FCC Test Report (WLAN)

Report No.:	RFBFBE-WTW-P21118016-1
FCC ID:	YAW539848
Test Model:	PVS6
Received Date:	2021/11/30
Test Date:	2021/12/1 ~ 2022/1/2
Issued Date:	2022/6/15
Applicant:	SunPower Corporation
Address:	1414 Harbour Way South Suite 1901, Richmond, CA 94804, USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

Testing Laboratory
2022

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBFBE-WTW-P21118016-1	Original release.	2022/6/15

1 Certificate of Conformity

Product:	SunPower Monitoring System with PVS6
Brand:	SUNPOWER
Test Model:	PVS6
Sample Status:	Engineering sample
Applicant:	SunPower Corporation
Test Date:	2021/12/1 ~ 2022/1/2
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:** 2022/6/15

Cherry Chuo / Specialist

Approved by : , **Date:** 2022/6/15

May Chen / 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 -5.29 dB at 4.73047 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 -0.2 dB at 415.50 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	Antenna connector is i-pex not a standard connector.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	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	SunPower Monitoring System with PVS6
Brand	SUNPOWER
Test Model	PVS6
Status of EUT	Engineering sample
Power Supply Rating	AC100-240V, 0.75A , 50/60Hz
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 1201.0 Mbps
Operating Frequency	5.18~ 5.24 GHz, 5.745 ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 9 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2
Output Power	**5.18 ~ 5.24 GHz:** 97.175 mW **5.745 ~ 5.825 GHz:** 177.985 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	-Hole Plugs x2 -Ethernet Cable x1: non-shielded, 1.5m -Bracket x1

Note:

1. The EUT contains certified WWAN module which FCC ID: XMR2020BG95M1 (Brand: Quectel; Model: BG95-M1)
2. There are WLAN, Bluetooth, ZigBee and WWAN technology used for the EUT.
3. The EUT has three radios as following table:

Radio 1	Radio 2	Radio 3
WLAN (2.4GHz+5GHz)+ BT	ZigBee	WWAN (LTE)

4. Simultaneously transmission condition.

Condition	Technology			
1	WLAN(2.4GHz)	BT	ZigBee	WWAN
2	WLAN(5GHz)	BT	ZigBee	WWAN
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.				

5. The EUT needs to be supplied from an Internal power supply, the information is as below table:

Brand	Model No.	Spec.
WLAN WELL	IRM-30-12	AC Input: 100-240V, 0.75A , 50/60Hz DC Output: 12V, 2.5A

6. The EUT will install at outdoor area, for U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, for more detail information please refer to antenna specification and user manual.
7. The antennas provided to the EUT, please refer to the following table:

WLAN / Bluetooth							
Ant No.	Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type
1	Chain 0 (Including BT)	airgain	65-031-212002B	2.2	2.4~2.4835	PCB	I-PEX
				3.8	5.15~5.25		
				4.2	5.725~5.85		
2	Chain 1 (WLAN use only)	airgain	65-031-212003B	4.2	2.4~2.4835	PCB	I-PEX
				4.1	5.15~5.25		
				4.8	5.725~5.85		

ZigBee						
Ant No.	Brand	Model	Antenna Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type
3	airgain	65-031-212004B	4.8	2.4~2.4835	PCB	I-PEX

LTE						
Ant No.	Brand	Model	Antenna Gain (dBi)	Frequency rang (MHz)	Antenna type	Connector type
4	airgain	65-031-212001B	2.7	1850~1910	PCB	I-PEX
				1710~1755		
				698~716		

8. 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:

1. 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 (40MH, 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.

9. The power setting are list as below:

For U-NII-1 Band (Master mode) & U-NII-3 Band							
802.11a		802.11ac (VHT20)		802.11ac (VHT40)		802.11ac (VHT80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	57	5180	58	5190	45	5210	45
5200	62	5200	63	5230	61	5775	58
5240	60	5240	60	5755	67		
5745	72	5745	72	5795	73		
5785	80	5785	78				
5825	74	5825	74				

802.11ax (HE20)		802.11ax (HE40)		802.11ax (HE80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	58	5190	45	5210	45
5200	63	5230	61	5775	58
5240	60	5755	67		
5745	72	5795	73		
5785	78				
5825	74				

For U-NII-1 Band (Client mode)							
802.11a		802.11ac (VHT20)		802.11ac (VHT40)		802.11ac (VHT80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	57	5180	58	5190	45	5210	45
5200	63	5200	65	5230	61		
5240	60	5240	60				

802.11ax (HE20)		802.11ax (HE40)		802.11ax (HE80)	
Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting	Frequency (MHz)	Power Setting
5180	58	5190	45	5210	45
5200	65	5230	61		
5240	60				

10. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
11. 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 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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

Radiated Emission Test (Above 1GHz):

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

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	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	5180-5240 5745-5825	36 to 48 149 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	5180-5240 5745-5825	36 to 48 149 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
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:

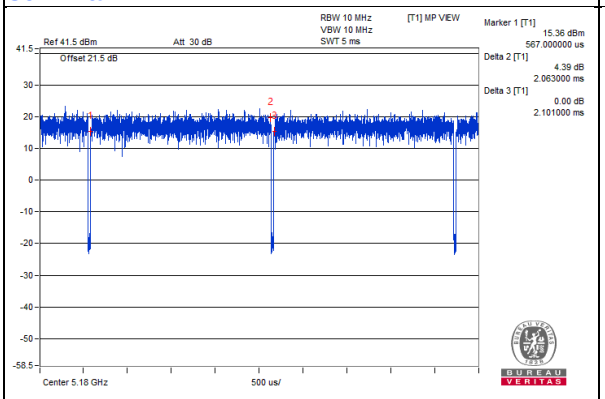
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	22deg. C, 70%RH	120Vac, 60Hz	Sampson Chen
RE<1G	22deg. C, 70%RH	120Vac, 60Hz	Ryan Du
PLC	25deg. C, 68%RH	120Vac, 60Hz	Sampson Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Leon Dai

3.3 Duty Cycle of Test Signal

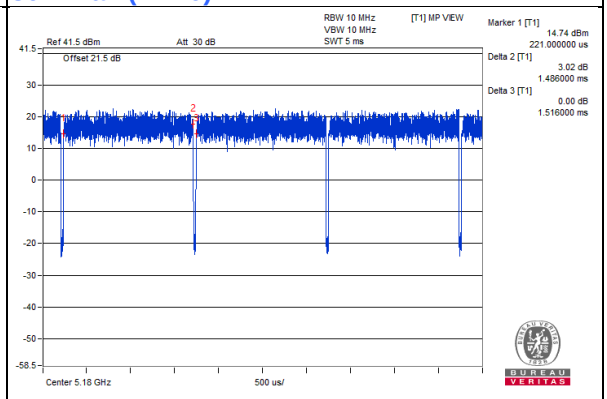
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.063 ms / 2.101 ms = 0.982
802.11ax (HE20): Duty cycle = 1.486 ms / 1.516 ms = 0.98
802.11ax (HE40): Duty cycle = 0.771 ms / 0.802 ms = 0.961, Duty factor = 10 * log(1/Duty cycle) = 0.17 dB
802.11ax (HE80): Duty cycle = 0.401 ms / 0.43 ms = 0.933, Duty factor = 10 * log(1/Duty cycle) = 0.30 dB

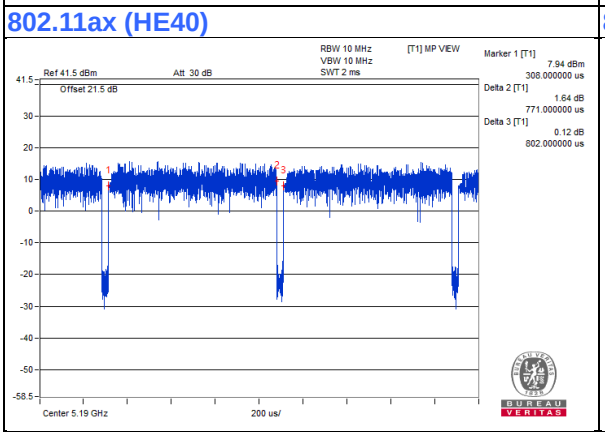
802.11a



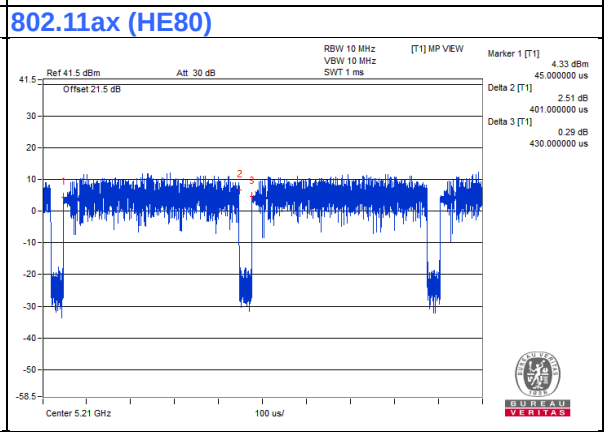
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



3.4 Description of Support Units

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

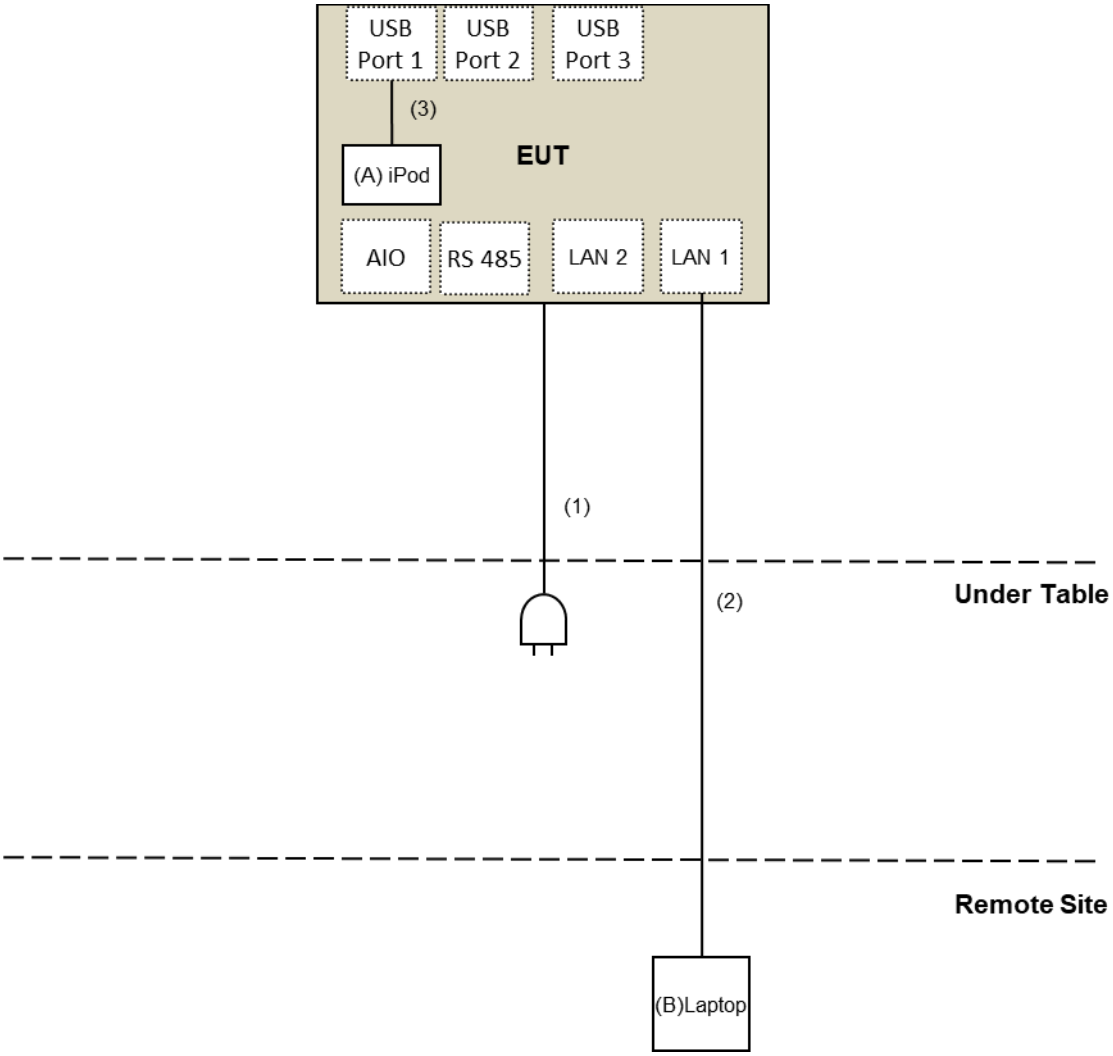
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	iPod	Apple	MC749TA/A	CC4DMFJUDFDM	NA	Provided by Lab
B.	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	AC Cable	1	1.8	No	0	Supplied by Applicant
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	USB Cable	1	0.1	Yes	0	Provided by Lab

3.4.1 Configuration of System under Test



Note: The test configuration was defined by the applicant requirement.

3.5 General Description of Applied Standards and References

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

Test Standard:
FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013

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

References Test Guidance:
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4
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:

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

4.1.2 Test Instruments

For Radiated emission & OOBE & 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	2021/10/19	2022/10/18
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	2021/10/26	2022/10/25
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	2021/11/14	2022/11/13
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	2021/11/14	2022/11/13
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: 2021/12/1 ~ 2021/12/24

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

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: 2022/1/2

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:

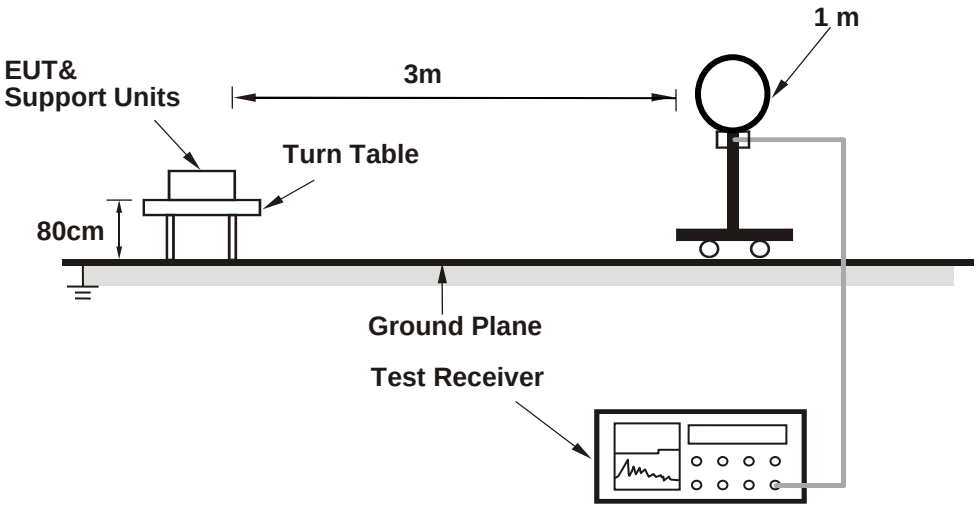
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 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

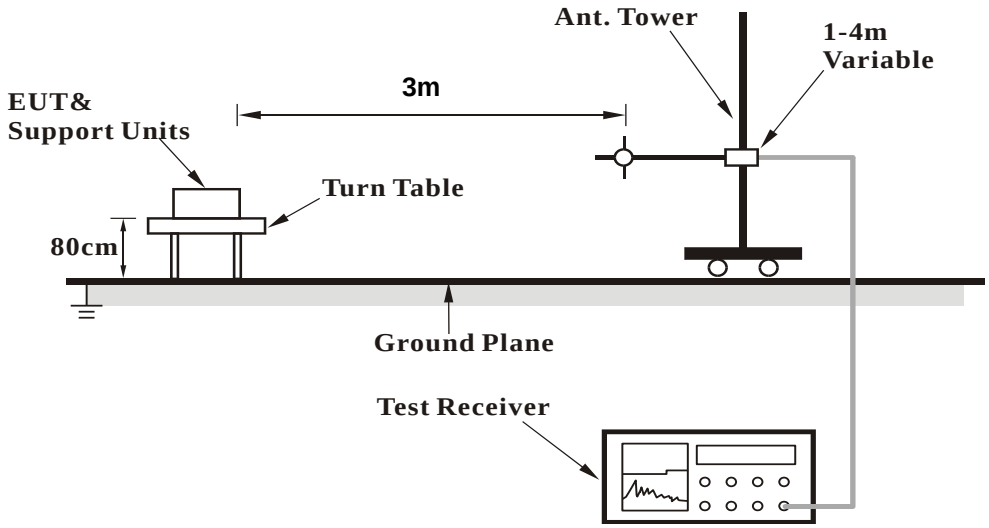
No deviation.

