

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.: RFBBQZ-WTW-P25110261-4

FCC ID: PY325300652

Product: BE5000 Dual-Band PoE 2.5G Insight Managed WiFi 7 Access Point

Brand: NETGEAR

Model No.: WBE700

Series Model: WBE708 (refer to item 3.1 for more details)

Received Date: 2025/11/15

Test Date: 2026/1/29 ~ 2026/4/7

Issued Date: 2026/4/17

Applicant and Manufacturer: NETGEAR, INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number:

Approved by:

Jeremy Lin

Jeremy Lin / Project Engineer

Date:

2026/4/17

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Prepared by : Polly Chien / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P25110261-4	Original release.	2026/4/17

1 Certificate

Product: BE5000 Dual-Band PoE 2.5G Insight Managed WiFi 7 Access Point

Brand: NETGEAR

Test Model: WBE700

Series Model: WBE708 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant and Manufacturer: NETGEAR, INC.

Test Date: 2026/1/29 ~ 2026/4/7

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.
15.247(d)	Conducted Out of Band Emissions	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	3.59 dB
	30 MHz ~ 1 GHz	3.64 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 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	BE5000 Dual-Band PoE 2.5G Insight Managed WiFi 7 Access Point
Brand	NETGEAR
Test Model	WBE700
Series Model	WBE708
Model Difference	Refer to Note
Power Supply Rating	12 Vdc from Adapter 54 Vdc from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT and ac mode 1024QAM for OFDMA in 11ax mode only 4096QAM for OFDMA in 11be EHT mode
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11a: up to 54 Mbps 802.11n: up to 300 Mbps VHT (2.4GHz Band): up to 400 Mbps 802.11ac (5GHz Band): up to 1733.3 Mbps 802.11ax (2.4GHz Band): up to 573.5 Mbps 802.11ax (5GHz Band): up to 2401.9 Mbps 802.11be (2.4GHz Band): up to 6882 Mbps 802.11be (5GHz Band): up to 4323.5 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz 5.18 GHz ~ 5.25 GHz 5.25 GHz ~ 5.32 GHz 5.50 GHz ~ 5.72 GHz 5.745 GHz ~ 5.825 GHz 5.815 GHz ~ 5.885 GHz
Number of Channel	2.412 GHz ~ 2.462 GHz 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20), 802.11be (EHT20): 11 802.11n (HT40), VHT40, 802.11ax (HE40), 802.11be (EHT40): 7 5.18 GHz ~ 5.825 GHz 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20):25 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40):12 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80):6 802.11ac (VHT160), 802.11ax (HE160), 802.11be (EHT160):2 802.11 be (EHT240): 1 5.815 GHz ~ 5.885 GHz 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

Note:

1. All models are listed as below.

Brand	Model	HW	FW	Differences
NETGEAR	WBE700	Identical	Identical	SKU, Packing and labelling information Target retail markets
	WBE708	Identical	Identical	SKU, Packing and labelling information Target service provider markets

2. Simultaneously transmission combination.

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

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

3. The EUT uses following support units.

Item	Brand	Model	Specification
AC Adapter	NETGEAR	2AAJ018FC	AC Input: 100-240V~, 50/60Hz, 0.6A DC Output: 12V, 1.5A, 18.0W AC Cable: 1.8M, 0core
POE	NETGEAR	MS108UP	Input: 54Vdc, 4.7A
POE Adapter	NETGEAR	2ABU130S	AC Input: 100-240V~, 50/60Hz, 2.0A DC Output: 54V, 2.4A, 130W AC Cable: 1.8M, 0core DC Output Cable: 1.5M, one core

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.	Antenna Gain(dBi)	Frequency range	Antenna Type	Connector Type
2G-1	3.20	2400 MHz	PIFA	ipex(MHF)
	3.21	2450 MHz		
	3.16	2500 MHz		
2G-2	3.24	2400 MHz		
	3.30	2450 MHz		
	3.22	2500 MHz		
5G-1	3.54	5.15~5.25GHz	PIFA	ipex(MHF)
	3.54	5.25~5.35GHz		
	3.81	5.47~5.725GHz		
	3.86	5.725~5.85GHz		
	3.86	5.850GHz~5.895GHz		
5G-2	3.46	5.15~5.25GHz	PIFA	ipex(MHF)
	3.46	5.25~5.35GHz		
	3.70	5.47~5.725GHz		
	3.57	5.725~5.85GHz		
	3.57	5.850GHz~5.895GHz		

