FCC Test Report

Report No.:	RF170825E04G-1
FCC ID:	UXX-S5A741A
Test Model:	S5A844A
Series Model:	S5A741A
Received Date:	Nov. 14, 2018
Test Date:	Dec. 04 to 11, 2018
Issued Date:	Dec. 27, 2018
Applicant:	Cradlepoint, Inc
Address:	1111 W. Jefferson Street Suite 400 Boise, ID 83702 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

Testing Laboratory
2022

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF170825E04G-1	Original release.	Dec. 27, 2018

1 Certificate of Conformity

Product:	Integrated Mobile Broadband Router
Brand:	cradlepoint
Test Model:	S5A844A
Series Model:	S5A741A
Sample Status:	ENGINEERING SAMPLE
Applicant:	Cradlepoint, Inc
Test Date:	Dec. 04 to 11, 2018
Standard:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10: 2013

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

Prepared by : Wendy Wu , **Date:** Dec. 27, 2018

Wendy Wu / Specialist

Approved by : , **Date:** Dec. 27, 2018

May Chen / Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -19.87dB at 16.23046MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5350.00MHz, 5470.00MHz, 5725.00MHz.
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 R-SMA not a standard connector.

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	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.33 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.10 dB
	6GHz ~ 18GHz	4.85 dB
	18GHz ~ 40GHz	5.24 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Integrated Mobile Broadband Router
Brand	cradlepoint
Test Model	S5A844A
Series Model	S5A741A
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 9-36V, 5A or DC 12V from adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 mode in 2.4GHz band
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5.26GHz ~ 5.32GHz, 5.50GHz ~ 5.70GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 15 802.11n (HT40), 802.11ac (VHT40): 7 802.11ac (VHT80): 3
Output Power	**Radio 1** **CDD Mode:** **5.26 ~ 5.32GHz:** 242.817mW **5.50 ~ 5.70GHz:** 237.982mW **Beamforming Mode:** **5.26 ~ 5.32GHz:** 216.536mW **5.50 ~ 5.70GHz:** 212.106mW **Radio 2** **5.26 ~ 5.32GHz:** 206.889mW **5.50 ~ 5.70GHz:** 242.715mW **Beamforming Mode:** **5.26 ~ 5.32GHz:** 107.807mW **5.50 ~ 5.70GHz:** 107.765mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	DC cable (4 pin) x 1 (Unshielding, 2m) DC COR Power & GPIO Cable (2x10 pin) x 1 (Unshielding, 2m)

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF170825E04-1 as the following:
   - ◆ Add DFS band <5.26 ~ 5.32GHz, 5.5 ~ 5.70GHz>
   - ◆ Add one model for new LTE module as following table:

Original			
Brand	Model	Embedded 3G/4G module	Number of LTE Antenna Port
cradlepoint	S5A741A	Brand: Telit Model: LM940 FCC ID: RI7LM940 IC: 5131A-LM940	2
Newly			
Brand	Model	Embedded 3G/4G module	Number of LTE Antenna Port
cradlepoint	S5A844A	Brand: Telit Model: LM960 FCC ID: RI7LM960 IC: 5131A-LM960	4
From the above models, the worse case was found in model: **S5A844A**. Therefore only the test data of the model was recorded in this report.			

   - ◆ Add one adapter as following table:

Brand	Model No.	Spec.
Asian Power Devices Inc	WA-36A12R	AC Input: 100-240Vac, 0.9A, 50-60Hz DC Output: 12V, 3A DC Output cable: Unshielded, 1.5m

   - ◆ Add new LTE Antenna (for Model: S5A844A)

Oirginal (for Model: S5A741A)								
3G/LTE								
Ant Set.	Transmitter Circuit	Model	Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connecter Type	Cable Length (mm)	Cable Loss (dB)
1	Main	YWX-6252SABX-711	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
	Aux	YWX-6252SABX-711	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
2	Main	YWX-6241SAXX-711D	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
	Aux	YWX-6241SAXX-711D	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB

Newly (for Model: S5A844A)								
3G/LTE								
Ant Set.	Transmitter Circuit	Model	Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connecter Type	Cable Length (mm)	Cable Loss (dB)
1	Main	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-1	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-2	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-3	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
NOTE : LTE Band 30 for DL only.								

2. According to above condition, all test items need to be performed. And all data weres verified to meet the requirements.
3. There are WLAN, 3G/LTE and GPS technology used for the EUT.
4. Simultaneously transmission condition.

Condition	Technology		
1	WLAN (Radio 1) (2.4GHz + 5GHz)	WLAN (Radio 2) (5GHz)	WWAN (Radio 3) 3G/LTE
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.			

5. EUT has been pre-tested under following pre-test modes.

Pre-test Mode	Power
Mode A	DC cable (4 pin)
Mode B	DC COR Power & GPIO Cable (2x10 pin)
Mode C	Adapter

Note:
1. From the above modes, the radiated emission worse case was found in **Mode A**. Therefore only the test data of the mode was recorded in this report.
2. From the above modes, the conducted emissions worse case was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.

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

Model: S5A741A

WLAN

Ant Set.	Transmitter Circuit			Model	Frequency range (GHz)	Antenna Type	Connector Type	Cable Length (mm)	Cable Loss(dB)	excluding cable loss Antenna Gain(dBi)
	Radio 1		Radio 2							
	2.4G	5G	5G							
1	GPIO 0 Chain0	Chain1	-	RFA-25-F17M3-B70-25	2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 0 Chain1	Chain0	-		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 1 Chain1	-	Chain2		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	-	-	Chain3		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	-	-	Chain0		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 1 Chain0	-	Chain1		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
2	GPIO 0 Chain0	Chain1	-	TWX-1513RSXX-711	2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 0 Chain1	Chain0	-		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 1 Chain1	-	Chain2		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	-	-	Chain3		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	-	-	Chain0		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 1 Chain0	-	Chain1		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5

3G/LTE

Ant Set.	Transmitter Circuit	Model	Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length (mm)	Cable Loss (dB)
1	Main	YWX-6252SABX-711	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
	Aux	YWX-6252SABX-711	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
2	Main	YWX-6241SAXX-711D	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB
	Aux	YWX-6241SAXX-711D	1.0dBi@2300~2320MHz 2dBi@690~2300MHz 3dBi@2320~2700MHz	2300~2320MHz 690~2300MHz 2320~2700MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 0.9dB

GPS

Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connector Type
GPS: 1.36dBi GLONASS: 0.09dBi	GPS: 1574.42MHz±3MHz GLONASS: 1602MHz±0.5MHz	Dipole	SMA

Model: S5A844A										
WLAN										
Ant Set.	Transmitter Circuit			Model	Frequency range (GHz)	Antenna Type	Connector Type	Cable Length (mm)	Cable Loss(dB)	excluding cable loss Antenna Gain(dBi)
	Radio 1		Radio 2							
	2.4G	5G	5G							
1	GPIO 0 Chain0	Chain1	-	RFA-25-F17M3-B70-25	2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 0 Chain1	Chain0	-		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 1 Chain1	-	Chain2		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	-	-	Chain3		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	-	-	Chain0		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
	GPIO 1 Chain0	-	Chain1		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	2.5 3.5
2	GPIO 0 Chain0	Chain1	-	TWX-1513RSXX-711	2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 0 Chain1	Chain0	-		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 1 Chain1	-	Chain2		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	-	-	Chain3		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	-	-	Chain0		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5
	GPIO 1 Chain0	-	Chain1		2.4~2.4835 5.15~5.85	Dipole	R-SMA	230	0.8 1.4	5 5

3G/LTE								
Ant Set.	Transmitter Circuit	Model	Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connector Type	Cable Length (mm)	Cable Loss (dB)
1	Main	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-1	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-2	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
	Aux-3	YWX-UM03SAXX-711	1.42dBi@615~960MHz 0.88dBi@1445~1515MHz 2.69dBi@1700~2700MHz 4.13dBi@3400~3700MHz 4.29dBi@5150~5925MHz	615~960MHz 1445~1515MHz 1700~2700MHz 3400~3700MHz 5150~5925MHz	Dipole	SMA	230	0~1G 0.5dB 1~3G 1.1dB
NOTE : LTE Band 30 for DL only.								

GPS			
Antenna Gain with cable including cable loss	Frequency range	Antenna Type	Connector Type
GPS: 1.36dBi GLONASS: 0.09dBi	GPS: 1574.42MHz±3MHz GLONASS: 1602MHz±0.5MHz	Dipole	SMA
Note: 1. For WLAN: Ant set 2 was selected for the final test.			

7. The EUT incorporates a MIMO function:

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
VHT20	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
VHT40	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
5GHz Band (Radio 1)			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
5GHz Band (Radio 2)			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	4TX	4RX
802.11n (HT20)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11n (HT40)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11ac (VHT20)	MCS 0~8, Nss=1	4TX	4RX
	MCS 0~8, Nss=2	4TX	4RX
	MCS 0~9, Nss=3	4TX	4RX
	MCS 0~8, Nss=4	4TX	4RX
802.11ac (VHT40)	MCS 0~9, Nss=1	4TX	4RX
	MCS 0~9, Nss=2	4TX	4RX
	MCS 0~9, Nss=3	4TX	4RX
	MCS 0~9, Nss=4	4TX	4RX
802.11ac (VHT80)	MCS 0~9, Nss=1	4TX	4RX
	MCS 0~9, Nss=2	4TX	4RX
	MCS 0~9, Nss=3	4TX	4RX
	MCS 0~9, Nss=4	4TX	4RX

Note:

1. All of modulation mode support beamforming function except 802.11a/b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.
3. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

8. This device can support different category application which switched by access point mode and client mode by software.
9. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5700MHz

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

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 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	
1	√	√	√	√	Radio 1 with Powered from DC cable (4 pin) **PLC:** Radio 1 with Powered from Adapter
2	√	√	√	√	Radio 2 with Powered from DC cable (4 pin) **PLC:** Radio 2 with Powered from Adapter

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

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.

Radio 1 / Radio 2 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	29.3

Radiated Emission Test (Below 1GHz):

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

Radio 1 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT40)	5260-5320 5500-5700	54 to 62 102 to 134	110	OFDM	BPSK	13.5
Radio 2 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT80)	5260-5320 5500-5700	58 106 to 122	106	OFDM	BPSK	29.3

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.

Radio 1 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT40)	5260-5320 5500-5700	54 to 62 102 to 134	110	OFDM	BPSK	13.5
Radio 2 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT80)	5260-5320 5500-5700	58 106 to 122	106	OFDM	BPSK	29.3

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.

Radio 1 / Radio 2 / CDD Mode						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11ac (VHT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	29.3
Radio 1 / Radio 2 / Beamforming Mode (Output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT20)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11ac (VHT20)	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 122	106, 122	OFDM	BPSK	29.3

Test Condition:

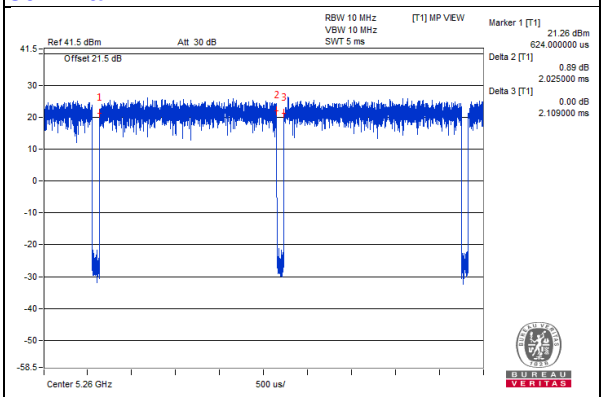
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	22deg. C, 65%RH	120Vac, 60Hz (System)	Andy Ho
RE<1G	22deg. C, 69%RH	120Vac, 60Hz (System)	Andy Ho
PLC	23deg. C, 76%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz (System)	Jyunchun Lin

3.3 Duty Cycle of Test Signal

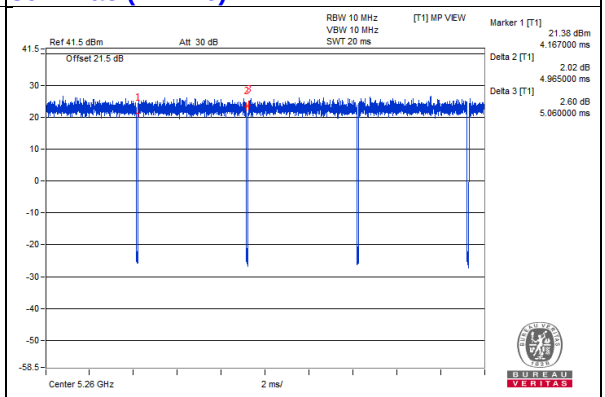
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.025/2.109 = 0.96, Duty factor = 10 * log(1/0.96) = 0.18
802.11ac (VHT20): Duty cycle = 4.965/5.06 = 0.981
802.11ac (VHT40): Duty cycle = 2.409/2.499 = 0.964, Duty factor = 10 * log(1/0.964) = 0.16
802.11ac (VHT80): Duty cycle = 1.135/1.214 = 0.935, Duty factor = 10 * log(1/0.935) = 0.29

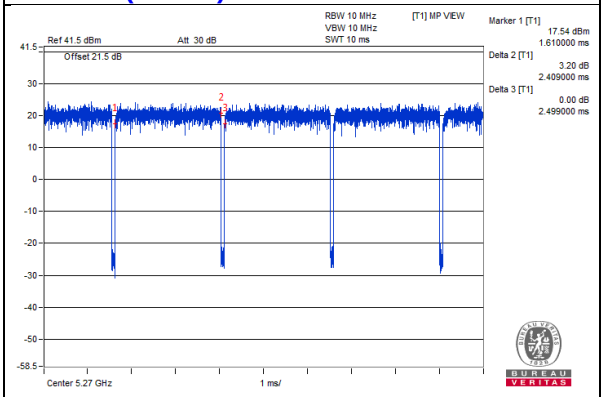
802.11a



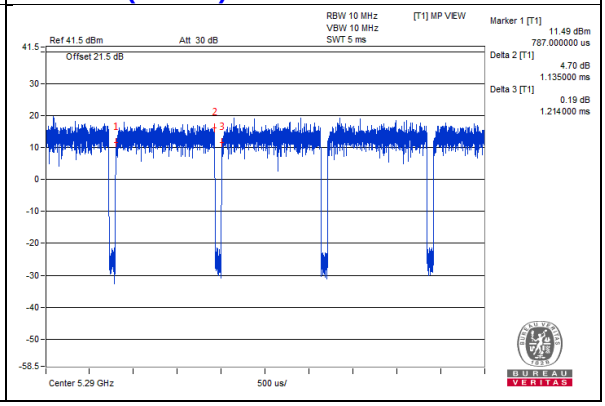
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	DC Power Supply	Topward	6603D	795551	NA	Provided by Lab
B.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
C.	Laptop	DELL	E6420	482T3R1	FCC DoC	Provided by Lab
D.	iPod	Apple	MD778TA/A	CC4JMFL0F4T1	NA	Provided by Lab
E.	3G/LTE Modem	cradlepoint	MC400LP6	NA	NA	Supplied by client

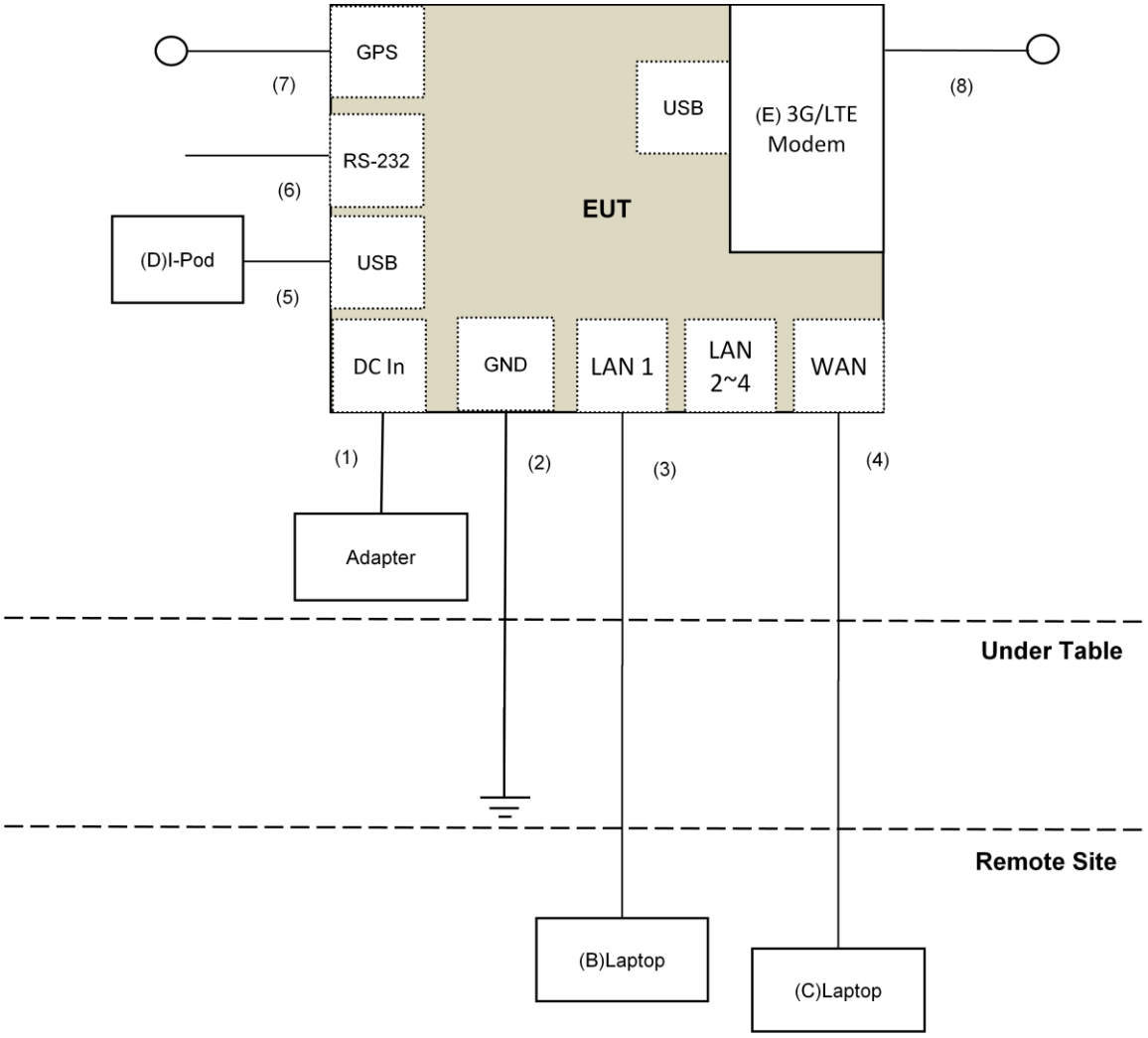
Note:
1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.5	No	0	Supplied by client
2.	GND Cable	1	3	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	RJ-45 Cable	1	10	No	0	Provided by Lab
5.	USB Cable	1	0.1	Yes	0	Provided by Lab
6.	Coaxial Cable	1	1.6	No	0	Provided by Lab
7.	GPS Cable	1	3	No	0	Supplied by client
8.	GPS Cable	1	3	No	0	Supplied by client

