

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBCIC-WTW-P25040167-2

FCC ID: U8G-P1AX33

Product: Peplink Pepwave Wireless Product

Brand:  **PEPWAVE**

Model No.: AP One Flex, APO-FLX (refer to item 3.1 for more details)

Received Date: 2025/4/10

Test Date: 2025/9/2 ~ 2025/9/19

Issued Date: 2025/9/24

Applicant: PISMO LABS TECHNOLOGY LIMITED

Address: A8, 5/F, HK Spinners Industrial Building, Phase 6, 481 Castle
Peak Road, Cheung Sha Wan, Hong Kong

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location: No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FCC Registration / 281270 / TW0032

Designation Number:

Approved by: _____

Jeremy Lin

Date: _____

2025/9/24

Jeremy Lin / Project Engineer

This test report consists of 25 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 : Lena Wang / 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

Release Control Record	3
1 Certificate.....	4
2 Summary of Test Results	5
2.1 Measurement Uncertainty	5
2.2 Supplementary Information	5
3 General Information	6
3.1 General Description of EUT	6
3.2 Antenna Description of EUT	6
3.3 Test Mode Applicability and Tested Channel Detail.....	7
3.4 Test Program Used and Operation Descriptions	8
3.5 Connection Diagram of EUT and Peripheral Devices	8
3.6 Configuration of Peripheral Devices and Cable Connections	9
4 Test Instruments	10
4.1 Unwanted Emissions below 1 GHz	10
4.2 Unwanted Emissions above 1 GHz.....	11
5 Limits of Test Items.....	12
5.1 Unwanted Emissions below 1 GHz	12
5.2 Unwanted Emissions above 1 GHz.....	13
6 Test Arrangements.....	14
6.1 Unwanted Emissions below 1 GHz	14
6.1.1 Test Setup	14
6.1.2 Test Procedure.....	15
6.2 Unwanted Emissions above 1 GHz.....	16
6.2.1 Test Setup	16
6.2.2 Test Procedure.....	16
7 Test Results of Test Item	17
7.1 Unwanted Emissions below 1 GHz	17
7.2 Unwanted Emissions above 1 GHz.....	19
8 Pictures of Test Arrangements	24
9 Information of the Testing Laboratories	25

Release Control Record

Issue No.	Description	Date Issued
RFBCIC-WTW-P25040167-2	Original release.	2025/9/24

1 Certificate

Product: Peplink Pepwave Wireless Product

Brand:  **PEPWAVE**

Test Model: AP One Flex, APO-FLX (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: PISMO LABS TECHNOLOGY LIMITED

Test Date: 2025/9/2 ~ 2025/9/19

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement procedure: ANSI C63.10-2020

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

Standard / Clause	Test Item	Result	Remark
15.205 /15.209 /15.247(d) 15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Meet the requirement of limit.
15.205 /15.209 /15.247(d) 15.407(b) (1/2/3/4(i)/10)	Unwanted Emissions above 1 GHz	Pass	Meet the requirement of limit.

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:

Parameter	Specification	Uncertainty (±)
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

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

2.2 Supplementary Information

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

3 General Information

3.1 General Description of EUT

Product	Peplink Pepwave Wireless Product	
Brand		
Test Model	AP One Flex, APO-FLX	
Model Difference	Refer to Note as below	
Modulation Technology	WLAN	DSSS, OFDM, OFDMA
Operating Frequency	WLAN	2.412 GHz ~ 2.462 GHz 5.18 GHz ~ 5.24 GHz 5.745 GHz ~ 5.825 GHz

Note:

1. All models are listed as below.

Brand	Model	Difference
	AP One Flex	marketing purpose.
	APO-FLX	

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

3. Simultaneously transmission combination.

Combination	Technology	
1	WLAN (2.4 GHz)	WLAN (5 GHz)

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

* WLAN 2.4GHz and WLAN 5G technologies can transmit simultaneously, but they use time-slot technology to achieve this.

