

FCC Test Report

Report No.: RFBCKS-WTW-P21050677-1

FCC ID: 2ASE7-BIOHB021G120

Test Model: BIOHB021G121, BIOHB021G122

Received Date: May 18, 2021

Test Date: July 01 to 19, 2021

Issued Date: Oct. 08, 2021

Applicant: BioIntelliSense, Inc

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P21050677-1	Original release.	Oct. 08, 2021

1 Certificate of Conformity

Product: Biohub2

Brand: BioIntelliSense, Inc

Test Model: BIOHB021G121, BIOHB021G122

Sample Status: Engineering sample

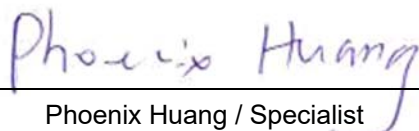
Applicant: BioIntelliSense, Inc

Test Date: July 01 to 19, 2021

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

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

Prepared by :


Phoenix Huang / Specialist

Date:

Oct. 08, 2021

Approved by :



Clark Lin / Technical Manager

Date:

Oct. 08, 2021

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 -11.47 dB at 0.34409 MHz.
15.407(b) (1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1 dB at 5468.71 MHz and 5725.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note:

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	-	2.5 dB
	9kHz ~ 30MHz	3.1 dB
Radiated Emissions above 1 GHz	30MHz ~ 1GHz	5.4 dB
	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	Biohub2
Brand	BioIntelliSense, Inc
Test Model	BIOHB021G121, BIOHB021G122
Status of EUT	Engineering sample
Power Supply Rating	5 Vdc from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	5.18 ~ 5.24 GHz, 5.26 ~ 5.32 GHz, 5.50 ~ 5.72 GHz, 5.745 ~ 5.825 GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	5.18 ~ 5.24 GHz: 244.08 mW 5.26 ~ 5.32 GHz: 146.34 mW 5.50 ~ 5.72 GHz: 178.447 mW 5.745 ~ 5.825 GHz: 480.345 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. The EUT has below model names, more detailed information as below table.

Model	LTE Module	Adapter	Adapter Brand / Model
BIOHB021G121	CAT-M1 ME910G1-WW	Non-medical, US plug	Frecom / F12L20-050200SPAU UMEC / UP0121M-05PA
BIOHB021G122	CAT-M1 ME910G1-WW	Medical, US plug	UMEC / UP0131Z-05MA APD / WB-10Q05FU

2. The EUT has below radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz + 5GHz) + Bluetooth	WWAN (FCC ID: 2ASE7-BIOHB02CTM10)

3. Simultaneously transmission condition.

Condition	Technology		
1	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
2	WWAN	Bluetooth	-
3	WLAN 2.4GHz	Bluetooth	-
4	WLAN 5GHz	Bluetooth	-

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

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

Antenna No.	RF Chain No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
1	0	4.67	2.4~2.4835	PCB	ipex(MHF)
		5.2	5.15~5.25		
		5.33	5.25~5.35		
		4.43	5.47~5.725		
		4.25	5.725~5.85		
2	1	3.62	2.4~2.4835	PCB	ipex(MHF)
		3.85	5.15~5.25		
		3.78	5.25~5.35		
		3.22	5.47~5.725		
		2.89	5.725~5.85		

Note: The Bluetooth technology will fix transmission on Chain (1).

5. The EUT must be supplied power adapter and following different models could be chosen as following table:

No.	Brand	Model No.	Spec.	Plug
1	UMEC	UP0131Z-05MA	Input: 100-240Vac, 50/60Hz, 0.4A MAX Output: 5.0Vdc, 2.5A, 12.5W DC Output cable: Unshielded, 2m	Detachable
2	UMEC	UP0121M-05PA	Input: 100-240Vac, 50/60Hz, 0.4A Output: 5Vdc, 2.0A DC Output cable: Unshielded, 2m	US
3	APD	WB-10Q05FU	Input: 100-240Vac, 50/60Hz, 0.4A Output: 5.0Vdc, 2.0A DC Output cable: Unshielded, 2m	US
4	Frecom	F12L20-050200SPAU	Input: 100-240Vac, 50/60Hz, 0.3A Output: 5.0Vdc, 2.0A DC Output cable: Unshielded, 2m	US

Note:

- For the conducted emissions test, the EUT was pre-tested with above adapters, the worst case was found in **Adapter 2**. Therefore only the test data of the adapter was recorded in this report.
- For radiated emissions test, the EUT was pre-tested with above adapters, the worst case was found in **Adapter 1**. Therefore only the test data of the adapter was recorded in this report.

6. 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

Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz, 80MHz), therefore the manufacturer will control the power for 802.11n mode is the same as the 802.11ac or more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)

- 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.
- 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):

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):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

FOR 5745 ~ 5825MHz:

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

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):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

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 (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

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 (Mbps)
802.11ac (VHT20)	5180-5320, 5500-5720, 5745-5825	36 to 64, 100 to 144, 149 to 165	165	OFDM	BPSK	6.5

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 (Mbps)
802.11ac (VHT20)	5180-5320, 5500-5720, 5745-5825	36 to 64, 100 to 144, 149 to 165	165	OFDM	BPSK	6.5

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 (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE $\geq$ 1G	20deg. C, 70%RH	120Vac, 60Hz	Ryan Du
RE<1G	20deg. C, 70%RH	120Vac, 60Hz	Ryan Du
PLC	25deg. C, 71%RH	120Vac, 60Hz	Sampson Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Leon Dai

3.4 Description of Support Units

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

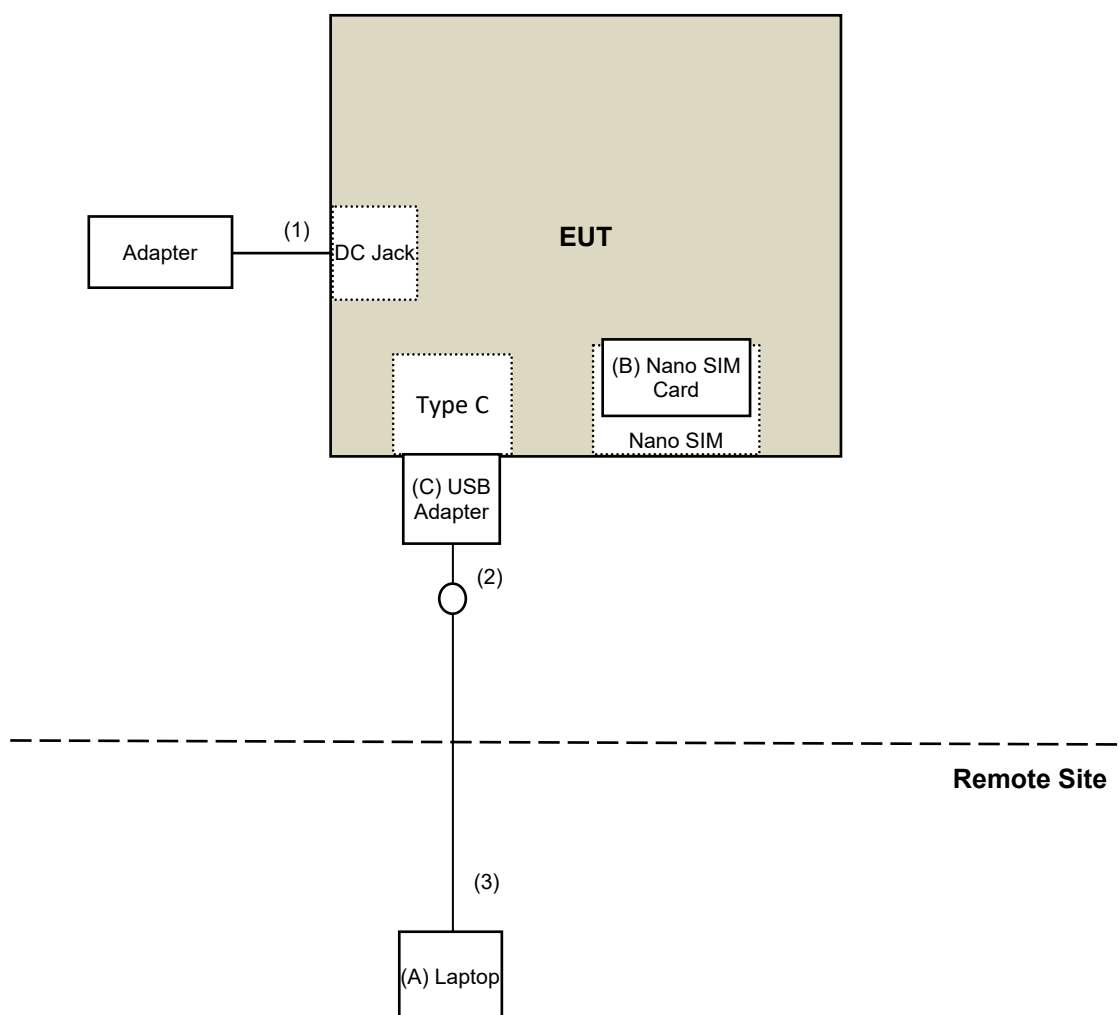
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	NA	Provided by Lab
B.	Nano SIM Card	keysight	NA	NA	NA	Provided by Lab
C.	USB Adapter	transcend	NA	NA	NA	Provided by Lab

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.	DC Cable	1	2	No	0	Supplied by client
2.	USB to RJ45	1	0.1	Yes	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

Note:

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

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

4.1.2 Test Instruments

For Radiated Emission test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2021	July 05, 2022
Pre-Amplifier EMCI	EMC001340	980142	May 24, 2021	May 23, 2022
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	Oct. 20, 2020	Oct. 19, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 05, 2020	Nov. 04, 2021
RF Cable	8D	966-3-1	Mar. 16, 2021	Mar. 15, 2022
RF Cable	8D	966-3-2	Mar. 16, 2021	Mar. 15, 2022
RF Cable	8D	966-3-3	Mar. 16, 2021	Mar. 15, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC104-SM-SM-1500	180504	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-2000	180601	June 08, 2021	June 07, 2022
RF Cable	EMC104-SM-SM-6000	210201	May 13, 2021	May 12, 2022
Spectrum Analyzer Keysight	N9030A	MY54490679	July 09, 2021	July 08, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. Tested Date: July 15 to 16, 2021

For OOBE & Bandedge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2021	July 05, 2022
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCi	EMC12630SE	980384	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC104-SM-SM-1500	180504	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-2000	180601	June 08, 2021	June 07, 2022
RF Cable	EMC104-SM-SM-6000	210201	May 13, 2021	May 12, 2022
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Pre-Amplifier EMCi	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. Tested Date: July 07, 2021

Fort other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	Mar. 08, 2021	Mar. 07, 2022
Power meter Anritsu	ML2495A	1529002	June 21, 2021	June 20, 2022
Power sensor Anritsu	MA2411B	1339443	May 31, 2021	May 30, 2022
10dB Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
AC Power Source Extech Electronics	6905S	1991551	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 14, 2021	Jan. 13, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 02, 2021	June 01, 2022
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: July 19, 2021

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

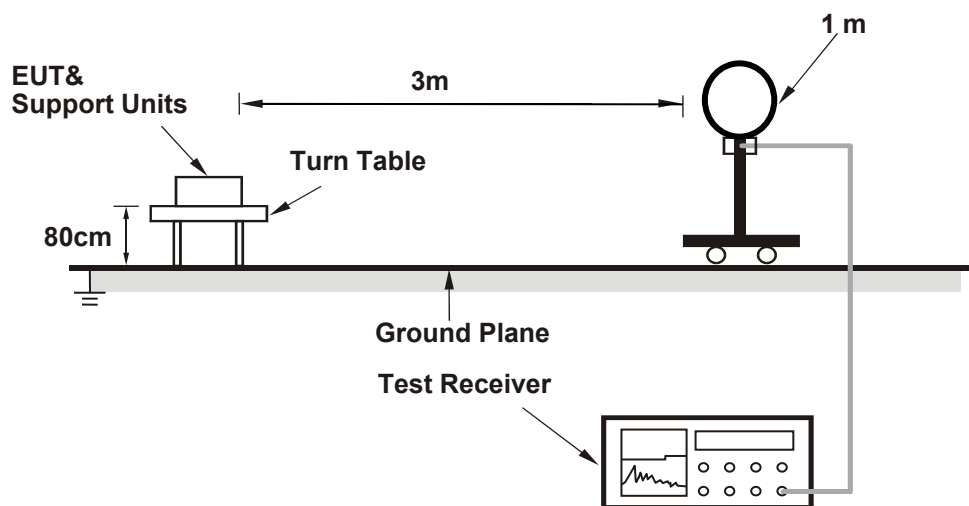
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

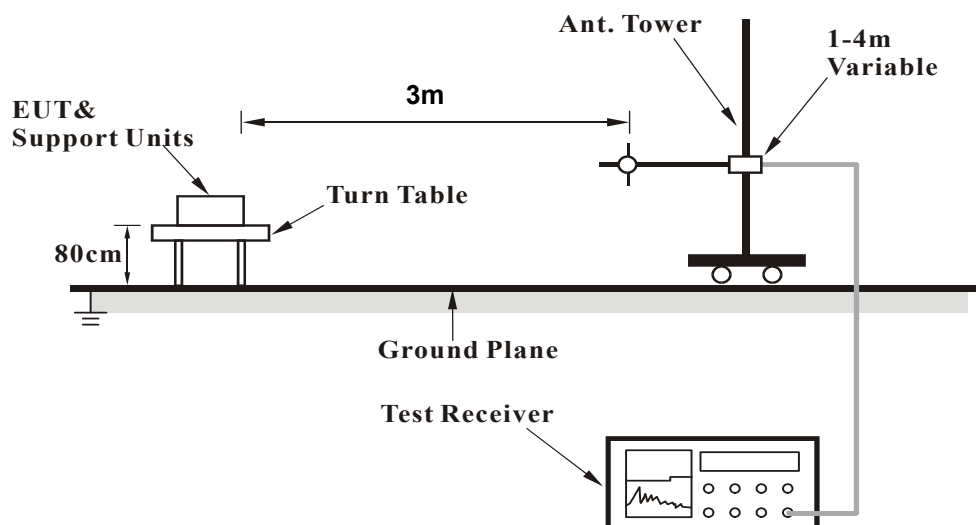
No deviation.

4.1.5 Test Setup

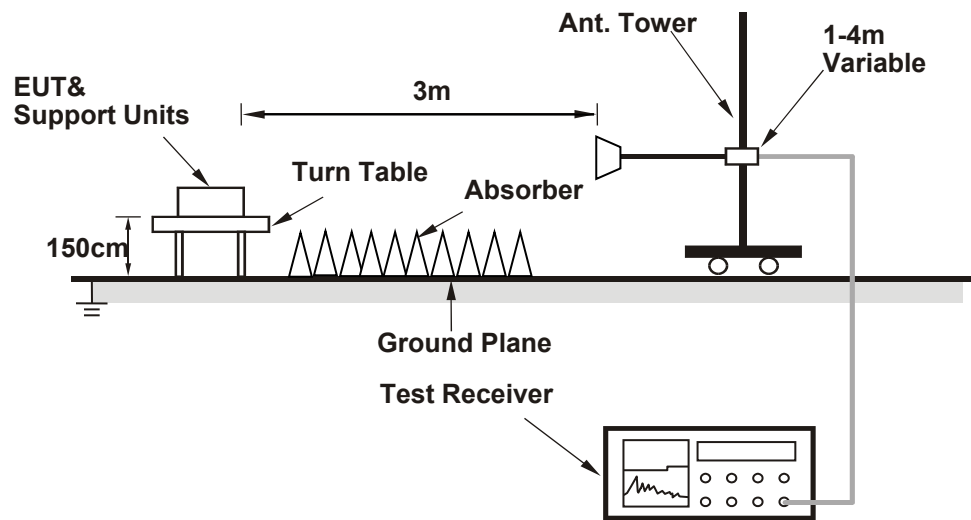
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- Placed the EUT on the testing table.
- Controlling software (Run BioHub_Wi-Fi command.txt with ADB) 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	69.7 PK	74.0	-4.3	2.66 H	261	65.0	4.7
2	5150.00	53.8 AV	54.0	-0.2	2.66 H	261	49.1	4.7
3	*5180.00	116.7 PK			2.66 H	261	112.1	4.6
4	*5180.00	107.0 AV			2.66 H	261	102.4	4.6
5	#10360.00	47.1 PK	68.2	-21.1	2.15 H	242	33.7	13.4
6	15540.00	50.8 PK	74.0	-23.2	3.01 H	219	36.3	14.5
7	15540.00	39.7 AV	54.0	-14.3	3.01 H	219	25.2	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.4 PK	74.0	-10.6	3.54 V	3	58.7	4.7
2	5150.00	47.6 AV	54.0	-6.4	3.54 V	3	42.9	4.7
3	*5180.00	112.7 PK			3.54 V	3	108.1	4.6
4	*5180.00	103.7 AV			3.54 V	3	99.1	4.6
5	#10360.00	47.5 PK	68.2	-20.7	3.57 V	167	34.1	13.4
6	15540.00	51.4 PK	74.0	-22.6	3.42 V	134	36.9	14.5
7	15540.00	40.3 AV	54.0	-13.7	3.42 V	134	25.8	14.5

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	120.2 PK			2.50 H	202	115.8	4.4
2	*5200.00	111.0 AV			2.50 H	202	106.6	4.4
3	#10400.00	47.5 PK	68.2	-20.7	2.11 H	264	33.9	13.6
4	15600.00	50.1 PK	74.0	-23.9	3.10 H	239	35.6	14.5
5	15600.00	39.2 AV	54.0	-14.8	3.10 H	239	24.7	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	116.8 PK			3.97 V	83	112.4	4.4
2	*5200.00	107.1 AV			3.97 V	83	102.7	4.4
3	#10400.00	47.6 PK	68.2	-20.6	3.54 V	166	34.0	13.6
4	15600.00	51.0 PK	74.0	-23.0	3.46 V	158	36.5	14.5
5	15600.00	39.9 AV	54.0	-14.1	3.46 V	158	25.4	14.5

