

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBCKS-WTW-P25030148-2

FCC ID: 2AWHPR251

Product: Starlink Router

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

Model No.: UTR-251

Received Date: 2025/2/13

Test Date: 2025/2/26 ~ 2025/3/24

Issued Date: 2025/4/2

Applicant: Space Exploration Technologies Corp. (SPACEX)

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FCC Registration / 788550 / TW0003

Designation Number: 281270 / TW0032

Approved by:

Jeremy Lin

Date: 2025/4/2

Jeremy Lin / Project Engineer

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Prepared by : Lena Wang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P25030148-2	Original release.	2025/4/2

1 Certificate

Product: Starlink Router

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

Test Model: UTR-251

Sample Status: Engineering sample

Applicant: Space Exploration Technologies Corp. (SPACEX)

Test Date: 2025/2/26 ~ 2025/3/24

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

Measurement procedure: ANSI C63.10-2013
KDB 291074 D02 EMC Measurement v01
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)(3)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(3)	Power Spectral Density	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -10.03 dB at 0.65000 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -1.9 dB at 50.43 MHz
15.407(b)(5) 15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.6 dB at 5650.00 MHz
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
6 dB Bandwidth	-	206.5 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	SPACEX, <i>SPACEX</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	Up to 3602.9 Mbps
Operating Frequency	5.815 GHz ~ 5.885 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):3 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):2 802.11ac (VHT80), 802.11ax (HE80):1 802.11ac (VHT160), 802.11ax (HE160):1
Output Power	EIRP: 1418.98 mW (31.52 dBm)
EUT Category	Indoor access point

Note:

1. 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

2. There are WLAN (2.4 GHz & 5 GHz& 5.9 GHz) technology used for the EUT.

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna NO.	RF Chain NO.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
0	0	2.07	2.4 GHz ~ 2.4835 GHz	PCB	ipex(MHF)
1	1	2.02	2.4 GHz ~ 2.4835 GHz	PCB	ipex(MHF)
0	0	3.13	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		3.25	5.725 GHz ~ 5.85 GHz	PCB	ipex(MHF)
		2.7	5.85 GHz ~ 5.895 GHz	PCB	ipex(MHF)
1	1	3.66	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		3.54	5.725 GHz ~ 5.85 GHz	PCB	ipex(MHF)
		3.08	5.85 GHz ~ 5.895 GHz	PCB	ipex(MHF)
2	2	1.08	5.15 GHz ~ 5.25 GHz	PCB	ipex(MHF)
		2.23	5.725 GHz ~ 5.85 GHz	PCB	ipex(MHF)
		2.86	5.85 GHz ~ 5.895 GHz	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:

- All of modulation mode support beamforming function except 802.11a modulation mode.
- The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz). Therefore the investigated worst case is the representative mode in test report.

3.3 Channel List

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

Channel	Frequency	Channel	Frequency	Channel	Frequency
*169	5845 MHz	173	5865 MHz	177	5885 MHz

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

Channel	Frequency	Channel	Frequency
*167	5835 MHz	175	5875 MHz

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

Channel	Frequency
*171	5855 MHz

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

Channel	Frequency
*163	5815 MHz

Note: * U-NII-3 & -4 span channels.

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
RF Output Power	802.11a	CDD	169, 173, 177	BPSK	6Mb/s
	802.11ax (HE20)	CDD & Beamforming	169, 173, 177	BPSK	MCS0
	802.11ax (HE40)	CDD & Beamforming	167, 175	BPSK	MCS0
	802.11ax (HE80)	CDD & Beamforming	171	BPSK	MCS0
	802.11ax (HE160)	CDD & Beamforming	163	BPSK	MCS0
Power Spectral Density	802.11a	CDD	169, 173, 177	BPSK	6Mb/s
	802.11ax (HE20)	CDD	169, 173, 177	BPSK	MCS0
	802.11ax (HE40)	CDD	167, 175	BPSK	MCS0
	802.11ax (HE80)	CDD	171	BPSK	MCS0
	802.11ax (HE160)	CDD	163	BPSK	MCS0
6 dB Bandwidth	802.11a	CDD	169, 173, 177	BPSK	6Mb/s
	802.11ax (HE20)	CDD	169, 173, 177	BPSK	MCS0
	802.11ax (HE40)	CDD	167, 175	BPSK	MCS0
	802.11ax (HE80)	CDD	171	BPSK	MCS0
	802.11ax (HE160)	CDD	163	BPSK	MCS0
AC Power Conducted Emissions	802.11ax (HE40)	CDD	167	BPSK	MCS0
Unwanted Emissions below 1 GHz	802.11ax (HE40)	CDD	167	BPSK	MCS0
Unwanted Emissions above 1 GHz	802.11a	CDD	169, 173, 177	BPSK	6Mb/s
	802.11ax (HE20)	CDD	169, 173, 177	BPSK	MCS0
	802.11ax (HE40)	CDD	167, 175	BPSK	MCS0
	802.11ax (HE80)	CDD	171	BPSK	MCS0
	802.11ax (HE160)	CDD	163	BPSK	MCS0

3.5 Duty Cycle of Test Signal

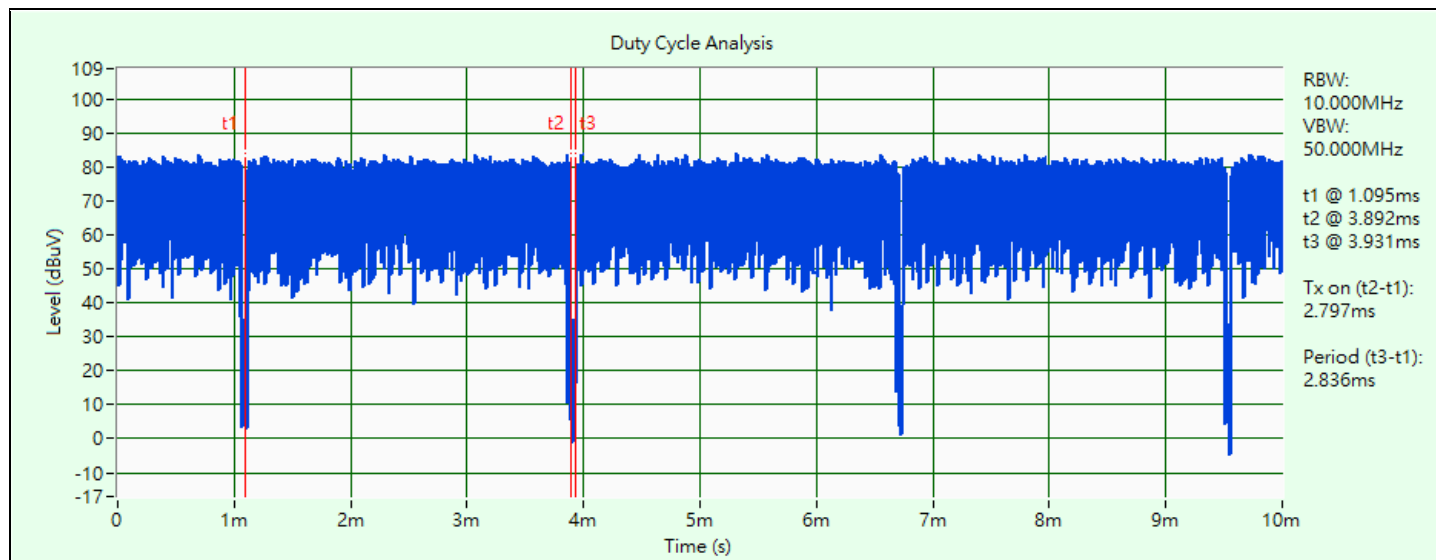
802.11a: Duty cycle = 2.797 ms / 2.836 ms x 100% = 98.6%

802.11ax (HE20): Duty cycle = 3.899 ms / 3.938 ms x 100% = 99.0%

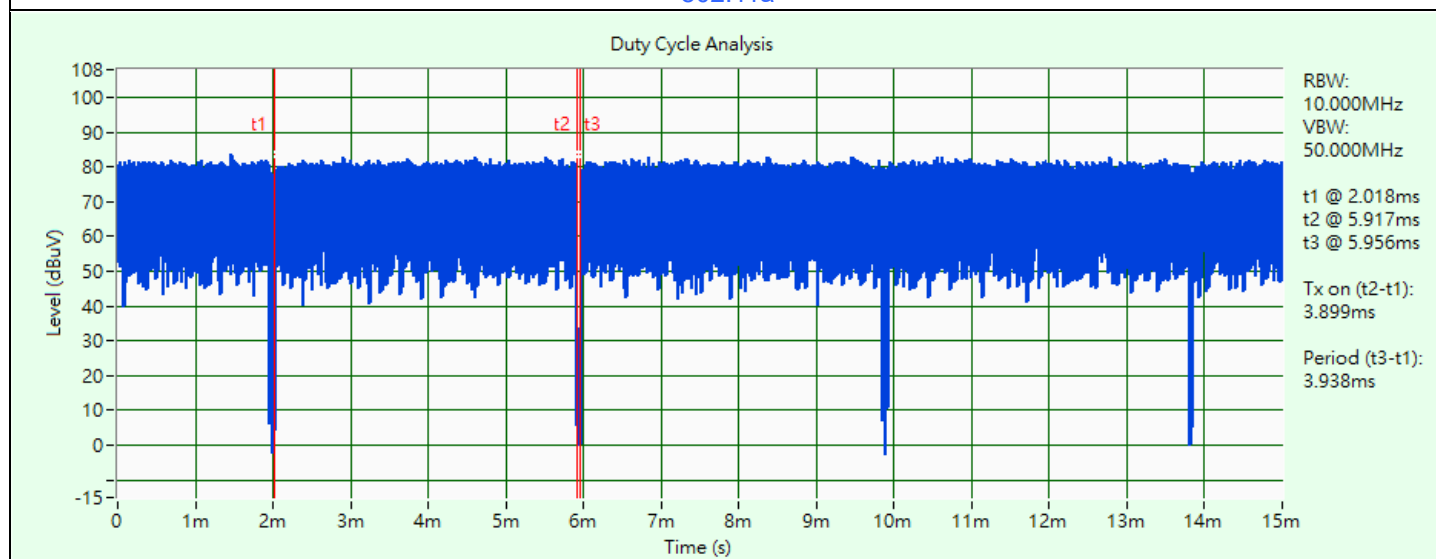
802.11ax (HE40): Duty cycle = 3.899 ms / 3.938 ms x 100% = 99.0%

