

FCC Test Report

Report No.: RFBBQZ-WTW-P20100751-1

FCC ID: PY319200453

Test Model: RBR850

Series Model: RBS850

Received Date: Nov. 12, 2020

Test Date: Nov. 16, 2020 to Jan. 26, 2021

Issued Date: Feb. 09, 2021

Applicant/Manufacturer: NETGEAR, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P20100751-1	Original release.	Feb. 09, 2021

1 Certificate of Conformity

Product: Orbi Router, Orbi Satellite

Brand: NETGEAR

Test Model: RBR850

Series Model: RBS850

Sample Status: ENGINEERING SAMPLE

Applicant/ Manufacturer: NETGEAR, Inc.

Test Date: Nov. 16, 2020 to Jan. 26, 2021

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
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 EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** Feb. 09, 2021
Claire Kuan / Specialist

Approved by :  , **Date:** Feb. 09, 2021
Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.91dB at 0.34531MHz.
15.407(b)(1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	N/A	Refer to Note 3 below
15.407(a)(1/2/3)	Peak Power Spectral Density	N/A	Refer to Note 3 below
15.407(e)	6dB bandwidth	N/A	Refer to Note 3 below
15.407(g)	Frequency Stability	N/A	Refer to Note 3 below
15.203	Antenna Requirement	PASS	Antenna connector is i-pex(MHF) not a standard connector.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- AC Power Conducted Emission, Radiated Emissions & Band Edge Measurement and Max Average Transmit Power were performed for this addendum. The others testing data refer to original test report.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Orbi Router, Orbi Satellite
Brand	NETGEAR
Test Model	RBR850
Series Model	RBS850
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2401.9Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18~ 5.24GHz, 5.745 ~ 5.825GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7 5GHz (U-NII-1): 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5GHz (U-NII-3): 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1
Output Power	Non-Beamforming Mode: 2.412 ~ 2.462GHz: 958.745 mW 5.18 ~ 5.24GHz: 889.326mW 5.745 ~ 5.825GHz: 959.092mW Beamforming Mode: 2.412 ~ 2.462 GHz: 958.745 mW 5.18 ~ 5.24GHz: 876.003mW 5.745 ~ 5.825GHz: 857.36mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ45 cable x 1 (Unshielded, 1.8m)

Note:

1. This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RF190716E02-1 R3 design is as the following information:

- ◆ Change RF FEM: Pin to Pin, draws 50mA more current.
- ◆ The new chip component is pin-for-pin compatible.
- ◆ The new chip has the same basic function as the old chip, from an external perspective (internal circuitry may differ).
- ◆ No change in radio parameters has occurred.
- ◆ The same conditions apply when a small area (approximately the same area as the chip) of the PCB is replaced with an equivalent chip.

2. According to above conditions, only AC Power Conducted Emission, Radiated Emissions & Band Edge Measurement and Max Average Transmit Power test need to be performed. And all data are verified to meet the requirements.

3. All models are listed as below.

Product	Model	Difference
Orbi Router	RBR850	Function:Master With Internet port x 1
Orbi Satellite	RBS850	Function:Master+Client Without Internet port

From the above models, model: **RBR850** was the worst case and it was selected as representative model for the test and its data was recorded in this report.

4. The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3
WLAN(2.4GHz)	WLAN 5GHz (low band)	WLAN 5GHz (high band)

5. Simultaneously transmission condition.

Condition	Technology		
1	WLAN 2.4GHz	WLAN 5GHz (low band)	WLAN 5GHz (high band)

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

6. The EUT must be supplied power adapter and following different models could be chosen as following table:

No.	Brand	Model No.	P/N	Spec.
1	NETGEAR	2ABN042F	332-11507-01	Input: 100-240Vac, 1.3A, 50/60Hz Output: 12V, 3.5A DC Output cable: Unshielded, 1.8m
2	NETGEAR	AD2150F10	332-11093-01	Input: 100-120Vac, 1.0A, 50/60Hz Output: 12V, 3.5A DC Output cable: Unshielded, 1.8m

In the original test report, for conducted and radiated emissions test, the EUT was pre-tested with adapter 1 & 2, the conducted emission worst case was found in adapter 1 and the radiated emission worst case was found in adapter 2. Therefore the test and its data was recorded in this report.

7. The antennas provided to the EUT, please refer to the following table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4~2.4835	6.01	Dipole	i-pex(MHF)
5.15~5.25	6.22		
5.25~5.35	6.37		
5.47~5.725	6.29		
5.725~5.85	6.52		

Note: More detailed information, please refer to operating description.

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	4TX	4RX
802.11g	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
VHT20	4TX	4RX
VHT40	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX

Note:

- All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
- The EUT support Beamforming and non-beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
- The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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

10. The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

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

Channel	Frequency
42	5210 MHz

FOR 5745 ~ 5825MHz:

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

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):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE \geq 1G	RE<1G	PLC	APCM	
1	√	√	√	√	WALN 5GHz Low band
2	√	√	√	√	WALN 5GHz High band

Where **RE \geq 1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Non-Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6Mb/s
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6Mb/s
802.11ax (HE20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ax (HE80)		155	155	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Non-Beamforming Mode (low band)						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	48	OFDM	BPSK	6Mb/s
Non-Beamforming Mode (high band)						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5745-5825	151 to 159	159	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Non-Beamforming Mode (low band)						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	48	OFDM	BPSK	6Mb/s
Non-Beamforming Mode (high band)						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ax (HE40)	5745-5825	151 to 159	159	OFDM	BPSK	MCS0

Antenna Port Conducted Measurement:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Non-Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6Mb/s
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	MCS0
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (VHT80)		42	42	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6Mb/s
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ac (VHT80)		155	155	OFDM	BPSK	MCS0
802.11ax (HE20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ax (HE80)		155	155	OFDM	BPSK	MCS0

Beamforming Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ac (VHT20)	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	MCS0
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (VHT80)		42	42	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11ac (VHT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ac (VHT80)		155	155	OFDM	BPSK	MCS0
802.11ax (HE20)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ax (HE80)		155	155	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Sampson Chen
RE<1G	23deg. C, 71%RH	120Vac, 60Hz	Sampson Chen
PLC	25deg. C, 75%RH	120Vac, 60Hz	Carter Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is < 98%, duty factor shall be considered.

For low band:

802.11a: Duty cycle = 1.972 ms/2.099 ms = 0.939, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.27$

802.11ac (VHT20): Duty cycle = 5.419 ms/5.692 ms = 0.952, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.21$

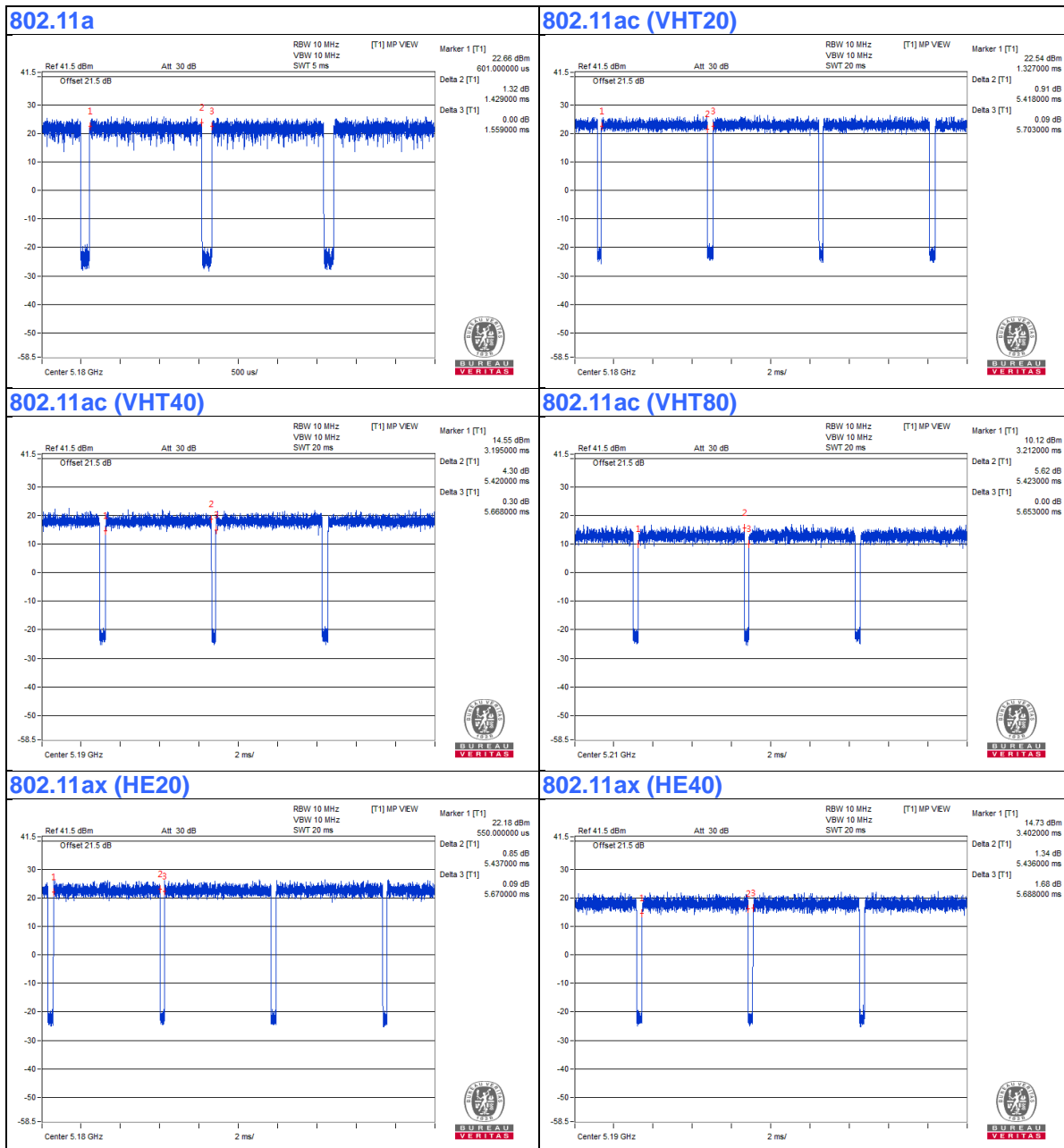
802.11ac (VHT40): Duty cycle = 5.41 ms/5.693 ms = 0.95, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.22$

802.11ac (VHT80): Duty cycle = 5.422 ms/5.668 ms = 0.957, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.19$

