FCC Test Report

Report No.:	RFBCKS-WTW-P21123558-4
FCC ID:	2AAAS-CP06
Test Model:	CP06
Received Date:	Dec. 28, 2021
Test Date:	Jan. 11 ~ Jan. 19, 2022
Issued Date:	Feb. 14, 2022
Applicant:	Vivint. Inc.
Address:	4931 N. 300 W. Provo, UT 84604 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number:	281270 / TW0032

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 10
3.2.1 Test Mode Applicability and Tested Channel Detail 12
3.3 Duty Cycle of Test Signal 15
3.4 Description of Support Units 17
3.4.1 Configuration of System under Test 17
3.5 General Description of Applied Standards and References 17

4 Test Types and Results 18

4.1 Radiated Emission and Bandedge Measurement 18
4.1.1 Limits of Radiated Emission and Bandedge Measurement 18
4.1.2 Test Instruments 19
4.1.3 Test Procedures 20
4.1.4 Deviation from Test Standard 20
4.1.5 Test Setup 21
4.1.6 EUT Operating Conditions 22
4.1.7 Test Results 23
4.2 Conducted Emission Measurement 67
4.2.1 Limits of Conducted Emission Measurement 67
4.2.2 Test Instruments 67
4.2.3 Test Procedures 68
4.2.4 Deviation from Test Standard 68
4.2.5 Test Setup 68
4.2.6 EUT Operating Conditions 68
4.2.7 Test Results 69
4.3 Transmit Power Measurement 71
4.3.1 Limits of Transmit Power Measurement 71
4.3.2 Test Setup 71
4.3.3 Test Instruments 71
4.3.4 Test Procedure 72
4.3.5 Deviation from Test Standard 72
4.3.6 EUT Operating Conditions 72
4.3.7 Test Result 73
4.4 Occupied Bandwidth Measurement 88
4.4.1 Test Setup 88
4.4.2 Test Instruments 88
4.4.3 Test Procedure 88
4.4.4 Test Result 89
4.5 Peak Power Spectral Density Measurement 99
4.5.1 Limits of Peak Power Spectral Density Measurement 99
4.5.2 Test Setup 99
4.5.3 Test Instruments 99
4.5.4 Test Procedures 100
4.5.5 Deviation from Test Standard 100
4.5.6 EUT Operating Conditions 100
4.5.7 Test Results 101
4.6 Frequency Stability 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 114
4.6.6 EUT Operating Condition 114
4.6.7 Test Results 114
4.7 6dB Bandwidth Measurement 116
4.7.1 Limits of 6dB Bandwidth Measurement 116
4.7.2 Test Setup 116
4.7.3 Test Instruments 116
4.7.4 Test Procedure 116
4.7.5 Deviation from Test Standard 116
4.7.6 EUT Operating Condition 116
4.7.7 Test Results 117

5 Pictures of Test Arrangements 121

Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band) 122

Annex B - Band Edge Measurement 125

Appendix – Information of the Testing Laboratories 137

Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P21123558-4	Original release	Feb. 14, 2022

1 Certificate of Conformity

Product:	Vivint Smart Hub Lite
Brand:	Vivint, Inc.
Test Model:	CP06
Sample Status:	Engineering sample
Applicant:	Vivint. Inc.
Test Date:	Jan. 11 ~ Jan. 19, 2022
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Celine Chou , **Date:** Feb. 14, 2022

Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Feb. 14, 2022

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(9)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.45dB at 0.43000MHz.
15.407(b) (1/2/3/4(i/ii)/9)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.54dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note:

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~1000MHz	2.92 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Vivint Smart Hub Lite
Brand	Vivint, Inc.
Test Model	CP06
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter 4.2Vdc from battery
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	AP Mode: 5180 ~ 5240MHz: 858.249mW 5745 ~ 5825MHz: 916.986mW Client Mode: 5180 ~ 5240MHz: 220.243mW 5260 ~ 5320MHz: 195.746mW 5500 ~ 5720MHz: 217.922mW 5745 ~ 5825MHz: 916.986mW
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	Adapter, Battery
Cable Supplied	NA

Note:

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

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

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

2. The EUT consumes power from the following Adapter & Battery.

Adapter 1	
Brand	ZB-Power
Model	ZB-H120020A-88
Input Power	100-240Vac, 50/60Hz, 0.6A
Output Power	12Vdc, 2.0A
Power Line	1.5m power cable without core attached on adapter

Adapter 2	
Brand	Honor
Model	ADS-24FUD-12 12024EPCU
Input Power	100-240Vac, 50/60Hz, 0.6A
Output Power	12Vdc, 2.0A
Power Line	1.51m power cable without core attached on adapter

* After pre-tested, adapter 1 was chosen for final test and presented in the test report.

Battery	
Brand	EVE
Model	HB1021
Rating	4.2Vdc, 22.32Wh

3. The antenna information is listed as below.

No.	Type	Connector	Gain (dBi)	
			2.4G	5G
1	Dipole	ipex(MHF)	2.50	3.84
2	Dipole	ipex(MHF)	2.19	3.67

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

4. The EUT contains certified WWAN module which FCC ID: 2AAAS-CC06.

5. WLAN 2.4GHz & 5GHz technology cannot transmit at same time.
6. Simultaneously transmission condition.

Condition	Technology
1	BLE + WWAN + Z-wave + DECT
2	WLAN 2.4G + BLE + Z-wave + DECT
3	WLAN 5G + BLE + Z-wave + DECT
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.	

3.2 Description of Test Modes

For 5180 ~ 5240MHz:

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500 ~ 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	122	5610 MHz
138	5690 MHz		

For 5745 ~ 5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.5
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	7.5
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	7.5
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	15.0
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.5
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	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.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	149	OFDM	6.0
-	802.11a	5260-5320	52 to 64		OFDM	6.0
-	802.11a	5500-5720	100 to 144		OFDM	6.0
-	802.11a	5745-5825	149 to 165		OFDM	6.0

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	149	OFDM	6.0
-	802.11a	5260-5320	52 to 64		OFDM	6.0
-	802.11a	5500-5720	100 to 144		OFDM	6.0
-	802.11a	5745-5825	149 to 165		OFDM	6.0

Bandwidth, Power Spectral Density and Frequency Stability Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.5
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	7.5
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	7.5
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	15.0
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.5
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3

Conducted Output Power Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.5
	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	7.5
	802.11ac (VHT40)		54 to 62	54, 62	OFDM	15.0
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	7.5
	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	15.0
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.5
	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 66% RH	120Vac, 60Hz	Randy Wu
RE<1G	22 deg. C, 65% RH	120Vac, 60Hz	Wade Huang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Randy Wu
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ivan Tseng

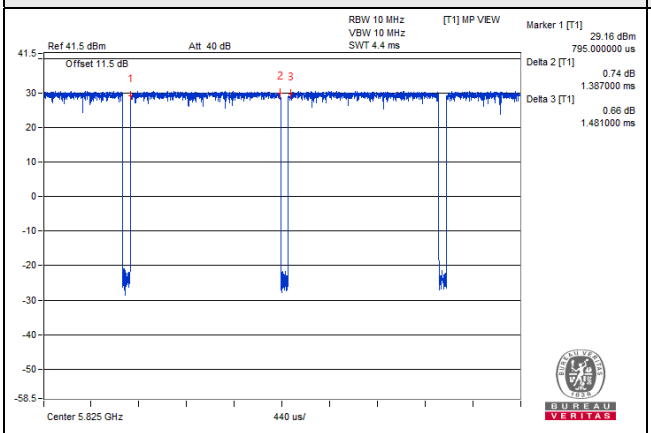
3.3 Duty Cycle of Test Signal

AP Mode

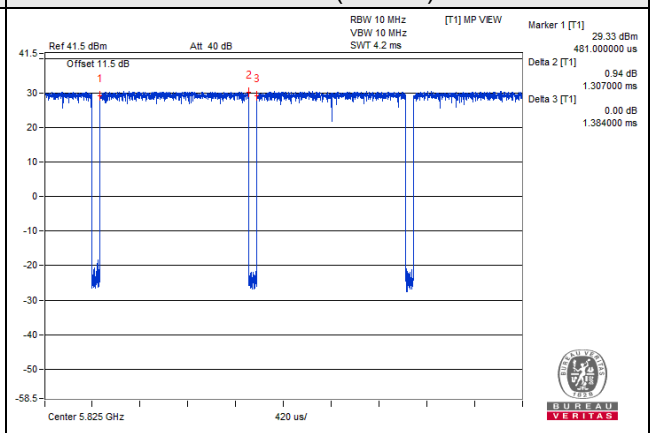
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 1.387/1.481 = 0.937, Duty factor = 10 * log (1/0.937) = 0.28
802.11ac (VHT20): Duty cycle = 1.307/1.384 = 0.944, Duty factor = 10 * log (1/0.944) = 0.25
802.11ac (VHT40): Duty cycle = 0.651/0.723 = 0.900, Duty factor = 10 * log (1/0.900) = 0.46
802.11ac (VHT80): Duty cycle = 0.323/0.395 = 0.818, Duty factor = 10 * log (1/0.818) = 0.87

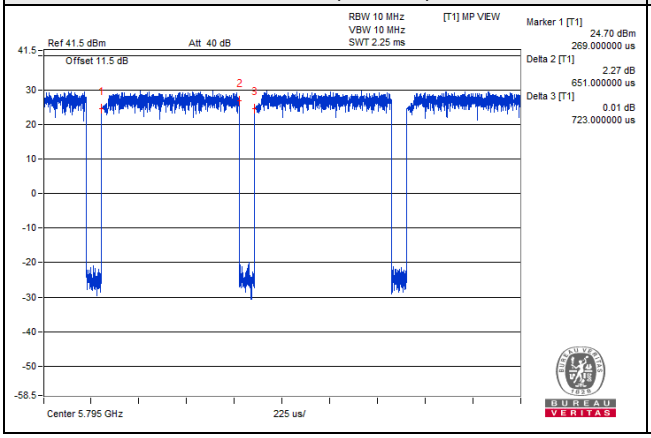
802.11a



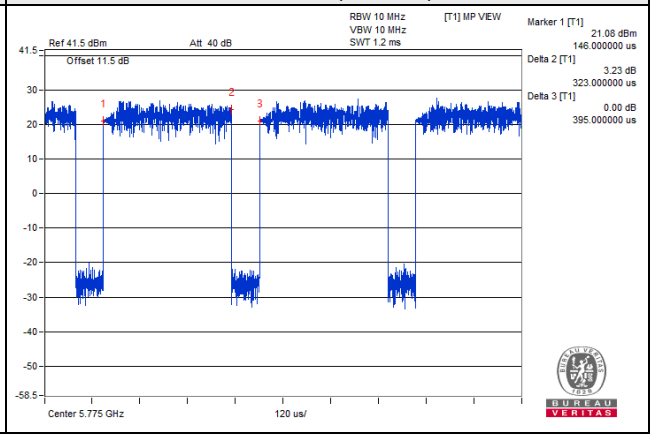
802.11ac (VHT20)



802.11ac (VHT40)



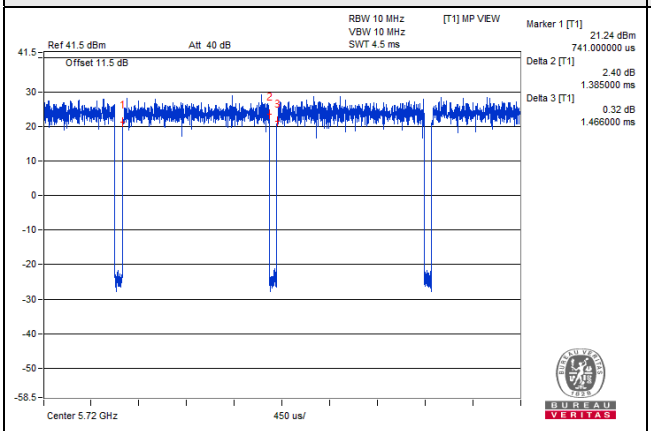
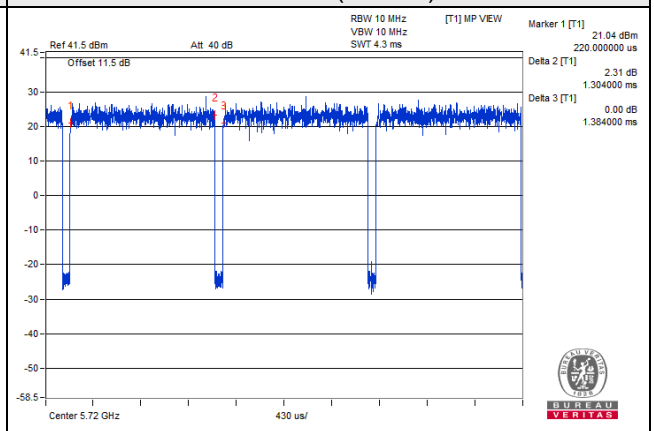
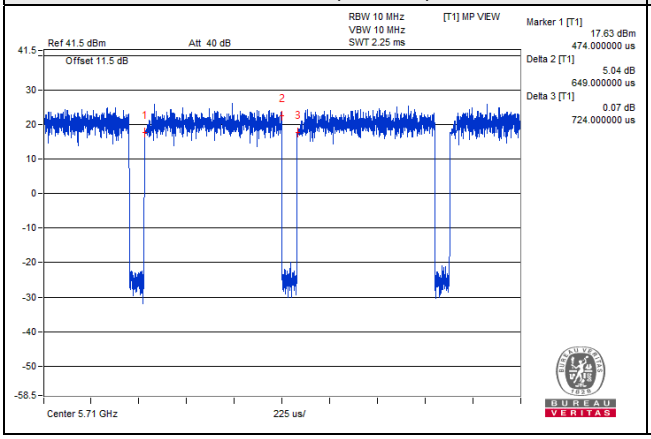
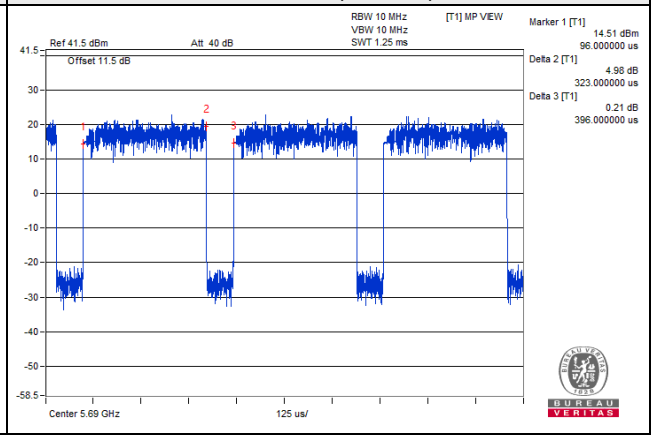
802.11ac (VHT80)



Client Mode

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

802.11a: Duty cycle = 1.385/1.466 = 0.945, Duty factor = 10 * log (1/0.945) = 0.25
802.11ac (VHT20): Duty cycle = 1.304/1.384 = 0.942, Duty factor = 10 * log (1/0.942) = 0.26
802.11ac (VHT40): Duty cycle = 0.649/0.724 = 0.896, Duty factor = 10 * log (1/0.896) = 0.47
802.11ac (VHT80): Duty cycle = 0.323/0.396 = 0.816, Duty factor = 10 * log (1/0.816) = 0.88

802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

3.4 Description of Support Units

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

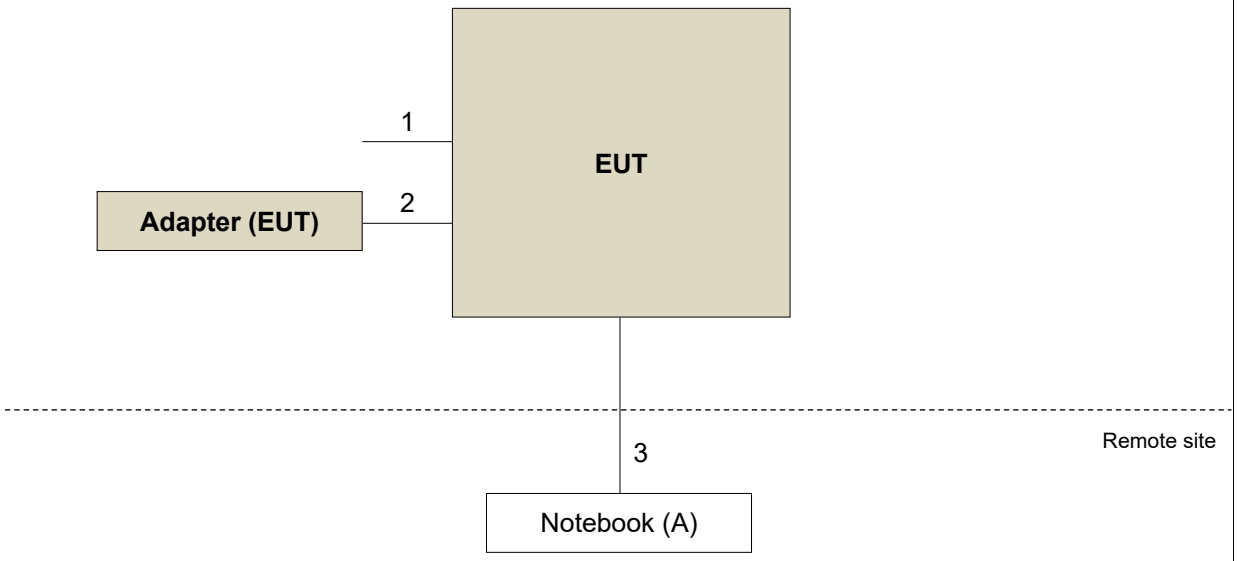
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5420	76WNBT1	FCC DoC Approved	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Micro USB Cable	1	1.0	Y	0	-
2.	Power Cable	1	1.5	N	0	Attached on adapter
3.	LAN Cable	1	10	N	0	RJ45, Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK: 122.2 (dBμV/m) *4

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038B	MY60180018	Feb. 01, 2021	Jan. 31, 2022
Spectrum Analyzer KEYSIGHT	N9020B	MY60110462	Dec. 21, 2021	Dec. 20, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-995	Oct. 28, 2021	Oct. 27, 2022
HORN Antenna RF SPIN	DRH18-E	210104A18E	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	9170-995	Nov. 14, 2021	Nov. 13, 2022
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980783	Jan. 19, 2021	Jan. 18, 2022
			Jan. 17, 2022	Jan. 16, 2023
Preamplifier EMCI	EMC118A45SE	980810	Dec. 30, 2021	Dec. 29, 2022
Preamplifier EMCI	EMC184045SE	980787	Jan. 18, 2021	Jan. 17, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM-(9000+3000+2000+1000) EMCCFD400-NM-NM-(9000+3000+500+500)	201230+201242+201238+210101 201252+201250+201247+201245	Jan. 18, 2021	Jan. 17, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC104-SM-SM-(9000+3000+2000+1000)	201230+201242+201238+210101	Jan. 18, 2021	Jan. 17, 2022
			Jan. 17, 2022	Jan. 16, 2023
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201259+201256+201253	Jan. 18, 2021	Jan. 17, 2022
			Jan. 17, 2022	Jan. 16, 2023
Software BV CPS	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Turn Table Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208675	NA	NA
Antenna Tower KaiTuo	NA	NA	NA	NA
Antenna Tower Controller KaiTuo	KT-2000	NA	NA	NA
Peak Power Analyzer KEYSIGHT	8990B	MY51000538	May 12, 2021	May 11, 2022
Wideband Power Sensor KEYSIGHT	N1923A	MY58190002	May 05, 2021	May 04, 2022

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 7.

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

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

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

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT20): RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 10kHz)

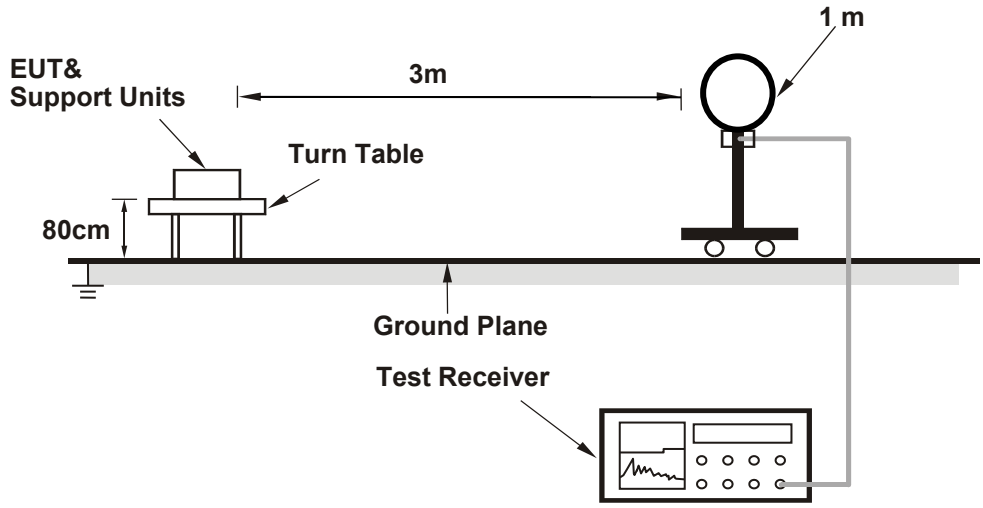
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

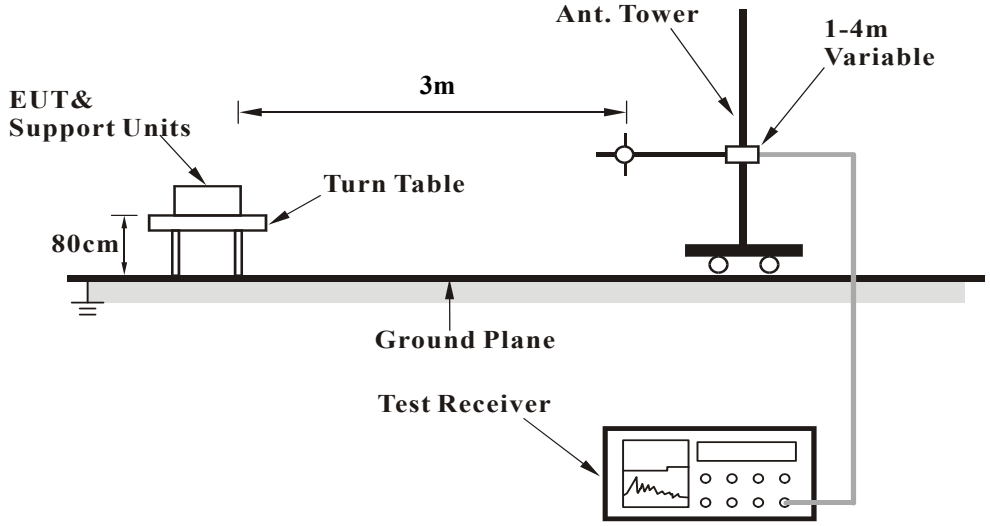
No deviation.

4.1.5 Test Setup

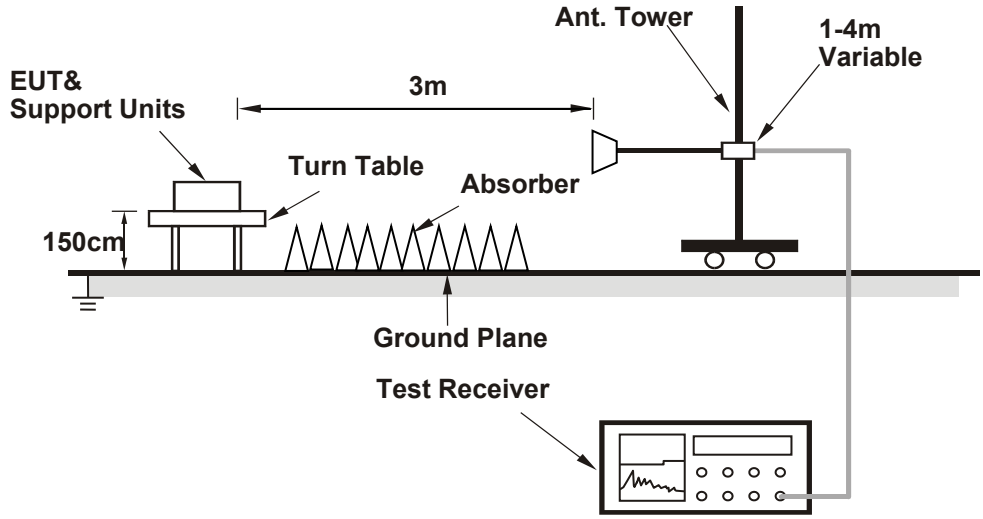
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command.

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	61.28 PK	74.00	-12.72	2.43 H	253	59.33	1.95
2	5150.00	50.45 AV	54.00	-3.55	2.43 H	253	48.50	1.95
3	*5180.00	116.15 PK			2.43 H	253	76.00	40.15
4	*5180.00	106.06 AV			2.43 H	253	65.91	40.15
5	#10360.00	53.61 PK	68.20	-14.59	1.67 H	210	45.94	7.67
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	66.60 PK	74.00	-7.40	1.49 V	150	64.65	1.95
2	5150.00	53.09 AV	54.00	-0.91	1.49 V	150	51.14	1.95
3	*5180.00	119.69 PK			1.49 V	150	79.54	40.15
4	*5180.00	109.11 AV			1.49 V	150	68.96	40.15
5	#10360.00	55.64 PK	68.20	-12.56	2.16 V	194	47.97	7.67

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	121.30 PK			2.41 H	251	81.20	40.10
2	*5200.00	112.34 AV			2.41 H	251	72.24	40.10
3	#10400.00	56.42 PK	68.20	-11.78	1.81 H	294	48.91	7.51
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	123.21 PK			1.58 V	132	83.11	40.10
2	*5200.00	114.10 AV			1.58 V	132	74.00	40.10
3	#10400.00	58.17 PK	68.20	-10.03	1.74 V	82	50.66	7.51

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	121.52 PK			2.23 H	241	81.54	39.98
2	*5240.00	112.26 AV			2.23 H	241	72.28	39.98
3	5350.00	57.50 PK	74.00	-16.50	2.23 H	241	55.80	1.70
4	5350.00	46.92 AV	54.00	-7.08	2.23 H	241	45.22	1.70
5	#10480.00	57.15 PK	68.20	-11.05	1.99 H	271	49.56	7.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	122.77 PK			1.81 V	150	82.79	39.98
2	*5240.00	114.20 AV			1.81 V	150	74.22	39.98
3	5350.00	58.11 PK	74.00	-15.89	1.81 V	150	56.41	1.70
4	5350.00	48.23 AV	54.00	-5.77	1.81 V	150	46.53	1.70
5	#10480.00	57.90 PK	68.20	-10.30	2.11 V	103	50.31	7.59

Remarks:

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

RF Mode	TX 802.11a	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	56.81 PK	74.00	-17.19	1.88 H	252	54.86	1.95
2	5150.00	46.17 AV	54.00	-7.83	1.88 H	252	44.22	1.95
3	*5260.00	114.69 PK			1.88 H	252	74.76	39.93
4	*5260.00	105.50 AV			1.88 H	252	65.57	39.93
5	#10520.00	56.24 PK	68.20	-11.96	1.66 H	241	48.58	7.66
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	58.98 PK	74.00	-15.02	1.60 V	139	57.03	1.95
2	5150.00	47.87 AV	54.00	-6.13	1.60 V	139	45.92	1.95
3	*5260.00	115.31 PK			1.60 V	139	75.38	39.93
4	*5260.00	107.13 AV			1.60 V	139	67.20	39.93
5	#10520.00	56.28 PK	68.20	-11.92	1.89 V	241	48.62	7.66

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	114.18 PK			2.01 H	246	74.37	39.81
2	*5300.00	105.01 AV			2.01 H	246	65.20	39.81
3	10600.00	56.48 PK	74.00	-17.52	1.88 H	243	48.60	7.88
4	10600.00	43.70 AV	54.00	-10.30	1.88 H	243	35.82	7.88
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	114.67 PK			1.98 V	150	74.86	39.81
2	*5300.00	106.75 AV			1.98 V	150	66.94	39.81
3	10600.00	56.17 PK	74.00	-17.83	1.85 V	166	48.29	7.88
4	10600.00	43.21 AV	54.00	-10.79	1.85 V	166	35.33	7.88

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	114.10 PK			1.99 H	247	74.22	39.88
2	*5320.00	105.03 AV			1.99 H	247	65.15	39.88
3	5350.00	60.56 PK	74.00	-13.44	1.99 H	247	58.86	1.70
4	5350.00	48.65 AV	54.00	-5.35	1.99 H	247	46.95	1.70
5	10640.00	57.44 PK	74.00	-16.56	1.66 H	241	49.59	7.85
6	10640.00	44.05 AV	54.00	-9.95	1.66 H	241	36.20	7.85
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	115.13 PK			1.89 V	151	75.25	39.88
2	*5320.00	106.47 AV			1.89 V	151	66.59	39.88
3	5350.00	61.31 PK	74.00	-12.69	1.89 V	151	59.61	1.70
4	5350.00	49.61 AV	54.00	-4.39	1.89 V	151	47.91	1.70
5	10640.00	57.51 PK	74.00	-16.49	1.99 V	247	49.66	7.85
6	10640.00	44.30 AV	54.00	-9.70	1.99 V	247	36.45	7.85

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	58.01 PK	74.00	-15.99	2.61 H	137	56.14	1.87
2	5460.00	48.31 AV	54.00	-5.69	2.61 H	137	46.44	1.87
3	#5470.00	61.04 PK	68.20	-7.16	2.61 H	137	59.13	1.91
4	*5500.00	113.26 PK			2.61 H	137	72.96	40.30
5	*5500.00	104.64 AV			2.61 H	137	64.34	40.30
6	11000.00	55.04 PK	74.00	-18.96	1.68 H	152	46.64	8.40
7	11000.00	44.53 AV	54.00	-9.47	1.68 H	152	36.13	8.40
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.37 PK	74.00	-14.63	1.29 V	265	57.50	1.87
2	5460.00	49.98 AV	54.00	-4.02	1.29 V	265	48.11	1.87
3	#5470.00	67.53 PK	68.20	-0.67	1.29 V	265	65.62	1.91
4	*5500.00	114.69 PK			1.29 V	265	74.39	40.30
5	*5500.00	107.40 AV			1.29 V	265	67.10	40.30
6	11000.00	55.28 PK	74.00	-18.72	2.78 V	163	46.88	8.40
7	11000.00	46.83 AV	54.00	-7.17	2.78 V	163	38.43	8.40

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	113.61 PK			2.41 H	135	72.85	40.76
2	*5580.00	105.32 AV			2.41 H	135	64.56	40.76
3	11160.00	53.49 PK	74.00	-20.51	1.14 H	285	45.26	8.23
4	11160.00	44.07 AV	54.00	-9.93	1.14 H	285	35.84	8.23
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	115.97 PK			1.14 V	274	75.21	40.76
2	*5580.00	107.41 AV			1.14 V	274	66.65	40.76
3	11160.00	57.37 PK	74.00	-16.63	1.58 V	241	49.14	8.23
4	11160.00	43.95 AV	54.00	-10.05	1.58 V	241	35.72	8.23

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.90 PK			2.30 H	128	72.67	41.23
2	*5700.00	105.41 AV			2.30 H	128	64.18	41.23
3	#5725.00	60.54 PK	68.20	-7.66	2.30 H	128	57.39	3.15
4	#5725.00	51.36 AV	54.00	-2.64	2.30 H	128	48.21	3.15
5	11400.00	55.47 PK	74.00	-18.53	1.68 H	241	46.85	8.62
6	11400.00	44.57 AV	54.00	-9.43	1.68 H	241	35.95	8.62
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.29 PK			2.00 V	133	75.06	41.23
2	*5700.00	107.06 AV			2.00 V	133	65.83	41.23
3	#5725.00	62.87 PK	68.20	-5.33	2.00 V	133	59.72	3.15
4	#5725.00	52.76 AV	54.00	-1.24	2.00 V	133	49.61	3.15
5	11400.00	57.03 PK	74.00	-16.97	2.30 V	284	48.41	8.62
6	11400.00	44.02 AV	54.00	-9.98	2.30 V	284	35.40	8.62

Remarks:

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

RF Mode	TX 802.11a	Channel	CH 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	58.11 PK	68.20	-10.09	2.11 H	139	56.20	1.91
2	*5720.00	110.99 PK			2.11 H	139	69.58	41.41
3	*5720.00	104.76 AV			2.11 H	139	63.35	41.41
4	#5850.00	58.09 PK	68.20	-10.11	2.11 H	139	54.28	3.81
5	11440.00	56.97 PK	74.00	-17.03	1.72 H	241	48.20	8.77
6	11440.00	44.35 AV	54.00	-9.65	1.72 H	241	35.58	8.77
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	56.58 PK	68.20	-11.62	1.72 V	137	54.67	1.91
2	*5720.00	116.55 PK			1.72 V	137	75.14	41.41
3	*5720.00	106.40 AV			1.72 V	137	64.99	41.41
4	#5850.00	48.44 PK	68.20	-19.76	1.72 V	137	44.63	3.81
5	11440.00	57.02 PK	74.00	-16.98	2.41 V	261	48.25	8.77
6	11440.00	44.32 AV	54.00	-9.68	2.41 V	261	35.55	8.77

