

## FCC Test Report (DFS Band)

**Report No.:** RFBFBE-WTW-P21010850-3

**FCC ID:** 2ABLK-GS4227

**Test Model:** u6x GS4227

**Received Date:** Jan. 28, 2021

**Test Date:** Jan. 28 to Mar. 29, 2021

**Issued Date:** July 02, 2021

**Applicant:** Calix Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**FCC Registration /  
Designation Number:** 723255 / TW2022 for Test Location



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### Release Control Record

Issue No.	Description	Date Issued
RFBFBE-WTW-P21010850-3	Original release.	July 02, 2021

## 1 Certificate of Conformity

**Product:** GigaSpire BLAST

**Brand:** Calix

**Test Model:** u6x GS4227

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Calix Inc.

**Test Date:** Jan. 28 to Mar. 29, 2021

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)  
ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** Vivian Huang , **Date:** July 02, 2021  
Vivian Huang / Specialist

**Approved by :** Clark Lin , **Date:** July 02, 2021  
Clark Lin / Technical Manager

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -13.69 dB at 0.15000 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.1 dB at 5465.34 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

- For U-NII-2A and 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) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Conducted emissions	-	2.5 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT (DFS Band)

Product	GigaSpire BLAST
Brand	Calix
Test Model	u6x GS4227
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12 Vdc from power adapter,
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 600 Mbps 802.11ac: up to 1733.3 Mbps 802.11ax: up to 2401.9 Mbps
Operating Frequency	5.26 ~ 5.32 GHz, 5.50 ~ 5.72 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 16 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 8 802.11ac (VHT80), 802.11ax (HE80): 4 802.11ac (VHT80+80), 802.11ax (HE80+80): 2 sets
Output Power	<b>CDD Mode:</b> <b>5.26 ~ 5.32 GHz:</b> 239.992 mW <b>5.5 ~ 5.72 GHz:</b> 244.127 mW <b>Beamforming Mode:</b> <b>5.26 ~ 5.32 GHz:</b> 227.845 mW <b>5.5 ~ 5.72 GHz:</b> 244.127 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	NA

Note:

- This report is prepared for FCC class II change. The difference compared with the Report No.: RFBFBE-WTW-P21010850-1 as the following:
  - ◆ Add DFS band <5250~5350 MHz & 5470~5725 MHz> by software.
  - ◆ Enabling 80+80 MHz mode (Channel 42+58, 106+122).
- According to above conditions, for DFS band all of test items need to be performed and all data was verified to meet the requirements.
- Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (5GHz)

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

- The EUT could be supplied with power adapter as the following table:

Brand	Model No.	Spec.
AMIGO	AMS157-1203000FU	Input: 100-240V, 50/60Hz, 1A Output: 12Vdc, 3.0A DC output cable: Unshielded, 1.5m

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

Antenna NO.	RF Chain NO.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type	Cable Length (mm)
DB1	2.4G: Chain 1	HONGBO	290-11015	3.64	2.4~2.4835GHz	Dipole	i-pex(MHF)	110
	5G: Chain 3			4.55	5.15~5.85GHz			
DB2	2.4G: Chain 0	HONGBO	290-11016	3.91	2.4~2.4835GHz	Dipole	i-pex(MHF)	110
	5G: Chain 2			5.94	5.15~5.85GHz			
5G1	Chain 0	HONGBO	290-11013	4.57	5.15~5.85GHz	Dipole	i-pex(MHF)	90
5G2	Chain 1	HONGBO	290-11014	4.68	5.15~5.85GHz	Dipole	i-pex(MHF)	90

Note:

- Antenna Gain refer to "P21010850 Multi-Antenna Systems Directional Gain measurement" files.
- Maximum Correlated Directional Gain following KDB662911 D03 MIMO Antenna Gain Measurement.

- The EUT was pre-tested under the following modes:

Test Mode	Description
Mode A	Adapter - AMS157-1203000FU
Mode B	UPS
<b>Mode C</b>	<b>Adapter - AMS157-1203000FU + UPS</b>
Mode D	UPS Battery mode

Note: From the above modes, radiated emission the worst case was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.



7. The EUT was Conducted Emission pre-tested under the following modes:

Test Mode	Description
Mode A	Adapter - AMS157-1203000FU
Mode B	UPS
<b>Mode C</b>	<b>Adapter - AMS157-1203000FU + UPS</b>

Note: From the above modes, Conducted Emission the worst case was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.

8. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	4TX	4RX
802.11n (HT20)	4TX	4RX
802.11n (HT40)	4TX	4RX
802.11ac (VHT20)	4TX	4RX
802.11ac (VHT40)	4TX	4RX
802.11ac (VHT80)	4TX	4RX
802.11ac (VHT80+80)	2TX+2TX	2RX+2RX
802.11ax (HE20)	4TX	4RX
802.11ax (HE40)	4TX	4RX
802.11ax (HE80)	4TX	4RX
802.11ax (HE80+80)	2TX+2TX	2RX+2RX

Note:

1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and Non-Beamforming mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz, 80+80MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz, 80+80MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax mode or more lower than it and investigated worst case to representative mode in test report.

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

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

### 3.2 Description of Test Modes

#### FOR 5250 ~ 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	5290 MHz

#### 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	138	5690 MHz
122	5610 MHz		

#### For simultaneous transmission:

1 set is provided for 802.11ac (VHT80+80), 802.11ax (HE80+80):

Channel	Frequency	Channel	Frequency
42+58	5210 MHz + 5290 MHz	106+122	5530 MHz + 5610 MHz

### 3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

#### **Radiated Emission Test (Above 1GHz):**

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE80+80)		42+58	42+58	OFDMA	BPSK	MCS0
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6Mb/s
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE80+80)		106+122	106+122	OFDMA	BPSK	MCS0

#### **Radiated Emission Test (Below 1GHz):**

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5250-5320 5500-5720	52 to 64 100 to 144	52	OFDM	BPSK	6Mb/s

#### **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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5250-5320 5500-5720	52 to 64 100 to 144	52	OFDM	BPSK	6Mb/s

### Antenna Port Conducted Measurement:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (Output power only)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT80+80) (Output power only)		42+58	42+58	OFDMA	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE80+80)		42+58	42+58	OFDMA	BPSK	MCS0
802.11a		5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK
802.11ac (VHT20) (Output power only)	100 to 144		100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40) (Output power only)	102 to 142		102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80) (Output power only)	106 to 138		106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT80+80) (Output power only)	106+122		106+122	OFDMA	BPSK	MCS0
802.11ax (HE20)	100 to 144		100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)	102 to 142		102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)	106 to 138		106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE80+80)	106+122		106+122	OFDMA	BPSK	MCS0

Beamforming Mode (output power only)						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11ac (VHT20)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	MCS0
802.11ac (VHT80)		58	58	OFDM	BPSK	MCS0
802.11ac (VHT80+80)		42+58	42+58	OFDM	BPSK	MCS0
802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	BPSK	MCS0
802.11ax (HE40)		54 to 62	54, 62	OFDMA	BPSK	MCS0
802.11ax (HE80)		58	58	OFDMA	BPSK	MCS0
802.11ax (HE80+80)		42+58	42+58	OFDM	BPSK	MCS0
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	MCS0
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	MCS0
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	MCS0
802.11ac (VHT80+80)		106+122	106+122	OFDMA	BPSK	MCS0
802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	BPSK	MCS0
802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	BPSK	MCS0
802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	BPSK	MCS0
802.11ax (HE80+80)		106+122	106+122	OFDMA	BPSK	MCS0

#### Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE $\geq$ 1G	25deg. C, 66%RH	120Vac, 60Hz	Gary Cheng
RE $<$ 1G	24deg. C, 66%RH	120Vac, 60Hz	Tom Yang
PLC	24deg. C, 66%RH	120Vac, 60Hz	Tom Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

### 3.3 Duty Cycle of Test Signal

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

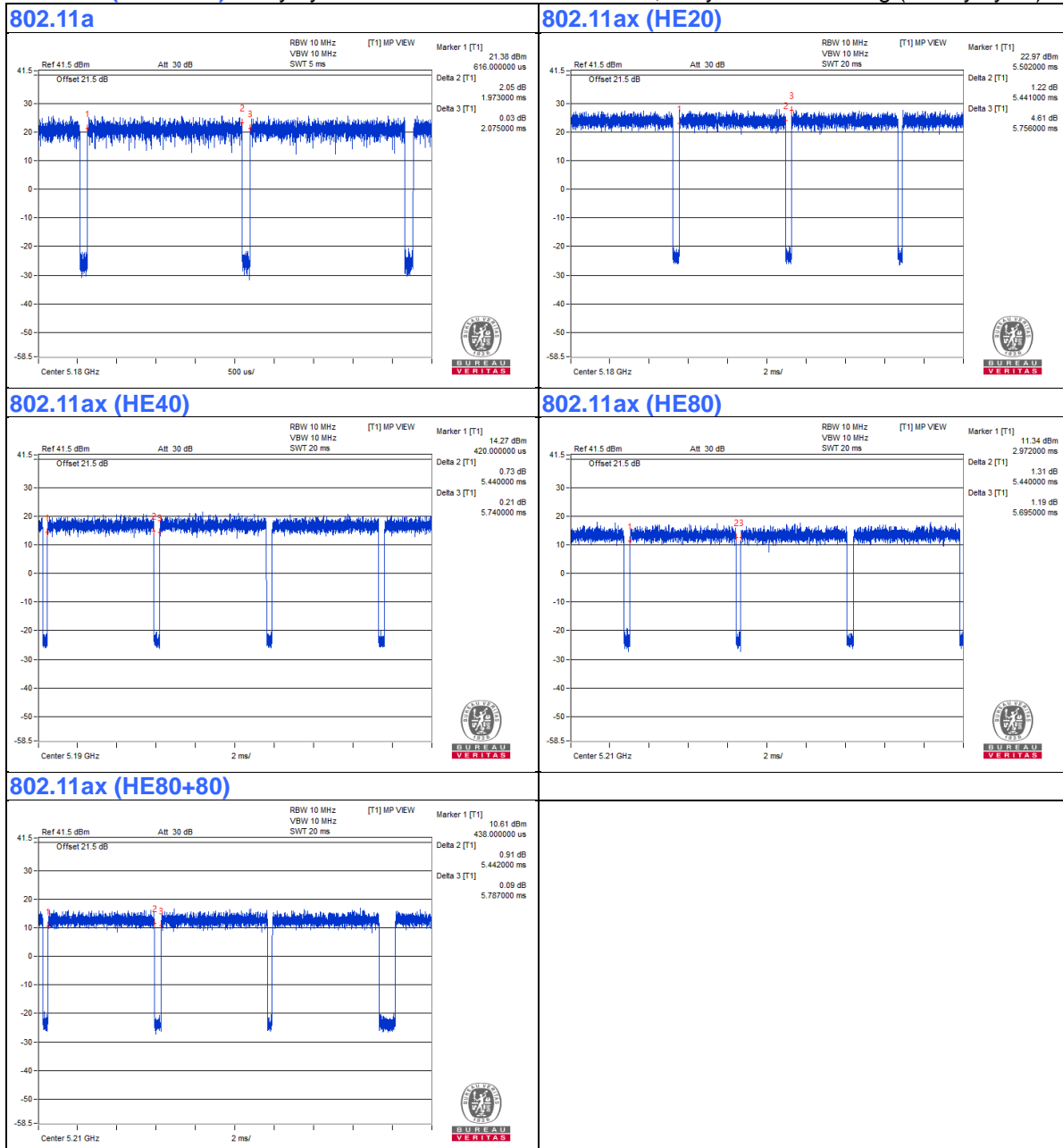
**802.11a:** Duty cycle = 1.973 ms/2.075 ms = 0.951, Duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.22 \text{ dB}$

**802.11ax (HE20):** Duty cycle = 5.441 ms/5.756 ms = 0.945, Duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.24 \text{ dB}$

**802.11ax (HE40):** Duty cycle = 5.44 ms/5.74 ms = 0.948, Duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.23 \text{ dB}$

**802.11ax (HE80):** Duty cycle = 5.44 ms/5.695 ms = 0.955, Duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.20 \text{ dB}$

**802.11ax (HE80+80):** Duty cycle = 5.442 ms/5.787 ms = 0.94, Duty factor =  $10 * \log (1/\text{Duty cycle}) = 0.27 \text{ dB}$



### 3.4 Description of Support Units

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

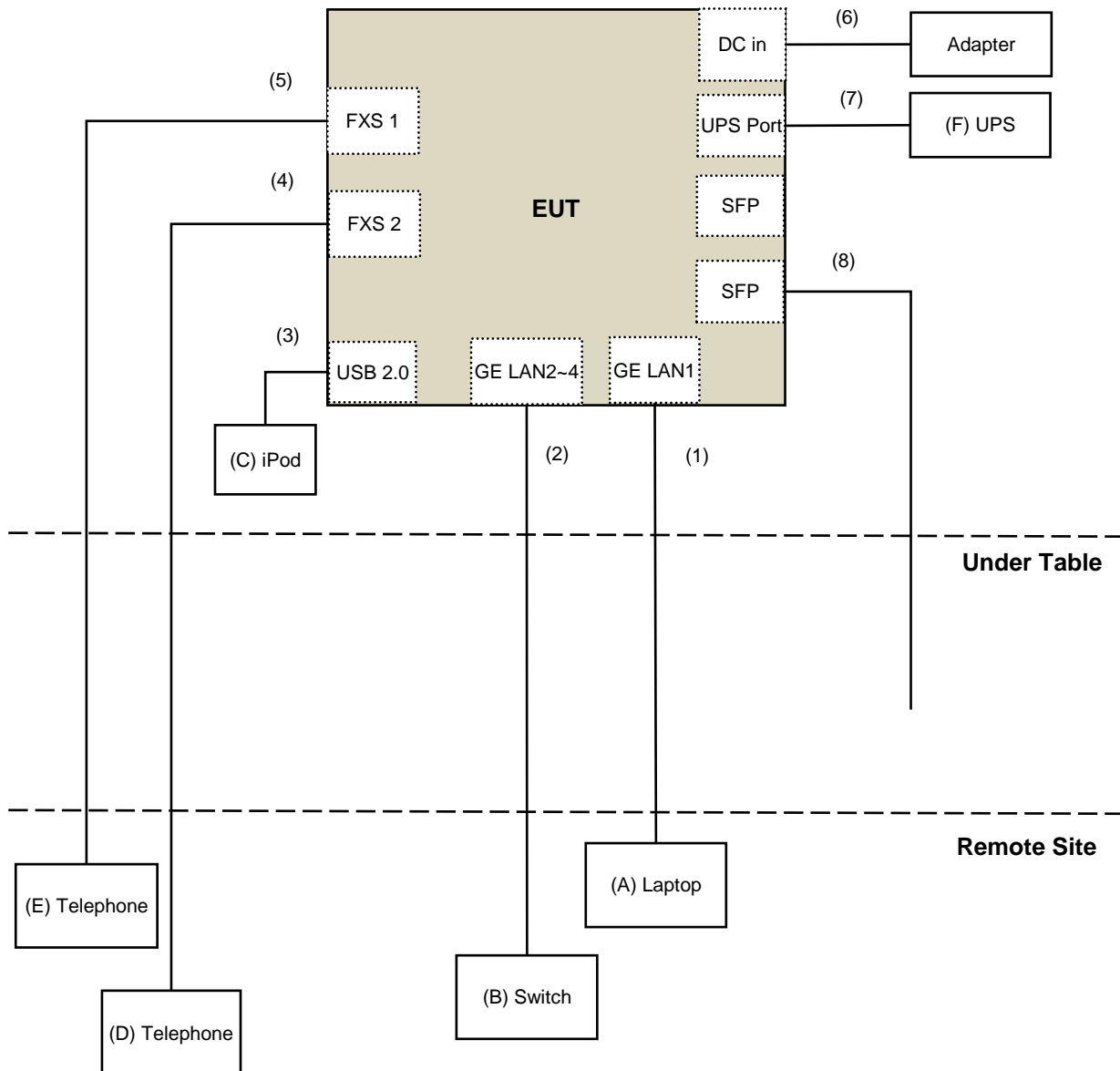
ID	Product	Brand	Model No.	Serial No	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	DoC	Provided by Lab
B.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab
C.	iPod	Apple	MC749TA/A	CC4DMFJUDFDM	NA	Provided by Lab
D.	Telephone	DAISHO	DS-03	N/A	NA	Provided by Lab
E.	Telephone	Romeo	TE-812	97280903	NA	Provided by Lab
F.	UPS	CyberPower	DTC36U12V3-G	NA	NA	Supplied by client

Note:

1. All power cords of the above support units are non-shielded (1.5m).

ID	Descriptions (Cables)	Qty	Length (m)	Shielding (Yes/No)	Cores (Number)	Remarks
1	RJ-45 Cable	1	10	No	0	Provided by Lab
2	RJ-45 Cable	3	10	No	0	Provided by Lab
3	USB Cable	1	0.1	Yes	0	Provided by Lab
4	RJ-11 Cable	1	10	No	0	Provided by Lab
5	RJ-11 Cable	1	10	No	0	Provided by Lab
6	DC Cable	1	1.5	No	0	Supplied by client
7	UPS Cable	1	1	No	0	Supplied by client
8	Fiber Cable	1	3	No	0	Supplied by client

### 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:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 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) <sup>*1</sup> PK: 10 (dBm/MHz) <sup>*2</sup> PK: 15.6 (dBm/MHz) <sup>*3</sup> PK: 27 (dBm/MHz) <sup>*4</sup>	PK: 68.2(dBuV/m) <sup>*1</sup> PK: 105.2 (dBuV/m) <sup>*2</sup> PK: 110.8(dBuV/m) <sup>*3</sup> PK: 122.2 (dBuV/m) <sup>*4</sup>
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) <sup>*1</sup> PK:10 (dBm/MHz) <sup>*2</sup> PK:15.6 (dBm/MHz) <sup>*3</sup> PK:27 (dBm/MHz) <sup>*4</sup>	PK: 68.2(dBuV/m) <sup>*1</sup> PK:105.2 (dBuV/m) <sup>*2</sup> PK: 110.8(dBuV/m) <sup>*3</sup> PK:122.2 (dBuV/m) <sup>*4</sup>
<sup>*1</sup> beyond 75 MHz or more above of the band edge. <sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		<sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. <sup>*4</sup> 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

## For radiated emission test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 10, 2021	Mar. 09, 2022
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-4-1	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-2	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-3	Mar. 17, 2021	Mar. 16, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Mar. 19, 2021

**BandEdge & OOB test:**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 11, 2020	Mar. 10, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-6-1	Apr. 04, 2020	Apr. 03, 2021
RF Cable	8D	966-4-2	Mar. 18, 2020	Mar. 17, 2021
RF Cable	8D	966-4-3	Mar. 18, 2020	Mar. 17, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 08, 2020	Apr. 07, 2021
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-6000	180418	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Jan. 28 to Feb. 10, 2021

**For other test items:**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
AC Power Source Extech Electronics	6905S	1991551	NA	NA
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 14, 2021	Jan. 13, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 06, 2020	June 05, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. Tested Date: Mar. 29, 2021

#### 4.1.3 Test Procedure

##### **For Radiated emission below 30MHz**

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

##### **Note:**

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

##### **For Radiated emission above 30MHz**

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

##### **Note:**

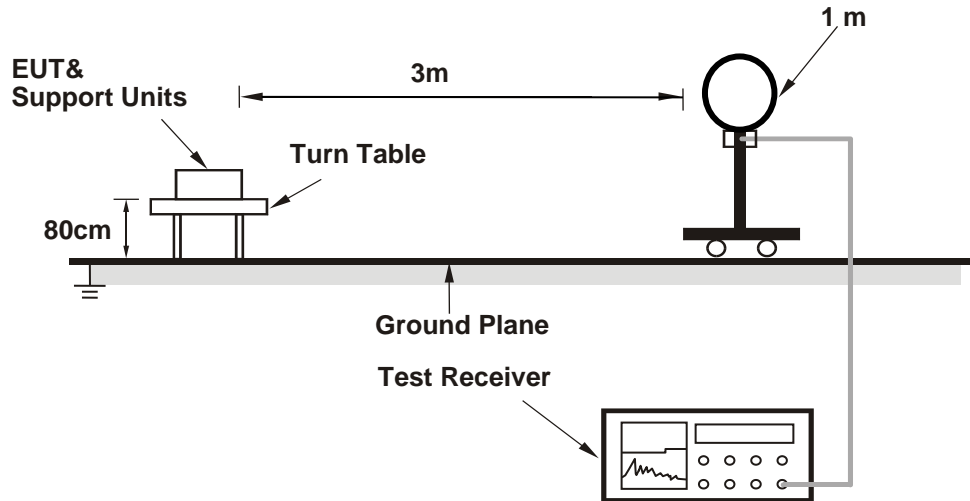
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

#### 4.1.4 Deviation from Test Standard

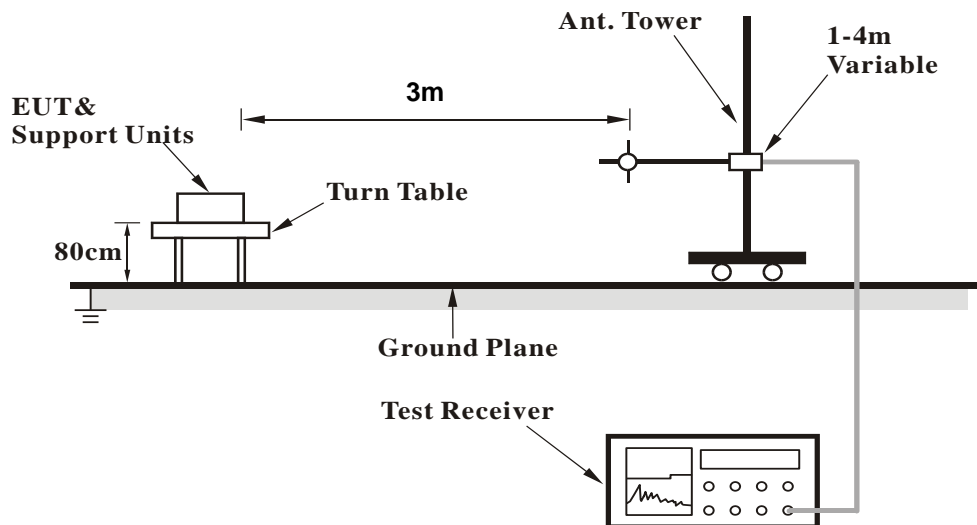
No deviation.

#### 4.1.5 Test Setup

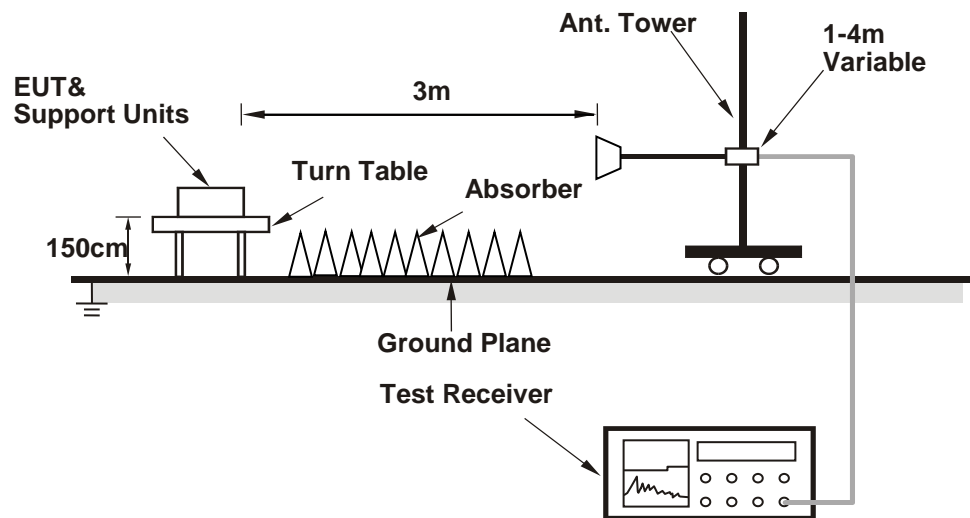
##### For Radiated emission below 30MHz



##### For Radiated emission 30MHz to 1GHz



### For Radiated emission above 1GHz



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

#### 4.1.6 EUT Operating Condition

- Connected the EUT with the Laptop which is placed on remote site.
- Controlling software (qdart\_conn.win.1.0\_installer\_00076.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.



#### 4.1.7 Test Results

##### Above 1GHz Data:

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	4531.35	49.4 PK	74.0	-24.6	1.51 H	141	50.0	-0.6
2	4531.35	41.3 AV	54.0	-12.7	1.51 H	141	41.9	-0.6
3	*5260.00	118.4 PK			1.51 H	141	117.7	0.7
4	*5260.00	109.6 AV			1.51 H	141	108.9	0.7
5	5362.78	50.1 PK	74.0	-23.9	1.51 H	141	49.2	0.9
6	5362.78	39.8 AV	54.0	-14.2	1.51 H	141	38.9	0.9
7	#10520.00	60.5 PK	68.2	-7.7	2.20 H	274	50.1	10.4
8	15780.00	53.7 PK	74.0	-20.3	1.51 H	221	42.6	11.1
9	15780.00	41.3 AV	54.0	-12.7	1.51 H	221	30.2	11.1

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	5066.90	57.0 PK	74.0	-17.0	1.52 V	74	55.9	1.1
2	5066.90	47.9 AV	54.0	-6.1	1.52 V	74	46.8	1.1
3	*5260.00	124.3 PK			1.52 V	74	123.6	0.7
4	*5260.00	117.0 AV			1.52 V	74	116.3	0.7
5	5356.63	55.9 PK	74.0	-18.1	1.52 V	74	55.0	0.9
6	5356.63	47.9 AV	54.0	-6.1	1.52 V	74	47.0	0.9
7	#10520.00	54.3 PK	68.2	-13.9	2.45 V	310	43.9	10.4
8	15780.00	60.0 PK	74.0	-14.0	1.28 V	132	48.9	11.1
9	15780.00	44.5 AV	54.0	-9.5	1.28 V	132	33.4	11.1

##### 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.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 60 : 5300 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5110.46	51.6 PK	74.0	-22.4	1.46 H	140	50.4	1.2
2	5110.46	42.3 AV	54.0	-11.7	1.46 H	140	41.1	1.2
3	*5300.00	117.5 PK			1.46 H	130	116.8	0.7
4	*5300.00	110.4 AV			1.46 H	130	109.7	0.7
5	5350.00	57.5 PK	74.0	-16.5	1.46 H	140	56.7	0.8
6	5350.00	45.1 AV	54.0	-8.9	1.46 H	140	44.3	0.8
7	10600.00	60.7 PK	74.0	-13.3	2.43 H	275	50.2	10.5
8	10600.00	49.6 AV	54.0	-4.4	2.43 H	275	39.1	10.5
9	15900.00	58.3 PK	74.0	-15.7	1.88 H	302	46.5	11.8
10	15900.00	45.6 AV	54.0	-8.4	1.88 H	302	33.8	11.8
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	5110.46	57.2 PK	74.0	-16.8	1.55 V	81	56.0	1.2
2	5110.46	47.2 AV	54.0	-6.8	1.55 V	81	46.0	1.2
3	*5300.00	123.7 PK			1.55 V	81	123.0	0.7
4	*5300.00	116.8 AV			1.55 V	81	116.1	0.7
5	5350.00	63.7 PK	74.0	-10.3	1.55 V	81	62.9	0.8
6	5350.00	51.2 AV	54.0	-2.8	1.55 V	81	50.4	0.8
7	10600.00	54.2 PK	74.0	-19.8	3.30 V	202	43.7	10.5
8	10600.00	42.9 AV	54.0	-11.1	3.30 V	202	32.4	10.5
9	15900.00	57.2 PK	74.0	-16.8	3.53 V	343	45.4	11.8
10	15900.00	45.5 AV	54.0	-8.5	3.53 V	343	33.7	11.8

**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.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 64 : 5320 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	4531.36	50.1 PK	74.0	-23.9	1.44 H	151	50.7	-0.6
2	4531.36	43.5 AV	54.0	-10.5	1.44 H	151	44.1	-0.6
3	*5320.00	115.6 PK			1.44 H	151	114.9	0.7
4	*5320.00	106.3 AV			1.44 H	151	105.6	0.7
5	5350.00	57.4 PK	74.0	-16.6	1.44 H	151	56.6	0.8
6	5350.00	45.3 AV	54.0	-8.7	1.44 H	151	44.5	0.8
7	10640.00	57.5 PK	74.0	-16.5	2.40 H	273	47.1	10.4
8	10640.00	47.6 AV	54.0	-6.4	2.40 H	273	37.2	10.4
9	15960.00	51.0 PK	74.0	-23.0	1.87 H	297	38.9	12.1
10	15960.00	39.6 AV	54.0	-14.4	1.87 H	297	27.5	12.1

**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	*5320.00	122.2 PK			1.60 V	76	121.5	0.7
2	*5320.00	114.9 AV			1.60 V	76	114.2	0.7
3	5355.91	63.1 PK	74.0	-10.9	1.60 V	76	62.2	0.9
4	5355.91	53.7 AV	54.0	-0.3	1.60 V	76	52.8	0.9
5	10640.00	46.5 PK	74.0	-27.5	2.53 V	308	36.1	10.4
6	10640.00	40.3 AV	54.0	-13.7	2.53 V	308	29.9	10.4
7	15960.00	57.9 PK	74.0	-16.1	1.26 V	126	45.8	12.1
8	15960.00	42.2 AV	54.0	-11.8	1.26 V	126	30.1	12.1

**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.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 100 : 5500 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5452.19	50.6 PK	74.0	-23.4	1.54 H	154	49.5	1.1
2	5452.19	39.6 AV	54.0	-14.4	1.54 H	154	38.5	1.1
3	#5470.00	59.0 PK	68.2	-9.2	1.54 H	154	57.9	1.1
4	*5500.00	114.5 PK			1.54 H	154	113.4	1.1
5	*5500.00	105.9 AV			1.54 H	154	104.8	1.1
6	11000.00	47.8 PK	74.0	-26.2	2.40 H	296	36.4	11.4
7	11000.00	47.8 AV	54.0	-6.2	2.40 H	296	36.4	11.4
8	#16500.00	51.9 PK	68.2	-16.3	1.88 H	289	37.7	14.2

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	5405.71	57.0 PK	74.0	-17.0	1.52 V	100	56.0	1.0
2	5405.71	49.1 AV	54.0	-4.9	1.52 V	100	48.1	1.0
3	#5465.34	68.1 PK	68.2	-0.1	1.52 V	100	67.0	1.1
4	*5500.00	121.1 PK			1.52 V	100	120.0	1.1
5	*5500.00	113.2 AV			1.52 V	100	112.1	1.1
6	11000.00	46.3 PK	74.0	-27.7	2.50 V	282	34.9	11.4
7	11000.00	40.1 AV	54.0	-13.9	2.50 V	282	28.7	11.4
8	#16500.00	58.5 PK	68.2	-9.7	1.28 V	148	44.3	14.2

**Remarks:**

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

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 116 : 5580 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	117.1 PK			1.43 H	136	115.8	1.3
2	*5580.00	109.9 AV			1.43 H	136	108.6	1.3
3	11160.00	61.2 PK	74.0	-12.8	2.42 H	287	50.0	11.2
4	11160.00	49.9 AV	54.0	-4.1	2.42 H	287	38.7	11.2
5	#16740.00	58.2 PK	68.2	-10.0	1.87 H	292	42.9	15.3

