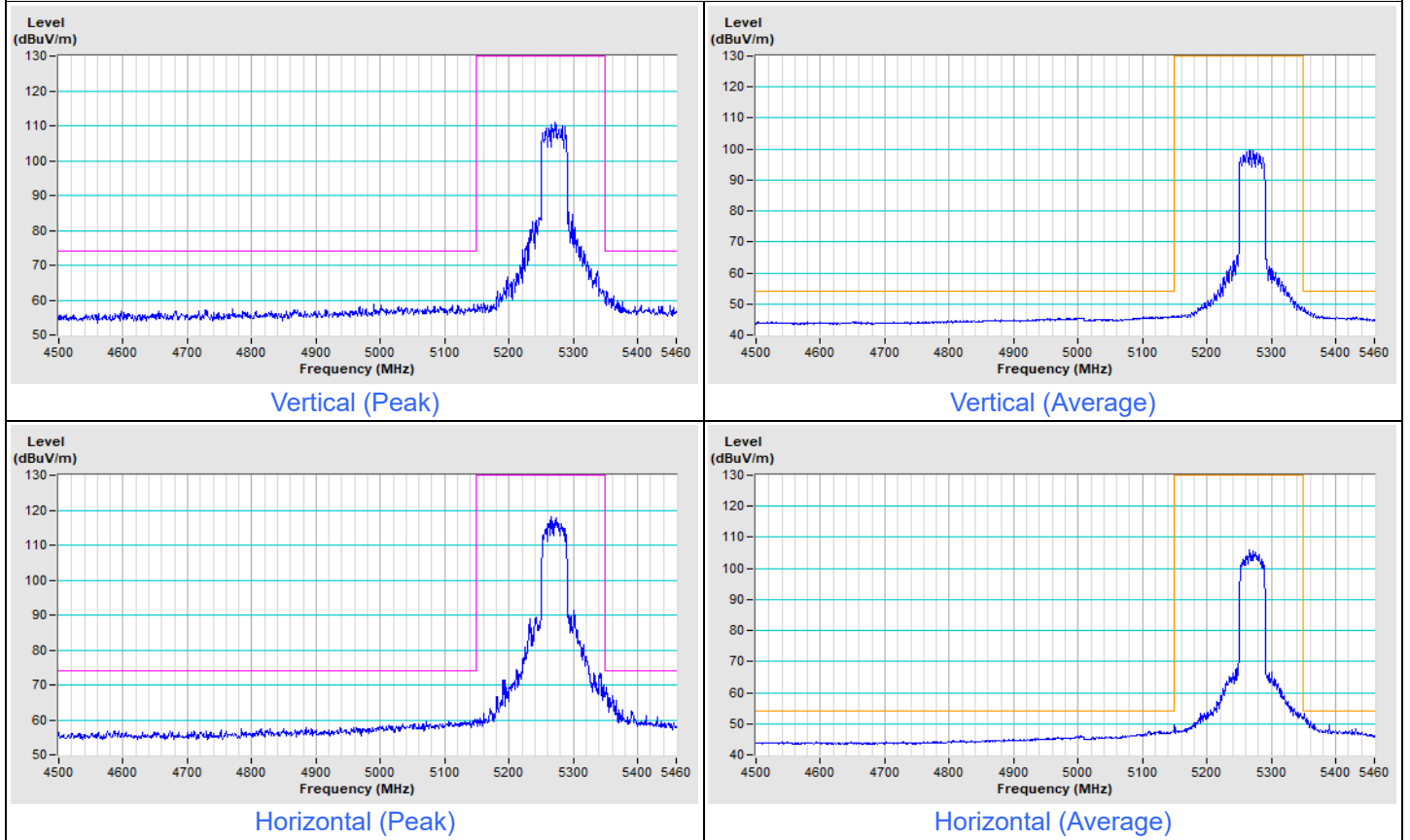


Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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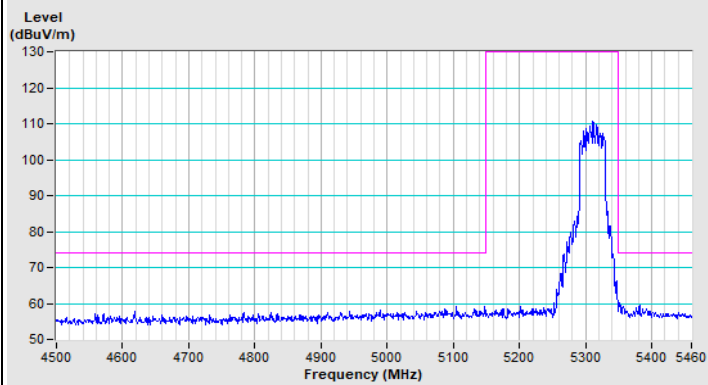
802.11ax (HE20) Channel 144

