

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBERD-WTW-P24010469-6

**FCC ID:** U4G-SGVWF

**Product:** Mobile Computer/Barcode reader

**Brand:** Datalogic

**Model No.:** SGVWF

**Received Date:** 2023/12/25

**Test Date:** 2024/2/25 ~ 2024/3/5

**Issued Date:** 2024/3/13

**Applicant:** Datalogic S.r.l.

**Address:** Via San Vitalino 13, 40012 Lippo di Calderara di Reno (BO) – Italy

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan

**FCC Registration /** 788550 / TW0003

**Designation Number:**

Approved by: \_\_\_\_\_

*Jeremy Lin*

, Date: \_\_\_\_\_

2024/3/13

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist

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## Release Control Record

Issue No.	Description	Date Issued
RFBERD-WTW-P24010469-6	Original release.	2024/3/13

## 1 Certificate

**Product:** Mobile Computer/Barcode reader

**Brand:** Datalogic

**Test Model:** SGVWF

**Sample Status:** Engineering sample

**Applicant:** Datalogic S.r.l.

**Test Date:** 2024/2/25 ~ 2024/3/5

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

**Measurement** ANSI C63.10-2013

**procedure:** 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 -9.42 dB at 0.66200 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -7.5 dB at 35.22 MHz
15.407(b)(5) 15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -2.1 dB at 5895.00 MHz
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

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	2.88 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.6 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 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	Mobile Computer/Barcode reader
Brand	Datalogic
Test Model	SGVWF
Host Marketing Name (HMN)	MEMOR 30/MEMOR 30X
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note as below
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 2401.9 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: 165.793 mW (22.20 dBm)
EUT Category	Client device
HW Version	DVT1
SW Version	0.11.000.20240131
P/N	Refer to Note as below
S/N	Refer to Note as below

Note:

- The EUT uses following accessories.

Scanner 1		
Brand	Model	
Datalogic	Argon	
Scanner 2		
Brand	Model	
Datalogic	Xenon	
BT/WLAN Module		
Brand	Model	
Qualcomm	WCN6856	
NFC chipset		
Brand	Model	
NXP	PN7161	
Battery		
Brand	Model	Specification
Datalogic	SGV-BY-140	Power Rating : 3.86V, 4565mAh, 17.6Wh
USB Cable		
Brand	Model	Specification
Datalogic	A9816360	Signal Line : USB3.0 Type A to Type C, 1.5M

- Sample's information is listed as below.

Sample	Scanner	S/N	P/N	BV Login No.
A	Argon	V24A00605	944850001	WTW240207/006Q22N03
B	Xenon	V24A00440	944850004	WTW240207/006Q22N15
C	Xenon	V24A00476	944850004	WTW240207/006Q22N01

- The EUT support OFDMA and Partial RU mode, therefore partial RU combination were investigated and the worst case scenario was identified.
- 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.	Gain (dBi)		Antenna Type	Connector Type
	5.725~5.85GHz	5.850~5.895GHz		
Ant 8	2.1	2	Coupling monopole	N/A
Ant 9	1.1	-0.2	Loop	IPEX

\*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	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX
802.11ac (VHT160)	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
802.11ax (HE80)	2TX	2RX
802.11ax (HE160)	2TX	2RX
802.11ax (RU26/52/106/242/484/996/2x996)	2TX	2RX

Note: The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz), therefore the manufacturer will control the power for 802.11n/ac mode is same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.



### 3.3 Channel List

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:	<ol style="list-style-type: none"> <li>EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.</li> <li>Pre-scan ac adapter and Notebook mode</li> </ol>
Worst Case:	<ol style="list-style-type: none"> <li>X-axis/ Y-axis/ Z-axis Worst Condition: Z-axis</li> <li>Worst Condition: adapter mode</li> </ol>

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

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	C	802.11a	169, 173, 177	BPSK	6Mb/s
		802.11n (HT20)	169, 173, 177	BPSK	MCS0
		802.11n (HT40)	167, 175	BPSK	MCS0
		802.11ac (VHT20)	169, 173, 177	BPSK	MCS0
		802.11ac (VHT40)	167, 175	BPSK	MCS0
		802.11ac (VHT80)	171	BPSK	MCS0
		802.11ac (VHT160)	163	BPSK	MCS0
		802.11ax (HE20) 26-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 52-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 106-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 242-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) Full RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE40) 26-tone RU	167, 175	BPSK	6Mb/s
		802.11ax (HE40) 52-tone RU	167, 175	BPSK	6Mb/s
		802.11ax (HE40) 106-tone RU	167, 175	BPSK	6Mb/s
		802.11ax (HE40) 242-tone RU	167, 175	BPSK	6Mb/s
		802.11ax (HE40) 484-tone RU	167, 175	BPSK	6Mb/s
		802.11ax (HE40) Full RU	167, 175	BPSK	6Mb/s
		802.11ax (HE80) 26-tone RU	171	BPSK	MCS0
		802.11ax (HE80) 52-tone RU	171	BPSK	MCS0
		802.11ax (HE80) 106-tone RU	171	BPSK	MCS0
		802.11ax (HE80) 242-tone RU	171	BPSK	MCS0
		802.11ax (HE80) 484-tone RU	171	BPSK	MCS0
		802.11ax (HE80) 996-tone RU	171	BPSK	MCS0
		802.11ax (HE80) Full RU	171	BPSK	MCS0
		802.11ax (HE160) 26-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 52-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 106-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 242-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 484-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 996-tone RU	163	BPSK	MCS0
		802.11ax (HE160) 2x996-tone RU	163	BPSK	MCS0
802.11ax (HE160) Full RU	163	BPSK	MCS0		

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
Power Spectral Density	C	802.11a	169, 173, 177	BPSK	6Mb/s
		802.11ax (HE20) 26-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 52-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 106-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) Full RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE40) Full RU	167, 175	BPSK	6Mb/s
		802.11ax (HE80) Full RU	171	BPSK	MCS0
		802.11ax (HE160) Full RU	163	BPSK	MCS0
6 dB Bandwidth	C	802.11a	169, 173, 177	BPSK	6Mb/s
		802.11ax (HE20) 26-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 52-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) 106-tone RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE20) Full RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE40) Full RU	167, 175	BPSK	MCS0
		802.11ax (HE80) Full RU	171	BPSK	MCS0
		802.11ax (HE160) Full RU	163	BPSK	MCS0
Frequency Stability	C	802.11a	169	un-modulation	-
AC Power Conducted Emissions	A	802.11a	173	BPSK	MCS0
Unwanted Emissions below 1 GHz	A	802.11a	173	BPSK	MCS0
	B	802.11ax (HE20) Full RU	177	BPSK	MCS0
Unwanted Emissions above 1 GHz	A	802.11a	169, 173, 177	BPSK	6Mb/s
		802.11ax (HE20) Full RU	169, 173, 177	BPSK	MCS0
		802.11ax (HE40) Full RU	167, 175	BPSK	MCS0
		802.11ax (HE80) Full RU	171	BPSK	MCS0
		802.11ax (HE160) Full RU	163	BPSK	MCS0
	B	802.11ax (HE20) Full RU	177	BPSK	MCS0
	A	802.11ax (HE20) 26-tone RU	169, 177	BPSK	MCS0
		802.11ax (HE20) 52-tone RU	169, 177	BPSK	MCS0
802.11ax (HE20) 106-tone RU		169, 177	BPSK	MCS0	
EUT Configure Mode:	A	Sample A			
	B	Sample B			
	C	Sample C			

### 3.5 Duty Cycle of Test Signal

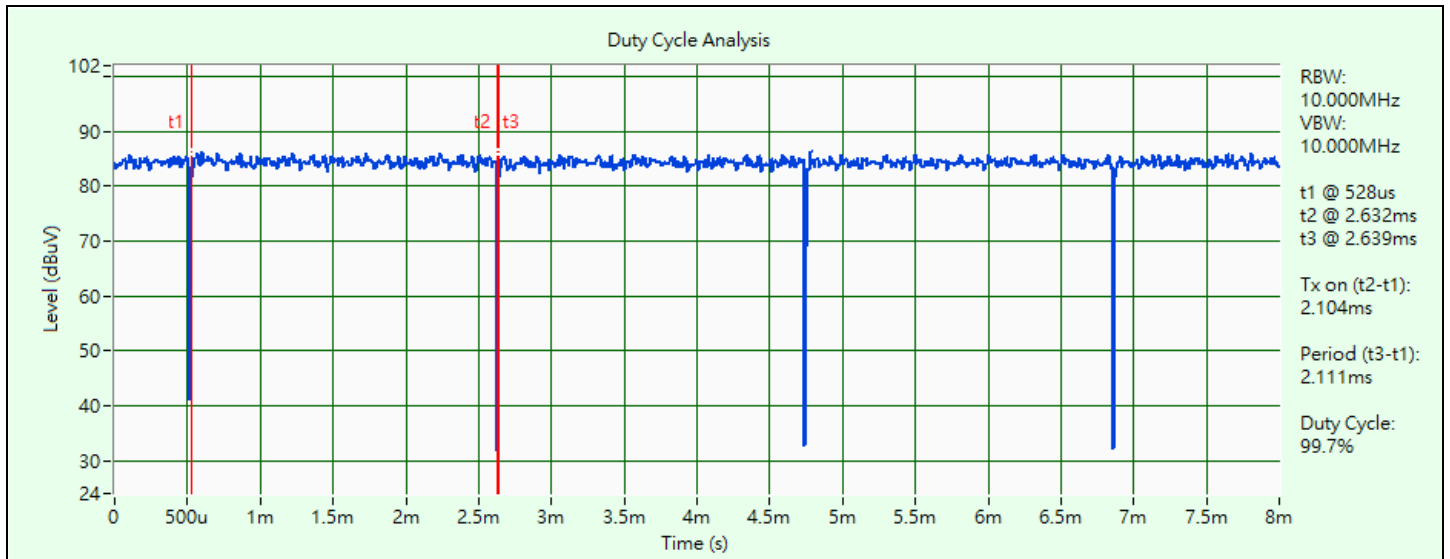
**802.11a:** Duty cycle = 2.104 ms / 2.111 ms x 100% = 99.7%

**802.11ax (HE20) Full RU:** Duty cycle = 100 ms / 100 ms x 100% = 100.0%

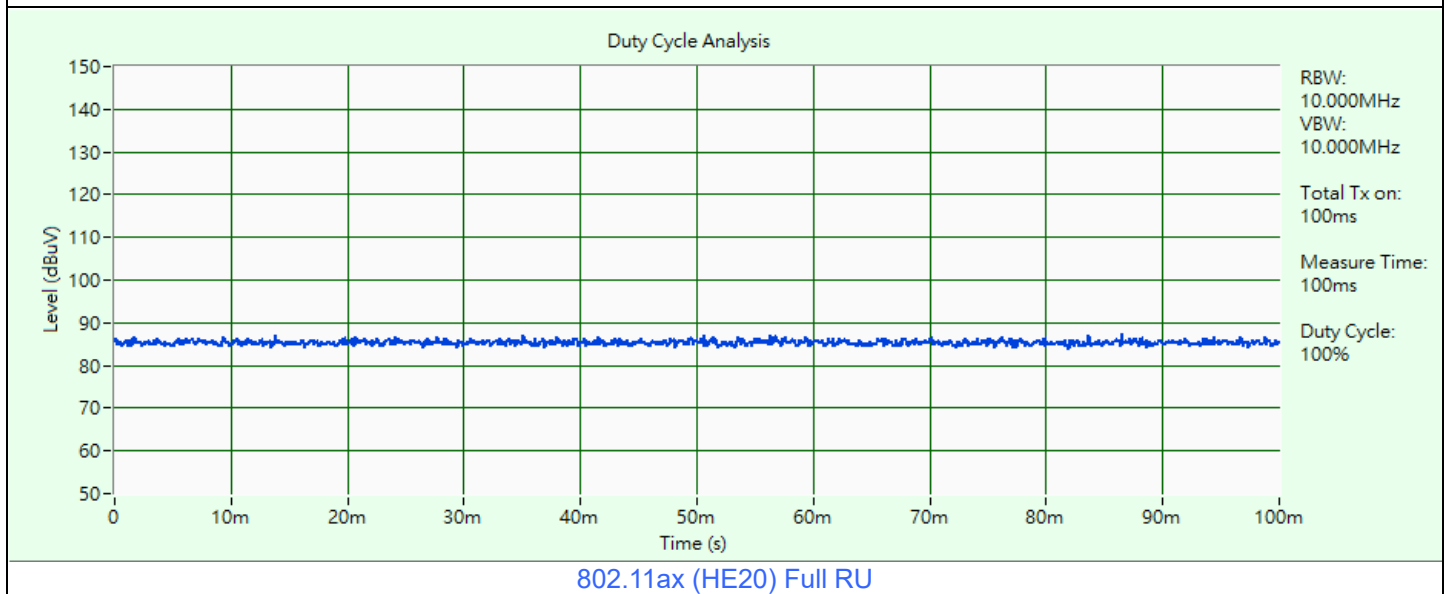
**802.11ax (HE40) Full RU:** Duty cycle = 100 ms / 100 ms x 100% = 100.0%

**802.11ax (HE80) Full RU:** Duty cycle = 2.565 ms / 2.567 ms x 100% = 99.9%

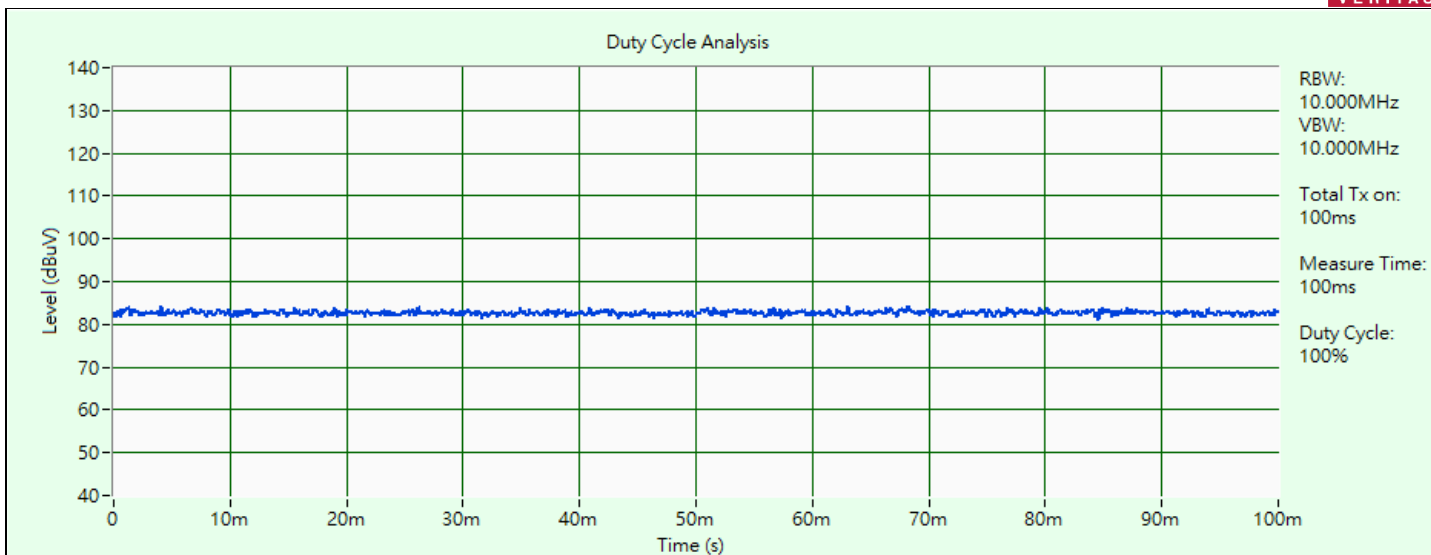
**802.11ax (HE160) Full RU:** Duty cycle = 2.208 ms / 2.212 ms x 100% = 99.8%



