

FCC Test Report

Report No.: RFBDEM-WTW-P21060284-1

FCC ID: UXX-S5A135A

Test Model: S5A135A

Received Date: June 24, 2021

Test Date: July 29 to Aug. 03, 2021

Issued Date: Sep. 01, 2021

Applicant: Cradlepoint, Inc

Address: 1111 W. Jefferson Street Suite 400 Boise, ID 83702 USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,
Taiwan

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



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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	11
3.2.1 Test Mode Applicability and Tested Channel Detail	13
3.3 Duty Cycle of Test Signal	16
3.4 Description of Support Units	17
3.4.1 Configuration of System under Test	18
3.5 General Description of Applied Standard and References	19
4 Test Types and Results	20
4.1 Radiated Emission and Bandedge Measurement	20
4.1.1 Limits of Radiated Emission and Bandedge Measurement	20
4.1.2 Test Instruments	21
4.1.3 Test Procedure	23
4.1.4 Deviation from Test Standard	24
4.1.5 Test Setup	24
4.1.6 EUT Operating Condition	25
4.1.7 Test Results	26
4.2 Conducted Emission Measurement	70
4.2.1 Limits of Conducted Emission Measurement	70
4.2.2 Test Instruments	70
4.2.3 Test Procedure	71
4.2.4 Deviation from Test Standard	71
4.2.5 Test Setup	71
4.2.6 EUT Operating Condition	71
4.2.7 Test Results	72
4.3 Transmit Power Measurement	74
4.3.1 Limits of Transmit Power Measurement	74
4.3.2 Test Setup	74
4.3.3 Test Instruments	75
4.3.4 Test Procedure	75
4.3.5 Deviation from Test Standard	75
4.3.6 EUT Operating Condition	75
4.3.7 Test Results	76
4.4 Occupied Bandwidth Measurement	94
4.4.1 Test Setup	94
4.4.2 Test Instruments	94
4.4.3 Test Procedure	94
4.4.4 Test Results	95
4.5 Peak Power Spectral Density Measurement	103
4.5.1 Limits of Peak Power Spectral Density Measurement	103
4.5.2 Test Setup	103
4.5.3 Test Instruments	103
4.5.4 Test Procedure	103
4.5.5 Deviation from Test Standard	104
4.5.6 EUT Operating Condition	104
4.5.7 Test Results	105

4.6	Frequency Stability Measurement.....	113
4.6.1	Limits of Frequency Stability Measurement	113
4.6.2	Test Setup.....	113
4.6.3	Test Instruments	113
4.6.4	Test Procedure	113
4.6.5	Deviation from Test Standard	113
4.6.6	EUT Operating Condition	113
4.6.7	Test Results	114
4.7	6dB Bandwidth Measurement.....	115
4.7.1	Limits of 6dB Bandwidth Measurement.....	115
4.7.2	Test Setup.....	115
4.7.3	Test Instruments	115
4.7.4	Test Procedure	115
4.7.5	Deviation from Test Standard	115
4.7.6	EUT Operating Condition	115
4.7.7	Test Results	116
5	Pictures of Test Arrangements.....	118
	Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)	119
	Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)	122
	Appendix – Information of the Testing Laboratories	130

Release Control Record

Issue No.	Description	Date Issued
RFBUM-WTW-P21060284-1	Original release.	Sep. 01, 2021

1 Certificate of Conformity

Product: SOHO Branch Router

Brand: cradlepoint

Test Model: S5A135A

Sample Status: ENGINEERING SAMPLE

Applicant: Cradlepoint, Inc

Test Date: July 29 to Aug. 03, 2021

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

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

Prepared by : Vivian Huang , **Date:** Sep. 01, 2021
Vivian Hunag / Specialist

Approved by : Clark Lin , **Date:** Sep. 01, 2021
Clark Lin / 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)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -9.27dB at 0.34922 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.4 dB at 11650.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

- For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.
- 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.
- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.5 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	SOHO Branch Router
Brand	cradlepoint
Test Model	S5A135A
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462 GHz 5GHz: 5.18~ 5.24 GHz, 5.50~5.72GHz, 5.745 ~ 5.825 GHz
Number of Channel	2.4GHz: 802.11b, 802.11g, 802.11n (HT20), VHT20: 11 802.11n (HT40), VHT40: 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 25 802.11n (HT40), 802.11ac (VHT40): 12 802.11ac (VHT80): 6
Output Power	CDD Mode: 2.412 ~ 2.462 GHz: 271.049 mW 5.18 ~ 5.24 GHz: 105.674 mW 5.26 ~ 5.32GHz: 123.345 mW 5.5 ~ 5.72GHz: 190.402 mW 5.745 ~ 5.825 GHz: 106.396 mW Beamforming Mode: 2.412 ~ 2.462 GHz: 127.487 mW 5.18 ~ 5.24 GHz: 105.674 mW 5.26 ~ 5.32GHz: 123.345 mW 5.5 ~ 5.72GHz: 160.95 mW 5.745 ~ 5.825 GHz: 106.396 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	Ethernet cable x 1 (Unshielded, 1.5 m)

Note:

1. Simultaneously transmission condition.

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

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

2. The EUT has two radios as following table:

Radio 1	Radio 2
WLAN (2.4GHz + 5GHz)	WWAN (LTE + WCDMA)

3. The EUT information are as below table:

Brand	Product Marketing Name (PMN)	Model	Wi-Fi Function	Embedded Radio (WWAN Module)
cradlepoint	E102-C7C	S5A135A	Yes	Brand: Sierra Wireless Model: MC7411 Contains FCC ID: N7NMC74B Contains IC: 2417C-MC74B

4. The EUT could be supplied with a power adapter as the following table:

No	Brand Name	Model Name	Spec.
1	KUANTECH	KSA-36W-120300D5	Input: 100-240 Vac, 1 A, 50-60 Hz Output: 12 Vdc, 3 A DC output cable (Unshielded, 1.5 m)
2	Asian Power Devices	WA-36N12R	Input: 100-240 Vac, 1 A, 50-60 Hz Output: 12 Vdc, 3 A DC output cable (Unshielded, 1.5 m)

Note: From the above modes, the worst radiated emission test was found in **Adapter 2**. Therefore only the test data of the modes were recorded in this report.

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

For WLAN								
Ant. No.	RF Chain No.	Brand	Model	Ant. Net Gain (dBi)	Frequency Range (GHz)	Ant. Type	Connector Type	Cable Length (mm)
1	WiFi Chain0	Cradlepoint	ANT1_N03UEADA-T10-PK1-B130U	5	2.4~2.4835	PCB	i-pex(MHF)	130
				4.9	5.15~5.25			
				4.3	5.25~5.35			
				4.3	5.47~5.725			
2	WiFi Chain1	Cradlepoint	ANT2_N03UEADA-T-PK1-G230U	3.4	2.4~2.4835	PCB	i-pex(MHF)	230
				4.5	5.15~5.25			
				1.9	5.25~5.35			
				1.9	5.47~5.725			
For WWAN								
Ant. Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (MHz)	Antenna Type	Connector Type	Cable Length (mm)
3	LTE MAIN	Cradlepoint	YWX-UM03SAX9-711B	1.1	615~960	Dipole	SMA	95
				0.6	1445~1515			
				2.63	1710~2700			
				4	3400~3800			
4	LTE AUX	Cradlepoint	YWX-UM03SAX9-711B	1.1	615~960	Dipole	SMA	95
				0.6	1445~1515			
				2.63	1710~2700			
				4	3400~3800			

Note: Max. gain was selected for the final test.

6. The EUT incorporates a MIMO function:

2.4GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
5GHz Band		
MODULATION MODE	TX & RX CONFIGURATION	
802.11a	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
802.11ac (VHT20)	2TX	2RX
802.11ac (VHT40)	2TX	2RX
802.11ac (VHT80)	2TX	2RX

Note:

1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
 2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
 3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz), 802.11ac mode for 20MHz (40MHz, 80MHz), therefore the manufacturer will control the power for 802.11n/ac mode is more lower than it and investigated worst case to representative mode in test report. (Final test mode refer to section 3.2.1)
7. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
8. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

FOR 5180 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	54	5270 MHz
46	5230 MHz	62	5310 MHz

2 channel is provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz

FOR 5500 ~ 5720MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

Channel	Frequency
155	5775 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of laying-flat and wall-mount. The worst case was found when positioned of on laying-flat.

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.

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5320 5500-5720 5745-5825	36 to 64 100 to 144 149 to 165	140	OFDM	BPSK	6

Power Line Conducted Emission Test:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate Parameter
802.11a	5180-5320 5500-5720 5745-5825	36 to 64 100 to 144 149 to 165	140	OFDM	BPSK	6

Antenna Port Conducted Measurement:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	29.3
802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

Beamforming Mode (output power only)

Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT20)	5180-5320	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6
802.11ac (VHT40)		38 to 62	38, 46, 54, 62	OFDM	BPSK	6.5
802.11ac (VHT80)		42, 58	42, 58	OFDM	BPSK	13.5
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	6.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	13.5
802.11ac (VHT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11ac (VHT40)		151 to 159	151, 159	OFDM	BPSK	6.5
802.11ac (VHT80)		155	155	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE \geq 1G	25deg. C, 65%RH	120Vac, 60Hz	Spencer Liao
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Carter Lin
PLC	25deg. C, 75%RH	120Vac, 60Hz	Carter Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Leon Dai

3.3 Duty Cycle of Test Signal

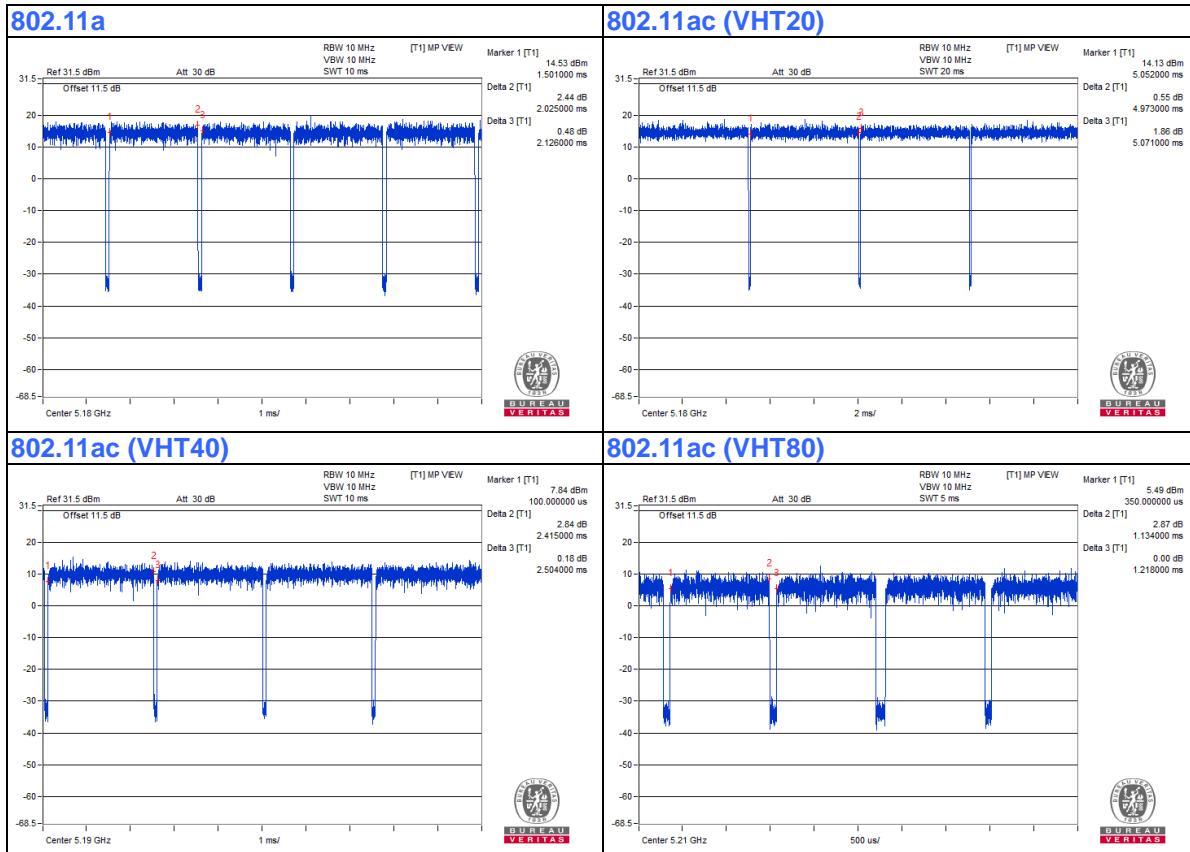
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.
 If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

802.11a: Duty cycle = $2.025 \text{ ms} / 2.126 \text{ ms} = 0.952$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.21 \text{ dB}$

802.11ac (VHT20): Duty cycle = $4.973 \text{ ms} / 5.071 \text{ ms} = 0.981$

802.11ac (VHT40): Duty cycle = $2.415 \text{ ms} / 2.504 \text{ ms} = 0.964$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.16 \text{ dB}$

802.11ac (VHT80): Duty cycle = $1.134 \text{ ms} / 1.218 \text{ ms} = 0.931$, Duty factor = $10 * \log (1/\text{Duty cycle}) = 0.31 \text{ dB}$



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.

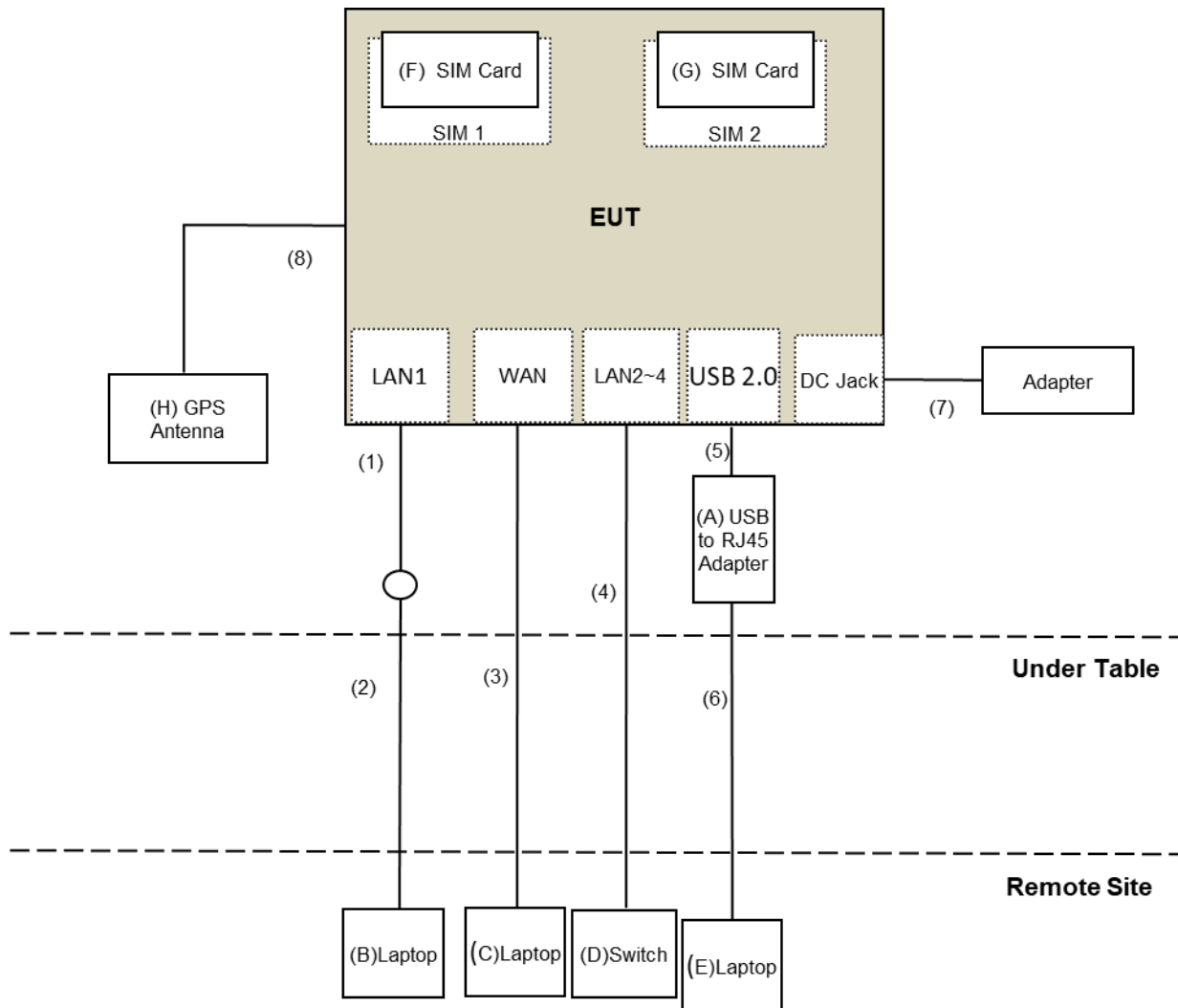
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	USB to RJ45 Adapter	UNITEK	N/A	NA	NA	Supplied by client
B.	Laptop	Lenovo	81A4	YD02YN76	NA	Provided by Lab
C.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
D.	Switch	D-Link	DGS-1005D	DR8WC92000523	NA	Provided by Lab
E.	Laptop	DELL	Inspiron 7570	DW3CSJ2	NA	Provided by Lab
F.	SIM Card	R&S	CRT-Z3	NA	NA	Provided by Lab
G.	SIM Card	R&S	CRT-Z3	NA	NA	Provided by Lab
H.	GPS Antenna	BV_Cradle	IBR200/250	NA	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	1.5	No	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	3	10	No	0	Provided by Lab
4.	RJ-45 Cable	1	10	No	0	Provided by Lab
5.	USB Cable	1	0.1	No	0	Supplied by client
6.	RJ-45 Cable	1	10	No	0	Provided by Lab
7.	DC Cable	1	1.5	No	0	Supplied by client
8.	GPS Antenna Cable	1	3	No	0	Provided by Lab

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

Note:

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

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

4.1.2 Test Instruments

For Radiated Emission & OOB & BandEdge test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210202	Dec. 01, 2020	Nov. 30, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 24, 2021	May 23, 2022
Loop Antenna Electro-Metrics	EM-6879	264	Mar. 05, 2021	Mar. 04, 2022
RF Cable	5D-FB	LOOPCAB-001	Jan. 07, 2021	Jan. 06, 2022
RF Cable	5D-FB	LOOPCAB-002	Jan. 07, 2021	Jan. 06, 2022
Pre-Amplifier EMCI	EMC330N	980701	Mar. 10, 2021	Mar. 09, 2022
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 06, 2020	Nov. 05, 2021
RF Cable	8D	966-4-1	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-2	Mar. 17, 2021	Mar. 16, 2022
RF Cable	8D	966-4-3	Mar. 17, 2021	Mar. 16, 2022
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 22, 2020	Nov. 21, 2021
Pre-Amplifier EMCI	EMC 12630 SE	980638	Apr. 07, 2021	Apr. 06, 2022
RF Cable	EMC104-SM-SM-1200	160922	Dec. 25, 2020	Dec. 24, 2021
RF Cable	EMC104-SM-SM-2000	180502	Apr. 26, 2021	Apr. 25, 2022
RF Cable	EMC104-SM-SM-6000	180418	Apr. 26, 2021	Apr. 25, 2022
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 11, 2021	Jan. 10, 2022
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 22, 2020	Nov. 21, 2021
RF Cable	EMC102-KM-KM-1200	160924	Jan. 11, 2021	Jan. 10, 2022
RF Cable	EMC-KM-KM-4000	200214	Mar. 10, 2021	Mar. 09, 2022
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. Tested Date: Aug. 03, 2021

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	Mar. 08, 2021	Mar. 07, 2022
Power meter Anritsu	ML2495A	1529002	June 21, 2021	June 20, 2022
Power sensor Anritsu	MA2411B	1339443	May 31, 2021	May 30, 2022
10dB Attenuator Woken	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	June 02, 2021	June 01, 2022
True RMS Clamp Meter FLUKE	325	31130711WS	June 02, 2021	June 01, 2022
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

- NOTE:**
1. The test was performed in Oven room 2.
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 3. Tested Date: July 29 to 30, 2021

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

Note:

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

For Radiated emission above 30MHz

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

Note:

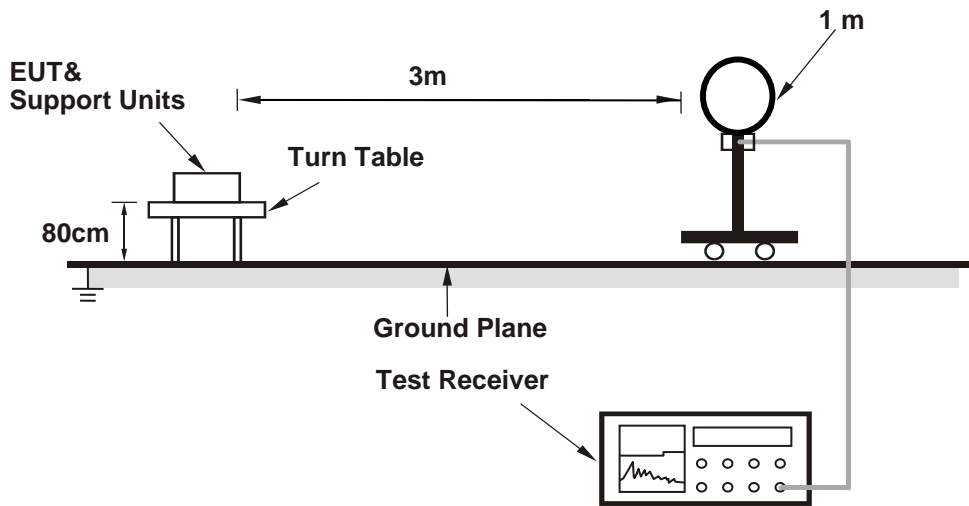
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

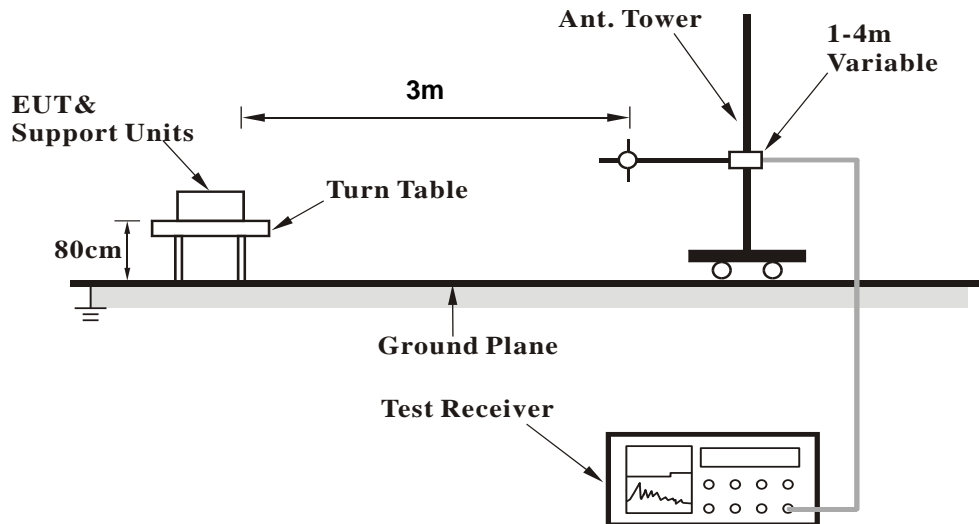
No deviation.

4.1.5 Test Setup

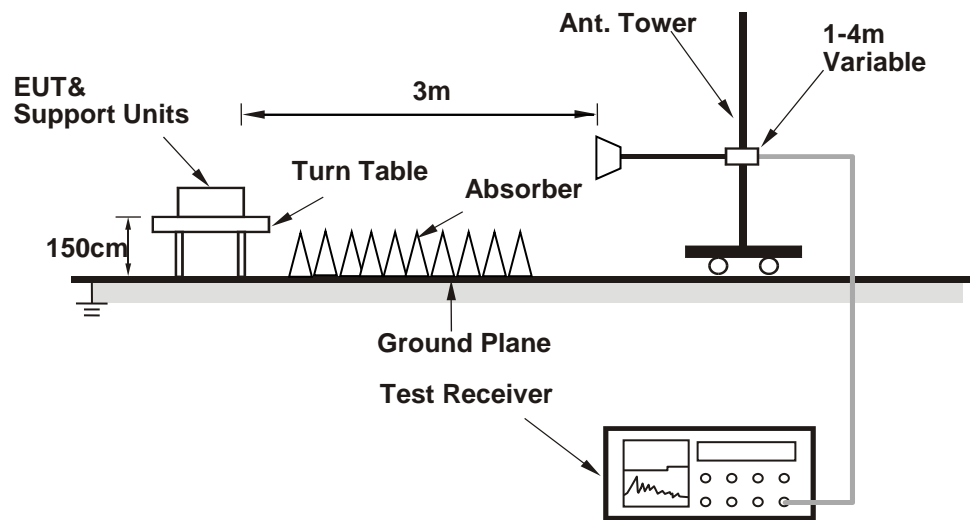
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

- a. Connected the EUT with the Laptop which is placed on remote site.
- b. Controlling software (QDART_1.0.44) has been activated to set the EUT under transmission condition continuously.

