FCC Test Report (DFS Band)

Report No.:	RF180702E06-4
FCC ID:	KA2IR2660A1
Test Model:	DIR-2660
Received Date:	July 02, 2018
Test Date:	Aug. 04 to 23, 2018
Issued Date:	Dec. 12, 2018
Applicant:	D-Link Corporation
Address:	17595 Mt. Herrmann Street Fountain Valley, CA92708 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

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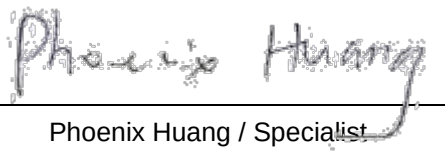
Release Control Record

Issue No.	Description	Date Issued
RF180702E06-4	Original release.	Dec. 12, 2018

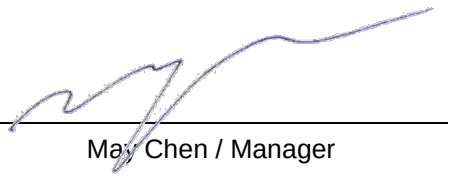
1 Certificate of Conformity

Product:	AC2600 Mesh-Enabled Smart Wi-Fi Router
Brand:	D-Link
Test Model:	DIR-2660
Sample Status:	ENGINEERING SAMPLE
Applicant:	D-Link Corporation
Test Date:	Aug. 04 to 23, 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 :  , **Date:** Dec. 12, 2018

Phoenix Huang / Specialist

Approved by :  , **Date:** Dec. 12, 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 -10.47dB at 20.37500MHz.
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 and 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex (MHF) not a standard connector.

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	5.53 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	4.78 dB
	6GHz ~ 18GHz	4.52 dB
	18GHz ~ 40GHz	5.08 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (DFS Band)

Product	AC2600 Mesh-Enabled Smart Wi-Fi Router
Brand	D-Link
Test Model	DIR-2660
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 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 802.11ac (VHT80+80): up to 3466.7Mbps
Operating Frequency	5.26 ~ 5.32GHz, 5.5 ~ 5.7GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 15 802.11n (HT40), 802.11ac (VHT40): 7 802.11ac (VHT80): 3 802.11ac (VHT80+80): 5 set
Output Power	**5.26 ~ 5.32GHz** **CDD Mode:** 161.371mW **Beamforming Mode:** 75.539mW **5.5 ~ 5.7GHz** **CDD Mode:** 159.71mW **Beamforming Mode:** 78.585mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	NA

Note:

1. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (5GHz)
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

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

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Connecter Type
2.4~2.4835	10.06	Dipole	i-pex(MHF)
5.15~5.85	10.90	Dipole	i-pex(MHF)
Note: More detailed information, please refer to operating description.			

3. The EUT must be supplied from power adapter as following table:

No.	Brand	Model No.	Spec.	Plug
1	Shenzhen Gongjin Electronics Co., Ltd	S36B52-120A250-04	AC Input: 100-240Vac, 1A, 50/60Hz DC Output: 12V, 2.5A DC Output cable: Unshielded, 1.1m	FCC

4. The EUT incorporates a MIMO function

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	4TX	4RX
802.11g	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
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
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
5GHz Band			
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
802.11ac (VHT80+80)	MCS 0~9, Nss=1	2TX+2TX	2RX+2RX
	MCS 0~9, Nss=2	2TX+2TX	2RX+2RX

Note:
1. All of modulation mode support beamforming function except 2.4GHz & 802.11a 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)

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

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

For simultaneous transmission:

5 sets are provided for 802.11ac (VHT80+80):

Channel	Frequency	Channel	Frequency
42+58	5210MHz + 5290MHz	58+155	5290MHz + 5775MHz
42+106	5210MHz + 5530MHz	106+155	5530MHz + 5775MHz
58+106	5290MHz + 5530MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note: The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane (below 1GHz) & Y-plane (above 1GHz)**

Radiated Emission Test (Above 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	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
802.11ac (VHT80+80)	5260-5320, 5500-5700, 5745-5825	42+58, 42+106, 58+106, 58+155, 106+155	58+106	OFDM	BPSK	58.5

Radiated Emission Test (Below 1GHz):

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT40)	5260-5320, 5500-5700	54 to 62, 102 to 134	62	OFDM	BPSK	13.5

Power Line Conducted Emission Test:

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

CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT40)	5260-5320, 5500-5700	54 to 62, 102 to 134	62	OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

