

FCC Test Report (5GHz WLAN)

Report No.: RFBDKG-WTW-P21060167-1

FCC ID: JNZVR0028

Test Model: VR0028

Received Date: June 21, 2021

Test Date: June 25 to July 03, 2021

Issued Date: Aug. 10, 2021

Applicant: Logitech Far East Ltd

Address: 7700 Gateway Boulevard Newark California United States

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBDKG-WTW-P21060167-1	Original release.	Aug. 10, 2021

1 Certificate of Conformity

Product: TAP Scheduler

Brand: Logitech

Test Model: VR0028

Sample Status: Engineering sample

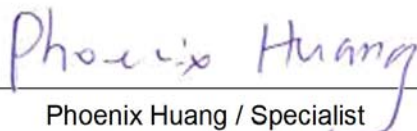
Applicant: Logitech Far East Ltd

Test Date: June 25 to July 03, 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:

Aug. 10, 2021

Approved by :



Clark Lin / Technical Manager

Date:

Aug. 10, 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 -5.45dB at 14.83594 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 -4.0 dB at 5468.40 MHz, 5150.00 MHz and 5850.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

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

2.1 Measurement Uncertainty

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

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

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (5GHz WLAN)

Product	TAP Scheduler
Brand	Logitech
Test Model	VR0028
Status of EUT	Engineering sample
Power Supply Rating	56 Vdc from POE
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 150 Mbps 802.11ac: up to 433.3 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: 98.628 mW 5.26 ~ 5.32 GHz: 99.312 mW 5.50 ~ 5.72 GHz: 91.833 mW 5.745 ~ 5.825 GHz: 93.541 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Cable Supplied	NA

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. Simultaneously transmission condition.

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

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

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

Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
FIH	S0A260020A0	3	2.4~2.4835	Monopole	None
		4.06	5.15~5.25		
		3.99	5.25~5.35		
		2.95	5.47~5.725		
		1.9	5.725~5.85		

4. The EUT incorporates a SISO function:

5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	1TX	1RX
802.11n (HT20)	1TX	1RX
802.11n (HT40)	1TX	1RX
802.11ac (VHT20)	1TX	1RX
802.11ac (VHT40)	1TX	1RX
802.11ac (VHT80)	1TX	1RX

5. 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.

6. 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≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

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

Mode	Freq. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (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)
802.11a	5180-5320, 5500-5700, 5745-5825	36 to 64, 100 to 140, 149 to 165	48	OFDM	BPSK	6

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)
802.11a	5180-5320, 5500-5700, 5745-5825	36 to 64, 100 to 140, 149 to 165	48	OFDM	BPSK	6

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 (System)	Tested By
RE _≥ 1G	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
RE _{<} 1G	25deg. C, 70%RH	120Vac, 60Hz	Ryan Du
PLC	25deg. C, 75%RH	120Vac, 60Hz	Carter Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Kevin Ko

3.3 Duty Cycle of Test Signal

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

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

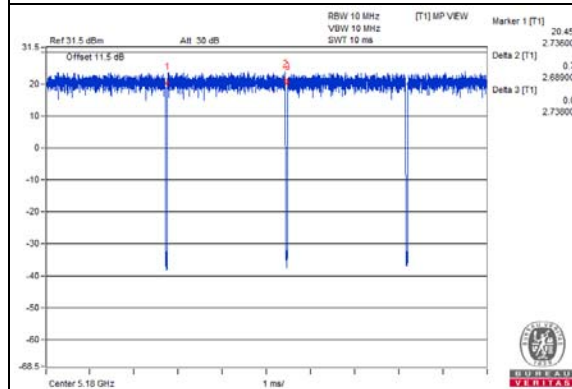
802.11a: Duty cycle = $2.689 \text{ ms} / 2.738 \text{ ms} = 0.982$

802.11ac (VHT20): Duty cycle = $2.509 \text{ ms} / 2.559 \text{ ms} = 0.98$

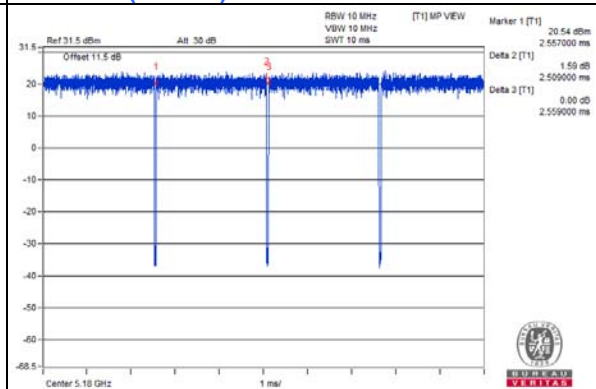
802.11ac (VHT40): Duty cycle = $2.41 \text{ ms} / 2.459 \text{ ms} = 0.98$

802.11ac (VHT80): Duty cycle = $1.134 \text{ ms} / 1.18 \text{ ms} = 0.961$, Duty factor = $10 * \log(1/\text{Duty cycle}) = 0.17 \text{ dB}$

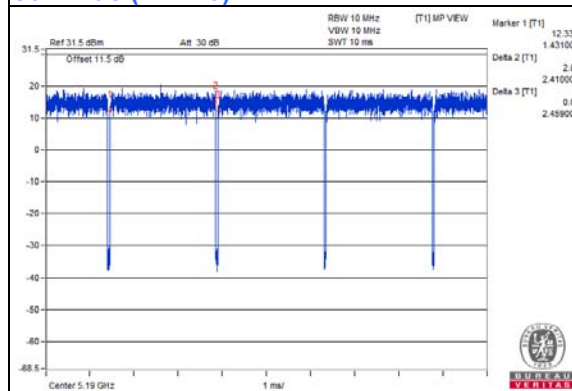
802.11a



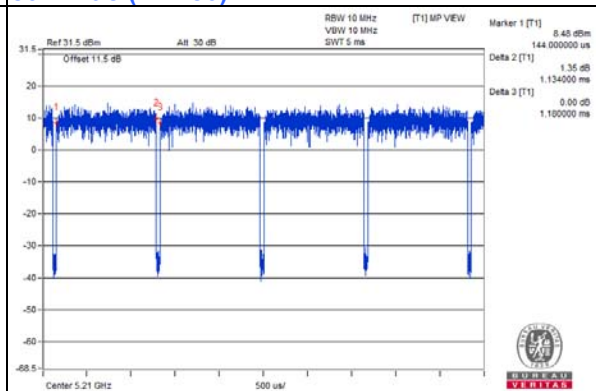
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



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.	PoE	BulletPoE	BPI100-H	NA	NA	Supplied by client
B.	Laptop	Lenovo	20U5S01X00 L14	PF-1ANPYA	NA	Provided by Lab

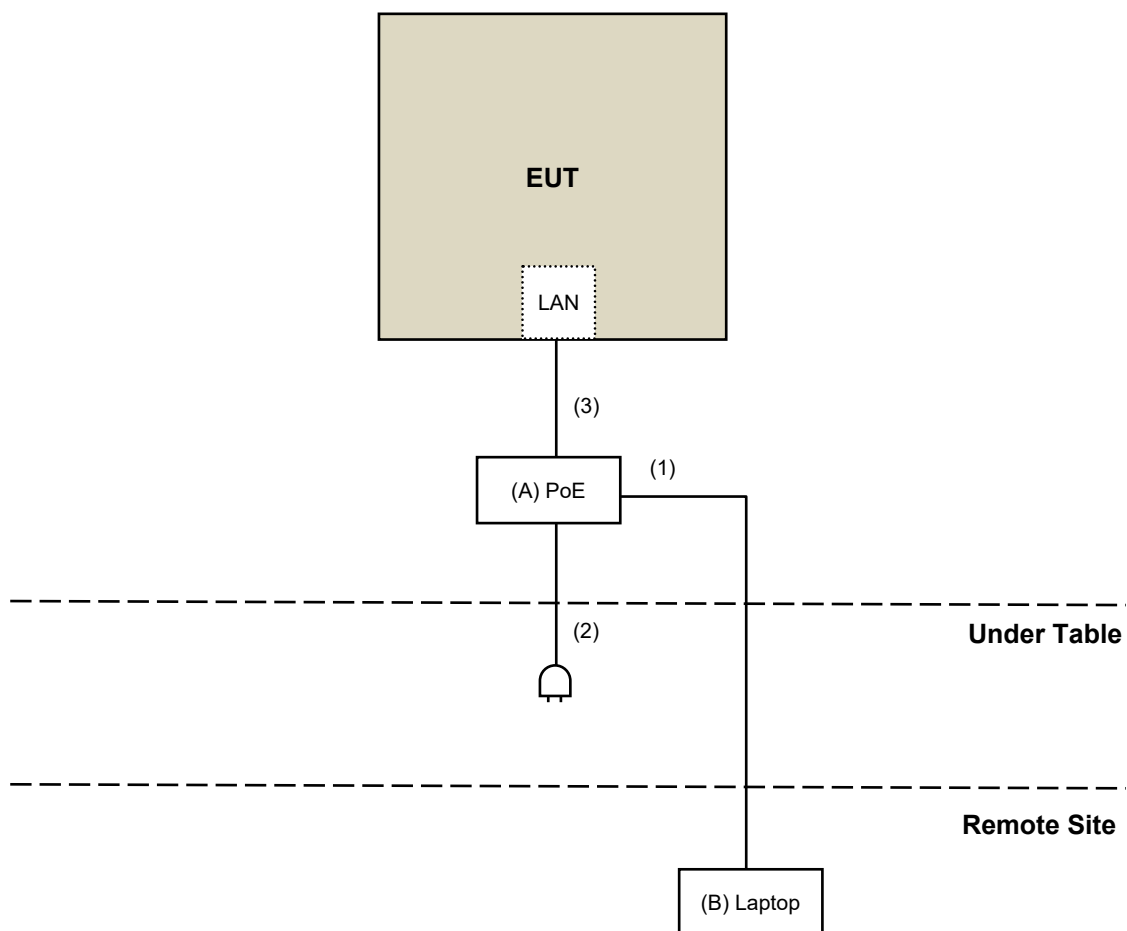
Note:

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

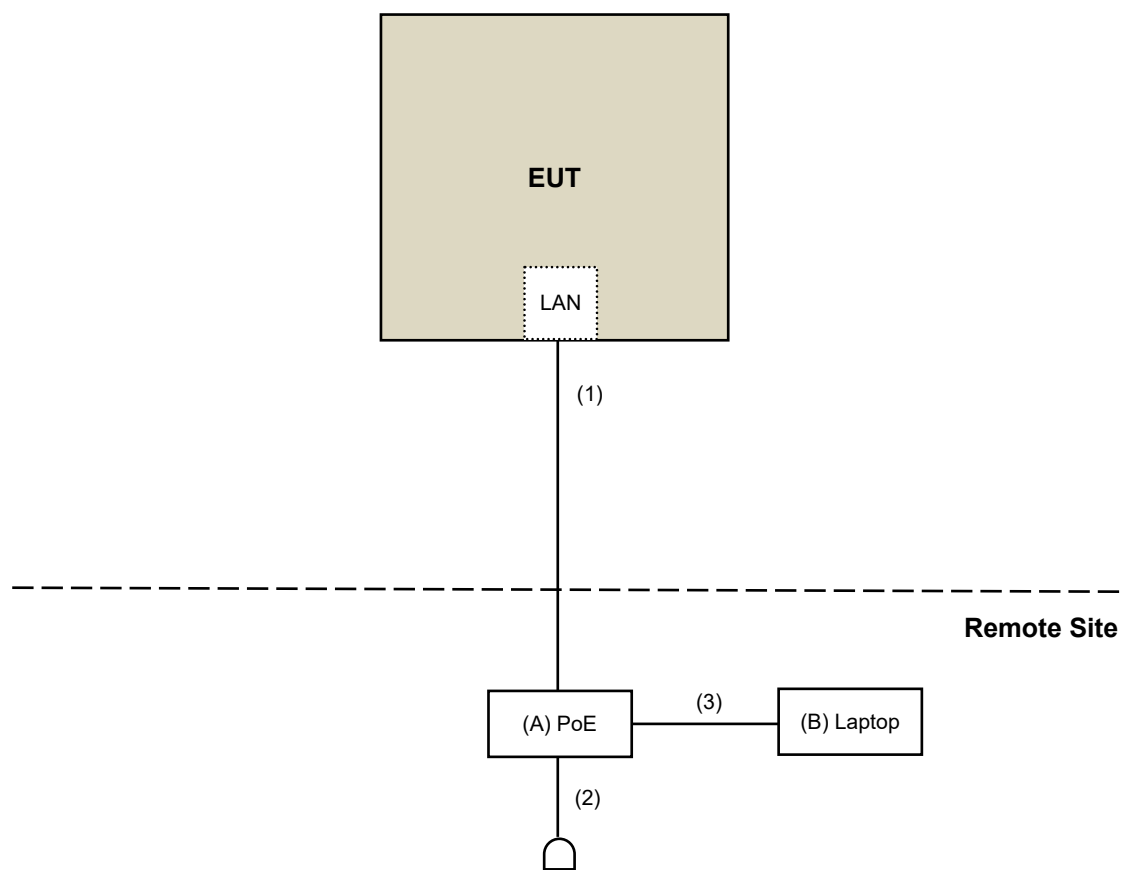
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	AC Cable	1	1.8	No	0	Provided by Lab
3.	RJ-45 Cable	1	1.5	No	0	Supplied by client

3.4.1 Configuration of System under Test

For AC Power Conducted Emission test:



For Radiated Emission 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

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, 2020	July 05, 2021
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 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: June 30 to July 03, 2021

For 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
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 14, 2021	Jan. 13, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 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: June 25, 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:

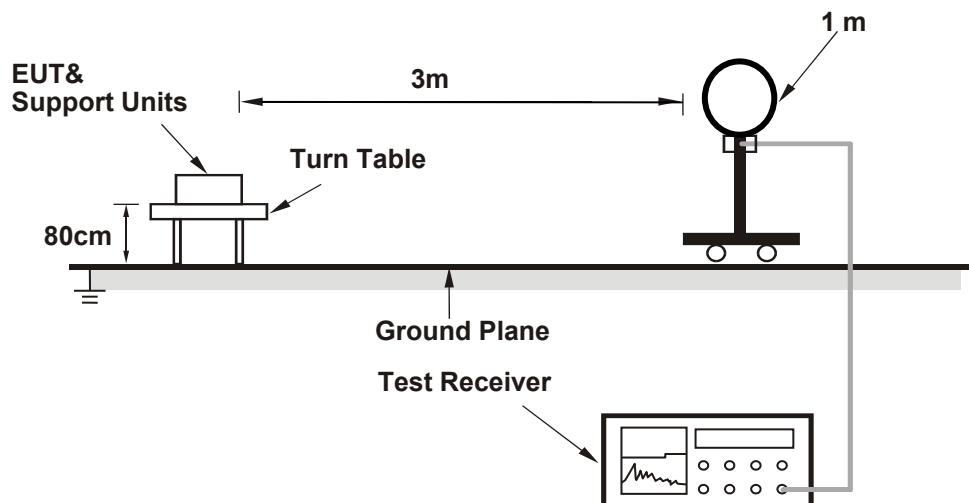
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

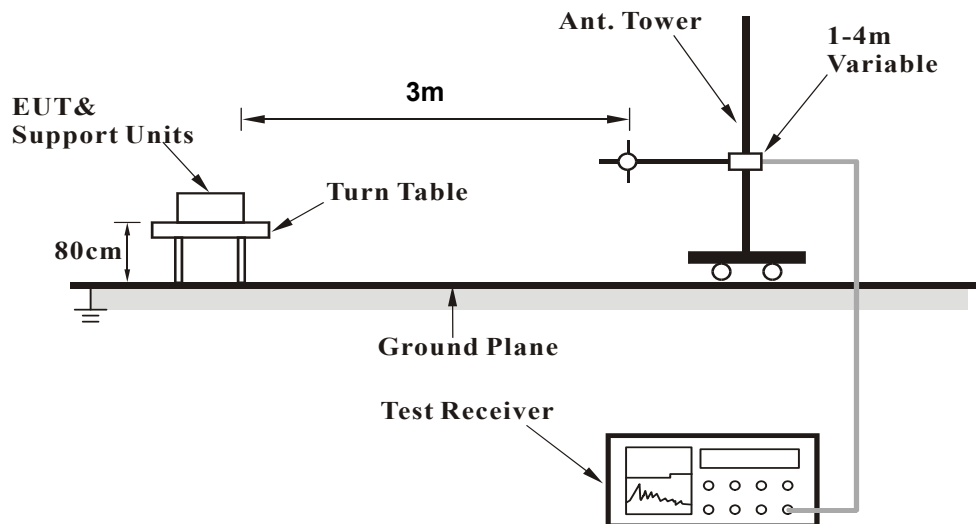
No deviation.

4.1.5 Test Setup

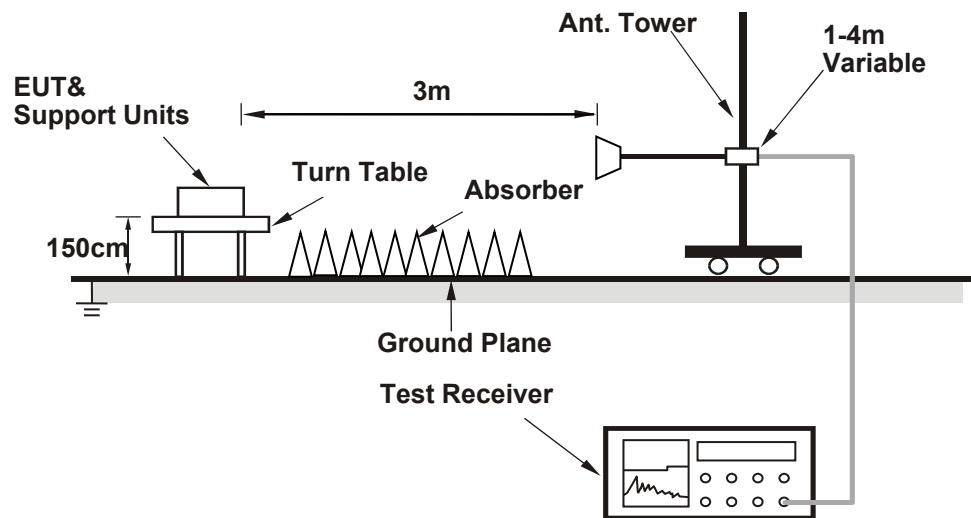
For Radiated emission below 30MHz



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 (SP META) 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	66.7 PK	74.0	-7.3	1.71 H	260	62.0	4.7
2	5150.00	50.0 AV	54.0	-4.0	1.71 H	260	45.3	4.7
3	*5180.00	109.5 PK			1.71 H	260	104.9	4.6
4	*5180.00	100.0 AV			1.71 H	260	95.4	4.6
5	#10360.00	48.1 PK	68.2	-20.1	2.16 H	268	34.7	13.4
6	15540.00	52.5 PK	74.0	-21.5	1.26 H	338	38.0	14.5
7	15540.00	42.7 AV	54.0	-11.3	1.26 H	338	28.2	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	64.6 PK	74.0	-9.4	2.72 V	311	59.9	4.7
2	5150.00	49.4 AV	54.0	-4.6	2.72 V	311	44.7	4.7
3	*5180.00	106.1 PK			2.72 V	311	101.5	4.6
4	*5180.00	95.9 AV			2.72 V	311	91.3	4.6
5	#10360.00	48.5 PK	68.2	-19.7	1.50 V	132	35.1	13.4
6	15540.00	51.8 PK	74.0	-22.2	1.83 V	205	37.3	14.5
7	15540.00	41.6 AV	54.0	-12.4	1.83 V	205	27.1	14.5

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	2.53 H	28	53.0	4.7
2	5150.00	45.3 AV	54.0	-8.7	2.53 H	28	40.6	4.7
3	*5200.00	109.9 PK			1.73 H	259	105.5	4.4
4	*5200.00	100.8 AV			1.73 H	259	96.4	4.4
5	5350.00	52.4 PK	74.0	-21.6	2.49 H	33	48.1	4.3
6	5350.00	40.0 AV	54.0	-14.0	2.49 H	33	35.7	4.3
7	#10400.00	47.6 PK	68.2	-20.6	2.15 H	256	34.0	13.6
8	15600.00	52.0 PK	74.0	-22.0	1.31 H	350	37.5	14.5
9	15600.00	42.2 AV	54.0	-11.8	1.31 H	350	27.7	14.5

