

FCC Test Report

Report No.: RFBCIB-WTW-P21060785-1

FCC ID: 2AA3N-PT012

Test Model: PT01

Received Date: Jun. 22, 2021

Test Date: Jul. 6 to Aug. 17, 2021

Issued Date: Oct. 12, 2021

Applicant: Peloton Interactive Inc.

Address: 125 W 25th Street, 11th Floor, New York, NY, 10001, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**FCC Registration /
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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record.....	6
3 General Information	7
3.1 General Description of EUT.....	7
3.2 Description of Test Modes.....	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal.....	13
3.4 Description of Support Units.....	14
3.4.1 Configuration of System under Test.....	14
3.5 General Description of Applied Standards and References.....	15
4 Test Types and Results	16
4.1 Radiated Emission and Bandedge Measurement.....	16
4.1.1 Limits of Radiated Emission and Bandedge Measurement.....	16
4.1.2 Test Instruments.....	17
4.1.3 Test Procedures.....	18
4.1.4 Deviation from Test Standard.....	18
4.1.5 Test Setup.....	19
4.1.6 EUT Operating Conditions.....	20
4.1.7 Test Results.....	21
4.2 Conducted Emission Measurement.....	64
4.2.1 Limits of Conducted Emission Measurement.....	64
4.2.2 Test Instruments.....	64
4.2.3 Test Procedures.....	65
4.2.4 Deviation from Test Standard.....	65
4.2.5 Test Setup.....	65
4.2.6 EUT Operating Conditions.....	65
4.2.7 Test Results.....	66
4.3 Transmit Power Measurement.....	70
4.3.1 Limits of Transmit Power Measurement.....	70
4.3.2 Test Setup.....	70
4.3.3 Test Instruments.....	70
4.3.4 Test Procedure.....	71
4.3.5 Deviation from Test Standard.....	71
4.3.6 EUT Operating Conditions.....	71
4.3.7 Test Result.....	72
4.4 Occupied Bandwidth Measurement.....	78
4.4.1 Test Setup.....	78
4.4.2 Test Instruments.....	78
4.4.3 Test Procedure.....	78
4.4.4 Test Result.....	79
4.5 Peak Power Spectral Density Measurement.....	86
4.5.1 Limits of Peak Power Spectral Density Measurement.....	86
4.5.2 Test Setup.....	86
4.5.3 Test Instruments.....	86
4.5.4 Test Procedures.....	87
4.5.5 Deviation from Test Standard.....	87
4.5.6 EUT Operating Conditions.....	87
4.5.7 Test Results.....	88
4.6 Frequency Stability.....	93

4.6.1	Limits of Frequency Stability Measurement	93
4.6.2	Test Setup.....	93
4.6.3	Test Instruments	93
4.6.4	Test Procedure	93
4.6.5	Deviation from Test Standard	94
4.6.6	EUT Operating Condition	94
4.6.7	Test Results	94
4.7	6dB Bandwidth Measurement	95
4.7.1	Limits of 6dB Bandwidth Measurement.....	95
4.7.2	Test Setup.....	95
4.7.3	Test Instruments	95
4.7.4	Test Procedure	95
4.7.5	Deviation from Test Standard	95
4.7.6	EUT Operating Condition	95
4.7.7	Test Results	96
5	Pictures of Test Arrangements.....	98
	Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band).....	99
	Annex B- Band Edge Measurement.....	102
	Appendix – Information of the Testing Laboratories	113

Release Control Record

Issue No.	Description	Date Issued
RFBCIB-WTW-P21060785-1	Original release	Oct. 12, 2021

1 Certificate of Conformity

Product: Peloton Guide (Set Top Box)

Brand: Peloton

Test Model: PT01

Sample Status: Engineering sample

Applicant: Peloton Interactive Inc.

Test Date: Jul. 6 to Aug. 17, 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: Oct. 12, 2021

Jessica Cheng / Senior Specialist

Approved by :



, Date: Oct. 12, 2021

Rex Lai / Associate Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(8)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.56dB at 0.74766MHz.
15.407(b)(1/2/3/4(i/ii)/8)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.05dB at 5350.00MHz.
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 IPEX MHF1 not a standard connector.

Note:

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	3.00 dB
Conducted Emissions	9kHz ~ 40GHz	2.63 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.61 dB
	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	Above 1GHz	5.42 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Peloton Guide (Set Top Box)
Brand	Peloton
Test Model	PT01
Power Supply Rating	5Vdc from adapter
Modulation Type	256QAM,64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n up to 300Mbps 802.11ac: up to 866.7Mbps
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: 62.847mW 5260~5320MHz: 64.287mW 5500~5700MHz: 66.127mW 5745~5825MHz: 63.489mW
Antenna Type	Ant 0: PIFA antenna with 2.88dBi gain Ant 1: PIFA antenna with 3.18dBi gain
Antenna Connector	IPEX MHF1
Accessory Device	Adapter
Cable Supplied	Shielded HDMI cable (1.5m)

Note:

1. The EUT provides 2 completed transmitters and 2 receivers.

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

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. WLAN & Bluetooth technologies cannot transmit at same time.
3. 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. The EUT uses following adapter.

Adapter 1	
Brand	TenPao
Model	S015BGU0500300
Input Power	100-240Vac, 0.5A, 50-60Hz
Output Power	5Vdc, 3A
Power Line	AC 2 Pin, Shielded USB Type C cable (1.8m)
Adapter 2	
Brand	Chicony
Model	W20-015N1A
Input Power	100-240Vac, 0.5A, 50-60Hz
Output Power	5Vdc, 3A
Power Line	AC 2 Pin, Shielded USB Type C cable (1.8m)

The above two adapters were pre-test and **Adapter 1** was the worst case for final test.

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

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

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

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	110	5550 MHz
134	5670 MHz		

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
106	5530 MHz

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	√	√	√	√	Operating Mode (EUT + Notebook)
B	-	√	√	-	Operating Mode (EUT + Adapter)

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

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

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Above 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0
	802.11ac (VHT80)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	MCS0
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	MCS0
	802.11ac (VHT80)		58	58	OFDM	MCS0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	MCS0
	802.11ac (VHT40)		102 to 134	102, 110, 134,	OFDM	MCS0
	802.11ac (VHT80)		106	106	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0
	802.11ac (VHT80)		155	155	OFDM	MCS0

Radiated Emission Test (Below 1GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A & B	802.11a	5180-5240	36 to 48	36	OFDM	6.0
A & B	802.11a	5260-5320	52 to 64		OFDM	6.0
A & B	802.11a	5500-5700	100 to 140		OFDM	6.0
A & B	802.11a	5745-5825	149 to 165		OFDM	6.0

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)
A & B	802.11a	5180-5240	36 to 48	36	OFDM	6.0
A & B	802.11a	5260-5320	52 to 64		OFDM	6.0
A & B	802.11a	5500-5700	100 to 140		OFDM	6.0
A & B	802.11a	5745-5825	149 to 165		OFDM	6.0

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)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	MCS0
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	MCS0
	802.11ac (VHT80)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	MCS0
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	MCS0
	802.11ac (VHT80)		58	58	OFDM	MCS0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	6.0
	802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	MCS0
	802.11ac (VHT40)		102 to 134	102, 110, 134,	OFDM	MCS0
	802.11ac (VHT80)		106	106	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	MCS0
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	MCS0
	802.11ac (VHT80)		155	155	OFDM	MCS0

Test Condition:

Applicable To	EUT Configure Mode	Environmental Conditions	Input Power	Tested By
RE≥1G	A	21deg. C, 68%RH	120Vac, 60Hz (System)	Ian Chang
RE<1G	A	24deg. C, 62%RH	120Vac, 60Hz (System)	Jed Wu
	B	21deg. C, 68%RH	120Vac, 60Hz (Adapter)	Jed Wu
PLC	A	25deg. C, 75%RH	120Vac, 60Hz (System)	Ian Chang
	B	25deg. C, 75%RH	120Vac, 60Hz (Adapter)	Ian Chang
APCM	A	25deg. C, 76%RH	120Vac, 60Hz (System)	Pirar Hsieh

3.3 Duty Cycle of Test Signal

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

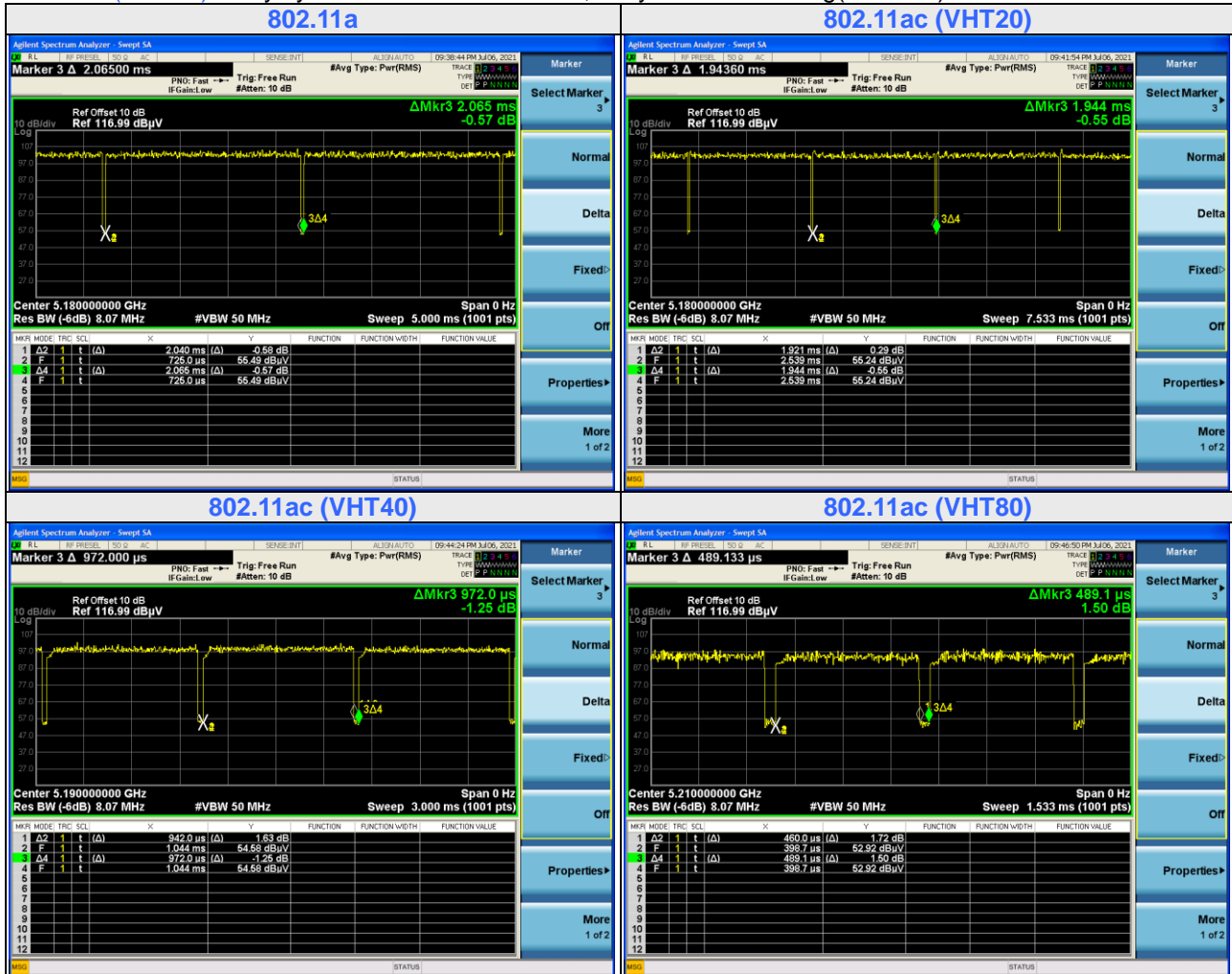
If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.04/2.065 = 0.988$

802.11ac (VHT20): Duty cycle = $1.921/1.944 = 0.988$

802.11ac (VHT40): Duty cycle = $0.942/0.972 = 0.969$, Duty factor = $10 * \log(1/0.969) = 0.14$

802.11ac (VHT80): Duty cycle = $0.46/0.489 = 0.941$, Duty factor = $10 * \log(1/0.941) = 0.27$



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.	LCD MONITOR	DELL	SE2417HG	NA	NA	Provided by Lab
B.	Notebook PC	Lenovo	81LG	PF1NF9V2	NA	Provided by Lab

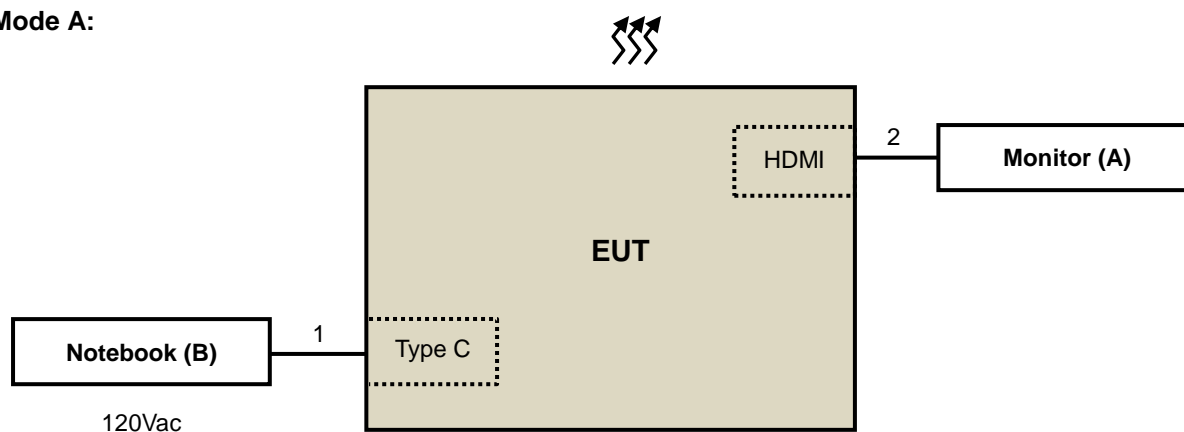
Note: All power cords of the above support units are non-shielded (1.8m).

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Type C cable	1	1.8	Y	0	Supplied by client
2.	HDMI cable	1	1.5	Y	0	Supplied by client

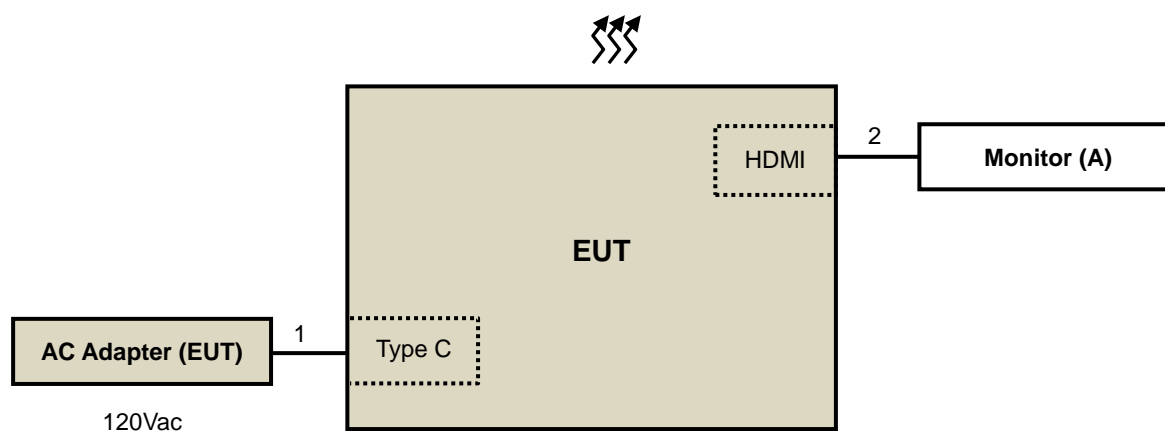
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Mode A:



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

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model no.	Serial No.	Calibrated Date	Calibrated Until
HP Preamplifier	8447D	2432A03504	Feb. 18, 2021	Feb. 17, 2022
HP Preamplifier	8449B	3008A01201	Feb. 19, 2021	Feb. 18, 2022
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 18, 2021	Feb. 17, 2022
Agilent TEST RECEIVER	N9038A	MY51210129	Mar. 12, 2021	Mar. 11, 2022
Schwarzbeck Antenna	VULB 9168	139	Nov. 6, 2020	Nov. 5, 2021
Schwarzbeck Antenna	VHBA 9123	480	Jun. 17, 221	Jun. 16, 2022
Schwarzbeck Horn Antenna	BBHA-9170	212	Nov. 22, 2020	Nov. 21, 2021
EMCO Horn Antenna	3115	00027024	Nov. 22, 2020	Nov.21, 2021
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF102	Cable-CH6-01	Jul. 9, 2020	Jul. 8, 2021
			Jul. 8, 2021	Jul. 7, 2022
EMEC RF cable With 3/4dB PAD	EM102-KMKM	01	Aug. 21, 2020	Aug. 20, 2021
KEYSIGHT MIMO Powermeasurement Test set	U2021XA	U2021XA-001	Jun. 16, 2020	Jun. 15, 2021
			Jun. 16, 2021	Jun. 15, 2022
Loop Antenna EMCI	LPA600	270	Aug. 23, 2019	Aug. 22, 2021
EMCO Horn Antenna	3115	00028257	Nov. 22, 2020	Nov. 21, 2021
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 8, 2020	Sep. 7, 2021
Anritsu Power Sensor	MA2411B	0738404	Apr. 15, 2021	Apr. 14, 2022
Anritsu Power Meter	ML2495A	0842014	Apr. 14, 2021	Apr. 13, 2022

- NOTE:**
1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
 2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The test was performed in Chamber No. 6.
 4. Tested Date: Jul. 6 to Aug. 17, 2021

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:

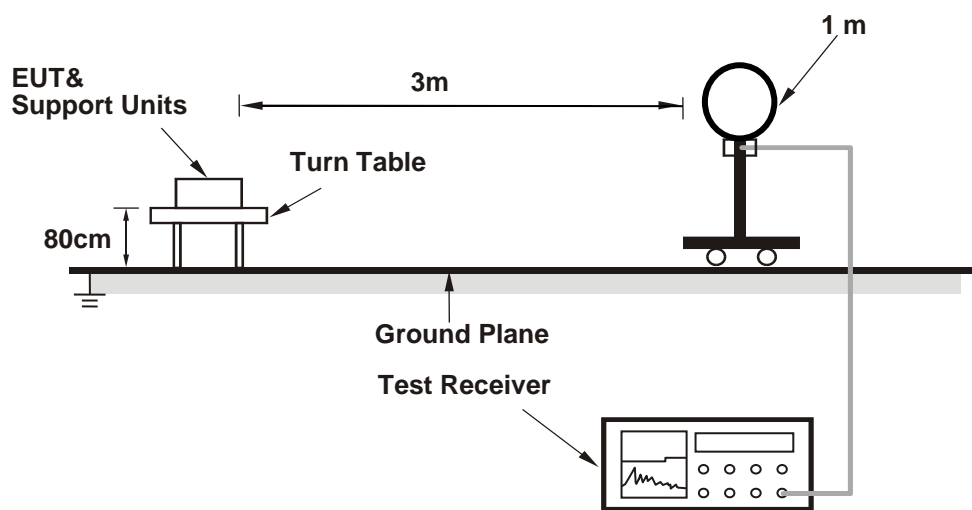
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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 = 10Hz; 802.11ac (VHT20): RBW = 1MHz, VBW = 10Hz;
802.11ac (VHT40): RBW = 1MHz, VBW = 1.1kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 2.2kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

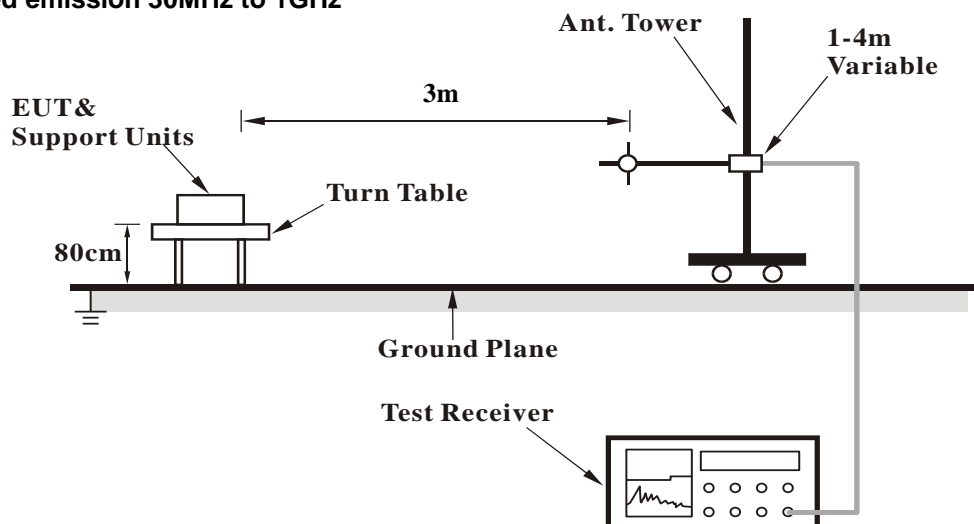
No deviation.

4.1.5 Test Setup

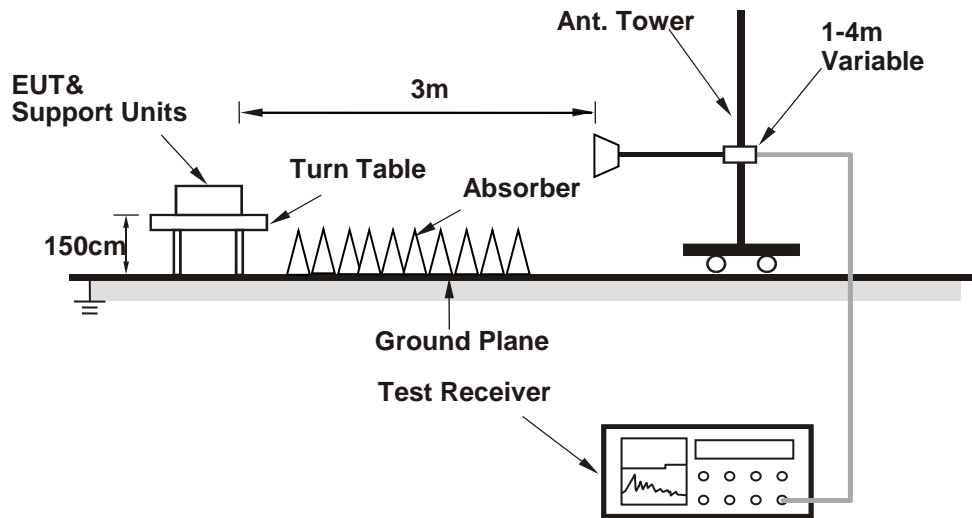
For Radiated emission below 30MHz



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

- a. Connected the EUT to Adapter or Notebook.
- b. Set the EUT under transmission condition continuously at specific channel frequency continuously.