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	#5622.00	62.61 PK	68.20	-5.59	2.36 H	129	59.83	2.78
2	*5745.00	118.42 PK			2.36 H	129	76.78	41.64
3	*5745.00	110.06 AV			2.36 H	129	68.42	41.64
4	#5987.60	62.02 PK	68.20	-6.18	2.36 H	129	58.51	3.51
5	11490.00	62.23 PK	74.00	-11.77	1.31 H	179	53.27	8.96
6	11490.00	49.39 AV	54.00	-4.61	1.31 H	179	40.43	8.96
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	#5612.40	63.08 PK	68.20	-5.12	1.95 V	130	60.35	2.73
2	*5745.00	121.38 PK			1.95 V	130	79.74	41.64
3	*5745.00	112.06 AV			1.95 V	130	70.42	41.64
4	#5977.60	63.08 PK	68.20	-5.12	1.95 V	130	59.57	3.51
5	11490.00	62.98 PK	74.00	-11.02	1.52 V	114	54.02	8.96
6	11490.00	49.84 AV	54.00	-4.16	1.52 V	114	40.88	8.96

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	#5630.00	61.43 PK	68.20	-6.77	2.04 H	133	58.62	2.81
2	*5785.00	119.95 PK			2.04 H	133	78.15	41.80
3	*5785.00	110.99 AV			2.04 H	133	69.19	41.80
4	#5993.60	62.00 PK	68.20	-6.20	2.04 H	133	58.51	3.49
5	11490.00	61.97 PK	74.00	-12.03	1.56 H	144	53.01	8.96
6	11490.00	49.28 AV	54.00	-4.72	1.56 H	144	40.32	8.96
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5636.00	63.05 PK	68.20	-5.15	1.92 V	128	60.20	2.85
2	*5785.00	121.53 PK			1.92 V	128	79.73	41.80
3	*5785.00	112.96 AV			1.92 V	128	71.16	41.80
4	#5929.20	63.29 PK	68.20	-4.91	1.92 V	128	59.69	3.60
5	11570.00	61.75 PK	74.00	-12.25	1.61 V	110	52.82	8.93
6	11570.00	49.05 AV	54.00	-4.95	1.61 V	110	40.12	8.93

Remarks:

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

RF Mode	TX 802.11a	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	#5636.80	61.04 PK	68.20	-7.16	1.98 H	138	58.18	2.86
2	*5825.00	119.56 PK			1.98 H	138	77.72	41.84
3	*5825.00	110.88 AV			1.98 H	138	69.04	41.84
4	#5992.40	62.78 PK	68.20	-5.42	1.98 H	138	59.28	3.50
5	11650.00	61.39 PK	74.00	-12.61	1.63 H	146	52.56	8.83
6	11650.00	48.89 AV	54.00	-5.11	1.63 H	146	40.06	8.83
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	#5621.20	61.77 PK	68.20	-6.43	1.35 V	130	58.99	2.78
2	*5825.00	121.69 PK			1.35 V	130	79.85	41.84
3	*5825.00	113.17 AV			1.35 V	130	71.33	41.84
4	#5937.60	63.16 PK	68.20	-5.04	1.35 V	130	59.58	3.58
5	11650.00	61.56 PK	74.00	-12.44	1.85 V	163	52.73	8.83
6	11650.00	49.04 AV	54.00	-4.96	1.85 V	163	40.21	8.83

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	57.90 PK	74.00	-16.10	1.99 H	250	55.95	1.95
2	5150.00	50.11 AV	54.00	-3.89	1.99 H	250	48.16	1.95
3	*5180.00	115.50 PK			1.99 H	250	75.35	40.15
4	*5180.00	105.93 AV			1.99 H	250	65.78	40.15
5	#10360.00	53.09 PK	68.20	-15.11	2.14 H	103	45.42	7.67
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.44 PK	74.00	-11.56	1.77 V	146	60.49	1.95
2	5150.00	53.29 AV	54.00	-0.71	1.77 V	146	51.34	1.95
3	*5180.00	117.44 PK			1.77 V	146	77.29	40.15
4	*5180.00	108.32 AV			1.77 V	146	68.17	40.15
5	#10360.00	54.66 PK	68.20	-13.54	1.54 V	197	46.99	7.67

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.58 PK	74.00	-14.42	1.68 H	244	57.63	1.95
2	5150.00	49.76 AV	54.00	-4.24	1.68 H	244	47.81	1.95
3	*5200.00	118.37 PK			1.68 H	244	78.27	40.10
4	*5200.00	109.50 AV			1.68 H	244	69.40	40.10
5	#10400.00	56.02 PK	68.20	-12.18	1.74 H	103	48.51	7.51
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.59 PK	74.00	-10.41	1.71 V	146	61.64	1.95
2	**5150.00**	**53.46 AV**	**54.00**	**-0.54**	**1.71 V**	**146**	**51.51**	**1.95**
3	*5200.00	121.53 PK			1.71 V	146	81.43	40.10
4	*5200.00	112.27 AV			1.71 V	146	72.17	40.10
5	#10400.00	56.63 PK	68.20	-11.57	2.16 V	49	49.12	7.51

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	119.56 PK			1.73 H	247	79.58	39.98
2	*5240.00	111.02 AV			1.73 H	247	71.04	39.98
3	5350.00	56.90 PK	74.00	-17.10	1.73 H	247	55.20	1.70
4	5350.00	46.68 AV	54.00	-7.32	1.73 H	247	44.98	1.70
5	#10480.00	56.91 PK	68.20	-11.29	1.66 H	194	49.32	7.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5240.00	122.42 PK			1.88 V	140	82.44	39.98
2	*5240.00	113.29 AV			1.88 V	140	73.31	39.98
3	5350.00	58.80 PK	74.00	-15.20	1.88 V	140	57.10	1.70
4	5350.00	48.41 AV	54.00	-5.59	1.88 V	140	46.71	1.70
5	#10480.00	57.70 PK	68.20	-10.50	1.94 V	136	50.11	7.59

Remarks:

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

RF Mode	TX 802.11ac (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	46.63 PK	74.00	-27.37	1.88 H	252	44.68	1.95
2	5150.00	46.06 AV	54.00	-7.94	1.88 H	252	44.11	1.95
3	*5260.00	114.28 PK			1.88 H	252	74.35	39.93
4	*5260.00	105.35 AV			1.88 H	252	65.42	39.93
5	#10520.00	53.74 PK	68.20	-14.46	1.66 H	284	46.08	7.66
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	57.70 PK	74.00	-16.30	1.99 V	146	55.75	1.95
2	5150.00	47.76 AV	54.00	-6.24	1.99 V	146	45.81	1.95
3	*5260.00	114.96 PK			1.99 V	146	75.03	39.93
4	*5260.00	106.92 AV			1.99 V	146	66.99	39.93
5	#10520.00	56.83 PK	68.20	-11.37	1.92 V	200	49.17	7.66

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	113.69 PK			2.27 H	254	73.88	39.81
2	*5300.00	103.93 AV			2.27 H	254	64.12	39.81
3	10600.00	56.23 PK	74.00	-17.77	1.82 H	211	48.35	7.88
4	10600.00	42.79 AV	54.00	-11.21	1.82 H	211	34.91	7.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	116.21 PK			1.94 V	147	76.40	39.81
2	*5300.00	106.07 AV			1.94 V	147	66.26	39.81
3	10600.00	57.77 PK	74.00	-16.23	1.64 V	211	49.89	7.88
4	10600.00	44.66 AV	54.00	-9.34	1.64 V	211	36.78	7.88

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	113.55 PK			2.18 H	256	73.67	39.88
2	*5320.00	103.79 AV			2.18 H	256	63.91	39.88
3	5350.00	58.48 PK	74.00	-15.52	2.18 H	256	56.78	1.70
4	5350.00	48.29 AV	54.00	-5.71	2.18 H	256	46.59	1.70
5	10640.00	55.28 PK	74.00	-18.72	2.27 H	158	47.43	7.85
6	10640.00	43.30 AV	54.00	-10.70	2.27 H	158	35.45	7.85
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	115.32 PK			1.86 V	159	75.44	39.88
2	*5320.00	106.04 AV			1.86 V	159	66.16	39.88
3	5350.00	61.53 PK	74.00	-12.47	1.86 V	159	59.83	1.70
4	5350.00	50.08 AV	54.00	-3.92	1.86 V	159	48.38	1.70
5	10640.00	56.70 PK	74.00	-17.30	2.44 V	211	48.85	7.85
6	10640.00	43.49 AV	54.00	-10.51	2.44 V	211	35.64	7.85

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	5350.00	56.73 PK	74.00	-17.27	1.66 H	265	55.03	1.70
2	5350.00	46.56 AV	54.00	-7.44	1.66 H	265	44.86	1.70
3	#5470.00	60.97 PK	68.20	-7.23	1.66 H	265	59.06	1.91
4	*5500.00	111.47 PK			1.66 H	265	71.17	40.30
5	*5500.00	102.09 AV			1.66 H	265	61.79	40.30
6	11000.00	56.74 PK	74.00	-17.26	1.68 H	211	48.34	8.40
7	11000.00	43.98 AV	54.00	-10.02	1.68 H	211	35.58	8.40
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	57.69 PK	74.00	-16.31	2.07 V	153	55.82	1.87
2	5460.00	48.32 AV	54.00	-5.68	2.07 V	153	46.45	1.87
3	#5470.00	63.92 PK	68.20	-4.28	2.07 V	153	62.01	1.91
4	*5500.00	114.14 PK			2.07 V	153	73.84	40.30
5	*5500.00	105.37 AV			2.07 V	153	65.07	40.30
6	11000.00	56.36 PK	74.00	-17.64	1.64 V	211	47.96	8.40
7	11000.00	47.20 AV	54.00	-6.80	1.64 V	211	38.80	8.40

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	110.48 PK			2.68 H	137	69.72	40.76
2	*5580.00	103.37 AV			2.68 H	137	62.61	40.76
3	11160.00	56.50 PK	74.00	-17.50	1.66 H	265	48.27	8.23
4	11160.00	43.77 AV	54.00	-10.23	1.66 H	265	35.54	8.23
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	113.64 PK			1.94 V	144	72.88	40.76
2	*5580.00	106.49 AV			1.94 V	144	65.73	40.76
3	11160.00	53.39 PK	74.00	-20.61	2.68 V	137	45.16	8.23
4	11160.00	43.90 AV	54.00	-10.10	2.68 V	137	35.67	8.23

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	113.26 PK			2.39 H	130	72.03	41.23
2	*5700.00	104.42 AV			2.39 H	130	63.19	41.23
3	#5725.00	63.18 PK	68.20	-5.02	2.39 H	130	60.03	3.15
4	11400.00	56.35 PK	74.00	-17.65	1.89 H	211	47.73	8.62
5	11400.00	43.51 AV	54.00	-10.49	1.89 H	211	34.89	8.62
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	116.35 PK			1.70 V	139	75.12	41.23
2	*5700.00	106.67 AV			1.70 V	139	65.44	41.23
3	#5725.00	64.14 PK	68.20	-4.06	1.70 V	139	60.99	3.15
4	11400.00	54.48 PK	74.00	-19.52	1.64 V	182	45.86	8.62
5	11400.00	43.86 AV	54.00	-10.14	1.64 V	182	35.24	8.62

Remarks:

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

RF Mode	TX 802.11ac (VHT20)	Channel	CH 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	57.55 PK	68.20	-10.65	2.49 H	132	55.64	1.91
2	*5720.00	112.55 PK			2.49 H	132	71.14	41.41
3	*5720.00	104.26 AV			2.49 H	132	62.85	41.41
4	#5850.00	57.23 PK	68.20	-10.97	2.49 H	132	53.42	3.81
5	11440.00	57.71 PK	74.00	-16.29	2.39 H	155	48.94	8.77
6	11440.00	43.86 AV	54.00	-10.14	2.39 H	155	35.09	8.77
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	56.74 PK	68.20	-11.46	1.97 V	135	54.83	1.91
2	*5720.00	114.13 PK			1.97 V	135	72.72	41.41
3	*5720.00	105.65 AV			1.97 V	135	64.24	41.41
4	#5850.00	57.50 PK	68.20	-10.70	1.97 V	135	53.69	3.81
5	11440.00	59.11 PK	74.00	-14.89	2.66 V	169	50.34	8.77
6	11440.00	45.70 AV	54.00	-8.30	2.66 V	169	36.93	8.77

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5625.60	61.77 PK	68.20	-6.43	2.29 H	129	58.98	2.79
2	*5745.00	119.01 PK			2.29 H	129	77.37	41.64
3	*5745.00	110.36 AV			2.29 H	129	68.72	41.64
4	#5984.80	63.04 PK	68.20	-5.16	2.29 H	129	59.54	3.50
5	11490.00	61.94 PK	74.00	-12.06	1.60 H	148	52.98	8.96
6	11490.00	50.13 AV	54.00	-3.87	1.60 H	148	41.17	8.96
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	#5630.00	64.45 PK	68.20	-3.75	1.85 V	133	61.64	2.81
2	*5745.00	121.03 PK			1.85 V	133	79.39	41.64
3	*5745.00	111.88 AV			1.85 V	133	70.24	41.64
4	#5986.00	61.84 PK	68.20	-6.36	1.85 V	133	58.34	3.50
5	11490.00	62.10 PK	74.00	-11.90	1.45 V	112	53.14	8.96
6	11490.00	50.82 AV	54.00	-3.18	1.45 V	112	41.86	8.96

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	#5632.40	62.55 PK	68.20	-5.65	2.03 H	131	59.71	2.84
2	*5785.00	117.97 PK			2.03 H	131	76.17	41.80
3	*5785.00	109.86 AV			2.03 H	131	68.06	41.80
4	#5940.00	63.17 PK	68.20	-5.03	2.03 H	131	59.60	3.57
5	11570.00	61.79 PK	74.00	-12.21	1.77 H	151	52.86	8.93
6	11570.00	49.96 AV	54.00	-4.04	1.77 H	151	41.03	8.93
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5601.20	63.08 PK	68.20	-5.12	1.62 V	134	60.40	2.68
2	*5785.00	120.57 PK			1.62 V	134	78.77	41.80
3	*5785.00	111.83 AV			1.62 V	134	70.03	41.80
4	#5991.20	63.37 PK	68.20	-4.83	1.62 V	134	59.87	3.50
5	11570.00	62.20 PK	74.00	-11.80	1.56 V	121	53.27	8.93
6	11570.00	50.84 AV	54.00	-3.16	1.56 V	121	41.91	8.93

Remarks:

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

RF Mode	TX 802.11ac (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	#5643.20	61.77 PK	68.20	-6.43	2.12 H	137	58.89	2.88
2	*5825.00	118.56 PK			2.12 H	137	76.72	41.84
3	*5825.00	110.19 AV			2.12 H	137	68.35	41.84
4	#5948.80	62.39 PK	68.20	-5.81	2.12 H	137	58.85	3.54
5	11650.00	61.03 PK	74.00	-12.97	1.75 H	148	52.20	8.83
6	11650.00	49.93 AV	54.00	-4.07	1.75 H	148	41.10	8.83
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	#5639.20	61.18 PK	68.20	-7.02	1.49 V	133	58.32	2.86
2	*5825.00	121.87 PK			1.49 V	133	80.03	41.84
3	*5825.00	113.09 AV			1.49 V	133	71.25	41.84
4	#5932.00	63.01 PK	68.20	-5.19	1.49 V	133	59.42	3.59
5	11650.00	61.23 PK	74.00	-12.77	1.78 V	168	52.40	8.83
6	11650.00	50.72 AV	54.00	-3.28	1.78 V	168	41.89	8.83

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	57.87 PK	74.00	-16.13	1.73 H	243	55.92	1.95
2	5150.00	48.97 AV	54.00	-5.03	1.73 H	243	47.02	1.95
3	*5190.00	109.94 PK			1.73 H	243	69.81	40.13
4	*5190.00	100.67 AV			1.73 H	243	60.54	40.13
5	#10380.00	53.05 PK	68.20	-15.15	2.39 H	96	45.46	7.59
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	62.03 PK	74.00	-11.97	1.89 V	148	60.08	1.95
2	5150.00	53.23 AV	54.00	-0.77	1.89 V	148	51.28	1.95
3	*5190.00	112.17 PK			1.89 V	148	72.04	40.13
4	*5190.00	103.45 AV			1.89 V	148	63.32	40.13
5	#10380.00	52.33 PK	68.20	-15.87	2.01 V	36	44.74	7.59

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.27 PK	74.00	-12.73	2.10 H	247	59.32	1.95
2	5150.00	50.66 AV	54.00	-3.34	2.10 H	247	48.71	1.95
3	*5230.00	115.22 PK			2.10 H	247	75.21	40.01
4	*5230.00	107.32 AV			2.10 H	247	67.31	40.01
5	5350.00	56.46 PK	74.00	-17.54	2.10 H	247	54.76	1.70
6	5350.00	46.95 AV	54.00	-7.05	2.10 H	247	45.25	1.70
7	#10460.00	57.23 PK	68.20	-10.97	1.60 H	32	49.65	7.58
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	63.77 PK	74.00	-10.23	1.85 V	153	61.82	1.95
2	5150.00	53.44 AV	54.00	-0.56	1.85 V	153	51.49	1.95
3	*5230.00	118.24 PK			1.85 V	153	78.23	40.01
4	*5230.00	109.28 AV			1.85 V	153	69.27	40.01
5	5350.00	56.94 PK	74.00	-17.06	1.85 V	153	55.24	1.70
6	5350.00	47.20 AV	54.00	-6.80	1.85 V	153	45.50	1.70
7	#10460.00	57.90 PK	68.20	-10.30	2.64 V	133	50.32	7.58

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.34 PK	74.00	-16.66	1.90 H	250	55.39	1.95
2	5150.00	45.95 AV	54.00	-8.05	1.90 H	250	44.00	1.95
3	*5270.00	108.34 PK			1.90 H	250	68.45	39.89
4	*5270.00	101.95 AV			1.90 H	250	62.06	39.89
5	#10540.00	56.76 PK	68.20	-11.44	1.66 H	211	49.04	7.72
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	57.99 PK	74.00	-16.01	1.80 V	151	56.04	1.95
2	5150.00	47.62 AV	54.00	-6.38	1.80 V	151	45.67	1.95
3	*5270.00	110.62 PK			1.80 V	151	70.73	39.89
4	*5270.00	103.62 AV			1.80 V	151	63.73	39.89
5	#10540.00	57.41 PK	68.20	-10.79	1.82 V	211	49.69	7.72

Remarks:

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

RF Mode	TX 802.11ac (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	107.78 PK			2.01 H	243	67.93	39.85
2	*5310.00	101.27 AV			2.01 H	243	61.42	39.85
3	5350.00	62.46 PK	74.00	-11.54	2.01 H	243	60.76	1.70
4	5350.00	50.88 AV	54.00	-3.12	2.01 H	243	49.18	1.70
5	10620.00	55.64 PK	74.00	-18.36	1.82 H	211	47.78	7.86
6	10620.00	43.00 AV	54.00	-11.00	1.82 H	211	35.14	7.86
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	109.64 PK			1.69 V	156	69.79	39.85
2	*5310.00	102.88 AV			1.69 V	156	63.03	39.85
3	5350.00	64.81 PK	74.00	-9.19	1.69 V	156	63.11	1.70
4	5350.00	52.66 AV	54.00	-1.34	1.69 V	156	50.96	1.70
5	10620.00	55.27 PK	74.00	-18.73	1.88 V	211	47.41	7.86
6	10620.00	42.91 AV	54.00	-11.09	1.88 V	211	35.05	7.86

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	58.05 PK	74.00	-15.95	2.41 H	140	56.18	1.87
2	5460.00	49.85 AV	54.00	-4.15	2.41 H	140	47.98	1.87
3	#5470.00	63.67 PK	68.20	-4.53	2.41 H	140	61.76	1.91
4	*5510.00	108.30 PK			2.41 H	140	67.94	40.36
5	*5510.00	100.71 AV			2.41 H	140	60.35	40.36
6	11020.00	54.39 PK	74.00	-19.61	1.20 H	167	46.04	8.35
7	11020.00	43.72 AV	54.00	-10.28	1.20 H	167	35.37	8.35
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	62.18 PK	74.00	-11.82	1.26 V	269	60.31	1.87
2	5460.00	52.34 AV	54.00	-1.66	1.26 V	269	50.47	1.87
3	#5470.00	67.22 PK	68.20	-0.98	1.26 V	269	65.31	1.91
4	*5510.00	111.86 PK			1.26 V	269	71.50	40.36
5	*5510.00	103.81 AV			1.26 V	269	63.45	40.36
6	11020.00	56.55 PK	74.00	-17.45	1.82 V	165	48.20	8.35
7	11020.00	46.14 AV	54.00	-7.86	1.82 V	165	37.79	8.35

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	108.68 PK			2.60 H	134	68.05	40.63
2	*5550.00	100.96 AV			2.60 H	134	60.33	40.63
3	11100.00	54.26 PK	74.00	-19.74	1.45 H	197	46.11	8.15
4	11100.00	43.49 AV	54.00	-10.51	1.45 H	197	35.34	8.15
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	111.99 PK			1.21 V	274	71.36	40.63
2	*5550.00	103.82 AV			1.21 V	274	63.19	40.63
3	11100.00	56.06 PK	74.00	-17.94	2.10 V	147	47.91	8.15
4	11100.00	45.57 AV	54.00	-8.43	2.10 V	147	37.42	8.15

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	109.58 PK			2.44 H	132	68.36	41.22
2	*5670.00	101.57 AV			2.44 H	132	60.35	41.22
3	#5725.00	63.26 PK	68.20	-4.94	2.60 H	134	60.11	3.15
4	11340.00	54.92 PK	74.00	-19.08	1.60 H	196	46.13	8.79
5	11340.00	44.14 AV	54.00	-9.86	1.60 H	196	35.35	8.79
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	112.65 PK			1.88 V	140	71.43	41.22
2	*5670.00	104.52 AV			1.88 V	140	63.30	41.22
3	#5725.00	60.88 PK	68.20	-7.32	1.88 V	140	57.73	3.15
4	11340.00	54.09 PK	74.00	-19.91	1.69 V	116	45.30	8.79
5	11340.00	44.66 AV	54.00	-9.34	1.69 V	116	35.87	8.79

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	57.12 PK	68.20	-11.08	2.11 H	133	55.21	1.91
2	*5710.00	109.78 PK			2.11 H	133	68.46	41.32
3	*5710.00	102.27 AV			2.11 H	133	60.95	41.32
4	#5850.00	58.11 PK	68.20	-10.09	2.11 H	133	54.30	3.81
5	11420.00	55.28 PK	74.00	-18.72	2.33 H	56	46.58	8.70
6	11420.00	44.37 AV	54.00	-9.63	2.33 H	56	35.67	8.70
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	57.24 PK	68.20	-10.96	1.81 V	132	55.33	1.91
2	*5710.00	112.11 PK			1.81 V	132	70.79	41.32
3	*5710.00	104.69 AV			1.81 V	132	63.37	41.32
4	#5850.00	58.63 PK	68.20	-9.57	1.81 V	132	54.82	3.81
5	11420.00	56.21 PK	74.00	-17.79	2.10 V	130	47.51	8.70
6	11420.00	45.76 AV	54.00	-8.24	2.10 V	130	37.06	8.70

Remarks:

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

RF Mode	TX 802.11ac (VHT40)	Channel	CH 151：5755 MHz
Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5645.20	62.26 PK	68.20	-5.94	2.01 H	136	59.36	2.90
2	#5650.00	61.48 PK	68.20	-6.72	2.01 H	136	58.56	2.92
3	*5755.00	115.46 PK			2.01 H	136	73.77	41.69
4	*5755.00	108.03 AV			2.01 H	136	66.34	41.69
5	#5964.00	62.98 PK	68.20	-5.22	2.01 H	136	59.46	3.52
6	11510.00	60.88 PK	74.00	-13.12	1.33 H	186	51.89	8.99
7	11510.00	48.92 AV	54.00	-5.08	1.33 H	186	39.93	8.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5630.00	63.41 PK	68.20	-4.79	1.82 V	136	60.60	2.81
2	#5650.00	61.64 PK	68.20	-6.56	1.82 V	136	58.72	2.92
3	*5755.00	116.82 PK			1.82 V	136	75.13	41.69
4	*5755.00	110.13 AV			1.82 V	136	68.44	41.69
5	#5928.80	61.98 PK	68.20	-6.22	1.82 V	136	58.39	3.59
6	11510.00	58.61 PK	74.00	-15.39	1.52 V	117	49.62	8.99
7	11510.00	49.50 AV	54.00	-4.50	1.52 V	117	40.51	8.99

Remarks:

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

RF Mode	TX 802.11ac (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	#5607.20	61.78 PK	68.20	-6.42	2.43 H	134	59.07	2.71
2	*5795.00	114.52 PK			2.43 H	134	72.69	41.83
3	*5795.00	107.45 AV			2.43 H	134	65.62	41.83
4	#5925.00	58.22 PK	68.20	-9.98	2.43 H	134	54.61	3.61
5	#5978.40	63.85 PK	68.20	-4.35	2.43 H	134	60.35	3.50
6	11590.00	60.68 PK	74.00	-13.32	1.47 H	177	51.77	8.91
7	11590.00	48.72 AV	54.00	-5.28	1.47 H	177	39.81	8.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5622.80	63.03 PK	68.20	-5.17	1.90 V	137	60.24	2.79
2	*5795.00	116.65 PK			1.90 V	137	74.82	41.83
3	*5795.00	108.81 AV			1.90 V	137	66.98	41.83
4	#5925.00	58.60 PK	68.20	-9.60	1.90 V	136	54.99	3.61
5	#5936.00	62.85 PK	68.20	-5.35	1.90 V	137	59.28	3.57
6	11590.00	58.49 PK	74.00	-15.51	1.61 V	103	49.58	8.91
7	11590.00	49.35 AV	54.00	-4.65	1.61 V	103	40.44	8.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	59.58 PK	74.00	-14.42	2.12 H	246	57.63	1.95
2	5150.00	51.60 AV	54.00	-2.40	2.12 H	246	49.65	1.95
3	*5210.00	105.83 PK			2.12 H	246	65.76	40.07
4	*5210.00	97.36 AV			2.12 H	246	57.29	40.07
5	#10420.00	55.14 PK	68.20	-13.06	1.64 H	179	47.61	7.53
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	60.06 PK	74.00	-13.94	1.70 V	150	58.11	1.95
2	5150.00	53.32 AV	54.00	-0.68	1.70 V	150	51.37	1.95
3	*5210.00	106.81 PK			1.70 V	150	66.74	40.07
4	*5210.00	98.92 AV			1.70 V	150	58.85	40.07
5	#10420.00	54.88 PK	68.20	-13.32	1.67 V	321	47.35	7.53

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	57.74 PK	74.00	-16.26	2.28 H	246	55.79	1.95
2	5150.00	46.08 AV	54.00	-7.92	2.28 H	246	44.13	1.95
3	*5290.00	104.65 PK			2.28 H	246	64.82	39.83
4	*5290.00	97.75 AV			2.28 H	246	57.92	39.83
5	5350.00	62.13 PK	74.00	-11.87	2.28 H	246	60.43	1.70
6	5350.00	51.00 AV	54.00	-3.00	2.28 H	246	49.30	1.70
7	#10580.00	53.74 PK	68.20	-14.46	2.14 H	350	45.91	7.83
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	58.69 PK	74.00	-15.31	1.60 V	155	56.74	1.95
2	5150.00	47.98 AV	54.00	-6.02	1.60 V	155	46.03	1.95
3	*5290.00	106.82 PK			1.60 V	155	66.99	39.83
4	*5290.00	99.49 AV			1.60 V	155	59.66	39.83
5	5350.00	64.39 PK	74.00	-9.61	1.60 V	155	62.69	1.70
6	5350.00	53.43 AV	54.00	-0.57	1.60 V	155	51.73	1.70
7	#10580.00	54.05 PK	68.20	-14.15	2.31 V	246	46.22	7.83

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	56.64 PK	74.00	-17.36	2.60 H	132	54.77	1.87
2	5460.00	48.84 AV	54.00	-5.16	2.60 H	132	46.97	1.87
3	#5470.00	62.96 PK	68.20	-5.24	2.60 H	132	61.05	1.91
4	*5530.00	103.63 PK			2.60 H	132	63.13	40.50
5	*5530.00	96.35 AV			2.60 H	132	55.85	40.50
6	#5725.00	57.01 PK	68.20	-11.19	2.60 H	132	53.86	3.15
7	11060.00	53.91 PK	74.00	-20.09	1.77 H	94	45.66	8.25
8	11060.00	43.28 AV	54.00	-10.72	1.77 H	94	35.03	8.25
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.27 PK	74.00	-14.73	1.73 V	148	57.40	1.87
2	5460.00	48.88 AV	54.00	-5.12	1.73 V	148	47.01	1.87
3	#5470.00	67.40 PK	68.20	-0.80	1.73 V	148	65.49	1.91
4	*5530.00	107.41 PK			1.73 V	148	66.91	40.50
5	*5530.00	98.73 AV			1.73 V	148	58.23	40.50
6	#5725.00	55.16 PK	68.20	-13.04	1.73 V	148	52.01	3.15
7	11060.00	54.03 PK	74.00	-19.97	2.17 V	71	45.78	8.25
8	11060.00	43.46 AV	54.00	-10.54	2.17 V	71	35.21	8.25

Remarks:

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

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

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.20 PK	74.00	-17.80	2.32 H	129	54.33	1.87
2	5460.00	45.66 AV	54.00	-8.34	2.32 H	129	43.79	1.87
3	#5470.00	57.31 PK	68.20	-10.89	2.32 H	129	55.40	1.91
4	*5610.00	106.32 PK			2.32 H	129	65.41	40.91
5	*5610.00	98.63 AV			2.32 H	129	57.72	40.91
6	#5725.00	58.82 PK	68.20	-9.38	2.32 H	129	55.67	3.15
7	11220.00	53.73 PK	74.00	-20.27	1.97 H	111	45.31	8.42
8	11220.00	44.39 AV	54.00	-9.61	1.97 H	111	35.97	8.42
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	56.88 PK	74.00	-17.12	1.68 V	139	55.01	1.87
2	5460.00	46.07 AV	54.00	-7.93	1.68 V	139	44.20	1.87
3	#5470.00	59.17 PK	68.20	-9.03	1.68 V	139	57.26	1.91
4	*5610.00	110.01 PK			1.68 V	139	69.10	40.91
5	*5610.00	101.50 AV			1.68 V	139	60.59	40.91
6	#5725.00	60.64 PK	68.20	-7.56	1.68 V	139	57.49	3.15
7	11220.00	53.66 PK	74.00	-20.34	1.99 V	137	45.24	8.42
8	11220.00	44.86 AV	54.00	-9.14	1.99 V	137	36.44	8.42

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	57.72 PK	68.20	-10.48	2.46 H	131	55.81	1.91
2	*5690.00	106.26 PK			2.46 H	131	65.04	41.22
3	*5690.00	98.77 AV			2.46 H	131	57.55	41.22
4	#5850.00	57.51 PK	68.20	-10.69	2.46 H	131	53.70	3.81
5	11380.00	54.42 PK	74.00	-19.58	2.36 H	111	45.75	8.67
6	11380.00	43.79 AV	54.00	-10.21	2.36 H	111	35.12	8.67
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	57.65 PK	68.20	-10.55	1.48 V	141	55.74	1.91
2	*5690.00	108.89 PK			1.48 V	141	67.67	41.22
3	*5690.00	100.34 AV			1.48 V	141	59.12	41.22
4	#5850.00	57.98 PK	68.20	-10.22	1.48 V	141	54.17	3.81
5	11380.00	53.99 PK	74.00	-20.01	1.77 V	102	45.32	8.67
6	11380.00	43.95 AV	54.00	-10.05	1.77 V	102	35.28	8.67

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	#5644.40	64.97 PK	68.20	-3.23	2.21 H	136	62.08	2.89
2	#5650.00	65.76 PK	68.20	-2.44	2.21 H	136	62.84	2.92
3	*5775.00	109.43 PK			2.21 H	136	67.68	41.75
4	*5775.00	103.42 AV			2.21 H	136	61.67	41.75
5	#5925.00	65.31 PK	68.20	-2.89	2.21 H	136	61.70	3.61
6	#5938.00	64.06 PK	68.20	-4.14	2.21 H	136	60.48	3.58
7	11550.00	58.83 PK	74.00	-15.17	1.40 H	169	49.87	8.96
8	11550.00	46.99 AV	54.00	-7.01	1.40 H	169	38.03	8.96
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5643.20	67.40 PK	68.20	-0.80	1.72 V	138	64.52	2.88
2	#5650.00	67.60 PK	68.20	-0.60	1.72 V	138	64.68	2.92
3	*5775.00	112.79 PK			1.72 V	138	71.04	41.75
4	*5775.00	105.18 AV			1.72 V	138	63.43	41.75
5	#5925.00	65.39 PK	68.20	-2.81	1.72 V	138	61.78	3.61
6	#5951.60	66.61 PK	68.20	-1.59	1.72 V	138	63.09	3.52
7	11550.00	59.09 PK	74.00	-14.91	1.43 V	118	50.13	8.96
8	11550.00	47.24 AV	54.00	-6.76	1.43 V	118	38.28	8.96

Remarks:

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

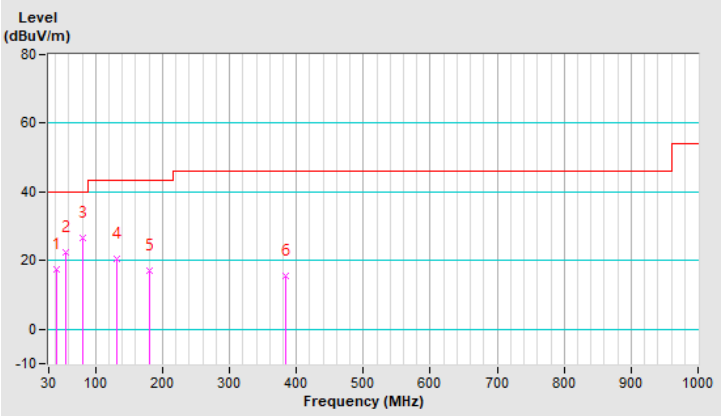
Below 1GHz Worst-Case Data:

RF Mode	TX 802.11a	Channel	CH 149：5745 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	42.61	17.64 QP	40.00	-22.36	2.00 H	144	36.05	-18.41
2	56.19	22.53 QP	40.00	-17.47	2.00 H	95	40.96	-18.43
3	80.44	26.47 QP	40.00	-13.53	2.00 H	260	49.87	-23.40
4	130.88	20.47 QP	43.50	-23.03	1.50 H	271	39.89	-19.42
5	181.32	17.11 QP	43.50	-26.39	1.50 H	265	37.14	-20.03
6	384.05	15.51 QP	46.00	-30.49	1.00 H	150	31.37	-15.86

Remarks:

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

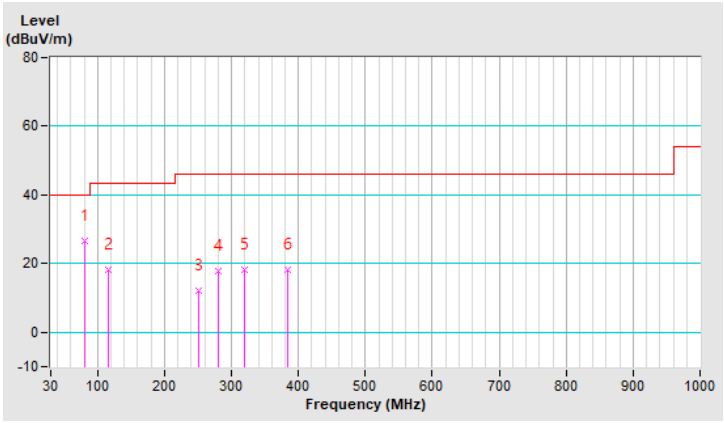


RF Mode	TX 802.11a	Channel	CH 149：5745 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	80.44	26.78 QP	40.00	-13.22	2.00 V	165	50.18	-23.40
2	115.36	18.30 QP	43.50	-25.20	2.00 V	53	39.21	-20.91
3	250.19	11.99 QP	46.00	-34.01	1.00 V	18	31.68	-19.69
4	280.26	17.89 QP	46.00	-28.11	1.50 V	51	36.38	-18.49
5	320.03	18.16 QP	46.00	-27.84	2.00 V	28	35.59	-17.43
6	384.05	18.30 QP	46.00	-27.70	1.50 V	128	34.16	-15.86

Remarks:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Dec. 20, 2021	Dec. 19, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 28, 2021	Jan. 27, 2022
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2 (Conduction 2).
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

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.