**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	*5580.00	123.0 PK			1.53 V	170	121.7	1.3
2	*5580.00	116.4 AV			1.53 V	170	115.1	1.3
3	11160.00	54.2 PK	74.0	-19.8	2.45 V	302	43.0	11.2
4	11160.00	42.4 AV	54.0	-11.6	2.45 V	302	31.2	11.2
5	#16740.00	56.9 PK	68.2	-11.3	1.27 V	131	41.6	15.3

**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.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 140 : 5700 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	117.0 PK			3.97 H	134	115.5	1.5
2	*5700.00	108.7 AV			3.97 H	134	107.2	1.5
3	#5725.00	61.4 PK	68.2	-6.8	3.97 H	134	59.8	1.6
4	11400.00	57.5 PK	74.0	-16.5	2.43 H	272	45.3	12.2
5	11400.00	48.0 AV	54.0	-6.0	2.43 H	272	35.8	12.2
6	#17100.00	51.6 PK	68.2	-16.6	1.81 H	286	34.8	16.8

**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	*5700.00	119.5 PK			1.54 V	91	118.0	1.5
2	*5700.00	111.9 AV			1.54 V	91	110.4	1.5
3	#5725.00	67.7 PK	68.2	-0.5	1.54 V	91	66.1	1.6
4	11400.00	46.4 PK	74.0	-27.6	2.48 V	301	34.2	12.2
5	11400.00	39.9 AV	54.0	-14.1	2.48 V	301	27.7	12.2
6	#17100.00	58.9 PK	68.2	-9.3	1.31 V	147	42.1	16.8

**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.

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 144 : 5720 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	50.2 PK	74.0	-23.8	1.45 H	136	49.1	1.1
2	5460.00	40.5 AV	54.0	-13.5	1.45 H	136	39.4	1.1
3	#5470.00	56.4 PK	68.2	-11.8	1.45 H	136	55.3	1.1
4	*5720.00	117.5 PK			1.45 H	136	115.9	1.6
5	*5720.00	110.2 AV			1.45 H	136	108.6	1.6
6	#5850.00	54.2 PK	68.2	-14.0	1.45 H	136	52.3	1.9
7	11440.00	61.7 PK	74.0	-12.3	2.41 H	298	49.5	12.2
8	11440.00	50.2 AV	54.0	-3.8	2.41 H	298	38.0	12.2
9	#17160.00	58.1 PK	68.2	-10.1	1.88 H	296	41.7	16.4

**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	55.6 PK	74.0	-18.4	1.21 V	170	54.5	1.1
2	5460.00	45.4 AV	54.0	-8.6	1.21 V	170	44.3	1.1
3	#5470.00	62.4 PK	68.2	-5.8	1.21 V	170	61.3	1.1
4	*5720.00	122.9 PK			1.21 V	170	121.3	1.6
5	*5720.00	116.1 AV			1.21 V	170	114.5	1.6
6	#5850.00	60.3 PK	68.2	-7.9	1.21 V	170	58.4	1.9
7	11440.00	54.3 PK	74.0	-19.7	2.44 V	312	42.1	12.2
8	11440.00	42.6 AV	54.0	-11.4	2.44 V	312	30.4	12.2
9	#17160.00	57.4 PK	68.2	-10.8	1.35 V	142	41.0	16.4

**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.

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	4531.40	48.9 PK	74.0	-25.1	1.54 H	233	49.5	-0.6
2	4531.40	42.9 AV	54.0	-11.1	1.54 H	233	43.5	-0.6
3	*5260.00	119.7 PK			1.54 H	233	119.0	0.7
4	*5260.00	108.6 AV			1.54 H	233	107.9	0.7
5	5446.70	51.0 PK	74.0	-23.0	1.54 H	233	50.0	1.0
6	5446.70	41.2 AV	54.0	-12.8	1.54 H	233	40.2	1.0
7	#10520.00	58.8 PK	68.2	-9.4	2.49 H	269	48.4	10.4
8	15780.00	57.2 PK	74.0	-16.8	1.94 H	301	46.1	11.1
9	15780.00	44.4 AV	54.0	-9.6	1.94 H	301	33.3	11.1

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	5063.47	53.7 PK	74.0	-20.3	1.42 V	164	52.7	1.0
2	5063.47	43.9 AV	54.0	-10.1	1.42 V	164	42.9	1.0
3	*5260.00	124.1 PK			1.42 V	164	123.4	0.7
4	*5260.00	112.9 AV			1.42 V	164	112.2	0.7
5	5447.30	55.3 PK	74.0	-18.7	1.42 V	164	54.3	1.0
6	5447.30	43.9 AV	54.0	-10.1	1.42 V	164	42.9	1.0
7	#10520.00	53.8 PK	68.2	-14.4	2.53 V	308	43.4	10.4
8	15780.00	58.9 PK	74.0	-15.1	1.29 V	119	47.8	11.1
9	15780.00	44.2 AV	54.0	-9.8	1.29 V	119	33.1	11.1

**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.



<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 60 : 5300 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	119.8 PK			1.58 H	226	119.1	0.7
2	*5300.00	108.8 AV			1.58 H	226	108.1	0.7
3	5350.00	48.5 PK	74.0	-25.5	1.58 H	226	47.7	0.8
4	5350.00	42.5 AV	54.0	-11.5	1.58 H	226	41.7	0.8
5	10600.00	60.6 PK	74.0	-13.4	2.39 H	278	50.1	10.5
6	10600.00	49.5 AV	54.0	-4.5	2.39 H	278	39.0	10.5
7	15900.00	58.0 PK	74.0	-16.0	1.88 H	298	46.2	11.8
8	15900.00	45.6 AV	54.0	-8.4	1.88 H	298	33.8	11.8

**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	*5300.00	124.8 PK			1.54 V	188	124.1	0.7
2	*5300.00	113.0 AV			1.54 V	188	112.3	0.7
3	5350.00	63.2 PK	74.0	-10.8	1.54 V	188	62.4	0.8
4	5350.00	49.1 AV	54.0	-4.9	1.54 V	188	48.3	0.8
5	10600.00	53.9 PK	74.0	-20.1	2.53 V	326	43.4	10.5
6	10600.00	43.3 AV	54.0	-10.7	2.53 V	326	32.8	10.5
7	15900.00	59.2 PK	74.0	-14.8	1.27 V	118	47.4	11.8
8	15900.00	44.1 AV	54.0	-9.9	1.27 V	118	32.3	11.8

**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.

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 64 : 5320 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	117.0 PK			2.35 H	235	116.3	0.7
2	*5320.00	104.2 AV			2.35 H	235	103.5	0.7
3	5350.00	56.7 PK	74.0	-17.3	2.35 H	235	55.9	0.8
4	5350.00	45.4 AV	54.0	-8.6	2.35 H	235	44.6	0.8
5	10640.00	58.6 PK	74.0	-15.4	2.40 H	272	48.2	10.4
6	10640.00	47.8 AV	54.0	-6.2	2.40 H	272	37.4	10.4
7	15960.00	57.5 PK	74.0	-16.5	1.92 H	289	45.4	12.1
8	15960.00	43.4 AV	54.0	-10.6	1.92 H	289	31.3	12.1

**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	*5320.00	120.1 PK			1.47 V	161	119.4	0.7
2	*5320.00	109.9 AV			1.47 V	161	109.2	0.7
3	5350.00	64.5 PK	74.0	-9.5	1.47 V	161	63.7	0.8
4	5350.00	53.2 AV	54.0	-0.8	1.47 V	161	52.4	0.8
5	10640.00	51.5 PK	74.0	-22.5	2.48 V	313	41.1	10.4
6	10640.00	41.2 AV	54.0	-12.8	2.48 V	313	30.8	10.4
7	15960.00	57.8 PK	74.0	-16.2	1.30 V	120	45.7	12.1
8	15960.00	42.1 AV	54.0	-11.9	1.30 V	120	30.0	12.1

**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.

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 100 : 5500 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5457.00	55.8 PK	74.0	-18.2	2.41 H	201	54.7	1.1
2	5457.00	43.2 AV	54.0	-10.8	2.41 H	201	42.1	1.1
3	#5468.80	65.0 PK	68.2	-3.2	2.41 H	201	63.9	1.1
4	*5500.00	118.9 PK			2.41 H	201	117.8	1.1
5	*5500.00	107.3 AV			2.41 H	201	106.2	1.1
6	11000.00	58.7 PK	74.0	-15.3	2.41 H	276	47.3	11.4
7	11000.00	47.7 AV	54.0	-6.3	2.41 H	276	36.3	11.4
8	#16500.00	57.3 PK	68.2	-10.9	1.88 H	286	43.1	14.2

**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	5455.27	59.1 PK	74.0	-14.9	1.46 V	164	58.0	1.1
2	5455.27	47.3 AV	54.0	-6.7	1.46 V	164	46.2	1.1
3	#5464.59	67.5 PK	68.2	-0.7	1.46 V	164	66.4	1.1
4	*5500.00	122.1 PK			1.46 V	164	121.0	1.1
5	*5500.00	111.2 AV			1.46 V	164	110.1	1.1
6	11000.00	51.9 PK	74.0	-22.1	2.44 V	314	40.5	11.4
7	11000.00	41.7 AV	54.0	-12.3	2.44 V	314	30.3	11.4
8	#16500.00	57.5 PK	68.2	-10.7	1.32 V	133	43.3	14.2

**Remarks:**

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

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 116 : 5580 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	Peak (PK) Average (AV)

**Antenna Polarity & Test Distance : Horizontal at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	119.7 PK			1.59 H	226	118.4	1.3
2	*5580.00	108.9 AV			1.59 H	226	107.6	1.3
3	11160.00	60.6 PK	74.0	-13.4	2.34 H	249	49.4	11.2
4	11160.00	49.2 AV	54.0	-4.8	2.34 H	249	38.0	11.2
5	#16740.00	58.0 PK	68.2	-10.2	1.91 H	318	42.7	15.3

**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	*5580.00	124.7 PK			1.49 V	174	123.4	1.3
2	*5580.00	112.9 AV			1.49 V	174	111.6	1.3
3	11160.00	54.0 PK	74.0	-20.0	2.51 V	341	42.8	11.2
4	11160.00	43.3 AV	54.0	-10.7	2.51 V	341	32.1	11.2
5	#16740.00	58.7 PK	68.2	-9.5	1.26 V	119	43.4	15.3

**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.

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 140 : 5700 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	116.8 PK			2.39 H	240	115.3	1.5
2	*5700.00	103.9 AV			2.39 H	240	102.4	1.5
3	#5725.00	64.6 PK	68.2	-3.6	2.39 H	240	63.0	1.6
4	11400.00	58.8 PK	74.0	-15.2	2.34 H	263	46.6	12.2
5	11400.00	48.1 AV	54.0	-5.9	2.34 H	263	35.9	12.2
6	#17100.00	57.7 PK	68.2	-10.5	1.95 H	296	40.9	16.8

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	*5700.00	121.3 PK			1.60 V	266	119.8	1.5
2	*5700.00	109.9 AV			1.60 V	266	108.4	1.5
3	#5725.00	67.6 PK	68.2	-0.6	1.60 V	266	66.0	1.6
4	11400.00	51.4 PK	74.0	-22.6	2.54 V	309	39.2	12.2
5	11400.00	41.2 AV	54.0	-12.8	2.54 V	309	29.0	12.2
6	#17100.00	58.5 PK	68.2	-9.7	1.35 V	110	41.7	16.8

**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.

<b>RF Mode</b>	TX 802.11ax (HE20)	<b>Channel</b>	CH 144 : 5720 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	50.5 PK	74.0	-23.5	1.59 H	224	49.4	1.1
2	5460.00	40.5 AV	54.0	-13.5	1.59 H	224	39.4	1.1
3	#5470.00	56.6 PK	68.2	-11.6	1.59 H	224	55.5	1.1
4	*5720.00	119.9 PK			1.59 H	224	118.3	1.6
5	*5720.00	108.7 AV			1.59 H	224	107.1	1.6
6	#5850.00	54.1 PK	68.2	-14.1	1.59 H	224	52.2	1.9
7	11440.00	60.6 PK	74.0	-13.4	2.39 H	263	48.4	12.2
8	11440.00	49.2 AV	54.0	-4.8	2.39 H	263	37.0	12.2
9	#17160.00	58.1 PK	68.2	-10.1	1.91 H	308	41.7	16.4

**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	56.0 PK	74.0	-18.0	1.47 V	183	54.9	1.1
2	5460.00	45.7 AV	54.0	-8.3	1.47 V	183	44.6	1.1
3	#5470.00	62.5 PK	68.2	-5.7	1.47 V	183	61.4	1.1
4	*5720.00	124.3 PK			1.47 V	183	122.7	1.6
5	*5720.00	112.8 AV			1.47 V	183	111.2	1.6
6	#5850.00	59.7 PK	68.2	-8.5	1.47 V	183	57.8	1.9
7	11440.00	54.1 PK	74.0	-19.9	2.49 V	320	41.9	12.2
8	11440.00	43.6 AV	54.0	-10.4	2.49 V	320	31.4	12.2
9	#17160.00	59.2 PK	68.2	-9.0	1.28 V	124	42.8	16.4

**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.

<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 54 : 5270 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	*5270.00	115.7 PK			1.63 H	234	115.0	0.7
2	*5270.00	105.0 AV			1.63 H	234	104.3	0.7
3	5353.50	61.3 PK	74.0	-12.7	1.63 H	234	60.5	0.8
4	5353.50	48.8 AV	54.0	-5.2	1.63 H	234	48.0	0.8
5	#10540.00	57.3 PK	68.2	-10.9	2.44 H	278	46.9	10.4
6	15810.00	55.2 PK	74.0	-18.8	2.02 H	317	44.0	11.2
7	15810.00	43.4 AV	54.0	-10.6	2.02 H	317	32.2	11.2

**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	5142.49	55.0 PK	74.0	-19.0	1.56 V	100	53.9	1.1
2	5142.49	45.8 AV	54.0	-8.2	1.56 V	100	44.7	1.1
3	*5270.00	120.4 PK			1.56 V	100	119.7	0.7
4	*5270.00	109.6 AV			1.56 V	100	108.9	0.7
5	5350.00	65.0 PK	74.0	-9.0	1.56 V	100	64.2	0.8
6	5350.00	53.5 AV	54.0	-0.5	1.56 V	100	52.7	0.8
7	#10540.00	51.4 PK	68.2	-16.8	2.46 V	330	41.0	10.4
8	15810.00	56.2 PK	74.0	-17.8	1.31 V	124	45.0	11.2
9	15810.00	41.4 AV	54.0	-12.6	1.31 V	124	30.2	11.2

**Remarks:**

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

<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 62 : 5310 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	4531.31	50.6 PK	74.0	-23.4	1.50 H	154	51.2	-0.6
2	4531.31	43.7 AV	54.0	-10.3	1.50 H	154	44.3	-0.6
3	*5310.00	109.6 PK			1.50 H	154	108.9	0.7
4	*5310.00	98.2 AV			1.50 H	154	97.5	0.7
5	5352.02	57.2 PK	74.0	-16.8	1.50 H	154	56.4	0.8
6	5352.02	46.0 AV	54.0	-8.0	1.50 H	154	45.2	0.8
7	10620.00	57.4 PK	74.0	-16.6	2.40 H	286	46.9	10.5
8	10620.00	46.2 AV	54.0	-7.8	2.40 H	286	35.7	10.5
9	15930.00	54.5 PK	74.0	-19.5	2.07 H	306	42.5	12.0
10	15930.00	40.2 AV	54.0	-13.8	2.07 H	306	28.2	12.0

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	115.3 PK			1.31 V	163	114.6	0.7
2	*5310.00	103.7 AV			1.31 V	163	103.0	0.7
3	5351.96	64.0 PK	74.0	-10.0	1.31 V	163	63.2	0.8
4	5351.96	53.3 AV	54.0	-0.7	1.31 V	163	52.5	0.8
5	10620.00	51.2 PK	74.0	-22.8	2.52 V	326	40.7	10.5
6	10620.00	40.3 AV	54.0	-13.7	2.52 V	326	29.8	10.5
7	15930.00	54.2 PK	74.0	-19.8	1.34 V	123	42.2	12.0
8	15930.00	40.9 AV	54.0	-13.1	1.34 V	123	28.9	12.0

**Remarks:**

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



<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 102 : 5510 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5456.00	48.3 PK	74.0	-25.7	1.51 H	153	47.2	1.1
2	5456.00	38.8 AV	54.0	-15.2	1.51 H	153	37.7	1.1
3	#5468.48	54.4 PK	68.2	-13.8	1.51 H	153	53.3	1.1
4	*5510.00	109.4 PK			1.51 H	153	108.3	1.1
5	*5510.00	98.4 AV			1.51 H	153	97.3	1.1
6	11020.00	57.2 PK	74.0	-16.8	2.40 H	291	45.8	11.4
7	11020.00	46.3 AV	54.0	-7.7	2.40 H	291	34.9	11.4
8	#16530.00	55.3 PK	68.2	-12.9	2.00 H	301	40.8	14.5

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	5460.00	60.4 PK	74.0	-13.6	1.32 V	164	59.3	1.1
2	5460.00	45.7 AV	54.0	-8.3	1.32 V	164	44.6	1.1
3	#5464.73	67.4 PK	68.2	-0.8	1.32 V	164	66.3	1.1
4	*5510.00	114.9 PK			1.32 V	164	113.8	1.1
5	*5510.00	103.5 AV			1.32 V	164	102.4	1.1
6	11020.00	51.3 PK	74.0	-22.7	2.41 V	338	39.9	11.4
7	11020.00	40.5 AV	54.0	-13.5	2.41 V	338	29.1	11.4
8	#16530.00	56.8 PK	68.2	-11.4	1.35 V	110	42.3	14.5

**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.

<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 110 : 5550 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	53.3 PK	74.0	-20.7	1.57 H	243	52.2	1.1
2	5460.00	40.3 AV	54.0	-13.7	1.57 H	243	39.2	1.1
3	#5470.00	58.2 PK	68.2	-10.0	1.57 H	243	57.1	1.1
4	*5550.00	115.8 PK			1.57 H	243	114.6	1.2
5	*5550.00	105.1 AV			1.57 H	243	103.9	1.2
6	#5850.00	50.3 PK	68.2	-17.9	1.57 H	243	48.4	1.9
7	11100.00	57.2 PK	74.0	-16.8	2.43 H	294	45.9	11.3
8	11100.00	46.1 AV	54.0	-7.9	2.43 H	294	34.8	11.3
9	#16650.00	55.8 PK	68.2	-12.4	1.91 H	294	40.4	15.4

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.3 PK	74.0	-15.7	2.16 V	168	57.2	1.1
2	5460.00	45.3 AV	54.0	-8.7	2.16 V	168	44.2	1.1
3	#5470.00	67.8 PK	68.2	-0.4	2.16 V	168	66.7	1.1
4	*5550.00	120.5 PK			2.16 V	168	119.3	1.2
5	*5550.00	108.7 AV			2.16 V	168	107.5	1.2
6	#5850.00	52.5 PK	68.2	-15.7	2.16 V	168	50.6	1.9
7	11100.00	51.2 PK	74.0	-22.8	2.42 V	327	39.9	11.3
8	11100.00	40.5 AV	54.0	-13.5	2.42 V	327	29.2	11.3
9	#16650.00	55.6 PK	68.2	-12.6	1.39 V	146	40.2	15.4

**Remarks:**

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

<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 134 : 5670 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	113.0 PK			1.61 H	266	111.6	1.4
2	*5670.00	102.1 AV			1.61 H	266	100.7	1.4
3	#5725.00	55.4 PK	68.2	-12.8	1.61 H	266	53.8	1.6
4	11340.00	57.2 PK	74.0	-16.8	2.40 H	298	45.5	11.7
5	11340.00	46.1 AV	54.0	-7.9	2.40 H	298	34.4	11.7
6	#17010.00	55.7 PK	68.2	-12.5	1.93 H	285	38.4	17.3

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	117.4 PK			1.57 V	256	116.0	1.4
2	*5670.00	107.3 AV			1.57 V	256	105.9	1.4
3	#5725.00	67.9 PK	68.2	-0.3	1.57 V	256	66.3	1.6
4	11340.00	51.0 PK	74.0	-23.0	2.49 V	339	39.3	11.7
5	11340.00	40.1 AV	54.0	-13.9	2.49 V	339	28.4	11.7
6	#17010.00	55.9 PK	68.2	-12.3	1.40 V	125	38.6	17.3

**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.

<b>RF Mode</b>	TX 802.11ax (HE40)	<b>Channel</b>	CH 142 : 5710 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	53.2 PK	74.0	-20.8	1.58 H	256	52.1	1.1
2	5460.00	39.6 AV	54.0	-14.4	1.58 H	256	38.5	1.1
3	#5470.00	58.4 PK	68.2	-9.8	1.58 H	256	57.3	1.1
4	*5710.00	115.8 PK			1.58 H	256	114.2	1.6
5	*5710.00	105.9 AV			1.58 H	256	104.3	1.6
6	#5850.00	53.1 PK	68.2	-15.1	1.58 H	256	51.2	1.9
7	11420.00	57.2 PK	74.0	-16.8	2.41 H	287	45.0	12.2
8	11420.00	46.3 AV	54.0	-7.7	2.41 H	287	34.1	12.2
9	#17130.00	55.8 PK	68.2	-12.4	1.97 H	289	39.2	16.6

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	1.45 V	171	53.1	1.1
2	5460.00	41.1 AV	54.0	-12.9	1.45 V	171	40.0	1.1
3	#5470.00	54.2 PK	68.2	-14.0	1.45 V	171	53.1	1.1
4	*5710.00	121.5 PK			1.45 V	171	119.9	1.6
5	*5710.00	110.4 AV			1.45 V	171	108.8	1.6
6	#5850.00	61.7 PK	68.2	-6.5	1.45 V	171	59.8	1.9
7	11420.00	51.1 PK	74.0	-22.9	2.45 V	329	38.9	12.2
8	11420.00	40.3 AV	54.0	-13.7	2.45 V	329	28.1	12.2
9	#17130.00	56.0 PK	68.2	-12.2	1.36 V	140	39.4	16.6

**Remarks:**

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

<b>RF Mode</b>	TX 802.11ax (HE80)	<b>Channel</b>	CH 58 : 5290 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	4531.36	50.5 PK	74.0	-23.5	1.56 H	151	51.1	-0.6
2	4531.36	43.7 AV	54.0	-10.3	1.56 H	151	44.3	-0.6
3	*5290.00	107.8 PK			1.56 H	151	107.1	0.7
4	*5290.00	95.4 AV			1.56 H	151	94.7	0.7
5	5352.93	57.2 PK	74.0	-16.8	1.56 H	151	56.4	0.8
6	5352.93	45.9 AV	54.0	-8.1	1.56 H	151	45.1	0.8
7	#10580.00	55.8 PK	68.2	-12.4	2.41 H	301	45.4	10.4
8	15870.00	54.6 PK	74.0	-19.4	2.05 H	319	43.0	11.6
9	15870.00	40.7 AV	54.0	-13.3	2.05 H	319	29.1	11.6

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	5145.86	55.7 PK	74.0	-18.3	1.43 V	165	54.6	1.1
2	5145.86	40.4 AV	54.0	-13.6	1.43 V	165	39.3	1.1
3	*5290.00	111.8 PK			1.43 V	165	111.1	0.7
4	*5290.00	100.4 AV			1.43 V	165	99.7	0.7
5	5364.00	65.7 PK	74.0	-8.3	1.43 V	165	64.8	0.9
6	5364.00	53.5 AV	54.0	-0.5	1.43 V	165	52.6	0.9
7	#10580.00	51.5 PK	68.2	-16.7	2.42 V	345	41.1	10.4
8	15870.00	55.6 PK	74.0	-18.4	1.34 V	125	44.0	11.6
9	15870.00	41.7 AV	54.0	-12.3	1.34 V	125	30.1	11.6

**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.

<b>RF Mode</b>	TX 802.11ax (HE80)	<b>Channel</b>	CH 106 : 5530 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5456.35	56.1 PK	74.0	-17.9	1.60 H	154	55.0	1.1
2	5456.35	45.3 AV	54.0	-8.7	1.60 H	154	44.2	1.1
3	#5463.86	55.9 PK	68.2	-12.3	1.60 H	154	54.8	1.1
4	*5530.00	107.0 PK			1.60 H	154	105.9	1.1
5	*5530.00	95.2 AV			1.60 H	154	94.1	1.1
6	#5796.52	48.8 PK	68.2	-19.4	1.60 H	154	46.9	1.9
7	11060.00	55.6 PK	74.0	-18.4	2.40 H	305	44.2	11.4
8	11060.00	43.2 AV	54.0	-10.8	2.40 H	305	31.8	11.4
9	#16590.00	54.4 PK	68.2	-13.8	2.12 H	299	39.1	15.3

**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	5446.80	64.2 PK	74.0	-9.8	1.44 V	166	63.2	1.0
2	5446.80	51.4 AV	54.0	-2.6	1.44 V	166	50.4	1.0
3	#5467.31	67.5 PK	68.2	-0.7	1.44 V	166	66.4	1.1
4	*5530.00	111.4 PK			1.44 V	166	110.3	1.1
5	*5530.00	100.2 AV			1.44 V	166	99.1	1.1
6	#5843.30	51.5 PK	68.2	-16.7	1.44 V	166	49.6	1.9
7	11060.00	51.0 PK	74.0	-23.0	2.47 V	332	39.6	11.4
8	11060.00	40.3 AV	54.0	-13.7	2.47 V	332	28.9	11.4
9	#16590.00	54.8 PK	68.2	-13.4	1.39 V	101	39.5	15.3

**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.

<b>RF Mode</b>	TX 802.11ax (HE80)	<b>Channel</b>	CH 122 : 5610 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	*5610.00	110.4 PK			1.51 H	137	109.0	1.4
2	*5610.00	98.6 AV			1.51 H	137	97.2	1.4
3	#5725.00	56.4 PK	68.2	-11.8	1.51 H	137	54.8	1.6
4	11220.00	55.3 PK	74.0	-18.7	2.37 H	303	44.0	11.3
5	11220.00	42.9 AV	54.0	-11.1	2.37 H	303	31.6	11.3
6	#16830.00	54.2 PK	68.2	-14.0	2.16 H	290	38.6	15.6

**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	*5610.00	114.8 PK			1.44 V	171	113.4	1.4
2	*5610.00	104.3 AV			1.44 V	171	102.9	1.4
3	#5725.00	67.9 PK	68.2	-0.3	1.44 V	171	66.3	1.6
4	11220.00	51.2 PK	74.0	-22.8	2.41 V	336	39.9	11.3
5	11220.00	40.7 AV	54.0	-13.3	2.41 V	336	29.4	11.3
6	#16830.00	55.7 PK	68.2	-12.5	1.35 V	130	40.1	15.6

**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.

<b>RF Mode</b>	TX 802.11ax (HE80)	<b>Channel</b>	CH 138 : 5690 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	52.3 PK	74.0	-21.7	1.56 H	167	51.2	1.1
2	5460.00	39.6 AV	54.0	-14.4	1.56 H	167	38.5	1.1
3	#5470.00	53.4 PK	68.2	-14.8	1.56 H	167	52.3	1.1
4	*5690.00	111.2 PK			1.56 H	167	109.8	1.4
5	*5690.00	100.3 AV			1.56 H	167	98.9	1.4
6	#5850.00	56.4 PK	68.2	-11.8	1.56 H	167	54.5	1.9
7	11380.00	56.1 PK	74.0	-17.9	2.39 H	295	44.1	12.0
8	11380.00	43.7 AV	54.0	-10.3	2.39 H	295	31.7	12.0
9	#17070.00	54.2 PK	68.2	-14.0	2.09 H	311	37.3	16.9

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	5460.00	57.2 PK	74.0	-16.8	1.02 V	170	56.1	1.1
2	5460.00	43.6 AV	54.0	-10.4	1.02 V	170	42.5	1.1
3	#5470.00	57.3 PK	68.2	-10.9	1.02 V	170	56.2	1.1
4	*5690.00	117.5 PK			1.02 V	170	116.1	1.4
5	*5690.00	106.2 AV			1.02 V	170	104.8	1.4
6	#5850.00	67.8 PK	68.2	-0.4	1.02 V	170	65.9	1.9
7	11380.00	51.5 PK	74.0	-22.5	2.42 V	337	39.5	12.0
8	11380.00	41.0 AV	54.0	-13.0	2.42 V	337	29.0	12.0
9	#17070.00	55.7 PK	68.2	-12.5	1.30 V	115	38.8	16.9

**Remarks:**

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



<b>RF Mode</b>	TX 802.11ax (HE80+80)	<b>Channel</b>	CH 42+58 : 5290 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	55.2 PK	74.0	-18.8	1.51 H	1	54.1	1.1
2	5150.00	44.9 AV	54.0	-9.1	1.51 H	1	43.8	1.1
3	*5210.00	104.0 PK			1.51 H	1	103.0	1.0
4	*5210.00	94.0 AV			1.51 H	1	93.0	1.0
5	*5290.00	101.6 PK			1.62 H	285	100.9	0.7
6	*5290.00	90.6 AV			1.62 H	285	89.9	0.7
7	5358.90	55.0 PK	74.0	-19.0	1.62 H	285	54.1	0.9
8	5358.90	43.3 AV	54.0	-10.7	1.62 H	285	42.4	0.9
9	#10420.00	55.9 PK	68.2	-12.3	2.27 H	315	45.5	10.4
10	#10580.00	54.2 PK	68.2	-14.0	1.96 H	324	43.8	10.4
11	15630.00	55.9 PK	74.0	-18.1	2.53 H	300	44.1	11.8
12	15630.00	43.3 AV	54.0	-10.7	2.53 H	300	31.5	11.8
13	15870.00	54.0 PK	74.0	-20.0	2.22 H	310	42.4	11.6
14	15870.00	39.9 AV	54.0	-14.1	2.22 H	310	28.3	11.6

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	1.61 V	308	57.0	1.1
2	5150.00	50.0 AV	54.0	-4.0	1.61 V	308	48.9	1.1
3	*5210.00	104.9 PK			1.61 V	308	103.9	1.0
4	*5210.00	95.0 AV			1.61 V	308	94.0	1.0
5	*5290.00	108.9 PK			1.08 V	188	108.2	0.7
6	*5290.00	98.8 AV			1.08 V	188	98.1	0.7
7	5358.06	61.2 PK	74.0	-12.8	1.08 V	188	60.3	0.9
8	5358.06	53.0 AV	54.0	-1.0	1.08 V	188	52.1	0.9
9	#10420.00	51.4 PK	68.2	-16.8	2.31 V	322	41.0	10.4
10	#10580.00	54.2 PK	68.2	-14.0	1.43 V	97	43.8	10.4
11	15630.00	51.0 PK	74.0	-23.0	2.45 V	337	39.2	11.8
12	15630.00	39.9 AV	54.0	-14.1	2.45 V	337	28.1	11.8
13	15870.00	54.3 PK	74.0	-19.7	1.39 V	113	42.7	11.6
14	15870.00	41.6 AV	54.0	-12.4	1.39 V	113	30.0	11.6