4.1.7 Test Results

ABOVE 1GHz DATA

Mode A

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	58.97 PK	74.00	-15.03	2.46 H	129	52.16	6.81
2	5150.00	47.52 AV	54.00	-6.48	2.46 H	129	40.71	6.81
3	*5180.00	112.87 PK			2.46 H	129	105.84	7.03
4	*5180.00	104.11 AV			2.46 H	129	97.08	7.03
5	#10360.00	56.98 PK	68.20	-11.22	2.34 H	125	42.42	14.56

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	58.16 PK	74.00	-15.84	1.11 V	106	51.35	6.81
2	5150.00	46.94 AV	54.00	-7.06	1.11 V	106	40.13	6.81
3	*5180.00	107.17 PK			1.11 V	106	100.14	7.03
4	*5180.00	98.04 AV			1.11 V	106	91.01	7.03
5	#10360.00	56.44 PK	68.20	-11.76	1.52 V	167	41.88	14.56

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	108.53 PK			2.71 H	140	101.36	7.17
2	*5200.00	99.72 AV			2.71 H	140	92.55	7.17
3	#10400.00	57.31 PK	68.20	-10.89	1.58 H	144	42.69	14.62
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	106.15 PK			1.24 V	121	98.98	7.17
2	*5200.00	97.62 AV			1.24 V	121	90.45	7.17
3	#10400.00	56.11 PK	68.20	-12.09	1.25 V	356	41.49	14.62

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	109.61 PK			2.69 H	141	102.27	7.34
2	*5240.00	101.85 AV			2.69 H	141	94.51	7.34
3	5350.00	58.71 PK	74.00	-15.29	2.69 H	141	50.87	7.84
4	5350.00	47.10 AV	54.00	-6.90	2.69 H	141	39.26	7.84
5	#10480.00	57.43 PK	68.20	-10.77	1.85 H	241	42.40	15.03

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	106.00 PK			1.18 V	112	98.66	7.34
2	*5240.00	97.70 AV			1.18 V	112	90.36	7.34
3	5350.00	57.63 PK	74.00	-16.37	1.18 V	112	49.79	7.84
4	5350.00	46.89 AV	54.00	-7.11	1.18 V	112	39.05	7.84
5	#10480.00	56.53 PK	68.20	-11.67	2.21 V	213	41.50	15.03

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	57.89 PK	74.00	-16.11	2.66 H	141	51.08	6.81
2	5150.00	46.72 AV	54.00	-7.28	2.66 H	141	39.91	6.81
3	*5260.00	110.24 PK			2.66 H	141	102.79	7.45
4	*5260.00	102.60 AV			2.66 H	141	95.15	7.45
5	#10520.00	57.58 PK	68.20	-10.62	1.34 H	268	42.42	15.16

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	57.12 PK	74.00	-16.88	1.16 V	108	50.31	6.81
2	5150.00	45.63 AV	54.00	-8.37	1.16 V	108	38.82	6.81
3	*5260.00	106.19 PK			1.16 V	108	98.74	7.45
4	*5260.00	98.78 AV			1.16 V	108	91.33	7.45
5	#10520.00	56.69 PK	68.20	-11.51	2.39 V	36	41.53	15.16

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	109.91 PK			2.72 H	139	102.17	7.74
2	*5300.00	103.02 AV			2.72 H	139	95.28	7.74
3	10600.00	57.67 PK	74.00	-16.33	2.36 H	251	42.36	15.31
4	10600.00	46.96 AV	54.00	-7.04	2.36 H	251	31.65	15.31

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	106.52 PK			1.21 V	133	98.78	7.74
2	*5300.00	99.10 AV			1.21 V	133	91.36	7.74
3	10600.00	56.78 PK	74.00	-17.22	2.24 V	158	41.47	15.31
4	10600.00	45.98 AV	54.00	-8.02	2.24 V	158	30.67	15.31

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	110.24 PK			2.74 H	146	102.46	7.78
2	*5320.00	102.15 AV			2.74 H	146	94.37	7.78
3	5350.00	58.75 PK	74.00	-15.25	2.74 H	146	50.91	7.84
4	5350.00	47.91 AV	54.00	-6.09	2.74 H	146	40.07	7.84
5	10640.00	57.66 PK	74.00	-16.34	1.96 H	257	42.25	15.41
6	10640.00	46.73 AV	54.00	-7.27	1.96 H	257	31.32	15.41

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.21 PK			1.27 V	107	98.43	7.78
2	*5320.00	98.19 AV			1.27 V	107	90.41	7.78
3	5350.00	57.70 PK	74.00	-16.30	1.27 V	107	49.86	7.84
4	5350.00	47.52 AV	54.00	-6.48	1.27 V	107	39.68	7.84
5	10640.00	56.73 PK	74.00	-17.27	2.14 V	226	41.32	15.41
6	10640.00	45.50 AV	54.00	-8.50	2.14 V	226	30.09	15.41

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	58.80 PK	74.00	-15.20	2.76 H	204	50.85	7.95
2	5460.00	47.96 AV	54.00	-6.04	2.76 H	204	40.01	7.95
3	#5470.00	59.99 PK	68.20	-8.21	2.76 H	204	52.02	7.97
4	*5500.00	110.81 PK			2.76 H	204	102.80	8.01
5	*5500.00	102.98 AV			2.76 H	204	94.97	8.01
6	11000.00	53.15 PK	74.00	-20.85	1.64 H	235	37.26	15.89
7	11000.00	42.02 AV	54.00	-11.98	1.64 H	235	26.13	15.89

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.34 PK	74.00	-15.66	1.49 V	112	50.39	7.95
2	5460.00	47.68 AV	54.00	-6.32	1.49 V	112	39.73	7.95
3	*5500.00	109.08 PK			1.49 V	112	101.07	8.01
4	*5500.00	101.81 AV			1.49 V	112	93.80	8.01
5	11000.00	52.14 PK	74.00	-21.86	1.37 V	114	36.25	15.89
6	11000.00	41.80 AV	54.00	-12.20	1.37 V	114	25.91	15.89

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	110.23 PK			2.69 H	211	102.69	7.54
2	*5580.00	102.70 AV			2.69 H	211	95.16	7.54
3	11160.00	53.71 PK	74.00	-20.29	2.14 H	116	37.66	16.05
4	11160.00	42.44 AV	54.00	-11.56	2.14 H	116	26.39	16.05

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	108.22 PK			1.52 V	119	100.68	7.54
2	*5580.00	100.43 AV			1.52 V	119	92.89	7.54
3	11160.00	52.25 PK	74.00	-21.75	2.58 V	169	36.20	16.05
4	11160.00	41.50 AV	54.00	-12.50	2.58 V	169	25.45	16.05

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 132 : 5660 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	*5660.00	109.71 PK			2.78 H	201	102.49	7.22
2	*5660.00	101.85 AV			2.78 H	201	94.63	7.22
3	11320.00	54.02 PK	74.00	-19.98	2.31 H	160	37.46	16.56
4	11320.00	43.43 AV	54.00	-10.57	2.31 H	160	26.87	16.56

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	*5660.00	107.58 PK			1.45 V	104	100.36	7.22
2	*5660.00	99.91 AV			1.45 V	104	92.69	7.22
3	11320.00	52.98 PK	74.00	-21.02	2.41 V	158	36.42	16.56
4	11320.00	42.04 AV	54.00	-11.96	2.41 V	158	25.48	16.56

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	108.28 PK			2.77 H	201	101.15	7.13
2	*5700.00	100.42 AV			2.77 H	201	93.29	7.13
3	#5725.00	58.43 PK	68.20	-9.77	2.77 H	201	51.26	7.17
4	11400.00	54.11 PK	74.00	-19.89	1.15 H	287	37.46	16.65
5	11400.00	43.59 AV	54.00	-10.41	1.15 H	287	26.94	16.65

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	107.02 PK			1.52 V	119	99.89	7.13
2	*5700.00	98.82 AV			1.52 V	119	91.69	7.13
3	#5725.00	58.05 PK	68.20	-10.15	1.52 V	119	50.88	7.17
4	11400.00	52.98 PK	74.00	-21.02	1.55 V	162	36.33	16.65
5	11400.00	42.07 AV	54.00	-11.93	1.55 V	162	25.42	16.65

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	#5611.13	57.52 PK	68.20	-10.68	2.72 H	202	50.15	7.37
2	*5745.00	109.15 PK			2.72 H	202	101.94	7.21
3	*5745.00	101.39 AV			2.72 H	202	94.18	7.21
4	#5943.74	58.04 PK	68.20	-10.16	2.72 H	202	50.66	7.38
5	11490.00	54.28 PK	74.00	-19.72	1.66 H	324	37.52	16.76
6	11490.00	43.40 AV	54.00	-10.60	1.66 H	324	26.64	16.76

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	#5603.90	58.49 PK	68.20	-9.71	1.48 V	115	51.10	7.39
2	*5745.00	106.68 PK			1.48 V	115	99.47	7.21
3	*5745.00	98.43 AV			1.48 V	115	91.22	7.21
4	#5943.45	59.32 PK	68.20	-8.88	1.48 V	115	51.94	7.38
5	11490.00	53.09 PK	74.00	-20.91	2.05 V	258	36.33	16.76
6	11490.00	42.64 AV	54.00	-11.36	2.05 V	258	25.88	16.76

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	#5617.57	57.38 PK	68.20	-10.82	2.69 H	200	50.03	7.35
2	*5785.00	108.39 PK			2.69 H	200	101.11	7.28
3	*5785.00	101.98 AV			2.69 H	200	94.70	7.28
4	#5928.73	58.00 PK	68.20	-10.20	2.69 H	200	50.69	7.31
5	11570.00	54.25 PK	74.00	-19.75	1.54 H	127	37.26	16.99
6	11570.00	43.37 AV	54.00	-10.63	1.54 H	127	26.38	16.99

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	#5637.19	57.16 PK	68.20	-11.04	1.52 V	113	49.88	7.28
2	*5785.00	107.82 PK			1.52 V	113	100.54	7.28
3	*5785.00	99.64 AV			1.52 V	113	92.36	7.28
4	#5937.35	57.85 PK	68.20	-10.35	1.52 V	113	50.50	7.35
5	11570.00	53.13 PK	74.00	-20.87	2.06 V	238	36.14	16.99
6	11570.00	42.51 AV	54.00	-11.49	2.06 V	238	25.52	16.99

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.34	57.91 PK	68.20	-10.29	2.72 H	206	50.63	7.28
2	*5825.00	109.54 PK			2.72 H	206	102.26	7.28
3	*5825.00	101.96 AV			2.72 H	206	94.68	7.28
4	#5958.99	59.19 PK	68.20	-9.01	2.72 H	206	51.74	7.45
5	11650.00	54.68 PK	74.00	-19.32	2.36 H	251	37.44	17.24
6	11650.00	43.43 AV	54.00	-10.57	2.36 H	251	26.19	17.24

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5636.18	57.36 PK	68.20	-10.84	1.45 V	102	50.07	7.29
2	*5825.00	107.54 PK			1.45 V	102	100.26	7.28
3	*5825.00	99.90 AV			1.45 V	102	92.62	7.28
4	#5922.79	57.51 PK	69.84	-12.33	1.45 V	102	50.23	7.28
5	11650.00	53.33 PK	74.00	-20.67	1.85 V	252	36.09	17.24
6	11650.00	42.52 AV	54.00	-11.48	1.85 V	252	25.28	17.24

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	59.46 PK	74.00	-14.54	2.69 H	128	52.65	6.81
2	5150.00	47.92 AV	54.00	-6.08	2.69 H	128	41.11	6.81
3	*5180.00	112.45 PK			2.69 H	128	105.42	7.03
4	*5180.00	104.30 AV			2.69 H	128	97.27	7.03
5	#10360.00	57.15 PK	68.20	-11.05	1.58 H	147	42.59	14.56

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	57.30 PK	74.00	-16.70	1.15 V	134	50.49	6.81
2	5150.00	46.84 AV	54.00	-7.16	1.15 V	134	40.03	6.81
3	*5180.00	108.74 PK			1.15 V	134	101.71	7.03
4	*5180.00	100.66 AV			1.15 V	134	93.63	7.03
5	#10360.00	56.36 PK	68.20	-11.84	2.23 V	21	41.80	14.56

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	110.05 PK			2.58 H	154	102.88	7.17
2	*5200.00	101.15 AV			2.58 H	154	93.98	7.17
3	#10400.00	57.31 PK	68.20	-10.89	1.88 H	134	42.69	14.62
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	105.91 PK			1.17 V	104	98.74	7.17
2	*5200.00	97.83 AV			1.17 V	104	90.66	7.17
3	#10400.00	56.41 PK	68.20	-11.79	2.10 V	234	41.79	14.62

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	110.36 PK			2.70 H	152	103.02	7.34
2	*5240.00	101.68 AV			2.70 H	152	94.34	7.34
3	5350.00	58.73 PK	74.00	-15.27	2.70 H	152	50.89	7.84
4	5350.00	47.15 AV	54.00	-6.85	2.70 H	152	39.31	7.84
5	#10480.00	57.51 PK	68.20	-10.69	1.85 H	241	42.48	15.03

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	105.70 PK			1.15 V	109	98.36	7.34
2	*5240.00	97.78 AV			1.15 V	109	90.44	7.34
3	5350.00	57.45 PK	74.00	-16.55	1.15 V	109	49.61	7.84
4	5350.00	46.76 AV	54.00	-7.24	1.15 V	109	38.92	7.84
5	#10480.00	56.62 PK	68.20	-11.58	1.88 V	225	41.59	15.03

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	57.84 PK	74.00	-16.16	2.57 H	150	51.03	6.81
2	5150.00	46.66 AV	54.00	-7.34	2.57 H	150	39.85	6.81
3	*5260.00	109.83 PK			2.57 H	150	102.38	7.45
4	*5260.00	101.86 AV			2.57 H	150	94.41	7.45
5	#10520.00	57.60 PK	68.20	-10.60	2.54 H	165	42.44	15.16

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	56.94 PK	74.00	-17.06	1.02 V	130	50.13	6.81
2	5150.00	44.84 AV	54.00	-9.16	1.02 V	130	38.03	6.81
3	*5260.00	105.79 PK			1.02 V	130	98.34	7.45
4	*5260.00	98.12 AV			1.02 V	130	90.67	7.45
5	#10520.00	56.68 PK	68.20	-11.52	1.87 V	149	41.52	15.16

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	110.64 PK			2.55 H	164	102.90	7.74
2	*5300.00	102.47 AV			2.55 H	164	94.73	7.74
3	10600.00	57.67 PK	74.00	-16.33	1.25 H	185	42.36	15.31
4	10600.00	46.82 AV	54.00	-7.18	1.25 H	185	31.51	15.31
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	106.09 PK			1.05 V	109	98.35	7.74
2	*5300.00	98.06 AV			1.05 V	109	90.32	7.74
3	10600.00	56.57 PK	74.00	-17.43	2.64 V	198	41.26	15.31
4	10600.00	45.76 AV	54.00	-8.24	2.64 V	198	30.45	15.31

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	110.29 PK			2.87 H	152	102.51	7.78
2	*5320.00	102.39 AV			2.87 H	152	94.61	7.78
3	5350.00	59.16 PK	74.00	-14.84	2.87 H	152	51.32	7.84
4	5350.00	48.33 AV	54.00	-5.67	2.87 H	152	40.49	7.84
5	10640.00	57.57 PK	74.00	-16.43	1.88 H	179	42.16	15.41
6	10640.00	46.63 AV	54.00	-7.37	1.88 H	179	31.22	15.41

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	106.13 PK			1.16 V	107	98.35	7.78
2	*5320.00	98.18 AV			1.16 V	107	90.40	7.78
3	5350.00	57.60 PK	74.00	-16.40	1.16 V	107	49.76	7.84
4	5350.00	46.56 AV	54.00	-7.44	1.16 V	107	38.72	7.84
5	10640.00	56.58 PK	74.00	-17.42	2.95 V	146	41.17	15.41
6	10640.00	45.50 AV	54.00	-8.50	2.95 V	146	30.09	15.41

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	58.01 PK	74.00	-15.99	2.76 H	204	50.06	7.95
2	5460.00	48.59 AV	54.00	-5.41	2.76 H	204	40.64	7.95
3	#5470.00	61.52 PK	68.20	-6.68	2.76 H	204	53.55	7.97
4	*5500.00	110.24 PK			2.76 H	204	102.23	8.01
5	*5500.00	102.07 AV			2.76 H	204	94.06	8.01
6	11000.00	53.33 PK	74.00	-20.67	1.84 H	145	37.44	15.89
7	11000.00	42.83 AV	54.00	-11.17	1.84 H	145	26.94	15.89

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.84 PK	74.00	-16.16	1.51 V	116	49.89	7.95
2	5460.00	47.83 AV	54.00	-6.17	1.51 V	116	39.88	7.95
3	#5470.00	60.31 PK	68.20	-7.89	1.51 V	116	52.34	7.97
4	*5500.00	108.17 PK			1.51 V	116	100.16	8.01
5	*5500.00	100.07 AV			1.51 V	116	92.06	8.01
6	11000.00	52.12 PK	74.00	-21.88	1.96 V	336	36.23	15.89
7	11000.00	41.08 AV	54.00	-12.92	1.96 V	336	25.19	15.89

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	110.38 PK			2.71 H	198	102.84	7.54
2	*5580.00	101.63 AV			2.71 H	198	94.09	7.54
3	11160.00	53.63 PK	74.00	-20.37	1.84 H	125	37.58	16.05
4	11160.00	42.69 AV	54.00	-11.31	1.84 H	125	26.64	16.05

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	107.90 PK			1.45 V	110	100.36	7.54
2	*5580.00	99.82 AV			1.45 V	110	92.28	7.54
3	11160.00	52.41 PK	74.00	-21.59	1.28 V	356	36.36	16.05
4	11160.00	41.43 AV	54.00	-12.57	1.28 V	356	25.38	16.05

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 132 : 5660 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	*5660.00	109.27 PK			2.77 H	209	102.05	7.22
2	*5660.00	100.91 AV			2.77 H	209	93.69	7.22
3	11320.00	53.84 PK	74.00	-20.16	2.41 H	151	37.28	16.56
4	11320.00	43.37 AV	54.00	-10.63	2.41 H	151	26.81	16.56
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	*5660.00	107.30 PK			1.53 V	118	100.08	7.22
2	*5660.00	98.67 AV			1.53 V	118	91.45	7.22
3	11320.00	52.88 PK	74.00	-21.12	2.15 V	164	36.32	16.56
4	11320.00	42.41 AV	54.00	-11.59	2.15 V	164	25.85	16.56

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	108.89 PK			2.78 H	204	101.76	7.13
2	*5700.00	100.60 AV			2.78 H	204	93.47	7.13
3	#5725.00	60.04 PK	68.20	-8.16	2.78 H	204	52.87	7.17
4	11400.00	54.09 PK	74.00	-19.91	1.87 H	145	37.44	16.65
5	11400.00	43.30 AV	54.00	-10.70	1.87 H	145	26.65	16.65

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	106.98 PK			1.46 V	106	99.85	7.13
2	*5700.00	98.35 AV			1.46 V	106	91.22	7.13
3	#5725.00	58.53 PK	68.20	-9.67	1.46 V	106	51.36	7.17
4	11400.00	52.83 PK	74.00	-21.17	2.96 V	253	36.18	16.65
5	11400.00	42.27 AV	54.00	-11.73	2.96 V	253	25.62	16.65

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	#5606.73	57.90 PK	68.20	-10.30	2.72 H	241	50.51	7.39
2	*5745.00	109.57 PK			2.72 H	241	102.36	7.21
3	*5745.00	101.47 AV			2.72 H	241	94.26	7.21
4	#5930.77	58.16 PK	68.20	-10.04	2.72 H	241	50.83	7.33
5	11490.00	53.99 PK	74.00	-20.01	2.25 H	136	37.23	16.76
6	11490.00	42.98 AV	54.00	-11.02	2.25 H	136	26.22	16.76

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	#5608.13	57.12 PK	68.20	-11.08	1.44 V	116	49.73	7.39
2	*5745.00	107.47 PK			1.44 V	116	100.26	7.21
3	*5745.00	99.57 AV			1.44 V	116	92.36	7.21
4	#5934.82	57.92 PK	68.20	-10.28	1.44 V	116	50.58	7.34
5	11490.00	53.18 PK	74.00	-20.82	2.98 V	315	36.42	16.76
6	11490.00	42.14 AV	54.00	-11.86	2.98 V	315	25.38	16.76

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 157 : 5785 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5620.15	57.99 PK	68.20	-10.21	2.71 H	203	50.65	7.34
2	*5785.00	109.70 PK			2.71 H	203	102.42	7.28
3	*5785.00	101.60 AV			2.71 H	203	94.32	7.28
4	#5942.56	58.57 PK	68.20	-9.63	2.71 H	203	51.19	7.38
5	11570.00	54.18 PK	74.00	-19.82	2.71 H	222	37.19	16.99
6	11570.00	43.51 AV	54.00	-10.49	2.71 H	222	26.52	16.99

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	#5614.28	58.08 PK	68.20	-10.12	1.53 V	103	50.71	7.37
2	*5785.00	107.34 PK			1.53 V	103	100.06	7.28
3	*5785.00	99.62 AV			1.53 V	103	92.34	7.28
4	#5956.16	58.90 PK	68.20	-9.30	1.53 V	103	51.45	7.45
5	11570.00	53.22 PK	74.00	-20.78	1.69 V	228	36.23	16.99
6	11570.00	42.71 AV	54.00	-11.29	1.69 V	228	25.72	16.99

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	#5631.70	57.43 PK	68.20	-10.77	2.69 H	211	50.13	7.30
2	*5825.00	109.22 PK			2.69 H	211	101.94	7.28
3	*5825.00	101.31 AV			2.69 H	211	94.03	7.28
4	#5952.28	58.88 PK	68.20	-9.32	2.69 H	211	51.46	7.42
5	11650.00	54.86 PK	74.00	-19.14	2.96 H	20	37.62	17.24
6	11650.00	43.68 AV	54.00	-10.32	2.96 H	20	26.44	17.24

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	#5622.94	58.62 PK	68.20	-9.58	1.49 V	110	51.28	7.34
2	*5825.00	107.34 PK			1.49 V	110	100.06	7.28
3	*5825.00	99.45 AV			1.49 V	110	92.17	7.28
4	#5985.87	59.20 PK	68.20	-9.00	1.49 V	110	51.66	7.54
5	11650.00	53.51 PK	74.00	-20.49	1.13 V	136	36.27	17.24
6	11650.00	42.43 AV	54.00	-11.57	1.13 V	136	25.19	17.24

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	60.84 PK	74.00	-13.16	2.70 H	131	54.03	6.81
2	5150.00	50.94 AV	54.00	-3.06	2.70 H	131	44.13	6.81
3	*5190.00	106.40 PK			2.70 H	131	99.29	7.11
4	*5190.00	98.01 AV			2.70 H	131	90.90	7.11
5	#10380.00	57.22 PK	68.20	-10.98	1.64 H	238	42.63	14.59

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.31 PK	74.00	-14.69	1.16 V	109	52.50	6.81
2	5150.00	49.40 AV	54.00	-4.60	1.16 V	109	42.59	6.81
3	*5190.00	101.91 PK			1.16 V	109	94.80	7.11
4	*5190.00	93.57 AV			1.16 V	109	86.46	7.11
5	#10380.00	56.20 PK	68.20	-12.00	2.21 V	145	41.61	14.59

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 46 : 5230 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	106.28 PK			2.68 H	140	98.98	7.30
2	*5230.00	98.28 AV			2.68 H	140	90.98	7.30
3	5350.00	58.45 PK	74.00	-15.55	2.68 H	140	50.61	7.84
4	5350.00	47.13 AV	54.00	-6.87	2.68 H	140	39.29	7.84
5	#10460.00	57.56 PK	68.20	-10.64	1.27 H	188	42.63	14.93

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	101.92 PK			1.11 V	118	94.62	7.30
2	*5230.00	93.76 AV			1.11 V	118	86.46	7.30
3	5350.00	57.73 PK	74.00	-16.27	1.11 V	118	49.89	7.84
4	5350.00	46.63 AV	54.00	-7.37	1.11 V	118	38.79	7.84
5	#10460.00	56.81 PK	68.20	-11.39	2.28 V	169	41.88	14.93

