

FCC Test Report (WLAN)

Report No.: RFBHQC-WTW-P21090134-1

FCC ID: AK8J20H103

Test Model: J20H103

Received Date: 2021/9/3

Test Date: 2021/9/28 ~ 2021/10/22

Issued Date: 2021/12/1

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Designation Number:** 723255 / TW2022



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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes	10
3.2.1 Test Mode Applicability and Tested Channel Detail	12
3.3 Duty Cycle of Test Signal	15
3.4 Description of Support Units	16
3.4.1 Configuration of System under Test	17
3.5 General Description of Applied Standards and References	18
4 Test Types and Results	19
4.1 Radiated Emission and Bandedge Measurement	19
4.1.1 Limits of Radiated Emission and Bandedge Measurement	19
4.1.2 Test Instruments	20
4.1.3 Test Procedure	22
4.1.4 Deviation from Test Standard	22
4.1.5 Test Setup	23
4.1.6 EUT Operating Condition	24
4.1.7 Test Results	25
4.2 Conducted Emission Measurement	69
4.2.1 Limits of Conducted Emission Measurement	69
4.2.2 Test Instruments	69
4.2.3 Test Procedure	70
4.2.4 Deviation from Test Standard	70
4.2.5 Test Setup	70
4.2.6 EUT Operating Condition	70
4.2.7 Test Results	71
4.3 Transmit Power Measurement	73
4.3.1 Limits of Transmit Power Measurement	73
4.3.2 Test Setup	74
4.3.3 Test Instruments	74
4.3.4 Test Procedure	74
4.3.5 Deviation from Test Standard	76
4.3.6 EUT Operating Condition	76
4.3.7 Test Results	77
4.4 Occupied Bandwidth Measurement	93
4.4.1 Test Setup	93
4.4.2 Test Instruments	93
4.4.3 Test Procedure	93
4.4.4 Test Results	94
4.5 Peak Power Spectral Density Measurement	101
4.5.1 Limits of Peak Power Spectral Density Measurement	101
4.5.2 Test Setup	101
4.5.3 Test Instruments	101
4.5.4 Test Procedure	101
4.5.5 Deviation from Test Standard	102
4.5.6 EUT Operating Condition	102
4.5.7 Test Results	103
4.6 Frequency Stability Measurement	109
4.6.1 Limits of Frequency Stability Measurement	109

4.6.2	Test Setup.....	109
4.6.3	Test Instruments	109
4.6.4	Test Procedure	109
4.6.5	Deviation from Test Standard	109
4.6.6	EUT Operating Condition	109
4.6.7	Test Results	110
4.7	6dB Bandwidth Measurement	111
4.7.1	Limits of 6dB Bandwidth Measurement.....	111
4.7.2	Test Setup.....	111
4.7.3	Test Instruments	111
4.7.4	Test Procedure	111
4.7.5	Deviation from Test Standard	111
4.7.6	EUT Operating Condition	111
4.7.7	Test Results	112
5	Pictures of Test Arrangements.....	114
	Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)	115
	Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)	119
	Appendix – Information of the Testing Laboratories	127

Release Control Record

Issue No.	Description	Date Issued
RFBHQC-WTW-P21090134-1	Original release.	2021/12/1

1 Certificate of Conformity

Product: 2TX 11ax (WiFi6E) + BT/BLE Combo Card

Brand: FOXCONN

Test Model: J20H103

Sample Status: Engineering sample

Applicant: Sony Corporation

Test Date: 2021/9/28 ~ 2021/10/22

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 : Cherry Chuo , **Date:** 2021/12/1
Cherry Chuo / Specialist

Approved by : Clark Lin , **Date:** 2021/12/1
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)(8)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -17.88 dB at 0.57516 MHz.
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.1 dB at 5460.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
2. For U-NII-1, U-NII-2A, U-NII-2C band compliance with rule 15.407(b) of the band-edge items, the test plots were recorded in Annex B. Test Procedures refer to report 4.1.3.
3. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	2TX 11ax (WiFi6E) + BT/BLE Combo Card
Brand	FOXCONN
Test Model	J20H103
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode 1024QAM for OFDMA in 11ax HE mode
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps 802.11ax: up to 1201 Mbps
Operating Frequency	5.18~ 5.24 GHz, 5.26 ~ 5.32 GHz, 5.50 ~ 5.72 GHz, 5.745 ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 25 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 12 802.11ac (VHT80), 802.11ax (HE80): 6
Output Power	5.18 ~ 5.24 GHz: 234.698 mW 5.26 ~ 5.32 GHz: 235.18 mW 5.5 ~ 5.72 GHz: 245.798 mW 5.745 ~ 5.825 GHz: 631.459 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (6GHz)
2	WLAN (2.4GHz)	WLAN (5GHz)
3	WLAN (6GHz)	Bluetooth
4	WLAN (5GHz)	Bluetooth
5	WLAN(2.4G)	Bluetooth

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

2. The EUT has below radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz+5GHz+6GHz)	Bluetooth

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

For WLAN					
Antenna NO.	RF Chain NO.	Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type	Connector Type
0	0	-0.33	2.4~2.4835	Monopole	none
		1.45	5.15~5.25		
		1.52	5.25~5.35		
		1.58	5.47~5.725		
		1.22	5.725~5.85		
		1.72	5.955~6.415		
		0.29	6.435~6.515		
		0.2	6.535~6.855		
1	1	2.08	6.875~7.115	Monopole	none
		-0.2	2.4~2.4835		
		1.97	5.15~5.25		
		2.16	5.25~5.35		
		1.12	5.47~5.725		
		0.89	5.725~5.85		
		1.81	5.955~6.415		
		-0.06	6.435~6.515		
-0.05	6.535~6.855				
1.29	6.875~7.115				
For Bluetooth					
Antenna NO.	Antenna Net Gain(dBi)	Frequency range (GHz)	Antenna Type	Connector Type	
0	-3.1	2.4~2.4835	PIFA	none	
1	-3.13	2.4~2.4835	PIFA	none	

4. The EUT incorporates a MIMO function:

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

Note:

- The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz) and 802.11ax mode for 20MHz (40MHz, 80MHz), therefore the manufacturer will control the power for 802.11n/ac mode is the same as the 802.11ax or more lower than it and investigated worst case to representative mode in test report.
- The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

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

Channel	Frequency
42	5210 MHz

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	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 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

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

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE \geq 1G	RE $<$ 1G	PLC	APCM	
-	√	√	√	√	-

Where **RE \geq 1G**: Radiated Emission above 1GHz

RE $<$ 1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on X-plane.

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.

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

Radiated Emission Test (Below 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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5320, 5500-5720, 5745-5825	36 to 64, 100 to 144, 149 to 165	157	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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5320, 5500-5720, 5745-5825	36 to 64, 100 to 144, 149 to 165	157	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.

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (output power only)		36 to 48	36, 40, 48	OFDM	BPSK	MCS0
802.11ac (VHT40) (output power only)		38 to 46	38, 46	OFDM	BPSK	MCS0
802.11ac (VHT80) (output power only)		42	42	OFDM	BPSK	MCS0
802.11ax (HE20)		36 to 48	36, 40, 48	OFDMA	BPSK	MCS0
802.11ax (HE40)		38 to 46	38, 46	OFDMA	BPSK	MCS0
802.11ax (HE80)		42	42	OFDMA	BPSK	MCS0
802.11a		5260-5320	52 to 64	52, 60, 64	OFDM	BPSK
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
802.11ax (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
802.11a	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
802.11ax (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

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6Mb/s
802.11ac (VHT20) (output power only)		149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11ac (VHT40) (output power only)		151 to 159	151, 159	OFDM	BPSK	MCS0
802.11ac (VHT80) (output power only)		155	155	OFDM	BPSK	MCS0
802.11ax (HE20)		149 to 165	149, 157, 165	OFDMA	BPSK	MCS0
802.11ax (HE40)		151 to 159	151, 159	OFDMA	BPSK	MCS0
802.11ax (HE80)		155	155	OFDMA	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power (System)	Tested By
RE \geq 1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
RE $<$ 1G	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
PLC	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Jim Huang

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

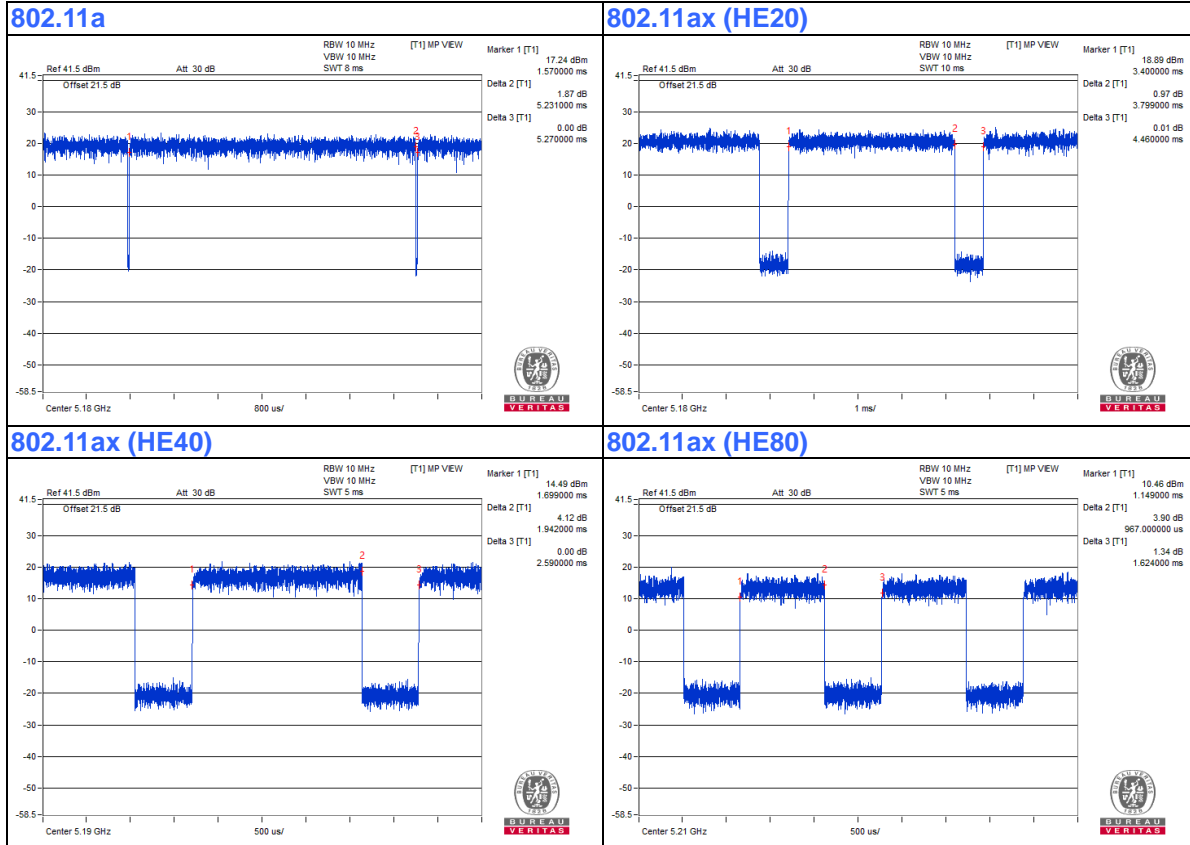
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $5.231 \text{ ms} / 5.27 \text{ ms} = 0.993$

802.11ax (HE20): Duty cycle = $3.799 \text{ ms} / 4.46 \text{ ms} = 0.852$, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 0.70 \text{ dB}$

802.11ax (HE40): Duty cycle = $1.942 \text{ ms} / 2.59 \text{ ms} = 0.75$, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 1.25 \text{ dB}$

802.11ax (HE80): Duty cycle = $0.967 \text{ ms} / 1.624 \text{ ms} = 0.595$, Duty factor = $10 * \log(1 / \text{Duty cycle}) = 2.25 \text{ dB}$



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.

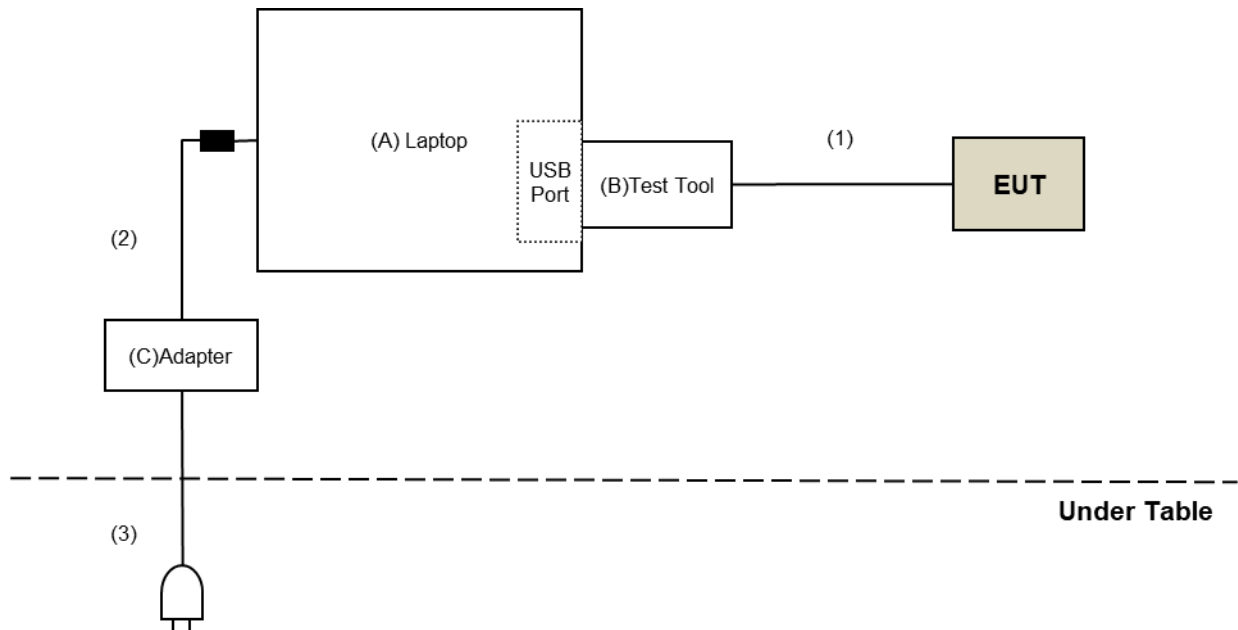
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	Test Tool	Foxconn	NA	NA	NA	Supplied by client
C.	Adapter	Dell	FA65NE0-00	NA	NA	Provided by Lab

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Console Cable	1	1.6	No	0	Supplied by client
2.	DC Cable	1	1.8	No	1	Provided by Lab
3.	AC Cable	1	1	No	0	Provided by Lab

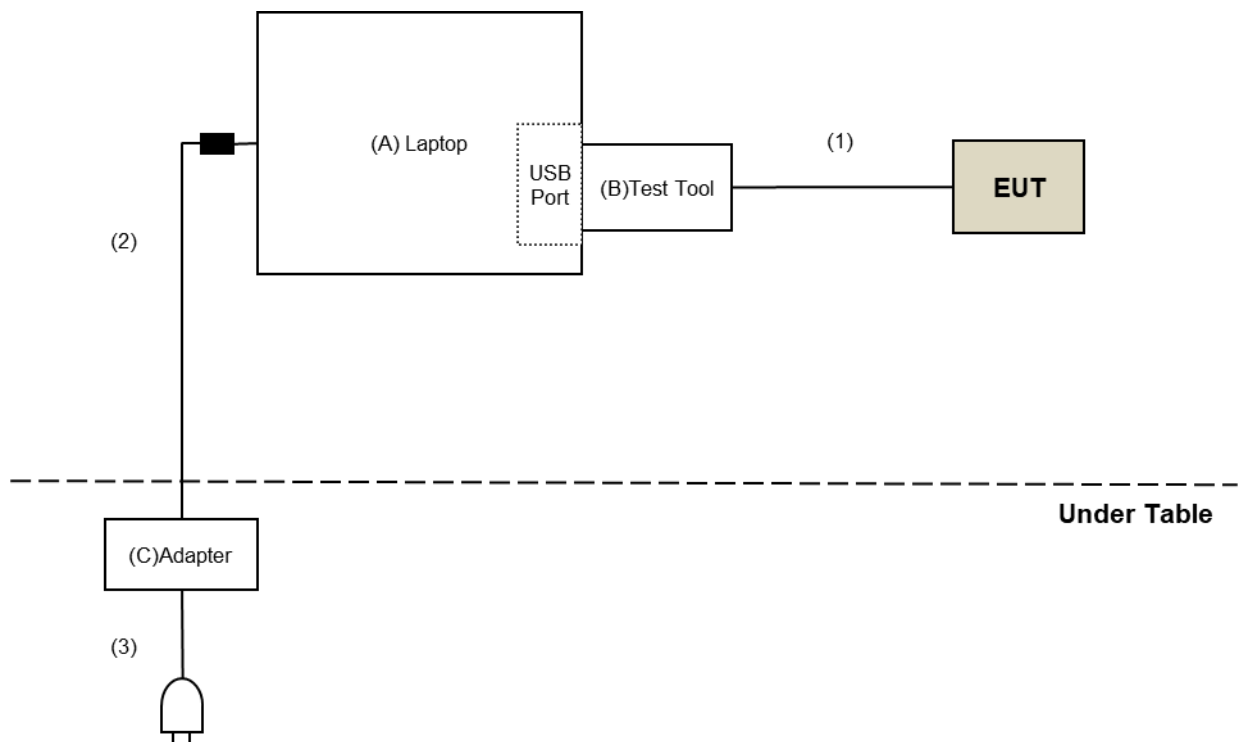
Note: The core is originally attached to the cable.

3.4.1 Configuration of System under Test

For AC Power Conducted Emission test:



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

Note:

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

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

4.1.2 Test Instruments

For Radiated emission & OOB & Bandedge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	2021/7/22	2022/7/21
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Pre_Amplifier EMCI	EMC001340	980142	2021/5/24	2022/5/23
LOOP ANTENNA Electro-Metrics	EM-6879	264	2021/3/5	2022/3/4
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2021/1/7	2022/1/6
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-002	2021/1/7	2022/1/6
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2020/10/20	2021/10/19
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	2020/11/5	2021/11/4
RF Coaxial Cable COMMATE/PEWC	8D	966-3-1	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-3	2021/3/16	2022/3/15
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2021/9/23	2022/9/22
Horn Antenna Schwarzbeck	BBHA9120-D	9120D-406	2020/11/22	2021/11/21
Pre_Amplifier EMCI	EMC12630SE	980384	2021/1/11	2022/1/10
RF Coaxial Cable EMCI	EMC104-SM-SM-1500	180504	2021/4/26	2022/4/25
RF Coaxial Cable EMCI	EMC104-SM-SM-2000	180601	2021/6/8	2022/6/7
RF Coaxial Cable EMCI	EMC104-SM-SM-6000	210201	2021/5/13	2022/5/12
Fix tool for Boresight antenna tower LIOW GUU	FBA-01	FBA_SIP01	NA	NA
Spectrum Analyzer Keysight	N9030A	MY54490679	2021/7/9	2022/7/8
Pre_Amplifier EMCI	EMC184045SE	980387	2021/1/11	2022/1/10
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170519	2020/11/22	2021/11/21
RF Cable-Frequency range: 1-40GHz EMCI	EMC102-KM-KM-1200	160924	2021/1/11	2022/1/10
RF cable (40GHz) EMCI	EMC-KM-KM-4000	200214	2021/3/10	2022/3/9

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. 3.
3. Tested Date: 2021/9/28 ~ 2021/10/2

For other test items test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	2021/3/8	2022/3/7
Power Meter Anritsu	ML2495A	1529002	2021/6/21	2022/6/20
Pulse Power Sensor Anritsu	MA2411B	1339443	2021/5/31	2022/5/30
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2021/4/13	2022/4/12
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA
AC Power Source GOOD WILL	6905S	1991551	NA	NA
DC POWER SUPPLY Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2021/1/14	2022/1/13
True RMS Clamp Meter Fluke	325	31130711WS	2021/6/2	2022/6/1

- 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: 2021/10/22

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

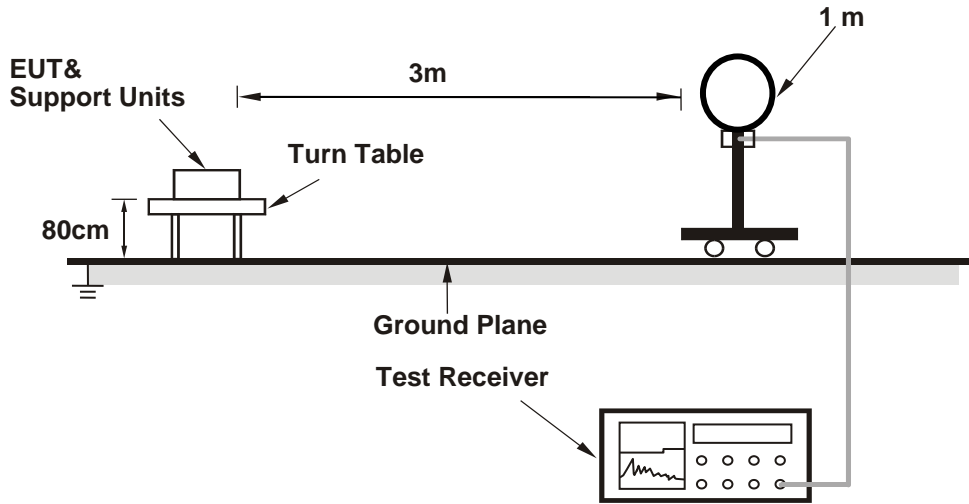
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

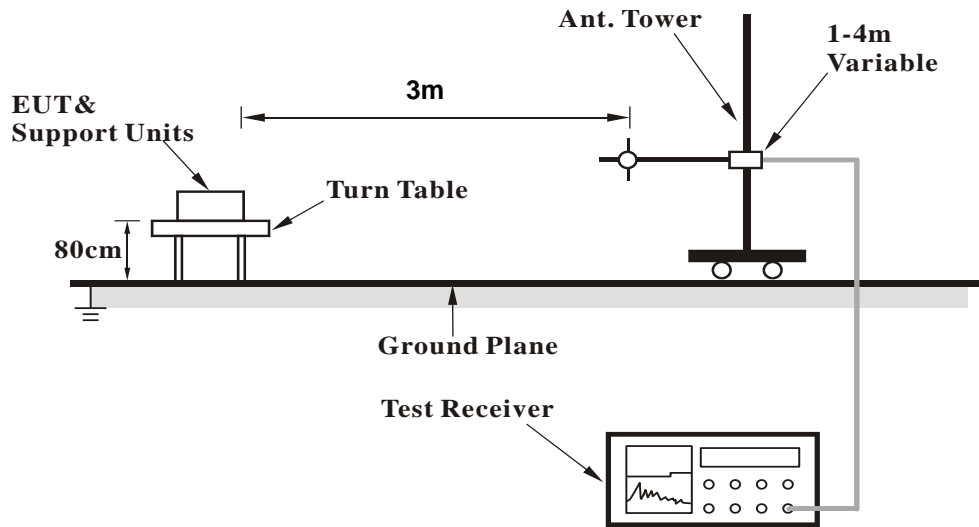
No deviation.

