

FCC Test Report

Report No.: RFBBQZ-WTW-P21123590-1

FCC ID: PY321300543

Test Model: WAX615

Received Date: Nov. 11, 2021

Test Date: Nov. 11, 2021 ~ Jan. 15, 2022

Issued Date: Jan. 20, 2022

Applicant and Manufacturer: NETGEAR, INC

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Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P21123590-1	Original release.	Jan. 20, 2022

1 Certificate of Conformity

Product: Insight Managed AX3000 WiFi 6 Access Point

Brand: NETGEAR

Test Model: WAX615

Sample Status: Engineering Sample

**Applicant and
Manufacturer:** NETGEAR, INC

Test Date: Nov. 11, 2021 ~ Jan. 15, 2022

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:** Jan. 20, 2022
Polly Chien / Specialist

Approved by : , **Date:** Jan. 20, 2022
Jeremy Lin / 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)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.17dB at 0.44716MHz.
15.407(b)(1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5150.00MHz, 5460.00MHz.
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)	6dB 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 IPEX not a standard connector.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- 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.
- 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) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Insight Managed AX3000 WiFi 6 Access Point
Brand	NETGEAR
Test Model	WAX615
Sample Status	Engineering Sample
Power Supply Rating	12Vdc from adapter 54Vdc from PoE
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: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2401.9Mbps
Operating Frequency	5180 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 8 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2 802.11ac (VHT160), 802.11ax (HE160): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 802.11ac (VHT160), 802.11ax (HE160): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1
Output Power	CDD Mode: 5180 ~ 5250MHz: 816.219mW 5250 ~ 5320MHz: 211.364mW 5500 ~ 5720MHz: 212.829mW 5745 ~ 5825MHz: 800.816mW Beamforming Mode: 5180 ~ 5250MHz: 816.219mW 5250 ~ 5320MHz: 211.364mW 5500 ~ 5720MHz: 212.829mW 5745 ~ 5825MHz: 800.816mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Refer to note
Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function	Beamforming Mode
802.11a	2TX	Not Support
802.11n (HT20)	2TX	Not Support
802.11n (HT40)	2TX	Not Support
802.11ac (VHT20)	2TX	Support
802.11ac (VHT40)	2TX	Support
802.11ac (VHT80)	2TX	Support
802.11ac (VHT160)	2TX	Support
802.11ax (HE20)	2TX	Support
802.11ax (HE40)	2TX	Support
802.11ax (HE80)	2TX	Support
802.11ax (HE160)	2TX	Support

* The bandwidth and modulation are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz, 160MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 160MHz). Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n and 802.11ac, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

2. The EUT consumes power from the following adapters and POE.

Adapter 1	
Brand	Netgear
Model	ADS-40FPA-12 12030EPCU-L ADS-40FPA-12 12030EPC-L
P/N	332-11584-02
Input Power	100-120Vac ~60Hz Max. 1A
Output Power	12Vdc, 2.5A
Power line	1.8m cable without core

Adapter 2	
Brand	Netgear
Model	AD2067F10
P/N	332-10944-02
Input Power	100-120Vac ~50/60Hz Max. 1A
Output Power	12Vdc, 2.5A
Power line	1.8m cable without core

* Adapter 1 was chosen for final test and presented in the test report.

POE (for support unit only)	
Brand	Netgear
Model	GS524UP
Input Power	100-240Vac, 50-60Hz, 8-4A
Output Power	480W

3. The Antenna information is listed as below.

ANT. No.	Type	Connector	Frequency Range	Gain (dBi)
2.4G_0	Dipole	IPEX	2400~2483.5MHz	2.66
2.4G_1	Dipole	IPEX	2400~2483.5MHz	2.49
5G_0	Dipole	IPEX	5150~5250MHz	2.93
			5250~5350MHz	2.93
			5470~5725MHz	2.91
			5725~5850MHz	2.89
5G_1	Dipole	IPEX	5150~5250MHz	2.85
			5250~5350MHz	2.85
			5470~5725MHz	2.92
			5725~5850MHz	2.83

* 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.

4. WLAN 2.4GHz & WLAN 5GHz technology can transmit at same time.

3.2 Description of Test Modes

For 5180 ~ 5320MHz:

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

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

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

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

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

Channel	Frequency	Channel	Frequency
42	5210MHz	58	5290MHz

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

Channel	Frequency
50	5250MHz

For 5500 ~ 5720MHz:

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

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

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

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

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

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

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

Channel	Frequency
114	5570MHz

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

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

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	Powered by adapter
B	-	√	√	-	Powered by POE

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
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 **X-plane**.
2. "-": Means no effect.
3. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A	802.11a	5180-5250	36 to 48	36, 40, 48	OFDM	6.0	-
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
	802.11ax (HE160)		50	50	OFDMA	MCS0	
A	802.11a	5250-5320	52 to 64	52, 60, 64	OFDM	6.0	-
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
	802.11ax (HE160)		50	50	OFDMA	MCS0	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	-
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
	802.11ax (HE160)		114	114	OFDMA	MCS0	
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A, B	802.11ax (HE20)	5180-5250	36 to 48	40	OFDMA	MCS0	-
	802.11ax (HE20)	5250-5320	52 to 64		OFDMA	MCS0	
	802.11ax (HE20)	5500-5720	100 to 144		OFDMA	MCS0	
	802.11ax (HE20)	5745-5825	149 to 165		OFDMA	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A, B	802.11ax (HE20)	5180-5250	36 to 48	40	OFDMA	MCS0	-
	802.11ax (HE20)	5250-5320	52 to 64		OFDMA	MCS0	
	802.11ax (HE20)	5500-5720	100 to 144		OFDMA	MCS0	
	802.11ax (HE20)	5745-5825	149 to 165		OFDMA	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A	802.11a	5180-5250	36 to 48	36, 40, 48	OFDM	6.0	-
	802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	MCS0	
	802.11ax (HE40)		38 to 46	38, 46	OFDMA	MCS0	
	802.11ax (HE80)		42	42	OFDMA	MCS0	
	802.11ax (HE160)		50	50	OFDMA	MCS0	
A	802.11a	5250-5320	52 to 64	52, 60, 64	OFDM	6.0	-
	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
	802.11ax (HE80)		58	58	OFDMA	MCS0	
	802.11ax (HE160)		50	50	OFDMA	MCS0	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	-
	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
	802.11ax (HE160)		114	114	OFDMA	MCS0	

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	-
	802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	MCS0	
	802.11ax (HE40)		151 to 159	151, 159	OFDMA	MCS0	
	802.11ax (HE80)		155	155	OFDMA	MCS0	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE$\geq$1G	23 deg. C, 66% RH	120Vac, 60Hz	Titan Hsu
RE$<$1G	23 deg. C, 66% RH	120Vac, 60Hz,	Titan Hsu
PLC	25 deg. C, 70% RH	120Vac, 60Hz,	Tank Wu
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ivan Tseng

3.3 Duty Cycle of Test Signal

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

802.11a: Duty cycle = $1.966/2.098 = 0.937$, Duty factor = $10 * \log(1/0.937) = 0.28$

802.11ax (HE20): Duty cycle = $5.422/5.930 = 0.914$, Duty factor = $10 * \log(1/0.914) = 0.39$

802.11ax (HE40): Duty cycle = $5.421/5.971 = 0.908$, Duty factor = $10 * \log(1/0.908) = 0.42$

802.11ax (HE80): Duty cycle = $5.418/5.989 = 0.905$, Duty factor = $10 * \log(1/0.905) = 0.44$

802.11ax (HE160): Duty cycle = $5.421/5.939 = 0.913$, Duty factor = $11 * \log(1/0.913) = 0.40$



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.	Notebook	DELL	E5430	2RL3YW1	FCC DoC Approved	-
B.	PoE	Netgear	GS524UP	NA	NA	Provided by client

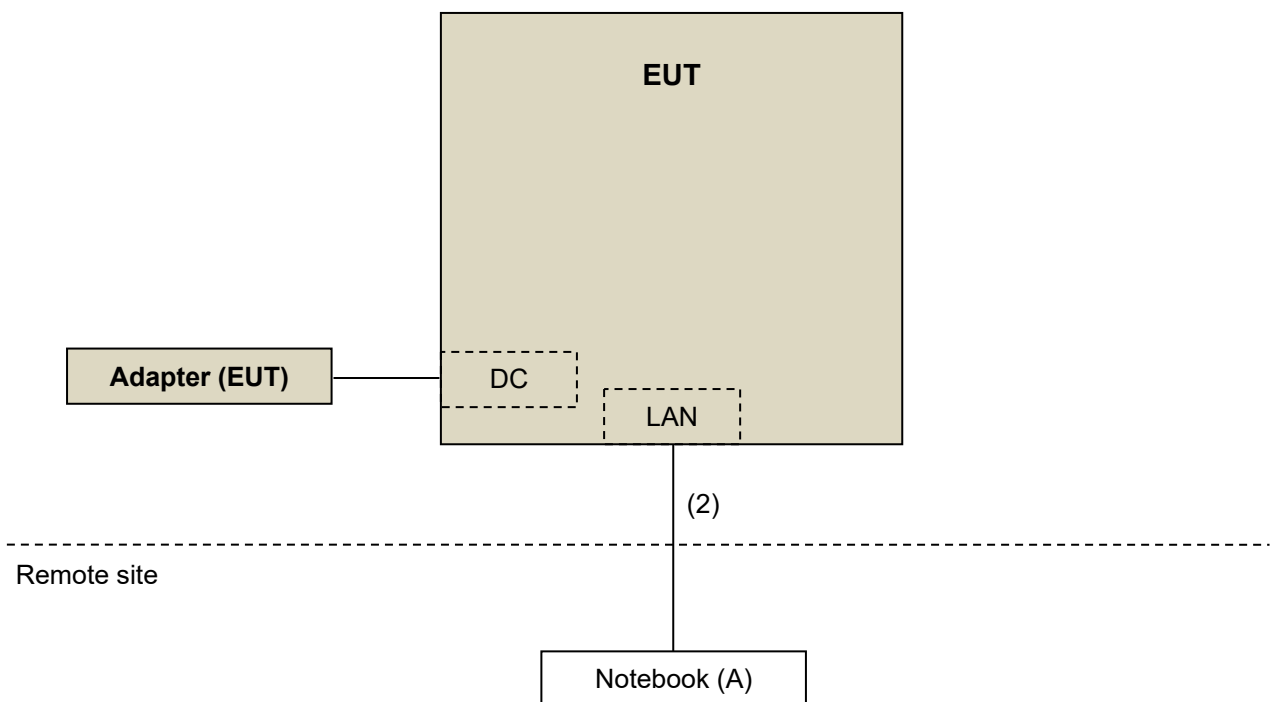
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

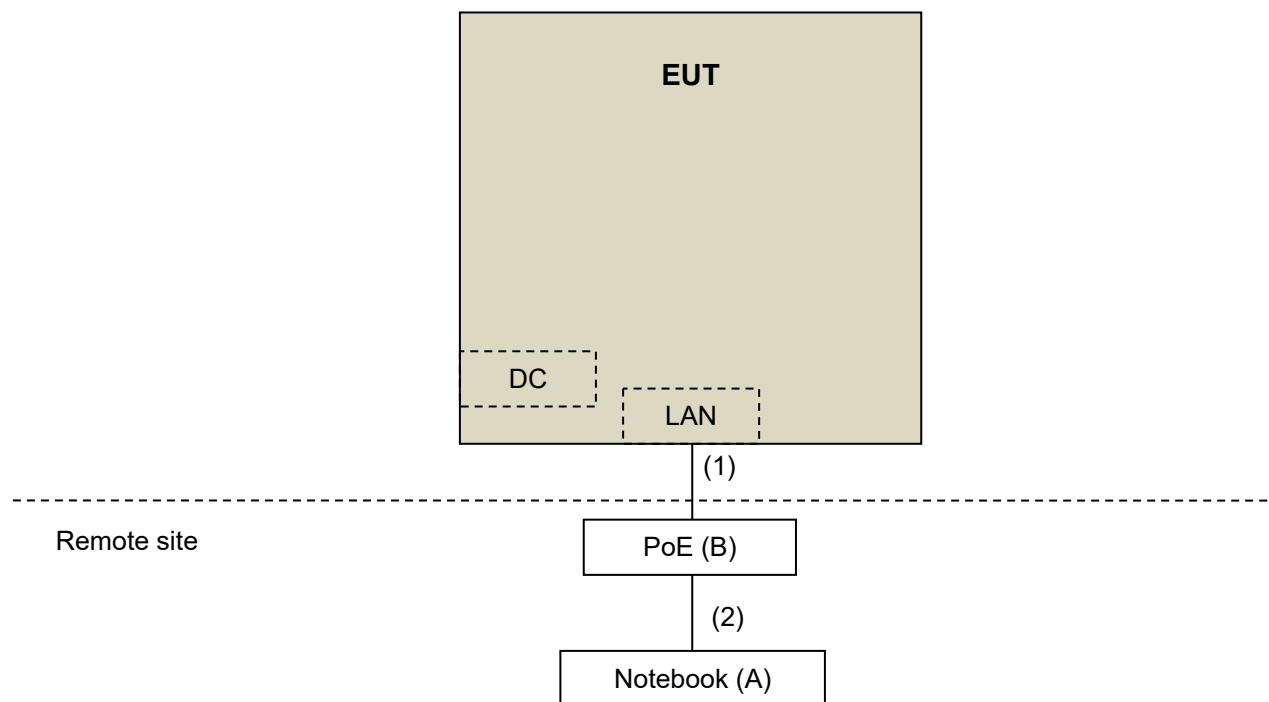
ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	1.5	N	0	RJ45, Cat5e
2.	LAN cable	1	7	N	0	RJ45, Cat5e

3.4.1 Configuration of System under Test

Mode A



Mode B



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 Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBμV/m) ^{*1} PK: 105.2 (dBμV/m) ^{*2} PK: 110.8(dBμV/m) ^{*3} PK: 122.2 (dBμV/m) ^{*4}
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Dec. 31, 2020	Dec. 30, 2021
			Dec. 30, 2021	Dec. 29, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 01, 2021	Oct. 30, 2022
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Nov. 22, 2020	Nov. 21, 2021
			Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Oct. 26, 2021	Oct. 25, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jun. 05, 2021	Jun. 04, 2022
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH4-01	Jul. 24, 2021	Jul. 23, 2022
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	Jul. 24, 2021	Jul. 23, 2022
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Jul. 24, 2021	Jul. 23, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Jun. 05, 2021	Jun. 04, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Jun. 05, 2021	Jun. 04, 2022
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2021	Sep. 03, 2022
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	Jul. 12, 2021	Jul. 11, 2022

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 4.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

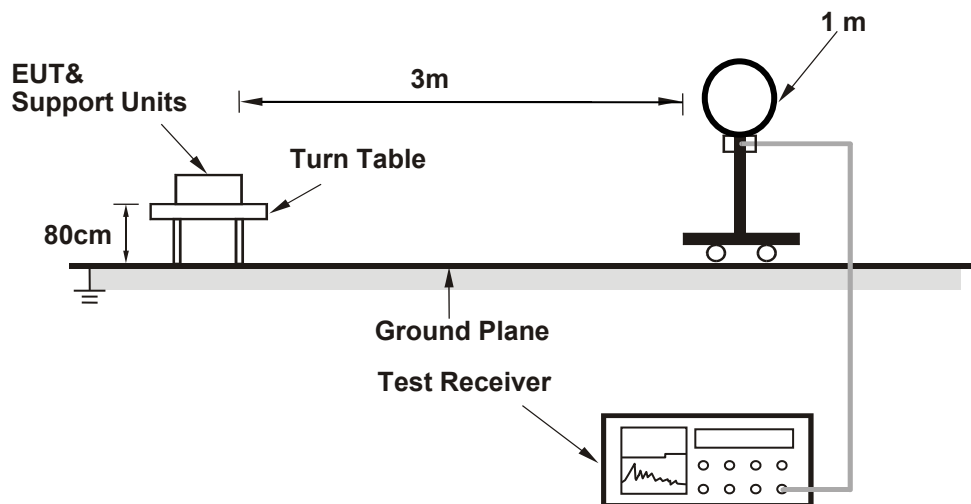
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
 (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE40): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE80): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE160): RBW = 1MHz, VBW = 1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

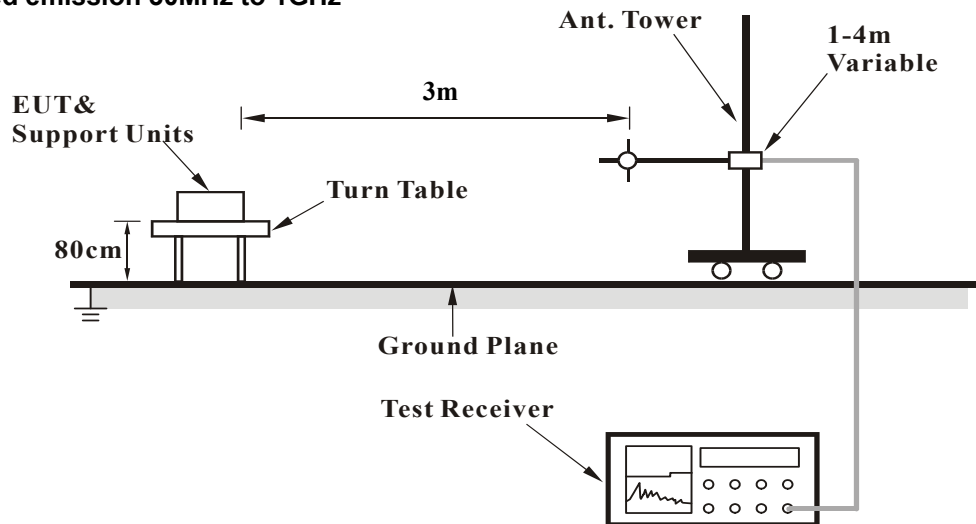
No deviation.

4.1.5 Test Setup

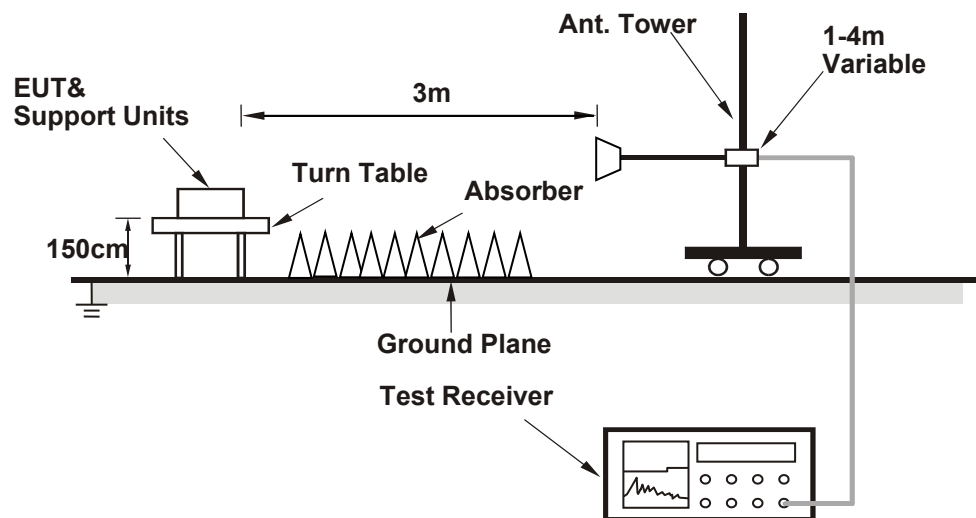
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable 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	65.2 PK	74.0	-8.8	1.04 H	317	52.3	12.9
2	5150.00	53.7 AV	54.0	-0.3	1.04 H	317	40.8	12.9
3	*5180.00	121.6 PK			1.04 H	317	79.2	42.4
4	*5180.00	112.6 AV			1.04 H	317	70.2	42.4
5	#10360.00	61.5 PK	68.2	-6.7	1.99 H	229	38.9	22.6
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	60.6 PK	74.0	-13.4	3.84 V	174	47.7	12.9
2	5150.00	50.1 AV	54.0	-3.9	3.84 V	174	37.2	12.9
3	*5180.00	117.4 PK			3.84 V	174	75.0	42.4
4	*5180.00	108.0 AV			3.84 V	174	65.6	42.4
5	#10360.00	60.9 PK	68.2	-7.3	2.25 V	312	38.3	22.6

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 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	121.7 PK			1.03 H	302	79.5	42.2
2	*5200.00	112.1 AV			1.03 H	302	69.9	42.2
3	#10400.00	62.0 PK	68.2	-6.2	2.01 H	226	39.2	22.8
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	*5200.00	118.0 PK			3.78 V	39	75.8	42.2
2	*5200.00	108.9 AV			3.78 V	39	66.7	42.2
3	#10400.00	61.2 PK	68.2	-7.0	2.26 V	310	38.4	22.8

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 802.11a	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	121.9 PK			1.05 H	316	79.7	42.2
2	*5240.00	112.6 AV			1.05 H	316	70.4	42.2
3	5350.00	59.7 PK	74.0	-14.3	1.05 H	316	46.7	13.0
4	5350.00	48.7 AV	54.0	-5.3	1.05 H	316	35.7	13.0
5	#10480.00	62.1 PK	68.2	-6.1	2.21 H	231	39.3	22.8
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	*5240.00	117.2 PK			3.79 V	33	75.0	42.2
2	*5240.00	108.2 AV			3.79 V	33	66.0	42.2
3	5350.00	60.3 PK	74.0	-13.7	3.79 V	33	47.3	13.0
4	5350.00	47.5 AV	54.0	-6.5	3.79 V	33	34.5	13.0
5	#10480.00	61.4 PK	68.2	-6.8	2.03 V	298	38.6	22.8

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 802.11a	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	58.8 PK	74.0	-15.2	1.14 H	317	45.9	12.9
2	5150.00	49.6 AV	54.0	-4.4	1.14 H	317	36.7	12.9
3	*5260.00	117.8 PK			1.14 H	317	75.5	42.3
4	*5260.00	108.7 AV			1.14 H	317	66.4	42.3
5	#10520.00	61.5 PK	68.2	-6.7	2.16 H	239	38.5	23.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	3.91 V	169	47.2	12.9
2	5150.00	47.8 AV	54.0	-6.2	3.91 V	169	34.9	12.9
3	*5260.00	112.5 PK			3.91 V	169	70.2	42.3
4	*5260.00	103.2 AV			3.91 V	169	60.9	42.3
5	#10520.00	61.2 PK	68.2	-7.0	2.26 V	341	38.2	23.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	116.9 PK			1.15 H	313	74.6	42.3
2	*5300.00	107.9 AV			1.15 H	313	65.6	42.3
3	10600.00	62.0 PK	74.0	-12.0	2.19 H	243	38.5	23.5
4	10600.00	50.7 AV	54.0	-3.3	2.19 H	243	27.2	23.5
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	*5300.00	111.5 PK			3.88 V	168	69.2	42.3
2	*5300.00	102.1 AV			3.88 V	168	59.8	42.3
3	10600.00	61.7 PK	74.0	-12.3	2.41 V	315	38.2	23.5
4	10600.00	50.2 AV	54.0	-3.8	2.41 V	315	26.7	23.5

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 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	117.5 PK			1.19 H	316	75.1	42.4
2	*5320.00	108.4 AV			1.19 H	316	66.0	42.4
3	5350.00	60.1 PK	74.0	-13.9	1.19 H	316	47.1	13.0
4	5350.00	48.8 AV	54.0	-5.2	1.19 H	316	35.8	13.0
5	10640.00	62.6 PK	74.0	-11.4	2.25 H	243	39.1	23.5
6	10640.00	51.0 AV	54.0	-3.0	2.25 H	243	27.5	23.5
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			3.59 V	247	69.0	42.4
2	*5320.00	101.8 AV			3.59 V	247	59.4	42.4
3	5350.00	58.7 PK	74.0	-15.3	3.59 V	247	45.7	13.0
4	5350.00	47.0 AV	54.0	-7.0	3.59 V	247	34.0	13.0
5	10640.00	62.0 PK	74.0	-12.0	2.41 V	310	38.5	23.5
6	10640.00	50.4 AV	54.0	-3.6	2.41 V	310	26.9	23.5

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	1.27 H	312	48.1	13.2
2	5460.00	48.9 AV	54.0	-5.1	1.27 H	312	35.7	13.2
3	#5470.00	61.1 PK	68.2	-7.1	1.27 H	312	47.7	13.4
4	*5500.00	117.2 PK			1.27 H	312	74.3	42.9
5	*5500.00	108.7 AV			1.27 H	312	65.8	42.9
6	11000.00	63.4 PK	74.0	-10.6	2.32 H	248	39.1	24.3
7	11000.00	51.8 AV	54.0	-2.2	2.32 H	248	27.5	24.3
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	5460.00	57.5 PK	74.0	-16.5	3.57 V	250	44.3	13.2
2	5460.00	46.7 AV	54.0	-7.3	3.57 V	250	33.5	13.2
3	#5470.00	59.9 PK	68.2	-8.3	3.57 V	250	46.5	13.4
4	*5500.00	111.5 PK			3.57 V	250	68.6	42.9
5	*5500.00	102.7 AV			3.57 V	250	59.8	42.9
6	11000.00	62.5 PK	74.0	-11.5	2.06 V	336	38.2	24.3
7	11000.00	51.2 AV	54.0	-2.8	2.06 V	336	26.9	24.3

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	117.3 PK			1.26 H	313	74.4	42.9
2	*5580.00	108.5 AV			1.26 H	313	65.6	42.9
3	11160.00	63.6 PK	74.0	-10.4	2.35 H	245	39.4	24.2
4	11160.00	51.7 AV	54.0	-2.3	2.35 H	245	27.5	24.2
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	*5580.00	111.1 PK			3.55 V	249	68.2	42.9
2	*5580.00	101.3 AV			3.55 V	249	58.4	42.9
3	11160.00	62.9 PK	74.0	-11.1	2.14 V	325	38.7	24.2
4	11160.00	51.0 AV	54.0	-3.0	2.14 V	325	26.8	24.2

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 802.11a	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	117.7 PK			1.09 H	316	74.7	43.0
2	*5700.00	108.7 AV			1.09 H	316	65.7	43.0
3	#5725.00	63.1 PK	68.2	-5.1	1.09 H	316	49.6	13.5
4	11400.00	64.4 PK	74.0	-9.6	2.35 H	244	39.3	25.1
5	11400.00	52.5 AV	54.0	-1.5	2.35 H	244	27.4	25.1
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	*5700.00	111.5 PK			3.57 V	253	68.5	43.0
2	*5700.00	102.8 AV			3.57 V	253	59.8	43.0
3	#5725.00	60.6 PK	68.2	-7.6	3.57 V	253	47.1	13.5
4	11400.00	63.8 PK	74.0	-10.2	2.33 V	317	38.7	25.1
5	11400.00	52.0 AV	54.0	-2.0	2.33 V	317	26.9	25.1

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 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	60.7 PK	68.2	-7.5	1.10 H	315	47.3	13.4
2	*5720.00	116.7 PK			1.10 H	315	73.5	43.2
3	*5720.00	107.9 AV			1.10 H	315	64.7	43.2
4	#5850.00	61.5 PK	68.2	-6.7	1.10 H	315	47.4	14.1
5	11440.00	64.1 PK	74.0	-9.9	2.25 H	245	39.0	25.1
6	11440.00	52.3 AV	54.0	-1.7	2.25 H	245	27.2	25.1
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	#5470.00	60.1 PK	68.2	-8.1	3.57 V	252	46.7	13.4
2	*5720.00	111.6 PK			3.57 V	252	68.4	43.2
3	*5720.00	102.5 AV			3.57 V	252	59.3	43.2
4	#5850.00	60.3 PK	68.2	-7.9	3.57 V	252	46.2	14.1
5	11440.00	63.4 PK	74.0	-10.6	2.10 V	315	38.3	25.1
6	11440.00	52.0 AV	54.0	-2.0	2.10 V	315	26.9	25.1