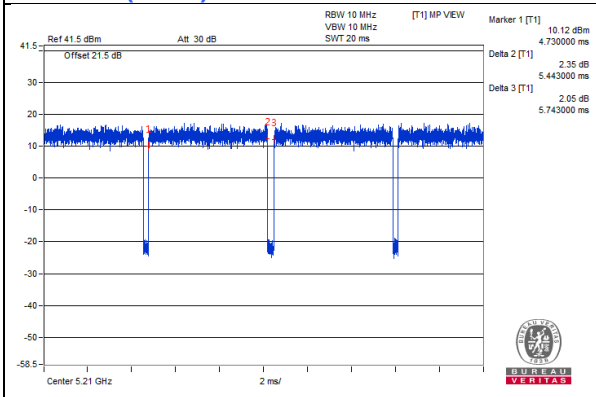
802.11ax (HE20): Duty cycle = 5.443 ms/5.7 ms = 0.955, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.20$

802.11ax (HE40): Duty cycle = 5.442 ms/5.734 ms = 0.949, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.23$

802.11ax (HE80): Duty cycle = 5.443 ms/5.764 ms = 0.944, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.25$



802.11ax (HE80)



For high band:

802.11a: Duty cycle = 1.971 ms/2.099 ms = 0.939, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.27$

802.11ac (VHT20): Duty cycle = 5.42 ms/5.683 ms = 0.954, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.21$

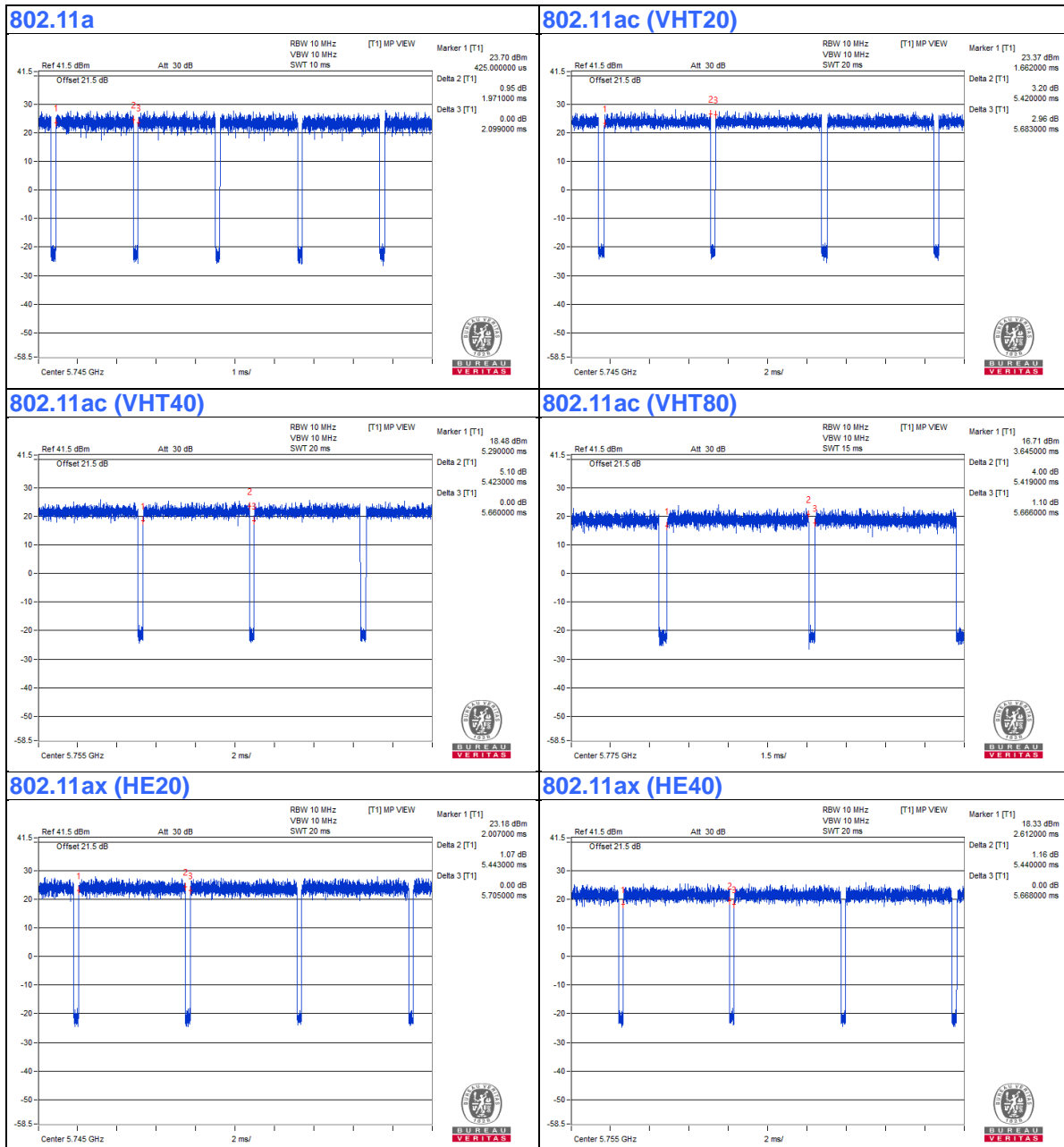
802.11ac (VHT40): Duty cycle = 5.423 ms/5.66 ms = 0.958, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.19$

802.11ac (VHT80): Duty cycle = 5.419 ms/5.668 ms = 0.956, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.19$

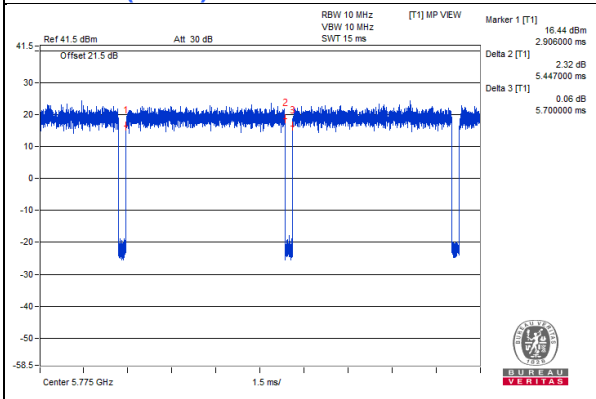
802.11ax (HE20): Duty cycle = 5.443 ms/5.705 ms = 0.954, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.20$

802.11ax (HE40): Duty cycle = 5.44 ms/5.668 ms = 0.96, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.18$

802.11ax (HE80): Duty cycle = 5.447 ms/5.7 ms = 0.956, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.20$



802.11ax (HE80)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

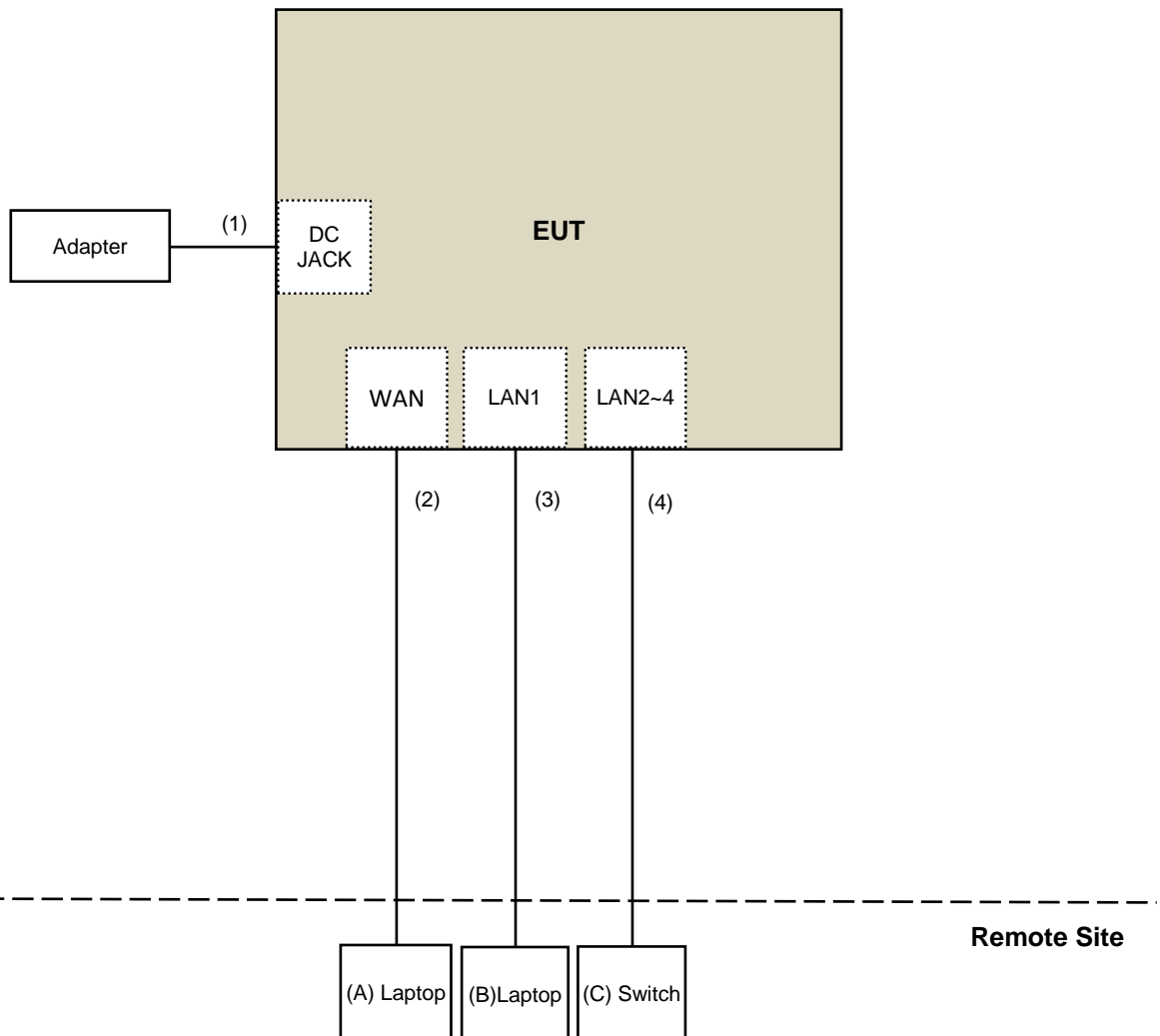
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	4YV4VY1	DoC	Provided by Lab
B.	Laptop	DELL	E6420	482T3R1	DoC	Provided by Lab
C.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.8	No	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	RJ-45 Cable	3	10	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

NOTE:

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 1000MHz, 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 20dB 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 3m	
		PK:74 (dBµV/m)	AV:54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 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}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
*1 beyond 75 MHz or more above of the band edge.		*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note:

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

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

4.1.2 Test Instruments

For radiated emission test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 13, 2019	Dec. 12, 2020
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	5D-FB	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	5D-FB	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-02	Oct. 21, 2020	Oct. 20, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-6-1	Apr. 04, 2020	Apr. 03, 2021
RF Cable	8D	966-4-2	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-3	Mar. 18, 2020	Mar. 17, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160923	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Nov. 16 to 18, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Mech Switch Absorptive Mini-Circuits	MSP4TA-18+	0140	Feb. 10, 2020	Feb. 09, 2021
FXD ATTEN Mini-Circuits	BW-S3W2+	MN71981	Feb. 10, 2020	Feb. 09, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: Jan. 05, 2021

4.1.3 Test Procedure

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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.
- f. 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.