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

2. The EUT incorporates a MIMO function:

2.4 GHz Band			
Modulation Mode	Beamforming Mode	TX & RX Configuration	
802.11b	Not Support	2TX	2RX
802.11g	Support	2TX (Nss 1)	2RX
802.11n (HT20)	Support	2TX (Nss 1)	2RX
802.11n (HT40)	Support	2TX (Nss 1)	2RX
VHT20	Support	2TX (Nss 1)	2RX
VHT40	Support	2TX (Nss 1)	2RX
802.11ax (HE20)	Support	2TX (Nss 1)	2RX
802.11ax (HE40)	Support	2TX (Nss 1)	2RX
802.11be (EHT20)	Support	2TX (Nss 1)	2RX
802.11be (EHT40)	Support	2TX (Nss 1)	2RX
5 GHz Band			
Modulation Mode	Beamforming Mode	TX & RX Configuration	
802.11a	Not Support	2TX	2RX
802.11n (HT20)	Support	2TX	2RX
802.11n (HT40)	Support	2TX	2RX
802.11ac (VHT20)	Support	2TX	2RX
802.11ac (VHT40)	Support	2TX	2RX
802.11ac (VHT80)	Support	2TX	2RX
802.11ac (VHT160)	Support	2TX	2RX
802.11ax (HE20)	Support	2TX	2RX
802.11ax (HE40)	Support	2TX	2RX
802.11ax (HE80)	Support	2TX	2RX
802.11ax (HE160)	Support	2TX	2RX
802.11be (EHT20)	Support	2TX	2RX
802.11be (EHT40)	Support	2TX	2RX
802.11be (EHT80)	Support	2TX	2RX
802.11be (EHT160)	Support	2TX	2RX
802.11be (EHT240)	Support	2TX	2RX

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. For test items: Adapter mode and POE mode. Pre-scan these modes and find the worst case as a representative test condition. 2. 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. 3. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. The Worst Condition: POE mode 2. X-axis / Y-axis / Z-axis Worst Condition: Y-axis

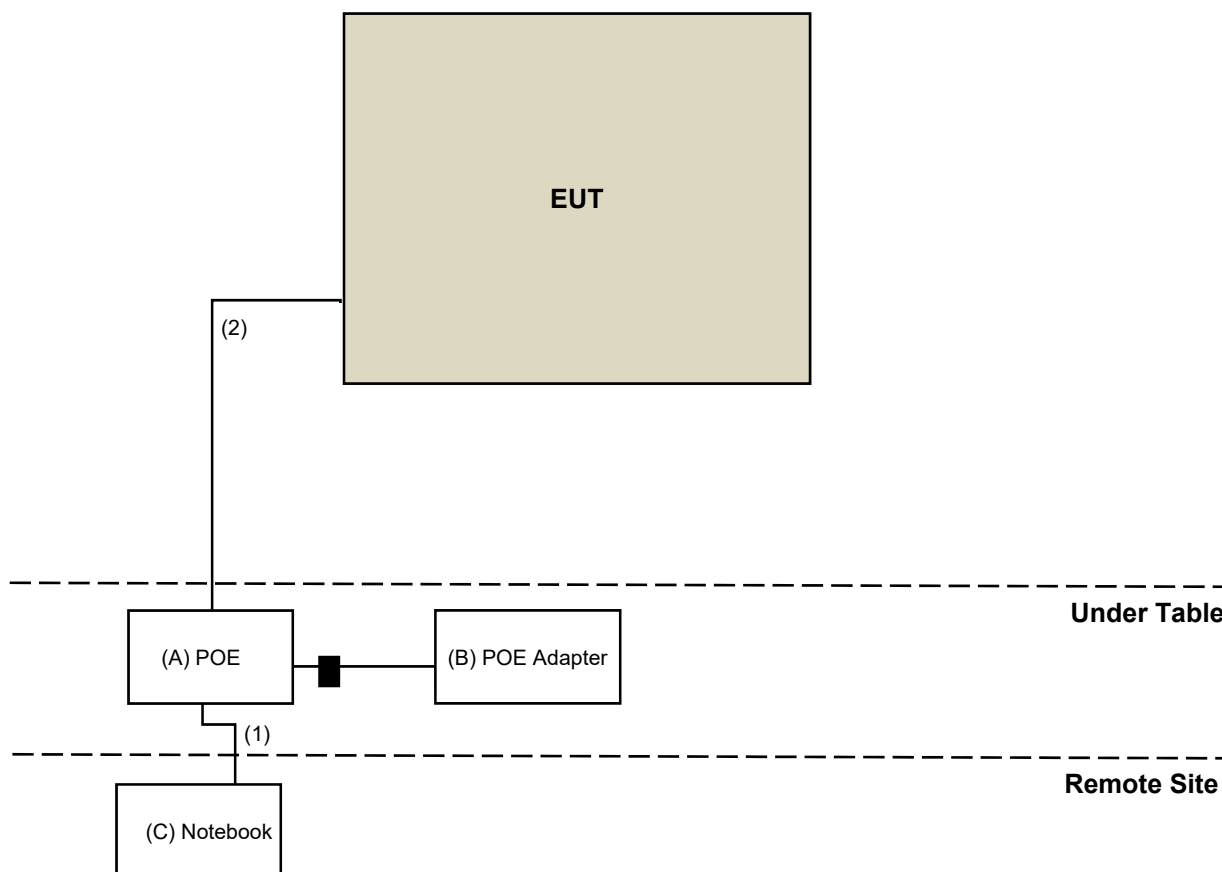
Following channel(s) was (were) selected for the final test as listed below:

Test Item	Combination	Mode	Tested Channel
Unwanted Emissions below 1 GHz	1	802.11be (EHT40)	6
		802.11a	48
Unwanted Emissions above 1 GHz	1	802.11be (EHT40)	6
		802.11a	48
Conducted Out of Band Emissions	1	802.11be (EHT40)	6
		802.11a	48

3.4 Test Program Used and Operation Descriptions

Controlling software QPST Version 2.0-00202 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.5 Connection Diagram of EUT and Peripheral Devices



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	POE	NETGEAR	MS108UP	N/A	N/A	Supplied by applicant
B	POE Adapter	NETGEAR	2ABU130S	N/A	N/A	Supplied by applicant
C	Notebook	DELL	E5430	2RL3YW1	N/A	Provided by Lab

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

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-155	2025/9/16	2026/9/15
EMI Test Receiver R&S	ESR3	102782	2025/12/8	2026/12/7
Loop Antenna TESEQ	HLA 6121	45745	2025/9/1	2026/8/31
Preamplifier Agilent	8447D	2944A10631	2025/4/27	2026/4/26
RF Coaxial Cable Woken	8D-FB	Cable-CH4-01	2025/6/30	2026/6/29
Signal & Spectrum Analyzer R&S	FSW43	101582	2025/4/15	2026/4/14
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 3(Hwaya).
2. Tested Date: 2026/1/29

4.2 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
EMI Test Receiver R&S	ESR3	102782	2025/12/8	2026/12/7
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-408	2025/11/9	2026/11/8
	BBHA 9170	9170-480	2025/11/9	2026/11/8
		BBHA9170241	2025/10/28	2026/10/27
		BBHA9170243	2025/11/9	2026/11/8
Preamplifier EMCI	EMC 184045	980116	2025/9/21	2026/9/20
Preamplifier Keysight	83017A	MY53270295	2025/4/27	2026/4/26
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2025/6/30	2026/6/29
	EMC102-KM-KM-3000	150929	2025/6/30	2026/6/29
RF Coaxial Cable HUBER+SUHNER	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4)	2025/4/27	2026/4/26
	SUCOFLEX 104	Cable-CH4-03(250724)	2025/4/27	2026/4/26
Signal & Spectrum Analyzer R&S	FSW43	101582	2025/4/15	2026/4/14
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 3(Hwaya).
2. Tested Date: 2026/4/2

4.3 Conducted Out of Band Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
Signal & Spectrum Analyzer R&S	FSV3044	101504	2025/6/18	2026/6/17
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/4/7

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:

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

For transmitters operating in the 5.850-5.925 GHz band:

- (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:

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

Limits of unwanted emission out of the restricted bands

Frequencies (MHz)	EIRP Limit	Equivalent Field Strength at 3 m
5925 MHz > F > 7125 MHz	Peak: -7 (dBm/MHz)	88.2 (dBuV/m)
	Average: -27 (dBm/MHz)	68.2 (dBuV/m)