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 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	#5646.40	63.3 PK	68.2	-4.9	1.36 H	317	50.0	13.3
2	*5745.00	121.1 PK			1.36 H	317	77.6	43.5
3	*5745.00	112.2 AV			1.36 H	317	68.7	43.5
4	#5933.20	64.8 PK	68.2	-3.4	1.36 H	317	50.7	14.1
5	11490.00	65.7 PK	74.0	-8.3	2.16 H	235	40.5	25.2
6	11490.00	52.3 AV	54.0	-1.7	2.16 H	235	27.1	25.2
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	#5642.40	62.3 PK	68.2	-5.9	3.78 V	39	48.9	13.4
2	*5745.00	117.7 PK			3.78 V	39	74.2	43.5
3	*5745.00	108.7 AV			3.78 V	39	65.2	43.5
4	#5935.60	61.6 PK	68.2	-6.6	3.78 V	39	47.5	14.1
5	11490.00	65.4 PK	74.0	-8.6	2.26 V	314	40.2	25.2
6	11490.00	52.0 AV	54.0	-2.0	2.26 V	314	26.8	25.2

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 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	#5608.40	59.8 PK	68.2	-8.4	1.33 H	319	46.4	13.4
2	*5785.00	122.1 PK			1.33 H	319	78.4	43.7
3	*5785.00	113.3 AV			1.33 H	319	69.6	43.7
4	#5974.80	62.6 PK	68.2	-5.6	1.33 H	319	48.4	14.2
5	11570.00	65.5 PK	74.0	-8.5	2.21 H	236	40.6	24.9
6	11570.00	52.3 AV	54.0	-1.7	2.21 H	236	27.4	24.9
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	#5632.40	62.3 PK	68.2	-5.9	3.75 V	40	48.9	13.4
2	*5785.00	118.9 PK			3.75 V	40	75.2	43.7
3	*5785.00	110.0 AV			3.75 V	40	66.3	43.7
4	#5979.60	62.4 PK	68.2	-5.8	3.75 V	40	48.2	14.2
5	11570.00	65.1 PK	74.0	-8.9	2.14 V	336	40.2	24.9
6	11570.00	51.8 AV	54.0	-2.2	2.14 V	336	26.9	24.9

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 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	60.1 PK	68.2	-8.1	1.17 H	320	46.7	13.4
2	*5825.00	122.0 PK			1.17 H	320	78.2	43.8
3	*5825.00	113.0 AV			1.17 H	320	69.2	43.8
4	#5987.20	62.8 PK	68.2	-5.4	1.17 H	320	48.6	14.2
5	11650.00	65.2 PK	74.0	-8.8	2.19 H	229	40.6	24.6
6	11650.00	51.9 AV	54.0	-2.1	2.19 H	229	27.3	24.6
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	#5629.20	61.8 PK	68.2	-6.4	4.00 V	35	48.4	13.4
2	*5825.00	118.5 PK			4.00 V	35	74.7	43.8
3	*5825.00	109.8 AV			4.00 V	35	66.0	43.8
4	#5948.00	62.6 PK	68.2	-5.6	4.00 V	35	48.4	14.2
5	11650.00	64.8 PK	74.0	-9.2	2.14 V	316	40.2	24.6
6	11650.00	51.4 AV	54.0	-2.6	2.14 V	316	26.8	24.6

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 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	65.1 PK	74.0	-8.9	1.00 H	313	52.2	12.9
2	5150.00	53.9 AV	54.0	-0.1	1.00 H	313	41.0	12.9
3	*5180.00	123.0 PK			1.00 H	313	80.6	42.4
4	*5180.00	111.0 AV			1.00 H	313	68.6	42.4
5	#10360.00	61.8 PK	68.2	-6.4	1.95 H	224	39.2	22.6
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	61.9 PK	74.0	-12.1	3.79 V	37	49.0	12.9
2	5150.00	50.5 AV	54.0	-3.5	3.79 V	37	37.6	12.9
3	*5180.00	117.4 PK			3.79 V	37	75.0	42.4
4	*5180.00	105.8 AV			3.79 V	37	63.4	42.4
5	#10360.00	61.1 PK	68.2	-7.1	2.11 V	309	38.5	22.6

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 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	123.5 PK			1.05 H	303	81.3	42.2
2	*5200.00	111.5 AV			1.05 H	303	69.3	42.2
3	#10400.00	62.3 PK	68.2	-5.9	1.96 H	231	39.5	22.8
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	*5200.00	117.4 PK			3.77 V	41	75.2	42.2
2	*5200.00	107.3 AV			3.77 V	41	65.1	42.2
3	#10400.00	62.0 PK	68.2	-6.2	2.14 V	331	39.2	22.8

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 (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	124.1 PK			1.03 H	314	81.9	42.2
2	*5240.00	111.9 AV			1.03 H	314	69.7	42.2
3	5350.00	59.9 PK	74.0	-14.1	1.03 H	314	46.9	13.0
4	5350.00	49.0 AV	54.0	-5.0	1.03 H	314	36.0	13.0
5	#10480.00	62.1 PK	68.2	-6.1	1.95 H	225	39.3	22.8

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	*5240.00	116.8 PK			3.79 V	35	74.6	42.2
2	*5240.00	106.5 AV			3.79 V	35	64.3	42.2
3	5350.00	58.9 PK	74.0	-15.1	3.79 V	35	45.9	13.0
4	5350.00	46.9 AV	54.0	-7.1	3.79 V	35	33.9	13.0
5	#10480.00	61.3 PK	68.2	-6.9	2.06 V	334	38.5	22.8

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 (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	59.8 PK	74.0	-14.2	1.11 H	312	46.9	12.9
2	5150.00	49.4 AV	54.0	-4.6	1.11 H	312	36.5	12.9
3	*5260.00	119.6 PK			1.11 H	312	77.3	42.3
4	*5260.00	108.4 AV			1.11 H	312	66.1	42.3
5	#10520.00	61.7 PK	68.2	-6.5	2.21 H	235	38.7	23.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.3 PK	74.0	-13.7	3.59 V	258	47.4	12.9
2	5150.00	47.4 AV	54.0	-6.6	3.59 V	258	34.5	12.9
3	*5260.00	115.7 PK			3.59 V	258	73.4	42.3
4	*5260.00	102.5 AV			3.59 V	258	60.2	42.3
5	#10520.00	61.2 PK	68.2	-7.0	2.10 V	339	38.2	23.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
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	120.2 PK			1.22 H	307	77.9	42.3
2	*5300.00	108.6 AV			1.22 H	307	66.3	42.3
3	10600.00	62.3 PK	74.0	-11.7	2.23 H	235	38.8	23.5
4	10600.00	50.8 AV	54.0	-3.2	2.23 H	235	27.3	23.5
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	*5300.00	114.1 PK			3.61 V	260	71.8	42.3
2	*5300.00	103.5 AV			3.61 V	260	61.2	42.3
3	10600.00	62.0 PK	74.0	-12.0	2.03 V	308	38.5	23.5
4	10600.00	50.3 AV	54.0	-3.7	2.03 V	308	26.8	23.5

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 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	120.5 PK			1.18 H	311	78.1	42.4
2	*5320.00	108.0 AV			1.18 H	311	65.6	42.4
3	5350.00	60.1 PK	74.0	-13.9	1.18 H	311	47.1	13.0
4	5350.00	48.8 AV	54.0	-5.2	1.18 H	311	35.8	13.0
5	10640.00	62.5 PK	74.0	-11.5	2.25 H	243	39.0	23.5
6	10640.00	51.0 AV	54.0	-3.0	2.25 H	243	27.5	23.5
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	112.2 PK			3.59 V	266	69.8	42.4
2	*5320.00	102.3 AV			3.59 V	266	59.9	42.4
3	5350.00	59.3 PK	74.0	-14.7	3.59 V	266	46.3	13.0
4	5350.00	46.9 AV	54.0	-7.1	3.59 V	266	33.9	13.0
5	10640.00	61.9 PK	74.0	-12.1	2.14 V	310	38.4	23.5
6	10640.00	50.4 AV	54.0	-3.6	2.14 V	310	26.9	23.5

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	61.0 PK	74.0	-13.0	1.29 H	314	47.8	13.2
2	5460.00	49.1 AV	54.0	-4.9	1.29 H	314	35.9	13.2
3	#5470.00	60.7 PK	68.2	-7.5	1.29 H	314	47.3	13.4
4	*5500.00	120.0 PK			1.29 H	314	77.1	42.9
5	*5500.00	107.7 AV			1.29 H	314	64.8	42.9
6	11000.00	63.6 PK	74.0	-10.4	2.28 H	245	39.3	24.3
7	11000.00	51.5 AV	54.0	-2.5	2.28 H	245	27.2	24.3
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	5460.00	59.2 PK	74.0	-14.8	3.64 V	258	46.0	13.2
2	5460.00	46.6 AV	54.0	-7.4	3.64 V	258	33.4	13.2
3	#5470.00	60.3 PK	68.2	-7.9	3.64 V	258	46.9	13.4
4	*5500.00	113.5 PK			3.64 V	258	70.6	42.9
5	*5500.00	102.7 AV			3.64 V	258	59.8	42.9
6	11000.00	62.5 PK	74.0	-11.5	2.14 V	336	38.2	24.3
7	11000.00	51.1 AV	54.0	-2.9	2.14 V	336	26.8	24.3

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 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	119.3 PK			1.26 H	314	76.4	42.9
2	*5580.00	108.3 AV			1.26 H	314	65.4	42.9
3	11160.00	63.6 PK	74.0	-10.4	2.28 H	243	39.4	24.2
4	11160.00	51.5 AV	54.0	-2.5	2.28 H	243	27.3	24.2
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	*5580.00	113.5 PK			3.66 V	258	70.6	42.9
2	*5580.00	102.7 AV			3.66 V	258	59.8	42.9
3	11160.00	63.1 PK	74.0	-10.9	2.10 V	320	38.9	24.2
4	11160.00	50.9 AV	54.0	-3.1	2.10 V	320	26.7	24.2

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 (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	120.5 PK			1.12 H	315	77.5	43.0
2	*5700.00	108.6 AV			1.12 H	315	65.6	43.0
3	#5725.00	63.8 PK	68.2	-4.4	1.12 H	315	50.3	13.5
4	11400.00	64.4 PK	74.0	-9.6	2.25 H	245	39.3	25.1
5	11400.00	52.4 AV	54.0	-1.6	2.25 H	245	27.3	25.1
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	*5700.00	111.8 PK			3.64 V	233	68.8	43.0
2	*5700.00	102.7 AV			3.64 V	233	59.7	43.0
3	#5725.00	59.4 PK	68.2	-8.8	3.64 V	233	45.9	13.5
4	11400.00	63.9 PK	74.0	-10.1	2.18 V	315	38.8	25.1
5	11400.00	52.0 AV	54.0	-2.0	2.18 V	315	26.9	25.1

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 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	61.1 PK	68.2	-7.1	1.11 H	314	47.7	13.4
2	*5720.00	120.4 PK			1.11 H	314	77.2	43.2
3	*5720.00	107.7 AV			1.11 H	314	64.5	43.2
4	#5850.00	61.3 PK	68.2	-6.9	1.11 H	314	47.2	14.1
5	11440.00	64.4 PK	74.0	-9.6	2.25 H	248	39.3	25.1
6	11440.00	52.2 AV	54.0	-1.8	2.25 H	248	27.1	25.1
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	#5470.00	60.2 PK	68.2	-8.0	3.64 V	243	46.8	13.4
2	*5720.00	113.1 PK			3.59 V	243	69.9	43.2
3	*5720.00	102.9 AV			3.59 V	243	59.7	43.2
4	#5850.00	61.0 PK	68.2	-7.2	3.64 V	243	46.9	14.1
5	11440.00	63.8 PK	74.0	-10.2	2.29 V	314	38.7	25.1
6	11440.00	52.0 AV	54.0	-2.0	2.29 V	314	26.9	25.1

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 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	#5648.80	60.7 PK	68.2	-7.5	1.11 H	307	47.4	13.3
2	*5745.00	123.9 PK			1.11 H	307	80.4	43.5
3	*5745.00	112.0 AV			1.11 H	307	68.5	43.5
4	#5993.20	62.3 PK	68.2	-5.9	1.11 H	307	48.1	14.2
5	11490.00	65.6 PK	74.0	-8.4	1.96 H	229	40.4	25.2
6	11490.00	52.4 AV	54.0	-1.6	1.96 H	229	27.2	25.2
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	#5610.80	61.5 PK	68.2	-6.7	3.81 V	249	48.1	13.4
2	*5745.00	119.3 PK			3.81 V	249	75.8	43.5
3	*5745.00	108.7 AV			3.81 V	249	65.2	43.5
4	#5940.00	62.8 PK	68.2	-5.4	3.81 V	249	48.6	14.2
5	11490.00	65.4 PK	74.0	-8.6	2.25 V	319	40.2	25.2
6	11490.00	52.0 AV	54.0	-2.0	2.25 V	319	26.8	25.2

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 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	#5615.60	60.6 PK	68.2	-7.6	1.01 H	306	47.2	13.4
2	*5785.00	124.6 PK			1.01 H	306	80.9	43.7
3	*5785.00	112.5 AV			1.01 H	306	68.8	43.7
4	#5984.40	61.4 PK	68.2	-6.8	1.01 H	306	47.2	14.2
5	11570.00	65.7 PK	74.0	-8.3	2.06 H	228	40.8	24.9
6	11570.00	52.3 AV	54.0	-1.7	2.06 H	228	27.4	24.9
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	#5601.60	61.3 PK	68.2	-6.9	3.80 V	255	48.0	13.3
2	*5785.00	117.8 PK			3.80 V	255	74.1	43.7
3	*5785.00	108.2 AV			3.80 V	255	64.5	43.7
4	#5965.20	61.4 PK	68.2	-6.8	3.80 V	255	47.2	14.2
5	11570.00	65.1 PK	74.0	-8.9	2.29 V	314	40.2	24.9
6	11570.00	51.7 AV	54.0	-2.3	2.29 V	314	26.8	24.9

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 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	#5640.00	59.9 PK	68.2	-8.3	1.17 H	307	46.5	13.4
2	*5825.00	125.0 PK			1.17 H	307	81.2	43.8
3	*5825.00	112.8 AV			1.17 H	307	69.0	43.8
4	#5986.40	63.1 PK	68.2	-5.1	1.17 H	307	48.9	14.2
5	11650.00	65.7 PK	74.0	-8.3	2.23 H	241	41.1	24.6
6	11650.00	52.0 AV	54.0	-2.0	2.23 H	241	27.4	24.6
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	#5608.40	62.2 PK	68.2	-6.0	3.82 V	237	48.8	13.4
2	*5825.00	120.9 PK			3.82 V	237	77.1	43.8
3	*5825.00	108.8 AV			3.82 V	237	65.0	43.8
4	#5982.80	63.4 PK	68.2	-4.8	3.82 V	237	49.2	14.2
5	11650.00	65.2 PK	74.0	-8.8	2.29 V	315	40.6	24.6
6	11650.00	51.3 AV	54.0	-2.7	2.29 V	315	26.7	24.6

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 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	72.2 PK	74.0	-1.8	1.02 H	305	59.3	12.9
2	5150.00	53.9 AV	54.0	-0.1	1.02 H	305	41.0	12.9
3	*5190.00	117.6 PK			1.02 H	305	75.3	42.3
4	*5190.00	107.7 AV			1.02 H	305	65.4	42.3
5	#10380.00	61.8 PK	68.2	-6.4	2.02 H	231	39.1	22.7
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	5150.00	65.4 PK	74.0	-8.6	3.79 V	40	52.5	12.9
2	5150.00	51.2 AV	54.0	-2.8	3.79 V	40	38.3	12.9
3	*5190.00	115.4 PK			3.79 V	40	73.1	42.3
4	*5190.00	103.9 AV			3.79 V	40	61.6	42.3
5	#10380.00	61.3 PK	68.2	-6.9	2.26 V	314	38.6	22.7

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 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	68.1 PK	74.0	-5.9	1.00 H	304	55.2	12.9
2	5150.00	53.4 AV	54.0	-0.6	1.00 H	304	40.5	12.9
3	*5230.00	119.9 PK			1.00 H	304	77.7	42.2
4	*5230.00	109.1 AV			1.00 H	304	66.9	42.2
5	5350.00	63.2 PK	74.0	-10.8	1.00 H	304	50.2	13.0
6	5350.00	49.9 AV	54.0	-4.1	1.00 H	304	36.9	13.0
7	#10460.00	61.9 PK	68.2	-6.3	1.96 H	225	39.0	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	3.73 V	41	51.8	12.9
2	5150.00	51.9 AV	54.0	-2.1	3.73 V	41	39.0	12.9
3	*5230.00	116.6 PK			3.73 V	41	74.4	42.2
4	*5230.00	105.2 AV			3.73 V	41	63.0	42.2
5	5350.00	62.3 PK	74.0	-11.7	3.73 V	41	49.3	13.0
6	5350.00	49.7 AV	54.0	-4.3	3.73 V	41	36.7	13.0
7	#10460.00	61.3 PK	68.2	-6.9	2.19 V	310	38.4	22.9

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 (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	59.2 PK	74.0	-14.8	1.07 H	303	46.3	12.9
2	5150.00	49.0 AV	54.0	-5.0	1.07 H	303	36.1	12.9
3	*5270.00	116.5 PK			1.07 H	303	74.2	42.3
4	*5270.00	106.9 AV			1.07 H	303	64.6	42.3
5	#10540.00	61.4 PK	68.2	-6.8	2.18 H	229	38.3	23.1
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	59.3 PK	74.0	-14.7	3.60 V	250	46.4	12.9
2	5150.00	46.9 AV	54.0	-7.1	3.60 V	250	34.0	12.9
3	*5270.00	110.0 PK			3.60 V	25	67.7	42.3
4	*5270.00	99.9 AV			3.60 V	25	57.6	42.3
5	#10540.00	61.1 PK	68.2	-7.1	2.36 V	314	38.0	23.1

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	116.1 PK			1.06 H	303	73.7	42.4
2	*5310.00	105.9 AV			1.06 H	303	63.5	42.4
3	5350.00	61.7 PK	74.0	-12.3	1.06 H	303	48.7	13.0
4	5350.00	50.7 AV	54.0	-3.3	1.06 H	303	37.7	13.0
5	10620.00	61.9 PK	74.0	-12.1	2.23 H	237	38.5	23.4
6	10620.00	50.5 AV	54.0	-3.5	2.23 H	237	27.1	23.4
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	*5310.00	109.7 PK			3.57 V	269	67.3	42.4
2	*5310.00	99.5 AV			3.57 V	269	57.1	42.4
3	5350.00	59.7 PK	74.0	-14.3	3.57 V	269	46.7	13.0
4	5350.00	47.2 AV	54.0	-6.8	3.57 V	269	34.2	13.0
5	10620.00	61.6 PK	74.0	-12.4	2.20 V	314	38.2	23.4
6	10620.00	50.1 AV	54.0	-3.9	2.20 V	314	26.7	23.4

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 (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	60.4 PK	74.0	-13.6	1.20 H	317	47.2	13.2
2	5460.00	49.4 AV	54.0	-4.6	1.20 H	317	36.2	13.2
3	#5470.00	62.6 PK	68.2	-5.6	1.20 H	317	49.2	13.4
4	*5510.00	115.2 PK			1.20 H	317	72.3	42.9
5	*5510.00	105.1 AV			1.20 H	317	62.2	42.9
6	11020.00	63.0 PK	74.0	-11.0	2.25 H	239	38.8	24.2
7	11020.00	51.4 AV	54.0	-2.6	2.25 H	239	27.2	24.2
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	5460.00	59.6 PK	74.0	-14.4	3.64 V	249	46.4	13.2
2	5460.00	47.5 AV	54.0	-6.5	3.64 V	249	34.3	13.2
3	#5470.00	61.0 PK	68.2	-7.2	3.64 V	249	47.6	13.4
4	*5510.00	110.6 PK			3.64 V	249	67.7	42.9
5	*5510.00	100.1 AV			3.64 V	249	57.2	42.9
6	11020.00	62.4 PK	74.0	-11.6	2.16 V	314	38.2	24.2
7	11020.00	51.1 AV	54.0	-2.9	2.16 V	314	26.9	24.2

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 (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	115.2 PK			1.07 H	329	72.3	42.9
2	*5550.00	104.7 AV			1.07 H	329	61.8	42.9
3	11100.00	62.8 PK	74.0	-11.2	2.24 H	235	38.6	24.2
4	11100.00	51.5 AV	54.0	-2.5	2.24 H	235	27.3	24.2
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	109.4 PK			3.60 V	253	66.5	42.9
2	*5550.00	99.2 AV			3.60 V	253	56.3	42.9
3	11100.00	62.4 PK	74.0	-11.6	2.11 V	306	38.2	24.2
4	11100.00	51.0 AV	54.0	-3.0	2.11 V	306	26.8	24.2

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	115.0 PK			1.08 H	304	72.0	43.0
2	*5670.00	105.2 AV			1.08 H	304	62.2	43.0
3	#5725.00	63.8 PK	68.2	-4.4	1.08 H	304	50.3	13.5
4	11340.00	63.6 PK	74.0	-10.4	2.26 H	239	38.7	24.9
5	11340.00	52.1 AV	54.0	-1.9	2.26 H	239	27.2	24.9
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	*5670.00	111.9 PK			3.59 V	253	68.9	43.0
2	*5670.00	101.3 AV			3.59 V	253	58.3	43.0
3	#5725.00	59.8 PK	68.2	-8.4	3.59 V	253	46.3	13.5
4	11340.00	63.1 PK	74.0	-10.9	2.16 V	334	38.2	24.9
5	11340.00	51.7 AV	54.0	-2.3	2.16 V	334	26.8	24.9

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 (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	60.8 PK	68.2	-7.4	1.18 H	316	47.4	13.4
2	*5710.00	115.9 PK			1.18 H	316	72.8	43.1
3	*5710.00	105.3 AV			1.18 H	316	62.2	43.1
4	#5850.00	62.0 PK	68.2	-6.2	1.18 H	316	47.9	14.1
5	11420.00	64.0 PK	74.0	-10.0	2.31 H	242	38.8	25.2
6	11420.00	52.4 AV	54.0	-1.6	2.31 H	242	27.2	25.2
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	59.9 PK	68.2	-8.3	3.59 V	246	46.5	13.4
2	*5710.00	110.3 PK			3.59 V	246	67.2	43.1
3	*5710.00	100.2 AV			3.59 V	246	57.1	43.1
4	#5850.00	61.0 PK	68.2	-7.2	3.59 V	246	46.9	14.1
5	11420.00	63.6 PK	74.0	-10.4	2.11 V	315	38.4	25.2
6	11420.00	52.0 AV	54.0	-2.0	2.11 V	315	26.8	25.2

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 (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	#5626.40	66.9 PK	68.2	-1.3	1.19 H	316	53.5	13.4
2	*5755.00	120.0 PK			1.19 H	316	76.5	43.5
3	*5755.00	109.9 AV			1.19 H	316	66.4	43.5
4	#5956.40	62.4 PK	68.2	-5.8	1.19 H	316	48.2	14.2
5	11510.00	65.2 PK	74.0	-8.8	2.18 H	226	40.1	25.1
6	11510.00	52.1 AV	54.0	-1.9	2.18 H	226	27.0	25.1
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	#5642.40	62.9 PK	68.2	-5.3	3.82 V	260	49.5	13.4
2	*5755.00	115.7 PK			3.82 V	260	72.2	43.5
3	*5755.00	106.0 AV			3.82 V	260	62.5	43.5
4	#5955.20	62.5 PK	68.2	-5.7	3.82 V	260	48.3	14.2
5	11510.00	65.1 PK	74.0	-8.9	2.25 V	348	40.0	25.1
6	11510.00	51.8 AV	54.0	-2.2	2.25 V	348	26.7	25.1

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 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	#5631.60	63.2 PK	68.2	-5.0	1.20 H	315	49.8	13.4
2	*5795.00	120.8 PK			1.20 H	315	77.0	43.8
3	*5795.00	110.8 AV			1.20 H	315	67.0	43.8
4	#5938.00	63.4 PK	68.2	-4.8	1.20 H	315	49.3	14.1
5	11590.00	65.4 PK	74.0	-8.6	2.13 H	227	40.7	24.7
6	11590.00	52.2 AV	54.0	-1.8	2.13 H	227	27.5	24.7
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	#5609.20	65.2 PK	68.2	-3.0	3.81 V	261	51.8	13.4
2	*5795.00	116.3 PK			3.81 V	261	72.5	43.8
3	*5795.00	106.1 AV			3.81 V	261	62.3	43.8
4	#5934.80	64.8 PK	68.2	-3.4	3.81 V	261	50.7	14.1
5	11590.00	65.0 PK	74.0	-9.0	2.05 V	336	40.3	24.7
6	11590.00	51.6 AV	54.0	-2.4	2.05 V	336	26.9	24.7

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 (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	65.9 PK	74.0	-8.1	1.08 H	304	53.0	12.9
2	5150.00	53.4 AV	54.0	-0.6	1.08 H	304	40.5	12.9
3	*5210.00	114.7 PK			1.08 H	304	72.5	42.2
4	*5210.00	104.5 AV			1.08 H	304	62.3	42.2
5	5350.00	59.8 PK	74.0	-14.2	1.08 H	304	46.8	13.0
6	5350.00	49.0 AV	54.0	-5.0	1.08 H	304	36.0	13.0
7	#10420.00	61.5 PK	68.2	-6.7	2.02 H	231	38.6	22.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.3 PK	74.0	-12.7	3.78 V	39	48.4	12.9
2	5150.00	49.4 AV	54.0	-4.6	3.78 V	39	36.5	12.9
3	*5210.00	111.5 PK			3.78 V	39	69.3	42.2
4	*5210.00	100.2 AV			3.78 V	39	58.0	42.2
5	5350.00	59.4 PK	74.0	-14.6	3.78 V	39	46.4	13.0
6	5350.00	47.1 AV	54.0	-6.9	3.78 V	39	34.1	13.0
7	#10420.00	61.3 PK	68.2	-6.9	2.11 V	298	38.4	22.9

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 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	59.3 PK	74.0	-14.7	1.07 H	304	46.4	12.9
2	5150.00	49.2 AV	54.0	-4.8	1.07 H	304	36.3	12.9
3	*5290.00	113.2 PK			1.07 H	304	70.9	42.3
4	*5290.00	104.0 AV			1.07 H	304	61.7	42.3
5	5350.00	61.4 PK	74.0	-12.6	1.07 H	304	48.4	13.0
6	5350.00	49.6 AV	54.0	-4.4	1.07 H	304	36.6	13.0
7	#10580.00	61.6 PK	68.2	-6.6	2.26 H	243	38.2	23.4
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	5150.00	59.6 PK	74.0	-14.4	3.57 V	249	46.7	12.9
2	5150.00	47.2 AV	54.0	-6.8	3.57 V	249	34.3	12.9
3	*5290.00	107.0 PK			3.57 V	249	64.7	42.3
4	*5290.00	97.4 AV			3.57 V	249	55.1	42.3
5	5350.00	59.4 PK	74.0	-14.6	3.57 V	249	46.4	13.0
6	5350.00	47.3 AV	54.0	-6.7	3.57 V	249	34.3	13.0
7	#10580.00	61.4 PK	68.2	-6.8	2.01 V	318	38.0	23.4