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	57.92 PK	74.00	-16.08	2.56 H	148	51.11	6.81
2	5150.00	46.64 AV	54.00	-7.36	2.56 H	148	39.83	6.81
3	*5270.00	105.49 PK			2.56 H	148	97.97	7.52
4	*5270.00	97.45 AV			2.56 H	148	89.93	7.52
5	#10540.00	57.59 PK	68.20	-10.61	1.24 H	178	42.39	15.20

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	56.94 PK	74.00	-17.06	1.19 V	108	50.13	6.81
2	5150.00	46.01 AV	54.00	-7.99	1.19 V	108	39.20	6.81
3	*5270.00	101.30 PK			1.19 V	108	93.78	7.52
4	*5270.00	93.27 AV			1.19 V	108	85.75	7.52
5	#10540.00	56.50 PK	68.20	-11.70	2.34 V	15	41.30	15.20

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	105.64 PK			2.75 H	139	97.88	7.76
2	*5310.00	97.90 AV			2.75 H	139	90.14	7.76
3	5350.00	60.10 PK	74.00	-13.90	2.75 H	139	52.26	7.84
4	5350.00	48.94 AV	54.00	-5.06	2.75 H	139	41.10	7.84
5	10620.00	57.77 PK	74.00	-16.23	1.99 H	178	42.41	15.36
6	10620.00	46.78 AV	54.00	-7.22	1.99 H	178	31.42	15.36

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	101.54 PK			1.15 V	116	93.78	7.76
2	*5310.00	94.06 AV			1.15 V	116	86.30	7.76
3	5350.00	57.84 PK	74.00	-16.16	1.15 V	116	50.00	7.84
4	5350.00	48.09 AV	54.00	-5.91	1.15 V	116	40.25	7.84
5	10620.00	56.47 PK	74.00	-17.53	2.35 V	126	41.11	15.36
6	10620.00	45.32 AV	54.00	-8.68	2.35 V	126	29.96	15.36

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	59.80 PK	74.00	-14.20	2.74 H	204	51.85	7.95
2	5460.00	48.60 AV	54.00	-5.40	2.74 H	204	40.65	7.95
3	#5470.00	59.82 PK	68.20	-8.38	2.74 H	204	51.85	7.97
4	*5510.00	106.31 PK			2.74 H	204	98.36	7.95
5	*5510.00	98.65 AV			2.74 H	204	90.70	7.95
6	11020.00	53.75 PK	74.00	-20.25	1.63 H	239	37.85	15.90
7	11020.00	42.32 AV	54.00	-11.68	1.63 H	239	26.42	15.90

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.21 PK	74.00	-15.79	1.46 V	110	50.26	7.95
2	5460.00	47.64 AV	54.00	-6.36	1.46 V	110	39.69	7.95
3	#5470.00	58.22 PK	68.20	-9.98	1.46 V	110	50.25	7.97
4	*5510.00	104.20 PK			1.46 V	110	96.25	7.95
5	*5510.00	96.41 AV			1.46 V	110	88.46	7.95
6	11020.00	52.23 PK	74.00	-21.77	1.12 V	168	36.33	15.90
7	11020.00	41.74 AV	54.00	-12.26	1.12 V	168	25.84	15.90

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	105.95 PK			2.77 H	209	98.23	7.72
2	*5550.00	97.88 AV			2.77 H	209	90.16	7.72
3	11100.00	53.22 PK	74.00	-20.78	2.55 H	289	37.27	15.95
4	11100.00	42.50 AV	54.00	-11.50	2.55 H	289	26.55	15.95

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	104.57 PK			1.52 V	111	96.85	7.72
2	*5550.00	96.21 AV			1.52 V	111	88.49	7.72
3	11100.00	52.11 PK	74.00	-21.89	1.78 V	66	36.16	15.95
4	11100.00	41.04 AV	54.00	-12.96	1.78 V	66	25.09	15.95

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 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	104.94 PK			2.74 H	239	97.74	7.20
2	*5670.00	97.26 AV			2.74 H	239	90.06	7.20
3	#5725.00	57.96 PK	68.20	-10.24	2.74 H	239	50.79	7.17
4	11340.00	54.01 PK	74.00	-19.99	1.11 H	284	37.44	16.57
5	11340.00	42.76 AV	54.00	-11.24	1.11 H	284	26.19	16.57

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	102.89 PK			1.51 V	114	95.69	7.20
2	*5670.00	95.23 AV			1.51 V	114	88.03	7.20
3	#5725.00	58.06 PK	68.20	-10.14	1.51 V	114	50.89	7.17
4	11340.00	52.90 PK	74.00	-21.10	2.05 V	236	36.33	16.57
5	11340.00	41.85 AV	54.00	-12.15	2.05 V	236	25.28	16.57

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	#5626.19	58.09 PK	68.20	-10.11	2.79 H	238	50.77	7.32
2	*5755.00	105.92 PK			2.79 H	238	98.70	7.22
3	*5755.00	97.68 AV			2.79 H	238	90.46	7.22
4	#5952.60	59.66 PK	68.20	-8.54	2.79 H	238	52.24	7.42
5	11510.00	53.94 PK	74.00	-20.06	2.06 H	230	37.13	16.81
6	11510.00	43.13 AV	54.00	-10.87	2.06 H	230	26.32	16.81
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	#5624.85	58.01 PK	68.20	-10.19	1.52 V	108	50.68	7.33
2	*5755.00	103.45 PK			1.52 V	108	96.23	7.22
3	*5755.00	95.79 AV			1.52 V	108	88.57	7.22
4	#5940.31	58.76 PK	68.20	-9.44	1.52 V	108	51.39	7.37
5	11510.00	53.21 PK	74.00	-20.79	1.78 V	298	36.40	16.81
6	11510.00	41.89 AV	54.00	-12.11	1.78 V	298	25.08	16.81

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	#5643.86	58.11 PK	68.20	-10.09	2.81 H	207	50.85	7.26
2	*5795.00	105.44 PK			2.81 H	207	98.14	7.30
3	*5795.00	97.52 AV			2.81 H	207	90.22	7.30
4	#5949.04	59.19 PK	68.20	-9.01	2.81 H	207	51.77	7.42
5	11590.00	54.95 PK	74.00	-19.05	1.64 H	185	37.91	17.04
6	11590.00	43.25 AV	54.00	-10.75	1.64 H	185	26.21	17.04
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	#5609.54	58.06 PK	68.20	-10.14	1.53 V	112	50.68	7.38
2	*5795.00	103.53 PK			1.53 V	112	96.23	7.30
3	*5795.00	95.43 AV			1.53 V	112	88.13	7.30
4	#5992.26	59.28 PK	68.20	-8.92	1.53 V	112	51.73	7.55
5	11590.00	53.13 PK	74.00	-20.87	1.60 V	200	36.09	17.04
6	11590.00	42.43 AV	54.00	-11.57	1.60 V	200	25.39	17.04

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	63.16 PK	74.00	-10.84	2.81 H	139	56.35	6.81
2	5150.00	50.89 AV	54.00	-3.11	2.81 H	139	44.08	6.81
3	*5210.00	103.30 PK			2.81 H	139	96.09	7.21
4	*5210.00	94.75 AV			2.81 H	139	87.54	7.21
5	5350.00	58.35 PK	74.00	-15.65	2.81 H	139	50.51	7.84
6	5350.00	47.14 AV	54.00	-6.86	2.81 H	139	39.30	7.84
7	#10420.00	57.37 PK	68.20	-10.83	1.85 H	198	42.65	14.72
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.69 PK	74.00	-12.31	1.19 V	121	54.88	6.81
2	5150.00	49.37 AV	54.00	-4.63	1.19 V	121	42.56	6.81
3	*5210.00	100.19 PK			1.19 V	121	92.98	7.21
4	*5210.00	90.94 AV			1.19 V	121	83.73	7.21
5	5350.00	56.99 PK	74.00	-17.01	1.19 V	121	49.15	7.84
6	5350.00	46.06 AV	54.00	-7.94	1.19 V	121	38.22	7.84
7	#10420.00	56.45 PK	68.20	-11.75	2.14 V	132	41.73	14.72

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.46 PK	74.00	-15.54	3.75 H	144	51.65	6.81
2	5150.00	46.73 AV	54.00	-7.27	3.75 H	144	39.92	6.81
3	*5290.00	103.51 PK			2.75 H	144	95.84	7.67
4	*5290.00	95.17 AV			2.75 H	144	87.50	7.67
5	5350.00	60.91 PK	74.00	-13.09	2.75 H	144	53.07	7.84
6	5350.00	50.95 AV	54.00	-3.05	2.75 H	144	43.11	7.84
7	#10580.00	57.57 PK	68.20	-10.63	1.87 H	167	42.29	15.28

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	57.45 PK	74.00	-16.55	1.14 V	102	50.64	6.81
2	5150.00	45.84 AV	54.00	-8.16	1.14 V	102	39.03	6.81
3	*5290.00	99.24 PK			1.14 V	102	91.57	7.67
4	*5290.00	91.24 AV			1.14 V	102	83.57	7.67
5	5350.00	59.29 PK	74.00	-14.71	1.14 V	102	51.45	7.84
6	5350.00	48.89 AV	54.00	-5.11	1.14 V	102	41.05	7.84
7	#10580.00	56.56 PK	68.20	-11.64	2.15 V	148	41.28	15.28

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	59.35 PK	74.00	-14.65	2.87 H	208	51.40	7.95
2	5460.00	49.31 AV	54.00	-4.69	2.87 H	208	41.36	7.95
3	#5470.00	60.71 PK	68.20	-7.49	2.87 H	208	52.74	7.97
4	*5530.00	102.30 PK			2.87 H	208	94.47	7.83
5	*5530.00	94.42 AV			2.87 H	208	86.59	7.83
6	11060.00	53.17 PK	74.00	-20.83	1.98 H	287	37.25	15.92
7	11060.00	42.33 AV	54.00	-11.67	1.98 H	287	26.41	15.92

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.28 PK	74.00	-15.72	1.53 V	119	50.33	7.95
2	5460.00	48.49 AV	54.00	-5.51	1.53 V	119	40.54	7.95
3	#5470.00	59.21 PK	68.20	-8.99	1.53 V	119	51.24	7.97
4	*5530.00	100.38 PK			1.53 V	119	92.55	7.83
5	*5530.00	92.62 AV			1.53 V	119	84.79	7.83
6	11060.00	52.27 PK	74.00	-21.73	1.88 V	145	36.35	15.92
7	11060.00	41.50 AV	54.00	-12.50	1.88 V	145	25.58	15.92

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	#5640.15	58.04 PK	68.20	-10.16	2.81 H	205	50.76	7.28
2	*5775.00	101.62 PK			2.81 H	205	94.36	7.26
3	*5775.00	93.84 AV			2.81 H	205	86.58	7.26
4	#5972.43	59.59 PK	68.20	-8.61	2.81 H	205	52.10	7.49
5	11550.00	54.74 PK	74.00	-19.26	2.06 H	198	37.82	16.92
6	11550.00	43.11 AV	54.00	-10.89	2.06 H	198	26.19	16.92

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	#5638.55	58.52 PK	68.20	-9.68	1.53 V	118	51.24	7.28
2	*5775.00	99.78 PK			1.53 V	118	92.52	7.26
3	*5775.00	91.65 AV			1.53 V	118	84.39	7.26
4	#5993.53	60.00 PK	68.20	-8.20	1.53 V	118	52.45	7.55
5	11550.00	53.76 PK	74.00	-20.24	1.14 V	123	36.84	16.92
6	11550.00	42.00 AV	54.00	-12.00	1.14 V	123	25.08	16.92

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

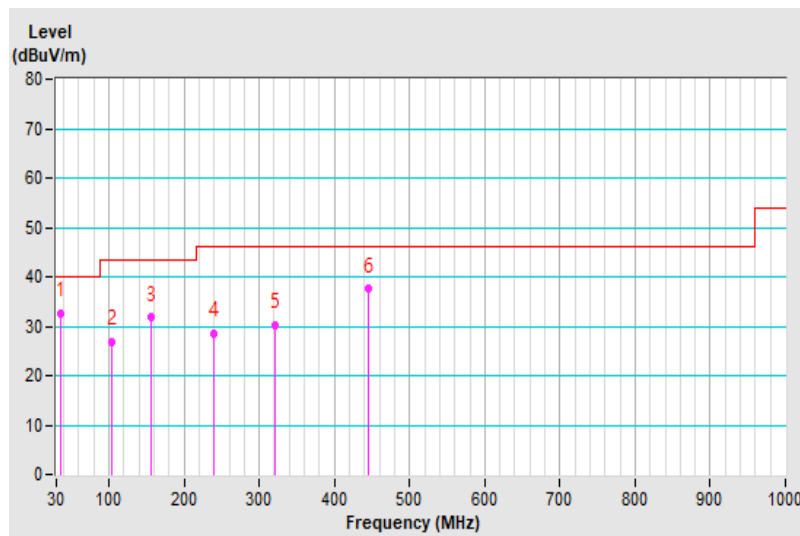
Mode A

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	35.97	32.48 QP	40.00	-7.52	2.14 H	109	40.69	-8.21
2	104.54	26.80 QP	43.50	-16.70	1.54 H	299	37.12	-10.32
3	156.68	31.72 QP	43.50	-11.78	3.34 H	136	37.91	-6.19
4	240.00	28.49 QP	46.00	-17.51	1.29 H	143	35.36	-6.87
5	320.51	30.24 QP	46.00	-15.76	2.06 H	335	33.74	-3.50
6	445.50	37.49 QP	46.00	-8.51	2.61 H	320	38.40	-0.91

Remarks:

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

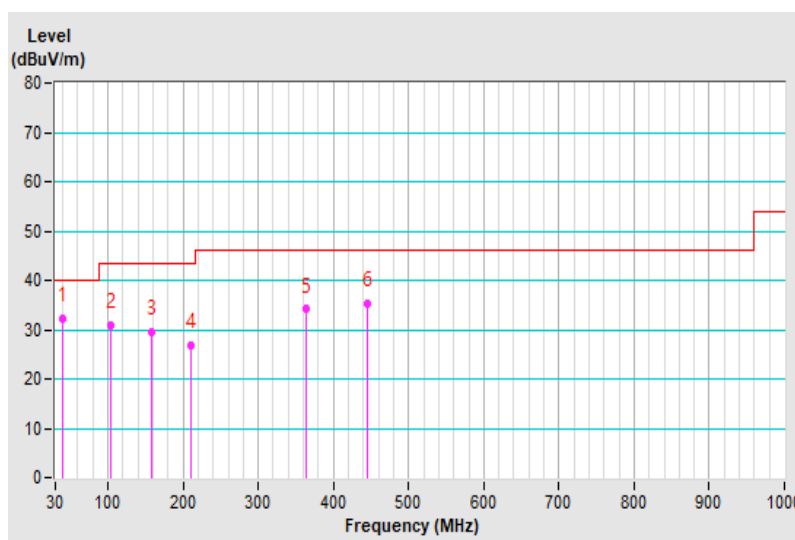


RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39.22	32.22 QP	40.00	-7.78	1.36 V	118	39.97	-7.75
2	104.35	31.00 QP	43.50	-12.50	2.13 V	240	41.34	-10.34
3	157.75	29.43 QP	43.50	-14.07	2.48 V	331	35.63	-6.20
4	210.91	26.79 QP	43.50	-16.71	3.34 V	328	35.24	-8.45
5	363.53	34.08 QP	46.00	-11.92	2.57 V	223	36.90	-2.82
6	445.50	35.31 QP	46.00	-10.69	3.02 V	201	36.22	-0.91

Remarks:

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



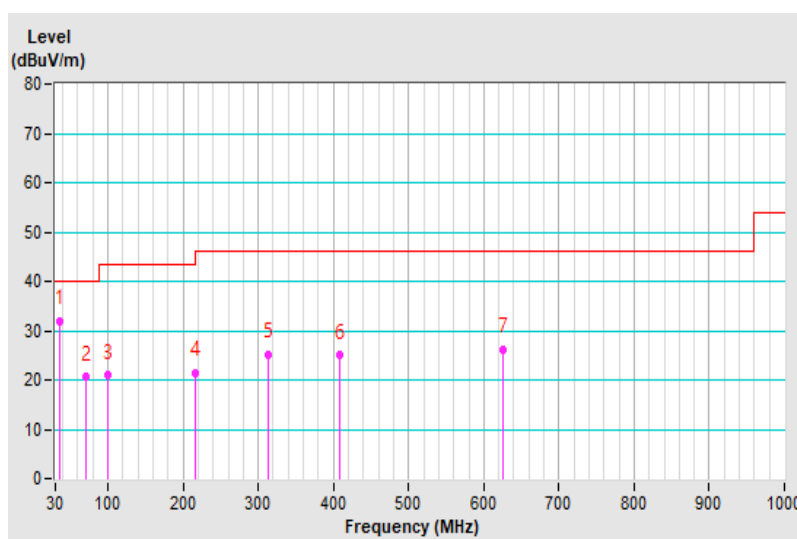
Mode B

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	35.82	32.01 QP	40.00	-7.99	3.60 H	270	45.41	-13.40
2	69.77	20.54 QP	40.00	-19.46	3.36 H	246	34.47	-13.93
3	98.87	20.86 QP	43.50	-22.64	2.97 H	208	37.21	-16.35
4	216.24	21.39 QP	46.00	-24.61	1.63 H	76	34.89	-13.50
5	312.27	25.08 QP	46.00	-20.92	2.66 H	177	34.01	-8.93
6	408.30	25.00 QP	46.00	-21.00	2.22 H	133	32.10	-7.10
7	625.58	26.05 QP	46.00	-19.95	1.19 H	32	28.25	-2.20

Remarks:

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

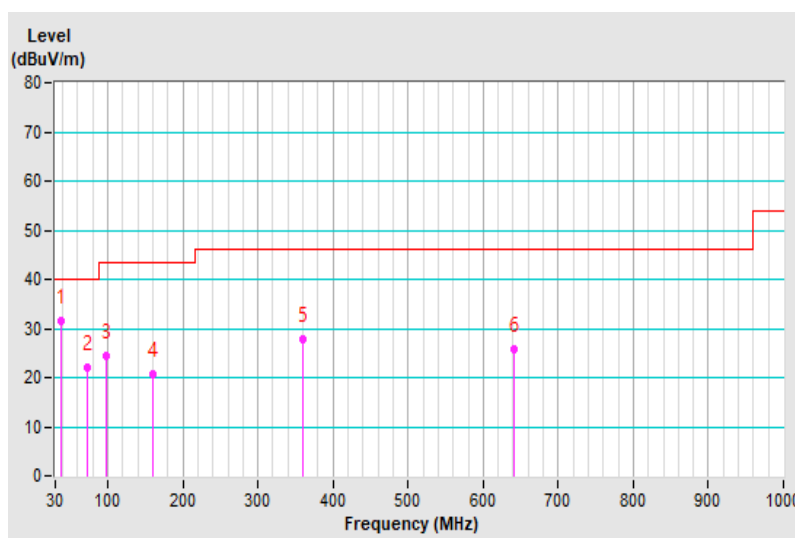


RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	36.79	31.62 QP	40.00	-8.38	1.77 V	94	44.91	-13.29
2	72.68	22.07 QP	40.00	-17.93	3.68 V	281	36.80	-14.73
3	97.90	24.40 QP	43.50	-19.10	1.96 V	112	40.98	-16.58
4	159.01	20.72 QP	43.50	-22.78	2.24 V	140	32.00	-11.28
5	359.80	27.89 QP	46.00	-18.11	1.35 V	52	36.03	-8.14
6	641.10	25.85 QP	46.00	-20.15	2.64 V	180	27.78	-1.93

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE &SCHWARZ TEST RECEIVER	ESCS 30	838251/021	Nov. 3, 2020	Nov. 2, 2021
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ENV216	101195	May 25, 2021	May 24, 2022
LISN With Adapter(for EUT)	101195	N/A	May 25, 2021	May 24, 2022
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	Jul. 27, 2021	Jul. 26, 2022
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 20, 2021	May 19, 2022
SCHWARZBECK Artificial Mains Network (for EUT)	NNLK 8121	8121-808	Apr. 18, 2021	Apr. 17, 2022
Software	Cond_V7.3.7.4	NA	NA	NA
RF cable (JYEBAO) With10dB PAD	5D-FB	Cable-C03-01	Sep. 16, 2020	Sep. 15, 2021
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-300	Jan. 27, 2021	Jan. 26, 2022
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-301	Jan. 27, 2021	Jan. 26, 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 Shielded Room No. 3. (Conduction 3)

3. The VCCI Site Registration No. C-10274.

4. Tested Date: Aug. 17, 2021

4.2.3 Test Procedures

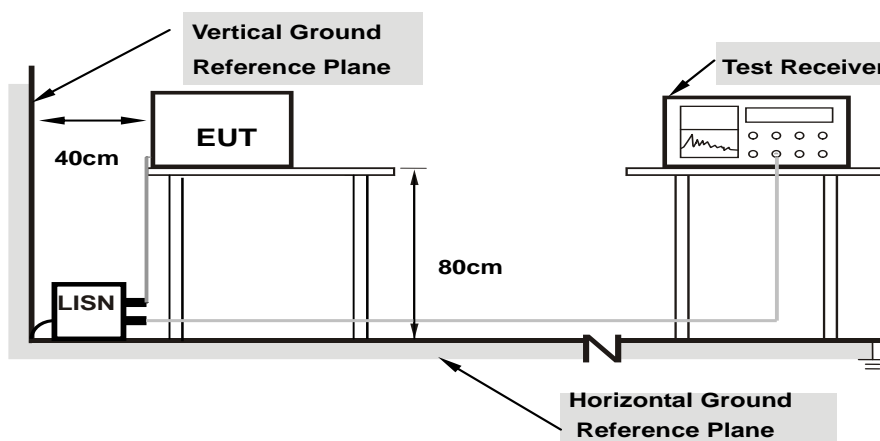
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

- Connected the EUT to Adapter or Notebook.
- Set the EUT under transmission condition continuously at specific channel frequency continuously.