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

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

5.3 Conducted Out of Band Emissions

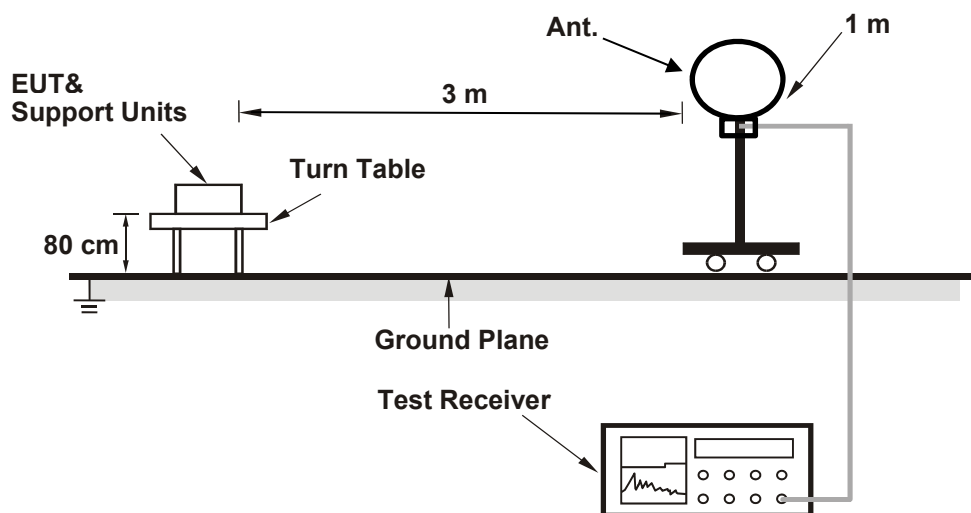
Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

6 Test Arrangements

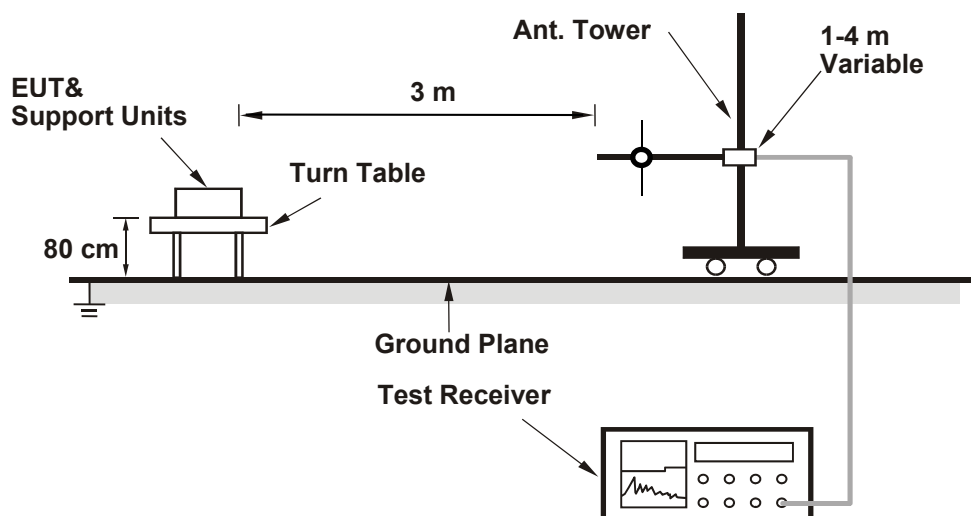
6.1 Unwanted Emissions below 1 GHz

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 (however, peak detector measurements may be used to determine compliance with QP requirements), 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

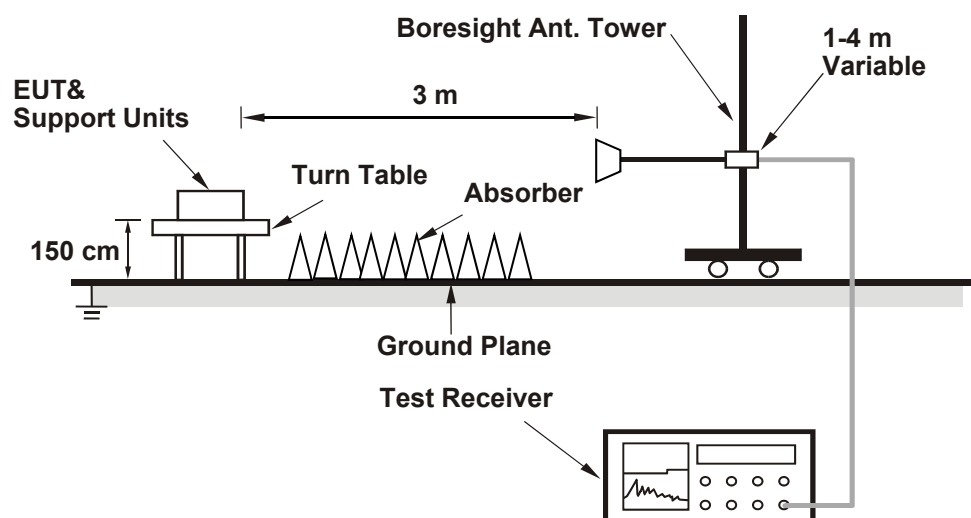
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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 frequencies less than or equal to 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 (however, peak detector measurements may be used to determine compliance with QP requirements).
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