**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.

<b>RF Mode</b>	TX 802.11ax (HE80+80)	<b>Channel</b>	CH 106+122 : 5610 MHz
<b>Frequency Range</b>	1GHz ~ 40GHz	<b>Detector Function</b>	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	5450.00	55.3 PK	74.0	-18.7	2.01 H	283	54.3	1.0
2	5450.00	46.1 AV	54.0	-7.9	2.01 H	283	45.1	1.0
3	5453.29	58.2 PK	74.0	-15.8	1.28 H	1	57.1	1.1
4	5453.29	46.2 AV	54.0	-7.8	1.28 H	1	45.1	1.1
5	#5462.75	53.4 PK	68.2	-14.8	2.01 H	283	52.3	1.1
6	#5468.87	57.1 PK	68.2	-11.1	1.28 H	1	56.0	1.1
7	*5530.00	107.4 PK			1.28 H	1	106.3	1.1
8	*5530.00	95.5 AV			1.28 H	1	94.4	1.1
9	*5610.00	105.0 PK			2.01 H	283	103.6	1.4
10	*5610.00	92.9 AV			2.01 H	283	91.5	1.4
11	#5743.00	51.1 PK	68.2	-17.1	2.01 H	283	49.4	1.7
12	11060.00	55.8 PK	74.0	-18.2	2.27 H	321	44.4	11.4
13	11060.00	43.7 AV	54.0	-10.3	2.27 H	321	32.3	11.4
14	11220.00	54.5 PK	74.0	-19.5	1.96 H	313	43.2	11.3
15	11220.00	40.1 AV	54.0	-13.9	1.96 H	313	28.8	11.3
16	#16590.00	55.9 PK	68.2	-12.3	2.51 H	316	40.6	15.3
17	#16830.00	54.1 PK	68.2	-14.1	2.27 H	303	38.5	15.6

**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	5449.97	62.4 PK	74.0	-11.6	2.51 V	284	61.4	1.0
2	5449.97	51.2 AV	54.0	-2.8	2.51 V	284	50.2	1.0
3	5449.99	63.9 PK	74.0	-10.1	1.17 V	185	62.9	1.0
4	5449.99	53.2 AV	54.0	-0.8	1.17 V	185	52.2	1.0
5	#5462.19	64.9 PK	68.2	-3.3	1.17 V	185	63.8	1.1
6	#5470.00	64.9 PK	68.2	-3.3	2.51 V	284	63.8	1.1
7	*5530.00	108.9 PK			2.51 V	284	107.8	1.1
8	*5530.00	96.9 AV			2.51 V	284	95.8	1.1
9	*5610.00	111.3 PK			1.17 V	185	109.9	1.4
10	*5610.00	99.4 AV			1.17 V	185	98.0	1.4
11	#5729.70	64.2 PK	68.2	-4.0	1.17 V	185	62.6	1.6
12	11060.00	51.2 PK	74.0	-22.8	2.30 V	323	39.8	11.4
13	11060.00	40.4 AV	54.0	-13.6	2.30 V	323	29.0	11.4
14	11220.00	54.4 PK	74.0	-19.6	1.44 V	95	43.1	11.3
15	11220.00	41.9 AV	54.0	-12.1	1.44 V	95	30.6	11.3
16	#16590.00	50.7 PK	68.2	-17.5	2.47 V	332	35.4	15.3
17	#16830.00	54.2 PK	68.2	-14.0	1.38 V	107	38.6	15.6

**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.

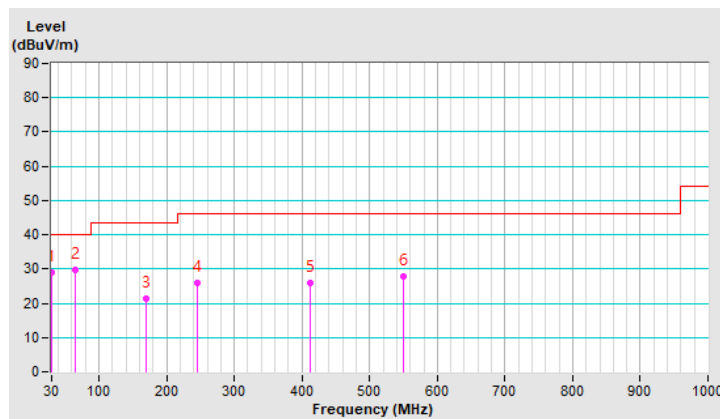
### Below 1GHz Data:

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	9kHz ~ 1GHz	<b>Detector Function</b>	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.02	29.1 QP	40.0	-10.9	2.00 H	332	42.6	-13.5
2	64.46	29.7 QP	40.0	-10.3	2.00 H	192	43.6	-13.9
3	170.14	21.2 QP	43.5	-22.3	1.00 H	114	33.7	-12.5
4	246.21	25.8 QP	46.0	-20.2	1.00 H	86	38.7	-12.9
5	412.91	25.8 QP	46.0	-20.2	2.00 H	84	33.3	-7.5
6	549.53	27.8 QP	46.0	-18.2	2.00 H	360	31.8	-4.0

### Remarks:

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



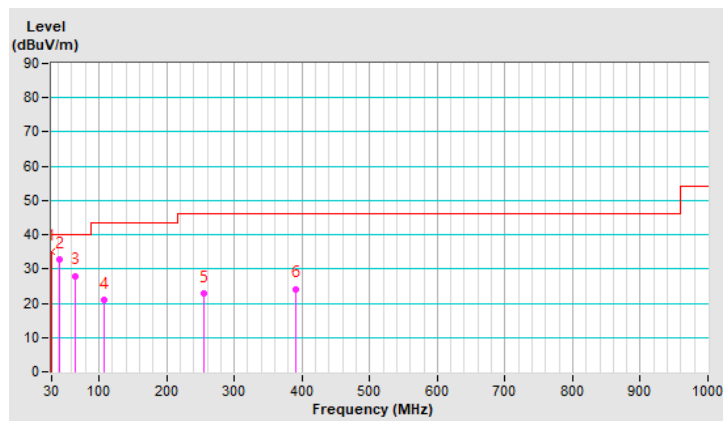
<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	9kHz ~ 1GHz	<b>Detector Function</b>	Quasi-Peak (QP)

**Antenna Polarity & Test Distance : Vertical at 3 m**

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.44	35.2 QP	40.0	-4.8	1.00 V	247	48.8	-13.6
2	41.66	32.8 QP	40.0	-7.2	1.00 V	230	45.5	-12.7
3	64.00	28.0 QP	40.0	-12.0	1.00 V	360	41.8	-13.8
4	108.38	21.1 QP	43.5	-22.4	1.50 V	320	36.3	-15.2
5	255.55	22.8 QP	46.0	-23.2	1.50 V	134	35.4	-12.6
6	391.59	24.2 QP	46.0	-21.8	1.50 V	16	32.3	-8.1

**Remarks:**

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



## 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

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

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

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

### 4.2.2 Test Instruments

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

**Note:**

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: Mar. 17, 2021

#### 4.2.3 Test Procedure

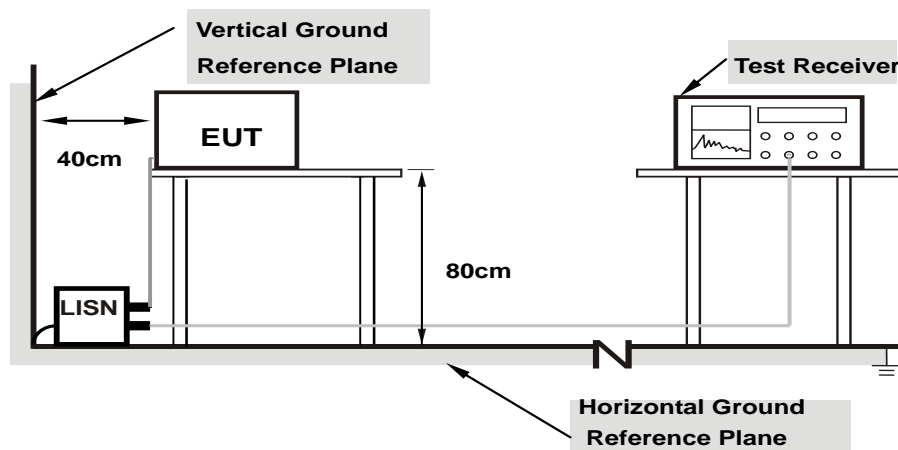
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



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

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

#### 4.2.6 EUT Operating Condition

Same as 4.1.6.

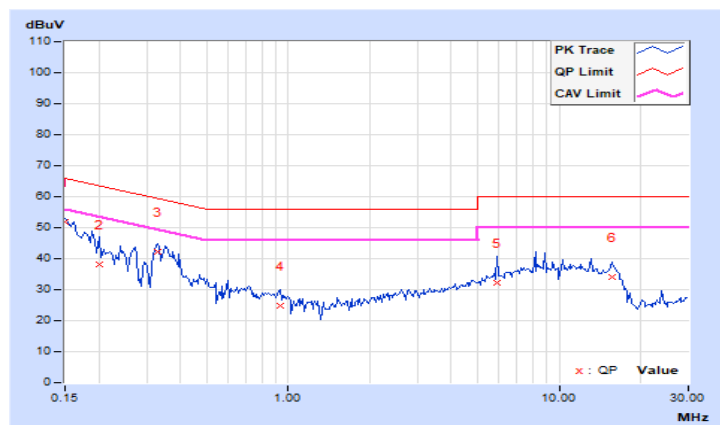
#### 4.2.7 Test Results

<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.96	42.06	25.46	52.02	35.42	66.00	56.00	-13.98	-20.58
2	0.20078	9.99	27.98	9.02	37.97	19.01	63.58	53.58	-25.61	-34.57
3	0.32969	10.01	32.36	24.80	42.37	34.81	59.46	49.46	-17.09	-14.65
4	0.93125	10.06	14.87	2.90	24.93	12.96	56.00	46.00	-31.07	-33.04
5	5.90625	10.42	21.86	14.20	32.28	24.62	60.00	50.00	-27.72	-25.38
6	15.62500	11.14	23.07	18.52	34.21	29.66	60.00	50.00	-25.79	-20.34

**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

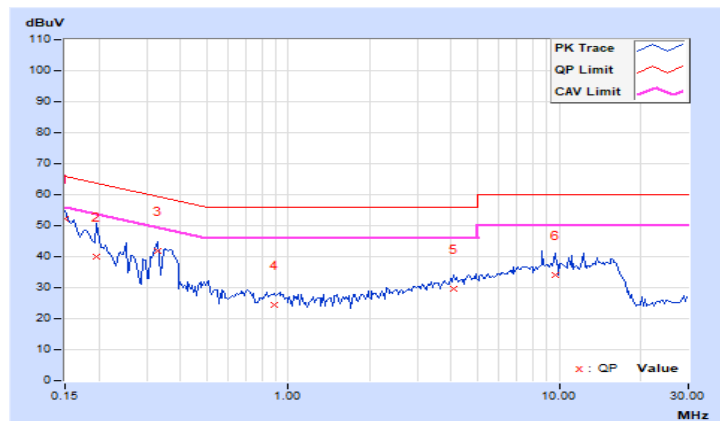


<b>RF Mode</b>	TX 802.11a	<b>Channel</b>	CH 52 : 5260 MHz
<b>Frequency Range</b>	150kHz ~ 30MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.94	42.37	25.92	52.31	35.86	66.00	56.00	-13.69	-20.14
2	0.19687	9.98	30.17	10.35	40.15	20.33	63.74	53.74	-23.59	-33.41
3	0.32969	10.00	31.80	23.68	41.80	33.68	59.46	49.46	-17.66	-15.78
4	0.88438	10.06	14.51	7.44	24.57	17.50	56.00	46.00	-31.43	-28.50
5	4.07031	10.25	19.46	10.37	29.71	20.62	56.00	46.00	-26.29	-25.38
6	9.71484	10.60	23.51	17.54	34.11	28.14	60.00	50.00	-25.89	-21.86

**Remarks:**

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





### 4.3 Transmit Power Measurement

#### 4.3.1 Limits of Transmit Power Measurement

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

\*B is the 26 dB emission bandwidth in megahertz

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

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

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

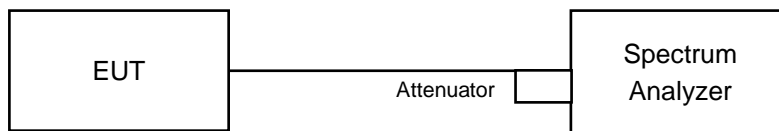
Array Gain =  $5 \log(N_{ANT}/N_{SS})$  dB or 3 dB, whichever is less for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

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

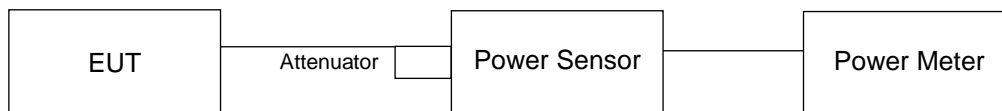
#### 4.3.2 Test Setup

##### FOR POWER OUTPUT MEASUREMENT

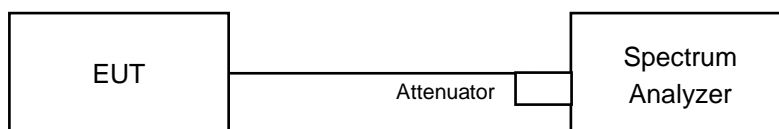
For channel straddling 5725MHz:



For other channels:



##### FOR 26dB OCCUPIED BANDWIDTH



#### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 Test Procedure

##### **FOR POWER OUTPUT MEASUREMENT**

###### **For channel straddling 5725MHz:**

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Number of points in sweep  $\geq 2$  Span / RBW.
5. Sweep time = auto.
6. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

###### **For other channels:**

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

##### **FOR 26dB OCCUPIED BANDWIDTH**

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. 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 Condition

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

#### 4.3.7 Test Results

#### CDD Mode

#### POWER OUTPUT

#### 802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	18.09	17.67	17.71	17.64	239.992	23.80	23.88	PASS
60	5300	18.31	17.65	17.45	17.52	238.059	23.77	23.92	PASS
64	5320	17.31	17.46	17.64	17.58	224.902	23.52	23.91	PASS
100	5500	17.64	17.45	17.44	17.37	223.705	23.50	23.91	PASS
116	5580	17.43	17.49	17.48	17.45	223.006	23.48	23.92	PASS
140	5700	17.46	17.59	17.38	17.52	224.326	23.51	23.91	PASS
*144 (U-NII-2C Band)	5720	16.21	16.58	16.45	16.40	184.142	22.65	22.68	PASS
*144 (U-NII-3 Band)	5720	9.67	9.78	9.99	10.08	40.95	16.12	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.45	23.88 < 24
60	5300	19.63	23.92 < 24
64	5320	19.55	23.91 < 24
100	5500	19.56	23.91 < 24
116	5580	19.59	23.92 < 24
140	5700	19.57	23.91 < 24
144 (U-NII-2C Band)	5720	14.73	22.68 < 24

**802.11ac (VHT20)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	17.11	17.62	17.69	17.43	223.298	23.49	24	PASS
60	5300	17.09	17.66	17.58	17.23	219.637	23.42	24	PASS
64	5320	17.15	17.54	17.58	17.59	223.326	23.49	24	PASS
100	5500	17.77	17.21	17.40	17.17	219.516	23.41	24	PASS
116	5580	17.22	17.65	17.28	17.68	223.004	23.48	24	PASS
140	5700	17.31	17.54	17.87	17.35	226.142	23.54	24	PASS
*144 (U-NII-2C Band)	5720	16.06	16.82	16.69	15.92	184.284	22.65	22.91	PASS
*144 (U-NII-3 Band)	5720	10.18	10.71	10.40	11.61	50.41	17.03	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.27	24.27 > 24
60	5300	21.28	24.27 > 24
64	5320	21.19	24.26 > 24
100	5500	21.1	24.24 > 24
116	5580	20.91	24.2 > 24
140	5700	21.14	24.25 > 24
144 (U-NII-2C Band)	5720	15.55	22.91 < 24

**802.11ac (VHT40)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.56	17.12	17.33	17.21	215.216	23.33	24	PASS
62	5310	17.08	17.49	17.28	17.25	213.7	23.30	24	PASS
102	5510	16.96	16.94	17.15	17.69	209.719	23.22	24	PASS
110	5550	17.57	17.36	16.96	17.22	213.98	23.30	24	PASS
134	5670	17.66	17.40	17.02	17.05	214.348	23.31	24	PASS
*142 (U-NII-2C Band)	5710	16.55	16.43	16.35	16.29	184.494	22.66	24	PASS
*142 (U-NII-3 Band)	5710	6.24	5.64	6.50	6.96	18.259	12.61	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.96	27.22 > 24
62	5310	42.36	27.26 > 24
102	5510	42.3	27.26 > 24
110	5550	42.16	27.24 > 24
134	5670	42.24	27.25 > 24
142 (U-NII-2C Band)	5710	36.01	26.56 > 24

**802.11ac (VHT80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.73	17.06	16.79	16.83	193.861	22.87	24	PASS
106	5530	16.65	16.35	15.93	16.02	168.559	22.27	24	PASS
122	5610	17.72	18.06	17.15	17.38	229.711	23.61	24	PASS
*138 (U-NII-2C Band)	5690	16.76	17.32	16.57	16.67	202.278	23.06	24	PASS
*138 (U-NII-3 Band)	5690	0.20	3.85	2.02	2.81	7.303	8.64	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.64	30.17 > 24
106	5530	82.95	30.18 > 24
122	5610	83.03	30.19 > 24
138 (U-NII-2C Band)	5690	76.44	29.83 > 24

**802.11ac (VHT80+80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	15.84	16.01	-	-	78.273	18.94	30	PASS
42+58(H)	5290	-	-	15.73	15.68	74.394	18.72	24	PASS
106+122(L)	5530	17.28	17.60	-	-	234.109	23.69	24	PASS
106+122(H)	5610	-	-	18.04	17.74	234.109	23.69	24	PASS

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58(H)	5290	83.88	30.23 > 24
106+122(L)	5530	83.3	30.2 > 24
106+122(H)	5610	83.08	30.19 > 24

**802.11ax (HE20)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	17.11	17.62	17.74	17.52	225.137	23.52	24	PASS
60	5300	17.18	17.69	17.60	17.44	223.995	23.50	24	PASS
64	5320	17.22	17.57	17.59	17.61	224.959	23.52	24	PASS
100	5500	17.90	17.33	17.43	17.23	223.914	23.50	24	PASS
116	5580	17.31	17.81	17.31	17.82	228.583	23.59	24	PASS
140	5700	17.43	17.61	17.93	17.47	230.946	23.64	24	PASS
*144 (U-NII-2C Band)	5720	16.33	16.80	16.97	16.37	194.591	22.89	22.91	PASS
*144 (U-NII-3 Band)	5720	10.68	11.00	10.67	12.17	55.47	17.44	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.27	24.27 > 24
60	5300	21.28	24.27 > 24
64	5320	21.19	24.26 > 24
100	5500	21.1	24.24 > 24
116	5580	20.91	24.2 > 24
140	5700	21.14	24.25 > 24
144 (U-NII-2C Band)	5720	15.55	22.91 < 24



**802.11ax (HE40)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.82	17.39	17.57	17.43	227.845	23.58	24	PASS
62	5310	17.29	17.77	17.56	17.51	226.801	23.56	24	PASS
102	5510	17.22	17.19	17.38	17.95	222.158	23.47	24	PASS
110	5550	17.79	17.57	17.25	17.48	226.329	23.55	24	PASS
134	5670	17.93	17.64	17.26	17.28	226.831	23.56	24	PASS
*142 (U-NII-2C Band)	5710	16.78	16.77	16.62	16.56	196.665	22.94	24	PASS
*142 (U-NII-3 Band)	5710	6.82	6.23	6.95	7.39	20.515	13.12	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.96	27.22 > 24
62	5310	42.36	27.26 > 24
102	5510	42.3	27.26 > 24
110	5550	42.16	27.24 > 24
134	5670	42.24	27.25 > 24
142 (U-NII-2C Band)	5710	36.01	26.56 > 24

**802.11ax (HE80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.97	17.29	17.06	17.09	205.338	23.12	24	PASS
106	5530	16.89	16.59	16.17	16.23	177.845	22.50	24	PASS
122	5610	17.97	18.32	17.43	17.65	244.127	23.88	24	PASS
*138 (U-NII-2C Band)	5690	17.02	17.59	16.97	16.91	216.312	23.35	24	PASS
*138 (U-NII-3 Band)	5690	0.37	4.21	2.88	3.06	8.05	9.06	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.64	30.17 > 24
106	5530	82.95	30.18 > 24
122	5610	83.03	30.19 > 24
138 (U-NII-2C Band)	5690	76.44	29.83 > 24

**802.11ax (HE80+80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	16.12	16.27	-	-	83.29	19.21	30	PASS
42+58(H)	5290	-	-	16.02	15.96	79.44	19.00	24	PASS
106+122(L)	5530	17.54	17.85	-	-	248.238	23.95	24	PASS
106+122(H)	5610	-	-	18.27	18.02	248.238	23.95	24	PASS

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58(H)	5290	83.88	30.23 > 24
106+122(L)	5530	83.3	30.2 > 24
106+122(H)	5610	83.08	30.19 > 24

## Beamforming Mode

### 802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	17.11	17.62	17.69	17.43	223.298	23.49	24	PASS
60	5300	17.09	17.66	17.58	17.23	219.637	23.42	24	PASS
64	5320	17.15	17.54	17.58	17.59	223.326	23.49	24	PASS
100	5500	17.77	17.21	17.40	17.17	219.516	23.41	24	PASS
116	5580	17.22	17.65	17.28	17.68	223.004	23.48	24	PASS
140	5700	17.31	17.54	17.87	17.35	226.142	23.54	24	PASS
*144 (U-NII-2C Band)	5720	16.06	16.82	16.69	15.92	184.284	22.65	22.91	PASS
*144 (U-NII-3 Band)	5720	10.18	10.71	10.40	11.61	50.41	17.03	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.27	24.27 > 24
60	5300	21.28	24.27 > 24
64	5320	21.19	24.26 > 24
100	5500	21.1	24.24 > 24
116	5580	20.91	24.2 > 24
140	5700	21.14	24.25 > 24
144 (U-NII-2C Band)	5720	15.55	22.91 < 24

**802.11ac (VHT40)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.56	17.12	17.33	17.21	215.216	23.33	24	PASS
62	5310	17.08	17.49	17.28	17.25	213.7	23.30	24	PASS
102	5510	16.96	16.94	17.15	17.69	209.719	23.22	24	PASS
110	5550	17.57	17.36	16.96	17.22	213.98	23.30	24	PASS
134	5670	17.66	17.40	17.02	17.05	214.348	23.31	24	PASS
*142 (U-NII-2C Band)	5710	16.55	16.43	16.35	16.29	184.494	22.66	24	PASS
*142 (U-NII-3 Band)	5710	6.24	5.64	6.50	6.96	18.259	12.61	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.96	27.22 > 24
62	5310	42.36	27.26 > 24
102	5510	42.3	27.26 > 24
110	5550	42.16	27.24 > 24
134	5670	42.24	27.25 > 24
142 (U-NII-2C Band)	5710	36.01	26.56 > 24

**802.11ac (VHT80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.73	17.06	16.79	16.83	193.861	22.87	24	PASS
106	5530	16.65	16.35	15.93	16.02	168.559	22.27	24	PASS
122	5610	17.72	18.06	17.15	17.38	229.711	23.61	24	PASS
*138 (U-NII-2C Band)	5690	16.76	17.32	16.57	16.67	202.278	23.06	24	PASS
*138 (U-NII-3 Band)	5690	0.20	3.85	2.02	2.81	7.303	8.64	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.64	30.17 > 24
106	5530	82.95	30.18 > 24
122	5610	83.03	30.19 > 24
138 (U-NII-2C Band)	5690	76.44	29.83 > 24

**802.11ac (VHT80+80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	15.84	16.01	-	-	78.273	18.94	30	PASS
42+58(H)	5290	-	-	15.73	15.68	74.394	18.72	24	PASS
106+122(L)	5530	17.28	17.60	-	-	234.109	23.69	24	PASS
106+122(H)	5610	-	-	18.04	17.74	234.109	23.69	24	PASS

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58(H)	5290	83.88	30.23 > 24
106+122(L)	5530	83.3	30.2 > 24
106+122(H)	5610	83.08	30.19 > 24

**802.11ax (HE20)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	17.11	17.62	17.74	17.52	225.137	23.52	24	PASS
60	5300	17.18	17.69	17.60	17.44	223.995	23.50	24	PASS
64	5320	17.22	17.57	17.59	17.61	224.959	23.52	24	PASS
100	5500	17.90	17.33	17.43	17.23	223.914	23.50	24	PASS
116	5580	17.31	17.81	17.31	17.82	228.583	23.59	24	PASS
140	5700	17.43	17.61	17.93	17.47	230.946	23.64	24	PASS
*144 (U-NII-2C Band)	5720	16.33	16.80	16.97	16.37	194.591	22.89	22.91	PASS
*144 (U-NII-3 Band)	5720	10.68	11.00	10.67	12.17	55.47	17.44	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.27	24.27 > 24
60	5300	21.28	24.27 > 24
64	5320	21.19	24.26 > 24
100	5500	21.1	24.24 > 24
116	5580	20.91	24.2 > 24
140	5700	21.14	24.25 > 24
144 (U-NII-2C Band)	5720	15.55	22.91 < 24



**802.11ax (HE40)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.82	17.39	17.57	17.43	227.845	23.58	24	PASS
62	5310	17.29	17.77	17.56	17.51	226.801	23.56	24	PASS
102	5510	17.22	17.19	17.38	17.95	222.158	23.47	24	PASS
110	5550	17.79	17.57	17.25	17.48	226.329	23.55	24	PASS
134	5670	17.93	17.64	17.26	17.28	226.831	23.56	24	PASS
*142 (U-NII-2C Band)	5710	16.78	16.77	16.62	16.56	196.665	22.94	24	PASS
*142 (U-NII-3 Band)	5710	6.82	6.23	6.95	7.39	20.515	13.12	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.96	27.22 > 24
62	5310	42.36	27.26 > 24
102	5510	42.3	27.26 > 24
110	5550	42.16	27.24 > 24
134	5670	42.24	27.25 > 24
142 (U-NII-2C Band)	5710	36.01	26.56 > 24

**802.11ax (HE80)**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	16.97	17.29	17.06	17.09	205.338	23.12	24	PASS
106	5530	16.89	16.59	16.17	16.23	177.845	22.50	24	PASS
122	5610	17.97	18.32	17.43	17.65	244.127	23.88	24	PASS
*138 (U-NII-2C Band)	5690	17.02	17.59	16.97	16.91	216.312	23.35	24	PASS
*138 (U-NII-3 Band)	5690	0.37	4.21	2.88	3.06	8.05	9.06	30	PASS

Note: \* Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.64	30.17 > 24
106	5530	82.95	30.18 > 24
122	5610	83.03	30.19 > 24
138 (U-NII-2C Band)	5690	76.44	29.83 > 24

**802.11ax (HE80+80)**

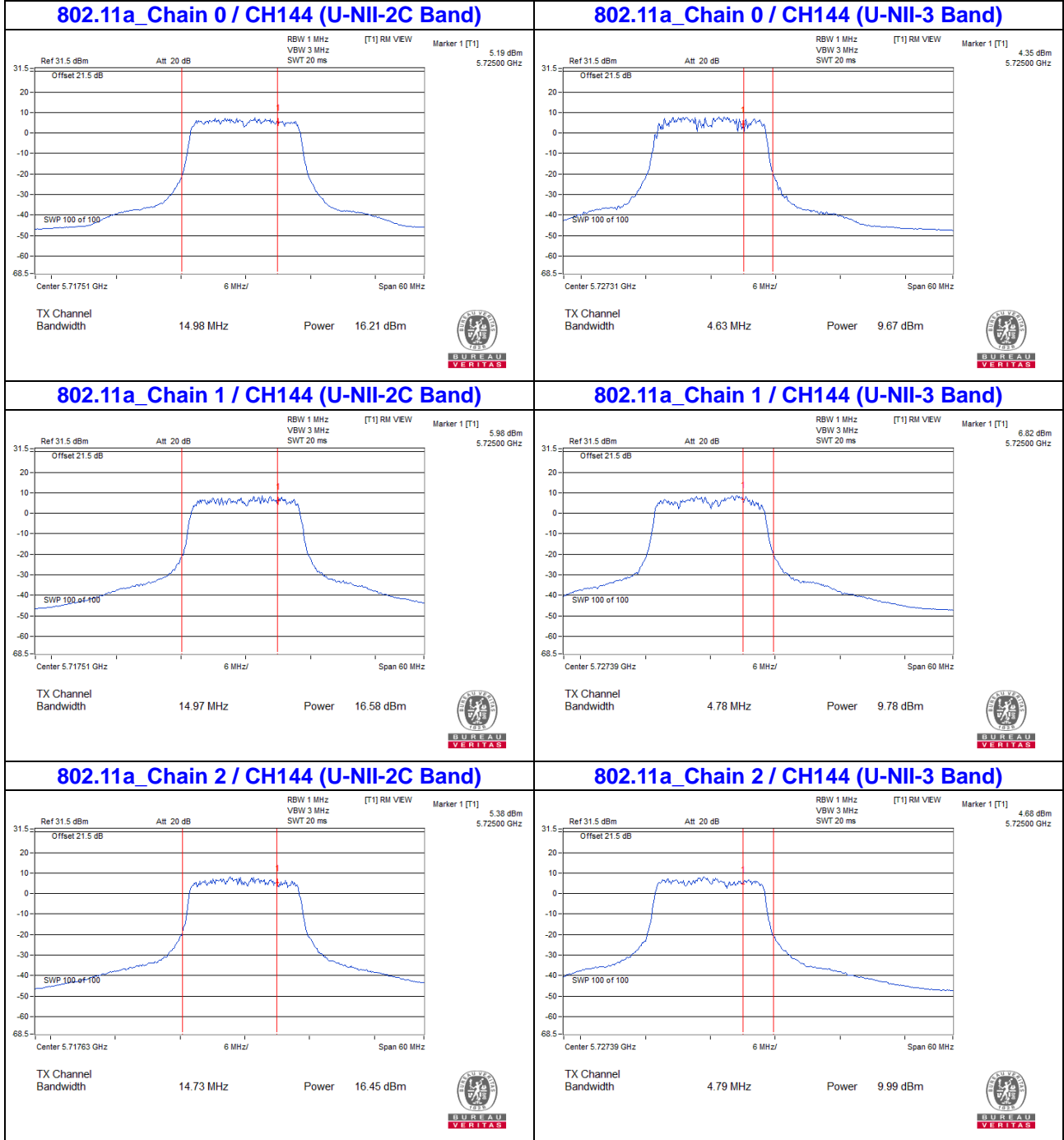
Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	16.12	16.27	-	-	83.29	19.21	30	PASS
42+58(H)	5290	-	--	16.02	15.96	79.44	19.00	24	PASS
106+122(L)	5530	17.54	17.85	-	-	248.238	23.95	24	PASS
106+122(H)	5610	-	-	18.27	18.02	248.238	23.95	24	PASS

**Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.**

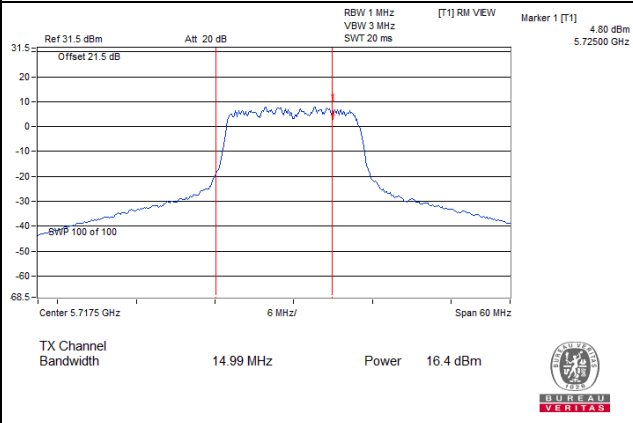
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58(H)	5290	83.88	30.23 > 24
106+122(L)	5530	83.3	30.2 > 24
106+122(H)	5610	83.08	30.19 > 24