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

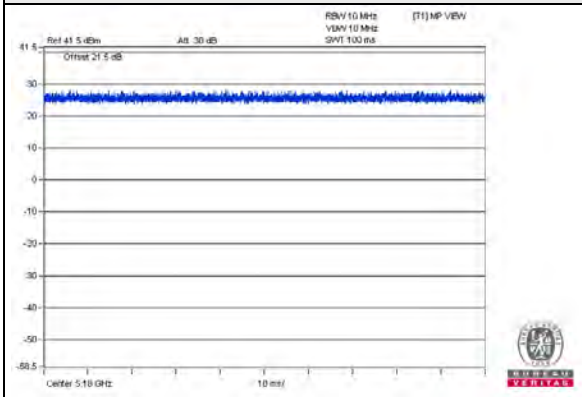
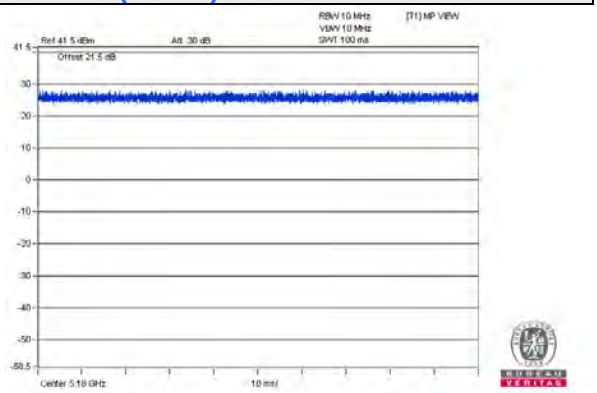
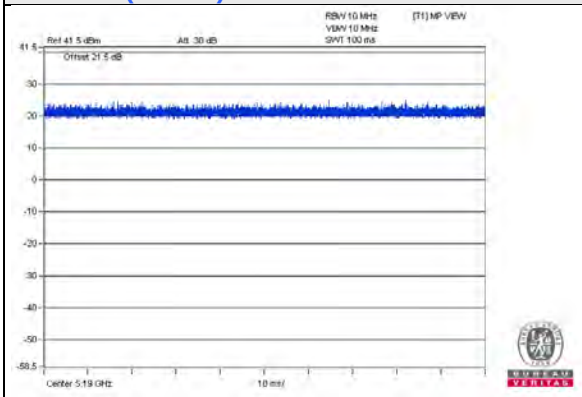
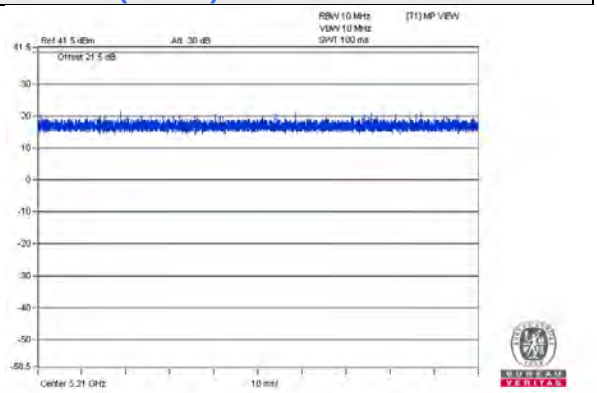
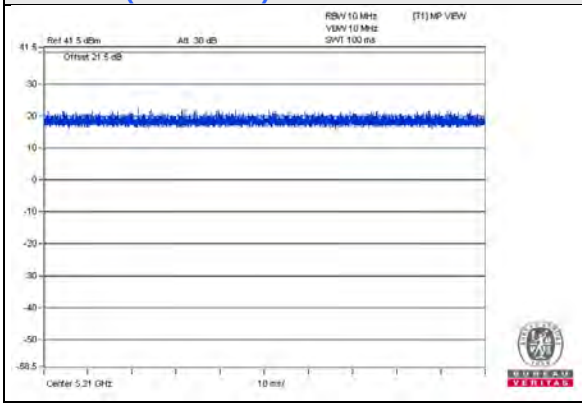
CDD Mode						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11ac (VHT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	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
802.11ac (VHT80+80)	5260-5320, 5500-5700	42+58, 42+106, 58+106, 58+155, 106+155	58+106	OFDM	BPSK	58.5
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
802.11ac (VHT80+80)	5260-5320, 5500-5700	42+58, 42+106, 58+106, 58+155, 106+155	58+106	OFDM	BPSK	58.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23deg. C, 66%RH	120Vac, 60Hz	Terry Huang
	24deg. C, 65%RH	120Vac, 60Hz	Eason Tseng
RE<1G	22deg. C, 67%RH	120Vac, 60Hz	Frang Chuang
PLC	24deg. C, 72%RH	120Vac, 60Hz	Andy Ho
APCM	24deg. C, 63%RH	120Vac, 60Hz	Anderson Chen
	25deg. C, 60%RH	120Vac, 60Hz	Jyunchun Lin

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.

802.11a	802.11ac (VHT20)
	
802.11ac (VHT40)	**802.11ac (VHT80)**
	
802.11ac (VHT80+80)	
	

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.

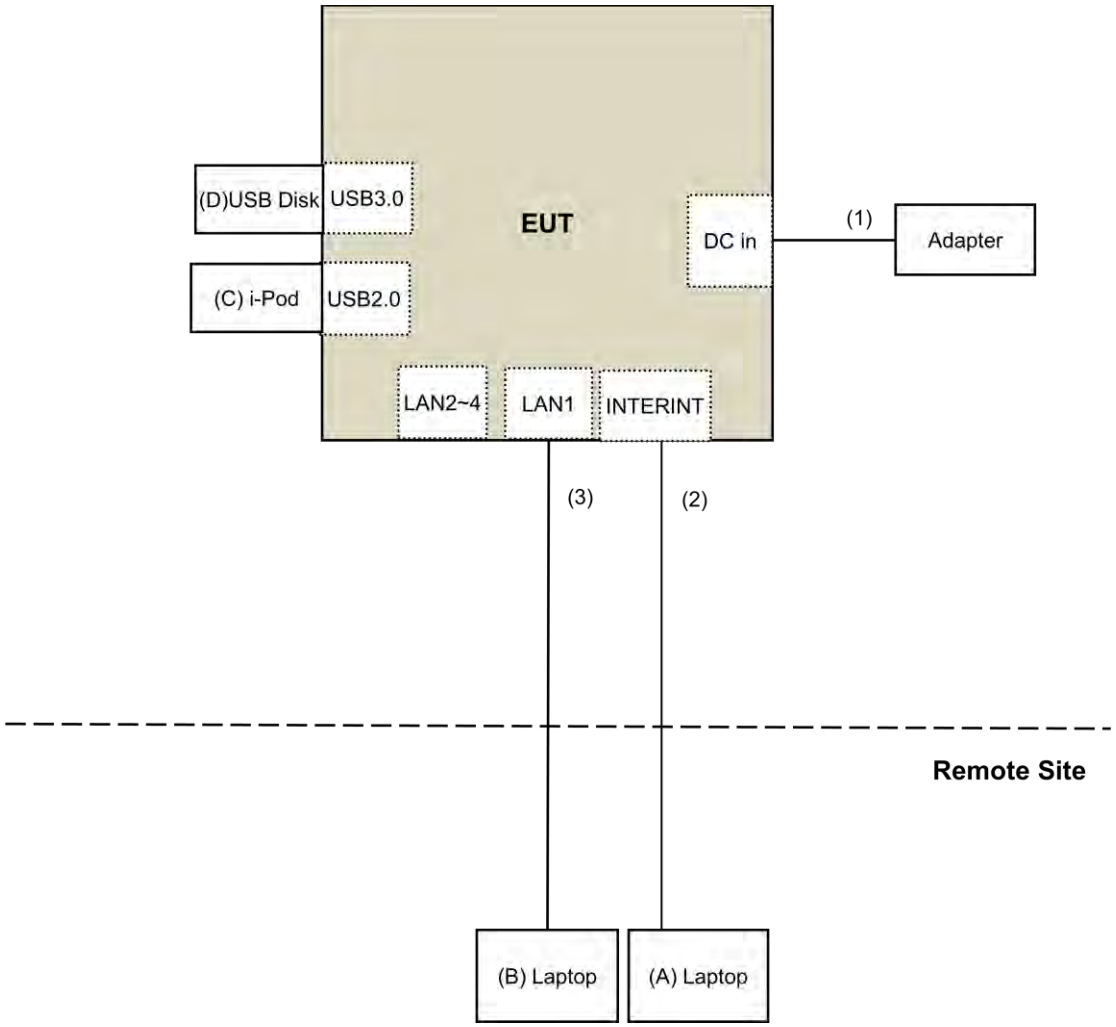
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	iPod	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
D.	USB Disk	Tracscend	NA	NA	NA	Provided by Lab