802.11ax (HE80): Duty cycle = 3.704 ms / 3.745 ms x 100% = 98.9%

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

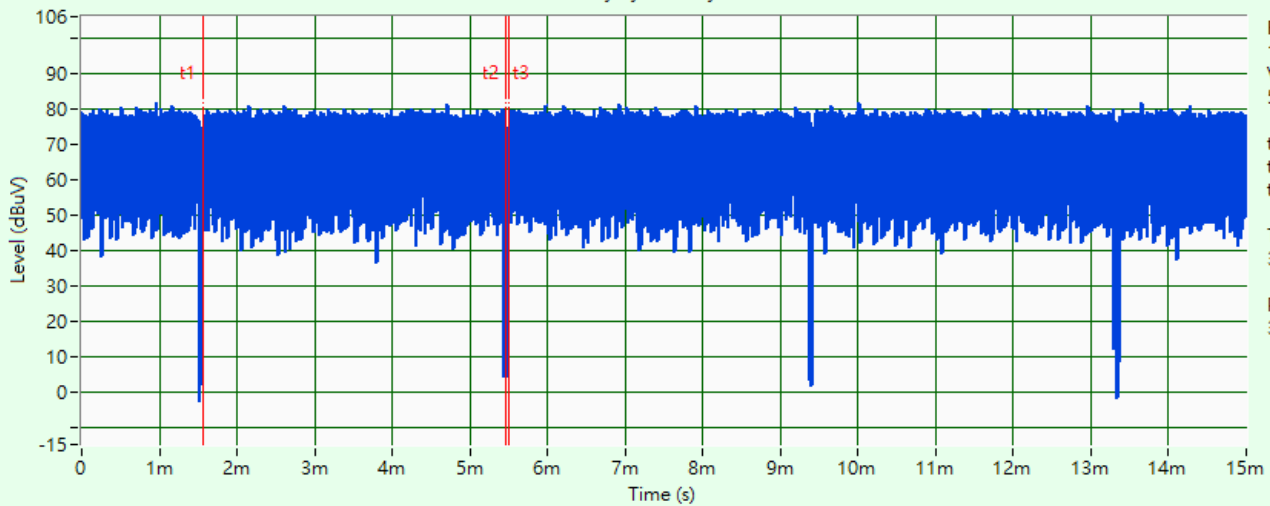


802.11a



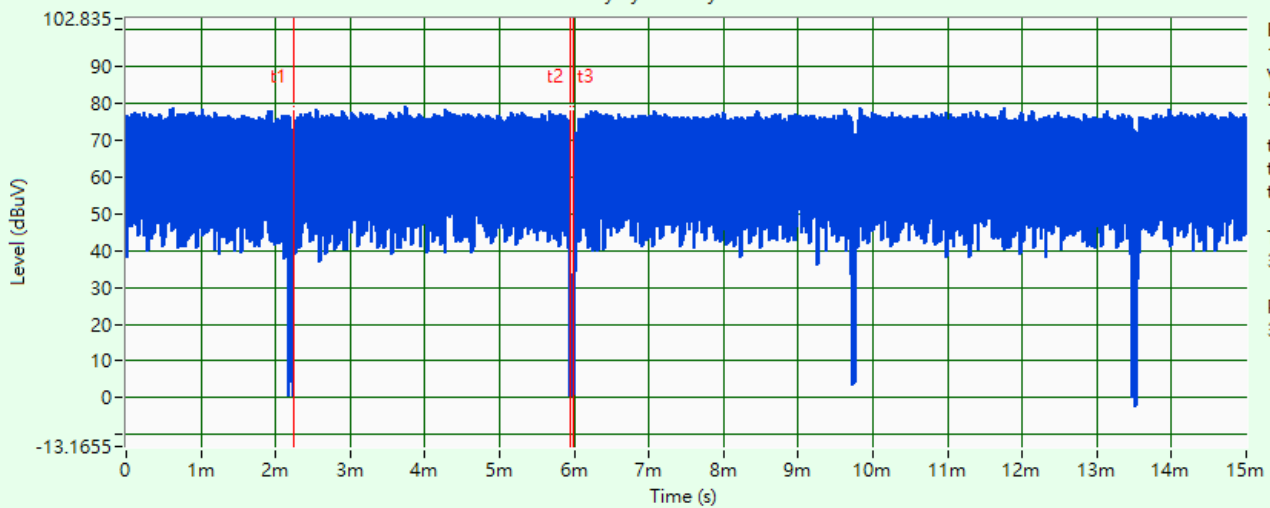
802.11ax (HE20)

Duty Cycle Analysis



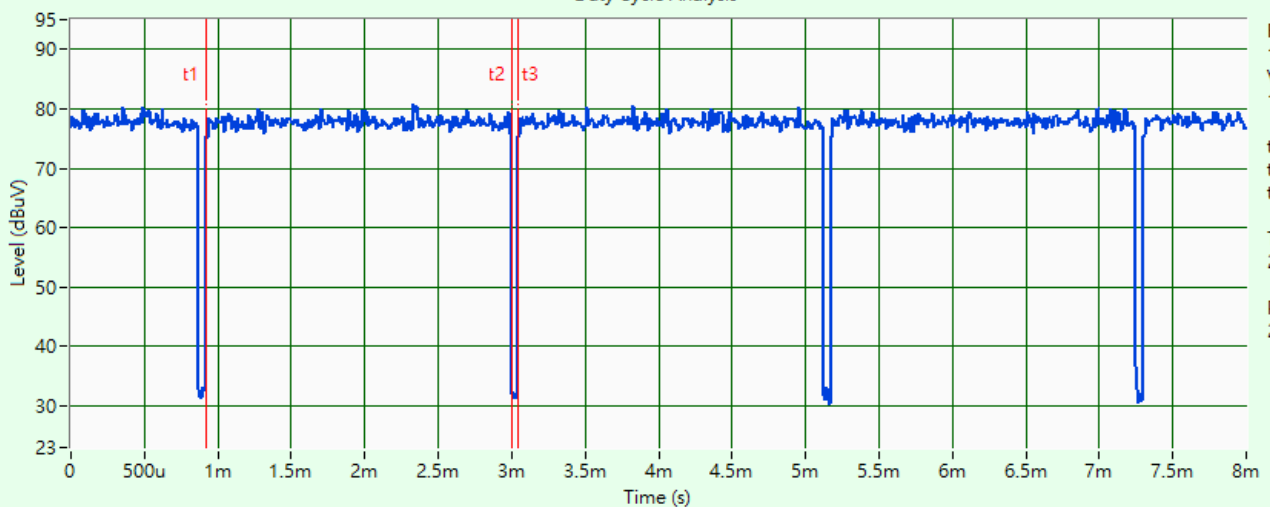
802.11ax (HE40)

Duty Cycle Analysis



802.11ax (HE80)

Duty Cycle Analysis

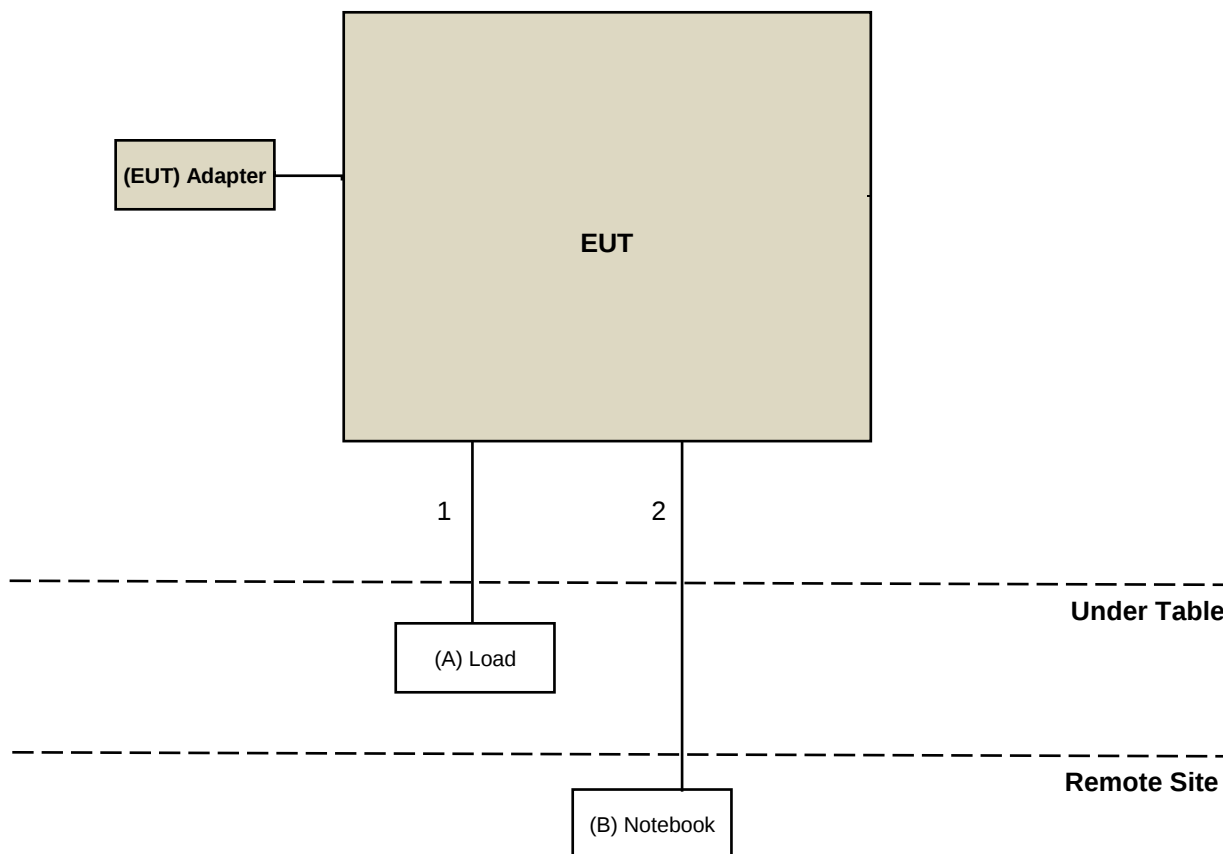


802.11ax (HE160)

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	R9-0GFJJK	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 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
Wideband Power Sensor Keysight	N1923A	MY58200003	2024/6/17	2025/6/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/3/14 ~ 2025/3/24

4.2 Power Spectral Density

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: 2025/3/14 ~ 2025/3/24

4.3 6 dB Bandwidth

Refer to section 4.2 to get the tested date and information of the instruments.

4.4 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_Cond_ 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

4.5 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

4.6 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: 2025/2/26 ~ 2025/3/15

5 Limits of Test Items

5.1 RF Output Power

Device Category	Limit (Max Average Power)
Indoor access point	EIRP 36 dBm
Subordinate device	EIRP 36 dBm
Client device	EIRP 30 dBm
Note: For all U-NII-4 and U-NII-3 & -4 span channels shall met above EIRP values.	

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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

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

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

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

5.2 Power Spectral Density

Device Category	Limit
Indoor access point	EIRP 20 dBm/MHz
Subordinate device	EIRP 20 dBm/MHz
Client device	EIRP 14 dBm/MHz
Note: For all U-NII-4 and U-NII-3 & -4 span channels shall met above EIRP values.	

5.3 6 dB Bandwidth

Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

5.4 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.

5.5 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).

5.6 Unwanted Emissions above 1 GHz

- (i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of -7 dBm/MHz at or above 5.925 GHz.
- (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz.
- (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

Note:

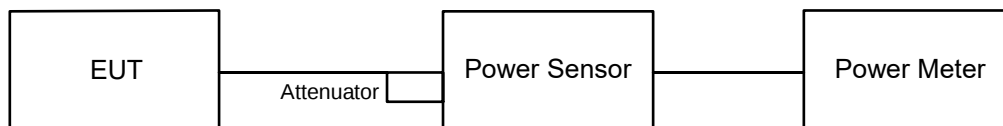
The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup

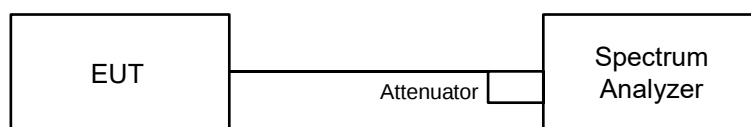


6.1.2 Test Procedure

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

6.2 Power Spectral Density

6.2.1 Test Setup



6.2.2 Test Procedure

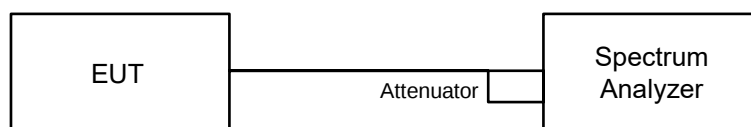
For specified measurement bandwidth 1 MHz:

Method SA-1

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

6.3 6 dB Bandwidth

6.3.1 Test Setup

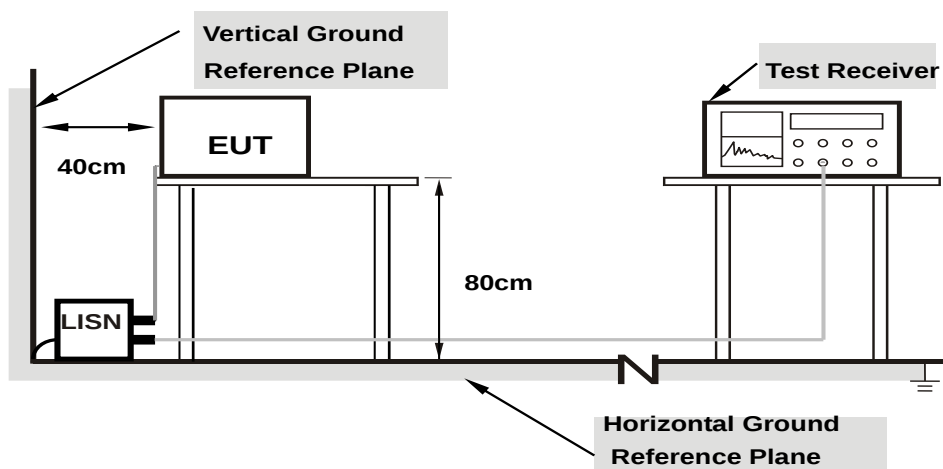


6.3.2 Test Procedure

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

6.4 AC Power Conducted Emissions

6.4.1 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).

