

FCC Test Report

Report No.: RFBCIB-WTW-P21090618-1

FCC ID: 2AA3N-TTR02

Test Model: PLTN-TTR01-2

Received Date: Sep. 15, 2021

Test Date: Sep. 27 ~ Oct. 20, 2021

Issued Date: Nov. 01, 2021

Applicant: Peloton Interactive Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RFBCIB-WTW-P21090618-1	Original release	Nov. 01, 2021

1 Certificate of Conformity

Product: Peloton Tablet

Brand: PELOTON

Test Model: PLTN-TTR01-2

Sample Status: Engineering sample

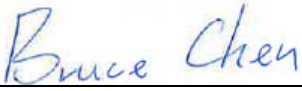
Applicant: Peloton Interactive Inc.

Test Date: Sep. 27 ~ Oct. 20, 2021

Standards: 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 RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** Nov. 01, 2021
Polly Chien / Specialist

Approved by : , **Date:** Nov. 01, 2021
Bruce Chen / Senior Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -15.34dB at 9.69982MHz.
15.407(b)(1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.0dB at 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Peloton Tablet
Brand	PELTON
Test Model	PLTN-TTR01-2
Sample Status	Engineering sample
Power Supply Rating	20Vdc from adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 8 802.11n (HT40), 802.11ac (VHT40): 3 802.11ac (VHT80): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180 ~ 5240MHz: 53.465mW 5260 ~ 5320MHz: 54.527mW 5500 ~ 5700MHz: 52.168mW 5745 ~ 5825MHz: 62.238mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function
802.11a	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

* The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for 20MHz/40MHz/80MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT consumes power from the following adapters (Support units).

Adapter 1	
Brand	PELTON
Model	FSP065-APDC8R01
Input Power	100-240Vac, 50-60Hz, 1.7A
Output Power	5Vdc, 3A or 9Vdc, 3A or 20Vdc, 3.25A, 65W Max.
Power Line	AC: 1.7m non-shielded power cable without core DC: 1.5m non-shielded power cable without core attached on adapter

Adapter 2	
Brand	PELTON
Model	A20-065N5A
Input Power	100-240Vac, 50-60Hz, 1.7A
Output Power	5Vdc, 3A or 9Vdc, 3A or 20Vdc, 3.25A, 65W Max.
Power Line	AC: 1.7m non-shielded power cable without core DC: 1.5m non-shielded power cable without core attached on adapter

* After the pretesting adapter, adapter 1 is found to be the worst case test mode and chosen for final test.

3. The following antennas were provided to the EUT.

Ant. No.	Brand	Model	Type	Connector	Gain (dBi)	
					2.4G	5G
Main	Peloton	UI8(Topaz)	PIFA	i-pex(MHF)	-0.19	0.58
AUX	Peloton	UI8(Topaz)	PIFA	i-pex(MHF)	0.28	2.34

* 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.

4. Spurious emission of the simultaneous operation mode as below and the test data please refer to report no.: RFBCIB-WTW-P21090618-7.

No	Mode
1	WLAN 2.4GHz + WLAN 5GHz
2	BT + WLAN 5GHz
3	ANT+ + WLAN 5GHz

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	5210MHz

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	5290MHz

For 5500 ~ 5700MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
106	5530 MHz

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	APCM	
A	√	√	√	√	EUT + Adapter
B	-	√	√	-	EUT + Exercise Bike + Adapter

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Note:

- For radiated emission (below 1GHz) and power line conducted emission test items chosen the worst maximum fundamental emission level channel.
- "-" means no effect.

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	2TX
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	13.5	2TX
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0	2TX
	802.11ac (VHT80)		42	42	OFDM	29.3	2TX
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	2TX
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	13.5	2TX
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0	2TX
	802.11ac (VHT80)		58	58	OFDM	29.3	2TX
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	2TX
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	13.5	2TX
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	15.0	2TX
	802.11ac (VHT80)		106	106	OFDM	29.3	2TX
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	2TX
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	13.5	2TX
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0	2TX
	802.11ac (VHT80)		155	155	OFDM	29.3	2TX

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
A, B	802.11a	5745-5825	149 to 165	165	OFDM	6.0	2TX

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
A, B	802.11a	5745-5825	149 to 165	165	OFDM	6.0	2TX

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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0	2TX
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	13.5	2TX
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0	2TX
	802.11ac (VHT80)		42	42	OFDM	29.3	2TX
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	2TX
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	13.5	2TX
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0	2TX
	802.11ac (VHT80)		58	58	OFDM	29.3	2TX
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0	2TX
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	13.5	2TX
	802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	15.0	2TX
	802.11ac (VHT80)		106	106	OFDM	29.3	2TX
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0	2TX
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	13.5	2TX
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0	2TX
	802.11ac (VHT80)		155	155	OFDM	29.3	2TX

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22 deg. C, 66% RH	120Vac, 60Hz	Greg Lin
RE<1G	19 deg. C, 66% RH	120Vac, 60Hz	Rex Wang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Rex Wang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Wayne Lin

3.3 Duty Cycle of Test Signal

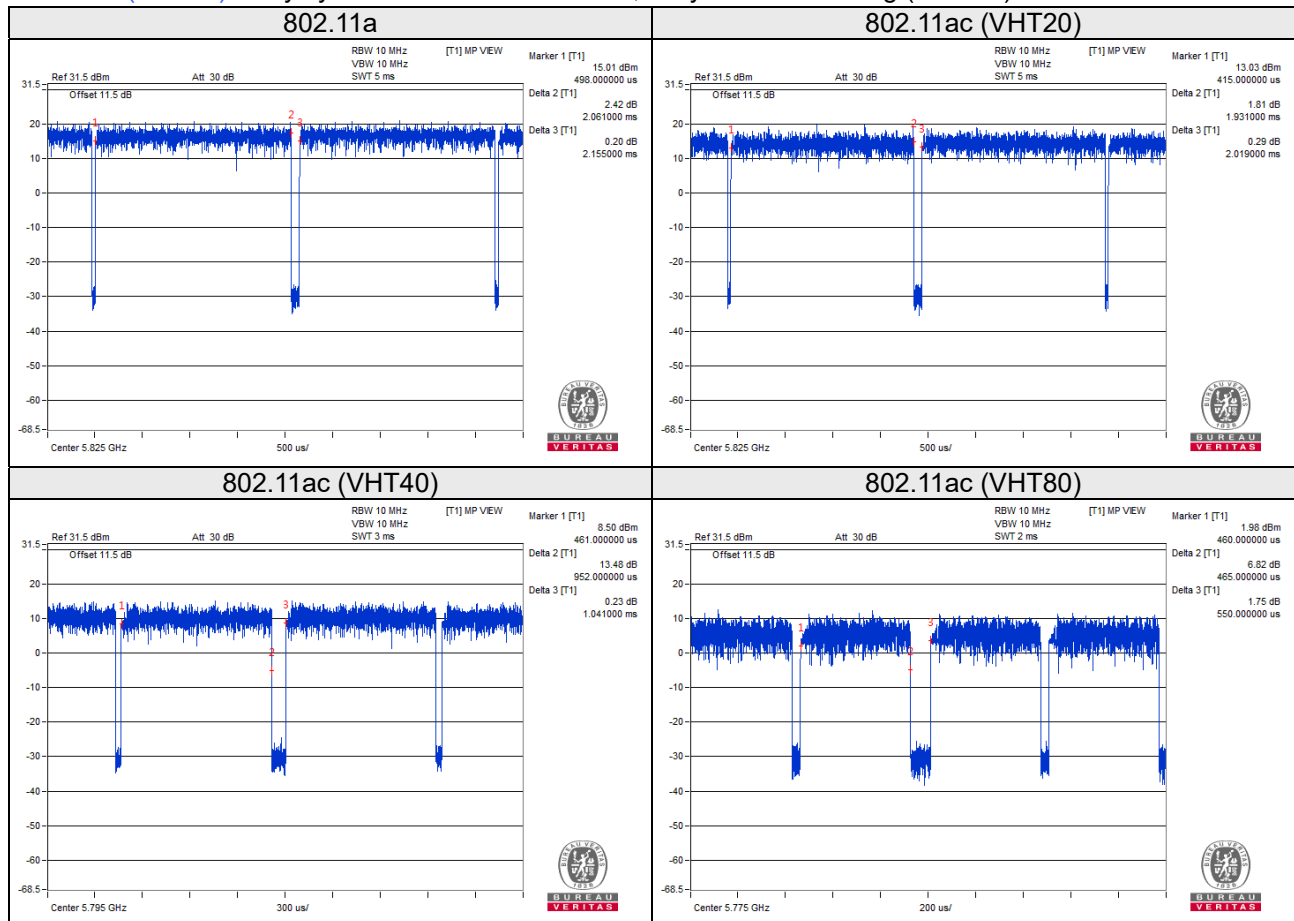
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = $2.061/2.155 = 0.956$, Duty factor = $10 * \log(1/0.956) = 0.19$

802.11ac (VHT20): Duty cycle = $1.931/2.019 = 0.956$, Duty factor = $10 * \log(1/0.956) = 0.19$

802.11ac (VHT40): Duty cycle = $0.952/1.041 = 0.915$, Duty factor = $10 * \log(1/0.915) = 0.39$

802.11ac (VHT80): Duty cycle = $0.465/0.550 = 0.845$, Duty factor = $10 * \log(1/0.845) = 0.73$



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.

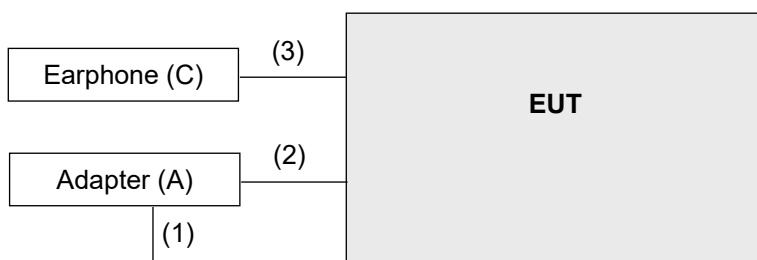
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	PELOTON	FSP065-APDC8R01	NA	NA	Provided by manufacturer
B.	Peloton Bike	PELOTON	PL-02	NA	NA	Provided by manufacturer
C.	Earphone	APPLE	MB770FEB	NA	NA	-

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

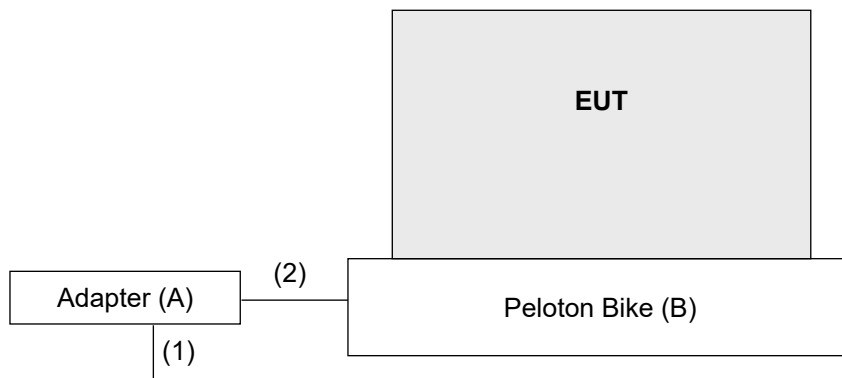
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	AC Power cable	1	1.7	N	0	Provided by manufacturer
2.	DC Power cable	1	1.5	N	0	Provided by manufacturer
3.	Earphone cable	1	1.2	Y	0	-

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (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}
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 10, 2021	Jun. 09, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 06, 2020	Nov. 05, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 17, 2021	Feb. 16, 2022
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 16, 2021	Jan. 15, 2022
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 19, 2021	Jan. 18, 2022
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 11, 2021	Jan. 10, 2022
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2021	Sep. 03, 2022

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 HwaYa Chamber 9.

4.1.3 Test Procedures

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 detect 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:

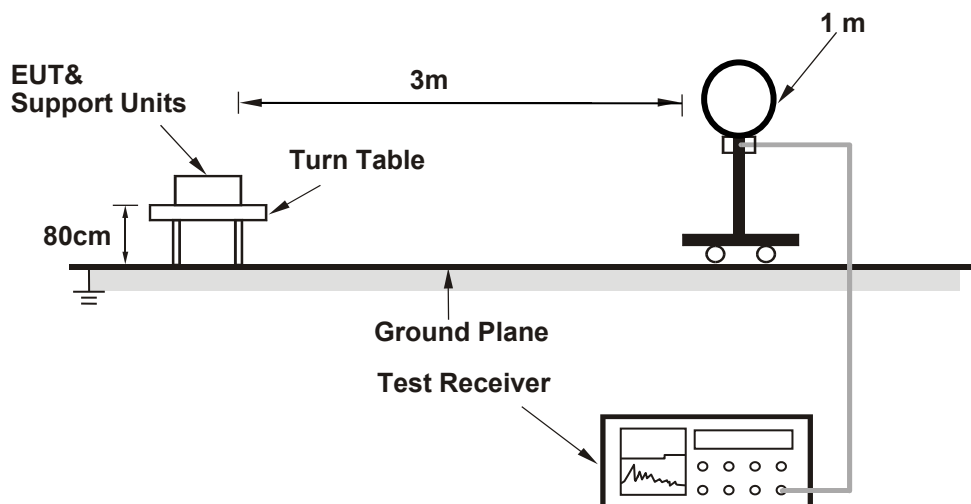
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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.
(802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT20): RBW = 1MHz, VBW = 1kHz;
802.11ac (VHT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

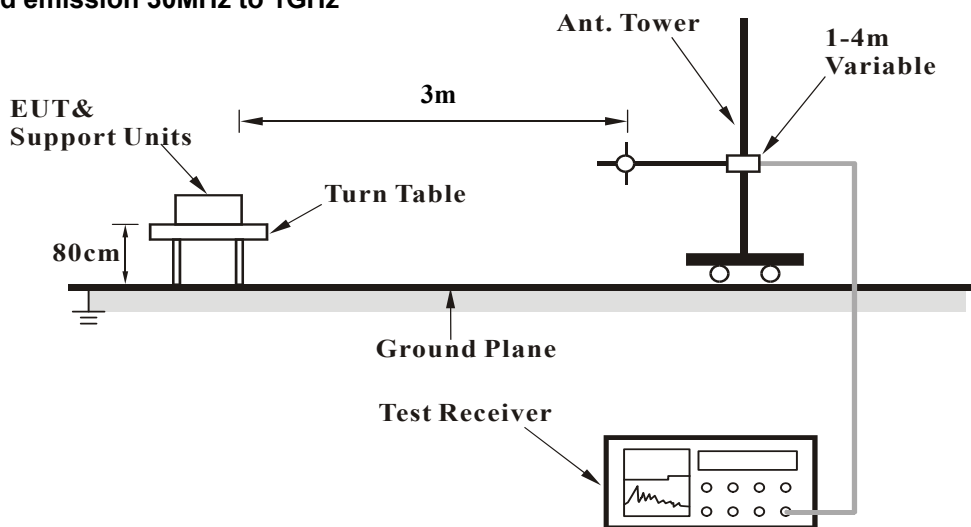
No deviation.

4.1.5 Test Setup

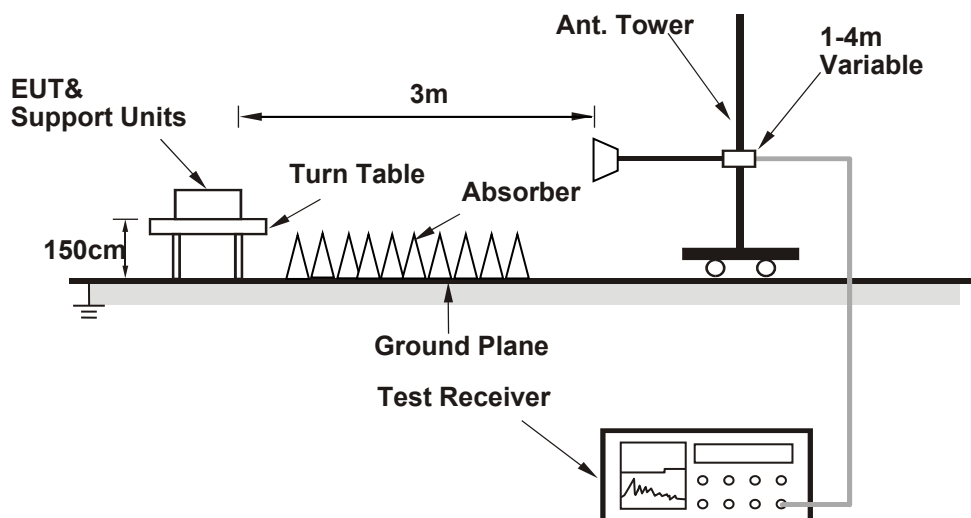
For Radiated emission below 30MHz



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 Conditions

- 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	64.8 PK	74.0	-9.2	2.47 H	13	57.5	7.3
2	5150.00	49.7 AV	54.0	-4.3	2.47 H	13	42.4	7.3
3	*5180.00	112.9 PK			2.47 H	13	71.3	41.6
4	*5180.00	103.2 AV			2.47 H	13	61.6	41.6
5	#10360.00	61.7 PK	68.2	-6.5	2.94 H	223	42.7	19.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.7 PK	74.0	-8.3	2.16 V	136	58.4	7.3
2	5150.00	50.9 AV	54.0	-3.1	2.16 V	136	43.6	7.3
3	*5180.00	114.3 PK			2.16 V	136	72.7	41.6
4	*5180.00	104.6 AV			2.16 V	136	63.0	41.6
5	#10360.00	61.9 PK	68.2	-6.3	1.57 V	224	42.9	19.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	115.9 PK			2.52 H	12	74.4	41.5
2	*5200.00	106.6 AV			2.52 H	12	65.1	41.5
3	#10400.00	62.3 PK	68.2	-5.9	2.87 H	219	43.2	19.1
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	*5200.00	117.3 PK			2.77 V	131	75.8	41.5
2	*5200.00	107.8 AV			2.77 V	131	66.3	41.5
3	#10400.00	62.4 PK	68.2	-5.8	1.52 V	217	43.3	19.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	115.7 PK			2.48 H	11	74.3	41.4
2	*5240.00	106.0 AV			2.48 H	11	64.6	41.4
3	5350.00	57.2 PK	74.0	-16.8	2.48 H	11	50.2	7.0
4	5350.00	46.4 AV	54.0	-7.6	2.48 H	11	39.4	7.0
5	#10480.00	62.1 PK	68.2	-6.1	2.96 H	213	43.1	19.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	117.0 PK			2.09 V	136	75.6	41.4
2	*5240.00	107.5 AV			2.09 V	136	66.1	41.4
3	5350.00	57.7 PK	74.0	-16.3	2.09 V	136	50.7	7.0
4	5350.00	46.7 AV	54.0	-7.3	2.09 V	136	39.7	7.0
5	#10480.00	62.2 PK	68.2	-6.0	1.59 V	221	43.2	19.0

Remarks:

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

RF Mode	TX 802.11a	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	57.5 PK	74.0	-16.5	2.67 H	15	50.2	7.3
2	5150.00	46.4 AV	54.0	-7.6	2.67 H	15	39.1	7.3
3	*5260.00	114.9 PK			2.67 H	15	73.6	41.3
4	*5260.00	105.2 AV			2.67 H	15	63.9	41.3
5	#10520.00	62.3 PK	68.2	-5.9	2.89 H	217	43.2	19.1

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.9 PK	74.0	-16.1	1.88 V	178	50.6	7.3
2	5150.00	46.9 AV	54.0	-7.1	1.88 V	178	39.6	7.3
3	*5260.00	116.9 PK			1.88 V	178	75.6	41.3
4	*5260.00	107.1 AV			1.88 V	178	65.8	41.3
5	#10520.00	62.4 PK	68.2	-5.8	1.56 V	221	43.3	19.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	115.1 PK			2.46 H	18	74.0	41.1
2	*5300.00	105.4 AV			2.46 H	18	64.3	41.1
3	10600.00	63.0 PK	74.0	-11.0	2.91 H	237	43.3	19.7
4	10600.00	49.9 AV	54.0	-4.1	2.91 H	237	30.2	19.7
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	*5300.00	116.9 PK			1.93 V	194	75.8	41.1
2	*5300.00	107.2 AV			1.93 V	194	66.1	41.1
3	10600.00	63.1 PK	74.0	-10.9	1.64 V	204	43.4	19.7
4	10600.00	50.0 AV	54.0	-4.0	1.64 V	204	30.3	19.7

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.

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	112.2 PK			2.68 H	19	71.0	41.2
2	*5320.00	102.5 AV			2.68 H	19	61.3	41.2
3	5350.00	66.8 PK	74.0	-7.2	2.68 H	19	59.8	7.0
4	5350.00	49.6 AV	54.0	-4.4	2.68 H	19	42.6	7.0
5	10640.00	62.3 PK	74.0	-11.7	2.88 H	235	42.6	19.7
6	10640.00	49.5 AV	54.0	-4.5	2.88 H	235	29.8	19.7
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	*5320.00	114.1 PK			1.87 V	175	72.9	41.2
2	*5320.00	104.5 AV			1.87 V	175	63.3	41.2
3	5350.00	68.2 PK	74.0	-5.8	1.87 V	175	61.2	7.0
4	5350.00	50.8 AV	54.0	-3.2	1.87 V	175	43.8	7.0
5	10640.00	62.5 PK	74.0	-11.5	1.69 V	224	42.8	19.7
6	10640.00	49.6 AV	54.0	-4.4	1.69 V	224	29.9	19.7

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.

