

FCC Test Report

Report No.: RFBDQY-WTW-P21070082A

FCC ID: YOR-RT6600AX

Test Model: RT6600ax

Received Date: Jul. 01, 2021

Test Date: Oct. 26, 2021 ~ Jan. 08, 2022

Issued Date: Jan. 24, 2022

Applicant: Synology Incorporated

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003
Designation Number:

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FCC Registration / 281270 / TW0032
Designation Number:



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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	10
3.2.1 Test Mode Applicability and Tested Channel Detail	11
3.3 Duty Cycle of Test Signal	14
3.4 Description of Support Units	17
3.4.1 Configuration of System under Test	17
3.5 General Description of Applied Standards and References	17
4 Test Types and Results	18
4.1 Radiated Emission and Bandedge Measurement	18
4.1.1 Limits of Radiated Emission and Bandedge Measurement	18
4.1.2 Test Instruments	19
4.1.3 Test Procedures	20
4.1.4 Deviation from Test Standard	21
4.1.5 Test Setup	21
4.1.6 EUT Operating Conditions	22
4.1.7 Test Results	23
4.2 Conducted Emission Measurement	56
4.2.1 Limits of Conducted Emission Measurement	56
4.2.2 Test Instruments	56
4.2.3 Test Procedures	57
4.2.4 Deviation from Test Standard	57
4.2.5 Test Setup	57
4.2.6 EUT Operating Conditions	57
4.2.7 Test Results	58
4.3 Transmit Power Measurement	66
4.3.1 Limits of Transmit Power Measurement	66
4.3.2 Test Setup	66
4.3.3 Test Instruments	66
4.3.4 Test Procedure	67
4.3.5 Deviation from Test Standard	67
4.3.6 EUT Operating Conditions	67
4.3.7 Test Result	68
4.4 Occupied Bandwidth Measurement	110
4.4.1 Test Setup	110
4.4.2 Test Instruments	110
4.4.3 Test Procedure	110
4.4.4 Test Result	111
4.5 Peak Power Spectral Density Measurement	116
4.5.1 Limits of Peak Power Spectral Density Measurement	116
4.5.2 Test Setup	116
4.5.3 Test Instruments	116
4.5.4 Test Procedures	116
4.5.5 Deviation from Test Standard	117
4.5.6 EUT Operating Conditions	117
4.5.7 Test Results	118
4.6 Frequency Stability	125
4.6.1 Limits of Frequency Stability Measurement	125

4.6.2 Test Setup	125
4.6.3 Test Instruments	125
4.6.4 Test Procedure	125
4.6.5 Deviation from Test Standard	126
4.6.6 EUT Operating Condition	126
4.6.7 Test Results	126
4.7 6dB Bandwidth Measurement	128
4.7.1 Limits of 6dB Bandwidth Measurement	128
4.7.2 Test Setup	128
4.7.3 Test Instruments	128
4.7.4 Test Procedure	128
4.7.5 Deviation from Test Standard	128
4.7.6 EUT Operating Condition	128
4.7.7 Test Results	129
5 Pictures of Test Arrangements	131
Annex A - Band Edge Measurement	132
Appendix – Information of the Testing Laboratories	141

Release Control Record

Issue No.	Description	Date Issued
RFBDQY-WTW-P21070082A	Original release	Jan. 24, 2022

1 Certificate of Conformity

Product: 802.11ax Wireless Router

Brand: Synology

Test Model: RT6600ax

Sample Status: Engineering sample

Applicant: Synology Incorporated

Test Date: Oct. 26, 2021 ~ Jan. 08, 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 : Celine Chou , **Date:** Jan. 24, 2022
Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Jan. 24, 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 -8.11dB at 0.46200MHz.
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 -0.2dB at 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(MHF) not a standard connector.

Note:

- For 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 A. 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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~ 1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	802.11ax Wireless Router
Brand	Synology
Test Model	RT6600ax
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter
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 600Mbps 802.11ac: up to 3466.7Mbps 802.11ax: up to 4804.0Mbps
Operating Frequency	5260 ~ 5320MHz, 5500 ~ 5720MHz
Number of Channel	5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 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
Output Power	CDD Mode: 5260 ~ 5320MHz: 243.028mW 5500 ~ 5720MHz: 247.541mW Beamforming Mode: 5260 ~ 5320MHz: 121.523mW 5500 ~ 5720MHz: 61.894mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter
Cable Supplied	0.93m non-shielded RJ45 cable without core

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV CPS report no.: RFBDQY-WTW-P21070082-1) is adding 5.26GHz to 5.32GHz, 5.50GHz to 5.75GHz and 5.845GHz to 5.885GHz by software and adding one adapter.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Band	Modulation Mode	Beamforming Mode	TX Function
5GHz Band 2	802.11a	Not Support	2TX
	802.11n (HT20)	Support	2TX
	802.11n (HT40)	Support	2TX
	802.11ac (VHT20)	Support	2TX
	802.11ac (VHT40)	Support	2TX
	802.11ac (VHT80)	Support	2TX
	802.11ax (HE20)	Support	2TX
	802.11ax (HE40)	Support	2TX
	802.11ax (HE80)	Support	2TX
5GHz Band 3	802.11a	Not Support	4TX
	802.11n (HT20)	Support	4TX
	802.11n (HT40)	Support	4TX
	802.11ac (VHT20)	Support	4TX
	802.11ac (VHT40)	Support	4TX
	802.11ac (VHT80)	Support	4TX
	802.11ac (VHT160)	Support	4TX
	802.11ax (HE20)	Support	4TX
	802.11ax (HE40)	Support	4TX
	802.11ax (HE80)	Support	4TX
	802.11ax (HE160)	Support	4TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40/VHT80/VHT160 on 802.11ac mode and HE20/HE40/HE80/HE160 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* CDD mode is the worst case for final tests after pretesting CDD mode and Beamforming Mode mode except output power test.

3. There are three radios for the EUT.

Radio	Brand	Model	Function	TX/RX Function
1	Qualcomm	QCN5022	2412 ~ 2462MHz	2x2
2	Qualcomm	QCN5052	5180 ~ 5240MHz 5260 ~ 5320MHz	2x2
3	Qualcomm	QCN9024	5500 ~ 5720MHz 5745 ~ 5825MHz 5845 ~ 5885MHz	4x4

4. The EUT consumes power from the following adapter. (The new adapter is adapter 2)

Adapter 1	
Brand	CWT
Model	2AEJ042FC
Input Power	100-240Vac, 50-60Hz, 1.3A
Output Power	12Vdc, 3.5A, 42.0W
Power Line	1.5m cable without core attached on adapter

Adapter 2	
Brand	CWT
Model	2ABN042F
Input Power	100-240Vac, 50-60Hz, 1.3A
Output Power	12Vdc, 3.5A
Power Line	1.5m cable without core attached on adapter

5. The antenna information is listed as below.

No.	Brand	Model	Type	Connector	Gain (dBi)			
					2412-2462 MHz	5180-5320 MHz	5500-5825 MHz	5845-5885 MHz
1	LYNwave	ALX21X-221031-00	Dipole	ipex(MHF)	2.00	3.00	-	-
2	LYNwave	ALX21X-221032-00	Dipole	ipex(MHF)	2.00	3.00	-	-
3	LYNwave	ALX21X-221033-00	Dipole	ipex(MHF)	-	-	3.00	3.30
4	LYNwave	ALX21X-221034-00	Dipole	ipex(MHF)	-	-	3.00	3.30
5	LYNwave	ALX21X-221035-00	Dipole	ipex(MHF)	-	-	3.00	3.30
6	LYNwave	ALX21X-221036-00	Dipole	ipex(MHF)	-	-	3.00	3.30

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

3.2 Description of Test Modes

For 5260 ~ 5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290MHz

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

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 1
B	-	√	√	-	Powered by adapter 2

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 **Z-plane**.
2. 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)	TX Functon
A	802.11a	5250-5320	52 to 64	52, 60, 64	OFDM	6.0	2TX
	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	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	4TX
	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	

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)	TX Functon
A, B	802.11ax (HE20)	5260-5320	52 to 64	60	OFDMA	MCS0	2TX
A, B	802.11ax (HE80)	5500-5720	106 to 138	122	OFDMA	MCS0	4TX

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)	TX Functon
A, B	802.11ax (HE20)	5260-5320	52 to 64	60	OFDMA	MCS0	2TX
A, B	802.11ax (HE80)	5500-5720	106 to 138	122	OFDMA	MCS0	4TX

Bandwidth, Power Spectral Density and Frequency Stability 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)	TX Functon
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	2TX
	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	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	4TX
	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	

Conducted Output Power 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)	TX Functon
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	2TX
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
	802.11ac (VHT80)		58	58	OFDM	29.3	
	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	
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	4TX
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3	
	802.11ac (VHT160)		114	114	OFDM	58.5	
	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	

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE$\geq$1G	23 deg. C, 68% RH	120Vac, 60Hz	Raymond Lee
RE<1G	23 deg. C, 68% RH 24 deg. C, 67% RH	120Vac, 60Hz	Raymond Lee
PLC	21 deg. C, 68% RH 24 deg. C, 68% RH	120Vac, 60Hz	Tim Chen Raymond Lee
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Alan Wu

3.3 Duty Cycle of Test Signal

2TX

For U-NII-2A band:

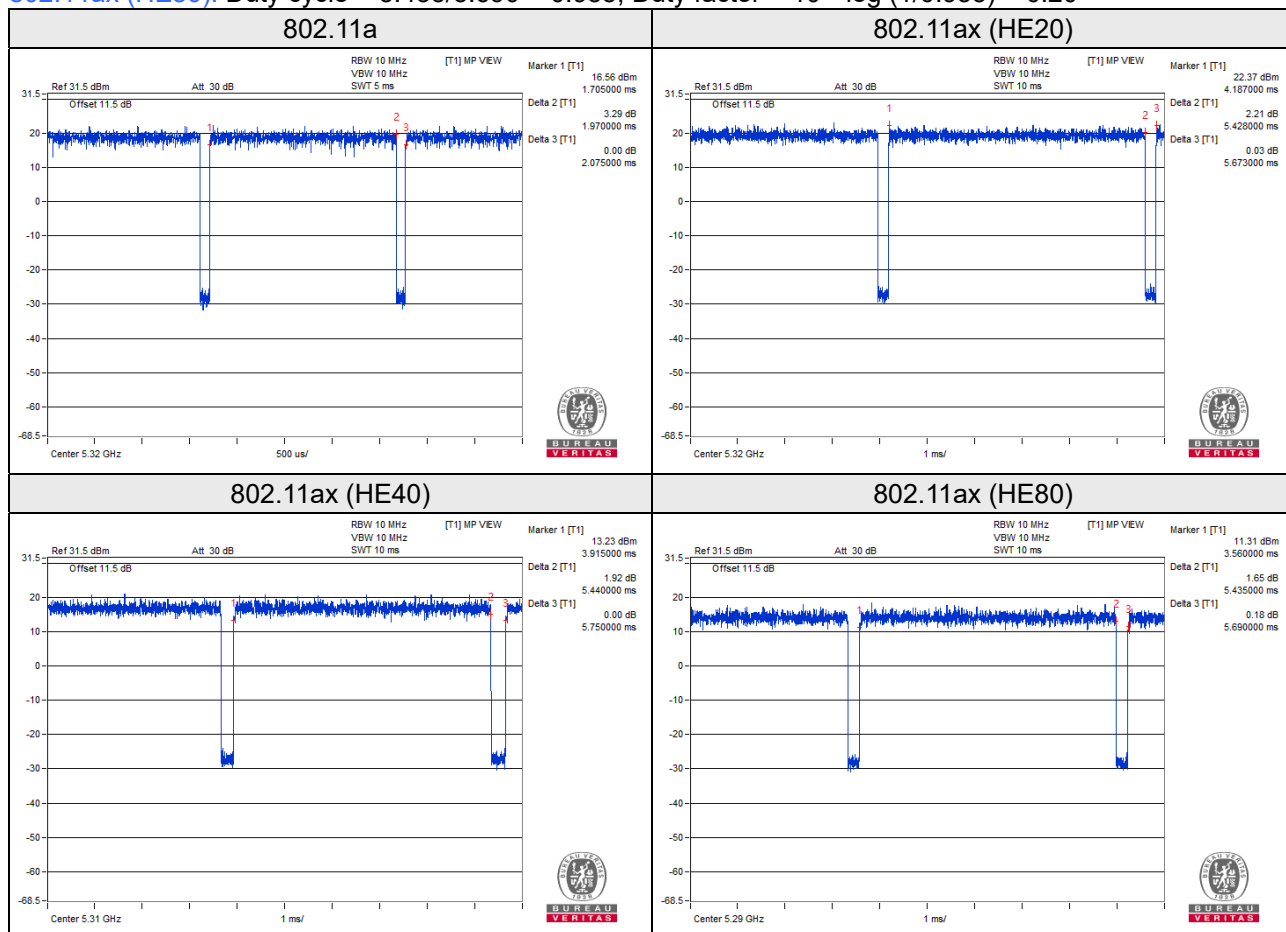
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = $1.970/2.075 = 0.949$, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11ax (HE20): Duty cycle = $5.428/5.673 = 0.957$, Duty factor = $10 * \log(1/0.957) = 0.19$

802.11ax (HE40): Duty cycle = $5.440/5.750 = 0.946$, Duty factor = $10 * \log(1/0.946) = 0.24$

802.11ax (HE80): Duty cycle = $5.435/5.690 = 0.955$, Duty factor = $10 * \log(1/0.955) = 0.20$



4TX

For U-NII-2C band:

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

802.11a: Duty cycle = $1.974/2.087 = 0.946$, Duty factor = $10 * \log(1/0.946) = 0.24$

802.11ax (HE20): Duty cycle = $5.435/5.705 = 0.953$, Duty factor = $10 * \log(1/0.953) = 0.21$

802.11ax (HE40): Duty cycle = $5.425/5.680 = 0.955$, Duty factor = $10 * \log(1/0.955) = 0.20$

802.11ax (HE80): Duty cycle = $5.420/5.745 = 0.943$, Duty factor = $10 * \log(1/0.943) = 0.25$

802.11ax (HE160): Duty cycle = $5.363/6.313 = 0.850$, Duty factor = $11 * \log(1/0.850) = 0.71$



For U-NII-3 band:

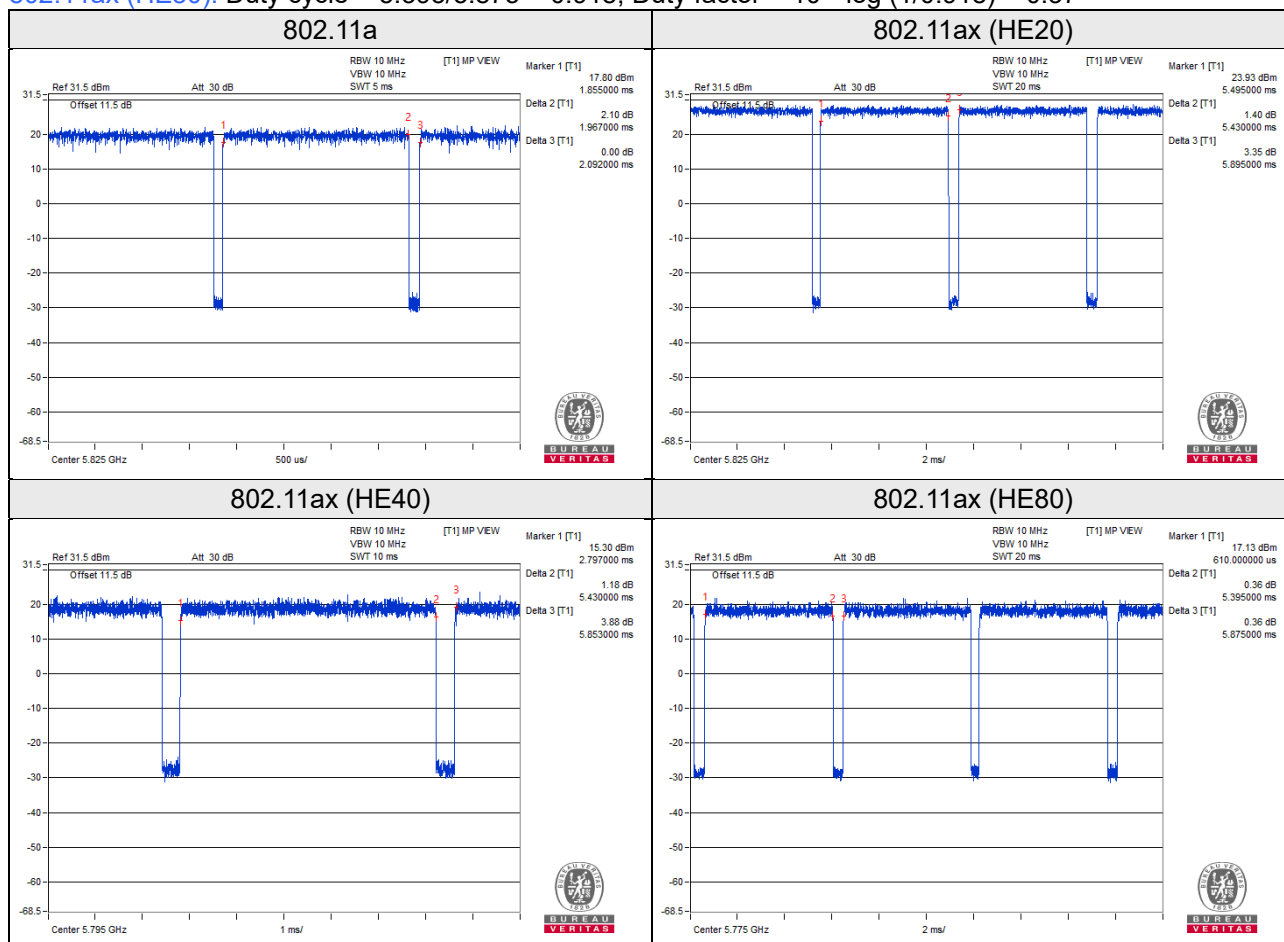
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = $1.967/2.092 = 0.940$, Duty factor = $10 * \log(1/0.940) = 0.27$

802.11ax (HE20): Duty cycle = $5.430/5.895 = 0.921$, Duty factor = $10 * \log(1/0.921) = 0.36$

802.11ax (HE40): Duty cycle = $5.430/5.853 = 0.928$, Duty factor = $10 * \log(1/0.928) = 0.33$

802.11ax (HE80): Duty cycle = $5.395/5.875 = 0.918$, Duty factor = $10 * \log(1/0.918) = 0.37$



3.4 Description of Support Units

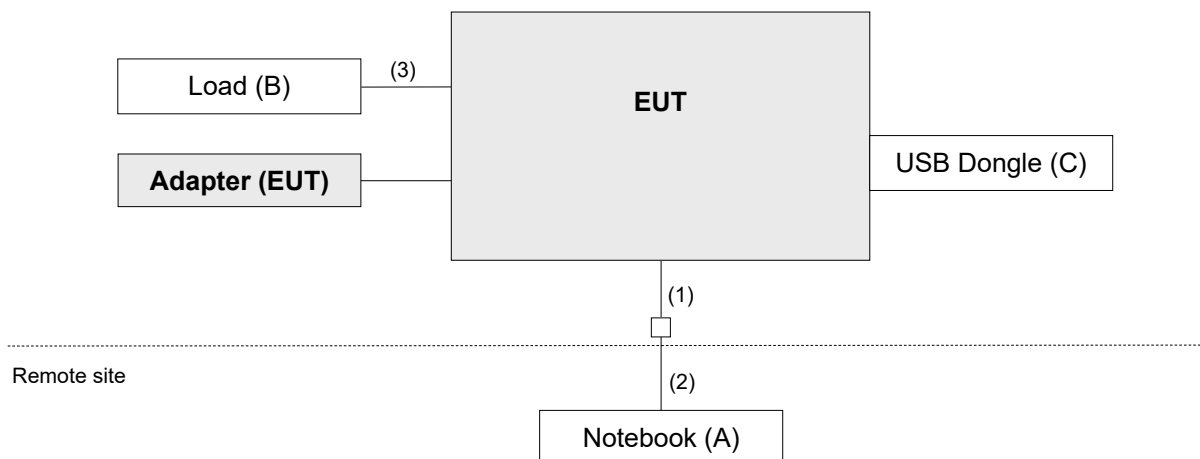
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5430	2RL3YW1	FCC DoC Approved	-
B.	Load	NA	NA	NA	FCC DoC Approved	-
C.	USB Dongle	D-Link	DWM-157	RD0S1F9000417	NA	-

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

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN Cable	1	0.93	N	0	Accessory of EUT
2.	LAN Cable	1	6	N	0	RJ45, Cat5e
3.	LAN Cable	4	1.5	N	0	RJ45, Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test 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 (dBuV/m)	AV: 54 (dBuV/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(dBuV/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(dBuV/m) ^{*1} PK: 105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK: 122.2 (dBuV/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:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Rohde & Schwarz	ESR3	102783	Dec. 21, 2020	Dec. 20, 2021
			Dec. 20, 2021	Dec. 19, 2022
Spectrum Analyzer KEYSIGHT	N9020B	MY60110513	Dec. 21, 2020	Dec. 20, 2021
			Dec. 24, 2021	Dec. 23, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-1214	Nov. 04, 2020	Nov. 03, 2021
			Oct. 28, 2021	Oct. 27, 2022
HORN Antenna RF SPIN	DRH18-E	210104A18E	Jan. 08, 2021	Jan. 07, 2022
			Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-1049	Dec. 09, 2020	Dec. 08, 2021
			Nov. 14, 2021	Nov. 13, 2022
Preamplifier EMCI	EMC330N	980798	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC118A45SE	980809	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC184045SE	980786	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC104-SM-SM-(9000+2000+1000)	201244+ 201232+ 210103	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMCCFD400-NM-NM-(9000+300+500)	201251+ 201249+ 201248	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201261+201258+201249	Jan. 12, 2021	Jan. 11, 2022
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFA-515BSN	NA	NA	NA
Turn Table Max-Full	MFT-201SS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208676	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 19, 2021	Jan. 18, 2022
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 11, 2021	Jan. 10, 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 WM Chamber 9.

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:

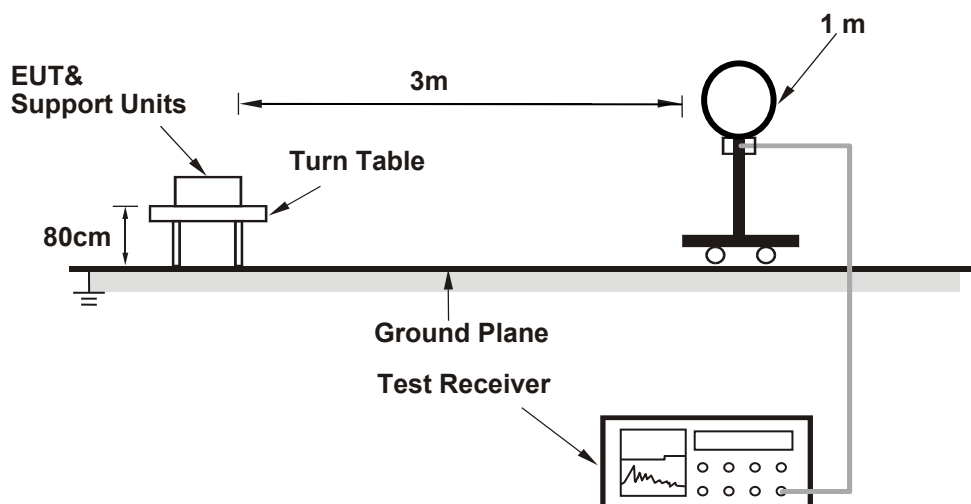
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

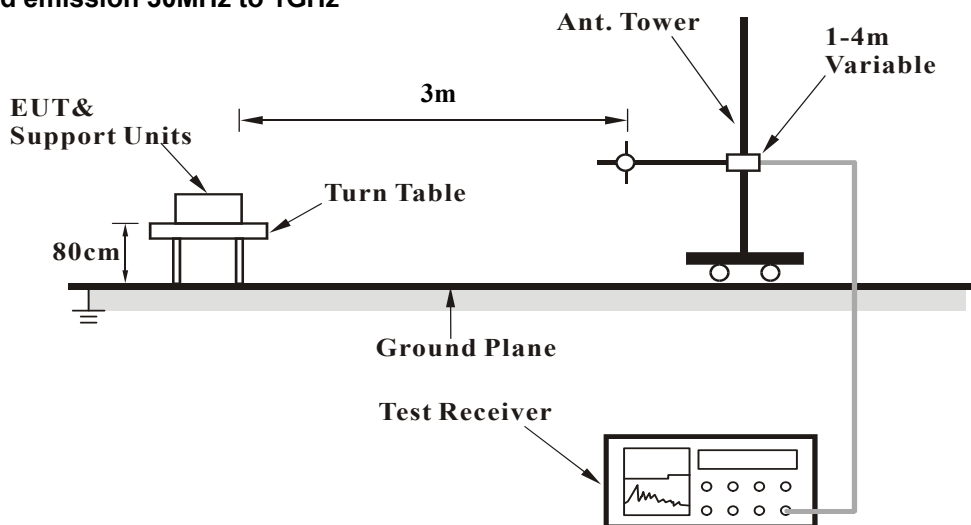
No deviation.

4.1.5 Test Setup

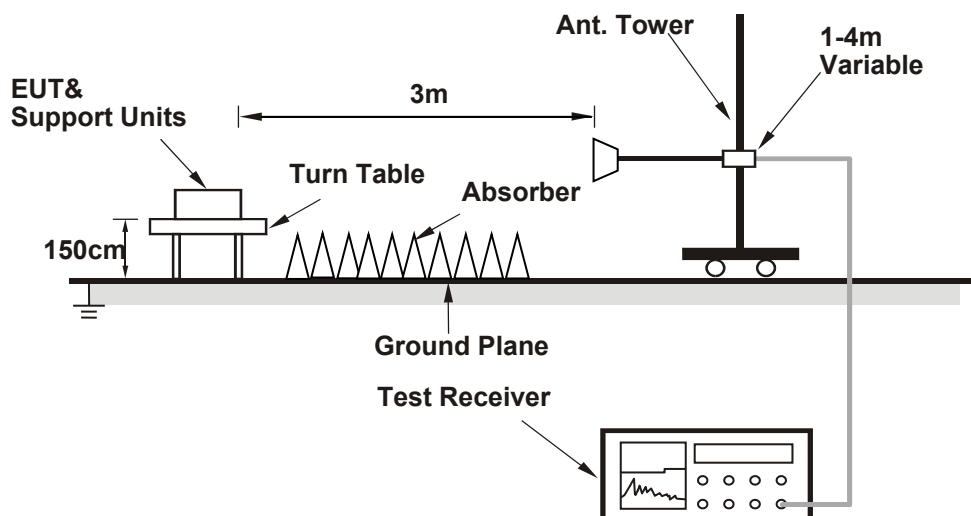
For Radiated emission below 30MHz



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.
- The communication partner sent data to EUT by command.

4.1.7 Test Results

Above 1GHz data:

2TX

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	59.4 PK	74.0	-14.6	1.97 H	257	55.8	3.6
2	5150.00	47.8 AV	54.0	-6.2	1.97 H	257	44.2	3.6
3	*5260.00	111.1 PK			1.97 H	257	71.2	39.9
4	*5260.00	102.0 AV			1.97 H	257	62.1	39.9
5	#10520.00	58.5 PK	68.2	-9.7	1.46 H	91	48.8	9.7
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	58.8 PK	74.0	-15.2	2.30 V	229	55.2	3.6
2	5150.00	49.2 AV	54.0	-4.8	2.30 V	229	45.6	3.6
3	*5260.00	119.2 PK			2.30 V	229	79.3	39.9
4	*5260.00	109.8 AV			2.30 V	229	69.9	39.9
5	#10520.00	58.6 PK	68.2	-9.6	1.37 V	66	48.9	9.7

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 802.11a	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	110.5 PK			1.91 H	256	70.6	39.9
2	*5300.00	101.5 AV			1.91 H	256	61.6	39.9
3	10600.00	58.4 PK	74.0	-15.6	1.50 H	92	48.5	9.9
4	10600.00	46.6 AV	54.0	-7.4	1.50 H	92	36.7	9.9
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	*5300.00	119.2 PK			2.37 V	76	79.3	39.9
2	*5300.00	109.3 AV			2.37 V	76	69.4	39.9
3	10600.00	58.6 PK	74.0	-15.4	1.26 V	65	48.7	9.9
4	10600.00	46.7 AV	54.0	-7.3	1.26 V	65	36.8	9.9

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.