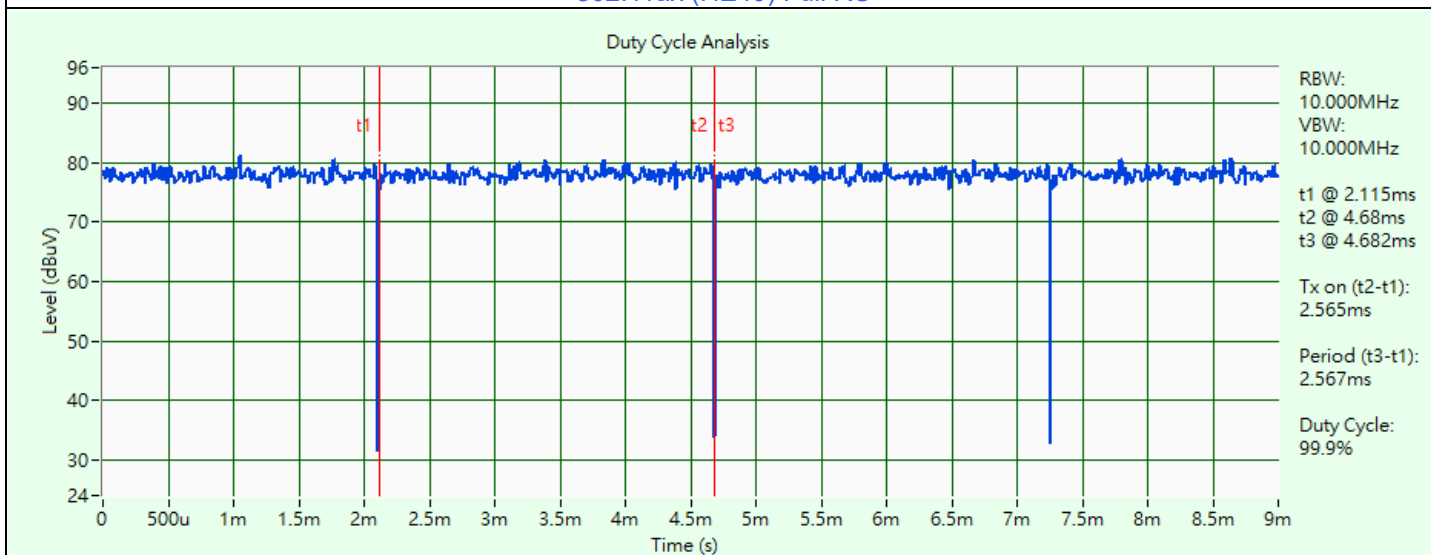
802.11a



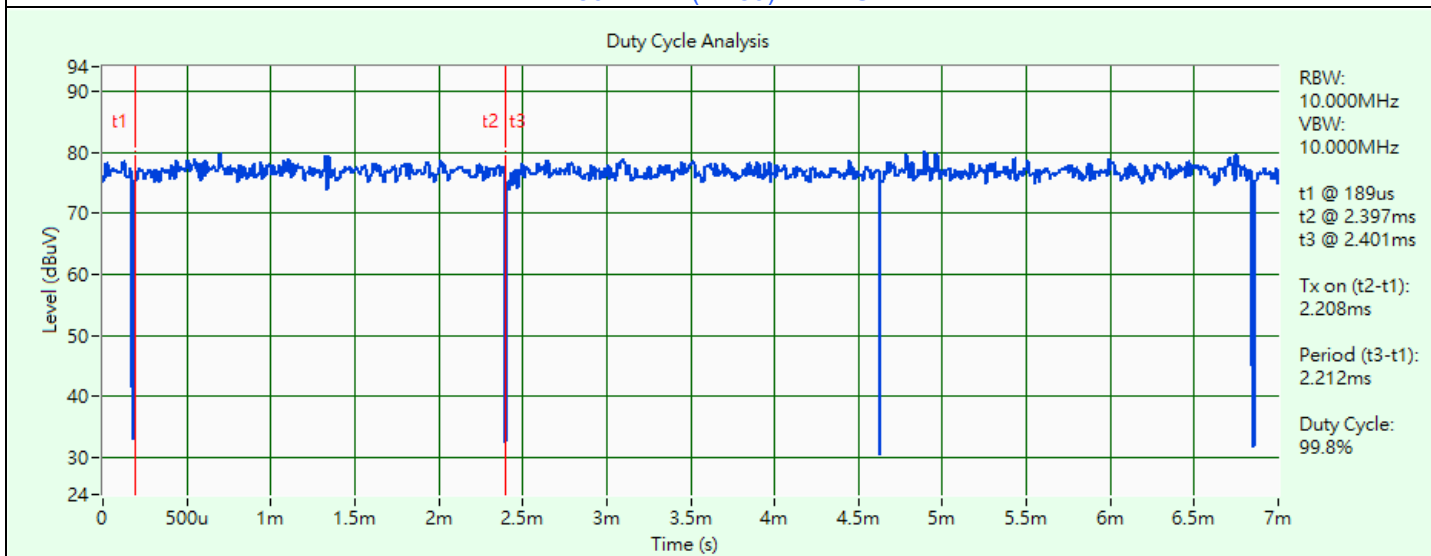
802.11ax (HE20) Full RU



802.11ax (HE40) Full RU



802.11ax (HE80) Full RU

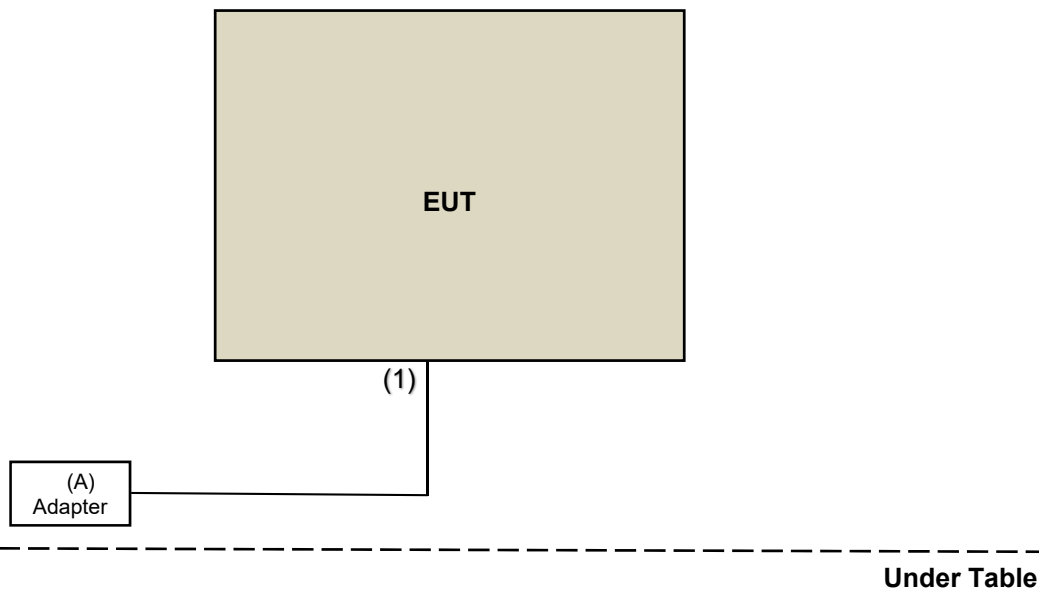


802.11ax (HE160) Full RU

### 3.6 Test Program Used and Operation Descriptions

Controlling software QRCT4 Version 4.0.211.0 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices



### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	CWT	2ACP0183C	N/A	N/A	Supplied by applicant

No.	Cable Descriptions	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Qty.)	Remark
1.	USB Cable	1	1.5	Yes	0	Supplied by applicant

## 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	MY51000485	2024/1/21	2025/1/20
Wideband Power Sensor Keysight	N1923A	MY58020002	2024/1/18	2025/1/17
		MY58140009	2024/1/18	2025/1/17

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/2/25

### 4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
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: 2024/2/25

### 4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

### 4.4 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply JIN YIH Technology	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2023/7/6	2024/7/5
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	HRM-120RF	931022	2023/12/19	2024/12/18

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/2/25

#### 4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance HUBER+SUHNER	E1-011315	13	2023/11/22	2024/11/21
50 ohm terminal resistance	E1-011279	04	2023/11/22	2024/11/21
	E1-011280	05	2023/11/22	2024/11/21
DC-LISN Schwarzbeck	NNBM 8126G	8126G-069	2023/11/7	2024/11/6
EMI Test Receiver R&S	ESR3	102783	2023/12/13	2024/12/12
Fixed Attenuator SGH	BNC10W10dB	PAD-COND2-01	2023/9/2	2024/9/1
LISN R&S	ESH2-Z5	100100	2023/3/7	2024/3/6
	ESH3-Z5	100312	2023/9/12	2024/9/11
RF Coaxial Cable Woken	5D-FB	Cable-cond2-01	2023/9/2	2024/9/1
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2023/8/31	2024/8/30

Notes:

1. The test was performed in HY - Conduction 2.
2. Tested Date: 2024/2/27



#### 4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-160	2023/10/17	2024/10/16
Loop Antenna Electro-Metrics	EM-6879	269	2023/9/23	2024/9/22
Loop Antenna TESEQ	HLA 6121	45745	2023/8/8	2024/8/7
MXE EMI Receiver Keysight	N9038A	MY55420137	2023/5/3	2024/5/2
Preamplifier Agilent	8447D	2944A10638	2023/5/7	2024/5/6
Preamplifier EMCI	EMC001340	980201	2023/9/27	2024/9/26
RF Coaxial Cable Woken	8D-FB	Cable-CH9-01	2023/5/7	2024/5/6
Signal & Spectrum Analyzer R&S	FSW43	101867	2023/12/29	2024/12/28
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2024/2/27

#### 4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1169	2023/11/12	2024/11/11
	BBHA 9170	9170-480	2023/11/12	2024/11/11
		BBHA9170243	2023/11/12	2024/11/11
MXE EMI Receiver Keysight	N9038A	MY55420137	2023/5/3	2024/5/2
Notch Filter Micro-Tronics	BRM17690	004	2024/1/23	2025/1/22
	BRM50716	060	2023/12/25	2024/12/24
Preamplifier Agilent	8449B	3008A02367	2024/1/6	2025/1/5
Preamplifier EMCI	EMC 184045	980116	2023/9/27	2024/9/26
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2023/7/8	2024/7/7
	EMC102-KM-KM-3000	150929	2023/7/8	2024/7/7
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2024/1/6	2025/1/5
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2024/1/6	2025/1/5
Signal & Spectrum Analyzer R&S	FSW43	101867	2023/12/29	2024/12/28
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2024/2/25 ~ 2024/3/5

## 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  $\geq 40$  MHz for any  $N_{ANT}$ ;

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

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

### 5.2 Power Spectral Density

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 Frequency Stability

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

### 5.5 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.

## 5.6 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).

## 5.7 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:**

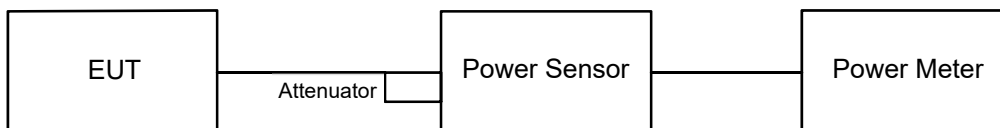
The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 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

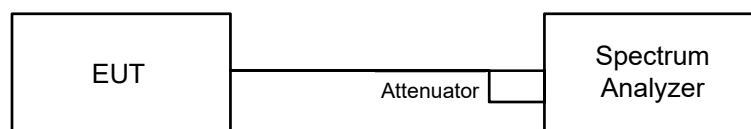
#### For specified measurement bandwidth 1 MHz:

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  $\leq$  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

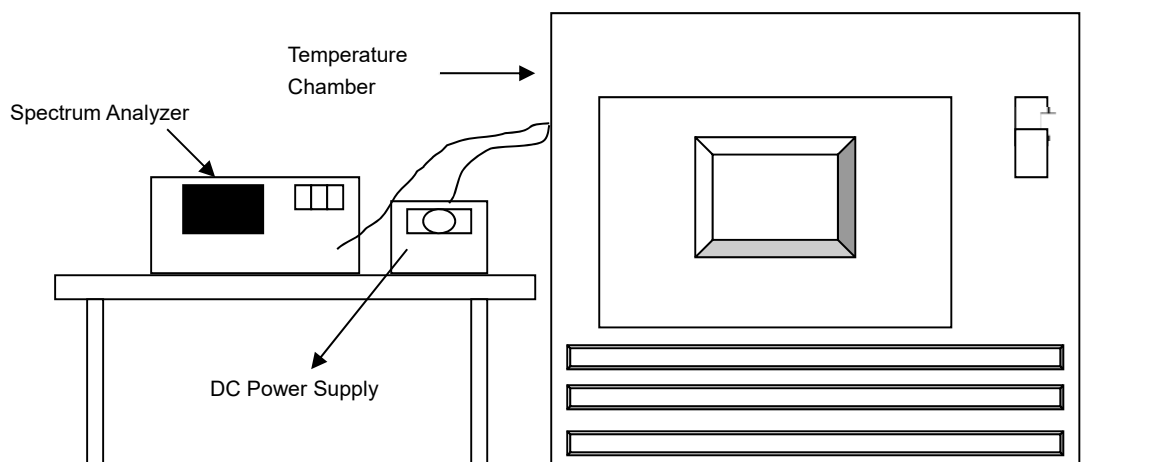


#### 6.3.2 Test Procedure

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

### 6.4.1 Test Setup

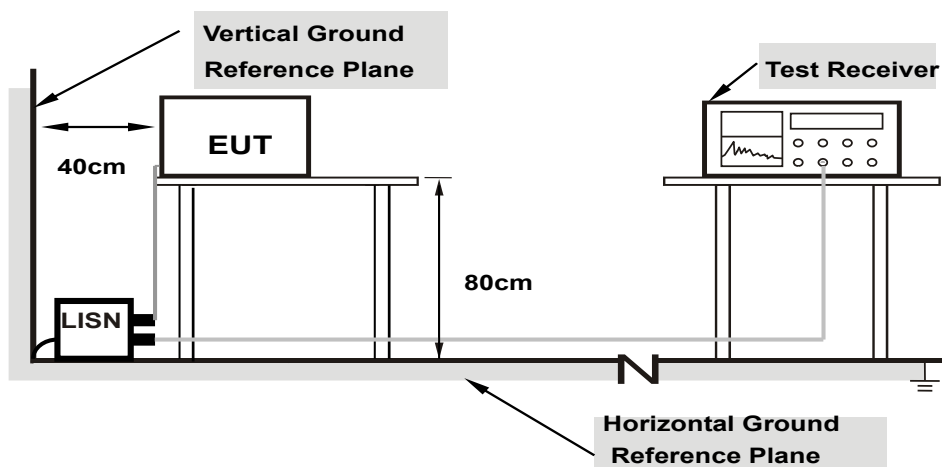


### 6.4.2 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

## 6.5 AC Power Conducted Emissions

### 6.5.1 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).

### 6.5.2 Test Procedure

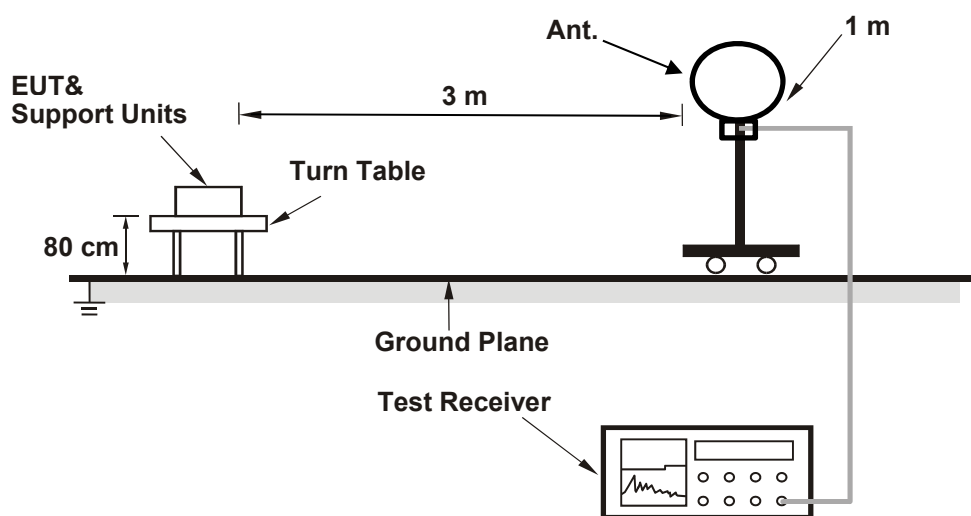
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

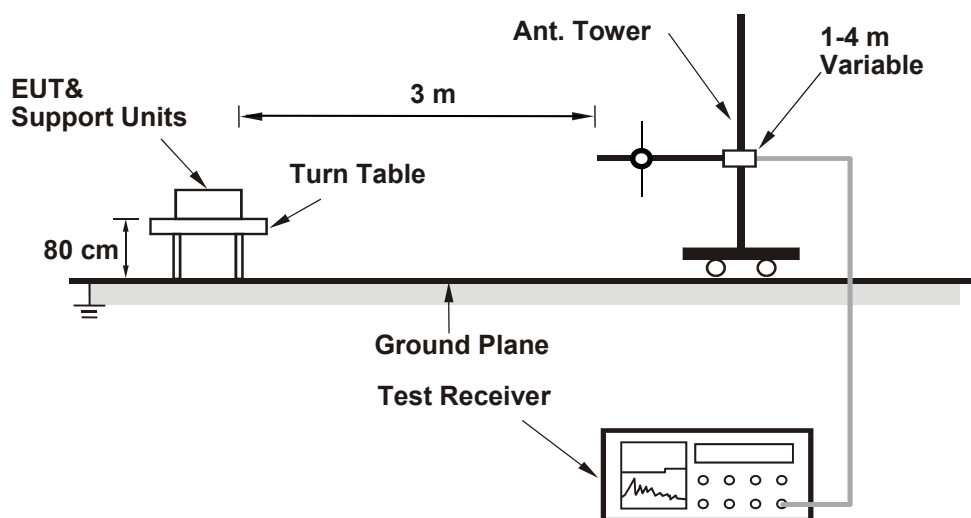
## 6.6 Unwanted Emissions below 1 GHz

### 6.6.1 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).



## 6.6.2 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

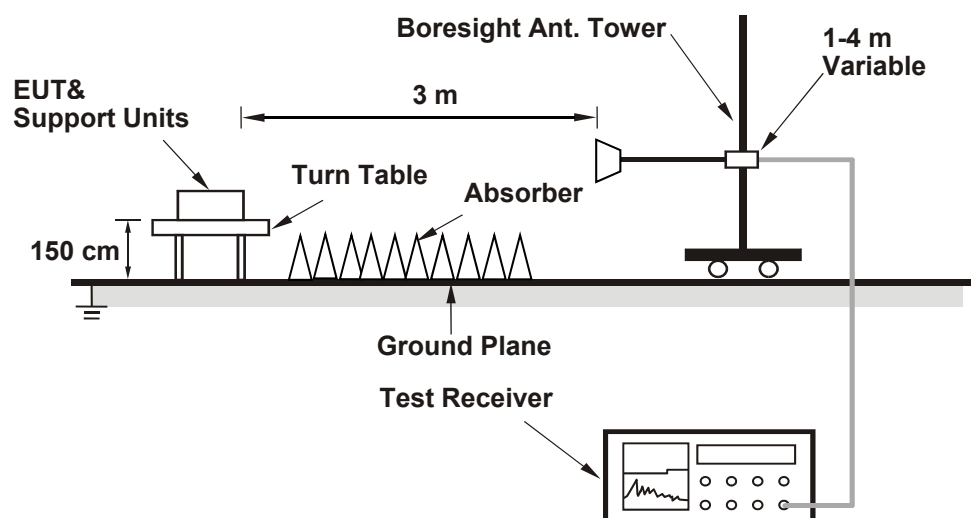
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

## 6.7 Unwanted Emissions above 1 GHz

### 6.7.1 Test Setup



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

### 6.7.2 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.  
For 802.11ax (HE20) 26-tone RU, 802.11ax (HE20) 52-tone, 802.11ax (HE20) 106-tone, CH177: Integration method
  - For peak emissions measurements:
    - Set RBW = 100 kHz
    - Detection = peak.
    - Max hold.
    - Perform band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured.
  - For average emissions measurements:
    - Set RBW = 100 kHz.
    - Perform band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured.
- 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:	3.86 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank Liu
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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							
169	5845	15.86	18.04	102.227	20.10	2.10	165.793	22.20	30	Pass
173	5865	16.01	18.09	104.319	20.18	2.00	165.334	22.18	30	Pass
177	5885	15.87	18.06	102.61	20.11	2.00	162.626	22.11	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

#### 802.11n (HT20)

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							
169	5845	14.48	17.03	78.52	18.95	2.10	127.345	21.05	30	Pass
173	5865	14.57	16.90	77.62	18.90	2.00	123.019	20.9	30	Pass
177	5885	11.71	13.86	39.147	15.93	2.00	62.044	17.93	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

#### 802.11n (HT40)

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							
167	5835	15.00	16.73	78.721	18.96	2.10	127.671	21.06	30	Pass
175	5875	15.83	15.87	76.919	18.86	2.00	121.908	20.86	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ac (VHT20)

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							
169	5845	14.51	17.06	79.065	18.98	2.10	128.228	21.08	30	Pass
173	5865	14.60	16.93	78.158	18.93	2.00	123.872	20.93	30	Pass
177	5885	11.79	13.94	39.875	16.01	2.00	63.198	18.01	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ac (VHT40)

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							
167	5835	15.02	16.75	79.084	18.98	2.10	128.259	21.08	30	Pass
175	5875	15.86	15.90	77.452	18.89	2.00	122.753	20.89	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ac (VHT80)

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							
171	5855	15.06	17.00	82.181	19.15	2.10	133.282	21.25	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ac (VHT160)

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							
163	5815	14.71	16.83	77.775	18.91	2.10	126.136	21.01	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE20) 26-tone RU

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							
169	5845	8.15	10.71	18.31	12.63	2.10	29.695	14.73	30	Pass
173	5865	8.28	10.60	18.216	12.60	2.00	28.87	14.6	30	Pass
177	5885	8.33	10.66	18.453	12.66	2.00	29.246	14.66	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE20) 52-tone RU

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							
169	5845	11.27	13.77	37.218	15.71	2.10	60.361	17.81	30	Pass
173	5865	11.33	13.61	36.579	15.63	2.00	57.974	17.63	30	Pass
177	5885	11.50	13.72	37.651	15.76	2.00	59.673	17.76	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE20) 106-tone RU

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							
169	5845	14.33	16.94	76.491	18.84	2.10	124.054	20.94	30	Pass
173	5865	14.42	16.74	74.857	18.74	2.00	118.64	20.74	30	Pass
177	5885	11.71	13.89	39.316	15.95	2.00	62.312	17.95	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE20) 242-tone RU

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							
169	5845	14.40	16.99	77.52	18.89	2.10	125.723	20.99	30	Pass
173	5865	14.51	16.87	76.901	18.86	2.00	121.88	20.86	30	Pass
177	5885	11.74	13.92	39.588	15.98	2.00	62.743	17.98	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE20) Full RU

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							
169	5845	14.54	17.10	79.731	19.02	2.10	129.309	21.12	30	Pass
173	5865	14.63	16.99	79.044	18.98	2.00	125.276	20.98	30	Pass
177	5885	11.85	13.98	40.314	16.05	2.00	63.893	18.05	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) 26-tone RU

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							
167	5835	7.98	10.65	17.895	12.53	2.10	29.022	14.63	30	Pass
175	5875	8.15	10.59	17.986	12.55	2.00	28.506	14.55	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) 52-tone RU

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							
167	5835	11.24	13.61	36.266	15.59	2.10	58.817	17.69	30	Pass
175	5875	11.47	13.64	37.149	15.70	2.00	58.877	17.7	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) 106-tone RU

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							
167	5835	14.31	16.52	71.852	18.56	2.10	116.53	20.66	30	Pass
175	5875	11.62	13.76	38.29	15.83	2.00	60.686	17.83	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) 242-tone RU

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							
167	5835	14.35	16.54	72.308	18.59	2.10	117.27	20.69	30	Pass
175	5875	11.65	13.84	38.832	15.89	2.00	61.545	17.89	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) 484-tone RU

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							
167	5835	15.01	16.73	78.793	18.96	2.10	127.787	21.06	30	Pass
175	5875	15.88	15.84	77.096	18.87	2.00	122.189	20.87	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE40) Full RU

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							
167	5835	15.06	16.80	79.926	19.03	2.10	129.625	21.13	30	Pass
175	5875	15.91	15.93	78.168	18.93	2.00	123.888	20.93	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) 26-tone RU

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							
171	5855	7.87	10.54	17.448	12.42	2.10	28.297	14.52	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) 52-tone RU

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							
171	5855	11.19	13.57	35.903	15.55	2.10	58.228	17.65	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) 106-tone RU

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							
171	5855	11.57	13.72	37.905	15.79	2.10	61.475	17.89	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) 242-tone RU

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							
171	5855	11.61	13.71	37.984	15.80	2.10	61.603	17.9	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.



