

# TEST REPORT

## CERTIFICATE OF CONFORMITY

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

**Report No.:** RFBARR-WTW-P23110067F-4

**FCC ID:** RAS-MT7925B14L

**Product:** 2TX 11be (WiFi7) BW160 + BT/BLE Combo Card

**Brand:** MediaTek

**Model No.:** MT7925B14L

**Received Date:** 2024/8/30

**Test Date:** 2024/9/6 ~ 2024/9/15

**Issued Date:** 2024/9/27

**Applicant:** MediaTek Inc.

**Address:** No. 1, Dusing 1st Rd., Hsinchu Science Park, Hsinchu City, 30078 Taiwan

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

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

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

**FCC Registration /** 723255 / TW2022

**Designation Number:**

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

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

2024/9/27

May Chen / Manager

This test report consists of 41 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.

Prepared by: Vito Lung / Specialist



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## Table of Contents

<b>Release Control Record .....</b>	<b>3</b>
<b>1      Certificate.....</b>	<b>4</b>
<b>2      Summary of Test Results .....</b>	<b>5</b>
2.1    Measurement Uncertainty .....	5
2.2    Supplementary Information .....	5
<b>3      General Information .....</b>	<b>6</b>
3.1    General Description of EUT .....	6
3.2    Antenna Description of EUT .....	8
3.3    Channel List.....	10
3.4    Test Mode Applicability and Tested Channel Detail.....	11
3.5    Duty Cycle of Test Signal.....	12
3.6    Test Program Used and Operation Descriptions .....	13
3.7    Connection Diagram of EUT and Peripheral Devices .....	13
3.8    Configuration of Peripheral Devices and Cable Connections .....	14
<b>4      Test Instruments .....</b>	<b>15</b>
4.1    AC Power Conducted Emissions .....	15
4.2    Unwanted Emissions below 1 GHz .....	15
4.3    Unwanted Emissions above 1 GHz.....	16
<b>5      Limits of Test Items.....</b>	<b>18</b>
5.1    AC Power Conducted Emissions .....	18
5.2    Unwanted Emissions below 1 GHz .....	18
5.3    Unwanted Emissions above 1 GHz.....	18
<b>6      Test Arrangements.....</b>	<b>19</b>
6.1    AC Power Conducted Emissions .....	19
6.1.1    Test Setup .....	19
6.1.2    Test Procedure.....	19
6.2    Unwanted Emissions below 1 GHz .....	20
6.2.1    Test Setup .....	20
6.2.2    Test Procedure.....	21
6.3    Unwanted Emissions above 1 GHz.....	23
6.3.1    Test Setup .....	23
6.3.2    Test Procedure.....	23
<b>7      Test Results of Test Item .....</b>	<b>25</b>
7.1    AC Power Conducted Emissions .....	25
7.2    Unwanted Emissions below 1 GHz .....	27
7.3    Unwanted Emissions above 1 GHz.....	30
<b>8      Pictures of Test Arrangements .....</b>	<b>40</b>
<b>9      Information of the Testing Laboratories .....</b>	<b>41</b>

## Release Control Record

Issue No.	Description	Date Issued
RFBARR-WTW-P23110067F-4	Original release.	2024/9/27

## 1 Certificate

**Product:** 2TX 11be (WiFi7) BW160 + BT/BLE Combo Card

**Brand:** MediaTek

**Test Model:** MT7925B14L

**Sample Status:** Engineering sample

**Applicant:** MediaTek Inc.

**Test Date:** 2024/9/6 ~ 2024/9/15

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

**Measurement**

**procedure:** ANSI C63.10-2013

KDB 291074 D02 EMC Measurement v01

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(a)(3)	RF Output Power	N/A	Refer to Note 1 below
15.407(a)(3)	Power Spectral Density	N/A	Refer to Note 1 below
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -12.71 dB at 16.46484 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -0.2 dB at 287.38 MHz
15.407(b)(5) 15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -4.16 dB at 5907.17 MHz
15.407(e)	6 dB Bandwidth	N/A	Refer to Note 1 below
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Notes:

1. AC Power Conducted Emissions and Unwanted Emissions test items were performed for this addendum. The others testing data refer to original test report.
2. 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) ( $\pm$ )
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.5 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

### 2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	2TX 11be (WiFi7) BW160 + BT/BLE Combo Card
Brand	MediaTek
Test Model	MT7925B14L
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax mode 4096QAM for OFDMA in 11be mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2401.9 Mbps 802.11be: up to 2882.4 Mbps
Operating Frequency	5.815 GHz ~ 5.885 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20): 3 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40): 2 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80): 1 802.11ac (VHT160), 802.11ax (HE160), 802.11be (EHT160): 1
Resource Unit (RU)	Single RU: 26-tone, 52-tone, 106-tone, 242-tone, 484-tone, 996-tone, 2 * 996-tone Multi-RU (Small RU): 52-tone + 26-tone, 106-tone + 26-tone Multi-RU (Large RU): 484-tone + 242-tone, 996-tone + 484-tone, 996-tone + 484-tone + 242-tone
Channel Puncturing (Large RU)	<b>1TX:</b> EIRP: 656.146 mW (28.17 dBm) <b>2TX:</b> EIRP: 941.396 mW (29.74 dBm)
Output Power	Client device

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RFBARR-WTW-P23110067-4 as the following:
  - ◆ Add Monopole Antenna (Refer to Section 3.2).
2. According to above condition, only AC Power Conducted Emissions and Unwanted Emissions test items need to be performed. And all data were verified to meet the requirements.
3. There are Bluetooth and WLAN (2.4 GHz & 5 GHz & 5.9 GHz & 6 GHz) technology used for the EUT.
4. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (5 GHz) (2TX)	Bluetooth
2	WLAN (5.9 GHz) (2TX)	Bluetooth
3	WLAN (6 GHz) (2TX)	Bluetooth
4	WLAN (2.4 GHz) (1TX)	WLAN (5 GHz) (1TX)
5	WLAN (2.4 GHz) (1TX)	WLAN (5.9 GHz) (1TX)
6	WLAN (2.4 GHz) (1TX)	WLAN (6 GHz) (1TX)

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

5. The EUT support OFDMA and Partial RU mode, therefore partial RU combination were investigated and the worst case scenario was identified.



BUREAU  
VERITAS

6. The EUT support MRU mode is listed as below.

BW	Small size		Large size		
	52+26-tone MRU	106+26-tone MRU	484+242-tone MRU	996+484-tone MRU	996+484+242-tone MRU
20 MHz	v	v	-	-	-
40 MHz	v	v	-	-	-
80 MHz	v	v	v	-	-
160 MHz	v	v	v	v	v

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

### 3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Original								
Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain0	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.895	PIFA	i-pex(MHF)	200
	Chain1	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.895	PIFA	i-pex(MHF)	200
2	Chain0	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200
	Chain1	PSA	RFMTA311020EMMB301	1.71 4.82 4.76 4.29 4.61 4.09	2.4~2.4835 5.15~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	200
3	Chain0	PSA	RFMTA421230IMMB701	-13.92 -13.91 -13.91 -14.46	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	300
	Chain1	PSA	RFMTA421230IMMB701	-13.92 -13.91 -13.91 -14.46	5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	PIFA	i-pex(MHF)	300
Newly								
Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
4	Chain0	HongBo	260-25096	3.11 4.88 4.91 4.9 4.9 4.87 4.73 4.29 4.58 4.09	2.4~2.4835 5.15~5.250 5.25~5.35 5.47~5.725 5.725~5.85 5.85~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Monopole	i-pex(MHF)	300
	Chain1	HongBo	260-25096	3.11 4.88 4.91 4.9 4.9 4.87 4.73 4.29 4.58 4.09	2.4~2.4835 5.15~5.250 5.25~5.35 5.47~5.725 5.725~5.85 5.85~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Monopole	i-pex(MHF)	300

Note: Max. gain was selected for the final test.

\* 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		CDD Mode	Beamforming Mode
802.11a	SIMO	1TX (Diversity)	2RX	Not Support
802.11n (HT20)		1TX (Diversity)	2RX	Not Support
802.11n (HT40)		1TX (Diversity)	2RX	Not Support
802.11ac (VHT20)		1TX (Diversity)	2RX	Not Support
802.11ac (VHT40)		1TX (Diversity)	2RX	Not Support
802.11ac (VHT80)		1TX (Diversity)	2RX	Not Support
802.11ac (VHT160)		1TX (Diversity)	2RX	Not Support
802.11ax (HE20)		1TX (Diversity)	2RX	Not Support
802.11ax (HE40)		1TX (Diversity)	2RX	Not Support
802.11ax (HE80)		1TX (Diversity)	2RX	Not Support
802.11ax (HE160)		1TX (Diversity)	2RX	Not Support
802.11be (EHT20)		1TX (Diversity)	2RX	Not Support
802.11be (EHT40)		1TX (Diversity)	2RX	Not Support
802.11be (EHT80)		1TX (Diversity)	2RX	Not Support
802.11be (EHT160)		1TX (Diversity)	2RX	Not Support
802.11ax (RU26/52/106/242/484/996/2x996)		1TX (Diversity)	2RX	Not Support
802.11be (RU26/52/106/242/484/996/2x996 MRU52+26/106+26/ 484+242/996+484/996+484+242)		1TX (Diversity)	2RX	Not Support
802.11a	MIMO	2TX	2RX	Support
802.11n (HT20)		2TX	2RX	Support NSS2
802.11n (HT40)		2TX	2RX	Support NSS2
802.11ac (VHT20)		2TX	2RX	Support NSS2
802.11ac (VHT40)		2TX	2RX	Support NSS2
802.11ac (VHT80)		2TX	2RX	Support NSS2
802.11ac (VHT160)		2TX	2RX	Support NSS2
802.11ax (HE20)		2TX	2RX	Support NSS2
802.11ax (HE40)		2TX	2RX	Support NSS2
802.11ax (HE80)		2TX	2RX	Support NSS2
802.11ax (HE160)		2TX	2RX	Support NSS2
802.11be (EHT20)		2TX	2RX	Support NSS2
802.11be (EHT40)		2TX	2RX	Support NSS2
802.11be (EHT80)		2TX	2RX	Support NSS2
802.11be (EHT160)		2TX	2RX	Support NSS2
802.11ax (RU26/52/106/242/484/996/2x996)		2TX	2RX	Support NSS2
802.11be (RU26/52/106/242/484/996/2x996 MRU52+26/106+26/ 484+242/996+484/996+484+242)		2TX	2RX	Support NSS2

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), 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) and 802.11be mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) therefore the manufacturer will control the power for 802.11n/ac/ax mode is same as the 802.11be 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), 802.11be (EHT20):

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), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
*167	5835 MHz	175	5875 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency
*171	5855 MHz

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160), 802.11be (EHT160):

Channel	Frequency
*163	5815 MHz

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

### 3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.					
-----------	---	--	--	--	--	--

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

Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	C	802.11be (EHT40)	2S2T	175	BPSK	MCS0
Unwanted Emissions below 1 GHz	A, B	802.11be (EHT40)	2S2T	175	BPSK	MCS0
Unwanted Emissions above 1 GHz	A, B	802.11be (EHT40)	1S1T 2S2T	167 175	BPSK BPSK	MCS0 MCS0
EUT Configure Mode:	A	EUT only (remove 50 ohm terminator and Connect to the appropriate equipment)				
	B	EUT with 50 ohm terminator				
	C	EUT with antenna (Monopole Antenna)				

Note: Channel puncturing mechanism is not supported.