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	110.9 PK			1.91 H	257	71.1	39.8
2	*5320.00	101.6 AV			1.91 H	257	61.8	39.8
3	5350.00	57.9 PK	74.0	-16.1	1.91 H	257	54.4	3.5
4	5350.00	47.7 AV	54.0	-6.3	1.91 H	257	44.2	3.5
5	10640.00	58.5 PK	74.0	-15.5	1.57 H	95	48.6	9.9
6	10640.00	46.3 AV	54.0	-7.7	1.57 H	95	36.4	9.9
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	*5320.00	118.4 PK			2.32 V	85	78.6	39.8
2	*5320.00	109.7 AV			2.32 V	85	69.9	39.8
3	5350.00	59.6 PK	74.0	-14.4	2.32 V	85	56.1	3.5
4	5350.00	50.6 AV	54.0	-3.4	2.32 V	85	47.1	3.5
5	10640.00	58.7 PK	74.0	-15.3	1.38 V	78	48.8	9.9
6	10640.00	46.5 AV	54.0	-7.5	1.38 V	78	36.6	9.9

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.7 PK	74.0	-15.3	1.99 H	262	55.1	3.6
2	5150.00	47.8 AV	54.0	-6.2	1.99 H	262	44.2	3.6
3	*5260.00	111.8 PK			1.99 H	262	71.9	39.9
4	*5260.00	102.0 AV			1.99 H	262	62.1	39.9
5	#10520.00	58.6 PK	68.2	-9.6	1.44 H	96	48.9	9.7
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	59.1 PK	74.0	-14.9	2.35 V	98	55.5	3.6
2	5150.00	48.7 AV	54.0	-5.3	2.35 V	98	45.1	3.6
3	*5260.00	119.7 PK			2.35 V	98	79.8	39.9
4	*5260.00	109.2 AV			2.35 V	98	69.3	39.9
5	#10520.00	58.3 PK	68.2	-9.9	1.33 V	70	48.6	9.7

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 (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	112.4 PK			1.84 H	256	72.5	39.9
2	*5300.00	101.7 AV			1.84 H	256	61.8	39.9
3	10600.00	58.3 PK	74.0	-15.7	1.38 H	97	48.4	9.9
4	10600.00	46.5 AV	54.0	-7.5	1.38 H	97	36.6	9.9
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	*5300.00	119.5 PK			2.35 V	226	79.6	39.9
2	*5300.00	109.1 AV			2.35 V	226	69.2	39.9
3	10600.00	58.2 PK	74.0	-15.8	1.31 V	80	48.3	9.9
4	10600.00	46.6 AV	54.0	-7.4	1.31 V	80	36.7	9.9

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.

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	112.1 PK			1.94 H	255	72.3	39.8
2	*5320.00	101.7 AV			1.94 H	255	61.9	39.8
3	5350.00	58.1 PK	74.0	-15.9	1.94 H	255	54.6	3.5
4	5350.00	47.9 AV	54.0	-6.1	1.94 H	255	44.4	3.5
5	10640.00	58.4 PK	74.0	-15.6	1.58 H	101	48.5	9.9
6	10640.00	46.5 AV	54.0	-7.5	1.58 H	101	36.6	9.9
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	*5320.00	118.2 PK			2.35 V	84	78.4	39.8
2	*5320.00	108.9 AV			2.35 V	84	69.1	39.8
3	5350.00	62.8 PK	74.0	-11.2	2.35 V	84	59.3	3.5
4	5350.00	52.4 AV	54.0	-1.6	2.35 V	84	48.9	3.5
5	10640.00	58.7 PK	74.0	-15.3	1.41 V	76	48.8	9.9
6	10640.00	46.6 AV	54.0	-7.4	1.41 V	76	36.7	9.9

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.

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	58.7 PK	74.0	-15.3	1.93 H	263	55.1	3.6
2	5150.00	47.9 AV	54.0	-6.1	1.93 H	263	44.3	3.6
3	*5270.00	109.5 PK			1.93 H	263	69.6	39.9
4	*5270.00	99.2 AV			1.93 H	263	59.3	39.9
5	5350.00	58.7 PK	74.0	-15.3	1.93 H	263	55.2	3.5
6	5350.00	47.1 AV	54.0	-6.9	1.93 H	263	43.6	3.5
7	#10540.00	58.0 PK	68.2	-10.2	1.53 H	92	48.3	9.7
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	59.2 PK	74.0	-14.8	2.40 V	83	55.6	3.6
2	5150.00	48.6 AV	54.0	-5.4	2.40 V	83	45.0	3.6
3	*5270.00	117.0 PK			2.40 V	83	77.1	39.9
4	*5270.00	106.9 AV			2.40 V	83	67.0	39.9
5	5350.00	58.2 PK	74.0	-15.8	2.40 V	83	54.7	3.5
6	5350.00	47.8 AV	54.0	-6.2	2.40 V	83	44.3	3.5
7	#10540.00	58.2 PK	68.2	-10.0	1.35 V	77	48.5	9.7

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 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	107.8 PK			2.00 H	252	68.0	39.8
2	*5310.00	98.8 AV			2.00 H	252	59.0	39.8
3	5350.00	58.0 PK	74.0	-16.0	2.00 H	252	54.5	3.5
4	5350.00	48.8 AV	54.0	-5.2	2.00 H	252	45.3	3.5
5	10620.00	58.6 PK	74.0	-15.4	1.57 H	99	48.7	9.9
6	10620.00	46.6 AV	54.0	-7.4	1.57 H	99	36.7	9.9
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	*5310.00	115.8 PK			2.38 V	77	76.0	39.8
2	*5310.00	106.1 AV			2.38 V	77	66.3	39.8
3	5350.00	62.5 PK	74.0	-11.5	2.38 V	77	59.0	3.5
4	5350.00	53.5 AV	54.0	-0.5	2.38 V	77	50.0	3.5
5	10620.00	58.4 PK	74.0	-15.6	1.36 V	82	48.5	9.9
6	10620.00	46.5 AV	54.0	-7.5	1.36 V	82	36.6	9.9

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.

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	59.6 PK	74.0	-14.4	1.96 H	292	56.0	3.6
2	5150.00	48.0 AV	54.0	-6.0	1.96 H	292	44.4	3.6
3	*5290.00	105.7 PK			1.96 H	292	65.8	39.9
4	*5290.00	96.0 AV			1.96 H	292	56.1	39.9
5	5350.00	59.7 PK	74.0	-14.3	1.96 H	292	56.2	3.5
6	5350.00	48.4 AV	54.0	-5.6	1.96 H	292	44.9	3.5
7	#10580.00	58.4 PK	68.2	-9.8	1.52 H	89	48.6	9.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	2.40 V	87	56.4	3.6
2	5150.00	49.3 AV	54.0	-4.7	2.40 V	87	45.7	3.6
3	*5290.00	114.2 PK			2.40 V	87	74.3	39.9
4	*5290.00	103.9 AV			2.40 V	87	64.0	39.9
5	5350.00	62.0 PK	74.0	-12.0	2.40 V	87	58.5	3.5
6	5350.00	52.5 AV	54.0	-1.5	2.40 V	87	49.0	3.5
7	#10580.00	58.1 PK	68.2	-10.1	1.30 V	82	48.3	9.8

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.

4TX

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	58.8 PK	74.0	-15.2	3.19 H	329	54.9	3.9
2	5460.00	47.5 AV	54.0	-6.5	3.19 H	329	43.6	3.9
3	#5470.00	59.1 PK	68.2	-9.1	3.19 H	329	55.2	3.9
4	*5500.00	110.2 PK			3.19 H	329	69.9	40.3
5	*5500.00	101.6 AV			3.19 H	329	61.3	40.3
6	11000.00	57.9 PK	74.0	-16.1	1.38 H	65	48.1	9.8
7	11000.00	46.5 AV	54.0	-7.5	1.38 H	65	36.7	9.8
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	5460.00	58.7 PK	74.0	-15.3	1.88 V	332	54.8	3.9
2	5460.00	48.1 AV	54.0	-5.9	1.88 V	332	44.2	3.9
3	#5470.00	62.8 PK	68.2	-5.4	1.88 V	332	58.9	3.9
4	*5500.00	122.1 PK			1.88 V	332	81.8	40.3
5	*5500.00	114.0 AV			1.88 V	332	73.7	40.3
6	11000.00	58.3 PK	74.0	-15.7	1.29 V	88	48.5	9.8
7	11000.00	47.0 AV	54.0	-7.0	1.29 V	88	37.2	9.8

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 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	109.3 PK			3.22 H	333	68.8	40.5
2	*5580.00	101.0 AV			3.22 H	333	60.5	40.5
3	11160.00	58.5 PK	74.0	-15.5	1.40 H	68	48.3	10.2
4	11160.00	47.1 AV	54.0	-6.9	1.40 H	68	36.9	10.2
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	121.0 PK			1.83 V	345	80.5	40.5
2	*5580.00	112.8 AV			1.83 V	345	72.3	40.5
3	11160.00	58.9 PK	74.0	-15.1	1.26 V	89	48.7	10.2
4	11160.00	47.5 AV	54.0	-6.5	1.26 V	89	37.3	10.2

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	110.6 PK			3.13 H	330	69.5	41.1
2	*5700.00	102.1 AV			3.13 H	330	61.0	41.1
3	#5725.00	60.4 PK	68.2	-7.8	3.13 H	330	55.6	4.8
4	11400.00	59.0 PK	74.0	-15.0	1.43 H	68	48.4	10.6
5	11400.00	47.5 AV	54.0	-6.5	1.43 H	68	36.9	10.6
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	*5700.00	121.1 PK			1.91 V	344	80.0	41.1
2	*5700.00	113.1 AV			1.91 V	344	72.0	41.1
3	#5725.00	66.9 PK	68.2	-1.3	1.91 V	344	62.1	4.8
4	11400.00	59.3 PK	74.0	-14.7	1.33 V	92	48.7	10.6
5	11400.00	48.1 AV	54.0	-5.9	1.33 V	92	37.5	10.6

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 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	58.3 PK	68.2	-9.9	3.23 H	313	54.4	3.9
2	*5720.00	111.0 PK			3.23 H	313	69.8	41.2
3	*5720.00	102.4 AV			3.23 H	313	61.2	41.2
4	#5850.00	59.8 PK	68.2	-8.4	3.23 H	313	54.6	5.2
5	11440.00	58.7 PK	74.0	-15.3	1.32 H	63	48.4	10.3
6	11440.00	47.3 AV	54.0	-6.7	1.32 H	63	37.0	10.3
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	#5470.00	58.7 PK	68.2	-9.5	1.90 V	347	54.8	3.9
2	*5720.00	121.1 PK			1.90 V	347	79.9	41.2
3	*5720.00	112.8 AV			1.90 V	347	71.6	41.2
4	#5850.00	59.9 PK	68.2	-8.3	1.90 V	347	54.7	5.2
5	11440.00	59.0 PK	74.0	-15.0	1.35 V	85	48.7	10.3
6	11440.00	47.6 AV	54.0	-6.4	1.35 V	85	37.3	10.3

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 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	57.9 PK	74.0	-16.1	3.20 H	335	54.0	3.9
2	5460.00	47.6 AV	54.0	-6.4	3.20 H	335	43.7	3.9
3	#5470.00	58.4 PK	68.2	-9.8	3.20 H	335	54.5	3.9
4	*5500.00	111.8 PK			3.20 H	335	71.5	40.3
5	*5500.00	102.1 AV			3.20 H	335	61.8	40.3
6	11000.00	58.3 PK	74.0	-15.7	1.46 H	60	48.5	9.8
7	11000.00	46.9 AV	54.0	-7.1	1.46 H	60	37.1	9.8
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	5460.00	60.4 PK	74.0	-13.6	1.87 V	342	56.5	3.9
2	5460.00	49.3 AV	54.0	-4.7	1.87 V	342	45.4	3.9
3	#5470.00	58.9 PK	68.2	-9.3	1.87 V	342	55.0	3.9
4	*5500.00	124.4 PK			1.87 V	342	84.1	40.3
5	*5500.00	114.2 AV			1.87 V	342	73.9	40.3
6	11000.00	58.7 PK	74.0	-15.3	1.31 V	94	48.9	9.8
7	11000.00	47.1 AV	54.0	-6.9	1.31 V	94	37.3	9.8

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 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	110.2 PK			3.19 H	307	69.7	40.5
2	*5580.00	101.1 AV			3.19 H	307	60.6	40.5
3	11160.00	58.3 PK	74.0	-15.7	1.40 H	62	48.1	10.2
4	11160.00	47.4 AV	54.0	-6.6	1.40 H	62	37.2	10.2
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	122.3 PK			1.92 V	343	81.8	40.5
2	*5580.00	112.6 AV			1.92 V	343	72.1	40.5
3	11160.00	58.4 PK	74.0	-15.6	1.33 V	96	48.2	10.2
4	11160.00	47.0 AV	54.0	-7.0	1.33 V	96	36.8	10.2

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	110.9 PK			3.22 H	328	69.8	41.1
2	*5700.00	102.6 AV			3.22 H	328	61.5	41.1
3	#5725.00	59.8 PK	68.2	-8.4	3.22 H	328	55.0	4.8
4	11400.00	59.0 PK	74.0	-15.0	1.44 H	66	48.4	10.6
5	11400.00	47.6 AV	54.0	-6.4	1.44 H	66	37.0	10.6
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	*5700.00	122.1 PK			1.86 V	344	81.0	41.1
2	*5700.00	112.3 AV			1.86 V	344	71.2	41.1
3	#5725.00	64.6 PK	68.2	-3.6	1.86 V	344	59.8	4.8
4	11400.00	59.2 PK	74.0	-14.8	1.27 V	98	48.6	10.6
5	11400.00	48.0 AV	54.0	-6.0	1.27 V	98	37.4	10.6

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 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	58.4 PK	68.2	-9.8	3.16 H	331	54.5	3.9
2	*5720.00	112.7 PK			3.16 H	331	71.5	41.2
3	*5720.00	103.4 AV			3.16 H	331	62.2	41.2
4	#5850.00	60.1 PK	68.2	-8.1	3.16 H	331	54.9	5.2
5	11440.00	58.5 PK	74.0	-15.5	1.34 H	67	48.2	10.3
6	11440.00	47.6 AV	54.0	-6.4	1.34 H	67	37.3	10.3
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	#5470.00	58.7 PK	68.2	-9.5	1.93 V	347	54.8	3.9
2	*5720.00	121.3 PK			1.93 V	347	80.1	41.2
3	*5720.00	111.9 AV			1.93 V	347	70.7	41.2
4	#5850.00	60.3 PK	68.2	-7.9	1.93 V	347	55.1	5.2
5	11440.00	59.1 PK	74.0	-14.9	1.25 V	81	48.8	10.3
6	11440.00	47.8 AV	54.0	-6.2	1.25 V	81	37.5	10.3

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 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	58.6 PK	74.0	-15.4	3.20 H	326	54.7	3.9
2	5460.00	47.7 AV	54.0	-6.3	3.20 H	326	43.8	3.9
3	#5470.00	58.9 PK	68.2	-9.3	3.20 H	326	55.0	3.9
4	*5510.00	108.4 PK			3.20 H	326	68.1	40.3
5	*5510.00	98.0 AV			3.20 H	326	57.7	40.3
6	11020.00	58.3 PK	74.0	-15.7	1.43 H	64	48.3	10.0
7	11020.00	46.8 AV	54.0	-7.2	1.43 H	64	36.8	10.0
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	5460.00	59.0 PK	74.0	-15.0	1.85 V	343	55.1	3.9
2	5460.00	50.4 AV	54.0	-3.6	1.85 V	343	46.5	3.9
3	#5470.00	64.6 PK	68.2	-3.6	1.85 V	343	60.7	3.9
4	*5510.00	119.9 PK			1.85 V	343	79.6	40.3
5	*5510.00	110.6 AV			1.85 V	343	70.3	40.3
6	11020.00	58.6 PK	74.0	-15.4	1.39 V	95	48.6	10.0
7	11020.00	47.3 AV	54.0	-6.7	1.39 V	95	37.3	10.0

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 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	106.6 PK			3.24 H	327	66.1	40.5
2	*5550.00	96.6 AV			3.24 H	327	56.1	40.5
3	11100.00	58.8 PK	74.0	-15.2	1.44 H	61	48.2	10.6
4	11100.00	47.6 AV	54.0	-6.4	1.44 H	61	37.0	10.6
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	*5550.00	119.7 PK			1.89 V	344	79.2	40.5
2	*5550.00	110.1 AV			1.89 V	344	69.6	40.5
3	11100.00	59.4 PK	74.0	-14.6	1.30 V	89	48.8	10.6
4	11100.00	48.2 AV	54.0	-5.8	1.30 V	89	37.6	10.6

Remarks:

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

RF Mode	TX 802.11ax (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	107.4 PK			3.26 H	328	66.4	41.0
2	*5670.00	97.6 AV			3.26 H	328	56.6	41.0
3	#5725.00	61.8 PK	68.2	-6.4	3.26 H	328	57.0	4.8
4	11340.00	58.8 PK	74.0	-15.2	1.46 H	69	48.4	10.4
5	11340.00	47.6 AV	54.0	-6.4	1.46 H	69	37.2	10.4
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	*5670.00	119.4 PK			2.00 V	345	78.4	41.0
2	*5670.00	109.8 AV			2.00 V	345	68.8	41.0
3	#5725.00	64.8 PK	68.2	-3.4	2.00 V	345	60.0	4.8
4	11340.00	59.0 PK	74.0	-15.0	1.24 V	84	48.6	10.4
5	11340.00	47.6 AV	54.0	-6.4	1.24 V	84	37.2	10.4

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 (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	59.5 PK	68.2	-8.7	3.07 H	322	55.6	3.9
2	*5710.00	106.6 PK			3.07 H	322	65.5	41.1
3	*5710.00	98.5 AV			3.07 H	322	57.4	41.1
4	#5850.00	60.6 PK	68.2	-7.6	3.07 H	322	55.4	5.2
5	11420.00	58.7 PK	74.0	-15.3	1.49 H	73	48.3	10.4
6	11420.00	47.5 AV	54.0	-6.5	1.49 H	73	37.1	10.4
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	#5470.00	61.5 PK	68.2	-6.7	1.92 V	346	57.6	3.9
2	*5710.00	119.2 PK			1.92 V	346	78.1	41.1
3	*5710.00	109.6 AV			1.92 V	346	68.5	41.1
4	#5850.00	61.0 PK	68.2	-7.2	1.92 V	346	55.8	5.2
5	11420.00	59.2 PK	74.0	-14.8	1.31 V	99	48.8	10.4
6	11420.00	47.9 AV	54.0	-6.1	1.31 V	99	37.5	10.4

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	59.6 PK	74.0	-14.4	2.98 H	326	55.7	3.9
2	5460.00	49.2 AV	54.0	-4.8	2.98 H	326	45.3	3.9
3	#5470.00	61.2 PK	68.2	-7.0	2.98 H	326	57.3	3.9
4	*5530.00	102.2 PK			2.98 H	326	61.8	40.4
5	*5530.00	93.3 AV			2.98 H	326	52.9	40.4
6	#5725.00	59.4 PK	68.2	-8.8	2.98 H	326	54.6	4.8
7	11060.00	58.6 PK	74.0	-15.4	1.42 H	76	48.3	10.3
8	11060.00	47.2 AV	54.0	-6.8	1.42 H	76	36.9	10.3
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	62.8 PK	74.0	-11.2	1.85 V	341	58.9	3.9
2	5460.00	53.8 AV	54.0	-0.2	1.85 V	341	49.9	3.9
3	#5470.00	67.0 PK	68.2	-1.2	1.85 V	341	63.1	3.9
4	*5530.00	114.6 PK			1.85 V	341	74.2	40.4
5	*5530.00	104.5 AV			1.85 V	341	64.1	40.4
6	#5725.00	59.7 PK	68.2	-8.5	1.85 V	341	54.9	4.8
7	11060.00	59.0 PK	74.0	-15.0	1.33 V	96	48.7	10.3
8	11060.00	47.6 AV	54.0	-6.4	1.33 V	96	37.3	10.3

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 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	59.4 PK	74.0	-14.6	3.18 H	323	55.5	3.9
2	5460.00	48.7 AV	54.0	-5.3	3.18 H	323	44.8	3.9
3	#5470.00	59.4 PK	68.2	-8.8	3.18 H	323	55.5	3.9
4	*5610.00	104.1 PK			3.18 H	323	63.5	40.6
5	*5610.00	94.9 AV			3.18 H	323	54.3	40.6
6	#5725.00	59.8 PK	68.2	-8.4	3.18 H	323	55.0	4.8
7	11220.00	58.6 PK	74.0	-15.4	1.50 H	67	48.5	10.1
8	11220.00	47.4 AV	54.0	-6.6	1.50 H	67	37.3	10.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.9 PK	74.0	-13.1	1.77 V	344	57.0	3.9
2	5460.00	50.5 AV	54.0	-3.5	1.77 V	344	46.6	3.9
3	#5470.00	61.9 PK	68.2	-6.3	1.77 V	344	58.0	3.9
4	*5610.00	117.2 PK			1.77 V	344	76.6	40.6
5	*5610.00	108.2 AV			1.77 V	344	67.6	40.6
6	#5725.00	63.1 PK	68.2	-5.1	1.77 V	344	58.3	4.8
7	11220.00	58.9 PK	74.0	-15.1	1.37 V	94	48.8	10.1
8	11220.00	47.6 AV	54.0	-6.4	1.37 V	94	37.5	10.1

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 138 : 5690 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.4 PK	68.2	-9.8	3.21 H	328	54.5	3.9
2	*5690.00	105.2 PK			3.21 H	328	64.1	41.1
3	*5690.00	96.4 AV			3.21 H	328	55.3	41.1
4	#5850.00	60.2 PK	68.2	-8.0	3.21 H	328	55.0	5.2
5	11380.00	58.7 PK	74.0	-15.3	1.39 H	58	48.2	10.5
6	11380.00	47.3 AV	54.0	-6.7	1.39 H	58	36.8	10.5
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	#5470.00	59.6 PK	68.2	-8.6	1.78 V	349	55.7	3.9
2	*5690.00	117.0 PK			1.78 V	349	75.9	41.1
3	*5690.00	107.4 AV			1.78 V	349	66.3	41.1
4	#5850.00	60.8 PK	68.2	-7.4	1.78 V	349	55.6	5.2
5	11380.00	59.2 PK	74.0	-14.8	1.44 V	87	48.7	10.5
6	11380.00	47.9 AV	54.0	-6.1	1.44 V	87	37.4	10.5

Remarks:

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

RF Mode	TX 802.11ax (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	58.1 PK	74.0	-15.9	3.28 H	324	54.2	3.9
2	5460.00	48.3 AV	54.0	-5.7	3.28 H	324	44.4	3.9
3	#5470.00	58.8 PK	68.2	-9.4	3.28 H	324	54.9	3.9
4	*5570.00	94.9 PK			3.29 H	324	54.4	40.5
5	*5570.00	87.7 AV			3.29 H	324	47.2	40.5
6	#5725.00	59.7 PK	68.2	-8.5	3.28 H	324	54.9	4.8
7	11140.00	58.7 PK	74.0	-15.3	1.48 H	75	48.3	10.4
8	11140.00	47.3 AV	54.0	-6.7	1.48 H	75	36.9	10.4
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	5460.00	63.2 PK	74.0	-10.8	1.80 V	343	59.3	3.9
2	5460.00	53.5 AV	54.0	-0.5	1.80 V	343	49.6	3.9
3	#5470.00	63.2 PK	68.2	-5.0	1.80 V	343	59.3	3.9
4	*5570.00	108.5 PK			1.80 V	343	68.0	40.5
5	*5570.00	99.4 AV			1.80 V	343	58.9	40.5
6	#5725.00	63.3 PK	68.2	-4.9	1.80 V	343	58.5	4.8
7	11140.00	59.3 PK	74.0	-14.7	1.33 V	95	48.9	10.4
8	11140.00	48.0 AV	54.0	-6.0	1.33 V	95	37.6	10.4

Remarks:

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

Below 1GHz Worst-Case Data:

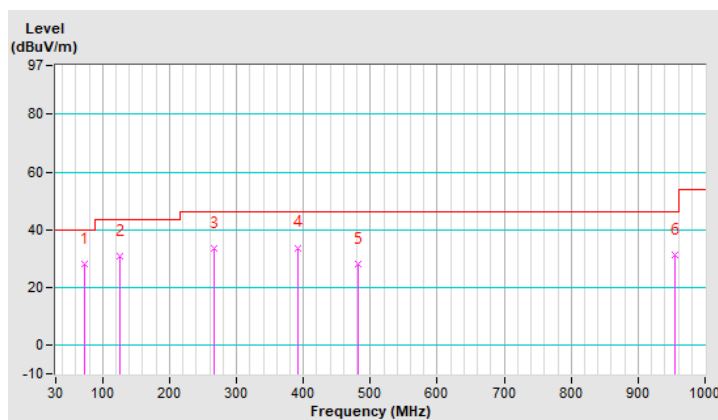
2TX

RF Mode	TX 802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 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	72.68	28.20 QP	40.00	-11.80	2.00 H	299	49.50	-21.30
2	125.06	30.60 QP	43.50	-12.90	2.00 H	274	50.70	-20.10
3	266.68	33.70 QP	46.00	-12.30	1.50 H	156	52.70	-19.00
4	390.84	33.80 QP	46.00	-12.20	1.01 H	217	49.40	-15.60
5	481.05	27.90 QP	46.00	-18.10	2.00 H	74	41.30	-13.40
6	954.41	31.30 QP	46.00	-14.70	1.50 H	290	37.20	-5.90

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.

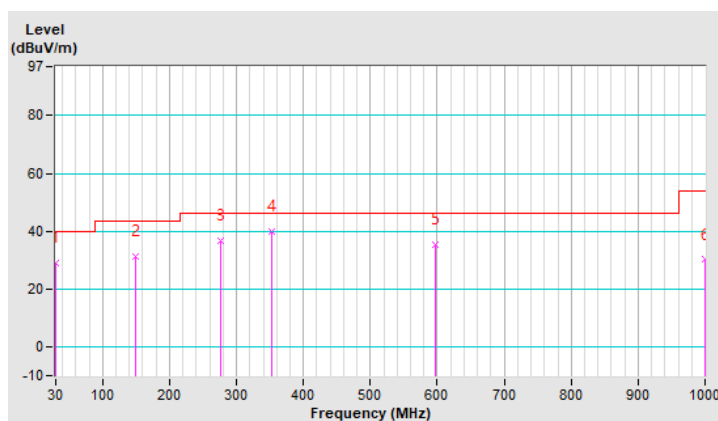


RF Mode	TX 802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	30.00	29.20 QP	40.00	-10.80	1.01 V	124	48.70	-19.50
2	148.34	31.40 QP	43.50	-12.10	1.01 V	127	49.80	-18.40
3	277.35	36.80 QP	46.00	-9.20	2.00 V	187	55.20	-18.40
4	353.01	39.80 QP	46.00	-6.20	1.51 V	281	56.40	-16.60
5	597.45	35.50 QP	46.00	-10.50	1.51 V	166	46.10	-10.60
6	1000.00	30.10 QP	54.00	-23.90	1.51 V	204	35.10	-5.00

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.