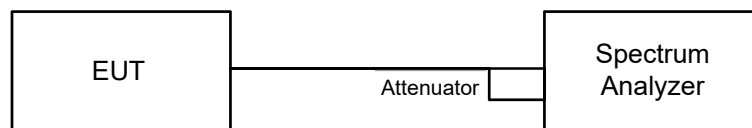
- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top 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.
- All modes of operation were investigated and the worst-case emissions are reported.

6.3 Conducted Out of Band Emissions

6.3.1 Test Setup



6.3.2 Test Procedure

MEASUREMENT PROCEDURE REF

- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum PSD level.

MEASUREMENT PROCEDURE OOB

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = No faster than coupled (auto) time.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

7 Test Results of Test Item

7.1 Unwanted Emissions below 1 GHz

FCC 15.247

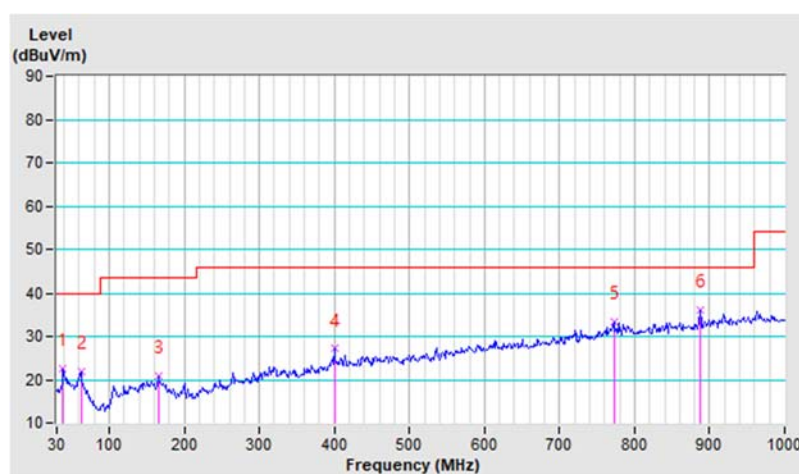
FCC 15.407

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	24 °C, 69% RH
Tested By	Luis 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	38.43	22.5 QP	40.0	-17.5	1.50 H	291	31.9	-9.4
2	62.33	21.7 QP	40.0	-18.3	1.50 H	322	31.3	-9.6
3	164.96	20.7 QP	43.5	-22.8	1.50 H	126	29.2	-8.5
4	399.72	27.1 QP	46.0	-18.9	1.00 H	145	32.5	-5.4
5	772.26	33.5 QP	46.0	-12.5	1.50 H	219	30.5	3.0
6	887.54	36.1 QP	46.0	-9.9	1.00 H	232	31.1	5.0

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 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.