### 802.11ax (HE80) 484-tone RU

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							
171	5855	14.98	16.70	78.266	18.94	2.10	126.933	21.04	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) 996-tone RU

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							
171	5855	15.07	16.94	81.568	19.12	2.10	132.288	21.22	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE80) Full RU

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							
171	5855	15.10	17.02	82.709	19.18	2.10	134.138	21.28	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 26-tone RU

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							
163	5815	7.75	10.42	16.972	12.30	2.10	27.525	14.4	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 52-tone RU

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							
163	5815	11.03	13.44	34.757	15.41	2.10	56.369	17.51	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 106-tone RU

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							
163	5815	11.52	13.62	37.205	15.71	2.10	60.339	17.81	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 242-tone RU

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							
163	5815	11.55	13.63	37.356	15.72	2.10	60.584	17.82	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 484-tone RU

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							
163	5815	14.67	16.72	76.34	18.83	2.10	123.809	20.93	30	Pass

Notes:

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 996-tone RU

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							
163	5815	14.69	16.79	77.236	18.88	2.10	125.262	20.98	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) 2x996-tone RU

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							
163	5815	14.69	16.78	77.087	18.87	2.10	125.02	20.97	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

### 802.11ax (HE160) Full RU

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							
163	5815	14.74	16.85	78.202	18.93	2.10	126.829	21.03	30	Pass

**Notes:**

1. Directional gain is the maximum gain of antennas.
2. For U-NII-3 & -4 span channel, the maximum gain is 2.1 dBi.
3. For U-NII-4, the maximum gain is 2 dBi.

## 7.2 Power Spectral Density

Input Power:	3.86 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank Liu
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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					
169	5845	5.95	6.56	9.28	4.62	13.9	14	Pass
173	5865	5.91	6.60	9.28	3.98	13.26	14	Pass
177	5885	5.92	6.66	9.32	3.98	13.3	14	Pass

#### Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
- For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE20) 26-tone RU

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					
169	5845	6.05	6.63	9.36	4.62	13.98	14	Pass
173	5865	6.44	6.60	9.53	3.98	13.51	14	Pass
177	5885	6.25	6.37	9.32	3.98	13.3	14	Pass

#### Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
- For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
- For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE20) 52-tone RU

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					
169	5845	6.05	6.22	9.15	4.62	13.77	14	Pass
173	5865	6.39	6.71	9.56	3.98	13.54	14	Pass
177	5885	6.31	6.67	9.50	3.98	13.48	14	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE20) 106-tone RU

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					
169	5845	6.16	6.12	9.15	4.62	13.77	14	Pass
173	5865	6.19	6.48	9.35	3.98	13.33	14	Pass
177	5885	6.25	6.71	9.50	3.98	13.48	14	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE20) Full RU

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					
169	5845	2.98	4.23	6.66	4.62	11.28	14	Pass
173	5865	3.16	3.92	6.57	3.98	10.55	14	Pass
177	5885	3.43	3.80	6.63	3.98	10.61	14	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE40) Full RU

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					
167	5835	0.87	2.19	4.59	4.62	9.21	14	Pass
175	5875	1.83	1.70	4.78	3.98	8.76	14	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

### 802.11ax (HE80) Full RU

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					
171	5855	-0.50	0.44	3.01	4.62	7.63	14	Pass

Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

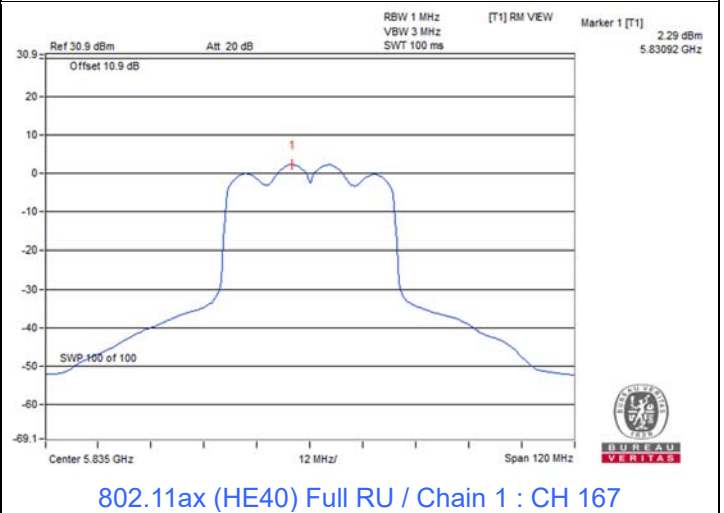
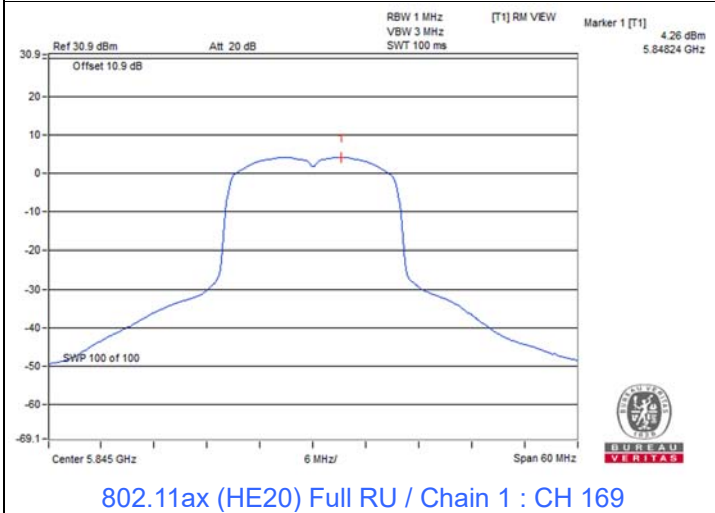
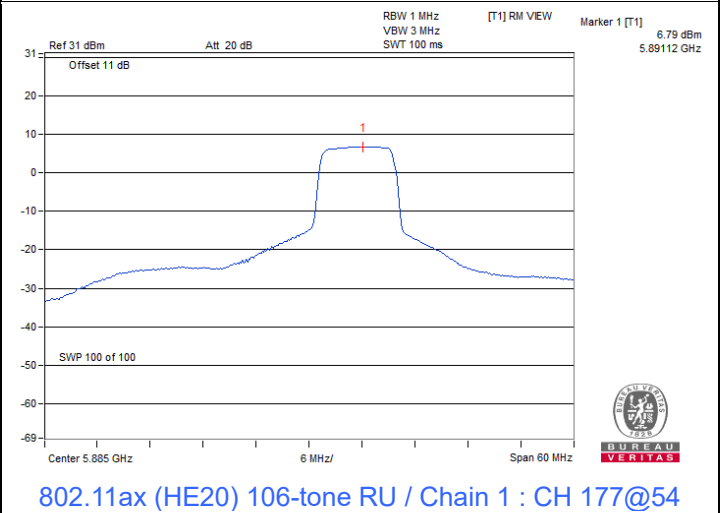
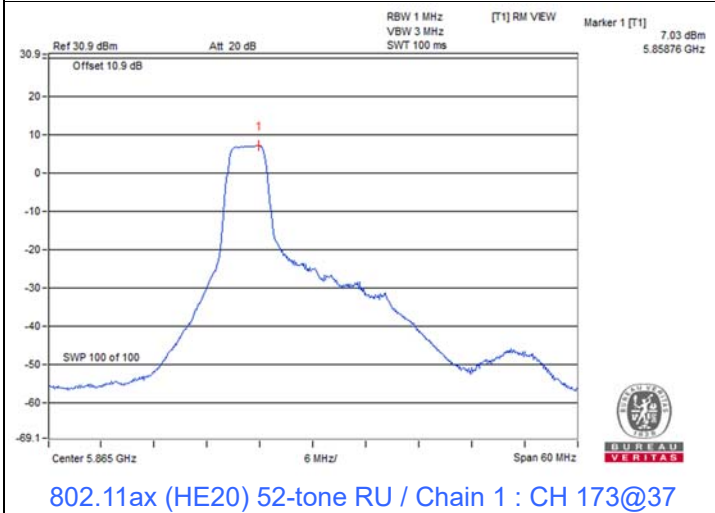
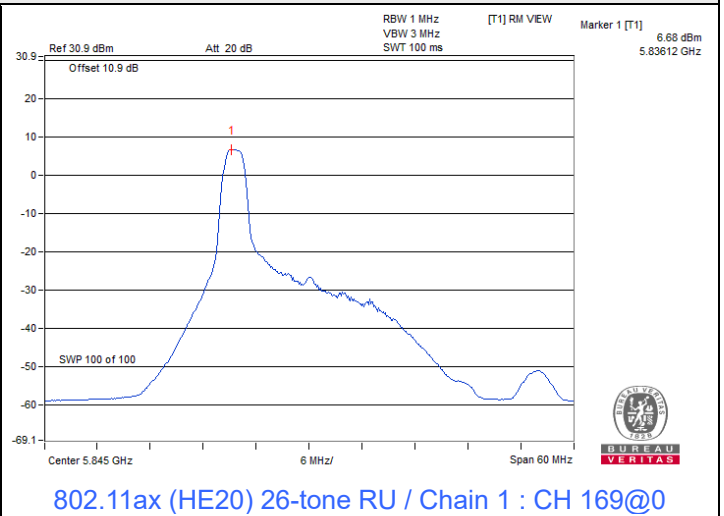
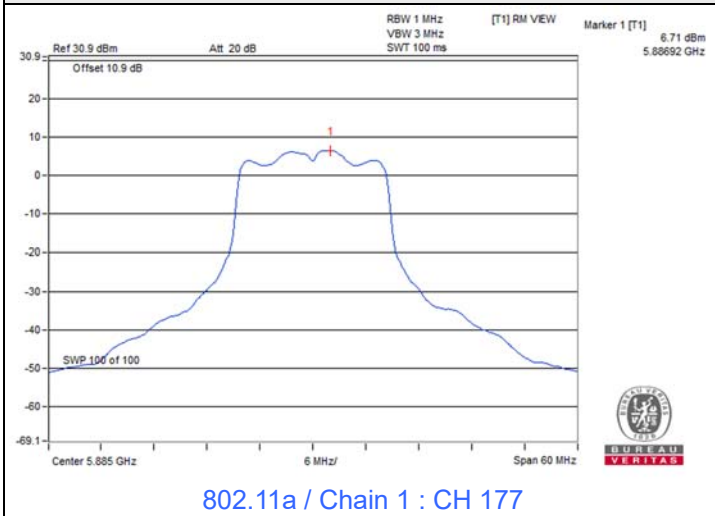
### 802.11ax (HE160) Full RU

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					
163	5815	-4.11	-3.00	-0.51	4.62	4.11	14	Pass

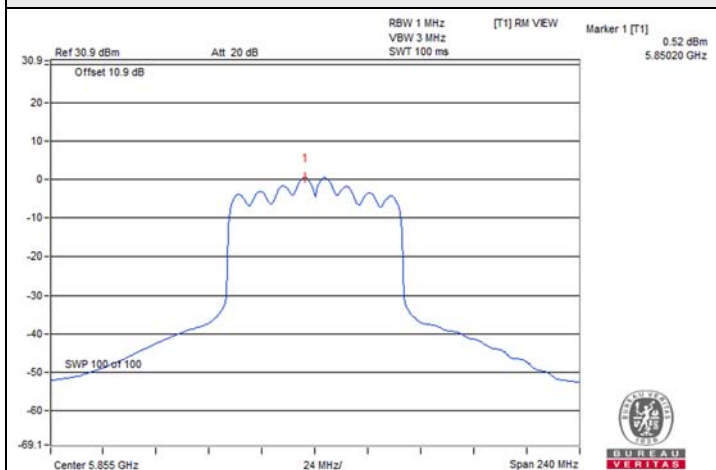
Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =  $10 \log[(10^{\text{Chain0}/20} + 10^{\text{Chain1}/20})^2 / 2]$
3. For U-NII-3 & -4 span channel, the directional gain is 4.62 dBi.
4. For U-NII-4, the directional gain is 3.98 dBi.

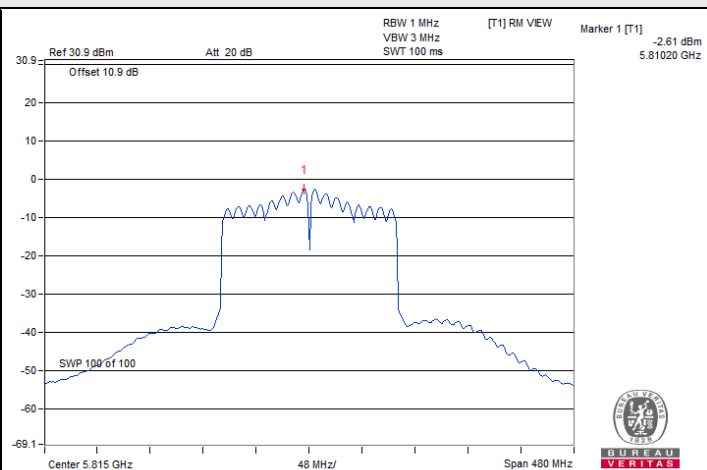
### Spectrum Plot of Maximum Value



### Spectrum Plot of Maximum Value



802.11ax (HE80) Full RU / Chain 1 : CH 171



802.11ax (HE160) Full RU / Chain 1 : CH 163



### 7.3 6 dB Bandwidth

Input Power:	3.86 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank Liu
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#### 802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
169	5845	15.16	15.20	0.5	Pass
173	5865	15.17	15.21	0.5	Pass
177	5885	15.18	15.21	0.5	Pass

#### 802.11ax (HE20) 26-tone RU

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
169	5845	2.18	2.17	0.5	Pass
173	5865	2.17	2.18	0.5	Pass
177	5885	2.11	2.09	0.5	Pass

#### 802.11ax (HE20) 52-tone RU

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
169	5845	17.12	17.14	0.5	Pass
173	5865	17.10	17.14	0.5	Pass
177	5885	17.11	17.12	0.5	Pass

#### 802.11ax (HE20) 106-tone RU

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
169	5845	17.20	17.76	0.5	Pass
173	5865	17.21	17.77	0.5	Pass
177	5885	18.38	17.43	0.5	Pass

#### 802.11ax (HE20) Full RU

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
169	5845	16.00	15.07	0.5	Pass
173	5865	15.32	15.38	0.5	Pass
177	5885	15.33	15.06	0.5	Pass

**802.11ax (HE40) Full RU**

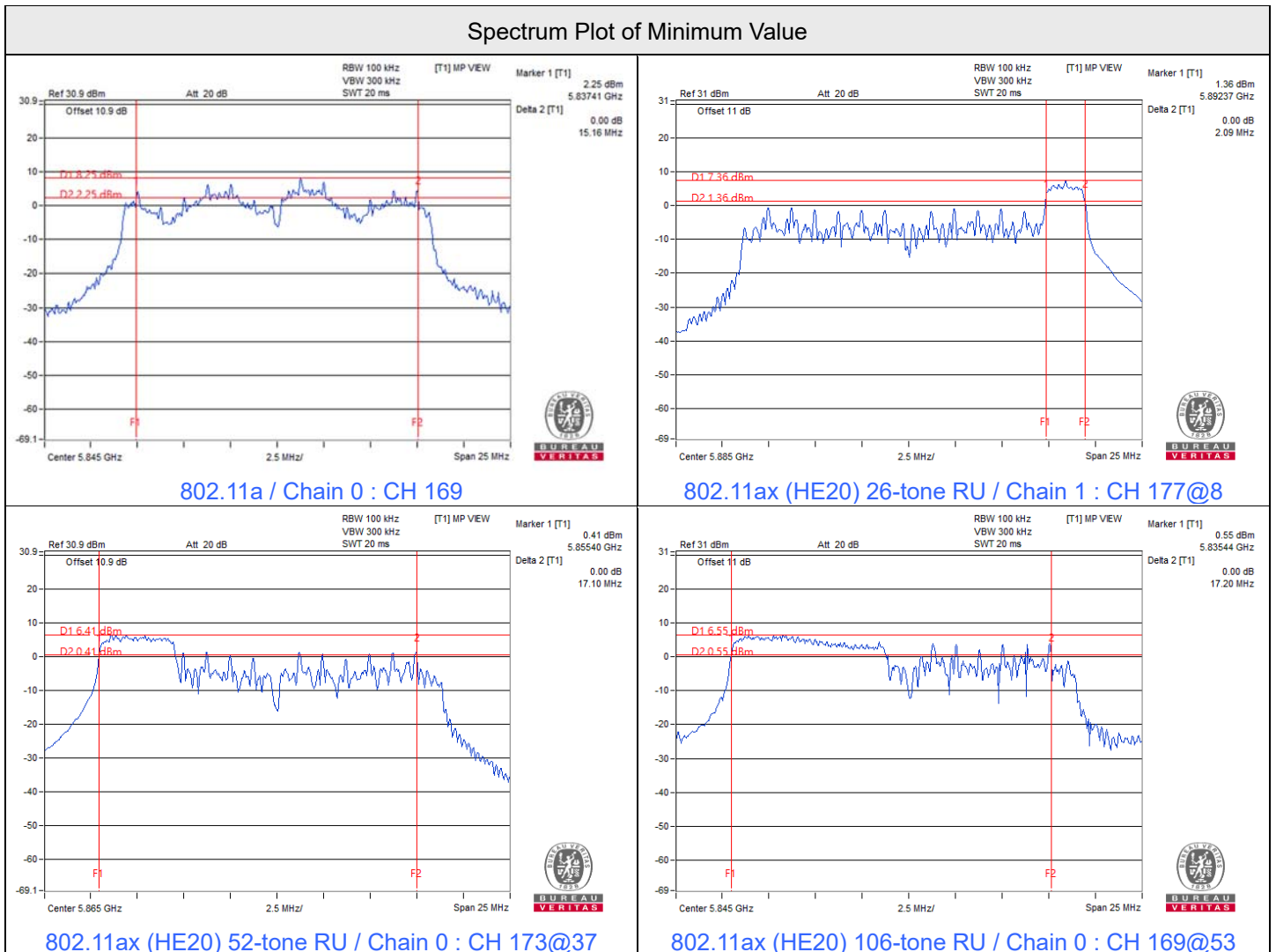
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
167	5835	35.63	35.22	0.5	Pass
175	5875	35.40	35.18	0.5	Pass

