FCC Test Report

Report No.:	RFBDYS-WTW-P20100799
FCC ID:	TVE-3417T0696
Test Model:	FAP-231F
Series Model:	FortiAP 231Fxxxxxx, FAP-231Fxxxxxx, FORTIAP-231Fxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (Refer to item 3.1 for more details)
Received Date:	Oct. 30, 2020
Test Date:	Nov. 03 ~ Nov. 19, 2020
Issued Date:	Nov. 27, 2020
Applicant:	Fortinet Inc.
Address:	899 Kifer Road Sunnyvale, CA 94086 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:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFBDYS-WTW-P20100799	Original release.	Nov. 27, 2020

1 Certificate of Conformity

Product:	Secured Wireless Access Point
Brand:	Fortinet
Test Model:	FAP-231F
Series Model:	FortiAP 231Fxxxxxx, FAP-231Fxxxxxx, FORTIAP-231Fxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only) (Refer to item 3.1 for more details)
Sample Status:	Engineering sample
Applicant:	Fortinet Inc.
Test Date:	Nov. 03 ~ Nov. 19, 2020
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 : Polly Chien , **Date:** Nov. 27, 2020

Polly Chien / Specialist

Approved by : Bruce Chen , **Date:** Nov. 27, 2020

Bruce Chen / Senior 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)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -7.59dB at 0.46280MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 11440.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

Note:

1. For 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 A. Test Procedures refer to report 4.1.3.
2. 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	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Secured Wireless Access Point
Brand	Fortinet
Test Model	FAP-231F
Series Model	FortiAP 231Fxxxxxx, FAP-231Fxxxxxx, FORTIAP-231Fxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)
Model Difference	Refer to note
Sample Status	Engineering sample
Power Supply rating	12Vdc from Adapter 54Vdc from PoE
Modulation Type	802.11a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	OFDM, OFDMA
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n (HT20/40): up to MCS31 802.11ac (VHT20/40): up to MCS9 802.11ax: up to MCS11
Operating Frequency	5260 ~ 5320MHz, 5500 ~ 5720MHz
Number of Channel	5GHz traffic radio: 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5500 ~ 5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 Scanning radio: 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

Output Power	5260 ~ 5320MHz: 5G traffic radio: CDD Mode: 247.577mW 5G traffic radio: Beamforming Mode: 123.797mW Scanning radio: CDD Mode: 82.414mW 5500 ~ 5720MHz: 5G traffic radio: CDD Mode: 248.737mW 5G traffic radio: Beamforming Mode: 124.377mW Scanning radio: CDD Mode: 129.718mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The differences compared with the original report (BV CPS report no.: RFBDYS-WTW-P20080137-1) are adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz by software.
2. The following models are provided to this EUT. The model FAP-231F was chosen for final test.

Brand	Test Model	Series Model	Difference
Fortinet	FAP-231F	FortiAP 231Fxxxxxx, FAP-231Fxxxxxx, FORTIAP-231Fxxxxxx	Where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only.

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

Modulation Mode	CDD Mode	Beamforming Mode	TX Function	Radio
802.11a	Support	Not Support	2TX	5G traffic radio (Radio 2)
802.11n (HT20)	Support	Support	2TX	
802.11n (HT40)	Support	Support	2TX	
802.11ac (VHT20)	Support	Support	2TX	
802.11ac (VHT40)	Support	Support	2TX	
802.11ac (VHT80)	Support	Support	2TX	
802.11ax (HE20)	Support	Support	2TX	
802.11ax (HE40)	Support	Support	2TX	
802.11ax (HE80)	Support	Support	2TX	
802.11a	Support	Not Support	1TX	Scanning radio (Radio 3)
802.11n (HT20)	Support	Not Support	1TX	
802.11n (HT40)	Support	Not Support	1TX	
802.11ac (VHT20)	Support	Not Support	1TX	
802.11ac (VHT40)	Support	Not Support	1TX	
802.11ac (VHT80)	Support	Not Support	1TX	

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11n mode and HE20/HE40 on 802.11ax mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n/ax, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

4. The EUT consumes power from the following power supply. (Support units only)

Adapter	
Brand	APD
Model	WA-48A12R
Input Power	100-240Vac, 50-60Hz, 1.5A MAX
Output Power	12Vdc, 4A, 48.0W
Power Line	1.44m cable without core attached on adapter

POE	
Brand	EnGenius
Model	EPA5006GPR
Input Power	100-240Vac, 50-60Hz, 0.8A
Output Power	54V, 0.6A

5. The following antennas were provided to the EUT.

Antenna Type		PIFA	
Antenna Connector		i-pex(MHF)	
Antenna No.		Gain (dBi)	
		2.4~2.4835GHz	5.180~5.825GHz
1	Chain0	4.9	5.2
2	Chain1	3.8	5.5
3	Scan	4.0	5.1
4	BLE & Zigbee	3.6	-

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

6. The simultaneous operation mode was determined by client.

No	Mode
1	2G traffic radio (Radio 1) + 5GHz traffic radio (Radio 2) + 5G Scanning radio (Radio 3) +BLE
2	2G traffic radio (Radio 1) + 5GHz traffic radio (Radio 2) + 5G Scanning radio (Radio 3) +Zigbee
3	5GHz traffic radio (Radio 2)+ 2G Scanning radio (Radio 3) + BLE
4	5GHz traffic radio (Radio 2)+ 2G Scanning radio (Radio 3) + Zigbee

*5GHz traffic radio (Radio 2) and 5G Scanning radio (Radio 3) cannot transmit in the same band at same time. 2G traffic radio (Radio 1) and 2G Scanning radio (Radio 3) cannot transmit at same time.

2G traffic radio (Radio 1) and Zigbee and BT technologies cannot transmit at same time.

7. Spurious emission of the simultaneous operation (WLAN, BLE and Zigbee) has been evaluated and no non-compliance was found.

3.2 Description of Test Modes

5260~5320MHz:

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

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), 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290MHz

5500~5720MHz:

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

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), 802.11ax (HE40):

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), 802.11ax (HE80):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	-	√	√	-	Power from adapter
B	√	√	√	√	Power from PoE

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 **Y-plane**.
2. "-"means no effect.

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	5G traffic radio
B	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
B	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
B	802.11ax (HE80)		58	58	OFDMA	MCS0	
B	802.11a		52 to 64	52, 60, 64	OFDM	6.0	Scanning radio
B	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	
B	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT80)		58	58	OFDM	65.0	
B	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	5G traffic radio
B	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
B	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
B	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
B	802.11a		100 to 144	100, 116, 140, 144	OFDM	6.0	Scanning radio
B	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
B	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	65.0	

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)	Remark
A, B	802.11ax (HE40)	5500-5720	102 to 142	134	OFDMA	MCS0	5G traffic radio
	802.11a	5500-5720	100 to 144	116	OFDM	6.0	Scanning radio

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)	Remark
A, B	802.11ax (HE40)	5500-5720	102 to 142	134	OFDMA	MCS0	5G traffic radio
	802.11a	5500-5720	100 to 144	116	OFDM	6.0	Scanning radio

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
CDD Mode							
B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	5G traffic radio
B	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	
B	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	
B	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT80)		58	58	OFDM	65.0	
B	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
B	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
B	802.11ax (HE80)		58	58	OFDMA	MCS0	
B	802.11a		52 to 64	52, 60, 64	OFDM	6.0	Scanning radio
B	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5	
B	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT80)		58	58	OFDM	65.0	
B	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	5G traffic radio
B	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
B	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
B	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	65.0	
B	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
B	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
B	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	
B	802.11a		100 to 144	100, 116, 140, 144	OFDM	6.0	Scanning radio
B	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5	
B	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	65.0	

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	Remark
Beamforming Mode							
B	802.11n (HT20)	5260-5320	52 to 64	52, 60, 64	OFDM	6.5	
B	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	6.5	5G traffic radio
B	802.11ac (VHT40)		54 to 62	54, 62	OFDM	13.5	
B	802.11ac (VHT80)		58	58	OFDM	65.0	
B	802.11ax (HE20)		52 to 64	52, 60, 64	OFDMA	MCS0	
B	802.11ax (HE40)		54 to 62	54, 62	OFDMA	MCS0	
B	802.11ax (HE80)		58	58	OFDMA	MCS0	
B	802.11n (HT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.5	
B	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT20)		106 to 138	106, 122, 138	OFDM	65.0	5G traffic radio
B	802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	13.5	
B	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	65.0	
B	802.11ax (HE20)		100 to 144	100, 116, 140, 144	OFDMA	MCS0	
B	802.11ax (HE40)		102 to 142	102, 110, 134, 142	OFDMA	MCS0	
B	802.11ax (HE80)		106 to 138	106, 122, 138	OFDMA	MCS0	

*802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80) are for Conducted Output Power Measurement only.

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 73% RH 22 deg. C, 68% RH 26 deg. C, 70% RH	120Vac, 60Hz	Tank Wu, Greg Lin, Willy Cheng
RE<1G	23 deg. C, 67% RH 26 deg. C, 70% RH	120Vac, 60Hz 54Vdc	Adair Peng, Willy Cheng
PLC	23 deg. C, 67% RH 25 deg. C, 67% RH	120Vac, 60Hz 54Vdc	Adair Peng, Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ivan Tseng

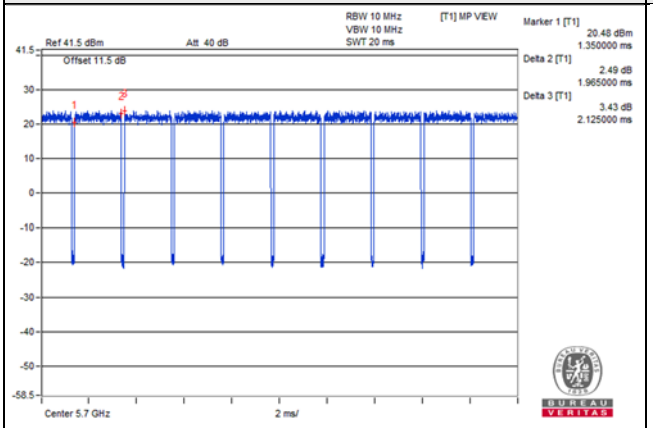
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%, duty factor shall be considered.

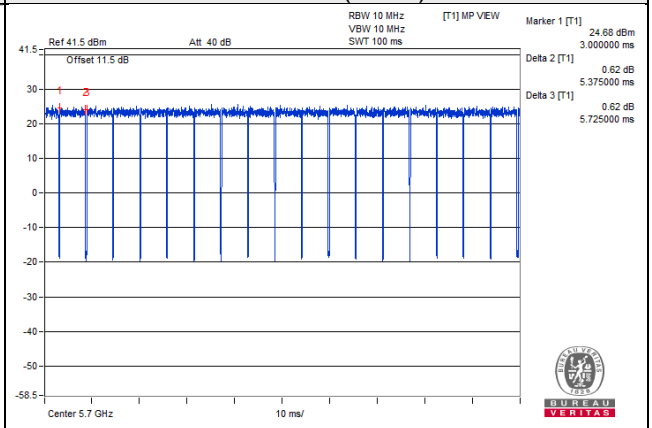
5G traffic radio:

802.11a: Duty cycle = 1.965/2.125 = 0.925, Duty factor = 10 * log (1/0.925) = 0.34
802.11ax (HE20): Duty cycle = 5.375/5.725 = 0.939, Duty factor = 10 * log (1/0.939) = 0.27
802.11ax (HE40): Duty cycle = 5.250/5.650 = 0.929, Duty factor = 10 * log (1/0.929) = 0.32
802.11ax (HE80): Duty cycle = 5.35/5.825 = 0.918, Duty factor = 10 * log (1/0.918) = 0.37

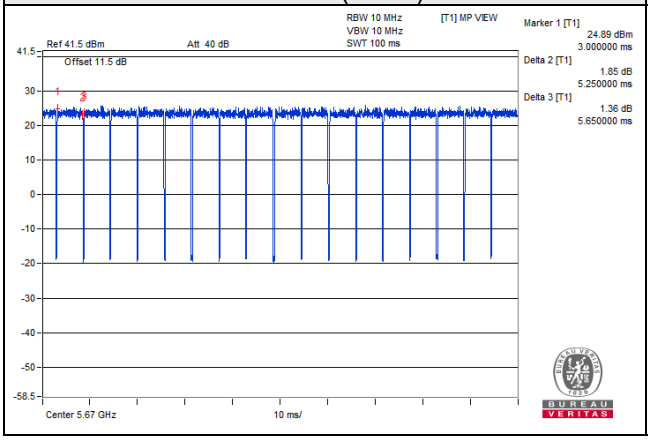
802.11a



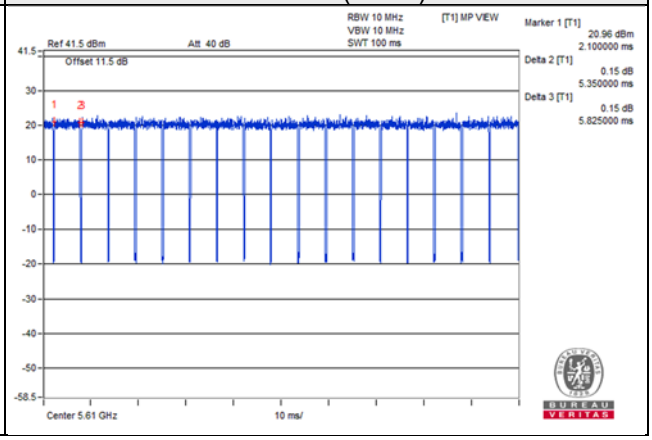
802.11ax (HE20)



802.11ax (HE40)



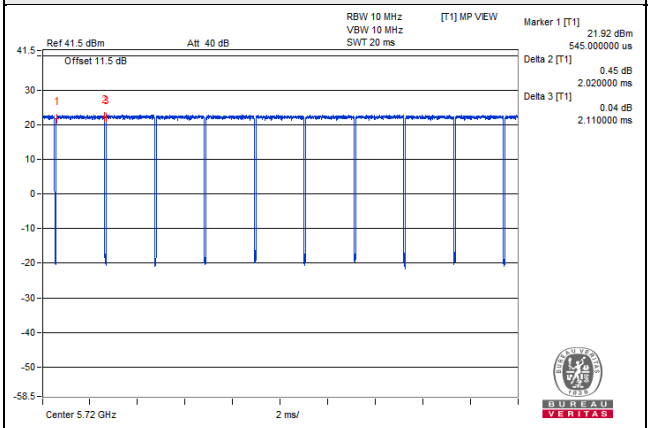
802.11ax (HE80)



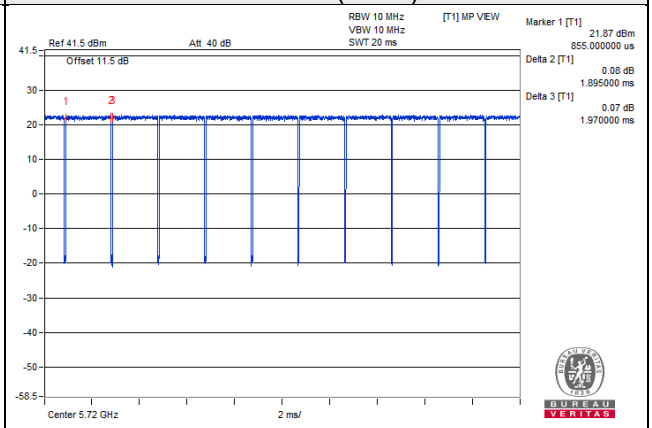
Scanning radio:

802.11a: Duty cycle = 2.020/2.110 = 0.957, Duty factor = 10 * log (1/0.957) = 0.19
802.11n (HT20): Duty cycle = 1.895/1.97 = 0.962, Duty factor = 10 * log (1/0.962) = 0.17
802.11n (HT40): Duty cycle = 0.920/1.000 = 0.920, Duty factor = 10 * log (1/0.920) = 0.36
802.11ac (VHT80): Duty cycle = 0.452/0.554 = 0.816, Duty factor = 10 * log (1/0.816) = 0.88

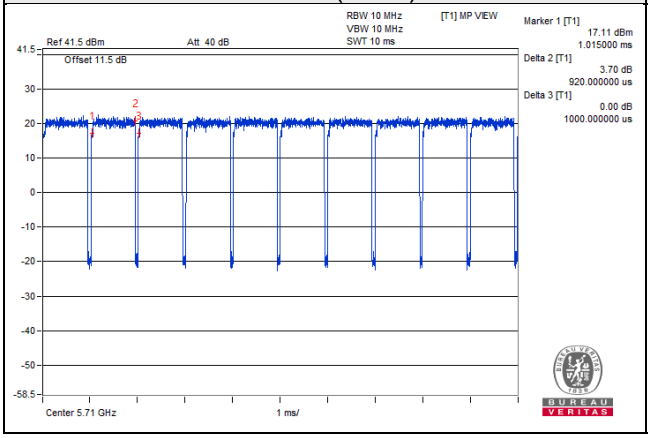
802.11a



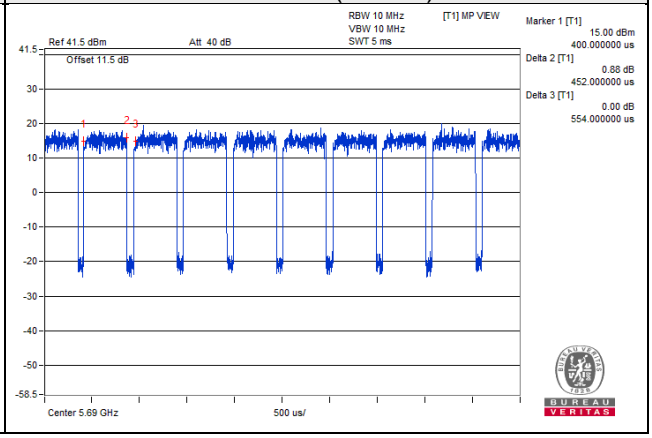
802.11n (HT20)



802.11n (HT40)



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	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	Adapter	APD	WA-48A12R	NA	NA	Provided by client
D.	USB Flash	HP	v250W	03	NA	-
E.	POE	EnGenius	EPA5006GPR	NA	NA	Provided by client

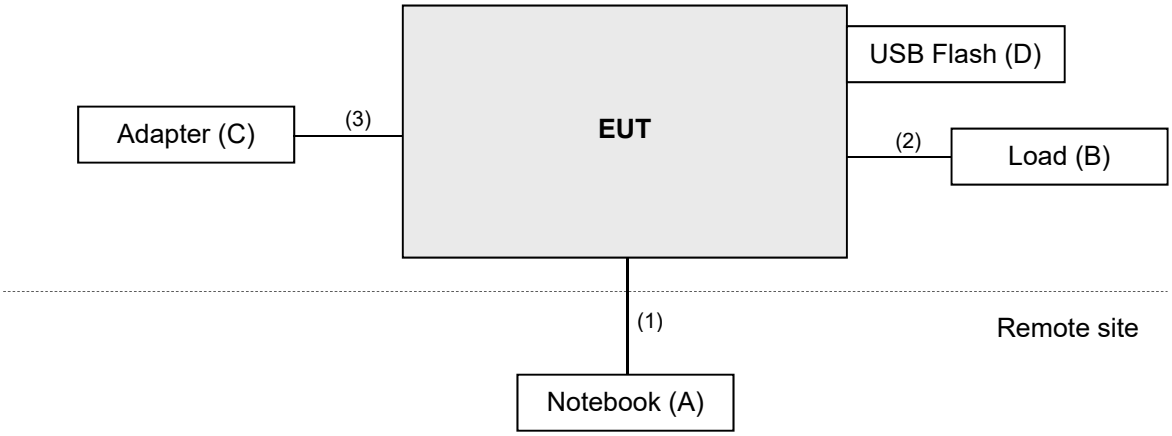
Note:

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.

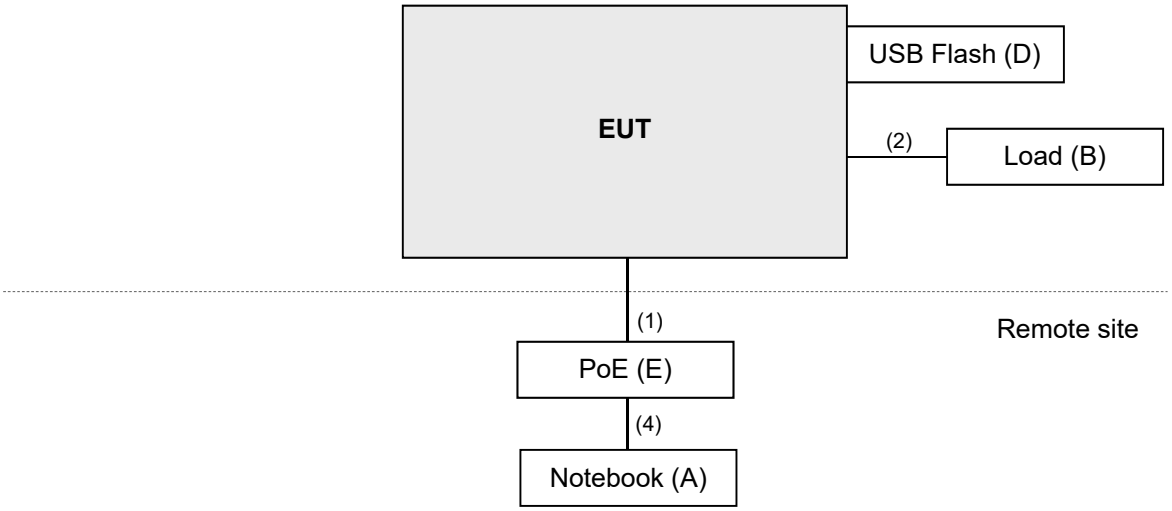
ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN	1	7.0	N	0	RJ45, Cat5e
2.	LAN	2	1.5	N	0	RJ45, Cat5e
3.	Power cable	1	1.44	-	0	Provided by client
4.	LAN	1	1.5	N	0	RJ45, Cat5e

3.4.1 Configuration of System under Test

Mode A



Mode B



3.5 General Description of Applied Standards and References

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

Test standard:

FCC Part 15, Subpart E (15.407)

ANSI C63.10:2013

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

KDB 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

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</td><td colspan="2">Field Strength at 3m</td></tr>
<tr><td>PK: 74 (dBμV/m)</td><td>AV: 54 (dBμV/m)</td></tr>
<tr><td>Frequency Band</td><td colspan="2">Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3m</td></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2(dBμV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK: -27 (dBm/MHz) *1
PK: 10 (dBm/MHz) *2
PK: 15.6 (dBm/MHz) *3
PK: 27 (dBm/MHz) *4</td><td>PK: 68.2(dBμV/m) *1
PK: 105.2 (dBμV/m) *2
PK: 110.8(dBμV/m) *3
PK: 122.2 (dBμV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*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.</td></tr>
</table>

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 ROHDE & SCHWARZ	ESR3	102579	Jul. 07, 2020	Jul. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 11, 2019	Nov. 10, 2020
			Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	9120D	209	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 24, 2019	Nov. 23, 2020
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 23, 2020	Mar. 22, 2021
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 13, 2020	Jul. 12, 2021

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

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:

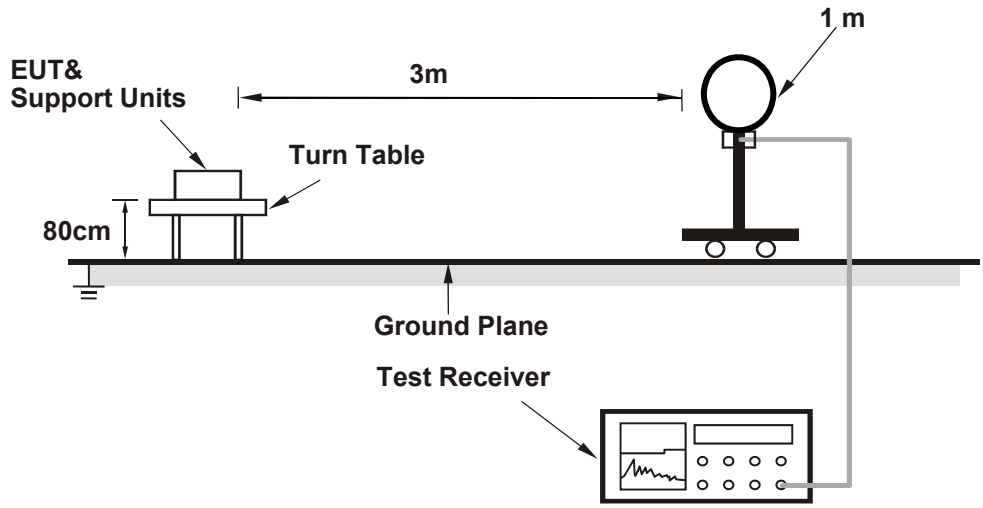
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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. (5G traffic radio: 802.11a: RBW = 1MHz, VBW = 1kHz; 802.11ax (HE20): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE40): RBW = 1MHz, VBW = 1kHz; 802.11ax (HE80): RBW = 1MHz, VBW = 1kHz; Scanning radio: 802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 1kHz; 802.11n (HT40): RBW = 1MHz, VBW = 3kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 3kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

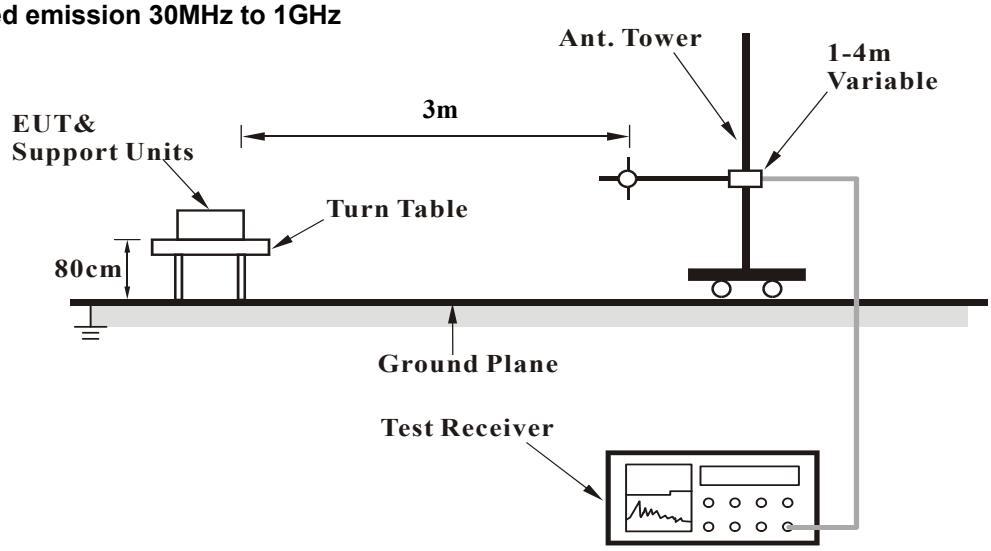
No deviation.

4.1.5 Test Setup

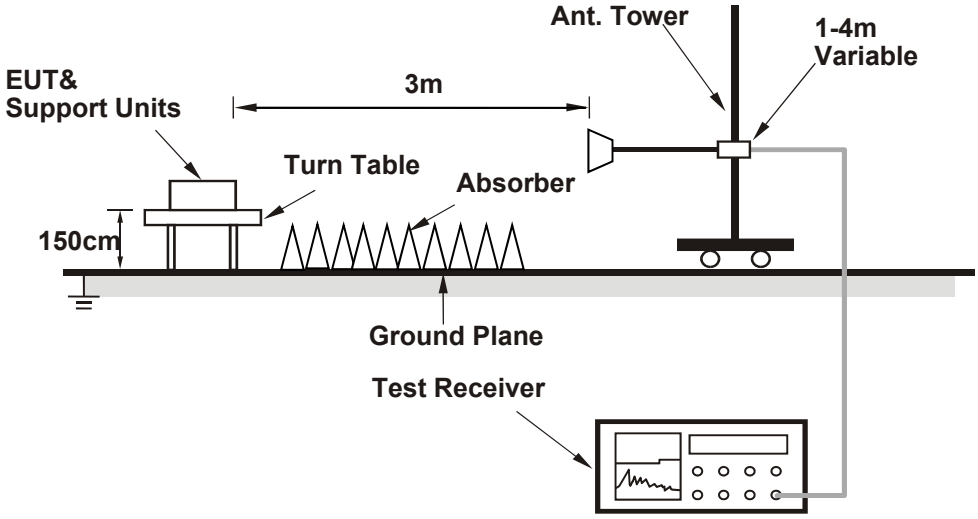
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

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 "PING".

4.1.7 Test Results

Above 1GHz data:

5G traffic radio:

802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5065.50	55.2 PK	74.0	-18.8	1.63 H	31	53.0	2.2
2	5065.50	43.2 AV	54.0	-10.8	1.63 H	31	41.0	2.2
3	*5260.00	115.9 PK			1.58 H	28	79.8	36.1
4	*5260.00	105.4 AV			1.58 H	28	69.3	36.1
5	#10520.00	57.9 PK	68.2	-10.3	2.91 H	199	42.7	15.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	53.7 PK	74.0	-20.3	1.93 V	13	51.6	2.1
2	5150.00	41.0 AV	54.0	-13.0	1.93 V	13	38.9	2.1
3	*5260.00	110.9 PK			1.87 V	10	74.8	36.1
4	*5260.00	99.9 AV			1.87 V	10	63.8	36.1
5	#10520.00	58.3 PK	68.2	-9.9	2.81 V	178	43.1	15.2

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	114.9 PK			1.64 H	24	78.8	36.1
2	*5300.00	104.4 AV			1.64 H	24	68.3	36.1
3	10600.00	57.4 PK	74.0	-16.6	2.99 H	204	41.8	15.6
4	10600.00	44.3 AV	54.0	-9.7	2.99 H	204	28.7	15.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	110.2 PK			1.85 V	6	74.1	36.1
2	*5300.00	99.6 AV			1.85 V	6	63.5	36.1
3	10600.00	58.5 PK	74.0	-15.5	2.93 V	189	42.9	15.6
4	10600.00	45.0 AV	54.0	-9.0	2.93 V	189	29.4	15.6

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	113.9 PK			3.47 H	320	77.7	36.2
2	*5320.00	103.7 AV			3.47 H	320	67.5	36.2
3	5350.00	53.0 PK	74.0	-21.0	3.22 H	317	51.0	2.0
4	5350.00	40.8 AV	54.0	-13.2	3.22 H	317	38.8	2.0
5	10640.00	55.9 PK	74.0	-18.1	2.88 H	185	40.1	15.8
6	10640.00	41.9 AV	54.0	-12.1	2.88 H	185	26.1	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	108.2 PK			1.73 V	11	72.0	36.2
2	*5320.00	97.5 AV			1.73 V	11	61.3	36.2
3	5350.00	52.0 PK	74.0	-22.0	1.84 V	5	50.0	2.0
4	5350.00	39.5 AV	54.0	-14.5	1.84 V	5	37.5	2.0
5	10640.00	55.6 PK	74.0	-18.4	2.95 V	190	39.8	15.8
6	10640.00	42.0 AV	54.0	-12.0	2.95 V	190	26.2	15.8

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	54.3 PK	74.0	-19.7	2.83 H	319	51.6	2.7
2	5460.00	42.1 AV	54.0	-11.9	2.83 H	319	39.4	2.7
3	#5470.00	54.6 PK	68.2	-13.6	2.75 H	315	51.9	2.7
4	*5500.00	116.2 PK			2.97 H	312	79.2	37.0
5	*5500.00	105.8 AV			2.97 H	312	68.8	37.0
6	11000.00	58.8 PK	74.0	-15.2	2.62 H	322	41.9	16.9
7	11000.00	44.7 AV	54.0	-9.3	2.62 H	322	27.8	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.3 PK	74.0	-20.7	3.77 V	53	50.6	2.7
2	5460.00	40.9 AV	54.0	-13.1	3.77 V	53	38.2	2.7
3	#5470.00	54.1 PK	68.2	-14.1	3.83 V	69	51.4	2.7
4	*5500.00	112.3 PK			3.72 V	49	75.3	37.0
5	*5500.00	101.9 AV			3.72 V	49	64.9	37.0
6	11000.00	59.6 PK	74.0	-14.4	1.10 V	353	42.7	16.9
7	11000.00	46.1 AV	54.0	-7.9	1.10 V	353	29.2	16.9

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	117.0 PK			3.02 H	316	80.1	36.9
2	*5580.00	106.5 AV			3.02 H	316	69.6	36.9
3	11160.00	58.3 PK	74.0	-15.7	2.77 H	326	42.6	15.7
4	11160.00	44.0 AV	54.0	-10.0	2.77 H	326	28.3	15.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	112.9 PK			3.79 V	51	76.0	36.9
2	*5580.00	102.5 AV			3.79 V	51	65.6	36.9
3	11160.00	59.3 PK	74.0	-14.7	1.19 V	347	43.6	15.7
4	11160.00	46.2 AV	54.0	-7.8	1.19 V	347	30.5	15.7

Remarks:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	116.0 PK			2.97 H	310	78.8	37.2
2	*5700.00	105.6 AV			2.97 H	310	68.4	37.2
3	#5725.00	55.5 PK	68.2	-12.7	2.78 H	301	52.6	2.9
4	11400.00	58.1 PK	74.0	-15.9	2.73 H	319	42.2	15.9
5	11400.00	44.0 AV	54.0	-10.0	2.73 H	319	28.1	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	111.7 PK			3.68 V	53	74.5	37.2
2	*5700.00	101.4 AV			3.68 V	53	64.2	37.2
3	#5725.00	53.5 PK	68.2	-14.7	3.73 V	47	50.6	2.9
4	11400.00	59.0 PK	74.0	-15.0	1.16 V	344	43.1	15.9
5	11400.00	45.9 AV	54.0	-8.1	1.16 V	344	30.0	15.9

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	57.4 PK	68.2	-10.8	2.02 H	295	51.2	6.2
2	*5720.00	119.9 PK			2.16 H	289	77.8	42.1
3	*5720.00	109.3 AV			2.16 H	289	67.2	42.1
4	#5850.00	58.3 PK	68.2	-9.9	2.21 H	299	51.6	6.7
5	11440.00	63.3 PK	74.0	-10.7	2.26 H	334	45.6	17.7
6	11440.00	49.6 AV	54.0	-4.4	2.26 H	334	31.9	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.9 PK	68.2	-10.3	1.35 V	352	51.7	6.2
2	*5720.00	112.5 PK			1.27 V	358	70.4	42.1
3	*5720.00	102.4 AV			1.27 V	358	60.3	42.1
4	#5850.00	58.3 PK	68.2	-9.9	1.33 V	342	51.6	6.7
5	11440.00	67.1 PK	74.0	-6.9	1.13 V	347	49.4	17.7
6	11440.00	52.9 AV	54.0	-1.1	1.13 V	347	35.2	17.7

Remarks:

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

802.11ax (HE20)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	52.8 PK	74.0	-21.2	3.31 H	21	50.7	2.1
2	5150.00	39.9 AV	54.0	-14.1	3.31 H	21	37.8	2.1
3	*5260.00	117.5 PK			3.09 H	11	81.4	36.1
4	*5260.00	104.4 AV			3.09 H	11	68.3	36.1
5	#10520.00	55.4 PK	68.2	-12.8	2.75 H	192	40.2	15.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	49.7 PK	74.0	-24.3	1.94 V	13	47.6	2.1
2	5150.00	38.7 AV	54.0	-15.3	1.94 V	13	36.6	2.1
3	*5260.00	110.0 PK			1.79 V	6	73.9	36.1
4	*5260.00	96.1 AV			1.79 V	6	60.0	36.1
5	#10520.00	56.2 PK	68.2	-12.0	2.88 V	186	41.0	15.2

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	117.6 PK			3.30 H	15	81.5	36.1
2	*5300.00	103.6 AV			3.30 H	15	67.5	36.1
3	10600.00	55.4 PK	74.0	-18.6	2.83 H	186	39.8	15.6
4	10600.00	41.9 AV	54.0	-12.1	2.83 H	186	26.3	15.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	111.3 PK			3.56 V	53	75.2	36.1
2	*5300.00	97.9 AV			3.56 V	53	61.8	36.1
3	10600.00	56.1 PK	74.0	-17.9	2.84 V	189	40.5	15.6
4	10600.00	42.4 AV	54.0	-11.6	2.84 V	189	26.8	15.6

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	117.8 PK			3.16 H	314	81.6	36.2
2	*5320.00	104.3 AV			3.16 H	314	68.1	36.2
3	5350.00	54.6 PK	74.0	-19.4	3.09 H	318	52.6	2.0
4	5350.00	41.3 AV	54.0	-12.7	3.09 H	318	39.3	2.0
5	10640.00	56.1 PK	74.0	-17.9	2.78 H	191	40.3	15.8
6	10640.00	41.7 AV	54.0	-12.3	2.78 H	191	25.9	15.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	113.5 PK			3.81 V	48	77.3	36.2
2	*5320.00	99.8 AV			3.81 V	48	63.6	36.2
3	5350.00	49.8 PK	74.0	-24.2	3.45 V	31	47.8	2.0
4	5350.00	38.4 AV	54.0	-15.6	3.45 V	31	36.4	2.0
5	10640.00	56.1 PK	74.0	-17.9	2.74 V	191	40.3	15.8
6	10640.00	42.6 AV	54.0	-11.4	2.74 V	191	26.8	15.8