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 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	62.2 PK	74.0	-11.8	1.11 H	314	49.0	13.2
2	5460.00	51.7 AV	54.0	-2.3	1.11 H	314	38.5	13.2
3	#5470.00	65.6 PK	68.2	-2.6	1.11 H	314	52.2	13.4
4	*5530.00	114.2 PK			1.11 H	314	71.3	42.9
5	*5530.00	103.3 AV			1.11 H	314	60.4	42.9
6	11060.00	62.8 PK	74.0	-11.2	2.25 H	243	38.6	24.2
7	11060.00	51.3 AV	54.0	-2.7	2.25 H	243	27.1	24.2
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	5460.00	59.7 PK	74.0	-14.3	3.59 V	241	46.5	13.2
2	5460.00	47.2 AV	54.0	-6.8	3.59 V	241	34.0	13.2
3	#5470.00	61.2 PK	68.2	-7.0	3.59 V	241	47.8	13.4
4	*5530.00	108.3 PK			3.59 V	241	65.4	42.9
5	*5530.00	98.0 AV			3.59 V	241	55.1	42.9
6	11060.00	62.4 PK	74.0	-11.6	2.19 V	318	38.2	24.2
7	11060.00	51.0 AV	54.0	-3.0	2.19 V	318	26.8	24.2

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 122 : 5610 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	61.1 PK	74.0	-12.9	1.15 H	314	47.9	13.2
2	5460.00	48.7 AV	54.0	-5.3	1.15 H	314	35.5	13.2
3	#5470.00	61.4 PK	68.2	-6.8	1.15 H	314	48.0	13.4
4	*5610.00	113.3 PK			1.15 H	314	70.3	43.0
5	*5610.00	102.8 AV			1.15 H	314	59.8	43.0
6	#5725.00	59.9 PK	68.2	-8.3	3.66 H	254	46.4	13.5
7	11220.00	63.0 PK	74.0	-11.0	2.25 H	246	38.7	24.3
8	11220.00	51.5 AV	54.0	-2.5	2.25 H	246	27.2	24.3
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	5460.00	59.7 PK	74.0	-14.3	3.66 V	254	46.5	13.2
2	5460.00	47.3 AV	54.0	-6.7	3.66 V	254	34.1	13.2
3	#5470.00	60.7 PK	68.2	-7.5	3.66 V	254	47.3	13.4
4	*5610.00	109.3 PK			3.66 V	254	66.3	43.0
5	*5610.00	98.2 AV			3.66 V	254	55.2	43.0
6	#5725.00	60.0 PK	68.2	-8.2	3.66 V	254	46.5	13.5
7	11220.00	62.8 PK	74.0	-11.2	2.19 V	305	38.5	24.3
8	11220.00	51.2 AV	54.0	-2.8	2.19 V	305	26.9	24.3

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 (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	62.1 PK	68.2	-6.1	1.17 H	316	48.7	13.4
2	*5690.00	112.9 PK			1.17 H	316	69.9	43.0
3	*5690.00	103.1 AV			1.17 H	316	60.1	43.0
4	#5850.00	61.5 PK	68.2	-6.7	1.17 H	316	47.4	14.1
5	11380.00	63.8 PK	74.0	-10.2	2.26 H	243	38.8	25.0
6	11380.00	52.3 AV	54.0	-1.7	2.26 H	243	27.3	25.0
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	60.6 PK	68.2	-7.6	3.66 V	258	47.2	13.4
2	*5690.00	107.8 PK			3.66 V	258	64.8	43.0
3	*5690.00	98.1 AV			3.66 V	258	55.1	43.0
4	#5850.00	60.9 PK	68.2	-7.3	3.66 V	258	46.8	14.1
5	11380.00	63.4 PK	74.0	-10.6	2.16 V	311	38.4	25.0
6	11380.00	51.9 AV	54.0	-2.1	2.16 V	311	26.9	25.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.40	67.3 PK	68.2	-0.9	1.13 H	319	54.0	13.3
2	*5775.00	117.2 PK			1.13 H	319	73.6	43.6
3	*5775.00	107.0 AV			1.13 H	319	63.4	43.6
4	#5930.00	68.0 PK	68.2	-0.2	1.13 H	319	53.9	14.1
5	11550.00	65.5 PK	74.0	-8.5	2.09 H	228	40.5	25.0
6	11550.00	52.1 AV	54.0	-1.9	2.09 H	228	27.1	25.0
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	#5627.20	65.2 PK	68.2	-3.0	3.82 V	244	51.8	13.4
2	*5775.00	113.3 PK			3.82 V	244	69.7	43.6
3	*5775.00	103.2 AV			3.82 V	244	59.6	43.6
4	#5940.80	65.7 PK	68.2	-2.5	3.82 V	244	51.5	14.2
5	11550.00	65.3 PK	74.0	-8.7	2.43 V	319	40.3	25.0
6	11550.00	51.7 AV	54.0	-2.3	2.43 V	319	26.7	25.0

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 (HE160)	Channel	CH 50 : 5250 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	5113.00	64.0 PK	74.0	-10.0	1.05 H	321	50.9	13.1
2	5113.00	53.4 AV	54.0	-0.6	1.05 H	321	40.3	13.1
3	*5250.00	111.9 PK			1.05 H	321	69.7	42.2
4	*5250.00	100.7 AV			1.05 H	321	58.5	42.2
5	5350.00	64.1 PK	74.0	-9.9	1.05 H	321	51.1	13.0
6	5350.00	52.7 AV	54.0	-1.3	1.05 H	321	39.7	13.0
7	#10500.00	61.5 PK	68.2	-6.7	2.26 H	241	38.5	23.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5113.00	62.8 PK	74.0	-11.2	3.78 V	155	49.7	13.1
2	5113.00	49.6 AV	54.0	-4.4	3.78 V	155	36.5	13.1
3	*5250.00	104.2 PK			3.78 V	155	62.0	42.2
4	*5250.00	94.5 AV			3.78 V	155	52.3	42.2
5	5350.00	61.4 PK	74.0	-12.6	3.78 V	155	48.4	13.0
6	5350.00	49.5 AV	54.0	-4.5	3.78 V	155	36.5	13.0
7	#10500.00	61.0 PK	68.2	-7.2	2.25 V	302	38.0	23.0

Remarks:

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

RF Mode	TX 802.11ax (HE160)	Channel	CH 114 : 5570 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	65.2 PK	74.0	-8.8	1.24 H	315	52.0	13.2
2	5460.00	53.9 AV	54.0	-0.1	1.24 H	315	40.7	13.2
3	#5470.00	65.9 PK	68.2	-2.3	1.24 H	315	52.5	13.4
4	*5570.00	108.7 PK			1.24 H	315	65.8	42.9
5	*5570.00	99.5 AV			1.24 H	315	56.6	42.9
6	11140.00	63.0 PK	74.0	-11.0	2.21 H	236	38.8	24.2
7	11140.00	51.3 AV	54.0	-2.7	2.21 H	236	27.1	24.2
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	5460.00	60.4 PK	74.0	-13.6	3.82 V	178	47.2	13.2
2	5460.00	48.4 AV	54.0	-5.6	3.82 V	178	35.2	13.2
3	#5470.00	60.7 PK	68.2	-7.5	3.82 V	178	47.3	13.4
4	*5570.00	105.2 PK			3.82 V	178	62.3	42.9
5	*5570.00	94.1 AV			3.82 V	178	51.2	42.9
6	11440.00	63.6 PK	74.0	-10.4	2.25 V	295	38.5	25.1
7	11440.00	52.1 AV	54.0	-1.9	2.25 V	295	27.0	25.1

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.

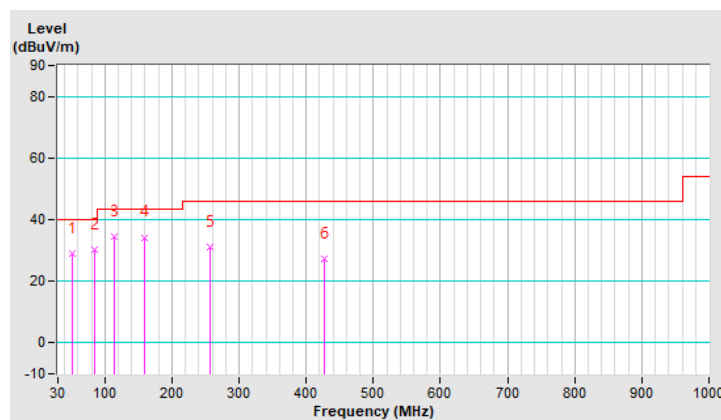
Below 1GHz Worst-Case Data:

RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	51.34	28.9 QP	40.0	-11.1	1.50 H	144	37.4	-8.5
2	84.32	30.2 QP	40.0	-9.8	1.50 H	303	44.2	-14.0
3	113.42	34.5 QP	43.5	-9.0	1.50 H	333	46.2	-11.7
4	159.98	34.3 QP	43.5	-9.2	1.50 H	243	42.9	-8.6
5	256.98	31.2 QP	46.0	-14.8	1.50 H	145	40.4	-9.2
6	427.70	27.2 QP	46.0	-18.8	1.50 H	137	32.4	-5.2

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

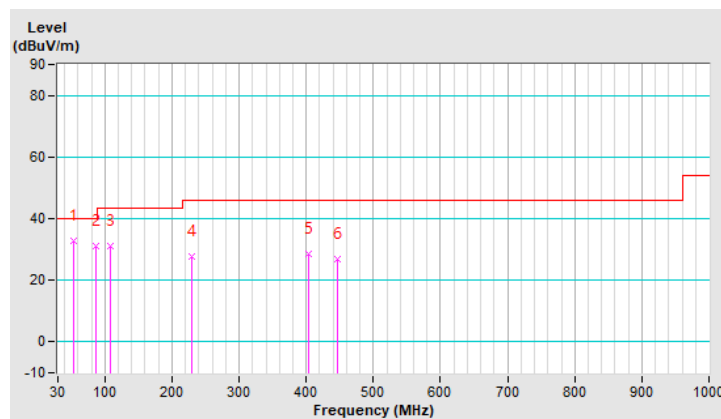


RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	53.28	33.0 QP	40.0	-7.0	1.00 V	18	41.7	-8.7
2	86.26	31.2 QP	40.0	-8.8	1.49 V	168	45.5	-14.3
3	107.60	30.9 QP	43.5	-12.6	1.49 V	67	43.1	-12.2
4	229.82	27.8 QP	46.0	-18.2	1.49 V	194	39.1	-11.3
5	404.42	28.7 QP	46.0	-17.3	1.49 V	196	34.6	-5.9
6	447.10	27.0 QP	46.0	-19.0	1.00 V	264	31.8	-4.8

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

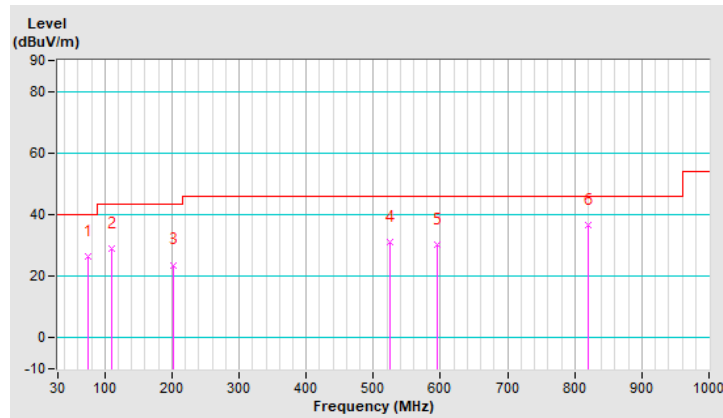


RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	74.62	26.6 QP	40.0	-13.4	1.00 H	234	38.1	-11.5
2	109.54	28.9 QP	43.5	-14.6	1.51 H	286	41.0	-12.1
3	202.66	23.7 QP	43.5	-19.8	1.51 H	262	35.4	-11.7
4	524.70	31.0 QP	46.0	-15.0	1.51 H	148	34.6	-3.6
5	594.54	30.2 QP	46.0	-15.8	1.51 H	188	32.4	-2.2
6	819.58	36.5 QP	46.0	-9.5	1.00 H	181	33.3	3.2

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
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.

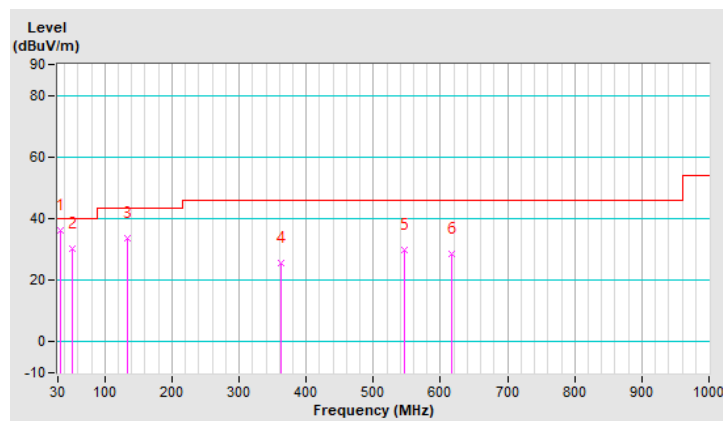


RF Mode	TX 802.11ax (HE20)	Channel	CH 40 : 5200 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.88	36.0 QP	40.0	-4.0	1.00 V	331	46.1	-10.1
2	51.34	30.2 QP	40.0	-9.8	1.49 V	51	38.7	-8.5
3	132.82	33.7 QP	43.5	-9.8	1.49 V	284	43.5	-9.8
4	361.74	25.8 QP	46.0	-20.2	1.49 V	353	32.4	-6.6
5	546.04	29.9 QP	46.0	-16.1	1.49 V	48	33.4	-3.5
6	615.88	28.6 QP	46.0	-17.4	1.49 V	160	30.0	-1.4

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 03, 2021	Dec. 02, 2022
RF signal cable Woken	5D-FB	Cable-cond1-01	Jan. 16, 2021	Jan. 15, 2022
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 25, 2021	Feb. 24, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Sep. 07, 2021	Sep. 06, 2022
Software ADT	BV ADT_Conc_ 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 1(Conduction 1).

3. The VCCI Site Registration No. is C-12040.

4. Tested date: Jan. 15, 2022

4.2.3 Test Procedures

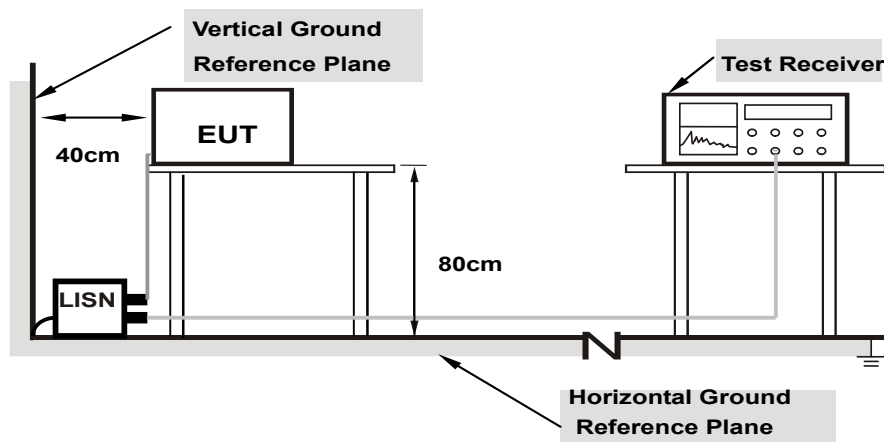
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

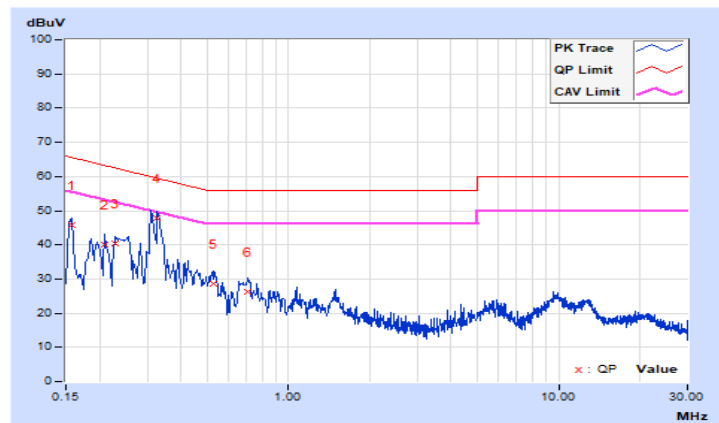
802.11ax (HE20)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	9.76	36.18	27.51	45.94	37.27	65.58	55.58	-19.64	-18.31
2	0.20865	9.77	30.16	21.27	39.93	31.04	63.26	53.26	-23.33	-22.22
3	0.22820	9.78	30.48	23.07	40.26	32.85	62.51	52.51	-22.25	-19.66
4	0.32595	9.81	38.02	28.48	47.83	38.29	59.55	49.55	-11.72	-11.26
5	0.52536	9.85	18.85	11.57	28.70	21.42	56.00	46.00	-27.30	-24.58
6	0.70522	9.87	16.42	11.12	26.29	20.99	56.00	46.00	-29.71	-25.01

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.

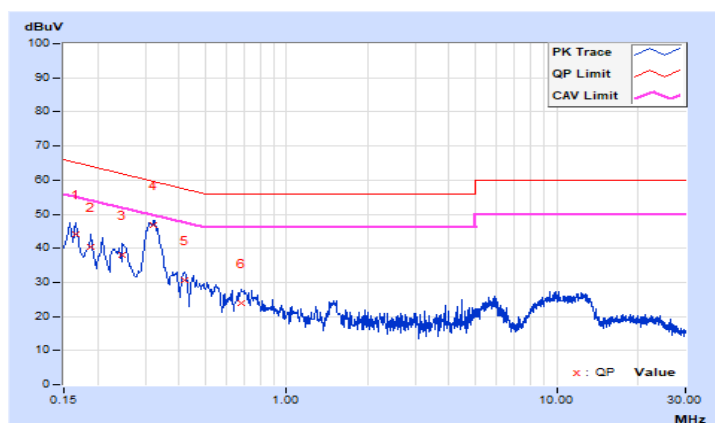


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	9.81	34.29	24.31	44.10	34.12	65.18	55.18	-21.08	-21.06
2	0.18910	9.82	30.64	21.52	40.46	31.34	64.08	54.08	-23.62	-22.74
3	0.24775	9.85	28.11	19.31	37.96	29.16	61.83	51.83	-23.87	-22.67
4	0.32187	9.87	37.01	26.66	46.88	36.53	59.66	49.66	-12.78	-13.13
5	0.41890	9.90	20.86	13.39	30.76	23.29	57.47	47.47	-26.71	-24.18
6	0.67845	9.93	14.04	8.84	23.97	18.77	56.00	46.00	-32.03	-27.23

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.

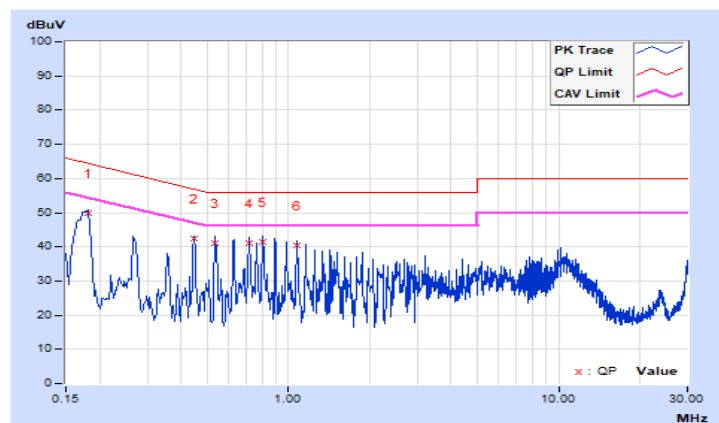


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18075	9.71	40.28	34.27	49.99	43.98	64.45	54.45	-14.46	-10.47
2	0.44716	9.73	32.58	25.64	42.31	35.37	56.93	46.93	-14.62	-11.56
3	0.53709	9.74	31.26	24.34	41.00	34.08	56.00	46.00	-15.00	-11.92
4	0.71304	9.75	31.27	22.84	41.02	32.59	56.00	46.00	-14.98	-13.41
5	0.80297	9.75	31.68	24.08	41.43	33.83	56.00	46.00	-14.57	-12.17
6	1.07276	9.76	30.55	23.14	40.31	32.90	56.00	46.00	-15.69	-13.10

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.

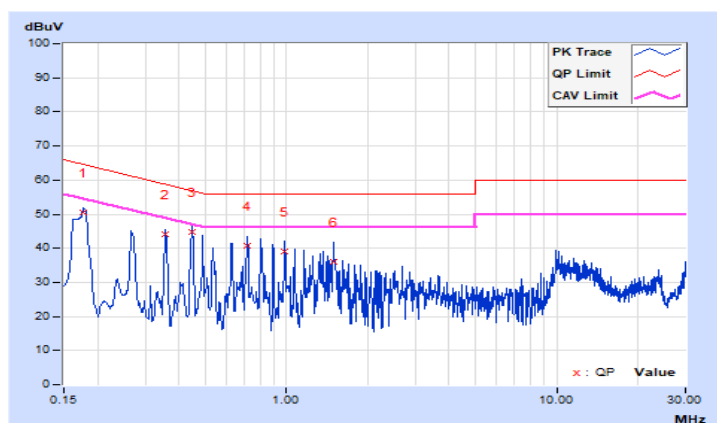


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17737	9.77	40.62	34.35	50.39	44.12	64.61	54.61	-14.22	-10.49
2	0.35723	9.79	34.24	25.85	44.03	35.64	58.79	48.79	-14.76	-13.15
3	0.44716	9.79	35.08	27.97	44.87	37.76	56.93	46.93	-12.06	-9.17
4	0.71695	9.81	30.97	22.79	40.78	32.60	56.00	46.00	-15.22	-13.40
5	0.98283	9.82	29.19	19.58	39.01	29.40	56.00	46.00	-16.99	-16.60
6	1.48722	9.82	26.12	15.26	35.94	25.08	56.00	46.00	-20.06	-20.92

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	✓	Indoor Access Point	1 Watt (30 dBm)
		Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	✓		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	✓		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	✓		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

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

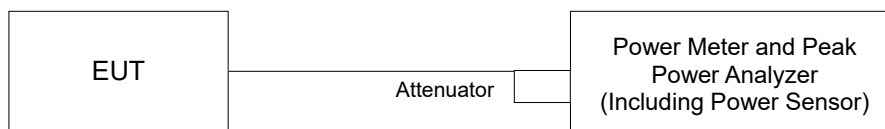
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

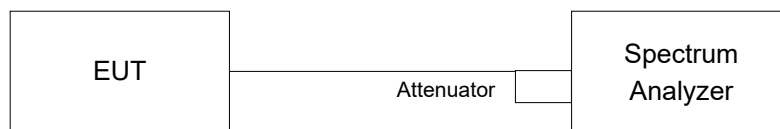
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth and power output of transmission above 5.725 GHz where the EBW crosses 5.725 GHz



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For transmission above 5.725 GHz where the EBW crosses 5.725 GHz

For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section II E 2 b) method SA-1.

For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > 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 Result

Power Output:

CDD Mode

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	26.21	25.95	811.380	29.09	30.00	Pass
40	5200	26.19	25.99	813.102	29.10	30.00	Pass
48	5240	26.17	25.97	809.366	29.08	30.00	Pass
52	5260	20.16	20.12	206.554	23.15	23.96	Pass
60	5300	20.22	20.13	208.235	23.19	23.96	Pass
64	5320	20.22	20.03	205.889	23.14	23.96	Pass
100	5500	20.17	20.21	208.946	23.20	23.99	Pass
116	5580	19.98	20.21	204.495	23.11	23.97	Pass
140	5700	20.25	20.16	209.678	23.22	23.98	Pass
144	5720 (For U-NII-2C)	18.83	18.84	163.212	22.13	22.82	Pass
144	5720 (For U-NII-3)	11.00	11.00	26.869	14.29	30.00	Pass
149	5745	25.98	26.01	795.303	29.01	30.00	Pass
157	5785	25.97	26.03	796.233	29.01	30.00	Pass
165	5825	25.99	26.02	797.136	29.02	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(19.83) = 23.97 < 24\text{dBm}$
2. $11\text{dBm} + 10\log(19.79) = 23.96 < 24\text{dBm}$
3. $11\text{dBm} + 10\log(19.84) = 23.97 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.94) = 23.99 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(19.88) = 23.98 < 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.96) = 24.00 < 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.77) = 22.82 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(19.80) = 23.96 < 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.85) = 24.19 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(19.79) = 23.96 < 24\text{dBm}$
4. $11\text{dBm} + 10\log(19.97) = 24.00 < 24\text{dBm}$
5. $11\text{dBm} + 10\log(19.85) = 23.97 < 24\text{dBm}$
6. $11\text{dBm} + 10\log(19.89) = 23.98 < 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.76) = 22.82 < 24\text{dBm}$

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	24.89	24.72	604.802	27.82	30.00	Pass
40	5200	26.26	25.95	816.219	29.12	30.00	Pass
48	5240	26.22	25.94	811.439	29.09	30.00	Pass
52	5260	20.24	20.12	208.483	23.19	24.00	Pass
60	5300	20.21	19.97	204.266	23.10	24.00	Pass
64	5320	20.13	19.91	200.988	23.03	24.00	Pass
100	5500	20.33	20.07	209.520	23.21	24.00	Pass
116	5580	20.19	20.15	207.986	23.18	24.00	Pass
140	5700	20.07	20.01	201.855	23.05	24.00	Pass
144	5720 (For U-NII-2C)	18.79	18.83	166.314	22.21	22.93	Pass
144	5720 (For U-NII-3)	11.90	11.96	34.114	15.33	30.00	Pass
149	5745	26.01	26.04	800.816	29.04	30.00	Pass
157	5785	25.98	26.01	795.303	29.01	30.00	Pass
165	5825	26.02	25.99	797.136	29.02	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(21.22) = 24.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.16) = 24.25 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.01) = 24.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.12) = 24.24 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.36) = 24.29 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.17) = 24.25 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.34) = 22.94 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(21.25) = 24.27 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.26) = 24.27 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.02) = 24.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.31) = 24.28 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.41) = 24.30 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.15) = 24.25 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.39) = 22.93 < 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	24.58	24.63	577.480	27.62	30.00	Pass
46	5230	26.12	26.02	809.205	29.08	30.00	Pass
54	5270	20.23	20.08	207.298	23.17	24.00	Pass
62	5310	20.28	20.19	211.132	23.25	24.00	Pass
102	5510	20.17	20.02	204.454	23.11	24.00	Pass
110	5550	20.24	20.29	212.587	23.28	24.00	Pass
134	5670	20.28	20.26	212.829	23.28	24.00	Pass
142	5710 (For U-NII-2C)	19.35	19.32	189.017	22.77	24.00	Pass
142	5710 (For U-NII-3)	7.86	7.84	13.428	11.28	30.00	Pass
151	5755	26.03	25.98	797.145	29.02	30.00	Pass
159	5795	26.03	25.97	796.233	29.01	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(41.74) = 27.20 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(41.90) = 27.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(41.61) = 27.19 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(41.54) = 27.18 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(41.64) = 27.19 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5689.10) = 26.55 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(41.67) = 27.19 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(41.71) = 27.20 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(41.81) = 27.21 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(41.54) = 27.18 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(41.70) = 27.20 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5689.25) = 26.53 > 24\text{dBm}$

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	23.55	23.31	440.753	26.44	30.00	Pass
58	5290	20.25	20.23	211.364	23.25	24.00	Pass
106	5530	20.14	20.09	205.370	23.13	24.00	Pass
122	5610	20.11	20.08	204.424	23.11	24.00	Pass
138	5690 (For U-NII-2C)	19.22	19.22	184.733	22.67	24.00	Pass
138	5690 (For U-NII-3)	3.12	3.15	4.550	6.58	30.00	Pass
155	5775	25.02	25.12	642.775	28.08	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(82.27) = 30.15 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(82.42) = 30.16 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(82.53) = 30.16 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.87) = 29.81 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(82.82) = 30.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(82.70) = 30.17 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(82.52) = 30.16 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.59) = 29.83 > 24\text{dBm}$

802.11ax (HE160)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
50	5250 (For U-NII-1)	16.97	16.88	107.941	20.33	30.00	Pass
50	5250 (For U-NII-2A)	16.47	16.36	95.984	19.82	24.00	Pass
114	5570	20.27	20.27	212.829	23.28	24.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(83.69) = 30.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(167.40) = 33.23 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.05) = 30.19 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(167.25) = 33.23 > 24\text{dBm}$

Beamforming Mode

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	24.89	24.72	604.802	27.82	30.00	Pass
40	5200	26.26	25.95	816.219	29.12	30.00	Pass
48	5240	26.22	25.94	811.439	29.09	30.00	Pass
52	5260	20.24	20.12	208.483	23.19	24.00	Pass
60	5300	20.21	19.97	204.266	23.10	24.00	Pass
64	5320	20.13	19.91	200.988	23.03	24.00	Pass
100	5500	20.33	20.07	209.520	23.21	24.00	Pass
116	5580	20.19	20.15	207.986	23.18	24.00	Pass
140	5700	20.07	20.01	201.855	23.05	24.00	Pass
144	5720 (For U-NII-2C)	18.79	18.83	166.314	22.21	22.93	Pass
144	5720 (For U-NII-3)	11.90	11.96	34.114	15.33	30.00	Pass
149	5745	26.01	26.04	800.816	29.04	30.00	Pass
157	5785	25.98	26.01	795.303	29.01	30.00	Pass
165	5825	26.02	25.99	797.136	29.02	30.00	Pass

Note:

1. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
2. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
3. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power limit not need to reduce.
4. 5745-5825MHz: Directional gain = 5.87dBi < 6dBi, so the power limit not need to reduce.