6.4.2 Test Procedure

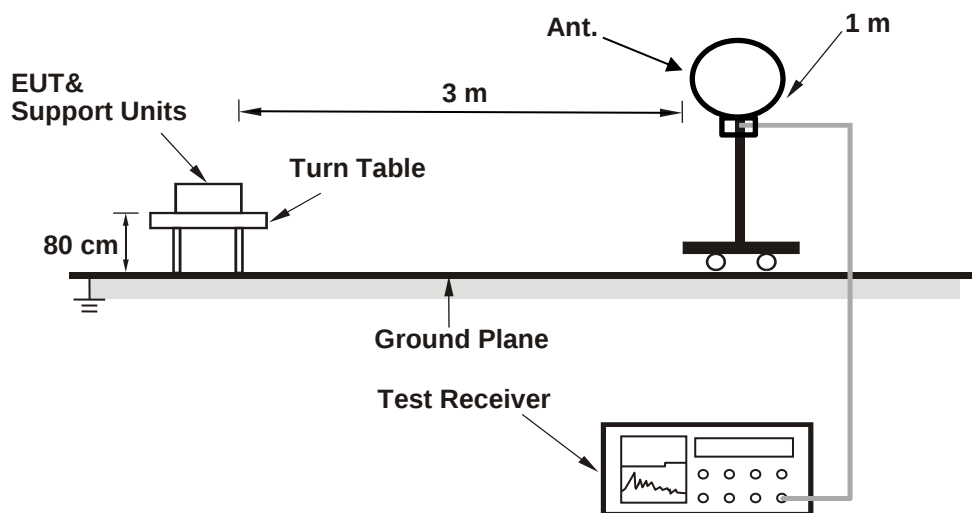
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

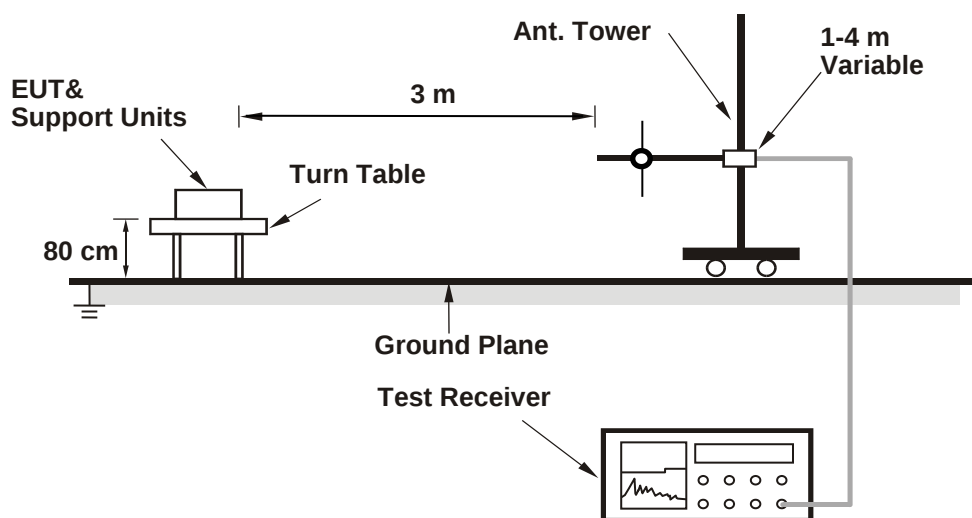
6.5 Unwanted Emissions below 1 GHz

6.5.1 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).

6.5.2 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

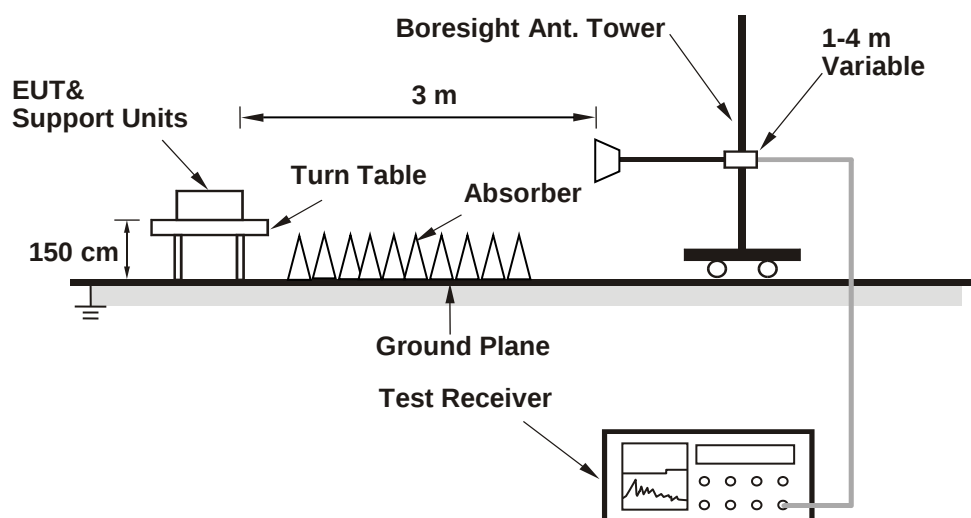
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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.
3. All modes of operation were investigated and the worst-case emissions are reported.

6.6 Unwanted Emissions above 1 GHz

6.6.1 Test Setup



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

6.6.2 Test Procedure

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

Notes:

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

7 Test Results of Test Item

7.1 RF Output Power

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

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
169	5845	22.48	22.19	22.04	502.544	27.01	3.54	1135.466	30.55	36	Pass
173	5865	22.50	22.17	22.11	505.199	27.03	3.08	1026.745	30.11	36	Pass
177	5885	22.45	22.26	22.05	504.384	27.03	3.08	1025.088	30.11	36	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, The maximum gain is 3.54 dBi.
3. For U-NII-4, The maximum gain is 3.08 dBi.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
169	5845	22.68	22.67	22.26	538.547	27.31	3.54	1216.812	30.85	36	Pass
173	5865	22.56	22.63	22.32	534.141	27.28	3.08	1085.565	30.36	36	Pass
177	5885	22.64	22.57	22.30	534.196	27.28	3.08	1085.677	30.36	36	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, The maximum gain is 3.54 dBi.
3. For U-NII-4, The maximum gain is 3.08 dBi.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
167	5835	23.26	23.33	23.03	628.024	27.98	3.54	1418.98	31.52	36	Pass
175	5875	23.11	23.15	22.92	607.067	27.83	3.08	1233.777	30.91	36	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, The maximum gain is 3.54 dBi.
3. For U-NII-4, The maximum gain is 3.08 dBi.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
171	5855	22.68	22.55	22.30	535.065	27.28	3.54	1208.945	30.82	36	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, The maximum gain is 3.54 dBi.
3. For U-NII-4, The maximum gain is 3.08 dBi.

802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Maximum Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
163	5815	15.95	16.26	15.69	118.69	20.74	3.54	268.172	24.28	36	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, The maximum gain is 3.54 dBi.
3. For U-NII-4, The maximum gain is 3.08 dBi.

802.11ax (HE20) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
169	5845	19.67	19.66	19.27	269.681	24.31	6.52	1210.181	30.83	36	Pass
173	5865	19.08	19.15	18.85	239.87	23.80	6.36	1037.471	30.16	36	Pass
177	5885	19.18	19.09	19.00	243.323	23.86	6.36	1052.406	30.22	36	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3 & -4 span channel, The directional gain is 6.52 dBi.
3. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE40) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
167	5835	20.27	20.32	20.04	314.986	24.98	6.52	1413.485	31.5	36	Pass
175	5875	19.65	19.69	19.46	273.676	24.37	6.36	1183.687	30.73	36	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3 & -4 span channel, The directional gain is 6.52 dBi.
3. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE80) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
171	5855	19.67	19.54	19.30	267.747	24.28	6.52	1201.502	30.8	36	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3 & -4 span channel, The directional gain is 6.52 dBi.
3. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE160) Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Directional Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2							
163	5815	12.95	13.28	12.52	58.87	17.70	6.52	264.176	24.22	36	Pass

Notes:

1. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
2. For U-NII-3 & -4 span channel, The directional gain is 6.52 dBi.
3. For U-NII-4, The directional gain is 6.36 dBi.

7.2 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)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2					
169	5845	8.41	8.57	7.97	13.10	6.52	19.62	20	Pass
173	5865	8.54	8.46	8.06	13.13	6.36	19.49	20	Pass
177	5885	8.72	8.58	8.21	13.28	6.36	19.64	20	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-3 & -4 span channel, The directional gain is 6.52 dBi.
4. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2					
169	5845	8.54	8.57	8.27	13.23	6.52	19.75	20	Pass
173	5865	8.49	8.67	8.35	13.28	6.36	19.64	20	Pass
177	5885	8.40	8.34	8.31	13.12	6.36	19.48	20	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-3 & -4 span channel, The directional gain is 6.52 dBi.
4. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2					
167	5835	6.31	6.41	6.16	11.07	6.52	17.59	20	Pass
175	5875	6.25	6.29	6.02	10.96	6.36	17.32	20	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-3 & -4 span channel, The directional gain is 6.52 dBi.
4. For U-NII-4, The directional gain is 6.36 dBi.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2					
171	5855	2.77	2.59	2.45	7.38	6.52	13.9	20	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-3 & -4 span channel, The directional gain is 6.52 dBi.
4. For U-NII-4, The directional gain is 6.36 dBi.