4.1.5 Test Setup

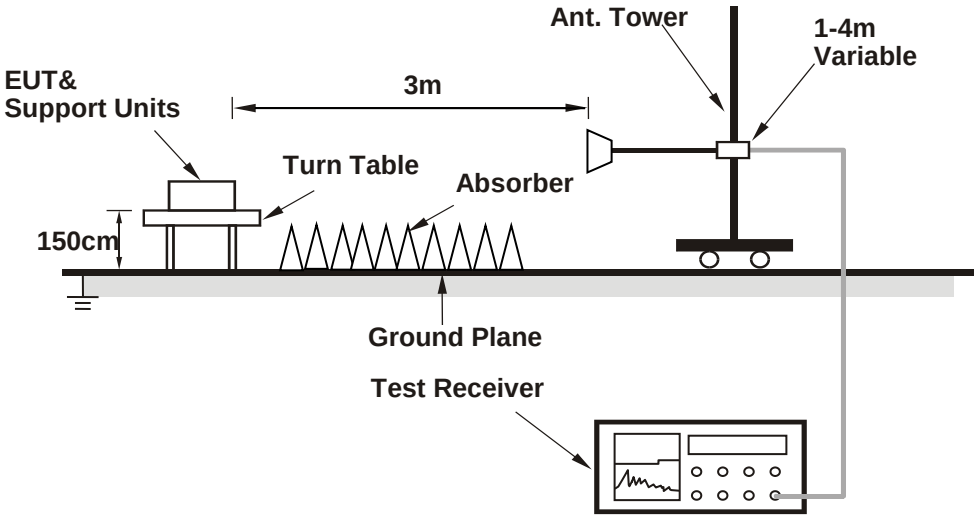
For Radiated emission below 30MHz



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 (ssh paste PVS6_WiFi+Zigbee+BT+BLE+RB SOP.docx command) 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	68.4 PK	74.0	-5.6	1.48 H	105	64.0	4.4
2	5150.00	53.1 AV	54.0	-0.9	1.48 H	105	48.7	4.4
3	*5180.00	110.3 PK			1.48 H	105	106.0	4.3
4	*5180.00	100.1 AV			1.48 H	105	95.8	4.3
5	#10360.00	49.5 PK	68.2	-18.7	1.87 H	182	36.2	13.3
6	15540.00	51.6 PK	74.0	-22.4	1.71 H	104	37.6	14.0
7	15540.00	39.3 AV	54.0	-14.7	1.71 H	104	25.3	14.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	71.2 PK	74.0	-2.8	2.37 V	183	66.8	4.4
2	5150.00	52.8 AV	54.0	-1.2	2.37 V	183	48.4	4.4
3	*5180.00	109.0 PK			2.37 V	183	104.7	4.3
4	*5180.00	99.0 AV			2.37 V	183	94.7	4.3
5	#10360.00	49.3 PK	68.2	-18.9	1.69 V	233	36.0	13.3
6	15540.00	51.8 PK	74.0	-22.2	2.08 V	153	37.8	14.0
7	15540.00	39.8 AV	54.0	-14.2	2.08 V	153	25.8	14.0

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 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	68.9 PK	74.0	-5.1	1.34 H	265	64.5	4.4
2	5150.00	53.2 AV	54.0	-0.8	1.34 H	265	48.8	4.4
3	*5200.00	109.2 PK			1.34 H	265	105.0	4.2
4	*5200.00	100.1 AV			1.34 H	265	95.9	4.2
5	#10400.00	49.6 PK	68.2	-18.6	1.90 H	187	36.1	13.5
6	15600.00	52.1 PK	74.0	-21.9	1.75 H	109	38.0	14.1
7	15600.00	39.5 AV	54.0	-14.5	1.75 H	109	25.4	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	5150.00	67.5 PK	74.0	-6.5	2.41 V	195	63.1	4.4
2	5150.00	52.5 AV	54.0	-1.5	2.41 V	195	48.1	4.4
3	*5200.00	108.4 PK			2.41 V	195	104.2	4.2
4	*5200.00	98.5 AV			2.41 V	195	94.3	4.2
5	#10400.00	48.9 PK	68.2	-19.3	1.71 V	244	35.4	13.5
6	15600.00	52.1 PK	74.0	-21.9	2.11 V	167	38.0	14.1
7	15600.00	40.0 AV	54.0	-14.0	2.11 V	167	25.9	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.
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	55.0 PK	74.0	-19.0	1.36 H	106	50.6	4.4
2	5150.00	43.5 AV	54.0	-10.5	1.36 H	106	39.1	4.4
3	*5240.00	110.1 PK			1.36 H	106	106.2	3.9
4	*5240.00	100.9 AV			1.36 H	106	97.0	3.9
5	#10480.00	50.0 PK	68.2	-18.2	1.87 H	181	36.4	13.6
6	15720.00	51.4 PK	74.0	-22.6	1.75 H	92	37.5	13.9
7	15720.00	39.3 AV	54.0	-14.7	1.75 H	92	25.4	13.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	51.3 PK	74.0	-22.7	1.24 V	221	46.9	4.4
2	5150.00	41.4 AV	54.0	-12.6	1.24 V	221	37.0	4.4
3	*5240.00	109.2 PK			1.24 V	221	105.3	3.9
4	*5240.00	99.9 AV			1.24 V	221	96.0	3.9
5	#10480.00	48.7 PK	68.2	-19.5	1.70 V	212	35.1	13.6
6	15720.00	51.9 PK	74.0	-22.1	2.15 V	152	38.0	13.9
7	15720.00	40.0 AV	54.0	-14.0	2.15 V	152	26.1	13.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.05	57.1 PK	68.2	-11.1	2.06 H	262	52.8	4.3
2	*5745.00	112.3 PK			2.06 H	262	107.6	4.7
3	*5745.00	103.6 AV			2.06 H	262	98.9	4.7
4	#5933.93	51.6 PK	68.2	-16.6	2.06 H	262	46.6	5.0
5	11490.00	49.6 PK	74.0	-24.4	1.91 H	191	35.0	14.6
6	11490.00	38.1 AV	54.0	-15.9	1.91 H	191	23.5	14.6
7	#17235.00	51.3 PK	68.2	-16.9	1.72 H	94	33.3	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	#5634.57	52.0 PK	68.2	-16.2	1.10 V	192	47.7	4.3
2	*5745.00	111.8 PK			1.10 V	192	107.1	4.7
3	*5745.00	103.1 AV			1.10 V	192	98.4	4.7
4	#5967.66	51.3 PK	68.2	-16.9	1.10 V	192	46.2	5.1
5	11490.00	48.8 PK	74.0	-25.2	1.64 V	233	34.2	14.6
6	11490.00	37.2 AV	54.0	-16.8	1.64 V	233	22.6	14.6
7	#17235.00	51.4 PK	68.2	-16.8	2.08 V	141	33.4	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	#5647.71	65.5 PK	68.2	-2.7	2.08 H	257	61.2	4.3
2	*5785.00	114.9 PK			2.08 H	257	110.1	4.8
3	*5785.00	104.7 AV			2.08 H	257	99.9	4.8
4	#5930.74	67.3 PK	68.2	-0.9	2.08 H	257	62.3	5.0
5	11570.00	49.9 PK	74.0	-24.1	1.90 H	178	35.3	14.6
6	11570.00	38.2 AV	54.0	-15.8	1.90 H	178	23.6	14.6
7	#17355.00	51.6 PK	68.2	-16.6	1.72 H	106	33.3	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	#5647.71	63.1 PK	68.2	-5.1	1.20 V	191	58.8	4.3
2	*5785.00	113.9 PK			1.20 V	191	109.1	4.8
3	*5785.00	103.8 AV			1.20 V	191	99.0	4.8
4	#5931.14	62.1 PK	68.2	-6.1	1.20 V	191	57.1	5.0
5	11570.00	48.7 PK	74.0	-25.3	1.72 V	208	34.1	14.6
6	11570.00	37.2 AV	54.0	-16.8	1.72 V	208	22.6	14.6
7	#17355.00	51.6 PK	68.2	-16.6	2.16 V	151	33.3	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 802.11a	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	#5617.97	50.4 PK	68.2	-17.8	2.03 H	255	46.1	4.3
2	*5825.00	113.8 PK			2.03 H	255	109.0	4.8
3	*5825.00	104.1 AV			2.03 H	255	99.3	4.8
4	#5928.50	52.5 PK	68.2	-15.7	2.03 H	255	47.5	5.0
5	11650.00	49.2 PK	74.0	-24.8	1.93 H	183	34.8	14.4
6	11650.00	37.5 AV	54.0	-16.5	1.93 H	183	23.1	14.4
7	#17475.00	51.5 PK	68.2	-16.7	1.67 H	89	32.5	19.0
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	#5606.12	50.6 PK	68.2	-17.6	1.20 V	188	46.2	4.4
2	*5825.00	113.3 PK			1.20 V	188	108.5	4.8
3	*5825.00	103.2 AV			1.20 V	188	98.4	4.8
4	#5937.33	53.4 PK	68.2	-14.8	1.20 V	188	48.4	5.0
5	11650.00	49.0 PK	74.0	-25.0	1.68 V	224	34.6	14.4
6	11650.00	37.2 AV	54.0	-16.8	1.68 V	224	22.8	14.4
7	#17475.00	51.6 PK	68.2	-16.6	2.13 V	157	32.6	19.0

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 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	71.1 PK	74.0	-2.9	1.40 H	262	66.7	4.4
2	5150.00	53.1 AV	54.0	-0.9	1.40 H	262	48.7	4.4
3	*5180.00	110.4 PK			1.40 H	262	106.1	4.3
4	*5180.00	98.1 AV			1.40 H	262	93.8	4.3
5	#10360.00	49.1 PK	68.2	-19.1	1.90 H	195	35.8	13.3
6	15540.00	51.7 PK	74.0	-22.3	1.73 H	89	37.7	14.0
7	15540.00	39.5 AV	54.0	-14.5	1.73 H	89	25.5	14.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.9 PK	74.0	-7.1	1.04 V	203	62.5	4.4
2	5150.00	51.5 AV	54.0	-2.5	1.04 V	203	47.1	4.4
3	*5180.00	109.9 PK			1.04 V	203	105.6	4.3
4	*5180.00	98.0 AV			1.04 V	203	93.7	4.3
5	#10360.00	49.4 PK	68.2	-18.8	1.74 V	221	36.1	13.3
6	15540.00	51.8 PK	74.0	-22.2	2.09 V	149	37.8	14.0
7	15540.00	39.8 AV	54.0	-14.2	2.09 V	149	25.8	14.0

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 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	66.5 PK	74.0	-7.5	1.43 H	260	62.1	4.4
2	5150.00	53.4 AV	54.0	-0.6	1.43 H	260	49.0	4.4
3	*5200.00	111.4 PK			1.43 H	260	107.2	4.2
4	*5200.00	100.2 AV			1.43 H	260	96.0	4.2
5	#10400.00	49.5 PK	68.2	-18.7	1.90 H	178	36.0	13.5
6	15600.00	51.6 PK	74.0	-22.4	1.72 H	94	37.5	14.1
7	15600.00	39.0 AV	54.0	-15.0	1.72 H	94	24.9	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	5150.00	65.8 PK	74.0	-8.2	1.09 V	211	61.4	4.4
2	5150.00	52.7 AV	54.0	-1.3	1.09 V	211	48.3	4.4
3	*5200.00	110.5 PK			1.09 V	211	106.3	4.2
4	*5200.00	99.2 AV			1.09 V	211	95.0	4.2
5	#10400.00	48.8 PK	68.2	-19.4	1.65 V	221	35.3	13.5
6	15600.00	52.2 PK	74.0	-21.8	2.09 V	150	38.1	14.1
7	15600.00	40.2 AV	54.0	-13.8	2.09 V	150	26.1	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.
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	51.9 PK	74.0	-22.1	1.45 H	258	47.5	4.4
2	5150.00	40.5 AV	54.0	-13.5	1.45 H	258	36.1	4.4
3	*5240.00	110.9 PK			1.45 H	258	107.0	3.9
4	*5240.00	98.7 AV			1.45 H	258	94.8	3.9
5	#10480.00	49.0 PK	68.2	-19.2	1.91 H	187	35.4	13.6
6	15720.00	50.9 PK	74.0	-23.1	1.74 H	102	37.0	13.9
7	15720.00	38.8 AV	54.0	-15.2	1.74 H	102	24.9	13.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	55.0 PK	74.0	-19.0	1.14 V	186	50.6	4.4
2	5150.00	42.1 AV	54.0	-11.9	1.14 V	186	37.7	4.4
3	*5240.00	110.5 PK			1.14 V	186	106.6	3.9
4	*5240.00	98.6 AV			1.14 V	186	94.7	3.9
5	#10480.00	49.2 PK	68.2	-19.0	1.64 V	212	35.6	13.6
6	15720.00	51.0 PK	74.0	-23.0	2.10 V	158	37.1	13.9
7	15720.00	39.3 AV	54.0	-14.7	2.10 V	158	25.4	13.9

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.08	63.1 PK	68.2	-5.1	2.10 H	259	58.8	4.3
2	*5745.00	113.8 PK			2.10 H	259	109.1	4.7
3	*5745.00	102.9 AV			2.10 H	259	98.2	4.7
4	#5927.06	52.0 PK	68.2	-16.2	2.10 H	259	47.0	5.0
5	11490.00	49.3 PK	74.0	-24.7	1.92 H	192	34.7	14.6
6	11490.00	37.8 AV	54.0	-16.2	1.92 H	192	23.2	14.6
7	#17235.00	51.6 PK	68.2	-16.6	1.65 H	109	33.6	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	#5639.67	54.5 PK	68.2	-13.7	1.05 V	194	50.2	4.3
2	*5745.00	112.1 PK			1.05 V	194	107.4	4.7
3	*5745.00	101.3 AV			1.05 V	194	96.6	4.7
4	#5970.67	51.6 PK	68.2	-16.6	1.05 V	194	46.5	5.1
5	11490.00	49.2 PK	74.0	-24.8	1.72 V	233	34.6	14.6
6	11490.00	37.1 AV	54.0	-16.9	1.72 V	233	22.5	14.6
7	#17235.00	51.9 PK	68.2	-16.3	2.17 V	164	33.9	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	#5650.05	65.8 PK	68.2	-2.4	2.03 H	258	61.5	4.3
2	*5785.00	115.8 PK			2.03 H	258	111.0	4.8
3	*5785.00	104.6 AV			2.03 H	258	99.8	4.8
4	#5953.00	66.1 PK	68.2	-2.1	2.03 H	258	61.0	5.1
5	11570.00	49.0 PK	74.0	-25.0	1.83 H	193	34.4	14.6
6	11570.00	37.3 AV	54.0	-16.7	1.83 H	193	22.7	14.6
7	#17355.00	51.2 PK	68.2	-17.0	1.73 H	118	32.9	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	#5645.05	53.9 PK	68.2	-14.3	1.04 V	193	49.6	4.3
2	*5785.00	113.4 PK			1.04 V	193	108.6	4.8
3	*5785.00	103.2 AV			1.04 V	193	98.4	4.8
4	#5941.39	54.7 PK	68.2	-13.5	1.04 V	193	49.7	5.0
5	11570.00	49.5 PK	74.0	-24.5	1.67 V	214	34.9	14.6
6	11570.00	37.5 AV	54.0	-16.5	1.67 V	214	22.9	14.6
7	#17355.00	51.7 PK	68.2	-16.5	2.18 V	153	33.4	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 (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	#5638.71	50.6 PK	68.2	-17.6	2.09 H	253	46.3	4.3
2	*5825.00	115.2 PK			2.09 H	253	110.4	4.8
3	*5825.00	104.4 AV			2.09 H	253	99.6	4.8
4	#5928.19	55.6 PK	68.2	-12.6	2.09 H	253	50.6	5.0
5	11650.00	49.1 PK	74.0	-24.9	1.92 H	194	34.7	14.4
6	11650.00	37.3 AV	54.0	-16.7	1.92 H	194	22.9	14.4
7	#17475.00	51.8 PK	68.2	-16.4	1.73 H	105	32.8	19.0
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	#5642.86	50.6 PK	68.2	-17.6	1.27 V	194	46.3	4.3
2	*5825.00	113.8 PK			1.27 V	194	109.0	4.8
3	*5825.00	103.0 AV			1.27 V	194	98.2	4.8
4	#5935.60	54.5 PK	68.2	-13.7	1.27 V	194	49.5	5.0
5	11650.00	49.6 PK	74.0	-24.4	1.73 V	237	35.2	14.4
6	11650.00	37.6 AV	54.0	-16.4	1.73 V	237	23.2	14.4
7	#17475.00	51.8 PK	68.2	-16.4	2.08 V	170	32.8	19.0

Remarks:

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

RF Mode	TX 802.11ax (HE40)	Channel	CH 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	64.7 PK	74.0	-9.3	1.38 H	260	60.3	4.4
2	5150.00	53.2 AV	54.0	-0.8	1.38 H	260	48.8	4.4
3	*5190.00	102.5 PK			1.38 H	260	98.3	4.2
4	*5190.00	91.7 AV			1.38 H	260	87.5	4.2
5	#10380.00	49.4 PK	68.2	-18.8	1.83 H	196	36.0	13.4
6	15570.00	51.4 PK	74.0	-22.6	1.75 H	89	37.3	14.1
7	15570.00	38.8 AV	54.0	-15.2	1.75 H	89	24.7	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	5150.00	60.1 PK	74.0	-13.9	1.03 V	187	55.7	4.4
2	5150.00	52.1 AV	54.0	-1.9	1.03 V	187	47.7	4.4
3	*5190.00	101.9 PK			1.03 V	187	97.7	4.2
4	*5190.00	91.5 AV			1.03 V	187	87.3	4.2
5	#10380.00	48.6 PK	68.2	-19.6	1.67 V	234	35.2	13.4
6	15570.00	51.4 PK	74.0	-22.6	2.08 V	172	37.3	14.1
7	15570.00	39.4 AV	54.0	-14.6	2.08 V	172	25.3	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.
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	65.9 PK	74.0	-8.1	1.34 H	258	61.5	4.4
2	5150.00	52.9 AV	54.0	-1.1	1.34 H	258	48.5	4.4
3	*5230.00	106.6 PK			1.34 H	258	102.6	4.0
4	*5230.00	95.8 AV			1.34 H	258	91.8	4.0
5	#10460.00	49.2 PK	68.2	-19.0	1.87 H	167	35.6	13.6
6	15690.00	52.2 PK	74.0	-21.8	1.66 H	100	38.2	14.0
7	15690.00	39.7 AV	54.0	-14.3	1.66 H	100	25.7	14.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.9 PK	74.0	-12.1	1.09 V	204	57.5	4.4
2	5150.00	52.2 AV	54.0	-1.8	1.09 V	204	47.8	4.4
3	*5230.00	106.3 PK			1.09 V	204	102.3	4.0
4	*5230.00	95.2 AV			1.09 V	204	91.2	4.0
5	#10460.00	49.1 PK	68.2	-19.1	1.63 V	219	35.5	13.6
6	15690.00	52.0 PK	74.0	-22.0	2.11 V	153	38.0	14.0
7	15690.00	40.0 AV	54.0	-14.0	2.11 V	153	26.0	14.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.66	65.9 PK	68.2	-2.3	2.01 H	266	61.6	4.3
2	*5755.00	108.2 PK			2.01 H	266	103.5	4.7
3	*5755.00	98.2 AV			2.01 H	266	93.5	4.7
4	#5928.47	56.1 PK	68.2	-12.1	2.01 H	266	51.1	5.0
5	11510.00	48.9 PK	74.0	-25.1	1.85 H	178	34.3	14.6
6	11510.00	37.2 AV	54.0	-16.8	1.85 H	178	22.6	14.6
7	#17265.00	51.1 PK	68.2	-17.1	1.66 H	90	33.2	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	#5650.20	61.5 PK	68.3	-6.8	1.23 V	194	57.2	4.3
2	*5755.00	107.8 PK			1.23 V	194	103.1	4.7
3	*5755.00	98.0 AV			1.23 V	194	93.3	4.7
4	#5940.12	57.1 PK	68.2	-11.1	1.23 V	194	52.1	5.0
5	11510.00	48.4 PK	74.0	-25.6	1.62 V	219	33.8	14.6
6	11510.00	36.7 AV	54.0	-17.3	1.62 V	219	22.1	14.6
7	#17265.00	51.9 PK	68.2	-16.3	2.14 V	162	34.0	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	#5648.53	61.7 PK	68.2	-6.5	2.04 H	255	57.4	4.3
2	*5795.00	110.9 PK			2.04 H	255	106.1	4.8
3	*5795.00	100.2 AV			2.04 H	255	95.4	4.8
4	#5935.55	63.7 PK	68.2	-4.5	2.04 H	255	58.7	5.0
5	11590.00	50.2 PK	74.0	-23.8	1.92 H	166	35.6	14.6
6	11590.00	38.1 AV	54.0	-15.9	1.92 H	166	23.5	14.6
7	#17385.00	50.8 PK	68.2	-17.4	1.74 H	93	32.3	18.5
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	#5644.68	56.1 PK	68.2	-12.1	1.23 V	184	51.8	4.3
2	*5795.00	110.1 PK			1.23 V	184	105.3	4.8
3	*5795.00	99.9 AV			1.23 V	184	95.1	4.8
4	#5938.80	57.4 PK	68.2	-10.8	1.23 V	184	52.4	5.0
5	11590.00	48.7 PK	74.0	-25.3	1.63 V	213	34.1	14.6
6	11590.00	37.1 AV	54.0	-16.9	1.63 V	213	22.5	14.6
7	#17385.00	52.2 PK	68.2	-16.0	2.17 V	173	33.7	18.5