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

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna NO.	RF Chain NO.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
Internal_WiFi_1-1 / WiFi_1-2	0	Whayu	C1980-510149-A	9.53	2.4~2.4835GHz	Patch	ipex(MHF)
				10.44	5.15~5.25GHz		
				9.8	5.725~5.85GHz		
	1			9.65	2.4~2.4835GHz		
				11.05	5.15~5.25GHz		
				9.74	5.725~5.85GHz		
External_WiFi_1-1 / WiFi_1-2	0/1	YUAN CHEN	ACA-0040-6G1A1-A10	3.15	2.4~2.4835GHz	Omni-directional	RP-SMA
				3.29	5.15~5.25GHz		
				4.76	5.725~5.85GHz		

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

Note: When the EUT is installed in an outdoor area, the maximum antenna gain is more than 30 degrees from the horizon as shown in the Internal maximum gain table above.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). 2. EUT With External antennas 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. 3. EUT With Internal antennas 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.
Worst Case:	1. EUT With External antennas X-axis/ Y-axis/ Z-axis Worst Condition: X-axis 2. EUT With Internal antennas X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis

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

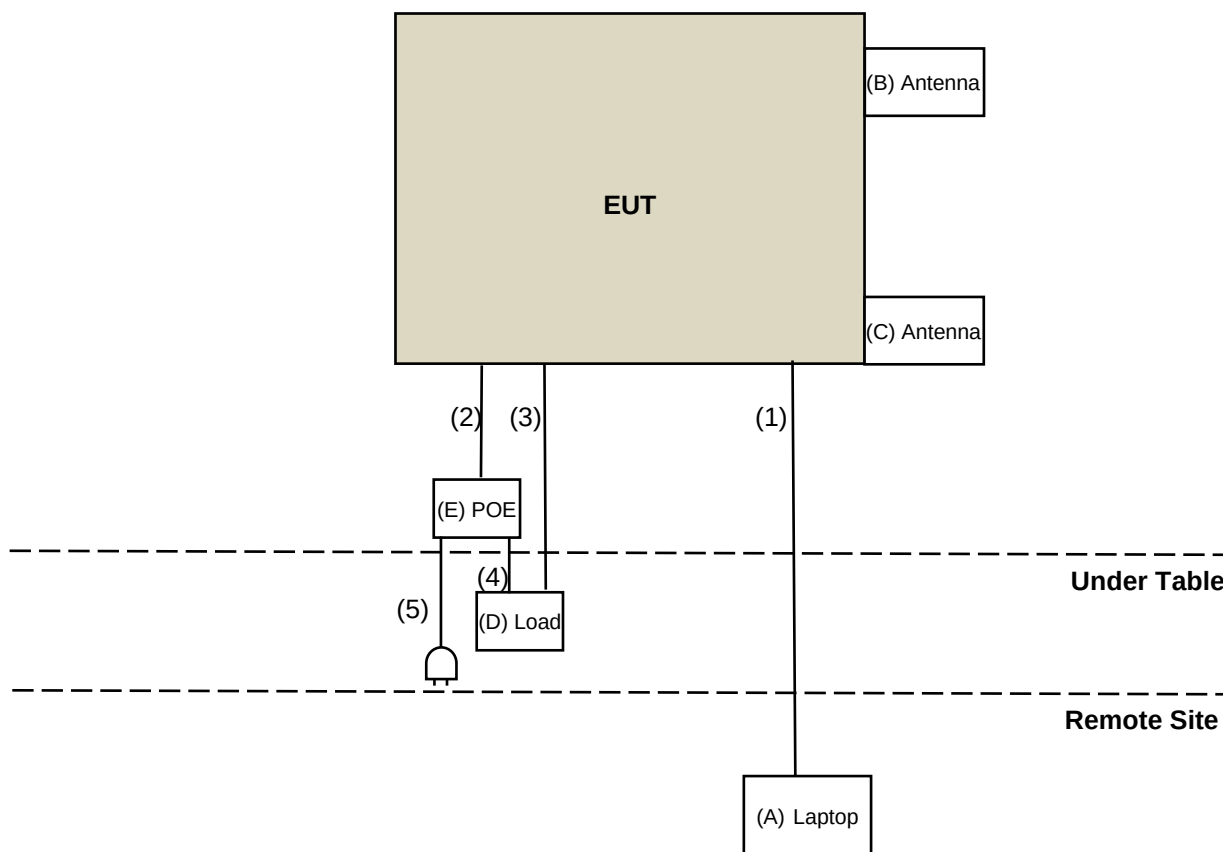
Test Item	EUT Configure Mode	Combination	Mode	Tested Channel
Unwanted Emissions below 1 GHz	A, B	1	802.11b	11
			802.11ax (HE80)	155
Unwanted Emissions above 1 GHz	A, B	1	802.11b	11
			802.11ax (HE80)	155
EUT Configure Mode:	A	External antennas		
	B	Internal antennas		