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	58.8 PK	74.0	-15.2	2.58 H	14	51.3	7.5
2	5460.00	47.2 AV	54.0	-6.8	2.58 H	14	39.7	7.5
3	#5470.00	63.9 PK	68.2	-4.3	2.58 H	14	56.4	7.5
4	*5500.00	110.7 PK			2.58 H	14	68.9	41.8
5	*5500.00	101.0 AV			2.58 H	14	59.2	41.8
6	11000.00	62.8 PK	74.0	-11.2	2.87 H	221	42.5	20.3
7	11000.00	49.9 AV	54.0	-4.1	2.87 H	221	29.6	20.3
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	60.1 PK	74.0	-13.9	2.22 V	177	52.6	7.5
2	5460.00	47.9 AV	54.0	-6.1	2.22 V	177	40.4	7.5
3	#5470.00	64.8 PK	68.2	-3.4	2.22 V	177	57.3	7.5
4	*5500.00	112.9 PK			2.22 V	177	71.1	41.8
5	*5500.00	103.1 AV			2.22 V	177	61.3	41.8
6	11000.00	63.0 PK	74.0	-11.0	1.56 V	223	42.7	20.3
7	11000.00	50.0 AV	54.0	-4.0	1.56 V	223	29.7	20.3

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 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.6 PK			2.63 H	18	73.7	41.9
2	*5580.00	105.8 AV			2.63 H	18	63.9	41.9
3	11160.00	62.6 PK	74.0	-11.4	2.91 H	216	42.9	19.7
4	11160.00	49.6 AV	54.0	-4.4	2.91 H	216	29.9	19.7
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	*5580.00	117.7 PK			2.24 V	179	75.8	41.9
2	*5580.00	108.0 AV			2.24 V	179	66.1	41.9
3	11160.00	62.8 PK	74.0	-11.2	1.49 V	204	43.1	19.7
4	11160.00	49.8 AV	54.0	-4.2	1.49 V	204	30.1	19.7

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.

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	98.1 PK			2.43 H	15	56.2	41.9
2	*5700.00	100.6 AV			2.43 H	15	58.7	41.9
3	#5725.00	64.5 PK	68.2	-3.7	2.43 H	15	56.8	7.7
4	11400.00	62.9 PK	74.0	-11.1	2.81 H	208	42.5	20.4
5	11400.00	49.8 AV	54.0	-4.2	2.81 H	208	29.4	20.4
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	*5700.00	112.5 PK			2.27 V	177	70.6	41.9
2	*5700.00	102.7 AV			2.27 V	177	60.8	41.9
3	#5725.00	65.0 PK	68.2	-3.2	2.27 V	177	57.3	7.7
4	11400.00	63.1 PK	74.0	-10.9	1.61 V	201	42.7	20.4
5	11400.00	50.0 AV	54.0	-4.0	1.61 V	201	29.6	20.4

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 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	#5629.20	58.6 PK	68.2	-9.6	2.57 H	17	51.0	7.6
2	*5745.00	115.8 PK			2.57 H	17	73.8	42.0
3	*5745.00	106.2 AV			2.57 H	17	64.2	42.0
4	#5940.80	59.8 PK	68.2	-8.4	2.57 H	17	51.4	8.4
5	11490.00	63.1 PK	74.0	-10.9	2.92 H	227	43.1	20.0
6	11490.00	50.1 AV	54.0	-3.9	2.92 H	227	30.1	20.0
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	#5629.20	58.5 PK	68.2	-9.7	2.70 V	181	50.9	7.6
2	*5745.00	118.3 PK			2.70 V	181	76.3	42.0
3	*5745.00	108.3 AV			2.70 V	181	66.3	42.0
4	#5954.80	59.7 PK	68.2	-8.5	2.70 V	181	51.3	8.4
5	11490.00	63.3 PK	74.0	-10.7	1.57 V	210	43.3	20.0
6	11490.00	50.3 AV	54.0	-3.7	1.57 V	210	30.3	20.0

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	#5614.00	58.7 PK	68.2	-9.5	2.52 H	14	51.0	7.7
2	*5785.00	116.0 PK			2.52 H	14	73.9	42.1
3	*5785.00	106.4 AV			2.52 H	14	64.3	42.1
4	#5964.00	59.2 PK	68.2	-9.0	2.52 H	14	50.9	8.3
5	11570.00	62.7 PK	74.0	-11.3	2.91 H	203	42.9	19.8
6	11570.00	49.6 AV	54.0	-4.4	2.91 H	203	29.8	19.8
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	#5645.60	59.0 PK	68.2	-9.2	2.76 V	181	51.4	7.6
2	*5785.00	118.2 PK			2.76 V	181	76.1	42.1
3	*5785.00	108.5 AV			2.76 V	181	66.4	42.1
4	#5934.40	60.4 PK	68.2	-7.8	2.76 V	181	52.0	8.4
5	11570.00	63.0 PK	74.0	-11.0	1.43 V	208	43.2	19.8
6	11570.00	49.9 AV	54.0	-4.1	1.43 V	208	30.1	19.8

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 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	#5623.20	59.5 PK	68.2	-8.7	2.55 H	15	51.9	7.6
2	*5825.00	116.3 PK			2.55 H	15	73.9	42.4
3	*5825.00	106.7 AV			2.55 H	15	64.3	42.4
4	#5940.00	59.4 PK	68.2	-8.8	2.55 H	15	51.0	8.4
5	11650.00	62.8 PK	74.0	-11.2	2.93 H	209	43.1	19.7
6	11650.00	49.6 AV	54.0	-4.4	2.93 H	209	29.9	19.7
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	#5603.20	59.6 PK	68.2	-8.6	2.55 V	181	51.9	7.7
2	*5825.00	118.5 PK			2.55 V	181	76.1	42.4
3	*5825.00	108.8 AV			2.55 V	181	66.4	42.4
4	#5972.80	60.3 PK	68.2	-7.9	2.55 V	181	52.0	8.3
5	11650.00	63.0 PK	74.0	-11.0	1.59 V	204	43.3	19.7
6	11650.00	49.8 AV	54.0	-4.2	1.59 V	204	30.1	19.7

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 (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	65.5 PK	74.0	-8.5	2.43 H	10	58.2	7.3
2	5150.00	49.6 AV	54.0	-4.4	2.43 H	10	42.3	7.3
3	*5180.00	112.4 PK			2.43 H	10	70.8	41.6
4	*5180.00	102.9 AV			2.43 H	10	61.3	41.6
5	#10360.00	61.6 PK	68.2	-6.6	2.94 H	212	42.6	19.0

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.4 PK	74.0	-7.6	1.93 V	185	59.1	7.3
2	5150.00	50.5 AV	54.0	-3.5	1.93 V	185	43.2	7.3
3	*5180.00	113.8 PK			1.93 V	185	72.2	41.6
4	*5180.00	104.3 AV			1.93 V	185	62.7	41.6
5	#10360.00	61.8 PK	68.2	-6.4	1.63 V	227	42.8	19.0

Remarks:

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

RF Mode	TX 802.11ac (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	*5200.00	114.4 PK			2.64 H	17	72.9	41.5
2	*5200.00	104.2 AV			2.64 H	17	62.7	41.5
3	#10400.00	62.0 PK	68.2	-6.2	2.97 H	213	42.9	19.1
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	*5200.00	115.6 PK			2.19 V	157	74.1	41.5
2	*5200.00	105.3 AV			2.19 V	157	63.8	41.5
3	#10400.00	62.3 PK	68.2	-5.9	1.57 V	224	43.2	19.1

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 (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	116.6 PK			2.56 H	13	75.2	41.4
2	*5240.00	106.2 AV			2.56 H	13	64.8	41.4
3	5350.00	57.2 PK	74.0	-16.8	2.56 H	13	50.2	7.0
4	5350.00	45.9 AV	54.0	-8.1	2.56 H	13	38.9	7.0
5	#10480.00	62.2 PK	68.2	-6.0	2.93 H	217	43.2	19.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	118.0 PK			1.91 V	177	76.6	41.4
2	*5240.00	107.6 AV			1.91 V	177	66.2	41.4
3	5350.00	57.4 PK	74.0	-16.6	1.91 V	177	50.4	7.0
4	5350.00	46.6 AV	54.0	-7.4	1.91 V	177	39.6	7.0
5	#10480.00	62.4 PK	68.2	-5.8	1.58 V	227	43.4	19.0

Remarks:

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

RF Mode	TX 802.11ac (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	57.6 PK	74.0	-16.4	2.62 H	16	50.3	7.3
2	5150.00	46.9 AV	54.0	-7.1	2.62 H	16	39.6	7.3
3	*5260.00	115.0 PK			2.62 H	16	73.7	41.3
4	*5260.00	105.3 AV			2.62 H	16	64.0	41.3
5	#10520.00	62.2 PK	68.2	-6.0	2.91 H	232	43.1	19.1

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	1.83 V	178	50.8	7.3
2	5150.00	47.6 AV	54.0	-6.4	1.83 V	178	40.3	7.3
3	*5260.00	117.1 PK			1.83 V	178	75.8	41.3
4	*5260.00	107.4 AV			1.83 V	178	66.1	41.3
5	#10520.00	62.4 PK	68.2	-5.8	1.65 V	202	43.3	19.1

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 (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	114.9 PK			2.48 H	18	73.8	41.1
2	*5300.00	105.3 AV			2.48 H	18	64.2	41.1
3	10600.00	62.9 PK	74.0	-11.1	2.81 H	204	43.2	19.7
4	10600.00	49.8 AV	54.0	-4.2	2.81 H	204	30.1	19.7
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	*5300.00	117.0 PK			1.89 V	184	75.9	41.1
2	*5300.00	107.4 AV			1.89 V	184	66.3	41.1
3	10600.00	63.1 PK	74.0	-10.9	1.48 V	203	43.4	19.7
4	10600.00	50.0 AV	54.0	-4.0	1.48 V	203	30.3	19.7

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.

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	110.3 PK			2.66 H	22	69.1	41.2
2	*5320.00	100.6 AV			2.66 H	22	59.4	41.2
3	5350.00	66.9 PK	74.0	-7.1	2.66 H	22	59.9	7.0
4	5350.00	49.7 AV	54.0	-4.3	2.66 H	22	42.7	7.0
5	10640.00	62.2 PK	74.0	-11.8	2.93 H	214	42.5	19.7
6	10640.00	49.3 AV	54.0	-4.7	2.93 H	214	29.6	19.7
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	*5320.00	112.3 PK			1.85 V	175	71.1	41.2
2	*5320.00	102.7 AV			1.85 V	175	61.5	41.2
3	5350.00	68.1 PK	74.0	-5.9	1.85 V	175	61.1	7.0
4	5350.00	50.8 AV	54.0	-3.2	1.85 V	175	43.8	7.0
5	10640.00	62.4 PK	74.0	-11.6	1.67 V	203	42.7	19.7
6	10640.00	49.5 AV	54.0	-4.5	1.67 V	203	29.8	19.7

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.

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	58.9 PK	74.0	-15.1	2.62 H	19	51.4	7.5
2	5460.00	47.3 AV	54.0	-6.7	2.62 H	19	39.8	7.5
3	#5470.00	63.8 PK	68.2	-4.4	2.62 H	19	56.3	7.5
4	*5500.00	110.6 PK			2.62 H	19	68.8	41.8
5	*5500.00	100.8 AV			2.62 H	19	59.0	41.8
6	11000.00	62.6 PK	74.0	-11.4	2.83 H	217	42.3	20.3
7	11000.00	49.8 AV	54.0	-4.2	2.83 H	217	29.5	20.3
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	62.2 PK	74.0	-11.8	2.21 V	176	54.7	7.5
2	5460.00	47.7 AV	54.0	-6.3	2.21 V	176	40.2	7.5
3	#5470.00	64.9 PK	68.2	-3.3	2.21 V	176	57.4	7.5
4	*5500.00	112.2 PK			2.21 V	176	70.4	41.8
5	*5500.00	102.4 AV			2.21 V	176	60.6	41.8
6	11000.00	62.9 PK	74.0	-11.1	1.47 V	209	42.6	20.3
7	11000.00	49.8 AV	54.0	-4.2	1.47 V	209	29.5	20.3

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 116 : 5580 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.7 PK			2.49 H	16	73.8	41.9
2	*5580.00	106.1 AV			2.49 H	16	64.2	41.9
3	11160.00	62.6 PK	74.0	-11.4	2.84 H	216	42.9	19.7
4	11160.00	49.5 AV	54.0	-4.5	2.84 H	216	29.8	19.7
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	*5580.00	118.5 PK			2.34 V	182	76.6	41.9
2	*5580.00	108.2 AV			2.34 V	182	66.3	41.9
3	11160.00	62.7 PK	74.0	-11.3	1.62 V	212	43.0	19.7
4	11160.00	49.6 AV	54.0	-4.4	1.62 V	212	29.9	19.7

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.

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	110.7 PK			2.54 H	18	68.8	41.9
2	*5700.00	101.0 AV			2.54 H	18	59.1	41.9
3	#5725.00	63.8 PK	68.2	-4.4	2.54 H	18	56.1	7.7
4	11400.00	62.7 PK	74.0	-11.3	2.79 H	211	42.3	20.4
5	11400.00	49.6 AV	54.0	-4.4	2.79 H	211	29.2	20.4
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	*5700.00	113.2 PK			2.79 V	180	71.3	41.9
2	*5700.00	103.1 AV			2.79 V	180	61.2	41.9
3	#5725.00	64.6 PK	68.2	-3.6	2.79 V	180	56.9	7.7
4	11400.00	62.9 PK	74.0	-11.1	1.67 V	214	42.5	20.4
5	11400.00	49.8 AV	54.0	-4.2	1.67 V	214	29.4	20.4

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 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.40	58.7 PK	68.2	-9.5	2.53 H	19	51.1	7.6
2	*5745.00	116.3 PK			2.53 H	19	74.3	42.0
3	*5745.00	106.7 AV			2.53 H	19	64.7	42.0
4	#5937.20	58.8 PK	68.2	-9.4	2.53 H	19	50.4	8.4
5	11490.00	63.1 PK	74.0	-10.9	2.93 H	224	43.1	20.0
6	11490.00	50.0 AV	54.0	-4.0	2.93 H	224	30.0	20.0
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	#5617.20	60.3 PK	68.2	-7.9	2.49 V	180	52.7	7.6
2	*5745.00	118.5 PK			2.49 V	180	76.5	42.0
3	*5745.00	108.9 AV			2.49 V	180	66.9	42.0
4	#5972.40	61.1 PK	68.2	-7.1	2.49 V	180	52.8	8.3
5	11490.00	63.3 PK	74.0	-10.7	1.46 V	208	43.3	20.0
6	11490.00	50.2 AV	54.0	-3.8	1.46 V	208	30.2	20.0

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	#5633.60	59.0 PK	68.2	-9.2	2.56 H	13	51.4	7.6
2	*5785.00	116.2 PK			2.56 H	13	74.1	42.1
3	*5785.00	106.6 AV			2.56 H	13	64.5	42.1
4	#5956.40	60.1 PK	68.2	-8.1	2.56 H	13	51.8	8.3
5	11570.00	62.7 PK	74.0	-11.3	2.94 H	234	42.9	19.8
6	11570.00	49.5 AV	54.0	-4.5	2.94 H	234	29.7	19.8
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	#5606.80	58.6 PK	68.2	-9.6	2.56 V	182	50.9	7.7
2	*5785.00	118.4 PK			2.56 V	182	76.3	42.1
3	*5785.00	108.7 AV			2.56 V	182	66.6	42.1
4	#5996.00	59.7 PK	68.2	-8.5	2.56 V	182	51.4	8.3
5	11570.00	62.9 PK	74.0	-11.1	1.47 V	209	43.1	19.8
6	11570.00	49.9 AV	54.0	-4.1	1.47 V	209	30.1	19.8

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 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	#5646.40	58.8 PK	68.2	-9.4	2.51 H	19	51.2	7.6
2	*5825.00	116.5 PK			2.51 H	19	74.1	42.4
3	*5825.00	106.8 AV			2.51 H	19	64.4	42.4
4	#5951.60	58.7 PK	68.2	-9.5	2.51 H	19	50.3	8.4
5	11650.00	62.7 PK	74.0	-11.3	2.84 H	216	43.0	19.7
6	11650.00	49.6 AV	54.0	-4.4	2.84 H	216	29.9	19.7
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	#5620.00	58.3 PK	68.2	-9.9	2.59 V	182	50.7	7.6
2	*5825.00	118.5 PK			2.59 V	182	76.1	42.4
3	*5825.00	108.9 AV			2.59 V	182	66.5	42.4
4	#5935.60	58.5 PK	68.2	-9.7	2.59 V	182	50.1	8.4
5	11650.00	62.9 PK	74.0	-11.1	1.58 V	204	43.2	19.7
6	11650.00	49.8 AV	54.0	-4.2	1.58 V	204	30.1	19.7

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 38 : 5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.0 PK	74.0	-8.0	2.61 H	17	58.7	7.3
2	5150.00	49.6 AV	54.0	-4.4	2.61 H	17	42.3	7.3
3	*5190.00	107.9 PK			2.61 H	17	66.3	41.6
4	*5190.00	98.0 AV			2.61 H	17	56.4	41.6
5	#10380.00	61.3 PK	68.2	-6.9	2.83 H	211	42.2	19.1

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	67.4 PK	74.0	-6.6	1.77 V	190	60.1	7.3
2	5150.00	50.8 AV	54.0	-3.2	1.77 V	190	43.5	7.3
3	*5190.00	109.6 PK			1.77 V	190	68.0	41.6
4	*5190.00	99.7 AV			1.77 V	190	58.1	41.6
5	#10380.00	61.6 PK	68.2	-6.6	1.69 V	234	42.5	19.1

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 (VHT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	2.63 H	11	57.5	7.3
2	5150.00	49.5 AV	54.0	-4.5	2.63 H	11	42.2	7.3
3	*5230.00	111.9 PK			2.63 H	11	70.5	41.4
4	*5230.00	102.0 AV			2.63 H	11	60.6	41.4
5	5350.00	57.8 PK	74.0	-16.2	2.63 H	11	50.8	7.0
6	5350.00	46.8 AV	54.0	-7.2	2.63 H	11	39.8	7.0
7	#10460.00	61.4 PK	68.2	-6.8	2.94 H	236	42.4	19.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	65.9 PK	74.0	-8.1	1.78 V	189	58.6	7.3
2	5150.00	50.4 AV	54.0	-3.6	1.78 V	189	43.1	7.3
3	*5230.00	113.4 PK			1.78 V	189	72.0	41.4
4	*5230.00	103.6 AV			1.78 V	189	62.2	41.4
5	5350.00	58.5 PK	74.0	-15.5	1.78 V	189	51.5	7.0
6	5350.00	47.4 AV	54.0	-6.6	1.78 V	189	40.4	7.0
7	#10460.00	61.5 PK	68.2	-6.7	1.59 V	216	42.5	19.0

Remarks:

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

RF Mode	TX 802.11ac (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	57.6 PK	74.0	-16.4	2.45 H	13	50.3	7.3
2	5150.00	47.2 AV	54.0	-6.8	2.45 H	13	39.9	7.3
3	*5270.00	111.7 PK			2.45 H	13	70.4	41.3
4	*5270.00	101.9 AV			2.45 H	13	60.6	41.3
5	5350.00	62.8 PK	74.0	-11.2	2.45 H	13	55.8	7.0
6	5350.00	49.9 AV	54.0	-4.1	2.45 H	13	42.9	7.0
7	#10540.00	62.0 PK	68.2	-6.2	2.82 H	214	42.8	19.2
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	58.0 PK	74.0	-16.0	1.80 V	176	50.7	7.3
2	5150.00	47.7 AV	54.0	-6.3	1.80 V	176	40.4	7.3
3	*5270.00	113.8 PK			1.80 V	176	72.5	41.3
4	*5270.00	104.0 AV			1.80 V	176	62.7	41.3
5	5350.00	63.7 PK	74.0	-10.3	1.80 V	176	56.7	7.0
6	5350.00	50.6 AV	54.0	-3.4	1.80 V	176	43.6	7.0
7	#10540.00	62.3 PK	68.2	-5.9	1.63 V	208	43.1	19.2

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	105.8 PK			2.53 H	14	64.6	41.2
2	*5310.00	96.0 AV			2.53 H	14	54.8	41.2
3	5350.00	67.6 PK	74.0	-6.4	2.53 H	14	60.6	7.0
4	5350.00	49.7 AV	54.0	-4.3	2.53 H	14	42.7	7.0
5	10620.00	61.9 PK	74.0	-12.1	2.78 H	221	42.2	19.7
6	10620.00	49.3 AV	54.0	-4.7	2.78 H	221	29.6	19.7
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	*5310.00	107.9 PK			1.85 V	176	66.7	41.2
2	*5310.00	98.0 AV			1.85 V	176	56.8	41.2
3	5350.00	68.9 PK	74.0	-5.1	1.85 V	176	61.9	7.0
4	5350.00	50.9 AV	54.0	-3.1	1.85 V	176	43.9	7.0
5	10620.00	62.1 PK	74.0	-11.9	1.62 V	212	42.4	19.7
6	10620.00	49.5 AV	54.0	-4.5	1.62 V	212	29.8	19.7

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.