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.3 PK	74.0	-7.7	2.74 V	307	61.6	4.7
2	5150.00	48.8 AV	54.0	-5.2	2.74 V	307	44.1	4.7
3	*5200.00	107.3 PK			2.74 V	307	102.9	4.4
4	*5200.00	97.0 AV			2.74 V	307	92.6	4.4
5	5350.00	45.6 PK	74.0	-28.4	2.74 V	307	41.3	4.3
6	5350.00	36.3 AV	54.0	-17.7	2.74 V	307	32.0	4.3
7	#10400.00	48.0 PK	68.2	-20.2	1.51 V	130	34.4	13.6
8	15600.00	51.4 PK	74.0	-22.6	1.83 V	194	36.9	14.5
9	15600.00	41.2 AV	54.0	-12.8	1.83 V	194	26.7	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 802.11a	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	110.0 PK			1.63 H	18	105.6	4.4
2	*5240.00	99.4 AV			1.63 H	18	95.0	4.4
3	5350.00	52.1 PK	74.0	-21.9	1.63 H	18	47.8	4.3
4	5350.00	39.8 AV	54.0	-14.2	1.63 H	18	35.5	4.3
5	#10480.00	48.4 PK	68.2	-19.8	2.17 H	266	34.7	13.7
6	15720.00	52.2 PK	74.0	-21.8	1.31 H	339	37.8	14.4
7	15720.00	42.4 AV	54.0	-11.6	1.31 H	339	28.0	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	106.6 PK			2.75 V	310	102.2	4.4
2	*5240.00	96.5 AV			2.75 V	310	92.1	4.4
3	5350.00	45.2 PK	74.0	-28.8	2.75 V	310	40.9	4.3
4	5350.00	36.2 AV	54.0	-17.8	2.75 V	310	31.9	4.3
5	#10480.00	48.2 PK	68.2	-20.0	1.47 V	120	34.5	13.7
6	15720.00	51.5 PK	74.0	-22.5	1.92 V	210	37.1	14.4
7	15720.00	41.1 AV	54.0	-12.9	1.92 V	210	26.7	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	5150.00	52.3 PK	74.0	-21.7	1.62 H	17	47.6	4.7
2	5150.00	41.0 AV	54.0	-13.0	1.62 H	17	36.3	4.7
3	*5260.00	109.7 PK			1.62 H	17	105.4	4.3
4	*5260.00	99.5 AV			1.62 H	17	95.2	4.3
5	#10520.00	48.1 PK	68.2	-20.1	2.09 H	269	34.3	13.8
6	15780.00	51.9 PK	74.0	-22.1	1.27 H	338	37.6	14.3
7	15780.00	42.3 AV	54.0	-11.7	1.27 H	338	28.0	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	5150.00	46.3 PK	74.0	-27.7	2.74 V	298	41.6	4.7
2	5150.00	36.8 AV	54.0	-17.2	2.74 V	298	32.1	4.7
3	*5260.00	107.8 PK			2.74 V	298	103.5	4.3
4	*5260.00	97.3 AV			2.74 V	298	93.0	4.3
5	#10520.00	47.9 PK	68.2	-20.3	1.53 V	103	34.1	13.8
6	15780.00	52.2 PK	74.0	-21.8	1.92 V	221	37.9	14.3
7	15780.00	41.9 AV	54.0	-12.1	1.92 V	221	27.6	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	109.4 PK			1.67 H	2	105.1	4.3
2	*5300.00	99.4 AV			1.67 H	2	95.1	4.3
3	10600.00	48.1 PK	74.0	-25.9	2.10 H	282	34.5	13.6
4	10600.00	36.1 AV	54.0	-17.9	2.10 H	282	22.5	13.6
5	15900.00	51.8 PK	74.0	-22.2	1.30 H	328	37.7	14.1
6	15900.00	42.0 AV	54.0	-12.0	1.30 H	328	27.9	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	107.3 PK			2.74 V	310	103.0	4.3
2	*5300.00	97.3 AV			2.74 V	310	93.0	4.3
3	10600.00	48.2 PK	74.0	-25.8	1.49 V	117	34.6	13.6
4	10600.00	36.2 AV	54.0	-17.8	1.49 V	117	22.6	13.6
5	15900.00	51.8 PK	74.0	-22.2	1.87 V	209	37.7	14.1
6	15900.00	41.5 AV	54.0	-12.5	1.87 V	209	27.4	14.1

Remarks:

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

RF Mode	TX 802.11a	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	108.4 PK			1.65 H	17	104.1	4.3
2	*5320.00	94.9 AV			1.65 H	17	90.6	4.3
3	5350.00	66.1 PK	74.0	-7.9	1.65 H	17	61.8	4.3
4	5350.00	48.7 AV	54.0	-5.3	1.65 H	17	44.4	4.3
5	10640.00	48.2 PK	74.0	-25.8	2.14 H	266	34.5	13.7
6	10640.00	36.3 AV	54.0	-17.7	2.14 H	266	22.6	13.7
7	15960.00	51.8 PK	74.0	-22.2	1.32 H	336	37.7	14.1
8	15960.00	42.3 AV	54.0	-11.7	1.32 H	336	28.2	14.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.0 PK			2.83 V	307	101.7	4.3
2	*5320.00	96.3 AV			2.83 V	307	92.0	4.3
3	5350.00	66.7 PK	74.0	-7.3	2.83 V	307	62.4	4.3
4	5350.00	49.9 AV	54.0	-4.1	2.83 V	307	45.6	4.3
5	10640.00	47.6 PK	74.0	-26.4	1.47 V	120	33.9	13.7
6	10640.00	35.8 AV	54.0	-18.2	1.47 V	120	22.1	13.7
7	15960.00	51.4 PK	74.0	-22.6	1.91 V	200	37.3	14.1
8	15960.00	41.2 AV	54.0	-12.8	1.91 V	200	27.1	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 802.11a	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	59.9 PK	74.0	-14.1	1.59 H	31	55.5	4.4
2	5460.00	43.6 AV	54.0	-10.4	1.59 H	31	39.2	4.4
3	#5470.00	63.6 PK	68.2	-4.6	1.59 H	31	59.1	4.5
4	*5500.00	106.8 PK			1.59 H	31	102.1	4.7
5	*5500.00	97.0 AV			1.59 H	31	92.3	4.7
6	11000.00	47.5 PK	74.0	-26.5	2.23 H	273	33.2	14.3
7	11000.00	35.9 AV	54.0	-18.1	2.23 H	273	21.6	14.3
8	#16500.00	52.2 PK	68.2	-16.0	1.32 H	318	36.4	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	56.2 PK	74.0	-17.8	1.73 V	98	51.8	4.4
2	5460.00	41.3 AV	54.0	-12.7	1.73 V	98	36.9	4.4
3	#5462.90	61.5 PK	68.2	-6.7	1.73 V	98	57.1	4.4
4	*5500.00	105.5 PK			1.73 V	98	100.8	4.7
5	*5500.00	95.5 AV			1.73 V	98	90.8	4.7
6	11000.00	47.5 PK	74.0	-26.5	1.56 V	109	33.2	14.3
7	11000.00	36.0 AV	54.0	-18.0	1.56 V	109	21.7	14.3
8	#16500.00	52.2 PK	68.2	-16.0	1.91 V	225	36.4	15.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	109.9 PK			1.57 H	8	105.4	4.5
2	*5580.00	99.7 AV			1.57 H	8	95.2	4.5
3	11160.00	48.3 PK	74.0	-25.7	2.24 H	255	34.2	14.1
4	11160.00	36.9 AV	54.0	-17.1	2.24 H	255	22.8	14.1
5	#16740.00	52.2 PK	68.2	-16.0	1.40 H	313	35.4	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	108.2 PK			2.71 V	306	103.7	4.5
2	*5580.00	97.8 AV			2.71 V	306	93.3	4.5
3	11160.00	47.3 PK	74.0	-26.7	1.59 V	119	33.2	14.1
4	11160.00	35.9 AV	54.0	-18.1	1.59 V	119	21.8	14.1
5	#16740.00	51.5 PK	68.2	-16.7	1.89 V	206	34.7	16.8

Remarks:

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

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	104.6 PK			1.24 H	32	100.0	4.6
2	*5700.00	94.9 AV			1.24 H	32	90.3	4.6
3	#5725.00	63.0 PK	68.2	-5.2	1.24 H	32	58.3	4.7
4	11400.00	48.1 PK	74.0	-25.9	2.15 H	279	33.6	14.5
5	11400.00	36.3 AV	54.0	-17.7	2.15 H	279	21.8	14.5
6	#17100.00	52.3 PK	68.2	-15.9	1.42 H	313	34.5	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	103.8 PK			2.69 V	28	99.2	4.6
2	*5700.00	93.5 AV			2.69 V	28	88.9	4.6
3	#5725.00	63.7 PK	68.2	-4.5	2.69 V	28	59.0	4.7
4	11400.00	48.3 PK	74.0	-25.7	1.57 V	110	33.8	14.5
5	11400.00	36.6 AV	54.0	-17.4	1.57 V	110	22.1	14.5
6	#17100.00	51.9 PK	68.2	-16.3	1.93 V	214	34.1	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 802.11a	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	51.6 PK	74.0	-22.4	1.47 H	32	47.2	4.4
2	5460.00	39.7 AV	54.0	-14.3	1.47 H	32	35.3	4.4
3	#5470.00	52.2 PK	68.2	-16.0	1.47 H	32	47.7	4.5
4	*5720.00	108.3 PK			1.47 H	32	103.6	4.7
5	*5720.00	98.2 AV			1.47 H	32	93.5	4.7
6	#5850.00	53.4 PK	68.2	-14.8	1.47 H	32	48.4	5.0
7	11440.00	48.5 PK	74.0	-25.5	2.19 H	268	33.9	14.6
8	11440.00	36.6 AV	54.0	-17.4	2.19 H	268	22.0	14.6
9	#17160.00	51.8 PK	68.2	-16.4	1.38 H	316	34.0	17.8

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	52.2 PK	74.0	-21.8	2.70 V	305	47.8	4.4
2	5460.00	39.4 AV	54.0	-14.6	2.70 V	305	35.0	4.4
3	#5470.00	51.5 PK	68.2	-16.7	2.70 V	305	47.0	4.5
4	*5720.00	107.9 PK			2.70 V	305	103.2	4.7
5	*5720.00	97.3 AV			2.70 V	305	92.6	4.7
6	#5850.00	54.0 PK	68.2	-14.2	2.70 V	305	49.0	5.0
7	11440.00	47.4 PK	74.0	-26.6	1.52 V	114	32.8	14.6
8	11440.00	35.8 AV	54.0	-18.2	1.52 V	114	21.2	14.6
9	#17160.00	51.4 PK	68.2	-16.8	1.91 V	219	33.6	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	#5581.43	54.0 PK	68.2	-14.2	4.00 H	222	49.5	4.5
2	*5745.00	113.4 PK			4.00 H	222	108.4	5.0
3	*5745.00	102.6 AV			4.00 H	222	97.6	5.0
4	#5980.36	53.2 PK	68.2	-15.0	4.00 H	222	48.0	5.2
5	11490.00	48.1 PK	74.0	-25.9	2.24 H	275	33.5	14.6
6	11490.00	36.4 AV	54.0	-17.6	2.24 H	275	21.8	14.6
7	#17235.00	51.5 PK	68.2	-16.7	1.30 H	341	33.5	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	#5649.51	53.2 PK	68.2	-15.0	3.56 V	194	48.7	4.5
2	*5745.00	109.2 PK			3.56 V	194	104.2	5.0
3	*5745.00	100.5 AV			3.56 V	194	95.5	5.0
4	#6005.87	51.6 PK	68.2	-16.6	3.56 V	194	46.4	5.2
5	11490.00	47.8 PK	74.0	-26.2	1.54 V	136	33.2	14.6
6	11490.00	36.0 AV	54.0	-18.0	1.54 V	136	21.4	14.6
7	#17235.00	52.2 PK	68.2	-16.0	1.92 V	224	34.2	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	#5642.47	53.6 PK	68.2	-14.6	3.94 H	213	49.1	4.5
2	*5785.00	113.6 PK			3.94 H	213	108.5	5.1
3	*5785.00	102.6 AV			3.94 H	213	97.5	5.1
4	#5931.89	54.2 PK	68.2	-14.0	3.94 H	213	49.1	5.1
5	11570.00	47.3 PK	74.0	-26.7	2.24 H	257	32.7	14.6
6	11570.00	35.9 AV	54.0	-18.1	2.24 H	257	21.3	14.6
7	#17355.00	51.4 PK	68.2	-16.8	1.40 H	326	33.2	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	#5644.54	52.5 PK	68.2	-15.7	3.54 V	189	48.0	4.5
2	*5785.00	109.7 PK			3.54 V	189	104.6	5.1
3	*5785.00	100.9 AV			3.54 V	189	95.8	5.1
4	#5983.40	52.6 PK	68.2	-15.6	3.54 V	189	47.4	5.2
5	11570.00	48.2 PK	74.0	-25.8	1.53 V	122	33.6	14.6
6	11570.00	36.5 AV	54.0	-17.5	1.53 V	122	21.9	14.6
7	#17355.00	51.6 PK	68.2	-16.6	1.90 V	218	33.4	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	#5613.80	52.3 PK	68.2	-15.9	3.94 H	224	47.8	4.5
2	*5825.00	113.4 PK			3.94 H	224	108.4	5.0
3	*5825.00	102.4 AV			3.94 H	224	97.4	5.0
4	#5937.34	53.6 PK	68.2	-14.6	3.94 H	224	48.5	5.1
5	11650.00	48.1 PK	74.0	-25.9	2.20 H	267	33.7	14.4
6	11650.00	36.4 AV	54.0	-17.6	2.20 H	267	22.0	14.4
7	#17475.00	52.0 PK	68.2	-16.2	1.36 H	326	33.2	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	#5569.05	51.8 PK	68.2	-16.4	3.58 V	201	47.2	4.6
2	*5825.00	109.7 PK			3.58 V	201	104.7	5.0
3	*5825.00	101.0 AV			3.58 V	201	96.0	5.0
4	#5983.90	51.8 PK	68.2	-16.4	3.58 V	201	46.6	5.2
5	11650.00	47.9 PK	74.0	-26.1	1.53 V	125	33.5	14.4
6	11650.00	36.2 AV	54.0	-17.8	1.53 V	125	21.8	14.4
7	#17475.00	51.7 PK	68.2	-16.5	1.88 V	215	32.9	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	65.8 PK	74.0	-8.2	1.48 H	19	61.1	4.7
2	5150.00	49.6 AV	54.0	-4.4	1.48 H	19	44.9	4.7
3	*5180.00	108.1 PK			1.48 H	19	103.5	4.6
4	*5180.00	97.9 AV			1.48 H	19	93.3	4.6
5	#10360.00	48.0 PK	68.2	-20.2	2.15 H	283	34.6	13.4
6	15540.00	51.4 PK	74.0	-22.6	1.30 H	330	36.9	14.5
7	15540.00	41.7 AV	54.0	-12.3	1.30 H	330	27.2	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	62.4 PK	74.0	-11.6	2.72 V	310	57.7	4.7
2	5150.00	48.7 AV	54.0	-5.3	2.72 V	310	44.0	4.7
3	*5180.00	106.1 PK			2.72 V	310	101.5	4.6
4	*5180.00	95.7 AV			2.72 V	310	91.1	4.6
5	#10360.00	48.5 PK	68.2	-19.7	1.54 V	104	35.1	13.4
6	15540.00	52.2 PK	74.0	-21.8	1.82 V	224	37.7	14.5
7	15540.00	41.7 AV	54.0	-12.3	1.82 V	224	27.2	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	57.4 PK	74.0	-16.6	2.51 H	30	52.7	4.7
2	5150.00	44.9 AV	54.0	-9.1	2.51 H	30	40.2	4.7
3	*5200.00	109.9 PK			2.51 H	30	105.5	4.4
4	*5200.00	100.0 AV			2.51 H	30	95.6	4.4
5	5350.00	52.4 PK	74.0	-21.6	2.51 H	30	48.1	4.3
6	5350.00	40.1 AV	54.0	-13.9	2.51 H	30	35.8	4.3
7	#10400.00	48.5 PK	68.2	-19.7	2.06 H	285	34.9	13.6
8	15600.00	52.0 PK	74.0	-22.0	1.33 H	323	37.5	14.5
9	15600.00	42.3 AV	54.0	-11.7	1.33 H	323	27.8	14.5

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	2.73 V	311	61.2	4.7
2	5150.00	48.4 AV	54.0	-5.6	2.73 V	311	43.7	4.7
3	*5200.00	107.4 PK			2.71 V	316	103.0	4.4
4	*5200.00	97.2 AV			2.71 V	316	92.8	4.4
5	5350.00	45.8 PK	74.0	-28.2	2.71 V	306	41.5	4.3
6	5350.00	36.6 AV	54.0	-17.4	2.71 V	306	32.3	4.3
7	#10400.00	48.4 PK	68.2	-19.8	1.50 V	122	34.8	13.6
8	15600.00	52.0 PK	74.0	-22.0	1.91 V	218	37.5	14.5
9	15600.00	41.5 AV	54.0	-12.5	1.91 V	218	27.0	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 (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	109.1 PK			1.56 H	20	104.7	4.4
2	*5240.00	98.6 AV			1.56 H	20	94.2	4.4
3	5350.00	52.2 PK	74.0	-21.8	1.56 H	20	47.9	4.3
4	5350.00	39.9 AV	54.0	-14.1	1.56 H	20	35.6	4.3
5	#10480.00	47.9 PK	68.2	-20.3	2.11 H	278	34.2	13.7
6	15720.00	52.0 PK	74.0	-22.0	1.33 H	333	37.6	14.4
7	15720.00	42.2 AV	54.0	-11.8	1.33 H	333	27.8	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	106.5 PK			2.70 V	324	102.1	4.4
2	*5240.00	96.2 AV			2.70 V	324	91.8	4.4
3	5350.00	45.7 PK	74.0	-28.3	2.70 V	324	41.4	4.3
4	5350.00	36.5 AV	54.0	-17.5	2.70 V	324	32.2	4.3
5	#10480.00	48.0 PK	68.2	-20.2	1.48 V	112	34.3	13.7
6	15720.00	51.7 PK	74.0	-22.3	1.92 V	211	37.3	14.4
7	15720.00	41.6 AV	54.0	-12.4	1.92 V	211	27.2	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	5150.00	52.9 PK	74.0	-21.1	1.55 H	20	48.2	4.7
2	5150.00	41.1 AV	54.0	-12.9	1.55 H	20	36.4	4.7
3	*5260.00	108.7 PK			1.55 H	20	104.4	4.3
4	*5260.00	98.9 AV			1.55 H	20	94.6	4.3
5	#10520.00	47.8 PK	68.2	-20.4	2.05 H	291	34.0	13.8
6	15780.00	51.6 PK	74.0	-22.4	1.31 H	341	37.3	14.3
7	15780.00	41.7 AV	54.0	-12.3	1.31 H	341	27.4	14.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.6 PK	74.0	-7.4	1.26 V	348	61.9	4.7
2	5150.00	47.4 AV	54.0	-6.6	1.26 V	348	42.7	4.7
3	*5260.00	105.1 PK			1.26 V	348	100.8	4.3
4	*5260.00	95.6 AV			1.26 V	348	91.3	4.3
5	#10520.00	48.8 PK	68.2	-19.4	1.51 V	108	35.0	13.8
6	15780.00	51.9 PK	74.0	-22.1	1.89 V	223	37.6	14.3
7	15780.00	41.9 AV	54.0	-12.1	1.89 V	223	27.6	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	108.6 PK			1.50 H	16	104.3	4.3
2	*5300.00	97.9 AV			1.50 H	16	93.6	4.3
3	10600.00	48.2 PK	74.0	-25.8	2.15 H	293	34.6	13.6
4	10600.00	36.0 AV	54.0	-18.0	2.15 H	293	22.4	13.6
5	15900.00	52.2 PK	74.0	-21.8	1.34 H	327	38.1	14.1
6	15900.00	42.4 AV	54.0	-11.6	1.34 H	327	28.3	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	*5300.00	104.7 PK			1.28 V	332	100.4	4.3
2	*5300.00	94.9 AV			1.28 V	332	90.6	4.3
3	10600.00	47.8 PK	74.0	-26.2	1.55 V	125	34.2	13.6
4	10600.00	35.8 AV	54.0	-18.2	1.55 V	125	22.2	13.6
5	15900.00	51.1 PK	74.0	-22.9	1.82 V	212	37.0	14.1
6	15900.00	41.1 AV	54.0	-12.9	1.82 V	212	27.0	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 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	107.9 PK			1.56 H	18	103.6	4.3
2	*5320.00	97.4 AV			1.56 H	18	93.1	4.3
3	5350.00	66.1 PK	74.0	-7.9	1.56 H	18	61.8	4.3
4	5350.00	48.5 AV	54.0	-5.5	1.56 H	18	44.2	4.3
5	10640.00	48.2 PK	74.0	-25.8	2.01 H	291	34.5	13.7
6	10640.00	36.2 AV	54.0	-17.8	2.01 H	291	22.5	13.7
7	15960.00	51.2 PK	74.0	-22.8	1.36 H	327	37.1	14.1
8	15960.00	41.4 AV	54.0	-12.6	1.36 H	327	27.3	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	104.9 PK			1.27 V	342	100.6	4.3
2	*5320.00	95.4 AV			1.27 V	342	91.1	4.3
3	5350.00	65.9 PK	74.0	-8.1	1.27 V	342	61.6	4.3
4	5350.00	46.9 AV	54.0	-7.1	1.27 V	342	42.6	4.3
5	10640.00	47.7 PK	74.0	-26.3	1.47 V	119	34.0	13.7
6	10640.00	35.8 AV	54.0	-18.2	1.47 V	119	22.1	13.7
7	15960.00	51.3 PK	74.0	-22.7	1.93 V	199	37.2	14.1
8	15960.00	41.3 AV	54.0	-12.7	1.93 V	199	27.2	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	57.7 PK	74.0	-16.3	3.00 H	30	53.3	4.4
2	5460.00	42.2 AV	54.0	-11.8	3.00 H	30	37.8	4.4
3	#5469.30	63.6 PK	68.2	-4.6	3.00 H	30	59.1	4.5
4	*5500.00	107.2 PK			3.00 H	30	102.5	4.7
5	*5500.00	97.6 AV			3.00 H	30	92.9	4.7
6	11000.00	47.8 PK	74.0	-26.2	2.05 H	275	33.5	14.3
7	11000.00	36.0 AV	54.0	-18.0	2.05 H	275	21.7	14.3
8	#16500.00	52.0 PK	68.2	-16.2	1.27 H	341	36.2	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.2 PK	74.0	-17.8	1.72 V	99	51.8	4.4
2	5460.00	41.8 AV	54.0	-12.2	1.72 V	99	37.4	4.4
3	#5463.10	59.4 PK	68.2	-8.8	1.72 V	99	55.0	4.4
4	*5500.00	105.2 PK			1.72 V	99	100.5	4.7
5	*5500.00	95.2 AV			1.72 V	99	90.5	4.7
6	11000.00	48.0 PK	74.0	-26.0	2.13 V	286	33.7	14.3
7	11000.00	35.7 AV	54.0	-18.3	2.13 V	286	21.4	14.3
8	#16500.00	51.4 PK	68.2	-16.8	1.26 V	317	35.6	15.8

Remarks:

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

RF Mode	TX 802.11ac (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	108.5 PK			1.55 H	1	104.0	4.5
2	*5580.00	97.7 AV			1.55 H	1	93.2	4.5
3	11160.00	48.7 PK	74.0	-25.3	2.09 H	290	34.6	14.1
4	11160.00	36.5 AV	54.0	-17.5	2.09 H	290	22.4	14.1
5	#16740.00	51.7 PK	68.2	-16.5	1.35 H	340	34.9	16.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	104.2 PK			1.22 V	334	99.7	4.5
2	*5580.00	94.6 AV			1.22 V	334	90.1	4.5
3	11160.00	48.7 PK	74.0	-25.3	1.47 V	107	34.6	14.1
4	11160.00	36.5 AV	54.0	-17.5	1.47 V	107	22.4	14.1
5	#16740.00	51.7 PK	68.2	-16.5	1.91 V	213	34.9	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	104.2 PK			1.36 H	30	99.6	4.6
2	*5700.00	94.4 AV			1.36 H	30	89.8	4.6
3	#5725.00	63.4 PK	68.2	-4.8	1.36 H	30	58.7	4.7
4	11400.00	48.8 PK	74.0	-25.2	2.07 H	305	34.3	14.5
5	11400.00	36.9 AV	54.0	-17.1	2.07 H	305	22.4	14.5
6	#17100.00	51.8 PK	68.2	-16.4	1.35 H	347	34.0	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	103.4 PK			2.69 V	28	98.8	4.6
2	*5700.00	93.0 AV			2.69 V	28	88.4	4.6
3	#5725.00	63.7 PK	68.2	-4.5	2.69 V	28	59.0	4.7
4	11400.00	48.8 PK	74.0	-25.2	1.51 V	128	34.3	14.5
5	11400.00	36.5 AV	54.0	-17.5	1.51 V	128	22.0	14.5
6	#17100.00	51.2 PK	68.2	-17.0	1.85 V	225	33.4	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	51.3 PK	74.0	-22.7	1.43 H	18	46.9	4.4
2	5460.00	39.2 AV	54.0	-14.8	1.43 H	18	34.8	4.4
3	#5470.00	52.1 PK	68.2	-16.1	1.42 H	27	47.6	4.5
4	*5720.00	108.6 PK			1.48 H	19	103.9	4.7
5	*5720.00	98.5 AV			1.48 H	19	93.8	4.7
6	#5850.00	53.2 PK	68.2	-15.0	1.44 H	38	48.2	5.0
7	11440.00	48.1 PK	74.0	-25.9	2.06 H	280	33.5	14.6
8	11440.00	36.1 AV	54.0	-17.9	2.06 H	280	21.5	14.6
9	#17160.00	51.9 PK	68.2	-16.3	1.31 H	333	34.1	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	52.2 PK	74.0	-21.8	2.71 V	308	47.8	4.4
2	5460.00	39.3 AV	54.0	-14.7	2.71 V	308	34.9	4.4
3	#5470.00	51.9 PK	68.2	-16.3	2.71 V	308	47.4	4.5
4	*5720.00	107.6 PK			2.71 V	308	102.9	4.7
5	*5720.00	96.9 AV			2.71 V	308	92.2	4.7
6	#5850.00	53.9 PK	68.2	-14.3	2.71 V	308	48.9	5.0
7	11440.00	48.1 PK	74.0	-25.9	1.47 V	123	33.5	14.6
8	11440.00	36.1 AV	54.0	-17.9	1.47 V	123	21.5	14.6
9	#17160.00	51.8 PK	68.2	-16.4	1.85 V	196	34.0	17.8

Remarks:

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

RF Mode	TX 802.11ac (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	#5625.70	52.8 PK	68.2	-15.4	3.84 H	217	48.3	4.5
2	*5745.00	113.5 PK			3.84 H	217	108.5	5.0
3	*5745.00	102.5 AV			3.84 H	217	97.5	5.0
4	#6017.36	52.3 PK	68.2	-15.9	3.84 H	217	47.1	5.2
5	11490.00	48.5 PK	74.0	-25.5	2.10 H	280	33.9	14.6
6	11490.00	36.1 AV	54.0	-17.9	2.10 H	280	21.5	14.6
7	#17235.00	51.8 PK	68.2	-16.4	1.30 H	333	33.8	18.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5647.03	52.0 PK	68.2	-16.2	3.55 V	207	47.5	4.5
2	*5745.00	110.0 PK			3.55 V	207	105.0	5.0
3	*5745.00	100.9 AV			3.55 V	207	95.9	5.0
4	#5943.51	51.3 PK	68.2	-16.9	3.55 V	207	46.2	5.1
5	11490.00	48.1 PK	74.0	-25.9	1.46 V	132	33.5	14.6
6	11490.00	36.2 AV	54.0	-17.8	1.46 V	132	21.6	14.6
7	#17235.00	51.6 PK	68.2	-16.6	1.90 V	222	33.6	18.0

Remarks:

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

RF Mode	TX 802.11ac (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	#5576.68	51.8 PK	68.2	-16.4	3.97 H	227	47.3	4.5
2	*5785.00	113.4 PK			3.97 H	227	108.3	5.1
3	*5785.00	102.3 AV			3.97 H	227	97.2	5.1
4	#5968.00	54.2 PK	68.2	-14.0	3.97 H	227	49.0	5.2
5	11570.00	48.4 PK	74.0	-25.6	2.05 H	285	33.8	14.6
6	11570.00	36.6 AV	54.0	-17.4	2.05 H	285	22.0	14.6
7	#17355.00	51.7 PK	68.2	-16.5	1.26 H	331	33.5	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	#5616.46	52.0 PK	68.2	-16.2	3.60 V	204	47.5	4.5
2	*5785.00	109.9 PK			3.60 V	204	104.8	5.1
3	*5785.00	100.6 AV			3.60 V	204	95.5	5.1
4	#5923.31	52.9 PK	69.4	-16.5	3.60 V	204	47.8	5.1
5	11570.00	48.0 PK	74.0	-26.0	1.50 V	110	33.4	14.6
6	11570.00	36.0 AV	54.0	-18.0	1.50 V	110	21.4	14.6
7	#17355.00	51.5 PK	68.2	-16.7	1.84 V	201	33.3	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	#5590.61	52.6 PK	68.2	-15.6	3.93 H	226	48.1	4.5
2	*5825.00	113.3 PK			3.93 H	226	108.3	5.0
3	*5825.00	102.4 AV			3.93 H	226	97.4	5.0
4	#5937.24	53.7 PK	68.2	-14.5	3.93 H	226	48.6	5.1
5	11650.00	48.2 PK	74.0	-25.8	2.12 H	283	33.8	14.4
6	11650.00	36.4 AV	54.0	-17.6	2.12 H	283	22.0	14.4
7	#17475.00	52.4 PK	68.2	-15.8	1.36 H	336	33.6	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	#5572.82	51.9 PK	68.2	-16.3	3.54 V	202	47.3	4.6
2	*5825.00	110.1 PK			3.54 V	202	105.1	5.0
3	*5825.00	100.9 AV			3.54 V	202	95.9	5.0
4	#5988.54	51.5 PK	68.2	-16.7	3.54 V	202	46.3	5.2
5	11650.00	48.8 PK	74.0	-25.2	1.54 V	106	34.4	14.4
6	11650.00	36.6 AV	54.0	-17.4	1.54 V	106	22.2	14.4
7	#17475.00	52.0 PK	68.2	-16.2	1.88 V	212	33.2	18.8

Remarks:

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

RF Mode	TX 802.11ac (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	62.4 PK	74.0	-11.6	1.67 H	259	57.7	4.7
2	5150.00	49.5 AV	54.0	-4.5	1.67 H	259	44.8	4.7
3	*5190.00	102.3 PK			1.67 H	259	97.8	4.5
4	*5190.00	93.5 AV			1.67 H	259	89.0	4.5
5	#10380.00	47.8 PK	68.2	-20.4	2.15 H	268	34.4	13.4
6	15570.00	51.8 PK	74.0	-22.2	1.32 H	327	37.2	14.6
7	15570.00	42.0 AV	54.0	-12.0	1.32 H	327	27.4	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	60.8 PK	74.0	-13.2	1.50 V	25	56.1	4.7
2	5150.00	45.5 AV	54.0	-8.5	1.50 V	25	40.8	4.7
3	*5190.00	99.3 PK			1.50 V	25	94.8	4.5
4	*5190.00	88.6 AV			1.50 V	25	84.1	4.5
5	#10380.00	48.4 PK	68.2	-19.8	1.43 V	110	35.0	13.4
6	15570.00	51.6 PK	74.0	-22.4	1.91 V	202	37.0	14.6
7	15570.00	41.0 AV	54.0	-13.0	1.91 V	202	26.4	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	*5230.00	105.8 PK			1.51 H	258	101.4	4.4
2	*5230.00	95.5 AV			1.51 H	258	91.1	4.4
3	5350.00	50.9 PK	74.0	-23.1	1.51 H	258	46.6	4.3
4	5350.00	38.6 AV	54.0	-15.4	1.51 H	258	34.3	4.3
5	#10460.00	47.5 PK	68.2	-20.7	2.12 H	281	33.9	13.6
6	15690.00	51.5 PK	74.0	-22.5	1.29 H	320	37.0	14.5
7	15690.00	41.8 AV	54.0	-12.2	1.29 H	320	27.3	14.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	105.2 PK			3.62 V	208	100.8	4.4
2	*5230.00	94.6 AV			3.62 V	208	90.2	4.4
3	5350.00	50.5 PK	74.0	-23.5	3.62 V	208	46.2	4.3
4	5350.00	38.5 AV	54.0	-15.5	3.62 V	208	34.2	4.3
5	#10460.00	47.5 PK	68.2	-20.7	1.52 V	130	33.9	13.6
6	15690.00	52.0 PK	74.0	-22.0	1.85 V	210	37.5	14.5
7	15690.00	41.8 AV	54.0	-12.2	1.85 V	210	27.3	14.5

Remarks:

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

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	5150.00	51.2 PK	74.0	-22.8	1.48 H	18	46.5	4.7
2	5150.00	39.4 AV	54.0	-14.6	1.48 H	18	34.7	4.7
3	*5270.00	106.1 PK			1.48 H	18	101.8	4.3
4	*5270.00	96.2 AV			1.48 H	18	91.9	4.3
5	#10540.00	48.6 PK	68.2	-19.6	2.08 H	289	34.9	13.7
6	15810.00	51.7 PK	74.0	-22.3	1.32 H	336	37.5	14.2
7	15810.00	41.8 AV	54.0	-12.2	1.32 H	336	27.6	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	5150.00	50.2 PK	74.0	-23.8	3.63 V	211	45.5	4.7
2	5150.00	38.5 AV	54.0	-15.5	3.63 V	211	33.8	4.7
3	*5270.00	105.6 PK			3.63 V	211	101.3	4.3
4	*5270.00	94.7 AV			3.63 V	211	90.4	4.3
5	#10540.00	48.3 PK	68.2	-19.9	1.51 V	121	34.6	13.7
6	15810.00	51.4 PK	74.0	-22.6	1.92 V	197	37.2	14.2
7	15810.00	41.2 AV	54.0	-12.8	1.92 V	197	27.0	14.2

Remarks:

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

RF Mode	TX 802.11ac (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	101.6 PK			1.70 H	38	97.3	4.3
2	*5310.00	93.2 AV			1.70 H	38	88.9	4.3
3	5350.00	64.9 PK	74.0	-9.1	1.70 H	38	60.6	4.3
4	5350.00	49.6 AV	54.0	-4.4	1.70 H	38	45.3	4.3
5	10620.00	47.7 PK	74.0	-26.3	2.15 H	278	34.0	13.7
6	10620.00	35.7 AV	54.0	-18.3	2.15 H	278	22.0	13.7
7	15930.00	51.5 PK	74.0	-22.5	1.27 H	328	37.4	14.1
8	15930.00	41.9 AV	54.0	-12.1	1.27 H	328	27.8	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	99.2 PK			1.31 V	342	94.9	4.3
2	*5310.00	98.8 AV			1.31 V	342	94.5	4.3
3	5350.00	59.9 PK	74.0	-14.1	1.31 V	342	55.6	4.3
4	5350.00	45.3 AV	54.0	-8.7	1.31 V	342	41.0	4.3
5	10620.00	48.1 PK	74.0	-25.9	1.46 V	108	34.4	13.7
6	10620.00	36.4 AV	54.0	-17.6	1.46 V	108	22.7	13.7
7	15930.00	52.2 PK	74.0	-21.8	1.92 V	206	38.1	14.1
8	15930.00	41.9 AV	54.0	-12.1	1.92 V	206	27.8	14.1

Remarks:

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

RF Mode	TX 802.11ac (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	5446.50	58.1 PK	74.0	-15.9	1.39 H	31	53.7	4.4
2	5446.50	42.4 AV	54.0	-11.6	1.39 H	31	38.0	4.4
3	#5468.30	63.8 PK	68.2	-4.4	1.39 H	31	59.3	4.5
4	*5510.00	101.1 PK			1.39 H	31	96.4	4.7
5	*5510.00	91.4 AV			1.39 H	31	86.7	4.7
6	11020.00	48.2 PK	74.0	-25.8	2.12 H	285	34.0	14.2
7	11020.00	36.2 AV	54.0	-17.8	2.12 H	285	22.0	14.2
8	#16530.00	51.7 PK	68.2	-16.5	1.29 H	324	35.8	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	5446.50	52.0 PK	74.0	-22.0	1.63 V	111	47.6	4.4
2	5446.50	40.7 AV	54.0	-13.3	1.63 V	111	36.3	4.4
3	5460.00	49.8 PK	74.0	-24.2	1.63 V	111	45.4	4.4
4	5460.00	41.3 AV	54.0	-12.7	1.63 V	111	36.9	4.4
5	#5462.20	52.9 PK	68.2	-15.3	1.63 V	111	48.5	4.4
6	*5510.00	97.0 PK			1.63 V	111	92.3	4.7
7	*5510.00	87.3 AV			1.63 V	111	82.6	4.7
8	11020.00	48.6 PK	74.0	-25.4	1.44 V	130	34.4	14.2
9	11020.00	36.5 AV	54.0	-17.5	1.44 V	130	22.3	14.2
10	#16530.00	52.5 PK	68.2	-15.7	1.91 V	201	36.6	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	*5550.00	106.4 PK			1.45 H	9	101.9	4.5
2	*5550.00	96.2 AV			1.45 H	9	91.7	4.5
3	11100.00	47.9 PK	74.0	-26.1	2.15 H	290	34.0	13.9
4	11100.00	35.9 AV	54.0	-18.1	2.15 H	290	22.0	13.9
5	#16650.00	51.5 PK	68.2	-16.7	1.35 H	317	35.1	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	*5550.00	105.8 PK			3.61 V	201	101.3	4.5
2	*5550.00	95.1 AV			3.61 V	201	90.6	4.5
3	11100.00	48.4 PK	74.0	-25.6	1.53 V	111	34.5	13.9
4	11100.00	36.4 AV	54.0	-17.6	1.53 V	111	22.5	13.9
5	#16650.00	51.1 PK	68.2	-17.1	1.89 V	214	34.7	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	102.1 PK			1.46 H	33	97.6	4.5
2	*5670.00	94.7 AV			1.46 H	33	90.2	4.5
3	#5725.00	63.5 PK	68.2	-4.7	1.46 H	33	58.8	4.7
4	11340.00	48.2 PK	74.0	-25.8	2.08 H	286	33.8	14.4
5	11340.00	35.9 AV	54.0	-18.1	2.08 H	286	21.5	14.4
6	#17010.00	51.2 PK	68.2	-17.0	1.28 H	327	33.4	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	104.2 PK			3.55 V	217	99.7	4.5
2	*5670.00	93.5 AV			3.55 V	217	89.0	4.5
3	#5725.00	62.5 PK	68.2	-5.7	3.55 V	217	57.8	4.7
4	11340.00	48.3 PK	74.0	-25.7	1.52 V	108	33.9	14.4
5	11340.00	36.4 AV	54.0	-17.6	1.52 V	108	22.0	14.4
6	#17010.00	52.2 PK	68.2	-16.0	1.85 V	209	34.4	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	51.6 PK	74.0	-22.4	1.47 H	19	47.2	4.4
2	5460.00	39.6 AV	54.0	-14.4	1.47 H	19	35.2	4.4
3	#5470.00	51.7 PK	68.2	-16.5	1.47 H	19	47.2	4.5
4	*5710.00	105.8 PK			1.47 H	19	101.1	4.7
5	*5710.00	95.8 AV			1.47 H	19	91.1	4.7
6	#5850.00	53.4 PK	68.2	-14.8	1.47 H	19	48.4	5.0
7	11420.00	47.9 PK	74.0	-26.1	2.09 H	273	33.4	14.5
8	11420.00	35.9 AV	54.0	-18.1	2.09 H	273	21.4	14.5
9	#17130.00	51.6 PK	68.2	-16.6	1.29 H	331	33.9	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	52.4 PK	74.0	-21.6	3.55 V	206	48.0	4.4
2	5460.00	39.3 AV	54.0	-14.7	3.55 V	206	34.9	4.4
3	#5470.00	51.9 PK	68.2	-16.3	3.55 V	206	47.4	4.5
4	*5710.00	105.0 PK			3.55 V	206	100.3	4.7
5	*5710.00	94.6 AV			3.55 V	206	89.9	4.7
6	#5850.00	53.8 PK	68.2	-14.4	3.55 V	206	48.8	5.0
7	11420.00	48.7 PK	74.0	-25.3	1.41 V	125	34.2	14.5
8	11420.00	36.5 AV	54.0	-17.5	1.41 V	125	22.0	14.5
9	#17130.00	51.8 PK	68.2	-16.4	1.91 V	223	34.1	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	#5646.73	57.4 PK	68.2	-10.8	3.85 H	220	52.9	4.5
2	*5755.00	110.8 PK			3.85 H	220	105.8	5.0
3	*5755.00	100.0 AV			3.85 H	220	95.0	5.0
4	#5927.27	52.2 PK	68.2	-16.0	3.85 H	220	47.1	5.1
5	11510.00	47.9 PK	74.0	-26.1	2.12 H	289	33.3	14.6
6	11510.00	35.7 AV	54.0	-18.3	2.12 H	289	21.1	14.6
7	#17265.00	51.4 PK	68.2	-16.8	1.28 H	330	33.5	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5650.97	58.0 PK	68.9	-10.9	3.57 V	206	53.5	4.5
2	*5755.00	107.0 PK			3.57 V	206	102.0	5.0
3	*5755.00	95.3 AV			3.57 V	206	90.3	5.0
4	#6001.89	52.6 PK	68.2	-15.6	3.57 V	206	47.4	5.2
5	11510.00	48.1 PK	74.0	-25.9	2.06 V	280	33.5	14.6
6	11510.00	36.0 AV	54.0	-18.0	2.06 V	280	21.4	14.6
7	#17265.00	51.4 PK	68.2	-16.8	1.35 V	323	33.5	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	#5648.05	54.7 PK	68.2	-13.5	3.81 H	233	50.2	4.5
2	*5795.00	110.8 PK			3.81 H	233	105.7	5.1
3	*5795.00	99.8 AV			3.81 H	233	94.7	5.1
4	#5931.12	59.4 PK	68.2	-8.8	3.81 H	233	54.3	5.1
5	11590.00	47.6 PK	74.0	-26.4	2.09 H	277	33.0	14.6
6	11590.00	35.6 AV	54.0	-18.4	2.09 H	277	21.0	14.6
7	#17385.00	51.5 PK	68.2	-16.7	1.31 H	313	33.2	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	#5643.29	52.2 PK	68.2	-16.0	3.62 V	201	47.7	4.5
2	*5795.00	107.4 PK			3.62 V	201	102.3	5.1
3	*5795.00	95.5 AV			3.62 V	201	90.4	5.1
4	#5925.31	58.5 PK	68.2	-9.7	3.62 V	201	53.4	5.1
5	11590.00	48.2 PK	74.0	-25.8	1.51 V	125	33.6	14.6
6	11590.00	36.0 AV	54.0	-18.0	1.51 V	125	21.4	14.6
7	#17385.00	51.6 PK	68.2	-16.6	1.90 V	221	33.3	18.3

Remarks:

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

RF Mode	TX 802.11ac (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	5144.80	61.0 PK	74.0	-13.0	1.55 H	19	56.2	4.8
2	5144.80	48.5 AV	54.0	-5.5	1.55 H	19	43.7	4.8
3	5150.00	60.2 PK	74.0	-13.8	1.55 H	19	55.5	4.7
4	5150.00	49.5 AV	54.0	-4.5	1.55 H	19	44.8	4.7
5	*5210.00	97.9 PK			1.55 H	19	93.5	4.4
6	*5210.00	90.2 AV			1.55 H	19	85.8	4.4
7	5372.60	52.5 PK	74.0	-21.5	1.55 H	19	48.1	4.4
8	5372.60	42.0 AV	54.0	-12.0	1.55 H	19	37.6	4.4
9	#10420.00	47.5 PK	68.2	-20.7	2.11 H	289	34.0	13.5
10	15630.00	51.8 PK	74.0	-22.2	1.34 H	331	37.2	14.6
11	15630.00	42.3 AV	54.0	-11.7	1.34 H	331	27.7	14.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5138.00	54.4 PK	74.0	-19.6	3.22 V	306	49.6	4.8
2	5138.00	46.1 AV	54.0	-7.9	3.22 V	306	41.3	4.8
3	5141.80	59.8 PK	74.0	-14.2	3.22 V	306	55.0	4.8
4	5141.80	45.5 AV	54.0	-8.5	3.22 V	306	40.7	4.8
5	*5210.00	97.0 PK			3.22 V	306	92.6	4.4
6	*5210.00	87.6 AV			3.22 V	306	83.2	4.4
7	5451.10	52.0 PK	74.0	-22.0	3.22 V	306	47.6	4.4
8	5451.10	40.6 AV	54.0	-13.4	3.22 V	306	36.2	4.4
9	#10420.00	48.3 PK	68.2	-19.9	1.43 V	110	34.8	13.5
10	15630.00	51.3 PK	74.0	-22.7	1.83 V	210	36.7	14.6
11	15630.00	41.1 AV	54.0	-12.9	1.83 V	210	26.5	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	5150.00	53.4 PK	74.0	-20.6	1.52 H	19	48.7	4.7
2	5150.00	43.5 AV	54.0	-10.5	1.52 H	19	38.8	4.7
3	*5290.00	98.3 PK			1.52 H	19	94.0	4.3
4	*5290.00	89.4 AV			1.52 H	19	85.1	4.3
5	5350.00	58.1 PK	74.0	-15.9	1.52 H	19	53.8	4.3
6	5350.00	49.7 AV	54.0	-4.3	1.52 H	19	45.4	4.3
7	#10580.00	48.2 PK	68.2	-20.0	2.12 H	282	34.5	13.7
8	15870.00	51.9 PK	74.0	-22.1	1.28 H	314	37.7	14.2
9	15870.00	42.2 AV	54.0	-11.8	1.28 H	314	28.0	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	5121.40	53.6 PK	74.0	-20.4	1.48 V	346	48.8	4.8
2	5121.40	43.4 AV	54.0	-10.6	1.48 V	346	38.6	4.8
3	*5290.00	93.1 PK			1.48 V	346	88.8	4.3
4	*5290.00	85.8 AV			1.48 V	346	81.5	4.3
5	5350.00	53.5 PK	74.0	-20.5	1.48 V	346	49.2	4.3
6	5350.00	45.4 AV	54.0	-8.6	1.48 V	346	41.1	4.3
7	5354.40	54.0 PK	74.0	-20.0	1.48 V	346	49.7	4.3
8	5354.40	44.4 AV	54.0	-9.6	1.48 V	346	40.1	4.3
9	#10580.00	48.1 PK	68.2	-20.1	1.44 V	126	34.4	13.7
10	15870.00	52.3 PK	74.0	-21.7	1.88 V	196	38.1	14.2
11	15870.00	41.9 AV	54.0	-12.1	1.88 V	196	27.7	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	5431.60	58.1 PK	74.0	-15.9	1.60 H	28	53.7	4.4
2	5431.60	44.8 AV	54.0	-9.2	1.60 H	28	40.4	4.4
3	5460.00	54.4 PK	74.0	-19.6	1.60 H	28	50.0	4.4
4	5460.00	47.3 AV	54.0	-6.7	1.60 H	28	42.9	4.4
5	#5468.40	64.2 PK	68.2	-4.0	1.60 H	28	59.7	4.5
6	*5530.00	97.2 PK			1.60 H	28	92.6	4.6
7	*5530.00	89.5 AV			1.60 H	28	84.9	4.6
8	#5824.30	52.2 PK	68.2	-16.0	1.60 H	28	47.2	5.0
9	11060.00	47.8 PK	74.0	-26.2	2.05 H	275	33.7	14.1
10	11060.00	36.0 AV	54.0	-18.0	2.05 H	275	21.9	14.1
11	#16590.00	52.0 PK	68.2	-16.2	1.30 H	328	35.9	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	55.1 PK	74.0	-18.9	1.55 V	102	50.7	4.4
2	5460.00	45.3 AV	54.0	-8.7	1.55 V	102	40.9	4.4
3	#5469.60	56.6 PK	68.2	-11.6	1.55 V	102	52.1	4.5
4	*5530.00	93.7 PK			1.55 V	102	89.1	4.6
5	*5530.00	85.8 AV			1.55 V	102	81.2	4.6
6	#5812.40	52.9 PK	68.2	-15.3	1.55 V	102	47.8	5.1
7	11060.00	48.8 PK	74.0	-25.2	1.45 V	108	34.7	14.1
8	11060.00	36.6 AV	54.0	-17.4	1.45 V	108	22.5	14.1
9	#16590.00	52.4 PK	68.2	-15.8	1.89 V	200	36.3	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	5460.00	55.4 PK	74.0	-18.6	2.38 H	34	51.0	4.4
2	5460.00	44.1 AV	54.0	-9.9	2.38 H	34	39.7	4.4
3	#5470.00	57.0 PK	68.2	-11.2	2.38 H	34	52.5	4.5
4	#5470.00	44.5 AV	54.0	-9.5	2.38 H	34	40.0	4.5
5	*5610.00	103.3 PK			2.38 H	34	98.8	4.5
6	*5610.00	94.0 AV			2.38 H	34	89.5	4.5
7	#5725.00	63.9 PK	68.2	-4.3	2.38 H	34	59.2	4.7
8	11220.00	48.9 PK	74.0	-25.1	2.05 H	273	34.5	14.4
9	11220.00	36.6 AV	54.0	-17.4	2.05 H	273	22.2	14.4
10	#16830.00	52.0 PK	68.2	-16.2	1.30 H	320	34.7	17.3

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.2 PK	74.0	-19.8	1.55 V	215	49.8	4.4
2	5460.00	43.2 AV	54.0	-10.8	1.55 V	215	38.8	4.4
3	#5470.00	56.5 PK	68.2	-11.7	1.55 V	215	52.0	4.5
4	*5610.00	98.7 PK			1.55 V	215	94.2	4.5
5	*5610.00	90.5 AV			1.55 V	215	86.0	4.5
6	#5725.00	62.8 PK	68.2	-5.4	1.55 V	215	58.1	4.7
7	11220.00	48.6 PK	74.0	-25.4	1.54 V	103	34.2	14.4
8	11220.00	36.4 AV	54.0	-17.6	1.54 V	103	22.0	14.4
9	#16830.00	51.8 PK	68.2	-16.4	1.91 V	202	34.5	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	52.4 PK	74.0	-21.6	3.69 H	39	48.0	4.4
2	5460.00	41.2 AV	54.0	-12.8	3.69 H	39	36.8	4.4
3	#5470.00	53.1 PK	68.2	-15.1	3.69 H	39	48.6	4.5
4	*5690.00	103.9 PK			3.69 H	39	99.4	4.5
5	*5690.00	96.2 AV			3.69 H	39	91.7	4.5
6	#5850.00	63.7 PK	68.2	-4.5	3.69 H	39	58.7	5.0
7	11380.00	48.3 PK	74.0	-25.7	2.15 H	292	33.8	14.5
8	11380.00	36.2 AV	54.0	-17.8	2.15 H	292	21.7	14.5
9	#17070.00	52.6 PK	68.2	-15.6	1.30 H	330	34.7	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	52.4 PK	74.0	-21.6	3.59 V	187	48.0	4.4
2	5460.00	37.4 AV	54.0	-16.6	3.59 V	187	33.0	4.4
3	#5470.00	52.9 PK	68.2	-15.3	3.59 V	187	48.4	4.5
4	*5690.00	105.5 PK			3.59 V	187	101.0	4.5
5	*5690.00	94.3 AV			3.59 V	187	89.8	4.5
6	#5850.00	64.2 PK	68.2	-4.0	3.59 V	187	59.2	5.0
7	11380.00	48.5 PK	74.0	-25.5	1.48 V	102	34.0	14.5
8	11380.00	36.7 AV	54.0	-17.3	1.48 V	102	22.2	14.5
9	#17070.00	51.2 PK	68.2	-17.0	1.92 V	197	33.3	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	#5649.62	63.8 PK	68.2	-4.4	3.75 H	243	59.3	4.5
2	*5775.00	106.3 PK			3.75 H	243	101.2	5.1
3	*5775.00	95.9 AV			3.75 H	243	90.8	5.1
4	#5941.49	63.3 PK	68.2	-4.9	3.75 H	243	58.2	5.1
5	11550.00	47.6 PK	74.0	-26.4	2.07 H	290	33.0	14.6
6	11550.00	35.8 AV	54.0	-18.2	2.07 H	290	21.2	14.6
7	#17325.00	51.5 PK	68.2	-16.7	1.25 H	320	33.4	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	#5642.32	62.9 PK	68.2	-5.3	3.58 V	199	58.4	4.5
2	*5775.00	105.3 PK			3.58 V	199	100.2	5.1
3	*5775.00	93.8 AV			3.58 V	199	88.7	5.1
4	#5923.27	62.3 PK	69.5	-7.2	3.58 V	199	57.2	5.1
5	11550.00	48.5 PK	74.0	-25.5	1.51 V	125	33.9	14.6
6	11550.00	36.6 AV	54.0	-17.4	1.51 V	125	22.0	14.6
7	#17325.00	51.8 PK	68.2	-16.4	1.84 V	215	33.7	18.1

Remarks:

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

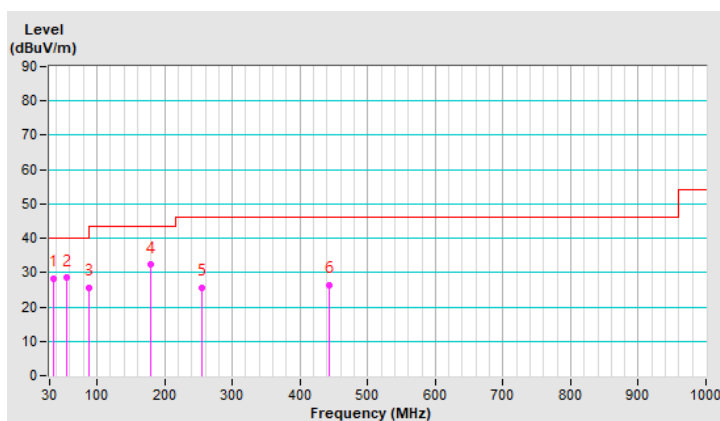
Below 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 48 : 5240 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	35.30	28.4 QP	40.0	-11.6	2.00 H	118	37.6	-9.2
2	55.44	28.6 QP	40.0	-11.4	2.00 H	261	36.9	-8.3
3	88.20	25.7 QP	43.5	-17.8	2.00 H	248	39.6	-13.9
4	179.42	32.4 QP	43.5	-11.1	1.50 H	59	41.5	-9.1
5	254.35	25.7 QP	46.0	-20.3	1.00 H	149	34.2	-8.5
6	443.46	26.5 QP	46.0	-19.5	1.50 H	36	28.7	-2.2

Remarks:

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

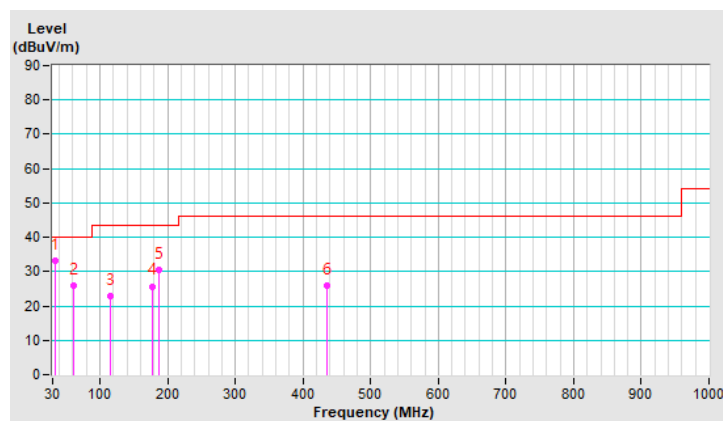


RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	33.45	33.0 QP	40.0	-7.0	1.50 V	324	42.2	-9.2
2	60.77	25.8 QP	40.0	-14.2	1.00 V	153	34.7	-8.9
3	115.33	22.9 QP	43.5	-20.6	1.50 V	341	33.1	-10.2
4	177.01	25.7 QP	43.5	-17.8	1.00 V	311	34.6	-8.9
5	186.44	30.6 QP	43.5	-12.9	1.00 V	132	40.5	-9.9
6	435.62	26.0 QP	46.0	-20.0	2.00 V	302	28.4	-2.4

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.



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 03, 2021

4.2.3 Test Procedure

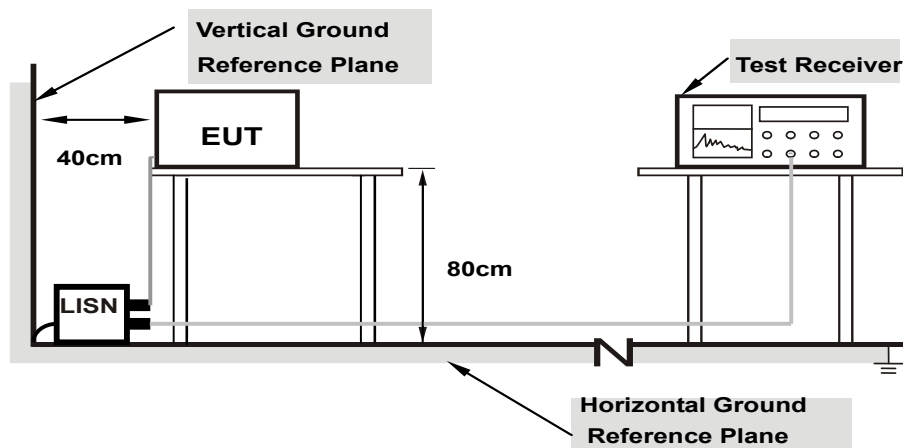
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

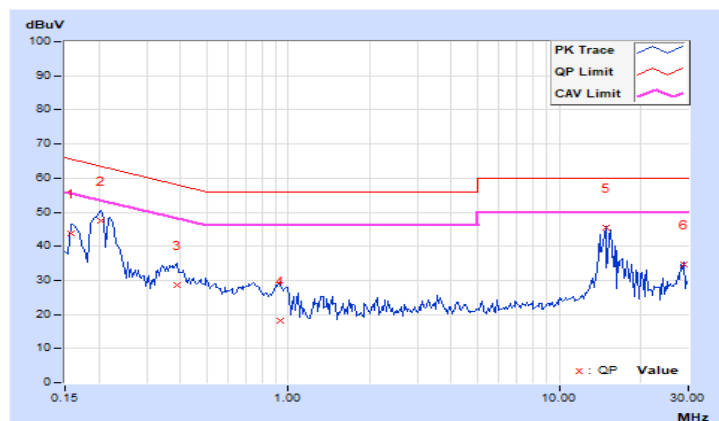
4.2.7 Test Results

RF Mode	TX 802.11a	Channel	CH 48 : 5240 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	0.15781	9.95	33.91	21.27	43.86	31.22	65.58	55.58	-21.72	-24.36
2	0.20469	9.97	37.38	27.29	47.35	37.26	63.42	53.42	-16.07	-16.16
3	0.38828	9.99	18.70	9.81	28.69	19.80	58.10	48.10	-29.41	-28.30
4	0.93125	10.03	8.24	0.17	18.27	10.20	56.00	46.00	-37.73	-35.80
5	14.83594	10.82	34.51	33.73	45.33	44.55	60.00	50.00	-14.67	-5.45
6	28.93359	11.29	23.32	21.63	34.61	32.92	60.00	50.00	-25.39	-17.08

Remarks:

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

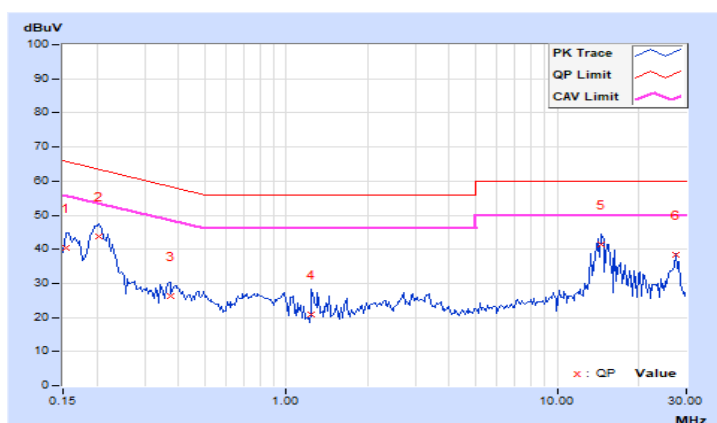


RF Mode	TX 802.11a	Channel	CH 48 : 5240 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	0.15391	9.92	30.41	12.75	40.33	22.67	65.79	55.79	-25.46	-33.12
2	0.20469	9.95	33.73	21.15	43.68	31.10	63.42	53.42	-19.74	-22.32
3	0.37266	9.96	16.26	6.09	26.22	16.05	58.44	48.44	-32.22	-32.39
4	1.23438	10.01	10.94	1.04	20.95	11.05	56.00	46.00	-35.05	-34.95
5	14.58984	10.62	30.76	28.61	41.38	39.23	60.00	50.00	-18.62	-10.77
6	27.45313	10.91	27.36	25.09	38.27	36.00	60.00	50.00	-21.73	-14.00

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

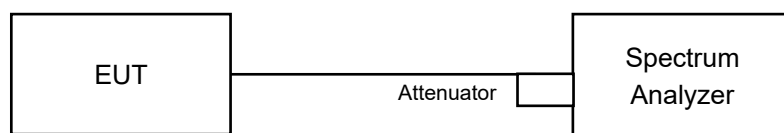
Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Client device	250mW (24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

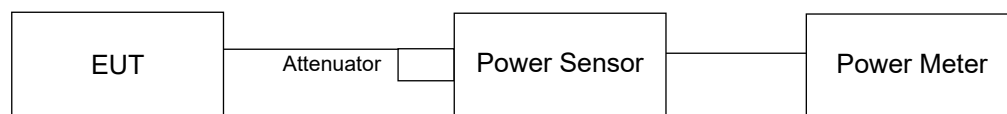
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

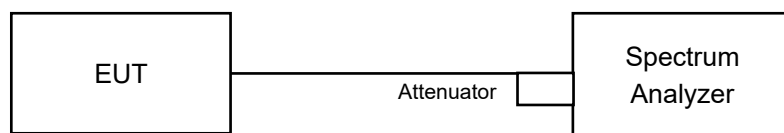
For channel straddling 5725MHz:



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:

For 802.11ac (VHT80)

Follow FCC KDB 789033 UNII test procedure:

Method SA-2

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

For other modulation

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 $\geq 2 \times$ 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 (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
36	5180	70.958	18.51	24	Pass
40	5200	93.972	19.73	24	Pass
48	5240	98.628	19.94	24	Pass
52	5260	99.312	19.97	24	Pass
60	5300	93.111	19.69	24	Pass
64	5320	67.764	18.31	24	Pass
100	5500	58.614	17.68	24	Pass
116	5580	91.833	19.63	24	Pass
140	5700	41.305	16.16	24	Pass
*144 (U-NII-2C Band)	5720	58.21	17.65	24	Pass
*144 (U-NII-3 Band)	5720	11.246	10.51	30	Pass
149	5745	87.498	19.42	30	Pass
157	5785	90.573	19.57	30	Pass
165	5825	91.833	19.63	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)
52	5260	37.98	26.79 > 24
60	5300	41.48	27.17 > 24
64	5320	26.3	25.19 > 24
100	5500	24.2	24.83 > 24
116	5580	39.66	26.98 > 24
140	5700	20.32	24.07 > 24
144 (U-NII-2C Band)	5720	25.12	25 > 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 (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
36	5180	67.764	18.31	24	Pass
40	5200	86.298	19.36	24	Pass
48	5240	77.804	18.91	24	Pass
52	5260	70.307	18.47	24	Pass
60	5300	71.121	18.52	24	Pass
64	5320	63.533	18.03	24	Pass
100	5500	52.966	17.24	24	Pass
116	5580	73.114	18.64	24	Pass
140	5700	35.4	15.49	24	Pass
*144 (U-NII-2C Band)	5720	53.088	17.25	23.67	Pass
*144 (U-NII-3 Band)	5720	10.209	10.09	30	Pass
149	5745	90.991	19.59	30	Pass
157	5785	87.7	19.43	30	Pass
165	5825	88.105	19.45	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	29.44	25.68 > 24
60	5300	36.81	26.65 > 24
64	5320	27.39	25.37 > 24
100	5500	28.86	25.6 > 24
116	5580	29.98	25.76 > 24
140	5700	21.58	24.34 > 24
144 (U-NII-2C Band)	5720	18.5	23.67 < 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 (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
38	5190	27.797	14.44	24	Pass
46	5230	70.146	18.46	24	Pass
54	5270	70.958	18.51	24	Pass
62	5310	32.285	15.09	24	Pass
102	5510	21.627	13.35	24	Pass
110	5550	73.282	18.65	24	Pass
134	5670	58.479	17.67	24	Pass
*142 (U-NII-2C Band)	5710	48.195	16.83	24	Pass
*142 (U-NII-3 Band)	5710	2.831	4.52	30	Pass
151	5755	92.683	19.67	30	Pass
159	5795	93.541	19.71	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)
54	5270	72.62	29.61 > 24
62	5310	43.43	27.37 > 24
102	5510	41.84	27.21 > 24
110	5550	66.76	29.24 > 24
134	5670	59.87	28.77 > 24
142 (U-NII-2C Band)	5710	47.73	27.78 > 24

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

802.11ac (VHT80)

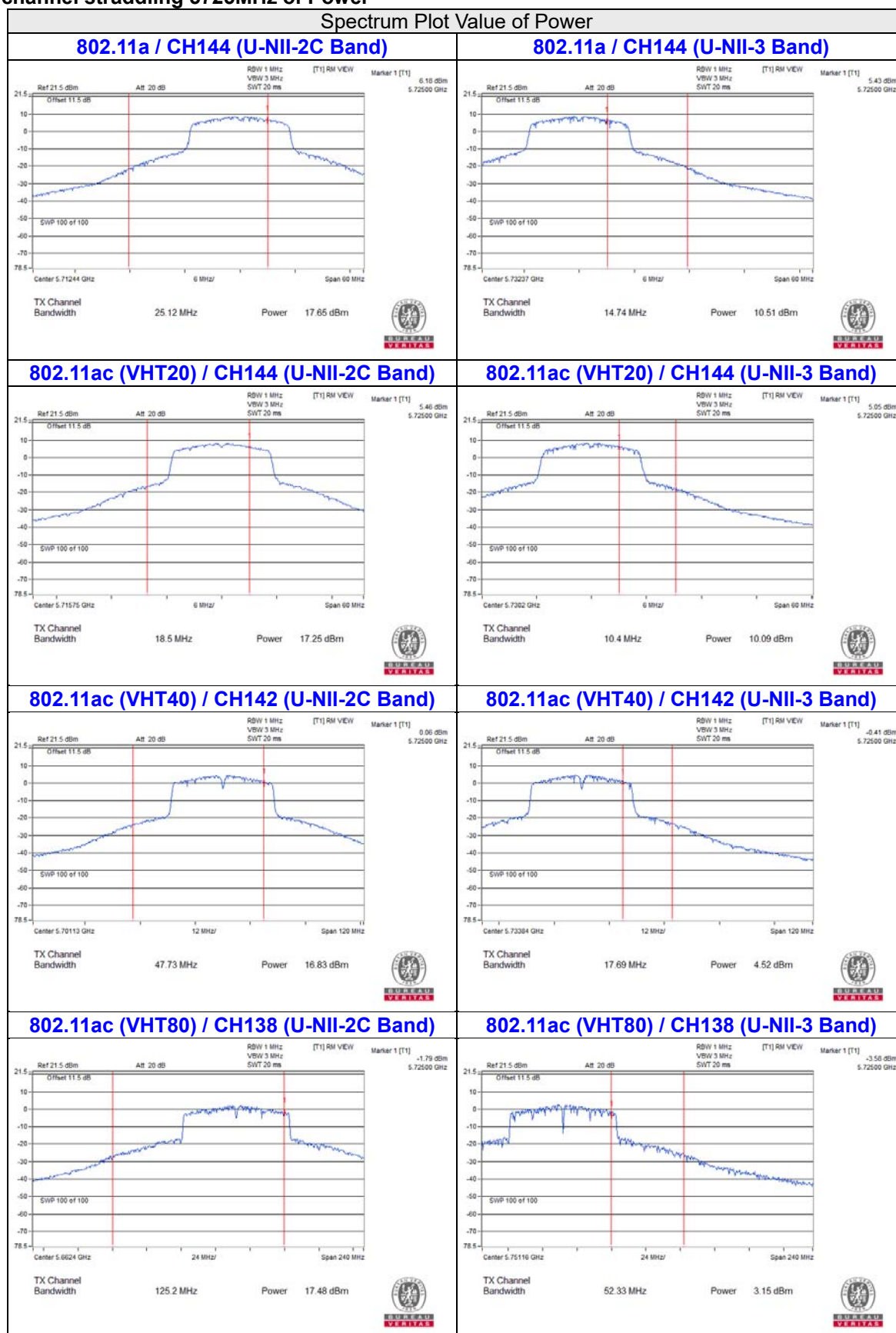
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
42	5210	21.184	13.26	24	Pass
58	5290	22.08	13.44	24	Pass
106	5530	19.907	12.99	24	Pass
122	5610	44.361	16.47	24	Pass
*138 (U-NII-2C Band)	5690	58.246	17.65	24	Pass
*138 (U-NII-3 Band)	5690	2.149	3.32	30	Pass
155	5775	82.035	19.14	30	Pass