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	1.1	No	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab

3.4.1 Configuration of System under Test



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="2">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="2" 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 Agilent	N9038A	MY50010156	July 12, 2018	July 11, 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-05	May 05, 2018	May 04, 2019
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 29, 2017	Nov. 28, 2018
RF Cable	8D	966-3-1	Mar. 20, 2018	Mar. 19, 2019
RF Cable	8D	966-3-2	Mar. 20, 2018	Mar. 19, 2019
RF Cable	8D	966-3-3	Mar. 20, 2018	Mar. 19, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 03, 2017	Oct. 02, 2018
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 12, 2017	Dec. 11, 2018
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-1200	160922	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-2000	150317	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-5000	150322	Jan. 29, 2018	Jan. 28, 2019
Spectrum Analyzer Keysight	N9030A	MY54490679	July 23, 2018	July 22, 2019
Pre-Amplifier EMCI	EMC184045SE	980386	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 14, 2017	Dec. 13, 2018
RF Cable	EMC102-KM-KM-1200	160924	Jan. 29, 2018	Jan. 28, 2019
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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
AC Power Source Extech Electronics	6205	1440452	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. 3.
4. The CANADA Site Registration No. is 20331-1
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: Aug. 04 to 23, 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:

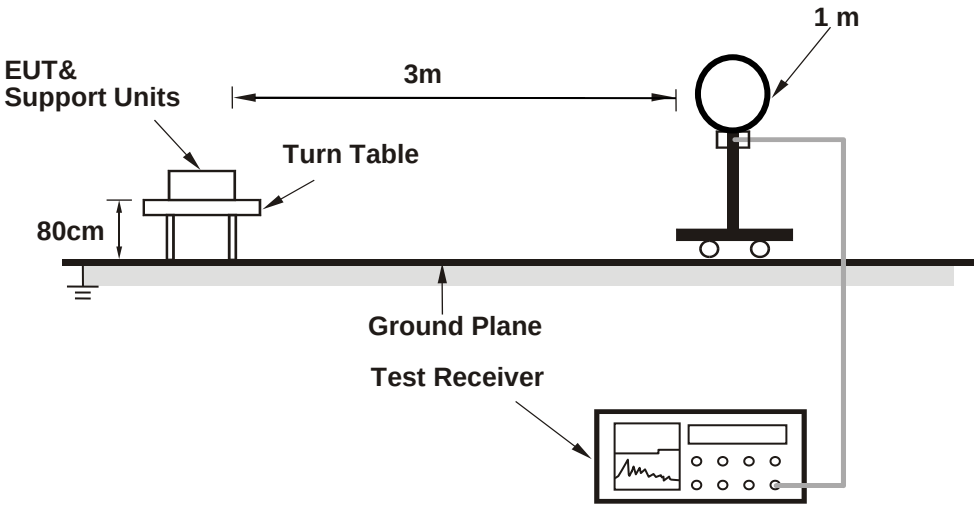
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

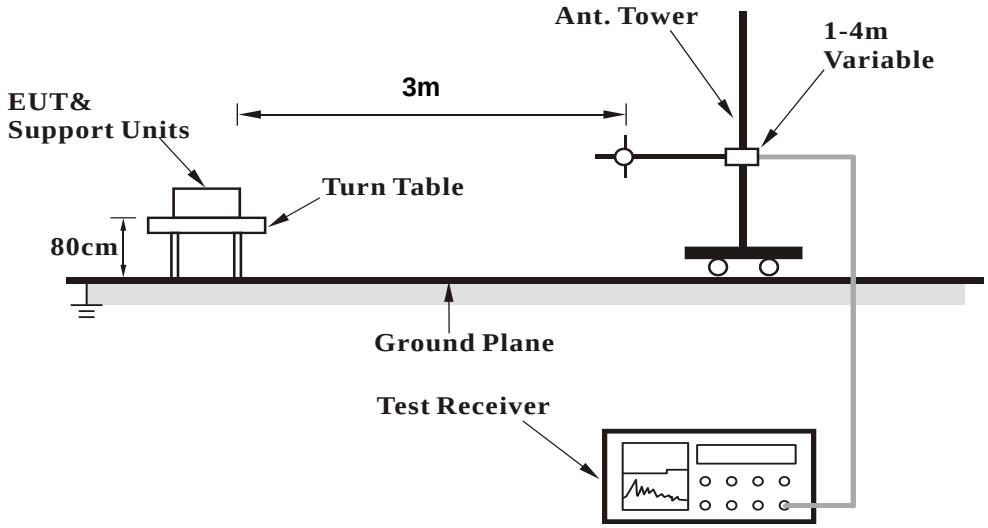
No deviation.