4.1.7 Test Results

Above 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 36 : 5180 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.5 PK	74.0	-15.5	1.49 H	287	57.4	1.1
2	5150.00	47.1 AV	54.0	-6.9	1.49 H	287	46.0	1.1
3	*5180.00	100.1 PK			1.49 H	287	99.1	1.0
4	*5180.00	91.5 AV			1.49 H	287	90.5	1.0
5	#10360.00	56.0 PK	68.2	-12.2	1.68 H	157	45.7	10.3
6	15540.00	49.7 PK	74.0	-24.3	2.13 H	322	37.7	12.0
7	15540.00	40.1 AV	54.0	-13.9	2.13 H	322	28.1	12.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.9 PK	74.0	-15.1	1.02 V	250	57.8	1.1
2	5150.00	47.5 AV	54.0	-6.5	1.02 V	250	46.4	1.1
3	*5180.00	106.9 PK			1.02 V	250	105.9	1.0
4	*5180.00	97.8 AV			1.02 V	250	96.8	1.0
5	#10360.00	67.3 PK	68.2	-0.9	3.49 V	35	57.0	10.3
6	15540.00	47.1 PK	74.0	-26.9	1.80 V	33	35.1	12.0
7	15540.00	37.7 AV	54.0	-16.3	1.80 V	33	25.7	12.0

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	104.0 PK			1.39 H	285	102.9	1.1
2	*5200.00	95.5 AV			1.39 H	285	94.4	1.1
3	#10400.00	60.8 PK	68.2	-7.4	4.00 H	47	50.4	10.4
4	15600.00	50.0 PK	74.0	-24.0	2.17 H	321	38.0	12.0
5	15600.00	40.4 AV	54.0	-13.6	2.17 H	321	28.4	12.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	110.0 PK			1.50 V	13	108.9	1.1
2	*5200.00	101.0 AV			1.50 V	13	99.9	1.1
3	#10400.00	67.3 PK	68.2	-0.9	1.04 V	156	56.9	10.4
4	15600.00	46.9 PK	74.0	-27.1	1.83 V	40	34.9	12.0
5	15600.00	37.7 AV	54.0	-16.3	1.83 V	40	25.7	12.0

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	106.3 PK			1.49 H	285	105.5	0.8
2	*5240.00	97.2 AV			1.49 H	285	96.4	0.8
3	5350.00	58.6 PK	74.0	-15.4	1.49 H	285	57.8	0.8
4	5350.00	47.8 AV	54.0	-6.2	1.49 H	285	47.0	0.8
5	#10480.00	58.9 PK	68.2	-9.3	3.43 H	47	48.6	10.3
6	15720.00	50.3 PK	74.0	-23.7	2.19 H	314	39.1	11.2
7	15720.00	40.4 AV	54.0	-13.6	2.19 H	314	29.2	11.2

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	111.0 PK			1.05 V	32	110.2	0.8
2	*5240.00	102.9 AV			1.05 V	32	102.1	0.8
3	5350.00	58.8 PK	74.0	-15.2	1.05 V	32	58.0	0.8
4	5350.00	47.8 AV	54.0	-6.2	1.05 V	32	47.0	0.8
5	#10480.00	67.3 PK	68.2	-0.9	2.19 V	344	57.0	10.3
6	15720.00	47.3 PK	74.0	-26.7	1.76 V	25	36.1	11.2
7	15720.00	38.1 AV	54.0	-15.9	1.76 V	25	26.9	11.2

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	57.4 PK	74.0	-16.6	1.26 H	276	56.3	1.1
2	5150.00	47.0 AV	54.0	-7.0	1.26 H	276	45.9	1.1
3	*5260.00	105.2 PK			1.26 H	276	104.5	0.7
4	*5260.00	96.2 AV			1.26 H	276	95.5	0.7
5	#10520.00	57.8 PK	68.2	-10.4	1.47 H	224	47.4	10.4
6	15780.00	49.8 PK	74.0	-24.2	2.18 H	306	38.7	11.1
7	15780.00	40.3 AV	54.0	-13.7	2.18 H	306	29.2	11.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.01 V	250	56.9	1.1
2	5150.00	47.0 AV	54.0	-7.0	1.01 V	250	45.9	1.1
3	*5260.00	111.4 PK			1.01 V	250	110.7	0.7
4	*5260.00	102.6 AV			1.01 V	250	101.9	0.7
5	#10520.00	67.3 PK	68.2	-0.9	1.31 V	343	56.9	10.4
6	15780.00	46.9 PK	74.0	-27.1	1.80 V	40	35.8	11.1
7	15780.00	37.4 AV	54.0	-16.6	1.80 V	40	26.3	11.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	107.9 PK			1.47 H	275	107.2	0.7
2	*5300.00	98.7 AV			1.47 H	275	98.0	0.7
3	10600.00	56.3 PK	74.0	-17.7	1.50 H	225	45.8	10.5
4	10600.00	45.6 AV	54.0	-8.4	1.50 H	225	35.1	10.5
5	15900.00	50.0 PK	74.0	-24.0	2.16 H	322	38.2	11.8
6	15900.00	40.2 AV	54.0	-13.8	2.16 H	322	28.4	11.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	112.4 PK			1.08 V	250	111.7	0.7
2	*5300.00	103.6 AV			1.08 V	250	102.9	0.7
3	10600.00	64.3 PK	74.0	-9.7	1.16 V	341	53.8	10.5
4	10600.00	53.4 AV	54.0	-0.6	1.16 V	341	42.9	10.5
5	15900.00	47.4 PK	74.0	-26.6	1.80 V	32	35.6	11.8
6	15900.00	38.1 AV	54.0	-15.9	1.80 V	32	26.3	11.8

Remarks:

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

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	105.3 PK			1.05 H	273	104.6	0.7
2	*5320.00	96.2 AV			1.05 H	273	95.5	0.7
3	5350.00	58.9 PK	74.0	-15.1	1.05 H	273	58.1	0.8
4	5350.00	48.1 AV	54.0	-5.9	1.05 H	273	47.3	0.8
5	10640.00	55.5 PK	74.0	-18.5	1.34 H	224	45.1	10.4
6	10640.00	44.2 AV	54.0	-9.8	1.34 H	224	33.8	10.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	112.2 PK			1.07 V	249	111.5	0.7
2	*5320.00	68.2 AV			1.07 V	249	67.5	0.7
3	5350.00	63.9 PK	74.0	-10.1	1.07 V	249	63.1	0.8
4	5350.00	50.8 AV	54.0	-3.2	1.07 V	249	50.0	0.8
5	10640.00	62.7 PK	74.0	-11.3	2.15 V	345	52.3	10.4
6	10640.00	53.5 AV	54.0	-0.5	2.15 V	345	43.1	10.4
7	15960.00	47.7 PK	74.0	-26.3	1.76 V	37	35.6	12.1
8	15960.00	38.2 AV	54.0	-15.8	1.76 V	37	26.1	12.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.8 PK	74.0	-15.2	1.41 H	275	57.7	1.1
2	5460.00	47.8 AV	54.0	-6.2	1.41 H	275	46.7	1.1
3	#5470.00	61.5 PK	68.2	-6.7	1.41 H	275	60.4	1.1
4	*5500.00	105.9 PK			1.41 H	275	104.8	1.1
5	*5500.00	97.1 AV			1.41 H	275	96.0	1.1
6	11000.00	53.7 PK	74.0	-20.3	1.31 H	253	42.3	11.4
7	11000.00	43.5 AV	54.0	-10.5	1.31 H	253	32.1	11.4
8	#16500.00	49.5 PK	68.2	-18.7	2.11 H	337	35.3	14.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.8 PK	74.0	-12.2	2.07 V	98	60.7	1.1
2	5460.00	48.8 AV	54.0	-5.2	2.07 V	98	47.7	1.1
3	#5470.00	67.4 PK	68.2	-0.8	2.07 V	98	66.3	1.1
4	*5500.00	112.6 PK			2.07 V	98	111.5	1.1
5	*5500.00	104.3 AV			2.07 V	98	103.2	1.1
6	11000.00	57.5 PK	74.0	-16.5	2.39 V	321	46.1	11.4
7	11000.00	46.8 AV	54.0	-7.2	2.39 V	321	35.4	11.4
8	#16500.00	47.6 PK	68.2	-20.6	1.77 V	30	33.4	14.2

Remarks:

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

RF Mode	TX 802.11a	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	110.0 PK			1.36 H	285	108.7	1.3
2	*5580.00	101.5 AV			1.36 H	285	100.2	1.3
3	11160.00	55.2 PK	74.0	-18.8	1.27 H	256	44.0	11.2
4	11160.00	44.2 AV	54.0	-9.8	1.27 H	256	33.0	11.2
5	#16740.00	49.3 PK	68.2	-18.9	2.18 H	311	34.0	15.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	114.7 PK			2.00 V	83	113.4	1.3
2	*5580.00	106.2 AV			2.00 V	83	104.9	1.3
3	11160.00	61.0 PK	74.0	-13.0	2.67 V	182	49.8	11.2
4	11160.00	50.0 AV	54.0	-4.0	2.67 V	182	38.8	11.2
5	#16740.00	47.2 PK	68.2	-21.0	1.79 V	42	31.9	15.3

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	107.4 PK			1.66 H	283	105.9	1.5
2	*5700.00	99.1 AV			1.66 H	283	97.6	1.5
3	#5725.00	61.0 PK	68.2	-7.2	1.66 H	283	59.4	1.6
4	11400.00	56.4 PK	74.0	-17.6	1.24 H	237	44.2	12.2
5	11400.00	45.1 AV	54.0	-8.9	1.24 H	237	32.9	12.2
6	#17100.00	49.3 PK	68.2	-18.9	2.07 H	306	32.5	16.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	111.3 PK			2.42 V	95	109.8	1.5
2	*5700.00	102.9 AV			2.42 V	95	101.4	1.5
3	#5725.00	63.8 PK	68.2	-4.4	2.42 V	95	62.2	1.6
4	11400.00	64.2 PK	74.0	-9.8	2.06 V	331	52.0	12.2
5	11400.00	53.2 AV	54.0	-0.8	2.06 V	331	41.0	12.2
6	#17100.00	47.3 PK	68.2	-20.9	1.85 V	32	30.5	16.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.4 PK	68.2	-9.8	1.37 H	263	57.3	1.1
2	*5720.00	107.1 PK			1.37 H	263	105.5	1.6
3	*5720.00	98.6 AV			1.37 H	263	97.0	1.6
4	11440.00	55.0 PK	74.0	-19.0	1.42 H	238	42.8	12.2
5	11440.00	43.9 AV	54.0	-10.1	1.42 H	238	31.7	12.2
6	#17160.00	49.5 PK	68.2	-18.7	2.15 H	321	33.3	16.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.2 PK	68.2	-9.0	2.30 V	100	58.1	1.1
2	*5720.00	111.3 PK			2.30 V	100	109.7	1.6
3	*5720.00	103.1 AV			2.30 V	100	101.5	1.6
4	11440.00	65.8 PK	74.0	-8.2	2.09 V	331	53.6	12.2
5	11440.00	53.3 AV	54.0	-0.7	2.09 V	331	41.1	12.2
6	#17160.00	47.0 PK	68.2	-21.2	1.86 V	45	30.8	16.2

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	#5633.18	57.4 PK	68.2	-10.8	1.56 H	293	56.0	1.4
2	*5745.00	108.5 PK			1.56 H	293	106.8	1.7
3	*5745.00	99.6 AV			1.56 H	293	97.9	1.7
4	#5955.04	58.4 PK	68.2	-9.8	1.56 H	293	56.6	1.8
5	11490.00	60.0 PK	74.0	-14.0	1.87 H	146	47.9	12.1
6	11490.00	48.4 AV	54.0	-5.6	1.87 H	146	36.3	12.1
7	#17235.00	49.3 PK	68.2	-18.9	2.09 H	330	33.5	15.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5603.01	57.2 PK	68.2	-11.0	2.39 V	91	55.8	1.4
2	*5745.00	113.4 PK			2.39 V	91	111.7	1.7
3	*5745.00	104.9 AV			2.39 V	91	103.2	1.7
4	#5935.59	57.8 PK	68.2	-10.4	2.39 V	91	56.0	1.8
5	11490.00	65.6 PK	74.0	-8.4	2.83 V	332	53.5	12.1
6	11490.00	53.2 AV	54.0	-0.8	2.83 V	332	41.1	12.1
7	#17235.00	47.0 PK	68.2	-21.2	1.83 V	47	31.2	15.8

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	#5611.54	57.8 PK	68.2	-10.4	1.52 H	274	56.5	1.3
2	*5785.00	107.6 PK			1.52 H	274	105.8	1.8
3	*5785.00	99.9 AV			1.52 H	274	98.1	1.8
4	#5946.46	57.8 PK	68.2	-10.4	1.52 H	274	56.0	1.8
5	11570.00	60.2 PK	74.0	-13.8	1.98 H	222	48.2	12.0
6	11570.00	48.5 AV	54.0	-5.5	1.98 H	222	36.5	12.0
7	#17355.00	50.1 PK	68.2	-18.1	2.18 H	327	33.6	16.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5637.08	57.7 PK	68.2	-10.5	2.36 V	90	56.3	1.4
2	*5785.00	113.2 PK			2.36 V	90	111.4	1.8
3	*5785.00	104.6 AV			2.36 V	90	102.8	1.8
4	#6012.99	58.5 PK	68.2	-9.7	2.36 V	90	56.7	1.8
5	11570.00	65.9 PK	74.0	-8.1	2.37 V	331	53.9	12.0
6	11570.00	53.4 AV	54.0	-0.6	2.37 V	331	41.4	12.0
7	#17355.00	47.2 PK	68.2	-21.0	1.78 V	19	30.7	16.5

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	#5628.74	57.4 PK	68.2	-10.8	1.44 H	289	56.0	1.4
2	*5825.00	108.5 PK			1.44 H	289	106.7	1.8
3	*5825.00	99.4 AV			1.44 H	289	97.6	1.8
4	#5973.91	58.4 PK	68.2	-9.8	1.44 H	289	56.6	1.8
5	11650.00	59.4 PK	74.0	-14.6	2.98 H	177	47.7	11.7
6	11650.00	49.0 AV	54.0	-5.0	2.98 H	177	37.3	11.7
7	#17475.00	49.1 PK	68.2	-19.1	2.11 H	323	31.1	18.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5605.52	57.6 PK	68.2	-10.6	2.36 V	103	56.2	1.4
2	*5825.00	113.7 PK			2.36 V	103	111.9	1.8
3	*5825.00	105.0 AV			2.36 V	103	103.2	1.8
4	#5939.24	57.8 PK	68.2	-10.4	2.36 V	103	56.0	1.8
5	11650.00	64.5 PK	74.0	-9.5	2.26 V	328	52.8	11.7
6	11650.00	53.6 AV	54.0	-0.4	2.26 V	328	41.9	11.7
7	#17475.00	47.5 PK	68.2	-20.7	1.81 V	30	29.5	18.0

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	58.3 PK	74.0	-15.7	1.49 H	285	57.2	1.1
2	5150.00	49.8 AV	54.0	-4.2	1.49 H	285	48.7	1.1
3	*5180.00	101.4 PK			1.49 H	285	100.4	1.0
4	*5180.00	91.6 AV			1.49 H	285	90.6	1.0
5	#10360.00	57.1 PK	68.2	-11.1	1.67 H	159	46.8	10.3
6	15540.00	49.4 PK	74.0	-24.6	2.08 H	308	37.4	12.0
7	15540.00	39.7 AV	54.0	-14.3	2.08 H	308	27.7	12.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.7 PK	74.0	-15.3	1.09 V	256	57.6	1.1
2	5150.00	47.1 AV	54.0	-6.9	1.09 V	256	46.0	1.1
3	*5180.00	107.9 PK			1.09 V	256	106.9	1.0
4	*5180.00	98.0 AV			1.09 V	256	97.0	1.0
5	#10360.00	67.6 PK	68.2	-0.6	3.41 V	34	57.3	10.3
6	15540.00	47.3 PK	74.0	-26.7	1.85 V	32	35.3	12.0
7	15540.00	37.9 AV	54.0	-16.1	1.85 V	32	25.9	12.0

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 40 : 5200 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	104.2 PK			1.51 H	285	103.1	1.1
2	*5200.00	94.2 AV			1.51 H	285	93.1	1.1
3	#10400.00	58.8 PK	68.2	-9.4	3.43 H	63	48.4	10.4
4	15600.00	49.4 PK	74.0	-24.6	2.15 H	336	37.4	12.0
5	15600.00	39.7 AV	54.0	-14.3	2.15 H	336	27.7	12.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5200.00	108.5 PK			1.50 V	11	107.4	1.1
2	*5200.00	99.2 AV			1.50 V	11	98.1	1.1
3	#10400.00	67.4 PK	68.2	-0.8	1.00 V	154	57.0	10.4
4	15600.00	47.2 PK	74.0	-26.8	1.78 V	30	35.2	12.0
5	15600.00	37.8 AV	54.0	-16.2	1.78 V	30	25.8	12.0

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	104.3 PK			1.35 H	283	103.5	0.8
2	*5240.00	95.3 AV			1.35 H	283	94.5	0.8
3	5350.00	59.0 PK	74.0	-15.0	1.35 H	283	58.2	0.8
4	5350.00	48.0 AV	54.0	-6.0	1.35 H	283	47.2	0.8
5	#10480.00	59.0 PK	68.2	-9.2	3.46 H	71	48.7	10.3
6	15720.00	49.1 PK	74.0	-24.9	2.18 H	330	37.9	11.2
7	15720.00	39.7 AV	54.0	-14.3	2.18 H	330	28.5	11.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	110.9 PK			1.06 V	31	110.1	0.8
2	*5240.00	101.5 AV			1.06 V	31	100.7	0.8
3	5350.00	58.6 PK	74.0	-15.4	1.06 V	31	57.8	0.8
4	5350.00	47.4 AV	54.0	-6.6	1.06 V	31	46.6	0.8
5	#10480.00	67.7 PK	68.2	-0.5	2.55 V	342	57.4	10.3
6	15720.00	46.7 PK	74.0	-27.3	1.77 V	38	35.5	11.2
7	15720.00	37.5 AV	54.0	-16.5	1.77 V	38	26.3	11.2

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	58.0 PK	74.0	-16.0	1.12 H	275	56.9	1.1
2	5150.00	47.3 AV	54.0	-6.7	1.12 H	275	46.2	1.1
3	*5260.00	106.9 PK			1.12 H	275	106.2	0.7
4	*5260.00	97.7 AV			1.12 H	275	97.0	0.7
5	#10520.00	58.7 PK	68.2	-9.5	1.35 H	223	48.3	10.4
6	15780.00	49.1 PK	74.0	-24.9	2.17 H	336	38.0	11.1
7	15780.00	37.5 AV	54.0	-16.5	1.74 H	20	26.4	11.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.07 V	251	56.9	1.1
2	5150.00	46.5 AV	54.0	-7.5	1.07 V	251	45.4	1.1
3	*5260.00	111.8 PK			1.01 V	251	111.1	0.7
4	*5260.00	102.6 AV			1.01 V	251	101.9	0.7
5	#10520.00	67.6 PK	68.2	-0.6	1.10 V	343	57.2	10.4
6	15780.00	47.4 PK	74.0	-26.6	1.76 V	24	36.3	11.1
7	15780.00	37.9 AV	54.0	-16.1	1.76 V	24	26.8	11.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	109.1 PK			1.04 H	274	108.4	0.7
2	*5300.00	100.0 AV			1.04 H	274	99.3	0.7
3	10600.00	57.1 PK	74.0	-16.9	1.42 H	224	46.6	10.5
4	10600.00	45.1 AV	54.0	-8.9	1.42 H	224	34.6	10.5
5	15900.00	50.2 PK	74.0	-23.8	2.18 H	309	38.4	11.8
6	15900.00	40.4 AV	54.0	-13.6	2.18 H	309	28.6	11.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	113.2 PK			1.21 V	256	112.5	0.7
2	*5300.00	104.0 AV			1.21 V	256	103.3	0.7
3	10600.00	68.2 PK	74.0	-5.8	1.27 V	342	57.7	10.5
4	10600.00	53.1 AV	54.0	-0.9	1.27 V	342	42.6	10.5
5	15900.00	46.8 PK	74.0	-27.2	1.82 V	31	35.0	11.8
6	15900.00	37.5 AV	54.0	-16.5	1.82 V	31	25.7	11.8

Remarks:

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

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	105.0 PK			1.32 H	275	104.3	0.7
2	*5320.00	96.2 AV			1.32 H	275	95.5	0.7
3	5350.00	59.3 PK	74.0	-14.7	1.32 H	275	58.5	0.8
4	5350.00	48.3 AV	54.0	-5.7	1.32 H	275	47.5	0.8
5	10640.00	55.5 PK	74.0	-18.5	1.42 H	223	45.1	10.4
6	10640.00	43.6 AV	54.0	-10.4	1.42 H	223	33.2	10.4
7	15960.00	49.4 PK	74.0	-24.6	2.17 H	334	37.3	12.1
8	15960.00	39.7 AV	54.0	-14.3	2.17 H	334	27.6	12.1

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.9 PK			1.07 V	249	113.2	0.7
2	*5320.00	105.2 AV			1.07 V	249	104.5	0.7
3	5350.00	66.0 PK	74.0	-8.0	1.07 V	249	65.2	0.8
4	5350.00	53.4 AV	54.0	-0.6	1.07 V	249	52.6	0.8
5	10640.00	63.0 PK	74.0	-11.0	1.02 V	338	52.6	10.4
6	10640.00	53.4 AV	54.0	-0.6	1.02 V	338	43.0	10.4
7	15960.00	46.8 PK	74.0	-27.2	1.81 V	28	34.7	12.1
8	15960.00	37.3 AV	54.0	-16.7	1.81 V	28	25.2	12.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.8 PK	74.0	-13.2	1.50 H	282	59.7	1.1
2	5460.00	48.1 AV	54.0	-5.9	1.50 H	282	47.0	1.1
3	#5470.00	63.5 PK	68.2	-4.7	1.50 H	282	62.4	1.1
4	*5500.00	108.8 PK			1.50 H	282	107.7	1.1
5	*5500.00	100.1 AV			1.50 H	282	99.0	1.1
6	11000.00	56.6 PK	74.0	-17.4	1.62 H	219	45.2	11.4
7	11000.00	46.2 AV	54.0	-7.8	1.62 H	219	34.8	11.4
8	#16500.00	49.1 PK	68.2	-19.1	2.13 H	324	34.9	14.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.0 PK	74.0	-12.0	1.43 V	76	60.9	1.1
2	5460.00	48.7 AV	54.0	-5.3	1.43 V	76	47.6	1.1
3	#5470.00	67.3 PK	68.2	-0.9	1.43 V	76	66.2	1.1
4	*5500.00	113.4 PK			1.43 V	76	112.3	1.1
5	*5500.00	104.7 AV			1.43 V	76	103.6	1.1
6	11000.00	58.0 PK	74.0	-16.0	2.15 V	321	46.6	11.4
7	11000.00	47.1 AV	54.0	-6.9	2.15 V	321	35.7	11.4
8	#16500.00	47.4 PK	68.2	-20.8	1.76 V	21	33.2	14.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	108.7 PK			1.51 H	259	107.4	1.3
2	*5580.00	99.8 AV			1.51 H	259	98.5	1.3
3	11160.00	54.7 PK	74.0	-19.3	1.45 H	253	43.5	11.2
4	11160.00	44.9 AV	54.0	-9.1	1.45 H	253	33.7	11.2
5	#16740.00	49.5 PK	68.2	-18.7	2.14 H	334	34.2	15.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.1 PK			2.09 V	87	113.8	1.3
2	*5580.00	105.8 AV			2.09 V	87	104.5	1.3
3	11160.00	61.1 PK	74.0	-12.9	2.67 V	180	49.9	11.2
4	11160.00	49.1 AV	54.0	-4.9	2.67 V	180	37.9	11.2
5	#16740.00	47.1 PK	68.2	-21.1	1.83 V	46	31.8	15.3

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	105.8 PK			1.51 H	283	104.3	1.5
2	*5700.00	96.6 AV			1.51 H	283	95.1	1.5
3	#5725.00	62.0 PK	68.2	-6.2	1.51 H	283	60.4	1.6
4	11400.00	55.0 PK	74.0	-19.0	1.47 H	231	42.8	12.2
5	11400.00	44.6 AV	54.0	-9.4	1.47 H	231	32.4	12.2
6	#17100.00	50.3 PK	68.2	-17.9	2.08 H	311	33.5	16.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	111.8 PK			1.80 V	94	110.3	1.5
2	*5700.00	102.4 AV			1.80 V	94	100.9	1.5
3	#5725.00	67.3 PK	68.2	-0.9	1.80 V	94	65.7	1.6
4	11400.00	64.1 PK	74.0	-9.9	2.44 V	332	51.9	12.2
5	11400.00	51.8 AV	54.0	-2.2	2.44 V	332	39.6	12.2
6	#17100.00	46.7 PK	68.2	-21.5	1.83 V	31	29.9	16.8

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.2 PK	68.2	-10.0	1.23 H	262	57.1	1.1
2	*5720.00	108.9 PK			1.23 H	262	107.3	1.6
3	*5720.00	99.5 AV			1.23 H	262	97.9	1.6
4	11440.00	55.8 PK	74.0	-18.2	1.49 H	261	43.6	12.2
5	11440.00	45.7 AV	54.0	-8.3	1.49 H	261	33.5	12.2
6	#17160.00	49.8 PK	68.2	-18.4	2.08 H	311	33.6	16.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	59.7 PK	68.2	-8.5	1.73 V	102	58.6	1.1
2	*5720.00	114.6 PK			1.73 V	102	113.0	1.6
3	*5720.00	104.9 AV			1.73 V	102	103.3	1.6
4	11440.00	65.0 PK	74.0	-9.0	2.58 V	331	52.8	12.2
5	11440.00	53.3 AV	54.0	-0.7	2.58 V	331	41.1	12.2
6	#17160.00	47.5 PK	68.2	-20.7	1.79 V	48	31.3	16.2

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 149 : 5745 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5648.53	57.4 PK	68.2	-10.8	1.51 H	288	56.0	1.4
2	*5745.00	108.8 PK			1.51 H	288	107.1	1.7
3	*5745.00	99.0 AV			1.51 H	288	97.3	1.7
4	#5976.04	58.7 PK	68.2	-9.5	1.51 H	288	56.9	1.8
5	11490.00	60.4 PK	74.0	-13.6	1.89 H	222	48.3	12.1
6	11490.00	48.1 AV	54.0	-5.9	1.89 H	222	36.0	12.1
7	#17235.00	49.7 PK	68.2	-18.5	2.08 H	316	33.9	15.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5600.55	58.3 PK	68.2	-9.9	2.39 V	91	56.9	1.4
2	*5745.00	113.9 PK			2.39 V	91	112.2	1.7
3	*5745.00	104.2 AV			2.39 V	91	102.5	1.7
4	#5967.44	58.3 PK	68.2	-9.9	2.39 V	91	56.5	1.8
5	11490.00	65.6 PK	74.0	-8.4	2.35 V	330	53.5	12.1
6	11490.00	53.3 AV	54.0	-0.7	2.35 V	330	41.2	12.1
7	#17235.00	46.8 PK	68.2	-21.4	1.81 V	39	31.0	15.8

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	#5632.64	57.0 PK	68.2	-11.2	1.53 H	287	55.6	1.4
2	*5785.00	108.5 PK			1.53 H	287	106.7	1.8
3	*5785.00	99.5 AV			1.53 H	287	97.7	1.8
4	#5975.08	58.5 PK	68.2	-9.7	1.53 H	287	56.7	1.8
5	11570.00	60.2 PK	74.0	-13.8	1.85 H	277	48.2	12.0
6	11570.00	48.6 AV	54.0	-5.4	1.85 H	277	36.6	12.0
7	#17355.00	49.7 PK	68.2	-18.5	2.17 H	311	33.2	16.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5618.01	56.9 PK	68.2	-11.3	2.36 V	93	55.5	1.4
2	*5785.00	114.1 PK			2.36 V	93	112.3	1.8
3	*5785.00	104.4 AV			2.36 V	93	102.6	1.8
4	#5972.49	58.4 PK	68.2	-9.8	2.36 V	93	56.6	1.8
5	11570.00	65.9 PK	74.0	-8.1	2.38 V	330	53.9	12.0
6	11570.00	53.1 AV	54.0	-0.9	2.38 V	330	41.1	12.0
7	#17355.00	47.0 PK	68.2	-21.2	1.79 V	36	30.5	16.5