3.4 Test Program Used and Operation Descriptions

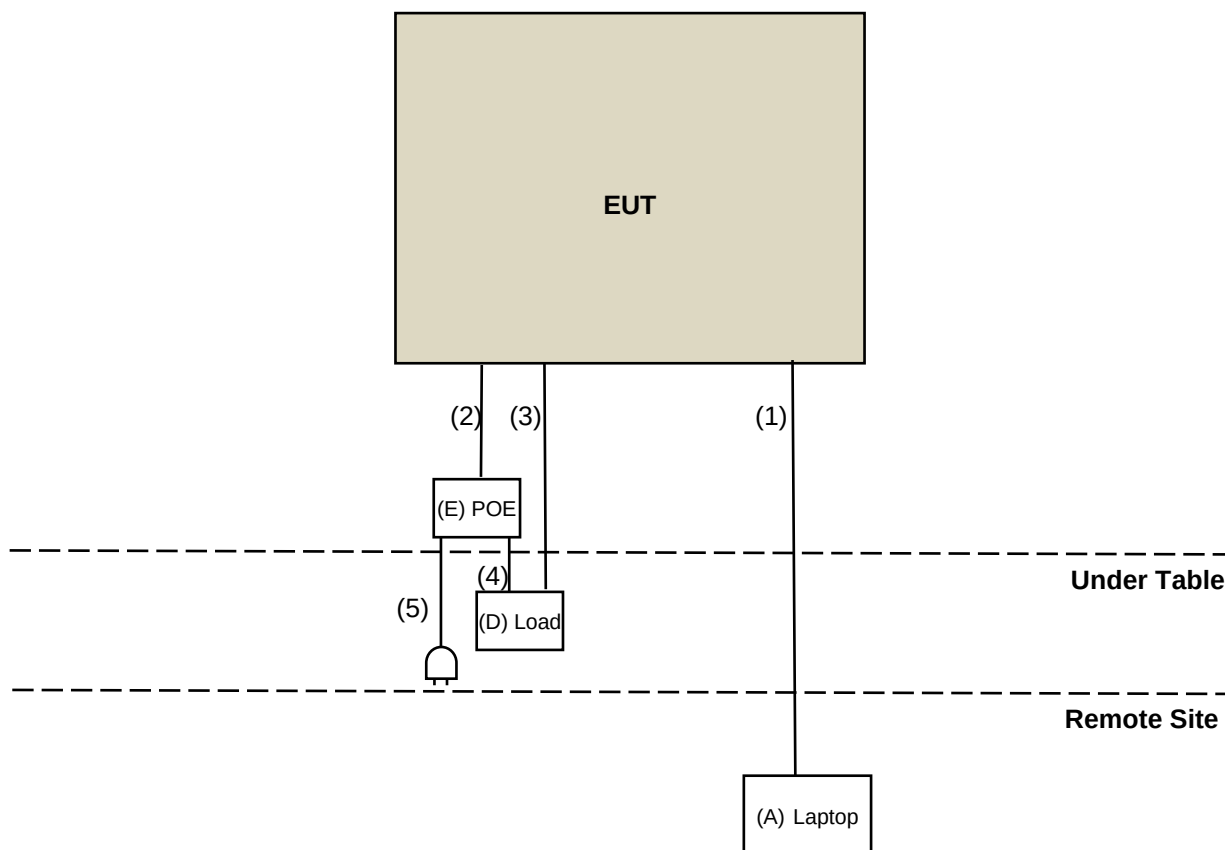
Controlling software QSPR has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.5 Connection Diagram of EUT and Peripheral Devices