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	118.8 PK			2.73 H	220	114.4	4.4
2	*5240.00	109.2 AV			2.73 H	220	104.8	4.4
3	5350.00	53.2 PK	74.0	-20.8	2.73 H	220	48.9	4.3
4	5350.00	42.1 AV	54.0	-11.9	2.73 H	220	37.8	4.3
5	#10480.00	47.4 PK	68.2	-20.8	2.15 H	252	33.7	13.7
6	15720.00	50.3 PK	74.0	-23.7	3.10 H	217	35.9	14.4
7	15720.00	39.6 AV	54.0	-14.4	3.10 H	217	25.2	14.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	117.0 PK			3.98 V	90	112.6	4.4
2	*5240.00	107.1 AV			3.98 V	90	102.7	4.4
3	5350.00	53.2 PK	74.0	-20.8	3.98 V	90	48.9	4.3
4	5350.00	42.1 AV	54.0	-11.9	3.98 V	90	37.8	4.3
5	#10480.00	47.8 PK	68.2	-20.4	3.52 V	157	34.1	13.7
6	15720.00	50.7 PK	74.0	-23.3	3.46 V	154	36.3	14.4
7	15720.00	39.7 AV	54.0	-14.3	3.46 V	154	25.3	14.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	121.3 PK			2.39 H	208	117.0	4.3
2	*5260.00	111.7 AV			2.39 H	208	107.4	4.3
3	#10520.00	47.4 PK	68.2	-20.8	2.12 H	249	33.6	13.8
4	15780.00	50.1 PK	74.0	-23.9	3.05 H	248	35.8	14.3
5	15780.00	39.2 AV	54.0	-14.8	3.05 H	248	24.9	14.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	116.5 PK			3.91 V	67	112.2	4.3
2	*5260.00	106.4 AV			3.91 V	67	102.1	4.3
3	#10520.00	47.6 PK	68.2	-20.6	3.48 V	165	33.8	13.8
4	15780.00	50.7 PK	74.0	-23.3	3.41 V	143	36.4	14.3
5	15780.00	40.1 AV	54.0	-13.9	3.41 V	143	25.8	14.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	120.8 PK			2.40 H	222	116.5	4.3
2	*5300.00	111.3 AV			2.40 H	222	107.0	4.3
3	10600.00	47.3 PK	74.0	-26.7	2.20 H	266	33.7	13.6
4	10600.00	35.5 AV	54.0	-18.5	2.20 H	266	21.9	13.6
5	15900.00	50.4 PK	74.0	-23.6	3.07 H	224	36.3	14.1
6	15900.00	39.5 AV	54.0	-14.5	3.07 H	224	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	*5300.00	116.7 PK			3.94 V	82	112.4	4.3
2	*5300.00	106.4 AV			3.94 V	82	102.1	4.3
3	10600.00	47.9 PK	74.0	-26.1	3.58 V	144	34.3	13.6
4	10600.00	36.2 AV	54.0	-17.8	3.58 V	144	22.6	13.6
5	15900.00	51.1 PK	74.0	-22.9	3.52 V	161	37.0	14.1
6	15900.00	40.1 AV	54.0	-13.9	3.52 V	161	26.0	14.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	116.5 PK			2.73 H	208	112.2	4.3
2	*5320.00	106.8 AV			2.73 H	208	102.5	4.3
3	5350.00	70.3 PK	74.0	-3.7	2.73 H	208	66.0	4.3
4	5350.00	53.7 AV	54.0	-0.3	2.73 H	208	49.4	4.3
5	10640.00	47.5 PK	74.0	-26.5	2.12 H	268	33.8	13.7
6	10640.00	35.5 AV	54.0	-18.5	2.12 H	268	21.8	13.7
7	15960.00	50.7 PK	74.0	-23.3	3.06 H	224	36.6	14.1
8	15960.00	39.7 AV	54.0	-14.3	3.06 H	224	25.6	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	111.1 PK			3.28 V	356	106.8	4.3
2	*5320.00	101.1 AV			3.28 V	356	96.8	4.3
3	5350.00	66.4 PK	74.0	-7.6	3.28 V	356	62.1	4.3
4	5350.00	50.2 AV	54.0	-3.8	3.28 V	356	45.9	4.3
5	10640.00	47.4 PK	74.0	-26.6	3.52 V	171	33.7	13.7
6	10640.00	35.6 AV	54.0	-18.4	3.52 V	171	21.9	13.7
7	15960.00	50.7 PK	74.0	-23.3	3.50 V	145	36.6	14.1
8	15960.00	39.8 AV	54.0	-14.2	3.50 V	145	25.7	14.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.2 PK	74.0	-9.8	2.59 H	213	59.8	4.4
2	5460.00	44.1 AV	54.0	-9.9	2.59 H	213	39.7	4.4
3	#5468.71	68.1 PK	68.2	-0.1	2.59 H	213	63.6	4.5
4	*5500.00	116.6 PK			2.59 H	213	111.9	4.7
5	*5500.00	107.0 AV			2.59 H	213	102.3	4.7
6	11000.00	47.6 PK	74.0	-26.4	2.12 H	269	33.3	14.3
7	11000.00	36.1 AV	54.0	-17.9	2.12 H	269	21.8	14.3
8	#16500.00	50.5 PK	68.2	-17.7	3.07 H	222	34.7	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.7 PK	74.0	-19.3	3.26 V	198	50.3	4.4
2	5460.00	40.0 AV	54.0	-14.0	3.26 V	198	35.6	4.4
3	#5470.00	62.7 PK	68.2	-5.5	3.26 V	198	58.2	4.5
4	*5500.00	108.2 PK			3.26 V	198	103.5	4.7
5	*5500.00	99.2 AV			3.26 V	198	94.5	4.7
6	11000.00	47.1 PK	74.0	-26.9	3.48 V	166	32.8	14.3
7	11000.00	35.4 AV	54.0	-18.6	3.48 V	166	21.1	14.3
8	#16500.00	50.9 PK	68.2	-17.3	3.44 V	143	35.1	15.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.5 PK			2.45 H	235	116.0	4.5
2	*5580.00	110.9 AV			2.45 H	235	106.4	4.5
3	11160.00	47.7 PK	74.0	-26.3	2.20 H	247	33.6	14.1
4	11160.00	36.0 AV	54.0	-18.0	2.20 H	247	21.9	14.1
5	#16740.00	50.3 PK	68.2	-17.9	3.04 H	218	33.5	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	117.1 PK			3.89 V	96	112.6	4.5
2	*5580.00	106.9 AV			3.89 V	96	102.4	4.5
3	11160.00	47.1 PK	74.0	-26.9	3.51 V	160	33.0	14.1
4	11160.00	35.7 AV	54.0	-18.3	3.51 V	160	21.6	14.1
5	#16740.00	50.6 PK	68.2	-17.6	3.46 V	144	33.8	16.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.2 PK			2.65 H	211	108.6	4.6
2	*5700.00	103.9 AV			2.65 H	211	99.3	4.6
3	#5725.00	68.0 PK	68.2	-0.2	2.65 H	211	63.3	4.7
4	11400.00	47.0 PK	74.0	-27.0	2.22 H	253	32.5	14.5
5	11400.00	35.3 AV	54.0	-18.7	2.22 H	253	20.8	14.5
6	#17100.00	50.1 PK	68.2	-18.1	3.10 H	245	32.3	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	109.4 PK			3.30 V	186	104.8	4.6
2	*5700.00	99.6 AV			3.30 V	186	95.0	4.6
3	#5725.00	66.3 PK	68.2	-1.9	3.30 V	186	61.6	4.7
4	11400.00	47.6 PK	74.0	-26.4	3.56 V	152	33.1	14.5
5	11400.00	36.1 AV	54.0	-17.9	3.56 V	152	21.6	14.5
6	#17100.00	51.0 PK	68.2	-17.2	3.49 V	132	33.2	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.3 PK	74.0	-19.7	2.37 H	221	49.9	4.4
2	5460.00	39.6 AV	54.0	-14.4	2.37 H	221	35.2	4.4
3	#5470.00	56.3 PK	68.2	-11.9	2.37 H	221	51.8	4.5
4	*5720.00	120.9 PK			2.37 H	221	116.2	4.7
5	*5720.00	111.7 AV			2.37 H	221	107.0	4.7
6	#5850.00	55.2 PK	68.2	-13.0	2.37 H	221	50.2	5.0
7	11440.00	47.1 PK	74.0	-26.9	2.16 H	247	32.5	14.6
8	11440.00	35.5 AV	54.0	-18.5	2.16 H	247	20.9	14.6
9	#17160.00	49.9 PK	68.2	-18.3	3.12 H	222	32.1	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.8 PK	74.0	-20.2	3.94 V	97	49.4	4.4
2	5460.00	39.4 AV	54.0	-14.6	3.94 V	97	35.0	4.4
3	#5470.00	55.9 PK	68.2	-12.3	3.94 V	97	51.4	4.5
4	*5720.00	117.2 PK			3.94 V	97	112.5	4.7
5	*5720.00	107.1 AV			3.94 V	97	102.4	4.7
6	#5850.00	54.6 PK	68.2	-13.6	3.94 V	97	49.6	5.0
7	11440.00	47.9 PK	74.0	-26.1	3.50 V	167	33.3	14.6
8	11440.00	36.3 AV	54.0	-17.7	3.50 V	167	21.7	14.6
9	#17160.00	50.7 PK	68.2	-17.5	3.43 V	160	32.9	17.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5634.94	56.5 PK	68.2	-11.7	2.44 H	214	52.0	4.5
2	*5745.00	120.9 PK			2.44 H	214	115.9	5.0
3	*5745.00	111.4 AV			2.44 H	214	106.4	5.0
4	#5983.91	53.4 PK	68.2	-14.8	2.44 H	214	48.2	5.2
5	11490.00	47.8 PK	74.0	-26.2	2.21 H	249	33.2	14.6
6	11490.00	36.1 AV	54.0	-17.9	2.21 H	249	21.5	14.6
7	#17235.00	50.2 PK	68.2	-18.0	3.07 H	237	32.2	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	#5591.28	51.3 PK	68.2	-16.9	3.21 V	90	46.8	4.5
2	*5745.00	117.3 PK			3.21 V	90	112.3	5.0
3	*5745.00	107.0 AV			3.21 V	90	102.0	5.0
4	#5989.87	51.5 PK	68.2	-16.7	3.21 V	90	46.3	5.2
5	11490.00	47.6 PK	74.0	-26.4	3.49 V	150	33.0	14.6
6	11490.00	35.9 AV	54.0	-18.1	3.49 V	150	21.3	14.6
7	#17235.00	50.3 PK	68.2	-17.9	3.46 V	161	32.3	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	#5576.81	53.5 PK	68.2	-14.7	2.45 H	240	49.0	4.5
2	*5785.00	120.7 PK			2.45 H	240	115.6	5.1
3	*5785.00	111.3 AV			2.45 H	240	106.2	5.1
4	#5952.04	54.2 PK	68.2	-14.0	2.45 H	240	49.0	5.2
5	11570.00	47.1 PK	74.0	-26.9	2.15 H	239	32.5	14.6
6	11570.00	35.7 AV	54.0	-18.3	2.15 H	239	21.1	14.6
7	#17355.00	49.8 PK	68.2	-18.4	3.09 H	230	31.6	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5611.50	52.1 PK	68.2	-16.1	3.92 V	81	47.6	4.5
2	*5785.00	116.8 PK			3.92 V	81	111.7	5.1
3	*5785.00	106.8 AV			3.92 V	81	101.7	5.1
4	#5949.96	52.7 PK	68.2	-15.5	3.92 V	81	47.6	5.1
5	11570.00	47.4 PK	74.0	-26.6	3.49 V	157	32.8	14.6
6	11570.00	35.8 AV	54.0	-18.2	3.49 V	157	21.2	14.6
7	#17355.00	50.1 PK	68.2	-18.1	3.42 V	141	31.9	18.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5586.95	52.7 PK	68.2	-15.5	2.63 H	220	48.2	4.5
2	*5825.00	120.8 PK			2.63 H	220	115.8	5.0
3	*5825.00	111.2 AV			2.63 H	220	106.2	5.0
4	#5938.72	53.6 PK	68.2	-14.6	2.63 H	220	48.5	5.1
5	11650.00	47.4 PK	74.0	-26.6	2.16 H	255	33.0	14.4
6	11650.00	35.7 AV	54.0	-18.3	2.16 H	255	21.3	14.4
7	#17475.00	50.3 PK	68.2	-17.9	3.07 H	232	31.5	18.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5588.56	52.6 PK	68.2	-15.6	3.72 V	87	48.1	4.5
2	*5825.00	116.6 PK			3.72 V	87	111.6	5.0
3	*5825.00	106.7 AV			3.72 V	87	101.7	5.0
4	#5929.26	55.2 PK	68.2	-13.0	3.72 V	87	50.1	5.1
5	11650.00	47.4 PK	74.0	-26.6	3.53 V	156	33.0	14.4
6	11650.00	35.8 AV	54.0	-18.2	3.53 V	156	21.4	14.4
7	#17475.00	50.7 PK	68.2	-17.5	3.46 V	146	31.9	18.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	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	68.3 PK	74.0	-5.7	2.72 H	193	63.6	4.7
2	5150.00	53.8 AV	54.0	-0.2	2.72 H	193	49.1	4.7
3	*5180.00	114.9 PK			2.72 H	193	110.3	4.6
4	*5180.00	104.8 AV			2.72 H	193	100.2	4.6
5	#10360.00	47.7 PK	68.2	-20.5	2.19 H	269	34.3	13.4
6	15540.00	50.3 PK	74.0	-23.7	3.06 H	239	35.8	14.5
7	15540.00	39.6 AV	54.0	-14.4	3.06 H	239	25.1	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.9 PK	74.0	-10.1	3.54 V	350	59.2	4.7
2	5150.00	49.7 AV	54.0	-4.3	3.54 V	350	45.0	4.7
3	*5180.00	110.3 PK			3.54 V	350	105.7	4.6
4	*5180.00	100.0 AV			3.54 V	350	95.4	4.6
5	#10360.00	47.8 PK	68.2	-20.4	3.49 V	143	34.4	13.4
6	15540.00	50.0 PK	74.0	-24.0	3.48 V	151	35.5	14.5
7	15540.00	39.4 AV	54.0	-14.6	3.48 V	151	24.9	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	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	67.2 PK	74.0	-6.8	2.59 H	202	62.5	4.7
2	5150.00	52.3 AV	54.0	-1.7	2.59 H	202	47.6	4.7
3	*5200.00	120.2 PK			2.59 H	202	115.8	4.4
4	*5200.00	110.5 AV			2.59 H	202	106.1	4.4
5	#10400.00	47.0 PK	68.2	-21.2	2.21 H	262	33.4	13.6
6	15600.00	50.1 PK	74.0	-23.9	3.09 H	248	35.6	14.5
7	15600.00	39.1 AV	54.0	-14.9	3.09 H	248	24.6	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	3.49 V	360	58.8	4.7
2	5150.00	49.3 AV	54.0	-4.7	3.49 V	360	44.6	4.7
3	*5200.00	115.7 PK			3.49 V	360	111.3	4.4
4	*5200.00	105.6 AV			3.49 V	360	101.2	4.4
5	#10400.00	47.7 PK	68.2	-20.5	3.48 V	142	34.1	13.6
6	15600.00	50.9 PK	74.0	-23.1	3.46 V	138	36.4	14.5
7	15600.00	40.2 AV	54.0	-13.8	3.46 V	138	25.7	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 48 : 5240 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	119.4 PK			2.89 H	203	115.0	4.4
2	*5240.00	109.5 AV			2.89 H	203	105.1	4.4
3	5350.00	55.2 PK	74.0	-18.8	2.89 H	203	50.9	4.3
4	5350.00	42.7 AV	54.0	-11.3	2.89 H	203	38.4	4.3
5	#10480.00	47.3 PK	68.2	-20.9	2.14 H	253	33.6	13.7
6	15720.00	50.5 PK	74.0	-23.5	3.10 H	244	36.1	14.4
7	15720.00	39.9 AV	54.0	-14.1	3.10 H	244	25.5	14.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	116.2 PK			3.53 V	356	111.8	4.4
2	*5240.00	105.8 AV			3.53 V	356	101.4	4.4
3	5350.00	55.2 PK	74.0	-18.8	3.53 V	356	50.9	4.3
4	5350.00	42.8 AV	54.0	-11.2	3.53 V	356	38.5	4.3
5	#10480.00	48.1 PK	68.2	-20.1	3.52 V	143	34.4	13.7
6	15720.00	50.3 PK	74.0	-23.7	3.52 V	157	35.9	14.4
7	15720.00	39.6 AV	54.0	-14.4	3.52 V	157	25.2	14.4

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 52 : 5260 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	120.1 PK			2.58 H	201	115.8	4.3
2	*5260.00	110.5 AV			2.58 H	201	106.2	4.3
3	#10520.00	47.8 PK	68.2	-20.4	2.21 H	266	34.0	13.8
4	15780.00	50.3 PK	74.0	-23.7	3.11 H	231	36.0	14.3
5	15780.00	39.2 AV	54.0	-14.8	3.11 H	231	24.9	14.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5260.00	115.5 PK			3.50 V	360	111.2	4.3
2	*5260.00	105.5 AV			3.50 V	360	101.2	4.3
3	#10520.00	47.3 PK	68.2	-20.9	3.51 V	141	33.5	13.8
4	15780.00	50.5 PK	74.0	-23.5	3.50 V	158	36.2	14.3
5	15780.00	39.8 AV	54.0	-14.2	3.50 V	158	25.5	14.3

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 60 : 5300 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	120.1 PK			2.62 H	211	115.8	4.3
2	*5300.00	110.6 AV			2.62 H	211	106.3	4.3
3	5350.00	67.5 PK	74.0	-6.5	2.62 H	211	63.2	4.3
4	5350.00	52.5 AV	54.0	-1.5	2.62 H	211	48.2	4.3
5	10600.00	47.5 PK	74.0	-26.5	2.20 H	268	33.9	13.6
6	10600.00	35.5 AV	54.0	-18.5	2.20 H	268	21.9	13.6
7	15900.00	50.3 PK	74.0	-23.7	3.12 H	224	36.2	14.1
8	15900.00	39.1 AV	54.0	-14.9	3.12 H	224	25.0	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	115.8 PK			3.59 V	344	111.5	4.3
2	*5300.00	105.5 AV			3.59 V	344	101.2	4.3
3	5350.00	64.0 PK	74.0	-10.0	3.59 V	344	59.7	4.3
4	5350.00	49.6 AV	54.0	-4.4	3.59 V	344	45.3	4.3
5	10600.00	47.1 PK	74.0	-26.9	3.50 V	167	33.5	13.6
6	10600.00	35.8 AV	54.0	-18.2	3.50 V	167	22.2	13.6
7	15900.00	50.6 PK	74.0	-23.4	3.49 V	152	36.5	14.1
8	15900.00	39.8 AV	54.0	-14.2	3.49 V	152	25.7	14.1

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 64 : 5320 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.3 PK			2.79 H	199	111.0	4.3
2	*5320.00	105.6 AV			2.79 H	199	101.3	4.3
3	5350.00	68.4 PK	74.0	-5.6	2.79 H	199	64.1	4.3
4	5350.00	53.7 AV	54.0	-0.3	2.79 H	199	49.4	4.3
5	10640.00	47.2 PK	74.0	-26.8	2.15 H	269	33.5	13.7
6	10640.00	35.6 AV	54.0	-18.4	2.15 H	269	21.9	13.7
7	15960.00	50.5 PK	74.0	-23.5	3.07 H	231	36.4	14.1
8	15960.00	39.4 AV	54.0	-14.6	3.07 H	231	25.3	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	109.4 PK			3.96 V	86	105.1	4.3
2	*5320.00	99.0 AV			3.96 V	86	94.7	4.3
3	5350.00	62.2 PK	74.0	-11.8	3.96 V	86	57.9	4.3
4	5350.00	45.8 AV	54.0	-8.2	3.96 V	86	41.5	4.3
5	10640.00	47.4 PK	74.0	-26.6	3.58 V	153	33.7	13.7
6	10640.00	35.9 AV	54.0	-18.1	3.58 V	153	22.2	13.7
7	15960.00	50.8 PK	74.0	-23.2	3.45 V	132	36.7	14.1
8	15960.00	40.1 AV	54.0	-13.9	3.45 V	132	26.0	14.1

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 100 : 5500 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.9 PK	74.0	-14.1	2.78 H	223	55.5	4.4
2	5460.00	43.2 AV	54.0	-10.8	2.78 H	223	38.8	4.4
3	#5469.64	67.8 PK	68.2	-0.4	2.78 H	223	63.3	4.5
4	*5500.00	114.7 PK			2.78 H	223	110.0	4.7
5	*5500.00	104.7 AV			2.78 H	223	100.0	4.7
6	11000.00	46.8 PK	74.0	-27.2	2.11 H	252	32.5	14.3
7	11000.00	35.3 AV	54.0	-18.7	2.11 H	252	21.0	14.3
8	#16500.00	50.4 PK	68.2	-17.8	3.04 H	244	34.6	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.6 PK	74.0	-20.4	3.98 V	189	49.2	4.4
2	5460.00	39.6 AV	54.0	-14.4	3.98 V	189	35.2	4.4
3	#5469.84	60.8 PK	68.2	-7.4	3.98 V	189	56.3	4.5
4	*5500.00	108.5 PK			3.98 V	189	103.8	4.7
5	*5500.00	98.6 AV			3.98 V	189	93.9	4.7
6	11000.00	47.3 PK	74.0	-26.7	3.59 V	159	33.0	14.3
7	11000.00	36.0 AV	54.0	-18.0	3.59 V	159	21.7	14.3
8	#16500.00	50.3 PK	68.2	-17.9	3.45 V	138	34.5	15.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	121.9 PK			2.72 H	227	117.4	4.5
2	*5580.00	111.5 AV			2.72 H	227	107.0	4.5
3	11160.00	47.6 PK	74.0	-26.4	2.21 H	270	33.5	14.1
4	11160.00	35.8 AV	54.0	-18.2	2.21 H	270	21.7	14.1
5	#16740.00	50.5 PK	68.2	-17.7	3.05 H	227	33.7	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	116.4 PK			3.52 V	99	111.9	4.5
2	*5580.00	106.2 AV			3.52 V	99	101.7	4.5
3	11160.00	47.6 PK	74.0	-26.4	3.53 V	152	33.5	14.1
4	11160.00	36.0 AV	54.0	-18.0	3.53 V	152	21.9	14.1
5	#16740.00	51.1 PK	68.2	-17.1	3.44 V	136	34.3	16.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 140 : 5700 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.6 PK			3.33 H	221	109.0	4.6
2	*5700.00	103.7 AV			3.33 H	221	99.1	4.6
3	#5725.00	67.9 PK	68.2	-0.3	3.33 H	221	63.2	4.7
4	11400.00	47.0 PK	74.0	-27.0	2.13 H	264	32.5	14.5
5	11400.00	35.5 AV	54.0	-18.5	2.13 H	264	21.0	14.5
6	#17100.00	50.6 PK	68.2	-17.6	3.13 H	220	32.8	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	108.8 PK			3.49 V	115	104.2	4.6
2	*5700.00	98.9 AV			3.49 V	115	94.3	4.6
3	#5725.00	65.3 PK	68.2	-2.9	3.49 V	115	60.6	4.7
4	11400.00	48.1 PK	74.0	-25.9	3.55 V	149	33.6	14.5
5	11400.00	36.2 AV	54.0	-17.8	3.55 V	149	21.7	14.5
6	#17100.00	50.9 PK	68.2	-17.3	3.51 V	137	33.1	17.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 144 : 5720 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.8 PK	74.0	-19.2	3.27 H	208	50.4	4.4
2	5460.00	40.0 AV	54.0	-14.0	3.27 H	208	35.6	4.4
3	#5470.00	56.6 PK	68.2	-11.6	3.27 H	208	52.1	4.5
4	*5720.00	121.4 PK			3.27 H	208	116.7	4.7
5	*5720.00	111.1 AV			3.27 H	208	106.4	4.7
6	#5850.00	55.6 PK	68.2	-12.6	3.27 H	208	50.6	5.0
7	11440.00	47.4 PK	74.0	-26.6	2.19 H	265	32.8	14.6
8	11440.00	35.8 AV	54.0	-18.2	2.19 H	265	21.2	14.6
9	#17160.00	50.4 PK	68.2	-17.8	3.06 H	242	32.6	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.6 PK	74.0	-20.4	3.51 V	74	49.2	4.4
2	5460.00	39.0 AV	54.0	-15.0	3.51 V	74	34.6	4.4
3	#5470.00	56.5 PK	68.2	-11.7	3.51 V	74	52.0	4.5
4	*5720.00	115.9 PK			3.51 V	74	111.2	4.7
5	*5720.00	105.7 AV			3.51 V	74	101.0	4.7
6	#5850.00	54.8 PK	68.2	-13.4	3.51 V	74	49.8	5.0
7	11440.00	47.2 PK	74.0	-26.8	3.55 V	158	32.6	14.6
8	11440.00	35.3 AV	54.0	-18.7	3.55 V	158	20.7	14.6
9	#17160.00	50.5 PK	68.2	-17.7	3.40 V	134	32.7	17.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	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	#5641.68	56.4 PK	68.2	-11.8	3.25 H	221	51.9	4.5
2	*5745.00	121.9 PK			3.25 H	221	116.9	5.0
3	*5745.00	111.5 AV			3.25 H	221	106.5	5.0
4	#6002.05	52.5 PK	68.2	-15.7	3.25 H	221	47.3	5.2
5	11490.00	47.8 PK	74.0	-26.2	2.21 H	255	33.2	14.6
6	11490.00	36.1 AV	54.0	-17.9	2.21 H	255	21.5	14.6
7	#17235.00	50.3 PK	68.2	-17.9	3.09 H	226	32.3	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5642.59	51.9 PK	68.2	-16.3	3.54 V	89	47.4	4.5
2	*5745.00	116.4 PK			3.54 V	89	111.4	5.0
3	*5745.00	106.1 AV			3.54 V	89	101.1	5.0
4	#5934.09	51.3 PK	68.2	-16.9	3.54 V	89	46.2	5.1
5	11490.00	47.3 PK	74.0	-26.7	3.56 V	163	32.7	14.6
6	11490.00	35.7 AV	54.0	-18.3	3.56 V	163	21.1	14.6
7	#17235.00	50.1 PK	68.2	-18.1	3.43 V	132	32.1	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 802.11ac (VHT20)	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	#5620.20	52.5 PK	68.2	-15.7	3.52 H	218	48.0	4.5
2	*5785.00	121.8 PK			3.52 H	218	116.7	5.1
3	*5785.00	111.5 AV			3.52 H	218	106.4	5.1
4	#5937.42	53.5 PK	68.2	-14.7	3.52 H	218	48.4	5.1
5	11570.00	47.7 PK	74.0	-26.3	2.18 H	250	33.1	14.6
6	11570.00	36.0 AV	54.0	-18.0	2.18 H	250	21.4	14.6
7	#17355.00	50.5 PK	68.2	-17.7	3.05 H	234	32.3	18.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5585.29	51.5 PK	68.2	-16.7	3.72 V	82	47.0	4.5
2	*5785.00	116.9 PK			3.72 V	82	111.8	5.1
3	*5785.00	106.8 AV			3.72 V	82	101.7	5.1
4	#5939.54	53.0 PK	68.2	-15.2	3.72 V	82	47.9	5.1
5	11570.00	47.9 PK	74.0	-26.1	3.50 V	164	33.3	14.6
6	11570.00	36.2 AV	54.0	-17.8	3.50 V	164	21.6	14.6
7	#17355.00	50.0 PK	68.2	-18.2	3.52 V	146	31.8	18.2