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	#5649.16	57.6 PK	68.2	-10.6	1.55 H	278	56.2	1.4
2	*5825.00	108.5 PK			1.55 H	278	106.7	1.8
3	*5825.00	99.4 AV			1.55 H	278	97.6	1.8
4	#5969.84	58.4 PK	68.2	-9.8	1.55 H	278	56.6	1.8
5	11650.00	59.1 PK	74.0	-14.9	1.96 H	321	47.4	11.7
6	11650.00	49.0 AV	54.0	-5.0	1.96 H	321	37.3	11.7
7	#17475.00	49.6 PK	68.2	-18.6	2.18 H	316	31.6	18.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5625.28	57.0 PK	68.2	-11.2	2.65 V	100	55.6	1.4
2	*5825.00	114.1 PK			2.65 V	100	112.3	1.8
3	*5825.00	104.6 AV			2.65 V	100	102.8	1.8
4	#5931.21	58.4 PK	68.2	-9.8	2.65 V	100	56.6	1.8
5	11650.00	64.0 PK	74.0	-10.0	2.22 V	328	52.3	11.7
6	11650.00	53.2 AV	54.0	-0.8	2.22 V	328	41.5	11.7
7	#17475.00	47.3 PK	68.2	-20.9	1.85 V	45	29.3	18.0

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 38 : 5190 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.3 PK	74.0	-11.7	1.00 H	283	61.2	1.1
2	5150.00	50.3 AV	54.0	-3.7	1.00 H	283	49.2	1.1
3	*5190.00	97.3 PK			1.00 H	283	96.3	1.0
4	*5190.00	88.4 AV			1.00 H	283	87.4	1.0
5	#10380.00	52.4 PK	68.2	-15.8	3.23 H	87	42.1	10.3
6	15570.00	49.8 PK	74.0	-24.2	2.13 H	312	37.7	12.1
7	15570.00	40.3 AV	54.0	-13.7	2.13 H	312	28.2	12.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	68.4 PK	74.0	-5.6	1.07 V	32	67.3	1.1
2	5150.00	53.1 AV	54.0	-0.9	1.07 V	32	52.0	1.1
3	*5190.00	102.2 PK			1.07 V	32	101.2	1.0
4	*5190.00	94.4 AV			1.07 V	32	93.4	1.0
5	#10380.00	60.1 PK	68.2	-8.1	2.33 V	342	49.8	10.3
6	15570.00	47.1 PK	74.0	-26.9	1.81 V	45	35.0	12.1
7	15570.00	37.9 AV	54.0	-16.1	1.81 V	45	25.8	12.1

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	102.4 PK			1.00 H	285	101.5	0.9
2	*5230.00	94.3 AV			1.00 H	285	93.4	0.9
3	5350.00	58.5 PK	74.0	-15.5	1.00 H	285	57.7	0.8
4	5350.00	47.8 AV	54.0	-6.2	1.00 H	285	47.0	0.8
5	#10460.00	54.5 PK	68.2	-13.7	3.31 H	82	44.1	10.4
6	15690.00	49.8 PK	74.0	-24.2	2.15 H	329	38.5	11.3
7	15690.00	40.2 AV	54.0	-13.8	2.15 H	329	28.9	11.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5230.00	107.4 PK			1.06 V	36	106.5	0.9
2	*5230.00	99.6 AV			1.06 V	36	98.7	0.9
3	5350.00	58.8 PK	74.0	-15.2	1.06 V	36	58.0	0.8
4	5350.00	47.5 AV	54.0	-6.5	1.06 V	36	46.7	0.8
5	#10460.00	67.4 PK	68.2	-0.8	2.21 V	343	57.0	10.4
6	15690.00	47.1 PK	74.0	-26.9	1.76 V	24	35.8	11.3
7	15690.00	37.5 AV	54.0	-16.5	1.76 V	24	26.2	11.3

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 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	58.3 PK	74.0	-15.7	1.24 H	283	57.2	1.1
2	5150.00	47.4 AV	54.0	-6.6	1.24 H	283	46.3	1.1
3	*5270.00	103.7 PK			1.24 H	283	103.0	0.7
4	*5270.00	96.0 AV			1.24 H	283	95.3	0.7
5	#10540.00	55.0 PK	68.2	-13.2	1.18 H	225	44.6	10.4
6	15810.00	49.6 PK	74.0	-24.4	2.10 H	319	38.4	11.2
7	15810.00	40.2 AV	54.0	-13.8	2.10 H	319	29.0	11.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.6 PK	74.0	-15.4	1.01 V	251	57.5	1.1
2	5150.00	47.7 AV	54.0	-6.3	1.01 V	251	46.6	1.1
3	*5270.00	111.1 PK			1.01 V	251	110.4	0.7
4	*5270.00	102.6 AV			1.01 V	251	101.9	0.7
5	#10540.00	67.7 PK	68.2	-0.5	1.03 V	343	57.3	10.4
6	15810.00	47.1 PK	74.0	-26.9	1.81 V	48	35.9	11.2
7	15810.00	37.9 AV	54.0	-16.1	1.81 V	48	26.7	11.2

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	97.3 PK			1.25 H	281	96.6	0.7
2	*5310.00	89.4 AV			1.25 H	281	88.7	0.7
3	5350.00	61.2 PK	74.0	-12.8	1.25 H	281	60.4	0.8
4	5350.00	49.9 AV	54.0	-4.1	1.25 H	281	49.1	0.8
5	10620.00	54.2 PK	74.0	-19.8	1.23 H	219	43.7	10.5
6	10620.00	43.6 AV	54.0	-10.4	1.23 H	219	33.1	10.5
7	15930.00	49.6 PK	74.0	-24.4	2.09 H	313	37.6	12.0
8	15930.00	39.7 AV	54.0	-14.3	2.09 H	313	27.7	12.0

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	102.9 PK			1.07 V	250	102.2	0.7
2	*5310.00	94.6 AV			1.07 V	250	93.9	0.7
3	5350.00	63.9 PK	74.0	-10.1	1.07 V	250	63.1	0.8
4	5350.00	52.8 AV	54.0	-1.2	1.07 V	250	52.0	0.8
5	10620.00	57.6 PK	74.0	-16.4	1.02 V	339	47.1	10.5
6	10620.00	48.5 AV	54.0	-5.5	1.02 V	339	38.0	10.5
7	15930.00	47.2 PK	74.0	-26.8	1.78 V	46	35.2	12.0
8	15930.00	37.9 AV	54.0	-16.1	1.78 V	46	25.9	12.0

Remarks:

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

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	61.1 PK	74.0	-12.9	1.51 H	268	60.0	1.1
2	5460.00	4.2 AV	54.0	-49.8	1.51 H	268	3.1	1.1
3	#5470.00	64.8 PK	68.2	-3.4	1.51 H	268	63.7	1.1
4	*5510.00	102.3 PK			1.51 H	268	101.2	1.1
5	*5510.00	93.4 AV			1.51 H	268	92.3	1.1
6	11020.00	55.2 PK	74.0	-18.8	1.67 H	325	43.8	11.4
7	11020.00	44.5 AV	54.0	-9.5	1.67 H	325	33.1	11.4
8	#16530.00	49.5 PK	68.2	-18.7	2.08 H	308	35.0	14.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.5 PK	74.0	-9.5	1.88 V	97	63.4	1.1
2	5460.00	52.8 AV	54.0	-1.2	1.88 V	97	51.7	1.1
3	#5470.00	67.4 PK	68.2	-0.8	1.88 V	97	66.3	1.1
4	*5510.00	108.5 PK			1.88 V	97	107.4	1.1
5	*5510.00	100.0 AV			1.88 V	97	98.9	1.1
6	11020.00	56.2 PK	74.0	-17.8	2.33 V	326	44.8	11.4
7	11020.00	45.1 AV	54.0	-8.9	2.33 V	326	33.7	11.4
8	#16530.00	46.8 PK	68.2	-21.4	1.86 V	24	32.3	14.5

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 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	107.4 PK			1.49 H	280	106.2	1.2
2	*5550.00	99.0 AV			1.49 H	280	97.8	1.2
3	11100.00	54.1 PK	74.0	-19.9	1.69 H	115	42.8	11.3
4	11100.00	42.7 AV	54.0	-11.3	1.69 H	115	31.4	11.3
5	#16650.00	49.8 PK	68.2	-18.4	2.13 H	337	34.4	15.4

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	112.3 PK			1.42 V	78	111.1	1.2
2	*5550.00	103.4 AV			1.42 V	78	102.2	1.2
3	11100.00	58.4 PK	74.0	-15.6	1.04 V	359	47.1	11.3
4	11100.00	48.2 AV	54.0	-5.8	1.04 V	359	36.9	11.3
5	#16650.00	47.6 PK	68.2	-20.6	1.78 V	46	32.2	15.4

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	105.5 PK			1.21 H	278	104.1	1.4
2	*5670.00	97.1 AV			1.21 H	278	95.7	1.4
3	#5725.00	62.5 PK	68.2	-5.7	1.21 H	278	60.9	1.6
4	11340.00	55.5 PK	74.0	-18.5	2.16 H	285	43.8	11.7
5	11340.00	45.0 AV	54.0	-9.0	2.16 H	285	33.3	11.7
6	#17010.00	49.7 PK	68.2	-18.5	2.12 H	323	32.4	17.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	111.2 PK			1.48 V	86	109.8	1.4
2	*5670.00	99.8 AV			1.48 V	86	98.4	1.4
3	#5725.00	65.8 PK	68.2	-2.4	1.48 V	86	64.2	1.6
4	11340.00	64.3 PK	74.0	-9.7	2.51 V	349	52.6	11.7
5	11340.00	53.5 AV	54.0	-0.5	2.51 V	349	41.8	11.7
6	#17010.00	47.1 PK	68.2	-21.1	1.76 V	38	29.8	17.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.7 PK	68.2	-9.5	1.37 H	264	57.6	1.1
2	*5710.00	104.6 PK			1.37 H	264	103.0	1.6
3	*5710.00	97.1 AV			1.37 H	264	95.5	1.6
4	11420.00	56.1 PK	74.0	-17.9	1.45 H	258	43.9	12.2
5	11420.00	46.0 AV	54.0	-8.0	1.45 H	258	33.8	12.2
6	#17130.00	50.1 PK	68.2	-18.1	2.17 H	331	33.6	16.5

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	58.5 PK	68.2	-9.7	2.41 V	102	57.4	1.1
2	*5710.00	109.8 PK			2.41 V	102	108.2	1.6
3	*5710.00	101.4 AV			2.41 V	102	99.8	1.6
4	11420.00	64.0 PK	74.0	-10.0	2.05 V	330	51.8	12.2
5	11420.00	53.4 AV	54.0	-0.6	2.05 V	330	41.2	12.2
6	#17130.00	46.7 PK	68.2	-21.5	1.78 V	35	30.2	16.5

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 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	#5628.54	58.0 PK	68.2	-10.2	1.53 H	288	56.6	1.4
2	*5755.00	106.0 PK			1.53 H	288	104.3	1.7
3	*5755.00	96.9 AV			1.53 H	288	95.2	1.7
4	#5952.42	58.5 PK	68.2	-9.7	1.53 H	288	56.7	1.8
5	11510.00	59.5 PK	74.0	-14.5	1.88 H	175	47.4	12.1
6	11510.00	48.5 AV	54.0	-5.5	1.88 H	175	36.4	12.1
7	#17265.00	49.6 PK	68.2	-18.6	2.13 H	326	33.8	15.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5632.34	57.4 PK	68.2	-10.8	2.35 V	85	56.0	1.4
2	*5755.00	110.6 PK			2.35 V	85	108.9	1.7
3	*5755.00	102.1 AV			2.35 V	85	100.4	1.7
4	#5943.97	58.0 PK	68.2	-10.2	2.35 V	85	56.2	1.8
5	11510.00	64.4 PK	74.0	-9.6	2.55 V	332	52.3	12.1
6	11510.00	53.1 AV	54.0	-0.9	2.55 V	332	41.0	12.1
7	#17265.00	47.0 PK	68.2	-21.2	1.83 V	41	31.2	15.8

Remarks:

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

RF Mode	TX 802.11ac (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	#5630.67	56.9 PK	68.2	-11.3	1.47 H	274	55.5	1.4
2	*5795.00	107.5 PK			1.47 H	274	105.6	1.9
3	*5795.00	98.6 AV			1.47 H	274	96.7	1.9
4	#6005.10	60.2 PK	68.2	-8.0	1.47 H	274	58.4	1.8
5	11590.00	59.5 PK	74.0	-14.5	2.30 H	158	47.5	12.0
6	11590.00	48.5 AV	54.0	-5.5	2.30 H	158	36.5	12.0
7	#17385.00	49.2 PK	68.2	-19.0	2.18 H	317	32.0	17.2

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5640.49	56.9 PK	68.2	-11.3	2.46 V	91	55.5	1.4
2	*5795.00	112.3 PK			2.46 V	91	110.4	1.9
3	*5795.00	103.5 AV			2.46 V	91	101.6	1.9
4	#5951.66	57.9 PK	68.2	-10.3	2.46 V	91	56.1	1.8
5	11590.00	64.9 PK	74.0	-9.1	2.37 V	329	52.9	12.0
6	11590.00	53.3 AV	54.0	-0.7	2.37 V	329	41.3	12.0
7	#17385.00	47.0 PK	68.2	-21.2	1.82 V	47	29.8	17.2

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 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	60.6 PK	74.0	-13.4	1.07 H	283	59.5	1.1
2	5150.00	49.0 AV	54.0	-5.0	1.07 H	283	47.9	1.1
3	*5210.00	90.6 PK			1.07 H	283	89.6	1.0
4	*5210.00	81.8 AV			1.07 H	283	80.8	1.0
5	5350.00	58.7 PK	74.0	-15.3	1.07 H	283	57.9	0.8
6	5350.00	48.0 AV	54.0	-6.0	1.07 H	283	47.2	0.8
7	#10420.00	52.4 PK	68.2	-15.8	3.28 H	97	42.0	10.4
8	15630.00	49.7 PK	74.0	-24.3	2.19 H	313	37.9	11.8
9	15630.00	40.1 AV	54.0	-13.9	2.19 H	313	28.3	11.8

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	64.3 PK	74.0	-9.7	2.53 V	15	63.2	1.1
2	5150.00	53.2 AV	54.0	-0.8	2.53 V	15	52.1	1.1
3	*5210.00	98.3 PK			2.53 V	15	97.3	1.0
4	*5210.00	90.1 AV			2.53 V	15	89.1	1.0
5	5350.00	58.9 PK	74.0	-15.1	2.53 V	15	58.1	0.8
6	5350.00	48.0 AV	54.0	-6.0	2.53 V	15	47.2	0.8
7	#10420.00	54.1 PK	68.2	-14.1	2.18 V	326	43.7	10.4
8	15630.00	47.5 PK	74.0	-26.5	1.75 V	32	35.7	11.8
9	15630.00	38.1 AV	54.0	-15.9	1.75 V	32	26.3	11.8

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 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	58.3 PK	74.0	-15.7	1.04 H	278	57.2	1.1
2	5150.00	47.4 AV	54.0	-6.6	1.04 H	278	46.3	1.1
3	*5290.00	91.9 PK			1.04 H	278	91.2	0.7
4	*5290.00	83.2 AV			1.04 H	278	82.5	0.7
5	5350.00	59.7 PK	74.0	-14.3	1.04 H	278	58.9	0.8
6	5350.00	49.1 AV	54.0	-4.9	1.04 H	278	48.3	0.8
7	#10580.00	53.6 PK	68.2	-14.6	1.25 H	221	43.2	10.4
8	15870.00	50.0 PK	74.0	-24.0	2.12 H	317	38.4	11.6
9	15870.00	40.6 AV	54.0	-13.4	2.12 H	317	29.0	11.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	1.29 V	252	56.6	1.1
2	5150.00	47.0 AV	54.0	-7.0	1.29 V	252	45.9	1.1
3	*5290.00	97.5 PK			1.29 V	252	96.8	0.7
4	*5290.00	89.5 AV			1.29 V	252	88.8	0.7
5	5350.00	63.9 PK	74.0	-10.1	1.29 V	252	63.1	0.8
6	5350.00	53.4 AV	54.0	-0.6	1.29 V	252	52.6	0.8
7	#10580.00	58.5 PK	68.2	-9.7	1.04 V	316	48.1	10.4
8	15870.00	47.2 PK	74.0	-26.8	1.74 V	20	35.6	11.6
9	15870.00	37.5 AV	54.0	-16.5	1.74 V	20	25.9	11.6

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 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	60.6 PK	74.0	-13.4	1.49 H	285	59.5	1.1
2	5460.00	49.8 AV	54.0	-4.2	1.49 H	285	48.7	1.1
3	#5470.00	60.4 PK	68.2	-7.8	1.49 H	285	59.3	1.1
4	*5530.00	94.2 PK			1.49 H	285	93.1	1.1
5	*5530.00	86.6 AV			1.49 H	285	85.5	1.1
6	11060.00	55.3 PK	74.0	-18.7	1.53 H	260	43.9	11.4
7	11060.00	44.7 AV	54.0	-9.3	1.53 H	260	33.3	11.4
8	#16590.00	49.1 PK	68.2	-19.1	2.15 H	314	33.8	15.3

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.5 PK	74.0	-10.5	2.04 V	101	62.4	1.1
2	5460.00	53.5 AV	54.0	-0.5	2.04 V	101	52.4	1.1
3	#5470.00	63.3 PK	68.2	-4.9	2.04 V	101	62.2	1.1
4	*5530.00	99.4 PK			2.04 V	101	98.3	1.1
5	*5530.00	91.4 AV			2.04 V	101	90.3	1.1
6	11060.00	55.9 PK	74.0	-18.1	2.07 V	332	44.5	11.4
7	11060.00	45.3 AV	54.0	-8.7	2.07 V	332	33.9	11.4
8	#16590.00	47.5 PK	68.2	-20.7	1.79 V	42	32.2	15.3

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	100.4 PK			1.41 H	278	99.0	1.4
2	*5610.00	92.3 AV			1.41 H	278	90.9	1.4
3	11220.00	54.7 PK	74.0	-19.3	1.54 H	258	43.4	11.3
4	11220.00	44.8 AV	54.0	-9.2	1.54 H	258	33.5	11.3
5	#16830.00	49.6 PK	68.2	-18.6	2.08 H	338	34.0	15.6

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5610.00	105.5 PK			2.35 V	85	104.1	1.4
2	*5610.00	97.6 AV			2.35 V	85	96.2	1.4
3	11220.00	55.8 PK	74.0	-18.2	2.02 V	333	44.5	11.3
4	11220.00	45.4 AV	54.0	-8.6	2.02 V	333	34.1	11.3
5	#16830.00	46.9 PK	68.2	-21.3	1.82 V	29	31.3	15.6

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	60.1 PK	68.2	-8.1	1.50 H	277	59.0	1.1
2	*5690.00	103.0 PK			1.50 H	277	101.6	1.4
3	*5690.00	95.0 AV			1.50 H	277	93.6	1.4
4	11380.00	56.4 PK	74.0	-17.6	1.56 H	259	44.4	12.0
5	11380.00	45.7 AV	54.0	-8.3	1.56 H	259	33.7	12.0
6	#17070.00	50.2 PK	68.2	-18.0	2.08 H	334	33.3	16.9

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	61.4 PK	68.2	-6.8	2.32 V	102	60.3	1.1
2	*5690.00	108.5 PK			2.32 V	102	107.1	1.4
3	*5690.00	100.3 AV			2.32 V	102	98.9	1.4
4	11380.00	60.9 PK	74.0	-13.1	2.06 V	328	48.9	12.0
5	11380.00	49.3 AV	54.0	-4.7	2.06 V	328	37.3	12.0
6	#17070.00	47.0 PK	68.2	-21.2	1.81 V	37	30.1	16.9

Remarks:

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

RF Mode	TX 802.11ac (VHT80)	Channel	CH 155 : 5775 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5644.83	62.7 PK	68.2	-5.5	1.44 H	279	61.3	1.4
2	*5775.00	103.8 PK			1.44 H	279	102.0	1.8
3	*5775.00	95.7 AV			1.44 H	279	93.9	1.8
4	#5947.36	58.8 PK	68.2	-9.4	1.44 H	279	57.0	1.8
5	11550.00	57.1 PK	74.0	-16.9	1.69 H	222	45.0	12.1
6	11550.00	47.2 AV	54.0	-6.8	1.69 H	222	35.1	12.1
7	#17325.00	49.9 PK	68.2	-18.3	2.14 H	315	33.8	16.1

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5641.43	67.4 PK	68.2	-0.8	2.48 V	92	66.0	1.4
2	*5775.00	108.6 PK			2.48 V	92	106.8	1.8
3	*5775.00	100.3 AV			2.48 V	92	98.5	1.8
4	#5925.63	61.9 PK	68.2	-6.3	2.48 V	92	60.1	1.8
5	11550.00	62.1 PK	74.0	-11.9	2.15 V	331	50.0	12.1
6	11550.00	52.0 AV	54.0	-2.0	2.15 V	331	39.9	12.1
7	#17325.00	47.1 PK	68.2	-21.1	1.74 V	46	31.0	16.1

Remarks:

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

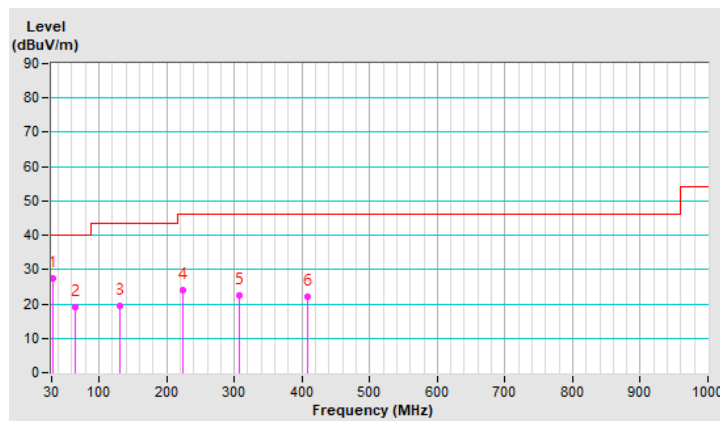
Below 1GHz Data:

RF Mode	TX 802.11a	Channel	CH 140 : 5700 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	32.37	27.5 QP	40.0	-12.5	1.00 H	94	41.1	-13.6
2	65.18	19.1 QP	40.0	-20.9	1.00 H	100	33.1	-14.0
3	130.36	19.3 QP	43.5	-24.2	1.00 H	85	32.4	-13.1
4	224.89	24.1 QP	46.0	-21.9	1.50 H	55	39.3	-15.2
5	306.77	22.4 QP	46.0	-23.6	1.00 H	120	32.9	-10.5
6	409.13	22.0 QP	46.0	-24.0	1.00 H	30	29.6	-7.6

Remarks:

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



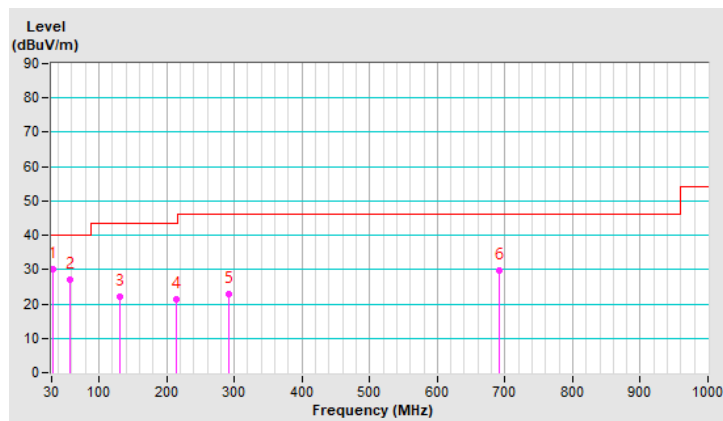
RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	31.84	30.1 QP	40.0	-9.9	1.00 V	180	43.7	-13.6
2	57.80	27.1 QP	40.0	-12.9	1.00 V	130	40.2	-13.1
3	130.94	22.2 QP	43.5	-21.3	1.50 V	290	35.3	-13.1
4	213.48	21.4 QP	43.5	-22.1	1.00 V	350	36.5	-15.1
5	291.82	22.8 QP	46.0	-23.2	1.50 V	70	33.8	-11.0
6	691.86	29.7 QP	46.0	-16.3	1.00 V	220	30.4	-0.7

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 20, 2020	Oct. 19, 2021
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 27, 2020	Oct. 26, 2021
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 26, 2021	Mar. 25, 2022
50 ohms Terminator	50	3	Oct. 26, 2020	Oct. 25, 2021
RF Cable	5D-FB	COCCAB-001	Sep. 26, 2020	Sep. 25, 2021
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 29, 2020	Aug. 28, 2021
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3. Tested Date: July 24, 2021

4.2.3 Test Procedure

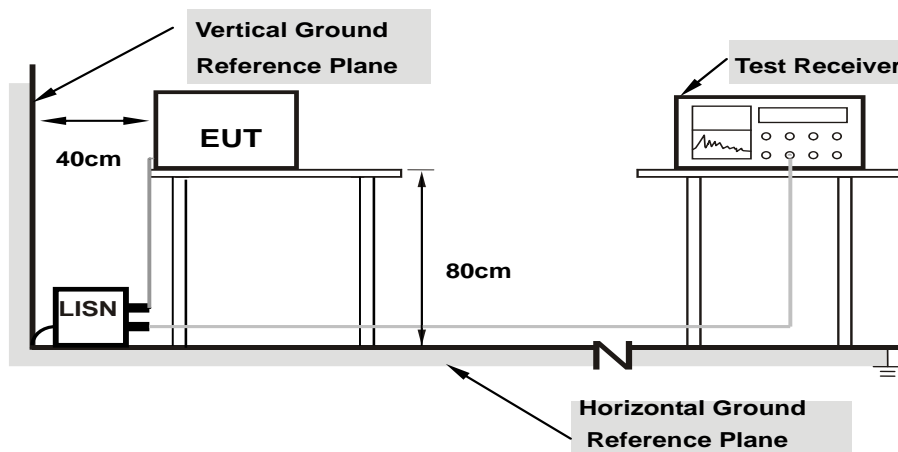
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

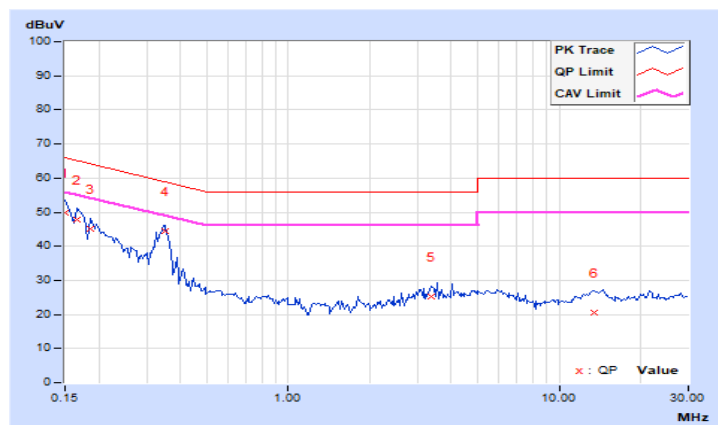
4.2.7 Test Results

RF Mode	TX 802.11a	Channel	CH 140 : 5700 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	0.15000	9.95	40.01	23.04	49.96	32.99	66.00	56.00	-16.04	-23.01
2	0.16562	9.96	37.80	24.36	47.76	34.32	65.18	55.18	-17.42	-20.86
3	0.18516	9.98	35.13	20.99	45.11	30.97	64.25	54.25	-19.14	-23.28
4	0.34922	10.00	34.49	29.71	44.49	39.71	58.98	48.98	-14.49	-9.27
5	3.37500	10.20	15.05	4.66	25.25	14.86	56.00	46.00	-30.75	-31.14
6	13.50391	11.03	9.37	4.11	20.40	15.14	60.00	50.00	-39.60	-34.86

Remarks:

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

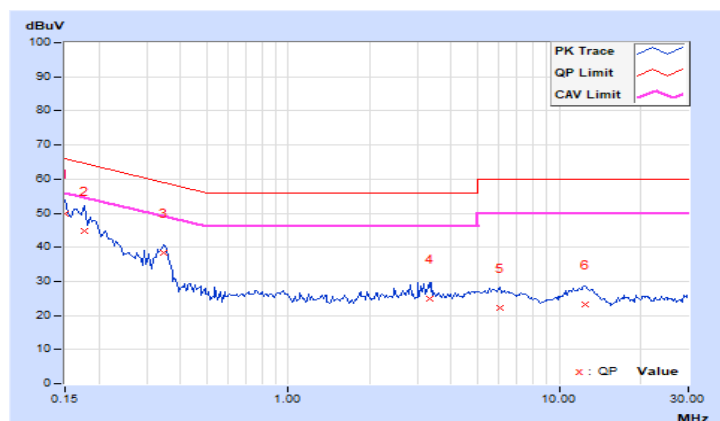


RF Mode	TX 802.11a	Channel	CH 140 : 5700 MHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

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	9.97	39.99	24.06	49.96	34.03	66.00	56.00	-16.04	-21.97
2	0.17734	9.99	34.87	18.46	44.86	28.45	64.61	54.61	-19.75	-26.16
3	0.34531	10.03	28.26	23.06	38.29	33.09	59.07	49.07	-20.78	-15.98
4	3.32031	10.23	14.70	6.02	24.93	16.25	56.00	46.00	-31.07	-29.75
5	6.05469	10.40	11.87	6.51	22.27	16.91	60.00	50.00	-37.73	-33.09
6	12.43359	10.80	12.31	6.61	23.11	17.41	60.00	50.00	-36.89	-32.59

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

Note: This device can support different category application which switched by access point mode and client mode by software.