4.2.7 Test Results

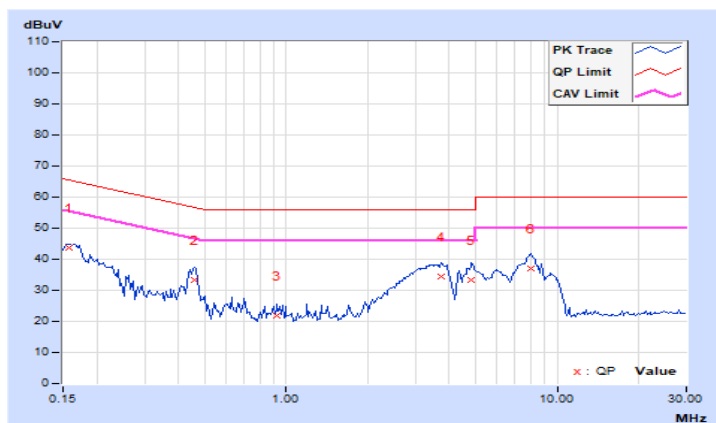
Mode A

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	9.80	33.82	19.49	43.62	29.29	65.58	55.58	-21.96	-26.29
2	0.45859	9.85	23.51	11.20	33.36	21.05	56.72	46.72	-23.36	-25.67
3	0.92344	9.90	11.78	4.97	21.68	14.87	56.00	46.00	-34.32	-31.13
4	3.71875	10.09	24.20	16.79	34.29	26.88	56.00	46.00	-21.71	-19.12
5	4.84375	10.12	23.30	17.52	33.42	27.64	56.00	46.00	-22.58	-18.36
6	8.00781	10.17	26.88	21.20	37.05	31.37	60.00	50.00	-22.95	-18.63

Remarks:

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

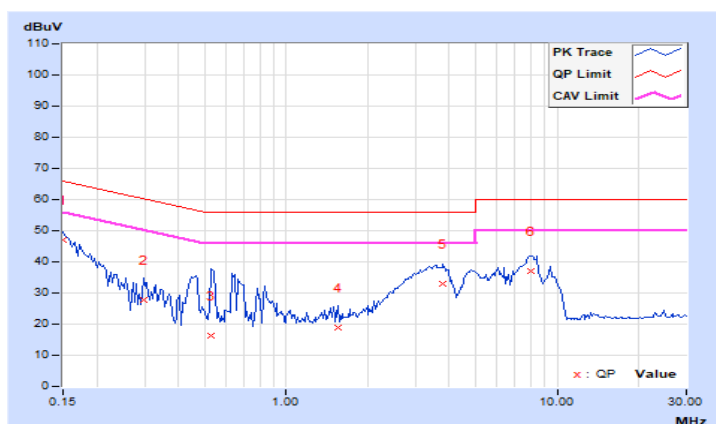


RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.77	37.26	22.44	47.03	32.21	66.00	56.00	-18.97	-23.79
2	0.29844	9.80	18.12	6.54	27.92	16.34	60.29	50.29	-32.37	-33.95
3	0.52891	9.84	6.53	1.31	16.37	11.15	56.00	46.00	-39.63	-34.85
4	1.56250	9.94	8.85	0.63	18.79	10.57	56.00	46.00	-37.21	-35.43
5	3.80469	10.05	22.98	15.55	33.03	25.60	56.00	46.00	-22.97	-20.40
6	8.00781	10.15	27.06	22.96	37.21	33.11	60.00	50.00	-22.79	-16.89

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



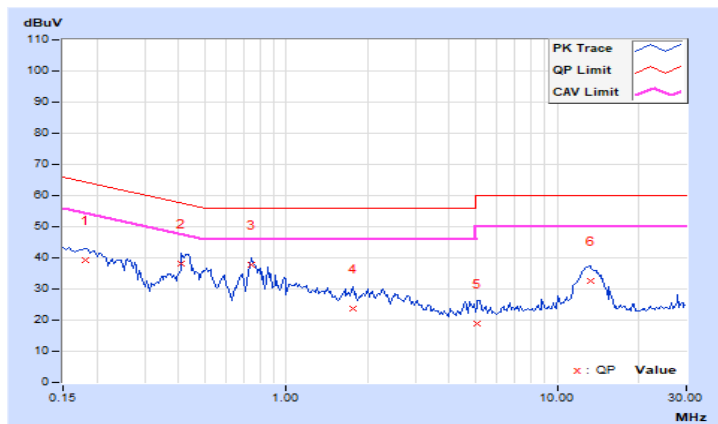
Mode B

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	9.80	29.56	22.57	39.36	32.37	64.43	54.43	-25.07	-22.06
2	0.41172	9.84	28.32	20.57	38.16	30.41	57.61	47.61	-19.45	-17.20
3	0.74766	9.88	27.74	21.56	37.62	31.44	56.00	46.00	-18.38	-14.56
4	1.75781	9.98	13.74	2.02	23.72	12.00	56.00	46.00	-32.28	-34.00
5	5.09375	10.12	8.69	0.25	18.81	10.37	60.00	50.00	-41.19	-39.63
6	13.26953	10.24	22.17	18.55	32.41	28.79	60.00	50.00	-27.59	-21.21

Remarks:

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

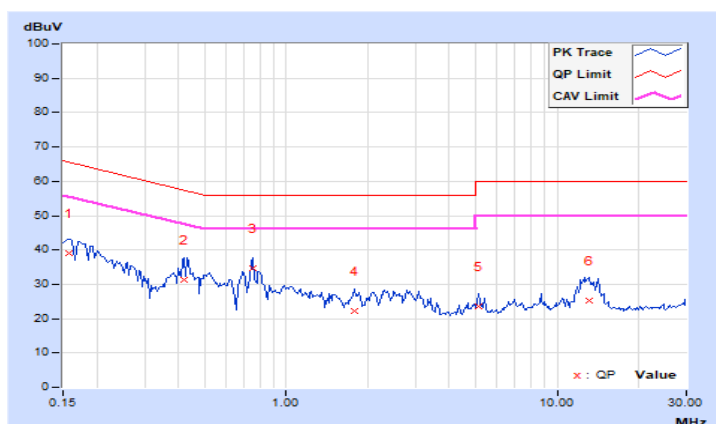


RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	9.78	29.44	15.38	39.22	25.16	65.58	55.58	-26.36	-30.42
2	0.41953	9.82	21.55	10.60	31.37	20.42	57.46	47.46	-26.09	-27.04
3	0.75156	9.87	24.75	16.48	34.62	26.35	56.00	46.00	-21.38	-19.65
4	1.77734	9.96	12.43	0.71	22.39	10.67	56.00	46.00	-33.61	-35.33
5	5.14063	10.08	13.33	1.88	23.41	11.96	60.00	50.00	-36.59	-38.04
6	13.09375	10.23	15.07	10.21	25.30	20.44	60.00	50.00	-34.70	-29.56

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 $N_{ANT} \leq 4$;

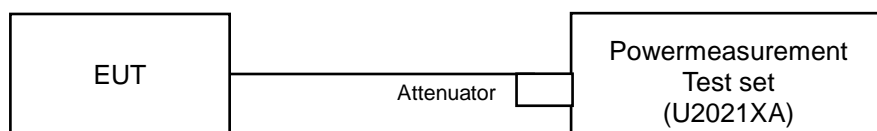
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

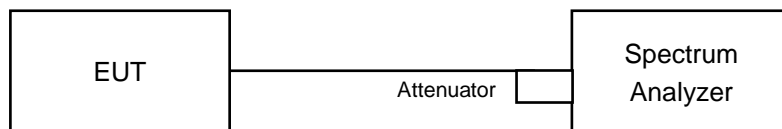
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

For Power Output Measurement



For 26dB Bandwidth Measurement



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 Measurement

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating 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

Mode A

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	14.42	13.20	48.562	16.86	24.00	Pass
40	5200	14.25	13.40	48.485	16.86	24.00	Pass
48	5240	14.27	13.02	46.775	16.70	24.00	Pass
52	5260	14.35	13.11	47.691	16.78	24.00	Pass
60	5300	14.29	13.37	48.58	16.86	24.00	Pass
64	5320	14.32	13.40	48.917	16.89	24.00	Pass
100	5500	14.28	13.26	47.975	16.81	24.00	Pass
116	5580	14.19	13.20	47.135	16.73	24.00	Pass
140	5700	14.32	13.12	47.551	16.77	24.00	Pass
149	5745	14.35	13.10	47.644	16.78	30.00	Pass
157	5785	14.22	13.17	47.173	16.74	30.00	Pass
165	5825	14.36	13.02	47.334	16.75	30.00	Pass

NOTE:

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

Chain 0

1. $11\text{dBm} + 10\log(23.18) = 24.65\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(23.02) = 24.62\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(23.11) = 24.64\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(23.3) = 24.67\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(23.47) = 24.71\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(23.54) = 24.72\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(22.9) = 24.60\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(22.64) = 24.55\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(23.22) = 24.66\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(22.66) = 24.55\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(23.38) = 24.69\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(22.73) = 24.57\text{ dBm} > 24\text{dBm}$.

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	15.29	14.63	62.847	17.98	24.00	Pass
40	5200	15.30	14.33	60.986	17.85	24.00	Pass
48	5240	15.17	14.11	58.648	17.68	24.00	Pass
52	5260	15.24	14.31	60.397	17.81	24.00	Pass
60	5300	15.27	14.68	63.028	18.00	24.00	Pass
64	5320	15.52	14.57	64.287	18.08	24.00	Pass
100	5500	15.34	14.92	65.244	18.15	24.00	Pass
116	5580	15.41	14.77	64.745	18.11	24.00	Pass
140	5700	15.70	14.62	66.127	18.20	24.00	Pass
149	5745	15.59	14.11	61.988	17.92	30.00	Pass
157	5785	15.78	14.09	63.489	18.03	30.00	Pass
165	5825	15.55	13.97	60.838	17.84	30.00	Pass

NOTE:

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

Chain 0

1. $11\text{dBm} + 10\log(23.14) = 24.64\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(23.48) = 24.71\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(23.26) = 24.67\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(23.28) = 24.67\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(23.54) = 24.72\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(24.31) = 24.86\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(23.56) = 24.72\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(23.79) = 24.76\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(24) = 24.80\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(24.54) = 24.90\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(24.99) = 24.98\text{ dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(24.53) = 24.90\text{ dBm} > 24\text{dBm}$.

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	13.11	12.08	36.608	15.64	24.00	Pass
46	5230	13.10	12.29	37.361	15.72	24.00	Pass
54	5270	13.44	12.35	39.259	15.94	24.00	Pass
62	5310	12.92	12.05	35.621	15.52	24.00	Pass
102	5510	13.27	12.49	38.974	15.91	24.00	Pass
110	5550	13.70	12.17	39.924	16.01	24.00	Pass
134	5670	13.83	12.44	41.693	16.20	24.00	Pass
151	5755	13.19	12.09	37.026	15.69	30.00	Pass
159	5795	13.03	12.18	36.611	15.64	30.00	Pass

NOTE:

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

Chain 0

1. $11\text{dBm} + 10\log(41.6) = 27.19\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.73) = 27.20\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.81) = 27.21\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.96) = 27.23\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.81) = 27.21\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(41.88) = 27.22\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(41.83) = 27.21\text{ dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(41.98) = 27.23\text{ dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(41.57) = 27.19\text{ dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(41.57) = 27.19\text{ dBm} > 24\text{dBm}$.

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	12.68	12.44	36.074	15.57	24.00	Pass
58	5290	12.74	12.80	37.848	15.78	24.00	Pass
106	5530	12.49	12.42	35.2	15.47	24.00	Pass
155	5775	12.71	12.09	34.845	15.42	30.00	Pass

NOTE:

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

Chain 0

1. $11\text{dBm} + 10\log(83.99) = 30.24\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(84.11) = 30.25\text{ dBm} > 24\text{dBm}$.

Chain 1

1. $11\text{dBm} + 10\log(83.59) = 30.22\text{ dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(83.52) = 30.22\text{ dBm} > 24\text{dBm}$.

26dB Bandwidth:

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	21.9	22.8
40	5200	21.76	22.88
48	5240	22.93	22.68
52	5260	23.18	22.9
60	5300	23.02	22.64
64	5320	23.11	23.22
100	5500	23.3	22.66
116	5580	23.47	23.38
140	5700	23.54	22.73

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	24.19	23.67
40	5200	23.15	23.99
48	5240	24.53	23.77
52	5260	23.14	23.56
60	5300	23.48	23.79
64	5320	23.26	24
100	5500	23.28	24.54
116	5580	23.54	24.99
140	5700	24.31	24.53

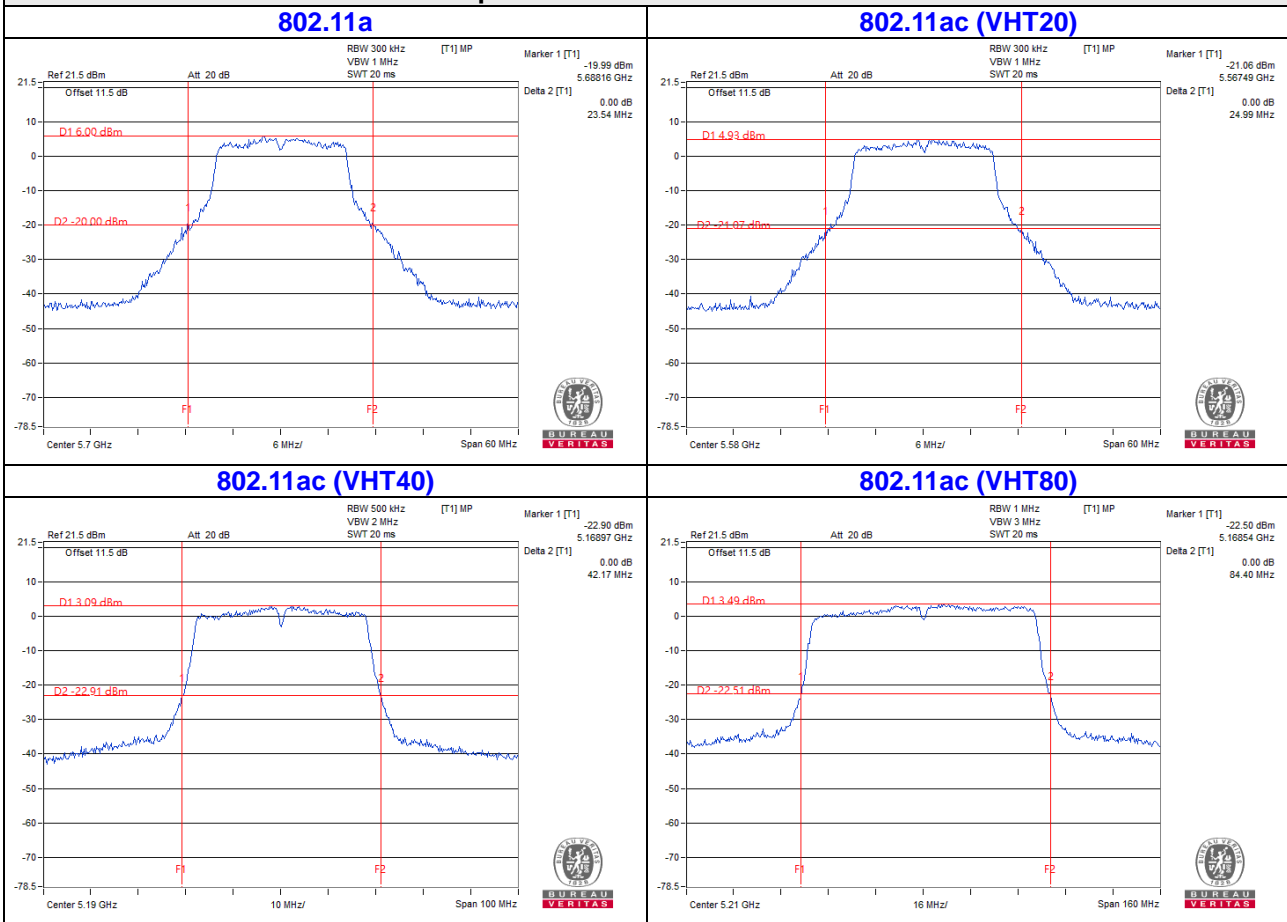
802.11ac (VHT40)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	42.17	41.77
46	5230	41.81	41.85
54	5270	41.6	41.88
62	5310	41.73	41.83
102	5510	41.81	41.98
110	5550	41.96	41.57
134	5670	41.81	41.57

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	84.4	84.32
58	5290	83.99	83.59
106	5530	84.11	83.52

Spectrum Plot of Worst Value



EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	48.917	16.89
5470~5725	47.975	16.81

802.11ac VHT20

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	64.287	18.08
5470~5725	66.127	18.20

802.11ac VHT40

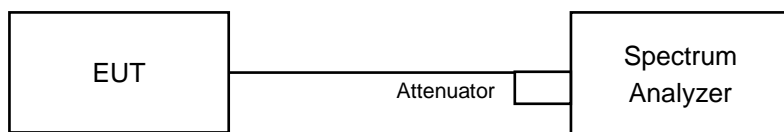
Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	39.259	15.94
5470~5725	41.693	16.20

802.11ac VHT80

Frequency Band (MHz)	MAX. Power	
	Output Power(mW)	Output Power(dBm)
5250~5350	37.848	15.78
5470~5725	35.20	15.47

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

Mode A

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.68	16.68
40	5200	16.68	16.68
48	5240	16.68	16.68
52	5260	16.68	16.68
60	5300	16.68	16.68
64	5320	16.68	16.68
100	5500	16.8	16.68
116	5580	16.8	16.68
140	5700	16.68	16.68
149	5745	16.78	16.69
157	5785	16.7	16.7
165	5825	16.7	16.6

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.88	17.88
40	5200	17.76	17.88
48	5240	18	17.88
52	5260	17.76	17.88
60	5300	17.88	17.88
64	5320	17.88	17.88
100	5500	17.88	17.88
116	5580	17.88	17.88
140	5700	18	17.88
149	5745	17.9	17.8
157	5785	18	17.9
165	5825	17.9	17.9

802.11ac (VHT40)

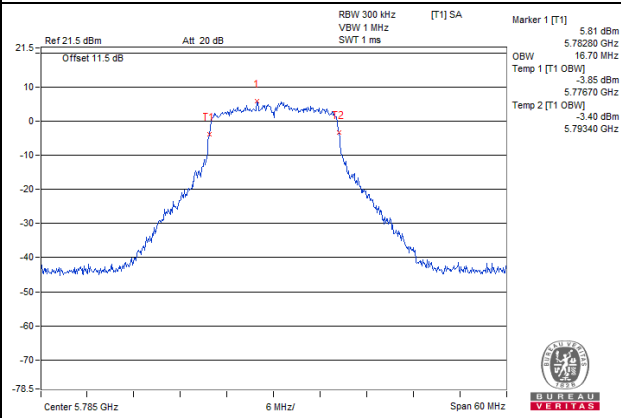
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.4	36.4
46	5230	36.2	36.4
54	5270	36.4	36.2
62	5310	36.4	36.2
102	5510	36.4	36.4
110	5550	36.4	36.4
134	5670	36.4	36.4
151	5755	36.34	36.17
159	5795	36.5	36.34

802.11ac (VHT80)

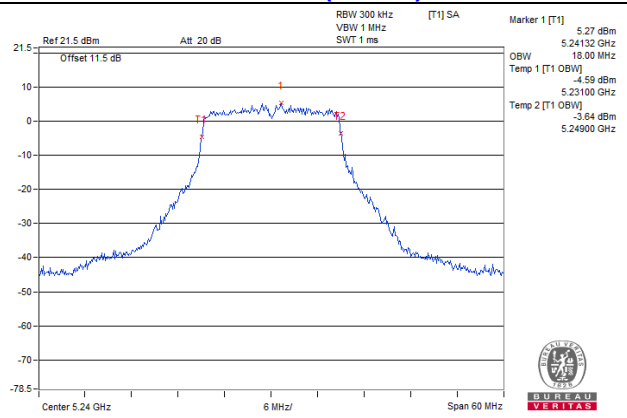
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.6	76.08
58	5290	75.84	75.84
106	5530	75.84	75.84
155	5775	75.83	75.83

Spectrum Plot of Worst Value

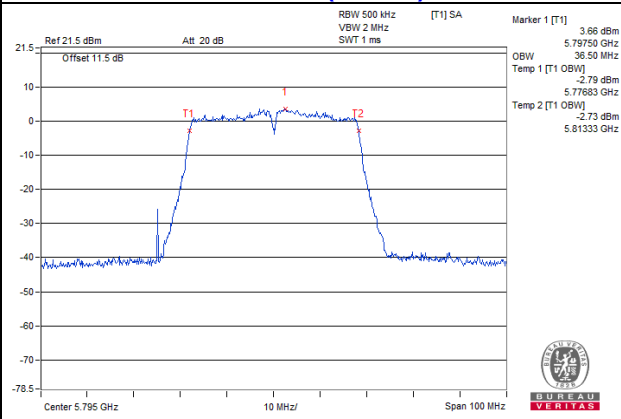
802.11a



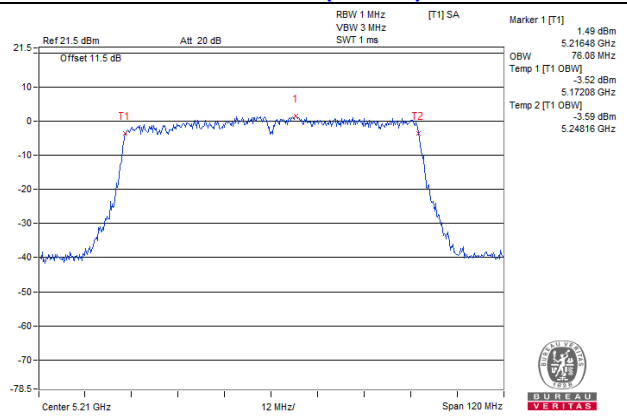
802.11ac (VHT20)



802.11ac (VHT40)

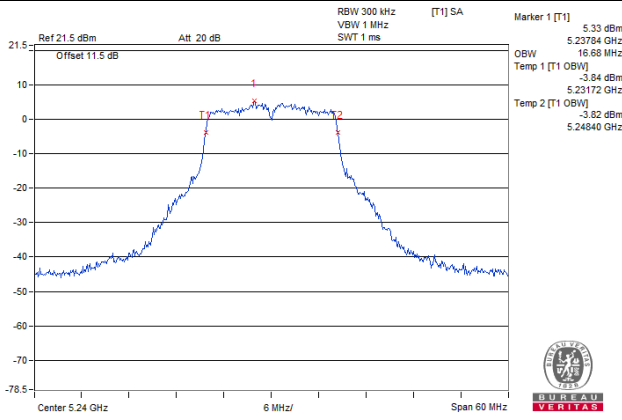


802.11ac (VHT80)