**802.11ax (HE80) Full RU**

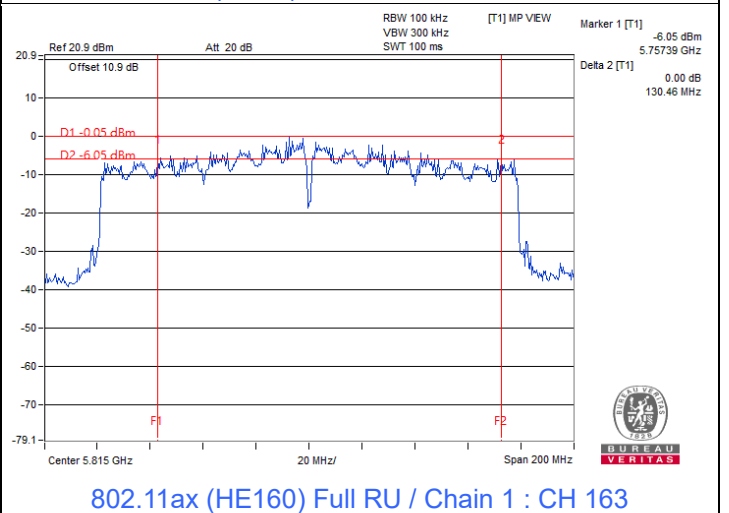
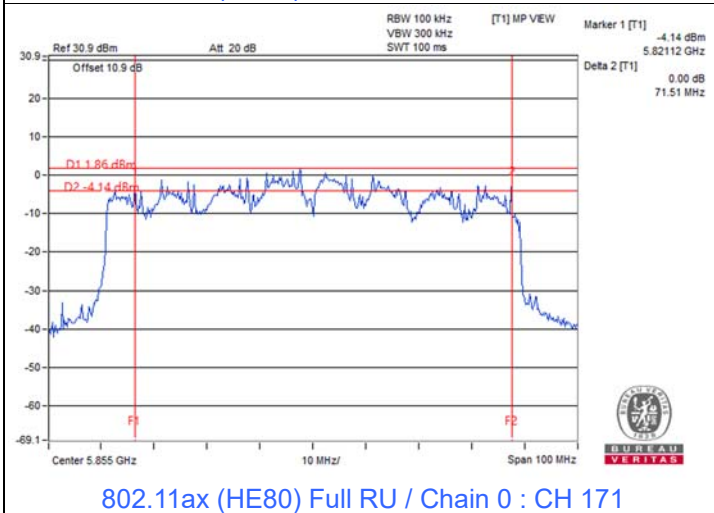
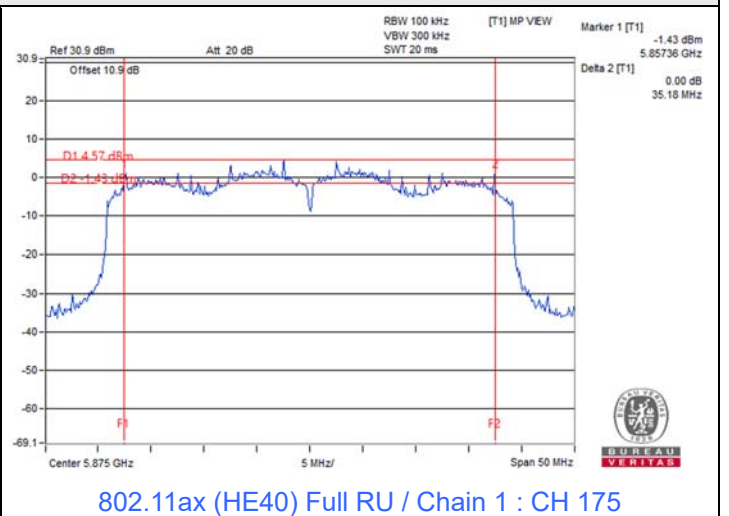
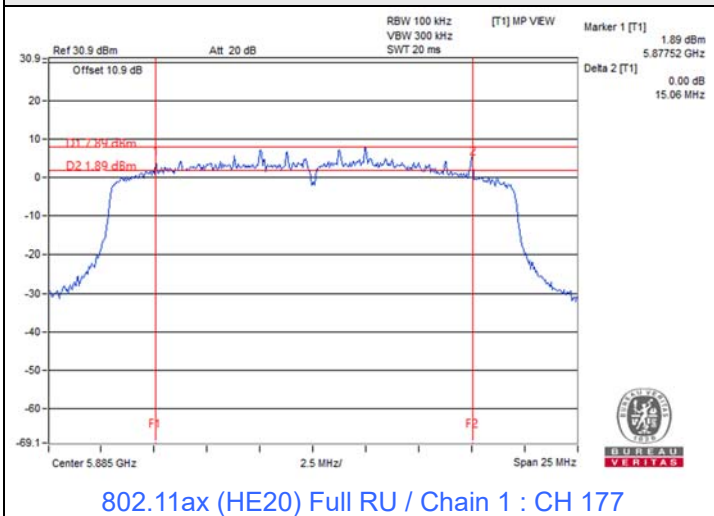
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
171	5855	71.51	75.24	0.5	Pass

**802.11ax (HE160) Full RU**

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Test Result
		Chain 0	Chain 1		
163	5815	146.92	130.46	0.5	Pass



### Spectrum Plot of Minimum Value



#### 7.4 Frequency Stability

Input Power:	3.86 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Frank Liu
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Frequency Stability Versus Temperature									
Operating Frequency: 5885 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
50	3.86	5885.0081	Pass	5885.0068	Pass	5885.0091	Pass	5885.008	Pass
40	3.86	5884.9927	Pass	5884.9938	Pass	5884.9919	Pass	5884.9918	Pass
30	3.86	5884.9878	Pass	5884.985	Pass	5884.9876	Pass	5884.9831	Pass
20	3.86	5884.9948	Pass	5884.9968	Pass	5884.9952	Pass	5884.9957	Pass
10	3.86	5885.0139	Pass	5885.0137	Pass	5885.013	Pass	5885.015	Pass
0	3.86	5885.0055	Pass	5885.008	Pass	5885.0107	Pass	5885.0055	Pass
-10	3.86	5884.9693	Pass	5884.9697	Pass	5884.9713	Pass	5884.9738	Pass
-20	3.86	5884.9697	Pass	5884.9708	Pass	5884.9702	Pass	5884.9736	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5885 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	4.439	5884.9868	Pass	5884.9891	Pass	5884.9854	Pass	5884.9847	Pass
	3.86	5884.9948	Pass	5884.9968	Pass	5884.9952	Pass	5884.9957	Pass
	3.281	5885.006	Pass	5885.007	Pass	5885.0071	Pass	5885.0069	Pass

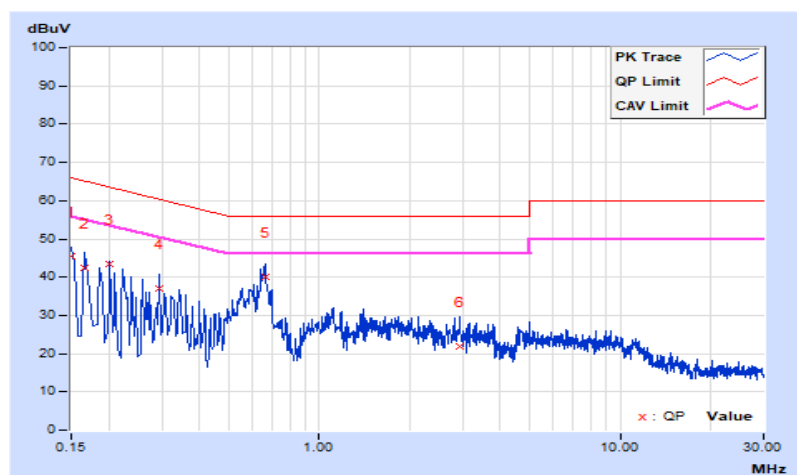
## 7.5 AC Power Conducted Emissions

RF Mode	802.11a	Channel	CH 173 : 5865 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.37	35.08	18.36	45.45	28.73	66.00	56.00	-20.55	-27.27
2	0.16600	10.38	32.11	15.85	42.49	26.23	65.16	55.16	-22.67	-28.93
3	0.20200	10.40	33.19	16.64	43.59	27.04	63.53	53.53	-19.94	-26.49
4	0.29400	10.44	26.67	11.47	37.11	21.91	60.41	50.41	-23.30	-28.50
5	0.66108	10.51	29.72	21.92	40.23	32.43	56.00	46.00	-15.77	-13.57
6	2.93400	10.60	11.28	2.87	21.88	13.47	56.00	46.00	-34.12	-32.53

### Remarks:

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

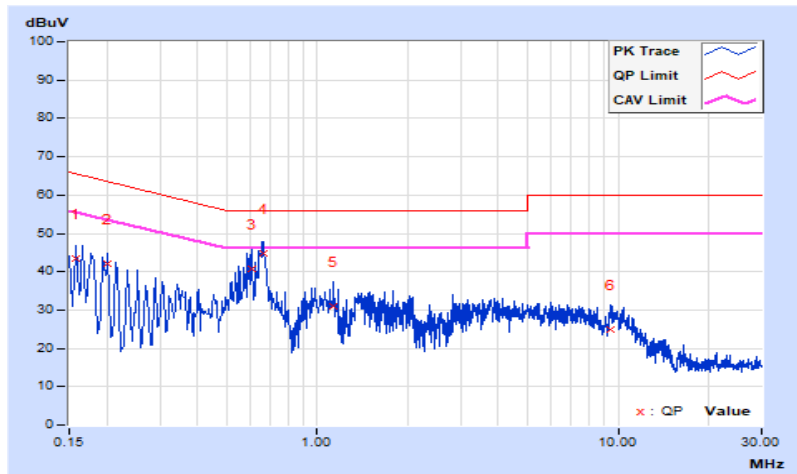


RF Mode	802.11a	Channel	CH 173 : 5865 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 67% RH
Tested By	Adair Peng		

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	0.15800	10.41	32.92	17.83	43.33	28.24	65.57	55.57	-22.24	-27.33
2	0.20200	10.44	31.78	17.05	42.22	27.49	63.53	53.53	-21.31	-26.04
3	0.60600	10.54	30.14	20.42	40.68	30.96	56.00	46.00	-15.32	-15.04
<b>4</b>	<b>0.66200</b>	<b>10.54</b>	<b>34.25</b>	<b>26.04</b>	<b>44.79</b>	<b>36.58</b>	<b>56.00</b>	<b>46.00</b>	<b>-11.21</b>	<b>-9.42</b>
5	1.13800	10.56	20.52	9.66	31.08	20.22	56.00	46.00	-24.92	-25.78
6	9.46200	10.84	13.92	5.80	24.76	16.64	60.00	50.00	-35.24	-33.36

**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



## 7.6 Unwanted Emissions below 1 GHz

### Mode A

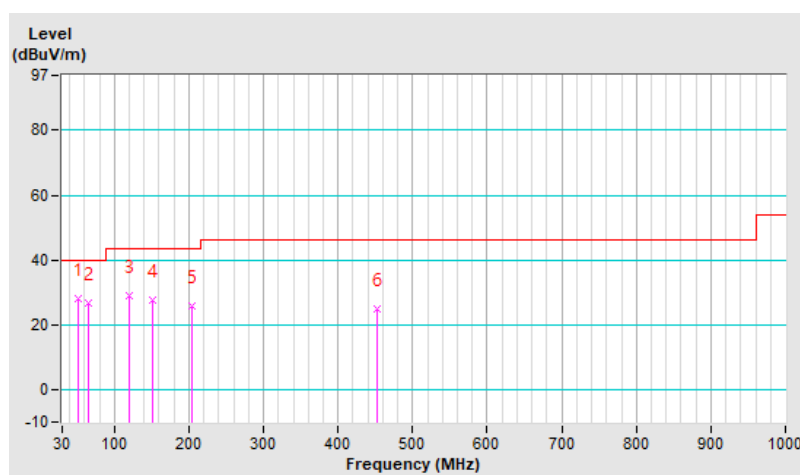
<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 173 : 5865 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Adair Peng		

#### 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	51.55	27.9 QP	40.0	-12.1	1.00 H	22	37.3	-9.4
2	65.11	26.8 QP	40.0	-13.2	1.50 H	111	37.5	-10.7
3	120.58	29.0 QP	43.5	-14.5	1.00 H	111	40.5	-11.5
4	152.12	27.5 QP	43.5	-16.0	1.00 H	229	36.5	-9.0
5	204.33	25.7 QP	43.5	-17.8	2.00 H	333	37.6	-11.9
6	452.92	24.8 QP	46.0	-21.2	1.00 H	89	29.6	-4.8

#### 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 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.

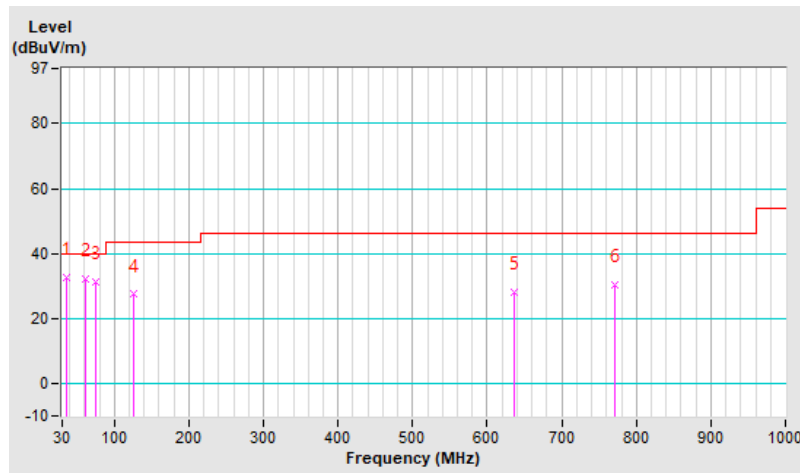


<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 173 : 5865 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Adair Peng		

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	35.22	32.5 QP	40.0	-7.5	1.50 V	111	43.2	-10.7
2	61.25	32.2 QP	40.0	-7.8	1.50 V	223	42.5	-10.3
3	74.15	31.1 QP	40.0	-8.9	1.50 V	222	43.5	-12.4
4	125.12	27.4 QP	43.5	-16.1	2.00 V	111	38.3	-10.9
5	637.22	28.0 QP	46.0	-18.0	1.00 V	325	28.8	-0.8
6	771.08	30.4 QP	46.0	-15.6	1.00 V	259	28.3	2.1

**Remarks:**

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





### Mode B

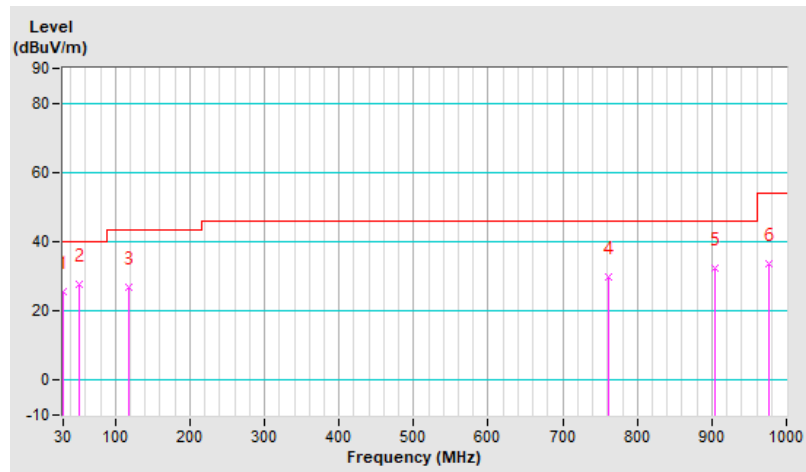
<b>RF Mode</b>	802.11ax (HE20) Full RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Adair Peng		

#### 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	30.97	25.8 QP	40.0	-14.2	2.00 H	209	37.0	-11.2
2	51.55	27.9 QP	40.0	-12.1	1.00 H	22	37.3	-9.4
3	117.30	26.8 QP	43.5	-16.7	1.00 H	73	38.6	-11.8
4	761.38	30.0 QP	46.0	-16.0	1.00 H	270	28.3	1.7
5	904.94	32.4 QP	46.0	-13.6	1.00 H	118	28.0	4.4
6	975.75	33.5 QP	54.0	-20.5	1.00 H	241	28.2	5.3

#### Remarks:

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

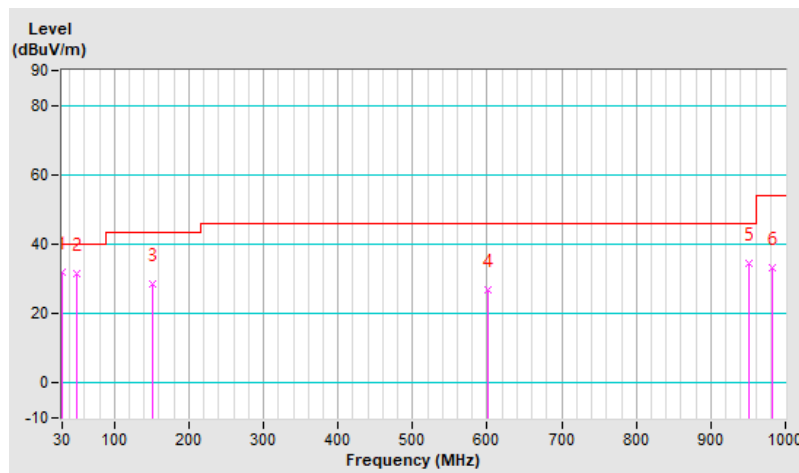


<b>RF Mode</b>	802.11ax (HE20) Full RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	23°C, 67% RH
<b>Tested By</b>	Adair Peng		

