FCC Test Report

Report No.:	RFBCKT-WTW-P21031102-1
FCC ID:	HFSQTAD53
Test Model:	QTAD53
Received Date:	Mar. 31, 2021
Test Date:	Apr. 27 ~ May 04, 2021
Issued Date:	May 27, 2021
Applicant:	QUANTA COMPUTER INC
Address:	NO.211, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan
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., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBCKT-WTW-P21031102-1	Original Release	May 27, 2021

1 Certificate of Conformity

Product:	5G Hotspot
Brand:	T-Mobile
Test Model:	QTAD53
Sample Status:	Engineering Sample
Applicant:	QUANTA COMPUTER INC
Test Date:	Apr. 27 ~ May 04, 2021
Standards:	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 RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** May 27, 2021

Gina Liu / Specialist

Approved by : _____ , **Date:** May 27, 2021

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(8)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -31.13 dB at 0.53124 MHz.
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.9 dB at 5150.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is MUR not a standard connector.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
3. 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:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	3.86 dB
	200 MHz ~ 1000 MHz	3.87 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	5G Hotspot
Brand	T-Mobile
Test Model	QTAD53
Status of EUT	Engineering Sample
Power Supply Rating	5Vdc / 9Vdc / 12Vdc (Adapter) 3.85Vdc (Battery)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM 1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300.0 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2402.0 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80) 5500 ~ 5720 MHz: 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 5 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 2 for 802.11ac (VHT80), 802.11ax (HE80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 2 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40) 1 for 802.11ac (VHT80), 802.11ax (HE80)
Output Power	CDD Mode: 125.641 mW for 5180 ~ 5240 MHz 123.72 mW for 5260 ~ 5320 MHz 123.01 mW for 5500 ~ 5720 MHz 124.472 mW for 5745 ~ 5825 MHz Beamforming Mode: 62.825 mW for 5180 ~ 5240 MHz 61.864 mW for 5260 ~ 5320 MHz 61.509 mW for 5500 ~ 5720 MHz 62.24 mW for 5745 ~ 5825 MHz
Antenna Type	Refer to Note as below
Antenna Connector	N/A

Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	Beamforming Mode	Tx Function
802.11a	Not Support	1TX
802.11n (HT20)	Support	2TX
802.11n (HT40)	Support	2TX
802.11ac (VHT20)	Support	2TX
802.11ac (VHT40)	Support	2TX
802.11ac (VHT80)	Support	2TX
802.11ax (HE20)	Support	2TX
802.11ax (HE40)	Support	2TX
802.11ax (HE80)	Support	2TX

   * The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40, 802.11ac mode for VHT20 / VHT40 / VHT80 and 802.11ax mode for HE20 / HE40 / HE80, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	TEN PAO INTERNATIONAL LTD.	S018BYU1200150	I/P: 100-240Vac, 50/60Hz, 600mA O/P: 5Vdc/9Vdc/12Vdc⎓3A/2A/1.5A
Adapter 2	Aohai Technology Co., Ltd	A138A-120150U-US2	I/P: 100-240V~50/60Hz, 0.5A O/P: 5Vdc, 2.5A/9Vdc, 2A/12Vdc, 1.5A
USB Cable	Electronics Taiwai Ltd.	DDEMU110079	0.95m shielded USB cable without core
Battery	VEKEN	141033	3.85Vdc, 6240mAh, 24.02Wh

3. There are two sources for EUT's main board and memory. Only the supplier is different and the rest of the specifications are the same.

Sample	Item	Brand	Model
A	PCB - Main	Unimicron Technology Corporation.	12VPL4024C for MODEM board,06VPL4028C for Main board
	Memory - Main	Nanya Technology Corporation	NM4888KSPAXAI-3E
B	PCB -Second	AKM Meadville	HI12C124A for MODEM board, HI06T221A for Main board
	Memory - Second	Jeju Semiconductor Corp.	JSFDDQ5QHAFGD-405

   * After pre-tested, sample A was the worse and chosen for final test.

4. The antenna information is listed as below.

Ant. Type	Brand	Connector	Band	Freq. Range	Ant 0 Gain (dBi)	Ant 1 Gain (dBi)
PIFA	T-mobile	MUR	2.4GHz/BT	2400-2500MHz	-0.949234	0.371887
			5.2&5.3GHz	5150-5350MHz	1.09367	1.72142
			5.6GHz	5470-5725MHz	3.4947	2.48417
			5.8GHz	5725-5850MHz	2.75287	1.02439

5. 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.
6. 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.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

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

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
56	5280	64	5320

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

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

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5720 MHz

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	132	5660
104	5520	136	5680
108	5540	140	5700
112	5560	144	5720
116	5580		

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
102	5510	134	5670
110	5550	142	5710
118	5590		

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	138	5690

For 5745 ~ 5825 MHz:

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

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

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

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

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

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

☒ 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.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		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
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11ax (HE20)	52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	54 to 62	54, 62	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	58	58	OFDMA	BPSK	MCS0
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11ax (HE20)	100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	106 to 138	106, 138	OFDMA	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11ax (HE20)	149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	151 to 159	151, 159	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	155	155	OFDMA	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

☒ 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.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ax (HE80)	42	42	OFDMA	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.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ax (HE80)	42	42	OFDM	BPSK	MCS0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-		802.11ac (VHT20)	36 to 48	36, 40, 48	OFDM	BPSK	7.2
-		802.11ac (VHT40)	38 to 46	38, 46	OFDM	BPSK	15.0
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-		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
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-		802.11ac (VHT20)	52 to 64	52, 60, 64	OFDM	BPSK	7.2
-		802.11ac (VHT40)	54 to 62	54, 62	OFDM	BPSK	15.0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-		802.11ax (HE20)	52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	54 to 62	54, 62	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	58	58	OFDMA	BPSK	MCS0
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	7.2
-		802.11ac (VHT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	15.0
-		802.11ac (VHT80)	106 to 138	106, 138	OFDM	BPSK	29.3
-		802.11ax (HE20)	100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	106 to 138	106, 138	OFDMA	BPSK	MCS0

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
-		802.11ac (VHT20)	149 to 165	149, 157, 165	OFDM	BPSK	7.2
-		802.11ac (VHT40)	151 to 159	151, 159	OFDM	BPSK	15.0
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3
-		802.11ax (HE20)	149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
-		802.11ax (HE40)	151 to 159	151, 159	OFDMA	BPSK	MCS0
-		802.11ax (HE80)	155	155	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Titan Hsu, Edison Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Titan Hsu
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Edison Lee
APCM	25 deg. C, 65 % RH	3.85 Vdc	Jisyone Wang

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

Duty cycle of test signal is < 98 %, duty factor is required.

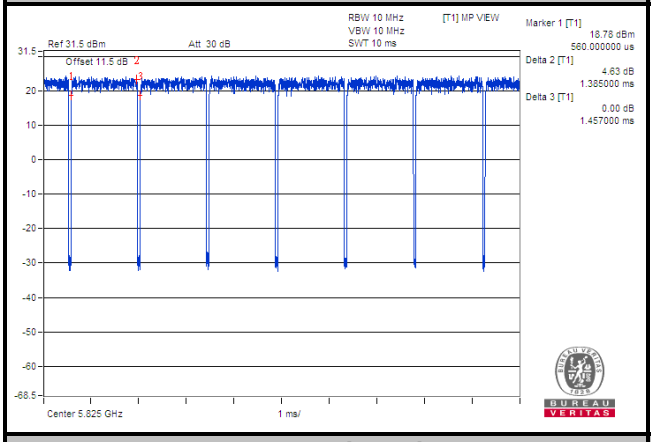
802.11a: Duty cycle = 1.385/1.457 = 0.951, Duty factor = 10 * log(1/0.951) = 0.22

802.11ax (HE20): Duty cycle = 0.539/0.599 = 0.900, Duty factor = 10 * log(1/0.900) = 0.46

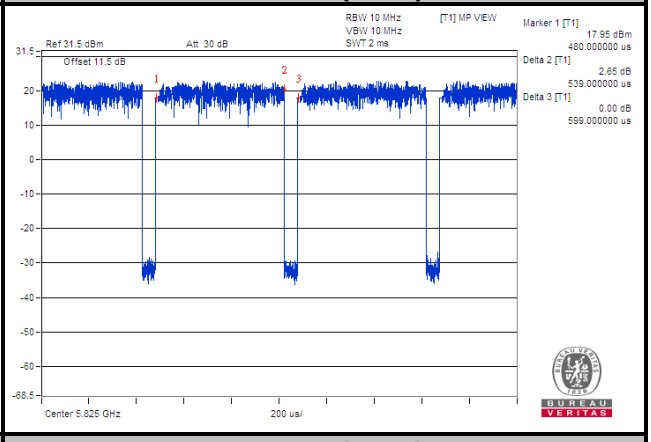
802.11ax (HE40): Duty cycle = 0.299/0.367 = 0.815, Duty factor = 10 * log(1/0.815) = 0.89

802.11ax (HE80): Duty cycle = 0.173/0.240 = 0.721, Duty factor = 10 * log(1/0.721) = 1.42

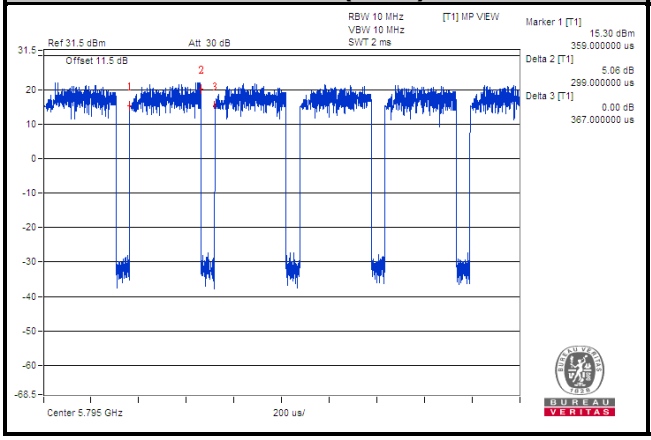
802.11a



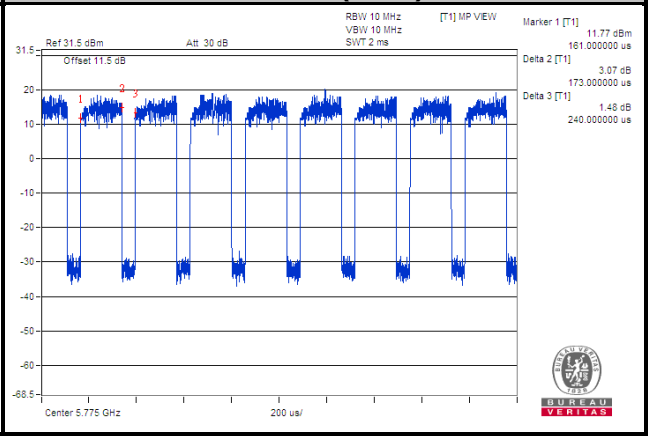
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



3.4 Description of Support Units

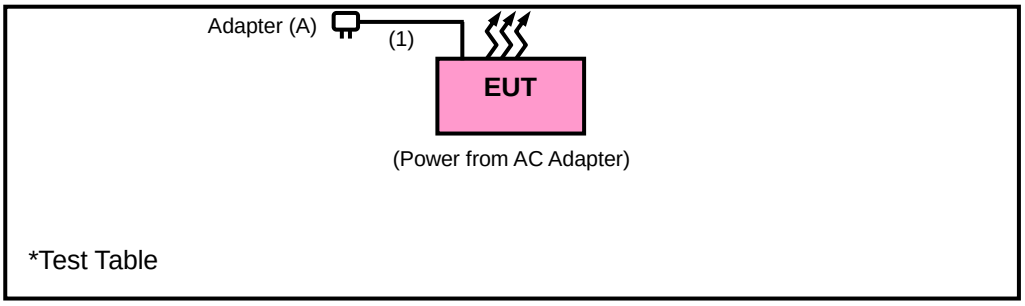
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	TEN PAO INTERNATIONAL LTD.	S018BYU120050	N/A	N/A	Accessory of the EUT

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type-C USB Cable	1	0.95	Y	0	Accessory of the EUT

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards 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 Procedures 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 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of Unwanted Emission Out of the Restricted Bands

Applicable To			Limit	
789033 D02 General UNII Test Procedures New Rules v02r01			Field Strength at 3 m	
			PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**		**EIRP Limit**	**Equivalent Field Strength at 3 m**
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	☒	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
	☐	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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna EMCI	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 22, 2021	Mar. 21, 2022
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz- 40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55 190004/MY551900 07/MY55210005	Jul. 13, 2020	Jul. 12, 2021

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 HwaYa Chamber 3.

4.1.3 Test Procedures

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 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 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

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

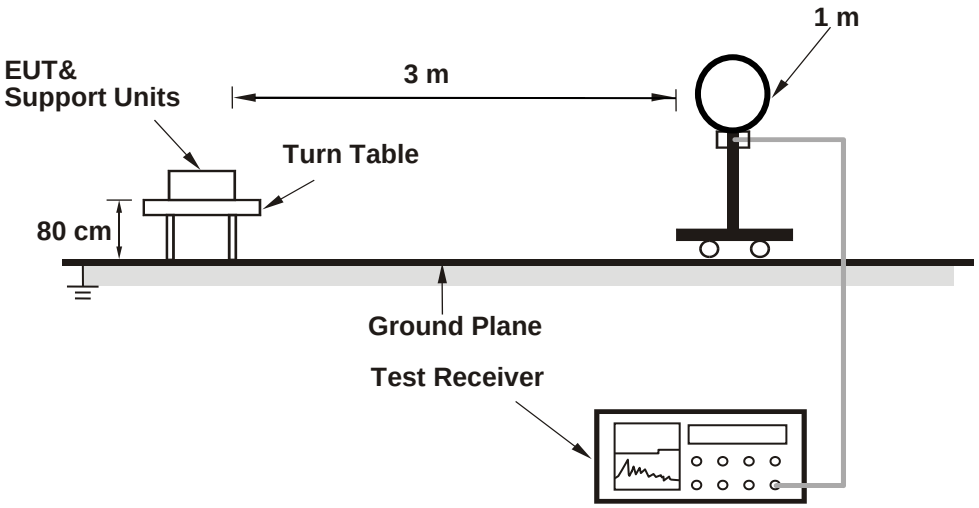
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. 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.
   (11a: RBW = 1 MHz, VBW = 1 kHz ; 11ax (HE20): RBW = 1 MHz, VBW = 3 kHz ;
   11ax (HE40): RBW = 1 MHz, VBW = 10 kHz ; 11ax (HE80): RBW = 1 MHz, VBW = 10 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

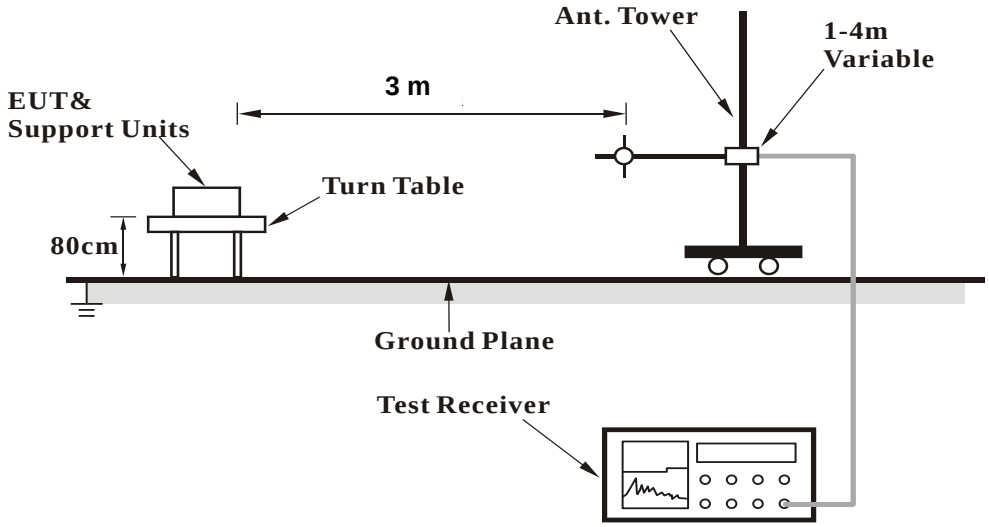
No deviation.

4.1.5 Test Setup

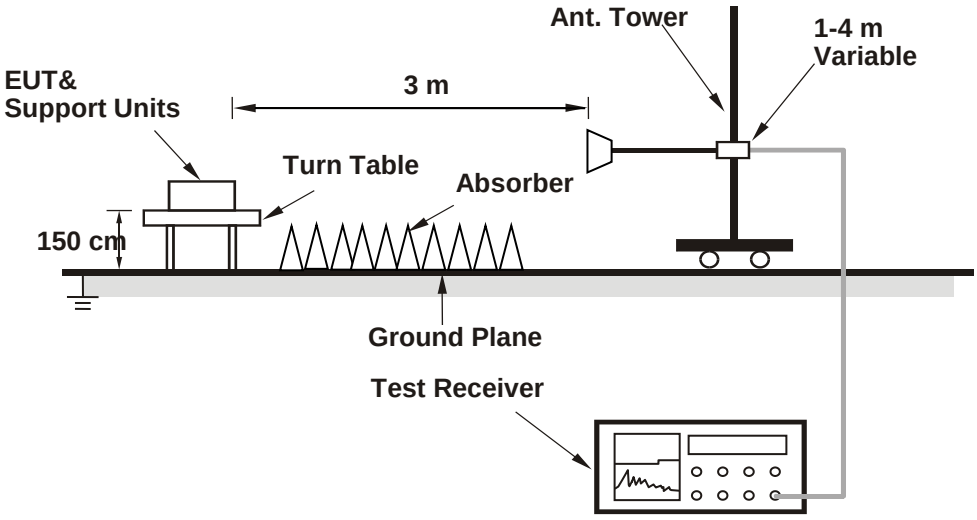
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

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	1.22 H	278	55.3	6.4
2	5150.00	44.5 AV	54.0	-9.5	1.22 H	278	38.1	6.4
3	*5180.00	106.8 PK			1.22 H	278	64.6	42.2
4	*5180.00	96.2 AV			1.22 H	278	54.0	42.2
5	#10360.00	56.6 PK	68.2	-11.6	2.11 H	158	40.1	16.5
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	5150.00	57.6 PK	74.0	-16.4	1.91 V	150	51.2	6.4
2	5150.00	44.8 AV	54.0	-9.2	1.91 V	150	38.4	6.4
3	*5180.00	108.0 PK			1.91 V	150	65.8	42.2
4	*5180.00	97.7 AV			1.91 V	150	55.5	42.2
5	#10360.00	57.9 PK	68.2	-10.3	1.57 V	35	41.4	16.5

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 802.11a	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	*5200.00	107.8 PK			1.34 H	261	65.7	42.1
2	*5200.00	97.3 AV			1.34 H	261	55.2	42.1
3	#10400.00	57.0 PK	68.2	-11.2	2.15 H	173	40.5	16.5
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	*5200.00	108.9 PK			1.78 V	148	66.8	42.1
2	*5200.00	98.2 AV			1.78 V	148	56.1	42.1
3	#10400.00	57.0 PK	68.2	-11.2	1.59 V	31	40.5	16.5

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 802.11a	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	*5240.00	107.9 PK			1.30 H	154	65.9	42.0
2	*5240.00	96.3 AV			1.30 H	154	54.3	42.0
3	5350.00	57.8 PK	74.0	-16.2	1.30 H	284	51.5	6.3
4	5350.00	44.4 AV	54.0	-9.6	1.30 H	284	38.1	6.3
5	#10480.00	58.9 PK	68.2	-9.3	2.08 H	159	40.8	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	108.9 PK			1.81 V	157	66.9	42.0
2	*5240.00	98.4 AV			1.81 V	157	56.4	42.0
3	5350.00	58.2 PK	74.0	-15.8	1.81 V	360	51.9	6.3
4	5350.00	44.7 AV	54.0	-9.3	1.81 V	360	38.4	6.3
5	#10480.00	58.4 PK	68.2	-9.8	1.49 V	29	40.3	18.1

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

RF Mode	TX 802.11a	Channel	CH 52：5260 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	58.4 PK	74.0	-15.6	1.35 H	283	52.0	6.4
2	5150.00	44.8 AV	54.0	-9.2	1.35 H	283	38.4	6.4
3	*5260.00	106.8 PK			1.35 H	286	64.9	41.9
4	*5260.00	96.2 AV			1.35 H	286	54.3	41.9
5	#10520.00	58.7 PK	68.2	-9.5	2.31 H	151	40.5	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.96 V	164	51.3	6.4
2	5150.00	44.6 AV	54.0	-9.4	1.96 V	164	38.2	6.4
3	*5260.00	107.5 PK			1.96 V	164	65.6	41.9
4	*5260.00	97.4 AV			1.96 V	164	55.5	41.9
5	#10520.00	59.1 PK	68.2	-9.1	1.69 V	36	40.9	18.2

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

RF Mode	TX 802.11a	Channel	CH 60：5300 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	*5300.00	72.1 PK			1.41 H	263	66.0	6.1
2	*5300.00	61.5 AV			1.41 H	263	55.4	6.1
3	10600.00	58.5 PK	74.0	-15.5	2.03 H	161	40.9	17.6
4	10600.00	44.9 AV	54.0	-9.1	2.03 H	161	27.3	17.6
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	*5300.00	108.6 PK			1.88 V	161	66.7	41.9
2	*5300.00	98.6 AV			1.88 V	161	56.7	41.9
3	10600.00	58.7 PK	74.0	-15.3	1.61 V	44	41.1	17.6
4	10600.00	45.1 AV	54.0	-8.9	1.61 V	44	27.5	17.6

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.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11a	Channel	CH 64：5320 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	*5320.00	105.9 PK			1.51 H	283	63.9	42.0
2	*5320.00	96.2 AV			1.51 H	283	54.2	42.0
3	5350.00	70.9 PK	74.0	-3.1	1.51 H	283	64.6	6.3
4	5350.00	48.2 AV	54.0	-5.8	1.51 H	283	41.9	6.3
5	10640.00	58.0 PK	74.0	-16.0	2.17 H	149	40.5	17.5
6	10640.00	45.0 AV	54.0	-9.0	2.17 H	149	27.5	17.5
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	*5320.00	106.4 PK			1.89 V	159	64.4	42.0
2	*5320.00	97.0 AV			1.89 V	159	55.0	42.0
3	5350.00	65.2 PK	74.0	-8.8	1.89 V	159	58.9	6.3
4	5350.00	46.6 AV	54.0	-7.4	1.89 V	159	40.3	6.3
5	10640.00	58.4 PK	74.0	-15.6	1.68 V	50	40.9	17.5
6	10640.00	45.5 AV	54.0	-8.5	1.68 V	50	28.0	17.5

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.

RF Mode	TX 802.11a	Channel	CH 100：5500 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	5460.00	61.3 PK	74.0	-12.7	1.43 H	222	55.0	6.3
2	5460.00	44.6 AV	54.0	-9.4	1.43 H	222	38.3	6.3
3	#5470.00	67.2 PK	68.2	-1.0	1.43 H	222	61.0	6.2
4	*5500.00	111.2 PK			1.43 H	222	69.1	42.1
5	*5500.00	101.7 AV			1.43 H	222	59.6	42.1
6	11000.00	58.6 PK	74.0	-15.4	2.25 H	166	40.5	18.1
7	11000.00	45.3 AV	54.0	-8.7	2.25 H	166	27.2	18.1
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	5460.00	62.5 PK	74.0	-11.5	2.94 V	45	56.2	6.3
2	5460.00	44.5 AV	54.0	-9.5	2.94 V	45	38.2	6.3
3	#5470.00	63.7 PK	68.2	-4.5	2.94 V	45	57.5	6.2
4	*5500.00	106.6 PK			2.94 V	45	64.5	42.1
5	*5500.00	96.6 AV			2.94 V	45	54.5	42.1
6	11000.00	58.9 PK	74.0	-15.1	1.68 V	59	40.8	18.1
7	11000.00	45.9 AV	54.0	-8.1	1.68 V	59	27.8	18.1

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

RF Mode	TX 802.11a	Channel	CH 116：5580 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	*5580.00	111.8 PK			1.82 H	220	69.7	42.1
2	*5580.00	101.9 AV			1.82 H	220	59.8	42.1
3	11160.00	59.0 PK	74.0	-15.0	2.25 H	152	40.6	18.4
4	11160.00	45.7 AV	54.0	-8.3	2.25 H	152	27.3	18.4
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	*5580.00	107.2 PK			3.01 V	61	65.1	42.1
2	*5580.00	97.1 AV			3.01 V	61	55.0	42.1
3	11160.00	59.1 PK	74.0	-14.9	1.69 V	54	40.7	18.4
4	11160.00	46.1 AV	54.0	-7.9	1.69 V	54	27.7	18.4

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.