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	53.6 PK	74.0	-20.4	3.22 H	308	50.9	2.7
2	5460.00	42.4 AV	54.0	-11.6	3.22 H	308	39.7	2.7
3	#5470.00	54.5 PK	68.2	-13.7	3.29 H	321	51.8	2.7
4	*5500.00	119.1 PK			2.96 H	310	82.1	37.0
5	*5500.00	105.1 AV			2.96 H	310	68.1	37.0
6	11000.00	58.6 PK	74.0	-15.4	2.73 H	318	41.7	16.9
7	11000.00	44.6 AV	54.0	-9.4	2.73 H	318	27.7	16.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	52.9 PK	74.0	-21.1	3.79 V	49	50.2	2.7
2	5460.00	41.3 AV	54.0	-12.7	3.79 V	49	38.6	2.7
3	#5470.00	53.6 PK	68.2	-14.6	3.71 V	57	50.9	2.7
4	*5500.00	114.6 PK			3.76 V	51	77.6	37.0
5	*5500.00	100.8 AV			3.76 V	51	63.8	37.0
6	11000.00	59.5 PK	74.0	-14.5	1.17 V	343	42.6	16.9
7	11000.00	45.9 AV	54.0	-8.1	1.17 V	343	29.0	16.9

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	119.7 PK			3.03 H	311	82.8	36.9
2	*5580.00	105.9 AV			3.03 H	311	69.0	36.9
3	11160.00	58.1 PK	74.0	-15.9	2.58 H	319	42.4	15.7
4	11160.00	44.0 AV	54.0	-10.0	2.58 H	319	28.3	15.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.3 PK			3.79 V	59	78.4	36.9
2	*5580.00	101.6 AV			3.79 V	59	64.7	36.9
3	11160.00	59.0 PK	74.0	-15.0	1.06 V	356	43.3	15.7
4	11160.00	45.4 AV	54.0	-8.6	1.06 V	356	29.7	15.7

Remarks:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	118.7 PK			3.03 H	308	81.5	37.2
2	*5700.00	105.2 AV			3.03 H	308	68.0	37.2
3	#5725.00	59.5 PK	68.2	-8.7	2.74 H	303	56.6	2.9
4	11400.00	58.0 PK	74.0	-16.0	2.67 H	331	42.1	15.9
5	11400.00	43.8 AV	54.0	-10.2	2.67 H	331	27.9	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	114.6 PK			3.73 V	48	77.4	37.2
2	*5700.00	101.0 AV			3.73 V	48	63.8	37.2
3	#5725.00	55.8 PK	68.2	-12.4	3.86 V	57	52.9	2.9
4	11400.00	59.1 PK	74.0	-14.9	1.15 V	347	43.2	15.9
5	11400.00	45.5 AV	54.0	-8.5	1.15 V	347	29.6	15.9

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	57.8 PK	68.2	-10.4	2.09 H	299	51.6	6.2
2	*5720.00	118.0 PK			2.25 H	290	75.9	42.1
3	*5720.00	108.2 AV			2.25 H	290	66.1	42.1
4	#5850.00	58.9 PK	68.2	-9.3	2.01 H	283	52.2	6.7
5	11440.00	63.7 PK	74.0	-10.3	2.23 H	333	46.0	17.7
6	11440.00	49.8 AV	54.0	-4.2	2.23 H	333	32.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.5 PK	68.2	-10.7	1.38 V	349	51.3	6.2
2	*5720.00	116.1 PK			1.21 V	357	74.0	42.1
3	*5720.00	102.3 AV			1.21 V	357	60.2	42.1
4	#5850.00	57.7 PK	68.2	-10.5	1.13 V	316	51.0	6.7
5	11440.00	68.4 PK	74.0	-5.6	1.20 V	349	50.7	17.7
6	**11440.00**	**53.0 AV**	**54.0**	**-1.0**	**1.20 V**	**349**	**35.3**	**17.7**

Remarks:

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

802.11ax (HE40)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	52.1 PK	74.0	-21.9	3.22 H	301	50.0	2.1
2	5150.00	40.3 AV	54.0	-13.7	3.22 H	301	38.2	2.1
3	*5270.00	114.9 PK			3.12 H	318	78.8	36.1
4	*5270.00	101.7 AV			3.12 H	318	65.6	36.1
5	#10540.00	55.6 PK	68.2	-12.6	2.77 H	178	40.2	15.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	49.8 PK	74.0	-24.2	3.45 V	334	47.7	2.1
2	5150.00	39.0 AV	54.0	-15.0	3.45 V	334	36.9	2.1
3	*5270.00	106.9 PK			3.34 V	310	70.8	36.1
4	*5270.00	94.0 AV			3.34 V	310	57.9	36.1
5	#10540.00	55.2 PK	68.2	-13.0	2.76 V	182	39.8	15.4

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	114.0 PK			3.12 H	320	77.9	36.1
2	*5310.00	101.0 AV			3.12 H	320	64.9	36.1
3	5350.00	58.2 PK	74.0	-15.8	2.86 H	322	56.2	2.0
4	5350.00	44.2 AV	54.0	-9.8	2.86 H	322	42.2	2.0
5	10620.00	55.8 PK	74.0	-18.2	2.75 H	176	40.2	15.6
6	10620.00	42.0 AV	54.0	-12.0	2.75 H	176	26.4	15.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	109.3 PK			3.81 V	50	73.2	36.1
2	*5310.00	97.0 AV			3.81 V	50	60.9	36.1
3	5350.00	51.6 PK	74.0	-22.4	3.81 V	318	49.6	2.0
4	5350.00	40.7 AV	54.0	-13.3	3.81 V	318	38.7	2.0
5	10620.00	55.3 PK	74.0	-18.7	2.65 V	183	39.7	15.6
6	10620.00	42.0 AV	54.0	-12.0	2.65 V	183	26.4	15.6

Remarks:

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

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	56.3 PK	74.0	-17.7	2.89 H	304	53.6	2.7
2	5460.00	44.0 AV	54.0	-10.0	2.89 H	304	41.3	2.7
3	#5470.00	61.6 PK	68.2	-6.6	2.93 H	311	58.9	2.7
4	*5510.00	116.1 PK			2.85 H	309	79.2	36.9
5	*5510.00	102.5 AV			2.85 H	309	65.6	36.9
6	11020.00	58.3 PK	74.0	-15.7	2.73 H	316	41.6	16.7
7	11020.00	44.2 AV	54.0	-9.8	2.73 H	316	27.5	16.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	54.4 PK	74.0	-19.6	3.61 V	64	51.7	2.7
2	5460.00	41.5 AV	54.0	-12.5	3.61 V	64	38.8	2.7
3	#5470.00	58.4 PK	68.2	-9.8	3.57 V	51	55.7	2.7
4	*5510.00	112.0 PK			3.67 V	58	75.1	36.9
5	*5510.00	98.3 AV			3.67 V	58	61.4	36.9
6	11020.00	59.2 PK	74.0	-14.8	1.24 V	341	42.5	16.7
7	11020.00	45.7 AV	54.0	-8.3	1.24 V	341	29.0	16.7

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	116.7 PK			2.94 H	314	79.8	36.9
2	*5550.00	103.2 AV			2.94 H	314	66.3	36.9
3	11100.00	57.7 PK	74.0	-16.3	2.69 H	316	41.8	15.9
4	11100.00	43.6 AV	54.0	-10.4	2.69 H	316	27.7	15.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5550.00	112.7 PK			3.83 V	61	75.8	36.9
2	*5550.00	99.1 AV			3.83 V	61	62.2	36.9
3	11100.00	59.0 PK	74.0	-15.0	1.11 V	357	43.1	15.9
4	11100.00	45.2 AV	54.0	-8.8	1.11 V	357	29.3	15.9

Remarks:

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

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	115.8 PK			2.46 H	302	78.8	37.0
2	*5670.00	102.4 AV			2.46 H	302	65.4	37.0
3	#5725.00	59.0 PK	68.2	-9.2	2.37 H	299	56.1	2.9
4	11340.00	57.7 PK	74.0	-16.3	2.61 H	314	41.6	16.1
5	11340.00	43.6 AV	54.0	-10.4	2.61 H	314	27.5	16.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	111.7 PK			3.71 V	55	74.7	37.0
2	*5670.00	98.1 AV			3.71 V	55	61.1	37.0
3	#5725.00	57.8 PK	68.2	-10.4	3.66 V	47	54.9	2.9
4	11340.00	58.4 PK	74.0	-15.6	1.09 V	345	42.3	16.1
5	11340.00	44.9 AV	54.0	-9.1	1.09 V	345	28.8	16.1

Remarks:

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

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	57.8 PK	68.2	-10.4	2.03 H	296	51.6	6.2
2	*5710.00	117.5 PK			2.16 H	288	75.3	42.2
3	*5710.00	107.5 AV			2.16 H	288	65.3	42.2
4	#5850.00	58.8 PK	68.2	-9.4	2.18 H	302	52.1	6.7
5	11420.00	62.3 PK	74.0	-11.7	2.18 H	308	44.7	17.6
6	11420.00	48.9 AV	54.0	-5.1	2.18 H	308	31.3	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.5 PK	68.2	-10.7	1.43 V	315	51.3	6.2
2	*5710.00	113.8 PK			1.00 V	281	71.6	42.2
3	*5710.00	101.1 AV			1.00 V	281	58.9	42.2
4	#5850.00	58.5 PK	68.2	-9.7	1.29 V	274	51.8	6.7
5	11420.00	66.1 PK	74.0	-7.9	1.11 V	341	48.5	17.6
6	11420.00	51.2 AV	54.0	-2.8	1.11 V	341	33.6	17.6

Remarks:

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

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CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	55.3 PK	74.0	-18.7	3.19 H	322	53.2	2.1
2	5150.00	41.5 AV	54.0	-12.5	3.19 H	322	39.4	2.1
3	*5290.00	112.2 PK			3.03 H	315	76.1	36.1
4	*5290.00	99.0 AV			3.03 H	315	62.9	36.1
5	5350.00	62.5 PK	74.0	-11.5	2.87 H	311	60.5	2.0
6	5350.00	47.8 AV	54.0	-6.2	2.87 H	311	45.8	2.0
7	#10580.00	56.4 PK	68.2	-11.8	2.79 H	175	40.9	15.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	52.8 PK	74.0	-21.2	3.81 V	4	50.7	2.1
2	5150.00	40.5 AV	54.0	-13.5	3.81 V	4	38.4	2.1
3	*5290.00	107.3 PK			3.83 V	54	71.2	36.1
4	*5290.00	94.4 AV			3.83 V	54	58.3	36.1
5	5350.00	58.2 PK	74.0	-15.8	3.94 V	57	56.2	2.0
6	5350.00	44.6 AV	54.0	-9.4	3.94 V	57	42.6	2.0
7	#10580.00	56.9 PK	68.2	-11.3	2.83 V	189	41.4	15.5

Remarks:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	65.0 PK	74.0	-9.0	2.90 H	313	62.3	2.7
2	5460.00	49.9 AV	54.0	-4.1	2.90 H	313	47.2	2.7
3	#5470.00	66.5 PK	68.2	-1.7	2.84 H	315	63.8	2.7
4	*5530.00	111.7 PK			3.42 H	313	74.8	36.9
5	*5530.00	98.6 AV			3.42 H	313	61.7	36.9
6	#5725.00	60.0 PK	68.2	-8.2	3.02 H	311	57.1	2.9
7	11060.00	57.8 PK	74.0	-16.2	2.71 H	312	41.4	16.4
8	11060.00	43.8 AV	54.0	-10.2	2.71 H	312	27.4	16.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	3.72 V	43	57.4	2.7
2	5460.00	47.0 AV	54.0	-7.0	3.72 V	43	44.3	2.7
3	#5470.00	62.0 PK	68.2	-6.2	3.77 V	51	59.3	2.7
4	*5530.00	108.1 PK			3.69 V	50	71.2	36.9
5	*5530.00	94.5 AV			3.69 V	50	57.6	36.9
6	#5725.00	59.1 PK	68.2	-9.1	3.61 V	57	56.2	2.9
7	11060.00	58.7 PK	74.0	-15.3	1.26 V	338	42.3	16.4
8	11060.00	45.0 AV	54.0	-9.0	1.26 V	338	28.6	16.4

Remarks:

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

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	55.8 PK	74.0	-18.2	2.93 H	311	53.1	2.7
2	5460.00	42.0 AV	54.0	-12.0	2.93 H	311	39.3	2.7
3	#5470.00	57.5 PK	68.2	-10.7	2.86 H	301	54.8	2.7
4	*5610.00	111.8 PK			2.77 H	312	74.9	36.9
5	*5610.00	99.5 AV			2.77 H	312	62.6	36.9
6	#5725.00	59.0 PK	68.2	-9.2	2.78 H	299	56.1	2.9
7	11220.00	56.9 PK	74.0	-17.1	2.59 H	317	41.4	15.5
8	11220.00	43.0 AV	54.0	-11.0	2.59 H	317	27.5	15.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	53.9 PK	74.0	-20.1	3.58 V	69	51.2	2.7
2	5460.00	41.3 AV	54.0	-12.7	3.58 V	69	38.6	2.7
3	#5470.00	55.2 PK	68.2	-13.0	3.67 V	59	52.5	2.7
4	*5610.00	107.7 PK			3.64 V	63	70.8	36.9
5	*5610.00	95.3 AV			3.64 V	63	58.4	36.9
6	#5725.00	57.3 PK	68.2	-10.9	3.72 V	53	54.4	2.9
7	11220.00	57.8 PK	74.0	-16.2	1.17 V	336	42.3	15.5
8	11220.00	44.2 AV	54.0	-9.8	1.17 V	336	28.7	15.5

Remarks:

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

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	57.5 PK	68.2	-10.7	2.19 H	253	51.3	6.2
2	*5690.00	117.0 PK			2.32 H	294	74.9	42.1
3	*5690.00	104.2 AV			2.32 H	294	62.1	42.1
4	#5850.00	60.5 PK	68.2	-7.7	2.00 H	262	53.8	6.7
5	11380.00	59.6 PK	74.0	-14.4	1.53 H	9	42.0	17.6
6	11380.00	46.9 AV	54.0	-7.1	1.53 H	9	29.3	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	57.2 PK	68.2	-11.0	1.18 V	326	51.0	6.2
2	*5690.00	109.9 PK			1.00 V	283	67.8	42.1
3	*5690.00	97.5 AV			1.00 V	283	55.4	42.1
4	#5850.00	59.5 PK	68.2	-8.7	1.13 V	295	52.8	6.7
5	11380.00	62.6 PK	74.0	-11.4	1.07 V	342	45.0	17.6
6	11380.00	49.0 AV	54.0	-5.0	1.07 V	342	31.4	17.6

Remarks:

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

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CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.1 PK	74.0	-15.9	1.62 H	17	51.6	6.5
2	5150.00	45.5 AV	54.0	-8.5	1.62 H	17	39.0	6.5
3	*5260.00	109.2 PK			1.56 H	26	67.4	41.8
4	*5260.00	98.7 AV			1.56 H	26	56.9	41.8
5	#10520.00	59.3 PK	68.2	-8.9	1.68 H	234	41.9	17.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	61.8 PK	74.0	-12.2	1.65 V	346	55.3	6.5
2	5150.00	50.3 AV	54.0	-3.7	1.65 V	346	43.8	6.5
3	*5260.00	115.1 PK			1.59 V	336	73.3	41.8
4	*5260.00	104.7 AV			1.59 V	336	62.9	41.8
5	#10520.00	59.7 PK	68.2	-8.5	1.95 V	201	42.3	17.4

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	110.8 PK			1.76 H	30	68.9	41.9
2	*5300.00	100.2 AV			1.76 H	30	58.3	41.9
3	5350.00	57.4 PK	74.0	-16.6	1.79 H	26	51.1	6.3
4	5350.00	45.9 AV	54.0	-8.1	1.79 H	26	39.6	6.3
5	10600.00	59.3 PK	74.0	-14.7	1.53 H	172	42.2	17.1
6	10600.00	45.1 AV	54.0	-8.9	1.53 H	172	28.0	17.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	116.1 PK			1.59 V	336	74.2	41.9
2	*5300.00	105.4 AV			1.59 V	336	63.5	41.9
3	5350.00	62.1 PK	74.0	-11.9	1.40 V	332	55.8	6.3
4	5350.00	49.0 AV	54.0	-5.0	1.40 V	332	42.7	6.3
5	10600.00	58.7 PK	74.0	-15.3	2.22 V	183	41.6	17.1
6	10600.00	45.1 AV	54.0	-8.9	2.22 V	183	28.0	17.1

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	110.3 PK			1.79 H	32	68.4	41.9
2	*5320.00	100.2 AV			1.79 H	32	58.3	41.9
3	5350.00	65.2 PK	74.0	-8.8	1.64 H	32	58.9	6.3
4	5350.00	48.6 AV	54.0	-5.4	1.64 H	32	42.3	6.3
5	10640.00	60.2 PK	74.0	-13.8	1.82 H	199	42.9	17.3
6	10640.00	45.8 AV	54.0	-8.2	1.82 H	199	28.5	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.7 PK			1.65 V	337	73.8	41.9
2	*5320.00	105.7 AV			1.65 V	337	63.8	41.9
3	5350.00	68.1 PK	74.0	-5.9	1.51 V	331	61.8	6.3
4	5350.00	52.5 AV	54.0	-1.5	1.51 V	331	46.2	6.3
5	10640.00	59.5 PK	74.0	-14.5	2.38 V	194	42.2	17.3
6	10640.00	45.3 AV	54.0	-8.7	2.38 V	194	28.0	17.3

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.6 PK	74.0	-14.4	1.21 H	33	53.4	6.2
2	5460.00	46.4 AV	54.0	-7.6	1.21 H	33	40.2	6.2
3	#5470.00	64.0 PK	68.2	-4.2	1.25 H	32	57.8	6.2
4	*5500.00	111.5 PK			1.32 H	44	69.6	41.9
5	*5500.00	101.1 AV			1.32 H	44	59.2	41.9
6	11000.00	59.7 PK	74.0	-14.3	1.02 H	218	41.3	18.4
7	11000.00	46.6 AV	54.0	-7.4	1.02 H	218	28.2	18.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	63.4 PK	74.0	-10.6	1.48 V	329	57.2	6.2
2	5460.00	50.6 AV	54.0	-3.4	1.48 V	329	44.4	6.2
3	#5470.00	66.9 PK	68.2	-1.3	1.58 V	331	60.7	6.2
4	*5500.00	116.7 PK			1.48 V	333	74.8	41.9
5	*5500.00	106.1 AV			1.48 V	333	64.2	41.9
6	11000.00	61.0 PK	74.0	-13.0	1.02 V	214	42.6	18.4
7	11000.00	47.3 AV	54.0	-6.7	1.02 V	214	28.9	18.4

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	116.1 PK			1.27 H	39	74.1	42.0
2	*5580.00	105.5 AV			1.27 H	39	63.5	42.0
3	11160.00	63.7 PK	74.0	-10.3	1.00 H	242	45.6	18.1
4	11160.00	49.6 AV	54.0	-4.4	1.00 H	242	31.5	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.5 PK			1.27 V	333	78.5	42.0
2	*5580.00	109.8 AV			1.27 V	333	67.8	42.0
3	11160.00	60.0 PK	74.0	-14.0	2.14 V	117	41.9	18.1
4	11160.00	46.3 AV	54.0	-7.7	2.14 V	117	28.2	18.1

Remarks:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	112.8 PK			1.32 H	48	70.7	42.1
2	*5700.00	102.1 AV			1.32 H	48	60.0	42.1
3	#5725.00	61.7 PK	68.2	-6.5	1.18 H	45	55.4	6.3
4	11400.00	59.2 PK	74.0	-14.8	1.96 H	128	41.6	17.6
5	11400.00	45.7 AV	54.0	-8.3	1.96 H	128	28.1	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	115.6 PK			1.42 V	334	73.5	42.1
2	*5700.00	105.2 AV			1.42 V	334	63.1	42.1
3	#5725.00	66.5 PK	68.2	-1.7	1.49 V	336	60.2	6.3
4	11400.00	59.6 PK	74.0	-14.4	2.24 V	13	42.0	17.6
5	11400.00	45.7 AV	54.0	-8.3	2.24 V	13	28.1	17.6

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	58.8 PK	74.0	-15.2	1.22 H	35	52.6	6.2
2	5460.00	45.4 AV	54.0	-8.6	1.22 H	35	39.2	6.2
3	#5470.00	58.6 PK	68.2	-9.6	1.31 H	44	52.4	6.2
4	*5720.00	116.2 PK			1.20 H	41	74.1	42.1
5	*5720.00	105.4 AV			1.20 H	41	63.3	42.1
6	#5850.00	59.2 PK	68.2	-9.0	1.34 H	56	52.5	6.7
7	11440.00	59.5 PK	74.0	-14.5	2.88 H	162	41.8	17.7
8	11440.00	46.1 AV	54.0	-7.9	2.88 H	162	28.4	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	61.2 PK	74.0	-12.8	1.67 V	336	55.0	6.2
2	5460.00	49.1 AV	54.0	-4.9	1.67 V	336	42.9	6.2
3	#5470.00	61.2 PK	68.2	-7.0	1.55 V	318	55.0	6.2
4	*5720.00	118.7 PK			1.40 V	335	76.6	42.1
5	*5720.00	108.0 AV			1.40 V	335	65.9	42.1
6	#5850.00	59.5 PK	68.2	-8.7	1.61 V	326	52.8	6.7
7	11440.00	59.3 PK	74.0	-14.7	2.18 V	26	41.6	17.7
8	11440.00	46.2 AV	54.0	-7.8	2.18 V	26	28.5	17.7

Remarks:

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

802.11n (HT20)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	59.7 PK	74.0	-14.3	1.69 H	21	53.2	6.5
2	5150.00	46.4 AV	54.0	-7.6	1.69 H	21	39.9	6.5
3	*5260.00	109.6 PK			1.64 H	33	67.8	41.8
4	*5260.00	99.3 AV			1.64 H	33	57.5	41.8
5	5350.00	58.5 PK	74.0	-15.5	1.55 H	39	52.2	6.3
6	5350.00	45.9 AV	54.0	-8.1	1.55 H	39	39.6	6.3
7	#10520.00	58.8 PK	68.2	-9.4	2.18 H	215	41.4	17.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.3 PK	74.0	-14.7	1.59 V	346	52.8	6.5
2	5150.00	48.1 AV	54.0	-5.9	1.59 V	346	41.6	6.5
3	*5260.00	116.3 PK			1.51 V	333	74.5	41.8
4	*5260.00	105.6 AV			1.51 V	333	63.8	41.8
5	5350.00	62.3 PK	74.0	-11.7	1.55 V	326	56.0	6.3
6	5350.00	49.1 AV	54.0	-4.9	1.55 V	326	42.8	6.3
7	#10560.00	59.9 PK	68.2	-8.3	1.83 V	265	42.5	17.4

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.5 PK			1.66 H	42	69.6	41.9
2	*5300.00	100.5 AV			1.66 H	42	58.6	41.9
3	5350.00	59.2 PK	74.0	-14.8	1.59 H	39	52.9	6.3
4	5350.00	46.1 AV	54.0	-7.9	1.59 H	39	39.8	6.3
5	10600.00	59.4 PK	74.0	-14.6	2.27 H	199	42.3	17.1
6	10600.00	45.0 AV	54.0	-9.0	2.27 H	199	27.9	17.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5300.00	117.8 PK			1.59 V	333	75.9	41.9
2	*5300.00	106.9 AV			1.59 V	333	65.0	41.9
3	5350.00	62.9 PK	74.0	-11.1	1.53 V	331	56.6	6.3
4	5350.00	48.9 AV	54.0	-5.1	1.53 V	331	42.6	6.3
5	10600.00	58.1 PK	74.0	-15.9	2.22 V	183	41.0	17.1
6	10600.00	44.4 AV	54.0	-9.6	2.22 V	183	27.3	17.1

Remarks:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.3 PK			1.61 H	36	67.4	41.9
2	*5320.00	98.9 AV			1.61 H	36	57.0	41.9
3	5350.00	61.9 PK	74.0	-12.1	1.55 H	37	55.6	6.3
4	5350.00	48.6 AV	54.0	-5.4	1.55 H	37	42.3	6.3
5	10640.00	59.4 PK	74.0	-14.6	2.26 H	191	42.1	17.3
6	10640.00	44.9 AV	54.0	-9.1	2.26 H	191	27.6	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5320.00	115.8 PK			1.57 V	334	73.9	41.9
2	*5320.00	105.5 AV			1.57 V	334	63.6	41.9
3	5350.00	66.1 PK	74.0	-7.9	1.33 V	330	59.8	6.3
4	5350.00	52.4 AV	54.0	-1.6	1.33 V	330	46.1	6.3
5	10640.00	59.3 PK	74.0	-14.7	2.31 V	196	42.0	17.3
6	10640.00	44.9 AV	54.0	-9.1	2.31 V	196	27.6	17.3

Remarks:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.3 PK	74.0	-14.7	1.28 H	31	53.1	6.2
2	5460.00	46.2 AV	54.0	-7.8	1.28 H	31	40.0	6.2
3	#5470.00	60.1 PK	68.2	-8.1	1.11 H	27	53.9	6.2
4	*5500.00	110.7 PK			1.31 H	43	68.8	41.9
5	*5500.00	100.3 AV			1.31 H	43	58.4	41.9
6	11000.00	61.9 PK	74.0	-12.1	1.00 H	241	43.5	18.4
7	11000.00	48.6 AV	54.0	-5.4	1.00 H	241	30.2	18.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.54 V	326	56.2	6.2
2	5460.00	49.8 AV	54.0	-4.2	1.54 V	326	43.6	6.2
3	#5470.00	66.7 PK	68.2	-1.5	1.56 V	336	60.5	6.2
4	*5500.00	116.3 PK			1.47 V	327	74.4	41.9
5	*5500.00	105.6 AV			1.47 V	327	63.7	41.9
6	11000.00	60.2 PK	74.0	-13.8	1.98 V	216	41.8	18.4
7	11000.00	46.3 AV	54.0	-7.7	1.98 V	216	27.9	18.4

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	115.6 PK			1.21 H	46	73.6	42.0
2	*5580.00	104.5 AV			1.21 H	46	62.5	42.0
3	11160.00	62.9 PK	74.0	-11.1	1.00 H	286	44.8	18.1
4	11160.00	49.0 AV	54.0	-5.0	1.00 H	286	30.9	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5580.00	120.1 PK			1.40 V	337	78.1	42.0
2	*5580.00	109.3 AV			1.40 V	337	67.3	42.0
3	11160.00	60.4 PK	74.0	-13.6	2.14 V	174	42.3	18.1
4	11160.00	46.1 AV	54.0	-7.9	2.14 V	174	28.0	18.1

Remarks:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.9 PK			1.21 H	42	69.8	42.1
2	*5700.00	101.0 AV			1.21 H	42	58.9	42.1
3	#5725.00	61.1 PK	68.2	-7.1	1.16 H	35	54.8	6.3
4	11400.00	59.9 PK	74.0	-14.1	1.00 H	282	42.3	17.6
5	11400.00	45.9 AV	54.0	-8.1	1.00 H	282	28.3	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5700.00	115.5 PK			1.30 V	333	73.4	42.1
2	*5700.00	104.4 AV			1.30 V	333	62.3	42.1
3	#5725.00	66.6 PK	68.2	-1.6	1.28 V	339	60.3	6.3
4	11400.00	59.8 PK	74.0	-14.2	2.09 V	174	42.2	17.6
5	11400.00	45.6 AV	54.0	-8.4	2.09 V	174	28.0	17.6

Remarks:

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

CHANNEL	TX Channel 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.3 PK	74.0	-14.7	1.25 H	38	53.1	6.2
2	5460.00	46.0 AV	54.0	-8.0	1.25 H	38	39.8	6.2
3	#5470.00	58.5 PK	68.2	-9.7	1.19 H	31	52.3	6.2
4	*5720.00	115.7 PK			1.18 H	40	73.6	42.1
5	*5720.00	104.8 AV			1.18 H	40	62.7	42.1
6	#5850.00	59.2 PK	68.2	-9.0	1.21 H	29	52.5	6.7
7	11440.00	61.6 PK	74.0	-12.4	1.06 H	221	43.9	17.7
8	11440.00	47.8 AV	54.0	-6.2	1.06 H	221	30.1	17.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.1 PK	74.0	-13.9	1.28 V	326	53.9	6.2
2	5460.00	48.0 AV	54.0	-6.0	1.28 V	326	41.8	6.2
3	#5470.00	60.8 PK	68.2	-7.4	1.25 V	329	54.6	6.2
4	*5720.00	118.6 PK			1.20 V	333	76.5	42.1
5	*5720.00	107.9 AV			1.20 V	333	65.8	42.1
6	#5850.00	59.6 PK	68.2	-8.6	1.46 V	341	52.9	6.7
7	11440.00	60.0 PK	74.0	-14.0	2.09 V	264	42.3	17.7
8	11440.00	45.8 AV	54.0	-8.2	2.09 V	264	28.1	17.7

Remarks:

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

802.11n (HT40)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.9 PK	74.0	-15.1	1.89 H	15	52.4	6.5
2	5150.00	46.3 AV	54.0	-7.7	1.89 H	15	39.8	6.5
3	*5270.00	107.9 PK			1.66 H	30	66.0	41.9
4	*5270.00	97.5 AV			1.66 H	30	55.6	41.9
5	5350.00	58.6 PK	74.0	-15.4	1.66 H	41	52.3	6.3
6	5350.00	45.9 AV	54.0	-8.1	1.66 H	41	39.6	6.3
7	#10540.00	60.2 PK	68.2	-8.0	2.84 H	173	42.7	17.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.6 PK	74.0	-14.4	1.55 V	345	53.1	6.5
2	5150.00	48.3 AV	54.0	-5.7	1.55 V	345	41.8	6.5
3	*5270.00	113.9 PK			1.48 V	336	72.0	41.9
4	*5270.00	103.9 AV			1.48 V	336	62.0	41.9
5	5350.00	61.9 PK	74.0	-12.1	1.48 V	330	55.6	6.3
6	5350.00	48.5 AV	54.0	-5.5	1.48 V	330	42.2	6.3
7	#10540.00	59.9 PK	68.2	-8.3	1.89 V	216	42.4	17.5

Remarks:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	105.7 PK			1.64 H	36	63.8	41.9
2	*5310.00	95.2 AV			1.64 H	36	53.3	41.9
3	5350.00	61.7 PK	74.0	-12.3	1.62 H	32	55.4	6.3
4	5350.00	48.9 AV	54.0	-5.1	1.62 H	32	42.6	6.3
5	10620.00	59.8 PK	74.0	-14.2	2.21 H	196	42.5	17.3
6	10620.00	45.1 AV	54.0	-8.9	2.21 H	196	27.8	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5310.00	111.9 PK			1.57 V	338	70.0	41.9
2	*5310.00	101.2 AV			1.57 V	338	59.3	41.9
3	5350.00	65.8 PK	74.0	-8.2	1.33 V	329	59.5	6.3
4	5350.00	52.9 AV	54.0	-1.1	1.33 V	329	46.6	6.3
5	10620.00	59.9 PK	74.0	-14.1	1.89 V	211	42.6	17.3
6	10620.00	45.1 AV	54.0	-8.9	1.89 V	211	27.8	17.3

Remarks:

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

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	59.7 PK	74.0	-14.3	1.32 H	25	53.5	6.2
2	5460.00	46.0 AV	54.0	-8.0	1.32 H	25	39.8	6.2
3	#5470.00	60.7 PK	68.2	-7.5	1.21 H	49	54.5	6.2
4	*5510.00	106.9 PK			1.31 H	46	65.0	41.9
5	*5510.00	96.2 AV			1.31 H	46	54.3	41.9
6	11020.00	60.6 PK	74.0	-13.4	1.08 H	296	42.3	18.3
7	11020.00	46.5 AV	54.0	-7.5	1.08 H	296	28.2	18.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	62.6 PK	74.0	-11.4	1.48 V	331	56.4	6.2
2	5460.00	50.3 AV	54.0	-3.7	1.48 V	331	44.1	6.2
3	#5470.00	66.5 PK	68.2	-1.7	1.49 V	329	60.3	6.2
4	*5510.00	112.4 PK			1.48 V	332	70.5	41.9
5	*5510.00	101.6 AV			1.48 V	332	59.7	41.9
6	11020.00	60.4 PK	74.0	-13.6	2.09 V	193	42.1	18.3
7	11020.00	46.1 AV	54.0	-7.9	2.09 V	193	27.8	18.3

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	61.5 PK	68.2	-6.7	1.28 H	43	55.3	6.2
2	*5550.00	110.4 PK			1.21 H	43	68.4	42.0
3	*5550.00	99.6 AV			1.21 H	43	57.6	42.0
4	11100.00	60.4 PK	74.0	-13.6	1.03 H	279	42.5	17.9
5	11100.00	46.2 AV	54.0	-7.8	1.03 H	279	28.3	17.9
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	66.5 PK	68.2	-1.7	1.53 V	332	60.3	6.2
2	*5550.00	114.5 PK			1.31 V	332	72.5	42.0
3	*5550.00	104.1 AV			1.31 V	332	62.1	42.0
4	11100.00	60.1 PK	74.0	-13.9	1.96 V	213	42.2	17.9
5	11100.00	45.8 AV	54.0	-8.2	1.96 V	213	27.9	17.9

Remarks:

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

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.2 PK			1.21 H	33	67.1	42.1
2	*5670.00	98.4 AV			1.21 H	33	56.3	42.1
3	#5725.00	64.2 PK	68.2	-4.0	1.22 H	41	57.9	6.3
4	11340.00	60.4 PK	74.0	-13.6	1.02 H	267	42.6	17.8
5	11340.00	46.3 AV	54.0	-7.7	1.02 H	267	28.5	17.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5670.00	113.0 PK			1.39 V	335	70.9	42.1
2	*5670.00	102.0 AV			1.39 V	335	59.9	42.1
3	#5725.00	66.7 PK	68.2	-1.5	1.39 V	333	60.4	6.3
4	11340.00	60.2 PK	74.0	-13.8	2.16 V	206	42.4	17.8
5	11340.00	46.3 AV	54.0	-7.7	2.16 V	206	28.5	17.8

Remarks:

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

CHANNEL	TX Channel 142	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.5 PK	74.0	-15.5	1.11 H	42	52.3	6.2
2	5460.00	46.0 AV	54.0	-8.0	1.11 H	42	39.8	6.2
3	#5470.00	58.7 PK	68.2	-9.5	1.25 H	26	52.5	6.2
4	*5710.00	112.3 PK			1.22 H	28	70.1	42.2
5	*5710.00	101.5 AV			1.22 H	28	59.3	42.2
6	#5850.00	60.8 PK	68.2	-7.4	1.33 H	29	54.1	6.7
7	11420.00	61.9 PK	74.0	-12.1	1.00 H	288	44.3	17.6
8	11420.00	47.7 AV	54.0	-6.3	1.00 H	288	30.1	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.6 PK	74.0	-13.4	1.40 V	335	54.4	6.2
2	5460.00	48.0 AV	54.0	-6.0	1.40 V	335	41.8	6.2
3	#5470.00	61.1 PK	68.2	-7.1	1.36 V	318	54.9	6.2
4	*5710.00	116.0 PK			1.41 V	335	73.8	42.2
5	*5710.00	105.0 AV			1.41 V	335	62.8	42.2
6	#5850.00	61.9 PK	68.2	-6.3	1.44 V	326	55.2	6.7
7	11420.00	59.9 PK	74.0	-14.1	2.18 V	194	42.3	17.6
8	11420.00	45.7 AV	54.0	-8.3	2.18 V	194	28.1	17.6

Remarks:

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

802.11ac (VHT80)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	58.5 PK	74.0	-15.5	1.69 H	35	52.0	6.5
2	5150.00	46.5 AV	54.0	-7.5	1.69 H	35	40.0	6.5
3	*5290.00	93.5 PK			1.77 H	30	51.6	41.9
4	*5290.00	82.0 AV			1.77 H	30	40.1	41.9
5	5350.00	60.9 PK	74.0	-13.1	1.79 H	32	54.6	6.3
6	5350.00	49.5 AV	54.0	-4.5	1.79 H	32	43.2	6.3
7	#10580.00	59.9 PK	68.2	-8.3	2.64 H	173	42.6	17.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5150.00	59.0 PK	74.0	-15.0	1.46 V	316	52.5	6.5
2	5150.00	48.1 AV	54.0	-5.9	1.46 V	316	41.6	6.5
3	*5290.00	99.0 PK			1.51 V	333	57.1	41.9
4	*5290.00	87.9 AV			1.51 V	333	46.0	41.9
5	5350.00	67.5 PK	74.0	-6.5	1.55 V	329	61.2	6.3
6	5350.00	53.7 AV	54.0	-0.3	1.55 V	329	47.4	6.3
7	#10580.00	59.6 PK	68.2	-8.6	2.61 V	299	42.3	17.3

