

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBBQZ-WTW-P22110099A

FCC ID: PY323100586

Product: BE19000 WiFi 7 Router

Brand: NETGEAR

Model No.: RS700

Received Date: 2024/3/29

Test Date: 2024/3/30 ~ 2024/4/1

Issued Date: 2024/4/11

Applicant and Manufacturer: NETGEAR, Inc.

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

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FCC Registration / 788550 / TW0003

Designation Number:

Approved by:

Jeremy Lin

Jeremy Lin / Project Engineer

, Date:

2024/4/11

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Prepared by : Celine Chou / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P22110099A	Original release.	2024/4/11

1 Certificate

Product: BE19000 WiFi 7 Router

Brand: NETGEAR

Test Model: RS700

Sample Status: Engineering sample

Applicant: NETGEAR, Inc.

Test Date: 2024/3/30 ~ 2024/4/1

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

Measurement procedure: ANSI C63.10-2013
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)(2)	26 dB Bandwidth	-	For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.
15.407(a)(1) 15.407(a)(2)	RF Output Power	Pass	Meet the requirement of limit.
15.407(a)(1) 15.407(a)(2)	Power Spectral Density	Pass	Meet the requirement of limit.
---	Occupied Bandwidth	-	Reference only.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.407(b)(9)	AC Power Conducted Emissions	Pass	Minimum passing margin is -12.43 dB at 0.49800 MHz
15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -3.5 dB at 52.49 MHz
15.407(b) (1/10) 15.407(b) (2/10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.8 dB at 5150.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Notes: 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 (±)
26 dB Bandwidth	-	206.5 Hz
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
Occupied Bandwidth	-	72 Hz
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.88 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.64 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB

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

2.2 Supplementary Information

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

3 General Information

3.1 General Description of EUT

Product	BE19000 WiFi 7 Router
Brand	NETGEAR
Test Model	RS700
Status of EUT	Engineering sample
Power Supply Rating	19 Vdc from adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only 4096QAM for OFDMA in 11be EHT mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 3466.7 Mbps 802.11ax: up to 4803.9 Mbps 802.11be: up to 5764.8 Mbps
Operating Frequency	5.25 GHz
Number of Channel	802.11ac (VHT160), 802.11ax (HE160), 802.11be (EHT160): 1
Output Power	162.507 mW (22.11 dBm)
EUT Category	Indoor Access Point

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RFBBQZ-WTW-P22110099-1) is updating software to improve the RF performance exclusively for NII Band 1 & 2a. Upon verification, the adjusted RF output power will not exceed the Max power level specified in the certificate.

2. The EUT uses following accessories.

Item	Brand	Model	Part Number	Specification
Adapter 1	NETGEAR	AD200F10	332-11480-02	AC Input : 100-120 Vac, 50/60 Hz, 1.7 A DC Output : 19 Vdc, 3.16 A, 60 W DC Output Cable : 1.8 m non-shielded and without core
Adapter 2	NETGEAR	2AEC060K 1	332-11578-01	AC Input : 100-120 Vac, 50/60 Hz, 1.7 A DC Output : 19 Vdc, 3.16 A, 60 W DC Output Cable : 1.8 m non-shielded and without core
Ethernet Cable	NETGEAR	312-10147-01	-	2m non-shielded and without core

3. Simultaneously transmission condition.

Condition	Technology		
1	WLAN (2.4GHz)	WLAN (5GHz)	WLAN (6GHz)

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

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 Type	Dipole
Connector Type	ipex(MHF)
Antenna Gain	Directional Gain (dBi)
2400~2483.5 MHz	6.06
5150~5250 MHz	5.99
5250~5350 MHz	6.05
5470~5725 MHz	6.03
5725~5850 MHz	6.06

* The detailed antenna information, please refer to the BV CPS report no.: RFBBQZ-WTW-P22110099-6.

2. The EUT incorporates a MIMO function:

Modulation Mode	Beamforming Mode	Tx & Rx Configuration	
802.11ac (VHT160)	Support	4TX	4RX
802.11ax (HE160)	Support	4TX	4RX
802.11be (EHT160)	Support	4TX	4RX

Note:

1. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
2. The modulation and bandwidth are similar for 802.11ac mode for 160 MHz, 802.11ax mode for 160 MHz and 802.11be mode for 160 MHz, therefore the manufacturer will control the power for 802.11ac/ax mode is the same as the 802.11be or more lower than it and investigated worst case to representative mode in test report.
3. For 802.11ax and 802.11be, the EUT not support Partial RU.

3.3 Channel List

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

Channel	Frequency
50	5250 MHz

3.4 Test Mode Applicability and Tested Channel Detail

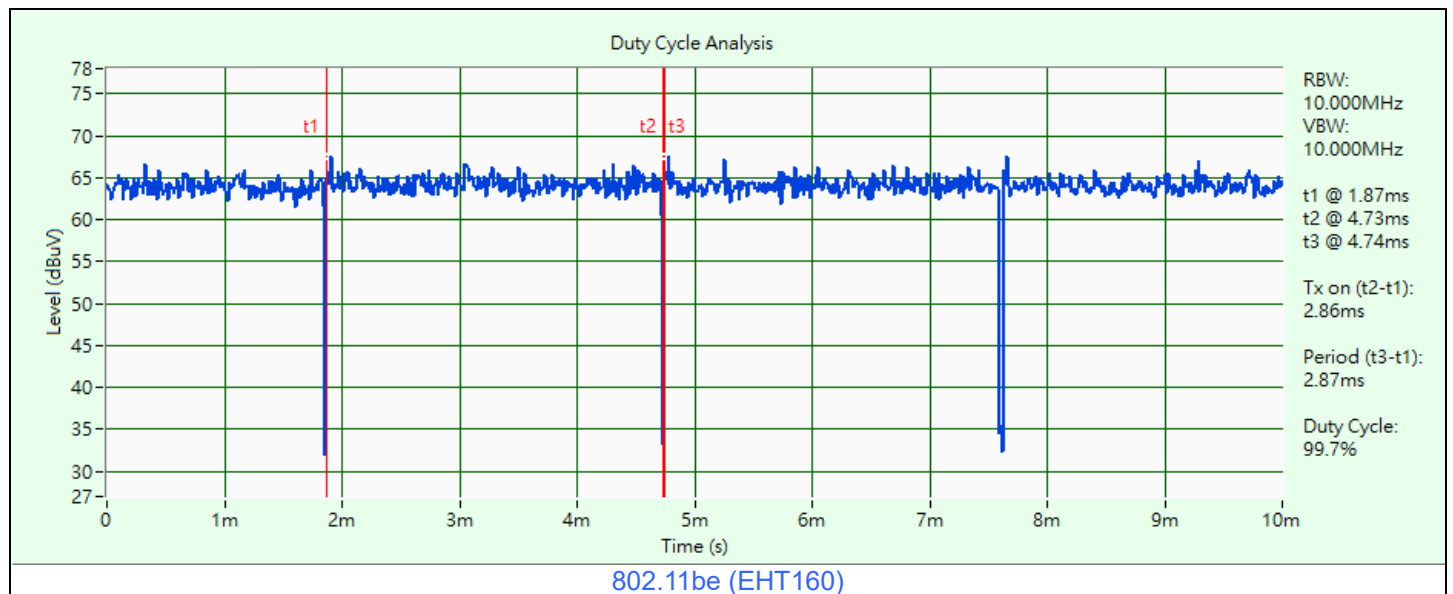
Pre-Scan:	EUT can be used in the following ways: XYZ 3-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	X / Y / Z Worst Condition: Z Axis.