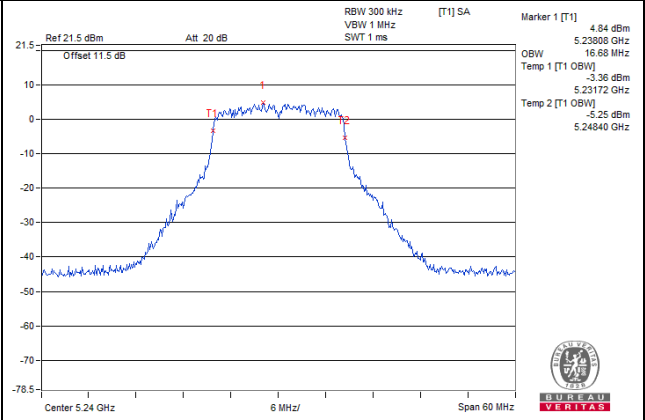


Spectrum Plot for near By DFS Band

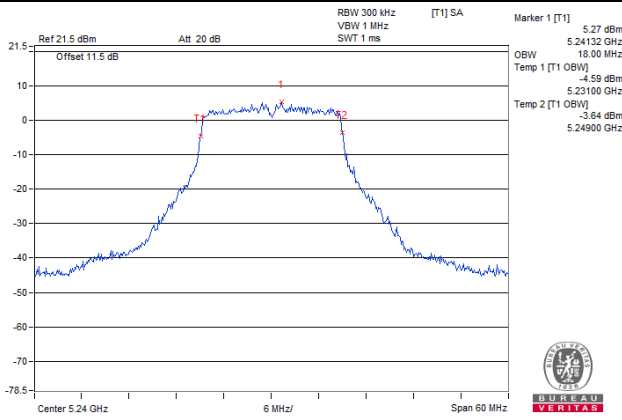
802.11a_Chain 0 / CH 48



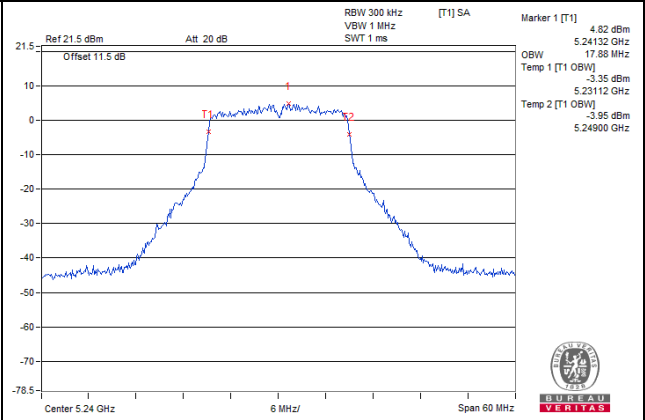
802.11a_Chain 1 / CH 48



802.11ac (VHT20)_Chain 0 / CH 48

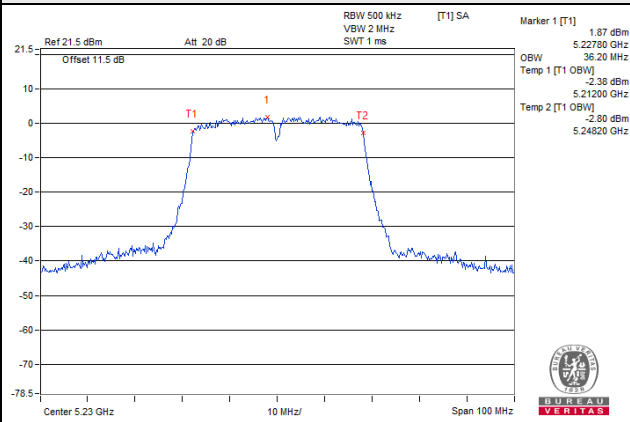


802.11ac (VHT20)_Chain 1 / CH 48

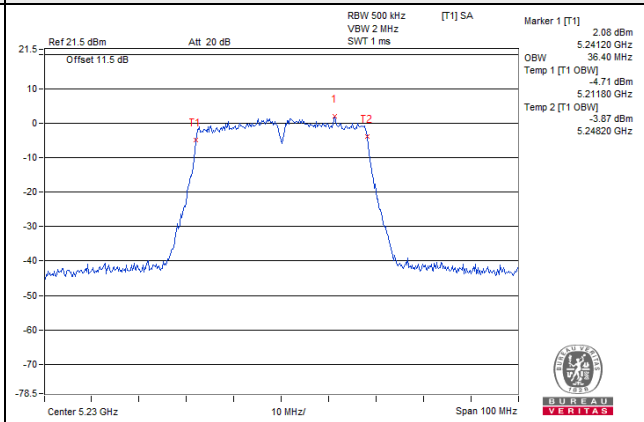


Spectrum Plot for near By DFS Band

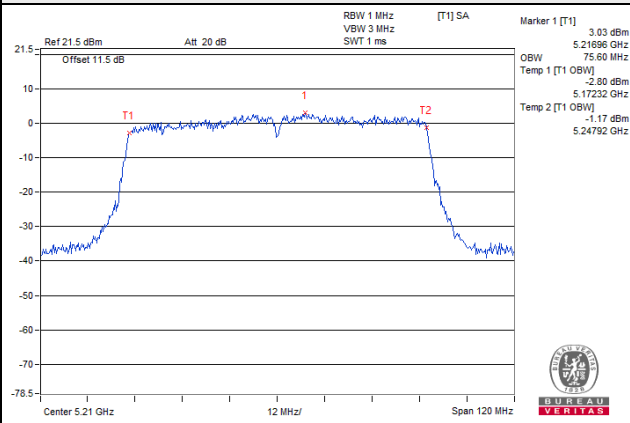
802.11ac (VHT40)_Chain 0 / CH 46



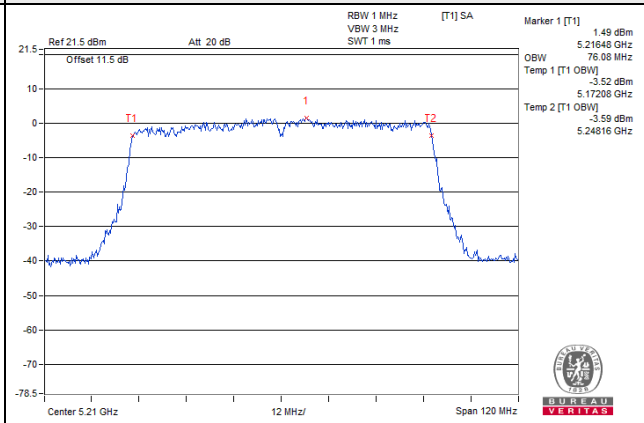
802.11ac (VHT40)_Chain 1 / CH 46



802.11ac (VHT80)_Chain 0 / CH 42

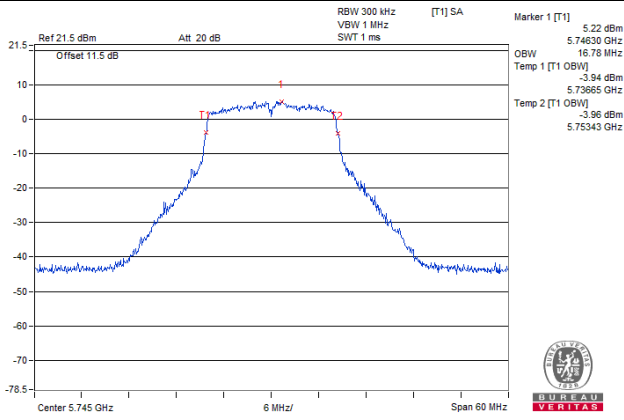


802.11ac (VHT80)_Chain 1 / CH 42

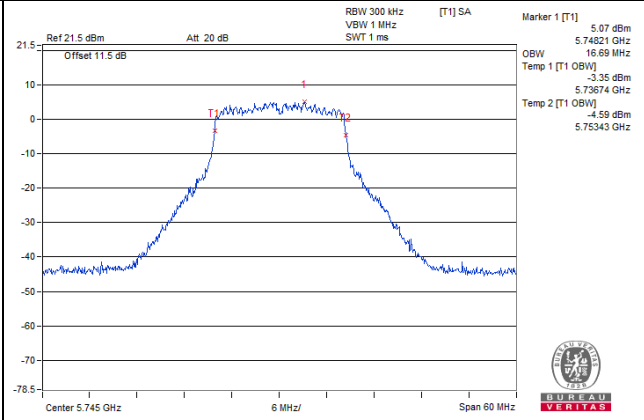


Spectrum Plot for near By DFS Band

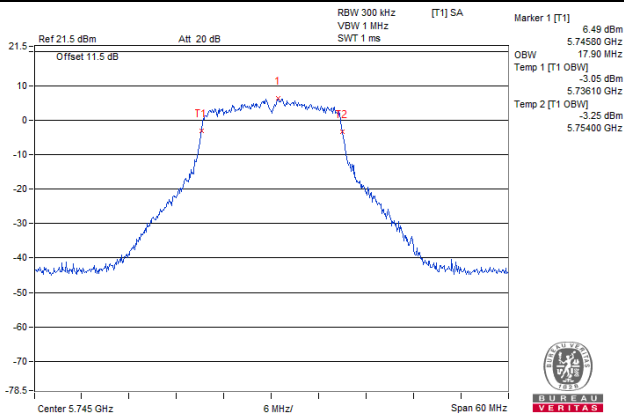
802.11a_Chain 0 / CH 149



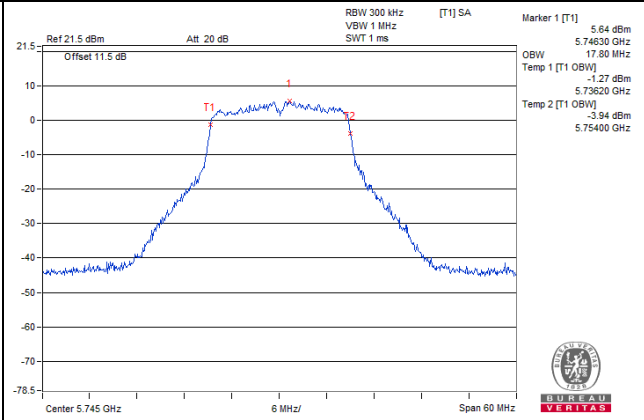
802.11a_Chain 1 / CH 149



802.11ac (VHT20)_Chain 0 / CH 149

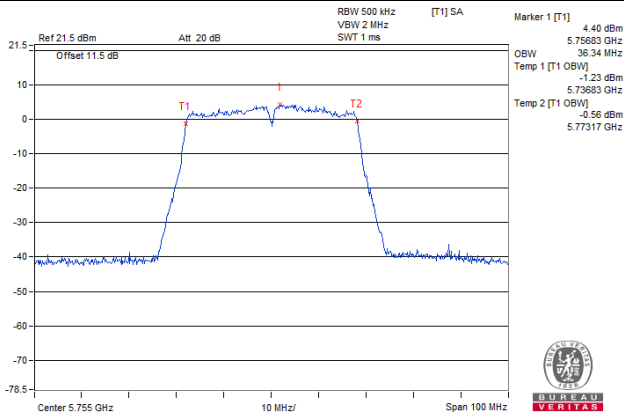


802.11ac (VHT20)_Chain 1 / CH 149

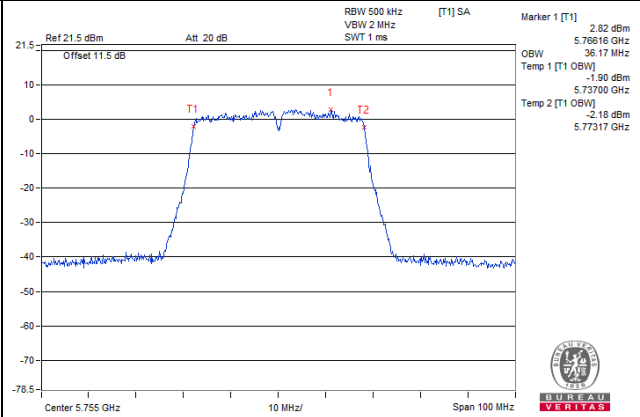


Spectrum Plot for near By DFS Band

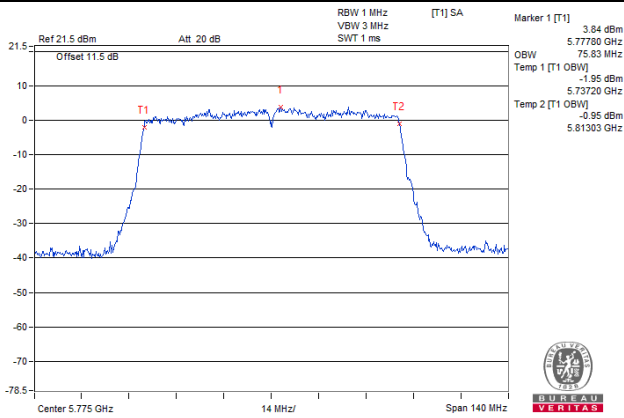
802.11ac (VHT40)_Chain 0 / CH 151



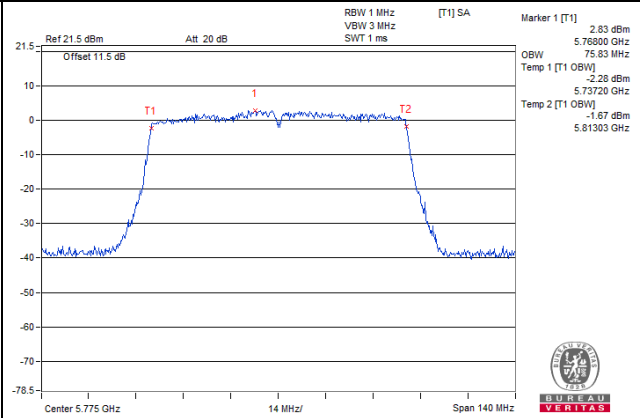
802.11ac (VHT40)_Chain 1 / CH 151



802.11ac (VHT80)_Chain 0 / CH 155



802.11ac (VHT80)_Chain 1 / CH 155

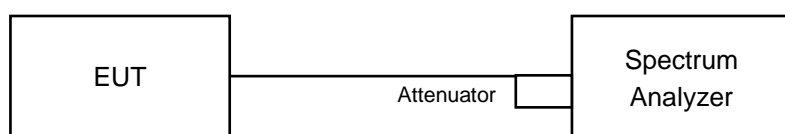


4.5 Peak Power Spectral Density Measurement

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, U-NII-2C Band:

Duty cycle of test signal is $\geq 98\%$

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS.
- 3) Set Channel power measure = 1MHz.
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value.

Duty cycle of test signal is $< 98\%$

Using method SA-2

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

For U-NII-3 band:

Duty cycle of test signal is $\geq 98\%$

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 500 kHz, Set VBW ≥ 2 MHz, Detector = RMS.
- 3) Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value.

Duty cycle of test signal is $< 98\%$

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
- 3) Sweep time = auto, trigger set to "free run".
- 4) Trace average at least 100 traces in power averaging mode.
- 5) Record the max value and add $10 \log (1/\text{duty cycle})$

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

Mode A

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

802.11a

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	0.48	-0.01	3.25	10.96	Pass
40	5200	0.59	0.10	3.36	10.96	Pass
48	5240	0.63	0.18	3.42	10.96	Pass
52	5260	1.16	0.56	3.88	10.96	Pass
60	5300	1.18	0.51	3.87	10.96	Pass
64	5320	0.88	0.48	3.69	10.96	Pass
100	5500	1.01	0.48	3.76	10.96	Pass
116	5580	0.88	0.49	3.70	10.96	Pass
140	5700	1.11	0.22	3.70	10.96	Pass

Note:

- 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.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.04-6) = 10.96\text{dBm}$.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD (dBm)		Total PSD (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1			
36	5180	0.78	0.26	3.54	10.96	Pass
40	5200	1.27	0.31	3.83	10.96	Pass
48	5240	0.44	0.46	3.46	10.96	Pass
52	5260	1.38	0.67	4.05	10.96	Pass
60	5300	1.38	0.61	4.02	10.96	Pass
64	5320	1.16	0.48	3.84	10.96	Pass
100	5500	0.82	0.22	3.54	10.96	Pass
116	5580	1.45	0.38	3.96	10.96	Pass
140	5700	0.81	0.75	3.79	10.96	Pass

Note:

- 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.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.04-6) = 10.96\text{dBm}$.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm)		Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-3.57	-4.93	0.14	-1.05	10.96	Pass
46	5230	-4.07	-4.92	0.14	-1.33	10.96	Pass
54	5270	-3.20	-4.64	0.14	-0.71	10.96	Pass
62	5310	-3.34	-4.66	0.14	-0.80	10.96	Pass
102	5510	-3.53	-4.52	0.14	-0.85	10.96	Pass
110	5550	-3.27	-4.73	0.14	-0.79	10.96	Pass
134	5670	-3.63	-4.90	0.14	-1.07	10.96	Pass

Note:

- 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.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.04-6) = 10.96\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

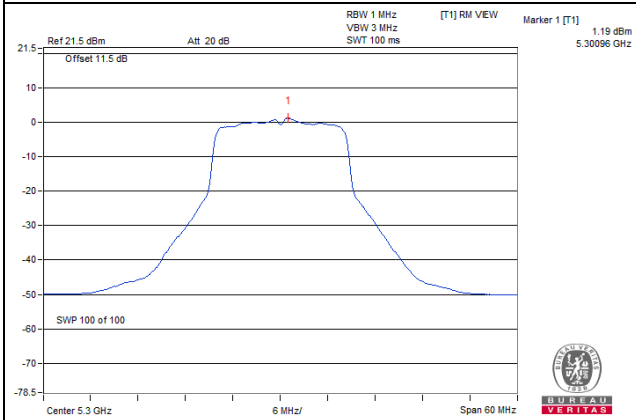
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm)		Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-7.15	-8.52	0.27	-4.51	10.96	Pass
58	5290	-7.15	-8.09	0.27	-4.32	10.96	Pass
106	5530	-6.77	-8.24	0.27	-4.17	10.96	Pass

Note:

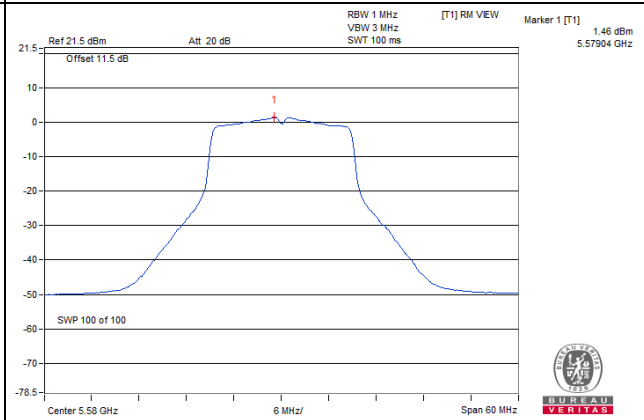
- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(6.04-6) = 10.96\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

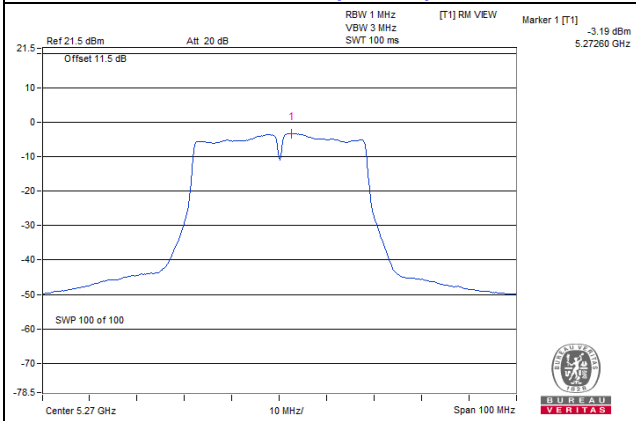
802.11a



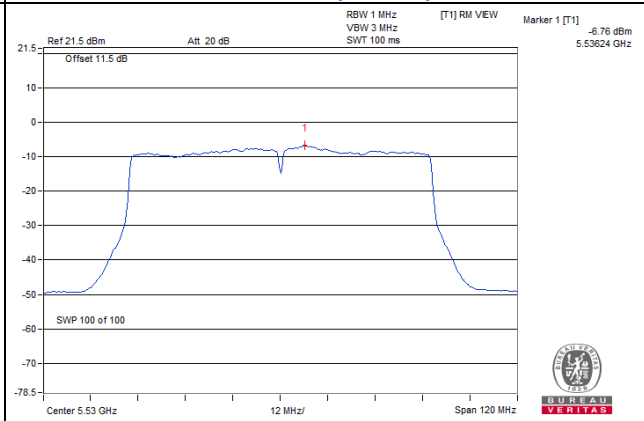
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



For U-NII-3 band:

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-6.98	3.01	-3.97	29.96	Pass
	157	5785	-6.75	3.01	-3.74	29.96	Pass
	165	5825	-6.6	3.01	-3.59	29.96	Pass
1	149	5745	-7.31	3.01	-4.3	29.96	Pass
	157	5785	-7.56	3.01	-4.55	29.96	Pass
	165	5825	-7.47	3.01	-4.46	29.96	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(6.04-6) = 29.96\text{dBm}/500\text{kHz}$.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=2) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	-6.42	3.01	-3.41	29.96	Pass
	157	5785	-6.83	3.01	-3.82	29.96	Pass
	165	5825	-6.6	3.01	-3.59	29.96	Pass
1	149	5745	-6.82	3.01	-3.81	29.96	Pass
	157	5785	-6.89	3.01	-3.88	29.96	Pass
	165	5825	-7.09	3.01	-4.08	29.96	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(6.04-6) = 29.96\text{dBm}/500\text{kHz}$.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-10.57	3.01	0.14	-7.42	29.96	Pass
	159	5795	-11.25	3.01	0.14	-8.1	29.96	Pass
1	151	5755	-12.08	3.01	0.14	-8.93	29.96	Pass
	159	5795	-12.5	3.01	0.14	-9.35	29.96	Pass

Note:

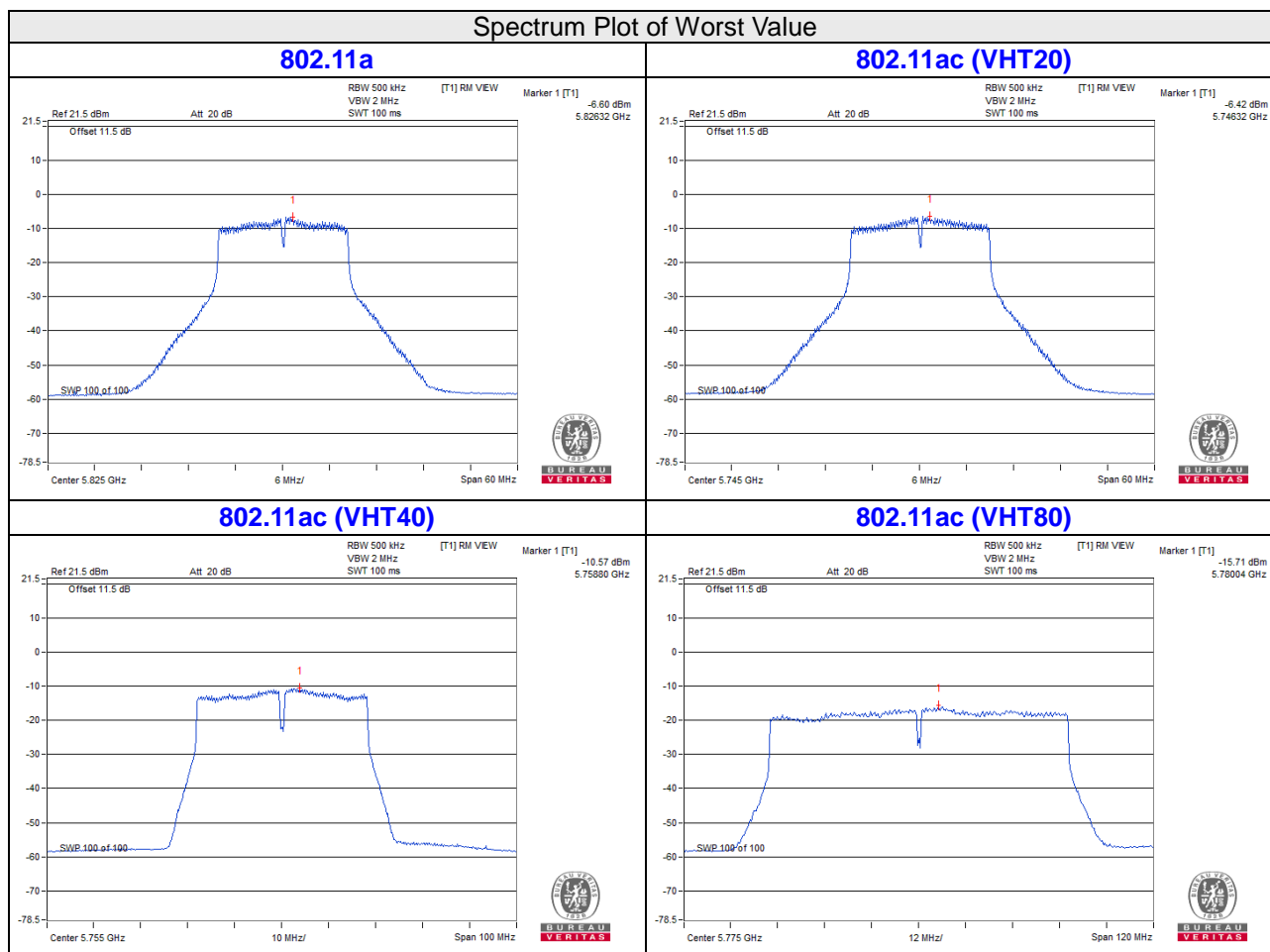
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(6.04-6) = 29.96\text{dBm}/500\text{kHz}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	-15.71	3.01	0.27	-12.43	29.96	Pass
1	155	5775	-15.87	3.01	0.27	-12.59	29.96	Pass

Note:

- Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density.
- Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2/2] = 6.04\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (6.04 - 6) = 29.96\text{dBm}/500\text{kHz}$.
- Refer to section 3.3 for duty cycle spectrum plot.