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.0 PK	74.0	-11.0	2.59 H	13	55.5	7.5
2	5460.00	48.1 AV	54.0	-5.9	2.59 H	13	40.6	7.5
3	#5470.00	64.0 PK	68.2	-4.2	2.59 H	13	56.5	7.5
4	*5510.00	105.8 PK			2.59 H	13	64.0	41.8
5	*5510.00	96.1 AV			2.59 H	13	54.3	41.8
6	11020.00	62.3 PK	74.0	-11.7	2.82 H	212	42.1	20.2
7	11020.00	49.2 AV	54.0	-4.8	2.82 H	212	29.0	20.2
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	5460.00	64.1 PK	74.0	-9.9	2.12 V	179	56.6	7.5
2	5460.00	48.9 AV	54.0	-5.1	2.12 V	179	41.4	7.5
3	#5470.00	65.0 PK	68.2	-3.2	2.12 V	179	57.5	7.5
4	*5510.00	107.4 PK			2.12 V	179	65.6	41.8
5	*5510.00	98.2 AV			2.12 V	179	56.4	41.8
6	11020.00	62.5 PK	74.0	-11.5	1.49 V	213	42.3	20.2
7	11020.00	49.4 AV	54.0	-4.6	1.49 V	213	29.2	20.2

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 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	#5470.00	64.1 PK	68.2	-4.1	2.61 H	17	56.6	7.5
2	*5550.00	113.7 PK			2.61 H	17	71.8	41.9
3	*5550.00	104.1 AV			2.61 H	17	62.2	41.9
4	11100.00	61.7 PK	74.0	-12.3	2.93 H	234	42.2	19.5
5	11100.00	48.7 AV	54.0	-5.3	2.93 H	234	29.2	19.5

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	#5470.00	65.2 PK	68.2	-3.0	2.20 V	178	57.7	7.5
2	*5550.00	115.8 PK			2.20 V	178	73.9	41.9
3	*5550.00	106.2 AV			2.20 V	178	64.3	41.9
4	11100.00	61.9 PK	74.0	-12.1	1.63 V	208	42.4	19.5
5	11100.00	48.9 AV	54.0	-5.1	1.63 V	208	29.4	19.5

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 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	109.1 PK			2.53 H	17	67.2	41.9
2	*5670.00	99.4 AV			2.53 H	17	57.5	41.9
3	#5725.00	63.6 PK	68.2	-4.6	2.53 H	17	55.9	7.7
4	11340.00	62.5 PK	74.0	-11.5	2.94 H	224	42.2	20.3
5	11340.00	49.5 AV	54.0	-4.5	2.94 H	224	29.2	20.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	111.1 PK			2.24 V	181	69.2	41.9
2	*5670.00	101.4 AV			2.24 V	181	59.5	41.9
3	#5725.00	64.7 PK	68.2	-3.5	2.24 V	181	57.0	7.7
4	11340.00	62.6 PK	74.0	-11.4	1.42 V	201	42.3	20.3
5	11340.00	49.6 AV	54.0	-4.4	1.42 V	201	29.3	20.3

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 (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	#5649.20	58.6 PK	68.2	-9.6	2.56 H	12	51.0	7.6
2	*5755.00	113.9 PK			2.56 H	12	71.9	42.0
3	*5755.00	104.3 AV			2.56 H	12	62.3	42.0
4	#5979.20	58.6 PK	68.2	-9.6	2.56 H	12	50.3	8.3
5	11510.00	62.4 PK	74.0	-11.6	2.88 H	226	42.5	19.9
6	11510.00	49.2 AV	54.0	-4.8	2.88 H	226	29.3	19.9
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	#5640.40	59.6 PK	68.2	-8.6	2.63 V	181	52.0	7.6
2	*5755.00	116.6 PK			2.63 V	181	74.6	42.0
3	*5755.00	106.8 AV			2.63 V	181	64.8	42.0
4	#5978.00	61.0 PK	68.2	-7.2	2.63 V	181	52.7	8.3
5	11510.00	62.7 PK	74.0	-11.3	1.46 V	205	42.8	19.9
6	11510.00	49.6 AV	54.0	-4.4	1.46 V	205	29.7	19.9

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	#5600.40	59.1 PK	68.2	-9.1	2.54 H	18	51.4	7.7
2	*5795.00	112.4 PK			2.54 H	18	70.2	42.2
3	*5795.00	102.8 AV			2.54 H	18	60.6	42.2
4	#5926.80	59.5 PK	68.2	-8.7	2.54 H	18	51.2	8.3
5	11590.00	62.2 PK	74.0	-11.8	2.89 H	224	42.4	19.8
6	11590.00	49.0 AV	54.0	-5.0	2.89 H	224	29.2	19.8
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	#5605.20	58.7 PK	68.2	-9.5	2.48 V	183	51.0	7.7
2	*5795.00	114.6 PK			2.48 V	183	72.4	42.2
3	*5795.00	105.0 AV			2.48 V	183	62.8	42.2
4	#5972.80	60.1 PK	68.2	-8.1	2.48 V	183	51.8	8.3
5	11590.00	62.4 PK	74.0	-11.6	1.54 V	217	42.6	19.8
6	11590.00	49.2 AV	54.0	-4.8	1.54 V	217	29.4	19.8

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 (VHT80)	Channel	CH 42 : 5210 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.4 PK	74.0	-10.6	2.53 H	19	56.1	7.3
2	5150.00	49.5 AV	54.0	-4.5	2.53 H	19	42.2	7.3
3	*5210.00	104.3 PK			2.53 H	19	62.8	41.5
4	*5210.00	94.6 AV			2.53 H	19	53.1	41.5
5	5350.00	57.7 PK	74.0	-16.3	2.53 H	19	50.7	7.0
6	5350.00	45.6 AV	54.0	-8.4	2.53 H	19	38.6	7.0
7	#10420.00	61.1 PK	68.2	-7.1	2.76 H	207	42.1	19.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	1.89 V	178	57.2	7.3
2	5150.00	50.5 AV	54.0	-3.5	1.89 V	178	43.2	7.3
3	*5210.00	105.6 PK			1.89 V	178	64.1	41.5
4	*5210.00	96.1 AV			1.89 V	178	54.6	41.5
5	5350.00	58.6 PK	74.0	-15.4	1.89 V	178	51.6	7.0
6	5350.00	46.2 AV	54.0	-7.8	1.89 V	178	39.2	7.0
7	#10420.00	61.3 PK	68.2	-6.9	1.57 V	214	42.3	19.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5290.00	100.8 PK			2.51 H	17	59.6	41.2
2	*5290.00	90.9 AV			2.51 H	17	49.7	41.2
3	5350.00	63.7 PK	74.0	-10.3	2.51 H	17	56.7	7.0
4	5350.00	50.4 AV	54.0	-3.6	2.51 H	17	43.4	7.0
5	#10580.00	61.7 PK	68.2	-6.5	2.84 H	210	42.2	19.5
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	*5290.00	102.7 PK			1.87 V	178	61.5	41.2
2	*5290.00	92.8 AV			1.87 V	178	51.6	41.2
3	5350.00	64.4 PK	74.0	-9.6	1.87 V	178	57.4	7.0
4	5350.00	50.9 AV	54.0	-3.1	1.87 V	178	43.9	7.0
5	#10580.00	61.8 PK	68.2	-6.4	1.45 V	201	42.3	19.5

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.7 PK	74.0	-11.3	2.50 H	18	55.2	7.5
2	5460.00	49.6 AV	54.0	-4.4	2.50 H	18	42.1	7.5
3	#5470.00	64.0 PK	68.2	-4.2	2.50 H	18	56.5	7.5
4	*5530.00	102.5 PK			2.50 H	18	60.7	41.8
5	*5530.00	92.9 AV			2.50 H	18	51.1	41.8
6	#5725.00	58.4 PK	68.2	-9.8	2.50 H	18	50.7	7.7
7	11060.00	61.8 PK	74.0	-12.2	2.89 H	212	42.0	19.8
8	11060.00	48.5 AV	54.0	-5.5	2.89 H	212	28.7	19.8
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	63.7 PK	74.0	-10.3	2.16 V	180	56.2	7.5
2	5460.00	50.7 AV	54.0	-3.3	2.16 V	180	43.2	7.5
3	#5470.00	64.9 PK	68.2	-3.3	2.16 V	180	57.4	7.5
4	*5530.00	104.4 PK			2.16 V	180	62.6	41.8
5	*5530.00	94.8 AV			2.16 V	180	53.0	41.8
6	#5725.00	59.1 PK	68.2	-9.1	2.16 V	180	51.4	7.7
7	11060.00	61.9 PK	74.0	-12.1	1.69 V	234	42.1	19.8
8	11060.00	48.7 AV	54.0	-5.3	1.69 V	234	28.9	19.8

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 (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	#5631.60	62.0 PK	68.2	-6.2	2.50 H	14	54.4	7.6
2	*5775.00	111.5 PK			2.50 H	14	69.4	42.1
3	*5775.00	101.9 AV			2.50 H	14	59.8	42.1
4	#5931.20	63.4 PK	68.2	-4.8	2.50 H	14	55.1	8.3
5	11550.00	62.1 PK	74.0	-11.9	2.89 H	227	42.2	19.9
6	11550.00	49.0 AV	54.0	-5.0	2.89 H	227	29.1	19.9
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	#5638.40	64.7 PK	68.2	-3.5	2.64 V	183	57.1	7.6
2	*5775.00	113.4 PK			2.64 V	183	71.3	42.1
3	*5775.00	103.9 AV			2.64 V	183	61.8	42.1
4	#5939.60	63.8 PK	68.2	-4.4	2.64 V	183	55.4	8.4
5	11550.00	62.2 PK	74.0	-11.8	1.58 V	215	42.3	19.9
6	11550.00	49.1 AV	54.0	-4.9	1.58 V	215	29.2	19.9

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.

Below 1GHz Worst-Case Data:

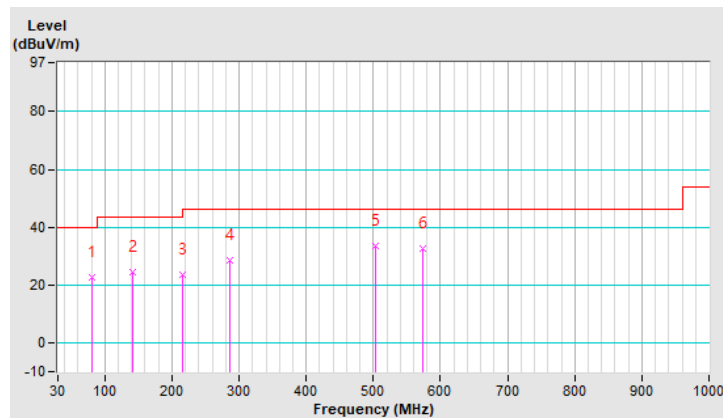
802.11a

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	81.41	22.8 QP	40.0	-17.2	1.25 H	215	36.6	-13.8
2	141.55	24.5 QP	43.5	-19.0	1.00 H	90	33.5	-9.0
3	215.27	23.6 QP	43.5	-19.9	1.25 H	109	34.6	-11.0
4	287.05	28.5 QP	46.0	-17.5	1.50 H	115	35.6	-7.1
5	502.39	33.4 QP	46.0	-12.6	1.00 H	341	35.7	-2.3
6	574.17	32.4 QP	46.0	-13.6	1.50 H	302	33.3	-0.9

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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

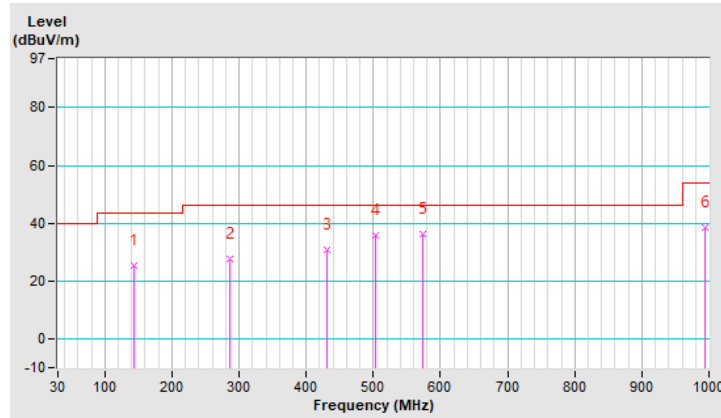


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	143.49	25.5 QP	43.5	-18.0	1.50 V	277	34.4	-8.9
2	287.05	27.7 QP	46.0	-18.3	1.00 V	233	34.8	-7.1
3	430.61	30.6 QP	46.0	-15.4	1.25 V	111	34.3	-3.7
4	502.39	35.8 QP	46.0	-10.2	1.25 V	336	38.1	-2.3
5	574.17	36.1 QP	46.0	-9.9	1.00 V	131	37.0	-0.9
6	994.18	38.3 QP	54.0	-15.7	1.50 V	88	31.8	6.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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

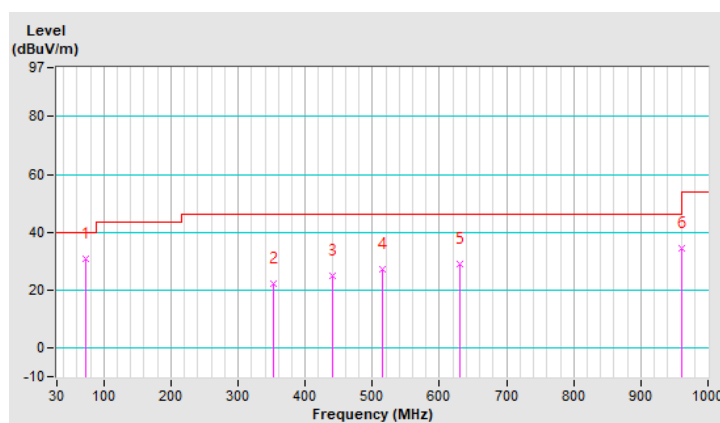


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	72.68	31.0 QP	40.0	-9.0	1.25 H	310	42.6	-11.6
2	352.04	22.1 QP	46.0	-23.9	1.50 H	48	27.8	-5.7
3	441.28	25.0 QP	46.0	-21.0	1.25 H	47	28.4	-3.4
4	515.00	27.3 QP	46.0	-18.7	2.00 H	224	29.2	-1.9
5	629.46	29.1 QP	46.0	-16.9	1.50 H	35	28.8	0.3
6	961.20	34.3 QP	54.0	-19.7	1.00 H	340	27.8	6.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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

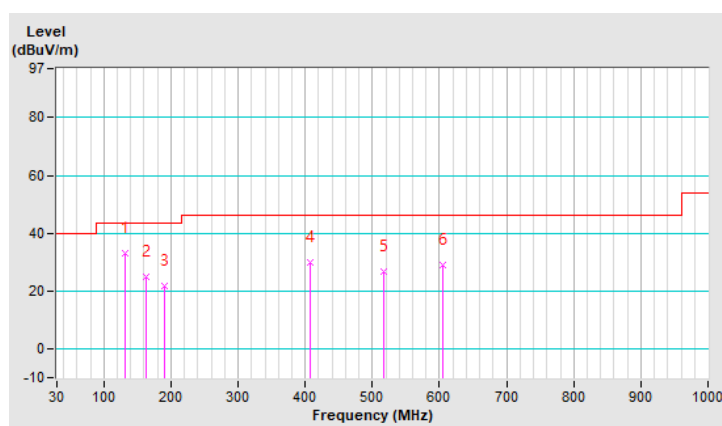


CHANNEL	TX Channel 165	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	131.85	33.0 QP	43.5	-10.5	1.50 V	25	42.9	-9.9
2	162.89	24.7 QP	43.5	-18.8	1.00 V	312	33.3	-8.6
3	190.05	21.9 QP	43.5	-21.6	2.85 V	344	33.1	-11.2
4	408.30	30.1 QP	46.0	-15.9	1.00 V	341	34.7	-4.6
5	516.94	26.7 QP	46.0	-19.3	1.00 V	356	28.6	-1.9
6	604.24	28.8 QP	46.0	-17.2	1.00 V	8	29.0	-0.2

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz
4. Margin value = Emission Level – Limit value
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.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Jan. 29, 2021	Jan. 28, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ENV216	101196	Apr. 26, 2021	Apr. 25, 2022
Software ADT	BV ADT_Conc_ V7.3.7.4	NA	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 HwaYa Shielded Room 2 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.

4. Teste date: Sep. 30 ~ Oct. 20, 2021

4.2.3 Test Procedures

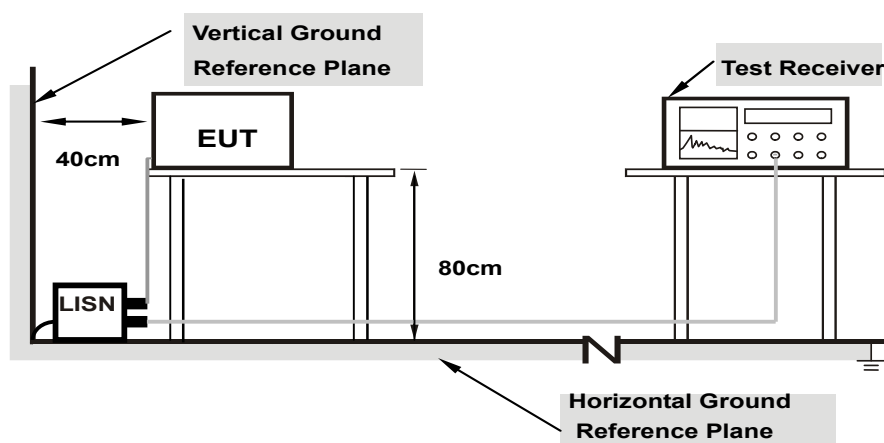
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

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 Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

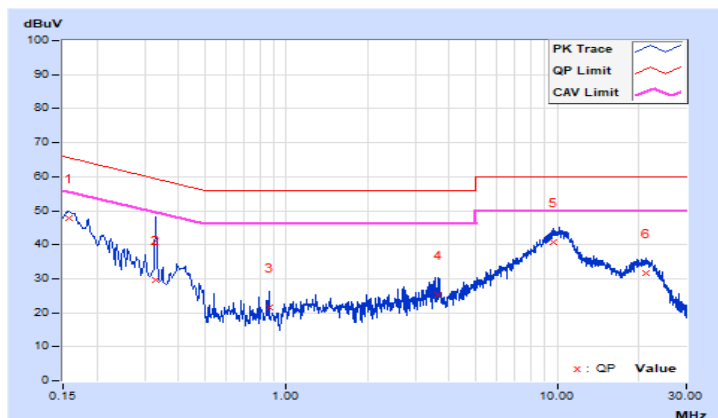
802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15719	10.11	37.57	20.41	47.68	30.52	65.61	55.61	-17.93	-25.09
2	0.32986	10.14	19.61	4.40	29.75	14.54	59.45	49.45	-29.70	-34.91
3	0.86754	10.16	11.24	1.79	21.40	11.95	56.00	46.00	-34.60	-34.05
4	3.64364	10.23	15.17	5.97	25.40	16.20	56.00	46.00	-30.60	-29.80
5	9.69982	10.33	30.35	24.33	40.68	34.66	60.00	50.00	-19.32	-15.34
6	21.28515	10.43	21.28	15.71	31.71	26.14	60.00	50.00	-28.29	-23.86

Remarks:

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

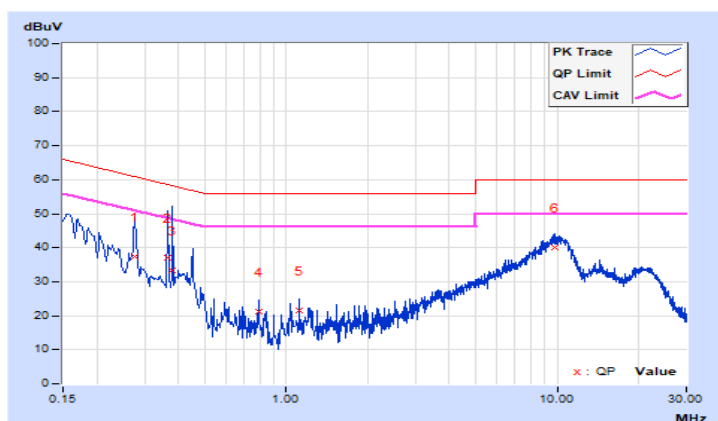


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.27480	10.14	27.32	8.95	37.46	19.09	60.97	50.97	-23.51	-31.88
2	0.36505	10.15	26.74	9.77	36.89	19.92	58.61	48.61	-21.72	-28.69
3	0.38069	10.15	23.33	4.66	33.48	14.81	58.26	48.26	-24.78	-33.45
4	0.78934	10.17	10.89	0.23	21.06	10.40	56.00	46.00	-34.94	-35.60
5	1.11778	10.18	11.48	0.32	21.66	10.50	56.00	46.00	-34.34	-35.50
6	9.82885	10.42	29.52	23.41	39.94	33.83	60.00	50.00	-20.06	-16.17

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.