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	30.00	31.9 QP	40.0	-8.1	1.00 V	126	42.8	-10.9
2	50.31	31.7 QP	40.0	-8.3	1.50 V	304	41.1	-9.4
3	151.25	28.6 QP	43.5	-14.9	1.00 V	342	37.6	-9.0
4	601.33	26.9 QP	46.0	-19.1	1.00 V	322	28.7	-1.8
5	950.53	34.6 QP	46.0	-11.4	1.00 V	64	29.5	5.1
6	982.54	33.3 QP	54.0	-20.7	1.00 V	1	28.0	5.3

**Remarks:**

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



## 7.7 Unwanted Emissions above 1 GHz

### Mode A

<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 169 : 5845 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

#### 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	51.5 PK	68.2	-16.7	1.58 H	160	45.8	5.7
2	*5845.00	112.5 PK			1.52 H	153	72.5	40.0
3	*5845.00	103.2 AV			1.52 H	153	63.2	40.0
4	#5925.00	52.1 PK	68.2	-16.1	1.51 H	150	46.0	6.1
5	11690.00	52.4 PK	74.0	-21.6	1.38 H	109	36.0	16.4
6	11690.00	39.0 AV	54.0	-15.0	1.38 H	109	22.6	16.4

#### 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	51.6 PK	68.2	-16.6	1.75 V	160	45.9	5.7
2	*5845.00	117.9 PK			1.79 V	159	77.9	40.0
3	*5845.00	108.3 AV			1.79 V	159	68.3	40.0
4	#5925.00	54.1 PK	68.2	-14.1	1.81 V	163	48.0	6.1
5	11690.00	54.8 PK	74.0	-19.2	3.10 V	191	38.4	16.4
6	11690.00	40.7 AV	54.0	-13.3	3.10 V	191	24.3	16.4

#### Remarks:

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



<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 173 : 5865 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	50.9 PK	68.2	-17.3	1.59 H	154	45.2	5.7
2	*5865.00	113.0 PK			1.54 H	157	72.8	40.2
3	*5865.00	103.6 AV			1.54 H	157	63.4	40.2
4	#5925.00	52.7 PK	68.2	-15.5	1.48 H	153	46.6	6.1
5	11730.00	53.0 PK	74.0	-21.0	1.41 H	110	36.7	16.3
6	11730.00	39.0 AV	54.0	-15.0	1.41 H	110	22.7	16.3

**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	51.1 PK	68.2	-17.1	1.80 V	161	45.4	5.7
2	*5865.00	117.7 PK			1.76 V	159	77.5	40.2
3	*5865.00	108.5 AV			1.76 V	159	68.3	40.2
4	#5925.00	55.8 PK	68.2	-12.4	1.67 V	163	49.7	6.1
5	11730.00	55.1 PK	74.0	-18.9	3.03 V	199	38.8	16.3
6	11730.00	40.8 AV	54.0	-13.2	3.03 V	199	24.5	16.3

**Remarks:**

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



<b>RF Mode</b>	802.11a	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.2 PK	68.2	-17.0	1.61 H	159	45.5	5.7
2	*5885.00	113.9 PK			1.59 H	151	73.6	40.3
3	*5885.00	104.4 AV			1.59 H	151	64.1	40.3
4	#5895.00	88.1 PK	110.2	-22.1	1.57 H	160	82.1	6.0
5	#5895.00	75.1 AV	90.2	-15.1	1.57 H	160	69.1	6.0
6	#5925.00	53.0 PK	88.2	-35.2	1.55 H	156	46.9	6.1
7	#5925.00	41.3 AV	68.2	-26.9	1.55 H	156	35.2	6.1
8	11770.00	53.9 PK	74.0	-20.1	1.46 H	116	37.9	16.0
9	11770.00	39.0 AV	54.0	-15.0	1.46 H	116	23.0	16.0

**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	51.6 PK	68.2	-16.6	1.72 V	160	45.9	5.7
2	*5885.00	118.2 PK			1.77 V	158	77.9	40.3
3	*5885.00	109.0 AV			1.77 V	158	68.7	40.3
4	#5895.00	91.3 PK	110.2	-18.9	1.67 V	156	85.3	6.0
5	#5895.00	77.4 AV	90.2	-12.8	1.67 V	156	71.4	6.0
6	#5925.00	54.1 PK	88.2	-34.1	1.71 V	155	48.0	6.1
7	#5925.00	42.2 AV	68.2	-26.0	1.71 V	155	36.1	6.1
8	11770.00	55.0 PK	74.0	-19.0	2.99 V	194	39.0	16.0
9	11770.00	40.7 AV	54.0	-13.3	2.99 V	194	24.7	16.0

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) Full RU	<b>Channel</b>	CH 169 : 5845 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.3 PK	68.2	-16.9	1.57 H	152	45.6	5.7
2	*5845.00	114.6 PK			1.50 H	159	74.6	40.0
3	*5845.00	101.8 AV			1.50 H	159	61.8	40.0
4	#5925.00	58.2 PK	68.2	-10.0	1.60 H	150	52.1	6.1
5	11690.00	53.9 PK	74.0	-20.1	1.49 H	114	37.5	16.4
6	11690.00	39.1 AV	54.0	-14.9	1.49 H	114	22.7	16.4

**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	51.7 PK	68.2	-16.5	1.71 V	159	46.0	5.7
2	*5845.00	120.7 PK			1.78 V	161	80.7	40.0
3	*5845.00	106.5 AV			1.78 V	161	66.5	40.0
4	#5925.00	58.5 PK	68.2	-9.7	1.68 V	166	52.4	6.1
5	11690.00	55.1 PK	74.0	-18.9	3.01 V	205	38.7	16.4
6	11690.00	40.9 AV	54.0	-13.1	3.01 V	205	24.5	16.4

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) Full RU	<b>Channel</b>	CH 173 : 5865 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.7 PK	68.2	-16.5	1.51 H	152	46.0	5.7
2	*5865.00	115.5 PK			1.55 H	159	75.3	40.2
3	*5865.00	102.2 AV			1.55 H	159	62.0	40.2
4	#5925.00	58.2 PK	68.2	-10.0	1.48 H	155	52.1	6.1
5	11730.00	54.0 PK	74.0	-20.0	1.40 H	111	37.7	16.3
6	11730.00	39.2 AV	54.0	-14.8	1.40 H	111	22.9	16.3

**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	51.9 PK	68.2	-16.3	1.64 V	163	46.2	5.7
2	*5865.00	120.7 PK			1.75 V	161	80.5	40.2
3	*5865.00	106.9 AV			1.75 V	161	66.7	40.2
4	#5925.00	59.1 PK	68.2	-9.1	1.70 V	165	53.0	6.1
5	11730.00	55.3 PK	74.0	-18.7	2.87 V	209	39.0	16.3
6	11730.00	41.0 AV	54.0	-13.0	2.87 V	209	24.7	16.3

**Remarks:**

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



RF Mode	802.11ax (HE20) Full RU	Channel	CH 177 : 5885 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 66% RH
Tested By	Adair Peng		

**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	51.0 PK	68.2	-17.2	1.54 H	155	45.3	5.7
2	*5885.00	112.5 PK			1.52 H	159	72.2	40.3
3	*5885.00	99.1 AV			1.52 H	159	58.8	40.3
4	#5895.00	90.5 PK	110.2	-19.7	1.61 H	148	84.5	6.0
5	#5895.00	83.6 AV	90.2	-6.6	1.61 H	148	77.6	6.0
6	#5925.00	53.3 PK	88.2	-34.9	1.58 H	152	47.2	6.1
7	#5925.00	42.1 AV	68.2	-26.1	1.58 H	152	36.0	6.1
8	11770.00	53.6 PK	74.0	-20.4	1.48 H	113	37.6	16.0
9	11770.00	38.6 AV	54.0	-15.4	1.48 H	113	22.6	16.0

**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	51.1 PK	68.2	-17.1	1.72 V	165	45.4	5.7
2	*5885.00	117.0 PK			1.70 V	160	76.7	40.3
3	*5885.00	103.9 AV			1.70 V	160	63.6	40.3
4	#5895.00	97.9 PK	110.2	-12.3	1.51 V	174	91.9	6.0
5	#5895.00	88.1 AV	90.2	-2.1	1.51 V	174	82.1	6.0
6	#5925.00	55.0 PK	88.2	-33.2	1.77 V	162	48.9	6.1
7	#5925.00	42.7 AV	68.2	-25.5	1.77 V	162	36.6	6.1
8	11770.00	54.6 PK	74.0	-19.4	2.97 V	205	38.6	16.0
9	11770.00	40.5 AV	54.0	-13.5	2.97 V	205	24.5	16.0

**Remarks:**

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





<b>RF Mode</b>	802.11ax (HE40) Full RU	<b>Channel</b>	CH 167 : 5835 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.2 PK	68.2	-17.0	1.47 H	157	45.5	5.7
2	*5835.00	111.8 PK			1.55 H	154	71.8	40.0
3	*5835.00	98.8 AV			1.55 H	154	58.8	40.0
4	#5925.00	59.1 PK	68.2	-9.1	1.50 H	159	53.0	6.1
5	11670.00	54.2 PK	74.0	-19.8	1.46 H	117	37.7	16.5
6	11670.00	39.1 AV	54.0	-14.9	1.46 H	117	22.6	16.5

**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	51.4 PK	68.2	-16.8	1.70 V	165	45.7	5.7
2	*5835.00	115.8 PK			1.76 V	161	75.8	40.0
3	*5835.00	103.3 AV			1.76 V	161	63.3	40.0
4	#5925.00	59.3 PK	68.2	-8.9	1.73 V	167	53.2	6.1
5	11670.00	55.0 PK	74.0	-19.0	2.91 V	206	38.5	16.5
6	11670.00	40.9 AV	54.0	-13.1	2.91 V	206	24.4	16.5

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE40) Full RU	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.3 PK	68.2	-16.9	1.48 H	158	45.6	5.7
2	*5875.00	112.3 PK			1.53 H	152	72.0	40.3
3	*5875.00	98.2 AV			1.53 H	152	57.9	40.3
4	#5925.00	59.1 PK	68.2	-9.1	1.55 H	149	53.0	6.1
5	11750.00	53.9 PK	74.0	-20.1	1.49 H	119	37.7	16.2
6	11750.00	39.1 AV	54.0	-14.9	1.49 H	119	22.9	16.2

**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	51.6 PK	68.2	-16.6	1.69 V	162	45.9	5.7
2	*5875.00	115.5 PK			1.69 V	160	75.2	40.3
3	*5875.00	102.7 AV			1.69 V	160	62.4	40.3
4	#5925.00	59.4 PK	68.2	-8.8	1.61 V	169	53.3	6.1
5	11750.00	54.8 PK	74.0	-19.2	2.99 V	197	38.6	16.2
6	11750.00	40.8 AV	54.0	-13.2	2.99 V	197	24.6	16.2

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE80) Full RU	<b>Channel</b>	CH 171 : 5855 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.8 PK	68.2	-16.4	1.52 H	150	46.1	5.7
2	*5855.00	110.1 PK			1.59 H	152	70.0	40.1
3	*5855.00	96.8 AV			1.59 H	152	56.7	40.1
4	#5925.00	64.1 PK	88.2	-24.1	1.54 H	148	58.0	6.1
5	#5925.00	50.1 AV	68.2	-18.1	1.54 H	148	44.0	6.1
6	11710.00	53.7 PK	74.0	-20.3	1.43 H	110	37.3	16.4
7	11710.00	38.9 AV	54.0	-15.1	1.43 H	110	22.5	16.4

**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	52.2 PK	68.2	-16.0	1.71 V	161	46.5	5.7
2	*5855.00	114.6 PK			1.72 V	157	74.5	40.1
3	*5855.00	101.2 AV			1.72 V	157	61.1	40.1
4	#5925.00	67.5 PK	88.2	-20.7	1.65 V	160	61.4	6.1
5	#5925.00	55.8 AV	68.2	-12.4	1.65 V	160	49.7	6.1
6	11710.00	54.5 PK	74.0	-19.5	2.94 V	200	38.1	16.4
7	11710.00	40.8 AV	54.0	-13.2	2.94 V	200	24.4	16.4

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE160) Full RU	<b>Channel</b>	CH 163 : 5815 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	59.1 PK	68.2	-9.1	1.54 H	152	53.4	5.7
2	*5815.00	107.5 PK			1.50 H	155	67.6	39.9
3	*5815.00	93.7 AV			1.50 H	155	53.8	39.9
4	#5895.00	81.5 PK	110.2	-28.7	1.48 H	147	75.5	6.0
5	#5895.00	64.2 AV	90.2	-26.0	1.48 H	147	58.2	6.0
6	#5925.00	66.2 PK	88.2	-22.0	1.54 H	157	60.1	6.1
7	#5925.00	53.6 AV	68.2	-14.6	1.54 H	157	47.5	6.1
8	11630.00	53.5 PK	74.0	-20.5	1.46 H	106	36.9	16.6
9	11630.00	39.0 AV	54.0	-15.0	1.46 H	106	22.4	16.6

**Antenna Polarity & Test Distance : Vertical at 3 m**

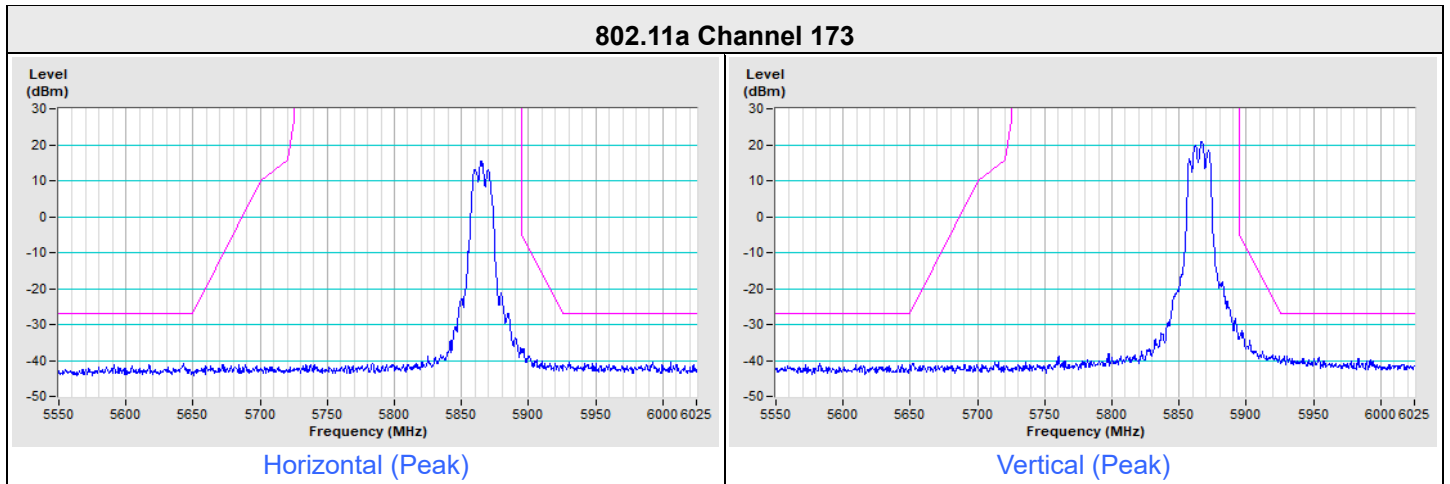
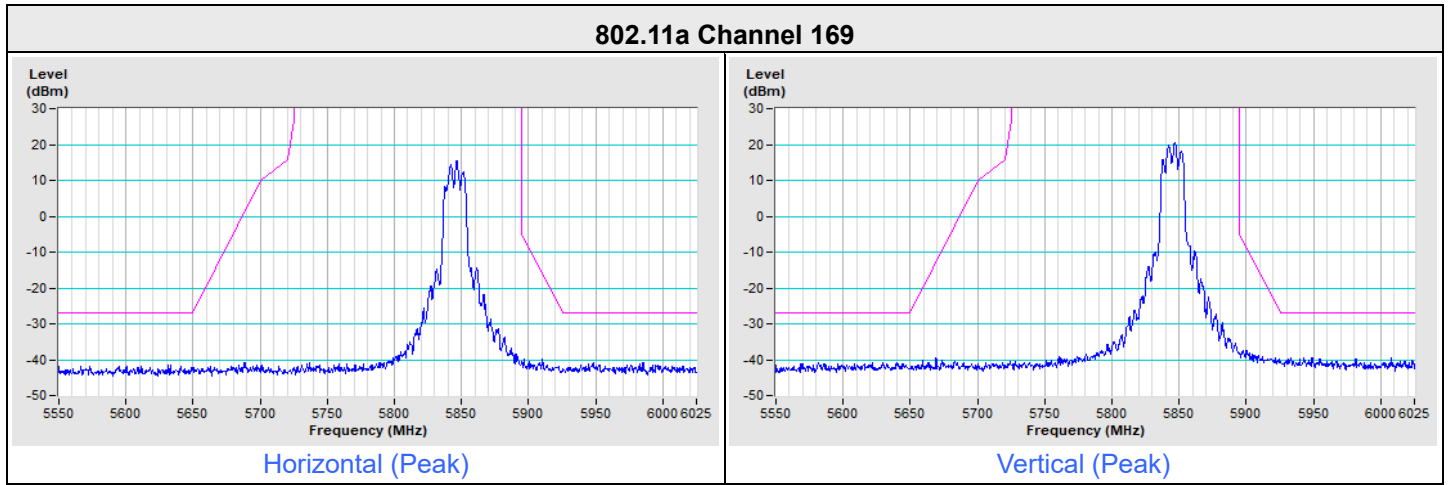
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	62.4 PK	68.2	-5.8	1.80 V	161	56.7	5.7
2	*5815.00	111.3 PK			1.76 V	156	71.4	39.9
3	*5815.00	98.1 AV			1.76 V	156	58.2	39.9
4	#5895.00	82.2 PK	110.2	-28.0	1.68 V	161	76.2	6.0
5	#5895.00	67.2 AV	90.2	-23.0	1.68 V	161	61.2	6.0
6	#5925.00	71.0 PK	88.2	-17.2	1.65 V	157	64.9	6.1
7	#5925.00	58.9 AV	68.2	-9.3	1.65 V	157	52.8	6.1
8	11630.00	54.4 PK	74.0	-19.6	2.95 V	204	37.8	16.6
9	11630.00	40.9 AV	54.0	-13.1	2.95 V	204	24.3	16.6

**Remarks:**

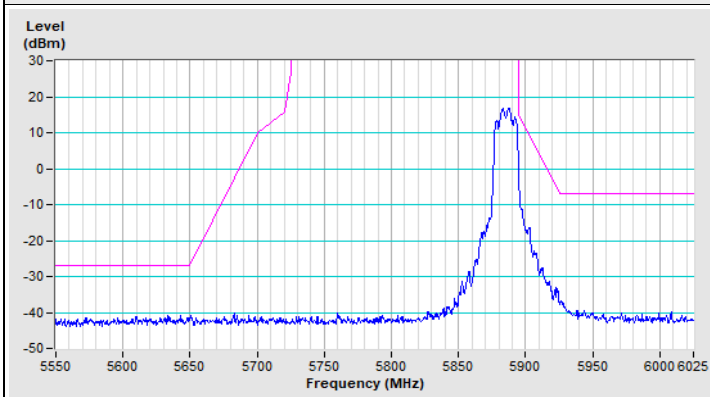
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency,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