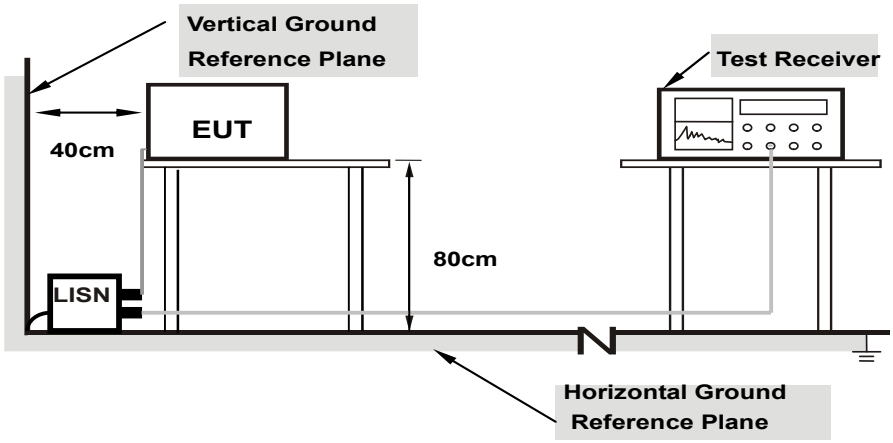
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

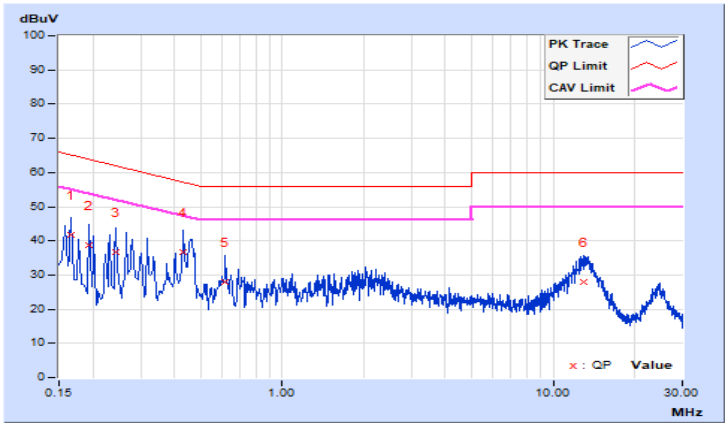
802.11a

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16600	10.13	31.57	18.49	41.70	28.62	65.16	55.16	-23.46	-26.54
2	0.19400	10.15	28.66	16.77	38.81	26.92	63.86	53.86	-25.05	-26.94
3	0.24200	10.16	26.42	17.34	36.58	27.50	62.03	52.03	-25.45	-24.53
4	**0.43000**	**10.22**	**26.59**	**20.58**	**36.81**	**30.80**	**57.25**	**47.25**	**-20.44**	**-16.45**
5	0.61400	10.24	17.80	11.94	28.04	22.18	56.00	46.00	-27.96	-23.82
6	13.04200	10.55	17.23	11.64	27.78	22.19	60.00	50.00	-32.22	-27.81

Remarks:

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

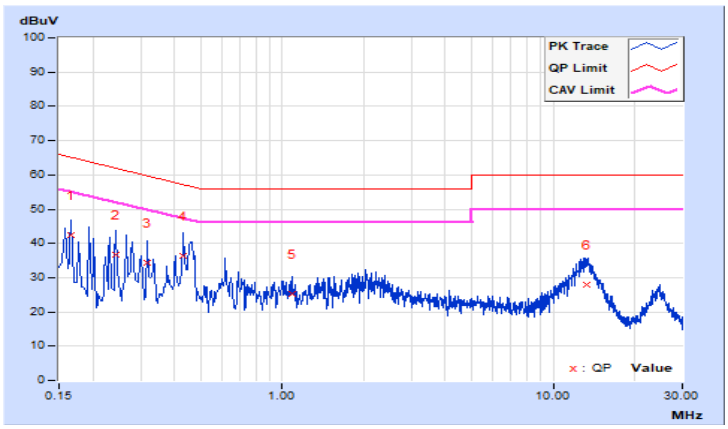


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16535	10.15	32.20	18.91	42.35	29.06	65.19	55.19	-22.84	-26.13
2	0.24164	10.18	26.65	17.27	36.83	27.45	62.04	52.04	-25.21	-24.59
3	0.31781	10.21	24.06	15.10	34.27	25.31	59.76	49.76	-25.49	-24.45
4	0.42915	10.24	26.04	20.03	36.28	30.27	57.27	47.27	-20.99	-17.00
5	1.09000	10.30	14.85	8.00	25.15	18.30	56.00	46.00	-30.85	-27.70
6	13.29000	10.67	17.34	11.49	28.01	22.16	60.00	50.00	-31.99	-27.84

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 ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
	√	Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

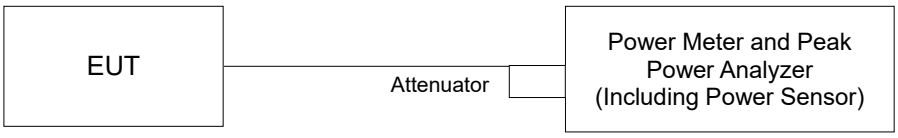
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

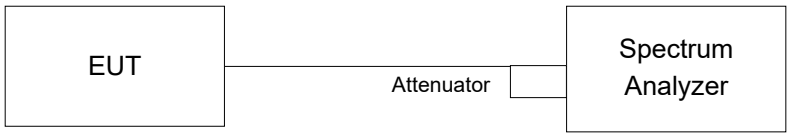
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

For Power Output



For 26dB Bandwidth and power output of transmission above 5.725 GHz where the EBW crosses 5.725 GHz



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

For transmission above 5.725 GHz where the EBW crosses 5.725 GHz
For channel aggregation (channel 138, 142, 144) measurement refer to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Section III Channel Aggregation subpart C. measurement procedures 2 Section.

For 26dB Bandwidth

a. Set RBW = approximately 1% of the emission bandwidth.

b. Set the VBW ≥ 3 x RBW.

c. Detector = Peak.

d. Trace mode = max hold.

e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

AP Mode

Power Output:

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	20.82	20.12	223.583	23.49	30.00	Pass
40	5200	25.81	25.41	728.602	28.62	30.00	Pass
48	5240	25.91	25.39	735.881	28.67	30.00	Pass
149	5745	26.56	26.66	916.344	29.62	30.00	Pass
157	5785	26.99	26.13	910.239	29.59	30.00	Pass
165	5825	26.78	26.44	**916.986**	29.62	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	19.78	19.80	190.560	22.80	30.00	Pass
40	5200	24.46	24.54	563.700	27.51	30.00	Pass
48	5240	26.41	26.24	**858.249**	29.34	30.00	Pass
149	5745	26.31	26.61	885.705	29.47	30.00	Pass
157	5785	26.08	26.67	870.024	29.40	30.00	Pass
165	5825	26.54	26.31	878.380	29.44	30.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.87	18.90	154.715	21.90	30.00	Pass
46	5230	24.47	24.48	560.441	27.49	30.00	Pass
151	5755	26.31	26.36	860.077	29.35	30.00	Pass
159	5795	26.16	26.26	835.716	29.22	30.00	Pass

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	19.89	19.90	195.223	22.91	30.00	Pass
40	5200	24.58	24.66	579.493	27.63	30.00	Pass
48	5240	25.98	25.88	783.536	28.94	30.00	Pass
149	5745	26.41	26.71	906.335	29.57	30.00	Pass
157	5785	26.18	26.77	890.289	29.50	30.00	Pass
165	5825	26.64	26.41	898.840	29.54	30.00	Pass

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.97	18.99	158.136	21.99	30.00	Pass
46	5230	24.58	24.58	574.156	27.59	30.00	Pass
151	5755	26.41	26.46	880.110	29.45	30.00	Pass
159	5795	26.26	26.36	855.182	29.32	30.00	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	17.82	16.58	106.033	20.25	30.00	Pass
155	5775	25.58	25.49	715.407	28.55	30.00	Pass

Client Mode

Power Output:

802.11a

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	20.07	19.37	188.122	22.74	24.00	Pass
40	5200	19.95	19.46	187.209	22.72	24.00	Pass
48	5240	20.07	19.47	190.136	22.79	24.00	Pass
52	5260	19.98	19.40	186.637	22.71	24.00	Pass
60	5300	19.94	19.63	190.461	22.80	24.00	Pass
64	5320	19.89	19.70	190.824	22.81	24.00	Pass
100	5500	19.69	19.60	184.312	22.66	24.00	Pass
116	5580	19.76	19.41	181.921	22.60	24.00	Pass
140	5700	19.40	20.01	187.327	22.73	24.00	Pass
144	5720 (For U-NII-2C)	19.29	18.89	171.860	22.35	22.80	Pass
144	5720 (For U-NII-3)	11.41	11.01	28.001	14.47	30.00	Pass
149	5745	26.56	26.66	916.344	29.62	30.00	Pass
157	5785	26.99	26.13	910.239	29.59	30.00	Pass
165	5825	26.78	26.44	**916.986**	29.62	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (20.35) = 24.08 > 24dBm
2. 11dBm + 10log (20.45) = 24.10 > 24dBm
3. 11dBm + 10log (20.31) = 24.07 > 24dBm
4. 11dBm + 10log (20.46) = 24.10 > 24dBm
5. 11dBm + 10log (20.36) = 24.08 > 24dBm
6. 11dBm + 10log (20.50) = 24.11 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.86) = 22.80 < 24dBm

Chain 1

1. 11dBm + 10log (20.39) = 24.09 > 24dBm
2. 11dBm + 10log (20.34) = 24.08 > 24dBm
3. 11dBm + 10log (20.36) = 24.08 > 24dBm
4. 11dBm + 10log (20.37) = 24.08 > 24dBm
5. 11dBm + 10log (20.30) = 24.07 > 24dBm
6. 11dBm + 10log (20.54) = 24.12 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.78) = 22.82 < 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	19.79	19.80	190.779	22.81	24.00	Pass
40	5200	20.25	19.28	190.648	22.80	24.00	Pass
48	5240	19.95	19.31	184.165	22.65	24.00	Pass
52	5260	19.71	19.13	175.387	22.44	24.00	Pass
60	5300	19.62	19.21	174.990	22.43	24.00	Pass
64	5320	19.90	19.32	183.230	22.63	24.00	Pass
100	5500	20.01	19.20	183.407	22.63	24.00	Pass
116	5580	19.83	19.32	181.668	22.59	24.00	Pass
140	5700	19.87	19.23	180.804	22.57	24.00	Pass
144	5720 (For U-NII-2C)	18.43	18.39	147.195	21.68	22.84	Pass
144	5720 (For U-NII-3)	11.05	11.00	26.878	14.29	30.00	Pass
149	5745	26.31	26.61	885.705	29.47	30.00	Pass
157	5785	26.08	26.67	870.024	29.40	30.00	Pass
165	5825	26.54	26.31	878.380	29.44	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (20.73) = 24.16 > 24dBm
2. 11dBm + 10log (20.66) = 24.15 > 24dBm
3. 11dBm + 10log (20.67) = 24.15 > 24dBm
4. 11dBm + 10log (20.67) = 24.15 > 24dBm
5. 11dBm + 10log (20.71) = 24.16 > 24dBm
6. 11dBm + 10log (20.69) = 24.15 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.65) = 22.86 < 24dBm

Chain 1
1. 11dBm + 10log (20.56) = 24.13 > 24dBm
2. 11dBm + 10log (20.82) = 24.18 > 24dBm
3. 11dBm + 10log (20.61) = 24.14 > 24dBm
4. 11dBm + 10log (20.59) = 24.13 > 24dBm
5. 11dBm + 10log (20.66) = 24.15 > 24dBm
6. 11dBm + 10log (20.66) = 24.15 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.70) = 22.84 < 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.87	18.89	154.537	21.89	24.00	Pass
46	5230	20.79	19.79	215.230	23.33	24.00	Pass
54	5270	20.04	19.57	191.499	22.82	24.00	Pass
62	5310	19.93	19.46	186.709	22.71	24.00	Pass
102	5510	19.04	18.56	151.947	21.82	24.00	Pass
110	5550	19.96	19.42	186.582	22.71	24.00	Pass
134	5670	20.01	19.31	185.541	22.68	24.00	Pass
142	5710 (For U-NII-2C)	19.33	18.81	180.427	22.56	24.00	Pass
142	5710 (For U-NII-3)	6.58	6.04	9.558	9.80	30.00	Pass
151	5755	26.31	26.36	860.077	29.35	30.00	Pass
159	5795	26.16	26.26	835.716	29.22	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (41.93) = 27.22 > 24dBm
2. 11dBm + 10log (42.00) = 27.23 > 24dBm
3. 11dBm + 10log (41.99) = 27.23 > 24dBm
4. 11dBm + 10log (41.90) = 27.22 > 24dBm
5. 11dBm + 10log (41.95) = 27.22 > 24dBm
6. 11dBm + 10log (5725.00 - 5689.12) = 26.54 > 24dBm

Chain 1
1. 11dBm + 10log (42.23) = 27.25 > 24dBm
2. 11dBm + 10log (41.90) = 27.22 > 24dBm
3. 11dBm + 10log (41.92) = 27.22 > 24dBm
4. 11dBm + 10log (42.03) = 27.23 > 24dBm
5. 11dBm + 10log (41.80) = 27.21 > 24dBm
6. 11dBm + 10log (5725.00 - 5689.04) = 26.55 > 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	19.89	19.90	195.223	22.91	24.00	Pass
40	5200	20.36	19.39	195.539	22.91	24.00	Pass
48	5240	20.05	19.40	188.254	22.75	24.00	Pass
52	5260	19.82	19.23	179.693	22.55	24.00	Pass
60	5300	19.72	19.33	179.460	22.54	24.00	Pass
64	5320	20.01	19.42	187.729	22.74	24.00	Pass
100	5500	20.11	19.31	187.875	22.74	24.00	Pass
116	5580	19.93	19.42	185.899	22.69	24.00	Pass
140	5700	19.99	19.33	185.474	22.68	24.00	Pass
144	5720 (For U-NII-2C)	18.55	18.51	151.319	21.80	22.84	Pass
144	5720 (For U-NII-3)	11.17	11.12	27.631	14.41	30.00	Pass
149	5745	26.41	26.71	906.335	29.57	30.00	Pass
157	5785	26.18	26.77	890.289	29.50	30.00	Pass
165	5825	26.64	26.41	898.840	29.54	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (20.73) = 24.16 > 24dBm
2. 11dBm + 10log (20.66) = 24.15 > 24dBm
3. 11dBm + 10log (20.67) = 24.15 > 24dBm
4. 11dBm + 10log (20.67) = 24.15 > 24dBm
5. 11dBm + 10log (20.71) = 24.16 > 24dBm
6. 11dBm + 10log (20.69) = 24.15 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.65) = 22.86 < 24dBm

Chain 1
1. 11dBm + 10log (20.56) = 24.13 > 24dBm
2. 11dBm + 10log (20.82) = 24.18 > 24dBm
3. 11dBm + 10log (20.61) = 24.14 > 24dBm
4. 11dBm + 10log (20.59) = 24.13 > 24dBm
5. 11dBm + 10log (20.66) = 24.15 > 24dBm
6. 11dBm + 10log (20.66) = 24.15 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.70) = 22.84 < 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	18.97	18.99	158.136	21.99	24.00	Pass
46	5230	20.89	19.89	**220.243**	23.43	24.00	Pass
54	5270	20.14	19.66	**195.746**	22.92	24.00	Pass
62	5310	20.01	19.56	190.595	22.80	24.00	Pass
102	5510	19.14	18.64	155.149	21.91	24.00	Pass
110	5550	20.08	19.52	191.396	22.82	24.00	Pass
134	5670	20.11	19.41	189.862	22.78	24.00	Pass
142	5710 (For U-NII-2C)	19.43	18.93	185.030	22.67	24.00	Pass
142	5710 (For U-NII-3)	6.68	6.16	9.802	9.91	30.00	Pass
151	5755	26.41	26.46	880.110	29.45	30.00	Pass
159	5795	26.26	26.36	855.182	29.32	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (41.93) = 27.22 > 24dBm
2. 11dBm + 10log (42.00) = 27.23 > 24dBm
3. 11dBm + 10log (41.99) = 27.23 > 24dBm
4. 11dBm + 10log (41.90) = 27.22 > 24dBm
5. 11dBm + 10log (41.95) = 27.22 > 24dBm
6. 11dBm + 10log (5725.00 - 5689.12) = 26.54 > 24dBm

Chain 1
1. 11dBm + 10log (42.23) = 27.25 > 24dBm
2. 11dBm + 10log (41.90) = 27.22 > 24dBm
3. 11dBm + 10log (41.92) = 27.22 > 24dBm
4. 11dBm + 10log (42.03) = 27.23 > 24dBm
5. 11dBm + 10log (41.80) = 27.21 > 24dBm
6. 11dBm + 10log (5725.00 - 5689.04) = 26.55 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	17.82	16.58	106.033	20.25	24.00	Pass
58	5290	18.45	17.52	126.478	21.02	24.00	Pass
106	5530	18.31	17.28	121.221	20.84	24.00	Pass
122	5610	19.98	19.72	193.297	22.86	24.00	Pass
138	5690 (For U-NII-2C)	19.74	19.22	**217.922**	23.38	24.00	Pass
138	5690 (For U-NII-3)	3.59	3.03	5.265	7.21	30.00	Pass
155	5775	25.58	25.49	715.407	28.55	30.00	Pass

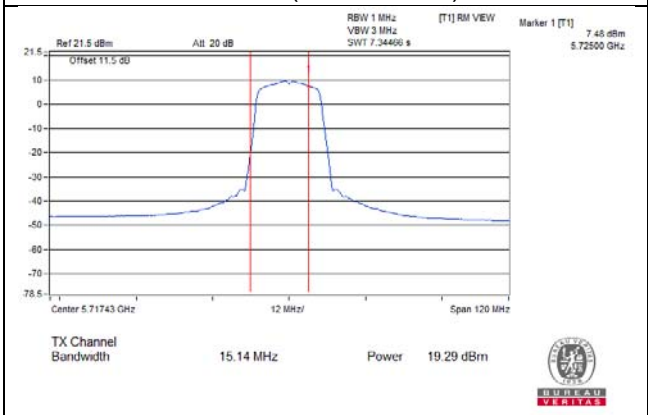
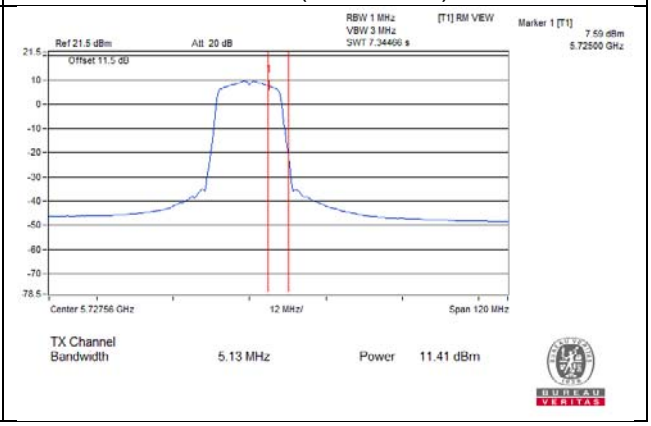
Note:
For U-NII-2A, U-NII-2C Band:
Chain 0
1. 11dBm + 10log (82.19) = 30.14 > 24dBm
2. 11dBm + 10log (82.10) = 30.14 > 24dBm
3. 11dBm + 10log (81.96) = 30.13 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.95) = 29.81 > 24dBm

Chain 1
1. 11dBm + 10log (81.99) = 30.13 > 24dBm
2. 11dBm + 10log (81.98) = 30.13 > 24dBm
3. 11dBm + 10log (82.23) = 30.15 > 24dBm
4. 11dBm + 10log (5725.00 - 5649.01) = 29.81 > 24dBm

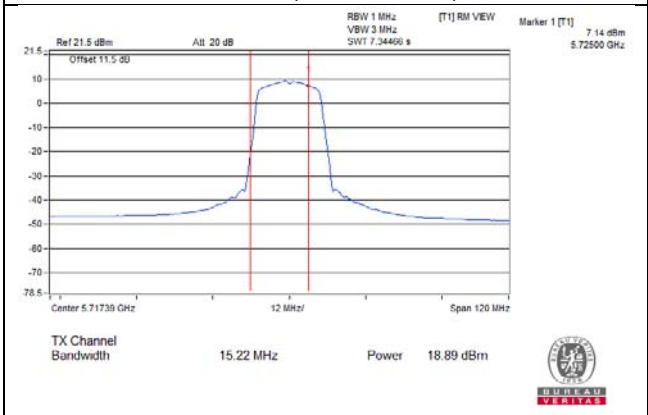
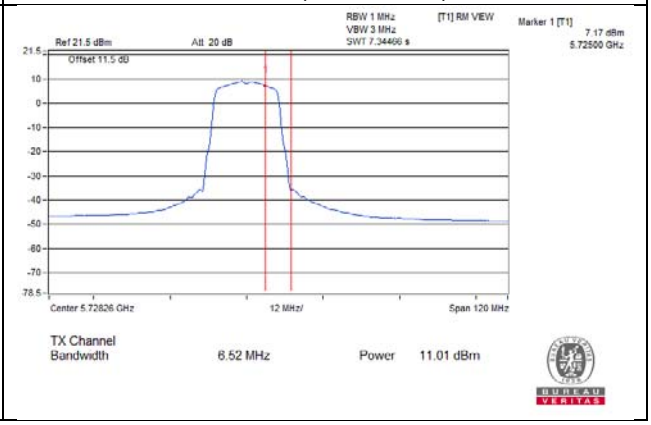
Straddle channel power plots:

802.11a

Chain 0

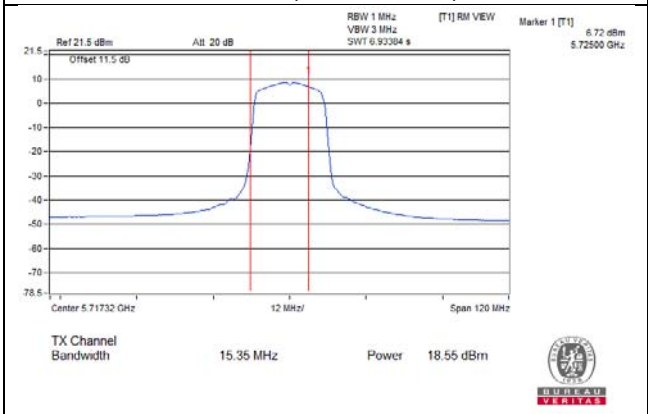
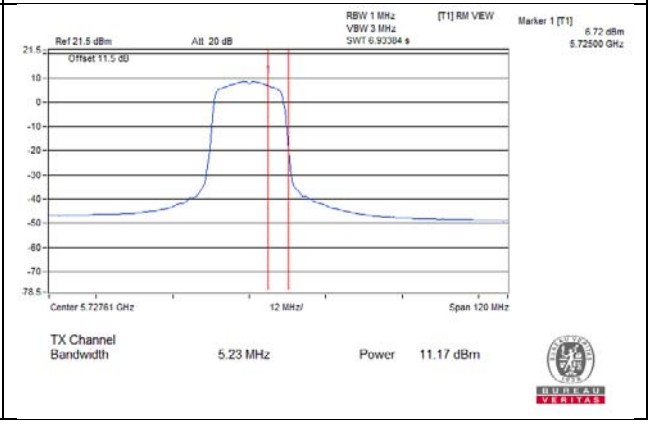
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	

Chain 1

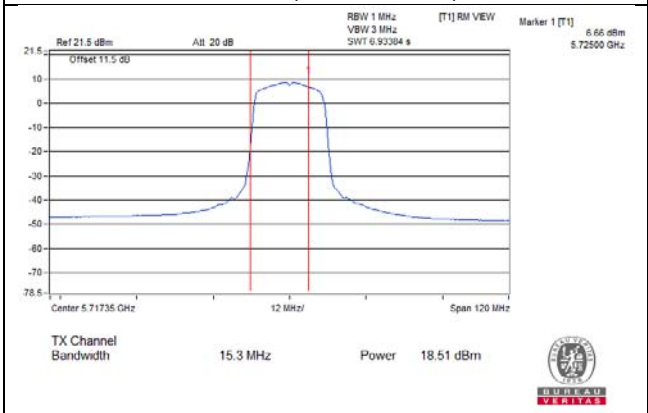
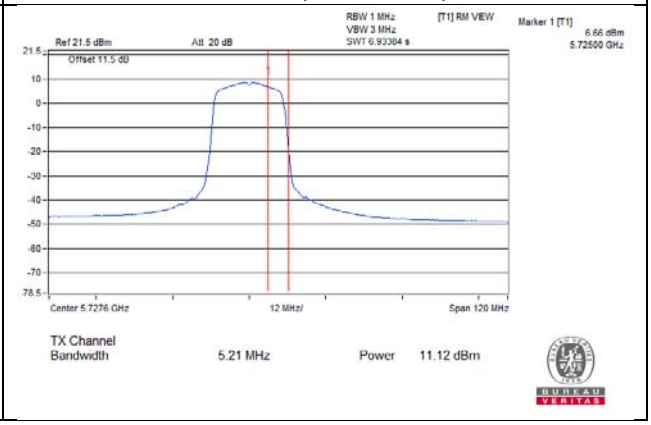
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	

802.11ac (VHT20)

Chain 0

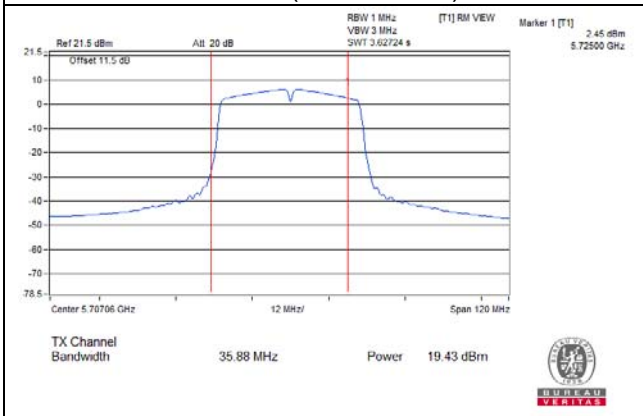
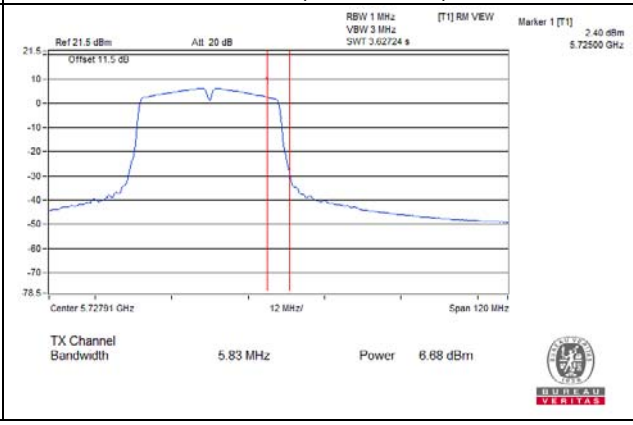
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.35 MHz Power 18.55 dBm	TX Channel Bandwidth 5.23 MHz Power 11.17 dBm

Chain 1

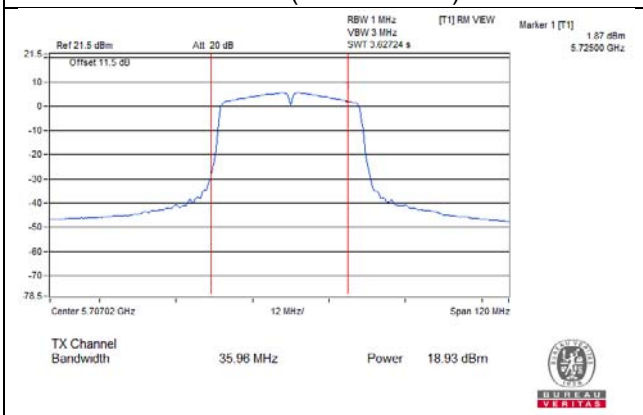
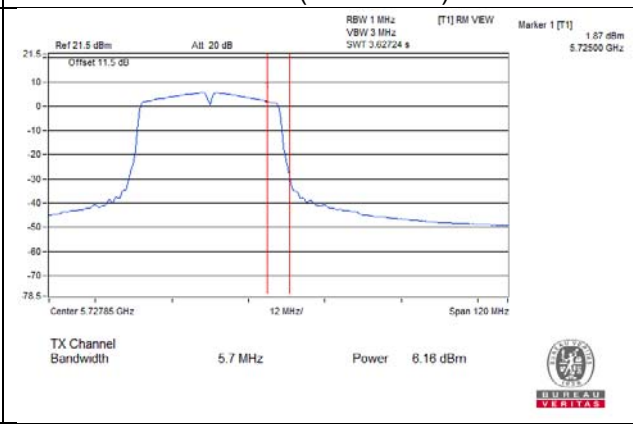
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.3 MHz Power 18.51 dBm	TX Channel Bandwidth 5.21 MHz Power 11.12 dBm

802.11ac (VHT40)

Chain 0

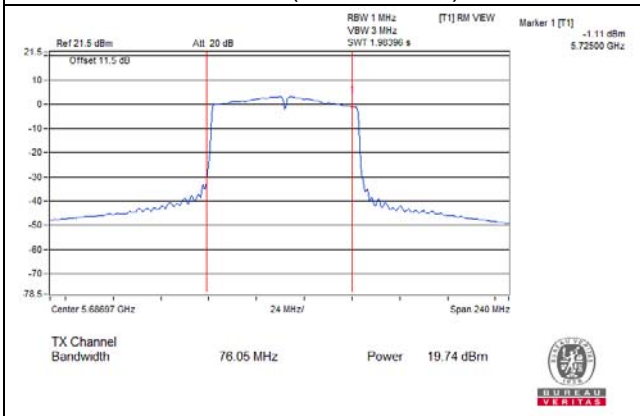
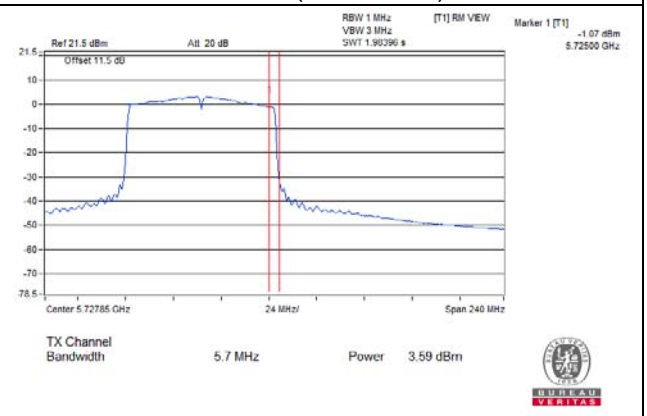
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	