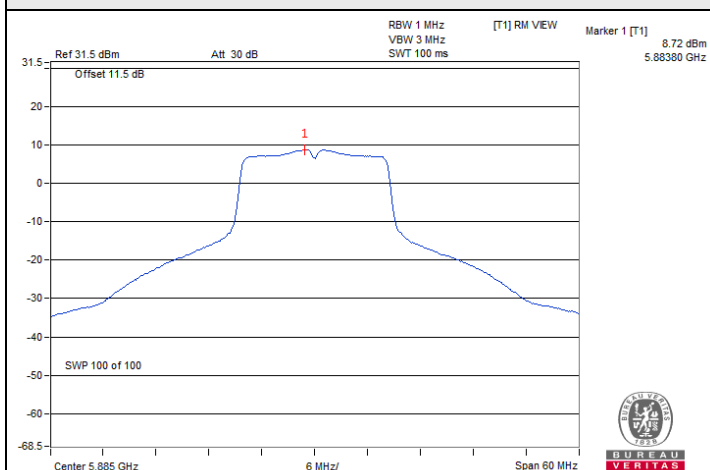
802.11ax (HE160)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total PSD (dBm/MHz)	Directional Gain (dBi)	EIRP PSD (dBm/MHz)	EIRP PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2					
163	5815	-7.50	-7.11	-7.85	-2.70	6.52	3.82	20	Pass

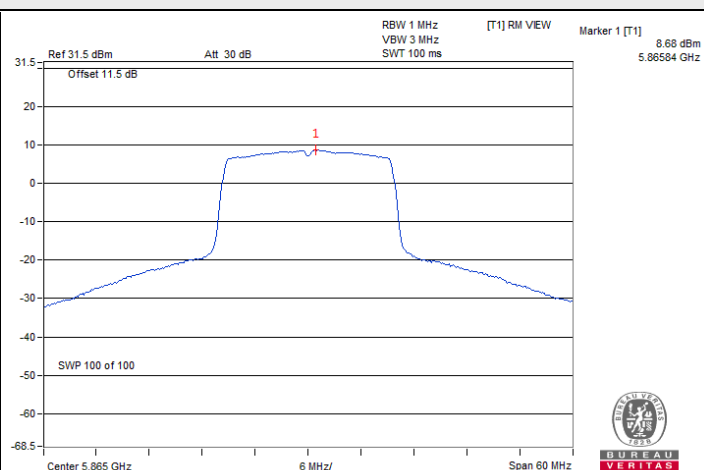
Notes:

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-3 & -4 span channel, The directional gain is 6.52 dBi.
4. For U-NII-4, The directional gain is 6.36 dBi.

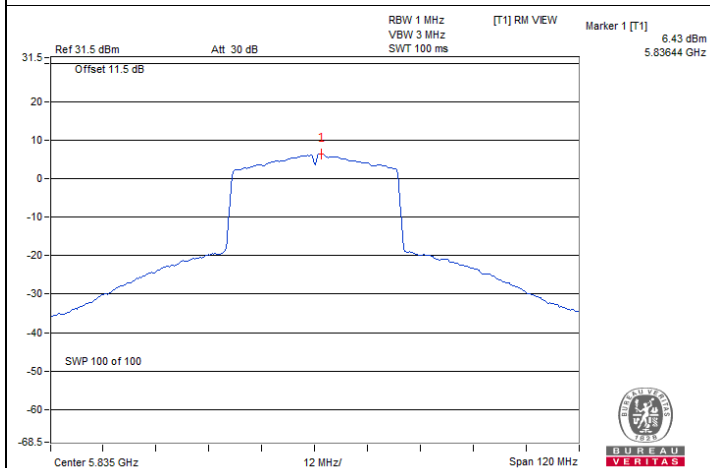
Spectrum Plot of Maximum Value



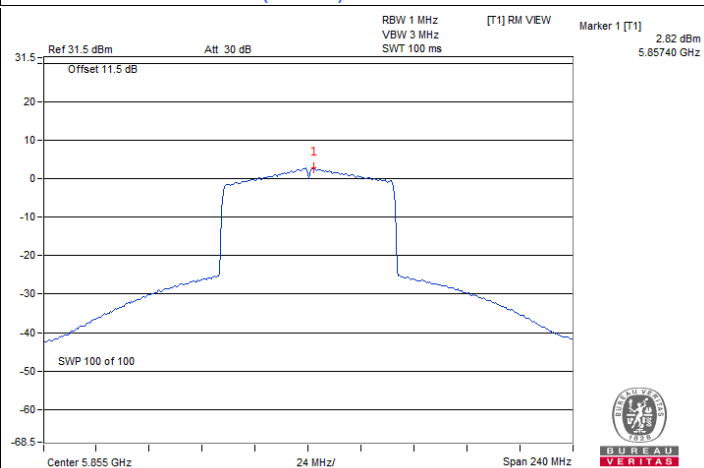
802.11a / Chain 0 : CH 177



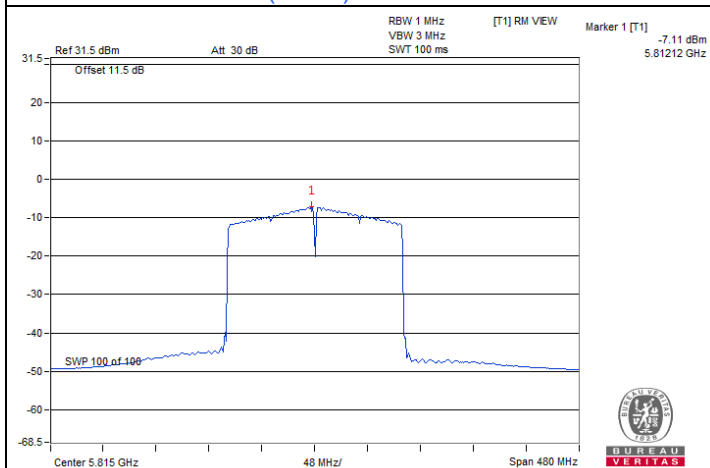
802.11ax (HE20) / Chain 1 : CH 173



802.11ax (HE40) / Chain 1 : CH 167



802.11ax (HE80) / Chain 0 : CH 171



802.11ax (HE160) / Chain 1 : CH 163

7.3 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)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
169	5845	16.35	16.37	16.38	0.5	Pass
173	5865	16.36	16.36	16.38	0.5	Pass
177	5885	16.30	16.33	16.34	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
169	5845	18.97	18.95	18.85	0.5	Pass
173	5865	18.89	18.95	18.86	0.5	Pass
177	5885	18.66	18.77	18.80	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
167	5835	35.32	37.32	35.17	0.5	Pass
175	5875	35.29	36.51	35.71	0.5	Pass

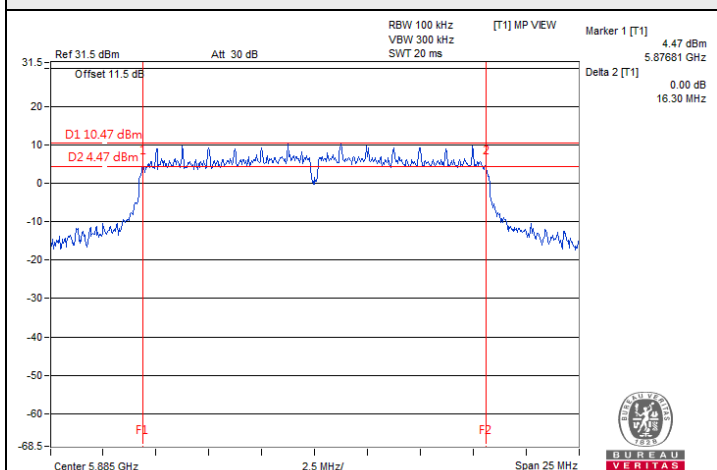
802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
171	5855	74.11	75.91	72.07	0.5	Pass

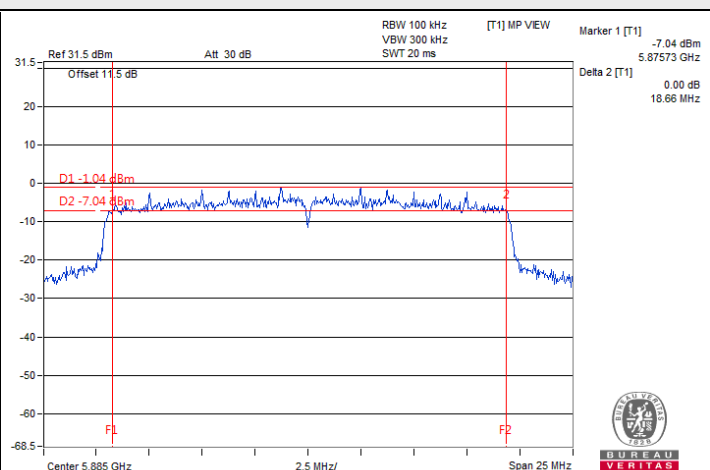
802.11ax (HE160)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1	Chain 2		
163	5815	146.74	151.95	124.72	0.5	Pass