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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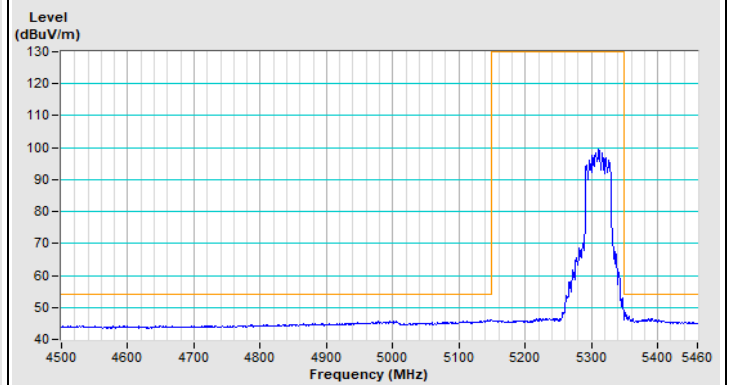
802.11ax (HE40) Channel 54



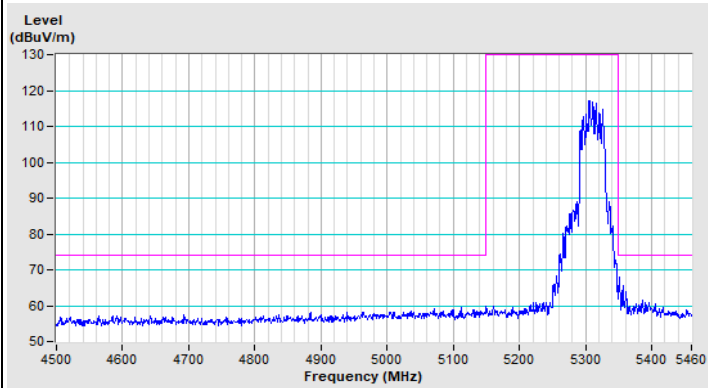
802.11ax (HE40) Channel 62



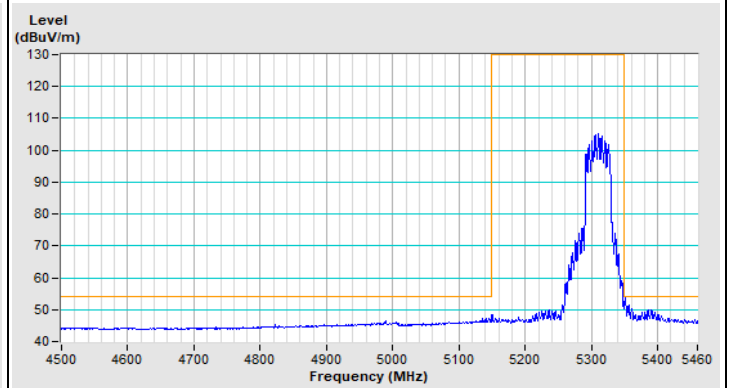
Vertical (Peak)



Vertical (Average)