Mode A



Mode B



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	X270	PC0SWWZ1	N/A	Supplied by applicant
B	Antenna	YUAN CHEN	ACA-0040-6G1A1-A10	N/A	N/A	Supplied by applicant
C	Antenna	YUAN CHEN	ACA-0040-6G1A1-A10	N/A	N/A	Supplied by applicant
D	Load	N/A	N/A	N/A	N/A	Provided by Lab
E	POE	Phihong	POE31U-1AT	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	LAN Cable	1	6	N	0	Provided by Lab
2	LAN Cable	1	1.5	N	0	Provided by Lab
3	LAN Cable	1	1.5	N	0	Provided by Lab
4	LAN Cable	1	1.5	N	0	Provided by Lab
5	Power cord	1	1.8	N	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 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-1213	2024/10/14	2025/10/13
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Loop Antenna TESEQ	HLA 6121	45745	2025/9/1	2026/8/31
MXE EMI Receiver Keysight	N9038B	MY60180019	2025/1/15	2026/1/14
Preamplifier EMCI	EMC330N	980782	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201233	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-3000	201235	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-9000	201236(with PAD)	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MF-7802BS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208674	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2025/9/12

4.2 Unwanted Emissions above 1 GHz

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

Notes:

1. The test was performed in WM - 966 chamber 8.
2. Tested Date: 2025/9/2 ~ 2025/9/19

5 Limits of Test Items

5.1 Unwanted Emissions below 1 GHz

For FCC 15.247:

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).

For FCC 15.407:

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).

5.2 Unwanted Emissions above 1 GHz

For FCC 15.247:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

For FCC 15.407 transmitters operating in the 5.150-5.850 GHz band:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules v02r01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)

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

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

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

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

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

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

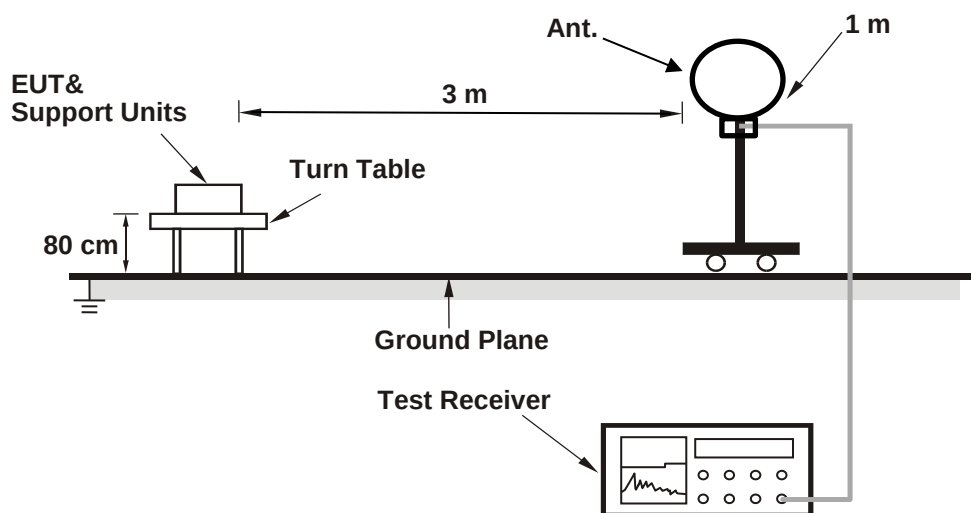
$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