Remarks:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.2 PK	74.0	-15.8	1.19 H	31	52.0	6.2
2	5460.00	46.2 AV	54.0	-7.8	1.19 H	31	40.0	6.2
3	#5470.00	60.2 PK	68.2	-8.0	1.21 H	45	54.0	6.2
4	*5530.00	93.7 PK			1.14 H	40	51.7	42.0
5	*5530.00	83.3 AV			1.14 H	40	41.3	42.0
6	#5725.00	58.2 PK	68.2	-10.0	1.18 H	30	51.9	6.3
7	11060.00	59.7 PK	74.0	-14.3	1.01 H	239	41.6	18.1
8	11060.00	45.9 AV	54.0	-8.1	1.01 H	239	27.8	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.8 PK	74.0	-13.2	1.48 V	337	54.6	6.2
2	5460.00	48.4 AV	54.0	-5.6	1.48 V	337	42.2	6.2
3	#5470.00	67.7 PK	68.2	-0.5	1.43 V	337	61.5	6.2
4	*5530.00	99.9 PK			1.49 V	333	57.9	42.0
5	*5530.00	89.7 AV			1.49 V	333	47.7	42.0
6	#5725.00	58.1 PK	68.2	-10.1	1.55 V	340	51.8	6.3
7	11060.00	60.4 PK	74.0	-13.6	2.26 V	199	42.3	18.1
8	11060.00	46.2 AV	54.0	-7.8	2.26 V	199	28.1	18.1

Remarks:

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

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	60.7 PK	74.0	-13.3	1.29 H	30	54.5	6.2
2	5460.00	47.7 AV	54.0	-6.3	1.29 H	30	41.5	6.2
3	#5470.00	61.2 PK	68.2	-7.0	1.21 H	33	55.0	6.2
4	*5610.00	107.1 PK			1.23 H	26	65.1	42.0
5	*5610.00	97.1 AV			1.23 H	26	55.1	42.0
6	#5725.00	63.2 PK	68.2	-5.0	1.29 H	31	56.9	6.3
7	11220.00	60.7 PK	74.0	-13.3	1.11 H	286	42.6	18.1
8	11220.00	46.9 AV	54.0	-7.1	1.11 H	286	28.8	18.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5460.00	64.1 PK	74.0	-9.9	1.55 V	326	57.9	6.2
2	5460.00	50.9 AV	54.0	-3.1	1.55 V	326	44.7	6.2
3	#5470.00	66.0 PK	68.2	-2.2	1.59 V	332	59.8	6.2
4	*5610.00	110.9 PK			1.48 V	326	68.9	42.0
5	*5610.00	100.5 AV			1.48 V	326	58.5	42.0
6	#5725.00	66.5 PK	68.2	-1.7	1.57 V	340	60.2	6.3
7	11220.00	60.5 PK	74.0	-13.5	2.03 V	248	42.4	18.1
8	11220.00	46.3 AV	54.0	-7.7	2.03 V	248	28.2	18.1

Remarks:

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

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	59.1 PK	68.2	-9.1	1.38 H	39	52.9	6.2
2	*5690.00	108.8 PK			1.33 H	43	66.7	42.1
3	*5690.00	97.6 AV			1.33 H	43	55.5	42.1
4	#5850.00	63.7 PK	68.2	-4.5	1.22 H	38	57.0	6.7
5	11380.00	60.1 PK	74.0	-13.9	1.03 H	215	42.5	17.6
6	11380.00	47.4 AV	54.0	-6.6	1.03 H	215	29.8	17.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#5470.00	61.5 PK	68.2	-6.7	1.54 V	332	55.3	6.2
2	*5690.00	111.9 PK			1.38 V	336	69.8	42.1
3	*5690.00	100.9 AV			1.38 V	336	58.8	42.1
4	#5850.00	66.7 PK	68.2	-1.5	1.29 V	333	60.0	6.7
5	11380.00	59.8 PK	74.0	-14.2	2.06 V	182	42.2	17.6
6	11380.00	45.7 AV	54.0	-8.3	2.06 V	182	28.1	17.6

Remarks:

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

Below 1GHz Worst-Case

5G traffic radio:

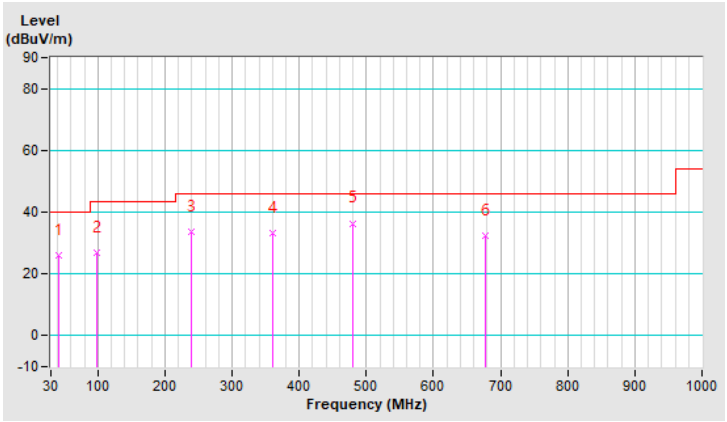
802.11ax (HE40)

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	42.65	26.0 QP	40.0	-14.0	1.50 H	244	35.4	-9.4
2	98.88	26.8 QP	43.5	-16.7	1.00 H	214	40.3	-13.5
3	239.46	33.7 QP	46.0	-12.3	1.00 H	273	42.9	-9.2
4	360.36	33.4 QP	46.0	-12.6	2.00 H	120	38.8	-5.4
5	479.86	36.4 QP	46.0	-9.6	1.00 H	53	39.0	-2.6
6	678.07	32.4 QP	46.0	-13.6	1.00 H	137	30.7	1.7

Remarks:

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

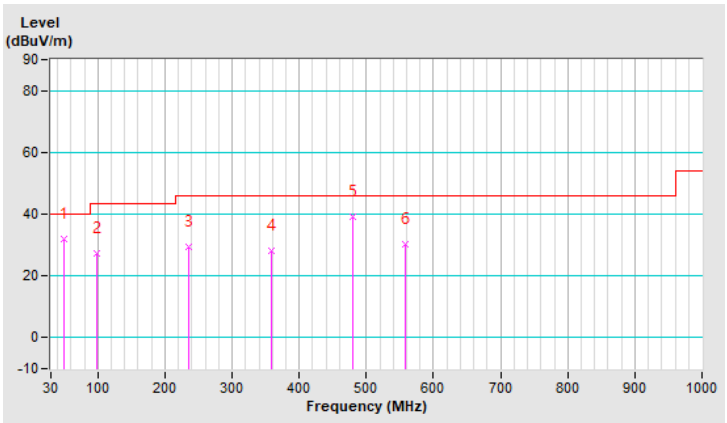


CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	31.9 QP	40.0	-8.1	1.50 V	11	41.0	-9.1
2	98.88	27.3 QP	43.5	-16.2	1.50 V	40	40.8	-13.5
3	235.25	29.4 QP	46.0	-16.6	1.00 V	272	39.1	-9.7
4	358.96	28.3 QP	46.0	-17.7	1.00 V	146	33.7	-5.4
5	479.86	39.2 QP	46.0	-6.8	2.00 V	350	41.8	-2.6
6	558.58	30.3 QP	46.0	-15.7	1.00 V	271	31.4	-1.1

Remarks:

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

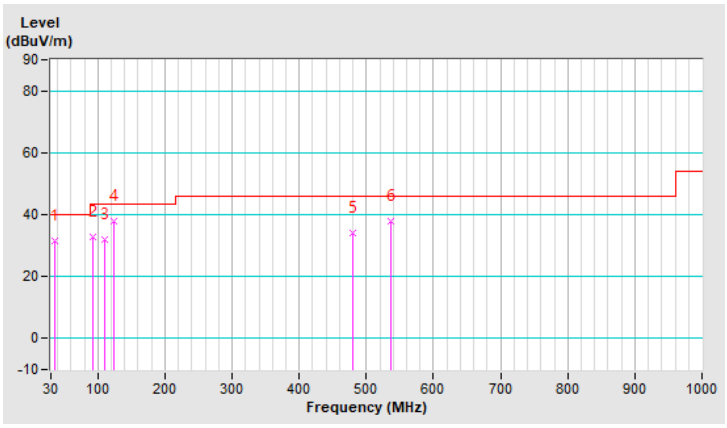


CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.62	31.4 QP	40.0	-8.6	1.49 H	288	41.6	-10.2
2	91.86	32.9 QP	43.5	-10.6	2.00 H	289	47.1	-14.2
3	110.13	32.1 QP	43.5	-11.4	1.49 H	126	43.9	-11.8
4	124.19	38.0 QP	43.5	-5.5	2.00 H	266	48.5	-10.5
5	479.86	34.1 QP	46.0	-11.9	2.00 H	6	36.7	-2.6
6	536.09	37.8 QP	46.0	-8.2	1.49 H	143	39.4	-1.6

Remarks:

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

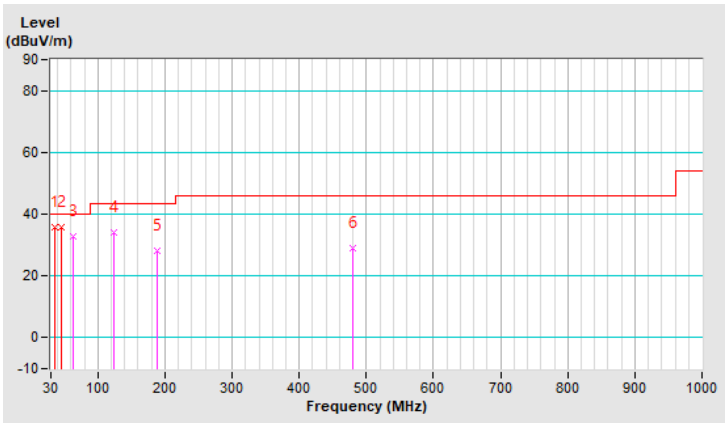


CHANNEL	TX Channel 134	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	36.65	35.6 QP	40.0	-4.4	1.00 V	190	45.7	-10.1
2	46.32	35.9 QP	40.0	-4.1	1.00 V	33	44.9	-9.0
3	63.74	33.0 QP	40.0	-7.0	2.00 V	4	42.6	-9.6
4	124.19	34.0 QP	43.5	-9.5	1.00 V	217	44.5	-10.5
5	187.45	28.0 QP	43.5	-15.5	1.00 V	75	38.6	-10.6
6	479.86	29.1 QP	46.0	-16.9	1.00 V	310	31.7	-2.6

Remarks:

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



Scanning radio:

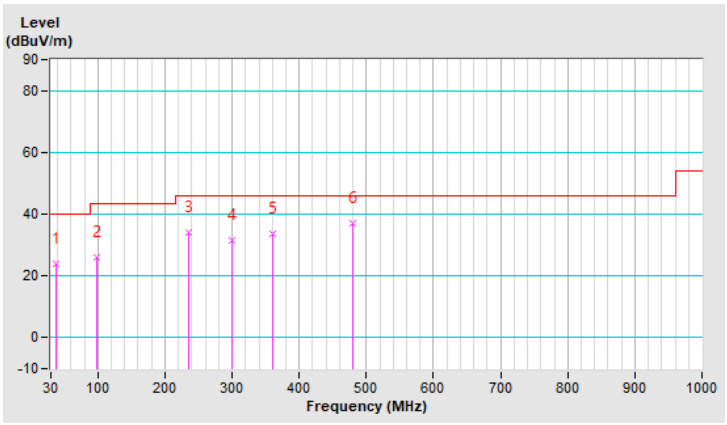
802.11a

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	38.43	23.7 QP	40.0	-16.3	1.50 H	231	33.5	-9.8
2	98.88	26.1 QP	43.5	-17.4	1.00 H	154	39.6	-13.5
3	235.25	33.9 QP	46.0	-12.1	1.00 H	258	43.6	-9.7
4	299.91	31.4 QP	46.0	-14.6	1.50 H	117	38.0	-6.6
5	360.36	33.6 QP	46.0	-12.4	1.00 H	128	39.0	-5.4
6	479.86	37.0 QP	46.0	-9.0	2.00 H	39	39.6	-2.6

Remarks:

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

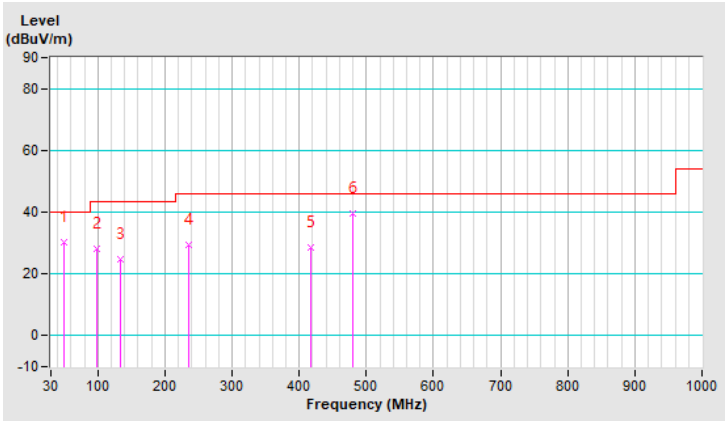


CHANNEL	TX Channel 116	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	30.1 QP	40.0	-9.9	1.00 V	68	39.2	-9.1
2	98.88	28.2 QP	43.5	-15.3	1.00 V	57	41.7	-13.5
3	134.03	24.7 QP	43.5	-18.8	1.00 V	8	34.2	-9.5
4	235.25	29.2 QP	46.0	-16.8	2.00 V	258	38.9	-9.7
5	418.00	28.5 QP	46.0	-17.5	1.00 V	194	32.6	-4.1
6	479.86	39.6 QP	46.0	-6.4	1.50 V	2	42.2	-2.6

Remarks:

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

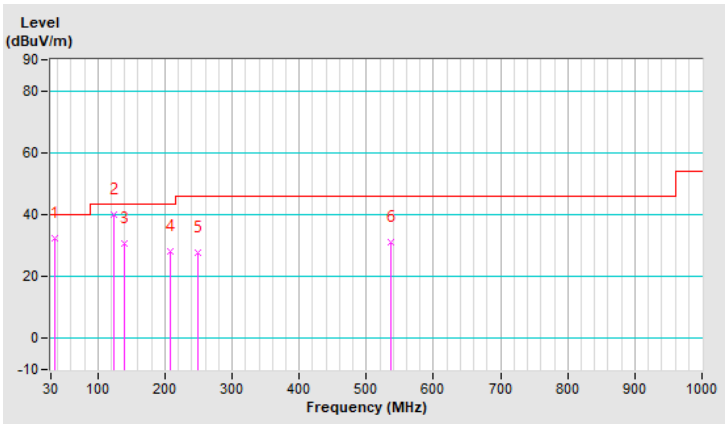


CHANNEL	TX Channel 116	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.62	32.4 QP	40.0	-7.6	2.00 H	47	42.6	-10.2
2	124.19	40.2 QP	43.5	-3.3	1.49 H	248	50.7	-10.5
3	139.65	30.7 QP	43.5	-12.8	2.00 H	72	39.7	-9.0
4	207.13	28.2 QP	43.5	-15.3	1.49 H	124	39.3	-11.1
5	249.30	27.6 QP	46.0	-18.4	1.00 H	70	36.4	-8.8
6	536.09	31.1 QP	46.0	-14.9	1.49 H	16	32.7	-1.6

Remarks:

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

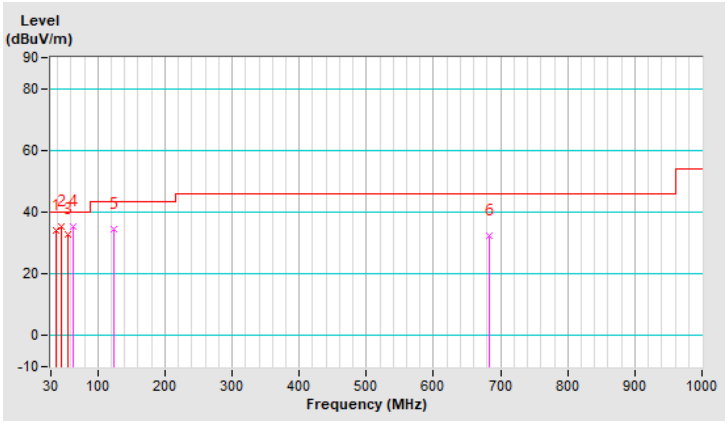


CHANNEL	TX Channel 116	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz	TEST MODE	B

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.42	33.9 QP	40.0	-6.1	1.49 V	351	43.8	-9.9
2	45.42	35.3 QP	40.0	-4.7	1.00 V	9	44.4	-9.1
3	55.25	32.7 QP	40.0	-7.3	1.00 V	270	41.8	-9.1
4	63.74	35.5 QP	40.0	-4.5	1.00 V	14	45.1	-9.6
5	124.19	34.6 QP	43.5	-8.9	2.00 V	55	45.1	-10.5
6	682.29	32.3 QP	46.0	-13.7	2.00 V	326	30.4	1.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20dB 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	ESCI	100613	Dec. 11, 2019	Dec. 10, 2020
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 20, 2020	Feb. 19, 2021
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 28, 2020	Aug. 27, 2021
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 1 (Conduction 1).
3. The VCCI Site Registration No. is C-12040.

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.

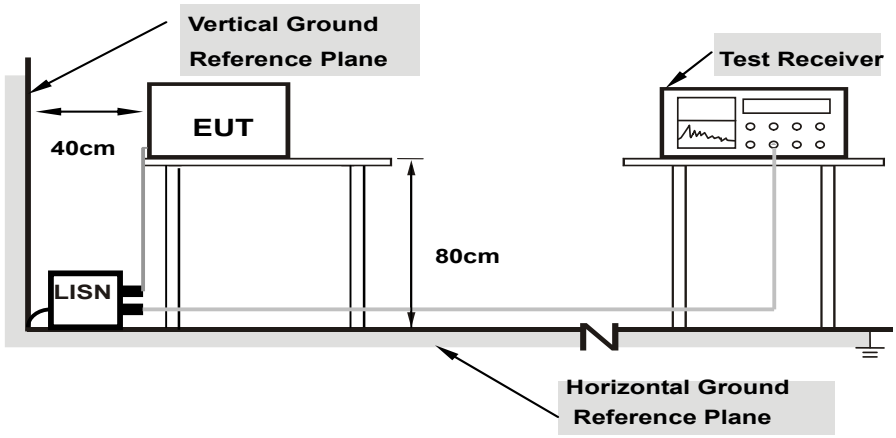
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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:

5G traffic radio:

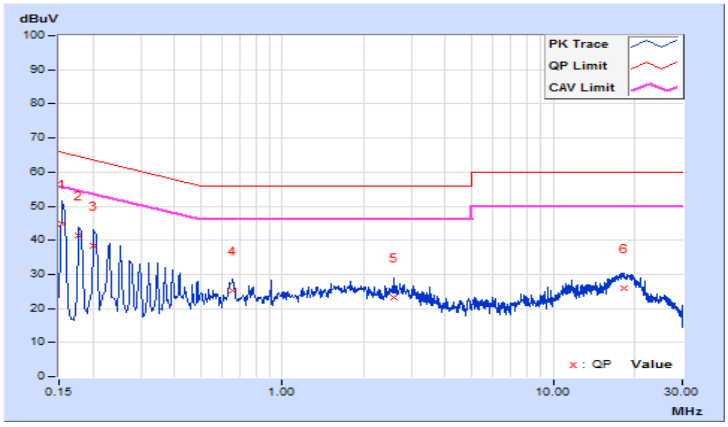
802.11ax (HE40)

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

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	0.15400	9.65	35.24	18.36	44.89	28.01	65.78	55.78	-20.89	-27.77
2	0.17800	9.66	31.89	16.21	41.55	25.87	64.58	54.58	-23.03	-28.71
3	0.20200	9.66	28.56	14.16	38.22	23.82	63.53	53.53	-25.31	-29.71
4	0.65800	9.66	15.68	11.81	25.34	21.47	56.00	46.00	-30.66	-24.53
5	2.57400	9.71	13.41	8.43	23.12	18.14	56.00	46.00	-32.88	-27.86
6	18.19400	9.86	16.22	11.97	26.08	21.83	60.00	50.00	-33.92	-28.17

Remarks:

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

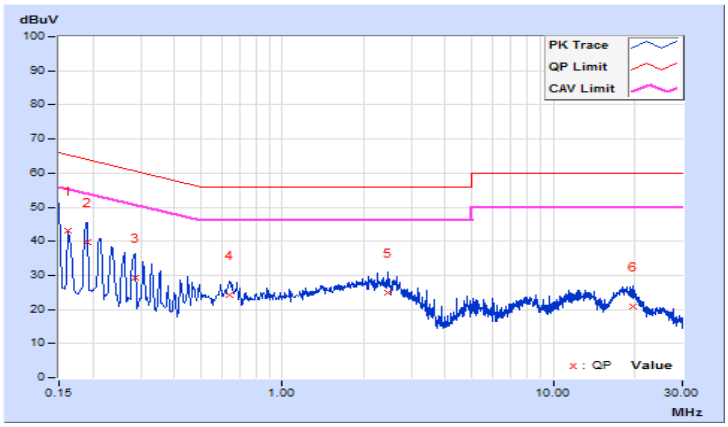


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.16200	9.68	33.57	18.04	43.25	27.72	65.36	55.36	-22.11	-27.64
2	0.19000	9.68	30.06	15.42	39.74	25.10	64.04	54.04	-24.30	-28.94
3	0.28600	9.68	19.68	8.88	29.36	18.56	60.64	50.64	-31.28	-32.08
4	0.63800	9.68	14.43	9.85	24.11	19.53	56.00	46.00	-31.89	-26.47
5	2.47000	9.74	15.25	10.54	24.99	20.28	56.00	46.00	-31.01	-25.72
6	19.76200	9.98	10.77	6.37	20.75	16.35	60.00	50.00	-39.25	-33.65

Remarks:

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

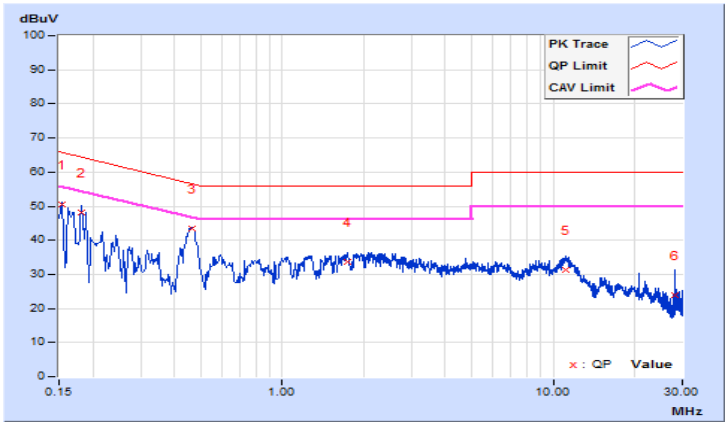


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	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	0.15391	9.58	40.82	29.22	50.40	38.80	65.79	55.79	-15.39	-16.99
2	0.18122	9.59	38.55	23.80	48.14	33.39	64.43	54.43	-16.29	-21.04
3	0.46669	9.58	33.85	28.62	43.43	38.20	56.57	46.57	-13.14	-8.37
4	1.73339	9.62	23.90	19.45	33.52	29.07	56.00	46.00	-22.48	-16.93
5	11.08627	9.72	21.62	16.59	31.34	26.31	60.00	50.00	-28.66	-23.69
6	28.16515	9.76	14.19	5.97	23.95	15.73	60.00	50.00	-36.05	-34.27

Remarks:

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

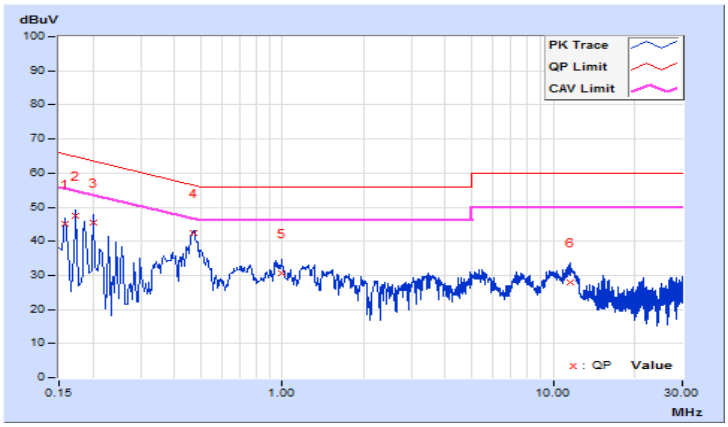


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	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	0.15782	9.56	35.63	28.48	45.19	38.04	65.58	55.58	-20.39	-17.54
2	0.17346	9.56	38.02	24.91	47.58	34.47	64.79	54.79	-17.21	-20.32
3	0.20083	9.57	35.82	20.00	45.39	29.57	63.58	53.58	-18.19	-24.01
4	0.46915	9.56	33.02	27.30	42.58	36.86	56.53	46.53	-13.95	-9.67
5	1.00238	9.58	21.10	17.92	30.68	27.50	56.00	46.00	-25.32	-18.50
6	11.54765	9.74	18.27	13.18	28.01	22.92	60.00	50.00	-31.99	-27.08

Remarks:

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



Scanning radio:

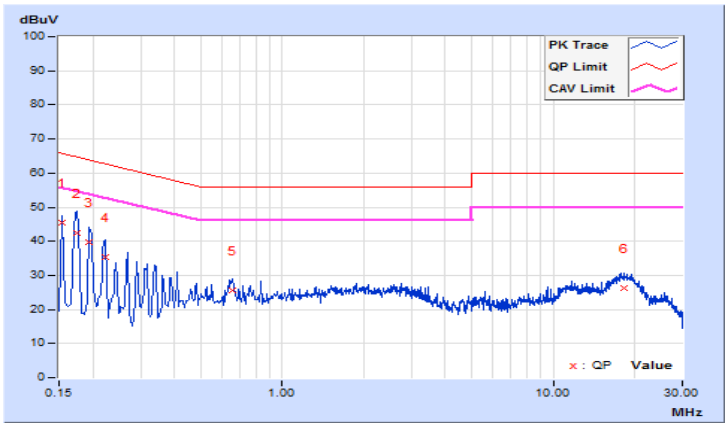
802.11a

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

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	0.15400	9.65	35.71	18.54	45.36	28.19	65.78	55.78	-20.42	-27.59
2	0.17384	9.65	32.69	17.35	42.34	27.00	64.77	54.77	-22.43	-27.77
3	0.19400	9.66	30.19	14.75	39.85	24.41	63.86	53.86	-24.01	-29.45
4	0.22152	9.66	25.84	11.88	35.50	21.54	62.76	52.76	-27.26	-31.22
5	0.65400	9.66	16.04	11.58	25.70	21.24	56.00	46.00	-30.30	-24.76
6	18.25000	9.86	16.35	11.87	26.21	21.73	60.00	50.00	-33.79	-28.27

Remarks:

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

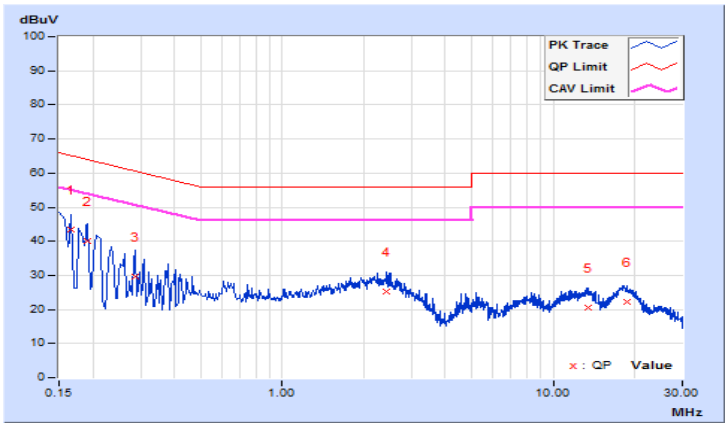


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	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	0.16600	9.68	33.62	17.68	43.30	27.36	65.16	55.16	-21.86	-27.80
2	0.19000	9.68	30.38	15.54	40.06	25.22	64.04	54.04	-23.98	-28.82
3	0.28600	9.68	20.01	8.83	29.69	18.51	60.64	50.64	-30.95	-32.13
4	2.43400	9.74	15.53	10.99	25.27	20.73	56.00	46.00	-30.73	-25.27
5	13.53000	9.90	10.63	5.62	20.53	15.52	60.00	50.00	-39.47	-34.48
6	18.65000	9.97	12.12	7.87	22.09	17.84	60.00	50.00	-37.91	-32.16

Remarks:

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

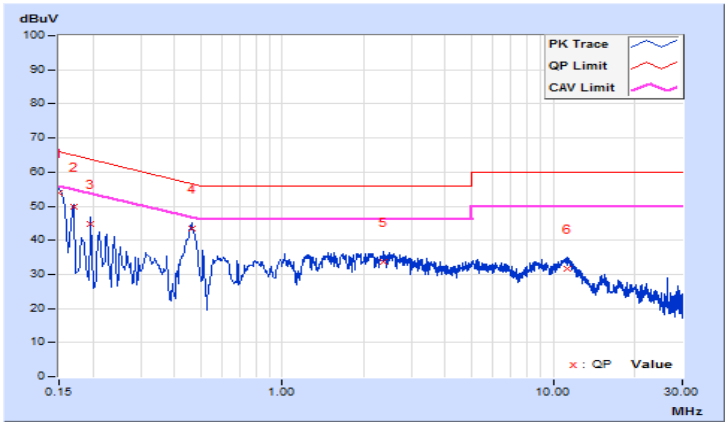


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	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	0.15000	9.58	44.17	29.24	53.75	38.82	66.00	56.00	-12.25	-17.18
2	0.16955	9.58	40.21	25.36	49.79	34.94	64.98	54.98	-15.19	-20.04
3	0.19692	9.59	35.32	20.36	44.91	29.95	63.74	53.74	-18.83	-23.79
4	**0.46280**	**9.58**	**34.01**	**29.47**	**43.59**	**39.05**	**56.64**	**46.64**	**-13.05**	**-7.59**
5	2.36697	9.64	24.11	19.65	33.75	29.29	56.00	46.00	-22.25	-16.71
6	11.32478	9.73	21.87	16.74	31.60	26.47	60.00	50.00	-28.40	-23.53

Remarks:

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

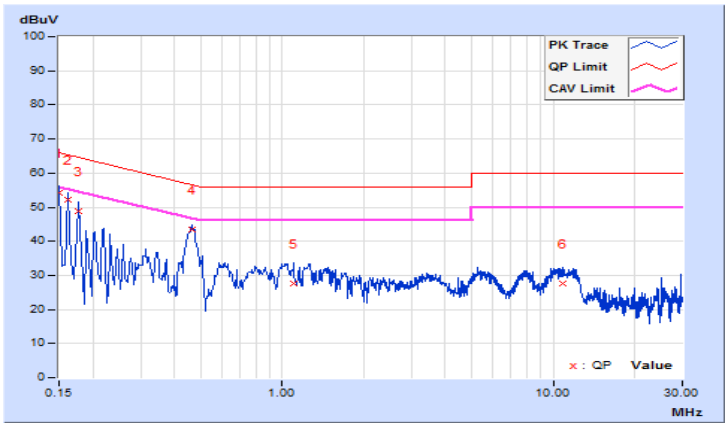


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	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	0.15000	9.56	44.54	29.56	54.10	39.12	66.00	56.00	-11.90	-16.88
2	0.16173	9.56	42.68	26.56	52.24	36.12	65.37	55.37	-13.13	-19.25
3	0.17737	9.57	39.14	24.22	48.71	33.79	64.61	54.61	-15.90	-20.82
4	0.46280	9.56	33.75	29.25	43.31	38.81	56.64	46.64	-13.33	-7.83
5	1.10404	9.58	18.17	14.08	27.75	23.66	56.00	46.00	-28.25	-22.34
6	10.86340	9.72	17.83	13.13	27.55	22.85	60.00	50.00	-32.45	-27.15

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

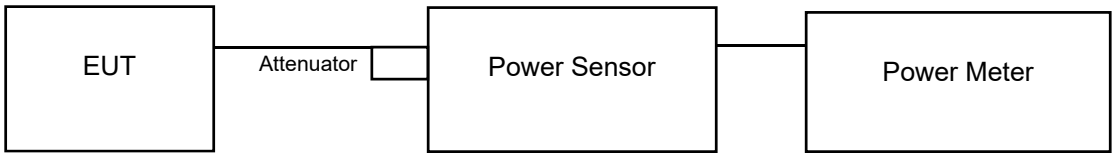
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

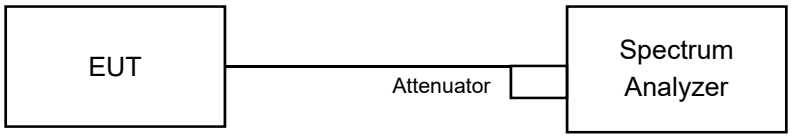
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

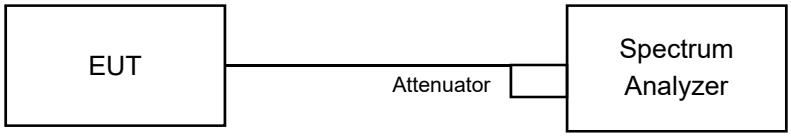
For Power Output
802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ax (HE20), 802.11ax (HE40)



802.11ac (VHT80), 802.11ax (HE80)



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ax (HE20), 802.11ax (HE40)
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (VHT80) , 802.11ax (HE80)

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS
i. Trace mode = max hold
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

For 26dB Bandwidth

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

5G traffic radio: CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.25	18.00	129.930	21.14	24.00	Pass
60	5300	18.30	18.07	131.729	21.20	24.00	Pass
64	5320	18.26	18.01	130.230	21.15	24.00	Pass
100	5500	17.97	17.78	122.640	20.89	24.00	Pass
116	5580	18.39	18.09	133.441	21.25	24.00	Pass
140	5700	18.10	17.58	121.845	20.86	24.00	Pass
144	5720 For U-NII-2C	14.62	12.49	50.519	17.03	22.83	Pass
144	5720 For U-NII-3	6.50	8.10	11.813	10.72	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (20.74) = 24.16 > 24dBm
2. 11dBm + 10log (20.78) = 24.17 > 24dBm
3. 11dBm + 10log (20.64) = 24.14 > 24dBm
4. 11dBm + 10log (20.79) = 24.17 > 24dBm
5. 11dBm + 10log (20.73) = 24.16 > 24dBm
6. 11dBm + 10log (20.95) = 24.21 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.73) = 22.83 < 24dBm