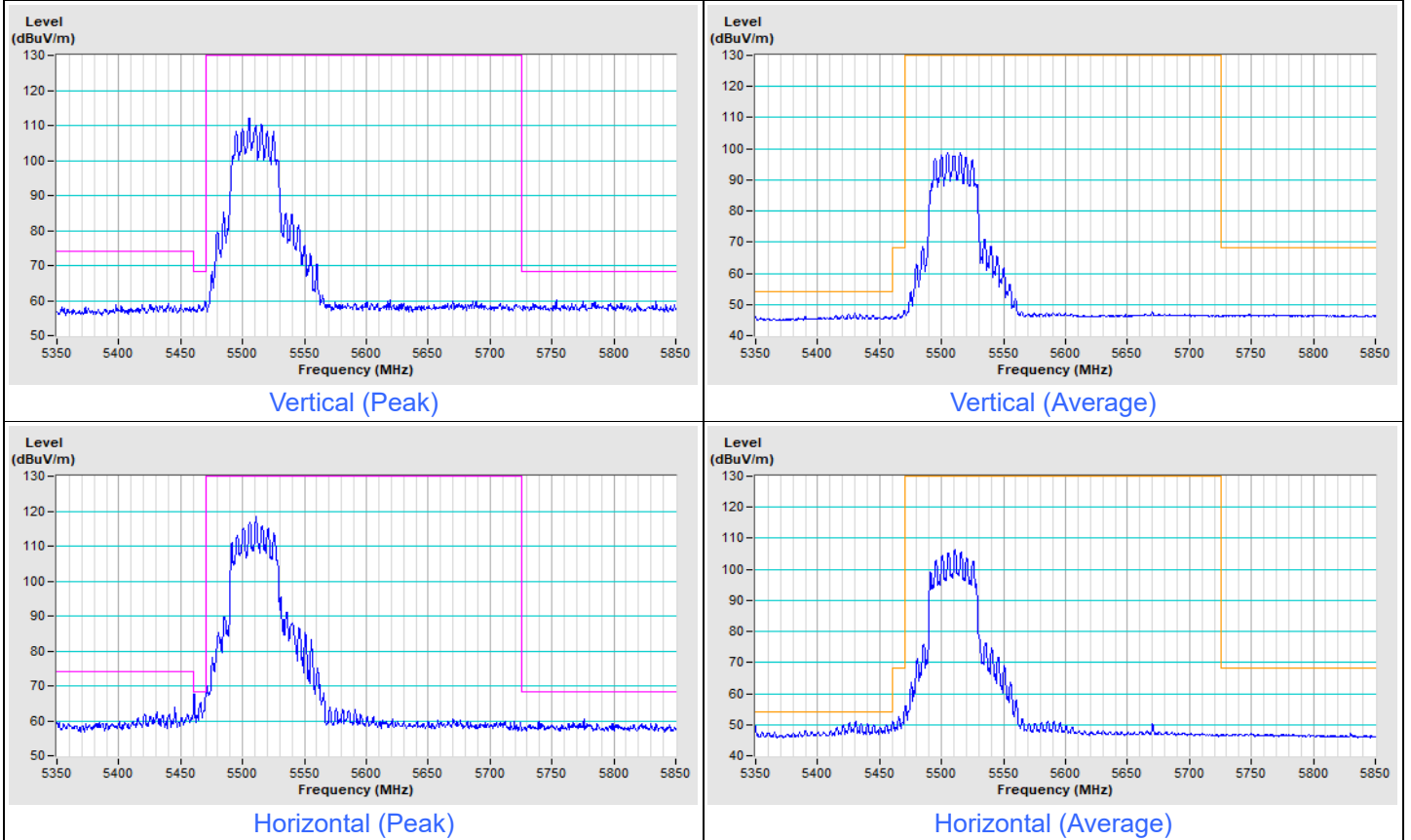
Horizontal (Peak)



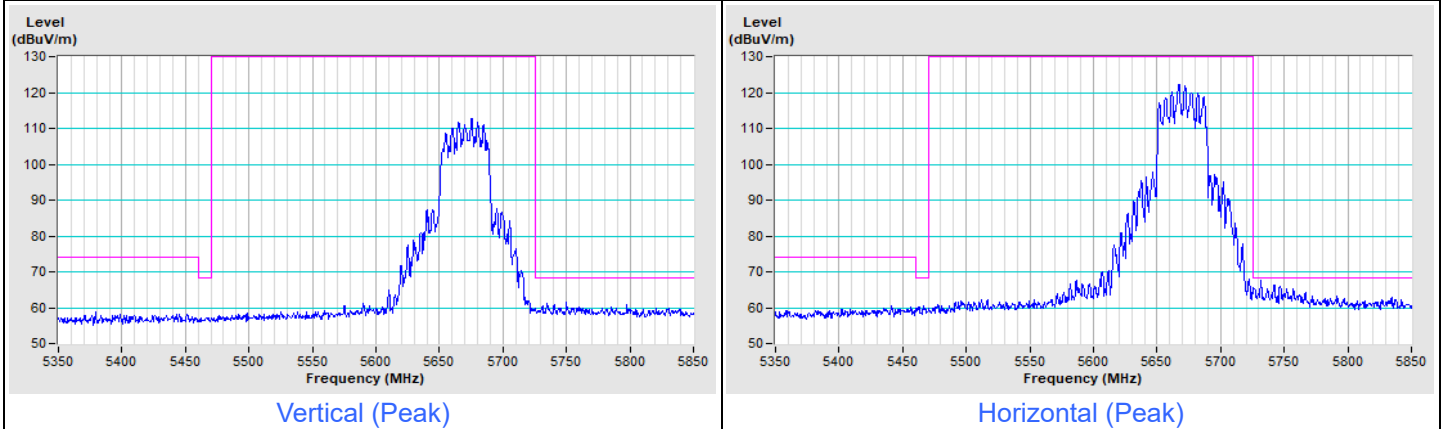
Horizontal (Average)

