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-P22100778-6
FCC ID:	PY323100585
Product:	Quad-band WiFi 7 Orbi 9 Router & Quad-band WiFi 7 Orbi 9 Satellite
Brand:	NETGEAR
Model No.:	RBE971
Series Model:	RBE970
Received Date:	2022/11/2
Test Date:	2023/5/11 ~ 2023/5/26
Issued Date:	2023/5/31
Applicant and Manufacturer:	NETGEAR, Inc.
Address:	350 East Plumeria Drive San Jose, CA 95134
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. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kewi Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Approved by: Jeremy Lin , **Date:** **2023/5/31**

Jeremy Lin / Project Engineer

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Prepared by : Gina Liu / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P22100778-6	Original release.	2023/5/31

1 Certificate

Product:	Quad-band WiFi 7 Orbi 9 Router & Quad-band WiFi 7 Orbi 9 Satellite
Brand:	NETGEAR
Test Model:	RBE971
Series Model:	RBE970
Sample Status:	Engineering sample
Applicant and Manufacturer:	NETGEAR, Inc.
Test Date:	2023/5/11 ~ 2023/5/26
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407)
Measurement procedure:	ANSI C63.10-2013

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 C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.205 / 15.209 / 15.247(d) 15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -13.2 dB at 46.87 MHz
15.205 / 15.209 / 15.247(d) 15.407(b) (1/10) 15.407(b) (2/10) 15.407(b) (3/10) 15.407(b) (4(i)/10) 15.407(b)(5) 15.407(b)(6) 15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.4 dB at 2390.00 MHz
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 (±)
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.44 dB
	30 MHz ~ 1 GHz	2.02 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.01 dB
	18 GHz ~ 40 GHz	1.15 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	Quad-band WiFi 7 Orbi 9 Router & Quad-band WiFi 7 Orbi 9 Satellite
Brand	NETGEAR
Test Model	RBE971
Series Model	RBE970
Model Difference	Refer to Note as below
Status of EUT	Engineering sample
Power Supply Rating	Refer to Note as below
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
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11a: up to 54 Mbps 802.11n: up to 600 Mbps VHT (2.4GHz Band): up to 800 Mbps 802.11ac (5GHz Band): up to 3466.7 Mbps 802.11ax (2.4GHz Band): up to 1147.1 Mbps 802.11ax (5GHz and 6GHz Band): up to 4803.9 Mbps 802.11be (2.4GHz Band): up to 1376.4 Mbps 802.11be (5GHz Band): up to 8647 Mbps 802.11be (6GHz Band): up to 11529.6 Mbps
Operating Frequency	2412 ~ 2462 MHz (Radio 1) 5180 ~ 5320 MHz (Radio 1) 5500 ~ 5720 MHz (Radio 2) 5475 ~ 5825 MHz (Radio 2) 5845 ~ 5885 MHz (Radio 2) 6115 ~ 6415 MHz (Radio 3) 6435 ~ 6525 MHz (Radio 3) 6525 ~ 6875 MHz (Radio 3) 6875 ~ 7115 MHz (Radio 3)

Number of Channel	2412 ~ 2462 MHz: 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 5180 ~ 5320 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20): 8 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40): 4 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80): 2 802.11ac (VHT160), 802.11ax (HE160), 802.11be (EHT160): 1 5500 ~ 5720 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40): 6 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80): 3 802.11ac (VHT160), 802.11ax (HE160), 802.11 be (EHT160): 1 802.11be (EHT240): 1 5745 ~ 5825 MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11 be (EHT40): 2 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80): 1 5845 ~ 5885 MHz: 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 6115 ~ 7115 MHz: 802.11a, 802.11ax (HE20), 802.11be (EHT20): 51 802.11ax (HE40), 802.11be (EHT40): 25 802.11ax (HE80), 802.11be (EHT80): 12 802.11ax (HE160), 802.11be (EHT160): 6 802.11be (EHT320): 5
Output Power	CDD Mode: 2412 ~ 2462 MHz : Conducted Power: 29.37 dBm (865.056 mW) 5180 ~ 5320 MHz : Conducted Power: 29.66 dBm (924.334 mW) 5500 ~ 5720 MHz : Conducted Power: 23.74 dBm (236.706 mW) 5745 ~ 5825 MHz : Conducted Power: 29.74 dBm (942.781 mW) 5845 ~ 5885 MHz : EIRP: 30.14 dBm (1032.761 mW) 6115 ~ 6415 MHz : EIRP: 16.09 dBm (40.644 mW) 6435 ~ 6525 MHz : EIRP: 16.01 dBm (39.902 mW) 6525 ~ 6875 MHz : EIRP: 15.04 dBm (31.915 mW) 6875 ~ 7115 MHz : EIRP: 15.07 dBm (32.137 mW) Beamforming (4T1S) Mode: 2412 ~ 2462 MHz : Conducted Power: 29.23 dBm (837.469 mW) 5180 ~ 5320 MHz : Conducted Power: 29.62 dBm (915.863 mW) 5500 ~ 5720 MHz : Conducted Power: 23.74 dBm (236.706 mW) 5745 ~ 5825 MHz : Conducted Power: 29.69 dBm (930.544 mW) 5845 ~ 5885 MHz : EIRP: 34.24 dBm (2654.606 mW) 6115 ~ 6415 MHz : EIRP: 29.75 dBm (944.061 mW) 6435 ~ 6525 MHz : EIRP: 29.96 dBm (990.832 mW) 6525 ~ 6875 MHz : EIRP: 29.81 dBm (957.194 mW) 6875 ~ 7115 MHz : EIRP: 29.94 dBm (986.279 mW)

	Beamforming (4T4S) Mode: 6115 ~ 6415 MHz : EIRP: 29.26 dBm (843.335 mW) 6435 ~ 6525 MHz : EIRP: 29.31 dBm (853.100 mW) 6525 ~ 6875 MHz : EIRP: 28.49 dBm (706.318 mW) 6875 ~ 7115 MHz : EIRP: 28.53 dBm (712.853 mW)

Note:

1. All models are listed as below.

Brand	Product	Model	Difference
NETGEAR	Quad-band WiFi 7 Orbi 9 Router	RBE971	DFS Function: Master With 10G Internet port*1, 10G Ethernet port*1, Lan port*4
	Quad-band WiFi 7 Orbi 9 Satellite	RBE970	DFS Function: Master & Client (Easy Mech) With 10G Ethernet port*1, Lan port*2
Note: This product have two different colors of housing (black & white) for marketing purpose			