**For channel straddling 5725MHz of Power**  
**CDD / Beamforming Mode**

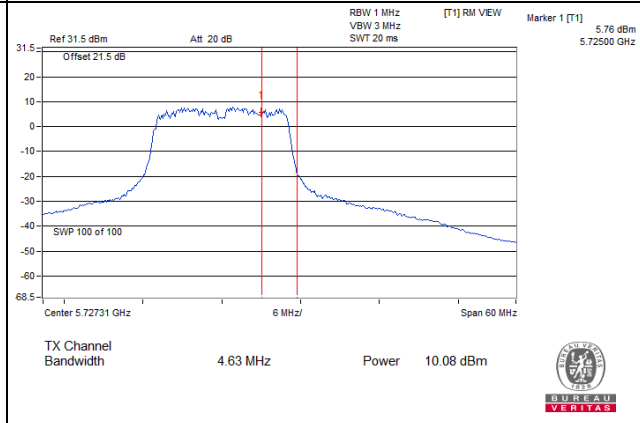
**Spectrum Plot Value of Power**



### 802.11a\_Chain 3 / CH144 (U-NII-2C Band)

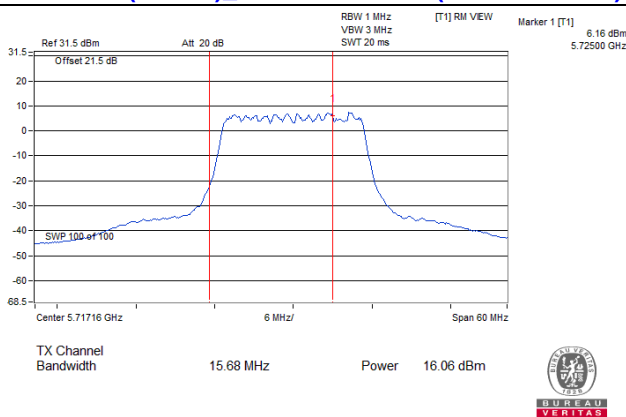


### 802.11a\_Chain 3 / CH144 (U-NII-3 Band)

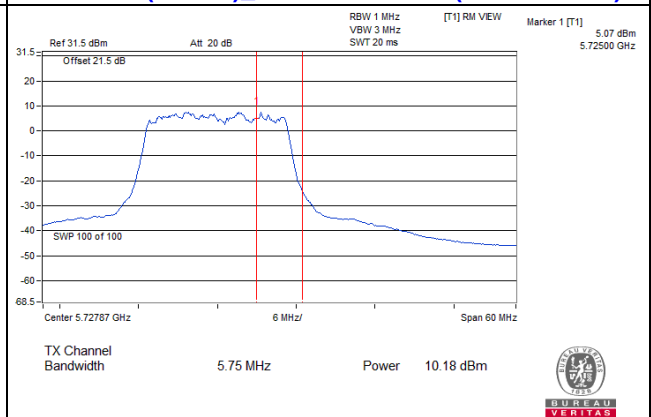


### Spectrum Plot Value of Power

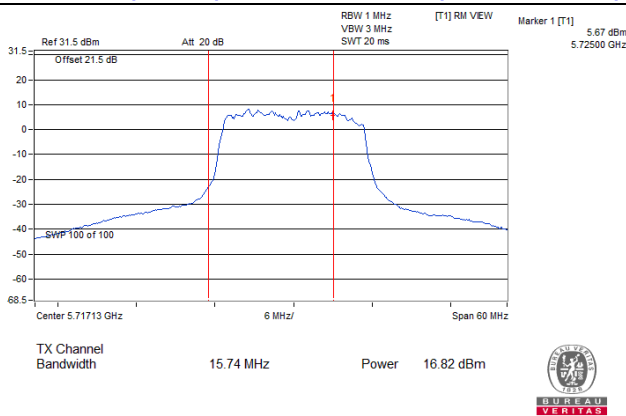
**802.11ac (VHT20)\_Chain 0 / CH144 (U-NII-2C Band)**



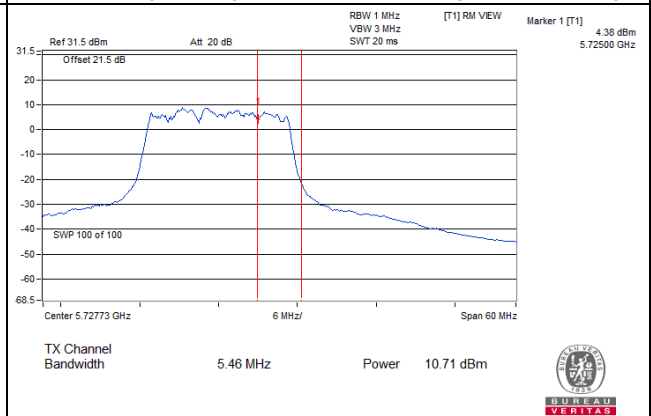
**802.11ac (VHT20)\_Chain 0 / CH144 (U-NII-3 Band)**



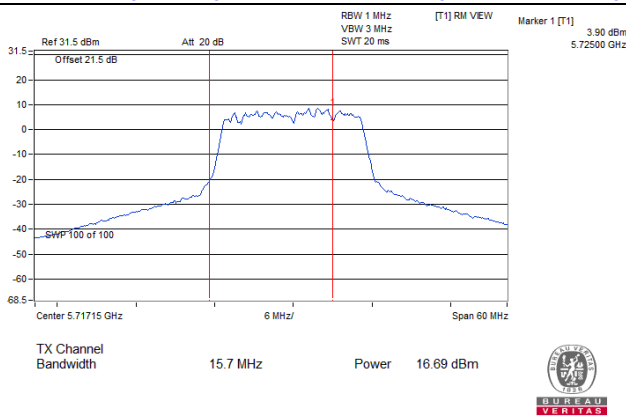
**802.11ac (VHT20)\_Chain 1 / CH144 (U-NII-2C Band)**



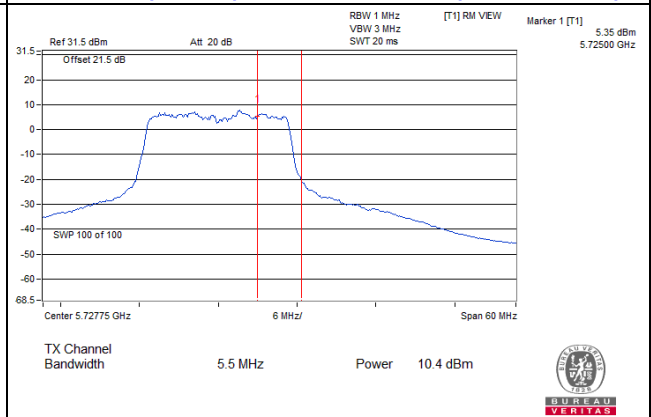
**802.11ac (VHT20)\_Chain 1 / CH144 (U-NII-3 Band)**



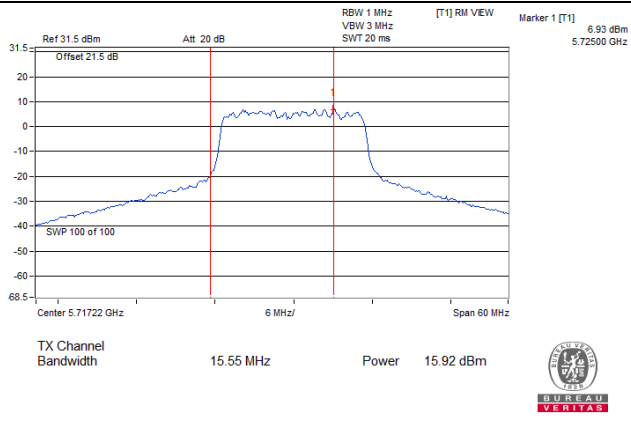
**802.11ac (VHT20)\_Chain 2 / CH144 (U-NII-2C Band)**



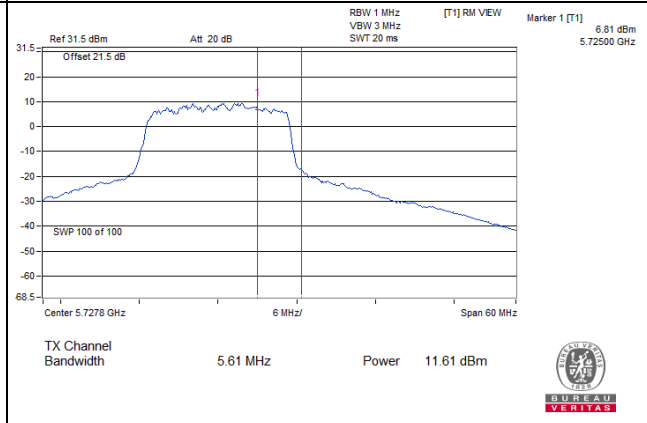
**802.11ac (VHT20)\_Chain 2 / CH144 (U-NII-3 Band)**



### 802.11ac (VHT20)\_Chain 3 / CH144 (U-NII-2C Band)

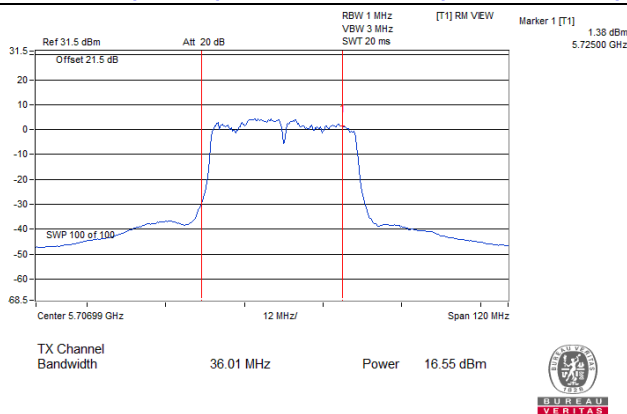


### 802.11ac (VHT20)\_Chain 3 / CH144 (U-NII-3 Band)

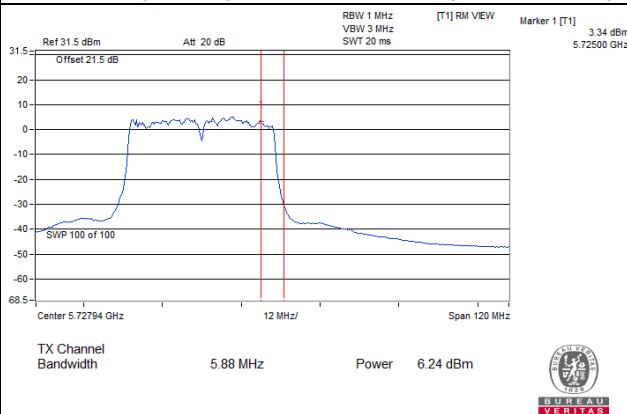


### Spectrum Plot Value of Power

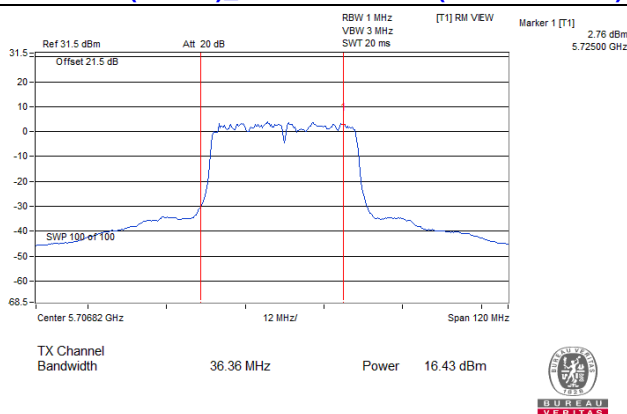
**802.11ac (VHT40)\_Chain 0 / CH142 (U-NII-2C Band)**



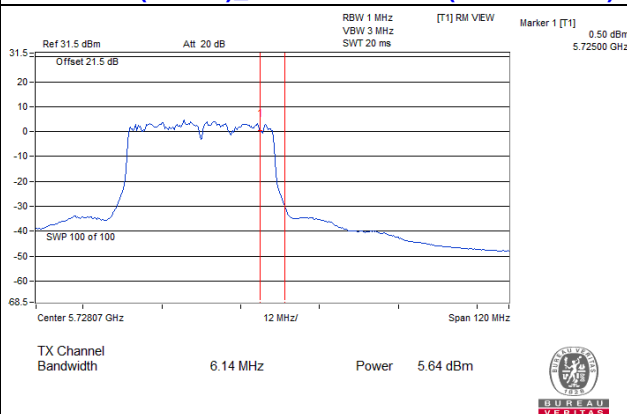
**802.11ac (VHT40)\_Chain 0 / CH142 (U-NII-3 Band)**



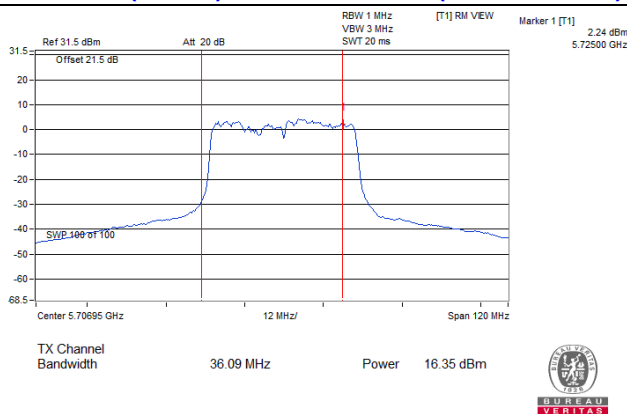
**802.11ac (VHT40)\_Chain 1 / CH142 (U-NII-2C Band)**



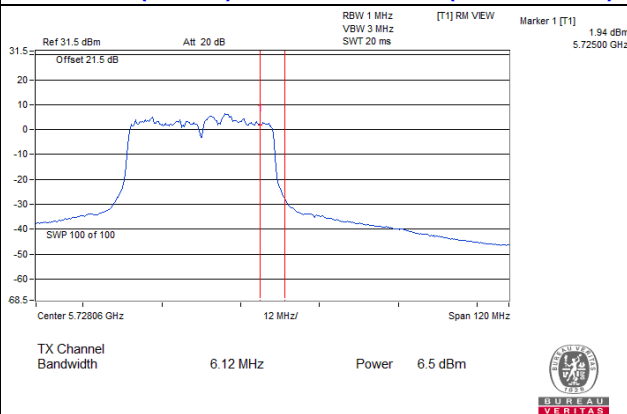
**802.11ac (VHT40)\_Chain 1 / CH142 (U-NII-3 Band)**



**802.11ac (VHT40)\_Chain 2 / CH142 (U-NII-2C Band)**

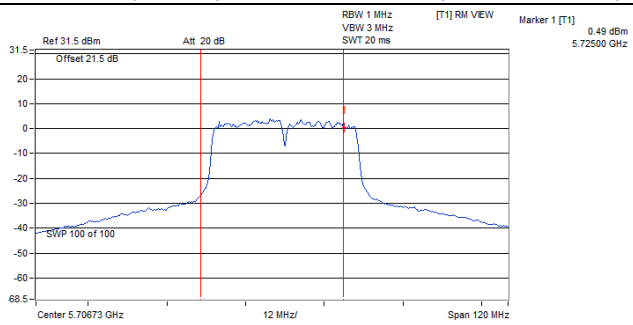


**802.11ac (VHT40)\_Chain 2 / CH142 (U-NII-3 Band)**

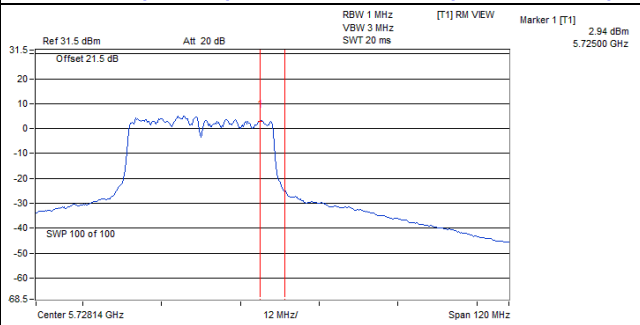




### 802.11ac (VHT40)\_Chain 3 / CH142 (U-NII-2C Band)

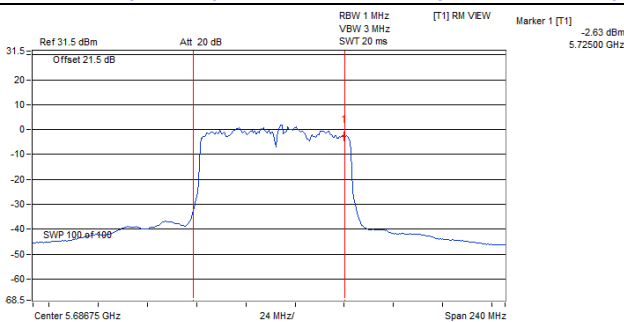


### 802.11ac (VHT40)\_Chain 3 / CH142 (U-NII-3 Band)



Spectrum Plot Value of Power

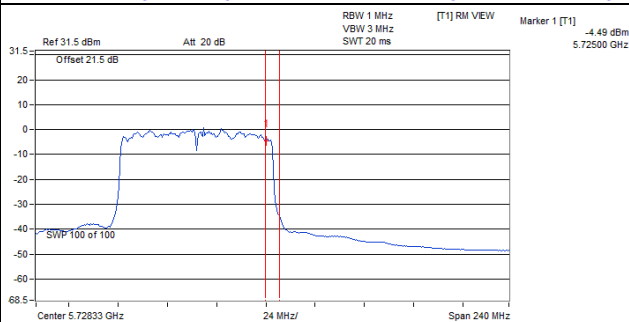
802.11ac (VHT80)\_Chain 0 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.49 MHz Power 16.76 dBm



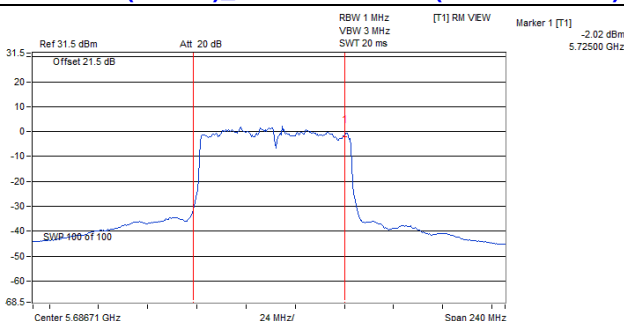
802.11ac (VHT80)\_Chain 0 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.66 MHz Power 0.2 dBm



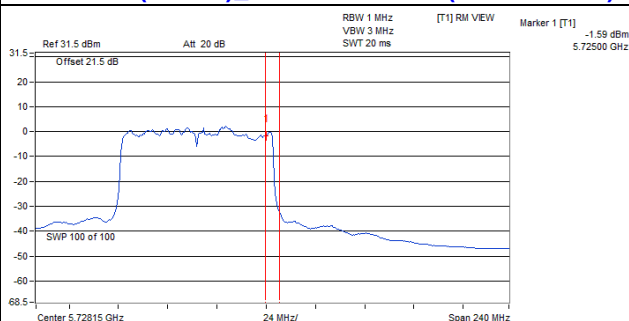
802.11ac (VHT80)\_Chain 1 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.57 MHz Power 17.32 dBm



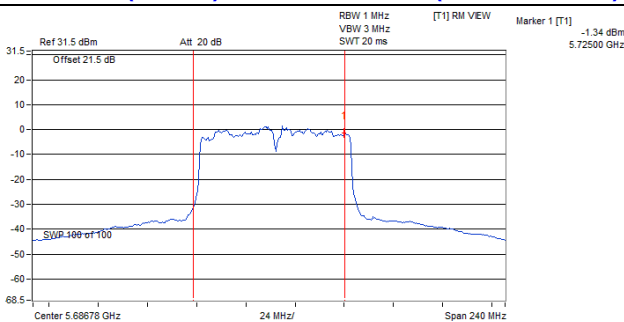
802.11ac (VHT80)\_Chain 1 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.3 MHz Power 3.85 dBm



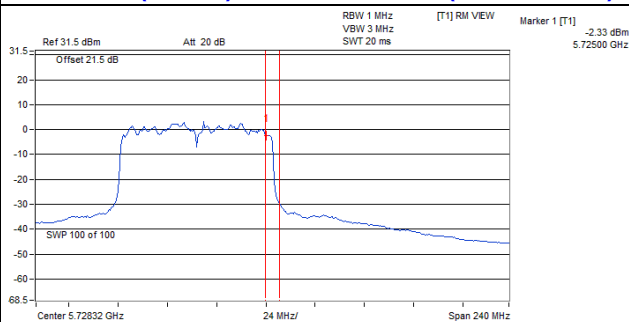
802.11ac (VHT80)\_Chain 2 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.44 MHz Power 16.57 dBm



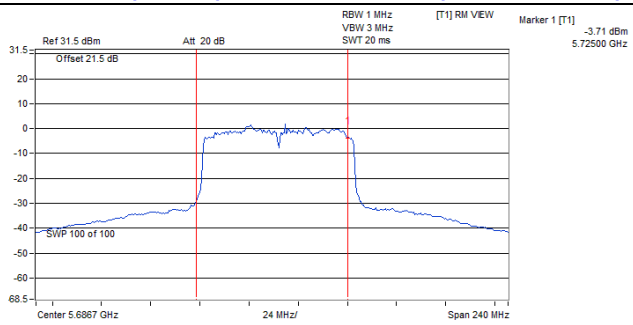
802.11ac (VHT80)\_Chain 2 / CH138 (U-NII-3 Band)



TX Channel Bandwidth 6.65 MHz Power 2.02 dBm



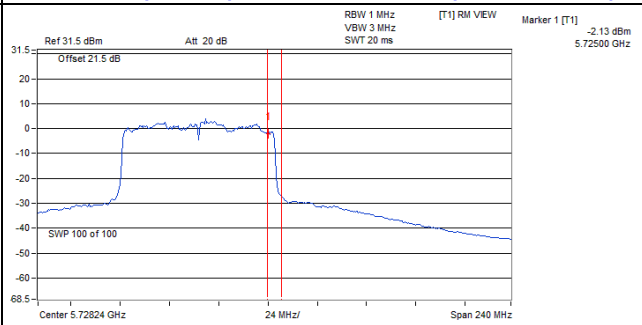
### 802.11ac (VHT80)\_Chain 3 / CH138 (U-NII-2C Band)



TX Channel Bandwidth 76.59 MHz Power 16.67 dBm



### 802.11ac (VHT80)\_Chain 3 / CH138 (U-NII-3 Band)

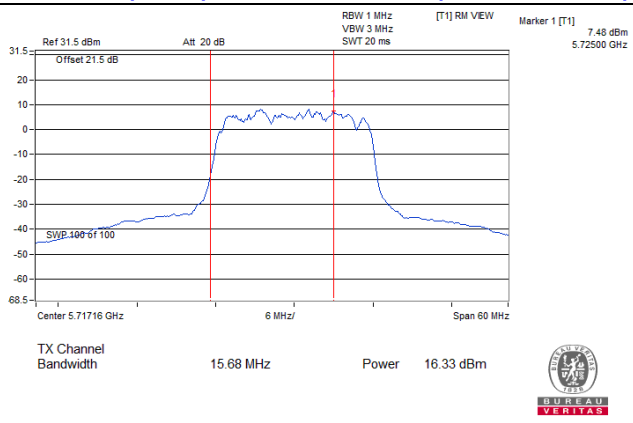


TX Channel Bandwidth 6.49 MHz Power 2.81 dBm

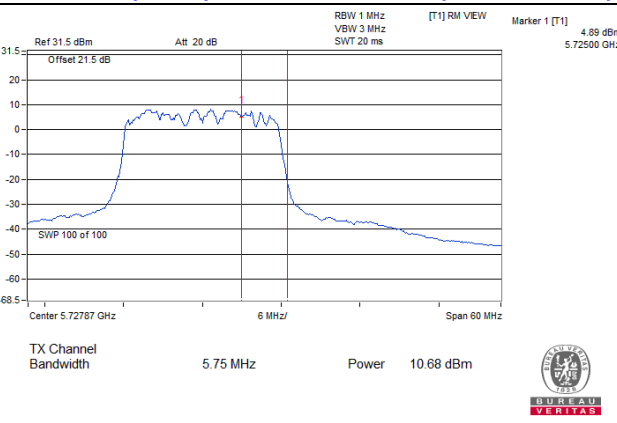


### Spectrum Plot Value of Power

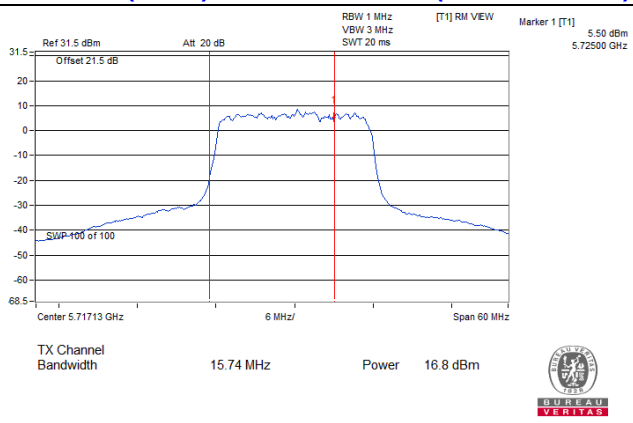
**802.11ax (HE20)\_Chain 0 / CH144 (U-NII-2C Band)**



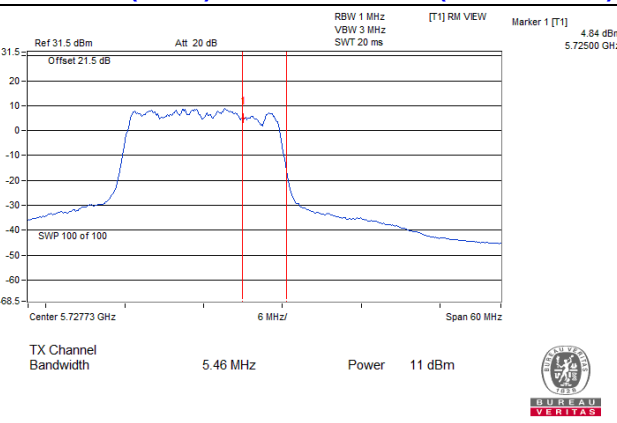
**802.11ax (HE20)\_Chain 0 / CH144 (U-NII-3 Band)**



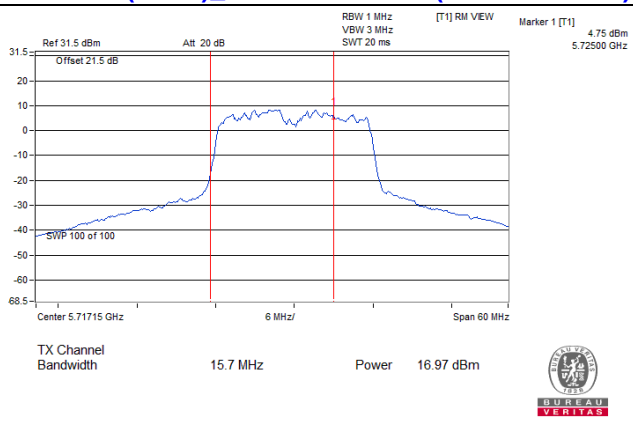
**802.11ax (HE20)\_Chain 1 / CH144 (U-NII-2C Band)**



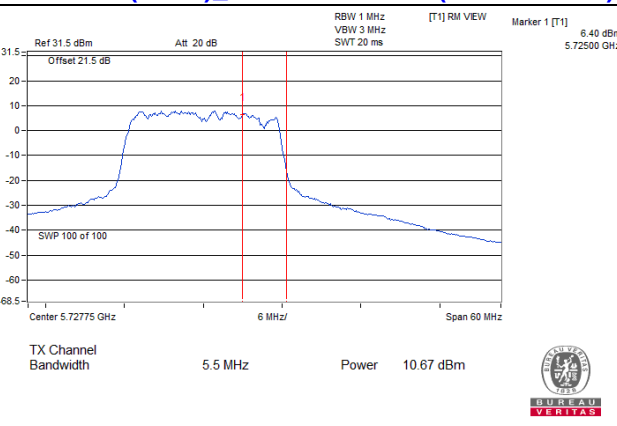
**802.11ax (HE20)\_Chain 1 / CH144 (U-NII-3 Band)**



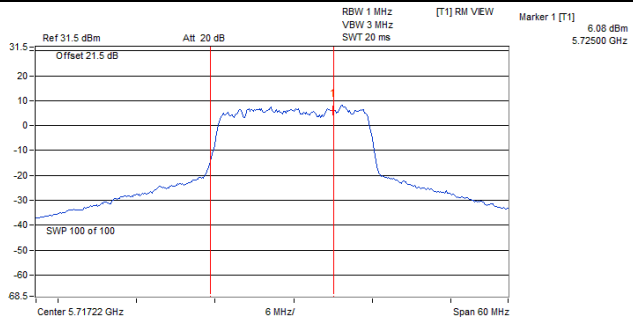
**802.11ax (HE20)\_Chain 2 / CH144 (U-NII-2C Band)**



**802.11ax (HE20)\_Chain 2 / CH144 (U-NII-3 Band)**



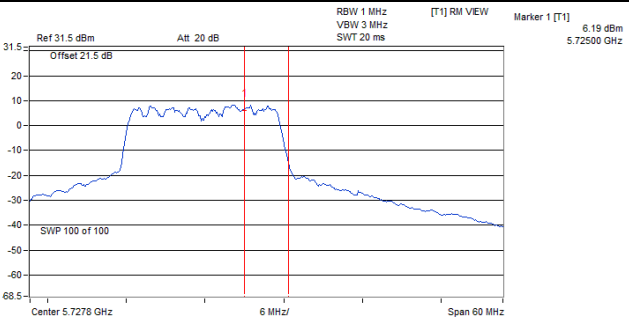
### 802.11ax (HE20)\_Chain 3 / CH144 (U-NII-2C Band)