Chain 1

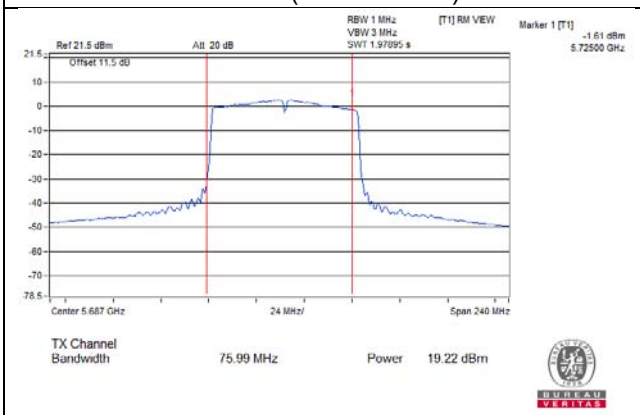
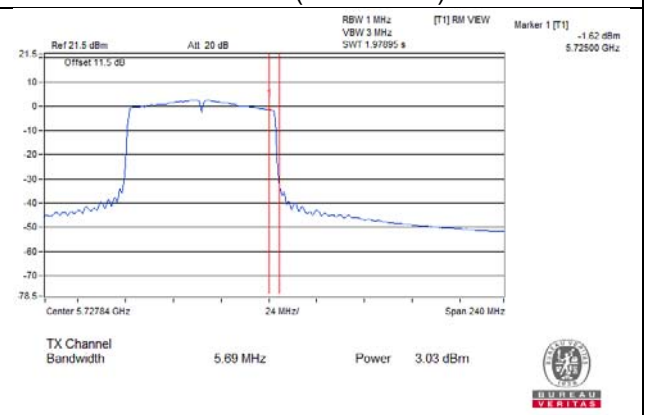
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	

802.11ac (VHT80)

Chain 0

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	

Chain 1

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.35	20.39
60	5300	20.45	20.34
64	5320	20.31	20.36
100	5500	20.46	20.37
116	5580	20.36	20.30
140	5700	20.50	20.54
144	5720 (For U-NII-2C)	15.14	15.22

For CH144 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

802.11ac (VHT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.73	20.56
60	5300	20.66	20.82
64	5320	20.67	20.61
100	5500	20.67	20.59
116	5580	20.71	20.66
140	5700	20.69	20.66
144	5720 (For U-NII-2C)	15.35	15.30

For CH144 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

802.11ac (VHT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.93	42.23
62	5310	42.00	41.90
102	5510	41.99	41.92
110	5550	41.90	42.03
134	5670	41.95	41.80
142	5710 (For U-NII-2C)	35.88	35.96

For CH142 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

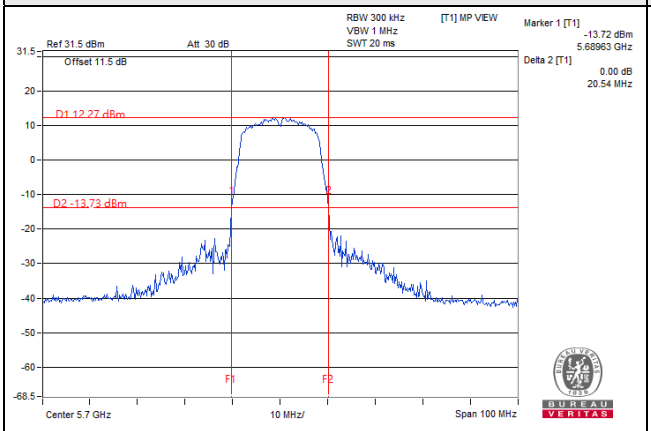
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.19	81.99
106	5530	82.10	81.98
122	5610	81.96	82.23
138	5690 (For U-NII-2C)	76.05	75.99

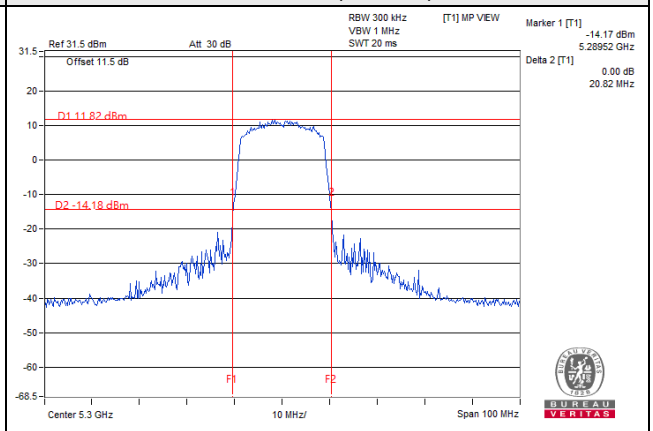
For CH138 (U-NII-2C Band): The 26dBc bandwidth below 5725MHz = 5725MHz - Marker 1

Spectrum Plot of Worst Value

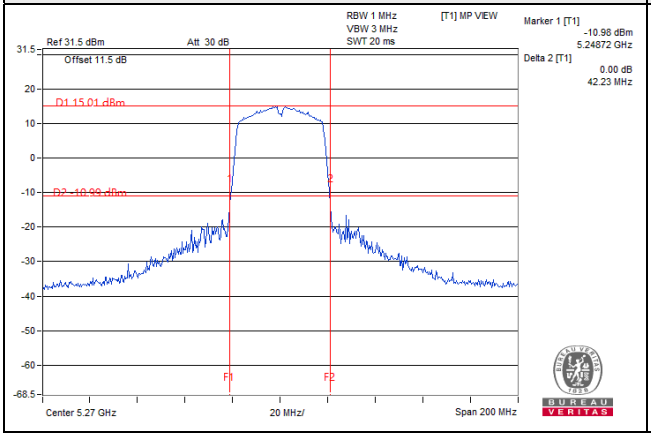
802.11a



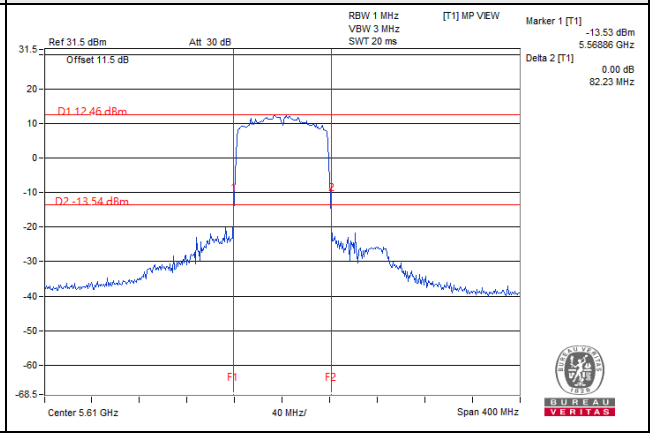
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



EUT Average Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.81	190.824
5470~5725	22.73	187.327

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.74	187.729
5470~5725	22.74	187.875

802.11ac (VHT40)

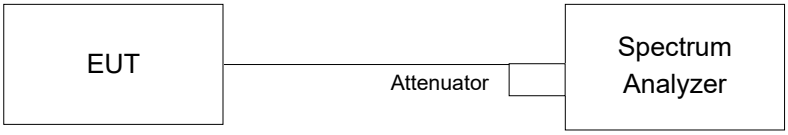
Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	22.92	195.746
5470~5725	22.82	191.396

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (dBm)	Output Power (mW)
5250~5350	21.02	126.478
5470~5725	23.38	217.922

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Result

AP Mode

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.68
40	5200	17.64	17.04
48	5240	17.88	17.16
149	5745	22.44	20.88
157	5785	21.60	18.96
165	5825	22.32	20.16

802.11ac (VHT20)

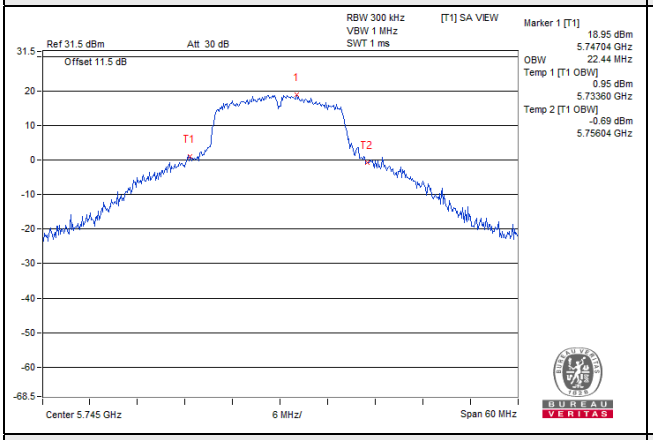
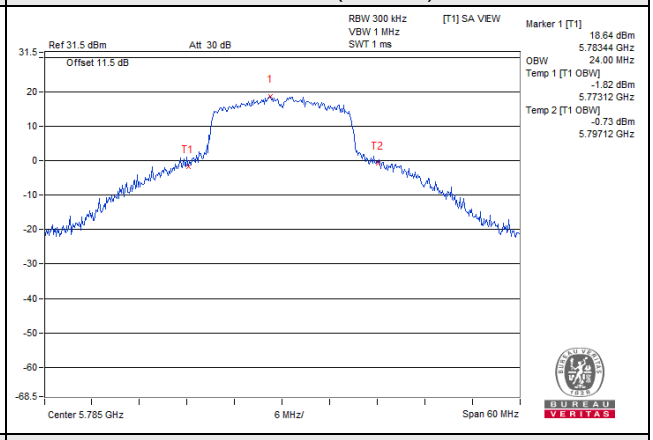
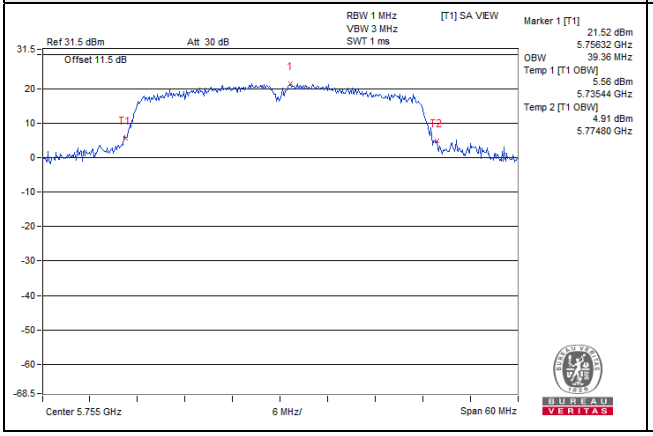
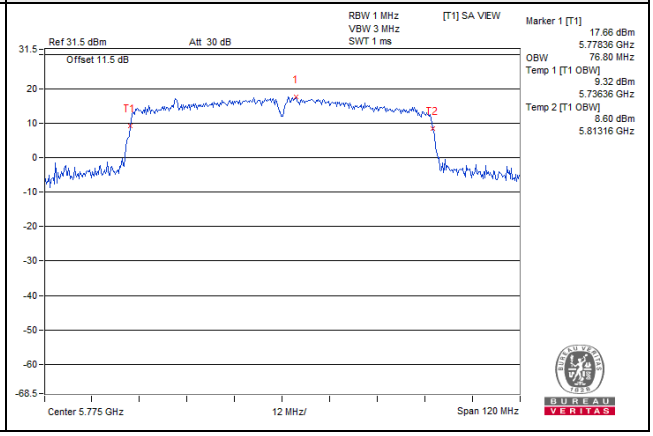
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.64	17.64
40	5200	18.00	18.00
48	5240	18.60	18.60
149	5745	20.76	20.64
157	5785	22.80	24.00
165	5825	22.32	22.08

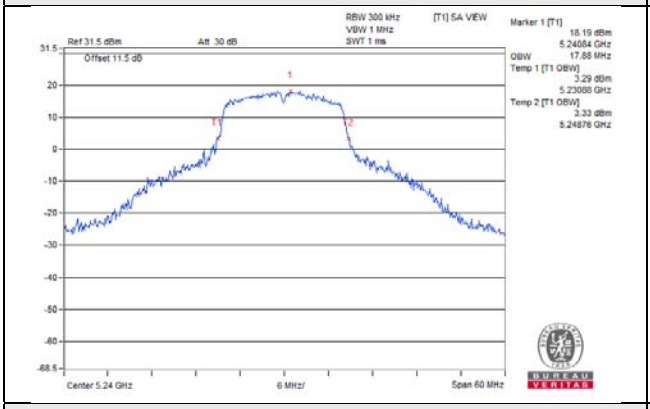
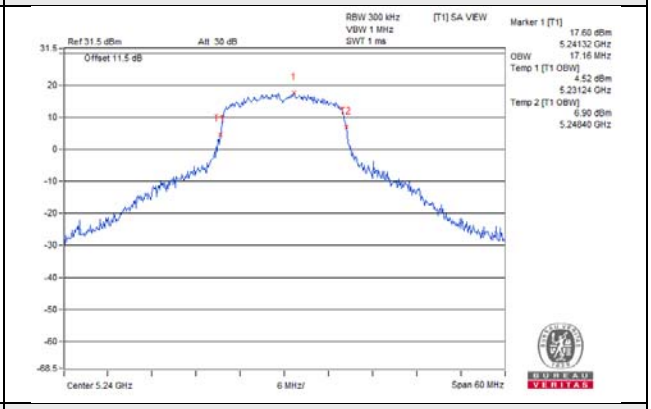
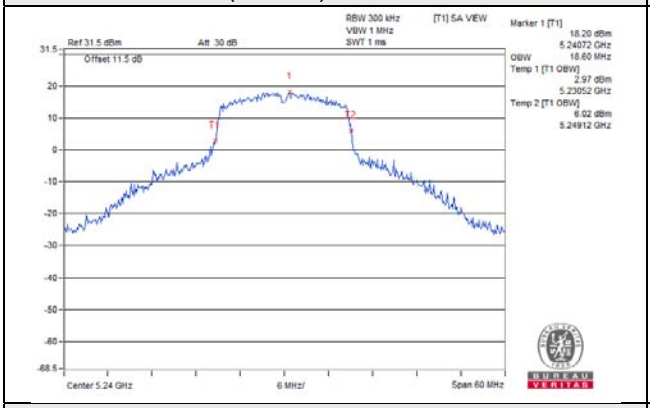
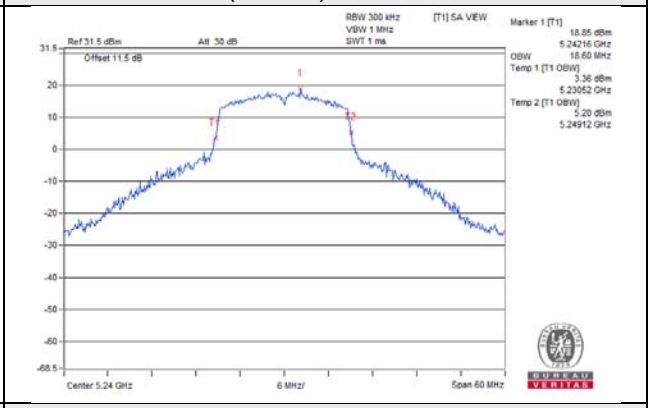
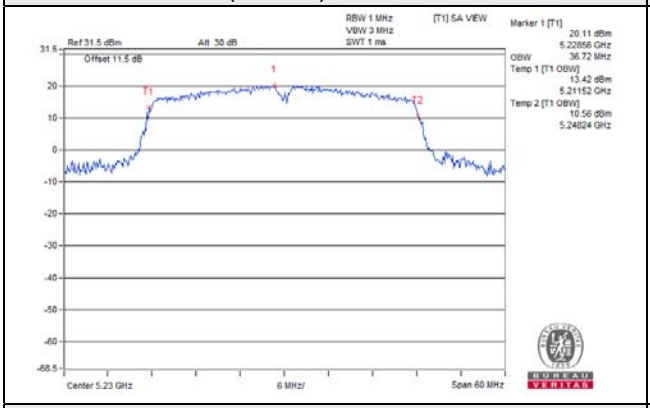
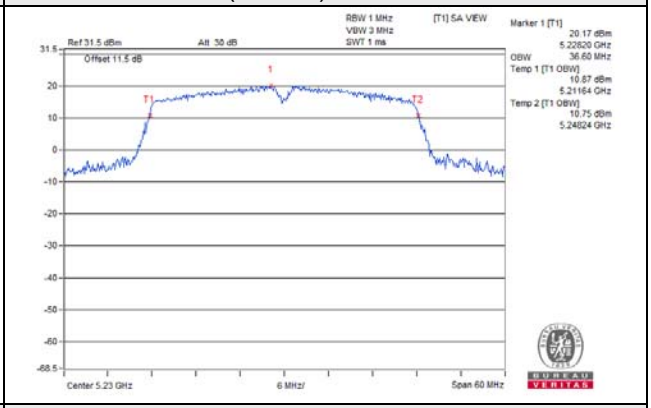
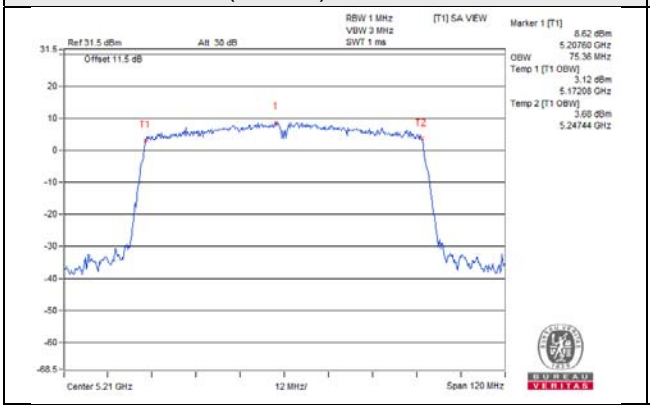
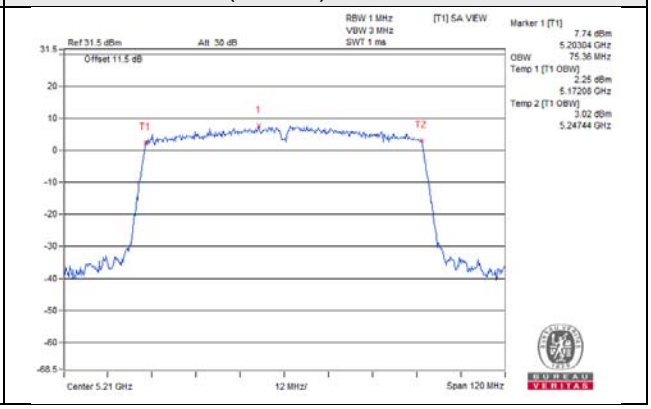
802.11ac (VHT40)

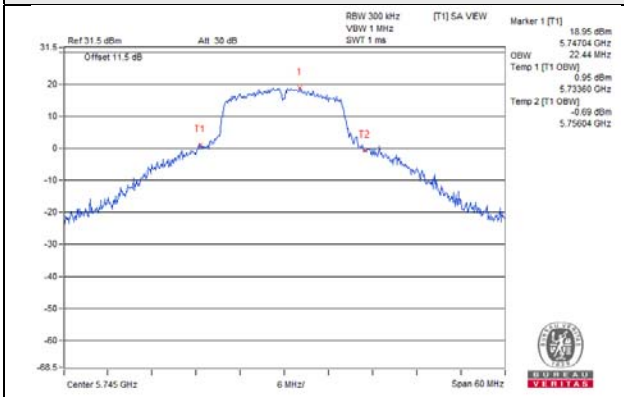
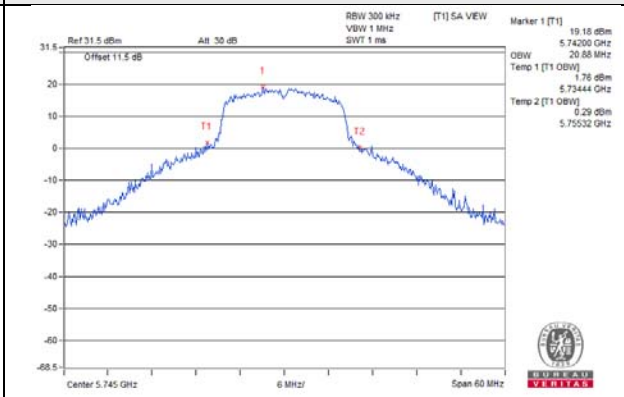
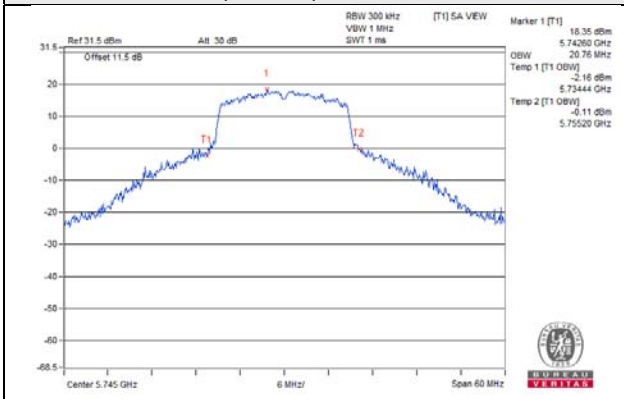
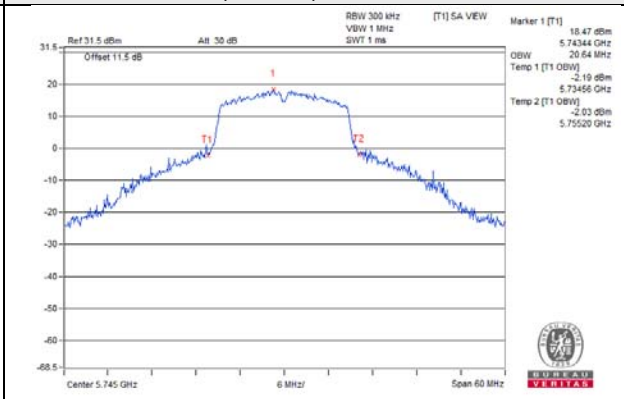
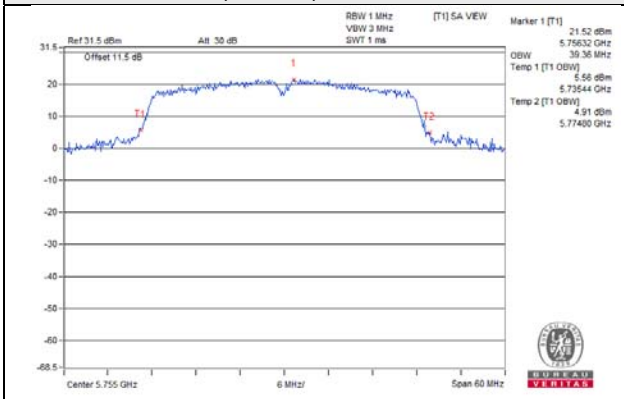
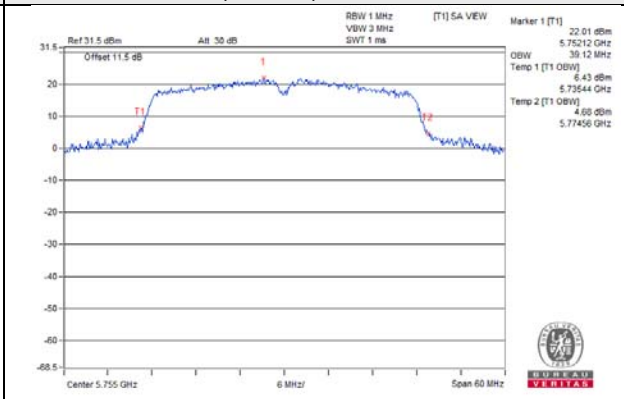
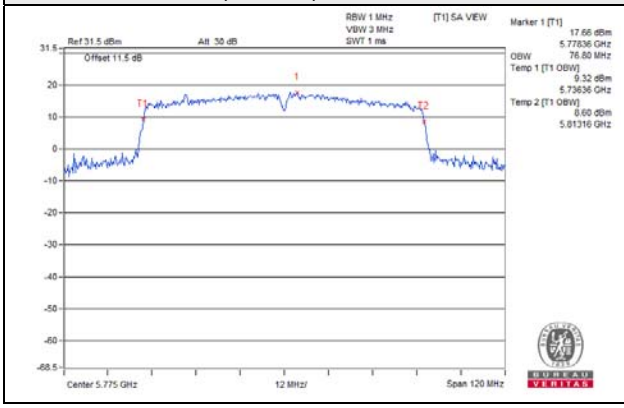
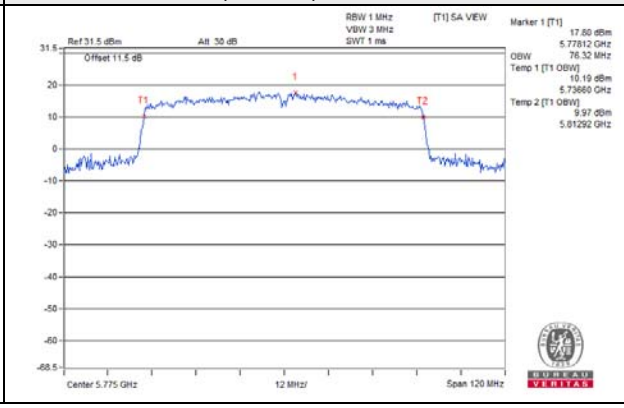
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.24	36.24
46	5230	36.72	36.60
151	5755	39.36	39.12
159	5795	39.00	38.52

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.36	75.36
155	5775	76.80	76.32

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 48	802.11a / Chain 1 / CH 48
	
802.11ac (VHT20) / Chain 0 / CH 48	802.11ac (VHT20) / Chain 1 / CH 48
	
802.11ac (VHT40) / Chain 0 / CH 46	802.11ac (VHT40) / Chain 1 / CH 46
	
802.11ac (VHT80) / Chain 0 / CH 42	802.11ac (VHT80) / Chain 1 / CH 42
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 149	802.11a / Chain 1 / CH 149
	
802.11ac (VHT20) / Chain 0 / CH 149	802.11ac (VHT20) / Chain 1 / CH 149
	
802.11ac (VHT40) / Chain 0 / CH 151	802.11ac (VHT40) / Chain 1 / CH 151
	
802.11ac (VHT80) / Chain 0 / CH 155	802.11ac (VHT80) / Chain 1 / CH 155
	

Client Mode

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	16.56	16.56
40	5200	16.56	16.56
48	5240	16.56	16.56
52	5260	16.68	16.56
60	5300	16.56	16.56
64	5320	16.56	16.56
100	5500	16.56	16.56
116	5580	16.56	16.56
140	5700	16.68	16.56
144	5720 (For U-NII-2C)	13.52	13.40
144	5720 (For U-NII-3)	3.16	3.16
149	5745	22.44	20.88
157	5785	21.60	18.96
165	5825	22.32	20.16

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ac (VHT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.76	17.52
40	5200	17.76	17.64
48	5240	17.76	17.76
52	5260	17.76	17.76
60	5300	17.52	17.64
64	5320	17.76	17.64
100	5500	17.76	17.76
116	5580	17.76	17.64
140	5700	17.64	17.64
144	5720 (For U-NII-2C)	14.00	14.00
144	5720 (For U-NII-3)	3.76	3.76
149	5745	20.76	20.64
157	5785	22.80	24.00
165	5825	22.32	22.08

For CH144 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH144 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

802.11ac (VHT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.24
46	5230	36.24	36.24
54	5270	36.24	36.24
62	5310	36.24	36.24
102	5510	36.24	36.12
110	5550	36.12	36.24
134	5670	36.12	36.24
142	5710 (For U-NII-2C)	33.24	33.24
142	5710 (For U-NII-3)	2.88	2.88
151	5755	39.36	39.12
159	5795	39.00	38.52

For CH142 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

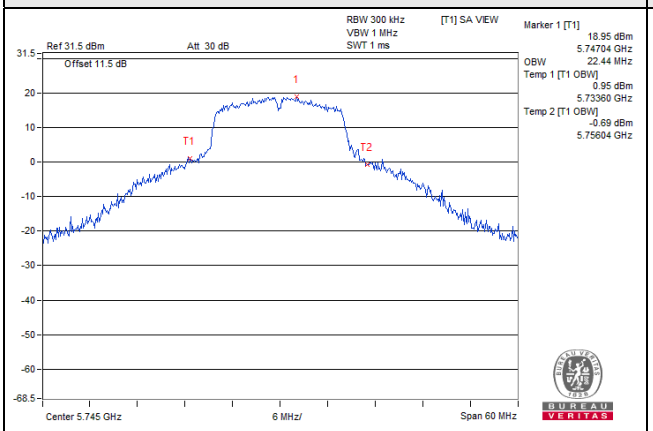
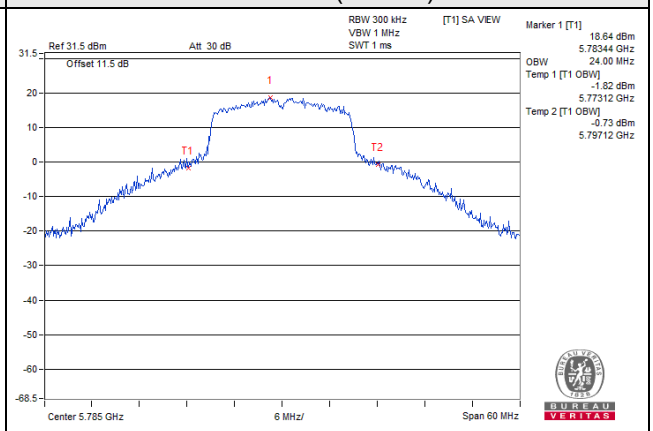
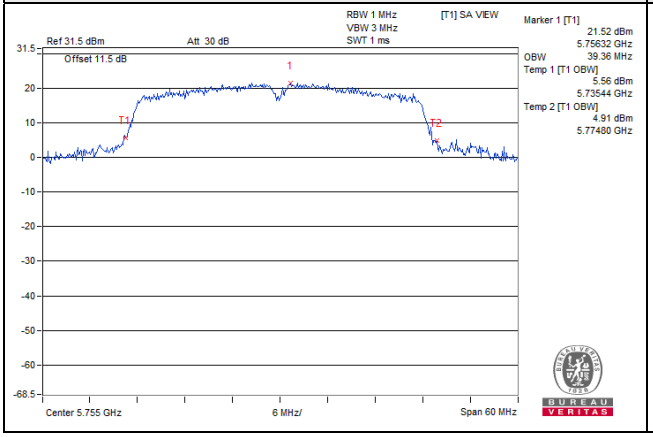
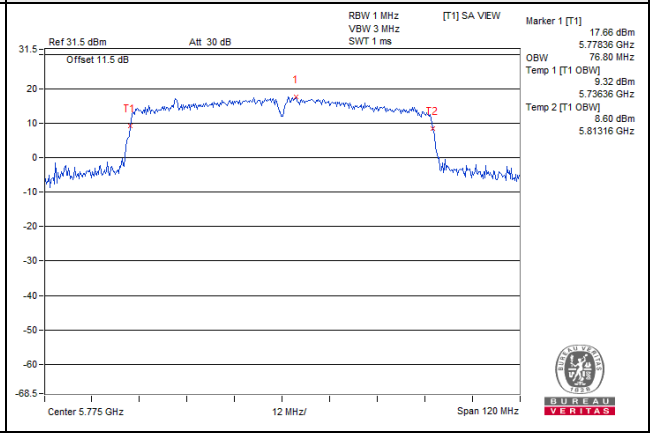
For CH142 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