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

Determined Power Limit			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Power Limit (dBm)
58	5290	82.11	30.14 > 24
106	5530	82.15	30.14 > 24
122	5610	90.97	30.58 > 24
138 (U-NII-2C Band)	5690	125.2	31.97 > 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



26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	37.98
60	5300	41.48
64	5320	26.3
100	5500	24.2
116	5580	39.66
140	5700	20.32
144 (U-NII-2C Band)	5720	25.12

802.11ac (VHT20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)
52	5260	29.44
60	5300	36.81
64	5320	27.39
100	5500	28.86
116	5580	29.98
140	5700	21.58
144 (U-NII-2C Band)	5720	18.5

802.11ac (VHT40)

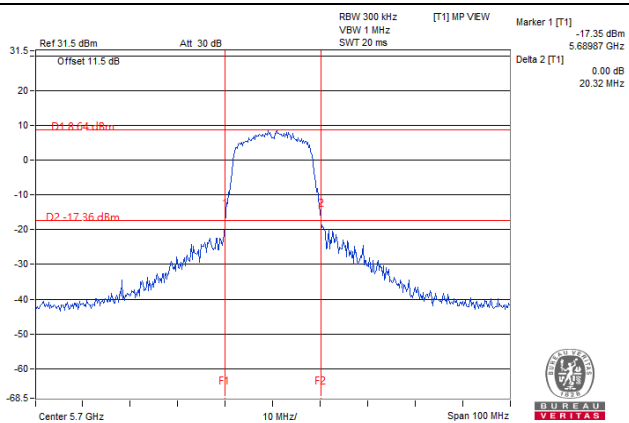
Channel	Frequency (MHz)	26dB Bandwidth (MHz)
54	5270	72.62
62	5310	43.43
102	5510	41.84
110	5550	66.76
134	5670	59.87
142 (U-NII-2C Band)	5710	47.73

802.11ac (VHT80)

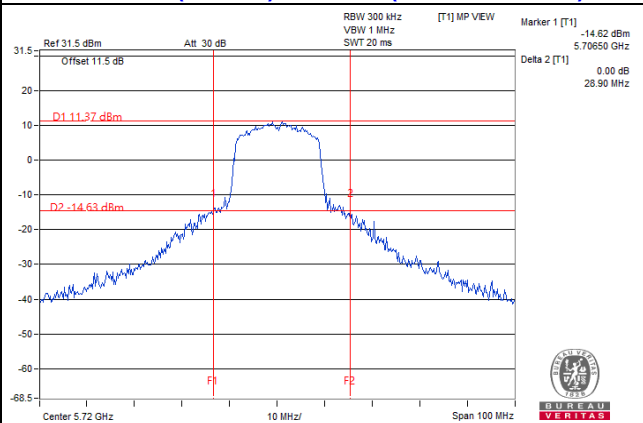
Channel	Frequency (MHz)	26dB Bandwidth (MHz)
58	5290	82.11
106	5530	82.15
122	5610	90.97
138 (U-NII-2C Band)	5690	125.2

Spectrum Plot of Worst Value

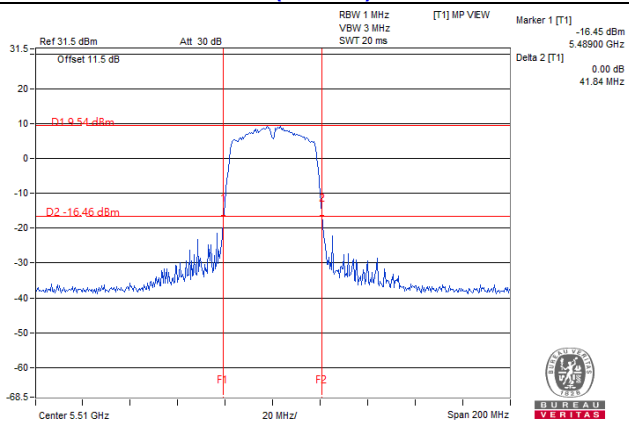
802.11a / CH140



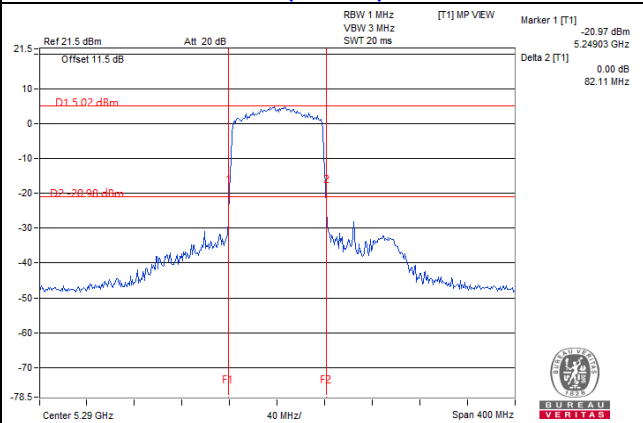
802.11ac (VHT20) / CH144 (U-NII-2C Band)



802.11ac (VHT40) / CH102



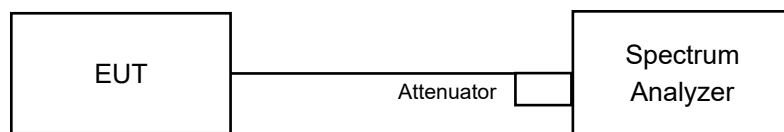
802.11ac (VHT80) / CH58



Note: For CH144 (U-NII-2C) = 5725MHz - Marker 1

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.92
40	5200	17.04
48	5240	17.28
52	5260	17.16
60	5300	17.04
64	5320	16.68
100	5500	16.56
116	5580	17.04
140	5700	16.56
144 (U-NII-2C Band)	5720	13.64
144 (U-NII-3 Band)	5720	3.52
149	5745	17.04
157	5785	17.16
165	5825	17.28

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.88
40	5200	18
48	5240	18
52	5260	17.88
60	5300	17.88
64	5320	17.76
100	5500	17.76
116	5580	17.76
140	5700	17.64
144 (U-NII-2C Band)	5720	14
144 (U-NII-3 Band)	5720	3.76
149	5745	18.24
157	5785	18.12
165	5825	18

802.11ac (VHT40)

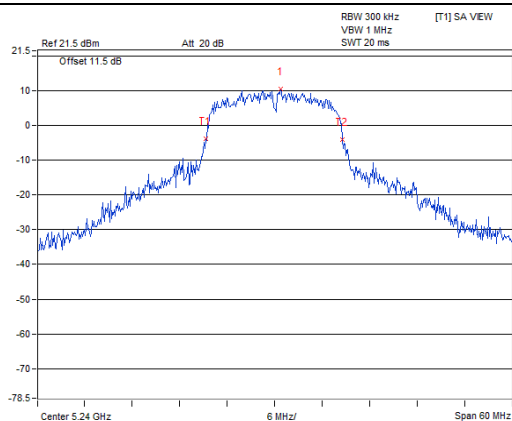
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.24
46	5230	36.72
54	5270	36.72
62	5310	36.24
102	5510	36.24
110	5550	36.48
134	5670	36.24
142 (U-NII-2C Band)	5710	33.24
142 (U-NII-3 Band)	5710	3
151	5755	36.96
159	5795	36.96

802.11ac (VHT80)

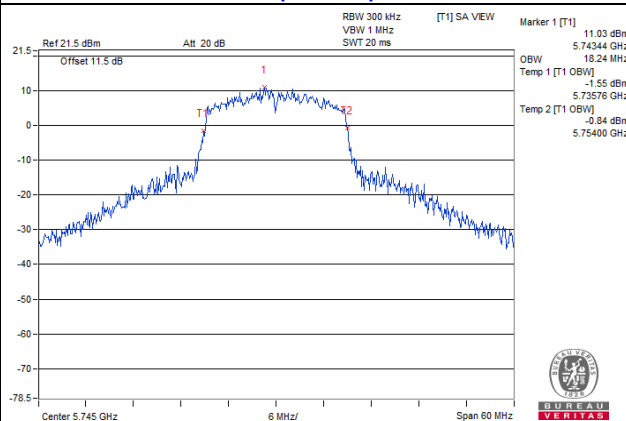
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.36
58	5290	75.36
106	5530	75.36
122	5610	75.36
138 (U-NII-2C Band)	5690	72.92
138 (U-NII-3 Band)	5690	2.92
155	5775	76.32

Spectrum Plot of Max. Value

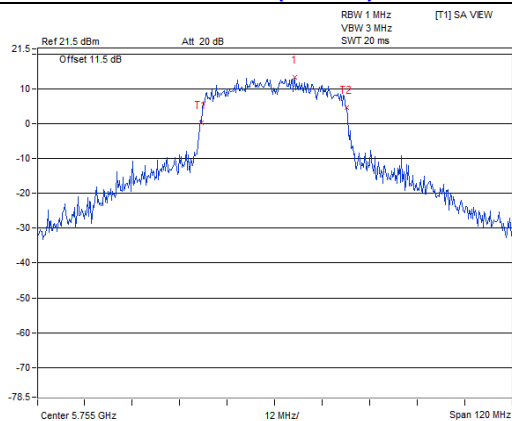
802.11a / CH48



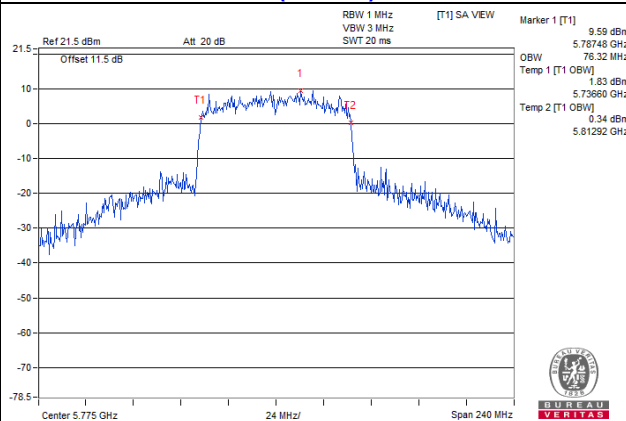
802.11ac (VHT20) / CH149



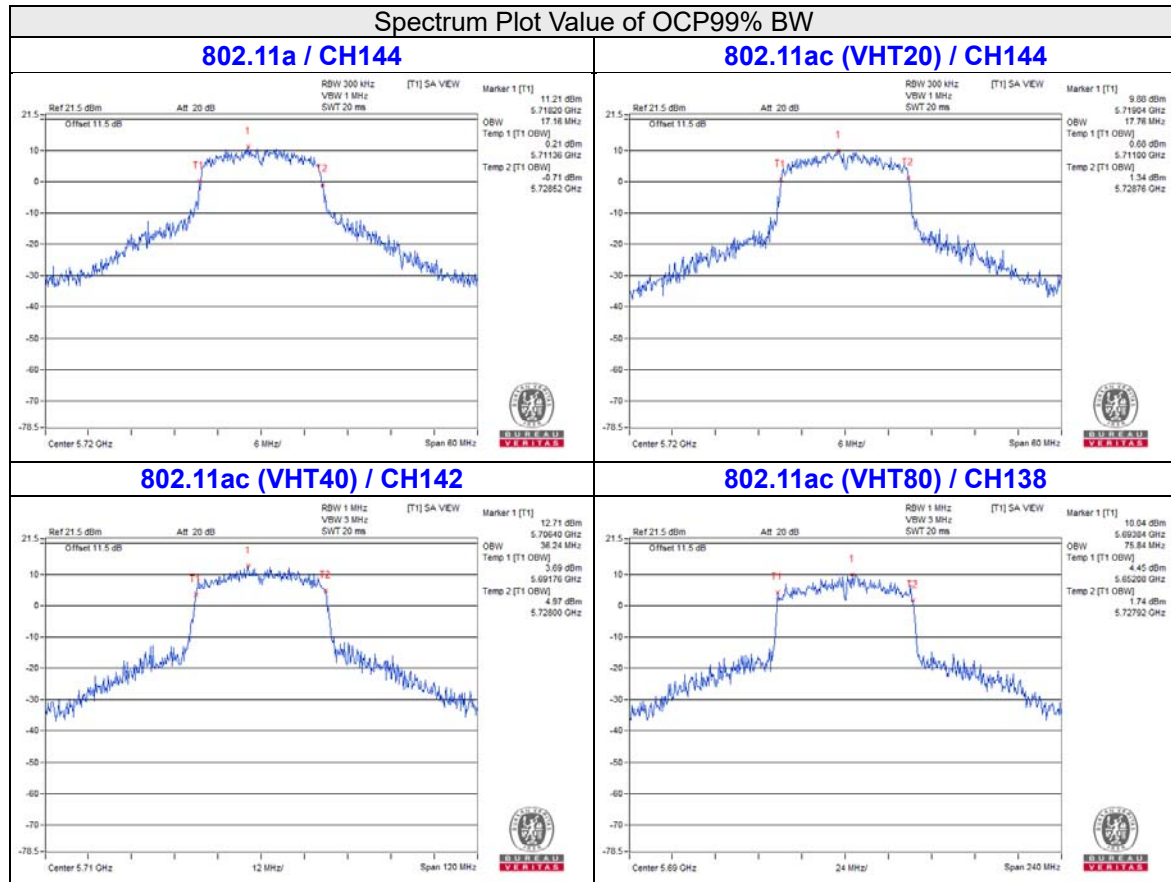
802.11ac (VHT40) / CH151



802.11ac (VHT80) / CH155

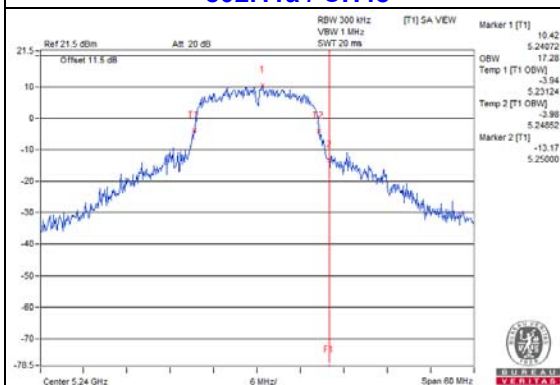


For channel straddling 5725MHz of OCP99% BW

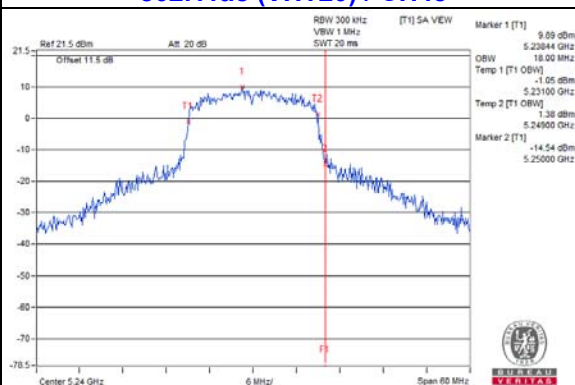


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

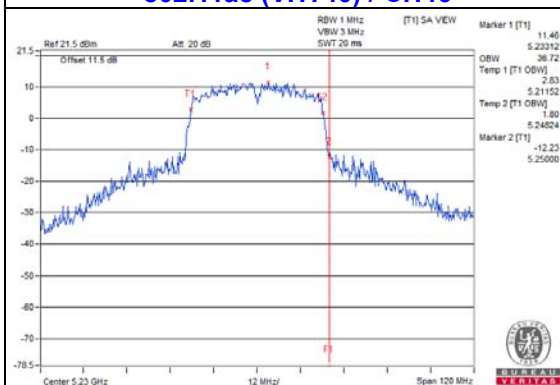
802.11a / CH48



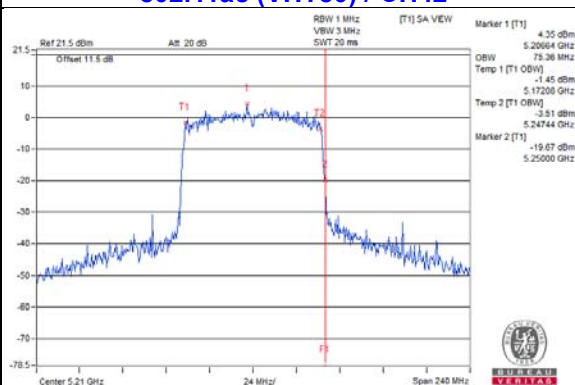
802.11ac (VHT20) / CH48



802.11ac (VHT40) / CH46

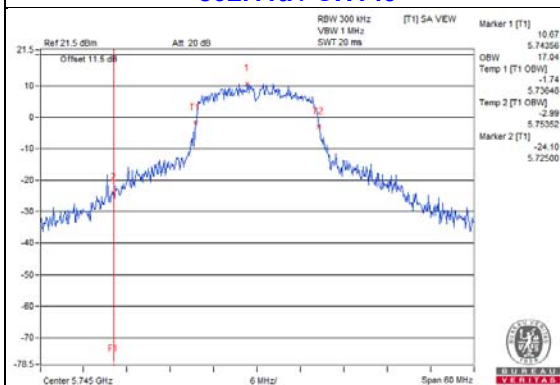


802.11ac (VHT80) / CH42

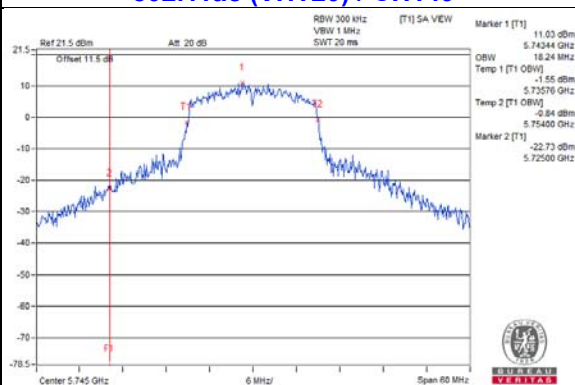


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)**

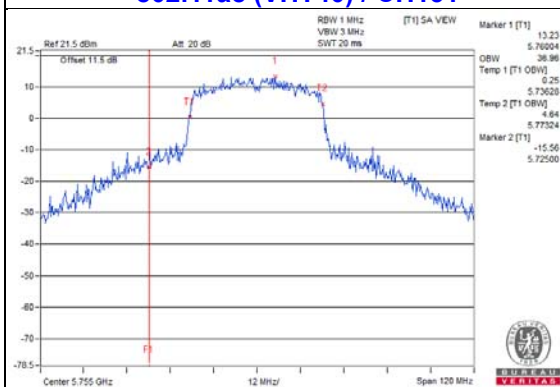
802.11a / CH149



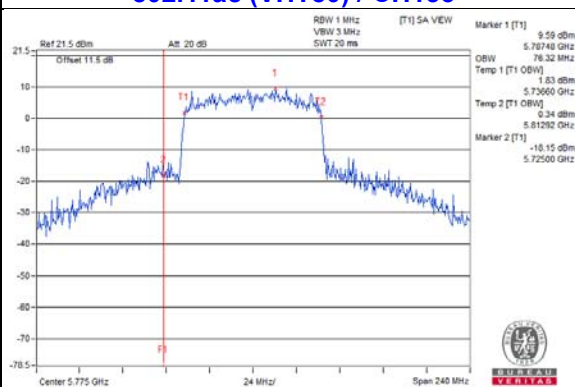
802.11ac (VHT20) / CH149



802.11ac (VHT40) / CH151



802.11ac (VHT80) / CH155

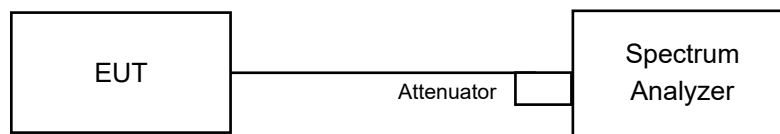


4.5 Peak Power Spectral Density Measurement

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:

For 802.11ac (VHT80)

Using method SA-2

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

For other modulation

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:

For 802.11ac (VHT80)