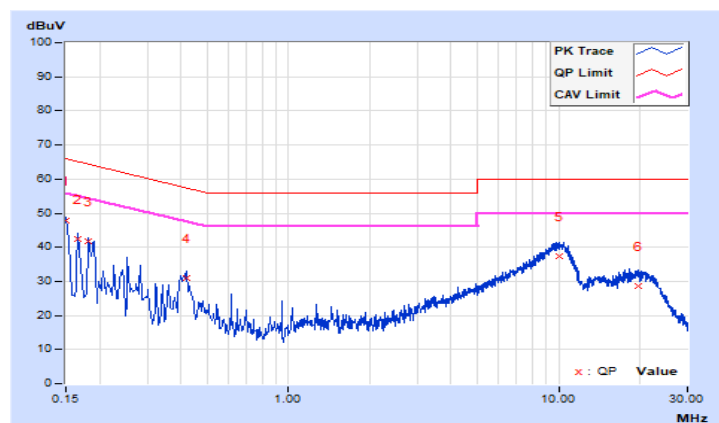


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.11	37.62	17.46	47.73	27.57	66.00	56.00	-18.27	-28.43
2	0.16600	10.12	32.23	16.82	42.35	26.94	65.16	55.16	-22.81	-28.22
3	0.18200	10.12	31.54	15.30	41.66	25.42	64.39	54.39	-22.73	-28.97
4	0.41799	10.14	20.89	13.39	31.03	23.53	57.49	47.49	-26.46	-23.96
5	10.01400	10.33	26.90	20.87	37.23	31.20	60.00	50.00	-22.77	-18.80
6	19.63400	10.47	18.01	11.80	28.48	22.27	60.00	50.00	-31.52	-27.73

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.

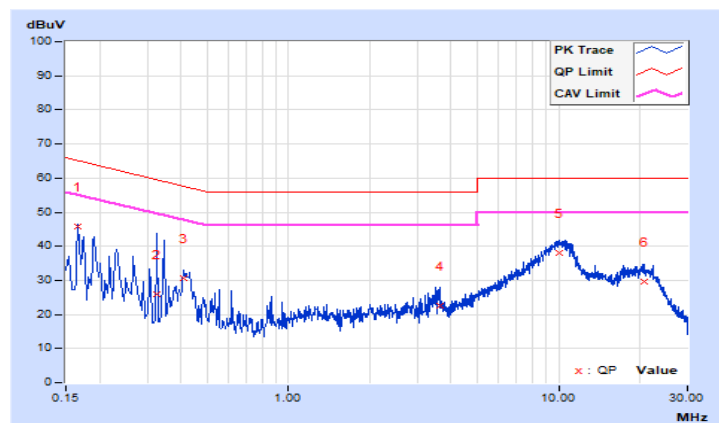


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16600	10.12	35.55	17.05	45.67	27.17	65.16	55.16	-19.49	-27.99
2	0.32600	10.14	15.92	1.56	26.06	11.70	59.55	49.55	-33.49	-37.85
3	0.41000	10.15	20.42	13.05	30.57	23.20	57.65	47.65	-27.08	-24.45
4	3.65800	10.27	12.38	3.71	22.65	13.98	56.00	46.00	-33.35	-32.02
5	10.01000	10.42	27.50	21.55	37.92	31.97	60.00	50.00	-22.08	-18.03
6	20.83800	10.65	19.07	13.04	29.72	23.69	60.00	50.00	-30.28	-26.31

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)
	✓	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	✓		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	✓		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	✓		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

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

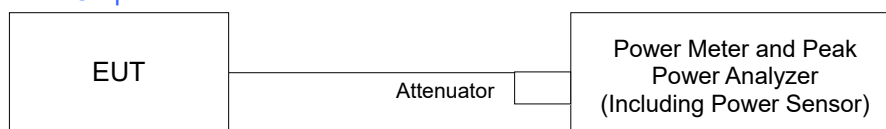
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

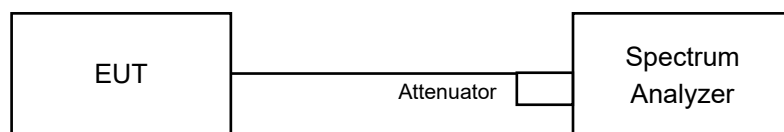
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For 26dB Bandwidth

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW.
- c. Detector = Peak.
- d. Trace mode = max hold.
- e. 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 Conditions

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 Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.33	14.02	52.337	17.19	24.00	Pass
40	5200	14.21	14.33	53.465	17.28	24.00	Pass
48	5240	14.24	14.08	52.132	17.17	24.00	Pass
52	5260	14.27	14.44	54.527	17.37	24.00	Pass
60	5300	14.54	14.14	54.386	17.35	24.00	Pass
64	5320	14.39	14.12	53.302	17.27	24.00	Pass
100	5500	14.11	14.02	50.998	17.08	24.00	Pass
116	5580	14.34	13.98	52.168	17.17	24.00	Pass
140	5700	14.15	13.89	50.492	17.03	24.00	Pass
149	5745	14.62	14.22	55.398	17.43	30.00	Pass
157	5785	14.64	14.52	57.421	17.59	30.00	Pass
165	5825	14.98	14.88	62.238	17.94	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(22.54) = 24.52 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(21.89) = 24.40 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.00) = 24.42 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(21.96) = 24.41 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.88) = 24.40 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(22.03) = 24.43 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(23.49) = 24.70 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(22.38) = 24.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(22.34) = 24.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(22.19) = 24.46 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(21.86) = 24.39 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(22.01) = 24.42 > 24\text{dBm}$

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	13.31	13.56	44.128	16.45	24.00	Pass
40	5200	13.63	13.27	44.300	16.46	24.00	Pass
48	5240	13.65	13.58	45.977	16.63	24.00	Pass
52	5260	13.66	13.43	45.257	16.56	24.00	Pass
60	5300	13.58	13.55	45.450	16.58	24.00	Pass
64	5320	13.12	13.34	42.089	16.24	24.00	Pass
100	5500	13.76	13.52	46.259	16.65	24.00	Pass
116	5580	13.34	13.41	43.505	16.39	24.00	Pass
140	5700	13.12	13.84	44.722	16.51	24.00	Pass
149	5745	13.55	13.42	44.625	16.50	30.00	Pass
157	5785	13.63	13.36	44.745	16.51	30.00	Pass
165	5825	13.88	13.85	48.700	16.88	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(23.11) = 24.63 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(23.38) = 24.68 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.10) = 24.63 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(23.16) = 24.64 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.43) = 24.69 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.26) = 24.66 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(23.45) = 24.70 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(23.23) = 24.66 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(23.83) = 24.77 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(23.25) = 24.66 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(23.48) = 24.70 > 24\text{dBm}$
6. $11\text{dBm} + 10\log(23.19) = 24.65 > 24\text{dBm}$

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	12.75	12.36	36.055	15.57	24.00	Pass
46	5230	12.89	12.42	36.912	15.67	24.00	Pass
54	5270	12.36	12.17	33.700	15.28	24.00	Pass
62	5310	12.41	11.89	32.871	15.17	24.00	Pass
102	5510	12.28	12.12	33.197	15.21	24.00	Pass
110	5550	12.33	11.89	32.553	15.13	24.00	Pass
134	5670	12.36	12.04	33.214	15.21	24.00	Pass
151	5755	12.81	13.04	39.236	15.94	30.00	Pass
159	5795	12.67	12.83	37.679	15.76	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(44.00) = 27.43 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(43.91) = 27.42 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(44.40) = 27.47 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(43.88) = 27.42 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(43.89) = 27.42 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(43.95) = 27.42 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(43.65) = 27.39 > 24\text{dBm}$
3. $11\text{dBm} + 10\log(44.06) = 27.44 > 24\text{dBm}$
4. $11\text{dBm} + 10\log(43.92) = 27.42 > 24\text{dBm}$
5. $11\text{dBm} + 10\log(43.99) = 27.43 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	12.00	11.94	31.480	14.98	24.00	Pass
58	5290	12.19	11.67	31.247	14.95	24.00	Pass
106	5530	12.43	11.97	33.238	15.22	24.00	Pass
155	5775	11.56	11.43	28.221	14.51	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log(86.51) = 30.37 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(86.56) = 30.37 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log(86.39) = 30.36 > 24\text{dBm}$
2. $11\text{dBm} + 10\log(87.22) = 30.40 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	22.54	23.49
60	5300	21.89	22.38
64	5320	22.00	22.34
100	5500	21.96	22.19
116	5580	21.88	21.86
140	5700	22.03	22.01

802.11ac (VHT20)

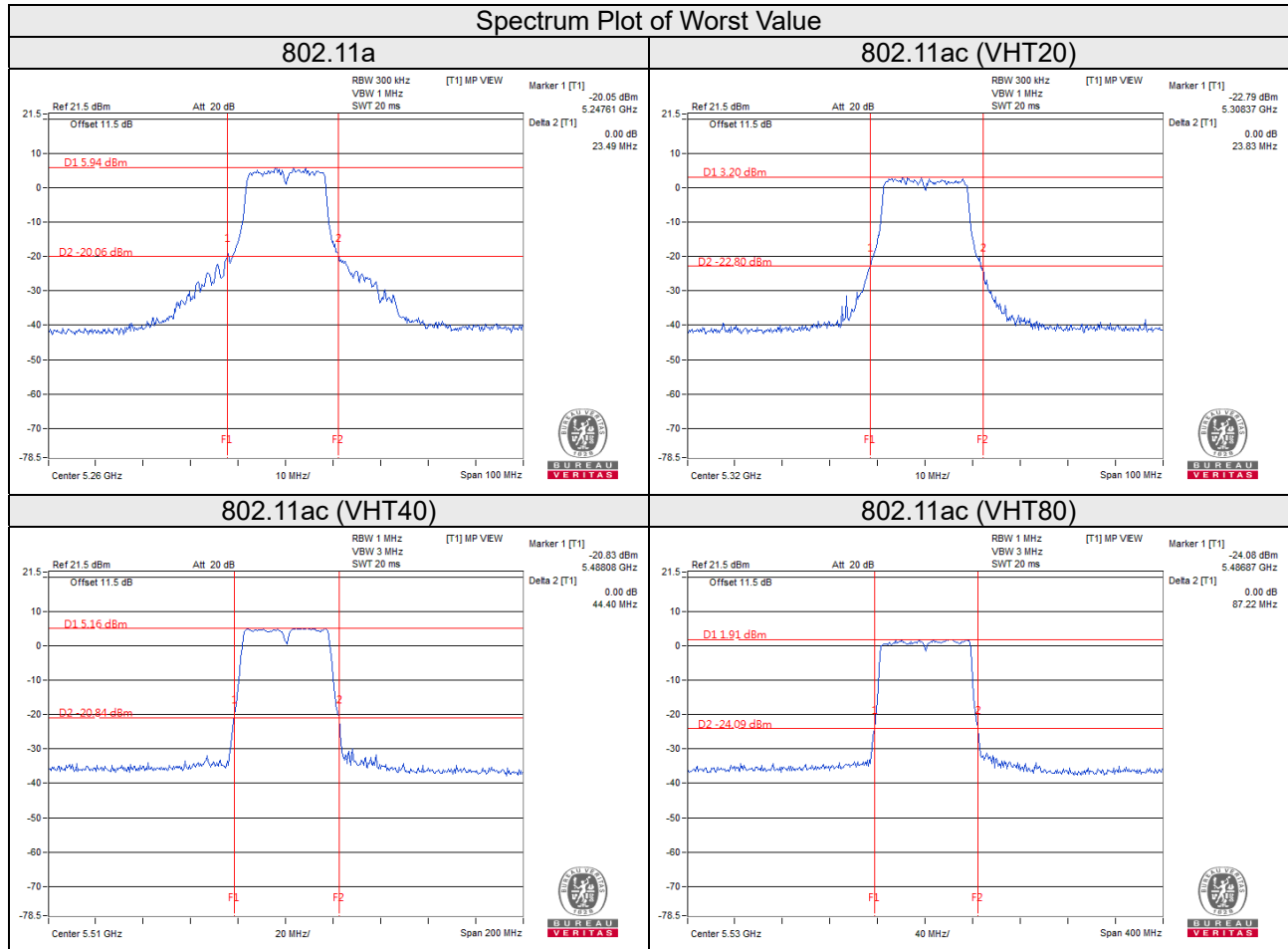
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	23.11	23.45
60	5300	23.38	23.23
64	5320	23.10	23.83
100	5500	23.16	23.25
116	5580	23.43	23.48
140	5700	23.26	23.19

802.11ac (VHT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	44.00	43.95
62	5310	43.91	43.65
102	5510	44.40	44.06
110	5550	43.88	43.92
134	5670	43.89	43.99

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	86.51	86.39
106	5530	86.56	87.22



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	54.527	17.37
5470~5725	52.168	17.17

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	45.450	16.58
5470~5725	46.259	16.65

802.11ac (VHT40)

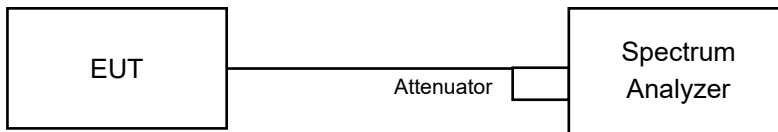
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	33.700	15.28
5470~5725	33.214	15.21

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	31.247	14.95
5470~5725	33.238	15.22

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 sampling. 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 Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.95	16.92
40	5200	16.92	16.92
48	5240	16.86	16.78
52	5260	16.86	16.95
60	5300	16.95	16.86
64	5320	16.95	16.78
100	5500	16.78	16.86
116	5580	16.92	16.92
140	5700	16.92	16.92
149	5745	16.92	16.92
157	5785	16.92	16.92
165	5825	16.92	16.80

802.11ac (VHT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	18.00	18.00
40	5200	18.00	18.00
48	5240	18.00	18.00
52	5260	18.00	18.00
60	5300	18.08	18.00
64	5320	18.00	18.08
100	5500	18.00	18.08
116	5580	18.00	18.00
140	5700	18.00	18.00
149	5745	18.00	18.00
157	5785	18.00	18.00
165	5825	18.00	18.00

802.11ac (VHT40)

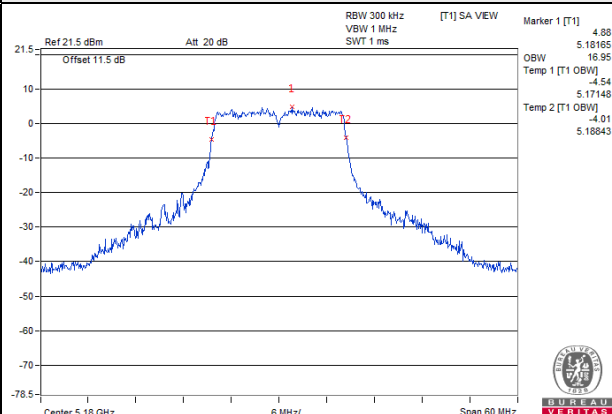
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	37.92	37.92
46	5230	36.87	37.04
54	5270	37.21	37.04
62	5310	36.87	37.04
102	5510	37.22	37.39
110	5550	37.04	37.22
134	5670	37.44	36.96
151	5755	37.21	37.20
159	5795	37.20	37.20

802.11ac (VHT80)

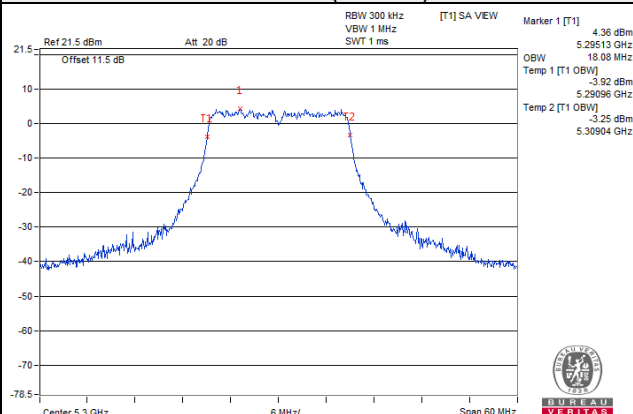
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	77.28	77.28
58	5290	75.84	75.84
106	5530	75.84	75.84
155	5775	75.84	76.32

Spectrum Plot of Worst Value

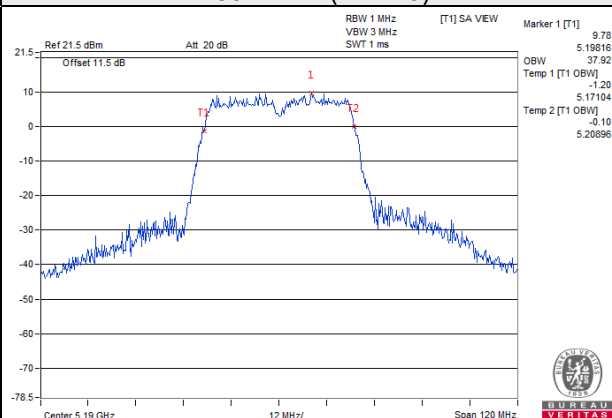
802.11a



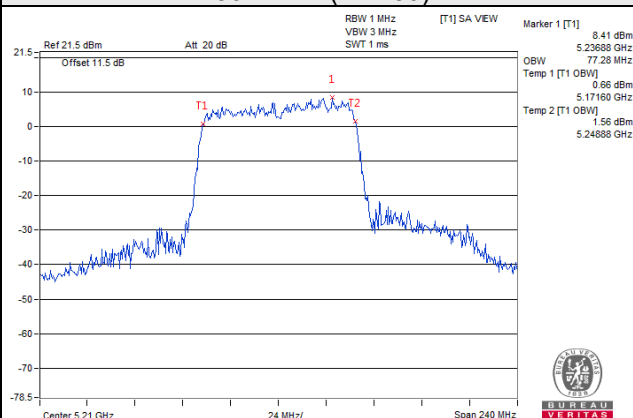
802.11ac (VHT20)



802.11ac (VHT40)

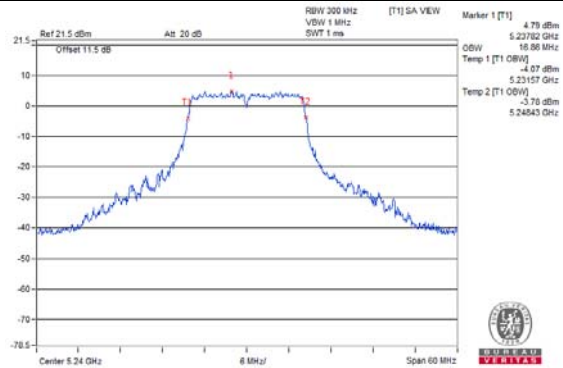


802.11ac (VHT80)

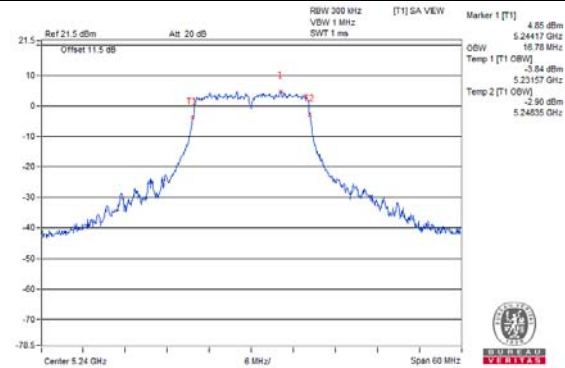


Spectrum Plot for near By DFS Band

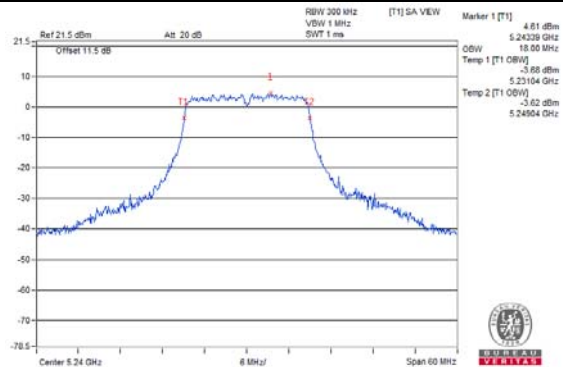
802.11a / Chain 0 / CH 48



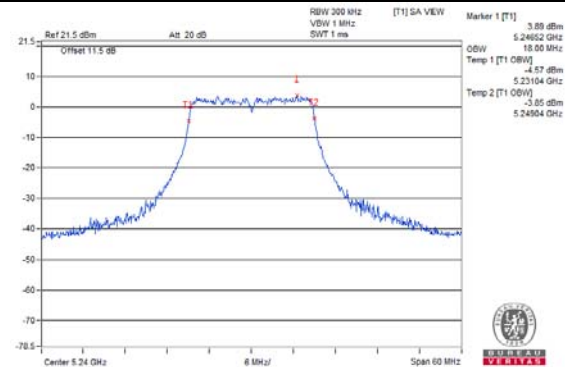
802.11a / Chain 1 / CH 48



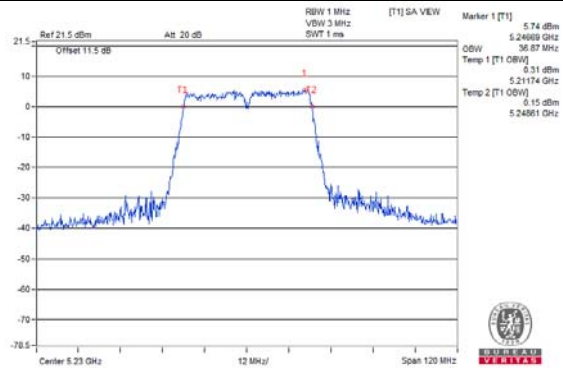
802.11n (HT20) / Chain 0 / CH 48



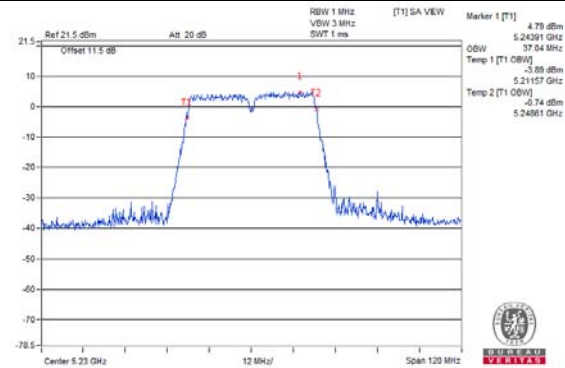
802.11n (HT20) / Chain 1 / CH 48



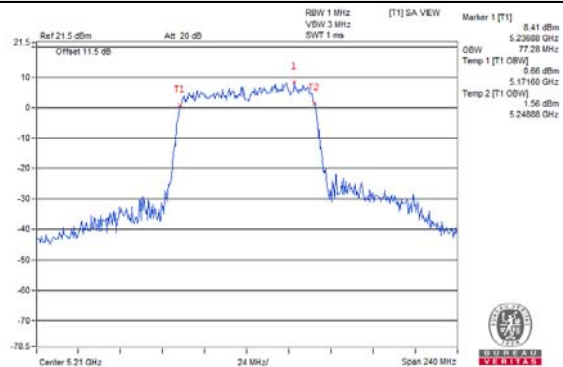
802.11n (HT40) / Chain 0 / CH 46



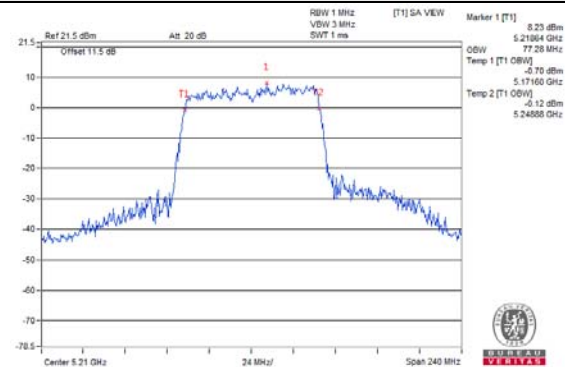
802.11n (HT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42