RF Mode	TX 802.11a	Channel	CH 140：5700 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	*5700.00	109.6 PK			1.38 H	203	67.3	42.3
2	*5700.00	99.4 AV			1.38 H	203	57.1	42.3
3	#5725.00	66.7 PK	68.2	-1.5	1.38 H	203	60.5	6.2
4	11400.00	58.4 PK	74.0	-15.6	2.05 H	152	40.5	17.9
5	11400.00	45.5 AV	54.0	-8.5	2.05 H	152	27.6	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	105.5 PK			3.00 V	54	63.2	42.3
2	*5700.00	95.2 AV			3.00 V	54	52.9	42.3
3	#5725.00	60.3 PK	68.2	-7.9	3.00 V	54	54.1	6.2
4	11400.00	58.7 PK	74.0	-15.3	1.69 V	61	40.8	17.9
5	11400.00	45.7 AV	54.0	-8.3	1.69 V	61	27.8	17.9

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 144：5720 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	#5470.00	57.3 PK	68.2	-10.9	1.60 H	202	51.1	6.2
2	*5720.00	112.7 PK			1.60 H	202	70.5	42.2
3	*5720.00	102.5 AV			1.60 H	202	60.3	42.2
4	#5850.00	58.5 PK	68.2	-9.7	1.60 H	202	51.8	6.7
5	11440.00	58.9 PK	74.0	-15.1	2.15 H	153	40.7	18.2
6	11440.00	46.0 AV	54.0	-8.0	2.15 H	153	27.8	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.3 PK	68.2	-10.9	2.99 V	44	51.1	6.2
2	*5720.00	107.2 PK			2.99 V	44	65.0	42.2
3	*5720.00	97.4 AV			2.99 V	44	55.2	42.2
4	#5850.00	58.1 PK	68.2	-10.1	2.99 V	44	51.4	6.7
5	11440.00	59.1 PK	74.0	-14.9	1.66 V	58	40.9	18.2
6	11440.00	46.2 AV	54.0	-7.8	1.66 V	58	28.0	18.2

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

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	#5630.80	56.8 PK	68.2	-11.4	1.17 H	200	50.5	6.3
2	*5745.00	113.8 PK			1.17 H	200	71.6	42.2
3	*5745.00	103.7 AV			1.17 H	200	61.5	42.2
4	#5998.00	57.7 PK	68.2	-10.5	1.17 H	200	50.6	7.1
5	11490.00	59.1 PK	74.0	-14.9	2.33 H	155	40.5	18.6
6	11490.00	46.1 AV	54.0	-7.9	2.33 H	155	27.5	18.6
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	#5623.20	57.4 PK	68.2	-10.8	2.86 V	57	51.2	6.2
2	*5745.00	109.5 PK			2.86 V	57	67.3	42.2
3	*5745.00	98.7 AV			2.86 V	57	56.5	42.2
4	#5935.60	57.7 PK	68.2	-10.5	2.86 V	57	50.4	7.3
5	11490.00	59.3 PK	74.0	-14.7	1.75 V	51	40.7	18.6
6	11490.00	46.1 AV	54.0	-7.9	1.75 V	51	27.5	18.6

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.
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	#5627.60	57.0 PK	68.2	-11.2	1.17 H	198	50.8	6.2
2	*5785.00	113.4 PK			1.17 H	198	71.2	42.2
3	*5785.00	103.0 AV			1.17 H	198	60.8	42.2
4	#5936.40	57.9 PK	68.2	-10.3	1.17 H	198	50.6	7.3
5	11570.00	59.0 PK	74.0	-15.0	2.32 H	153	40.6	18.4
6	11570.00	45.9 AV	54.0	-8.1	2.32 H	153	27.5	18.4
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	#5646.00	57.0 PK	68.2	-11.2	2.83 V	60	50.8	6.2
2	*5785.00	109.3 PK			2.83 V	60	67.1	42.2
3	*5785.00	99.0 AV			2.83 V	60	56.8	42.2
4	#5978.00	58.1 PK	68.2	-10.1	2.83 V	60	51.0	7.1
5	11570.00	59.2 PK	74.0	-14.8	1.85 V	54	40.8	18.4
6	11570.00	46.1 AV	54.0	-7.9	1.85 V	54	27.7	18.4

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 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	#5620.40	56.9 PK	68.2	-11.3	1.17 H	200	50.7	6.2
2	*5825.00	112.9 PK			1.17 H	200	70.6	42.3
3	*5825.00	103.1 AV			1.17 H	200	60.8	42.3
4	#5980.80	58.9 PK	68.2	-9.3	1.17 H	200	51.8	7.1
5	11650.00	58.8 PK	74.0	-15.2	2.25 H	152	40.7	18.1
6	11650.00	45.7 AV	54.0	-8.3	2.25 H	152	27.6	18.1
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	#5639.60	57.0 PK	68.2	-11.2	3.03 V	47	50.7	6.3
2	*5825.00	109.4 PK			3.03 V	47	67.1	42.3
3	*5825.00	99.6 AV			3.03 V	47	57.3	42.3
4	#5927.20	58.6 PK	68.2	-9.6	3.03 V	47	51.3	7.3
5	11650.00	58.8 PK	74.0	-15.2	1.72 V	58	40.7	18.1
6	11650.00	45.8 AV	54.0	-8.2	1.72 V	58	27.7	18.1

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.
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	66.3 PK	74.0	-7.7	1.19 H	103	59.9	6.4
2	5150.00	46.3 AV	54.0	-7.7	1.19 H	103	39.9	6.4
3	*5180.00	111.7 PK			1.19 H	103	69.5	42.2
4	*5180.00	99.7 AV			1.19 H	103	57.5	42.2
5	#10360.00	58.0 PK	68.2	-10.2	2.08 H	169	41.5	16.5
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	5150.00	66.4 PK	74.0	-7.6	1.86 V	262	60.0	6.4
2	5150.00	46.4 AV	54.0	-7.6	1.86 V	262	40.0	6.4
3	*5180.00	112.2 PK			1.86 V	262	70.0	42.2
4	*5180.00	100.2 AV			1.86 V	262	58.0	42.2
5	#10360.00	58.1 PK	68.2	-10.1	1.73 V	58	41.6	16.5

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 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	*5200.00	111.8 PK			1.15 H	103	69.7	42.1
2	*5200.00	100.2 AV			1.15 H	103	58.1	42.1
3	#10400.00	57.7 PK	68.2	-10.5	2.32 H	169	41.2	16.5
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	*5200.00	112.9 PK			1.15 V	103	70.8	42.1
2	*5200.00	100.7 AV			2.30 V	260	58.6	42.1
3	#10400.00	58.0 PK	68.2	-10.2	1.69 V	61	41.5	16.5

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 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	*5240.00	112.0 PK			1.07 H	102	70.0	42.0
2	*5240.00	99.3 AV			1.07 H	102	57.3	42.0
3	5350.00	58.0 PK	74.0	-16.0	1.07 H	102	51.7	6.3
4	5350.00	44.3 AV	54.0	-9.7	1.07 H	102	38.0	6.3
5	#10480.00	59.4 PK	68.2	-8.8	2.21 H	173	41.3	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	113.0 PK			1.10 V	258	71.0	42.0
2	*5240.00	101.0 AV			1.10 V	258	59.0	42.0
3	5350.00	58.3 PK	74.0	-15.7	1.10 V	258	52.0	6.3
4	5350.00	44.9 AV	54.0	-9.1	1.10 V	258	38.6	6.3
5	#10480.00	59.2 PK	68.2	-9.0	1.67 V	69	41.1	18.1

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 52：5260 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	58.4 PK	74.0	-15.6	1.30 H	184	52.0	6.4
2	5150.00	44.9 AV	54.0	-9.1	1.30 H	184	38.5	6.4
3	*5260.00	110.6 PK			1.30 H	184	68.7	41.9
4	*5260.00	98.3 AV			1.30 H	184	56.4	41.9
5	#10520.00	59.1 PK	68.2	-9.1	2.17 H	174	40.9	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.09 V	275	51.3	6.4
2	5150.00	44.7 AV	54.0	-9.3	1.09 V	275	38.3	6.4
3	*5260.00	111.2 PK			1.09 V	275	69.3	41.9
4	*5260.00	98.7 AV			1.09 V	275	56.8	41.9
5	#10520.00	59.5 PK	68.2	-8.7	1.66 V	66	41.3	18.2

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 60：5300 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	*5300.00	113.3 PK			1.16 H	169	71.4	41.9
2	*5300.00	100.8 AV			1.16 H	169	58.9	41.9
3	10600.00	58.7 PK	74.0	-15.3	2.18 H	160	41.1	17.6
4	10600.00	44.8 AV	54.0	-9.2	2.18 H	160	27.2	17.6
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	*5300.00	114.3 PK			1.00 V	245	72.4	41.9
2	*5300.00	102.1 AV			1.00 V	245	60.2	41.9
3	10600.00	59.2 PK	74.0	-14.8	1.80 V	69	41.6	17.6
4	10600.00	44.7 AV	54.0	-9.3	1.80 V	69	27.1	17.6

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.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11ax (HE20)	Channel	CH 64：5320 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	*5320.00	110.2 PK			1.35 H	282	68.2	42.0
2	*5320.00	98.9 AV			1.35 H	282	56.9	42.0
3	5350.00	71.6 PK	74.0	-2.4	1.35 H	282	65.3	6.3
4	5350.00	49.9 AV	54.0	-4.1	1.35 H	282	43.6	6.3
5	10640.00	59.3 PK	74.0	-14.7	2.27 H	182	41.8	17.5
6	10640.00	45.1 AV	54.0	-8.9	2.27 H	182	27.6	17.5
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	*5320.00	111.4 PK			1.08 V	267	69.4	42.0
2	*5320.00	99.6 AV			1.08 V	267	57.6	42.0
3	5350.00	57.8 PK	74.0	-16.2	1.08 V	267	51.5	6.3
4	5350.00	44.9 AV	54.0	-9.1	1.08 V	267	38.6	6.3
5	10640.00	59.3 PK	74.0	-14.7	1.91 V	60	41.8	17.5
6	10640.00	45.2 AV	54.0	-8.8	1.91 V	60	27.7	17.5

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 100：5500 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	5460.00	60.2 PK	74.0	-13.8	1.16 H	333	53.9	6.3
2	5460.00	44.9 AV	54.0	-9.1	1.16 H	333	38.6	6.3
3	#5470.00	63.8 PK	68.2	-4.4	1.16 H	333	57.6	6.2
4	*5500.00	110.7 PK			1.16 H	333	68.6	42.1
5	*5500.00	98.1 AV			1.16 H	333	56.0	42.1
6	11000.00	58.9 PK	74.0	-15.1	2.58 H	175	40.8	18.1
7	11000.00	45.9 AV	54.0	-8.1	2.58 H	175	27.8	18.1
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	5460.00	64.2 PK	74.0	-9.8	2.62 V	256	57.9	6.3
2	5460.00	45.8 AV	54.0	-8.2	2.62 V	256	39.5	6.3
3	#5470.00	67.2 PK	68.2	-1.0	2.62 V	256	61.0	6.2
4	*5500.00	114.0 PK			2.62 V	256	71.9	42.1
5	*5500.00	102.2 AV			2.62 V	256	60.1	42.1
6	11000.00	59.1 PK	74.0	-14.9	1.72 V	65	41.0	18.1
7	11000.00	46.2 AV	54.0	-7.8	1.72 V	65	28.1	18.1

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 116：5580 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	*5580.00	112.5 PK			1.07 H	337	70.4	42.1
2	*5580.00	99.7 AV			1.07 H	337	57.6	42.1
3	11160.00	59.3 PK	74.0	-14.7	2.52 H	182	40.9	18.4
4	11160.00	46.2 AV	54.0	-7.8	2.52 H	182	27.8	18.4
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	*5580.00	114.2 PK			2.80 V	263	72.1	42.1
2	*5580.00	102.3 AV			2.80 V	263	60.2	42.1
3	11160.00	59.5 PK	74.0	-14.5	1.69 V	55	41.1	18.4
4	11160.00	46.5 AV	54.0	-7.5	1.69 V	55	28.1	18.4

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 140：5700 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	*5700.00	110.5 PK			1.00 H	336	68.2	42.3
2	*5700.00	98.4 AV			1.00 H	336	56.1	42.3
3	#5725.00	65.6 PK	68.2	-2.6	1.00 H	336	59.4	6.2
4	11400.00	58.6 PK	74.0	-15.4	2.53 H	178	40.7	17.9
5	11400.00	45.5 AV	54.0	-8.5	2.53 H	178	27.6	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	111.6 PK			2.78 V	269	69.3	42.3
2	*5700.00	99.4 AV			2.78 V	269	57.1	42.3
3	#5725.00	66.7 PK	68.2	-1.5	2.78 V	269	60.5	6.2
4	11400.00	58.8 PK	74.0	-15.2	1.65 V	52	40.9	17.9
5	11400.00	45.7 AV	54.0	-8.3	1.65 V	52	27.8	17.9

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 144：5720 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	#5470.00	57.7 PK	68.2	-10.5	1.00 H	336	51.5	6.2
2	*5720.00	112.1 PK			1.00 H	336	69.9	42.2
3	*5720.00	99.9 AV			1.00 H	336	57.7	42.2
4	#5850.00	58.3 PK	68.2	-9.9	1.00 H	336	51.6	6.7
5	11440.00	59.1 PK	74.0	-14.9	2.58 H	185	40.9	18.2
6	11440.00	46.0 AV	54.0	-8.0	2.58 H	185	27.8	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.7 PK	68.2	-10.5	2.73 V	251	51.5	6.2
2	*5720.00	113.3 PK			2.73 V	251	71.1	42.2
3	*5720.00	101.0 AV			2.73 V	251	58.8	42.2
4	#5850.00	57.8 PK	68.2	-10.4	2.73 V	251	51.1	6.7
5	11440.00	58.9 PK	74.0	-15.1	1.65 V	55	40.7	18.2
6	11440.00	45.9 AV	54.0	-8.1	1.65 V	55	27.7	18.2

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.
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	#5626.40	56.7 PK	68.2	-11.5	1.25 H	339	50.5	6.2
2	*5745.00	112.3 PK			1.25 H	339	70.1	42.2
3	*5745.00	99.5 AV			1.25 H	339	57.3	42.2
4	#5981.20	59.2 PK	68.2	-9.0	1.25 H	339	52.1	7.1
5	11490.00	59.4 PK	74.0	-14.6	2.77 H	205	40.8	18.6
6	11490.00	46.4 AV	54.0	-7.6	2.77 H	205	27.8	18.6
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	#5641.60	57.1 PK	68.2	-11.1	2.49 V	244	50.9	6.2
2	*5745.00	113.8 PK			2.49 V	244	71.6	42.2
3	*5745.00	101.9 AV			2.49 V	244	59.7	42.2
4	#5927.20	57.7 PK	68.2	-10.5	2.49 V	244	50.4	7.3
5	11490.00	59.4 PK	74.0	-14.6	1.82 V	55	40.8	18.6
6	11490.00	46.4 AV	54.0	-7.6	1.82 V	55	27.8	18.6

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.
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	#5633.60	58.0 PK	68.2	-10.2	1.22 H	340	51.7	6.3
2	*5785.00	111.5 PK			1.22 H	340	69.3	42.2
3	*5785.00	99.8 AV			1.22 H	340	57.6	42.2
4	#5932.80	58.5 PK	68.2	-9.7	1.22 H	340	51.2	7.3
5	11570.00	59.3 PK	74.0	-14.7	2.75 H	208	40.9	18.4
6	11570.00	46.3 AV	54.0	-7.7	2.75 H	208	27.9	18.4
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	#5646.00	56.9 PK	68.2	-11.3	2.22 V	254	50.7	6.2
2	*5785.00	113.7 PK			2.22 V	254	71.5	42.2
3	*5785.00	101.7 AV			2.22 V	254	59.5	42.2
4	#5928.40	58.3 PK	68.2	-9.9	2.22 V	254	51.0	7.3
5	11570.00	59.0 PK	74.0	-15.0	1.82 V	61	40.6	18.4
6	11570.00	45.9 AV	54.0	-8.1	1.82 V	61	27.5	18.4

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 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	#5636.00	57.4 PK	68.2	-10.8	1.10 H	342	51.1	6.3
2	*5825.00	111.5 PK			1.10 H	342	69.2	42.3
3	*5825.00	99.3 AV			1.10 H	342	57.0	42.3
4	#5989.20	58.6 PK	68.2	-9.6	1.10 H	342	51.5	7.1
5	11650.00	58.8 PK	74.0	-15.2	2.61 H	189	40.7	18.1
6	11650.00	45.8 AV	54.0	-8.2	2.61 H	189	27.7	18.1
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	#5608.40	56.9 PK	68.2	-11.3	2.53 V	252	50.7	6.2
2	*5825.00	113.6 PK			2.53 V	252	71.3	42.3
3	*5825.00	100.8 AV			2.53 V	252	58.5	42.3
4	#5958.40	57.7 PK	68.2	-10.5	2.53 V	252	50.4	7.3
5	11650.00	58.7 PK	74.0	-15.3	1.86 V	63	40.6	18.1
6	11650.00	45.7 AV	54.0	-8.3	1.86 V	63	27.6	18.1

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.
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	5150.00	71.7 PK	74.0	-2.3	1.18 H	103	65.3	6.4
2	5150.00	49.3 AV	54.0	-4.7	1.18 H	103	42.9	6.4
3	*5190.00	110.4 PK			1.18 H	103	68.3	42.1
4	*5190.00	98.4 AV			1.18 H	103	56.3	42.1
5	#10380.00	58.2 PK	68.2	-10.0	2.36 H	178	41.6	16.6
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	73.0 PK	74.0	-1.0	2.17 V	249	66.6	6.4
2	5150.00	50.1 AV	54.0	-3.9	2.17 V	249	43.7	6.4
3	*5190.00	110.8 PK			2.17 V	249	68.7	42.1
4	*5190.00	98.5 AV			2.17 V	249	56.4	42.1
5	#10380.00	58.2 PK	68.2	-10.0	1.92 V	67	41.6	16.6

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.
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	*5230.00	111.3 PK			1.20 H	105	69.3	42.0
2	*5230.00	98.9 AV			1.20 H	105	56.9	42.0
3	5350.00	57.5 PK	74.0	-16.5	1.20 H	105	51.2	6.3
4	5350.00	44.6 AV	54.0	-9.4	1.20 H	105	38.3	6.3
5	#10460.00	59.0 PK	68.2	-9.2	2.13 H	163	41.3	17.7
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	*5230.00	111.0 PK			1.24 V	265	69.0	42.0
2	*5230.00	99.4 AV			1.24 V	265	57.4	42.0
3	5350.00	57.8 PK	74.0	-16.2	1.24 V	265	51.5	6.3
4	5350.00	45.2 AV	54.0	-8.8	1.24 V	265	38.9	6.3
5	#10460.00	59.5 PK	68.2	-8.7	1.77 V	52	41.8	17.7

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 54：5270 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	1.09 H	284	51.0	6.4
2	5150.00	45.4 AV	54.0	-8.6	1.09 H	284	39.0	6.4
3	*5270.00	110.1 PK			1.09 H	284	68.2	41.9
4	*5270.00	97.8 AV			1.09 H	284	55.9	41.9
5	5350.00	64.4 PK	74.0	-9.6	1.09 H	284	58.1	6.3
6	5350.00	45.4 AV	54.0	-8.6	1.09 H	284	39.1	6.3
7	#10540.00	59.2 PK	68.2	-9.0	2.31 H	168	41.1	18.1
8	#10540.00	45.4 AV	54.0	-8.6	2.31 H	168	27.3	18.1
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	58.3 PK	74.0	-15.7	1.13 V	253	51.9	6.4
2	5150.00	45.1 AV	54.0	-8.9	1.13 V	253	38.7	6.4
3	*5270.00	111.9 PK			1.13 V	253	70.0	41.9
4	*5270.00	100.2 AV			1.13 V	253	58.3	41.9
5	5350.00	66.7 PK	74.0	-7.3	1.13 V	253	60.4	6.3
6	5350.00	45.9 AV	54.0	-8.1	1.13 V	253	39.6	6.3
7	#10540.00	60.3 PK	68.2	-7.9	1.68 V	71	42.2	18.1

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 62：5310 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	*5310.00	110.9 PK			1.20 H	280	68.9	42.0
2	*5310.00	98.1 AV			1.20 H	280	56.1	42.0
3	5350.00	71.6 PK	74.0	-2.4	1.20 H	280	65.3	6.3
4	5350.00	48.3 AV	54.0	-5.7	1.20 H	280	42.0	6.3
5	10620.00	58.6 PK	74.0	-15.4	2.21 H	176	40.9	17.7
6	10620.00	45.0 AV	54.0	-9.0	2.21 H	176	27.3	17.7
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	*5310.00	111.8 PK			1.10 V	258	69.8	42.0
2	*5310.00	99.2 AV			1.10 V	258	57.2	42.0
3	5350.00	72.7 PK	74.0	-1.3	1.10 V	258	66.4	6.3
4	5350.00	49.2 AV	54.0	-4.8	1.10 V	258	42.9	6.3
5	10620.00	59.7 PK	74.0	-14.3	1.99 V	68	42.0	17.7
6	10620.00	45.3 AV	54.0	-8.7	1.99 V	68	27.6	17.7

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.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11ax (HE40)	Channel	CH 102：5510 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	5460.00	60.6 PK	74.0	-13.4	1.12 H	336	54.3	6.3
2	5460.00	44.9 AV	54.0	-9.1	1.12 H	336	38.6	6.3
3	#5470.00	63.2 PK	68.2	-5.0	1.12 H	336	57.0	6.2
4	*5510.00	107.1 PK			1.12 H	336	65.0	42.1
5	*5510.00	95.4 AV			1.12 H	336	53.3	42.1
6	11020.00	59.0 PK	74.0	-15.0	2.48 H	189	40.9	18.1
7	11020.00	45.9 AV	54.0	-8.1	2.48 H	189	27.8	18.1
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	5460.00	62.6 PK	74.0	-11.4	2.70 V	247	56.3	6.3
2	5460.00	44.9 AV	54.0	-9.1	2.70 V	247	38.6	6.3
3	#5470.00	66.7 PK	68.2	-1.5	2.70 V	247	60.5	6.2
4	*5510.00	110.8 PK			2.70 V	247	68.7	42.1
5	*5510.00	98.1 AV			2.70 V	247	56.0	42.1
6	11020.00	58.8 PK	74.0	-15.2	1.68 V	53	40.7	18.1
7	11020.00	45.8 AV	54.0	-8.2	1.68 V	53	27.7	18.1

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 110：5550 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	*5550.00	109.9 PK			1.15 H	334	67.8	42.1
2	*5550.00	97.7 AV			1.15 H	334	55.6	42.1
3	11100.00	59.0 PK	74.0	-15.0	2.38 H	182	40.8	18.2
4	11100.00	46.0 AV	54.0	-8.0	2.38 H	182	27.8	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	113.0 PK			2.71 V	254	70.9	42.1
2	*5550.00	100.8 AV			2.71 V	254	58.7	42.1
3	11100.00	59.0 PK	74.0	-15.0	1.69 V	58	40.8	18.2
4	11100.00	45.9 AV	54.0	-8.1	1.69 V	58	27.7	18.2

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.
5. " * ": Fundamental frequency.

RF Mode	TX 802.11ax (HE40)	Channel	CH 134：5670 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	*5670.00	109.5 PK			1.13 H	338	67.3	42.2
2	*5670.00	97.1 AV			1.13 H	338	54.9	42.2
3	#5725.00	66.2 PK	68.2	-2.0	1.13 H	338	60.0	6.2
4	11340.00	59.3 PK	74.0	-14.7	2.55 H	179	41.0	18.3
5	11340.00	46.4 AV	54.0	-7.6	2.55 H	179	28.1	18.3
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	*5670.00	110.7 PK			2.64 V	249	68.5	42.2
2	*5670.00	97.9 AV			2.64 V	249	55.7	42.2
3	#5725.00	66.7 PK	68.2	-1.5	2.64 V	249	60.5	6.2
4	11340.00	59.0 PK	74.0	-15.0	1.72 V	59	40.7	18.3
5	11340.00	45.9 AV	54.0	-8.1	1.72 V	59	27.6	18.3

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 142：5710 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	#5470.00	58.0 PK	68.2	-10.2	1.04 H	333	51.8	6.2
2	*5710.00	110.9 PK			1.04 H	333	68.6	42.3
3	*5710.00	98.5 AV			1.04 H	333	56.2	42.3
4	#5850.00	58.5 PK	68.2	-9.7	1.04 H	333	51.8	6.7
5	11420.00	58.8 PK	74.0	-15.2	2.43 H	175	40.8	18.0
6	11420.00	45.8 AV	54.0	-8.2	2.43 H	175	27.8	18.0
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	#5470.00	58.0 PK	68.2	-10.2	2.63 V	269	51.8	6.2
2	*5710.00	111.7 PK			2.63 V	269	69.4	42.3
3	*5710.00	99.7 AV			2.63 V	269	57.4	42.3
4	#5850.00	58.2 PK	68.2	-10.0	2.63 V	269	51.5	6.7
5	11420.00	59.0 PK	74.0	-15.0	1.66 V	62	41.0	18.0
6	11420.00	45.8 AV	54.0	-8.2	1.66 V	62	27.8	18.0

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 (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	#5632.40	59.1 PK	68.2	-9.1	1.14 H	341	52.8	6.3
2	*5755.00	110.6 PK			1.14 H	341	68.3	42.3
3	*5755.00	98.2 AV			1.14 H	341	55.9	42.3
4	#5955.60	58.9 PK	68.2	-9.3	1.14 H	341	51.6	7.3
5	11510.00	59.5 PK	74.0	-14.5	2.75 H	195	40.9	18.6
6	11510.00	46.6 AV	54.0	-7.4	2.75 H	195	28.0	18.6
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	#5632.80	63.3 PK	68.2	-4.9	2.32 V	253	57.0	6.3
2	*5755.00	111.8 PK			2.32 V	253	69.5	42.3
3	*5755.00	99.8 AV			2.32 V	253	57.5	42.3
4	#5966.40	59.2 PK	68.2	-9.0	2.32 V	253	51.9	7.3
5	11510.00	59.4 PK	74.0	-14.6	1.85 V	57	40.8	18.6
6	11510.00	46.3 AV	54.0	-7.7	1.85 V	57	27.7	18.6

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.
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	#5627.20	57.0 PK	68.2	-11.2	1.04 H	337	50.8	6.2
2	*5795.00	109.5 PK			1.04 H	337	67.3	42.2
3	*5795.00	97.9 AV			1.04 H	337	55.7	42.2
4	#5954.80	58.2 PK	68.2	-10.0	1.04 H	337	50.9	7.3
5	11590.00	59.0 PK	74.0	-15.0	2.82 H	205	40.8	18.2
6	11590.00	46.0 AV	54.0	-8.0	2.82 H	205	27.8	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5631.20	57.4 PK	68.2	-10.8	2.23 V	252	51.1	6.3
2	*5795.00	112.1 PK			2.23 V	252	69.9	42.2
3	*5795.00	99.5 AV			2.23 V	252	57.3	42.2
4	#5986.00	58.4 PK	68.2	-9.8	2.23 V	252	51.3	7.1
5	11590.00	58.9 PK	74.0	-15.1	1.86 V	57	40.7	18.2
6	11590.00	45.8 AV	54.0	-8.2	1.86 V	57	27.6	18.2

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.
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	67.5 PK	74.0	-6.5	1.15 H	103	61.1	6.4
2	5150.00	51.9 AV	54.0	-2.1	1.15 H	103	45.5	6.4
3	*5210.00	107.0 PK			1.15 H	103	65.0	42.0
4	*5210.00	95.6 AV			1.15 H	103	53.6	42.0
5	5350.00	58.6 PK	74.0	-15.4	1.15 H	103	52.3	6.3
6	5350.00	46.3 AV	54.0	-7.7	1.15 H	103	40.0	6.3
7	#10420.00	58.9 PK	68.2	-9.3	2.21 H	179	41.9	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	5150.00	69.1 PK	74.0	-4.9	1.10 V	256	62.7	6.4
2	**5150.00**	**53.1 AV**	**54.0**	**-0.9**	**1.10 V**	**256**	**46.7**	**6.4**
3	*5210.00	108.2 PK			1.10 V	256	66.2	42.0
4	*5210.00	97.2 AV			1.10 V	256	55.2	42.0
5	5350.00	60.0 PK	74.0	-14.0	1.10 V	256	53.7	6.3
6	5350.00	46.8 AV	54.0	-7.2	1.10 V	256	40.5	6.3
7	#10420.00	59.0 PK	68.2	-9.2	1.69 V	66	42.0	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 58：5290 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	57.9 PK	74.0	-16.1	1.28 H	279	51.5	6.4
2	5150.00	46.1 AV	54.0	-7.9	1.28 H	279	39.7	6.4
3	*5290.00	108.8 PK			1.28 H	279	66.9	41.9
4	*5290.00	97.4 AV			1.28 H	279	55.5	41.9
5	5350.00	68.0 PK	74.0	-6.0	1.28 H	279	61.7	6.3
6	5350.00	50.8 AV	54.0	-3.2	1.28 H	279	44.5	6.3
7	#10580.00	59.6 PK	68.2	-8.6	1.98 H	169	41.8	17.8
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	5150.00	58.6 PK	74.0	-15.4	1.08 V	252	52.2	6.4
2	5150.00	46.5 AV	54.0	-7.5	1.08 V	252	40.1	6.4
3	*5290.00	109.0 PK			1.08 V	252	67.1	41.9
4	*5290.00	97.9 AV			1.08 V	252	56.0	41.9
5	5350.00	68.8 PK	74.0	-5.2	1.08 V	252	62.5	6.3
6	5350.00	52.5 AV	54.0	-1.5	1.08 V	252	46.2	6.3
7	#10580.00	60.0 PK	68.2	-8.2	1.71 V	58	42.2	17.8

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.