4.1.5 Test Setup

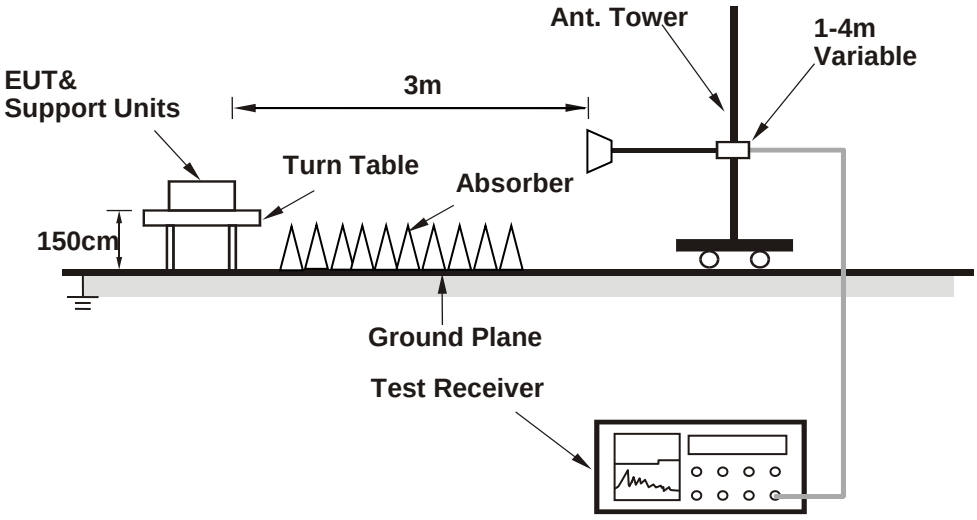
For Radiated emission below 30MHz



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 (MT7615 QA 0.0.1.73) has been activated to set the EUT on specific status.

4.1.7 Test Results

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	49.5 PK	74.0	-24.5	1.29 H	273	46.9	2.6
2	5150.00	37.6 AV	54.0	-16.4	1.29 H	273	35.0	2.6
3	*5260.00	100.3 PK			1.29 H	273	98.2	2.1
4	*5260.00	91.8 AV			1.29 H	273	89.7	2.1
5	5350.00	47.7 PK	74.0	-26.3	1.29 H	273	45.4	2.3
6	5350.00	36.8 AV	54.0	-17.2	1.29 H	273	34.5	2.3
7	#10520.00	49.2 PK	68.2	-19.0	1.77 H	316	36.8	12.4
8	15780.00	53.3 PK	74.0	-20.7	1.33 H	156	41.8	11.5
9	15780.00	38.4 AV	54.0	-15.6	1.33 H	156	26.9	11.5
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	55.3 PK	74.0	-18.7	1.61 V	350	52.7	2.6
2	5150.00	44.2 AV	54.0	-9.8	1.61 V	350	41.6	2.6
3	*5260.00	114.3 PK			1.61 V	350	112.2	2.1
4	*5260.00	104.5 AV			1.61 V	350	102.4	2.1
5	5350.00	61.2 PK	74.0	-12.8	1.61 V	350	58.9	2.3
6	5350.00	48.5 AV	54.0	-5.5	1.61 V	350	46.2	2.3
7	#10520.00	48.7 PK	68.2	-19.5	1.35 V	226	36.3	12.4
8	15780.00	54.8 PK	74.0	-19.2	2.03 V	68	43.3	11.5
9	15780.00	40.3 AV	54.0	-13.7	2.03 V	68	28.8	11.5

REMARKS:

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

CHANNEL	TX Channel 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	100.3 PK			1.32 H	264	98.1	2.2
2	*5300.00	91.9 AV			1.32 H	264	89.7	2.2
3	5350.00	48.2 PK	74.0	-25.8	1.32 H	264	45.9	2.3
4	5350.00	36.7 AV	54.0	-17.3	1.32 H	264	34.4	2.3
5	10600.00	48.7 PK	74.0	-25.3	1.77 H	317	37.0	11.7
6	10600.00	32.1 AV	54.0	-21.9	1.77 H	317	20.4	11.7
7	15900.00	53.3 PK	74.0	-20.7	1.37 H	156	42.1	11.2
8	15900.00	38.2 AV	54.0	-15.8	1.37 H	156	27.0	11.2
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	114.7 PK			1.64 V	338	112.5	2.2
2	*5300.00	104.6 AV			1.64 V	338	102.4	2.2
3	5350.00	62.0 PK	74.0	-12.0	1.64 V	338	59.7	2.3
4	5350.00	49.0 AV	54.0	-5.0	1.64 V	338	46.7	2.3
5	10600.00	48.8 PK	74.0	-25.2	1.38 V	236	37.1	11.7
6	10600.00	34.8 AV	54.0	-19.2	1.38 V	236	23.1	11.7
7	15900.00	55.1 PK	74.0	-18.9	2.01 V	77	43.9	11.2
8	15900.00	41.6 AV	54.0	-12.4	2.01 V	77	30.4	11.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	100.1 PK			1.36 H	249	97.8	2.3
2	*5320.00	91.5 AV			1.36 H	249	89.2	2.3
3	5350.00	47.8 PK	74.0	-26.2	1.36 H	249	45.5	2.3
4	5350.00	36.4 AV	54.0	-17.6	1.36 H	249	34.1	2.3
5	10640.00	47.6 PK	74.0	-26.4	1.81 H	311	35.9	11.7
6	10640.00	31.8 AV	54.0	-22.2	1.81 H	311	20.1	11.7
7	15960.00	52.7 PK	74.0	-21.3	1.42 H	164	41.3	11.4
8	15960.00	37.9 AV	54.0	-16.1	1.42 H	164	26.5	11.4
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	114.3 PK			1.54 V	350	112.0	2.3
2	*5320.00	104.2 AV			1.54 V	350	101.9	2.3
3	5350.00	61.6 PK	74.0	-12.4	1.54 V	350	59.3	2.3
4	5350.00	48.6 AV	54.0	-5.4	1.54 V	350	46.3	2.3
5	10640.00	48.3 PK	74.0	-25.7	1.38 V	235	36.6	11.7
6	10640.00	34.5 AV	54.0	-19.5	1.38 V	235	22.8	11.7
7	15960.00	54.8 PK	74.0	-19.2	2.03 V	72	43.4	11.4
8	15960.00	41.2 AV	54.0	-12.8	2.03 V	72	29.8	11.4