Note:

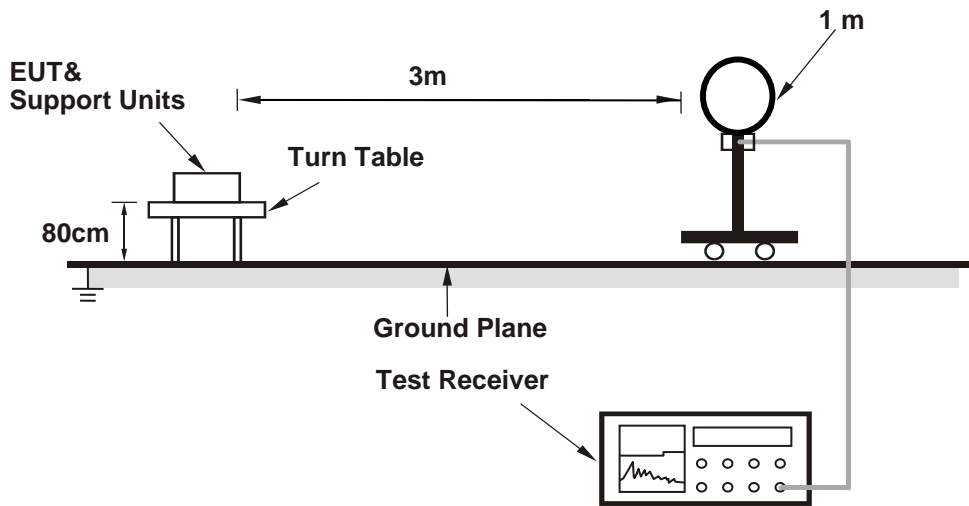
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

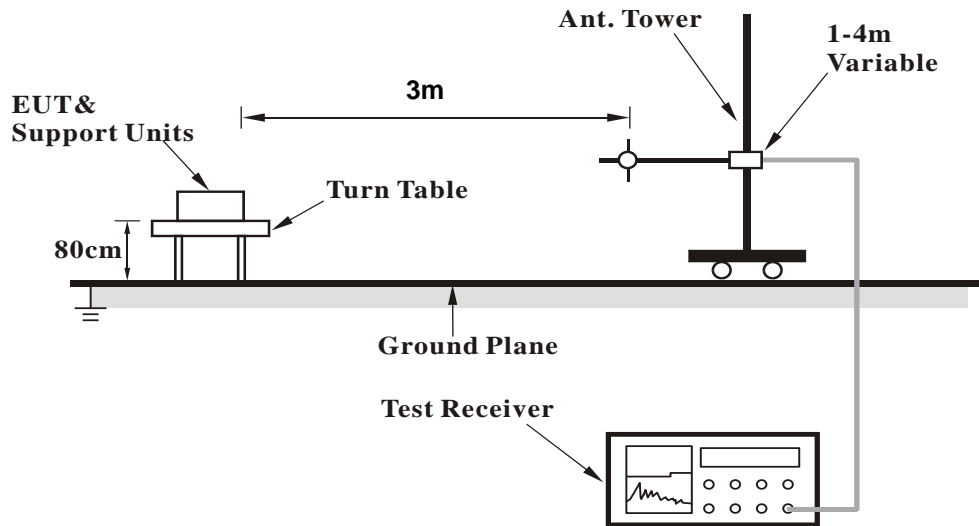
No deviation.

4.1.5 Test Setup

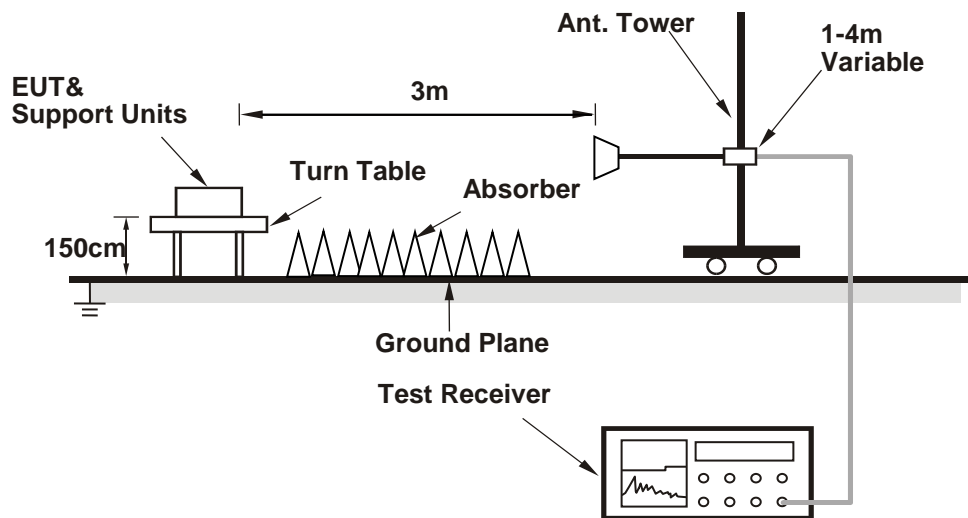
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- a. Connected the EUT with the Laptop which is placed on remote site.
- b. Controlling software (QSPR (5.0-00140)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results (Mode 1)

Above 1GHz Data:

ABOVE 1GHz DATA

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	61.7 PK	74.0	-12.3	3.05 H	290	61.0	0.7
2	5150.00	48.9 AV	54.0	-5.1	3.05 H	290	48.2	0.7
3	*5180.00	113.3 PK			3.05 H	290	112.6	0.7
4	*5180.00	104.5 AV			3.05 H	290	103.8	0.7
5	#10360.00	49.6 PK	68.2	-18.6	1.37 H	213	39.1	10.5
6	15540.00	50.8 PK	74.0	-23.2	2.35 H	313	38.8	12.0
7	15540.00	41.8 AV	54.0	-12.2	2.35 H	313	29.8	12.0

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	5142.77	65.7 PK	74.0	-8.3	1.50 V	159	65.0	0.7
2	5142.77	53.3 AV	54.0	-0.7	1.50 V	159	52.6	0.7
3	*5180.00	120.1 PK			1.50 V	159	119.4	0.7
4	*5180.00	112.3 AV			1.50 V	159	111.6	0.7
5	#10360.00	51.8 PK	68.2	-16.4	2.02 V	191	41.3	10.5
6	15540.00	52.5 PK	74.0	-21.5	1.56 V	233	40.5	12.0
7	15540.00	42.5 AV	54.0	-11.5	1.56 V	233	30.5	12.0

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

RF Mode	TX 802.11a	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	53.7 PK	74.0	-20.3	3.06 H	303	53.0	0.7
2	5150.00	42.3 AV	54.0	-11.7	3.06 H	303	41.6	0.7
3	*5200.00	113.6 PK			3.06 H	303	113.0	0.6
4	*5200.00	104.8 AV			3.06 H	303	104.2	0.6
5	#10400.00	49.1 PK	68.2	-19.1	1.40 H	210	38.5	10.6
6	15600.00	50.7 PK	74.0	-23.3	2.31 H	303	38.4	12.3
7	15600.00	41.5 AV	54.0	-12.5	2.31 H	303	29.2	12.3

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	59.1 PK	74.0	-14.9	1.85 V	9	58.4	0.7
2	5150.00	46.2 AV	54.0	-7.8	1.85 V	9	45.5	0.7
3	*5200.00	120.7 PK			1.85 V	9	120.1	0.6
4	*5200.00	112.8 AV			1.85 V	9	112.2	0.6
5	#10400.00	52.2 PK	68.2	-16.0	2.06 V	178	41.6	10.6
6	15600.00	52.2 PK	74.0	-21.8	1.61 V	248	39.9	12.3
7	15600.00	42.2 AV	54.0	-11.8	1.61 V	248	29.9	12.3

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

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	49.7 PK	74.0	-24.3	3.00 H	287	49.0	0.7
2	5150.00	38.5 AV	54.0	-15.5	3.00 H	287	37.8	0.7
3	*5240.00	113.4 PK			3.00 H	287	112.8	0.6
4	*5240.00	104.7 AV			3.00 H	287	104.1	0.6
5	5350.00	48.7 PK	74.0	-25.3	3.00 H	287	48.1	0.6
6	5350.00	37.4 AV	54.0	-16.6	3.00 H	287	36.8	0.6
7	#10480.00	49.2 PK	68.2	-19.0	1.35 H	222	38.7	10.5
8	15720.00	50.2 PK	74.0	-23.8	2.39 H	305	38.9	11.3
9	15720.00	41.4 AV	54.0	-12.6	2.39 H	305	30.1	11.3

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	5137.66	51.5 PK	74.0	-22.5	1.01 V	9	50.8	0.7
2	5137.66	41.9 AV	54.0	-12.1	1.01 V	9	41.2	0.7
3	*5240.00	121.8 PK			1.01 V	9	121.2	0.6
4	*5240.00	113.0 AV			1.01 V	9	112.4	0.6
5	5350.00	50.0 PK	74.0	-24.0	1.01 V	9	49.4	0.6
6	5350.00	39.9 AV	54.0	-14.1	1.01 V	9	39.3	0.6
7	#10480.00	51.4 PK	68.2	-16.8	2.01 V	201	40.9	10.5
8	15720.00	52.1 PK	74.0	-21.9	1.57 V	243	40.8	11.3
9	15720.00	42.0 AV	54.0	-12.0	1.57 V	243	30.7	11.3

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	62.9 PK	74.0	-11.1	3.23 H	293	62.2	0.7
2	5150.00	51.6 AV	54.0	-2.4	3.23 H	293	50.9	0.7
3	*5180.00	115.0 PK			3.23 H	293	114.3	0.7
4	*5180.00	104.4 AV			3.23 H	293	103.7	0.7
5	#10360.00	49.7 PK	68.2	-18.5	1.35 H	214	39.2	10.5
6	15540.00	51.4 PK	74.0	-22.6	2.30 H	326	39.4	12.0
7	15540.00	42.3 AV	54.0	-11.7	2.30 H	326	30.3	12.0