RF Mode	TX 802.11ax (HE80)	Channel	CH 106：5530 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	5460.00	65.0 PK	74.0	-9.0	1.06 H	338	58.7	6.3
2	5460.00	49.0 AV	54.0	-5.0	1.06 H	338	42.7	6.3
3	#5470.00	65.2 PK	68.2	-3.0	1.06 H	338	59.0	6.2
4	*5530.00	103.9 PK			1.06 H	338	61.8	42.1
5	*5530.00	92.8 AV			1.06 H	338	50.7	42.1
6	#5725.00	57.9 PK	68.2	-10.3	1.06 H	338	51.7	6.2
7	11060.00	58.9 PK	74.0	-15.1	2.36 H	185	40.8	18.1
8	11060.00	45.9 AV	54.0	-8.1	2.36 H	185	27.8	18.1
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	5460.00	65.7 PK	74.0	-8.3	2.60 V	256	59.4	6.3
2	5460.00	50.5 AV	54.0	-3.5	2.60 V	256	44.2	6.3
3	#5470.00	66.7 PK	68.2	-1.5	2.60 V	256	60.5	6.2
4	*5530.00	106.8 PK			2.60 V	256	64.7	42.1
5	*5530.00	95.5 AV			2.60 V	256	53.4	42.1
6	#5725.00	62.2 PK	68.2	-6.0	2.60 V	256	56.0	6.2
7	11060.00	58.8 PK	74.0	-15.2	1.68 V	58	40.7	18.1
8	11060.00	45.6 AV	54.0	-8.4	1.68 V	58	27.5	18.1

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 138：5690 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	#5470.00	57.6 PK	68.2	-10.6	1.00 H	337	51.4	6.2
2	*5690.00	107.2 PK			1.00 H	337	64.9	42.3
3	*5690.00	96.6 AV			1.00 H	337	54.3	42.3
4	#5850.00	58.2 PK	68.2	-10.0	1.00 H	337	51.5	6.7
5	11380.00	58.6 PK	74.0	-15.4	2.45 H	192	40.7	17.9
6	11380.00	45.4 AV	54.0	-8.6	2.45 H	192	27.5	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.8 PK	68.2	-10.4	2.58 V	252	51.6	6.2
2	*5690.00	108.4 PK			2.58 V	252	66.1	42.3
3	*5690.00	98.1 AV			2.58 V	252	55.8	42.3
4	#5850.00	60.2 PK	68.2	-8.0	2.58 V	252	53.5	6.7
5	11380.00	58.7 PK	74.0	-15.3	1.75 V	68	40.8	17.9
6	11380.00	45.7 AV	54.0	-8.3	1.75 V	68	27.8	17.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	#5645.60	60.9 PK	68.2	-7.3	1.06 H	338	54.7	6.2
2	*5775.00	108.3 PK			1.06 H	338	66.1	42.2
3	*5775.00	96.6 AV			1.06 H	338	54.4	42.2
4	#5926.00	60.3 PK	68.2	-7.9	1.06 H	338	53.0	7.3
5	11550.00	59.2 PK	74.0	-14.8	2.85 H	202	40.8	18.4
6	11550.00	46.2 AV	54.0	-7.8	2.85 H	202	27.8	18.4
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	#5643.60	63.9 PK	68.2	-4.3	2.21 V	253	57.7	6.2
2	*5775.00	109.5 PK			2.21 V	253	67.3	42.2
3	*5775.00	98.9 AV			2.21 V	253	56.7	42.2
4	#5925.60	60.2 PK	68.2	-8.0	2.21 V	253	52.9	7.3
5	11550.00	59.2 PK	74.0	-14.8	1.88 V	62	40.8	18.4
6	11550.00	46.2 AV	54.0	-7.8	1.88 V	62	27.8	18.4

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.

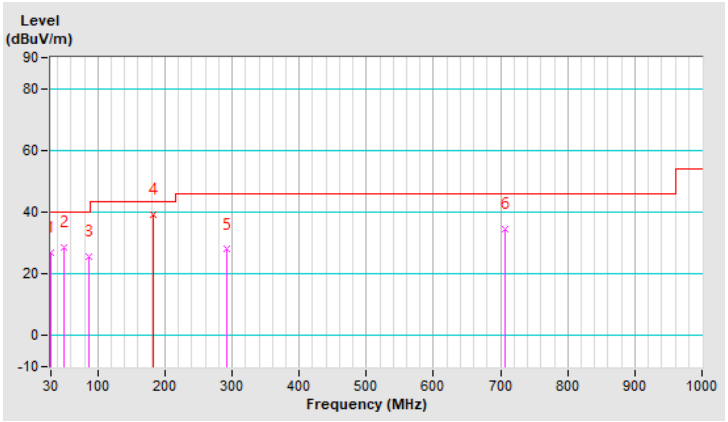
BELOW 1GHz WORST-CASE DATA

RF Mode	TX 802.11ax (HE80)	Channel	CH 42：5210 MHz
Frequency Range	30MHz ~ 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	30.00	26.9 QP	40.0	-13.1	1.00 H	288	37.8	-10.9
2	49.68	28.4 QP	40.0	-11.6	1.00 H	202	37.5	-9.1
3	87.64	25.4 QP	40.0	-14.6	1.49 H	147	39.8	-14.4
4	181.78	39.0 QP	43.5	-4.5	1.48 H	76	49.1	-10.1
5	291.48	27.9 QP	46.0	-18.1	1.00 H	170	34.6	-6.7
6	706.19	34.5 QP	46.0	-11.5	1.00 H	16	32.6	1.9

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 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.

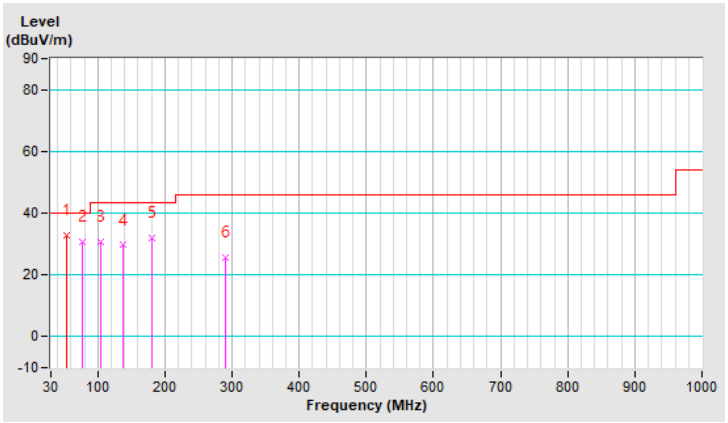


RF Mode	TX 802.11ax (HE80)	Channel	CH 42：5210 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	53.02	32.6 QP	40.0	-7.4	1.00 V	297	41.6	-9.0
2	76.39	30.8 QP	40.0	-9.2	1.48 V	117	43.3	-12.5
3	104.51	30.7 QP	43.5	-12.8	1.01 V	177	43.2	-12.5
4	138.25	29.6 QP	43.5	-13.9	1.01 V	51	38.7	-9.1
5	180.42	32.0 QP	43.5	-11.5	1.01 V	187	42.0	-10.0
6	290.07	25.7 QP	46.0	-20.3	1.48 V	226	32.4	-6.7

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.



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 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Dec. 21, 2020	Dec. 20, 2021
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	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 HwaYa Shielded Room 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

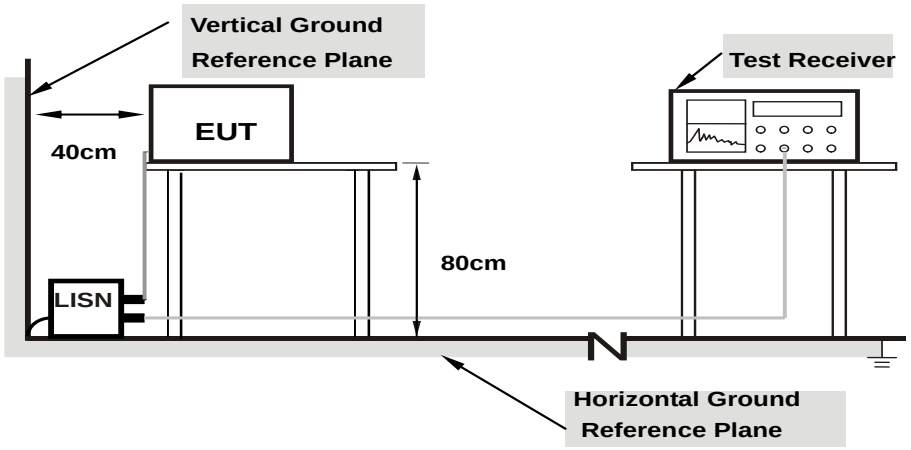
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit -20 dB) 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.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80
from other units and other metal planes

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

4.2.6 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

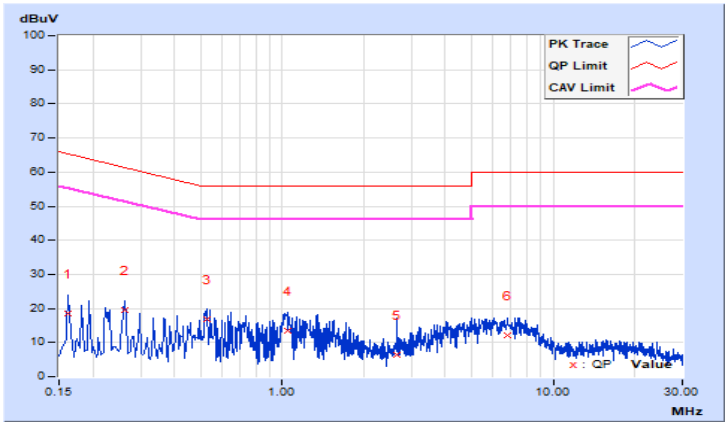
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Edison Lee	**Test Date**	2021/4/29

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16200	0.14	18.47	1.40	18.61	1.54	65.36	55.36	-46.75	-53.82
2	0.26200	0.19	19.40	7.16	19.59	7.35	61.37	51.37	-41.78	-44.02
3	0.52984	0.25	16.62	14.46	16.87	14.71	56.00	46.00	-39.13	-31.29
4	1.04200	0.30	13.25	1.31	13.55	1.61	56.00	46.00	-42.45	-44.39
5	2.63800	0.37	5.88	1.61	6.25	1.98	56.00	46.00	-49.75	-44.02
6	6.77400	0.47	11.51	1.46	11.98	1.93	60.00	50.00	-48.02	-48.07

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

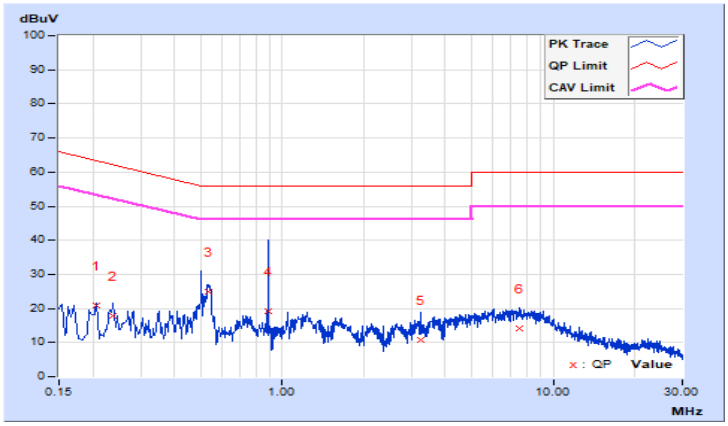


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	25℃, 75%RH
Tested by	Edison Lee	**Test Date**	2021/4/29

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	0.20600	0.17	20.69	9.53	20.86	9.70	63.37	53.37	-42.51	-43.67
2	0.23800	0.19	17.64	5.64	17.83	5.83	62.17	52.17	-44.34	-46.34
3	**0.53124**	**0.27**	**24.60**	**12.48**	**24.87**	**12.75**	**56.00**	**46.00**	**-31.13**	**-33.25**
4	0.88564	0.31	18.99	5.77	19.30	6.08	56.00	46.00	-36.70	-39.92
5	3.23400	0.44	10.41	0.54	10.85	0.98	56.00	46.00	-45.15	-45.02
6	7.54600	0.57	13.67	4.18	14.24	4.75	60.00	50.00	-45.76	-45.25

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 ≦ 125 mW (21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	√	Indoor Access Point	1 Watt (30 dBm)
		Mobile and Portable client device	250 mW (24 dBm)
U-NII-2A	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	√		250 mW (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 $N_{ANT} \leq 4$;

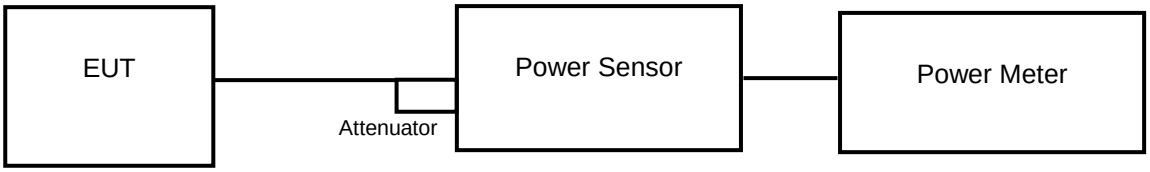
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

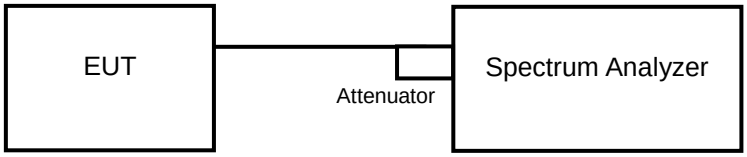
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

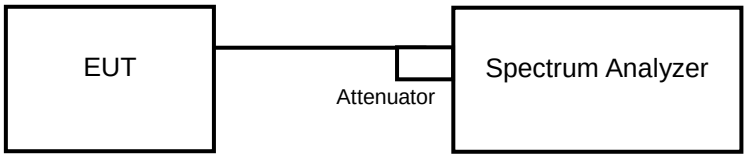
<Power Output Measurement>



or



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ax (HE20), 802.11ax (HE40)>

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.

<802.11ac (VHT80), 802.11ax (HE80)>

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99 % occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz.
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW.
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS.
i. Trace mode = max hold.
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum

26 dB Bandwidth

a. Set RBW = approximately 1 % of the emission bandwidth.
b. Set the VBW ≥ 3 x RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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 Results

Power Output:

CDD Mode:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	74.817	18.74	30	Pass
40	5200	76.033	18.81	30	Pass
48	5240	73.961	18.69	30	Pass
52	5260	76.736	18.85	24	Pass
60	5300	72.946	18.63	24	Pass
64	5320	73.621	18.67	24	Pass
100	5500	62.806	17.98	24	Pass
116	5580	76.208	18.82	24	Pass
140	5700	37.068	15.69	24	Pass
144	5720 (U-NII-2C)	79.07	18.98	24	Pass
144	5720 (U-NII-3)	20.045	13.02	30	Pass
149	5745	78.705	18.96	30	Pass
157	5785	77.804	18.91	30	Pass
165	5825	77.446	18.89	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log (20.46) = 24.10 > 24dBm
2. 11dBm + 10log (20.52) = 24.12 > 24dBm
3. 11dBm + 10log (20.29) = 24.07 > 24dBm
4. 11dBm + 10log (20.28) = 24.07 > 24dBm
5. 11dBm + 10log (21.58) = 24.34 > 24dBm
6. 11dBm + 10log (20.38) = 24.09 > 24dBm
7. 11dBm + 10log (5725.00 - 5703.98) = 24.22 > 24dBm

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.40	16.92	118.387	20.73	30	Pass
40	5200	18.38	16.91	117.956	20.72	30	Pass
48	5240	18.36	16.92	117.753	20.71	30	Pass
52	5260	18.42	16.90	118.48	20.74	24	Pass
60	5300	18.34	17.05	118.933	20.75	24	Pass
64	5320	18.43	17.20	122.143	20.87	24	Pass
100	5500	16.88	16.80	96.616	19.85	24	Pass
116	5580	17.87	17.73	120.528	20.81	24	Pass
140	5700	15.63	15.53	72.287	18.59	24	Pass
144	5720 (U-NII-2C)	17.83	17.46	116.392	20.66	24	Pass
144	5720 (U-NII-3)	11.58	13.02	34.433	15.37	30	Pass
149	5745	17.87	17.67	119.714	20.78	30	Pass
157	5785	17.80	17.85	121.21	20.84	30	Pass
165	5825	17.93	17.80	122.343	20.88	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (25.76) = 25.10 > 24dBm
2. 11dBm + 10log (28.26) = 25.51 > 24dBm
3. 11dBm + 10log (25.89) = 25.13 > 24dBm
4. 11dBm + 10log (24.72) = 24.93 > 24dBm
5. 11dBm + 10log (26.63) = 25.25 > 24dBm
6. 11dBm + 10log (26.42) = 25.21 > 24dBm
7. 11dBm + 10log (5725.00 - 5696.93) = 25.48 > 24dBm

Chain 1

1. 11dBm + 10log (25.14) = 25.00 > 24dBm
2. 11dBm + 10log (32.34) = 26.09 > 24dBm
3. 11dBm + 10log (33.38) = 26.23 > 24dBm
4. 11dBm + 10log (25.72) = 25.10 > 24dBm
5. 11dBm + 10log (27.50) = 25.39 > 24dBm
6. 11dBm + 10log (29.11) = 25.64 > 24dBm

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.68	17.03	124.257	20.94	30	Pass
46	5230	18.16	17.20	117.944	20.72	30	Pass
54	5270	18.34	17.30	121.937	20.86	24	Pass
62	5310	16.02	15.81	78.101	18.93	24	Pass
102	5510	14.73	14.47	57.706	17.61	24	Pass
110	5550	17.88	17.76	121.08	20.83	24	Pass
134	5670	15.96	15.90	78.35	18.94	24	Pass
142	5710 (U-NII-2C)	18.08	17.18	116.508	20.66	24	Pass
142	5710 (U-NII-3)	11.10	10.46	24	13.80	30	Pass
151	5755	18.23	17.12	118.05	20.72	30	Pass
159	5795	18.26	17.10	118.275	20.73	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (40.70) = 27.09 > 24dBm
2. 11dBm + 10log (40.67) = 27.09 > 24dBm
3. 11dBm + 10log (40.53) = 27.07 > 24dBm
4. 11dBm + 10log (43.92) = 27.42 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5666.37) = 28.68 > 24dBm

Chain 1

1. 11dBm + 10log (40.65) = 27.09 > 24dBm
2. 11dBm + 10log (40.66) = 27.09 > 24dBm
3. 11dBm + 10log (40.64) = 27.08 > 24dBm
4. 11dBm + 10log (40.61) = 27.08 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5665.72) = 28.72 > 24dBm

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.43	16.95	119.208	20.76	30	Pass
40	5200	18.40	16.93	118.5	20.74	30	Pass
48	5240	18.38	16.94	118.296	20.73	30	Pass
52	5260	18.44	16.92	119.027	20.76	24	Pass
60	5300	18.36	17.10	119.835	20.79	24	Pass
64	5320	18.45	17.22	122.707	20.89	24	Pass
100	5500	16.90	16.83	97.173	19.88	24	Pass
116	5580	17.89	17.78	121.497	20.85	24	Pass
140	5700	15.65	15.55	72.62	18.61	24	Pass
144	5720 (U-NII-2C)	17.85	17.48	116.929	20.68	24	Pass
144	5720 (U-NII-3)	11.60	13.05	34.638	15.40	30	Pass
149	5745	17.89	17.70	120.402	20.81	30	Pass
157	5785	17.82	17.87	121.769	20.86	30	Pass
165	5825	17.95	17.83	123.047	20.90	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (25.76) = 25.10 > 24dBm
2. 11dBm + 10log (28.26) = 25.51 > 24dBm
3. 11dBm + 10log (25.89) = 25.13 > 24dBm
4. 11dBm + 10log (24.72) = 24.93 > 24dBm
5. 11dBm + 10log (26.63) = 25.25 > 24dBm
6. 11dBm + 10log (26.42) = 25.21 > 24dBm
7. 11dBm + 10log (5725.00 - 5696.93) = 25.48 > 24dBm

Chain 1

1. 11dBm + 10log (25.14) = 25.00 > 24dBm
2. 11dBm + 10log (32.34) = 26.09 > 24dBm
3. 11dBm + 10log (33.38) = 26.23 > 24dBm
4. 11dBm + 10log (25.72) = 25.10 > 24dBm
5. 11dBm + 10log (27.50) = 25.39 > 24dBm
6. 11dBm + 10log (29.11) = 25.64 > 24dBm

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.70	17.06	124.947	20.97	30	Pass
46	5230	18.20	17.23	118.914	20.75	30	Pass
54	5270	18.37	17.32	122.658	20.89	24	Pass
62	5310	16.05	15.83	78.554	18.95	24	Pass
102	5510	14.76	14.50	58.106	17.64	24	Pass
110	5550	17.90	17.78	121.639	20.85	24	Pass
134	5670	16.00	15.92	78.895	18.97	24	Pass
142	5710 (U-NII-2C)	18.10	17.20	117.046	20.68	24	Pass
142	5710 (U-NII-3)	11.43	10.48	25.068	13.99	30	Pass
151	5755	18.26	17.14	118.749	20.75	30	Pass
159	5795	18.28	17.13	118.939	20.75	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (40.70) = 27.09 > 24dBm
2. 11dBm + 10log (40.67) = 27.09 > 24dBm
3. 11dBm + 10log (40.53) = 27.07 > 24dBm
4. 11dBm + 10log (43.92) = 27.42 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5666.37) = 28.68 > 24dBm

Chain 1

1. 11dBm + 10log (40.65) = 27.09 > 24dBm
2. 11dBm + 10log (40.66) = 27.09 > 24dBm
3. 11dBm + 10log (40.64) = 27.08 > 24dBm
4. 11dBm + 10log (40.61) = 27.08 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5665.72) = 28.72 > 24dBm

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	18.50	17.10	122.081	20.87	30	Pass
58	5290	17.80	17.75	119.822	20.79	24	Pass
106	5530	15.94	15.71	76.504	18.84	24	Pass
138	5690 (U-NII-2C)	18.35	17.28	121.848	20.86	24	Pass
138	5690 (U-NII-3)	11.85	11.01	27.929	14.46	30	Pass
155	5775	18.21	17.30	119.925	20.79	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (84.36) = 30.26 > 24dBm
2. 11dBm + 10log (84.19) = 30.25 > 24dBm
3. 11dBm + 10log (5725.00 - 5600.37) = 31.95 > 24dBm

Chain 1

1. 11dBm + 10log (84.26) = 30.25 > 24dBm
2. 11dBm + 10log (84.29) = 30.25 > 24dBm
3. 11dBm + 10log (5725.00 - 5608.99) = 31.64 > 24dBm

802.11ax (HE20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.45	16.97	119.758	20.78	30	Pass
40	5200	18.43	16.95	119.208	20.76	30	Pass
48	5240	18.41	16.99	119.346	20.77	30	Pass
52	5260	18.46	16.94	119.577	20.78	24	Pass
60	5300	18.39	17.13	120.666	20.82	24	Pass
64	5320	18.49	17.25	123.72	20.92	24	Pass
100	5500	16.92	16.85	97.621	19.90	24	Pass
116	5580	17.91	17.81	122.197	20.87	24	Pass
140	5700	15.67	15.57	72.956	18.63	24	Pass
144	5720 (U-NII-2C)	17.89	17.51	117.881	20.71	24	Pass
144	5720 (U-NII-3)	11.63	13.07	34.831	15.42	30	Pass
149	5745	17.91	17.72	120.958	20.83	30	Pass
157	5785	17.84	17.89	122.331	20.88	30	Pass
165	5825	18.00	17.88	124.472	20.95	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (25.76) = 25.10 > 24dBm
2. 11dBm + 10log (28.26) = 25.51 > 24dBm
3. 11dBm + 10log (25.89) = 25.13 > 24dBm
4. 11dBm + 10log (24.72) = 24.93 > 24dBm
5. 11dBm + 10log (26.63) = 25.25 > 24dBm
6. 11dBm + 10log (26.42) = 25.21 > 24dBm
7. 11dBm + 10log (5725.00 - 5696.93) = 25.48 > 24dBm