Frequency Range	5.35 GHz ~ 5.85 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 102

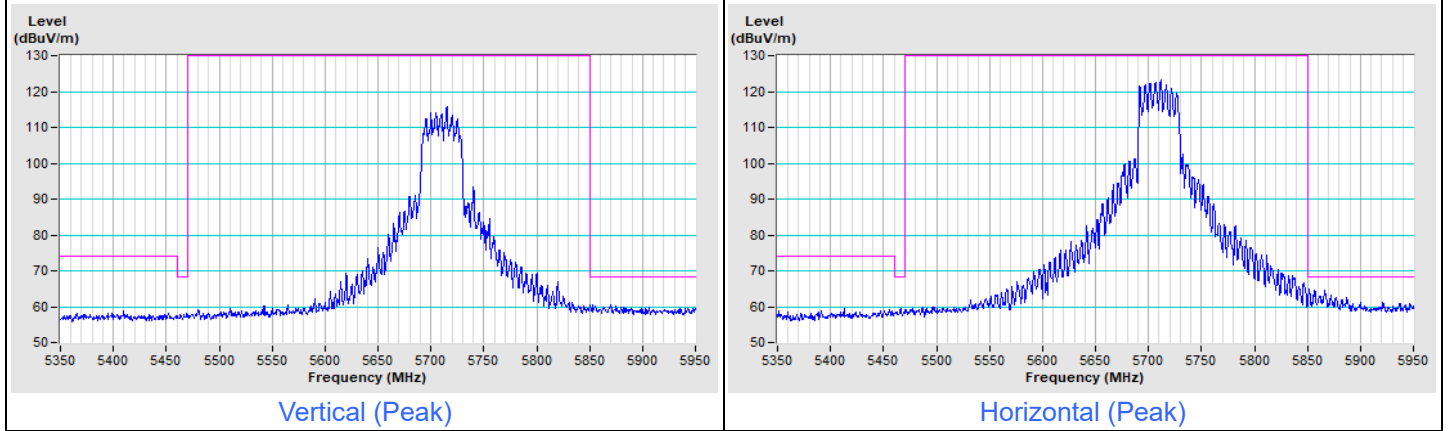


802.11ax (HE40) Channel 134



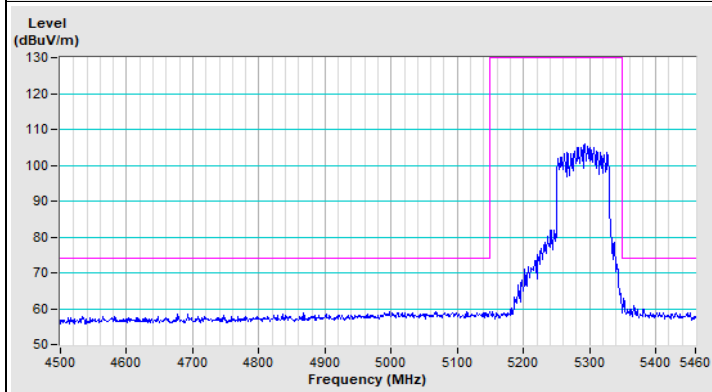
Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11ax (HE40) Channel 142