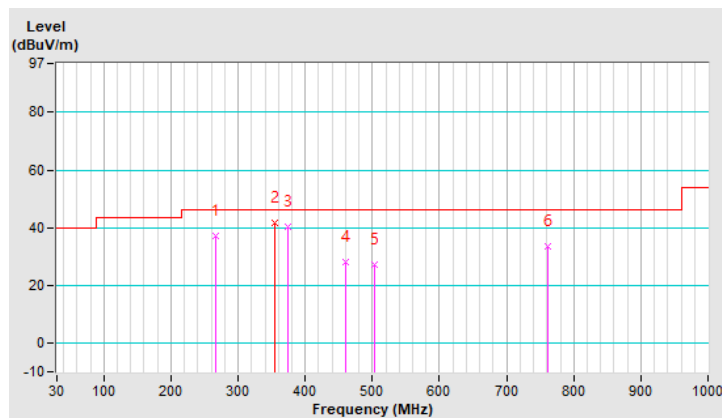


RF Mode	TX 802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	266.68	37.26 QP	46.00	-8.74	1.50 H	84	56.07	-18.81
2	354.85	41.67 QP	46.00	-4.33	1.00 H	91	58.18	-16.51
3	373.38	40.27 QP	46.00	-5.73	2.00 H	120	56.15	-15.88
4	460.68	27.88 QP	46.00	-18.12	1.00 H	159	41.39	-13.51
5	503.36	27.11 QP	46.00	-18.89	1.00 H	100	40.08	-12.97
6	762.35	33.60 QP	46.00	-12.40	1.00 H	131	41.74	-8.14

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.

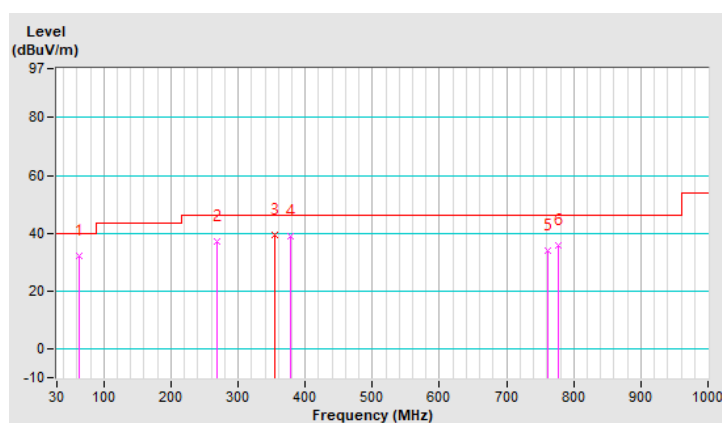


RF Mode	TX 802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	63.95	32.02 QP	40.00	-7.98	1.00 V	325	51.18	-19.16
2	267.65	37.03 QP	46.00	-8.97	1.99 V	76	55.79	-18.76
3	354.12	39.27 QP	46.00	-6.73	1.49 V	331	55.80	-16.53
4	377.26	39.15 QP	46.00	-6.85	1.49 V	316	54.93	-15.78
5	762.35	34.17 QP	46.00	-11.83	1.00 V	162	42.31	-8.14
6	777.87	35.59 QP	46.00	-10.41	1.00 V	325	43.56	-7.97

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.



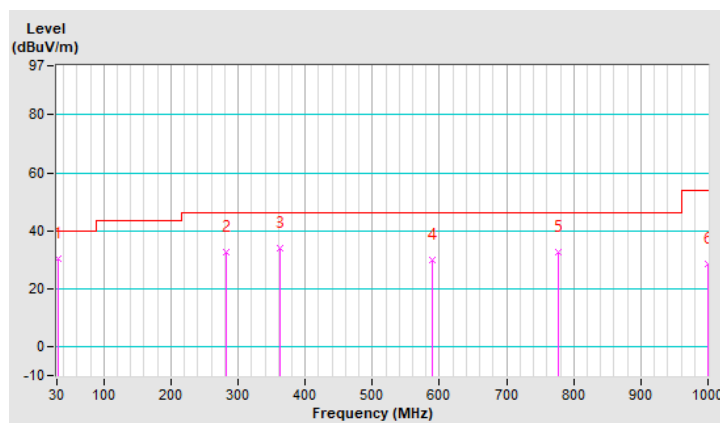
4TX

RF Mode	TX 802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	30MHz ~ 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	32.68	30.2 QP	40.0	-9.8	1.99 H	300	49.8	-19.6
2	282.20	32.6 QP	46.0	-13.4	1.01 H	307	50.8	-18.2
3	362.71	33.9 QP	46.0	-12.1	1.01 H	24	50.2	-16.3
4	589.69	29.9 QP	46.0	-16.1	1.50 H	314	40.8	-10.9
5	777.87	32.5 QP	46.0	-13.5	1.50 H	339	40.5	-8.0
6	1000.00	28.5 QP	54.0	-25.5	1.01 H	126	33.5	-5.0

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. 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.

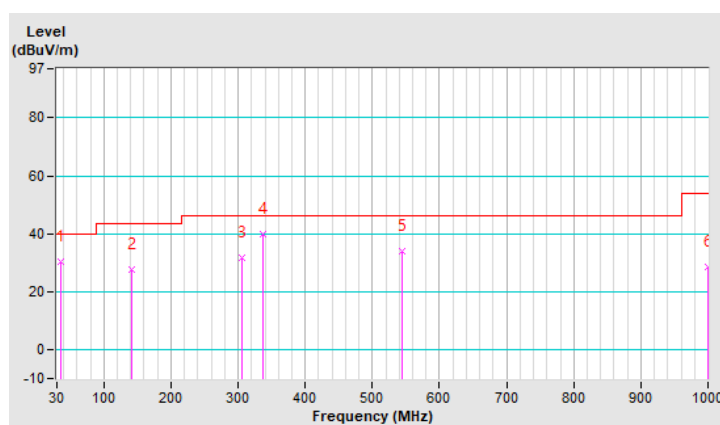


RF Mode	TX 802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	A		

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	36.49	30.4 QP	40.0	-9.6	1.01 V	238	49.5	-19.1
2	141.55	27.7 QP	43.5	-15.8	1.01 V	168	46.4	-18.7
3	305.48	31.6 QP	46.0	-14.4	1.51 V	177	49.3	-17.7
4	336.52	40.0 QP	46.0	-6.0	1.51 V	353	56.8	-16.8
5	544.10	33.8 QP	46.0	-12.2	1.01 V	10	46.1	-12.3
6	1000.00	28.7 QP	54.0	-25.3	1.01 V	174	33.7	-5.0

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. 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.

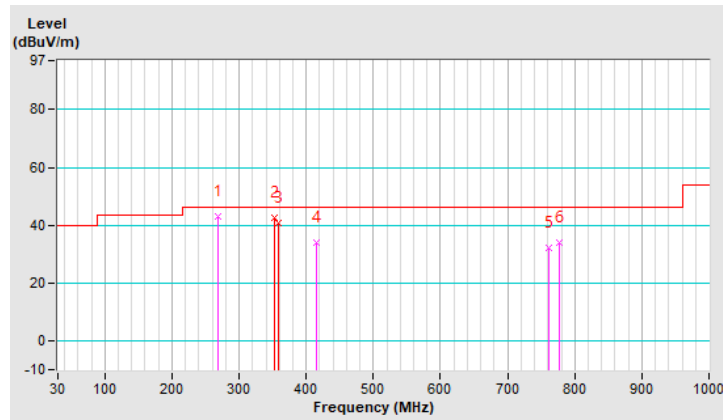


RF Mode	TX 802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	268.62	42.99 QP	46.00	-3.01	1.00 H	116	61.70	-18.71
2	352.25	42.62 QP	46.00	-3.38	1.00 H	81	59.19	-16.57
3	357.92	40.57 QP	46.00	-5.43	1.00 H	73	57.01	-16.44
4	416.06	34.16 QP	46.00	-11.84	1.00 H	142	49.13	-14.97
5	762.35	32.14 QP	46.00	-13.86	1.00 H	274	40.28	-8.14
6	777.87	34.05 QP	46.00	-11.95	1.00 H	124	42.02	-7.97

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.

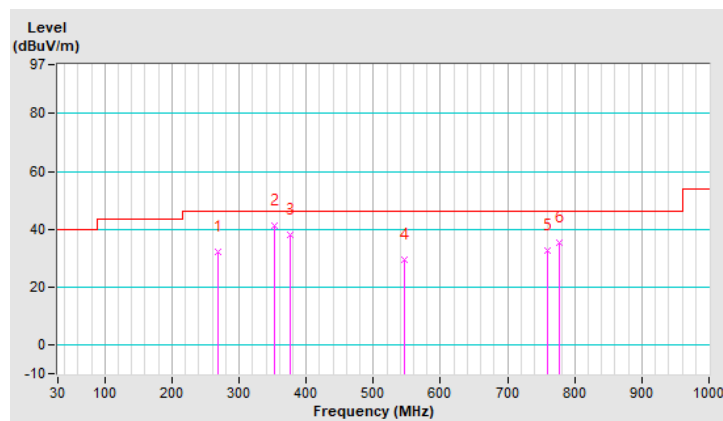


RF Mode	TX 802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
Test Mode	B		

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	268.62	32.14 QP	46.00	-13.86	1.50 V	34	50.85	-18.71
2	352.04	41.25 QP	46.00	-4.75	1.00 V	318	57.83	-16.58
3	376.29	37.98 QP	46.00	-8.02	1.50 V	302	53.78	-15.80
4	547.01	29.42 QP	46.00	-16.58	2.00 V	96	41.64	-12.22
5	759.44	32.82 QP	46.00	-13.18	1.00 V	144	41.02	-8.20
6	777.87	35.20 QP	46.00	-10.80	1.00 V	330	43.17	-7.97

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	ESR3	102783	Dec. 21, 2020	Dec. 20, 2021
			Dec. 20, 2021	Dec. 19, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 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 2.

3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

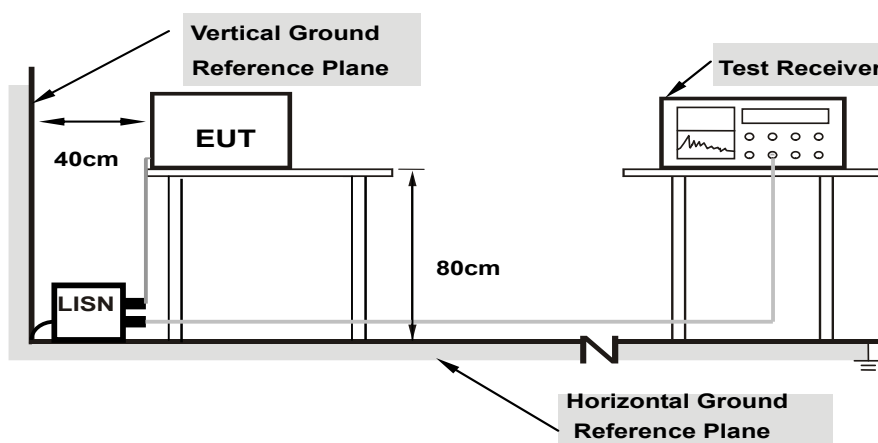
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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:

2TX

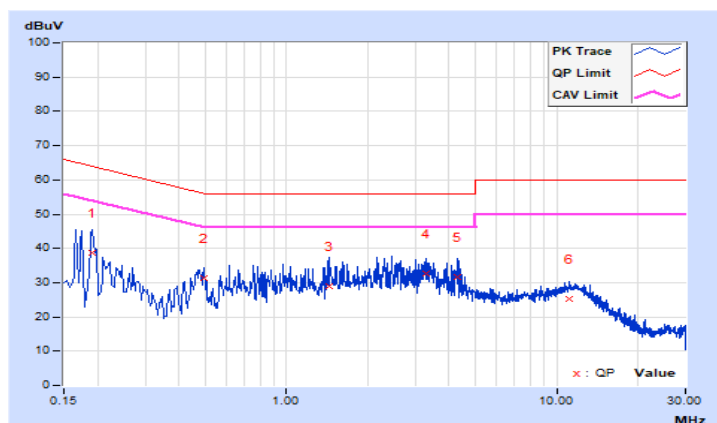
802.11ax (HE20)

Phase	Line (L)	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	0.19000	9.77	29.06	14.69	38.83	24.46	64.04	54.04	-25.21	-29.58
2	0.49800	9.84	21.62	15.26	31.46	25.10	56.03	46.03	-24.57	-20.93
3	1.44189	9.92	19.03	12.29	28.95	22.21	56.00	46.00	-27.05	-23.79
4	3.30200	9.97	22.70	13.29	32.67	23.26	56.00	46.00	-23.33	-22.74
5	4.27000	9.98	21.67	9.96	31.65	19.94	56.00	46.00	-24.35	-26.06
6	11.16600	10.06	15.33	9.78	25.39	19.84	60.00	50.00	-34.61	-30.16

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.

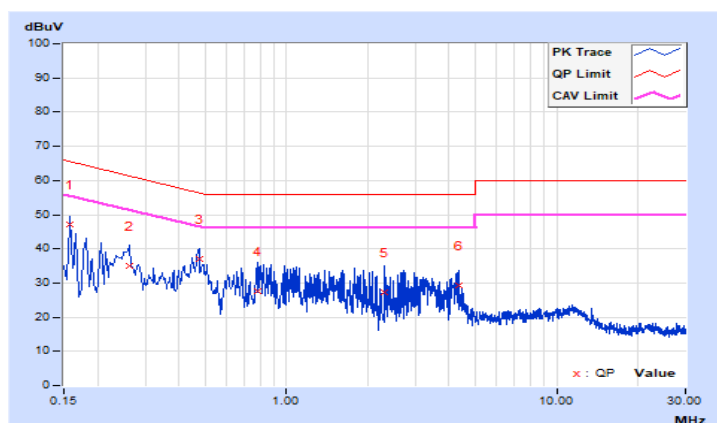


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.15800	9.81	37.17	20.10	46.98	29.91	65.57	55.57	-18.59	-25.66
2	0.26200	9.85	25.22	10.18	35.07	20.03	61.37	51.37	-26.30	-31.34
3	0.47400	9.91	27.21	21.07	37.12	30.98	56.44	46.44	-19.32	-15.46
4	0.77800	9.94	17.62	7.94	27.56	17.88	56.00	46.00	-28.44	-28.12
5	2.30200	10.00	17.40	3.94	27.40	13.94	56.00	46.00	-28.60	-32.06
6	4.33000	10.05	19.41	4.98	29.46	15.03	56.00	46.00	-26.54	-30.97

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.

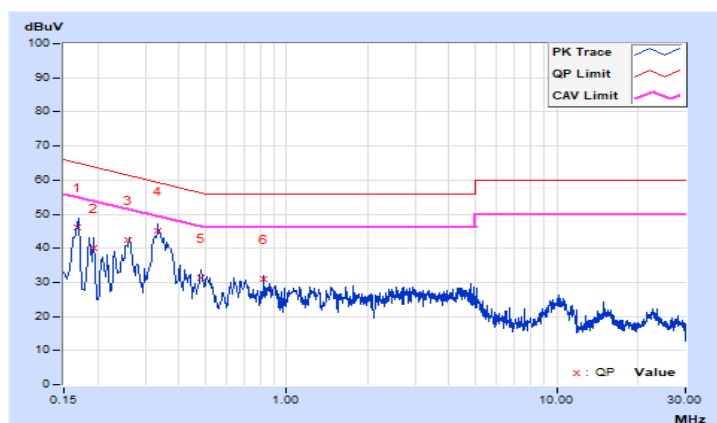


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16843	9.76	36.49	20.41	46.25	30.17	65.04	55.04	-18.79	-24.87
2	0.19316	9.77	30.31	16.00	40.08	25.77	63.90	53.90	-23.82	-28.13
3	0.25946	9.79	32.61	21.32	42.40	31.11	61.45	51.45	-19.05	-20.34
4	0.33325	9.81	35.21	25.90	45.02	35.71	59.37	49.37	-14.35	-13.66
5	0.48063	9.84	21.34	15.67	31.18	25.51	56.33	46.33	-25.15	-20.82
6	0.82600	9.89	20.98	9.16	30.87	19.05	56.00	46.00	-25.13	-26.95

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.

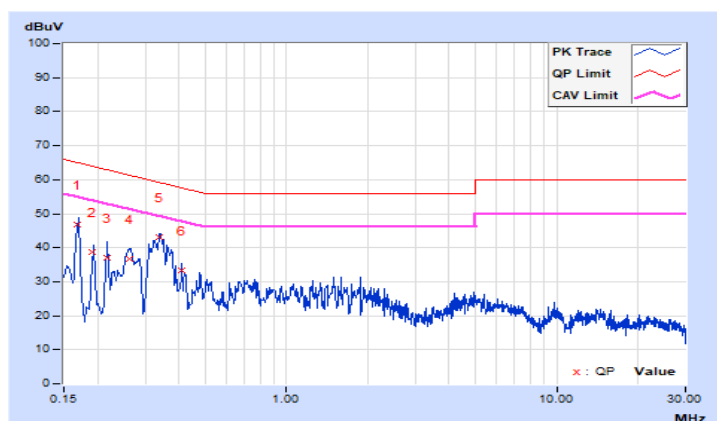


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.16755	9.81	36.89	21.42	46.70	31.23	65.08	55.08	-18.38	-23.85
2	0.19164	9.83	28.87	15.35	38.70	25.18	63.97	53.97	-25.27	-28.79
3	0.21576	9.84	27.34	13.27	37.18	23.11	62.98	52.98	-25.80	-29.87
4	0.26083	9.85	27.00	19.63	36.85	29.48	61.40	51.40	-24.55	-21.92
5	0.33678	9.88	33.13	28.64	43.01	38.52	59.28	49.28	-16.27	-10.76
6	0.40927	9.90	23.30	8.97	33.20	18.87	57.66	47.66	-24.46	-28.79

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.



4TX

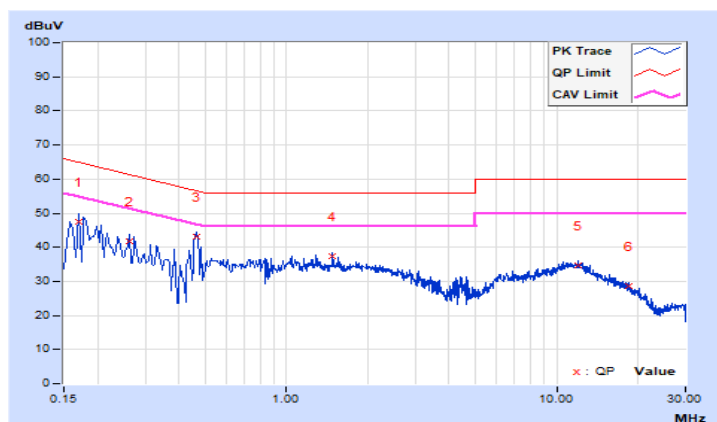
802.11ax (HE80)

Phase	Line (L)	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	0.17000	10.12	37.30	21.99	47.42	32.11	64.96	54.96	-17.54	-22.85
2	0.26200	10.13	31.52	18.00	41.65	28.13	61.37	51.37	-19.72	-23.24
3	0.46200	10.14	32.81	28.41	42.95	38.55	56.66	46.66	-13.71	-8.11
4	1.48600	10.19	27.04	16.80	37.23	26.99	56.00	46.00	-18.77	-19.01
5	12.01000	10.35	24.27	17.07	34.62	27.42	60.00	50.00	-25.38	-22.58
6	18.51000	10.45	18.15	8.24	28.60	18.69	60.00	50.00	-31.40	-31.31

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.

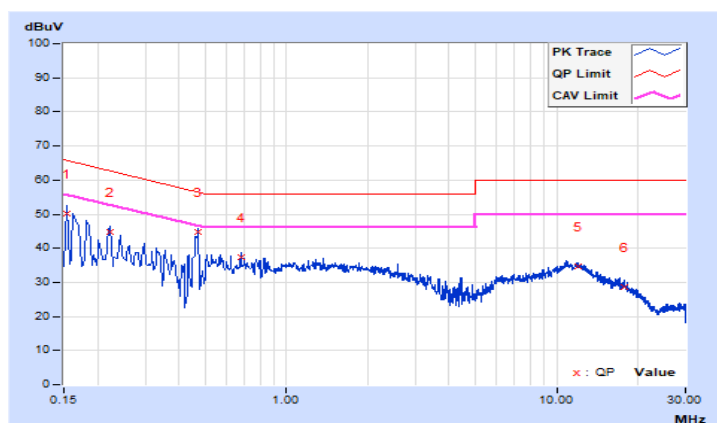


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.15400	10.12	39.95	22.69	50.07	32.81	65.78	55.78	-15.71	-22.97
2	0.22200	10.13	34.61	21.56	44.74	31.69	62.74	52.74	-18.00	-21.05
3	0.47000	10.15	34.47	23.80	44.62	33.95	56.51	46.51	-11.89	-12.56
4	0.67800	10.16	27.09	14.50	37.25	24.66	56.00	46.00	-18.75	-21.34
5	11.97800	10.47	24.16	16.98	34.63	27.45	60.00	50.00	-25.37	-22.55
6	17.92600	10.62	18.03	8.32	28.65	18.94	60.00	50.00	-31.35	-31.06

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.

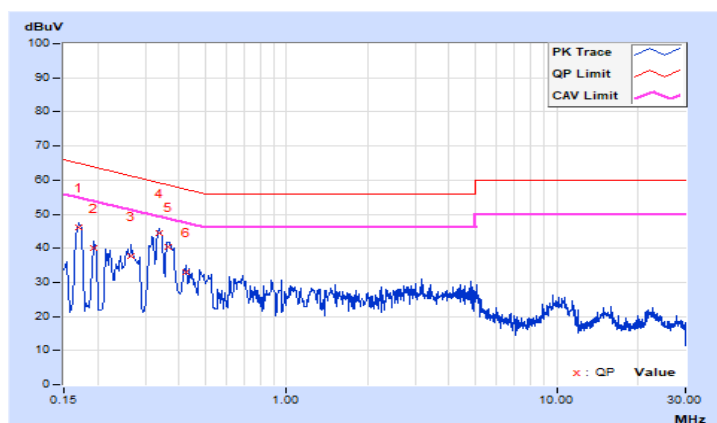


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16932	9.76	36.36	20.57	46.12	30.33	64.99	54.99	-18.87	-24.66
2	0.19265	9.77	30.19	15.55	39.96	25.32	63.92	53.92	-23.96	-28.60
3	0.26429	9.79	27.79	17.76	37.58	27.55	61.30	51.30	-23.72	-23.75
4	0.33678	9.81	34.50	29.77	44.31	39.58	59.28	49.28	-14.97	-9.70
5	0.36737	9.82	30.49	26.46	40.31	36.28	58.56	48.56	-18.25	-12.28
6	0.42353	9.83	23.24	17.74	33.07	27.57	57.38	47.38	-24.31	-19.81

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.

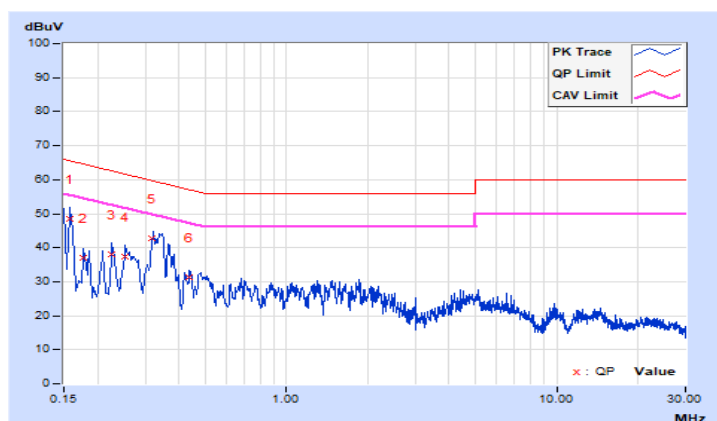


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.15687	9.81	38.71	21.36	48.52	31.17	65.63	55.63	-17.11	-24.46
2	0.17708	9.82	27.32	15.18	37.14	25.00	64.62	54.62	-27.48	-29.62
3	0.22505	9.84	28.21	18.33	38.05	28.17	62.63	52.63	-24.58	-24.46
4	0.25271	9.85	27.57	22.85	37.42	32.70	61.67	51.67	-24.25	-18.97
5	0.31865	9.87	32.84	21.52	42.71	31.39	59.74	49.74	-17.03	-18.35
6	0.43714	9.90	21.27	9.47	31.17	19.37	57.12	47.12	-25.95	-27.75

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	$\sqrt{\quad}$		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	$\sqrt{\quad}$		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	$\sqrt{\quad}$		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 $N_{ANT} \leq 4$;

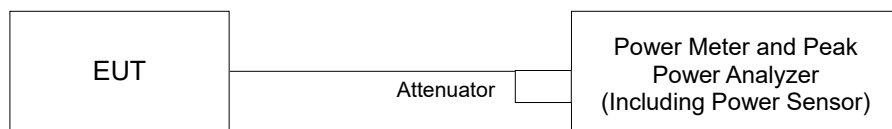
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

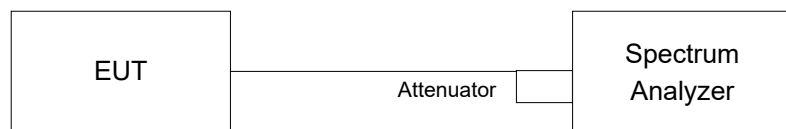
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

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 d) method SA-2.