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

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

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

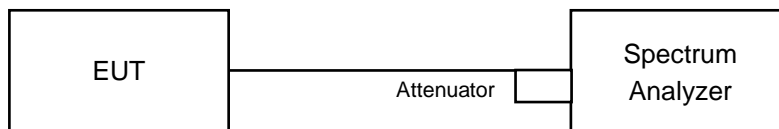
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

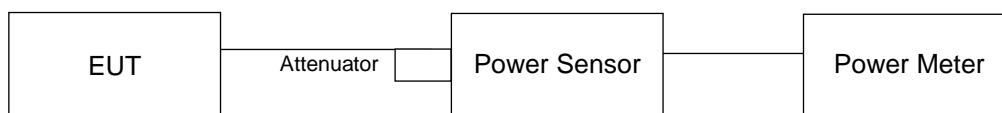
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

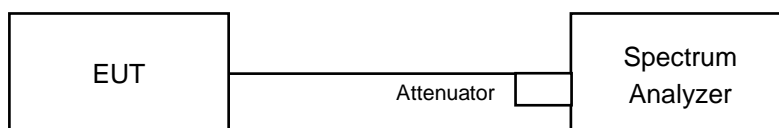
For channel straddling 5250MHz & channel straddling 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR POWER OUTPUT MEASUREMENT

For channel straddling 5725MHz:

Follow FCC KDB 789033 UNII test procedure:

For 802.11ac (VHT20)

Method SA-1

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

For 802.11a, 802.11ac (VHT40), 802.11ac (VHT80)

Method SA-2

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

For other channels:

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Results

POWER OUTPUT
Master
CDD Mode
802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.97	12.15	32.146	15.07	30	Pass
40	5200	15.67	16.16	78.203	18.93	30	Pass
48	5240	16.85	17.02	98.767	19.95	30	Pass
52	5260	16.27	16.62	88.284	19.46	24	Pass
60	5300	16.78	17.20	100.124	20.01	24	Pass
64	5320	16.82	17.20	100.565	20.02	24	Pass
100	5500	16.32	16.64	88.987	19.49	24	Pass
116	5580	19.46	20.09	190.402	22.80	24	Pass
140	5700	14.61	15.18	61.868	17.91	24	Pass
*144 (U-NII-2C Band)	5720	14.09	13.87	52.518	17.20	22.77	Pass
*144 (U-NII-3 Band)	5720	7.88	7.76	12.712	11.04	30	Pass
149	5745	15.71	16.15	78.449	18.95	30	Pass
157	5785	15.17	15.72	70.21	18.46	30	Pass
165	5825	15.12	15.70	69.662	18.43	30	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.65	24.14 > 24
60	5300	22.32	24.48 > 24
64	5320	23.9	24.78 > 24
100	5500	20.3	24.07 > 24
116	5580	37.39	26.72 > 24
140	5700	20.77	24.17 > 24
144 (U-NII-2C Band)	5720	15.06	22.77 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.79	12.13	31.431	14.97	30	Pass
40	5200	14.76	15.04	61.838	17.91	30	Pass
48	5240	15.34	15.44	69.192	18.40	30	Pass
52	5260	16.18	16.59	87.099	19.40	24	Pass
60	5300	17.12	17.65	109.733	20.40	24	Pass
64	5320	17.12	17.77	111.364	20.47	24	Pass
100	5500	17.95	18.01	125.615	20.99	24	Pass
116	5580	19.30	18.58	157.225	21.97	24	Pass
140	5700	14.62	14.95	60.234	17.80	24	Pass
*144 (U-NII-2C Band)	5720	15.63	15.84	74.93	18.75	23.2	Pass
*144 (U-NII-3 Band)	5720	9.97	10.23	20.475	13.11	30	Pass
149	5745	16.01	16.29	82.462	19.16	30	Pass
157	5785	16.06	16.33	83.318	19.21	30	Pass
165	5825	16.00	16.34	82.863	19.18	30	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	22	24.42 > 24
60	5300	25.86	25.12 > 24
64	5320	24.23	24.84 > 24
100	5500	26.64	25.25 > 24
116	5580	36.11	26.57 > 24
140	5700	21.44	24.31 > 24
144 (U-NII-2C Band)	5720	16.62	23.2 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.62	11.22	24.778	13.94	30	Pass
46	5230	17.03	17.42	105.674	20.24	30	Pass
54	5270	17.99	17.81	123.345	20.91	24	Pass
62	5310	10.10	10.67	21.901	13.40	24	Pass
102	5510	14.41	14.33	54.708	17.38	24	Pass
110	5550	19.40	18.30	154.705	21.90	24	Pass
134	5670	18.17	18.12	130.478	21.16	24	Pass
*142 (U-NII-2C Band)	5710	15.22	15.76	73.551	18.67	24	Pass
*142 (U-NII-3 Band)	5710	3.85	4.50	5.438	7.35	30	Pass
151	5755	16.58	16.96	95.158	19.78	30	Pass
159	5795	17.07	17.44	106.396	20.27	30	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	58.84	28.69 > 24
62	5310	41.21	27.15 > 24
102	5510	41.29	27.15 > 24
110	5550	72.86	29.62 > 24
134	5670	66.56	29.23 > 24
142 (U-NII-2C Band)	5710	35.6	26.51 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.32	11.25	26.887	14.30	30	Pass
58	5290	9.84	9.75	19.079	12.81	24	Pass
106	5530	10.32	10.19	21.212	13.27	24	Pass
122	5610	17.20	17.06	103.297	20.14	24	Pass
*138 (U-NII-2C Band)	5690	18.64	18.85	160.95	22.07	24	Pass
*138 (U-NII-3 Band)	5690	4.86	5.19	6.837	8.35	30	Pass
155	5775	17.07	16.73	98.031	19.91	30	Pass

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

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.29	30.25 > 24
106	5530	83.97	30.24 > 24
138 (U-NII-2C Band)	5690	88.3	30.45 > 24

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.79	12.13	31.431	14.97	28.29	Pass
40	5200	14.76	15.04	61.838	17.91	28.29	Pass
48	5240	15.34	15.44	69.192	18.40	28.29	Pass
52	5260	16.18	16.59	87.099	19.40	23.81	Pass
60	5300	17.12	17.65	109.733	20.40	23.81	Pass
64	5320	17.12	17.77	111.364	20.47	23.81	Pass
100	5500	17.95	18.01	125.615	20.99	23.81	Pass
116	5580	19.30	18.58	157.225	21.97	23.81	Pass
140	5700	14.62	14.95	60.234	17.80	23.81	Pass
*144 (U-NII-2C Band)	5720	15.63	15.84	74.93	18.75	23.01	Pass
*144 (U-NII-3 Band)	5720	9.97	10.23	20.475	13.11	29.81	Pass
149	5745	16.01	16.29	82.462	19.16	29.81	Pass
157	5785	16.06	16.33	83.318	19.21	29.81	Pass
165	5825	16.00	16.34	82.863	19.18	29.81	Pass

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

1. For UNII-1: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (7.71 - 6) = 28.29 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	22	24.42 > 24
60	5300	25.86	25.12 > 24
64	5320	24.23	24.84 > 24
100	5500	26.64	25.25 > 24
116	5580	36.11	26.57 > 24
140	5700	21.44	24.31 > 24
144 (U-NII-2C Band)	5720	16.62	23.2 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.62	11.22	24.778	13.94	28.29	Pass
46	5230	17.03	17.42	105.674	20.24	28.29	Pass
54	5270	17.99	17.81	123.345	20.91	23.81	Pass
62	5310	10.10	10.67	21.901	13.40	23.81	Pass
102	5510	14.41	14.33	54.708	17.38	23.81	Pass
110	5550	19.40	18.30	154.705	21.90	23.81	Pass
134	5670	18.17	18.12	130.478	21.16	23.81	Pass
*142 (U-NII-2C Band)	5710	15.22	15.76	73.551	18.67	23.81	Pass
*142 (U-NII-3 Band)	5710	3.85	4.50	5.438	7.35	29.81	Pass
151	5755	16.58	16.96	95.158	19.78	29.81	Pass
159	5795	17.07	17.44	106.396	20.27	29.81	Pass

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

1. For UNII-1: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (7.71 - 6) = 28.29 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	58.84	28.69 > 24
62	5310	41.21	27.15 > 24
102	5510	41.29	27.15 > 24
110	5550	72.86	29.62 > 24
134	5670	66.56	29.23 > 24
142 (U-NII-2C Band)	5710	35.6	26.51 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.32	11.25	26.887	14.30	28.29	Pass
58	5290	9.84	9.75	19.079	12.81	23.81	Pass
106	5530	10.32	10.19	21.212	13.27	23.81	Pass
122	5610	17.20	17.06	103.297	20.14	23.81	Pass
*138 (U-NII-2C Band)	5690	18.64	18.85	160.95	22.07	23.81	Pass
*138 (U-NII-3 Band)	5690	4.86	5.19	6.837	8.35	29.81	Pass
155	5775	17.07	16.73	98.031	19.91	29.81	Pass

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

1. For UNII-1: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (7.71 - 6) = 28.29 \text{ dBm}$.
2. For UNII-2A: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
3. For UNII-2C: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, therefore the limit needs to reduce, so the power limit shall be reduced to "Determined Conducted Limit-(6.19-6)".
4. For UNII-3: The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the power limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.29	30.25 > 24
106	5530	83.97	30.24 > 24
138 (U-NII-2C Band)	5690	88.3	30.45 > 24

Client
CDD Mode
802.11a

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.97	12.15	32.146	15.07	24	Pass
40	5200	15.67	16.16	78.203	18.93	24	Pass
48	5240	16.85	17.02	98.767	19.95	24	Pass

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.79	12.13	31.431	14.97	24	Pass
40	5200	14.76	15.04	61.838	17.91	24	Pass
48	5240	15.34	15.44	69.192	18.40	24	Pass

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.62	11.22	24.778	13.94	24	Pass
46	5230	17.03	17.42	105.674	20.24	24	Pass

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.32	11.25	26.887	14.30	24	Pass

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	11.79	12.13	31.431	14.97	22.29	Pass
40	5200	14.76	15.04	61.838	17.91	22.29	Pass
48	5240	15.34	15.44	69.192	18.40	22.29	Pass

Note: 1. The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 7.71 dBi > 6 dBi, so the power limit shall be reduced to $24 - (7.71 - 6) = 22.29$ dBm.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.62	11.22	24.778	13.94	22.29	Pass
46	5230	17.03	17.42	105.674	20.24	22.29	Pass

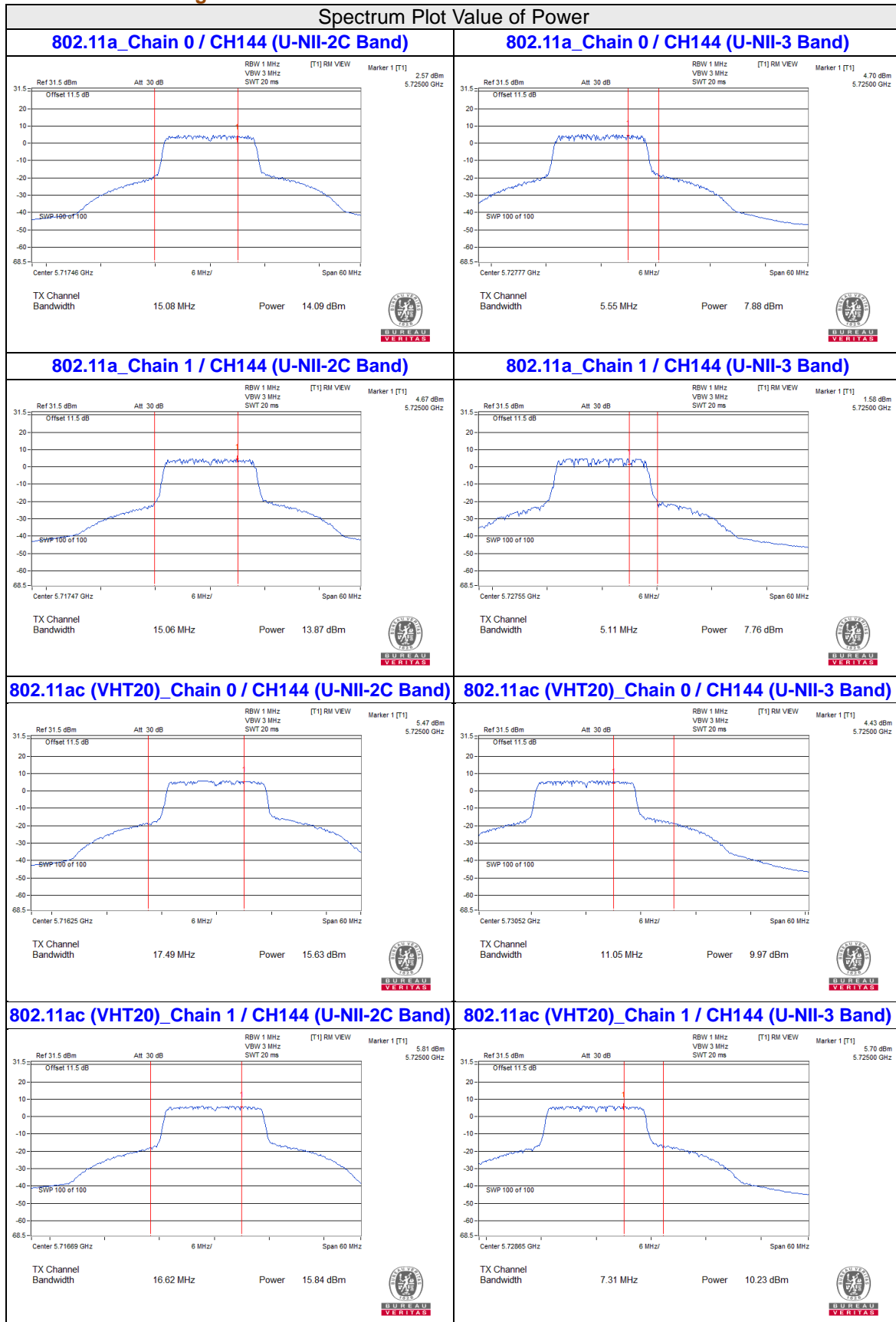
Note: 1. The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 7.71 dBi > 6 dBi, so the power limit shall be reduced to $24 - (7.71 - 6) = 22.29$ dBm.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	11.32	11.25	26.887	14.30	22.29	Pass

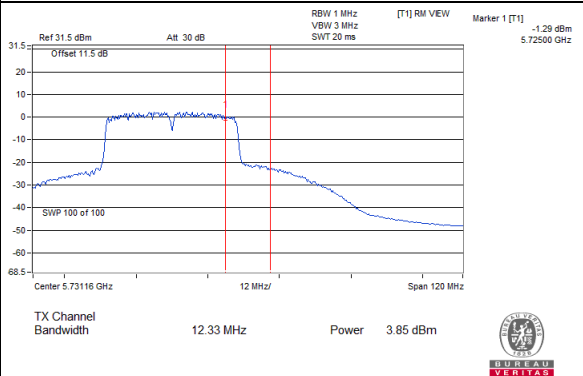
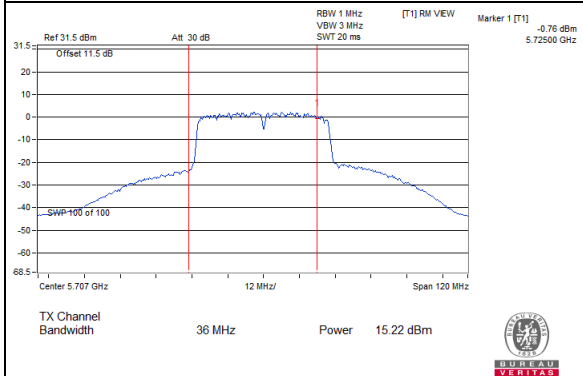
Note: 1. The directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2]$ = 7.71 dBi > 6 dBi, so the power limit shall be reduced to $24 - (7.71 - 6) = 22.29$ dBm.

For channel straddling 5725MHz of Power
CDD Mode/ Beamforming Mode

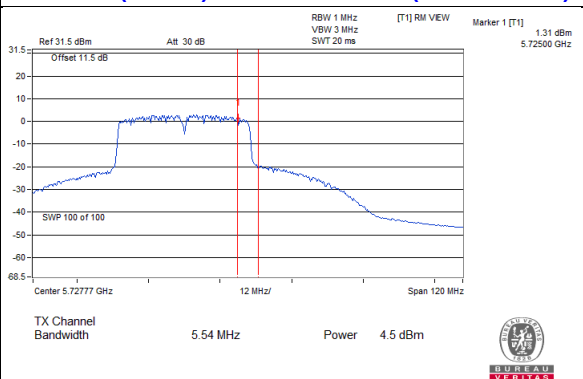
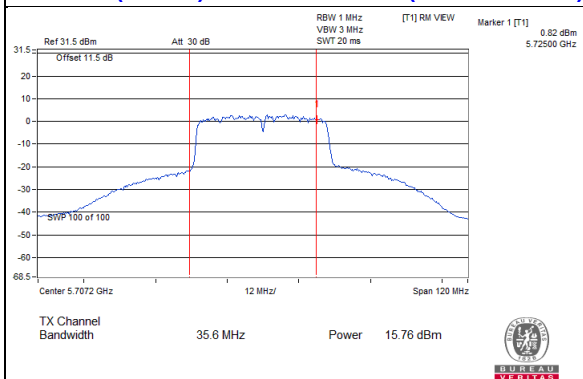


Spectrum Plot Value of Power

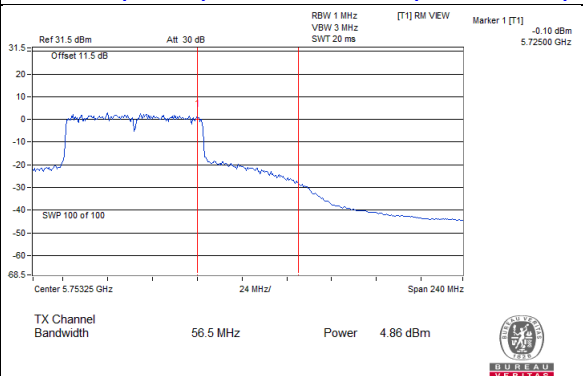
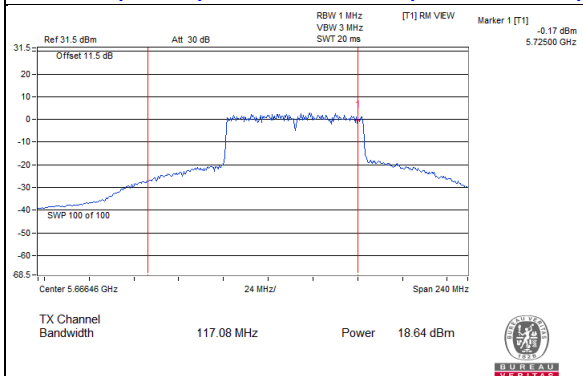
802.11ac (VHT40)_Chain 0 / CH142 (U-NII-2C Band) 802.11ac (VHT40)_Chain 0 / CH142 (U-NII-3 Band)



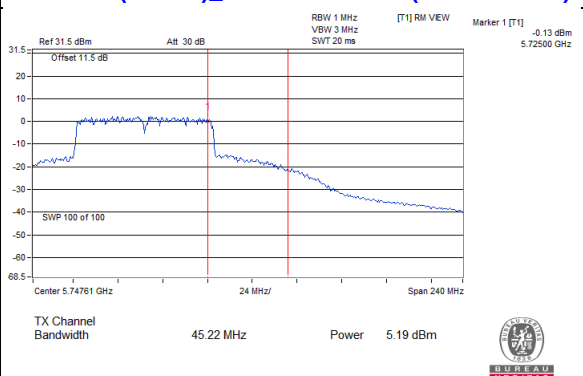
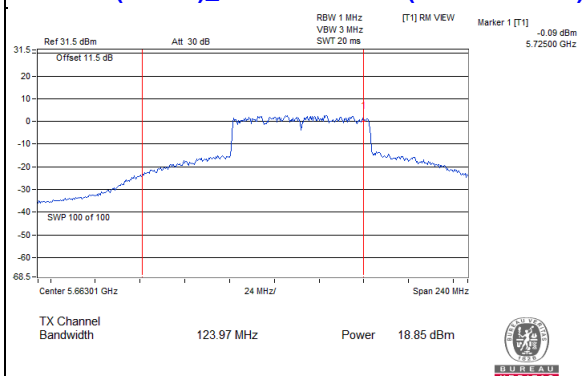
802.11ac (VHT40)_Chain 1 / CH142 (U-NII-2C Band) 802.11ac (VHT40)_Chain 1 / CH142 (U-NII-3 Band)



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



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



26dB OCCUPIED BANDWIDTH

Master

802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
36	5180	20.48	19.64
40	5200	28.68	21.02
48	5240	38.5	22.98
52	5260	34.76	20.65
60	5300	40.86	22.32
64	5320	38.22	23.9
100	5500	29.18	20.3
116	5580	40.32	37.39
140	5700	21.69	20.77
144 (U-NII-2C Band)	5720	15.08	15.06
144 (U-NII-3 Band)	5720	5.55	5.11
149	5745	26.49	22.53
157	5785	23.23	21.31
165	5825	22.06	21.02

802.11ac (VHT20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
36	5180	20.7	20.86
40	5200	23.16	21.26
48	5240	25.42	21.1
52	5260	30.9	22
60	5300	38.81	25.86
64	5320	41.69	24.23
100	5500	41.48	26.64
116	5580	40.76	36.11
140	5700	21.44	21.48
144 (U-NII-2C Band)	5720	17.49	16.62
144 (U-NII-3 Band)	5720	11.05	7.31
149	5745	29.82	22.53
157	5785	25.74	24.06
165	5825	23.64	24.14

802.11ac (VHT40)

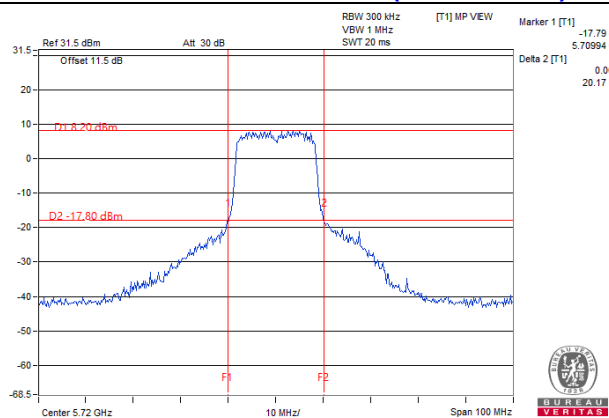
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
38	5190	41.15	41.09
46	5230	76.28	49.65
54	5270	87.45	58.84
62	5310	41.21	41.25
102	5510	41.33	41.29
110	5550	79.88	72.86
134	5670	77.75	66.56
142 (U-NII-2C Band)	5710	36	35.6
142 (U-NII-3 Band)	5710	12.33	5.54
151	5755	50.46	50.39
159	5795	55.78	53.72

802.11ac (VHT80)

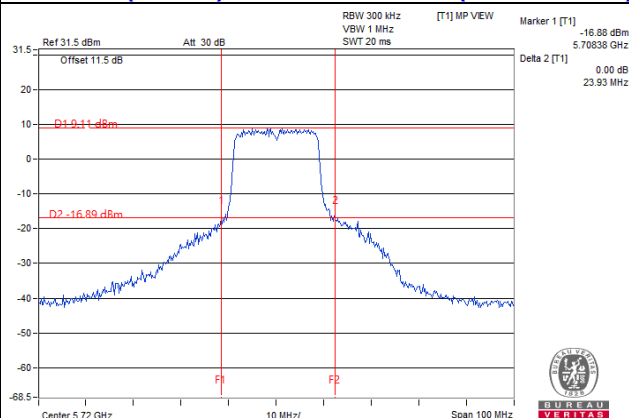
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
42	5210	85.14	84.2
58	5290	85.08	84.29
106	5530	83.97	84.17
122	5610	88.3	102.86
138 (U-NII-2C Band)	5690	117.08	123.97
138 (U-NII-3 Band)	5690	56.5	45.22
155	5775	109.16	107.36