Chain 1

1. 11dBm + 10log (20.85) = 24.19 > 24dBm
2. 11dBm + 10log (20.76) = 24.17 > 24dBm
3. 11dBm + 10log (20.83) = 24.18 > 24dBm
4. 11dBm + 10log (20.57) = 24.13 > 24dBm
5. 11dBm + 10log (20.84) = 24.18 > 24dBm
6. 11dBm + 10log (20.80) = 24.18 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.67) = 22.85 < 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.62	18.24	139.459	21.44	24.00	Pass
60	5300	18.75	18.42	144.492	21.60	24.00	Pass
64	5320	18.53	18.13	136.298	21.34	24.00	Pass
100	5500	18.34	18.11	132.948	21.24	24.00	Pass
116	5580	18.36	17.96	131.066	21.17	24.00	Pass
140	5700	18.68	18.35	142.182	21.53	24.00	Pass
144	5720 For U-NII-2C	13.68	14.81	57.094	17.57	22.94	Pass
144	5720 For U-NII-3	8.58	8.65	15.486	11.90	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.85	20.49	233.562	23.68	24.00	Pass
62	5310	20.85	20.66	238.031	23.77	24.00	Pass
102	5510	20.81	20.65	236.648	23.74	24.00	Pass
110	5550	20.73	20.56	232.067	23.66	24.00	Pass
134	5670	20.84	20.71	239.099	23.79	24.00	Pass
142	5710 For U-NII-2C	16.74	16.90	103.513	20.15	24.00	Pass
142	5710 For U-NII-3	4.42	4.61	6.089	7.85	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (42.25) = 27.25 > 24dBm
2. 11dBm + 10log (42.20) = 27.25 > 24dBm
3. 11dBm + 10log (42.25) = 27.25 > 24dBm
4. 11dBm + 10log (42.34) = 27.26 > 24dBm
5. 11dBm + 10log (42.24) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (41.98) = 27.23 > 24dBm
3. 11dBm + 10log (42.37) = 27.27 > 24dBm
4. 11dBm + 10log (42.15) = 27.24 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.72	18.33	142.550	21.54	24.00	Pass
60	5300	18.83	18.55	147.998	21.70	24.00	Pass
64	5320	18.59	18.16	137.741	21.39	24.00	Pass
100	5500	18.41	18.17	134.957	21.30	24.00	Pass
116	5580	18.42	18.01	132.744	21.23	24.00	Pass
140	5700	18.76	18.41	144.505	21.60	24.00	Pass
144	5720 For U-NII-2C	13.80	14.89	58.390	17.66	22.94	Pass
144	5720 For U-NII-3	8.69	8.74	15.847	12.00	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.93	20.68	240.830	23.82	24.00	Pass
62	5310	20.95	20.73	242.756	23.85	24.00	Pass
102	5510	20.93	20.71	241.640	23.83	24.00	Pass
110	5550	20.86	20.63	237.510	23.76	24.00	Pass
134	5670	20.96	20.75	243.589	23.87	24.00	Pass
142	5710 For U-NII-2C	16.88	16.97	106.033	20.25	24.00	Pass
142	5710 For U-NII-3	4.57	4.68	6.244	7.95	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (42.33) = 27.26 > 24dBm
2. 11dBm + 10log (42.53) = 27.28 > 24dBm
3. 11dBm + 10log (42.41) = 27.27 > 24dBm
4. 11dBm + 10log (42.30) = 27.26 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.87) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.61) = 27.29 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm
3. 11dBm + 10log (42.13) = 27.24 > 24dBm
4. 11dBm + 10log (42.08) = 27.24 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	20.75	20.53	231.830	23.65	24.00	Pass
106	5530	20.23	20.06	206.830	23.16	24.00	Pass
122	5610	20.62	20.43	225.753	23.54	24.00	Pass
138	5690 For U-NII-2C	16.98	16.27	100.443	20.02	24.00	Pass
138	5690 For U-NII-3	2.47	2.37	3.802	5.80	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (82.71) = 30.17 > 24dBm
2. 11dBm + 10log (82.53) = 30.16 > 24dBm
3. 11dBm + 10log (82.66) = 30.17 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.72) = 29.82 > 24dBm

Chain 1

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.36) = 29.84 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.79	18.45	145.667	21.63	24.00	Pass
60	5300	18.96	18.61	151.315	21.80	24.00	Pass
64	5320	18.64	18.25	139.948	21.46	24.00	Pass
100	5500	18.46	18.24	136.826	21.36	24.00	Pass
116	5580	18.52	18.06	135.095	21.31	24.00	Pass
140	5700	18.81	18.54	147.482	21.69	24.00	Pass
144	5720 For U-NII-2C	13.82	15.02	59.506	17.75	22.94	Pass
144	5720 For U-NII-3	8.73	8.85	16.124	12.07	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	21.06	20.75	246.494	23.92	24.00	Pass
62	5310	21.05	20.80	**247.577**	23.94	24.00	Pass
102	5510	20.99	20.83	246.663	23.92	24.00	Pass
110	5550	21.01	20.73	244.487	23.88	24.00	Pass
134	5670	21.08	20.81	**248.737**	23.96	24.00	Pass
142	5710 For U-NII-2C	16.97	17.03	107.877	20.33	24.00	Pass
142	5710 For U-NII-3	4.67	4.73	6.352	8.03	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (42.25) = 27.25 > 24dBm
2. 11dBm + 10log (42.20) = 27.25 > 24dBm
3. 11dBm + 10log (42.25) = 27.25 > 24dBm
4. 11dBm + 10log (42.34) = 27.26 > 24dBm
5. 11dBm + 10log (42.24) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (41.98) = 27.23 > 24dBm
3. 11dBm + 10log (42.37) = 27.27 > 24dBm
4. 11dBm + 10log (42.15) = 27.24 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	20.87	20.61	237.260	23.75	24.00	Pass
106	5530	20.37	20.12	211.695	23.26	24.00	Pass
122	5610	20.67	20.52	229.401	23.61	24.00	Pass
138	5690 For U-NII-2C	17.07	16.32	102.115	20.09	24.00	Pass
138	5690 For U-NII-3	2.57	2.52	3.913	5.93	30.00	Pass

Note:

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

Chain 0

1. 11dBm + 10log (82.71) = 30.17 > 24dBm
2. 11dBm + 10log (82.53) = 30.16 > 24dBm
3. 11dBm + 10log (82.66) = 30.17 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.72) = 29.82 > 24dBm

Chain 1

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.36) = 29.84 > 24dBm

5G traffic radio: Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	15.61	15.23	69.734	18.43	21.49	Pass
60	5300	15.74	15.41	72.251	18.59	21.49	Pass
64	5320	15.52	15.12	68.154	18.33	21.49	Pass
100	5500	15.33	15.10	66.479	18.23	21.49	Pass
116	5580	15.35	14.95	65.538	18.16	21.49	Pass
140	5700	15.67	15.34	71.096	18.52	21.49	Pass
144	5720 For U-NII-2C	10.67	11.80	28.549	14.56	20.43	Pass
144	5720 For U-NII-3	5.57	5.64	7.744	8.89	27.49	Pass

Note:

1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5700MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
   5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 22.94-(8.51-6) = 20.43dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.84	17.48	116.789	20.67	21.49	Pass
62	5310	17.84	17.65	119.024	20.76	21.49	Pass
102	5510	17.80	17.64	118.332	20.73	21.49	Pass
110	5550	17.72	17.55	116.041	20.65	21.49	Pass
134	5670	17.83	17.70	119.558	20.78	21.49	Pass
142	5710 For U-NII-2C	13.73	13.89	51.760	17.14	21.49	Pass
142	5710 For U-NII-3	1.41	1.60	3.045	4.84	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (42.25) = 27.25 > 24dBm
2. 11dBm + 10log (42.20) = 27.25 > 24dBm
3. 11dBm + 10log (42.25) = 27.25 > 24dBm
4. 11dBm + 10log (42.34) = 27.26 > 24dBm
5. 11dBm + 10log (42.24) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (41.98) = 27.23 > 24dBm
3. 11dBm + 10log (42.37) = 27.27 > 24dBm
4. 11dBm + 10log (42.15) = 27.24 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

802.11ac (VHT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	15.71	15.32	71.280	18.53	21.49	Pass
60	5300	15.82	15.54	74.004	18.69	21.49	Pass
64	5320	15.58	15.15	68.875	18.38	21.49	Pass
100	5500	15.40	15.16	67.483	18.29	21.49	Pass
116	5580	15.41	15.00	66.376	18.22	21.49	Pass
140	5700	15.75	15.40	72.257	18.59	21.49	Pass
144	5720 For U-NII-2C	10.79	11.88	29.197	14.65	20.43	Pass
144	5720 For U-NII-3	5.68	5.73	7.924	8.99	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5700MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
   5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 22.94-(8.51-6) = 20.43dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11ac (VHT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.92	17.67	120.423	20.81	21.49	Pass
62	5310	17.94	17.72	121.386	20.84	21.49	Pass
102	5510	17.92	17.70	120.828	20.82	21.49	Pass
110	5550	17.85	17.62	118.763	20.75	21.49	Pass
134	5670	17.95	17.74	121.803	20.86	21.49	Pass
142	5710 For U-NII-2C	13.87	13.96	53.020	17.24	21.49	Pass
142	5710 For U-NII-3	1.56	1.67	3.122	4.94	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (42.33) = 27.26 > 24dBm
2. 11dBm + 10log (42.53) = 27.28 > 24dBm
3. 11dBm + 10log (42.41) = 27.27 > 24dBm
4. 11dBm + 10log (42.30) = 27.26 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.87) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.61) = 27.29 > 24dBm
2. 11dBm + 10log (42.07) = 27.23 > 24dBm
3. 11dBm + 10log (42.13) = 27.24 > 24dBm
4. 11dBm + 10log (42.08) = 27.24 > 24dBm
5. 11dBm + 10log (42.20) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	17.74	17.52	115.923	20.64	21.49	Pass
106	5530	17.22	17.05	103.422	20.15	21.49	Pass
122	5610	17.61	17.42	112.884	20.53	21.49	Pass
138	5690 For U-NII-2C	13.97	13.26	50.225	17.01	21.49	Pass
138	5690 For U-NII-3	-0.54	-0.64	1.9011	2.79	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (82.71) = 30.17 > 24dBm
2. 11dBm + 10log (82.53) = 30.16 > 24dBm
3. 11dBm + 10log (82.66) = 30.17 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.72) = 29.82 > 24dBm

Chain 1

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.36) = 29.84 > 24dBm

802.11ax (HE20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	15.78	15.44	72.839	18.62	21.49	Pass
60	5300	15.95	15.60	75.663	18.79	21.49	Pass
64	5320	15.63	15.24	69.979	18.45	21.49	Pass
100	5500	15.45	15.23	68.418	18.35	21.49	Pass
116	5580	15.51	15.05	67.552	18.30	21.49	Pass
140	5700	15.80	15.53	73.746	18.68	21.49	Pass
144	5720 For U-NII-2C	10.81	12.01	29.755	14.74	20.43	Pass
144	5720 For U-NII-3	5.72	5.84	8.062	9.06	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5700MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
   5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 22.94-(8.51-6) = 20.43dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (21.82) = 24.38 > 24dBm
2. 11dBm + 10log (21.82) = 24.38 > 24dBm
3. 11dBm + 10log (22.11) = 24.44 > 24dBm
4. 11dBm + 10log (21.49) = 24.32 > 24dBm
5. 11dBm + 10log (21.81) = 24.38 > 24dBm
6. 11dBm + 10log (21.60) = 24.34 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.36) = 22.94 < 24dBm

Chain 1

1. 11dBm + 10log (21.75) = 24.37 > 24dBm
2. 11dBm + 10log (21.84) = 24.39 > 24dBm
3. 11dBm + 10log (21.79) = 24.38 > 24dBm
4. 11dBm + 10log (21.85) = 24.39 > 24dBm
5. 11dBm + 10log (21.31) = 24.28 > 24dBm
6. 11dBm + 10log (21.77) = 24.37 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.09) = 23.01 < 24dBm

802.11ax (HE40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	18.05	17.74	123.256	20.91	21.49	Pass
62	5310	18.04	17.79	**123.797**	20.93	21.49	Pass
102	5510	17.98	17.82	123.340	20.91	21.49	Pass
110	5550	18.00	17.72	122.252	20.87	21.49	Pass
134	5670	18.07	17.80	**124.377**	20.95	21.49	Pass
142	5710 For U-NII-2C	13.96	14.02	53.942	17.32	21.49	Pass
142	5710 For U-NII-3	1.66	1.72	3.176	5.02	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (42.25) = 27.25 > 24dBm
2. 11dBm + 10log (42.20) = 27.25 > 24dBm
3. 11dBm + 10log (42.25) = 27.25 > 24dBm
4. 11dBm + 10log (42.34) = 27.26 > 24dBm
5. 11dBm + 10log (42.24) = 27.25 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.94) = 26.57 > 24dBm

Chain 1

1. 11dBm + 10log (42.12) = 27.24 > 24dBm
2. 11dBm + 10log (41.98) = 27.23 > 24dBm
3. 11dBm + 10log (42.37) = 27.27 > 24dBm
4. 11dBm + 10log (42.15) = 27.24 > 24dBm
5. 11dBm + 10log (42.11) = 27.24 > 24dBm
6. 11dBm + 10log (5725.00 - 5688.77) = 26.59 > 24dBm

802.11ax (HE80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	17.86	17.60	118.638	20.74	21.49	Pass
106	5530	17.36	17.11	105.855	20.25	21.49	Pass
122	5610	17.66	17.51	114.708	20.60	21.49	Pass
138	5690 For U-NII-2C	14.06	13.31	51.061	17.08	21.49	Pass
138	5690 For U-NII-3	-0.44	-0.49	1.957	2.91	27.49	Pass

Note:
1. 5260-5320MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
2. 5500-5720MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 24-(8.51-6) = 21.49dBm.
3. 5745-5825MHz: Beamforming Directional gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.

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

Chain 0

1. 11dBm + 10log (82.71) = 30.17 > 24dBm
2. 11dBm + 10log (82.53) = 30.16 > 24dBm
3. 11dBm + 10log (82.66) = 30.17 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.72) = 29.82 > 24dBm

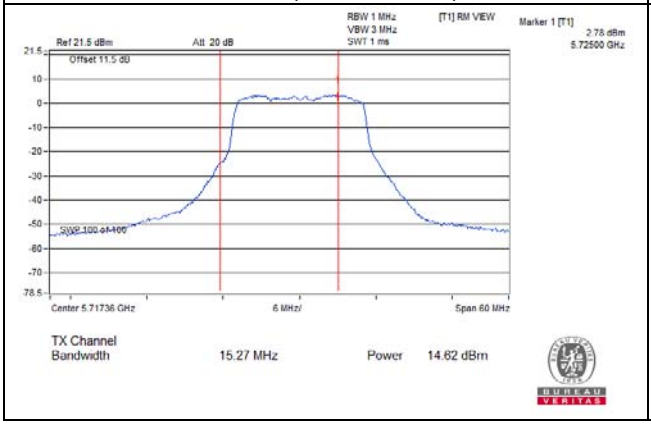
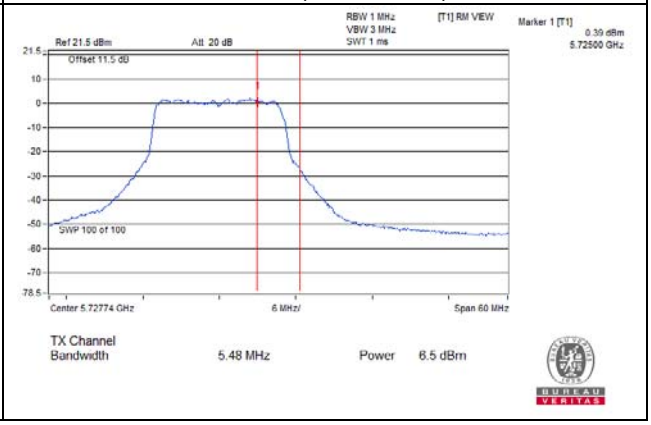
Chain 1

1. 11dBm + 10log (83.03) = 30.19 > 24dBm
2. 11dBm + 10log (82.80) = 30.18 > 24dBm
3. 11dBm + 10log (82.91) = 30.18 > 24dBm
4. 11dBm + 10log (5725.00 - 5648.36) = 29.84 > 24dBm

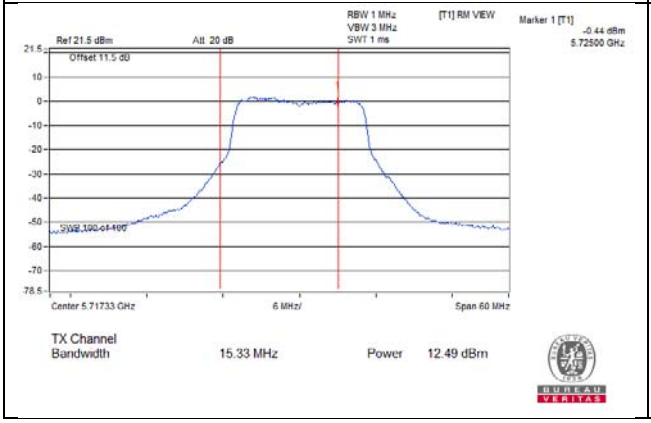
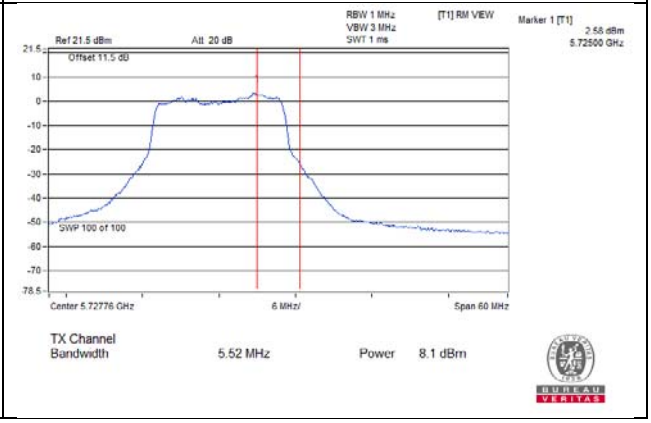
Straddle channel power plots:

802.11a

Chain 0

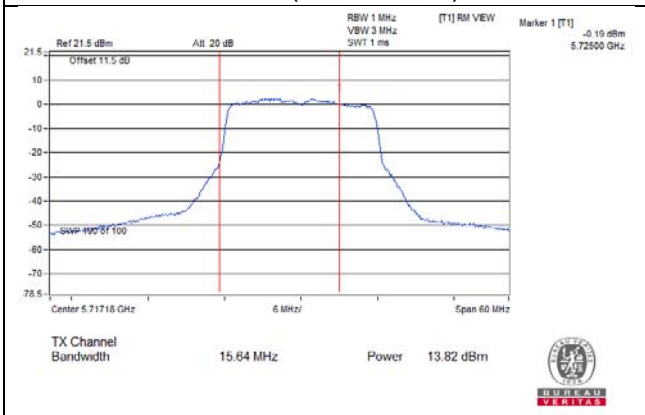
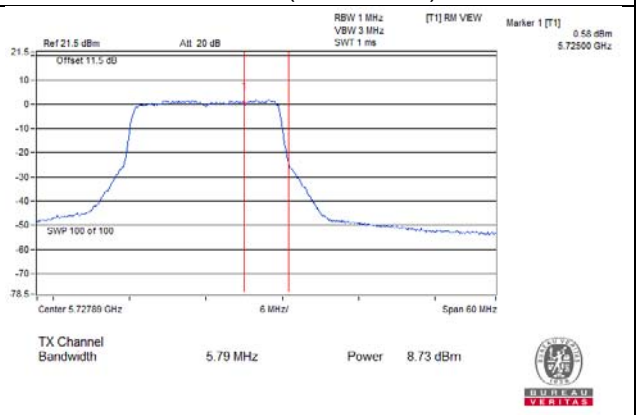
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	

Chain 1

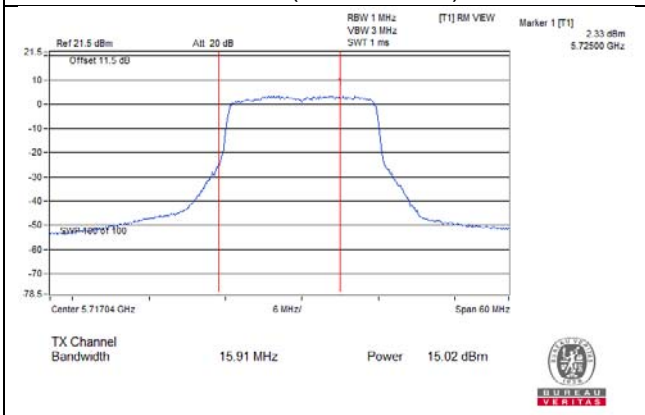
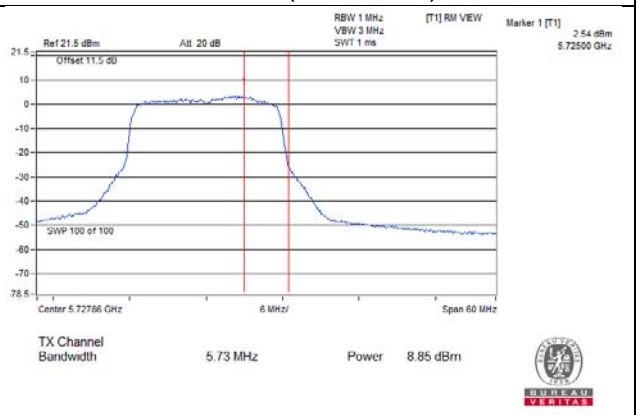
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	

802.11ax (HE20)

Chain 0

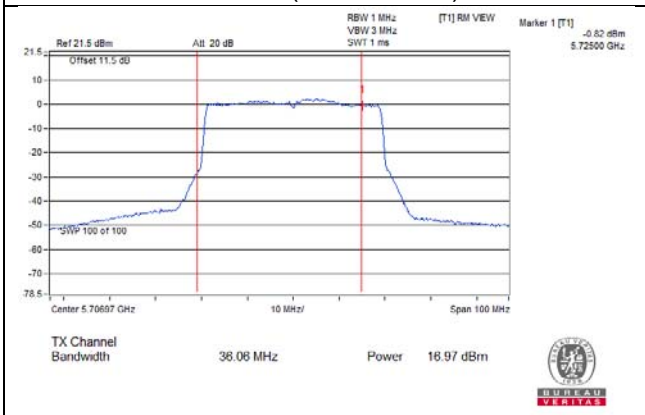
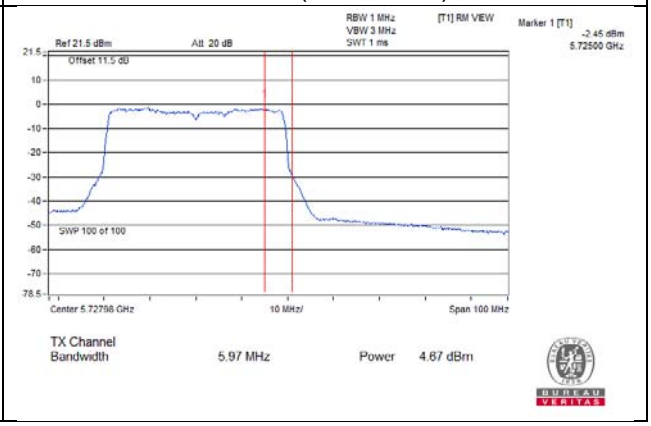
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.64 MHz Power 13.82 dBm	TX Channel Bandwidth 5.79 MHz Power 8.73 dBm

Chain 1

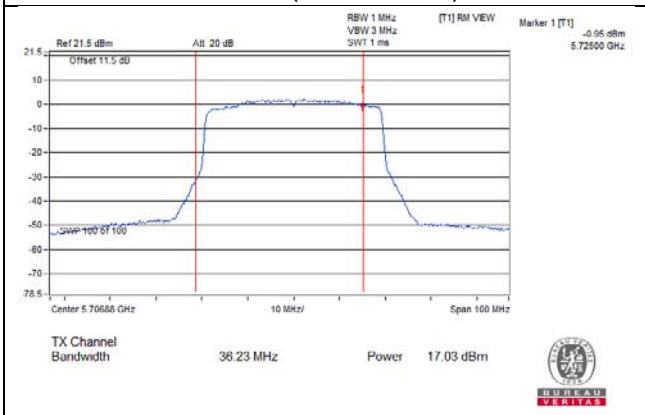
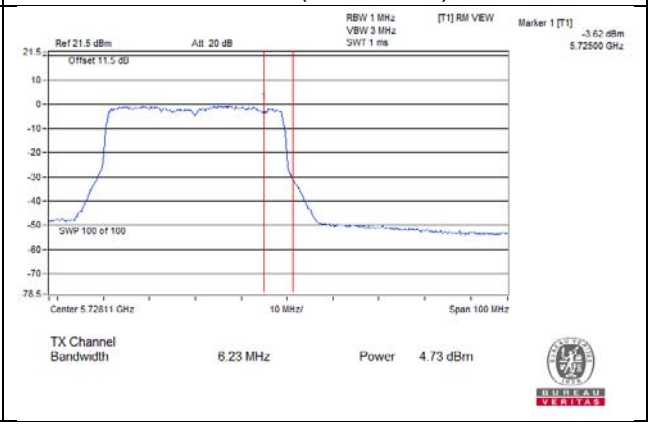
CH 144 (For U-NII-2C)	CH 144 (For U-NII-3)
	
TX Channel Bandwidth 15.91 MHz Power 15.02 dBm	TX Channel Bandwidth 5.73 MHz Power 8.85 dBm

802.11ax (HE40)

Chain 0

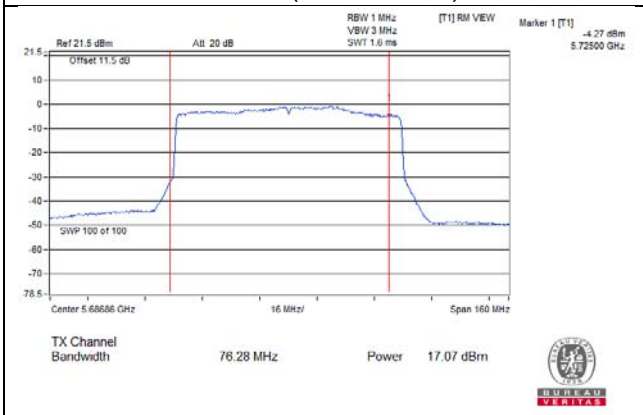
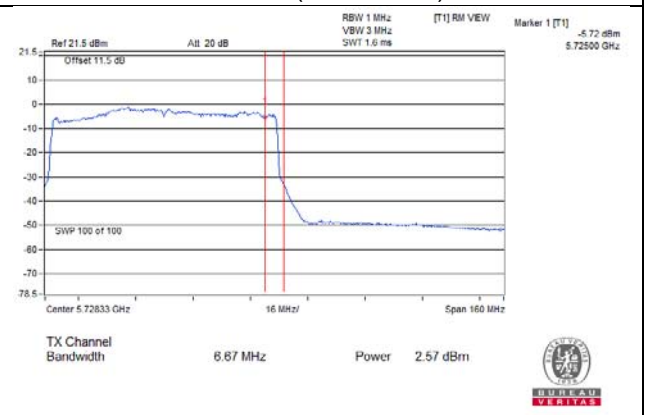
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	

Chain 1

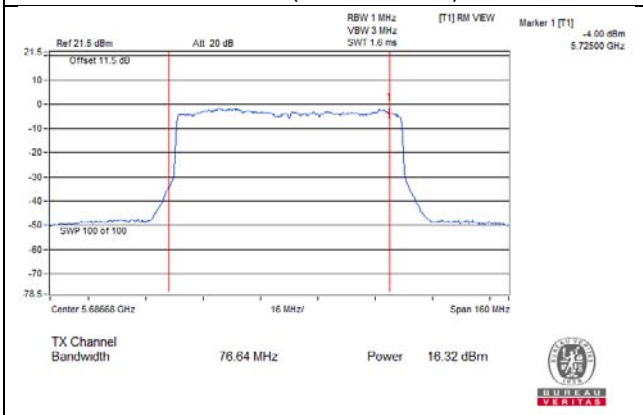
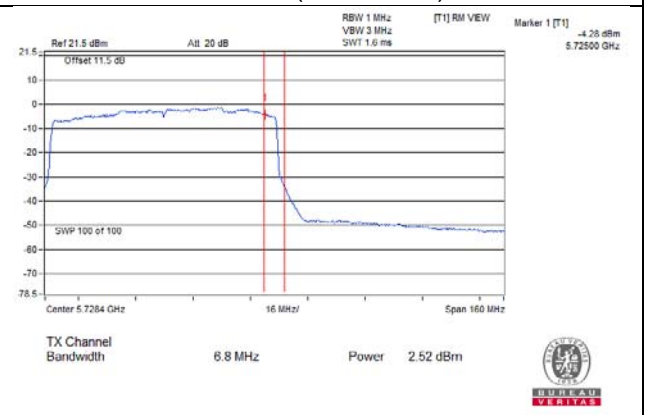
CH 142 (For U-NII-2C)	CH 142 (For U-NII-3)
	

802.11ax (HE80)

Chain 0

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.28 MHz Power 17.07 dBm	TX Channel Bandwidth 6.67 MHz Power 2.57 dBm

Chain 1

CH 138 (For U-NII-2C)	CH 138 (For U-NII-3)
	
TX Channel Bandwidth 76.64 MHz Power 16.32 dBm	TX Channel Bandwidth 6.8 MHz Power 2.52 dBm

Scanning radio:

802.11a

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	57.810	17.62	24.00	Pass
60	5300	82.224	19.15	24.00	Pass
64	5320	69.663	18.43	24.00	Pass
100	5500	61.944	17.92	24.00	Pass
116	5580	**129.718**	21.13	24.00	Pass
140	5700	53.211	17.26	24.00	Pass
144	5720 For U-NII-2C	67.910	18.32	24.00	Pass
144	5720 For U-NII-3	20.134	13.04	30.00	Pass

Note:

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

1. 11dBm + 10log (24.43) = 24.87 > 24dBm
2. 11dBm + 10log (24.93) = 24.96 > 24dBm
3. 11dBm + 10log (25.03) = 24.98 > 24dBm
4. 11dBm + 10log (25.13) = 25.00 > 24dBm
5. 11dBm + 10log (44.82) = 27.51 > 24dBm
6. 11dBm + 10log (26.06) = 25.15 > 24dBm
7. 11dBm + 10log (5725.00 - 5697.55) = 25.38 > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	57.016	17.56	24.00	Pass
60	5300	**82.414**	19.16	24.00	Pass
64	5320	69.024	18.39	24.00	Pass
100	5500	61.094	17.86	24.00	Pass
116	5580	127.057	21.04	24.00	Pass
140	5700	52.845	17.23	24.00	Pass
144	5720 For U-NII-2C	66.200	18.21	24.00	Pass
144	5720 For U-NII-3	18.701	12.72	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
1. 11dBm + 10log (25.79) = 25.11 > 24dBm
2. 11dBm + 10log (25.85) = 25.12 > 24dBm
3. 11dBm + 10log (25.75) = 25.10 > 24dBm
4. 11dBm + 10log (26.46) = 25.22 > 24dBm
5. 11dBm + 10log (46.36) = 27.66 > 24dBm
6. 11dBm + 10log (26.93) = 25.30 > 24dBm
7. 11dBm + 10log (5725.00 - 5697.12) = 25.45 > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
54	5270	61.518	17.89	24.00	Pass
62	5310	50.466	17.03	24.00	Pass
102	5510	51.523	17.12	24.00	Pass
110	5550	95.719	19.81	24.00	Pass
134	5670	62.087	17.93	24.00	Pass
142	5710 For U-NII-2C	109.701	20.40	24.00	Pass
142	5710 For U-NII-3	10.995	10.41	30.00	Pass

Note:
For U-NII-2A, U-NII-2C Band:
1. 11dBm + 10log (50.37) = 28.02 > 24dBm
2. 11dBm + 10log (50.45) = 28.02 > 24dBm
3. 11dBm + 10log (50.84) = 28.06 > 24dBm
4. 11dBm + 10log (73.24) = 29.64 > 24dBm
5. 11dBm + 10log (52.46) = 28.19 > 24dBm
6. 11dBm + 10log (5725.00 - 5660.51) = 29.09 > 24dBm

802.11ac (VHT80)

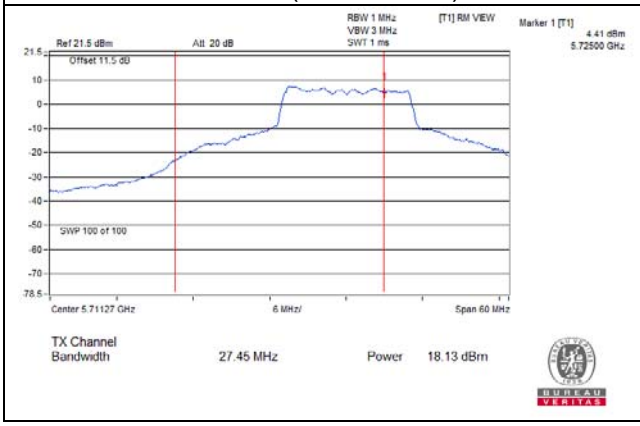
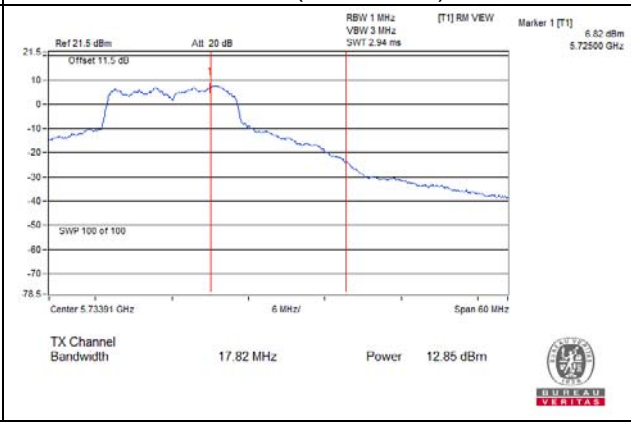
Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
58	5290	4.842	6.85	24.00	Pass
106	5530	6.577	8.18	24.00	Pass
122	5610	69.663	18.43	24.00	Pass
138	5690 For U-NII-2C	91.069	19.59	24.00	Pass
138	5690 For U-NII-3	3.779	5.77	30.00	Pass

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

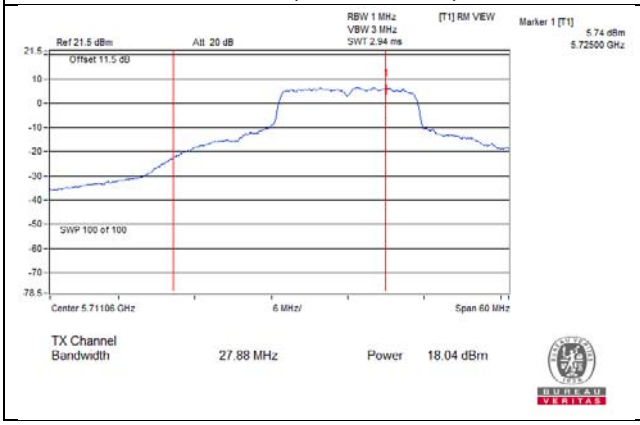
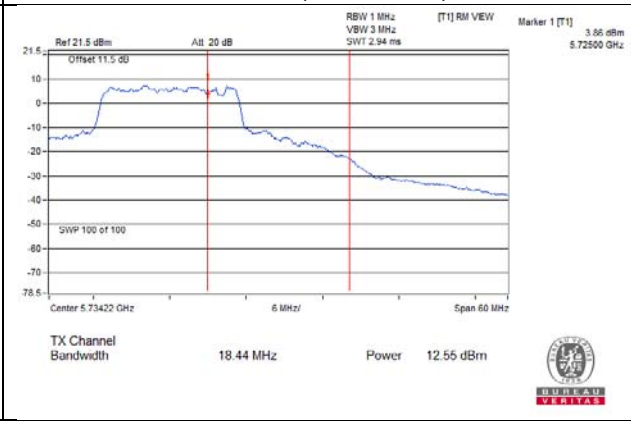
1. 11dBm + 10log (102.68) = 31.11 > 24dBm
2. 11dBm + 10log (105.17) = 31.21 > 24dBm
3. 11dBm + 10log (109.82) = 31.40 > 24dBm
4. 11dBm + 10log (5725.00 - 5626.60) = 30.92 > 24dBm

Straddle channel power plots:

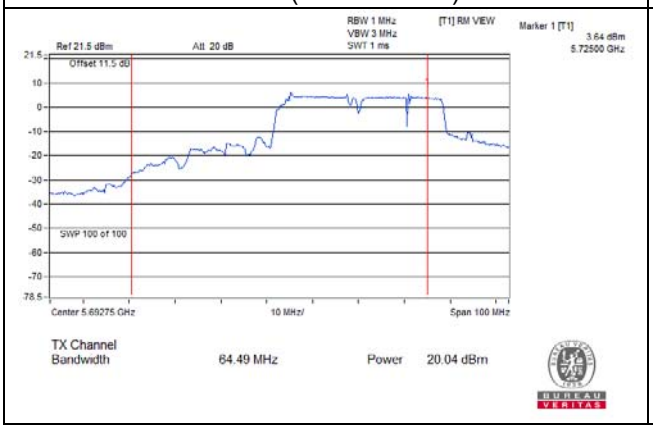
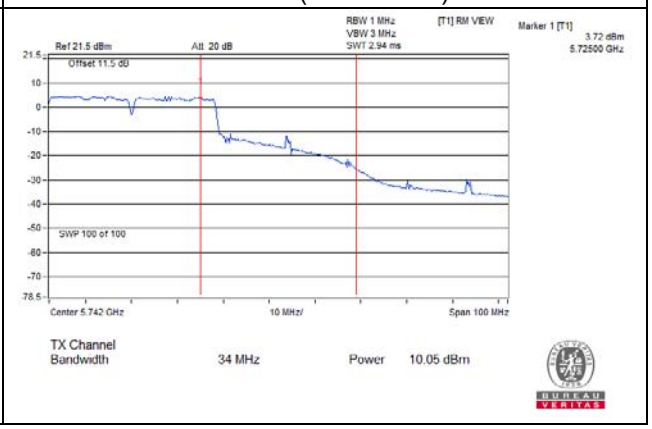
802.11a

CH 140 (For U-NII-2C)	CH 144(For U-NII-3)
	