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	5143.00	64.4 PK	74.0	-9.6	1.50 V	160	63.7	0.7
2	5143.00	53.7 AV	54.0	-0.3	1.50 V	160	53.0	0.7
3	*5180.00	122.0 PK			1.50 V	160	121.3	0.7
4	*5180.00	112.1 AV			1.50 V	160	111.4	0.7
5	#10360.00	51.6 PK	68.2	-16.6	1.97 V	181	41.1	10.5
6	15540.00	52.5 PK	74.0	-21.5	1.62 V	247	40.5	12.0
7	15540.00	42.5 AV	54.0	-11.5	1.62 V	247	30.5	12.0

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	58.7 PK	74.0	-15.3	3.25 H	295	58.0	0.7
2	5150.00	47.7 AV	54.0	-6.3	3.25 H	295	47.0	0.7
3	*5200.00	115.1 PK			3.25 H	295	114.5	0.6
4	*5200.00	104.6 AV			3.25 H	295	104.0	0.6
5	#10400.00	49.8 PK	68.2	-18.4	1.33 H	218	39.2	10.6
6	15600.00	50.5 PK	74.0	-23.5	2.33 H	325	38.2	12.3
7	15600.00	41.3 AV	54.0	-12.7	2.33 H	325	29.0	12.3

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	60.4 PK	74.0	-13.6	1.65 V	158	59.7	0.7
2	5150.00	49.9 AV	54.0	-4.1	1.65 V	158	49.2	0.7
3	*5200.00	123.1 PK			1.65 V	158	122.5	0.6
4	*5200.00	112.3 AV			1.65 V	158	111.7	0.6
5	#10400.00	52.5 PK	68.2	-15.7	1.99 V	181	41.9	10.6
6	15600.00	52.9 PK	74.0	-21.1	1.54 V	248	40.6	12.3
7	15600.00	42.8 AV	54.0	-11.2	1.54 V	248	30.5	12.3

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	50.1 PK	74.0	-23.9	3.25 H	243	49.4	0.7
2	5150.00	37.9 AV	54.0	-16.1	3.25 H	243	37.2	0.7
3	*5240.00	115.2 PK			3.25 H	243	114.6	0.6
4	*5240.00	104.2 AV			3.25 H	243	103.6	0.6
5	5350.00	48.2 PK	74.0	-25.8	3.25 H	243	47.6	0.6
6	5350.00	36.7 AV	54.0	-17.3	3.25 H	243	36.1	0.6
7	#10480.00	49.8 PK	68.2	-18.4	1.34 H	206	39.3	10.5
8	15720.00	50.9 PK	74.0	-23.1	2.37 H	311	39.6	11.3
9	15720.00	42.1 AV	54.0	-11.9	2.37 H	311	30.8	11.3

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	52.8 PK	74.0	-21.2	1.48 V	155	52.1	0.7
2	5150.00	42.1 AV	54.0	-11.9	1.48 V	155	41.4	0.7
3	*5240.00	123.4 PK			1.48 V	155	122.8	0.6
4	*5240.00	112.7 AV			1.48 V	155	112.1	0.6
5	5350.00	51.0 PK	74.0	-23.0	1.48 V	155	50.4	0.6
6	5350.00	39.9 AV	54.0	-14.1	1.48 V	155	39.3	0.6
7	#10480.00	52.4 PK	68.2	-15.8	2.08 V	198	41.9	10.5
8	15720.00	52.1 PK	74.0	-21.9	1.60 V	226	40.8	11.3
9	15720.00	42.1 AV	54.0	-11.9	1.60 V	226	30.8	11.3

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 38 : 5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	5148.00	57.7 PK	74.0	-16.3	1.40 H	56	57.0	0.7
2	5148.00	47.5 AV	54.0	-6.5	1.40 H	56	46.8	0.7
3	*5190.00	106.3 PK			1.40 H	56	105.6	0.7
4	*5190.00	95.9 AV			1.40 H	56	95.2	0.7
5	#10380.00	50.3 PK	68.2	-17.9	1.39 H	222	39.8	10.5
6	15570.00	50.4 PK	74.0	-23.6	2.44 H	315	38.1	12.3
7	15570.00	41.1 AV	54.0	-12.9	2.44 H	315	28.8	12.3

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	73.8 PK	74.0	-0.2	1.51 V	9	73.1	0.7
2	5150.00	53.9 AV	54.0	-0.1	1.51 V	9	53.2	0.7
3	*5190.00	115.8 PK			1.51 V	9	115.1	0.7
4	*5190.00	106.5 AV			1.51 V	9	105.8	0.7
5	#10380.00	51.4 PK	68.2	-16.8	2.10 V	180	40.9	10.5
6	15570.00	53.1 PK	74.0	-20.9	1.48 V	226	40.8	12.3
7	15570.00	42.9 AV	54.0	-11.1	1.48 V	226	30.6	12.3

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	58.3 PK	74.0	-15.7	1.62 H	336	57.6	0.7
2	5150.00	45.1 AV	54.0	-8.9	1.62 H	336	44.4	0.7
3	*5230.00	110.5 PK			1.62 H	336	109.9	0.6
4	*5230.00	99.2 AV			1.62 H	336	98.6	0.6
5	5350.00	48.8 PK	74.0	-25.2	1.62 H	336	48.2	0.6
6	5350.00	36.6 AV	54.0	-17.4	1.62 H	336	36.0	0.6
7	#10460.00	49.7 PK	68.2	-18.5	1.40 H	216	39.0	10.7
8	15690.00	50.2 PK	74.0	-23.8	2.35 H	300	38.8	11.4
9	15690.00	41.5 AV	54.0	-12.5	2.35 H	300	30.1	11.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5148.00	62.8 PK	74.0	-11.2	1.39 V	8	62.1	0.7
2	5148.00	53.3 AV	54.0	-0.7	1.39 V	8	52.6	0.7
3	*5230.00	120.8 PK			1.39 V	8	120.2	0.6
4	*5230.00	110.8 AV			1.39 V	8	110.2	0.6
5	5350.00	53.4 PK	74.0	-20.6	1.39 V	8	52.8	0.6
6	5350.00	41.3 AV	54.0	-12.7	1.39 V	8	40.7	0.6
7	#10460.00	51.4 PK	68.2	-16.8	1.97 V	178	40.7	10.7
8	15690.00	52.7 PK	74.0	-21.3	1.51 V	224	41.3	11.4
9	15690.00	43.0 AV	54.0	-11.0	1.51 V	224	31.6	11.4

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 42 : 5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	57.4 PK	74.0	-16.6	3.12 H	286	56.7	0.7
2	5150.00	46.7 AV	54.0	-7.3	3.12 H	286	46.0	0.7
3	*5210.00	103.6 PK			3.12 H	286	102.9	0.7
4	*5210.00	93.2 AV			3.12 H	286	92.5	0.7
5	5350.00	48.5 PK	74.0	-25.5	3.12 H	286	47.9	0.6
6	5350.00	38.0 AV	54.0	-16.0	3.12 H	286	37.4	0.6
7	#10420.00	49.8 PK	68.2	-18.4	1.41 H	207	39.2	10.6
8	15630.00	51.1 PK	74.0	-22.9	2.40 H	295	39.1	12.0
9	15630.00	41.8 AV	54.0	-12.2	2.40 H	295	29.8	12.0

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	5150.00	65.4 PK	74.0	-8.6	1.35 V	8	64.7	0.7
2	5150.00	53.8 AV	54.0	-0.2	1.35 V	8	53.1	0.7
3	*5210.00	113.2 PK			1.35 V	8	112.5	0.7
4	*5210.00	103.0 AV			1.35 V	8	102.3	0.7
5	5350.00	49.2 PK	74.0	-24.8	1.35 V	8	48.6	0.6
6	5350.00	37.9 AV	54.0	-16.1	1.35 V	8	37.3	0.6
7	#10420.00	52.0 PK	68.2	-16.2	1.96 V	212	41.4	10.6
8	15630.00	52.7 PK	74.0	-21.3	1.59 V	230	40.7	12.0
9	15630.00	43.2 AV	54.0	-10.8	1.59 V	230	31.2	12.0

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

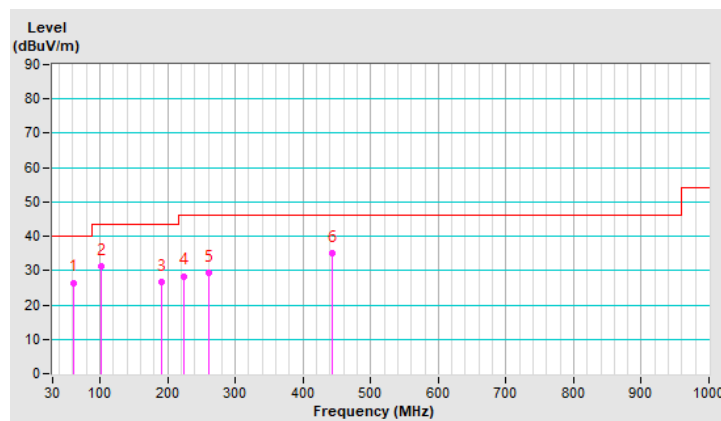
Below 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	61.97	26.5 QP	40.0	-13.5	1.00 H	269	35.4	-8.9
2	101.23	31.1 QP	43.5	-12.4	1.50 H	234	42.8	-11.7
3	190.26	26.8 QP	43.5	-16.7	1.50 H	115	37.1	-10.3
4	224.56	28.4 QP	46.0	-17.6	1.50 H	291	39.3	-10.9
5	261.27	29.2 QP	46.0	-16.8	2.00 H	67	37.1	-7.9
6	442.84	35.1 QP	46.0	-10.9	1.50 H	219	37.3	-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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



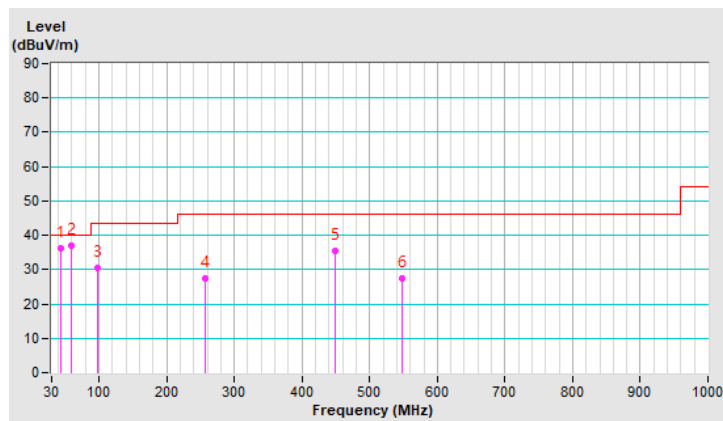
RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	42.74	36.2 QP	40.0	-3.8	1.00 V	301	44.2	-8.0
2	59.41	37.1 QP	40.0	-2.9	1.00 V	343	45.4	-8.3
3	98.41	30.6 QP	43.5	-12.9	1.00 V	231	42.9	-12.3
4	256.27	27.5 QP	46.0	-18.5	1.50 V	211	35.7	-8.2
5	448.41	35.5 QP	46.0	-10.5	1.00 V	155	37.5	-2.0
6	547.56	27.6 QP	46.0	-18.4	1.00 V	322	27.7	-0.1