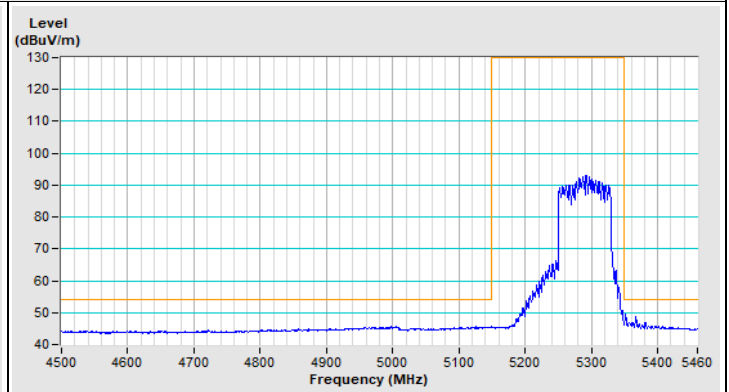


Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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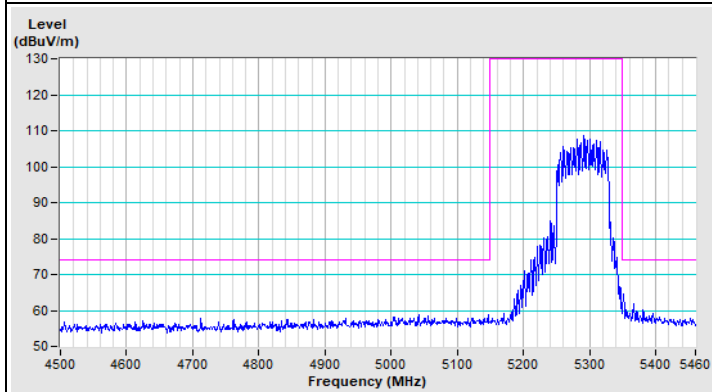
802.11ax (HE80) Channel 58



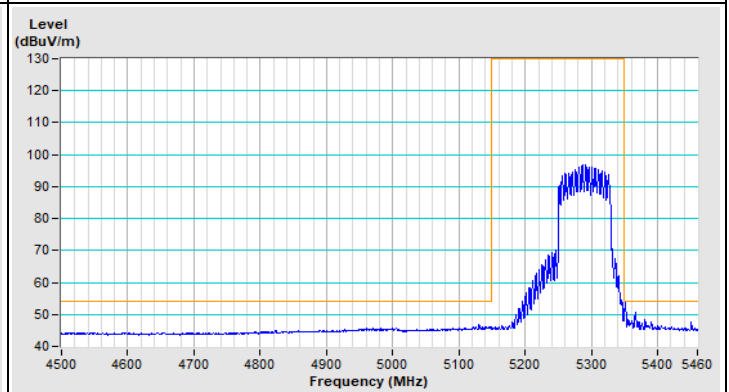
Vertical (Peak)



Vertical (Average)



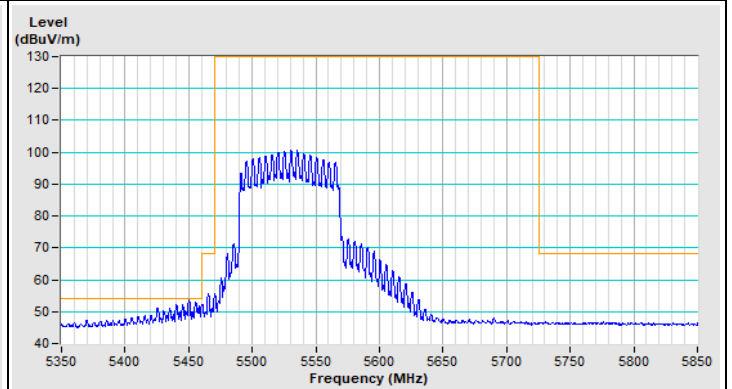
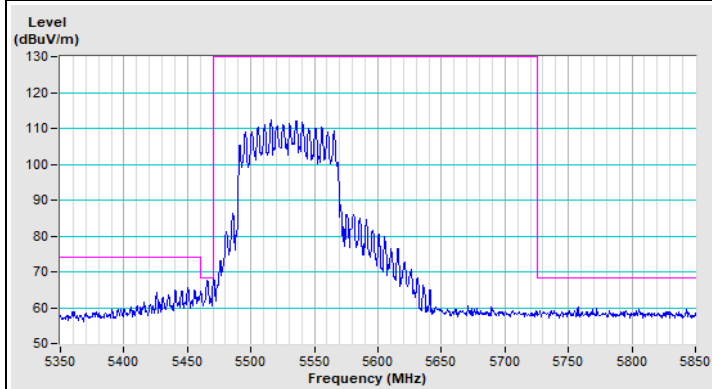
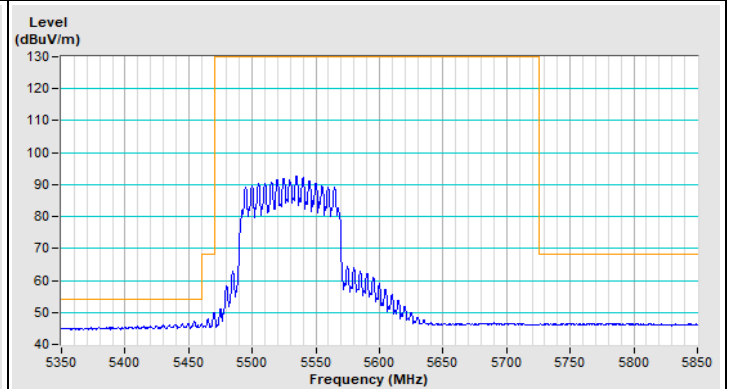
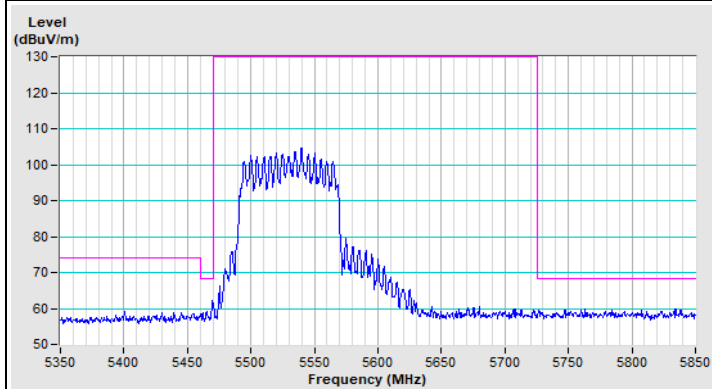
Horizontal (Peak)