4.1.5 Test Setup

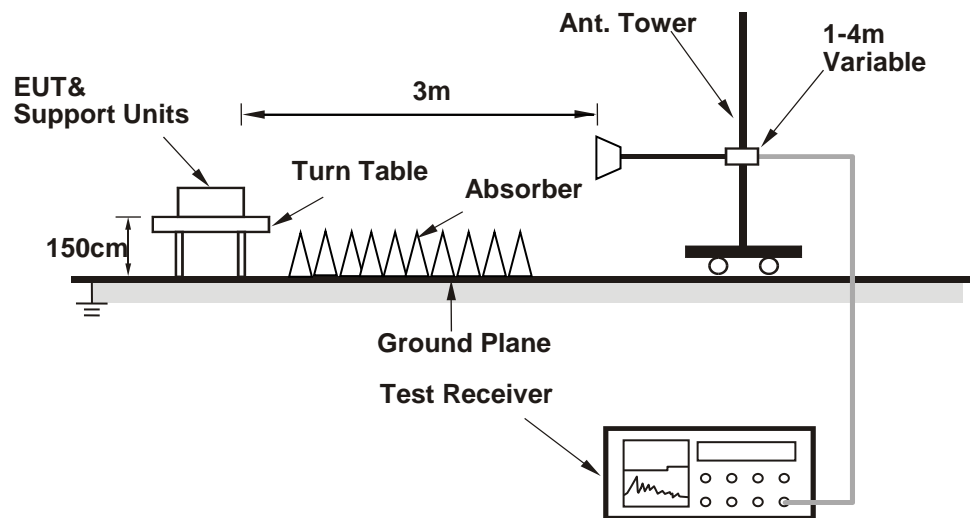
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- a. Placed the EUT on the testing table.
- b. Controlling software (QATool_Dbg) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.7 PK	74.0	-11.3	1.07 H	196	58.0	4.7
2	5150.00	53.7 AV	54.0	-0.3	1.07 H	196	49.0	4.7
3	*5180.00	111.0 PK			1.07 H	196	106.4	4.6
4	*5180.00	102.4 AV			1.07 H	196	97.8	4.6
5	#10360.00	48.7 PK	68.2	-19.5	1.09 H	303	35.3	13.4
6	15540.00	50.5 PK	74.0	-23.5	1.31 H	44	36.0	14.5
7	15540.00	40.7 AV	54.0	-13.3	1.31 H	44	26.2	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	5148.86	61.8 PK	74.0	-12.2	3.43 V	286	57.0	4.8
2	5148.86	51.4 AV	54.0	-2.6	3.43 V	286	46.6	4.8
3	*5180.00	109.2 PK			3.43 V	286	104.6	4.6
4	*5180.00	100.9 AV			3.43 V	286	96.3	4.6
5	#10360.00	50.6 PK	68.2	-17.6	1.08 V	288	37.2	13.4
6	15540.00	49.6 PK	74.0	-24.4	1.16 V	212	35.1	14.5
7	15540.00	38.4 AV	54.0	-15.6	1.16 V	212	23.9	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	1.24 H	195	61.2	4.7
2	5150.00	53.6 AV	54.0	-0.4	1.24 H	195	48.9	4.7
3	*5200.00	113.0 PK			1.24 H	195	108.6	4.4
4	*5200.00	104.3 AV			1.24 H	195	99.9	4.4
5	#10400.00	54.7 PK	68.2	-13.5	1.15 H	314	41.1	13.6
6	15600.00	56.4 PK	74.0	-17.6	1.28 H	56	41.9	14.5
7	15600.00	46.2 AV	54.0	-7.8	1.28 H	56	31.7	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	5150.00	61.8 PK	74.0	-12.2	3.40 V	285	57.1	4.7
2	5150.00	51.4 AV	54.0	-2.6	3.40 V	285	46.7	4.7
3	*5200.00	110.9 PK			3.40 V	285	106.5	4.4
4	*5200.00	102.5 AV			3.40 V	285	98.1	4.4
5	#10400.00	56.4 PK	68.2	-11.8	3.59 V	189	42.8	13.6
6	15600.00	55.8 PK	74.0	-18.2	1.39 V	54	41.3	14.5
7	15600.00	44.1 AV	54.0	-9.9	1.39 V	54	29.6	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.8 PK	74.0	-18.2	1.23 H	196	51.1	4.7
2	5150.00	43.1 AV	54.0	-10.9	1.23 H	196	38.4	4.7
3	*5240.00	114.1 PK			1.23 H	196	109.7	4.4
4	*5240.00	106.3 AV			1.23 H	196	101.9	4.4
5	#10480.00	57.5 PK	68.2	-10.7	1.08 H	292	43.8	13.7
6	15720.00	54.6 PK	74.0	-19.4	1.24 H	69	40.2	14.4
7	15720.00	49.3 AV	54.0	-4.7	1.24 H	69	34.9	14.4

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	52.2 PK	74.0	-21.8	3.39 V	282	47.5	4.7
2	5150.00	41.5 AV	54.0	-12.5	3.39 V	282	36.8	4.7
3	*5240.00	113.5 PK			3.39 V	282	109.1	4.4
4	*5240.00	104.9 AV			3.39 V	282	100.5	4.4
5	#10480.00	58.9 PK	68.2	-9.3	1.20 V	298	45.2	13.7
6	15720.00	59.3 PK	74.0	-14.7	1.15 V	236	44.9	14.4
7	15720.00	46.9 AV	54.0	-7.1	1.15 V	236	32.5	14.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	114.7 PK			1.15 H	198	110.4	4.3
2	*5260.00	105.8 AV			1.15 H	198	101.5	4.3
3	5350.00	57.0 PK	74.0	-17.0	1.15 H	198	52.7	4.3
4	5350.00	43.7 AV	54.0	-10.3	1.15 H	198	39.4	4.3
5	#10520.00	60.7 PK	68.2	-7.5	1.19 H	300	46.9	13.8
6	15780.00	66.7 PK	74.0	-7.3	1.20 H	95	52.4	14.3
7	15780.00	52.7 AV	54.0	-1.3	1.20 H	95	38.4	14.3

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	*5260.00	113.1 PK			3.37 V	276	108.8	4.3
2	*5260.00	104.6 AV			3.37 V	276	100.3	4.3
3	5350.00	52.5 PK	74.0	-21.5	3.37 V	276	48.2	4.3
4	5350.00	41.8 AV	54.0	-12.2	3.37 V	276	37.5	4.3
5	#10520.00	61.2 PK	68.2	-7.0	1.10 V	300	47.4	13.8
6	15780.00	60.2 PK	74.0	-13.8	1.11 V	219	45.9	14.3
7	15780.00	47.5 AV	54.0	-6.5	1.11 V	219	33.2	14.3

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	114.7 PK			1.13 H	198	110.4	4.3
2	*5300.00	105.6 AV			1.13 H	198	101.3	4.3
3	5350.00	63.1 PK	74.0	-10.9	1.13 H	198	58.8	4.3
4	5350.00	49.7 AV	54.0	-4.3	1.13 H	198	45.4	4.3
5	10600.00	60.1 PK	74.0	-13.9	1.13 H	313	46.5	13.6
6	10600.00	48.3 AV	54.0	-5.7	1.13 H	313	34.7	13.6
7	15900.00	66.8 PK	74.0	-7.2	1.21 H	83	52.7	14.1
8	15900.00	53.0 AV	54.0	-1.0	1.21 H	83	38.9	14.1

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	*5300.00	113.1 PK			3.37 V	263	108.8	4.3
2	*5300.00	104.7 AV			3.37 V	263	100.4	4.3
3	5350.00	59.8 PK	74.0	-14.2	3.37 V	263	55.5	4.3
4	5350.00	47.1 AV	54.0	-6.9	3.37 V	263	42.8	4.3
5	10600.00	60.8 PK	74.0	-13.2	1.10 V	313	47.2	13.6
6	10600.00	49.3 AV	54.0	-4.7	1.10 V	313	35.7	13.6
7	15900.00	60.7 PK	74.0	-13.3	1.03 V	216	46.6	14.1
8	15900.00	48.0 AV	54.0	-6.0	1.03 V	216	33.9	14.1

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.

RF Mode	TX 802.11a	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.1 PK			1.06 H	198	108.8	4.3
2	*5320.00	104.3 AV			1.06 H	198	100.0	4.3
3	5353.06	64.7 PK	74.0	-9.3	1.06 H	198	60.4	4.3
4	5353.06	53.8 AV	54.0	-0.2	1.06 H	198	49.5	4.3
5	10640.00	57.5 PK	74.0	-16.5	1.13 H	317	43.8	13.7
6	10640.00	46.8 AV	54.0	-7.2	1.13 H	317	33.1	13.7
7	15960.00	55.3 PK	74.0	-18.7	1.29 H	71	41.2	14.1
8	15960.00	49.8 AV	54.0	-4.2	1.29 H	71	35.7	14.1

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	110.7 PK			2.20 V	273	106.4	4.3
2	*5320.00	102.1 AV			2.20 V	273	97.8	4.3
3	5350.00	63.4 PK	74.0	-10.6	2.20 V	273	59.1	4.3
4	5350.00	51.8 AV	54.0	-2.2	2.20 V	273	47.5	4.3
5	10640.00	59.0 PK	74.0	-15.0	1.20 V	306	45.3	13.7
6	10640.00	48.8 AV	54.0	-5.2	1.20 V	306	35.1	13.7
7	15960.00	59.2 PK	74.0	-14.8	1.08 V	216	45.1	14.1
8	15960.00	46.6 AV	54.0	-7.4	1.08 V	216	32.5	14.1

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.

RF Mode	TX 802.11a	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.9 PK	74.0	-11.1	1.29 H	198	58.5	4.4
2	5460.00	50.6 AV	54.0	-3.4	1.29 H	198	46.2	4.4
3	#5468.40	68.0 PK	68.2	-0.2	1.29 H	198	63.5	4.5
4	*5500.00	114.1 PK			1.29 H	198	109.4	4.7
5	*5500.00	104.9 AV			1.29 H	198	100.2	4.7
6	11000.00	53.5 PK	74.0	-20.5	1.02 H	308	39.2	14.3
7	11000.00	40.6 AV	54.0	-13.4	1.02 H	308	26.3	14.3
8	#16500.00	56.4 PK	68.2	-11.8	1.41 H	72	40.6	15.8

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.1 PK	74.0	-9.9	2.08 V	274	59.7	4.4
2	5460.00	50.4 AV	54.0	-3.6	2.08 V	274	46.0	4.4
3	#5469.00	65.9 PK	68.2	-2.3	2.08 V	274	61.4	4.5
4	*5500.00	111.6 PK			2.08 V	274	106.9	4.7
5	*5500.00	102.9 AV			2.08 V	274	98.2	4.7
6	11000.00	57.7 PK	74.0	-16.3	1.16 V	302	43.4	14.3
7	11000.00	45.8 AV	54.0	-8.2	1.16 V	302	31.5	14.3
8	#16500.00	52.4 PK	68.2	-15.8	1.06 V	223	36.6	15.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.2 PK			1.16 H	185	110.7	4.5
2	*5580.00	105.9 AV			1.16 H	185	101.4	4.5
3	11160.00	53.3 PK	74.0	-20.7	1.06 H	316	39.2	14.1
4	11160.00	40.3 AV	54.0	-13.7	1.06 H	316	26.2	14.1
5	#16740.00	57.1 PK	68.2	-11.1	1.36 H	86	40.3	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	*5580.00	112.7 PK			3.38 V	271	108.2	4.5
2	*5580.00	104.3 AV			3.38 V	271	99.8	4.5
3	11160.00	57.7 PK	74.0	-16.3	1.14 V	293	43.6	14.1
4	11160.00	45.8 AV	54.0	-8.2	1.14 V	293	31.7	14.1
5	#16740.00	53.1 PK	68.2	-15.1	1.10 V	226	36.3	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.6 PK			1.43 H	199	109.0	4.6
2	*5700.00	104.2 AV			1.43 H	199	99.6	4.6
3	#5725.00	67.9 PK	68.2	-0.3	1.43 H	199	63.2	4.7
4	11400.00	53.6 PK	74.0	-20.4	1.05 H	313	39.1	14.5
5	11400.00	40.8 AV	54.0	-13.2	1.05 H	313	26.3	14.5
6	#17100.00	56.7 PK	68.2	-11.5	1.38 H	82	38.9	17.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	112.8 PK			3.45 V	262	108.2	4.6
2	*5700.00	103.7 AV			3.45 V	262	99.1	4.6
3	#5725.00	65.4 PK	68.2	-2.8	3.45 V	262	60.7	4.7
4	11400.00	58.1 PK	74.0	-15.9	1.15 V	304	43.6	14.5
5	11400.00	45.7 AV	54.0	-8.3	1.15 V	304	31.2	14.5
6	#17100.00	53.0 PK	68.2	-15.2	1.03 V	253	35.2	17.8

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 144 : 5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	1.19 H	186	49.8	4.4
2	5460.00	44.6 AV	54.0	-9.4	1.19 H	186	40.2	4.4
3	#5470.00	52.5 PK	68.2	-15.7	1.19 H	186	48.0	4.5
4	*5720.00	114.4 PK			1.19 H	186	109.7	4.7
5	*5720.00	105.2 AV			1.19 H	186	100.5	4.7
6	#5850.00	52.8 PK	68.2	-15.4	1.19 H	186	47.8	5.0
7	11440.00	53.5 PK	74.0	-20.5	1.00 H	317	38.9	14.6
8	11440.00	40.4 AV	54.0	-13.6	1.00 H	317	25.8	14.6
9	#17160.00	55.8 PK	68.2	-12.4	1.35 H	88	38.0	17.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	3.41 V	273	49.8	4.4
2	5460.00	43.9 AV	54.0	-10.1	3.41 V	273	39.5	4.4
3	#5470.00	52.9 PK	68.2	-15.3	3.41 V	273	48.4	4.5
4	*5720.00	113.2 PK			3.41 V	273	108.5	4.7
5	*5720.00	104.3 AV			3.41 V	273	99.6	4.7
6	#5850.00	51.6 PK	68.2	-16.6	3.41 V	273	46.6	5.0
7	11440.00	58.3 PK	74.0	-15.7	1.20 V	299	43.7	14.6
8	11440.00	46.1 AV	54.0	-7.9	1.20 V	299	31.5	14.6
9	#17160.00	52.7 PK	68.2	-15.5	1.08 V	238	34.9	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5646.63	67.8 PK	68.2	-0.4	1.31 H	194	63.3	4.5
2	*5745.00	117.7 PK			1.31 H	194	112.7	5.0
3	*5745.00	107.3 AV			1.31 H	194	102.3	5.0
4	#5930.94	55.4 PK	68.2	-12.8	1.31 H	194	50.3	5.1
5	11490.00	53.3 PK	74.0	-20.7	1.04 H	331	38.7	14.6
6	11490.00	41.7 AV	54.0	-12.3	1.04 H	331	27.1	14.6
7	#17235.00	58.3 PK	68.2	-9.9	1.33 H	85	40.3	18.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.47	55.7 PK	68.2	-12.5	2.09 V	269	51.2	4.5
2	*5745.00	113.7 PK			2.09 V	269	108.7	5.0
3	*5745.00	105.1 AV			2.09 V	269	100.1	5.0
4	#5990.81	52.4 PK	68.2	-15.8	2.09 V	269	47.2	5.2
5	11490.00	59.1 PK	74.0	-14.9	1.22 V	296	44.5	14.6
6	11490.00	47.2 AV	54.0	-6.8	1.22 V	296	32.6	14.6
7	#17235.00	52.6 PK	68.2	-15.6	1.05 V	241	34.6	18.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5635.19	66.4 PK	68.2	-1.8	1.03 H	200	61.9	4.5
2	*5785.00	119.5 PK			1.03 H	200	114.4	5.1
3	*5785.00	108.2 AV			1.03 H	200	103.1	5.1
4	#5935.82	63.2 PK	68.2	-5.0	1.03 H	200	58.1	5.1
5	11570.00	55.6 PK	74.0	-18.4	1.03 H	330	41.0	14.6
6	11570.00	43.7 AV	54.0	-10.3	1.03 H	330	29.1	14.6
7	#17355.00	60.9 PK	68.2	-7.3	1.25 H	95	42.7	18.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.99	64.8 PK	68.2	-3.4	2.06 V	275	60.3	4.5
2	*5785.00	118.5 PK			2.06 V	275	113.4	5.1
3	*5785.00	107.6 AV			2.06 V	275	102.5	5.1
4	#5926.82	62.2 PK	68.2	-6.0	2.06 V	275	57.1	5.1
5	11570.00	62.3 PK	74.0	-11.7	1.18 V	295	47.7	14.6
6	11570.00	50.3 AV	54.0	-3.7	1.18 V	295	35.7	14.6
7	#17355.00	56.1 PK	68.2	-12.1	1.02 V	243	37.9	18.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.01	55.3 PK	68.2	-12.9	1.08 H	201	50.8	4.5
2	*5825.00	120.3 PK			1.08 H	201	115.3	5.0
3	*5825.00	109.7 AV			1.08 H	201	104.7	5.0
4	#5926.71	63.5 PK	68.2	-4.7	1.08 H	201	58.4	5.1
5	11650.00	55.4 PK	74.0	-18.6	1.08 H	325	41.0	14.4
6	11650.00	43.4 AV	54.0	-10.6	1.08 H	325	29.0	14.4
7	#17475.00	61.3 PK	68.2	-6.9	1.30 H	81	42.5	18.8

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	#5636.51	52.0 PK	68.2	-16.2	3.81 V	274	47.5	4.5
2	*5825.00	118.1 PK			3.81 V	274	113.1	5.0
3	*5825.00	107.3 AV			3.81 V	274	102.3	5.0
4	#5929.34	60.1 PK	68.2	-8.1	3.81 V	274	55.0	5.1
5	11650.00	61.8 PK	74.0	-12.2	1.24 V	309	47.4	14.4
6	11650.00	50.1 AV	54.0	-3.9	1.24 V	309	35.7	14.4
7	#17475.00	55.5 PK	68.2	-12.7	1.04 V	251	36.7	18.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.5 PK	74.0	-11.5	1.10 H	195	57.8	4.7
2	5150.00	53.6 AV	54.0	-0.4	1.10 H	195	48.9	4.7
3	*5180.00	112.2 PK			1.10 H	195	107.6	4.6
4	*5180.00	101.4 AV			1.10 H	195	96.8	4.6
5	#10360.00	48.3 PK	68.2	-19.9	1.00 H	306	34.9	13.4
6	15540.00	50.4 PK	74.0	-23.6	1.15 H	79	35.9	14.5
7	15540.00	40.8 AV	54.0	-13.2	1.15 H	79	26.3	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	5150.00	54.8 PK	74.0	-19.2	3.96 V	270	50.1	4.7
2	5150.00	49.2 AV	54.0	-4.8	3.96 V	270	44.5	4.7
3	*5180.00	112.9 PK			3.96 V	270	108.3	4.6
4	*5180.00	100.5 AV			3.96 V	270	95.9	4.6
5	#10360.00	50.8 PK	68.2	-17.4	1.19 V	295	37.4	13.4
6	15540.00	49.8 PK	74.0	-24.2	1.00 V	239	35.3	14.5
7	15540.00	38.3 AV	54.0	-15.7	1.00 V	239	23.8	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.0 PK	74.0	-10.0	1.26 H	196	59.3	4.7
2	5150.00	53.6 AV	54.0	-0.4	1.26 H	196	48.9	4.7
3	*5200.00	115.7 PK			1.26 H	196	111.3	4.4
4	*5200.00	104.1 AV			1.26 H	196	99.7	4.4
5	#10400.00	56.2 PK	68.2	-12.0	1.04 H	322	42.6	13.6
6	15600.00	60.6 PK	74.0	-13.4	1.16 H	94	46.1	14.5
7	15600.00	47.0 AV	54.0	-7.0	1.16 H	94	32.5	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	5150.00	55.2 PK	74.0	-18.8	3.90 V	275	50.5	4.7
2	5150.00	49.6 AV	54.0	-4.4	3.90 V	275	44.9	4.7
3	*5200.00	116.1 PK			3.90 V	275	111.7	4.4
4	*5200.00	103.2 AV			3.90 V	275	98.8	4.4
5	#10400.00	56.8 PK	68.2	-11.4	1.20 V	296	43.2	13.6
6	15600.00	58.5 PK	74.0	-15.5	1.04 V	258	44.0	14.5
7	15600.00	46.3 AV	54.0	-7.7	1.04 V	258	31.8	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	69.1 PK	74.0	-4.9	1.25 H	196	64.4	4.7
2	5150.00	47.1 AV	54.0	-6.9	1.25 H	196	42.4	4.7
3	*5240.00	116.7 PK			1.25 H	196	112.3	4.4
4	*5240.00	105.7 AV			1.25 H	196	101.3	4.4
5	#10480.00	60.7 PK	68.2	-7.5	1.08 H	315	47.0	13.7
6	15720.00	65.0 PK	74.0	-9.0	1.25 H	74	50.6	14.4
7	15720.00	52.9 AV	54.0	-1.1	1.25 H	74	38.5	14.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	54.4 PK	74.0	-19.6	3.90 V	263	49.7	4.7
2	5150.00	43.1 AV	54.0	-10.9	3.90 V	263	38.4	4.7
3	*5240.00	117.8 PK			3.90 V	263	113.4	4.4
4	*5240.00	104.6 AV			3.90 V	263	100.2	4.4
5	#10480.00	61.4 PK	68.2	-6.8	1.24 V	307	47.7	13.7
6	15720.00	63.3 PK	74.0	-10.7	1.03 V	266	48.9	14.4
7	15720.00	50.9 AV	54.0	-3.1	1.03 V	266	36.5	14.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	116.3 PK			1.22 H	196	112.0	4.3
2	*5260.00	105.2 AV			1.22 H	196	100.9	4.3
3	5350.00	58.7 PK	74.0	-15.3	1.22 H	196	54.4	4.3
4	5350.00	47.1 AV	54.0	-6.9	1.22 H	196	42.8	4.3
5	#10520.00	61.1 PK	68.2	-7.1	1.12 H	292	47.3	13.8
6	15780.00	64.9 PK	74.0	-9.1	1.16 H	79	50.6	14.3
7	15780.00	53.0 AV	54.0	-1.0	1.16 H	79	38.7	14.3

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	*5260.00	117.7 PK			3.87 V	259	113.4	4.3
2	*5260.00	104.6 AV			3.87 V	259	100.3	4.3
3	5350.00	53.9 PK	74.0	-20.1	3.87 V	259	49.6	4.3
4	5350.00	42.6 AV	54.0	-11.4	3.87 V	259	38.3	4.3
5	#10520.00	61.5 PK	68.2	-6.7	1.16 V	288	47.7	13.8
6	15780.00	63.2 PK	74.0	-10.8	1.03 V	227	48.9	14.3
7	15780.00	50.7 AV	54.0	-3.3	1.03 V	227	36.4	14.3

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	115.7 PK			1.35 H	197	111.4	4.3
2	*5300.00	104.7 AV			1.35 H	197	100.4	4.3
3	5350.00	65.1 PK	74.0	-8.9	1.35 H	197	60.8	4.3
4	5350.00	52.3 AV	54.0	-1.7	1.35 H	197	48.0	4.3
5	10600.00	61.0 PK	74.0	-13.0	1.09 H	294	47.4	13.6
6	10600.00	49.2 AV	54.0	-4.8	1.09 H	294	35.6	13.6
7	15900.00	64.8 PK	74.0	-9.2	1.22 H	87	50.7	14.1
8	15900.00	53.5 AV	54.0	-0.5	1.22 H	87	39.4	14.1

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	*5300.00	117.9 PK			3.82 V	262	113.6	4.3
2	*5300.00	104.3 AV			3.82 V	262	100.0	4.3
3	5350.00	54.5 PK	74.0	-19.5	3.82 V	262	50.2	4.3
4	5350.00	48.1 AV	54.0	-5.9	3.82 V	262	43.8	4.3
5	10600.00	61.4 PK	74.0	-12.6	1.18 V	295	47.8	13.6
6	10600.00	49.9 AV	54.0	-4.1	1.18 V	295	36.3	13.6
7	15900.00	63.5 PK	74.0	-10.5	1.08 V	253	49.4	14.1
8	15900.00	51.0 AV	54.0	-3.0	1.08 V	253	36.9	14.1

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.3 PK			1.14 H	198	109.0	4.3
2	*5320.00	101.8 AV			1.14 H	198	97.5	4.3
3	5350.00	65.2 PK	74.0	-8.8	1.14 H	198	60.9	4.3
4	5350.00	53.7 AV	54.0	-0.3	1.14 H	198	49.4	4.3
5	10640.00	55.7 PK	74.0	-18.3	1.18 H	316	42.0	13.7
6	10640.00	45.4 AV	54.0	-8.6	1.18 H	316	31.7	13.7
7	15960.00	59.8 PK	74.0	-14.2	1.11 H	75	45.7	14.1
8	15960.00	47.3 AV	54.0	-6.7	1.11 H	75	33.2	14.1

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	110.7 PK			2.63 V	280	106.4	4.3
2	*5320.00	100.2 AV			2.63 V	280	95.9	4.3
3	5350.00	61.7 PK	74.0	-12.3	2.63 V	280	57.4	4.3
4	5350.00	51.6 AV	54.0	-2.4	2.63 V	280	47.3	4.3
5	10640.00	56.3 PK	74.0	-17.7	1.06 V	296	42.6	13.7
6	10640.00	45.9 AV	54.0	-8.1	1.06 V	296	32.2	13.7
7	15960.00	58.5 PK	74.0	-15.5	1.12 V	224	44.4	14.1
8	15960.00	46.5 AV	54.0	-7.5	1.12 V	224	32.4	14.1

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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.4 PK	74.0	-8.6	1.18 H	199	61.0	4.4
2	5460.00	52.9 AV	54.0	-1.1	1.18 H	199	48.5	4.4
3	#5470.00	68.0 PK	68.2	-0.2	1.18 H	199	63.5	4.5
4	*5500.00	113.1 PK			1.18 H	199	108.4	4.7
5	*5500.00	101.7 AV			1.18 H	199	97.0	4.7
6	11000.00	47.8 PK	74.0	-26.2	1.11 H	321	33.5	14.3
7	11000.00	36.7 AV	54.0	-17.3	1.11 H	321	22.4	14.3
8	#16500.00	50.0 PK	68.2	-18.2	1.30 H	87	34.2	15.8

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	2.76 V	278	54.2	4.4
2	5460.00	48.6 AV	54.0	-5.4	2.76 V	278	44.2	4.4
3	#5470.00	64.3 PK	68.2	-3.9	2.76 V	278	59.8	4.5
4	*5500.00	110.5 PK			2.76 V	278	105.8	4.7
5	*5500.00	100.0 AV			2.76 V	278	95.3	4.7
6	11000.00	50.0 PK	74.0	-24.0	1.10 V	301	35.7	14.3
7	11000.00	39.3 AV	54.0	-14.7	1.10 V	301	25.0	14.3
8	#16500.00	47.2 PK	68.2	-21.0	1.10 V	203	31.4	15.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	116.5 PK			1.32 H	205	112.0	4.5
2	*5580.00	105.1 AV			1.32 H	205	100.6	4.5
3	11160.00	53.1 PK	74.0	-20.9	1.10 H	313	39.0	14.1
4	11160.00	39.8 AV	54.0	-14.2	1.10 H	313	25.7	14.1
5	#16740.00	56.0 PK	68.2	-12.2	1.28 H	97	39.2	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	*5580.00	117.2 PK			3.82 V	266	112.7	4.5
2	*5580.00	104.4 AV			3.82 V	266	99.9	4.5
3	11160.00	57.1 PK	74.0	-16.9	1.17 V	279	43.0	14.1
4	11160.00	45.6 AV	54.0	-8.4	1.17 V	279	31.5	14.1
5	#16740.00	53.0 PK	68.2	-15.2	1.04 V	225	36.2	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.