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

For other modulation

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

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)	Max. PSD Limit (dBm/MHz)	Pass / Fail
36	5180	5.94	11.00	Pass
40	5200	7.05	11.00	Pass
48	5240	7.35	11.00	Pass
52	5260	7.24	11.00	Pass
60	5300	7.68	11.00	Pass
64	5320	6.38	11.00	Pass
100	5500	5.66	11.00	Pass
116	5580	7.67	11.00	Pass
140	5700	3.55	11.00	Pass
144 (U-NII-2C Band)	5720	7.66	11.00	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
36	5180	5.63	11.00	Pass
40	5200	6.97	11.00	Pass
48	5240	6.49	11.00	Pass
52	5260	6.04	11.00	Pass
60	5300	6.44	11.00	Pass
64	5320	6.45	11.00	Pass
100	5500	5.26	11.00	Pass
116	5580	6.38	11.00	Pass
140	5700	3.25	11.00	Pass
144 (U-NII-2C Band)	5720	6.40	11.00	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
38	5190	-0.51	11.00	Pass
46	5230	3.31	11.00	Pass
54	5270	3.37	11.00	Pass
62	5310	-0.08	11.00	Pass
102	5510	-1.50	11.00	Pass
110	5550	3.79	11.00	Pass
134	5670	1.73	11.00	Pass
142 (U-NII-2C Band)	5710	3.62	11.00	Pass

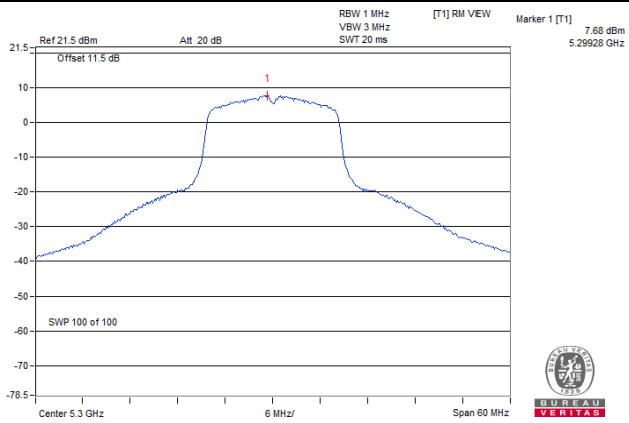
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
42	5210	-5.21	0.17	-5.04	11.00	Pass
58	5290	-5.56	0.17	-5.39	11.00	Pass
106	5530	-5.10	0.17	-4.93	11.00	Pass
122	5610	-2.00	0.17	-1.83	11.00	Pass
138 (U-NII-2C Band)	5690	0.57	0.17	0.74	11.00	Pass

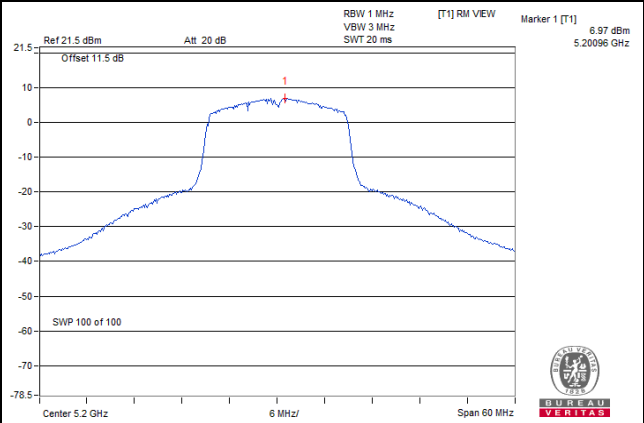
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

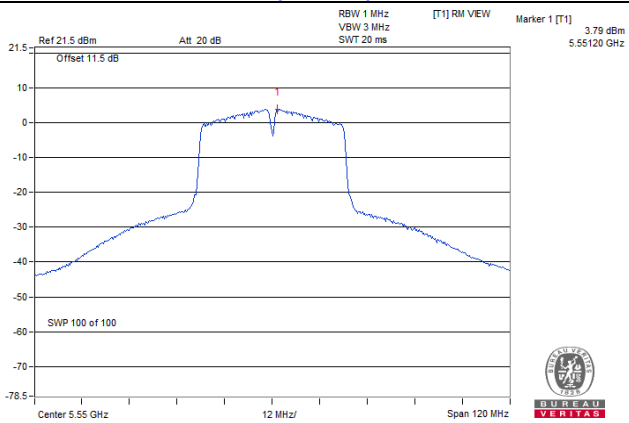
802.11a / CH60



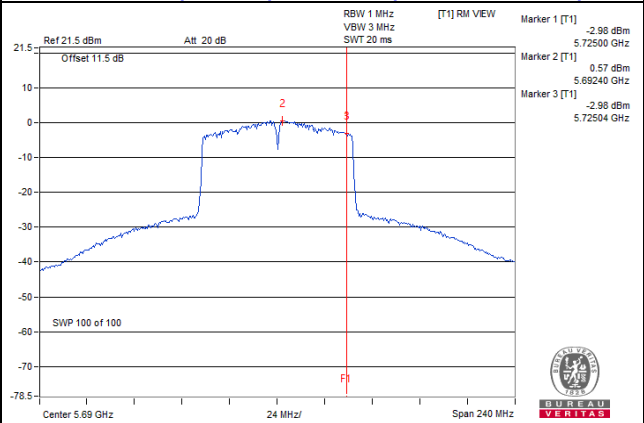
802.11ac (VHT20) / CH40



802.11ac (VHT40) / CH110



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



For U-NII-3 band:

802.11a

Chan.	Chan. Freq.	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	-2.99	-0.77	30.00	Pass
149	5745	-0.59	1.63	30.00	Pass
157	5785	-0.48	1.74	30.00	Pass
165	5825	-0.56	1.66	30.00	Pass

802.11ac (VHT20)

Chan.	Chan. Freq.	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
144 (U-NII-3 Band)	5720	-3.81	-1.59	30.00	Pass
149	5745	-0.92	1.30	30.00	Pass
157	5785	-0.83	1.39	30.00	Pass
165	5825	-0.89	1.33	30.00	Pass

802.11ac (VHT40)

Chan.	Chan. Freq.	PSD (dBm/300kHz)	PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
142 (U-NII-3 Band)	5710	-8.61	-6.39	30.00	Pass
151	5755	-4.48	-2.26	30.00	Pass
159	5795	-3.97	-1.75	30.00	Pass

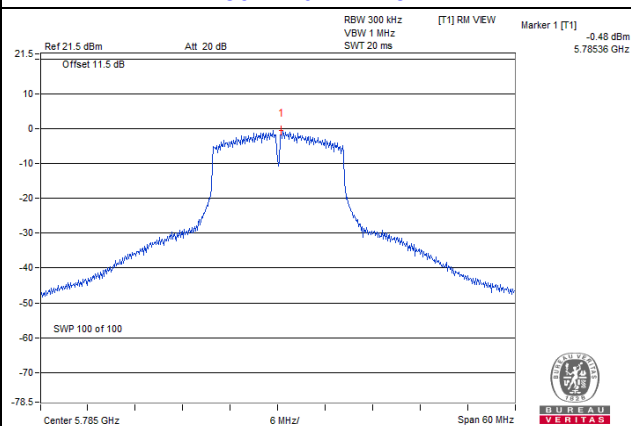
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/300kHz)	Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
138 (U-NII-3 Band)	5690	-11.94	0.17	-11.77	-9.55	30.00	Pass
155	5775	-8.31	0.17	-8.14	-5.92	30.00	Pass

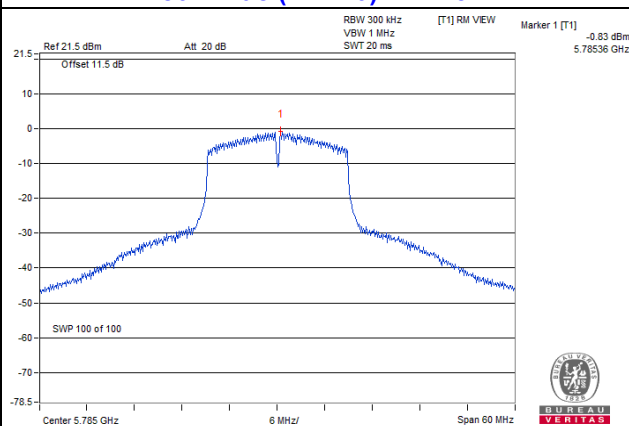
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

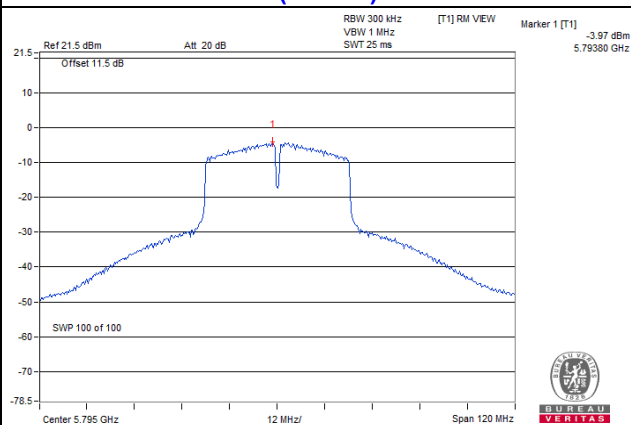
802.11a / CH157



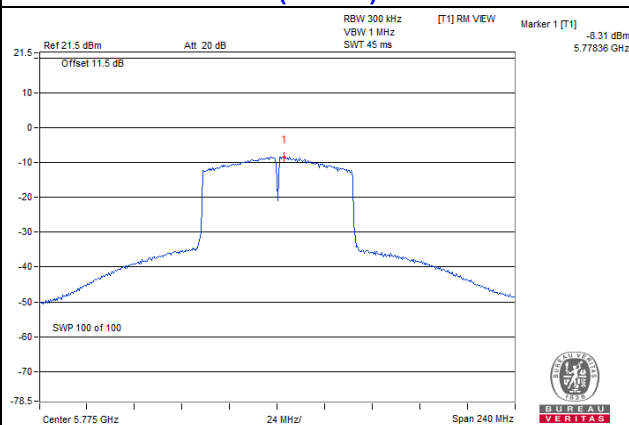
802.11ac (VHT20) / CH157



802.11ac (VHT40) / CH159



802.11ac (VHT80) / CH155

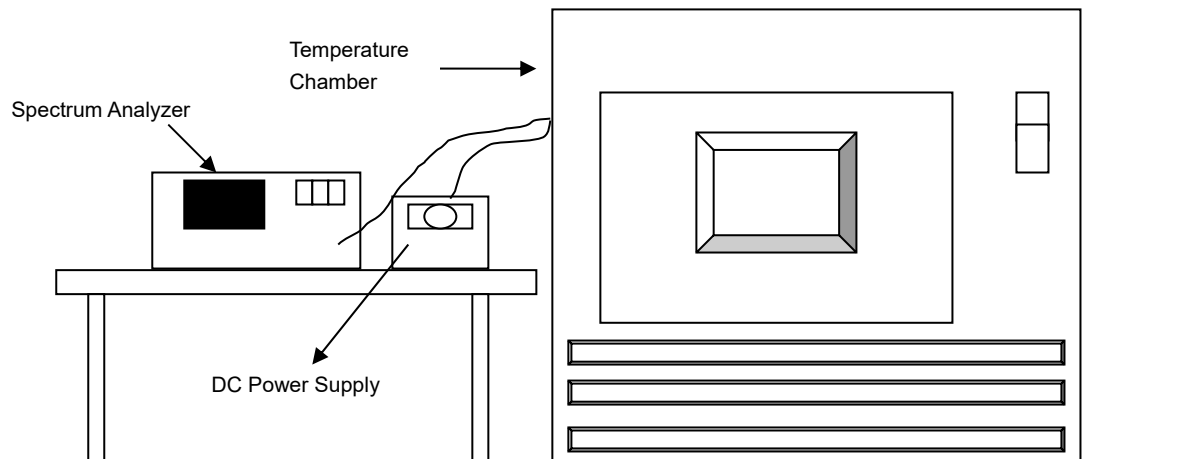


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	56	5179.9843	Pass	5179.9863	Pass	5179.9858	Pass	5179.985	Pass
30	56	5179.9775	Pass	5179.977	Pass	5179.9771	Pass	5179.9755	Pass
20	56	5179.9781	Pass	5179.9785	Pass	5179.9821	Pass	5179.9781	Pass
10	56	5180.0233	Pass	5180.0234	Pass	5180.025	Pass	5180.0216	Pass
0	56	5180.0264	Pass	5180.0259	Pass	5180.0252	Pass	5180.0217	Pass

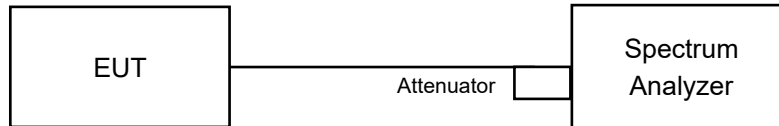
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	64.4	5179.9775	Pass	5179.9791	Pass	5179.982	Pass	5179.9783	Pass
	56	5179.9781	Pass	5179.9785	Pass	5179.9821	Pass	5179.9781	Pass
	47.6	5179.9782	Pass	5179.9779	Pass	5179.9817	Pass	5179.9788	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
144 (U-NII-3 Band)	5720	2.57	0.5	Pass
149	5745	15.19	0.5	Pass
157	5785	15.17	0.5	Pass
165	5825	15.16	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144 (U-NII-3 Band)	5720	2.57	0.5	Pass
149	5745	15.19	0.5	Pass
157	5785	15.18	0.5	Pass
165	5825	15.17	0.5	Pass

802.11ac (VHT40)

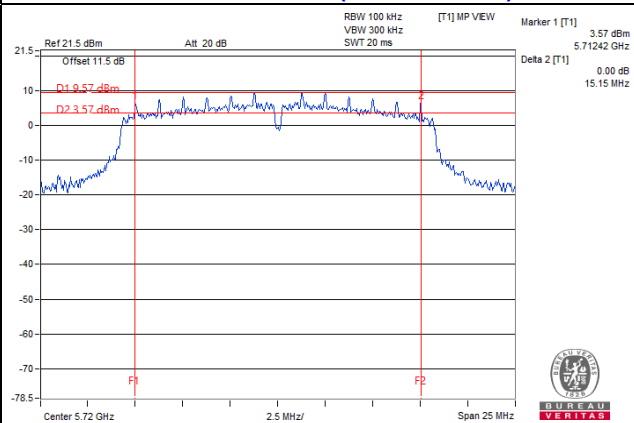
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142 (U-NII-3 Band)	5710	2.63	0.5	Pass
151	5755	35.25	0.5	Pass
159	5795	35.23	0.5	Pass

802.11ac (VHT80)

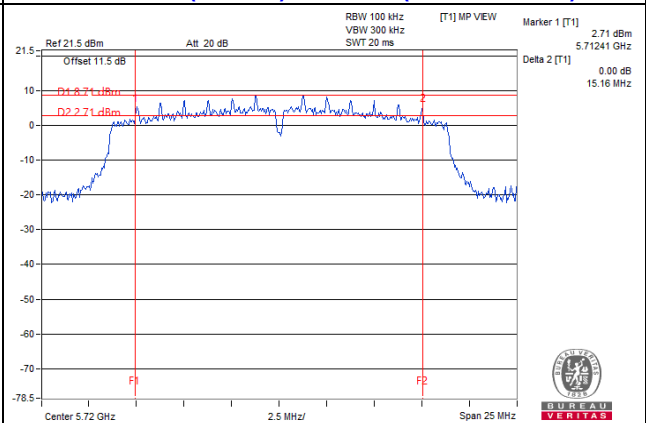
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138 (U-NII-3 Band)	5690	2.68	0.5	Pass
155	5775	75.42	0.5	Pass

Spectrum Plot of Worst Value

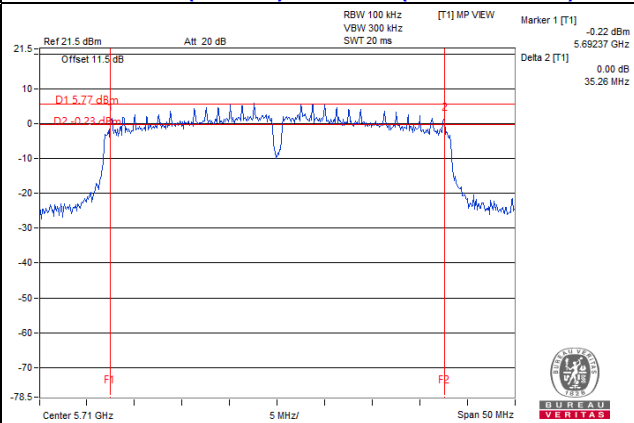
802.11a / CH144 (U-NII-3 Band)



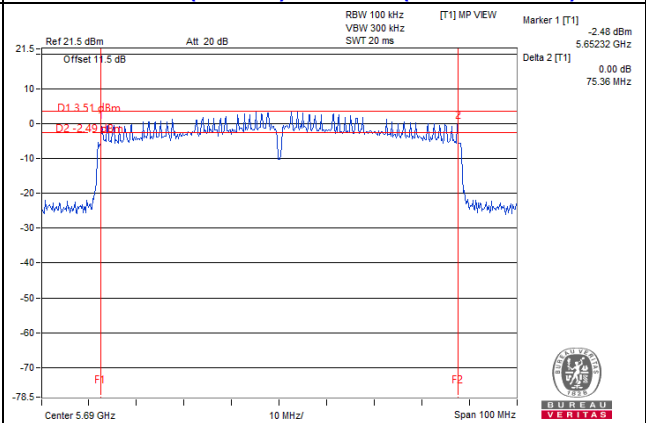
802.11ac (VHT20) / CH144 (U-NII-3 Band)



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



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



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

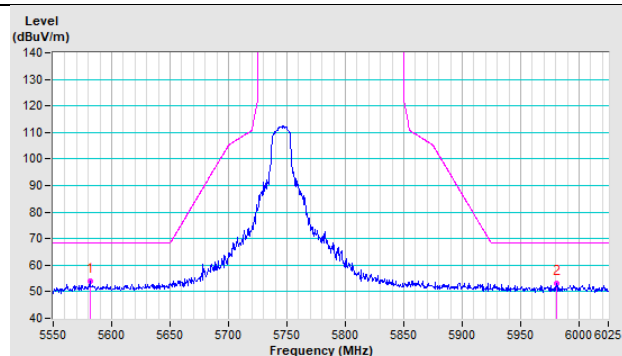
5 Pictures of Test Arrangements

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

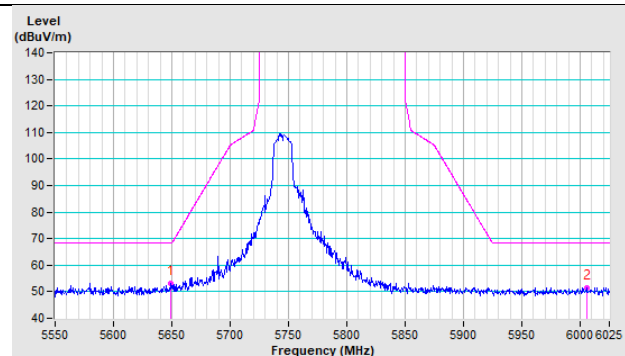
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149 : 5745 MHz