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	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	#5633.45	53.3 PK	68.2	-14.9	3.46 H	220	48.8	4.5
2	*5825.00	121.5 PK			3.46 H	220	116.5	5.0
3	*5825.00	111.5 AV			3.46 H	220	106.5	5.0
4	#5931.20	59.3 PK	68.2	-8.9	3.46 H	220	54.2	5.1
5	11650.00	47.4 PK	74.0	-26.6	2.20 H	252	33.0	14.4
6	11650.00	35.9 AV	54.0	-18.1	2.20 H	252	21.5	14.4
7	#17475.00	50.8 PK	68.2	-17.4	3.06 H	218	32.0	18.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5602.19	51.5 PK	68.2	-16.7	3.72 V	86	47.0	4.5
2	*5825.00	116.5 PK			3.72 V	86	111.5	5.0
3	*5825.00	106.6 AV			3.72 V	86	101.6	5.0
4	#5927.10	53.2 PK	68.2	-15.0	3.72 V	86	48.1	5.1
5	11650.00	48.1 PK	74.0	-25.9	3.50 V	171	33.7	14.4
6	11650.00	36.3 AV	54.0	-17.7	3.50 V	171	21.9	14.4
7	#17475.00	50.6 PK	68.2	-17.6	3.44 V	140	31.8	18.8

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	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	67.7 PK	74.0	-6.3	2.62 H	207	63.0	4.7
2	5150.00	53.8 AV	54.0	-0.2	2.62 H	207	49.1	4.7
3	*5190.00	109.3 PK			2.62 H	207	104.8	4.5
4	*5190.00	99.8 AV			2.62 H	207	95.3	4.5
5	#10380.00	47.0 PK	68.2	-21.2	2.15 H	245	33.6	13.4
6	15570.00	50.1 PK	74.0	-23.9	3.11 H	227	35.5	14.6
7	15570.00	39.1 AV	54.0	-14.9	3.11 H	227	24.5	14.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.3 PK	74.0	-14.7	3.96 V	85	54.6	4.7
2	5150.00	46.1 AV	54.0	-7.9	3.96 V	85	41.4	4.7
3	*5190.00	101.8 PK			3.96 V	85	97.3	4.5
4	*5190.00	91.9 AV			3.96 V	85	87.4	4.5
5	#10380.00	47.8 PK	68.2	-20.4	3.53 V	148	34.4	13.4
6	15570.00	51.0 PK	74.0	-23.0	3.49 V	142	36.4	14.6
7	15570.00	40.0 AV	54.0	-14.0	3.49 V	142	25.4	14.6

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	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	69.5 PK	74.0	-4.5	2.63 H	210	64.8	4.7
2	5150.00	53.7 AV	54.0	-0.3	2.63 H	210	49.0	4.7
3	*5230.00	117.3 PK			2.63 H	210	112.9	4.4
4	*5230.00	107.5 AV			2.63 H	210	103.1	4.4
5	#10460.00	47.3 PK	68.2	-20.9	2.15 H	248	33.7	13.6
6	15690.00	50.8 PK	74.0	-23.2	3.06 H	235	36.3	14.5
7	15690.00	39.9 AV	54.0	-14.1	3.06 H	235	25.4	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.0 PK	74.0	-15.0	3.92 V	84	54.3	4.7
2	5150.00	46.0 AV	54.0	-8.0	3.92 V	84	41.3	4.7
3	*5230.00	110.7 PK			3.92 V	84	106.3	4.4
4	*5230.00	100.2 AV			3.92 V	84	95.8	4.4
5	#10460.00	47.8 PK	68.2	-20.4	3.55 V	160	34.2	13.6
6	15690.00	50.5 PK	74.0	-23.5	3.49 V	159	36.0	14.5
7	15690.00	39.5 AV	54.0	-14.5	3.49 V	159	25.0	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 54 : 5270 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	116.1 PK			2.60 H	204	111.8	4.3
2	*5270.00	106.0 AV			2.60 H	204	101.7	4.3
3	5350.00	69.9 PK	74.0	-4.1	2.60 H	204	65.6	4.3
4	5350.00	53.6 AV	54.0	-0.4	2.60 H	204	49.3	4.3
5	#10540.00	46.7 PK	68.2	-21.5	2.22 H	258	33.0	13.7
6	15810.00	50.1 PK	74.0	-23.9	3.07 H	230	35.9	14.2
7	15810.00	39.3 AV	54.0	-14.7	3.07 H	230	25.1	14.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5270.00	110.5 PK			3.91 V	94	106.2	4.3
2	*5270.00	100.1 AV			3.91 V	94	95.8	4.3
3	5350.00	59.1 PK	74.0	-14.9	3.91 V	94	54.8	4.3
4	5350.00	46.0 AV	54.0	-8.0	3.91 V	94	41.7	4.3
5	#10540.00	47.4 PK	68.2	-20.8	3.58 V	160	33.7	13.7
6	15810.00	50.5 PK	74.0	-23.5	3.43 V	141	36.3	14.2
7	15810.00	39.8 AV	54.0	-14.2	3.43 V	141	25.6	14.2

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 62 : 5310 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	110.7 PK			2.72 H	203	106.4	4.3
2	*5310.00	100.9 AV			2.72 H	203	96.6	4.3
3	5350.00	72.2 PK	74.0	-1.8	2.72 H	203	67.9	4.3
4	5350.00	53.6 AV	54.0	-0.4	2.72 H	203	49.3	4.3
5	10620.00	47.7 PK	74.0	-26.3	2.19 H	249	34.0	13.7
6	10620.00	35.9 AV	54.0	-18.1	2.19 H	249	22.2	13.7
7	15930.00	50.2 PK	74.0	-23.8	3.10 H	231	36.1	14.1
8	15930.00	39.3 AV	54.0	-14.7	3.10 H	231	25.2	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	104.2 PK			3.85 V	356	99.9	4.3
2	*5310.00	96.9 AV			3.85 V	356	92.6	4.3
3	5350.00	61.6 PK	74.0	-12.4	3.85 V	356	57.3	4.3
4	5350.00	50.6 AV	54.0	-3.4	3.85 V	356	46.3	4.3
5	10620.00	47.8 PK	74.0	-26.2	3.47 V	142	34.1	13.7
6	10620.00	36.3 AV	54.0	-17.7	3.47 V	142	22.6	13.7
7	15930.00	51.3 PK	74.0	-22.7	3.48 V	159	37.2	14.1
8	15930.00	40.2 AV	54.0	-13.8	3.48 V	159	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.

RF Mode	TX 802.11ac (VHT40)	Channel	CH 102 : 5510 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.3 PK	74.0	-8.7	3.19 H	225	60.9	4.4
2	5460.00	45.9 AV	54.0	-8.1	3.19 H	225	41.5	4.4
3	#5467.20	67.8 PK	68.2	-0.4	3.19 H	225	63.3	4.5
4	*5510.00	109.8 PK			3.19 H	225	105.1	4.7
5	*5510.00	99.8 AV			3.19 H	225	95.1	4.7
6	11020.00	47.4 PK	74.0	-26.6	2.18 H	248	33.2	14.2
7	11020.00	35.5 AV	54.0	-18.5	2.18 H	248	21.3	14.2
8	#16530.00	49.5 PK	68.2	-18.7	3.11 H	237	33.6	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.0 PK	74.0	-14.0	3.59 V	337	55.6	4.4
2	5460.00	42.4 AV	54.0	-11.6	3.59 V	337	38.0	4.4
3	#5465.21	62.0 PK	68.2	-6.2	3.59 V	337	57.5	4.5
4	*5510.00	102.6 PK			3.59 V	337	97.9	4.7
5	*5510.00	92.8 AV			3.59 V	337	88.1	4.7
6	11020.00	47.8 PK	74.0	-26.2	3.55 V	159	33.6	14.2
7	11020.00	36.0 AV	54.0	-18.0	3.55 V	159	21.8	14.2
8	#16530.00	50.6 PK	68.2	-17.6	3.49 V	148	34.7	15.9

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 110 : 5550 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.5 PK	74.0	-9.5	3.30 H	224	60.1	4.4
2	5460.00	49.6 AV	54.0	-4.4	3.30 H	224	45.2	4.4
3	#5470.00	68.0 PK	68.2	-0.2	3.30 H	224	63.5	4.5
4	*5550.00	116.2 PK			3.30 H	224	111.7	4.5
5	*5550.00	106.3 AV			3.30 H	224	101.8	4.5
6	11100.00	47.4 PK	74.0	-26.6	2.11 H	262	33.5	13.9
7	11100.00	35.7 AV	54.0	-18.3	2.11 H	262	21.8	13.9
8	#16650.00	50.1 PK	68.2	-18.1	3.11 H	239	33.7	16.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.6 PK	74.0	-14.4	3.54 V	344	55.2	4.4
2	5460.00	46.3 AV	54.0	-7.7	3.54 V	344	41.9	4.4
3	#5470.00	63.2 PK	68.2	-5.0	3.54 V	344	58.7	4.5
4	*5550.00	110.5 PK			3.54 V	344	106.0	4.5
5	*5550.00	100.2 AV			3.54 V	344	95.7	4.5
6	11100.00	47.2 PK	74.0	-26.8	3.54 V	154	33.3	13.9
7	11100.00	35.4 AV	54.0	-18.6	3.54 V	154	21.5	13.9
8	#16650.00	50.5 PK	68.2	-17.7	3.51 V	145	34.1	16.4

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 134 : 5670 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	112.8 PK			3.36 H	222	108.3	4.5
2	*5670.00	102.5 AV			3.36 H	222	98.0	4.5
3	#5725.00	68.1 PK	68.2	-0.1	3.36 H	222	63.4	4.7
4	11340.00	47.1 PK	74.0	-26.9	2.17 H	268	32.7	14.4
5	11340.00	35.4 AV	54.0	-18.6	2.17 H	268	21.0	14.4
6	#17010.00	50.7 PK	68.2	-17.5	3.03 H	234	32.9	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	104.1 PK			3.58 V	358	99.6	4.5
2	*5670.00	96.7 AV			3.58 V	358	92.2	4.5
3	#5725.00	64.3 PK	68.2	-3.9	3.58 V	358	59.6	4.7
4	11340.00	47.9 PK	74.0	-26.1	3.52 V	169	33.5	14.4
5	11340.00	36.2 AV	54.0	-17.8	3.52 V	169	21.8	14.4
6	#17010.00	50.3 PK	68.2	-17.9	3.42 V	142	32.5	17.8

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 142 : 5710 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.1 PK	74.0	-18.9	3.27 H	239	50.7	4.4
2	5460.00	40.4 AV	54.0	-13.6	3.27 H	239	36.0	4.4
3	#5470.00	56.4 PK	68.2	-11.8	3.27 H	239	51.9	4.5
4	*5710.00	118.1 PK			3.27 H	239	113.4	4.7
5	*5710.00	107.9 AV			3.27 H	239	103.2	4.7
6	#5850.00	55.8 PK	68.2	-12.4	3.27 H	239	50.8	5.0
7	11420.00	47.4 PK	74.0	-26.6	2.13 H	249	32.9	14.5
8	11420.00	35.5 AV	54.0	-18.5	2.13 H	249	21.0	14.5
9	#17130.00	49.8 PK	68.2	-18.4	3.08 H	245	32.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.3 PK	74.0	-19.7	3.53 V	331	49.9	4.4
2	5460.00	39.5 AV	54.0	-14.5	3.53 V	331	35.1	4.4
3	#5470.00	56.4 PK	68.2	-11.8	3.53 V	331	51.9	4.5
4	*5710.00	110.3 PK			3.53 V	331	105.6	4.7
5	*5710.00	100.6 AV			3.53 V	331	95.9	4.7
6	#5850.00	55.3 PK	68.2	-12.9	3.53 V	331	50.3	5.0
7	11420.00	47.2 PK	74.0	-26.8	3.52 V	143	32.7	14.5
8	11420.00	35.7 AV	54.0	-18.3	3.52 V	143	21.2	14.5
9	#17130.00	50.5 PK	68.2	-17.7	3.46 V	140	32.8	17.7

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	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	#5645.88	67.8 PK	68.2	-0.4	3.32 H	224	63.3	4.5
2	*5755.00	118.2 PK			3.32 H	224	113.2	5.0
3	*5755.00	108.2 AV			3.32 H	224	103.2	5.0
4	#5927.79	61.0 PK	68.2	-7.2	3.32 H	224	55.9	5.1
5	11510.00	47.6 PK	74.0	-26.4	2.11 H	252	33.0	14.6
6	11510.00	36.1 AV	54.0	-17.9	2.11 H	252	21.5	14.6
7	#17265.00	50.0 PK	68.2	-18.2	3.11 H	229	32.1	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.39	61.7 PK	68.2	-6.5	4.00 V	344	57.2	4.5
2	*5755.00	110.8 PK			4.00 V	344	105.8	5.0
3	*5755.00	101.0 AV			4.00 V	344	96.0	5.0
4	#5942.73	52.6 PK	68.2	-15.6	4.00 V	344	47.5	5.1
5	11510.00	46.7 PK	74.0	-27.3	3.49 V	172	32.1	14.6
6	11510.00	35.3 AV	54.0	-18.7	3.49 V	172	20.7	14.6
7	#17265.00	50.5 PK	68.2	-17.7	3.46 V	158	32.6	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 802.11ac (VHT40)	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	#5653.35	58.0 PK	70.7	-12.7	3.34 H	220	53.5	4.5
2	*5795.00	118.4 PK			3.34 H	221	113.3	5.1
3	*5795.00	108.0 AV			3.34 H	221	102.9	5.1
4	#5929.22	63.9 PK	68.2	-4.3	3.34 H	220	58.8	5.1
5	11590.00	47.5 PK	74.0	-26.5	2.19 H	247	32.9	14.6
6	11590.00	36.1 AV	54.0	-17.9	2.19 H	247	21.5	14.6
7	#17385.00	50.4 PK	68.2	-17.8	3.06 H	238	32.1	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	#5645.45	52.5 PK	68.2	-15.7	3.97 V	332	48.0	4.5
2	*5795.00	111.3 PK			3.97 V	332	106.2	5.1
3	*5795.00	101.4 AV			3.97 V	332	96.3	5.1
4	#5930.80	57.1 PK	68.2	-11.1	3.97 V	332	52.0	5.1
5	11590.00	47.5 PK	74.0	-26.5	3.57 V	163	32.9	14.6
6	11590.00	36.0 AV	54.0	-18.0	3.57 V	163	21.4	14.6
7	#17385.00	50.4 PK	68.2	-17.8	3.52 V	143	32.1	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 802.11ac (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.7 PK	74.0	-9.3	2.70 H	206	60.0	4.7
2	5150.00	53.7 AV	54.0	-0.3	2.70 H	206	49.0	4.7
3	*5210.00	105.7 PK			2.70 H	206	101.3	4.4
4	*5210.00	95.5 AV			2.70 H	206	91.1	4.4
5	#10420.00	47.4 PK	68.2	-20.8	2.10 H	262	33.9	13.5
6	15630.00	49.8 PK	74.0	-24.2	3.09 H	219	35.2	14.6
7	15630.00	39.2 AV	54.0	-14.8	3.09 H	219	24.6	14.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.5 PK	74.0	-14.5	3.25 V	359	54.8	4.7
2	5150.00	48.1 AV	54.0	-5.9	3.25 V	359	43.4	4.7
3	*5210.00	98.3 PK			3.25 V	359	93.9	4.4
4	*5210.00	88.6 AV			3.25 V	359	84.2	4.4
5	#10420.00	47.2 PK	68.2	-21.0	3.48 V	141	33.7	13.5
6	15630.00	51.3 PK	74.0	-22.7	3.47 V	141	36.7	14.6
7	15630.00	40.1 AV	54.0	-13.9	3.47 V	141	25.5	14.6

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 58 : 5290 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	107.3 PK			2.71 H	204	103.0	4.3
2	*5290.00	97.2 AV			2.71 H	204	92.9	4.3
3	5350.00	67.5 PK	74.0	-6.5	2.71 H	204	63.2	4.3
4	5350.00	53.8 AV	54.0	-0.2	2.71 H	204	49.5	4.3
5	#10580.00	47.3 PK	68.2	-20.9	2.14 H	266	33.6	13.7
6	15870.00	50.7 PK	74.0	-23.3	3.12 H	224	36.5	14.2
7	15870.00	39.7 AV	54.0	-14.3	3.12 H	224	25.5	14.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	100.9 PK			3.52 V	353	96.6	4.3
2	*5290.00	90.2 AV			3.52 V	353	85.9	4.3
3	5350.00	55.5 PK	74.0	-18.5	3.52 V	353	51.2	4.3
4	5350.00	46.2 AV	54.0	-7.8	3.52 V	353	41.9	4.3
5	#10580.00	48.1 PK	68.2	-20.1	3.57 V	170	34.4	13.7
6	15870.00	50.2 PK	74.0	-23.8	3.50 V	155	36.0	14.2
7	15870.00	39.5 AV	54.0	-14.5	3.50 V	155	25.3	14.2

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 106 : 5530 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	65.8 PK	74.0	-8.2	2.93 H	204	61.4	4.4
2	5460.00	48.7 AV	54.0	-5.3	2.93 H	204	44.3	4.4
3	#5464.94	67.8 PK	68.2	-0.4	2.93 H	204	63.3	4.5
4	*5530.00	106.0 PK			2.93 H	204	101.4	4.6
5	*5530.00	96.0 AV			2.93 H	204	91.4	4.6
6	11060.00	47.1 PK	74.0	-26.9	2.22 H	264	33.0	14.1
7	11060.00	35.5 AV	54.0	-18.5	2.22 H	264	21.4	14.1
8	#16590.00	50.5 PK	68.2	-17.7	3.07 H	237	34.4	16.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.2 PK	74.0	-16.8	3.92 V	326	52.8	4.4
2	5460.00	42.5 AV	54.0	-11.5	3.92 V	326	38.1	4.4
3	#5469.68	61.4 PK	68.2	-6.8	3.92 V	326	56.9	4.5
4	*5530.00	99.1 PK			3.92 V	326	94.5	4.6
5	*5530.00	88.9 AV			3.92 V	326	84.3	4.6
6	11060.00	47.6 PK	74.0	-26.4	3.52 V	171	33.5	14.1
7	11060.00	36.2 AV	54.0	-17.8	3.52 V	171	22.1	14.1
8	#16590.00	49.9 PK	68.2	-18.3	3.44 V	149	33.8	16.1

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 122 : 5610 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	111.1 PK			3.23 H	228	106.6	4.5
2	*5610.00	101.2 AV			3.23 H	228	96.7	4.5
3	#5725.00	68.0 PK	68.2	-0.2	3.23 H	228	63.3	4.7
4	11220.00	47.1 PK	74.0	-26.9	2.22 H	266	32.7	14.4
5	11220.00	35.4 AV	54.0	-18.6	2.22 H	266	21.0	14.4
6	#16830.00	50.4 PK	68.2	-17.8	3.02 H	222	33.1	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	103.4 PK			3.88 V	325	98.9	4.5
2	*5610.00	93.5 AV			3.88 V	325	89.0	4.5
3	#5725.00	62.2 PK	68.2	-6.0	3.88 V	325	57.5	4.7
4	11220.00	47.7 PK	74.0	-26.3	3.51 V	146	33.3	14.4
5	11220.00	36.3 AV	54.0	-17.7	3.51 V	146	21.9	14.4
6	#16830.00	50.2 PK	68.2	-18.0	3.43 V	158	32.9	17.3

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 138 : 5690 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.8 PK	74.0	-17.2	3.19 H	224	52.4	4.4
2	5460.00	44.0 AV	54.0	-10.0	3.19 H	224	39.6	4.4
3	#5470.00	58.4 PK	68.2	-9.8	3.19 H	224	53.9	4.5
4	*5690.00	114.3 PK			3.19 H	224	109.8	4.5
5	*5690.00	104.7 AV			3.19 H	224	100.2	4.5
6	#5850.00	68.0 PK	68.2	-0.2	3.19 H	224	63.0	5.0
7	11380.00	47.4 PK	74.0	-26.6	2.18 H	271	32.9	14.5
8	11380.00	35.8 AV	54.0	-18.2	2.18 H	271	21.3	14.5
9	#17070.00	50.5 PK	68.2	-17.7	3.09 H	242	32.6	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.5 PK	74.0	-17.5	3.84 V	316	52.1	4.4
2	5460.00	43.8 AV	54.0	-10.2	3.84 V	316	39.4	4.4
3	#5470.00	57.9 PK	68.2	-10.3	3.84 V	316	53.4	4.5
4	*5690.00	106.8 PK			3.84 V	316	102.3	4.5
5	*5690.00	96.4 AV			3.84 V	316	91.9	4.5
6	#5850.00	65.2 PK	68.2	-3.0	3.84 V	316	60.2	5.0
7	11380.00	47.3 PK	74.0	-26.7	3.53 V	156	32.8	14.5
8	11380.00	35.5 AV	54.0	-18.5	3.53 V	156	21.0	14.5
9	#17070.00	51.0 PK	68.2	-17.2	3.42 V	159	33.1	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 802.11ac (VHT80)	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	#5629.31	67.7 PK	68.2	-0.5	3.22 H	222	63.2	4.5
2	*5775.00	112.3 PK			3.22 H	222	107.2	5.1
3	*5775.00	102.4 AV			3.22 H	222	97.3	5.1
4	#5924.17	67.2 PK	68.8	-1.6	3.22 H	222	62.1	5.1
5	11550.00	47.2 PK	74.0	-26.8	2.15 H	266	32.6	14.6
6	11550.00	35.7 AV	54.0	-18.3	2.15 H	266	21.1	14.6
7	#17325.00	50.5 PK	68.2	-17.7	3.06 H	221	32.4	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	#5645.88	61.6 PK	68.2	-6.6	4.00 V	332	57.1	4.5
2	*5775.00	106.3 PK			4.00 V	332	101.2	5.1
3	*5775.00	96.2 AV			4.00 V	332	91.1	5.1
4	#5925.91	60.0 PK	68.2	-8.2	4.00 V	332	54.9	5.1
5	11550.00	47.3 PK	74.0	-26.7	3.58 V	151	32.7	14.6
6	11550.00	36.0 AV	54.0	-18.0	3.58 V	151	21.4	14.6
7	#17325.00	50.8 PK	68.2	-17.4	3.45 V	135	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.