RF Mode	TX 802.11ax (HE20)	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	112.4 PK			1.12 H	201	107.8	4.6
2	*5700.00	101.2 AV			1.12 H	201	96.6	4.6
3	#5725.00	67.9 PK	68.2	-0.3	1.12 H	201	63.2	4.7
4	11400.00	47.4 PK	74.0	-26.6	1.03 H	322	32.9	14.5
5	11400.00	36.3 AV	54.0	-17.7	1.03 H	322	21.8	14.5
6	#17100.00	50.1 PK	68.2	-18.1	1.35 H	86	32.3	17.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	110.0 PK			3.81 V	271	105.4	4.6
2	*5700.00	99.6 AV			3.81 V	271	95.0	4.6
3	#5725.00	65.1 PK	68.2	-3.1	3.81 V	271	60.4	4.7
4	11400.00	50.2 PK	74.0	-23.8	1.07 V	281	35.7	14.5
5	11400.00	39.5 AV	54.0	-14.5	1.07 V	281	25.0	14.5
6	#17100.00	46.8 PK	68.2	-21.4	1.03 V	234	29.0	17.8

Remarks:

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

RF Mode	TX 802.11ax (HE20)	Channel	CH 144 : 5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.6 PK	74.0	-20.4	1.35 H	193	49.2	4.4
2	5460.00	44.2 AV	54.0	-9.8	1.35 H	193	39.8	4.4
3	#5470.00	52.6 PK	68.2	-15.6	1.35 H	193	48.1	4.5
4	*5720.00	116.4 PK			1.35 H	193	111.7	4.7
5	*5720.00	105.2 AV			1.35 H	193	100.5	4.7
6	#5850.00	52.8 PK	68.2	-15.4	1.35 H	193	47.8	5.0
7	11440.00	53.6 PK	74.0	-20.4	1.04 H	325	39.0	14.6
8	11440.00	40.2 AV	54.0	-13.8	1.04 H	325	25.6	14.6
9	#17160.00	55.7 PK	68.2	-12.5	1.31 H	80	37.9	17.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.0 PK	74.0	-20.0	3.76 V	270	49.6	4.4
2	5460.00	43.5 AV	54.0	-10.5	3.76 V	270	39.1	4.4
3	#5470.00	53.2 PK	68.2	-15.0	3.76 V	270	48.7	4.5
4	*5720.00	117.5 PK			3.76 V	270	112.8	4.7
5	*5720.00	104.4 AV			3.76 V	270	99.7	4.7
6	#5850.00	52.1 PK	68.2	-16.1	3.76 V	270	47.1	5.0
7	11440.00	57.2 PK	74.0	-16.8	1.07 V	279	42.6	14.6
8	11440.00	45.4 AV	54.0	-8.6	1.07 V	279	30.8	14.6
9	#17160.00	53.1 PK	68.2	-15.1	1.00 V	229	35.3	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.57	67.9 PK	68.2	-0.3	1.09 H	201	63.4	4.5
2	*5745.00	118.6 PK			1.09 H	201	113.6	5.0
3	*5745.00	107.6 AV			1.09 H	201	102.6	5.0
4	#5948.15	54.2 PK	68.2	-14.0	1.09 H	201	49.1	5.1
5	11490.00	51.7 PK	74.0	-22.3	1.07 H	322	37.1	14.6
6	11490.00	39.9 AV	54.0	-14.1	1.07 H	322	25.3	14.6
7	#17235.00	57.7 PK	68.2	-10.5	1.33 H	86	39.7	18.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.05	65.8 PK	68.2	-2.4	1.91 V	273	61.3	4.5
2	*5745.00	116.9 PK			1.91 V	273	111.9	5.0
3	*5745.00	105.6 AV			1.91 V	273	100.6	5.0
4	#5957.53	51.9 PK	68.2	-16.3	1.91 V	273	46.7	5.2
5	11490.00	58.4 PK	74.0	-15.6	1.07 V	292	43.8	14.6
6	11490.00	47.6 AV	54.0	-6.4	1.07 V	292	33.0	14.6
7	#17235.00	52.9 PK	68.2	-15.3	1.08 V	217	34.9	18.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.29	59.8 PK	68.2	-8.4	1.21 H	202	55.3	4.5
2	*5785.00	118.3 PK			1.21 H	202	113.2	5.1
3	*5785.00	107.2 AV			1.21 H	202	102.1	5.1
4	#5956.72	59.2 PK	68.2	-9.0	1.21 H	202	54.0	5.2
5	11570.00	52.5 PK	74.0	-21.5	1.05 H	338	37.9	14.6
6	11570.00	40.4 AV	54.0	-13.6	1.05 H	338	25.8	14.6
7	#17355.00	57.6 PK	68.2	-10.6	1.29 H	85	39.4	18.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.00	58.4 PK	68.2	-9.8	3.83 V	270	53.9	4.5
2	*5785.00	117.2 PK			3.83 V	270	112.1	5.1
3	*5785.00	106.4 AV			3.83 V	270	101.3	5.1
4	#5926.51	58.2 PK	68.2	-10.0	3.83 V	270	53.1	5.1
5	11570.00	58.1 PK	74.0	-15.9	1.12 V	292	43.5	14.6
6	11570.00	47.3 AV	54.0	-6.7	1.12 V	292	32.7	14.6
7	#17355.00	52.7 PK	68.2	-15.5	1.06 V	230	34.5	18.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.26	56.0 PK	68.2	-12.2	1.19 H	209	51.5	4.5
2	*5825.00	118.2 PK			1.19 H	209	113.2	5.0
3	*5825.00	106.9 AV			1.19 H	209	101.9	5.0
4	#5938.34	62.3 PK	68.2	-5.9	1.19 H	209	57.2	5.1
5	11650.00	51.9 PK	74.0	-22.1	1.08 H	324	37.5	14.4
6	11650.00	39.9 AV	54.0	-14.1	1.08 H	324	25.5	14.4
7	#17475.00	57.6 PK	68.2	-10.6	1.24 H	83	38.8	18.8

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	#5646.81	52.6 PK	68.2	-15.6	3.42 V	270	48.1	4.5
2	*5825.00	118.2 PK			3.42 V	270	113.2	5.0
3	*5825.00	106.1 AV			3.42 V	270	101.1	5.0
4	#5937.92	55.7 PK	68.2	-12.5	3.42 V	270	50.6	5.1
5	11650.00	57.5 PK	74.0	-16.5	1.09 V	304	43.1	14.4
6	11650.00	47.0 AV	54.0	-7.0	1.09 V	304	32.6	14.4
7	#17475.00	52.0 PK	68.2	-16.2	1.00 V	232	33.2	18.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.7 PK	74.0	-7.3	1.29 H	196	62.0	4.7
2	5150.00	53.5 AV	54.0	-0.5	1.29 H	196	48.8	4.7
3	*5190.00	109.2 PK			1.29 H	196	104.7	4.5
4	*5190.00	98.6 AV			1.29 H	196	94.1	4.5
5	#10380.00	48.6 PK	68.2	-19.6	1.06 H	292	35.2	13.4
6	15570.00	49.4 PK	74.0	-24.6	1.15 H	95	34.8	14.6
7	15570.00	37.4 AV	54.0	-16.6	1.15 H	95	22.8	14.6

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	53.8 PK	74.0	-20.2	3.94 V	271	49.1	4.7
2	5150.00	45.6 AV	54.0	-8.4	3.94 V	271	40.9	4.7
3	*5190.00	107.3 PK			3.94 V	271	102.8	4.5
4	*5190.00	97.1 AV			3.94 V	271	92.6	4.5
5	#10380.00	49.8 PK	68.2	-18.4	1.21 V	287	36.4	13.4
6	15570.00	48.3 PK	74.0	-25.7	1.01 V	243	33.7	14.6
7	15570.00	37.1 AV	54.0	-16.9	1.01 V	243	22.5	14.6

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	1.09 H	197	60.0	4.7
2	5150.00	53.6 AV	54.0	-0.4	1.09 H	197	48.9	4.7
3	*5230.00	114.3 PK			1.09 H	197	109.9	4.4
4	*5230.00	103.7 AV			1.09 H	197	99.3	4.4
5	#10460.00	55.5 PK	68.2	-12.7	1.01 H	302	41.9	13.6
6	15690.00	59.2 PK	74.0	-14.8	1.15 H	95	44.7	14.5
7	15690.00	46.8 AV	54.0	-7.2	1.15 H	95	32.3	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	5150.00	54.1 PK	74.0	-19.9	3.93 V	272	49.4	4.7
2	5150.00	45.7 AV	54.0	-8.3	3.93 V	272	41.0	4.7
3	*5230.00	111.8 PK			3.93 V	272	107.4	4.4
4	*5230.00	101.7 AV			3.93 V	272	97.3	4.4
5	#10460.00	56.9 PK	68.2	-11.3	1.21 V	301	43.3	13.6
6	15690.00	57.9 PK	74.0	-16.1	1.01 V	227	43.4	14.5
7	15690.00	46.1 AV	54.0	-7.9	1.01 V	227	31.6	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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 54 : 5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	114.1 PK			1.18 H	197	109.8	4.3
2	*5270.00	103.2 AV			1.18 H	197	98.9	4.3
3	5350.00	67.7 PK	74.0	-6.3	1.18 H	197	63.4	4.3
4	5350.00	53.8 AV	54.0	-0.2	1.18 H	197	49.5	4.3
5	#10540.00	55.3 PK	68.2	-12.9	1.01 H	318	41.6	13.7
6	15810.00	58.8 PK	74.0	-15.2	1.18 H	85	44.6	14.2
7	15810.00	46.5 AV	54.0	-7.5	1.18 H	85	32.3	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	*5270.00	113.4 PK			2.08 V	278	109.1	4.3
2	*5270.00	102.0 AV			2.08 V	278	97.7	4.3
3	5350.00	64.1 PK	74.0	-9.9	2.08 V	278	59.8	4.3
4	5350.00	51.0 AV	54.0	-3.0	2.08 V	278	46.7	4.3
5	#10540.00	57.4 PK	68.2	-10.8	1.22 V	312	43.7	13.7
6	15810.00	58.0 PK	74.0	-16.0	1.01 V	237	43.8	14.2
7	15810.00	46.4 AV	54.0	-7.6	1.01 V	237	32.2	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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 62 : 5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	110.1 PK			1.16 H	198	105.8	4.3
2	*5310.00	99.3 AV			1.16 H	198	95.0	4.3
3	5350.00	63.5 PK	74.0	-10.5	1.16 H	198	59.2	4.3
4	5350.00	53.7 AV	54.0	-0.3	1.16 H	198	49.4	4.3
5	10620.00	51.3 PK	74.0	-22.7	1.09 H	290	37.6	13.7
6	10620.00	40.3 AV	54.0	-13.7	1.09 H	290	26.6	13.7
7	15930.00	50.2 PK	74.0	-23.8	1.21 H	97	36.1	14.1
8	15930.00	40.4 AV	54.0	-13.6	1.21 H	97	26.3	14.1

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	*5310.00	109.7 PK			2.10 V	272	105.4	4.3
2	*5310.00	98.6 AV			2.10 V	272	94.3	4.3
3	5350.00	64.2 PK	74.0	-9.8	2.10 V	272	59.9	4.3
4	5350.00	51.5 AV	54.0	-2.5	2.10 V	272	47.2	4.3
5	10620.00	53.6 PK	74.0	-20.4	1.19 V	283	39.9	13.7
6	10620.00	42.8 AV	54.0	-11.2	1.19 V	283	29.1	13.7
7	15930.00	51.3 PK	74.0	-22.7	1.04 V	241	37.2	14.1
8	15930.00	39.9 AV	54.0	-14.1	1.04 V	241	25.8	14.1

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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 102 : 5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.6 PK	74.0	-8.4	1.06 H	199	61.2	4.4
2	5460.00	52.5 AV	54.0	-1.5	1.06 H	199	48.1	4.4
3	#5469.00	67.9 PK	68.2	-0.3	1.06 H	199	63.4	4.5
4	*5510.00	109.1 PK			1.06 H	199	104.4	4.7
5	*5510.00	98.3 AV			1.06 H	199	93.6	4.7
6	11020.00	47.5 PK	74.0	-26.5	1.11 H	324	33.3	14.2
7	11020.00	36.0 AV	54.0	-18.0	1.11 H	324	21.8	14.2
8	#16530.00	49.6 PK	68.2	-18.6	1.48 H	84	33.7	15.9

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	65.7 PK	74.0	-8.3	2.09 V	274	61.3	4.4
2	5460.00	50.5 AV	54.0	-3.5	2.09 V	274	46.1	4.4
3	#5467.20	67.1 PK	68.2	-1.1	2.09 V	274	62.6	4.5
4	*5510.00	109.1 PK			2.09 V	274	104.4	4.7
5	*5510.00	97.0 AV			2.09 V	274	92.3	4.7
6	11020.00	50.5 PK	74.0	-23.5	1.03 V	265	36.3	14.2
7	11020.00	39.6 AV	54.0	-14.4	1.03 V	265	25.4	14.2
8	#16530.00	46.3 PK	68.2	-21.9	1.09 V	240	30.4	15.9

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 110 : 5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	66.3 PK	74.0	-7.7	1.06 H	200	61.9	4.4
2	5460.00	52.2 AV	54.0	-1.8	1.06 H	200	47.8	4.4
3	#5470.00	67.9 PK	68.2	-0.3	1.06 H	200	63.4	4.5
4	*5550.00	112.3 PK			1.06 H	200	107.8	4.5
5	*5550.00	101.8 AV			1.06 H	200	97.3	4.5
6	11100.00	46.9 PK	74.0	-27.1	1.04 H	334	33.0	13.9
7	11100.00	35.9 AV	54.0	-18.1	1.04 H	334	22.0	13.9
8	#16650.00	50.8 PK	68.2	-17.4	1.48 H	86	34.4	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	65.3 PK	74.0	-8.7	2.10 V	262	60.9	4.4
2	5460.00	50.1 AV	54.0	-3.9	2.10 V	262	45.7	4.4
3	#5470.00	66.9 PK	68.2	-1.3	2.10 V	262	62.4	4.5
4	*5550.00	112.5 PK			2.10 V	262	108.0	4.5
5	*5550.00	100.2 AV			2.10 V	262	95.7	4.5
6	11100.00	50.5 PK	74.0	-23.5	1.13 V	268	36.6	13.9
7	11100.00	39.5 AV	54.0	-14.5	1.13 V	268	25.6	13.9
8	#16650.00	46.7 PK	68.2	-21.5	1.00 V	241	30.3	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.

RF Mode	TX 802.11ax (HE40)	Channel	CH 134 : 5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	110.7 PK			1.04 H	205	106.2	4.5
2	*5670.00	100.2 AV			1.04 H	205	95.7	4.5
3	#5725.00	67.8 PK	68.2	-0.4	1.04 H	205	63.1	4.7
4	11340.00	47.7 PK	74.0	-26.3	1.06 H	324	33.3	14.4
5	11340.00	36.4 AV	54.0	-17.6	1.06 H	324	22.0	14.4
6	#17010.00	50.2 PK	68.2	-18.0	1.45 H	92	32.4	17.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	109.3 PK			2.15 V	253	104.8	4.5
2	*5670.00	98.4 AV			2.15 V	253	93.9	4.5
3	#5725.00	67.1 PK	68.2	-1.1	2.15 V	253	62.4	4.7
4	11340.00	50.3 PK	74.0	-23.7	1.06 V	270	35.9	14.4
5	11340.00	39.5 AV	54.0	-14.5	1.06 V	270	25.1	14.4
6	#17010.00	46.9 PK	68.2	-21.3	1.03 V	228	29.1	17.8

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 142 : 5710 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	51.3 PK	74.0	-22.7	1.04 H	197	46.9	4.4
2	5460.00	40.1 AV	54.0	-13.9	1.04 H	197	35.7	4.4
3	#5470.00	52.3 PK	68.2	-15.9	1.04 H	197	47.8	4.5
4	*5710.00	114.2 PK			1.04 H	197	109.5	4.7
5	*5710.00	103.1 AV			1.04 H	197	98.4	4.7
6	#5850.00	58.1 PK	68.2	-10.1	1.04 H	197	53.1	5.0
7	11420.00	47.4 PK	74.0	-26.6	1.08 H	329	32.9	14.5
8	11420.00	36.2 AV	54.0	-17.8	1.08 H	329	21.7	14.5
9	#17130.00	50.1 PK	68.2	-18.1	1.40 H	97	32.4	17.7

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	49.6 PK	74.0	-24.4	2.10 V	242	45.2	4.4
2	5460.00	38.5 AV	54.0	-15.5	2.10 V	242	34.1	4.4
3	#5470.00	51.7 PK	68.2	-16.5	2.10 V	242	47.2	4.5
4	*5710.00	112.4 PK			2.10 V	242	107.7	4.7
5	*5710.00	101.4 AV			2.10 V	242	96.7	4.7
6	#5850.00	58.6 PK	68.2	-9.6	2.10 V	242	53.6	5.0
7	11420.00	50.6 PK	74.0	-23.4	1.08 V	274	36.1	14.5
8	11420.00	39.7 AV	54.0	-14.3	1.08 V	274	25.2	14.5
9	#17130.00	46.6 PK	68.2	-21.6	1.01 V	226	28.9	17.7

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.42	67.7 PK	68.2	-0.5	1.07 H	200	63.2	4.5
2	*5755.00	113.3 PK			1.07 H	200	108.3	5.0
3	*5755.00	103.9 AV			1.07 H	200	98.9	5.0
4	#5932.48	56.0 PK	68.2	-12.2	1.07 H	200	50.9	5.1
5	11510.00	48.1 PK	74.0	-25.9	1.12 H	309	33.5	14.6
6	11510.00	36.4 AV	54.0	-17.6	1.12 H	309	21.8	14.6
7	#17265.00	47.3 PK	68.2	-20.9	1.32 H	83	29.4	17.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.99	66.7 PK	68.2	-1.5	3.67 V	267	62.2	4.5
2	*5755.00	113.6 PK			3.67 V	267	108.6	5.0
3	*5755.00	103.3 AV			3.67 V	267	98.3	5.0
4	#5931.56	52.7 PK	68.2	-15.5	3.67 V	267	47.6	5.1
5	11510.00	47.6 PK	74.0	-26.4	1.16 V	278	33.0	14.6
6	11510.00	36.8 AV	54.0	-17.2	1.16 V	278	22.2	14.6
7	#17265.00	46.3 PK	68.2	-21.9	1.05 V	233	28.4	17.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.34	66.6 PK	68.2	-1.6	1.10 H	201	62.1	4.5
2	*5795.00	115.2 PK			1.10 H	201	110.1	5.1
3	*5795.00	105.2 AV			1.10 H	201	100.1	5.1
4	#5927.06	67.8 PK	68.2	-0.4	1.10 H	201	62.7	5.1
5	11590.00	50.2 PK	74.0	-23.8	1.14 H	309	35.6	14.6
6	11590.00	38.6 AV	54.0	-15.4	1.14 H	309	24.0	14.6
7	#17385.00	50.6 PK	68.2	-17.6	1.28 H	78	32.3	18.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5636.26	62.9 PK	68.2	-5.3	3.81 V	269	58.4	4.5
2	*5795.00	114.4 PK			3.81 V	269	109.3	5.1
3	*5795.00	104.1 AV			3.81 V	269	99.0	5.1
4	#5926.27	63.3 PK	68.2	-4.9	3.81 V	269	58.2	5.1
5	11590.00	52.9 PK	74.0	-21.1	1.15 V	284	38.3	14.6
6	11590.00	41.9 AV	54.0	-12.1	1.15 V	284	27.3	14.6
7	#17385.00	46.2 PK	68.2	-22.0	1.03 V	224	27.9	18.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	1.08 H	197	57.3	4.7
2	5150.00	53.8 AV	54.0	-0.2	1.08 H	197	49.1	4.7
3	*5210.00	105.6 PK			1.08 H	197	101.2	4.4
4	*5210.00	95.8 AV			1.08 H	197	91.4	4.4
5	#10420.00	48.7 PK	68.2	-19.5	1.05 H	285	35.2	13.5
6	15630.00	49.6 PK	74.0	-24.4	1.15 H	102	35.0	14.6
7	15630.00	37.3 AV	54.0	-16.7	1.15 H	102	22.7	14.6

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	59.4 PK	74.0	-14.6	2.09 V	279	54.7	4.7
2	5150.00	49.4 AV	54.0	-4.6	2.09 V	279	44.7	4.7
3	*5210.00	103.4 PK			2.09 V	279	99.0	4.4
4	*5210.00	92.4 AV			2.09 V	279	88.0	4.4
5	#10420.00	49.6 PK	68.2	-18.6	1.17 V	291	36.1	13.5
6	15630.00	47.6 PK	74.0	-26.4	1.07 V	240	33.0	14.6
7	15630.00	36.7 AV	54.0	-17.3	1.07 V	240	22.1	14.6

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 58 : 5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	104.7 PK			1.08 H	196	100.4	4.3
2	*5290.00	94.5 AV			1.08 H	196	90.2	4.3
3	5350.00	62.6 PK	74.0	-11.4	1.08 H	196	58.3	4.3
4	5350.00	53.5 AV	54.0	-0.5	1.08 H	196	49.2	4.3
5	#10580.00	48.6 PK	68.2	-19.6	1.03 H	302	34.9	13.7
6	15870.00	49.8 PK	74.0	-24.2	1.14 H	91	35.6	14.2
7	15870.00	37.7 AV	54.0	-16.3	1.14 H	91	23.5	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	*5290.00	104.9 PK			2.09 V	273	100.6	4.3
2	*5290.00	94.1 AV			2.09 V	273	89.8	4.3
3	5350.00	63.2 PK	74.0	-10.8	2.09 V	273	58.9	4.3
4	5350.00	52.8 AV	54.0	-1.2	2.09 V	273	48.5	4.3
5	#10580.00	49.4 PK	68.2	-18.8	1.23 V	289	35.7	13.7
6	15870.00	48.4 PK	74.0	-25.6	1.02 V	244	34.2	14.2
7	15870.00	37.2 AV	54.0	-16.8	1.02 V	244	23.0	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.

RF Mode	TX 802.11ax (HE80)	Channel	CH 106 : 5530 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	66.5 PK	74.0	-7.5	1.08 H	200	62.1	4.4
2	5460.00	53.9 AV	54.0	-0.1	1.08 H	200	49.5	4.4
3	#5465.99	67.8 PK	68.2	-0.4	1.08 H	200	63.3	4.5
4	*5530.00	104.8 PK			1.08 H	200	100.2	4.6
5	*5530.00	94.7 AV			1.08 H	200	90.1	4.6
6	11060.00	48.9 PK	74.0	-25.1	1.14 H	298	34.8	14.1
7	11060.00	36.8 AV	54.0	-17.2	1.14 H	298	22.7	14.1
8	#16590.00	47.9 PK	68.2	-20.3	1.42 H	74	31.8	16.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.96 V	271	58.0	4.4
2	5460.00	52.1 AV	54.0	-1.9	1.96 V	271	47.7	4.4
3	#5467.60	67.0 PK	68.2	-1.2	1.96 V	271	62.5	4.5
4	*5530.00	102.9 PK			1.96 V	271	98.3	4.6
5	*5530.00	92.6 AV			1.96 V	271	88.0	4.6
6	11060.00	47.5 PK	74.0	-26.5	1.14 V	294	33.4	14.1
7	11060.00	36.2 AV	54.0	-17.8	1.14 V	294	22.1	14.1
8	#16590.00	46.2 PK	68.2	-22.0	1.08 V	262	30.1	16.1

Remarks:

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

RF Mode	TX 802.11ax (HE80)	Channel	CH 122 : 5610 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	66.1 PK	74.0	-7.9	1.26 H	197	61.7	4.4
2	5460.00	53.7 AV	54.0	-0.3	1.26 H	197	49.3	4.4
3	#5470.00	67.8 PK	68.2	-0.4	1.26 H	197	63.3	4.5
4	*5610.00	108.9 PK			1.26 H	197	104.4	4.5
5	*5610.00	97.9 AV			1.26 H	197	93.4	4.5
6	11220.00	48.2 PK	74.0	-25.8	1.11 H	282	33.8	14.4
7	11220.00	36.4 AV	54.0	-17.6	1.11 H	282	22.0	14.4
8	#16830.00	47.5 PK	68.2	-20.7	1.38 H	69	30.2	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	5460.00	61.6 PK	74.0	-12.4	1.96 V	276	57.2	4.4
2	5460.00	52.2 AV	54.0	-1.8	1.96 V	276	47.8	4.4
3	#5470.00	66.8 PK	68.2	-1.4	1.96 V	276	62.3	4.5
4	*5610.00	107.4 PK			1.96 V	276	102.9	4.5
5	*5610.00	96.2 AV			1.96 V	276	91.7	4.5
6	11220.00	47.2 PK	74.0	-26.8	1.21 V	289	32.8	14.4
7	11220.00	36.1 AV	54.0	-17.9	1.21 V	289	21.7	14.4
8	#16830.00	47.1 PK	68.2	-21.1	1.13 V	255	29.8	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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.5 PK	74.0	-14.5	1.13 H	203	55.1	4.4
2	5460.00	47.3 AV	54.0	-6.7	1.13 H	203	42.9	4.4
3	#5470.00	63.1 PK	68.2	-5.1	1.13 H	203	58.6	4.5
4	*5690.00	110.6 PK			1.13 H	203	106.1	4.5
5	*5690.00	100.3 AV			1.13 H	203	95.8	4.5
6	#5850.00	62.0 PK	68.2	-6.2	1.13 H	203	57.0	5.0
7	11380.00	48.8 PK	74.0	-25.2	1.18 H	305	34.3	14.5
8	11380.00	36.8 AV	54.0	-17.2	1.18 H	305	22.3	14.5
9	#17070.00	47.2 PK	68.2	-21.0	1.38 H	87	29.3	17.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.3 PK	74.0	-18.7	1.99 V	290	50.9	4.4
2	5460.00	44.2 AV	54.0	-9.8	1.99 V	290	39.8	4.4
3	#5470.00	59.2 PK	68.2	-9.0	1.99 V	290	54.7	4.5
4	*5690.00	109.7 PK			1.99 V	290	105.2	4.5
5	*5690.00	98.6 AV			1.99 V	290	94.1	4.5
6	#5850.00	59.5 PK	68.2	-8.7	1.99 V	290	54.5	5.0
7	11380.00	47.5 PK	74.0	-26.5	1.18 V	285	33.0	14.5
8	11380.00	36.4 AV	54.0	-17.6	1.18 V	285	21.9	14.5
9	#17070.00	46.8 PK	68.2	-21.4	1.08 V	255	28.9	17.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.79	68.0 PK	68.2	-0.2	1.09 H	196	63.5	4.5
2	*5775.00	108.9 PK			1.09 H	196	103.8	5.1
3	*5775.00	98.3 AV			1.09 H	196	93.2	5.1
4	#5926.66	62.3 PK	68.2	-5.9	1.09 H	196	57.2	5.1
5	11550.00	48.5 PK	74.0	-25.5	1.14 H	306	33.9	14.6
6	11550.00	36.8 AV	54.0	-17.2	1.14 H	306	22.2	14.6
7	#17325.00	47.4 PK	68.2	-20.8	1.36 H	88	29.3	18.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.40	65.3 PK	68.2	-2.9	3.89 V	274	60.8	4.5
2	*5775.00	108.4 PK			3.89 V	274	103.3	5.1
3	*5775.00	97.9 AV			3.89 V	274	92.8	5.1
4	#5928.09	58.3 PK	68.2	-9.9	3.89 V	274	53.2	5.1
5	11550.00	47.4 PK	74.0	-26.6	1.19 V	293	32.8	14.6
6	11550.00	36.5 AV	54.0	-17.5	1.19 V	293	21.9	14.6
7	#17325.00	46.5 PK	68.2	-21.7	1.09 V	242	28.4	18.1