Chain 1

1. 11dBm + 10log (25.14) = 25.00 > 24dBm
2. 11dBm + 10log (32.34) = 26.09 > 24dBm
3. 11dBm + 10log (33.38) = 26.23 > 24dBm
4. 11dBm + 10log (25.72) = 25.10 > 24dBm
5. 11dBm + 10log (27.50) = 25.39 > 24dBm
6. 11dBm + 10log (29.11) = 25.64 > 24dBm
7. 11dBm + 10log (5725.00 - 5698.06) = 25.30 > 24dBm

802.11ax (HE40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.72	17.09	125.641	20.99	30	Pass
46	5230	18.23	17.29	120.107	20.80	30	Pass
54	5270	18.41	17.35	123.668	20.92	24	Pass
62	5310	16.07	15.86	79.005	18.98	24	Pass
102	5510	14.78	14.52	58.375	17.66	24	Pass
110	5550	17.92	17.81	122.339	20.88	24	Pass
134	5670	16.02	15.94	79.259	18.99	24	Pass
142	5710 (U-NII-2C)	18.14	17.23	118.007	20.72	24	Pass
142	5710 (U-NII-3)	11.46	10.51	25.242	14.02	30	Pass
151	5755	18.29	17.16	119.452	20.77	30	Pass
159	5795	18.31	17.16	119.764	20.78	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (40.70) = 27.09 > 24dBm
2. 11dBm + 10log (40.67) = 27.09 > 24dBm
3. 11dBm + 10log (40.53) = 27.07 > 24dBm
4. 11dBm + 10log (43.92) = 27.42 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5666.37) = 28.68 > 24dBm

Chain 1

1. 11dBm + 10log (40.65) = 27.09 > 24dBm
2. 11dBm + 10log (40.66) = 27.09 > 24dBm
3. 11dBm + 10log (40.64) = 27.08 > 24dBm
4. 11dBm + 10log (40.61) = 27.08 > 24dBm
5. 11dBm + 10log (40.60) = 27.08 > 24dBm
6. 11dBm + 10log (5725.00 - 5665.72) = 28.72 > 24dBm

802.11ax (HE80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	18.52	17.12	122.644	20.89	30	Pass
58	5290	17.82	17.78	120.513	20.81	24	Pass
106	5530	15.97	15.74	77.034	18.87	24	Pass
138	5690 (U-NII-2C)	18.40	17.31	123.01	20.90	24	Pass
138	5690 (U-NII-3)	11.89	11.03	28.129	14.49	30	Pass
155	5775	18.24	17.33	120.756	20.82	30	Pass

Note:

For U-NII-2A, U-NII-2C Band:

Chain 0

1. 11dBm + 10log (84.36) = 30.26 > 24dBm
2. 11dBm + 10log (84.19) = 30.25 > 24dBm
3. 11dBm + 10log (5725.00 - 5600.37) = 31.95 > 24dBm

Chain 1

1. 11dBm + 10log (84.26) = 30.25 > 24dBm
2. 11dBm + 10log (84.29) = 30.25 > 24dBm
3. 11dBm + 10log (5725.00 - 5608.99) = 31.64 > 24dBm

Beamforming Mode:

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.39	13.91	59.198	17.72	30	Pass
40	5200	15.37	13.90	58.982	17.71	30	Pass
48	5240	15.35	13.91	58.88	17.70	30	Pass
52	5260	15.41	13.89	59.244	17.73	24	Pass
60	5300	15.33	14.04	59.471	17.74	24	Pass
64	5320	15.42	14.19	61.076	17.86	24	Pass
100	5500	13.87	13.79	48.311	16.84	23.99	Pass
116	5580	14.86	14.72	60.268	17.80	23.99	Pass
140	5700	12.62	12.52	36.146	15.58	23.99	Pass
144	5720 (U-NII-2C)	14.82	14.45	58.2	17.65	23.99	Pass
144	5720 (U-NII-3)	8.57	10.01	17.218	12.36	30	Pass
149	5745	14.86	14.66	59.861	17.77	30	Pass
157	5785	14.79	14.84	60.609	17.83	30	Pass
165	5825	14.92	14.79	61.176	17.87	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	15.67	14.02	62.133	17.93	30	Pass
46	5230	15.15	14.19	58.976	17.71	30	Pass
54	5270	15.33	14.29	60.973	17.85	24	Pass
62	5310	13.01	12.80	39.053	15.92	24	Pass
102	5510	11.72	11.46	28.855	14.60	23.99	Pass
110	5550	14.87	14.75	60.544	17.82	23.99	Pass
134	5670	12.95	12.89	39.178	15.93	23.99	Pass
142	5710 (U-NII-2C)	15.07	14.17	58.258	17.65	23.99	Pass
142	5710 (U-NII-3)	8.09	7.45	12.001	10.79	30	Pass
151	5755	15.22	14.11	59.029	17.71	30	Pass
159	5795	15.25	14.09	59.141	17.72	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ac (VHT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.42	13.94	59.608	17.75	30	Pass
40	5200	15.39	13.92	59.254	17.73	30	Pass
48	5240	15.37	13.93	59.152	17.72	30	Pass
52	5260	15.43	13.91	59.518	17.75	24	Pass
60	5300	15.35	14.09	59.922	17.78	24	Pass
64	5320	15.44	14.21	61.358	17.88	24	Pass
100	5500	13.89	13.82	48.59	16.87	23.99	Pass
116	5580	14.88	14.77	60.753	17.84	23.99	Pass
140	5700	12.64	12.54	36.313	15.60	23.99	Pass
144	5720 (U-NII-2C)	14.84	14.47	58.469	17.67	23.99	Pass
144	5720 (U-NII-3)	8.59	10.04	17.32	12.39	30	Pass
149	5745	14.88	14.69	60.205	17.80	30	Pass
157	5785	14.81	14.86	60.889	17.85	30	Pass
165	5825	14.94	14.82	61.528	17.89	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ac (VHT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	15.69	14.05	62.478	17.96	30	Pass
46	5230	15.19	14.22	59.461	17.74	30	Pass
54	5270	15.36	14.31	61.333	17.88	24	Pass
62	5310	13.04	12.82	39.28	15.94	24	Pass
102	5510	11.75	11.49	29.055	14.63	23.99	Pass
110	5550	14.89	14.77	60.824	17.84	23.99	Pass
134	5670	12.99	12.91	39.45	15.96	23.99	Pass
142	5710 (U-NII-2C)	15.09	14.19	58.527	17.67	23.99	Pass
142	5710 (U-NII-3)	8.42	7.47	12.535	10.98	30	Pass
151	5755	15.25	14.13	59.379	17.74	30	Pass
159	5795	15.27	14.12	59.474	17.74	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ = 4.42 dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ = 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	15.49	14.09	61.045	17.86	30	Pass
58	5290	14.79	14.74	59.915	17.78	24	Pass
106	5530	12.93	12.70	38.254	15.83	23.99	Pass
138	5690 (U-NII-2C)	15.34	14.27	60.928	17.85	23.99	Pass
138	5690 (U-NII-3)	8.84	8.00	13.966	11.45	30	Pass
155	5775	15.20	14.29	59.967	17.78	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ = 4.42 dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}]$ = 6.01 dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ax (HE20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	15.44	13.96	59.883	17.77	30	Pass
40	5200	15.42	13.94	59.608	17.75	30	Pass
48	5240	15.40	13.98	59.677	17.76	30	Pass
52	5260	15.45	13.93	59.792	17.77	24	Pass
60	5300	15.38	14.12	60.337	17.81	24	Pass
64	5320	15.48	14.24	61.864	17.91	24	Pass
100	5500	13.91	13.84	48.814	16.89	23.99	Pass
116	5580	14.90	14.80	61.102	17.86	23.99	Pass
140	5700	12.66	12.56	36.48	15.62	23.99	Pass
144	5720 (U-NII-2C)	14.88	14.50	58.945	17.70	23.99	Pass
144	5720 (U-NII-3)	8.62	10.06	17.417	12.41	30	Pass
149	5745	14.90	14.71	60.483	17.82	30	Pass
157	5785	14.83	14.88	61.17	17.87	30	Pass
165	5825	14.99	14.87	62.24	17.94	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ax (HE40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	15.71	14.08	62.825	17.98	30	Pass
46	5230	15.22	14.28	60.058	17.79	30	Pass
54	5270	15.40	14.34	61.838	17.91	24	Pass
62	5310	13.06	12.85	39.505	15.97	24	Pass
102	5510	11.77	11.51	29.189	14.65	23.99	Pass
110	5550	14.91	14.80	61.174	17.87	23.99	Pass
134	5670	13.01	12.93	39.632	15.98	23.99	Pass
142	5710 (U-NII-2C)	15.13	14.22	59.008	17.71	23.99	Pass
142	5710 (U-NII-3)	8.45	7.50	12.622	11.01	30	Pass
151	5755	15.28	14.15	59.73	17.76	30	Pass
159	5795	15.30	14.15	59.886	17.77	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

802.11ax (HE80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	15.51	14.11	61.326	17.88	30	Pass
58	5290	14.81	14.77	60.261	17.80	24	Pass
106	5530	12.96	12.73	38.52	15.86	23.99	Pass
138	5690 (U-NII-2C)	15.39	14.30	61.509	17.89	23.99	Pass
138	5690 (U-NII-3)	8.88	8.02	14.066	11.48	30	Pass
155	5775	15.23	14.32	60.382	17.81	30	Pass

Note:

For U-NII-1, U-NII-2A Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.

For U-NII-2C Band:

Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 24-(6.01-6) = 23.99 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	20.51
40	5200	20.44
48	5240	20.27
52	5260	20.46
60	5300	20.52
64	5320	20.29
100	5500	20.28
116	5580	21.58
140	5700	20.38
144	5720 (U-NII-2C)	21.02
144	5720 (U-NII-3)	13.43

802.11ax (HE20)

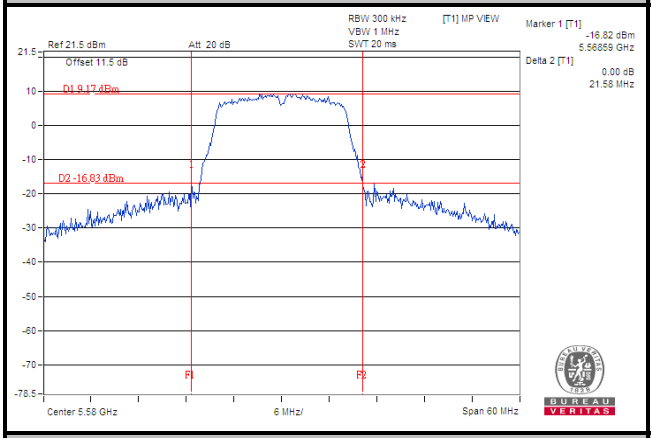
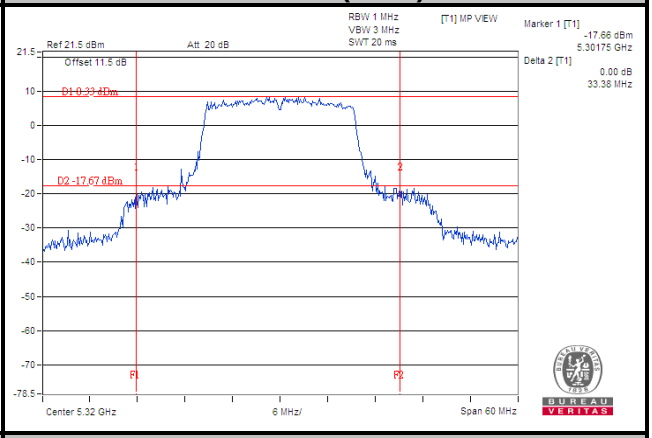
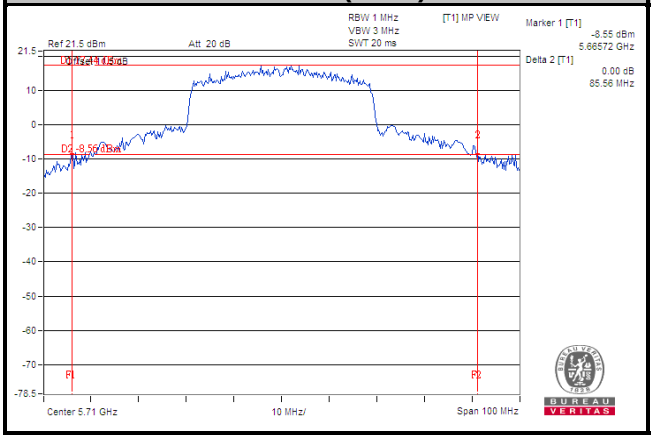
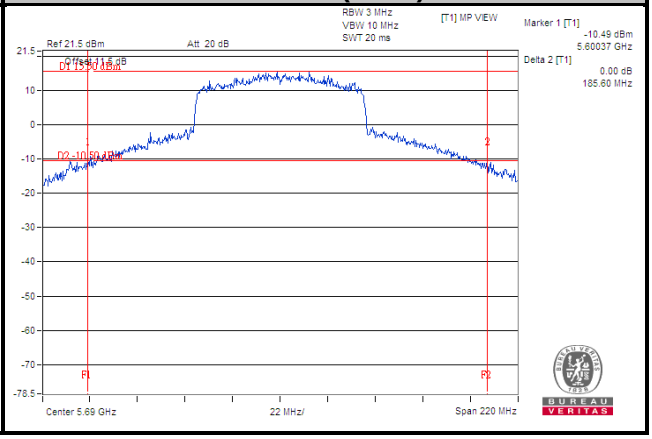
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	25.79	31.70
40	5200	26.32	25.99
48	5240	20.15	20.12
52	5260	25.76	25.14
60	5300	28.26	32.34
64	5320	25.89	33.38
100	5500	24.72	25.72
116	5580	26.63	27.50
140	5700	26.42	29.11
144	5720 (U-NII-2C)	28.07	26.94
144	5720 (U-NII-3)	19.29	19.88

802.11ax (HE40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	55.93	40.72
46	5230	40.77	40.70
54	5270	40.70	40.65
62	5310	40.67	40.66
102	5510	40.53	40.64
110	5550	43.92	40.61
134	5670	40.60	40.60
142	5710 (U-NII-2C)	58.63	59.28
142	5710 (U-NII-3)	32.41	26.28

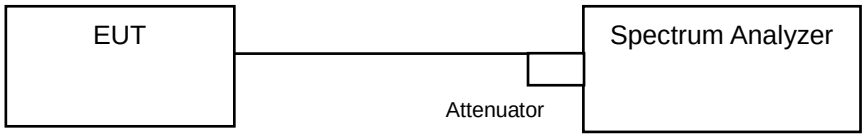
802.11ax (HE80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	84.80	84.56
58	5290	84.36	84.26
106	5530	84.19	84.29
138	5690 (U-NII-2C)	124.63	116.01
138	5690 (U-NII-3)	60.97	52.20

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.80
40	5200	16.80
48	5240	16.80
52	5260	16.80
60	5300	16.68
64	5320	16.92
100	5500	16.80
116	5580	16.80
140	5700	16.68
144	5720 (U-NII-2C)	21.44
144	5720 (U-NII-3)	11.56
149	5745	16.92
157	5785	16.92
165	5825	16.68

802.11ax (HE20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.20	19.20
40	5200	19.32	19.20
48	5240	18.96	18.96
52	5260	19.20	19.20
60	5300	19.20	19.08
64	5320	19.32	19.08
100	5500	19.20	19.20
116	5580	19.20	19.20
140	5700	19.20	19.08
144	5720 (U-NII-2C)	23.84	18.56
144	5720 (U-NII-3)	13.72	8.80
149	5745	19.20	19.20
157	5785	19.20	19.32
165	5825	19.20	19.20

802.11ax (HE40)

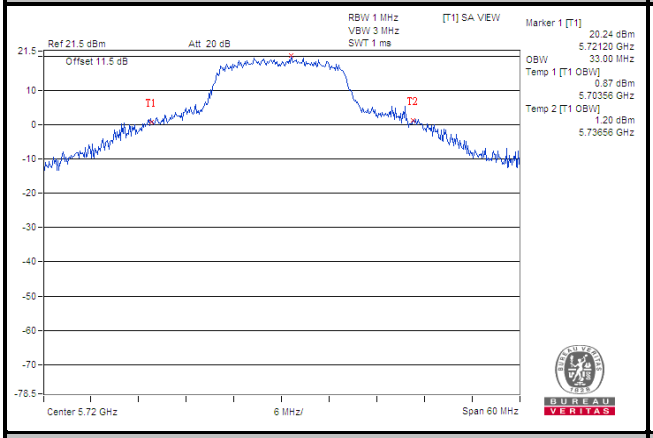
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.92	37.92
46	5230	37.68	37.68
54	5270	37.92	37.68
62	5310	37.68	37.68
102	5510	37.68	37.68
110	5550	37.92	37.92
134	5670	37.68	37.68
142	5710 (U-NII-2C)	37.44	35.76
142	5710 (U-NII-3)	7.92	6.00
151	5755	37.92	37.92
159	5795	38.16	37.92

802.11ax (HE80)

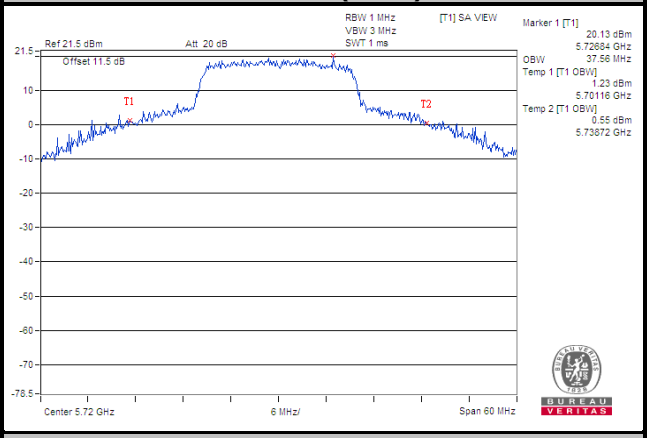
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.80	76.56
58	5290	76.56	76.80
106	5530	76.80	77.04
138	5690 (U-NII-2C)	76.76	74.60
138	5690 (U-NII-3)	8.68	5.08
155	5775	77.04	76.80

Spectrum Plot of Worst Value

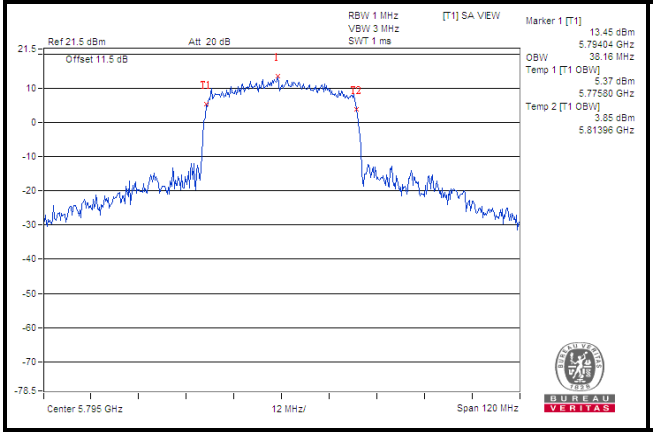
802.11a



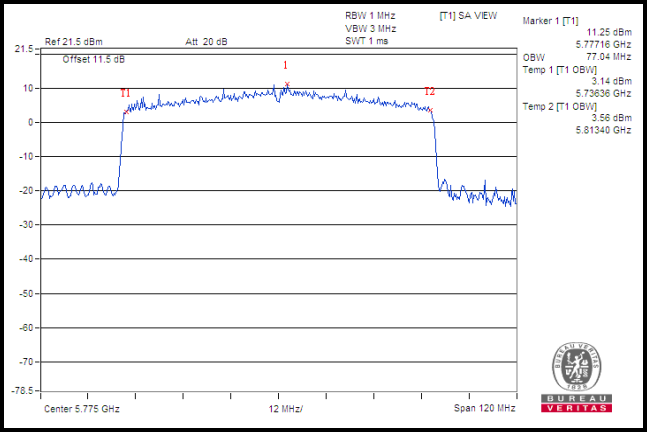
802.11ax (HE20)



802.11ax (HE40)



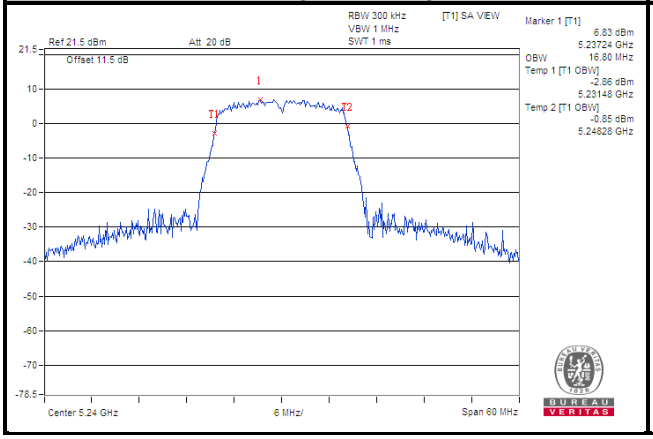
802.11ax (HE80)



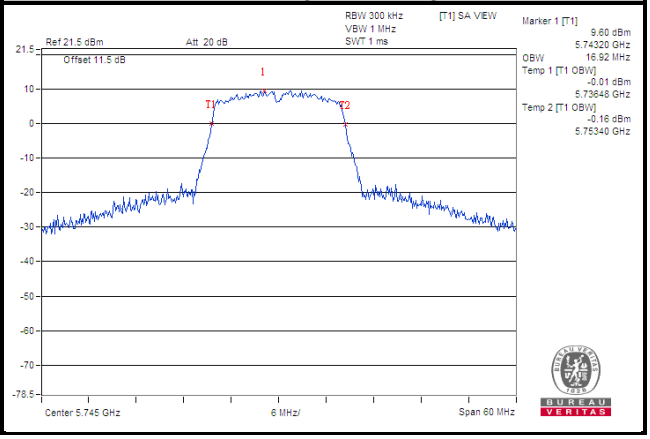
Spectrum Plot for Nearby DFS Band

802.11a

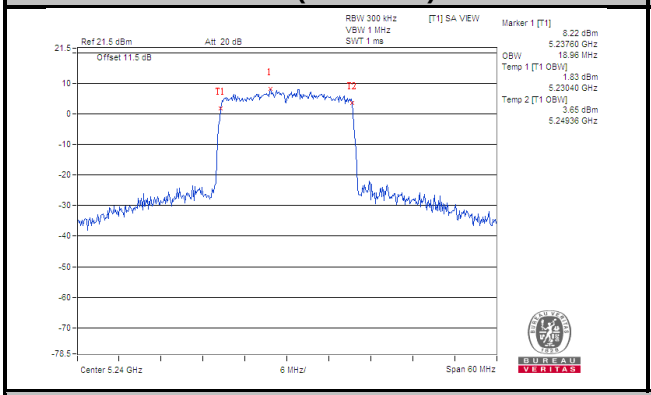
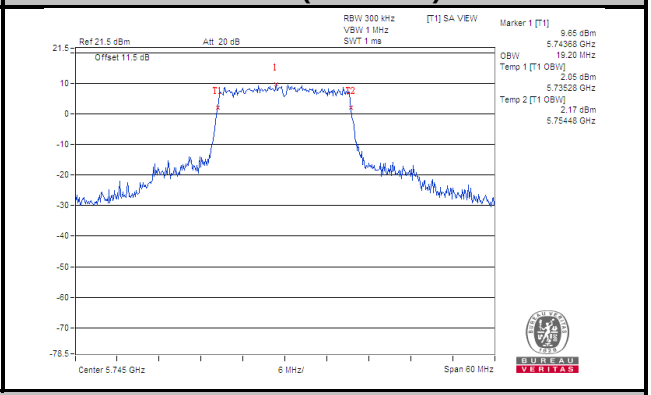
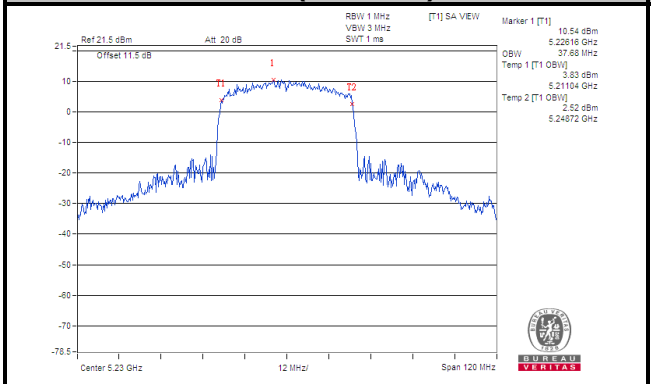
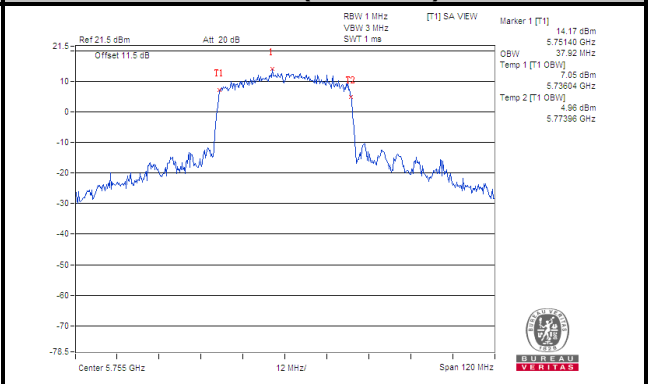
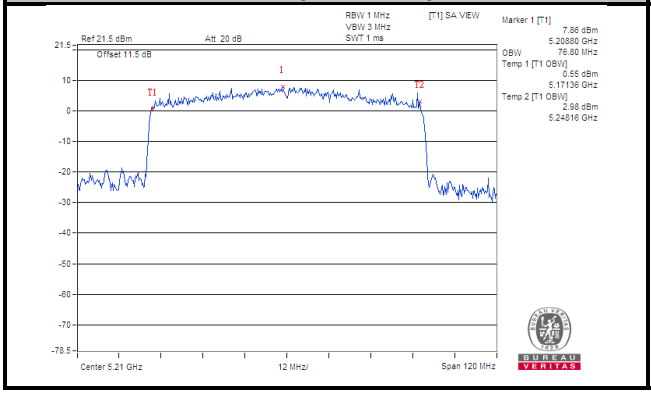
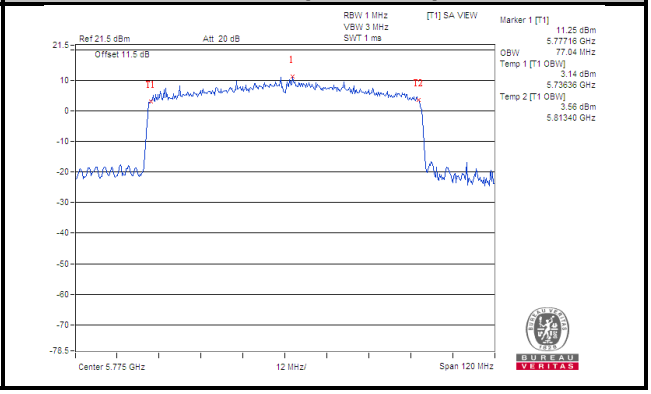
Ch 48 (5240 MHz)