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 (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	5145.00	65.0 PK	74.0	-9.0	1.35 H	263	60.6	4.4
2	5145.00	53.2 AV	54.0	-0.8	1.35 H	263	48.8	4.4
3	*5210.00	98.8 PK			1.35 H	263	94.7	4.1
4	*5210.00	88.8 AV			1.35 H	263	84.7	4.1
5	5355.00	55.5 PK	74.0	-18.5	1.35 H	263	51.5	4.0
6	5355.00	41.5 AV	54.0	-12.5	1.35 H	263	37.5	4.0
7	#10420.00	50.0 PK	68.2	-18.2	1.81 H	194	36.5	13.5
8	15630.00	51.4 PK	74.0	-22.6	1.71 H	117	37.3	14.1
9	15630.00	39.2 AV	54.0	-14.8	1.71 H	117	25.1	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	5150.00	65.0 PK	74.0	-9.0	1.04 V	187	60.6	4.4
2	5150.00	52.6 AV	54.0	-1.4	1.04 V	187	48.2	4.4
3	*5210.00	98.6 PK			1.04 V	187	94.5	4.1
4	*5210.00	88.6 AV			1.04 V	187	84.5	4.1
5	#10420.00	48.4 PK	68.2	-19.8	1.64 V	220	34.9	13.5
6	15630.00	51.7 PK	74.0	-22.3	2.17 V	171	37.6	14.1
7	15630.00	39.7 AV	54.0	-14.3	2.17 V	171	25.6	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.
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	#5629.12	65.6 PK	68.2	-2.6	1.99 H	252	61.3	4.3
2	*5775.00	103.6 PK			1.99 H	252	98.8	4.8
3	*5775.00	92.7 AV			1.99 H	252	87.9	4.8
4	#5974.03	67.4 PK	68.2	-0.8	1.99 H	252	62.3	5.1
5	11550.00	49.4 PK	74.0	-24.6	1.82 H	198	34.8	14.6
6	11550.00	37.9 AV	54.0	-16.1	1.82 H	198	23.3	14.6
7	#17325.00	51.8 PK	68.2	-16.4	1.71 H	112	33.7	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5638.74	65.4 PK	68.2	-2.8	1.40 V	183	61.1	4.3
2	*5775.00	103.2 PK			1.40 V	183	98.4	4.8
3	*5775.00	91.9 AV			1.40 V	183	87.1	4.8
4	#5941.27	66.1 PK	68.2	-2.1	1.40 V	183	61.1	5.0
5	11550.00	49.0 PK	74.0	-25.0	1.74 V	236	34.4	14.6
6	11550.00	37.4 AV	54.0	-16.6	1.74 V	236	22.8	14.6
7	#17325.00	50.8 PK	68.2	-17.4	2.16 V	150	32.7	18.1

Remarks:

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

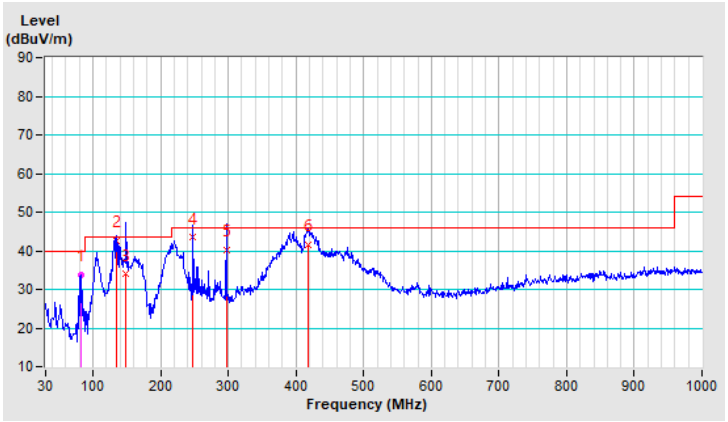
Below 1GHz Data:

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	82.16	33.8 QP	40.0	-6.2	2.00 H	57	47.0	-13.2
2	134.11	42.5 QP	43.5	-1.0	1.50 H	115	50.8	-8.3
3	148.49	33.9 QP	43.5	-9.6	2.00 H	102	41.5	-7.6
4	247.52	43.4 QP	46.0	-2.6	2.00 H	91	52.1	-8.7
5	297.02	40.1 QP	46.0	-5.9	2.00 H	285	46.8	-6.7
6	418.34	41.6 QP	46.0	-4.4	2.00 H	189	44.8	-3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.

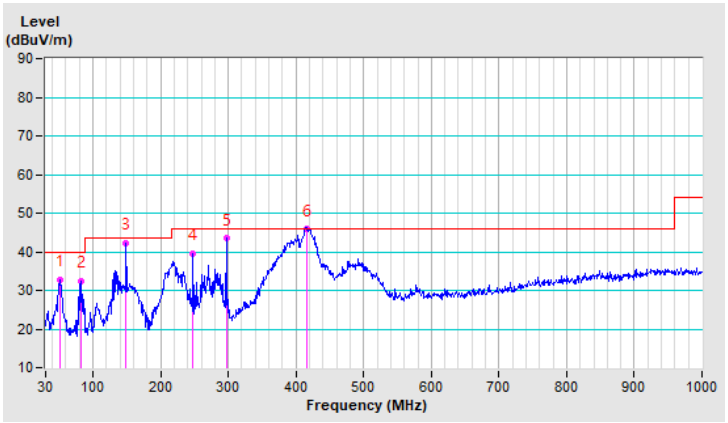


RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	50.37	32.9 QP	40.0	-7.1	1.50 V	3	40.9	-8.0
2	82.14	32.4 QP	40.0	-7.6	1.50 V	0	45.6	-13.2
3	148.51	42.3 QP	43.5	-1.2	2.00 V	360	49.9	-7.6
4	247.52	39.6 QP	46.0	-6.4	1.50 V	183	48.3	-8.7
5	297.02	43.4 QP	46.0	-2.6	2.00 V	360	50.1	-6.7
6	**415.50**	**45.8 QP**	**46.0**	**-0.2**	**1.50 V**	**76**	**49.1**	**-3.3**

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 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	2021/10/13	2022/10/12
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
LISN R & S	ESH3-Z5	835239/001	2021/3/26	2022/3/25
50 ohms Terminator	50	3	2021/10/27	2022/10/26
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: 2021/12/17

4.2.3 Test Procedure

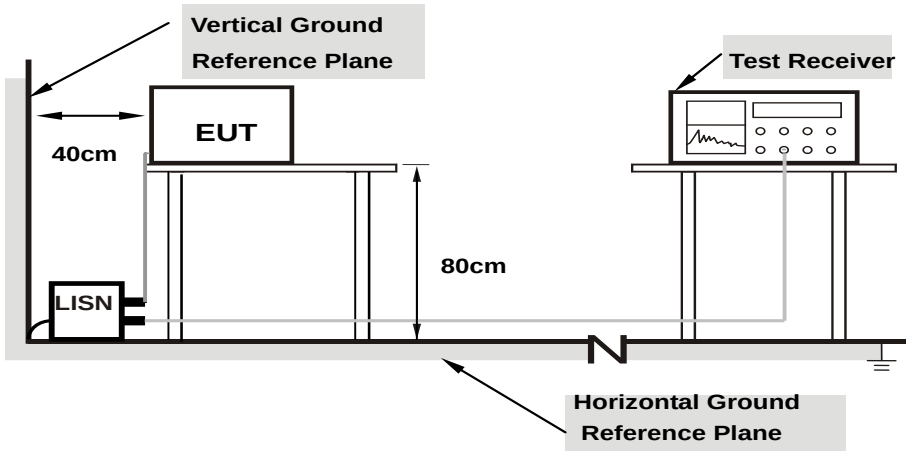
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 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.

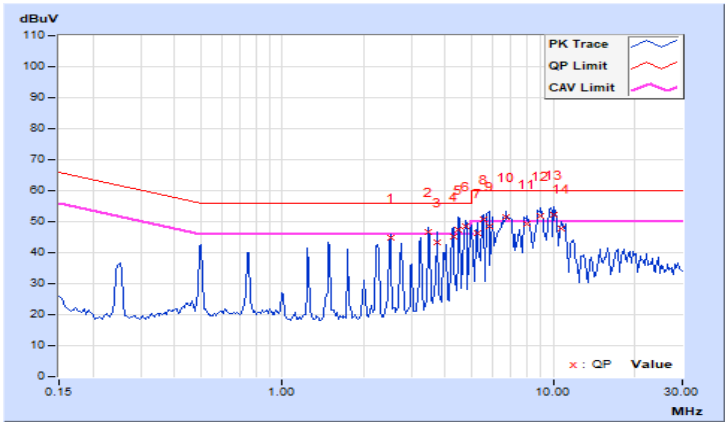
4.2.7 Test Results

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	2.51563	10.19	34.50	24.31	44.69	34.50	56.00	46.00	-11.31	-11.50
2	3.48047	10.23	36.51	27.36	46.74	37.59	56.00	46.00	-9.26	-8.41
3	3.71875	10.25	33.23	22.74	43.48	32.99	56.00	46.00	-12.52	-13.01
4	4.27344	10.28	34.79	23.20	45.07	33.48	56.00	46.00	-10.93	-12.52
5	4.46484	10.29	37.11	25.38	47.40	35.67	56.00	46.00	-8.60	-10.33
6	4.75000	10.30	38.26	29.60	48.56	39.90	56.00	46.00	-7.44	-6.10
7	5.25781	10.33	35.81	26.65	46.14	36.98	60.00	50.00	-13.86	-13.02
8	5.53906	10.35	40.22	27.82	50.57	38.17	60.00	50.00	-9.43	-11.83
9	5.80078	10.36	38.21	24.75	48.57	35.11	60.00	50.00	-11.43	-14.89
10	6.72266	10.42	41.02	30.69	51.44	41.11	60.00	50.00	-8.56	-8.89
11	8.05078	10.50	38.86	26.38	49.36	36.88	60.00	50.00	-10.64	-13.12
12	9.01563	10.55	41.20	31.82	51.75	42.37	60.00	50.00	-8.25	-7.63
13	10.01953	10.61	41.59	31.52	52.20	42.13	60.00	50.00	-7.80	-7.87
14	10.75781	10.66	37.12	27.28	47.78	37.94	60.00	50.00	-12.22	-12.06

Remarks:

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

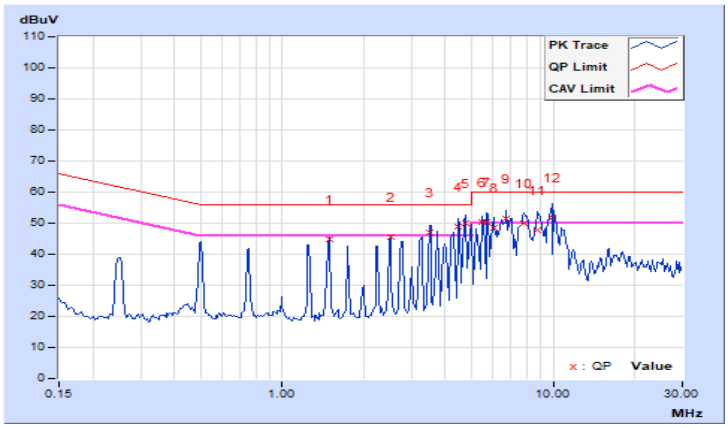


RF Mode	TX 802.11a	Channel	CH 157：5785 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	1.49219	10.10	34.67	28.28	44.77	38.38	56.00	46.00	-11.23	-7.62
2	2.50391	10.15	35.28	27.54	45.43	37.69	56.00	46.00	-10.57	-8.31
3	3.50391	10.19	37.01	28.63	47.20	38.82	56.00	46.00	-8.80	-7.18
4	4.47266	10.23	38.51	29.09	48.74	39.32	56.00	46.00	-7.26	-6.68
5	**4.73047**	**10.24**	**39.91**	**30.47**	**50.15**	**40.71**	**56.00**	**46.00**	**-5.85**	**-5.29**
6	5.48047	10.28	40.18	30.34	50.46	40.62	60.00	50.00	-9.54	-9.38
7	5.71484	10.29	40.24	30.36	50.53	40.65	60.00	50.00	-9.47	-9.35
8	6.01563	10.30	38.08	29.80	48.38	40.10	60.00	50.00	-11.62	-9.90
9	6.72656	10.34	41.00	31.35	51.34	41.69	60.00	50.00	-8.66	-8.31
10	7.80078	10.39	39.47	27.21	49.86	37.60	60.00	50.00	-10.14	-12.40
11	8.79688	10.43	37.51	26.17	47.94	36.60	60.00	50.00	-12.06	-13.40
12	9.96875	10.49	41.19	31.00	51.68	41.49	60.00	50.00	-8.32	-8.51

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 ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Client device	250mW (24 dBm)
U-NII-2A			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C			250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

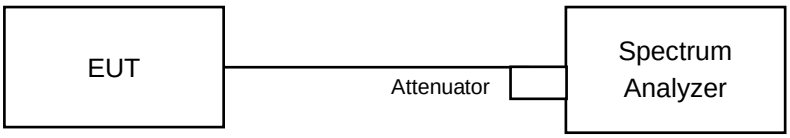
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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 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

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

For U-NII-1 Band (Master-Outdoor mode) & U-NII-3 Band

802.11a

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.73	14.65	58.891	17.70	30	Pass
40	5200	16.11	16.51	85.603	19.32	30	Pass
48	5240	15.38	15.53	70.242	18.47	30	Pass
149	5745	19.43	17.04	138.283	21.41	30	Pass
157	5785	20.36	18.41	177.985	22.50	30	Pass
165	5825	19.62	17.09	142.79	21.55	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	17.70	1.49	82.985	19.19	21	Pass
40	5200	19.32	1.49	120.504	20.81	21	Pass
48	5240	18.47	1.49	99.083	19.96	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ac (VHT20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.34	14.49	55.283	17.43	30	Pass
40	5200	16.10	16.23	82.714	19.18	30	Pass
48	5240	14.99	15.02	63.319	18.02	30	Pass
149	5745	18.96	16.98	128.593	21.09	30	Pass
157	5785	20.60	17.29	168.395	22.26	30	Pass
165	5825	19.26	16.88	133.086	21.24	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	17.43	1.49	77.983	18.92	21	Pass
40	5200	19.18	1.49	116.681	20.67	21	Pass
48	5240	18.02	1.49	89.331	19.51	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ac (VHT40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.22	11.03	25.92	14.14	30	Pass
46	5230	15.44	15.66	71.807	18.56	30	Pass
151	5755	17.41	16.14	96.196	19.83	30	Pass
159	5795	19.13	17.58	139.126	21.43	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	14.14	1.49	36.559	15.63	21	Pass
46	5230	18.56	1.49	101.158	20.05	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ac (VHT80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.56	11.59	28.743	14.59	30	Pass
155	5775	12.37	11.26	30.624	14.86	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.59	1.49	40.551	16.08	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ax (HE20)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.63	14.72	58.689	17.69	30	Pass
40	5200	16.28	16.37	85.813	19.34	30	Pass
48	5240	15.19	15.22	66.303	18.22	30	Pass
149	5745	19.21	17.26	136.579	21.35	30	Pass
157	5785	20.83	17.52	177.554	22.49	30	Pass
165	5825	19.53	17.12	141.266	21.50	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
36	5180	17.69	1.49	82.794	19.18	21	Pass
40	5200	19.34	1.49	121.06	20.83	21	Pass
48	5240	18.22	1.49	93.541	19.71	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ax (HE40)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.48	11.33	27.644	14.42	30	Pass
46	5230	15.67	15.87	75.534	18.78	30	Pass
151	5755	17.63	16.42	101.796	20.08	30	Pass
159	5795	19.36	17.84	147.111	21.68	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
38	5190	14.42	1.49	38.994	15.91	21	Pass
46	5230	18.78	1.49	106.414	20.27	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

802.11ax (HE80)

Conducted Power Output

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.76	11.84	30.273	14.81	30	Pass
155	5775	12.59	11.51	32.313	15.09	30	Pass

EIRP Power Output

Chan.	Chan. Freq. (MHz)	Total Power (dBm)	Max. Gain (dBi)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)	Pass / Fail
42	5210	14.81	1.49	42.658	16.3	21	Pass

*For U-NII-1 the highest antenna gain is 1.49dBi from the horizon above 30 degrees, therefore Max. e.i.r.p ≦ 21 dBm to compliance.