Remarks:

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

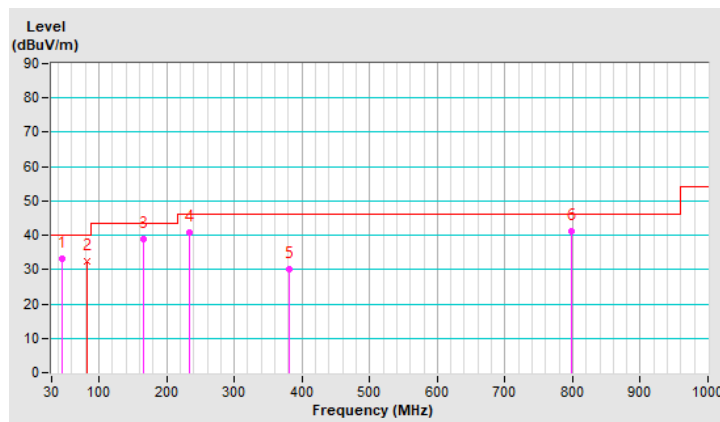
Below 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	46.20	33.1 QP	40.0	-6.9	3.00 H	0	41.2	-8.1
2	83.06	32.5 QP	40.0	-7.5	1.50 H	180	46.0	-13.5
3	166.28	38.8 QP	43.5	-4.7	2.00 H	13	46.8	-8.0
4	232.80	40.8 QP	46.0	-5.2	1.00 H	242	50.5	-9.7
5	380.51	30.1 QP	46.0	-15.9	1.00 H	294	34.4	-4.3
6	797.68	41.1 QP	46.0	-4.9	1.00 H	294	36.1	5.0

Remarks:

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



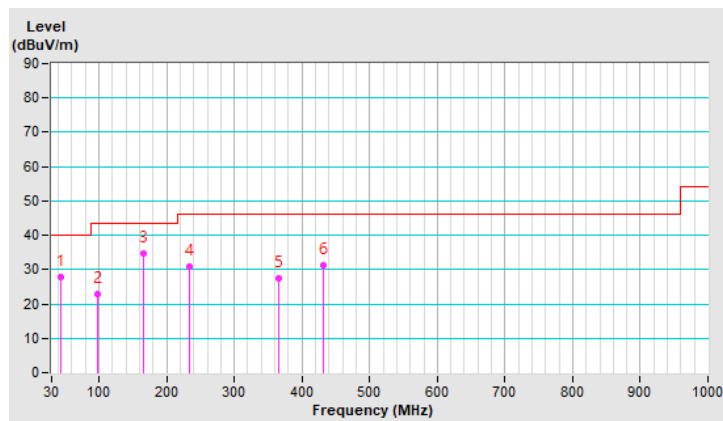
RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.26	27.9 QP	40.0	-12.1	1.50 V	253	36.2	-8.3
2	97.75	22.7 QP	43.5	-20.8	1.00 V	255	35.5	-12.8
3	166.28	34.6 QP	43.5	-8.9	1.00 V	101	42.6	-8.0
4	232.80	31.0 QP	46.0	-15.0	1.00 V	116	40.7	-9.7
5	365.84	27.3 QP	46.0	-18.7	1.50 V	224	32.0	-4.7
6	431.99	31.4 QP	46.0	-14.6	1.00 V	0	34.0	-2.6

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 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	2020/10/20	2021/10/19
LISN R&S	ESH3-Z5	848773/004	2020/10/27	2021/10/26
LISN R & S	ESH3-Z5	835239/001	2021/3/26	2022/3/25
50 ohms Terminator	50	3	2020/10/26	2021/10/25
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2021/9/25	2022/9/24
Fixed attenuator STI	STI02-2200-10	005	2021/8/27	2022/8/26
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: 2021/10/1

4.2.3 Test Procedure

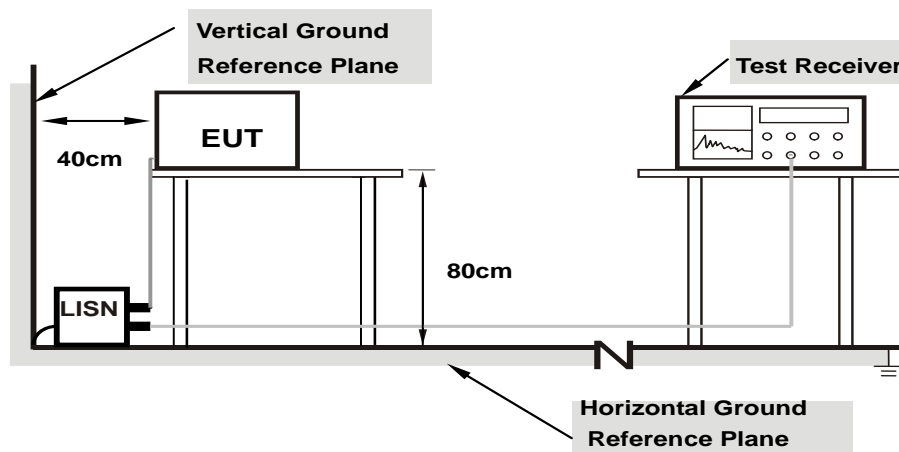
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

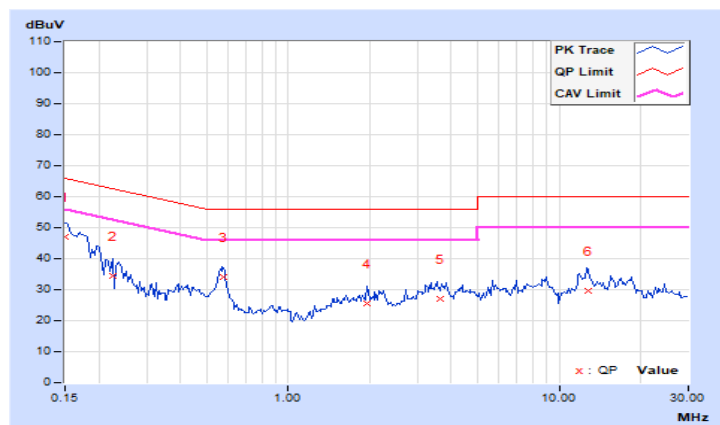
4.2.7 Test Results

RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.05	37.03	20.97	47.08	31.02	66.00	56.00	-18.92	-24.98
2	0.22422	10.05	24.41	8.55	34.46	18.60	62.66	52.66	-28.20	-34.06
3	0.57516	10.08	24.12	18.04	34.20	28.12	56.00	46.00	-21.80	-17.88
4	1.94141	10.16	15.24	9.24	25.40	19.40	56.00	46.00	-30.60	-26.60
5	3.63281	10.24	16.85	7.17	27.09	17.41	56.00	46.00	-28.91	-28.59
6	12.82031	10.78	18.92	13.35	29.70	24.13	60.00	50.00	-30.30	-25.87

Remarks:

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

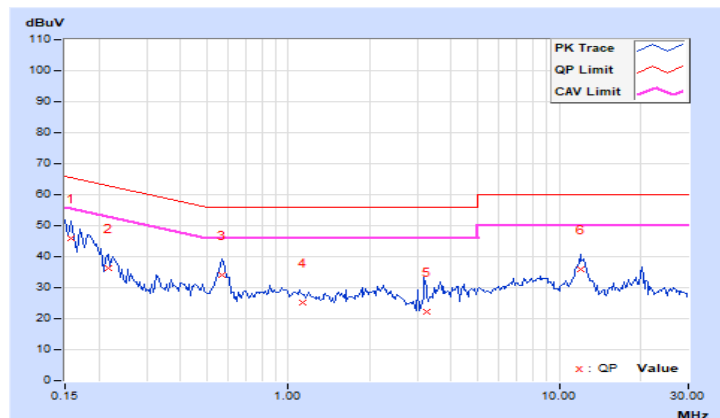


RF Mode	TX 802.11a	Channel	CH 157 : 5785 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.02	35.74	16.34	45.76	26.36	65.58	55.58	-19.82	-29.22
2	0.21641	10.03	26.34	9.08	36.37	19.11	62.96	52.96	-26.59	-33.85
3	0.56797	10.05	24.05	18.06	34.10	28.11	56.00	46.00	-21.90	-17.89
4	1.13281	10.09	15.09	9.71	25.18	19.80	56.00	46.00	-30.82	-26.20
5	3.23047	10.18	11.92	5.32	22.10	15.50	56.00	46.00	-33.90	-30.50
6	12.00000	10.58	25.46	18.60	36.04	29.18	60.00	50.00	-23.96	-20.82

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

Note: This device can support different category application which switched by access point mode and client mode by software.

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

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

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

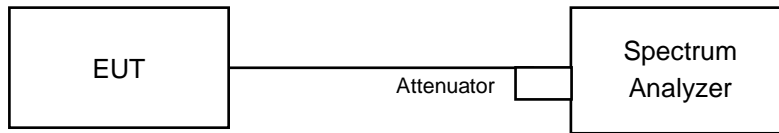
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

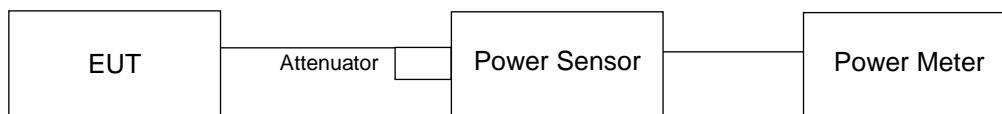
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

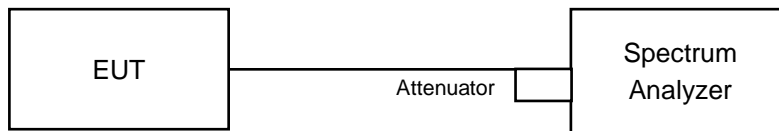
For channel straddling 5725MHz:



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:

For 802.11a

Method SA-1

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

For 802.11ax (HE20), 802.11ax (HE40), 802.11ax (HE80)

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 ≥ 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

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				
36	5180	16.15	15.79	79.141	18.98	24	Pass
40	5200	17.85	16.89	109.819	20.41	24	Pass
48	5240	19.16	18.27	149.557	21.75	24	Pass
52	5260	19.73	18.60	166.416	22.21	24	Pass
60	5300	19.46	18.99	167.558	22.24	24	Pass
64	5320	18.48	17.91	132.271	21.21	24	Pass
100	5500	18.67	18.72	148.094	21.71	24	Pass
116	5580	18.47	18.16	135.771	21.33	24	Pass
140	5700	19.63	18.67	165.454	22.19	24	Pass
*144 (U-NII-2C Band)	5720	19.55	18.30	157.765	21.98	23.62	Pass
*144 (U-NII-3 Band)	5720	12.63	11.50	32.449	15.11	30	Pass
149	5745	23.22	22.74	397.826	26.00	30	Pass
157	5785	25.46	24.47	631.459	28.00	30	Pass
165	5825	25.22	24.11	590.292	27.71	30	Pass

Note: * Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	28.58	25.56 > 24
60	5300	27.21	25.34 > 24
64	5320	25.56	25.07 > 24
100	5500	26.41	25.21 > 24
116	5580	25.35	25.03 > 24
140	5700	26.98	25.31 > 24
144 (U-NII-2C Band)	5720	18.3	23.62 < 24

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

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.65	16.66	104.555	20.19	24	Pass
40	5200	20.22	19.26	189.53	22.78	24	Pass
48	5240	20.80	20.02	220.688	23.44	24	Pass
52	5260	20.86	19.94	220.527	23.43	24	Pass
60	5300	20.74	20.14	221.853	23.46	24	Pass
64	5320	18.62	18.18	138.544	21.42	24	Pass
100	5500	18.55	18.52	142.736	21.55	24	Pass
116	5580	20.73	20.55	231.805	23.65	24	Pass
140	5700	18.50	17.21	123.396	20.91	24	Pass
*144 (U-NII-2C Band)	5720	20.40	19.07	223.495	23.49	23.77	Pass
*144 (U-NII-3 Band)	5720	14.37	13.14	56.304	17.51	30	Pass
149	5745	24.73	23.87	540.948	27.33	30	Pass
157	5785	24.75	23.86	541.759	27.34	30	Pass
165	5825	24.67	23.88	537.432	27.30	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.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.19	24.46 > 24
60	5300	22.47	24.51 > 24
64	5320	22.32	24.48 > 24
100	5500	23.42	24.69 > 24
116	5580	24.43	24.87 > 24
140	5700	22.42	24.5 > 24
144 (U-NII-2C Band)	5720	18.93	23.77 < 24

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

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	16.50	16.04	84.847	19.29	24	Pass
46	5230	20.73	19.96	217.387	23.37	24	Pass
54	5270	20.87	19.78	217.24	23.37	24	Pass
62	5310	17.52	17.05	107.193	20.30	24	Pass
102	5510	17.41	17.15	106.961	20.29	24	Pass
110	5550	20.44	20.49	222.606	23.48	24	Pass
134	5670	19.52	18.16	155	21.90	24	Pass
*142 (U-NII-2C Band)	5710	18.84	19.72	227.146	23.56	24	Pass
*142 (U-NII-3 Band)	5710	7.28	8.19	15.921	12.02	30	Pass
151	5755	22.99	22.08	360.503	25.57	30	Pass
159	5795	24.54	23.41	503.727	27.02	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.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	40.59	27.08 > 24
62	5310	40.72	27.09 > 24
102	5510	40.7	27.09 > 24
110	5550	40.45	27.06 > 24
134	5670	40.58	27.08 > 24
142 (U-NII-2C Band)	5710	35.3	26.47 > 24

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

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	15.82	15.37	72.629	18.61	24	Pass
58	5290	16.36	15.64	79.895	19.03	24	Pass
106	5530	16.54	16.68	91.64	19.62	24	Pass
122	5610	20.11	19.82	198.505	22.98	24	Pass
*138 (U-NII-2C Band)	5690	18.62	18.53	241.943	23.84	24	Pass
*138 (U-NII-3 Band)	5690	3.56	3.54	7.607	8.81	30	Pass
155	5775	21.31	20.32	242.854	23.85	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.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	81.05	30.08 > 24
106	5530	81.1	30.09 > 24
122	5610	80.84	30.07 > 24
138 (U-NII-2C Band)	5690	75.51	29.78 > 24

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

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	17.85	16.91	110.044	20.42	24	Pass
40	5200	20.43	19.49	199.328	23.00	24	Pass
48	5240	21.09	20.26	234.698	23.71	24	Pass
52	5260	21.12	20.14	232.696	23.67	24	Pass
60	5300	20.97	20.42	235.18	23.71	24	Pass
64	5320	18.91	18.42	147.306	21.68	24	Pass
100	5500	18.82	18.76	151.37	21.80	24	Pass
116	5580	20.96	20.83	245.798	23.91	24	Pass
140	5700	18.78	17.46	131.228	21.18	24	Pass
*144 (U-NII-2C Band)	5720	20.61	19.35	236.183	23.73	23.77	Pass
*144 (U-NII-3 Band)	5720	14.86	13.48	62.109	17.93	30	Pass
149	5745	24.95	24.12	570.834	27.57	30	Pass
157	5785	25.02	24.06	572.37	27.58	30	Pass
165	5825	24.89	24.08	564.177	27.51	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.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	22.19	24.46 > 24
60	5300	22.47	24.51 > 24
64	5320	22.32	24.48 > 24
100	5500	23.42	24.69 > 24
116	5580	24.43	24.87 > 24
140	5700	22.42	24.5 > 24
144 (U-NII-2C Band)	5720	18.93	23.77 < 24

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

802.11ax (HE40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	16.73	16.29	89.658	19.53	24	Pass
46	5230	21.02	20.17	230.466	23.63	24	Pass
54	5270	21.09	20.05	229.687	23.61	24	Pass
62	5310	17.74	17.31	113.256	20.54	24	Pass
102	5510	17.66	17.44	113.807	20.56	24	Pass
110	5550	20.66	20.73	234.717	23.71	24	Pass
134	5670	19.72	18.41	163.099	22.12	24	Pass
*142 (U-NII-2C Band)	5710	18.94	19.86	233.621	23.69	24	Pass
*142 (U-NII-3 Band)	5710	7.43	8.34	16.48	12.17	30	Pass
151	5755	23.25	22.33	382.35	25.82	30	Pass
159	5795	24.77	23.69	533.8	27.27	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.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	40.59	27.08 > 24
62	5310	40.72	27.09 > 24
102	5510	40.7	27.09 > 24
110	5550	40.45	27.06 > 24
134	5670	40.58	27.08 > 24
142 (U-NII-2C Band)	5710	35.3	26.47 > 24

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

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	16.07	15.64	77.101	18.87	24	Pass
58	5290	16.61	15.86	84.362	19.26	24	Pass
106	5530	16.79	16.96	97.412	19.89	24	Pass
122	5610	20.33	20.02	208.356	23.19	24	Pass
*138 (U-NII-2C Band)	5690	18.58	18.62	243.329	23.86	24	Pass
*138 (U-NII-3 Band)	5690	3.83	3.79	8.076	9.07	30	Pass
155	5775	21.55	20.56	256.652	24.09	30	Pass

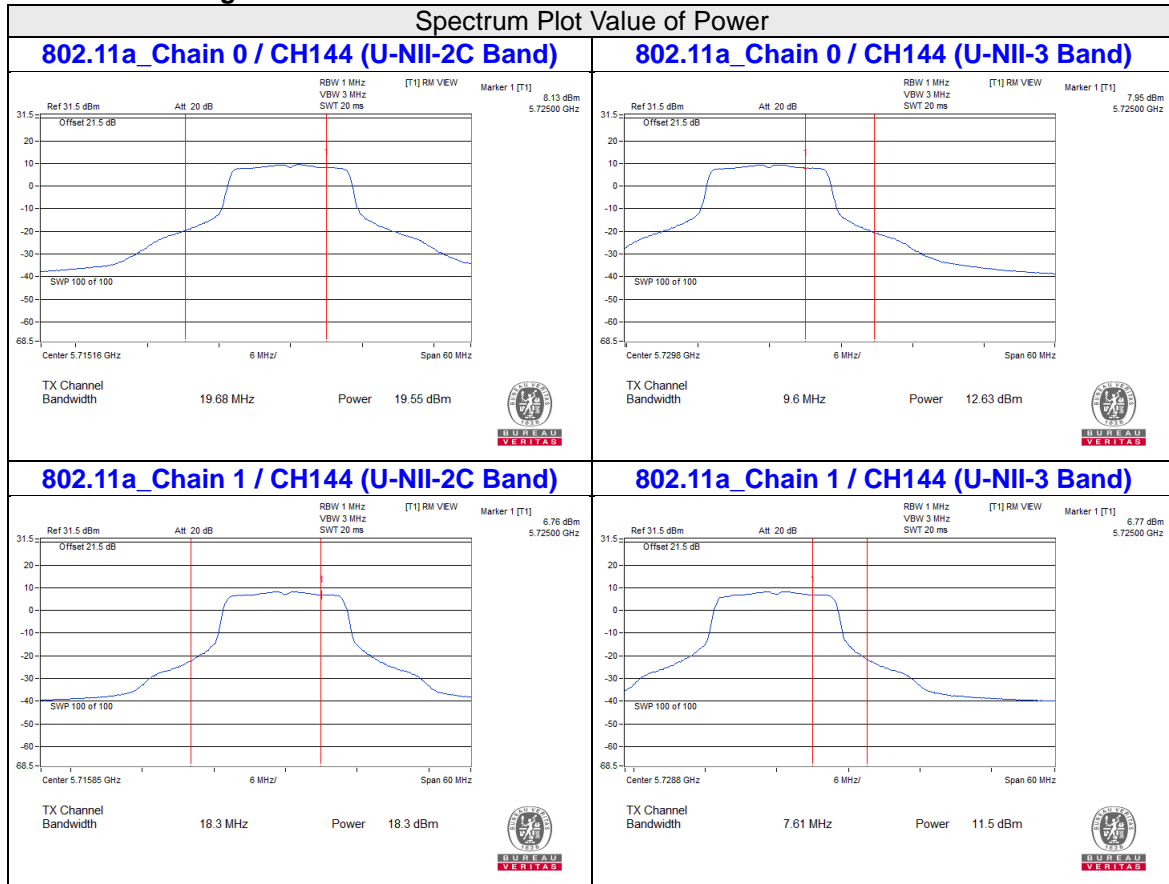
Note: * Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test. The duty factor was included in the total power.

1. For U-NII-1: The maximum gain is 1.97 dBi < 6dBi, so the output power limit shall not be reduced.
2. For U-NII-2A: The maximum gain is 2.16 dBi < 6dBi, so the output power limit shall not be reduced.
3. For U-NII-2C: The maximum gain is 1.58 dBi < 6dBi, so the output power limit shall not be reduced.
4. For U-NII-3: The maximum gain is 1.22 dBi < 6dBi, so the output power limit shall not be reduced.

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	81.05	30.08 > 24
106	5530	81.1	30.09 > 24
122	5610	80.84	30.07 > 24
138 (U-NII-2C Band)	5690	75.51	29.78 > 24

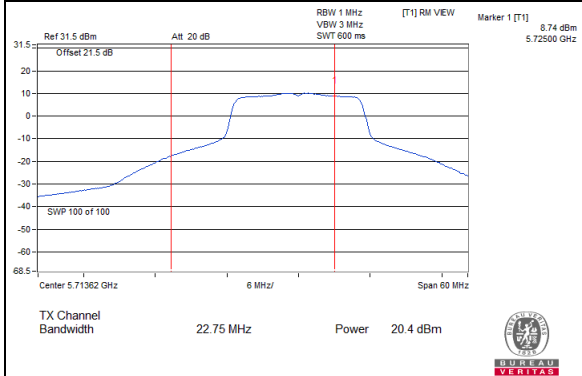
Note: For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

For channel straddling 5725MHz of Power

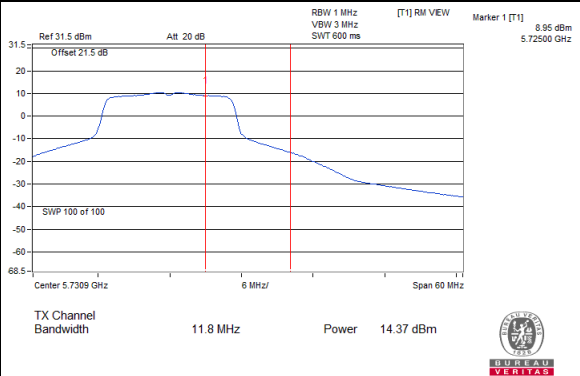


Spectrum Plot Value of Power

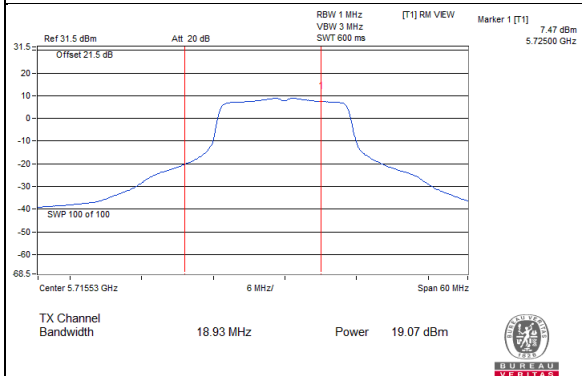
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-2C Band)



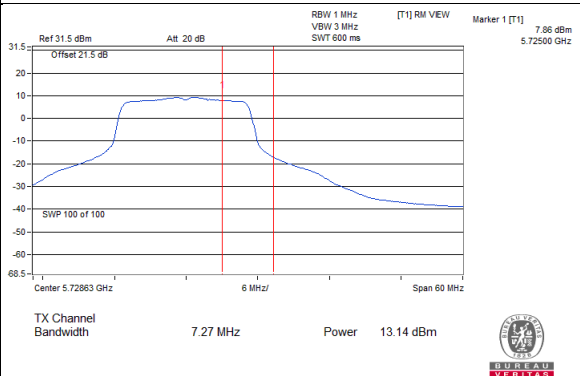
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



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

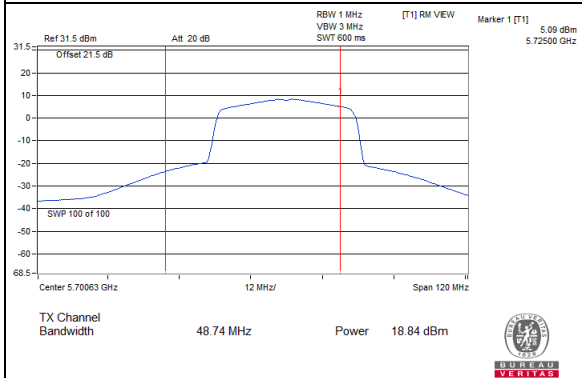


802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)

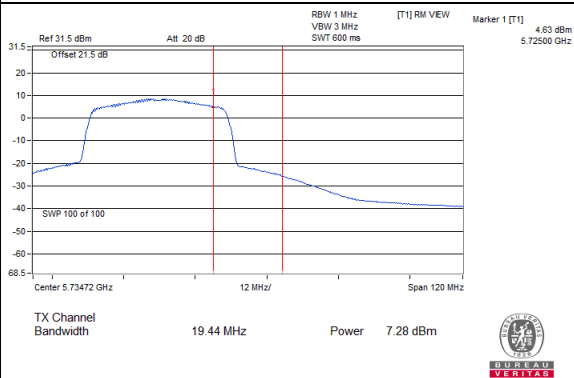


Spectrum Plot Value of Power

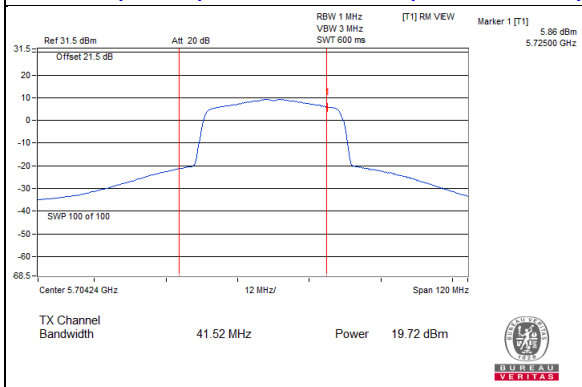
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band)