6 Test Arrangements

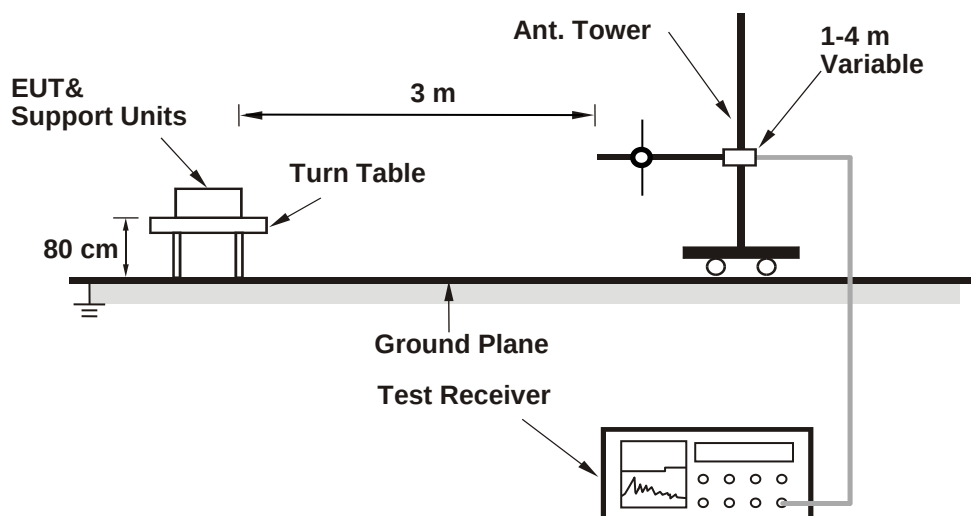
6.1 Unwanted Emissions below 1 GHz

6.1.1 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).

6.1.2 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

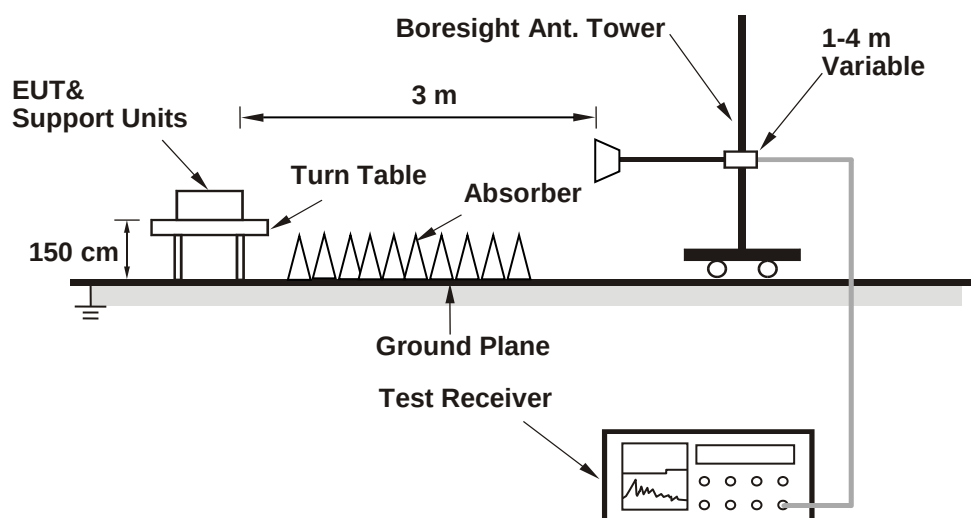
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

6.2 Unwanted Emissions above 1 GHz

6.2.1 Test Setup



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

6.2.2 Test Procedure

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

Notes:

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

7 Test Results of Test Item

7.1 Unwanted Emissions below 1 GHz

Mode A

FCC 15.247

FCC 15.407

Combination	1		
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	143.51	36.6 QP	43.5	-6.9	1.54 H	108	49.4	-12.8
2	183.04	35.6 QP	43.5	-7.9	1.92 H	244	50.3	-14.7
3	309.45	38.6 QP	46.0	-7.4	2.07 H	142	50.4	-11.8
4	357.14	35.3 QP	46.0	-10.7	1.51 H	46	45.9	-10.6
5	530.61	36.2 QP	46.0	-9.8	1.45 H	188	42.9	-6.7
6	581.64	32.4 QP	46.0	-13.6	1.39 H	122	37.6	-5.2
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	146.32	36.6 QP	43.5	-6.9	1.52 V	108	49.2	-12.6
2	184.72	37.2 QP	43.5	-6.3	1.44 V	106	52.2	-15.0
3	243.62	39.8 QP	46.0	-6.2	1.89 V	218	53.9	-14.1
4	306.23	39.6 QP	46.0	-6.4	1.74 V	151	51.5	-11.9
5	410.25	34.1 QP	46.0	-11.9	1.62 V	225	43.5	-9.4
6	507.62	35.8 QP	46.0	-10.2	1.04 V	159	43.0	-7.2

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.

Mode B

FCC 15.247

FCC 15.407

Combination	1		
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	143.28	36.6 QP	43.5	-6.9	1.52 H	100	49.5	-12.9
2	182.94	35.5 QP	43.5	-8.0	1.94 H	256	50.2	-14.7
3	311.23	38.7 QP	46.0	-7.3	2.10 H	140	50.4	-11.7
4	356.92	35.8 QP	46.0	-10.2	1.28 H	41	46.4	-10.6
5	530.82	36.0 QP	46.0	-10.0	1.23 H	190	42.7	-6.7
6	582.26	32.6 QP	46.0	-13.4	1.44 H	108	37.8	-5.2
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	146.27	36.8 QP	43.5	-6.7	1.59 V	114	49.4	-12.6
2	186.25	37.3 QP	43.5	-6.2	1.51 V	108	52.4	-15.1
3	244.56	40.2 QP	46.0	-5.8	1.96 V	225	54.3	-14.1
4	306.18	39.9 QP	46.0	-6.1	1.79 V	136	51.8	-11.9
5	410.59	34.4 QP	46.0	-11.6	1.55 V	271	43.8	-9.4
6	505.86	36.0 QP	46.0	-10.0	1.12 V	173	43.2	-7.2

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.

7.2 Unwanted Emissions above 1 GHz

Mode A

FCC 15.247

Combination	1		
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	107.1 PK			2.10 H	274	75.2	31.9
2	*2462.00	104.0 AV			2.10 H	274	72.1	31.9
3	2483.50	56.4 PK	74.0	-17.6	2.10 H	274	24.5	31.9
4	2483.50	44.2 AV	54.0	-9.8	2.10 H	274	12.3	31.9
5	4924.00	50.1 PK	74.0	-23.9	1.68 H	109	47.1	3.0
6	4924.00	38.2 AV	54.0	-15.8	1.68 H	109	35.2	3.0
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	*2462.00	113.8 PK			2.50 V	261	81.9	31.9
2	*2462.00	110.7 AV			2.50 V	261	78.8	31.9
3	2483.50	55.4 PK	74.0	-18.6	2.50 V	261	23.5	31.9
4	2483.50	45.1 AV	54.0	-8.9	2.50 V	261	13.2	31.9
5	4924.00	52.2 PK	74.0	-21.8	1.00 V	254	49.2	3.0
6	4924.00	43.3 AV	54.0	-10.7	1.00 V	254	40.3	3.0

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.