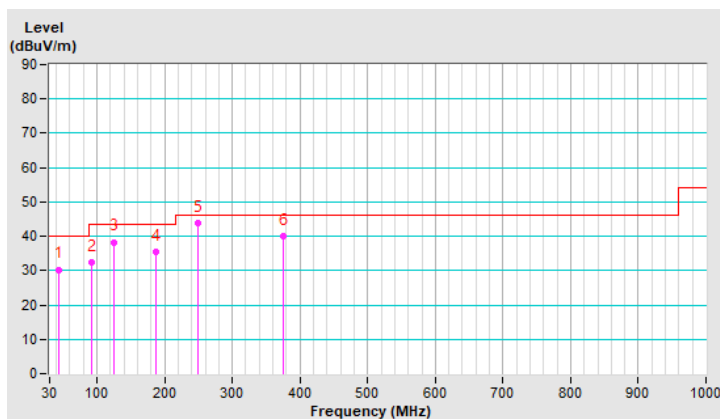
Below 1GHz Data:

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 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	42.95	30.3 QP	40.0	-9.7	1.00 H	58	38.7	-8.4
2	91.42	32.4 QP	43.5	-11.1	2.00 H	276	46.1	-13.7
3	125.00	38.3 QP	43.5	-5.2	2.00 H	314	47.6	-9.3
4	188.04	35.5 QP	43.5	-8.0	1.50 H	247	45.5	-10.0
5	250.01	43.7 QP	46.0	-2.3	1.00 H	128	52.3	-8.6
6	375.01	40.0 QP	46.0	-6.0	1.00 H	268	44.4	-4.4

Remarks:

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

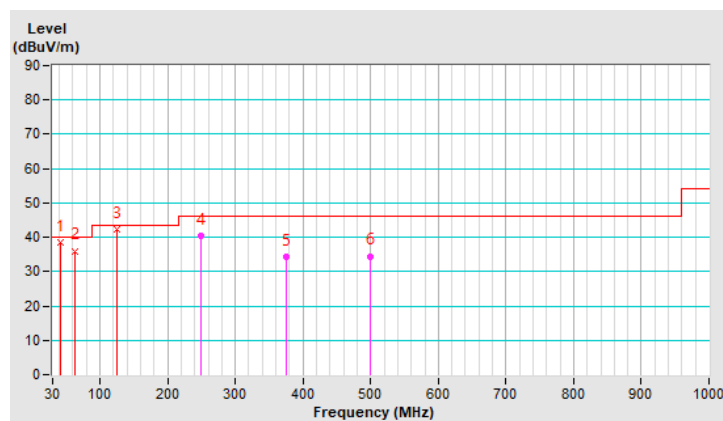


RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	42.40	38.4 QP	40.0	-1.6	1.00 V	247	46.8	-8.4
2	62.97	36.0 QP	40.0	-4.0	1.50 V	351	44.9	-8.9
3	125.00	42.2 QP	43.5	-1.3	1.14 V	276	51.5	-9.3
4	250.01	40.5 QP	46.0	-5.5	1.50 V	224	49.1	-8.6
5	375.01	34.3 QP	46.0	-11.7	1.50 V	352	38.7	-4.4
6	500.02	34.5 QP	46.0	-11.5	1.00 V	207	35.5	-1.0

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 26, 2021	Mar. 25, 2022
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
- 3 Tested Date: July 15, 2021

4.2.3 Test Procedure

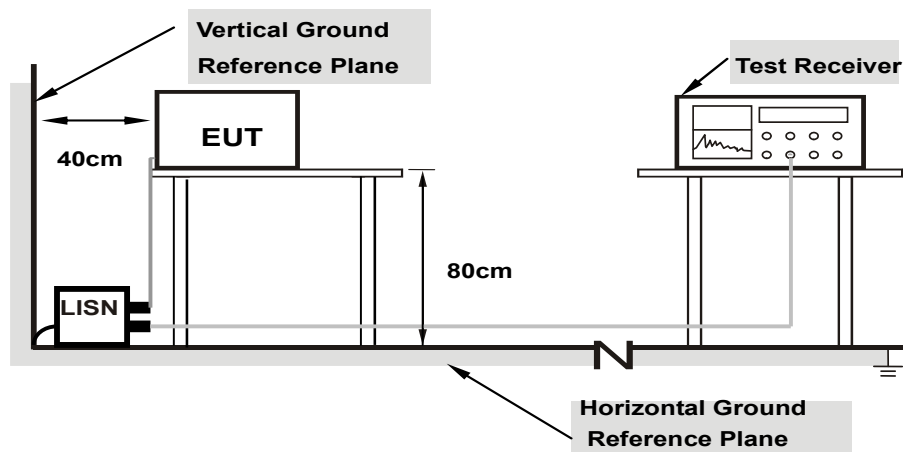
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

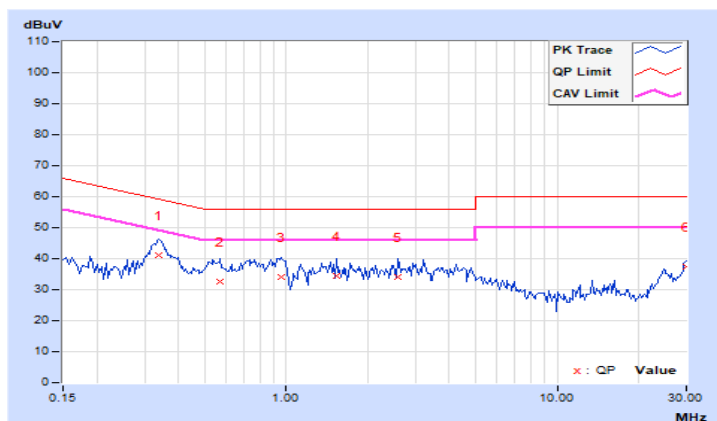
4.2.7 Test Results

RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBUV)		Emission Level (dBUV)		Limit (dBUV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.33900	10.02	31.19	21.50	41.21	31.52	59.23	49.23	-18.02	-17.71
2	0.57188	10.04	22.50	11.26	32.54	21.30	56.00	46.00	-23.46	-24.70
3	0.95469	10.07	23.88	13.35	33.95	23.42	56.00	46.00	-22.05	-22.58
4	1.53125	10.10	24.41	13.80	34.51	23.90	56.00	46.00	-21.49	-22.10
5	2.58203	10.16	23.83	13.30	33.99	23.46	56.00	46.00	-22.01	-22.54
6	29.90625	11.74	25.72	18.56	37.46	30.30	60.00	50.00	-22.54	-19.70

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

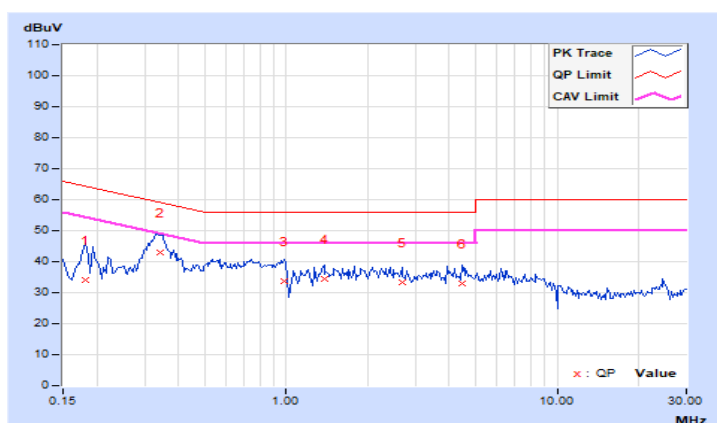


RF Mode	TX 802.11ac (VHT20)	Channel	CH 165 : 5825 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBUV)		Emission Level (dBUV)		Limit (dBUV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	9.98	23.98	17.01	33.96	26.99	64.43	54.43	-30.47	-27.44
2	0.34409	10.01	33.04	27.62	43.05	37.63	59.10	49.10	-16.05	-11.47
3	0.98594	10.06	23.78	17.47	33.84	27.53	56.00	46.00	-22.16	-18.47
4	1.38672	10.09	24.36	17.75	34.45	27.84	56.00	46.00	-21.55	-18.16
5	2.67578	10.17	23.06	16.42	33.23	26.59	56.00	46.00	-22.77	-19.41
6	4.45313	10.27	22.66	15.86	32.93	26.13	56.00	46.00	-23.07	-19.87

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

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

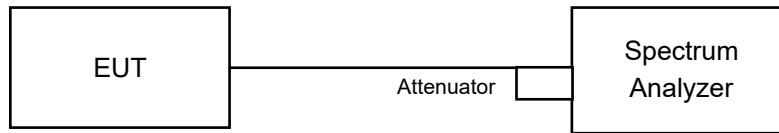
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

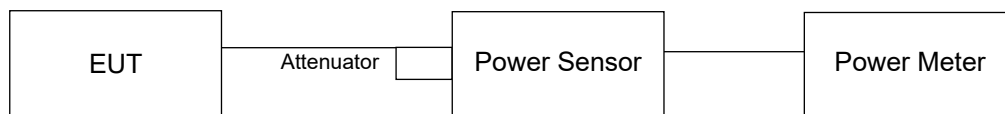
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

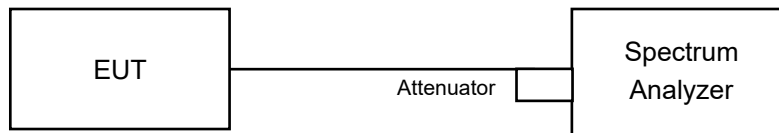
For channel straddling 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

Method SA-1

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

For other channels:

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

FOR 26dB OCCUPIED BANDWIDTH

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results

Power Output:

802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	19.29	19.14	166.953	22.23	24	Pass
40	5200	19.29	19.38	171.614	22.35	24	Pass
48	5240	19.37	19.33	172.201	22.36	24	Pass
52	5260	18.57	18.31	139.709	21.45	24	Pass
60	5300	18.81	18.47	146.34	21.65	24	Pass
64	5320	18.83	18.42	145.886	21.64	24	Pass
100	5500	18.29	16.83	115.648	20.63	23.92	Pass
116	5580	20.07	18.61	174.235	22.41	24	Pass
140	5700	17.65	16.14	99.325	19.97	24	Pass
*144 (U-NII-2C Band)	5720	19.05	17.94	142.583	21.54	24	Pass
*144 (U-NII-3 Band)	5720	12.59	11.43	32.055	15.06	30	Pass
149	5745	23.82	23.67	473.8	26.76	30	Pass
157	5785	23.78	23.72	474.286	26.76	30	Pass
165	5825	23.75	23.65	468.877	26.71	30	Pass

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

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	24.4	24.87 > 24
60	5300	25.03	24.98 > 24
64	5320	24.14	24.82 > 24
100	5500	19.62	23.92 < 24
116	5580	36.22	26.58 > 24
140	5700	20.65	24.14 > 24
144 (U-NII-2C Band)	5720	23.33	24.67 > 24

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

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	18.05	17.93	125.913	21.00	24	Pass
40	5200	19.48	19.36	175.013	22.43	24	Pass
48	5240	19.44	19.39	174.798	22.43	24	Pass
52	5260	18.63	18.27	140.089	21.46	24	Pass
60	5300	18.71	18.34	142.536	21.54	24	Pass
64	5320	18.37	18.03	132.24	21.21	24	Pass
100	5500	17.35	15.87	92.962	19.68	24	Pass
116	5580	20.15	18.66	176.966	22.48	24	Pass
140	5700	16.93	15.37	83.752	19.23	24	Pass
*144 (U-NII-2C Band)	5720	18.98	17.57	136.216	21.34	24	Pass
*144 (U-NII-3 Band)	5720	13.06	11.63	34.785	15.41	30	Pass
149	5745	23.91	23.67	478.846	26.80	30	Pass
157	5785	23.82	23.65	472.73	26.75	30	Pass
165	5825	23.85	23.76	480.345	26.82	30	Pass

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

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
52	5260	26.35	25.2 > 24
60	5300	26.43	25.22 > 24
64	5320	26	25.14 > 24
100	5500	19.99	24 = 24
116	5580	43.65	27.39 > 24
140	5700	21.69	24.36 > 24
144 (U-NII-2C Band)	5720	25.97	25.14 > 24

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

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.71	14.67	58.889	17.70	24	Pass
46	5230	20.88	20.85	244.08	23.88	24	Pass
54	5270	18.84	18.33	144.637	21.60	24	Pass
62	5310	16.72	16.36	90.241	19.55	24	Pass
102	5510	15.29	13.57	56.557	17.52	24	Pass
110	5550	20.26	18.59	178.447	22.52	24	Pass
134	5670	19.29	17.84	145.732	21.64	24	Pass
*142 (U-NII-2C Band)	5710	19.83	18.27	163.304	22.13	24	Pass
*142 (U-NII-3 Band)	5710	8.23	6.70	11.33	10.54	30	Pass
151	5755	23.77	23.54	464.176	26.67	30	Pass
159	5795	23.76	23.47	460.015	26.63	30	Pass

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

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
54	5270	59.62	28.75 > 24
62	5310	46.61	27.68 > 24
102	5510	43.64	27.39 > 24
110	5550	71.19	29.52 > 24
134	5670	69.28	29.4 > 24
142 (U-NII-2C Band)	5710	51.19	28.09 > 24

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

802.11ac (VHT80)

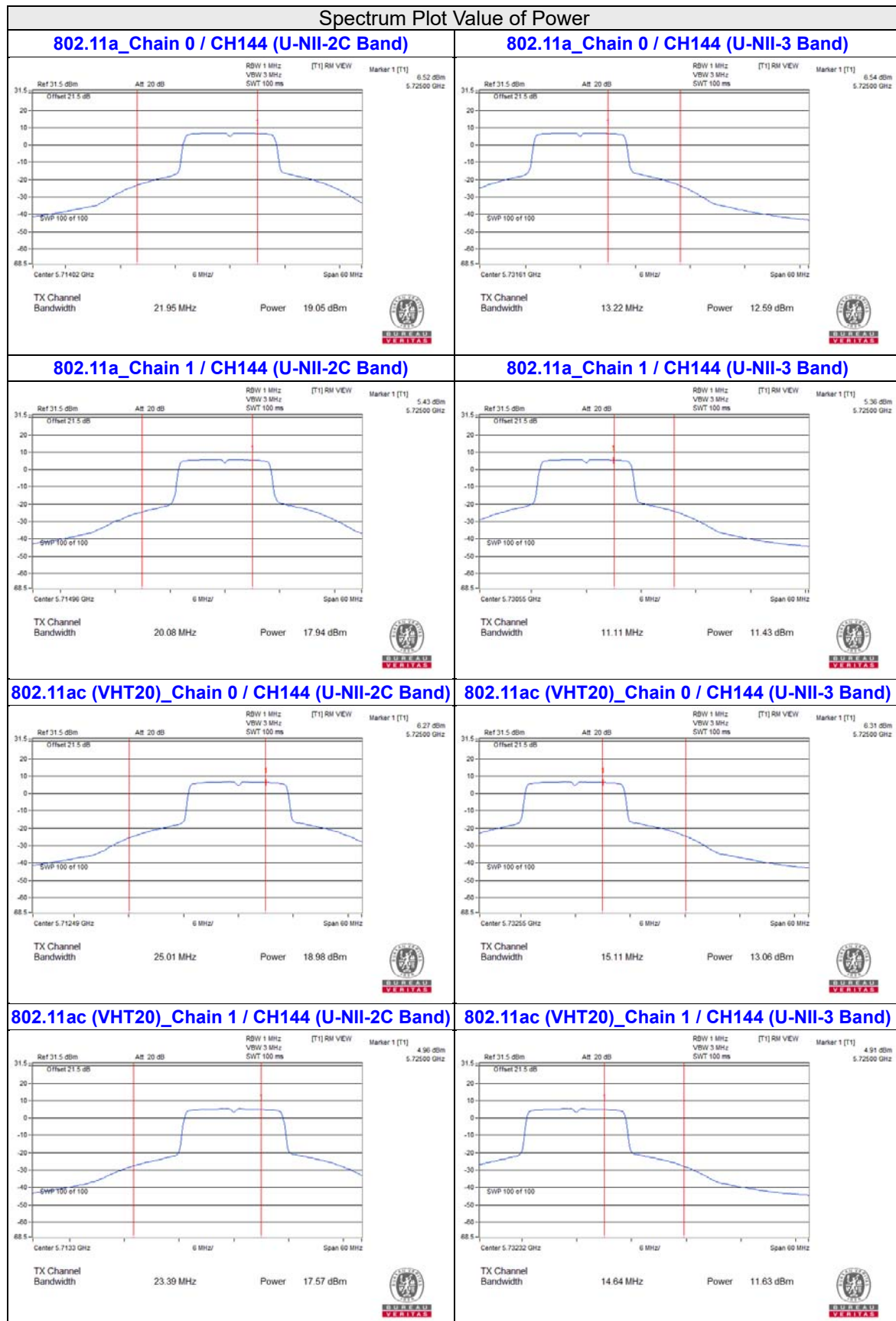
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	13.55	13.23	43.684	16.40	24	Pass
58	5290	16.04	15.36	74.535	18.72	24	Pass
106	5530	15.47	13.72	58.788	17.69	24	Pass
122	5610	20.15	18.57	175.459	22.44	24	Pass
*138 (U-NII-2C Band)	5690	19.91	18.62	170.727	22.32	24	Pass
*138 (U-NII-3 Band)	5690	3.23	1.63	3.559	5.51	30	Pass
155	5775	22.02	21.14	289.238	24.61	30	Pass

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

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	82.35	30.15 > 24
106	5530	82.23	30.15 > 24
122	5610	120.24	31.8 > 24
138 (U-NII-2C Band)	5690	92.26	30.65 > 24

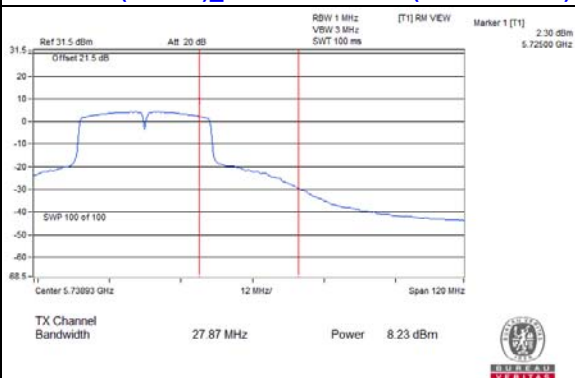
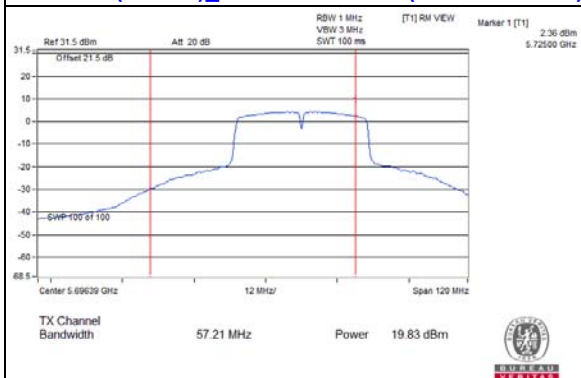
Note: For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

For channel straddling 5725MHz of Power

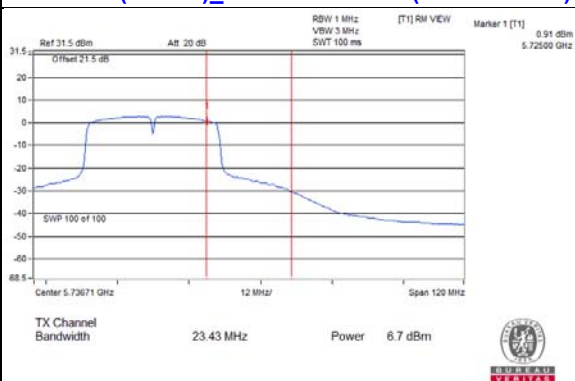
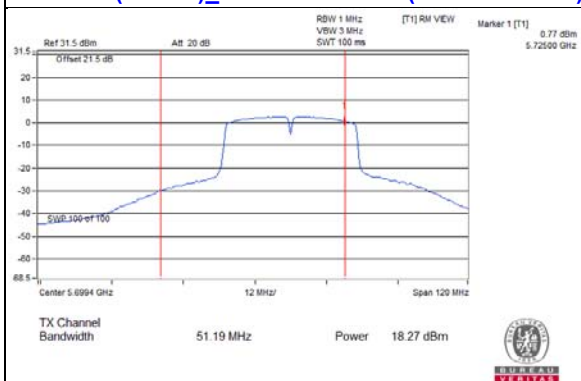