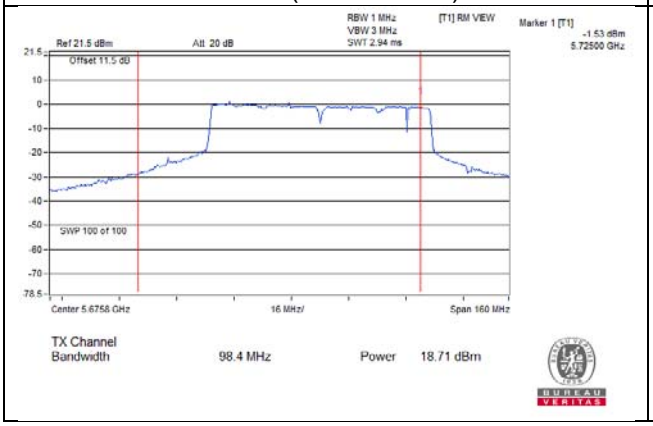
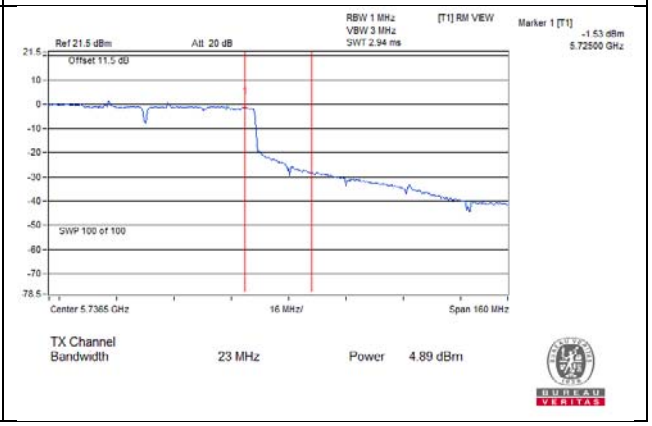
802.11n (HT20)

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

802.11n (HT40)

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

802.11ac (VHT80)

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

26dB Bandwidth:

5G traffic radio:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.74	20.85
60	5300	20.78	20.76
64	5320	20.64	20.83
100	5500	20.79	20.57
116	5580	20.73	20.84
140	5700	20.95	20.80
144	5720 For U-NII-2C	15.27	15.33

802.11ax (HE20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	21.82	21.75
60	5300	21.82	21.84
64	5320	22.11	21.79
100	5500	21.49	21.85
116	5580	21.81	21.31
140	5700	21.60	21.77
144	5720 For U-NII-2C	15.64	15.91

802.11ax (HE40)

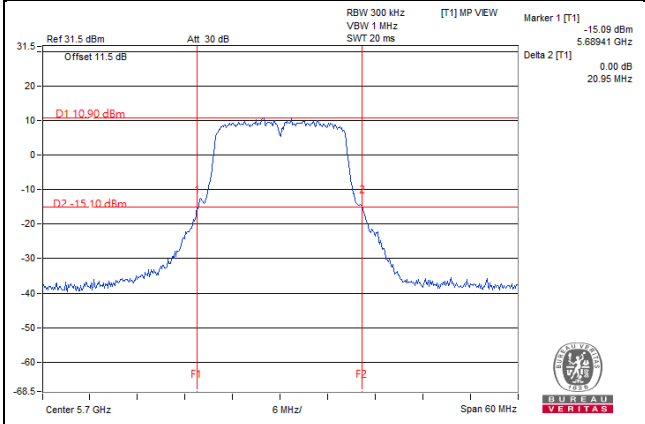
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	42.25	42.12
62	5310	42.20	41.98
102	5510	42.25	42.37
110	5550	42.34	42.15
134	5670	42.24	42.11
142	5710 For U-NII-2C	36.06	36.23

802.11ax (HE80)

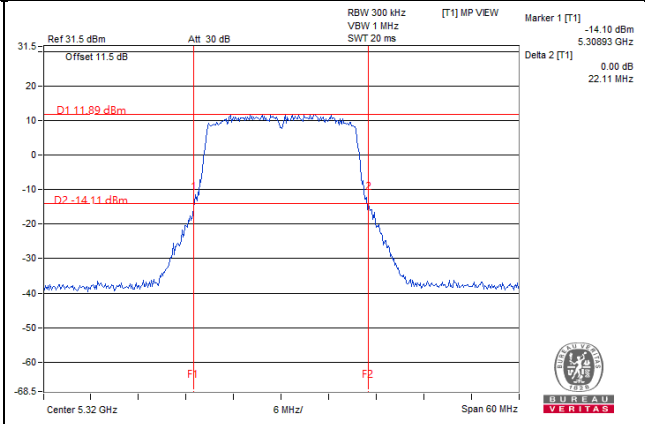
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.71	83.03
106	5530	82.53	82.80
122	5610	82.66	82.91
138	5690 For U-NII-2C	76.28	76.64

Spectrum Plot of Worst Value

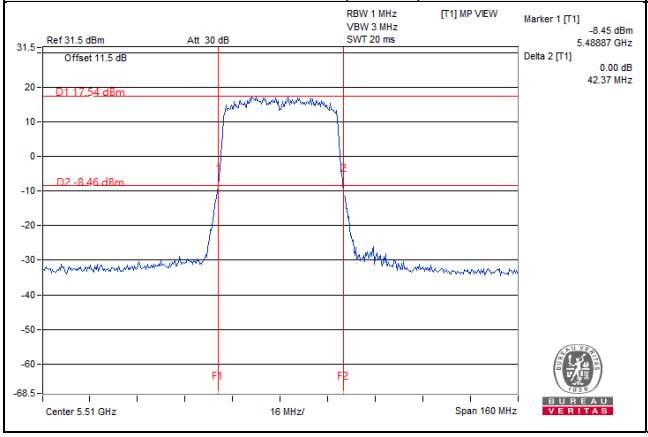
802.11a



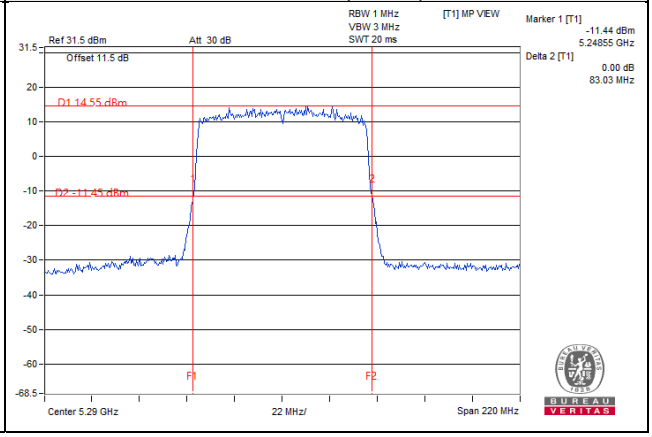
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Scanning radio:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	24.43
60	5300	24.93
64	5320	25.03
100	5500	25.13
116	5580	44.82
140	5700	26.06
144	5720 For U-NII-2C	27.45

802.11n (HT20)

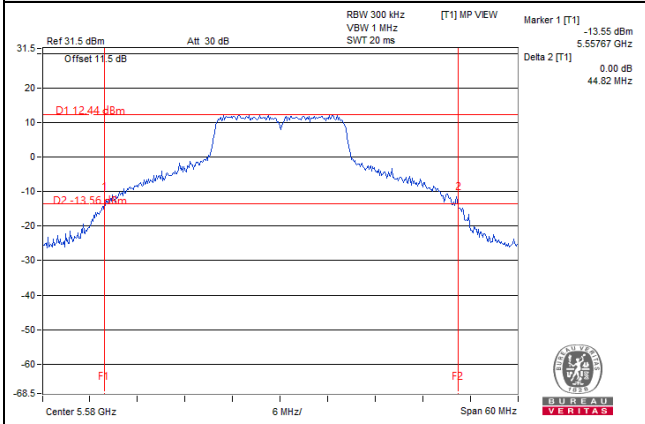
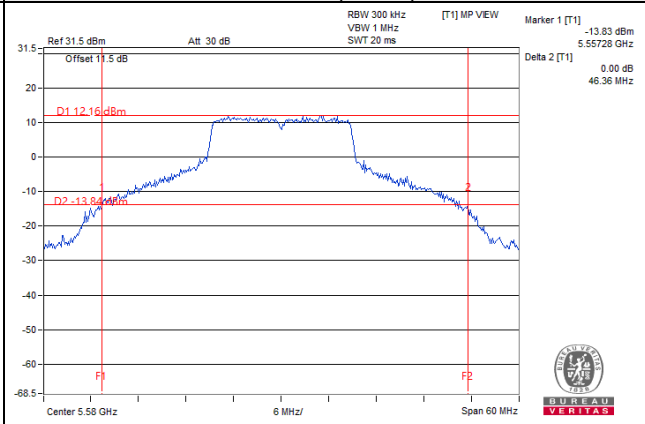
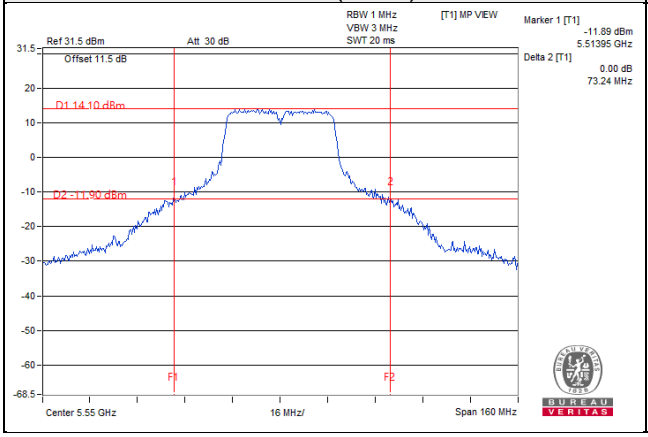
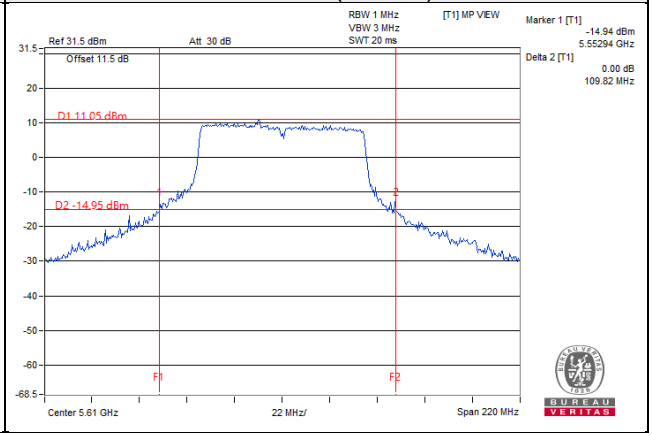
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
52	5260	25.79
60	5300	25.85
64	5320	25.75
100	5500	26.46
116	5580	46.36
140	5700	26.93
144	5720 For U-NII-2C	27.88

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
54	5270	50.37
62	5310	50.45
102	5510	50.84
110	5550	73.24
134	5670	52.46
142	5710 For U-NII-2C	64.49

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
58	5290	102.68
106	5530	105.17
122	5610	109.82
138	5690 For U-NII-2C	98.40

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

EUT Maximum Conducted Power

5G traffic radio: CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	131.729	21.20
5470~5725	133.441	21.25

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	144.492	21.60
5470~5725	142.182	21.53

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	238.031	23.77
5470~5725	239.099	23.79

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	147.998	21.70
5470~5725	144.505	21.60

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	242.756	23.85
5470~5725	243.589	23.87

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	231.830	23.65
5470~5725	225.753	23.54

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	151.315	21.80
5470~5725	147.482	21.69

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	247.577	23.94
5470~5725	248.737	23.96

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	237.260	23.75
5470~5725	229.401	23.61

5G traffic radio: Beamforming Mode

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	72.251	18.59
5470~5725	71.096	18.52

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	119.024	20.76
5470~5725	119.558	20.78

802.11ac (VHT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	74.004	18.69
5470~5725	72.257	18.59

802.11ac (VHT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	121.386	20.84
5470~5725	121.803	20.86

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	115.923	20.64
5470~5725	112.884	20.53

802.11ax (HE20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	75.663	18.79
5470~5725	73.746	18.68

802.11ax (HE40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	123.797	20.93
5470~5725	124.377	20.95

802.11ax (HE80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	118.638	20.74
5470~5725	114.708	20.60

Scanning radio:

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	82.224	19.15
5470~5725	129.718	21.13

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	82.414	19.16
5470~5725	127.057	21.04

802.11n (HT40)

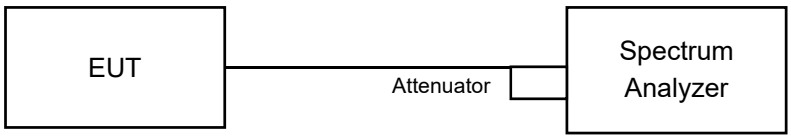
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	61.518	17.89
5470~5725	109.701	20.40

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	4.842	6.85
5470~5725	91.069	19.59

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

5G traffic radio:

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	16.56	16.56
60	5300	16.56	16.56
64	5320	16.44	16.44
100	5500	16.56	16.44
116	5580	16.44	16.56
140	5700	16.44	16.44
144	5720 For U-NII-2C	13.16	13.28
144	5720 For U-NII-3	3.16	3.16

802.11ax (HE20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.96	18.96
60	5300	18.96	18.96
64	5320	18.96	18.96
100	5500	18.96	18.96
116	5580	18.96	18.96
140	5700	18.96	18.96
144	5720 For U-NII-2C	14.48	14.48
144	5720 For U-NII-3	4.48	4.36

802.11ax (HE40)

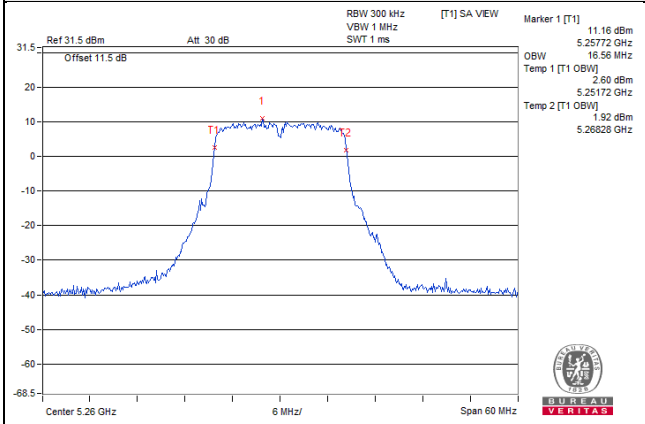
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	38.04	38.04
62	5310	38.16	37.92
102	5510	38.16	38.04
110	5550	38.04	37.92
134	5670	38.04	38.04
142	5710 For U-NII-2C	33.96	33.96
142	5710 For U-NII-3	3.96	3.96

802.11ax (HE80)

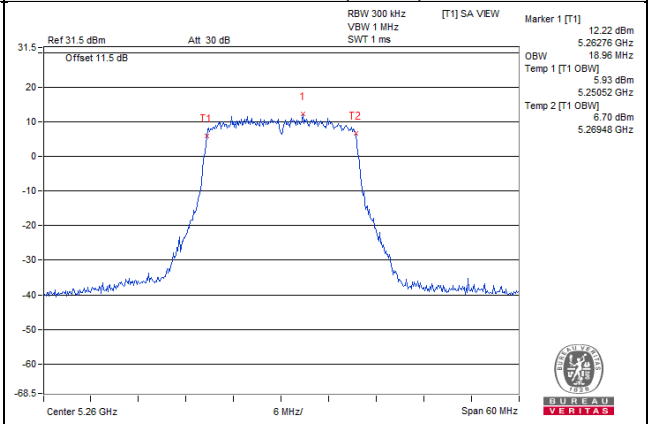
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	77.28	77.28
106	5530	77.28	77.52
122	5610	77.28	77.28
138	5690 For U-NII-2C	73.64	73.64
138	5690 For U-NII-3	3.64	3.64

Spectrum Plot of Worst Value

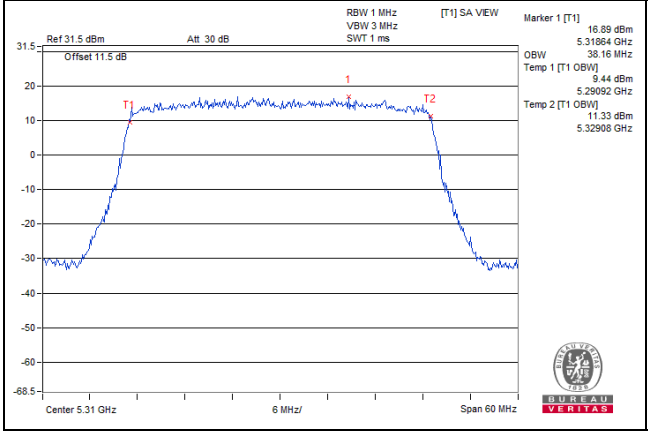
802.11a



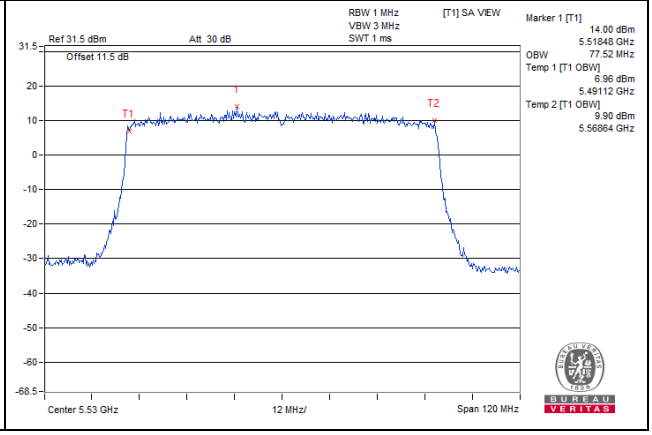
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Scanning radio:

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	17.16
60	5300	17.04
64	5320	17.04
100	5500	17.16
116	5580	29.16
140	5700	17.16
144	5720 For U-NII-2C	19.16
144	5720 For U-NII-3	9.04

802.11n (HT20)

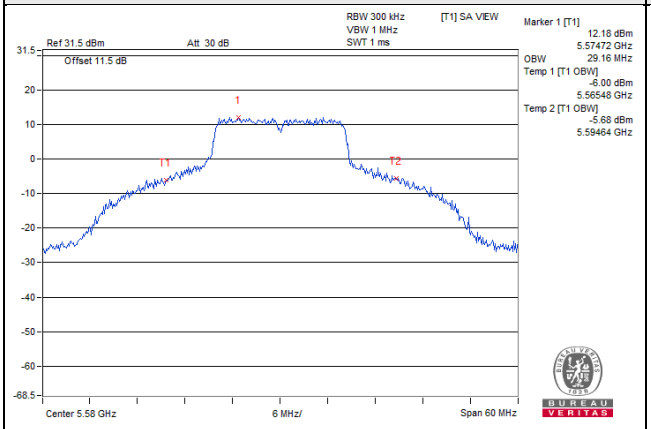
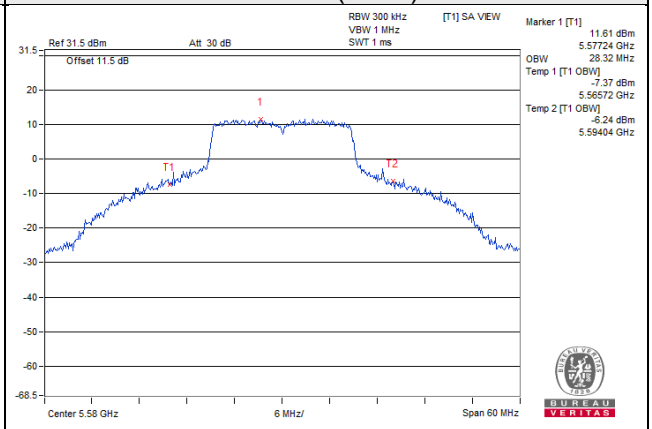
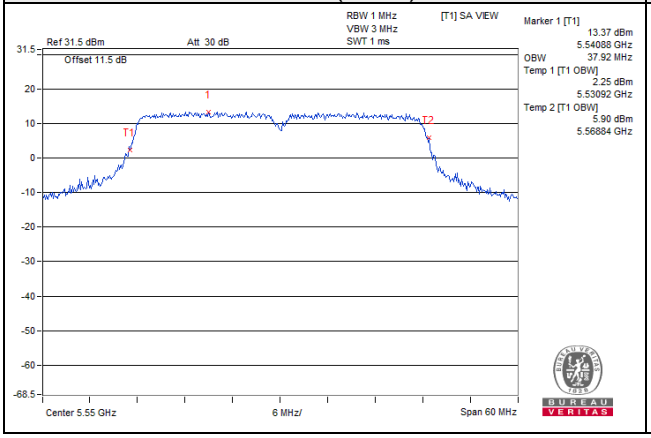
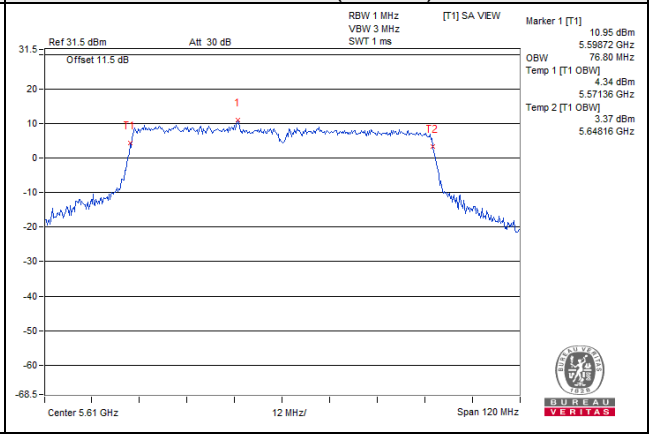
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
52	5260	18.12
60	5300	18.24
64	5320	18.24
100	5500	18.12
116	5580	28.32
140	5700	18.24
144	5720 For U-NII-2C	19.40
144	5720 For U-NII-3	9.76

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
54	5270	37.44
62	5310	37.32
102	5510	37.32
110	5550	37.92
134	5670	37.56
142	5710 For U-NII-2C	36.84
142	5710 For U-NII-3	6.96

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
58	5290	76.32
106	5530	76.56
122	5610	76.80
138	5690 For U-NII-2C	73.64
138	5690 For U-NII-3	3.40

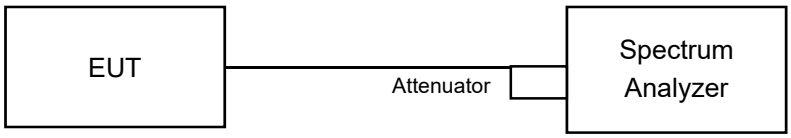
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

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

Duty cycle of test signal is < 98%
Using method SA-2
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band
Duty cycle <98%
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4) Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz/300kHz)
5) Sweep time = auto, trigger set to “free run”.
6) Trace average at least 100 traces in power averaging mode.
7) Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

5G traffic radio:

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				
52	5260	5.10	5.04	0.34	8.42	8.49	Pass
60	5300	5.16	5.00	0.34	8.43	8.49	Pass
64	5320	5.22	4.97	0.34	8.45	8.49	Pass
100	5500	5.07	4.61	0.34	8.20	8.49	Pass
116	5580	5.23	4.96	0.34	8.45	8.49	Pass
140	5700	5.02	4.67	0.34	8.20	8.49	Pass
144	5720 For U-NII-2C	4.64	4.78	0.34	8.06	8.49	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 = Directional Gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 11-(8.51-6) = 8.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

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				
52	5260	5.41	4.80	0.27	8.40	8.49	Pass
60	5300	5.46	4.66	0.27	8.36	8.49	Pass
64	5320	5.28	4.56	0.27	8.22	8.49	Pass
100	5500	5.25	4.47	0.27	8.16	8.49	Pass
116	5580	5.22	4.66	0.27	8.23	8.49	Pass
140	5700	5.34	4.84	0.27	8.38	8.49	Pass
144	5720 For U-NII-2C	4.98	5.18	0.27	8.37	8.49	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 = Directional Gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 11-(8.51-6) = 8.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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802.11ax (HE40)

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				
54	5270	4.52	3.58	0.32	7.40	8.49	Pass
62	5310	4.19	4.52	0.32	7.69	8.49	Pass
102	5510	4.06	4.16	0.32	7.44	8.49	Pass
110	5550	4.00	4.28	0.32	7.47	8.49	Pass
134	5670	4.58	4.05	0.32	7.65	8.49	Pass
142	5710 For U-NII-2C	4.02	3.63	0.32	7.16	8.49	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 = Directional Gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 11-(8.51-6) = 8.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

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				
58	5290	0.95	1.20	0.37	4.46	8.49	Pass
106	5530	0.51	0.73	0.37	4.00	8.49	Pass
122	5610	0.88	1.21	0.37	4.43	8.49	Pass
138	5690 For U-NII-2C	0.81	-0.56	0.37	3.56	8.49	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 = Directional Gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 11-(8.51-6) = 8.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

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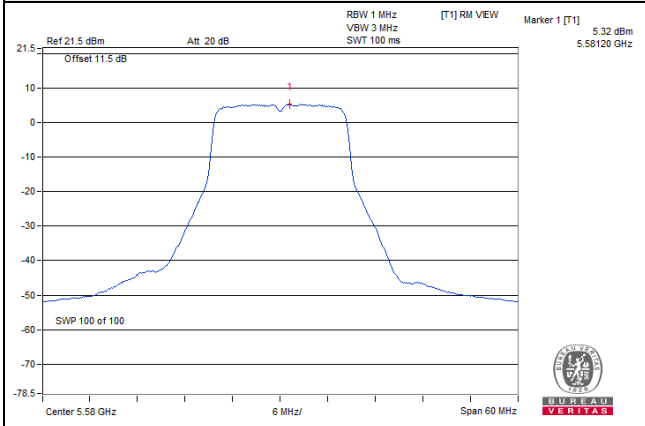
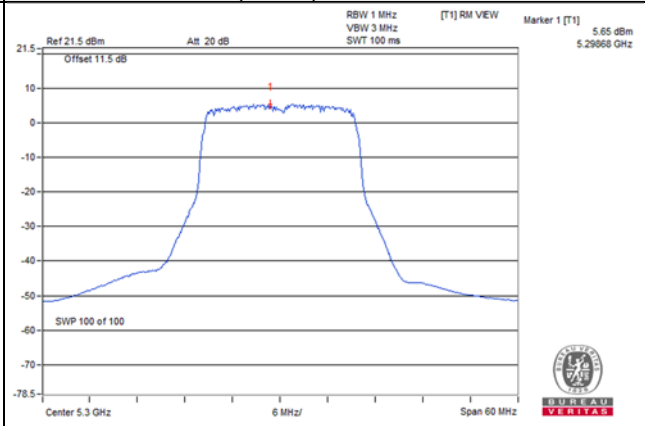
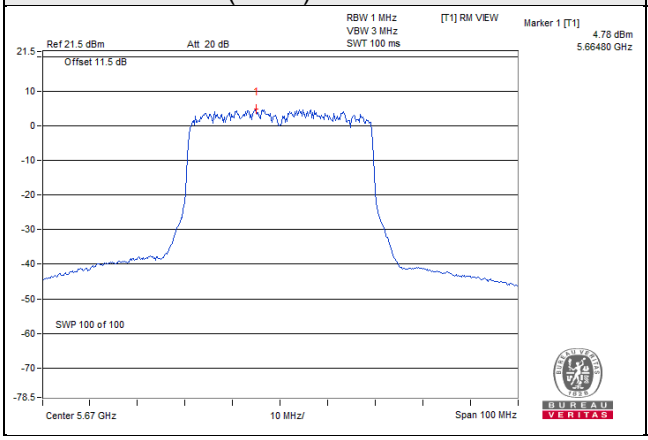
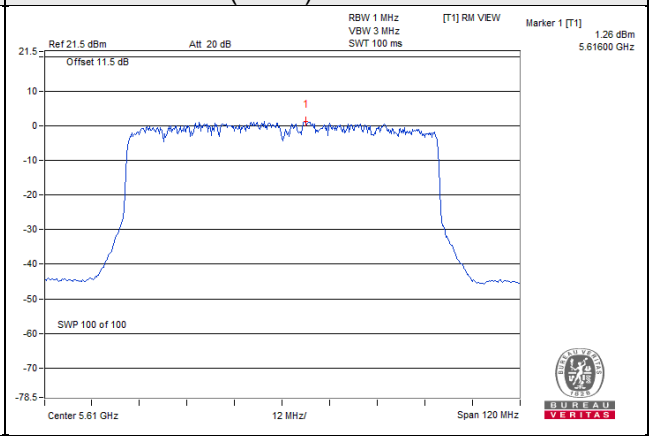
Spectrum Plot of Worst Value	
802.11a / Chain 0 / CH 116	802.11ax (HE20) / Chain 0 / CH 60
	
802.11ax (HE40) / Chain 0 / CH 134	802.11ax (HE80) / Chain 1 / CH 122
	

Scanning radio:

802.11a

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
52	5260	4.19	0.19	4.38	11	Pass
60	5300	5.67	0.19	5.86	11	Pass
64	5320	4.86	0.19	5.05	11	Pass
100	5500	3.88	0.19	4.07	11	Pass
116	5580	7.50	0.19	7.69	11	Pass
140	5700	4.33	0.19	4.52	11	Pass
144	5720 For U-NII-2C	7.58	0.19	7.77	11	Pass

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

802.11n (HT20)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
52	5260	3.90	0.17	4.07	11	Pass
60	5300	5.41	0.17	5.58	11	Pass
64	5320	4.63	0.17	4.80	11	Pass
100	5500	3.58	0.17	3.75	11	Pass
116	5580	7.05	0.17	7.22	11	Pass
140	5700	3.96	0.17	4.13	11	Pass
144	5720 For U-NII-2C	7.33	0.17	7.50	11	Pass

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

802.11n (HT40)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
54	5270	1.36	0.36	1.72	11	Pass
62	5310	0.40	0.36	0.76	11	Pass
102	5510	0.26	0.36	0.62	11	Pass
110	5550	2.92	0.36	3.28	11	Pass
134	5670	1.55	0.36	1.91	11	Pass
142	5710 For U-NII-2C	4.09	0.36	4.45	11	Pass

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

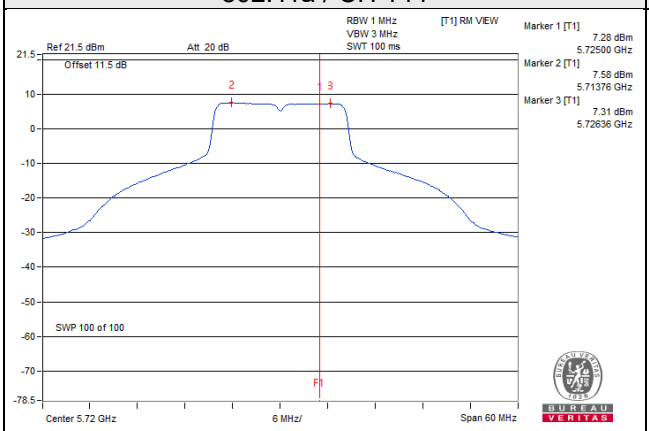
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
58	5290	-12.66	0.88	-11.78	11	Pass
106	5530	-11.74	0.88	-10.86	11	Pass
122	5610	-1.30	0.88	-0.42	11	Pass
138	5690 For U-NII-2C	0.11	0.88	0.99	11	Pass

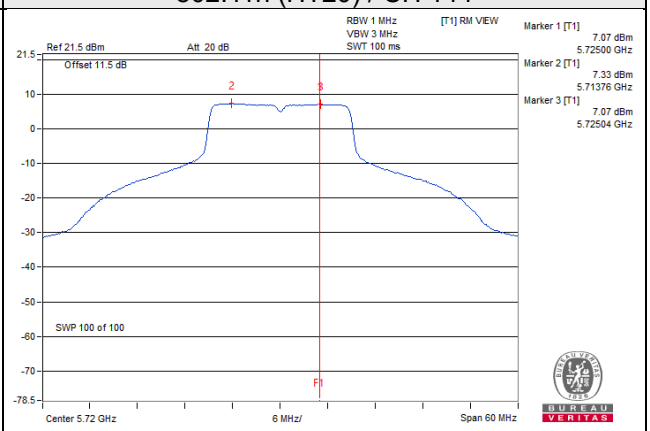
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

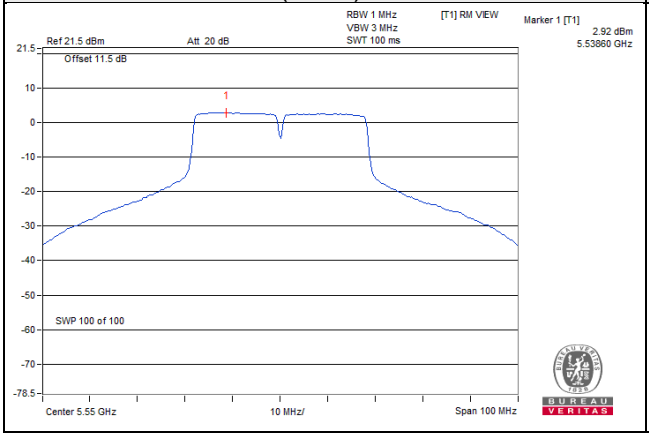
802.11a / CH 144



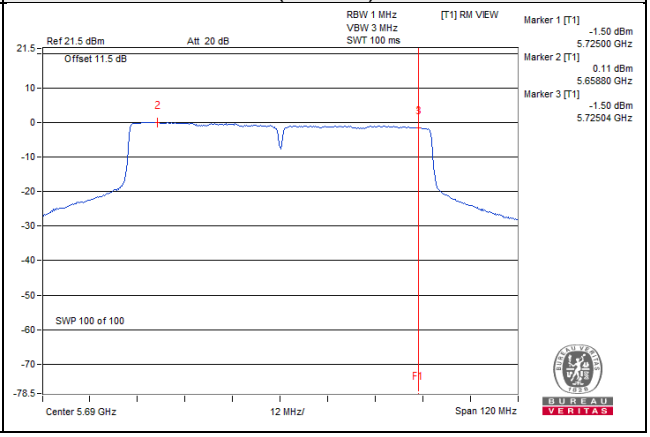
802.11n (HT20) / CH 144



802.11n (HT40) / CH 110



802.11ac (VHT80) / CH 138



For U-NII-3 band:

5G traffic radio:

802.11a

TX chain	Chan.	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	-3.70	-1.48	3.01	0.34	1.87	27.49	Pass
1	144	5720 For U-NII-3	-3.80	-1.58	3.01	0.34	1.77	27.49	Pass

Note:

1. Method E)2)c) 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 = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE20)

TX chain	Chan.	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	-4.85	-2.63	3.01	0.27	0.65	27.49	Pass
1	144	5720 For U-NII-3	-4.92	-2.70	3.01	0.27	0.58	27.49	Pass

Note:

1. Method E)2)c) 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 = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE40)

TX chain	Chan.	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	-6.97	-4.75	3.01	0.32	-1.42	27.49	Pass
1	142	5710 For U-NII-3	-7.33	-5.11	3.01	0.32	-1.78	27.49	Pass

Note:

1. Method E)2)c) 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 = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ax (HE80)

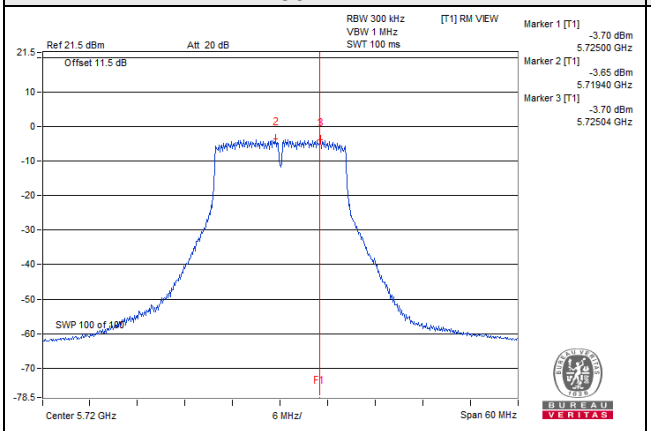
TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/ 500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	138	5690 For U-NII-3	-11.01	-8.79	3.01	0.37	-5.41	27.49	Pass
1	138	5690 For U-NII-3	-11.29	-9.07	3.01	0.37	-5.69	27.49	Pass

Note:

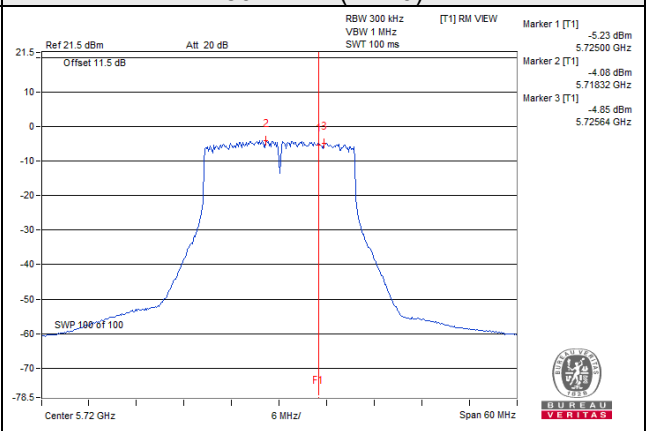
1. Method E)2)c) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = 5.50dBi + 10log(2) = 8.51dBi > 6dBi, so the limit shall be reduced to 30-(8.51-6) = 27.49dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

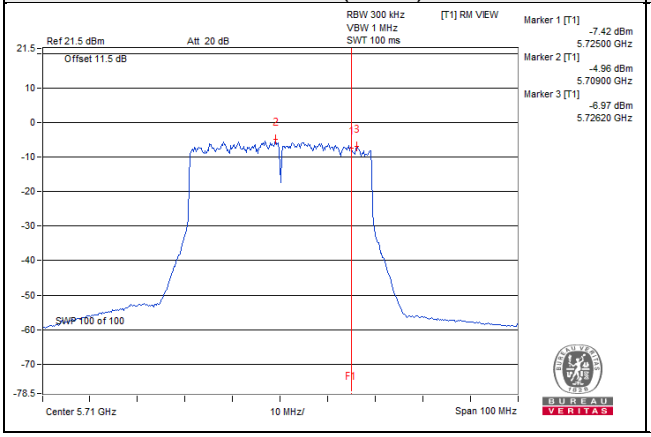
802.11a



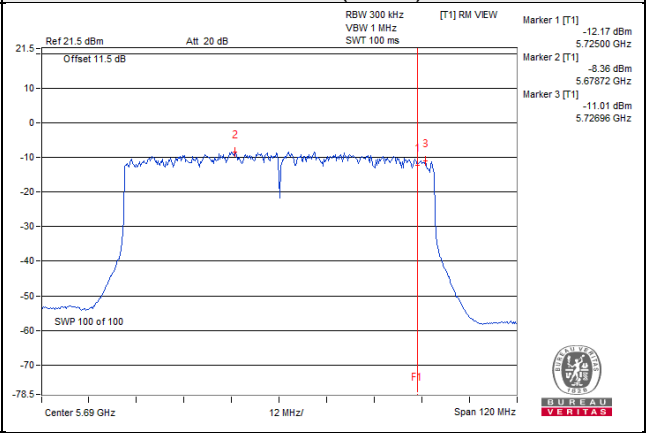
802.11ax (HE20)



802.11ax (HE40)



802.11ax (HE80)



Scanning radio: CDD Mode

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
144	5720 For U-NII-3	-1.00	1.22	0.19	1.41	30.00	Pass

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

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
144	5720 For U-NII-3	-1.26	0.96	0.17	1.13	30.00	Pass

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

802.11n (HT40)

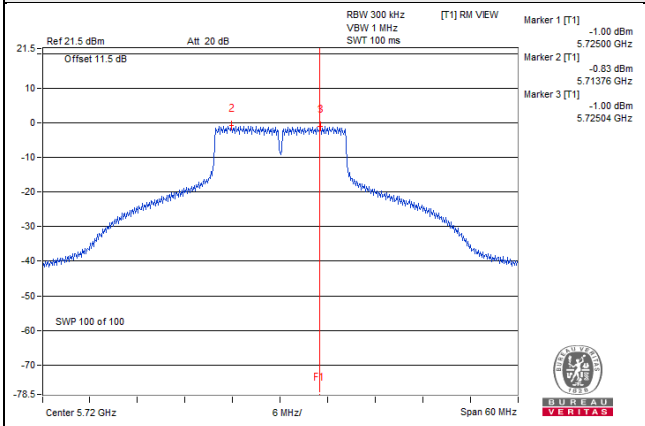
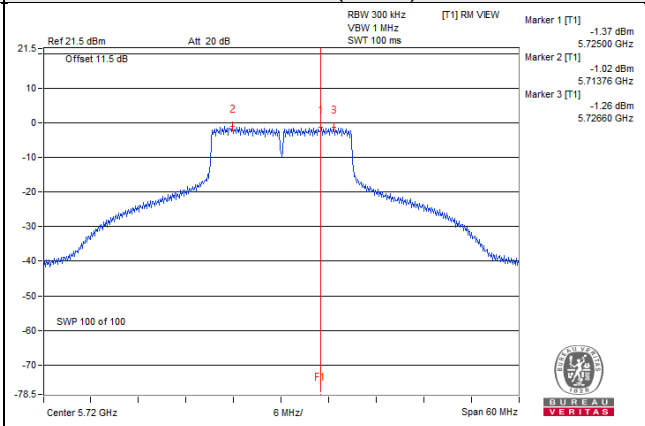
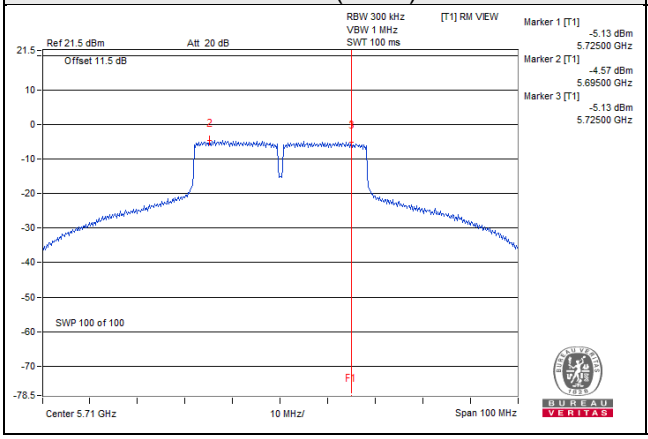
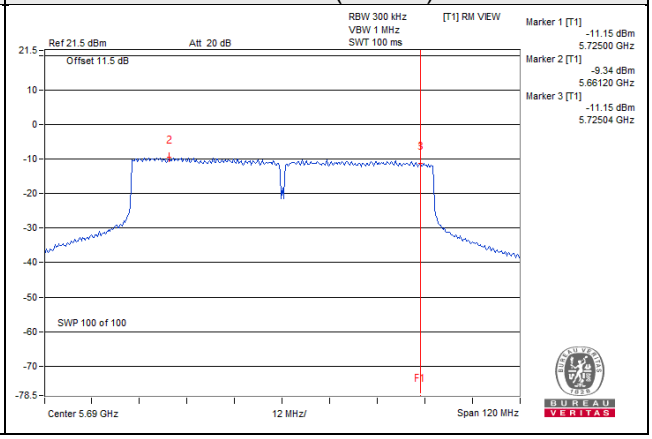
Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
142	5710 For U-NII-3	-5.13	-2.91	0.36	-2.55	30.00	Pass

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

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm/300k Hz)	PSD (dBm/500k Hz)	Duty factor	Total PSD (dBm/500k Hz)	Limit (dBm/500k Hz)	Pass / Fail
138	5690 For U-NII-3	-11.15	-8.93	0.88	-8.05	30.00	Pass

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

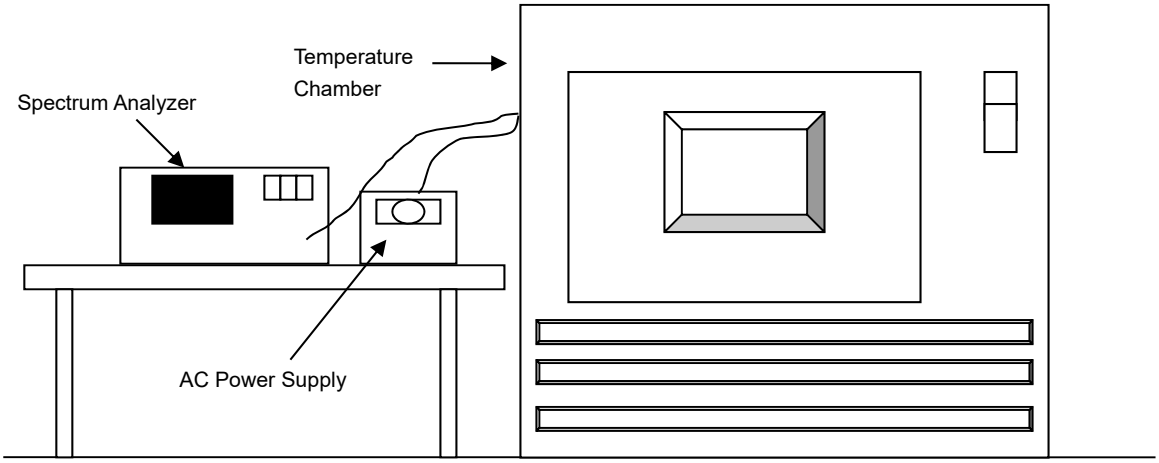
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

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	100039	Jun. 12, 2020	Jun. 11, 2021
Standard Temperature And Humidity Chamber	MHU-225AU	920842	May 28, 2020	May 27, 2021
Digital Multimeter Fluke	87-III	70360742	Jun. 23, 2020	Jun. 22, 2021
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 the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
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

5G traffic radio:

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
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
50	120	5259.9995	PASS	5260.0002	PASS	5260.0015	PASS	5260.0015	PASS
40	120	5259.9847	PASS	5259.9866	PASS	5259.9854	PASS	5259.9856	PASS
30	120	5260.0100	PASS	5260.0053	PASS	5260.0068	PASS	5260.0098	PASS
20	120	5259.9922	PASS	5259.9943	PASS	5259.9908	PASS	5259.9955	PASS
10	120	5259.9849	PASS	5259.9876	PASS	5259.9859	PASS	5259.9861	PASS
0	120	5259.9873	PASS	5259.9877	PASS	5259.9878	PASS	5259.9884	PASS
-10	120	5259.9868	PASS	5259.9893	PASS	5259.9889	PASS	5259.9903	PASS
-20	120	5259.9896	PASS	5259.9903	PASS	5259.9903	PASS	5259.9896	PASS
-30	120	5259.9898	PASS	5259.9906	PASS	5259.9926	PASS	5259.9926	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
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	5259.9927	PASS	5259.9934	PASS	5259.9907	PASS	5259.9953	PASS
	120	5259.9922	PASS	5259.9943	PASS	5259.9908	PASS	5259.9955	PASS
	102	5259.9916	PASS	5259.9943	PASS	5259.9907	PASS	5259.9955	PASS

Scanning radio:

Frequency Stability Versus Temp.									
Operating Frequency: 5260MHz									
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
50	120	5259.9841	PASS	5259.9864	PASS	5259.9852	PASS	5259.9865	PASS
40	120	5259.9790	PASS	5259.9817	PASS	5259.9774	PASS	5259.9784	PASS
30	120	5260.0125	PASS	5260.0126	PASS	5260.0122	PASS	5260.0149	PASS
20	120	5260.0030	PASS	5260.0031	PASS	5259.9997	PASS	5260.0008	PASS
10	120	5260.0002	PASS	5260.0039	PASS	5260.0012	PASS	5260.0038	PASS
0	120	5260.0045	PASS	5260.0023	PASS	5260.0042	PASS	5260.0067	PASS
-10	120	5259.9737	PASS	5259.9733	PASS	5259.9765	PASS	5259.9725	PASS
-20	120	5260.0166	PASS	5260.0172	PASS	5260.0157	PASS	5260.0165	PASS
-30	120	5259.9872	PASS	5259.9895	PASS	5259.9909	PASS	5259.9868	PASS

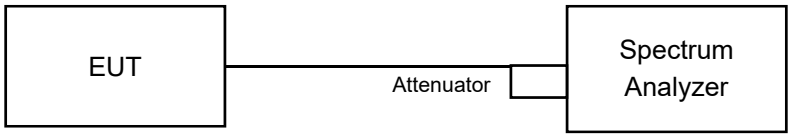
Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5260.0027	PASS	5260.0026	PASS	5260.0000	PASS	5260.0005	PASS
	120	5260.0030	PASS	5260.0031	PASS	5259.9997	PASS	5260.0008	PASS
	102	5260.0026	PASS	5260.0031	PASS	5260.0003	PASS	5260.0002	PASS

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

5G traffic radio:

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	2.63	2.63	0.5	Pass

802.11ax (HE20)

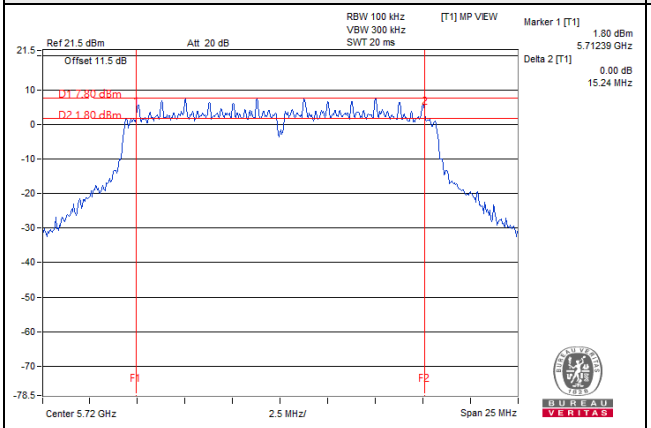
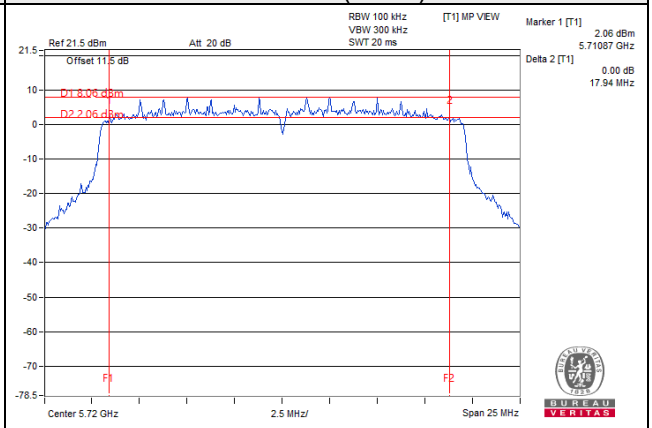
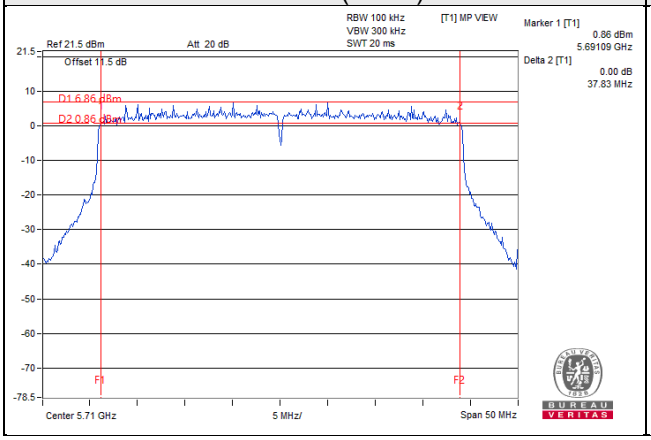
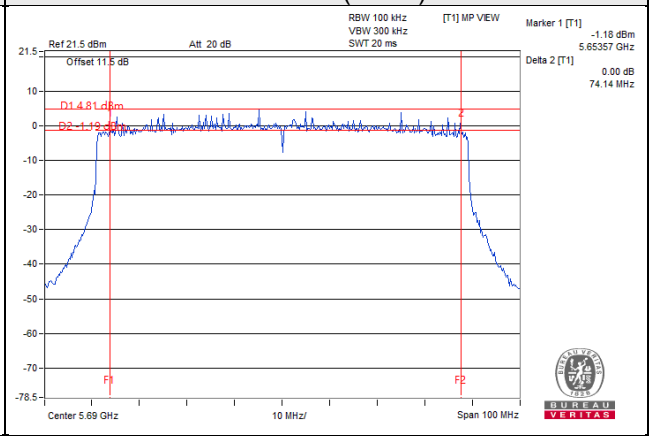
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	4.25	3.81	0.5	Pass

802.11ax (HE40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 For U-NII-3	3.92	3.93	0.5	Pass

802.11ax (HE80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 For U-NII-3	2.88	2.71	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	

*802.11a: Ch 144 (5720MHz for U-NII-3): 15.24-(5725-5712.39) = 2.63
*802.11ax (HE20): Ch 144 (5720MHz for U-NII-3): 17.94-(5725-5710.87) = 3.81
*802.11ax (HE40): Ch 142 (5710MHz for U-NII-3): 37.83-(5725-5691.09) = 3.92
*802.11ax (HE80): Ch 138 (5690MHz for U-NII-3): 74.14-(5725-5635.70) = 2.71

Scanning radio:

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.85	0.5	Pass

802.11n (HT20)

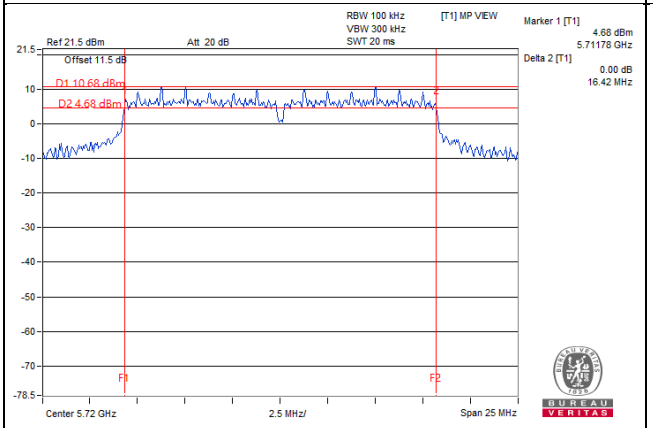
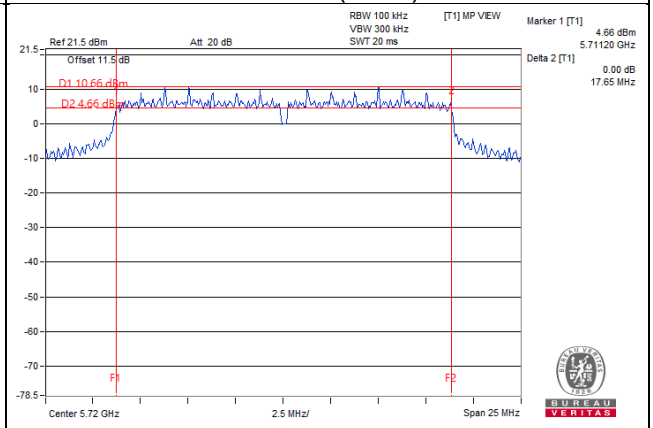
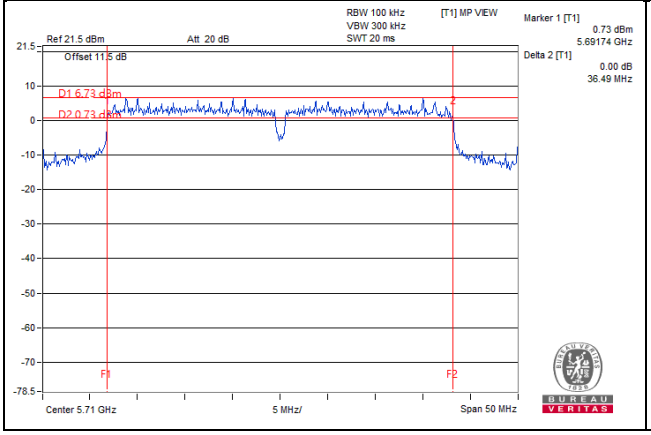
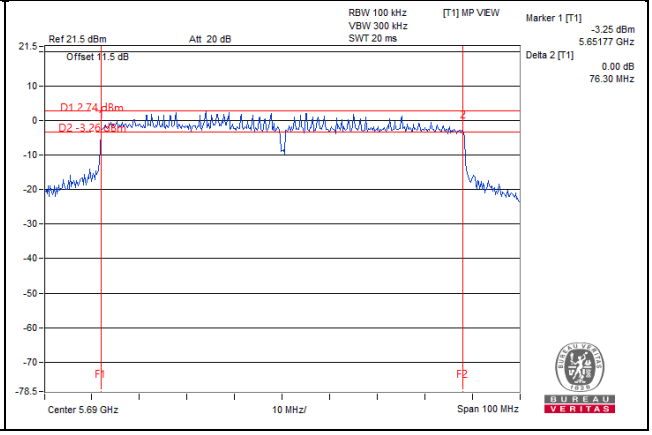
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.23	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 For U-NII-3	3.23	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 For U-NII-3	3.07	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

*802.11a: Ch 144 (5720MHz for U-NII-3): 16.42-(5725-5711.78) = 3.85
*802.11n (HT20): Ch 144 (5720MHz for U-NII-3): 17.65-(5725-5711.20) = 3.23
*802.11n (HT40): Ch 142 (5710MHz for U-NII-3): 36.49-(5725-5691.74) = 3.23
*802.11ac (VHT80): Ch 138 (5690MHz for U-NII-3): 76.30-(5725-5651.77) = 3.07

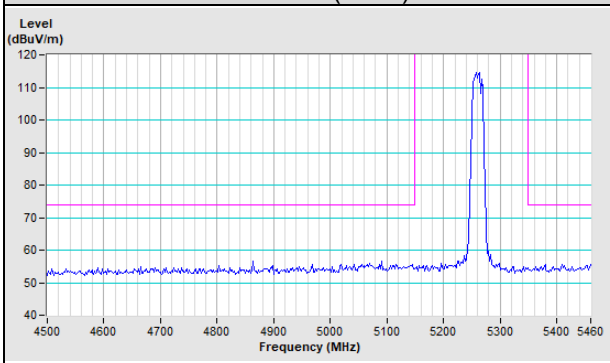
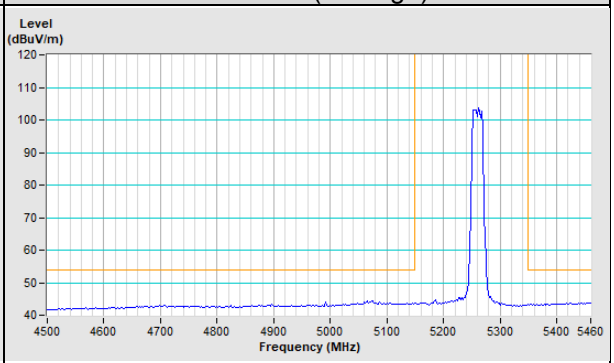
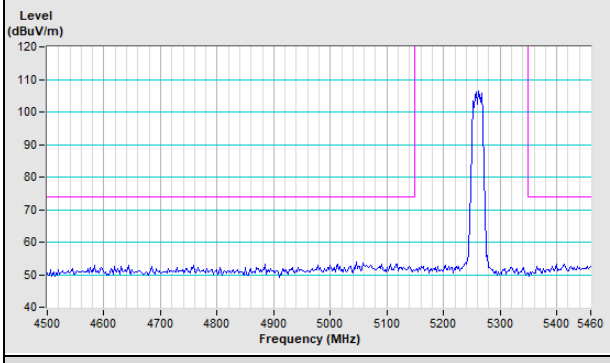
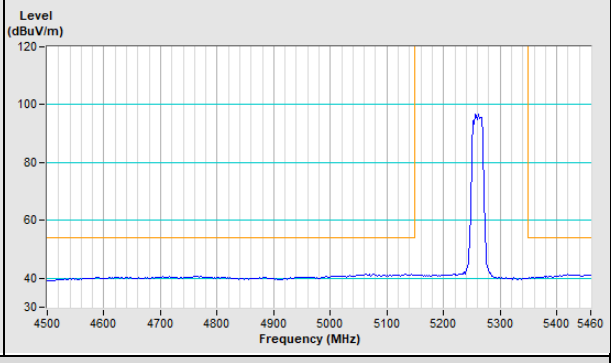
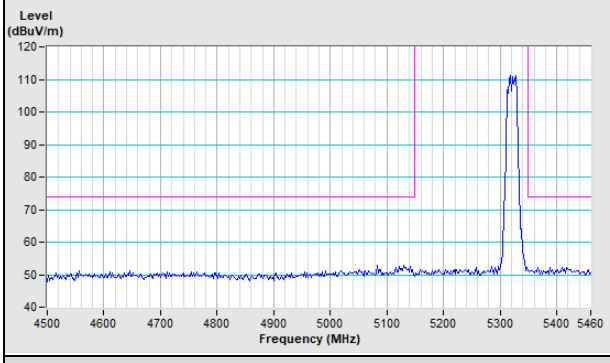
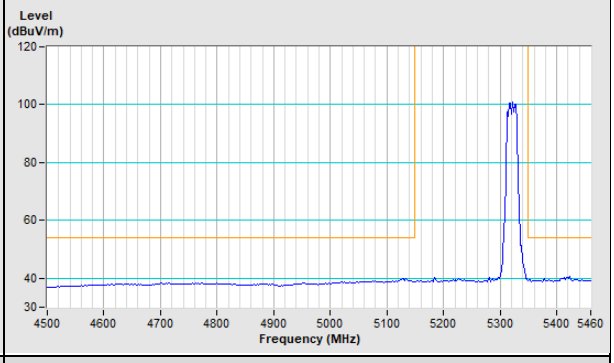
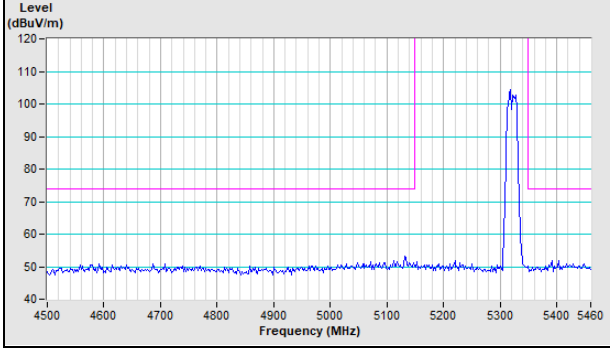
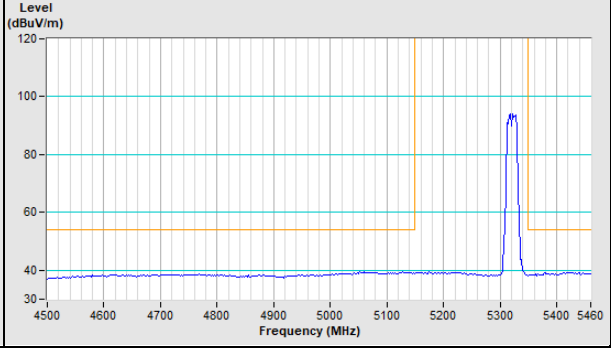
5 Pictures of Test Arrangements

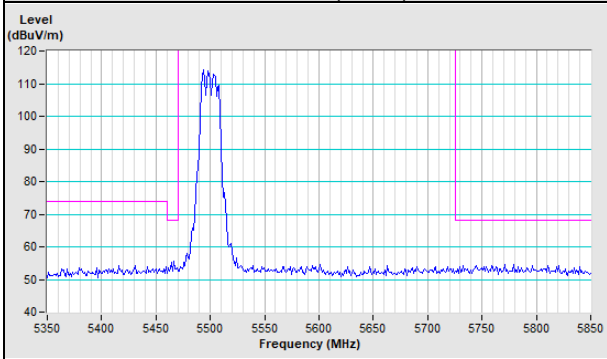
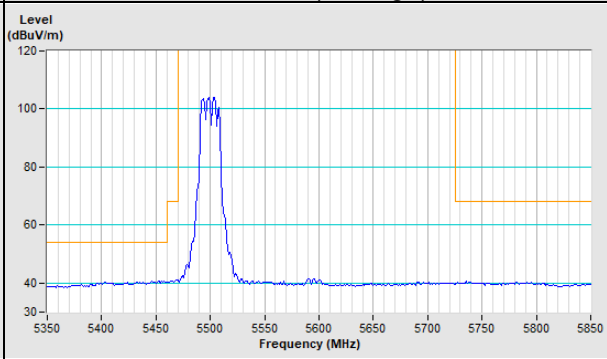
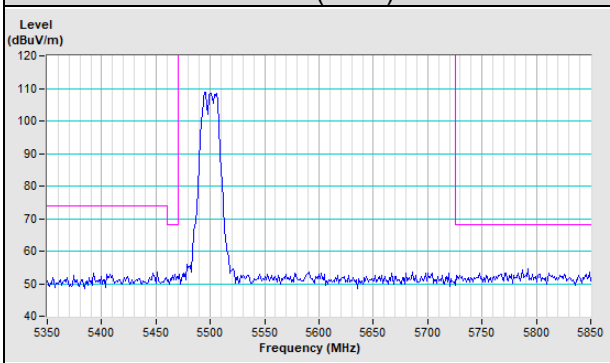
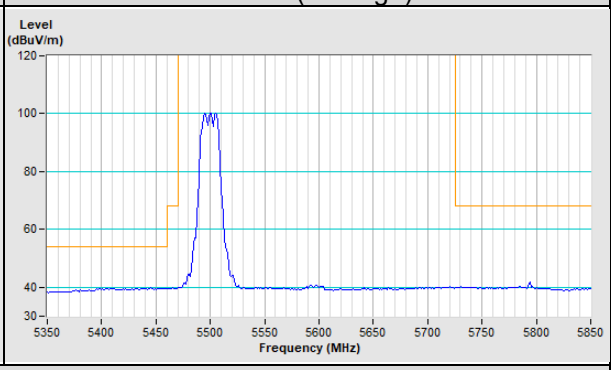
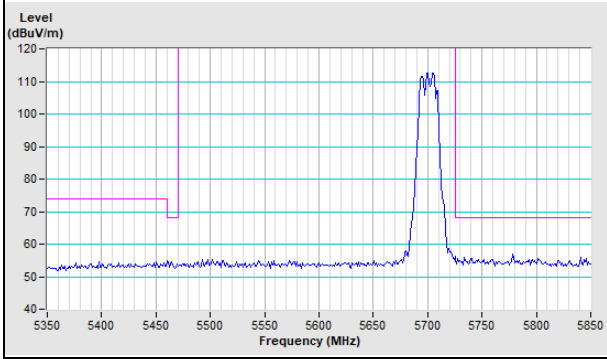
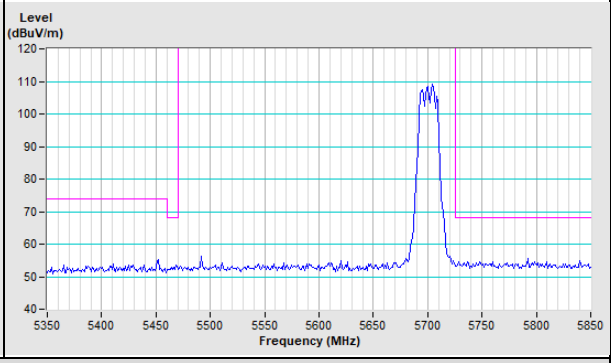
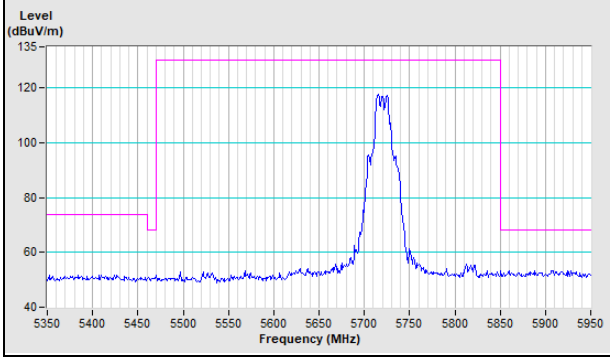
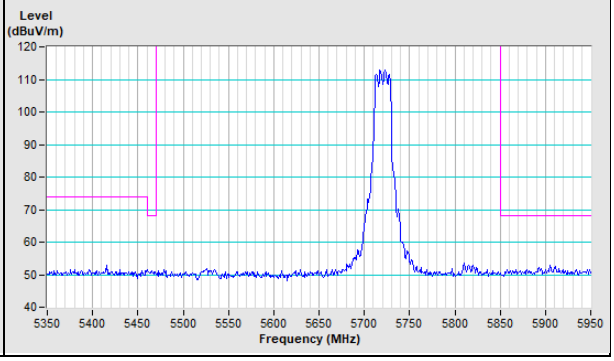
Please refer to the attached file (Test Setup Photo).