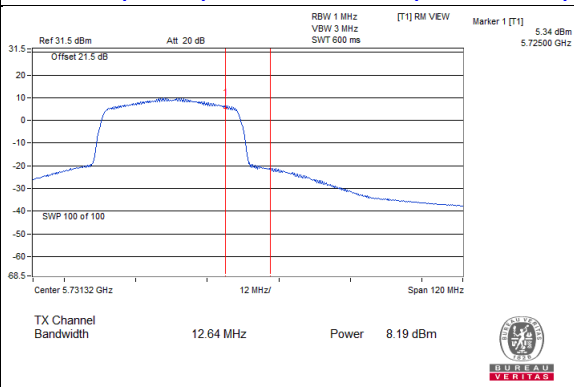
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



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

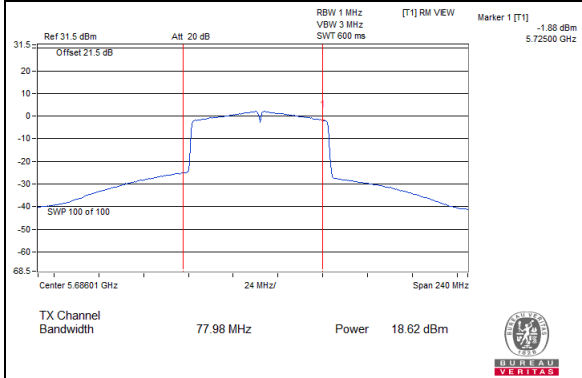


802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)

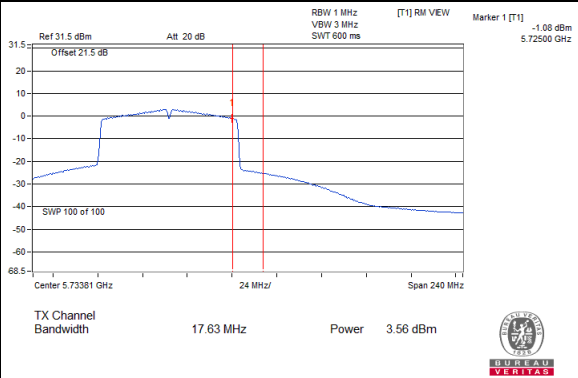


Spectrum Plot Value of Power

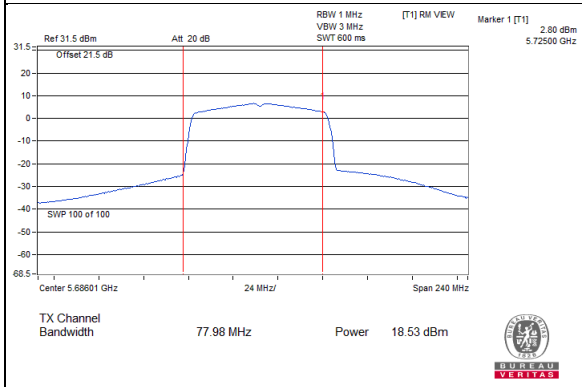
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band)



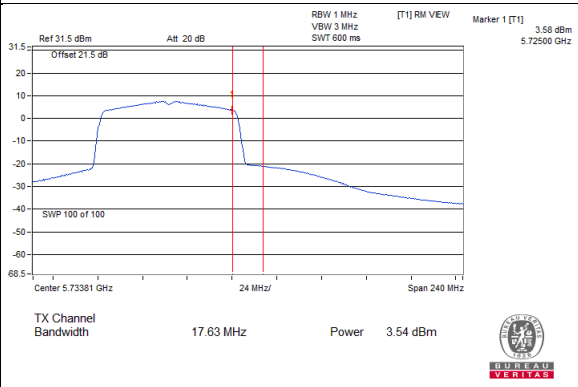
802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



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

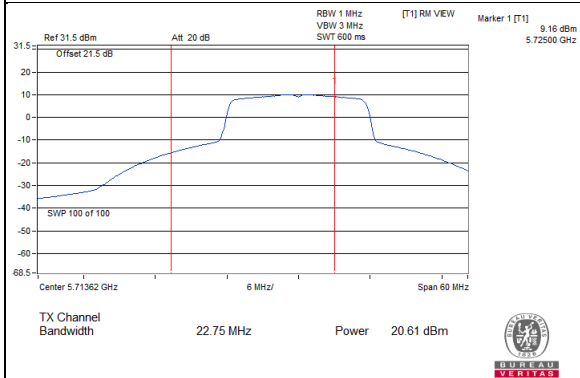


802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)

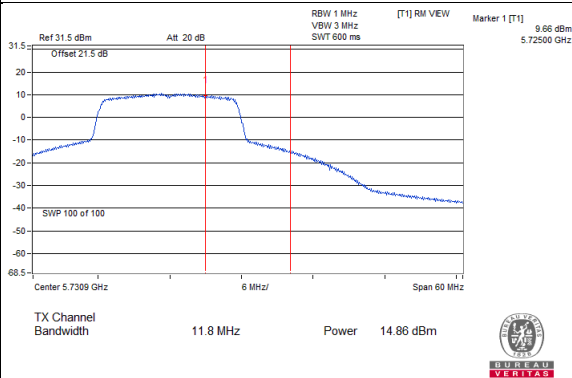


Spectrum Plot Value of Power

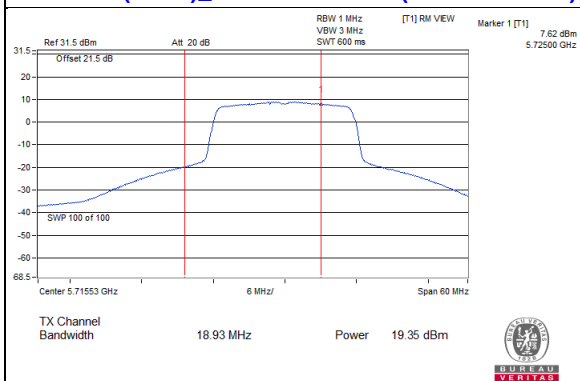
802.11ax (HE20)_Chain 0 / CH144 (U-NII-2C Band)



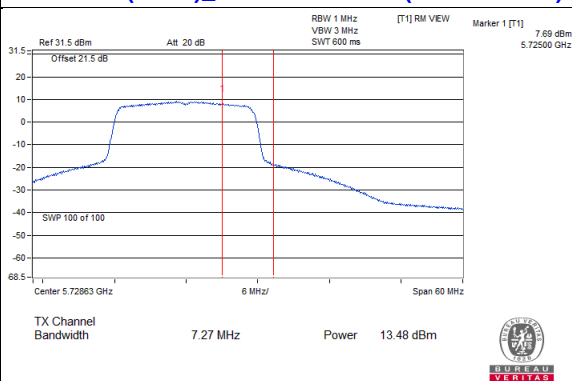
802.11ax (HE20)_Chain 0 / CH144 (U-NII-3 Band)



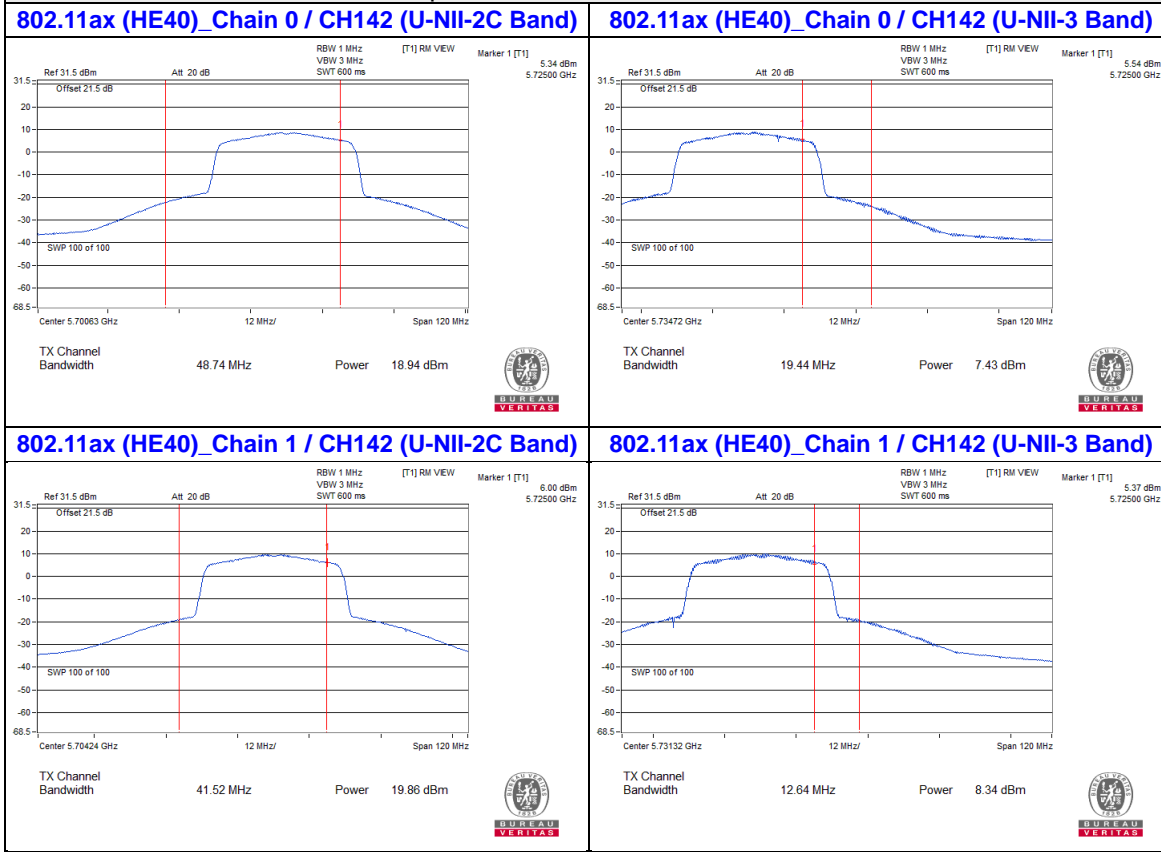
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



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

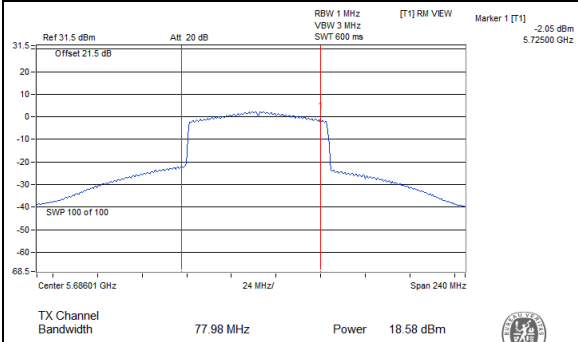


Spectrum Plot Value of Power

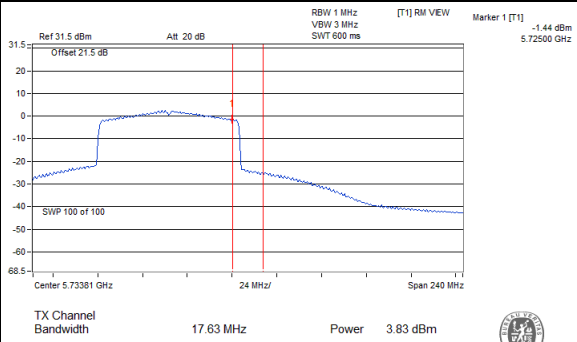


Spectrum Plot Value of Power

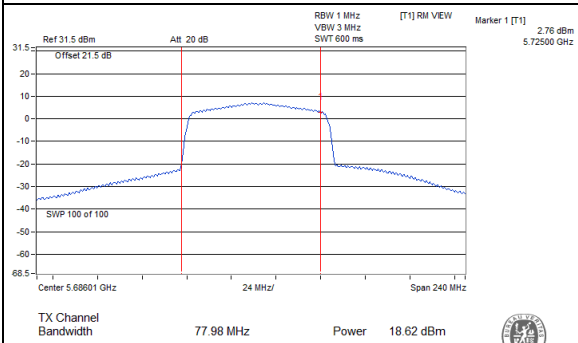
802.11ax (HE80)_Chain 0 / CH138 (U-NII-2C Band)



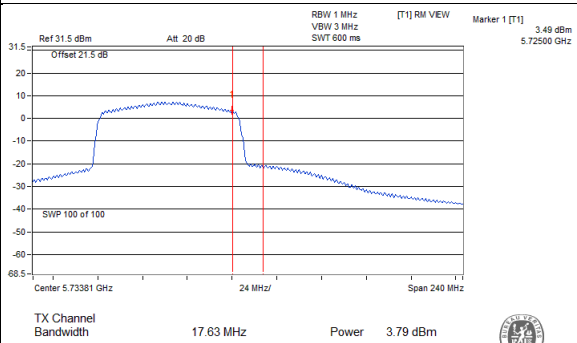
802.11ax (HE80)_Chain 0 / CH138 (U-NII-3 Band)



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



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



26dB Bandwidth:
802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	28.58	29.09
60	5300	37.14	27.21
64	5320	27.35	25.56
100	5500	27.09	26.41
116	5580	27.14	25.35
140	5700	29.58	26.98
144 (U-NII-2C Band)	5720	19.68	18.3

802.11ax (HE20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.19	23.64
60	5300	23.92	22.47
64	5320	23.44	22.32
100	5500	23.42	25.11
116	5580	24.95	24.43
140	5700	24.53	22.42
144 (U-NII-2C Band)	5720	22.75	18.93

802.11ax (HE40)

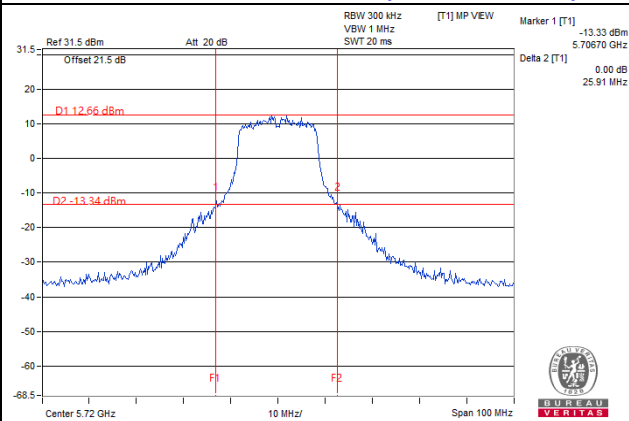
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	40.64	40.59
62	5310	40.91	40.72
102	5510	40.81	40.7
110	5550	40.45	40.63
134	5670	40.58	40.82
142 (U-NII-2C Band)	5710	35.3	41.52

802.11ax (HE80)

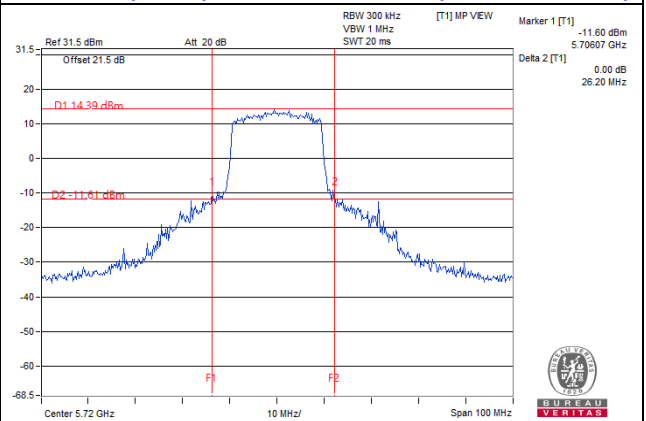
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	81.1	81.05
106	5530	81.1	81.16
122	5610	80.84	81.29
138 (U-NII-2C Band)	5690	75.51	75.52

Spectrum Plot of Worst Value

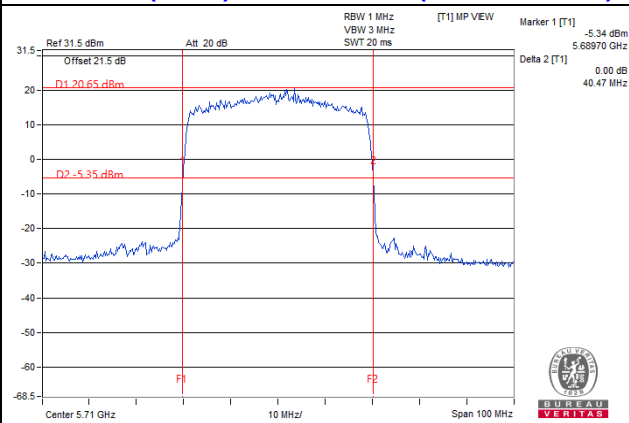
802.11a_Chain 1 / CH144 (U-NII-2C Band)



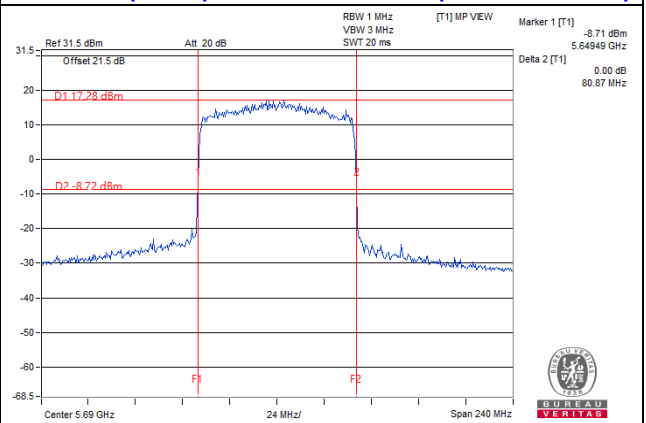
802.11ax (HE20)_Chain 1 / CH144 (U-NII-2C Band)



802.11ax (HE40)_Chain 0 / 142 (U-NII-2C Band)



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

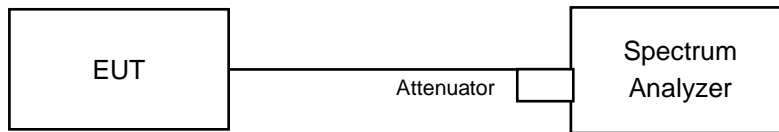


Note:

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

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.4	17.16
40	5200	17.4	17.16
48	5240	16.92	16.68
52	5260	17.76	17.28
60	5300	17.88	17.4
64	5320	17.76	17.16
100	5500	17.52	17.16
116	5580	17.88	17.16
140	5700	18	17.16
144 (U-NII-2C Band)	5720	14.36	13.76
144 (U-NII-3 Band)	5720	3.88	3.64
149	5745	27.72	24.12
157	5785	35.4	38.43
165	5825	33.91	34.26

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.08	19.08
40	5200	19.2	19.2
48	5240	19.08	18.96
52	5260	19.44	19.32
60	5300	19.44	19.32
64	5320	19.2	19.2
100	5500	19.2	19.2
116	5580	19.56	19.2
140	5700	19.2	19.2
144 (U-NII-2C Band)	5720	14.84	14.84
144 (U-NII-3 Band)	5720	4.6	4.6
149	5745	34.53	34.18
157	5785	35.04	36.72
165	5825	37.39	37.56

802.11ax (HE40)

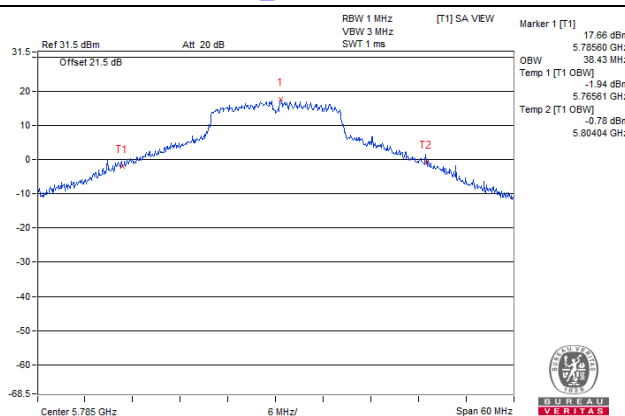
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	38.4	37.68
46	5230	38.16	37.92
54	5270	38.4	38.16
62	5310	37.68	37.68
102	5510	37.92	38.16
110	5550	38.16	38.16
134	5670	38.16	37.68
142 (U-NII-2C Band)	5710	34.44	34.2
142 (U-NII-3 Band)	5710	3.96	3.96
151	5755	50.88	39.6
159	5795	76.08	55.44

802.11ax (HE80)

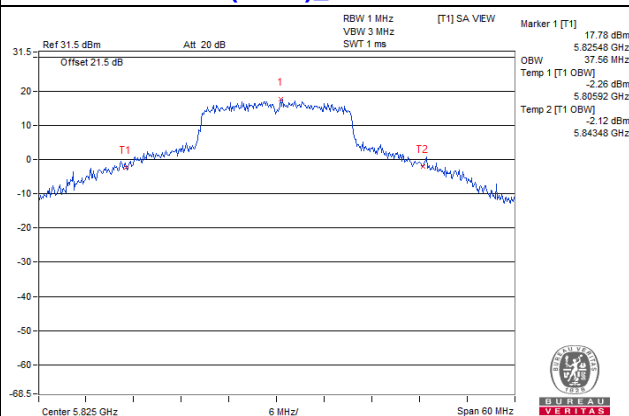
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.76	77.76
58	5290	77.76	76.8
106	5530	76.8	76.8
122	5610	77.76	77.28
138 (U-NII-2C Band)	5690	74.36	73.88
138 (U-NII-3 Band)	5690	3.88	3.4
155	5775	78.24	77.28