Spectrum Plot Value of Power

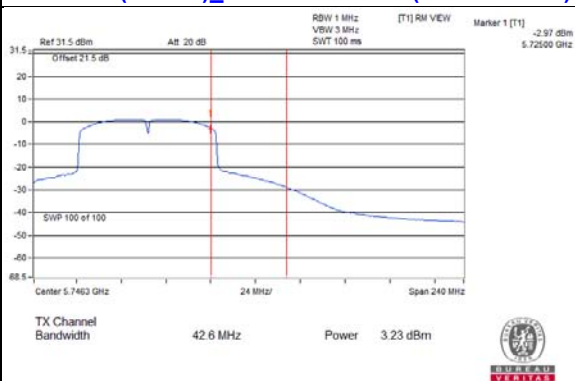
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band) 802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



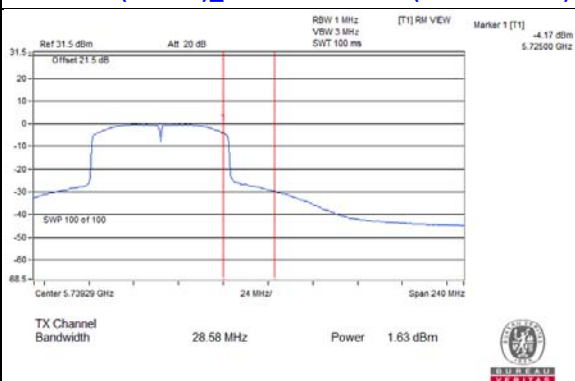
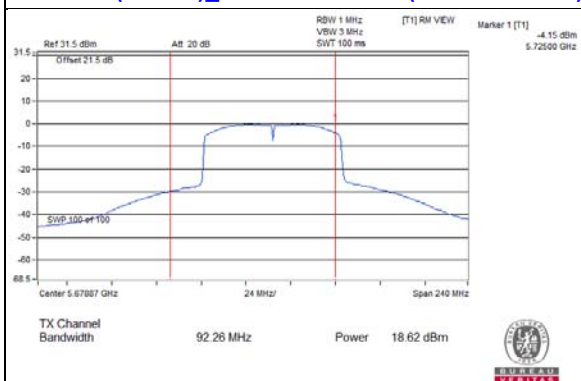
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band) 802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



802.11ac (VHT80)_Chain 0 / CH138 (U-NII-2C Band) 802.11ac (VHT80)_Chain 0 / CH138 (U-NII-3 Band)



802.11ac (VHT80)_Chain 1 / CH138 (U-NII-2C Band) 802.11ac (VHT80)_Chain 1 / CH138 (U-NII-3 Band)



26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	24.93	24.4
60	5300	25.42	25.03
64	5320	24.87	24.14
100	5500	37.94	19.62
116	5580	42.78	36.22
140	5700	28.81	20.65
144 (U-NII-2C Band)	5720	26.08	23.33

802.11ac (VHT20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	26.47	26.35
60	5300	26.45	26.43
64	5320	26	26.2
100	5500	35.51	19.99
116	5580	47.09	43.65
140	5700	28.24	21.69
144 (U-NII-2C Band)	5720	28.84	25.97

802.11ac (VHT40)

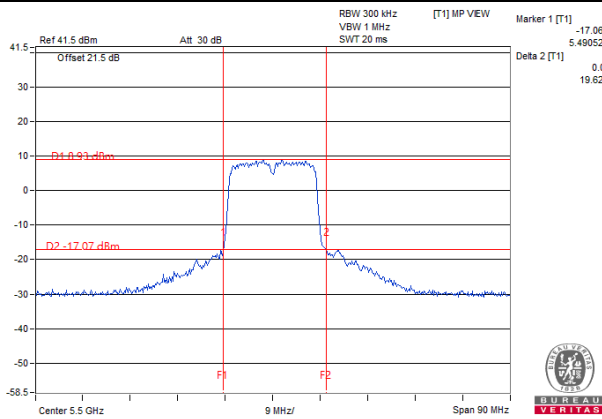
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	63.07	59.62
62	5310	46.61	46.85
102	5510	61.71	43.64
110	5550	85.88	71.19
134	5670	84.94	69.28
142 (U-NII-2C Band)	5710	57.21	51.19

802.11ac (VHT80)

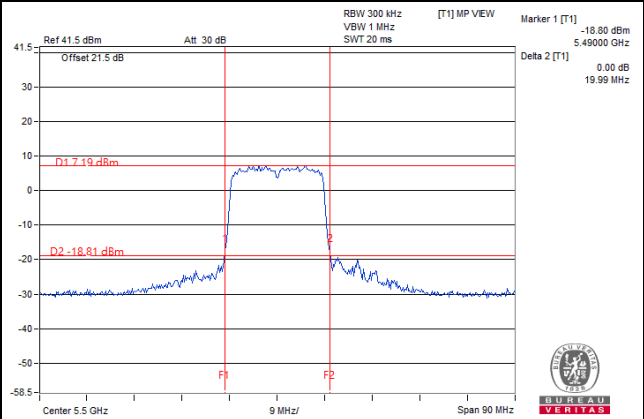
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.35	82.44
106	5530	94.29	82.23
122	5610	143.75	120.24
138 (U-NII-2C Band)	5690	124.7	92.26

Spectrum Plot of Worst Value

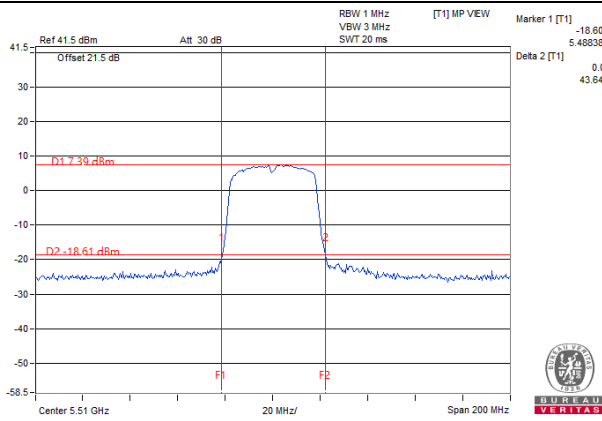
802.11a_Chain 1 / CH100



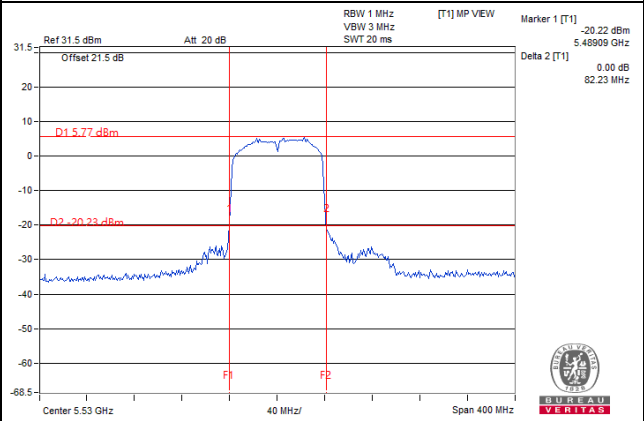
802.11ac (VHT20)_Chain 1 / CH100



802.11ac (VHT40)_Chain 1 / CH102

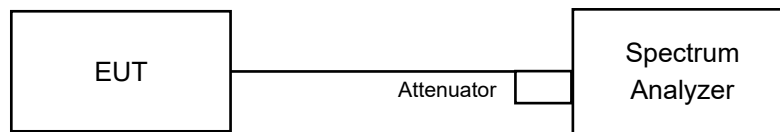


802.11ac (VHT80)_Chain 1 / CH106



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.56
40	5200	16.56	16.56
48	5240	16.68	16.56
52	5260	16.44	16.44
60	5300	16.56	16.44
64	5320	16.44	16.44
100	5500	16.80	16.44
116	5580	21.12	16.92
140	5700	16.68	16.44
144 (U-NII-2C Band)	5720	13.76	13.40
144 (U-NII-3 Band)	5720	4.00	3.40
149	5745	39.36	36.40
157	5785	38.16	34.80
165	5825	37.44	35.00

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	17.76	17.76
48	5240	17.76	18
52	5260	17.64	17.64
60	5300	17.64	17.64
64	5320	17.64	17.64
100	5500	17.76	17.64
116	5580	23.88	18.24
140	5700	17.76	17.64
144 (U-NII-2C Band)	5720	14.24	14
144 (U-NII-3 Band)	5720	4.6	4
149	5745	40.32	37.8
157	5785	39.36	37.6
165	5825	38.88	36.8

802.11ac (VHT40)

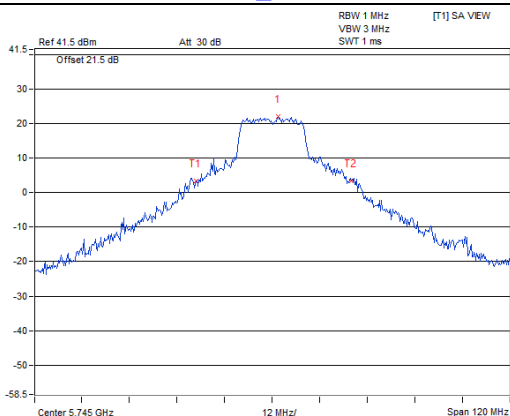
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.48
46	5230	37.92	38.16
54	5270	36.96	36.72
62	5310	36.48	36.48
102	5510	36.48	36.48
110	5550	41.04	37.2
134	5670	37.68	36.96
142 (U-NII-2C Band)	5710	33.96	33.72
142 (U-NII-3 Band)	5710	3.96	3.48
151	5755	60	60.66
159	5795	58.8	62.4

802.11ac (VHT80)

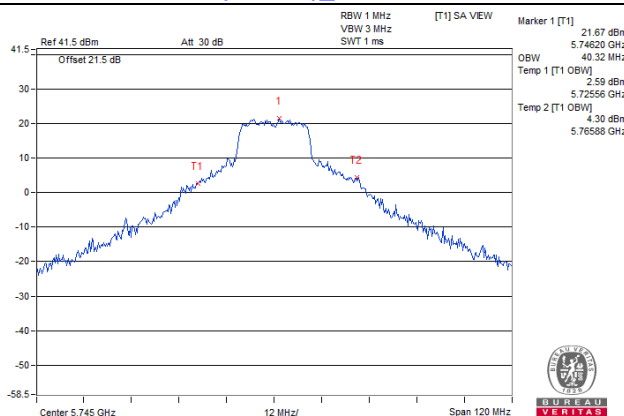
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.36	74.88
58	5290	74.88	74.88
106	5530	74.4	74.88
122	5610	81.6	75.36
138 (U-NII-2C Band)	5690	72.92	72.92
138 (U-NII-3 Band)	5690	3.4	2.92
155	5775	93.6	82.08

Spectrum Plot of Max. Value

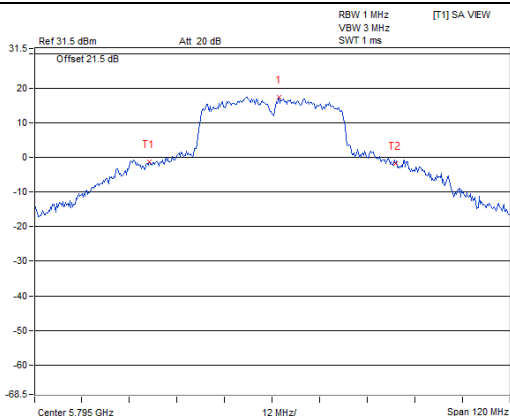
802.11a_Chain 0 / CH149



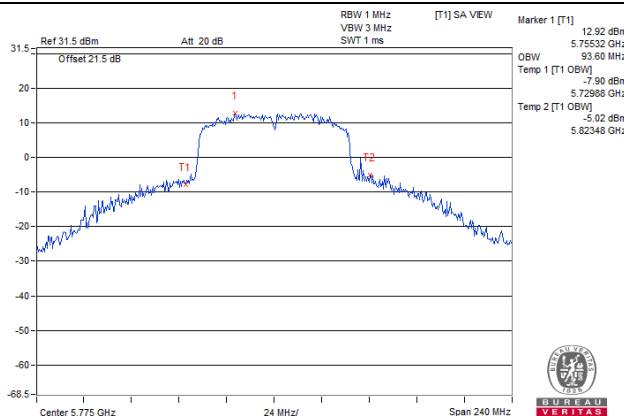
802.11ac (VHT20)_Chain 0 / CH149



802.11ac (VHT40)_Chain 1 / CH159

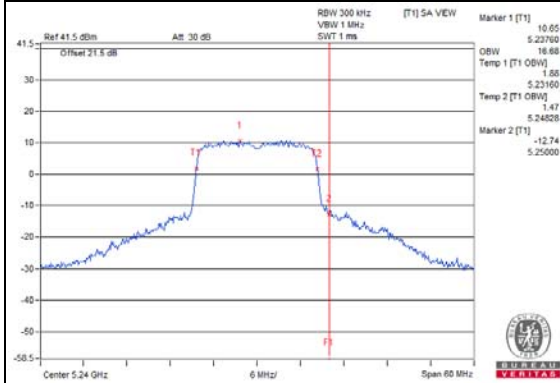


802.11ac (VHT80)_Chain 0 / CH155

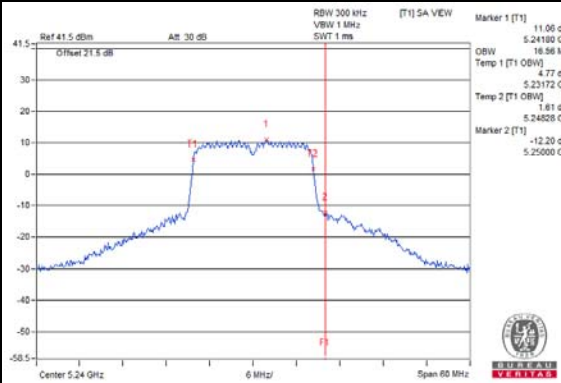


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)

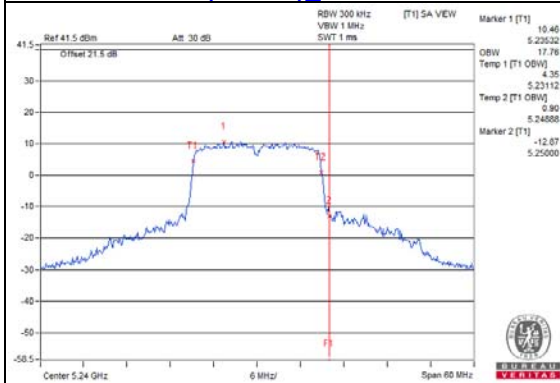
802.11a_Chain 0 / CH48



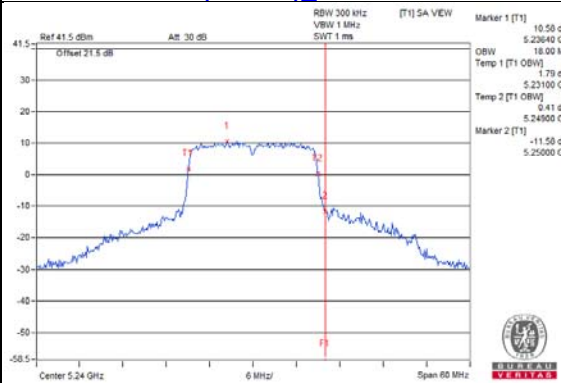
802.11a_Chain 1 / CH48



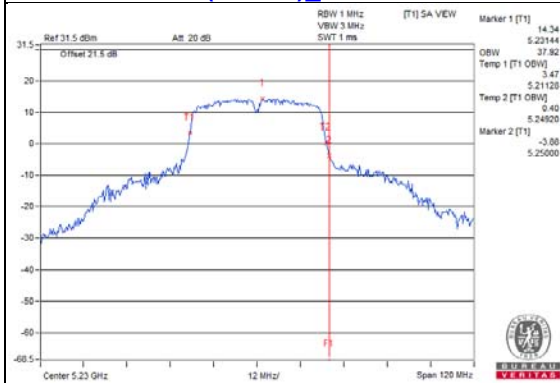
802.11ac (VHT20)_Chain 0 / CH48



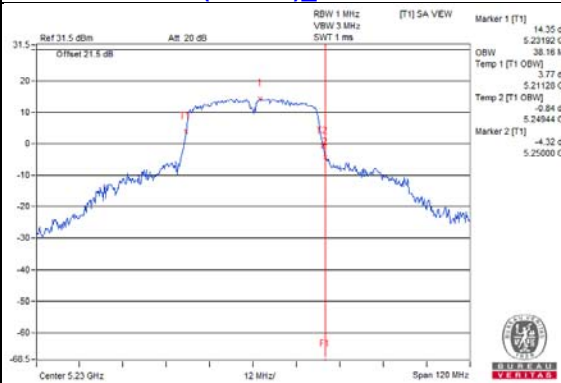
802.11ac (VHT20)_Chain 1 / CH48



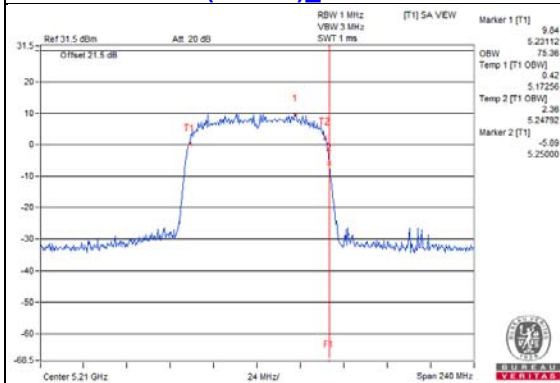
802.11ac (VHT40)_Chain 0 / CH46



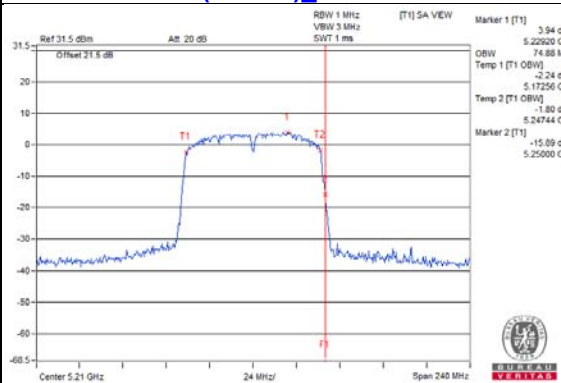
802.11ac (VHT40)_Chain 1 / CH46



802.11ac (VHT80)_Chain 0 / CH42

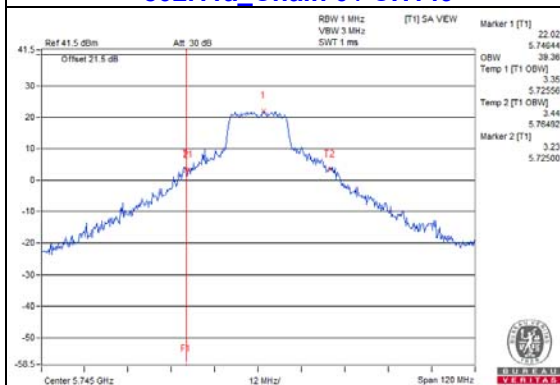


802.11ac (VHT80)_Chain 1 / CH42

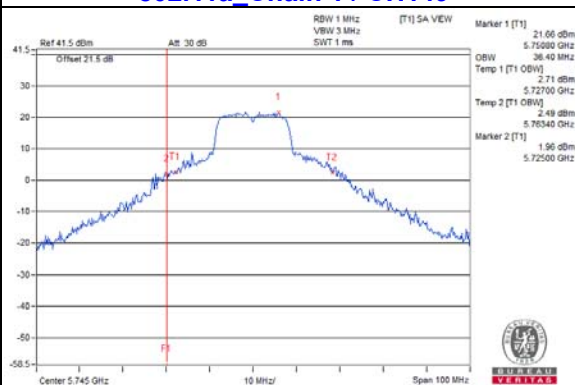


Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)