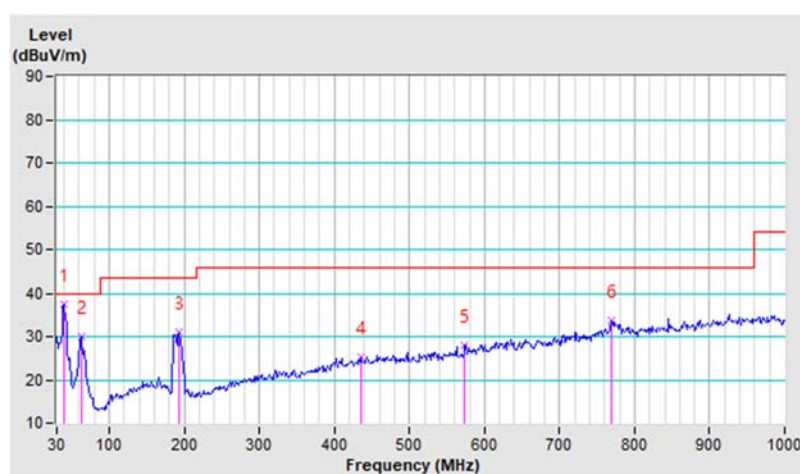


Combination	1		
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 69% RH
Tested By	Luis Lee		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39.84	37.5 QP	40.0	-2.5	1.01 V	39	46.8	-9.3
2	62.33	29.9 QP	40.0	-10.1	1.01 V	310	39.5	-9.6
3	193.07	30.9 QP	43.5	-12.6	1.50 V	68	42.2	-11.3
4	434.87	25.3 QP	46.0	-20.7	1.01 V	146	29.8	-4.5
5	574.04	28.0 QP	46.0	-18.0	1.50 V	203	29.7	-1.7
6	769.45	33.6 QP	46.0	-12.4	1.50 V	279	30.6	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 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

FCC 15.247

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=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 66% RH
Tested By	Luis 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	*2437	120.8 PK			1.48 H	46	86.1	34.7
2	*2437	108.8 AV			1.48 H	46	74.1	34.7
3	2483.5	66.6 PK	74.0	-7.4	1.48 H	46	32.0	34.6
4	2483.5	53.4 AV	54.0	-0.6	1.48 H	46	18.8	34.6
5	4874	53.6 PK	74.0	-20.4	1.89 H	342	41.7	11.9
6	4874	40.3 AV	54.0	-13.7	1.89 H	342	28.4	11.9
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	*2437	119.3 PK			2.74 V	96	84.6	34.7
2	*2437	107.7 AV			2.74 V	96	73.0	34.7
3	2483.5	66.7 PK	74.0	-7.3	2.74 V	96	32.1	34.6
4	2483.5	52.9 AV	54.0	-1.1	2.74 V	96	18.3	34.6
5	4874	49.3 PK	74.0	-24.7	1.37 V	332	37.4	11.9
6	4874	37.4 AV	54.0	-16.6	1.37 V	332	25.5	11.9

Remarks:

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

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=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 66% RH
Tested By	Luis 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	*5240	123.8 PK			1.31 H	21	82.5	41.3
2	*5240	114.0 AV			1.31 H	21	72.7	41.3
3	5350	57.6 PK	74.0	-16.4	1.31 H	21	46.6	11.0
4	5350	45.1 AV	54.0	-8.9	1.31 H	21	34.1	11.0
5	#10480	58.5 PK	68.2	-9.7	2.27 H	189	37.1	21.4
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	*5240	119.2 PK			1.05 V	74	77.9	41.3
2	*5240	109.2 AV			1.05 V	74	67.9	41.3
3	5350	57.1 PK	74.0	-16.9	1.05 V	74	46.1	11.0
4	5350	44.4 AV	54.0	-9.6	1.05 V	74	33.4	11.0
5	#10480	57.7 PK	68.2	-10.5	1.88 V	234	36.3	21.4