Spectrum Plot of Worst Value

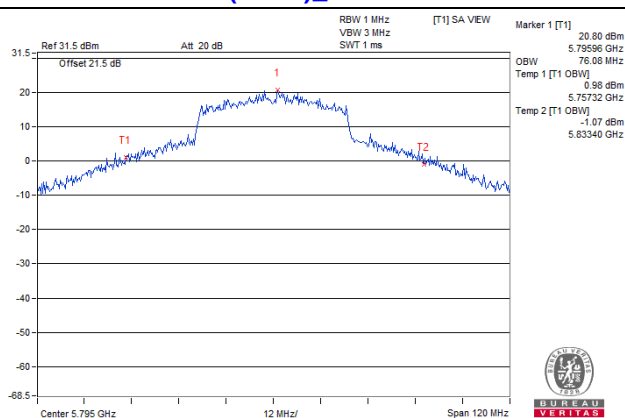
802.11a_Chain 1 / CH157



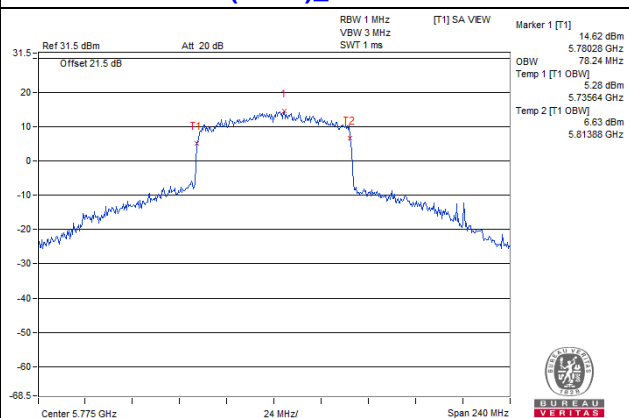
802.11ax (HE20)_Chain 1 / CH165



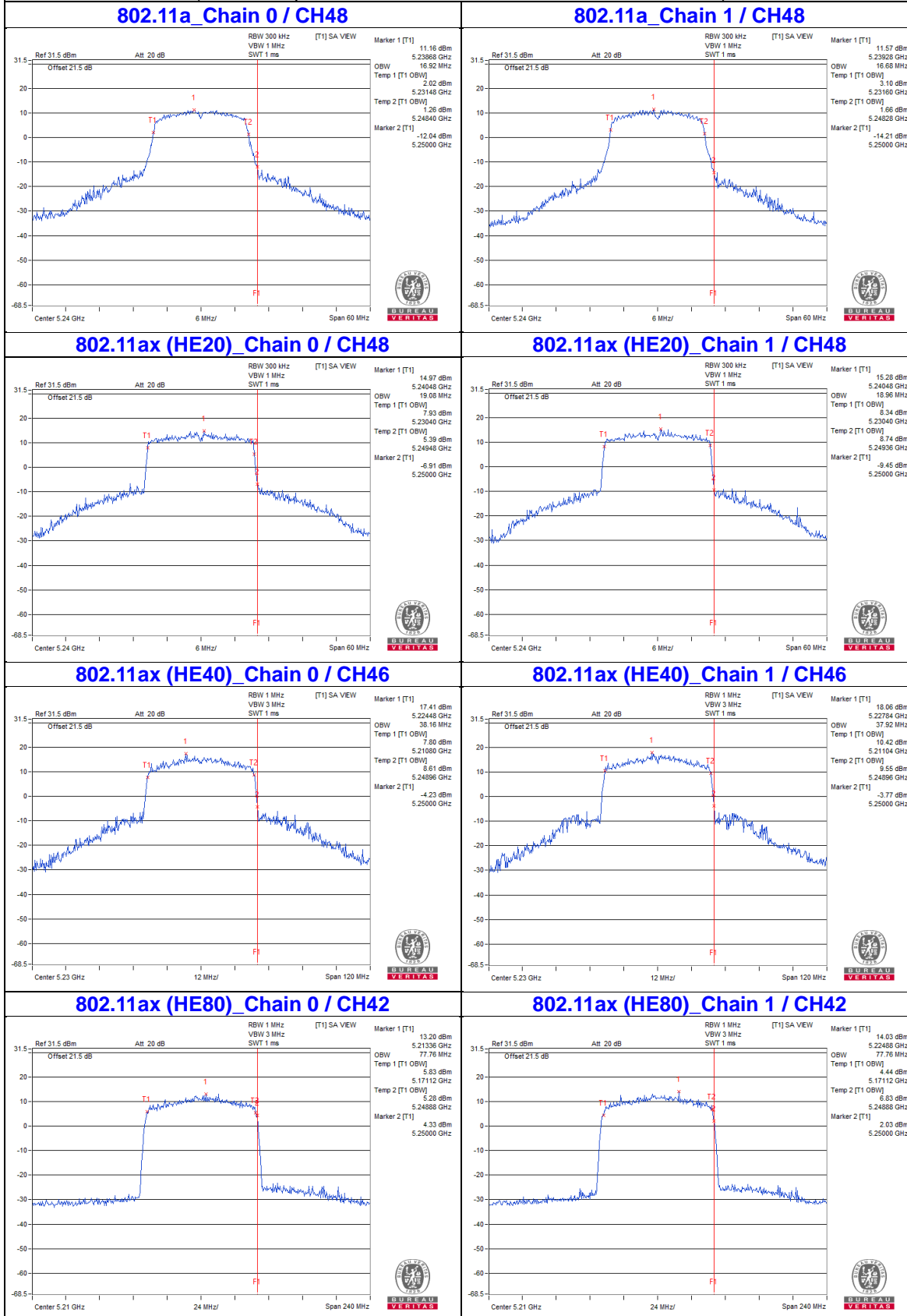
802.11ax (HE40)_Chain 0 / CH159



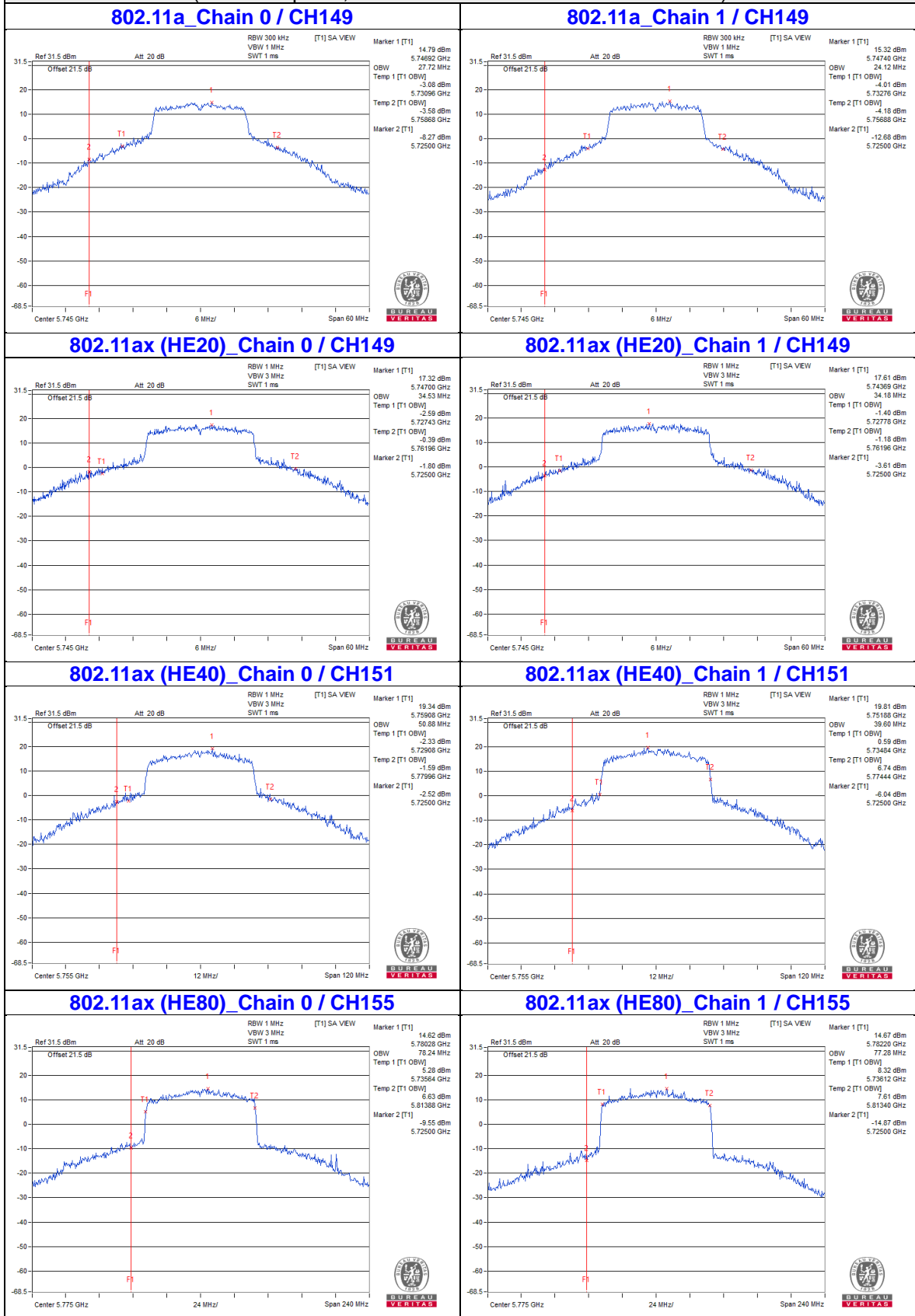
802.11ax (HE80)_Chain 0 / CH155



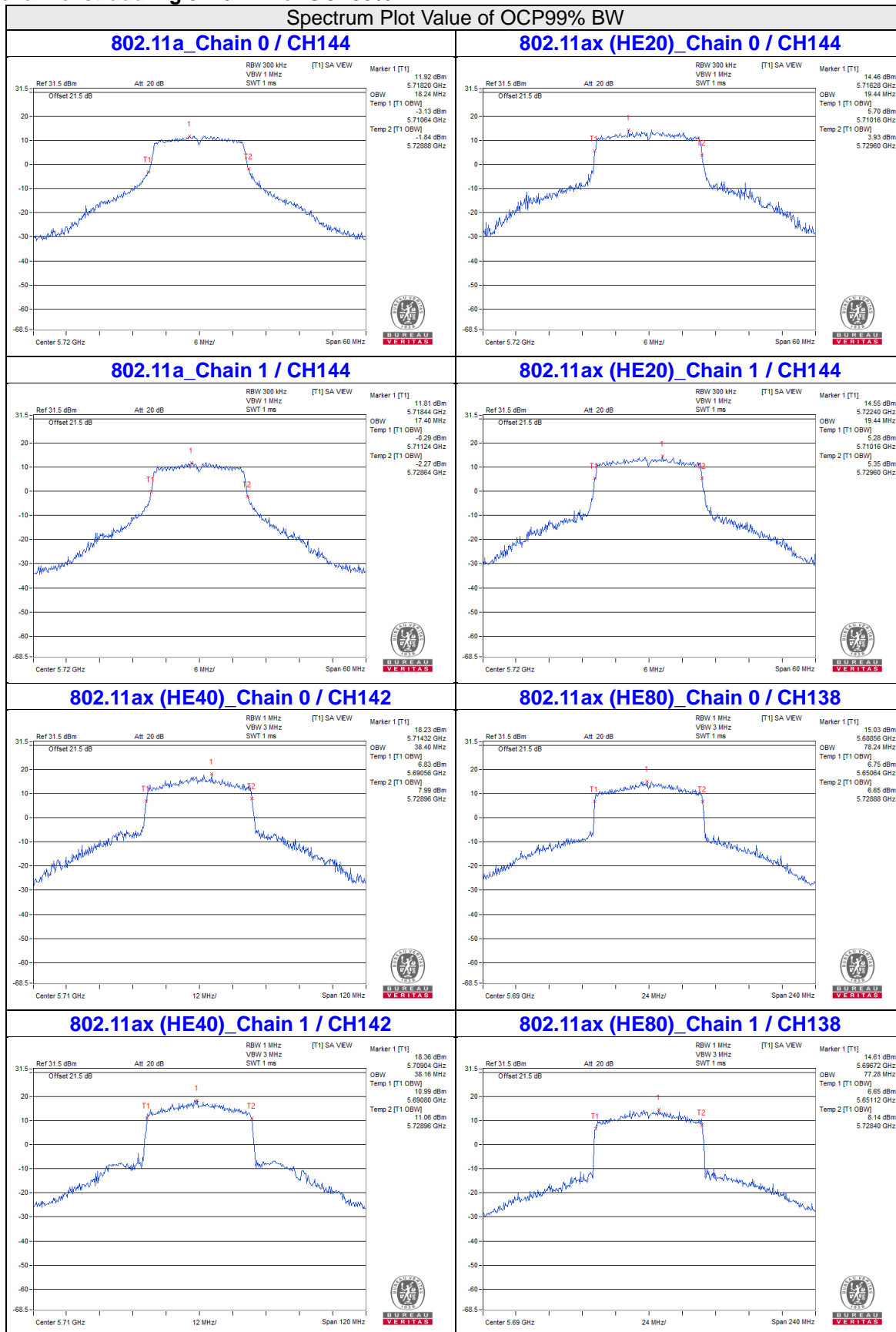
**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**



**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)**



For channel straddling 5725MHz of OCP99% BW



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

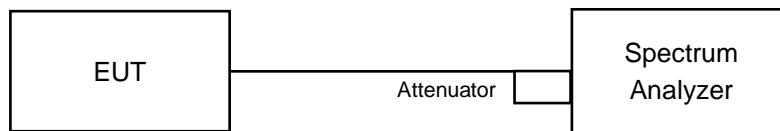
4.5 Peak Power Spectral Density Measurement

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

Note: This device can support different category application which switched by access point mode and client mode by software.

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:

802.11a:

Using method SA-1

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

802.11ax (HE20), 802.11ax (HE40), 802.11ax (HE80):

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 band:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW \geq 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 $10 \log (1/\text{duty cycle})$

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

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	5.41	5.27	8.35	11.00	Pass
40	5200	6.99	6.77	9.89	11.00	Pass
48	5240	8.10	7.20	10.68	11.00	Pass
52	5260	8.10	7.42	10.78	11.00	Pass
60	5300	7.97	7.14	10.59	11.00	Pass
64	5320	8.04	7.71	10.89	11.00	Pass
100	5500	7.38	7.99	10.71	11.00	Pass
116	5580	7.82	7.88	10.86	11.00	Pass
140	5700	8.08	7.64	10.88	11.00	Pass
144 (U-NII-2C Band)	5720	8.01	7.49	10.77	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.72\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
 3. For U-NII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.86\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
 4. For U-NII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.36\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

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				
36	5180	5.58	5.33	0.70	9.16	11.00	Pass
40	5200	7.15	6.93	0.70	10.75	11.00	Pass
48	5240	7.46	6.52	0.70	10.72	11.00	Pass
52	5260	7.24	6.61	0.70	10.64	11.00	Pass
60	5300	7.30	6.97	0.70	10.85	11.00	Pass
64	5320	7.61	6.90	0.70	10.98	11.00	Pass
100	5500	6.98	7.54	0.70	10.98	11.00	Pass
116	5580	7.39	6.82	0.70	10.82	11.00	Pass
140	5700	7.07	5.89	0.70	10.23	11.00	Pass
144 (U-NII-2C Band)	5720	7.31	6.76	0.70	10.75	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.72\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
3. For U-NII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.86\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
4. For U-NII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.36\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
5. 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				
38	5190	1.90	1.54	1.25	5.98	11.00	Pass
46	5230	6.53	5.77	1.25	10.43	11.00	Pass
54	5270	6.51	5.54	1.25	10.31	11.00	Pass
62	5310	3.51	2.82	1.25	7.44	11.00	Pass
102	5510	2.51	3.96	1.25	7.56	11.00	Pass
110	5550	6.07	6.74	1.25	10.68	11.00	Pass
134	5670	4.55	4.51	1.25	8.79	11.00	Pass
142 (U-NII-2C Band)	5710	6.27	5.92	1.25	10.36	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.72\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
3. For U-NII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.86\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
4. For U-NII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.36\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
5. Refer to section 3.3 for duty cycle spectrum plot.

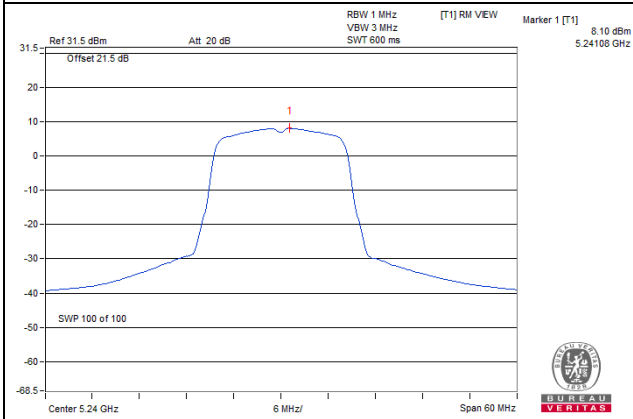
802.11ax (HE80)

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				
42	5210	-2.94	-2.77	2.25	2.41	11.00	Pass
58	5290	-2.27	-3.05	2.25	2.62	11.00	Pass
106	5530	-2.07	-1.34	2.25	3.57	11.00	Pass
122	5610	1.37	1.51	2.25	6.70	11.00	Pass
138 (U-NII-2C Band)	5690	2.40	1.48	2.25	7.23	11.00	Pass

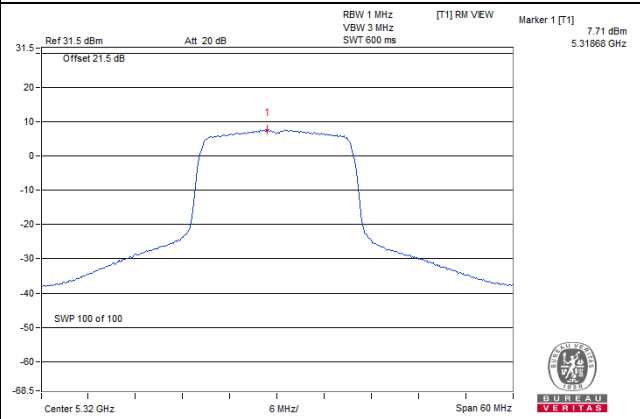
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.72\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
3. For U-NII-2A: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.86\text{dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.
4. For U-NII-2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.36\text{dBi} < 6\text{dBi}$, 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

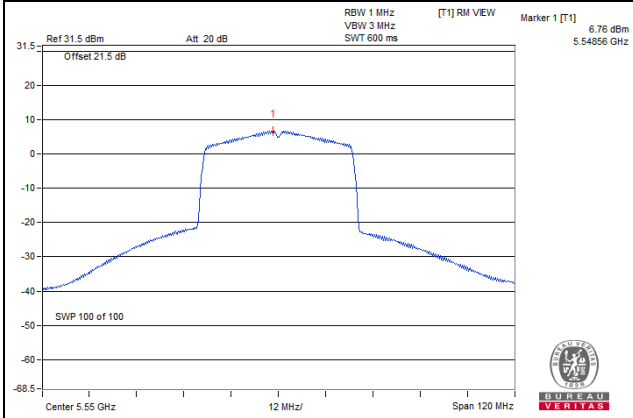
802.11a_Chain 0 / CH48



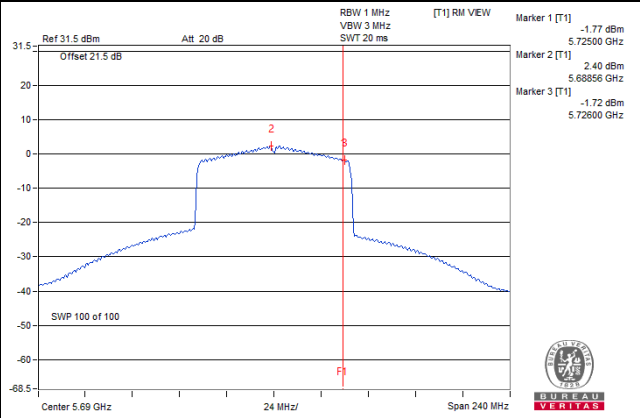
802.11ax (HE20)_Chain 0 / CH64



802.11ax (HE40)_Chain 1 / CH110



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



For U-NII-3 band:
802.11a

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
144 (U-NII-3 Band)	5720	2.41	2.09	5.26	7.48	30.00	Pass
149	5745	6.92	6.73	9.84	12.06	30.00	Pass
157	5785	7.68	8.20	10.96	13.18	30.00	Pass
165	5825	7.44	8.03	10.76	12.98	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.07 \text{ dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
144 (U-NII-3 Band)	5720	2.94	2.59	0.70	6.48	8.70	30.00	Pass
149	5745	6.89	7.02	0.70	10.66	12.88	30.00	Pass
157	5785	6.64	6.81	0.70	10.43	12.65	30.00	Pass
165	5825	6.92	6.88	0.70	10.61	12.83	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.07 \text{ dBi} < 6\text{dBi}$, 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 (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
142 (U-NII-3 Band)	5710	-2.61	-2.84	1.25	1.54	3.76	30.00	Pass
151	5755	2.88	2.37	1.25	6.89	9.11	30.00	Pass
159	5795	4.49	3.69	1.25	8.37	10.59	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.07 \text{ dBi} < 6\text{dBi}$, so the power density limit shall not be reduced.

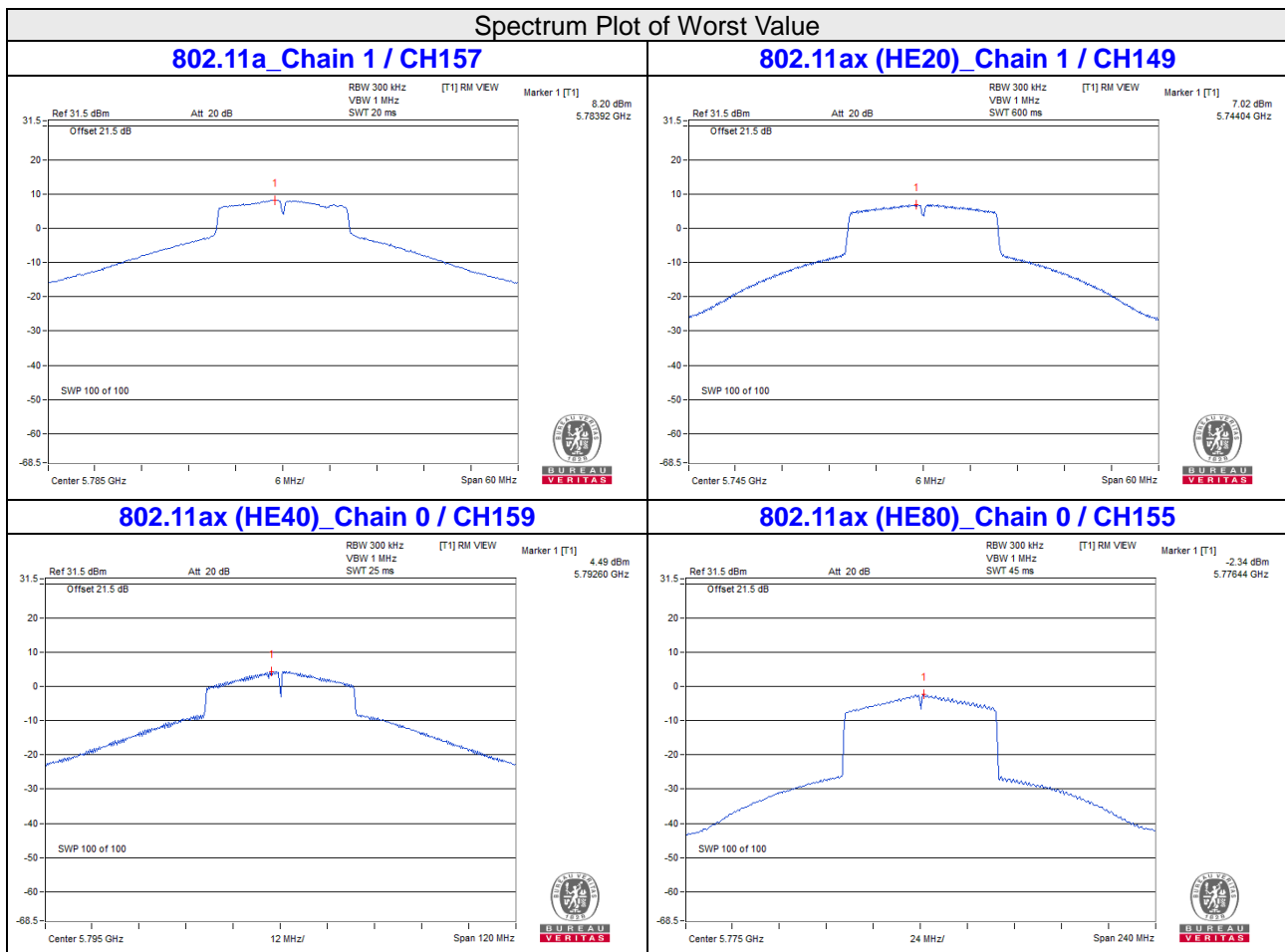
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
138 (U-NII-3 Band)	5690	-6.94	-7.11	2.25	-1.76	0.46	30.00	Pass
155	5775	-2.34	-3.35	2.25	2.45	4.67	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 = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 4.07 \text{ dBi} < 6\text{dBi}$, 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

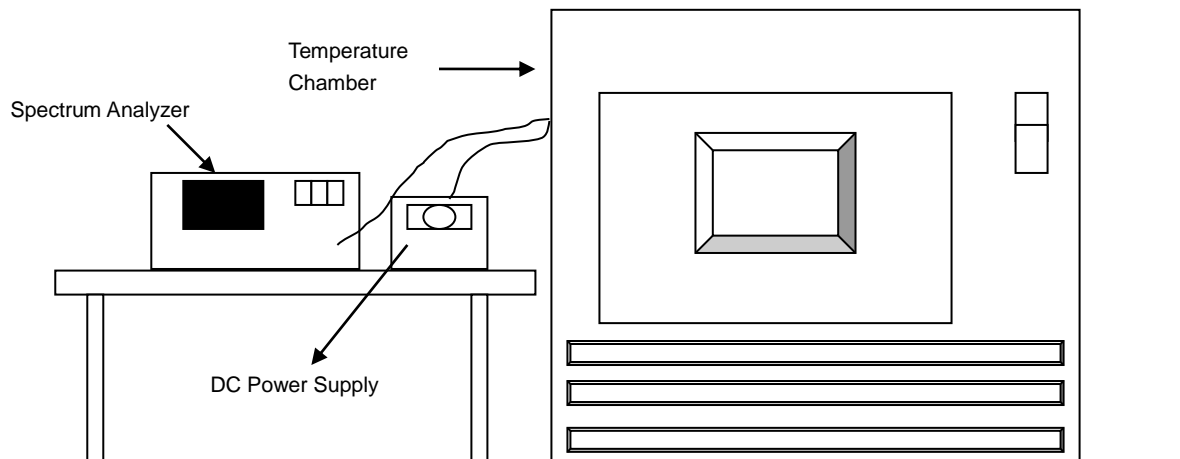


4.6 Frequency Stability Measurement

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 DC 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: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
60	3.3	5180.0025	Pass	5180.0018	Pass	5180.0046	Pass	5180.0025	Pass
50	3.3	5180.0188	Pass	5180.02	Pass	5180.0182	Pass	5180.0179	Pass
40	3.3	5180.0237	Pass	5180.0257	Pass	5180.0253	Pass	5180.0259	Pass
30	3.3	5179.9832	Pass	5179.9802	Pass	5179.9788	Pass	5179.98	Pass
20	3.3	5179.9758	Pass	5179.9752	Pass	5179.9756	Pass	5179.9772	Pass
10	3.3	5180.019	Pass	5180.0199	Pass	5180.021	Pass	5180.0213	Pass
0	3.3	5180.0123	Pass	5180.0128	Pass	5180.0139	Pass	5180.014	Pass
-10	3.3	5179.9921	Pass	5179.9891	Pass	5179.9913	Pass	5179.9919	Pass

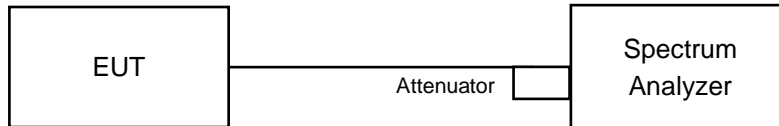
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result	Measured Frequency (MHz)	Test Result
20	3.795	5179.9833	Pass	5179.9813	Pass	5179.9806	Pass	5179.9809	Pass
	3.3	5179.9758	Pass	5179.9752	Pass	5179.9756	Pass	5179.9772	Pass
	2.805	5179.9722	Pass	5179.9724	Pass	5179.97	Pass	5179.9722	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 lowest, middle and highest channel frequencies individually.