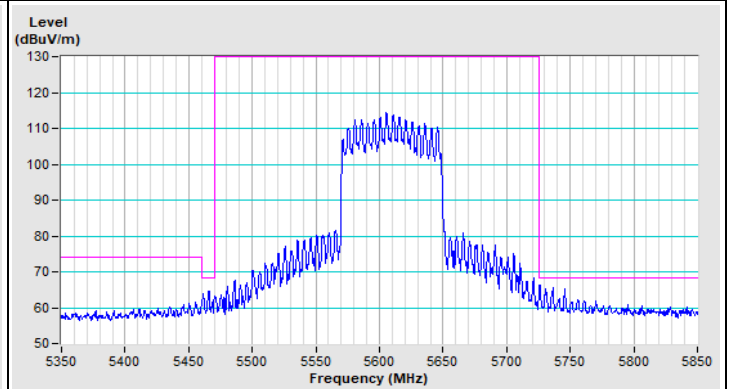
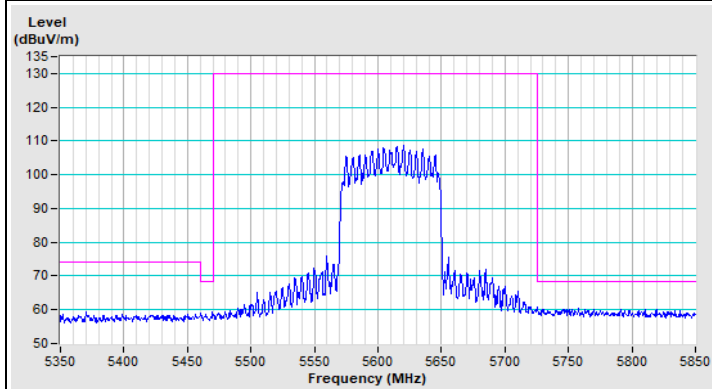
Horizontal (Average)

Frequency Range	5.35 GHz ~ 5.85 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 (HE80) Channel 106