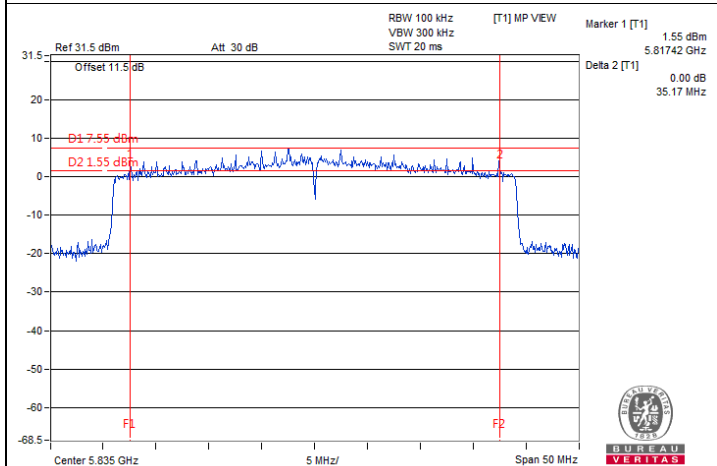
Spectrum Plot of Minimum Value



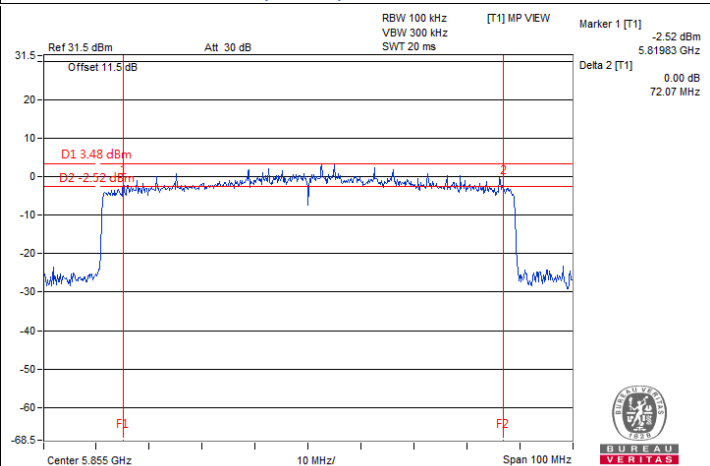
802.11a / Chain 0 : CH 177



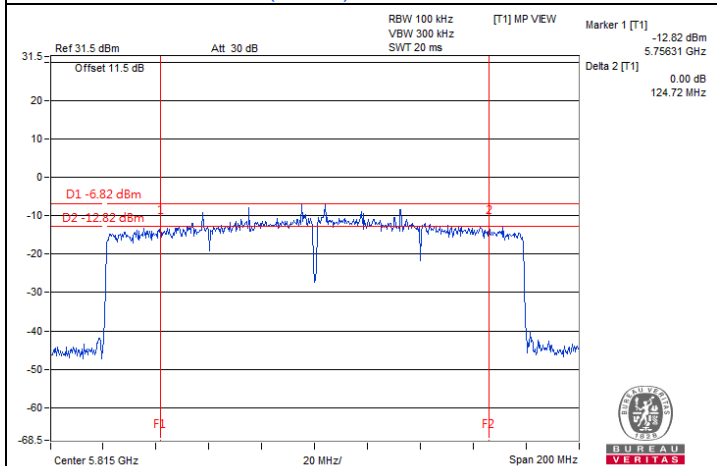
802.11ax (HE20) / Chain 0 : CH 177



802.11ax (HE40) / Chain 2 : CH 167



802.11ax (HE80) / Chain 2 : CH 171



802.11ax (HE160) / Chain 2 : CH 163

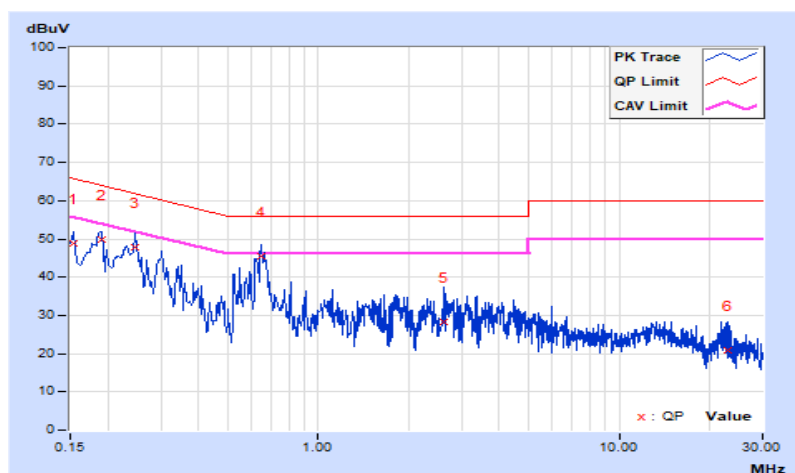
7.4 AC Power Conducted Emissions

RF Mode	802.11ax (HE40)	Channel	CH 167 : 5835 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	0.15400	9.76	38.97	22.58	48.73	32.34	65.78	55.78	-17.05	-23.44
2	0.19000	9.76	40.07	31.30	49.83	41.06	64.04	54.04	-14.21	-12.98
3	0.24600	9.79	38.13	26.82	47.92	36.61	61.89	51.89	-13.97	-15.28
4	0.65000	9.92	35.47	26.05	45.39	35.97	56.00	46.00	-10.61	-10.03
5	2.61800	10.09	18.27	9.48	28.36	19.57	56.00	46.00	-27.64	-26.43
6	23.09000	10.87	9.91	5.04	20.78	15.91	60.00	50.00	-39.22	-34.09

Remarks:

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

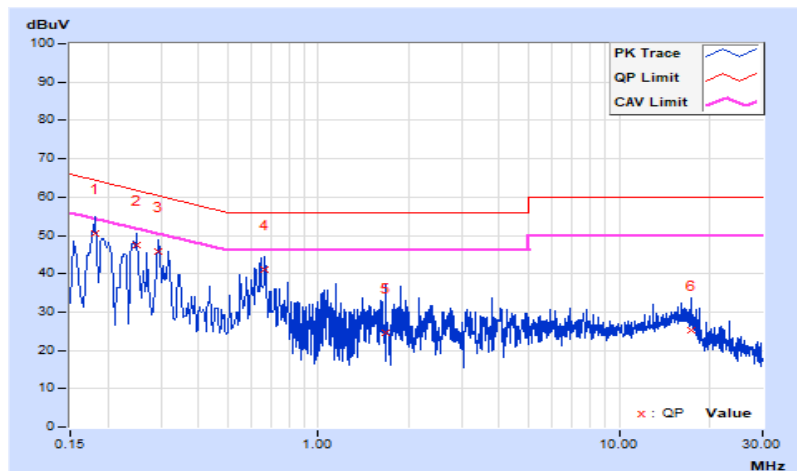


RF Mode	802.11ax (HE40)	Channel	CH 167 : 5835 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75 % RH
Tested By	Charles Hsiao		

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	0.18200	9.72	40.88	31.77	50.60	41.49	64.39	54.39	-13.79	-12.90
2	0.25000	9.78	37.56	25.81	47.34	35.59	61.76	51.76	-14.42	-16.17
3	0.29400	9.81	35.94	25.46	45.75	35.27	60.41	50.41	-14.66	-15.14
4	0.66600	9.96	31.16	21.76	41.12	31.72	56.00	46.00	-14.88	-14.28
5	1.68200	10.12	14.51	7.66	24.63	17.78	56.00	46.00	-31.37	-28.22
6	17.41800	10.88	14.34	8.88	25.22	19.76	60.00	50.00	-34.78	-30.24

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



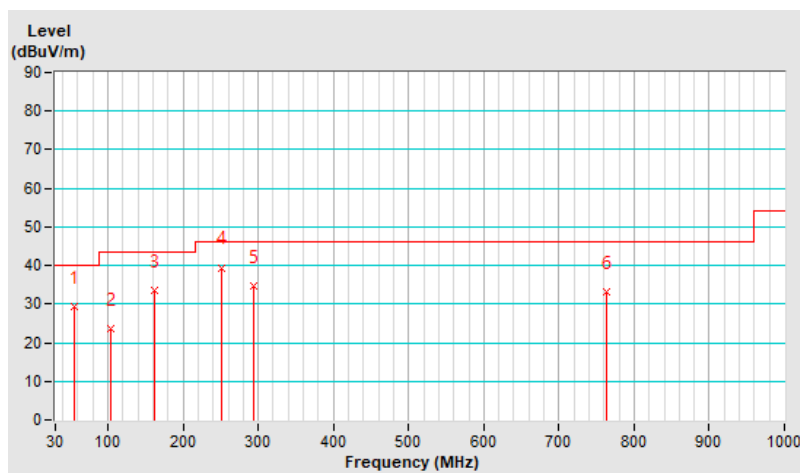
7.5 Unwanted Emissions below 1 GHz

RF Mode	802.11ax (HE40)	Channel	CH 167 : 5835 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	55.83	29.3 QP	40.0	-10.7	1.81 H	150	42.6	-13.3
2	103.62	23.5 QP	43.5	-20.0	1.42 H	105	40.3	-16.8
3	162.46	33.5 QP	43.5	-10.0	1.31 H	146	46.2	-12.7
4	251.26	39.5 QP	46.0	-6.5	1.88 H	94	53.4	-13.9
5	293.61	34.8 QP	46.0	-11.2	2.31 H	105	47.2	-12.4
6	764.16	33.0 QP	46.0	-13.0	1.05 H	81	34.6	-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.

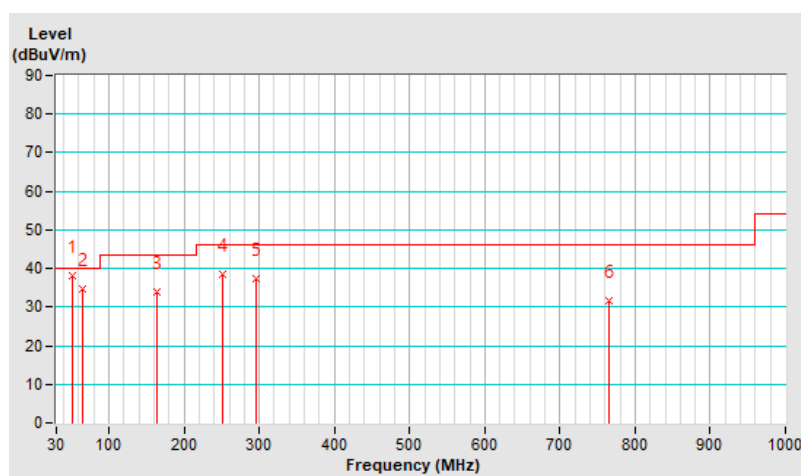


RF Mode	802.11ax (HE40)	Channel	CH 167 : 5835 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67 % RH
Tested By	Karl Lee		

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	50.43	38.1 QP	40.0	-1.9	1.00 V	186	51.1	-13.0
2	64.75	34.7 QP	40.0	-5.3	1.00 V	196	49.3	-14.6
3	163.62	33.9 QP	43.5	-9.6	1.88 V	63	46.7	-12.8
4	250.26	38.7 QP	46.0	-7.3	2.01 V	164	52.6	-13.9
5	296.16	37.2 QP	46.0	-8.8	2.26 V	8	49.5	-12.3
6	765.17	31.8 QP	46.0	-14.2	1.52 V	208	33.4	-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.