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

2TX

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.91	20.48	234.997	23.71	24.00	Pass
60	5300	20.67	20.44	227.343	23.57	24.00	Pass
64	5320	20.58	20.31	221.687	23.46	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(20.63) = 24.14 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.76) = 24.17 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.64) = 24.14 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.86) = 24.19 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.80) = 24.18 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.71) = 24.16 > 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.73	20.64	234.182	23.70	24.00	Pass
60	5300	20.90	20.67	239.708	23.80	24.00	Pass
64	5320	20.78	20.64	235.552	23.72	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(21.62) = 24.34 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.81) = 24.38 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.65) = 24.35 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(21.93) = 24.41 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.98) = 24.42 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.24) = 24.47 > 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.64	20.83	236.938	23.75	24.00	Pass
62	5310	20.62	20.44	226.008	23.54	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

$$1. 11\text{dBm} + 10\log(41.95) = 27.22 > 24\text{dBm}$$

$$2. 11\text{dBm} + 10\log(42.06) = 27.23 > 24\text{dBm}$$

Chain 1

$$1. 11\text{dBm} + 10\log(42.34) = 27.26 > 24\text{dBm}$$

$$2. 11\text{dBm} + 10\log(42.10) = 27.24 > 24\text{dBm}$$

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.75	20.66	235.263	23.72	24.00	Pass
60	5300	20.93	20.70	241.369	23.83	24.00	Pass
64	5320	20.80	20.67	236.907	23.75	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(21.62) = 24.34 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.81) = 24.38 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.65) = 24.35 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(21.93) = 24.41 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.98) = 24.42 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.24) = 24.47 > 24\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.66	20.85	238.031	23.77	24.00	Pass
62	5310	20.64	20.46	227.051	23.56	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(41.95) = 27.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.06) = 27.23 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(42.34) = 27.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.10) = 27.24 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	20.21	20.11	207.519	23.17	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(83.00) = 30.19 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.32) = 30.20 > 24\text{dBm}$

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.78	20.69	236.894	23.75	24.00	Pass
60	5300	20.95	20.74	243.028	23.86	24.00	Pass
64	5320	20.84	20.71	239.099	23.79	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(21.62) = 24.34 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.81) = 24.38 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(21.65) = 24.35 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(21.93) = 24.41 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.98) = 24.42 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.24) = 24.47 > 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.69	20.87	239.400	23.79	24.00	Pass
62	5310	20.67	20.48	228.367	23.59	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(41.95) = 27.22 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.06) = 27.23 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(42.34) = 27.26 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(42.10) = 27.24 > 24\text{dBm}$

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	20.23	20.14	208.715	23.20	24.00	Pass

Note:

For U-NII-2A Band:

Chain 0

1. $11\text{dBm} + 10\log(83.00) = 30.19 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(83.32) = 30.20 > 24\text{dBm}$

4TX

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	15.54	15.46	15.36	15.28	139.050	21.43	24.00	Pass
116	5580	15.40	15.29	15.28	15.35	136.486	21.35	24.00	Pass
140	5700	15.74	15.61	15.62	15.79	148.296	21.71	24.00	Pass
144	5720 (For U-NII-2C)	14.44	14.08	13.87	13.93	108.991	20.37	22.82	Pass
144	5720 (For U-NII-3)	9.20	8.73	8.59	8.59	32.159	15.07	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(20.82) = 24.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.52) = 24.12 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.55) = 24.12 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5709.73) = 22.83 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(20.81) = 24.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.56) = 24.13 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.70) = 24.15 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5709.78) = 22.82 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(20.83) = 24.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.64) = 24.14 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.83) = 24.18 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5709.71) = 22.84 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(20.81) = 24.18 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(20.35) = 24.08 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(20.55) = 24.12 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5709.78) = 22.82 < 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	15.64	15.57	15.71	15.67	146.839	21.67	24.00	Pass
116	5580	15.43	15.48	15.51	15.57	141.853	21.52	24.00	Pass
140	5700	15.82	15.89	15.74	15.68	151.490	21.80	24.00	Pass
144	5720 (For U-NII-2C)	14.45	14.51	14.48	14.46	121.689	20.85	23.10	Pass
144	5720 (For U-NII-3)	9.64	9.64	9.63	9.65	39.971	16.02	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	17.88	17.72	17.70	17.94	241.647	23.83	24.00	Pass
110	5550	17.88	17.66	17.58	17.84	237.814	23.76	24.00	Pass
134	5670	17.72	17.60	17.85	17.78	237.633	23.76	24.00	Pass
142	5710 (For U-NII-2C)	16.72	16.68	16.76	16.65	201.372	23.04	24.00	Pass
142	5710 (For U-NII-3)	7.45	7.41	7.32	7.44	23.673	13.74	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.24) = 27.55 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.41) = 27.57 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.67) = 26.72 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(45.97) = 27.62 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(44.79) = 27.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.34) = 27.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(50.40) = 28.02 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.30) = 26.76 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.57) = 27.58 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(54.74) = 28.38 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	15.68	15.61	15.74	15.70	148.025	21.70	24.00	Pass
116	5580	15.49	15.53	15.56	15.61	143.493	21.57	24.00	Pass
140	5700	15.84	15.90	15.86	15.71	153.062	21.85	24.00	Pass
144	5720 (For U-NII-2C)	14.48	14.53	14.51	14.50	122.531	20.88	23.10	Pass
144	5720 (For U-NII-3)	9.68	9.66	9.65	9.69	40.248	16.05	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	17.92	17.73	17.71	17.96	242.774	23.85	24.00	Pass
110	5550	17.90	17.68	17.62	17.89	239.601	23.79	24.00	Pass
134	5670	17.74	17.62	17.88	17.80	238.871	23.78	24.00	Pass
142	5710 (For U-NII-2C)	16.75	16.73	16.79	16.68	203.001	23.07	24.00	Pass
142	5710 (For U-NII-3)	7.46	7.45	7.36	7.48	23.851	13.78	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.24) = 27.55 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.41) = 27.57 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.67) = 26.72 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(45.97) = 27.62 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(44.79) = 27.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.34) = 27.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(50.40) = 28.02 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.30) = 26.76 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.57) = 27.58 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(54.74) = 28.38 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
106	5530	14.90	15.03	15.24	15.15	128.899	21.10	24.00	Pass
122	5610	17.90	18.01	17.76	17.88	245.980	23.91	24.00	Pass
138	5690 (For U-NII-2C)	17.21	17.30	17.26	17.22	231.122	23.64	24.00	Pass
138	5690 (For U-NII-3)	4.69	4.77	4.71	4.72	12.922	11.11	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(89.08) = 30.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.56) = 30.52 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.71) = 29.99 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(89.27) = 30.50 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.48) = 30.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.62) = 30.00 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(91.18) = 30.59 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(88.68) = 30.47 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.92) = 29.98 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(88.99) = 30.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.26) = 30.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5646.10) = 29.97 > 24\text{dBm}$

802.11ac (VHT160)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
114	5570	12.77	13.00	12.64	13.00	77.194	18.88	24.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(173.17) = 33.38 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(174.09) = 33.40 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(174.79) = 33.42 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(175.13) = 33.43 > 24\text{dBm}$

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	15.71	15.65	15.77	15.73	149.136	21.74	24.00	Pass
116	5580	15.54	15.58	15.60	15.65	144.987	21.61	24.00	Pass
140	5700	15.86	15.91	15.97	15.74	154.576	21.89	24.00	Pass
144	5720 (For U-NII-2C)	14.52	14.55	14.53	14.53	123.309	20.91	23.10	Pass
144	5720 (For U-NII-3)	9.72	9.68	9.67	9.71	40.481	16.07	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	17.95	17.76	17.74	17.99	244.457	23.88	24.00	Pass
110	5550	17.92	17.71	17.65	17.92	241.119	23.82	24.00	Pass
134	5670	17.77	17.64	17.92	17.83	240.535	23.81	24.00	Pass
142	5710 (For U-NII-2C)	16.82	16.80	16.83	16.75	206.371	23.15	24.00	Pass
142	5710 (For U-NII-3)	7.54	7.50	7.42	7.50	24.191	13.84	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.24) = 27.55 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.41) = 27.57 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.67) = 26.72 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(45.97) = 27.62 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(44.79) = 27.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.34) = 27.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(50.40) = 28.02 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.30) = 26.76 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.57) = 27.58 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(54.74) = 28.38 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
106	5530	14.93	15.08	15.28	15.17	129.942	21.14	24.00	Pass
122	5610	17.95	18.02	17.78	17.91	247.541	23.94	24.00	Pass
138	5690 (For U-NII-2C)	17.23	17.35	17.30	17.27	233.264	23.68	24.00	Pass
138	5690 (For U-NII-3)	4.72	4.80	4.76	4.75	13.027	11.15	30.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(89.08) = 30.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.56) = 30.52 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.71) = 29.99 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(89.27) = 30.50 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.48) = 30.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.62) = 30.00 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(91.18) = 30.59 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(88.68) = 30.47 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5645.92) = 29.98 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(88.99) = 30.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(89.26) = 30.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(5725.00 - 5646.10) = 29.97 > 24\text{dBm}$

802.11ax (HE160)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
114	5570	12.79	13.03	12.67	13.01	77.593	18.90	24.00	Pass

Note:

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(173.17) = 33.38 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(174.09) = 33.40 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(174.79) = 33.42 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(175.13) = 33.43 > 24\text{dBm}$

Beamforming Mode

2TX

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.72	17.63	117.099	20.69	23.99	Pass
60	5300	17.89	17.66	119.862	20.79	23.99	Pass
64	5320	17.77	17.63	117.784	20.71	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.81) = 24.38 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm

Chain 1

1. 11dBm + 10log (21.93) = 24.41 > 24dBm
2. 11dBm + 10log (21.98) = 24.42 > 24dBm
3. 11dBm + 10log (22.24) = 24.47 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.63	17.82	118.477	20.74	23.99	Pass
62	5310	17.61	17.43	113.012	20.53	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (41.95) = 27.22 > 24dBm
2. 11dBm + 10log (42.06) = 27.23 > 24dBm

Chain 1

1. 11dBm + 10log (42.34) = 27.26 > 24dBm
2. 11dBm + 10log (42.10) = 27.24 > 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.74	17.65	117.640	20.71	23.99	Pass
60	5300	17.92	17.69	120.693	20.82	23.99	Pass
64	5320	17.79	17.66	118.462	20.74	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.81) = 24.38 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm

Chain 1

1. 11dBm + 10log (21.93) = 24.41 > 24dBm
2. 11dBm + 10log (21.98) = 24.42 > 24dBm
3. 11dBm + 10log (22.24) = 24.47 > 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.65	17.84	119.024	20.76	23.99	Pass
62	5310	17.63	17.45	113.533	20.55	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (41.95) = 27.22 > 24dBm
2. 11dBm + 10log (42.06) = 27.23 > 24dBm

Chain 1

1. 11dBm + 10log (42.34) = 27.26 > 24dBm
2. 11dBm + 10log (42.10) = 27.24 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	17.20	17.10	103.767	20.16	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (83.00) = 30.19 > 24dBm

Chain 1

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.77	17.68	118.455	20.74	23.99	Pass
60	5300	17.94	17.73	121.523	20.85	23.99	Pass
64	5320	17.83	17.70	119.558	20.78	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (21.62) = 24.34 > 24dBm
2. 11dBm + 10log (21.81) = 24.38 > 24dBm
3. 11dBm + 10log (21.65) = 24.35 > 24dBm

Chain 1

1. 11dBm + 10log (21.93) = 24.41 > 24dBm
2. 11dBm + 10log (21.98) = 24.42 > 24dBm
3. 11dBm + 10log (22.24) = 24.47 > 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.68	17.86	119.708	20.78	23.99	Pass
62	5310	17.66	17.47	114.192	20.58	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (41.95) = 27.22 > 24dBm
2. 11dBm + 10log (42.06) = 27.23 > 24dBm

Chain 1

1. 11dBm + 10log (42.34) = 27.26 > 24dBm
2. 11dBm + 10log (42.10) = 27.24 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	17.22	17.13	104.365	20.19	23.99	Pass

Note: 5260-5320MHz: Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24 - (6.01 - 6) = 23.99dBi.

For U-NII-2A Band:

Chain 0

1. 11dBm + 10log (83.00) = 30.19 > 24dBm

Chain 1

1. 11dBm + 10log (83.32) = 30.20 > 24dBm

4TX

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	9.62	9.55	9.69	9.65	36.715	15.65	20.98	Pass
116	5580	9.41	9.46	9.49	9.55	35.468	15.50	20.98	Pass
140	5700	9.80	9.87	9.72	9.66	37.878	15.78	20.98	Pass
144	5720 (For U-NII-2C)	8.43	8.49	8.46	8.44	30.426	14.83	20.08	Pass
144	5720 (For U-NII-3)	3.62	3.62	3.61	3.63	9.994	10.00	26.98	Pass

Note:

1. 5500-5700MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.
2. 5720MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $23.10 - (9.02 - 6) = 20.08\text{dBi}$.
3. 5745-5825MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.02 - 6) = 26.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	11.86	11.70	11.68	11.92	60.420	17.81	20.98	Pass
110	5550	11.86	11.64	11.56	11.82	59.462	17.74	20.98	Pass
134	5670	11.70	11.58	11.83	11.76	59.416	17.74	20.98	Pass
142	5710 (For U-NII-2C)	10.70	10.66	10.74	10.63	50.350	17.02	20.98	Pass
142	5710 (For U-NII-3)	1.43	1.39	1.30	1.42	5.919	7.72	26.98	Pass

Note:

1. 5500-5720MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.
2. 5745-5825MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.02 - 6) = 26.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.24) = 27.55 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.41) = 27.57 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.67) = 26.72 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(45.97) = 27.62 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(44.79) = 27.51 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(45.20) = 27.55 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.34) = 27.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(50.40) = 28.02 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.30) = 26.76 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(45.27) = 27.55 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(45.57) = 27.58 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(54.74) = 28.38 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5687.33) = 26.75 > 24\text{dBm}$

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	9.66	9.59	9.72	9.68	37.011	15.68	20.98	Pass
116	5580	9.47	9.51	9.54	9.59	35.878	15.55	20.98	Pass
140	5700	9.82	9.88	9.84	9.69	38.271	15.83	20.98	Pass
144	5720 (For U-NII-2C)	8.46	8.51	8.49	8.48	30.637	14.86	20.08	Pass
144	5720 (For U-NII-3)	3.66	3.64	3.63	3.67	10.063	10.03	26.98	Pass

Note:

1. 5500-5700MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.
2. 5720MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $23.10 - (9.02 - 6) = 20.08\text{dBi}$.
3. 5745-5825MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.02 - 6) = 26.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	11.90	11.71	11.69	11.94	60.702	17.83	20.98	Pass
110	5550	11.88	11.66	11.60	11.87	59.908	17.77	20.98	Pass
134	5670	11.72	11.60	11.86	11.78	59.726	17.76	20.98	Pass
142	5710 (For U-NII-2C)	10.73	10.71	10.77	10.66	50.757	17.05	20.98	Pass
142	5710 (For U-NII-3)	1.44	1.43	1.34	1.46	5.964	7.76	26.98	Pass

Note:

1. 5500-5720MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 24 - (9.02 - 6) = 20.98dBi.
2. 5745-5825MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.

For U-NII-2C Band:

Chain 0

1. 11dBm + 10log (45.20) = 27.55 > 24dBm
2. 11dBm + 10log (45.24) = 27.55 > 24dBm
3. 11dBm + 10log (45.41) = 27.57 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.67) = 26.72 > 24dBm

Chain 1

1. 11dBm + 10log (45.97) = 27.62 > 24dBm
2. 11dBm + 10log (44.79) = 27.51 > 24dBm
3. 11dBm + 10log (45.20) = 27.55 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.33) = 26.75 > 24dBm

Chain 2

1. 11dBm + 10log (45.27) = 27.55 > 24dBm
2. 11dBm + 10log (45.34) = 27.56 > 24dBm
3. 11dBm + 10log (50.40) = 28.02 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.30) = 26.76 > 24dBm

Chain 3

1. 11dBm + 10log (45.27) = 27.55 > 24dBm
2. 11dBm + 10log (45.57) = 27.58 > 24dBm
3. 11dBm + 10log (54.74) = 28.38 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.33) = 26.75 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
106	5530	8.88	9.01	9.22	9.13	32.229	15.08	20.98	Pass
122	5610	11.88	11.99	11.74	11.86	61.504	17.89	20.98	Pass
138	5690 (For U-NII-2C)	11.19	11.28	11.24	11.20	57.788	17.62	20.98	Pass
138	5690 (For U-NII-3)	-1.33	-1.25	-1.31	-1.30	3.231	5.09	26.98	Pass

Note:

- 5500-5720MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 24 - (9.02 - 6) = 20.98dBi.
- 5745-5825MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.

For U-NII-2C Band:

Chain 0

- 11dBm + 10log (89.08) = 30.49 > 24dBm
- 11dBm + 10log (89.56) = 30.52 > 24dBm
- 11dBm + 10log (5725.00 - 5645.71) = 29.99 > 24dBm

Chain 1

- 11dBm + 10log (89.27) = 30.50 > 24dBm
- 11dBm + 10log (89.48) = 30.51 > 24dBm
- 11dBm + 10log (5725.00 - 5645.62) = 30.00 > 24dBm

Chain 2

- 11dBm + 10log (91.18) = 30.59 > 24dBm
- 11dBm + 10log (88.68) = 30.47 > 24dBm
- 11dBm + 10log (5725.00 - 5645.92) = 29.98 > 24dBm

Chain 3

- 11dBm + 10log (88.99) = 30.49 > 24dBm
- 11dBm + 10log (89.26) = 30.50 > 24dBm
- 11dBm + 10log (5725.00 - 5646.10) = 29.97 > 24dBm

802.11ac (VHT160)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
114	5570	6.75	6.98	6.62	6.98	19.301	12.86	20.98	Pass

Note: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(173.17) = 33.38 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(174.09) = 33.40 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(174.79) = 33.42 > 24\text{dBm}$

Chain 3

1. $11\text{dBm} + 10\log(175.13) = 33.43 > 24\text{dBm}$

802.11ax (HE20)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
100	5500	9.69	9.63	9.75	9.71	37.289	15.72	20.98	Pass
116	5580	9.52	9.56	9.58	9.63	36.252	15.59	20.98	Pass
140	5700	9.84	9.89	9.95	9.72	38.649	15.87	20.98	Pass
144	5720 (For U-NII-2C)	8.50	8.53	8.51	8.51	30.832	14.89	20.08	Pass
144	5720 (For U-NII-3)	3.70	3.66	3.65	3.69	10.122	10.05	26.98	Pass

Note:

- 5500-5700MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.
- 5720MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $23.10 - (9.02 - 6) = 20.08\text{dBi}$.
- 5745-5825MHz: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $30 - (9.02 - 6) = 26.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

- $11\text{dBm} + 10\log(22.29) = 24.48 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.61) = 24.54 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.16) = 24.45 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5708.75) = 23.10 < 24\text{dBm}$

Chain 1

- $11\text{dBm} + 10\log(22.35) = 24.49 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5708.77) = 23.10 < 24\text{dBm}$

Chain 2

- $11\text{dBm} + 10\log(22.27) = 24.47 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.72) = 24.56 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.09) = 24.44 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5708.69) = 23.12 < 24\text{dBm}$

Chain 3

- $11\text{dBm} + 10\log(22.37) = 24.49 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.41) = 24.50 > 24\text{dBm}$
- $11\text{dBm} + 10\log(22.64) = 24.54 > 24\text{dBm}$
- $11\text{dBm} + 10\log(5725.00 - 5708.71) = 23.11 < 24\text{dBm}$

802.11ax (HE40)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
102	5510	11.93	11.74	11.72	11.97	61.123	17.86	20.98	Pass
110	5550	11.90	11.69	11.63	11.90	60.288	17.80	20.98	Pass
134	5670	11.75	11.62	11.90	11.81	60.142	17.79	20.98	Pass
142	5710 (For U-NII-2C)	10.80	10.78	10.81	10.73	51.492	17.12	20.98	Pass
142	5710 (For U-NII-3)	1.52	1.48	1.40	1.48	6.036	7.81	26.98	Pass

Note:

1. 5500-5720MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 24 - (9.02 - 6) = 20.98dBi.
2. 5745-5825MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.

For U-NII-2C Band:

Chain 0

1. 11dBm + 10log (45.20) = 27.55 > 24dBm
2. 11dBm + 10log (45.24) = 27.55 > 24dBm
3. 11dBm + 10log (45.41) = 27.57 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.67) = 26.72 > 24dBm

Chain 1

1. 11dBm + 10log (45.97) = 27.62 > 24dBm
2. 11dBm + 10log (44.79) = 27.51 > 24dBm
3. 11dBm + 10log (45.20) = 27.55 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.33) = 26.75 > 24dBm

Chain 2

1. 11dBm + 10log (45.27) = 27.55 > 24dBm
2. 11dBm + 10log (45.34) = 27.56 > 24dBm
3. 11dBm + 10log (50.40) = 28.02 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.30) = 26.76 > 24dBm

Chain 3

1. 11dBm + 10log (45.27) = 27.55 > 24dBm
2. 11dBm + 10log (45.57) = 27.58 > 24dBm
3. 11dBm + 10log (54.74) = 28.38 > 24dBm
4. 11dBm + 10log (5725.00 - 5687.33) = 26.75 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
106	5530	8.91	9.06	9.26	9.15	32.490	15.12	20.98	Pass
122	5610	11.93	12.00	11.76	11.89	61.894	17.92	20.98	Pass
138	5690 (For U-NII-2C)	11.21	11.33	11.28	11.25	58.324	17.66	20.98	Pass
138	5690 (For U-NII-3)	-1.30	-1.22	-1.26	-1.27	3.2571	5.13	26.98	Pass

Note:

- 5500-5720MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 24 - (9.02 - 6) = 20.98dBi.
- 5745-5825MHz: Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.

For U-NII-2C Band:

Chain 0

- 11dBm + 10log (89.08) = 30.49 > 24dBm
- 11dBm + 10log (89.56) = 30.52 > 24dBm
- 11dBm + 10log (5725.00 - 5645.71) = 29.99 > 24dBm

Chain 1

- 11dBm + 10log (89.27) = 30.50 > 24dBm
- 11dBm + 10log (89.48) = 30.51 > 24dBm
- 11dBm + 10log (5725.00 - 5645.62) = 30.00 > 24dBm

Chain 2

- 11dBm + 10log (91.18) = 30.59 > 24dBm
- 11dBm + 10log (88.68) = 30.47 > 24dBm
- 11dBm + 10log (5725.00 - 5645.92) = 29.98 > 24dBm

Chain 3

- 11dBm + 10log (88.99) = 30.49 > 24dBm
- 11dBm + 10log (89.26) = 30.50 > 24dBm
- 11dBm + 10log (5725.00 - 5646.10) = 29.97 > 24dBm

802.11ax (HE160)

Chan.	Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
114	5570	6.77	7.01	6.65	6.99	19.401	12.88	20.98	Pass

Note: Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (9.02 - 6) = 20.98\text{dBi}$.

For U-NII-2C Band:

Chain 0

1. $11\text{dBm} + 10\log(173.17) = 33.38 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(174.09) = 33.40 > 24\text{dBm}$

Chain 2

1. $11\text{dBm} + 10\log(174.79) = 33.42 > 24\text{dBm}$

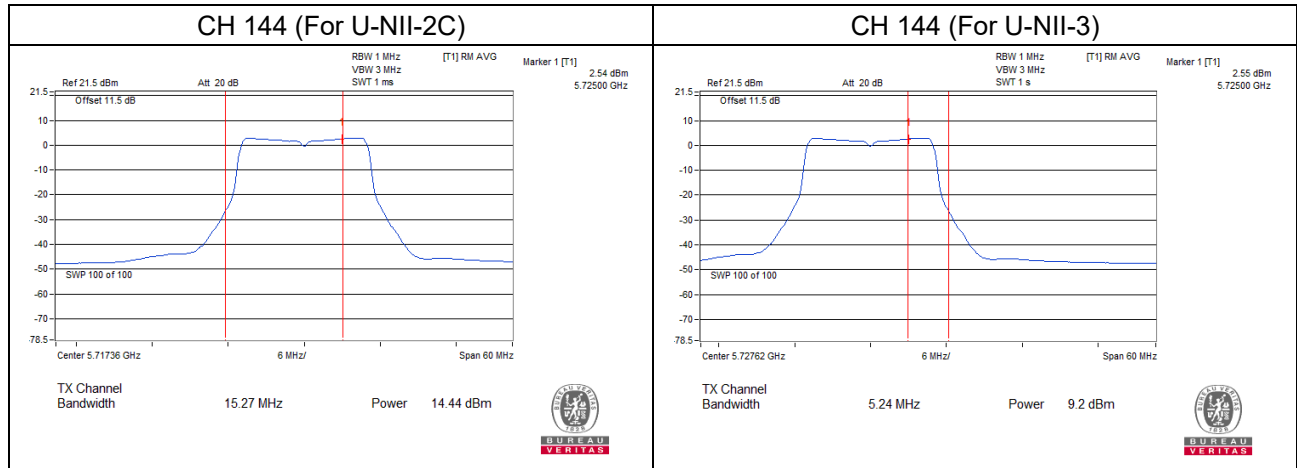
Chain 3

1. $11\text{dBm} + 10\log(175.13) = 33.43 > 24\text{dBm}$

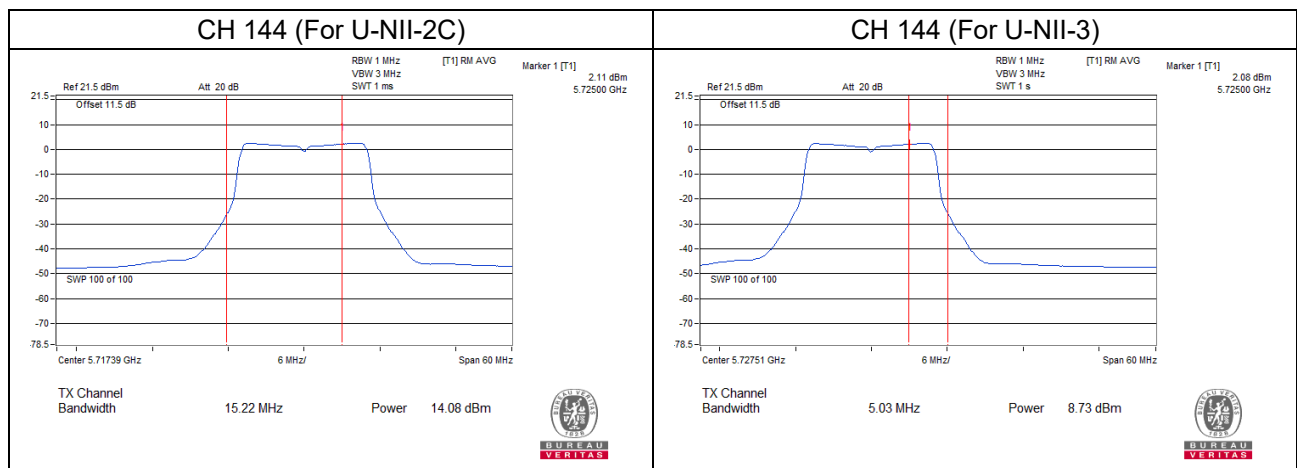
Straddle channel power plots:

802.11a

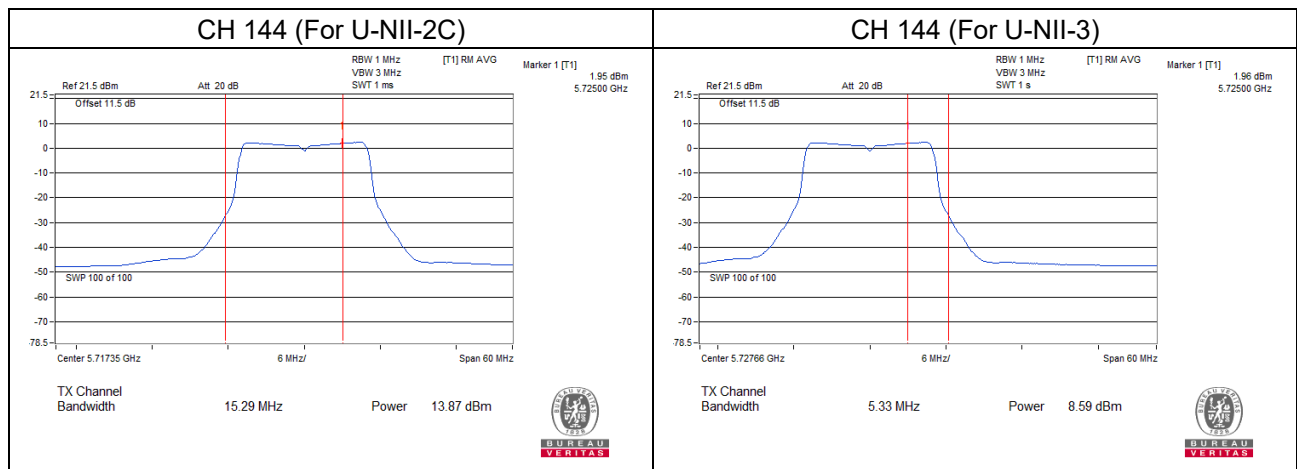
Chain 0



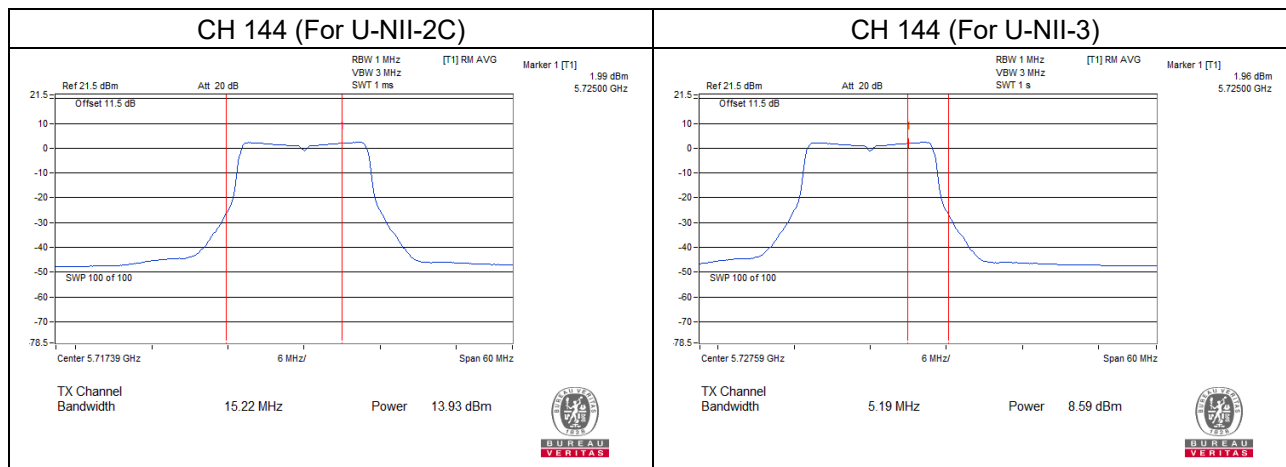
Chain 1



Chain 2

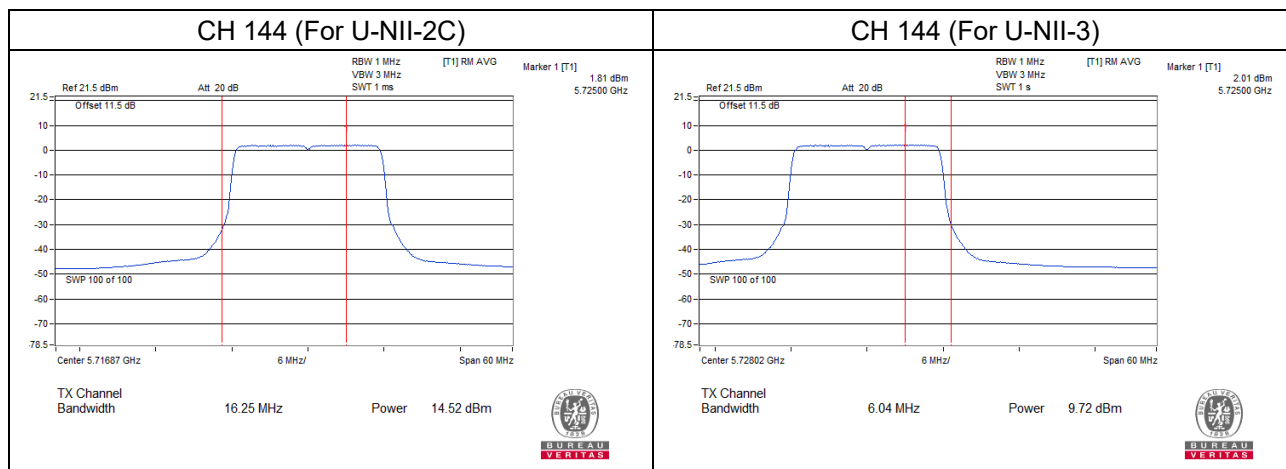


Chain 3

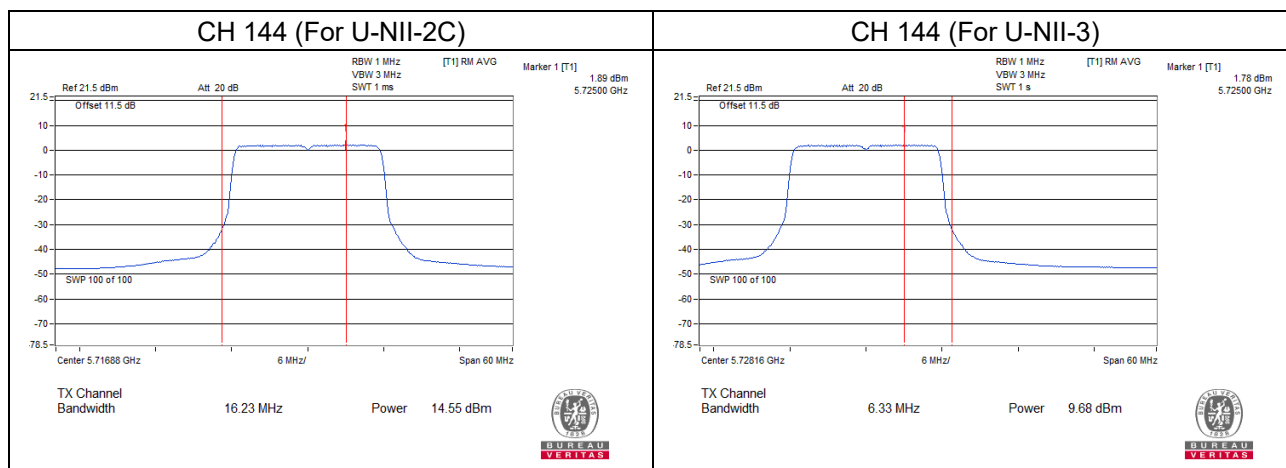


802.11ax (HE20)