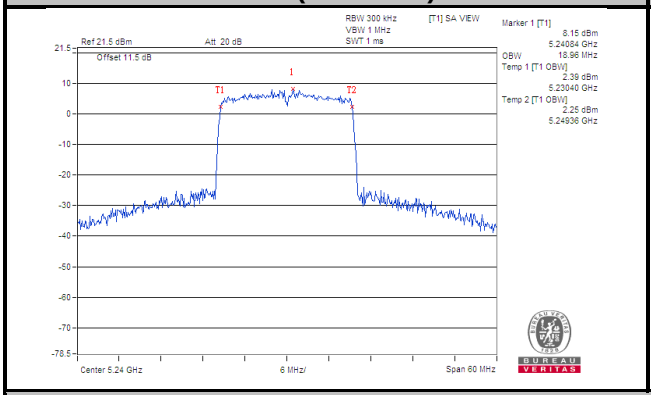
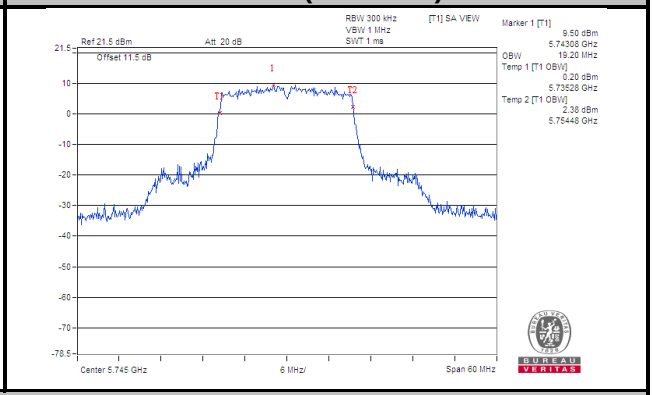
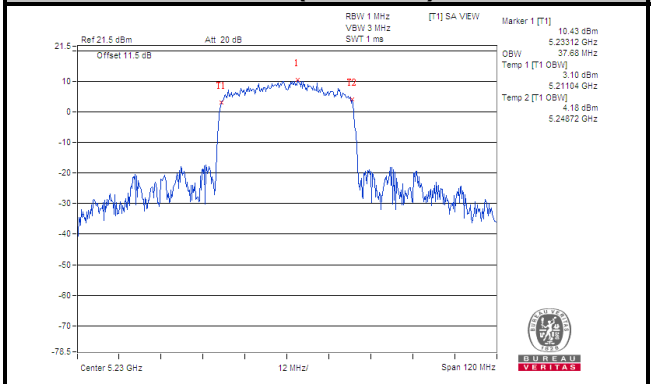
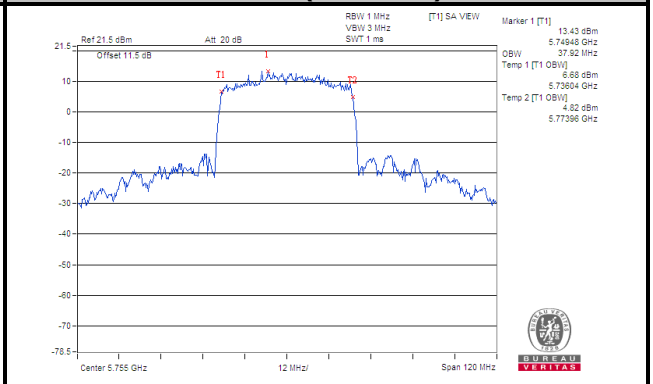
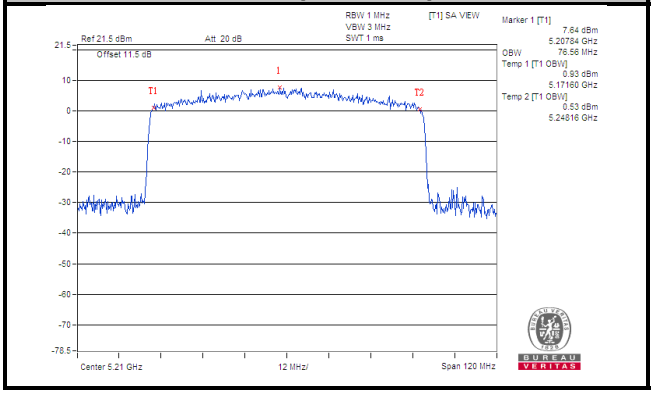
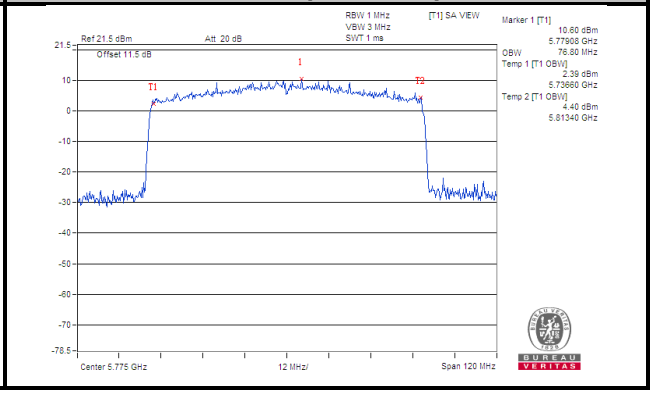
Ch 149 (5745 MHz)



Chain 0

Spectrum Plot for Nearby DFS Band	
802.11ax (HE20)	
Ch 48 (5240 MHz)	**Ch 149 (5745 MHz)**
	
802.11ax (HE40)	
Ch 46 (5230 MHz)	**Ch 151 (5755 MHz)**
	
802.11ax (HE80)	
Ch 42 (5210 MHz)	**Ch 155 (5775 MHz)**
	

Chain 1

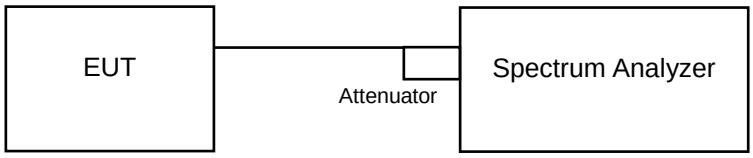
Spectrum Plot for Nearby DFS Band	
802.11ax (HE20)	
Ch 48 (5240 MHz)	**Ch 149 (5745 MHz)**
	
802.11ax (HE40)	
Ch 46 (5230 MHz)	**Ch 151 (5755 MHz)**
	
802.11ax (HE80)	
Ch 42 (5210 MHz)	**Ch 155 (5775 MHz)**
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17 dBm/MHz
		Fixed point-to-point Access Point	
	√	Indoor Access Point	
		Mobile and Portable client device	11 dBm/MHz
U-NII-2A	√		11 dBm/MHz
U-NII-2C	√		11 dBm/MHz
U-NII-3	√		30 dBm/500 kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2 Duty cycle <98%

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

※**For U-NII-3:** with duty cycle & Duty cycle <98 %

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz).
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	3.95	0.22	4.17	17	Pass
40	5200	3.80	0.22	4.02	17	Pass
48	5240	3.26	0.22	3.48	17	Pass
52	5260	3.13	0.22	3.35	11	Pass
60	5300	3.62	0.22	3.84	11	Pass
64	5320	3.74	0.22	3.96	11	Pass
100	5500	4.04	0.22	4.26	11	Pass
116	5580	4.98	0.22	5.20	11	Pass
140	5700	2.37	0.22	2.59	11	Pass
144	5720 (U-NII-2C)	4.88	0.22	5.10	11	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	2.40	2.18	0.46	5.76	17	Pass
40	5200	2.43	2.18	0.46	5.77	17	Pass
48	5240	1.77	1.57	0.46	5.14	17	Pass
52	5260	1.76	1.49	0.46	5.10	11	Pass
60	5300	2.35	2.10	0.46	5.69	11	Pass
64	5320	2.33	2.06	0.46	5.67	11	Pass
100	5500	1.79	1.49	0.46	5.11	10.99	Pass
116	5580	3.24	3.03	0.46	6.60	10.99	Pass
140	5700	1.31	1.13	0.46	4.69	10.99	Pass
144	5720 (U-NII-2C)	3.77	3.32	0.46	7.02	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1, U-NII-2A Band:**
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.
   For U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	0.26	0.07	0.89	4.07	17	Pass
46	5230	-0.36	-0.67	0.89	3.39	17	Pass
54	5270	-0.35	-0.80	0.89	3.33	11	Pass
62	5310	-1.52	-1.84	0.89	2.22	11	Pass
102	5510	-2.13	-2.34	0.89	1.67	10.99	Pass
110	5550	1.02	0.66	0.89	4.74	10.99	Pass
134	5670	-0.35	-0.65	0.89	3.40	10.99	Pass
142	5710 (U-NII-2C)	1.31	0.81	0.89	4.97	10.99	Pass

Note:

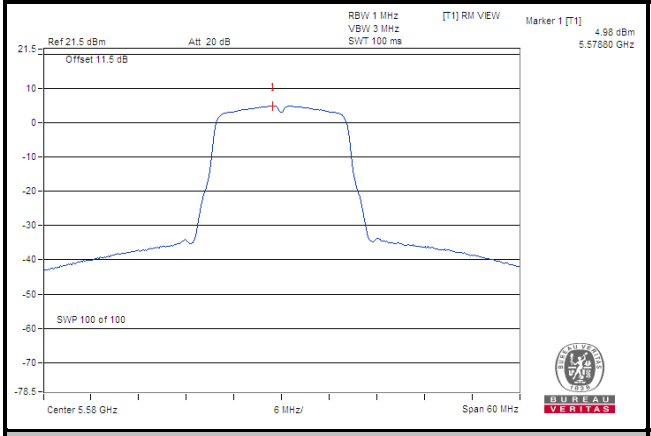
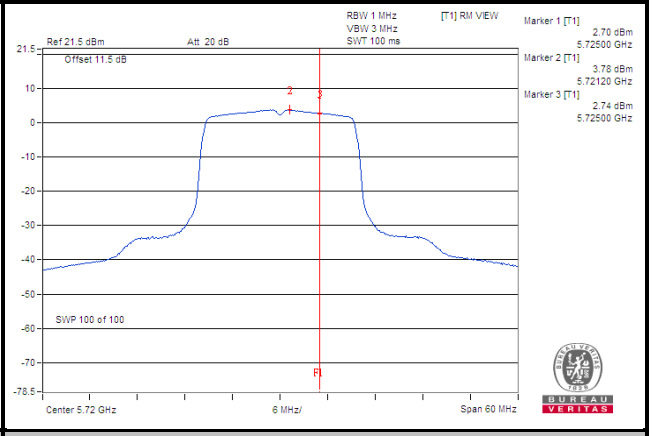
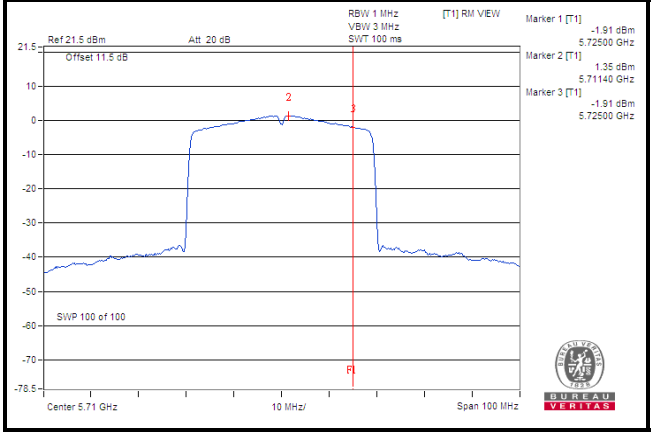
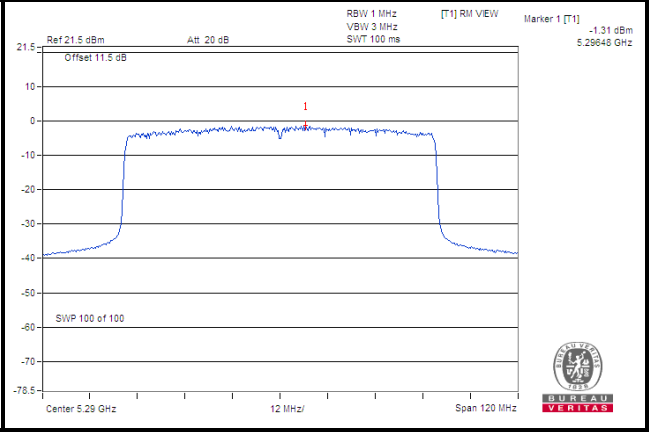
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1, U-NII-2A Band:**
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.
   For U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-1.58	-1.83	1.42	2.73	17	Pass
58	5290	-1.31	-1.75	1.42	2.91	11	Pass
106	5530	-4.20	-4.38	1.42	0.14	10.99	Pass
138	5690 (U-NII-2C)	-1.76	-1.82	1.42	2.64	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-1, U-NII-2A Band:**
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 4.42$ dBi< 6 dBi, so the limit no need to be reduced.
   For U-NII-2C Band:
   Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 6.01$ dBi > 6 dBi, so the power density limit shall be reduced to 11-(6.01-6) = 10.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
144	5720 (U-NII-3)	-4.97	-2.75	0.22	-2.53	30	Pass
149	5745	-2.59	-0.37	0.22	-0.15	30	Pass
157	5785	-2.54	-0.32	0.22	-0.1	30	Pass
165	5825	-2.89	-0.67	0.22	-0.45	30	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	144	5720 (U-NII-3)	-6.33	-4.11	3.01	0.46	-0.64	30	Pass
	149	5745	-4.81	-2.59	3.01	0.46	0.88	30	Pass
	157	5785	-4.56	-2.34	3.01	0.46	1.13	30	Pass
	165	5825	-4.81	-2.59	3.01	0.46	0.88	30	Pass
1	144	5720 (U-NII-3)	-6.9	-4.68	3.01	0.46	-1.21	30	Pass
	149	5745	-5.3	-3.08	3.01	0.46	0.39	30	Pass
	157	5785	-5.15	-2.93	3.01	0.46	0.54	30	Pass
	165	5825	-5.62	-3.4	3.01	0.46	0.07	30	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}$]= 4.94 < 6 dBi, so the limit does not need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

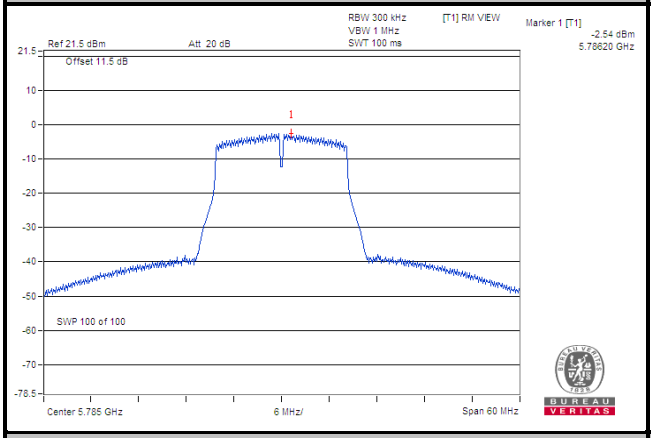
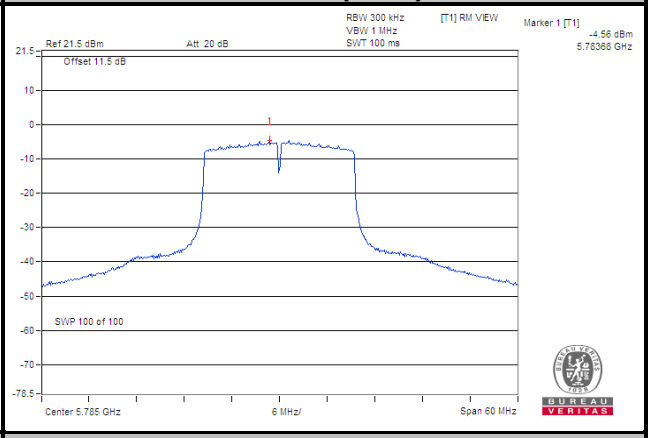
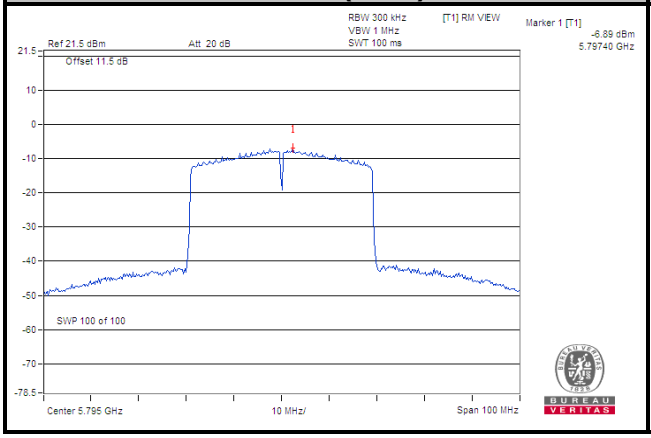
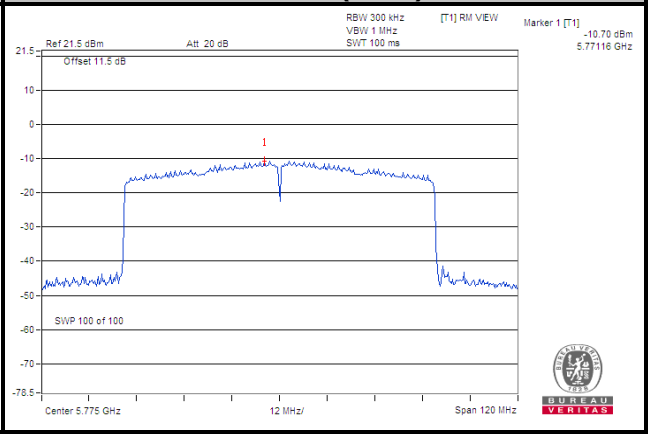
TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	142	5710 (U-NII-3)	-10.71	-8.49	3.01	0.89	-4.59	30	Pass
	151	5755	-6.99	-4.77	3.01	0.89	-0.87	30	Pass
	159	5795	-6.89	-4.67	3.01	0.89	-0.77	30	Pass
1	142	5710 (U-NII-3)	-11.18	-8.96	3.01	0.89	-5.06	30	Pass
	151	5755	-7.9	-5.68	3.01	0.89	-1.78	30	Pass
	159	5795	-7.65	-5.43	3.01	0.89	-1.53	30	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}$]= 4.94 < 6 dBi, so the limit does not need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

TX Chain	Channel	Frequency (MHz)	PSD		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300 kHz)	(dBm/500 kHz)					
0	138	5690 (U-NII-3)	-14.55	-12.33	3.01	1.42	-7.9	30	Pass
	155	5775	-10.7	-8.48	3.01	1.42	-4.05	30	Pass
1	138	5690 (U-NII-3)	-14.64	-12.42	3.01	1.42	-7.99	30	Pass
	155	5775	-11.05	-8.83	3.01	1.42	-4.4	30	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}$]= 4.94 < 6 dBi, so the limit does not need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

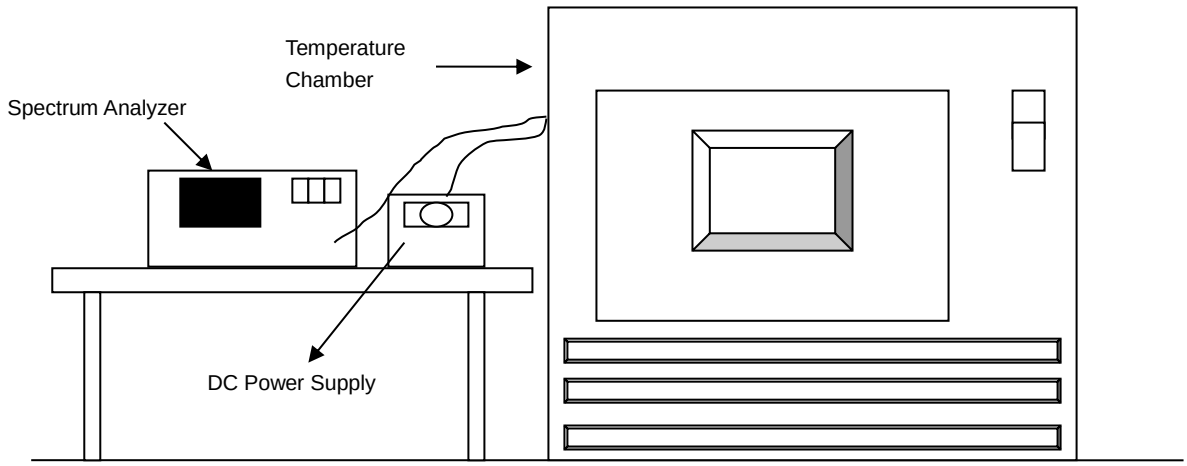
Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result	Reading (MHz)	Result
50	3.85	5179.9761	PASS	5179.9749	PASS	5179.9756	PASS	5179.9758	PASS
40	3.85	5180.0089	PASS	5180.0071	PASS	5180.0051	PASS	5180.0067	PASS
30	3.85	5179.9868	PASS	5179.9876	PASS	5179.9869	PASS	5179.9848	PASS
20	3.85	5179.9866	PASS	5179.9865	PASS	5179.9832	PASS	5179.986	PASS
10	3.85	5180.0177	PASS	5180.0203	PASS	5180.0175	PASS	5180.0196	PASS
0	3.85	5180.0252	PASS	5180.0263	PASS	5180.023	PASS	5180.022	PASS

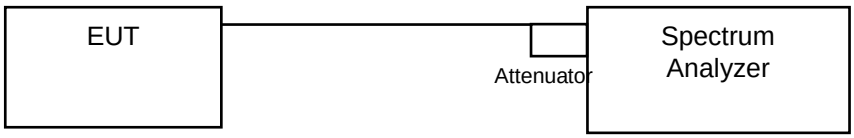
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	4.4275	5179.9859	PASS	5179.9874	PASS	5179.9826	PASS	5179.9853	PASS
	3.85	5179.9866	PASS	5179.9865	PASS	5179.9832	PASS	5179.986	PASS
	3.2725	5179.9862	PASS	5179.987	PASS	5179.9833	PASS	5179.9852	PASS

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100 kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	2.71	0.5	Pass
149	5745	15.74	0.5	Pass
157	5785	15.82	0.5	Pass
165	5825	15.85	0.5	Pass

802.11ax (HE20)

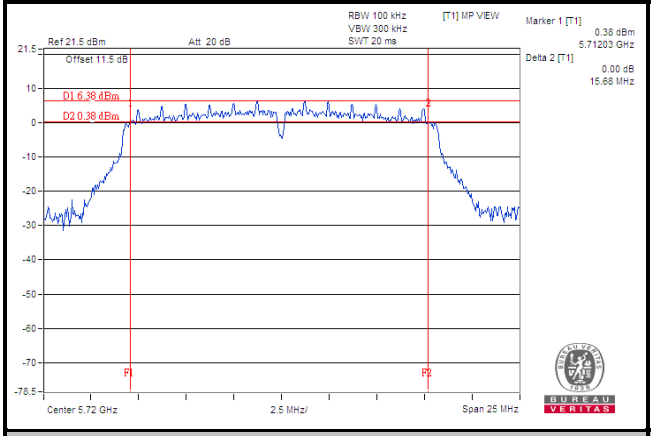
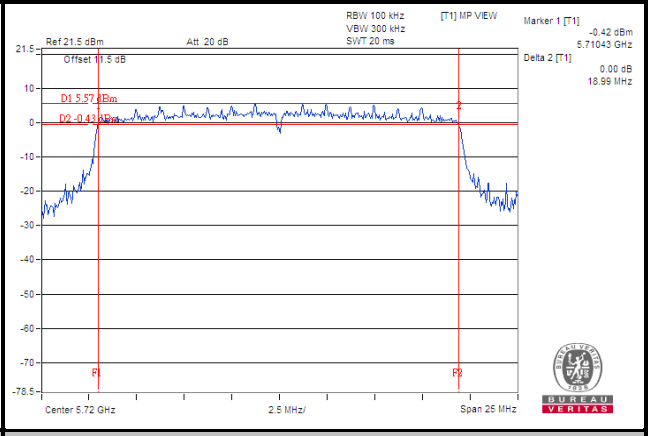
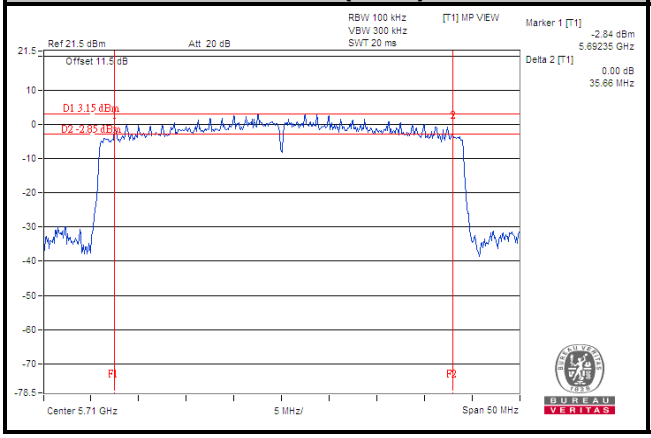
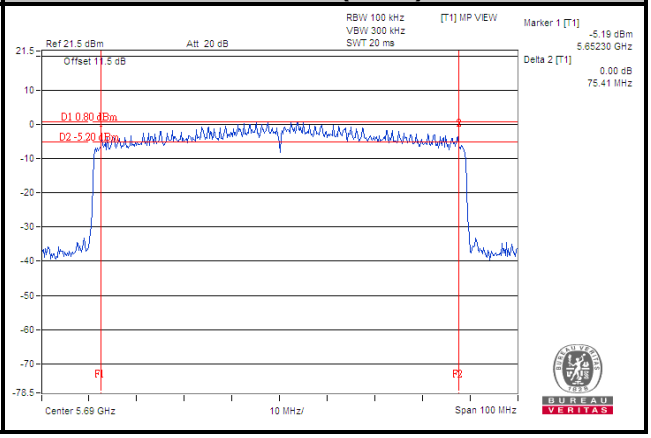
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (U-NII-3)	4.42	4.44	0.5	Pass
149	5745	19.02	18.88	0.5	Pass
157	5785	18.98	19.02	0.5	Pass
165	5825	18.99	18.95	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (U-NII-3)	3.31	3.01	0.5	Pass
151	5755	35.24	36.55	0.5	Pass
159	5795	35.23	35.84	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (U-NII-3)	2.86	2.71	0.5	Pass
155	5775	75.33	75.35	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