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
26 dB Bandwidth	B	802.11be (EHT160)	CDD	50	BPSK	MCS0
RF Output Power	B	802.11be (EHT160)	CDD & Beamforming	50	BPSK	MCS0
Power Spectral Density	B	802.11be (EHT160)	CDD	50	BPSK	MCS0
Occupied Bandwidth	B	802.11be (EHT160)	CDD	50	BPSK	MCS0
Frequency Stability	B	802.11be (EHT160)	-	50	unmodulated	-
AC Power Conducted Emissions	A, B	802.11be (EHT160)	CDD	50	BPSK	MCS0
Unwanted Emissions below 1 GHz	A, B	802.11be (EHT160)	CDD	50	BPSK	MCS0
Unwanted Emissions above 1 GHz	B	802.11be (EHT160)	CDD	50	BPSK	MCS0
EUT Configure Mode:	A	EUT powered by adapter 1				
	B	EUT powered by adapter 2				

3.5 Duty Cycle of Test Signal

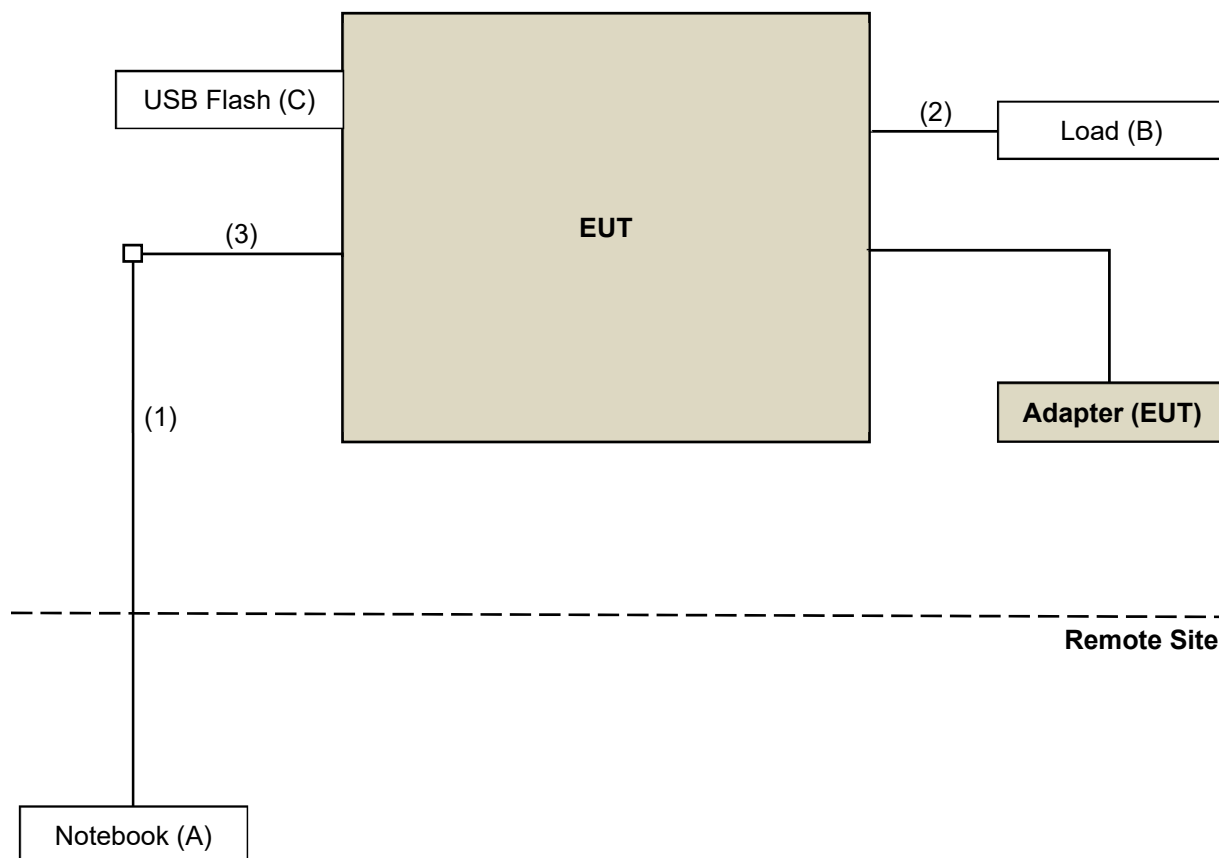
802.11be (EHT160): Duty cycle = 2.86 ms / 2.87 ms x 100% = 99.7%



3.6 Test Program Used and Operation Descriptions

Controlling software accessMTool_REL_3_2_1_5 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	DELL	E5430	2RL3YW1	N/A	Provided by Lab
B	Load	N/A	N/A	N/A	N/A	Provided by Lab
C	USB Flash	SanDisk	SDDDC3-032G	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	LAN Cable	1	10	N	N	Provided by Lab
2	LAN Cable	4	1.5	N	N	Provided by Lab
3	Ethernet Cable	1	2.0	N	N	Accessory of EUT

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 26 dB Bandwidth

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/30

4.2 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer Keysight	8990B	MY51000485	2024/1/21	2025/1/20
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Wideband Power Sensor Keysight	N1923A	MY58020002	2024/1/18	2025/1/17
		MY58140009	2024/1/18	2025/1/17

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/30

4.3 Power Spectral Density

Refer to section 4.1 to get information of the instruments.

4.4 Occupied Bandwidth

Refer to section 4.1 to get information of the instruments.

4.5 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
AC Power Supply JIN YIH Technology	6905S	1720444	N/A	N/A
Digital Multimeter Fluke	87-III	70360742	2023/7/6	2024/7/5
Signal & Spectrum Analyzer R&S	FSV3044	101504	2023/6/5	2024/6/4
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	HRM-120RF	931022	2023/12/19	2024/12/18

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2024/3/30

4.6 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance HUBER+SUHNER	E1-011315	13	2023/11/22	2024/11/21
50 ohm terminal resistance	E1-011280	05	2023/11/22	2024/11/21
	E1-011279	04	2023/11/22	2024/11/21
DC-LISN Schwarzbeck	NNBM 8126G	8126G-069	2023/11/7	2024/11/6
EMI Test Receiver R&S	ESCI	100613	2023/12/4	2024/12/3
Fixed Attenuator Mini-Circuits	HAT-10+	PAD-COND1-01	2024/1/6	2025/1/5
LISN R&S	ESH3-Z5	100311	2023/9/6	2024/9/5
		100312	2023/9/12	2024/9/11
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2024/1/6	2025/1/5
Software BVADT	BVADT_Cond_ V7.4.1.0	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2023/8/31	2024/8/30

Notes:

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

4.7 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	2023/10/13	2024/10/12
EMI Test Receiver R&S	ESR3	102782	2023/12/7	2024/12/6
Loop Antenna Electro-Metrics	EM-6879	269	2023/9/23	2024/9/22
Loop Antenna TESEQ	HLA 6121	45745	2023/8/8	2024/8/7
Preamplifier Agilent	8447D	2944A10631	2023/5/7	2024/5/6
Preamplifier EMCI	EMC001340	980201	2023/9/27	2024/9/26
RF Coaxial Cable Woken	8D-FB	Cable-CH4-01	2023/7/8	2024/7/7
Signal & Spectrum Analyzer R&S	FSW43	101582	2023/4/13	2024/4/12
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.
2. Tested Date: 2024/4/1

4.8 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	2023/12/7	2024/12/6
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-408	2023/11/12	2024/11/11
	BBHA 9170	9170-480	2023/11/12	2024/11/11
		BBHA9170241	2023/10/16	2024/10/15
		BBHA9170243	2023/11/12	2024/11/11
Preamplifier EMCI	EMC 184045	980116	2023/9/27	2024/9/26
Preamplifier Keysight	83017A	MY53270295	2023/5/7	2024/5/6
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	2023/7/8	2024/7/7
	EMC102-KM-KM-600	150928	2023/7/8	2024/7/7
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	2023/5/7	2024/5/6
	Sucoflex 104	MY 13380+295012/04	2023/5/7	2024/5/6
Signal & Spectrum Analyzer R&S	FSW43	101582	2023/4/13	2024/4/12
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.
2. Tested Date: 2024/4/1

5 Limits of Test Items

5.1 26 dB Bandwidth

The results are for reference only.

5.2 RF Output Power

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	Fixed point-to-point Access Point	1 Watt (30 dBm)
	Indoor Access Point	1 Watt (30 dBm)
	Mobile and Portable client device	250mW (24 dBm)

Operation Band	Limit
U-NII-2A	250 mW (24 dBm) or 11 dBm+10 log B*

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

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

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

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

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

5.3 Power Spectral Density

Operation Band	EUT Category	Limit
U-NII-1	Outdoor Access Point	17 dBm/MHz
	Fixed point-to-point Access Point	
	Indoor Access Point	
	Mobile and Portable client device	11 dBm/MHz

Operation Band	Limit
U-NII-2A	11 dBm/MHz

5.4 Occupied Bandwidth

The results are for reference only.