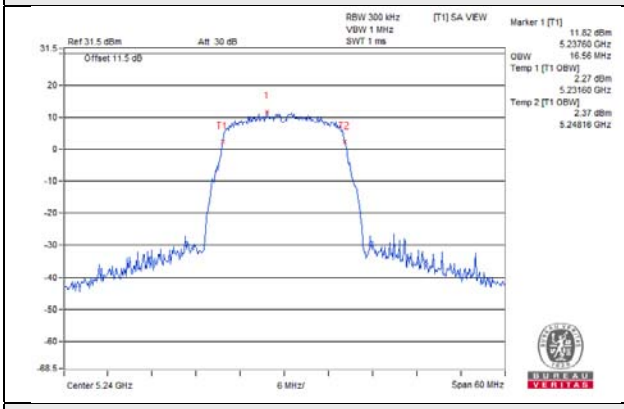
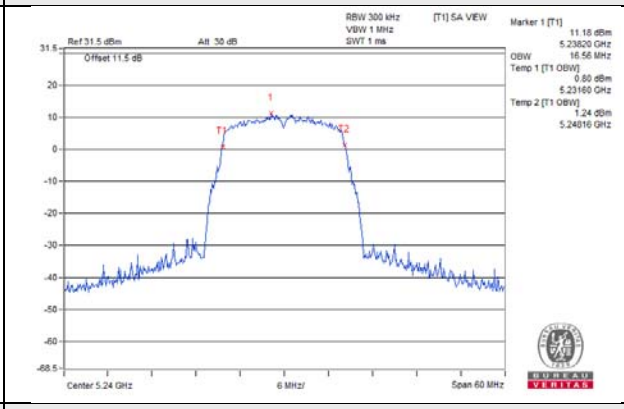
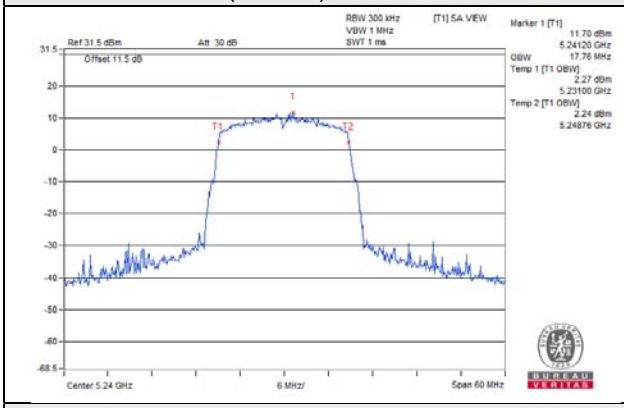
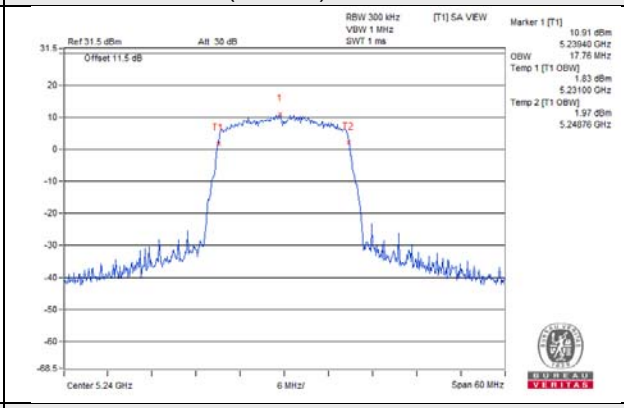
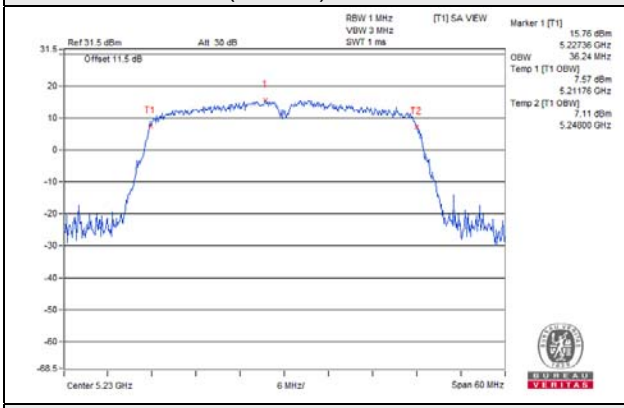
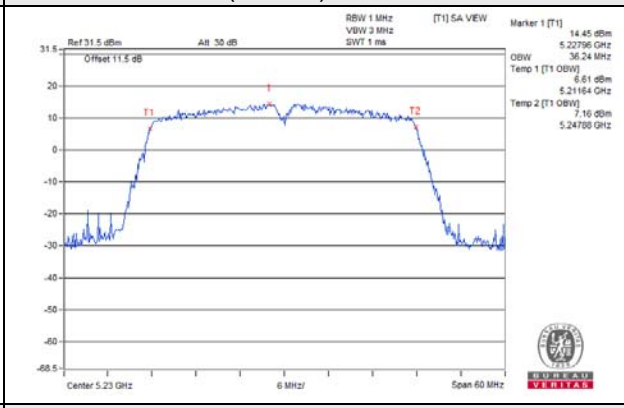
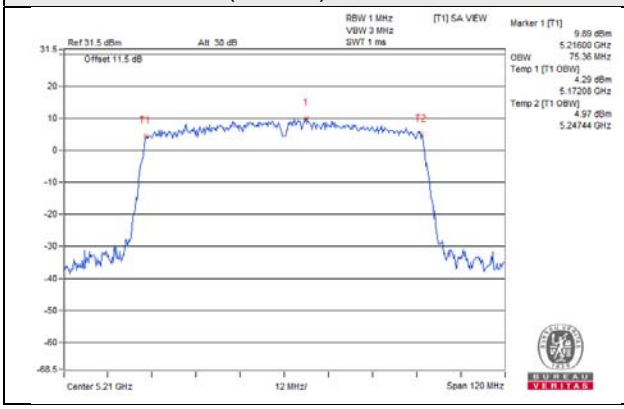
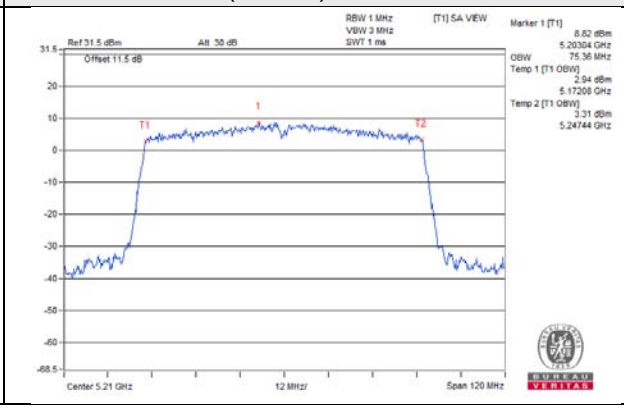
802.11ac (VHT80)

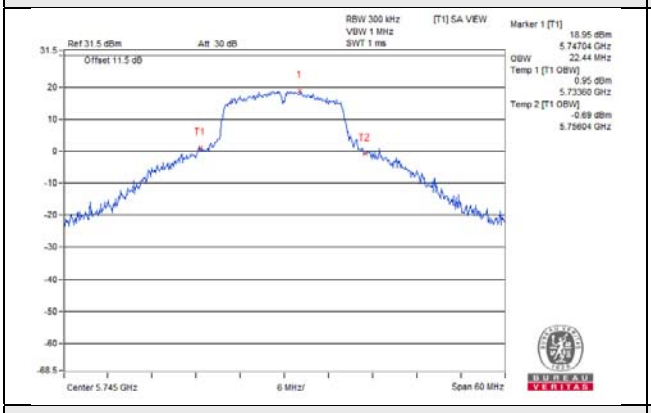
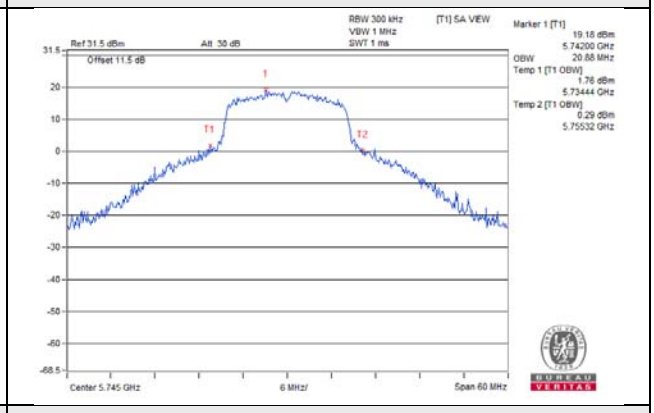
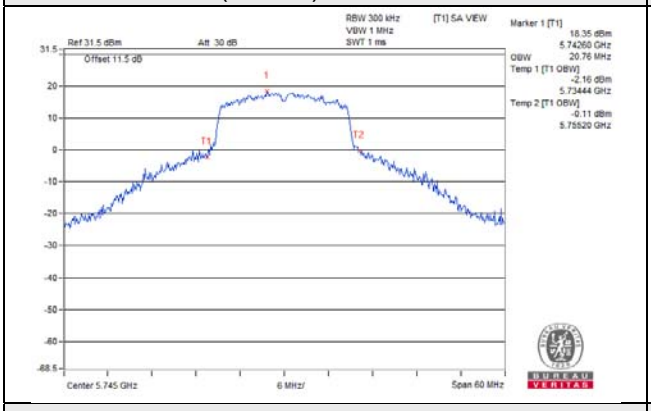
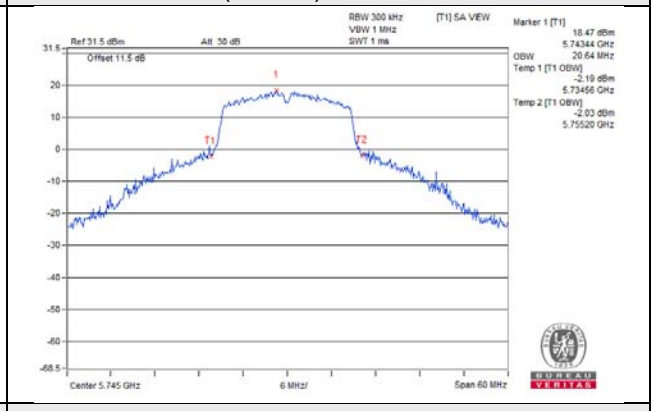
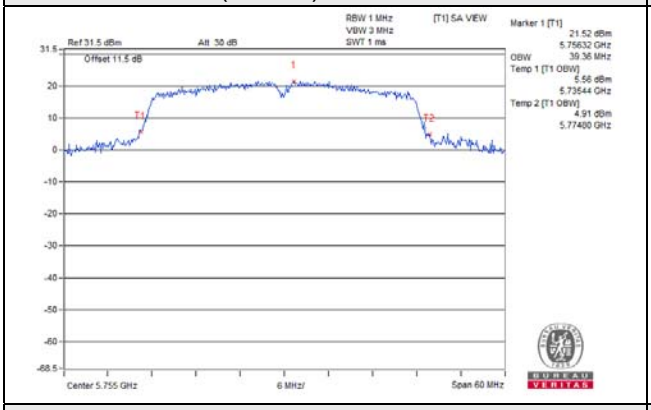
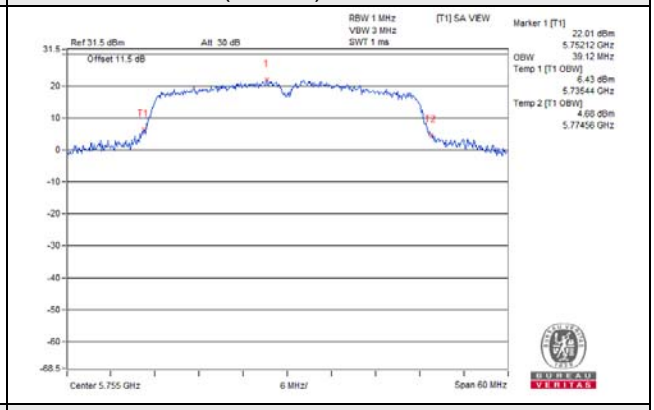
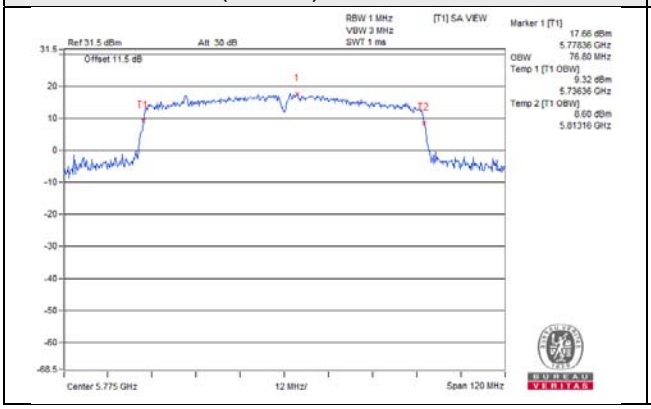
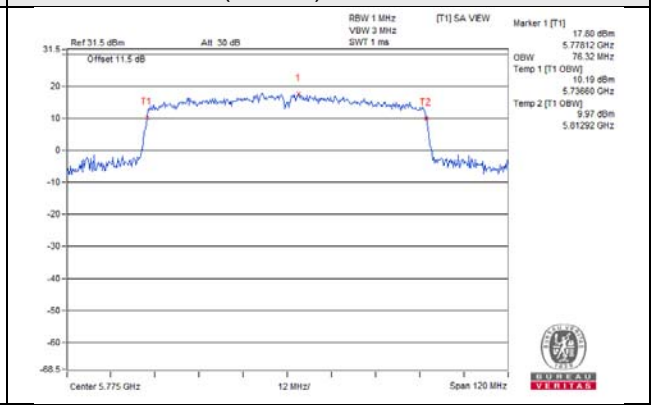
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.36	75.36
58	5290	75.36	75.36
106	5530	75.36	75.36
122	5610	75.36	75.36
138	5690 (For U-NII-2C)	72.92	72.92
138	5690 (For U-NII-3)	2.44	2.44
155	5775	76.80	76.32

For CH138 (U-NII-2C Band): The Occupied bandwidth below 5725MHz = 5725MHz - Temp 1

For CH138 (U-NII-3 Band): The Occupied bandwidth above 5725MHz = Temp 2 - 5725MHz

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 48	802.11a / Chain 1 / CH 48
	
802.11ac (VHT20) / Chain 0 / CH 48	802.11ac (VHT20) / Chain 1 / CH 48
	
802.11ac (VHT40) / Chain 0 / CH 46	802.11ac (VHT40) / Chain 1 / CH 46
	
802.11ac (VHT80) / Chain 0 / CH 42	802.11ac (VHT80) / Chain 1 / CH 42
	

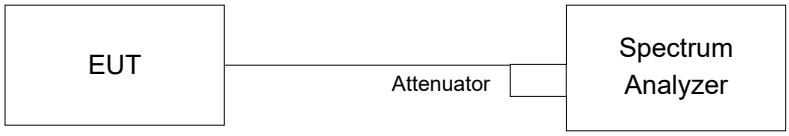
Spectrum Plot for near By DFS Band	
802.11a / Chain 0 / CH 149	802.11a / Chain 1 / CH 149
	
802.11ac (VHT20) / Chain 0 / CH 149	802.11ac (VHT20) / Chain 1 / CH 149
	
802.11ac (VHT40) / Chain 0 / CH 151	802.11ac (VHT40) / Chain 1 / CH 151
	
802.11ac (VHT80) / Chain 0 / CH 155	802.11ac (VHT80) / Chain 1 / CH 155
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Duty cycle of test signal is < 98%

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Duty cycle of test signal is < 98%

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

AP Mode

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	7.74	7.16	0.28	10.75	16.23	Pass
40	5200	12.83	12.26	0.28	15.84	16.23	Pass
48	5240	12.88	12.36	0.28	15.92	16.23	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 17 - (6.77 - 6) = 16.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	6.83	6.86	0.25	10.11	16.23	Pass
40	5200	11.40	11.53	0.25	14.73	16.23	Pass
48	5240	12.88	12.90	0.25	16.15	16.23	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 17 - (6.77 - 6) = 16.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	2.87	2.93	0.46	6.37	16.23	Pass
46	5230	8.40	8.57	0.46	11.96	16.23	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 17 - (6.77 - 6) = 16.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

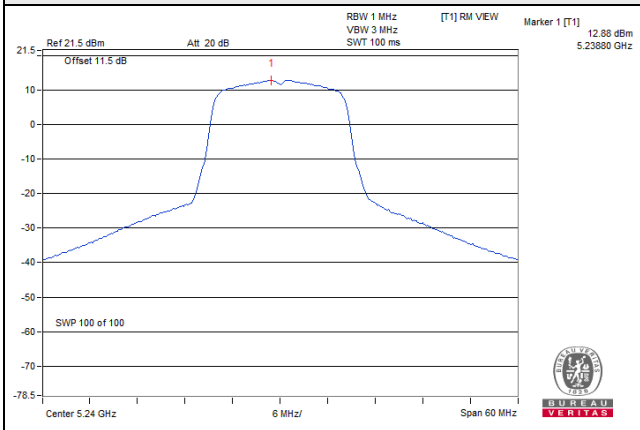
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-1.16	-2.22	0.87	2.22	16.23	Pass

Note:

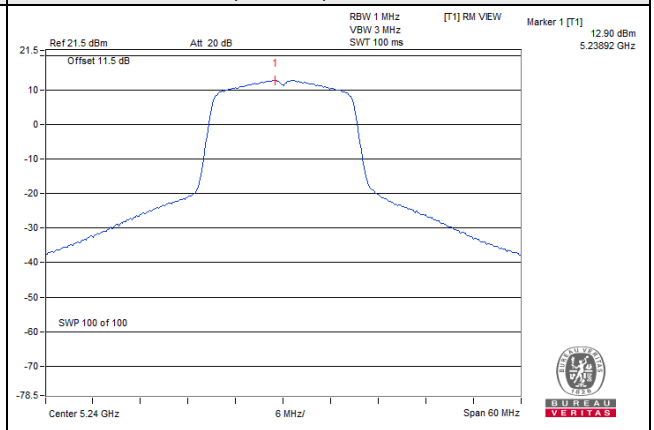
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 17 - (6.77 - 6) = 16.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

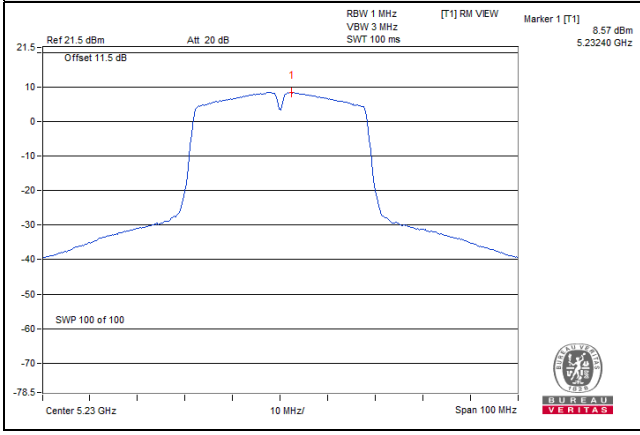
802.11a / Chain 0 / CH 48



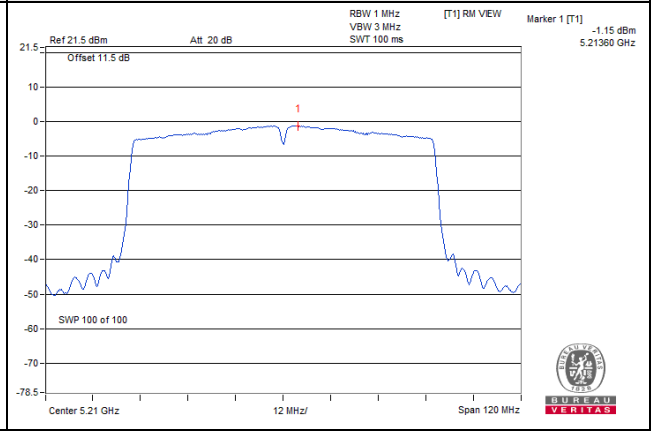
802.11ac (VHT20) / Chain 1 / CH 48



802.11ac (VHT40) / Chain 1 / CH 46



802.11ac (VHT80) / Chain 0 / CH 42



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	10.97	13.19	3.01	0.28	16.48	29.23	Pass
	157	5785	10.65	12.87	3.01	0.28	16.16	29.23	Pass
	165	5825	10.61	12.83	3.01	0.28	16.12	29.23	Pass
1	149	5745	10.63	12.85	3.01	0.28	16.14	29.23	Pass
	157	5785	10.25	12.47	3.01	0.28	15.76	29.23	Pass
	165	5825	10.31	12.53	3.01	0.28	15.82	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	10.20	12.42	3.01	0.25	15.68	29.23	Pass
	157	5785	10.53	12.75	3.01	0.25	16.01	29.23	Pass
	165	5825	10.16	12.38	3.01	0.25	15.64	29.23	Pass
1	149	5745	10.07	12.29	3.01	0.25	15.55	29.23	Pass
	157	5785	10.61	12.83	3.01	0.25	16.09	29.23	Pass
	165	5825	10.13	12.35	3.01	0.25	15.61	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

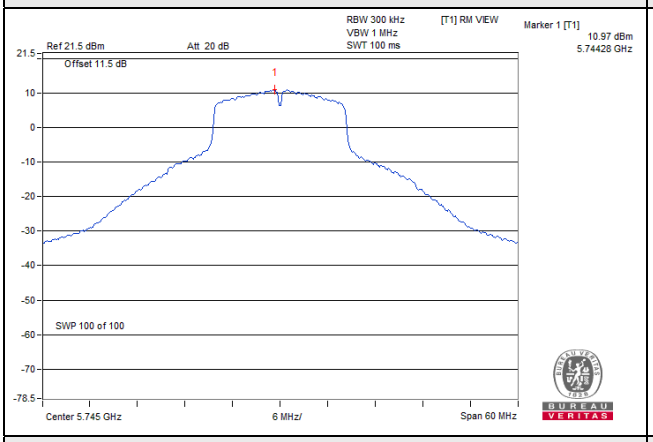
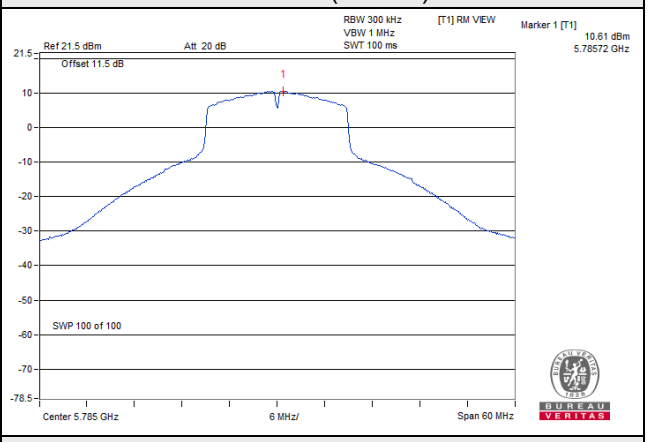
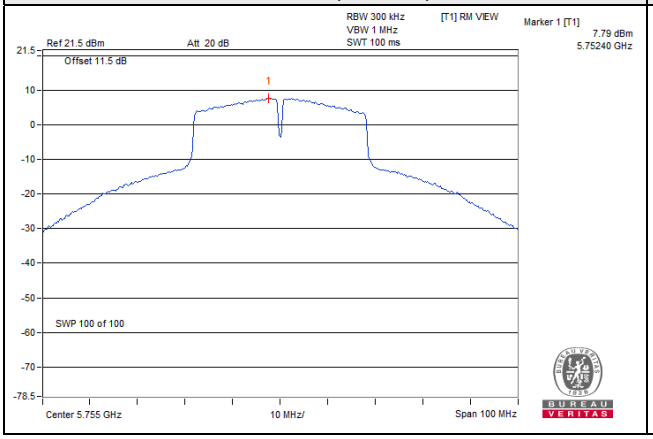
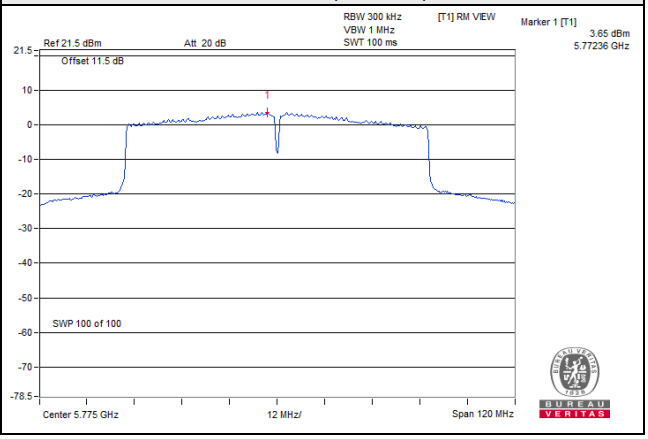
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	7.79	10.01	3.01	0.46	13.48	29.23	Pass
	159	5795	7.47	9.69	3.01	0.46	13.16	29.23	Pass
1	151	5755	7.66	9.88	3.01	0.46	13.35	29.23	Pass
	159	5795	7.40	9.62	3.01	0.46	13.09	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	3.65	5.87	3.01	0.87	9.75	29.23	Pass
1	155	5775	3.59	5.81	3.01	0.87	9.69	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Client Mode

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

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	6.95	6.16	0.25	9.83	10.23	Pass
40	5200	6.91	6.40	0.25	9.92	10.23	Pass
48	5240	7.04	6.41	0.25	10.00	10.23	Pass
52	5260	6.94	6.35	0.25	9.92	10.23	Pass
60	5300	6.77	6.57	0.25	9.93	10.23	Pass
64	5320	6.82	6.54	0.25	9.94	10.23	Pass
100	5500	6.62	6.31	0.25	9.73	10.23	Pass
116	5580	6.58	6.38	0.25	9.74	10.23	Pass
140	5700	6.32	7.01	0.25	9.94	10.23	Pass
144	5720 (For U-NII-2C)	6.72	6.93	0.25	10.09	10.23	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.77 - 6) = 10.23dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	6.88	6.76	0.26	10.09	10.23	Pass
40	5200	7.25	6.28	0.26	10.06	10.23	Pass
48	5240	7.04	6.26	0.26	9.94	10.23	Pass
52	5260	6.86	6.14	0.26	9.79	10.23	Pass
60	5300	6.90	6.21	0.26	9.84	10.23	Pass
64	5320	6.99	6.32	0.26	9.94	10.23	Pass
100	5500	7.01	6.23	0.26	9.91	10.23	Pass
116	5580	6.80	6.40	0.26	9.87	10.23	Pass
140	5700	6.88	6.25	0.26	9.85	10.23	Pass
144	5720 (For U-NII-2C)	6.50	6.33	0.26	9.69	10.23	Pass

Note:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.77 - 6) = 10.23dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

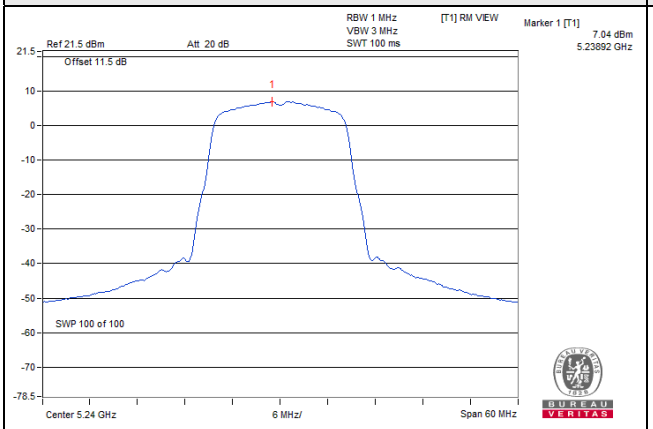
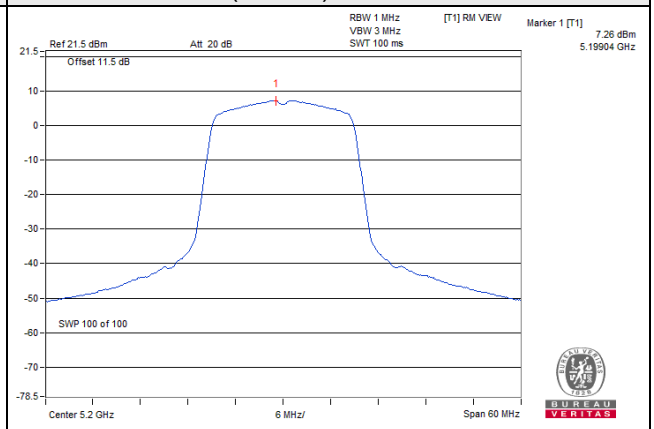
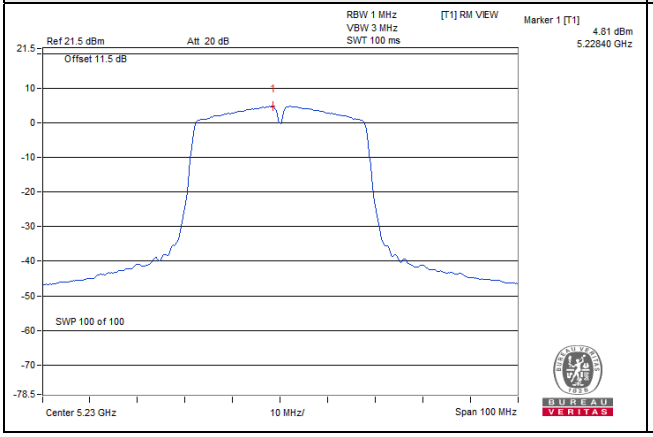
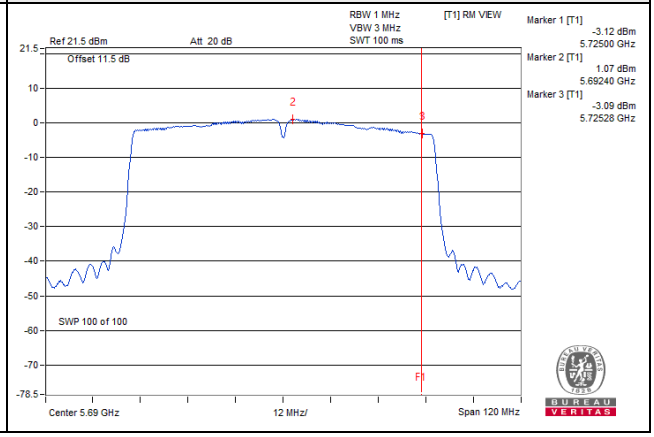
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	2.95	2.88	0.47	6.40	10.23	Pass
46	5230	4.81	3.74	0.47	7.79	10.23	Pass
54	5270	4.05	3.60	0.47	7.31	10.23	Pass
62	5310	4.00	3.30	0.47	7.14	10.23	Pass
102	5510	2.88	2.51	0.47	6.18	10.23	Pass
110	5550	3.89	3.41	0.47	7.14	10.23	Pass
134	5670	3.94	3.42	0.47	7.17	10.23	Pass
142	5710 (For U-NII-2C)	3.99	3.25	0.47	7.12	10.23	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.77 - 6) = 10.23dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-1.13	-2.50	0.88	2.13	10.23	Pass
58	5290	-0.59	-1.37	0.88	2.93	10.23	Pass
106	5530	-0.69	-1.72	0.88	2.72	10.23	Pass
122	5610	0.97	0.63	0.88	4.69	10.23	Pass
138	5690 (For U-NII-2C)	0.98	0.82	0.88	4.79	10.23	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 11 - (6.77 - 6) = 10.23dBi.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 0 / CH 48	802.11ac (VHT20) / Chain 0 / CH 40
	
802.11ac (VHT40) / Chain 0 / CH 46	802.11ac (VHT80) / Chain 0 / CH 138
	

For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-0.04	2.18	3.01	0.25	5.44	29.23	Pass
	149	5745	10.97	13.19	3.01	0.25	16.45	29.23	Pass
	157	5785	10.65	12.87	3.01	0.25	16.13	29.23	Pass
	165	5825	10.61	12.83	3.01	0.25	16.09	29.23	Pass
1	144	5720 (For U-NII-3)	-0.26	1.96	3.01	0.25	5.22	29.23	Pass
	149	5745	10.63	12.85	3.01	0.25	16.11	29.23	Pass
	157	5785	10.25	12.47	3.01	0.25	15.73	29.23	Pass
	165	5825	10.31	12.53	3.01	0.25	15.79	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144	5720 (For U-NII-3)	-0.68	1.54	3.01	0.26	4.81	29.23	Pass
	149	5745	10.20	12.42	3.01	0.26	15.69	29.23	Pass
	157	5785	10.53	12.75	3.01	0.26	16.02	29.23	Pass
	165	5825	10.16	12.38	3.01	0.26	15.65	29.23	Pass
1	144	5720 (For U-NII-3)	-0.78	1.44	3.01	0.26	4.71	29.23	Pass
	149	5745	10.07	12.29	3.01	0.26	15.56	29.23	Pass
	157	5785	10.61	12.83	3.01	0.26	16.10	29.23	Pass
	165	5825	10.13	12.35	3.01	0.26	15.62	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