Horizontal

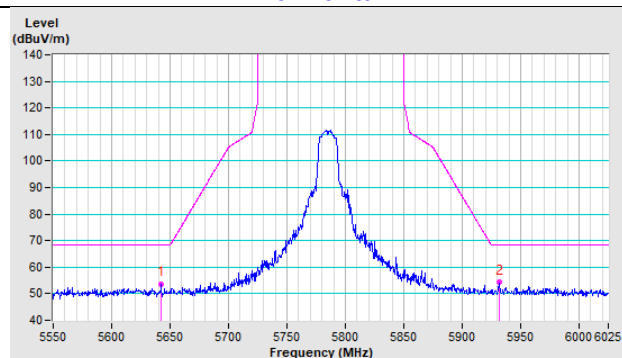


Vertical

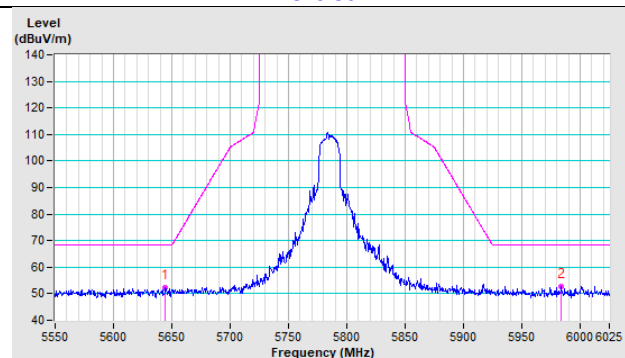


802.11a CH 157 : 5785 MHz

Horizontal

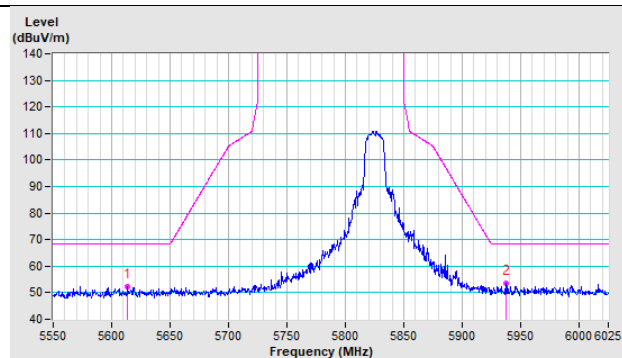


Vertical

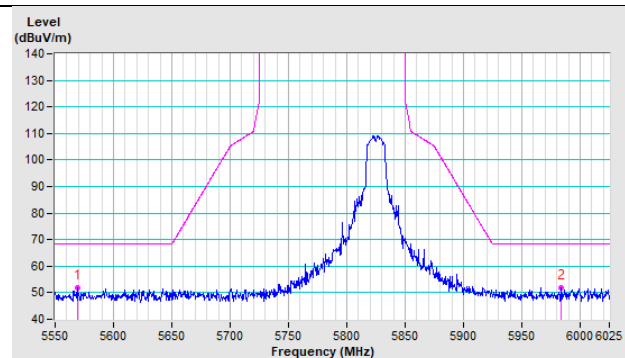


802.11a CH 165 : 5825 MHz

Horizontal

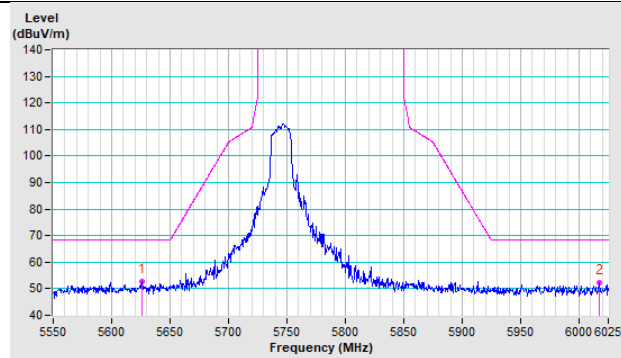


Vertical

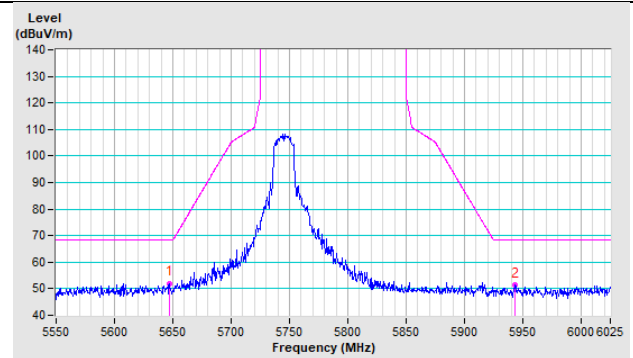


802.11ac (VHT20) CH 149 : 5745 MHz

Horizontal

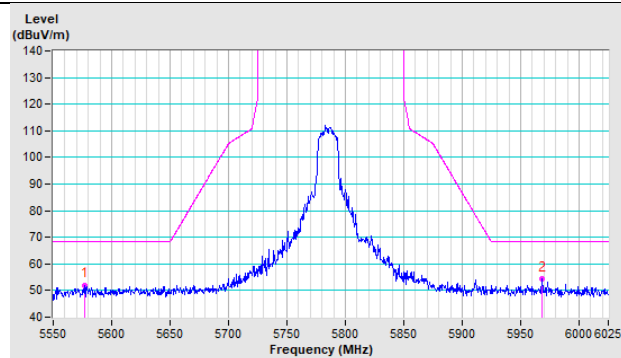


Vertical

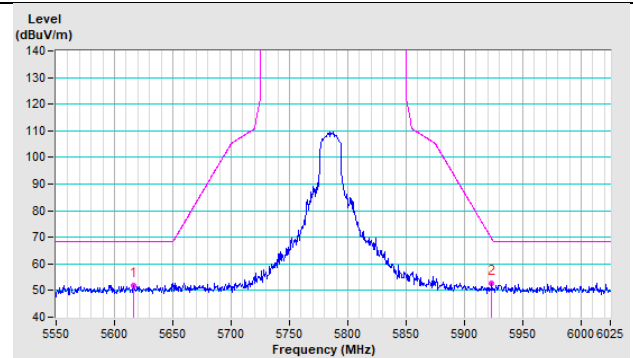


802.11ac (VHT20) CH 157 : 5785 MHz

Horizontal

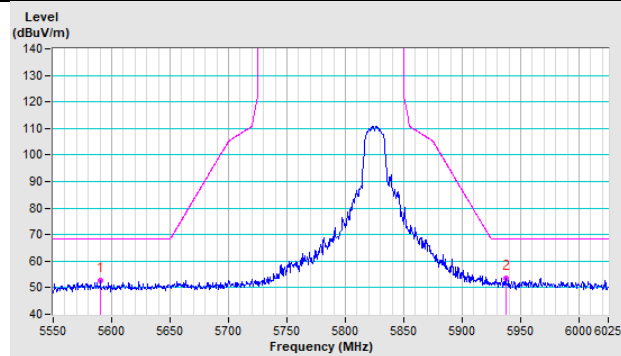


Vertical

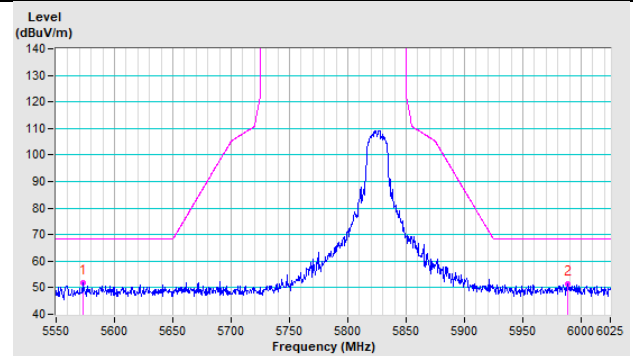


802.11ac (VHT20) CH 165 : 5825 MHz

Horizontal

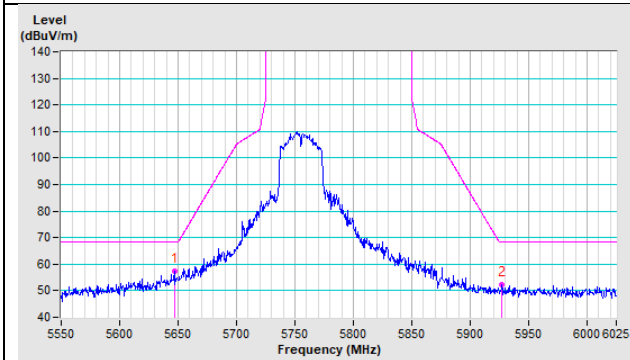


Vertical

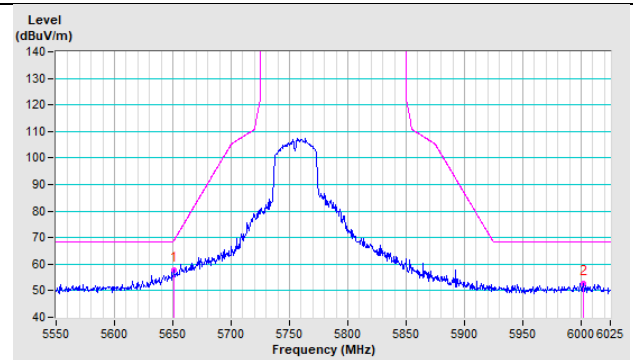


802.11ac (VHT40) CH 151 : 5755 MHz

Horizontal

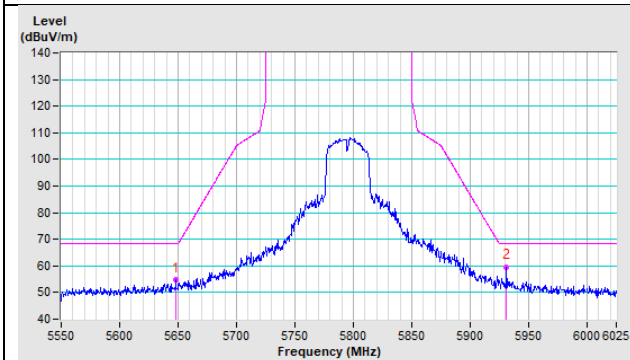


Vertical

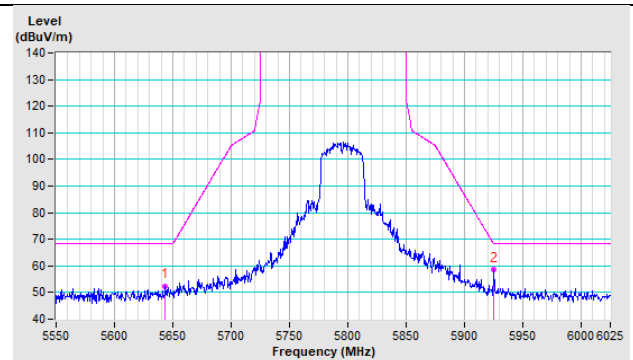


802.11ac (VHT40) CH 159 : 5795 MHz

Horizontal

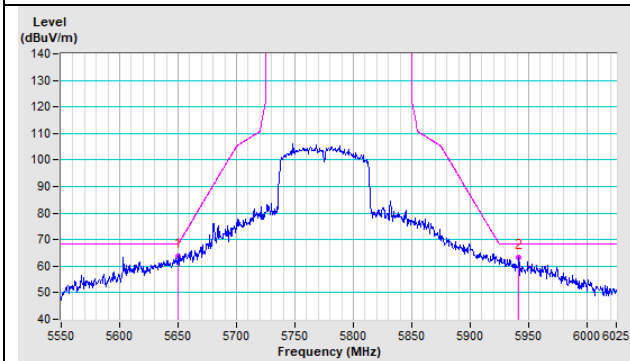


Vertical

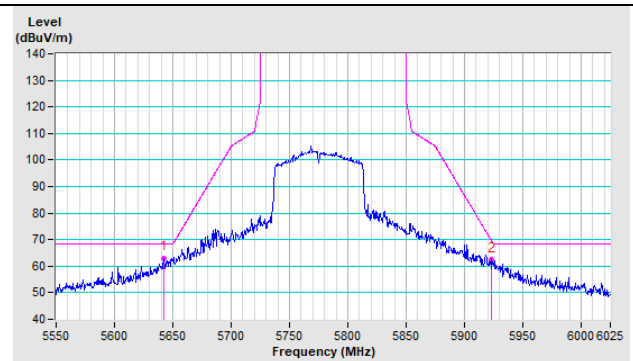


802.11ac (VHT80) CH 155 : 5775 MHz

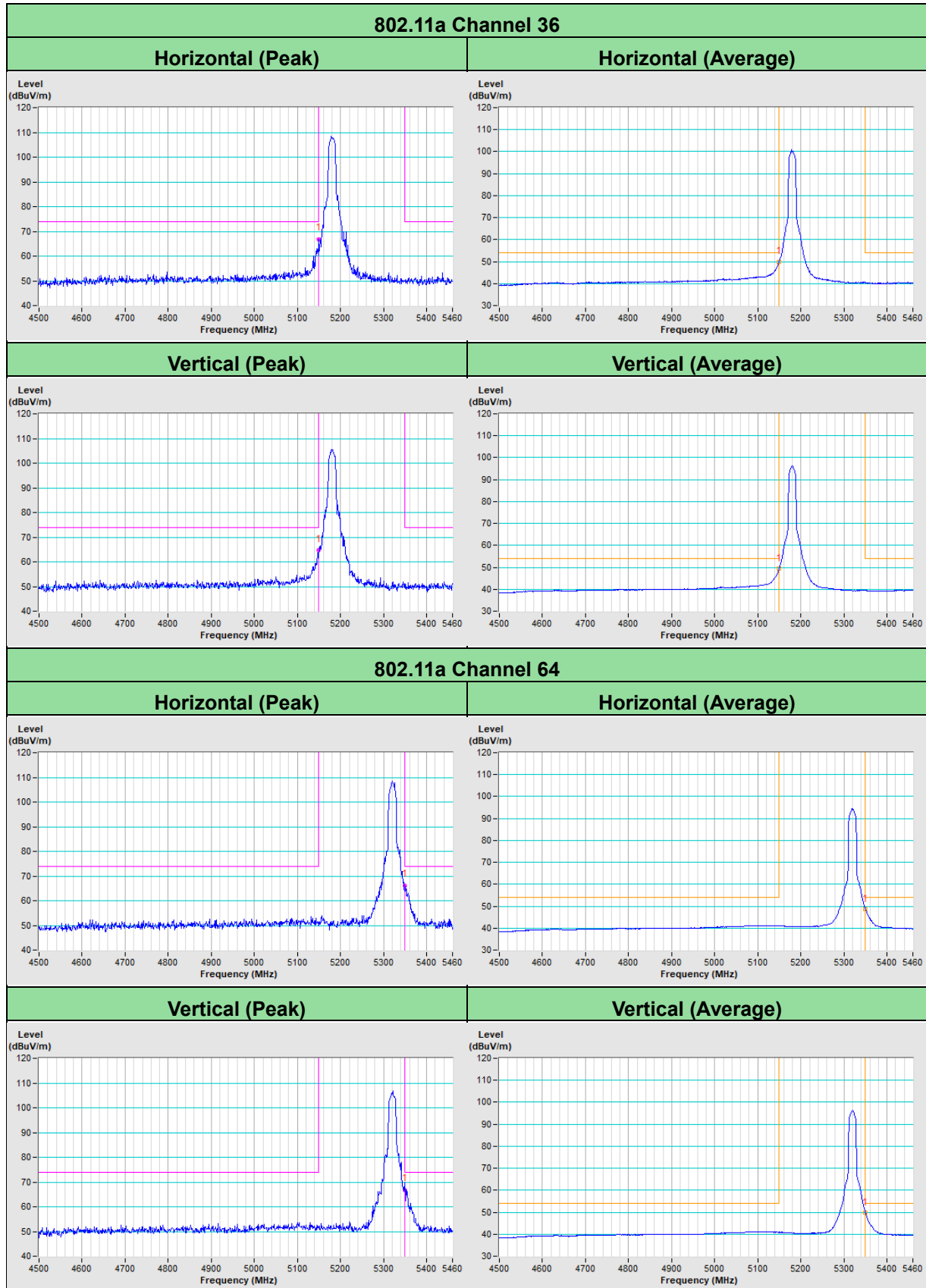
Horizontal

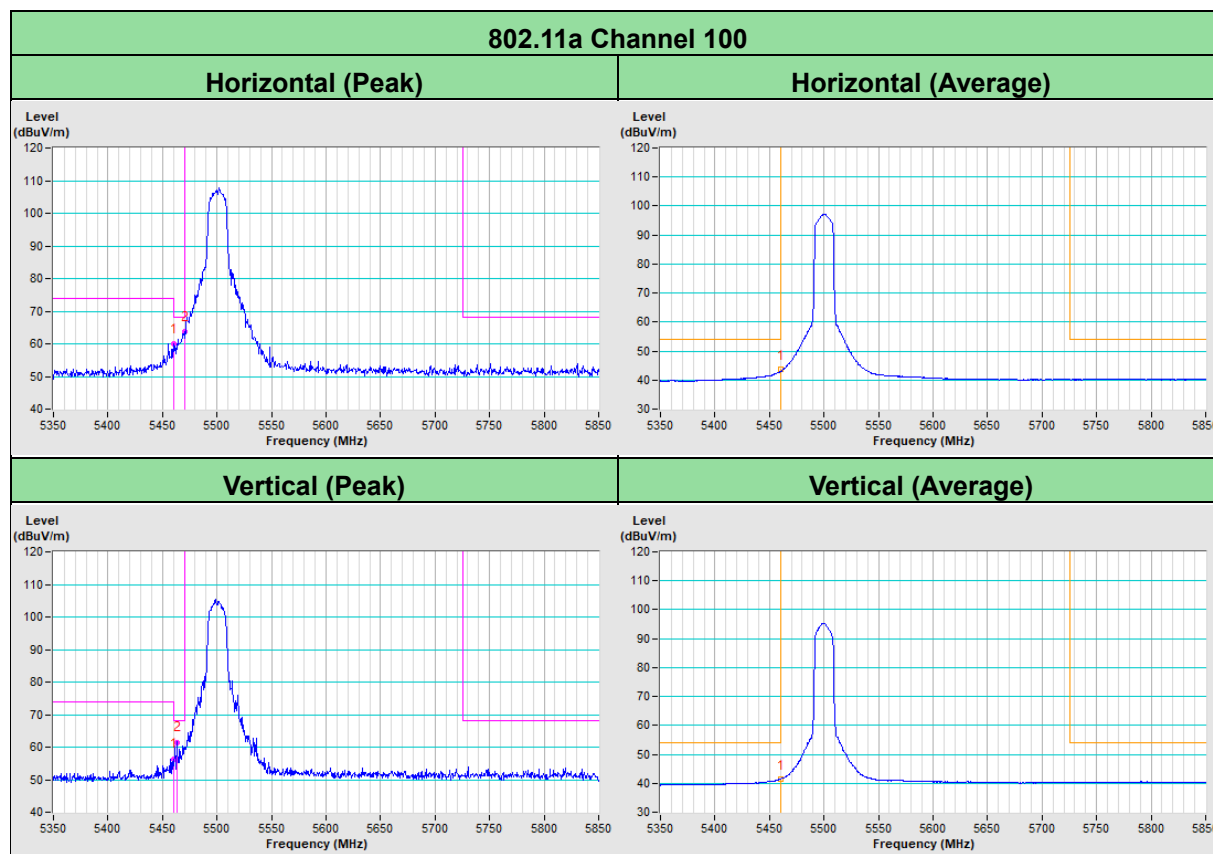


Vertical



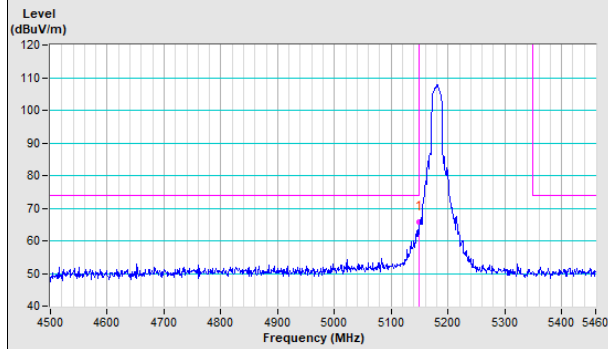
Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)



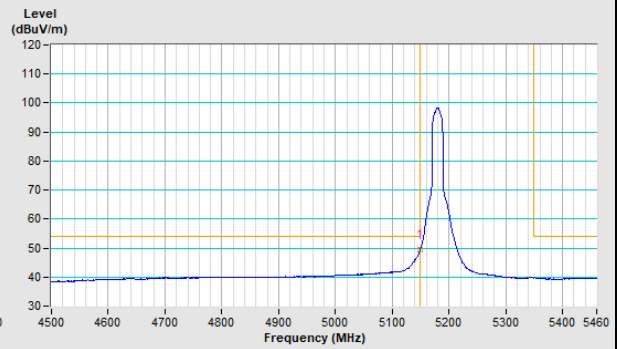


802.11ac (VHT20) Channel 36

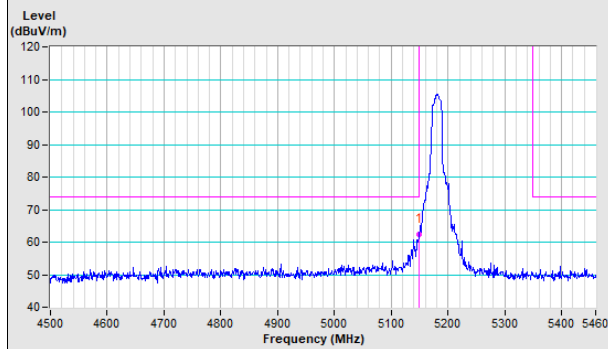
Horizontal (Peak)



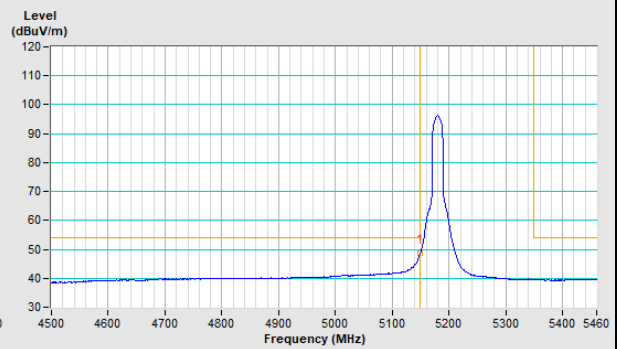
Horizontal (Average)



Vertical (Peak)

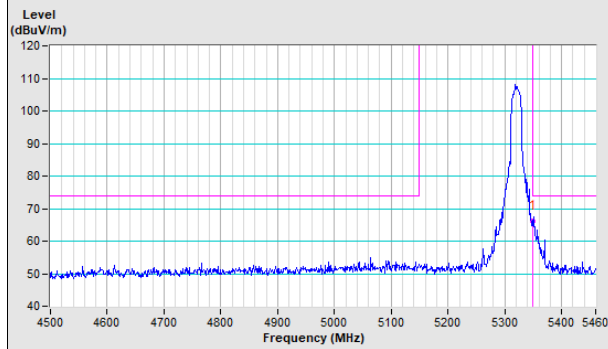


Vertical (Average)

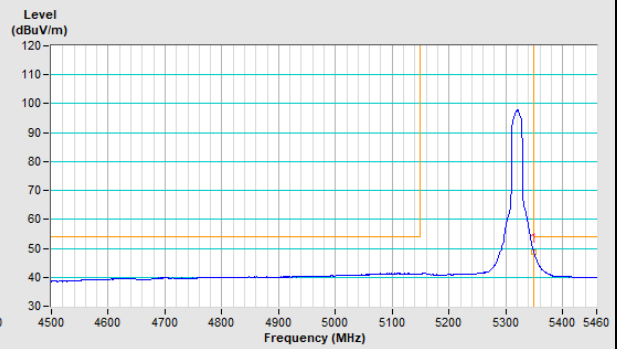


802.11ac (VHT20) Channel 64

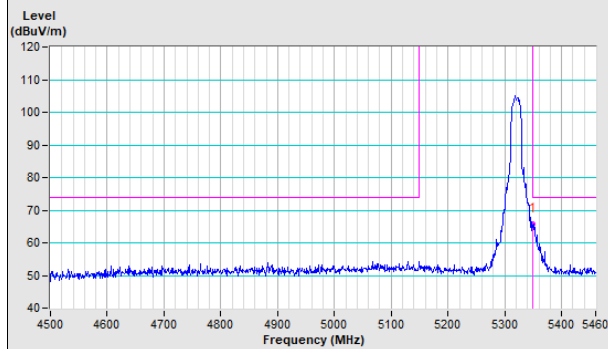
Horizontal (Peak)



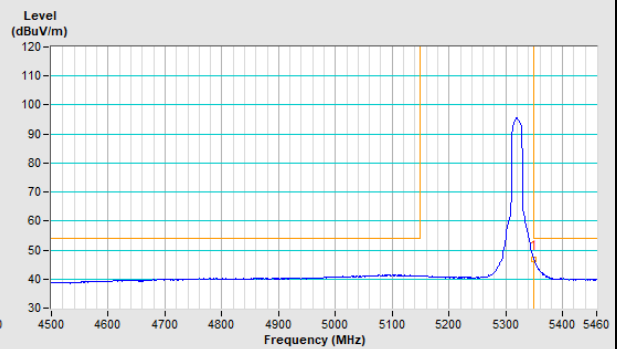
Horizontal (Average)