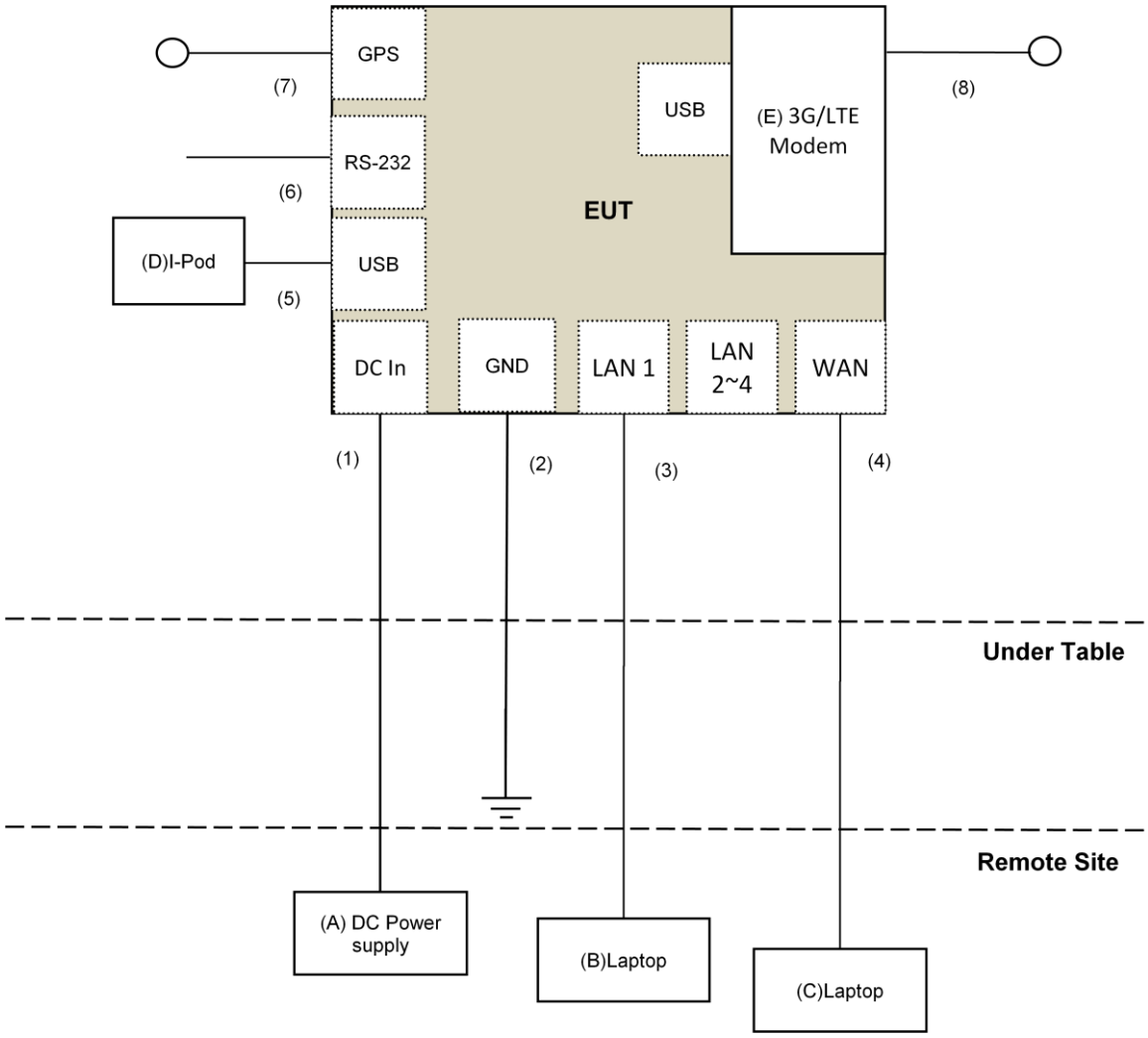
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

For Conducted Emission:



For Radiated Emission:



3.5 General Description of Applied Standard

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 05, 2018	July 04, 2019
Pre-Amplifier EMCI	EMC001340	980142	Feb. 09, 2018	Feb. 08, 2019
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001	Jan. 15, 2018	Jan. 14, 2019
RF Cable	NA	LOOPCAB-002	Jan. 15, 2018	Jan. 14, 2019
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Oct. 30, 2018	Oct. 29, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 22, 2018	Nov. 21, 2019
RF Cable	8D	966-4-1	Mar. 21, 2018	Mar. 20, 2019
RF Cable	8D	966-4-2	Mar. 21, 2018	Mar. 20, 2019
RF Cable	8D	966-4-3	Mar. 21, 2018	Mar. 20, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 27, 2018	Sep. 26, 2019
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Nov. 25, 2018	Nov. 24, 2019
Pre-Amplifier Mini-Circuits	ZVA-183-S+	AMP-ZVA-03	May 10, 2018	May 09, 2019
RF Cable	EMC104-SM-SM-1200	160923	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-2000	150318	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-5000	150321	Jan. 29, 2018	Jan. 28, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Nov. 25, 2018	Nov. 24, 2019
RF Cable	EMC102-KM-KM-1200	160925	Jan. 29, 2018	Jan. 28, 2019
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 20, 2018	June 19, 2019
Power meter Anritsu	ML2495A	1014008	May 09, 2018	May 08, 2019
Power sensor Anritsu	MA2411B	0917122	May 09, 2018	May 08, 2019
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 10, 2018	Jan. 09, 2019
True RMS Clamp Meter FLUKE	325	31130711WS	May 22, 2018	May 21, 2019

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The CANADA Site Registration No. is 20331-2
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: Dec. 04 to 11, 2018

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

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

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

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

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

NOTE:

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

For Radiated emission above 30MHz

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

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

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

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

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

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

Note:

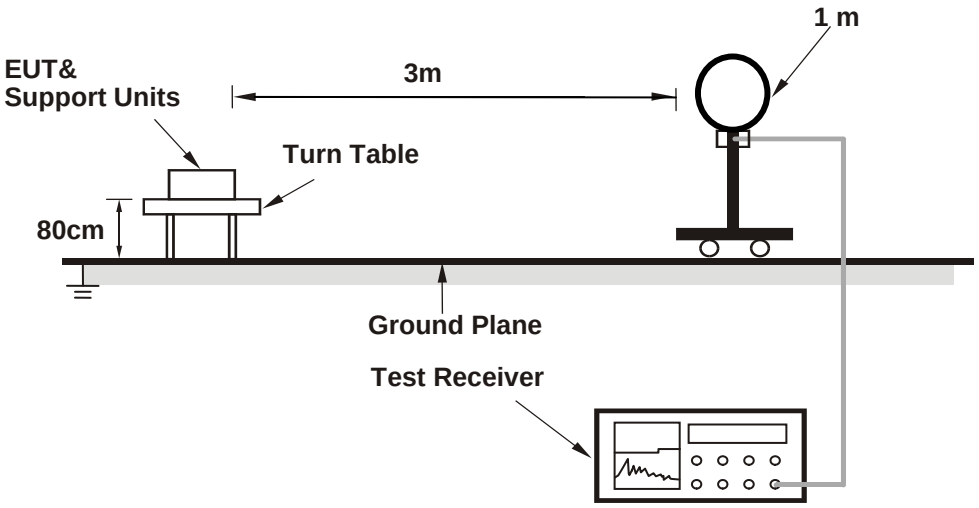
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

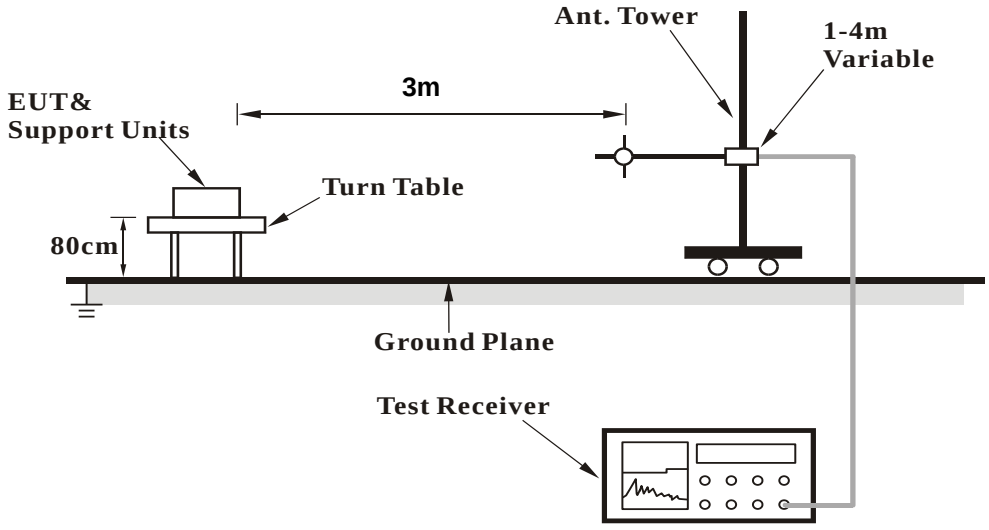
No deviation.

4.1.5 Test Setup

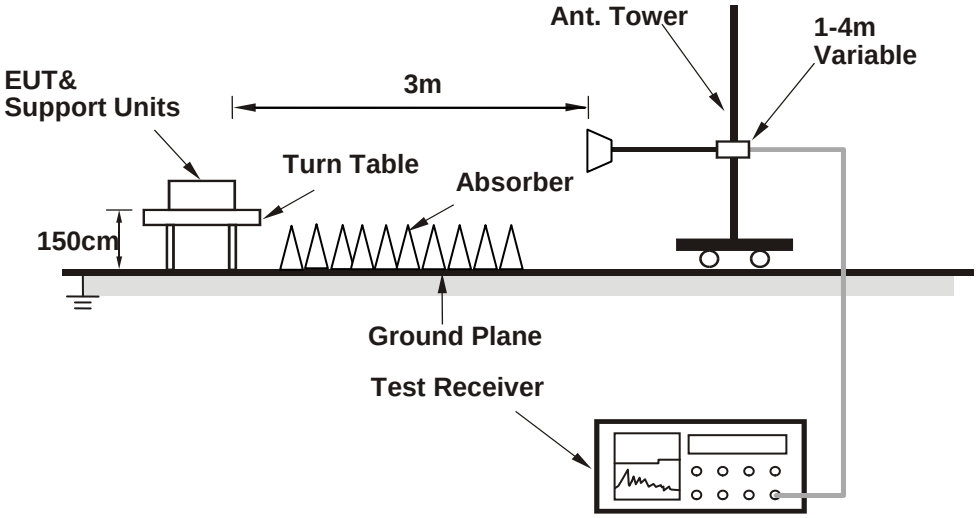
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

a. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (QCA Radio Control Toolkit Version3.0.210.0) has been activated to set the EUT on specific status.

4.1.7 Test Results (Mode 1)

Above 1GHz Data:

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.	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	5150.00	48.6 PK	74.0	-25.4	1.30 H	314	45.6	3.0
2	5150.00	37.4 AV	54.0	-16.6	1.30 H	314	34.4	3.0
3	*5260.00	108.0 PK			1.30 H	314	105.5	2.5
4	*5260.00	97.9 AV			1.30 H	314	95.4	2.5
5	#10520.00	46.8 PK	68.2	-21.4	1.02 H	360	33.6	13.2
6	15780.00	50.2 PK	74.0	-23.8	1.00 H	358	37.6	12.6
7	15780.00	39.8 AV	54.0	-14.2	1.00 H	358	27.2	12.6
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	5150.00	50.0 PK	74.0	-24.0	1.00 V	11	47.0	3.0
2	5150.00	39.7 AV	54.0	-14.3	1.00 V	11	36.7	3.0
3	*5260.00	115.5 PK			1.00 V	11	113.0	2.5
4	*5260.00	105.3 AV			1.00 V	11	102.8	2.5
5	#10520.00	46.6 PK	68.2	-21.6	1.00 V	353	33.4	13.2
6	15780.00	50.6 PK	74.0	-23.4	1.50 V	360	38.0	12.6
7	15780.00	39.9 AV	54.0	-14.1	1.50 V	360	27.3	12.6

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

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	*5300.00	107.4 PK			1.29 H	309	104.7	2.7
2	*5300.00	97.4 AV			1.29 H	309	94.7	2.7
3	10600.00	46.6 PK	74.0	-27.4	1.04 H	360	33.5	13.1
4	10600.00	35.4 AV	54.0	-18.6	1.04 H	360	22.3	13.1
5	15900.00	50.3 PK	74.0	-23.7	1.00 H	360	37.6	12.7
6	15900.00	40.1 AV	54.0	-13.9	1.00 H	360	27.4	12.7
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	*5300.00	116.1 PK			2.34 V	180	113.4	2.7
2	*5300.00	106.3 AV			2.34 V	180	103.6	2.7
3	10600.00	46.7 PK	74.0	-27.3	1.00 V	342	33.6	13.1
4	10600.00	35.0 AV	54.0	-19.0	1.00 V	342	21.9	13.1
5	15900.00	50.4 PK	74.0	-23.6	1.46 V	360	37.7	12.7
6	15900.00	39.6 AV	54.0	-14.4	1.46 V	360	26.9	12.7

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.

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

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	*5320.00	108.0 PK			1.28 H	300	105.2	2.8
2	*5320.00	98.0 AV			1.28 H	300	95.2	2.8
3	5350.00	61.8 PK	74.0	-12.2	1.28 H	300	59.0	2.8
4	5350.00	48.2 AV	54.0	-5.8	1.28 H	300	45.4	2.8
5	10640.00	47.0 PK	74.0	-27.0	1.08 H	360	33.8	13.2
6	10640.00	35.7 AV	54.0	-18.3	1.08 H	360	22.5	13.2
7	15960.00	49.7 PK	74.0	-24.3	1.00 H	360	36.8	12.9
8	15960.00	39.5 AV	54.0	-14.5	1.00 H	360	26.6	12.9
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	*5320.00	115.8 PK			2.05 V	183	113.0	2.8
2	*5320.00	106.2 AV			2.05 V	183	103.4	2.8
3	5350.00	67.9 PK	74.0	-6.1	2.05 V	183	65.1	2.8
4	**5350.00**	**53.9 AV**	**54.0**	**-0.1**	**2.05 V**	**183**	**51.1**	**2.8**
5	10640.00	46.4 PK	74.0	-27.6	1.04 V	346	33.2	13.2
6	10640.00	34.7 AV	54.0	-19.3	1.04 V	346	21.5	13.2
7	15960.00	50.8 PK	74.0	-23.2	1.46 V	357	37.9	12.9
8	15960.00	39.9 AV	54.0	-14.1	1.46 V	357	27.0	12.9

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.

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

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	5460.00	54.4 PK	74.0	-19.6	1.26 H	304	51.3	3.1
2	5460.00	39.8 AV	54.0	-14.2	1.26 H	304	36.7	3.1
3	#5470.00	56.4 PK	68.2	-11.8	1.26 H	304	53.3	3.1
4	*5500.00	108.2 PK			1.26 H	304	105.1	3.1
5	*5500.00	98.3 AV			1.26 H	304	95.2	3.1
6	11000.00	47.2 PK	74.0	-26.8	1.07 H	360	33.2	14.0
7	11000.00	35.9 AV	54.0	-18.1	1.07 H	360	21.9	14.0
8	#16500.00	50.5 PK	68.2	-17.7	1.00 H	360	35.5	15.0
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	5460.00	56.9 PK	74.0	-17.1	2.39 V	71	53.8	3.1
2	5460.00	44.3 AV	54.0	-9.7	2.39 V	71	41.2	3.1
3	#5470.00	67.9 PK	68.2	-0.3	2.39 V	71	64.8	3.1
4	*5500.00	115.3 PK			2.39 V	71	112.2	3.1
5	*5500.00	105.2 AV			2.39 V	71	102.1	3.1
6	11000.00	46.2 PK	74.0	-27.8	1.03 V	342	32.2	14.0
7	11000.00	34.8 AV	54.0	-19.2	1.03 V	342	20.8	14.0
8	#16500.00	51.2 PK	68.2	-17.0	1.45 V	360	36.2	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.	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	*5580.00	108.1 PK			1.27 H	325	104.8	3.3
2	*5580.00	97.9 AV			1.27 H	325	94.6	3.3
3	11160.00	52.2 PK	74.0	-21.8	1.06 H	351	38.8	13.4
4	11160.00	42.1 AV	54.0	-11.9	1.06 H	351	28.7	13.4
5	#16740.00	54.2 PK	68.2	-14.0	2.05 H	360	37.6	16.6
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	*5580.00	117.3 PK			2.44 V	65	114.0	3.3
2	*5580.00	106.7 AV			2.44 V	65	103.4	3.3
3	11160.00	46.7 PK	74.0	-27.3	1.00 V	354	33.3	13.4
4	11160.00	34.7 AV	54.0	-19.3	1.00 V	354	21.3	13.4
5	#16740.00	50.5 PK	68.2	-17.7	1.51 V	350	33.9	16.6

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

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	*5700.00	106.7 PK			1.34 H	326	103.1	3.6
2	*5700.00	97.1 AV			1.34 H	326	93.5	3.6
3	#5725.00	63.2 PK	68.2	-5.0	1.34 H	326	59.7	3.5
4	11400.00	52.3 PK	74.0	-21.7	1.06 H	349	38.7	13.6
5	11400.00	42.4 AV	54.0	-11.6	1.06 H	349	28.8	13.6
6	#17100.00	54.4 PK	68.2	-13.8	2.05 H	360	38.1	16.3
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	*5700.00	115.6 PK			2.61 V	12	112.0	3.6
2	*5700.00	105.5 AV			2.61 V	12	101.9	3.6
3	**#5725.00**	**68.1 PK**	**68.2**	**-0.1**	**2.61 V**	**12**	**64.6**	**3.5**
4	11400.00	46.3 PK	74.0	-27.7	1.00 V	349	32.7	13.6
5	11400.00	34.6 AV	54.0	-19.4	1.00 V	349	21.0	13.6
6	#17100.00	51.0 PK	68.2	-17.2	1.47 V	348	34.7	16.3

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.