TX Channel Bandwidth 15.55 MHz Power 16.37 dBm



### 802.11ax (HE20)\_Chain 3 / CH144 (U-NII-3 Band)

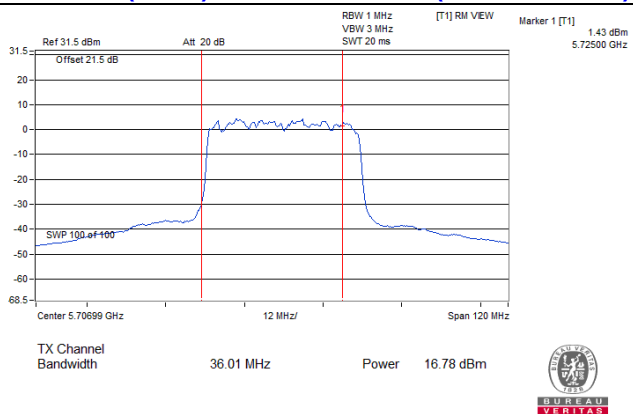


TX Channel Bandwidth 5.61 MHz Power 12.17 dBm

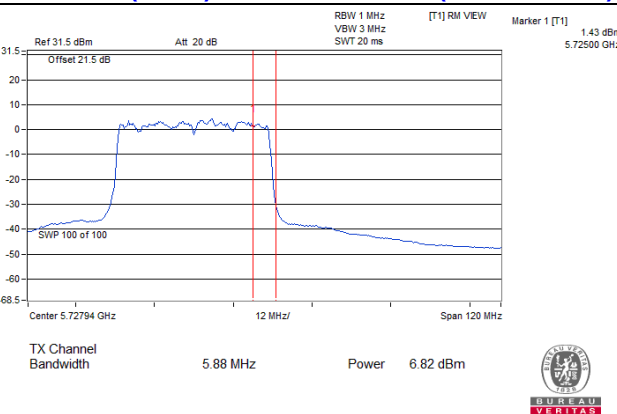


Spectrum Plot Value of Power

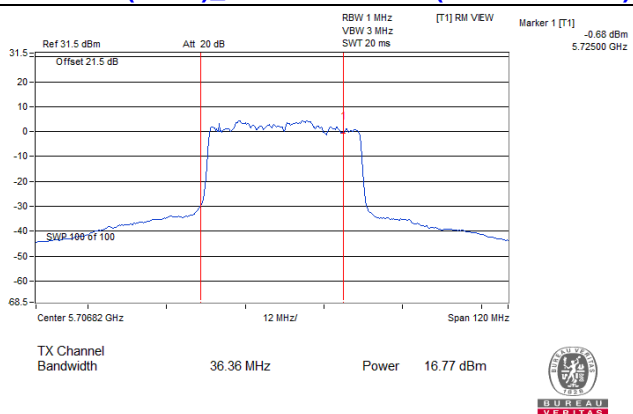
802.11ax (HE40)\_Chain 0 / CH142 (U-NII-2C Band)



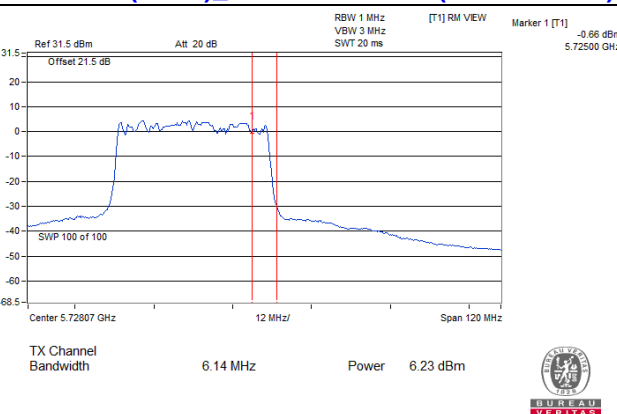
802.11ax (HE40)\_Chain 0 / CH142 (U-NII-3 Band)



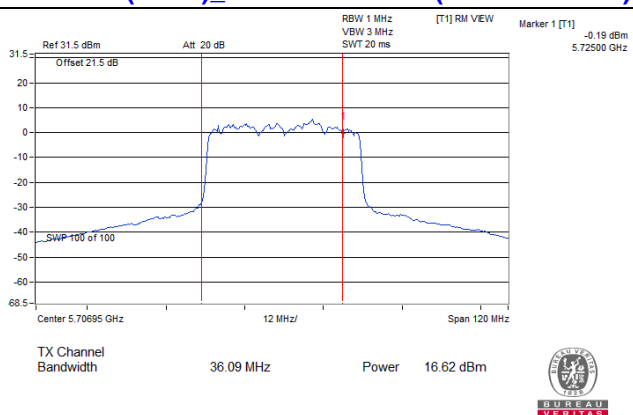
802.11ax (HE40)\_Chain 1 / CH142 (U-NII-2C Band)



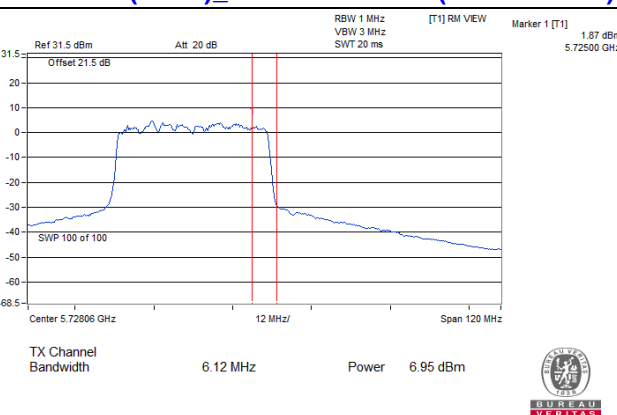
802.11ax (HE40)\_Chain 1 / CH142 (U-NII-3 Band)



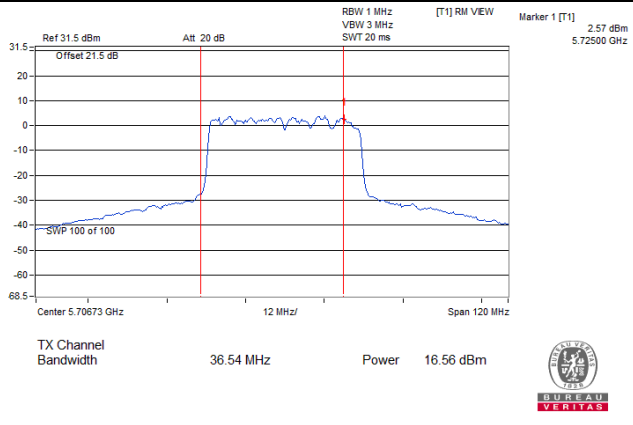
802.11ax (HE40)\_Chain 2 / CH142 (U-NII-2C Band)



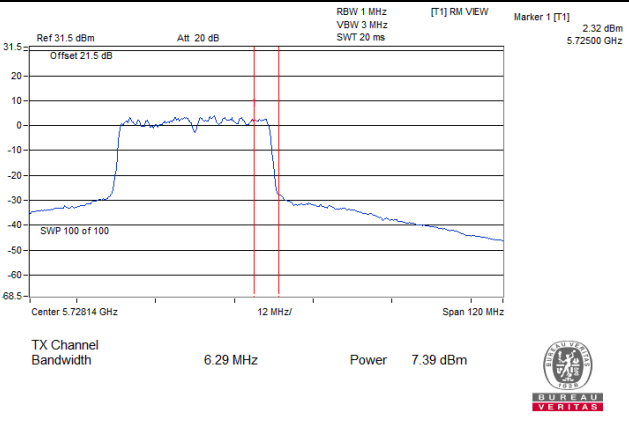
802.11ax (HE40)\_Chain 2 / CH142 (U-NII-3 Band)



### 802.11ax (HE40)\_Chain 3 / CH142 (U-NII-2C Band)

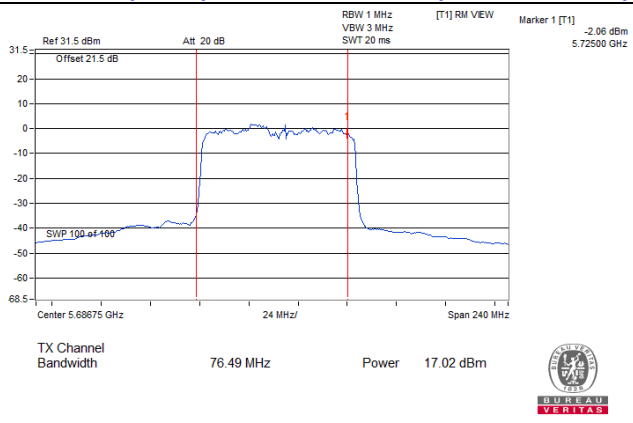


### 802.11ax (HE40)\_Chain 3 / CH142 (U-NII-3 Band)

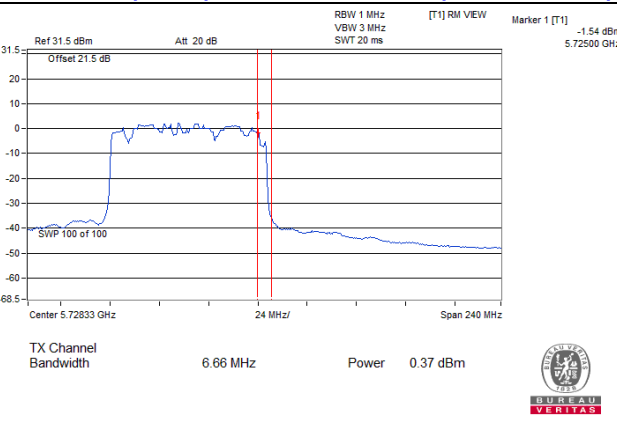


### Spectrum Plot Value of Power

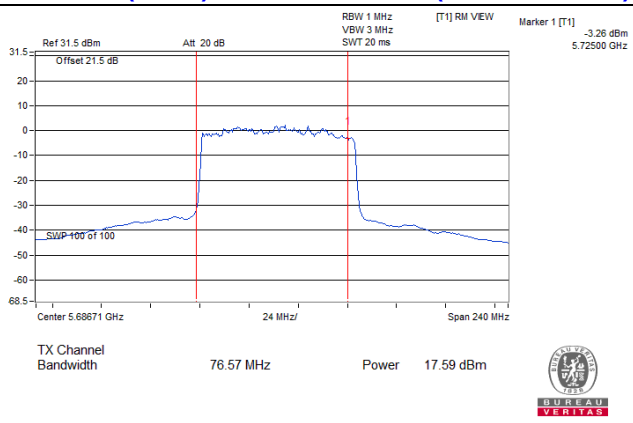
**802.11ax (HE80)\_Chain 0 / CH138 (U-NII-2C Band)**



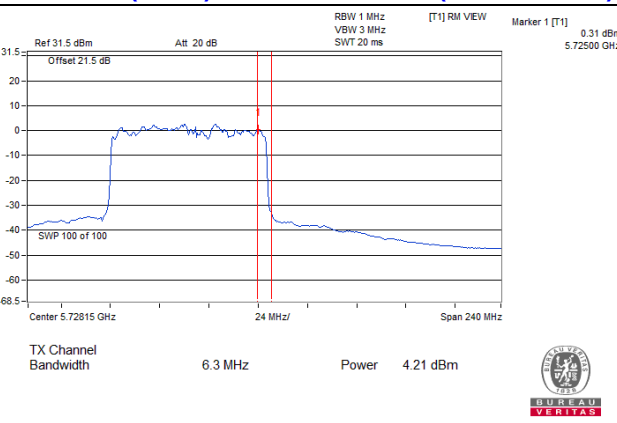
**802.11ax (HE80)\_Chain 0 / CH138 (U-NII-3 Band)**



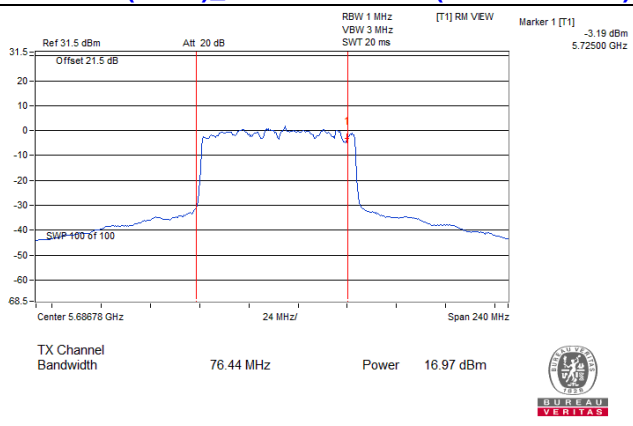
**802.11ax (HE80)\_Chain 1 / CH138 (U-NII-2C Band)**



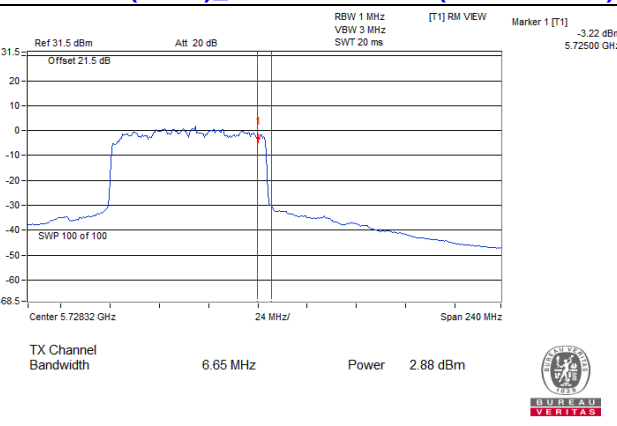
**802.11ax (HE80)\_Chain 1 / CH138 (U-NII-3 Band)**



**802.11ax (HE80)\_Chain 2 / CH138 (U-NII-2C Band)**

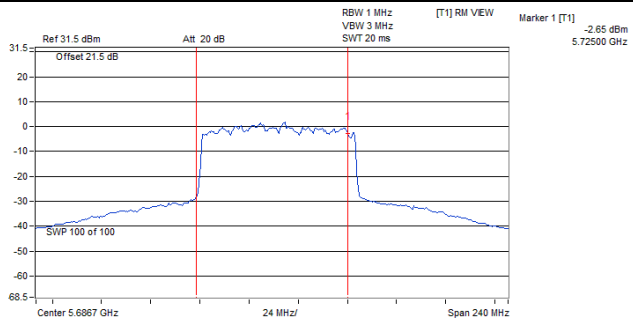


**802.11ax (HE80)\_Chain 2 / CH138 (U-NII-3 Band)**





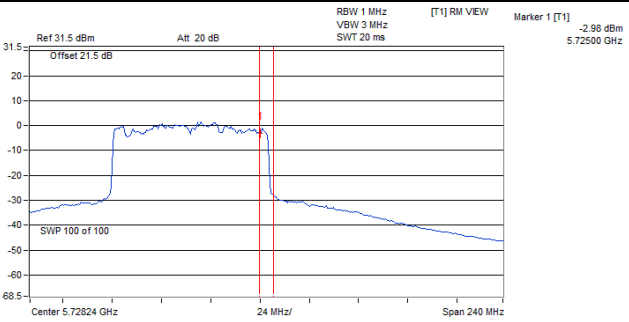
**802.11ax (HE80)\_Chain 3 / CH138 (U-NII-2C Band)**



TX Channel Bandwidth 76.59 MHz Power 16.91 dBm



**802.11ax (HE80)\_Chain 3 / CH138 (U-NII-3 Band)**



TX Channel Bandwidth 6.49 MHz Power 3.06 dBm



**CDD Mode**
**26dB OCCUPIED BANDWIDTH**
**802.11a**

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	19.51	19.63	19.91	19.45
60	5300	19.77	19.83	20.14	19.63
64	5320	19.63	20.21	19.65	19.55
100	5500	19.7	19.89	19.62	19.56
116	5580	19.8	19.85	19.59	19.65
140	5700	19.63	19.86	19.86	19.57
144 (U-NII-2C Band)	5720	14.98	14.97	14.73	14.99
144 (U-NII-3 Band)	5720	4.63	4.78	4.79	4.63

**802.11ax (HE20)**

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
52	5260	21.3	21.65	21.27	21.66
60	5300	21.28	21.39	21.41	21.31
64	5320	21.36	21.53	21.59	21.19
100	5500	21.28	21.52	21.84	21.1
116	5580	21.58	21.26	21.31	20.91
140	5700	21.48	21.45	21.75	21.14
144 (U-NII-2C Band)	5720	15.68	15.74	15.7	15.55
144 (U-NII-3 Band)	5720	5.75	5.46	5.5	5.61

**802.11ax (HE40)**

Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
54	5270	42.5	42.71	41.96	42.43
62	5310	42.74	42.36	42.54	42.66
102	5510	42.47	42.7	42.5	42.3
110	5550	42.35	42.48	42.16	42.61
134	5670	42.66	42.97	42.56	42.24
142 (U-NII-2C Band)	5710	36.01	36.36	36.09	36.54
142 (U-NII-3 Band)	5710	5.88	6.14	6.12	6.29

**802.11ax (HE80)**

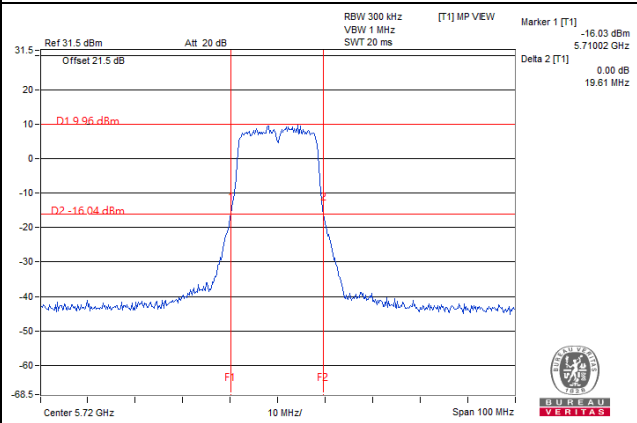
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
58	5290	82.93	83.15	82.64	83.34
106	5530	83.13	82.95	83.18	83.11
122	5610	83.28	83.55	83.23	83.03
138 (U-NII-2C Band)	5690	76.49	76.57	76.44	76.59
138 (U-NII-3 Band)	5690	6.66	6.3	6.65	6.49

**802.11ax (HE80+80)**

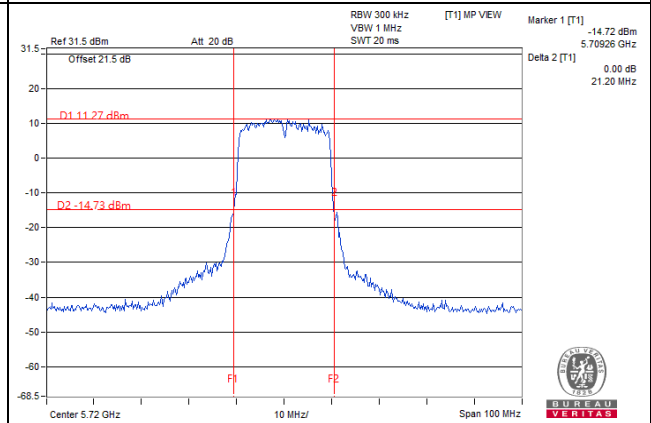
Channel	Frequency (MHz)	26dB Bandwidth (MHz)			
		Chain0	Chain1	Chain2	Chain3
42+58(L)	5210	82.83	82.77	-	-
42+58(H)	5290	-	-	149.75	83.88
106+122(L)	5530	83.3	87.88	-	-
106+122(H)	5610	-	-	162.02	83.08

Spectrum Plot of Worst Value

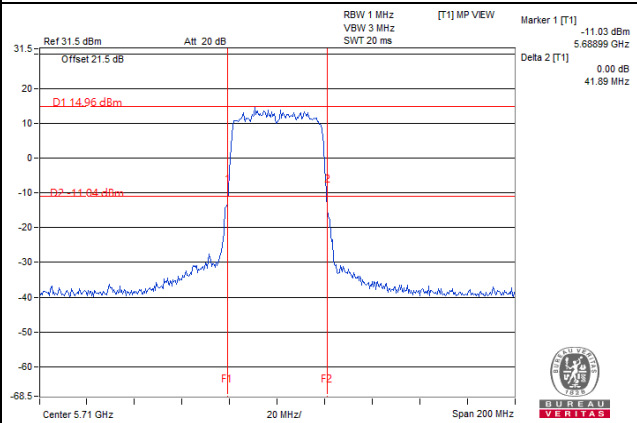
802.11a\_Chain 0 / CH144 (U-NII-3)



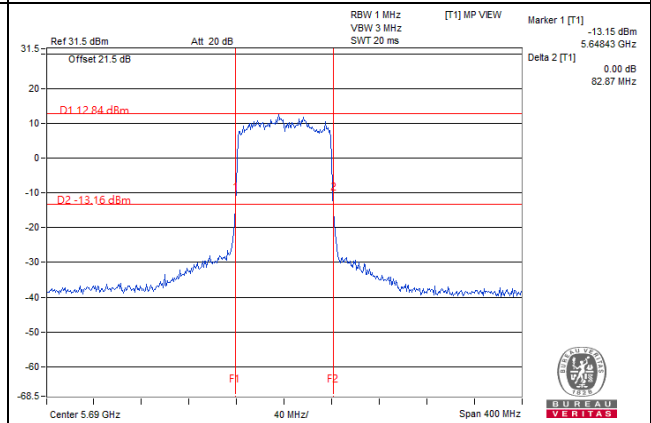
802.11ax (HE20)\_Chain 1 / CH144 (U-NII-3)



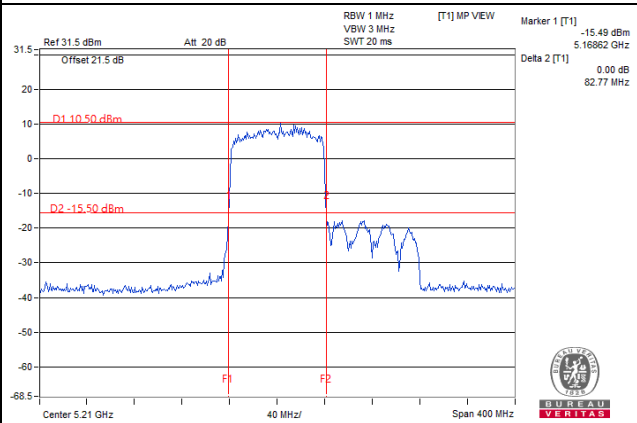
802.11ax (HE40)\_Chain 0 / CH142 (U-NII-3)



802.11ax (HE80)\_Chain 1 / CH138 (U-NII-3)



802.11ax (HE80+80)\_Chain 1 / CH42



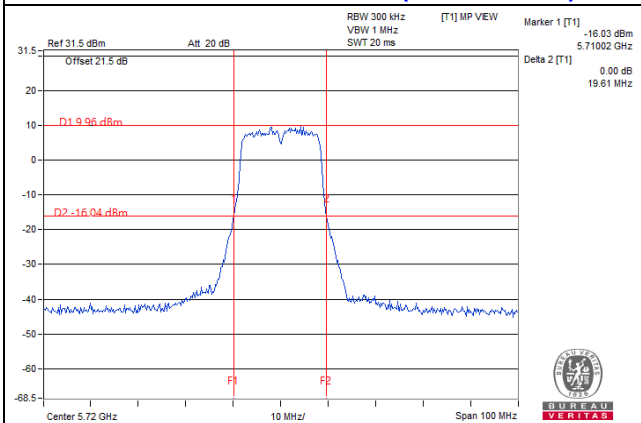
Note:

- For CH144 (U-NII-2C) = 5725MHz - Marker 1
- For CH142 (U-NII-2C) = 5725MHz - Marker 1
- For CH138 (U-NII-2C) = 5725MHz - Marker 1

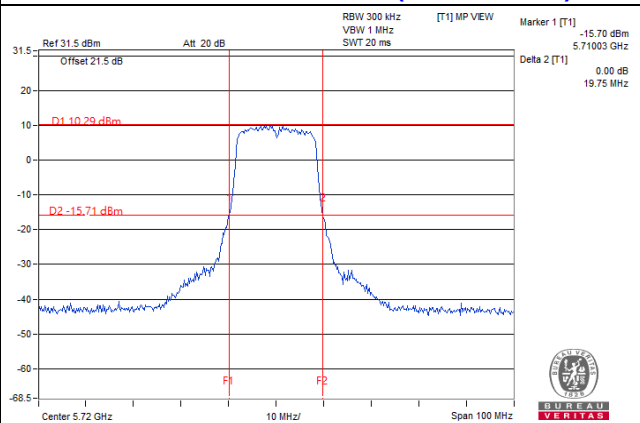
**For channel straddling 5725MHz of 26dB BW**

**Spectrum Plot Value of 26dB BW**

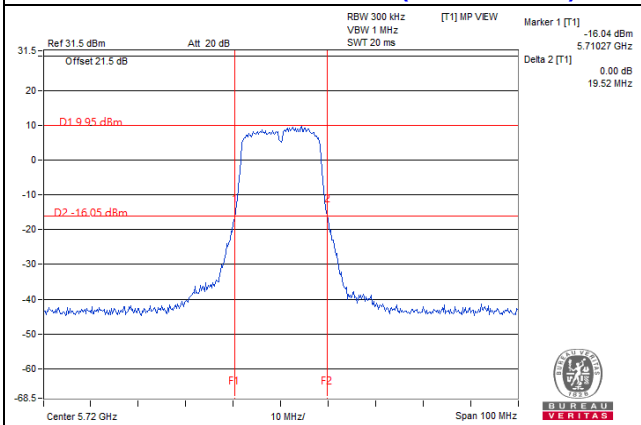
**802.11a \_Chain 0 / CH144 (U-NII-3 Band)**



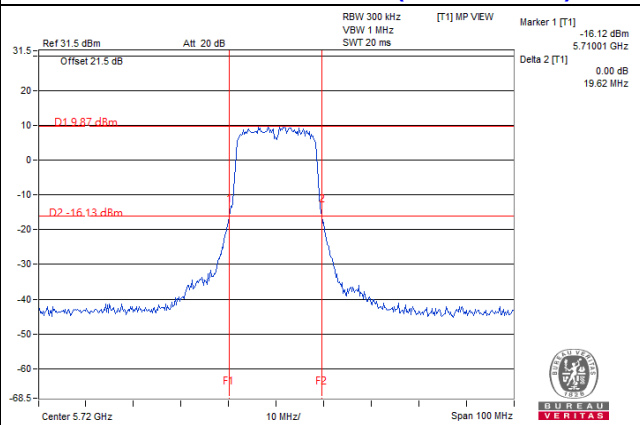
**802.11a \_Chain 1 / CH144 (U-NII-3 Band)**



**802.11a \_Chain 2 / CH144 (U-NII-3 Band)**

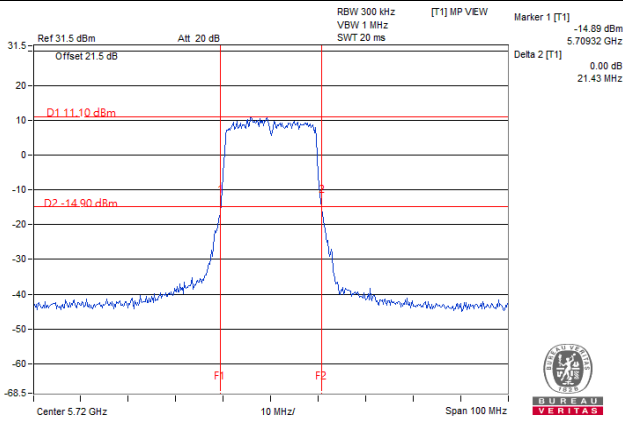


**802.11a \_Chain 3 / CH144 (U-NII-3 Band)**

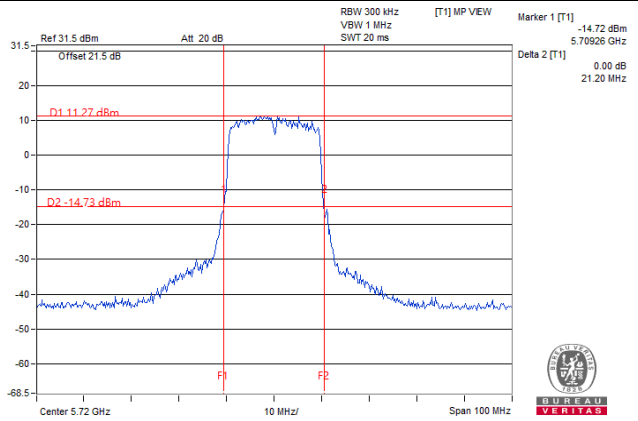


Spectrum Plot Value of 26dB BW

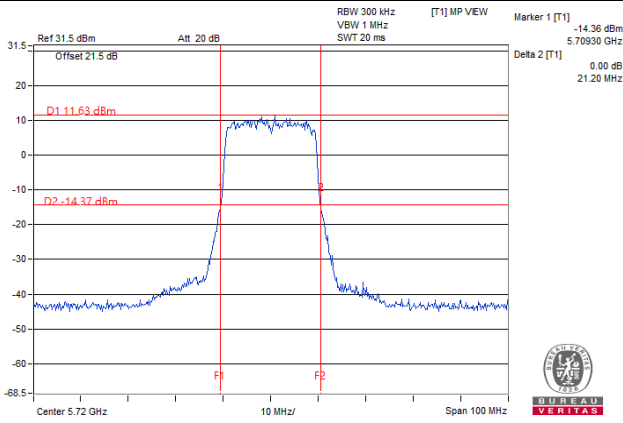
802.11ax (HE20)\_Chain 0/ CH144 (U-NII-2C Band)



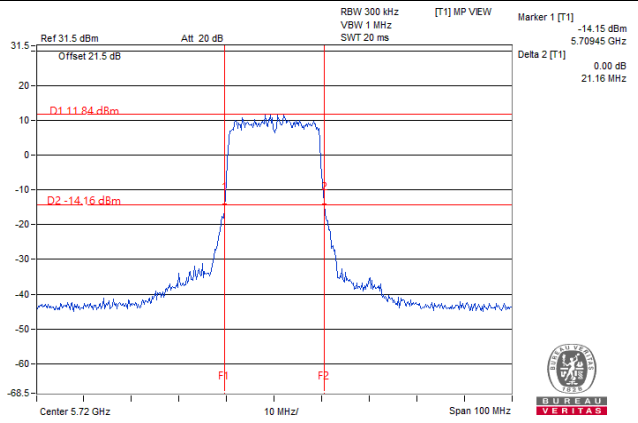
802.11ax (HE20)\_Chain 1/ CH144 (U-NII-2C Band)



802.11ax (HE20)\_Chain 2/ CH144 (U-NII-2C Band)

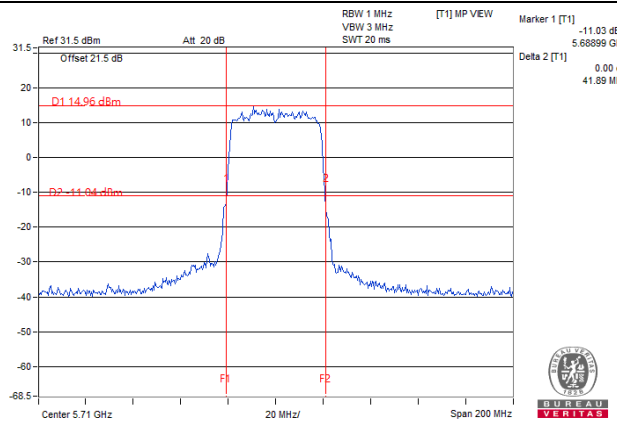


802.11ax (HE20)\_Chain 3/ CH144 (U-NII-2C Band)