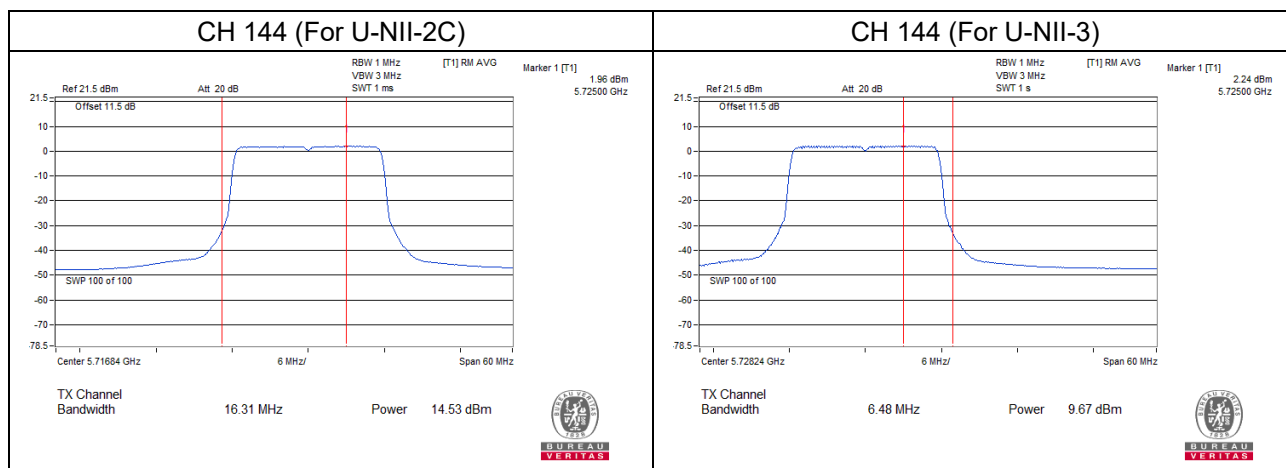
Chain 0



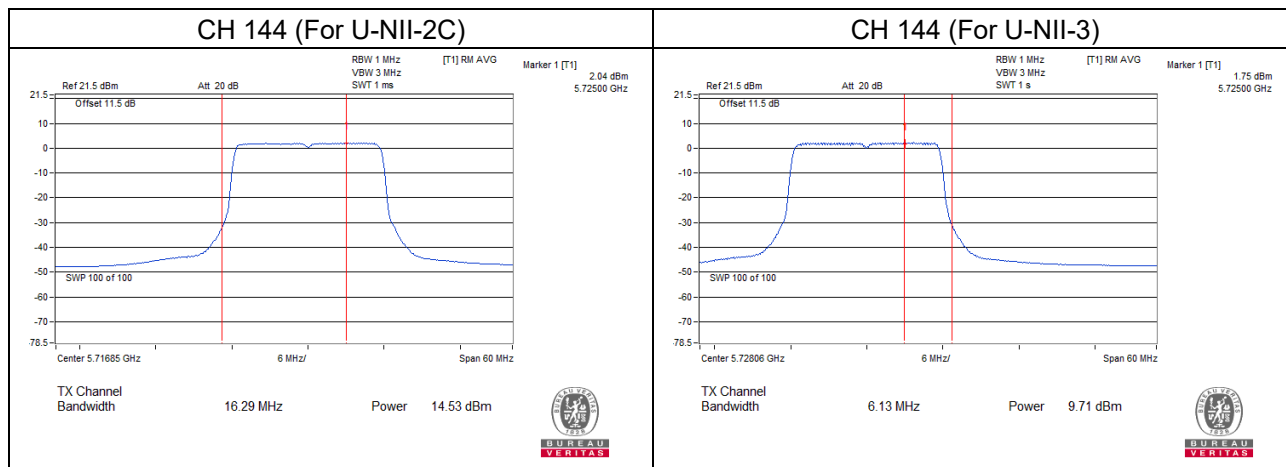
Chain 1



Chain 2

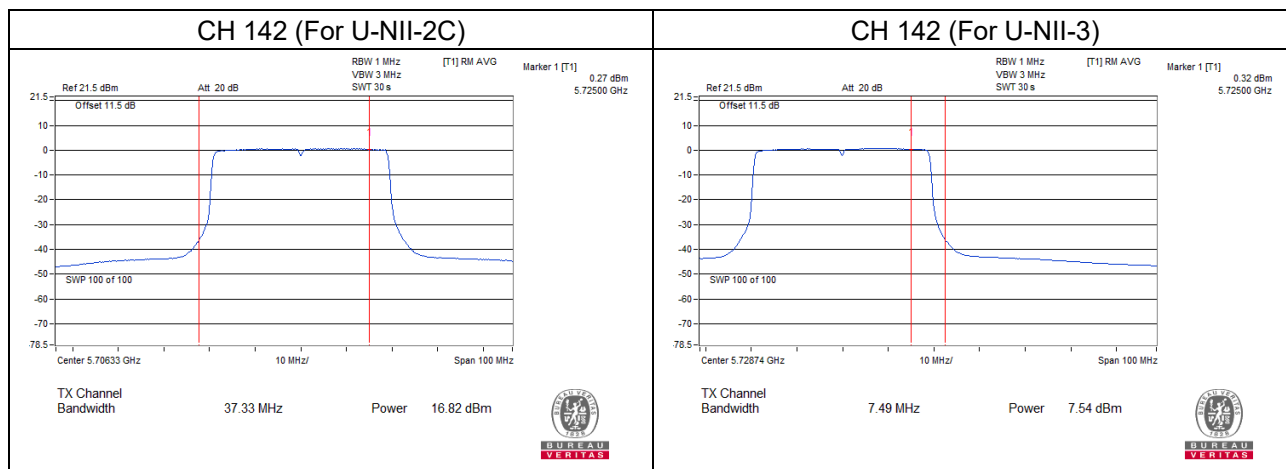


Chain 3

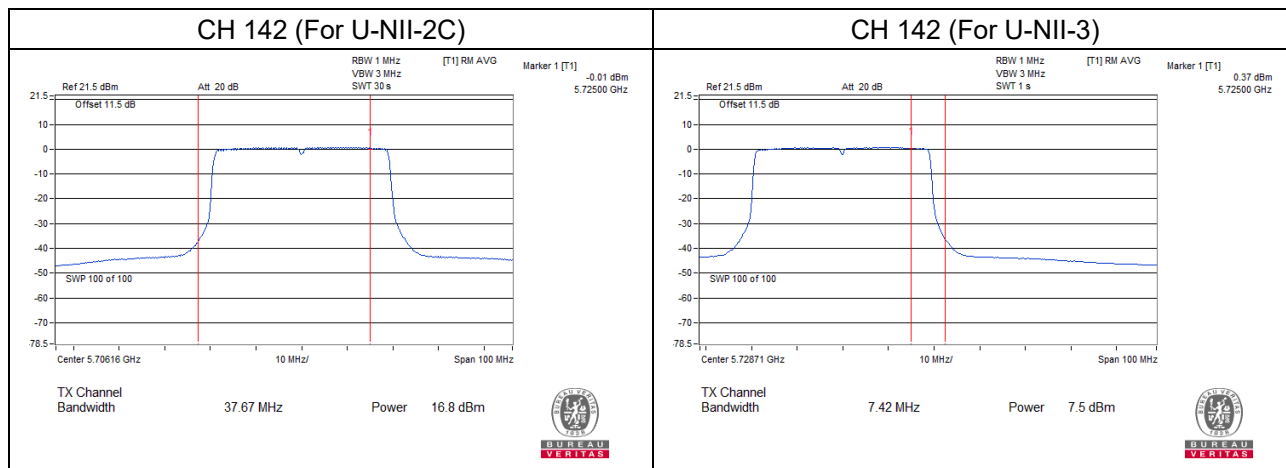


802.11ax (HE40)

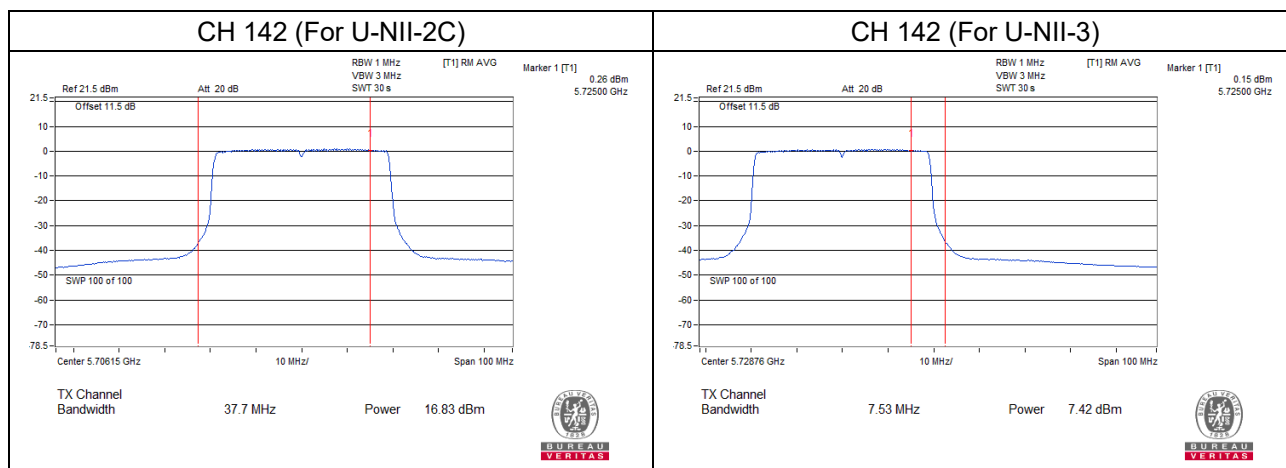
Chain 0



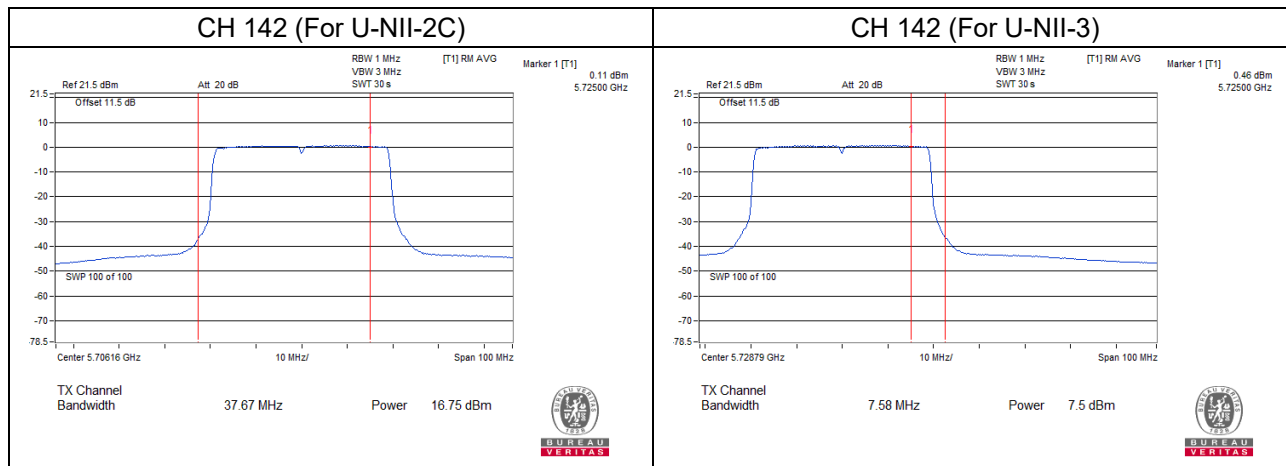
Chain 1



Chain 2

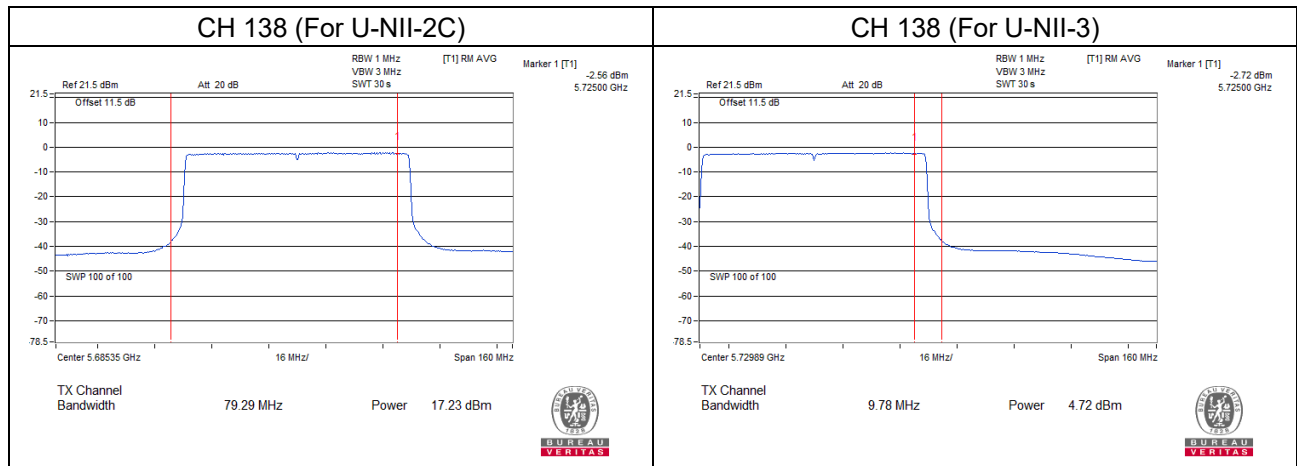


Chain 3

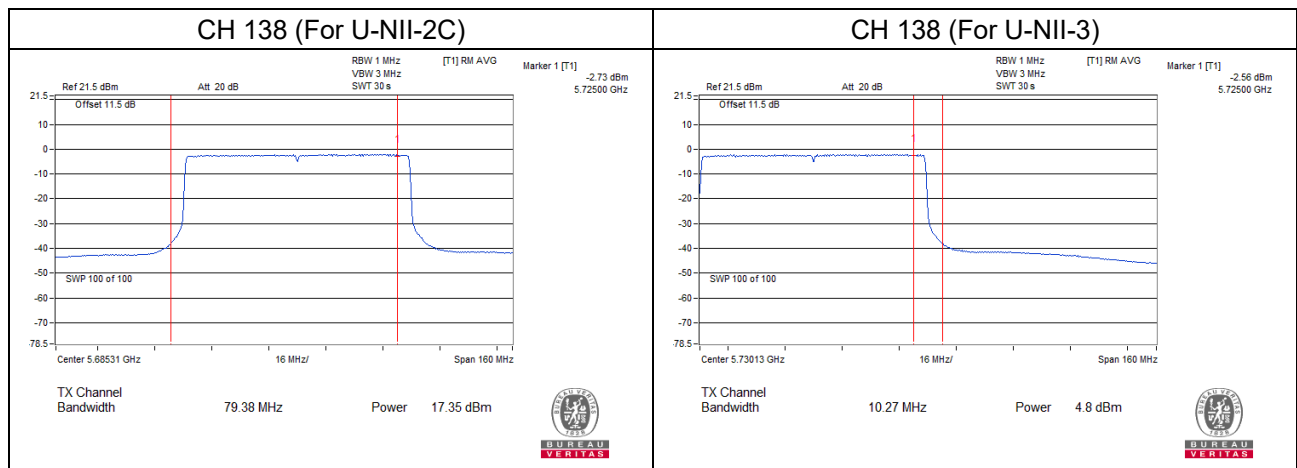


802.11ax (HE80)

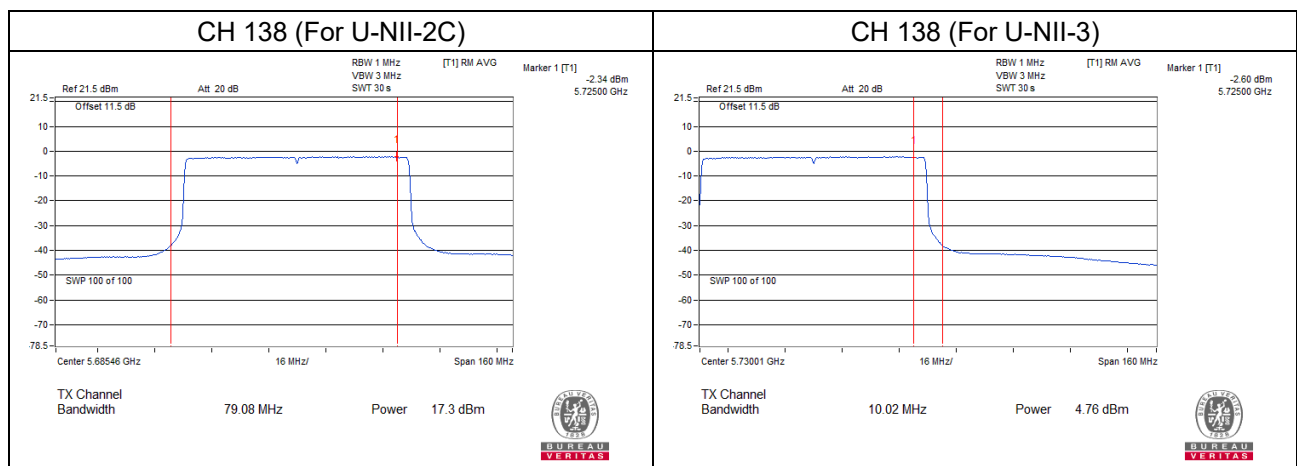
Chain 0



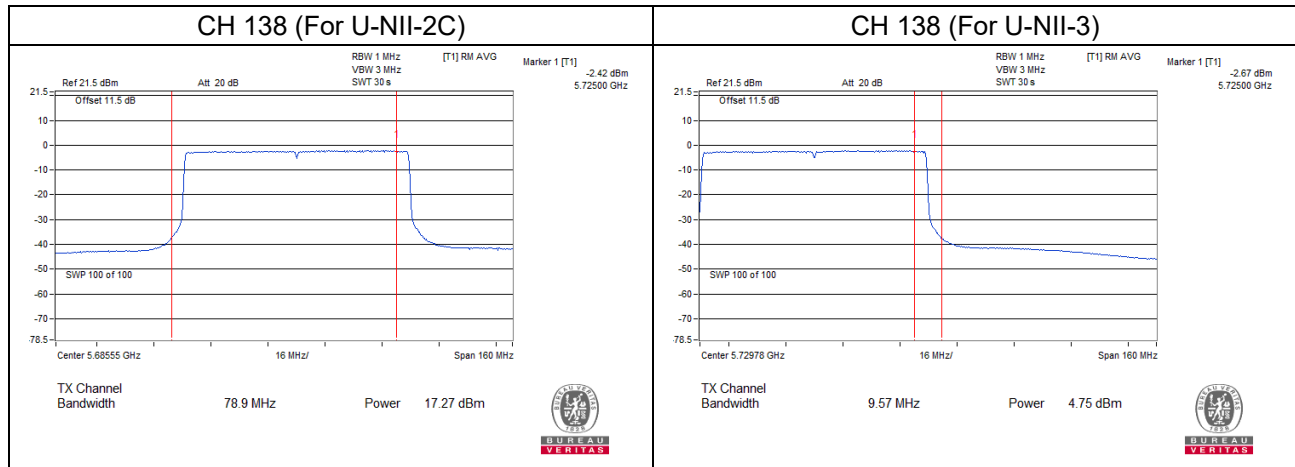
Chain 1



Chain 2



Chain 3



26dB Bandwidth:

2TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.63	20.86
60	5300	20.76	20.80
64	5320	20.64	20.71

802.11ax (HE20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.62	21.93
60	5300	21.81	21.98
64	5320	21.65	22.24

802.11ax (HE40)

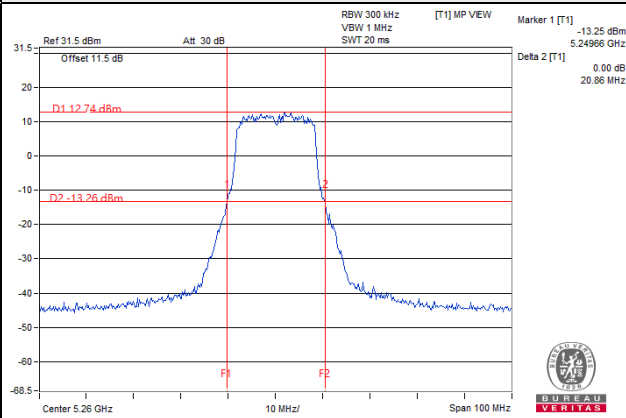
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.95	42.34
62	5310	42.06	42.10

802.11ax (HE80)

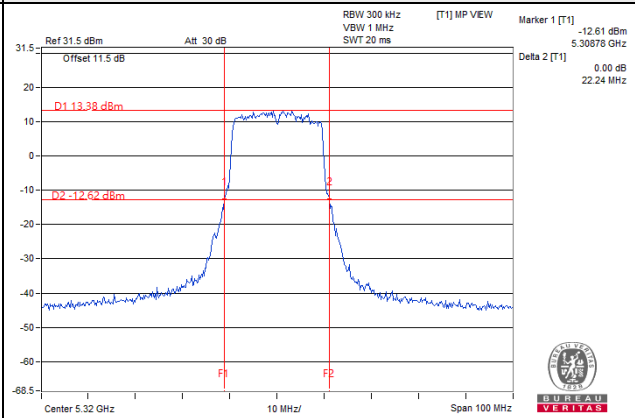
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.00	83.32

Spectrum Plot of Worst Value

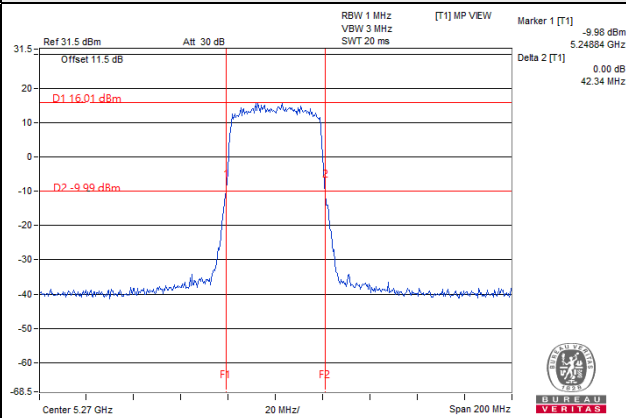
802.11a



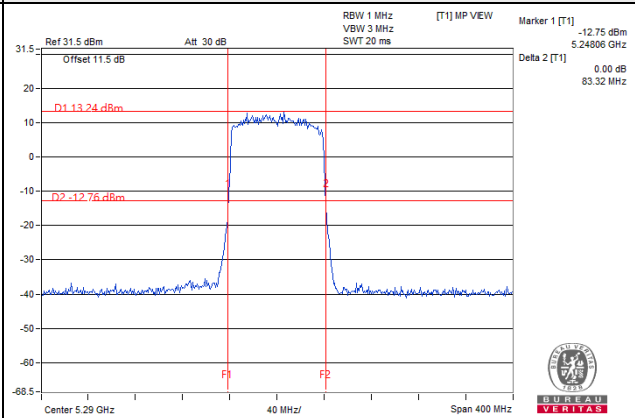
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



4TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
100	5500	20.82	20.81	20.83	20.81
116	5580	20.52	20.56	20.64	20.35
140	5700	20.55	20.70	20.83	20.55
144	5720 (For U-NII-2C)	15.27	15.22	15.29	15.22

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	Chain 2	Chain 3
100	5500	22.29	22.35	22.27	22.37
116	5580	22.61	22.38	22.72	22.41
140	5700	22.16	22.38	22.09	22.64
144	5720 (For U-NII-2C)	16.25	16.23	16.31	16.29

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	Chain 2	Chain 3
102	5510	45.20	45.97	45.27	45.27
110	5550	45.24	44.79	45.34	45.57
134	5670	45.41	45.20	50.40	54.74
142	5710 (For U-NII-2C)	37.33	37.67	37.70	37.67

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

802.11ax (HE80)