REMARKS:

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

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	58.4 PK	74.0	-15.6	1.39 H	258	55.8	2.6
2	5460.00	45.2 AV	54.0	-8.8	1.39 H	258	42.6	2.6
3	#5470.00	59.7 PK	68.2	-8.5	1.39 H	258	57.1	2.6
4	*5500.00	100.8 PK			1.39 H	258	98.3	2.5
5	*5500.00	91.9 AV			1.39 H	258	89.4	2.5
6	11000.00	48.5 PK	74.0	-25.5	1.84 H	310	36.3	12.2
7	11000.00	31.4 AV	54.0	-22.6	1.84 H	310	19.2	12.2
8	#16500.00	52.4 PK	68.2	-15.8	1.44 H	179	38.7	13.7
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	5460.00	61.7 PK	74.0	-12.3	1.70 V	45	59.1	2.6
2	5460.00	48.9 AV	54.0	-5.1	1.70 V	45	46.3	2.6
3	#5470.00	62.4 PK	68.2	-5.8	1.70 V	45	59.8	2.6
4	*5500.00	114.5 PK			1.70 V	45	112.0	2.5
5	*5500.00	104.3 AV			1.70 V	45	101.8	2.5
6	11000.00	48.4 PK	74.0	-25.6	1.42 V	249	36.2	12.2
7	11000.00	34.4 AV	54.0	-19.6	1.42 V	249	22.2	12.2
8	#16500.00	54.5 PK	68.2	-13.7	2.04 V	62	40.8	13.7

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 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	58.8 PK	74.0	-15.2	1.33 H	251	56.2	2.6
2	5460.00	45.3 AV	54.0	-8.7	1.33 H	251	42.7	2.6
3	#5470.00	59.9 PK	68.2	-8.3	1.33 H	251	57.3	2.6
4	*5580.00	100.6 PK			1.33 H	251	97.8	2.8
5	*5580.00	92.2 AV			1.33 H	251	89.4	2.8
6	11160.00	48.8 PK	74.0	-25.2	1.74 H	329	36.8	12.0
7	11160.00	31.8 AV	54.0	-22.2	1.74 H	329	19.8	12.0
8	#16740.00	53.3 PK	68.2	-14.9	1.36 H	166	39.1	14.2
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	61.3 PK	74.0	-12.7	1.78 V	45	58.7	2.6
2	5460.00	48.5 AV	54.0	-5.5	1.78 V	45	45.9	2.6
3	#5470.00	62.5 PK	68.2	-5.7	1.78 V	45	59.9	2.6
4	*5580.00	114.7 PK			1.78 V	45	111.9	2.8
5	*5580.00	104.9 AV			1.78 V	45	102.1	2.8
6	11160.00	48.1 PK	74.0	-25.9	1.59 V	261	36.1	12.0
7	11160.00	34.2 AV	54.0	-19.8	1.59 V	261	22.2	12.0
8	#16740.00	54.2 PK	68.2	-14.0	2.11 V	75	40.0	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	100.4 PK			1.35 H	241	97.5	2.9
2	*5700.00	92.0 AV			1.35 H	241	89.1	2.9
3	#5725.00	59.4 PK	68.2	-8.8	1.35 H	241	56.5	2.9
4	11400.00	48.3 PK	74.0	-25.7	1.80 H	329	35.3	13.0
5	11400.00	31.5 AV	54.0	-22.5	1.80 H	329	18.5	13.0
6	#17100.00	53.1 PK	68.2	-15.1	1.31 H	166	37.0	16.1
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	114.8 PK			1.75 V	60	111.9	2.9
2	*5700.00	105.1 AV			1.75 V	60	102.2	2.9
3	#5725.00	62.6 PK	68.2	-5.6	1.76 V	30	59.7	2.9
4	11400.00	48.3 PK	74.0	-25.7	1.59 V	247	35.3	13.0
5	11400.00	34.3 AV	54.0	-19.7	1.59 V	247	21.3	13.0
6	#17100.00	54.6 PK	68.2	-13.6	2.10 V	90	38.5	16.1

REMARKS:

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

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	58.9 PK	74.0	-15.1	1.36 H	232	56.3	2.6
2	5150.00	45.7 AV	54.0	-8.3	1.36 H	232	43.1	2.6
3	*5260.00	100.5 PK			1.36 H	232	98.4	2.1
4	*5260.00	92.4 AV			1.36 H	232	90.3	2.1
5	5350.00	52.4 PK	74.0	-21.6	1.36 H	232	50.1	2.3
6	5350.00	41.3 AV	54.0	-12.7	1.36 H	232	39.0	2.3
7	#10520.00	46.2 PK	68.2	-22.0	1.80 H	316	33.8	12.4
8	15780.00	53.1 PK	74.0	-20.9	1.35 H	153	41.6	11.5
9	15780.00	39.7 AV	54.0	-14.3	1.35 H	153	28.2	11.5
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	61.5 PK	74.0	-12.5	1.48 V	316	58.9	2.6
2	5150.00	48.8 AV	54.0	-5.2	1.48 V	316	46.2	2.6
3	*5260.00	115.3 PK			1.48 V	316	113.2	2.1
4	*5260.00	105.4 AV			1.48 V	316	103.3	2.1
5	5350.00	55.6 PK	74.0	-18.4	1.48 V	316	53.3	2.3
6	5350.00	44.5 AV	54.0	-9.5	1.48 V	316	42.2	2.3
7	#10520.00	49.1 PK	68.2	-19.1	1.35 V	265	36.7	12.4
8	15780.00	55.2 PK	74.0	-18.8	2.01 V	56	43.7	11.5
9	15780.00	41.9 AV	54.0	-12.1	2.01 V	56	30.4	11.5

REMARKS:

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

CHANNEL	TX Channel 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	100.7 PK			1.32 H	231	98.5	2.2
2	*5300.00	92.8 AV			1.32 H	231	90.6	2.2
3	5350.00	51.9 PK	74.0	-22.1	1.32 H	231	49.6	2.3
4	5350.00	40.7 AV	54.0	-13.3	1.32 H	231	38.4	2.3
5	10600.00	45.8 PK	74.0	-28.2	1.80 H	302	34.1	11.7
6	10600.00	32.5 AV	54.0	-21.5	1.80 H	302	20.8	11.7
7	15900.00	52.5 PK	74.0	-21.5	1.35 H	160	41.3	11.2
8	15900.00	39.3 AV	54.0	-14.7	1.35 H	160	28.1	11.2
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			1.57 V	315	113.4	2.2
2	*5300.00	105.5 AV			1.57 V	315	103.3	2.2
3	5350.00	55.9 PK	74.0	-18.1	1.57 V	315	53.6	2.3
4	5350.00	44.8 AV	54.0	-9.2	1.57 V	315	42.5	2.3
5	10600.00	55.4 PK	74.0	-18.6	1.41 V	276	43.7	11.7
6	10600.00	42.2 AV	54.0	-11.8	1.41 V	276	30.5	11.7
7	15900.00	61.9 PK	74.0	-12.1	2.07 V	63	50.7	11.2
8	15900.00	49.1 AV	54.0	-4.9	2.07 V	63	37.9	11.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	100.2 PK			1.33 H	234	97.9	2.3
2	*5320.00	92.1 AV			1.33 H	234	89.8	2.3
3	5350.00	51.4 PK	74.0	-22.6	1.33 H	234	49.1	2.3
4	5350.00	40.1 AV	54.0	-13.9	1.33 H	234	37.8	2.3
5	10640.00	45.3 PK	74.0	-28.7	1.84 H	298	33.6	11.7
6	10640.00	32.1 AV	54.0	-21.9	1.84 H	298	20.4	11.7
7	15960.00	52.2 PK	74.0	-21.8	1.41 H	148	40.8	11.4
8	15960.00	38.9 AV	54.0	-15.1	1.41 H	148	27.5	11.4
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	114.8 PK			1.65 V	315	112.5	2.3
2	*5320.00	104.9 AV			1.65 V	315	102.6	2.3
3	5350.00	54.3 PK	74.0	-19.7	1.65 V	315	52.0	2.3
4	5350.00	44.2 AV	54.0	-9.8	1.65 V	315	41.9	2.3
5	10640.00	55.1 PK	74.0	-18.9	1.41 V	273	43.4	11.7
6	10640.00	41.9 AV	54.0	-12.1	1.41 V	273	30.2	11.7
7	15960.00	61.3 PK	74.0	-12.7	2.09 V	68	49.9	11.4
8	15960.00	48.8 AV	54.0	-5.2	2.09 V	68	37.4	11.4

REMARKS:

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

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	57.6 PK	74.0	-16.4	1.35 H	240	55.0	2.6
2	5460.00	45.2 AV	54.0	-8.8	1.35 H	240	42.6	2.6
3	#5470.00	51.6 PK	68.2	-16.6	1.35 H	240	49.0	2.6
4	*5500.00	100.1 PK			1.35 H	240	97.6	2.5
5	*5500.00	91.8 AV			1.35 H	240	89.3	2.5
6	11000.00	45.5 PK	74.0	-28.5	1.79 H	293	33.3	12.2
7	11000.00	32.3 AV	54.0	-21.7	1.79 H	293	20.1	12.2
8	#16500.00	51.8 PK	68.2	-16.4	1.44 H	134	38.1	13.7
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	5460.00	60.8 PK	74.0	-13.2	1.73 V	19	58.2	2.6
2	5460.00	48.5 AV	54.0	-5.5	1.73 V	19	45.9	2.6
3	#5470.00	61.2 PK	68.2	-7.0	1.73 V	19	58.6	2.6
4	*5500.00	114.5 PK			1.73 V	19	112.0	2.5
5	*5500.00	104.7 AV			1.73 V	19	102.2	2.5
6	11000.00	54.8 PK	74.0	-19.2	1.42 V	291	42.6	12.2
7	11000.00	41.5 AV	54.0	-12.5	1.42 V	291	29.3	12.2
8	#16500.00	60.8 PK	68.2	-7.4	2.07 V	64	47.1	13.7