Note:
For Ch144 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz
For Ch142 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz
For Ch138 (UNII-3 Band): The 6 dB bandwidth above 5725 MHz = Marker 1 + Delta 2 – 5725 MHz

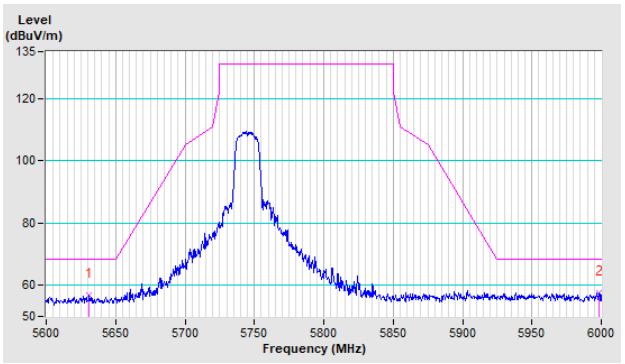
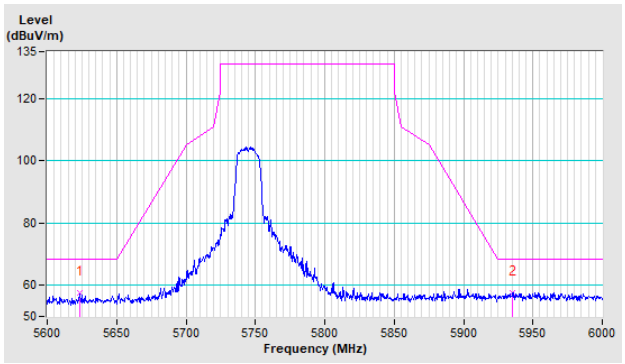
5 Pictures of Test Arrangements

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

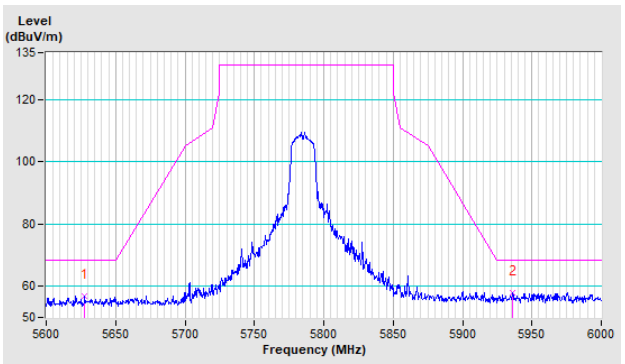
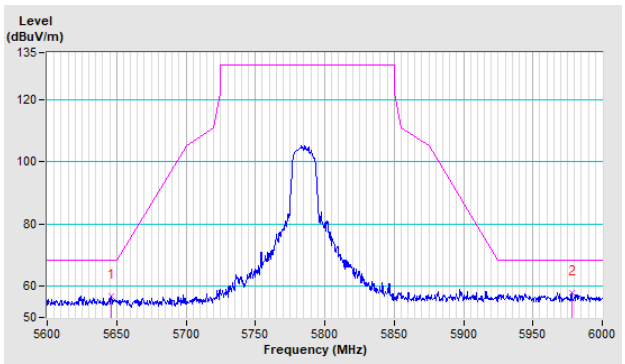
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a

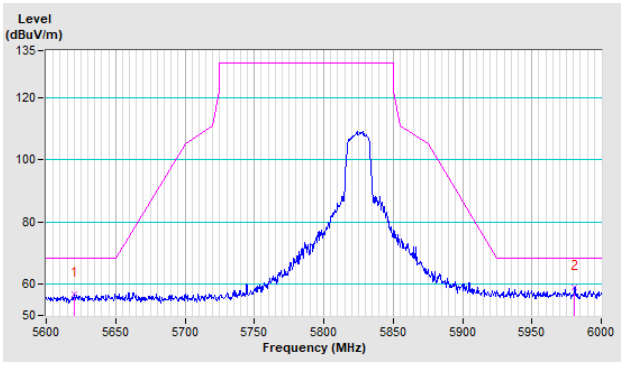
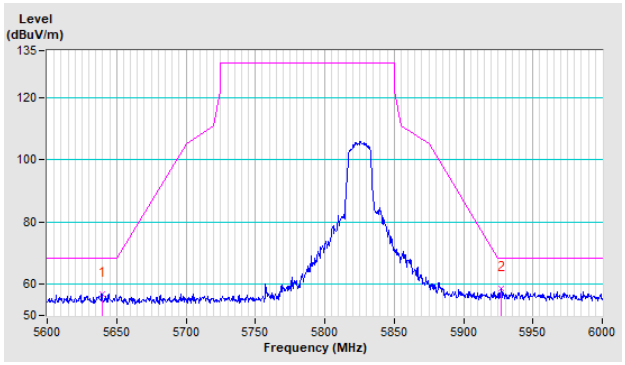
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

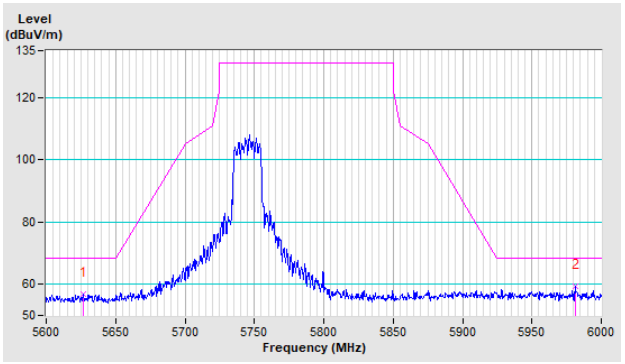
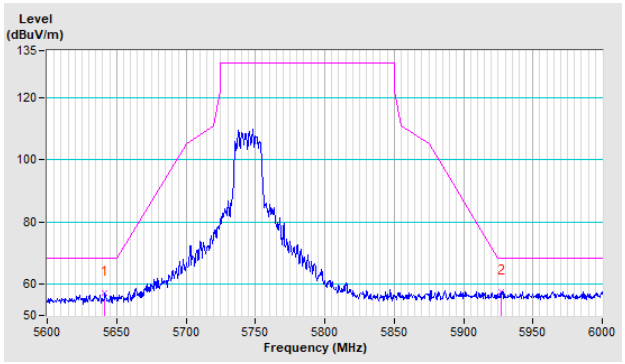
Horizontal	Vertical
	

CH 165 5825 MHz

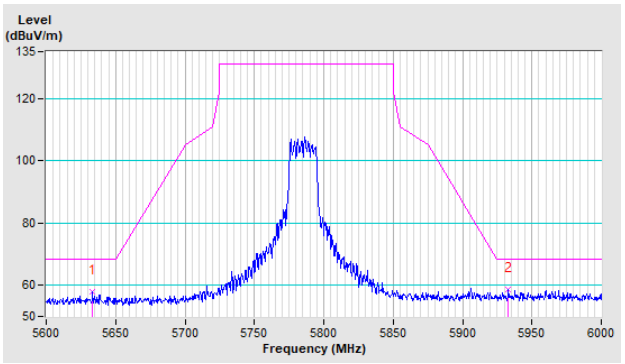
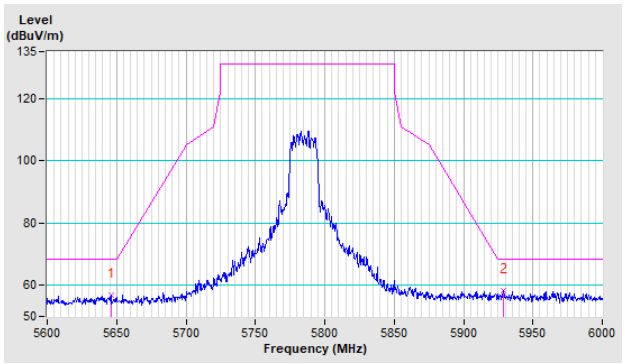
Horizontal	Vertical
	

802.11ax (HE20)

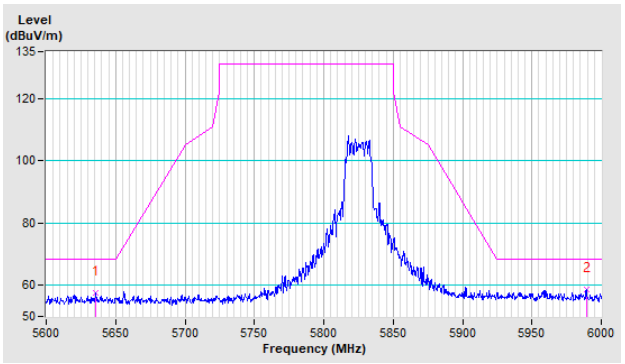
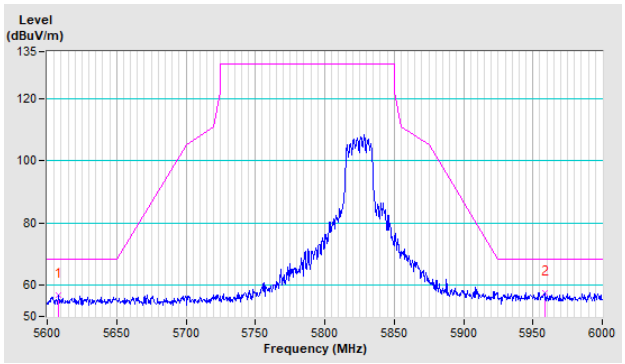
CH 149 5745 MHz

Horizontal	Vertical
	

CH 157 5785 MHz

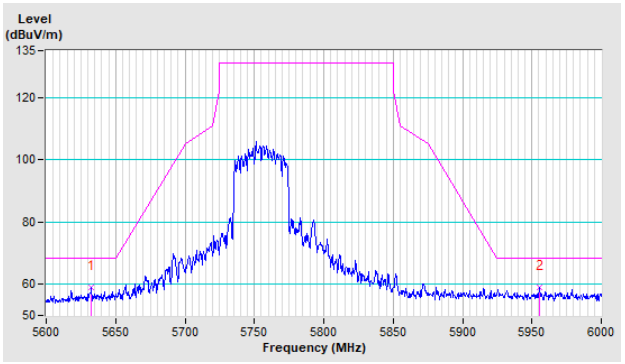
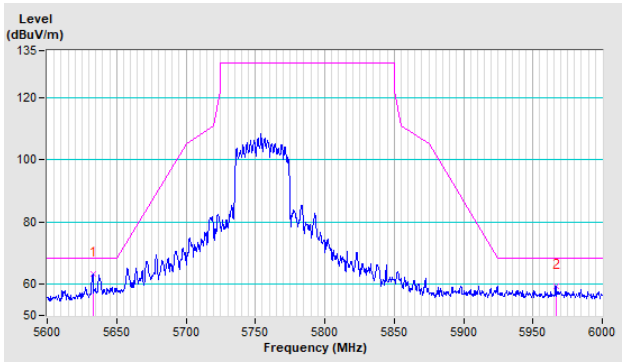
Horizontal	Vertical
	

CH 165 5825 MHz

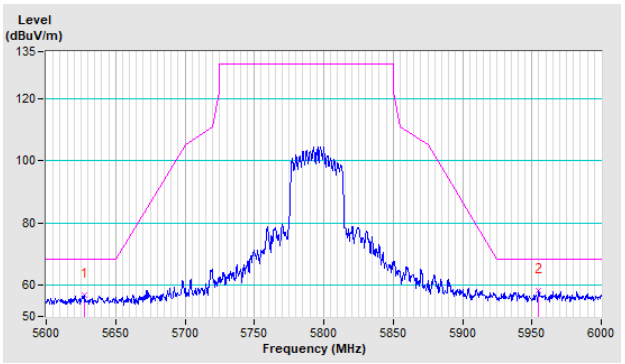
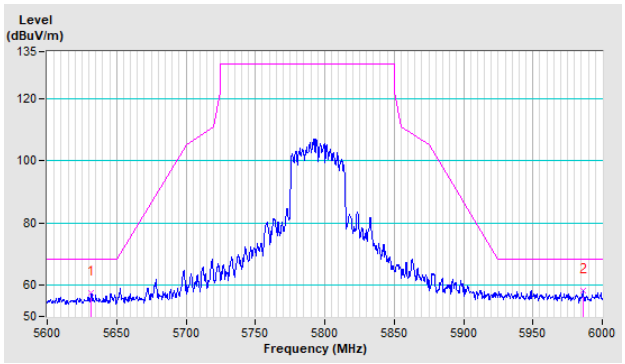
Horizontal	Vertical
	

802.11ax (HE40)

CH 151 5755 MHz

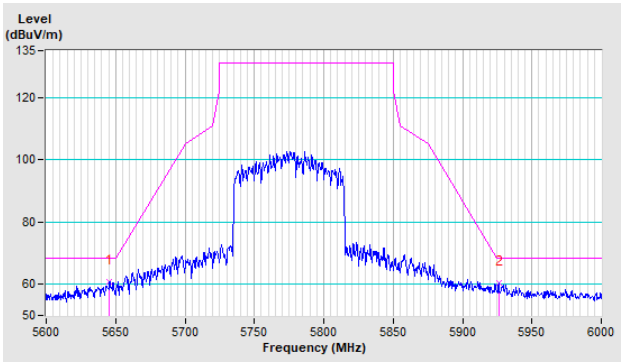
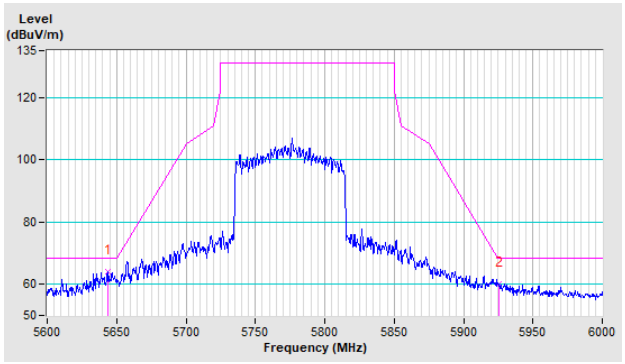
Horizontal	Vertical
	

CH 159 5795 MHz

Horizontal	Vertical
	

802.11ax (HE80)

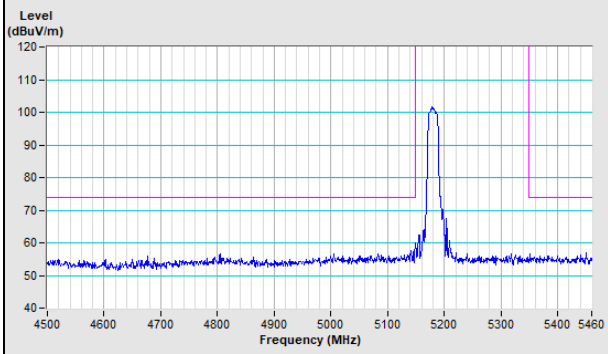
CH 155 5775 MHz

Horizontal	Vertical
	

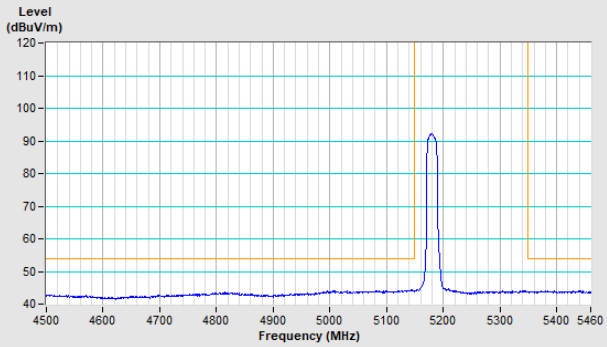
Annex B- Band Edge Measurement

802.11a Channel 36

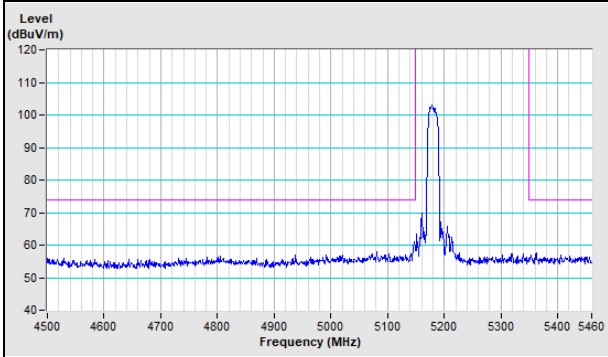
Horizontal (Peak)



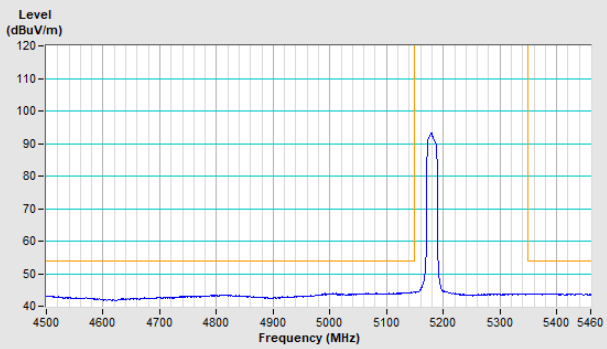
Horizontal (Average)



Vertical (Peak)

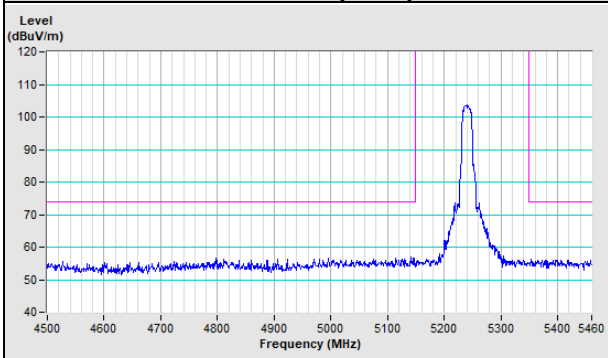


Vertical (Average)

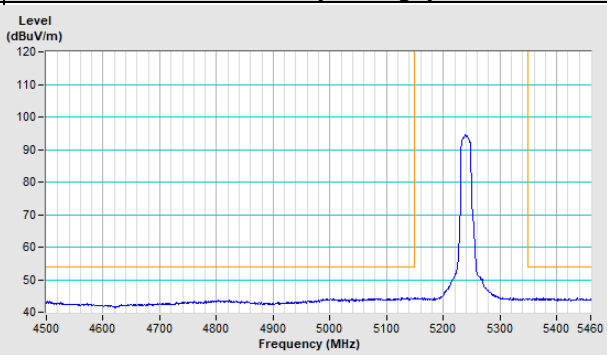


802.11a Channel 48

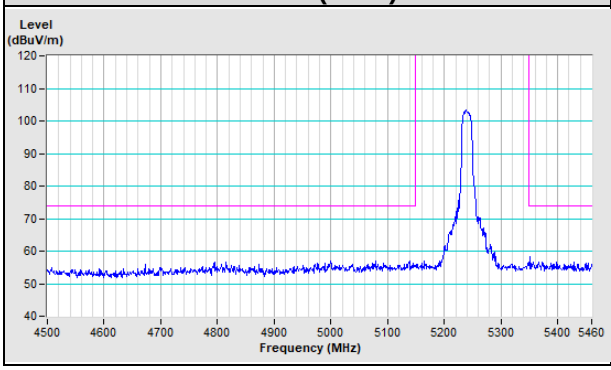
Horizontal (Peak)



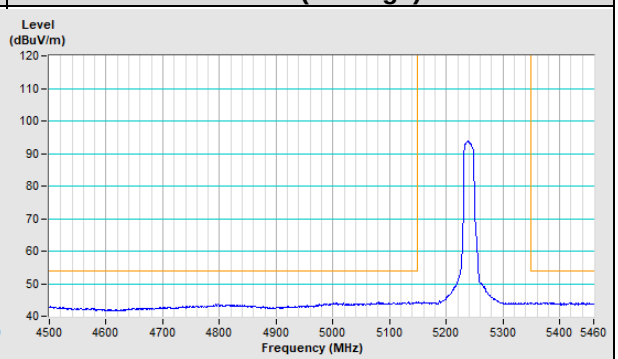
Horizontal (Average)



Vertical (Peak)

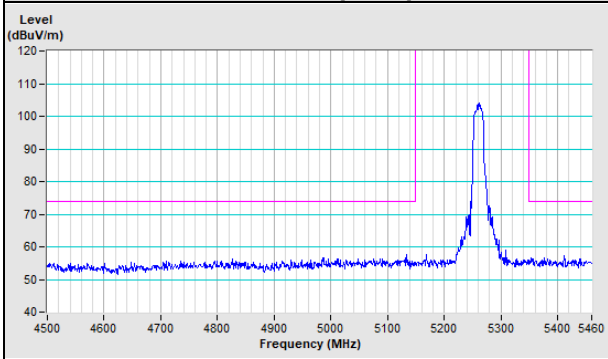


Vertical (Average)

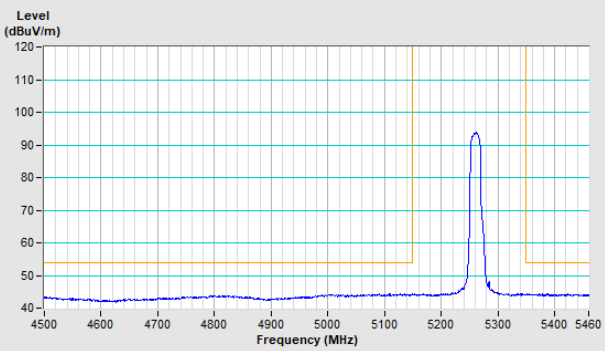


802.11a Channel 52

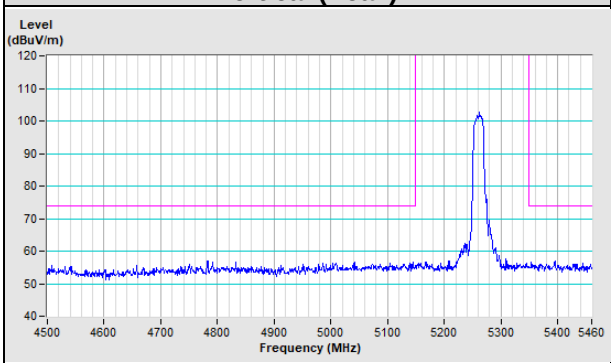
Horizontal (Peak)



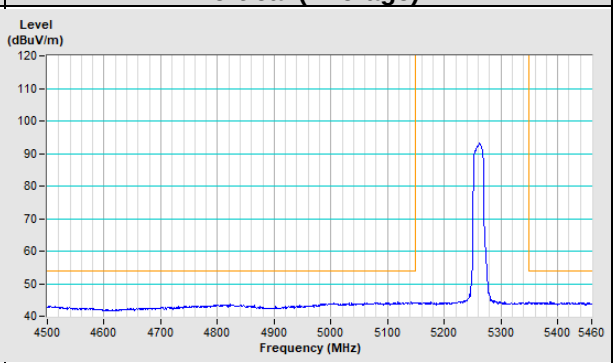
Horizontal (Average)



Vertical (Peak)

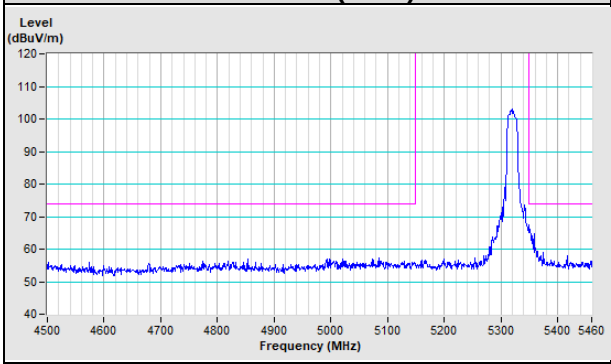


Vertical (Average)

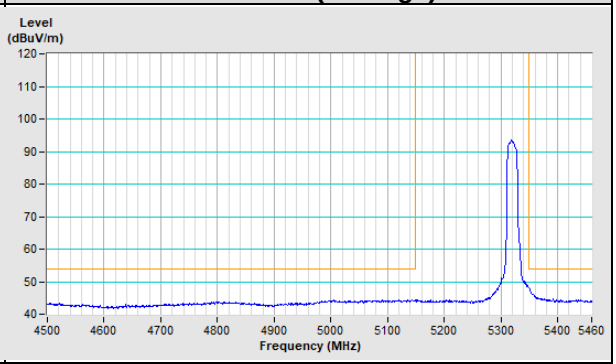


802.11a Channel 64

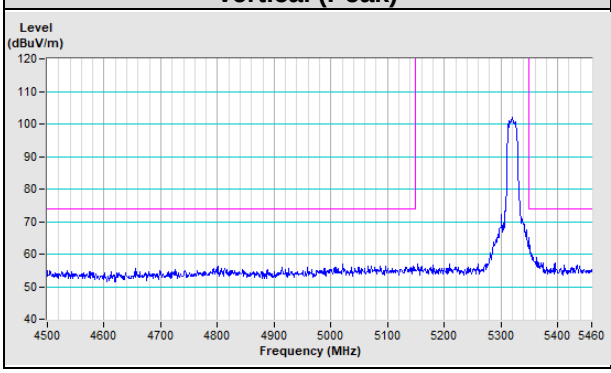
Horizontal (Peak)