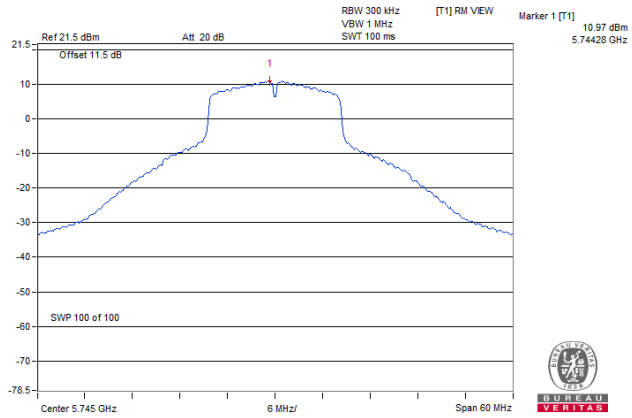
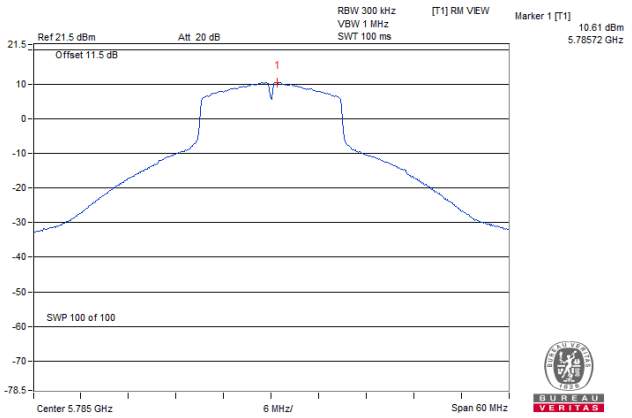
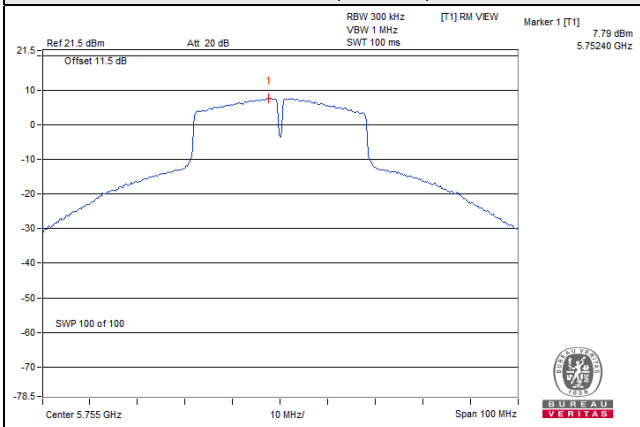
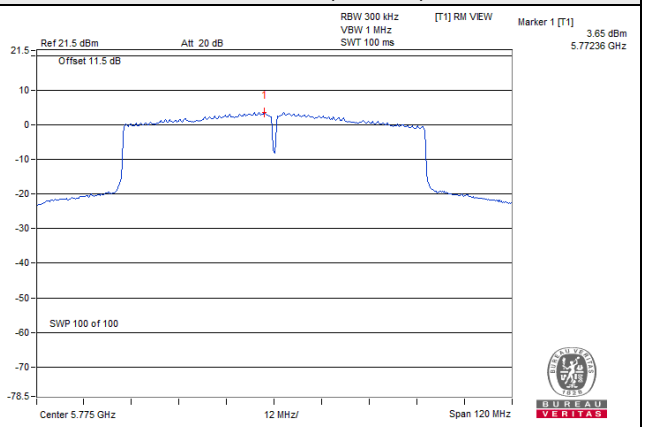
TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142	5710 (For U-NII-3)	-5.03	-2.81	3.01	0.47	0.67	29.23	Pass
	151	5755	7.79	10.01	3.01	0.47	13.49	29.23	Pass
	159	5795	7.47	9.69	3.01	0.47	13.17	29.23	Pass
1	142	5710 (For U-NII-3)	-5.30	-3.08	3.01	0.47	0.40	29.23	Pass
	151	5755	7.66	9.88	3.01	0.47	13.36	29.23	Pass
	159	5795	7.40	9.62	3.01	0.47	13.10	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138	5690 (For U-NII-3)	-7.84	-5.62	3.01	0.88	-1.73	29.23	Pass
	155	5775	3.65	5.87	3.01	0.88	9.76	29.23	Pass
1	138	5690 (For U-NII-3)	-8.41	-6.19	3.01	0.88	-2.30	29.23	Pass
	155	5775	3.59	5.81	3.01	0.88	9.70	29.23	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure value and add 10 log (N_{ANT}) dB.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2$] = 6.77dBi > 6dBi, so the power density limit shall be reduced to 30 - (6.77 - 6) = 29.23dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

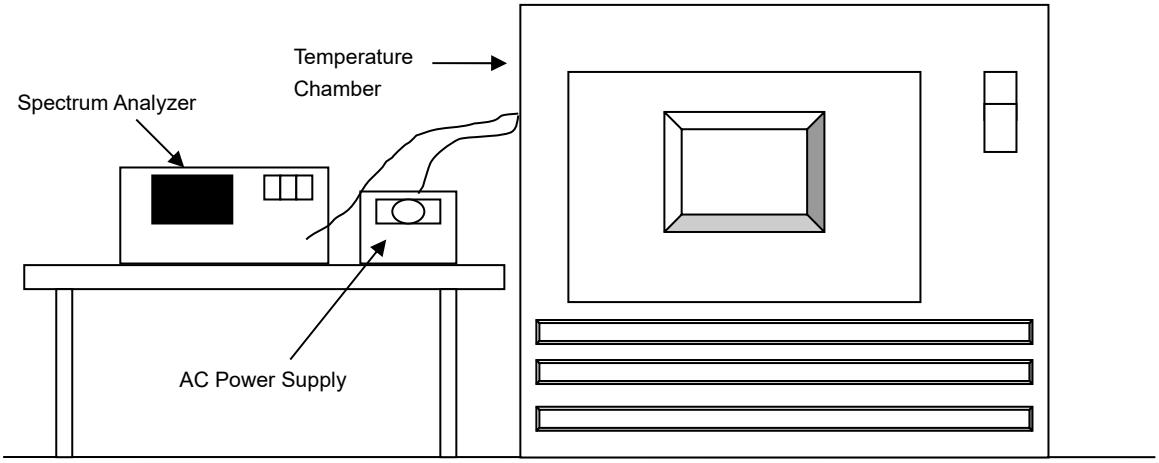
Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
Standard Temperature And Humidity Chamber TERCHY	HRM-120RF	931022	Jan. 03, 2022	Jan. 02, 2023
Digital Multimeter Fluke	87-III	70360755	Jul. 08, 2021	Jul. 07, 2022
AC Power Supply Extech	CFW-105	E000603	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. 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.

e. Repeat step d with every 10 degrees reduction until the lowest temperature achieved.

f. 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

AP Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
49	120	5179.9811	Pass	5179.9798	Pass	5179.9825	Pass	5179.9813	Pass
40	120	5179.9914	Pass	5179.9883	Pass	5179.9897	Pass	5179.988	Pass
30	120	5180.0116	Pass	5180.011	Pass	5180.0114	Pass	5180.0103	Pass
20	120	5180.009	Pass	5180.0105	Pass	5180.0069	Pass	5180.0075	Pass
10	120	5180.0028	Pass	5180.0029	Pass	5180.0044	Pass	5180.0034	Pass
0	120	5180.0126	Pass	5180.0085	Pass	5180.0096	Pass	5180.0079	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0029	Pass	5180.0054	Pass	5180.0037	Pass	5180.0026	Pass
	120	5180.009	Pass	5180.0105	Pass	5180.0069	Pass	5180.0075	Pass
	102	5180.0129	Pass	5180.0154	Pass	5180.0122	Pass	5180.0115	Pass

Client Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
49	120	5179.9772	Pass	5179.9743	Pass	5179.9751	Pass	5179.974	Pass
40	120	5180.022	Pass	5180.021	Pass	5180.0211	Pass	5180.0244	Pass
30	120	5179.9761	Pass	5179.9748	Pass	5179.9781	Pass	5179.976	Pass
20	120	5180.003	Pass	5180.0024	Pass	5180.002	Pass	5180.0018	Pass
10	120	5179.9824	Pass	5179.981	Pass	5179.9801	Pass	5179.9809	Pass
0	120	5180.0204	Pass	5180.0221	Pass	5180.0214	Pass	5180.0208	Pass

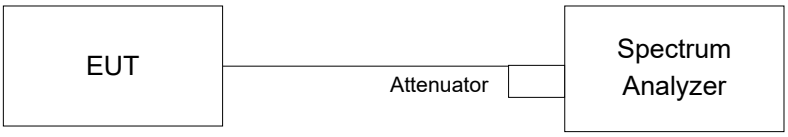
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.995	Pass	5179.9984	Pass	5179.9952	Pass	5179.9956	Pass
	120	5180.003	Pass	5180.0024	Pass	5180.002	Pass	5180.0018	Pass
	102	5180.0123	Pass	5180.0119	Pass	5180.0092	Pass	5180.0107	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

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

AP Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.17	15.17	0.50	Pass
157	5785	15.19	15.20	0.50	Pass
165	5825	15.18	15.17	0.50	Pass

802.11ac (VHT20)

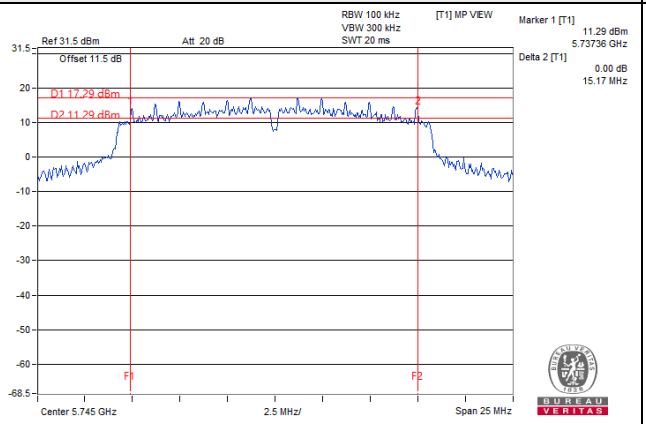
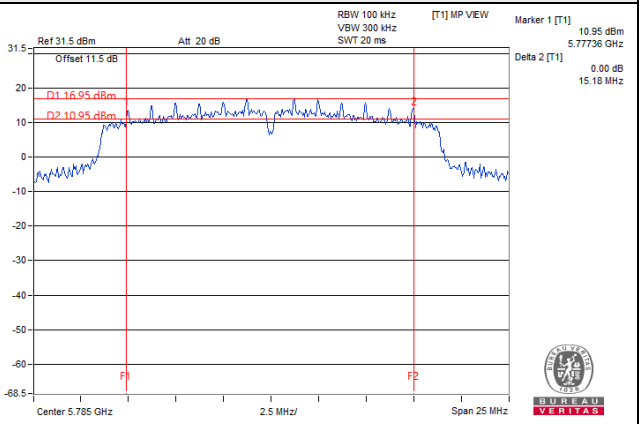
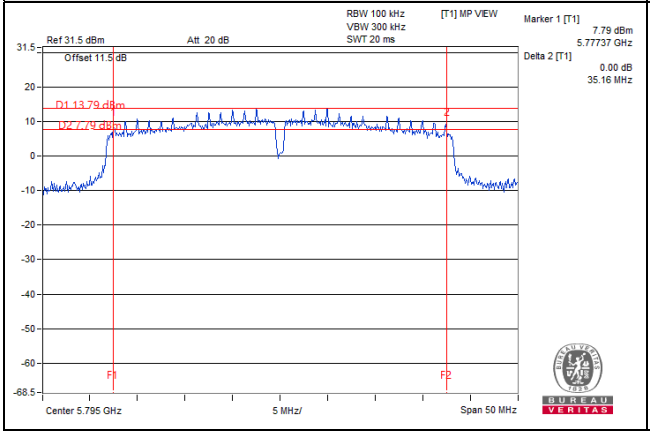
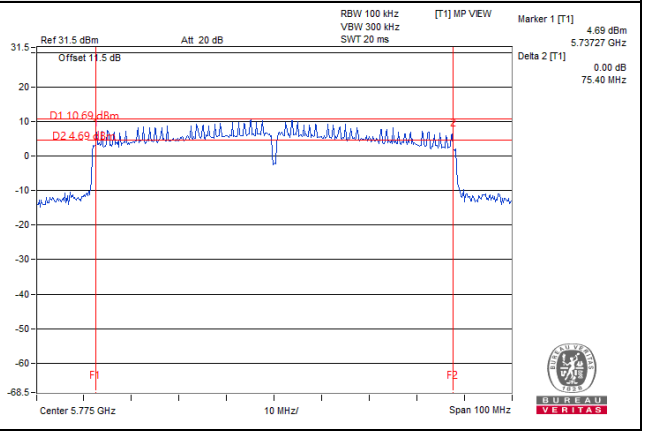
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	15.19	15.19	0.50	Pass
157	5785	15.18	15.18	0.50	Pass
165	5825	15.19	15.20	0.50	Pass

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.16	35.18	0.50	Pass
159	5795	35.16	35.18	0.50	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
155	5775	75.40	75.40	0.50	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

Client Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (For U-NII-3)	2.53	2.53	0.50	Pass
149	5745	15.17	15.17	0.50	Pass
157	5785	15.19	15.20	0.50	Pass
165	5825	15.18	15.17	0.50	Pass

For CH144 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (For U-NII-3)	2.53	2.53	0.50	Pass
149	5745	15.19	15.19	0.50	Pass
157	5785	15.18	15.18	0.50	Pass
165	5825	15.19	15.20	0.50	Pass

For CH144 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ac (VHT40)

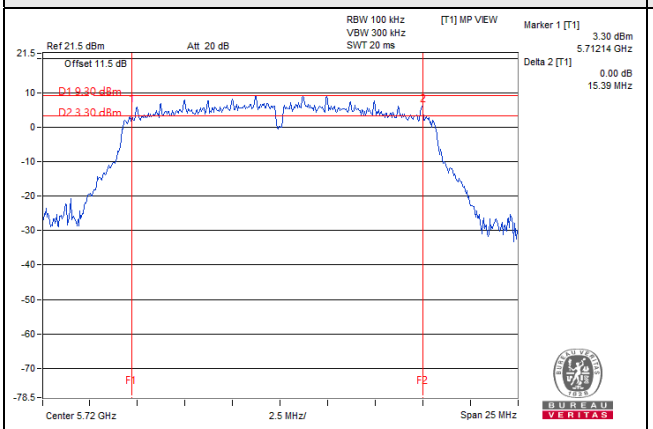
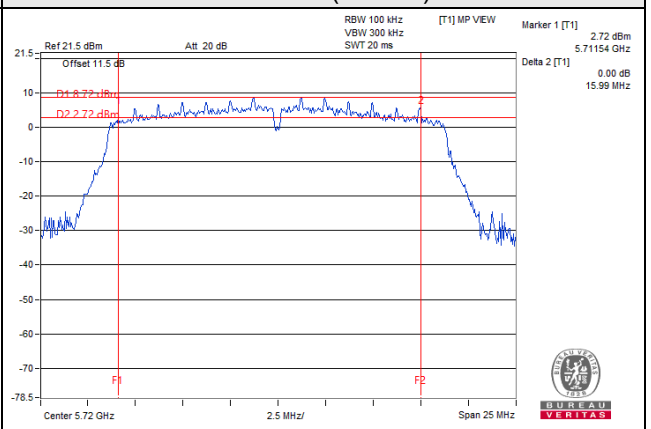
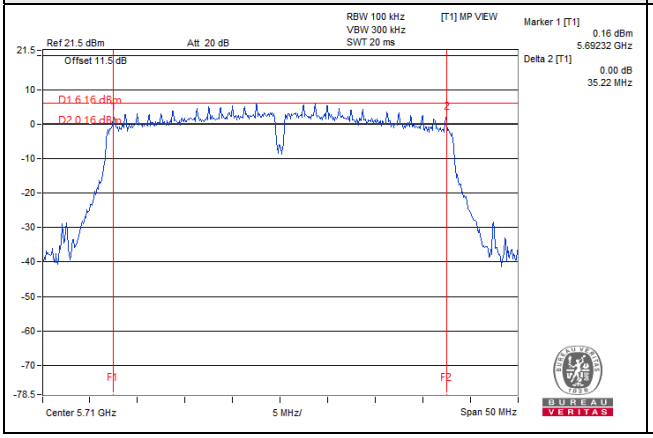
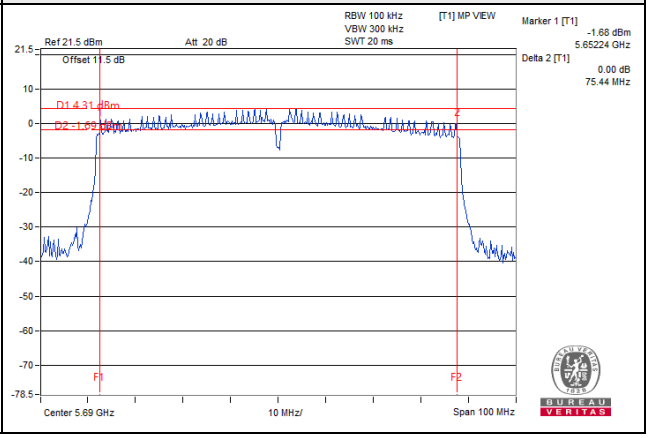
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (For U-NII-3)	2.55	2.54	0.50	Pass
151	5755	35.16	35.18	0.50	Pass
159	5795	35.16	35.18	0.50	Pass

For CH142 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (For U-NII-3)	2.68	2.68	0.50	Pass
155	5775	75.40	75.40	0.50	Pass

For CH138 (U-NII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value	
802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	802.11ac (VHT80)
	

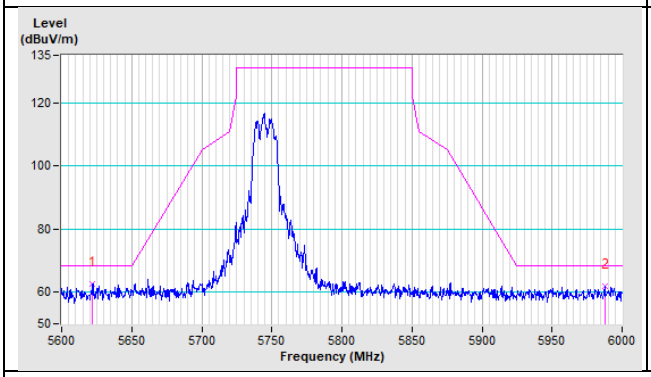
5 Pictures of Test Arrangements

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

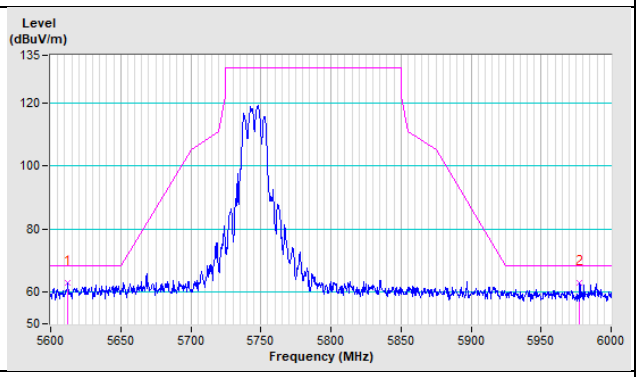
Annex A - Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

802.11a CH 149：5745 MHz

Horizontal

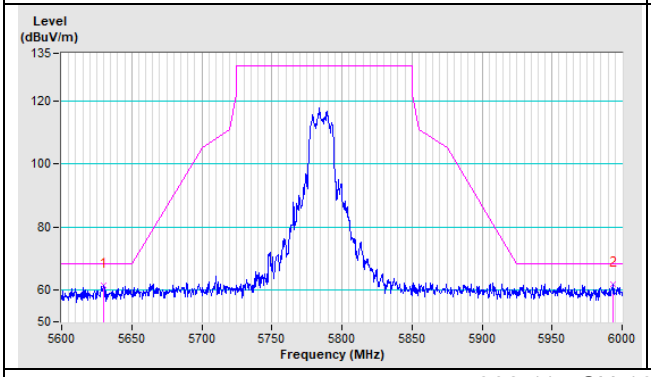


Vertical

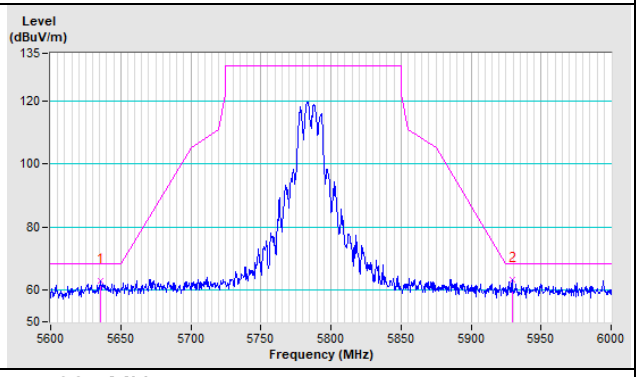


802.11a CH 157：5785 MHz

Horizontal

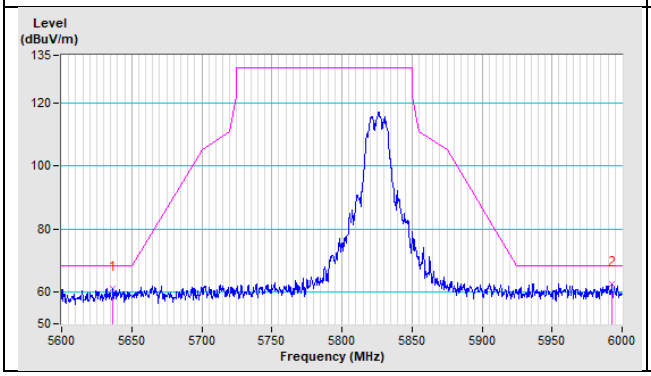


Vertical

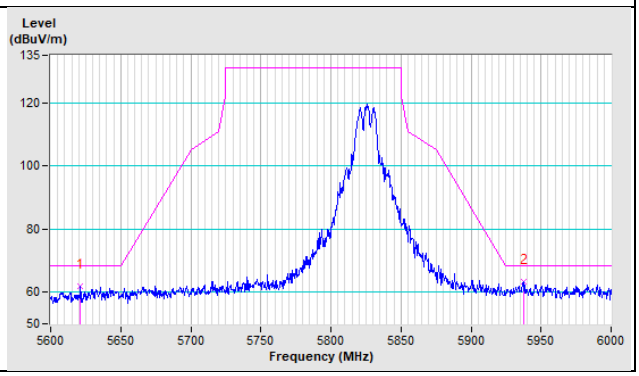


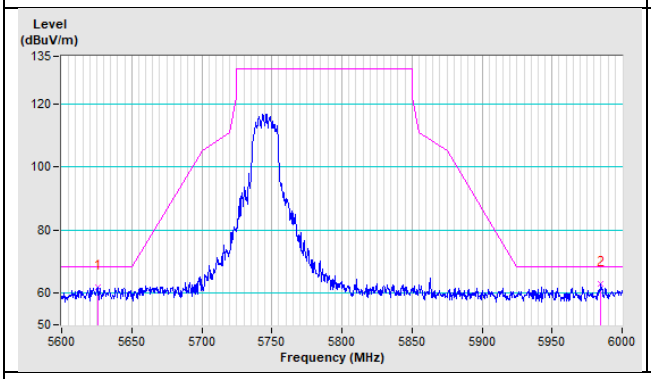
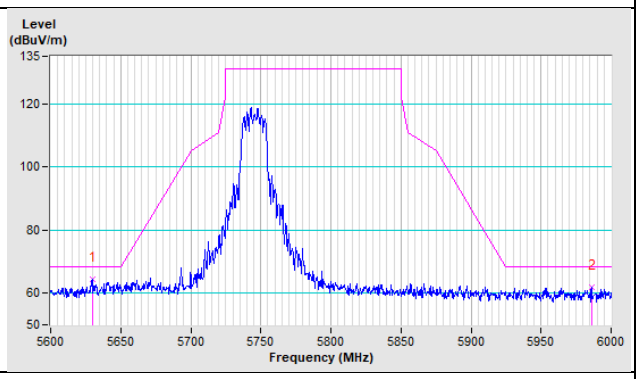
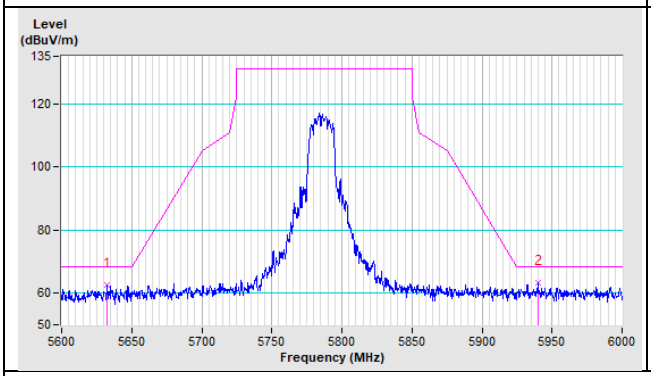
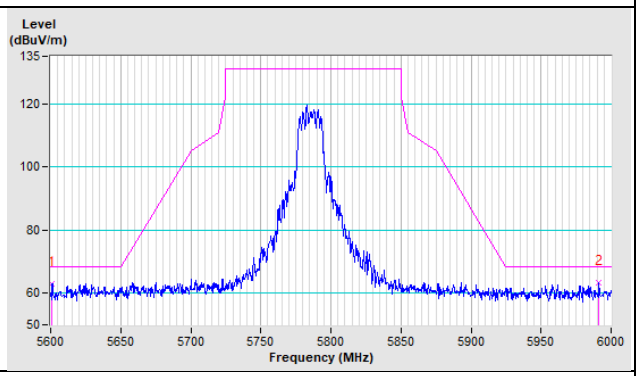
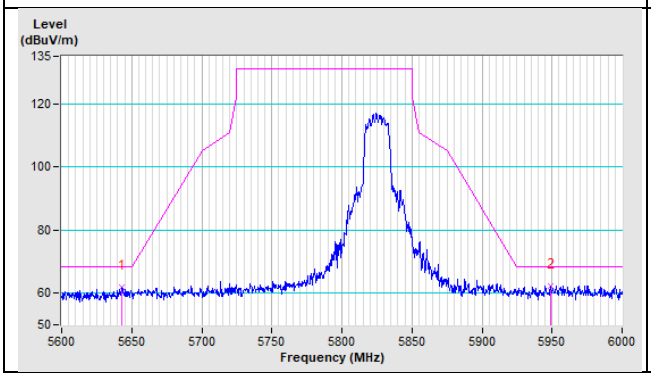
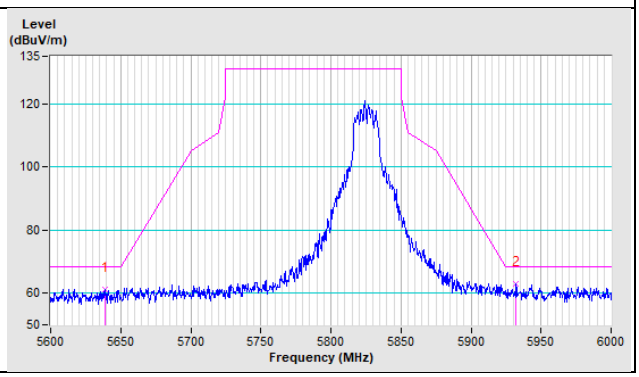
802.11a CH 165：5825 MHz

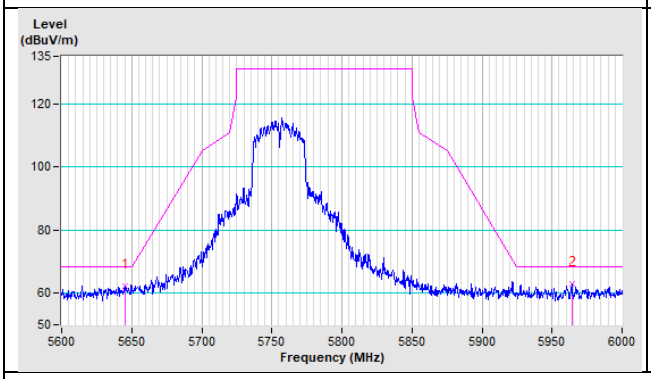
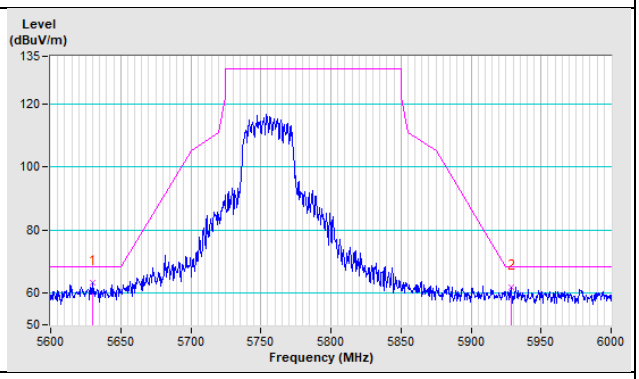
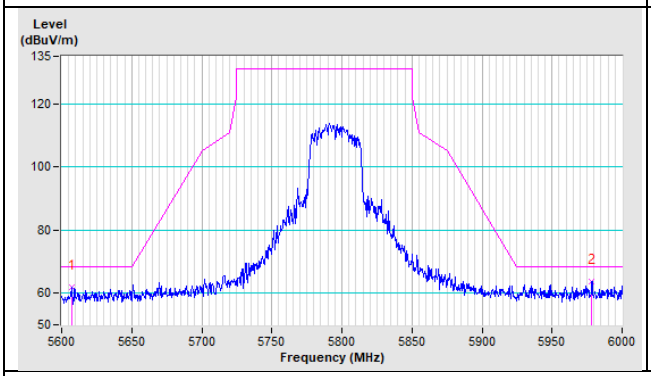
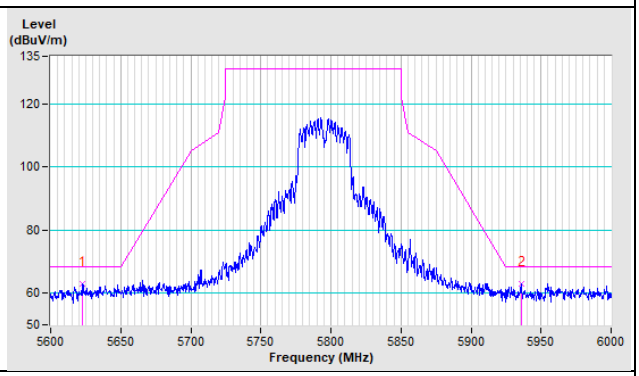
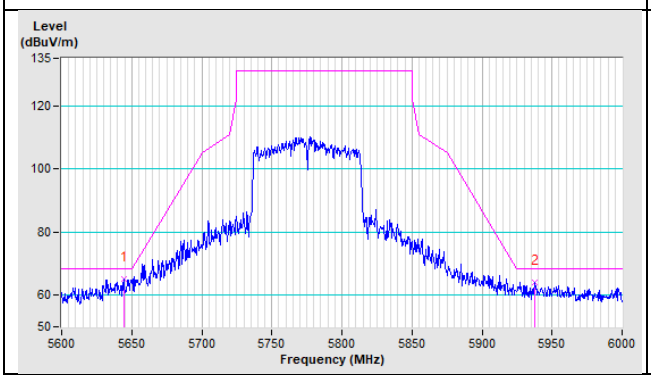
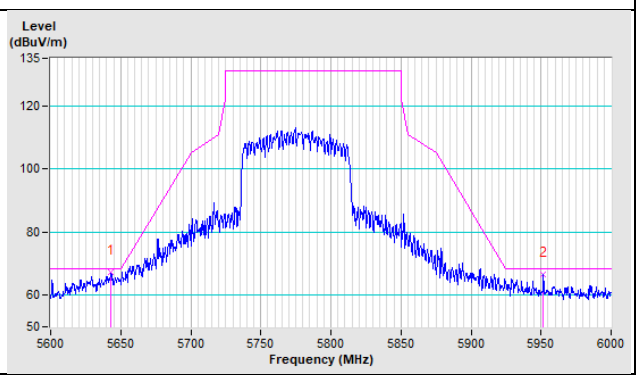
Horizontal



Vertical



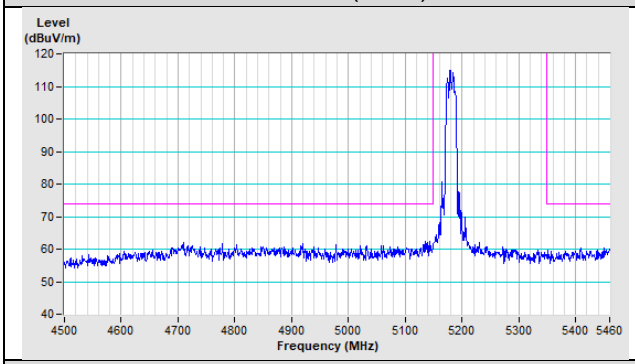
802.11ac (VHT20) CH 149：5745 MHz	
Horizontal	Vertical
	
802.11ac (VHT20) CH 157：5785 MHz	
Horizontal	Vertical
	
802.11ac (VHT20) CH 165：5825 MHz	
Horizontal	Vertical
	

802.11ac (VHT40) CH 151：5755 MHz	
Horizontal	Vertical
	
802.11ac (VHT40) CH 159：5795 MHz	
Horizontal	Vertical
	
802.11ac (VHT80) CH 155：5775 MHz	
Horizontal	Vertical
	

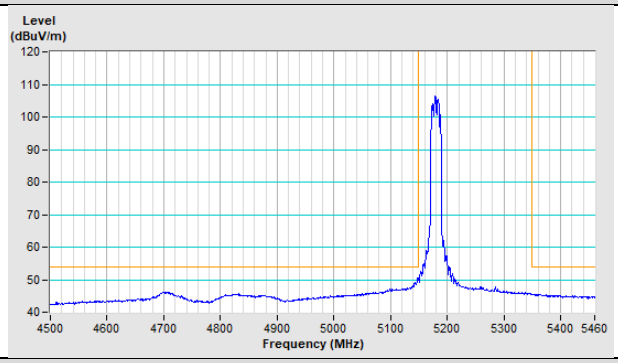
Annex B - Band Edge Measurement

802.11a Channel 36

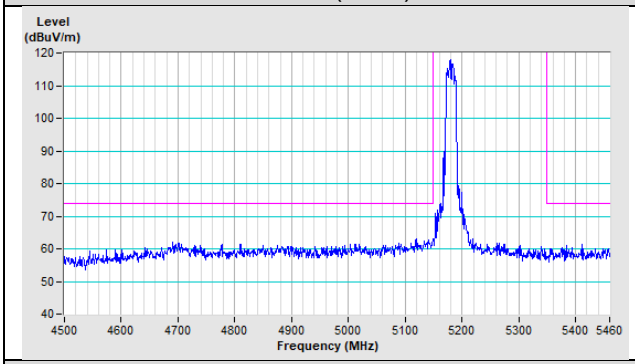
Horizontal (Peak)