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

Chain 0

1. $11\text{dBm} + 10\log(21.22) = 24.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.16) = 24.25 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.01) = 24.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.12) = 24.24 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.36) = 24.29 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.17) = 24.25 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.34) = 22.94 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(21.25) = 24.27 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.26) = 24.27 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.02) = 24.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.31) = 24.28 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.41) = 24.30 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(21.15) = 24.25 > 24\text{dBm}$
7. $11\text{dBm} + 10\log(5725.00 - 5709.39) = 22.93 < 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	24.58	24.63	577.480	27.62	30.00	Pass
46	5230	26.12	26.02	809.205	29.08	30.00	Pass
54	5270	20.23	20.08	207.298	23.17	24.00	Pass
62	5310	20.28	20.19	211.132	23.25	24.00	Pass
102	5510	20.17	20.02	204.454	23.11	24.00	Pass
110	5550	20.24	20.29	212.587	23.28	24.00	Pass
134	5670	20.28	20.26	212.829	23.28	24.00	Pass
142	5710 (For U-NII-2C)	19.35	19.32	189.017	22.77	24.00	Pass
142	5710 (For U-NII-3)	7.86	7.84	13.428	11.28	30.00	Pass
151	5755	26.03	25.98	797.145	29.02	30.00	Pass
159	5795	26.03	25.97	796.233	29.01	30.00	Pass

Note:

1. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
2. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
3. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power limit not need to reduce.
4. 5745-5825MHz: Directional gain = 5.87dBi < 6dBi, so the power limit not need to reduce.

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

Chain 0

1. $11\text{dBm} + 10\log(41.74) = 27.20 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(41.90) = 27.22 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(41.61) = 27.19 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(41.54) = 27.18 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(41.64) = 27.19 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5689.10) = 26.55 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(41.67) = 27.19 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(41.71) = 27.20 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(41.81) = 27.21 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(41.54) = 27.18 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(41.70) = 27.20 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(5725.00 - 5689.25) = 26.53 > 24\text{dBm}$

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	23.55	23.31	440.753	26.44	30.00	Pass
58	5290	20.25	20.23	211.364	23.25	24.00	Pass
106	5530	20.14	20.09	205.370	23.13	24.00	Pass
122	5610	20.11	20.08	204.424	23.11	24.00	Pass
138	5690 (For U-NII-2C)	19.22	19.22	184.733	22.67	24.00	Pass
138	5690 (For U-NII-3)	3.12	3.15	4.550	6.58	30.00	Pass
155	5775	25.02	25.12	642.775	28.08	30.00	Pass

Note:

1. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
2. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
3. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power limit not need to reduce.
4. 5745-5825MHz: Directional gain = 5.87dBi < 6dBi, so the power limit not need to reduce.

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

Chain 0

1. $11\text{dBm} + 10\log(82.27) = 30.15 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(82.42) = 30.16 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(82.53) = 30.16 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.87) = 29.81 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(82.82) = 30.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(82.70) = 30.17 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(82.52) = 30.16 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5648.59) = 29.83 > 24\text{dBm}$

802.11ax (HE160)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
50	5250 (For U-NII-1)	16.97	16.88	107.941	20.33	30.00	Pass
50	5250 (For U-NII-2A)	16.47	16.36	95.984	19.82	24.00	Pass
114	5570	20.27	20.27	212.829	23.28	24.00	Pass

Note:

1. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
2. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power limit not need to reduce.
3. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power limit not need to reduce.

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

Chain 0

1. $11\text{dBm} + 10\log(83.69) = 30.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(167.40) = 33.23 > 24\text{dBm}$

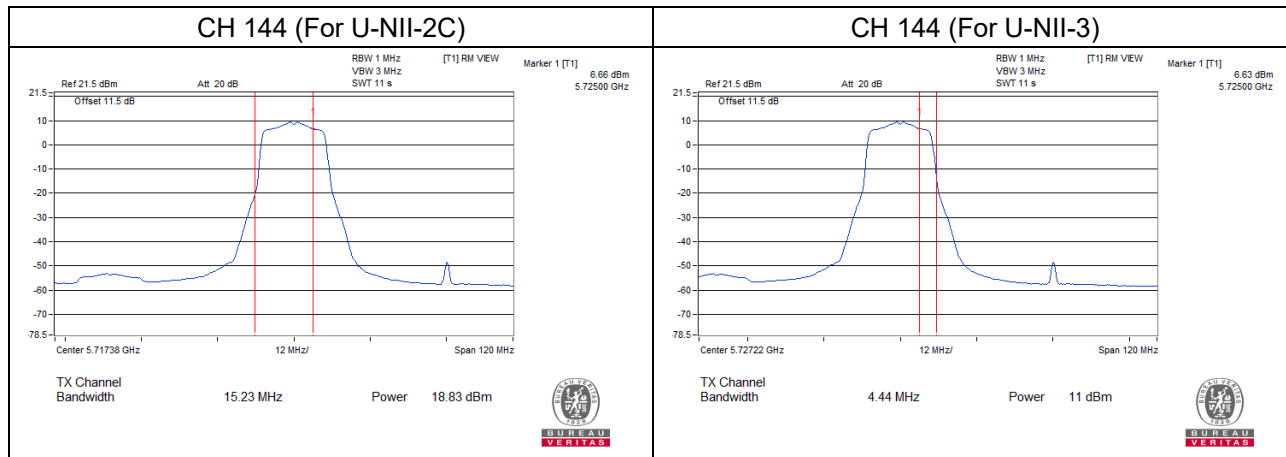
Chain 1

1. $11\text{dBm} + 10\log(83.05) = 30.19 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(167.25) = 33.23 > 24\text{dBm}$

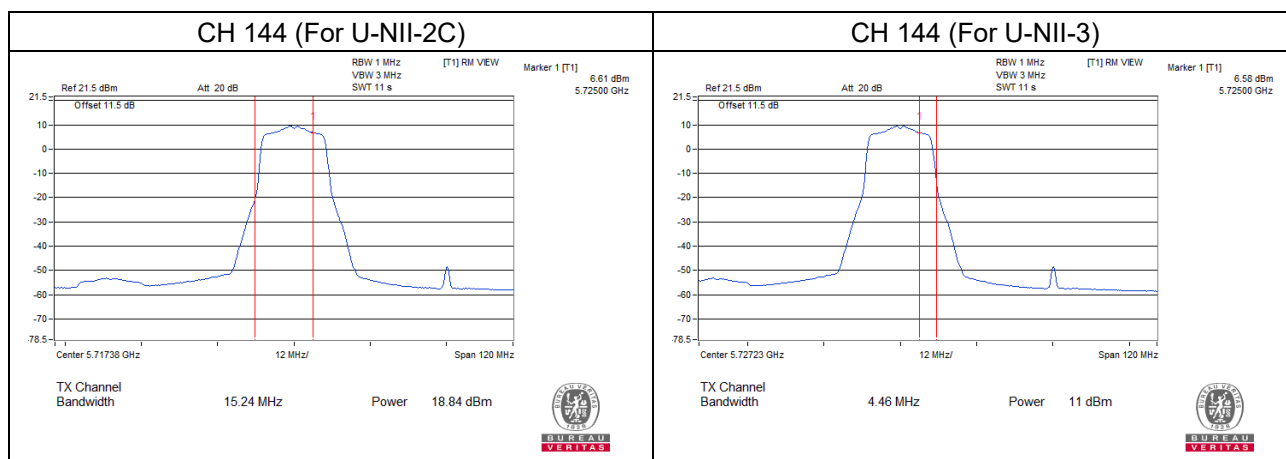
Straddle channel power plots:

802.11a

Chain 0

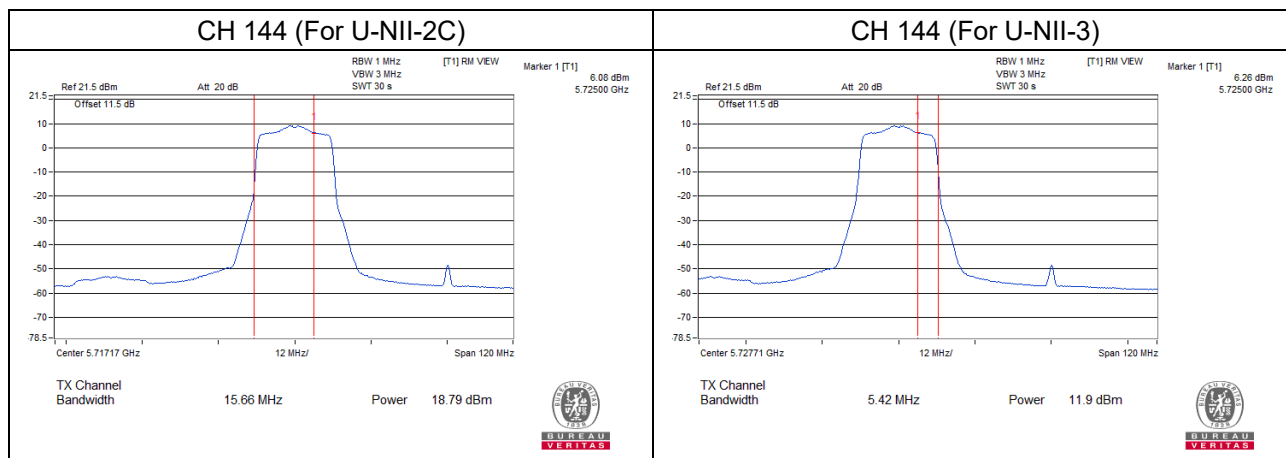


Chain 1

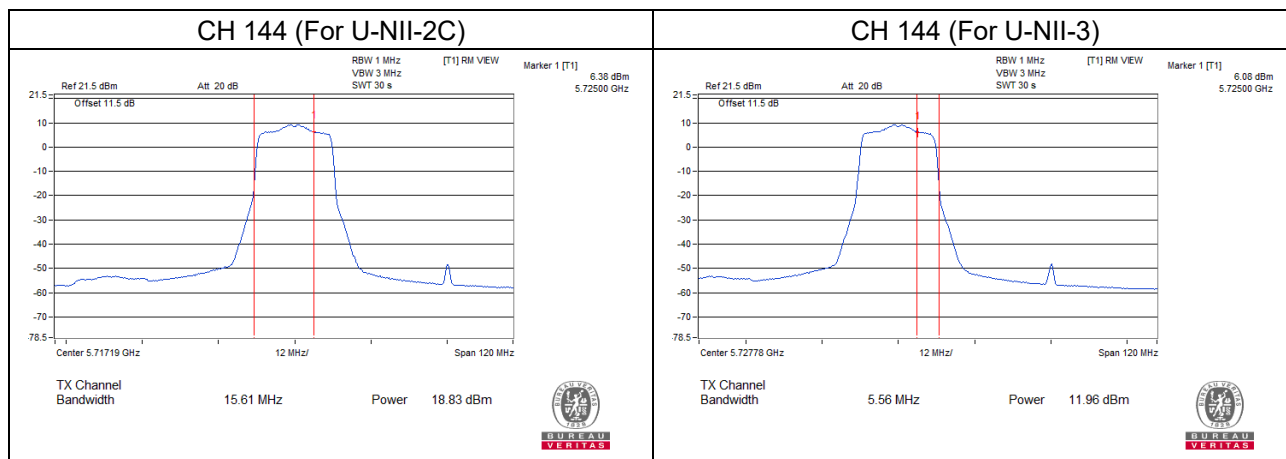


802.11ax (HE20)

Chain 0

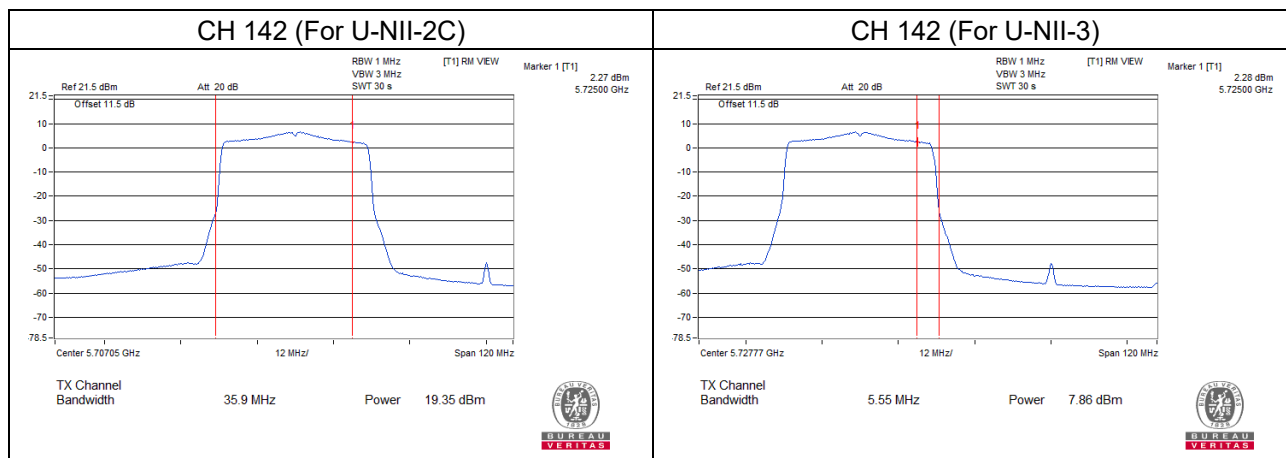


Chain 1

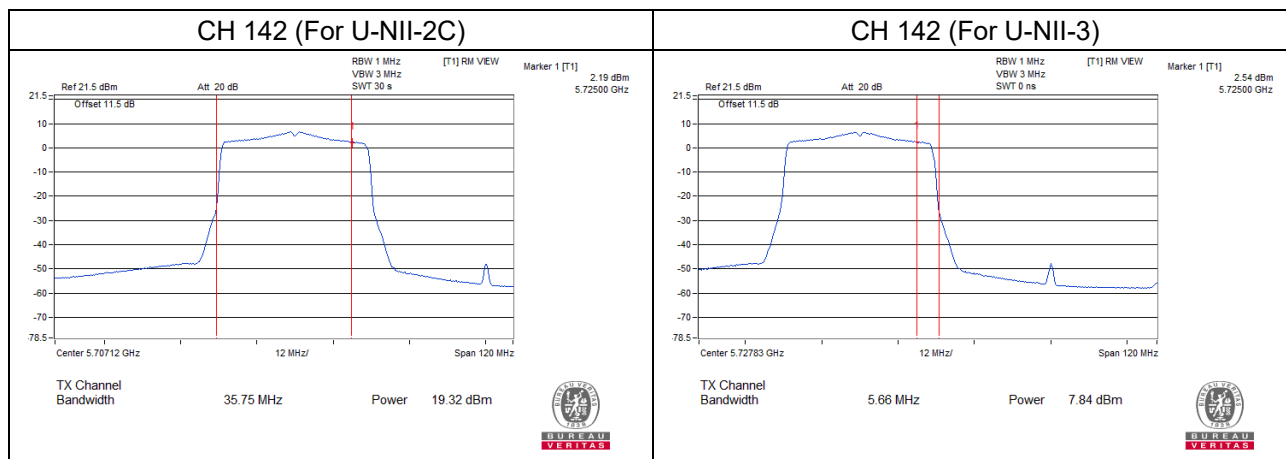


802.11ax (HE40)

Chain 0

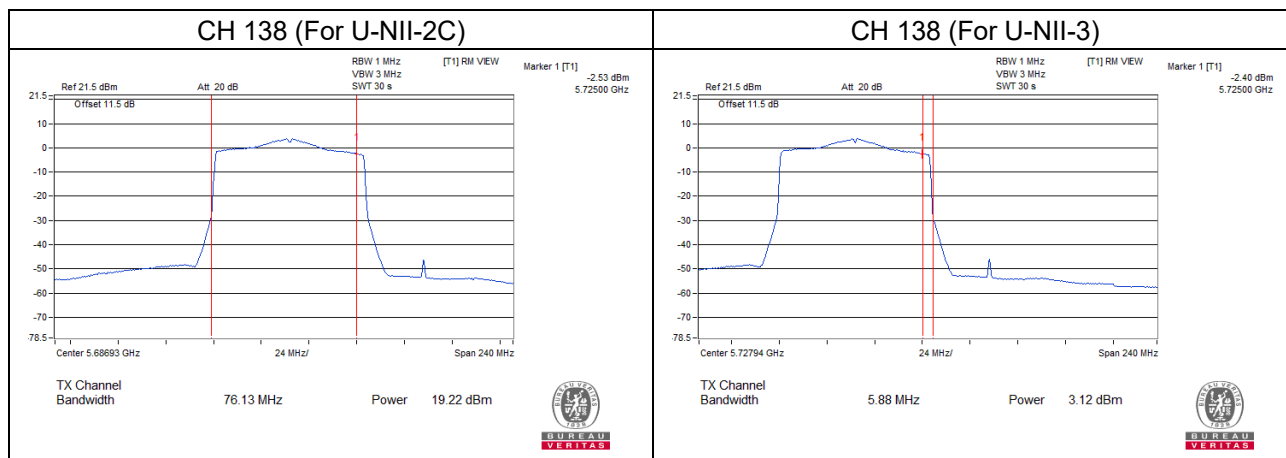


Chain 1

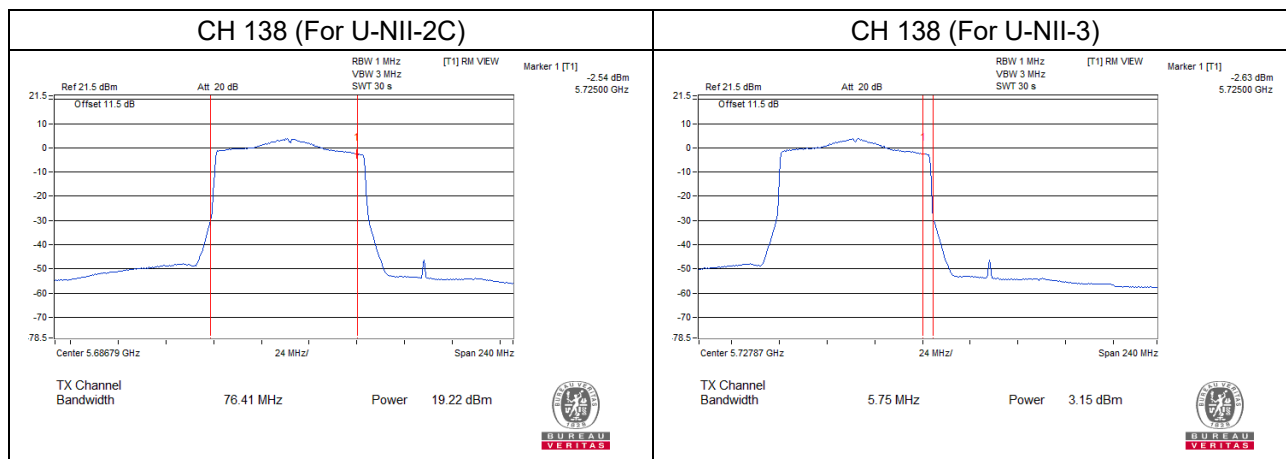


802.11ax (HE80)

Chain 0

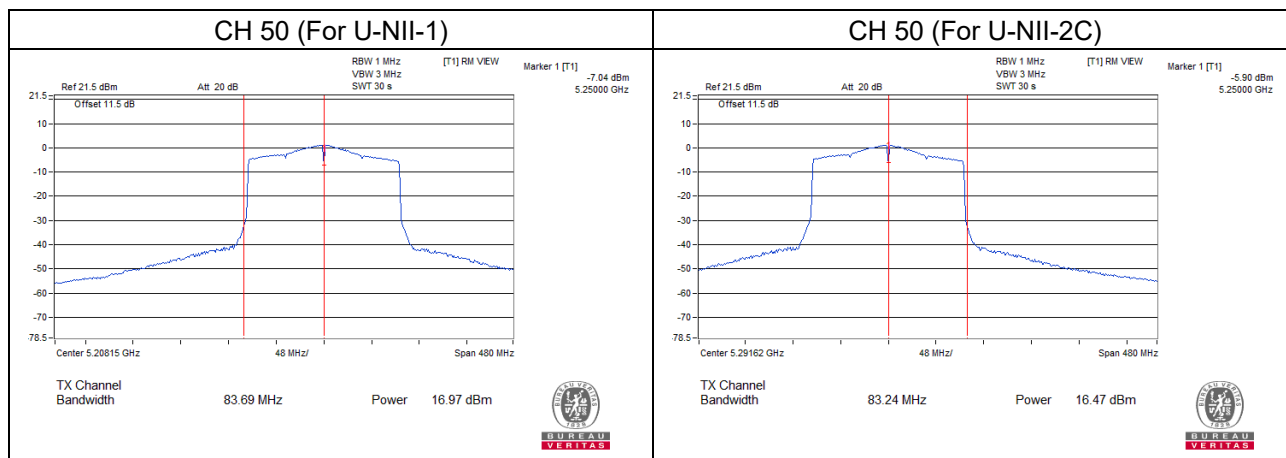


Chain 1

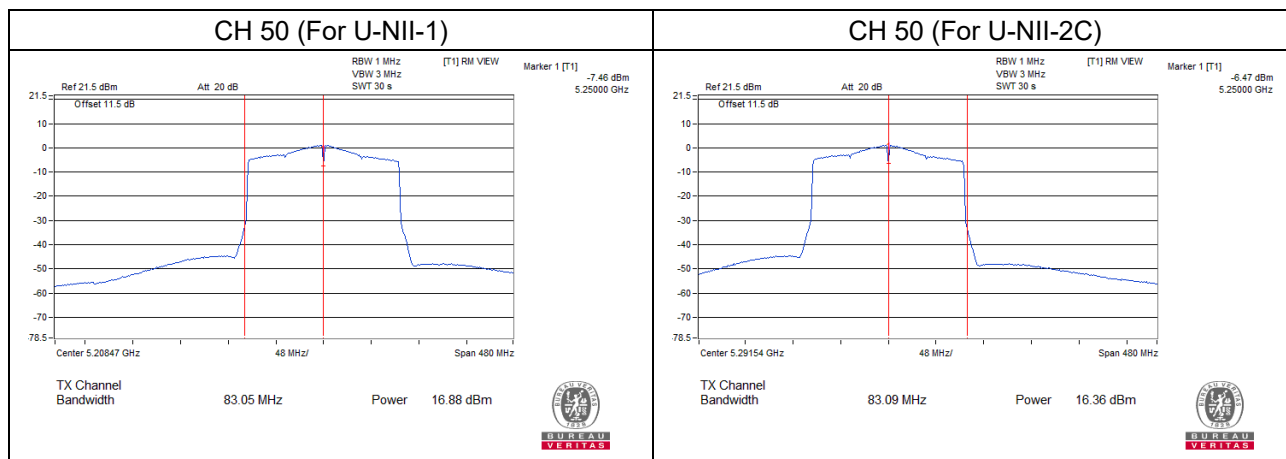


802.11ax (HE160)

Chain 0



Chain 1



26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	19.83	19.80
60	5300	19.79	20.85
64	5320	19.84	19.79
100	5500	19.94	19.97
116	5580	19.88	19.85
140	5700	19.96	19.89
144	5720 (For U-NII-2C)	15.23	15.24

For CH144 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

802.11ax (HE20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.22	21.25
60	5300	21.16	21.26
64	5320	21.01	21.02
100	5500	21.12	21.31
116	5580	21.36	21.41
140	5700	21.17	21.15
144	5720 (For U-NII-2C)	15.66	15.61

For CH144 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

802.11ax (HE40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.74	41.67
62	5310	41.90	41.71
102	5510	41.61	41.81
110	5550	41.54	41.54
134	5670	41.64	41.70
142	5710 (For U-NII-2C)	35.90	35.75

For CH142 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

802.11ax (HE80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.27	82.82
106	5530	82.42	82.70
122	5610	82.53	82.52
138	5690 (For U-NII-2C)	76.13	76.41

For CH138 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

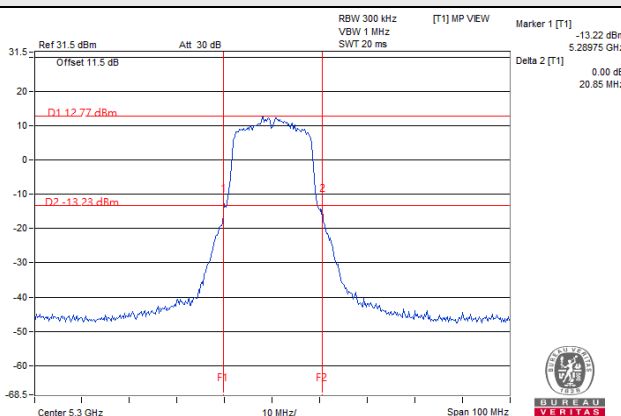
802.11ax (HE160)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
50	5250 (For U-NII-2A)	83.69	83.05
114	5570	167.40	167.25

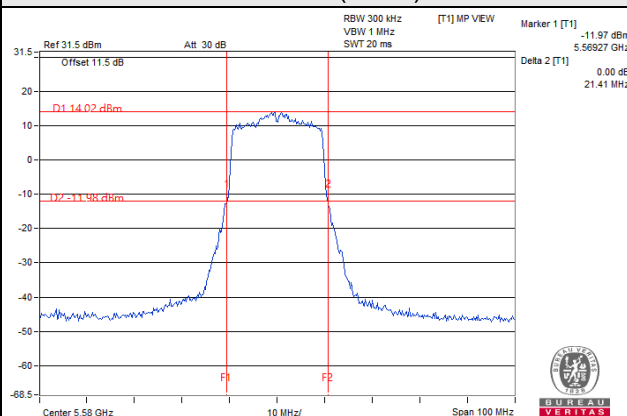
For CH50 (U-NII-2A Band): The 26dBc bandwidth above 5250MHz = Marker 1 + Delta 2 - 5250MHz