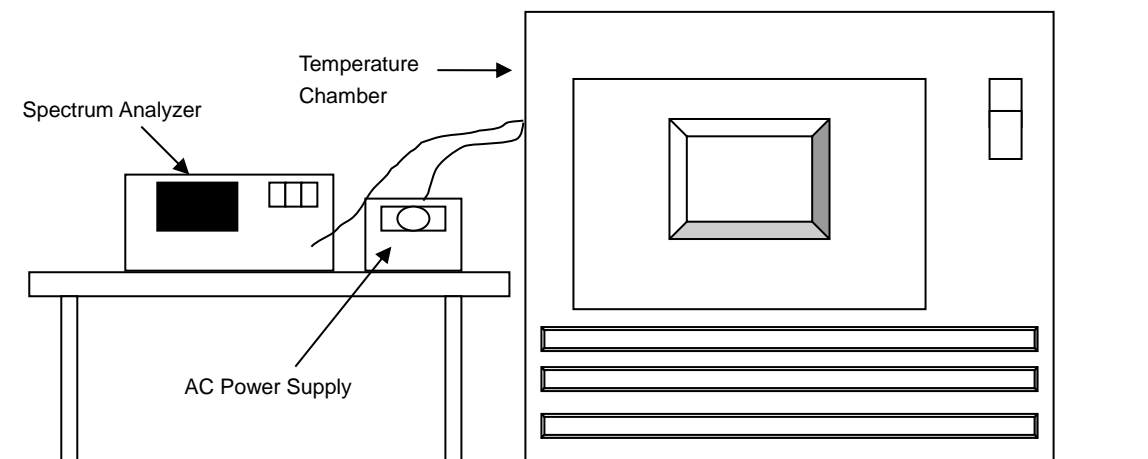


4.6 Frequency Stability

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
ROHDE & SCHWARZ Spectrum Analyzer	FSV 40	101042	Sep. 8, 2020	Sep. 7, 2021
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 9, 2020	Sep. 8, 2021
DIGITAL POWER METER IDRC	CP-240	240515	Sep. 10, 2020	Sep. 9, 2021
AC Power Source 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: Aug. 4, 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.
- 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

Mode A

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	5180.0214	PASS	5180.0171	PASS	5180.0203	PASS	5180.0185	PASS
30	120	5179.9813	PASS	5179.9827	PASS	5179.9799	PASS	5179.9795	PASS
20	120	5180.0209	PASS	5180.0209	PASS	5180.0195	PASS	5180.0202	PASS
10	120	5180.0207	PASS	5180.0186	PASS	5180.0181	PASS	5180.0173	PASS
0	120	5180.0195	PASS	5180.021	PASS	5180.0199	PASS	5180.0187	PASS

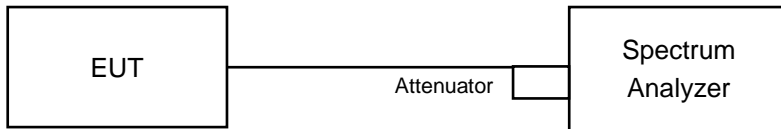
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0217	PASS	5180.02	PASS	5180.0205	PASS	5180.0212	PASS
	120	5180.0209	PASS	5180.0209	PASS	5180.0195	PASS	5180.0202	PASS
	102	5180.0209	PASS	5180.0218	PASS	5180.0194	PASS	5180.0201	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

Mode A

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.17	15.73	0.5	Pass
157	5785	15.15	15.72	0.5	Pass
165	5825	15.18	15.75	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.37	15.19	0.5	Pass
157	5785	16.07	15.77	0.5	Pass
165	5825	16	16.53	0.5	Pass

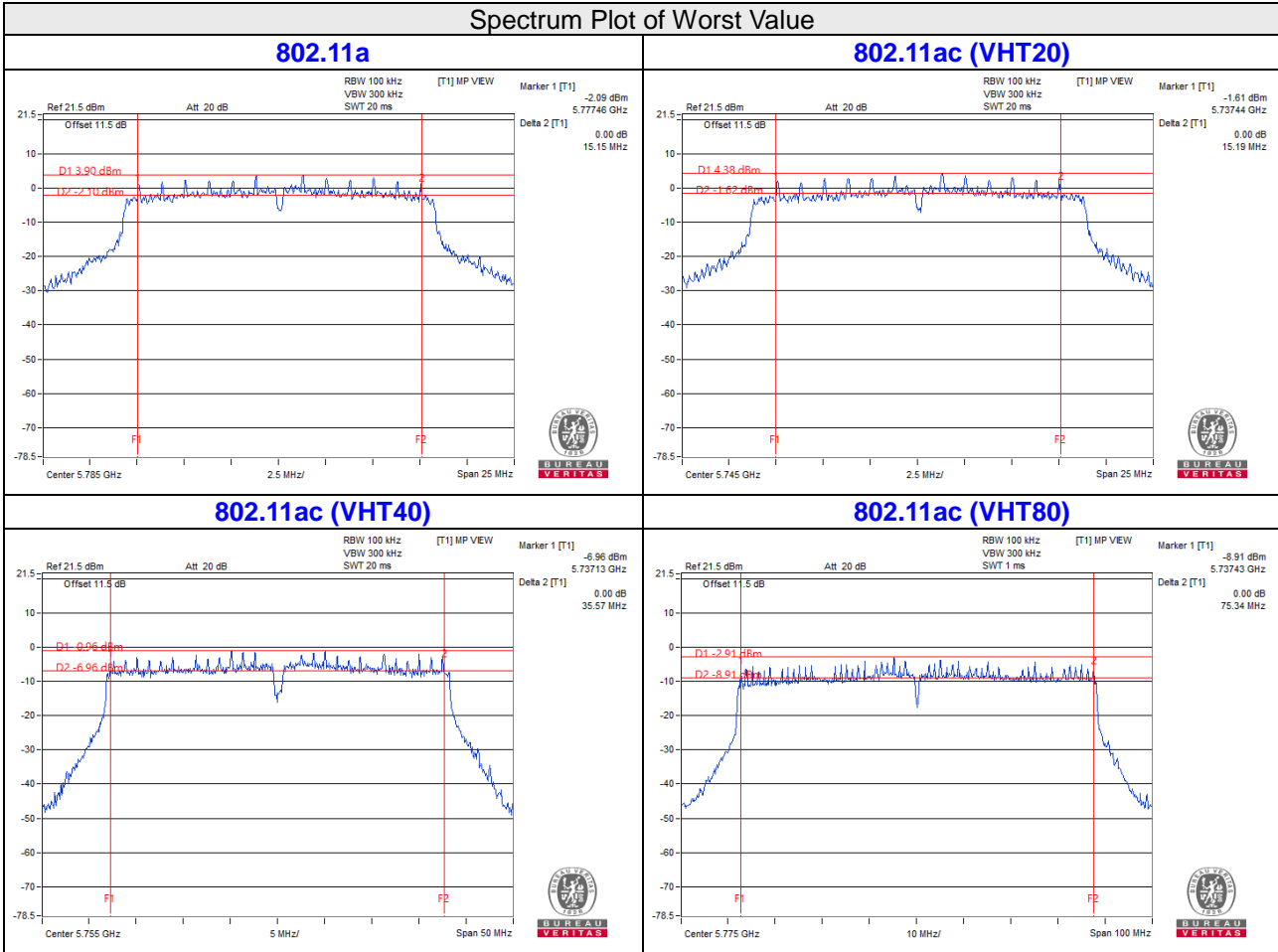
802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.63	35.57	0.5	Pass
159	5795	35.57	35.82	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.35	75.34	0.5	Pass

Spectrum Plot of Worst Value



5 Pictures of Test Arrangements

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

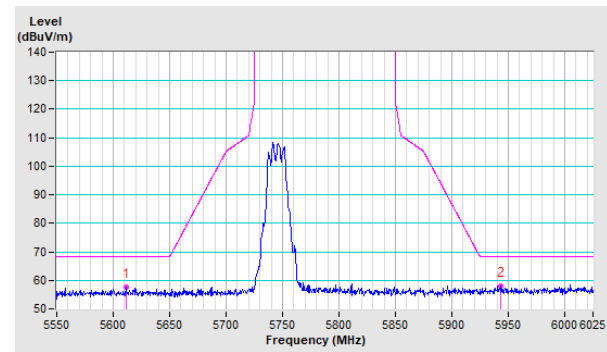
Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

Mode A

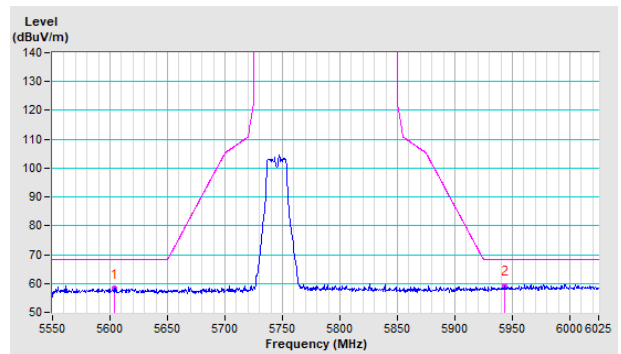
802.11a

CH 149 5745 MHz

Horizontal

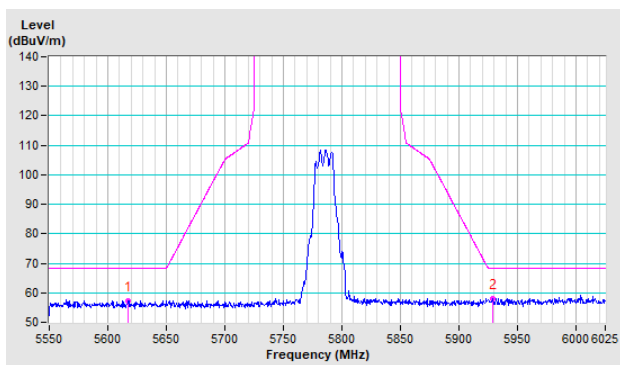


Vertical

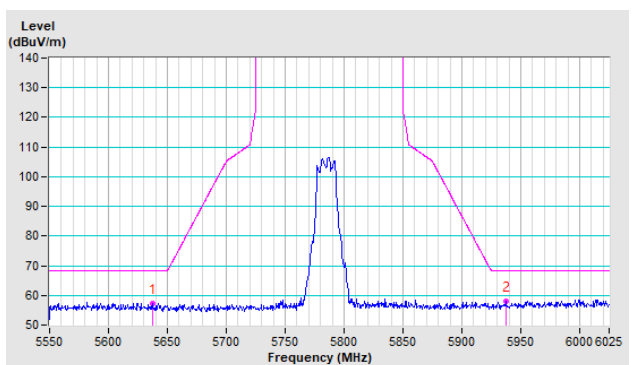


CH 157 5785 MHz

Horizontal

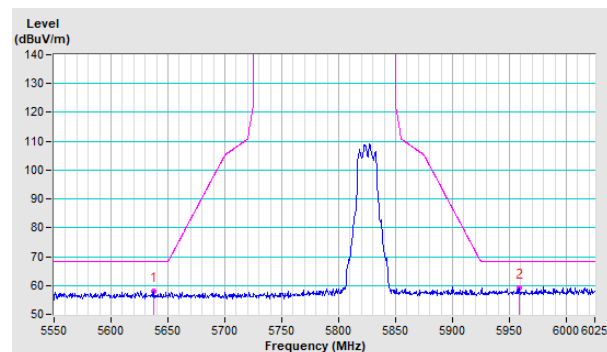


Vertical

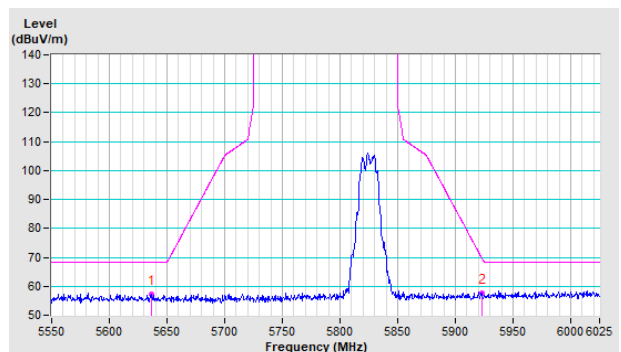


CH 165 5825 MHz

Horizontal



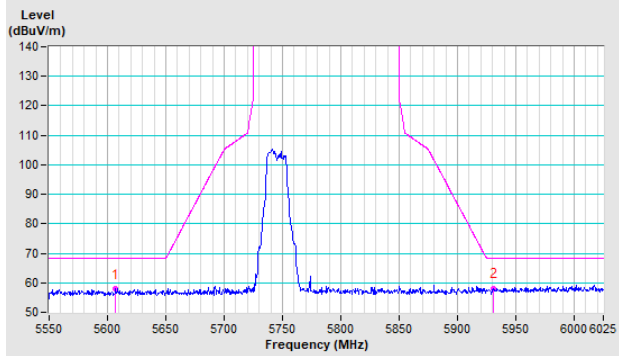
Vertical



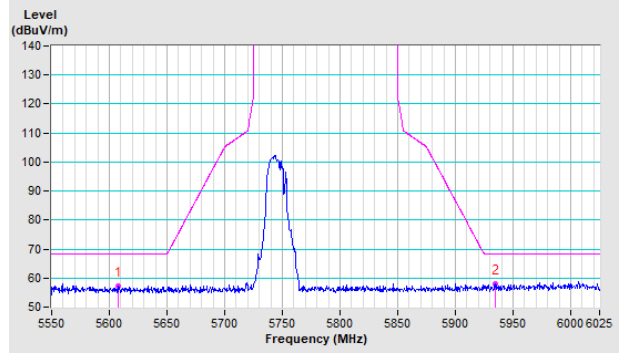
802.11ac (VHT20)

CH 149 5745 MHz

Horizontal

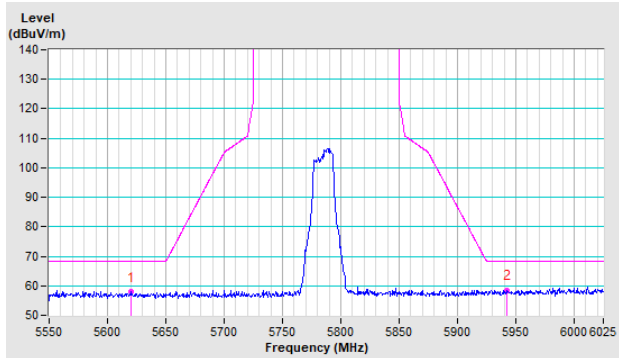


Vertical

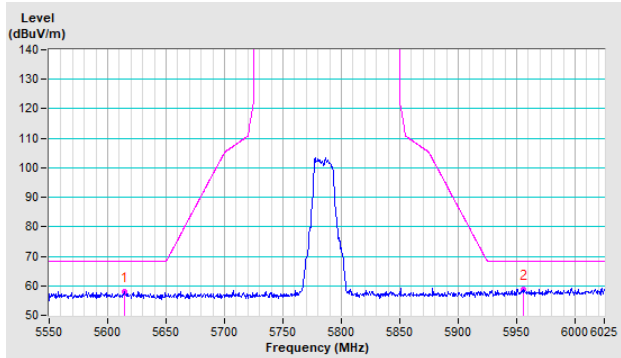


CH 157 5785 MHz

Horizontal

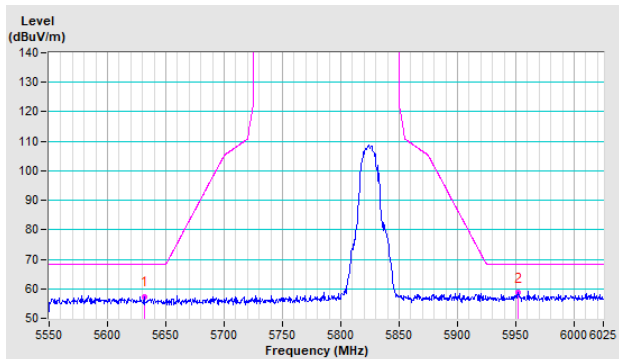


Vertical

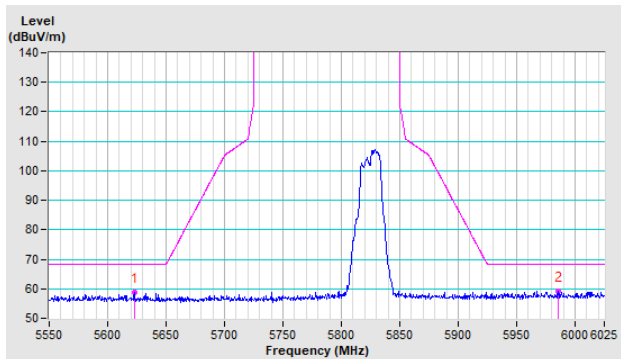


CH 165 5825 MHz

Horizontal



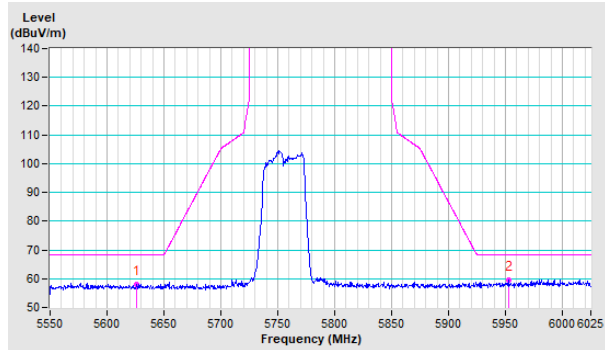
Vertical



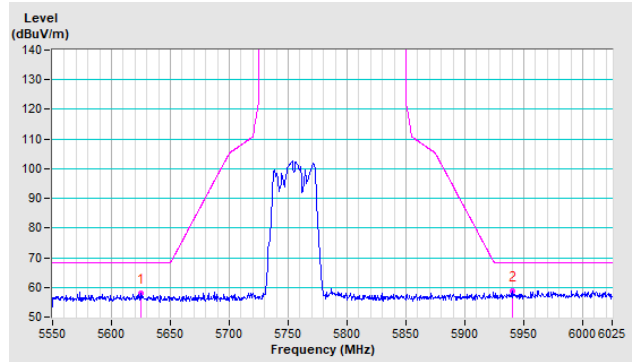
802.11ac (VHT40)

CH 151 5755 MHz

Horizontal

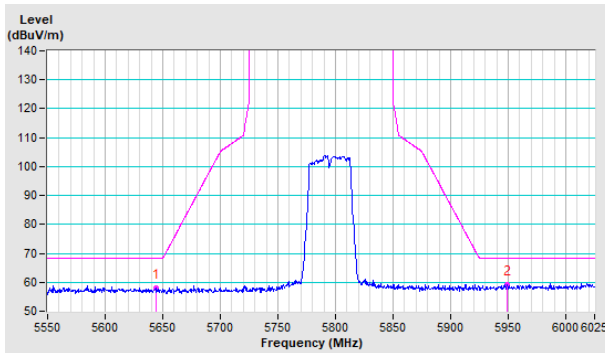


Vertical

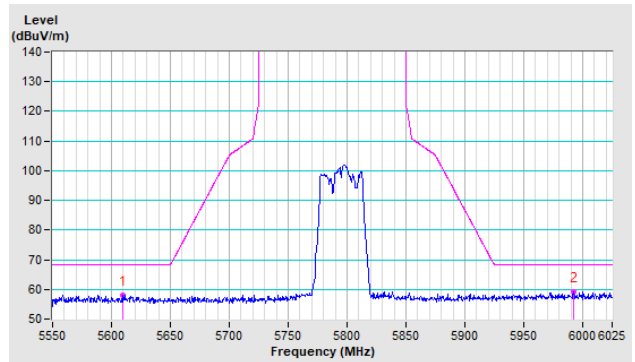


CH 159 5795 MHz

Horizontal



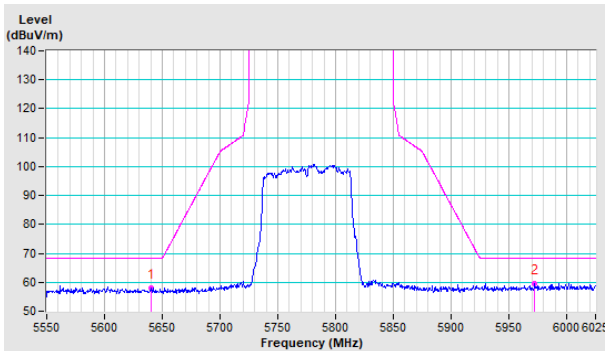
Vertical



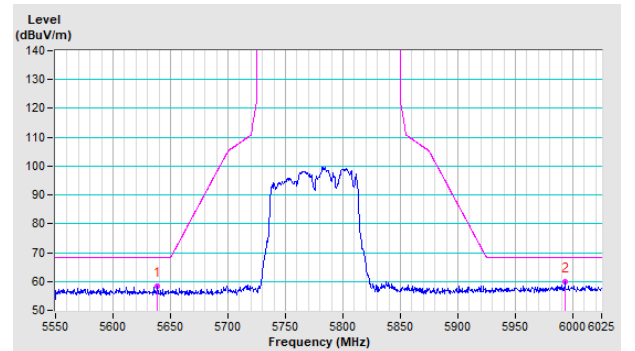
802.11ac (VHT80)