For U-NII-1 Band (Client mode)

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	14.73	14.65	58.891	17.70	24	Pass
40	5200	16.42	16.66	90.198	19.55	24	Pass
48	5240	15.38	15.53	70.242	18.47	24	Pass

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	14.34	14.49	55.283	17.43	24	Pass
40	5200	16.56	16.66	91.634	19.62	24	Pass
48	5240	14.99	15.02	63.319	18.02	24	Pass

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	11.22	11.03	25.92	14.14	24	Pass
46	5230	15.44	15.66	71.807	18.56	24	Pass

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	11.56	11.59	28.743	14.59	24	Pass

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	14.63	14.72	58.689	17.69	24	Pass
40	5200	16.82	16.91	97.175	19.88	24	Pass
48	5240	15.19	15.22	66.303	18.22	24	Pass

802.11ax (HE40)

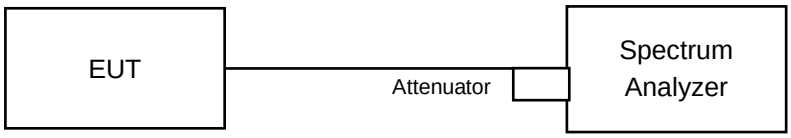
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	11.48	11.33	27.644	14.42	24	Pass
46	5230	15.67	15.87	75.534	18.78	24	Pass

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	11.76	11.84	30.273	14.81	24	Pass

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

For U-NII-1 Band (Master mode) & U-NII-3 Band

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.04	16.92
40	5200	17.4	16.92
48	5240	17.28	17.04
149	5745	21.84	18.72
157	5785	24.24	21.12
165	5825	23.16	17.88

802.11ax (HE20)

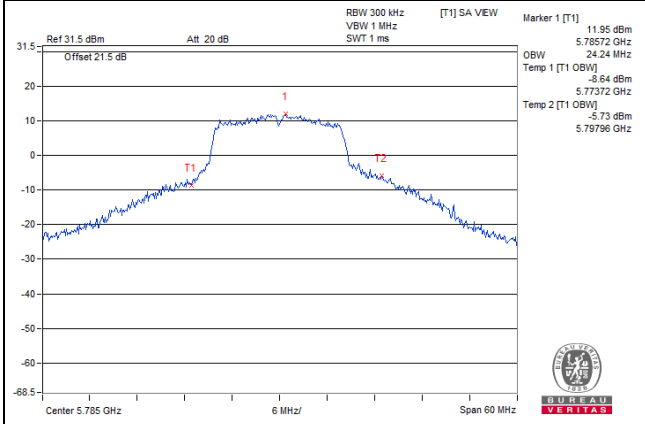
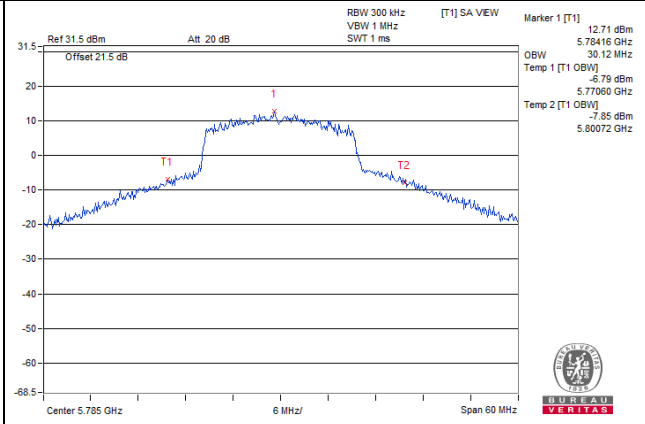
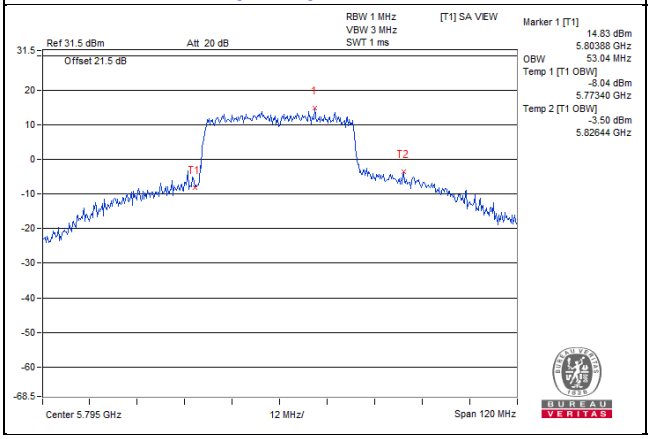
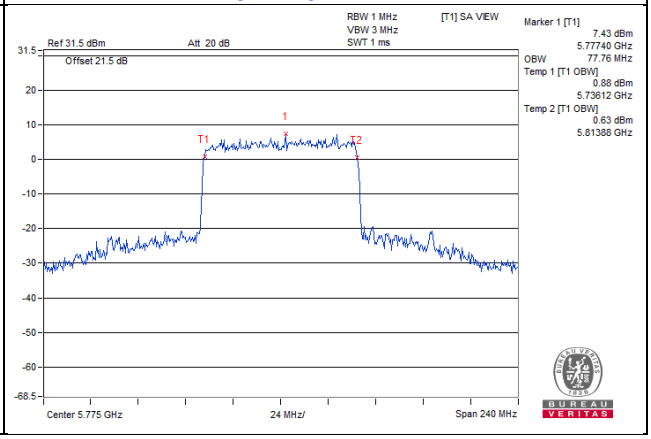
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.08	18.96
40	5200	18.96	18.96
48	5240	18.96	18.96
149	5745	21.48	19.44
157	5785	27.57	30.12
165	5825	19.44	19.32

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.92	37.92
46	5230	38.16	37.92
151	5755	40.08	38.4
159	5795	53.04	46.56

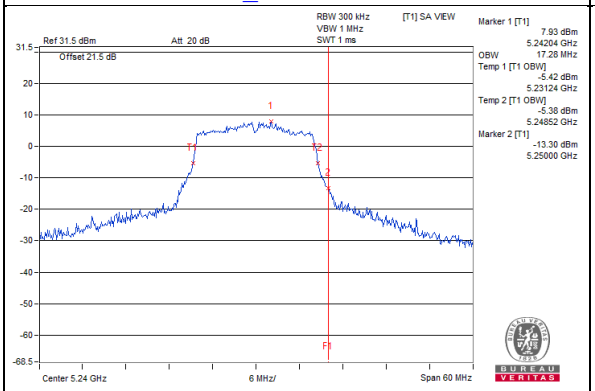
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.28	77.28
155	5775	77.76	77.28

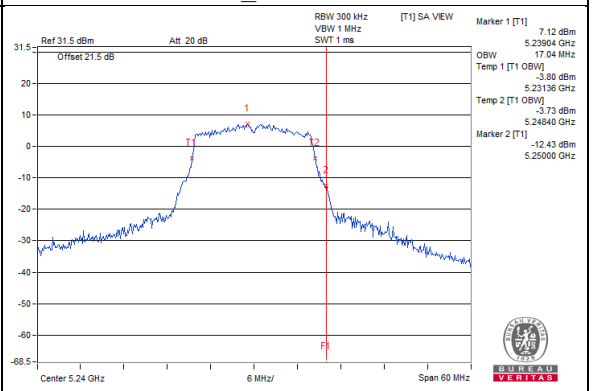
Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH157	**802.11ax (HE20)_Chain 1 / CH157**
	
802.11ax (HE40)_Chain 0 / CH159	**802.11ax (HE80)_Chain 0 / CH155**
	

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

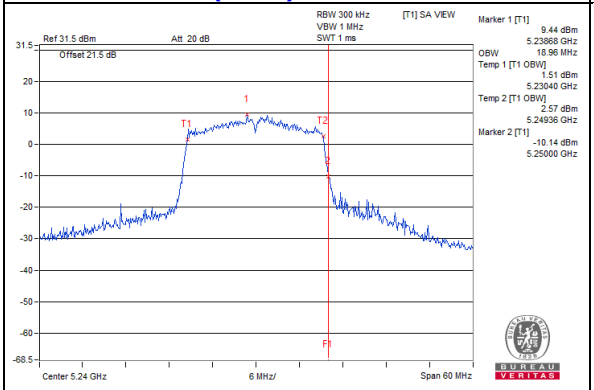
802.11a_Chain 0 / CH48



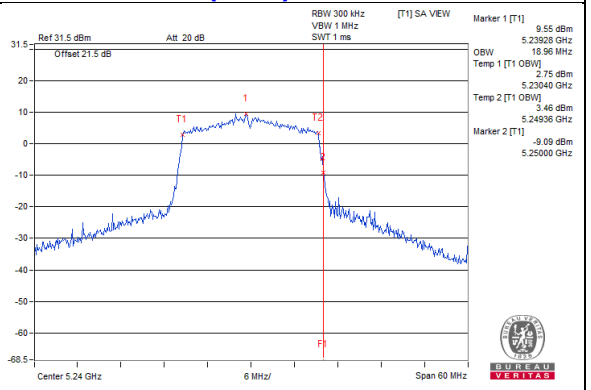
802.11a_Chain 1 / CH48



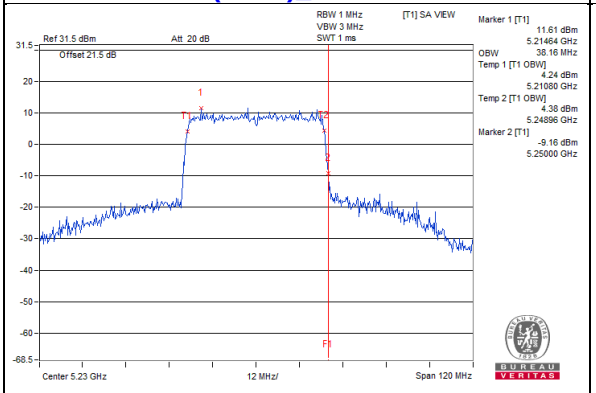
802.11ax (HE20)_Chain 0 / CH48



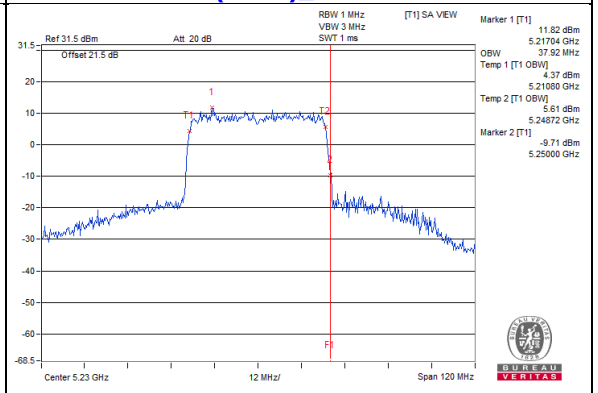
802.11ax (HE20)_Chain 1 / CH48



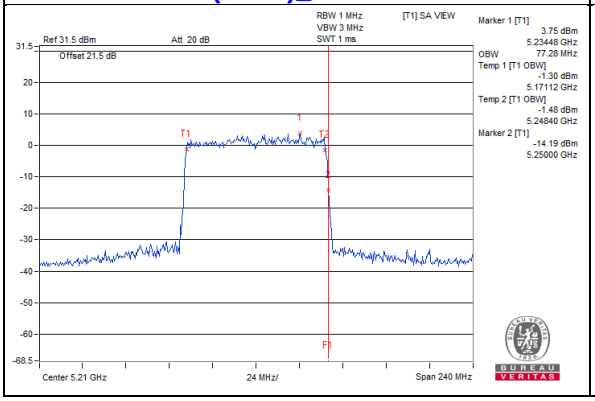
802.11ax (HE40)_Chain 0 / CH46



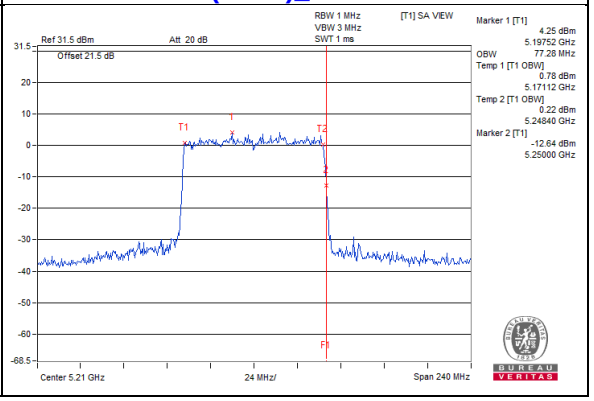
802.11ax (HE40)_Chain 1 / CH46



802.11ax (HE80)_Chain 0 / CH42

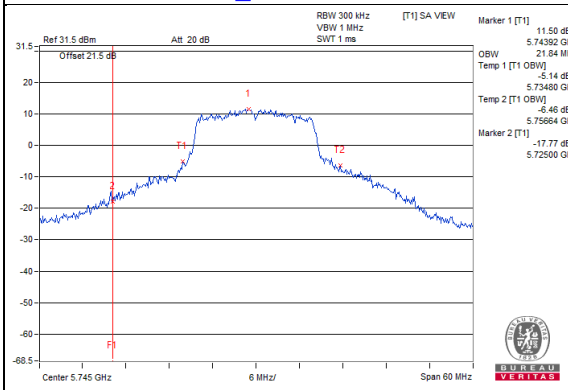


802.11ax (HE80)_Chain 1 / CH42

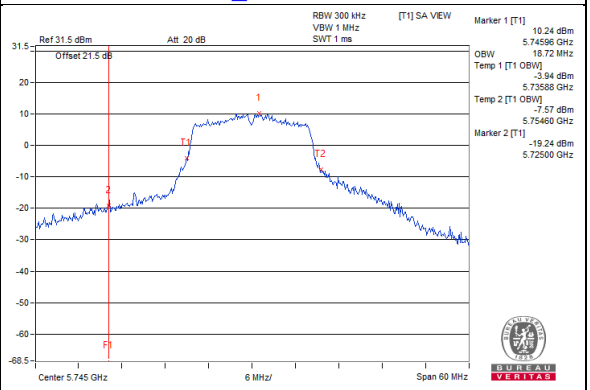


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

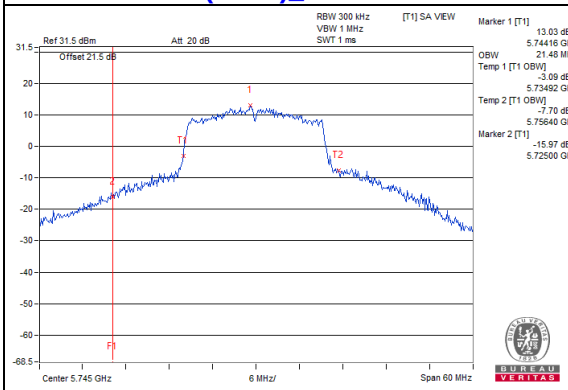
802.11a_Chain 0 / CH149



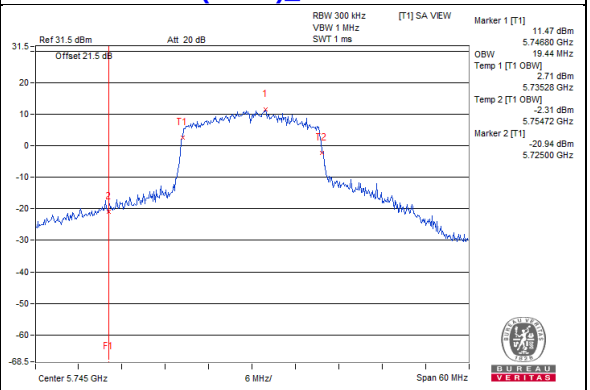
802.11a_Chain 1 / CH149



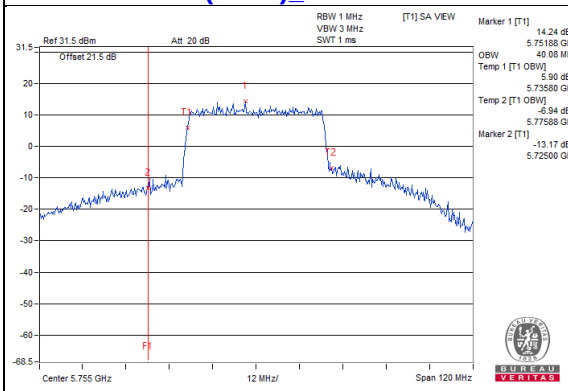
802.11ax (HE20)_Chain 0 / CH149



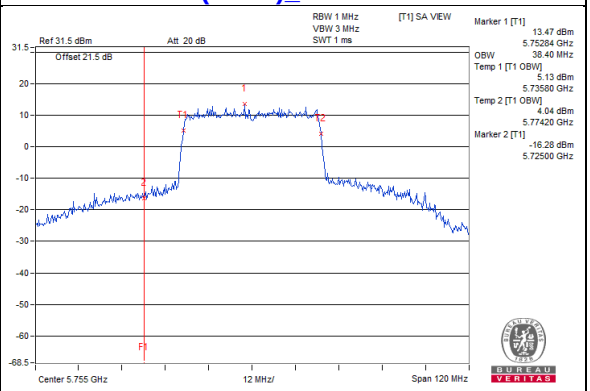
802.11ax (HE20)_Chain 1 / CH149



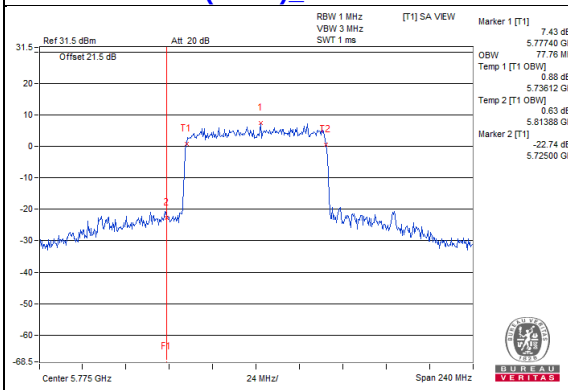
802.11ax (HE40)_Chain 0 / CH151



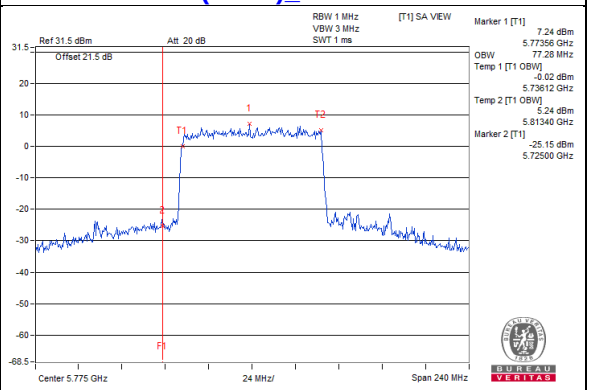
802.11ax (HE40)_Chain 1 / CH151



802.11ax (HE80)_Chain 0 / CH155



802.11ax (HE80)_Chain 1 / CH155



For U-NII-1 Band (Client mode)