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 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	57.8 PK	74.0	-16.2	1.36 H	246	55.2	2.6
2	5460.00	45.7 AV	54.0	-8.3	1.36 H	246	43.1	2.6
3	#5470.00	60.2 PK	68.2	-8.0	1.36 H	246	57.6	2.6
4	*5580.00	100.3 PK			1.36 H	246	97.5	2.8
5	*5580.00	92.0 AV			1.36 H	246	89.2	2.8
6	11160.00	45.9 PK	74.0	-28.1	1.79 H	295	33.9	12.0
7	11160.00	32.5 AV	54.0	-21.5	1.79 H	295	20.5	12.0
8	#16740.00	59.3 PK	68.2	-8.9	1.67 H	159	45.1	14.2
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	1.72 V	20	57.7	2.6
2	5460.00	48.2 AV	54.0	-5.8	1.72 V	20	45.6	2.6
3	#5470.00	62.1 PK	68.2	-6.1	1.72 V	20	59.5	2.6
4	*5580.00	115.2 PK			1.72 V	20	112.4	2.8
5	*5580.00	105.3 AV			1.72 V	20	102.5	2.8
6	11160.00	55.3 PK	74.0	-18.7	1.46 V	319	43.3	12.0
7	11160.00	42.2 AV	54.0	-11.8	1.46 V	319	30.2	12.0
8	#16740.00	61.2 PK	68.2	-7.0	2.11 V	24	47.0	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	100.4 PK			1.38 H	244	97.5	2.9
2	*5700.00	92.3 AV			1.38 H	244	89.4	2.9
3	#5725.00	59.4 PK	68.2	-8.8	1.38 H	244	56.5	2.9
4	11400.00	46.2 PK	74.0	-27.8	1.77 H	282	33.2	13.0
5	11400.00	32.7 AV	54.0	-21.3	1.77 H	282	19.7	13.0
6	#17100.00	58.3 PK	68.2	-9.9	1.64 H	158	42.2	16.1
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			1.98 V	33	112.7	2.9
2	*5700.00	105.4 AV			1.98 V	33	102.5	2.9
3	#5725.00	61.8 PK	68.2	-6.4	1.98 V	33	58.9	2.9
4	11400.00	55.3 PK	74.0	-18.7	1.46 V	317	42.3	13.0
5	11400.00	42.1 AV	54.0	-11.9	1.46 V	317	29.1	13.0
6	#17100.00	61.0 PK	68.2	-7.2	2.09 V	28	44.9	16.1

REMARKS:

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

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	50.4 PK	74.0	-23.6	1.40 H	244	47.8	2.6
2	5150.00	39.8 AV	54.0	-14.2	1.40 H	244	37.2	2.6
3	*5270.00	102.5 PK			1.40 H	244	100.4	2.1
4	*5270.00	92.4 AV			1.40 H	244	90.3	2.1
5	5350.00	57.2 PK	74.0	-16.8	1.40 H	244	54.9	2.3
6	5350.00	45.5 AV	54.0	-8.5	1.40 H	244	43.2	2.3
7	#10540.00	51.1 PK	68.2	-17.1	1.75 H	301	38.9	12.2
8	15810.00	56.4 PK	74.0	-17.6	1.63 H	175	45.1	11.3
9	15810.00	44.3 AV	54.0	-9.7	1.63 H	175	33.0	11.3
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	5150.00	53.8 PK	74.0	-20.2	1.61 V	359	51.2	2.6
2	5150.00	42.1 AV	54.0	-11.9	1.61 V	359	39.5	2.6
3	*5270.00	115.4 PK			1.61 V	359	113.3	2.1
4	*5270.00	105.8 AV			1.61 V	359	103.7	2.1
5	5350.00	60.7 PK	74.0	-13.3	1.61 V	359	58.4	2.3
6	5350.00	48.2 AV	54.0	-5.8	1.61 V	359	45.9	2.3
7	#10540.00	54.6 PK	68.2	-13.6	1.35 V	274	42.4	12.2
8	15810.00	59.8 PK	74.0	-14.2	1.97 V	54	48.5	11.3
9	15810.00	47.8 AV	54.0	-6.2	1.97 V	54	36.5	11.3

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	102.5 PK			1.44 H	239	100.3	2.2
2	*5310.00	92.3 AV			1.44 H	239	90.1	2.2
3	5350.00	56.8 PK	74.0	-17.2	1.44 H	239	54.5	2.3
4	5350.00	45.2 AV	54.0	-8.8	1.44 H	239	42.9	2.3
5	10620.00	51.4 PK	74.0	-22.6	1.75 H	295	39.7	11.7
6	10620.00	30.9 AV	54.0	-23.1	1.75 H	295	19.2	11.7
7	15930.00	56.0 PK	74.0	-18.0	1.58 H	179	44.8	11.2
8	15930.00	44.2 AV	54.0	-9.8	1.58 H	179	33.0	11.2
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	115.3 PK			1.60 V	357	113.1	2.2
2	*5310.00	105.7 AV			1.60 V	357	103.5	2.2
3	5350.00	60.5 PK	74.0	-13.5	1.60 V	357	58.2	2.3
4	5350.00	48.2 AV	54.0	-5.8	1.60 V	357	45.9	2.3
5	10620.00	54.1 PK	74.0	-19.9	1.54 V	294	42.4	11.7
6	10620.00	31.5 AV	54.0	-22.5	1.54 V	294	19.8	11.7
7	15930.00	59.4 PK	74.0	-14.6	2.08 V	69	48.2	11.2
8	15930.00	47.4 AV	54.0	-6.6	2.08 V	69	36.2	11.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	57.3 PK	74.0	-16.7	1.39 H	238	54.7	2.6
2	5460.00	45.8 AV	54.0	-8.2	1.39 H	238	43.2	2.6
3	#5470.00	50.2 PK	68.2	-18.0	1.39 H	238	47.6	2.6
4	*5510.00	102.2 PK			1.39 H	238	99.7	2.5
5	*5510.00	91.9 AV			1.39 H	238	89.4	2.5
6	11020.00	50.8 PK	74.0	-23.2	1.75 H	301	38.5	12.3
7	11020.00	30.6 AV	54.0	-23.4	1.75 H	301	18.3	12.3
8	#16530.00	56.2 PK	68.2	-12.0	1.60 H	187	42.3	13.9
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	60.2 PK	74.0	-13.8	1.67 V	316	57.6	2.6
2	5460.00	48.1 AV	54.0	-5.9	1.67 V	316	45.5	2.6
3	#5470.00	53.7 PK	68.2	-14.5	1.67 V	316	51.1	2.6
4	*5510.00	115.1 PK			1.67 V	316	112.6	2.5
5	*5510.00	105.5 AV			1.67 V	316	103.0	2.5
6	11020.00	53.8 PK	74.0	-20.2	1.52 V	310	41.5	12.3
7	11020.00	31.3 AV	54.0	-22.7	1.52 V	310	19.0	12.3
8	#16530.00	59.7 PK	68.2	-8.5	2.10 V	84	45.8	13.9