### 3.5 Duty Cycle of Test Signal

#### For 1TX

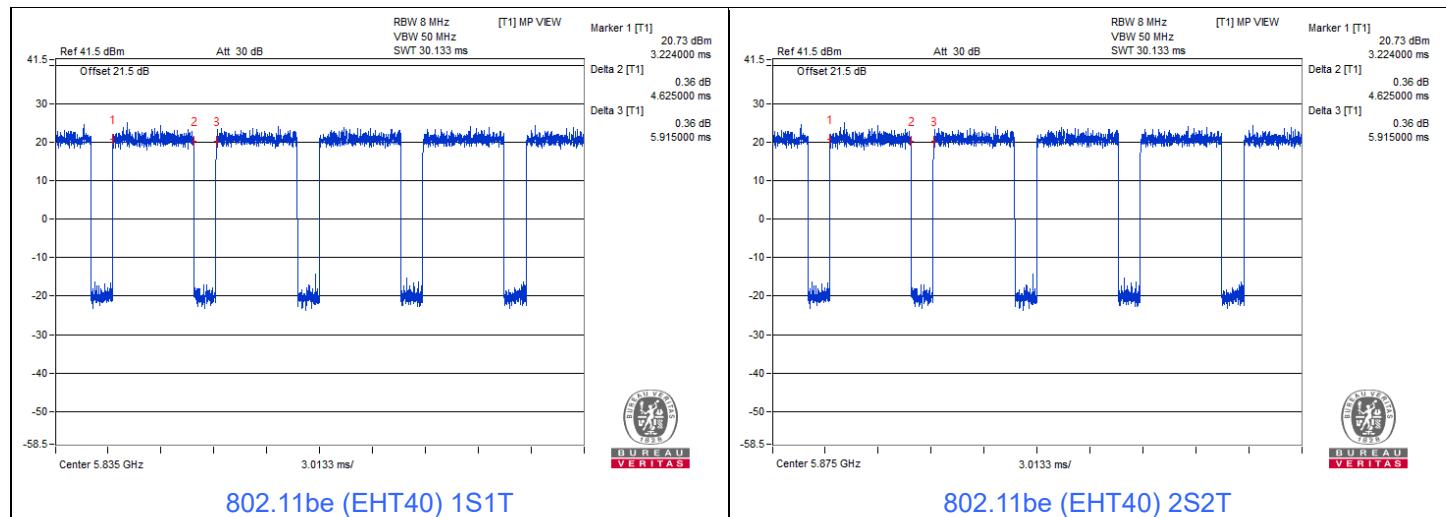
##### 802.11be (EHT40) 1S1T:

Duty cycle =  $4.625 \text{ ms} / 5.915 \text{ ms} \times 100\% = 78.2\%$ , duty factor =  $10 \times \log (1/\text{Duty cycle}) = 1.07 \text{ dB}$

#### For 2TX

##### 802.11be (EHT40) 2S2T:

Duty cycle =  $4.625 \text{ ms} / 5.915 \text{ ms} \times 100\% = 78.2\%$ , duty factor =  $10 \times \log (1/\text{Duty cycle}) = 1.07 \text{ dB}$

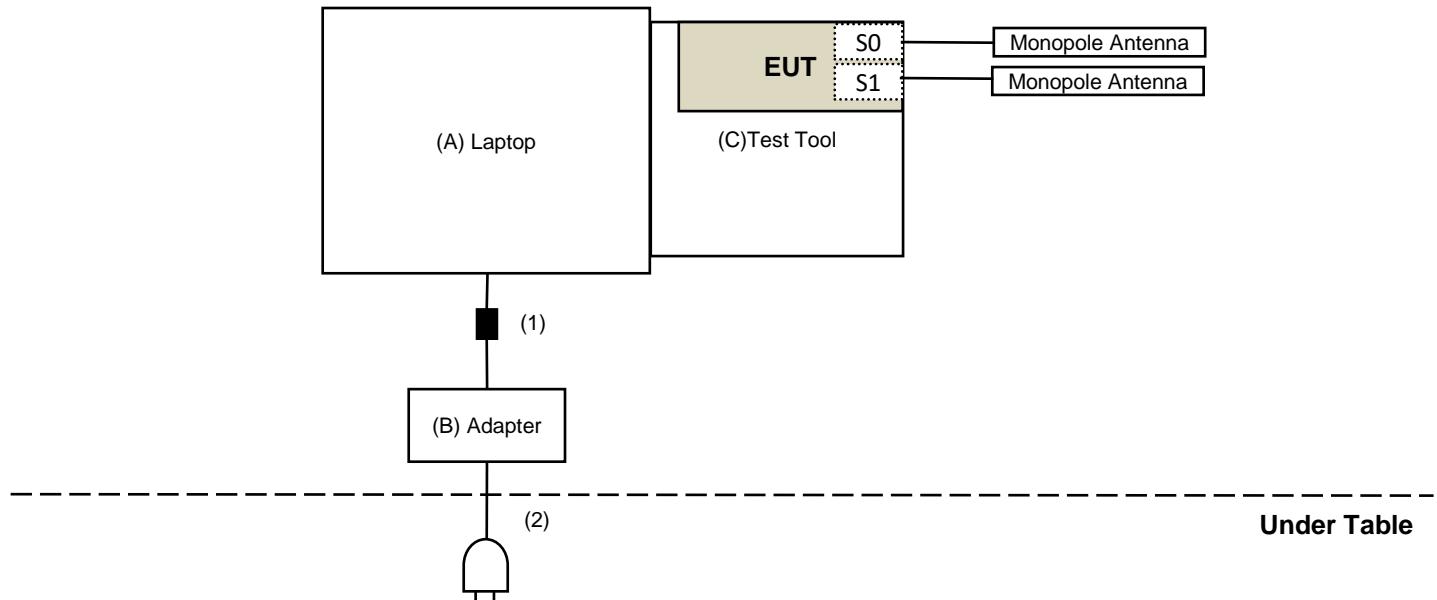


### 3.6 Test Program Used and Operation Descriptions

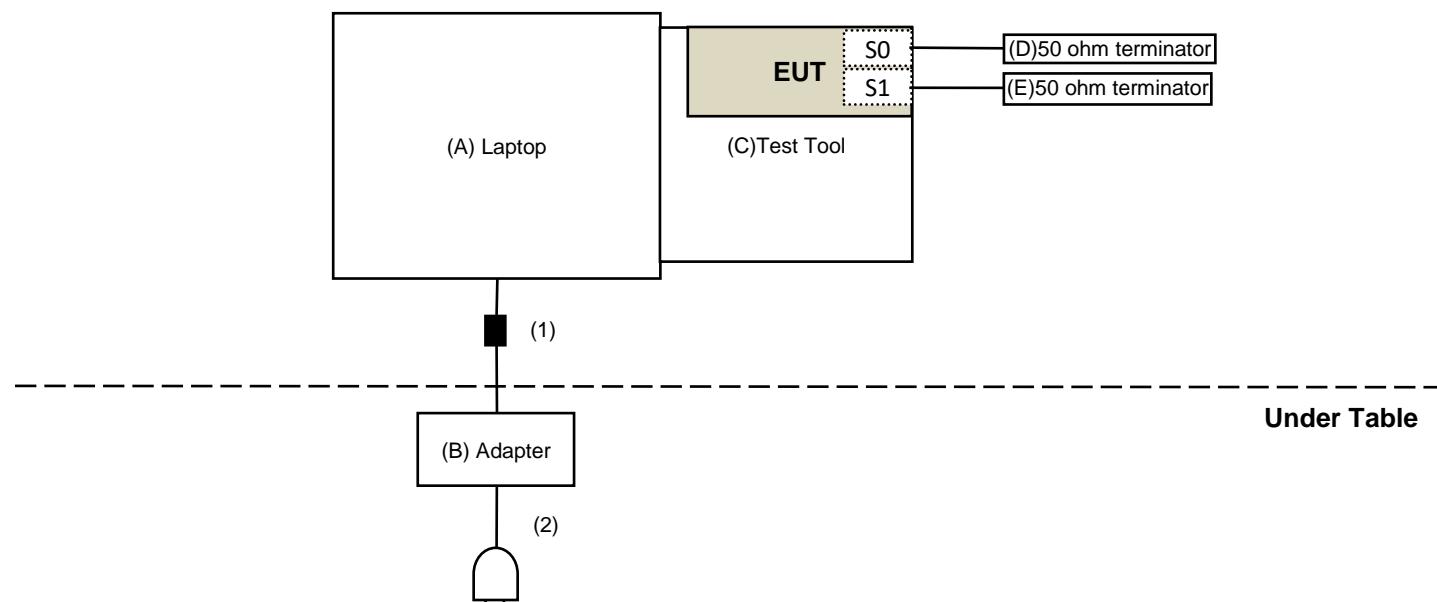
Controlling software (QAtool\_V16 (0.0.2.104)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices

#### For AC Power Conducted Emission test



#### For Unwanted Emission test



### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Dell	Latitude 5480	14CSPH2	N/A	Provided by Lab
B	Adapter	DELL	LLA65NS2-01	N/A	N/A	Provided by Lab
C	Test Tool	Mediatek	MTK1849	N/A	N/A	Supplied by applicant
D	50 Ohm terminator	WOKEN	WTER-18S2	N/A	N/A	Provided by Lab
E	50 Ohm terminator	WOKEN	WTER-18S2	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	1	Provided by Lab
2	AC Cable	1	1.7	No	0	Provided by Lab

## 4 Test Instruments

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

### 4.1 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2023/10/20	2024/10/19
EMI Test Receiver R&S	ESCS 30	847124/029	2023/10/18	2024/10/17
Fixed Attenuator STI	STI02-2200-10	005	2024/2/19	2025/2/18
LISN R&S	ESH3-Z5	835239/001	2024/4/3	2025/4/2
		848773/004	2023/10/13	2024/10/12
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2024/2/19	2025/2/18
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2024/9/9 ~ 2024/9/10

### 4.2 Unwanted Emissions below 1 GHz

#### Mode A

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
MXA Signal Analyzer Keysight	N9020B	MY60112408	2024/3/7	2025/3/6
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2024/9/8

**Mode B**

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-406	2023/10/13	2024/10/12
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2024/2/17	2025/2/16
Loop Antenna Electro-Metrics	EM-6879	264	2024/2/23	2025/2/22
MXE EMI Receiver Agilent	N9038A	MY51210202	2024/7/29	2025/7/28
Preamplifier EMCI	EMC330N	980701	2024/2/17	2025/2/16
	EMC001340	980142	2024/2/19	2025/2/18
RF Coaxial Cable JYEBAO	5D-FB	LOOPCAB-001	2024/2/19	2025/2/18
		LOOPCAB-002	2024/2/19	2025/2/18
RF Coaxial Cable mTJ	100100-CFD400LW-200	CFD400-200	2024/2/17	2025/2/16
	100100-CFD400LW-400	CFD400-400	2024/2/17	2025/2/16
	100100-CFD400LW-800	CFD400-800	2024/2/17	2025/2/16
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

## Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2024/9/6

**4.3 Unwanted Emissions above 1 GHz**
**Mode A**

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
MXA Signal Analyzer Keysight	N9020B	MY60112408	2024/3/7	2025/3/6
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

## Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2024/9/8 ~ 2024/9/15

**Mode B**

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-783	2023/11/12	2024/11/11
	BBHA 9170	9170-739	2023/11/12	2024/11/11
MXA Signal Analyzer Keysight	N9020B	MY60112410	2024/3/13	2025/3/12
Preamplifier EMCI	EMC12630SE	980688	2024/8/8	2025/8/7
	EMC184045SE	980387	2024/8/8	2025/8/7
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2024/1/29	2025/1/28
	EMC102-KM-KM-4000	200214	2024/1/29	2025/1/28
	EMC104-SM-SM-1200	160922	2024/1/29	2025/1/28
	EMC104-SM-SM-2000	180502	2024/1/29	2025/1/28
	EMC104-SM-SM-6000	210704	2023/11/2	2024/11/1
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

**Notes:**

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2024/9/9

## 5 Limits of Test Items

### 5.1 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.

### 5.2 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).

### 5.3 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:**

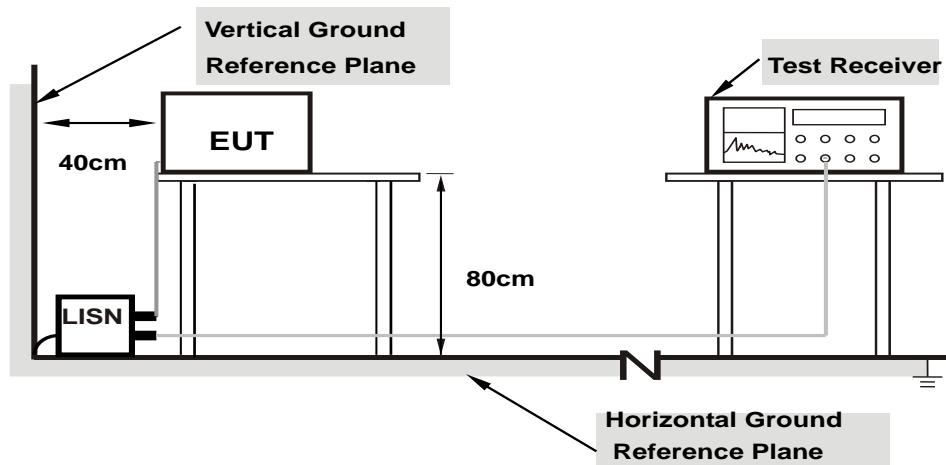
The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 6 Test Arrangements

### 6.1 AC Power Conducted Emissions

#### 6.1.1 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).

#### 6.1.2 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.

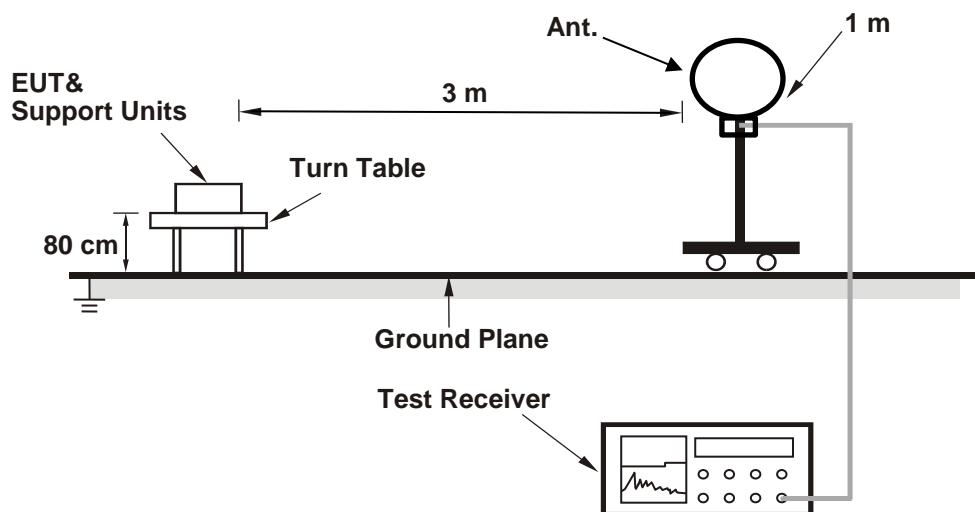
Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

## 6.2 Unwanted Emissions below 1 GHz

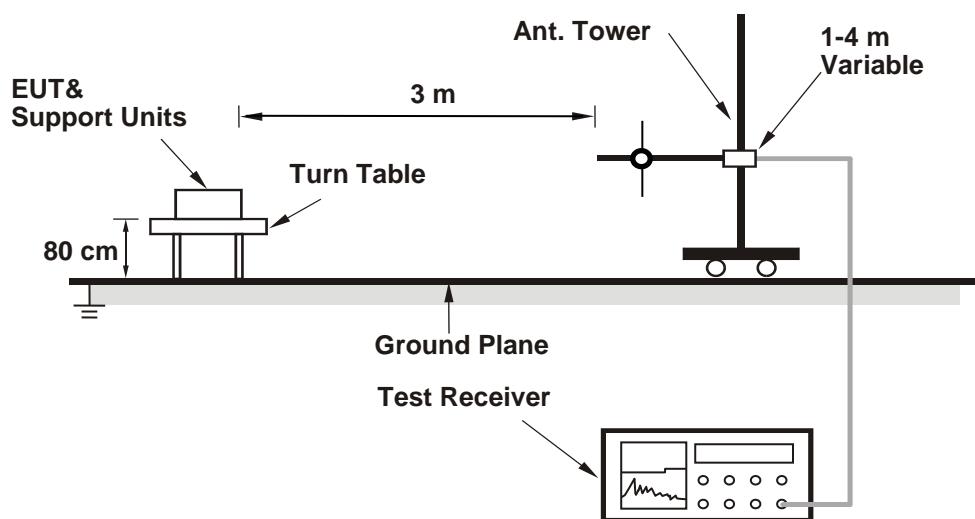
### 6.2.1 Test Setup

**For Radiated Configuration:**

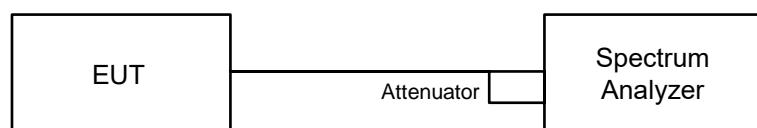
**For Radiated emission below 30 MHz**



**For Radiated emission above 30 MHz**



**For Conducted Configuration:**



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

## 6.2.2 Test Procedure

### Radiated versus Conducted Measurement.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test

#### For Radiated emission below 30 MHz

- e-1.1. 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.
- e-1.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- e-1.3. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- e-1.4. 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-1.5. 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

- e-2.1. 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.
- e-2.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- e-2.3. 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.
- e-2.4. 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-2.5. 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.

## Radiated versus Conducted Measurement

### For Radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

### For Conducted measurement:

The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).

### Conducted Unwanted Emission Convert Formula

- a. Emission Level (dB<sub>UV</sub>/m) = EIRP Level (dB<sub>m</sub>) – 20log(d) + 104.8  
d = measurement distance in 3 meters.
- b. EIRP Level (dB<sub>m</sub>) = Raw Value(dB<sub>m</sub>) + Correction Factor(dB)
- c. Correction Factor is directional gain, and the composite gain will be used when signal support the correlated signal  
For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.  
For the band edge the gain for the specific band may have been used.