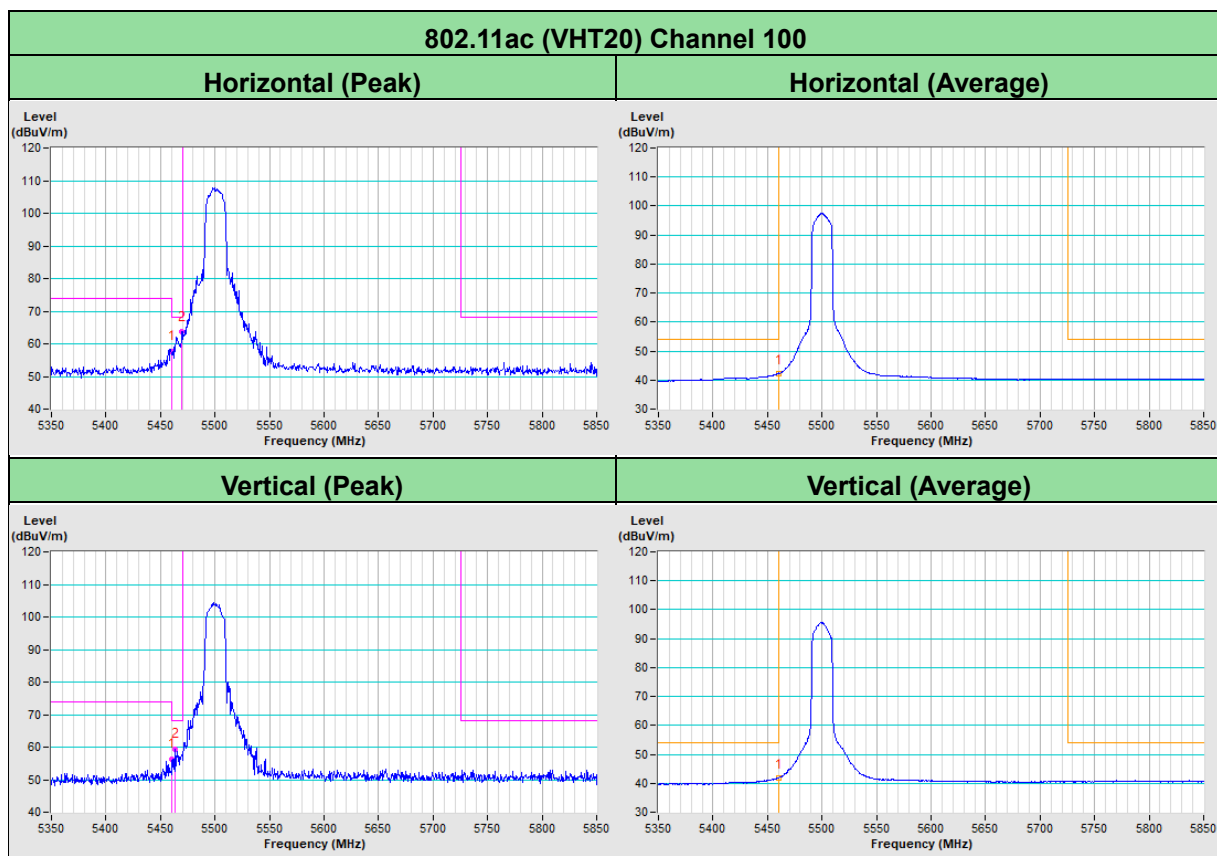


Vertical (Peak)



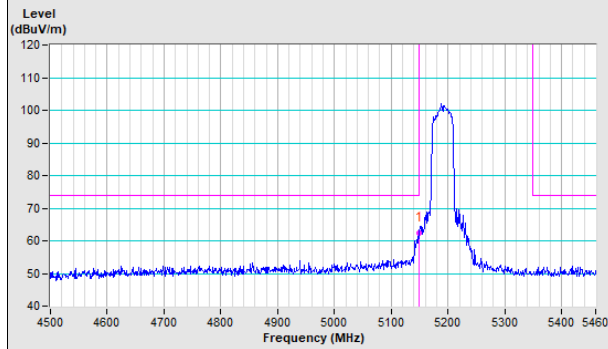
Vertical (Average)



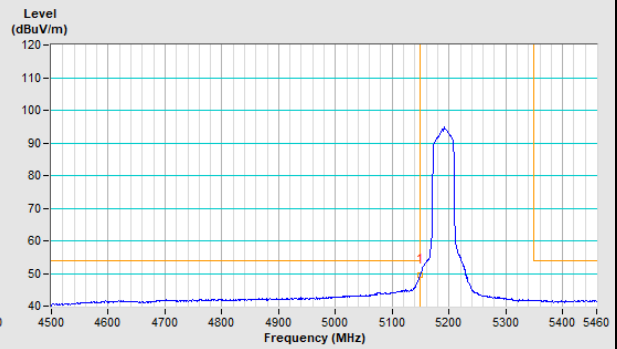


802.11ac (VHT40) Channel 38

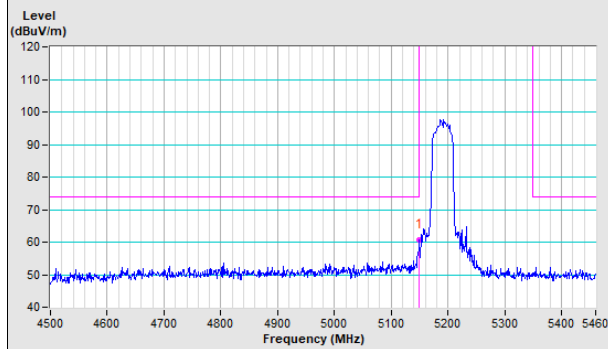
Horizontal (Peak)



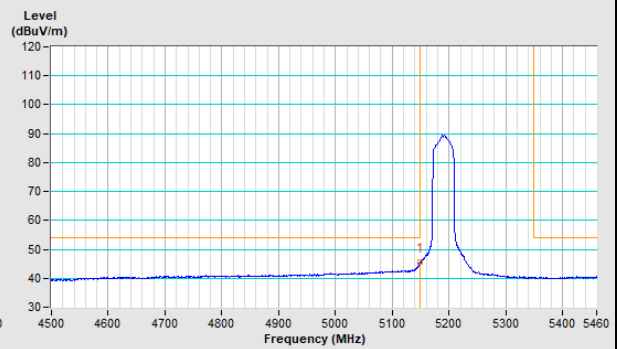
Horizontal (Average)



Vertical (Peak)

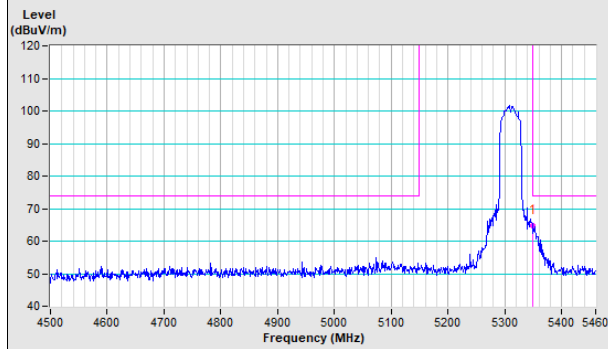


Vertical (Average)

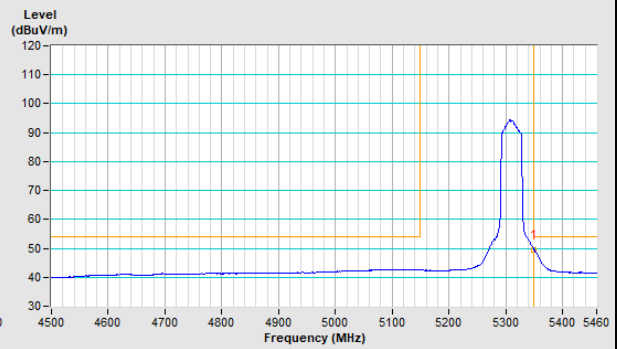


802.11ac (VHT40) Channel 62

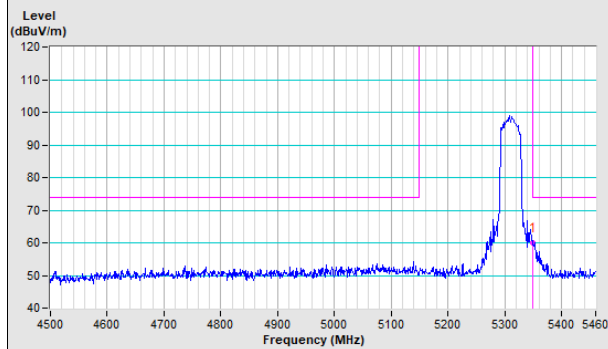
Horizontal (Peak)



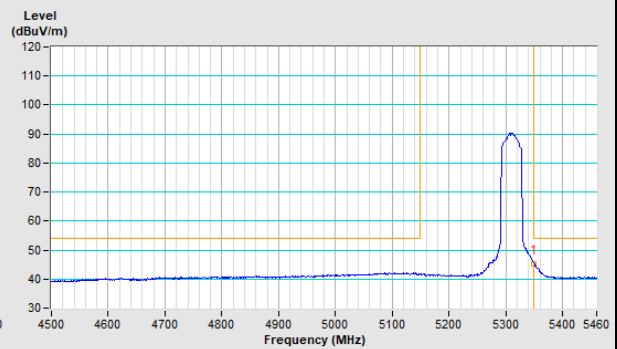
Horizontal (Average)

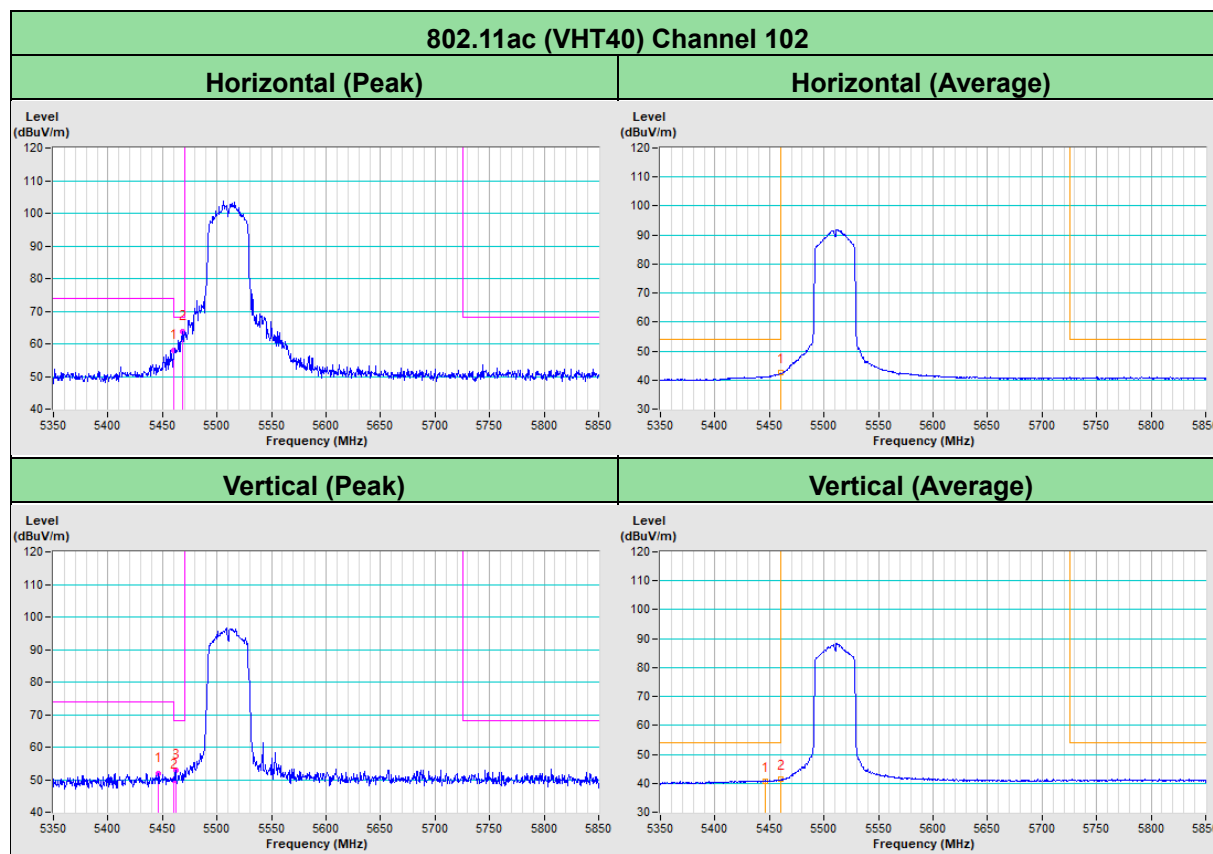


Vertical (Peak)

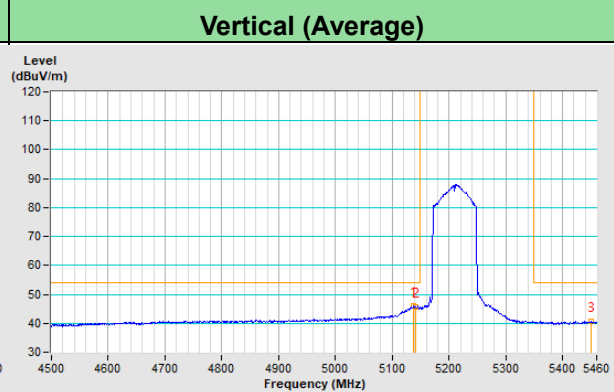
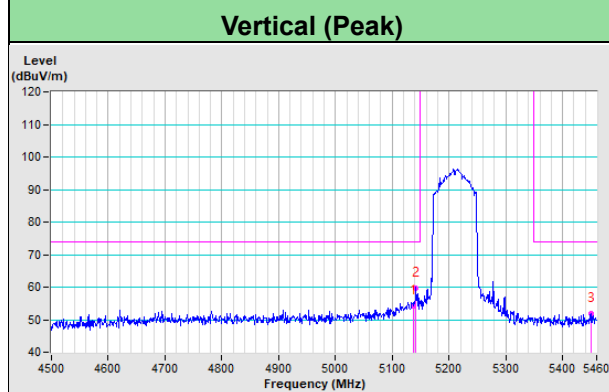
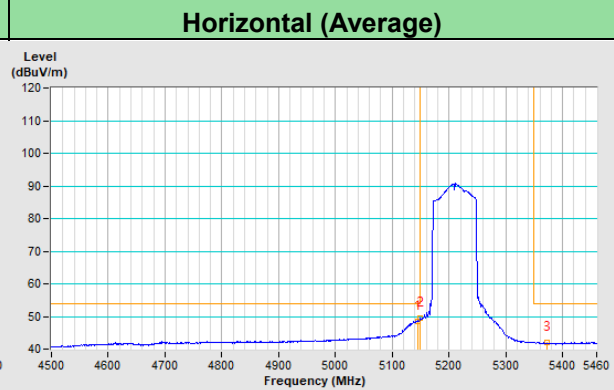
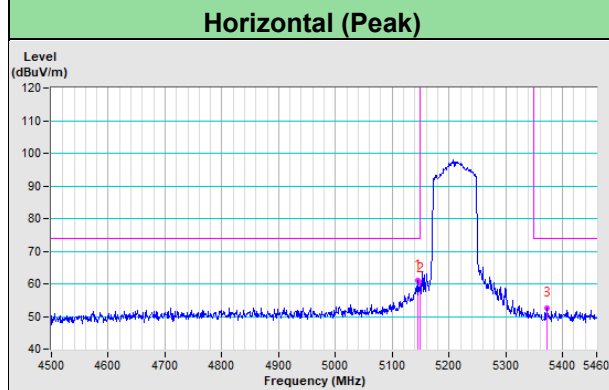


Vertical (Average)

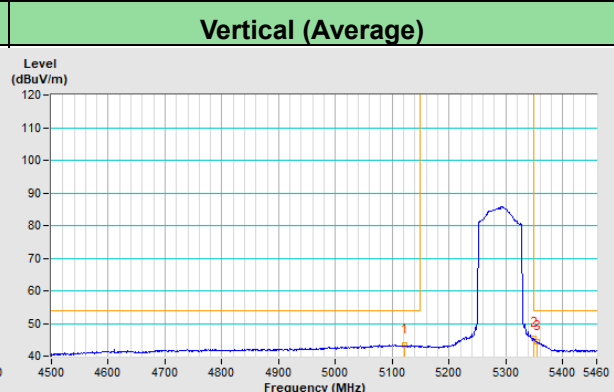
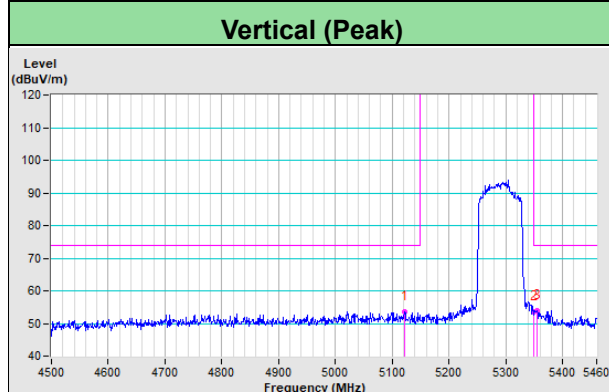
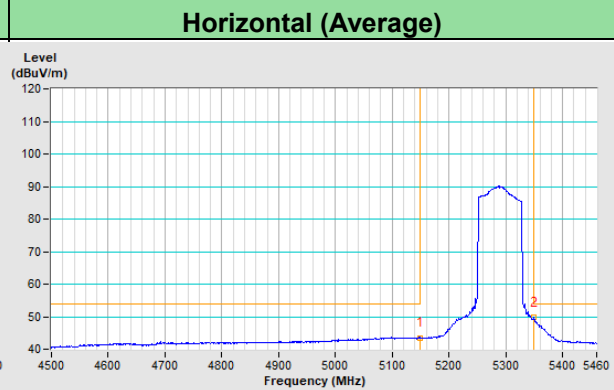
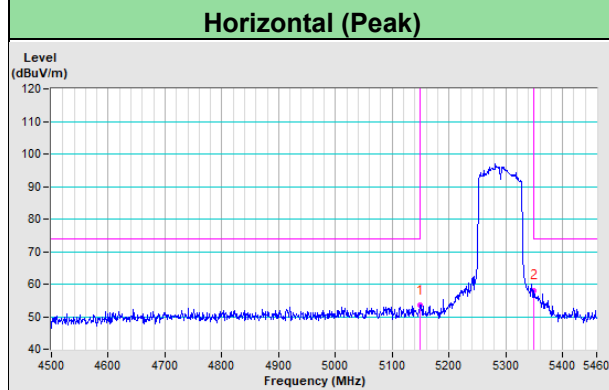


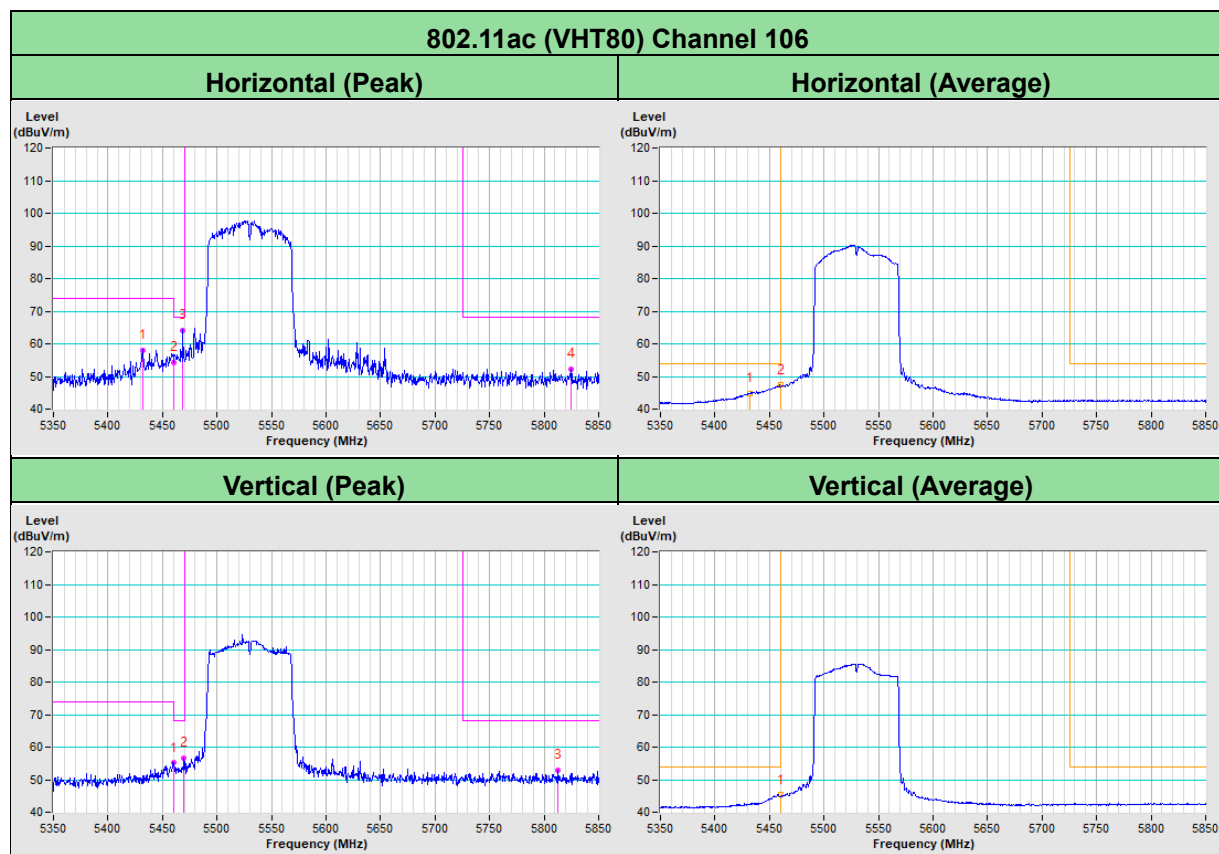


802.11ac (VHT80) Channel 42



802.11ac (VHT80) Channel 58





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.

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

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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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