Spectrum Plot of Worst Value

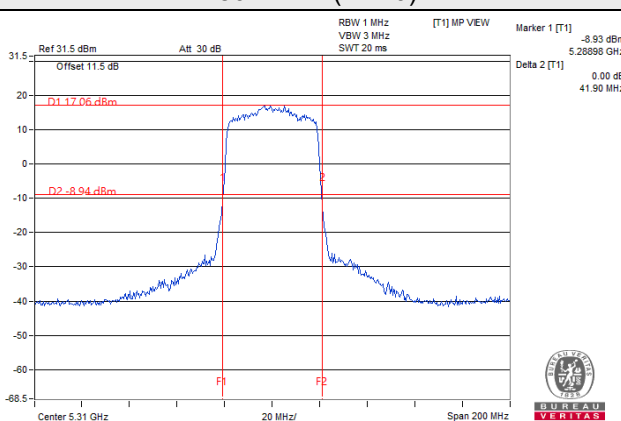
802.11a



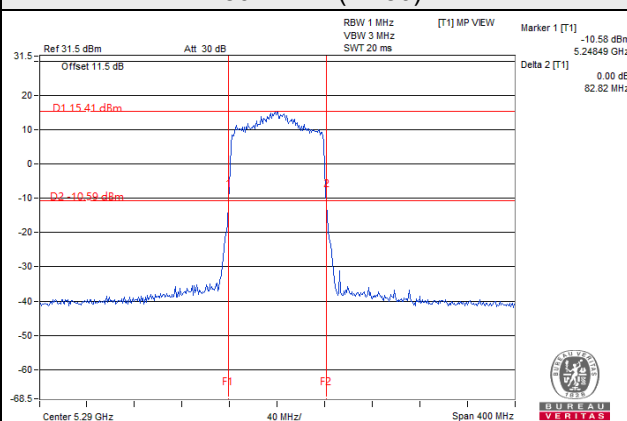
802.11ax (HE20)



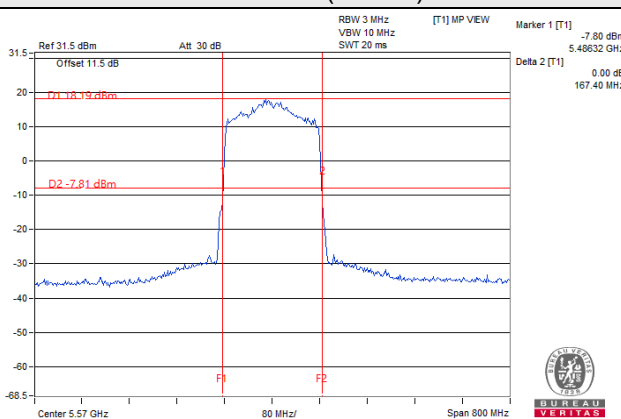
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)



EUT Average Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	208.235	23.19
5470~5725	209.678	23.22

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	208.483	23.19
5470~5725	209.520	23.21

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	211.132	23.25
5470~5725	212.829	23.28

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	211.364	23.25
5470~5725	205.370	23.13

802.11ax (HE160)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	95.984	19.82
5470~5725	212.829	23.28

Beamforming Mode

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	208.483	23.19
5470~5725	209.520	23.21

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	211.132	23.25
5470~5725	212.829	23.28

802.11ax (HE80)

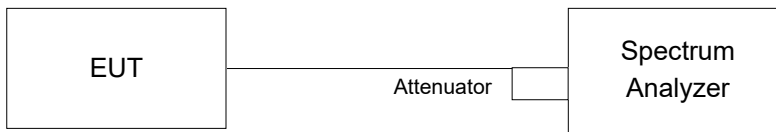
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	211.364	23.25
5470~5725	205.370	23.13

802.11ax (HE160)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	95.984	19.82
5470~5725	212.829	23.28

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 sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.44	16.32
40	5200	16.38	16.32
48	5240	16.44	16.44
52	5260	16.32	16.32
60	5300	16.44	16.32
64	5320	16.32	16.32
100	5500	16.32	16.32
116	5580	16.32	16.32
140	5700	16.32	16.32
144	5720 (For U-NII-2C)	13.28	13.28
144	5720 (For U-NII-3)	3.04	3.04
149	5745	16.44	16.44
157	5785	16.44	16.44
165	5825	16.44	16.44

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ax (HE20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.96	18.84
40	5200	18.96	18.96
48	5240	18.96	18.96
52	5260	18.96	18.84
60	5300	18.84	18.84
64	5320	18.84	18.96
100	5500	18.84	18.84
116	5580	18.84	18.84
140	5700	18.84	18.84
144	5720 (For U-NII-2C)	14.48	14.48
144	5720 (For U-NII-3)	4.36	4.36
149	5745	18.96	18.96
157	5785	18.96	18.96
165	5825	19.08	18.96

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ax (HE40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.92	37.92
46	5230	38.04	38.04
54	5270	37.68	37.80
62	5310	37.80	37.80
102	5510	37.80	37.80
110	5550	37.80	37.80
134	5670	37.92	37.80
142	5710 (For U-NII-2C)	34.08	33.96
142	5710 (For U-NII-3)	3.84	3.72
151	5755	38.04	38.04
159	5795	38.04	37.92

For CH142 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH142 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ax (HE80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.68	77.04
58	5290	76.80	76.80
106	5530	76.80	76.56
122	5610	76.80	76.80
138	5690 (For U-NII-2C)	73.64	73.64
138	5690 (For U-NII-3)	3.16	2.92
155	5775	77.16	77.28

For CH138 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH138 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ax (HE160)

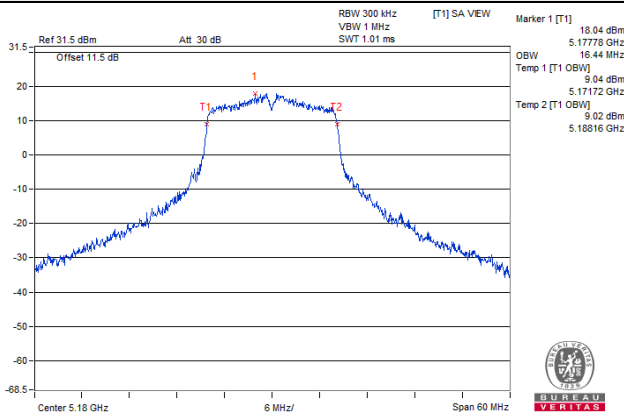
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
50	5250 (For U-NII-1)	77.76	77.76
50	5250 (For U-NII-2A)	76.80	77.76
114	5570	156.48	155.52

For CH50 (U-NII-1 Band): The Occupied bandwidth below 5250MHz = 5250MHz - Temp 1

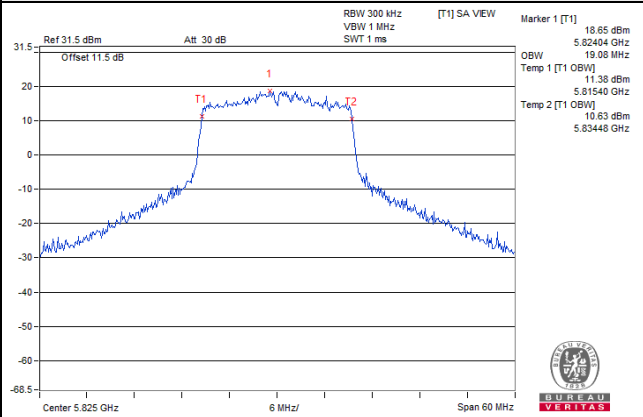
For CH50 (U-NII-2A Band): The Occupied bandwidth above 5250MHz = Temp 2 - 5250MHz

Spectrum Plot of Worst Value

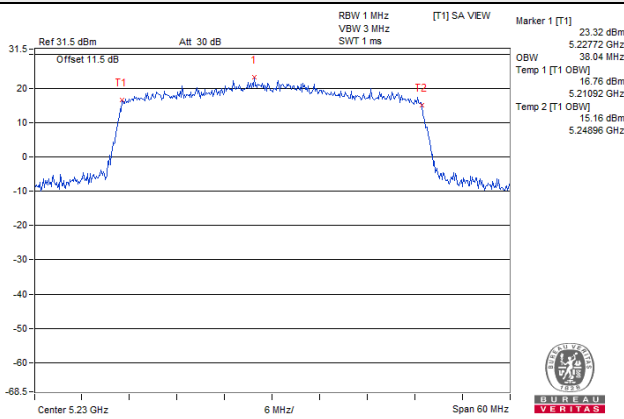
802.11a



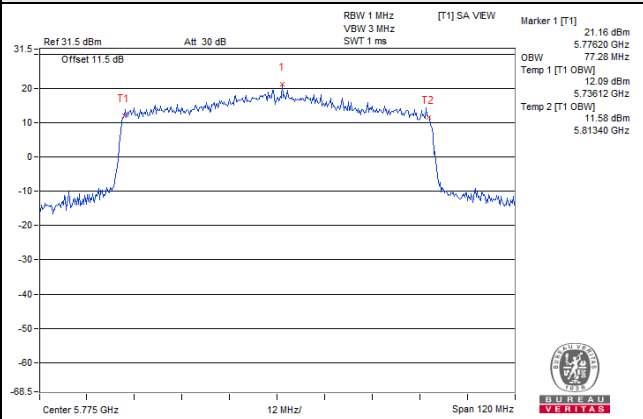
802.11ax (HE20)



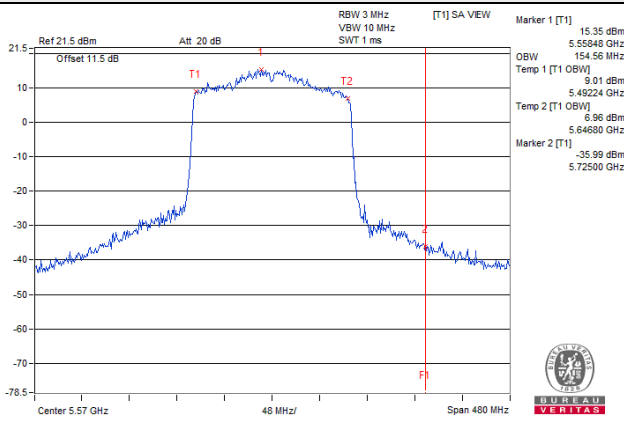
802.11ax (HE40)



802.11ax (HE80)

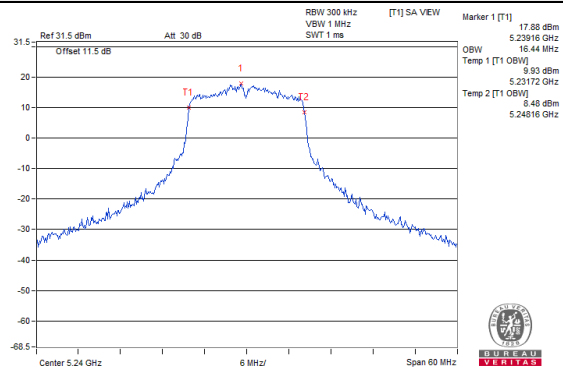


802.11ax (HE160)

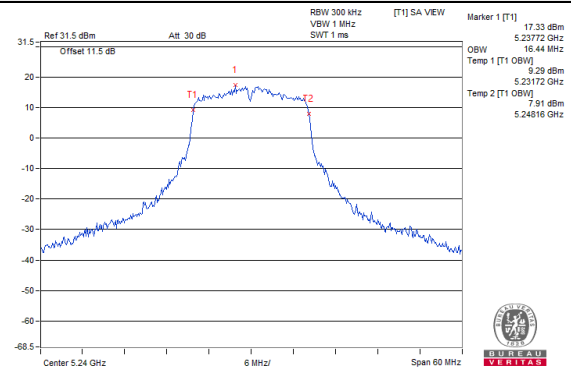


Spectrum Plot for near By DFS Band

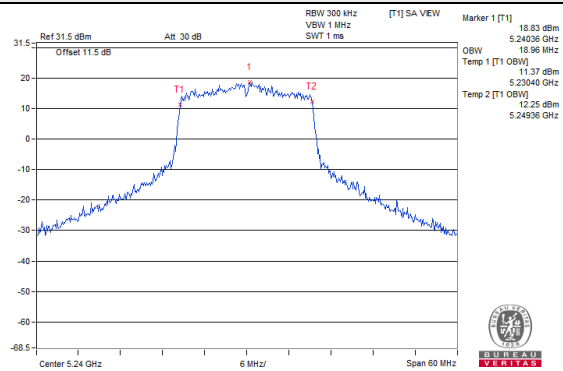
802.11a / Chain 0 / CH 48



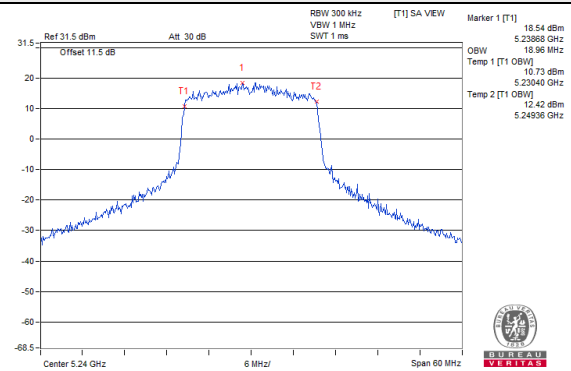
802.11a / Chain 1 / CH 48



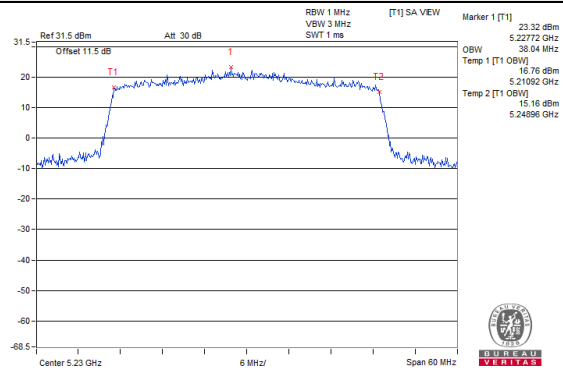
802.11ax (HE20) / Chain 0 / CH 48



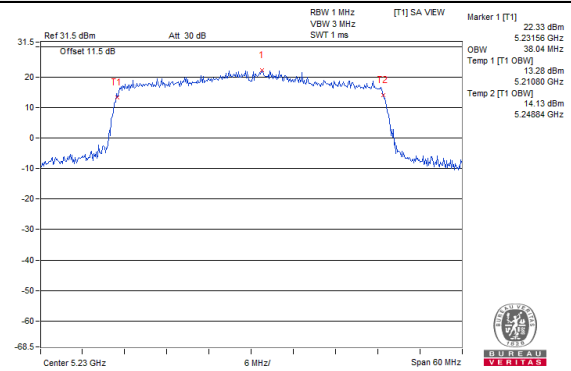
802.11ax (HE20) / Chain 1 / CH 48



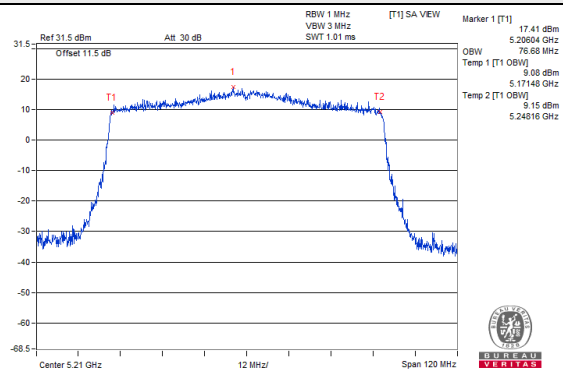
802.11ax (HE40) / Chain 0 / CH 46



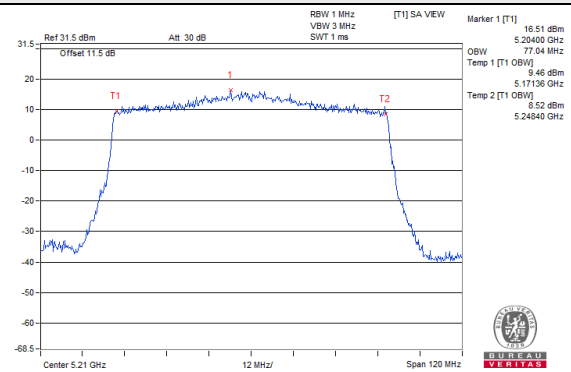
802.11ax (HE40) / Chain 1 / CH 46



802.11ax (HE80) / Chain 0 / CH 42

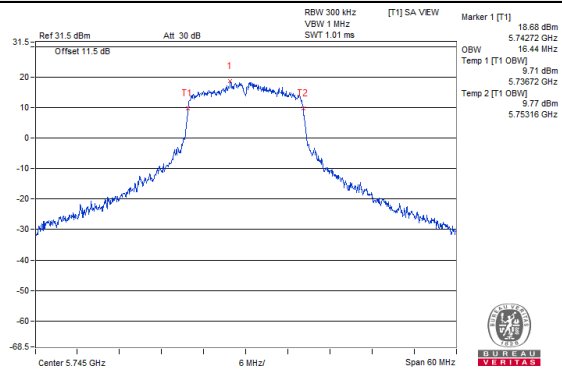


802.11ax (HE80) / Chain 1 / CH 42

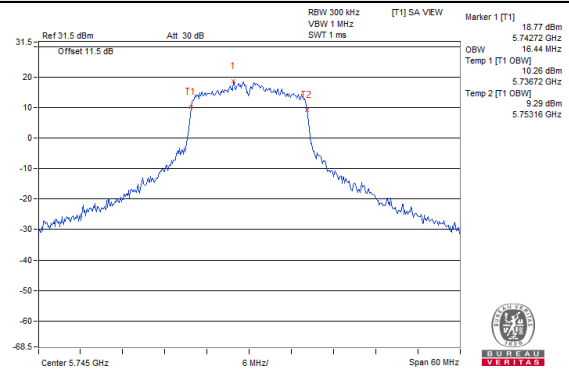


Spectrum Plot for near By DFS Band

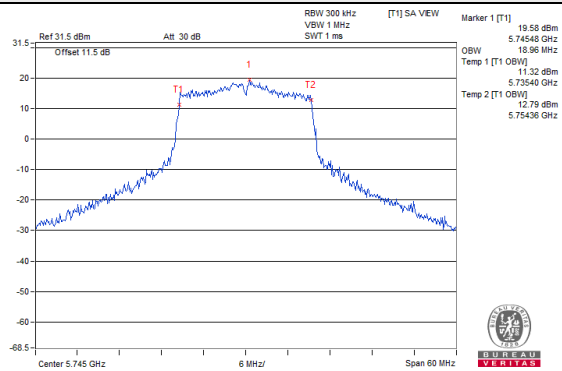
802.11a / Chain 0 / CH 149



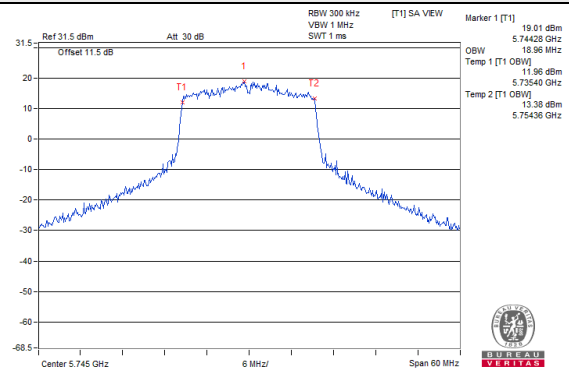
802.11a / Chain 1 / CH 149



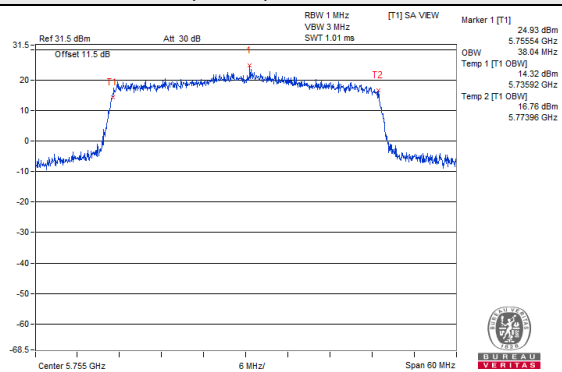
802.11ax (HE20) / Chain 0 / CH 149



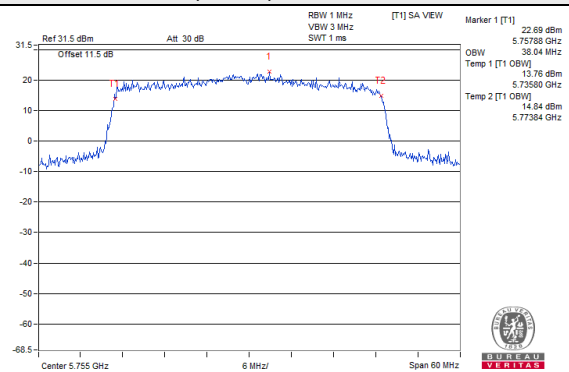
802.11ax (HE20) / Chain 1 / CH 149



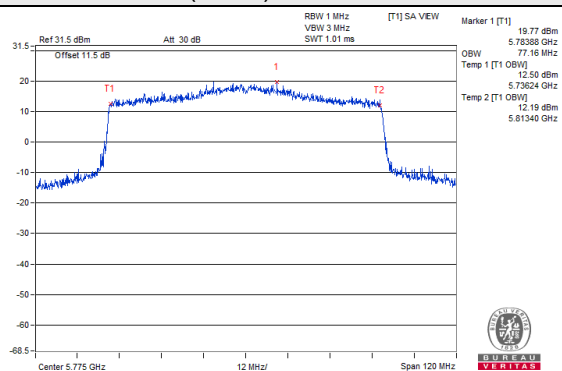
802.11ax (HE40) / Chain 0 / CH 151



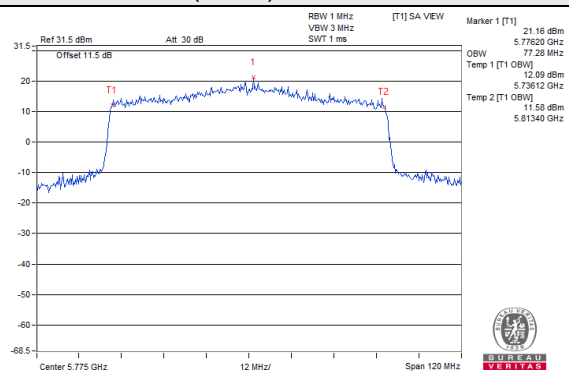
802.11ax (HE40) / Chain 1 / CH 151



802.11ax (HE80) / Chain 0 / CH 155



802.11ax (HE80) / Chain 1 / CH 155

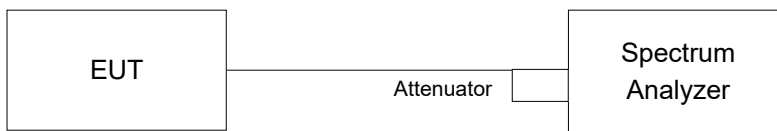


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

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 and U-NII-2C band:

Duty cycle of test signal is < 98%

Using method SA-2

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 1MHz, Set VBW $\geq$ 3 MHz, Detector = RMS
- c. Set Channel power measure = 1MHz
- d. Sweep time = auto, trigger set to "free run".
- e. Trace average at least 100 traces in power averaging mode.
- f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Duty cycle of test signal is < 98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. 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 $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. 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

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.16	12.93	0.28	16.34	17.00	Pass
40	5200	13.10	12.95	0.28	16.32	17.00	Pass
48	5240	13.13	12.96	0.28	16.34	17.00	Pass
52	5260	7.13	6.95	0.28	10.33	11.00	Pass
60	5300	7.14	7.08	0.28	10.40	11.00	Pass
64	5320	7.08	6.98	0.28	10.32	11.00	Pass
100	5500	7.09	7.06	0.28	10.37	11.00	Pass
116	5580	6.93	7.06	0.28	10.29	11.00	Pass
140	5700	7.17	7.12	0.28	10.44	11.00	Pass
144	5720 (For U-NII-2C)	7.13	7.09	0.28	10.40	11.00	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. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
3. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
4. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power density limit not need to reduce.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.79	11.57	0.39	15.08	17.00	Pass
40	5200	13.27	12.94	0.39	16.51	17.00	Pass
48	5240	13.13	12.90	0.39	16.42	17.00	Pass
52	5260	7.18	7.02	0.39	10.50	11.00	Pass
60	5300	7.09	6.90	0.39	10.40	11.00	Pass
64	5320	7.08	6.87	0.39	10.38	11.00	Pass
100	5500	7.19	7.06	0.39	10.53	11.00	Pass
116	5580	7.13	7.02	0.39	10.48	11.00	Pass
140	5700	6.95	6.68	0.39	10.22	11.00	Pass
144	5720 (For U-NII-2C)	6.91	7.12	0.39	10.42	11.00	Pass

Note:

- 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.
- 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
- 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
- 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power density limit not need to reduce.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	8.22	8.62	0.42	11.85	17.00	Pass
46	5230	10.01	9.88	0.42	13.38	17.00	Pass
54	5270	4.00	3.91	0.42	7.39	11.00	Pass
62	5310	4.19	4.10	0.42	7.58	11.00	Pass
102	5510	4.03	3.99	0.42	7.44	11.00	Pass
110	5550	4.16	4.16	0.42	7.59	11.00	Pass
134	5670	4.14	4.17	0.42	7.59	11.00	Pass
142	5710 (For U-NII-2C)	3.95	4.16	0.42	7.49	11.00	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. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
3. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
4. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power density limit not need to reduce.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	4.56	4.17	0.44	7.82	17.00	Pass
58	5290	1.23	1.12	0.44	4.63	11.00	Pass
106	5530	1.10	0.99	0.44	4.50	11.00	Pass
122	5610	0.93	0.83	0.44	4.33	11.00	Pass
138	5690 (For U-NII-2C)	1.12	0.93	0.44	4.48	11.00	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. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
3. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
4. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power density limit not need to reduce.
5. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE160)

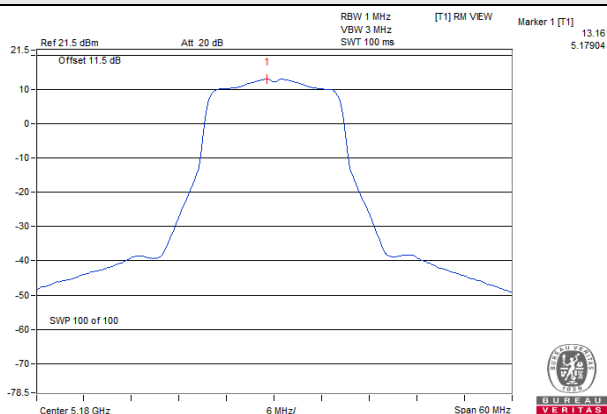
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
50	5250 (For U-NII-1)	-1.88	-2.17	0.40	1.39	17.00	Pass
50	5250 (For U-NII-2A)	-1.90	-2.19	0.40	1.37	11.00	Pass
114	5570	-1.82	-1.83	0.40	1.59	11.00	Pass

Note:

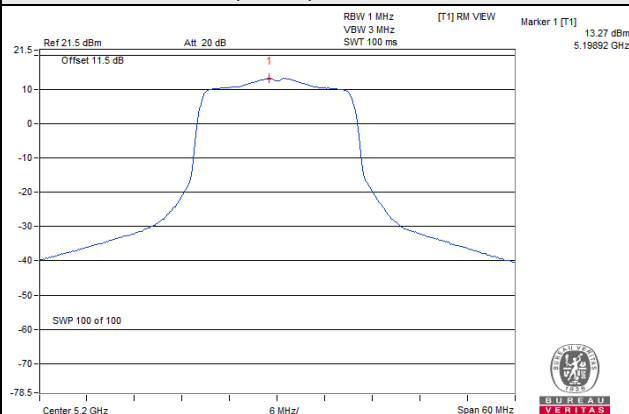
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. 5180-5250MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
3. 5250-5320MHz: Directional gain = 5.90dBi < 6dBi, so the power density limit not need to reduce.
4. 5500-5720MHz: Directional gain = 5.93dBi < 6dBi, so the power density limit not need to reduce.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

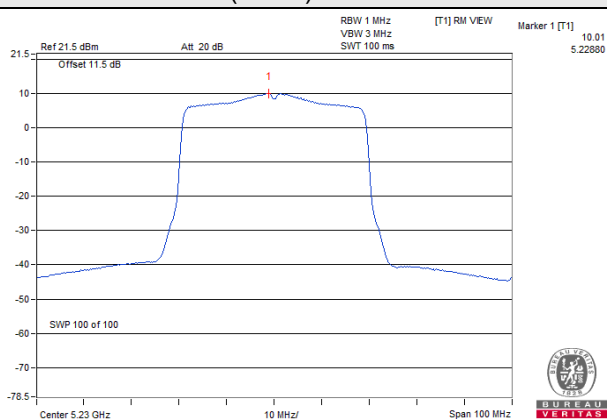
802.11a / Chain 0 / CH 36



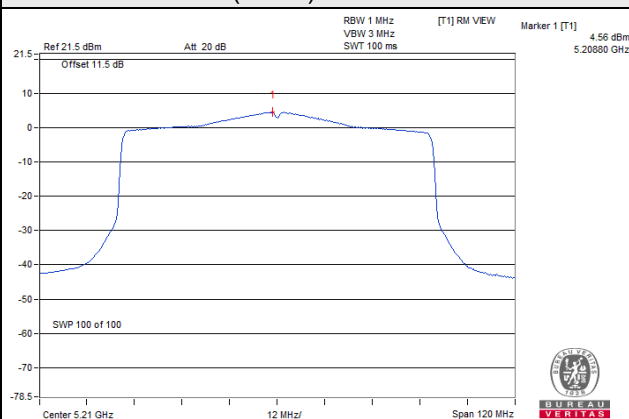
802.11ax (HE20) / Chain 0 / CH 40



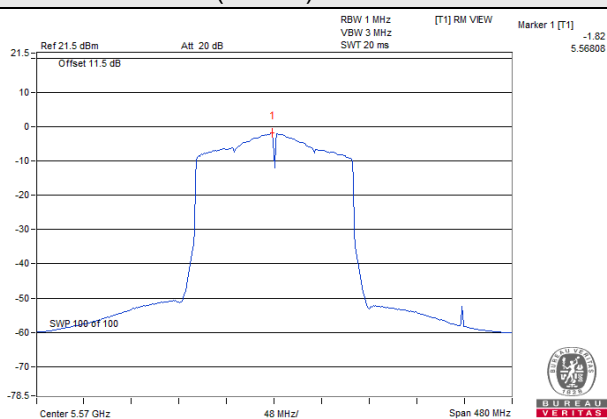
802.11ax (HE40) / Chain 0 / CH 46



802.11ax (HE80) / Chain 0 / CH 42



802.11ax (HE160) / Chain 0 / CH 114



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	144	5720 (For U-NII-3)	-0.59	1.63	3.01	0.28	4.92	30.00	Pass
	149	5745	10.33	12.55	3.01	0.28	15.84	30.00	Pass
	157	5785	10.19	12.41	3.01	0.28	15.70	30.00	Pass
	165	5825	10.14	12.36	3.01	0.28	15.65	30.00	Pass
3	144	5720 (For U-NII-3)	-0.60	1.62	3.01	0.28	4.91	30.00	Pass
	149	5745	10.29	12.51	3.01	0.28	15.80	30.00	Pass
	157	5785	10.27	12.49	3.01	0.28	15.78	30.00	Pass
	165	5825	10.16	12.38	3.01	0.28	15.67	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 5.87dBi < 6dBi, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	144	5720 (For U-NII-3)	-0.84	1.38	3.01	0.39	4.78	30.00	Pass
	149	5745	9.35	11.57	3.01	0.39	14.97	30.00	Pass
	157	5785	9.45	11.67	3.01	0.39	15.07	30.00	Pass
	165	5825	9.24	11.46	3.01	0.39	14.86	30.00	Pass
3	144	5720 (For U-NII-3)	-0.88	1.34	3.01	0.39	4.74	30.00	Pass
	149	5745	9.43	11.65	3.01	0.39	15.05	30.00	Pass
	157	5785	9.29	11.51	3.01	0.39	14.91	30.00	Pass
	165	5825	9.26	11.48	3.01	0.39	14.88	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 5.87dBi < 6dBi, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	142	5710 (For U-NII-3)	-5.25	-3.03	3.01	0.42	0.40	30.00	Pass
	151	5755	7.61	9.83	3.01	0.42	13.26	30.00	Pass
	159	5795	7.80	10.02	3.01	0.42	13.45	30.00	Pass
3	142	5710 (For U-NII-3)	-4.78	-2.56	3.01	0.42	0.87	30.00	Pass
	151	5755	7.63	9.85	3.01	0.42	13.28	30.00	Pass
	159	5795	7.59	9.81	3.01	0.42	13.24	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 5.87dBi < 6dBi, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

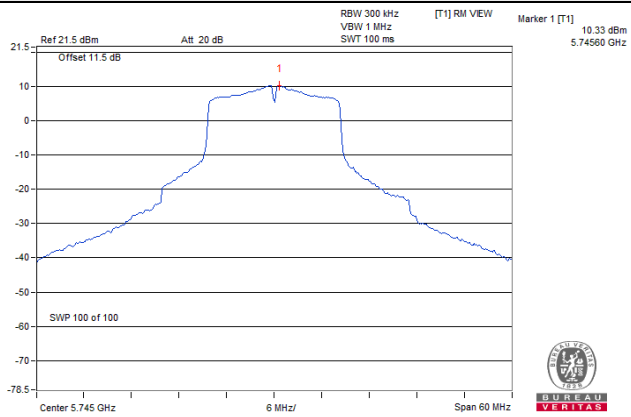
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
2	138	5690 (For U-NII-3)	-10.29	-8.07	3.01	0.44	-4.62	30.00	Pass
	155	5775	4.42	6.64	3.01	0.44	10.09	30.00	Pass
3	138	5690 (For U-NII-3)	-10.36	-8.14	3.01	0.44	-4.69	30.00	Pass
	155	5775	4.28	6.50	3.01	0.44	9.95	30.00	Pass

Note:

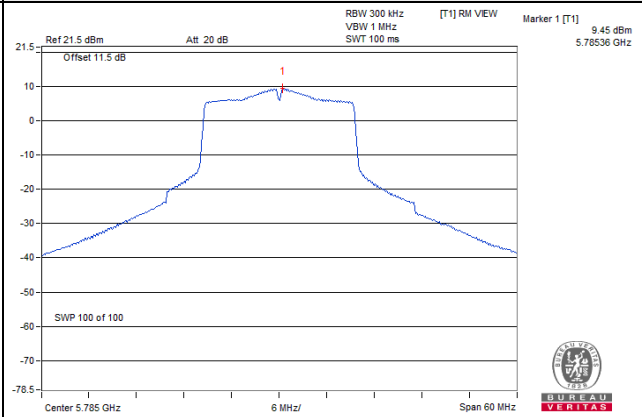
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 5.87dBi < 6dBi, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

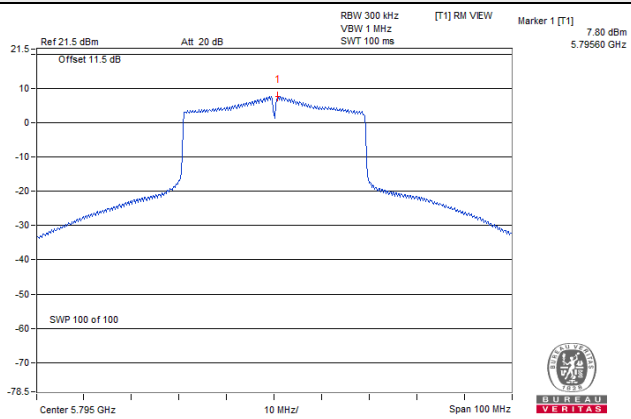
802.11a



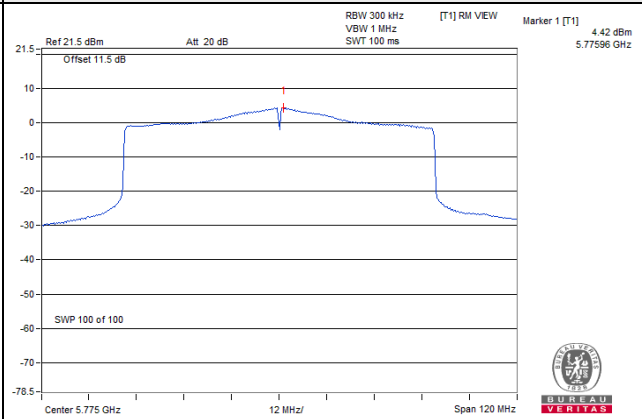
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

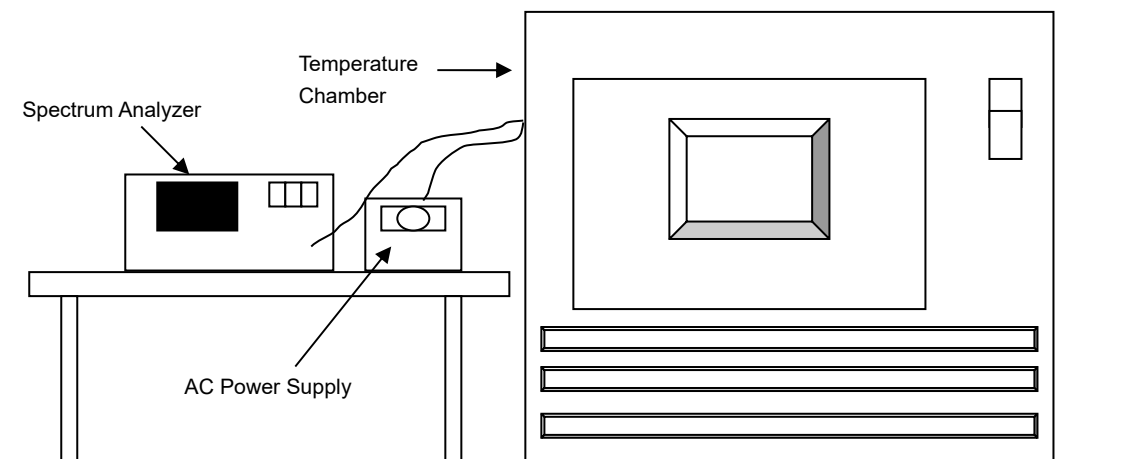


4.6 Frequency Stability

4.6.1 Limits 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
Standard Temperature And Humidity Chamber TERCHY	HRM-120RF	931022	Jan. 03, 2022	Jan. 02, 2023
Digital Multimeter Fluke	87-III	70360755	Jul. 08, 2021	Jul. 07, 2022
AC Power Supply Extech	CFW-105	E000603	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. Tested data: Jan. 15, 2022

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step d with every 10 degrees reduction until the lowest temperature achieved.
- 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: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
40	120	5179.9986	Pass	5179.9988	Pass	5180.0023	Pass	5179.9987	Pass
30	120	5179.9890	Pass	5179.9881	Pass	5179.9882	Pass	5179.9905	Pass
20	120	5179.9802	Pass	5179.9805	Pass	5179.9831	Pass	5179.9808	Pass
10	120	5179.9778	Pass	5179.9808	Pass	5179.9777	Pass	5179.9821	Pass
0	120	5180.0238	Pass	5180.0222	Pass	5180.0236	Pass	5180.0229	Pass

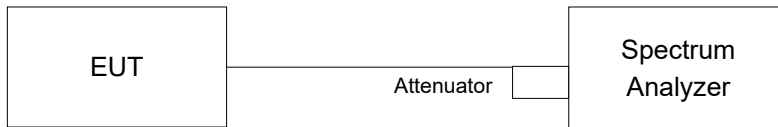
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9714	Pass	5179.9699	Pass	5179.9685	Pass	5179.9693	Pass
	120	5179.9802	Pass	5179.9805	Pass	5179.9831	Pass	5179.9808	Pass
	102	5179.9721	Pass	5179.9757	Pass	5179.9759	Pass	5179.9743	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

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

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (For U-NII-3)	2.57	2.57	0.50	Pass
149	5745	15.14	15.18	0.50	Pass
157	5785	15.14	15.19	0.50	Pass
165	5825	15.18	15.19	0.50	Pass

For CH144 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (For U-NII-3)	3.35	2.58	0.50	Pass
149	5745	16.06	15.41	0.50	Pass
157	5785	15.94	15.82	0.50	Pass
165	5825	15.51	16.51	0.50	Pass

For CH144 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (For U-NII-3)	2.56	2.65	0.50	Pass
151	5755	37.05	36.15	0.50	Pass
159	5795	37.31	35.27	0.50	Pass

For CH142 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

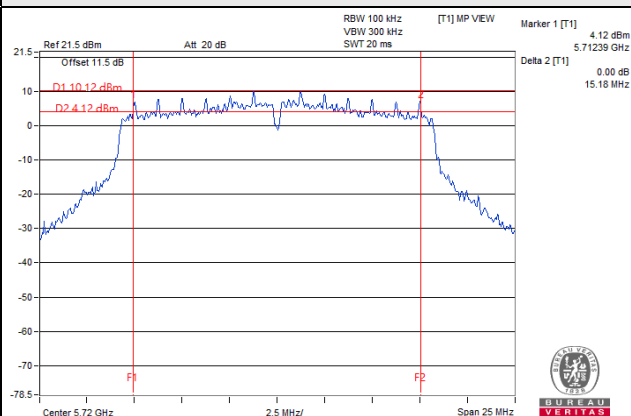
802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (For U-NII-3)	2.51	2.62	0.50	Pass
155	5775	68.81	71.48	0.50	Pass

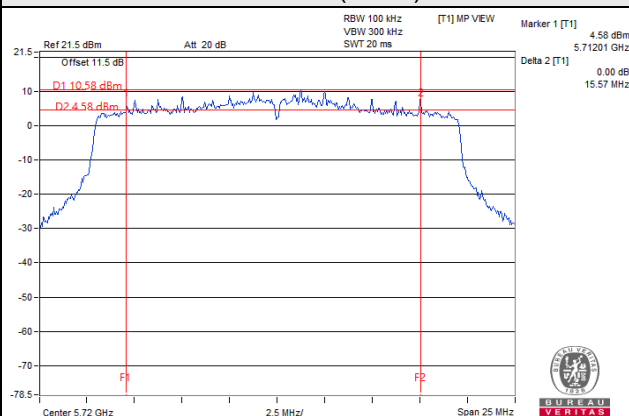
For CH138 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

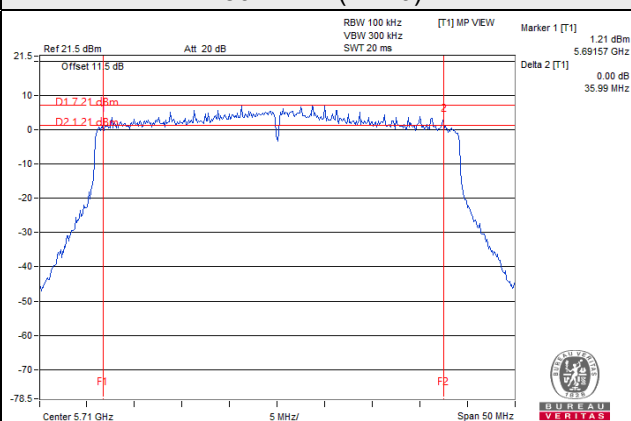
802.11a



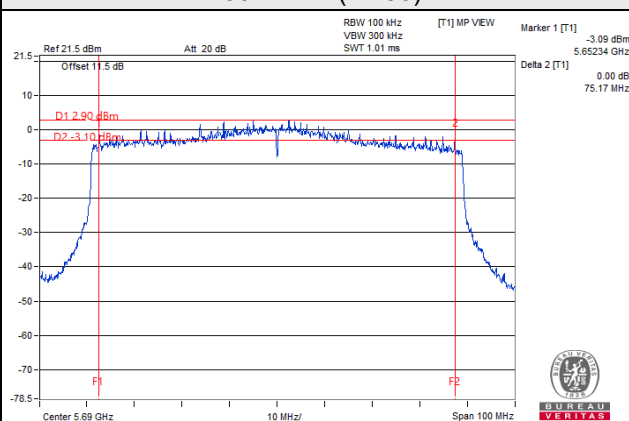
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

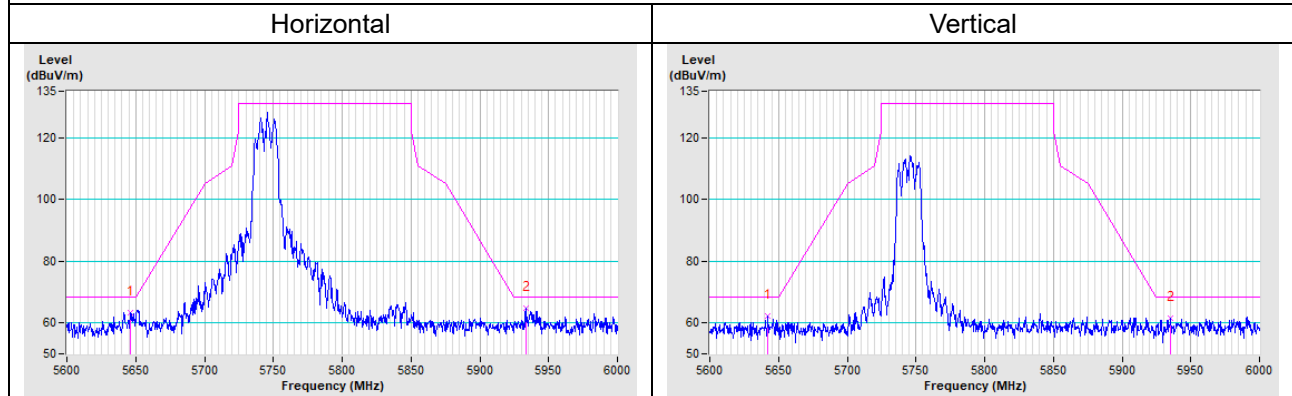


5 Pictures of Test Arrangements

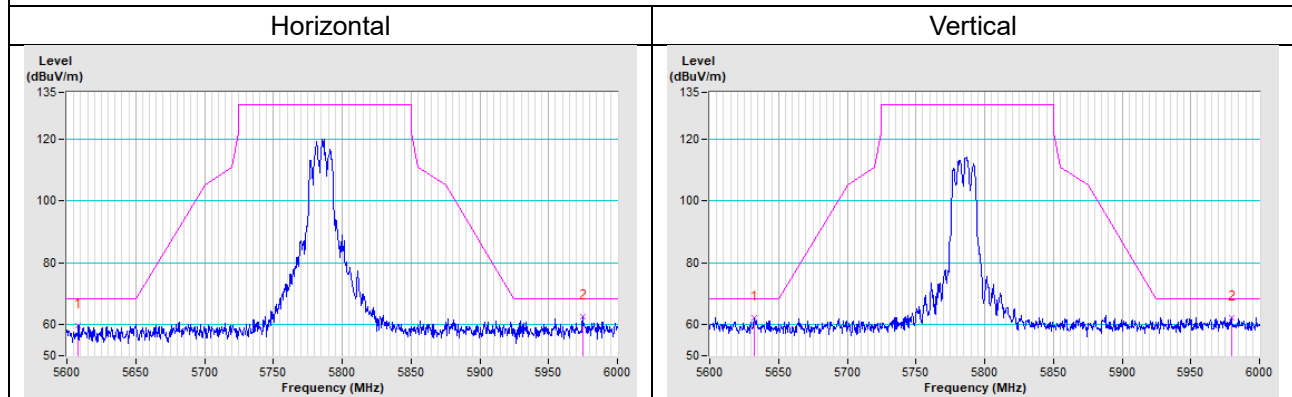
Please refer to the attached file (Test Setup Photo).