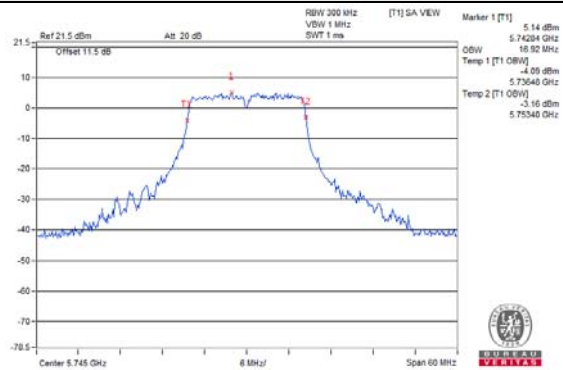


802.11ac (VHT80) / Chain 1 / CH 42

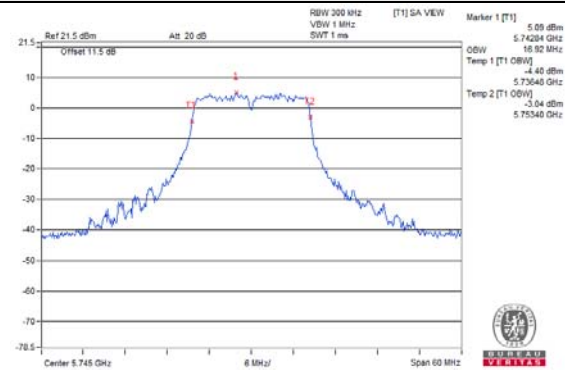


Spectrum Plot for near By DFS Band

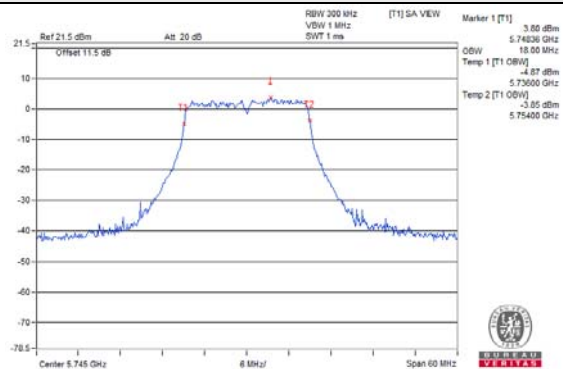
802.11a / Chain 0 / CH 149



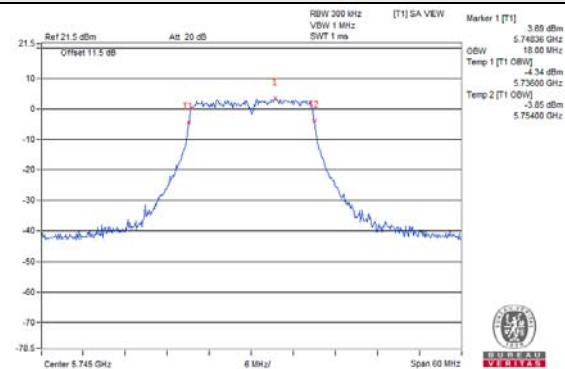
802.11a / Chain 1 / CH 149



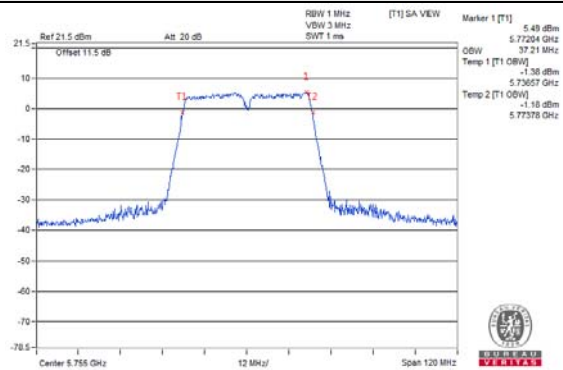
802.11n (HT20) / Chain 0 / CH 149



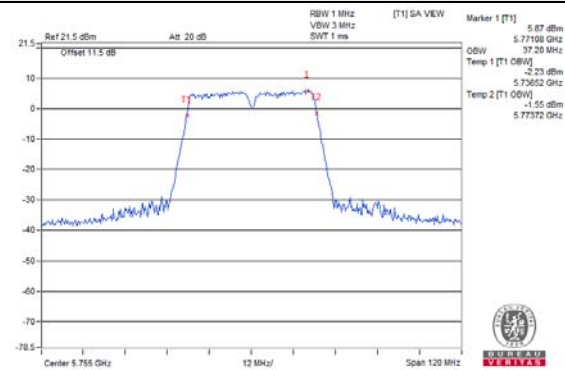
802.11n (HT20) / Chain 1 / CH 149



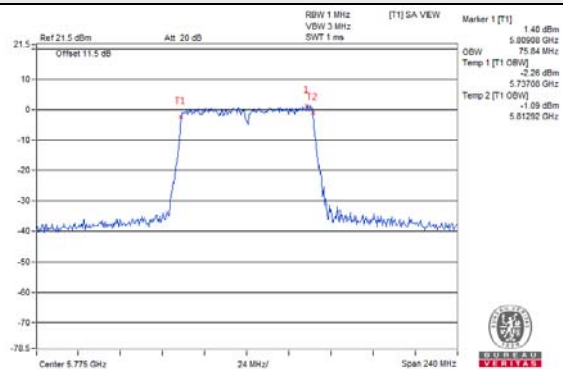
802.11n (HT40) / Chain 0 / CH 151



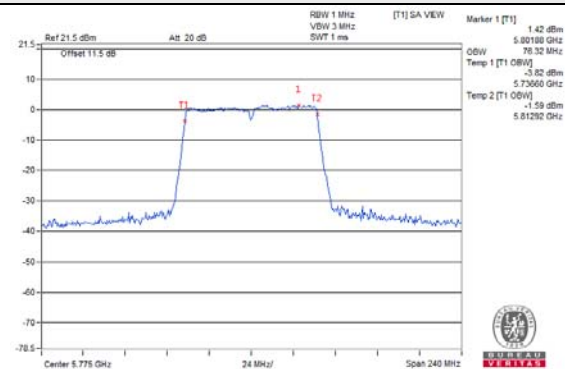
802.11n (HT40) / Chain 1 / CH 151



802.11ac (VHT80) / Chain 0 / CH 155



802.11ac (VHT80) / Chain 1 / CH 155

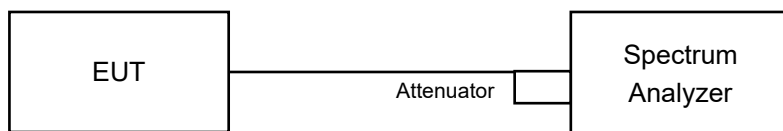


4.5 Peak Power Spectral Density Measurement

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	
	√	Mobile and Portable 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 Procedures

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

Duty cycle of test signal is < 98%

Using method SA-2

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

For U-NII-3 band:

Duty cycle of test signal is < 98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. 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 $BWCF = 10\log(500 \text{ kHz} / 300 \text{ kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Record the max value and add $10 \log (1/\text{duty cycle})$

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	1.10	0.99	0.19	4.25	11.00	Pass
40	5200	1.02	1.26	0.19	4.35	11.00	Pass
48	5240	1.11	0.98	0.19	4.25	11.00	Pass
52	5260	0.83	1.29	0.19	4.27	11.00	Pass
60	5300	1.37	0.69	0.19	4.25	11.00	Pass
64	5320	1.09	0.27	0.19	3.90	11.00	Pass
100	5500	0.69	0.65	0.19	3.87	11.00	Pass
116	5580	1.08	0.86	0.19	4.17	11.00	Pass
140	5700	0.48	0.57	0.19	3.73	11.00	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51 \text{ dBi} < 6 \text{ dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	0.09	0.30	0.19	3.40	11.00	Pass
40	5200	0.23	0.35	0.19	3.49	11.00	Pass
48	5240	0.07	0.47	0.19	3.48	11.00	Pass
52	5260	0.53	0.18	0.19	3.56	11.00	Pass
60	5300	0.18	0.38	0.19	3.48	11.00	Pass
64	5320	-0.01	0.23	0.19	3.32	11.00	Pass
100	5500	0.21	-0.16	0.19	3.23	11.00	Pass
116	5580	-0.19	0.34	0.19	3.29	11.00	Pass
140	5700	-0.56	0.39	0.19	3.14	11.00	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51 \text{ dBi} < 6 \text{ dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.50	-3.80	0.39	-0.25	11.00	Pass
46	5230	-3.22	-3.72	0.39	-0.06	11.00	Pass
54	5270	-3.88	-4.01	0.39	-0.55	11.00	Pass
62	5310	-3.79	-4.31	0.39	-0.64	11.00	Pass
102	5510	-4.00	-4.06	0.39	-0.63	11.00	Pass
110	5550	-3.89	-4.43	0.39	-0.75	11.00	Pass
134	5670	-3.89	-4.32	0.39	-0.70	11.00	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51 \text{ dBi} < 6 \text{ dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

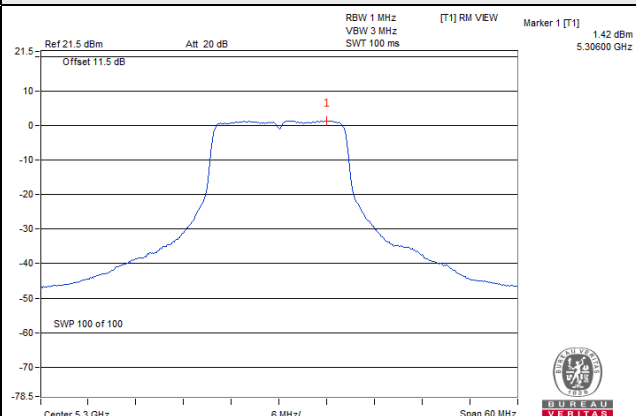
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-7.29	-7.48	0.73	-3.64	11.00	Pass
58	5290	-7.20	-7.60	0.73	-3.66	11.00	Pass
106	5530	-6.81	-7.35	0.73	-3.33	11.00	Pass

Note:

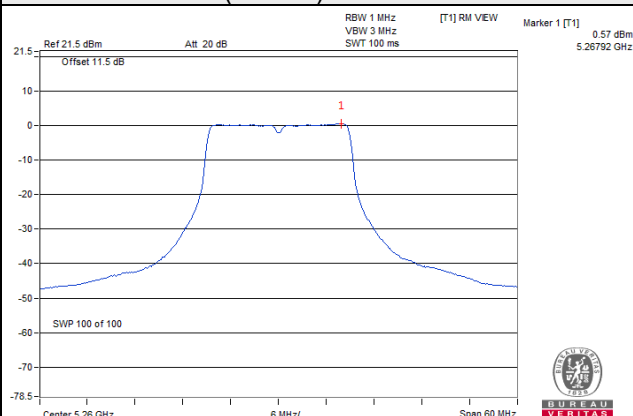
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51 \text{ dBi} < 6 \text{ dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

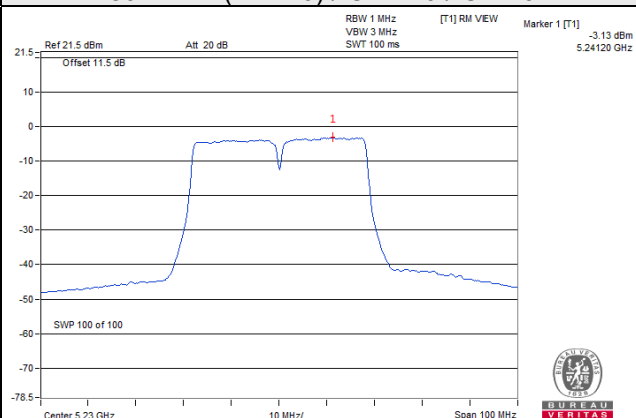
802.11a / Chain 0 / CH 60



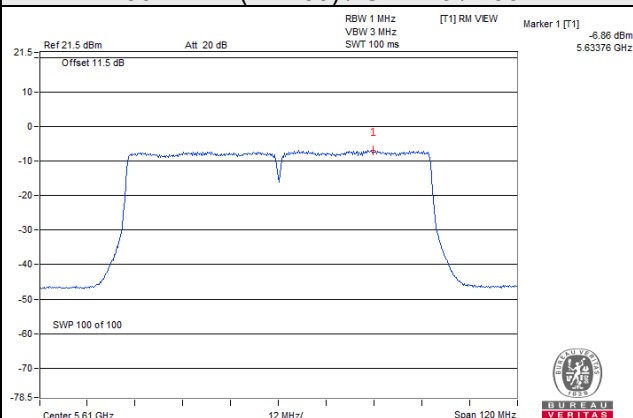
802.11ac (VHT20) / Chain 0 / CH 52



802.11ac (VHT40) / Chain 0 / CH 46



802.11ac (VHT80) / Chain 0 / 106



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-7.50	-5.28	3.01	0.19	-2.08	30.00	Pass
	157	5785	-7.91	-5.69	3.01	0.19	-2.49	30.00	Pass
	165	5825	-7.11	-4.89	3.01	0.19	-1.69	30.00	Pass
1	149	5745	-7.70	-5.48	3.01	0.19	-2.28	30.00	Pass
	157	5785	-7.68	-5.46	3.01	0.19	-2.26	30.00	Pass
	165	5825	-7.10	-4.88	3.01	0.19	-1.68	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	-8.99	-6.77	3.01	0.19	-3.57	30.00	Pass
	157	5785	-9.25	-7.03	3.01	0.19	-3.83	30.00	Pass
	165	5825	-8.88	-6.66	3.01	0.19	-3.46	30.00	Pass
1	149	5745	-8.72	-6.50	3.01	0.19	-3.30	30.00	Pass
	157	5785	-9.32	-7.10	3.01	0.19	-3.90	30.00	Pass
	165	5825	-9.45	-7.23	3.01	0.19	-4.03	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-13.67	-11.45	3.01	0.39	-8.05	30.00	Pass
	159	5795	-13.63	-11.41	3.01	0.39	-8.01	30.00	Pass
1	151	5755	-13.02	-10.80	3.01	0.39	-7.40	30.00	Pass
	159	5795	-13.14	-10.92	3.01	0.39	-7.52	30.00	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

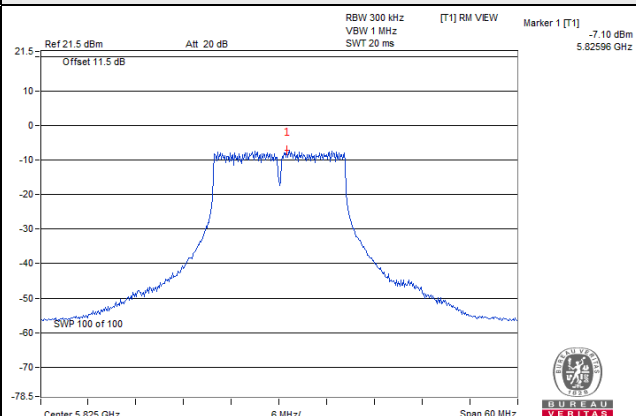
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-17.46	-15.24	3.01	0.73	-11.50	30.00	Pass
1	155	5775	-17.93	-15.71	3.01	0.73	-11.97	30.00	Pass

Note:

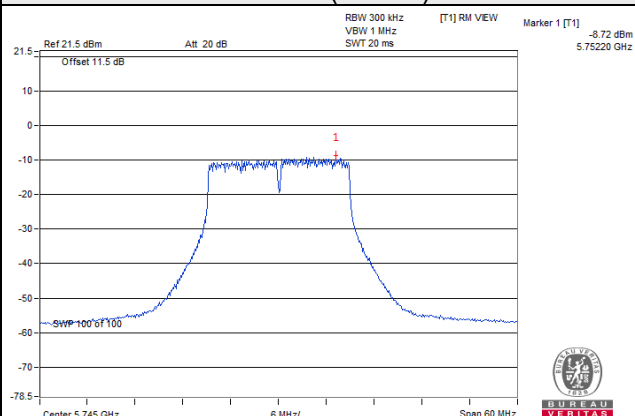
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 4.51\text{dBi} < 6\text{dBi}$, so the power density limit not need to reduce.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

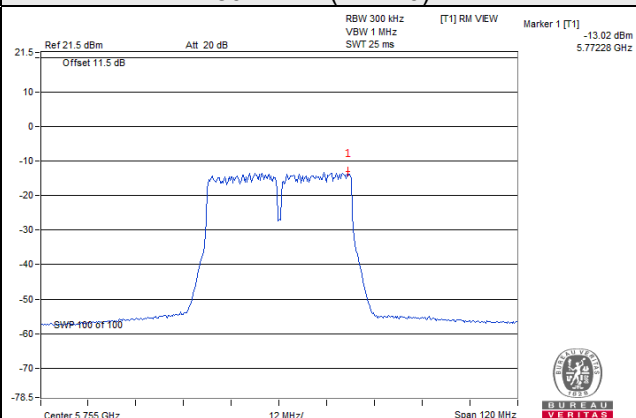
802.11a



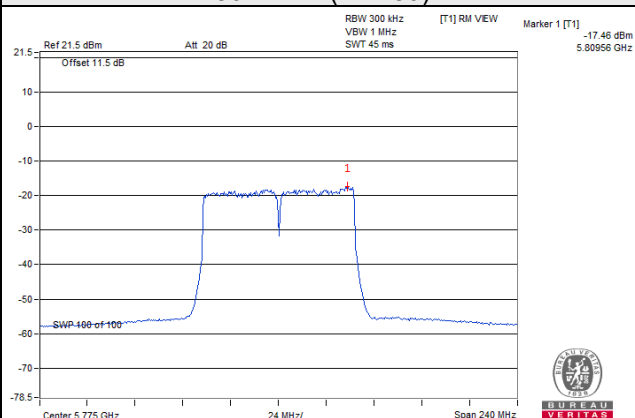
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