2. The EUT uses following accessories.

AC Adapter 1			
Brand	Model	Part Number	Specification
NETGEAR	2AEC060K 1	332-11586-01	AC Input : 100-240V ~ 50/60Hz 1.7A DC Output : 19.0V, 3.16A 60.0W DC Output Cable : 1.8m non-shielded and without core Plug : US/ISED Color: White
AC Adapter 2			
Brand	Model	Part Number	Specification
NETGEAR	AD2003F10	332-11488-02	AC Input : 100-240V ~ 50/60Hz 1.5A DC Output : 19.0V, 3.16A 60.0W DC Output Cable : 1.8m non-shielded and without core Plug : US/ISED Color: White
AC Adapter 3			
Brand	Model	Part Number	Specification
NETGEAR	2AEC060K 1	332-11578-01	AC Input : 100-240V ~ 50/60Hz 1.7A DC Output : 19.0V, 3.16A 60.0W DC Output Cable : 1.8m non-shielded and without core Plug : US/ISED Color: Black
AC Adapter 4			
Brand	Model	Part Number	Specification
NETGEAR	AD2003F10	332-11480-02	AC Input : 100-240V ~ 50/60Hz 1.5A DC Output : 19.0V, 3.16A 60.0W DC Output Cable : 1.8m non-shielded and without core Plug : US/ISED Color: Black
Ethernet Cable			
Brand	Model	Specification	
NETGEAR	312-10146-01	Signal Line : 2m, Unshielded	

* Adapter 1 & 3, 2 & 4 are same PA vendor with same category, the design is the same, only difference is color.

3. Simultaneously transmission condition.

Condition	Technology			
1	WLAN (2.4GHz)	WLAN (5GHz Radio 1)	WLAN (5GHz Radio 2)	WLAN (6GHz)
2	WLAN (2.4GHz)	WLAN (5GHz Radio 1)	WLAN (5.9GHz Radio 2)	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.

For 2.4G and 5G

Antenna Type	Dipole
Connector Type	ipex(MHF)
Antenna Gain	Directional Gain (dBi)
2400~2483.5 MHz	6.14
5150~5250 MHz	6.33
5250~5350 MHz	6.32
5470~5725 MHz	6.25
5725~5850 MHz	6.29

* The detailed antenna information, please refer to the BV CPS report no.: RFBBQZ-WTW-P22100778.

For 5.9G and 6G

Type	Connector	Frequency Range	Ant 0 (dBi)	Ant 1 (dBi)	Ant 2 (dBi)	Ant 3 (dBi)
Dipole	ipex(MHF)	5850~5895 MHz	2.68	2.77	2.62	2.59
Dipole	ipex(MHF)	5925~6425 MHz	2.60	2.76	2.85	2.96
Dipole	ipex(MHF)	6425~6525 MHz	2.59	2.76	2.85	2.96
Dipole	ipex(MHF)	6525~6875 MHz	2.85	2.80	2.64	2.75
Dipole	ipex(MHF)	6875~7125 MHz	2.46	2.41	2.39	2.41

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

2. The EUT incorporates a MIMO function:

For 2.4G

Modulation Mode	Beamforming Mode	Tx & Rx Configuration	
802.11b	Not Support	4TX	4RX
802.11g	Not Support	4TX	4RX
802.11n (HT20)	Support	4TX	4RX
802.11n (HT40)	Support	4TX	4RX
VHT20	Support	4TX	4RX
VHT40	Support	4TX	4RX
802.11ax (HE20)	Support	4TX	4RX
802.11ax (HE40)	Support	4TX	4RX
802.11be (EHT20)	Support	4TX	4RX
802.11be (EHT40)	Support	4TX	4RX
Note: The EUT device modulation technique OFDMA does not support partial RUs (resource units) and channel puncturing/bandwidth reduction mechanisms.			

For 5G

Modulation Mode	Beamforming Mode	TX & RX Configuration	
802.11a	Not Support	4TX	4RX
802.11n (HT20)	Support	4TX	4RX
802.11n (HT40)	Support	4TX	4RX
802.11ac (VHT20)	Support	4TX	4RX
802.11ac (VHT40)	Support	4TX	4RX
802.11ac (VHT80)	Support	4TX	4RX
802.11ac (VHT160)	Support	4TX	4RX
802.11ax (HE20)	Support	4TX	4RX
802.11ax (HE40)	Support	4TX	4RX
802.11ax (HE80)	Support	4TX	4RX
802.11ax (HE160)	Support	4TX	4RX
802.11be (EHT20)	Support	4TX	4RX
802.11be (EHT40)	Support	4TX	4RX
802.11be (EHT80)	Support	4TX	4RX
802.11be (EHT160)	Support	4TX	4RX
802.11be (EHT240)	Support	4TX	4RX
Note: The EUT device modulation technique OFDMA does not support partial RUs (resource units) and channel puncturing/bandwidth reduction mechanisms.			

For 5.9G

Modulation Mode	Beamforming Mode	Tx & Rx Configuration	
802.11a	Not Support	4TX	4RX
802.11n (HT20)	Support	4TX	4RX
802.11n (HT40)	Support	4TX	4RX
802.11ac (VHT20)	Support	4TX	4RX
802.11ac (VHT40)	Support	4TX	4RX
802.11ac (VHT80)	Support	4TX	4RX
802.11ac (VHT160)	Support	4TX	4RX
802.11ax (HE20)	Support	4TX	4RX
802.11ax (HE40)	Support	4TX	4RX
802.11ax (HE80)	Support	4TX	4RX
802.11ax (HE160)	Support	4TX	4RX
802.11be (EHT20)	Support	4TX	4RX
802.11be (EHT40)	Support	4TX	4RX
802.11be (EHT80)	Support	4TX	4RX
802.11be (EHT160)	Support	4TX	4RX
Note: The EUT device modulation technique OFDMA does not support partial RUs (resource units) and channel puncturing/bandwidth reduction mechanisms.			

For 6G

Modulation Mode	Beamforming Mode	Tx & Rx Configuration	
802.11a	Not Support	4TX	4RX
802.11ax (HE20)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11ax (HE40)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11ax (HE80)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11ax (HE160)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11be (EHT20)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11be (EHT40)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11be (EHT80)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11be (EHT160)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
802.11be (EHT320)	Support	4TX (Nss 1 / Nss 2 / Nss 3 / Nss 4)	4RX
Note: The EUT device modulation technique OFDMA does not support partial RUs (resource units) and channel puncturing/bandwidth reduction mechanisms.			