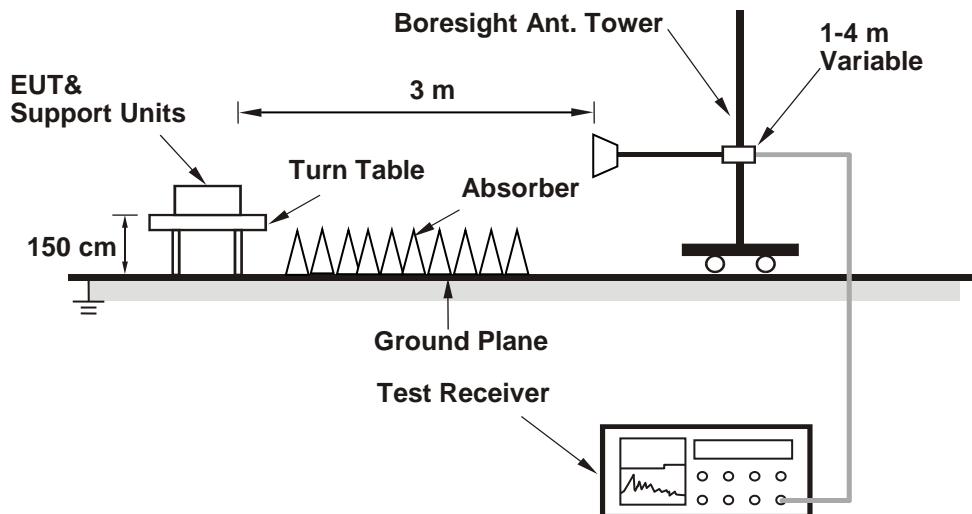
### Notes:

1. In restricted bands below 1000 MHz, add upper bound on ground plane reflection:  
For frequencies between 30 MHz and 1000 MHz, add 4.7 dB.
2. The conducted emission test was considered some factor to compute test result.

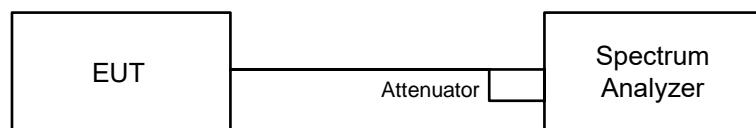
### 6.3 Unwanted Emissions above 1 GHz

#### 6.3.1 Test Setup

##### For Radiated Configuration:



##### For Conducted Configuration:



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

#### 6.3.2 Test Procedure

##### Radiated versus Conducted Measurement.

The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.

The following steps was performed:

- a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
- b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
- c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.
- d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
- e. For all of Radiation emission test
  - e-1. 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.
  - e-2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
  - e-3. 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.

- e-4. 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-5. 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:

1. 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.
2. 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.
3. All modes of operation were investigated and the worst-case emissions are reported.

### Radiated versus Conducted Measurement

#### For Radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

#### For Conducted measurement:

The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).

#### For Verified radiated measurement:

The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation).

### Conducted Unwanted Emission Convert Formula

a. Emission Level (dB<sub>UV</sub>/m) = EIRP Level (dB<sub>m</sub>) – 20log(d) + 104.8

d = measurement distance in 3 meters.

b. EIRP Level (dB<sub>m</sub>) = Raw Value(dB<sub>m</sub>) + Correction Factor(dB).

c. Correction Factor is directional gain, and the composite gain will be used when signal support the correlated signal

For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands.

For the band edge the gain for the specific band may have been used.

#### Note:

The conducted emission test was considered some factor to compute test result.

## 7 Test Results of Test Item

### 7.1 AC Power Conducted Emissions

#### Mode C

#### 2S2T

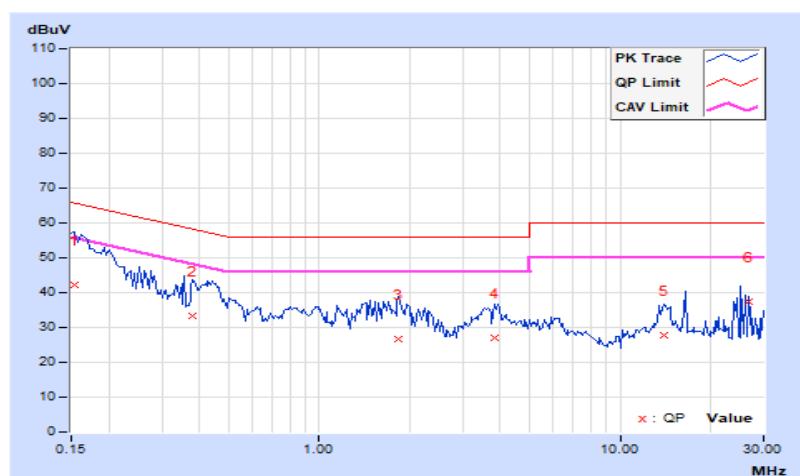
RF Mode	802.11be (EHT40)	Channel	CH 175 : 5875 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	21 °C, 64 % RH
Tested By	Willy Lin		

#### 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	0.15391	9.93	32.33	15.18	42.26	25.11	65.79	55.79	-23.53	-30.68
2	0.38047	9.94	23.41	11.06	33.35	21.00	58.27	48.27	-24.92	-27.27
3	1.84375	10.01	16.83	10.44	26.84	20.45	56.00	46.00	-29.16	-25.55
4	3.84375	10.11	16.99	10.17	27.10	20.28	56.00	46.00	-28.90	-25.72
5	13.98047	10.75	17.19	10.05	27.94	20.80	60.00	50.00	-32.06	-29.20
6	26.78906	11.40	25.95	23.99	37.35	35.39	60.00	50.00	-22.65	-14.61

#### Remarks:

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



<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21 °C, 64 % RH
<b>Tested By</b>	Willy Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.99	35.60	15.69	45.59	25.68	65.79	55.79	-20.20	-30.11
2	0.25156	9.99	28.06	17.84	38.05	27.83	61.71	51.71	-23.66	-23.88
3	0.46250	10.00	27.85	20.25	37.85	30.25	56.65	46.65	-18.80	-16.40
4	1.43750	10.05	15.65	8.81	25.70	18.86	56.00	46.00	-30.30	-27.14
<b>5</b>	<b>16.46484</b>	<b>10.73</b>	<b>27.08</b>	<b>26.56</b>	<b>37.81</b>	<b>37.29</b>	<b>60.00</b>	<b>50.00</b>	<b>-22.19</b>	<b>-12.71</b>
6	24.20703	10.97	21.58	20.94	32.55	31.91	60.00	50.00	-27.45	-18.09

**Remarks:**

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



## 7.2 Unwanted Emissions below 1 GHz

### Mode A

2S2T

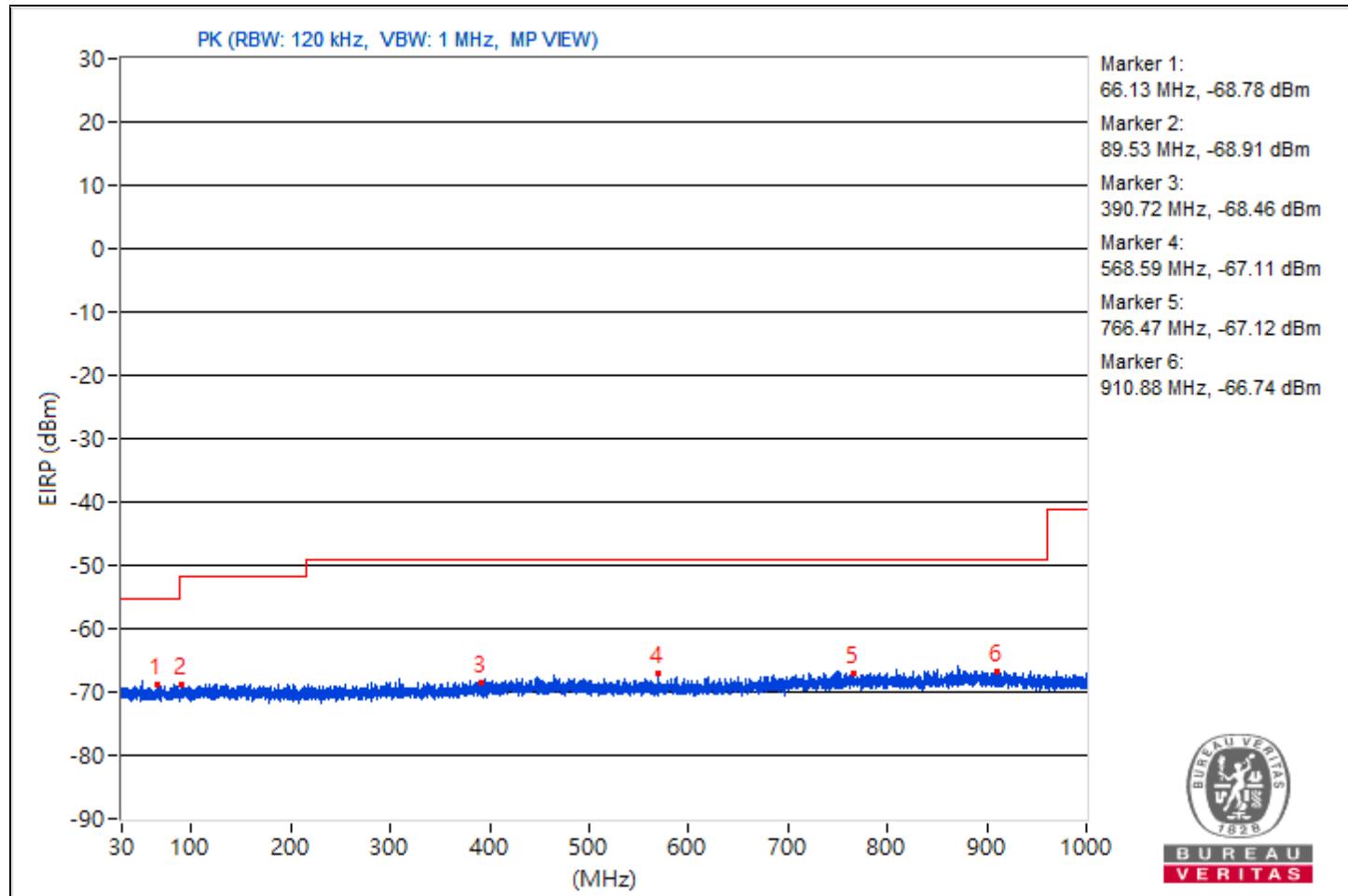
RF Mode	802.11be (EHT40)	Channel	CH 175 : 5875 MHz
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	22°C, 55% RH
Tested By	Kevin Ko		