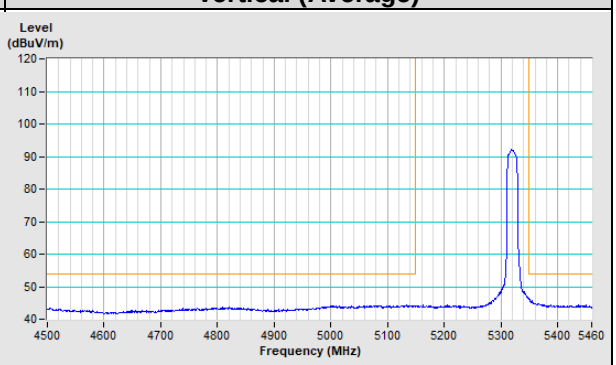
Horizontal (Average)



Vertical (Peak)

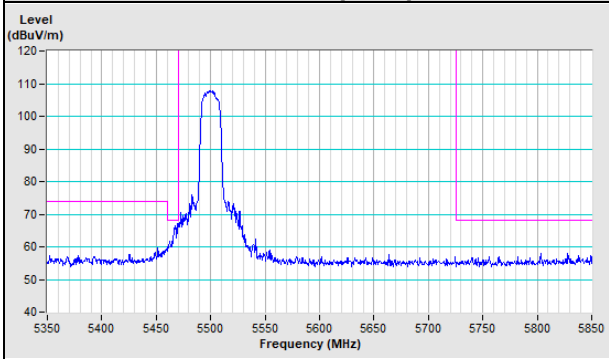


Vertical (Average)

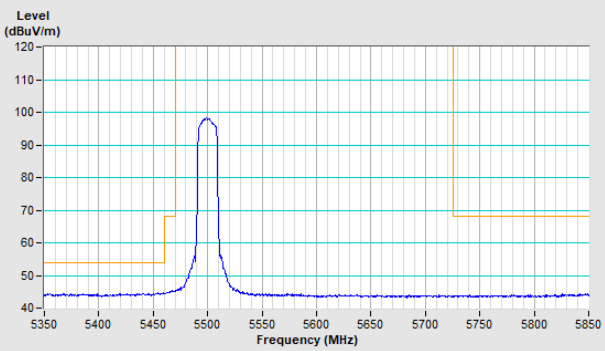


802.11a Channel 100

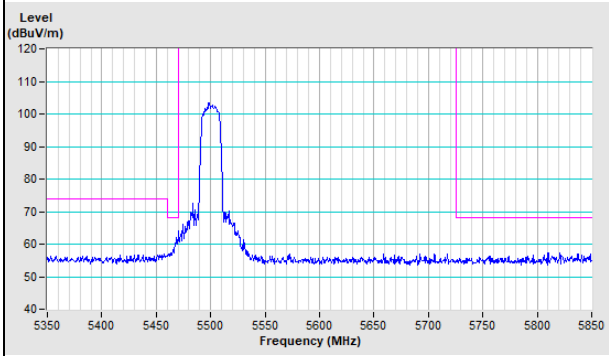
Horizontal (Peak)



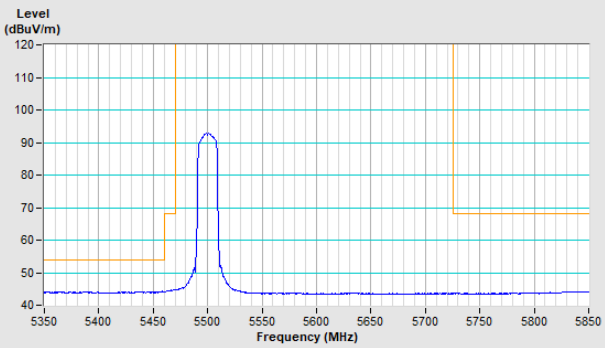
Horizontal (Average)



Vertical (Peak)

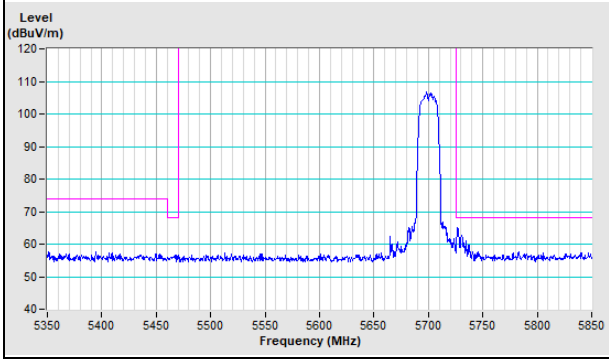


Vertical (Average)

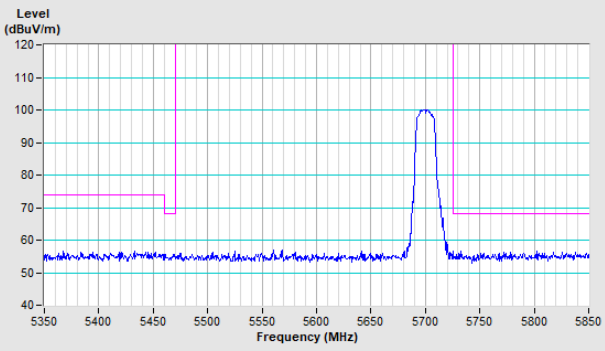


802.11a Channel 140

Horizontal (Peak)

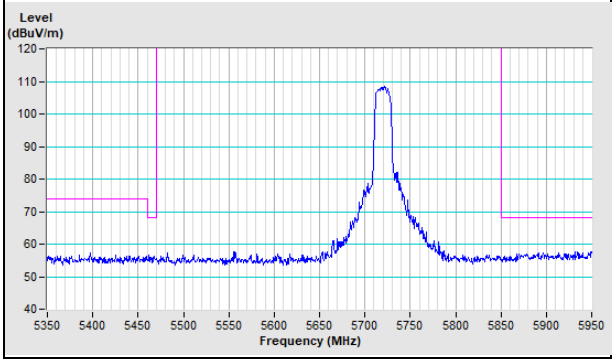


Vertical (Peak)

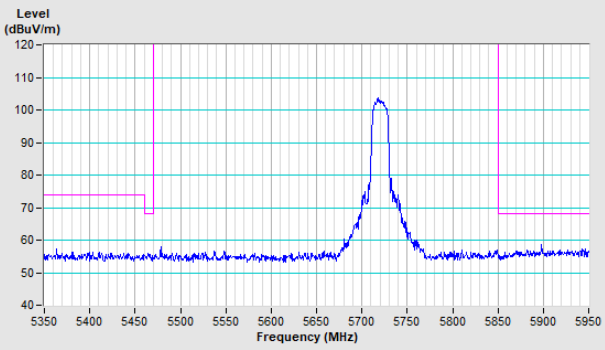


802.11a Channel 144

Horizontal (Peak)

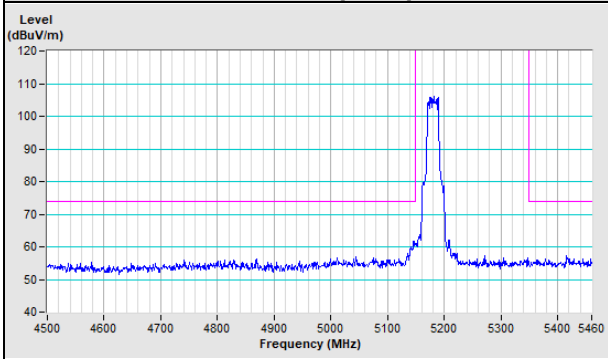


Vertical (Peak)

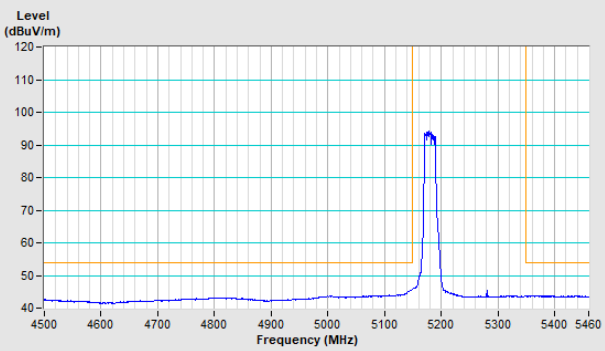


802.11ax (HE20) Channel 36

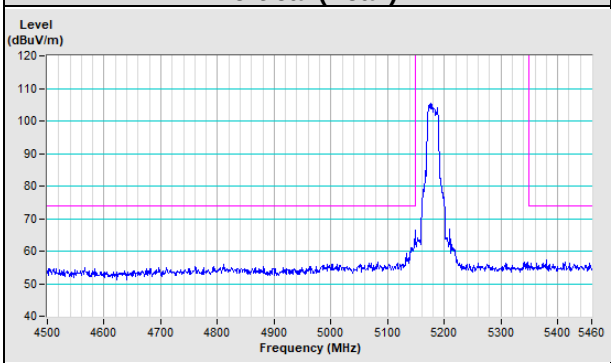
Horizontal (Peak)



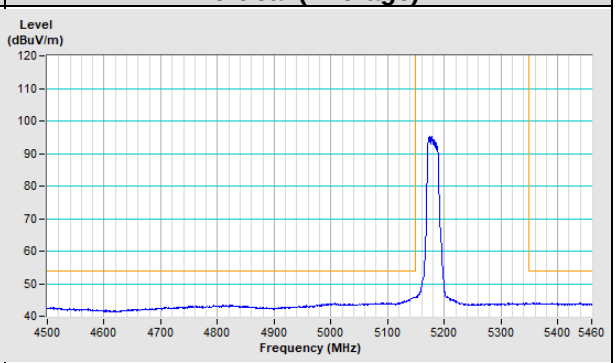
Horizontal (Average)



Vertical (Peak)

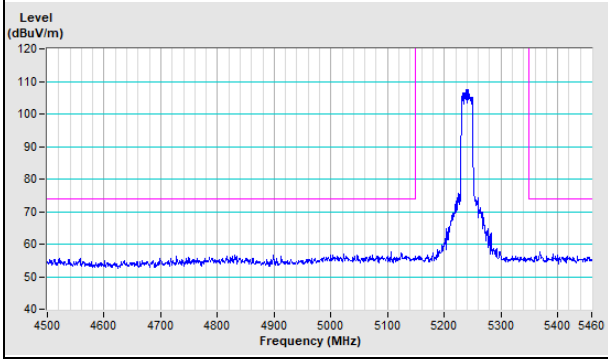


Vertical (Average)

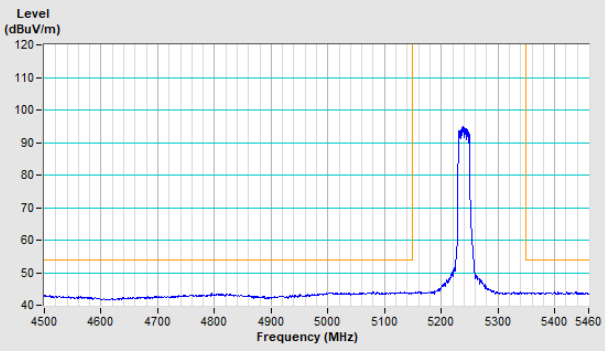


802.11ax (HE20) Channel 48

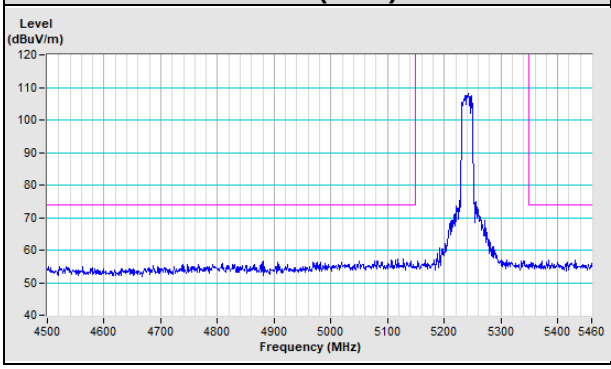
Horizontal (Peak)



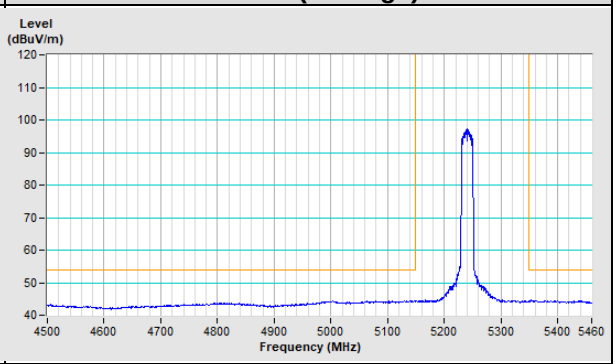
Horizontal (Average)



Vertical (Peak)

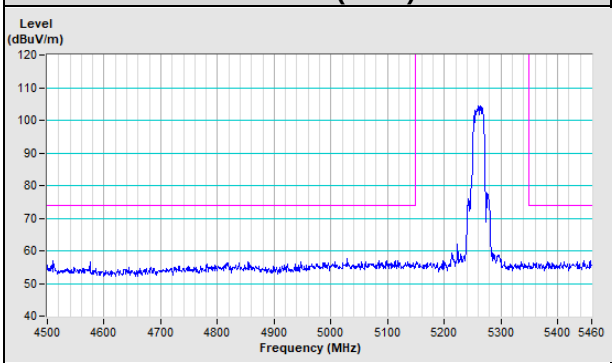


Vertical (Average)

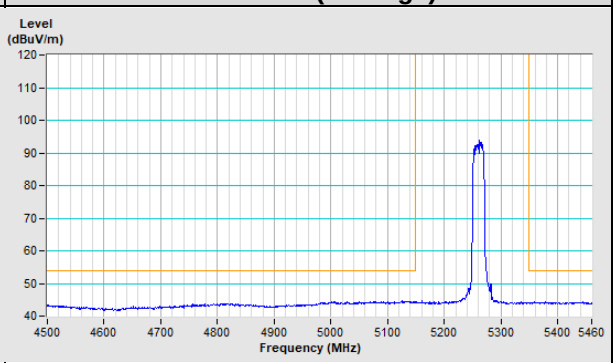


802.11ax (HE20) Channel 52

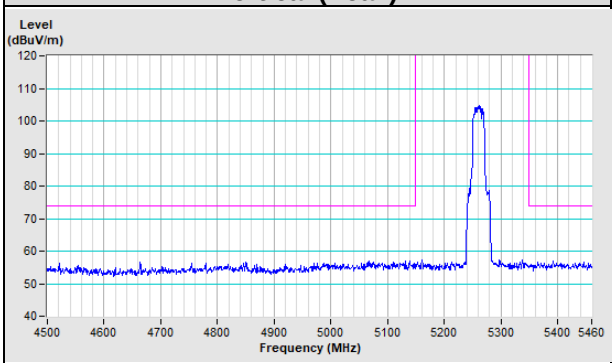
Horizontal (Peak)



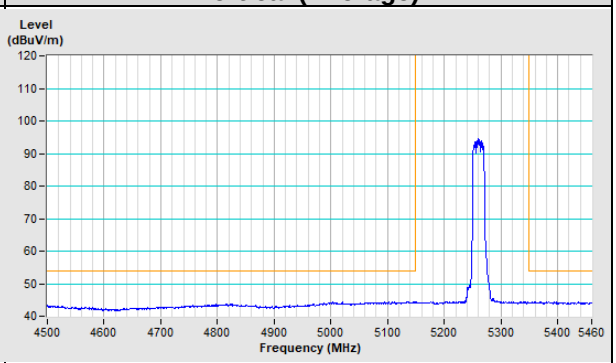
Horizontal (Average)



Vertical (Peak)

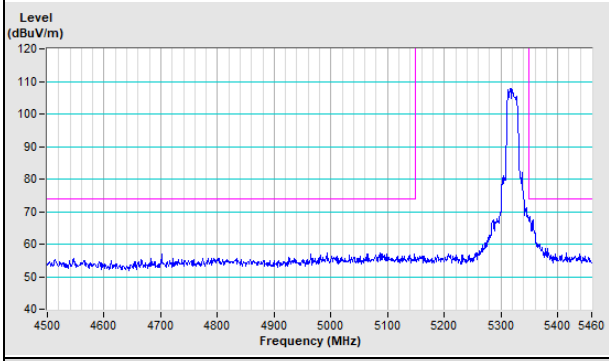


Vertical (Average)

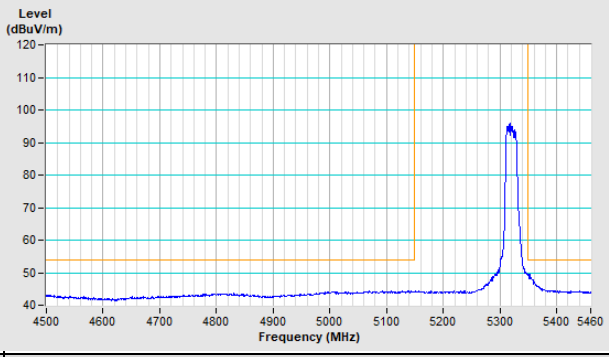


802.11ax (HE20) Channel 64

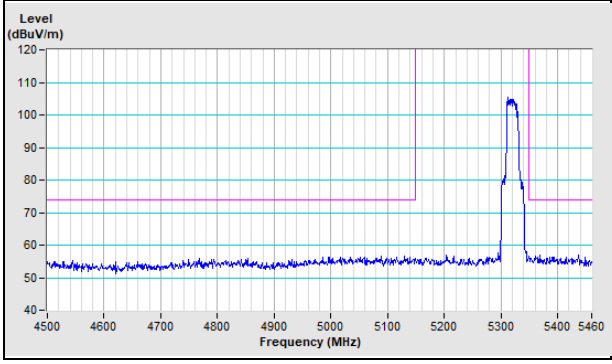
Horizontal (Peak)



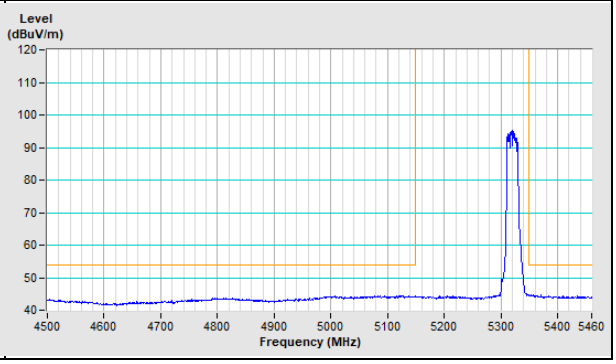
Horizontal (Average)



Vertical (Peak)

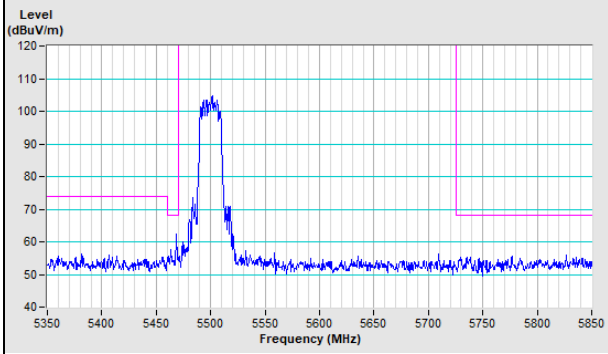


Vertical (Average)

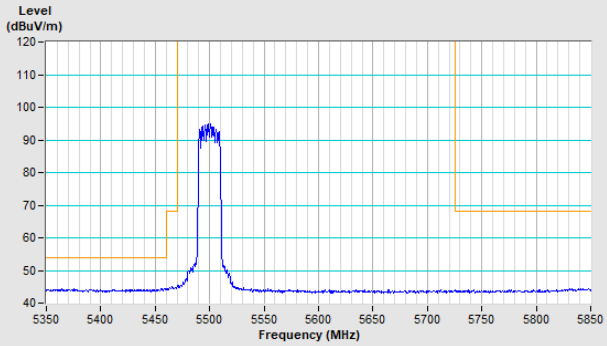


802.11ax (HE20) Channel 100

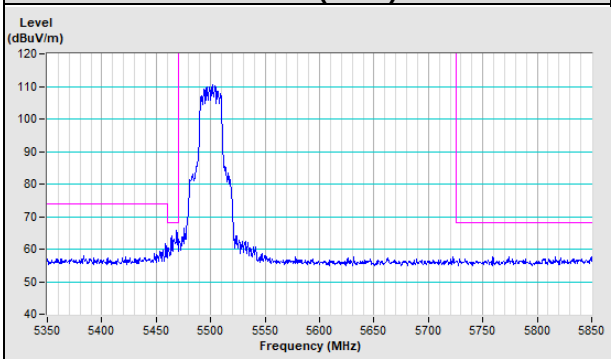
Horizontal (Peak)



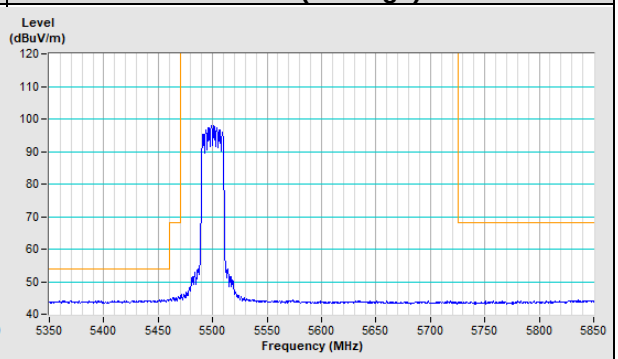
Horizontal (Average)



Vertical (Peak)

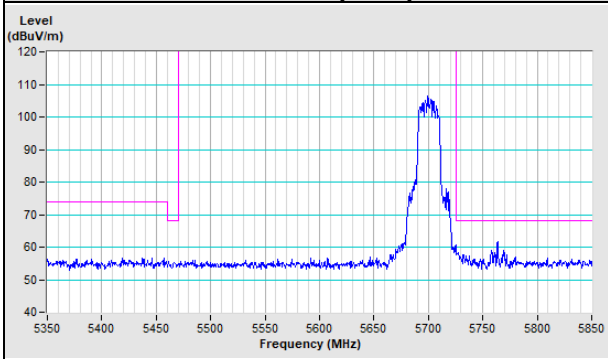


Vertical (Average)

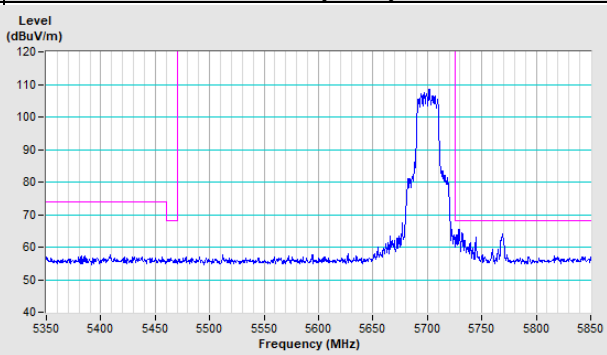


802.11ax (HE20) Channel 140

Horizontal (Peak)

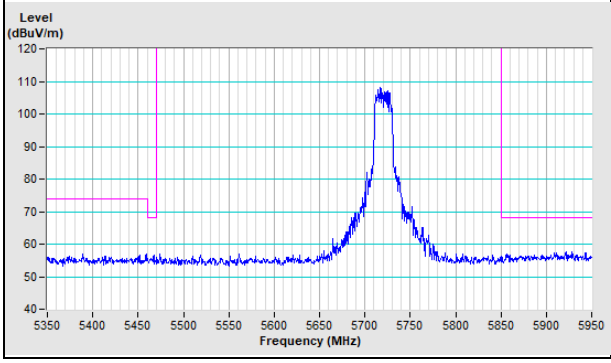


Vertical (Peak)

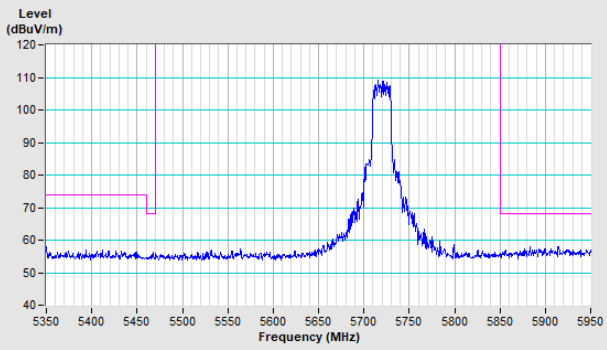


802.11ax (HE20) Channel 144

Horizontal (Peak)

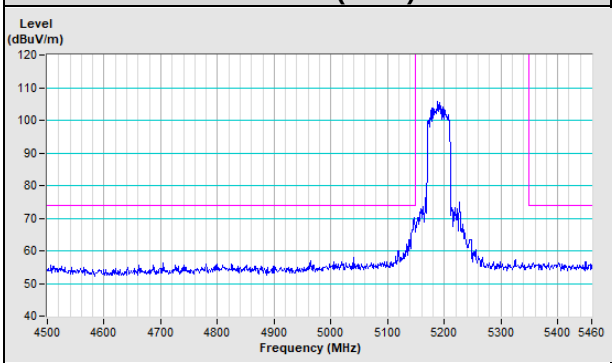


Vertical (Peak)

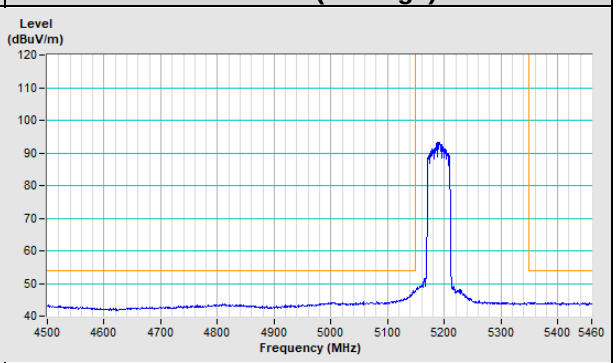


802.11ax (HE40) Channel 38

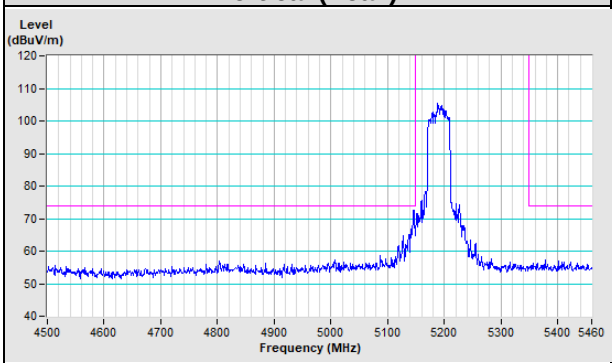
Horizontal (Peak)