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.04	16.92
40	5200	17.04	17.16
48	5240	17.28	17.04

802.11ax (HE20)

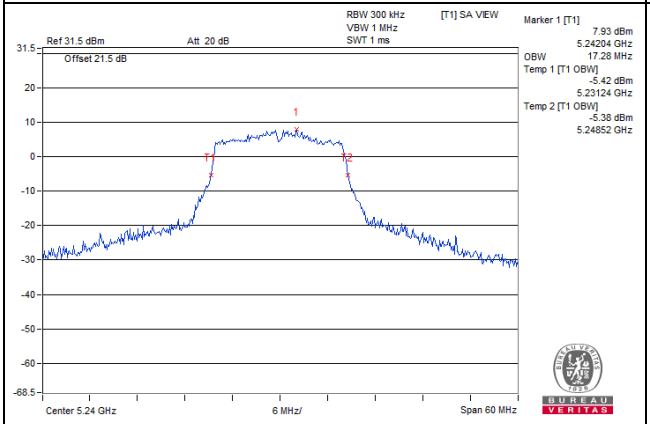
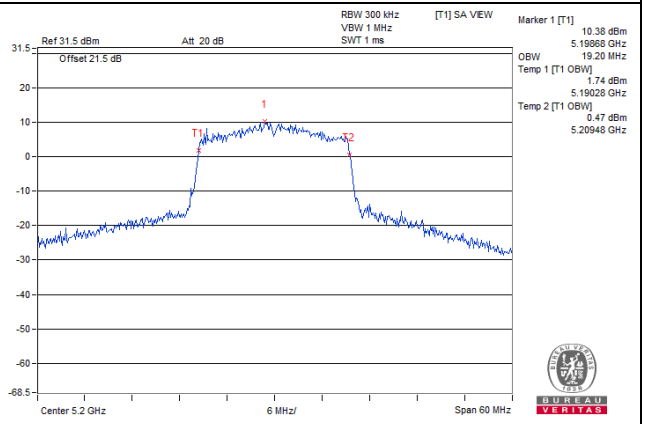
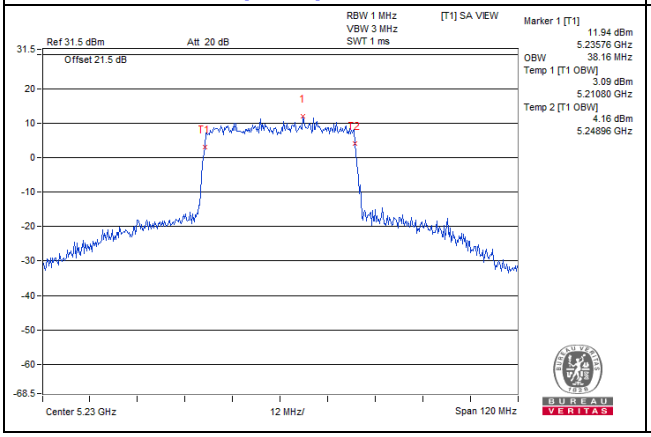
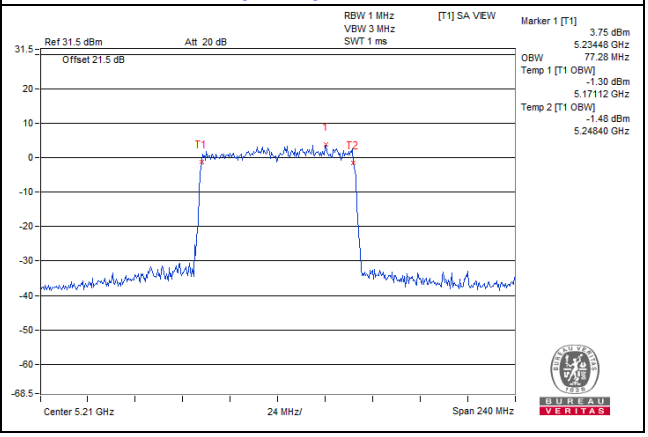
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	19.08	18.96
40	5200	19.2	19.2
48	5240	18.96	18.96

802.11ax (HE40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.92	37.92
46	5230	38.16	38.16

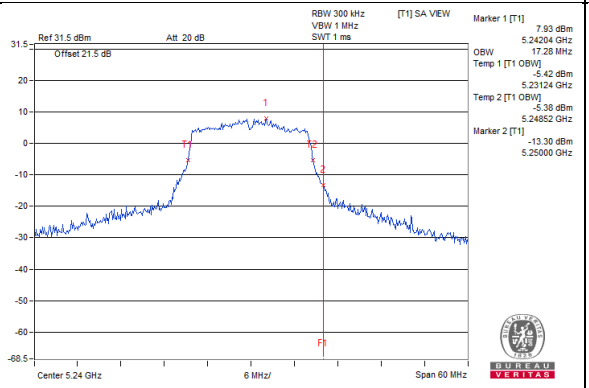
802.11ax (HE80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.28	77.28

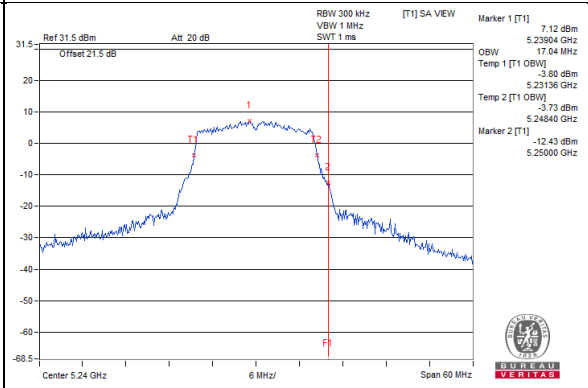
Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH48	**802.11ax (HE20)_Chain 0 / CH40**
	
802.11ax (HE40)_Chain 0 / CH46	**802.11ax (HE80)_Chain 0 / CH42**
	

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

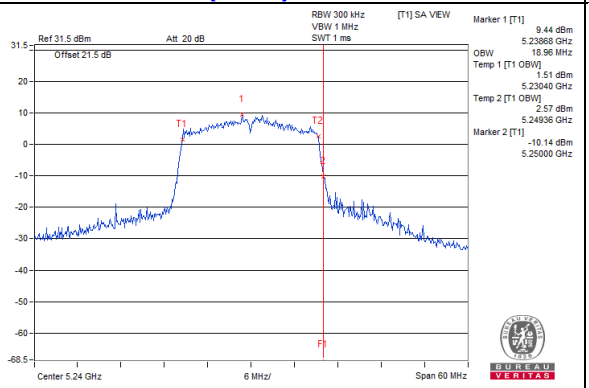
802.11a_Chain 0 / CH48



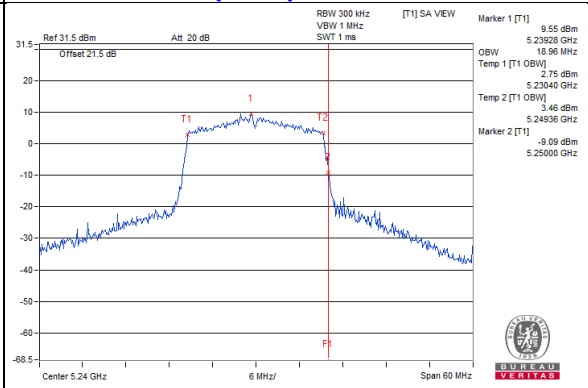
802.11a_Chain 1 / CH48



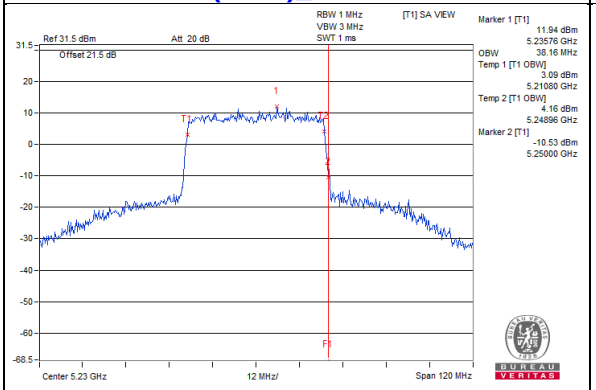
802.11ax (HE20)_Chain 0 / CH48



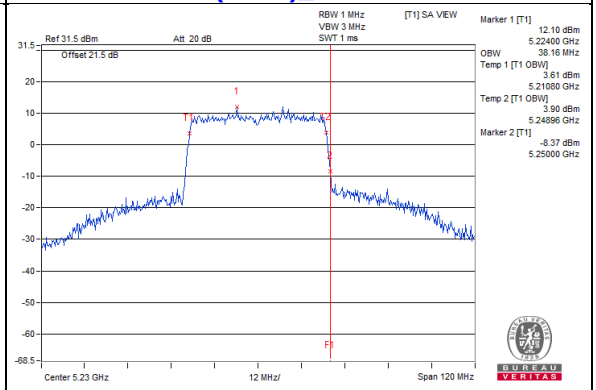
802.11ax (HE20)_Chain 1 / CH48



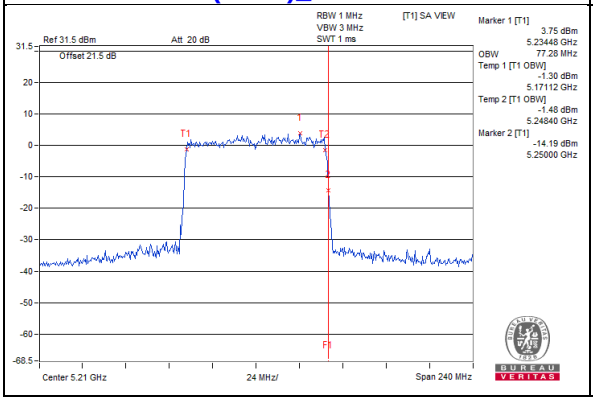
802.11ax (HE40)_Chain 0 / CH46



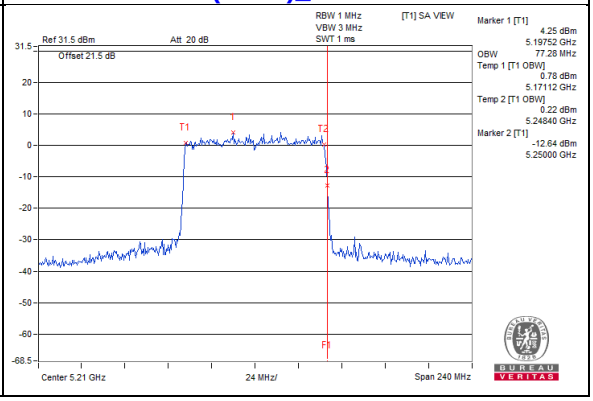
802.11ax (HE40)_Chain 1 / CH46



802.11ax (HE80)_Chain 0 / CH42



802.11ax (HE80)_Chain 1 / CH42



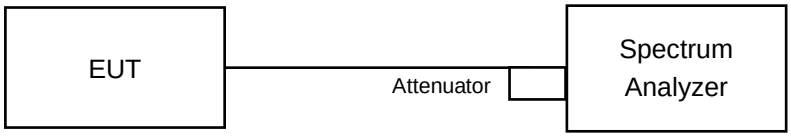
4.5 Peak Power Spectral Density Measurement

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 band:

For 802.11a, 802.11ax (HE20)

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

For other modulation

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:

For 802.11a, 802.11ax (HE20)

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500kHz/300kHz)
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

For other modulation

Using method SA-2

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

For U-NII-1 Band (Outdoor mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	3.94	4.06	7.01	16.04	Pass
40	5200	5.39	5.38	8.40	16.04	Pass
48	5240	4.89	4.86	7.89	16.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 17-(6.96-6) = 16.04 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	3.48	4.10	6.81	16.04	Pass
40	5200	5.24	5.43	8.35	16.04	Pass
48	5240	4.65	4.82	7.75	16.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 17-(6.96-6) = 16.04 dBm/MHz.

802.11ax (HE40)

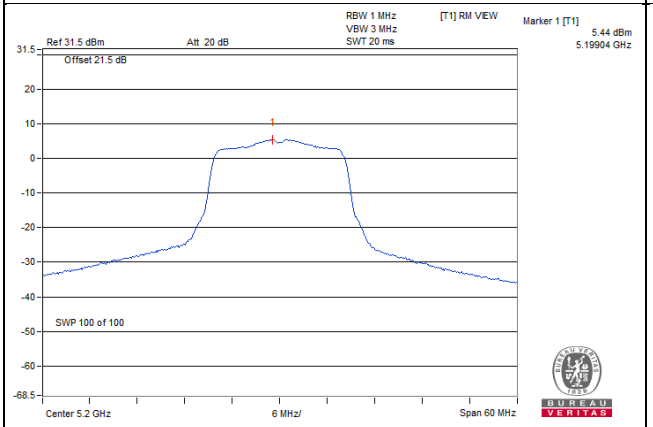
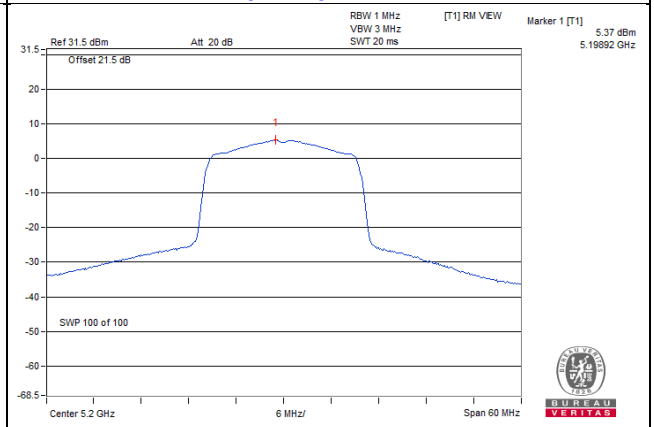
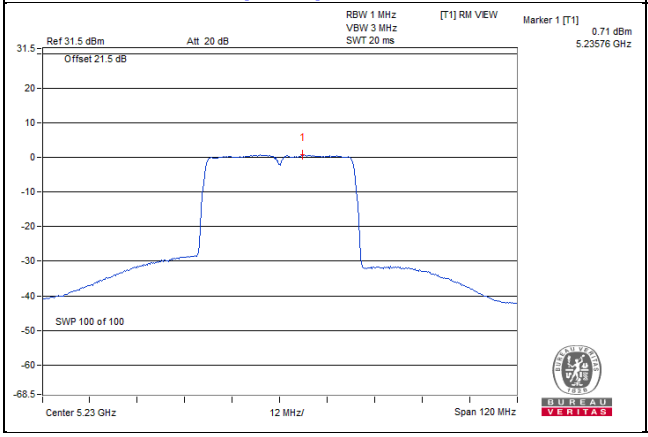
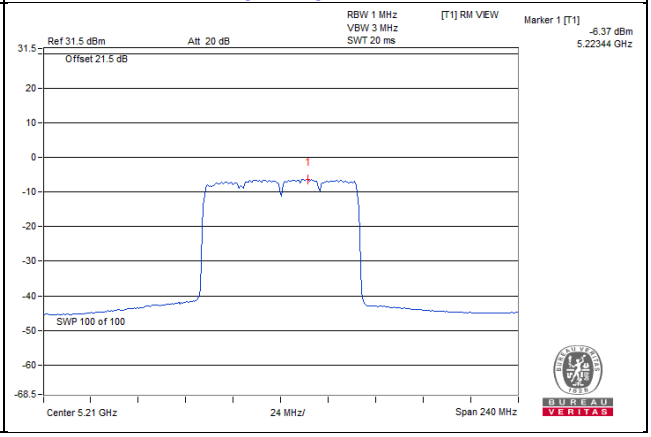
Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.52	-3.57	0.17	-0.36	16.04	Pass
46	5230	0.70	0.69	0.17	3.88	16.04	Pass

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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 17-(6.96-6) = 16.04 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-6.63	-6.38	0.30	-3.19	16.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 17-(6.96-6) = 16.04 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH40	**802.11ax (HE20)_Chain 1 / CH40**
	
802.11ax (HE40)_Chain 0 / CH46	**802.11ax (HE80)_Chain 1 / CH42**
	

For U-NII-3 band

CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/ 300kHz)	Total PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
		Chain 0	Chain 1				
149	5745	4.20	2.77	6.55	8.77	28.48	Pass
157	5785	4.82	4.19	7.53	9.75	28.48	Pass
165	5825	4.63	2.64	6.76	8.98	28.48	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 10 log[(10$^{Chain0/20}$ + 10$^{Chain1/20)2}$ / 2]

3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.52-6) = 28.48 dBm/500kHz.

802.11ax (HE20)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/ 300kHz)	Total PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
		Chain 0	Chain 1				
149	5745	3.95	2.29	6.21	8.43	28.48	Pass
157	5785	2.62	2.97	5.81	8.03	28.48	Pass
165	5825	2.49	2.32	5.42	7.64	28.48	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 10 log[(10$^{Chain0/20}$ + 10$^{Chain1/20)2}$ / 2]

3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.52-6) = 28.48 dBm/500kHz.