### Conducted Unwanted Emissions

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	<b>66.13</b>	<b>26.48 PK</b>	<b>40</b>	<b>-13.52</b>	<b>-82.9</b>	<b>-80.31</b>	<b>9.62</b>	<b>-68.78</b>
2	89.53	26.35 PK	43.5	-17.15	-83.34	-80.27	9.62	-68.91
3	390.72	26.8 PK	46	-19.2	-82.39	-80.1	9.62	-68.46
4	568.59	28.15 PK	46	-17.85	-82.02	-78.25	9.62	-67.11
5	766.47	28.14 PK	46	-17.86	-78.31	-81.91	9.62	-67.12
6	910.88	28.52 PK	46	-17.48	-78.06	-81.27	9.62	-66.74

Notes:

1. Margin value = Emission Level - Limit value
2. 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.



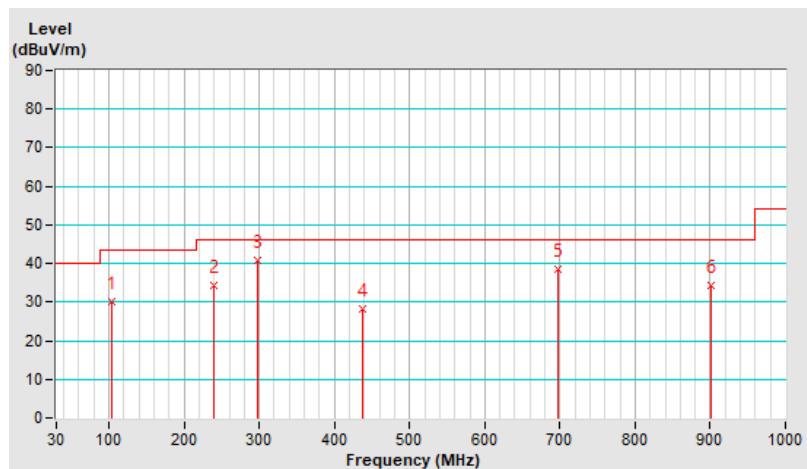
**Mode B**
**2S2T**

<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	104.57	30.2 QP	43.5	-13.3	1.50 H	338	51.6	-21.4
2	239.82	34.2 QP	46.0	-11.8	1.50 H	251	53.7	-19.5
3	298.62	40.9 QP	46.0	-5.1	2.00 H	298	58.3	-17.4
4	436.80	28.3 QP	46.0	-17.7	3.00 H	325	42.1	-13.8
5	696.40	38.6 QP	46.0	-7.4	1.50 H	234	47.7	-9.1
6	901.24	34.4 QP	46.0	-11.6	1.00 H	263	40.3	-5.9

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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.

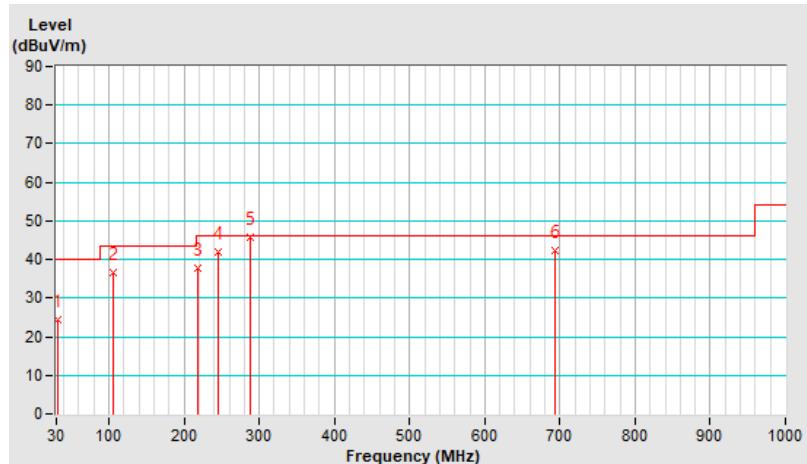


<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	22 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	32.41	24.5 QP	40.0	-15.5	2.00 V	258	43.3	-18.8
2	105.04	36.5 QP	43.5	-7.0	2.00 V	317	57.8	-21.3
3	218.01	37.6 QP	46.0	-8.4	3.00 V	160	59.1	-21.5
4	245.68	42.0 QP	46.0	-4.0	1.50 V	43	61.3	-19.3
<b>5</b>	<b>287.38</b>	<b>45.8 QP</b>	<b>46.0</b>	<b>-0.2</b>	<b>1.00 V</b>	<b>267</b>	<b>63.6</b>	<b>-17.8</b>
6	692.96	42.4 QP	46.0	-3.6	2.00 V	47	51.6	-9.2

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit 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.



### 7.3 Unwanted Emissions above 1 GHz

#### Mode A

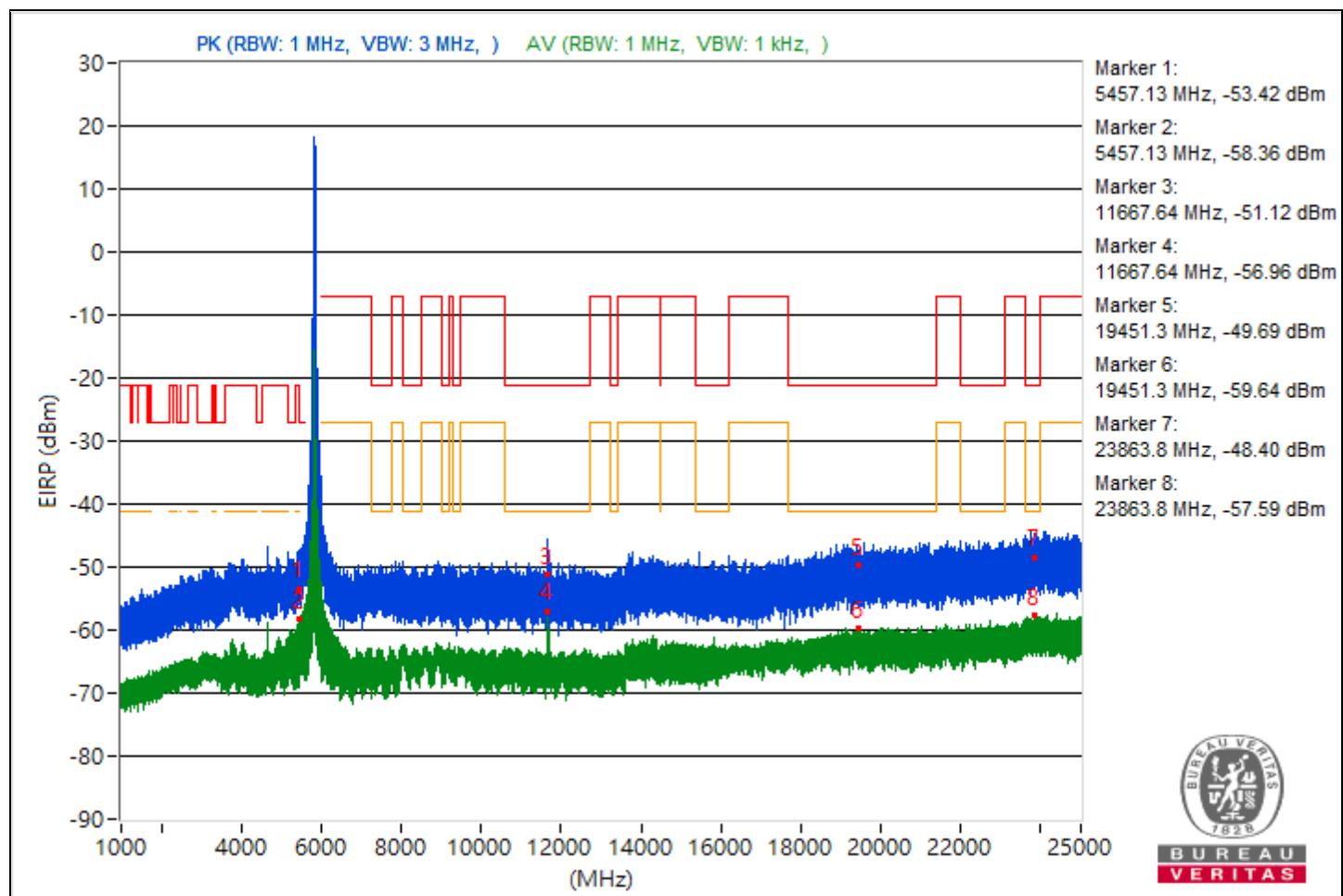
##### 1S1T\_Conducted Unwanted Emissions

RF Mode	802.11be (EHT40)	Channel	CH 167 : 5835 MHz
Frequency Range	1 GHz ~ 40 GHz	Environmental Conditions	22°C, 55% RH
Tested By	Kevin Ko		

##### Conducted Unwanted Emissions

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	5457.13	41.84 PK	74	-32.16	-58.34	4.92	-53.42
2	5457.13	36.9 AV	54	-17.1	-63.28	4.92	-58.36
3	11667.64	44.14 PK	74	-29.86	-56.04	4.92	-51.12
4	11667.64	38.3 AV	54	-15.7	-61.88	4.92	-56.96
5	19451.3	45.57 PK	74	-28.43	-54.61	4.92	-49.69
6	19451.3	35.62 AV	54	-18.38	-64.56	4.92	-59.64
7	23863.8	46.86 PK	74	-27.14	-53.32	4.92	-48.4
8	23863.8	37.67 AV	54	-16.33	-62.51	4.92	-57.59
9	39969.96	39.99 PK	74	-34.01	-60.19	4.92	-55.27
10	39969.96	33.99 AV	54	-20.01	-66.19	4.92	-61.27