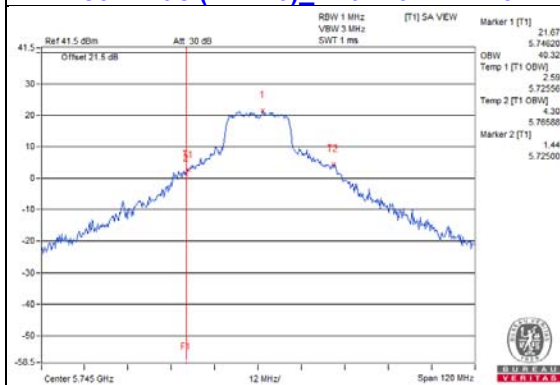
802.11a_Chain 0 / CH149



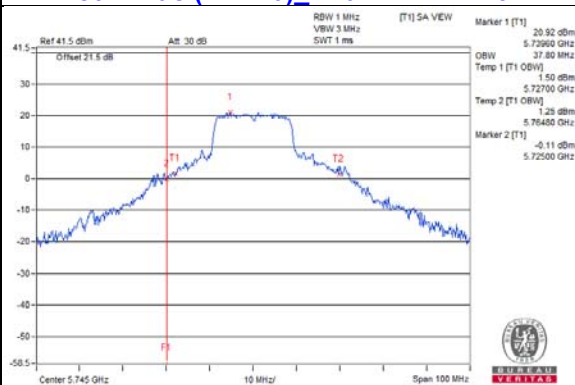
802.11a_Chain 1 / CH149



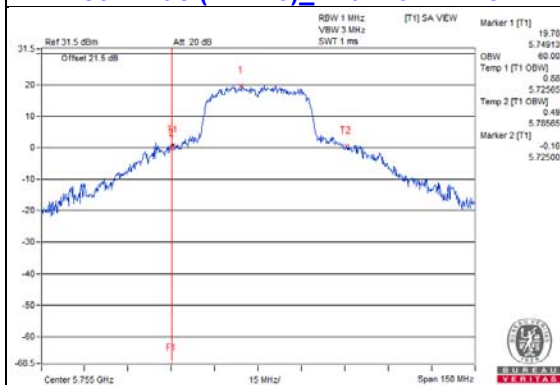
802.11ac (VHT20)_Chain 0 / CH149



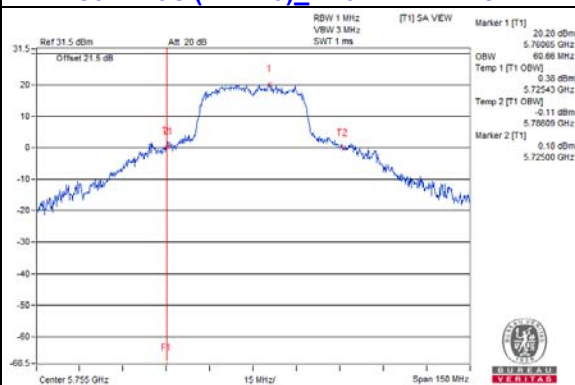
802.11ac (VHT20)_Chain 1 / CH149



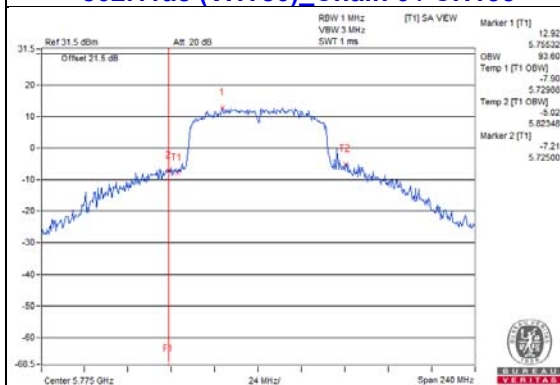
802.11ac (VHT40)_Chain 0 / CH151



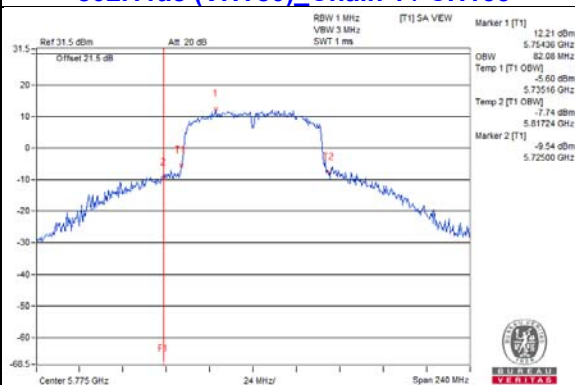
802.11ac (VHT40)_Chain 1 / CH151



802.11ac (VHT80)_Chain 0 / CH155



802.11ac (VHT80)_Chain 1 / CH155

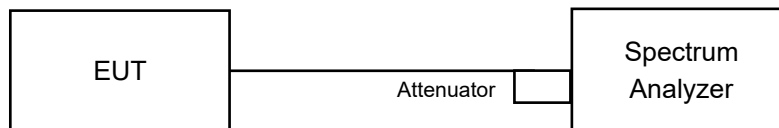


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

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

Using method SA-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 U-NII-3 band:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	6.15	6.12	9.15	9.44	Pass
40	5200	6.30	6.26	9.29	9.44	Pass
48	5240	6.27	6.10	9.20	9.44	Pass
52	5260	5.44	5.27	8.37	9.40	Pass
60	5300	5.65	5.43	8.55	9.40	Pass
64	5320	5.65	5.36	8.52	9.40	Pass
100	5500	5.32	3.68	7.59	10.14	Pass
116	5580	7.04	5.71	9.44	10.14	Pass
140	5700	4.70	3.14	7.00	10.14	Pass
144 (U-NII-2C Band)	5720	6.86	5.83	9.39	10.14	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 band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.56 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.56 - 6) = 9.44 \text{ dBm}$.
3. For U-NII-2A band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.6 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.6 - 6) = 9.40 \text{ dBm}$.
4. For U-NII-2C band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 6.86 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.86 - 6) = 10.14 \text{ dBm}$.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	4.81	4.65	7.74	9.44	Pass
40	5200	6.02	6.02	9.03	9.44	Pass
48	5240	6.04	6.19	9.13	9.44	Pass
52	5260	5.26	4.94	8.11	9.40	Pass
60	5300	5.31	4.96	8.15	9.40	Pass
64	5320	5.00	4.67	7.85	9.40	Pass
100	5500	3.88	2.52	6.26	10.14	Pass
116	5580	6.86	5.40	9.20	10.14	Pass
140	5700	3.57	2.02	5.87	10.14	Pass
144 (U-NII-2C Band)	5720	6.65	5.29	9.03	10.14	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 band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.56 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.56 - 6) = 9.44 \text{ dBm}$.
3. For U-NII-2A band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.6 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.6 - 6) = 9.40 \text{ dBm}$.
4. For U-NII-2C band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 6.86 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.86 - 6) = 10.14 \text{ dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
38	5190	-0.98	-1.17	1.94	9.44	Pass
46	5230	4.87	4.86	7.88	9.44	Pass
54	5270	2.95	2.48	5.73	9.40	Pass
62	5310	0.83	0.51	3.68	9.40	Pass
102	5510	-0.41	-2.33	1.75	10.14	Pass
110	5550	4.38	2.66	6.62	10.14	Pass
134	5670	3.42	1.89	5.73	10.14	Pass
142 (U-NII-2C Band)	5710	4.24	2.69	6.54	10.14	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 band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.56 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.56 - 6) = 9.44 \text{ dBm}$.
3. For U-NII-2A band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.6 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.6 - 6) = 9.40 \text{ dBm}$.
4. For U-NII-2C band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 6.86 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.86 - 6) = 10.14 \text{ dBm}$.

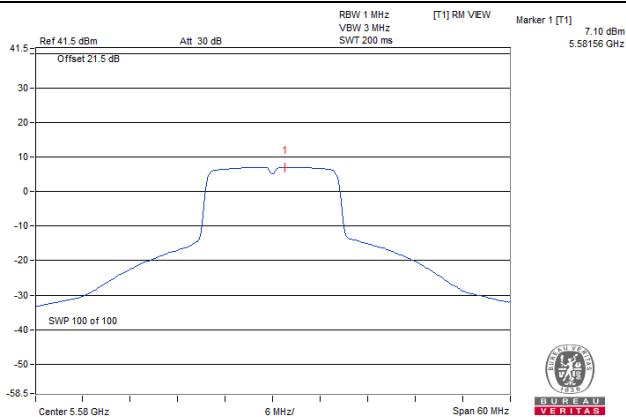
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
42	5210	-5.31	-5.70	-2.49	9.44	Pass
58	5290	-3.13	-3.75	-0.42	9.40	Pass
106	5530	-3.33	-5.01	-1.08	10.14	Pass
122	5610	1.37	-0.33	3.61	10.14	Pass
138 (U-NII-2C Band)	5690	0.91	-0.38	3.32	10.14	Pass

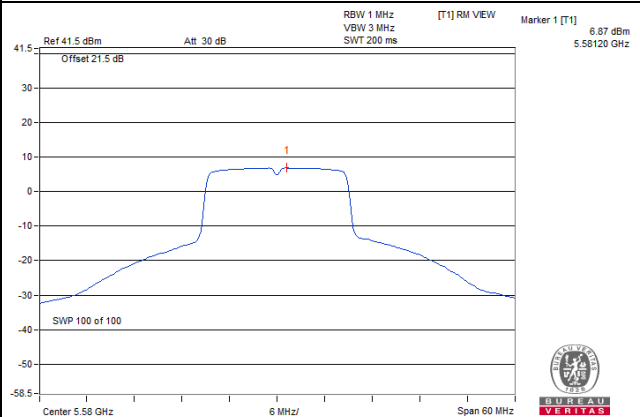
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1 band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.56 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.56 - 6) = 9.44 \text{ dBm}$.
3. For U-NII-2A band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 7.6 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (7.6 - 6) = 9.40 \text{ dBm}$.
4. For U-NII-2C band: The directional gain = $10 \log[(10^{G_{0/20}} + 10^{G_{1/20}})^2 / 2] = 6.86 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $11 - (6.86 - 6) = 10.14 \text{ dBm}$.

Spectrum Plot of Worst Value

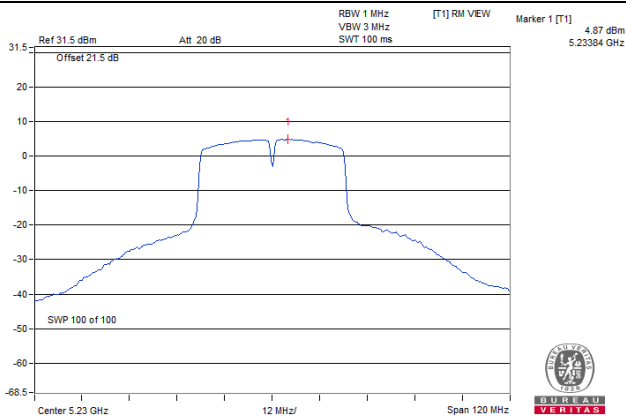
802.11a_Chain 0 / CH116



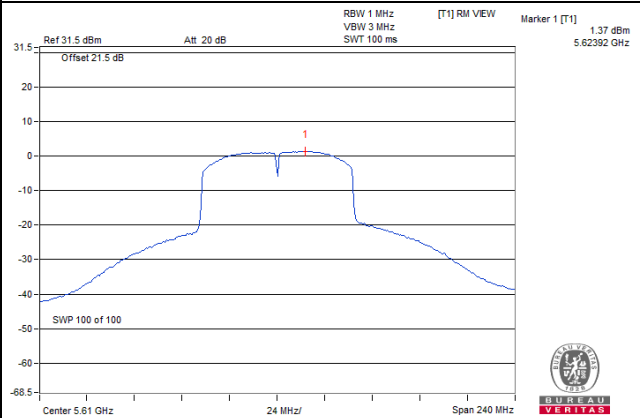
802.11ac (VHT20)_Chain 0 / CH116



802.11ac (VHT40)_Chain 0 / CH46



802.11ac (VHT80)_Chain 0 / CH122



For U-NII-3 band:

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
144 (U-NII-3 Band)	5720	-1.93	-3.01	0.57	2.79	29.39	Pass
149	5745	2.35	2.66	5.52	7.74	29.39	Pass
157	5785	2.47	2.43	5.46	7.68	29.39	Pass
165	5825	2.41	2.22	5.33	7.55	29.39	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 6.61 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.61 - 6) = 29.39 \text{ dBm}$.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
144 (U-NII-3 Band)	5720	-1.94	-3.33	0.43	2.65	29.39	Pass
149	5745	2.21	2.05	5.14	7.36	29.39	Pass
157	5785	2.21	2.04	5.14	7.36	29.39	Pass
165	5825	3.05	2.75	5.91	8.13	29.39	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 6.61 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.61 - 6) = 29.39 \text{ dBm}$.

802.11ac (VHT40)

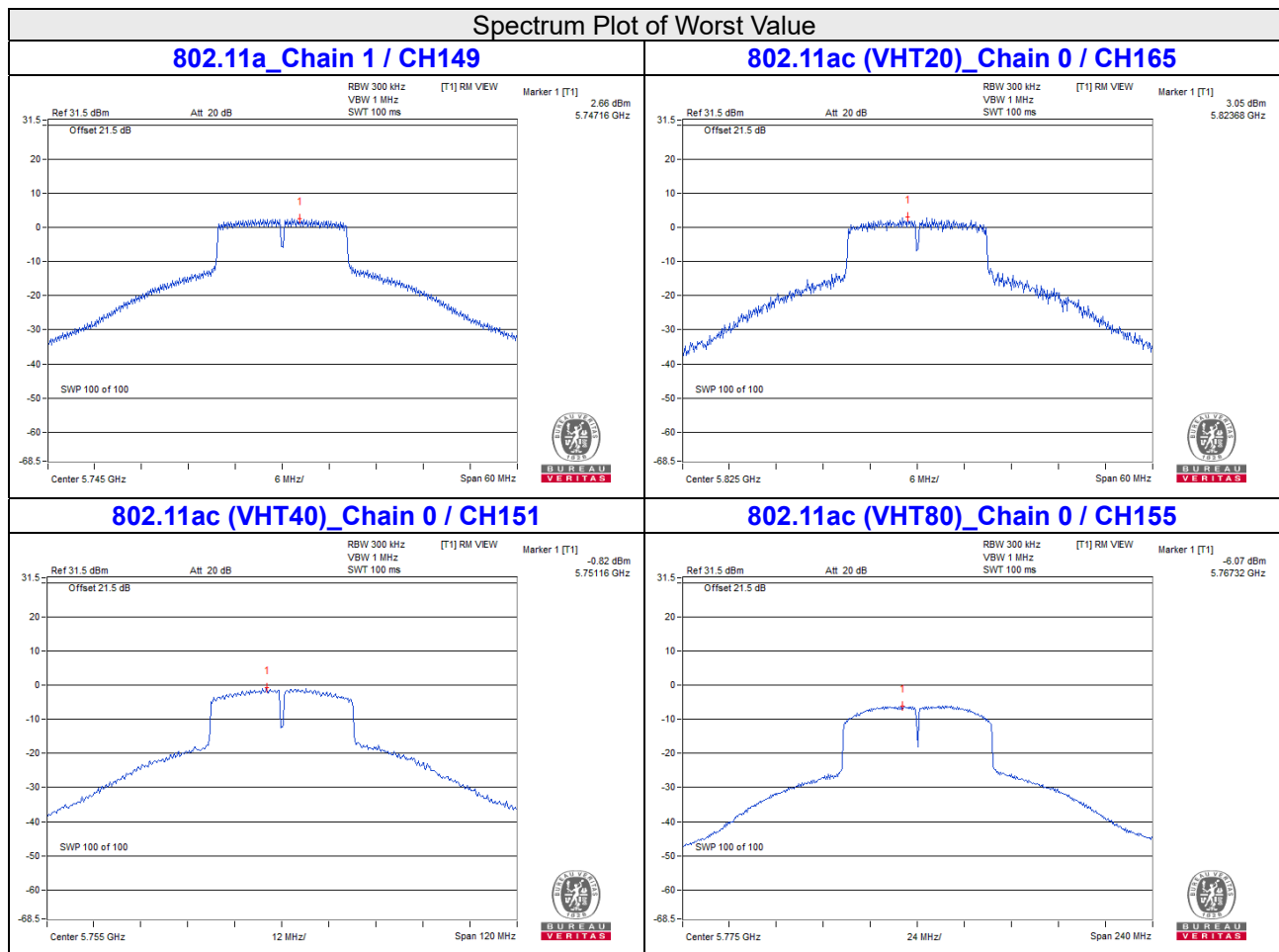
Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
142 (U-NII-3 Band)	5710	-6.76	-8.34	-4.47	-2.25	29.39	Pass
151	5755	-0.82	-1.43	1.90	4.12	29.39	Pass
159	5795	-0.84	-1.34	1.93	4.15	29.39	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 6.61 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.61 - 6) = 29.39 \text{ dBm}$.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
138 (U-NII-3 Band)	5690	-12.16	-13.33	-9.70	-7.48	29.39	Pass
155	5775	-6.07	-7.05	-3.52	-1.30	29.39	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 6.61 \text{ dBi} > 6 \text{ dBi}$, so the power density limit shall be reduced to $30 - (6.61 - 6) = 29.39 \text{ dBm}$.

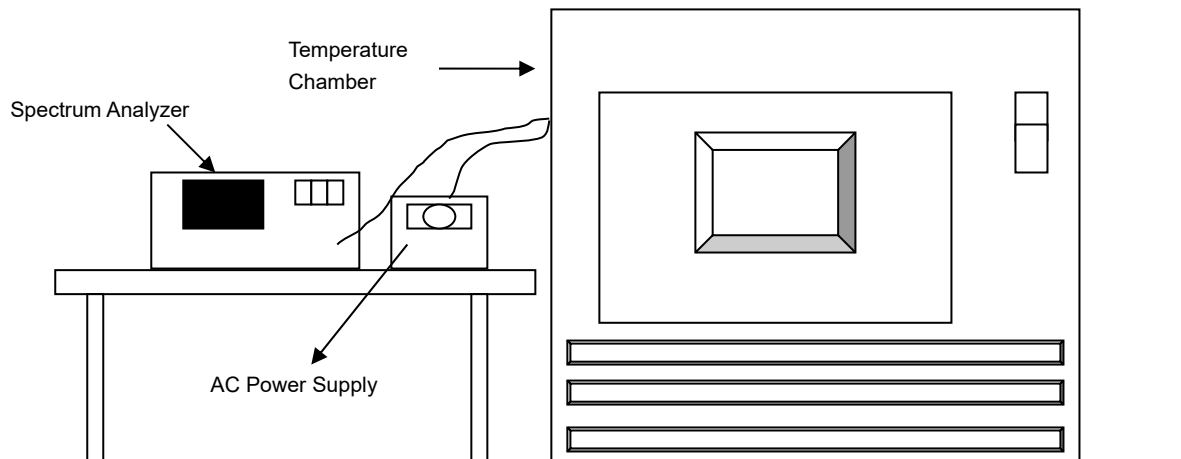


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5179.9923	Pass	5179.994	Pass	5179.9936	Pass	5179.9946	Pass
30	120	5180.0007	Pass	5179.9967	Pass	5179.9989	Pass	5180.0006	Pass
20	120	5179.9867	Pass	5179.9869	Pass	5179.9854	Pass	5179.9881	Pass
10	120	5180.0161	Pass	5180.0136	Pass	5180.0145	Pass	5180.0128	Pass
0	120	5179.9947	Pass	5179.9923	Pass	5179.9916	Pass	5179.9901	Pass

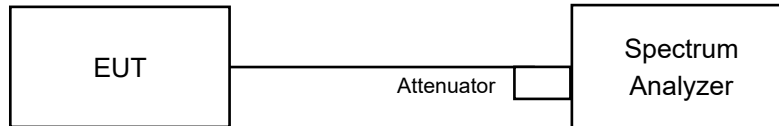
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5179.9876	Pass	5179.9862	Pass	5179.9846	Pass	5179.9881	Pass
	120	5179.9867	Pass	5179.9869	Pass	5179.9854	Pass	5179.9881	Pass
	102	5179.9865	Pass	5179.9866	Pass	5179.986	Pass	5179.989	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.14	3.15	0.5	Pass
149	5745	16.36	16.39	0.5	Pass
157	5785	16.38	16.36	0.5	Pass
165	5825	16.39	16.38	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.75	3.75	0.5	Pass
149	5745	17.61	17.33	0.5	Pass
157	5785	17.61	17.55	0.5	Pass
165	5825	17.61	17.61	0.5	Pass

802.11ac (VHT40)

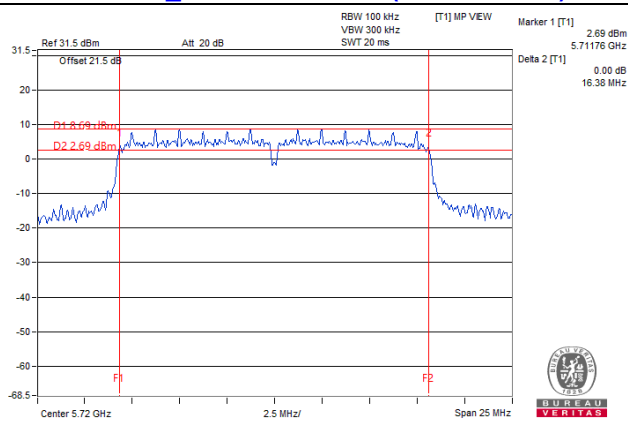
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (U-NII-3 Band)	5710	2.57	2.58	0.5	Pass
151	5755	35.16	35.14	0.5	Pass
159	5795	35.16	35.14	0.5	Pass

802.11ac (VHT80)

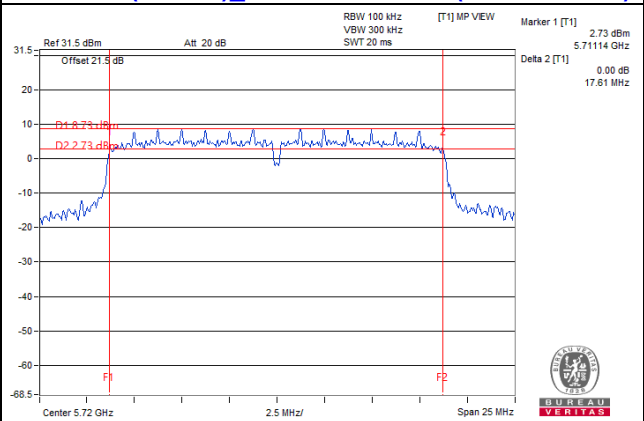
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (U-NII-3 Band)	5690	1.41	2.64	0.5	Pass
155	5775	71.59	71.54	0.5	Pass

Spectrum Plot of Worst Value

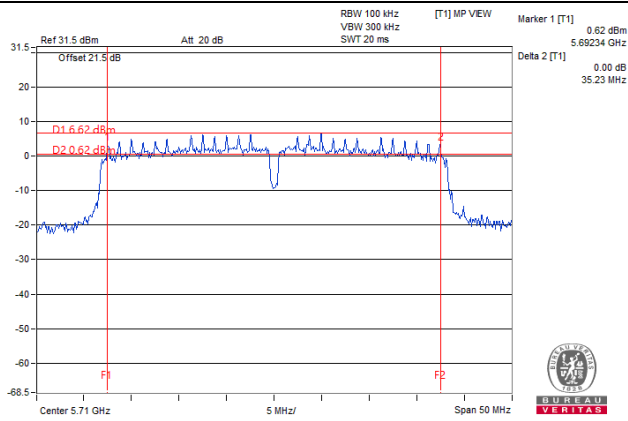
802.11a_Chain 0 / CH144 (U-NII-3 Band)