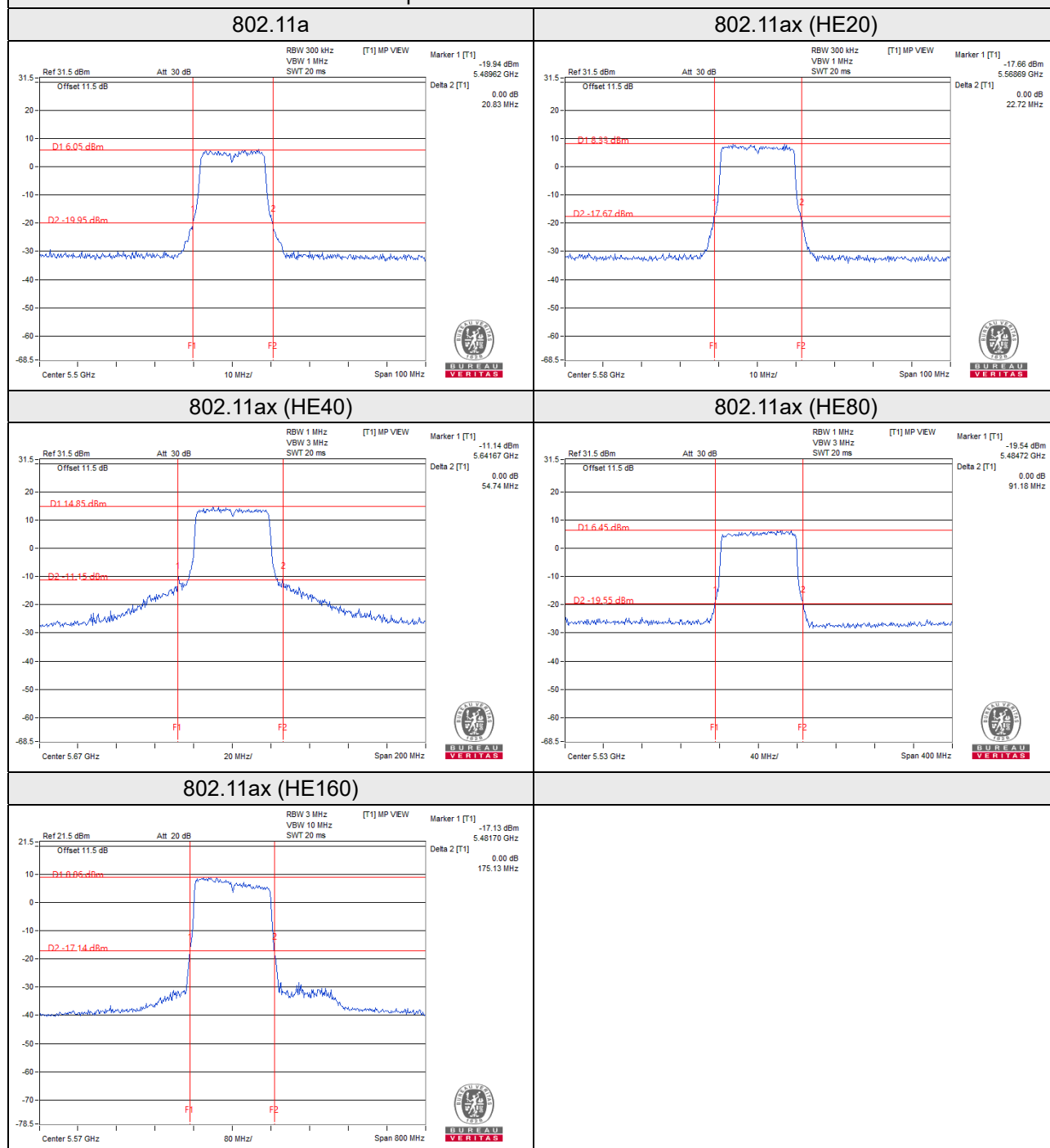
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
106	5530	89.08	89.27	91.18	88.99
122	5610	89.56	89.48	88.68	89.26
138	5690 (For U-NII-2C)	79.29	79.38	79.08	78.90

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	Chain 2	Chain 3
114	5570	173.17	174.09	174.79	175.13

Spectrum Plot of Worst Value



EUT Average Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	23.71	234.997
5470~5725	21.71	148.296

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	23.86	243.028
5470~5725	21.89	154.576

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	23.79	239.400
5470~5725	23.88	244.457

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	23.20	208.715
5470~5725	23.94	247.541

802.11ax (HE160)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5470~5725	18.90	77.593

Beamforming Mode

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.85	121.523
5470~5725	15.87	38.649

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.78	119.708
5470~5725	17.86	61.123

802.11ax (HE80)

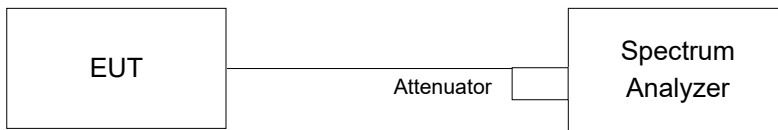
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	20.19	104.365
5470~5725	17.92	61.894

802.11ax (HE160)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5470~5725	12.88	19.401

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

2TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	16.56	16.56
60	5300	16.44	16.44
64	5320	16.44	16.44

802.11ax (HE20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.96	18.84
60	5300	18.96	19.08
64	5320	18.96	18.96

802.11ax (HE40)

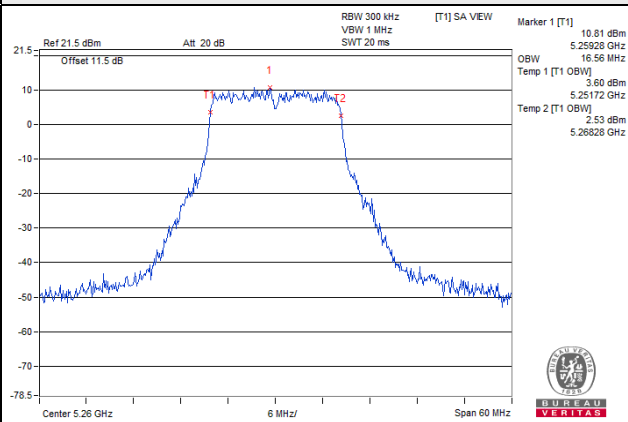
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	38.04	38.04
62	5310	37.92	37.92

802.11ax (HE80)

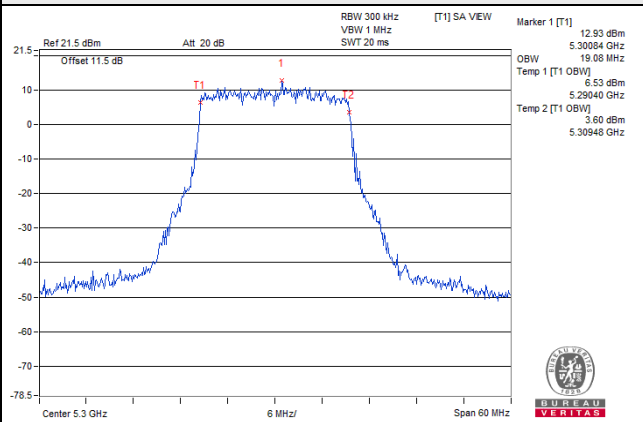
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	77.04	77.04

Spectrum Plot of Worst Value

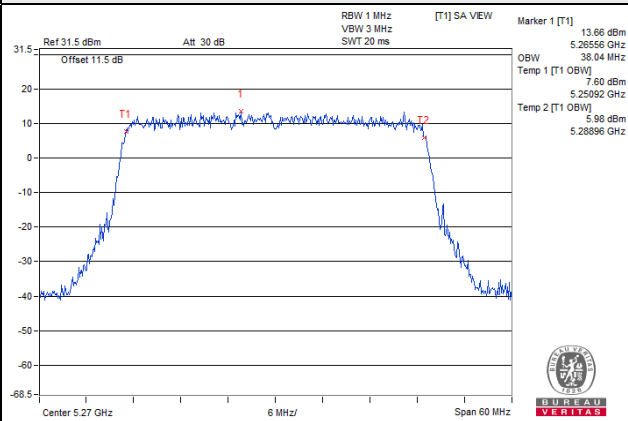
802.11a



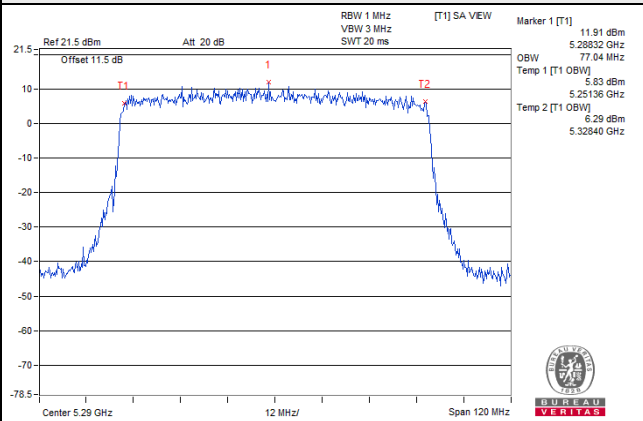
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



4TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
100	5500	16.68	16.68	16.68	16.68
116	5580	16.80	16.68	16.68	16.68
140	5700	16.68	16.68	16.68	16.68
144	5720 (For U-NII-2C)	13.40	13.40	13.40	13.40
144	5720 (For U-NII-3)	3.40	3.28	3.28	3.28

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	Chain 2	Chain 3
100	5500	19.20	19.08	19.08	19.08
116	5580	18.96	19.08	19.08	19.08
140	5700	19.08	19.20	19.08	19.08
144	5720 (For U-NII-2C)	14.60	14.60	14.57	14.60
144	5720 (For U-NII-3)	4.60	4.60	4.57	4.48

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	Chain 2	Chain 3
102	5510	38.40	38.40	38.40	38.40
110	5550	38.16	38.16	38.28	38.28
134	5670	38.28	37.92	38.28	38.28
142	5710 (For U-NII-2C)	34.20	34.20	34.68	34.20
142	5710 (For U-NII-3)	4.20	4.32	4.68	4.20

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	Chain 2	Chain 3
106	5530	77.76	77.76	77.76	77.76
122	5610	77.76	77.76	77.76	77.76
138	5690 (For U-NII-2C)	73.88	74.12	74.12	74.12
138	5690 (For U-NII-3)	3.88	4.12	4.12	3.88

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

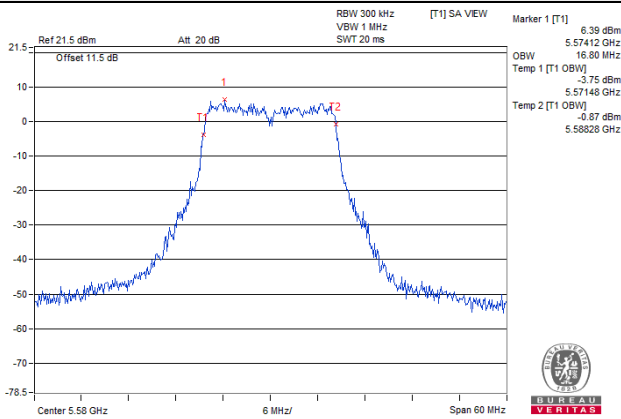
For CH138 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ax (HE160)

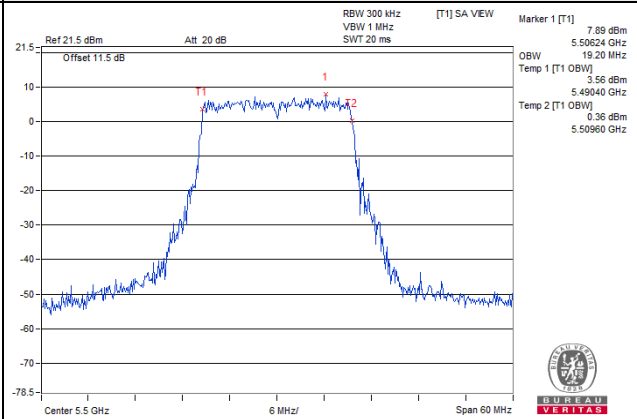
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
114	5570	156.48	158.40	157.44	156.48

Spectrum Plot of Worst Value

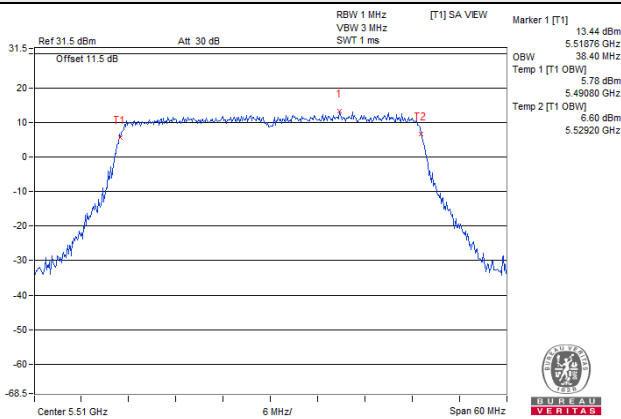
802.11a



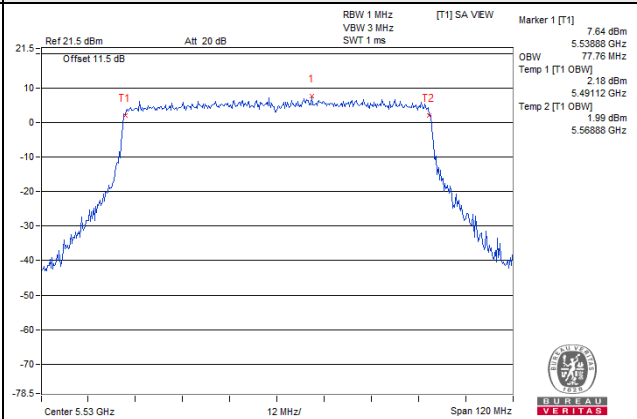
802.11ax (HE20)



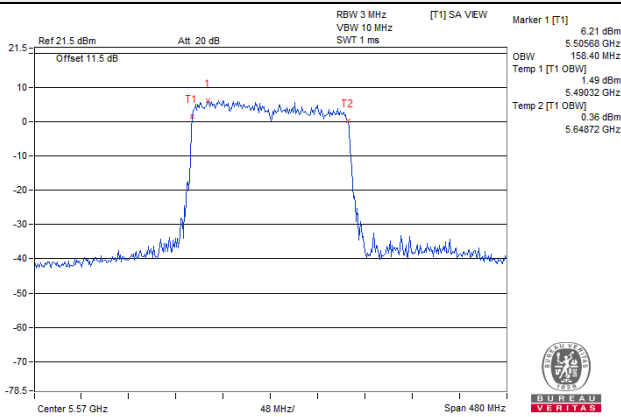
802.11ax (HE40)



802.11ax (HE80)



802.11ax (HE160)

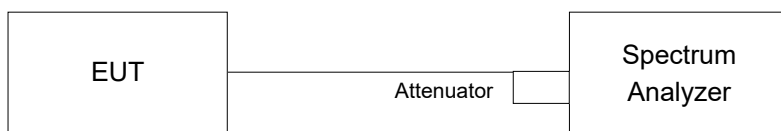


4.5 Peak Power Spectral Density Measurement

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-2A and U-NII-2C band:

Using method SA-2

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

For U-NII-3 band:

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

2TX

For U-NII-2A 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				
52	5260	6.07	6.45	0.23	9.50	10.99	Pass
60	5300	6.27	6.36	0.23	9.56	10.99	Pass
64	5320	6.59	5.98	0.23	9.54	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
3. 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				
52	5260	5.62	5.66	0.19	8.84	10.99	Pass
60	5300	5.90	6.14	0.19	9.22	10.99	Pass
64	5320	6.67	5.61	0.19	9.37	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
3. 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				
54	5270	2.90	3.24	0.24	6.32	10.99	Pass
62	5310	3.04	2.73	0.24	6.14	10.99	Pass

Note:

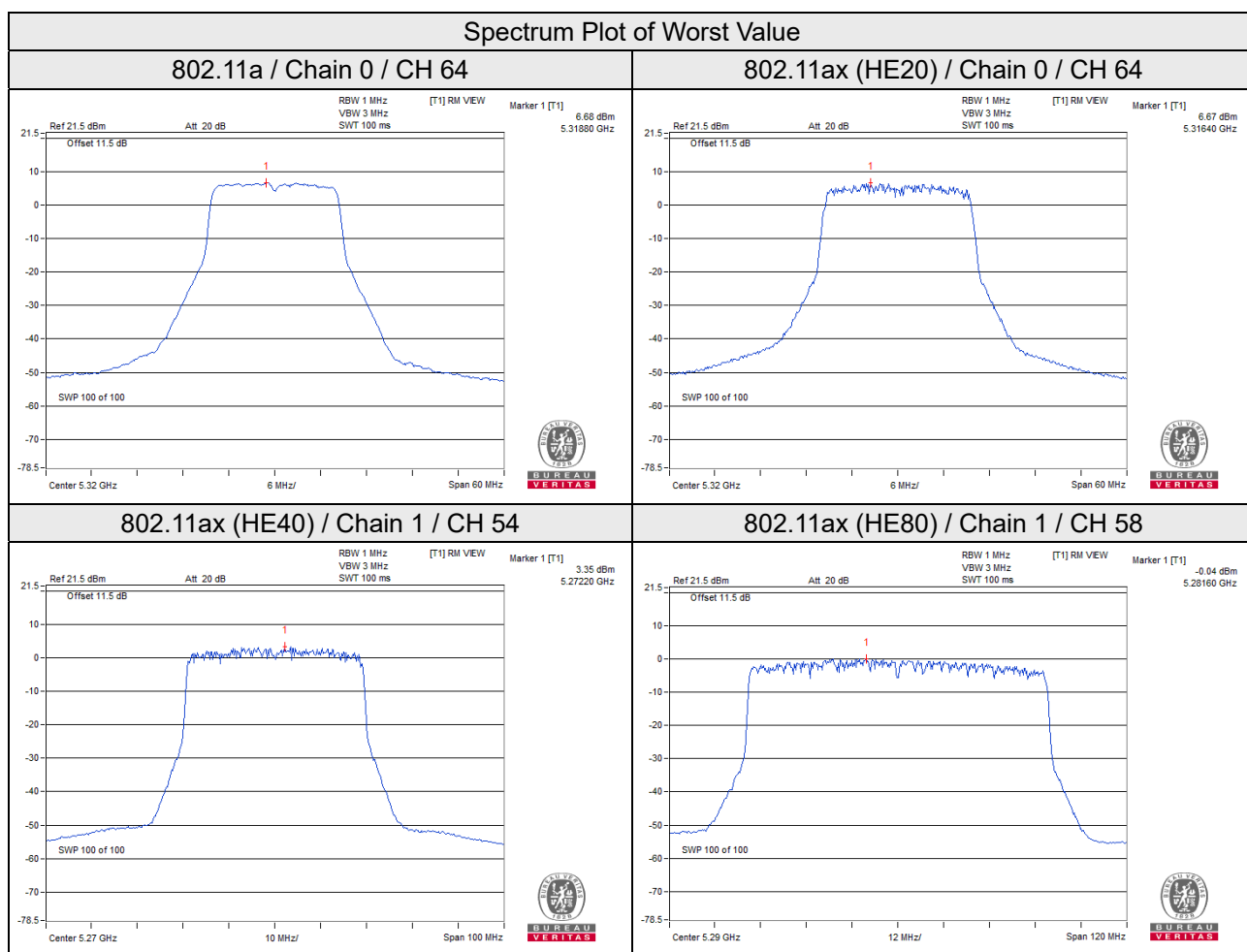
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $3\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (6.01 - 6) = 10.99\text{dBi}$.
3. 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				
58	5290	-0.38	-0.04	0.20	3.00	10.99	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3dBi + 10log(2) = 6.01dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.01 - 6) = 10.99dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.



4TX

For 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	Chain 2	Chain 3				
100	5500	1.06	1.85	1.62	1.57	0.24	7.80	7.98	Pass
116	5580	0.96	1.28	1.93	1.84	0.24	7.78	7.98	Pass
140	5700	1.04	1.20	1.86	1.84	0.24	7.76	7.98	Pass
144	5720 (For U-NII-2C)	1.27	1.36	1.11	1.31	0.24	7.52	7.98	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. Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (9.02 - 6) = 7.98\text{dBi}$.
3. 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	Chain 2	Chain 3				
100	5500	0.91	0.21	1.24	1.02	0.21	7.09	7.98	Pass
116	5580	0.77	1.74	1.01	0.45	0.21	7.25	7.98	Pass
140	5700	1.03	0.99	1.08	1.16	0.21	7.30	7.98	Pass
144	5720 (For U-NII-2C)	0.62	1.69	1.35	0.89	0.21	7.39	7.98	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. Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (9.02 - 6) = 7.98\text{dBi}$.
3. 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	Chain 2	Chain 3				
102	5510	1.18	0.76	0.49	0.08	0.20	6.87	7.98	Pass
110	5550	-0.68	0.00	-0.66	0.87	0.20	6.15	7.98	Pass
134	5670	0.80	0.39	1.12	0.66	0.20	6.97	7.98	Pass
142	5710 (For U-NII-2C)	-0.78	-0.14	1.09	0.16	0.20	6.36	7.98	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.
- Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (9.02 - 6) = 7.98\text{dBi}$.
- 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	Chain 2	Chain 3				
106	5530	-5.80	-6.58	-6.42	-5.11	0.25	0.33	7.98	Pass
122	5610	-2.35	-1.72	-2.09	-1.85	0.25	4.27	7.98	Pass
138	5690 (For U-NII-2C)	-3.49	-2.36	-2.75	-1.09	0.25	3.94	7.98	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.
- Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (9.02 - 6) = 7.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE160)

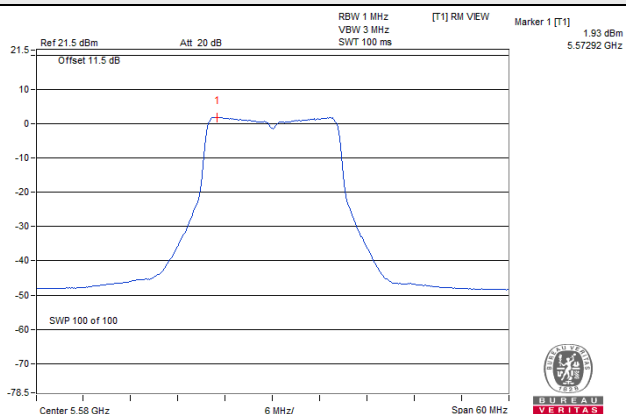
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
114	5570	-10.96	-11.00	-11.27	-10.83	0.71	-4.28	7.98	Pass

Note:

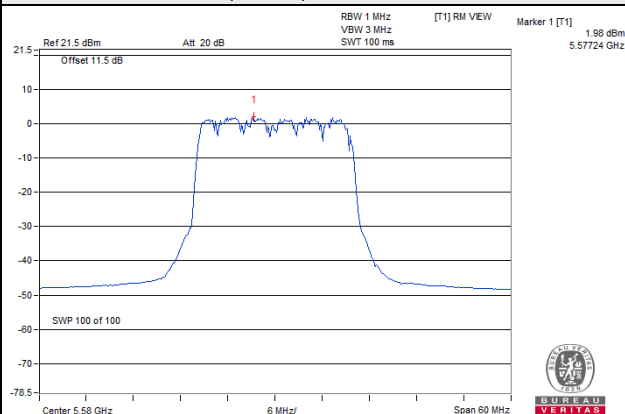
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $3\text{dBi} + 10\log(4) = 9.02\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11 - (9.02 - 6) = 7.98\text{dBi}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

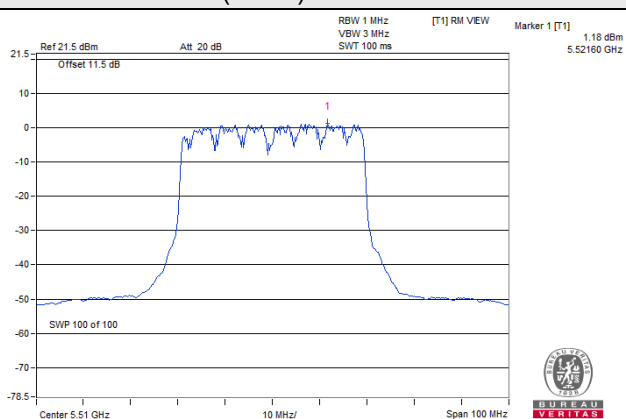
802.11a / Chain 2 / CH 116



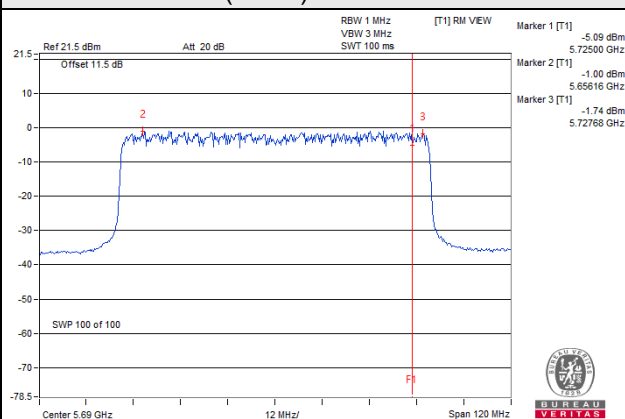
802.11ax (HE20) / Chain 1 / CH 116



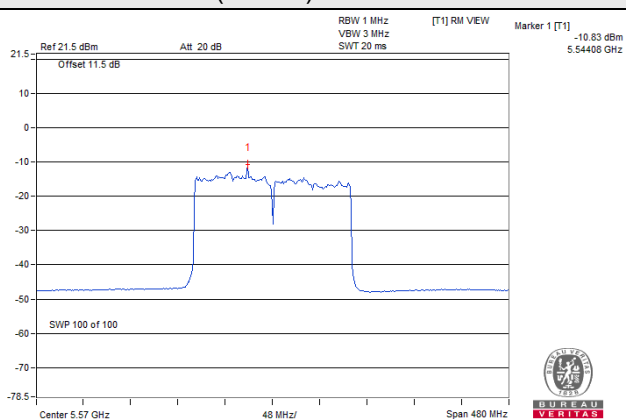
802.11ax (HE40) / Chain 0 / CH 102



802.11ax (HE80) / Chain 3 / CH 138



802.11ax (HE160) / Chain 3 / CH 114



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-6.11	-3.89	6.02	0.27	2.40	26.98	Pass
1	144	5720 (For U-NII-3)	-6.65	-4.43	6.02	0.27	1.86	26.98	Pass
2	144	5720 (For U-NII-3)	-6.88	-4.66	6.02	0.27	1.63	26.98	Pass
3	144	5720 (For U-NII-3)	-6.60	-4.38	6.02	0.27	1.91	26.98	Pass

Note:

- 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.
- Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power density limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.
- 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=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-7.97	-5.75	6.02	0.36	0.63	26.98	Pass
1	144	5720 (For U-NII-3)	-8.16	-5.94	6.02	0.36	0.44	26.98	Pass
2	144	5720 (For U-NII-3)	-7.34	-5.12	6.02	0.36	1.26	26.98	Pass
3	144	5720 (For U-NII-3)	-7.64	-5.42	6.02	0.36	0.96	26.98	Pass

Note:

- 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.
- Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power density limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.
- 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=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-8.82	-6.60	6.02	0.33	-0.25	26.98	Pass
1	142	5710 (For U-NII-3)	-9.70	-7.48	6.02	0.33	-1.13	26.98	Pass
2	142	5710 (For U-NII-3)	-8.84	-6.62	6.02	0.33	-0.27	26.98	Pass
3	142	5710 (For U-NII-3)	-8.96	-6.74	6.02	0.33	-0.39	26.98	Pass

Note:

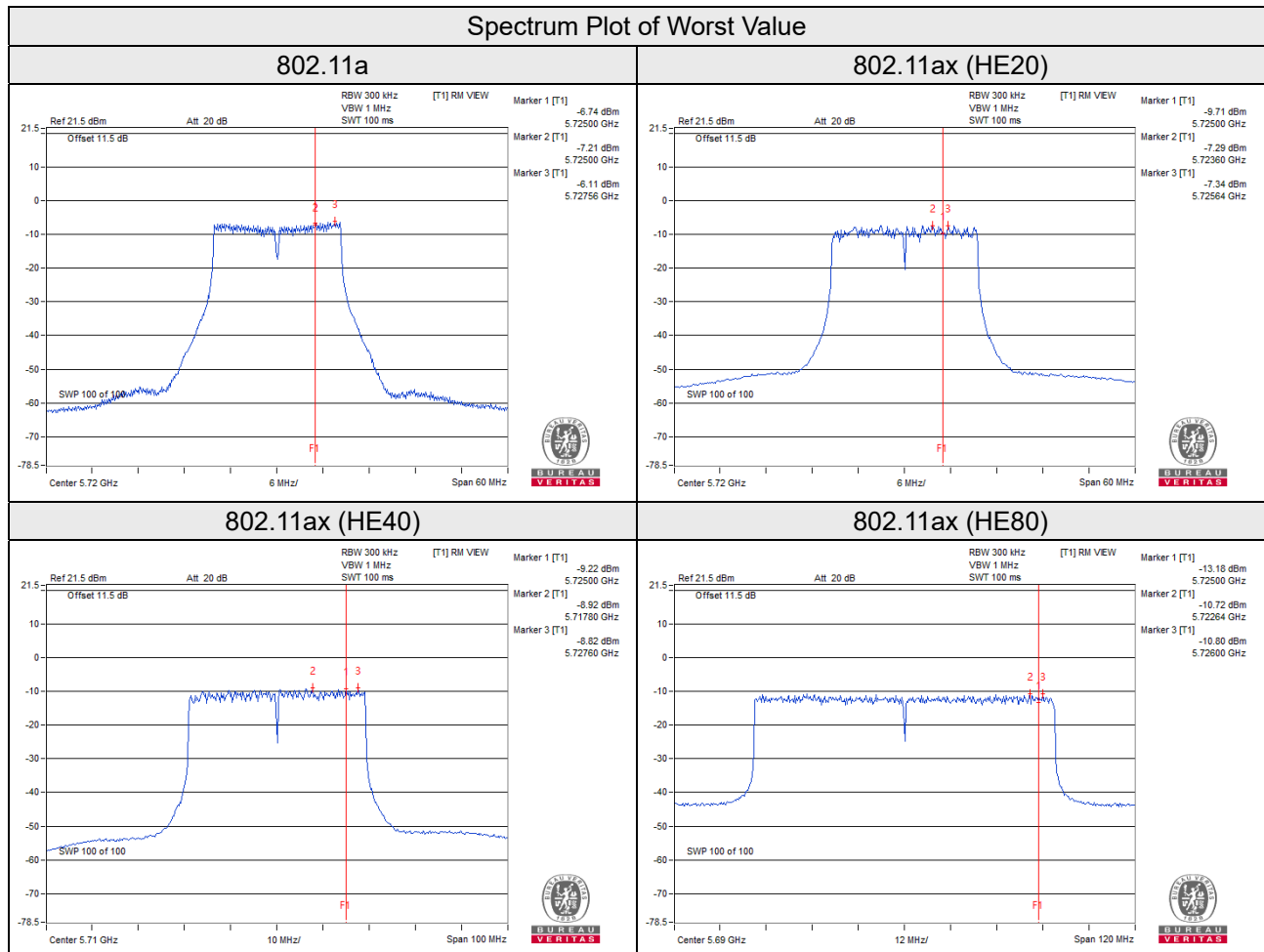
- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
- Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power density limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-11.70	-9.48	6.02	0.37	-3.09	26.98	Pass
1	138	5690 (For U-NII-3)	-11.20	-8.98	6.02	0.37	-2.59	26.98	Pass
2	138	5690 (For U-NII-3)	-10.80	-8.58	6.02	0.37	-2.19	26.98	Pass
3	138	5690 (For U-NII-3)	-10.97	-8.75	6.02	0.37	-2.36	26.98	Pass

Note:

- 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.
- Directional gain = 3dBi + 10log(4) = 9.02dBi > 6dBi, so the power density limit shall be reduced to 30 - (9.02 - 6) = 26.98dBi.
- Refer to section 3.3 for duty cycle spectrum plot.