5.5 Frequency Stability

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

5.6 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.

5.7 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).

5.8 Unwanted Emissions above 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)
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)

For transmitters operating in the 5.15-5.25 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

For transmitters operating in the 5.25-5.35 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)

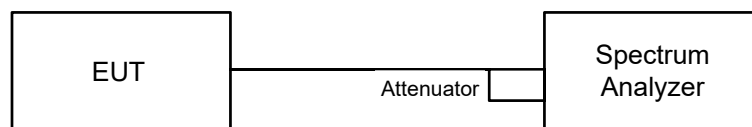
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 26 dB Bandwidth

6.1.1 Test Setup

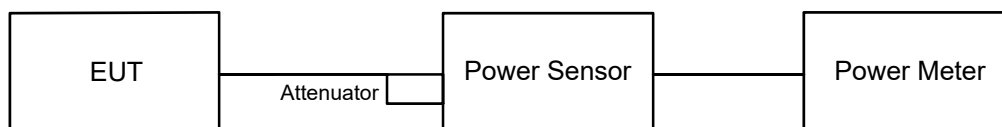


6.1.2 Test Procedure

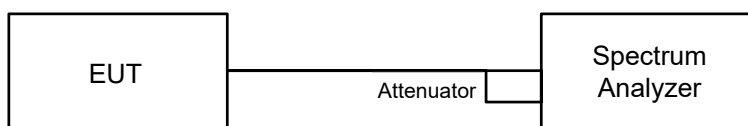
- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6.2 RF Output Power

6.2.1 Test Setup



For channel straddling:



6.2.2 Test Procedure

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

For channel straddling:

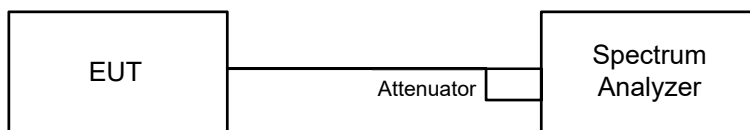
Method SA-1

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

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

6.3 Power Spectral Density

6.3.1 Test Setup



6.3.2 Test Procedure

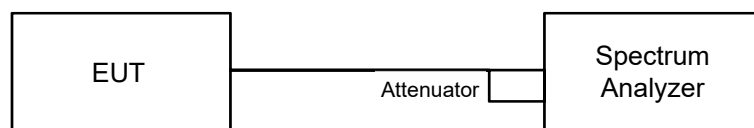
For specified measurement bandwidth 1 MHz:

Method SA-1

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

6.4 Occupied Bandwidth

6.4.1 Test Setup

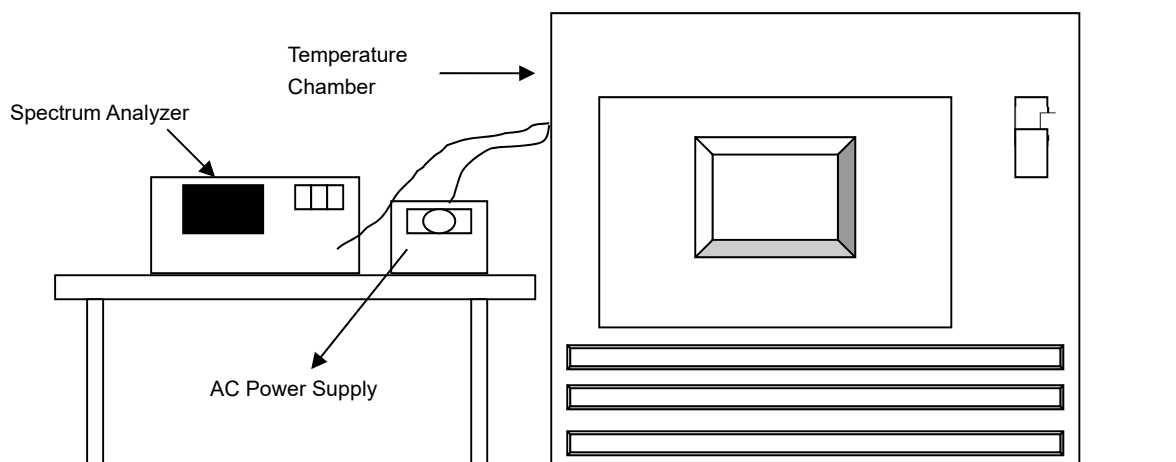


6.4.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean power of a given emission.

6.5 Frequency Stability

6.5.1 Test Setup

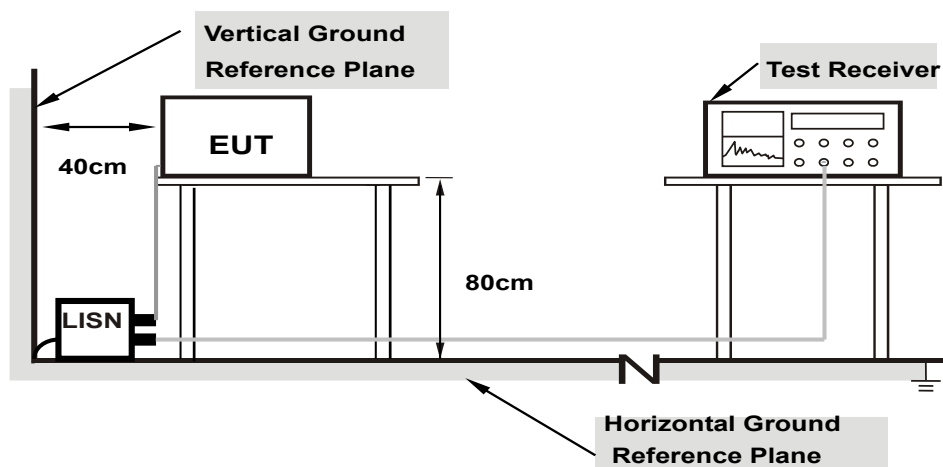


6.5.2 Test Procedure

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

6.6 AC Power Conducted Emissions

6.6.1 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).

6.6.2 Test Procedure

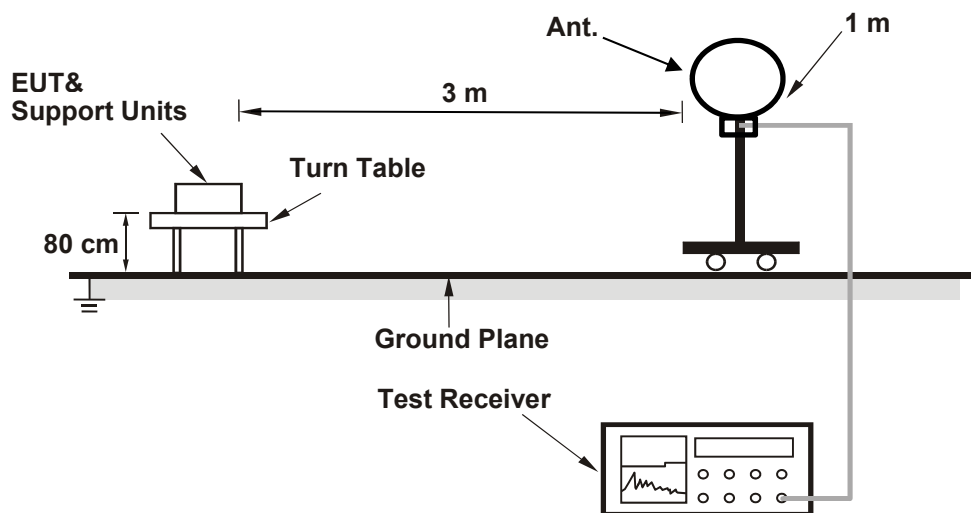
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