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

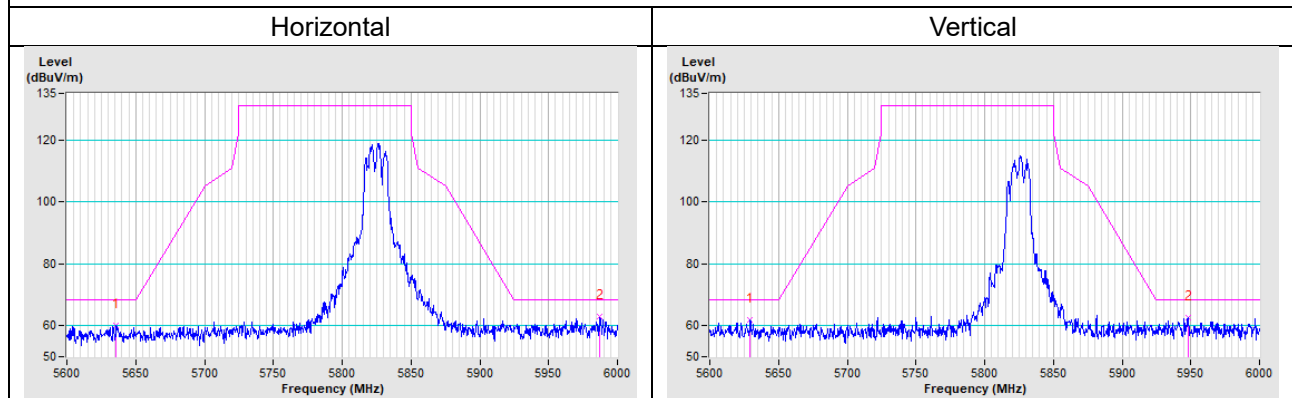
802.11a CH 149 : 5745 MHz



802.11a CH 157 : 5785 MHz

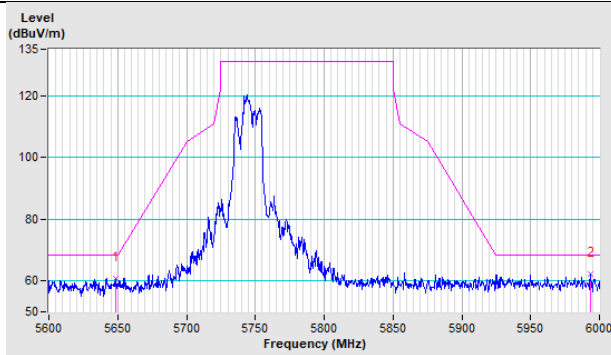


802.11a CH 165 : 5825 MHz

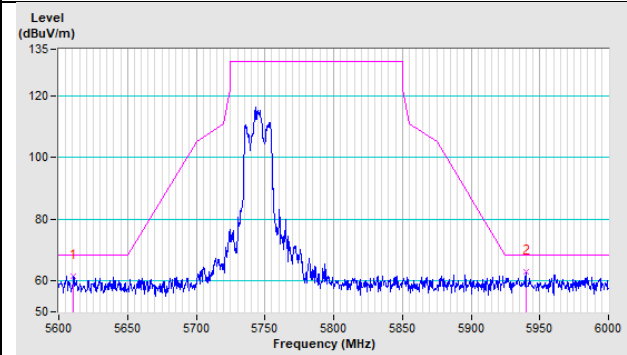


802.11ax (HE20) CH 149 : 5745 MHz

Horizontal

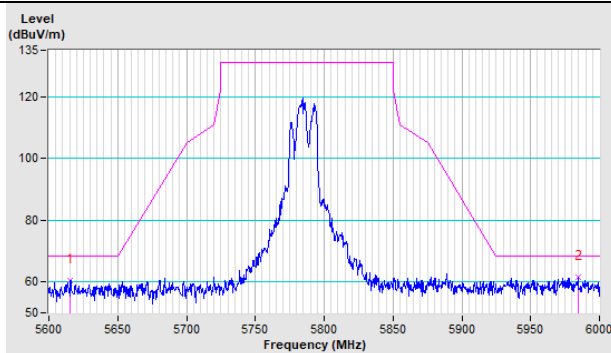


Vertical

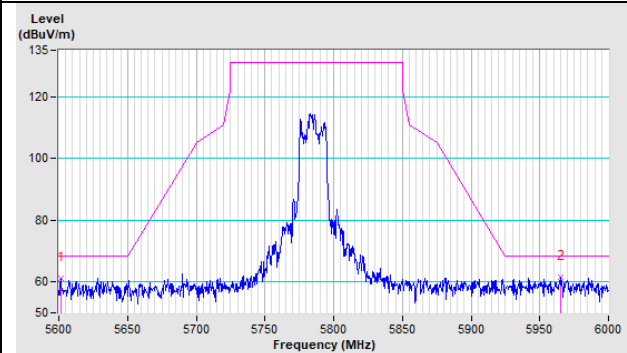


802.11ax (HE20) CH 157 : 5785 MHz

Horizontal

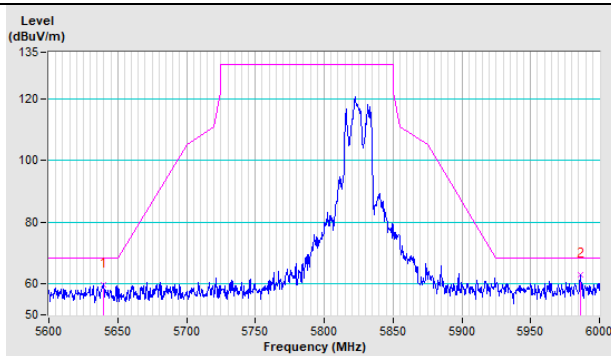


Vertical

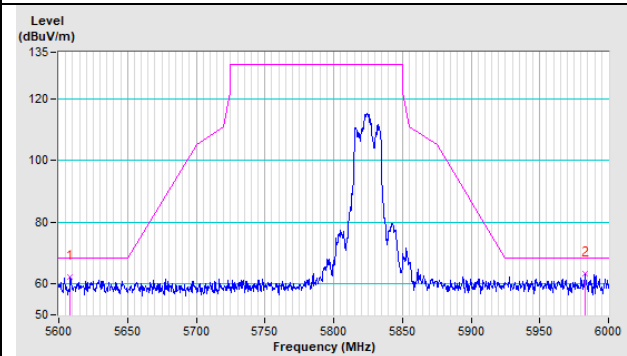


802.11ax (HE20) CH 165 : 5825 MHz

Horizontal

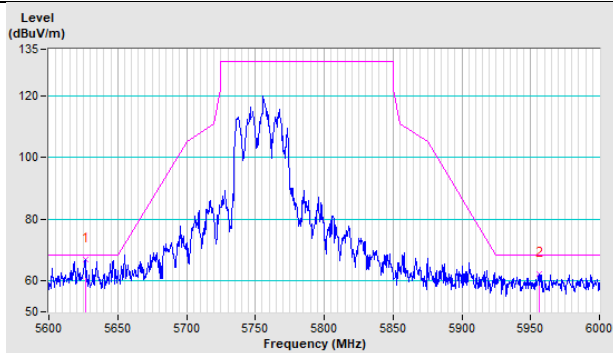


Vertical

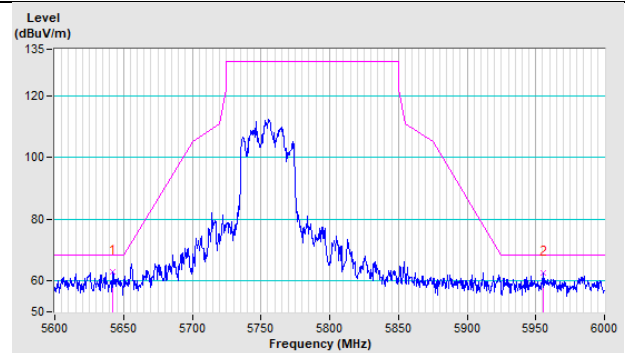


802.11ax (HE40) CH 151 : 5755 MHz

Horizontal

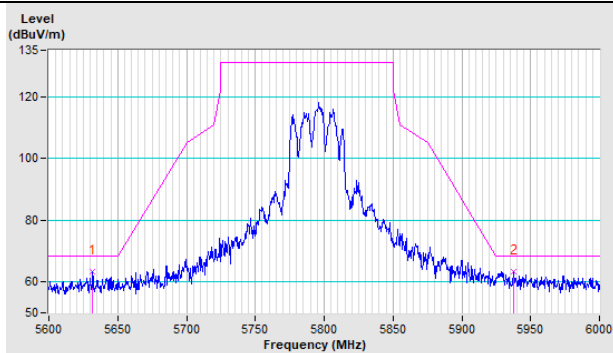


Vertical

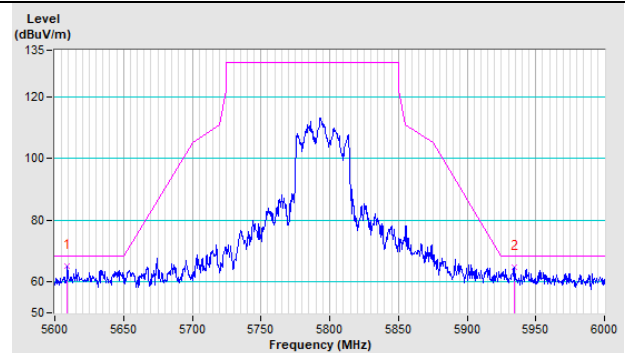


802.11ax (HE40) CH 159 : 5795 MHz

Horizontal

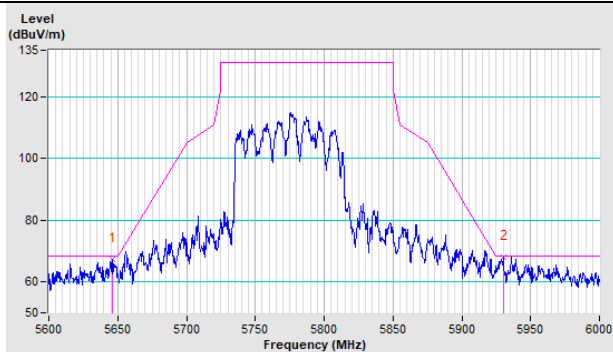


Vertical

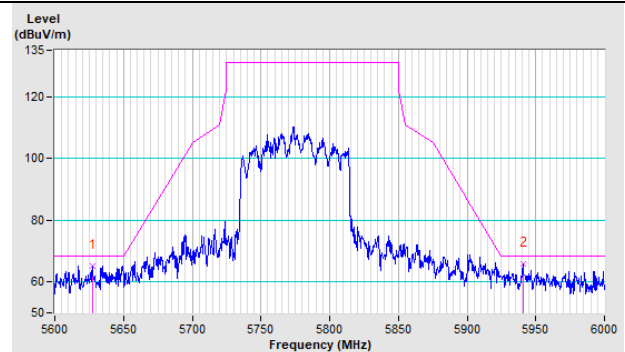


802.11ax (HE80) CH 155 : 5775 MHz

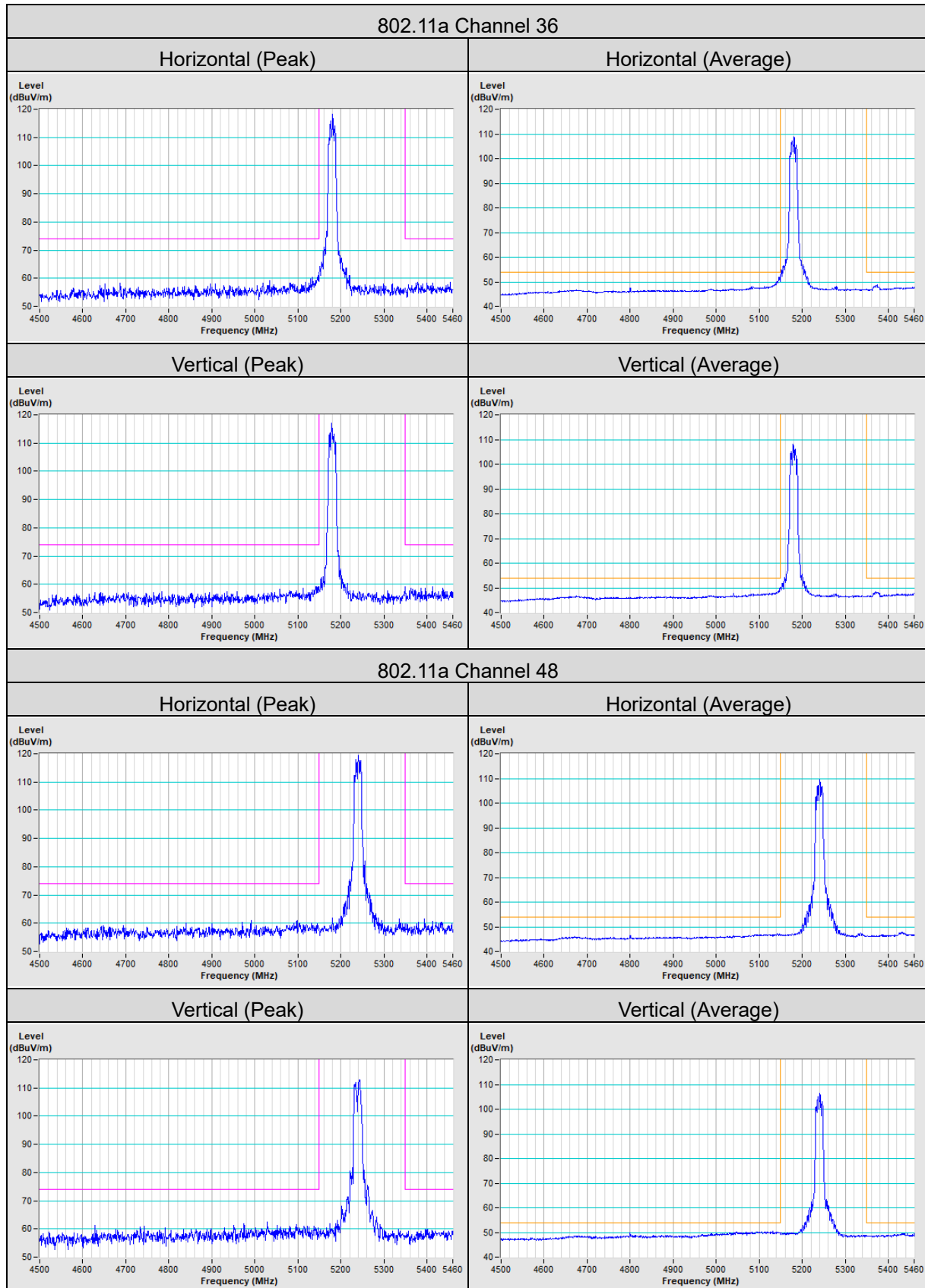
Horizontal

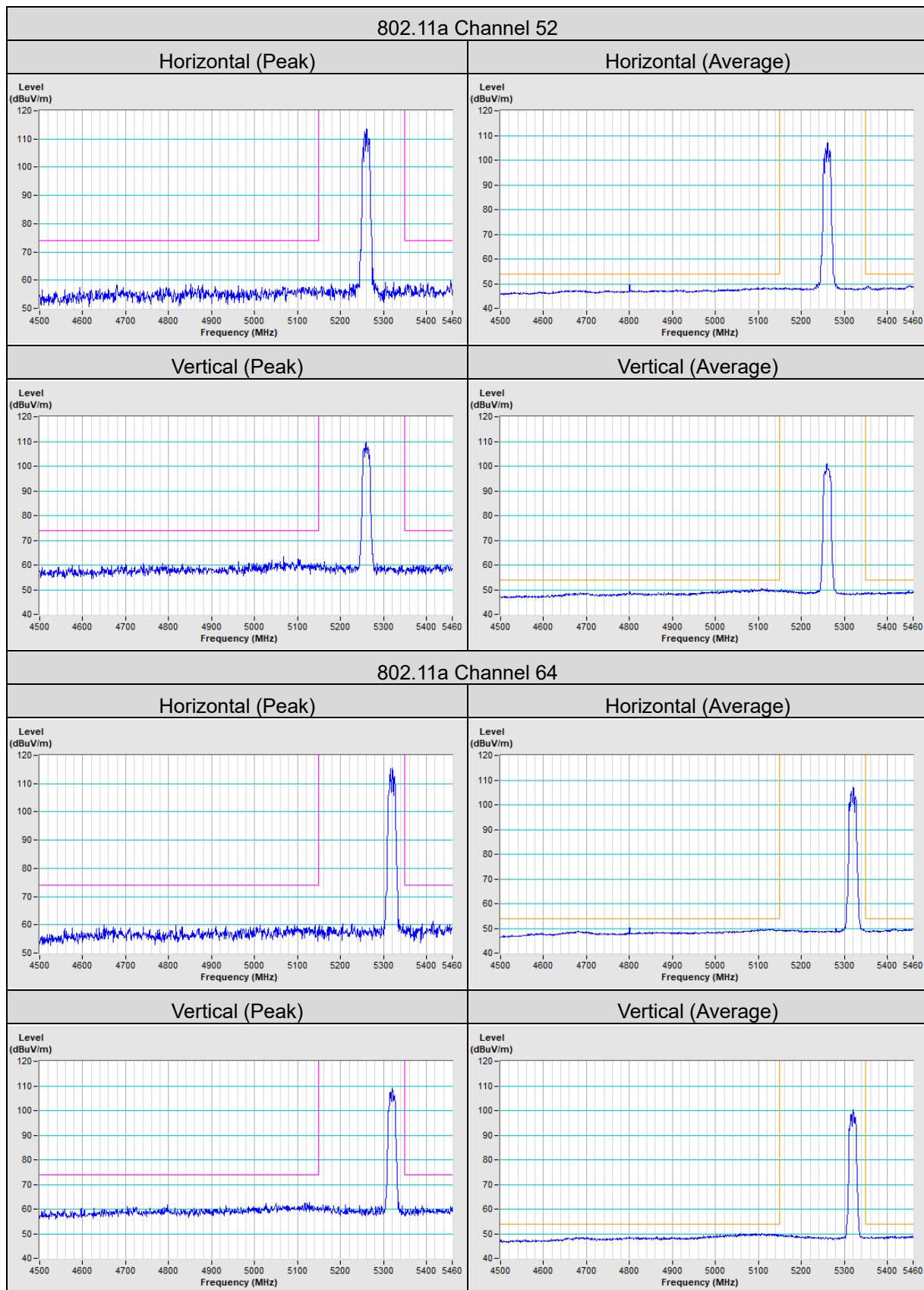


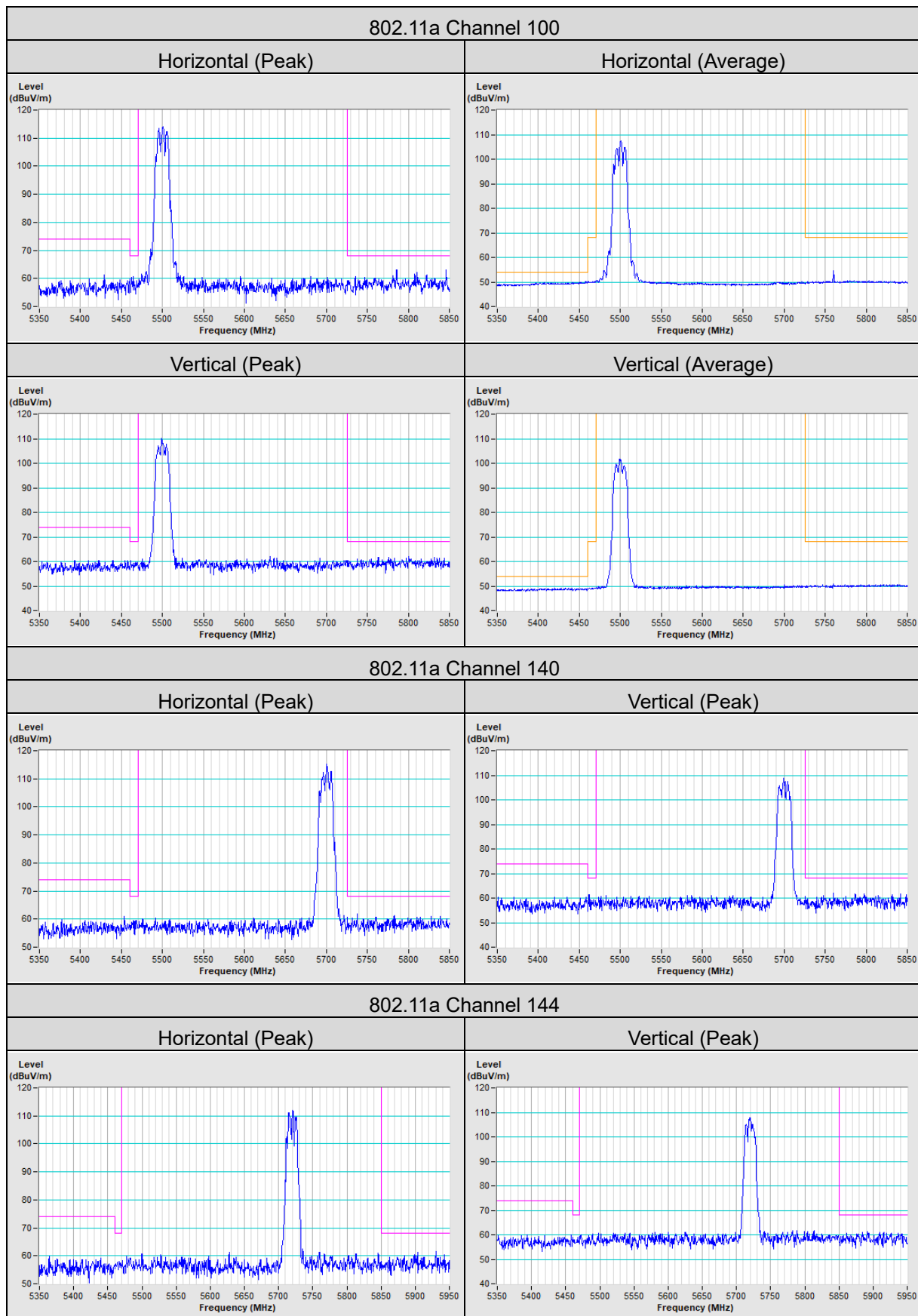
Vertical

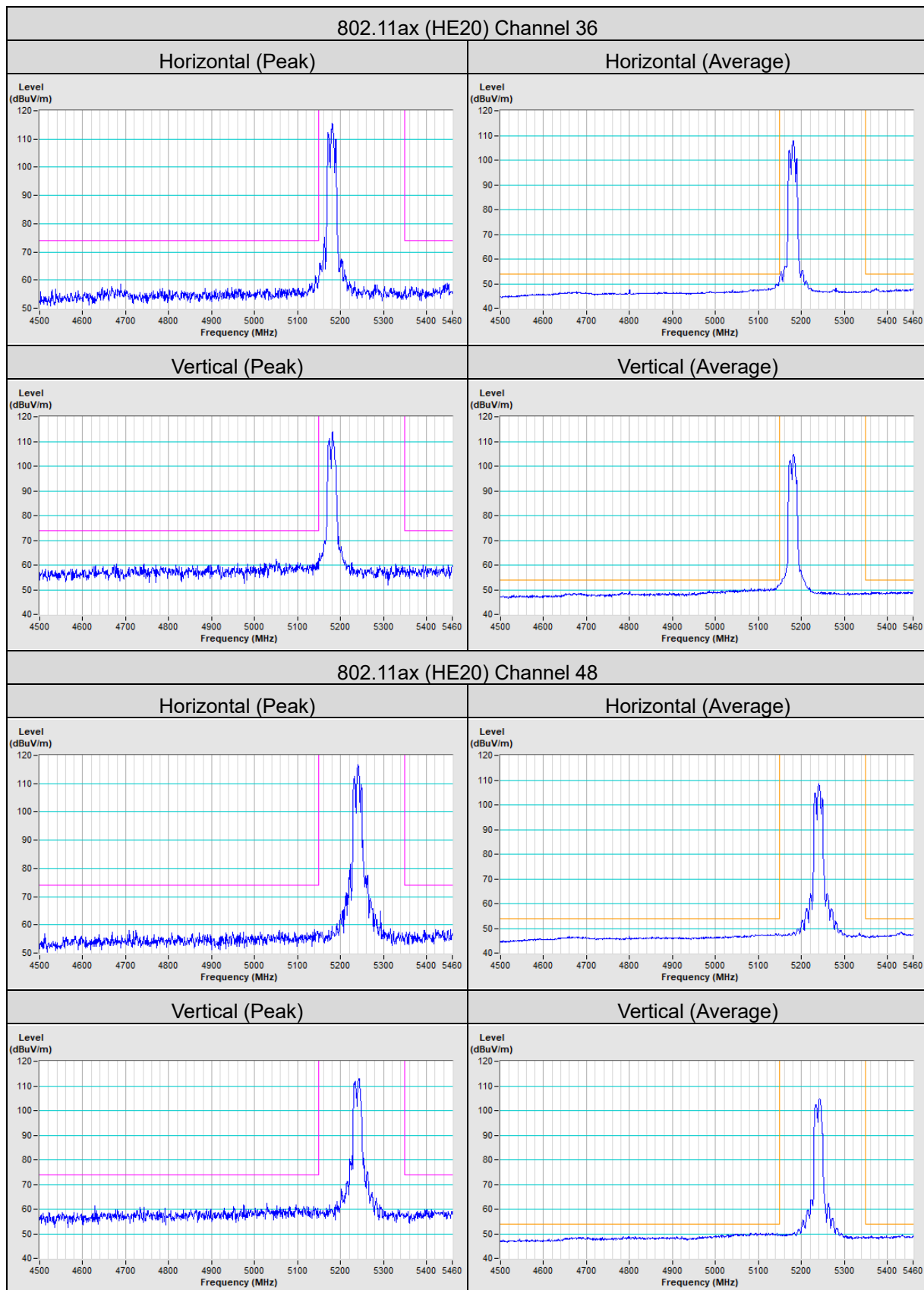


Annex B - Band Edge Measurement



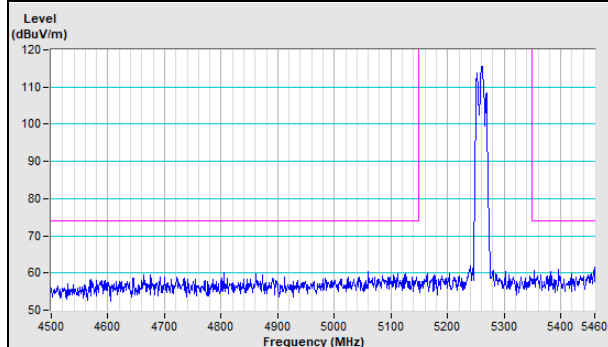




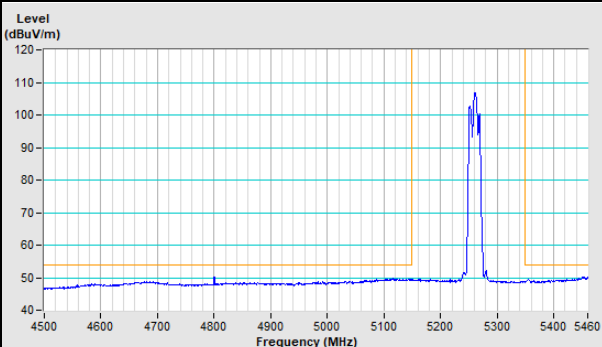


802.11ax (HE20) Channel 52

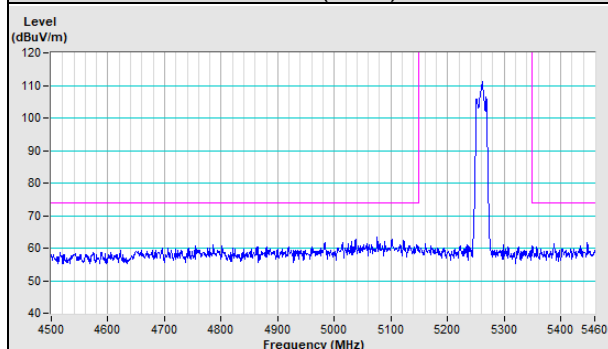
Horizontal (Peak)



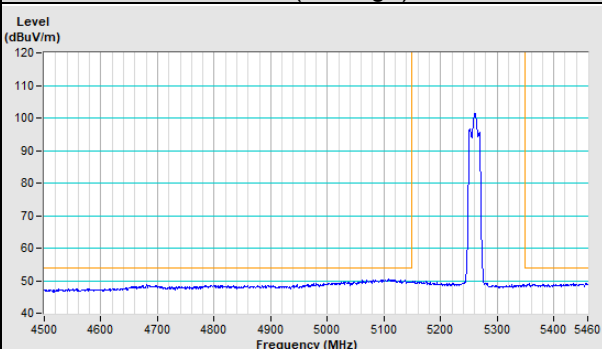
Horizontal (Average)



Vertical (Peak)

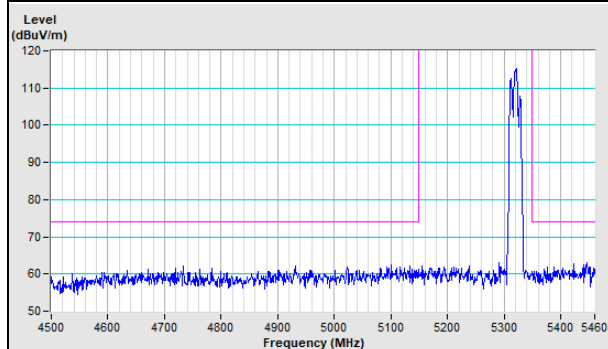


Vertical (Average)

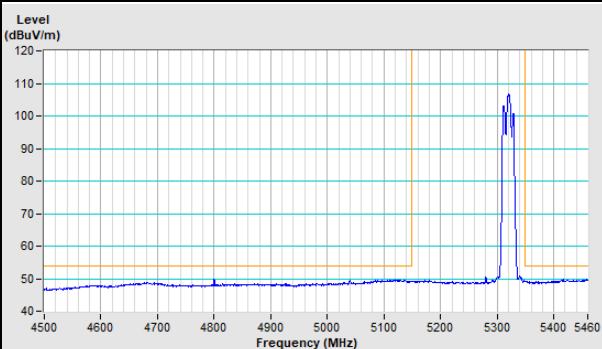


802.11ax (HE20) Channel 64

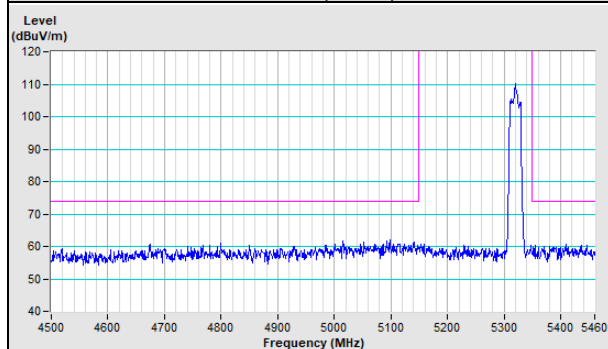
Horizontal (Peak)



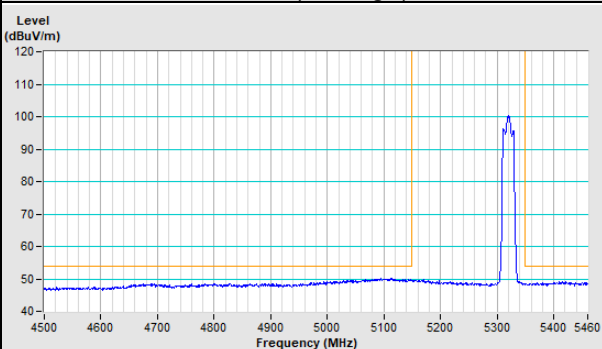
Horizontal (Average)