Spectrum Plot of Worst Value

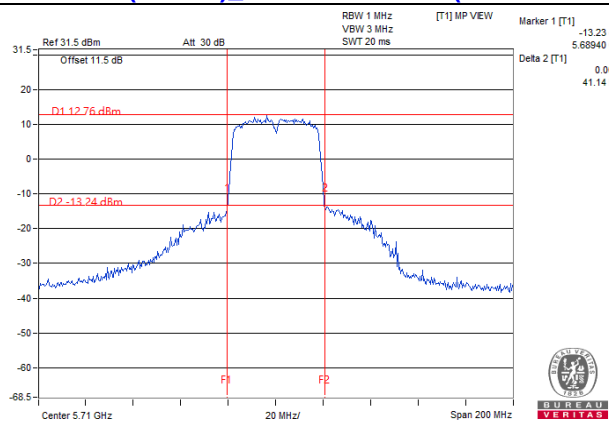
802.11a_Chain 1 / CH144 (U-NII-3 Band)



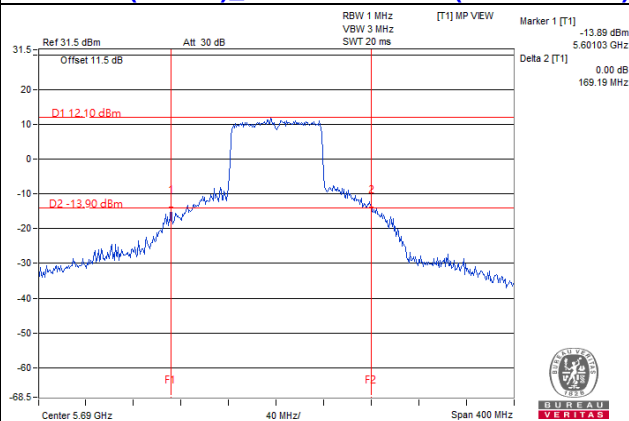
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



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



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



Note:

- For CH144 (U-NII-3) = Delta 2 - (5725MHz - Marker 1)
- For CH142 (U-NII-3) = Delta 2 - (5725MHz - Marker 1)
- For CH138 (U-NII-3) = Delta 2 - (5725MHz - Marker 1)

Client
802.11a

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
36	5180	20.48	19.64
40	5200	28.68	21.02
48	5240	38.5	22.98

802.11ac (VHT20)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
36	5180	20.7	20.86
40	5200	23.16	21.26
48	5240	25.42	21.1

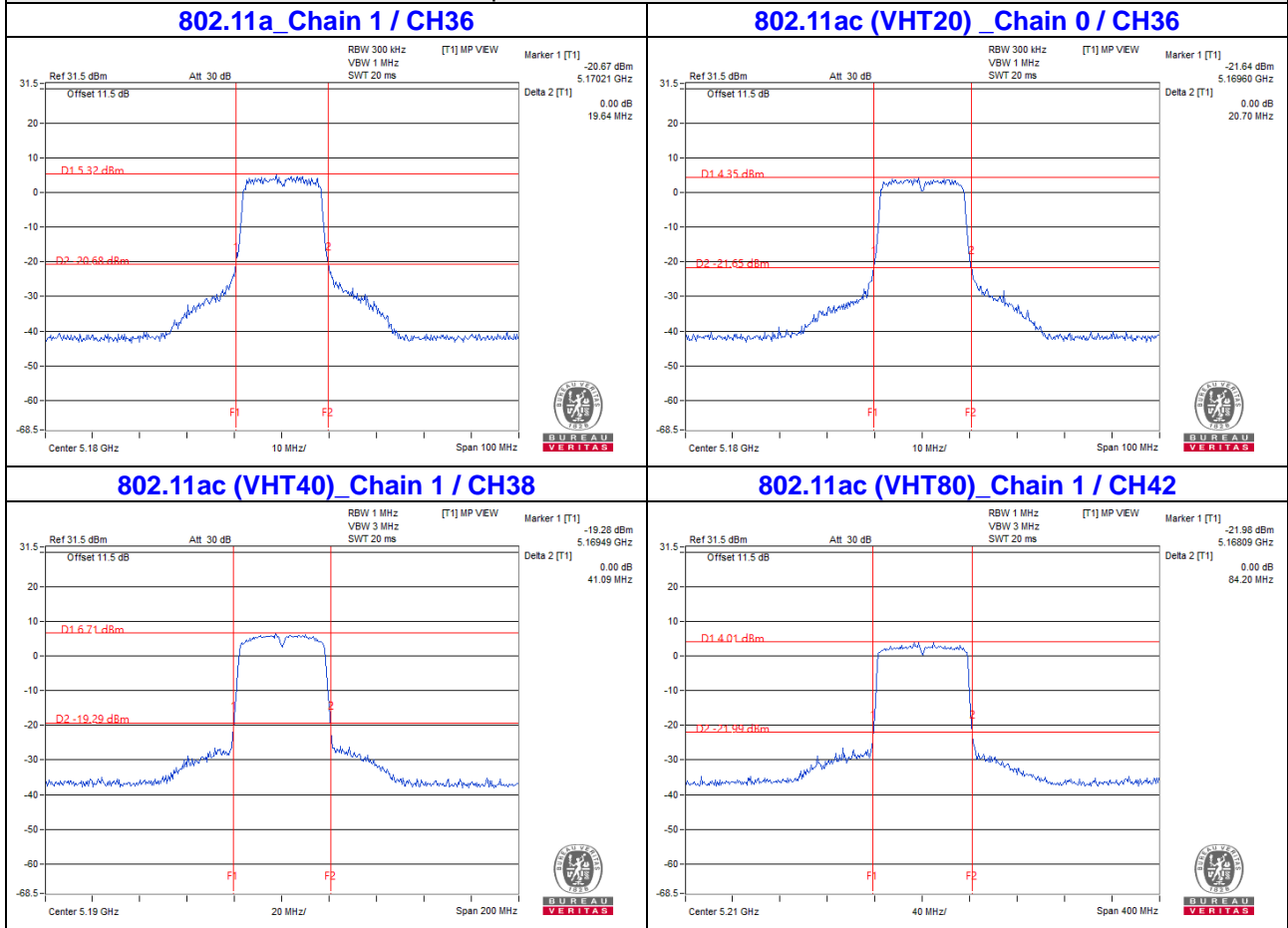
802.11ac (VHT40)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
38	5190	41.15	41.09
46	5230	76.28	49.65

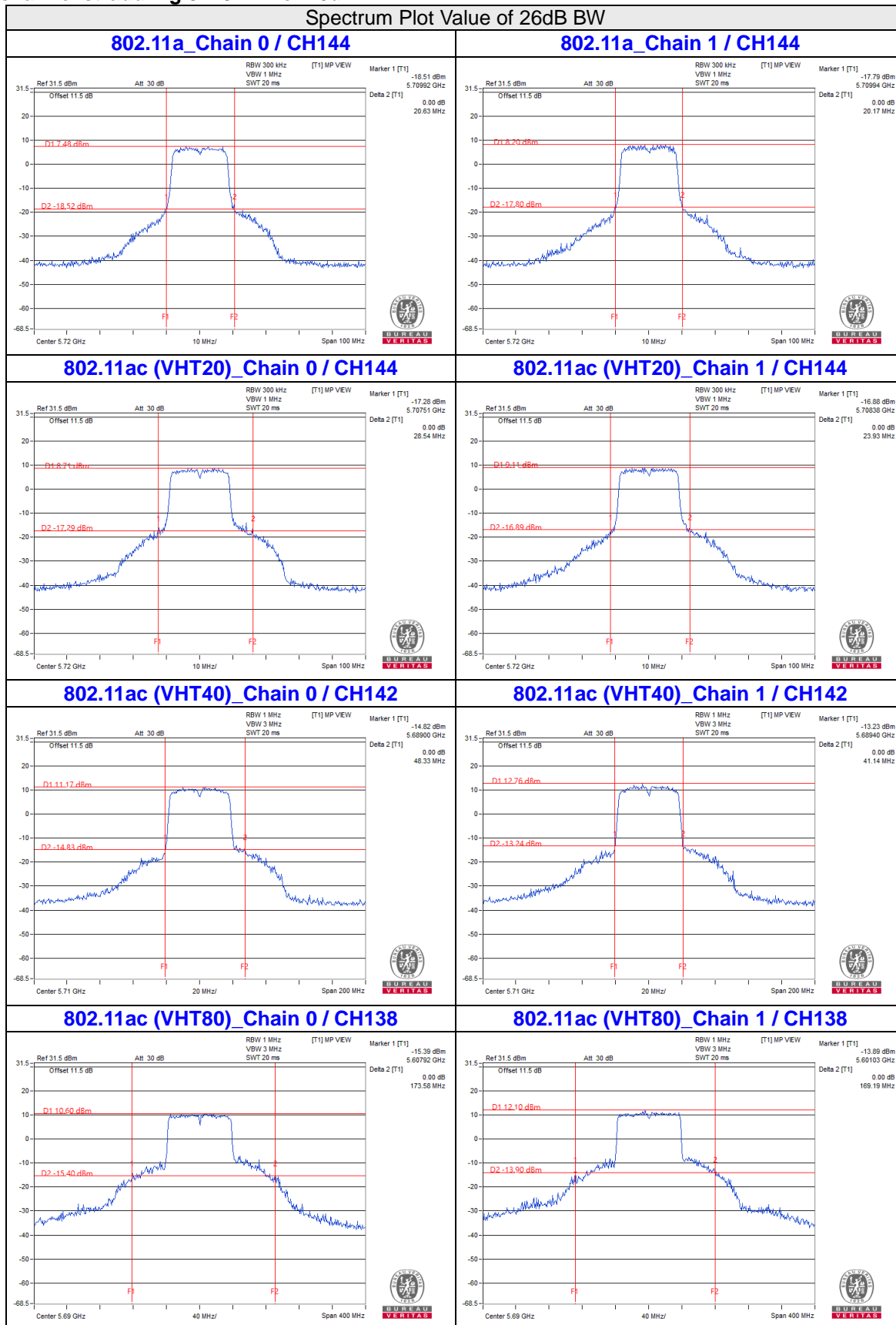
802.11ac (VHT80)

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain0	Chain1
42	5210	85.14	84.2

Spectrum Plot of Worst Value



For channel straddling 5725MHz of 26dB BW

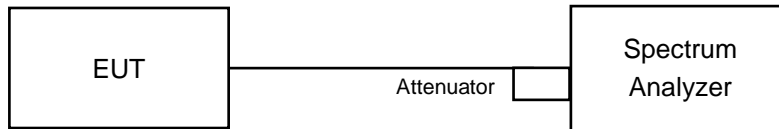


Note:

- For CH144 (U-NII-2C) = 5725MHz - Marker 1
- For CH142 (U-NII-2C) = 5725MHz - Marker 1
- For CH138 (U-NII-2C) = 5725MHz - Marker 1

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results

Master

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.44
40	5200	16.8	16.56
48	5240	17.04	16.56
52	5260	16.8	16.68
60	5300	17.04	16.68
64	5320	17.16	16.68
100	5500	16.8	16.68
116	5580	17.52	17.04
140	5700	16.68	16.68
144 (U-NII-2C Band)	5720	13.52	13.4
144 (U-NII-3 Band)	5720	3.52	3.4
149	5745	16.68	16.68
157	5785	16.68	16.56
165	5825	16.56	16.68

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	17.88	17.76
48	5240	17.88	17.88
52	5260	17.88	17.76
60	5300	18.12	17.88
64	5320	18.72	17.76
100	5500	18.72	17.88
116	5580	18.48	18.12
140	5700	17.64	17.76
144 (U-NII-2C Band)	5720	14.24	14.12
144 (U-NII-3 Band)	5720	5.32	4.6
149	5745	17.88	17.76
157	5785	17.88	17.88
165	5825	17.76	17.76

802.11ac (VHT40)

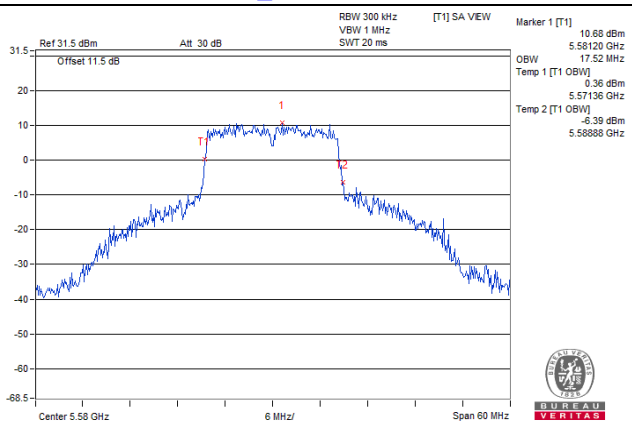
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.48
46	5230	36.72	36.24
54	5270	37.2	36.72
62	5310	36.24	36.24
102	5510	36.24	36.24
110	5550	38.64	36.72
134	5670	36.72	36.72
142 (U-NII-2C Band)	5710	33.48	33.48
142 (U-NII-3 Band)	5710	3.48	3.48
151	5755	36.72	36.48
159	5795	36.72	36.48

802.11ac (VHT80)

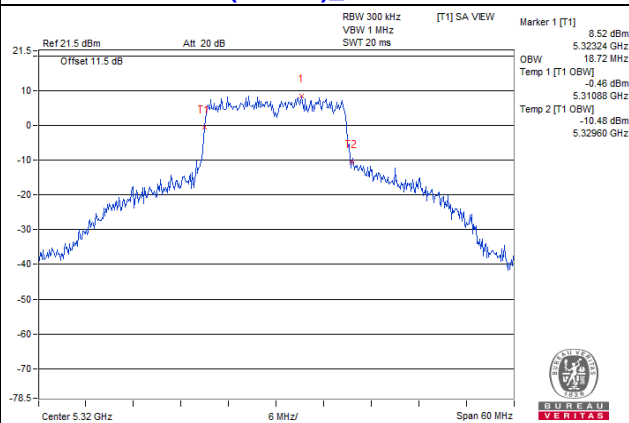
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.32	76.32
58	5290	76.32	75.84
106	5530	75.84	75.84
122	5610	76.32	76.32
138 (U-NII-2C Band)	5690	73.4	73.88
138 (U-NII-3 Band)	5690	4.84	4.36
155	5775	76.32	76.32