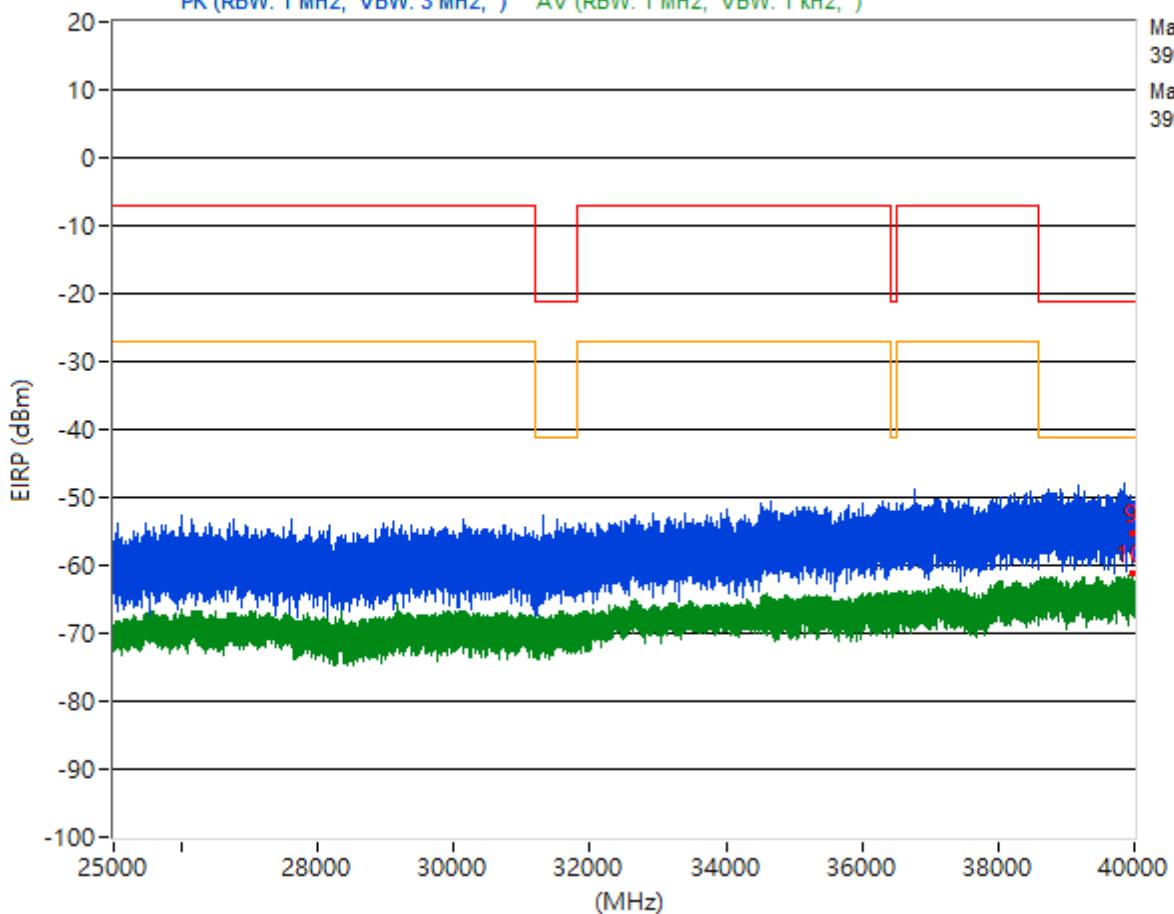
Note: Margin value = Emission Level - Limit value





BUREAU  
VERITAS

PK (RBW: 1 MHz, VBW: 3 MHz, ) AV (RBW: 1 MHz, VBW: 1 kHz, )



BUREAU  
VERITAS

## Conducted Band Edges

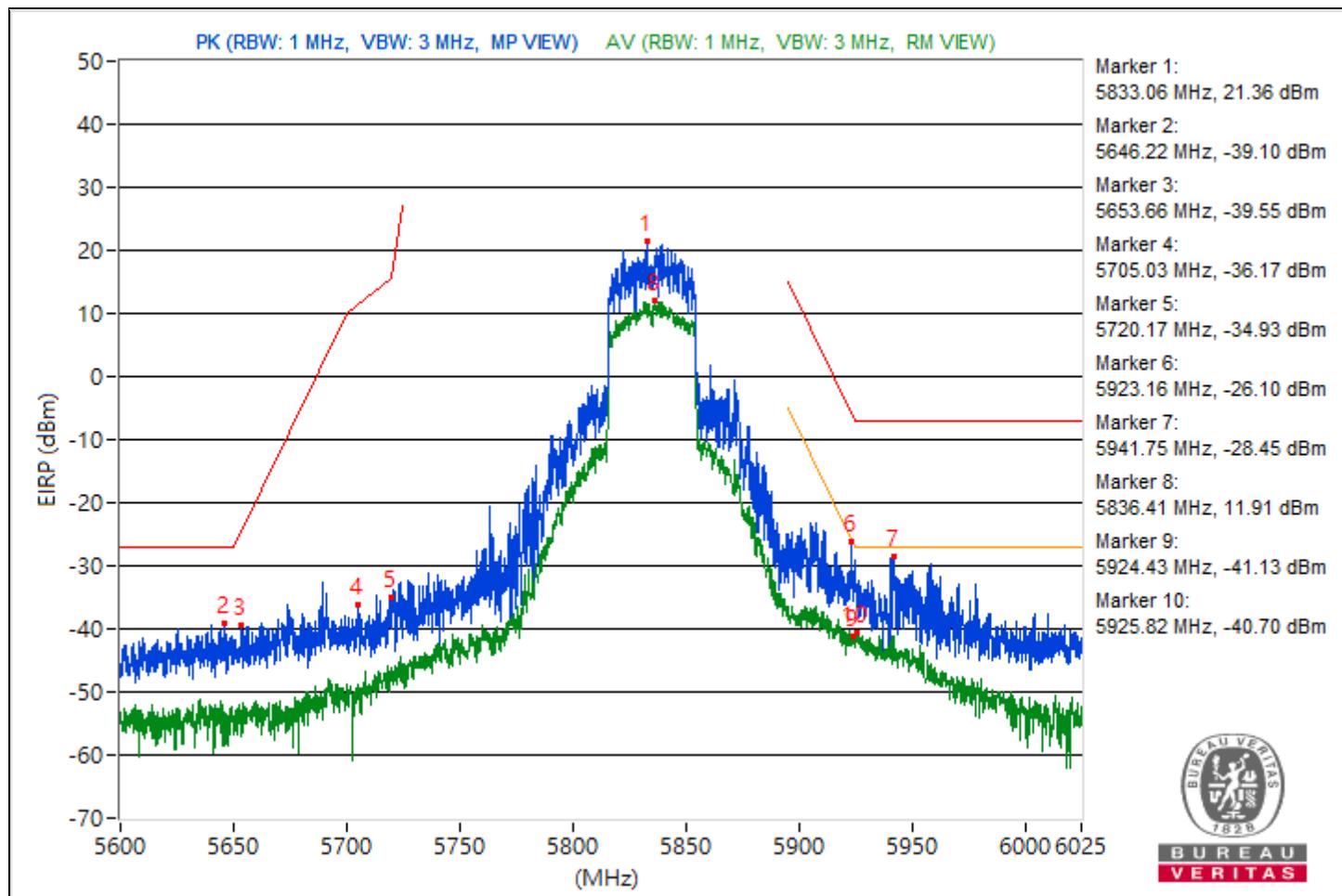
RF Mode	802.11be (EHT40)	Channel	CH 167 : 5835 MHz
Frequency Range	5.6 GHz ~ 6.025 GHz	Environmental Conditions	22°C, 55% RH
Tested By	Kevin Ko		

## Conducted Band Edge

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*5833.06	116.62 PK			16.44	4.92	21.36
2	#5646.22	56.16 PK	68.26	-12.1	-44.02	4.92	-39.1
3	#5653.66	55.71 PK	70.97	-15.26	-44.47	4.92	-39.55
4	#5705.03	59.09 PK	106.67	-47.58	-41.09	4.92	-36.17
5	#5720.17	60.33 PK	111.24	-50.91	-39.85	4.92	-34.93
6	#5923.16	69.16 PK	89.61	-20.45	-31.02	4.92	-26.1
7	#5941.75	66.81 PK	88.26	-21.45	-33.37	4.92	-28.45
8	*5836.41	107.17 AV			6.99	4.92	11.91
9	#5924.43	54.13 AV	68.67	-14.54	-46.05	4.92	-41.13
10	#5925.82	54.56 AV	68.26	-13.7	-45.62	4.92	-40.7

## Notes:

- Margin value = Emission Level - Limit value
- " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.
- " # ": The radiated frequency is out of the restricted band.