FCC 15.407

Combination	1		
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET= Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5626.8	59.0 PK	68.2	-9.2	1.21 H	307	54.5	4.5
2	*5775	105.5 PK			1.21 H	307	62.8	42.7
3	*5775	91.6 AV			1.21 H	307	48.9	42.7
4	#5924	59.6 PK	68.9	-9.3	1.21 H	307	54.5	5.1
5	11550	56.1 PK	74.0	-17.9	1.52 H	146	46.3	9.8
6	11550	45.9 AV	54.0	-8.1	1.52 H	146	36.1	9.8
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	65.9 PK	68.2	-2.3	2.35 V	144	61.4	4.5
2	*5775	117.0 PK			2.35 V	144	74.3	42.7
3	*5775	103.9 AV			2.35 V	144	61.2	42.7
4	#5926.4	62.5 PK	68.2	-5.7	2.35 V	144	57.4	5.1
5	11550	54.3 PK	74.0	-19.7	2.48 V	204	44.5	9.8
6	11550	44.1 AV	54.0	-9.9	2.48 V	204	34.3	9.8

Remarks:

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

Mode B

FCC 15.247

Combination	1		
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	115.1 PK			1.63 H	356	83.2	31.9
2	*2462.00	112.7 AV			1.63 H	356	80.8	31.9
3	2483.50	57.1 PK	74.0	-16.9	1.63 H	356	25.2	31.9
4	2483.50	46.2 AV	54.0	-7.8	1.63 H	356	14.3	31.9
5	4924.00	53.4 PK	74.0	-20.6	1.00 H	37	50.4	3.0
6	4924.00	50.6 AV	54.0	-3.4	1.00 H	37	47.6	3.0
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	*2462.00	115.6 PK			1.46 V	354	83.7	31.9
2	*2462.00	112.6 AV			1.46 V	354	80.7	31.9
3	2483.50	59.0 PK	74.0	-15.0	1.46 V	354	27.1	31.9
4	2483.50	49.1 AV	54.0	-4.9	1.46 V	354	17.2	31.9
5	4924.00	50.8 PK	74.0	-23.2	2.61 V	304	47.8	3.0
6	4924.00	46.6 AV	54.0	-7.4	2.61 V	304	43.6	3.0

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.

FCC 15.407

Combination	1		
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET= Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 67% RH
Tested By	Karl Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.6	64.1 PK	68.2	-4.1	1.17 H	14	60.5	3.6
2	*5775	116.7 PK			1.17 H	14	74.9	41.8
3	*5775	107.0 AV			1.17 H	14	65.2	41.8
4	#5928.4	65.5 PK	68.2	-2.7	1.17 H	14	61.3	4.2
5	11550	57.1 PK	74.0	-16.9	1.06 H	25	47.1	10.0
6	11550	47.9 AV	54.0	-6.1	1.06 H	25	37.9	10.0
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	#5645.2	65.8 PK	68.2	-2.4	2.00 V	182	62.2	3.6
2	*5775	117.4 PK			2.00 V	182	75.6	41.8
3	*5775	107.6 AV			2.00 V	182	65.8	41.8
4	#5926.4	64.6 PK	68.2	-3.6	2.00 V	182	60.4	4.2
5	11550	57.4 PK	74.0	-16.6	2.36 V	54	47.4	10.0
6	11550	48.3 AV	54.0	-5.7	2.36 V	54	38.3	10.0

Remarks:

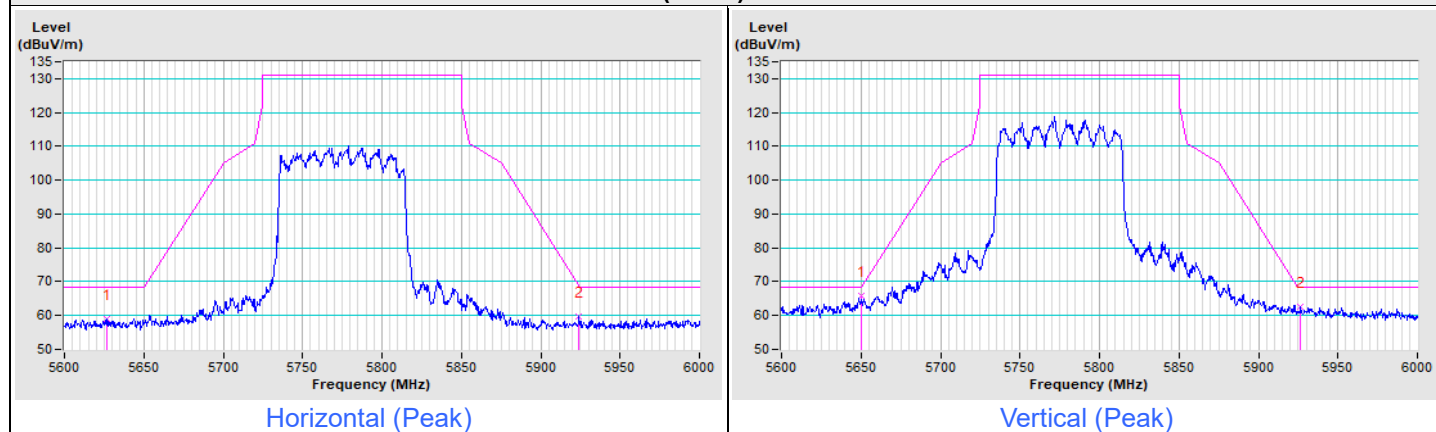
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

Plot of Band Edge

Mode A

Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
-----------------	-----------------	-------------------------------	----------------------------------

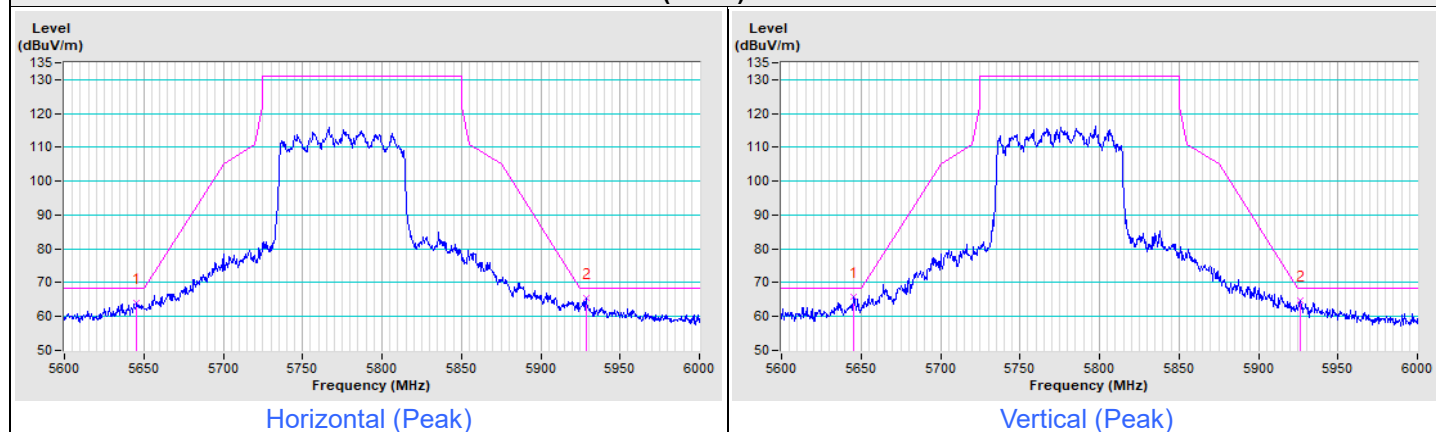
802.11ax (HE80) Channel 155



Mode B

Frequency Range	5.6 GHz ~ 6 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
-----------------	-----------------	-------------------------------	----------------------------------

802.11ax (HE80) Channel 155



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

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 ---