3.3 Channel List

FOR 2412 ~ 2462 MHz

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
3	2422 MHz	7	2442 MHz
4	2427 MHz	8	2447 MHz
5	2432 MHz	9	2452 MHz
6	2437 MHz		

FOR 5180 ~ 5320 MHz

8 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

4 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

2 channels are provided for 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

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

Channel	Frequency
50	5250 MHz

FOR 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	138	5690 MHz
122	5610 MHz		

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

Channel	Frequency
114	5570 MHz

1 straddle channel is provided for 802.11be (EHT240):

Channel	Frequency
114+138	5610 MHz

FOR 5745 ~ 5825 MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

FOR 5845 ~ 5885 MHz

3 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency
*169	5845 MHz	173	5865 MHz	177	5885 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency
*167	5835 MHz	175	5875 MHz

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

Channel	Frequency
*171	5855 MHz

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

Channel	Frequency
*163	5815 MHz

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

FOR 6155 ~ 6415 MHz:

16 channels are provided for 802.11a, 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
33	6115 MHz	37	6135 MHz	41	6155 MHz	45	6175 MHz
49	6195 MHz	53	6215 MHz	57	6235 MHz	61	6255 MHz
65	6275 MHz	69	6295 MHz	73	6315 MHz	77	6335 MHz
81	6355 MHz	85	6375 MHz	89	6395 MHz	93	6415 MHz

8 channels are provided for 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
35	6125 MHz	43	6165 MHz	51	6205 MHz	59	6245 MHz
67	6285 MHz	75	6325 MHz	83	6365 MHz	91	6405 MHz

4 channels are provided for 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
39	6145 MHz	55	6225 MHz	71	6305 MHz	87	6385 MHz

2 channels are provided for 802.11ax (HE160), 802.11be (EHT160):

Channel	Frequency	Channel	Frequency
47	6185 MHz	79	6345 MHz

1 channel is provided for 802.11be (EHT320):

Channel	Frequency
63	6265 MHz

FOR 6435 ~ 6525 MHz:

5 channels are provided for 802.11a, 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
97	6435 MHz	101	6455 MHz	105	6475 MHz	109	6495 MHz
113	6515 MHz						

3 channels are provided for 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency
99	6445 MHz	107	6485 MHz	*115	6525 MHz

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

Channel	Frequency
103	6465 MHz

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

Channel	Frequency
*111	6505 MHz

1 channel is provided for 802.11be (EHT320):

Channel	Frequency
*95	6425 MHz

FOR 6525 ~ 6865 MHz:

17 channels are provided for 802.11a, 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
117	6535 MHz	121	6555 MHz	125	6575 MHz	129	6595 MHz
133	6615 MHz	137	6635 MHz	141	6655 MHz	145	6675 MHz
149	6695 MHz	153	6715 MHz	157	6735 MHz	161	6755 MHz
165	6775 MHz	169	6795 MHz	173	6815 MHz	177	6835 MHz
181	6855 MHz						

8 channels are provided for 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
123	6565 MHz	131	6605 MHz	139	6645 MHz	147	6685 MHz
155	6725 MHz	163	6765 MHz	171	6805 MHz	179	6845 MHz

5 channels are provided for 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
*119	6545 MHz	135	6625 MHz	151	6705 MHz	167	6785 MHz
*183	6865 MHz						

2 channels are provided for 802.11ax (HE160), 802.11be (EHT160):

Channel	Frequency	Channel	Frequency
143	6665 MHz	175	*6825 MHz

2 channels are provided for 802.11be (EHT320):

Channel	Frequency	Channel	Frequency
*127	6585 MHz	*159	6745 MHz

FOR 6875 ~ 7115 MHz:

13 channels are provided for 802.11a, 802.11ax (HE20), 802.11be (EHT20):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
185	6875 MHz	189	6895 MHz	193	6915 MHz	197	6935 MHz
201	6955 MHz	205	6975 MHz	209	6995 MHz	213	7015 MHz
217	7035 MHz	221	7055 MHz	225	7075 MHz	229	7095 MHz
233	7115 MHz						

6 channels are provided for 802.11ax (HE40), 802.11be (EHT40):

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
187	6885 MHz	195	6925 MHz	203	6965 MHz	211	7005 MHz
219	7045 MHz	227	7085 MHz				

2 channels are provided for 802.11ax (HE80), 802.11be (EHT80):

Channel	Frequency	Channel	Frequency
199	6945 MHz	215	7025 MHz

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

Channel	Frequency
207	6985 MHz

1 channel is provided for 802.11be (EHT320):

Channel	Frequency
*191	6905 MHz

Note: * mean these are straddle channels.

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. The AC Adapter has the following models: 2AEC060K 1 / AD2003F10. Pre-scan these models of AC Adapters and find the worst case as a representative test condition. 2. 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:	1. AC Adapter Worst Condition: AD2003F10 2. X / Y / Z Worst Condition: Z axis.

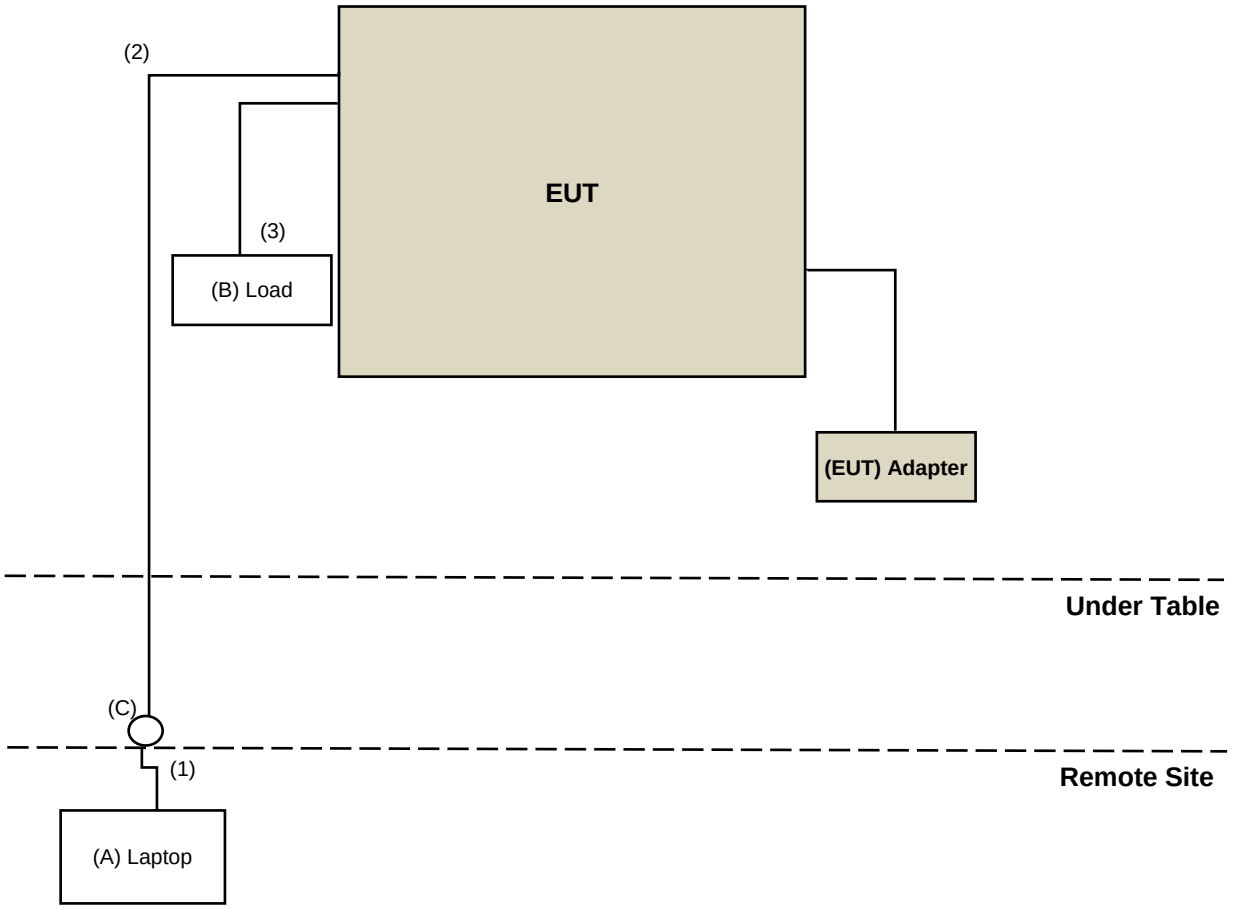
Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
Unwanted Emissions below 1 GHz	-	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	CDD	1 + 40 + 149 + 95	BPSK	MCS0
	-	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	CDD	1 + 40 + 173 + 95	BPSK	MCS0
Unwanted Emissions above 1 GHz	-	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	CDD	1 + 40 + 149 + 95	BPSK	MCS0
	-	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	CDD	1 + 40 + 173 + 95	BPSK	MCS0
Conducted Out of Band Emissions	-	802.11g + 802.11a	CDD	1 + 40	BPSK	MCS0
EUT Configure Mode:	-	EUT (RBE971) + AC Adapter 2 (AD2003F10)				