2S2T

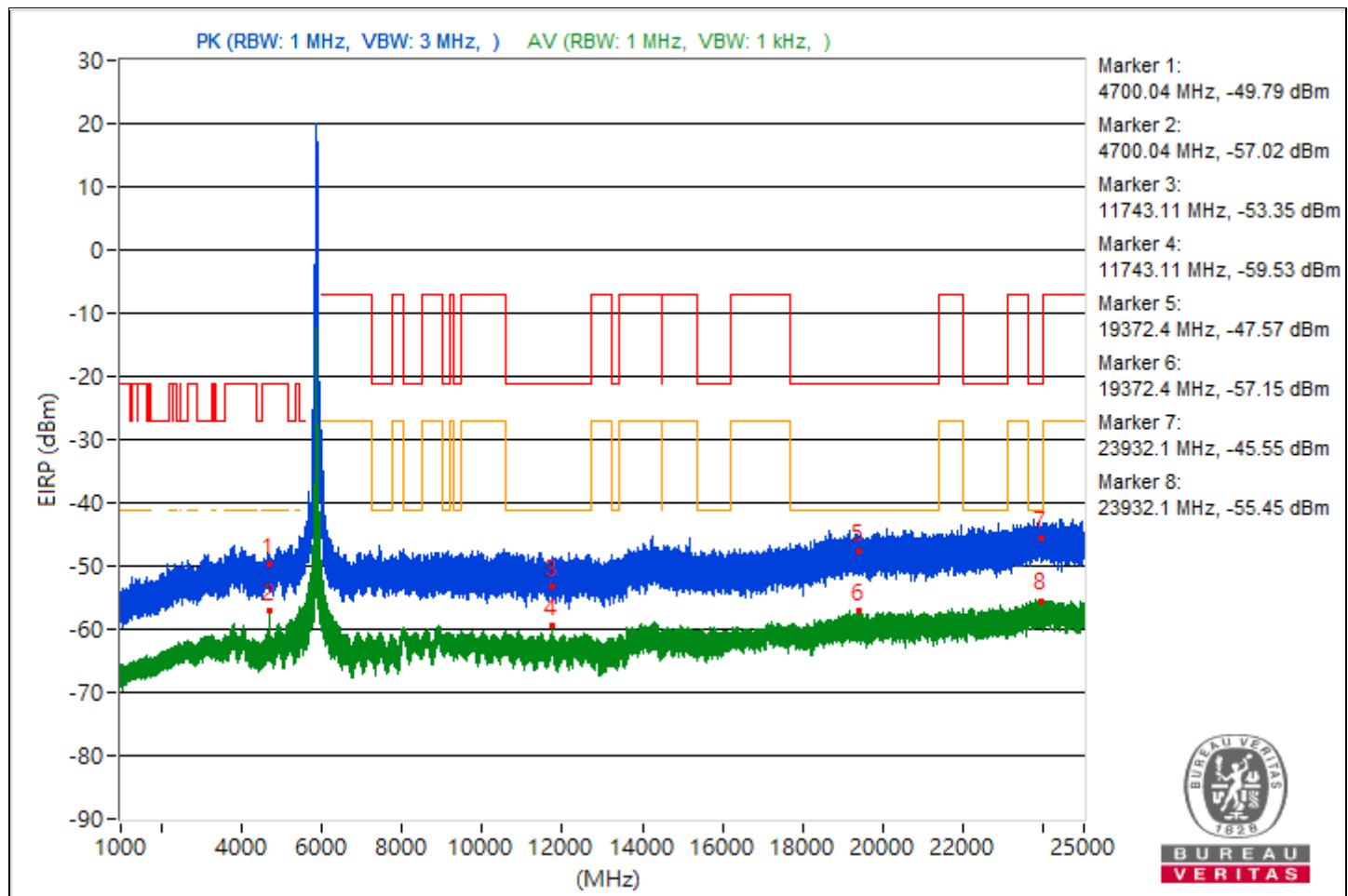
## Conducted Unwanted Emissions

RF Mode	802.11be (EHT40)	Channel	CH 175 : 5875 MHz
Frequency Range	1 GHz ~ 40 GHz	Environmental Conditions	22°C, 55% RH
Tested By	Kevin Ko		

## Conducted Unwanted Emissions

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	4700.04	45.47 PK	74	-28.53	-56.83	-58.85	4.92	-49.79
2	4700.04	38.24 AV	54	-15.76	-62.43	-71.67	4.92	-57.02
3	11743.11	41.91 PK	74	-32.09	-60.7	-61.95	4.92	-53.35
4	11743.11	35.73 AV	54	-18.27	-68.69	-66.5	4.92	-59.53
5	19372.4	47.69 PK	74	-26.31	-55.29	-55.72	4.92	-47.57
6	19372.4	38.11 AV	54	-15.89	-66.5	-64.01	4.92	-57.15
7	23932.1	49.71 PK	74	-24.29	-53.34	-53.62	4.92	-45.55
8	23932.1	39.81 AV	54	-14.19	-64.59	-62.44	4.92	-55.45
9	38792.62	44.23 PK	74	-29.77	-58.15	-59.96	4.92	-51.03
10	38792.62	35.73 AV	54	-18.27	-69.11	-66.26	4.92	-59.53

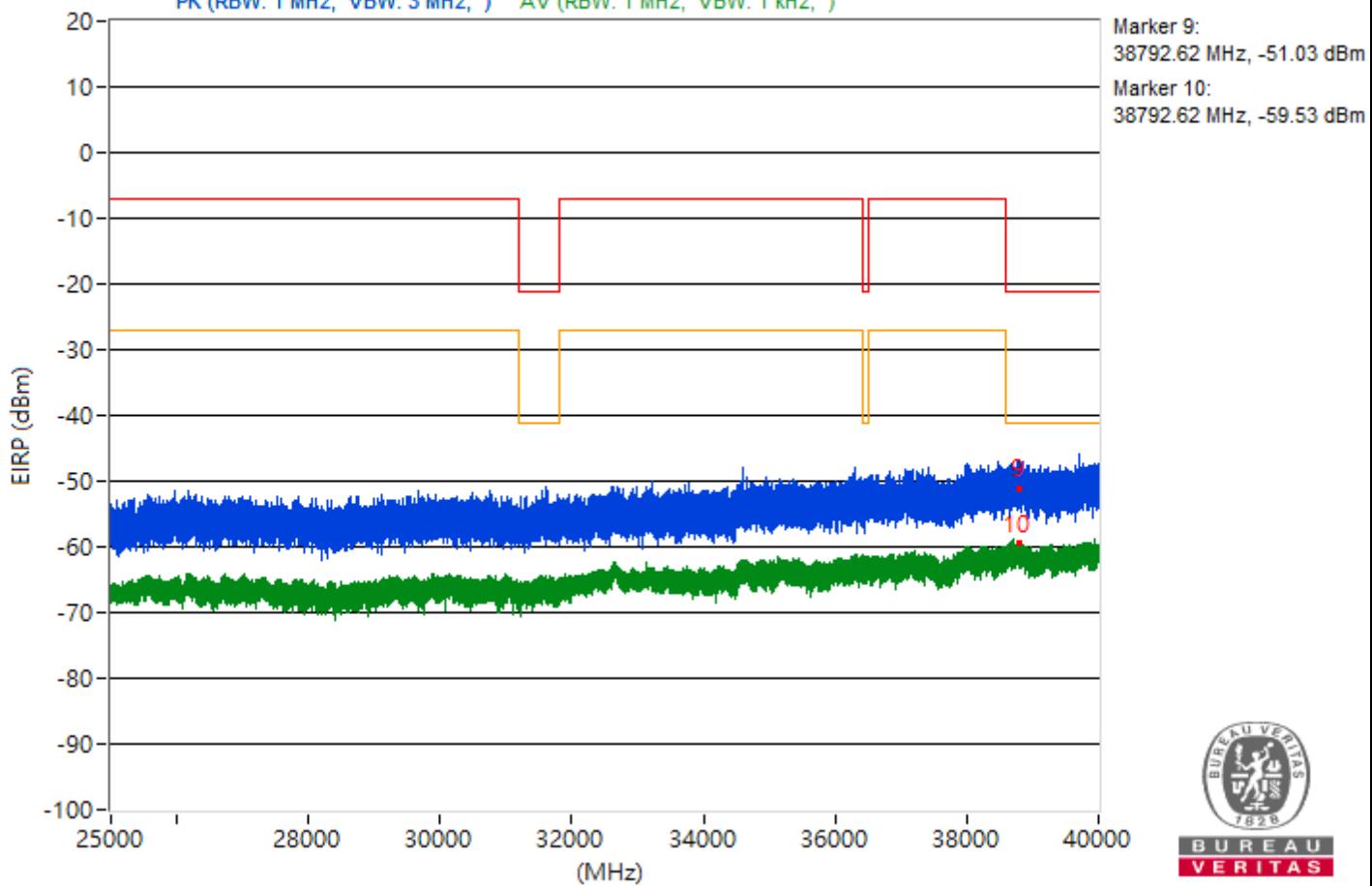
Note: Margin value = Emission Level - Limit value





BUREAU  
VERITAS

PK (RBW: 1 MHz, VBW: 3 MHz, ) AV (RBW: 1 MHz, VBW: 1 kHz, )



BUREAU  
VERITAS

**Conducted Band Edges**

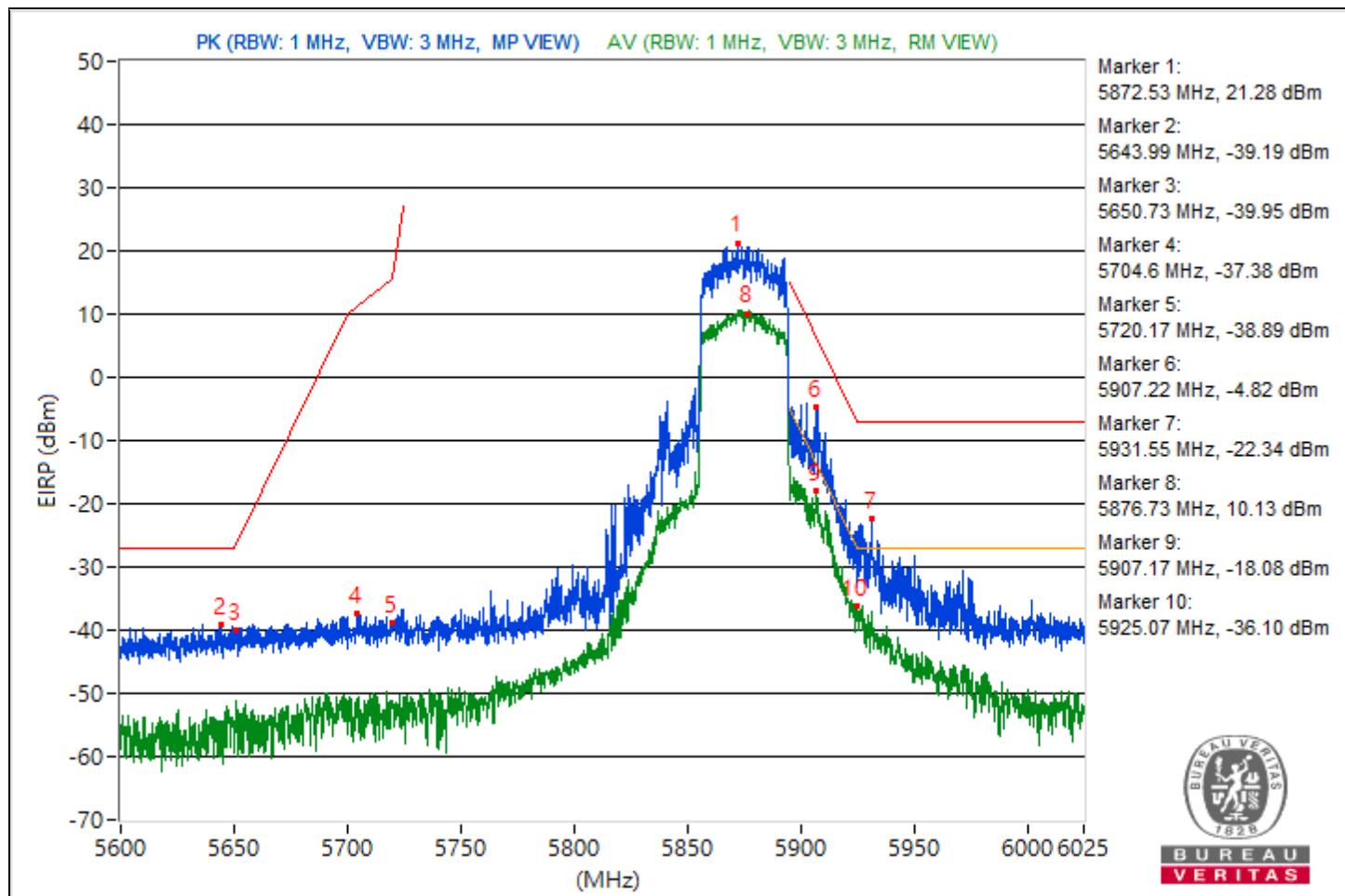
RF Mode	802.11be (EHT40)	Channel	CH 175 : 5875 MHz
Frequency Range	5.6 GHz ~ 6.025 GHz	Environmental Conditions	26°C, 64% RH
Tested By	Kevin Ko		