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.1.8 Test Results (Mode 2)

Above 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5642.48	55.4 PK	68.2	-12.8	2.90 H	196	54.3	1.1
2	*5745.00	120.4 PK			2.90 H	196	119.0	1.4
3	*5745.00	111.9 AV			2.90 H	196	110.5	1.4
4	#5930.97	49.8 PK	68.2	-18.4	2.90 H	196	48.2	1.6
5	11490.00	49.3 PK	74.0	-24.7	1.39 H	219	37.5	11.8
6	11490.00	40.4 AV	54.0	-13.6	1.39 H	219	28.6	11.8
7	#17235.00	50.2 PK	68.2	-18.0	2.39 H	302	34.8	15.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.51	56.1 PK	68.2	-12.1	2.40 V	205	55.0	1.1
2	*5745.00	124.4 PK			2.40 V	205	123.0	1.4
3	*5745.00	114.8 AV			2.40 V	205	113.4	1.4
4	#5931.05	52.2 PK	68.2	-16.0	2.40 V	205	50.6	1.6
5	11490.00	52.2 PK	74.0	-21.8	2.07 V	198	40.4	11.8
6	11490.00	40.6 AV	54.0	-13.4	2.07 V	198	28.8	11.8
7	#17235.00	52.0 PK	68.2	-16.2	1.55 V	233	36.6	15.4

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5600.88	53.9 PK	68.2	-14.3	2.87 H	198	52.8	1.1
2	*5785.00	119.6 PK			2.87 H	198	118.1	1.5
3	*5785.00	110.7 AV			2.87 H	198	109.2	1.5
4	#6011.94	50.1 PK	68.2	-18.1	2.87 H	198	48.4	1.7
5	11570.00	49.7 PK	74.0	-24.3	1.31 H	200	38.2	11.5
6	11570.00	40.6 AV	54.0	-13.4	1.31 H	200	29.1	11.5
7	#17355.00	50.5 PK	68.2	-17.7	2.36 H	309	34.2	16.3

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	#5642.86	52.4 PK	68.2	-15.8	1.37 V	229	51.3	1.1
2	*5785.00	123.9 PK			1.37 V	229	122.4	1.5
3	*5785.00	113.8 AV			1.37 V	229	112.3	1.5
4	#5933.73	50.3 PK	68.2	-17.9	1.37 V	229	48.7	1.6
5	11570.00	51.7 PK	74.0	-22.3	1.97 V	187	40.2	11.5
6	11570.00	39.9 AV	54.0	-14.1	1.97 V	187	28.4	11.5
7	#17355.00	52.5 PK	68.2	-15.7	1.56 V	235	36.2	16.3

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

RF Mode	TX 802.11a	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5638.52	52.8 PK	68.2	-15.4	2.85 H	195	51.8	1.0
2	*5825.00	119.4 PK			2.85 H	195	117.7	1.7
3	*5825.00	110.5 AV			2.85 H	195	108.8	1.7
4	#5928.52	50.2 PK	68.2	-18.0	2.85 H	195	48.7	1.5
5	11650.00	49.7 PK	74.0	-24.3	1.32 H	222	38.4	11.3
6	11650.00	40.7 AV	54.0	-13.3	1.32 H	222	29.4	11.3
7	#17475.00	50.5 PK	68.2	-17.7	2.41 H	322	32.0	18.5

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	#5629.91	53.1 PK	68.2	-15.1	1.45 V	214	52.1	1.0
2	*5825.00	123.6 PK			1.45 V	214	121.9	1.7
3	*5825.00	113.7 AV			1.45 V	214	112.0	1.7
4	#5925.05	51.0 PK	68.2	-17.2	1.45 V	214	49.5	1.5
5	11650.00	52.1 PK	74.0	-21.9	2.01 V	200	40.8	11.3
6	11650.00	40.1 AV	54.0	-13.9	2.01 V	200	28.8	11.3
7	#17475.00	52.8 PK	68.2	-15.4	1.56 V	221	34.3	18.5

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5641.22	55.4 PK	68.2	-12.8	2.81 H	200	54.4	1.0
2	*5745.00	121.1 PK			2.81 H	200	119.7	1.4
3	*5745.00	110.2 AV			2.81 H	200	108.8	1.4
4	#5925.87	49.4 PK	68.2	-18.8	2.81 H	200	47.9	1.5
5	11490.00	50.1 PK	74.0	-23.9	1.37 H	207	38.3	11.8
6	11490.00	41.1 AV	54.0	-12.9	1.37 H	207	29.3	11.8
7	#17235.00	50.5 PK	68.2	-17.7	2.33 H	301	35.1	15.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5643.65	58.8 PK	68.2	-9.4	1.50 V	84	57.7	1.1
2	*5745.00	123.9 PK			1.50 V	84	122.5	1.4
3	*5745.00	113.5 AV			1.50 V	84	112.1	1.4
4	#5940.32	52.2 PK	68.2	-16.0	1.50 V	84	50.6	1.6
5	11490.00	51.3 PK	74.0	-22.7	1.99 V	185	39.5	11.8
6	11490.00	39.9 AV	54.0	-14.1	1.99 V	185	28.1	11.8
7	#17235.00	52.3 PK	68.2	-15.9	1.52 V	217	36.9	15.4

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5619.62	53.4 PK	68.2	-14.8	2.84 H	198	52.4	1.0
2	*5785.00	121.2 PK			2.84 H	198	119.7	1.5
3	*5785.00	110.0 AV			2.84 H	198	108.5	1.5
4	#5926.48	49.7 PK	68.2	-18.5	2.84 H	198	48.2	1.5
5	11570.00	49.0 PK	74.0	-25.0	1.39 H	227	37.5	11.5
6	11570.00	40.5 AV	54.0	-13.5	1.39 H	227	29.0	11.5
7	#17355.00	50.9 PK	68.2	-17.3	2.29 H	323	34.6	16.3

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	#5602.20	56.3 PK	68.2	-11.9	1.57 V	74	55.2	1.1
2	*5785.00	123.6 PK			1.57 V	74	122.1	1.5
3	*5785.00	113.4 AV			1.57 V	74	111.9	1.5
4	#5930.90	50.8 PK	68.2	-17.4	1.57 V	74	49.2	1.6
5	11570.00	51.3 PK	74.0	-22.7	1.99 V	189	39.8	11.5
6	11570.00	39.7 AV	54.0	-14.3	1.99 V	189	28.2	11.5
7	#17355.00	52.2 PK	68.2	-16.0	1.53 V	248	35.9	16.3

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 165 : 5825 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5637.44	53.8 PK	68.2	-14.4	2.89 H	195	52.8	1.0
2	*5825.00	121.0 PK			2.89 H	195	119.3	1.7
3	*5825.00	110.1 AV			2.89 H	195	108.4	1.7
4	#5928.15	49.5 PK	68.2	-18.7	2.89 H	195	48.0	1.5
5	11650.00	49.8 PK	74.0	-24.2	1.39 H	227	38.5	11.3
6	11650.00	40.8 AV	54.0	-13.2	1.39 H	227	29.5	11.3
7	#17475.00	51.0 PK	68.2	-17.2	2.30 H	322	32.5	18.5

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	#5583.00	54.4 PK	68.2	-13.8	1.62 V	89	53.4	1.0
2	*5825.00	123.4 PK			1.62 V	89	121.7	1.7
3	*5825.00	113.2 AV			1.62 V	89	111.5	1.7
4	#5935.19	53.2 PK	68.2	-15.0	1.62 V	89	51.6	1.6
5	11650.00	51.7 PK	74.0	-22.3	2.07 V	178	40.4	11.3
6	11650.00	40.1 AV	54.0	-13.9	2.07 V	178	28.8	11.3
7	#17475.00	52.8 PK	68.2	-15.4	1.51 V	235	34.3	18.5

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 151 : 5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5635.45	61.1 PK	68.2	-7.1	1.42 H	198	60.1	1.0
2	*5755.00	121.6 PK			1.42 H	198	120.2	1.4
3	*5755.00	109.9 AV			1.42 H	198	108.5	1.4
4	#5932.39	50.1 PK	68.2	-18.1	1.42 H	198	48.5	1.6
5	11510.00	49.6 PK	74.0	-24.4	1.32 H	209	38.0	11.6
6	11510.00	40.8 AV	54.0	-13.2	1.32 H	209	29.2	11.6
7	#17265.00	50.6 PK	68.2	-17.6	2.34 H	326	35.1	15.5

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	#5633.51	61.3 PK	68.2	-6.9	2.31 V	202	60.3	1.0
2	*5755.00	122.5 PK			2.31 V	202	121.1	1.4
3	*5755.00	112.0 AV			2.31 V	202	110.6	1.4
4	#5943.00	51.4 PK	68.2	-16.8	2.31 V	202	49.8	1.6
5	11510.00	51.7 PK	74.0	-22.3	2.00 V	189	40.1	11.6
6	11510.00	40.3 AV	54.0	-13.7	2.00 V	189	28.7	11.6
7	#17265.00	52.4 PK	68.2	-15.8	1.62 V	217	36.9	15.5

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5648.74	55.1 PK	68.2	-13.1	1.46 H	201	54.0	1.1
2	*5795.00	121.3 PK			1.46 H	201	119.8	1.5
3	*5795.00	109.7 AV			1.46 H	201	108.2	1.5
4	#5929.82	53.6 PK	68.2	-14.6	1.46 H	201	52.0	1.6
5	11590.00	49.7 PK	74.0	-24.3	1.36 H	209	38.2	11.5
6	11590.00	41.0 AV	54.0	-13.0	1.36 H	209	29.5	11.5
7	#17385.00	50.5 PK	68.2	-17.7	2.39 H	310	33.5	17.0

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	#5641.35	55.4 PK	68.2	-12.8	2.35 V	209	54.4	1.0
2	*5795.00	122.2 PK			2.35 V	209	120.7	1.5
3	*5795.00	111.8 AV			2.35 V	209	110.3	1.5
4	#5928.10	53.2 PK	68.2	-15.0	2.35 V	209	51.7	1.5
5	11590.00	52.2 PK	74.0	-21.8	2.02 V	202	40.7	11.5
6	11590.00	40.7 AV	54.0	-13.3	2.02 V	202	29.2	11.5
7	#17385.00	52.6 PK	68.2	-15.6	1.53 V	227	35.6	17.0

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 155 : 5775 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