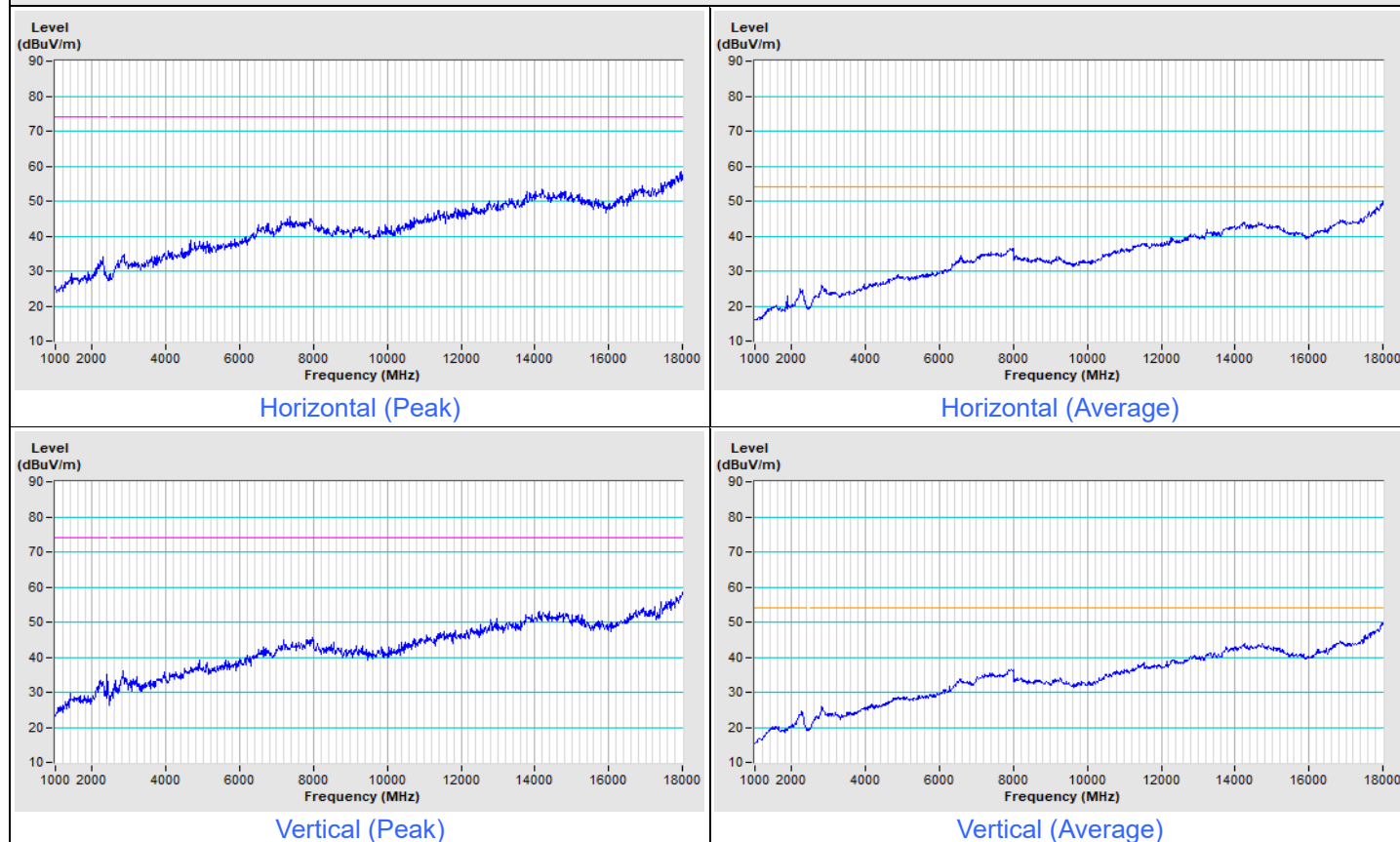
Remarks:

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.

Plot of Other Emission

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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FCC 15.247 Combination 1