4.7.7 Test Results

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.08	3.11	0.5	Pass
149	5745	16.35	16.37	0.5	Pass
157	5785	16.43	16.41	0.5	Pass
165	5825	16.44	16.45	0.5	Pass

802.11ax (HE20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	4.36	4.33	0.5	Pass
149	5745	18.42	17.87	0.5	Pass
157	5785	18.76	18.34	0.5	Pass
165	5825	18.58	18.26	0.5	Pass

802.11ax (HE40)

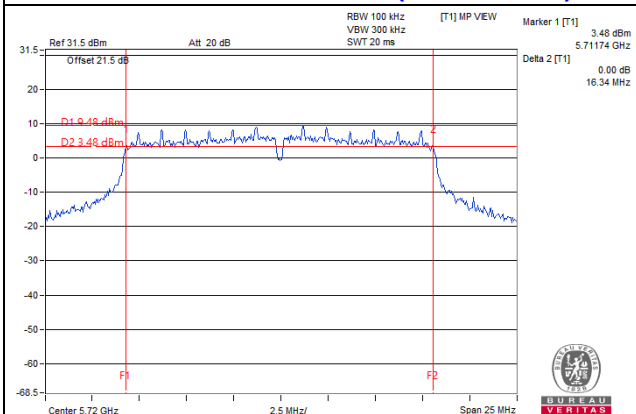
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (U-NII-3 Band)	5710	2.56	2.55	0.5	Pass
151	5755	33.92	35.19	0.5	Pass
159	5795	31.34	34.67	0.5	Pass

802.11ax (HE80)

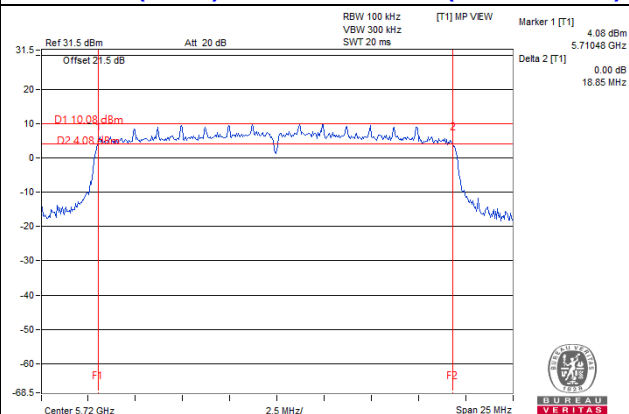
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (U-NII-3 Band)	5690	2.69	2.66	0.5	Pass
155	5775	75.4	75.39	0.5	Pass

Spectrum Plot of Worst Value

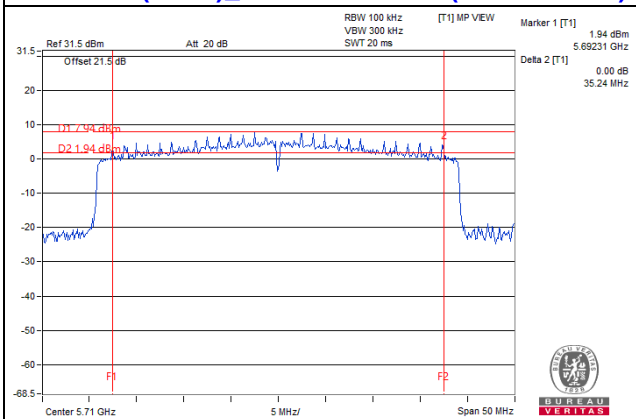
802.11a_Chain 0 / CH144 (U-NII-3 Band)



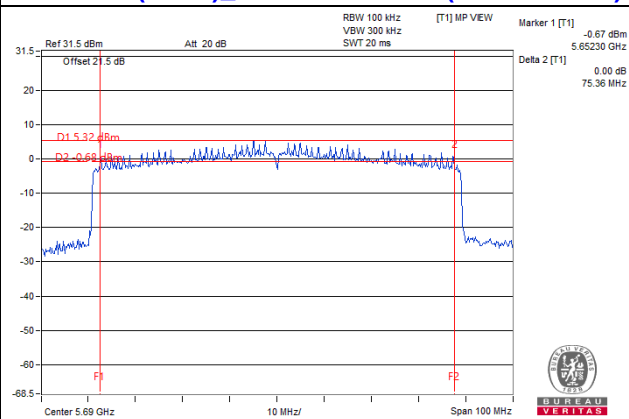
802.11ax (HE20)_Chain 1 / CH144 (U-NII-3 Band)



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



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



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

5 Pictures of Test Arrangements

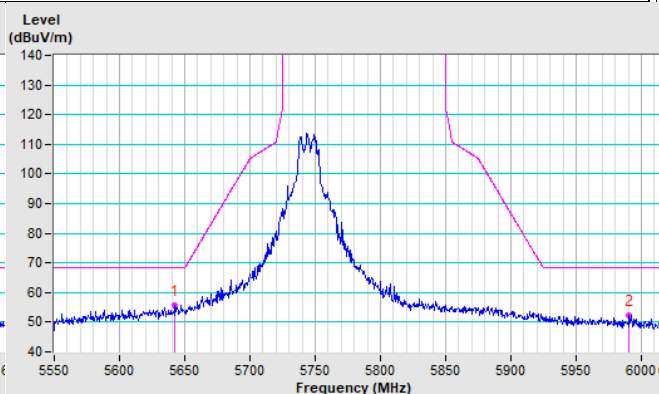
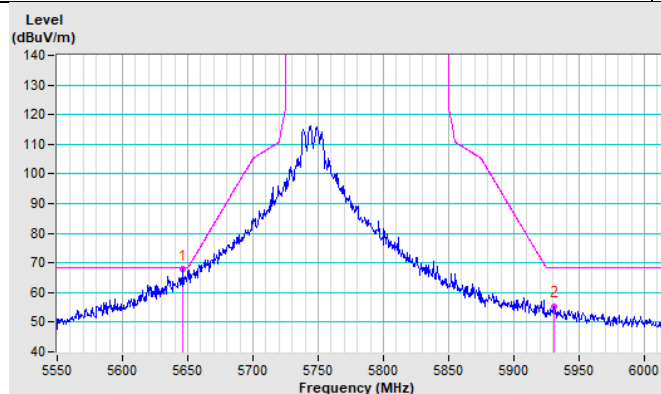
Please refer to the attached file (Test Setup Photo).

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

802.11a CH 149 : 5745 MHz

Horizontal

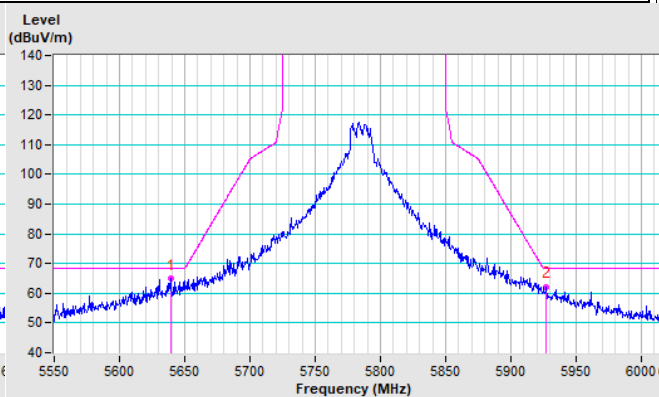
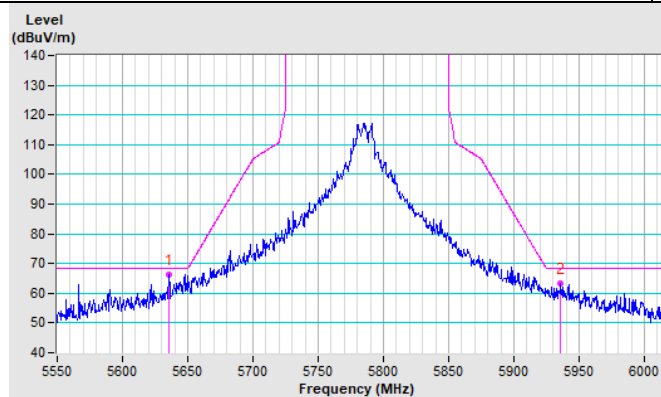
Vertical



802.11a CH 157 : 5785 MHz

Horizontal

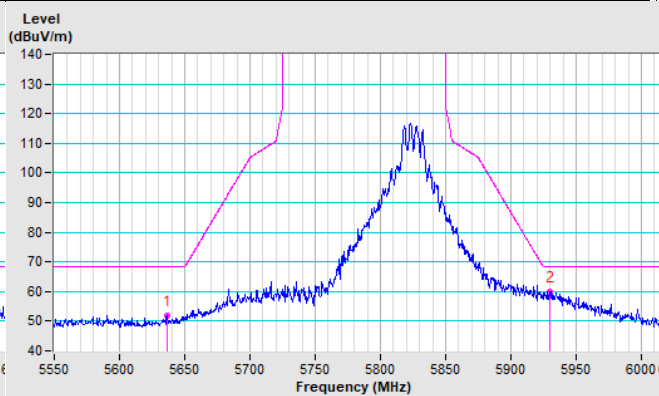
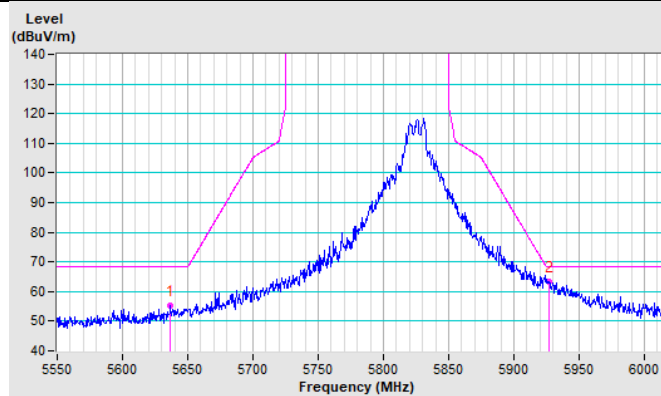
Vertical



802.11a CH 165 : 5825 MHz

Horizontal

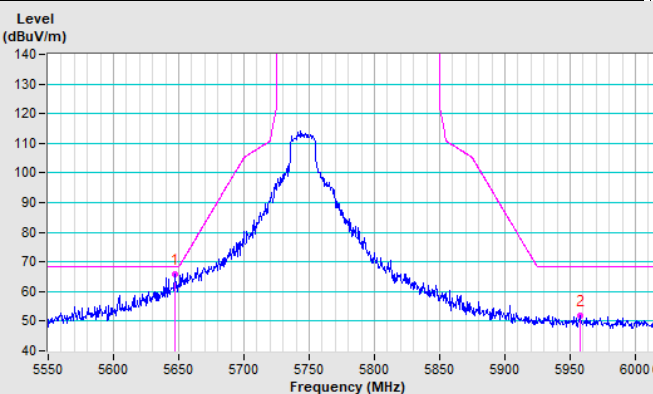
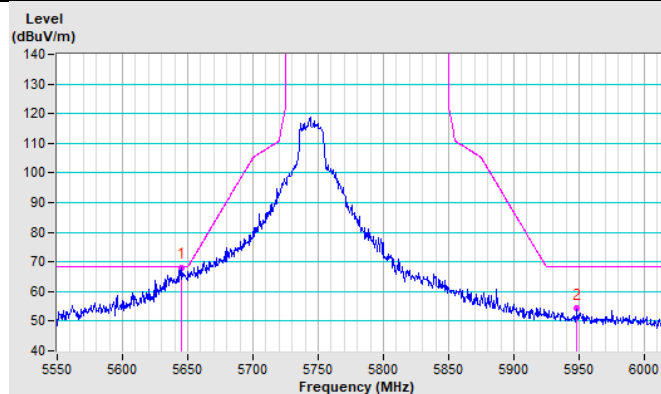
Vertical



802.11ax (HE20) CH 149 : 5745 MHz

Horizontal

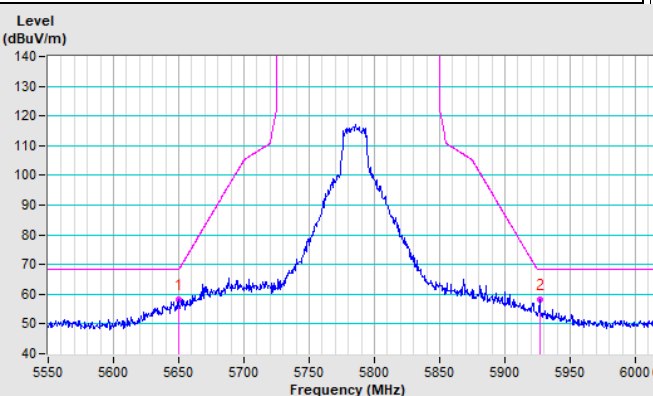
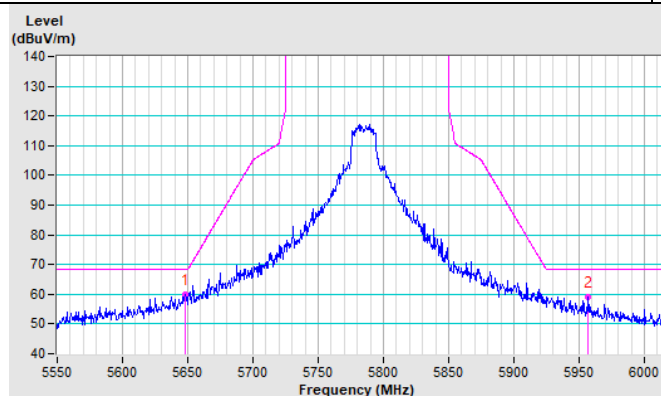
Vertical



802.11ax (HE20) CH 157 : 5785 MHz

Horizontal

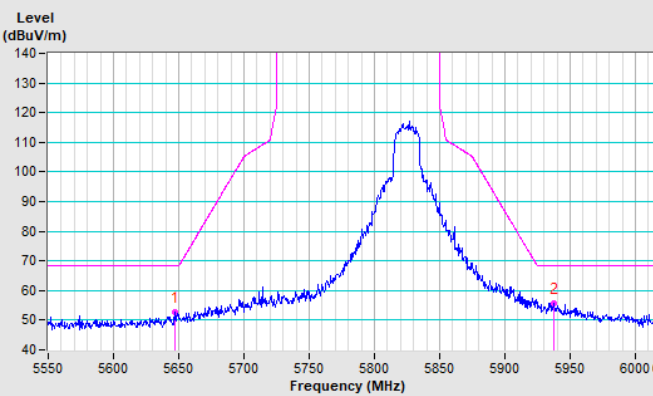
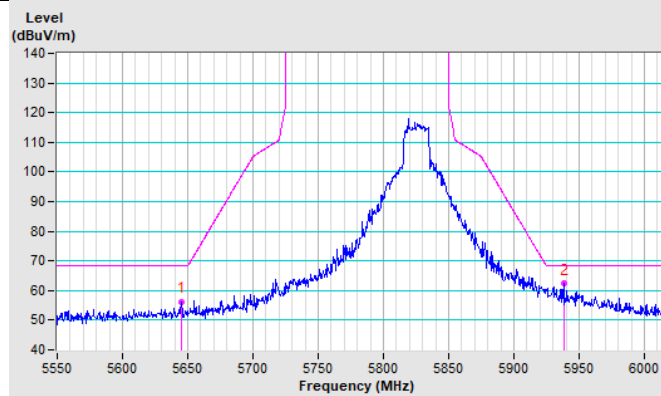
Vertical



802.11ax (HE20) CH 165 : 5825 MHz

Horizontal

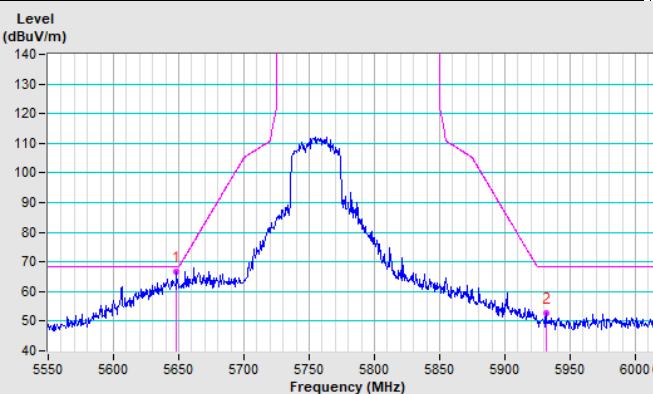
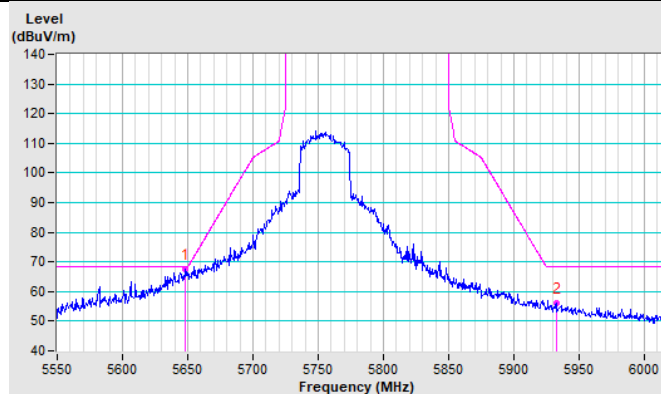
Vertical



802.11ax (HE40) CH 151 : 5755 MHz

Horizontal

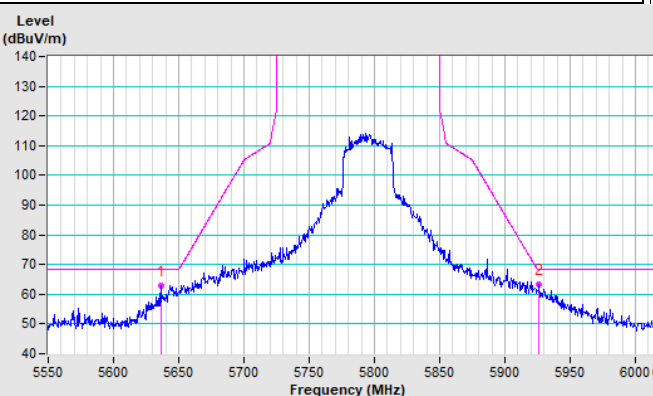
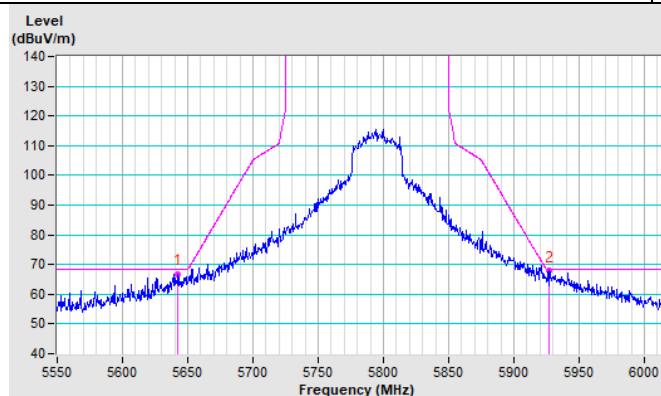
Vertical



802.11ax (HE40) CH 159 : 5795 MHz

Horizontal

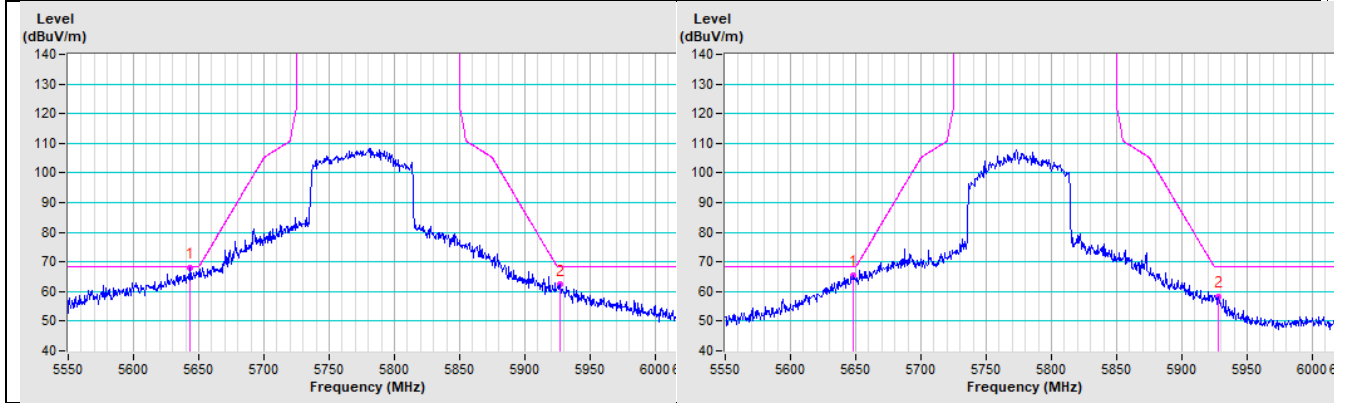
Vertical



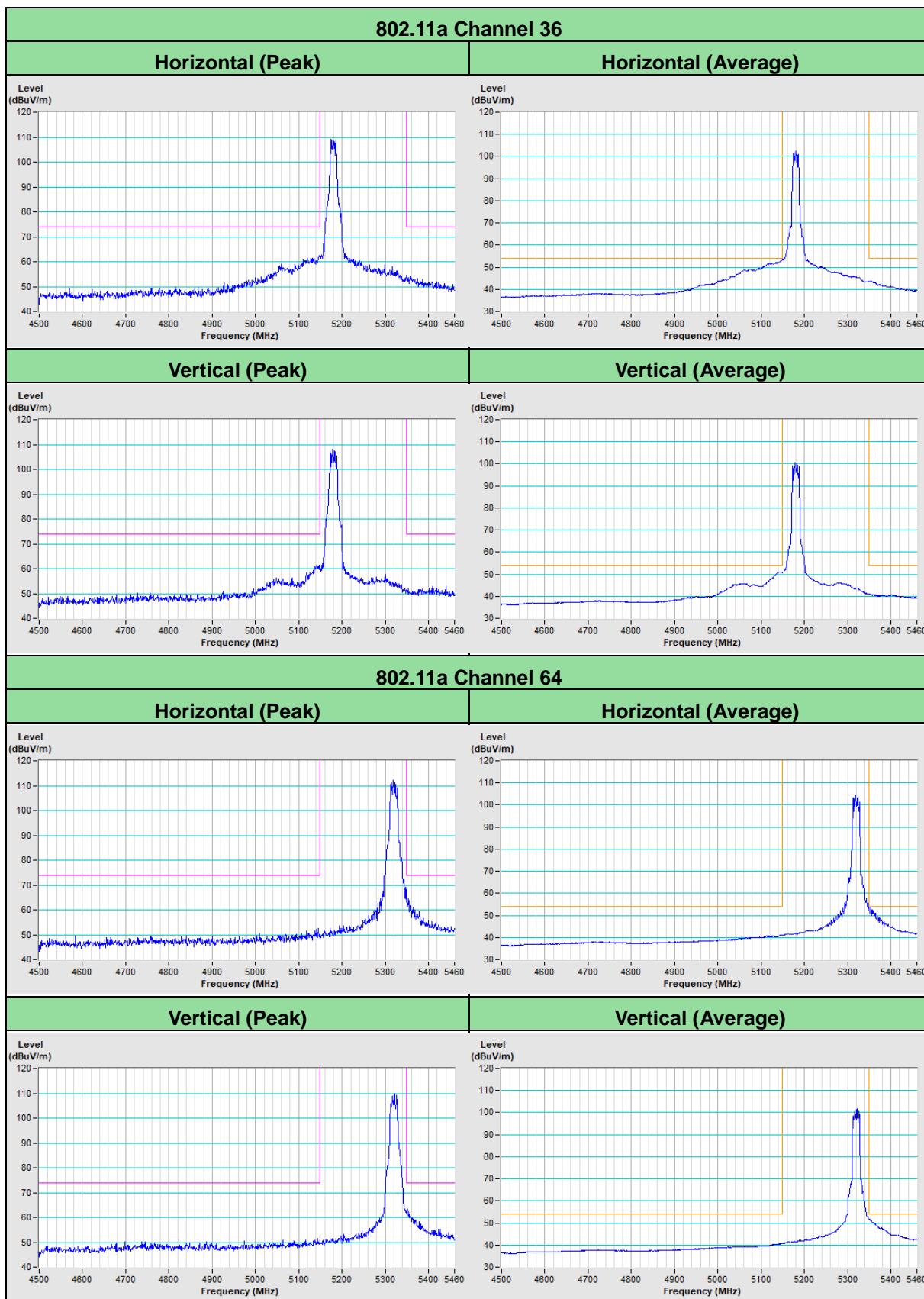
802.11ax (HE80) CH 155 : 5775 MHz

Horizontal

Vertical

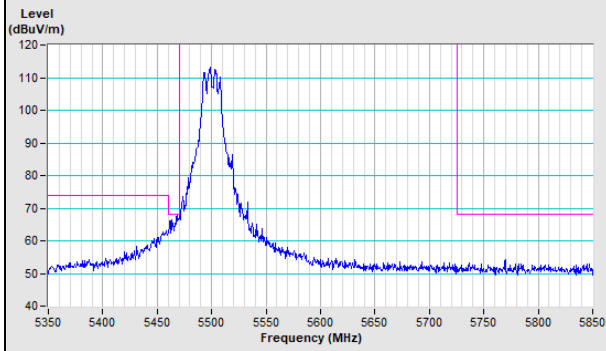


Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)

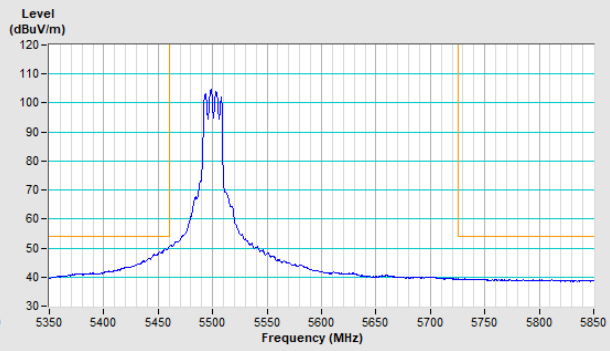


802.11a Channel 100

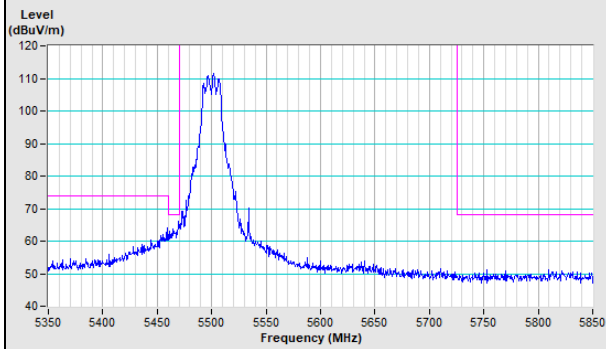
Horizontal (Peak)



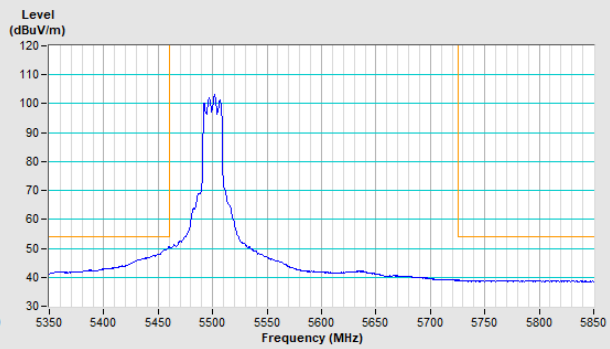
Horizontal (Average)



Vertical (Peak)