802.11ac (VHT20)

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

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	5150.00	48.1 PK	74.0	-25.9	1.39 H	341	45.1	3.0
2	5150.00	37.1 AV	54.0	-16.9	1.39 H	341	34.1	3.0
3	*5260.00	107.8 PK			1.39 H	341	105.3	2.5
4	*5260.00	96.2 AV			1.39 H	341	93.7	2.5
5	#10520.00	47.3 PK	68.2	-20.9	1.00 H	360	34.1	13.2
6	15780.00	49.8 PK	74.0	-24.2	1.00 H	360	37.2	12.6
7	15780.00	39.3 AV	54.0	-14.7	1.00 H	360	26.7	12.6
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	5150.00	50.1 PK	74.0	-23.9	2.30 V	175	47.1	3.0
2	5150.00	40.5 AV	54.0	-13.5	2.30 V	175	37.5	3.0
3	*5260.00	115.5 PK			2.30 V	175	113.0	2.5
4	*5260.00	104.5 AV			2.30 V	175	102.0	2.5
5	#10520.00	46.5 PK	68.2	-21.7	1.05 V	351	33.3	13.2
6	15780.00	50.7 PK	74.0	-23.3	1.48 V	360	38.1	12.6
7	15780.00	40.1 AV	54.0	-13.9	1.48 V	360	27.5	12.6

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

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	*5300.00	109.6 PK			1.38 H	319	106.9	2.7
2	*5300.00	97.5 AV			1.38 H	319	94.8	2.7
3	10600.00	46.1 PK	74.0	-27.9	1.03 H	360	33.0	13.1
4	10600.00	35.0 AV	54.0	-19.0	1.03 H	360	21.9	13.1
5	15900.00	49.8 PK	74.0	-24.2	1.02 H	350	37.1	12.7
6	15900.00	39.4 AV	54.0	-14.6	1.02 H	350	26.7	12.7
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	*5300.00	117.2 PK			2.38 V	175	114.5	2.7
2	*5300.00	105.5 AV			2.38 V	175	102.8	2.7
3	10600.00	47.1 PK	74.0	-26.9	1.02 V	349	34.0	13.1
4	10600.00	35.4 AV	54.0	-18.6	1.02 V	349	22.3	13.1
5	15900.00	50.5 PK	74.0	-23.5	1.51 V	360	37.8	12.7
6	15900.00	39.9 AV	54.0	-14.1	1.51 V	360	27.2	12.7

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.

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

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	*5320.00	108.8 PK			1.29 H	341	106.0	2.8
2	*5320.00	97.0 AV			1.29 H	341	94.2	2.8
3	5350.00	61.6 PK	74.0	-12.4	1.29 H	341	58.8	2.8
4	5350.00	48.1 AV	54.0	-5.9	1.29 H	341	45.3	2.8
5	10640.00	46.1 PK	74.0	-27.9	1.06 H	360	32.9	13.2
6	10640.00	35.3 AV	54.0	-18.7	1.06 H	360	22.1	13.2
7	15960.00	49.1 PK	74.0	-24.9	1.06 H	337	36.2	12.9
8	15960.00	38.9 AV	54.0	-15.1	1.06 H	337	26.0	12.9
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	*5320.00	116.6 PK			2.36 V	188	113.8	2.8
2	*5320.00	105.1 AV			2.36 V	188	102.3	2.8
3	5350.00	67.4 PK	74.0	-6.6	2.36 V	188	64.6	2.8
4	5350.00	53.7 AV	54.0	-0.3	2.36 V	188	50.9	2.8
5	10640.00	46.5 PK	74.0	-27.5	1.00 V	360	33.3	13.2
6	10640.00	34.9 AV	54.0	-19.1	1.00 V	360	21.7	13.2
7	15960.00	50.5 PK	74.0	-23.5	1.55 V	348	37.6	12.9
8	15960.00	39.6 AV	54.0	-14.4	1.55 V	348	26.7	12.9

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.

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

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	5460.00	54.2 PK	74.0	-19.8	1.34 H	339	51.1	3.1
2	5460.00	39.8 AV	54.0	-14.2	1.34 H	339	36.7	3.1
3	#5470.00	56.7 PK	68.2	-11.5	1.34 H	339	53.6	3.1
4	*5500.00	109.5 PK			1.34 H	339	106.4	3.1
5	*5500.00	97.4 AV			1.34 H	339	94.3	3.1
6	11000.00	46.4 PK	74.0	-27.6	1.00 H	360	32.4	14.0
7	11000.00	35.4 AV	54.0	-18.6	1.00 H	360	21.4	14.0
8	#16500.00	49.6 PK	68.2	-18.6	1.00 H	358	34.6	15.0
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	5460.00	60.3 PK	74.0	-13.7	2.36 V	34	57.2	3.1
2	5460.00	45.5 AV	54.0	-8.5	2.36 V	34	42.4	3.1
3	#5470.00	62.6 PK	68.2	-5.6	2.36 V	34	59.5	3.1
4	*5500.00	116.1 PK			2.36 V	34	113.0	3.1
5	*5500.00	105.6 AV			2.36 V	34	102.5	3.1
6	11000.00	46.8 PK	74.0	-27.2	1.00 V	360	32.8	14.0
7	11000.00	35.3 AV	54.0	-18.7	1.00 V	360	21.3	14.0
8	#16500.00	50.4 PK	68.2	-17.8	1.53 V	360	35.4	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.	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	*5580.00	110.1 PK			1.39 H	340	106.8	3.3
2	*5580.00	98.0 AV			1.39 H	340	94.7	3.3
3	11160.00	45.8 PK	74.0	-28.2	1.03 H	360	32.4	13.4
4	11160.00	34.8 AV	54.0	-19.2	1.03 H	360	21.4	13.4
5	#16740.00	49.4 PK	68.2	-18.8	1.02 H	360	32.8	16.6
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	*5580.00	116.7 PK			2.41 V	52	113.4	3.3
2	*5580.00	105.5 AV			2.41 V	52	102.2	3.3
3	11160.00	46.1 PK	74.0	-27.9	1.00 V	353	32.7	13.4
4	11160.00	34.5 AV	54.0	-19.5	1.00 V	353	21.1	13.4
5	#16740.00	50.7 PK	68.2	-17.5	1.48 V	352	34.1	16.6

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

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	*5700.00	109.2 PK			1.29 H	334	105.6	3.6
2	*5700.00	97.9 AV			1.29 H	334	94.3	3.6
3	#5725.00	62.7 PK	68.2	-5.5	1.29 H	334	59.2	3.5
4	11400.00	46.4 PK	74.0	-27.6	1.02 H	360	32.8	13.6
5	11400.00	35.3 AV	54.0	-18.7	1.02 H	360	21.7	13.6
6	#17100.00	49.8 PK	68.2	-18.4	1.01 H	347	33.5	16.3
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	*5700.00	116.6 PK			2.65 V	20	113.0	3.6
2	*5700.00	105.6 AV			2.65 V	20	102.0	3.6
3	**#5725.00**	**68.1 PK**	**68.2**	**-0.1**	**2.65 V**	**20**	**64.6**	**3.5**
4	11400.00	46.4 PK	74.0	-27.6	1.00 V	343	32.8	13.6
5	11400.00	34.5 AV	54.0	-19.5	1.00 V	343	20.9	13.6
6	#17100.00	50.0 PK	68.2	-18.2	1.48 V	346	33.7	16.3

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.

802.11ac (VHT40)

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

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	5150.00	48.8 PK	74.0	-25.2	1.37 H	316	45.8	3.0
2	5150.00	37.3 AV	54.0	-16.7	1.37 H	316	34.3	3.0
3	*5270.00	104.7 PK			1.37 H	316	102.2	2.5
4	*5270.00	95.8 AV			1.37 H	316	93.3	2.5
5	5350.00	53.9 PK	74.0	-20.1	1.37 H	316	51.1	2.8
6	5350.00	44.2 AV	54.0	-9.8	1.37 H	316	41.4	2.8
7	#10540.00	45.5 PK	68.2	-22.7	1.04 H	360	32.3	13.2
8	15810.00	49.2 PK	74.0	-24.8	1.02 H	352	36.5	12.7
9	15810.00	39.1 AV	54.0	-14.9	1.02 H	352	26.4	12.7
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	5150.00	49.8 PK	74.0	-24.2	1.00 V	10	46.8	3.0
2	5150.00	39.6 AV	54.0	-14.4	1.00 V	10	36.6	3.0
3	*5270.00	112.4 PK			1.00 V	10	109.9	2.5
4	*5270.00	103.4 AV			1.00 V	10	100.9	2.5
5	5350.00	58.6 PK	74.0	-15.4	1.00 V	10	55.8	2.8
6	5350.00	47.0 AV	54.0	-7.0	1.00 V	10	44.2	2.8
7	#10540.00	45.9 PK	68.2	-22.3	1.00 V	360	32.7	13.2
8	15810.00	50.0 PK	74.0	-24.0	1.52 V	360	37.3	12.7
9	15810.00	39.5 AV	54.0	-14.5	1.52 V	360	26.8	12.7

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

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	*5310.00	103.2 PK			1.29 H	340	100.5	2.7
2	*5310.00	93.1 AV			1.29 H	340	90.4	2.7
3	5350.00	61.9 PK	74.0	-12.1	1.29 H	340	59.1	2.8
4	5350.00	48.4 AV	54.0	-5.6	1.29 H	340	45.6	2.8
5	10620.00	46.1 PK	74.0	-27.9	1.05 H	360	33.0	13.1
6	10620.00	35.1 AV	54.0	-18.9	1.05 H	360	22.0	13.1
7	15930.00	50.4 PK	74.0	-23.6	1.06 H	355	37.7	12.7
8	15930.00	39.9 AV	54.0	-14.1	1.06 H	355	27.2	12.7
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	*5310.00	110.8 PK			2.42 V	183	108.1	2.7
2	*5310.00	100.7 AV			2.42 V	183	98.0	2.7
3	5350.00	68.7 PK	74.0	-5.3	2.42 V	183	65.9	2.8
4	**5350.00**	**53.9 AV**	**54.0**	**-0.1**	**2.42 V**	**183**	**51.1**	**2.8**
5	10620.00	47.2 PK	74.0	-26.8	1.00 V	345	34.1	13.1
6	10620.00	35.3 AV	54.0	-18.7	1.00 V	345	22.2	13.1
7	15930.00	50.1 PK	74.0	-23.9	1.47 V	360	37.4	12.7
8	15930.00	39.5 AV	54.0	-14.5	1.47 V	360	26.8	12.7

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.

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

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	5460.00	60.1 PK	74.0	-13.9	1.30 H	326	57.0	3.1
2	5460.00	43.9 AV	54.0	-10.1	1.30 H	326	40.8	3.1
3	#5470.00	63.8 PK	68.2	-4.4	1.30 H	326	60.7	3.1
4	*5510.00	103.9 PK			1.30 H	326	100.8	3.1
5	*5510.00	93.6 AV			1.30 H	326	90.5	3.1
6	11020.00	45.6 PK	74.0	-28.4	1.06 H	360	31.7	13.9
7	11020.00	34.8 AV	54.0	-19.2	1.06 H	360	20.9	13.9
8	#16530.00	50.3 PK	68.2	-17.9	1.08 H	360	35.4	14.9
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	5460.00	65.1 PK	74.0	-8.9	2.43 V	60	62.0	3.1
2	5460.00	49.7 AV	54.0	-4.3	2.43 V	60	46.6	3.1
3	#5470.00	68.0 PK	68.2	-0.2	2.43 V	60	64.9	3.1
4	*5510.00	110.3 PK			2.43 V	60	107.2	3.1
5	*5510.00	101.0 AV			2.43 V	60	97.9	3.1
6	11020.00	46.3 PK	74.0	-27.7	1.06 V	339	32.4	13.9
7	11020.00	34.5 AV	54.0	-19.5	1.06 V	339	20.6	13.9
8	#16530.00	50.5 PK	68.2	-17.7	1.51 V	346	35.6	14.9

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

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	5460.00	50.1 PK	74.0	-23.9	1.39 H	337	47.0	3.1
2	5460.00	40.2 AV	54.0	-13.8	1.39 H	337	37.1	3.1
3	#5470.00	54.6 PK	68.2	-13.6	1.39 H	337	51.5	3.1
4	*5550.00	104.2 PK			1.39 H	337	101.0	3.2
5	*5550.00	95.2 AV			1.39 H	337	92.0	3.2
6	11100.00	46.0 PK	74.0	-28.0	1.08 H	360	32.7	13.3
7	11100.00	35.0 AV	54.0	-19.0	1.08 H	360	21.7	13.3
8	#16650.00	49.9 PK	68.2	-18.3	1.04 H	360	34.3	15.6
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	5460.00	52.7 PK	74.0	-21.3	1.43 V	165	49.6	3.1
2	5460.00	43.8 AV	54.0	-10.2	1.43 V	165	40.7	3.1
3	#5470.00	58.4 PK	68.2	-9.8	1.43 V	165	55.3	3.1
4	*5550.00	111.6 PK			1.43 V	165	108.4	3.2
5	*5550.00	102.4 AV			1.43 V	165	99.2	3.2
6	11100.00	45.9 PK	74.0	-28.1	1.02 V	348	32.6	13.3
7	11100.00	34.4 AV	54.0	-19.6	1.02 V	348	21.1	13.3
8	#16650.00	50.8 PK	68.2	-17.4	1.52 V	360	35.2	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 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5670.00	105.8 PK			1.32 H	323	102.4	3.4
2	*5670.00	96.1 AV			1.32 H	323	92.7	3.4
3	#5725.00	62.8 PK	68.2	-5.4	1.32 H	323	59.3	3.5
4	11340.00	45.6 PK	74.0	-28.4	1.00 H	360	31.9	13.7
5	11340.00	34.6 AV	54.0	-19.4	1.00 H	360	20.9	13.7
6	#17010.00	49.8 PK	68.2	-18.4	1.00 H	360	33.2	16.6
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	*5670.00	113.6 PK			1.50 V	182	110.2	3.4
2	*5670.00	103.6 AV			1.50 V	182	100.2	3.4
3	#5725.00	68.0 PK	68.2	-0.2	1.50 V	182	64.5	3.5
4	11340.00	46.6 PK	74.0	-27.4	1.00 V	354	32.9	13.7
5	11340.00	34.9 AV	54.0	-19.1	1.00 V	354	21.2	13.7
6	#17010.00	50.2 PK	68.2	-18.0	1.44 V	360	33.6	16.6

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.	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	5150.00	50.1 PK	74.0	-23.9	1.33 H	334	47.1	3.0
2	5150.00	39.8 AV	54.0	-14.2	1.33 H	334	36.8	3.0
3	*5290.00	99.7 PK			1.33 H	334	97.1	2.6
4	*5290.00	90.5 AV			1.33 H	334	87.9	2.6
5	5350.00	61.5 PK	74.0	-12.5	1.33 H	334	58.7	2.8
6	5350.00	48.2 AV	54.0	-5.8	1.33 H	334	45.4	2.8
7	#10580.00	45.5 PK	68.2	-22.7	1.00 H	360	32.3	13.2
8	15870.00	50.0 PK	74.0	-24.0	1.06 H	360	37.3	12.7
9	15870.00	39.6 AV	54.0	-14.4	1.06 H	360	26.9	12.7
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	5150.00	53.2 PK	74.0	-20.8	2.30 V	175	50.2	3.0
2	5150.00	43.6 AV	54.0	-10.4	2.30 V	175	40.6	3.0
3	*5290.00	107.0 PK			2.30 V	175	104.4	2.6
4	*5290.00	97.7 AV			2.30 V	175	95.1	2.6
5	5350.00	66.5 PK	74.0	-7.5	2.30 V	175	63.7	2.8
6	5350.00	53.8 AV	54.0	-0.2	2.30 V	175	51.0	2.8
7	#10580.00	46.7 PK	68.2	-21.5	1.02 V	339	33.5	13.2
8	15870.00	50.5 PK	74.0	-23.5	1.50 V	360	37.8	12.7
9	15870.00	39.7 AV	54.0	-14.3	1.50 V	360	27.0	12.7

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

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	5460.00	61.9 PK	74.0	-12.1	1.29 H	313	58.8	3.1
2	5460.00	48.1 AV	54.0	-5.9	1.29 H	313	45.0	3.1
3	#5470.00	63.5 PK	68.2	-4.7	1.29 H	313	60.4	3.1
4	*5530.00	99.8 PK			1.29 H	313	96.6	3.2
5	*5530.00	90.5 AV			1.29 H	313	87.3	3.2
6	#5725.00	49.8 PK	68.2	-18.4	1.29 H	313	46.3	3.5
7	11060.00	46.3 PK	74.0	-27.7	1.00 H	360	32.7	13.6
8	11060.00	35.0 AV	54.0	-19.0	1.00 H	360	21.4	13.6
9	#16590.00	49.6 PK	68.2	-18.6	1.05 H	359	34.7	14.9
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	5460.00	67.5 PK	74.0	-6.5	1.50 V	170	64.4	3.1
2	5460.00	53.7 AV	54.0	-0.3	1.50 V	170	50.6	3.1
3	**#5470.00**	**68.1 PK**	**68.2**	**-0.1**	**1.50 V**	**170**	**65.0**	**3.1**
4	*5530.00	106.0 PK			1.50 V	170	102.8	3.2
5	*5530.00	97.2 AV			1.50 V	170	94.0	3.2
6	#5725.00	53.6 PK	68.2	-14.6	1.50 V	170	50.1	3.5
7	11060.00	46.1 PK	74.0	-27.9	1.00 V	345	32.5	13.6
8	11060.00	34.6 AV	54.0	-19.4	1.00 V	345	21.0	13.6
9	#16590.00	51.0 PK	68.2	-17.2	1.46 V	351	36.1	14.9

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

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	*5610.00	103.2 PK			1.33 H	334	99.8	3.4
2	*5610.00	92.5 AV			1.33 H	334	89.1	3.4
3	#5725.00	62.3 PK	68.2	-5.9	1.33 H	334	58.8	3.5
4	11220.00	46.1 PK	74.0	-27.9	1.00 H	360	32.7	13.4
5	11220.00	34.8 AV	54.0	-19.2	1.00 H	360	21.4	13.4
6	#16830.00	49.2 PK	68.2	-19.0	1.01 H	360	32.5	16.7
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	*5610.00	109.3 PK			1.50 V	171	105.9	3.4
2	*5610.00	99.7 AV			1.50 V	171	96.3	3.4
3	**#5725.00**	**68.1 PK**	**68.2**	**-0.1**	**1.50 V**	**171**	**64.6**	**3.5**
4	11220.00	46.8 PK	74.0	-27.2	1.00 V	353	33.4	13.4
5	11220.00	35.3 AV	54.0	-18.7	1.00 V	353	21.9	13.4
6	#16830.00	51.1 PK	68.2	-17.1	1.50 V	360	34.4	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.