**Plot of Band Edge**

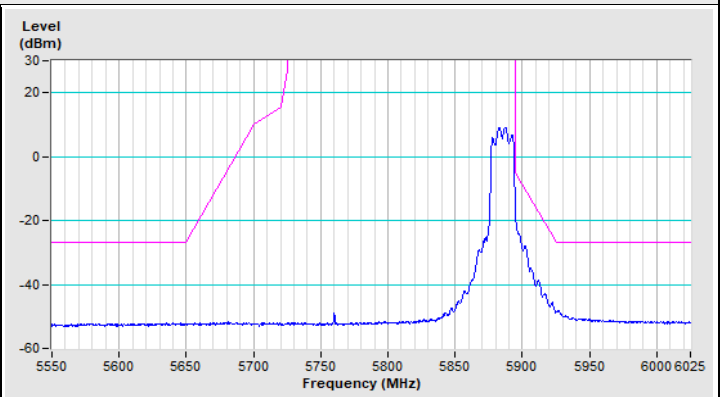
Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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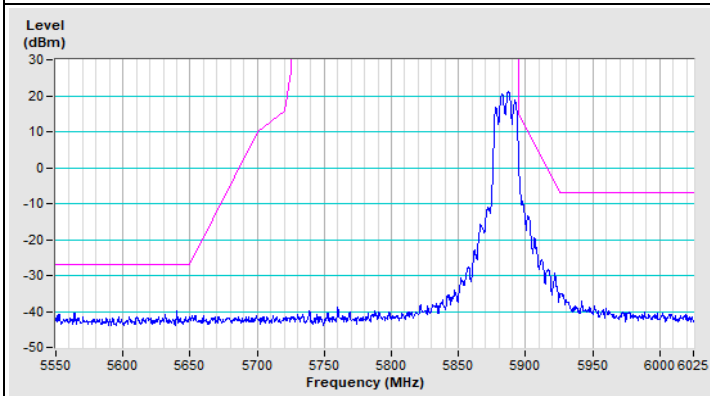
### 802.11a Channel 177



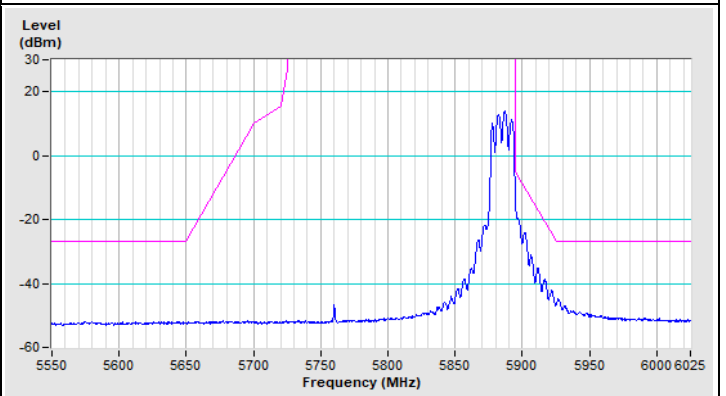
Horizontal (Peak)



Horizontal (Average)



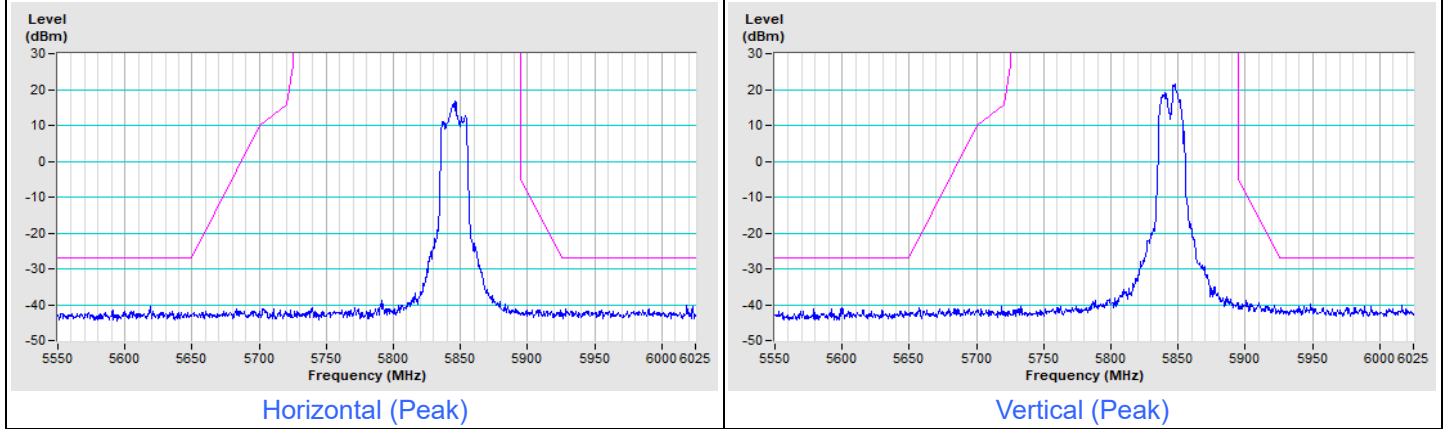
Vertical (Peak)



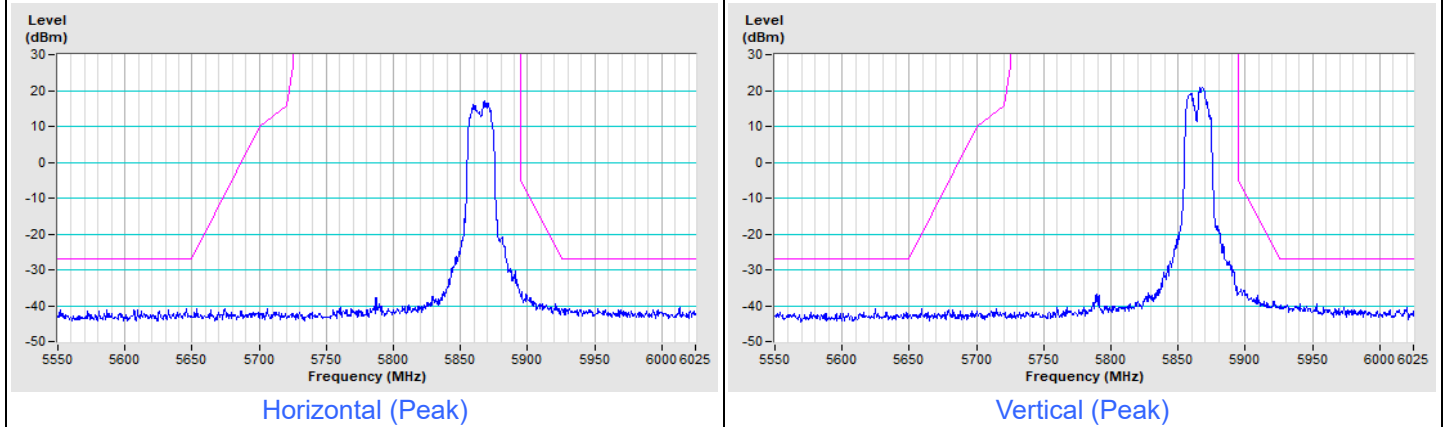
Vertical (Average)

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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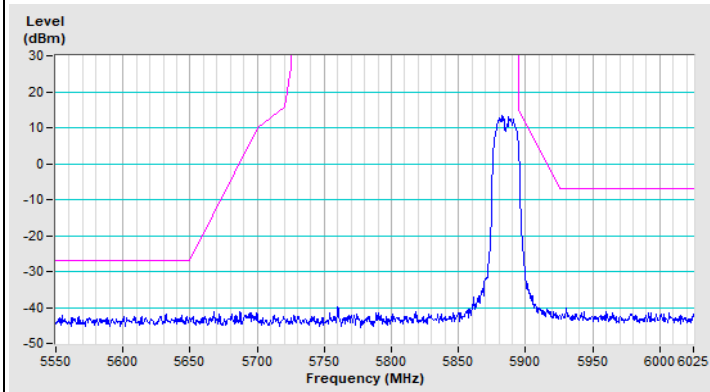
**802.11ax (HE20) Full RU Channel 169**



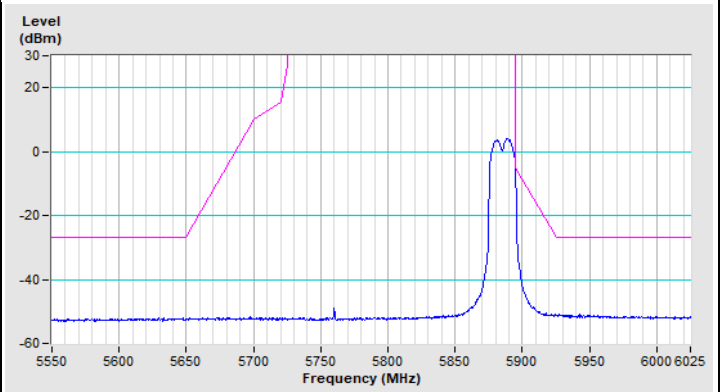
**802.11ax (HE20) Full RU Channel 173**



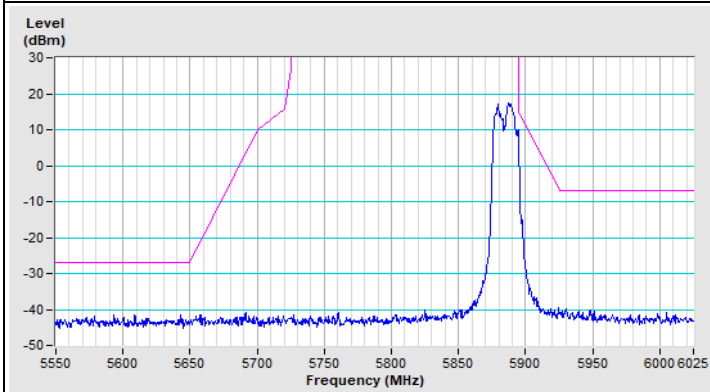
### 802.11ax (HE20) Full RU Channel 177



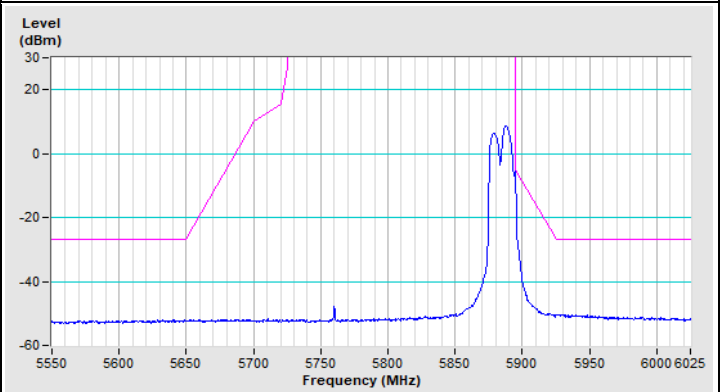
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

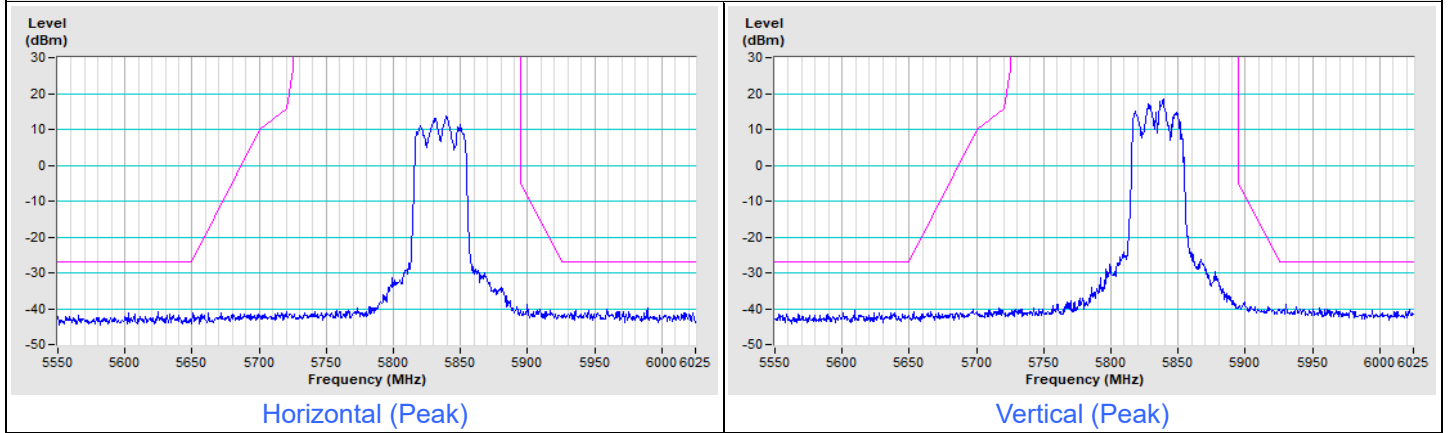


Vertical (Average)

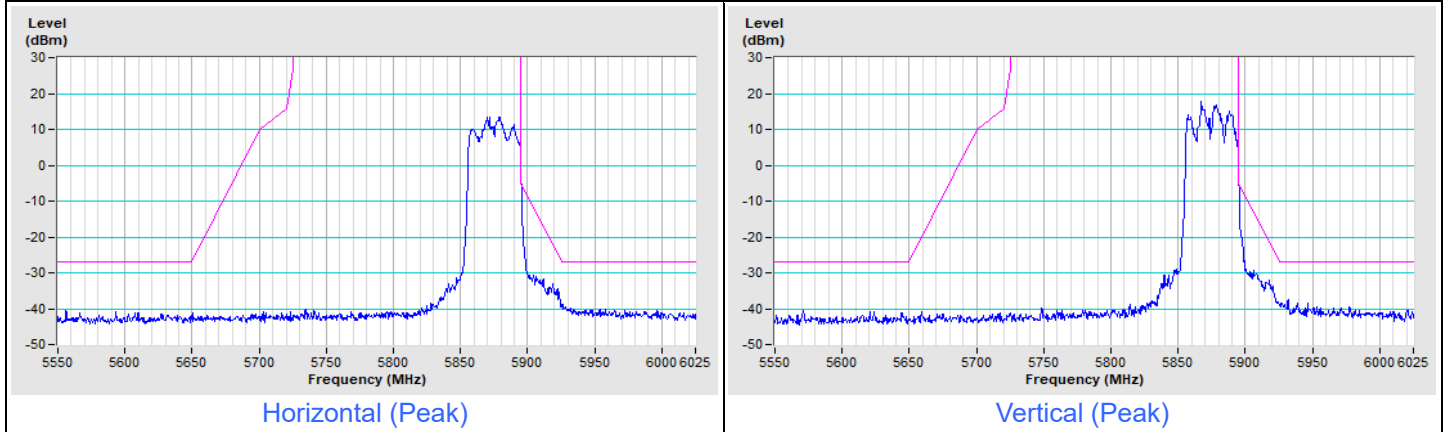


Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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### 802.11ax (HE40) Full RU Channel 167