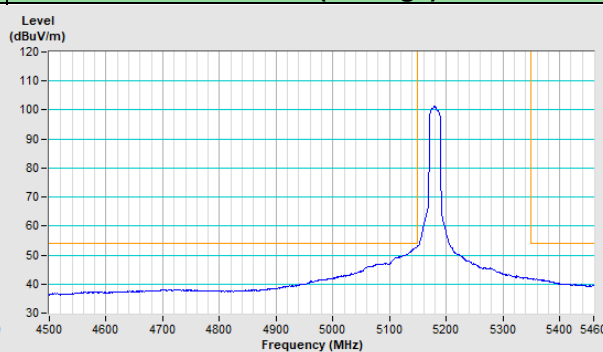
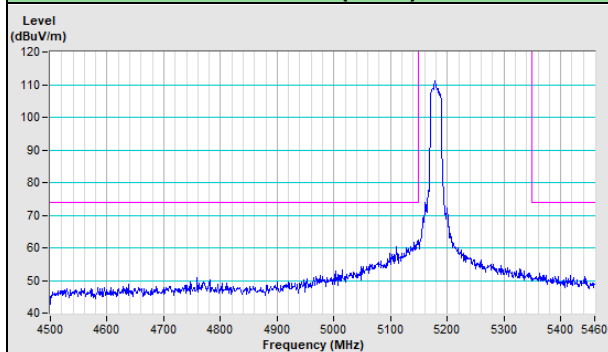


Vertical (Average)

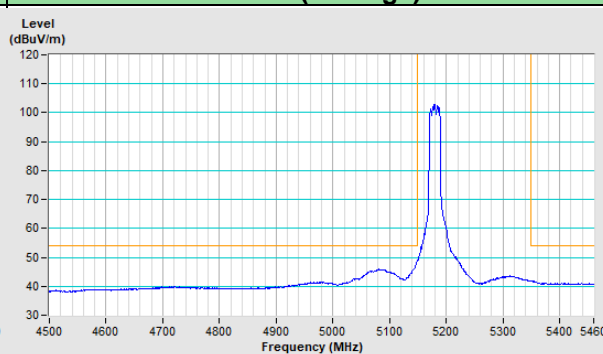
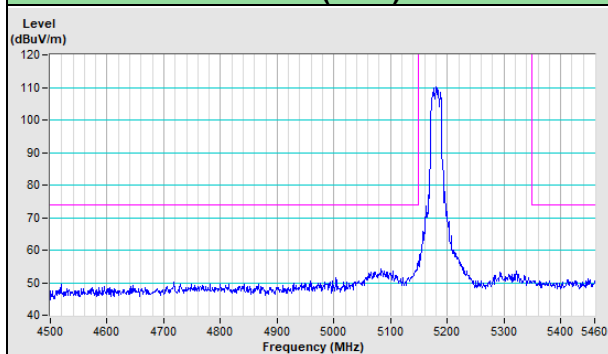


802.11ax (HE20) Channel 36

Horizontal (Peak)	Horizontal (Average)
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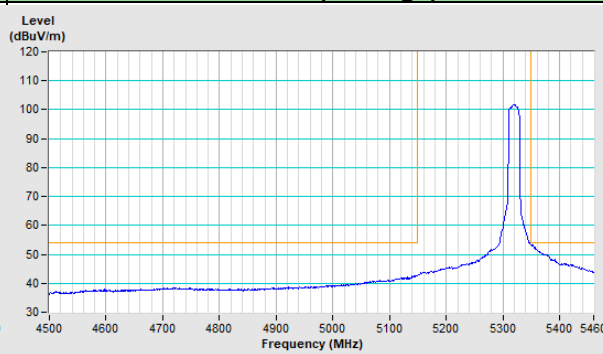
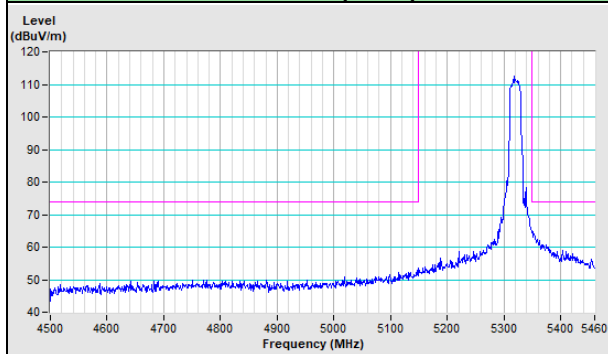


Vertical (Peak)	Vertical (Average)
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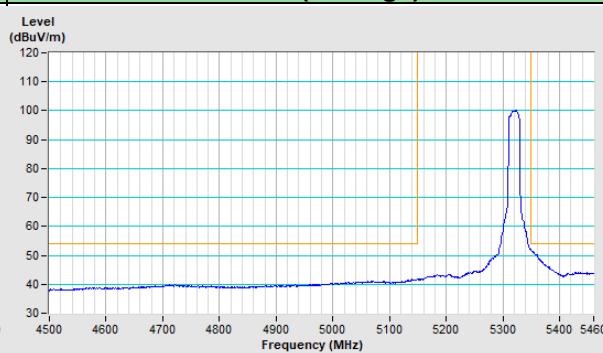
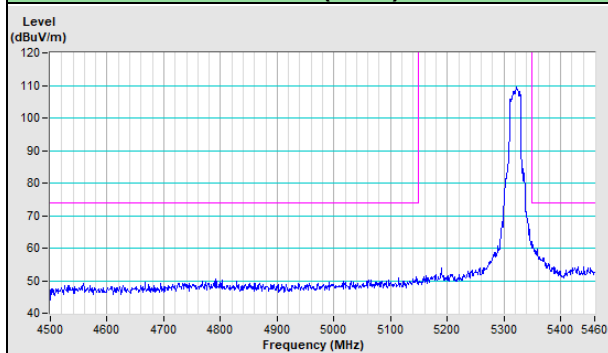


802.11ax (HE20) Channel 64

Horizontal (Peak)	Horizontal (Average)
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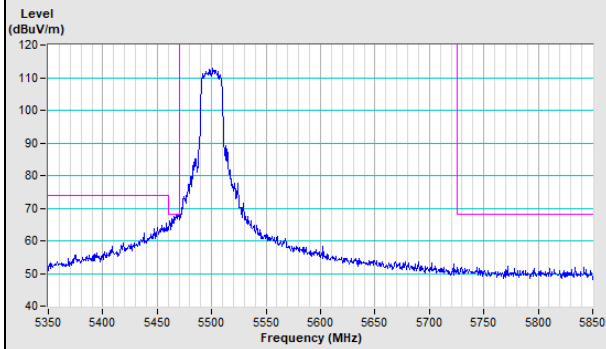


Vertical (Peak)	Vertical (Average)
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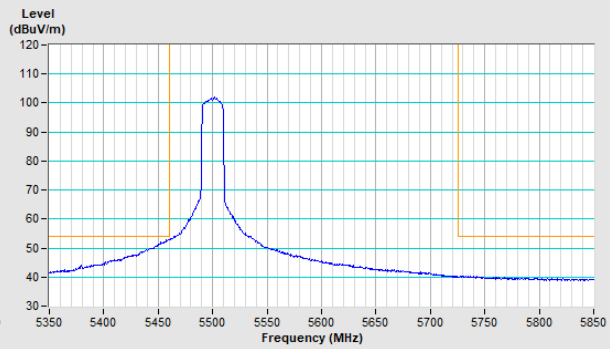


802.11ax (HE20) Channel 100

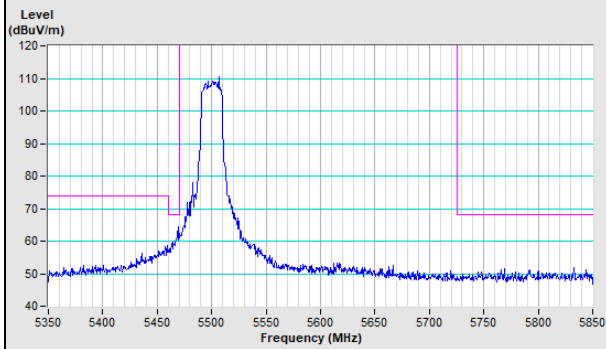
Horizontal (Peak)



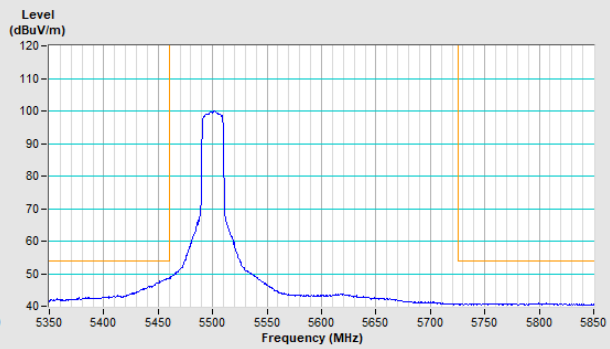
Horizontal (Average)



Vertical (Peak)

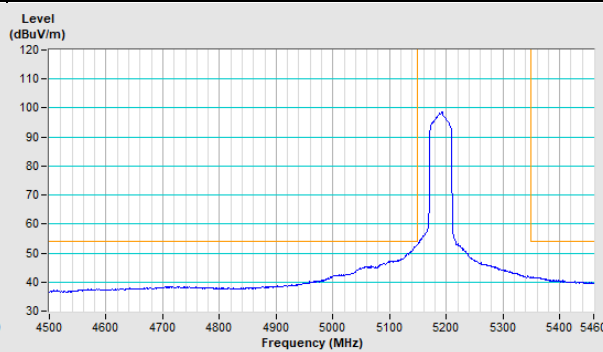
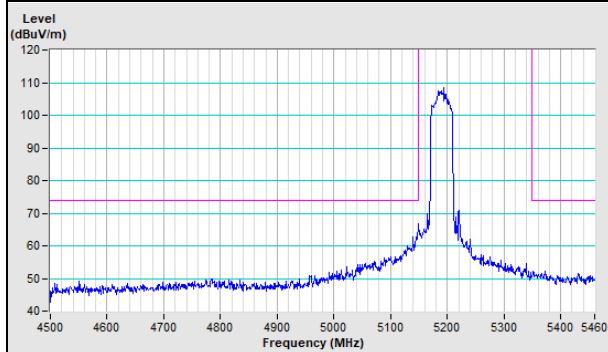


Vertical (Average)

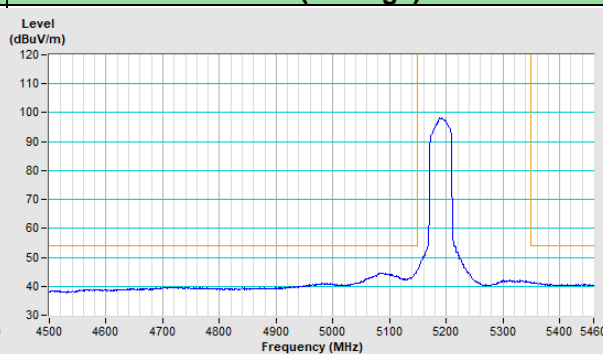
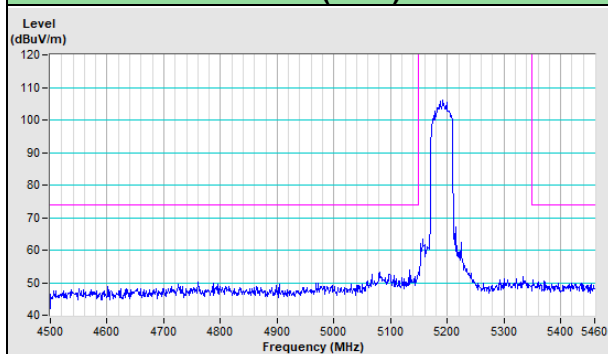


802.11ax (HE40) Channel 38

Horizontal (Peak)	Horizontal (Average)
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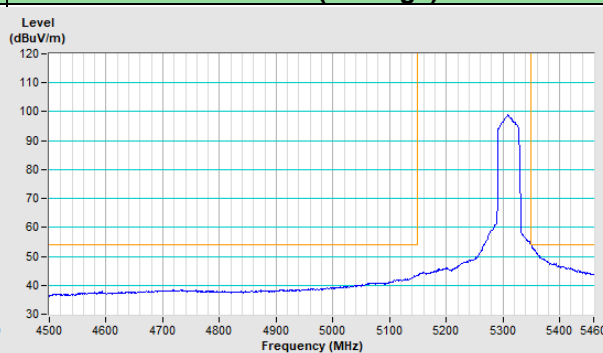
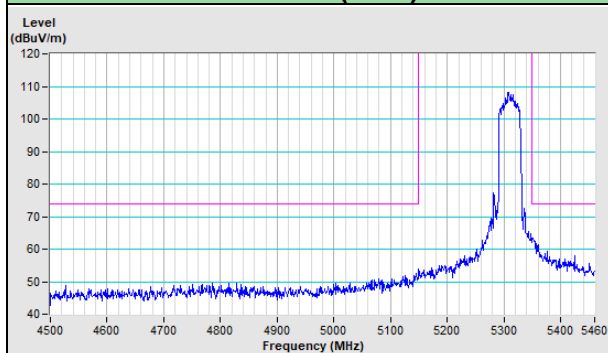


Vertical (Peak)	Vertical (Average)
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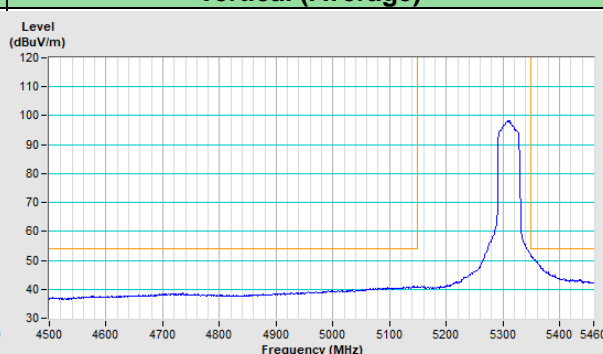
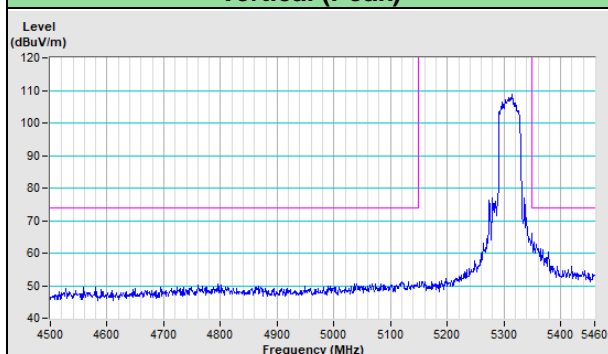


802.11ax (HE40) Channel 62

Horizontal (Peak)	Horizontal (Average)
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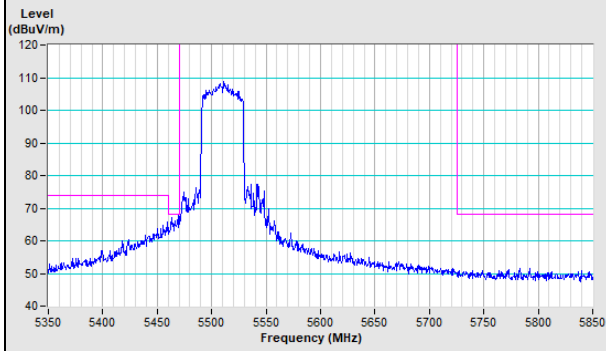


Vertical (Peak)	Vertical (Average)
------------------------	---------------------------

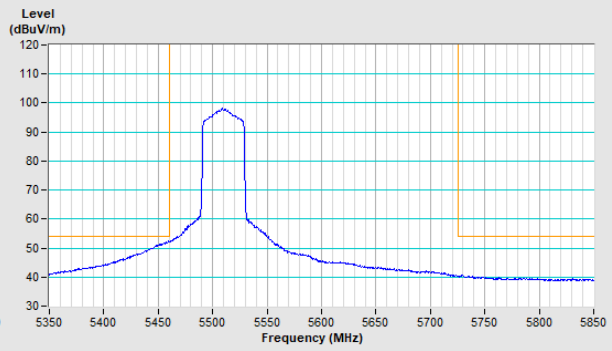


802.11ax (HE40) Channel 102

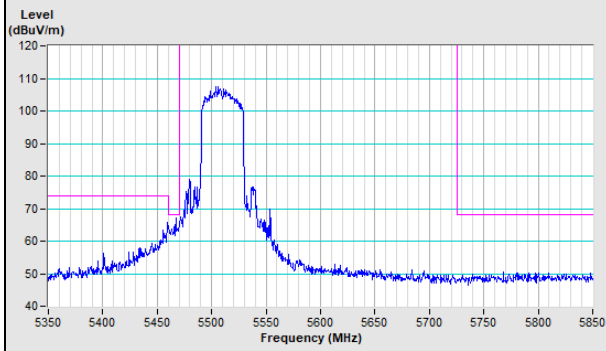
Horizontal (Peak)



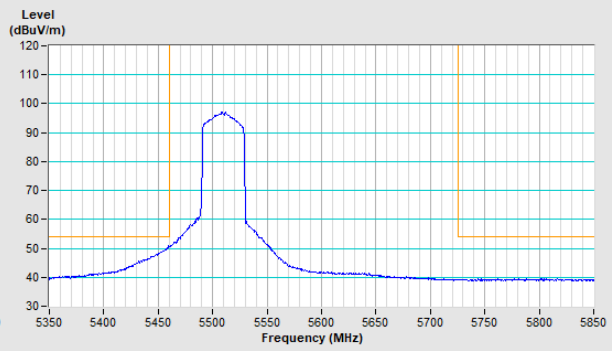
Horizontal (Average)



Vertical (Peak)

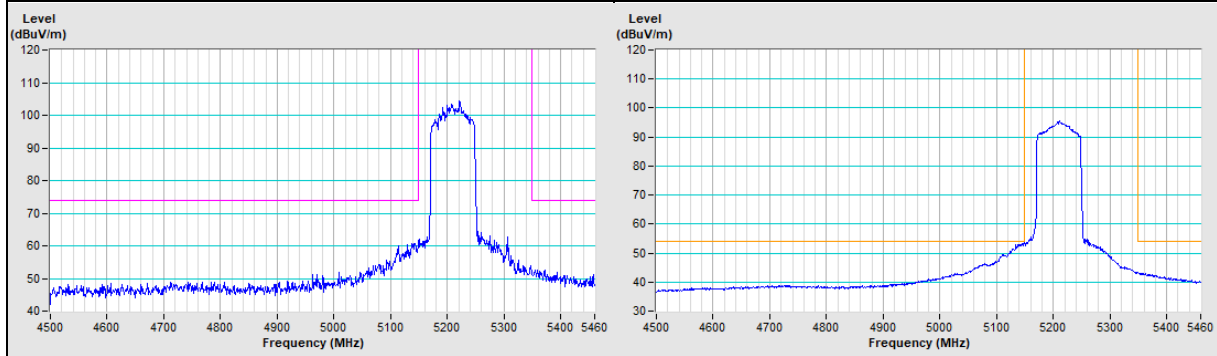


Vertical (Average)

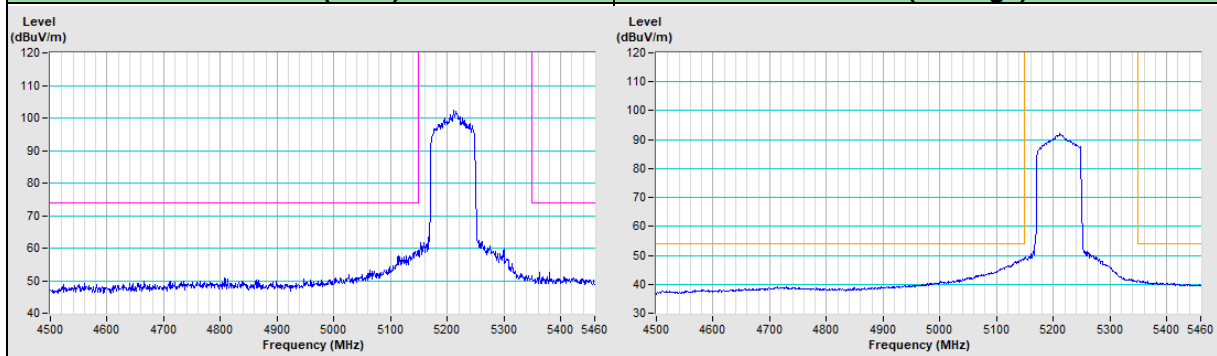


802.11ax (HE80) Channel 42

Horizontal (Peak)	Horizontal (Average)
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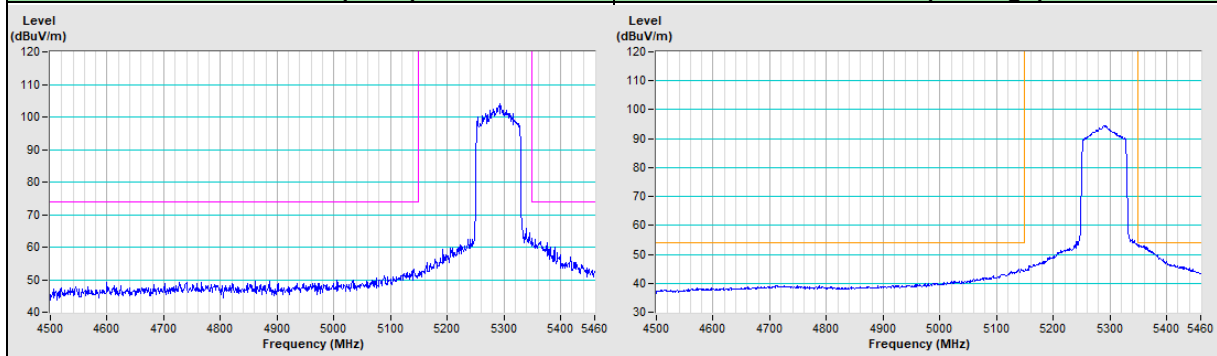


Vertical (Peak)	Vertical (Average)
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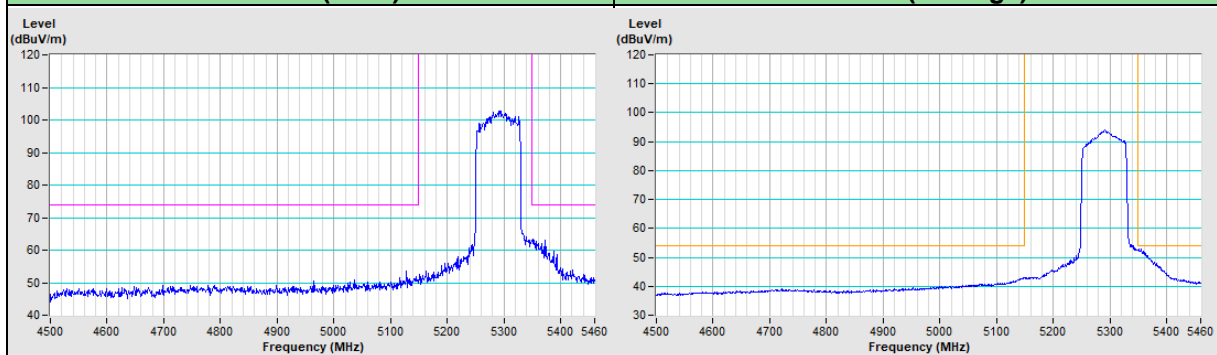


802.11ax (HE80) Channel 58

Horizontal (Peak)	Horizontal (Average)
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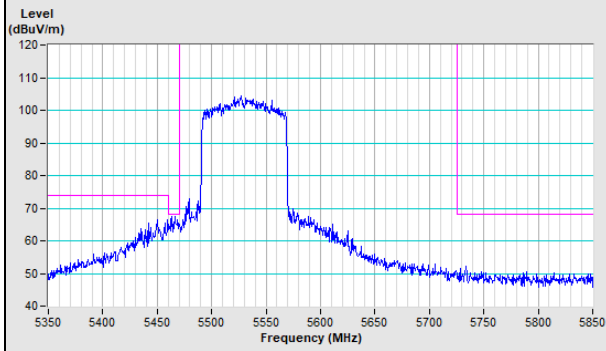


Vertical (Peak)	Vertical (Average)
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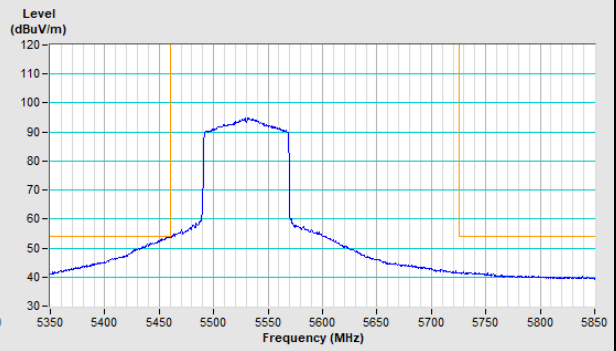


802.11ax (HE80) Channel 106

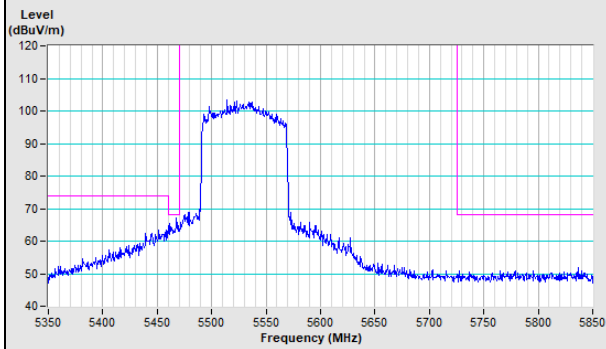
Horizontal (Peak)



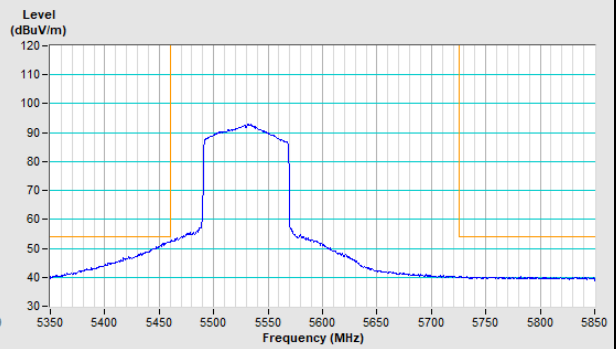
Horizontal (Average)



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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