Below 1GHz Data:

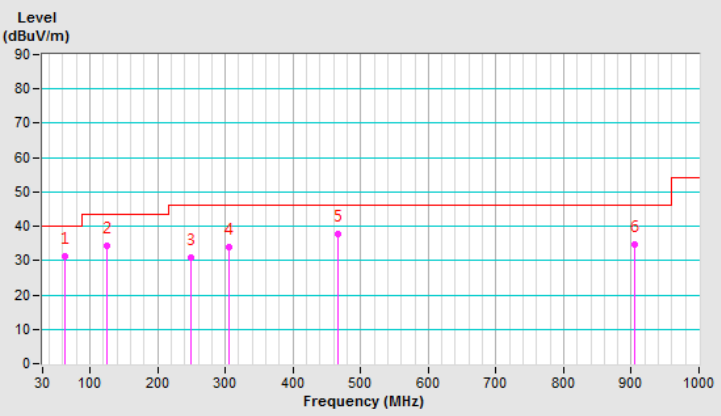
802.11ac (VHT40)

CHANNEL	TX Channel 110	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	62.75	31.4 QP	40.0	-8.6	1.00 H	134	40.5	-9.1
2	125.01	34.4 QP	43.5	-9.1	1.50 H	231	43.8	-9.4
3	249.98	30.7 QP	46.0	-15.3	1.00 H	334	39.4	-8.7
4	305.31	33.8 QP	46.0	-12.2	1.00 H	264	40.8	-7.0
5	465.70	37.6 QP	46.0	-8.4	1.50 H	143	40.1	-2.5
6	904.75	34.7 QP	46.0	-11.3	2.00 H	116	28.8	5.9

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 20 dB below the permissible value to be report.

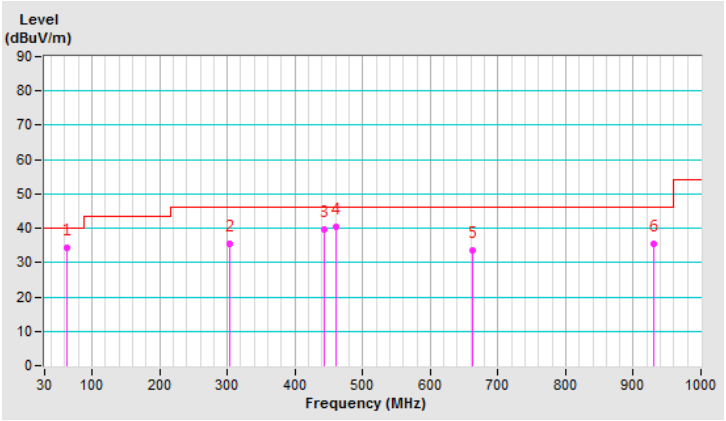


CHANNEL	TX Channel 110	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	62.54	34.2 QP	40.0	-5.8	1.50 V	264	43.3	-9.1
2	302.90	35.5 QP	46.0	-10.5	1.00 V	118	42.6	-7.1
3	442.95	39.6 QP	46.0	-6.4	1.00 V	164	42.4	-2.8
4	460.65	40.4 QP	46.0	-5.6	1.00 V	178	43.0	-2.6
5	663.22	33.6 QP	46.0	-12.4	1.50 V	174	32.2	1.4
6	929.89	35.3 QP	46.0	-10.7	1.00 V	184	29.0	6.3

REMARKS:

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



4.1.8 Test Results (Mode 2)

Above 1GHz Data:

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.	**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	5150.00	49.0 PK	74.0	-25.0	1.12 H	37	46.0	3.0
2	5150.00	37.6 AV	54.0	-16.4	1.12 H	37	34.6	3.0
3	*5260.00	105.2 PK			1.12 H	37	102.7	2.5
4	*5260.00	95.4 AV			1.12 H	37	92.9	2.5
5	#10520.00	50.2 PK	68.2	-18.0	1.22 H	360	37.0	13.2
6	15780.00	46.4 PK	74.0	-27.6	1.51 H	271	33.8	12.6
7	15780.00	33.4 AV	54.0	-20.6	1.51 H	271	20.8	12.6
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	5150.00	49.2 PK	74.0	-24.8	1.07 V	360	46.2	3.0
2	5150.00	38.5 AV	54.0	-15.5	1.07 V	360	35.5	3.0
3	*5260.00	117.0 PK			1.07 V	360	114.5	2.5
4	*5260.00	107.3 AV			1.07 V	360	104.8	2.5
5	#10520.00	46.5 PK	68.2	-21.7	1.04 V	360	33.3	13.2
6	15780.00	50.3 PK	74.0	-23.7	1.52 V	360	37.7	12.6
7	15780.00	39.5 AV	54.0	-14.5	1.52 V	360	26.9	12.6

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

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	*5300.00	104.1 PK			1.18 H	51	101.4	2.7
2	*5300.00	94.4 AV			1.18 H	51	91.7	2.7
3	10600.00	46.5 PK	74.0	-27.5	1.00 H	360	33.4	13.1
4	10600.00	35.3 AV	54.0	-18.7	1.00 H	360	22.2	13.1
5	15900.00	50.6 PK	74.0	-23.4	1.00 H	357	37.9	12.7
6	15900.00	39.9 AV	54.0	-14.1	1.00 H	357	27.2	12.7
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	*5300.00	115.8 PK			1.30 V	0	113.1	2.7
2	*5300.00	106.0 AV			1.30 V	0	103.3	2.7
3	10600.00	46.4 PK	74.0	-27.6	1.01 V	340	33.3	13.1
4	10600.00	34.6 AV	54.0	-19.4	1.01 V	340	21.5	13.1
5	15900.00	50.6 PK	74.0	-23.4	1.49 V	349	37.9	12.7
6	15900.00	40.2 AV	54.0	-13.8	1.49 V	349	27.5	12.7

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.

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

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	*5320.00	103.8 PK			1.23 H	47	101.0	2.8
2	*5320.00	94.0 AV			1.23 H	47	91.2	2.8
3	5350.00	53.0 PK	74.0	-21.0	1.23 H	47	50.2	2.8
4	5350.00	39.8 AV	54.0	-14.2	1.23 H	47	37.0	2.8
5	10640.00	46.7 PK	74.0	-27.3	1.05 H	360	33.5	13.2
6	10640.00	35.0 AV	54.0	-19.0	1.05 H	360	21.8	13.2
7	15960.00	50.4 PK	74.0	-23.6	1.01 H	360	37.5	12.9
8	15960.00	40.2 AV	54.0	-13.8	1.01 H	360	27.3	12.9
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	*5320.00	116.5 PK			1.28 V	0	113.7	2.8
2	*5320.00	106.2 AV			1.28 V	0	103.4	2.8
3	5350.00	53.1 PK	74.0	-20.9	1.28 V	0	50.3	2.8
4	5350.00	43.7 AV	54.0	-10.3	1.28 V	0	40.9	2.8
5	10640.00	45.9 PK	74.0	-28.1	1.00 V	360	32.7	13.2
6	10640.00	34.5 AV	54.0	-19.5	1.00 V	360	21.3	13.2
7	15960.00	50.4 PK	74.0	-23.6	1.45 V	347	37.5	12.9
8	15960.00	39.8 AV	54.0	-14.2	1.45 V	347	26.9	12.9

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.

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

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	5460.00	53.1 PK	74.0	-20.9	1.22 H	55	50.0	3.1
2	5460.00	39.2 AV	54.0	-14.8	1.22 H	55	36.1	3.1
3	#5470.00	53.3 PK	68.2	-14.9	1.22 H	55	50.2	3.1
4	*5500.00	103.7 PK			1.22 H	55	100.6	3.1
5	*5500.00	93.5 AV			1.22 H	55	90.4	3.1
6	11000.00	47.1 PK	74.0	-26.9	1.03 H	360	33.1	14.0
7	11000.00	35.6 AV	54.0	-18.4	1.03 H	360	21.6	14.0
8	#16500.00	50.5 PK	68.2	-17.7	1.03 H	356	35.5	15.0
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	5460.00	53.7 PK	74.0	-20.3	2.76 V	0	50.6	3.1
2	5460.00	41.4 AV	54.0	-12.6	2.76 V	0	38.3	3.1
3	#5470.00	53.9 PK	68.2	-14.3	2.76 V	0	50.8	3.1
4	*5500.00	122.9 PK			2.76 V	0	119.8	3.1
5	*5500.00	105.8 AV			2.76 V	0	102.7	3.1
6	11000.00	46.7 PK	74.0	-27.3	1.00 V	339	32.7	14.0
7	11000.00	34.8 AV	54.0	-19.2	1.00 V	339	20.8	14.0
8	#16500.00	51.0 PK	68.2	-17.2	1.50 V	360	36.0	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.	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	5460.00	50.2 PK	74.0	-23.8	1.23 H	61	47.1	3.1
2	5460.00	39.4 AV	54.0	-14.6	1.23 H	61	36.3	3.1
3	#5470.00	50.3 PK	68.2	-17.9	1.23 H	61	47.2	3.1
4	*5580.00	104.5 PK			1.23 H	61	101.2	3.3
5	*5580.00	94.6 AV			1.23 H	61	91.3	3.3
6	11160.00	47.4 PK	74.0	-26.6	1.00 H	360	34.0	13.4
7	11160.00	35.9 AV	54.0	-18.1	1.00 H	360	22.5	13.4
8	#16740.00	50.1 PK	68.2	-18.1	1.00 H	345	33.5	16.6
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	5460.00	52.5 PK	74.0	-21.5	2.88 V	4	49.4	3.1
2	5460.00	40.4 AV	54.0	-13.6	2.88 V	4	37.3	3.1
3	#5470.00	51.4 PK	68.2	-16.8	2.88 V	4	48.3	3.1
4	*5580.00	116.6 PK			2.88 V	4	113.3	3.3
5	*5580.00	106.2 AV			2.88 V	4	102.9	3.3
6	11160.00	46.8 PK	74.0	-27.2	1.03 V	341	33.4	13.4
7	11160.00	35.3 AV	54.0	-18.7	1.03 V	341	21.9	13.4
8	#16740.00	50.1 PK	68.2	-18.1	1.46 V	360	33.5	16.6

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

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	*5700.00	104.2 PK			1.16 H	49	100.6	3.6
2	*5700.00	94.4 AV			1.16 H	49	90.8	3.6
3	#5725.00	53.6 PK	68.2	-14.6	1.16 H	49	50.1	3.5
4	11400.00	46.9 PK	74.0	-27.1	1.04 H	360	33.3	13.6
5	11400.00	35.7 AV	54.0	-18.3	1.04 H	360	22.1	13.6
6	#17100.00	49.9 PK	68.2	-18.3	1.00 H	352	33.6	16.3
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	*5700.00	117.2 PK			2.57 V	179	113.6	3.6
2	*5700.00	106.0 AV			2.57 V	179	102.4	3.6
3	#5725.00	55.0 PK	68.2	-13.2	2.57 V	179	51.5	3.5
4	11400.00	47.0 PK	74.0	-27.0	1.06 V	360	33.4	13.6
5	11400.00	35.4 AV	54.0	-18.6	1.06 V	360	21.8	13.6
6	#17100.00	49.9 PK	68.2	-18.3	1.54 V	350	33.6	16.3

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.

802.11ac (VHT20)

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

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	5150.00	49.8 PK	74.0	-24.2	1.15 H	37	46.8	3.0
2	5150.00	37.9 AV	54.0	-16.1	1.15 H	37	34.9	3.0
3	*5260.00	103.7 PK			1.15 H	37	101.2	2.5
4	*5260.00	93.8 AV			1.15 H	37	91.3	2.5
5	#10520.00	46.3 PK	68.2	-21.9	1.06 H	360	33.1	13.2
6	15780.00	50.5 PK	74.0	-23.5	1.04 H	344	37.9	12.6
7	15780.00	39.8 AV	54.0	-14.2	1.04 H	344	27.2	12.6
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	5150.00	50.1 PK	74.0	-23.9	1.11 V	0	47.1	3.0
2	5150.00	38.4 AV	54.0	-15.6	1.11 V	0	35.4	3.0
3	*5260.00	116.4 PK			1.11 V	0	113.9	2.5
4	*5260.00	105.7 AV			1.11 V	0	103.2	2.5
5	#10520.00	47.2 PK	68.2	-21.0	1.02 V	339	34.0	13.2
6	15780.00	50.7 PK	74.0	-23.3	1.47 V	360	38.1	12.6
7	15780.00	40.3 AV	54.0	-13.7	1.47 V	360	27.7	12.6

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

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	*5300.00	103.2 PK			1.14 H	45	100.5	2.7
2	*5300.00	93.2 AV			1.14 H	45	90.5	2.7
3	10600.00	46.9 PK	74.0	-27.1	1.00 H	360	33.8	13.1
4	10600.00	35.6 AV	54.0	-18.4	1.00 H	360	22.5	13.1
5	15900.00	50.8 PK	74.0	-23.2	1.00 H	343	38.1	12.7
6	15900.00	40.3 AV	54.0	-13.7	1.00 H	343	27.6	12.7
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	*5300.00	115.6 PK			1.26 V	0	112.9	2.7
2	*5300.00	105.2 AV			1.26 V	0	102.5	2.7
3	10600.00	46.7 PK	74.0	-27.3	1.00 V	351	33.6	13.1
4	10600.00	34.8 AV	54.0	-19.2	1.00 V	351	21.7	13.1
5	15900.00	50.7 PK	74.0	-23.3	1.54 V	360	38.0	12.7
6	15900.00	40.0 AV	54.0	-14.0	1.54 V	360	27.3	12.7

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.

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

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	*5320.00	103.2 PK			1.18 H	46	100.4	2.8
2	*5320.00	93.1 AV			1.18 H	46	90.3	2.8
3	5350.00	52.5 PK	74.0	-21.5	1.18 H	46	49.7	2.8
4	5350.00	39.8 AV	54.0	-14.2	1.18 H	46	37.0	2.8
5	10640.00	46.2 PK	74.0	-27.8	1.00 H	360	33.0	13.2
6	10640.00	35.0 AV	54.0	-19.0	1.00 H	360	21.8	13.2
7	15960.00	50.1 PK	74.0	-23.9	1.04 H	355	37.2	12.9
8	15960.00	39.5 AV	54.0	-14.5	1.04 H	355	26.6	12.9
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	*5320.00	115.6 PK			1.20 V	0	112.8	2.8
2	*5320.00	105.1 AV			1.20 V	0	102.3	2.8
3	5350.00	55.4 PK	74.0	-18.6	1.20 V	0	52.6	2.8
4	5350.00	42.6 AV	54.0	-11.4	1.20 V	0	39.8	2.8
5	10640.00	46.5 PK	74.0	-27.5	1.00 V	354	33.3	13.2
6	10640.00	34.6 AV	54.0	-19.4	1.00 V	354	21.4	13.2
7	15960.00	51.0 PK	74.0	-23.0	1.51 V	360	38.1	12.9
8	15960.00	40.0 AV	54.0	-14.0	1.51 V	360	27.1	12.9

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.