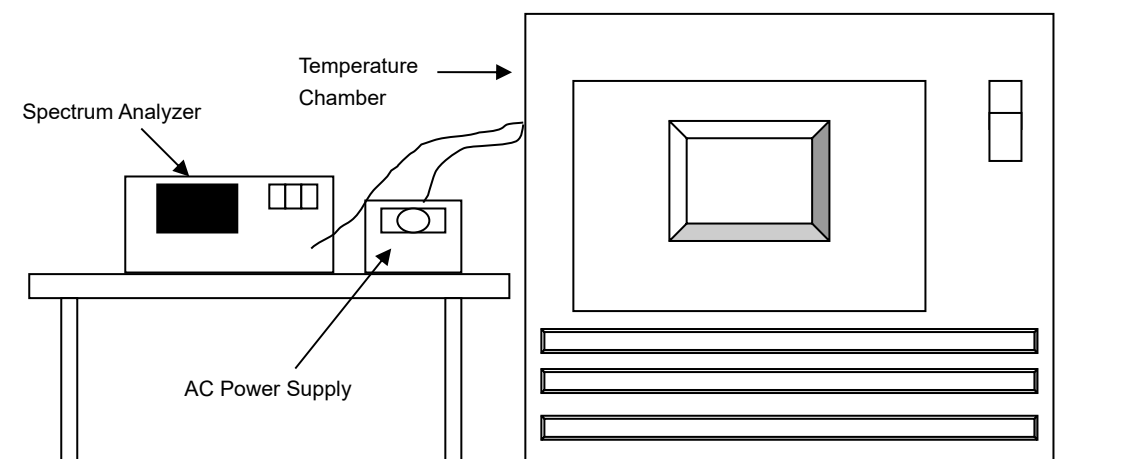


4.6 Frequency Stability

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
Temperature & Humidity Chamber Giant Force	GTH-120-40-CP-AR	MAA1306-019	Sep. 10, 2021	Sep. 09, 2022
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.

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

2TX

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
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	5259.9988	Pass	5259.9999	Pass	5260.0035	Pass	5260.0024	Pass
30	120	5260.0135	Pass	5260.0128	Pass	5260.0149	Pass	5260.0138	Pass
20	120	5259.9907	Pass	5259.9905	Pass	5259.987	Pass	5259.9899	Pass
10	120	5260.0117	Pass	5260.0118	Pass	5260.0096	Pass	5260.0083	Pass
0	120	5260.0156	Pass	5260.0193	Pass	5260.0178	Pass	5260.0181	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
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	5259.998	Pass	5259.9971	Pass	5259.9965	Pass	5259.9973	Pass
	120	5259.9907	Pass	5259.9905	Pass	5259.987	Pass	5259.9899	Pass
	102	5259.9818	Pass	5259.9845	Pass	5259.9851	Pass	5259.9847	Pass

4TX

Frequency Stability Versus Temp.									
Operating Frequency: 5500MHz									
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	5500.0028	Pass	5500.006	Pass	5500.0031	Pass	5500.0065	Pass
30	120	5500.0198	Pass	5500.0214	Pass	5500.0228	Pass	5500.0209	Pass
20	120	5500.0018	Pass	5499.9995	Pass	5500.0044	Pass	5500.0022	Pass
10	120	5499.9965	Pass	5499.9954	Pass	5499.995	Pass	5499.9988	Pass
0	120	5500.0219	Pass	5500.0243	Pass	5500.0215	Pass	5500.0209	Pass

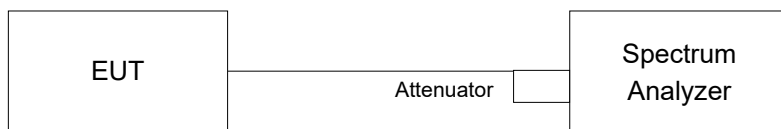
Frequency Stability Versus Voltage									
Operating Frequency: 5500MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5499.9993	Pass	5499.9987	Pass	5499.9983	Pass	5500.0007	Pass
	120	5500.0018	Pass	5499.9995	Pass	5500.0044	Pass	5500.0022	Pass
	102	5500.0118	Pass	5500.0131	Pass	5500.0096	Pass	5500.0148	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

4TX

802.11a

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	3.22	3.20	3.21	3.18	0.50	Pass

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

802.11ax (HE20)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720 (For U-NII-3)	4.57	4.58	4.56	4.56	0.50	Pass

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

802.11ax (HE40)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710 (For U-NII-3)	4.13	4.13	4.12	4.15	0.50	Pass

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

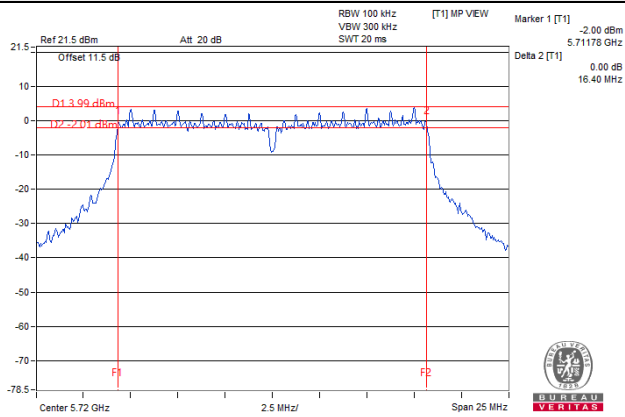
802.11ax (HE80)

Chan.	Freq. (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690 (For U-NII-3)	4.25	4.23	4.20	4.24	0.50	Pass

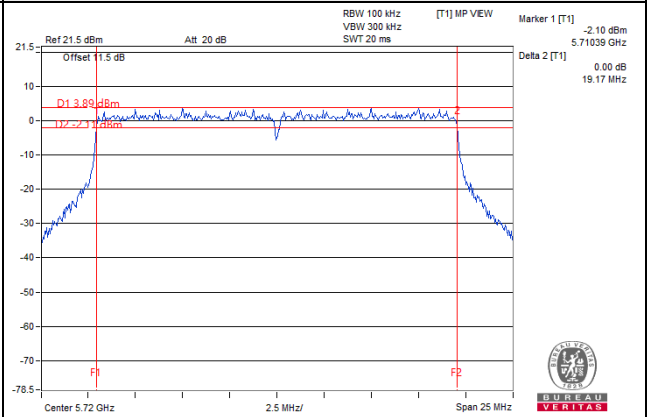
For CH138 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

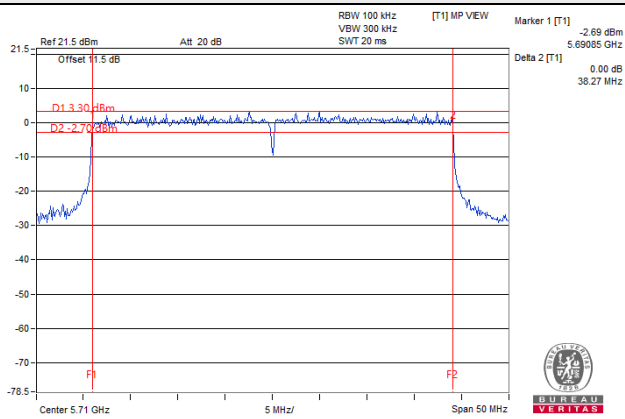
802.11a



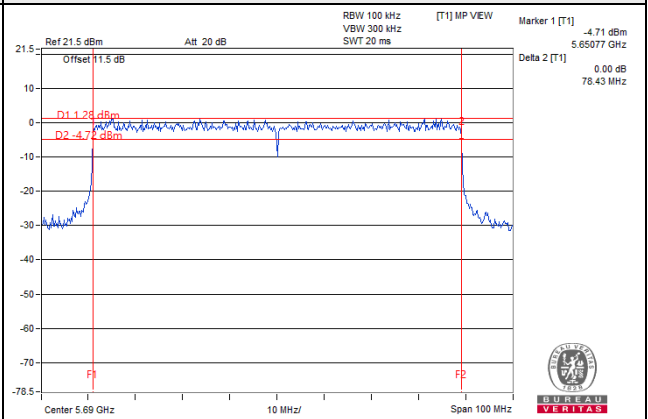
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)

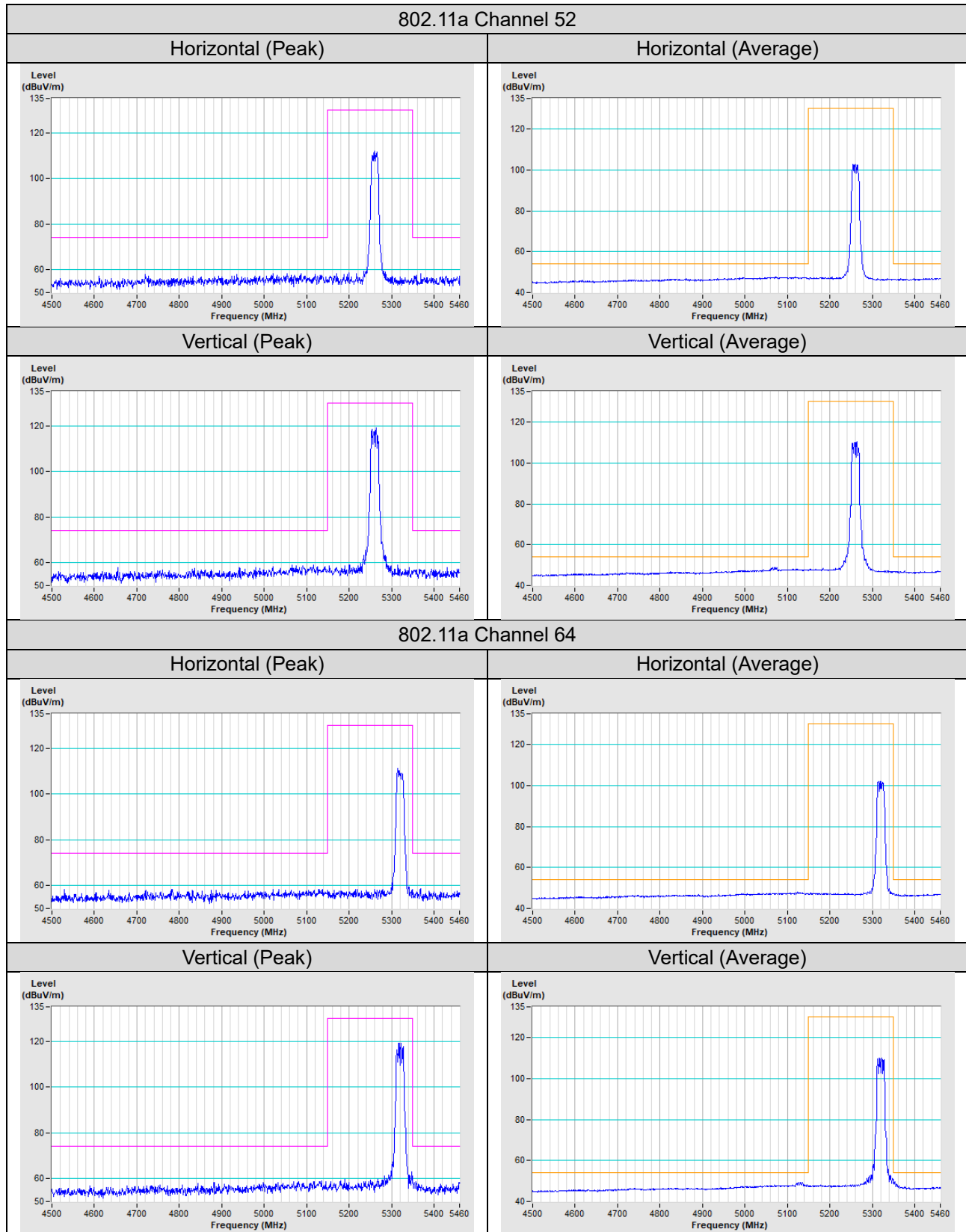


5 Pictures of Test Arrangements

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

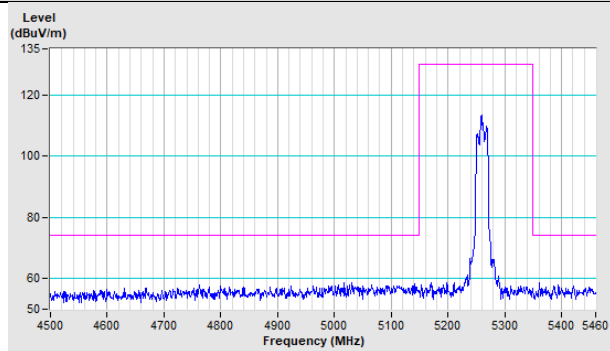
Annex A - Band Edge Measurement

2TX

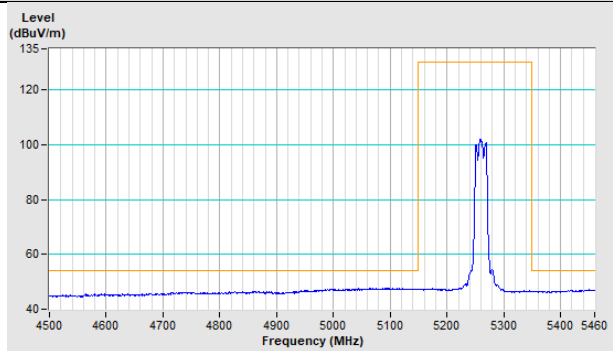


802.11ax (HE20) Channel 52

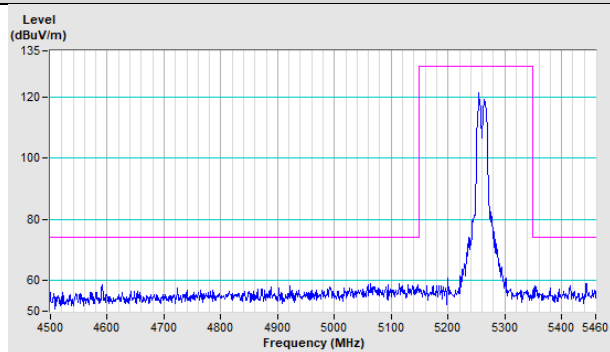
Horizontal (Peak)



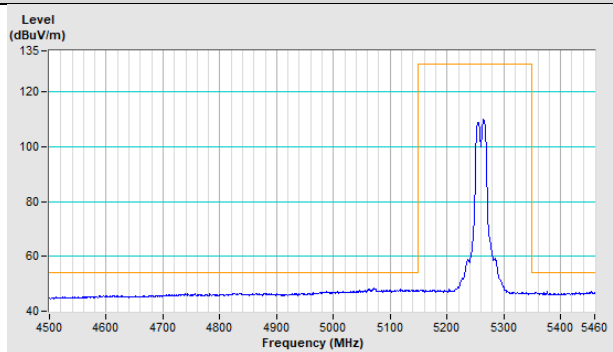
Horizontal (Average)



Vertical (Peak)

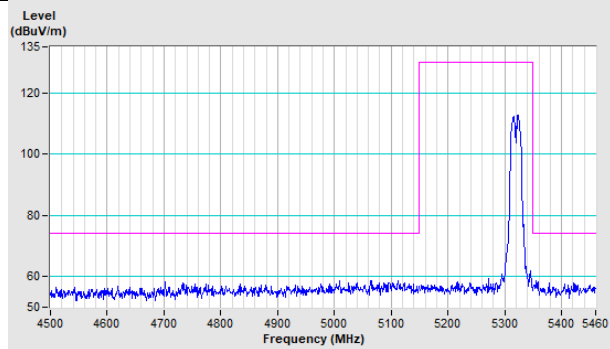


Vertical (Average)

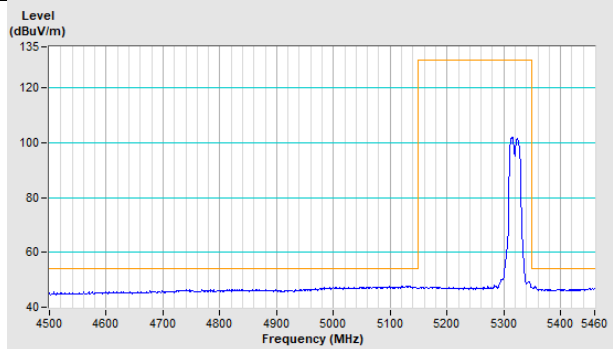


802.11ax (HE20) Channel 64

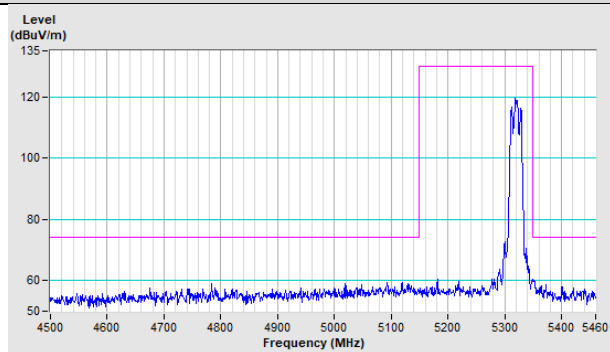
Horizontal (Peak)



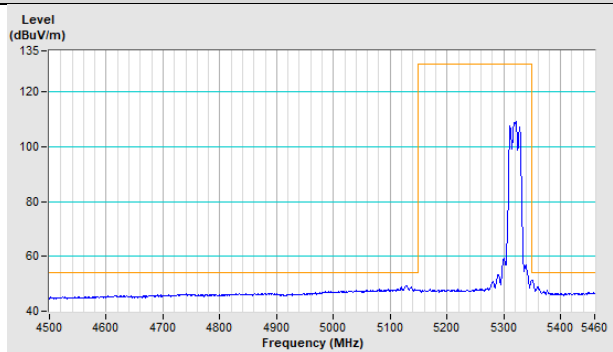
Horizontal (Average)



Vertical (Peak)

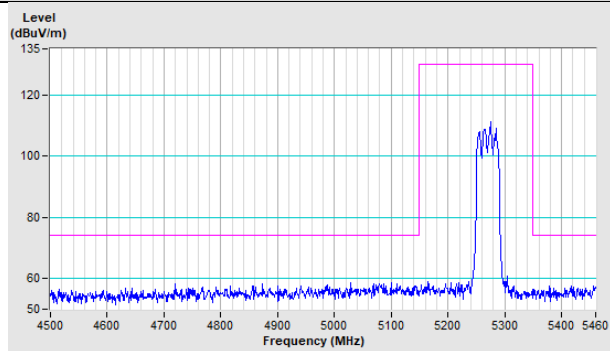


Vertical (Average)

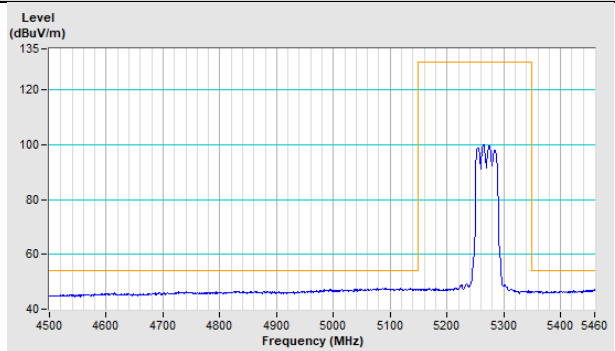


802.11ax (HE40) Channel 54

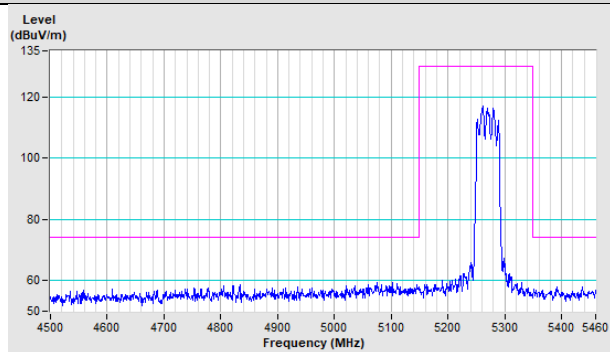
Horizontal (Peak)



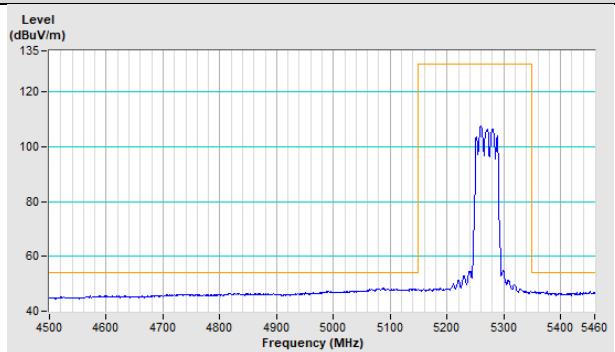
Horizontal (Average)



Vertical (Peak)

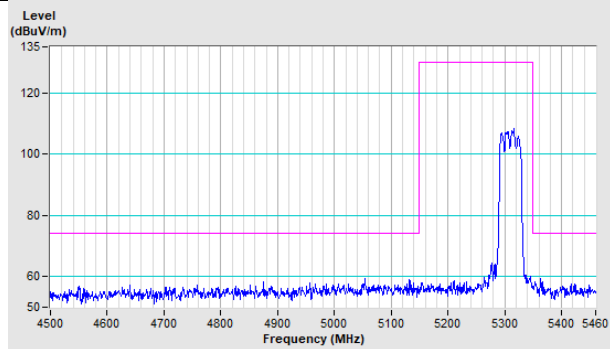


Vertical (Average)

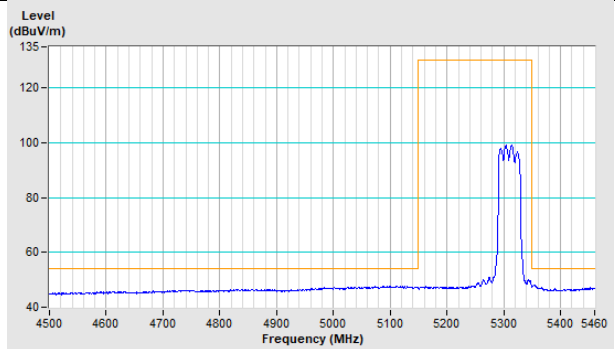


802.11ax (HE40) Channel 62

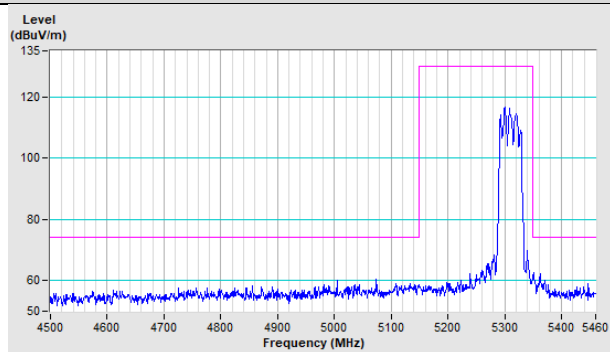
Horizontal (Peak)



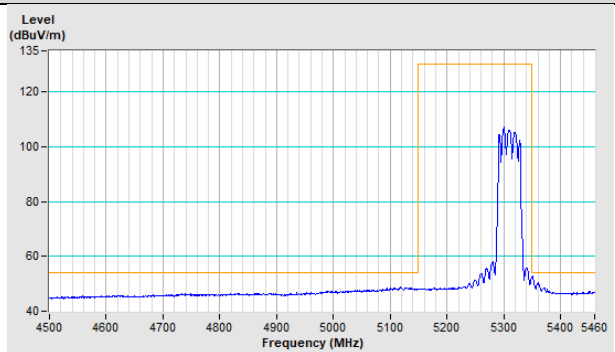
Horizontal (Average)



Vertical (Peak)

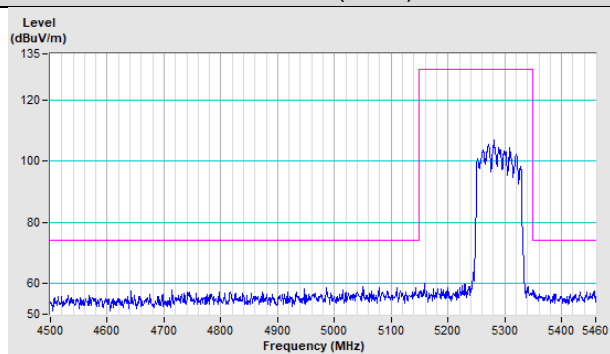


Vertical (Average)