CH 155 5775 MHz

Horizontal

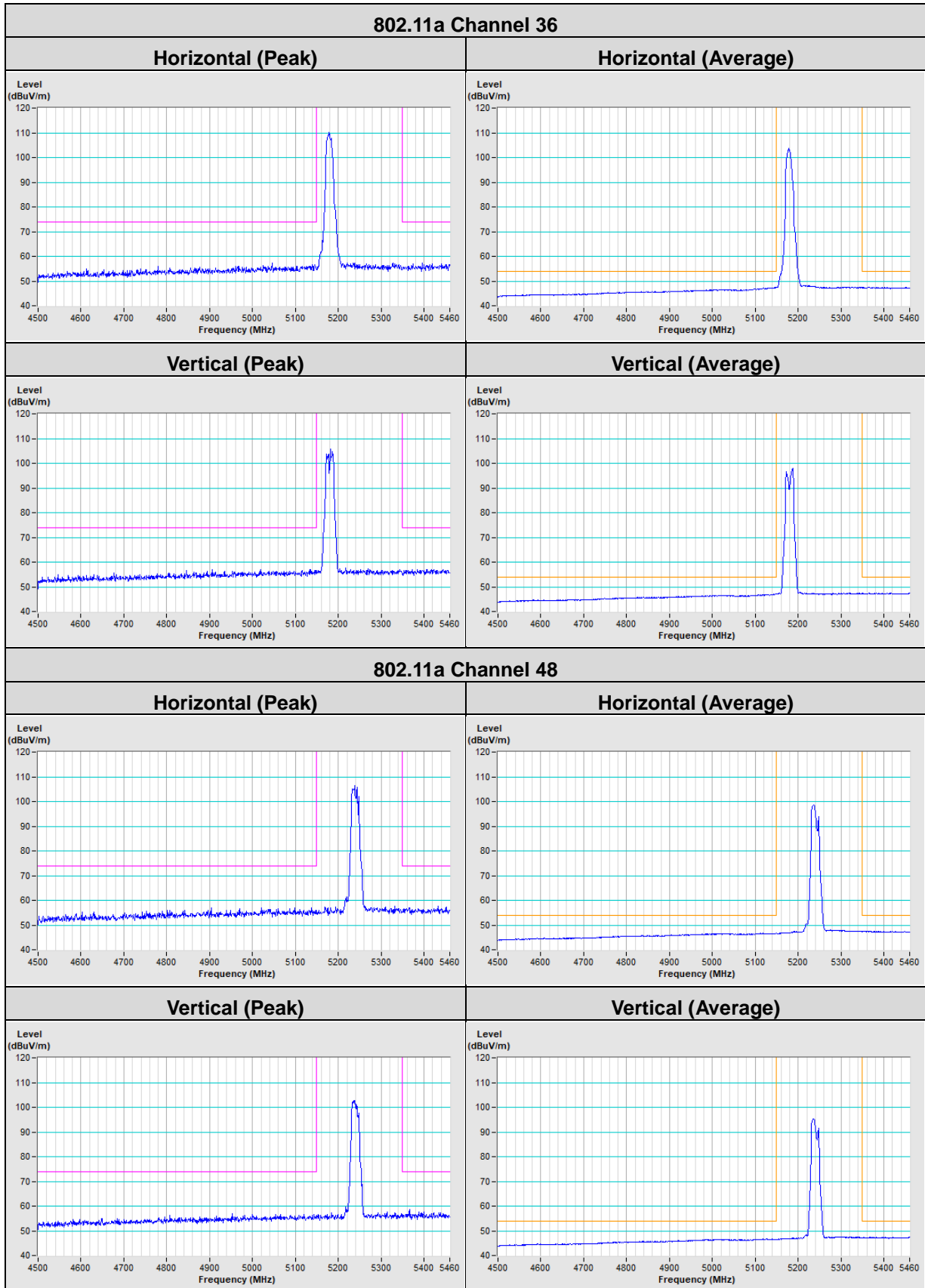


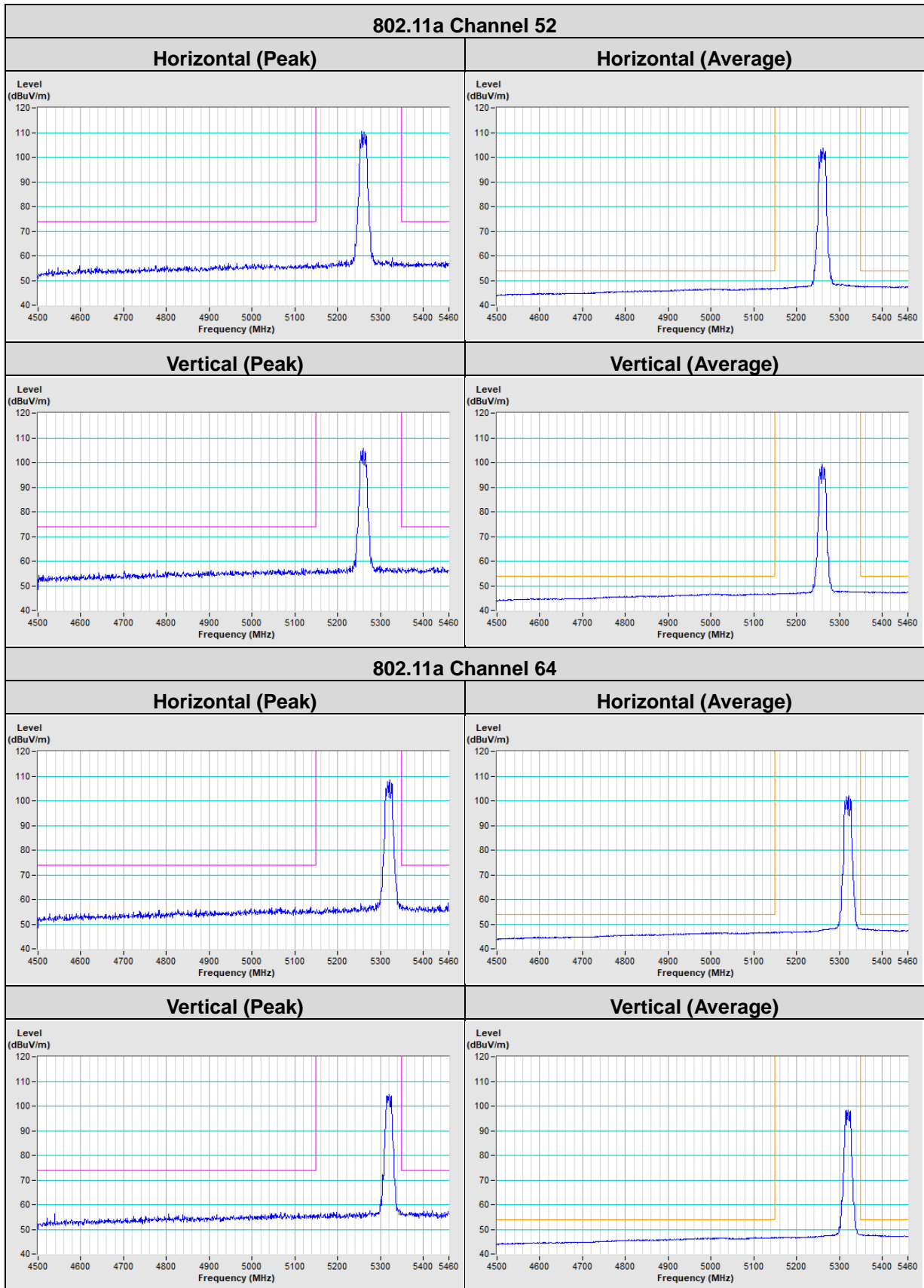
Vertical

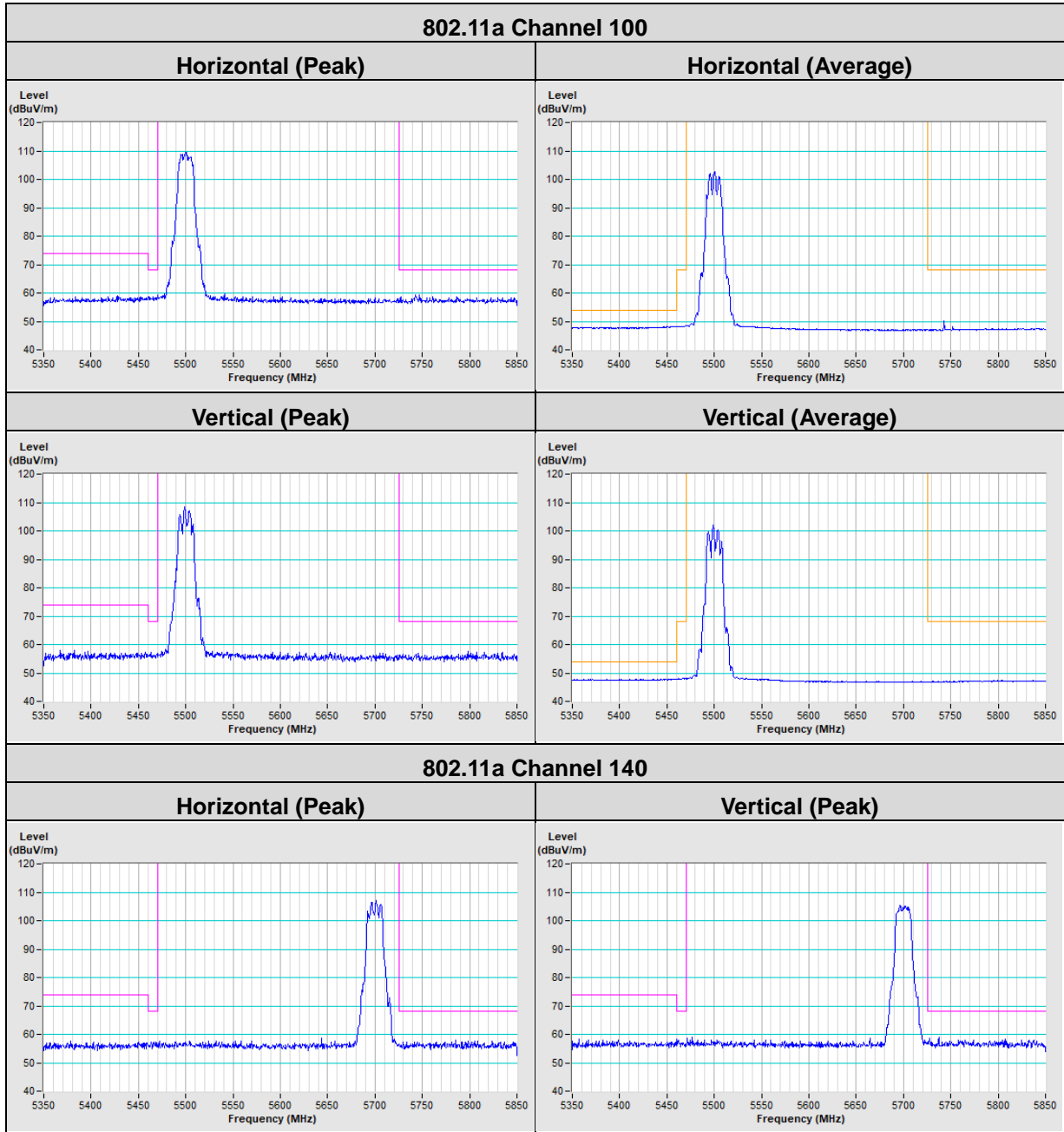


Annex B- Band Edge Measurement

Mode A

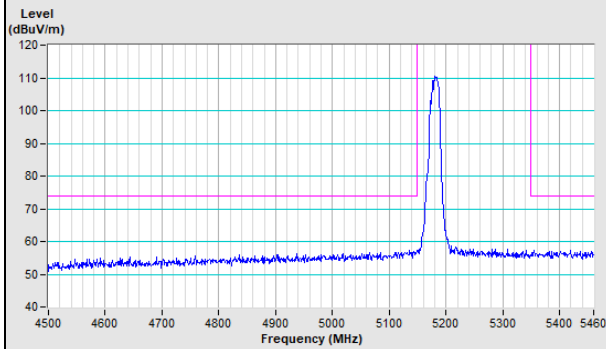




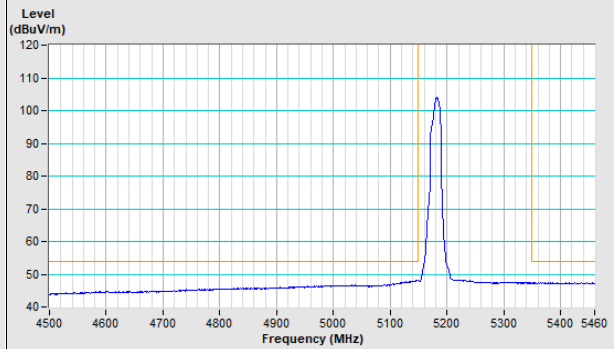


802.11ac (VHT20) Channel 36

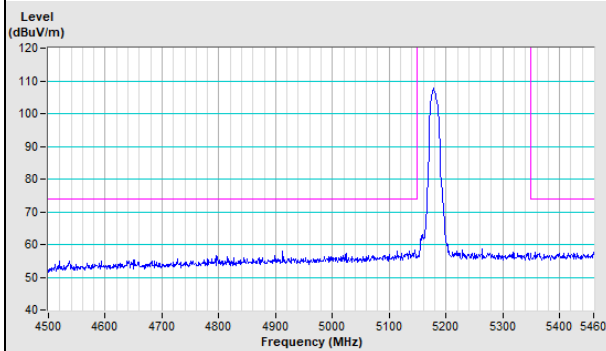
Horizontal (Peak)



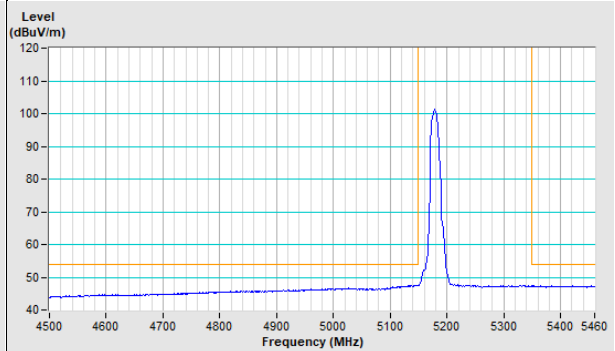
Horizontal (Average)



Vertical (Peak)

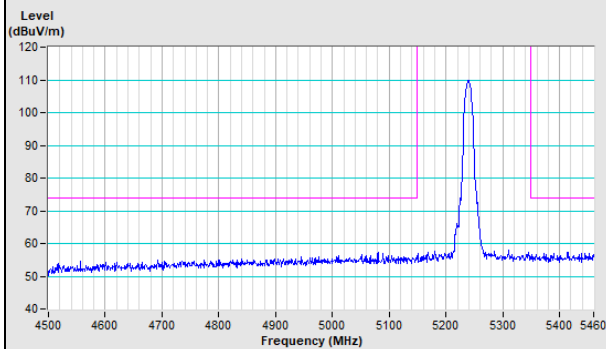


Vertical (Average)

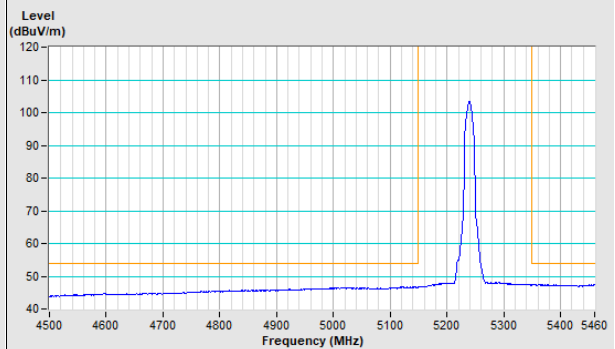


802.11ac (VHT20) Channel 48

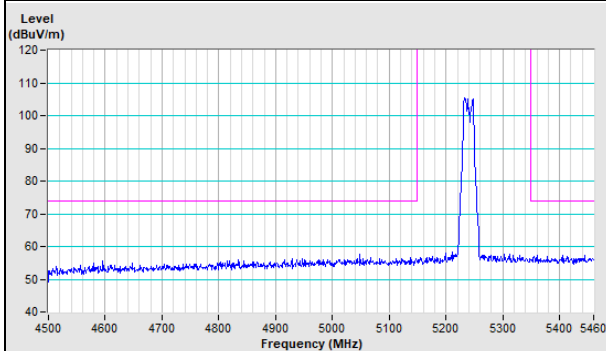
Horizontal (Peak)



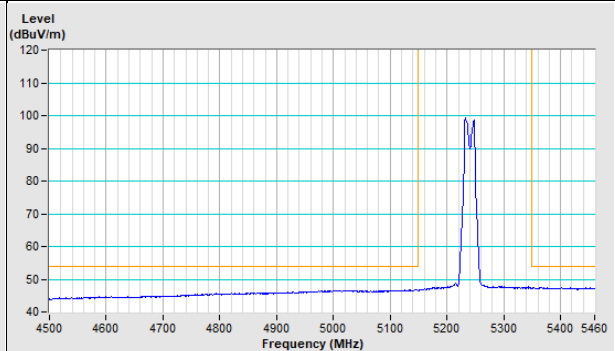
Horizontal (Average)



Vertical (Peak)

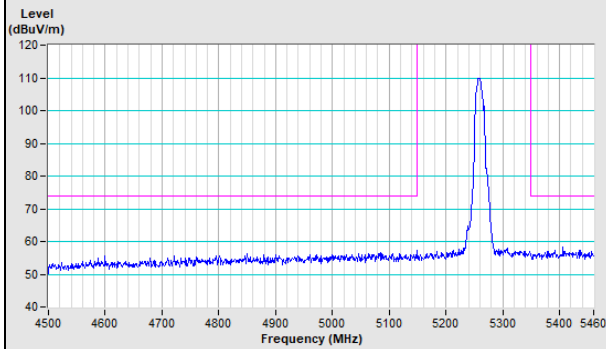


Vertical (Average)

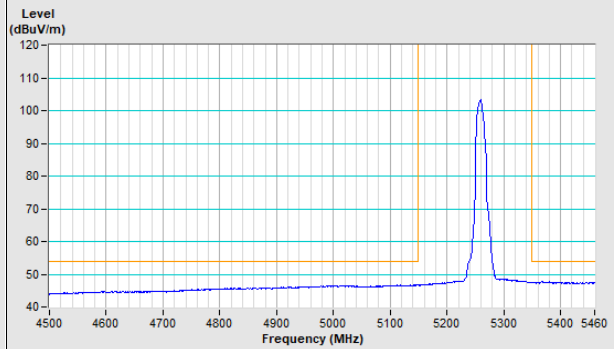


802.11ac (VHT20) Channel 52

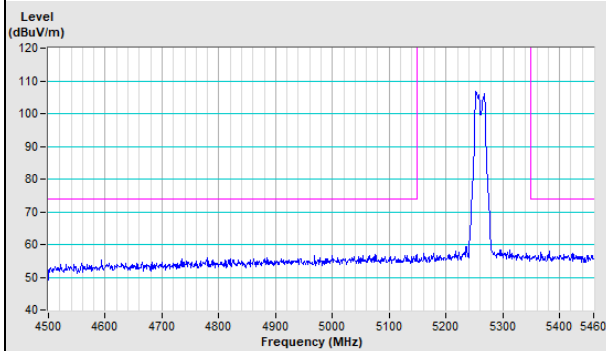
Horizontal (Peak)



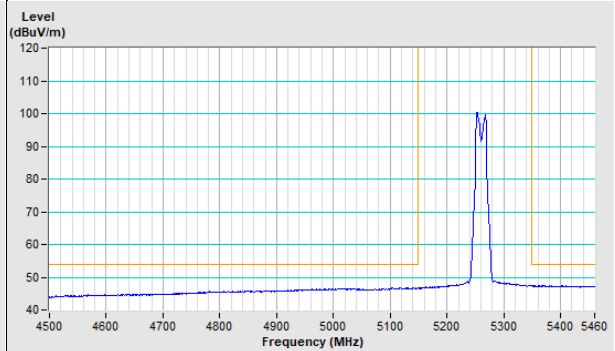
Horizontal (Average)



Vertical (Peak)

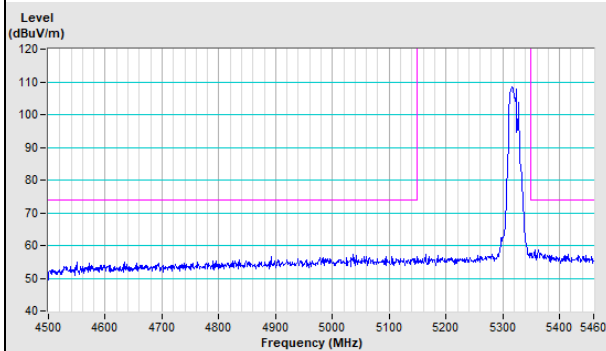


Vertical (Average)

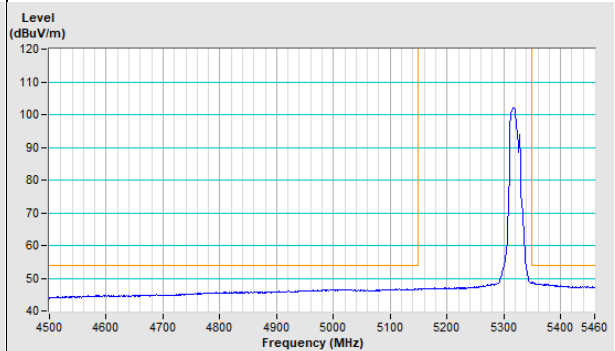


802.11ac (VHT20) Channel 64

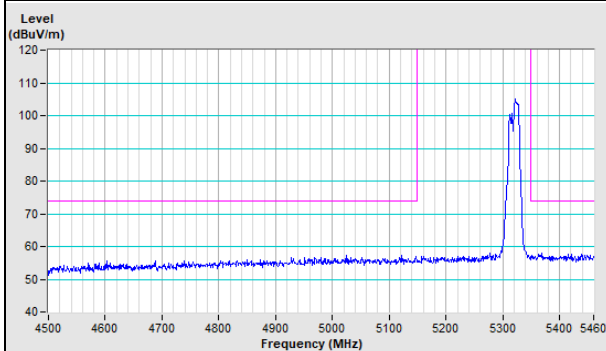
Horizontal (Peak)



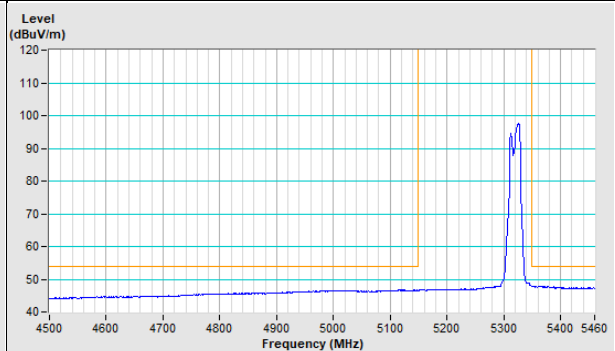
Horizontal (Average)

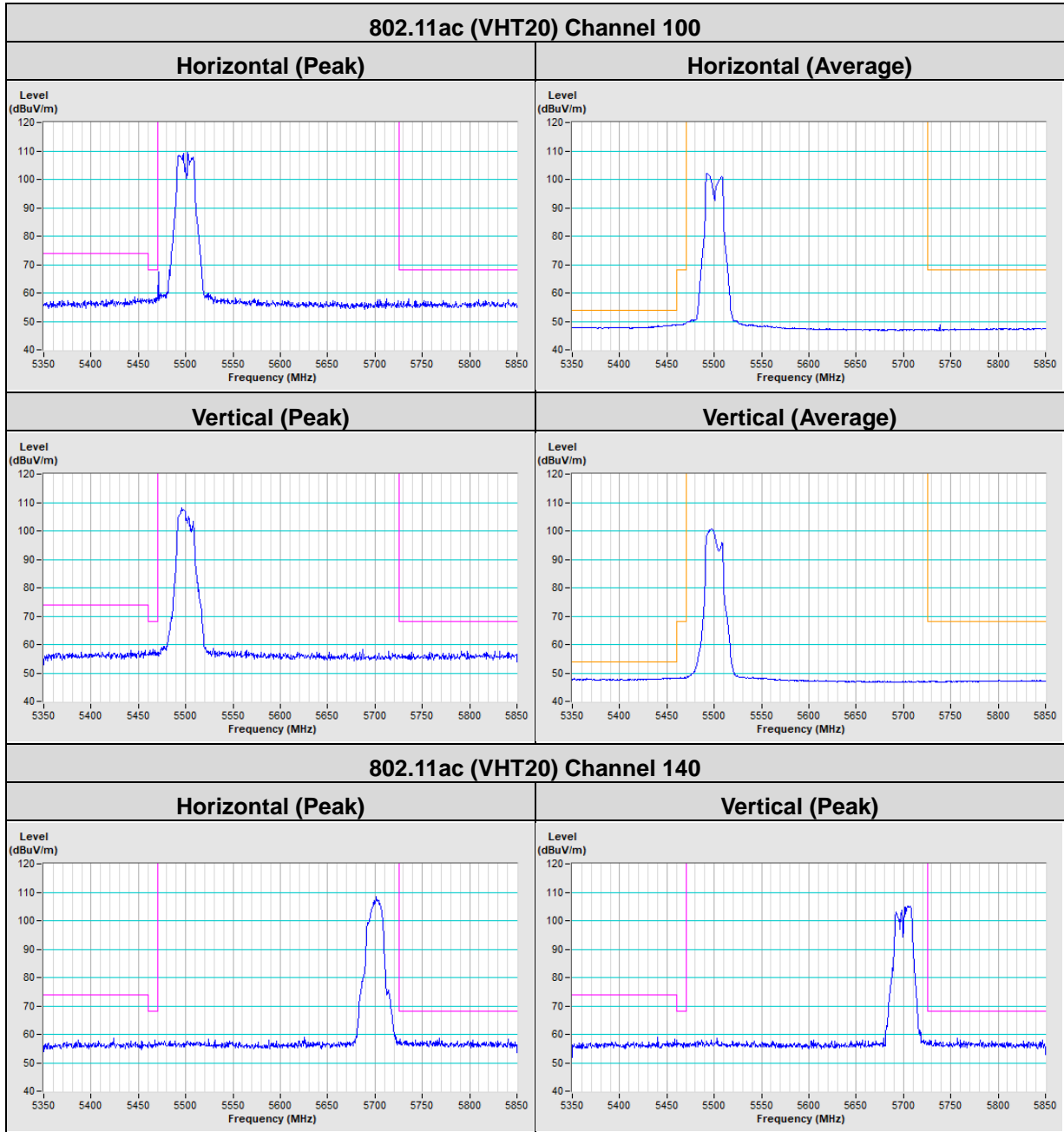


Vertical (Peak)