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

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	5460.00	52.2 PK	74.0	-21.8	1.20 H	50	49.1	3.1
2	5460.00	40.1 AV	54.0	-13.9	1.20 H	50	37.0	3.1
3	#5470.00	53.2 PK	68.2	-15.0	1.20 H	50	50.1	3.1
4	*5500.00	103.1 PK			1.20 H	50	100.0	3.1
5	*5500.00	93.0 AV			1.20 H	50	89.9	3.1
6	11000.00	46.4 PK	74.0	-27.6	1.01 H	360	32.4	14.0
7	11000.00	35.1 AV	54.0	-18.9	1.01 H	360	21.1	14.0
8	#16500.00	49.6 PK	68.2	-18.6	1.04 H	358	34.6	15.0
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	5460.00	53.2 PK	74.0	-20.8	2.80 V	0	50.1	3.1
2	5460.00	41.2 AV	54.0	-12.8	2.80 V	0	38.1	3.1
3	#5470.00	53.5 PK	68.2	-14.7	2.80 V	0	50.4	3.1
4	*5500.00	115.1 PK			2.80 V	0	112.0	3.1
5	*5500.00	105.0 AV			2.80 V	0	101.9	3.1
6	11000.00	46.1 PK	74.0	-27.9	1.05 V	360	32.1	14.0
7	11000.00	34.5 AV	54.0	-19.5	1.05 V	360	20.5	14.0
8	#16500.00	50.4 PK	68.2	-17.8	1.53 V	346	35.4	15.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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.	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	5460.00	49.2 PK	74.0	-24.8	1.13 H	48	46.1	3.1
2	5460.00	38.8 AV	54.0	-15.2	1.13 H	48	35.7	3.1
3	#5470.00	50.0 PK	68.2	-18.2	1.13 H	48	46.9	3.1
4	*5580.00	103.0 PK			1.13 H	48	99.7	3.3
5	*5580.00	92.6 AV			1.13 H	48	89.3	3.3
6	11160.00	46.6 PK	74.0	-27.4	1.00 H	360	33.2	13.4
7	11160.00	35.4 AV	54.0	-18.6	1.00 H	360	22.0	13.4
8	#16740.00	50.4 PK	68.2	-17.8	1.00 H	360	33.8	16.6
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	5460.00	50.7 PK	74.0	-23.3	2.91 V	2	47.6	3.1
2	5460.00	39.8 AV	54.0	-14.2	2.91 V	2	36.7	3.1
3	#5470.00	50.2 PK	68.2	-18.0	2.91 V	2	47.1	3.1
4	*5580.00	115.8 PK			2.91 V	2	112.5	3.3
5	*5580.00	104.6 AV			2.91 V	2	101.3	3.3
6	11160.00	46.2 PK	74.0	-27.8	1.01 V	353	32.8	13.4
7	11160.00	34.7 AV	54.0	-19.3	1.01 V	353	21.3	13.4
8	#16740.00	50.9 PK	68.2	-17.3	1.51 V	348	34.3	16.6

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

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	*5700.00	104.4 PK			1.17 H	49	100.8	3.6
2	*5700.00	94.5 AV			1.17 H	49	90.9	3.6
3	#5725.00	54.4 PK	68.2	-13.8	1.17 H	49	50.9	3.5
4	11400.00	47.0 PK	74.0	-27.0	1.01 H	360	33.4	13.6
5	11400.00	35.9 AV	54.0	-18.1	1.01 H	360	22.3	13.6
6	#17100.00	50.2 PK	68.2	-18.0	1.01 H	360	33.9	16.3
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	*5700.00	116.9 PK			2.51 V	0	113.3	3.6
2	*5700.00	105.6 AV			2.51 V	0	102.0	3.6
3	#5725.00	55.4 PK	68.2	-12.8	2.51 V	0	51.9	3.5
4	11400.00	46.4 PK	74.0	-27.6	1.00 V	348	32.8	13.6
5	11400.00	34.6 AV	54.0	-19.4	1.00 V	348	21.0	13.6
6	#17100.00	50.1 PK	68.2	-18.1	1.47 V	346	33.8	16.3

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.

802.11ac (VHT40)

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

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	5150.00	49.1 PK	74.0	-24.9	1.20 H	27	46.1	3.0
2	5150.00	37.7 AV	54.0	-16.3	1.20 H	27	34.7	3.0
3	*5270.00	102.2 PK			1.20 H	27	99.7	2.5
4	*5270.00	91.8 AV			1.20 H	27	89.3	2.5
5	5350.00	51.2 PK	74.0	-22.8	1.20 H	27	48.4	2.8
6	5350.00	39.9 AV	54.0	-14.1	1.20 H	27	37.1	2.8
7	#10540.00	46.5 PK	68.2	-21.7	1.04 H	360	33.3	13.2
8	15810.00	49.9 PK	74.0	-24.1	1.00 H	353	37.2	12.7
9	15810.00	39.6 AV	54.0	-14.4	1.00 H	353	26.9	12.7
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	5150.00	49.5 PK	74.0	-24.5	1.17 V	5	46.5	3.0
2	5150.00	39.2 AV	54.0	-14.8	1.17 V	5	36.2	3.0
3	*5270.00	112.5 PK			1.17 V	5	110.0	2.5
4	*5270.00	103.3 AV			1.17 V	5	100.8	2.5
5	5350.00	53.4 PK	74.0	-20.6	1.17 V	5	50.6	2.8
6	5350.00	43.9 AV	54.0	-10.1	1.17 V	5	41.1	2.8
7	#10540.00	46.8 PK	68.2	-21.4	1.02 V	354	33.6	13.2
8	15810.00	51.0 PK	74.0	-23.0	1.48 V	360	38.3	12.7
9	15810.00	40.2 AV	54.0	-13.8	1.48 V	360	27.5	12.7

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

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	*5310.00	104.0 PK			1.17 H	36	101.3	2.7
2	*5310.00	93.3 AV			1.17 H	36	90.6	2.7
3	5350.00	60.1 PK	74.0	-13.9	1.17 H	36	57.3	2.8
4	5350.00	48.5 AV	54.0	-5.5	1.17 H	36	45.7	2.8
5	10620.00	46.4 PK	74.0	-27.6	1.00 H	360	33.3	13.1
6	10620.00	35.0 AV	54.0	-19.0	1.00 H	360	21.9	13.1
7	15930.00	50.5 PK	74.0	-23.5	1.03 H	360	37.8	12.7
8	15930.00	40.3 AV	54.0	-13.7	1.03 H	360	27.6	12.7
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	*5310.00	114.3 PK			1.00 V	0	111.6	2.7
2	*5310.00	105.0 AV			1.00 V	0	102.3	2.7
3	5350.00	64.9 PK	74.0	-9.1	1.00 V	0	62.1	2.8
4	5350.00	53.7 AV	54.0	-0.3	1.00 V	0	50.9	2.8
5	10620.00	46.2 PK	74.0	-27.8	1.00 V	349	33.1	13.1
6	10620.00	34.7 AV	54.0	-19.3	1.00 V	349	21.6	13.1
7	15930.00	50.9 PK	74.0	-23.1	1.46 V	352	38.2	12.7
8	15930.00	40.0 AV	54.0	-14.0	1.46 V	352	27.3	12.7

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.

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

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	5460.00	52.2 PK	74.0	-21.8	1.15 H	53	49.1	3.1
2	5460.00	39.8 AV	54.0	-14.2	1.15 H	53	36.7	3.1
3	#5470.00	62.5 PK	68.2	-5.7	1.15 H	53	59.4	3.1
4	*5510.00	104.2 PK			1.15 H	53	101.1	3.1
5	*5510.00	93.6 AV			1.15 H	53	90.5	3.1
6	11020.00	46.7 PK	74.0	-27.3	1.02 H	360	32.8	13.9
7	11020.00	35.1 AV	54.0	-18.9	1.02 H	360	21.2	13.9
8	#16530.00	50.4 PK	68.2	-17.8	1.00 H	360	35.5	14.9
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	5460.00	59.1 PK	74.0	-14.9	2.87 V	0	56.0	3.1
2	5460.00	46.9 AV	54.0	-7.1	2.87 V	0	43.8	3.1
3	#5470.00	68.0 PK	68.2	-0.2	2.87 V	0	64.9	3.1
4	*5510.00	115.2 PK			2.87 V	0	112.1	3.1
5	*5510.00	105.5 AV			2.87 V	0	102.4	3.1
6	11020.00	46.8 PK	74.0	-27.2	1.00 V	344	32.9	13.9
7	11020.00	34.9 AV	54.0	-19.1	1.00 V	344	21.0	13.9
8	#16530.00	49.9 PK	68.2	-18.3	1.53 V	360	35.0	14.9

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

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	5460.00	51.1 PK	74.0	-22.9	1.17 H	47	48.0	3.1
2	5460.00	38.9 AV	54.0	-15.1	1.17 H	47	35.8	3.1
3	#5470.00	53.4 PK	68.2	-14.8	1.17 H	47	50.3	3.1
4	*5550.00	104.0 PK			1.17 H	47	100.8	3.2
5	*5550.00	93.4 AV			1.17 H	47	90.2	3.2
6	11100.00	46.6 PK	74.0	-27.4	1.04 H	360	33.3	13.3
7	11100.00	35.3 AV	54.0	-18.7	1.04 H	360	22.0	13.3
8	#16650.00	49.6 PK	68.2	-18.6	1.04 H	360	34.0	15.6
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	5460.00	54.0 PK	74.0	-20.0	2.31 V	178	50.9	3.1
2	5460.00	41.9 AV	54.0	-12.1	2.31 V	178	38.8	3.1
3	#5470.00	54.3 PK	68.2	-13.9	2.31 V	178	51.2	3.1
4	*5550.00	115.6 PK			2.31 V	178	112.4	3.2
5	*5550.00	105.1 AV			2.31 V	178	101.9	3.2
6	11100.00	47.1 PK	74.0	-26.9	1.04 V	360	33.8	13.3
7	11100.00	35.4 AV	54.0	-18.6	1.04 V	360	22.1	13.3
8	#16650.00	50.5 PK	68.2	-17.7	1.51 V	360	34.9	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 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5670.00	105.2 PK			1.12 H	63	101.8	3.4
2	*5670.00	94.5 AV			1.12 H	63	91.1	3.4
3	#5725.00	53.4 PK	68.2	-14.8	1.12 H	63	49.9	3.5
4	11340.00	47.1 PK	74.0	-26.9	1.00 H	360	33.4	13.7
5	11340.00	35.8 AV	54.0	-18.2	1.00 H	360	22.1	13.7
6	#17010.00	50.4 PK	68.2	-17.8	1.01 H	356	33.8	16.6
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	*5670.00	116.4 PK			2.29 V	178	113.0	3.4
2	*5670.00	106.1 AV			2.29 V	178	102.7	3.4
3	#5725.00	59.7 PK	68.2	-8.5	2.29 V	178	56.2	3.5
4	11340.00	46.1 PK	74.0	-27.9	1.03 V	340	32.4	13.7
5	11340.00	34.6 AV	54.0	-19.4	1.03 V	340	20.9	13.7
6	#17010.00	50.1 PK	68.2	-18.1	1.51 V	352	33.5	16.6

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.	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	5150.00	50.5 PK	74.0	-23.5	1.14 H	58	47.5	3.0
2	5150.00	38.6 AV	54.0	-15.4	1.14 H	58	35.6	3.0
3	*5290.00	101.1 PK			1.14 H	58	98.5	2.6
4	*5290.00	90.2 AV			1.14 H	58	87.6	2.6
5	5350.00	58.8 PK	74.0	-15.2	1.14 H	58	56.0	2.8
6	5350.00	48.7 AV	54.0	-5.3	1.14 H	58	45.9	2.8
7	#10580.00	47.1 PK	68.2	-21.1	1.05 H	360	33.9	13.2
8	15870.00	50.0 PK	74.0	-24.0	1.06 H	360	37.3	12.7
9	15870.00	39.4 AV	54.0	-14.6	1.06 H	360	26.7	12.7
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	5150.00	52.2 PK	74.0	-21.8	1.30 V	0	49.2	3.0
2	5150.00	43.3 AV	54.0	-10.7	1.30 V	0	40.3	3.0
3	*5290.00	110.2 PK			1.30 V	0	107.6	2.6
4	*5290.00	101.5 AV			1.30 V	0	98.9	2.6
5	5350.00	64.7 PK	74.0	-9.3	1.30 V	0	61.9	2.8
6	5350.00	53.7 AV	54.0	-0.3	1.30 V	0	50.9	2.8
7	#10580.00	46.1 PK	68.2	-22.1	1.01 V	343	32.9	13.2
8	15870.00	50.5 PK	74.0	-23.5	1.50 V	356	37.8	12.7
9	15870.00	39.8 AV	54.0	-14.2	1.50 V	356	27.1	12.7

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

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	5460.00	50.2 PK	74.0	-23.8	1.19 H	53	47.1	3.1
2	5460.00	38.8 AV	54.0	-15.2	1.19 H	53	35.7	3.1
3	#5470.00	56.5 PK	68.2	-11.7	1.19 H	53	53.4	3.1
4	*5530.00	98.9 PK			1.19 H	53	95.7	3.2
5	*5530.00	88.8 AV			1.19 H	53	85.6	3.2
6	11060.00	47.4 PK	74.0	-26.6	1.07 H	360	33.8	13.6
7	11060.00	35.8 AV	54.0	-18.2	1.07 H	360	22.2	13.6
8	#16590.00	50.8 PK	68.2	-17.4	1.00 H	360	35.9	14.9
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	5460.00	61.1 PK	74.0	-12.9	1.50 V	36	58.0	3.1
2	5460.00	47.8 AV	54.0	-6.2	1.50 V	36	44.7	3.1
3	#5470.00	63.2 PK	68.2	-5.0	1.50 V	36	60.1	3.1
4	*5530.00	110.6 PK			1.50 V	36	107.4	3.2
5	*5530.00	100.1 AV			1.50 V	36	96.9	3.2
6	11060.00	46.1 PK	74.0	-27.9	1.03 V	344	32.5	13.6
7	11060.00	34.6 AV	54.0	-19.4	1.03 V	344	21.0	13.6
8	#16590.00	50.7 PK	68.2	-17.5	1.51 V	360	35.8	14.9

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

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	*5610.00	100.2 PK			1.15 H	65	96.8	3.4
2	*5610.00	89.7 AV			1.15 H	65	86.3	3.4
3	#5725.00	54.5 PK	68.2	-13.7	1.15 H	65	51.0	3.5
4	11220.00	46.8 PK	74.0	-27.2	1.02 H	360	33.4	13.4
5	11220.00	35.1 AV	54.0	-18.9	1.02 H	360	21.7	13.4
6	#16830.00	50.6 PK	68.2	-17.6	1.03 H	360	33.9	16.7
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	*5610.00	110.9 PK			1.50 V	36	107.5	3.4
2	*5610.00	101.0 AV			1.50 V	36	97.6	3.4
3	#5725.00	60.6 PK	68.2	-7.6	1.50 V	36	57.1	3.5
4	11220.00	46.8 PK	74.0	-27.2	1.01 V	356	33.4	13.4
5	11220.00	35.0 AV	54.0	-19.0	1.01 V	356	21.6	13.4
6	#16830.00	50.4 PK	68.2	-17.8	1.50 V	360	33.7	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.

Below 1GHz Data:

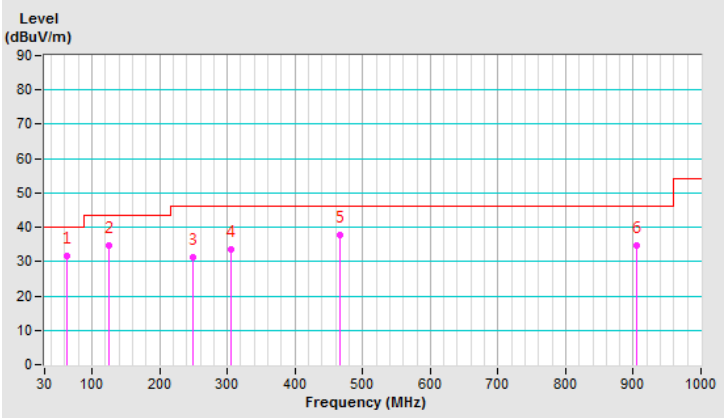
802.11ac (VHT80)

CHANNEL	TX Channel 106	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	62.75	31.6 QP	40.0	-8.4	1.00 H	115	40.7	-9.1
2	125.01	34.6 QP	43.5	-8.9	2.00 H	306	44.0	-9.4
3	249.98	31.2 QP	46.0	-14.8	1.00 H	165	39.9	-8.7
4	305.30	33.5 QP	46.0	-12.5	1.00 H	143	40.5	-7.0
5	465.70	37.8 QP	46.0	-8.2	1.50 H	261	40.3	-2.5
6	904.75	34.8 QP	46.0	-11.2	2.00 H	139	28.9	5.9

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 20 dB below the permissible value to be report.