7.6 Unwanted Emissions above 1 GHz

RF Mode	802.11a	Channel	CH 169 : 5845 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	#5650.00	58.6 PK	68.2	-9.6	1.00 H	21	55.0	3.6
2	*5845.00	116.3 PK			1.00 H	21	74.5	41.8
3	*5845.00	105.5 AV			1.00 H	21	63.7	41.8
4	#5925.00	64.2 PK	88.2	-24.0	1.00 H	21	60.0	4.2
5	11690.00	58.2 PK	74.0	-15.8	1.54 H	1	48.5	9.7
6	11690.00	44.1 AV	54.0	-9.9	1.54 H	1	34.4	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	#5609.85	60.4 PK	68.2	-7.8	1.03 V	91	57.0	3.4
2	*5845.00	125.0 PK			1.03 V	91	83.2	41.8
3	*5845.00	113.2 AV			1.03 V	91	71.4	41.8
4	#5925.00	71.6 PK	88.2	-16.6	1.03 V	91	67.4	4.2
5	11690.00	59.1 PK	74.0	-14.9	1.51 V	173	49.4	9.7
6	11690.00	45.0 AV	54.0	-9.0	1.51 V	173	35.3	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 173 : 5865 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	#5650.00	58.7 PK	68.2	-9.5	1.00 H	21	55.1	3.6
2	*5865.00	117.2 PK			1.00 H	21	75.5	41.7
3	*5865.00	107.2 AV			1.00 H	21	65.5	41.7
4	#5925.00	65.0 PK	88.2	-23.2	1.00 H	21	60.8	4.2
5	11730.00	57.2 PK	74.0	-16.8	1.45 H	329	47.5	9.7
6	11730.00	44.5 AV	54.0	-9.5	1.45 H	329	34.8	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	#5650.00	60.0 PK	68.2	-8.2	1.03 V	68	56.4	3.6
2	*5865.00	125.8 PK			1.03 V	68	84.1	41.7
3	*5865.00	114.1 AV			1.03 V	68	72.4	41.7
4	#5925.00	77.6 PK	88.2	-10.6	1.03 V	68	73.4	4.2
5	11730.00	58.8 PK	74.0	-15.2	1.53 V	175	49.1	9.7
6	11730.00	44.8 AV	54.0	-9.2	1.53 V	175	35.1	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 177 : 5885 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	#5650.00	59.2 PK	68.2	-9.0	1.00 H	21	55.6	3.6
2	*5885.00	116.7 PK			1.00 H	21	75.0	41.7
3	*5885.00	106.9 AV			1.00 H	21	65.2	41.7
4	#5895.00	101.0 PK	110.2	-9.2	1.00 H	21	97.0	4.0
5	#5925.00	77.2 PK	88.2	-11.0	1.00 H	21	73.0	4.2
6	11770.00	57.4 PK	74.0	-16.6	1.45 H	118	47.7	9.7
7	11770.00	44.5 AV	54.0	-9.5	1.45 H	118	34.8	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	#5650.00	60.3 PK	68.2	-7.9	1.03 V	122	56.7	3.6
2	*5885.00	125.9 PK			1.03 V	122	84.2	41.7
3	*5885.00	113.4 AV			1.03 V	122	71.7	41.7
4	#5895.00	108.8 PK	110.2	-1.4	1.03 V	122	104.8	4.0
5	#5925.00	84.1 PK	88.2	-4.1	1.03 V	122	79.9	4.2
6	11770.00	58.4 PK	74.0	-15.6	1.44 V	172	48.7	9.7
7	11770.00	44.6 AV	54.0	-9.4	1.44 V	172	34.9	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 169 : 5845 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	#5650.00	58.7 PK	68.2	-9.5	1.00 H	21	55.1	3.6
2	*5845.00	118.4 PK			1.00 H	21	76.6	41.8
3	*5845.00	105.6 AV			1.00 H	21	63.8	41.8
4	#5925.00	64.1 PK	88.2	-24.1	1.00 H	21	59.9	4.2
5	11690.00	57.1 PK	74.0	-16.9	1.42 H	229	47.4	9.7
6	11690.00	44.2 AV	54.0	-9.8	1.42 H	229	34.5	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	#5613.65	60.9 PK	68.2	-7.3	1.03 V	91	57.5	3.4
2	*5845.00	128.3 PK			1.03 V	91	86.5	41.8
3	*5845.00	114.5 AV			1.03 V	91	72.7	41.8
4	#5929.52	70.8 PK	88.2	-17.4	1.03 V	91	66.6	4.2
5	11690.00	58.8 PK	74.0	-15.2	1.51 V	173	49.1	9.7
6	11690.00	44.5 AV	54.0	-9.5	1.51 V	173	34.8	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 173 : 5865 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	#5650.00	59.0 PK	68.2	-9.2	1.00 H	20	55.4	3.6
2	*5865.00	118.5 PK			1.00 H	20	76.8	41.7
3	*5865.00	105.7 AV			1.00 H	20	64.0	41.7
4	#5925.00	72.2 PK	88.2	-16.0	1.00 H	20	68.0	4.2
5	11730.00	57.6 PK	74.0	-16.4	1.75 H	119	47.9	9.7
6	11730.00	44.0 AV	54.0	-10.0	1.75 H	119	34.3	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	#5650.00	61.0 PK	68.2	-7.2	1.03 V	68	57.4	3.6
2	*5865.00	128.6 PK			1.03 V	68	86.9	41.7
3	*5865.00	114.9 AV			1.03 V	68	73.2	41.7
4	#5925.00	75.8 PK	88.2	-12.4	1.03 V	68	71.6	4.2
5	11730.00	58.2 PK	74.0	-15.8	1.53 V	175	48.5	9.7
6	11730.00	44.1 AV	54.0	-9.9	1.53 V	175	34.4	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 177 : 5885 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	#5650.00	58.7 PK	68.2	-9.5	1.00 H	21	55.1	3.6
2	*5885.00	117.4 PK			1.00 H	21	75.7	41.7
3	*5885.00	105.2 AV			1.00 H	21	63.5	41.7
4	#5895.00	108.1 PK	130.2	-22.1	1.00 H	21	104.1	4.0
5	#5895.00	92.3 AV	110.2	-17.9	1.00 H	21	88.3	4.0
6	#5925.00	76.4 PK	108.2	-31.8	1.00 H	21	72.2	4.2
7	#5925.00	59.0 AV	88.2	-29.2	1.00 H	21	54.8	4.2
8	11710.00	57.3 PK	74.0	-16.7	1.57 H	229	47.7	9.6
9	11710.00	44.2 AV	54.0	-9.8	1.57 H	229	34.6	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	#5650.00	60.1 PK	68.2	-8.1	1.03 V	272	56.5	3.6
2	*5885.00	127.1 PK			1.03 V	272	85.4	41.7
3	*5885.00	113.2 AV			1.03 V	272	71.5	41.7
4	#5925.00	81.2 PK	108.2	-27.0	1.03 V	272	77.0	4.2
5	#5925.00	64.8 AV	88.2	-23.4	1.03 V	272	60.6	4.2
6	11710.00	58.9 PK	74.0	-15.1	1.39 V	204	49.3	9.6
7	11710.00	44.3 AV	54.0	-9.7	1.39 V	204	34.7	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 167 : 5835 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	#5650.00	58.6 PK	68.2	-9.6	1.00 H	21	55.0	3.6
2	*5835.00	115.8 PK			1.00 H	21	74.0	41.8
3	*5835.00	103.7 AV			1.00 H	21	61.9	41.8
4	#5925.00	70.1 PK	88.2	-18.1	1.00 H	21	65.9	4.2
5	11670.00	58.2 PK	74.0	-15.8	1.57 H	118	48.5	9.7
6	11670.00	43.9 AV	54.0	-10.1	1.57 H	118	34.2	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	#5650.00	61.8 PK	68.2	-6.4	1.03 V	70	58.2	3.6
2	*5835.00	125.3 PK			1.03 V	70	83.5	41.8
3	*5835.00	112.3 AV			1.03 V	70	70.5	41.8
4	#5925.00	77.2 PK	88.2	-11.0	1.03 V	70	73.0	4.2
5	11670.00	58.4 PK	74.0	-15.6	1.48 V	173	48.7	9.7
6	11670.00	44.0 AV	54.0	-10.0	1.48 V	173	34.3	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 (HE40)	Channel	CH 175 : 5875 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	#5650.00	58.2 PK	68.2	-10.0	1.00 H	21	54.6	3.6
2	*5875.00	115.2 PK			1.00 H	21	73.5	41.7
3	*5875.00	103.6 AV			1.00 H	21	61.9	41.7
4	#5895.00	95.1 PK	130.2	-35.1	1.00 H	21	91.1	4.0
5	#5895.00	77.9 AV	110.2	-32.3	1.00 H	21	73.9	4.0
6	#5925.00	79.0 PK	108.2	-29.2	1.00 H	21	74.8	4.2
7	#5925.00	65.9 AV	88.2	-22.3	1.00 H	21	61.7	4.2
8	11750.00	57.3 PK	74.0	-16.7	1.54 H	100	47.6	9.7
9	11750.00	44.2 AV	54.0	-9.8	1.54 H	100	34.5	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	#5650.00	60.7 PK	68.2	-7.5	1.03 V	122	57.1	3.6
2	*5875.00	124.8 PK			1.03 V	122	83.1	41.7
3	*5875.00	110.6 AV			1.03 V	122	68.9	41.7
4	#5925.00	91.3 PK	108.2	-16.9	1.03 V	122	87.1	4.2
5	#5925.00	73.2 AV	88.2	-15.0	1.03 V	122	69.0	4.2
6	11750.00	58.2 PK	74.0	-15.8	1.41 V	172	48.5	9.7
7	11750.00	44.5 AV	54.0	-9.5	1.41 V	172	34.8	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 (HE80)	Channel	CH 171 : 5855 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	#5650.00	59.3 PK	68.2	-8.9	1.00 H	21	55.7	3.6
2	*5855.00	112.0 PK			1.00 H	21	70.2	41.8
3	*5855.00	100.2 AV			1.00 H	21	58.4	41.8
4	#5895.00	89.4 PK	130.2	-40.8	1.00 H	21	85.4	4.0
5	#5895.00	71.3 AV	110.2	-38.9	1.00 H	21	67.3	4.0
6	#5925.00	82.5 PK	108.2	-25.7	1.00 H	21	78.3	4.2
7	#5925.00	68.0 AV	88.2	-20.2	1.00 H	21	63.8	4.2
8	11710.00	57.3 PK	74.0	-16.7	1.44 H	154	47.7	9.6
9	11710.00	44.0 AV	54.0	-10.0	1.44 H	154	34.4	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	#5650.00	67.6 PK	68.2	-0.6	1.03 V	70	64.0	3.6
2	*5855.00	122.9 PK			1.03 V	70	81.1	41.8
3	*5855.00	108.5 AV			1.03 V	70	66.7	41.8
4	#5895.00	104.1 PK	130.2	-26.1	1.03 V	70	100.1	4.0
5	#5895.00	89.7 AV	110.2	-20.5	1.03 V	70	85.7	4.0
6	#5925.00	91.6 PK	108.2	-16.6	1.03 V	70	87.4	4.2
7	#5925.00	77.1 AV	88.2	-11.1	1.03 V	70	72.9	4.2
8	11710.00	58.6 PK	74.0	-15.4	1.48 V	165	49.0	9.6
9	11710.00	44.2 AV	54.0	-9.8	1.48 V	165	34.6	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 (HE160)	Channel	CH 163 : 5815 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		

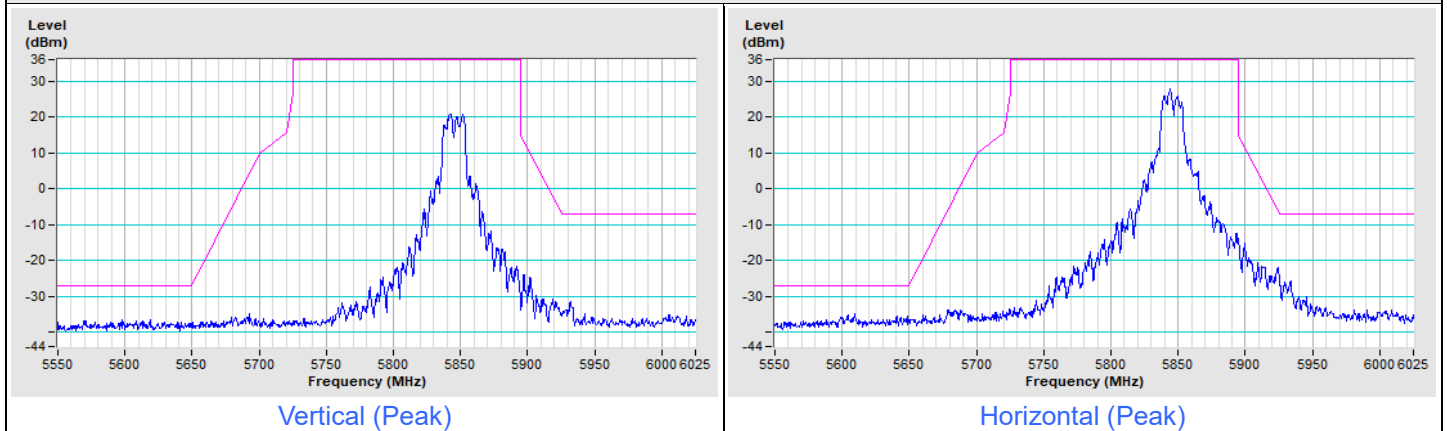
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	61.1 PK	68.2	-7.1	1.00 H	21	57.5	3.6
2	*5815.00	103.2 PK			1.00 H	21	61.4	41.8
3	*5815.00	91.2 AV			1.00 H	21	49.4	41.8
4	#5925.00	65.8 PK	88.2	-22.4	1.00 H	21	61.6	4.2
5	11630.00	57.3 PK	74.0	-16.7	1.44 H	157	47.5	9.8
6	11630.00	44.0 AV	54.0	-10.0	1.44 H	157	34.2	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	#5650.00	67.4 PK	68.2	-0.8	1.70 V	188	63.8	3.6
2	*5815.00	113.0 PK			1.70 V	188	71.2	41.8
3	*5815.00	99.2 AV			1.70 V	188	57.4	41.8
4	#5925.00	71.0 PK	88.2	-17.2	1.70 V	188	66.8	4.2
5	11630.00	58.6 PK	74.0	-15.4	1.43 V	257	48.8	9.8
6	11630.00	44.2 AV	54.0	-9.8	1.43 V	257	34.4	9.8

Remarks:

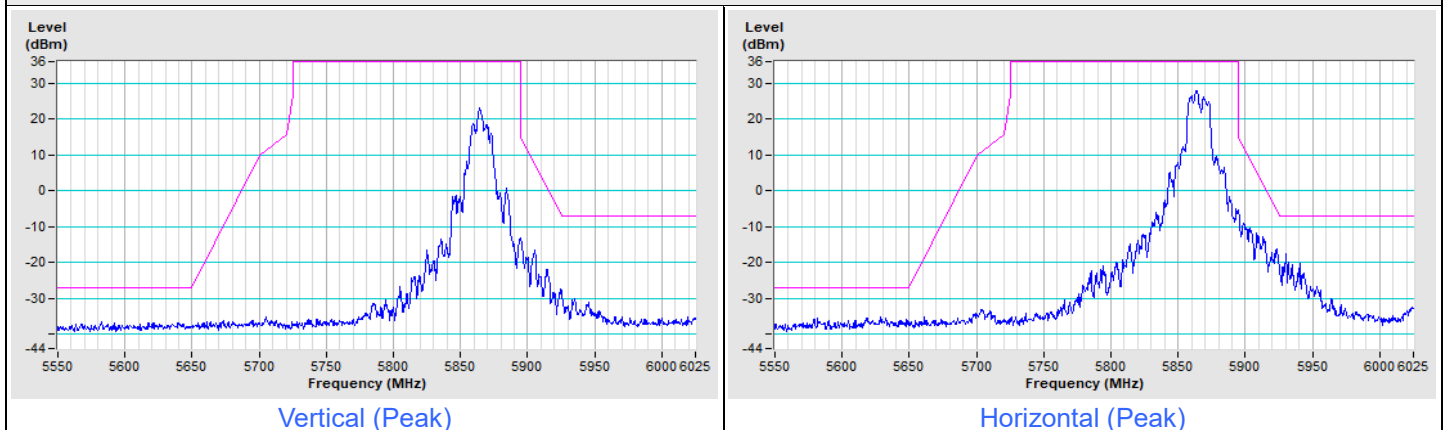
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency,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

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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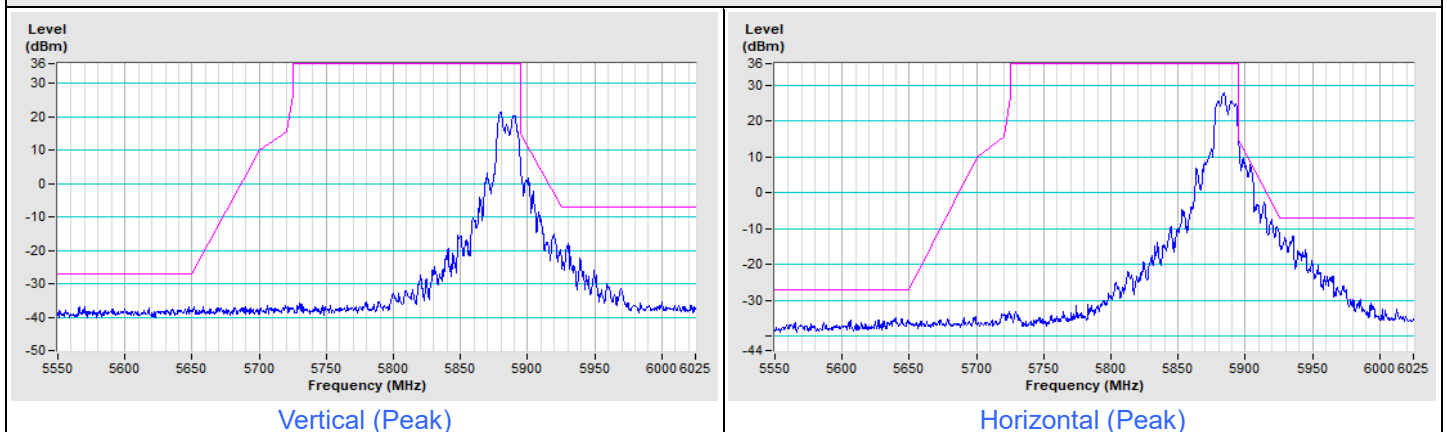
802.11a Channel 169



802.11a Channel 173

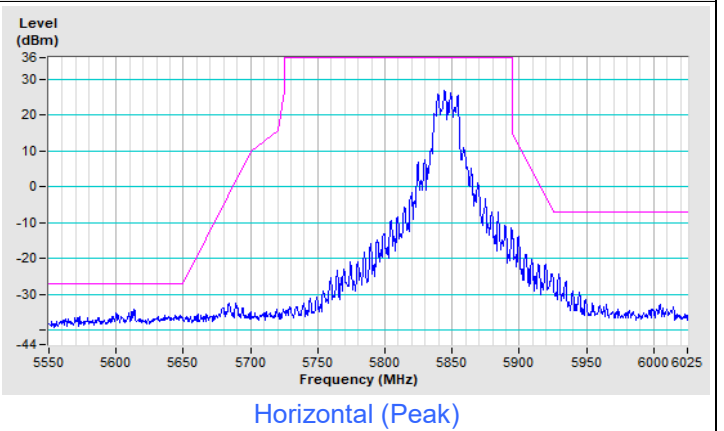
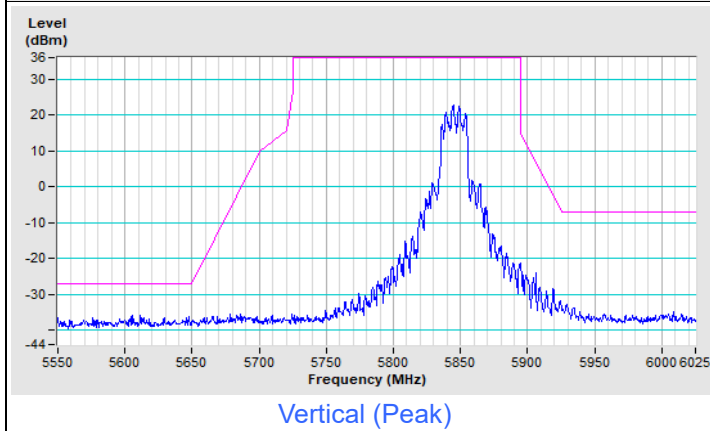


802.11a Channel 177

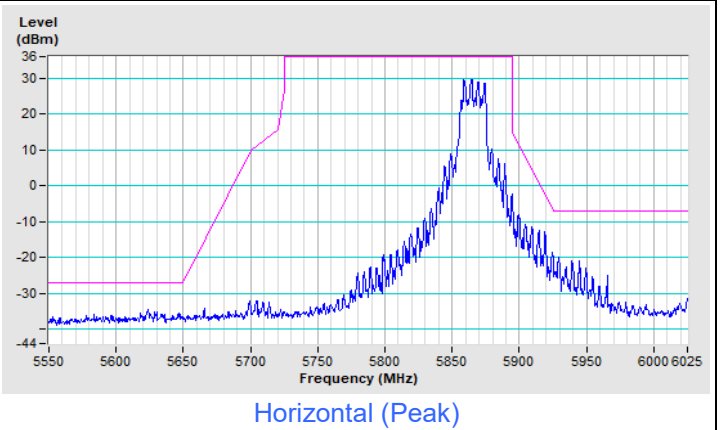
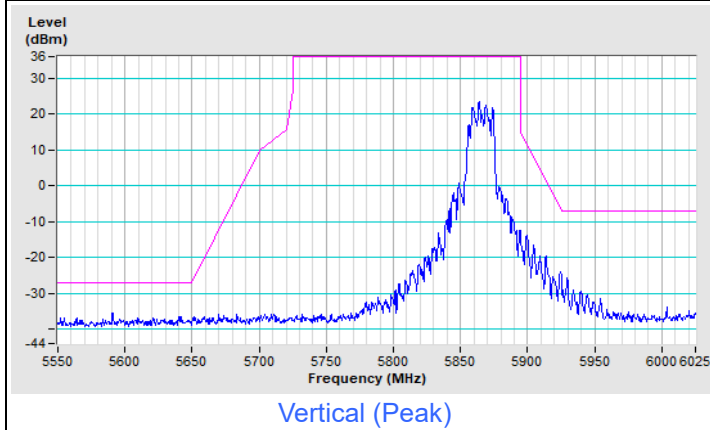


Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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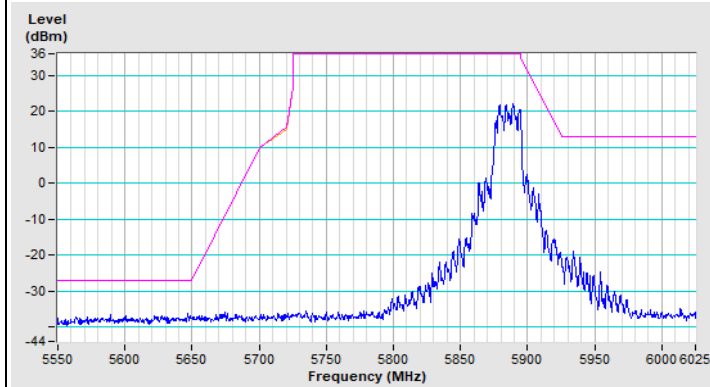
802.11ax (HE20) Channel 169



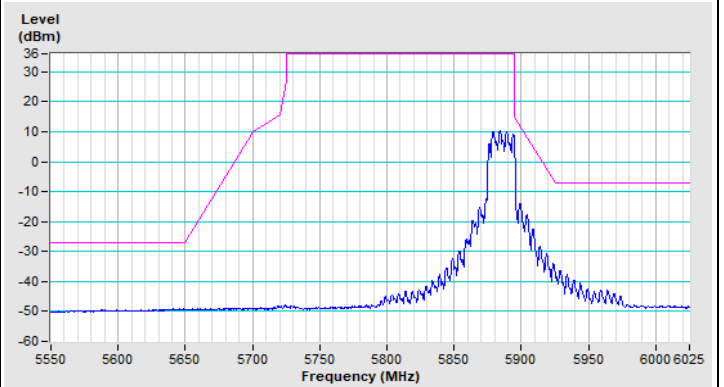
802.11ax (HE20) Channel 173



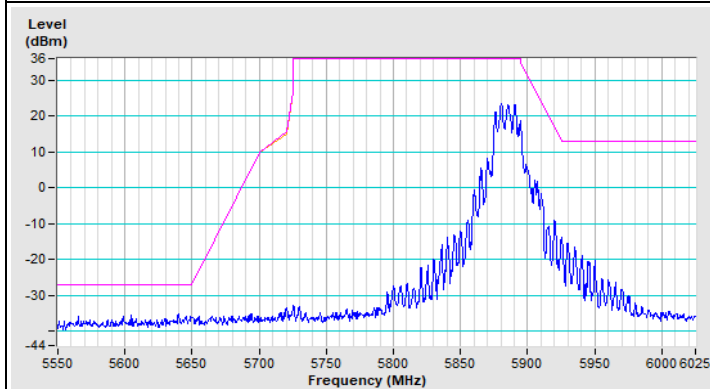
802.11ax (HE20) Channel 177



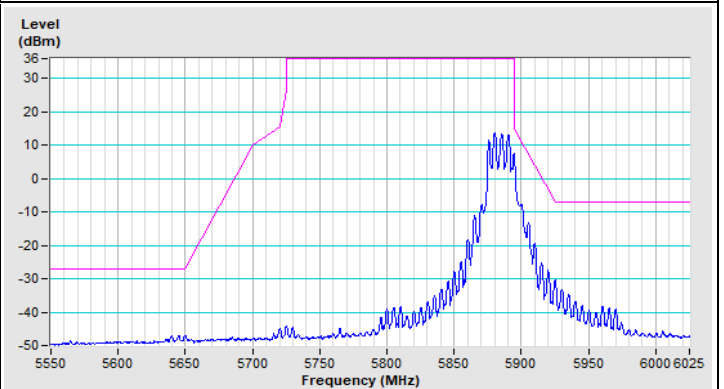
Vertical (Peak)



Vertical (Average)