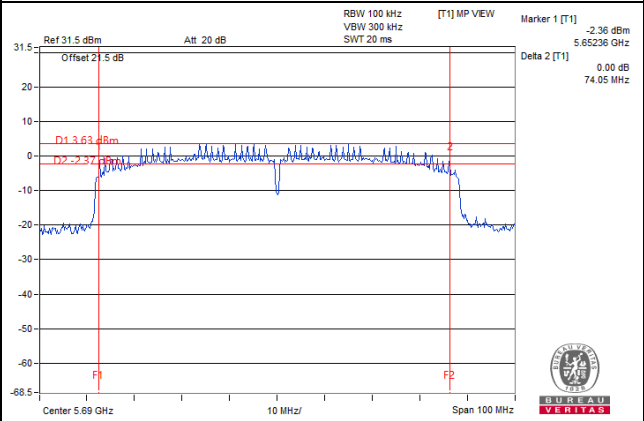
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



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



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



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

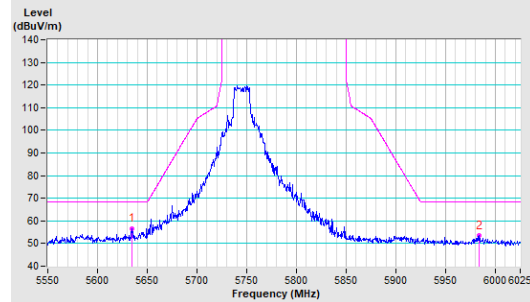
5 Pictures of Test Arrangements

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

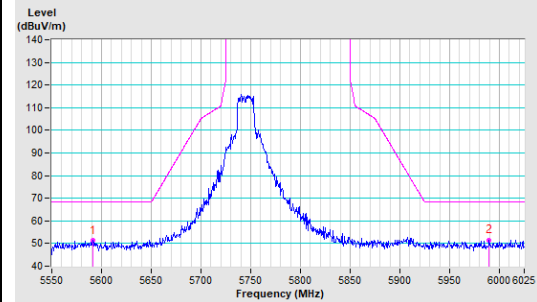
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149 : 5745 MHz