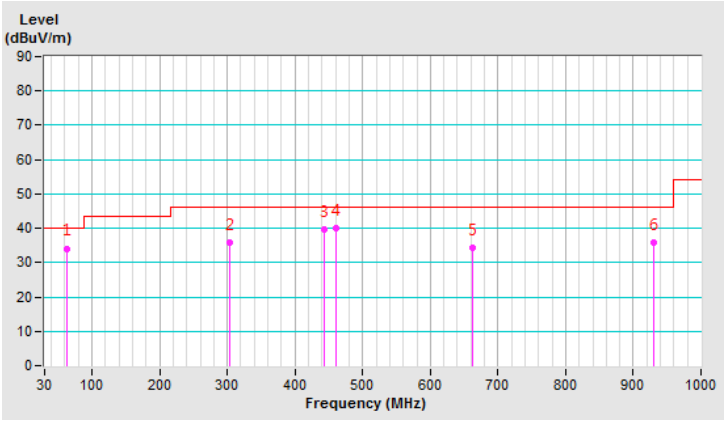


CHANNEL	TX Channel 106	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	**62.54**	**34.1 QP**	**40.0**	**-5.9**	**1.50 V**	**261**	**43.2**	**-9.1**
2	302.90	35.8 QP	46.0	-10.2	1.00 V	265	42.9	-7.1
3	442.95	39.8 QP	46.0	-6.2	1.00 V	112	42.6	-2.8
4	**460.65**	**40.1 QP**	**46.0**	**-5.9**	**1.00 V**	**217**	**42.7**	**-2.6**
5	663.22	34.3 QP	46.0	-11.7	1.50 V	269	32.9	1.4
6	929.89	35.8 QP	46.0	-10.2	1.00 V	171	29.5	6.3

REMARKS:

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



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2018	Oct. 23, 2019
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 22, 2018	Oct. 21, 2019
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 04, 2018	June 03, 2019
50 ohms Terminator	N/A	3	Oct. 22, 2018	Oct. 21, 2019
RF Cable	5D-FB	COCCAB-001	Sep. 28, 2018	Sep. 27, 2019
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 16, 2018	Mar. 15, 2019
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3 Tested Date: Dec. 05, 2018

4.2.3 Test Procedure

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

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

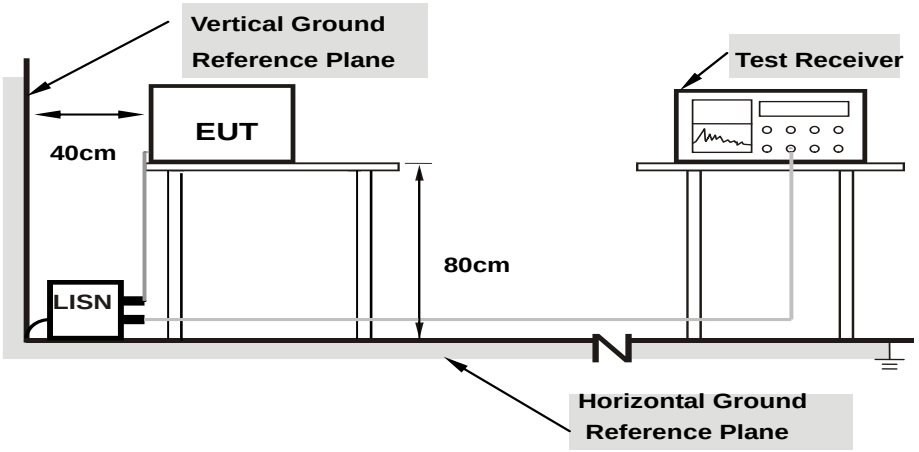
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

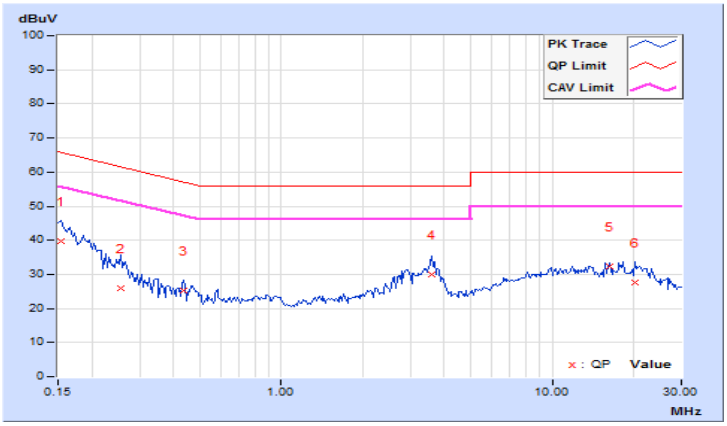
4.2.7 Test Results (Mode 1)

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15390	10.03	29.56	16.81	39.59	26.84	65.79	55.79	-26.20	-28.95
2	0.25546	10.06	15.71	9.36	25.77	19.42	61.58	51.58	-35.81	-32.16
3	0.43515	10.08	15.13	10.42	25.21	20.50	57.15	47.15	-31.94	-26.65
4	3.60155	10.29	19.84	10.31	30.13	20.60	56.00	46.00	-25.87	-25.40
5	**16.23046**	**11.11**	**21.31**	**19.02**	**32.42**	**30.13**	**60.00**	**50.00**	**-27.58**	**-19.87**
6	20.32420	11.37	16.36	11.54	27.73	22.91	60.00	50.00	-32.27	-27.09

REMARKS:

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

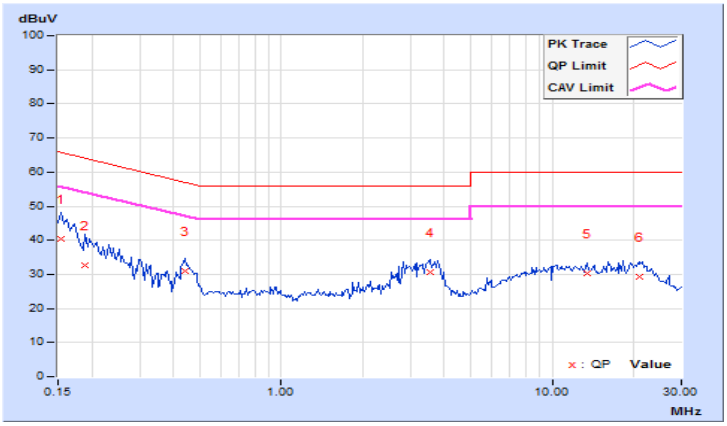


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15390	9.94	30.36	18.42	40.30	28.36	65.79	55.79	-25.49	-27.43
2	0.18906	9.95	22.62	9.13	32.57	19.08	64.08	54.08	-31.51	-35.00
3	0.43905	9.98	20.83	15.42	30.81	25.40	57.08	47.08	-26.27	-21.68
4	3.53126	10.15	20.49	11.51	30.64	21.66	56.00	46.00	-25.36	-24.34
5	13.42188	10.74	19.61	15.32	30.35	26.06	60.00	50.00	-29.65	-23.94
6	20.92968	11.15	18.13	12.69	29.28	23.84	60.00	50.00	-30.72	-26.16

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.



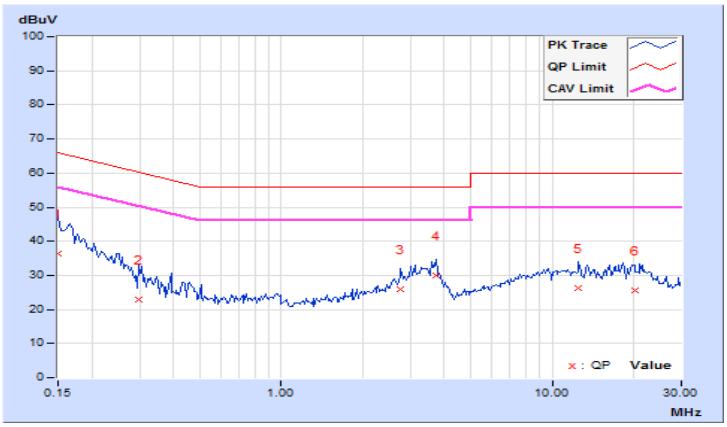
4.2.8 Test Results (Mode 2)

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.03	26.31	13.32	36.34	23.35	66.00	56.00	-29.66	-32.65
2	0.29843	10.06	12.72	3.36	22.78	13.42	60.29	50.29	-37.51	-36.87
3	2.76952	10.24	15.76	7.24	26.00	17.48	56.00	46.00	-30.00	-28.52
4	3.71483	10.30	19.53	9.63	29.83	19.93	56.00	46.00	-26.17	-26.07
5	12.55859	10.87	15.46	10.51	26.33	21.38	60.00	50.00	-33.67	-28.62
6	20.12890	11.36	14.23	8.13	25.59	19.49	60.00	50.00	-34.41	-30.51

REMARKS:

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

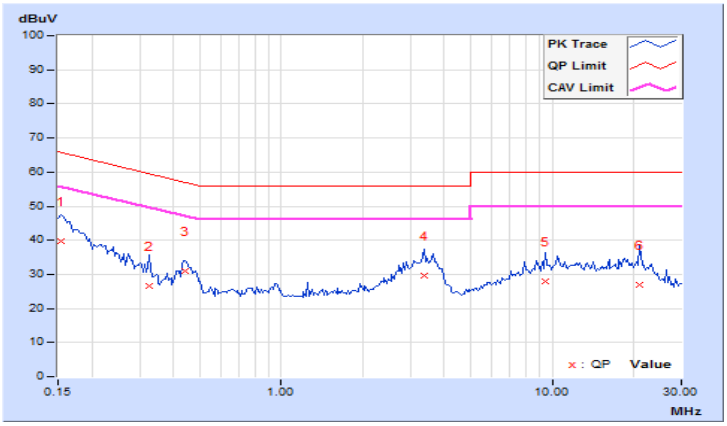


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15390	9.94	29.72	18.11	39.66	28.05	65.79	55.79	-26.13	-27.74
2	0.32577	9.97	16.66	12.13	26.63	22.10	59.56	49.56	-32.93	-27.46
3	0.43905	9.98	21.13	14.51	31.11	24.49	57.08	47.08	-25.97	-22.59
4	3.36718	10.14	19.46	11.02	29.60	21.16	56.00	46.00	-26.40	-24.84
5	9.41796	10.50	17.52	12.46	28.02	22.96	60.00	50.00	-31.98	-27.04
6	21.12890	11.16	15.91	10.53	27.07	21.69	60.00	50.00	-32.93	-28.31

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

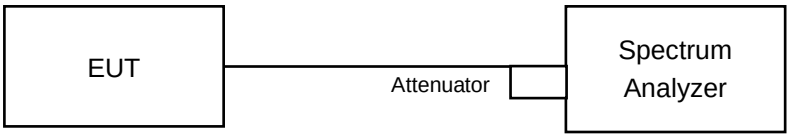
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result (Mode 1)

CDD Mode

802.11a

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.53	19.82	208.92	23.20	23.89	Pass
60	5300	20.20	20.01	204.944	23.12	23.88	Pass
64	5320	20.30	20.11	209.717	23.22	23.87	Pass
100	5500	20.13	20.31	210.438	23.23	24.00	Pass
116	5580	20.15	20.05	204.672	23.11	24.00	Pass
140	5700	18.91	18.11	142.518	21.54	23.76	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	19.74	19.48
60	5300	19.45	19.76
64	5320	19.37	19.71
100	5500	19.99	19.98
116	5580	21.64	22.85
140	5700	19.39	18.92

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.48	23.89 < 24
60	5300	19.45	23.88 < 24
64	5320	19.37	23.87 < 24
100	5500	19.98	24 = 24
116	5580	21.64	24.35 > 24
140	5700	18.92	23.76 < 24

802.11ac (VHT20)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.43	19.77	205.25	23.12	24.00	Pass
60	5300	20.31	20.37	216.292	23.35	24.00	Pass
64	5320	20.29	20.33	214.8	23.32	24.00	Pass
100	5500	19.82	20.22	201.136	23.03	24.00	Pass
116	5580	20.39	19.96	208.479	23.19	24.00	Pass
140	5700	18.99	18.21	145.472	21.63	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.62	20.52
60	5300	20.41	20.67
64	5320	20.41	20.42
100	5500	20.50	20.52
116	5580	21.12	21.08
140	5700	20.68	19.99

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.52	24.12 > 24
60	5300	20.41	24.09 > 24
64	5320	20.41	24.09 > 24
100	5500	20.50	24.11 > 24
116	5580	21.08	24.23 > 24
140	5700	19.99	24 = 24

802.11ac (VHT40)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	21.09	20.58	242.817	23.85	24.00	Pass
62	5310	18.91	18.73	152.449	21.83	24.00	Pass
102	5510	18.86	18.76	152.075	21.82	24.00	Pass
110	5550	20.79	20.72	237.982	23.77	24.00	Pass
134	5670	20.98	20.29	232.219	23.66	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.78	41.06
62	5310	40.97	41.08
102	5510	40.79	40.40
110	5550	55.76	44.01
134	5670	79.35	46.55

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.06	27.13 > 24
62	5310	40.97	27.12 > 24
102	5510	40.40	27.06 > 24
110	5550	44.01	27.43 > 24
134	5670	46.55	27.67 > 24

802.11ac (VHT80)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	18.44	18.06	133.796	21.26	24.00	Pass
106	5530	19.06	19.10	161.821	22.09	24.00	Pass
122	5610	20.63	20.42	225.765	23.54	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.42	83.64
106	5530	83.34	83.82
122	5610	142.11	118.65

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.42	30.21 > 24
106	5530	83.34	30.2 > 24
122	5610	118.65	31.74 > 24

Beamforming Mode

802.11ac (VHT20)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	20.43	19.77	205.25	23.12	23.39	Pass
60	5300	20.31	20.37	216.292	23.35	23.39	Pass
64	5320	20.29	20.33	214.8	23.32	23.39	Pass
100	5500	19.82	20.22	201.136	23.03	23.39	Pass
116	5580	20.39	19.96	208.479	23.19	23.39	Pass
140	5700	18.99	18.21	145.472	21.63	23.39	Pass

Note: 1. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(6.61-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	20.62	20.52
60	5300	20.41	20.67
64	5320	20.41	20.42
100	5500	20.50	20.52
116	5580	21.12	21.08
140	5700	20.68	19.99

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.52	24.12 > 24
60	5300	20.41	24.09 > 24
64	5320	20.41	24.09 > 24
100	5500	20.50	24.11 > 24
116	5580	21.08	24.23 > 24
140	5700	19.99	24 > 24

802.11ac (VHT40)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.63	20.04	216.536	23.36	23.39	Pass
62	5310	18.91	18.73	152.449	21.83	23.39	Pass
102	5510	18.86	18.76	152.075	21.82	23.39	Pass
110	5550	20.30	20.21	212.106	23.27	23.39	Pass
134	5670	20.49	19.99	211.714	23.26	23.39	Pass

Note: 1. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(6.61-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	41.78	41.06
62	5310	40.97	41.08
102	5510	40.79	40.40
110	5550	55.76	44.01
134	5670	79.35	46.55

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidtl

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.06	27.13 > 24
62	5310	40.97	27.12 > 24
102	5510	40.40	27.06 > 24
110	5550	44.01	27.43 > 24
134	5670	46.55	27.67 > 24

802.11ac (VHT80)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	18.44	18.06	133.796	21.26	23.39	Pass
106	5530	19.06	19.10	161.821	22.09	23.39	Pass
122	5610	20.10	19.93	200.73	23.03	23.39	Pass

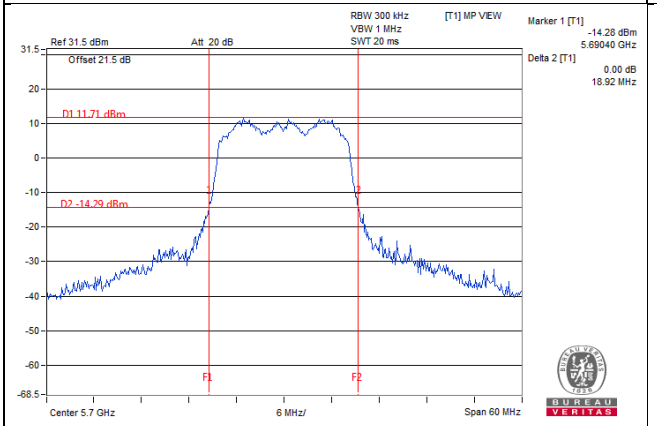
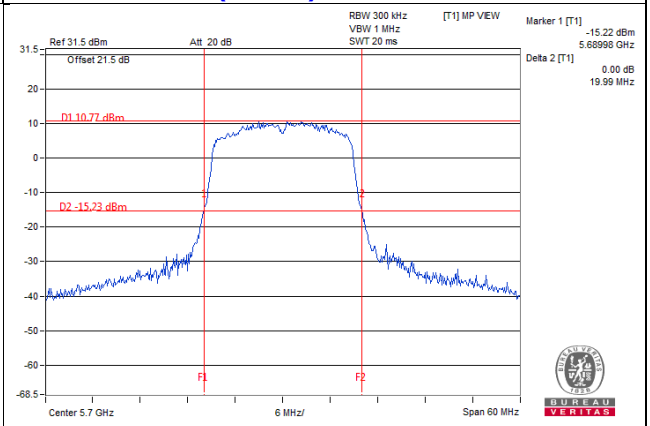
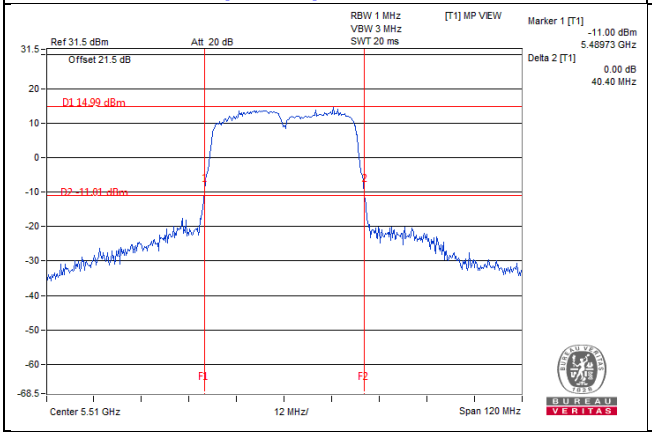
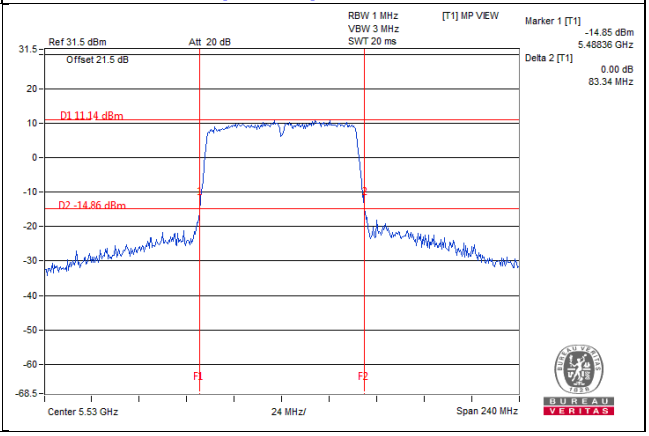
Note: 1. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(6.61-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	83.42	83.64
106	5530	83.34	83.82
122	5610	142.11	118.65

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidtl

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.42	30.21 > 24
106	5530	83.34	30.2 > 24
122	5610	118.65	31.74 > 24

Spectrum Plot of Worst Value	
802.11a / Chain 1 – CH140	**802.11ac (VHT20) / Chain 1 – CH140**
	
802.11ac (VHT40) / Chain 1 - CH102	**802.11ac (VHT80) / Chain 0 - CH106**
	

4.3.8 Test Result (Mode 2)

CDD Mode

802.11a

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.51	13.90	14.25	14.24	105.949	20.25	23.90	Pass
60	5300	14.21	13.93	14.41	14.71	108.266	20.34	23.94	Pass
64	5320	14.52	14.17	13.93	14.57	107.795	20.33	23.92	Pass
100	5500	14.18	13.58	13.79	14.34	100.082	20.00	23.94	Pass
116	5580	14.37	13.78	13.74	14.46	102.815	20.12	23.90	Pass
140	5700	14.71	13.63	13.67	14.51	104.177	20.18	23.86	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.91	19.51	19.97	19.56
60	5300	19.77	19.96	19.68	19.93
64	5320	19.78	19.62	20.11	19.72
100	5500	19.77	19.72	19.88	19.73
116	5580	19.89	19.67	19.96	19.52
140	5700	19.84	19.38	19.81	19.36