3.5 Test Program Used and Operation Descriptions

Controlling software QSPR Version 5.0-00202 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.6 Connection Diagram of EUT and Peripheral Devices



3.7 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	LAN connector	N/A	N/A	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	10	N/A	N/A	Provided by Lab
2	RJ-45 Cable	1	2	N/A	N/A	Supplied by applicant
3	RJ-45 Cable	5	1.5	N/A	N/A	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 Conducted Out of Band Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Signal and spectrum analyzer R&S	FSV3044	101105	2023/2/22	2024/2/21
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2023/5/16

4.2 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 Schwarbeck	VULB9168	9168-155	2022/10/21	2023/10/20
Loop Antenna EMCI	EM-6879	269	2022/9/19	2023/9/18
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
Pre-amplifier EMCI	EMC001340	980201	2022/9/23	2023/9/22
Pre_Amplifier Agilent	8447D	2944A10631	2023/5/07	2024/5/06
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2023/1/7	2024/1/6
RF Coaxial Cable WOKEN	8D-FB	Cable-CH4-01	2022/7/9	2023/7/8
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Test Receiver R&S	ESR3+	102782	2022/12/12	2023/12/11
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: 2023/5/15

4.3 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
Horn Antenna Schwarzbeck	9120D	9120D-408	2022/11/13	2023/11/12
	BBHA 9170	9170-480	2022/11/13	2023/11/12
		BBHA9170241	2022/10/20	2023/10/19
		BBHA9170243	2022/11/13	2023/11/12
Pre-Ammlifier EMCI	EMC 184045	980116	2022/10/1	2023/9/30
Pre_Amplifier KEYSIGHT	83017A	MY53270295	2023/5/07	2024/5/06
RF cable HUBER+SUHNER	Sucoflex 104	MY 13380+295012/04	2023/5/07	2024/5/06
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2022/7/9	2023/7/8
	EMC102-KM-KM-3000	150929	2022/7/9	2023/7/8
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	2023/5/07	2024/5/06
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Spectrum Analyzer R&S	FSW43	101866	2023/1/10	2024/1/9
Test Receiver R&S	ESR3+	102782	2022/12/12	2023/12/11
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: 2023/5/16

5 Limits of Test Items

5.1 Conducted Out of Band Emissions

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

5.2 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.3 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

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 5.15-5.850 GHz band 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)

For transmitters operating in the 5.47-5.725 GHz band:

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

For transmitters operating in the 5.725-5.850 GHz band:

Applicable To	EIRP Limit	Equivalent Field Strength at 3 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:

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

For transmitters operating in the 5.850-5.895 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:

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

For 5.925-7.125 GHz band 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)

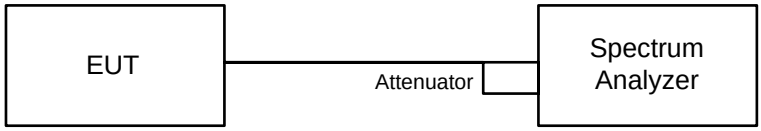
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

6 Test Arrangements

6.1 Conducted Out of Band Emissions

6.1.1 Test Setup



6.1.2 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

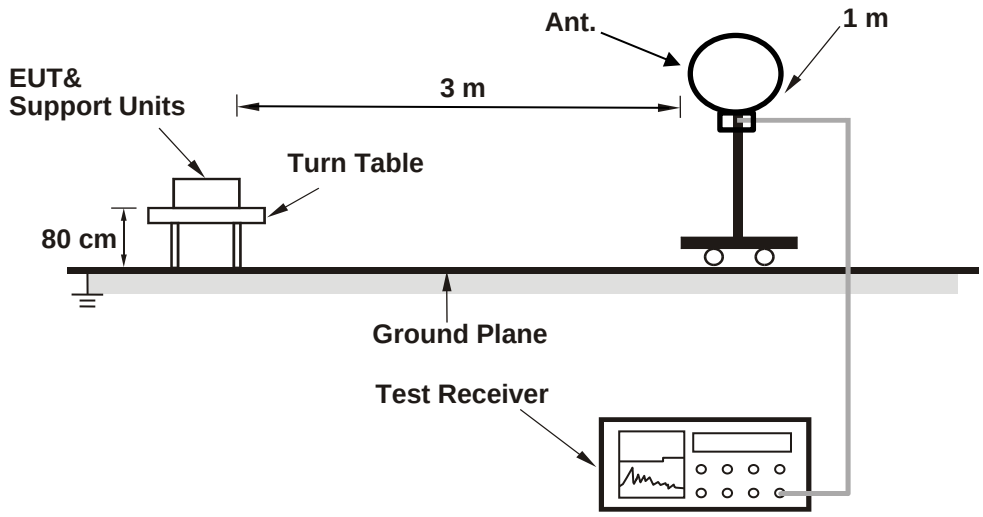
MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum amplitude level.