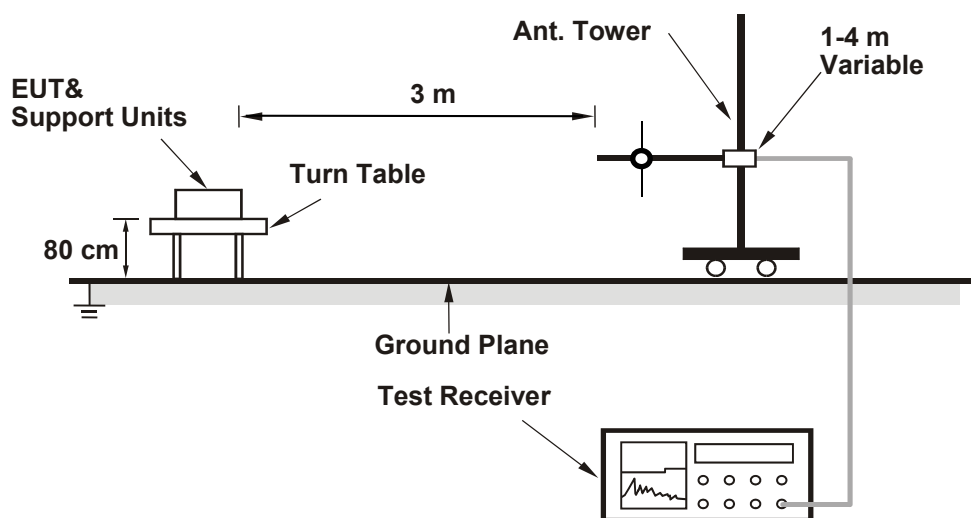
6.7 Unwanted Emissions below 1 GHz

6.7.1 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).

6.7.2 Test Procedure

For Radiated emission below 30 MHz

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

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
- All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

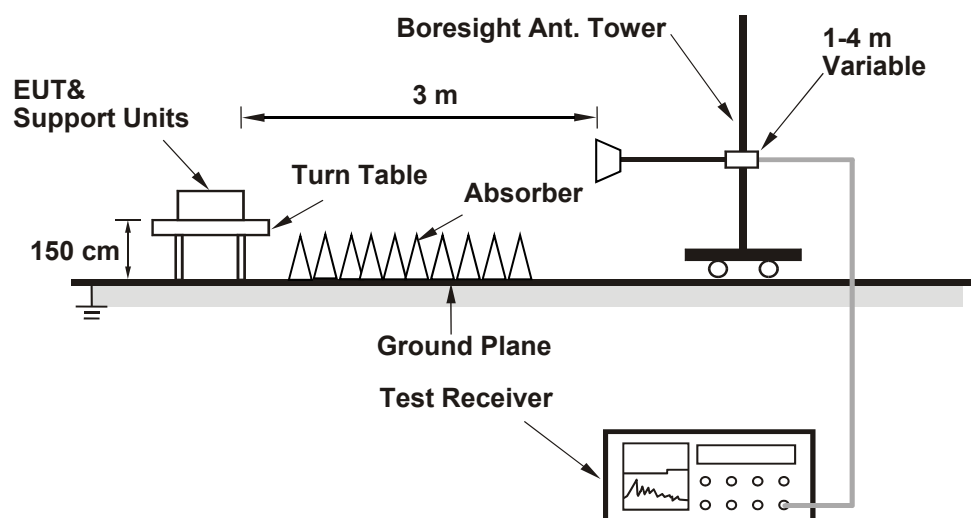
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

6.8 Unwanted Emissions above 1 GHz

6.8.1 Test Setup



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

6.8.2 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

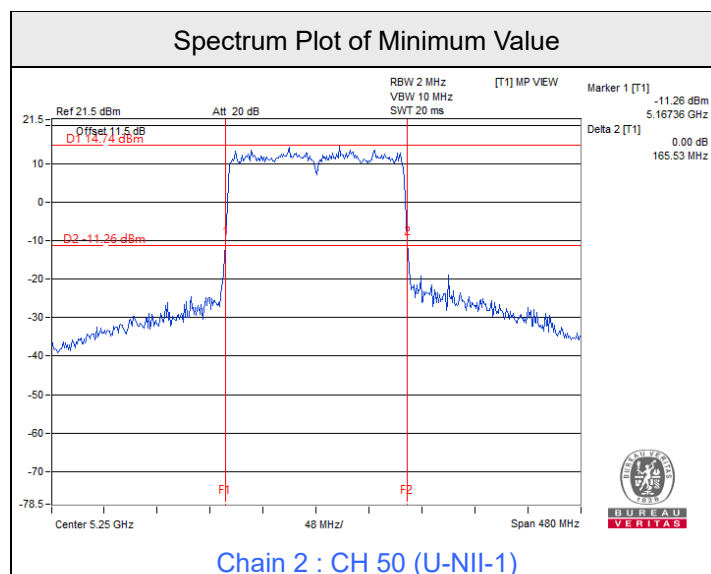
7.1 26 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 64% RH	Tested By:	Tim Chen
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Channel	Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1)	5250	83.65	82.91	82.64	82.84
50 (U-NII-2A)	5250	82.76	82.93	82.89	83.17

Determined Output Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
50 (U-NII-2A)	5250	82.76	30.17 > 24

Note: For U-NII-2A Band output power limitation is determined based on 26dBc bandwidth.



Notes:

1. For U-NII-1 straddle channel = 5250 MHz - Marker 1
2. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

7.2 RF Output Power

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 64% RH	Tested By:	Tim Chen
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CDD

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1)	5250	16.14	16.07	16.37	15.75	162.507	22.11	30	Pass
*50 (U-NII-2A)	5250	15.49	16.01	16.43	15.71	156.496	21.95	24	Pass

Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 2 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 2.8 dBi < 6 dBi, so the output power limit shall not be reduced.

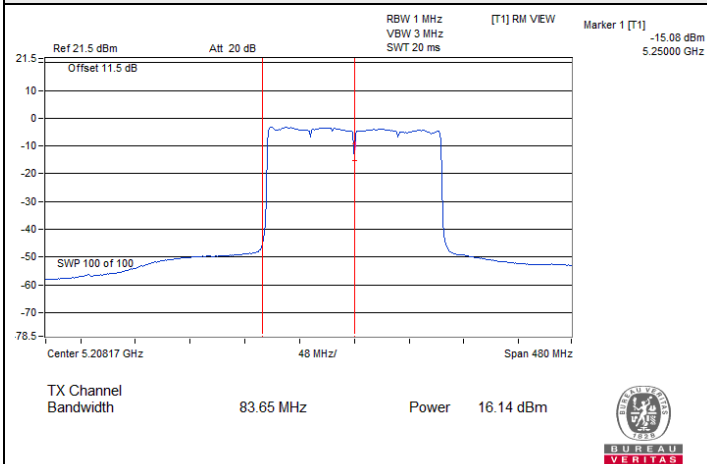
Beamforming

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3				
*50 (U-NII-1)	5250	16.14	16.07	16.37	15.75	162.507	22.11	30	Pass
*50 (U-NII-2A)	5250	15.49	16.01	16.43	15.71	156.496	21.95	23.95	Pass

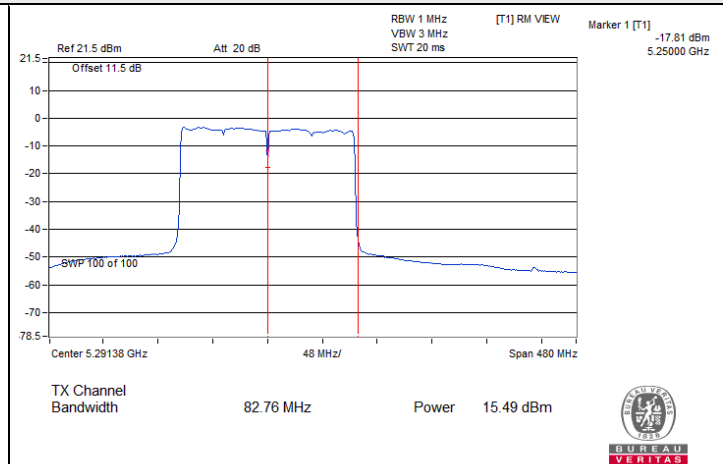
Notes:

- * : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
- For U-NII-1, the directional gain is 5.99 dBi < 6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the directional gain is 6.05 dBi > 6 dBi, so the output power limit shall be reduced to [Determined Conducted Power Limit-(6.05-6)].