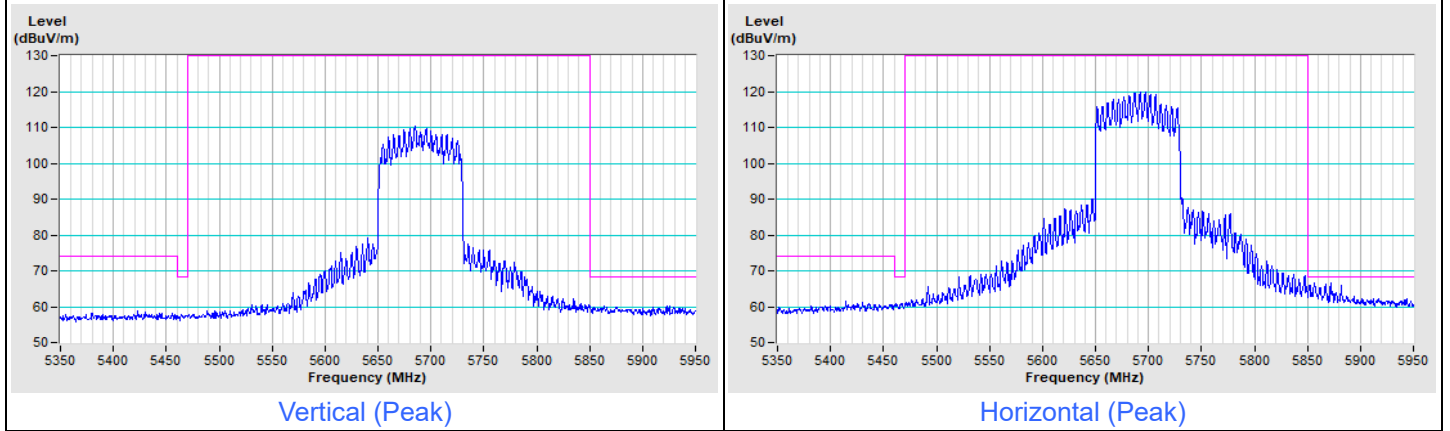


802.11ax (HE80) Channel 122



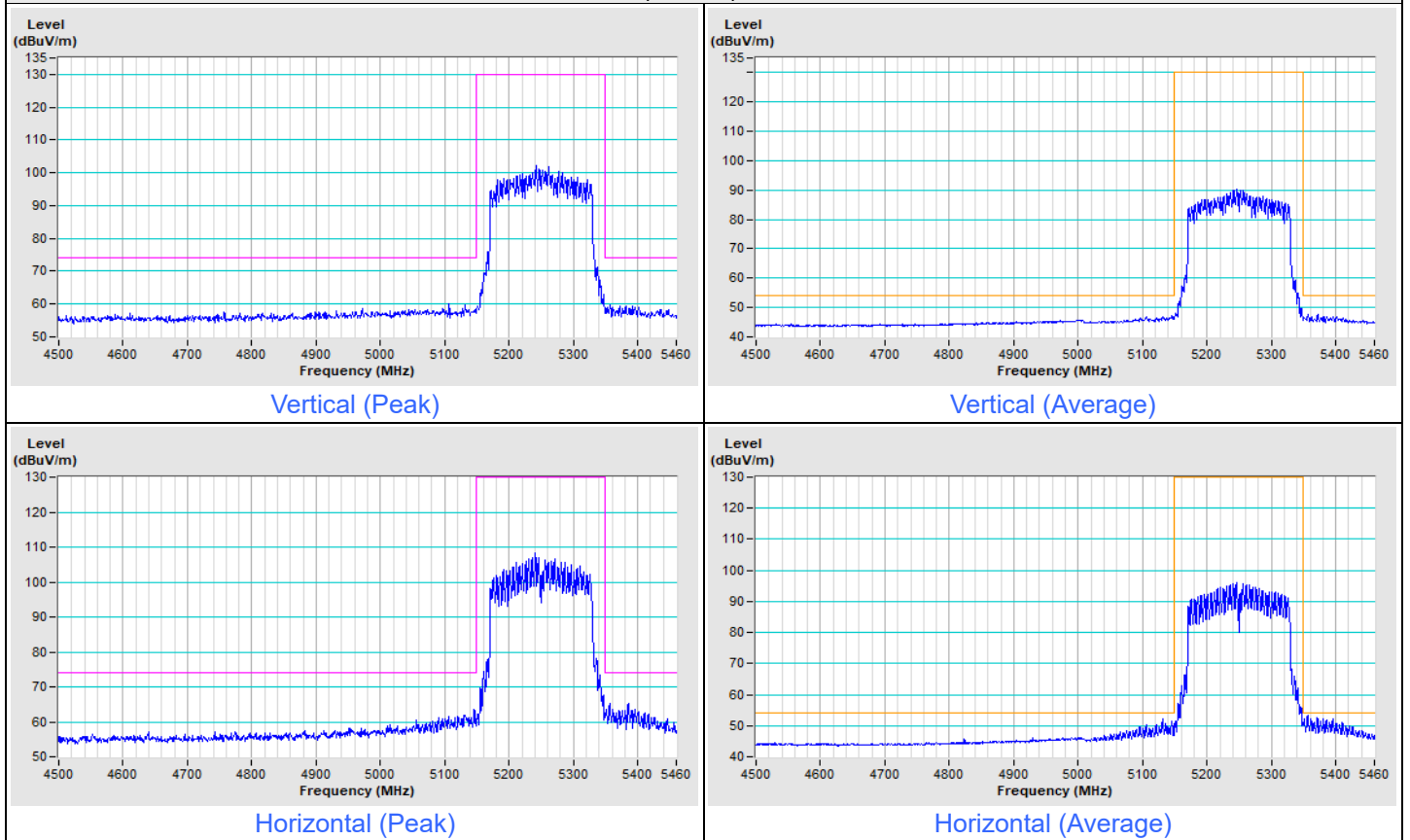
Frequency Range	5.35 GHz ~ 5.95 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11ax (HE80) Channel 138