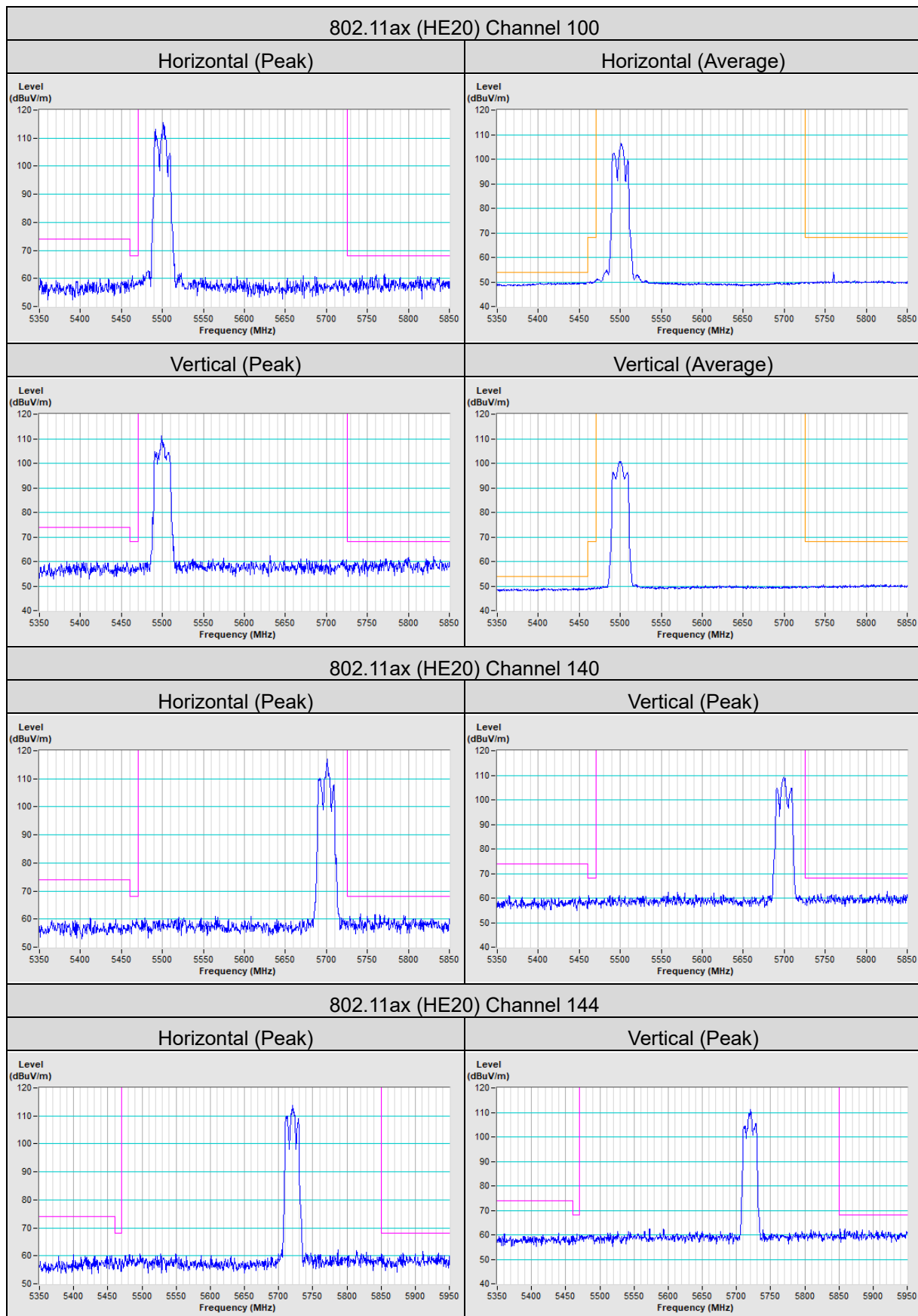


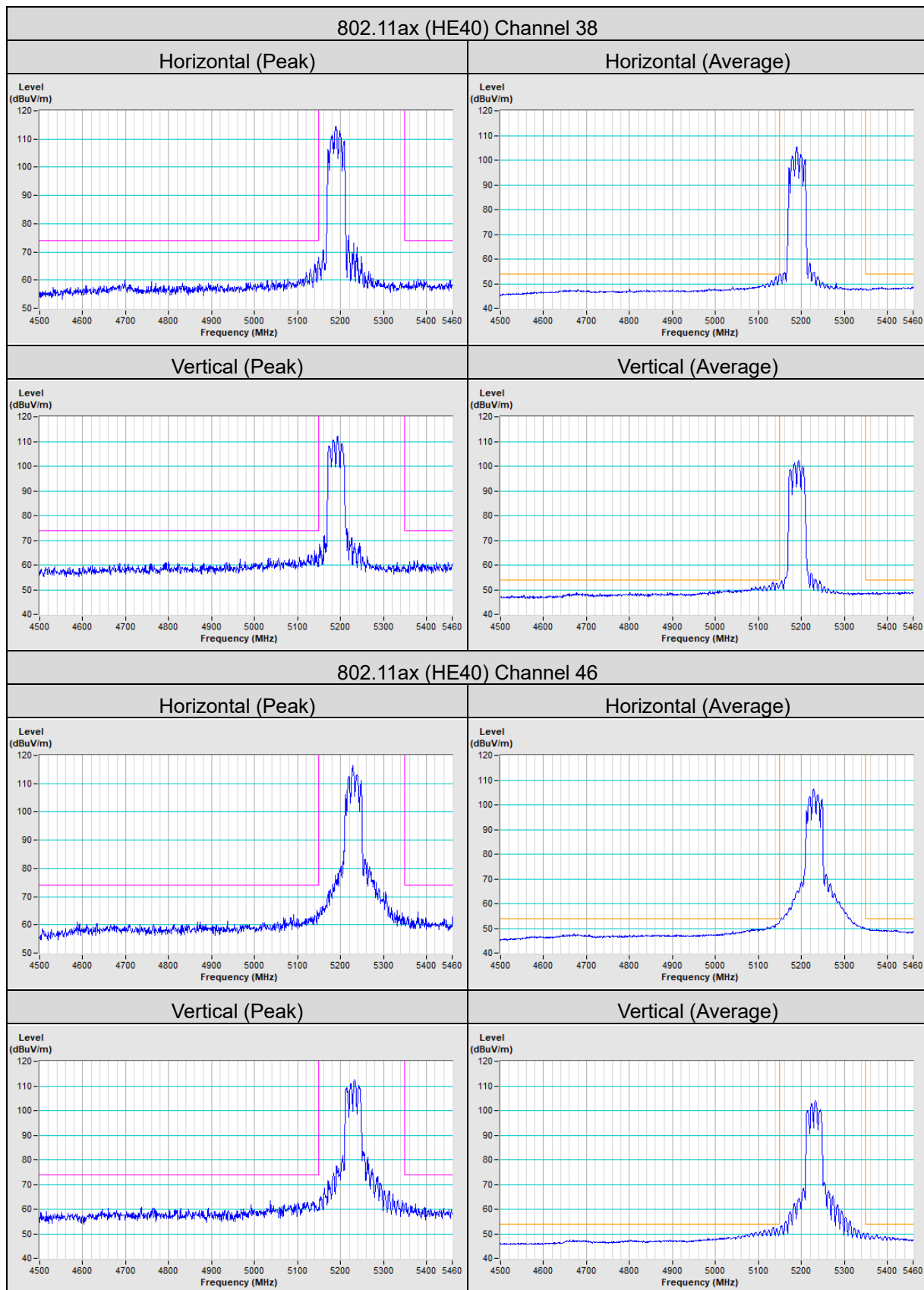
Vertical (Peak)

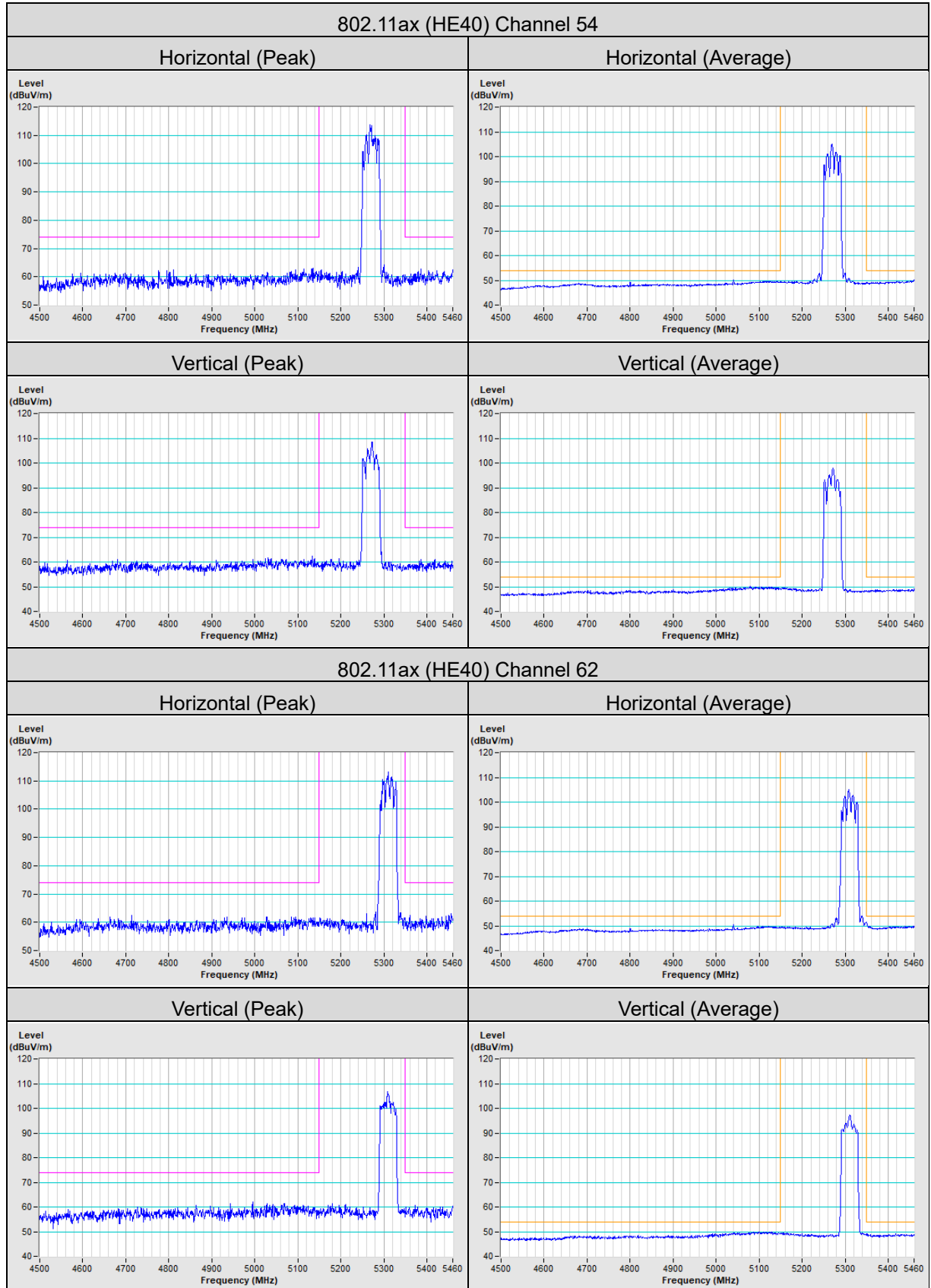


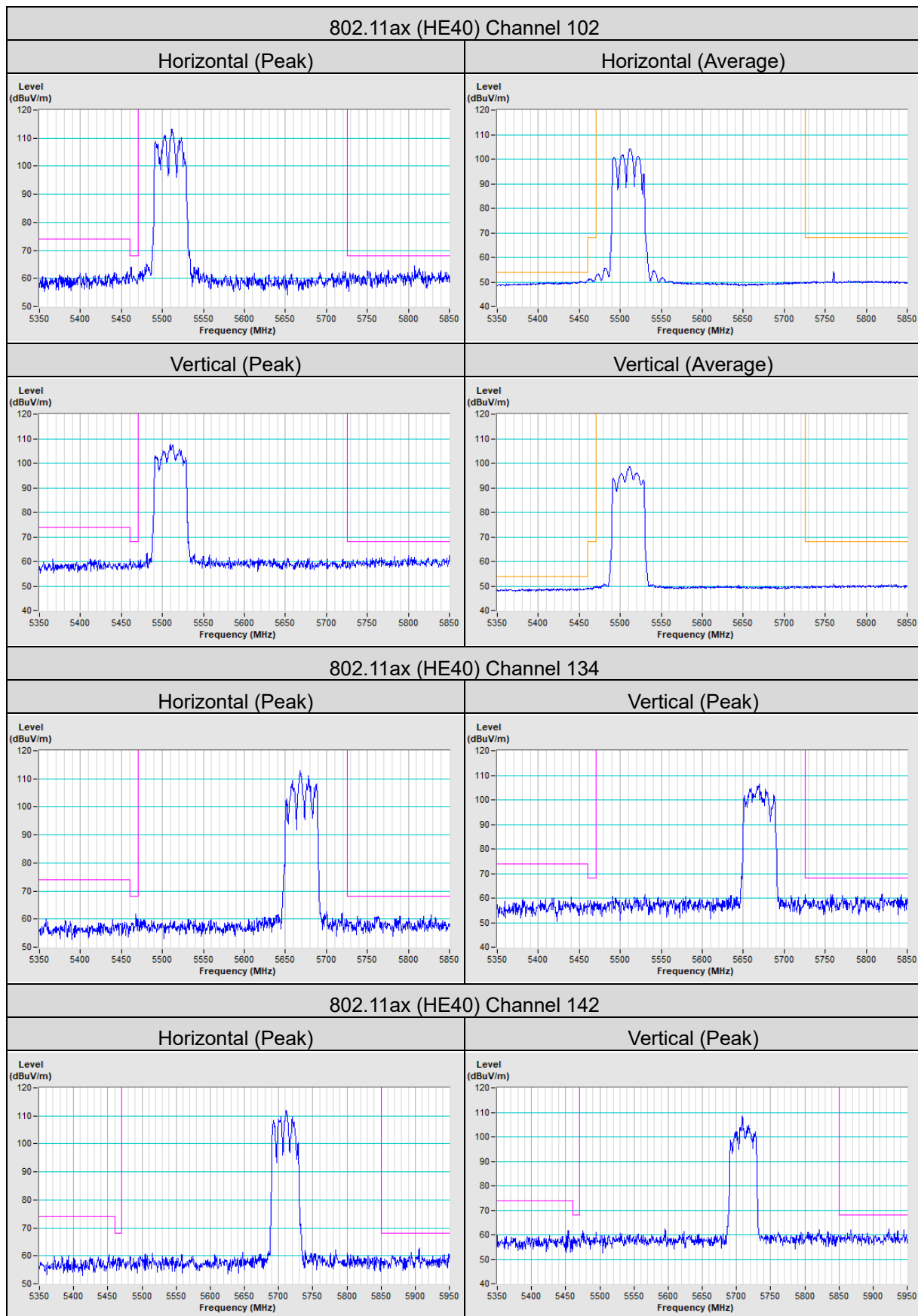
Vertical (Average)





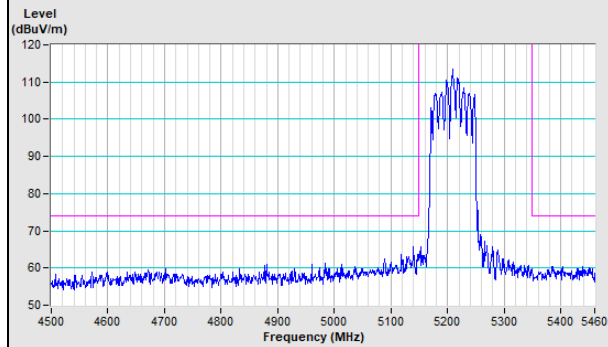




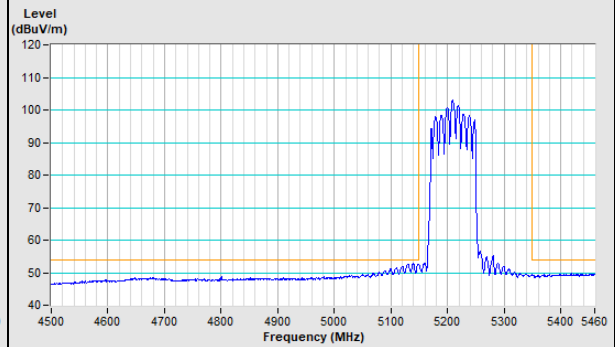


802.11ax (HE80) Channel 42

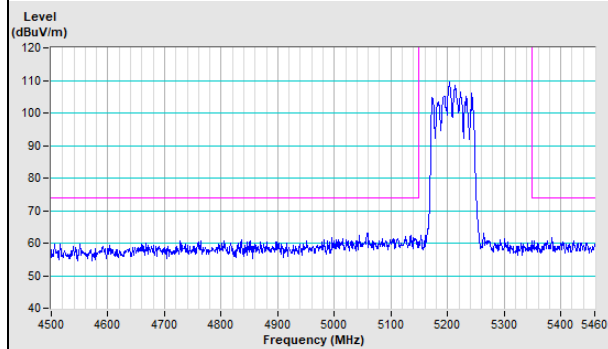
Horizontal (Peak)



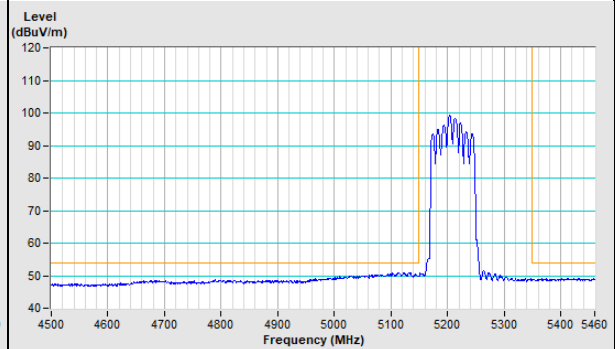
Horizontal (Average)



Vertical (Peak)

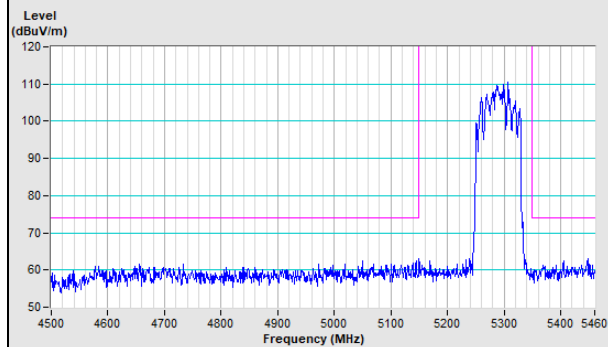


Vertical (Average)

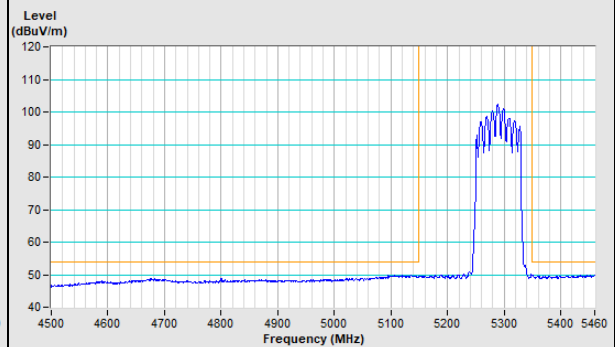


802.11ax (HE80) Channel 58

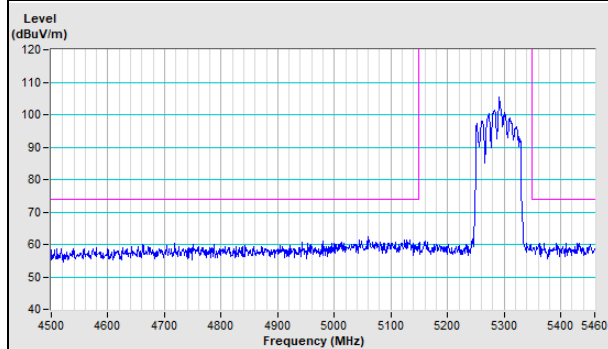
Horizontal (Peak)



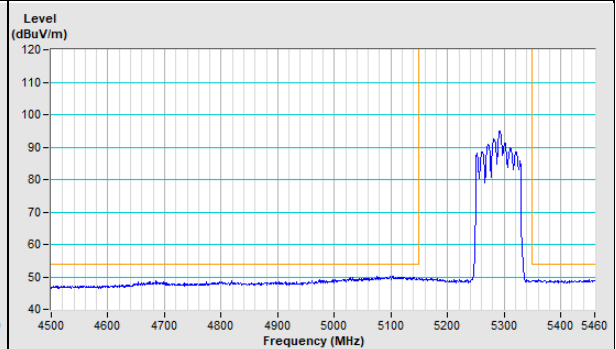
Horizontal (Average)

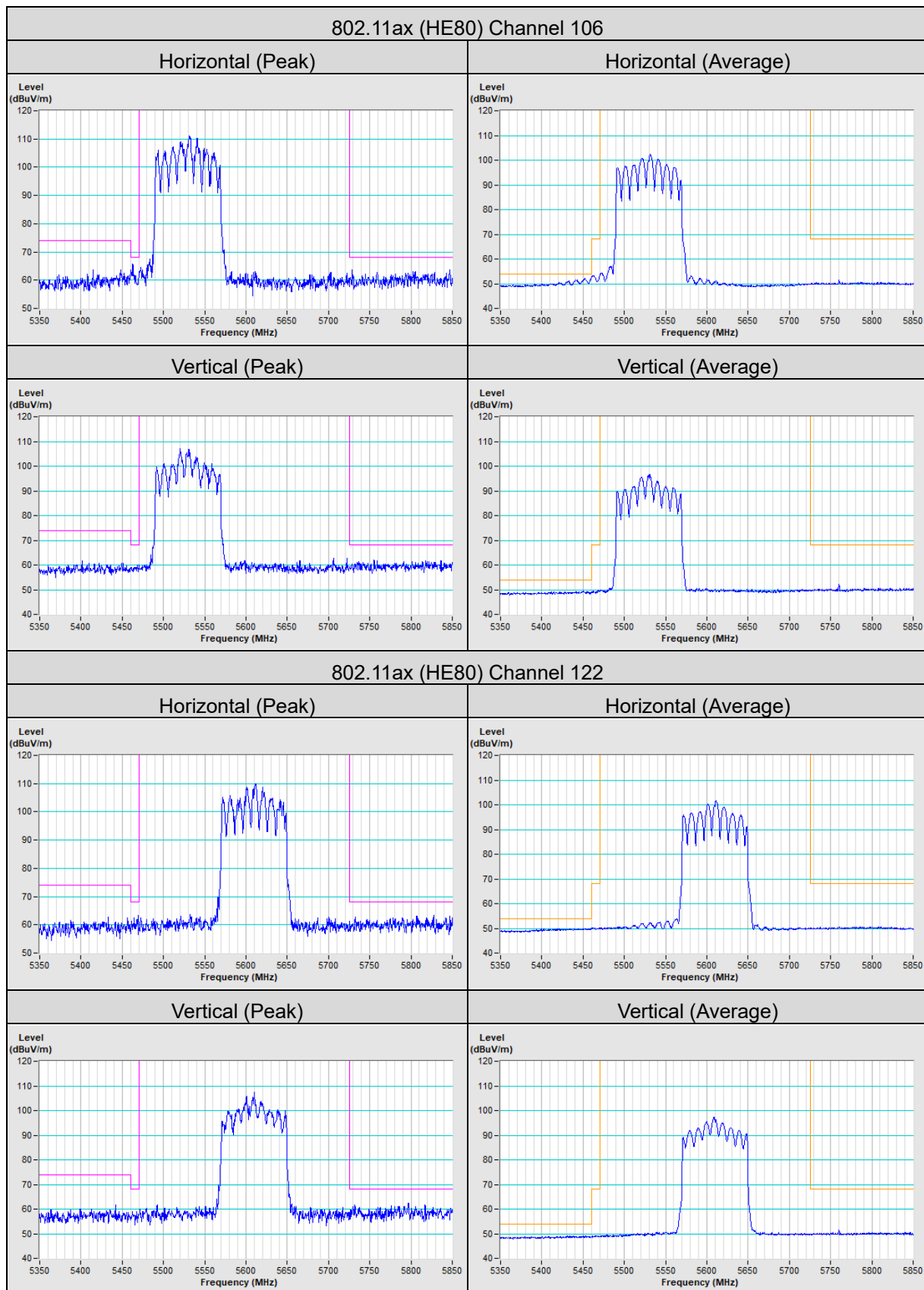


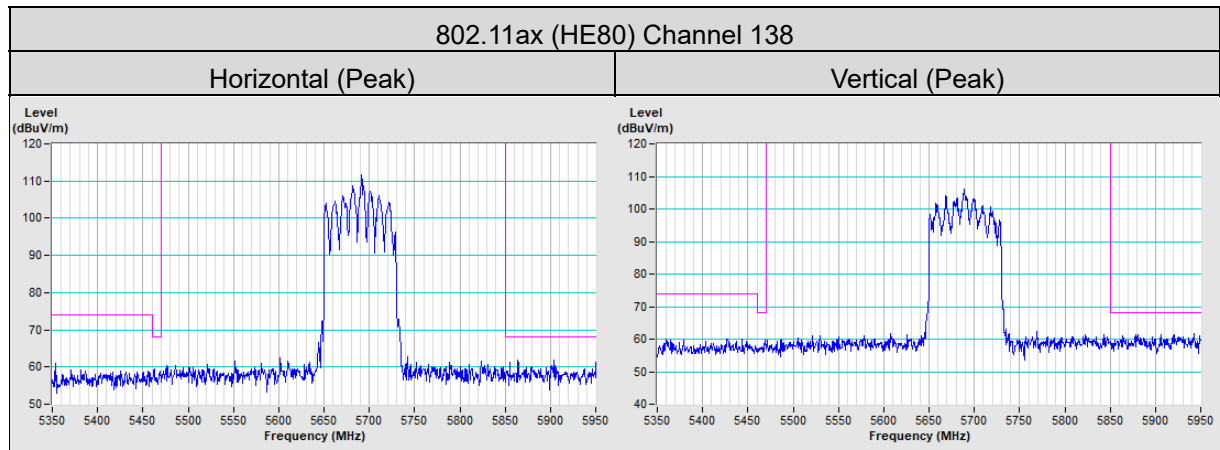
Vertical (Peak)

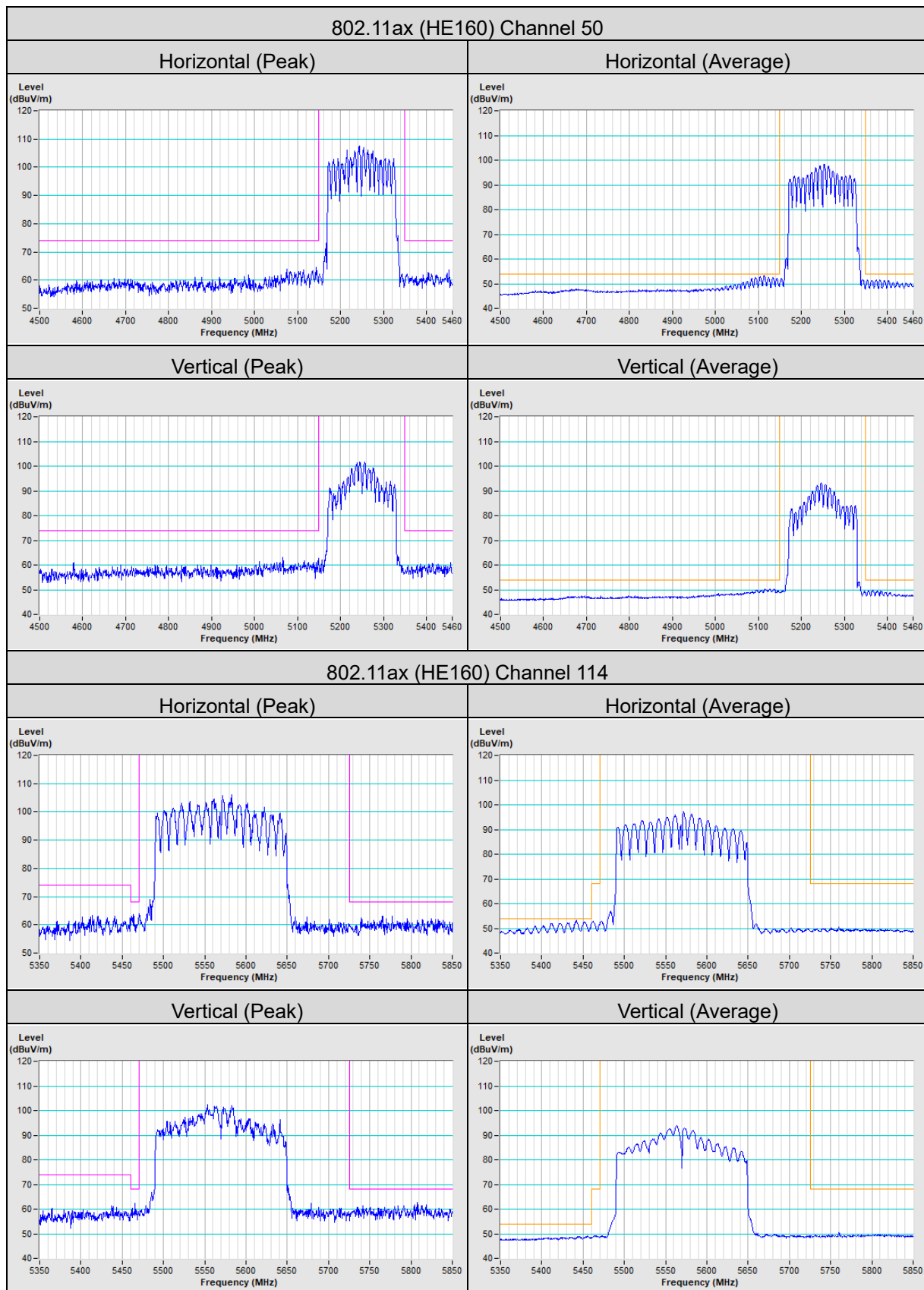


Vertical (Average)









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 and approved according to ISO/IEC 17025.

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Web Site: www.bureauveritas-adt.com

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

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