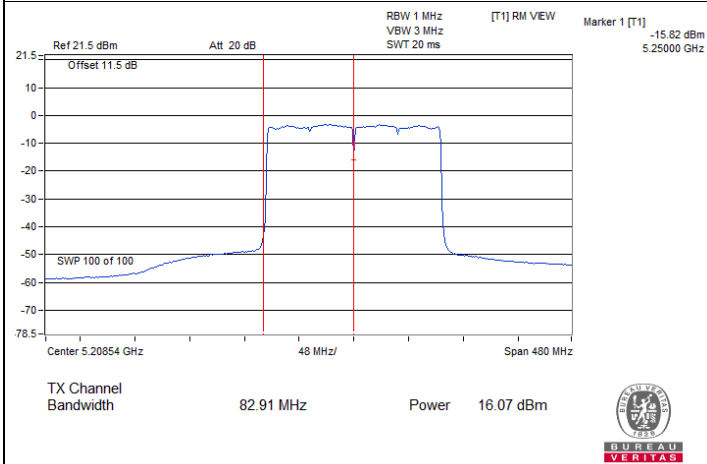
Spectrum Plot for channel straddling



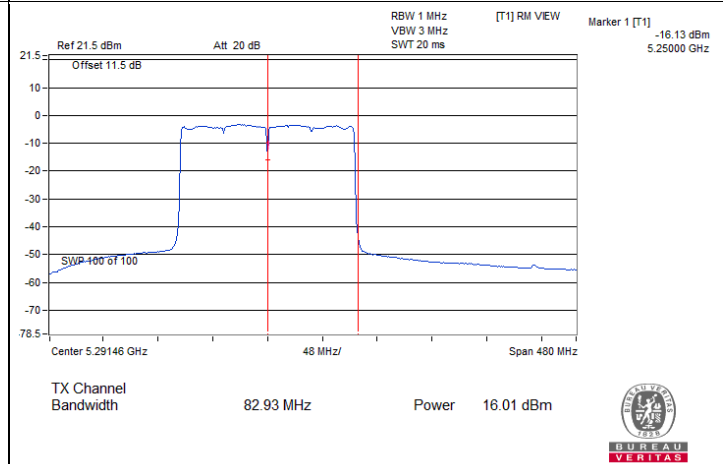
Chain 0 : CH 50 (U-NII-1)



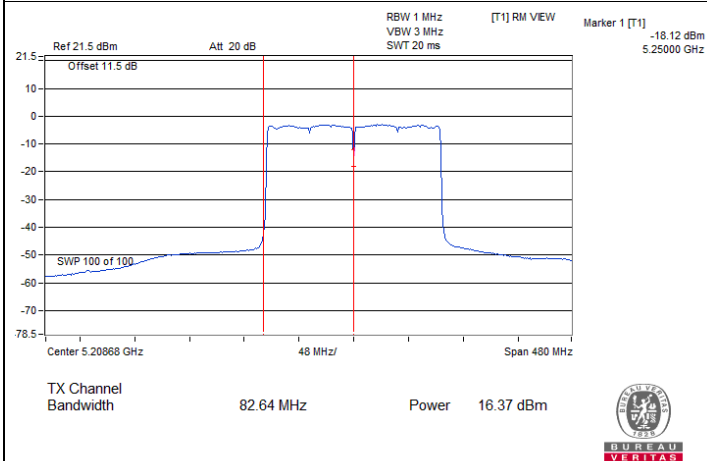
Chain 0 : CH 50 (U-NII-2A)



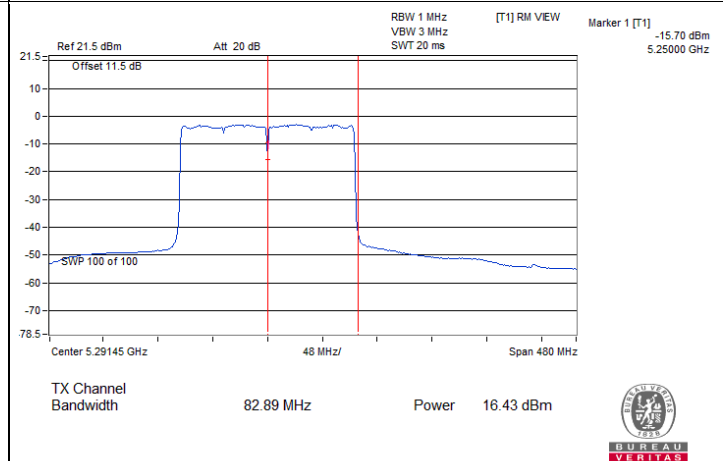
Chain 1 : CH 50 (U-NII-1)



Chain 1 : CH 50 (U-NII-2A)

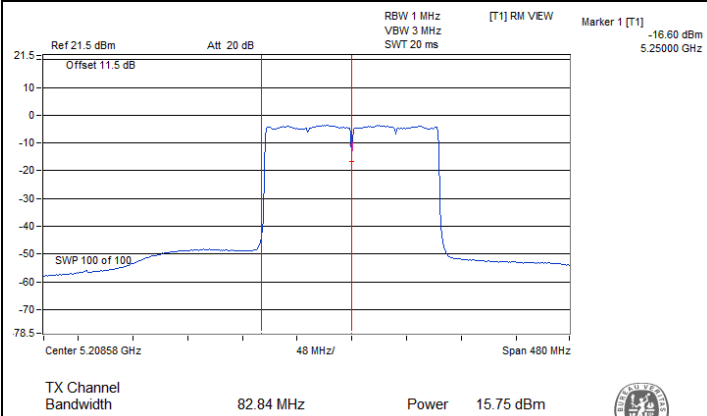


Chain 2 : CH 50 (U-NII-1)

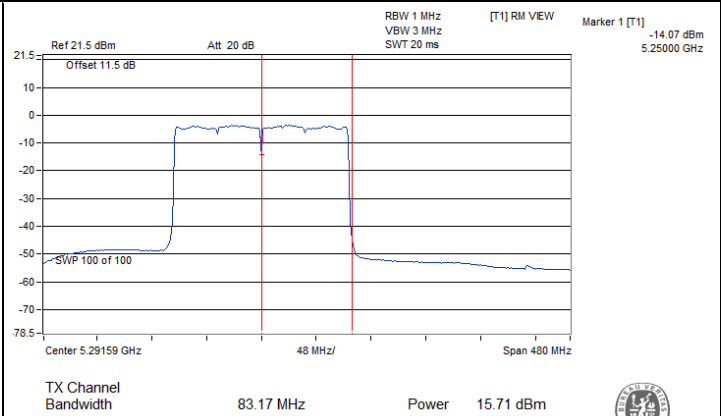


Chain 2 : CH 50 (U-NII-2A)

Spectrum Plot for channel straddling



Chain 3 : CH 50 (U-NII-1)



Chain 3 : CH 50 (U-NII-2A)

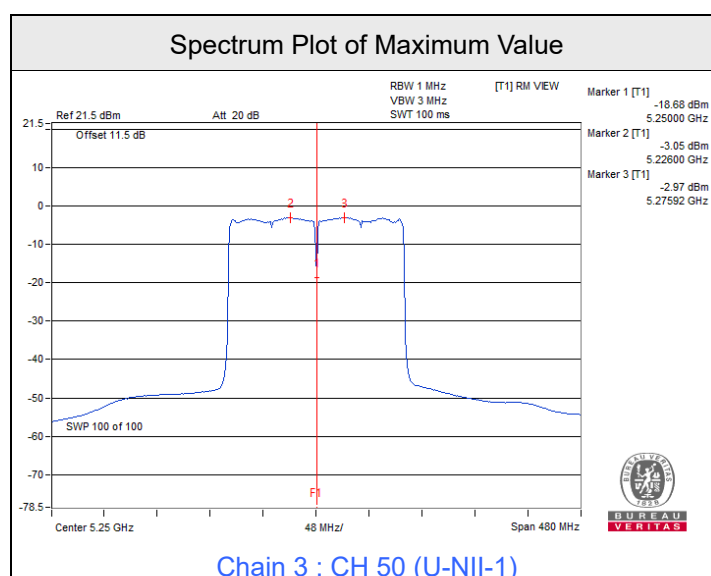
7.3 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 64% RH	Tested By:	Tim Chen
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Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Test Result
		Chain 0	Chain 1	Chain 2	Chain 3			
50 (U-NII-1)	5250	-3.32	-3.45	-3.67	-3.11	2.64	17	Pass
50 (U-NII-2A)	5250	-3.59	-3.51	-3.93	-3.14	2.49	10.95	Pass