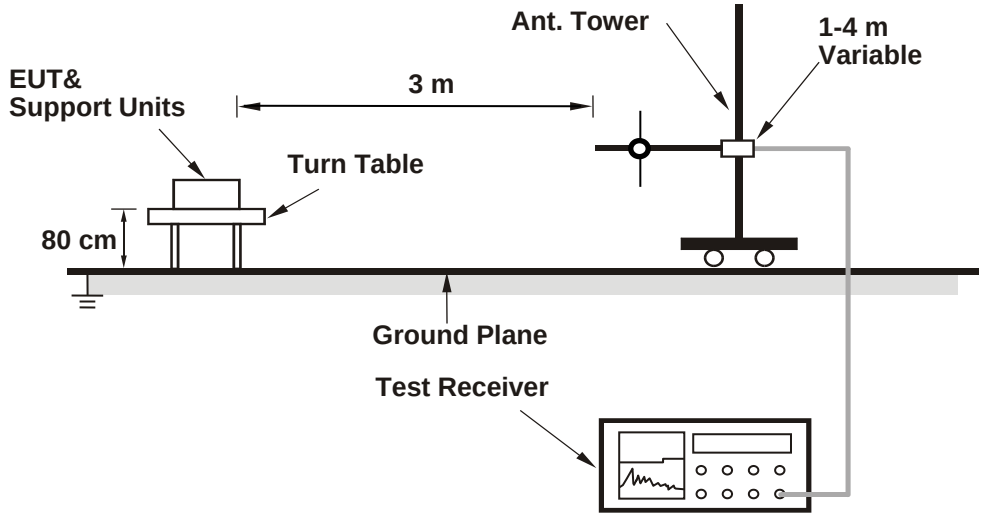
6.2 Unwanted Emissions below 1 GHz

6.2.1 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).

6.2.2 Test Procedure

For Radiated emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

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

For Radiated emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

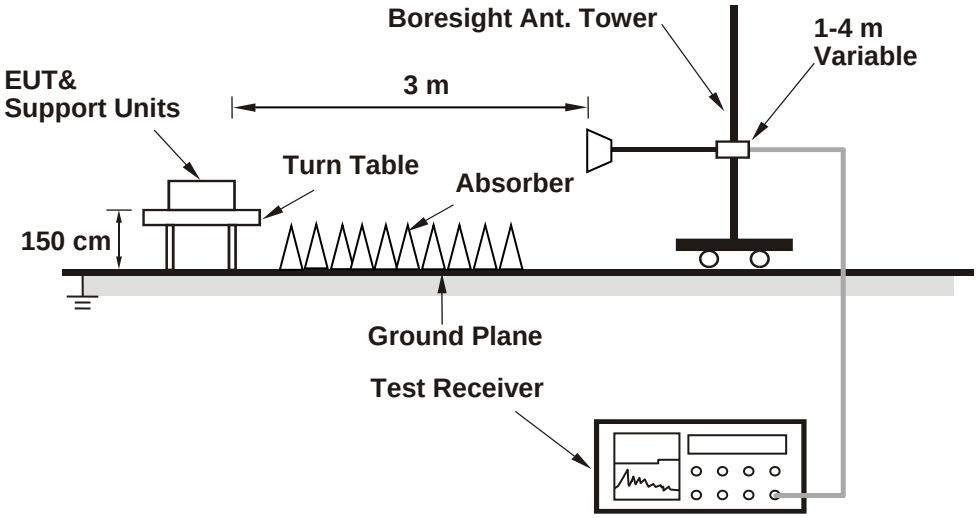
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Notes:

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

6.3 Unwanted Emissions above 1 GHz

6.3.1 Test Setup



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

6.3.2 Test Procedure

a. 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.

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 peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

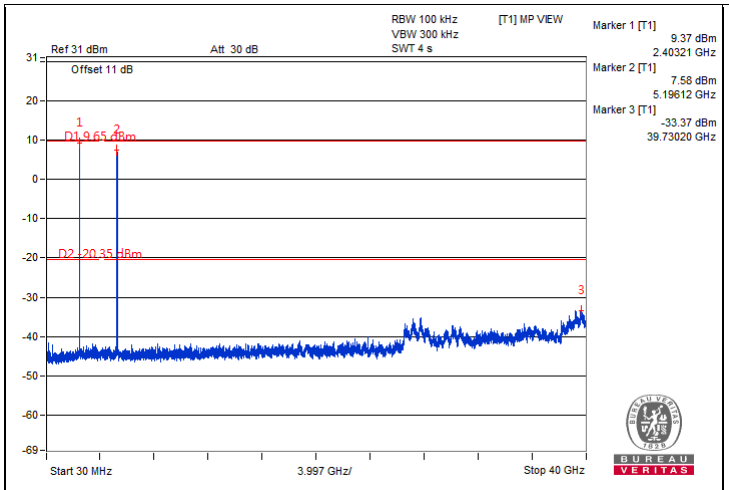
1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz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

7 Test Results of Test Item

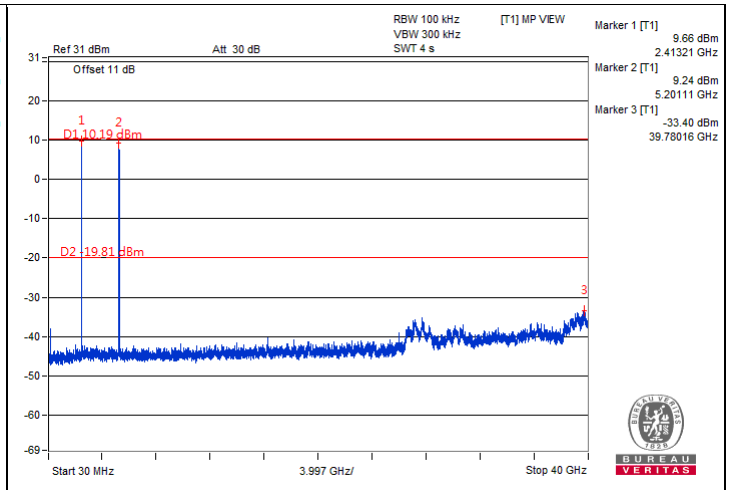
7.1 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang

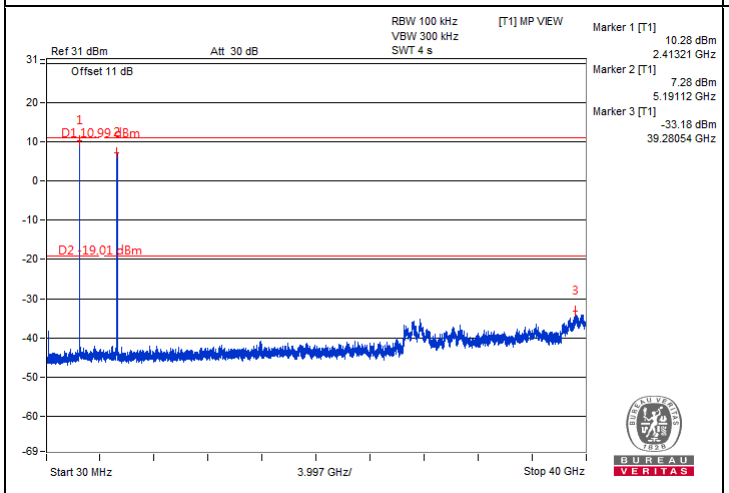
802.11g + 802.11a



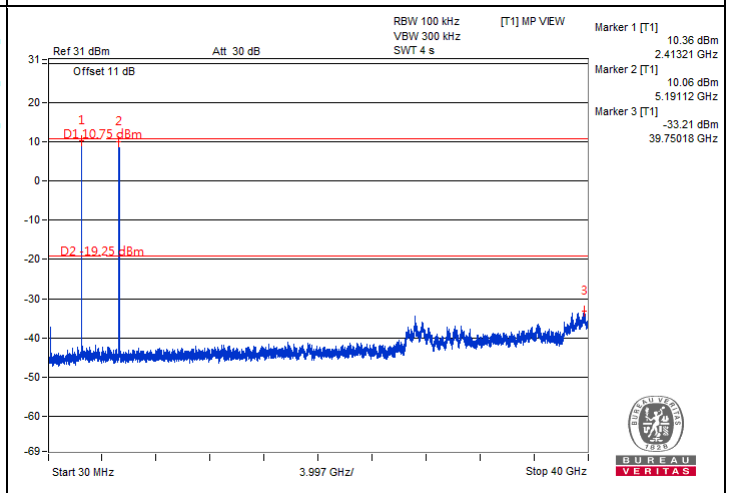
Chain 0



Chain 1



Chain 2



Chain 3

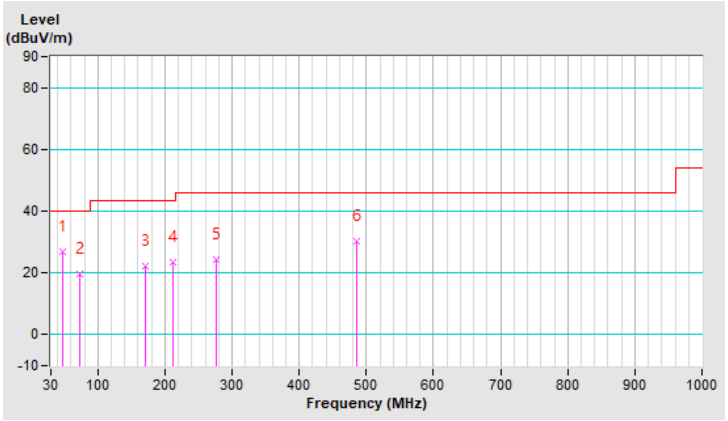
7.2 Unwanted Emissions below 1 GHz

RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	**Channel**	CH 1：2412 MHz + CH 40：5200 MHz + CH 149：5745 MHz + CH 95：6425 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 70% 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	**46.87**	**26.8 QP**	**40.0**	**-13.2**	**1.00 H**	**278**	**35.7**	**-8.9**
2	73.58	19.5 QP	40.0	-20.5	1.49 H	178	30.9	-11.4
3	170.58	22.2 QP	43.5	-21.3	1.00 H	107	31.2	-9.0
4	212.75	23.4 QP	43.5	-20.1	1.49 H	73	34.6	-11.2
5	276.01	24.5 QP	46.0	-21.5	1.49 H	162	32.4	-7.9
6	485.48	30.3 QP	46.0	-15.7	1.00 H	5	34.7	-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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

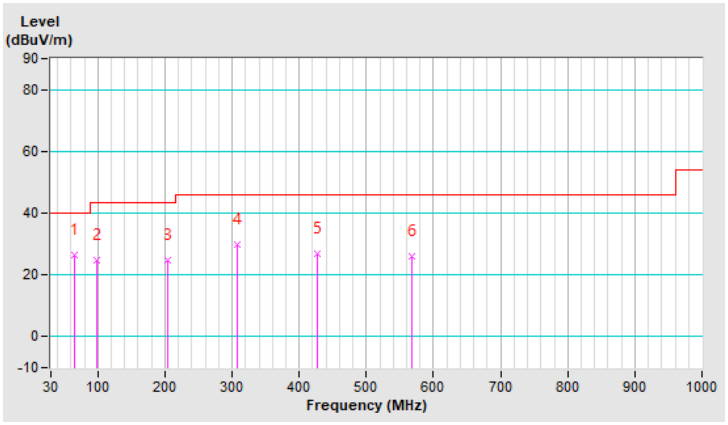


RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	**Channel**	CH 1：2412 MHz + CH 40：5200 MHz + CH 149：5745 MHz + CH 95：6425 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 70% RH
Tested By	Luis Lee		

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	65.14	26.6 QP	40.0	-13.4	1.00 V	227	36.7	-10.1
2	97.48	24.9 QP	43.5	-18.6	1.49 V	155	38.6	-13.7
3	204.32	24.7 QP	43.5	-18.8	1.00 V	245	36.1	-11.4
4	306.94	29.9 QP	46.0	-16.1	1.49 V	166	37.1	-7.2
5	426.43	26.7 QP	46.0	-19.3	1.00 V	92	32.0	-5.3
6	567.01	26.1 QP	46.0	-19.9	1.00 V	58	29.0	-2.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

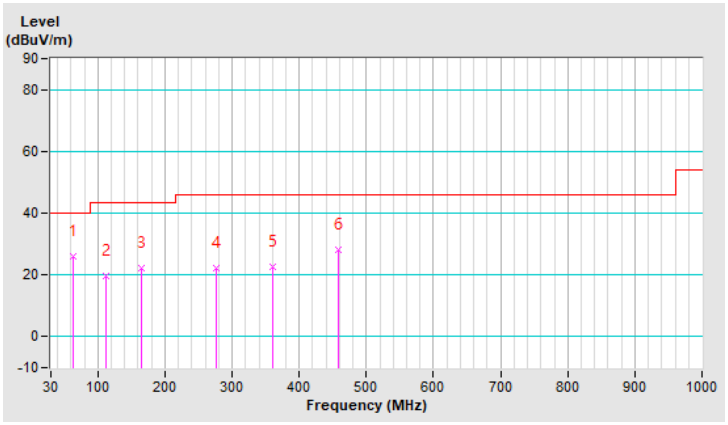


RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	**Channel**	CH 1：2412 MHz + CH 40：5200 MHz + CH 173：6815 MHz + CH 95：6425 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 70% RH
Tested By	Luis Lee		

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	62.33	25.9 QP	40.0	-14.1	1.01 H	205	35.5	-9.6
2	112.94	19.7 QP	43.5	-23.8	1.01 H	306	31.2	-11.5
3	164.96	22.1 QP	43.5	-21.4	1.01 H	16	30.8	-8.7
4	276.01	22.1 QP	46.0	-23.9	1.01 H	189	30.0	-7.9
5	360.36	22.6 QP	46.0	-23.4	1.49 H	81	29.0	-6.4
6	457.36	28.1 QP	46.0	-17.9	1.01 H	16	32.7	-4.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