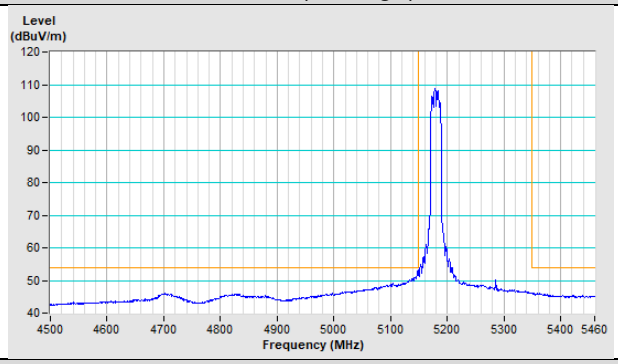
Horizontal (Average)



Vertical (Peak)

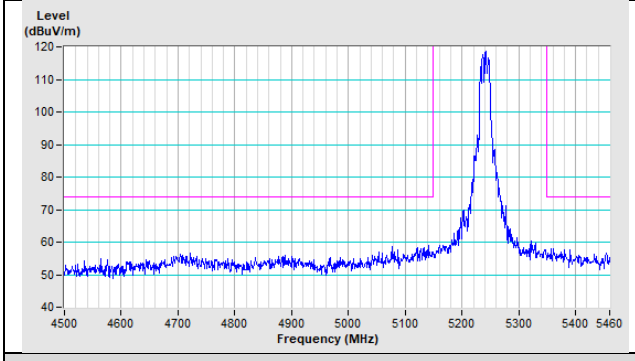


Vertical (Average)

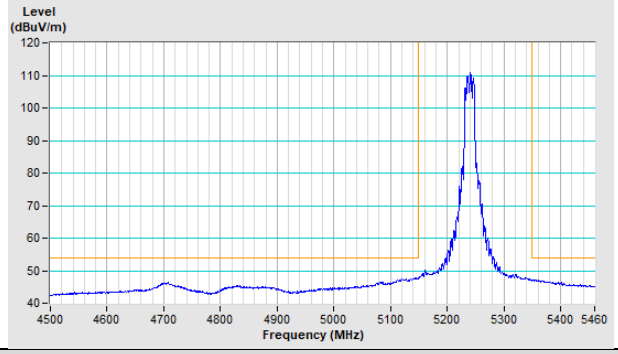


802.11a Channel 48

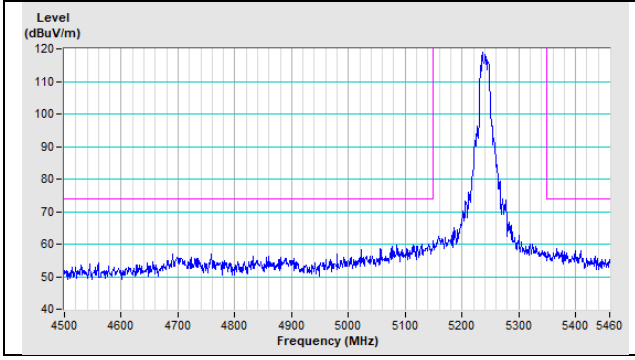
Horizontal (Peak)



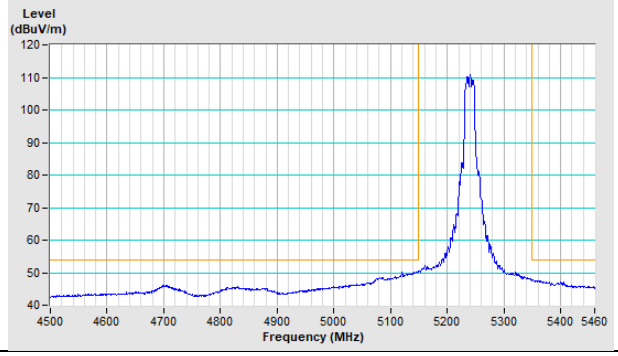
Horizontal (Average)

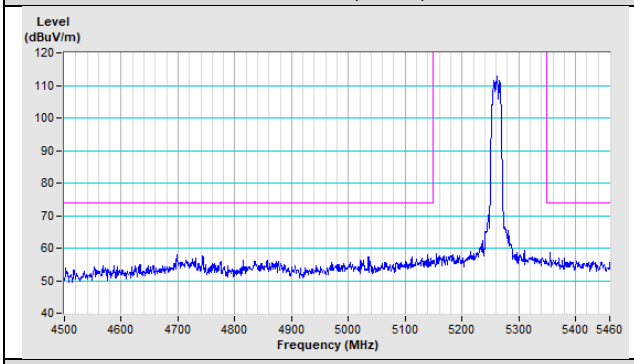
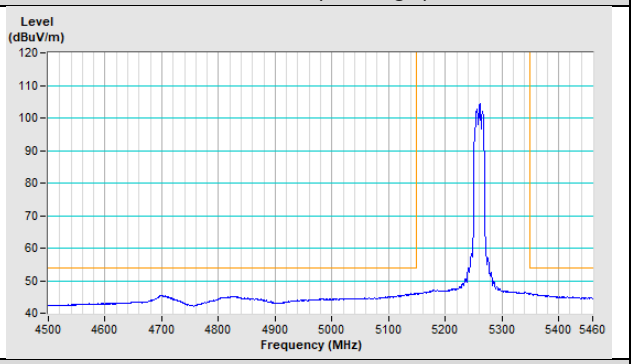
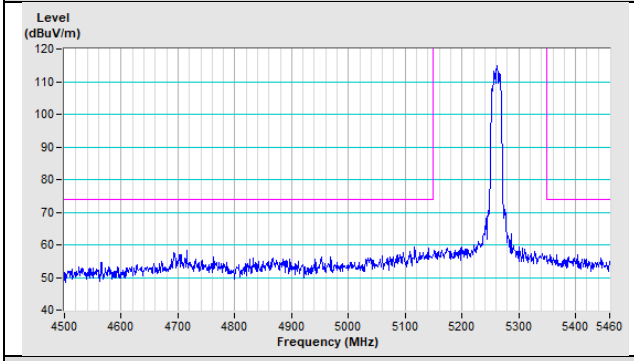
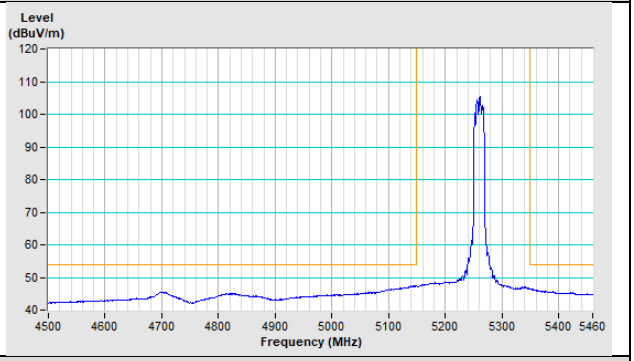
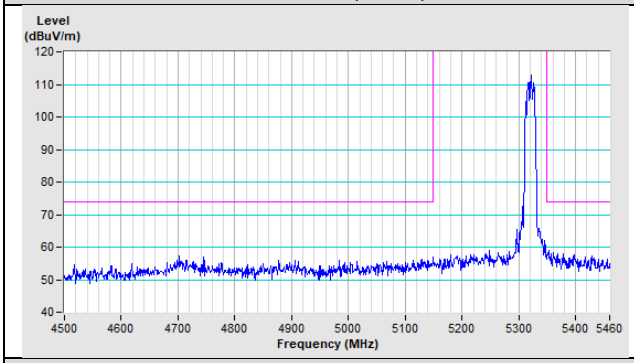
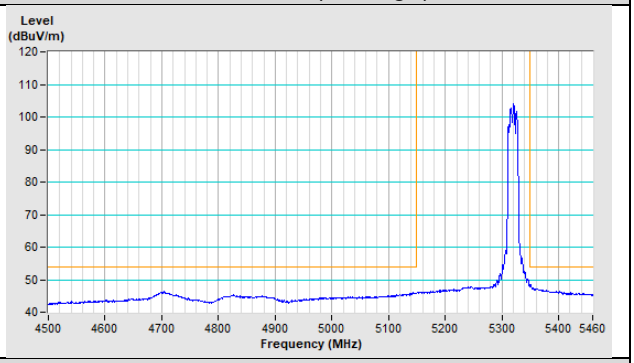
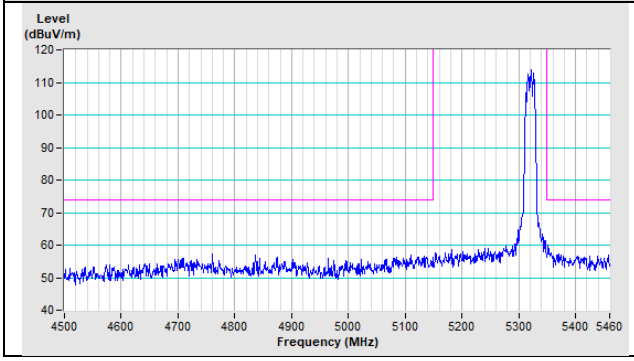
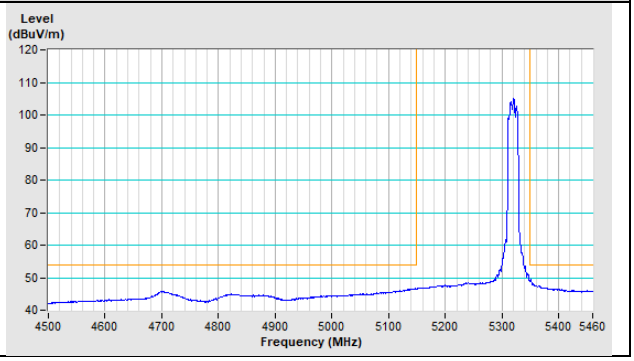


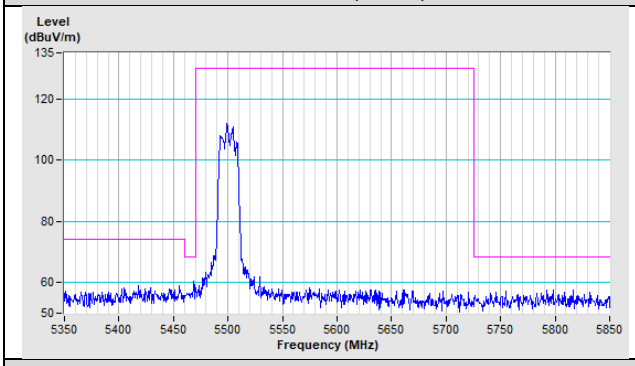
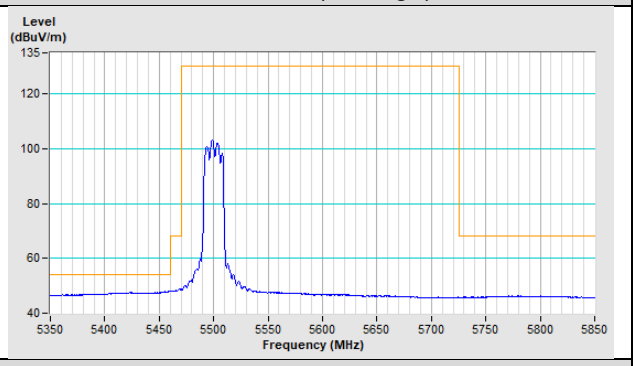
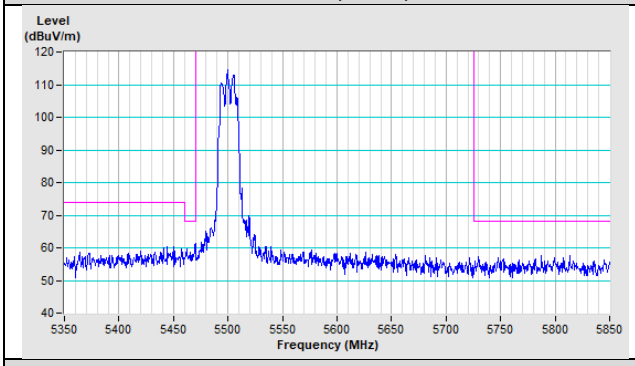
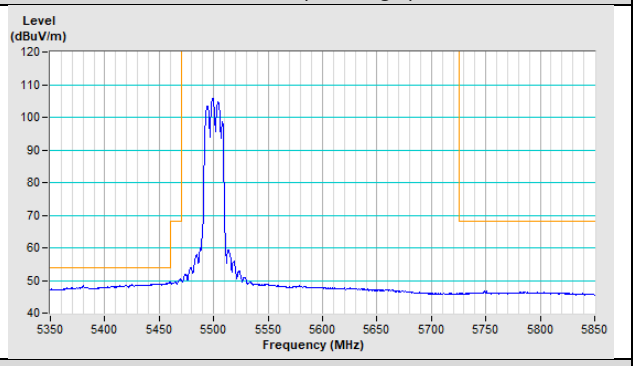
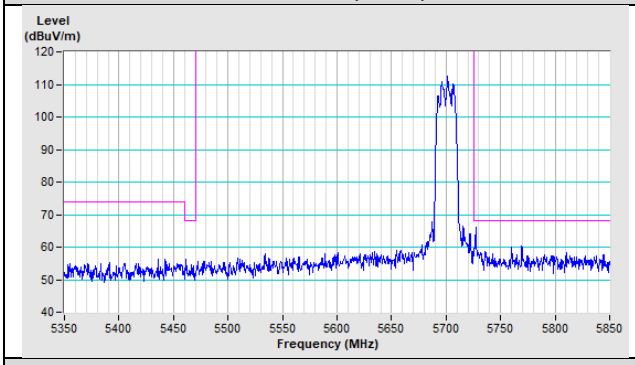
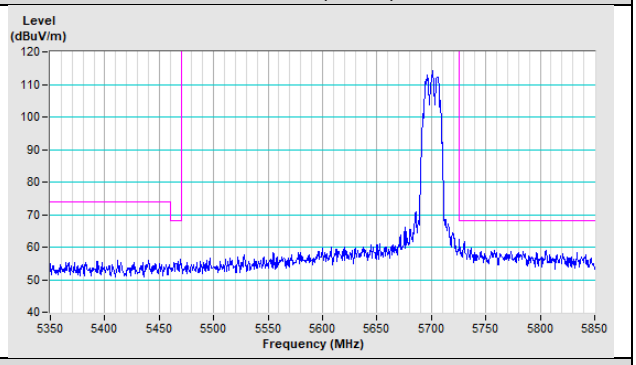
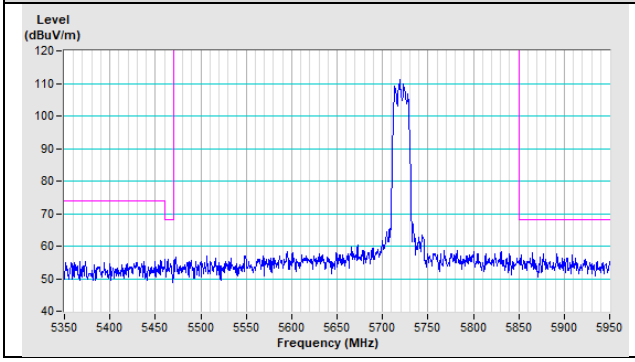
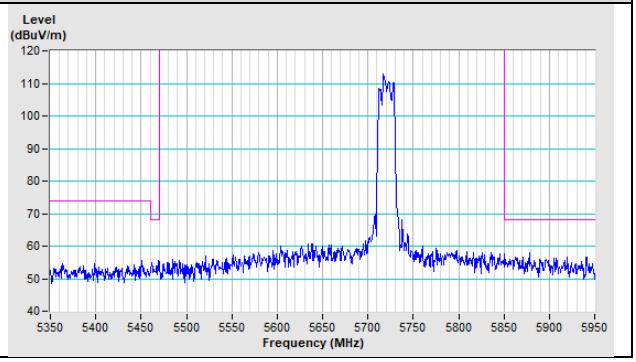
Vertical (Peak)

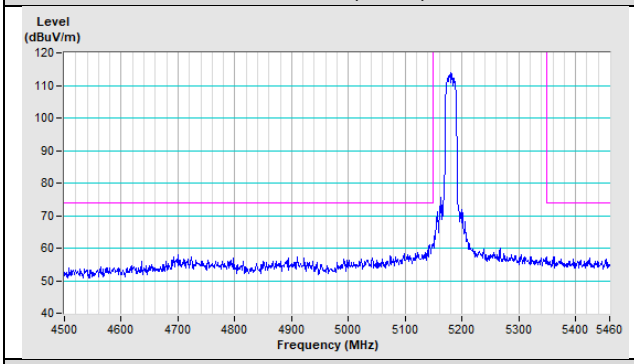
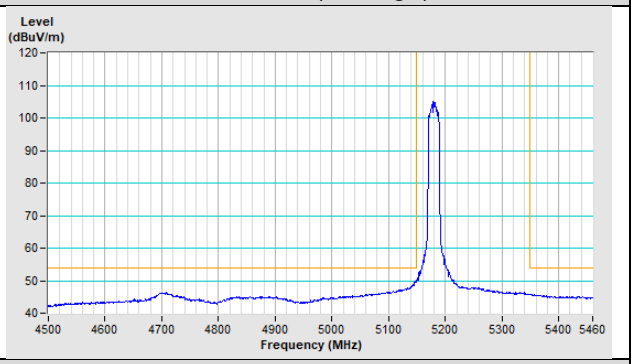
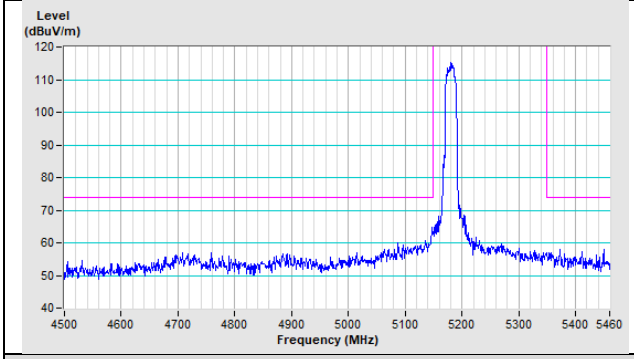
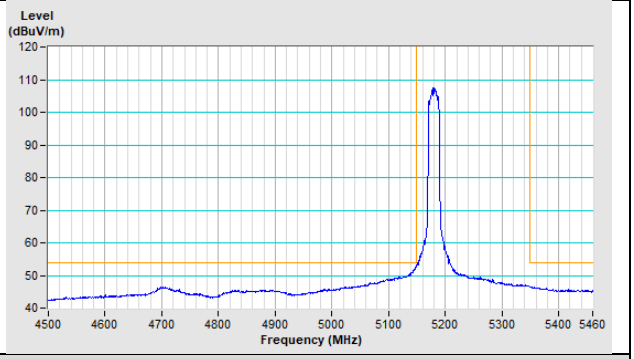
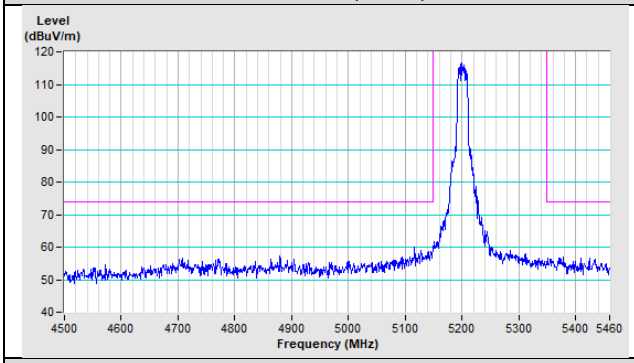
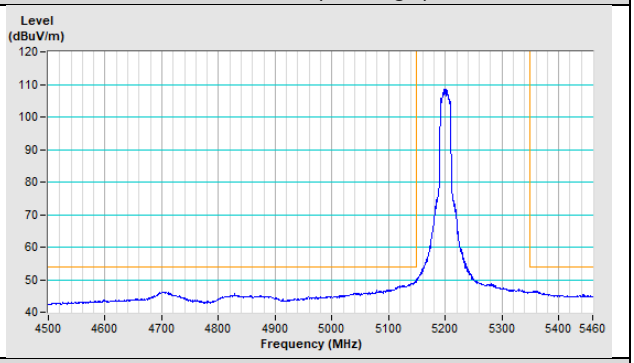
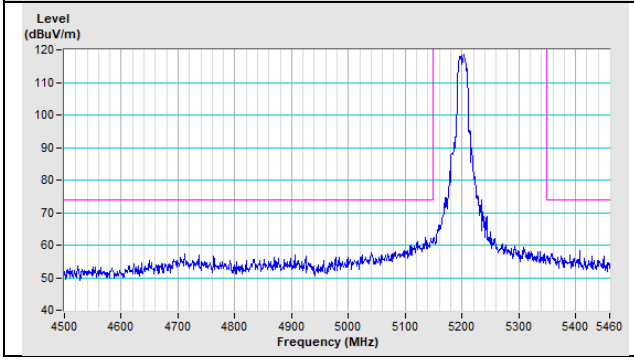
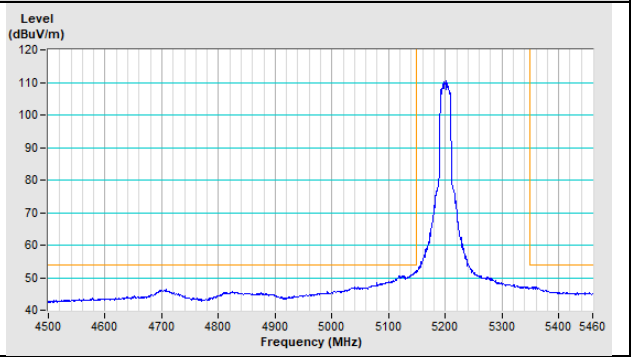


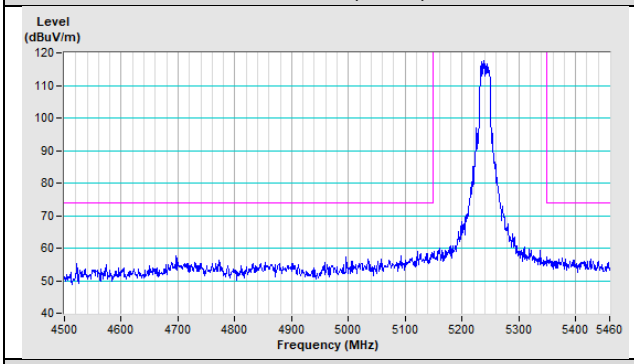
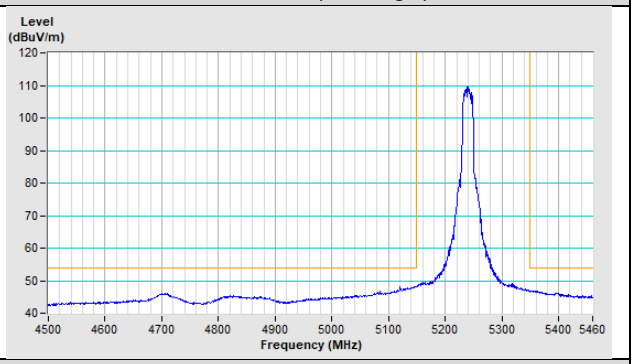
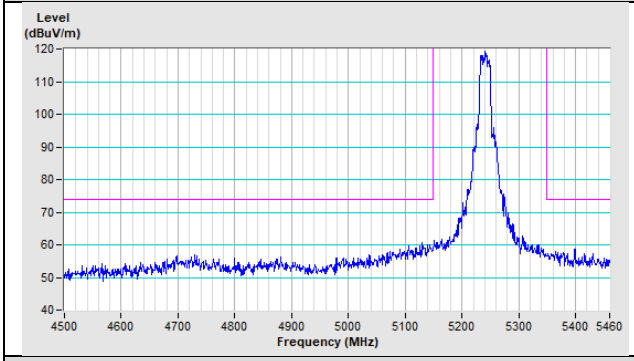
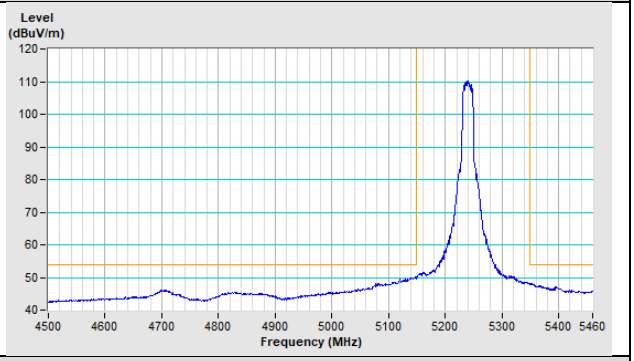
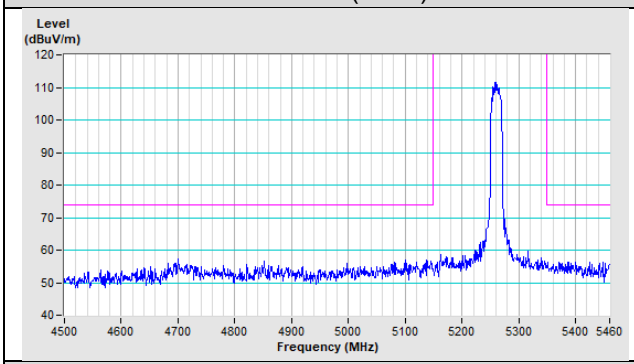
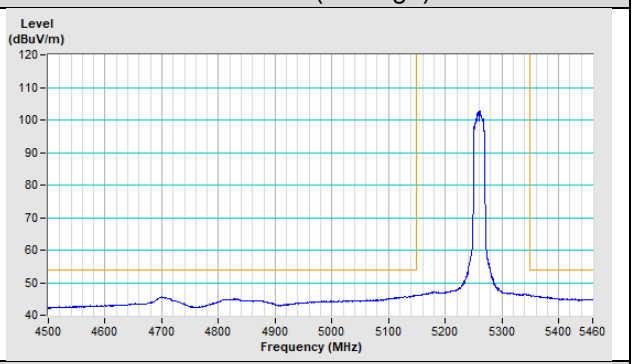
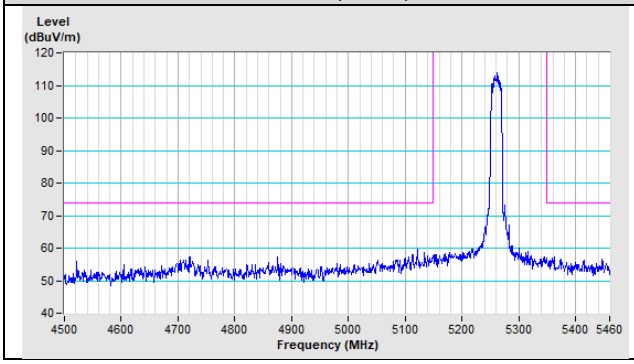
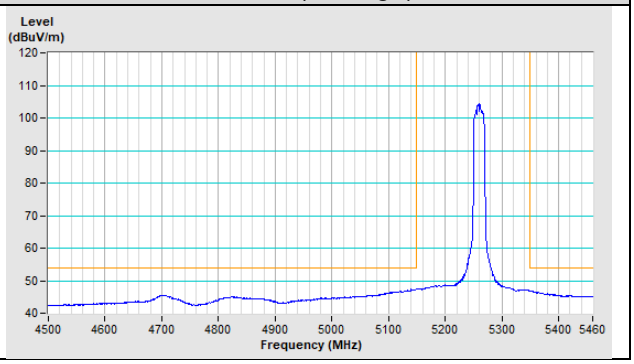
Vertical (Average)

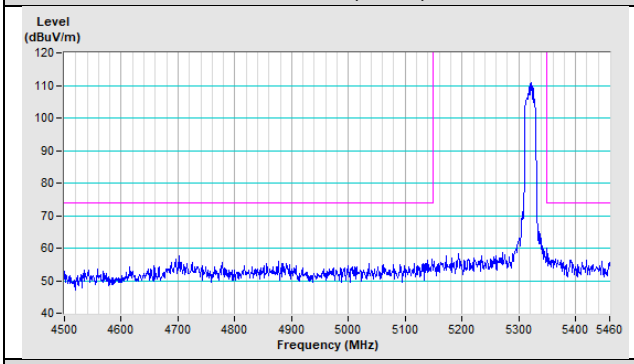
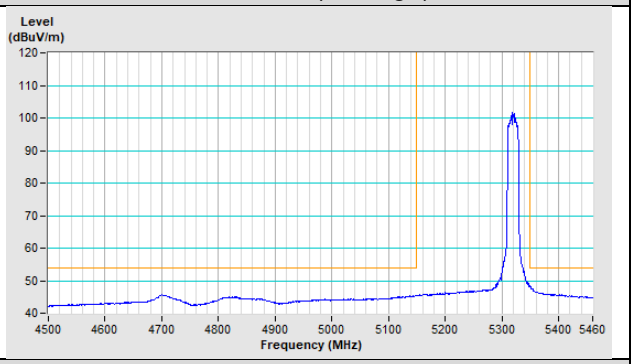
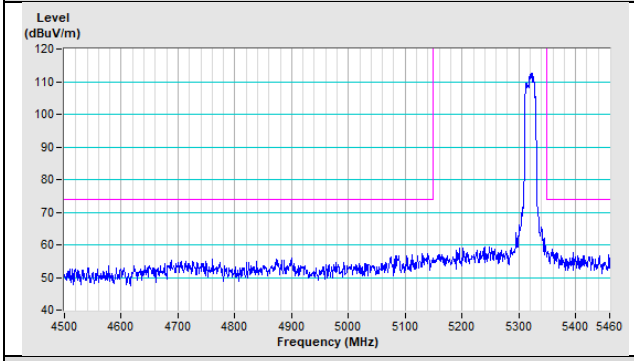
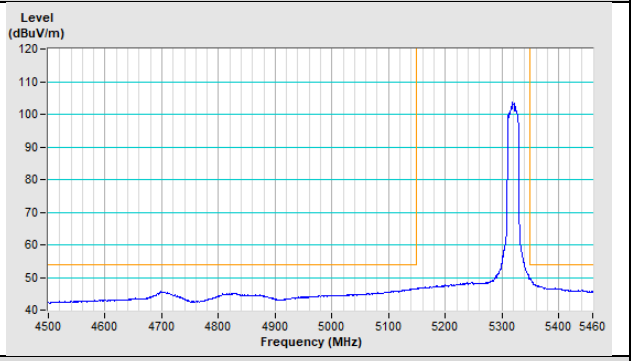
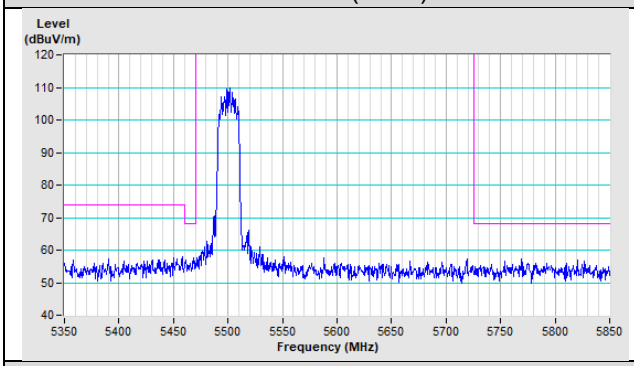
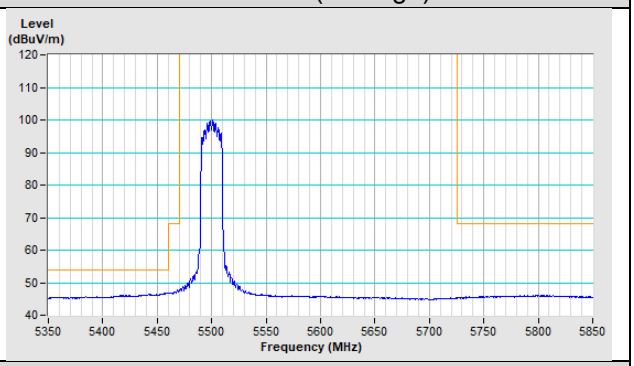
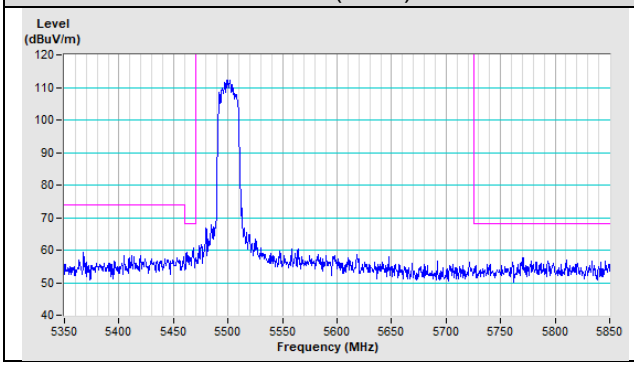
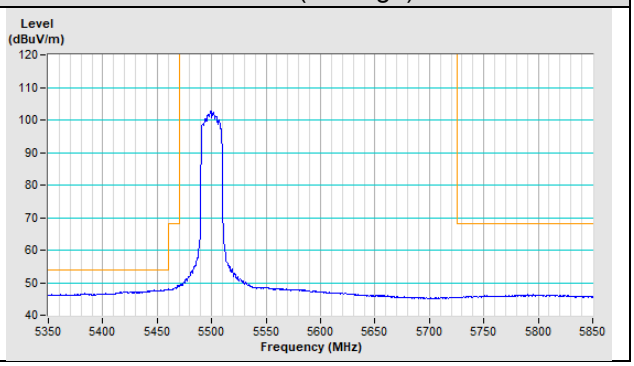