Notes:

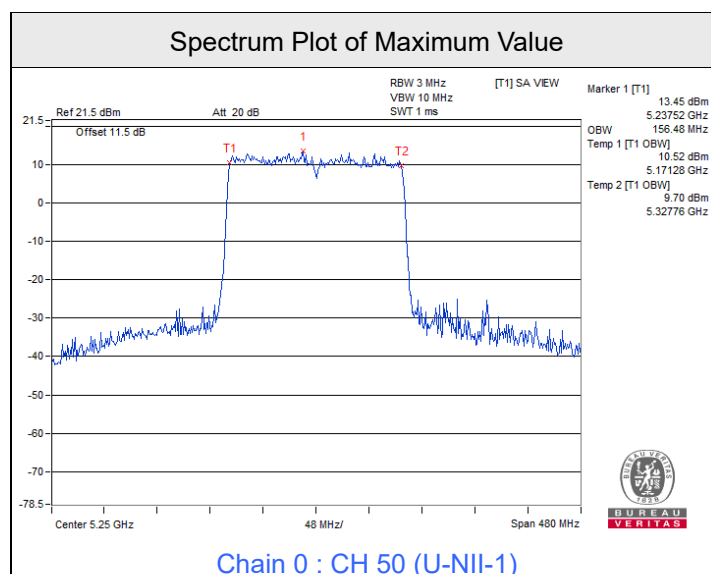
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain is the measured value according to KDB 662911 D03 Method of MIMO Antenna Gain Measurement.
3. For U-NII-1, the directional gain is 5.99 dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2A, the directional gain is 6.05 dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.05-6) = 10.95 dBm/MHz.



7.4 Occupied Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 64% RH	Tested By:	Tim Chen
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Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50 (U-NII-1)	5250	78.72	78.72	78.72	78.72
50 (U-NII-2A)	5250	77.76	77.76	77.76	77.76



Notes:

1. For U-NII-1 straddle channel = 5250 MHz - Temp 1
2. For U-NII-2A straddle channel = Temp 1 + OBW - 5250 MHz

7.5 Frequency Stability

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	22°C, 64% RH	Tested By:	Tim Chen
--------------	----------------	---------------------------	--------------	------------	----------

Frequency Stability Versus Temperature									
Operating Frequency: 5250 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
40	120	5250.0278	Pass	5250.0267	Pass	5250.0235	Pass	5250.0278	Pass
30	120	5250.014	Pass	5250.0098	Pass	5250.0134	Pass	5250.0133	Pass
20	120	5250.0044	Pass	5250.0072	Pass	5250.0042	Pass	5250.0055	Pass
10	120	5250.0159	Pass	5250.0177	Pass	5250.0163	Pass	5250.0167	Pass
0	120	5249.9805	Pass	5249.9803	Pass	5249.9796	Pass	5249.9762	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5250 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	138	5250.0143	Pass	5250.0165	Pass	5250.0138	Pass	5250.0144	Pass
	120	5250.0044	Pass	5250.0072	Pass	5250.0042	Pass	5250.0055	Pass
	102	5250.002	Pass	5250.0023	Pass	5250.0038	Pass	5250.0007	Pass

7.6 AC Power Conducted Emissions

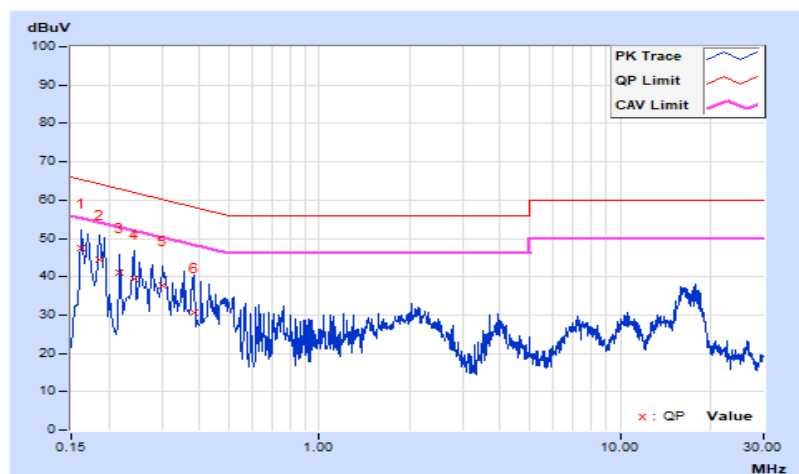
Test Mode A

RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

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	0.16200	10.15	37.16	15.91	47.31	26.06	65.36	55.36	-18.05	-29.30
2	0.18600	10.16	34.42	19.82	44.58	29.98	64.21	54.21	-19.63	-24.23
3	0.21800	10.16	31.03	10.92	41.19	21.08	62.89	52.89	-21.70	-31.81
4	0.24200	10.17	29.22	15.02	39.39	25.19	62.03	52.03	-22.64	-26.84
5	0.30200	10.19	27.53	15.03	37.72	25.22	60.19	50.19	-22.47	-24.97
6	0.38200	10.21	20.57	7.59	30.78	17.80	58.24	48.24	-27.46	-30.44

Remarks:

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

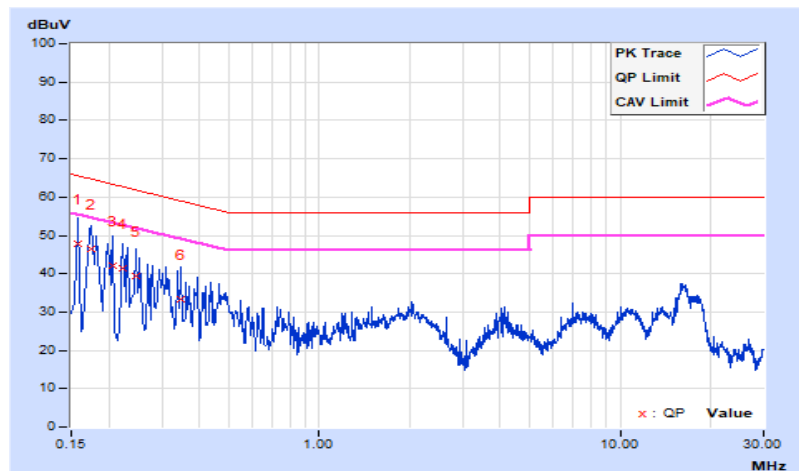


RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	10.15	37.69	13.41	47.84	23.56	65.57	55.57	-17.73	-32.01
2	0.17400	10.15	36.36	23.13	46.51	33.28	64.77	54.77	-18.26	-21.49
3	0.20600	10.15	31.91	11.70	42.06	21.85	63.37	53.37	-21.31	-31.52
4	0.22200	10.15	31.27	18.93	41.42	29.08	62.74	52.74	-21.32	-23.66
5	0.24600	10.16	29.14	20.24	39.30	30.40	61.89	51.89	-22.59	-21.49
6	0.34600	10.18	23.10	16.20	33.28	26.38	59.06	49.06	-25.78	-22.68