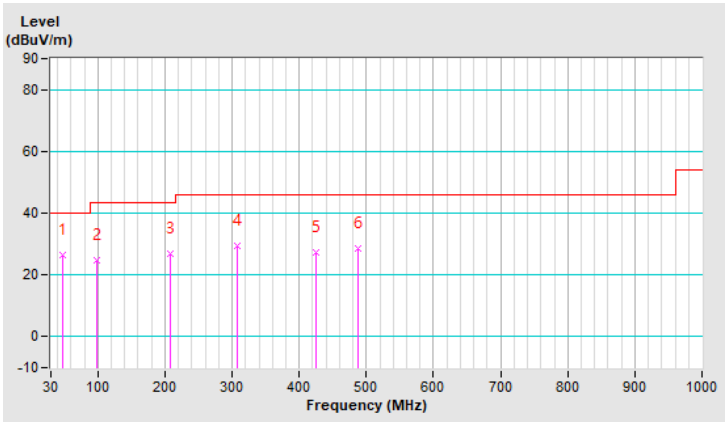


RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	**Channel**	CH 1：2412 MHz + CH 40：5200 MHz + CH 173：6815 MHz + CH 95：6425 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 70% RH
Tested By	Luis Lee		

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	48.28	26.4 QP	40.0	-13.6	1.01 V	271	35.2	-8.8
2	97.48	24.9 QP	43.5	-18.6	1.49 V	141	38.6	-13.7
3	208.54	26.9 QP	43.5	-16.6	1.01 V	258	38.2	-11.3
4	306.94	29.5 QP	46.0	-16.5	1.49 V	172	36.7	-7.2
5	425.03	27.4 QP	46.0	-18.6	1.01 V	101	32.8	-5.4
6	488.29	28.4 QP	46.0	-17.6	1.01 V	16	32.9	-4.5

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.3 Unwanted Emissions above 1 GHz

RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	**Channel**	CH 1：2412 MHz + CH 40：5200 MHz + CH 149：5745 MHz + CH 95：6425 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
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	2390.00	58.6 PK	74.0	-15.4	1.49 H	38	23.7	34.9
2	2390.00	45.8 AV	54.0	-8.2	1.49 H	38	10.9	34.9
3	*2412.00	115.1 PK			1.49 H	38	80.2	34.9
4	*2412.00	105.6 AV			1.49 H	38	70.7	34.9
5	4824.00	52.1 PK	74.0	-21.9	1.77 H	241	38.6	13.5
6	4824.00	39.0 AV	54.0	-15.0	1.77 H	241	25.5	13.5
7	5150.00	59.6 PK	74.0	-14.4	3.22 H	245	47.0	12.6
8	5150.00	46.4 AV	54.0	-7.6	3.22 H	245	33.8	12.6
9	*5200.00	109.6 PK			3.22 H	245	66.6	43.0
10	*5200.00	99.4 AV			3.22 H	245	56.4	43.0
11	*5745.00	117.1 PK			1.44 H	340	73.7	43.4
12	*5745.00	108.0 AV			1.44 H	340	64.6	43.4
13	*6425.00	101.9 PK			1.68 H	322	56.4	45.5
14	*6425.00	89.2 AV			1.68 H	322	43.7	45.5
15	#10400.00	62.5 PK	68.2	-5.7	1.92 H	233	40.5	22.0
16	11490.00	63.2 PK	74.0	-10.8	1.92 H	205	39.2	24.0
17	11490.00	50.3 AV	54.0	-3.7	1.92 H	205	26.3	24.0
18	#12850.00	62.5 PK	88.2	-25.7	1.64 H	208	39.5	23.0
19	#12850.00	49.8 AV	68.2	-18.4	1.64 H	208	26.8	23.0

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	2390.00	66.7 PK	74.0	-7.3	1.18 V	245	31.8	34.9
2	**2390.00**	**53.6 AV**	**54.0**	**-0.4**	**1.18 V**	**245**	**18.7**	**34.9**
3	*2412.00	121.5 PK			1.18 V	245	86.6	34.9
4	*2412.00	111.7 AV			1.18 V	245	76.8	34.9
5	4824.00	50.4 PK	74.0	-23.6	2.34 V	100	36.9	13.5
6	4824.00	40.0 AV	54.0	-14.0	2.34 V	100	26.5	13.5
7	5150.00	67.8 PK	74.0	-6.2	2.19 V	166	55.2	12.6
8	5150.00	53.1 AV	54.0	-0.9	2.19 V	166	40.5	12.6
9	*5200.00	123.9 PK			2.19 V	166	80.9	43.0
10	*5200.00	114.3 AV			2.19 V	166	71.3	43.0
11	*5745.00	120.8 PK			2.08 V	75	77.4	43.4
12	*5745.00	111.6 AV			2.08 V	75	68.2	43.4
13	*6425.00	106.4 PK			2.30 V	48	60.9	45.5
14	*6425.00	93.3 AV			2.30 V	48	47.8	45.5
15	#10400.00	61.7 PK	68.2	-6.5	1.62 V	174	39.7	22.0
16	11490.00	63.4 PK	74.0	-10.6	1.61 V	169	39.4	24.0
17	11490.00	50.6 AV	54.0	-3.4	1.61 V	169	26.6	24.0
18	#12850.00	63.1 PK	88.2	-25.1	1.42 V	192	40.1	23.0
19	#12850.00	50.4 AV	68.2	-17.8	1.42 V	192	27.4	23.0

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.

RF Mode	802.11g + 802.11a + 802.11a + 802.11be (EHT320)	Channel	CH 1：2412 MHz + CH 40：5200 MHz + CH 173：6815 MHz + CH 95：6425 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 1 kHz
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	2390.00	58.5 PK	74.0	-15.5	1.46 H	35	23.6	34.9
2	2390.00	45.7 AV	54.0	-8.3	1.46 H	35	10.8	34.9
3	*2412.00	115.2 PK			1.46 H	35	80.3	34.9
4	*2412.00	105.6 AV			1.46 H	35	70.7	34.9
5	4824.00	52.2 PK	74.0	-21.8	1.75 H	236	38.7	13.5
6	4824.00	39.1 AV	54.0	-14.9	1.75 H	236	25.6	13.5
7	5150.00	59.5 PK	74.0	-14.5	3.36 H	246	47.0	12.5
8	5150.00	46.2 AV	54.0	-7.8	3.36 H	246	33.7	12.5
9	*5200.00	109.8 PK			3.36 H	246	67.3	42.5
10	*5200.00	99.6 AV			3.36 H	246	57.1	42.5
11	#5650.00	60.5 PK	68.2	-7.7	1.77 H	145	47.8	12.7
12	*5865.00	117.0 PK			1.77 H	145	73.2	43.8
13	*5865.00	107.1 AV			1.77 H	145	63.3	43.8
14	#5925.00	60.6 PK	88.2	-27.6	1.77 H	145	47.0	13.6
15	*6425.00	101.7 PK			1.72 H	315	56.2	45.5
16	*6425.00	89.3 AV			1.72 H	315	43.8	45.5
17	#10400.00	62.1 PK	68.2	-6.1	1.95 H	214	39.4	22.7
18	11730.00	61.5 PK	74.0	-12.5	1.96 H	205	38.6	22.9
19	11730.00	49.0 AV	54.0	-5.0	1.96 H	205	26.1	22.9
20	#12850.00	62.4 PK	88.2	-25.8	1.69 H	201	39.4	23.0
21	#12850.00	49.6 AV	68.2	-18.6	1.69 H	201	26.6	23.0