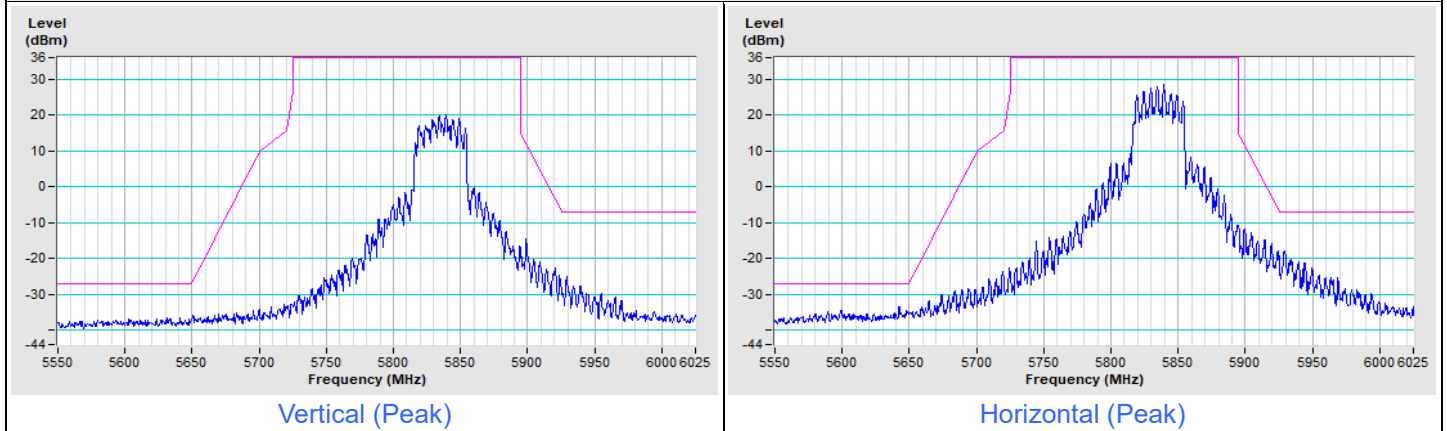
Horizontal (Peak)



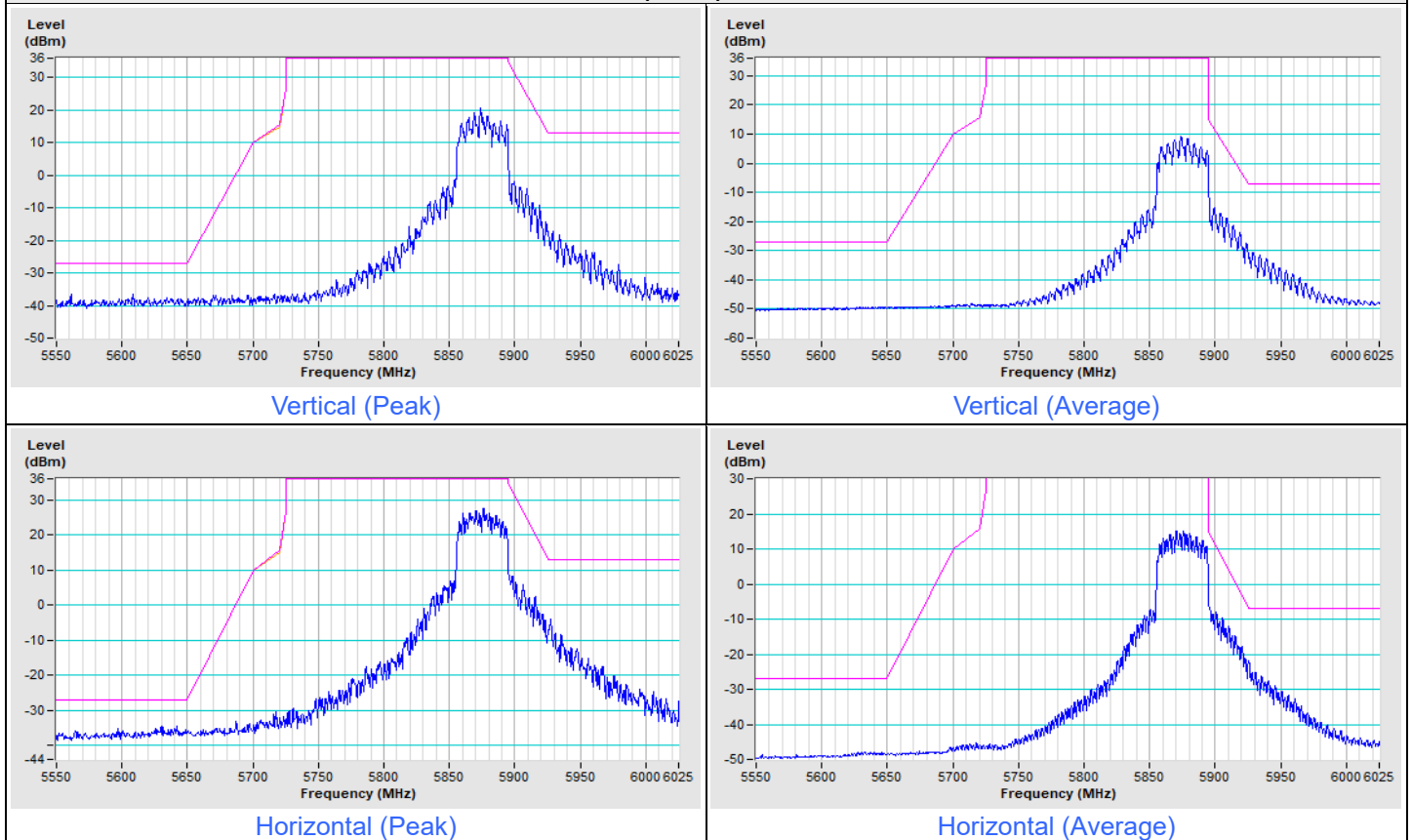
Horizontal (Average)

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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802.11ax (HE40) Channel 167

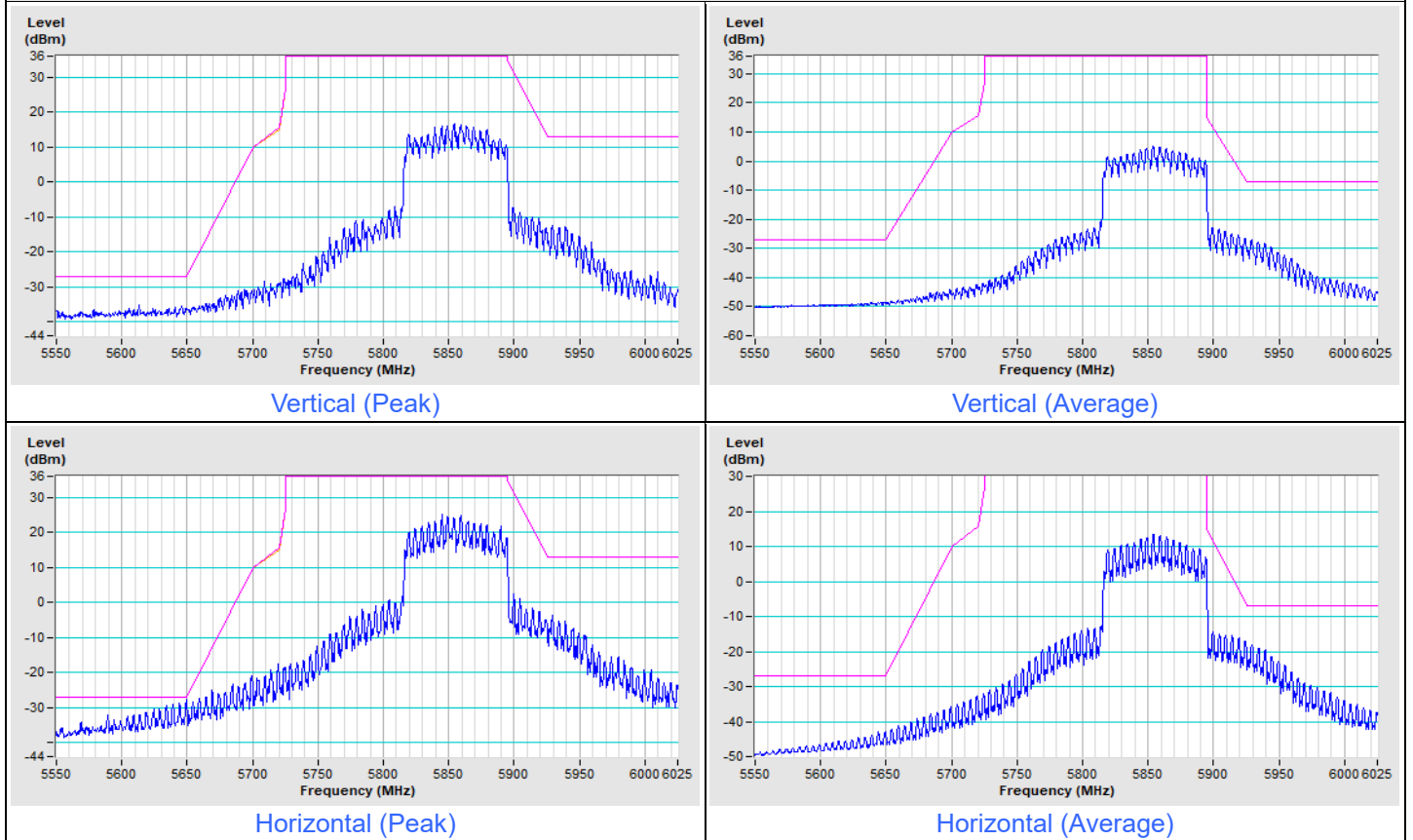


802.11ax (HE40) Channel 175



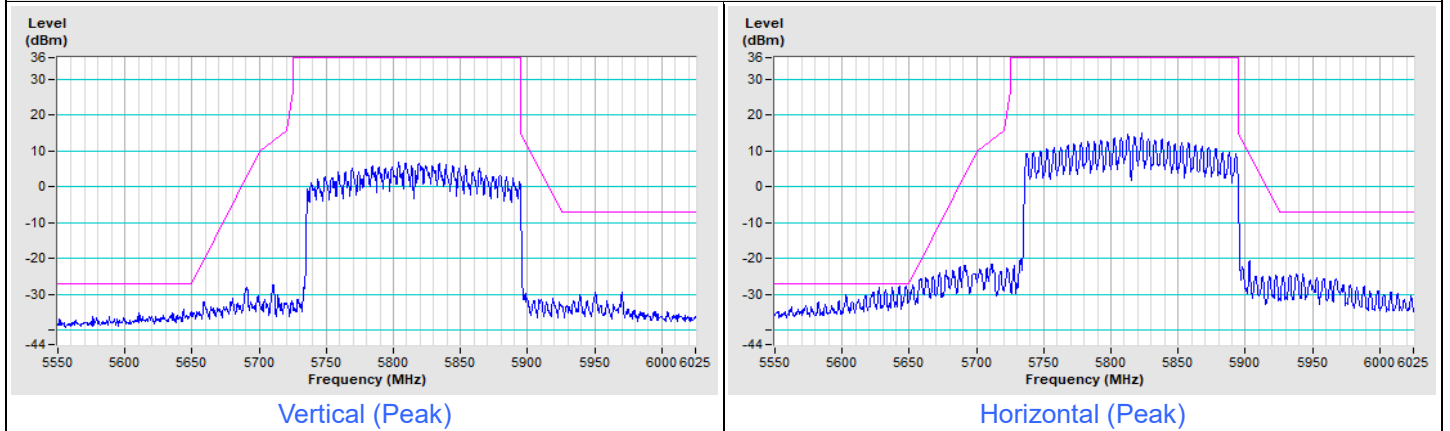
Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11ax (HE80) Channel 171



Frequency Range	5.55 GHz ~ 6.025 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 163



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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

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

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