Spectrum Plot of Max. Value

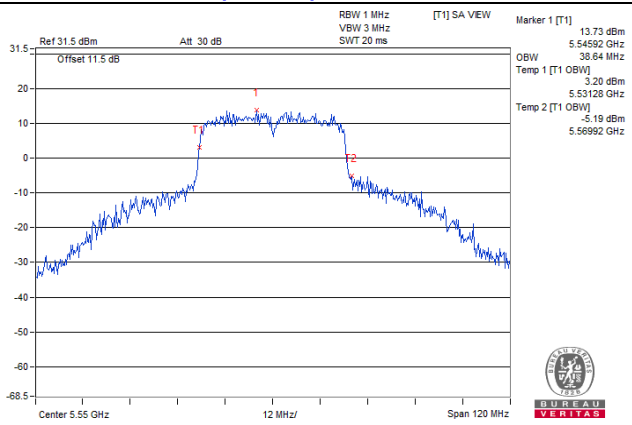
802.11a_Chain 0 / CH116



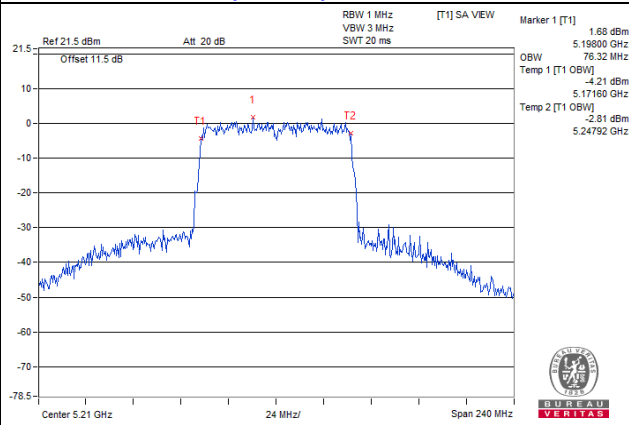
802.11ac (VHT20)_Chain 0 / CH64

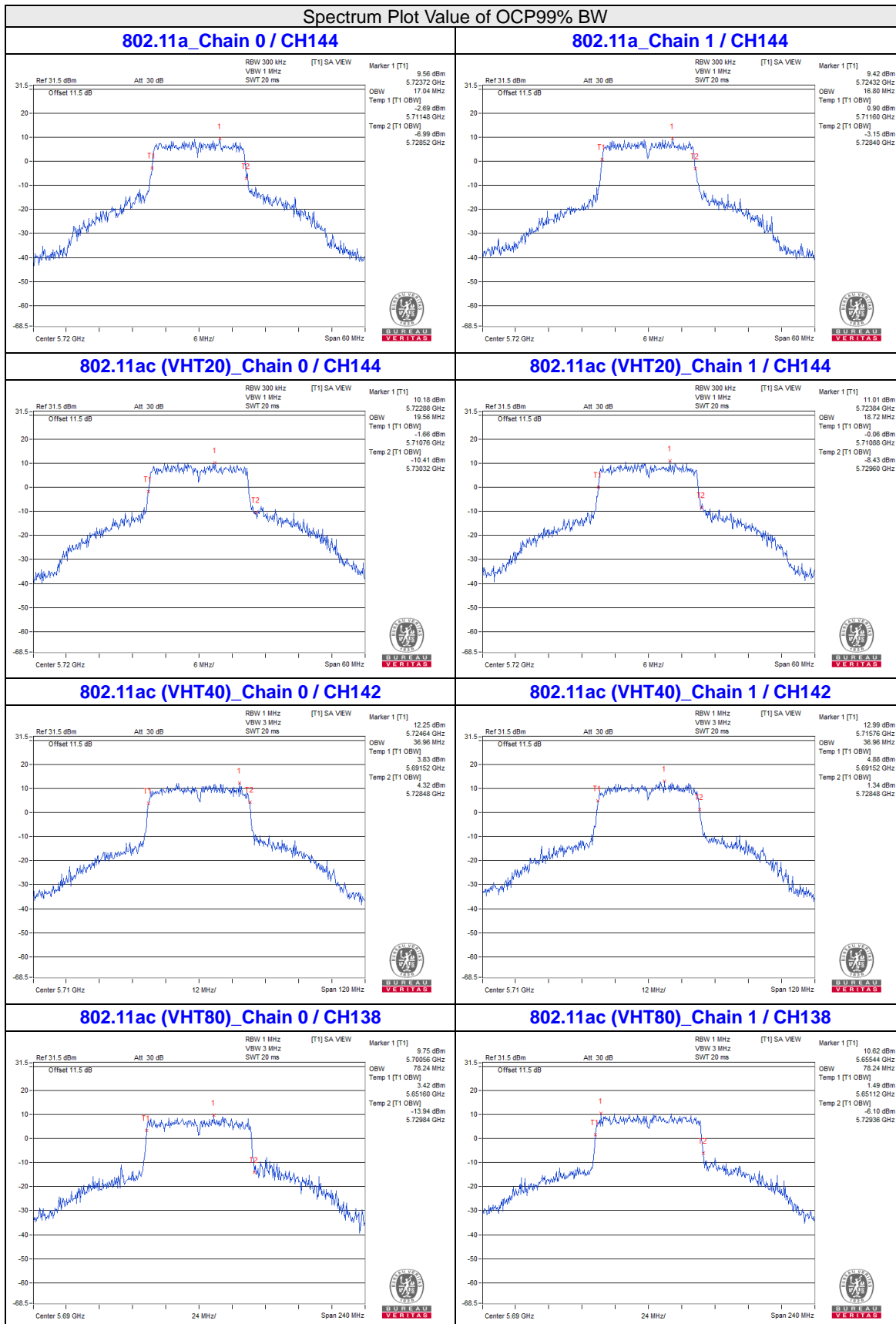


802.11ac (VHT40)_Chain 0 / CH110



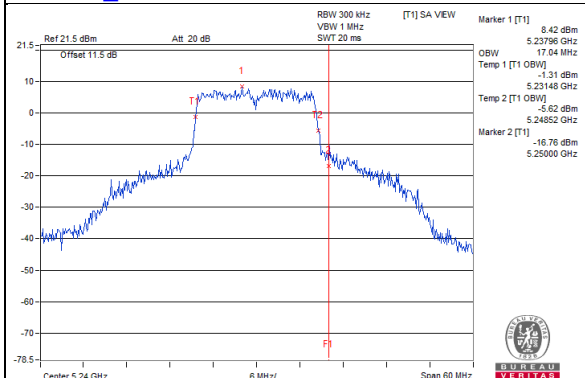
802.11ac (VHT80)_Chain 0 / CH42



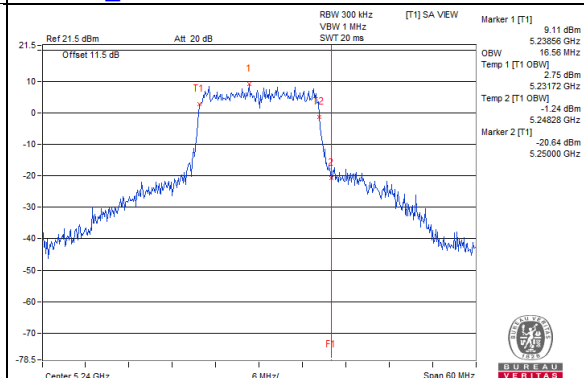


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2A band)**

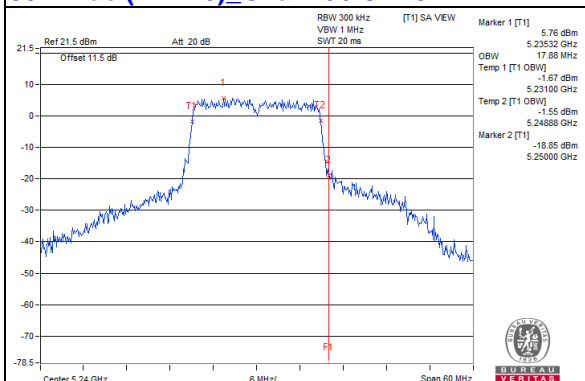
802.11a_Chain 0 / CH48



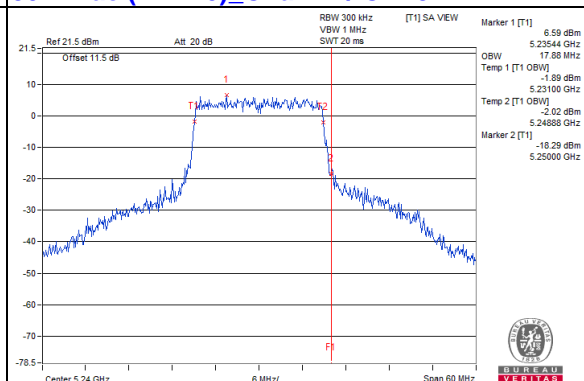
802.11a_Chain 1 / CH48



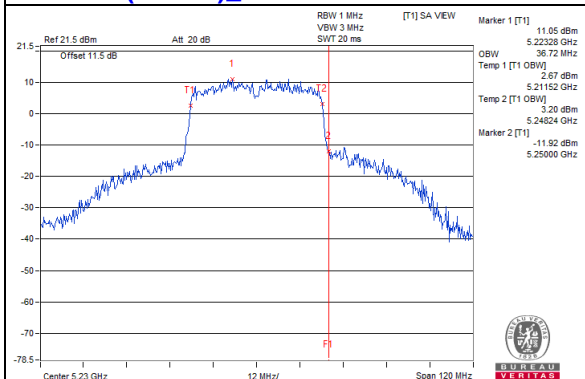
802.11ac (VHT20)_Chain 0 / CH48



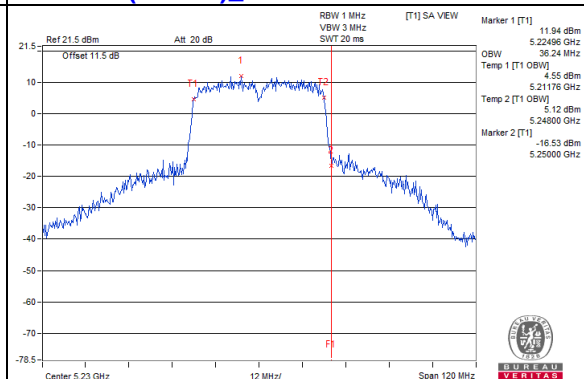
802.11ac (VHT20)_Chain 1 / CH48



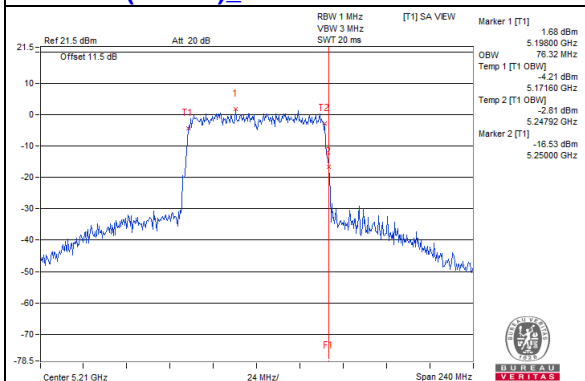
802.11ac (VHT40)_Chain 0 / CH46



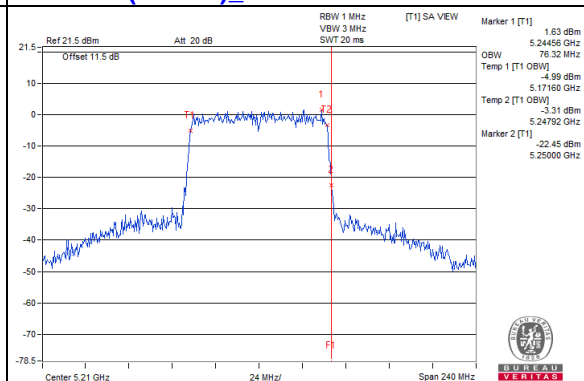
802.11ac (VHT40)_Chain 1 / CH46



802.11ac (VHT80)_Chain 0 / CH42

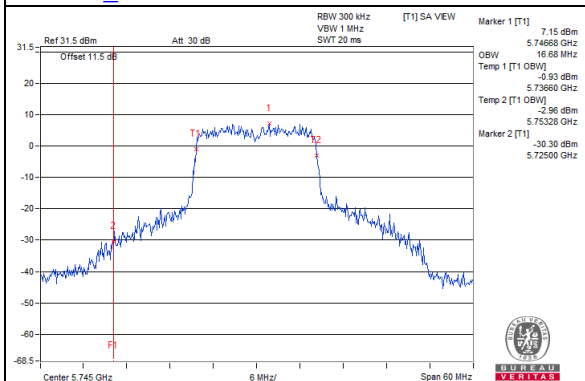


802.11ac (VHT80)_Chain 1 / CH42

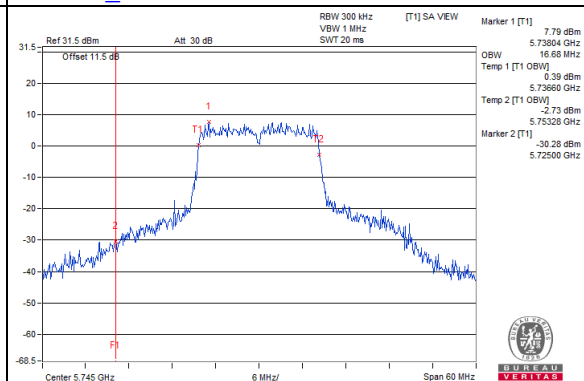


**Spectrum Plot for near by DFS band
(DFS is required, if 99% OCP straddle into U-NII-2C band)**

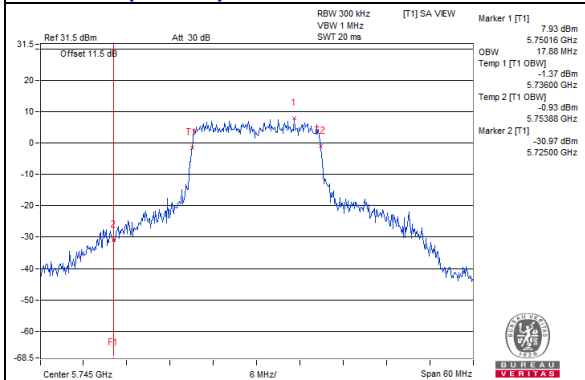
802.11a_Chain 0 / CH149



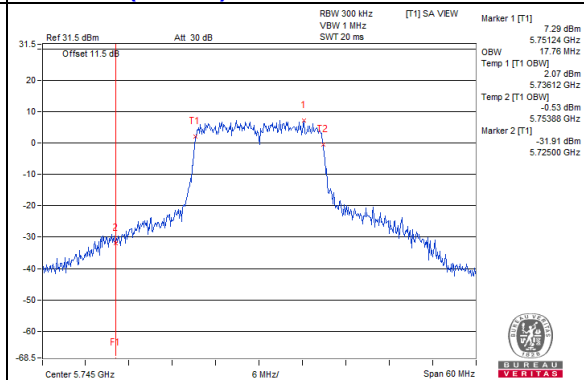
802.11a_Chain 1 / CH149



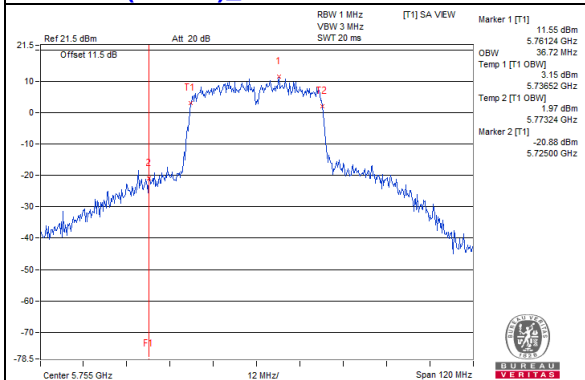
802.11ac (VHT20)_Chain 0 / CH149



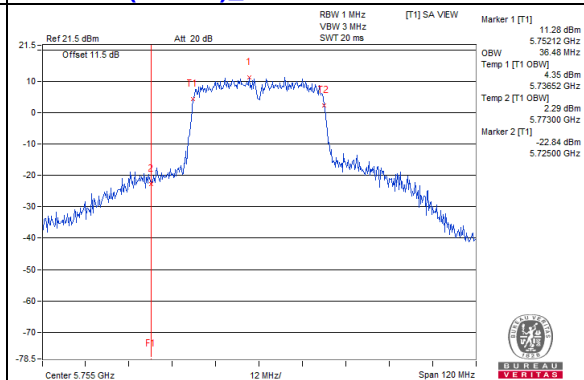
802.11ac (VHT20)_Chain 1 / CH149



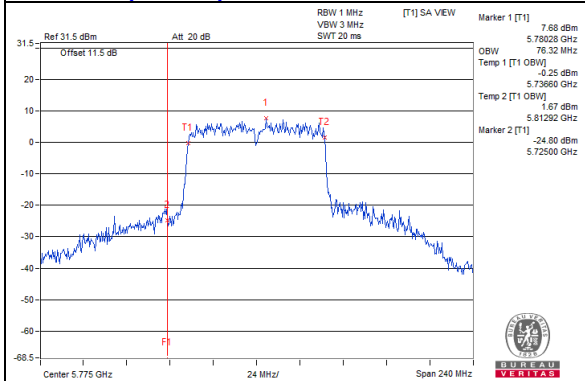
802.11ac (VHT40)_Chain 0 / CH151



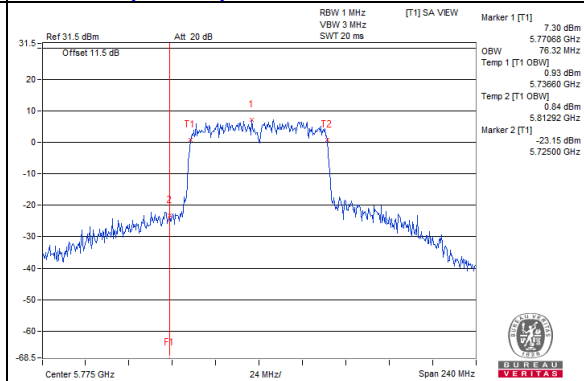
802.11ac (VHT40)_Chain 1 / CH151



802.11ac (VHT80)_Chain 0 / CH155



802.11ac (VHT80)_Chain 1 / CH155



Client

CDD Mode

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.44
40	5200	16.8	16.56
48	5240	17.04	16.56

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.76
40	5200	17.88	17.76
48	5240	17.88	17.88

802.11ac (VHT40)

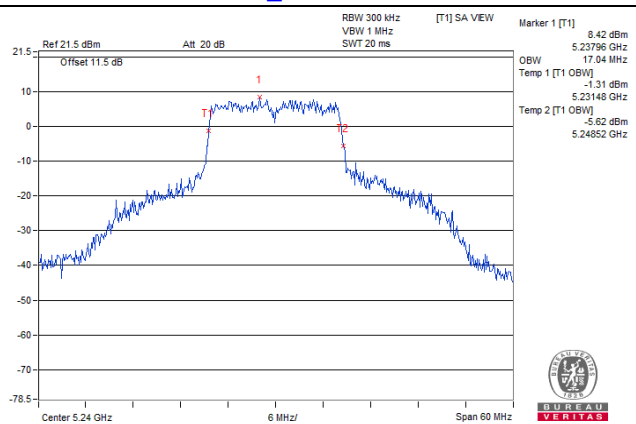
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.48
46	5230	36.72	36.24

802.11ac (VHT80)

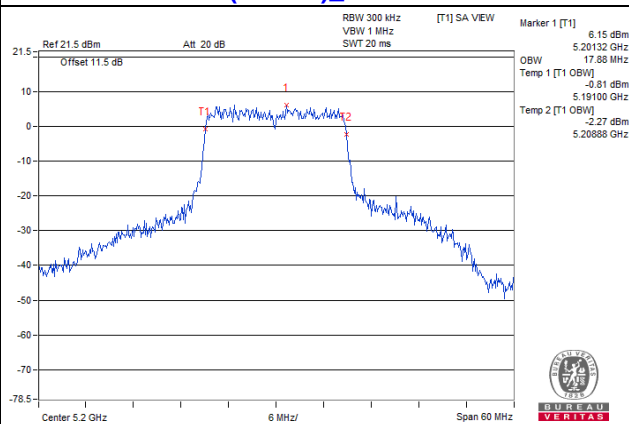
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	76.32	76.32

Spectrum Plot of Max. Value

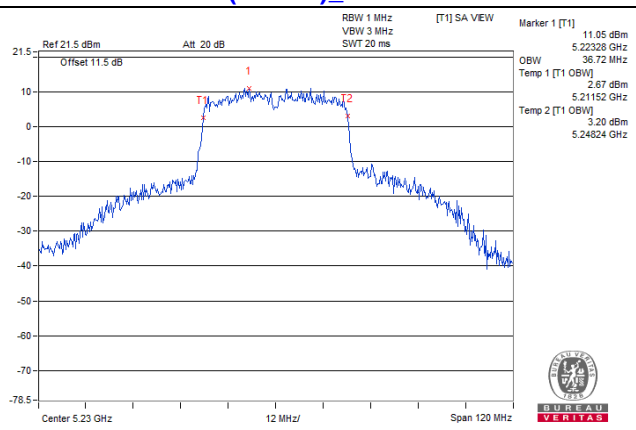
802.11a_Chain 0 / CH48



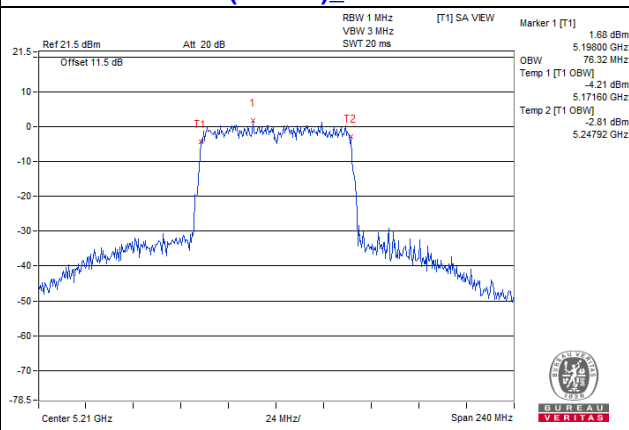
802.11ac (VHT20)_Chain 0 / CH40



802.11ac (VHT40)_Chain 0 / CH46



802.11ac (VHT80)_Chain 0 / CH42



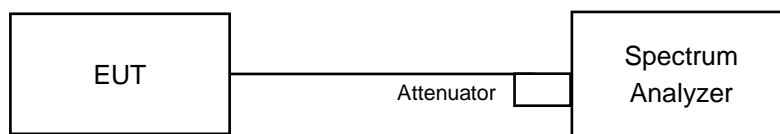
4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

Note: This device can support different category application which switched by access point mode and client mode by software.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For 802.11ac (VHT20)

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

Using method SA-1

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

For U-NII-3 band:

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

For 802.11a, 802.11ac (VHT40), 802.11ac (VHT80)

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

Using method SA-2

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

For U-NII-3 band:

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

Master

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.15	-1.87	0.21	1.73	15.29	Pass
40	5200	2.51	2.08	0.21	5.52	15.29	Pass
48	5240	3.15	3.62	0.21	6.61	15.29	Pass
52	5260	3.22	3.64	0.21	6.66	10.81	Pass
60	5300	3.92	3.61	0.21	6.99	10.81	Pass
64	5320	4.06	4.38	0.21	7.44	10.81	Pass
100	5500	2.56	3.57	0.21	6.32	10.81	Pass
116	5580	6.39	6.01	0.21	9.43	10.81	Pass
140	5700	2.00	1.63	0.21	5.04	10.81	Pass
144 (U-NII-2C Band)	5720	1.80	1.94	0.21	5.09	10.81	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(7.71-6) = 15.29\text{dBm}$.
3. For UNII-2A & 2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(6.19-6) = 10.81\text{dBm}$.
4. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-1.63	-1.24	1.58	15.29	Pass
40	5200	1.66	1.63	4.66	15.29	Pass
48	5240	2.07	2.16	5.13	15.29	Pass
52	5260	3.01	3.30	6.17	10.81	Pass
60	5300	3.90	4.33	7.13	10.81	Pass
64	5320	4.00	4.49	7.26	10.81	Pass
100	5500	4.87	4.80	7.85	10.81	Pass
116	5580	6.28	6.06	9.18	10.81	Pass
140	5700	1.40	1.38	4.40	10.81	Pass
144 (U-NII-2C Band)	5720	3.29	3.56	6.44	10.81	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(7.71-6) = 15.29\text{dBm}$.
3. For UNII-2A & 2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(6.19-6) = 10.81\text{dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-5.38	-5.13	0.16	-2.09	15.29	Pass
46	5230	0.87	1.32	0.16	4.27	15.29	Pass
54	5270	0.80	1.94	0.16	4.57	10.81	Pass
62	5310	-5.68	-5.35	0.16	-2.34	10.81	Pass
102	5510	-1.36	-2.26	0.16	1.38	10.81	Pass
110	5550	3.89	2.90	0.16	6.59	10.81	Pass
134	5670	2.37	1.54	0.16	5.14	10.81	Pass
142 (U-NII-2C Band)	5710	-0.03	0.53	0.16	3.43	10.81	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(7.71-6) = 15.29\text{dBm}$.
3. For UNII-2A & 2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(6.19-6) = 10.81\text{dBm}$.
4. Refer to section 3.3 for duty cycle spectrum plot.

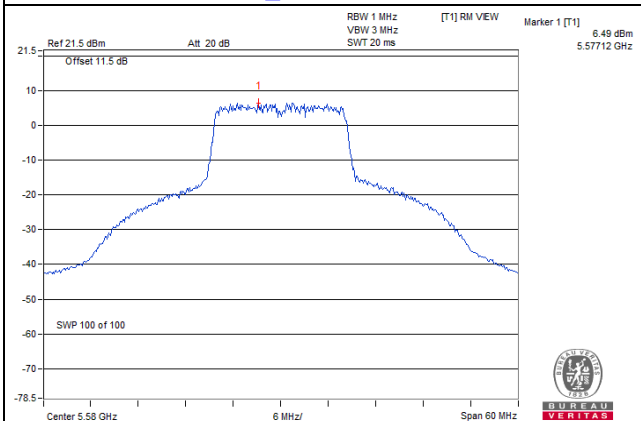
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-8.45	-8.40	0.31	-5.10	15.29	Pass
58	5290	-9.71	-10.88	0.31	-6.94	10.81	Pass
106	5530	-9.80	-9.82	0.31	-6.49	10.81	Pass
122	5610	-3.03	-2.80	0.31	0.41	10.81	Pass
138 (U-NII-2C Band)	5690	-1.05	-0.44	0.31	2.59	10.81	Pass

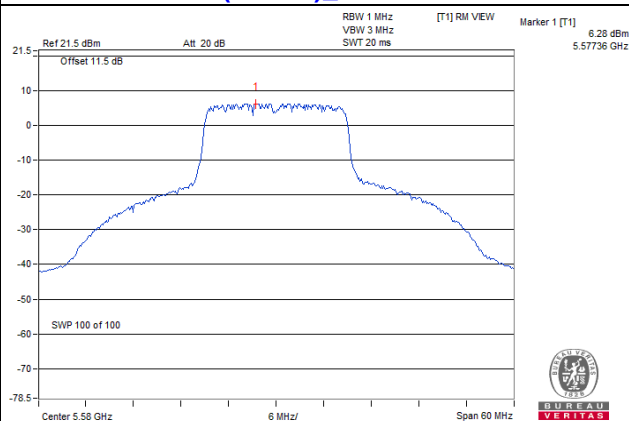
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For UNII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $17-(7.71-6) = 15.29\text{dBm}$.
3. For UNII-2A & 2C: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11-(6.19-6) = 10.81\text{dBm}$.
4. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

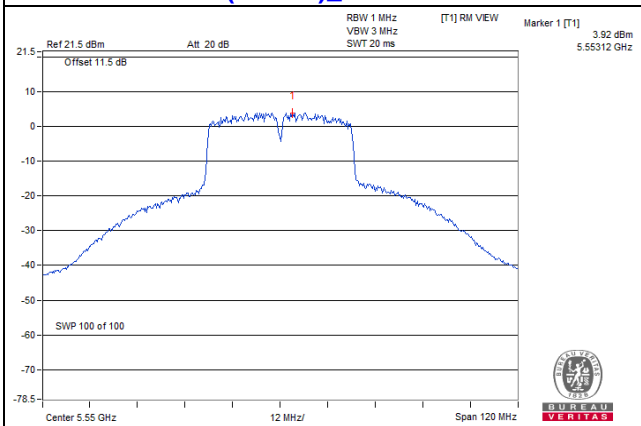
802.11a_Chain 0 / CH116



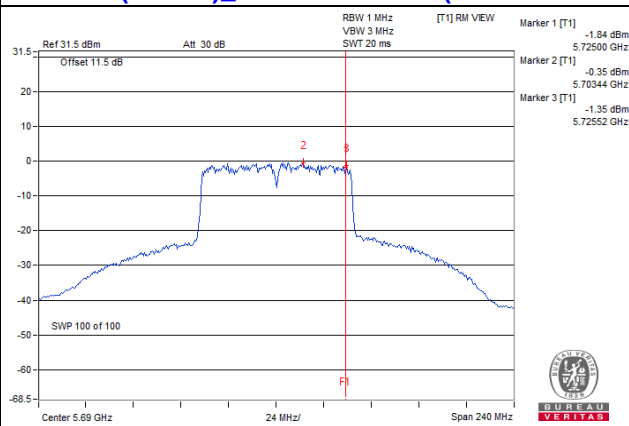
802.11ac (VHT20)_Chain 0 / CH116



802.11ac (VHT40)_Chain 0 / CH110



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



Client
CDD Mode
802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	-1.15	-1.87	0.21	1.73	9.29	Pass
40	5200	2.51	2.08	0.21	5.52	9.29	Pass
48	5240	3.15	3.62	0.21	6.61	9.29	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11 - (7.71 - 6) = 9.29 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
36	5180	-1.63	-1.24	1.58	9.29	Pass
40	5200	1.66	1.63	4.66	9.29	Pass
48	5240	2.07	2.16	5.13	9.29	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11 - (7.71 - 6) = 9.29 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-5.38	-5.13	0.16	-2.09	9.29	Pass
46	5230	0.87	1.32	0.16	4.27	9.29	Pass

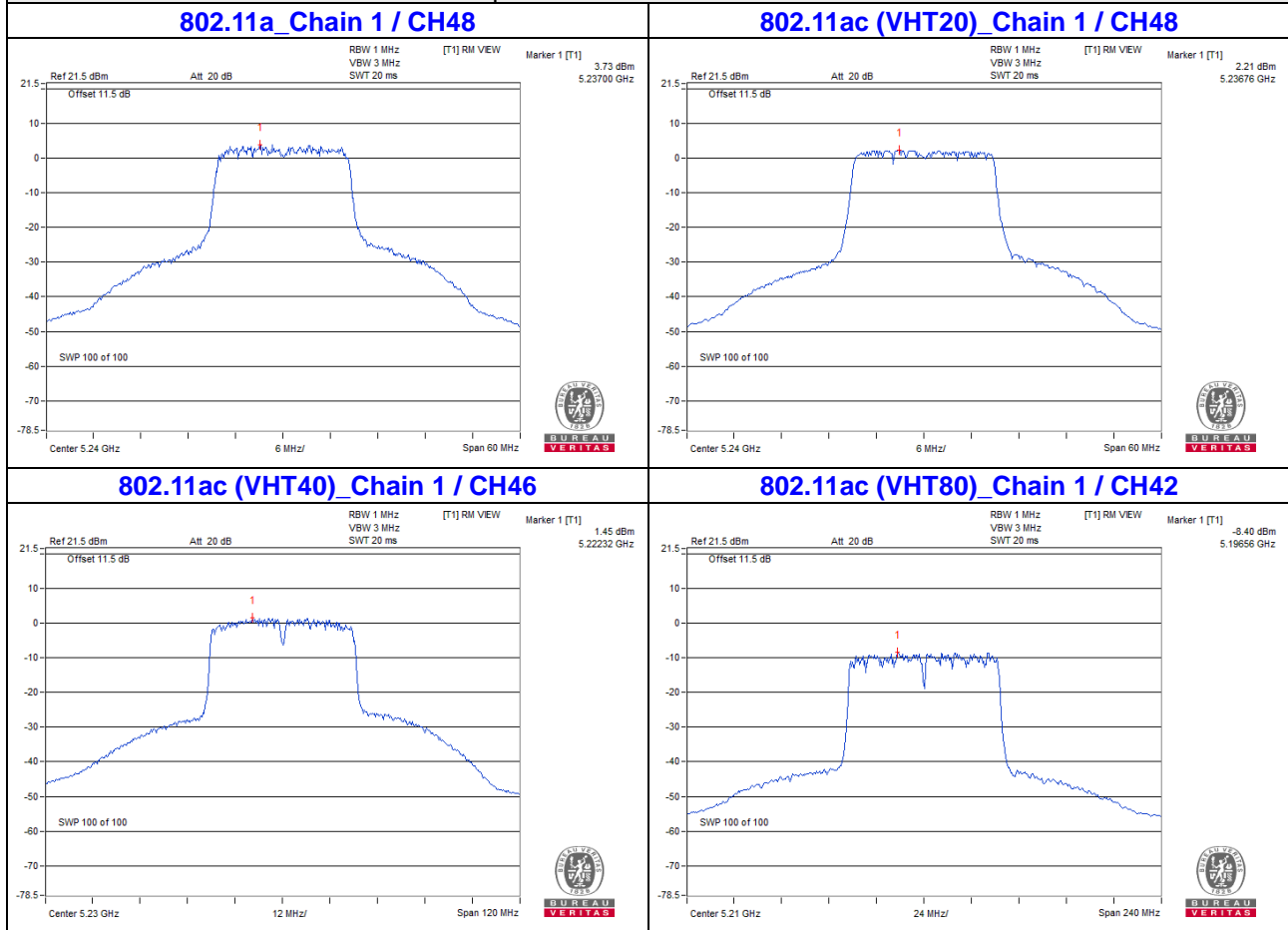
- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11 - (7.71 - 6) = 9.29 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD (dBm/MHz)	Max. PSD Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-8.45	-8.40	0.31	-5.10	9.29	Pass

- Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} / 2)] = 7.71 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $11 - (7.71 - 6) = 9.29 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value



For U-NII-3 band:

CDD Mode

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
144 (U-NII-3 Band)	5720	-6.67	-6.15	0.21	-3.18	-0.96	29.81	Pass
149	5745	-5.20	-5.01	0.21	-1.88	0.34	29.81	Pass
157	5785	-5.97	-5.06	0.21	-2.27	-0.05	29.81	Pass
165	5825	-5.99	-5.71	0.21	-2.63	-0.41	29.81	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain = $10 \log[(10^{G_0/20} + 10^{G_1/20}) / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.
 3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1				
144 (U-NII-3 Band)	5720	-5.68	-4.82	-2.22	0.00	29.81	Pass
149	5745	-5.04	-5.09	-2.05	0.17	29.81	Pass
157	5785	-5.42	-5.07	-2.23	-0.01	29.81	Pass
165	5825	-5.43	-5.18	-2.29	-0.07	29.81	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain = $10 \log[(10^{G_0/20} + 10^{G_1/20}) / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
142 (U-NII-3 Band)	5710	-10.28	-9.56	0.16	-6.74	-4.52	29.81	Pass
151	5755	-7.95	-7.47	0.16	-4.54	-2.32	29.81	Pass
159	5795	-8.20	-7.63	0.16	-4.74	-2.52	29.81	Pass

- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
 2. The directional gain = $10 \log[(10^{G_0/20} + 10^{G_1/20}) / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.
 3. Refer to section 3.3 for duty cycle spectrum plot.