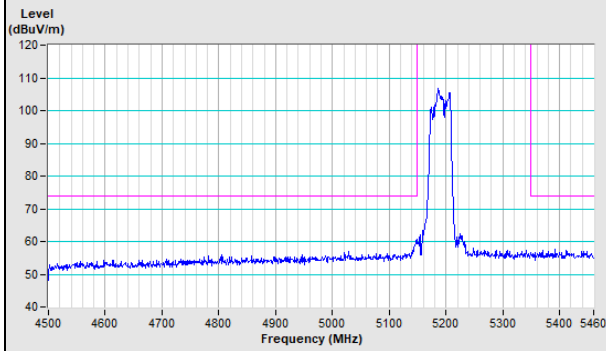
Vertical (Average)



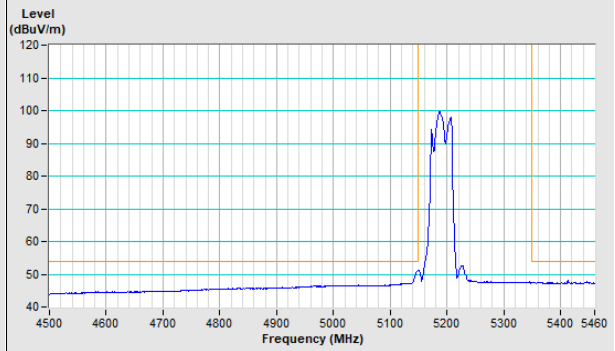


802.11ac (VHT40) Channel 38

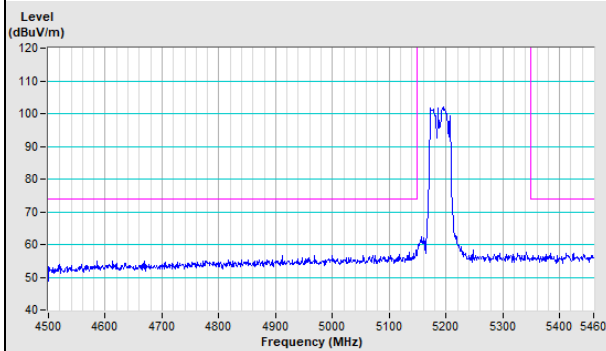
Horizontal (Peak)



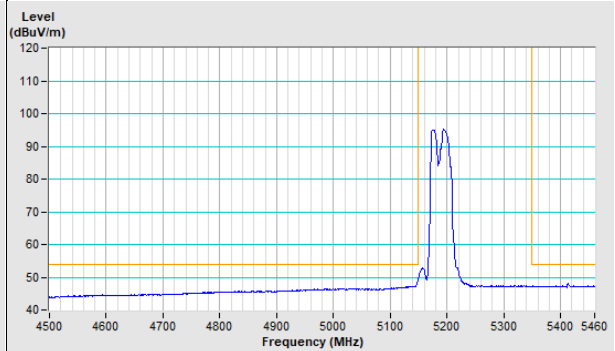
Horizontal (Average)



Vertical (Peak)

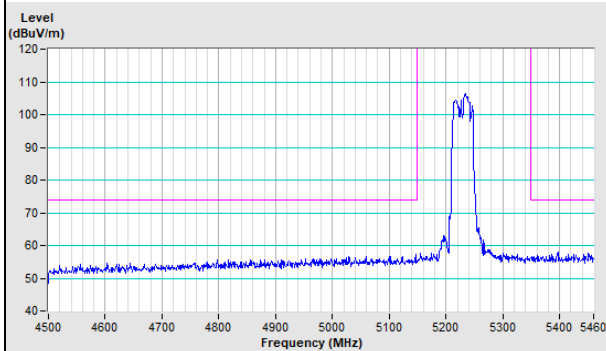


Vertical (Average)

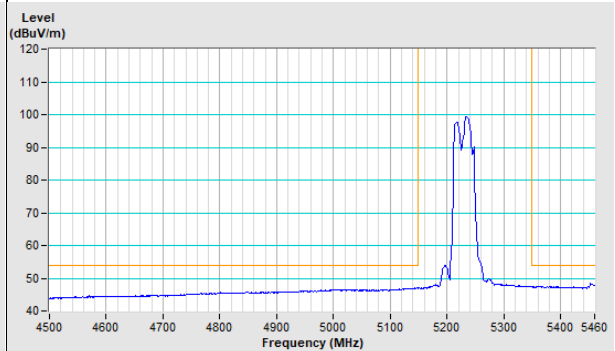


802.11ac (VHT40) Channel 46

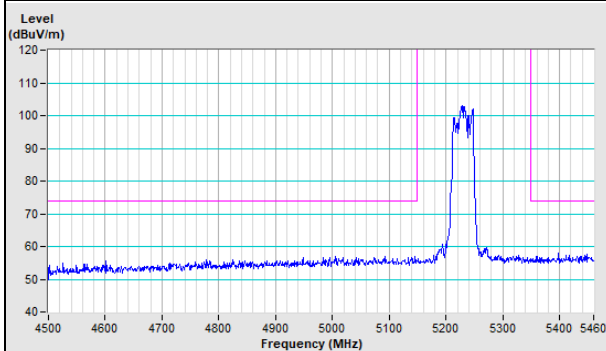
Horizontal (Peak)



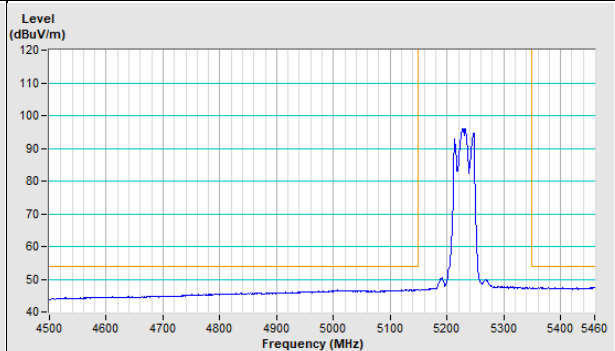
Horizontal (Average)



Vertical (Peak)

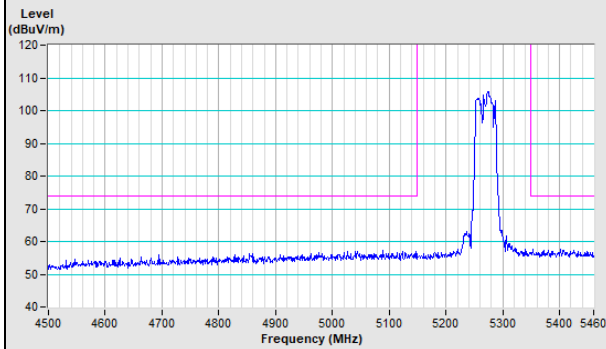


Vertical (Average)

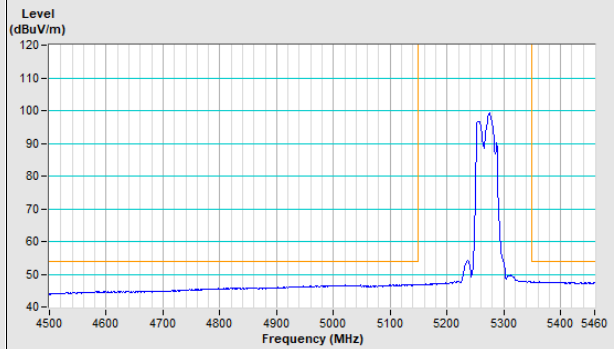


802.11ac (VHT40) Channel 54

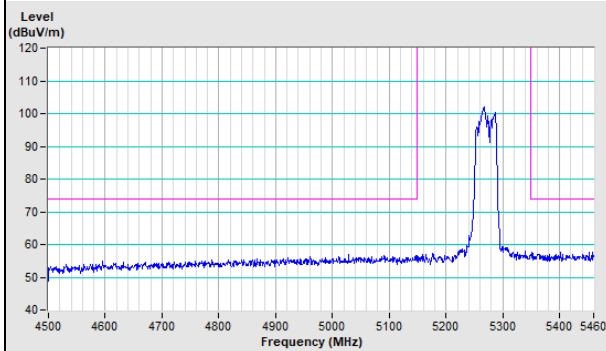
Horizontal (Peak)



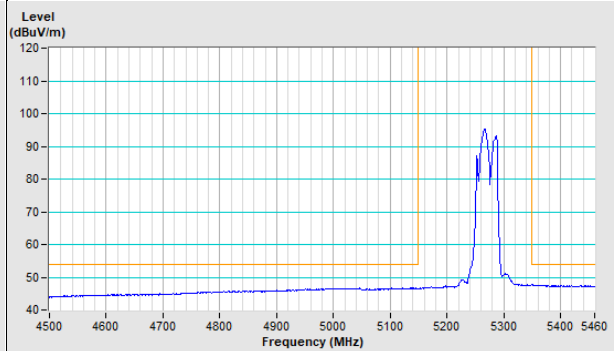
Horizontal (Average)



Vertical (Peak)

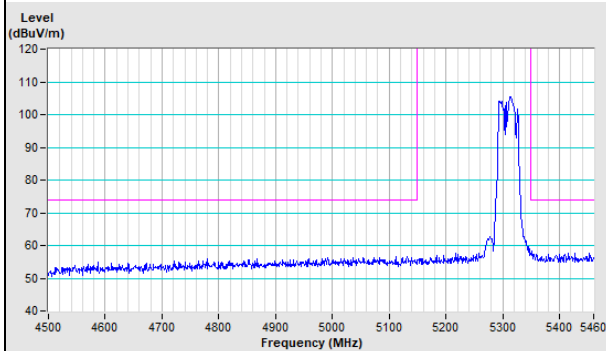


Vertical (Average)

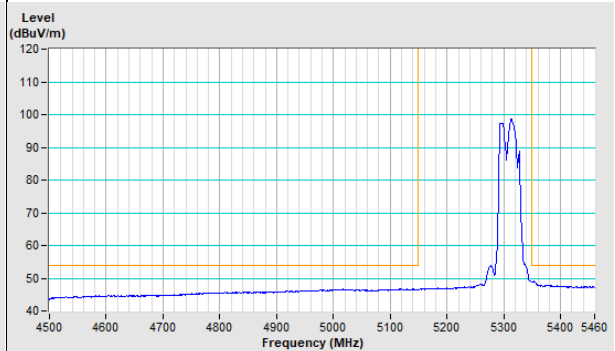


802.11ac (VHT40) Channel 62

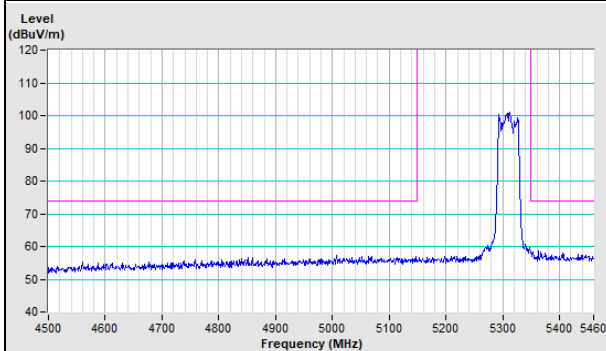
Horizontal (Peak)



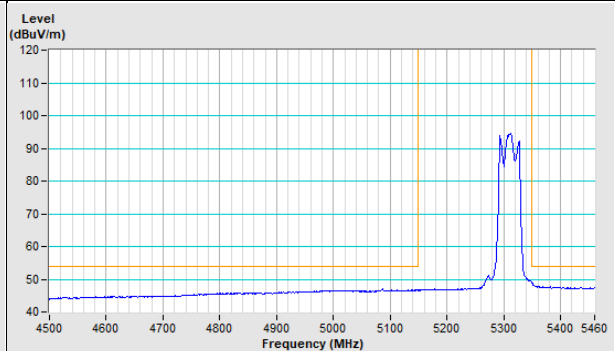
Horizontal (Average)

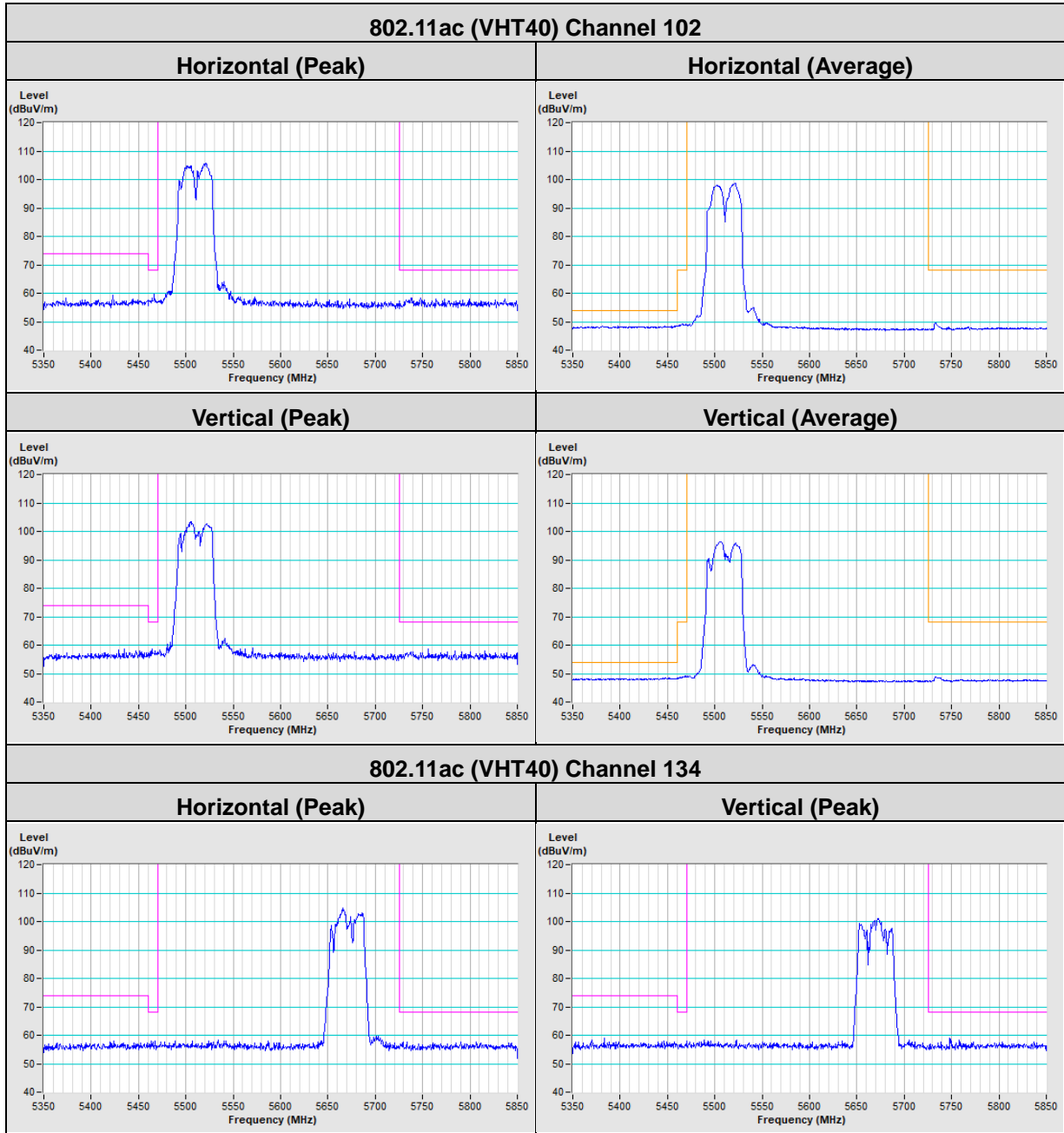


Vertical (Peak)



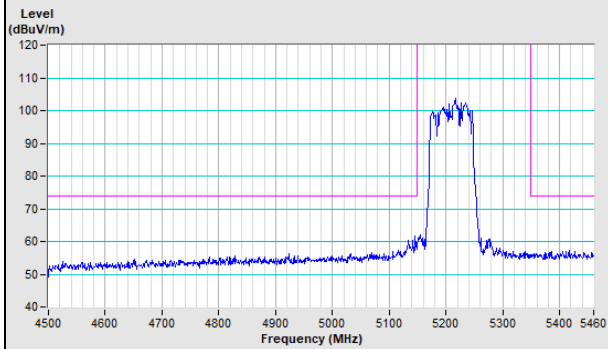
Vertical (Average)



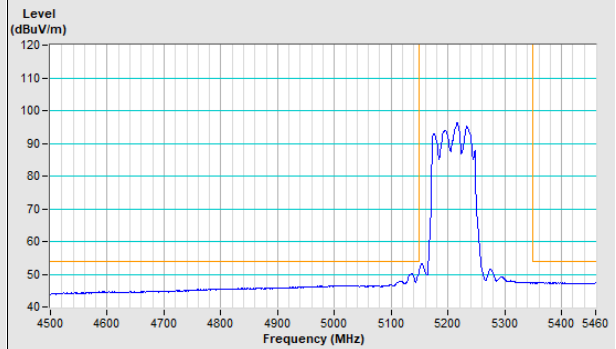


802.11ac (VHT80) Channel 42

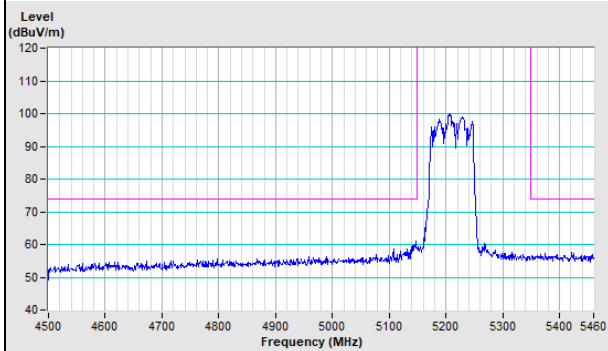
Horizontal (Peak)



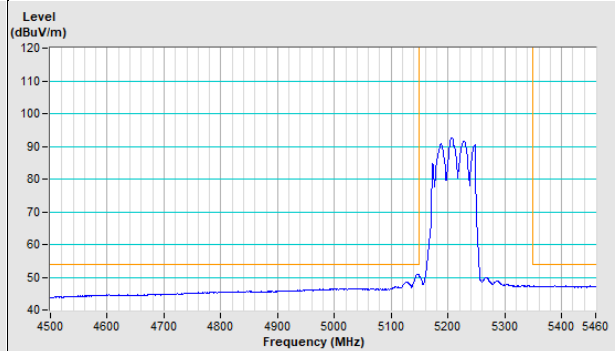
Horizontal (Average)



Vertical (Peak)

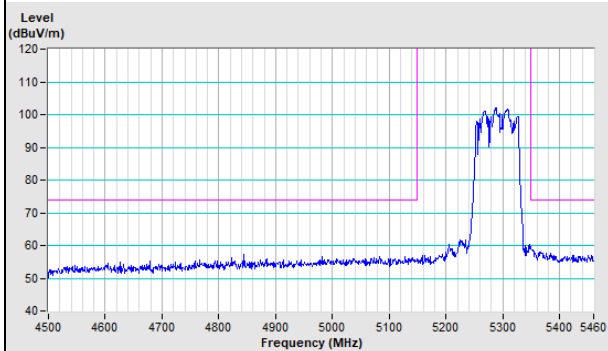


Vertical (Average)

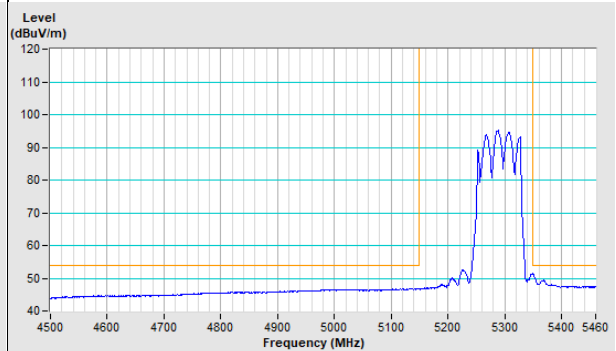


802.11ac (VHT80) Channel 58

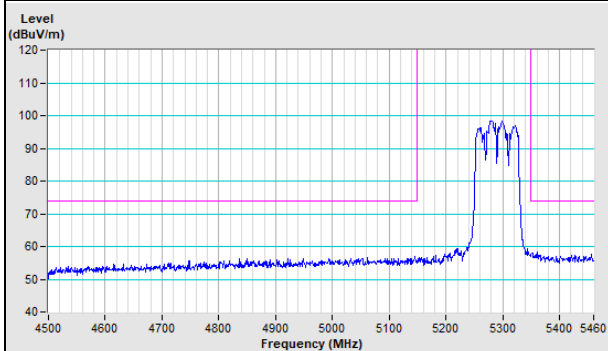
Horizontal (Peak)



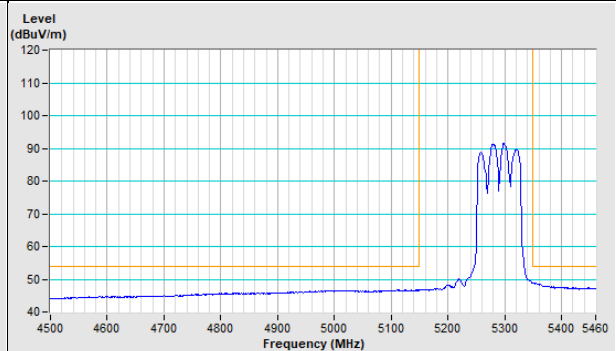
Horizontal (Average)



Vertical (Peak)

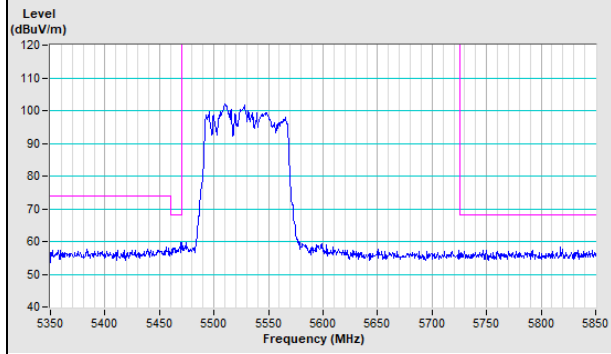


Vertical (Average)

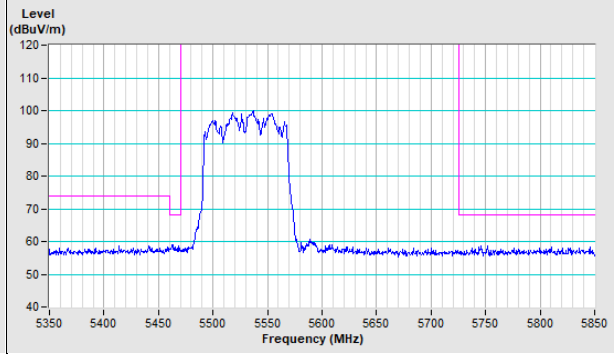


802.11ac (VHT80) Channel 106

Horizontal (Peak)



Vertical (Peak)



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.

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

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

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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