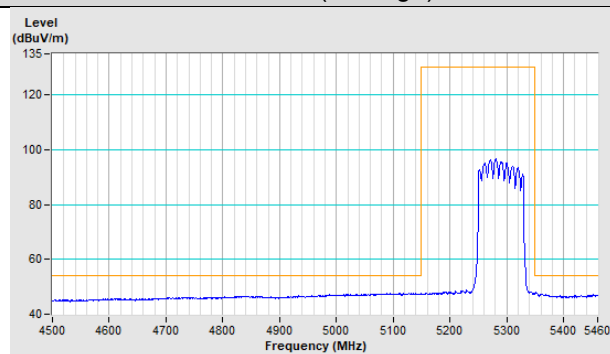


802.11ax (HE80) Channel 58

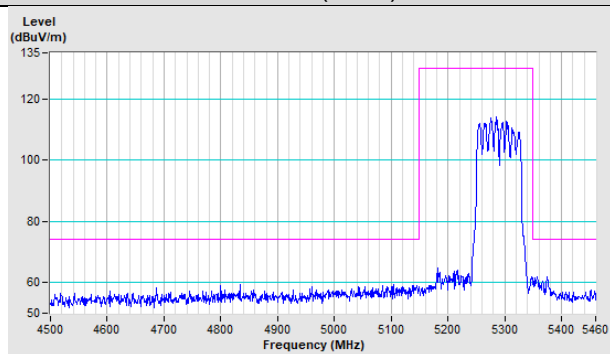
Horizontal (Peak)



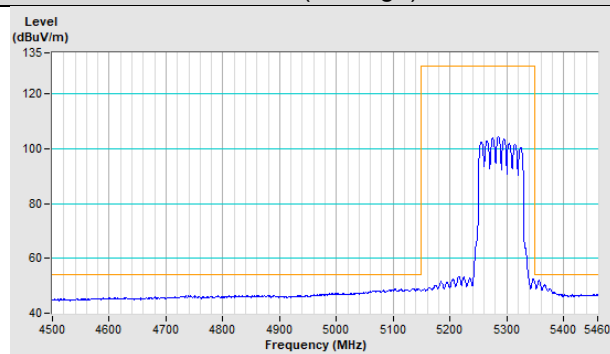
Horizontal (Average)



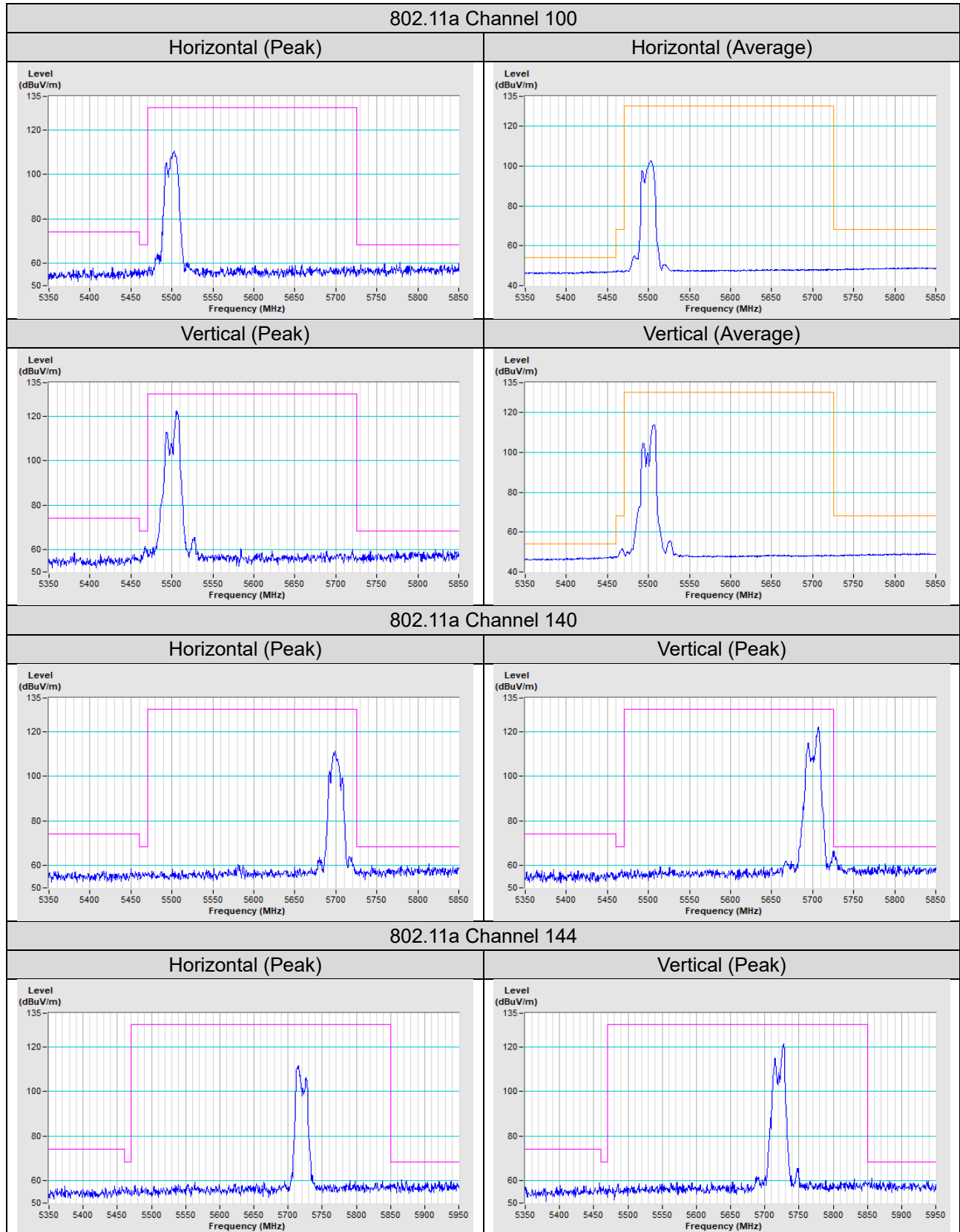
Vertical (Peak)



Vertical (Average)

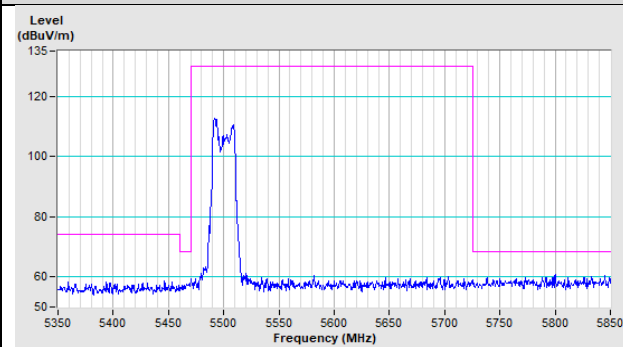


4TX

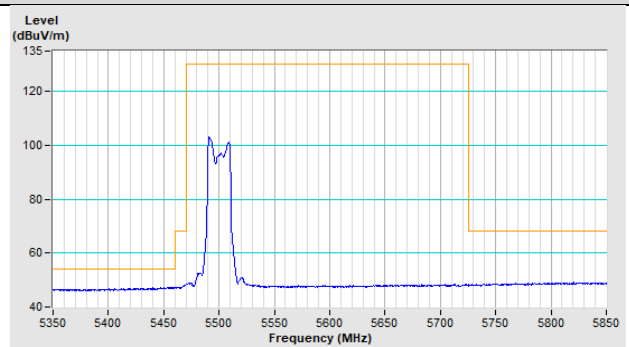


802.11ax (HE20) Channel 100

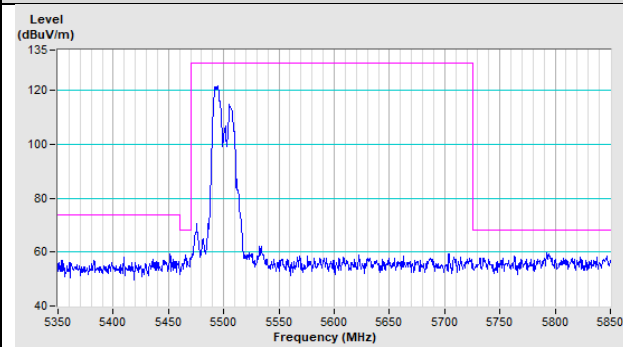
Horizontal (Peak)



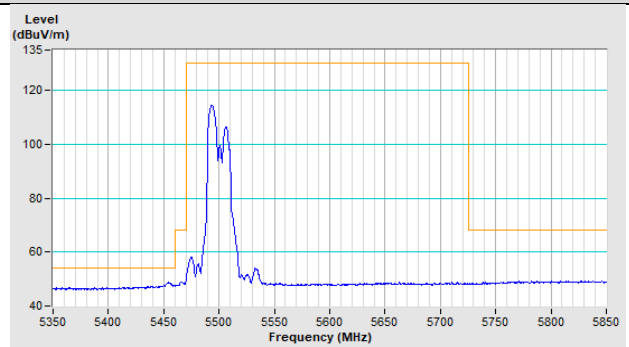
Horizontal (Average)



Vertical (Peak)

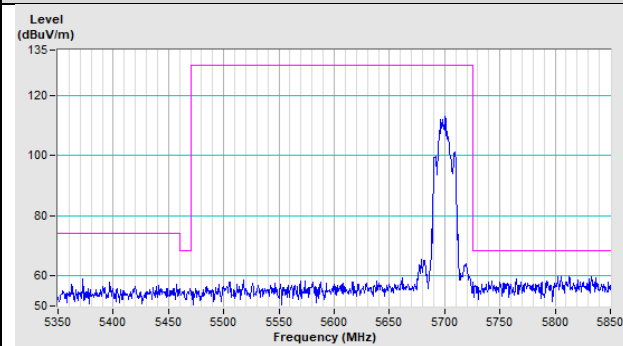


Vertical (Average)

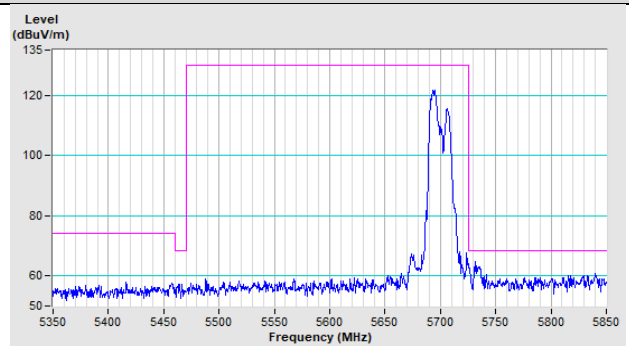


802.11ax (HE20) Channel 140

Horizontal (Peak)

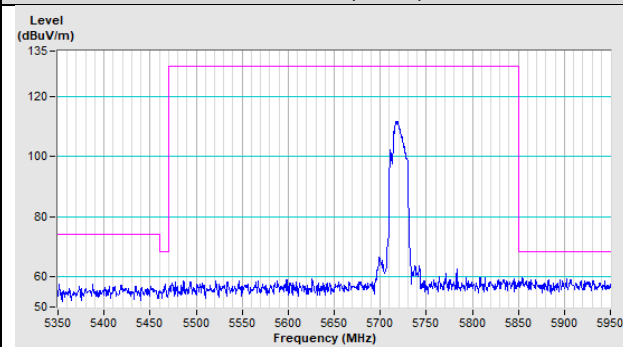


Vertical (Peak)

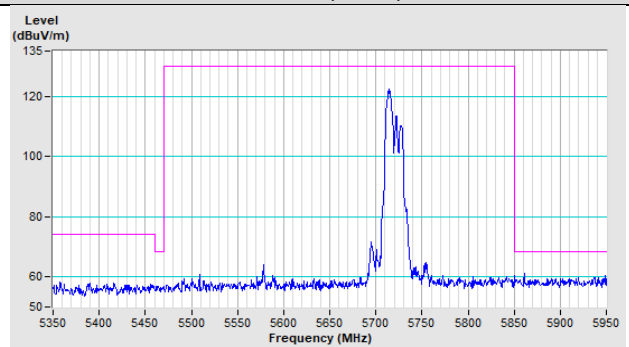


802.11ax (HE20) Channel 144

Horizontal (Peak)

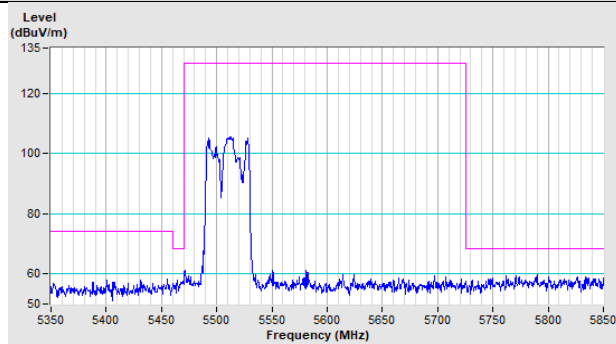


Vertical (Peak)

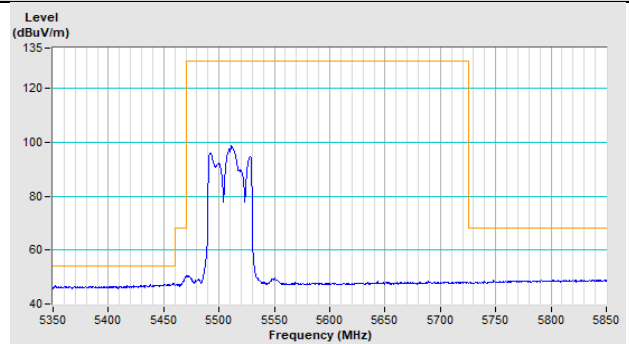


802.11ax (HE40) Channel 102

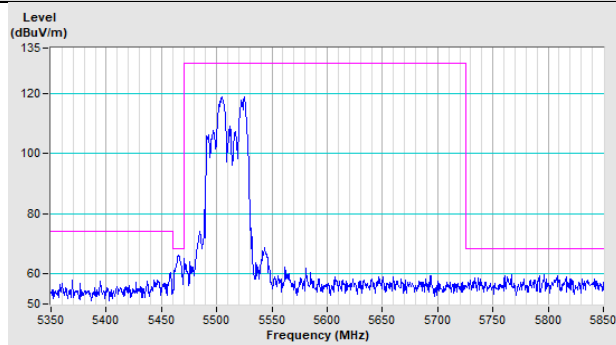
Horizontal (Peak)



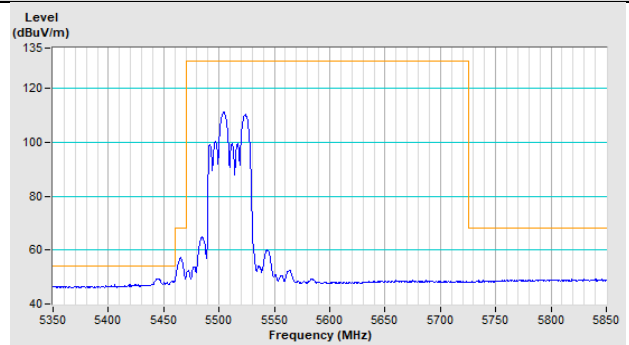
Horizontal (Average)



Vertical (Peak)

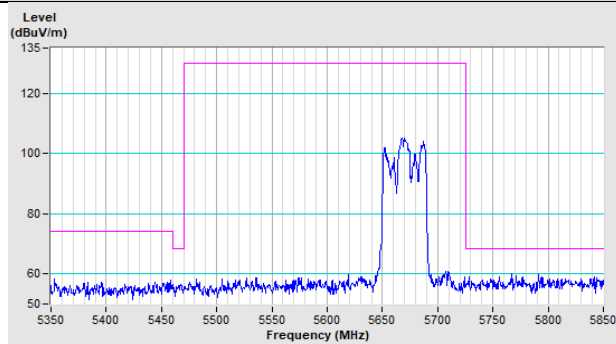


Vertical (Average)

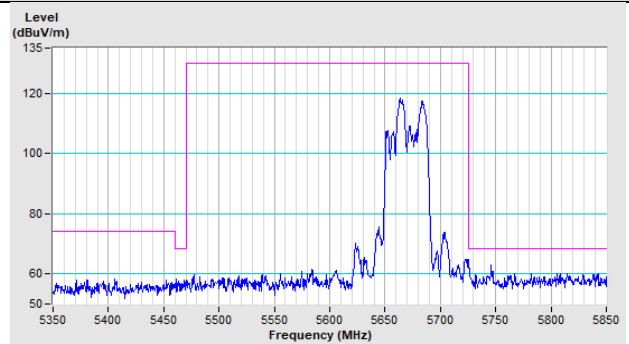


802.11ax (HE40) Channel 134

Horizontal (Peak)

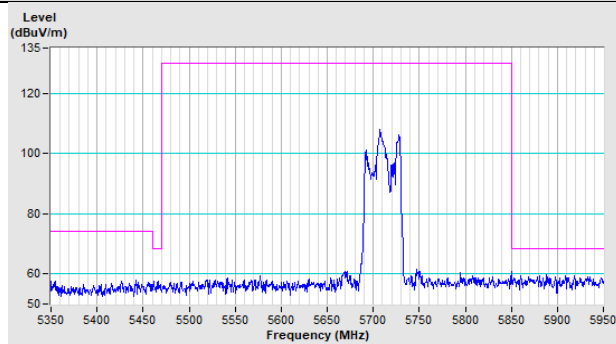


Vertical (Peak)

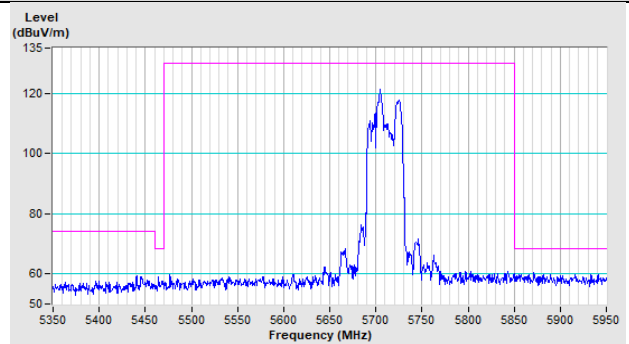


802.11ax (HE40) Channel 142

Horizontal (Peak)

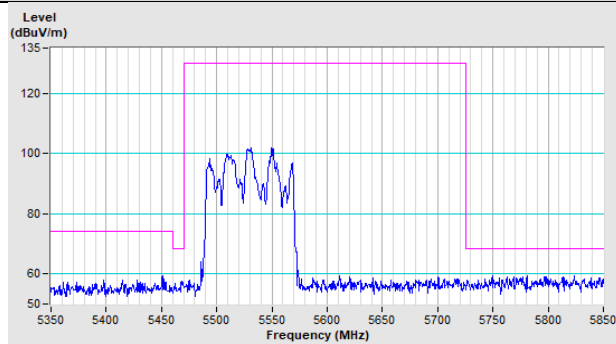


Vertical (Peak)

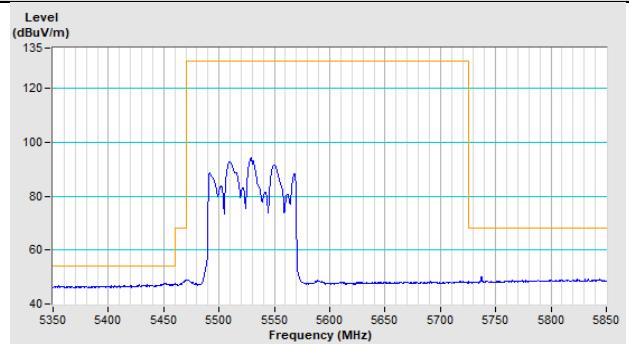


802.11ax (HE80) Channel 106

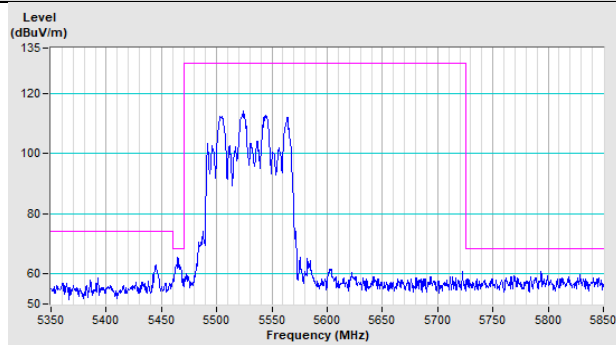
Horizontal (Peak)



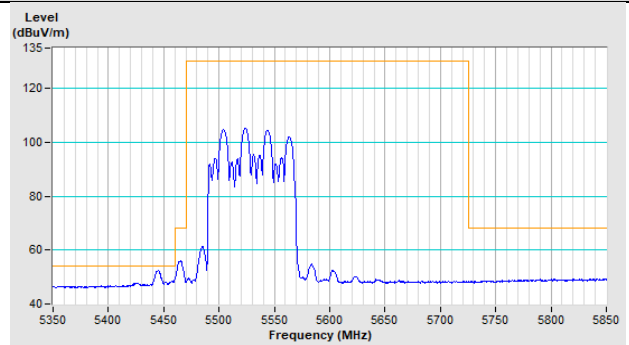
Horizontal (Average)



Vertical (Peak)

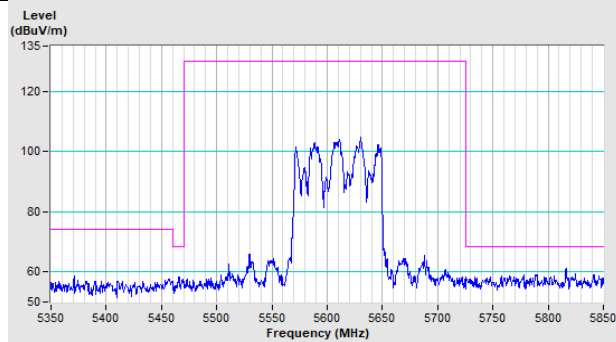


Vertical (Average)

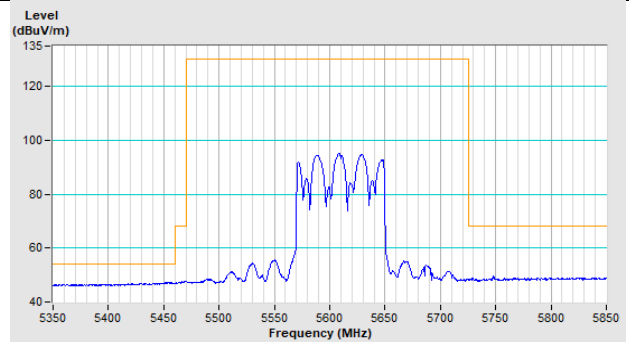


802.11ax (HE80) Channel 122

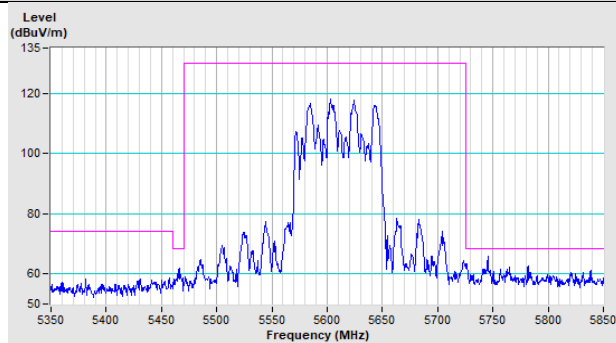
Horizontal (Peak)



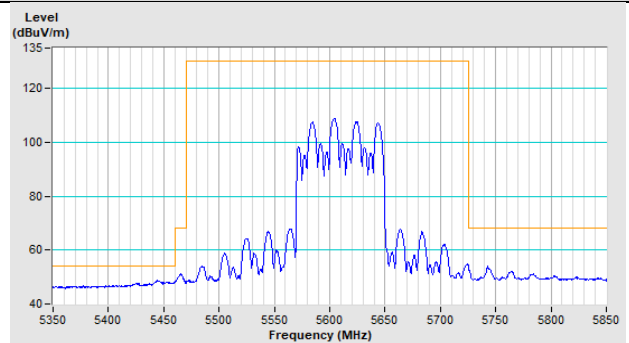
Horizontal (Average)



Vertical (Peak)

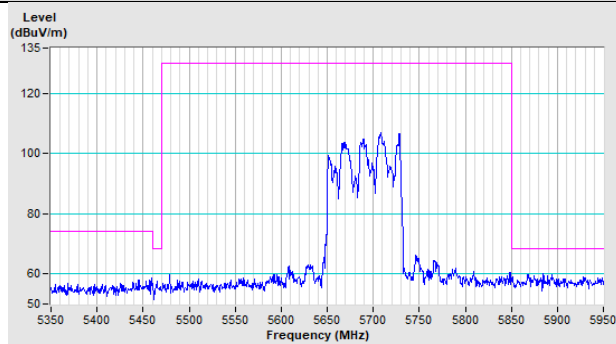


Vertical (Average)

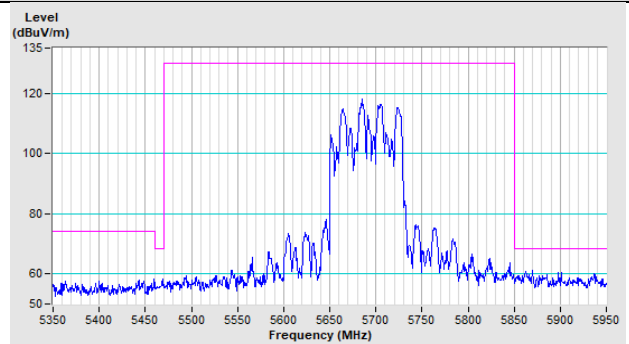


802.11ax (HE80) Channel 138

Horizontal (Peak)

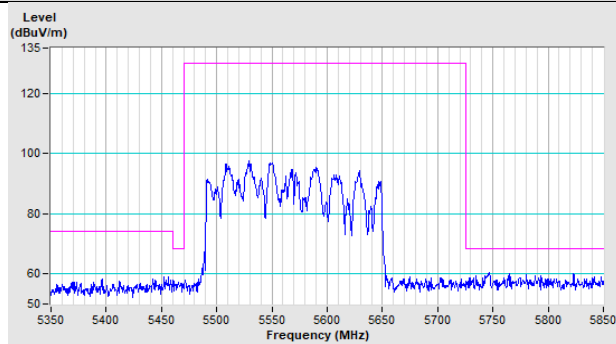


Vertical (Peak)

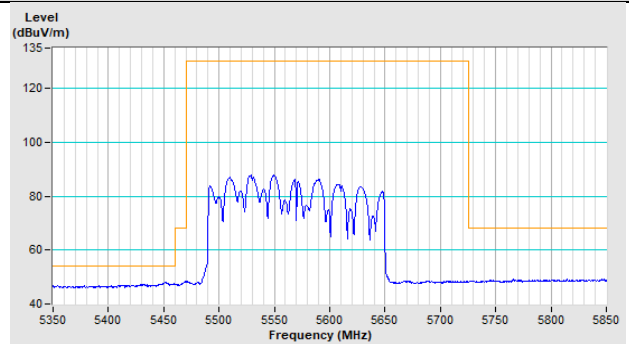


802.11ax (HE160) Channel 114

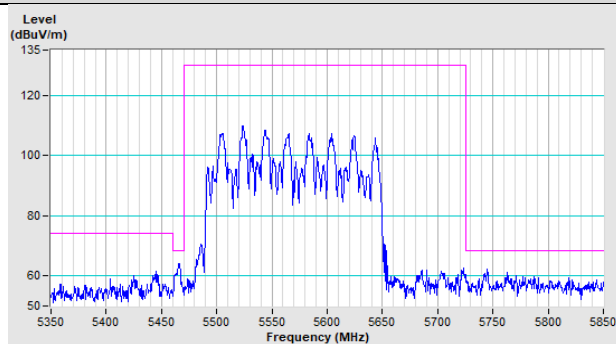
Horizontal (Peak)



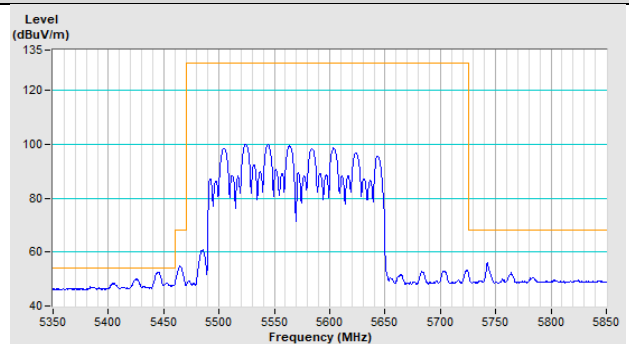
Horizontal (Average)



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.

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

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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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