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.51	23.9 < 24
60	5300	19.68	23.94 < 24
64	5320	19.62	23.92 < 24
100	5500	19.72	23.94 < 24
116	5580	19.52	23.9 < 24
140	5700	19.36	23.86 < 24

802.11ac (VHT20)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.32	13.89	14.01	13.90	101.255	20.05	24.00	Pass
60	5300	14.20	13.87	14.13	14.58	105.271	20.22	24.00	Pass
64	5320	14.51	14.02	13.64	14.22	103.029	20.13	24.00	Pass
100	5500	14.20	13.61	13.41	13.98	96.195	19.83	24.00	Pass
116	5580	14.29	13.78	13.53	14.12	99.096	19.96	24.00	Pass
140	5700	14.33	13.92	13.46	14.19	100.186	20.01	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.37	20.57	21.13	20.67
60	5300	20.76	20.64	20.93	20.53
64	5320	20.49	20.49	20.67	20.48
100	5500	20.68	20.53	20.78	20.73
116	5580	20.44	20.64	21.05	20.66
140	5700	20.75	20.69	21.09	20.45

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.37	24.08 > 24
60	5300	20.53	24.12 > 24
64	5320	20.48	24.11 > 24
100	5500	20.53	24.12 > 24
116	5580	20.44	24.1 > 24
140	5700	20.45	24.1 > 24

802.11ac (VHT40)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.42	16.83	16.96	17.31	206.889	23.16	24.00	Pass
62	5310	16.46	16.49	16.08	16.71	176.257	22.46	24.00	Pass
102	5510	17.39	16.76	16.98	17.61	209.817	23.22	24.00	Pass
110	5550	17.30	16.64	16.66	17.51	202.544	23.07	24.00	Pass
134	5670	17.85	16.98	16.70	17.56	214.632	23.32	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	40.83	40.55	40.79	40.95
62	5310	40.78	40.78	41.25	40.89
102	5510	40.88	40.72	40.86	41.01
110	5550	40.92	40.76	41.00	40.69
134	5670	41.24	40.88	40.95	40.82

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.55	27.07 > 24
62	5310	40.78	27.1 > 24
102	5510	40.72	27.09 > 24
110	5550	40.69	27.09 > 24
134	5670	40.82	27.1 > 24

802.11ac (VHT80)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.59	15.38	15.37	15.49	140.573	21.48	24.00	Pass
106	5530	18.17	17.39	17.53	17.99	240.018	23.80	24.00	Pass
122	5610	18.51	17.70	17.29	17.73	242.715	23.85	24.00	Pass

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.95	82.82	83.90	83.68
106	5530	83.75	82.97	83.82	82.70
122	5610	83.87	83.67	84.20	84.56

Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.82	30.18 > 24
106	5530	82.70	30.17 > 24
122	5610	83.67	30.22 > 24

Beamforming Mode

802.11ac (VHT20)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.32	13.89	14.01	13.90	101.255	20.05	20.38	Pass
60	5300	14.20	13.87	14.13	14.58	105.271	20.22	20.38	Pass
64	5320	14.51	14.02	13.64	14.22	103.029	20.13	20.38	Pass
100	5500	14.30	13.81	13.56	14.08	99.244	19.97	20.38	Pass
116	5580	14.29	13.78	13.53	14.12	99.096	19.96	20.38	Pass
140	5700	14.33	13.92	13.46	14.19	100.186	20.01	20.38	Pass

Note: 1. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(9.62-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.37	20.57	21.13	20.67
60	5300	20.76	20.64	20.93	20.53
64	5320	20.49	20.49	20.67	20.48
100	5500	20.68	20.53	20.78	20.73
116	5580	20.44	20.64	21.05	20.66
140	5700	20.75	20.69	21.09	20.45

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.37	24.08 > 24
60	5300	20.53	24.12 > 24
64	5320	20.48	24.11 > 24
100	5500	20.53	24.12 > 24
116	5580	20.44	24.1 > 24
140	5700	20.45	24.1 > 24

802.11ac (VHT40)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	14.47	13.90	13.89	14.42	104.697	20.20	20.38	Pass
62	5310	13.99	14.02	13.65	14.07	98.997	19.96	20.38	Pass
102	5510	14.33	13.81	14.02	14.82	106.72	20.28	20.38	Pass
110	5550	14.26	13.70	13.68	14.61	102.353	20.10	20.38	Pass
134	5670	14.81	13.93	13.73	14.65	107.765	20.32	20.38	Pass

Note: 1. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(9.62-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	40.83	40.55	40.79	40.95
62	5310	40.78	40.78	41.25	40.89
102	5510	40.88	40.72	40.86	41.01
110	5550	40.92	40.76	41.00	40.69
134	5670	41.24	40.88	40.95	40.82

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.55	27.07 > 24
62	5310	40.78	27.1 > 24
102	5510	40.72	27.09 > 24
110	5550	40.69	27.09 > 24
134	5670	40.82	27.1 > 24

802.11ac (VHT80)

Power Output:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	14.52	14.32	14.04	14.33	107.807	20.33	20.38	Pass
106	5530	14.58	13.85	13.78	14.51	105.101	20.22	20.38	Pass
122	5610	14.87	14.03	13.61	14.15	104.946	20.21	20.38	Pass

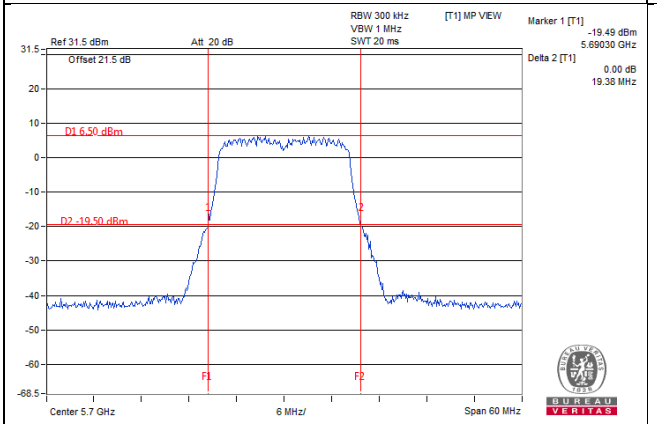
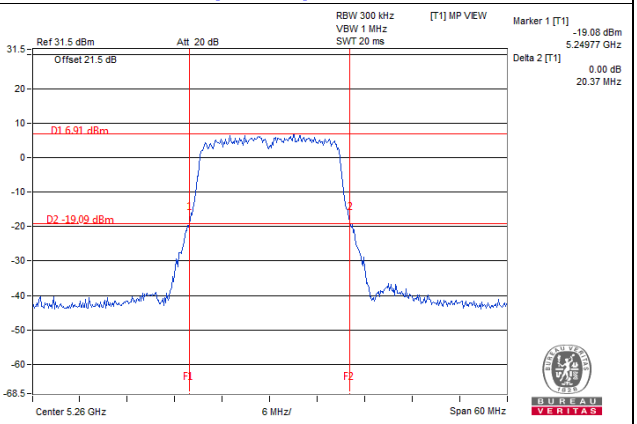
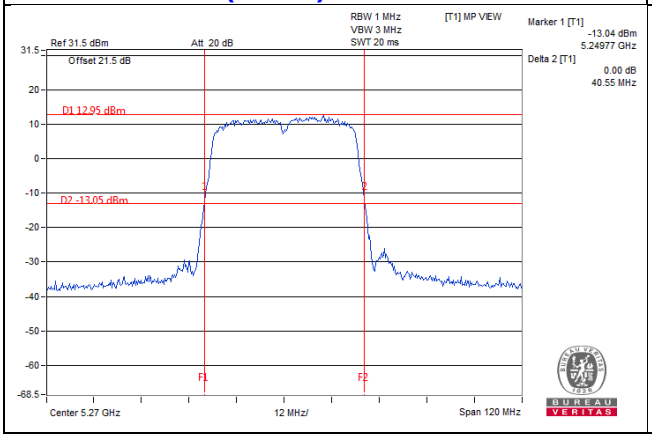
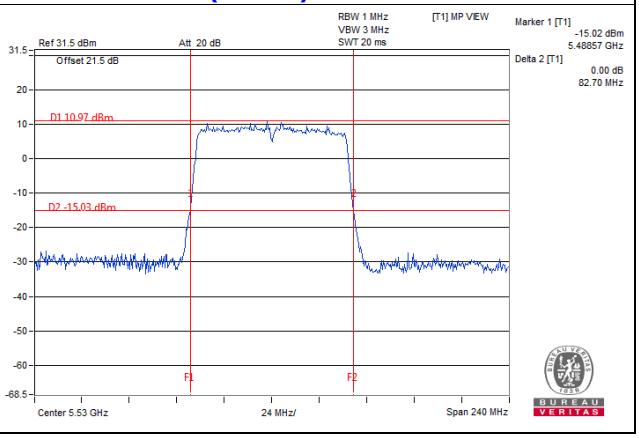
Note: 1. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit" -(9.62-6).

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.95	82.82	83.90	83.68
106	5530	83.75	82.97	83.82	82.70
122	5610	83.87	83.67	84.20	84.56

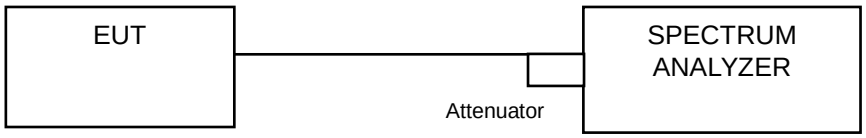
Note: For U_NII-2A, U_NII-2C Band output power limitation is determined based on 26dBc bandwidt

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.82	30.18 > 24
106	5530	82.70	30.17 > 24
122	5610	83.67	30.22 > 24

Spectrum Plot of Worst Value	
802.11a / Chain 1 – CH140	**802.11ac (VHT20) / Chain 0 – CH52**
	
802.11ac (VHT40) / Chain 1 – CH54	**802.11ac (VHT80) / Chain 3 - CH106**
	

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Test Results (Mode 1)

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	16.56	16.56
60	5300	16.44	16.56
64	5320	16.56	16.44
100	5500	16.76	16.76
116	5580	16.56	16.56
140	5700	16.56	16.32

802.11ac (VHT20)

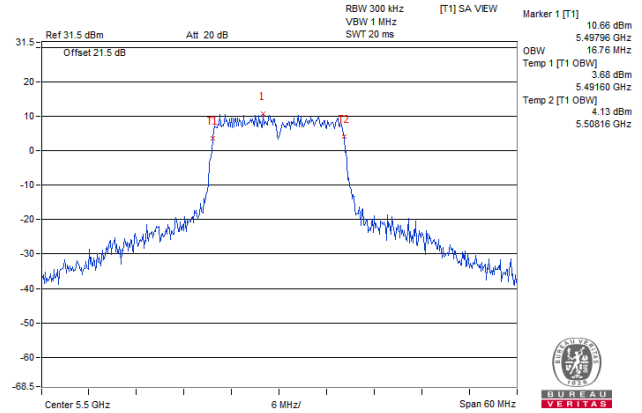
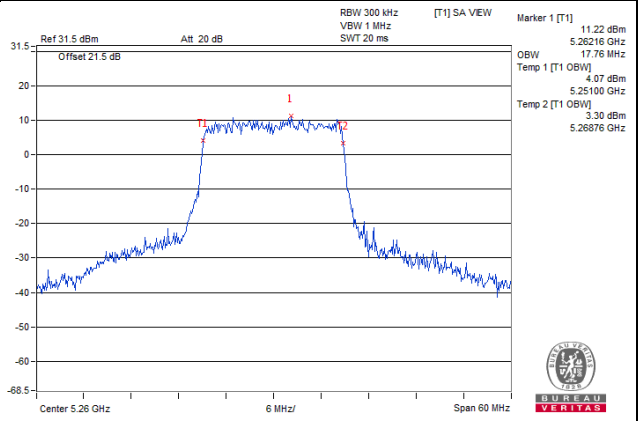
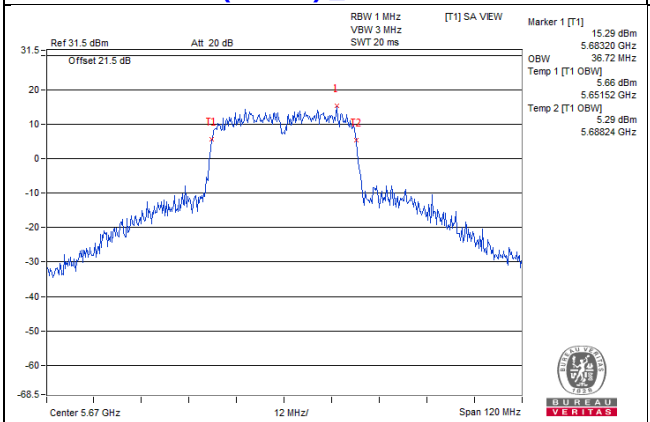
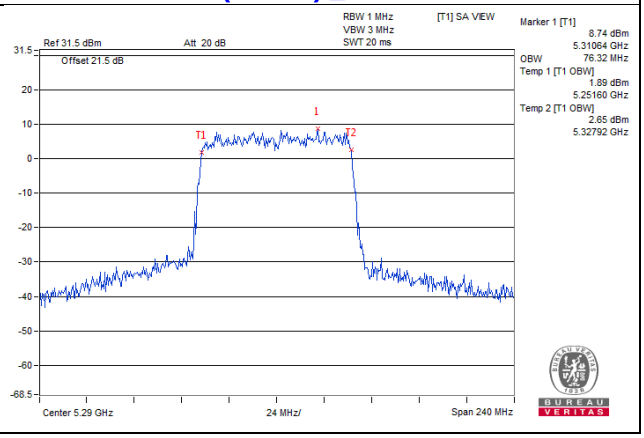
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	17.76	17.76
60	5300	17.76	17.76
64	5320	17.76	17.76
100	5500	17.76	17.76
116	5580	17.76	17.64
140	5700	17.76	17.52

802.11ac (VHT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	36.48	36.24
62	5310	36.48	36.48
102	5510	36.24	36.24
110	5550	36.48	36.24
134	5670	36.72	36.48

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	76.32	75.84
106	5530	75.84	75.84
122	5610	76.32	76.32

Spectrum Plot of Max. Value	
802.11a_Chain 0 / CH100	**802.11ac (VHT20)_ Chain 0 / CH52**
	
802.11ac (VHT40) _Chain 0 / CH134	**802.11ac (VHT80) _Chain 0 / CH58**
	

4.4.5 Test Results (Mode 2)

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	16.44	16.44	16.56	16.56
60	5300	16.44	16.44	16.44	16.44
64	5320	16.44	16.44	16.56	16.44
100	5500	16.56	16.44	16.44	16.68
116	5580	16.44	16.56	16.56	16.56
140	5700	16.44	16.44	16.56	16.44

802.11ac (VHT20)

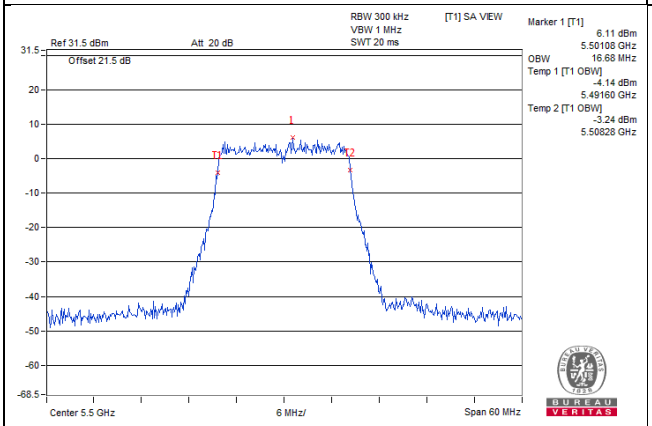
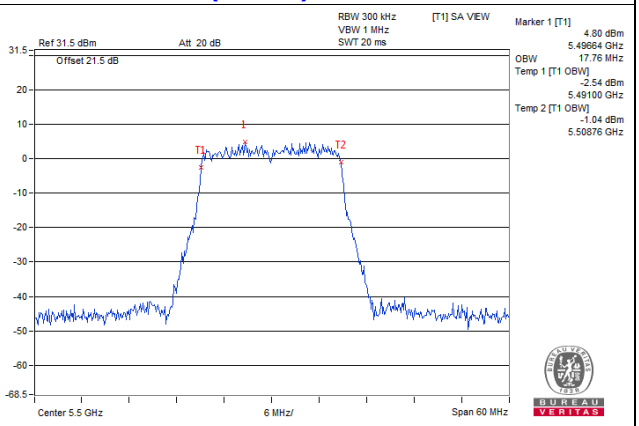
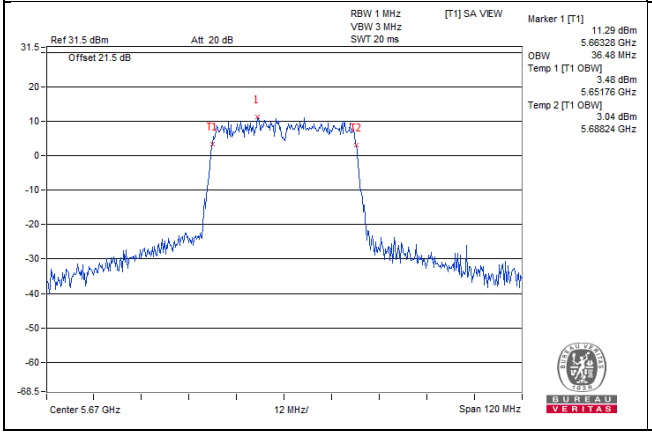
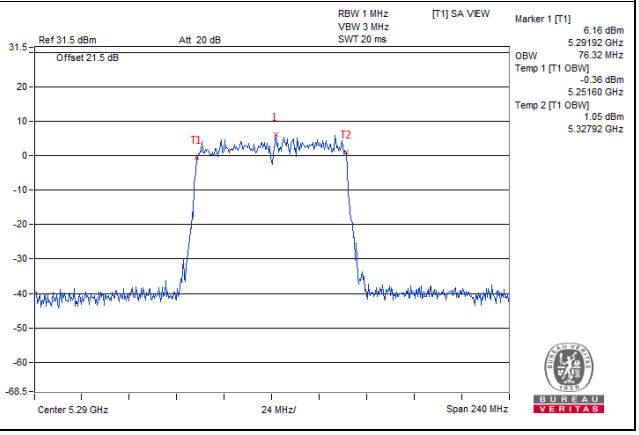
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.64	17.64	17.64	17.64
60	5300	17.64	17.64	17.64	17.64
64	5320	17.64	17.64	17.64	17.64
100	5500	17.76	17.64	17.64	17.76
116	5580	17.64	17.64	17.76	17.76
140	5700	17.64	17.64	17.64	17.64

802.11ac (VHT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	36.24	36.24	36.24	36.24
62	5310	36.24	36.24	36.24	36.24
102	5510	36.24	36.00	36.24	36.24
110	5550	36.24	36.24	36.24	36.24
134	5670	36.24	36.24	36.24	36.48

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	76.32	75.84	75.84	76.32
106	5530	76.32	76.32	75.84	76.32
122	5610	76.32	76.32	76.32	76.32

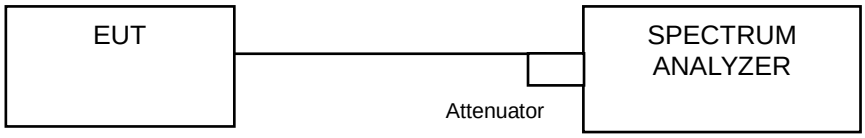
Spectrum Plot of Max. Value	
802.11a_Chain 3 / CH100	**802.11ac (VHT20)_ Chain 0 / CH100**
	
802.11ac (VHT40) _Chain 3 / CH134	**802.11ac (VHT80) _Chain 0 / CH58**
	

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	
		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 Procedure

802.11ac (VHT20)

Using method SA-1

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

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

Using method SA-2

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results (Mode 1)

802.11a

Chan.	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	6.33	6.40	0.18	9.56	10.39	Pass
60	5300	6.59	6.45	0.18	9.71	10.39	Pass
64	5320	7.09	6.35	0.18	9.93	10.39	Pass
100	5500	6.60	6.84	0.18	9.91	10.39	Pass
116	5580	6.25	7.23	0.18	9.96	10.39	Pass
140	5700	4.67	6.23	0.18	8.71	10.39	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi , so the power density limit shall be reduced to 11-(6.61-6) = 10.39dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)		Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1			
52	5260	6.63	6.29	9.47	10.39	Pass
60	5300	6.71	6.81	9.77	10.39	Pass
64	5320	6.49	7.02	9.77	10.39	Pass
100	5500	5.95	6.88	9.45	10.39	Pass
116	5580	6.34	7.19	9.80	10.39	Pass
140	5700	4.81	5.59	8.23	10.39	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi , so the power density limit shall be reduced to 11-(6.61-6) = 10.39dBm.