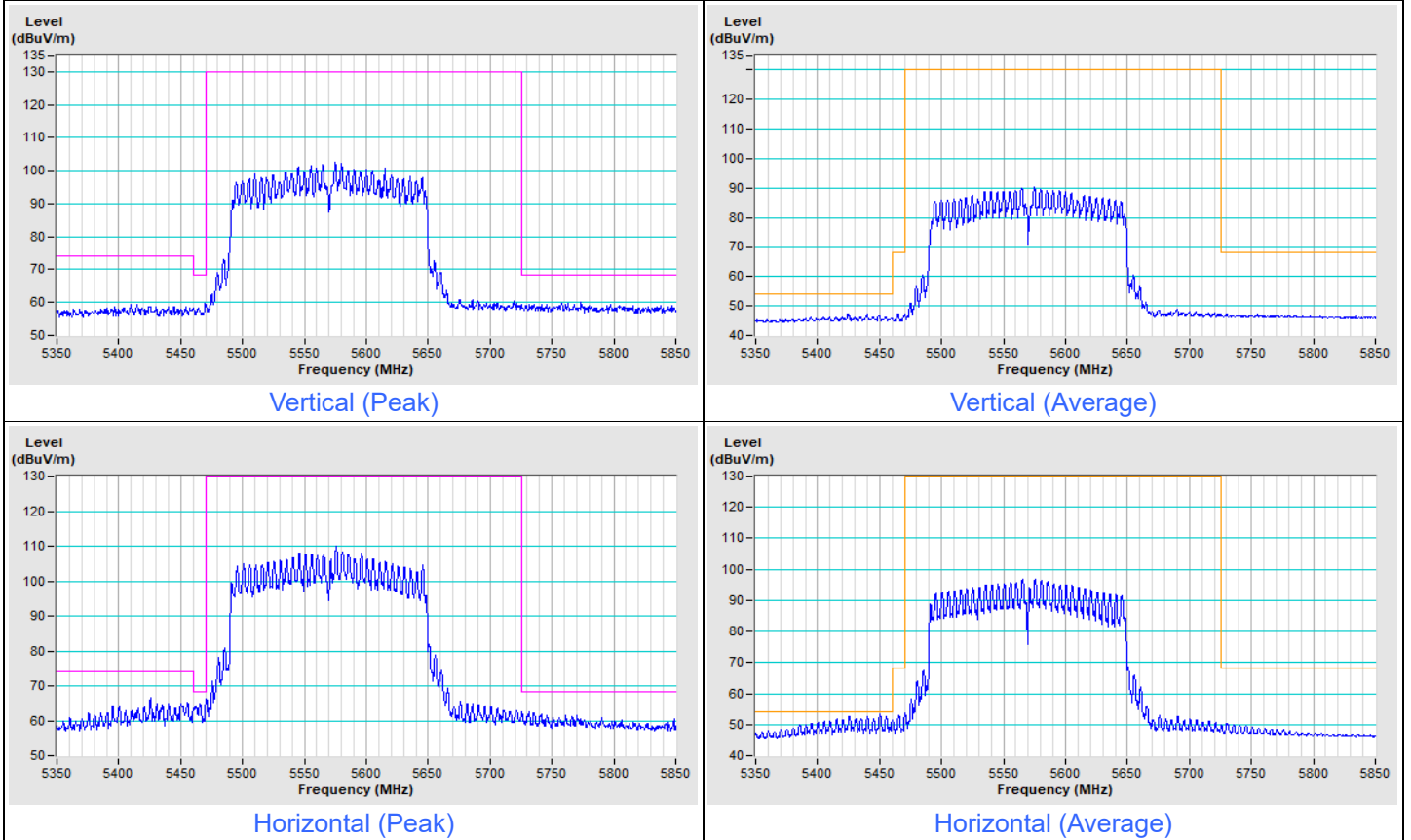
Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11ax (HE160) Channel 50



Frequency Range	5.35 GHz ~ 5.85 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 (HE160) Channel 114



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

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