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



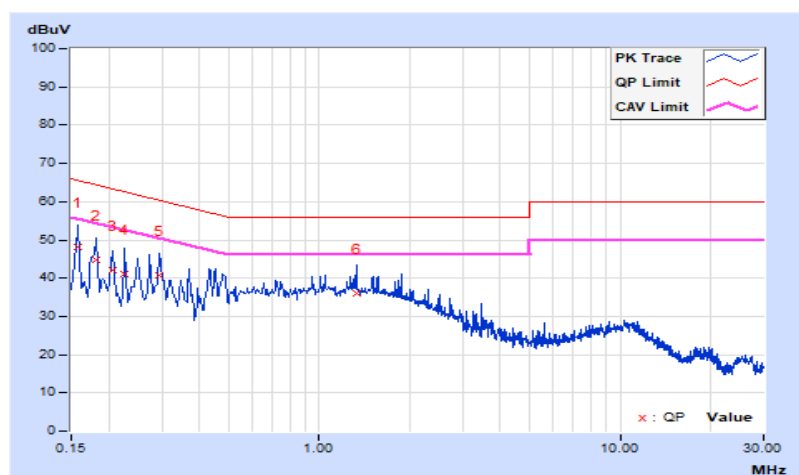
Test Mode B

RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

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	0.15800	10.15	37.97	23.30	48.12	33.45	65.57	55.57	-17.45	-22.12
2	0.18200	10.15	34.67	23.90	44.82	34.05	64.39	54.39	-19.57	-20.34
3	0.20600	10.16	32.06	17.69	42.22	27.85	63.37	53.37	-21.15	-25.52
4	0.22600	10.17	30.77	19.49	40.94	29.66	62.60	52.60	-21.66	-22.94
5	0.29400	10.18	30.67	22.38	40.85	32.56	60.41	50.41	-19.56	-17.85
6	1.33400	10.25	25.93	18.85	36.18	29.10	56.00	46.00	-19.82	-16.90

Remarks:

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

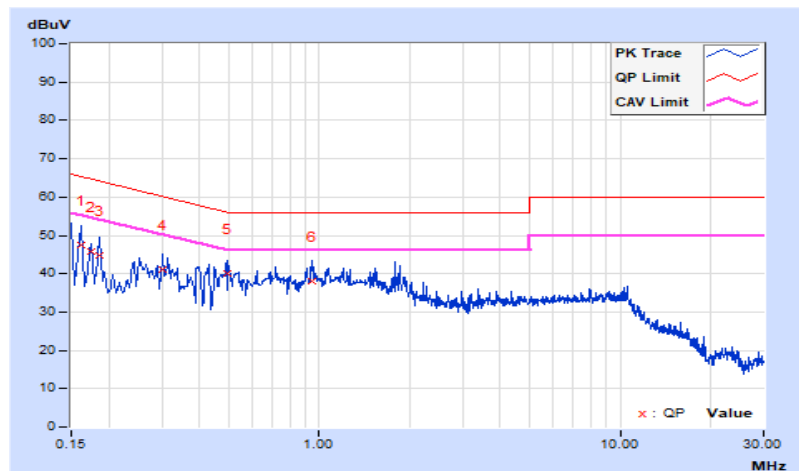


RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 70% RH
Tested By	Luis Lee		

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	0.16200	10.15	37.35	24.55	47.50	34.70	65.36	55.36	-17.86	-20.66
2	0.17384	10.15	35.53	23.73	45.68	33.88	64.77	54.77	-19.09	-20.89
3	0.18600	10.15	34.51	24.72	44.66	34.87	64.21	54.21	-19.55	-19.34
4	0.30200	10.17	31.01	24.12	41.18	34.29	60.19	50.19	-19.01	-15.90
5	0.49800	10.19	29.88	23.41	40.07	33.60	56.03	46.03	-15.96	-12.43
6	0.95000	10.22	27.92	19.42	38.14	29.64	56.00	46.00	-17.86	-16.36

Remarks:

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



7.7 Unwanted Emissions below 1 GHz

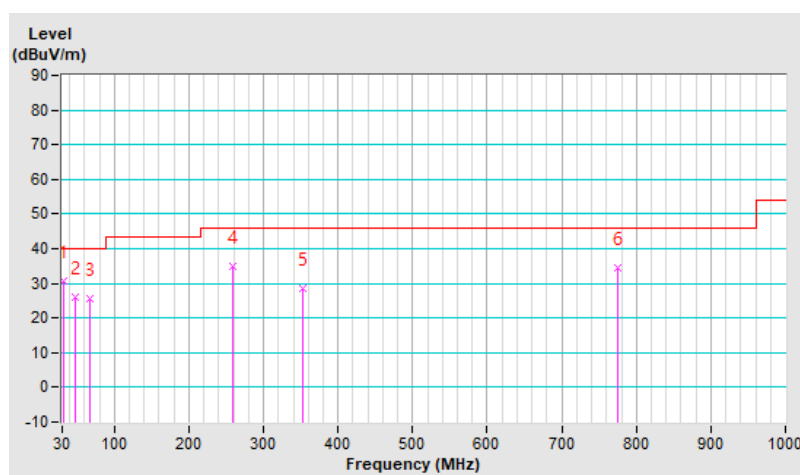
Test Mode A

RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	32.81	30.7 QP	40.0	-9.3	1.01 H	269	41.0	-10.3
2	48.28	26.1 QP	40.0	-13.9	1.01 H	161	34.9	-8.8
3	66.55	25.7 QP	40.0	-14.3	1.01 H	174	35.9	-10.2
4	259.14	35.1 QP	46.0	-10.9	1.50 H	306	44.0	-8.9
5	351.93	28.7 QP	46.0	-17.3	1.50 H	75	35.4	-6.7
6	775.07	34.6 QP	46.0	-11.4	1.50 H	346	32.1	2.5

Remarks:

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

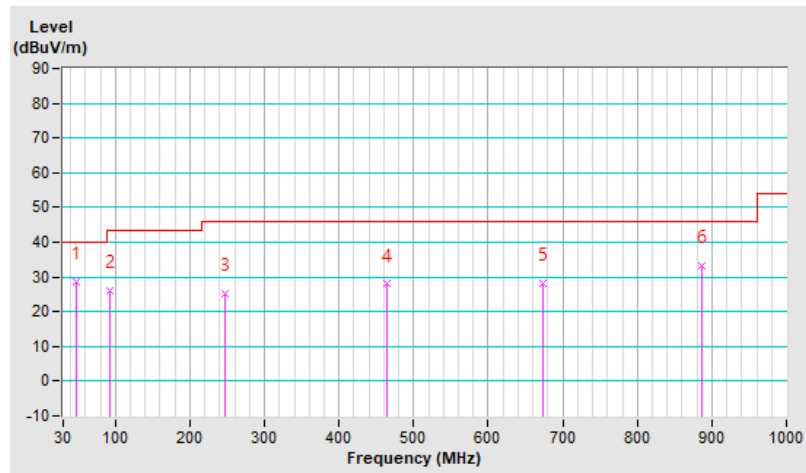


RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	48.28	28.6 QP	40.0	-11.4	1.00 V	192	37.4	-8.8
2	91.86	26.2 QP	43.5	-17.3	1.00 V	114	40.4	-14.2
3	246.49	25.0 QP	46.0	-21.0	1.49 V	351	34.3	-9.3
4	464.39	27.9 QP	46.0	-18.1	1.00 V	282	32.4	-4.5
5	672.45	28.2 QP	46.0	-17.8	1.49 V	326	28.9	-0.7
6	887.54	33.1 QP	46.0	-12.9	1.00 V	302	28.7	4.4

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 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.