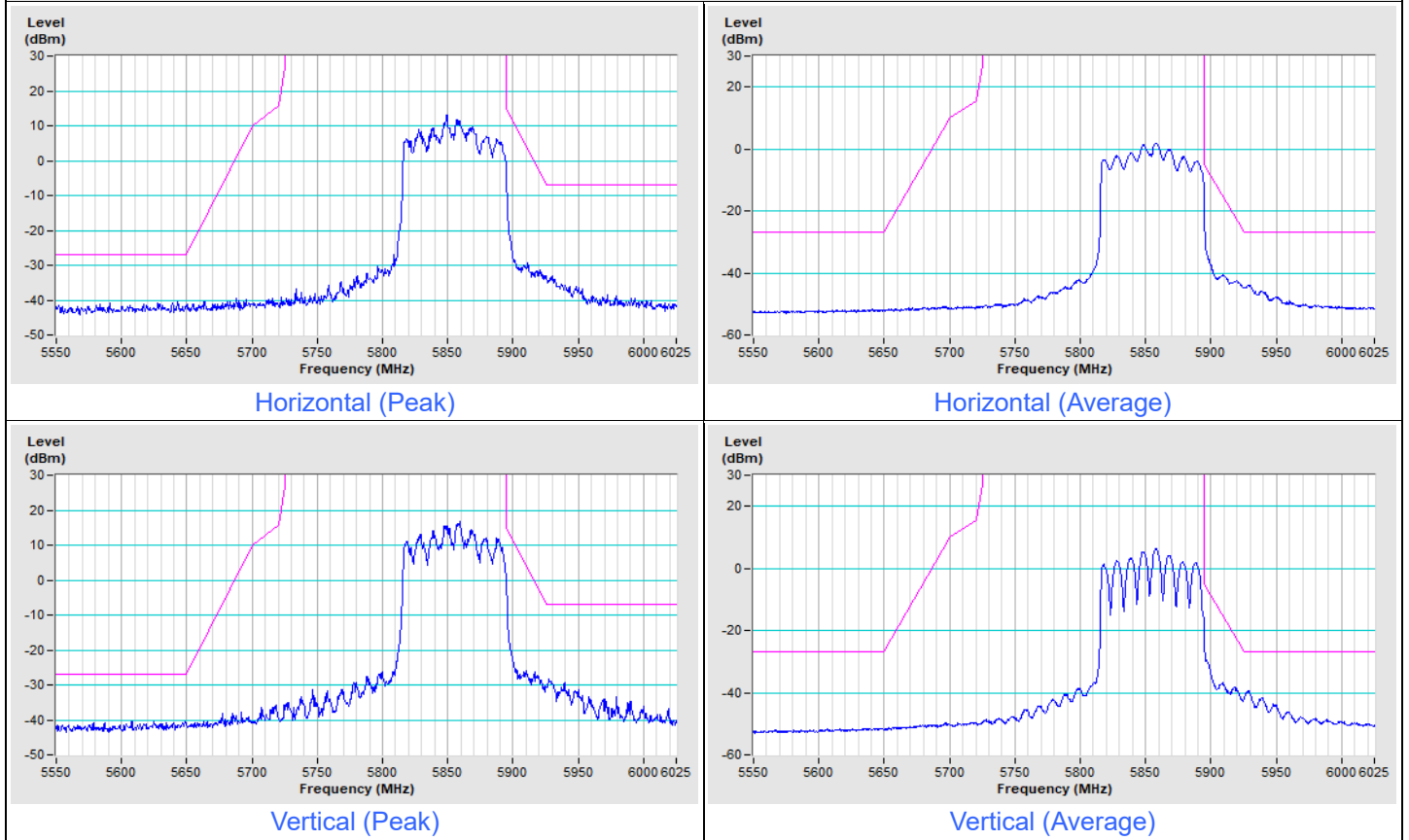
### 802.11ax (HE40) Full RU Channel 175





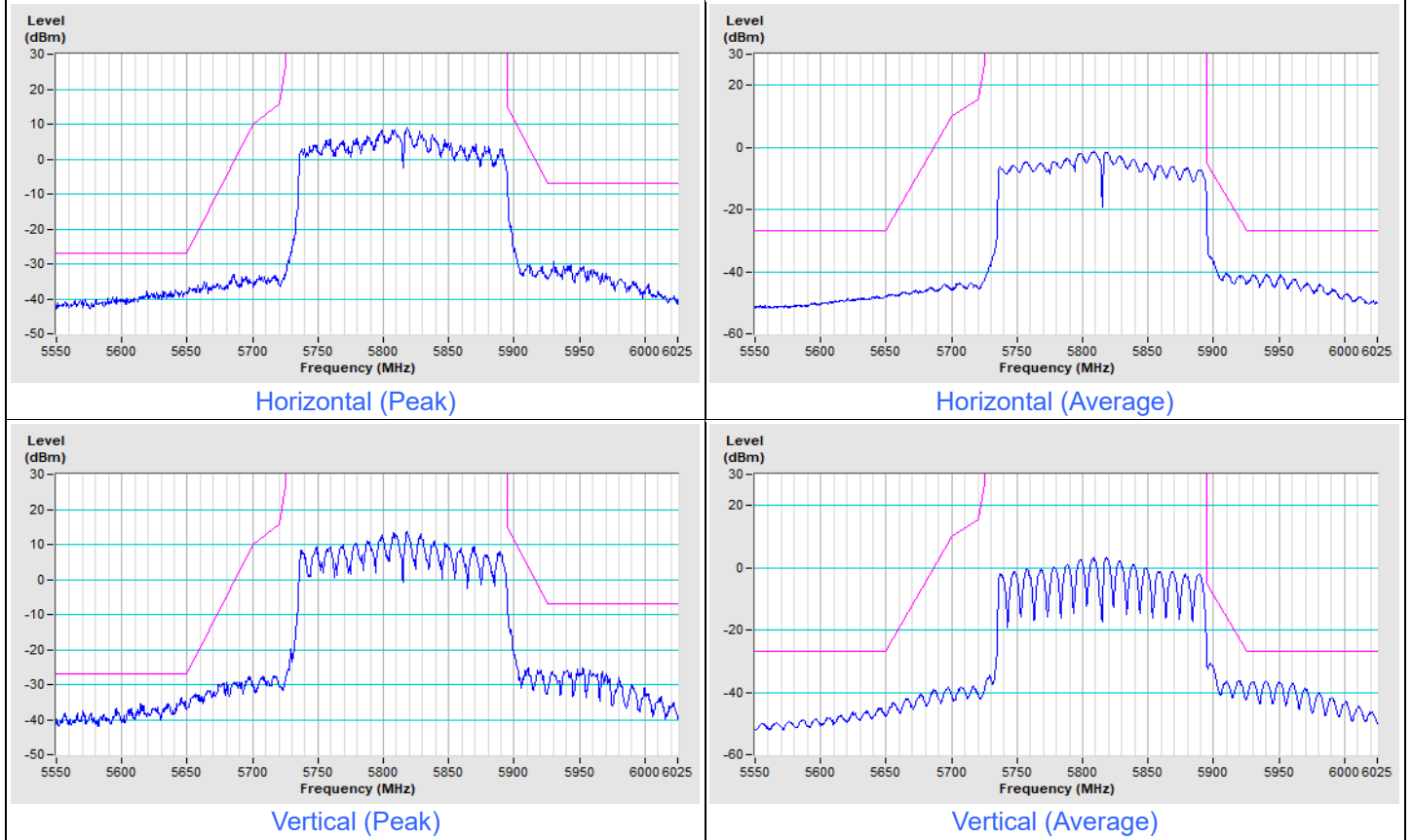
Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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### 802.11ax (HE80) Full RU Channel 171



Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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**802.11ax (HE160) Full RU Channel 163**



**Mode B**

<b>RF Mode</b>	802.11ax (HE20) Full RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

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	50.9 PK	68.2	-17.3	1.48 H	157	45.2	5.7
2	*5885.00	111.4 PK			1.58 H	147	71.1	40.3
3	*5885.00	98.7 AV			1.58 H	147	58.4	40.3
4	#5895.00	93.1 PK	110.2	-17.1	1.57 H	152	87.1	6.0
5	#5895.00	82.9 AV	90.2	-7.3	1.57 H	152	76.9	6.0
6	#5925.00	52.9 PK	88.2	-35.3	1.57 H	152	46.8	6.1
7	#5925.00	41.6 AV	68.2	-26.6	1.57 H	152	35.5	6.1
8	11770.00	53.5 PK	74.0	-20.5	1.39 H	119	37.5	16.0
9	11770.00	38.6 AV	54.0	-15.4	1.39 H	119	22.6	16.0

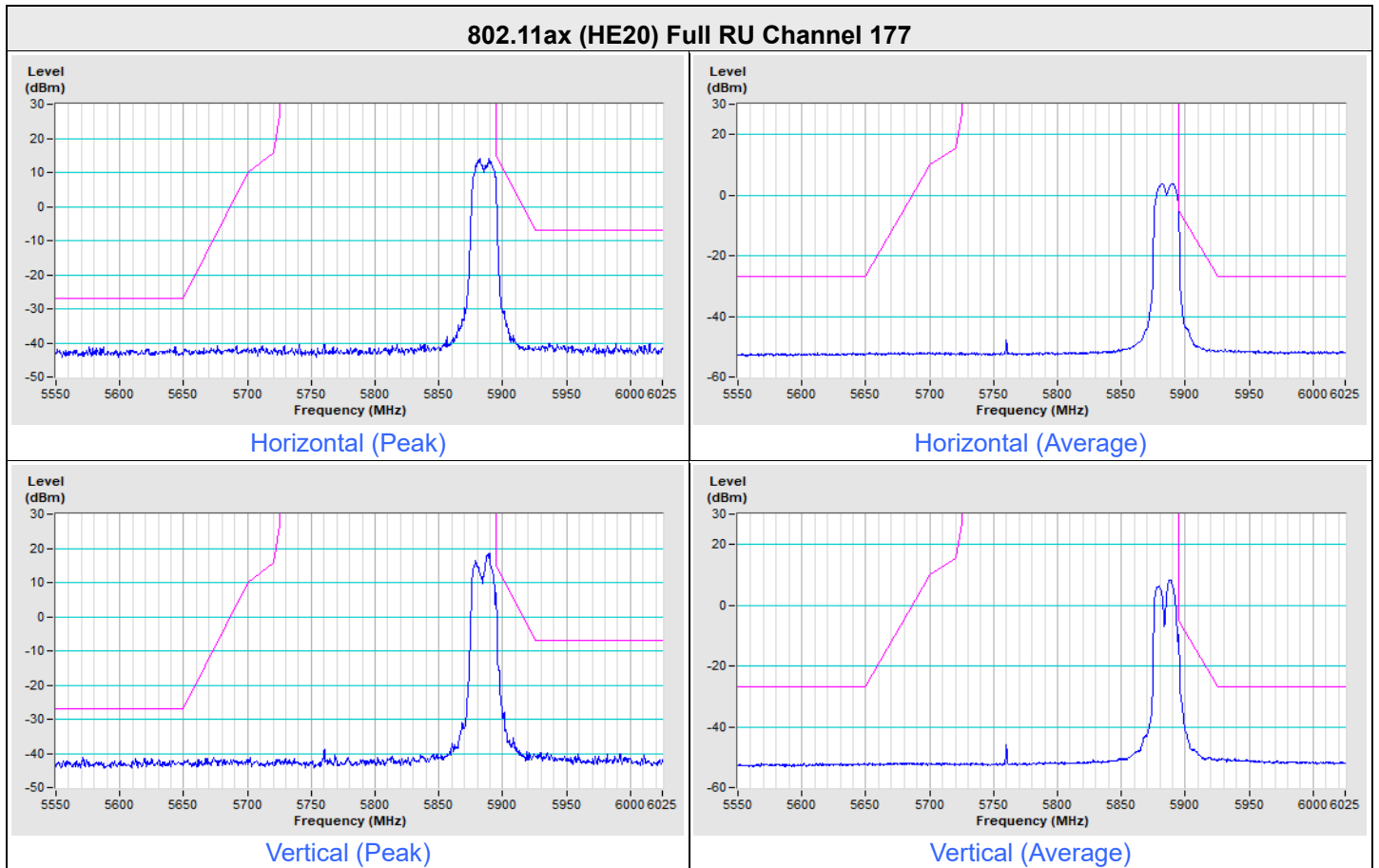
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	51.0 PK	68.2	-17.2	1.61 V	162	45.3	5.7
2	*5885.00	116.7 PK			1.63 V	157	76.4	40.3
3	*5885.00	103.4 AV			1.63 V	157	63.1	40.3
4	#5895.00	95.9 PK	110.2	-14.3	1.56 V	170	89.9	6.0
5	#5895.00	<b>87.3 AV</b>	<b>90.2</b>	<b>-2.9</b>	<b>1.56 V</b>	<b>170</b>	<b>81.3</b>	<b>6.0</b>
6	#5925.00	54.1 PK	88.2	-34.1	1.48 V	150	48.0	6.1
7	#5925.00	42.2 AV	68.2	-26.0	1.48 V	150	36.1	6.1
8	11770.00	54.4 PK	74.0	-19.6	2.85 V	192	38.4	16.0
9	11770.00	40.4 AV	54.0	-13.6	2.85 V	192	24.4	16.0

**Remarks:**

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

### Plot of Band Edge

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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**Partial RU**
**Mode A**

<b>RF Mode</b>	802.11ax (HE20) 26-tone RU	<b>Channel</b>	CH 169 : 5845 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	50.7 PK	68.2	-17.5	1.54 H	159	45.0	5.7
2	*5845.00	114.9 PK			1.44 H	155	74.9	40.0
3	*5845.00	102.8 AV			1.44 H	155	62.8	40.0
4	#5925.00	51.3 PK	68.2	-16.9	1.47 H	157	45.2	6.1
5	11690.00	51.7 PK	74.0	-22.3	1.42 H	123	35.3	16.4
6	11690.00	38.2 AV	54.0	-15.8	1.42 H	123	21.8	16.4

**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	51.0 PK	68.2	-17.2	1.65 V	161	45.3	5.7
2	*5845.00	121.4 PK			1.60 V	164	81.4	40.0
3	*5845.00	109.2 AV			1.60 V	164	69.2	40.0
4	#5925.00	51.8 PK	68.2	-16.4	1.54 V	166	45.7	6.1
5	11690.00	52.7 PK	74.0	-21.3	3.23 V	223	36.3	16.4
6	11690.00	39.0 AV	54.0	-15.0	3.23 V	223	22.6	16.4

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) 26-tone RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	50.5 PK	68.2	-17.7	1.64 H	159	44.8	5.7
2	*5885.00	111.5 PK			1.67 H	149	71.2	40.3
3	*5885.00	98.4 AV			1.67 H	149	58.1	40.3
4	#5895.00	83.1 PK	110.2	-27.1	1.71 H	154	77.1	6.0
5	#5895.00	71.3 AV	90.2	-18.9	1.71 H	154	65.3	6.0
6	#5925.00	51.6 PK	88.2	-36.6	1.69 H	150	45.5	6.1
7	#5925.00	38.2 AV	68.2	-30.0	1.69 H	150	32.1	6.1
8	11770.00	51.7 PK	74.0	-22.3	1.41 H	112	35.7	16.0
9	11770.00	37.9 AV	54.0	-16.1	1.41 H	112	21.9	16.0

**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	50.7 PK	68.2	-17.5	1.97 V	151	45.0	5.7
2	*5885.00	117.6 PK			2.12 V	146	77.3	40.3
3	*5885.00	104.3 AV			2.12 V	146	64.0	40.3
4	#5895.00	90.0 PK	110.2	-20.2	2.33 V	140	84.0	6.0
5	#5895.00	77.9 AV	90.2	-12.3	2.33 V	140	71.9	6.0
6	#5925.00	51.7 PK	88.2	-36.5	2.12 V	151	45.6	6.1
7	#5925.00	38.4 AV	68.2	-29.8	2.12 V	151	32.3	6.1
8	11770.00	52.2 PK	74.0	-21.8	3.30 V	226	36.2	16.0
9	11770.00	38.5 AV	54.0	-15.5	3.30 V	226	22.5	16.0

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) 52-tone RU	<b>Channel</b>	CH 169 : 5845 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.1 PK	68.2	-17.1	1.59 H	154	45.4	5.7
2	*5845.00	114.9 PK			1.51 H	153	74.9	40.0
3	*5845.00	103.1 AV			1.51 H	153	63.1	40.0
4	#5925.00	52.3 PK	68.2	-15.9	1.54 H	149	46.2	6.1
5	11690.00	51.9 PK	74.0	-22.1	1.47 H	125	35.5	16.4
6	11690.00	38.3 AV	54.0	-15.7	1.47 H	125	21.9	16.4

**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	51.2 PK	68.2	-17.0	1.61 V	160	45.5	5.7
2	*5845.00	122.3 PK			1.67 V	164	82.3	40.0
3	*5845.00	109.3 AV			1.67 V	164	69.3	40.0
4	#5925.00	55.1 PK	68.2	-13.1	1.61 V	160	49.0	6.1
5	11690.00	52.8 PK	74.0	-21.2	3.28 V	220	36.4	16.4
6	11690.00	39.1 AV	54.0	-14.9	3.28 V	220	22.7	16.4

**Remarks:**

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





<b>RF Mode</b>	802.11ax (HE20) 52-tone RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.0 PK	68.2	-17.2	1.64 H	154	45.3	5.7
2	*5885.00	76.4 PK			1.71 H	149	70.5	5.9
3	*5885.00	64.7 AV			1.71 H	149	58.8	5.9
4	#5895.00	84.4 PK	110.2	-25.8	1.73 H	151	78.4	6.0
5	#5895.00	73.4 AV	90.2	-16.8	1.73 H	151	67.4	6.0
6	#5925.00	60.5 PK	88.2	-27.7	1.66 H	144	54.4	6.1
7	#5925.00	38.9 AV	68.2	-29.3	1.66 H	144	32.8	6.1
8	11770.00	51.3 PK	74.0	-22.7	1.43 H	125	35.3	16.0
9	11770.00	37.7 AV	54.0	-16.3	1.43 H	125	21.7	16.0

**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	51.2 PK	68.2	-17.0	2.22 V	154	45.5	5.7
2	*5885.00	117.0 PK			2.41 V	143	76.7	40.3
3	*5885.00	105.2 AV			2.41 V	143	64.9	40.3
4	#5895.00	90.0 PK	110.2	-20.2	2.53 V	149	84.0	6.0
5	#5895.00	79.2 AV	90.2	-11.0	2.53 V	149	73.2	6.0
6	#5925.00	64.8 PK	88.2	-23.4	2.42 V	151	58.7	6.1
7	#5925.00	39.9 AV	68.2	-28.3	2.42 V	151	33.8	6.1
8	11770.00	52.3 PK	74.0	-21.7	3.37 V	225	36.3	16.0
9	11770.00	38.7 AV	54.0	-15.3	3.37 V	225	22.7	16.0

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) 106-tone RU	<b>Channel</b>	CH 169 : 5845 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.7 PK	68.2	-16.5	1.49 H	155	46.0	5.7
2	*5845.00	114.9 PK			1.55 H	153	74.9	40.0
3	*5845.00	102.9 AV			1.55 H	153	62.9	40.0
4	#5895.00	69.8 PK	110.2	-40.4	1.51 H	145	63.8	6.0
5	#5895.00	46.1 AV	90.2	-44.1	1.51 H	145	40.1	6.0
6	#5925.00	59.0 PK	88.2	-29.2	1.59 H	154	52.9	6.1
7	#5925.00	39.6 AV	68.2	-28.6	1.59 H	154	33.5	6.1
8	11690.00	51.8 PK	74.0	-22.2	1.43 H	112	35.4	16.4
9	11690.00	38.0 AV	54.0	-16.0	1.43 H	112	21.6	16.4

**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	52.2 PK	68.2	-16.0	1.64 V	161	46.5	5.7
2	*5845.00	121.0 PK			1.57 V	162	81.0	40.0
3	*5845.00	109.2 AV			1.57 V	162	69.2	40.0
4	#5895.00	76.1 PK	110.2	-34.1	1.60 V	164	70.1	6.0
5	#5895.00	50.0 AV	90.2	-40.2	1.60 V	164	44.0	6.0
6	#5925.00	67.7 PK	88.2	-20.5	1.61 V	166	61.6	6.1
7	#5925.00	41.2 AV	68.2	-27.0	1.61 V	166	35.1	6.1
8	11690.00	52.9 PK	74.0	-21.1	3.18 V	215	36.5	16.4
9	11690.00	39.2 AV	54.0	-14.8	3.18 V	215	22.8	16.4

**Remarks:**

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



<b>RF Mode</b>	802.11ax (HE20) 106-tone RU	<b>Channel</b>	CH 177 : 5885 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz AV: RB=1 MHz, VB=10 Hz
<b>Input Power</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22°C, 66% RH
<b>Tested By</b>	Adair Peng		

**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	51.3 PK	68.2	-16.9	1.69 H	147	45.6	5.7
2	*5885.00	111.9 PK			1.74 H	151	71.6	40.3
3	*5885.00	100.4 AV			1.74 H	151	60.1	40.3
4	#5895.00	81.5 PK	110.2	-28.7	1.74 H	143	75.5	6.0
5	#5895.00	70.9 AV	90.2	-19.3	1.74 H	143	64.9	6.0
6	#5925.00	62.2 PK	88.2	-26.0	1.61 H	153	56.1	6.1
7	#5925.00	39.5 AV	68.2	-28.7	1.61 H	153	33.4	6.1
8	11770.00	51.5 PK	74.0	-22.5	1.49 H	126	35.5	16.0
9	11770.00	37.6 AV	54.0	-16.4	1.49 H	126	21.6	16.0

**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	51.5 PK	68.2	-16.7	1.71 V	166	45.8	5.7
2	*5885.00	117.5 PK			1.61 V	157	77.2	40.3
3	*5885.00	106.4 AV			1.61 V	157	66.1	40.3
4	#5895.00	86.8 PK	110.2	-23.4	2.37 V	140	80.8	6.0
5	#5895.00	75.8 AV	90.2	-14.4	2.37 V	140	69.8	6.0
6	#5925.00	67.1 PK	88.2	-21.1	1.63 V	160	61.0	6.1
7	#5925.00	40.8 AV	68.2	-27.4	1.63 V	160	34.7	6.1
8	11770.00	52.4 PK	74.0	-21.6	3.41 V	233	36.4	16.0
9	11770.00	38.6 AV	54.0	-15.4	3.41 V	233	22.6	16.0