Horizontal

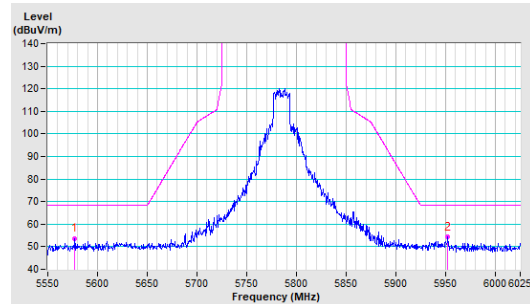


Vertical

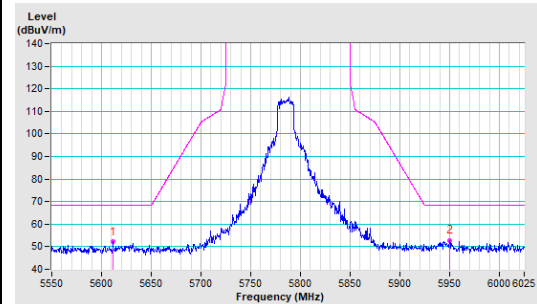


802.11a CH 157 : 5785 MHz

Horizontal

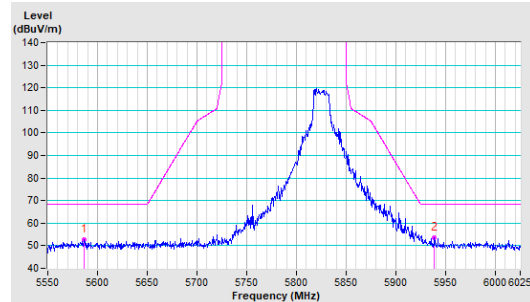


Vertical

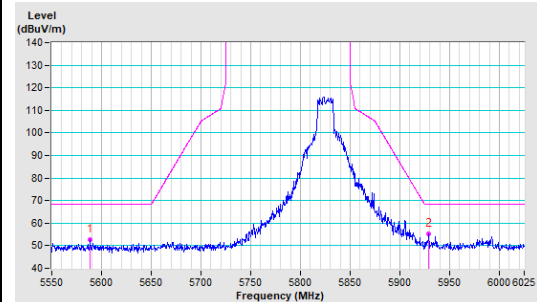


802.11a CH 165 : 5825 MHz

Horizontal

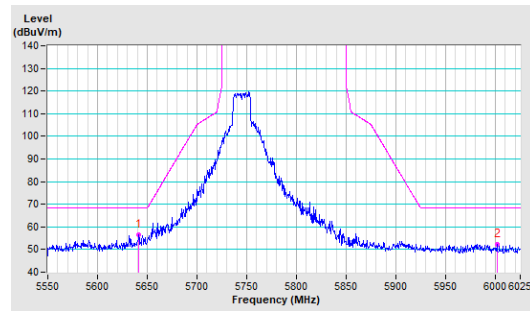


Vertical

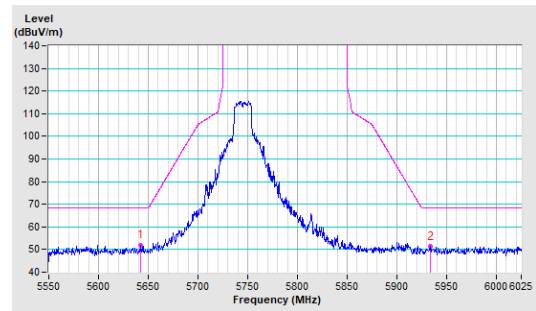


802.11ac (VHT20) CH 149 : 5745 MHz

Horizontal

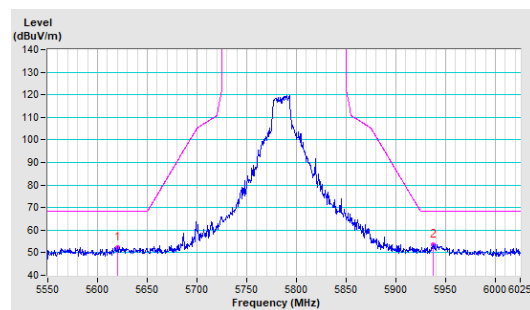


Vertical

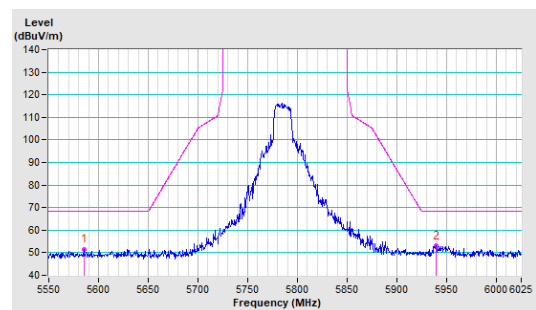


802.11ac (VHT20) CH 157 : 5785 MHz

Horizontal

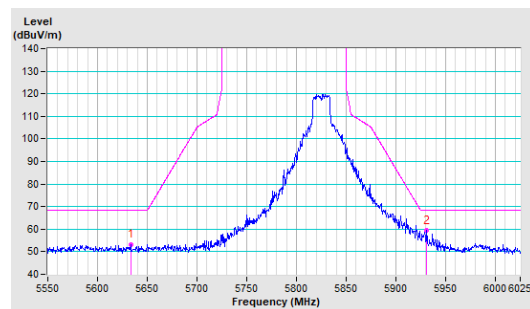


Vertical

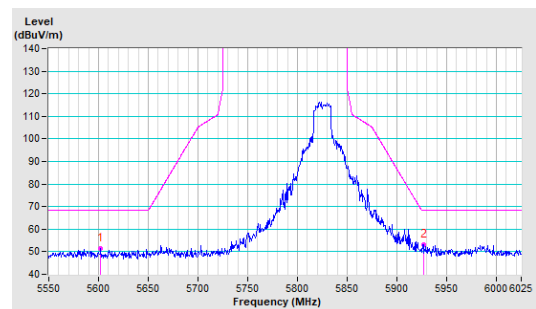


802.11ac (VHT20) CH 165 : 5825 MHz

Horizontal

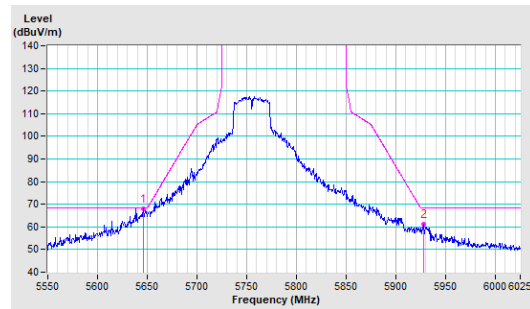


Vertical

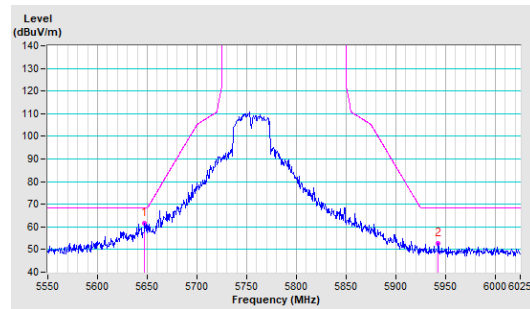


802.11ac (VHT40) CH 151 : 5755 MHz

Horizontal

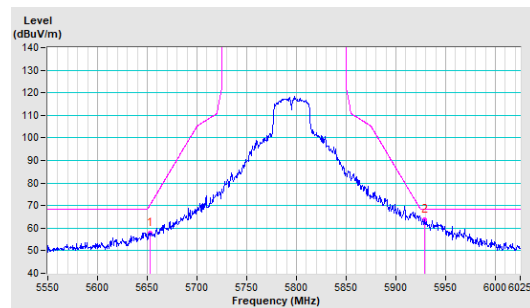


Vertical

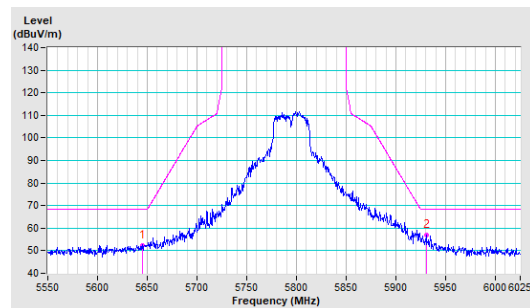


802.11ac (VHT40) CH 159 : 5795 MHz

Horizontal

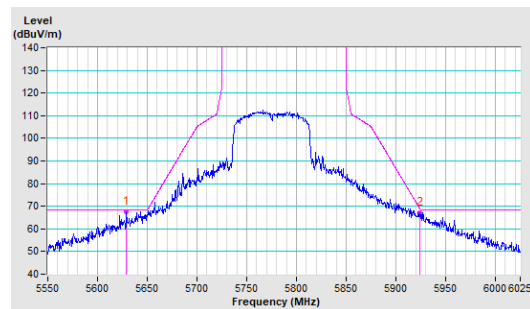


Vertical

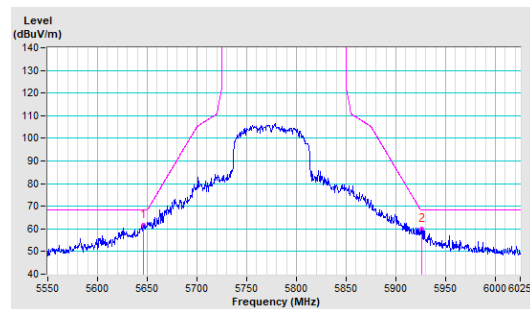


802.11ac (VHT80) CH 155 : 5775 MHz

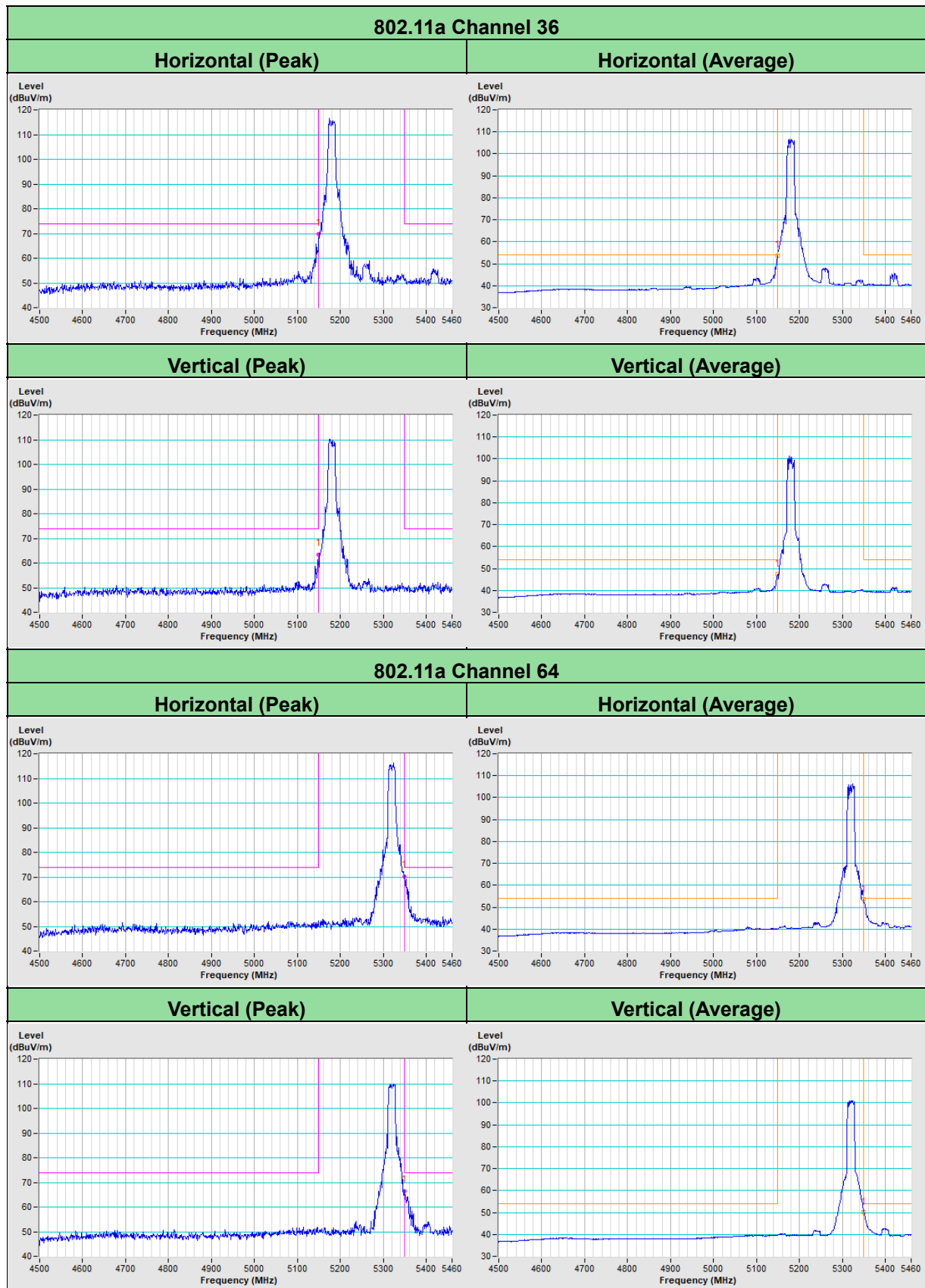
Horizontal

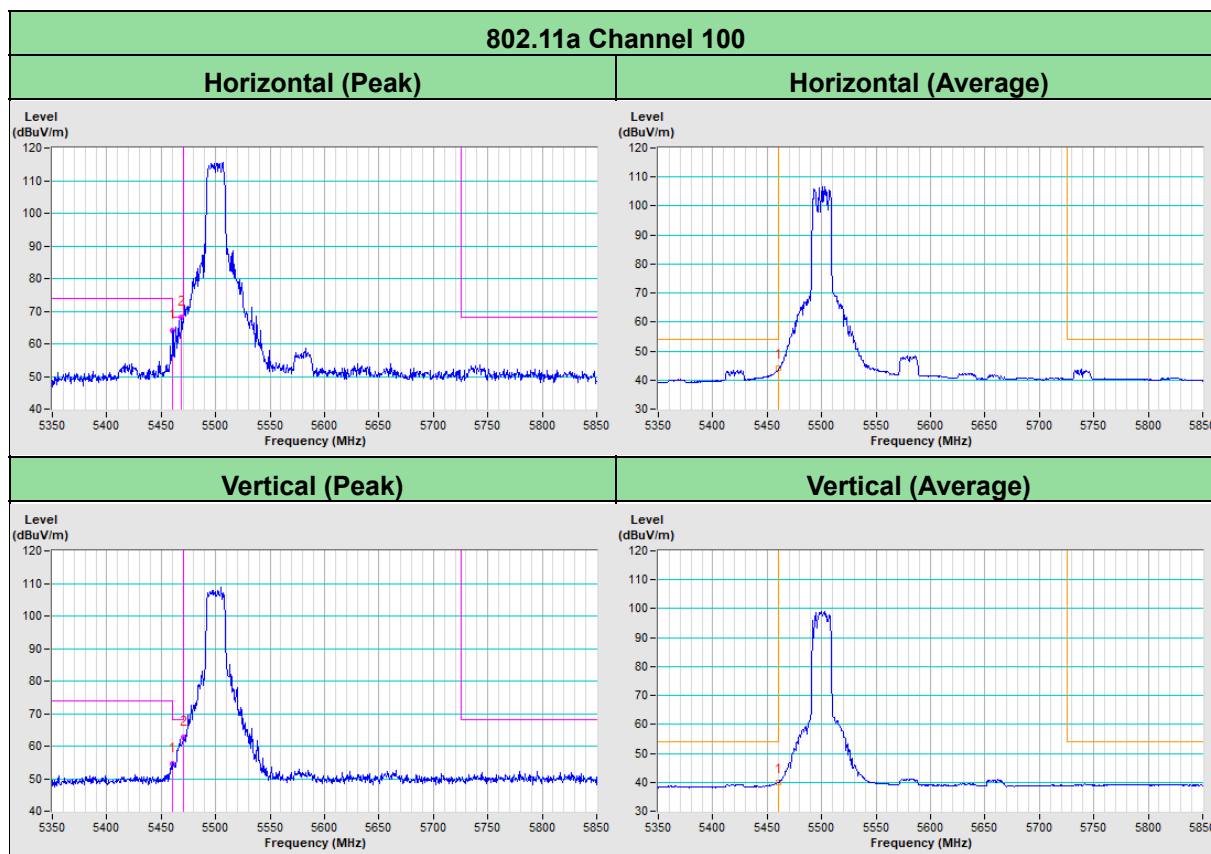


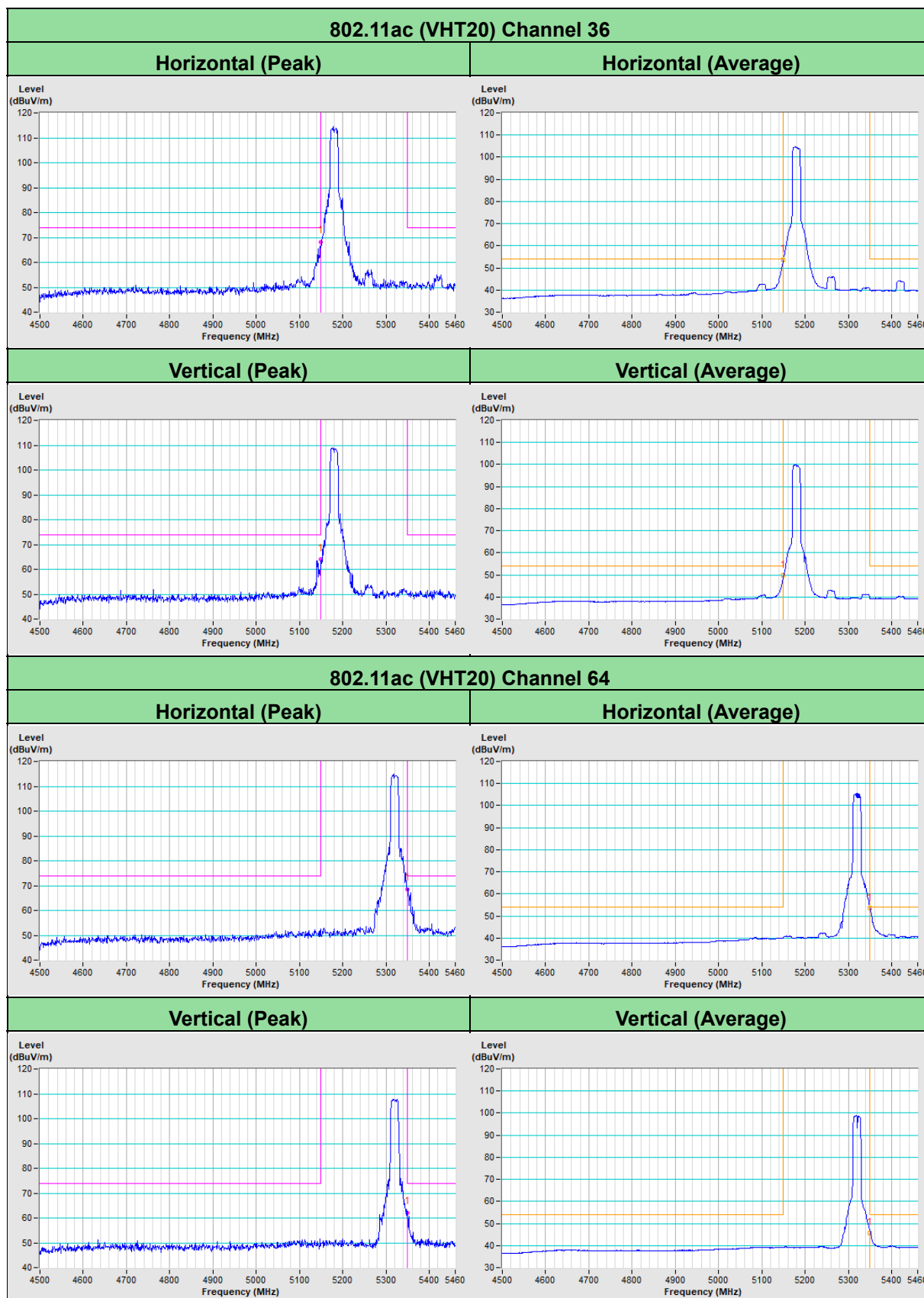
Vertical

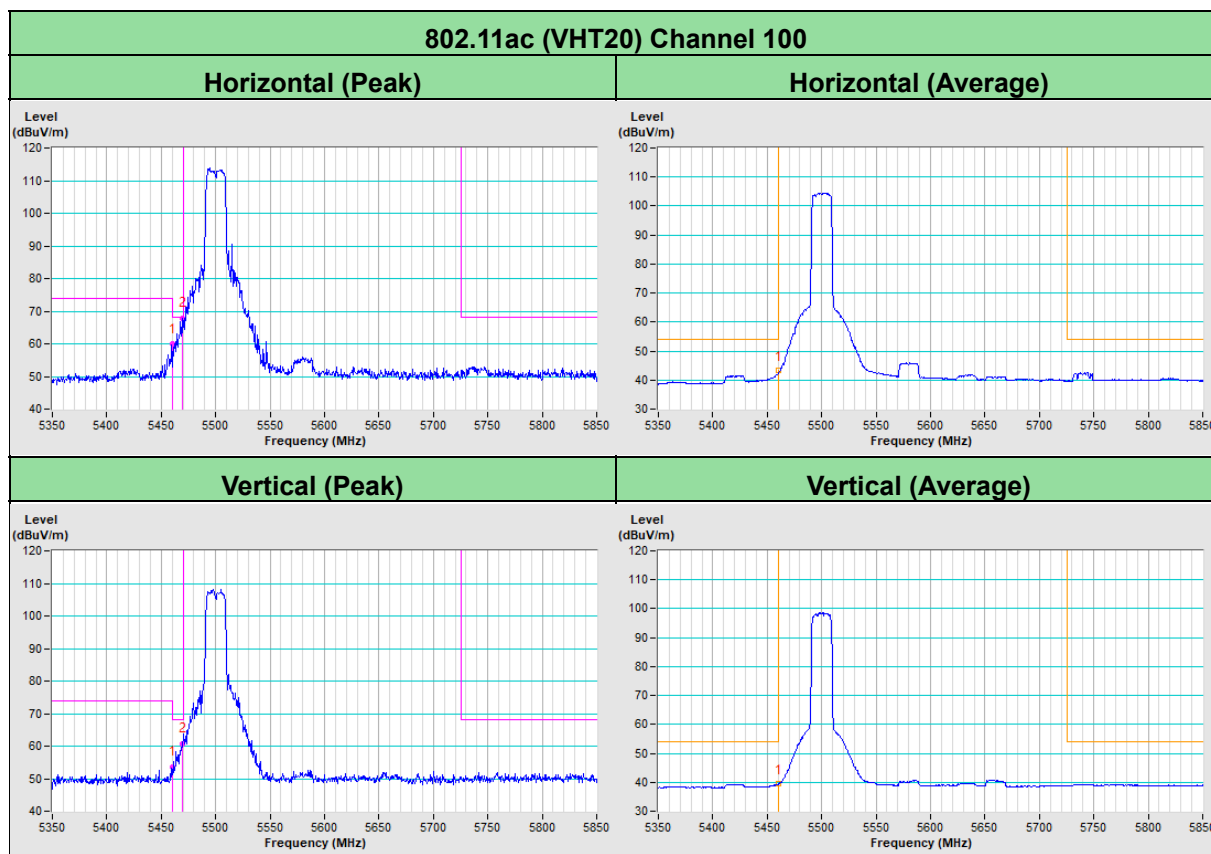


Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)



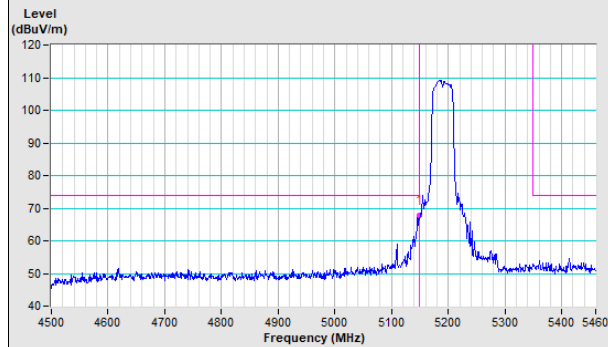




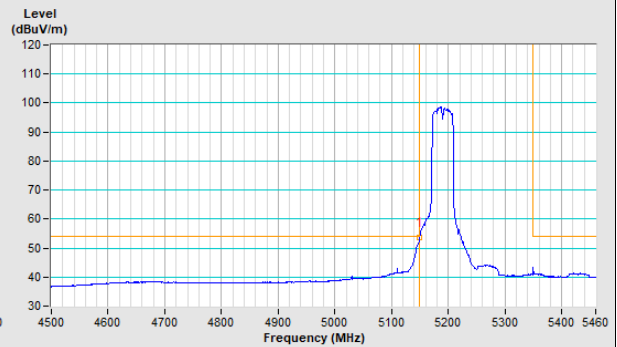


802.11ac (VHT40) Channel 38

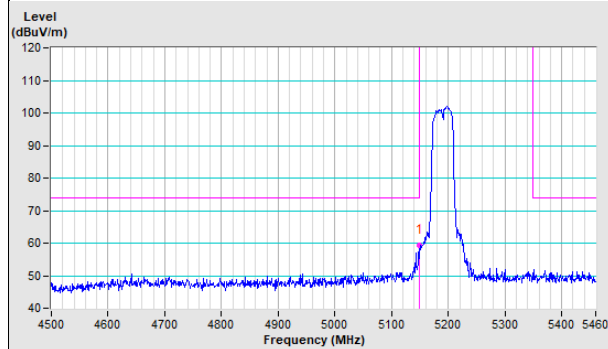
Horizontal (Peak)



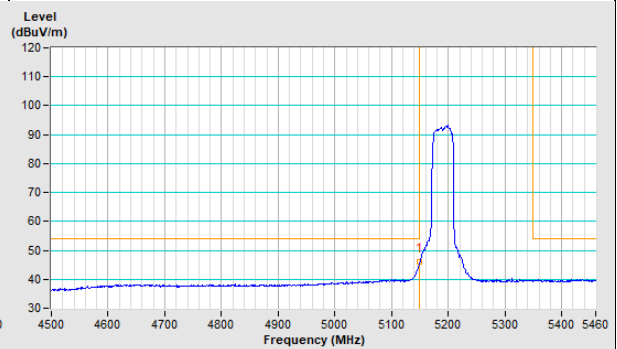
Horizontal (Average)



Vertical (Peak)

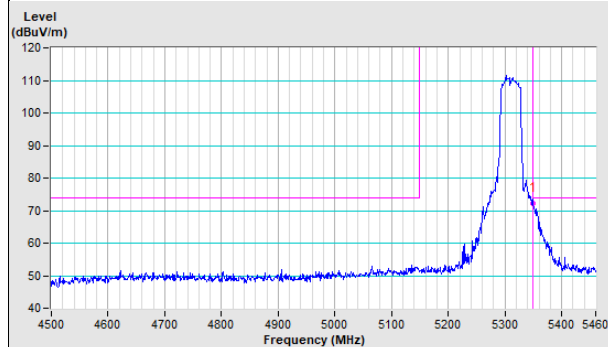


Vertical (Average)

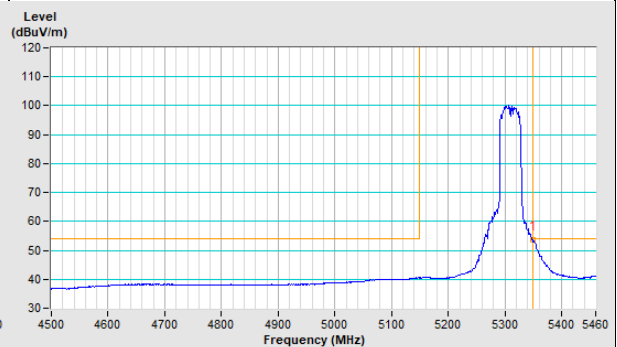


802.11ac (VHT40) Channel 62

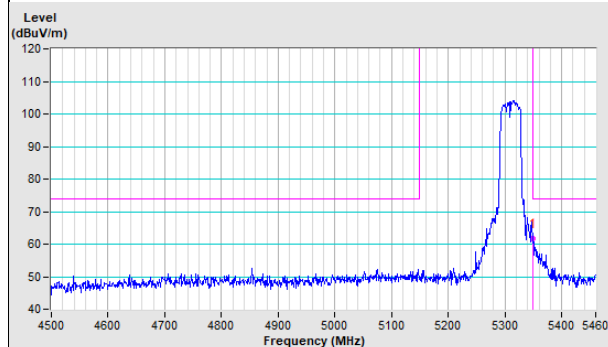
Horizontal (Peak)



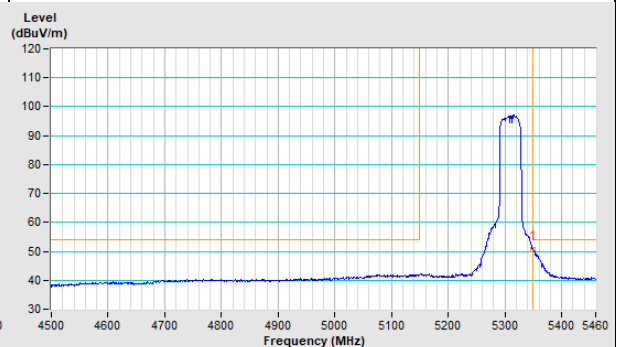
Horizontal (Average)

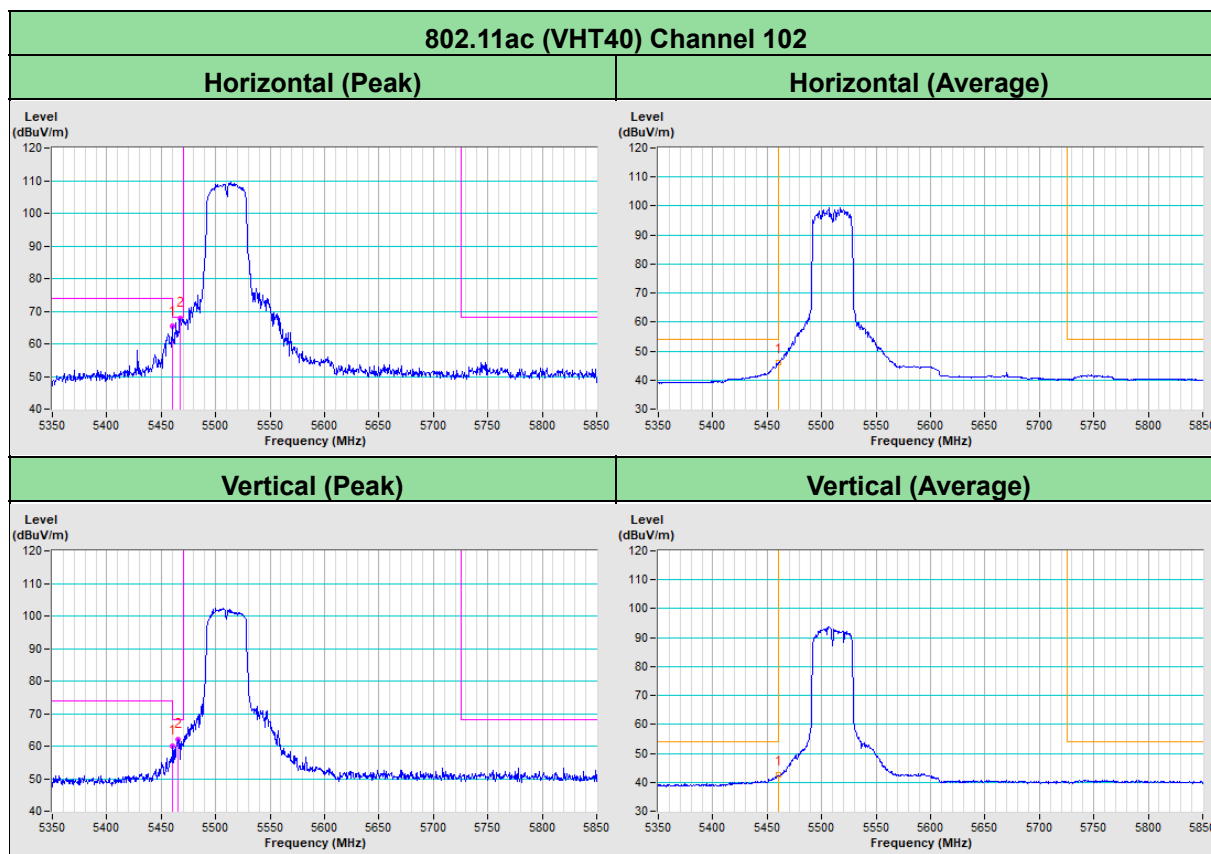


Vertical (Peak)



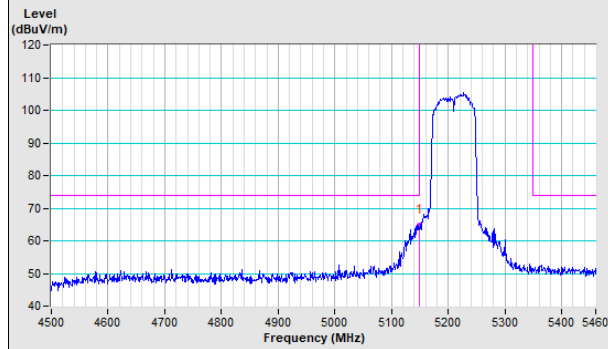
Vertical (Average)



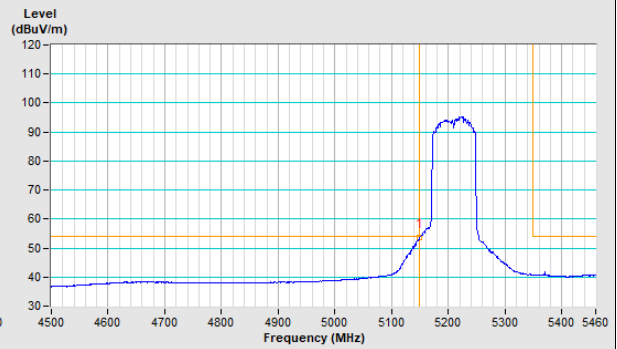


802.11ac (VHT80) Channel 42

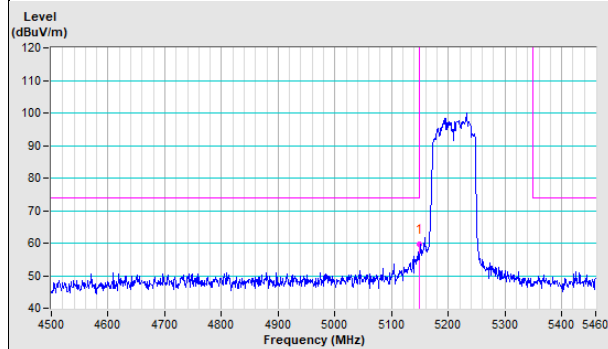
Horizontal (Peak)



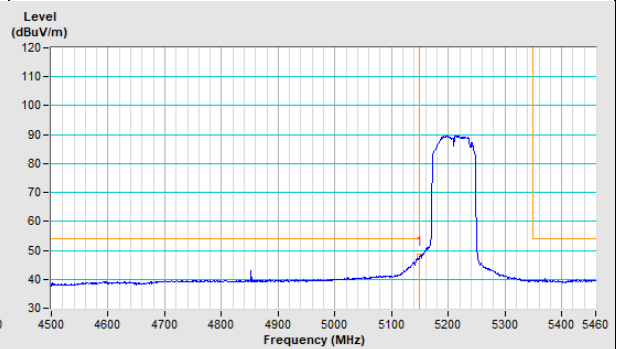
Horizontal (Average)



Vertical (Peak)

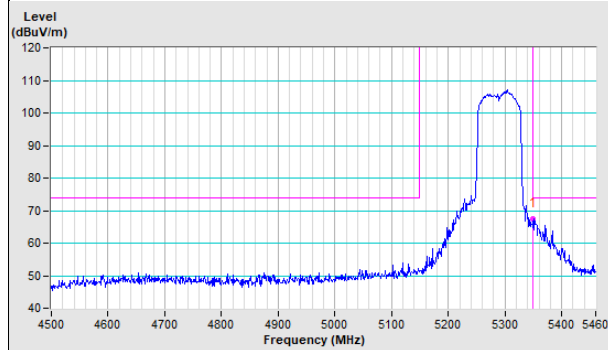


Vertical (Average)

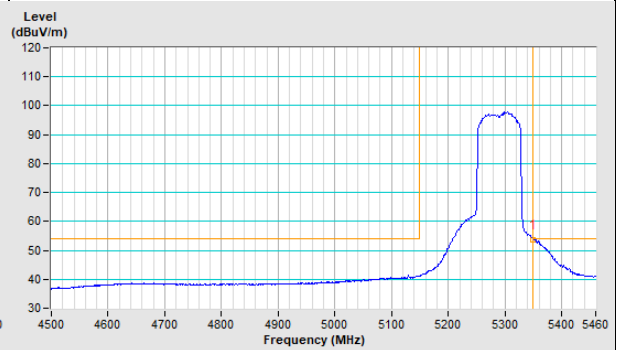


802.11ac (VHT80) Channel 58

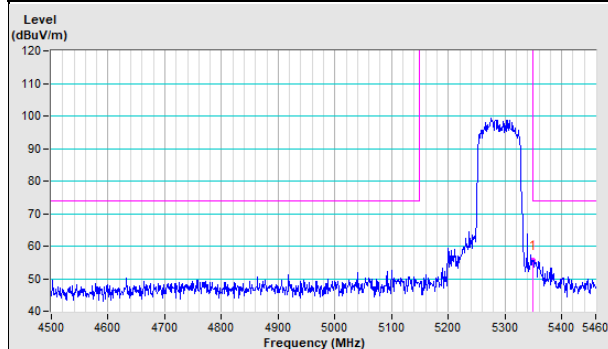
Horizontal (Peak)



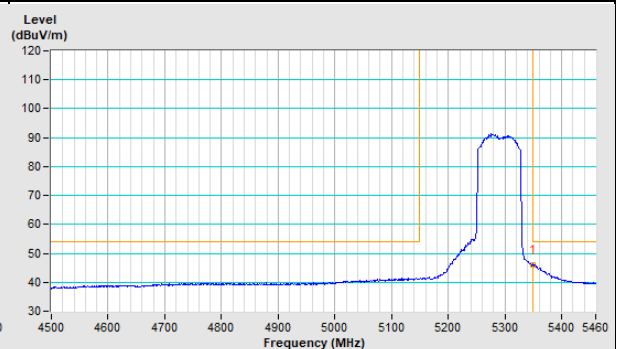
Horizontal (Average)

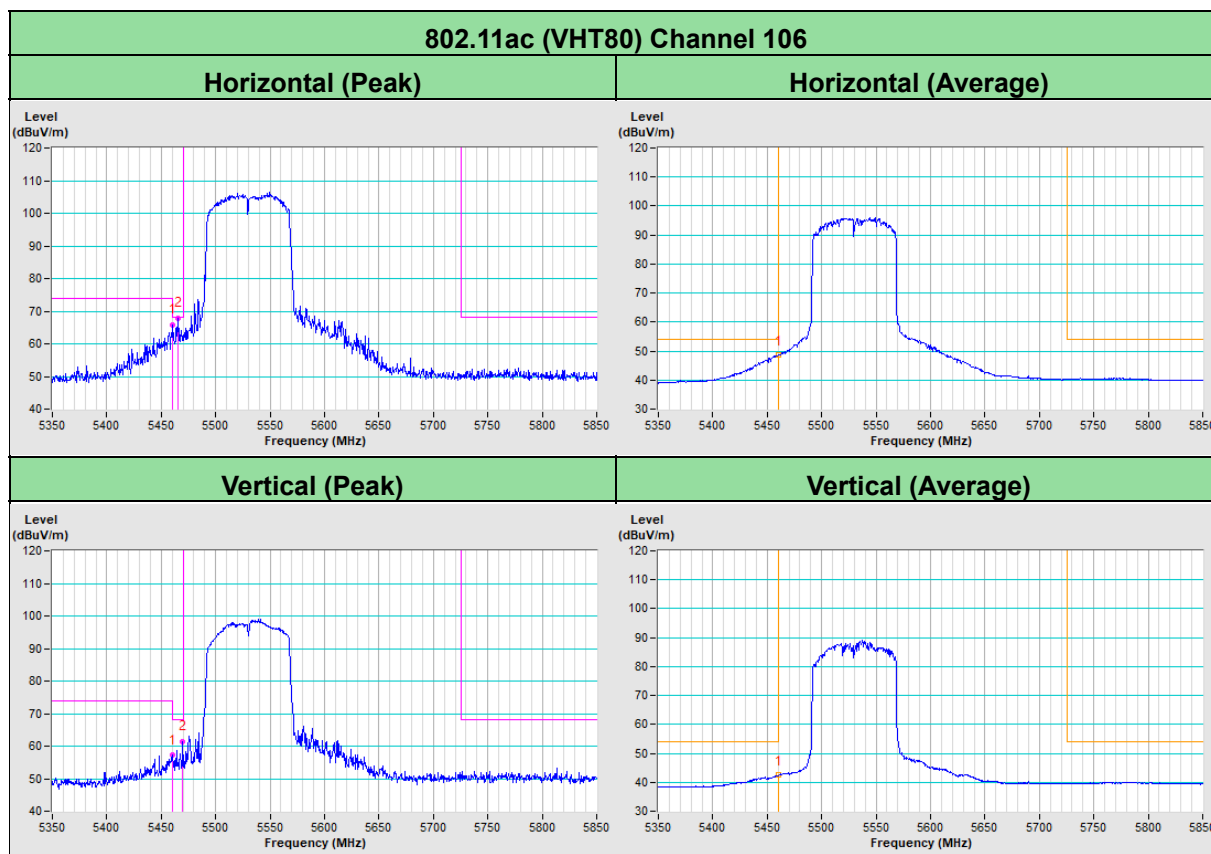


Vertical (Peak)



Vertical (Average)





Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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Web Site: www.bureauveritas-adt.com

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

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