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	#5632.64	66.7 PK	68.2	-1.5	1.44 H	197	65.7	1.0
2	*5775.00	114.0 PK			1.44 H	197	112.5	1.5
3	*5775.00	103.3 AV			1.44 H	197	101.8	1.5
4	#5929.15	59.8 PK	68.2	-8.4	1.44 H	197	58.2	1.6
5	11550.00	49.7 PK	74.0	-24.3	1.31 H	204	38.1	11.6
6	11550.00	40.9 AV	54.0	-13.1	1.31 H	204	29.3	11.6
7	#17325.00	50.3 PK	68.2	-17.9	2.38 H	313	34.5	15.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.74	67.6 PK	68.2	-0.6	2.38 V	204	66.5	1.1
2	*5775.00	117.9 PK			2.38 V	204	116.4	1.5
3	*5775.00	107.0 AV			2.38 V	204	105.5	1.5
4	#5926.01	57.0 PK	68.2	-11.2	2.38 V	204	55.5	1.5
5	11550.00	51.7 PK	74.0	-22.3	2.10 V	179	40.1	11.6
6	11550.00	40.0 AV	54.0	-14.0	2.10 V	179	28.4	11.6
7	#17325.00	52.9 PK	68.2	-15.3	1.56 V	236	37.1	15.8

Remarks:

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

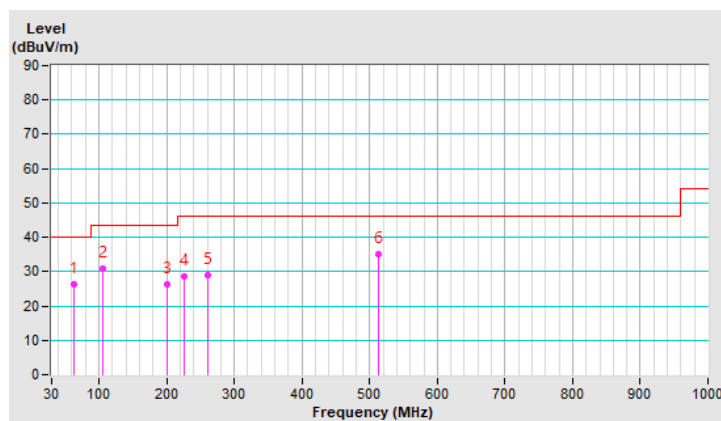
Below 1GHz Data:

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	62.34	26.3 QP	40.0	-13.7	1.70 H	315	35.1	-8.8
2	105.23	30.8 QP	43.5	-12.7	1.80 H	277	41.8	-11.0
3	200.15	26.4 QP	43.5	-17.1	1.45 H	144	37.1	-10.7
4	225.36	28.6 QP	46.0	-17.4	1.56 H	315	39.4	-10.8
5	260.10	29.1 QP	46.0	-16.9	2.06 H	97	37.1	-8.0
6	513.23	35.1 QP	46.0	-10.9	1.70 H	255	35.8	-0.7

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 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



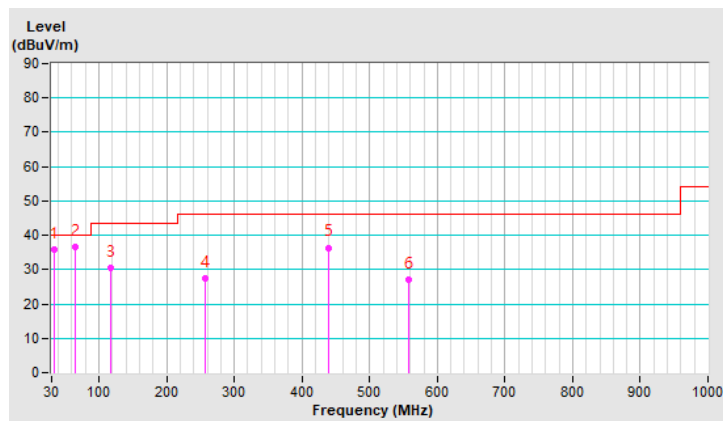
RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	33.40	35.7 QP	40.0	-4.3	1.00 V	298	44.7	-9.0
2	64.50	36.7 QP	40.0	-3.3	1.50 V	355	45.8	-9.1
3	117.23	30.6 QP	43.5	-12.9	1.50 V	237	40.3	-9.7
4	256.16	27.4 QP	46.0	-18.6	1.50 V	255	35.6	-8.2
5	438.41	36.4 QP	46.0	-9.6	2.00 V	194	38.7	-2.3
6	557.84	27.1 QP	46.0	-18.9	2.00 V	305	27.1	0.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 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 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3. Tested Date: Jan. 26, 2021

4.2.3 Test Procedure

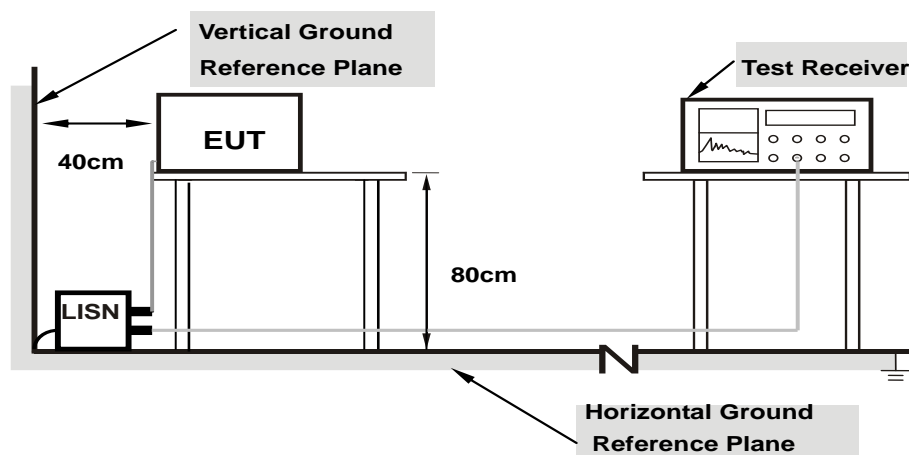
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 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).

4.2.6 EUT Operating Condition

Same as 4.1.6.

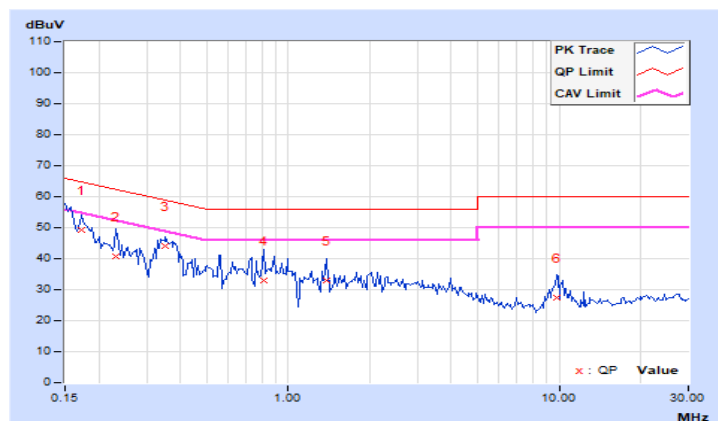
4.2.7 Test Results (Mode 1)

RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.17344	9.97	39.15	25.66	49.12	35.63	64.79	54.79	-15.67	-19.16
2	0.23203	9.99	30.77	15.68	40.76	25.67	62.38	52.38	-21.62	-26.71
3	0.34922	10.01	34.08	28.67	44.09	38.68	58.98	48.98	-14.89	-10.30
4	0.81016	10.05	22.85	15.90	32.90	25.95	56.00	46.00	-23.10	-20.05
5	1.38281	10.09	22.79	16.67	32.88	26.76	56.00	46.00	-23.12	-19.24
6	9.80859	10.71	16.67	10.14	27.38	20.85	60.00	50.00	-32.62	-29.15

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

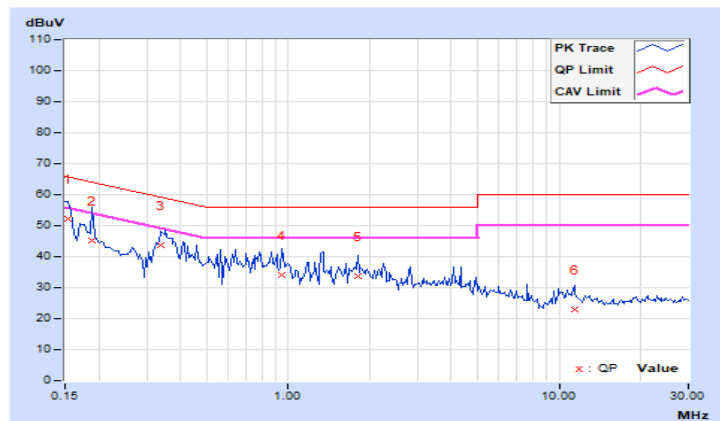


RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.94	42.29	27.14	52.23	37.08	65.79	55.79	-13.56	-18.71
2	0.18906	9.97	35.09	20.14	45.06	30.11	64.08	54.08	-19.02	-23.97
3	0.33750	10.00	33.63	26.34	43.63	36.34	59.26	49.26	-15.63	-12.92
4	0.94688	10.06	24.13	14.83	34.19	24.89	56.00	46.00	-21.81	-21.11
5	1.80859	10.13	23.62	16.61	33.75	26.74	56.00	46.00	-22.25	-19.26
6	11.40625	10.70	12.16	5.94	22.86	16.64	60.00	50.00	-37.14	-33.36

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



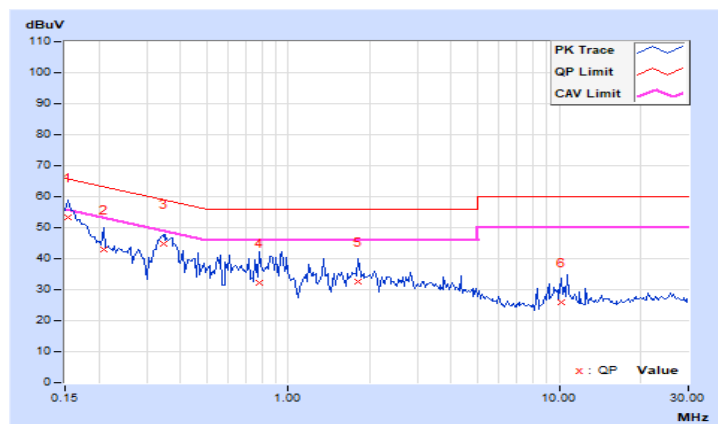
4.2.8 Test Results (Mode 2)

RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	9.96	43.32	26.92	53.28	36.88	65.79	55.79	-12.51	-18.91
2	0.20859	9.99	32.97	17.87	42.96	27.86	63.26	53.26	-20.30	-25.40
3	0.34531	10.01	34.68	29.15	44.69	39.16	59.07	49.07	-14.38	-9.91
4	0.78281	10.05	22.22	14.54	32.27	24.59	56.00	46.00	-23.73	-21.41
5	1.81250	10.12	22.46	15.54	32.58	25.66	56.00	46.00	-23.42	-20.34
6	10.16797	10.73	15.11	9.07	25.84	19.80	60.00	50.00	-34.16	-30.20

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

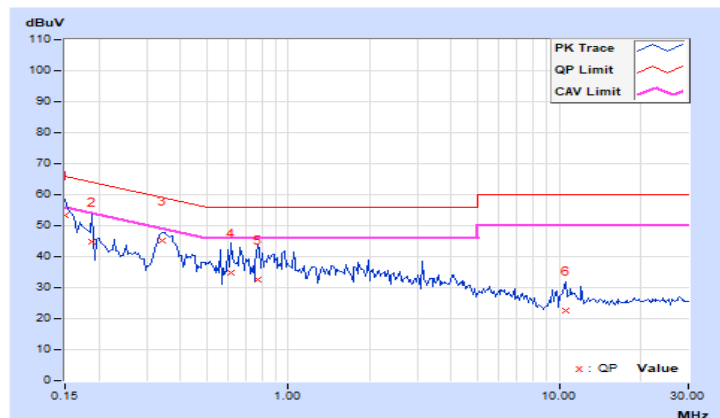


RF Mode	TX 802.11ax (HE40)	Channel	CH 159 : 5795 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.15000	9.94	43.46	28.23	53.40	38.17	66.00	56.00	-12.60	-17.83
2	0.18906	9.97	34.83	19.53	44.80	29.50	64.08	54.08	-19.28	-24.58
3	0.34141	10.00	35.16	29.04	45.16	39.04	59.17	49.17	-14.01	-10.13
4	0.61094	10.03	24.68	16.66	34.71	26.69	56.00	46.00	-21.29	-19.31
5	0.77500	10.05	22.66	14.54	32.71	24.59	56.00	46.00	-23.29	-21.41
6	10.58594	10.65	11.77	4.00	22.42	14.65	60.00	50.00	-37.58	-35.35

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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)
		Client device	250mW (24 dBm)
U-NII-2A			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

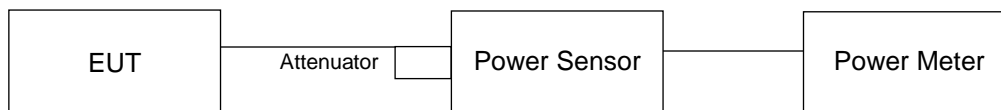
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 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. Duty factor is not added to measured value.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result (Mode 1)

Non-Beamforming Mode
802.11a

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.95	22.88	23.54	22.58	798.408	29.02	30.00	Pass
40	5200	23.34	23.15	24.17	22.88	877.617	29.43	30.00	Pass
48	5240	23.32	23.20	24.28	22.96	889.326	29.49	30.00	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.89	22.84	23.48	22.52	788.337	28.97	30.00	Pass
40	5200	23.27	23.05	24.09	22.81	861.595	29.35	30.00	Pass
48	5240	23.20	23.18	24.15	22.73	864.415	29.37	30.00	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	18.30	18.30	18.24	18.83	278.281	24.44	30.00	Pass
46	5230	23.18	22.88	23.82	23.32	857.832	29.33	30.00	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.30	16.85	17.25	17.59	212.621	23.28	30.00	Pass

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.92	22.88	23.52	22.55	794.766	29.00	30.00	Pass
40	5200	23.35	23.12	24.13	22.86	873.406	29.41	30.00	Pass
48	5240	23.26	23.24	24.21	22.78	876.003	29.43	30.00	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	18.33	18.31	18.35	18.85	280.968	24.49	30.00	Pass
46	5230	23.20	22.91	23.83	23.36	862.68	29.36	30.00	Pass

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.35	16.90	17.28	17.62	214.569	23.32	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.89	22.84	23.48	22.52	788.337	28.97	29.78	Pass
40	5200	23.27	23.05	24.09	22.81	861.595	29.35	29.78	Pass
48	5240	23.20	23.18	24.15	22.73	864.415	29.37	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	18.30	18.30	18.24	18.83	278.281	24.44	29.78	Pass
46	5230	23.18	22.88	23.82	23.32	857.832	29.33	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.30	16.85	17.25	17.59	212.621	23.28	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	22.92	22.88	23.52	22.55	794.766	29.00	29.78	Pass
40	5200	23.35	23.12	24.13	22.86	873.406	29.41	29.78	Pass
48	5240	23.26	23.24	24.21	22.78	876.003	29.43	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	18.33	18.31	18.35	18.85	280.968	24.49	29.78	Pass
46	5230	23.20	22.91	23.83	23.36	862.68	29.36	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.35	16.90	17.28	17.62	214.569	23.32	29.78	Pass

Note: 1. Directional gain = 6.22dBi > 6dBi , so the power limit shall be reduced to $30-(6.22-6) = 29.78$ dBm.

4.3.8 Test Result (Mode 2)

Non-Beamforming Mode
802.11a

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	23.96	23.92	22.72	24.07	937.828	29.72	30.00	Pass
157	5785	23.52	23.41	23.68	23.19	885.981	29.47	30.00	Pass
165	5825	23.48	23.76	22.94	23.68	890.662	29.50	30.00	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	23.69	23.87	22.86	23.50	894.734	29.52	30.00	Pass
157	5785	23.71	23.85	23.14	23.63	914.362	29.61	30.00	Pass
165	5825	23.44	24.04	23.20	23.65	914.982	29.61	30.00	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	23.58	23.72	23.45	23.40	903.625	29.56	30.00	Pass
159	5795	23.71	24.02	23.77	23.59	954.103	29.80	30.00	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.41	22.44	22.32	21.92	675.774	28.30	30.00	Pass

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	23.72	23.89	22.88	23.51	898.888	29.54	30.00	Pass
157	5785	23.75	23.88	23.19	23.68	923.275	29.65	30.00	Pass
165	5825	23.49	24.09	23.24	23.69	924.552	29.66	30.00	Pass

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	23.60	23.75	23.49	23.41	908.862	29.58	30.00	Pass
159	5795	23.73	24.05	23.79	23.61	959.092	29.82	30.00	Pass

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.45	22.48	22.36	21.94	681.305	28.33	30.00	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	23.18	23.35	22.34	23.01	795.623	29.01	29.48	Pass
157	5785	23.20	23.34	22.65	23.13	814.37	29.11	29.48	Pass
165	5825	22.92	23.53	22.72	23.14	814.44	29.11	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	23.09	23.22	22.96	22.88	805.384	29.06	29.48	Pass
159	5795	23.20	23.54	23.27	23.10	851.371	29.30	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.41	22.44	22.32	21.92	675.774	28.30	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
149	5745	23.21	23.40	22.39	23.06	803.87	29.05	29.48	Pass
157	5785	23.24	23.39	22.70	23.25	826.693	29.17	29.48	Pass
165	5825	22.96	23.55	22.75	23.27	824.851	29.16	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
151	5755	23.11	23.25	23.00	22.93	811.856	29.09	29.48	Pass
159	5795	23.24	23.58	23.31	23.10	857.36	29.33	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
155	5775	22.45	22.48	22.36	21.94	681.305	28.33	29.48	Pass

Note: 1. Directional gain = 6.52dBi > 6dBi , so the power limit shall be reduced to $30-(6.52-6) = 29.48$ dBm.

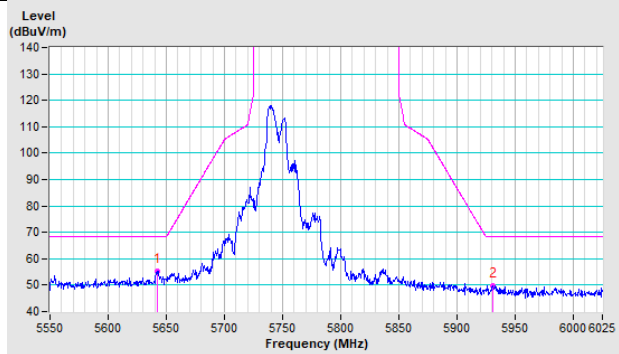
5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

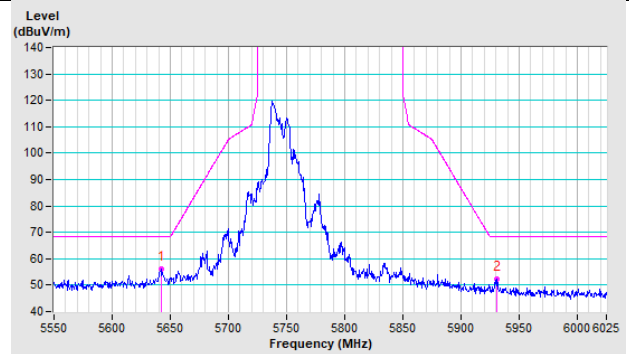
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149 : 5745 MHz