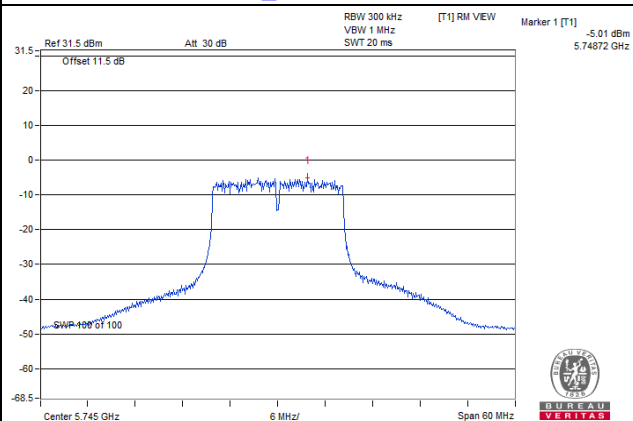
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm/300kHz)		Duty Factor (dB)	Total PSD (dBm/300kHz)	Total PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)	Pass / Fail
		Chain 0	Chain 1					
138 (U-NII-3 Band)	5710	-10.83	-10.03	0.31	-7.09	-4.87	29.81	Pass
155	5755	-11.75	-11.36	0.31	-8.23	-6.01	29.81	Pass

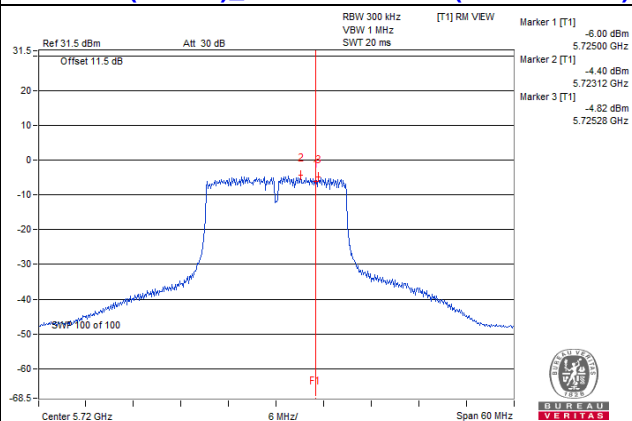
- Note: 1. Method b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. The directional gain = $10 \log[10^{G_0/20} + 10^{G_1/20} / 2] = 6.19 \text{ dBi} > 6 \text{ dBi}$, so the so the power density limit shall be reduced to $30 - (6.19 - 6) = 29.81 \text{ dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

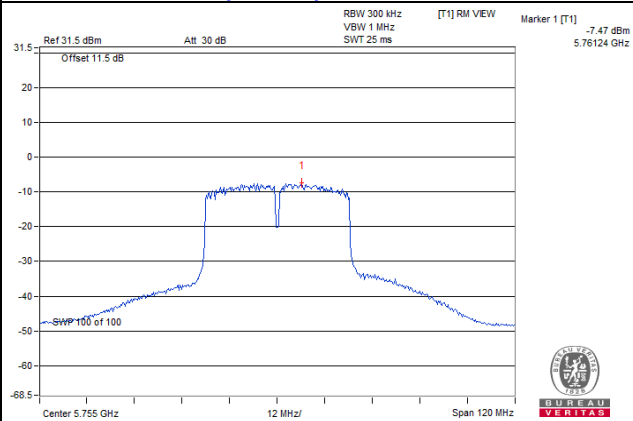
802.11a_Chain 1 / CH149



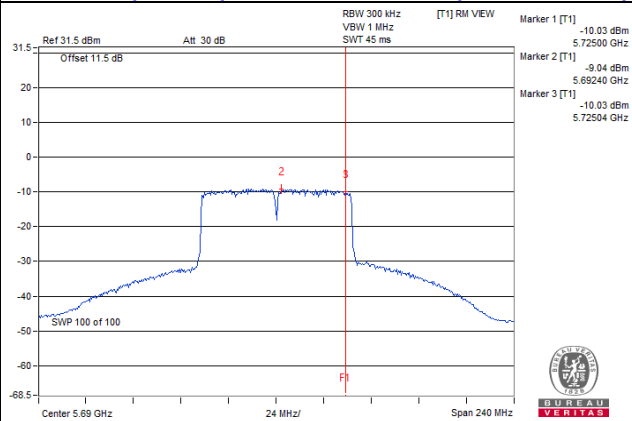
802.11ac (VHT20)_Chain 1 / CH144 (U-NII-3 Band)



802.11ac (VHT40)_Chain 1 / CH151



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

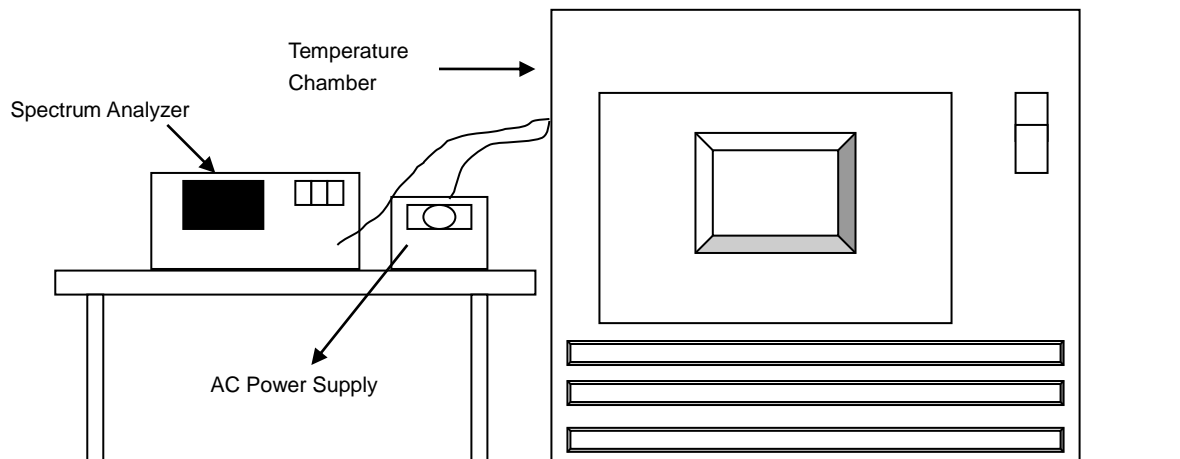


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
40	120	5180.0255	Pass	5180.0251	Pass	5180.0222	Pass	5180.0258	Pass
30	120	5180.0095	Pass	5180.0069	Pass	5180.0106	Pass	5180.0068	Pass
20	120	5179.9923	Pass	5179.9907	Pass	5179.9886	Pass	5179.9911	Pass
10	120	5180.0217	Pass	5180.0209	Pass	5180.02	Pass	5180.0199	Pass
0	120	5180.0115	Pass	5180.0094	Pass	5180.0093	Pass	5180.0115	Pass

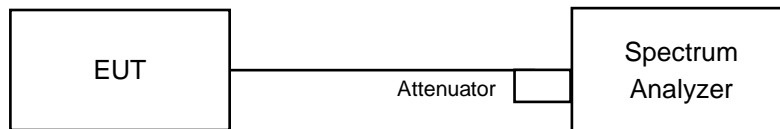
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5179.9921	Pass	5179.9898	Pass	5179.9878	Pass	5179.9918	Pass
	120	5179.9923	Pass	5179.9907	Pass	5179.9886	Pass	5179.9911	Pass
	102	5179.9918	Pass	5179.99	Pass	5179.9891	Pass	5179.9904	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.15	3.13	0.5	Pass
149	5745	16.41	16.38	0.5	Pass
157	5785	16.39	16.41	0.5	Pass
165	5825	16.39	16.39	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.76	3.77	0.5	Pass
149	5745	17.6	17.61	0.5	Pass
157	5785	17.63	17.63	0.5	Pass
165	5825	17.59	17.63	0.5	Pass

802.11ac (VHT40)

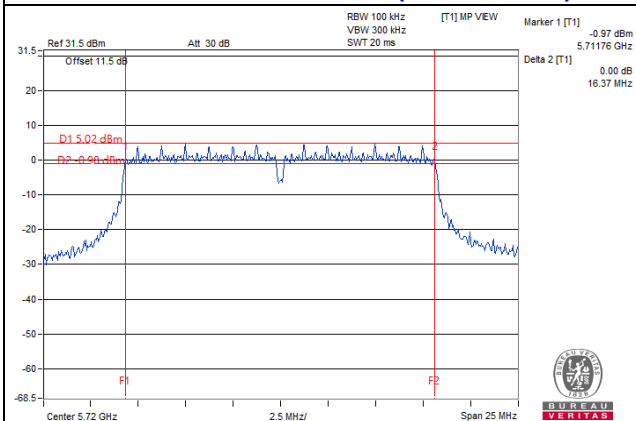
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (U-NII-3 Band)	5710	2.71	2.66	0.5	Pass
151	5755	35.27	35.2	0.5	Pass
159	5795	35.22	35.21	0.5	Pass

802.11ac (VHT80)

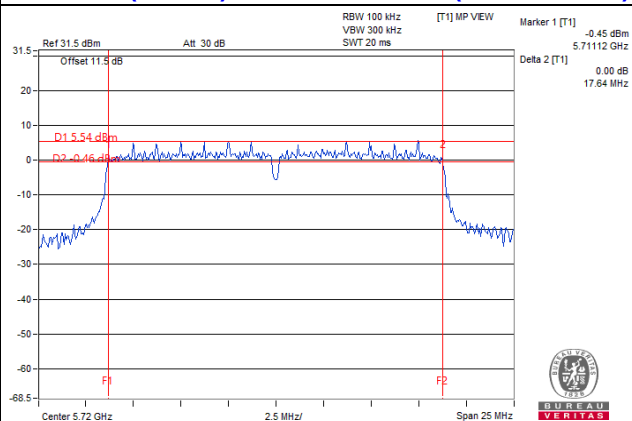
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (U-NII-3 Band)	5690	2.76	2.67	0.5	Pass
155	5775	75.51	75.49	0.5	Pass

Spectrum Plot of Worst Value

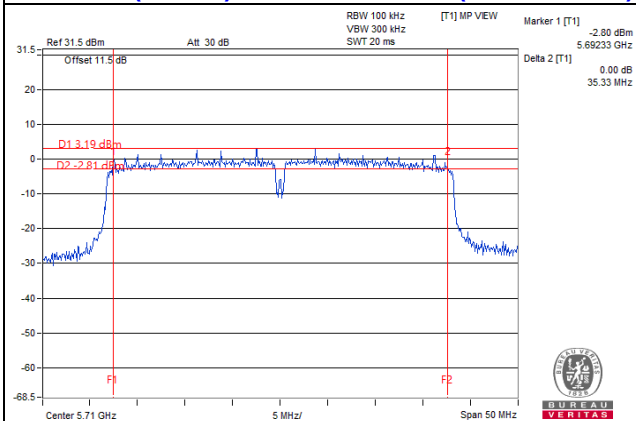
802.11a_Chain 1 / CH144 (U-NII-3 Band)



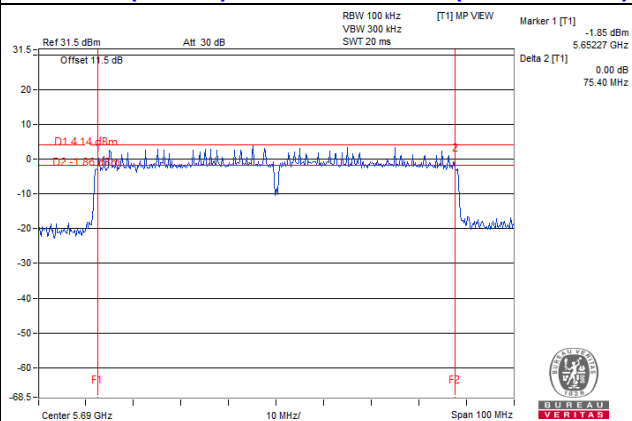
802.11ac (VHT20)_Chain 0 / CH144 (U-NII-3 Band)



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



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



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

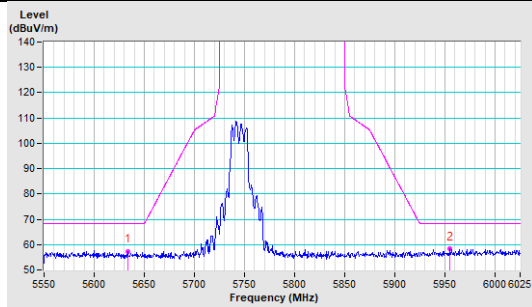
5 Pictures of Test Arrangements

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

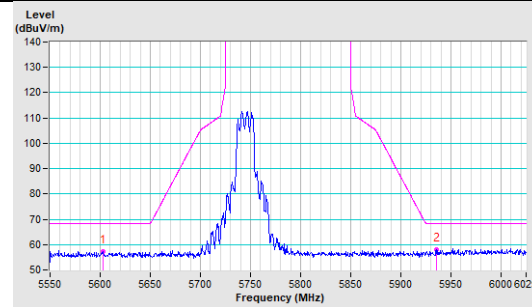
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149 : 5745 MHz

Horizontal

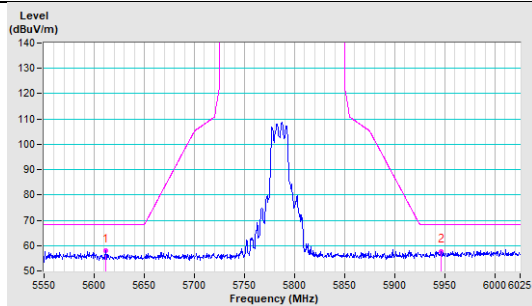


Vertical

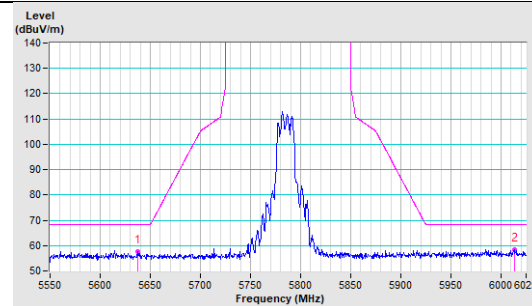


802.11a CH 157 : 5785 MHz

Horizontal

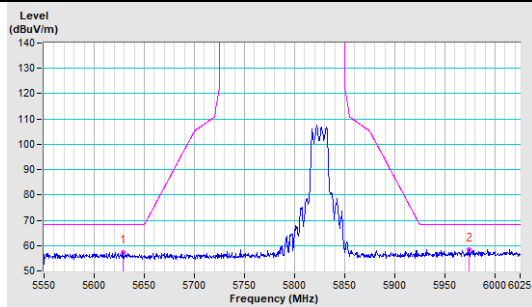


Vertical

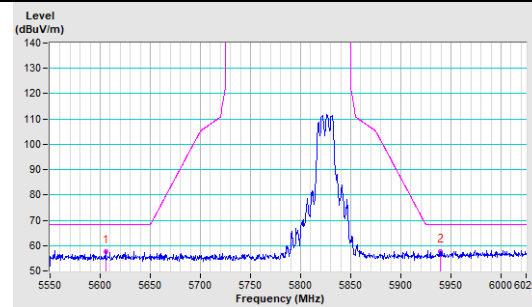


802.11a CH 165 : 5825 MHz

Horizontal

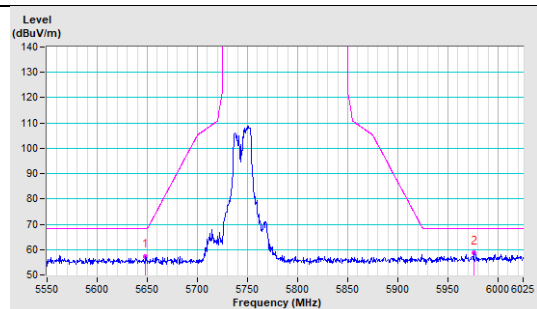


Vertical

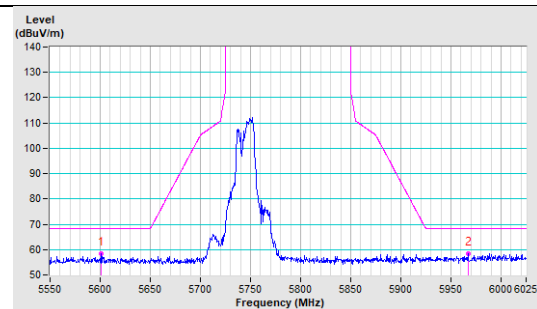


802.11ac (VHT20) CH 149 : 5745 MHz

Horizontal

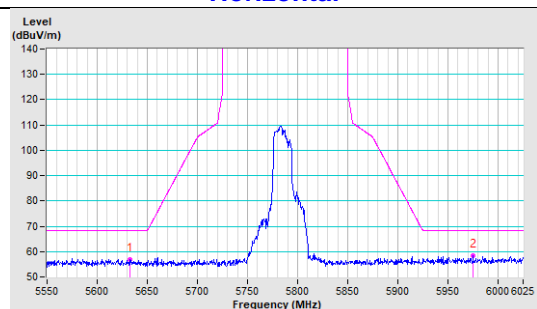


Vertical

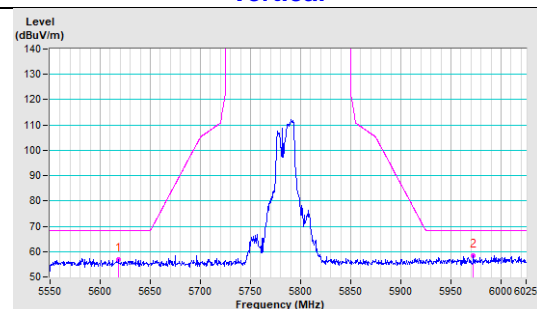


802.11ac (VHT20) CH 157 : 5785 MHz

Horizontal

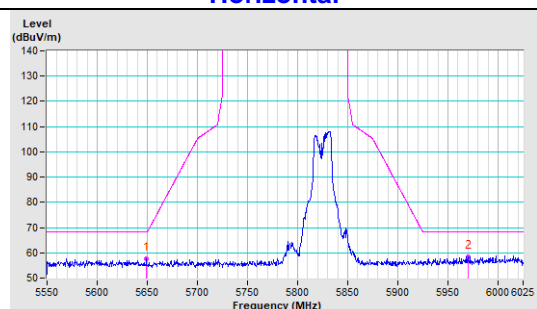


Vertical

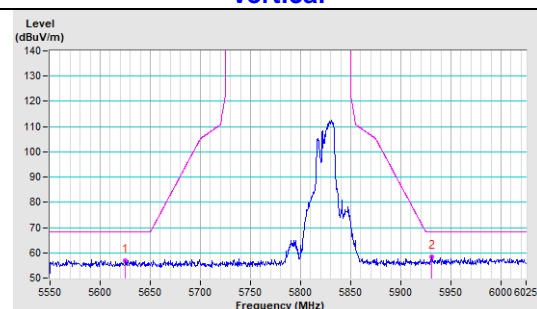


802.11ac (VHT20) CH 165 : 5825 MHz

Horizontal

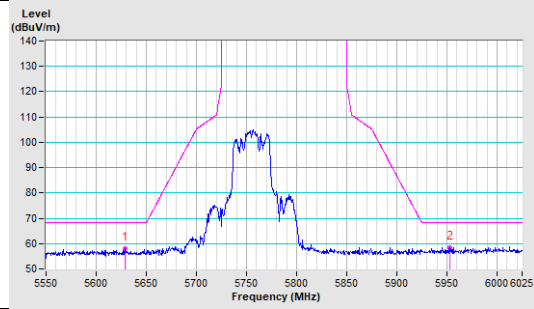


Vertical

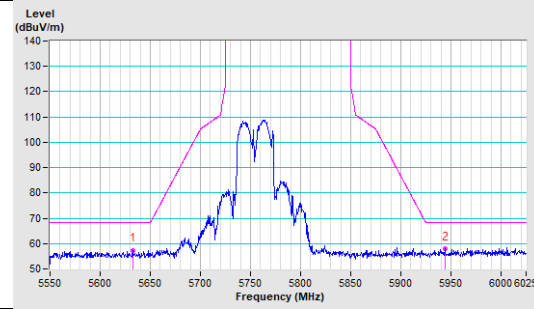


802.11ac (VHT40) CH 151 : 5755 MHz

Horizontal

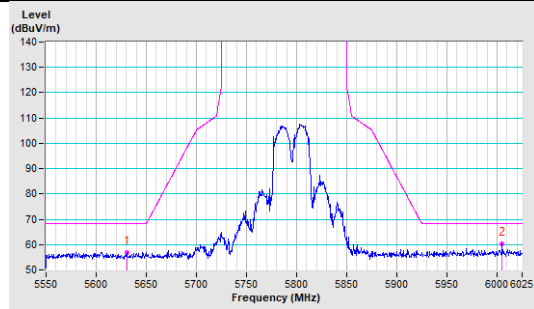


Vertical

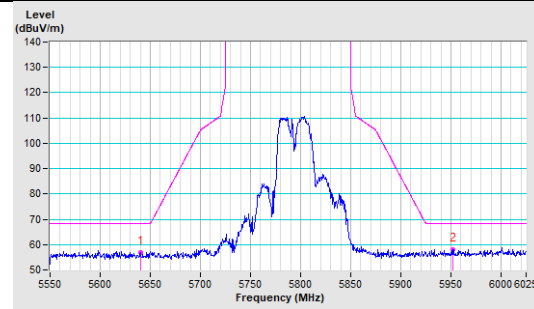


802.11ac (VHT40) CH 159 : 5795 MHz

Horizontal

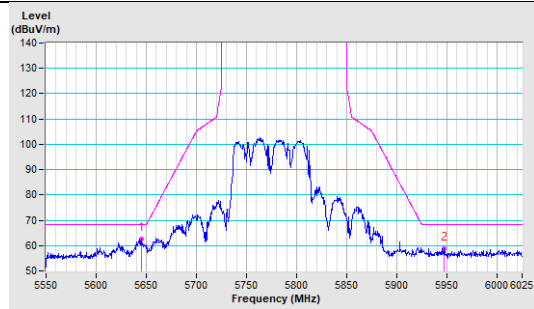


Vertical

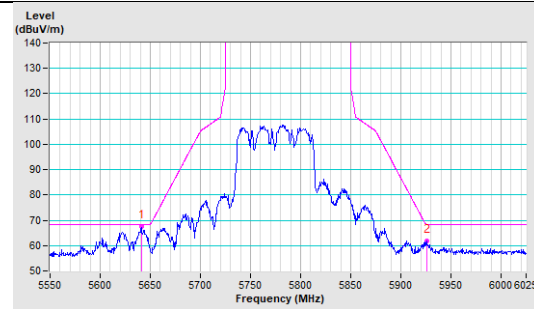


1802.11ac (VHT80) CH 155 : 5775 MHz

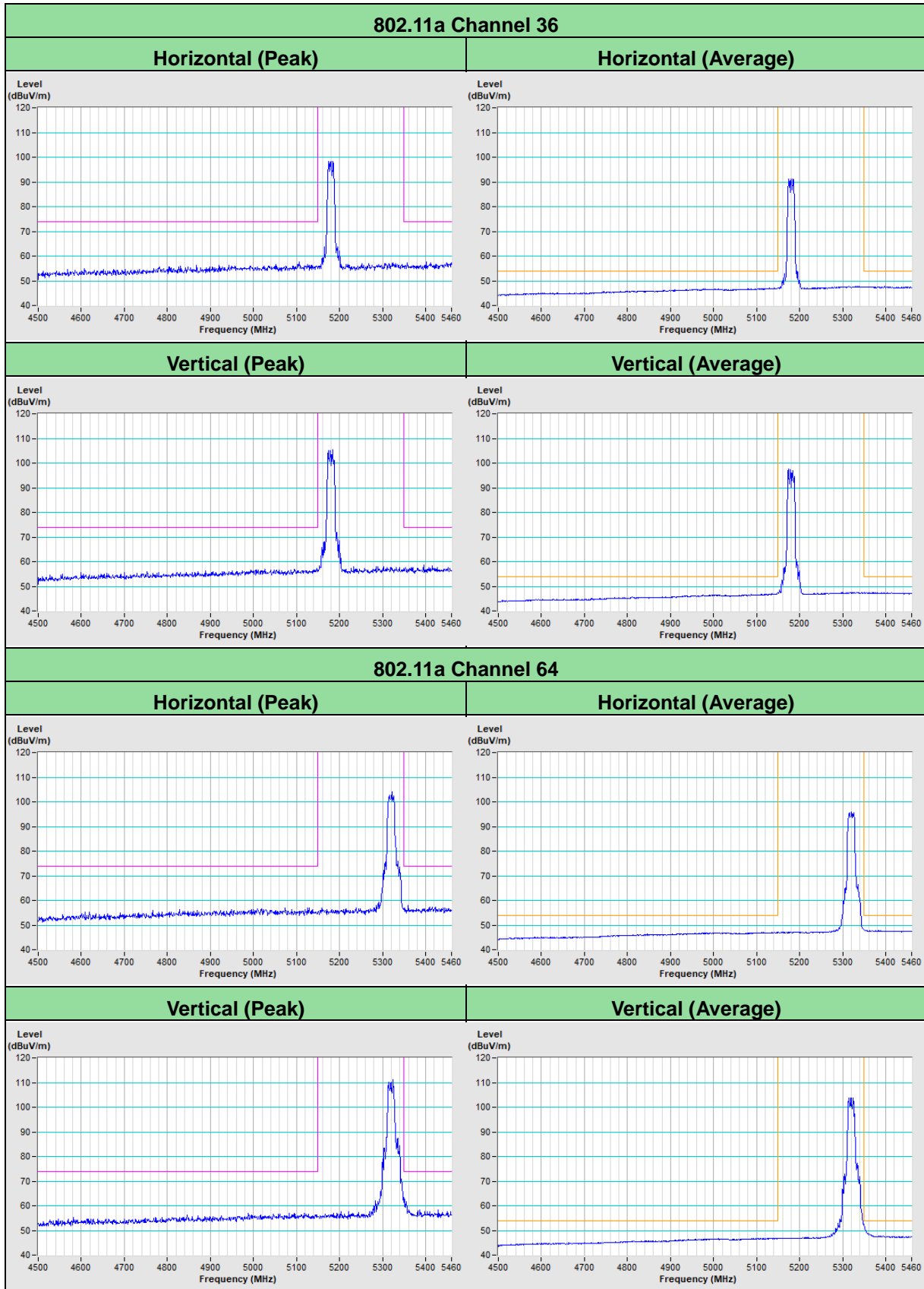
Horizontal



Vertical

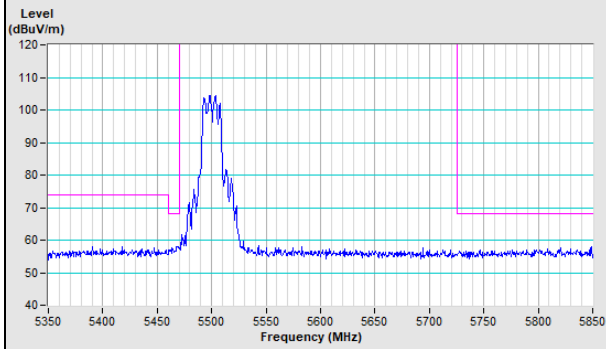


Annex B - Band-Edge Measurement (For U-NII-1, U-NII-2A, U-NII-2C band)

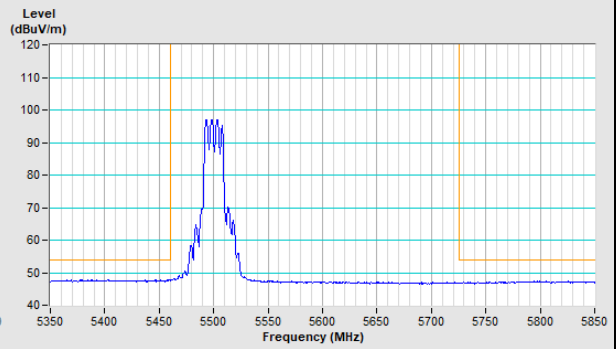


802.11a Channel 100

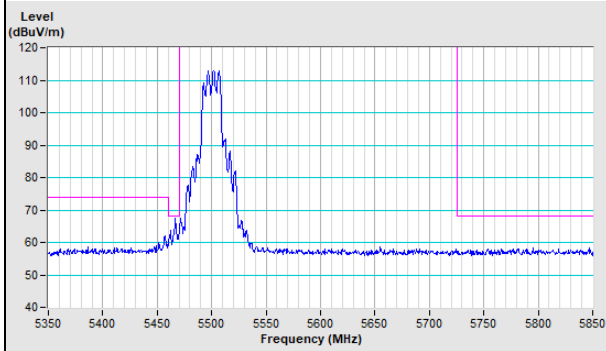
Horizontal (Peak)



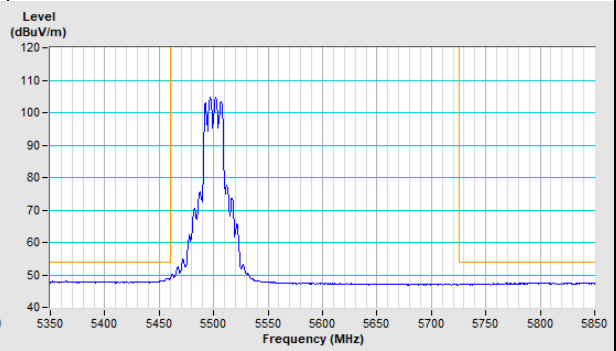
Horizontal (Average)



Vertical (Peak)