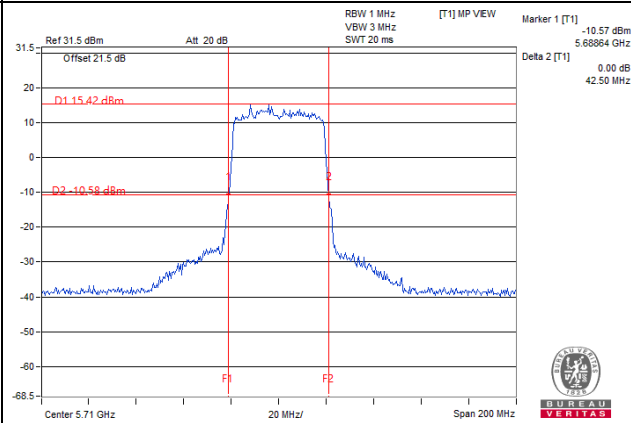


Spectrum Plot Value of 26dB BW

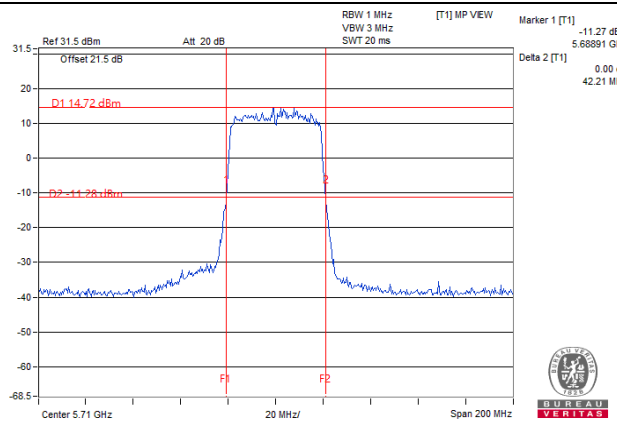
802.11ax (HE40)\_Chain 0 / CH142 (U-NII-2C Band)



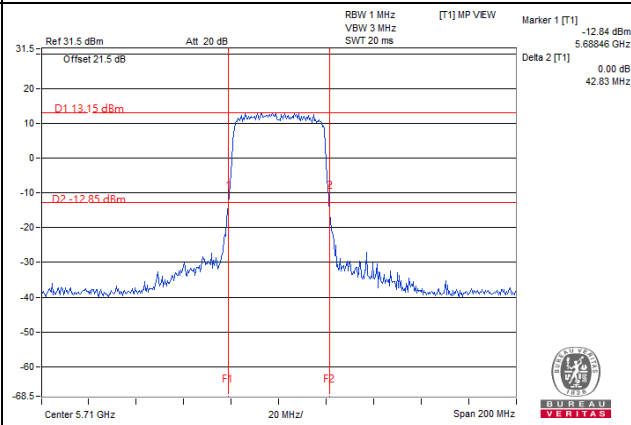
802.11ax (HE40)\_Chain 1 / CH142 (U-NII-2C Band)



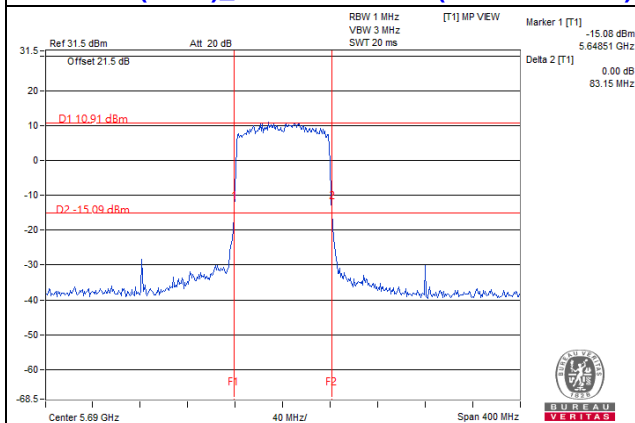
802.11ax (HE40)\_Chain 2 / CH142 (U-NII-2C Band)



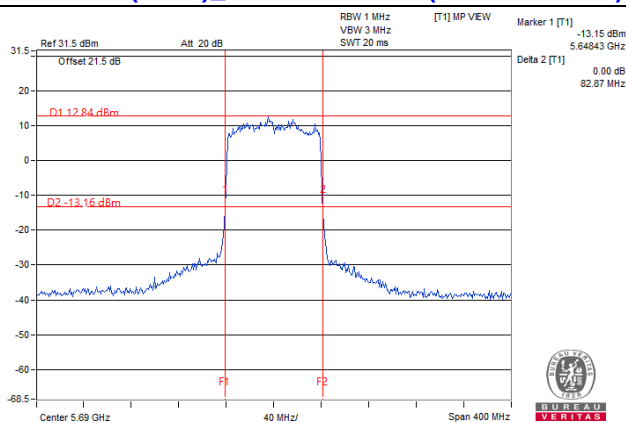
802.11ax (HE40)\_Chain 3 / CH142 (U-NII-2C Band)



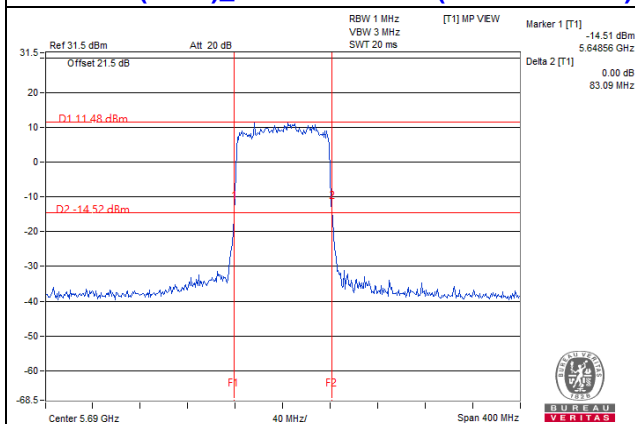
### 802.11ax (HE80)\_Chain 0/ CH138 (U-NII-2C Band)



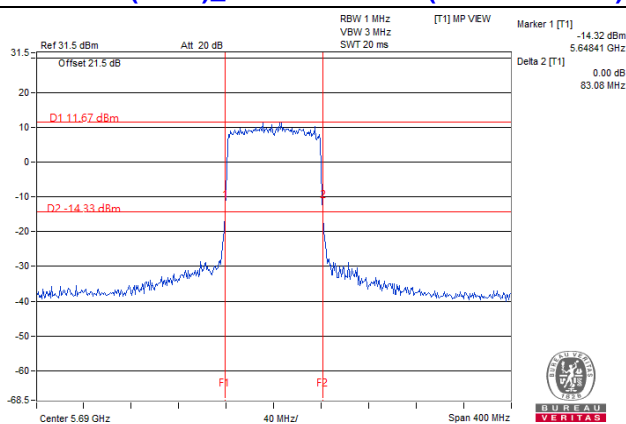
### 802.11ax (HE80)\_Chain 1/ CH138 (U-NII-2C Band)



### 802.11ax (HE80)\_Chain 2/ CH138 (U-NII-2C Band)



### 802.11ax (HE80)\_Chain 3/ CH138 (U-NII-2C Band)



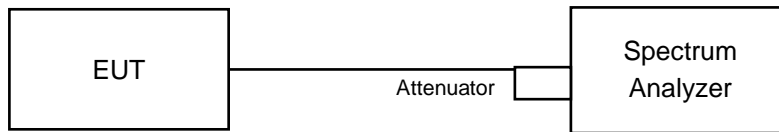
**Note:**

- For CH144 (U-NII-2C Band) = 5725MHz - Marker 1
- For CH142 (U-NII-2C Band) = 5725MHz - Marker 1
- For CH138 (U-NII-2C Band) = 5725MHz - Marker 1



## 4.4 Occupied Bandwidth Measurement

### 4.4.1 Test Setup



### 4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

### 4.4.3 Test Procedure

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

#### 4.4.4 Test Results

##### CDD Mode

##### 802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	16.44	16.56	16.56	16.44
60	5300	16.56	16.44	16.56	16.44
64	5320	16.44	16.56	16.32	16.56
100	5500	16.44	16.56	16.56	16.44
116	5580	16.56	16.44	16.44	16.56
140	5700	16.44	16.56	16.32	16.32
144 (U-NII-2C Band)	5720	13.4	13.4	13.28	13.4
144 (U-NII-3 Band)	5720	3.16	3.16	3.16	3.16

##### 802.11ax (HE20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	18.84	18.96	18.96	18.96
60	5300	18.96	19.08	18.96	18.96
64	5320	18.96	18.96	19.08	18.96
100	5500	19.08	19.08	18.96	19.08
116	5580	19.08	19.08	18.96	19.08
140	5700	18.96	18.96	18.96	18.84
144 (U-NII-2C Band)	5720	14.6	14.6	14.6	14.6
144 (U-NII-3 Band)	5720	4.36	4.36	4.36	4.36

**802.11ax (HE40)**

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	38.16	37.92	37.92	37.92
62	5310	38.16	38.16	37.68	38.4
102	5510	38.16	38.16	38.16	37.92
110	5550	37.92	38.16	37.92	37.92
134	5670	37.92	38.16	37.92	38.16
142 (U-NII-2C Band)	5710	34.2	34.2	34.2	34.2
142 (U-NII-3 Band)	5710	3.72	3.72	3.96	3.72

**802.11ax (HE80)**

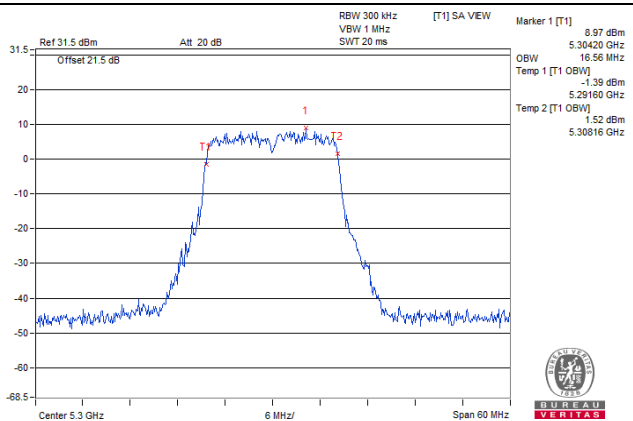
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	77.28	77.76	77.28	77.28
106	5530	76.8	77.28	77.28	77.28
122	5610	77.28	77.28	77.28	77.28
138 (U-NII-2C Band)	5690	73.88	73.88	73.88	73.88
138 (U-NII-3 Band)	5690	3.4	3.88	3.4	3.4

**802.11ax (HE80+80)**

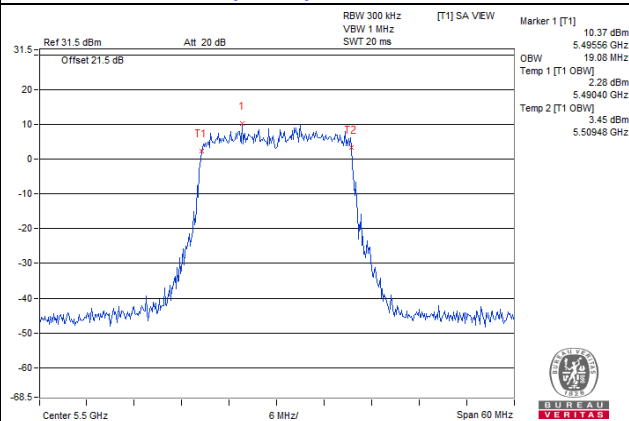
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58(L)	5210	77.28	77.76	-	-
42+58(H)	5290	-	-	77.76	77.28
106+122(L)	5530	77.28	77.28	-	-
106+122(H)	5610	-	-	95.52	77.28

Spectrum Plot of Max. Value

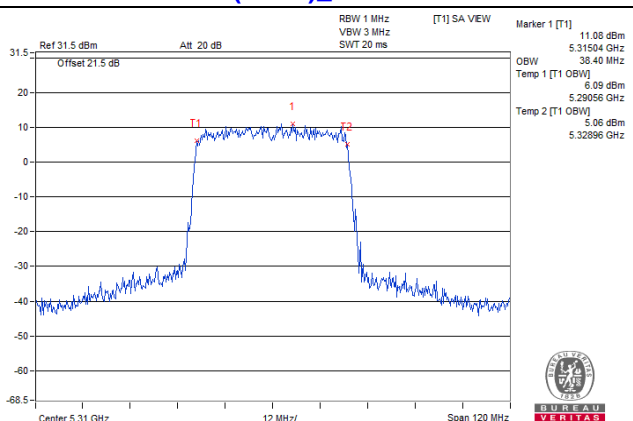
802.11a\_Chain 0 / CH60



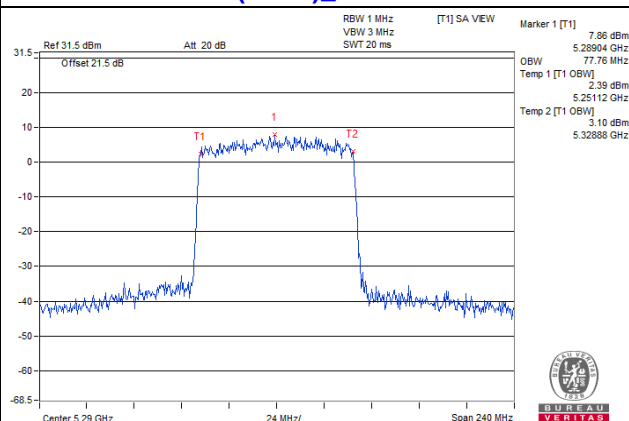
802.11ax (HE20)\_Chain 0 / CH100



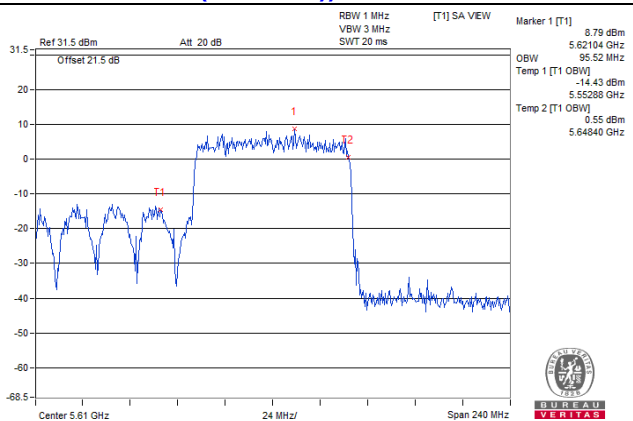
802.11ax (HE40)\_Chain 3 / CH62



802.11ax (HE80)\_Chain 1 / CH58



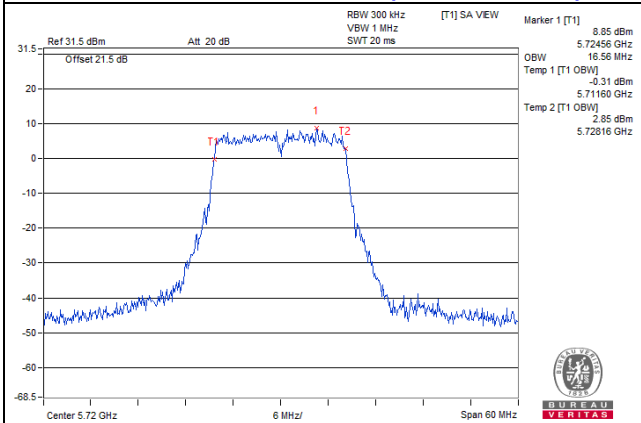
802.11ax (HE80+80)\_Chain 2 / CH122



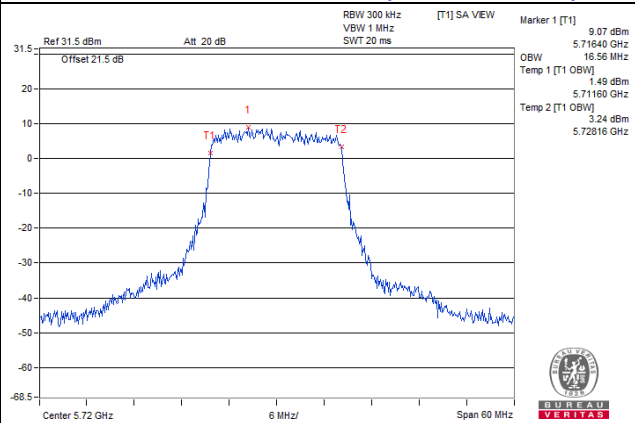
For channel straddling 5725MHz of OCP99 BW

Spectrum Plot Value of OCP99 BW

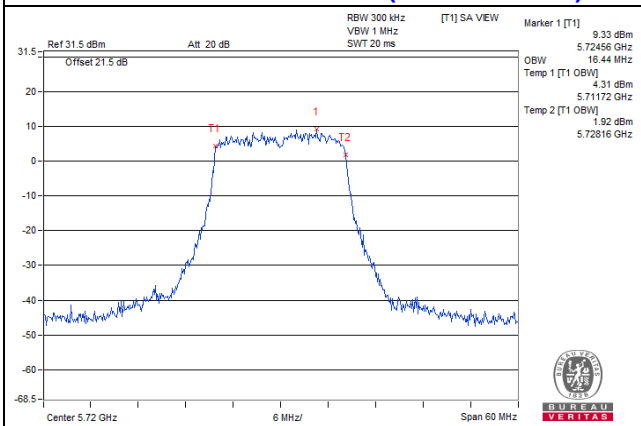
802.11a / Chain0 : CH144 (U-NII-2C Band)



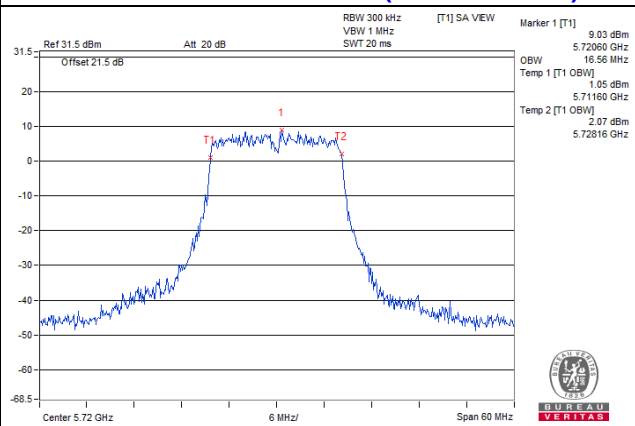
802.11a / Chain1 : CH144 (U-NII-2C Band)



802.11a / Chain2 : CH144 (U-NII-2C Band)

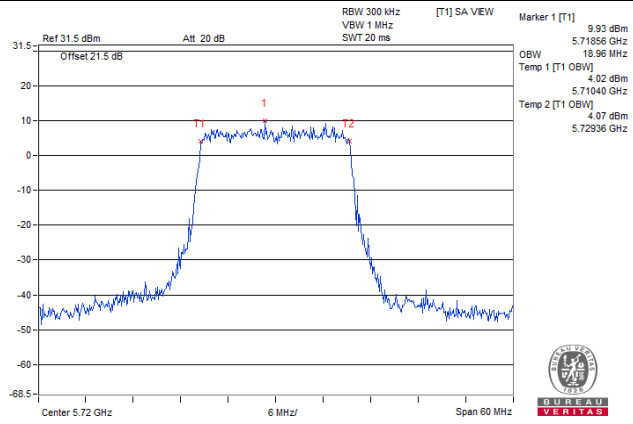


802.11a / Chain3 : CH144 (U-NII-2C Band)

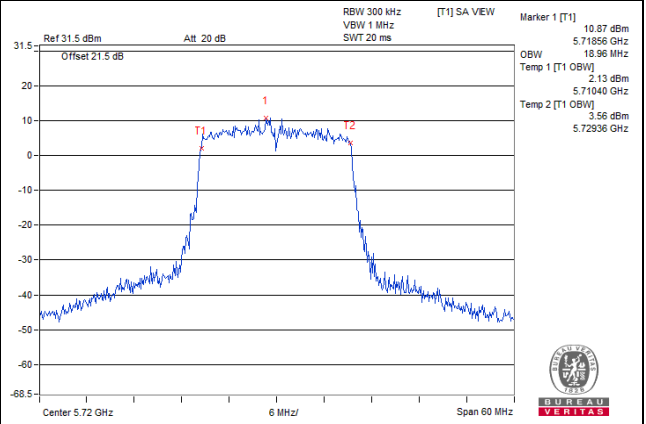


### Spectrum Plot Value of OCP99 BW

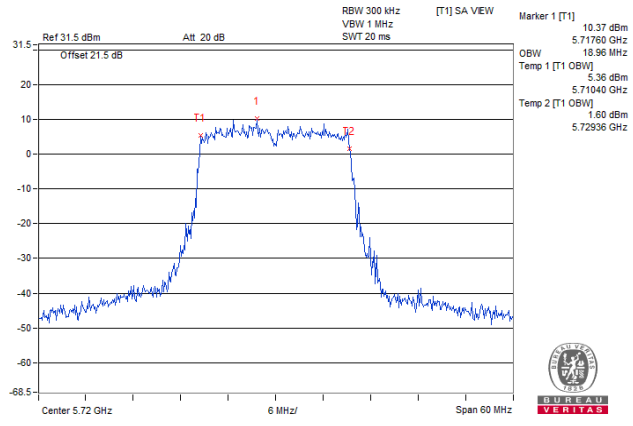
**802.11ax (HE20) / Chain0 : CH144 (U-NII-2C Band)**



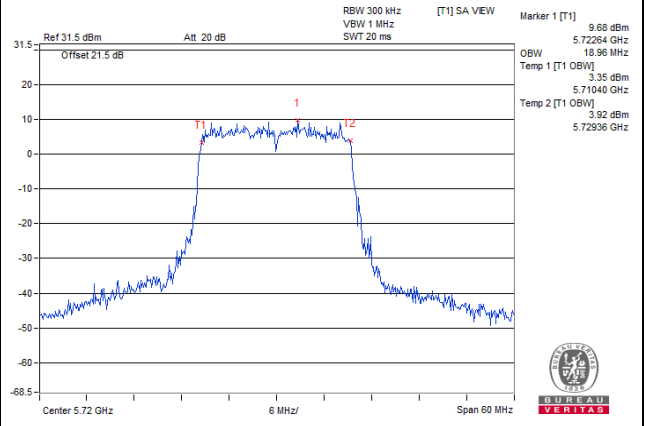
**802.11ax (HE20) / Chain1 : CH144 (U-NII-2C Band)**



**802.11ax (HE20) / Chain2 : CH144 (U-NII-2C Band)**

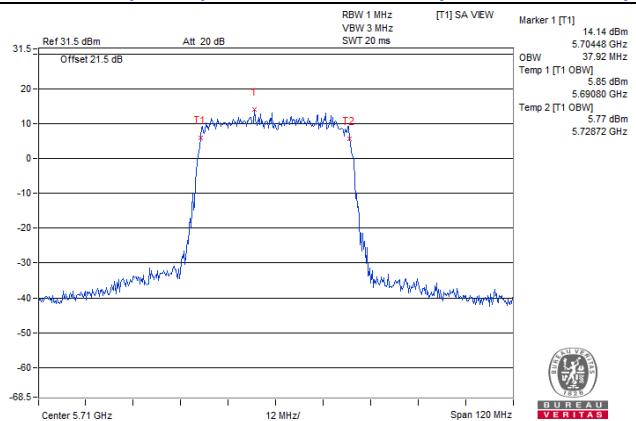


**802.11ax (HE20) / Chain3 : CH144 (U-NII-2C Band)**

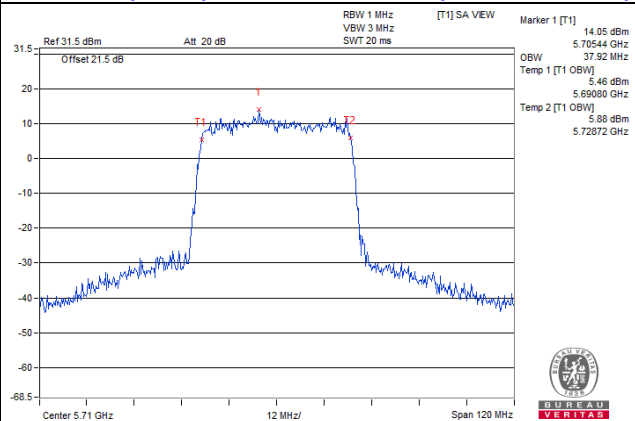


Spectrum Plot Value of OCP99 BW

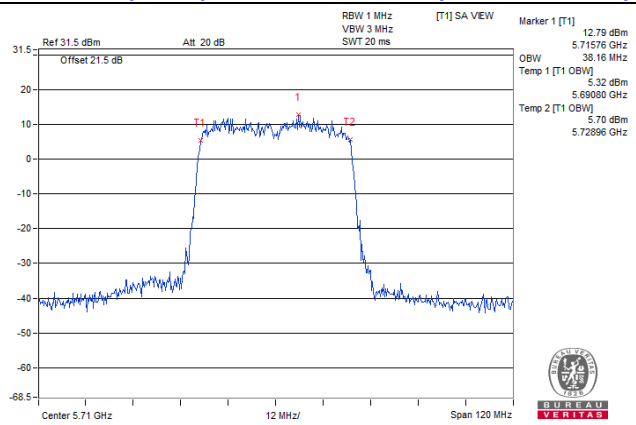
802.11ax (HE40) / Chain0 : CH142 (U-NII-2C Band)



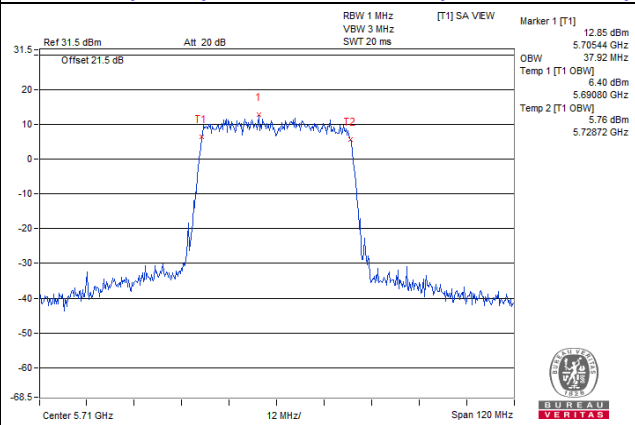
802.11ax (HE40) / Chain1 : CH142 (U-NII-2C Band)



802.11ax (HE40) / Chain2 : CH142 (U-NII-2C Band)

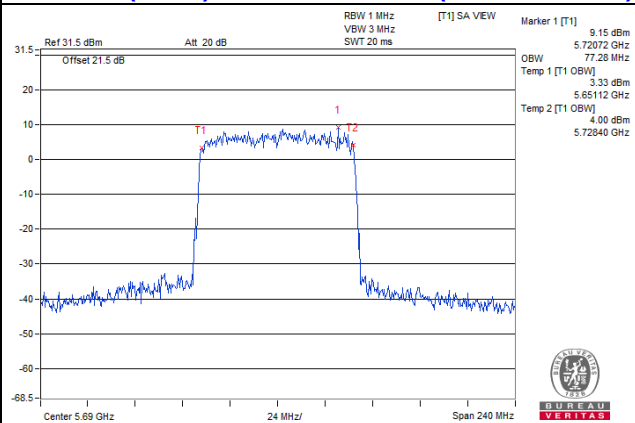


802.11ax (HE40) / Chain3 : CH142 (U-NII-2C Band)

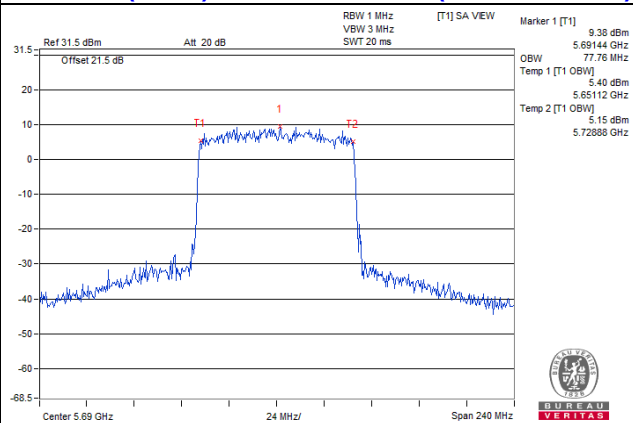


Spectrum Plot Value of OCP99 BW

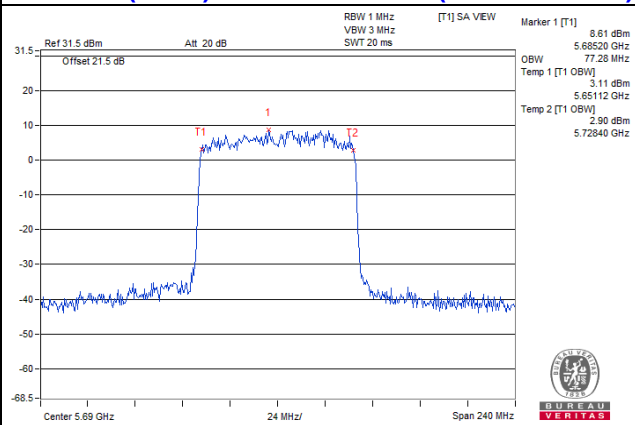
802.11ax (HE80) / Chain0 : CH138 (U-NII-2C Band)



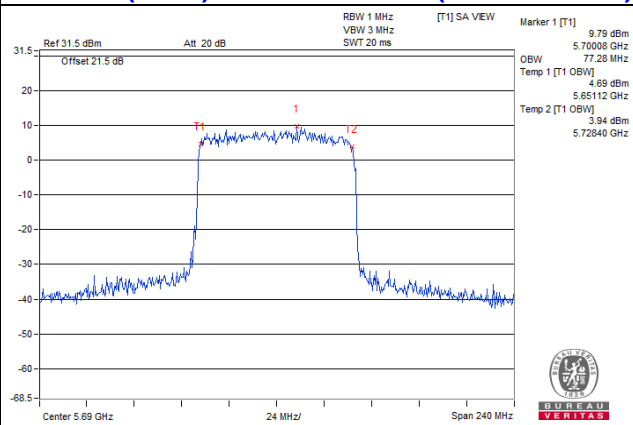
802.11ax (HE80) / Chain1 : CH138 (U-NII-2C Band)



802.11ax (HE80) / Chain2 : CH138 (U-NII-2C Band)



802.11ax (HE80) / Chain3 : CH138 (U-NII-2C Band)



Note:

- For CH144 (U-NII-2C) = 5725MHz - Temp 1
- For CH142 (U-NII-2C) = 5725MHz - Temp 1
- For CH138 (U-NII-2C) = 5725MHz - Temp 1
- For CH144 (U-NII-3) = Temp 2 - 5725MHz
- For CH142 (U-NII-3) = Temp 2 - 5725MHz
- For CH138 (U-NII-3) = Temp 2 - 5725MHz

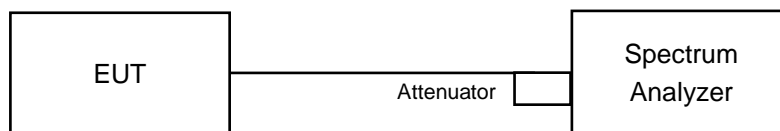


## 4.5 Peak Power Spectral Density Measurement

### 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	
		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 Procedure

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

Using method SA-2

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

#### For U-NII-3:

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

#### 4.5.5 Deviation from Test Standard

No deviation.

#### 4.5.6 EUT Operating Condition

Same as Item 4.3.6.

#### 4.5.7 Test Results

##### CDD Mode

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

##### 802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	3.87	3.94	2.78	4.01	0.22	9.92	11.00	PASS
60	5300	4.20	4.57	3.99	3.96	0.22	10.43	11.00	PASS
64	5320	3.82	4.49	4.79	4.00	0.22	10.53	11.00	PASS
100	5500	3.82	3.58	3.63	3.41	0.22	9.85	11.00	PASS
116	5580	3.13	4.15	3.50	3.76	0.22	9.89	11.00	PASS
140	5700	3.98	4.46	4.35	3.70	0.22	10.37	11.00	PASS
144 (U-NII-2C Band)	5720	4.04	2.30	3.83	2.87	0.22	9.56	11.00	PASS

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A: The directional gain = 3.98dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2C: The directional gain = 3.36dBi < 6dBi, so the power density limit shall not be reduced.
4. Refer to section 3.3 for duty cycle spectrum plot.

##### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	3.74	2.96	3.38	3.02	0.24	9.55	11.00	PASS
60	5300	3.44	3.74	3.61	3.32	0.24	9.80	11.00	PASS
64	5320	2.88	3.72	3.96	3.38	0.24	9.77	11.00	PASS
100	5500	3.85	2.94	2.37	2.73	0.24	9.27	11.00	PASS
116	5580	2.47	3.35	2.81	3.06	0.24	9.20	11.00	PASS
140	5700	3.15	3.57	3.58	3.37	0.24	9.69	11.00	PASS
144 (U-NII-2C Band)	5720	2.34	1.76	3.22	1.51	0.24	8.52	11.00	PASS

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A: The directional gain = 3.98dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2C: The directional gain = 3.36dBi < 6dBi, so the power density limit shall not be reduced.
4. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	0.89	0.90	-0.11	0.14	0.23	6.73	11.00	PASS
62	5310	0.66	1.37	0.47	0.57	0.23	7.04	11.00	PASS
102	5510	1.01	-0.02	0.33	0.33	0.23	6.68	11.00	PASS
110	5550	1.50	1.12	1.05	1.11	0.23	7.45	11.00	PASS
134	5670	0.91	0.30	0.46	-0.35	0.23	6.61	11.00	PASS
142 (U-NII-2C Band)	5710	0.77	2.35	-0.22	0.45	0.23	7.20	11.00	PASS

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A: The directional gain = 3.98dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2C: The directional gain = 3.36dBi < 6dBi, so the power density limit shall not be reduced.
4. Refer to section 3.3 for duty cycle spectrum plot.

### 802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-2.64	-1.91	-2.36	-2.74	0.20	3.82	11.00	PASS
106	5530	-2.21	-3.12	-2.83	-3.09	0.20	3.42	11.00	PASS
122	5610	-1.09	-1.32	-2.82	-2.01	0.20	4.46	11.00	PASS
138 (U-NII-2C Band)	5690	-2.52	-1.61	-1.73	-2.28	0.20	4.20	11.00	PASS

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-2A: The directional gain = 3.98dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2C: The directional gain = 3.36dBi < 6dBi, so the power density limit shall not be reduced.
4. Refer to section 3.3 for duty cycle spectrum plot.

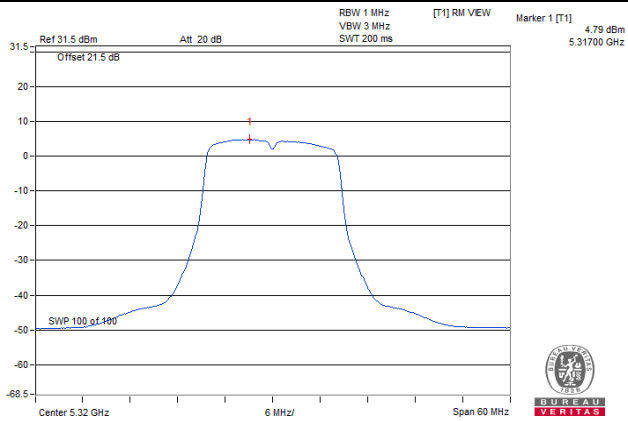
**802.11ax (HE80+80)**

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58(L)	5210	-3.82	-3.99	-	-	0.27	-0.63	17.00	PASS
42+58(H)	5290	-	-	-2.60	-3.47	0.27	0.26	11.00	PASS
106+122(L)	5530	-1.00	-1.60	-	-	0.27	1.99	11.00	PASS
106+122(H)	5610	-	-	-2.73	-2.30	0.27	0.77	11.00	PASS

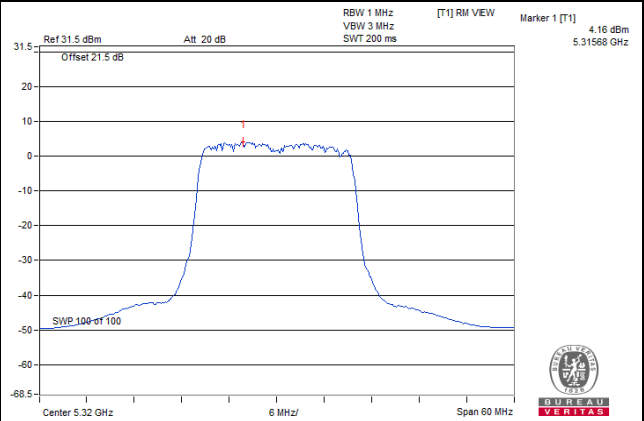
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain = 1.78dBi < 6dBi, so the power density limit shall not be reduced.
3. For U-NII-2A: The directional gain = 3.98dBi < 6dBi, so the power density limit shall not be reduced.
4. For U-NII-2C: The directional gain = 3.36dBi < 6dBi, so the power density limit shall not be reduced.
5. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

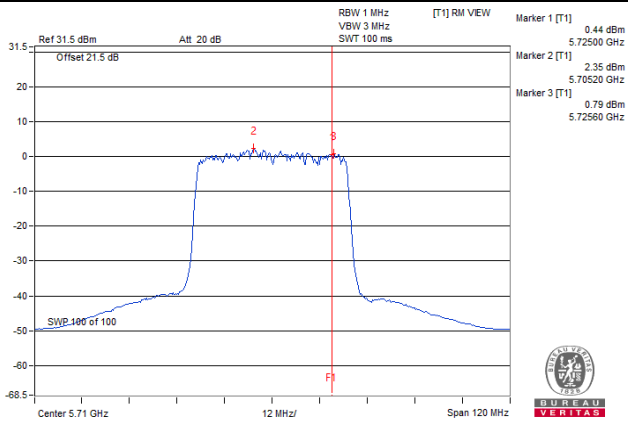
802.11a\_Chain 2 / CH64



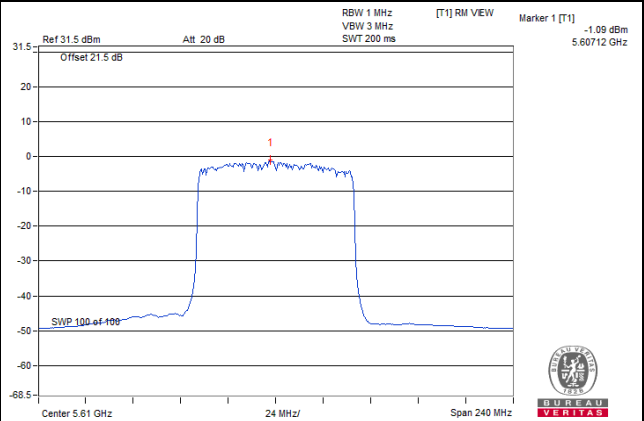
802.11ax (HE20)\_Chain 2 / CH64



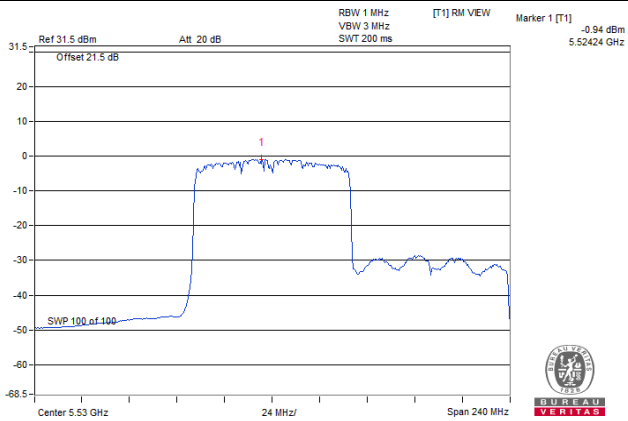
802.11ax (HE40)\_Chain 1 / CH142 (U-NII-2C Band)



802.11ax (HE80)\_Chain 0 / CH122



802.11ax (HE80+80)\_Chain 1 / CH106



### For U-NII-3:

#### 802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
144 (U-NII-3 Band)	5720	-4.93	-4.68	-4.62	-5.35	0.22	1.3658	1.35	3.57	30.00	PASS

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.  
 2. The directional gain = 2.12 dBi < 6dBi, so the power density limit shall not be reduced.  
 3. Refer to section 3.3 for duty cycle spectrum plot.

#### 802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
144 (U-NII-3 Band)	5720	-5.84	-6.35	-6.42	-6.54	0.24	0.9968	-0.01	2.21	30.00	PASS

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.  
 2. The directional gain = 2.12 dBi < 6dBi, so the power density limit shall not be reduced.  
 3. Refer to section 3.3 for duty cycle spectrum plot.

#### 802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
142 (U-NII-3 Band)	5710	-8.65	-8.20	-9.27	-8.78	0.23	0.5683	-2.45	-0.23	30.00	PASS

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.  
 2. The directional gain = 2.12 dBi < 6dBi, so the power density limit shall not be reduced.  
 3. Refer to section 3.3 for duty cycle spectrum plot.

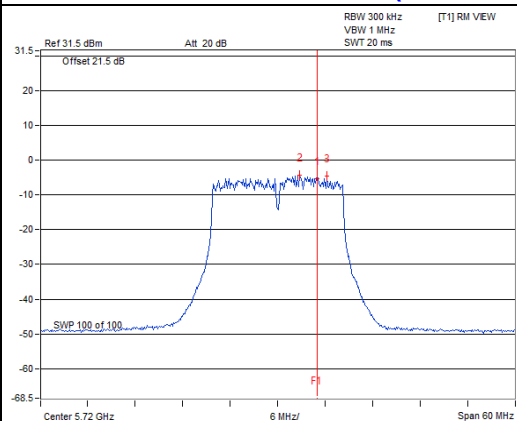
#### 802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)				Duty Factor (dB)	Total PSD (mW/300kHz)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3						
138 (U-NII-3 Band)	5690	-12.89	-12.46	-12.88	-12.60	0.20	0.2247	-6.48	-4.26	30.00	PASS

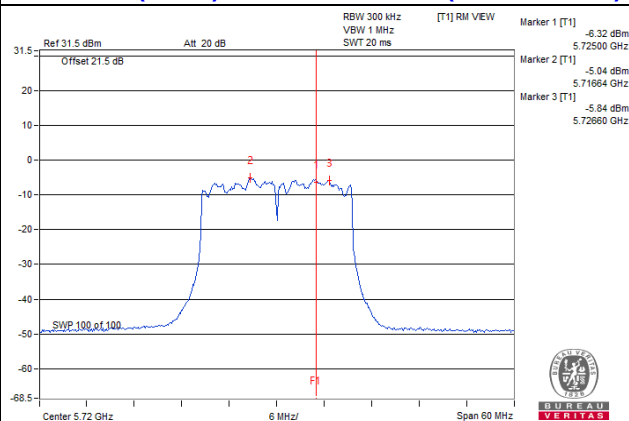
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.  
 2. The directional gain = 2.12 dBi < 6dBi, so the power density limit shall not be reduced.  
 3. Refer to section 3.3 for duty cycle spectrum plot.

### Spectrum Plot of Worst Value

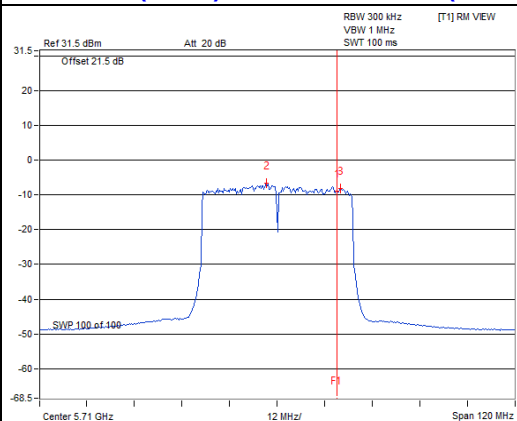
#### 802.11a\_Chain 2 / CH144 (U-NII-3 Band)



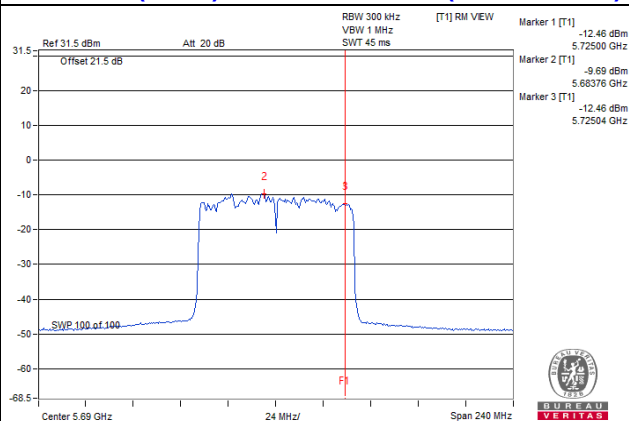
#### 802.11ax (HE20)\_Chain 0 / CH144 (U-NII-3 Band)



#### 802.11ax (HE40)\_Chain 1 / CH142 (U-NII-3 Band)



#### 802.11ax (HE80)\_Chain 1 / CH138 (U-NII-3 Band)



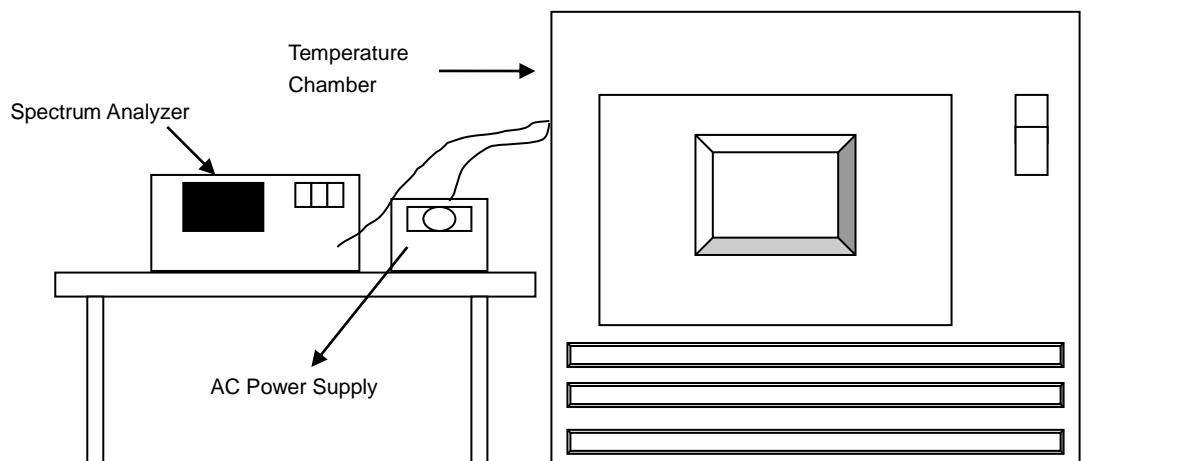


## 4.6 Frequency Stability Measurement

### 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

Refer to section 4.1.2 to get information of above instrument.

### 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 the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Condition

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

## 4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5259.9872	PASS	5259.9877	PASS	5259.9875	PASS	5259.9883	PASS
30	120	5260.0249	PASS	5260.0254	PASS	5260.0248	PASS	5260.0287	PASS
20	120	5260.0068	PASS	5260.0072	PASS	5260.0093	PASS	5260.0096	PASS
10	120	5259.9993	PASS	5260.0019	PASS	5260.0012	PASS	5260.0005	PASS
0	120	5259.9901	PASS	5259.988	PASS	5259.9931	PASS	5259.9902	PASS

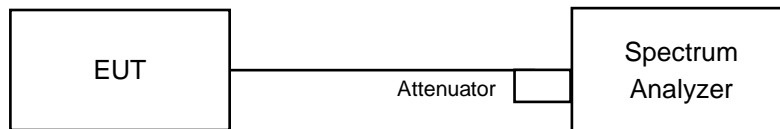
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0076	PASS	5260.0075	PASS	5260.0085	PASS	5260.0106	PASS
	120	5260.0068	PASS	5260.0072	PASS	5260.0093	PASS	5260.0096	PASS
	102	5260.0062	PASS	5260.0082	PASS	5260.0087	PASS	5260.0091	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

#### MEASUREMENT PROCEDURE REF

- 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 specific channel frequency.

#### 4.7.7 Test Results

##### CDD Mode

##### 802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3 Band)	5720	3.14	3.11	3.12	3.15	0.5	Pass

##### 802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
144 (U-NII-3 Band)	5720	4.43	4.37	4.44	4.41	0.5	Pass

##### 802.11ax (HE40)

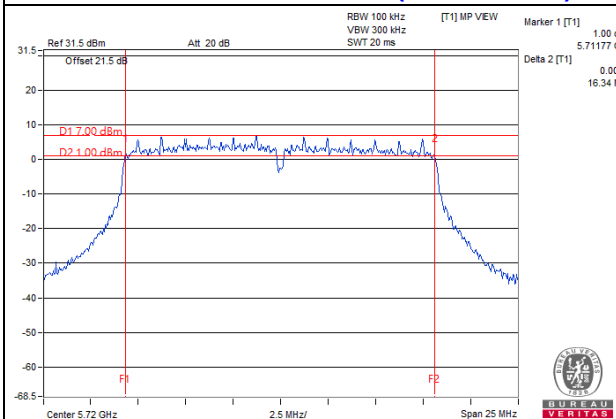
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
142 (U-NII-3 Band)	5710	3.5	4.02	3.92	3.8	0.5	Pass

##### 802.11ax (HE80)

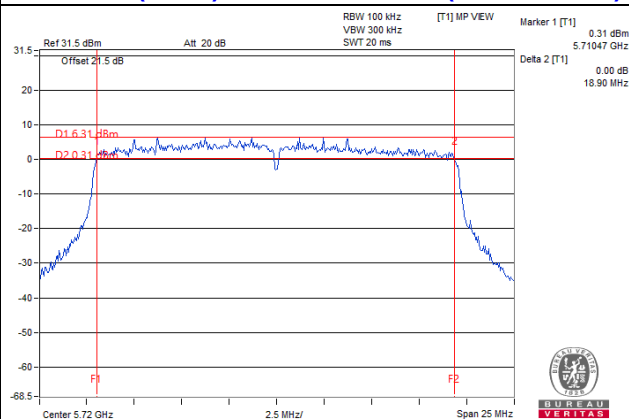
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain0	Chain1	Chain2	Chain3		
138 (U-NII-3 Band)	5690	3.11	3.14	3.42	3.49	0.5	Pass

**Spectrum Plot of Worst Value**

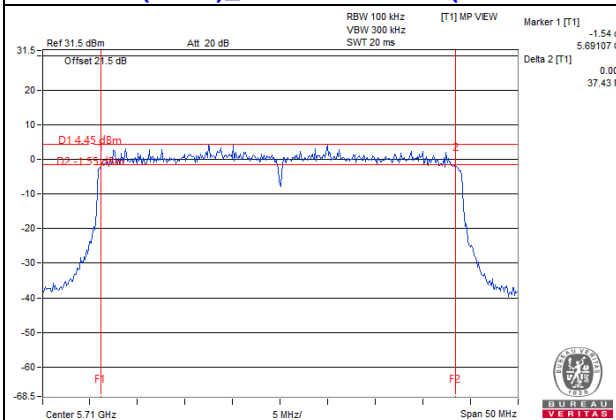
**802.11a\_Chain 1 / CH144 (U-NII-3 Band)**



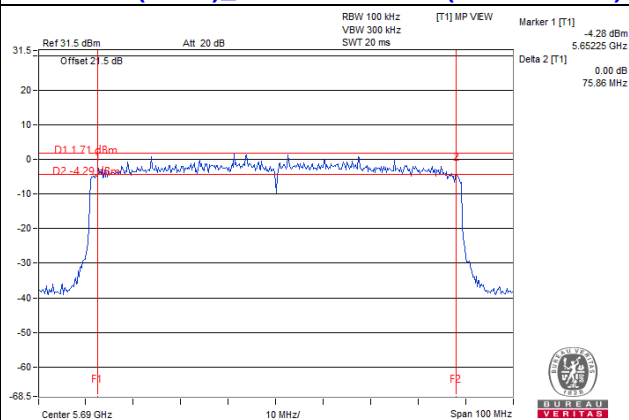
**802.11ax (HE20)\_Chain 1 / CH144 (U-NII-3 Band)**



**802.11ax (HE40)\_Chain 0 / CH142 (U-NII-3 Band)**



**802.11ax (HE80)\_Chain 0 / CH138 (U-NII-3 Band)**

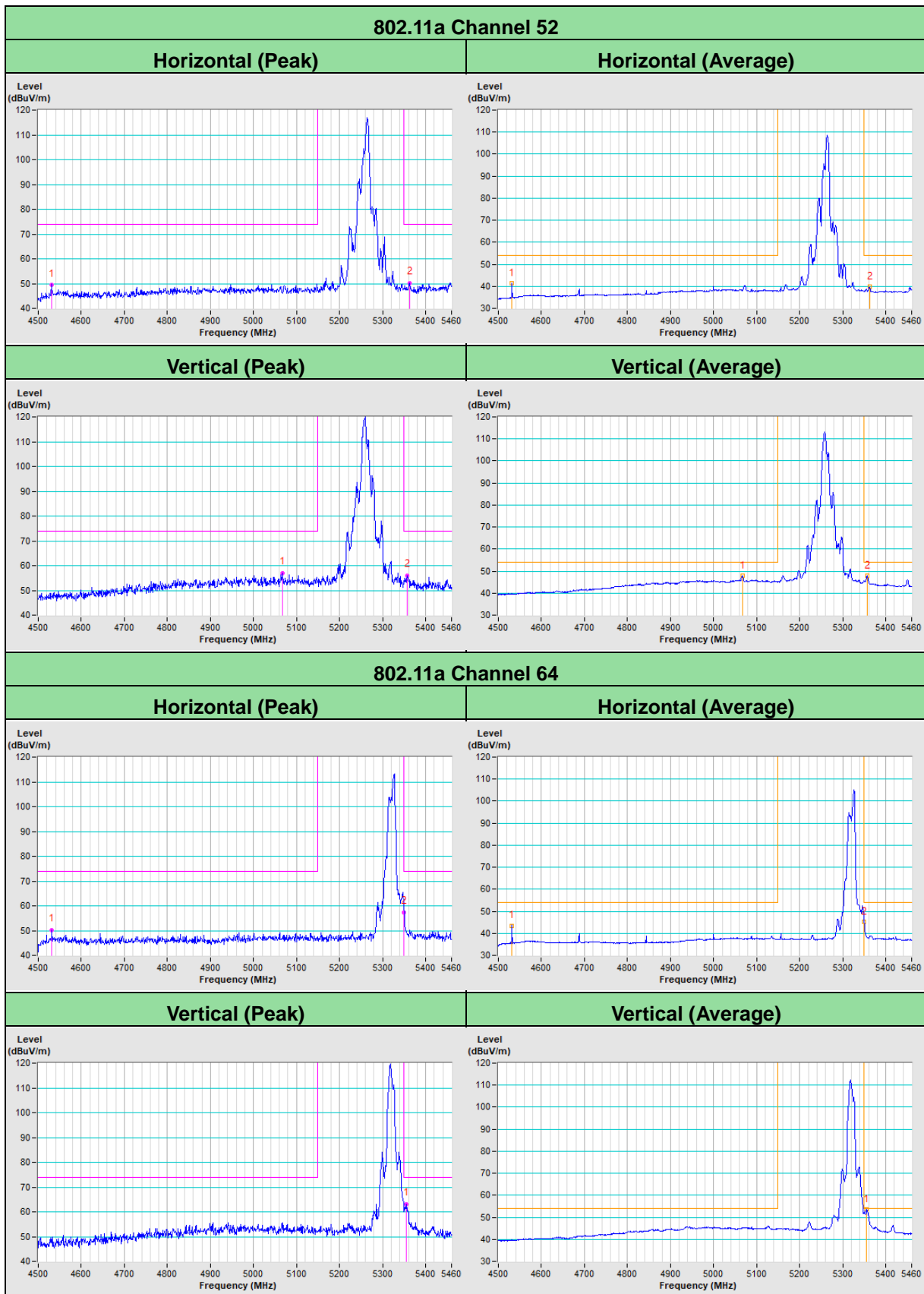


Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

## 5 Pictures of Test Arrangements

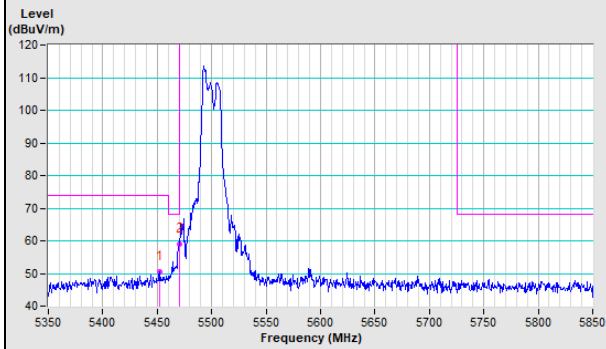
Please refer to the attached file (Test Setup Photo).

### Annex A - Band-Edge Measurement (For U-NII-2A, U-NII-2C band)

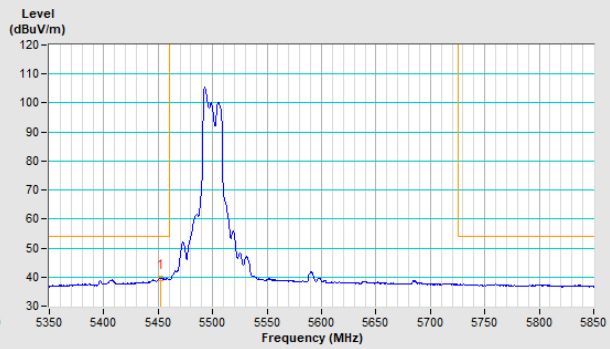


### 802.11a Channel 100

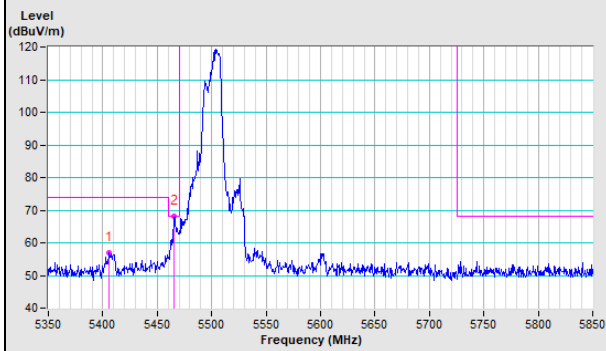
#### Horizontal (Peak)



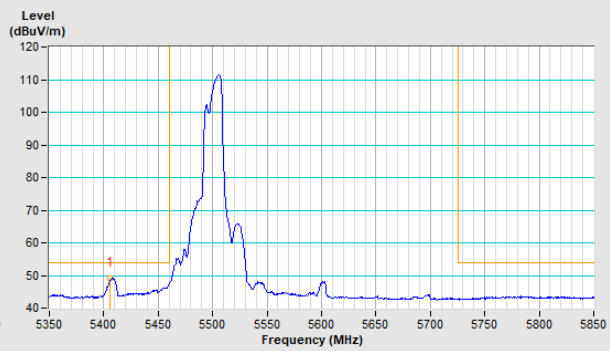
#### Horizontal (Average)



#### Vertical (Peak)



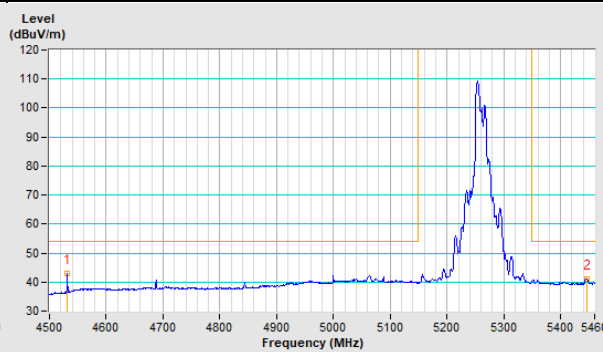
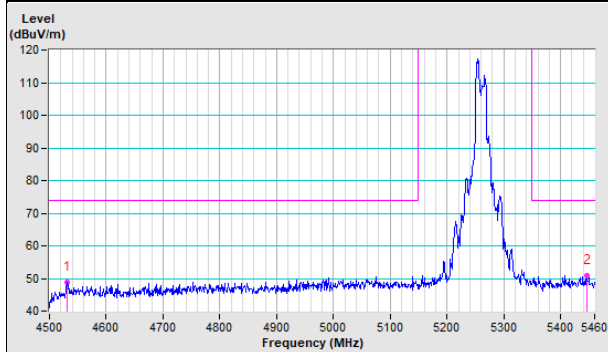
#### Vertical (Average)



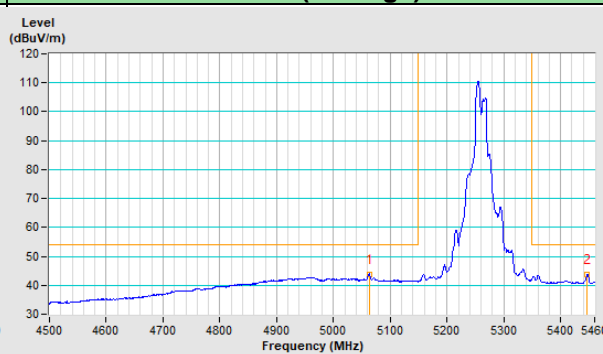
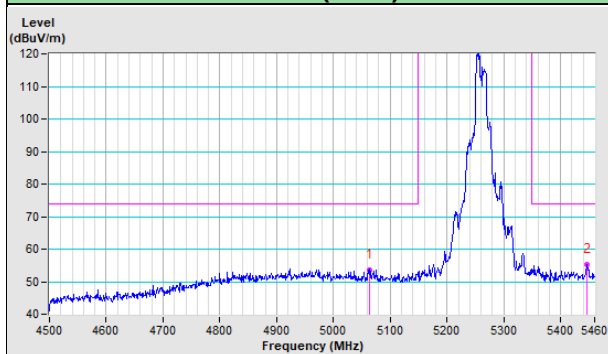


**802.11ax (HE20) Channel 64**

<b>Horizontal (Peak)</b>	<b>Horizontal (Average)</b>
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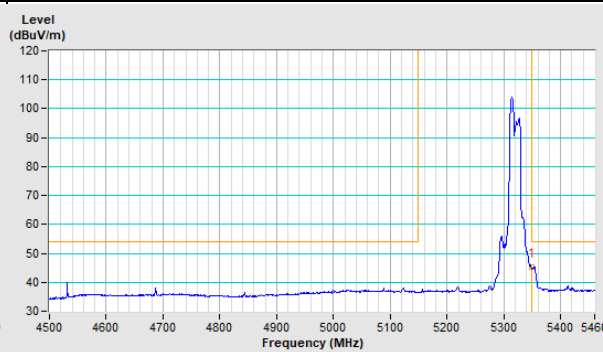
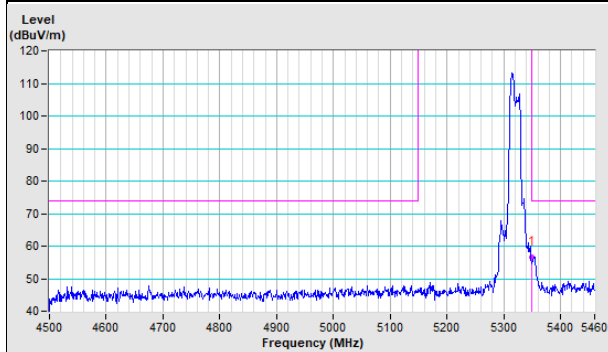