Horizontal

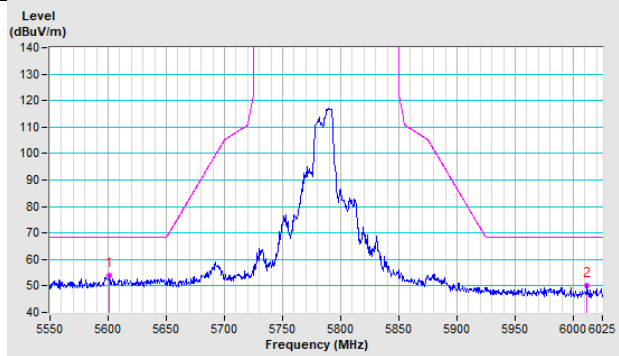


Vertical

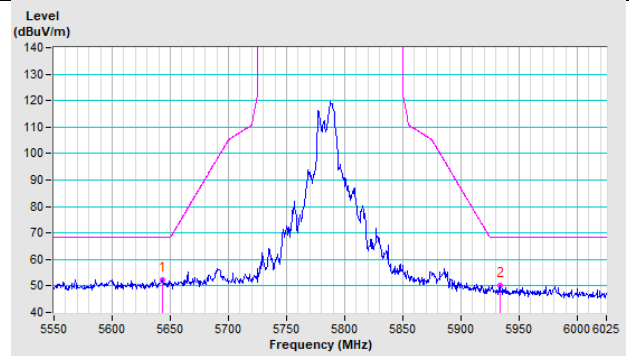


802.11a CH 157 : 5785 MHz

Horizontal

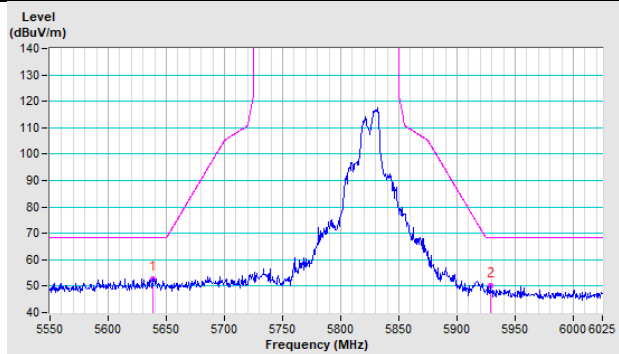


Vertical

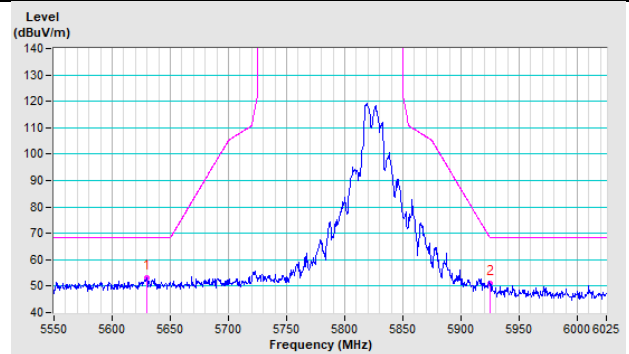


802.11a CH 165 : 5825 MHz

Horizontal

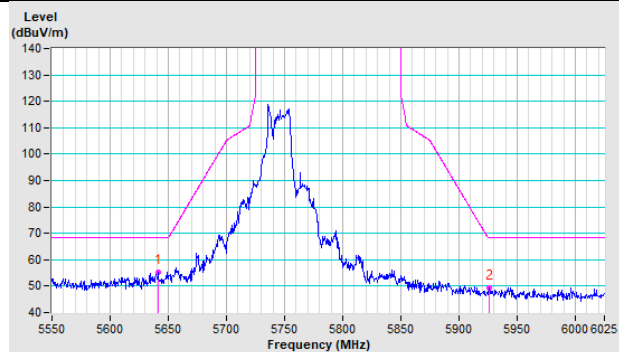


Vertical

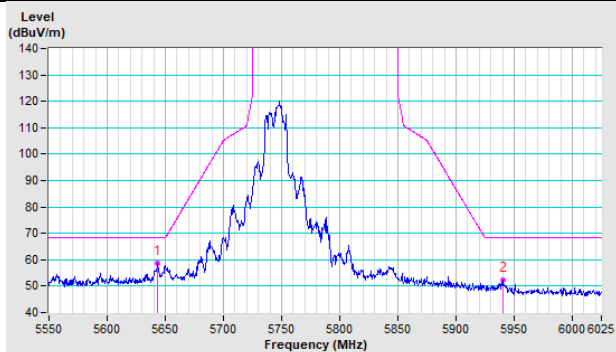


802.11ax (HE20) CH 149 : 5745 MHz

Horizontal

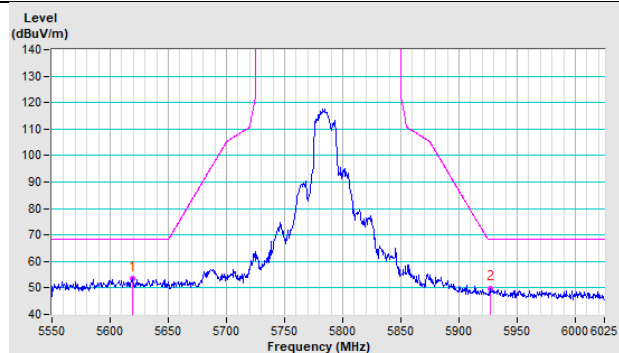


Vertical

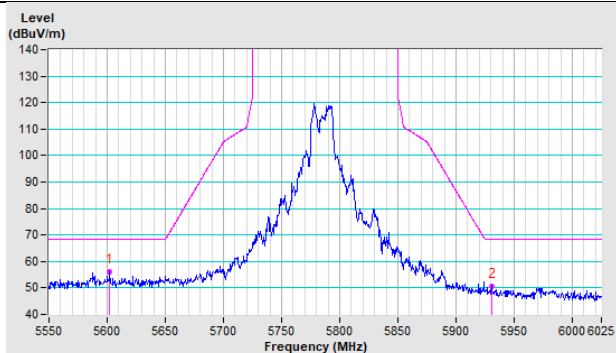


802.11ax (HE20) CH 157 : 5785 MHz

Horizontal

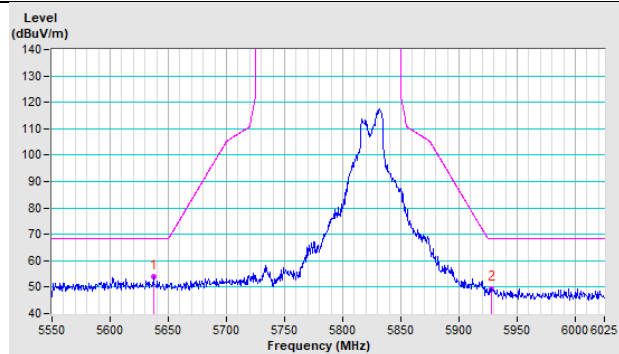


Vertical

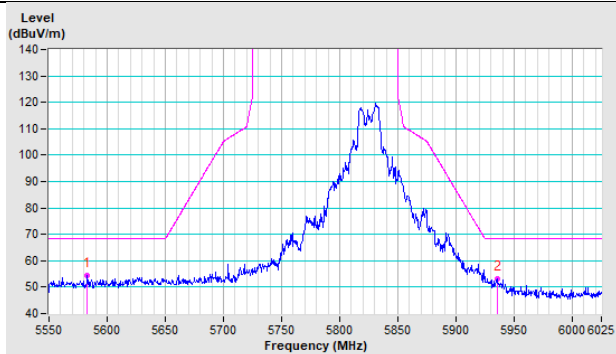


802.11ax (HE20) CH 165 : 5825 MHz

Horizontal

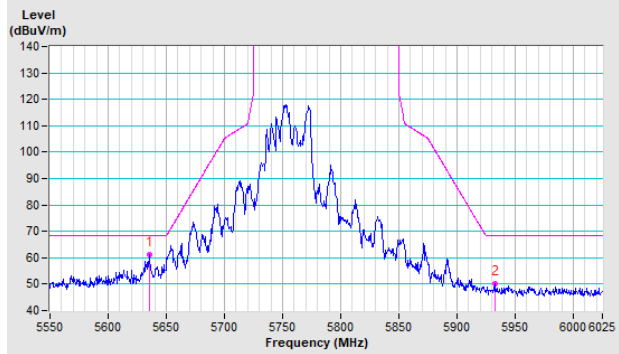


Vertical

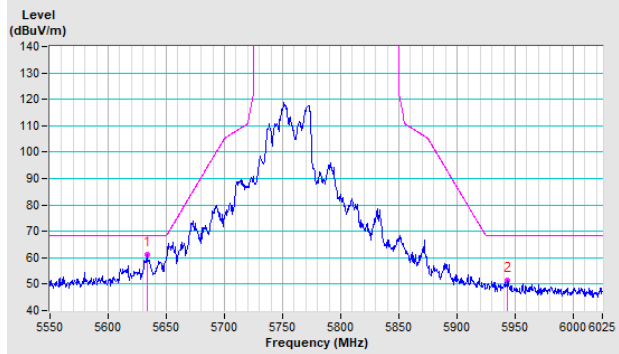


802.11ax (HE40) CH 151 : 5755 MHz

Horizontal

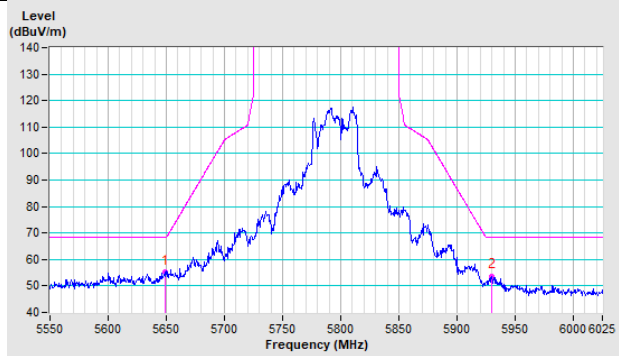


Vertical

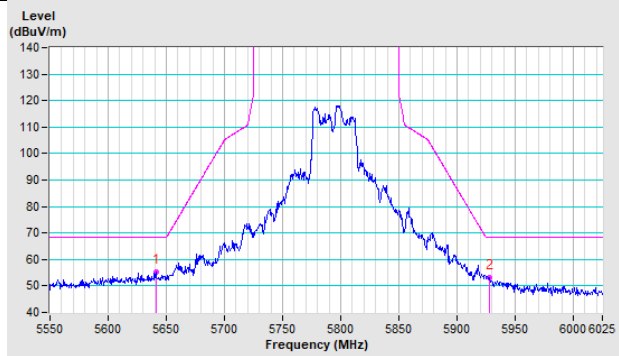


802.11ax (HE40) CH 159 : 5795 MHz

Horizontal

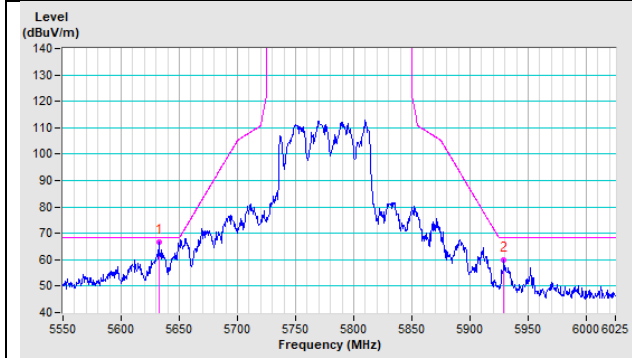


Vertical

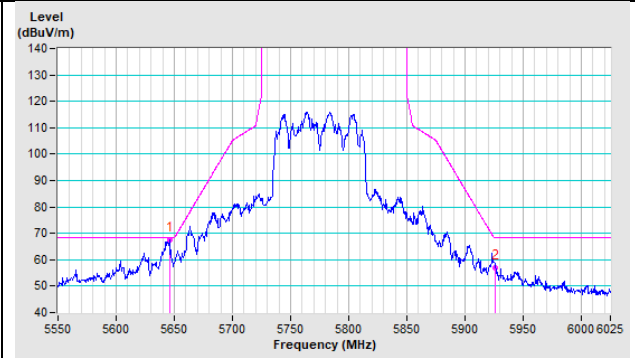


802.11ax (HE80) CH 155 : 5775 MHz

Horizontal



Vertical



Appendix – 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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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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