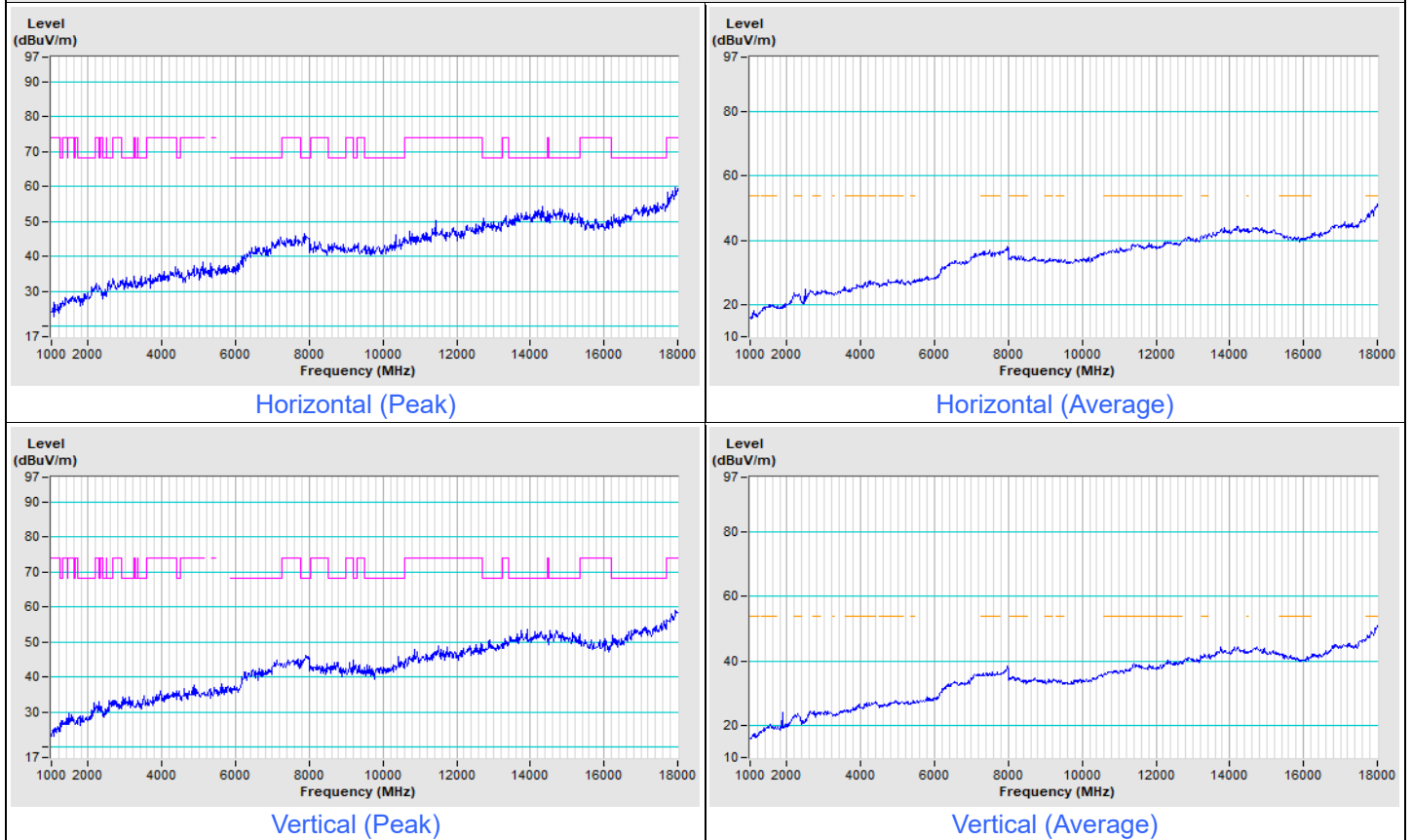


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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FCC 15.407 Combination 1



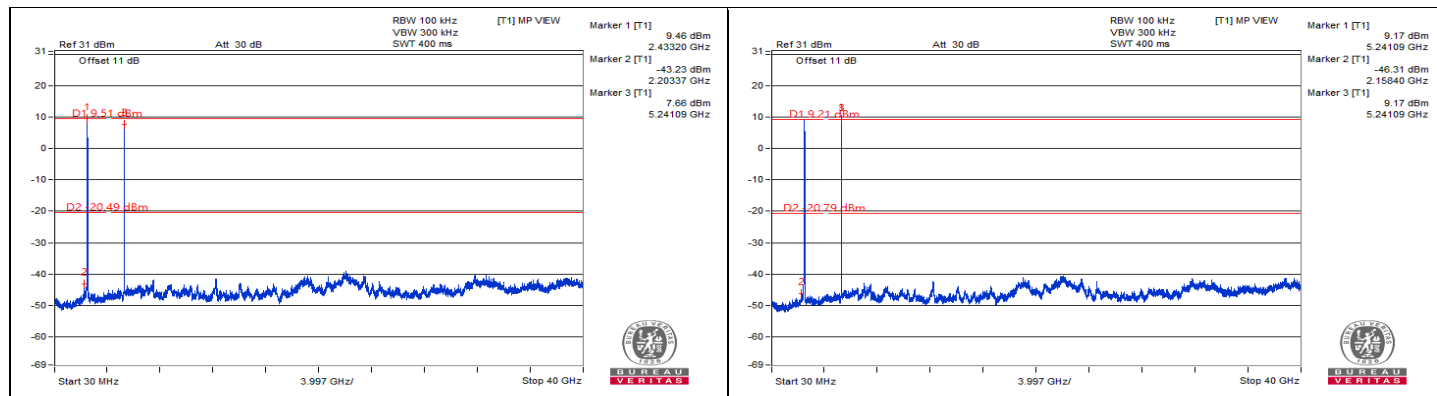
Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 40 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

7.3 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	23°C, 66% RH	Tested By:	Ivan Tseng
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Combination 1



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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