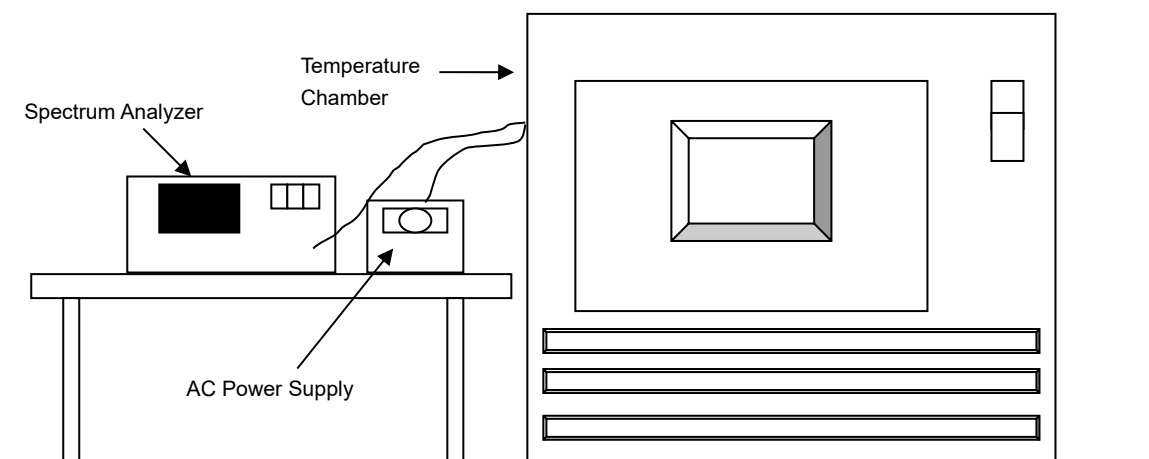


4.6 Frequency Stability

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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 01, 2021	May 31, 2022
Digital Multimeter Fluke	87-III	70360755	Jul. 07, 2021	Jul. 06, 2022
AC Power Supply Extech	CFW-105	E000603	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. Tested date: Oct. 06, 2021

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
40	120	5179.9925	Pass	5179.9930	Pass	5179.9930	Pass	5179.9920	Pass
30	120	5179.9978	Pass	5180.0000	Pass	5179.9983	Pass	5179.9983	Pass
20	120	5180.0066	Pass	5180.0039	Pass	5180.0028	Pass	5180.0038	Pass
10	120	5179.9994	Pass	5180.0031	Pass	5180.0004	Pass	5180.0008	Pass
0	120	5179.9925	Pass	5179.9917	Pass	5179.9932	Pass	5179.9948	Pass

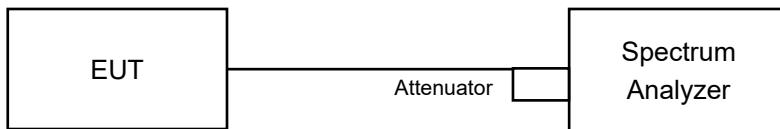
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0064	Pass	5180.0042	Pass	5180.0031	Pass	5180.0042	Pass
	120	5180.0066	Pass	5180.0039	Pass	5180.0028	Pass	5180.0038	Pass
	102	5180.0076	Pass	5180.003	Pass	5180.0031	Pass	5180.0048	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

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.40	16.39	0.5	Pass
157	5785	16.40	16.40	0.5	Pass
165	5825	16.40	16.40	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	17.63	17.63	0.5	Pass
157	5785	17.63	17.65	0.5	Pass
165	5825	17.65	17.65	0.5	Pass

802.11ac (VHT40)

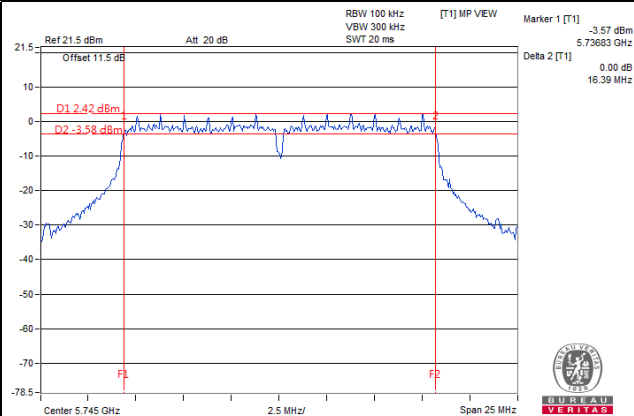
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	36.16	36.43	0.5	Pass
159	5795	36.17	36.15	0.5	Pass

802.11ac (VHT80)

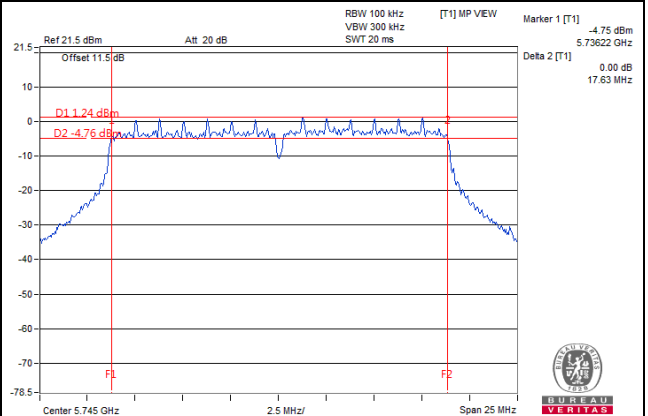
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	76.05	76.47	0.5	Pass

Spectrum Plot of Worst Value

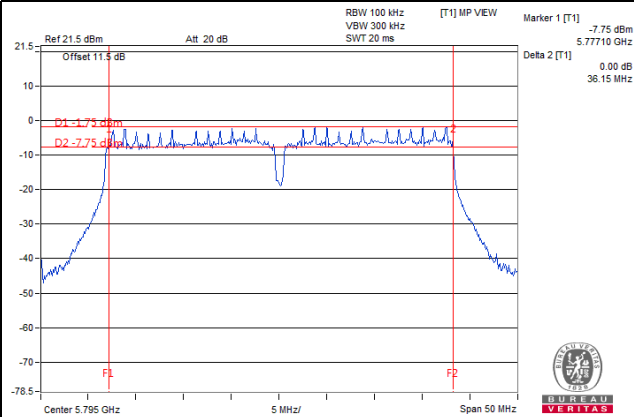
802.11a



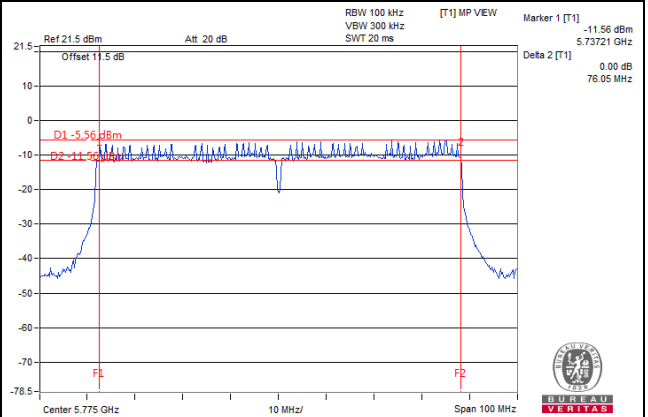
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

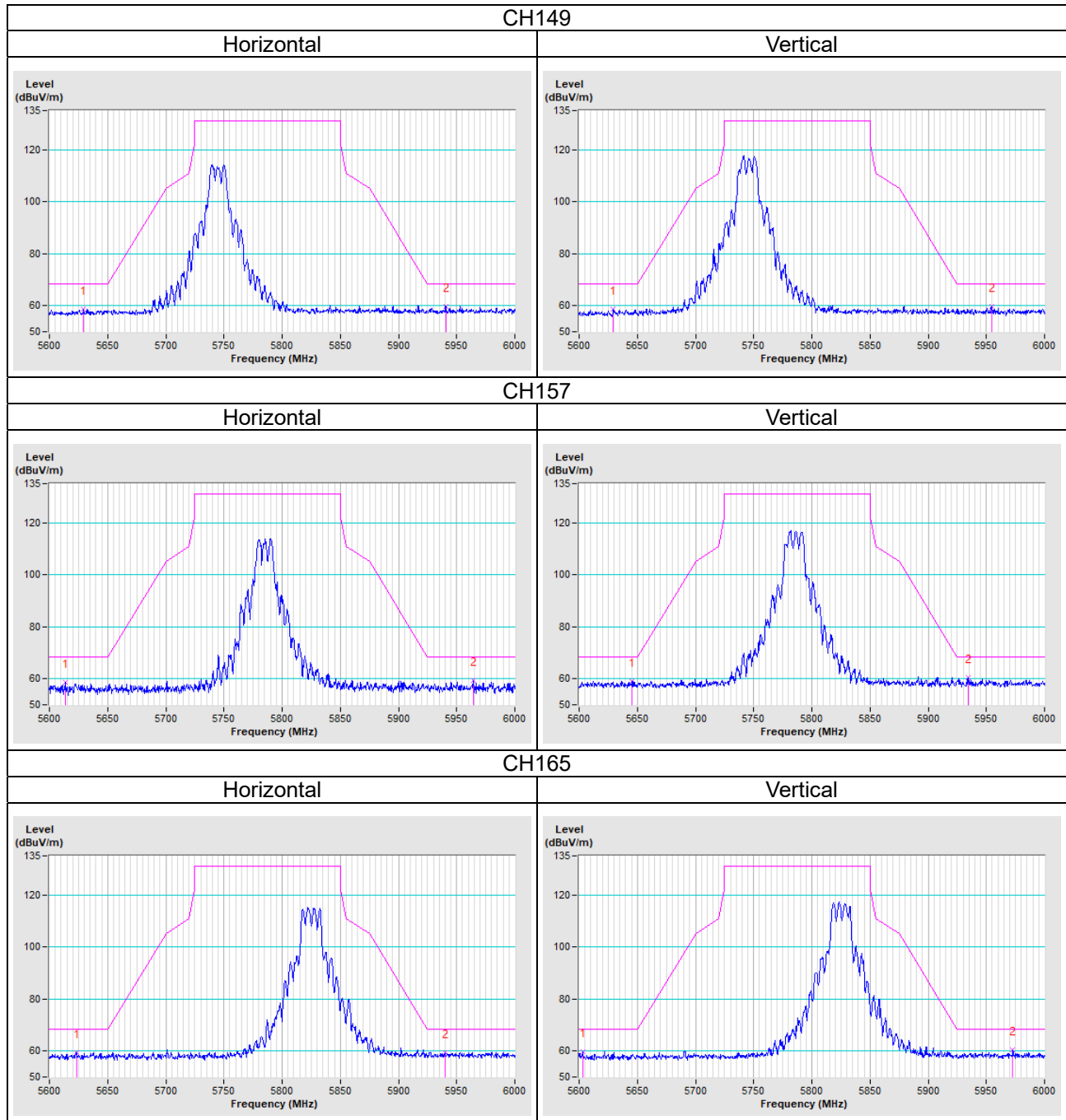


5 Pictures of Test Arrangements

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

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

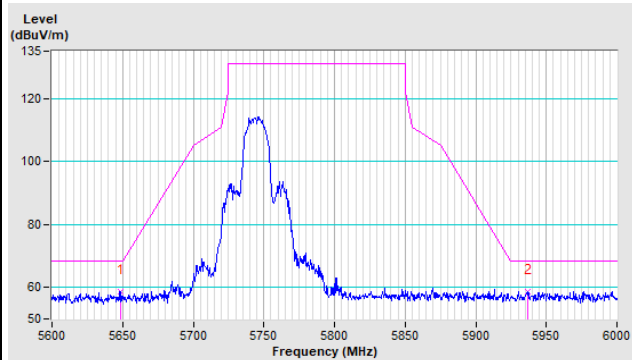
802.11a



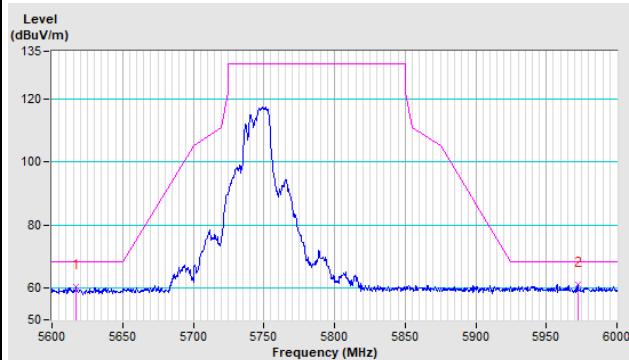
802.11ac (VHT20)

CH149

Horizontal

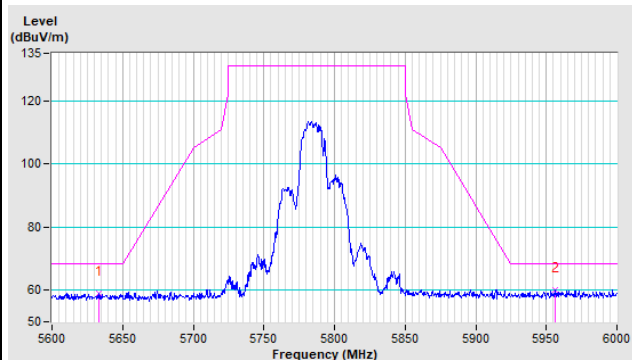


Vertical

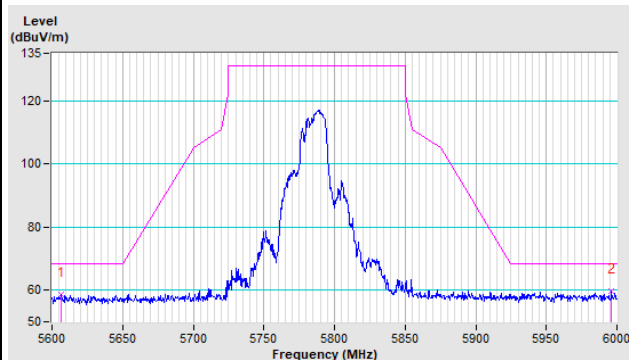


CH157

Horizontal

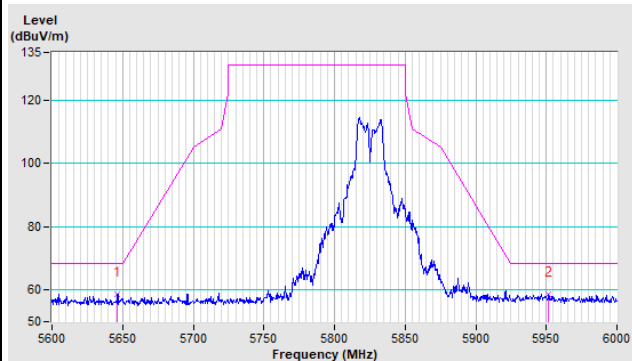


Vertical

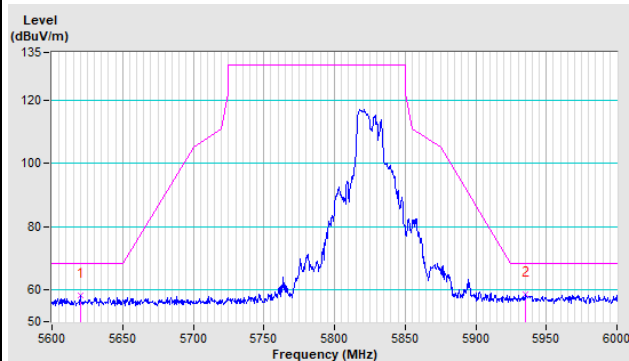


CH165

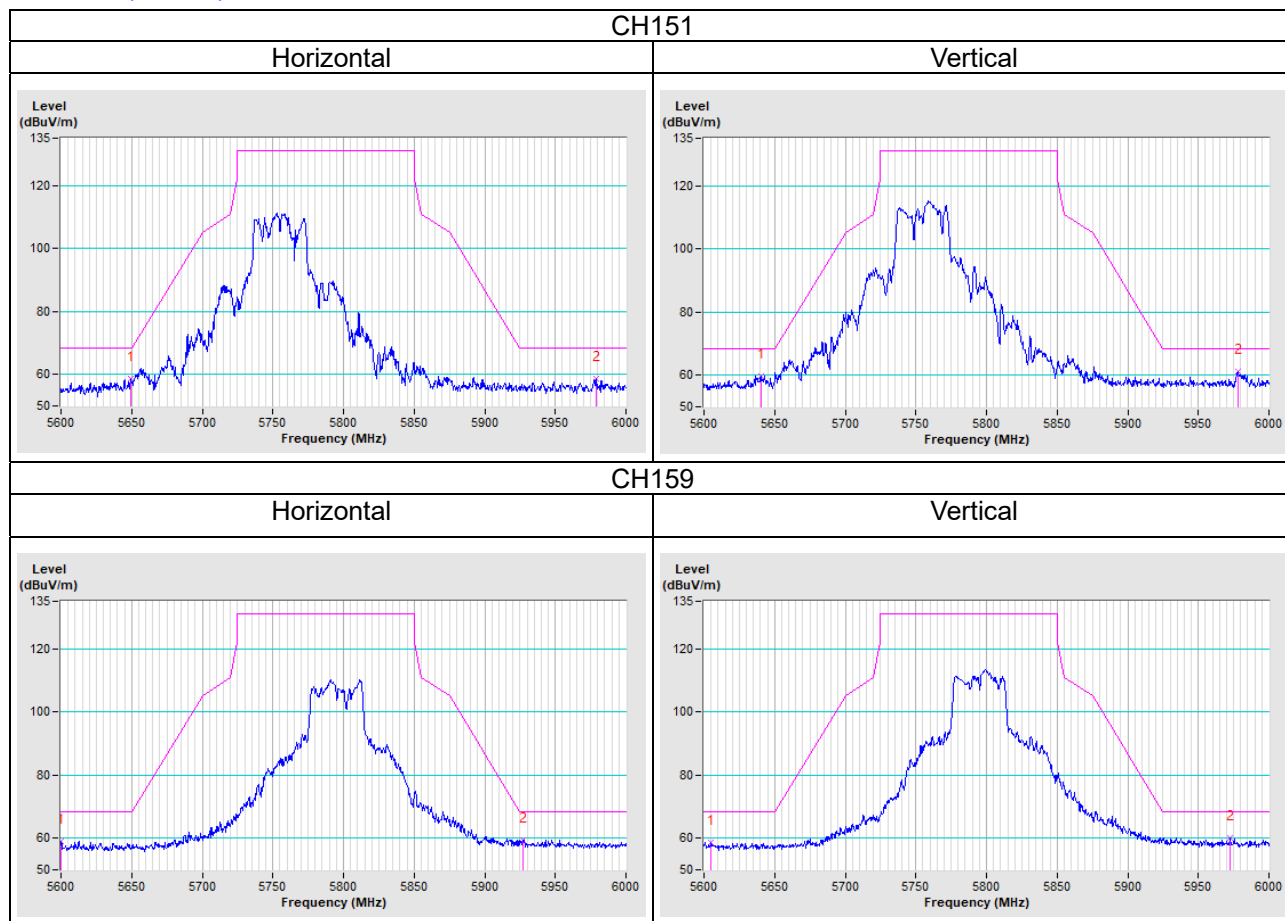
Horizontal



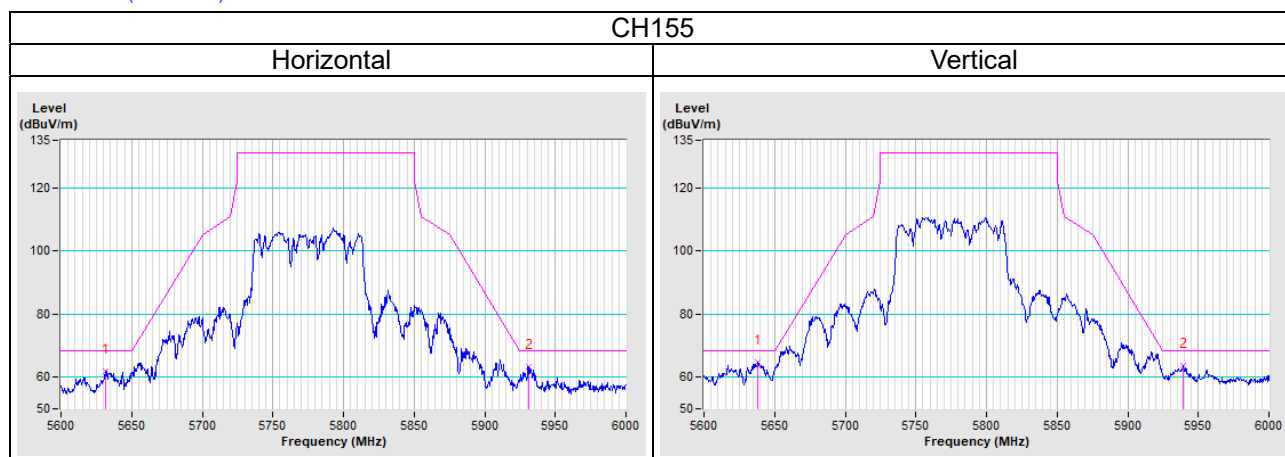
Vertical



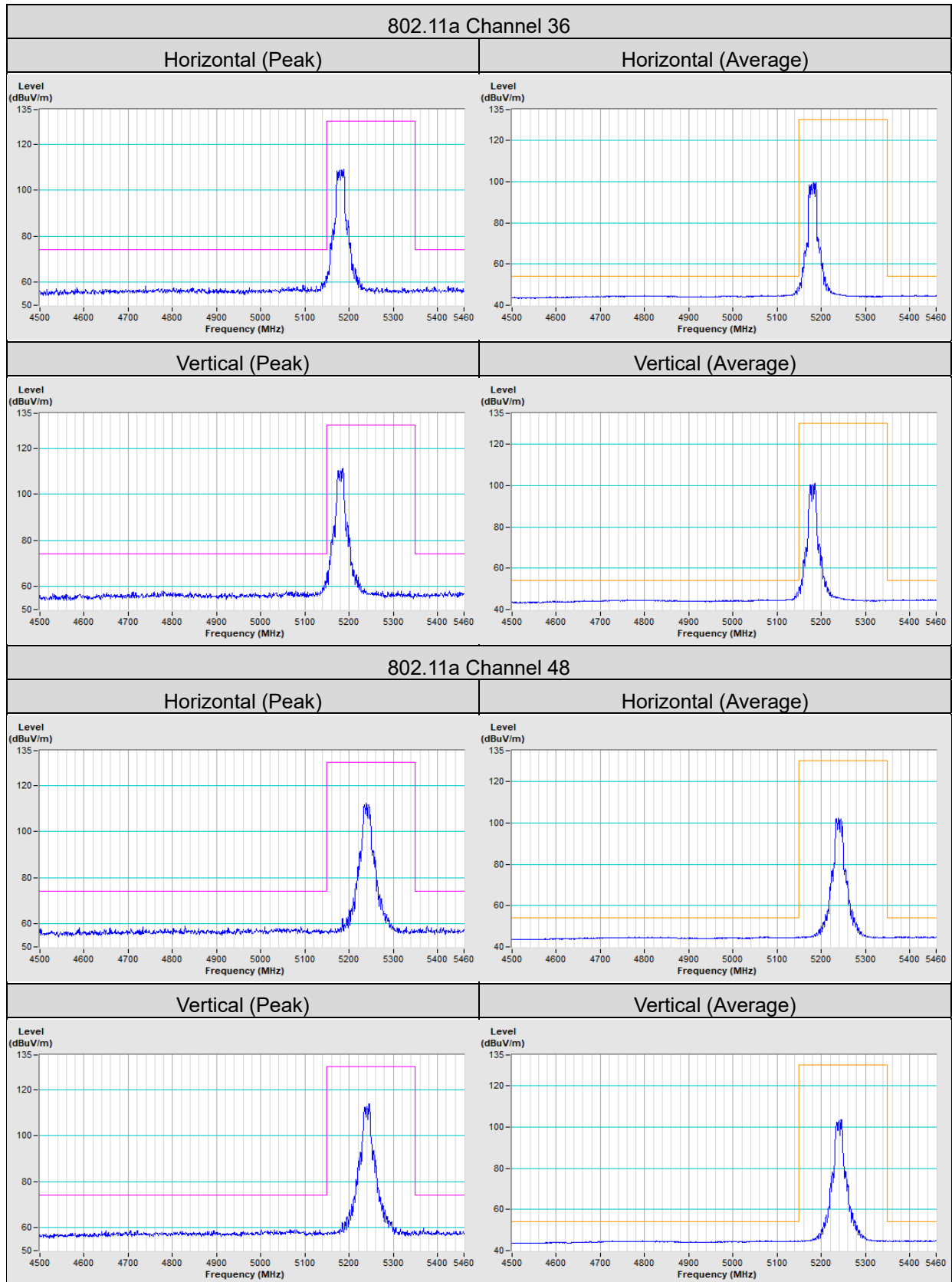
802.11ac (VHT40)