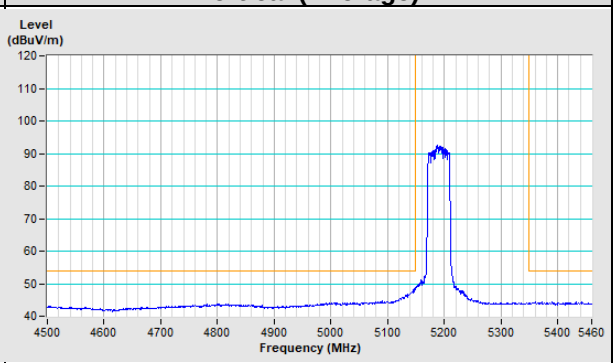
Horizontal (Average)



Vertical (Peak)

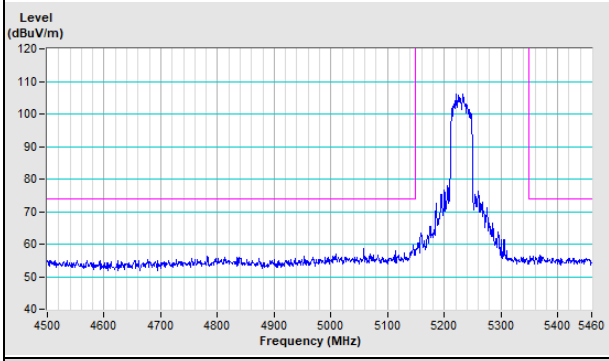


Vertical (Average)

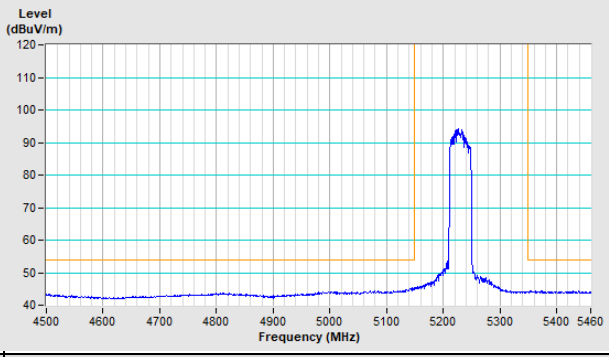


802.11ax (HE40) Channel 46

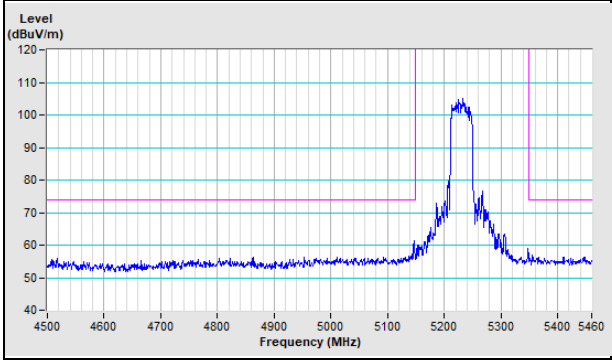
Horizontal (Peak)



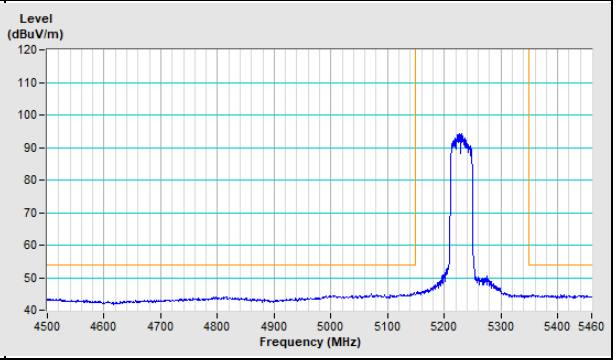
Horizontal (Average)



Vertical (Peak)

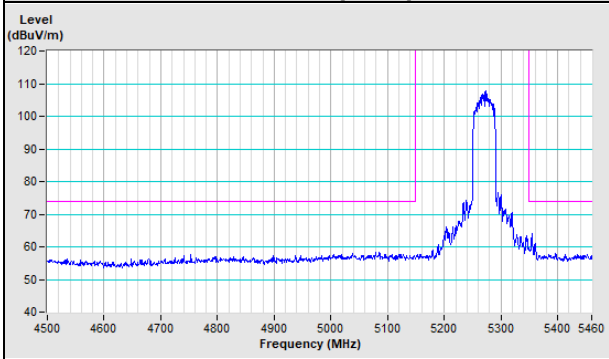


Vertical (Average)

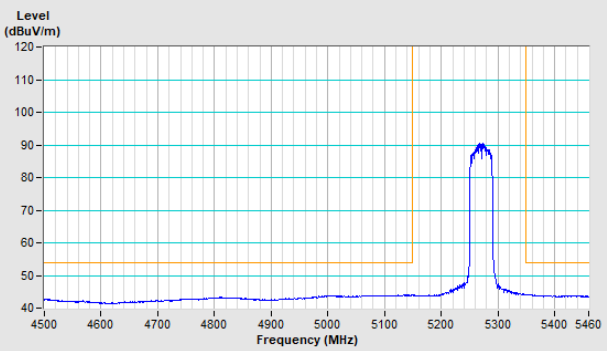


802.11ax (HE40) Channel 54

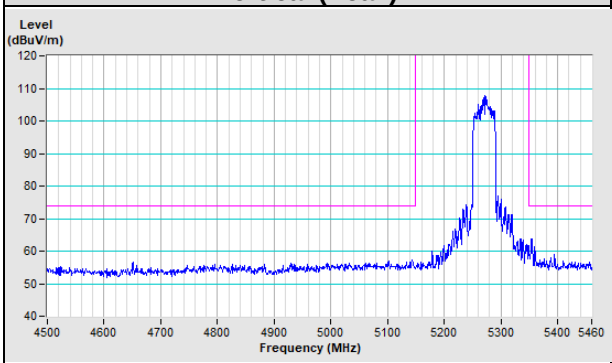
Horizontal (Peak)



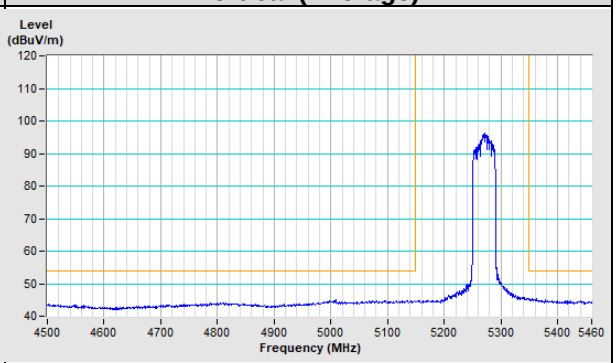
Horizontal (Average)



Vertical (Peak)

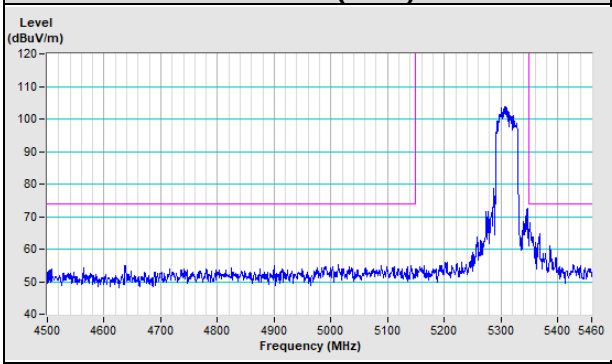


Vertical (Average)

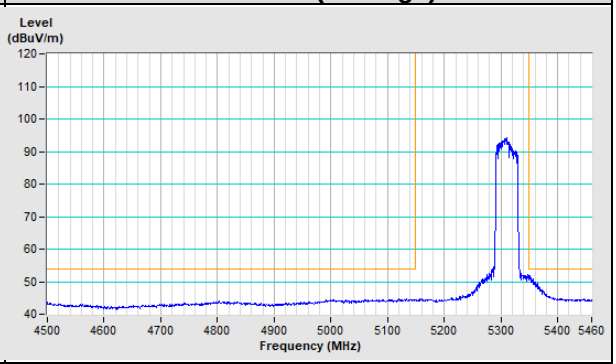


802.11ax (HE40) Channel 62

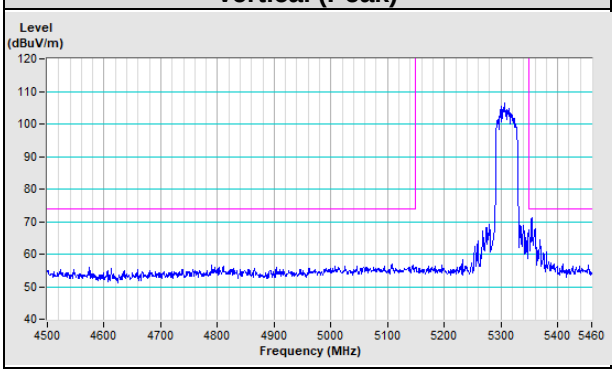
Horizontal (Peak)



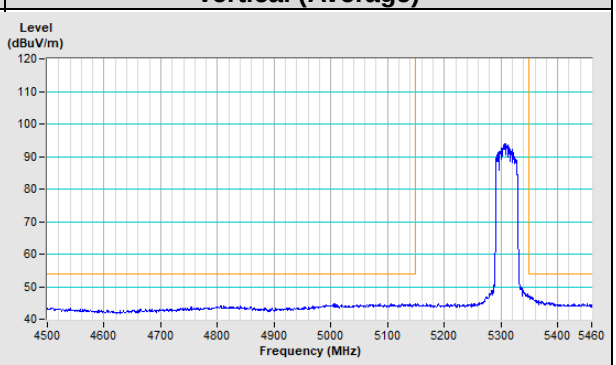
Horizontal (Average)



Vertical (Peak)

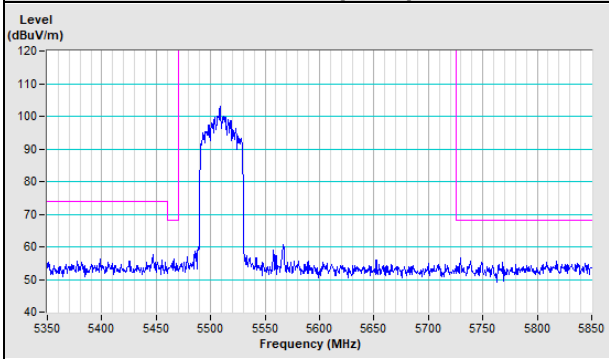


Vertical (Average)

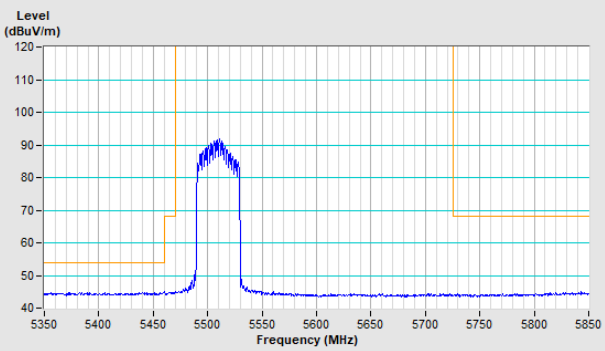


802.11ax (HE40) Channel 102

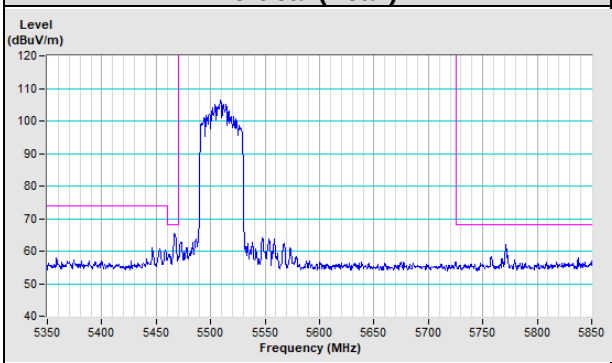
Horizontal (Peak)



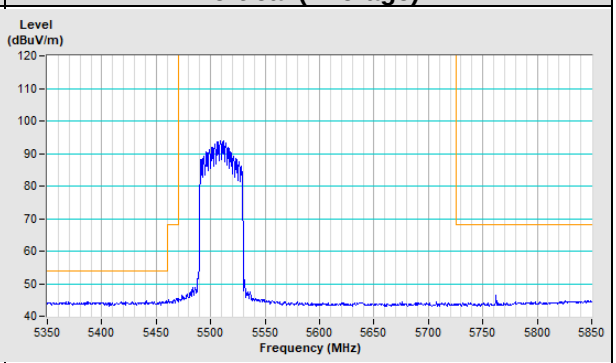
Horizontal (Average)



Vertical (Peak)

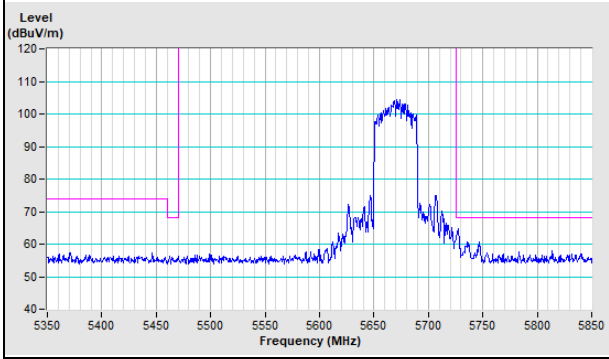


Vertical (Average)

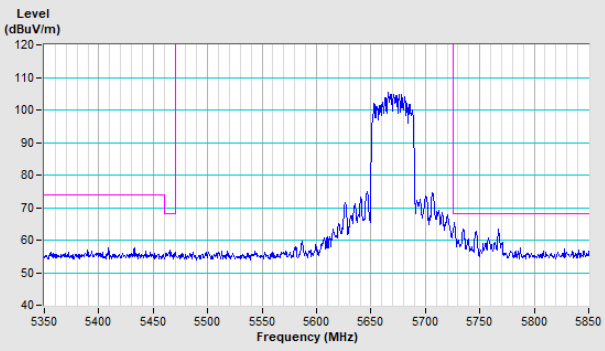


802.11ax (HE40) Channel 134

Horizontal (Peak)

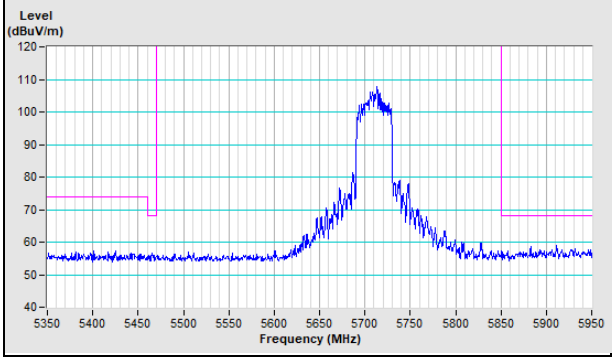


Vertical (Peak)

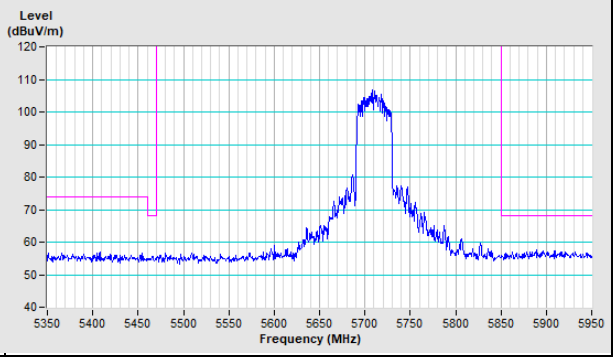


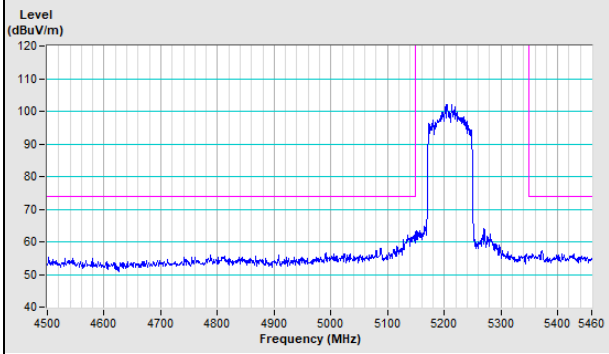
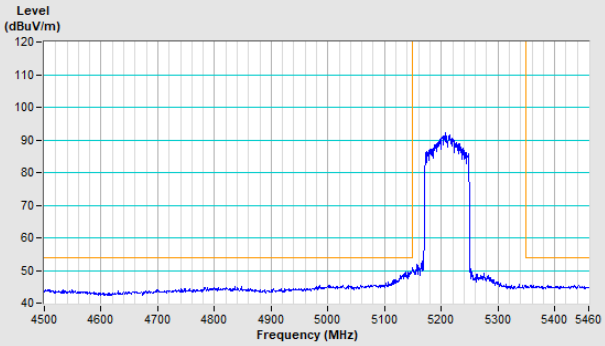
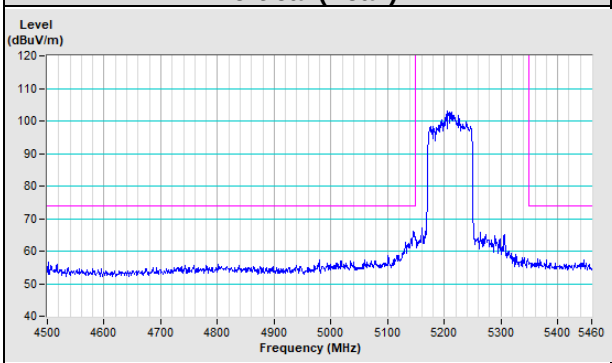
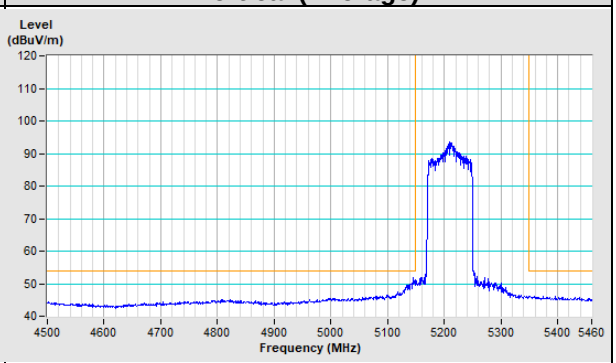
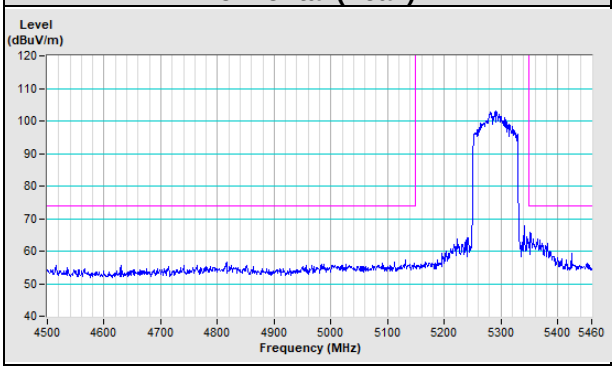
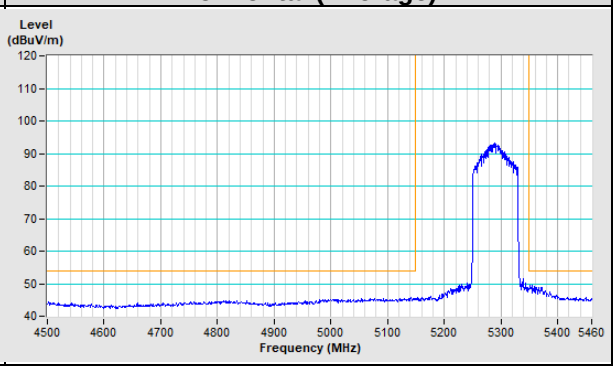
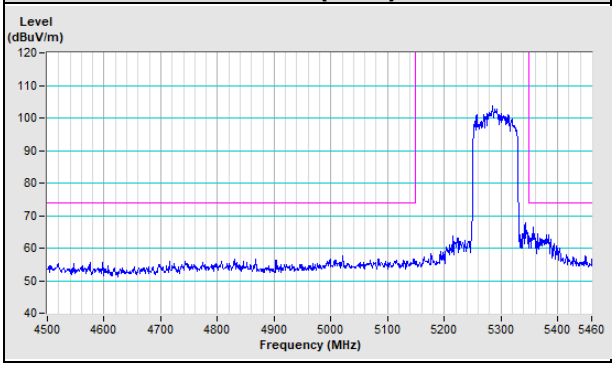
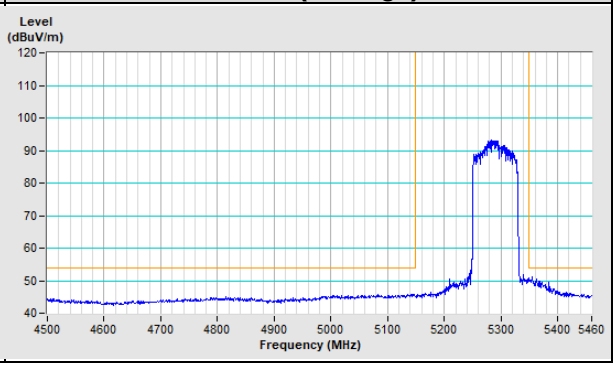
802.11ax (HE40) Channel 142

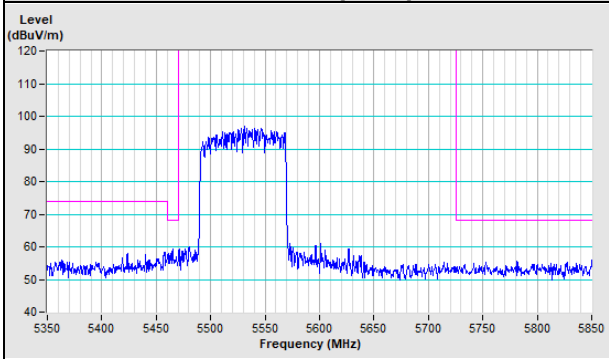
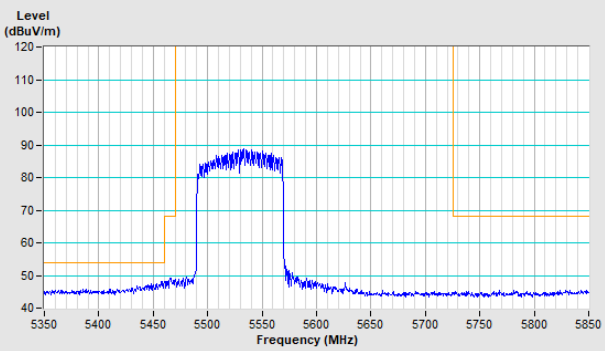
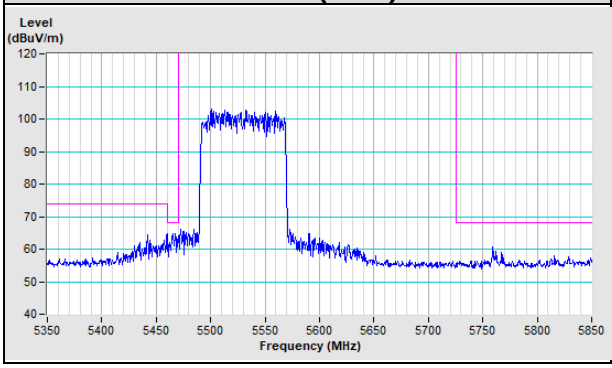
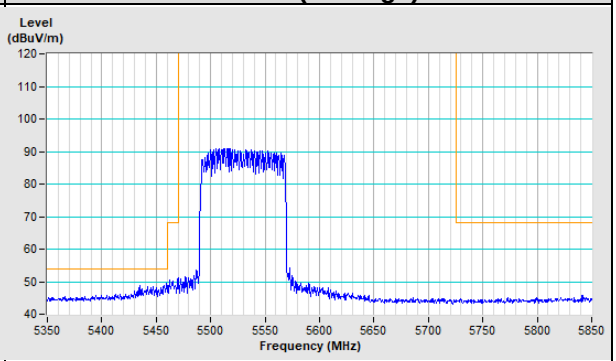
Horizontal (Peak)

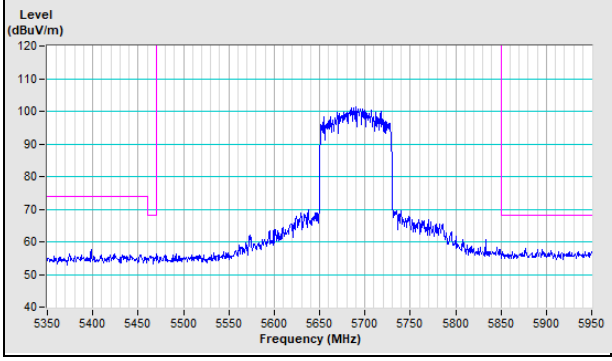
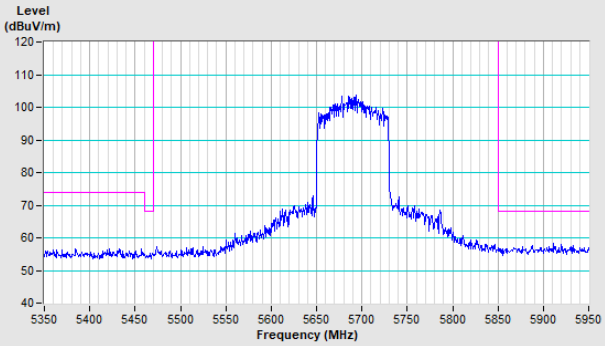


Vertical (Peak)



802.11ax (HE80) Channel 42	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ax (HE80) Channel 58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ax (HE80) Channel 106	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

802.11ax (HE80) Channel 138	
Horizontal (Peak)	**Vertical (Peak)**
	

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.

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

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