<b>Vertical (Peak)</b>	<b>Vertical (Average)</b>
------------------------	---------------------------

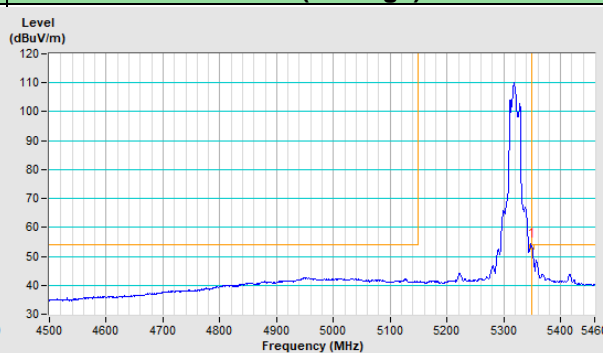
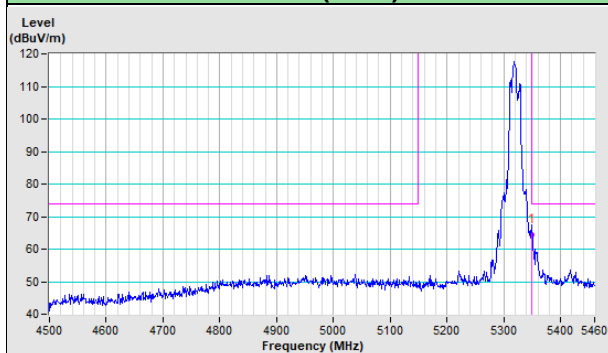


**802.11ax (HE20) Channel 64**

<b>Horizontal (Peak)</b>	<b>Horizontal (Average)</b>
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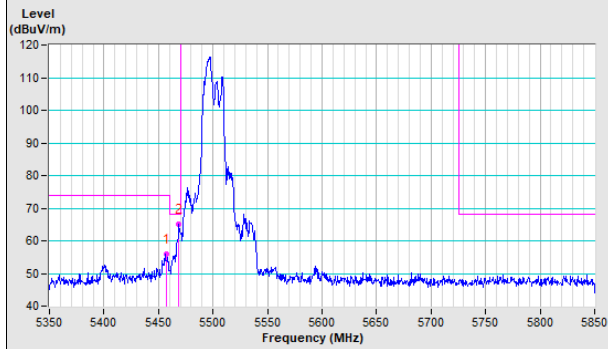


<b>Vertical (Peak)</b>	<b>Vertical (Average)</b>
------------------------	---------------------------

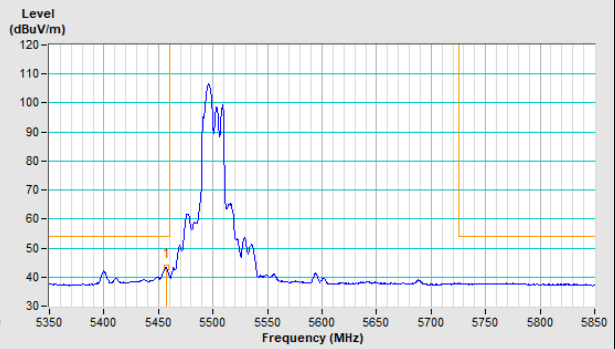


### 802.11ax (HE20) Channel 100

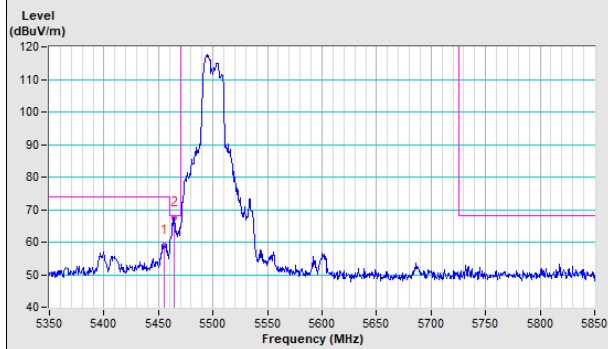
#### Horizontal (Peak)



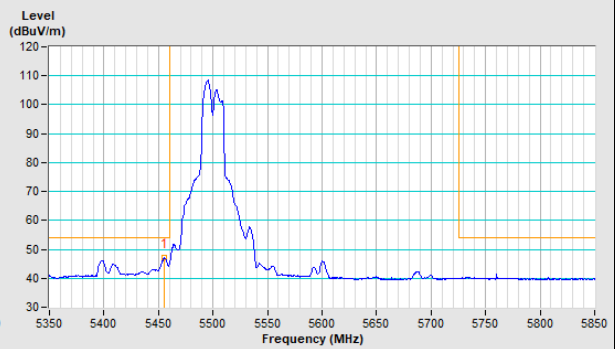
#### Horizontal (Average)



#### Vertical (Peak)

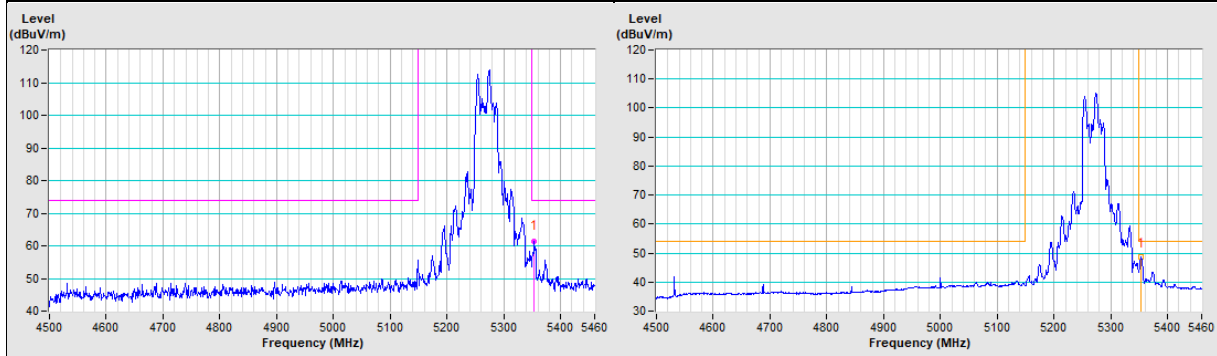


#### Vertical (Average)

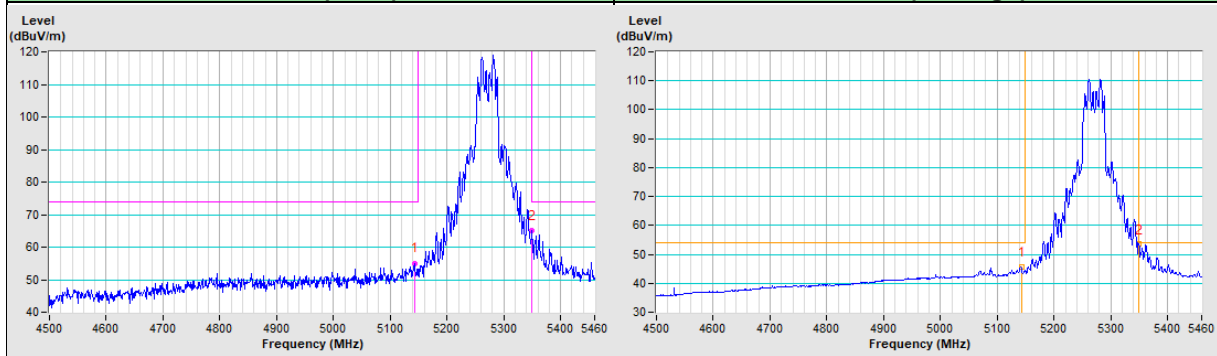


### 802.11ax (HE40) Channel 54

Horizontal (Peak)	Horizontal (Average)
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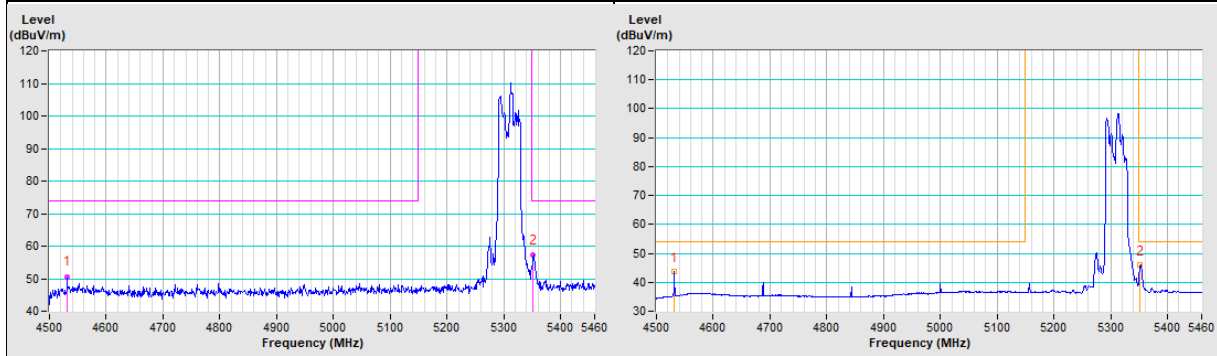


Vertical (Peak)	Vertical (Average)
-----------------	--------------------

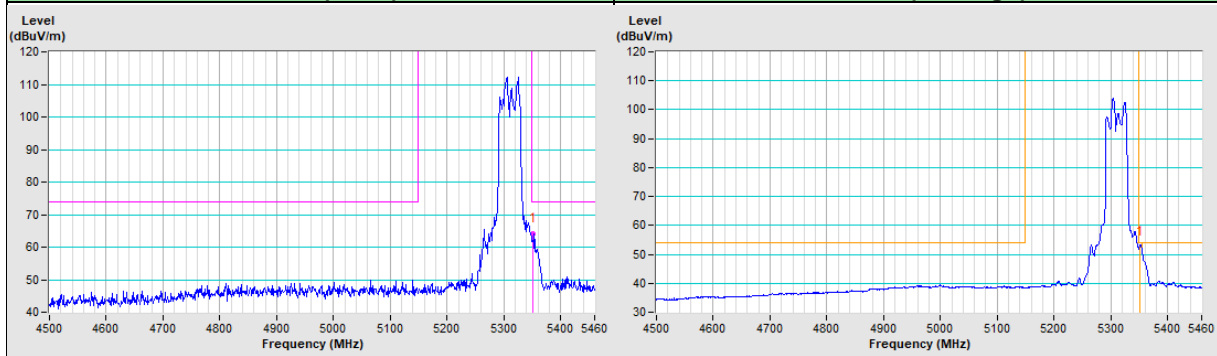


### 802.11ax (HE40) Channel 62

Horizontal (Peak)	Horizontal (Average)
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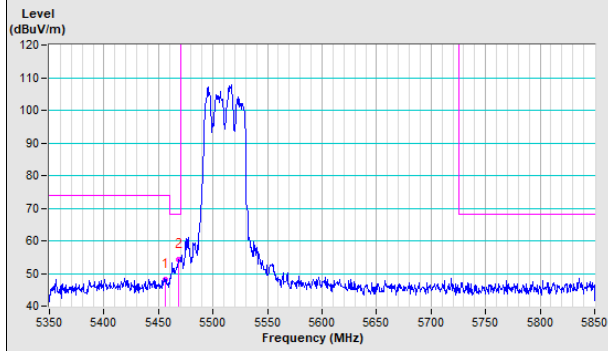


Vertical (Peak)	Vertical (Average)
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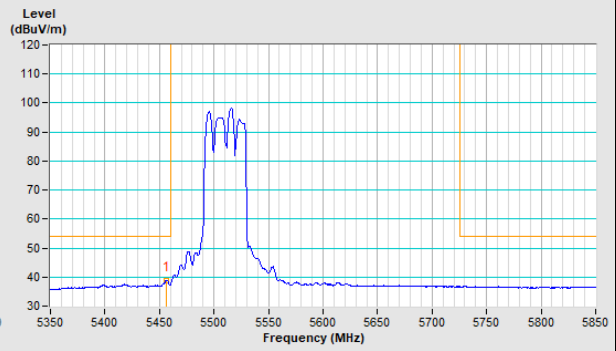


### 802.11ax (HE40) Channel 102

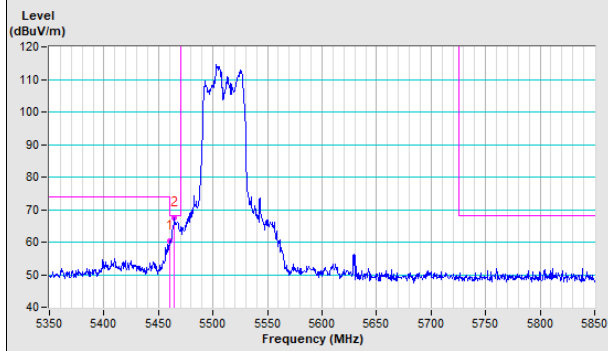
#### Horizontal (Peak)



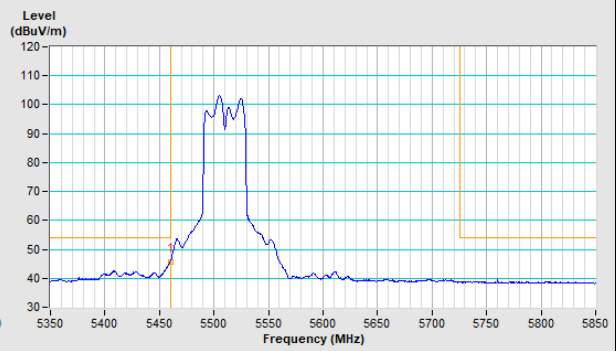
#### Horizontal (Average)



#### Vertical (Peak)

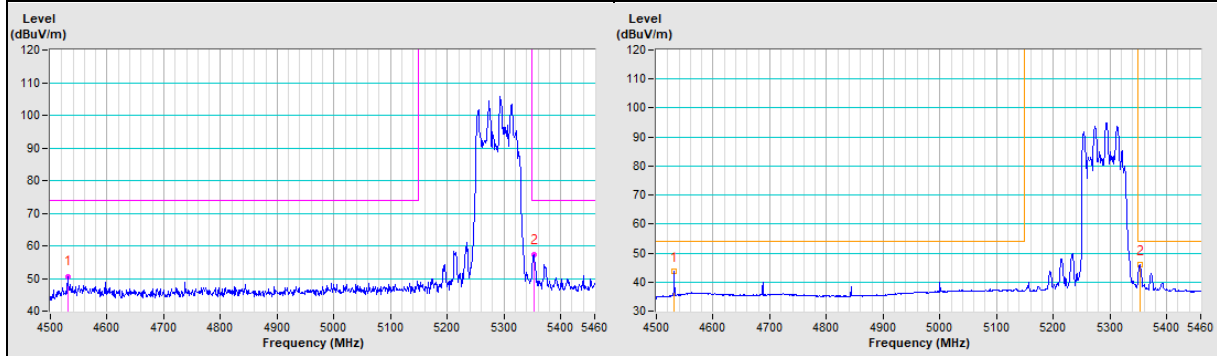


#### Vertical (Average)

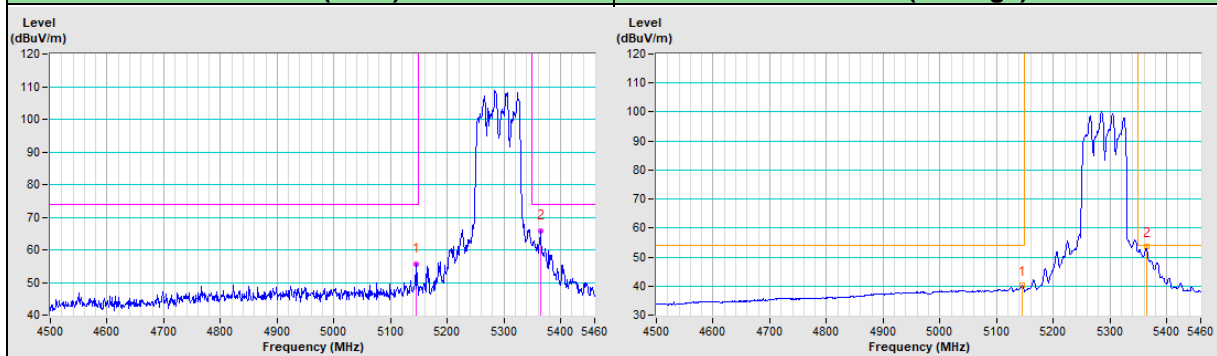


### 802.11ax (HE80) Channel 58

Horizontal (Peak)	Horizontal (Average)
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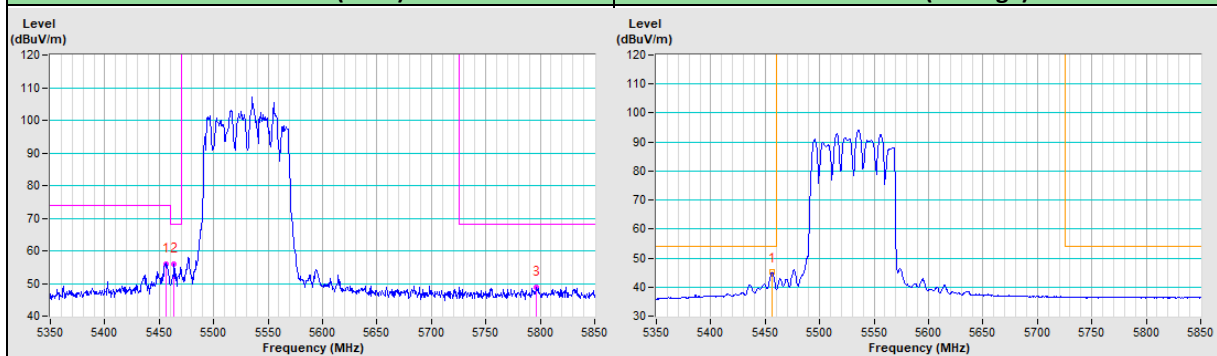


Vertical (Peak)	Vertical (Average)
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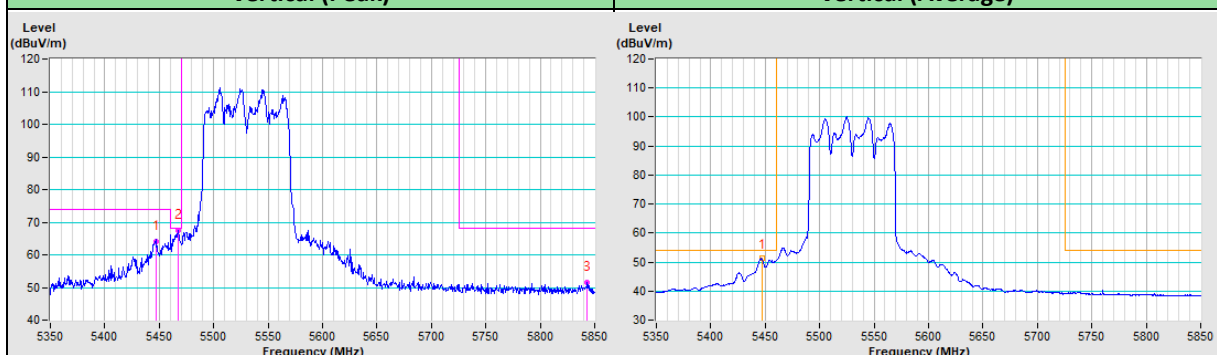


### 802.11ax (HE80) Channel 106

Horizontal (Peak)	Horizontal (Average)
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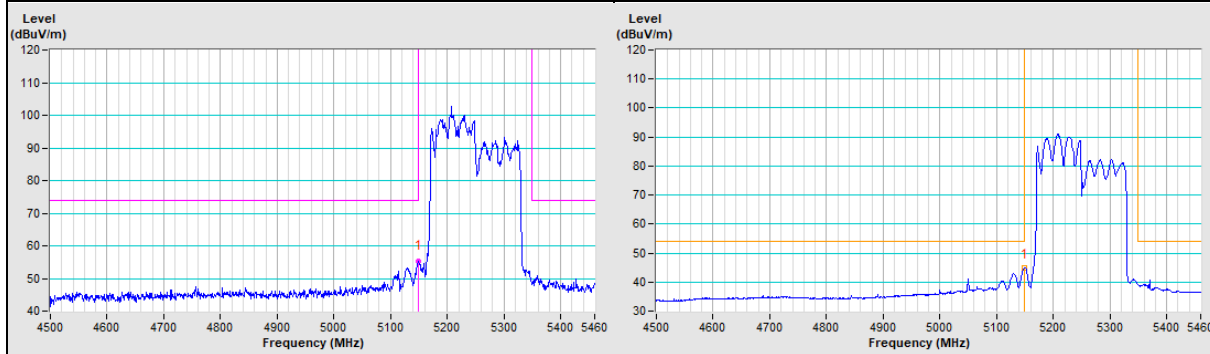


Vertical (Peak)	Vertical (Average)
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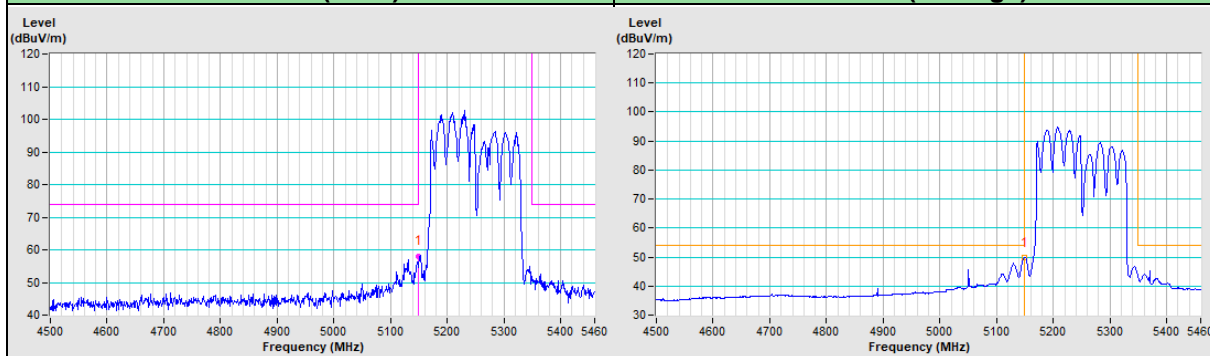


**802.11ax (HE80+80) Channel 42+58**

<b>Horizontal (Peak)</b>	<b>Horizontal (Average)</b>
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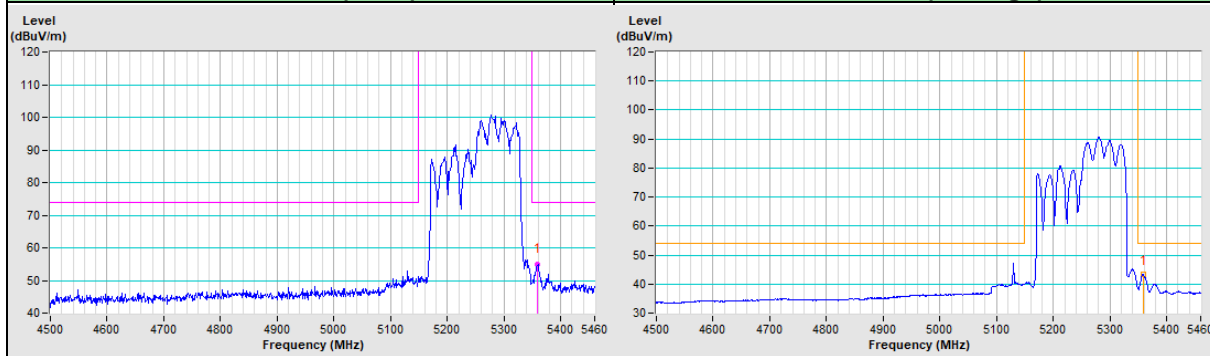


<b>Vertical (Peak)</b>	<b>Vertical (Average)</b>
------------------------	---------------------------

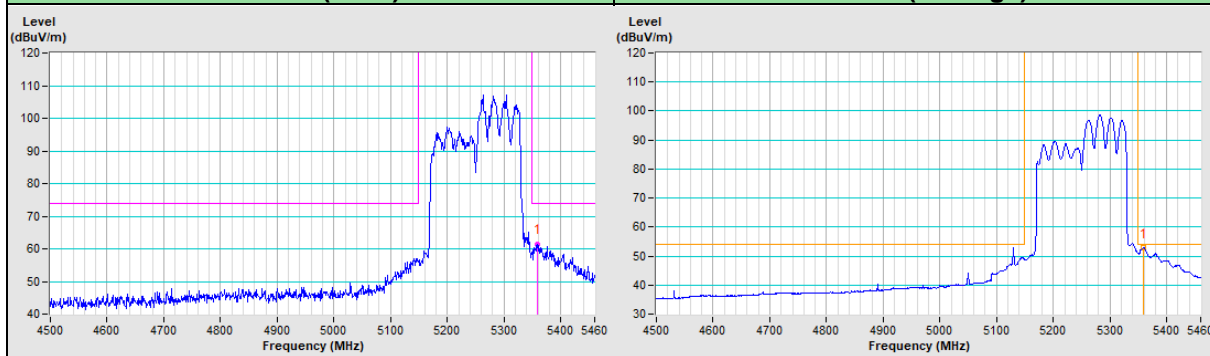


**802.11ax (HE80+80) Channel 42+58**

<b>Horizontal (Peak)</b>	<b>Horizontal (Average)</b>
--------------------------	-----------------------------

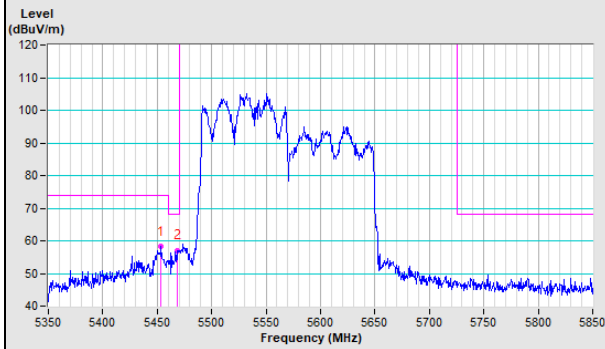


<b>Vertical (Peak)</b>	<b>Vertical (Average)</b>
------------------------	---------------------------

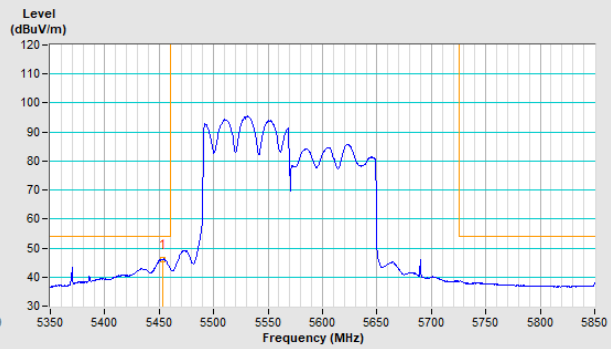


### 802.11ax (HE80+80) Channel 106+122

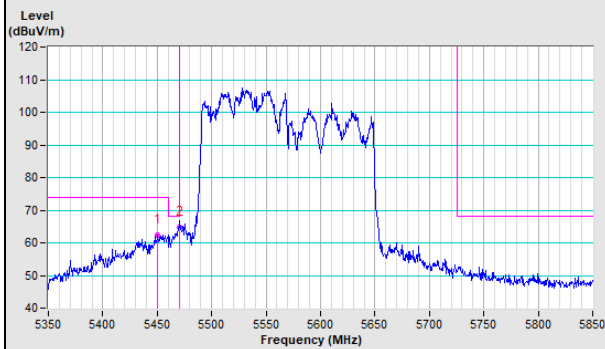
#### Horizontal (Peak)



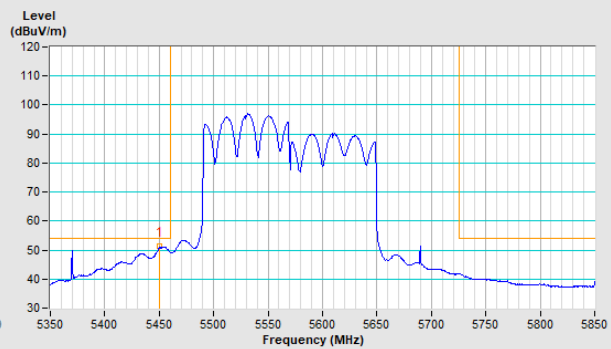
#### Horizontal (Average)



#### Vertical (Peak)

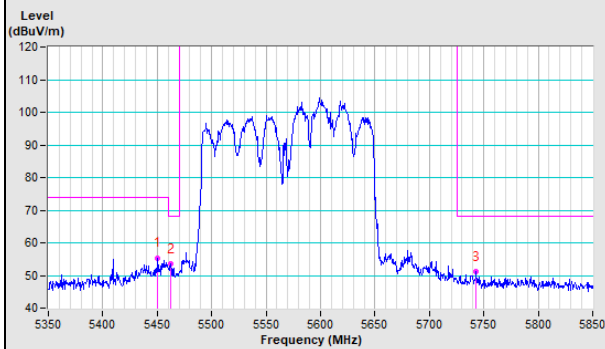


#### Vertical (Average)

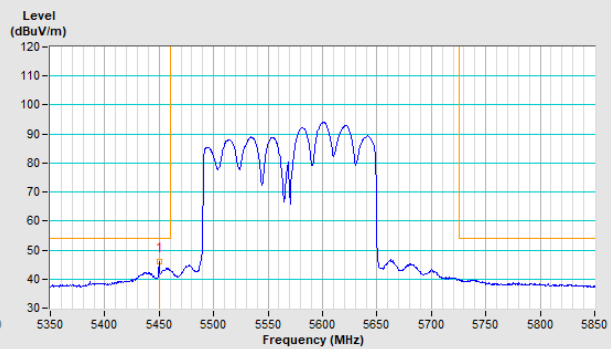


### 802.11ax (HE80+80) Channel 106+122

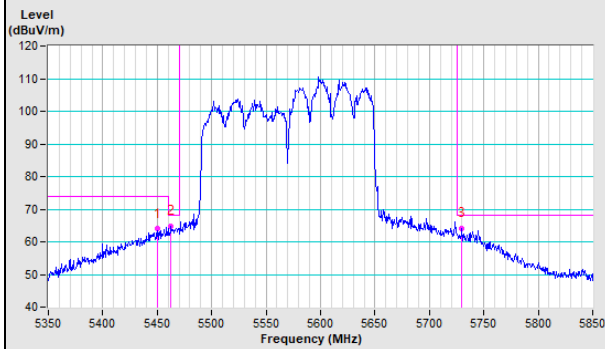
#### Horizontal (Peak)



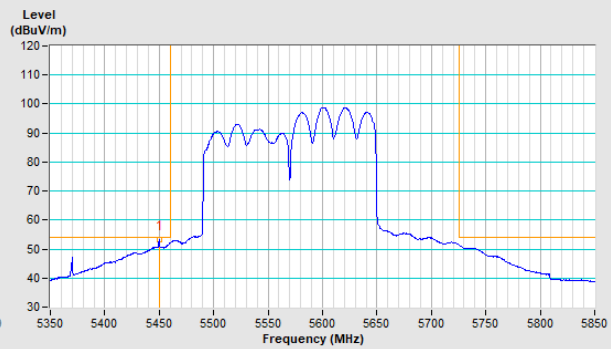
#### Horizontal (Average)



#### 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 according to ISO/IEC 17025.

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

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