802.11ac (VHT80)

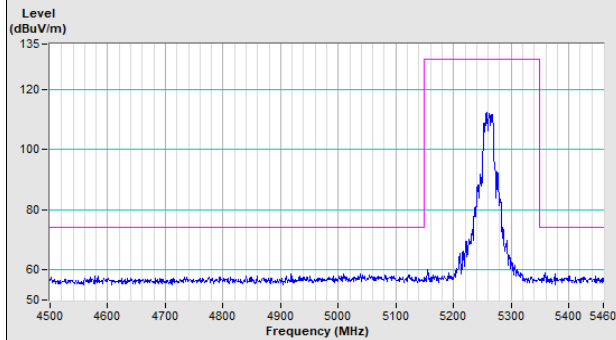


Annex B- Band Edge Measurement

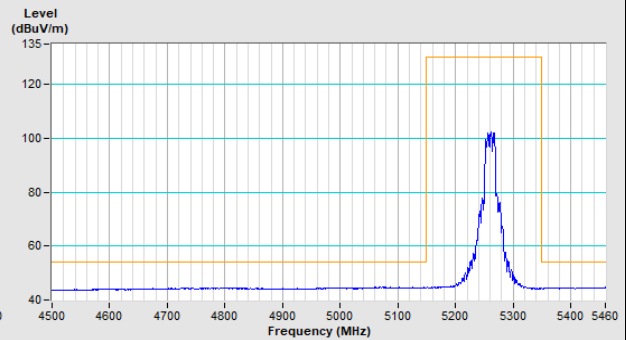


802.11a Channel 52

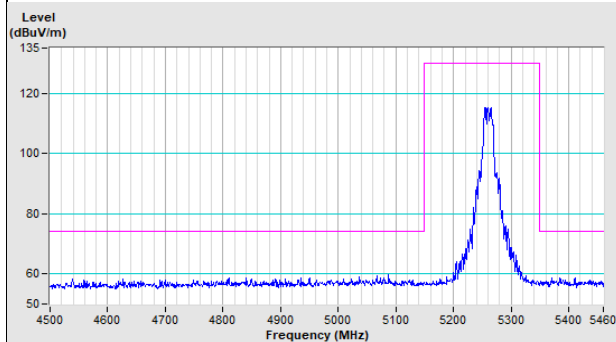
Horizontal (Peak)



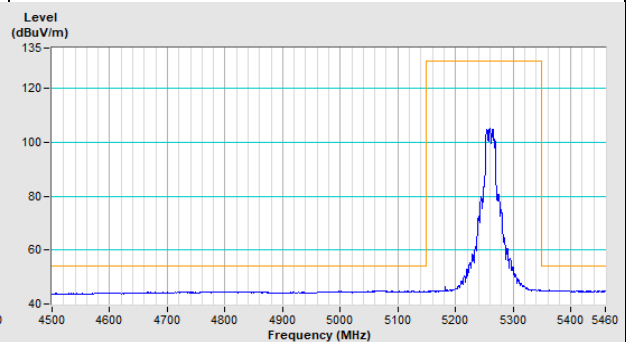
Horizontal (Average)



Vertical (Peak)

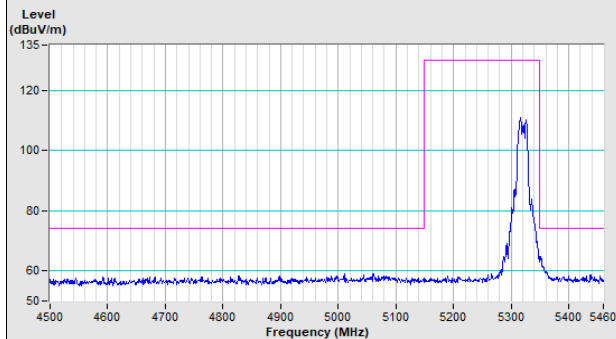


Vertical (Average)

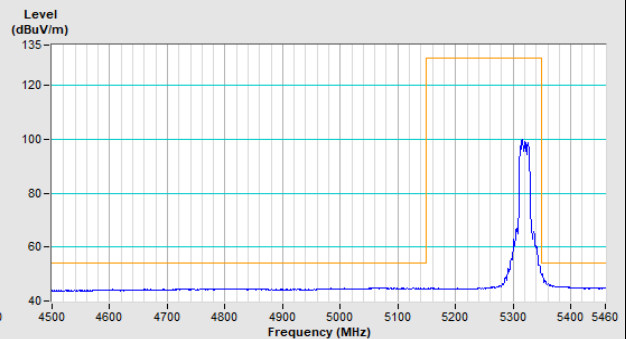


802.11a Channel 64

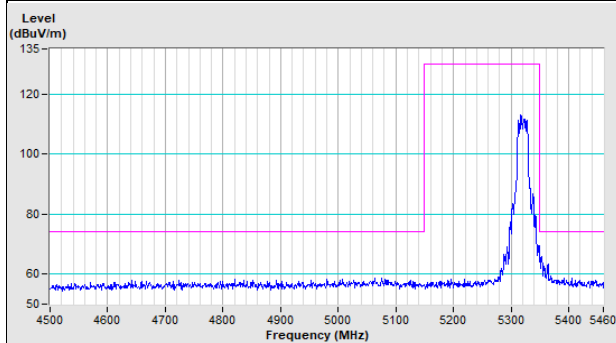
Horizontal (Peak)



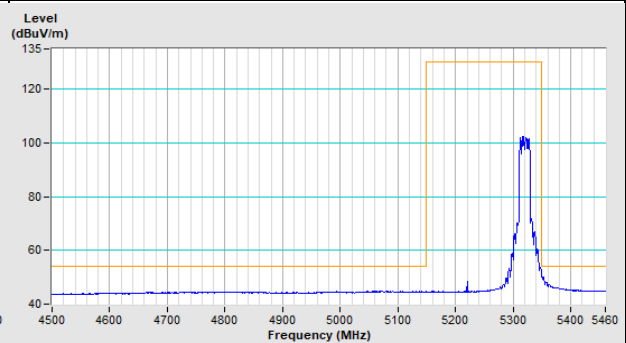
Horizontal (Average)

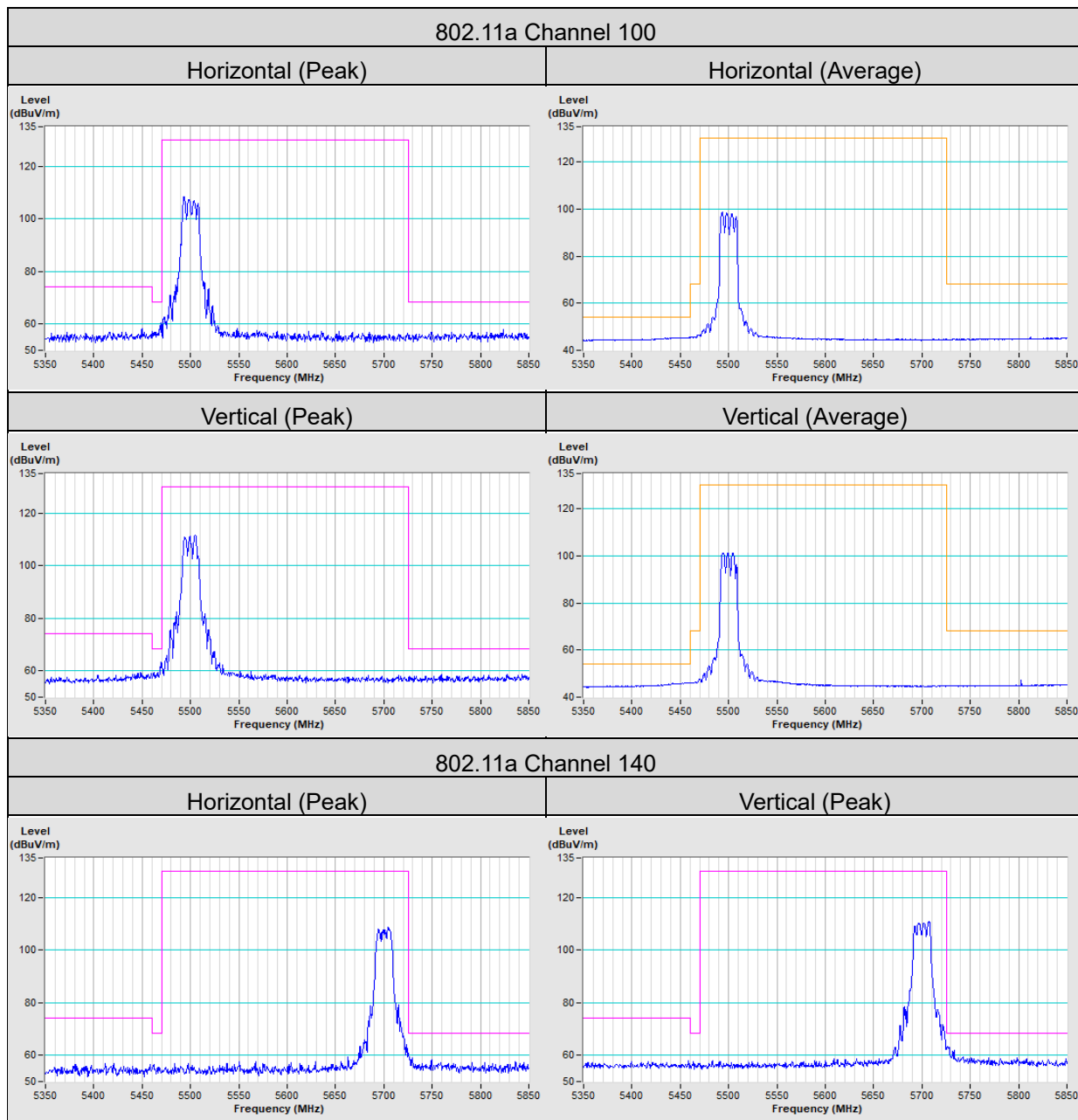


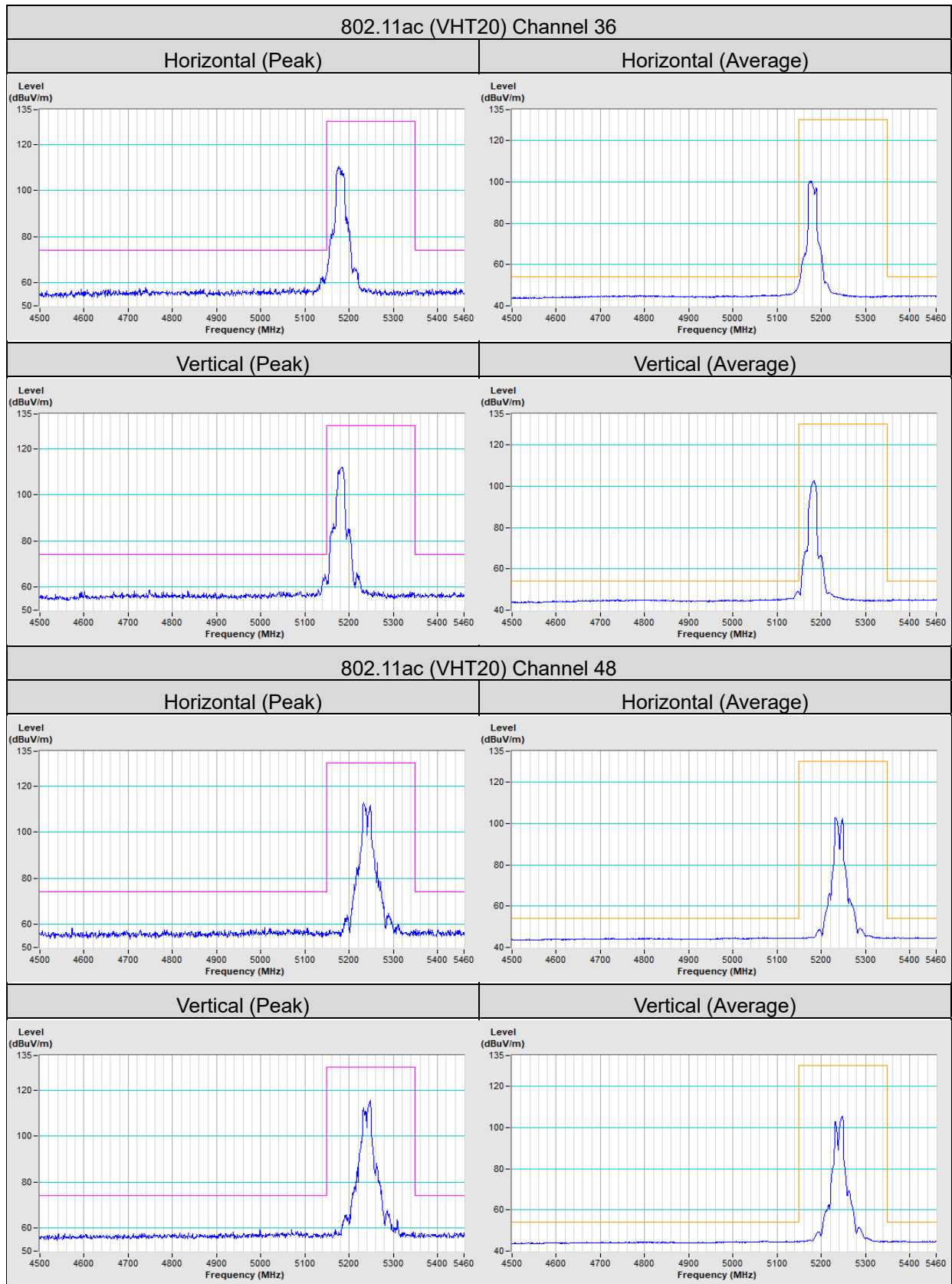
Vertical (Peak)

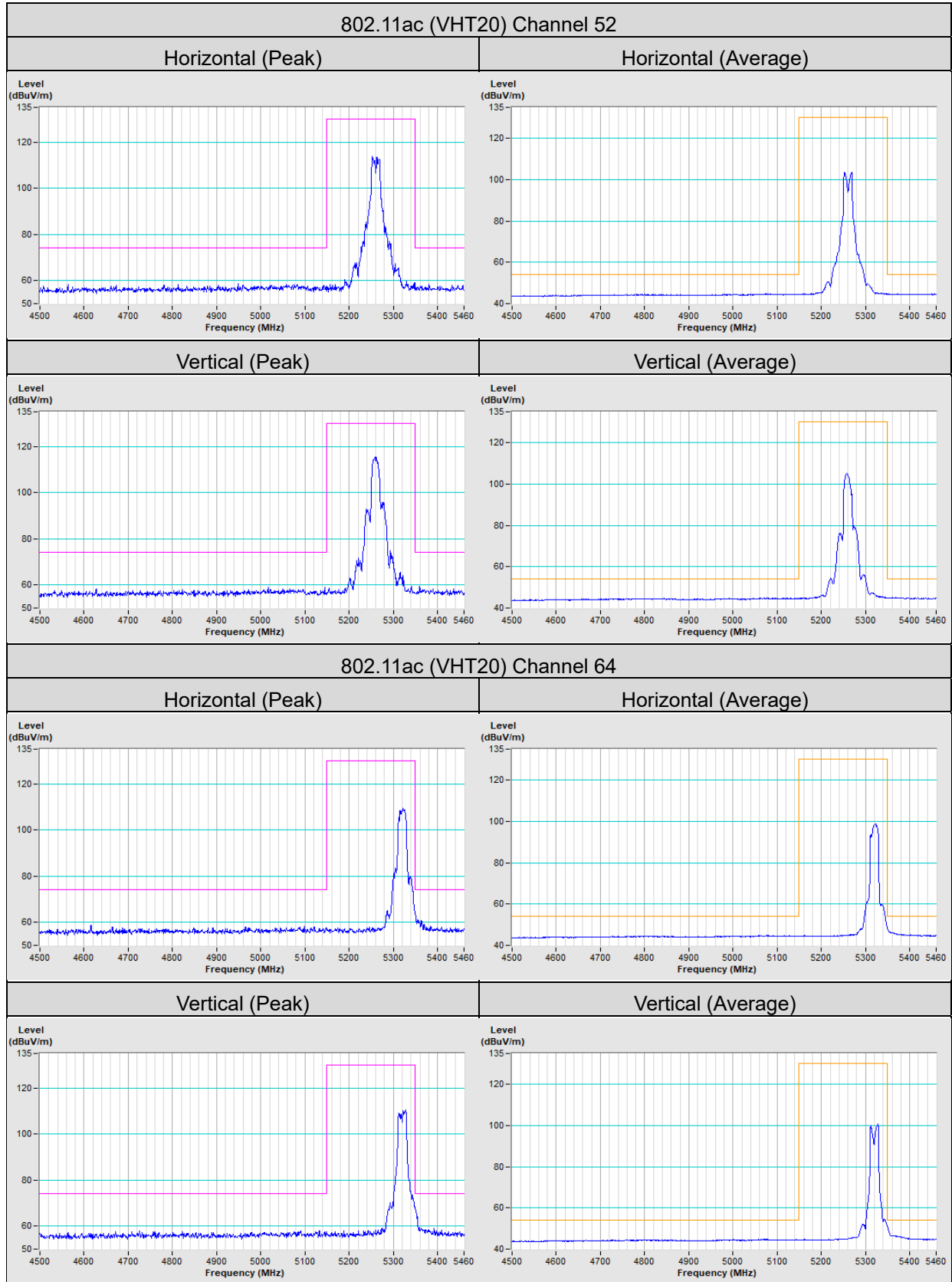


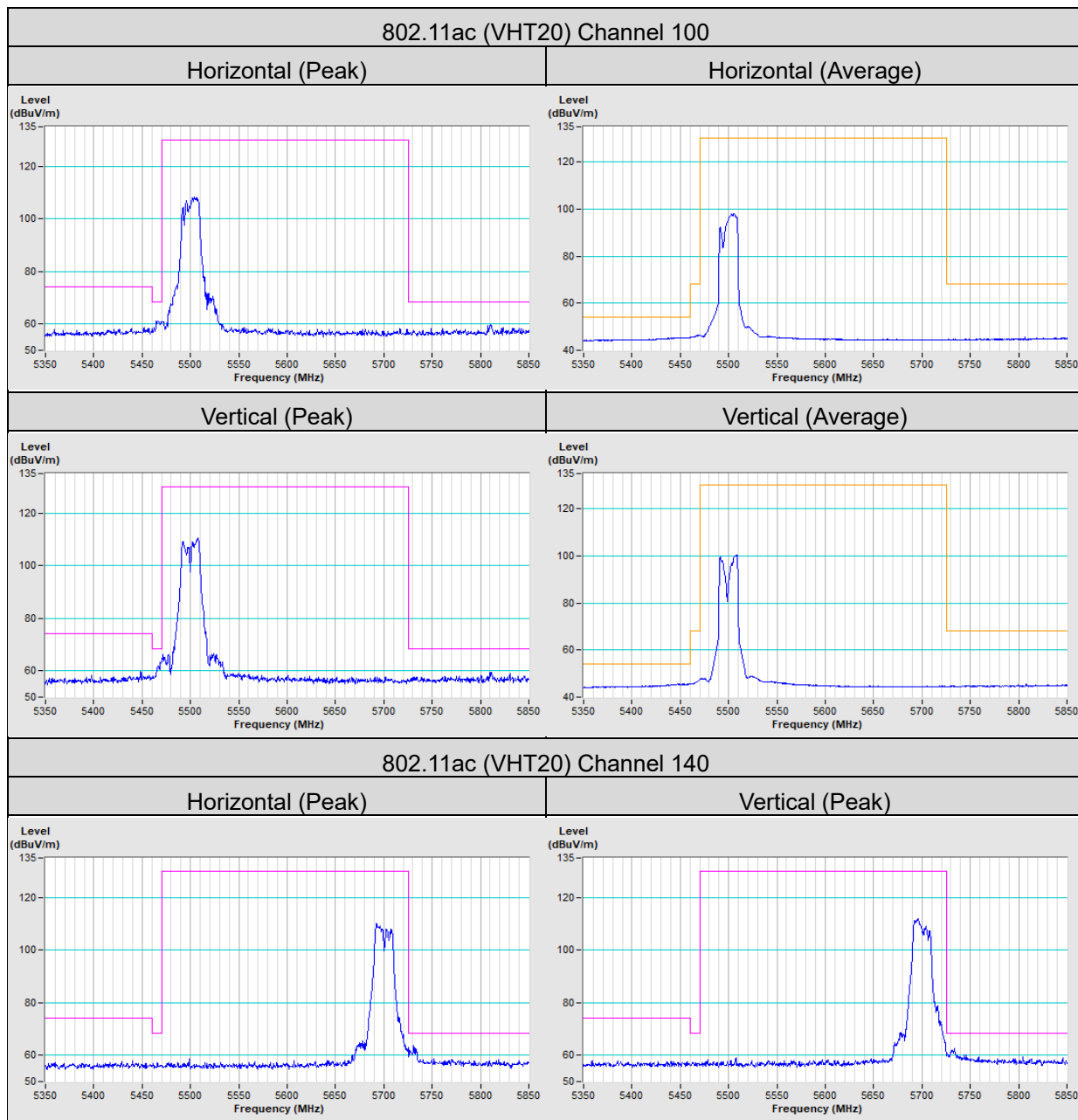
Vertical (Average)