802.11ac (VHT40)

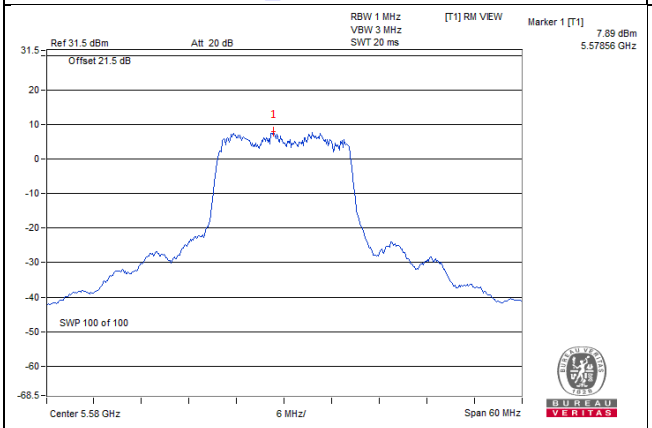
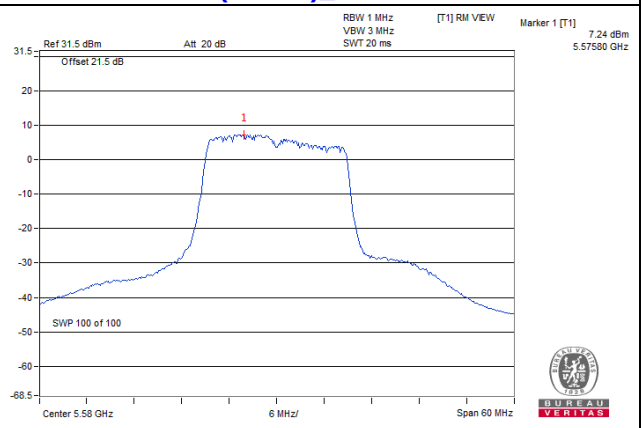
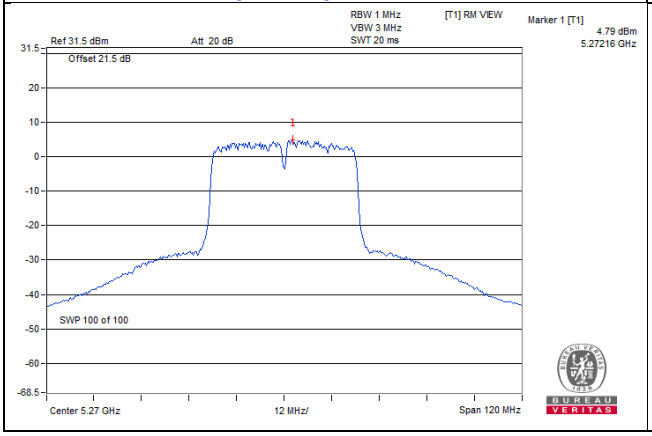
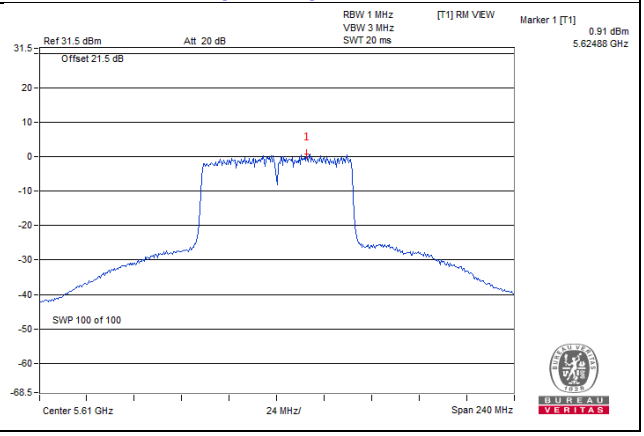
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
54	5270	4.79	3.61	0.16	7.41	10.39	Pass
62	5310	2.83	4.26	0.16	6.77	10.39	Pass
102	5510	2.66	2.73	0.16	5.87	10.39	Pass
118	5590	4.38	4.18	0.16	7.45	10.39	Pass
134	5670	4.35	4.65	0.16	7.67	10.39	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi , so the power density limit shall be reduced to 11-(6.61-6) = 10.39dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	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	-2.41	-1.77	0.29	1.22	10.39	Pass
106	5530	-0.84	-0.87	0.29	2.45	10.39	Pass
122	5610	0.82	0.77	0.29	4.10	10.39	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(2) = 6.61dBi > 6dBi , so the power density limit shall be reduced to 11-(6.61-6) = 10.39dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a_Chain 1 / CH116	**802.11ac (VHT20)_Chain 1 / CH116**
	
802.11ac (VHT40)_Chain 0 / CH54	**802.11ac (VHT80)_Chain 0 / CH122**
	

4.5.8 Test Results (Mode 2)

802.11a

Chan.	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	Chain 2	Chain 3				
52	5260	0.72	0.28	0.34	0.62	0.18	6.69	7.38	Pass
60	5300	0.81	0.40	0.71	1.16	0.18	6.98	7.38	Pass
64	5320	1.14	-0.02	0.74	1.21	0.18	6.99	7.38	Pass
100	5500	0.81	-1.06	0.26	0.76	0.18	6.45	7.38	Pass
116	5580	0.87	-0.13	-0.04	0.79	0.18	6.60	7.38	Pass
140	5700	0.90	-0.51	-0.21	1.18	0.18	6.60	7.38	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi , so the power density limit shall be reduced to 11-(9.62-6) = 7.38dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	0.71	0.30	0.23	0.37	6.43	7.38	Pass
60	5300	0.41	-0.05	0.44	0.45	6.34	7.38	Pass
64	5320	0.62	0.20	0.00	0.69	6.41	7.38	Pass
100	5500	0.32	-0.28	-0.95	0.33	5.91	7.38	Pass
116	5580	0.44	0.01	-0.53	0.38	6.11	7.38	Pass
140	5700	0.42	0.23	-0.87	0.65	6.17	7.38	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi , so the power density limit shall be reduced to 11-(9.62-6) = 7.38dBm.

802.11ac (VHT40)

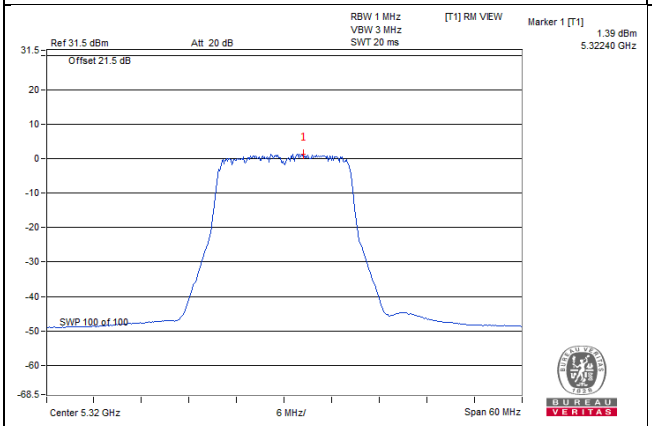
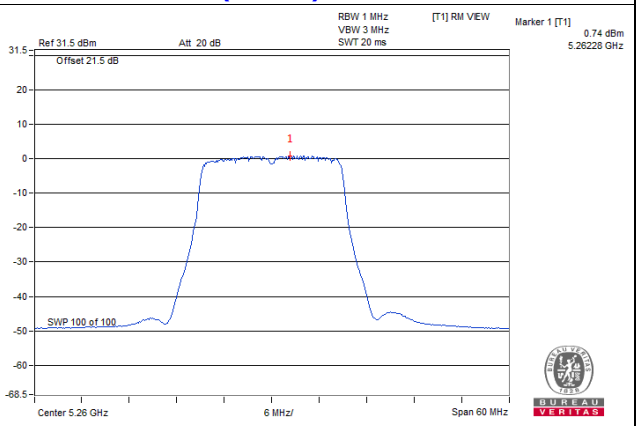
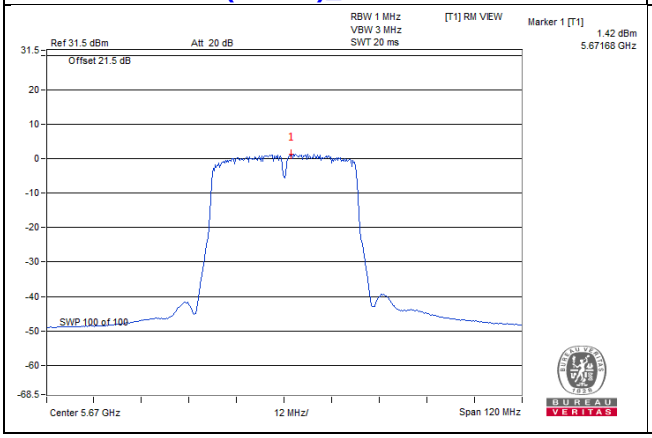
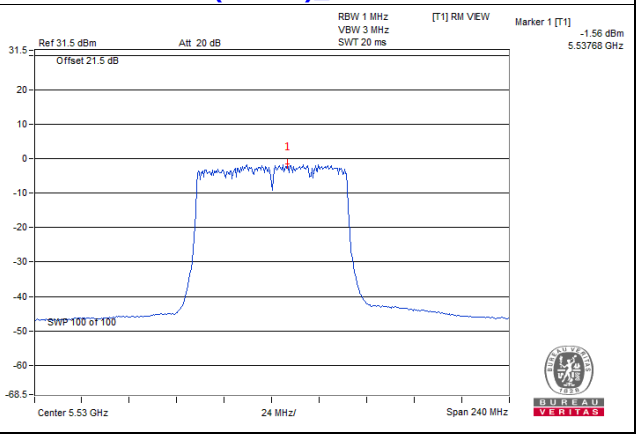
Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	0.31	0.58	0.39	0.46	0.16	6.62	7.38	Pass
62	5310	-0.05	-0.02	-0.44	-0.25	0.16	5.99	7.38	Pass
102	5510	1.05	0.23	0.22	0.82	0.16	6.78	7.38	Pass
118	5590	0.46	0.08	0.24	1.22	0.16	6.70	7.38	Pass
134	5670	1.42	0.33	0.02	1.05	0.16	6.92	7.38	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi , so the power density limit shall be reduced to 11-(9.62-6) = 7.38dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	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	Chain 2	Chain 3				
58	5290	-4.31	-4.44	-4.65	-4.43	0.29	1.85	7.38	Pass
106	5530	-1.56	-2.57	-2.38	-2.86	0.29	4.00	7.38	Pass
122	5610	-2.00	-2.11	-3.31	-3.15	0.29	3.71	7.38	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 3.6dBi + 10log(4) = 9.62dBi > 6dBi , so the power density limit shall be reduced to 11-(9.62-6) = 7.38dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

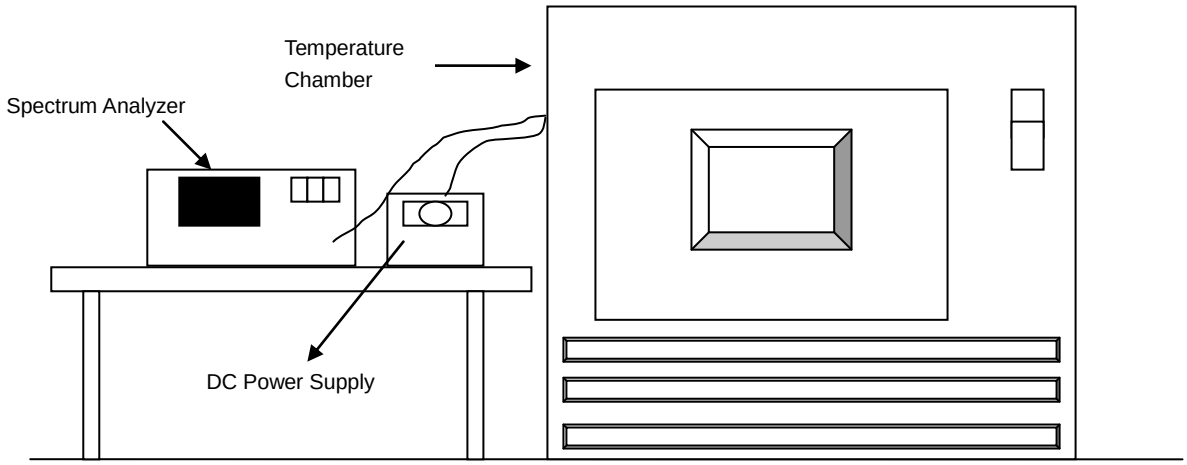
Spectrum Plot of Worst Value	
802.11a_Chain 3 / CH64	**802.11ac (VHT20)_Chain 0 / CH52**
	
802.11ac (VHT40)_Chain 0 / CH134	**802.11ac (VHT80)_Chain 0 / CH106**
	

4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC 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 2 and 3 with the temperature chamber set to the lowest temperature.
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 (Mode 1)

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	12	5260.0096	PASS	5260.0099	PASS	5260.0069	PASS	5260.0102	PASS
40	12	5259.9855	PASS	5259.9879	PASS	5259.986	PASS	5259.9855	PASS
30	12	5260.0012	PASS	5260.0022	PASS	5259.9995	PASS	5260.0029	PASS
20	12	5259.9723	PASS	5259.9761	PASS	5259.9762	PASS	5259.9751	PASS
10	12	5259.9895	PASS	5259.9903	PASS	5259.9887	PASS	5259.9897	PASS
0	12	5259.9846	PASS	5259.9839	PASS	5259.983	PASS	5259.9837	PASS
-10	12	5260.0031	PASS	5260.0034	PASS	5260.0047	PASS	5260.0055	PASS
-20	12	5260.024	PASS	5260.0203	PASS	5260.0202	PASS	5260.0195	PASS
-30	12	5260.0101	PASS	5260.0131	PASS	5260.0098	PASS	5260.0111	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	13.8	5259.9725	PASS	5259.9761	PASS	5259.976	PASS	5259.9758	PASS
	12	5259.9723	PASS	5259.9761	PASS	5259.9762	PASS	5259.9751	PASS
	10.2	5259.9721	PASS	5259.9761	PASS	5259.9752	PASS	5259.9747	PASS

4.6.8 Test Results (Mode 2)

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	12	5260.0096	PASS	5260.0099	PASS	5260.0069	PASS	5260.0102	PASS
40	12	5259.9855	PASS	5259.9879	PASS	5259.986	PASS	5259.9855	PASS
30	12	5260.0012	PASS	5260.0022	PASS	5259.9995	PASS	5260.0029	PASS
20	12	5259.9723	PASS	5259.9761	PASS	5259.9762	PASS	5259.9751	PASS
10	12	5259.9895	PASS	5259.9903	PASS	5259.9887	PASS	5259.9897	PASS
0	12	5259.9846	PASS	5259.9839	PASS	5259.983	PASS	5259.9837	PASS
-10	12	5260.0031	PASS	5260.0034	PASS	5260.0047	PASS	5260.0055	PASS
-20	12	5260.024	PASS	5260.0203	PASS	5260.0202	PASS	5260.0195	PASS
-30	12	5260.0101	PASS	5260.0131	PASS	5260.0098	PASS	5260.0111	PASS

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	13.8	5259.9725	PASS	5259.9761	PASS	5259.976	PASS	5259.9758	PASS
	12	5259.9723	PASS	5259.9761	PASS	5259.9762	PASS	5259.9751	PASS
	10.2	5259.9721	PASS	5259.9761	PASS	5259.9752	PASS	5259.9747	PASS

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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