**Remarks:**

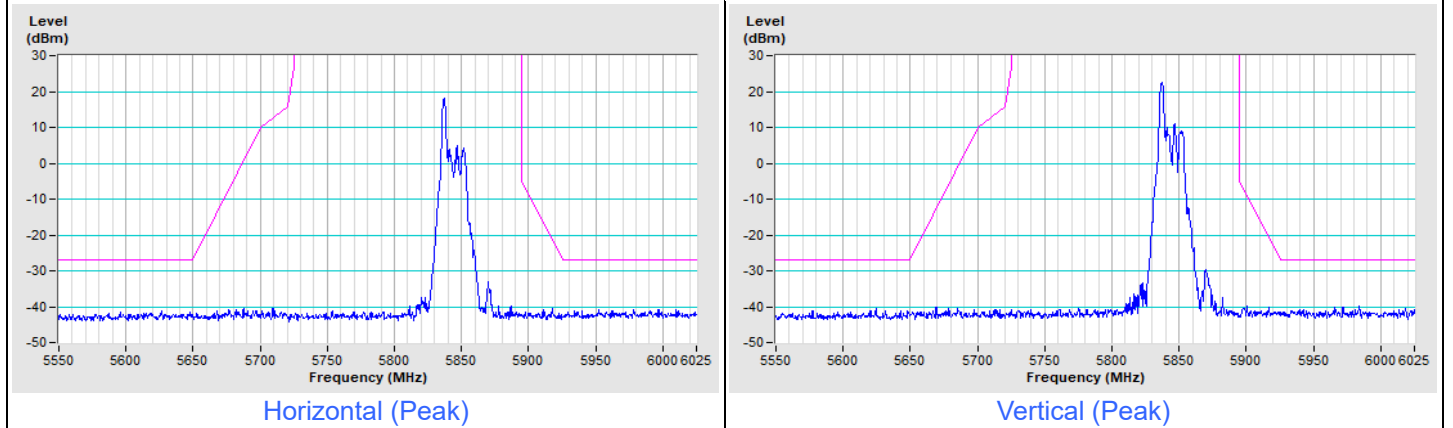
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2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* ": Fundamental frequency, the limit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



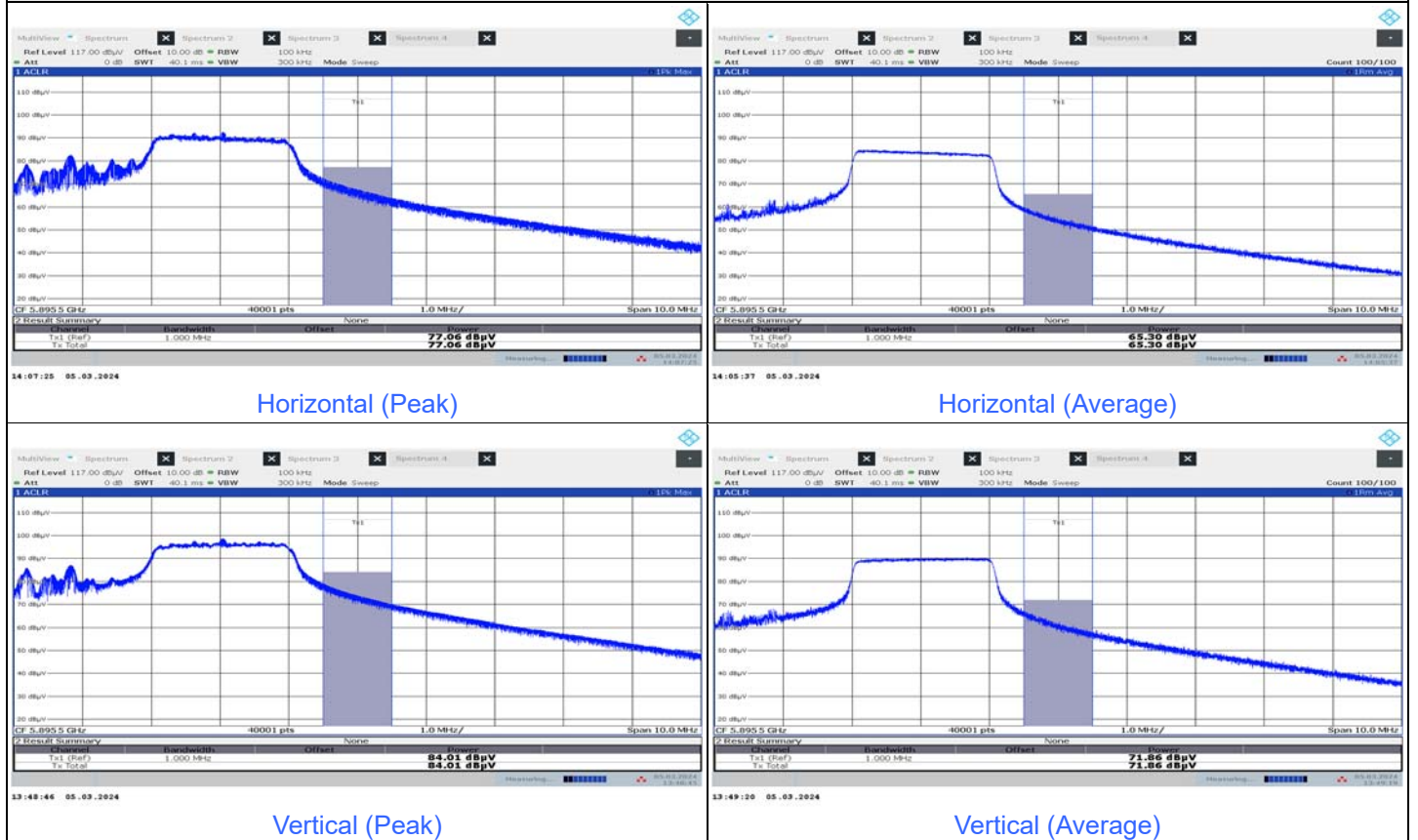
### Plot of Band Edge

Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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#### 802.11ax (HE20) 26-tone RU Channel 169



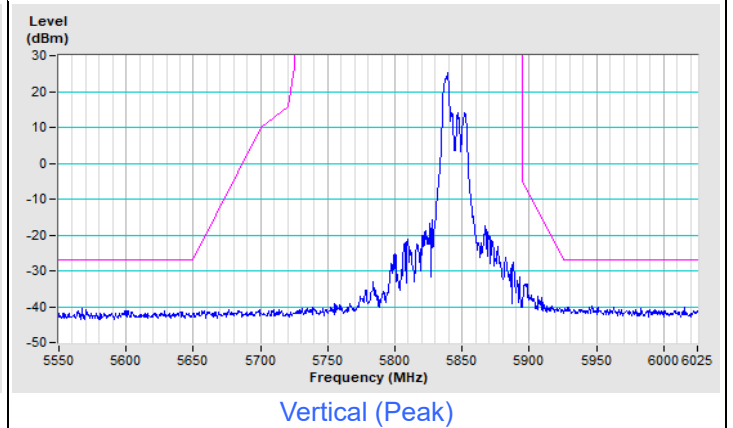
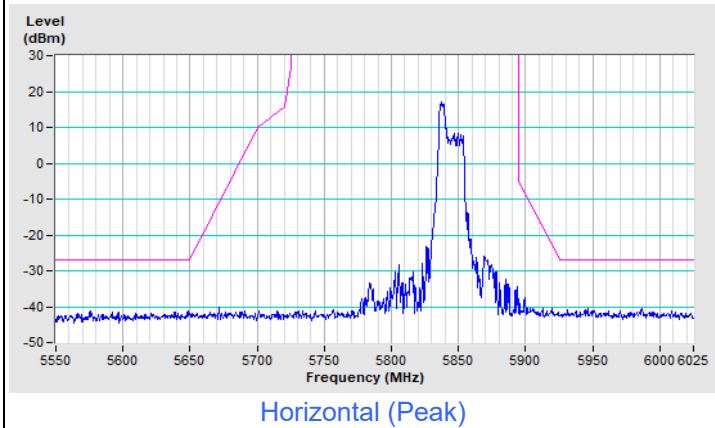
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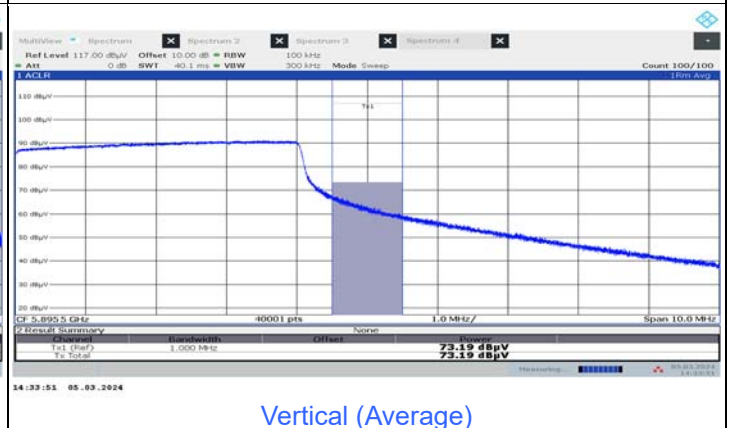
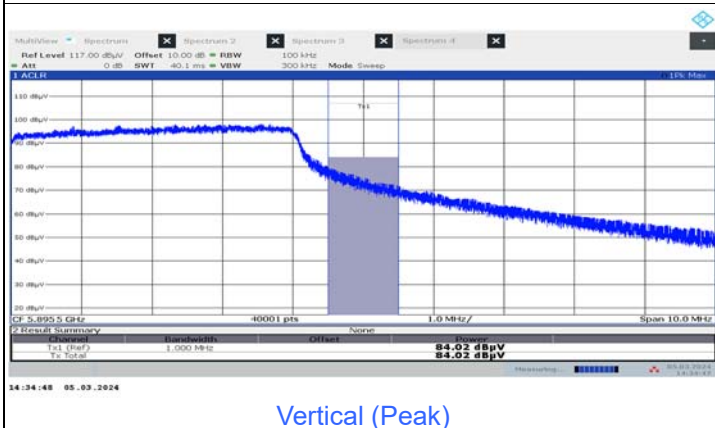
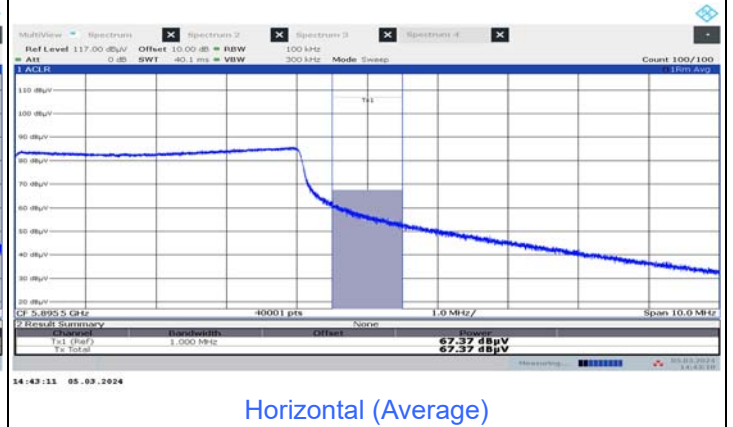
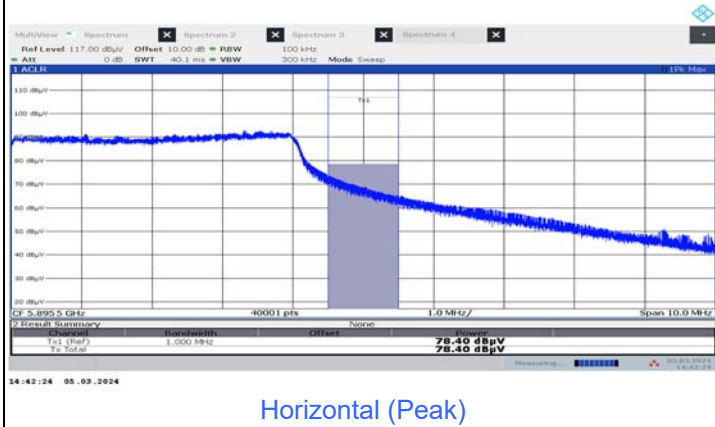


Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
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### 802.11ax (HE20) 52-tone RU Channel 169

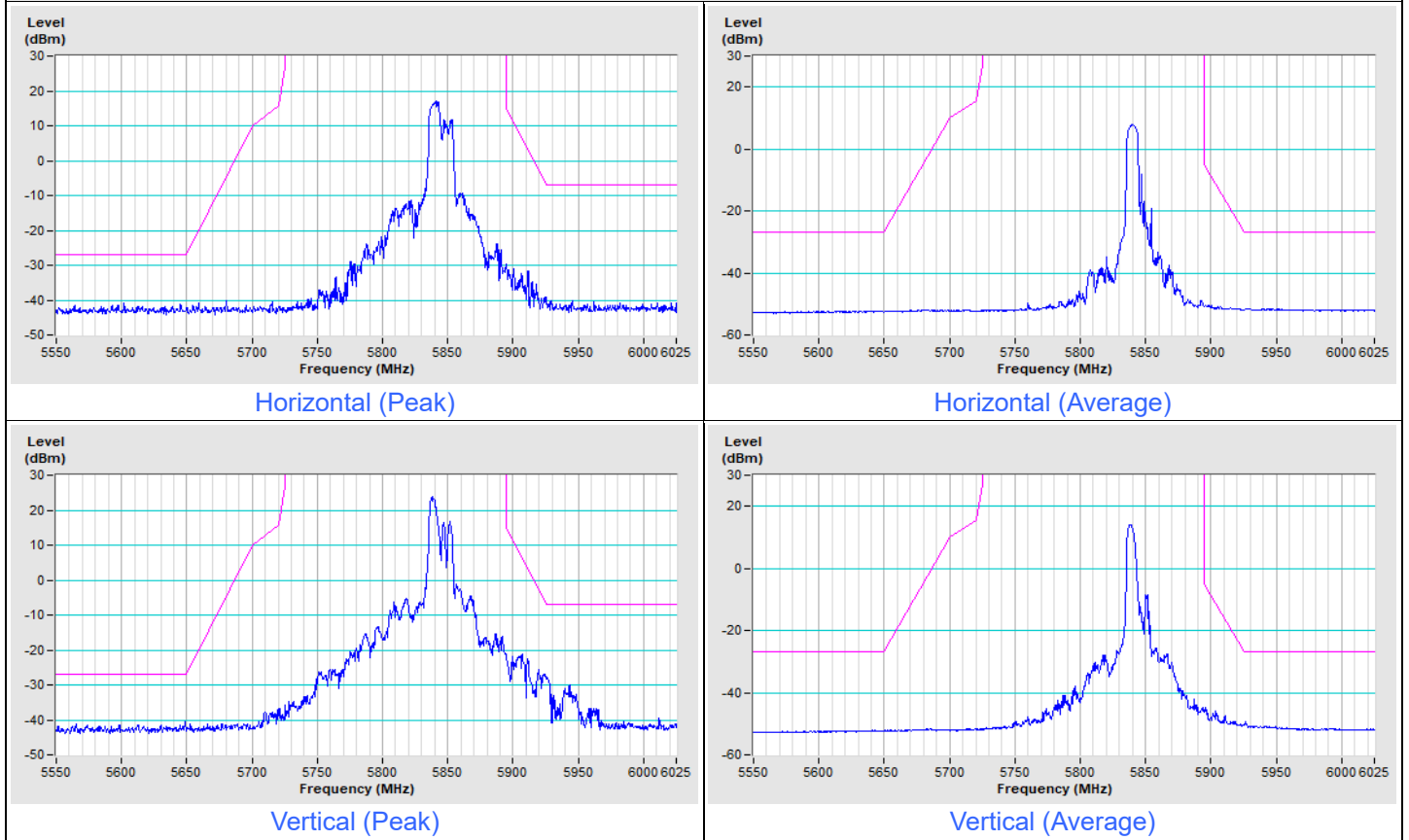


### 802.11ax (HE20) 52-tone RU Channel 177



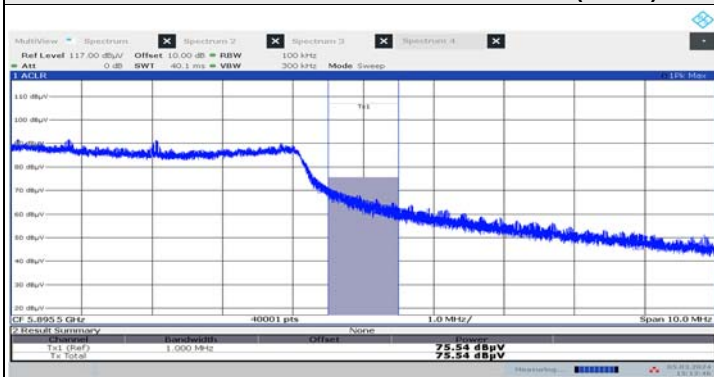
Frequency Range	5.55 GHz ~ 6.025 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz (RMS)
-----------------	----------------------	-------------------------------	--

**802.11ax (HE20) 106-tone RU Channel 173**

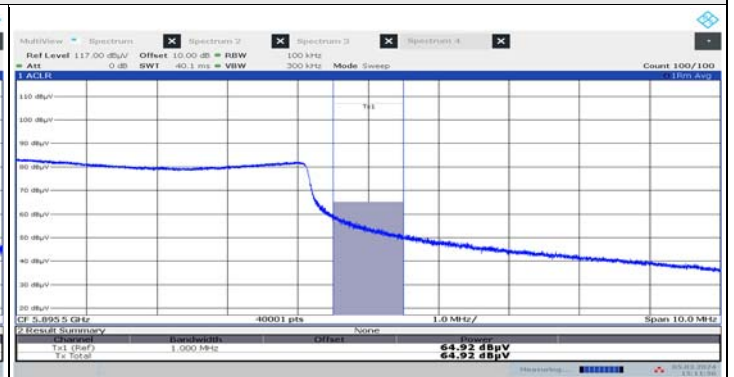




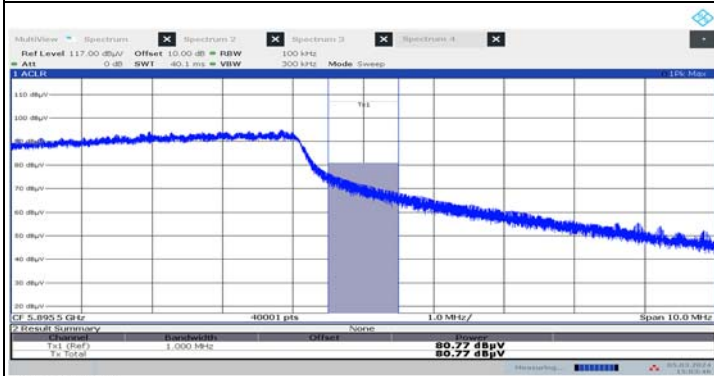
### 802.11ax (HE20) 106-tone RU Channel 177



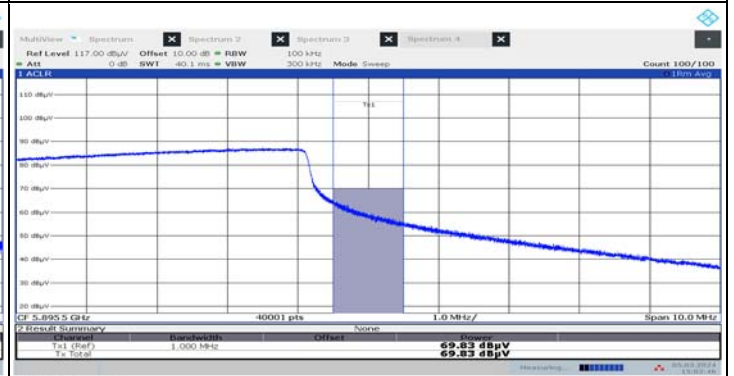
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

## 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.

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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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