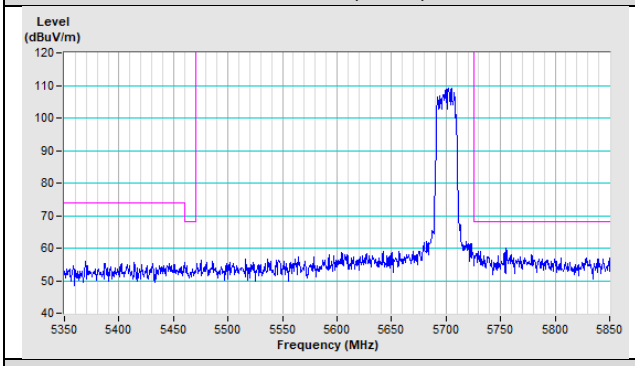
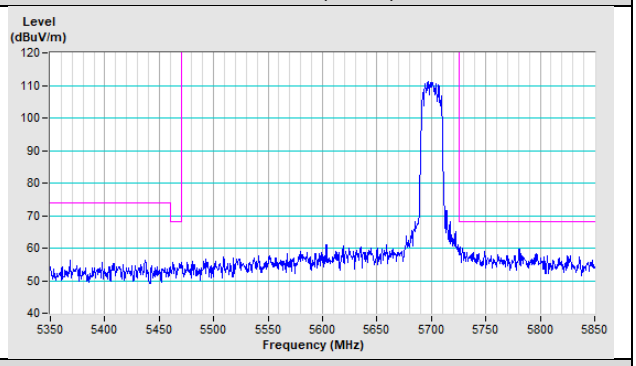
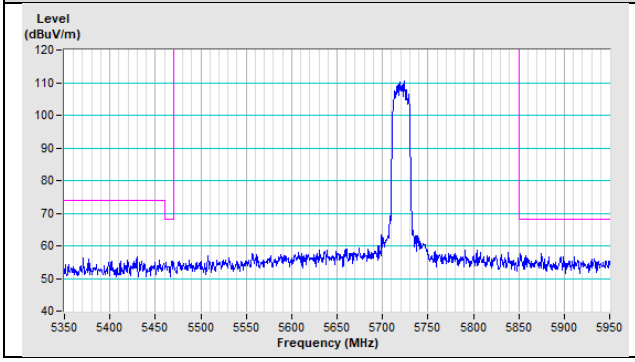
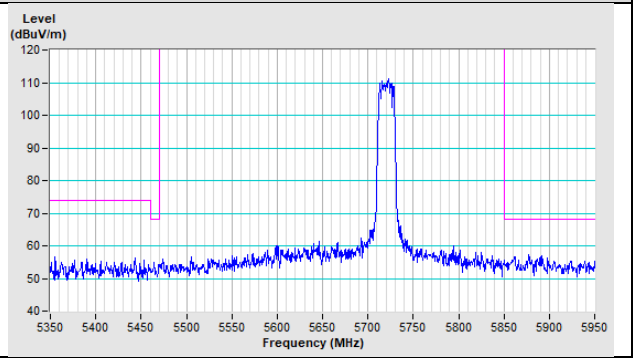
802.11a Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

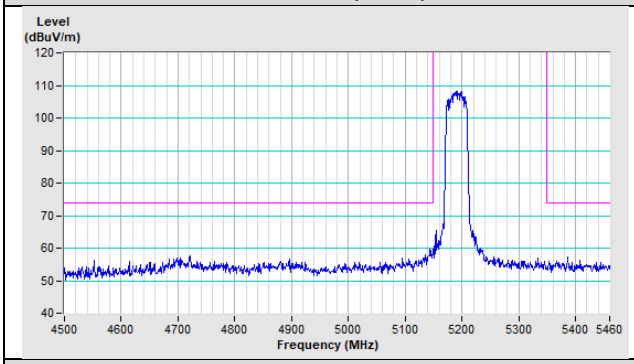
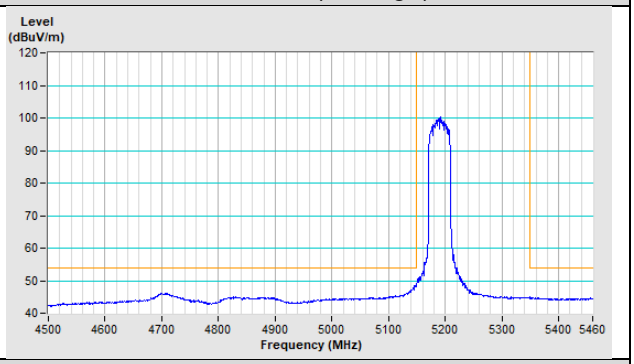
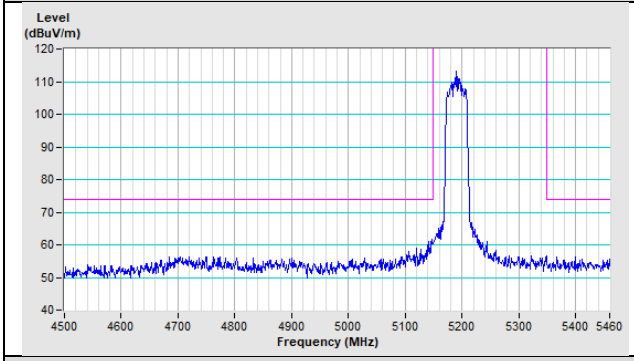
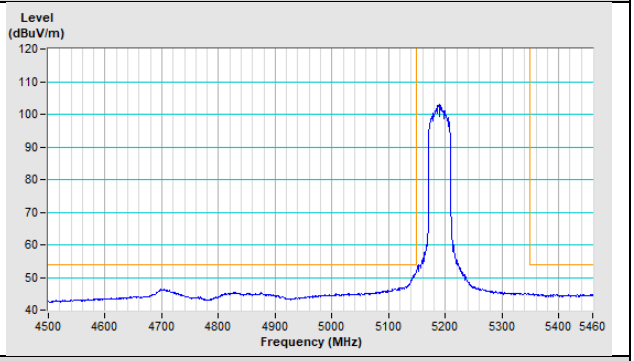
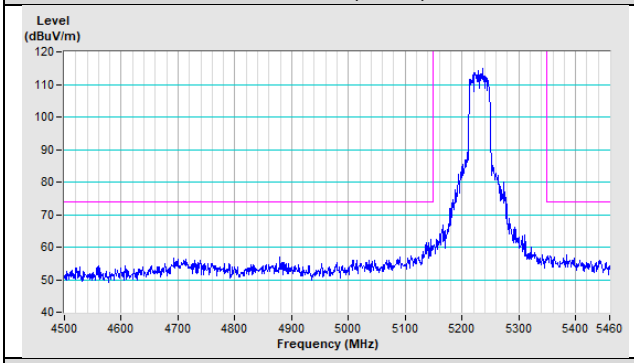
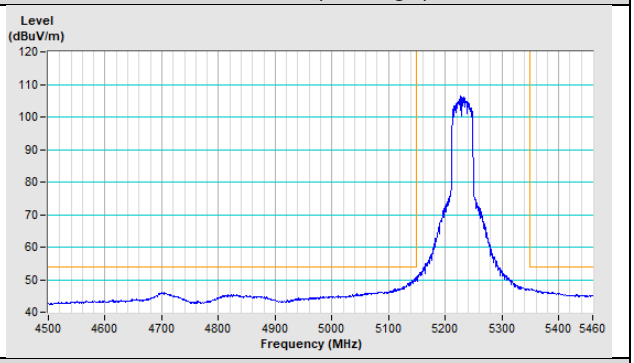
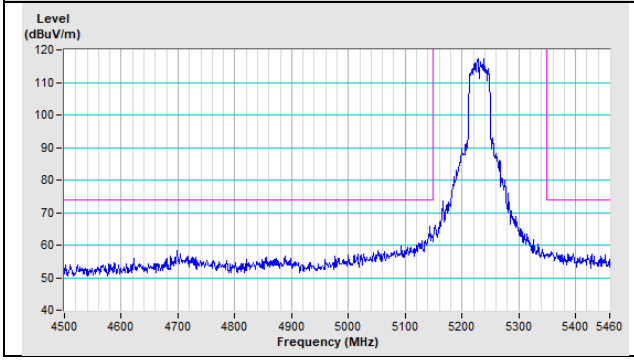
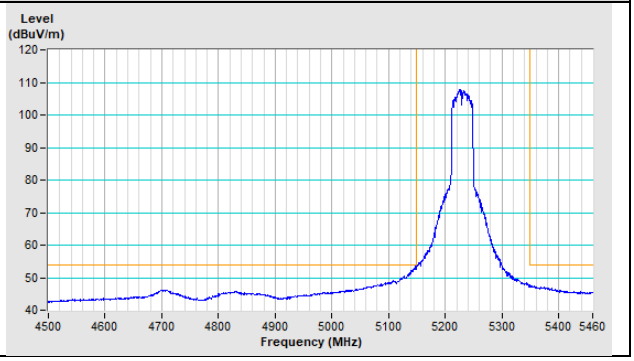
802.11a Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11a Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11a Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

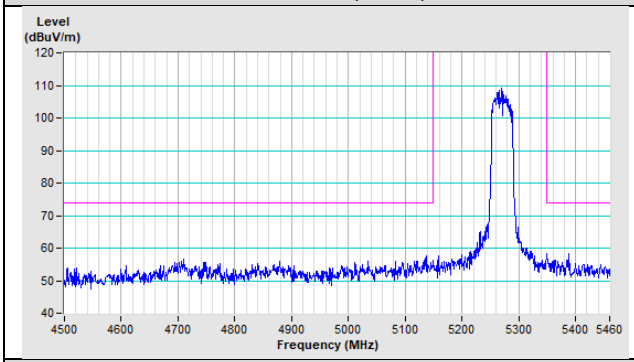
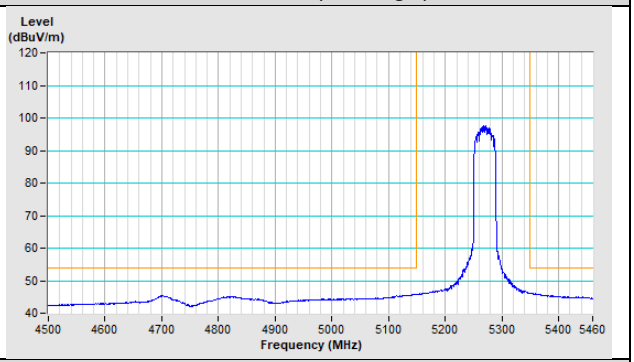
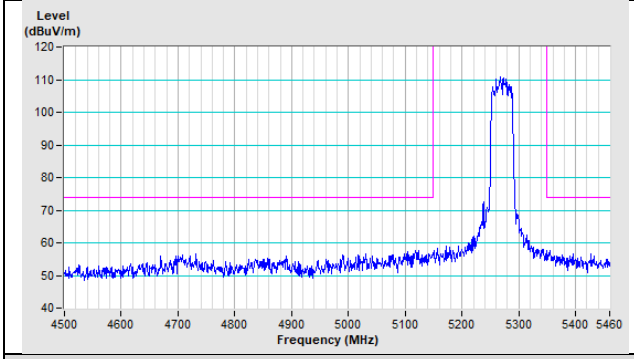
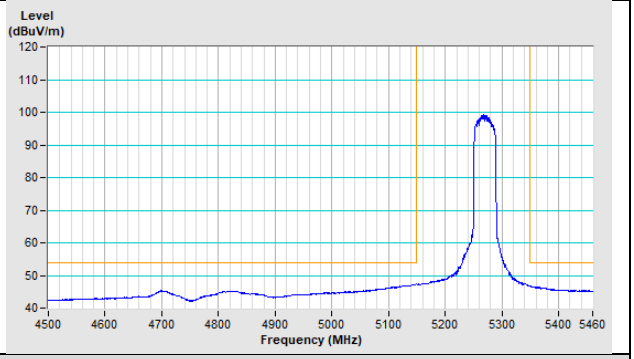
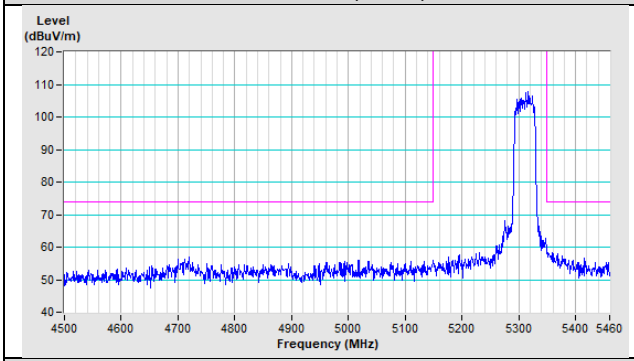
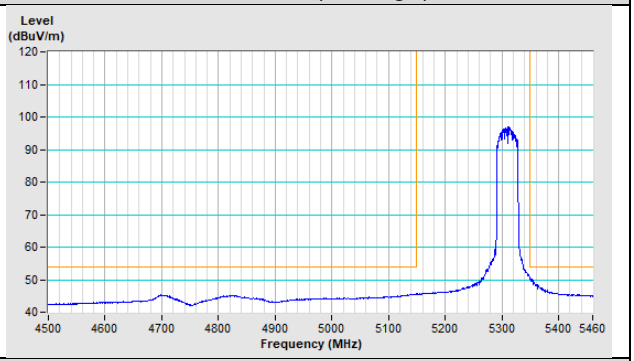
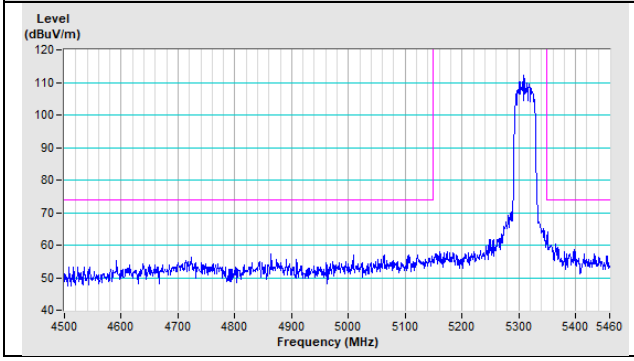
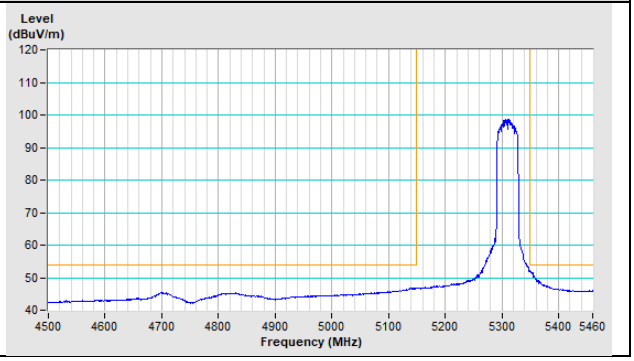
802.11ac (VHT20) Channel 36	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT20) Channel 40	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

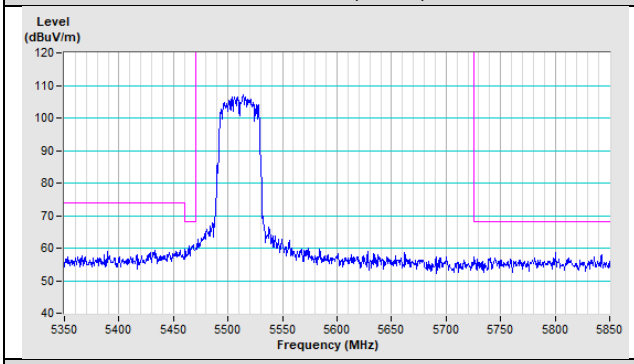
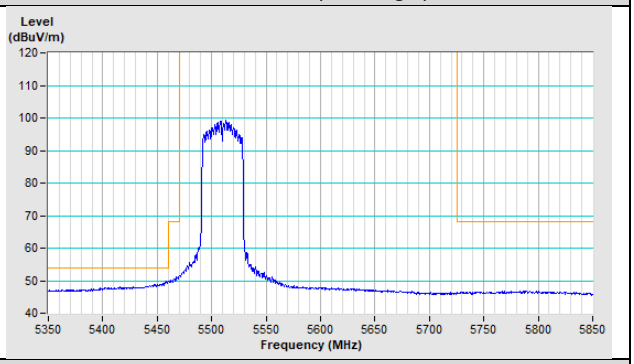
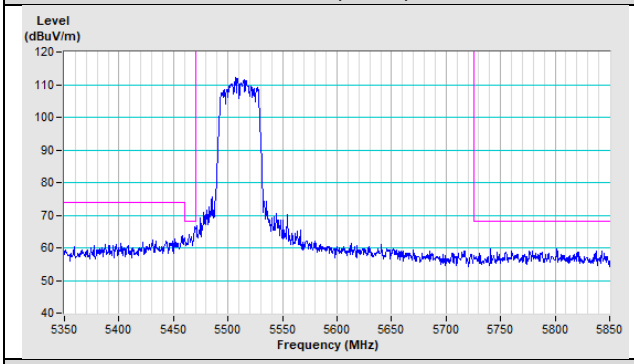
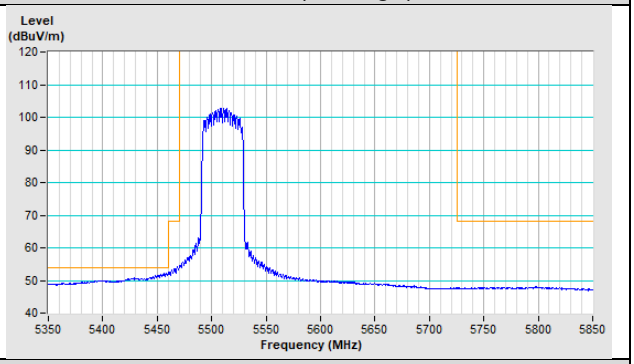
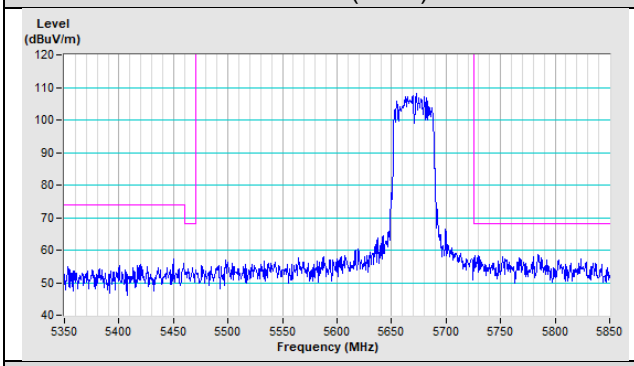
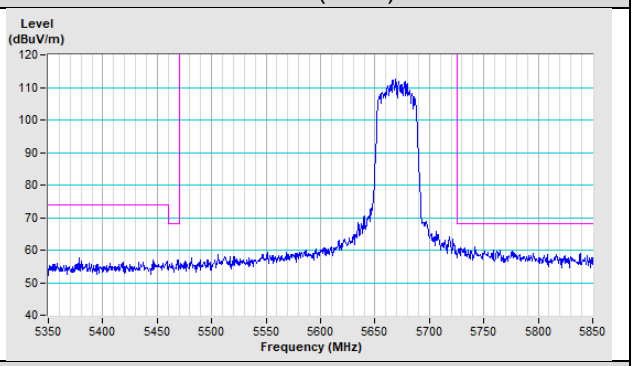
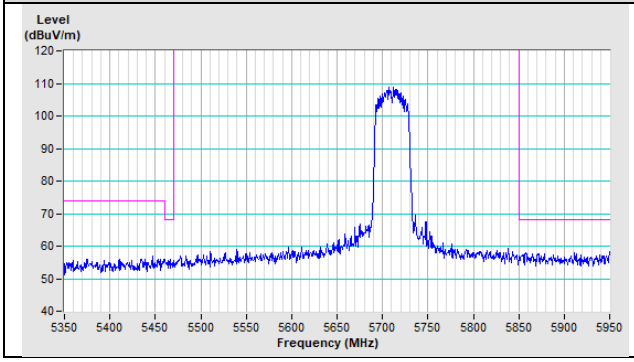
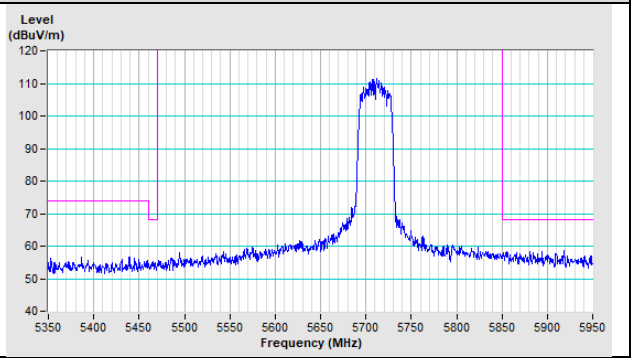
802.11ac (VHT20) Channel 48	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT20) Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

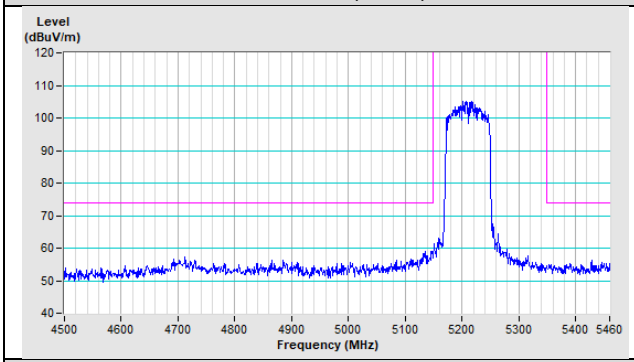
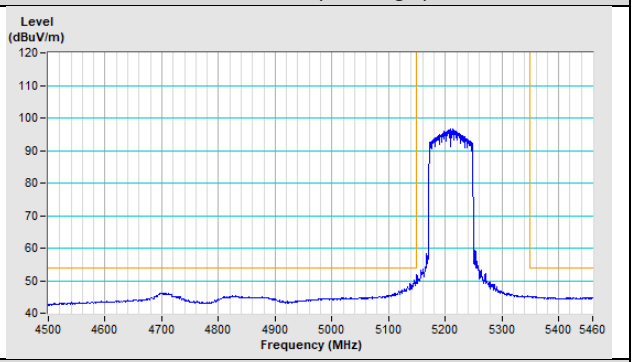
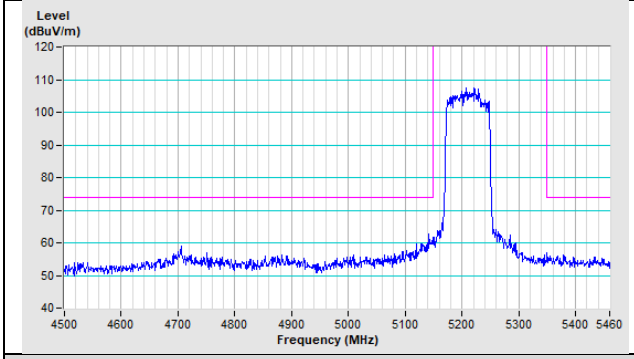
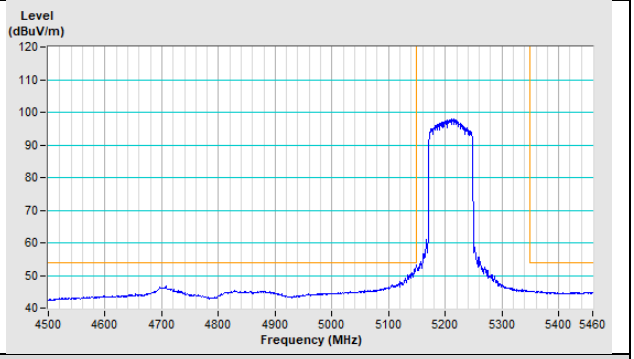
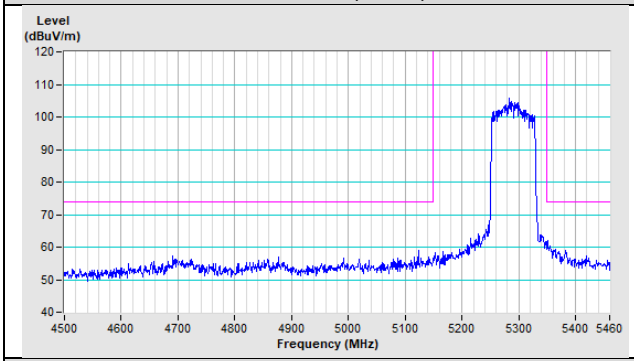
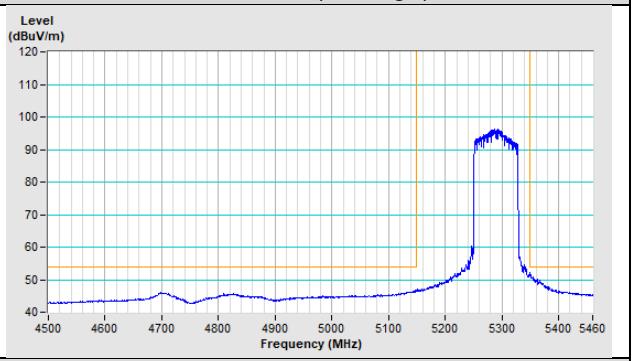
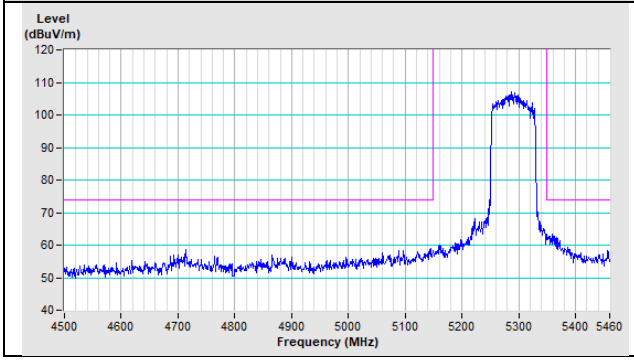
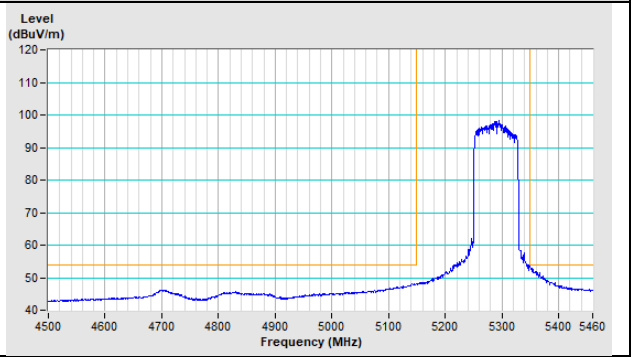
802.11ac (VHT20) Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT20) Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

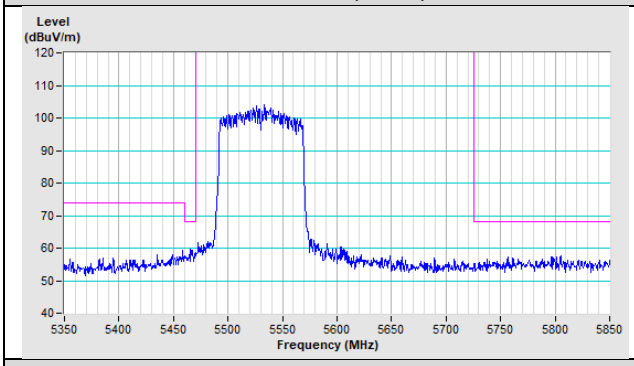
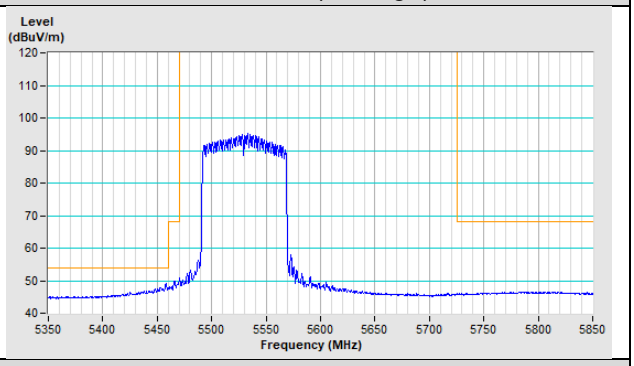
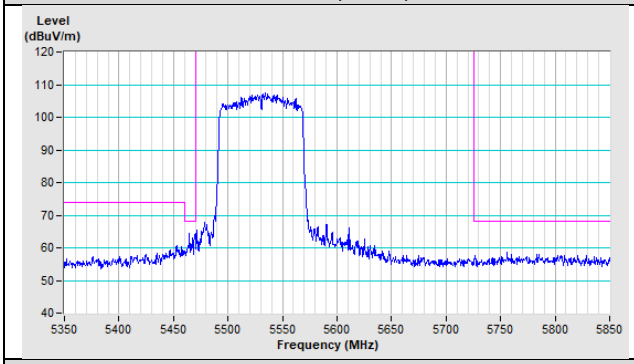
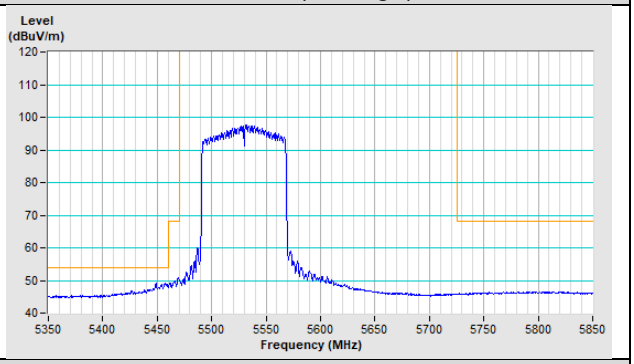
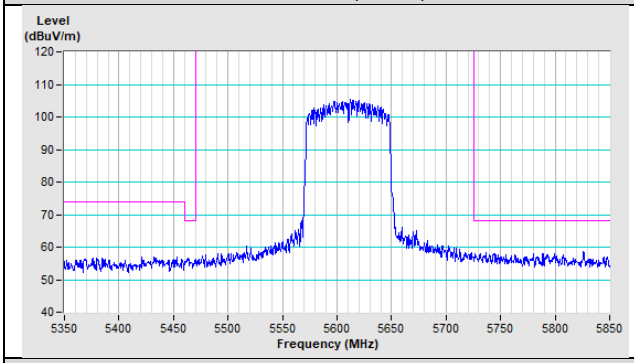
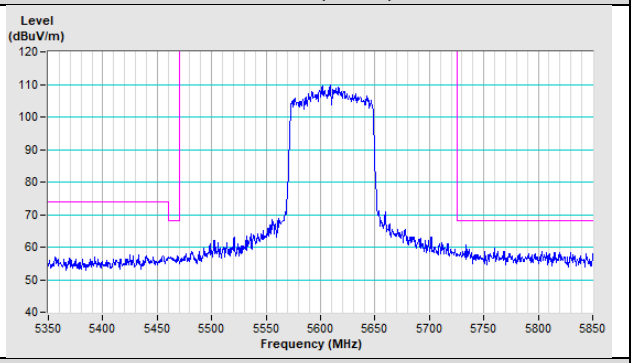
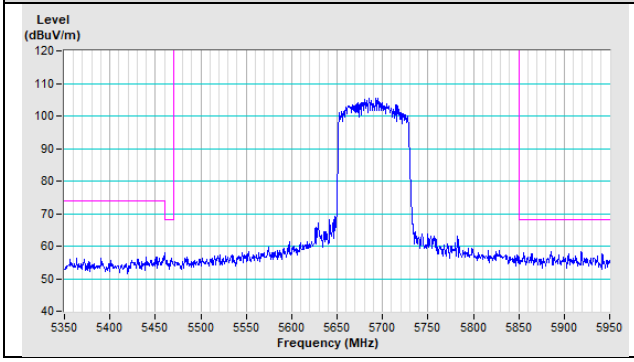
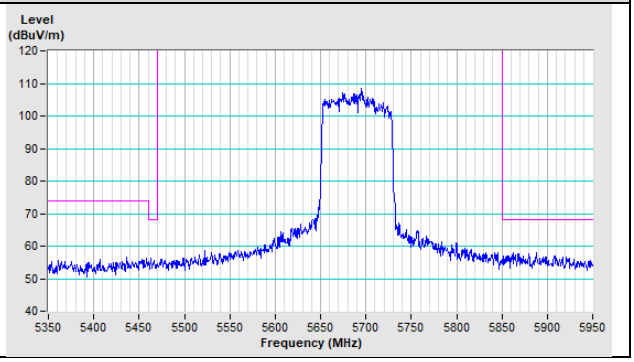
802.11ac (VHT20) Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
802.11ac (VHT20) Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

802.11ac (VHT40) Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT40) Channel 46	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ac (VHT40) Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT40) Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

802.11ac (VHT40) Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
802.11ac (VHT40) Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
802.11ac (VHT40) Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

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)
	
802.11ac (VHT80) Channel 122	
Horizontal (Peak)	Vertical (Peak)
	
802.11ac (VHT80) Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

--- END ---