802.11ax (HE40)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
		Chain 0	Chain 1					
151	5755	-2.62	-3.44	0	0.17	2.39	28.48	Pass
159	5795	-1.45	-1.63	1.47	0.17	3.86	28.48	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

2. Directional gain = 10 log[(10$^{Chain0/20}$ + 10$^{Chain1/20)2}$ / 2]

3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.52-6) = 28.48 dBm/500kHz.

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

802.11ax (HE80)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)		Total PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass /Fail
		Chain 0	Chain 1					
155	5775	-8.55	-8.69	-5.61	0.3	-3.09	28.48	Pass

Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.

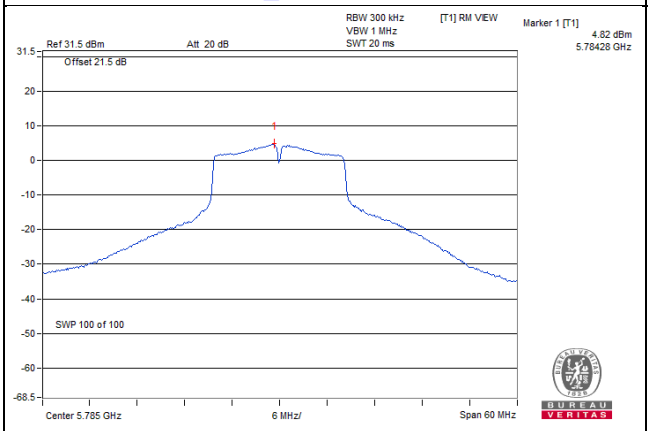
2. Directional gain = 10 log[(10$^{Chain0/20}$ + 10$^{Chain1/20)2}$ / 2]

3. For U-NII-3, the directional gain is 7.52 dBi > 6 dBi, so the power density limit shall be reduced to 30-(7.52-6) = 28.48 dBm/500kHz.

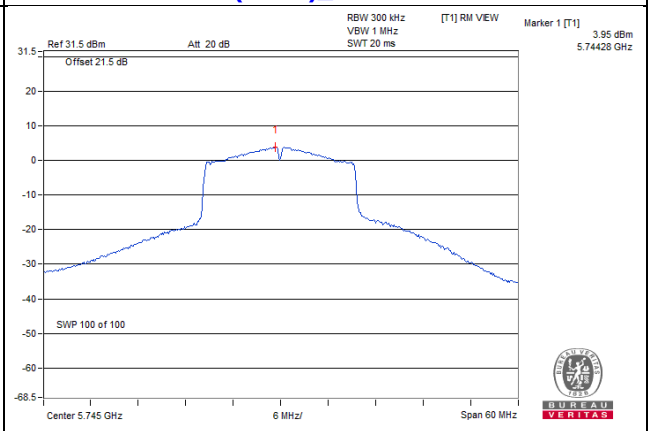
4. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

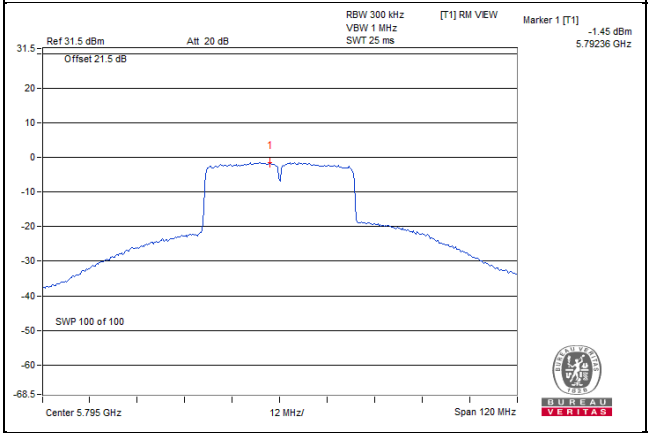
802.11a_Chain 0 / CH157



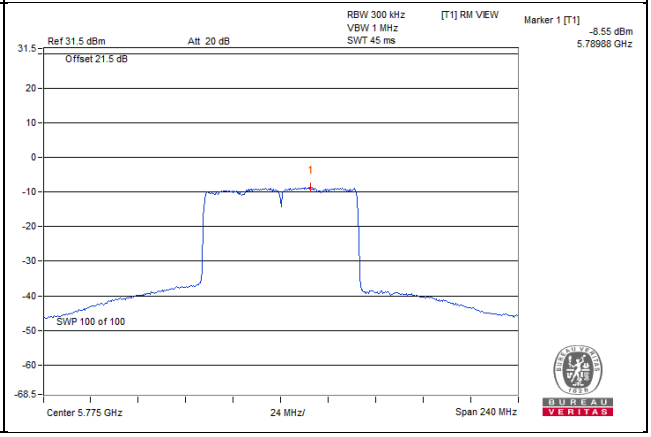
802.11ax (HE20)_Chain 0 / CH149



802.11ax (HE40)_Chain 0 / CH159



802.11ax (HE80)_Chain 0 / CH155



For U-NII-1 Band (Client mode)

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	3.94	4.06	7.01	10.04	Pass
40	5200	5.54	5.59	8.58	10.04	Pass
48	5240	4.89	4.86	7.89	10.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 11-(6.96-6) = 10.04 dBm/MHz.

802.11ax (HE20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	3.48	4.10	6.81	10.04	Pass
40	5200	6.26	6.31	9.30	10.04	Pass
48	5240	4.65	4.82	7.75	10.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 11-(6.96-6) = 10.04 dBm/MHz.

802.11ax (HE40)

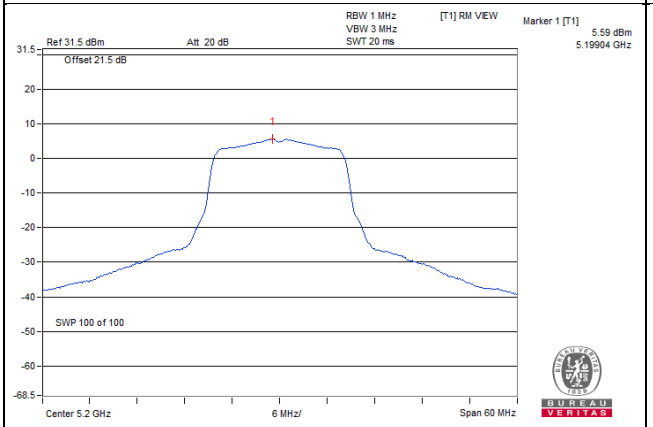
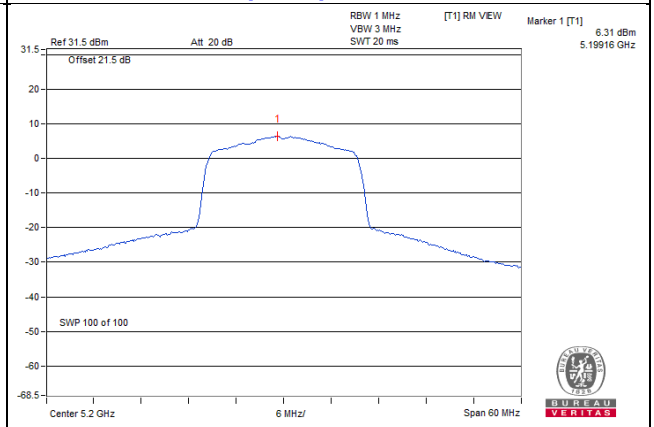
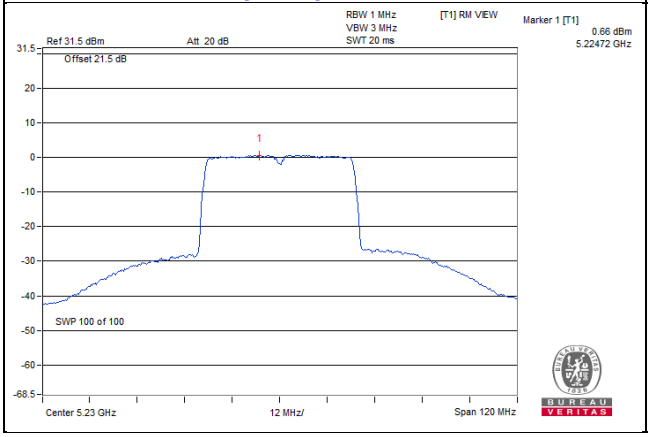
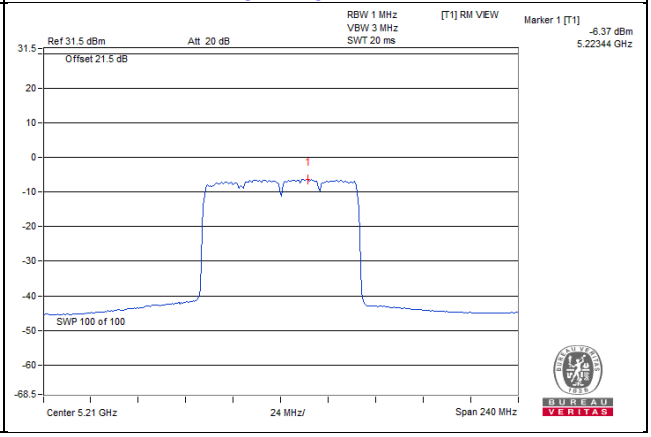
Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.52	-3.57	0.17	-0.36	10.04	Pass
46	5230	0.55	0.63	0.17	3.77	10.04	Pass

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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 11-(6.96-6) = 10.04 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-6.63	-6.38	0.30	-3.19	10.04	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 is 6.96 dBi > 6dBi, so the power density limit shall be reduced to 11-(6.96-6) = 10.04 dBm/MHz.
3. Refer to section 3.3 for duty cycle spectrum plot.

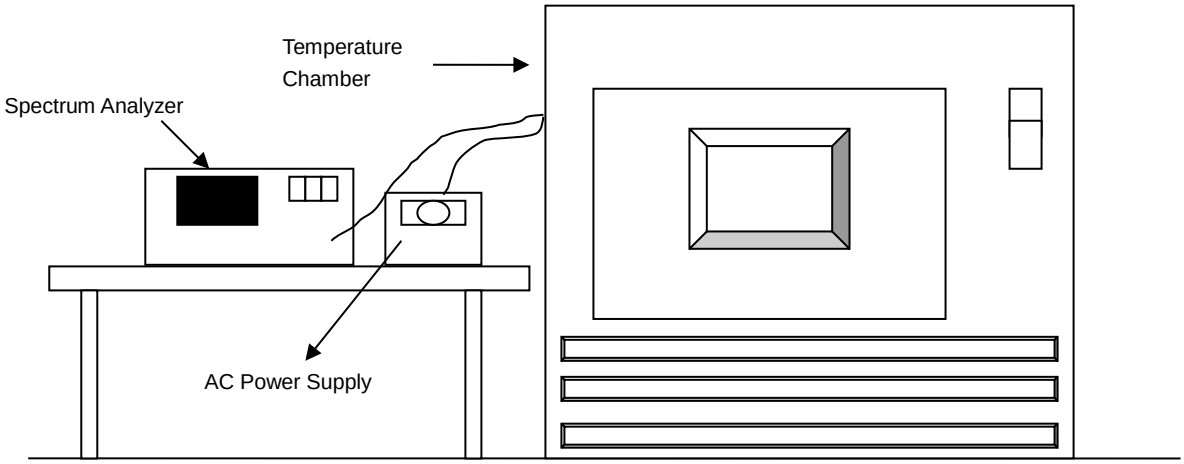
Spectrum Plot of Worst Value	
802.11a_Chain 1/ CH40	**802.11ax (HE20)_Chain 1 / CH40**
	
802.11ax (HE40)_Chain 1 / CH46	**802.11ax (HE80)_Chain 1 / CH42**
	

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

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
60	120	5180.0266	Pass	5180.023	Pass	5180.026	Pass	5180.0226	Pass
50	120	5180.0163	Pass	5180.0166	Pass	5180.017	Pass	5180.017	Pass
40	120	5180.0193	Pass	5180.0186	Pass	5180.0161	Pass	5180.0152	Pass
30	120	5179.989	Pass	5179.9916	Pass	5179.9919	Pass	5179.9876	Pass
20	120	5180.0161	Pass	5180.0196	Pass	5180.017	Pass	5180.0177	Pass
10	120	5180.0079	Pass	5180.0123	Pass	5180.0079	Pass	5180.0072	Pass
0	120	5179.9788	Pass	5179.9779	Pass	5179.9788	Pass	5179.9747	Pass
-10	120	5179.9777	Pass	5179.9788	Pass	5179.9784	Pass	5179.9784	Pass
-20	120	5180.0174	Pass	5180.0176	Pass	5180.0174	Pass	5180.0155	Pass
-30	120	5179.9998	Pass	5180.0029	Pass	5180.0015	Pass	5180.0025	Pass

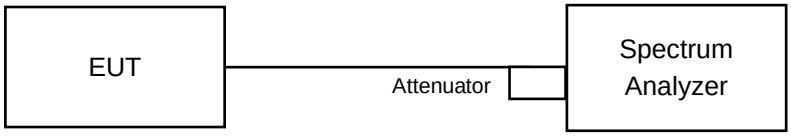
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5180.0117	Pass	5180.0074	Pass	5180.0096	Pass	5180.0088	Pass
	120	5180.0161	Pass	5180.0196	Pass	5180.017	Pass	5180.0177	Pass
	102	5180.0194	Pass	5180.02	Pass	5180.0178	Pass	5180.0212	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

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.09	16.38	0.5	Pass
157	5785	15.86	16.33	0.5	Pass
165	5825	16.06	16.36	0.5	Pass

802.11ax (HE20)

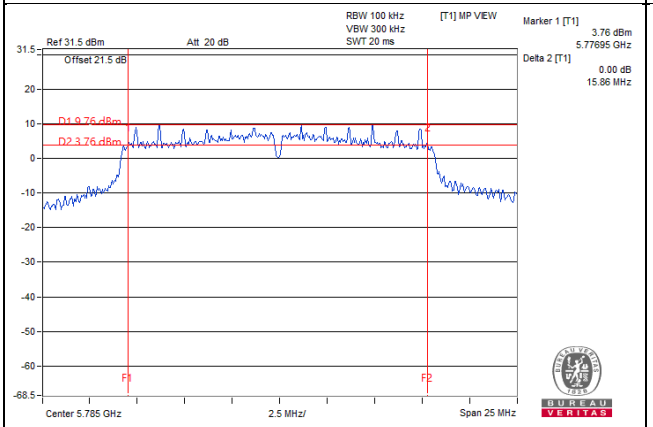
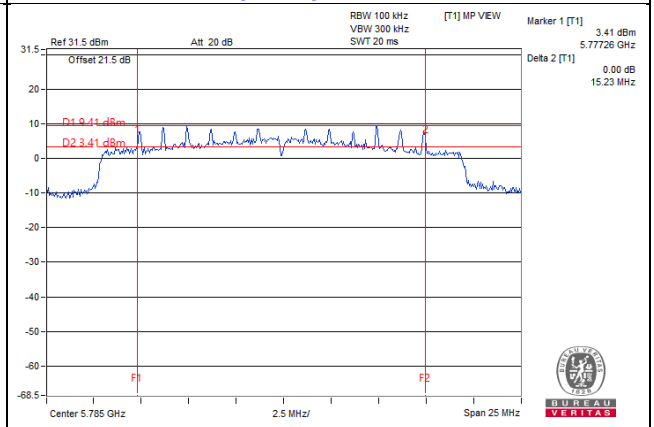
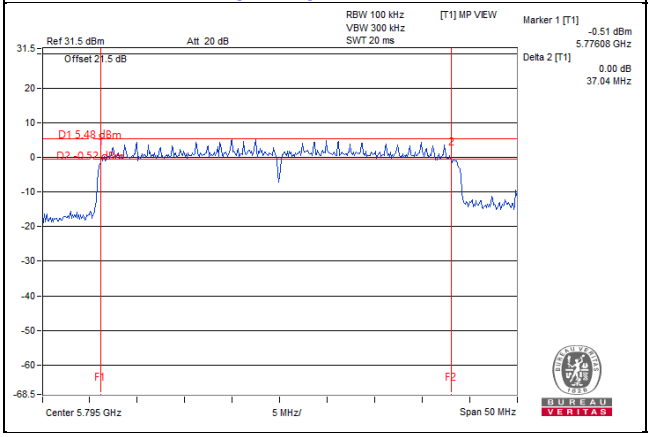
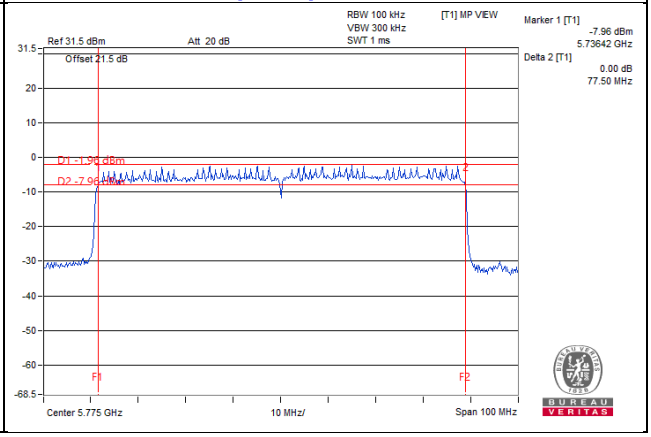
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	18.17	18.52	0.5	Pass
157	5785	16.42	15.23	0.5	Pass
165	5825	17.05	17.91	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	37.55	37.4	0.5	Pass
159	5795	37.04	37.15	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	77.5	77.51	0.5	Pass

Spectrum Plot of Worst Value	
802.11a_Chain 0 / CH157	**802.11ax (HE20)_Chain 1 / CH157**
	