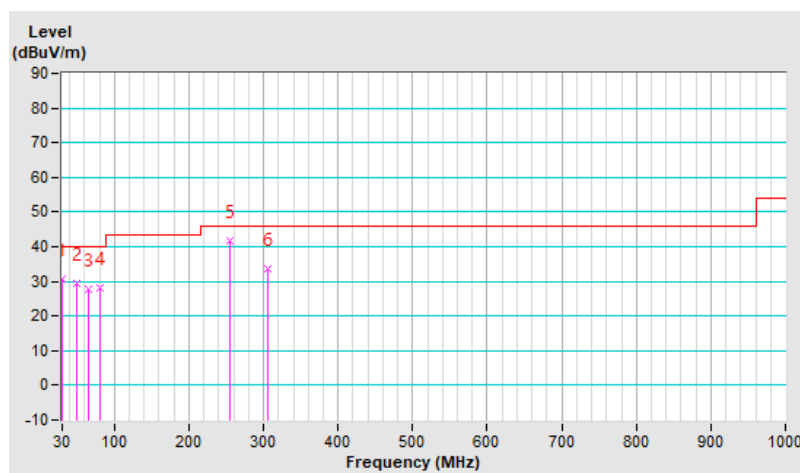
Test Mode B

RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	30.8 QP	40.0	-9.2	1.49 H	129	41.0	-10.2
2	49.68	29.2 QP	40.0	-10.8	1.49 H	138	37.8	-8.6
3	65.14	27.6 QP	40.0	-12.4	2.00 H	96	37.6	-10.0
4	80.61	28.3 QP	40.0	-11.7	1.00 H	10	41.6	-13.3
5	254.93	41.5 QP	46.0	-4.5	1.00 H	77	50.6	-9.1
6	305.54	33.6 QP	46.0	-12.4	1.00 H	325	41.0	-7.4

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 of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

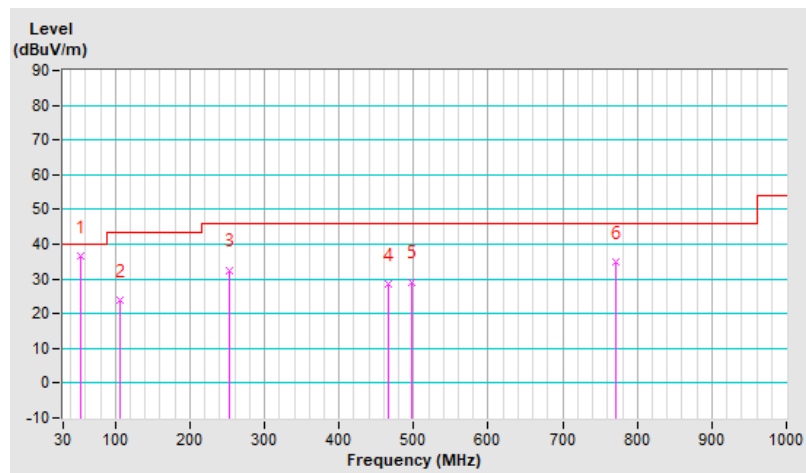


RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	52.49	36.5 QP	40.0	-3.5	1.00 V	298	45.1	-8.6
2	105.91	24.1 QP	43.5	-19.4	1.00 V	86	36.3	-12.2
3	252.12	32.6 QP	46.0	-13.4	1.50 V	324	41.7	-9.1
4	465.80	28.5 QP	46.0	-17.5	1.00 V	261	32.9	-4.4
5	496.72	29.2 QP	46.0	-16.8	1.00 V	246	33.2	-4.0
6	770.86	34.9 QP	46.0	-11.1	1.50 V	104	32.7	2.2

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.



7.8 Unwanted Emissions above 1 GHz

RF Mode	802.11be (EHT160)	Channel	CH 50 : 5250 MHz
Frequency Range	1 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 66% RH
Tested By	Titan Hsu		

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	5150.00	63.9 PK	74.0	-10.1	2.53 H	106	51.2	12.7
2	5150.00	49.8 AV	54.0	-4.2	2.53 H	106	37.1	12.7
3	*5250.00	107.4 PK			2.53 H	106	64.5	42.9
4	*5250.00	94.7 AV			2.53 H	106	51.8	42.9
5	5350.00	61.7 PK	74.0	-12.3	2.53 H	106	48.8	12.9
6	5350.00	47.8 AV	54.0	-6.2	2.53 H	106	34.9	12.9
7	#10500.00	61.1 PK	68.2	-7.1	1.82 H	319	39.2	21.9
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	5150.00	68.5 PK	74.0	-5.5	1.78 V	29	55.8	12.7
2	5150.00	53.2 AV	54.0	-0.8	1.78 V	29	40.5	12.7
3	*5250.00	113.9 PK			1.78 V	29	71.0	42.9
4	*5250.00	101.2 AV			1.78 V	29	58.3	42.9
5	5350.00	61.1 PK	74.0	-12.9	1.78 V	29	48.2	12.9
6	5350.00	48.5 AV	54.0	-5.5	1.78 V	29	35.6	12.9
7	#10500.00	61.6 PK	68.2	-6.6	1.39 V	225	39.7	21.9

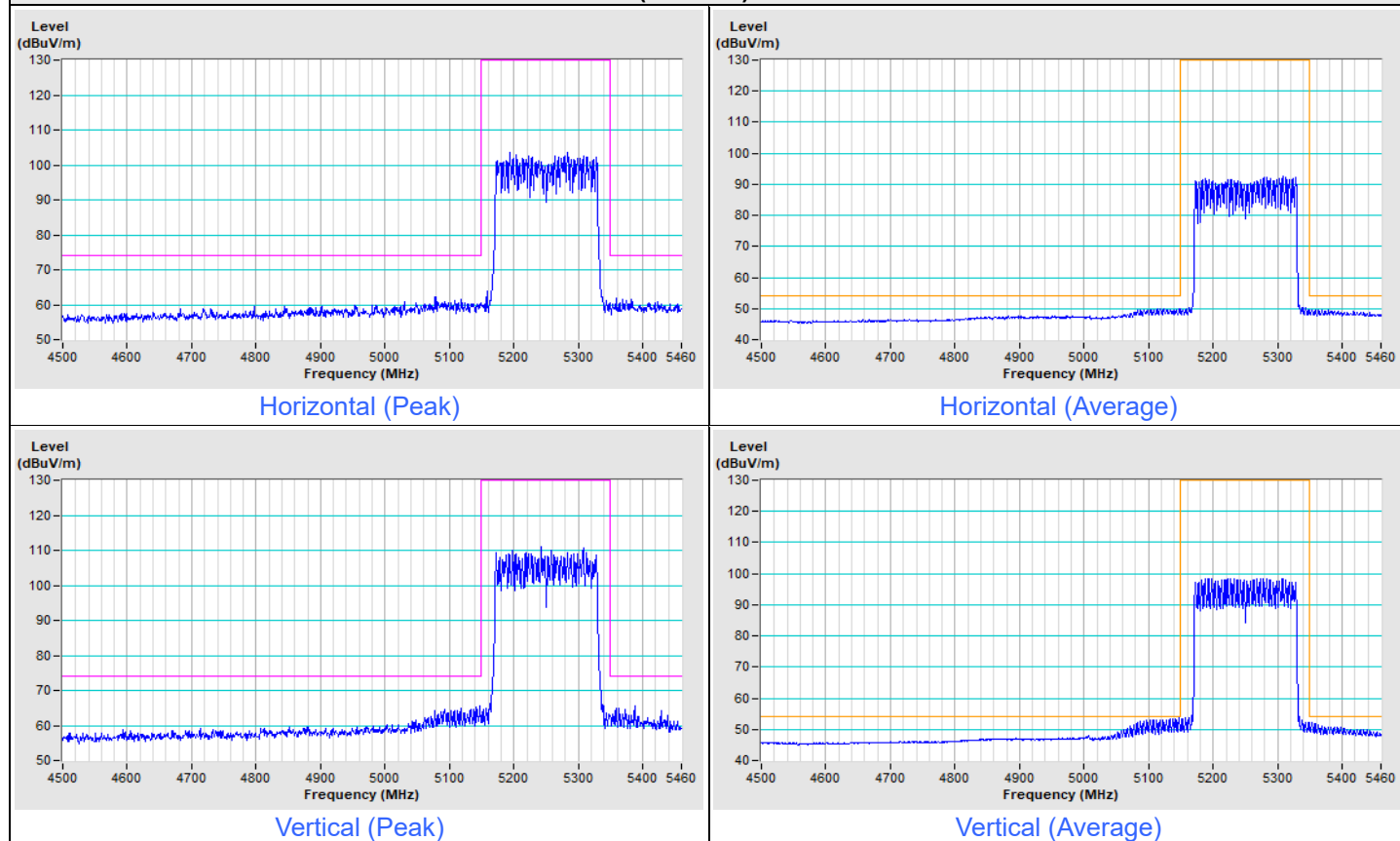
Remarks:

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

Plot of Band Edge

Frequency Range	4.5 GHz ~ 5.46 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
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802.11be (EHT160) Channel 50



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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

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

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