Annex A- Band Edge Measurement

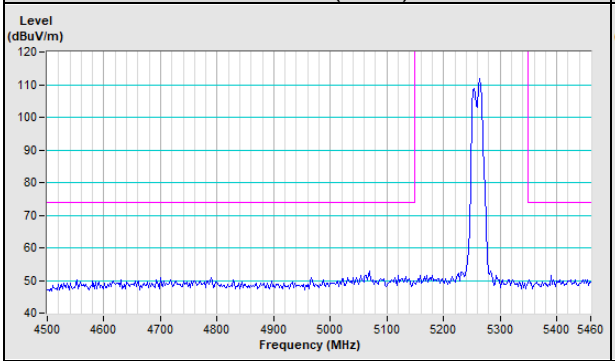
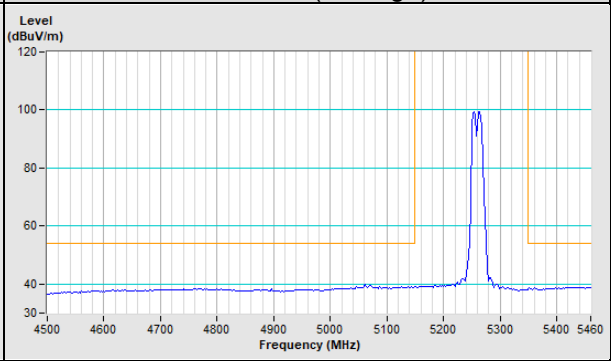
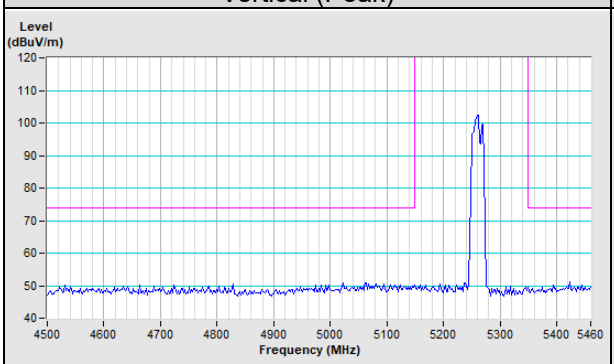
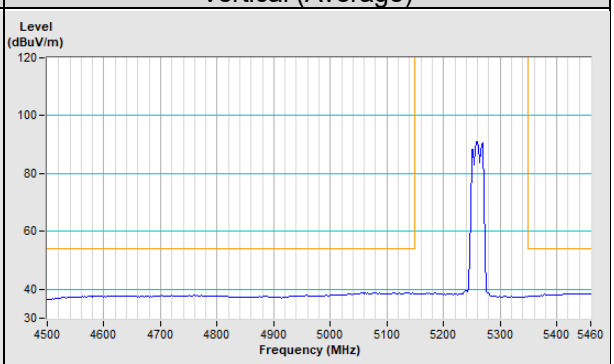
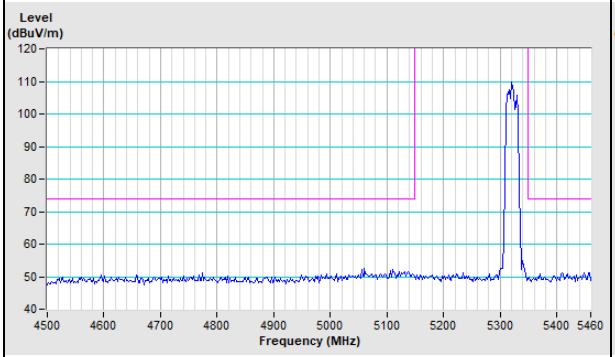
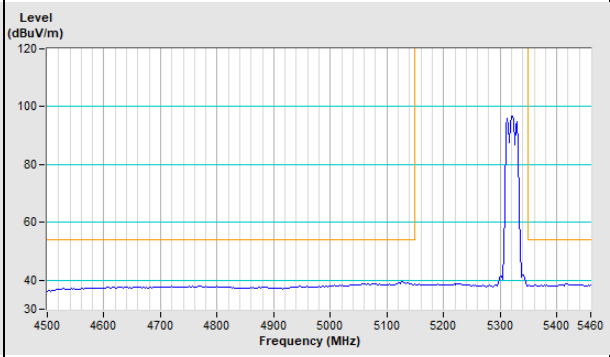
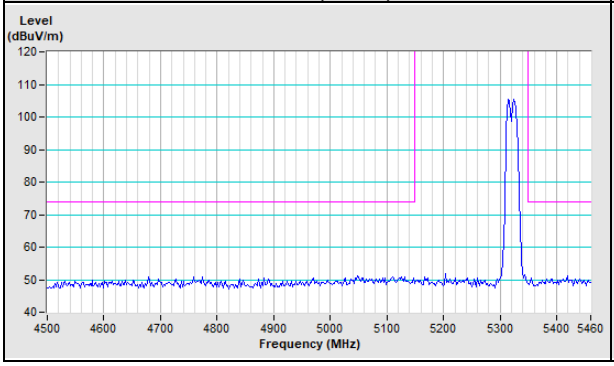
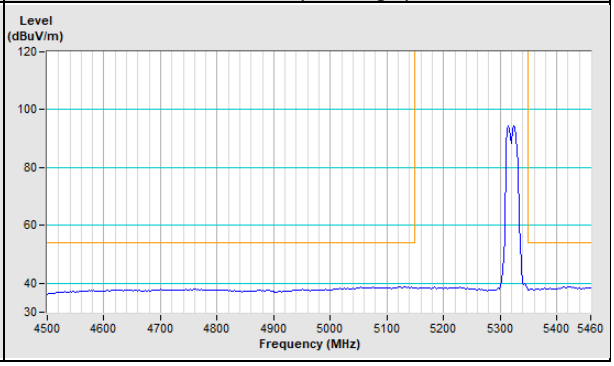
5G traffic radio:

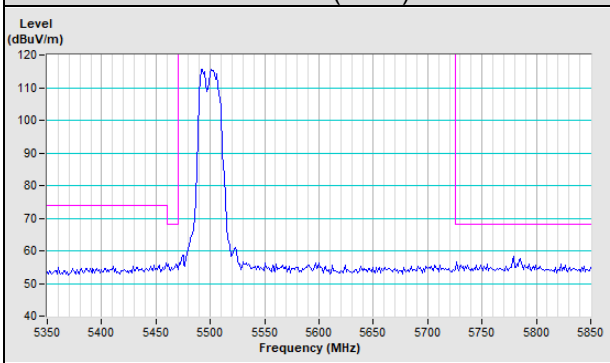
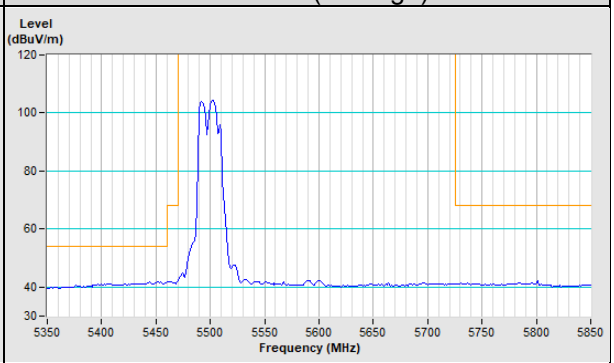
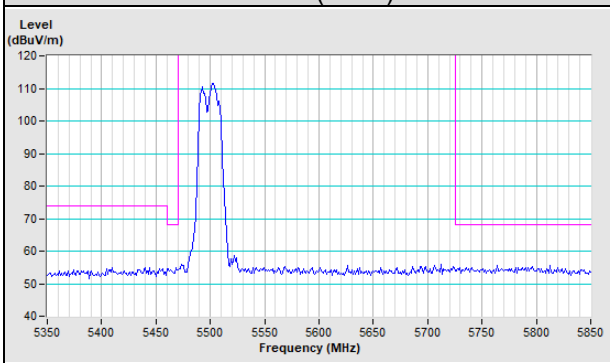
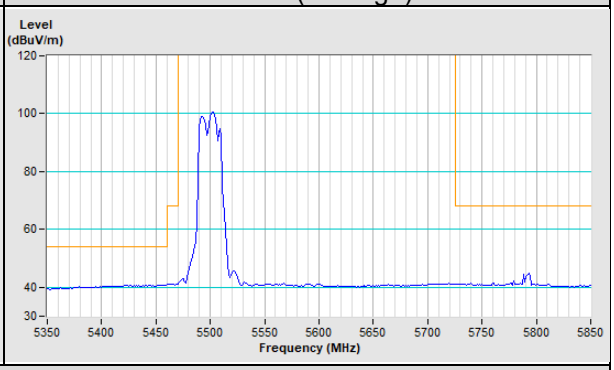
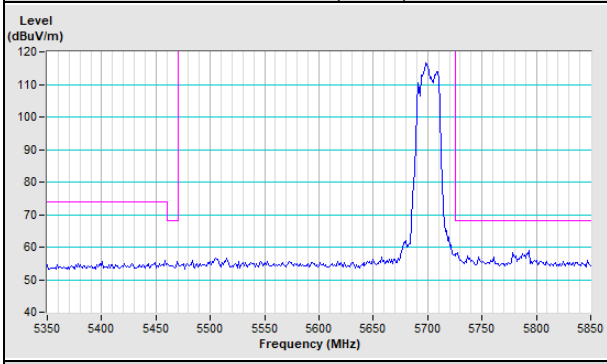
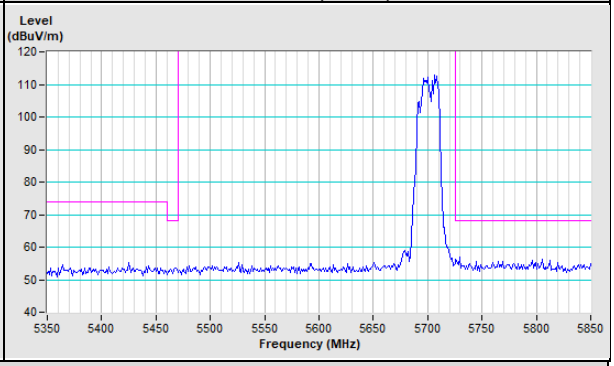
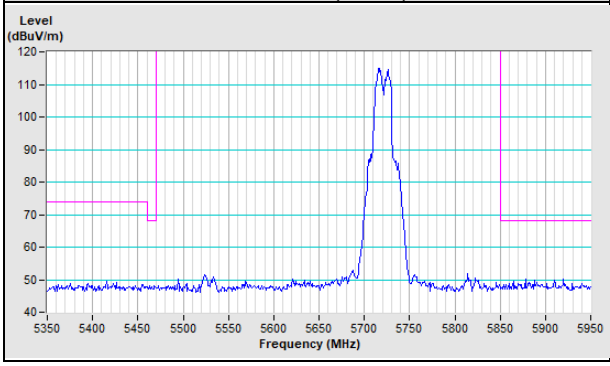
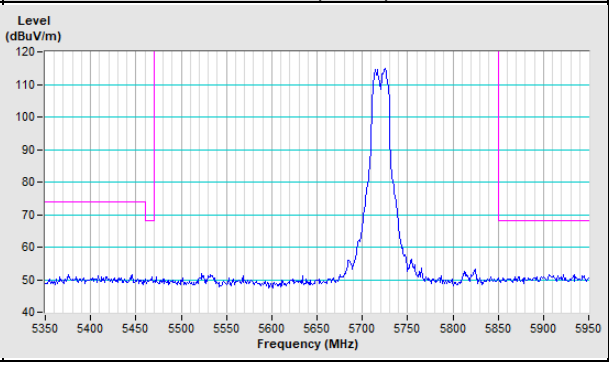
802.11a

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

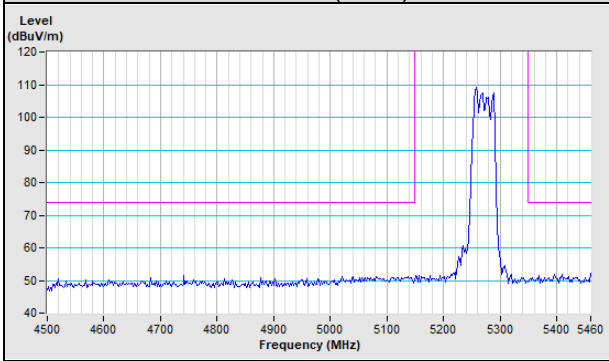
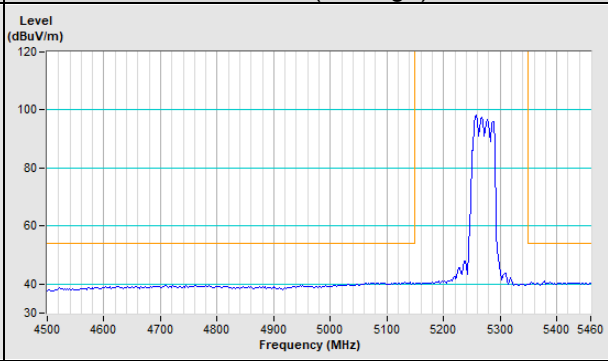
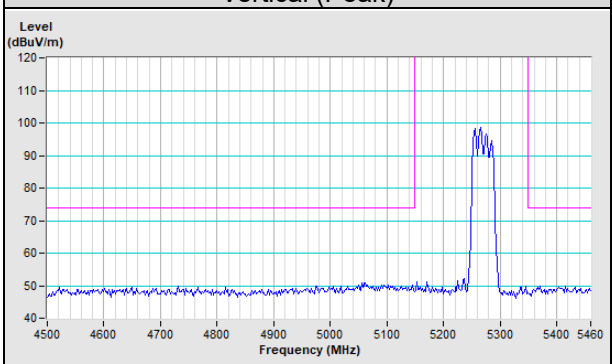
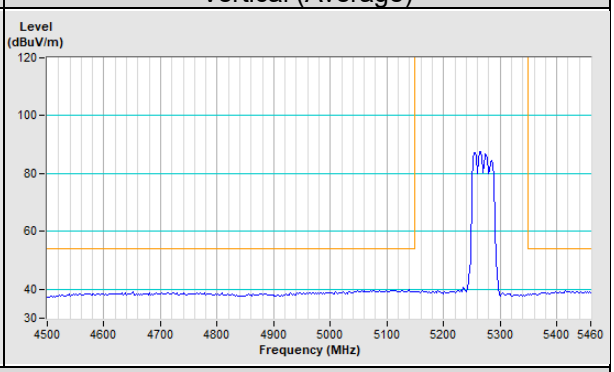
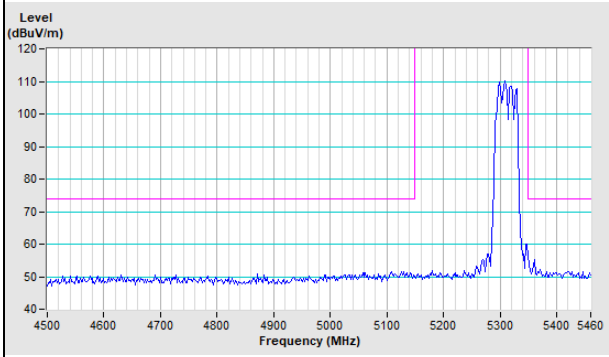
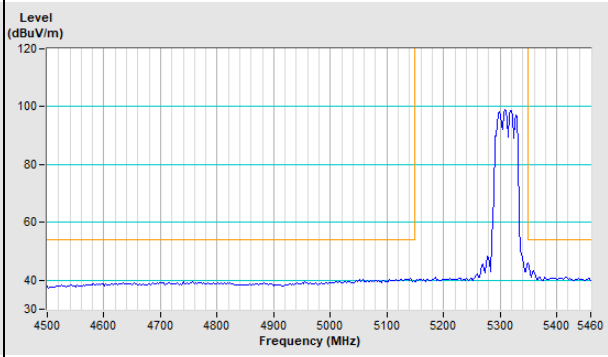
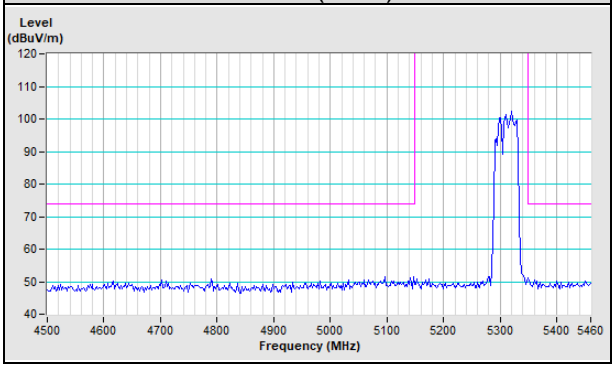
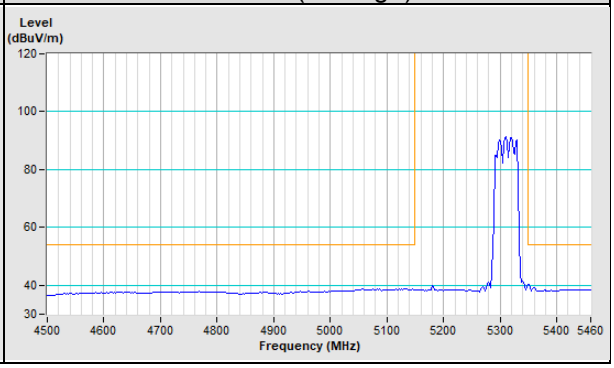
Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

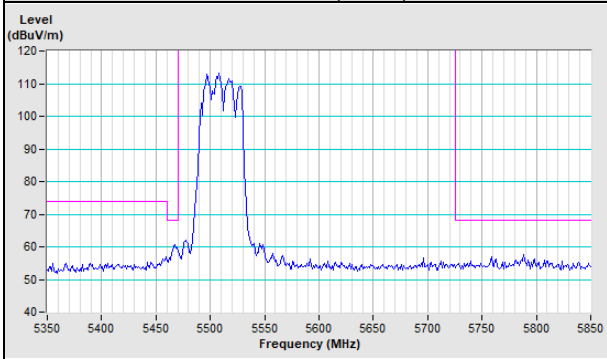
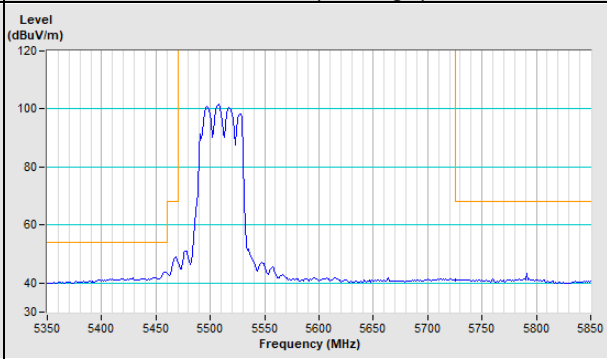
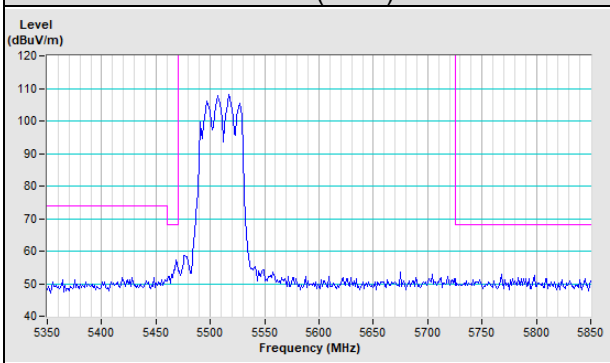
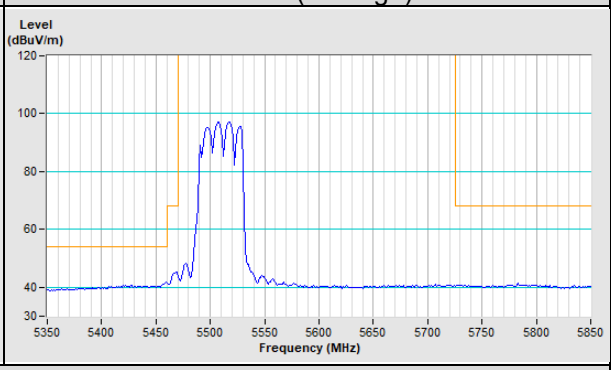
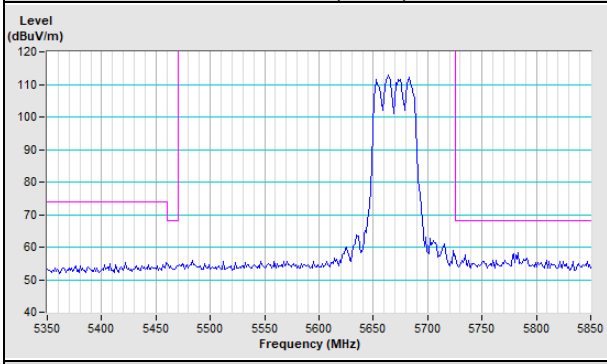
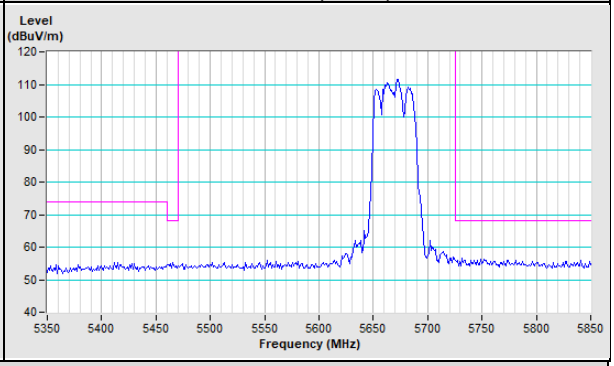
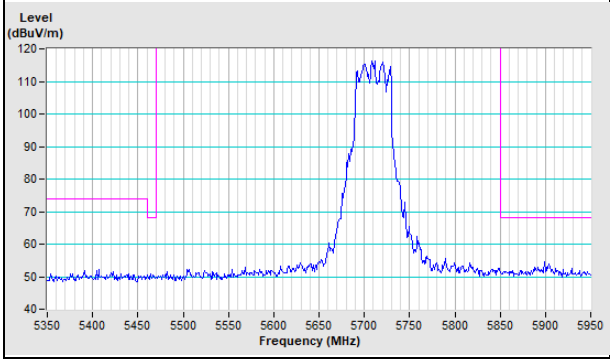
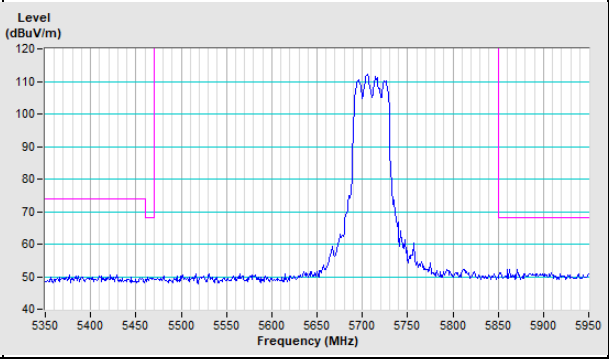
802.11ax (HE20)

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

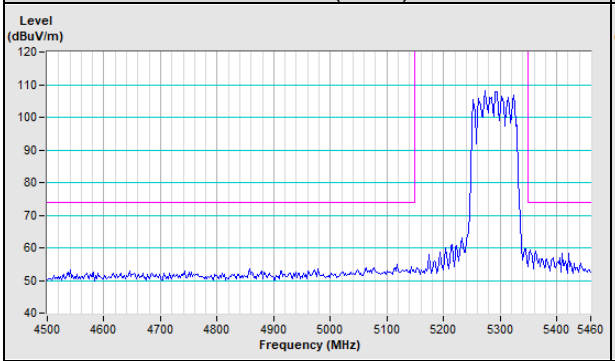
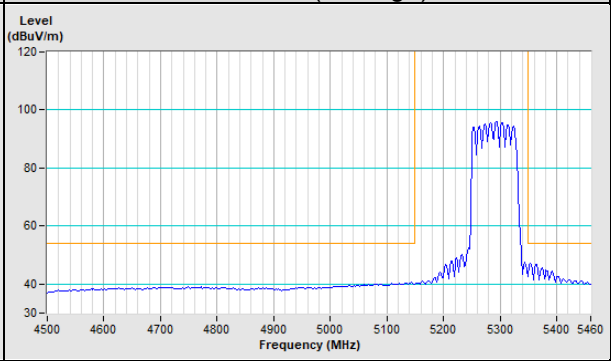
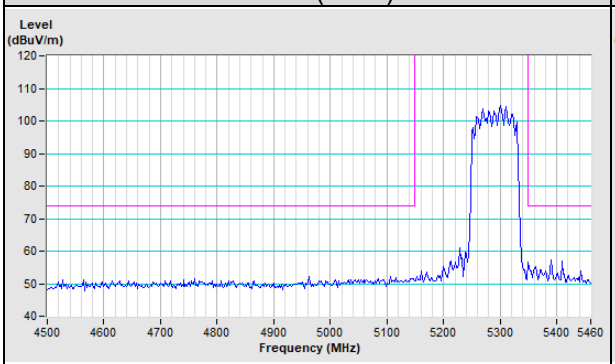
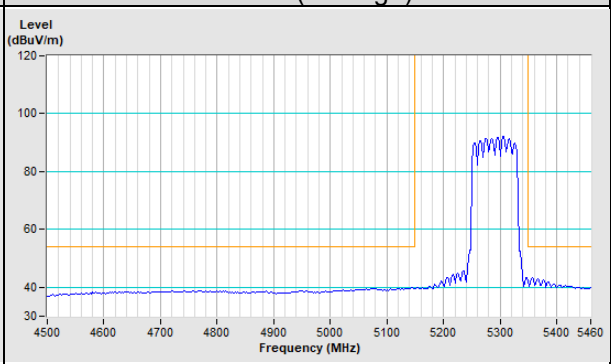
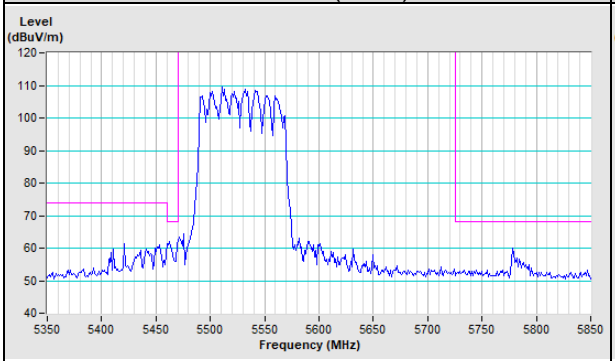
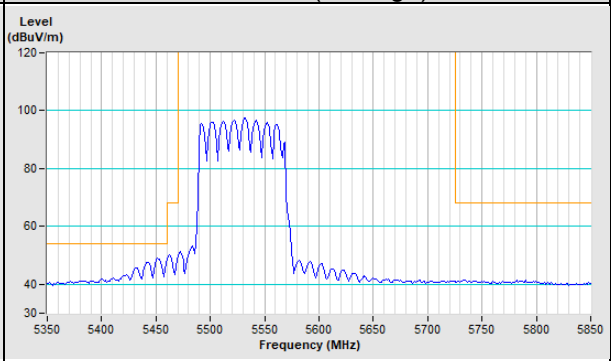
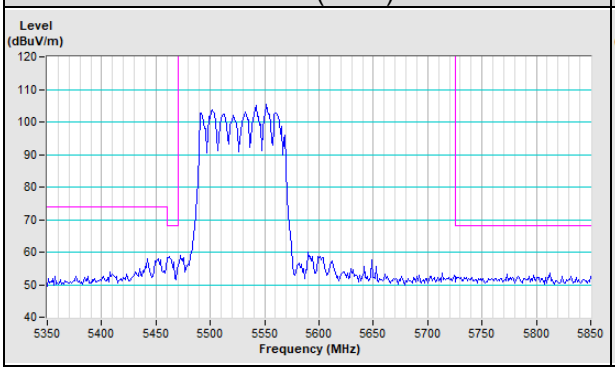
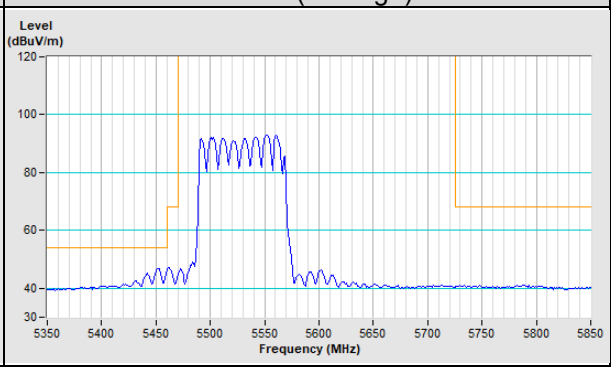
Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

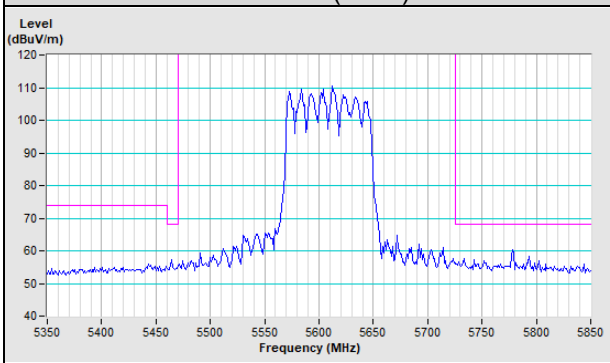
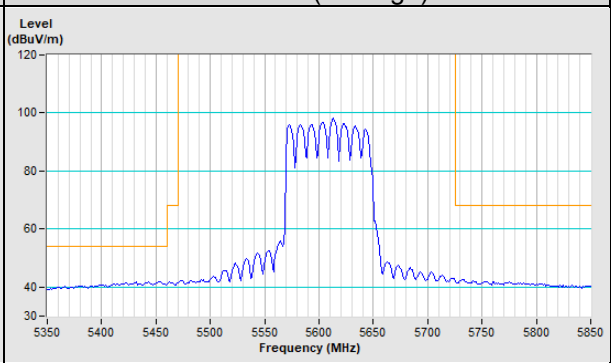
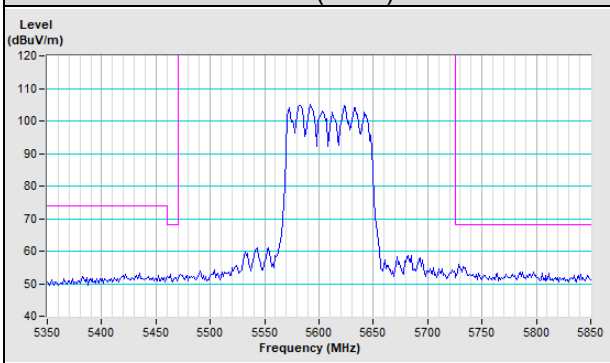
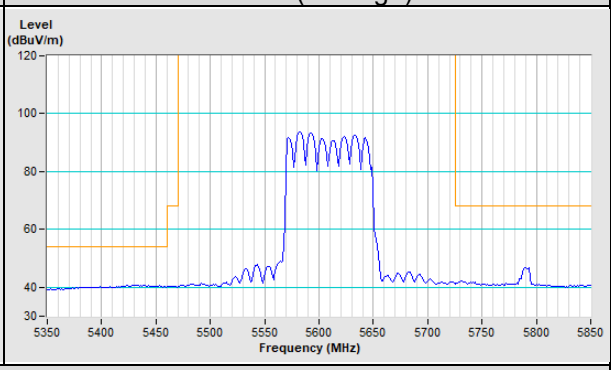
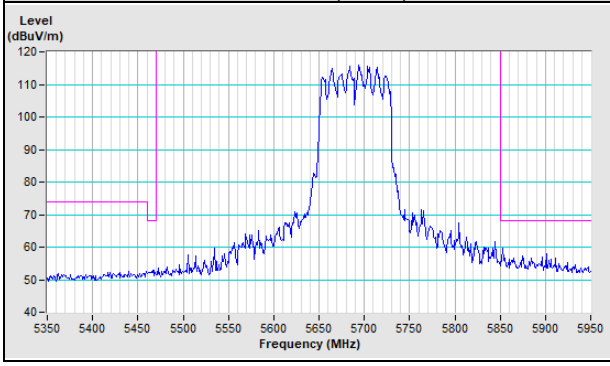
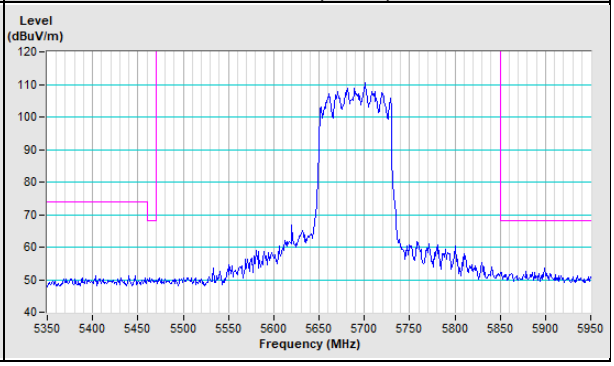
802.11ax (HE40)

Channel 54	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 62	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

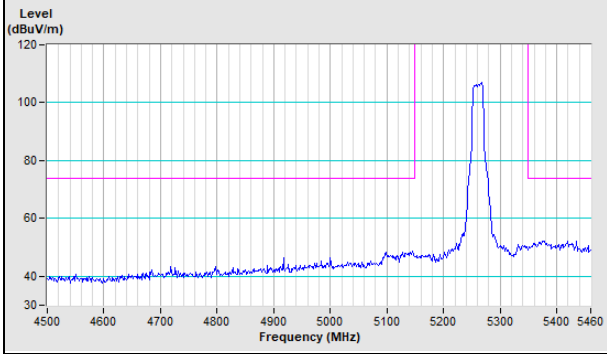
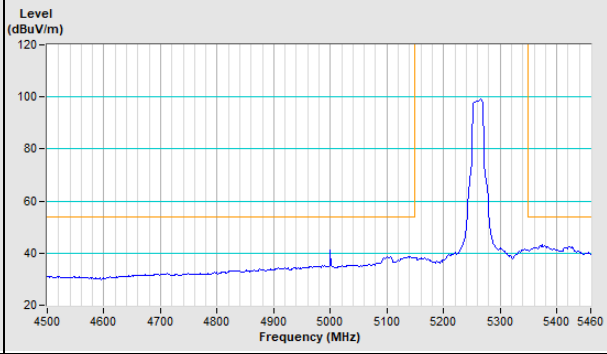
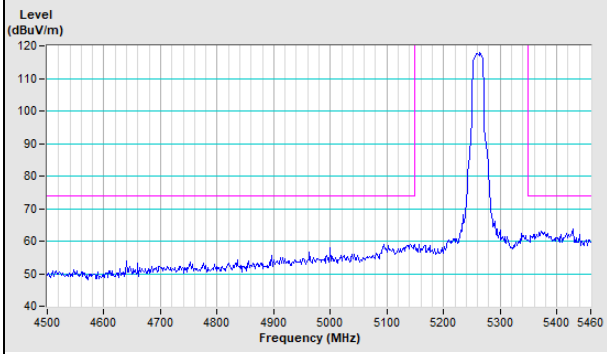
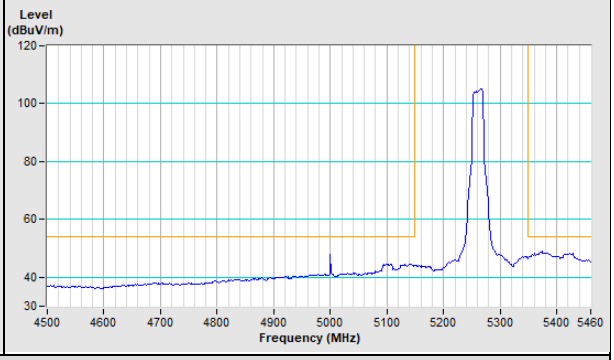
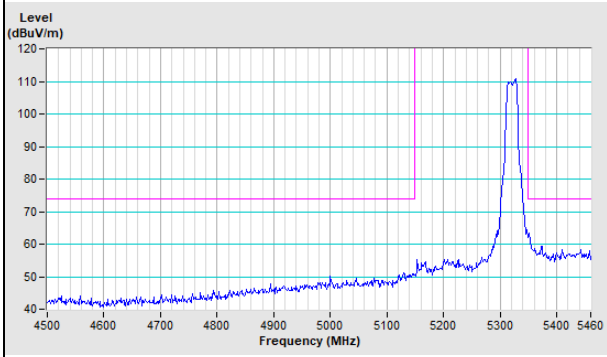
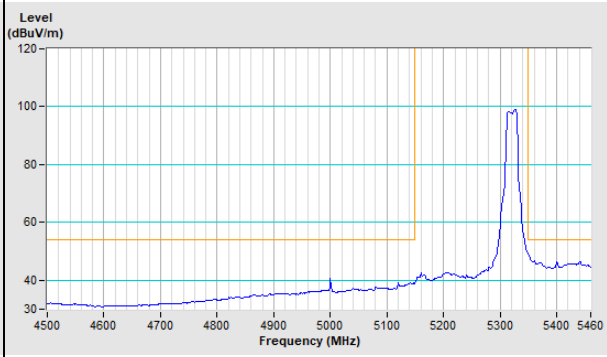
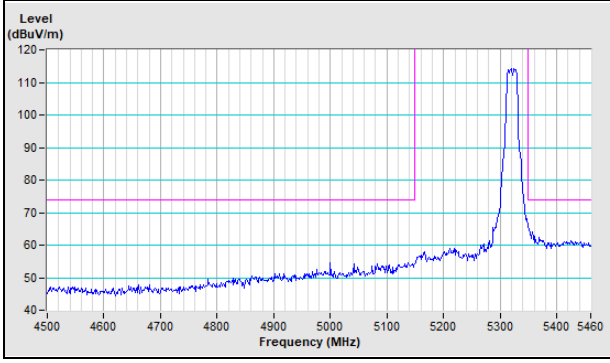
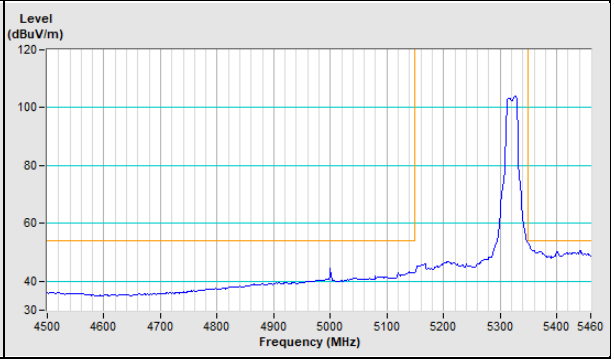
802.11ax (HE80)

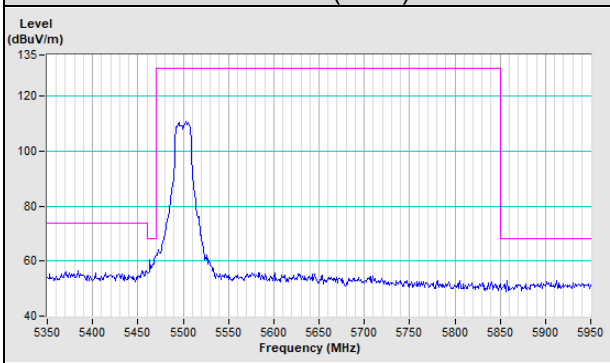
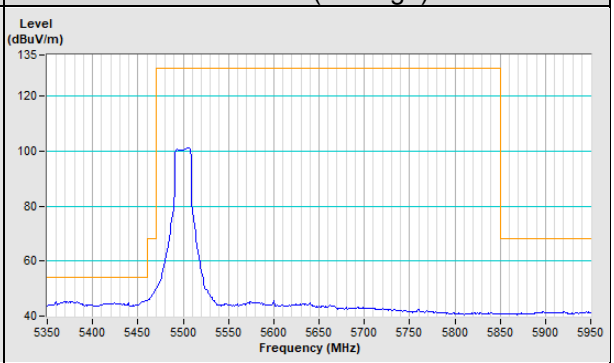
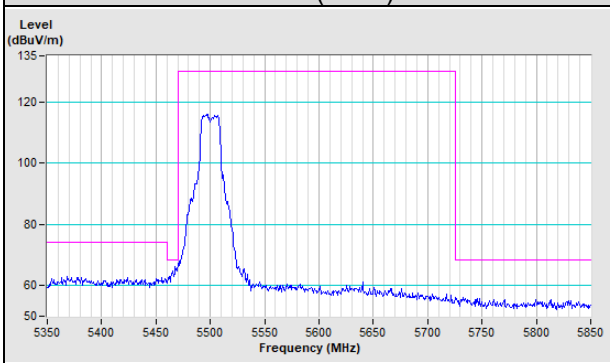
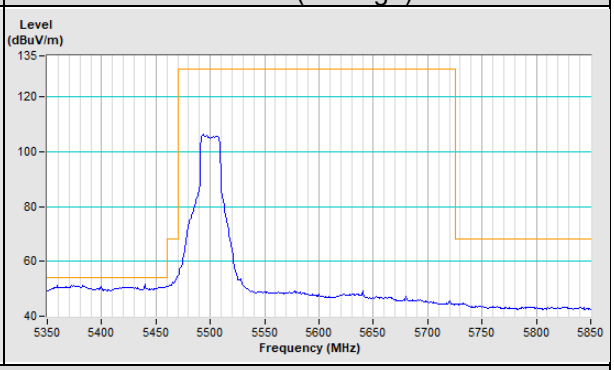
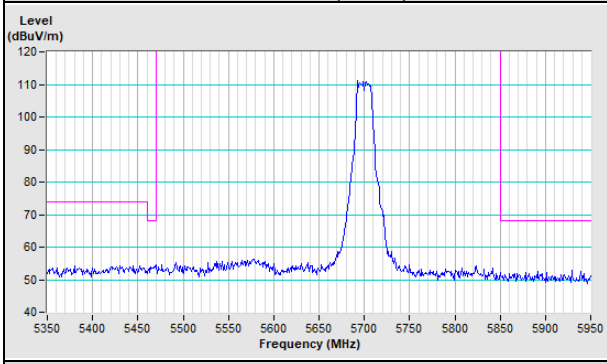
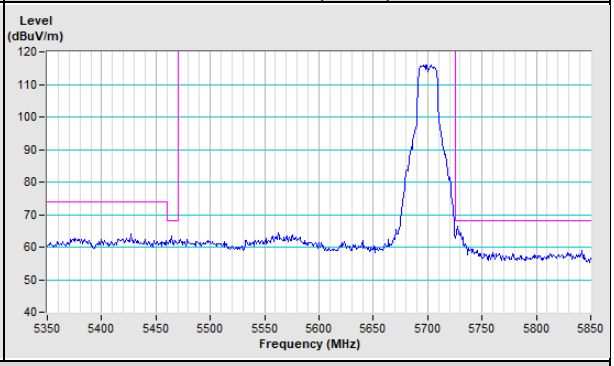
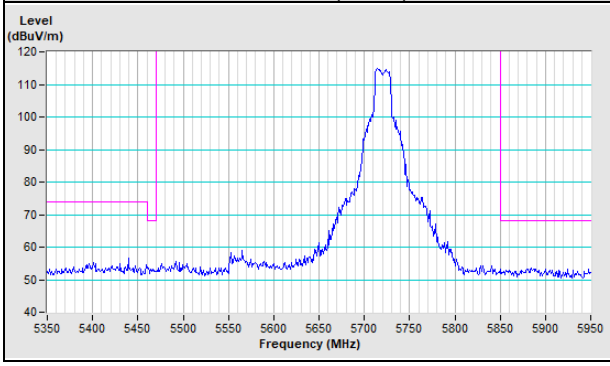
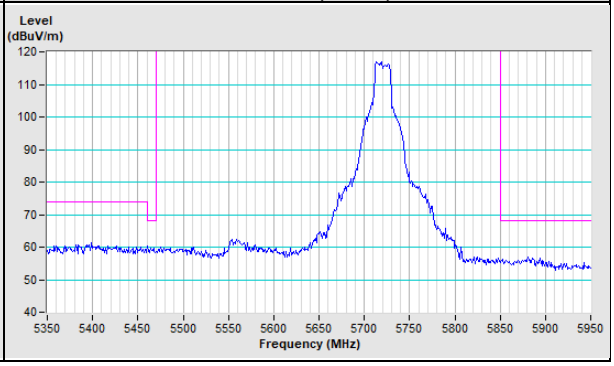
Channel 58	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 106	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Channel 122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 138	
Horizontal (Peak)	Vertical (Peak)
	