802.11ax (HE40)_Chain 0 / CH159	**802.11ax (HE80)_Chain 0 / CH155**
	

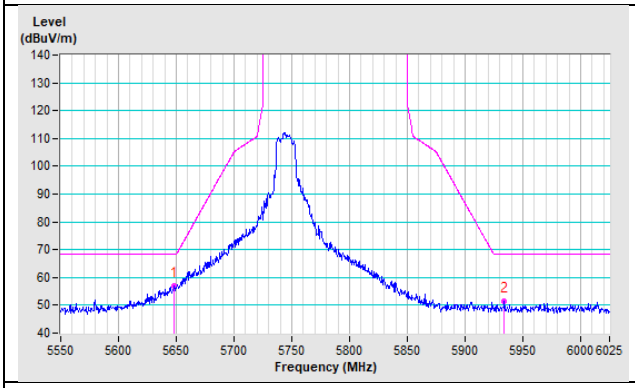
5 Pictures of Test Arrangements

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

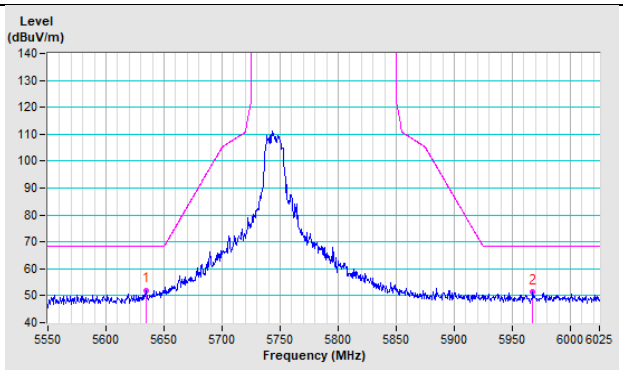
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149：5745 MHz

Horizontal

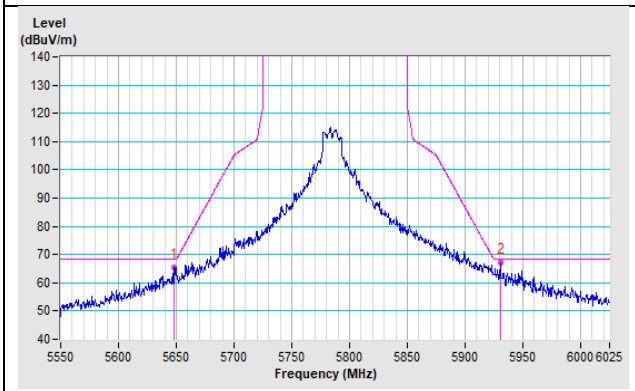


Vertical

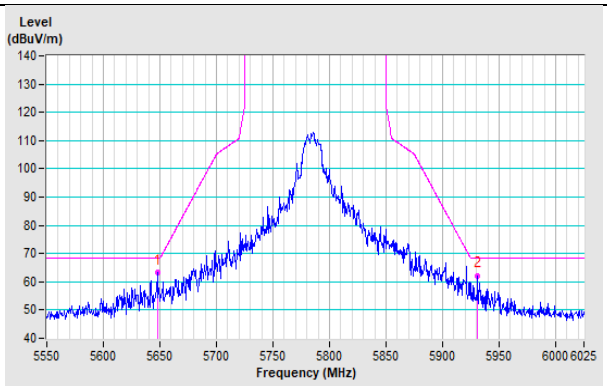


802.11a CH 157：5785 MHz

Horizontal

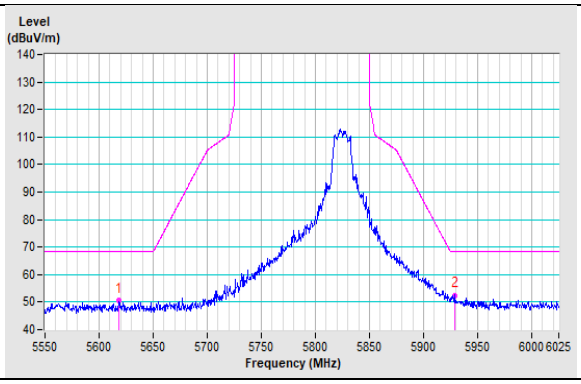


Vertical

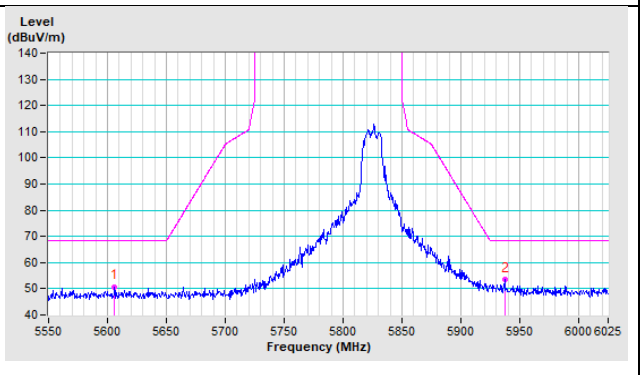


802.11a CH 165：5825 MHz

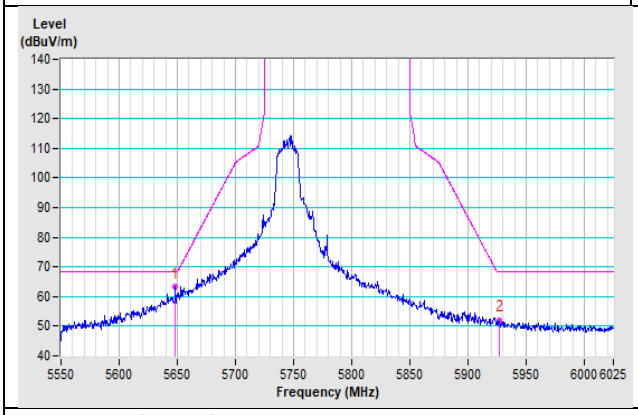
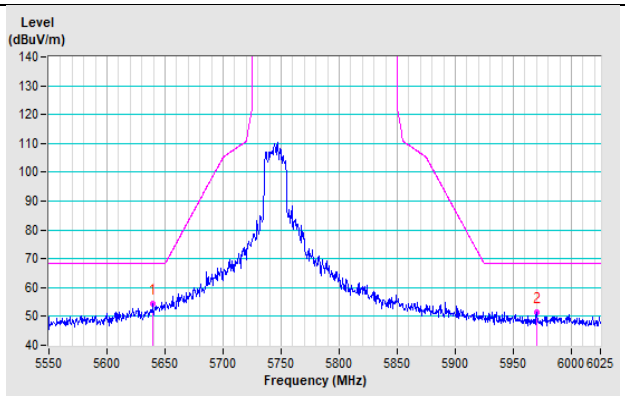
Horizontal



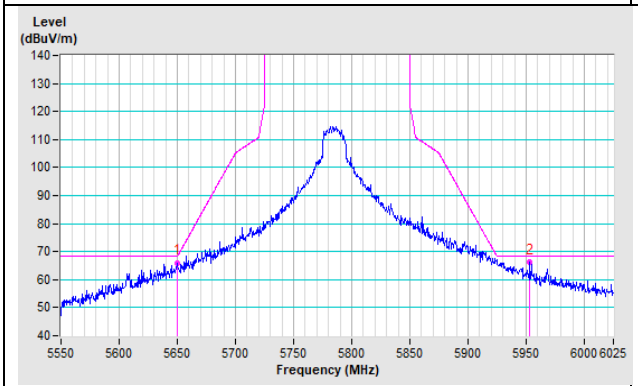
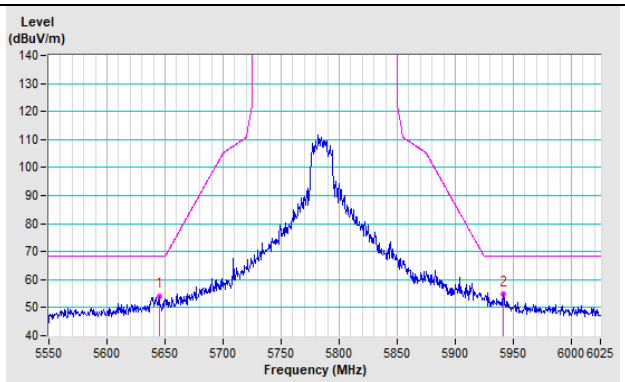
Vertical



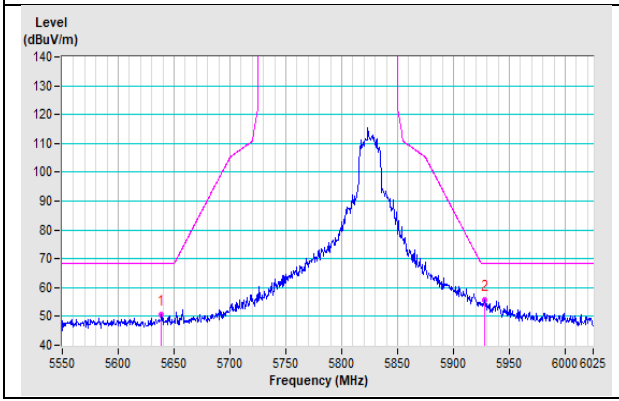
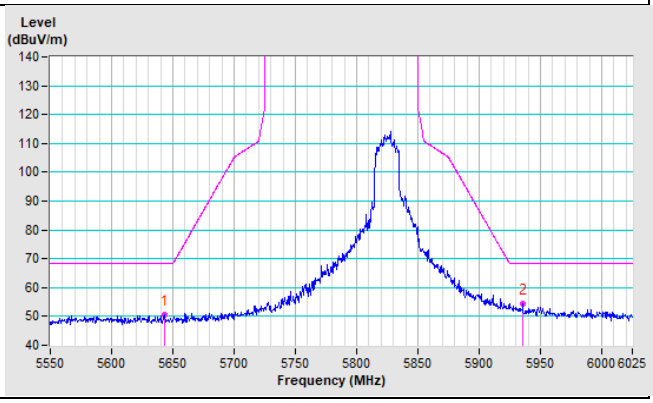
802.11ax (HE20) CH 149：5745 MHz

Horizontal	Vertical
	

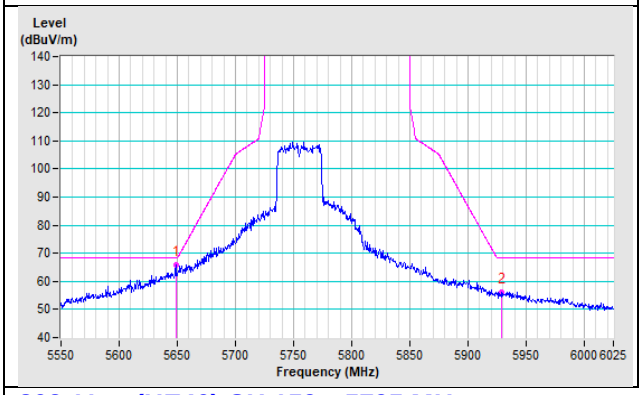
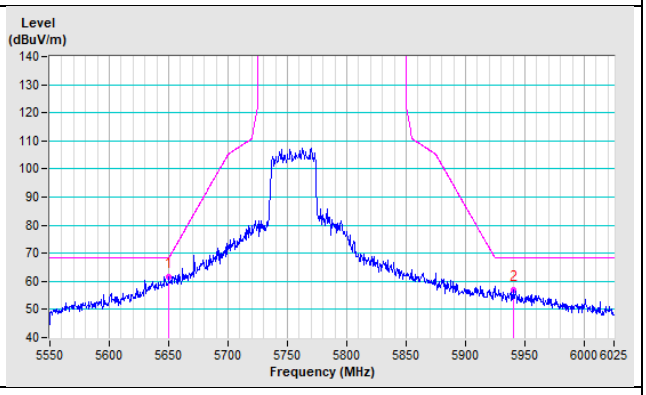
802.11ax (HE20) CH 157：5785 MHz

Horizontal	Vertical
	

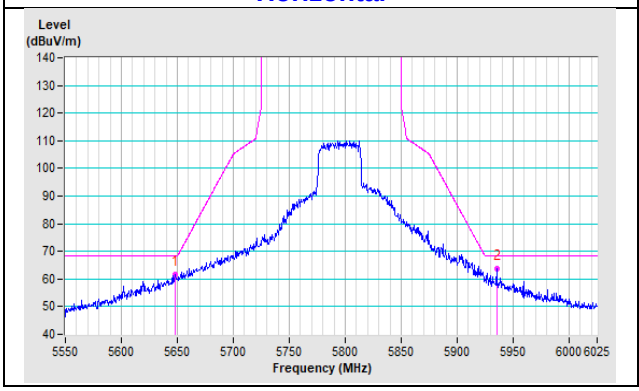
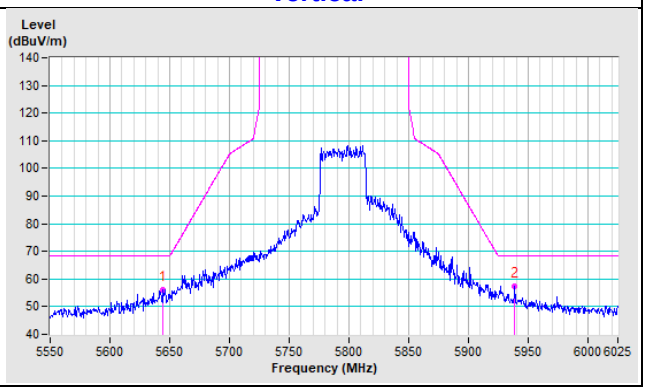
802.11ax (HE20) CH 165：5825 MHz

Horizontal	Vertical
	

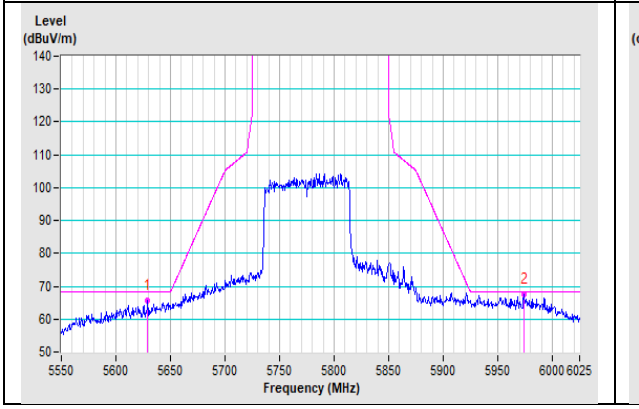
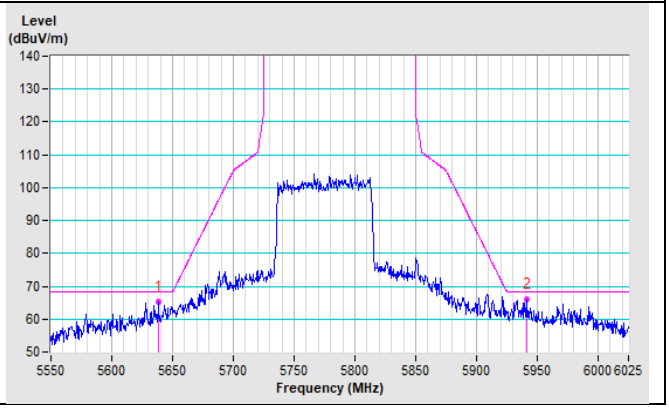
802.11ax (HE40) CH 151：5755 MHz

Horizontal	Vertical
	

802.11ax (HE40) CH 159：5795 MHz

Horizontal	Vertical
	

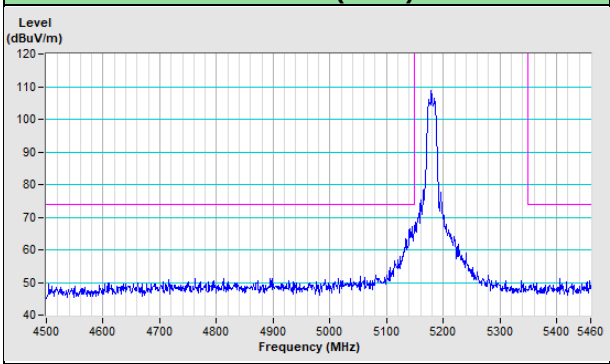
802.11ax (HE80) CH 155：5775 MHz

Horizontal	Vertical
	

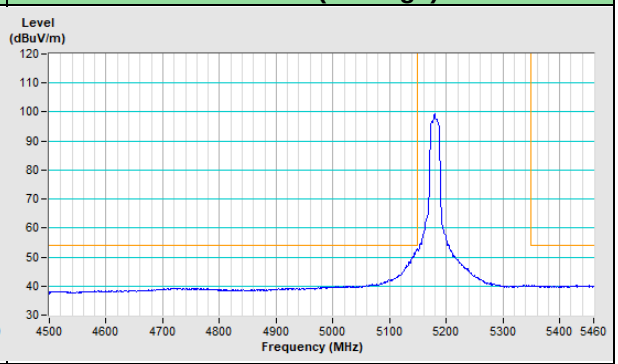
Annex B - Band-Edge Measurement (For U-NII-1 band)

802.11a Channel 36

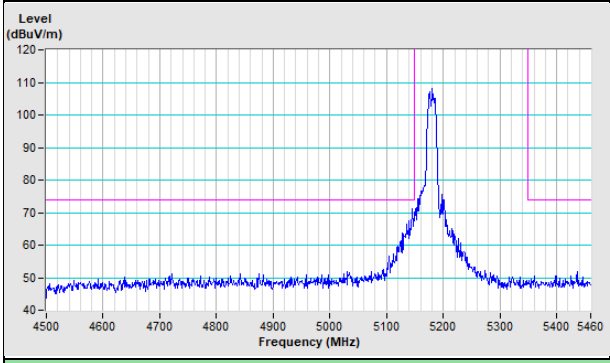
Horizontal (Peak)



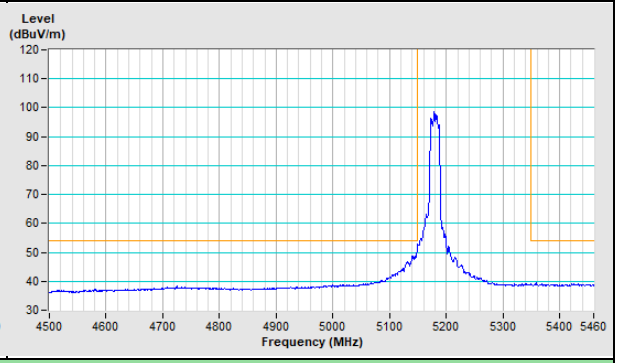
Horizontal (Average)