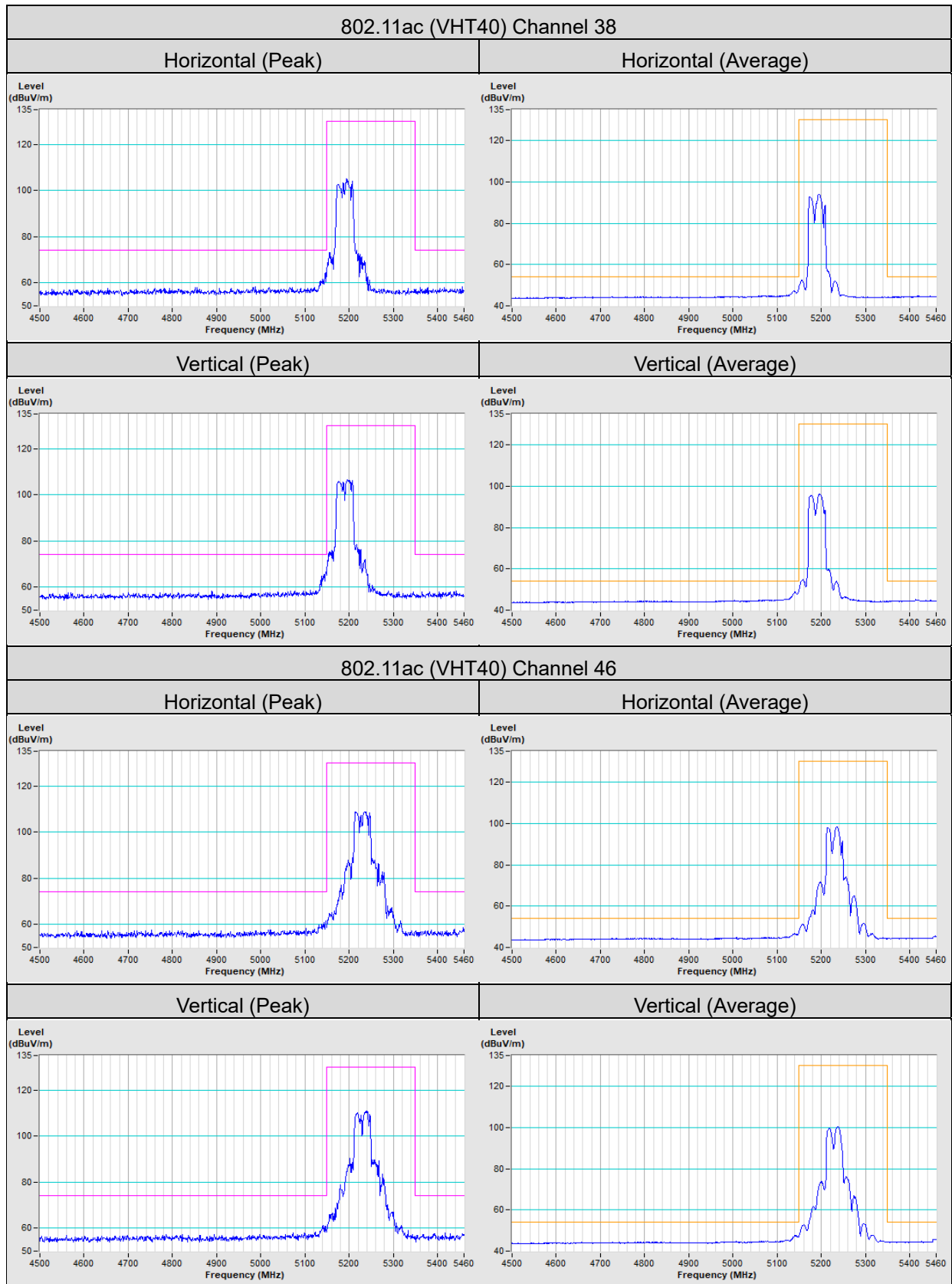


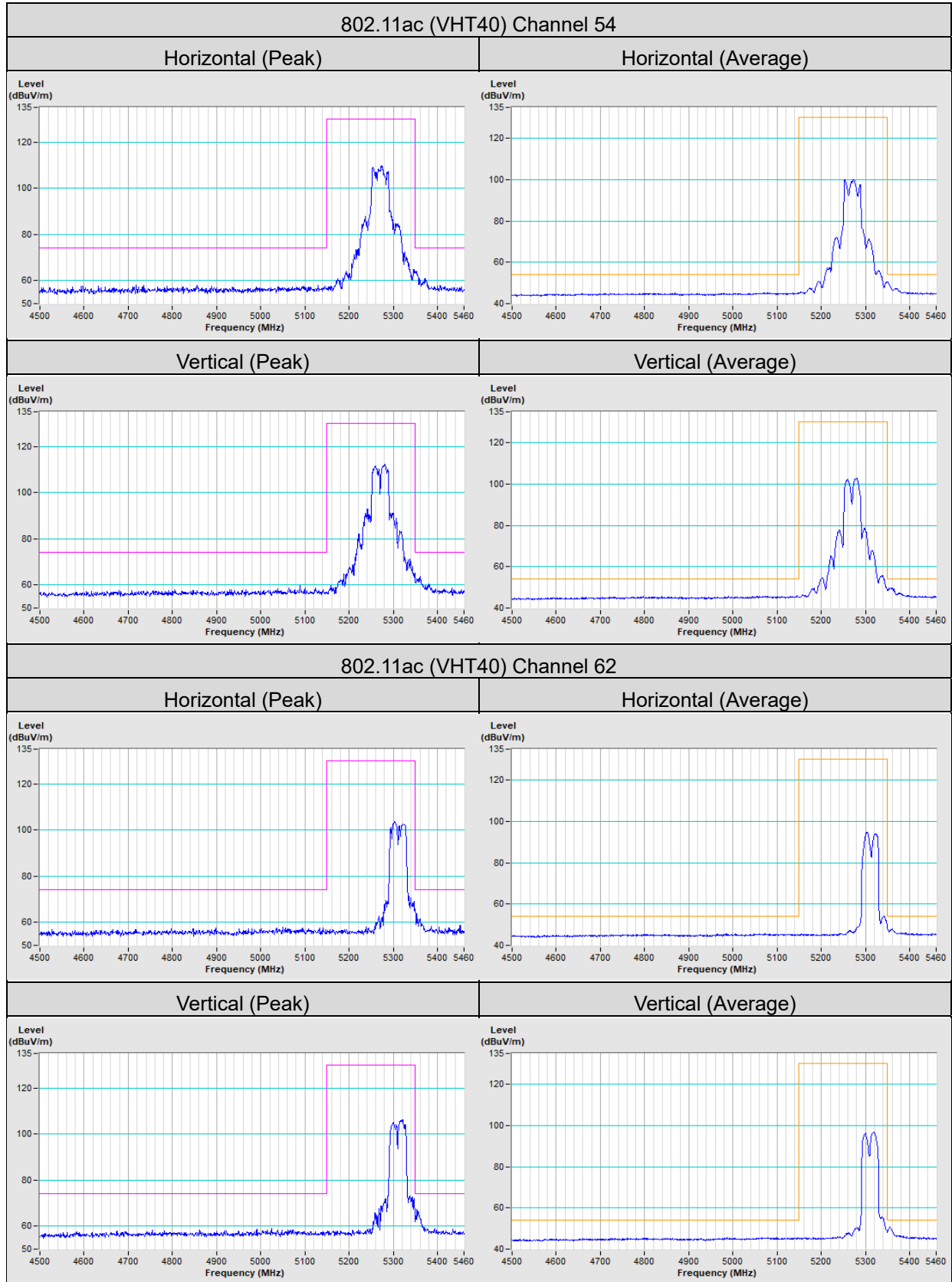


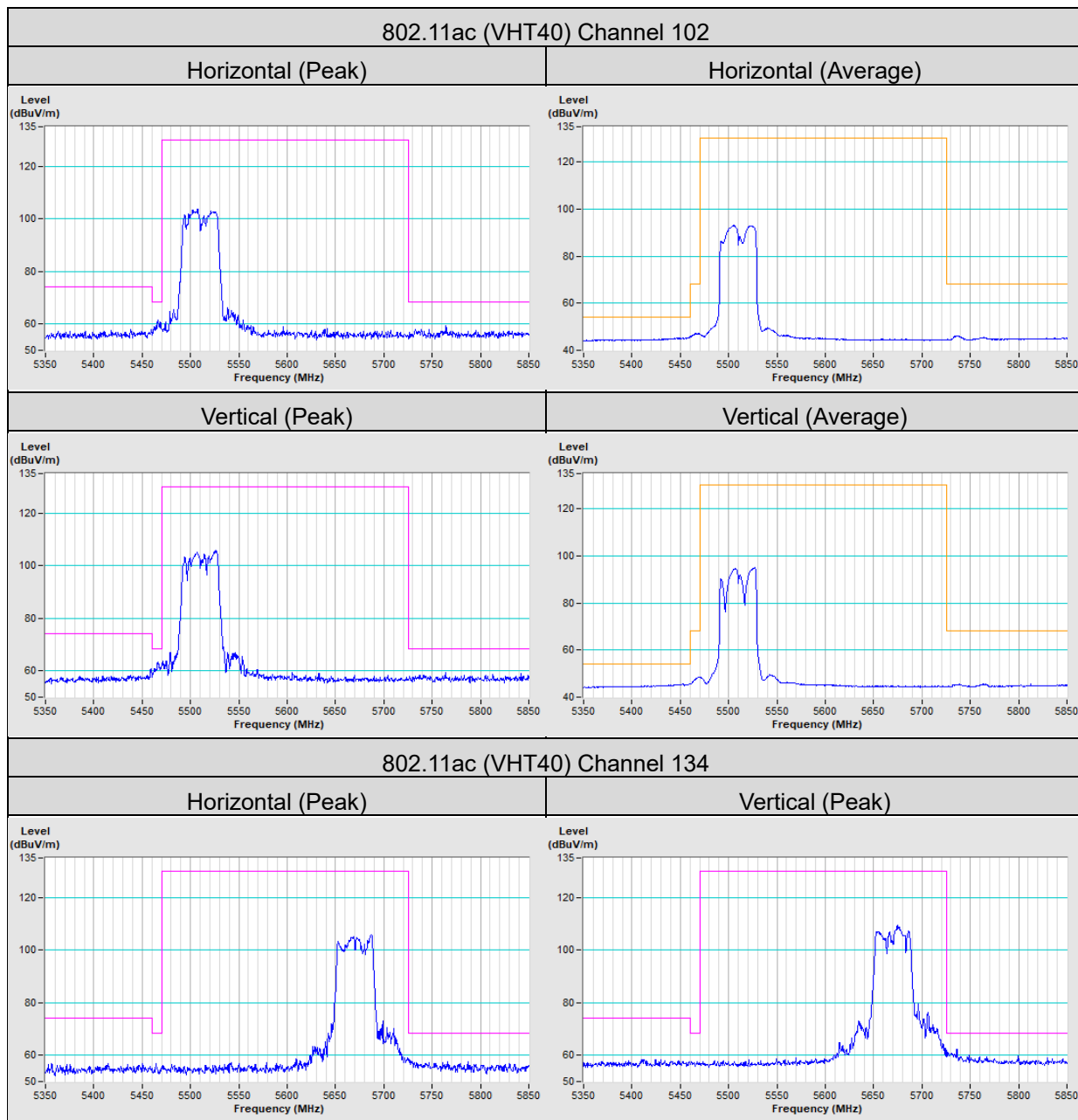


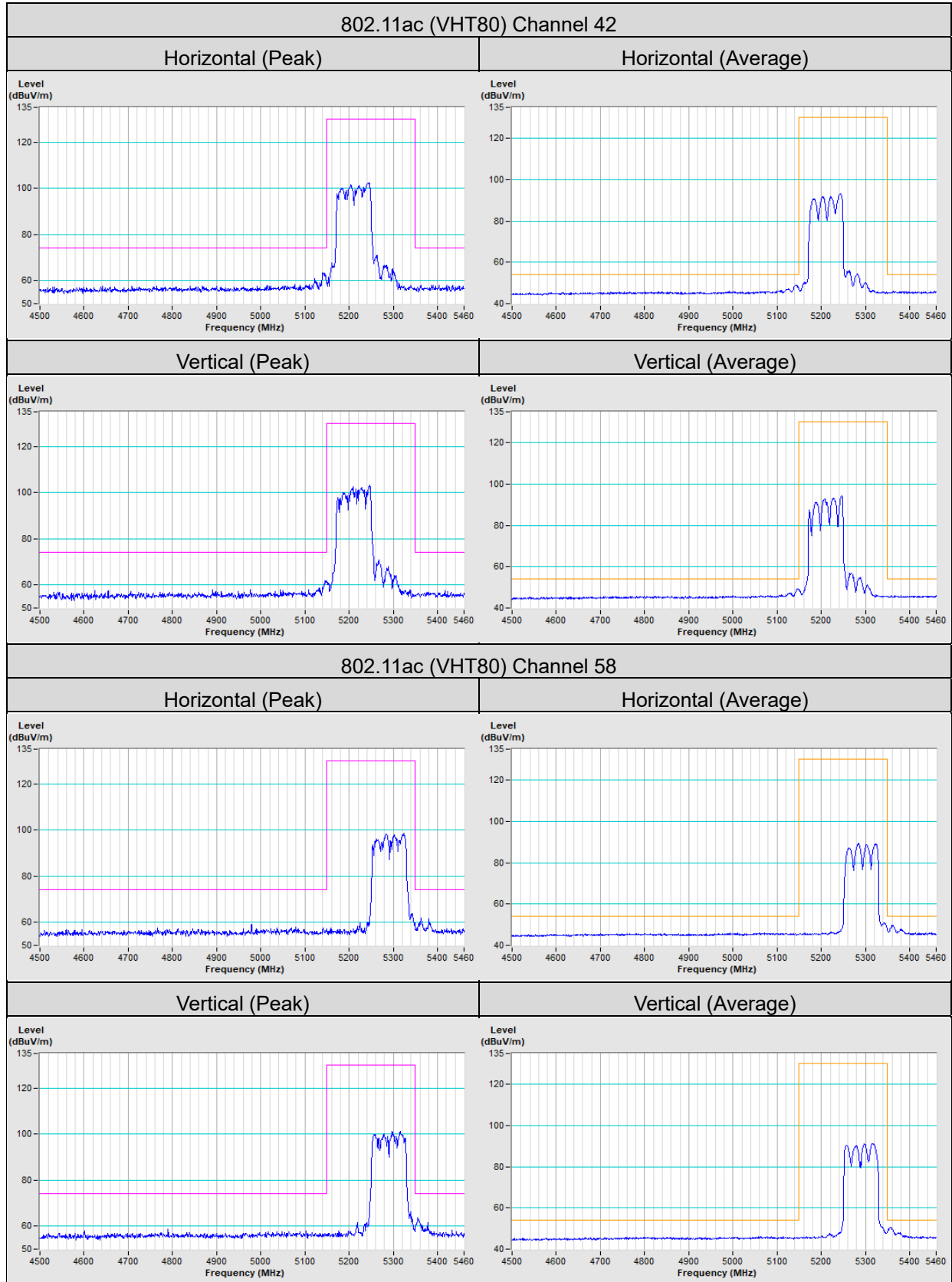


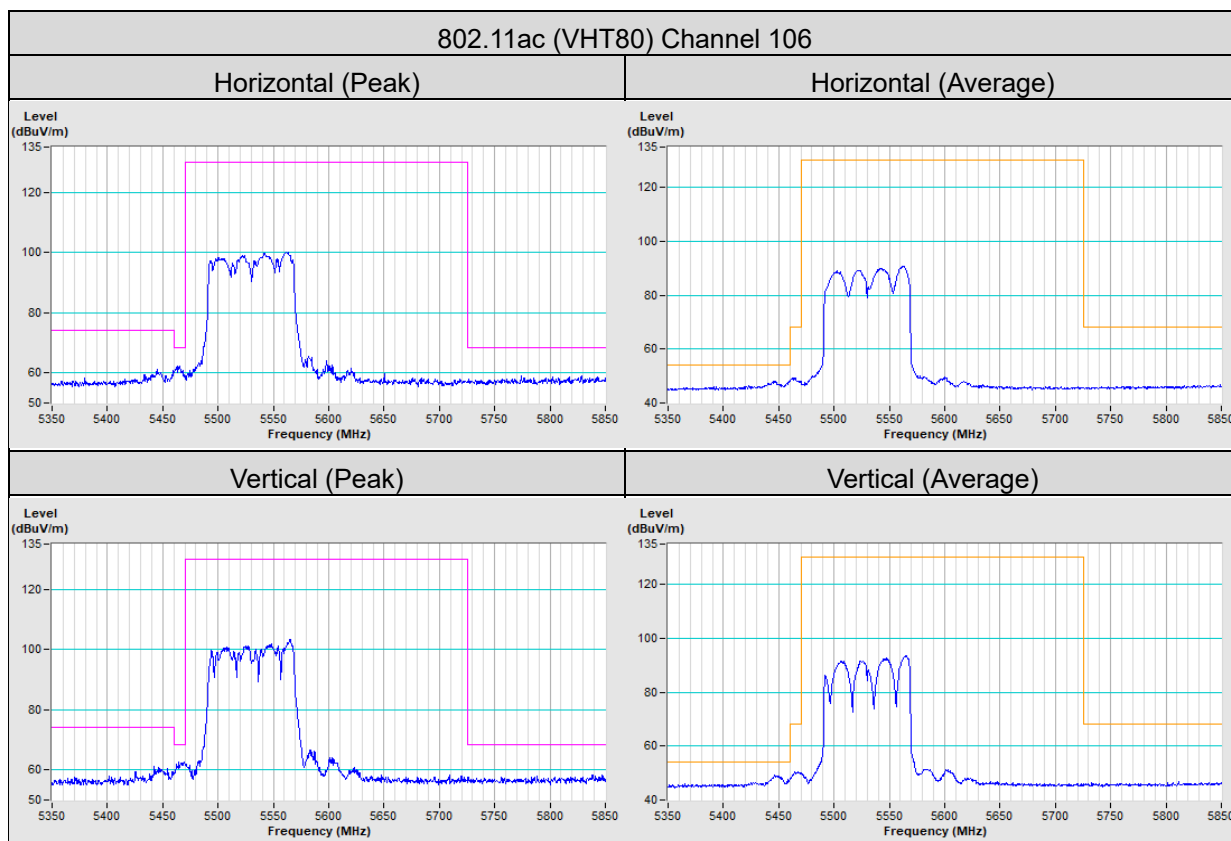












Appendix – Information of the Testing Laboratories

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

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Web Site: www.bureauveritas-adt.com

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

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