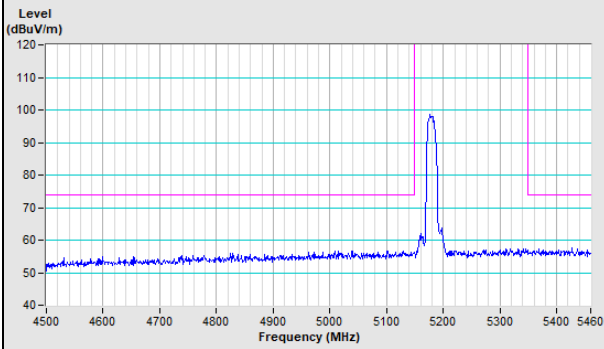


Vertical (Average)

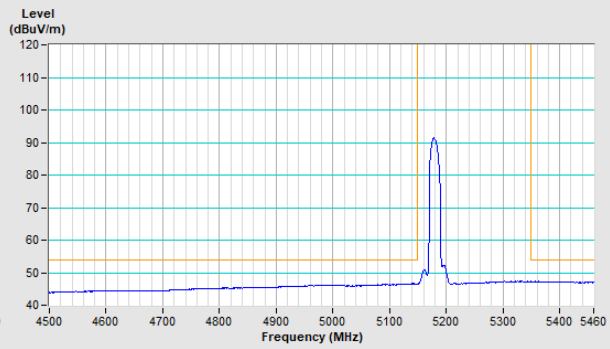


802.11ac (VHT20) Channel 36

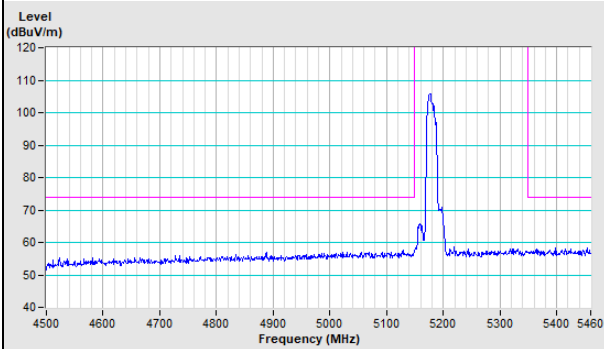
Horizontal (Peak)



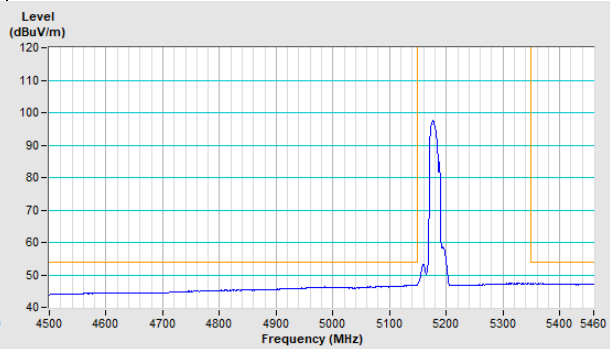
Horizontal (Average)



Vertical (Peak)

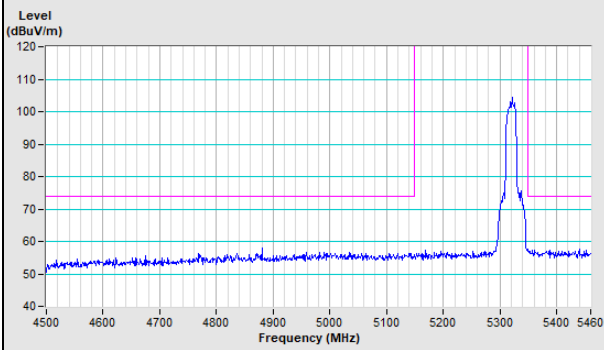


Vertical (Average)

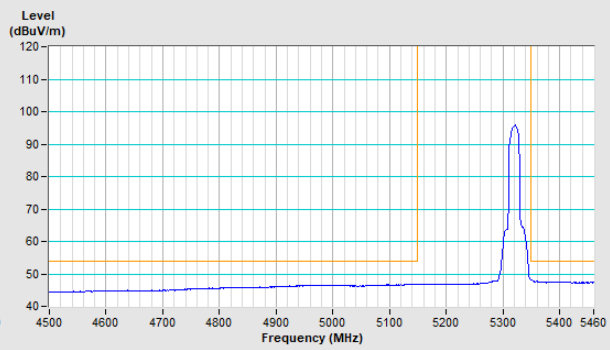


802.11ac (VHT20) Channel 64

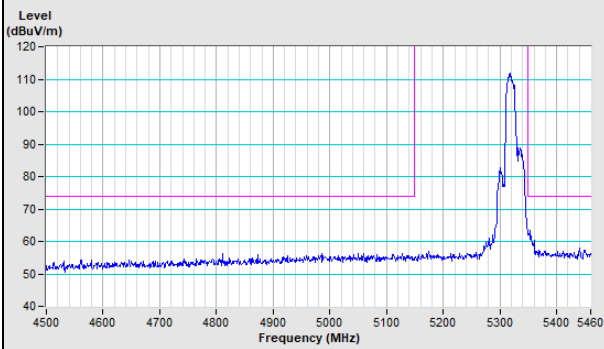
Horizontal (Peak)



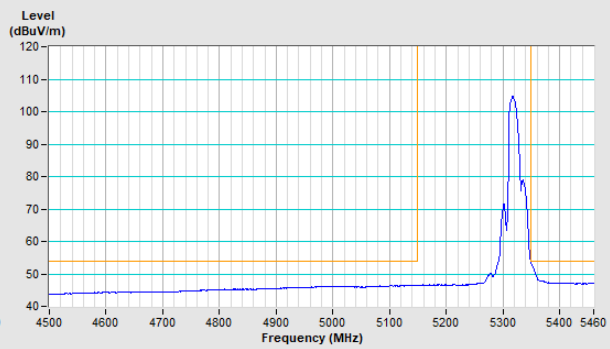
Horizontal (Average)



Vertical (Peak)

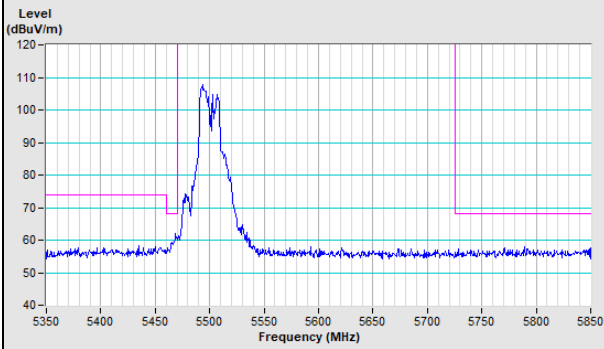


Vertical (Average)

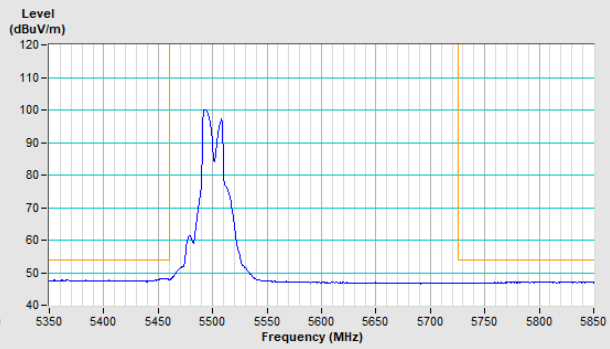


802.11ac (VHT20) Channel 100

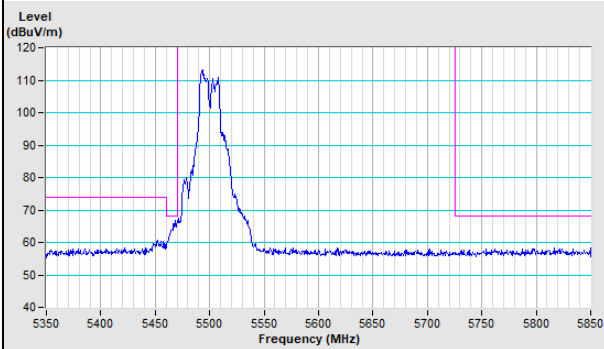
Horizontal (Peak)



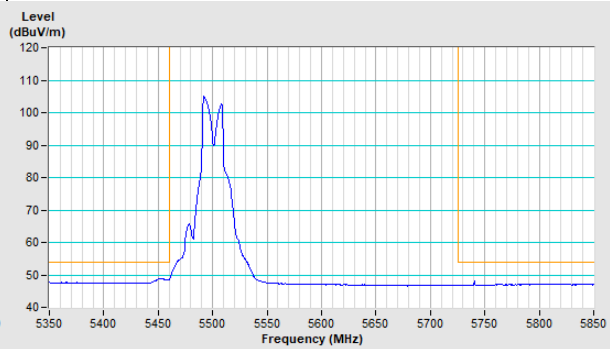
Horizontal (Average)



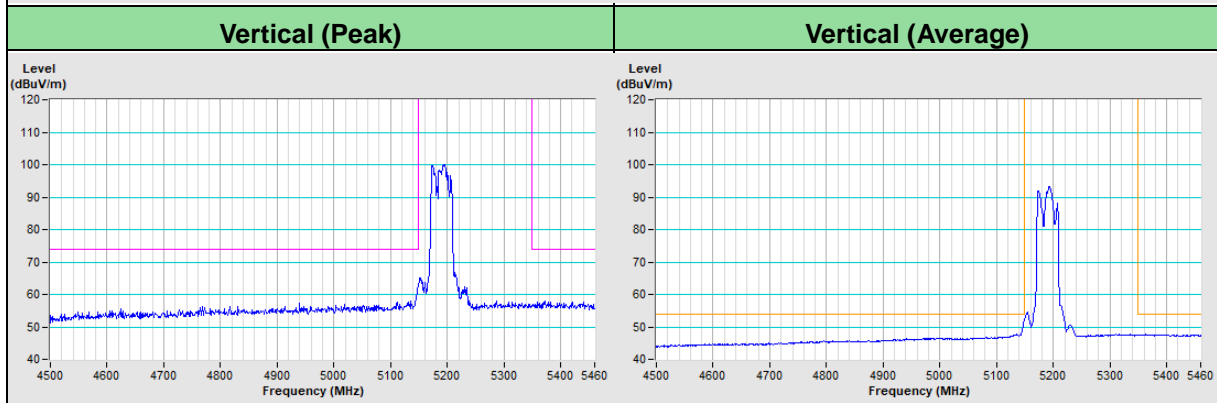
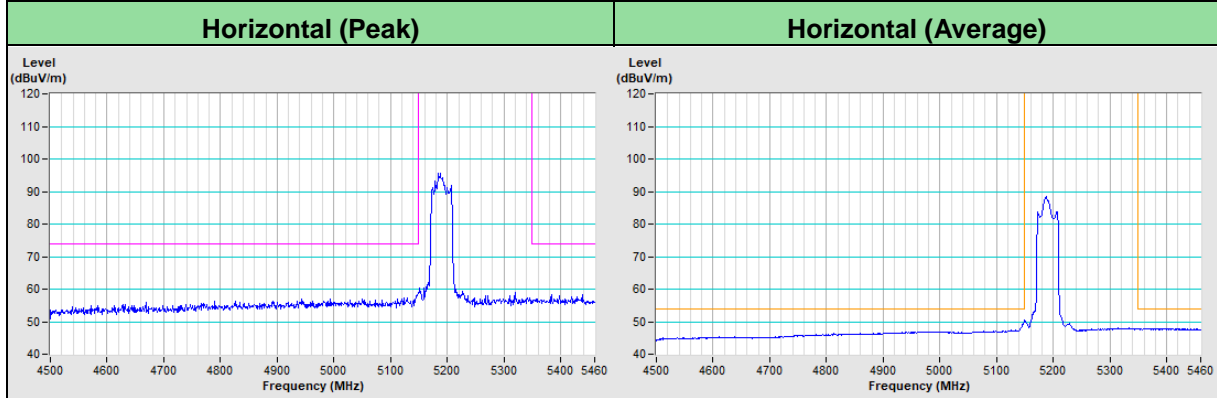
Vertical (Peak)



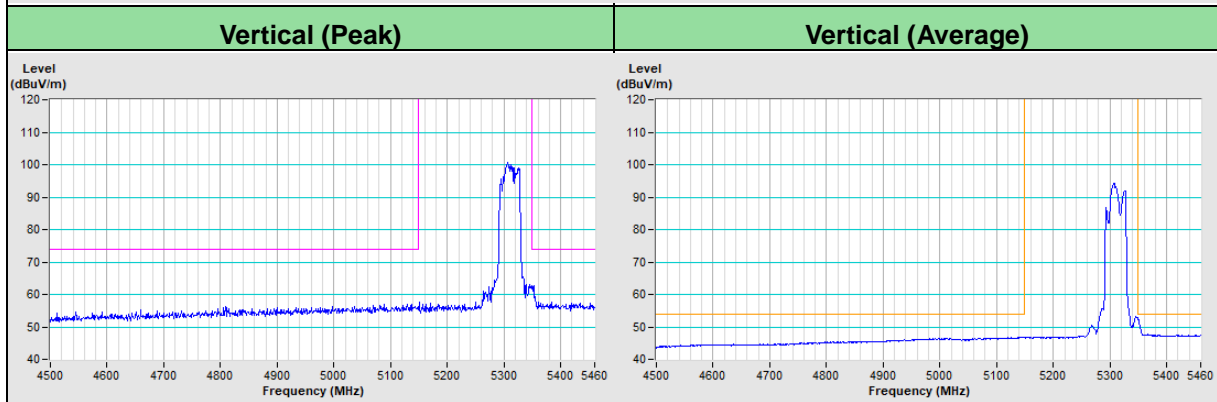
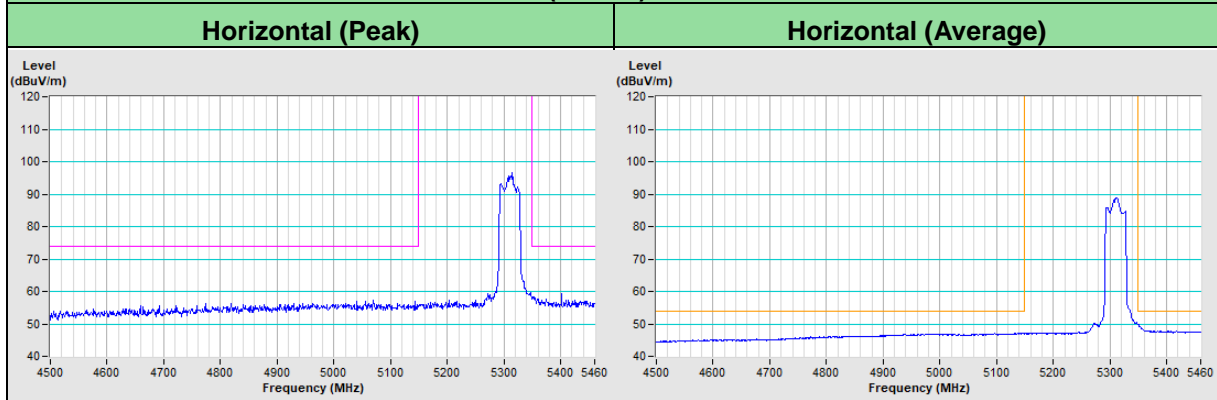
Vertical (Average)



802.11ac (VHT40) Channel 38

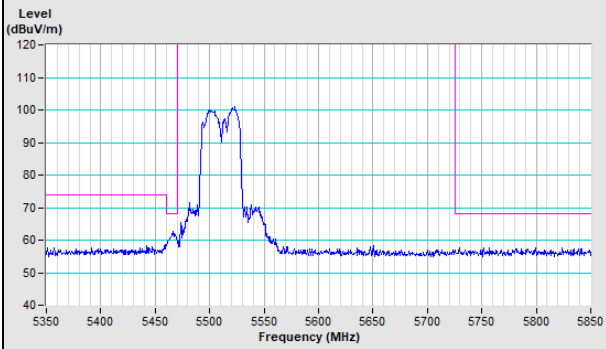


802.11ac (VHT40) Channel 62

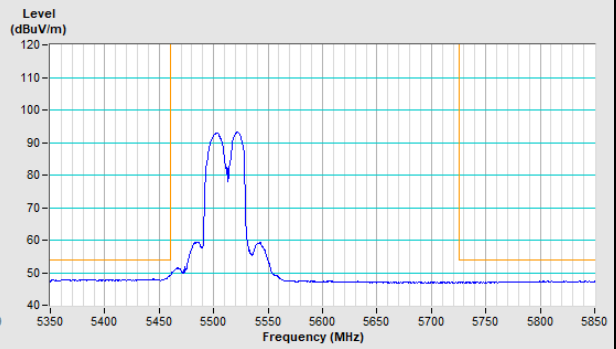


802.11ac (VHT40) Channel 102

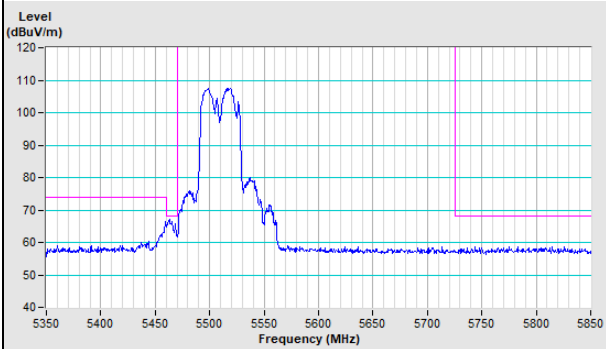
Horizontal (Peak)



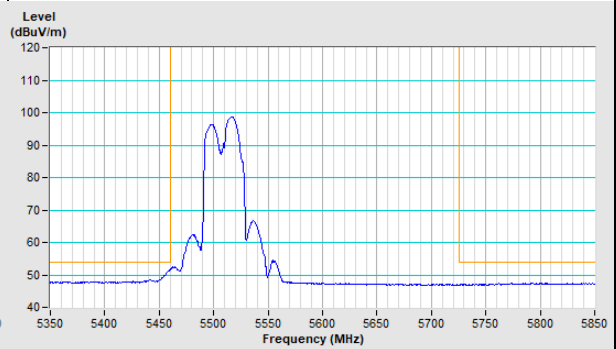
Horizontal (Average)



Vertical (Peak)

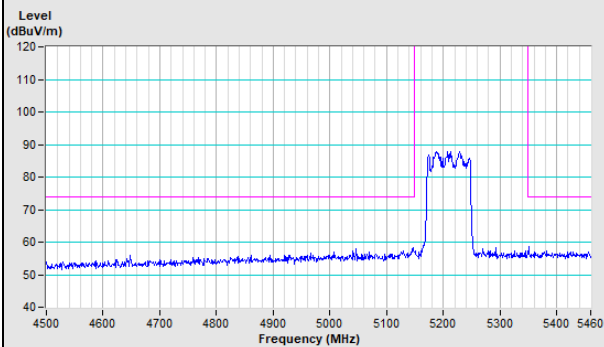


Vertical (Average)

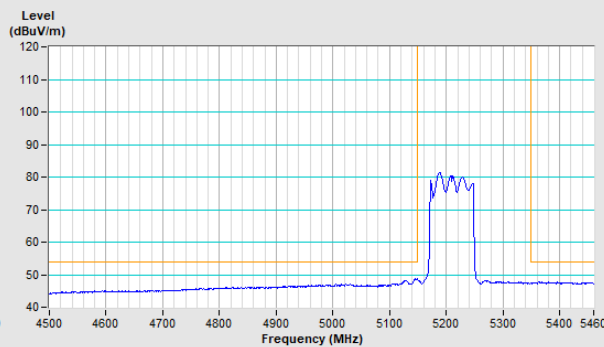


802.11ac (VHT80) Channel 42

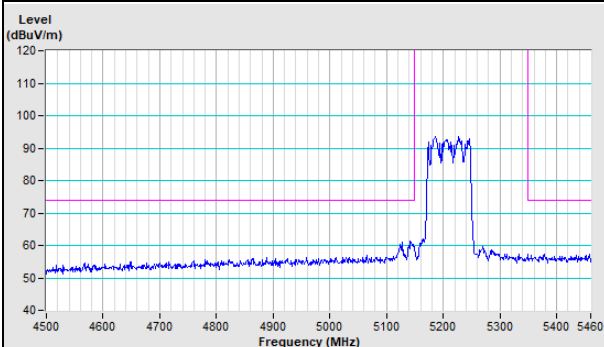
Horizontal (Peak)



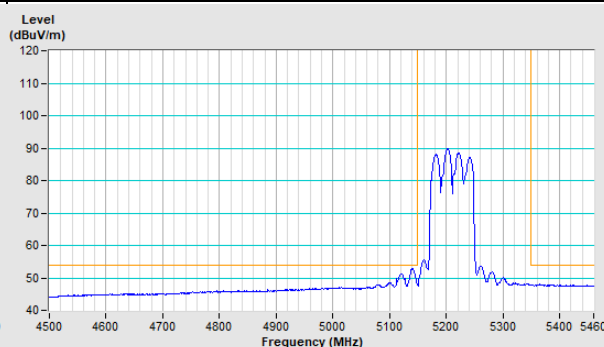
Horizontal (Average)



Vertical (Peak)

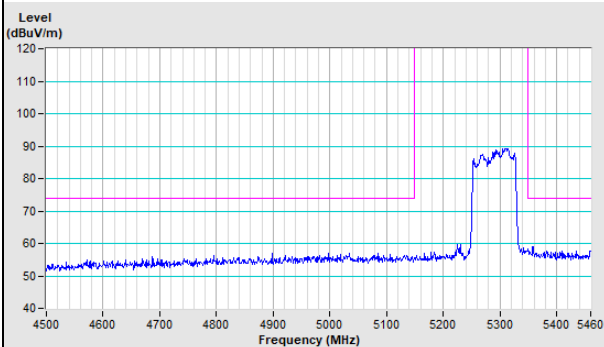


Vertical (Average)

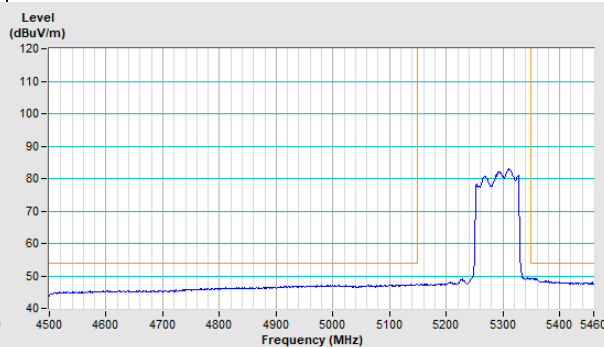


802.11ac (VHT80) Channel 58

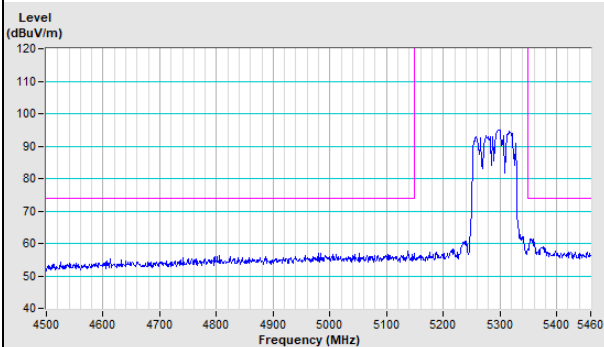
Horizontal (Peak)



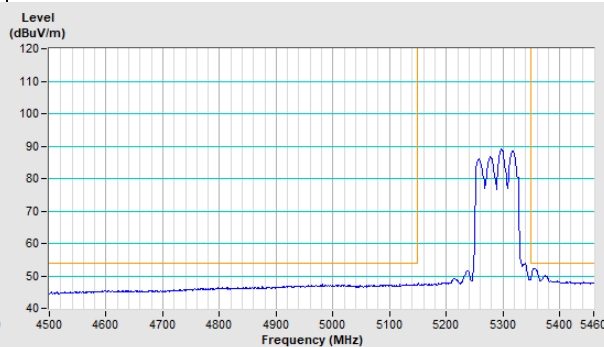
Horizontal (Average)



Vertical (Peak)

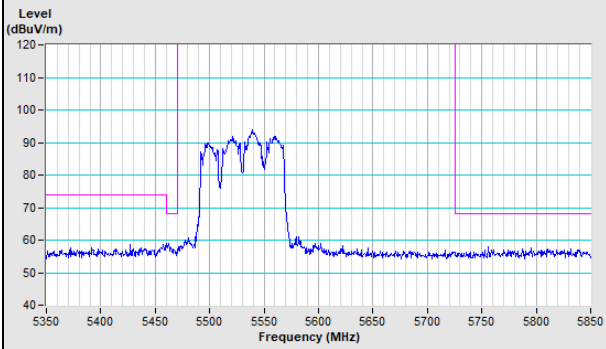


Vertical (Average)

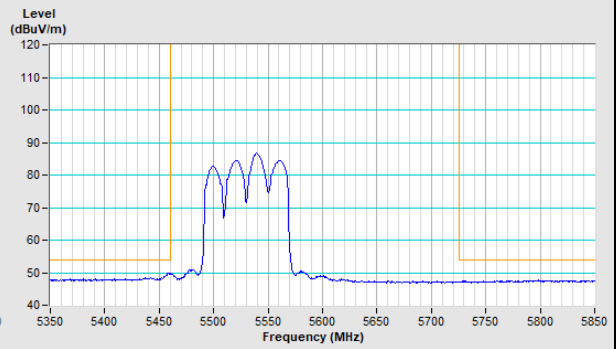


802.11ac (VHT80) Channel 106

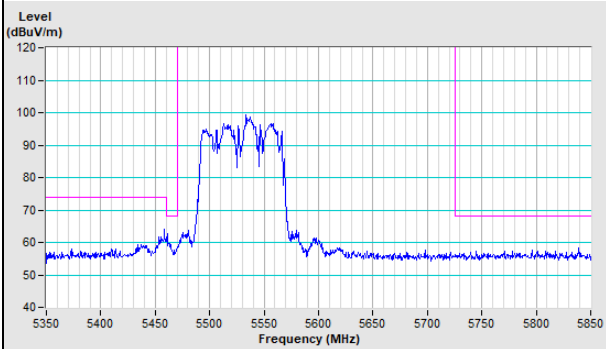
Horizontal (Peak)



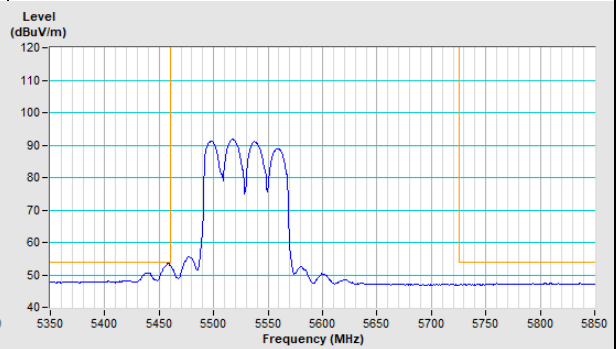
Horizontal (Average)



Vertical (Peak)



Vertical (Average)



Appendix – Information of the Testing Laboratories

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

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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