Scanning radio:

802.11a

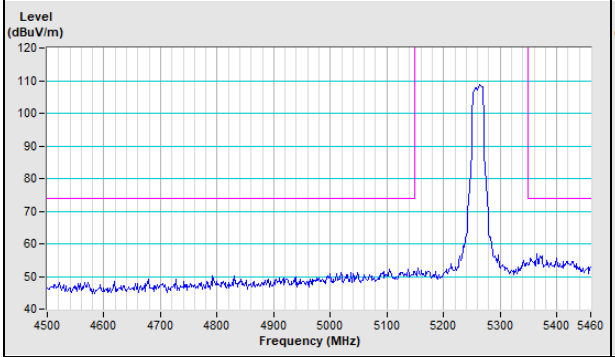
Channel 52	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 64	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

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

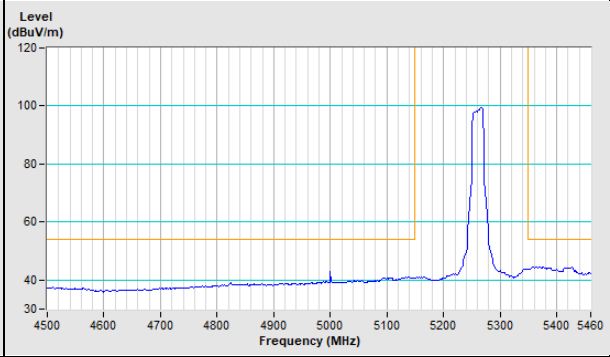
802.11ac (VHT20)

Channel 52

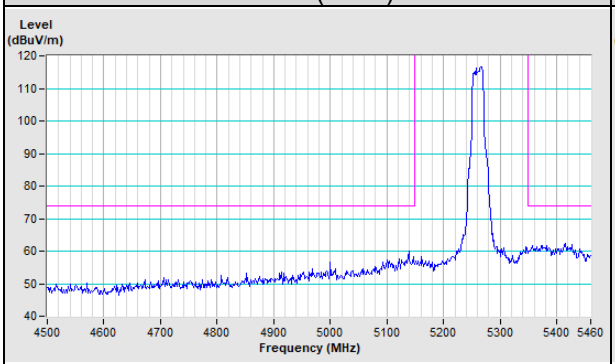
Horizontal (Peak)



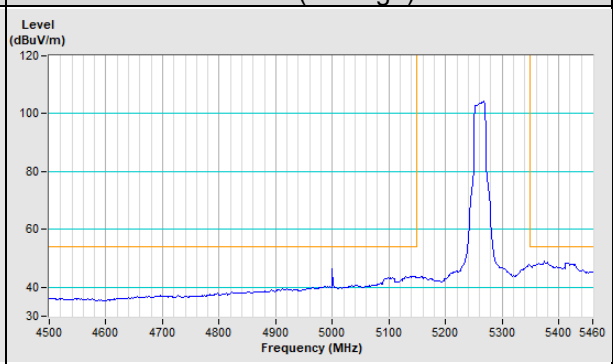
Horizontal (Average)



Vertical (Peak)

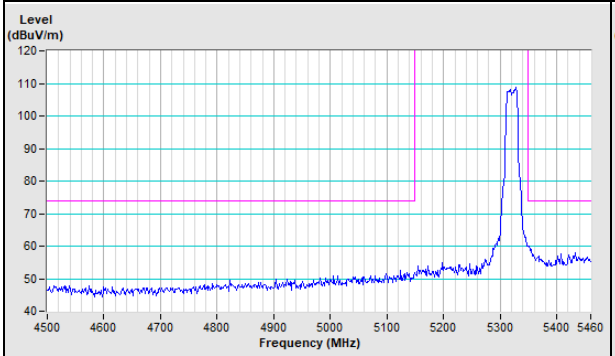


Vertical (Average)

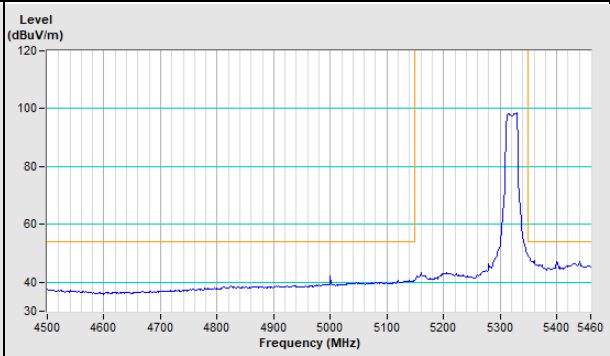


Channel 64

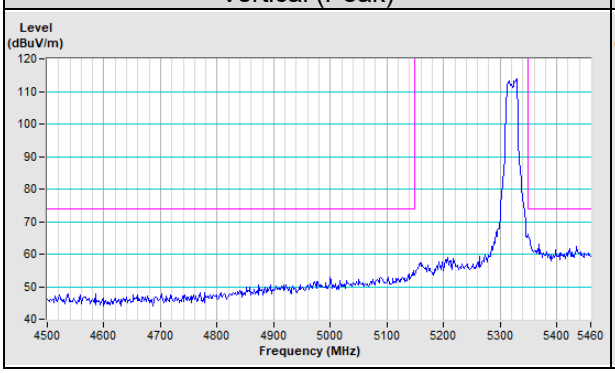
Horizontal (Peak)



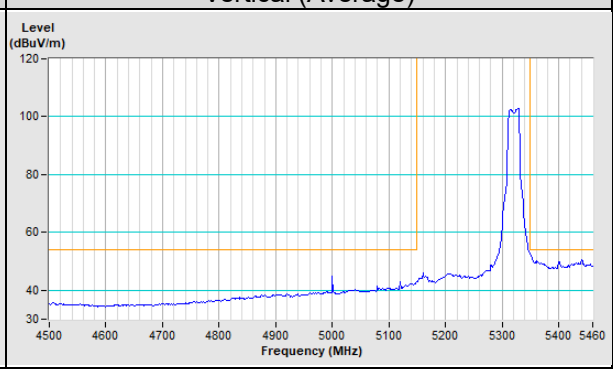
Horizontal (Average)

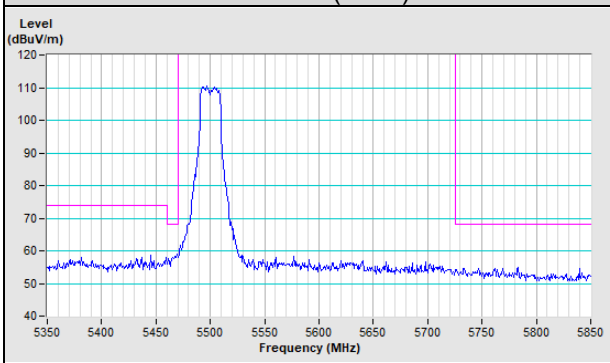
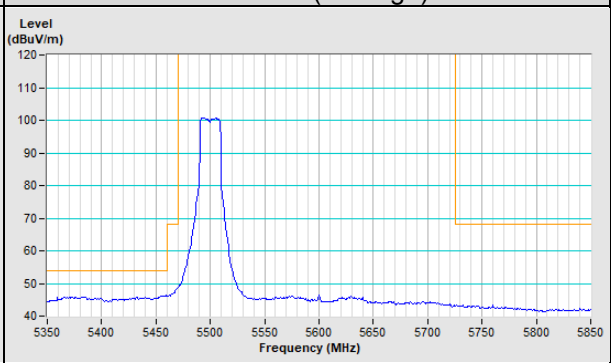
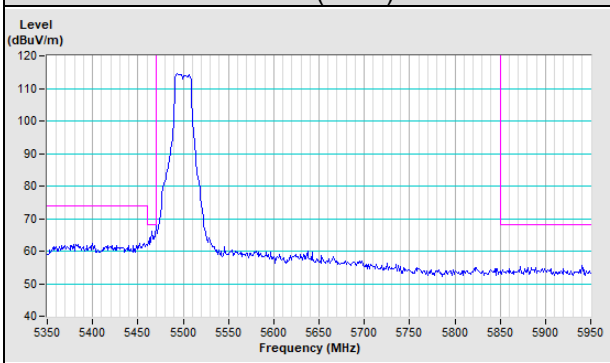
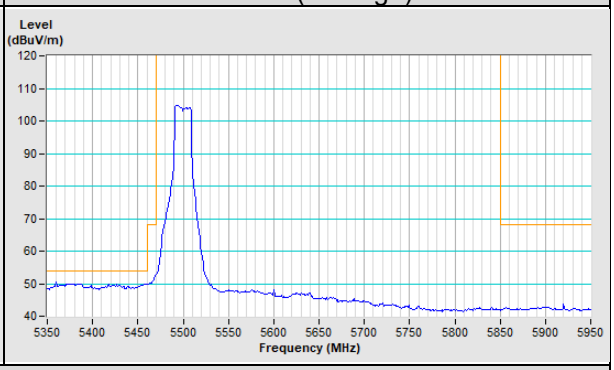
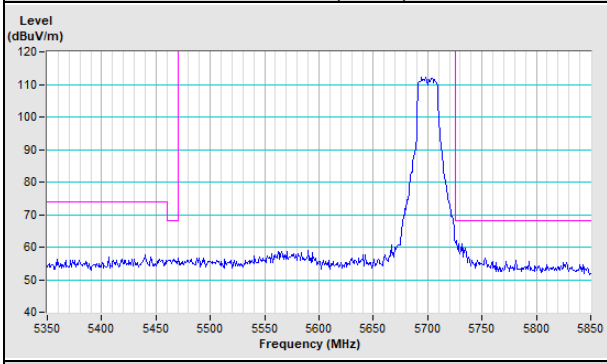
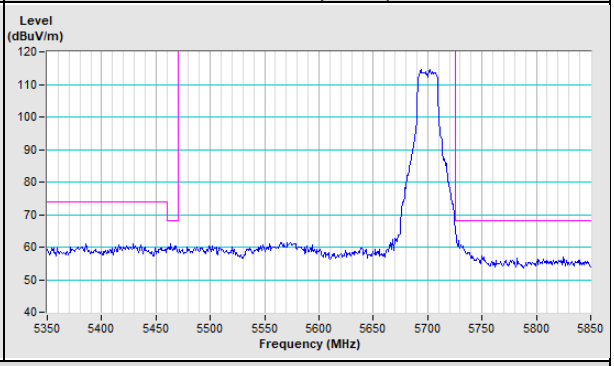
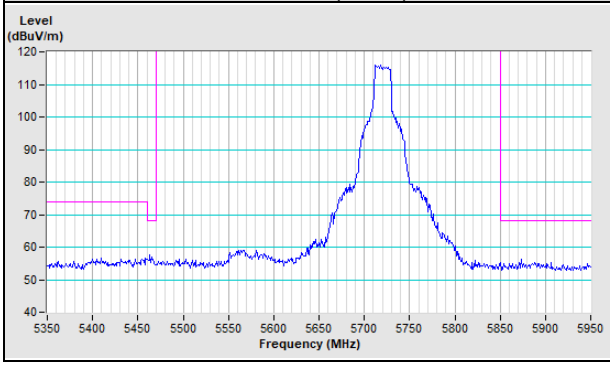
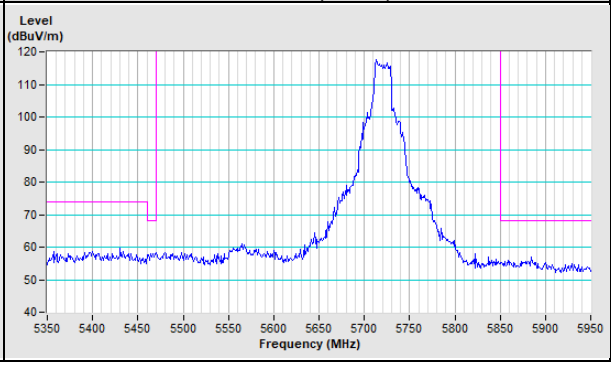


Vertical (Peak)



Vertical (Average)

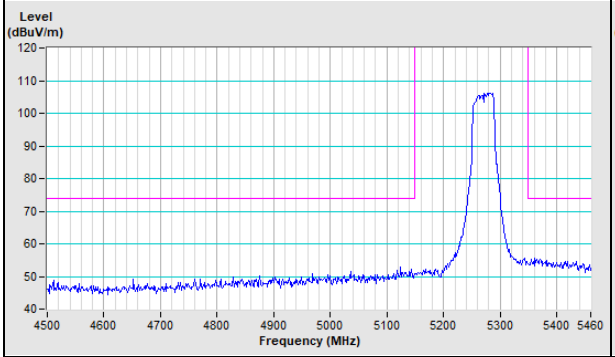


Channel 100	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 140	
Horizontal (Peak)	Vertical (Peak)
	
Channel 144	
Horizontal (Peak)	Vertical (Peak)
	

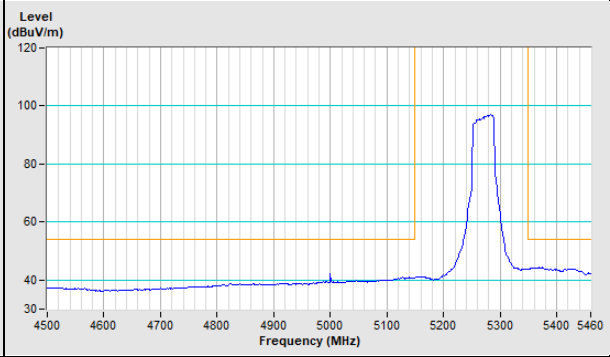
802.11ac (VHT40)

Channel 54

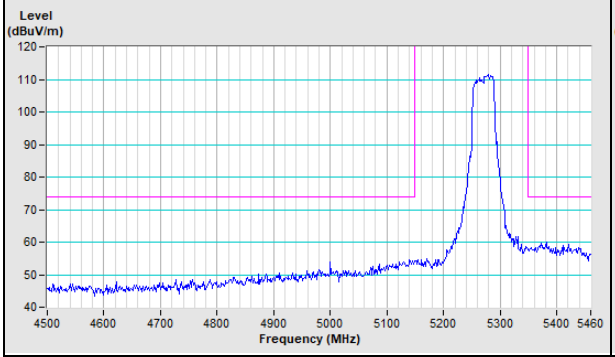
Horizontal (Peak)



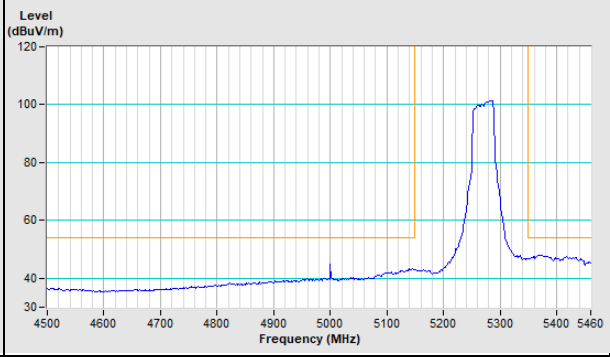
Horizontal (Average)



Vertical (Peak)

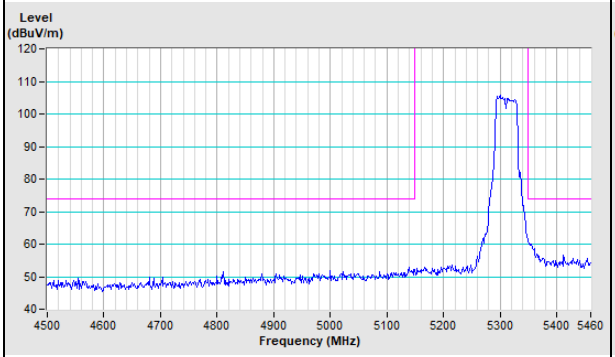


Vertical (Average)

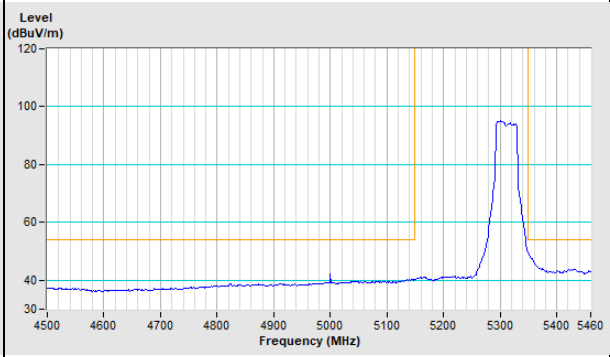


Channel 62

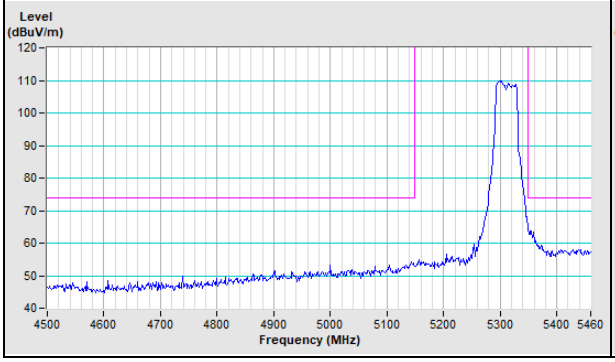
Horizontal (Peak)



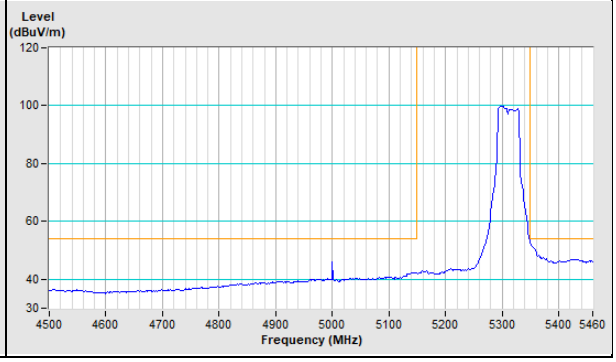
Horizontal (Average)

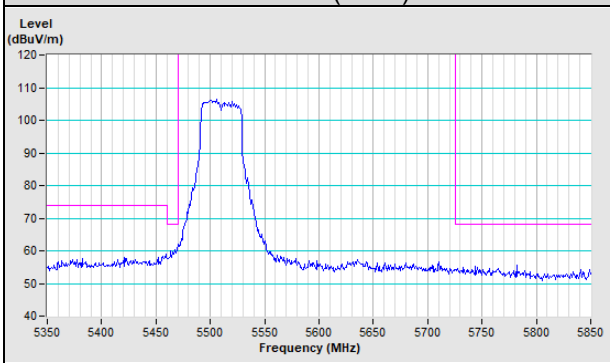
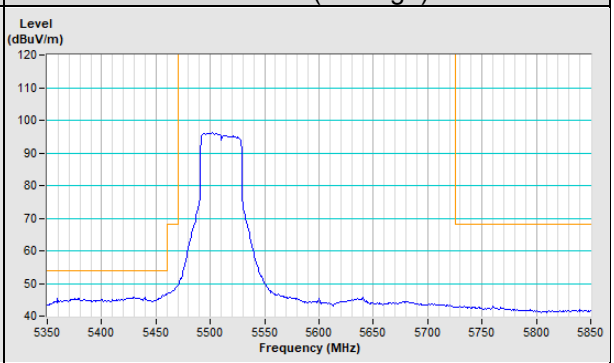
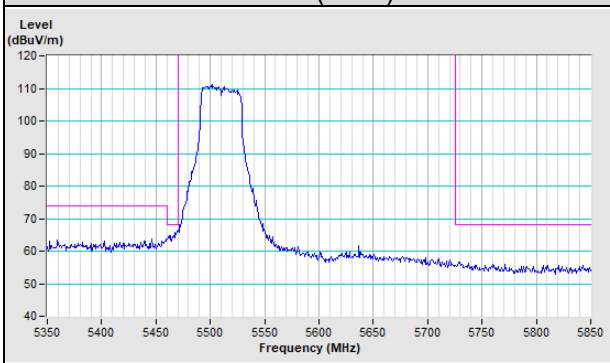
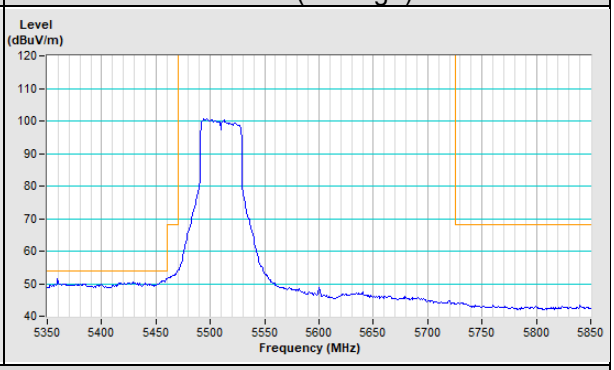
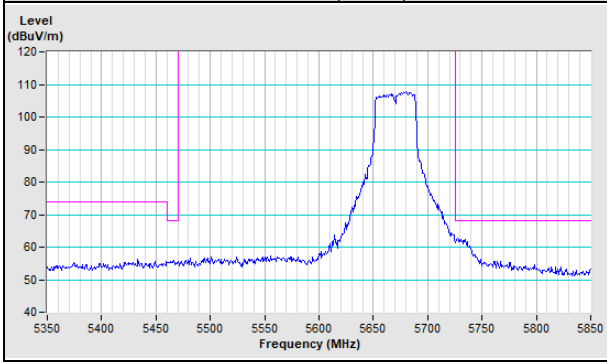
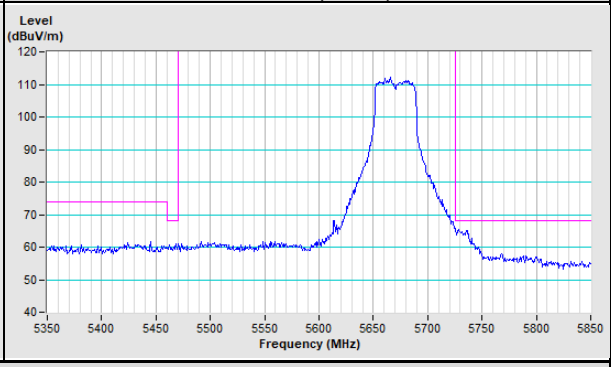
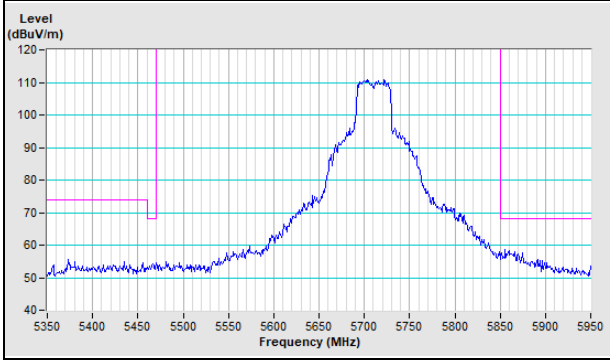
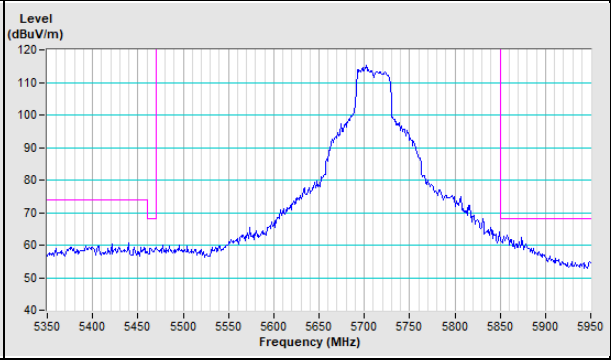


Vertical (Peak)



Vertical (Average)

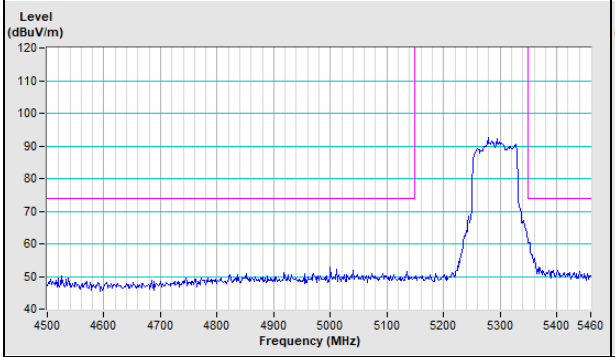


Channel 102	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
Channel 134	
Horizontal (Peak)	Vertical (Peak)
	
Channel 142	
Horizontal (Peak)	Vertical (Peak)
	

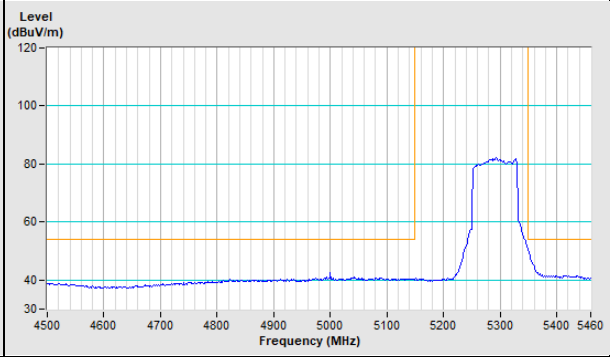
802.11ac (VHT80)

Channel 58

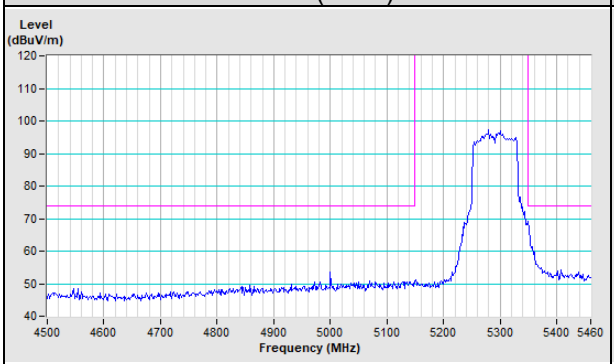
Horizontal (Peak)



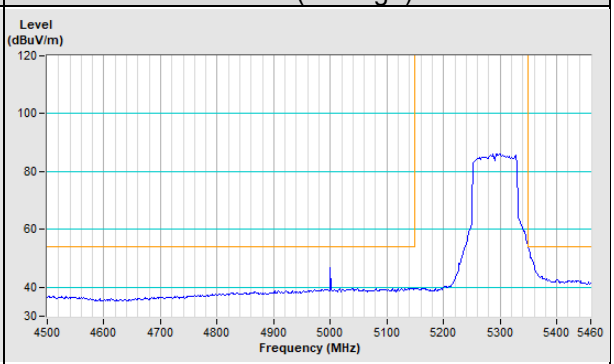
Horizontal (Average)



Vertical (Peak)

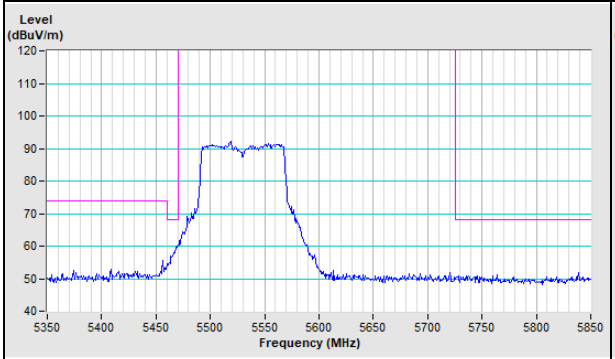


Vertical (Average)

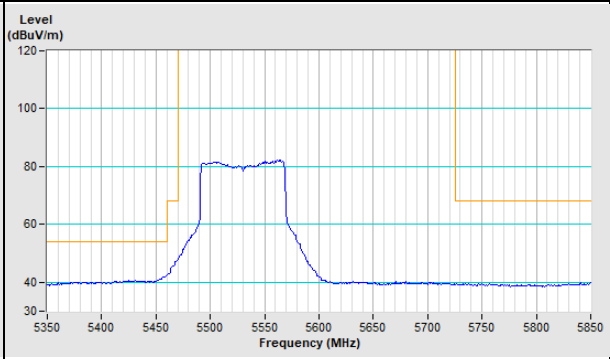


Channel 106

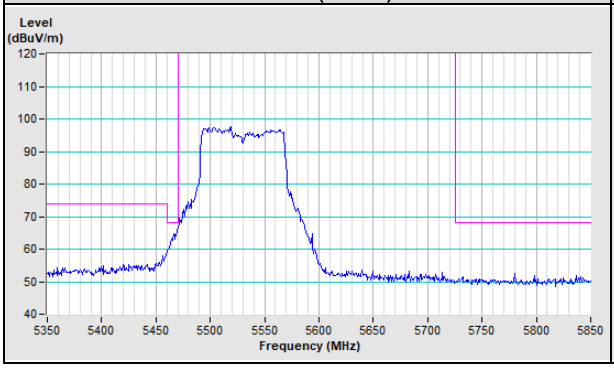
Horizontal (Peak)



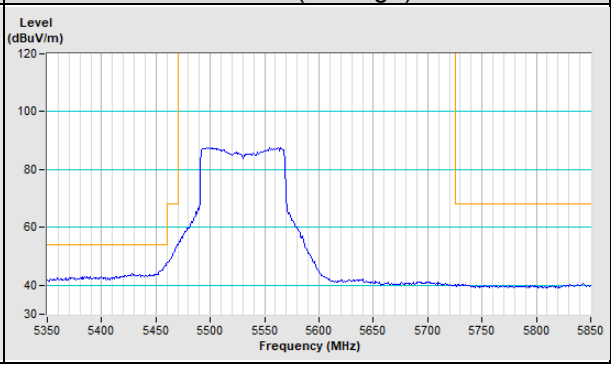
Horizontal (Average)

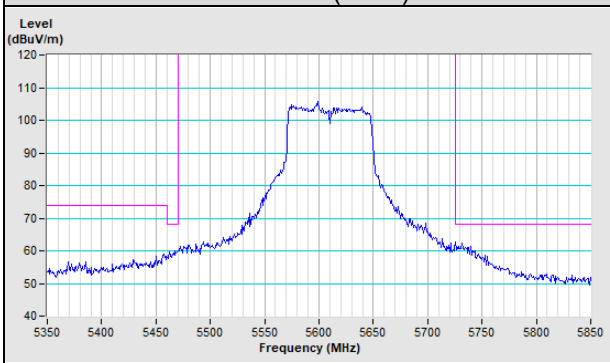
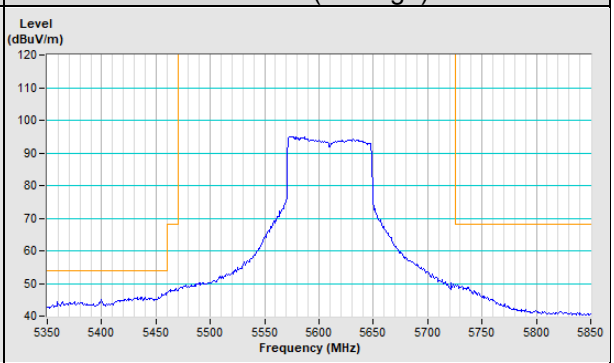
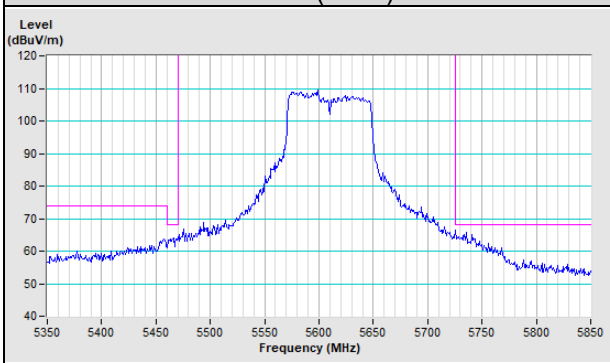
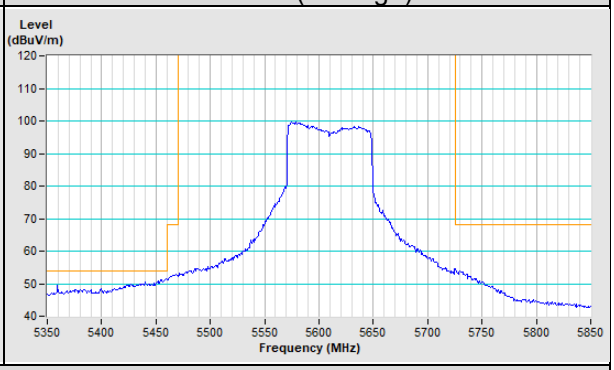
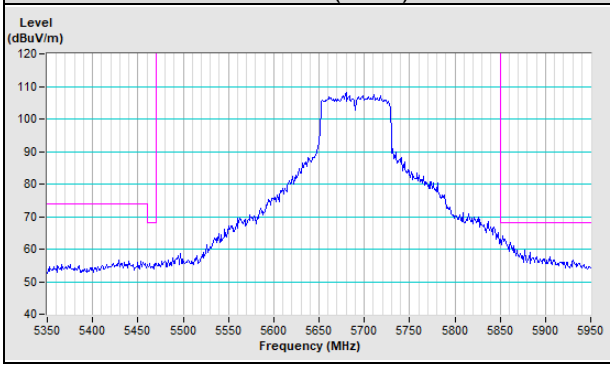
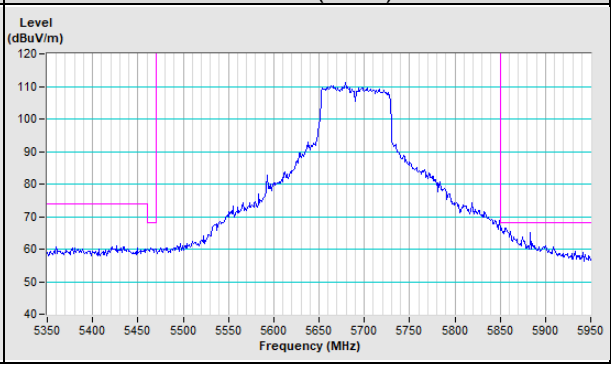


Vertical (Peak)



Vertical (Average)



Channel 122	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
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:

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Web Site: www.bureauveritas-adt.com

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

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