**Conducted Band Edge**

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	*5872.53	116.54 PK			13.24	13.46	4.92	21.28
2	#5643.99	56.07 PK	68.26	-12.19	-49.47	-45.61	4.92	-39.19
3	#5650.73	55.31 PK	68.8	-13.49	-47.32	-48.53	4.92	-39.95
4	#5704.6	57.88 PK	106.55	-48.67	-43.94	-47.32	4.92	-37.38
5	#5720.17	56.37 PK	111.24	-54.87	-49.37	-45.22	4.92	-38.89
6	#5907.22	90.44 PK	101.3	-10.86	-24.49	-9.89	4.92	-4.82
7	#5931.55	72.92 PK	88.26	-15.34	-43.86	-27.35	4.92	-22.34
8	*5876.73	105.39 AV			1.24	2.99	4.92	10.13
<b>9</b>	<b>#5907.17</b>	<b>77.18 AV</b>	<b>81.34</b>	<b>-4.16</b>	<b>-25.74</b>	<b>-26.29</b>	<b>4.92</b>	<b>-18.08</b>
10	#5925.07	59.16 AV	68.26	-9.1	-49.46	-41.69	4.92	-36.1

**Notes:**

1. Margin value = Emission Level - Limit value
2. " \* ": Fundamental frequency, the limit was restricted at the RF Output Power.
3. " # ": The radiated frequency is out of the restricted band.



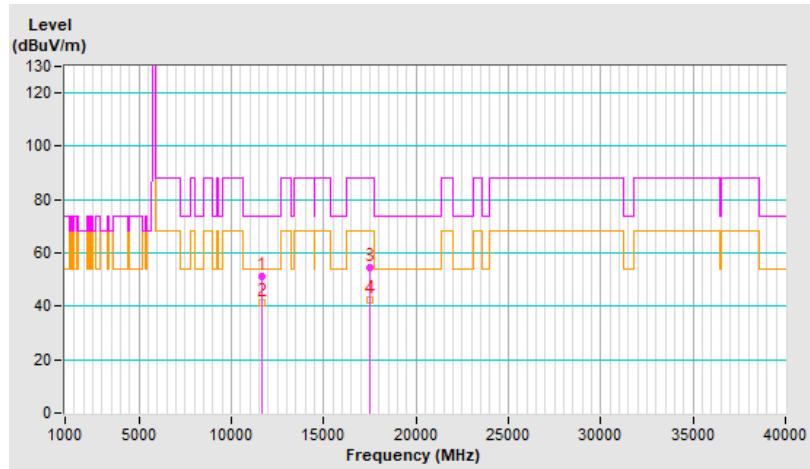
**Mode B**
**1S1T**

<b>RF Mode</b>	802.11be (EHT40)	<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, DET=Peak AV: RB=1 MHz, VB=300 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	11670.00	51.2 PK	74.0	-22.8	3.27 H	34	34.3	16.9
2	11670.00	41.2 AV	54.0	-12.8	3.27 H	34	24.3	16.9
3	#17505.00	54.4 PK	88.2	-33.8	1.42 H	205	31.8	22.6
4	#17505.00	42.6 AV	68.2	-25.6	1.42 H	205	20.0	22.6

**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. "#": The radiated frequency is out of the restricted band.

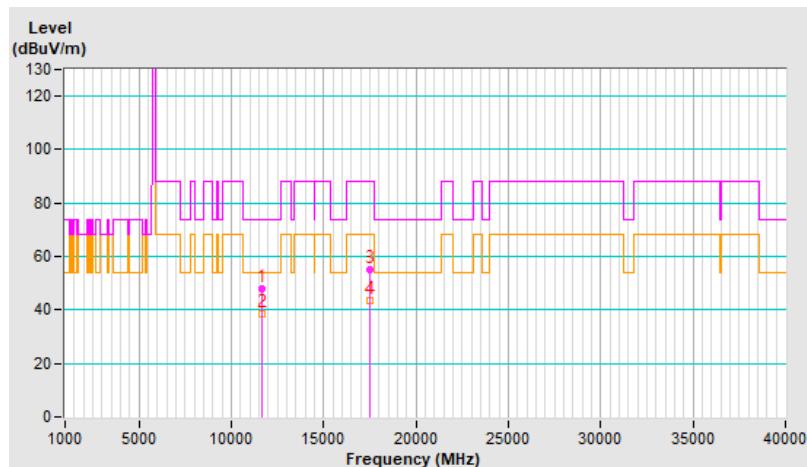


<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 167 : 5835 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=300 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	11670.00	48.1 PK	74.0	-25.9	2.09 V	188	31.2	16.9
2	11670.00	38.6 AV	54.0	-15.4	2.09 V	188	21.7	16.9
3	#17505.00	55.3 PK	88.2	-32.9	1.62 V	40	32.7	22.6
4	#17505.00	43.4 AV	68.2	-24.8	1.62 V	40	20.8	22.6

**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. " # ": The radiated frequency is out of the restricted band.



## 2S2T

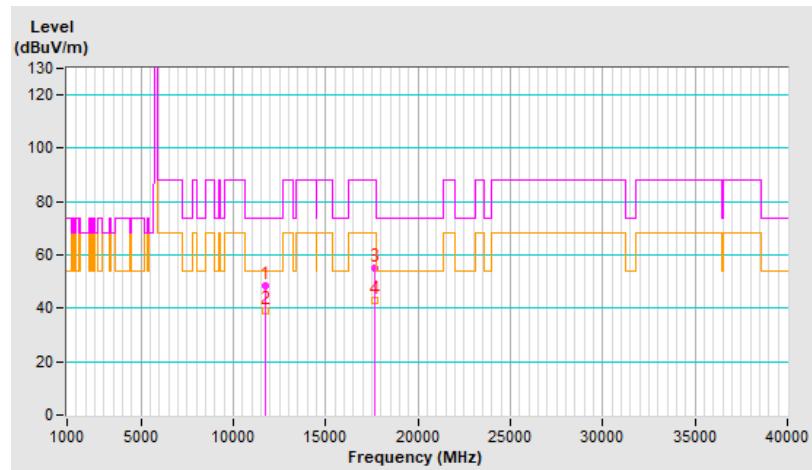
<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=300 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

## Antenna Polarity &amp; 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	11750.00	48.5 PK	74.0	-25.5	3.28 H	42	31.9	16.6
2	11750.00	38.9 AV	54.0	-15.1	3.28 H	42	22.3	16.6
3	#17625.00	55.2 PK	88.2	-33.0	1.42 H	215	31.4	23.8
4	#17625.00	43.1 AV	68.2	-25.1	1.42 H	215	19.3	23.8

## Remarks:

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

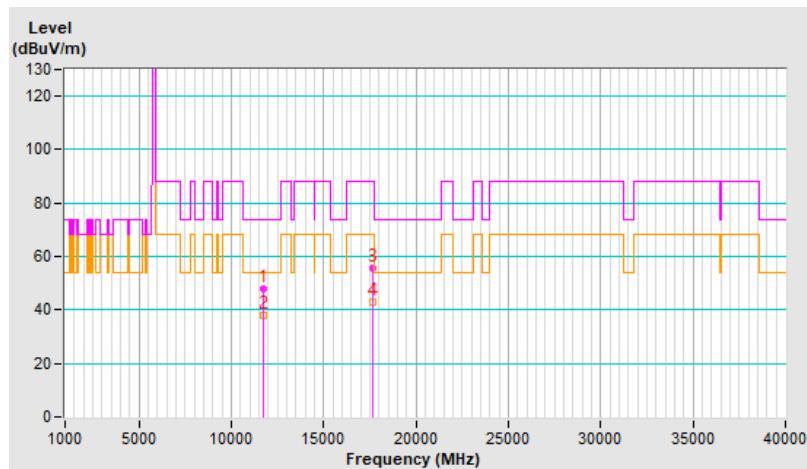


<b>RF Mode</b>	802.11be (EHT40)	<b>Channel</b>	CH 175 : 5875 MHz
<b>Frequency Range</b>	1 GHz ~ 40 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=300 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20 °C, 65 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	11750.00	48.0 PK	74.0	-26.0	1.95 V	203	31.4	16.6
2	11750.00	38.1 AV	54.0	-15.9	1.95 V	203	21.5	16.6
3	#17625.00	55.4 PK	88.2	-32.8	1.56 V	62	31.6	23.8
4	#17625.00	43.1 AV	68.2	-25.1	1.56 V	62	19.3	23.8

**Remarks:**

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



## 8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

## 9 Information of the Testing Laboratories

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

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

### **Lin Kou EMC/RF Lab**

Tel: 886-2-26052180  
Fax: 886-2-26051924

### **Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565  
Fax: 886-3-6668323

### **Hwa Ya EMC/RF/Safety Lab**

Tel: 886-3-3183232  
Fax: 886-3-3270892

**Email:** [service.adt@bureauveritas.com](mailto:service.adt@bureauveritas.com)

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

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

--- END ---