Vertical (Peak)

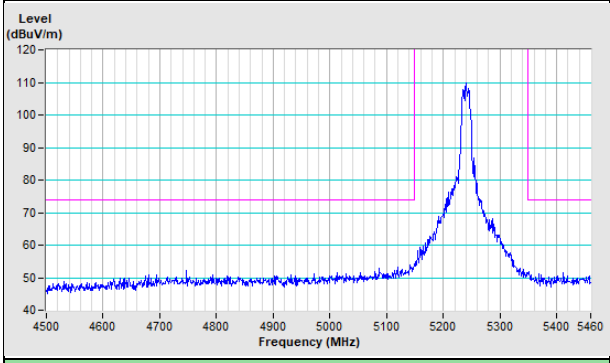


Vertical (Average)

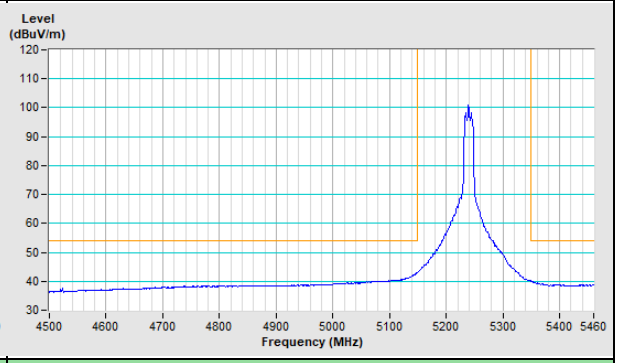


802.11a Channel 48

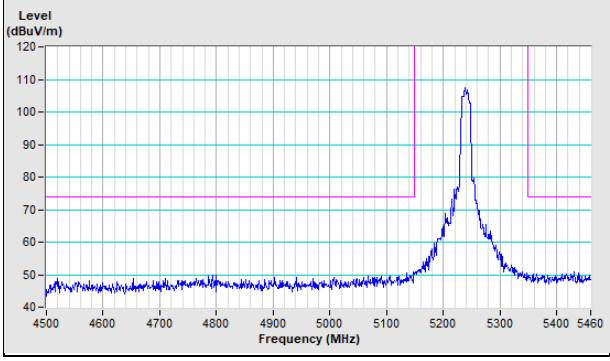
Horizontal (Peak)



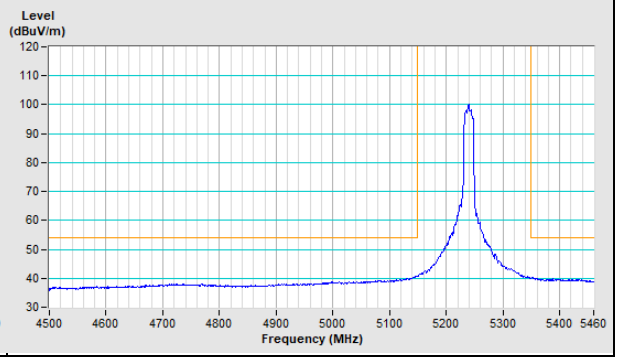
Horizontal (Average)



Vertical (Peak)

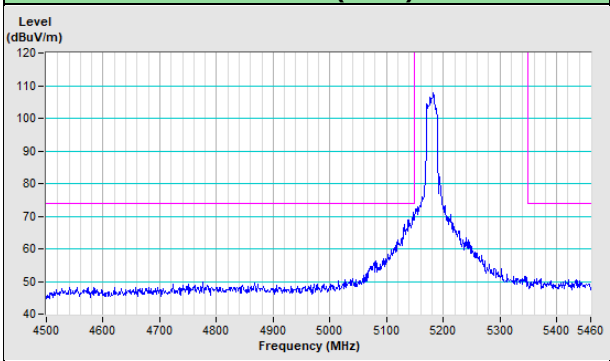


Vertical (Average)

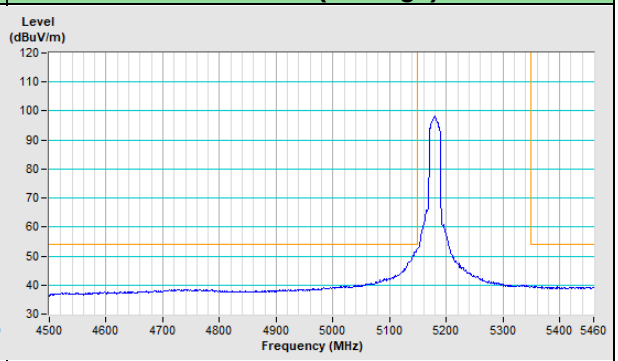


802.11ax (HE20) Channel 36

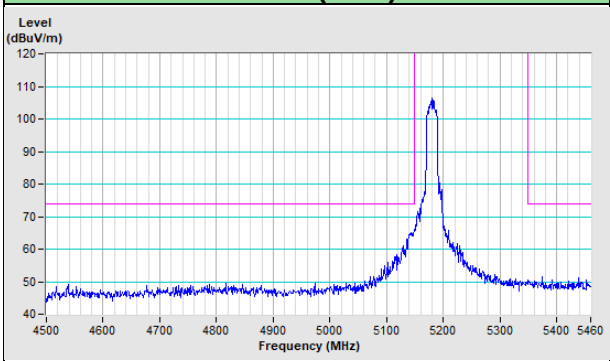
Horizontal (Peak)



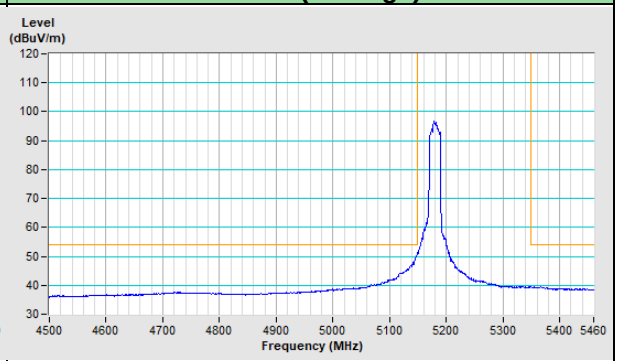
Horizontal (Average)



Vertical (Peak)

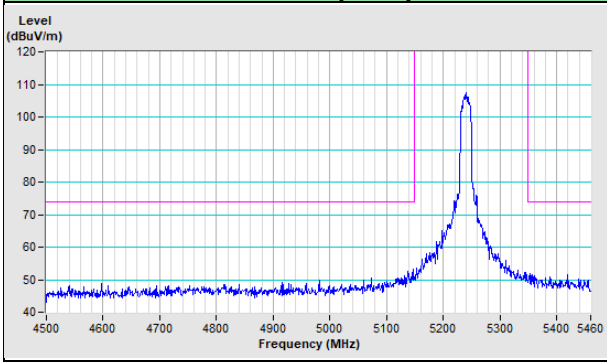


Vertical (Average)

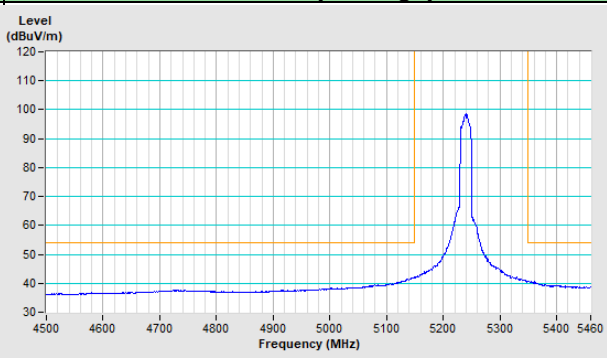


802.11ax (HE20) Channel 48

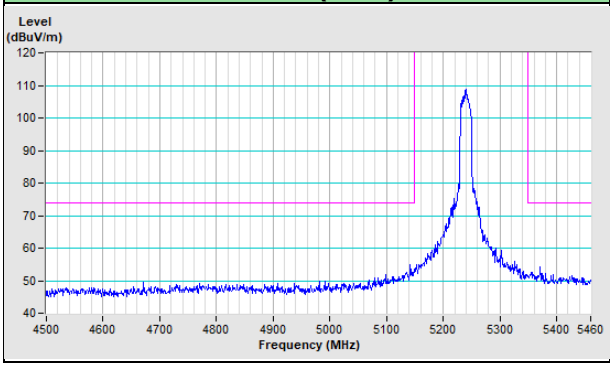
Horizontal (Peak)



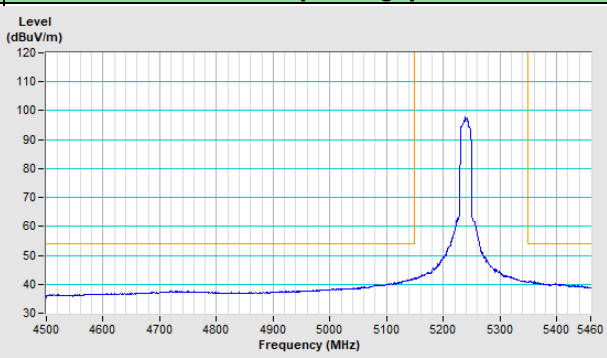
Horizontal (Average)



Vertical (Peak)

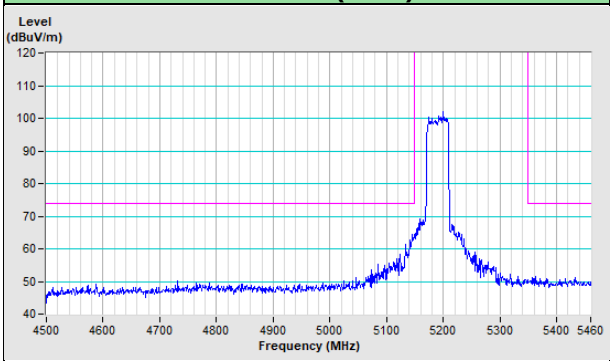


Vertical (Average)

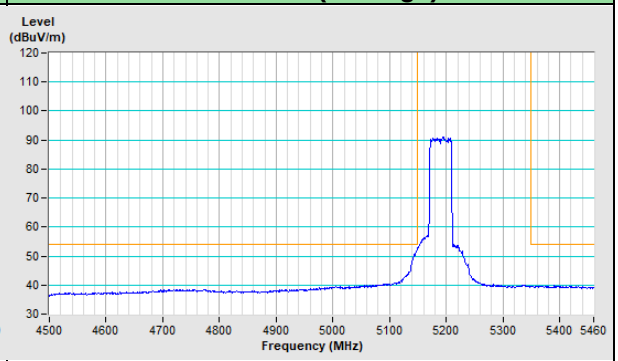


802.11ax (HE40) Channel 38

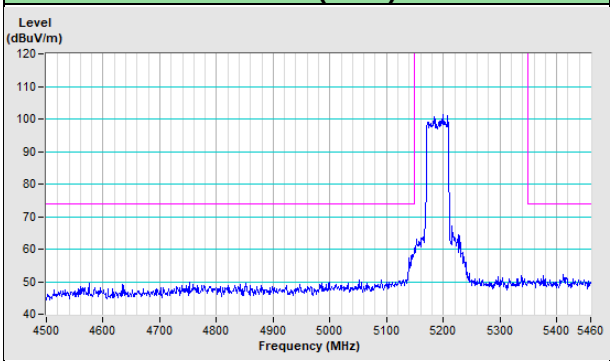
Horizontal (Peak)



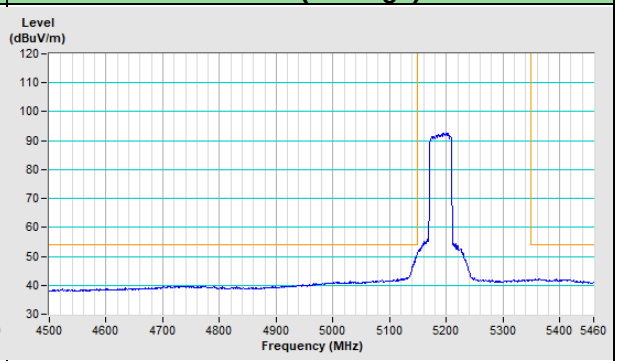
Horizontal (Average)



Vertical (Peak)

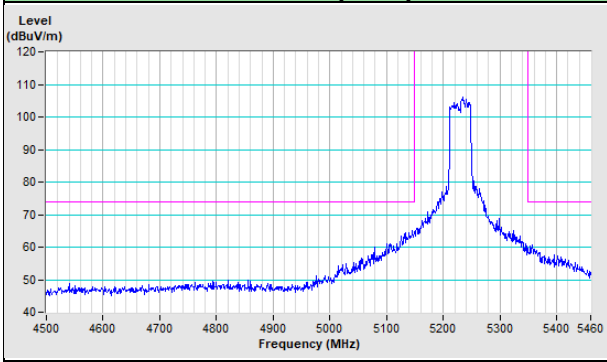


Vertical (Average)

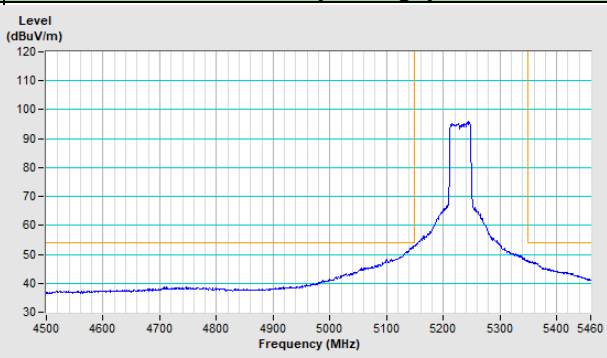


802.11ax (HE40) Channel 46

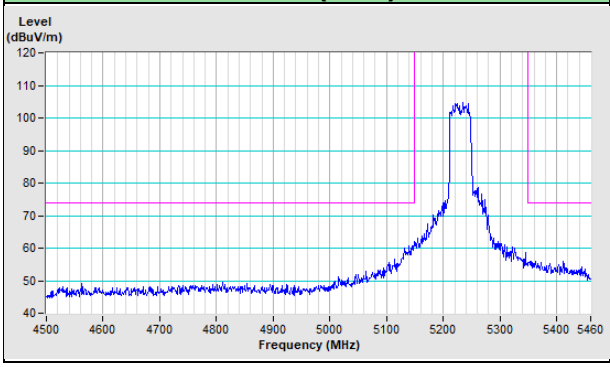
Horizontal (Peak)



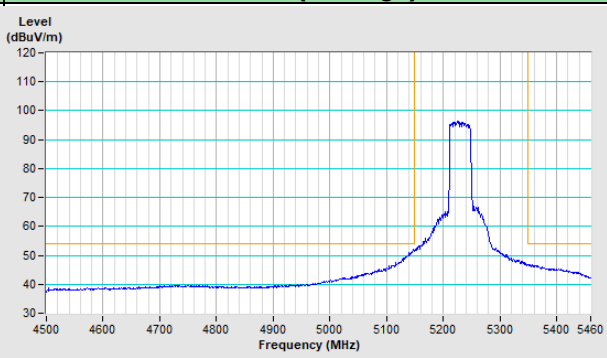
Horizontal (Average)

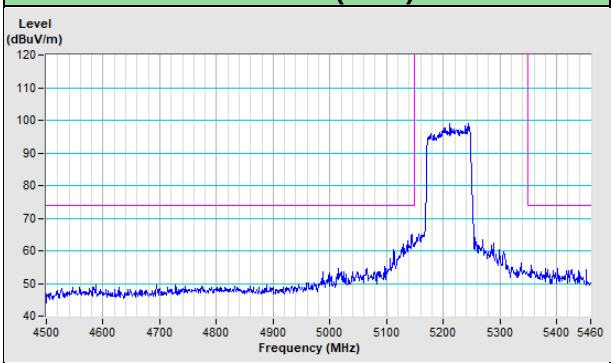
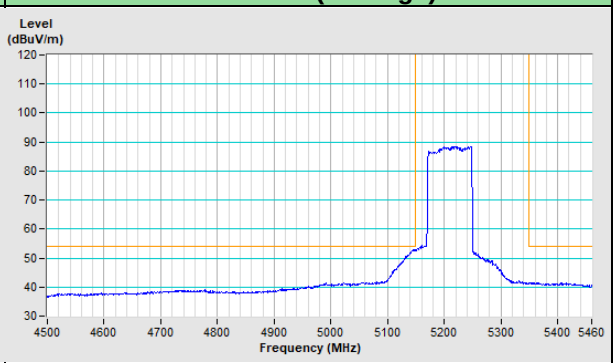
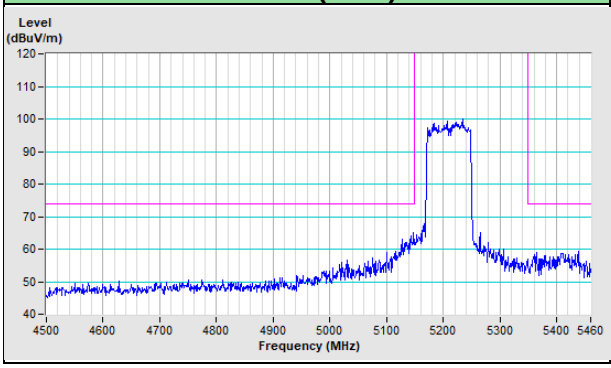
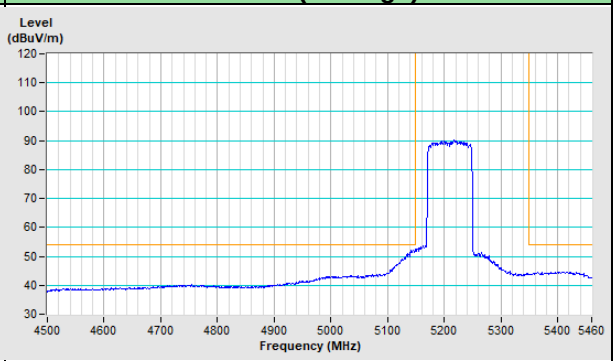


Vertical (Peak)



Vertical (Average)



802.11ax (HE80) Channel 42	
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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