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	2390.00	66.6 PK	74.0	-7.4	1.21 V	243	31.7	34.9
2	2390.00	53.5 AV	54.0	-0.5	1.21 V	243	18.6	34.9
3	*2412.00	121.4 PK			1.21 V	243	86.5	34.9
4	*2412.00	111.8 AV			1.21 V	243	76.9	34.9
5	4824.00	51.9 PK	74.0	-22.1	2.45 V	103	38.4	13.5
6	4824.00	40.1 AV	54.0	-13.9	2.45 V	103	26.6	13.5
7	5150.00	68.0 PK	74.0	-6.0	2.18 V	163	55.5	12.5
8	5150.00	53.2 AV	54.0	-0.8	2.18 V	163	40.7	12.5
9	*5200.00	123.9 PK			2.18 V	163	81.4	42.5
10	*5200.00	114.5 AV			2.18 V	163	72.0	42.5
11	#5650.00	60.7 PK	68.2	-7.5	1.86 V	203	48.0	12.7
12	*5865.00	118.9 PK			1.86 V	203	75.1	43.8
13	*5865.00	109.7 AV			1.86 V	203	65.9	43.8
14	#5925.00	61.4 PK	88.2	-26.8	1.86 V	203	47.8	13.6
15	*6425.00	106.2 PK			2.36 V	42	60.7	45.5
16	*6425.00	93.2 AV			2.36 V	42	47.7	45.5
17	#10400.00	61.8 PK	68.2	-6.4	1.52 V	178	39.1	22.7
18	11730.00	62.3 PK	74.0	-11.7	1.62 V	161	39.4	22.9
19	11730.00	49.2 AV	54.0	-4.8	1.62 V	161	26.3	22.9
20	#12850.00	63.2 PK	88.2	-25.0	1.41 V	190	40.2	23.0
21	#12850.00	50.3 AV	68.2	-17.9	1.41 V	190	27.3	23.0

Remarks:

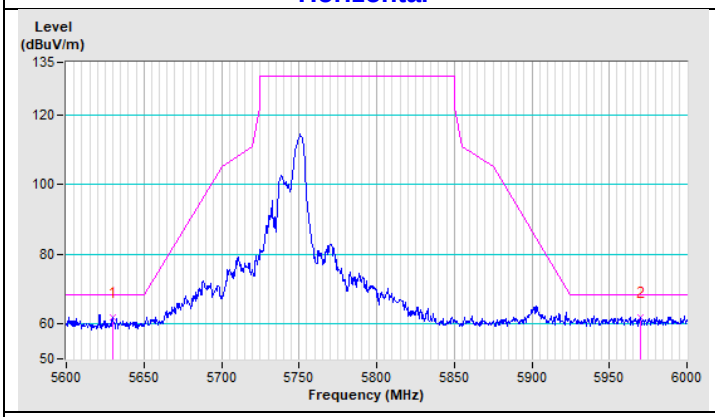
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

Plot of Band Edge

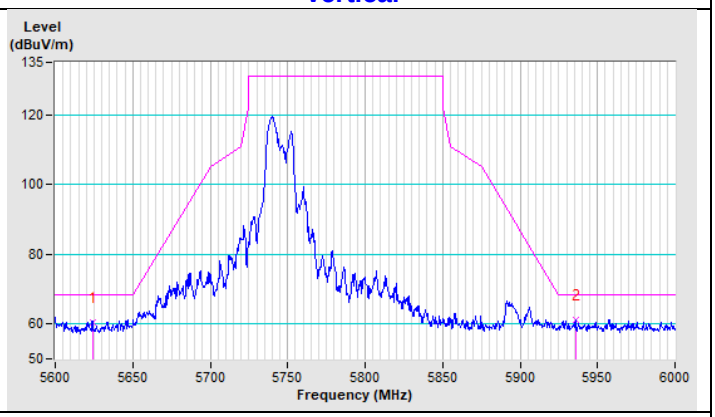
802.11a

CH 149 5745 MHz

Horizontal

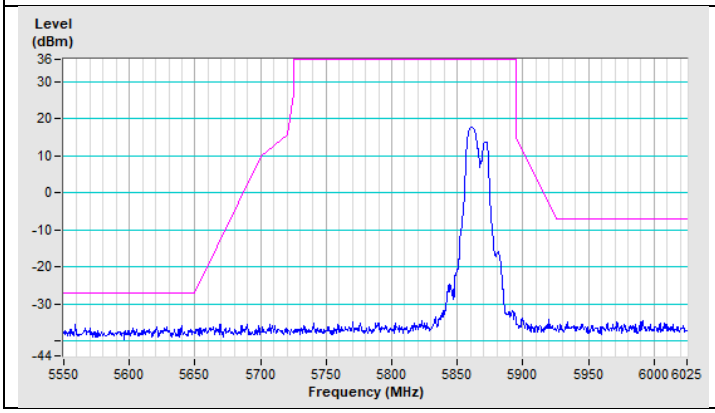


Vertical

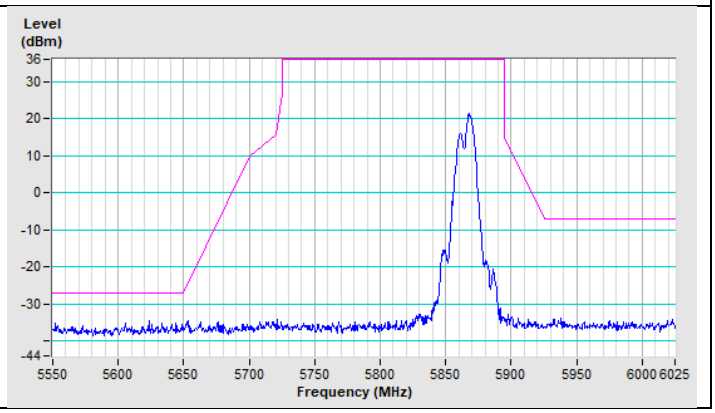


CH 173 5865 MHz

Horizontal



Vertical



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.

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