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	57.5 PK	74.0	-16.5	1.33 H	228	54.9	2.6
2	5460.00	46.2 AV	54.0	-7.8	1.33 H	228	43.6	2.6
3	#5470.00	50.5 PK	68.2	-17.7	1.33 H	228	47.9	2.6
4	*5550.00	102.6 PK			1.33 H	228	99.9	2.7
5	*5550.00	92.3 AV			1.33 H	228	89.6	2.7
6	11100.00	51.2 PK	74.0	-22.8	1.73 H	286	39.1	12.1
7	11100.00	31.1 AV	54.0	-22.9	1.73 H	286	19.0	12.1
8	#16650.00	56.6 PK	68.2	-11.6	1.62 H	179	42.4	14.2
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	60.8 PK	74.0	-13.2	1.68 V	319	58.2	2.6
2	5460.00	48.7 AV	54.0	-5.3	1.68 V	319	46.1	2.6
3	#5470.00	54.2 PK	68.2	-14.0	1.68 V	319	51.6	2.6
4	*5550.00	116.2 PK			1.68 V	319	113.5	2.7
5	*5550.00	106.1 AV			1.68 V	319	103.4	2.7
6	11100.00	54.2 PK	74.0	-19.8	1.57 V	317	42.1	12.1
7	11100.00	31.8 AV	54.0	-22.2	1.57 V	317	19.7	12.1
8	#16650.00	60.2 PK	68.2	-8.0	2.12 V	76	46.0	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	102.3 PK			1.34 H	234	99.4	2.9
2	*5670.00	92.2 AV			1.34 H	234	89.3	2.9
3	#5725.00	50.3 PK	68.2	-17.9	1.30 H	226	47.4	2.9
4	11340.00	51.1 PK	74.0	-22.9	1.68 H	288	38.2	12.9
5	11340.00	30.8 AV	54.0	-23.2	1.68 H	288	17.9	12.9
6	#17010.00	56.3 PK	68.2	-11.9	1.64 H	187	40.5	15.8
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			1.68 V	322	113.5	2.9
2	*5670.00	106.2 AV			1.68 V	322	103.3	2.9
3	#5725.00	54.3 PK	68.2	-13.9	1.68 V	322	51.4	2.9
4	11340.00	54.3 PK	74.0	-19.7	1.48 V	302	41.4	12.9
5	11340.00	32.2 AV	54.0	-21.8	1.48 V	302	19.3	12.9
6	#17010.00	60.5 PK	68.2	-7.7	2.08 V	100	44.7	15.8

REMARKS:

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

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	57.6 PK	74.0	-16.4	1.29 H	242	55.0	2.6
2	5150.00	38.4 AV	54.0	-15.6	1.29 H	242	35.8	2.6
3	*5290.00	97.4 PK			1.29 H	242	95.3	2.1
4	*5290.00	87.7 AV			1.29 H	242	85.6	2.1
5	5350.00	64.2 PK	74.0	-9.8	1.29 H	242	61.9	2.3
6	5350.00	49.6 AV	54.0	-4.4	1.29 H	242	47.3	2.3
7	#10580.00	45.3 PK	68.2	-22.9	1.73 H	282	33.5	11.8
8	15870.00	51.2 PK	74.0	-22.8	1.66 H	184	40.0	11.2
9	15870.00	37.7 AV	54.0	-16.3	1.66 H	184	26.5	11.2
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	60.6 PK	74.0	-13.4	1.51 V	3	58.0	2.6
2	5150.00	41.7 AV	54.0	-12.3	1.51 V	3	39.1	2.6
3	*5290.00	108.5 PK			1.51 V	3	106.4	2.1
4	*5290.00	99.6 AV			1.51 V	3	97.5	2.1
5	5350.00	68.7 PK	74.0	-5.3	1.51 V	3	66.4	2.3
6	**5350.00**	**53.9 AV**	**54.0**	**-0.1**	**1.51 V**	**3**	**51.6**	**2.3**
7	#10580.00	48.4 PK	68.2	-19.8	1.33 V	269	36.6	11.8
8	15870.00	54.3 PK	74.0	-19.7	2.06 V	42	43.1	11.2
9	15870.00	40.8 AV	54.0	-13.2	2.06 V	42	29.6	11.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	64.2 PK	74.0	-9.8	1.32 H	251	61.6	2.6
2	5460.00	45.8 AV	54.0	-8.2	1.32 H	251	43.2	2.6
3	#5470.00	64.9 PK	68.2	-3.3	1.32 H	251	62.3	2.6
4	*5530.00	97.1 PK			1.32 H	251	94.5	2.6
5	*5530.00	87.4 AV			1.32 H	251	84.8	2.6
6	#5725.00	57.5 PK	68.2	-10.7	1.32 H	251	54.6	2.9
7	11060.00	45.1 PK	74.0	-28.9	1.73 H	279	33.0	12.1
8	11060.00	32.9 AV	54.0	-21.1	1.73 H	279	20.8	12.1
9	#16590.00	50.1 PK	68.2	-18.1	1.70 H	169	35.9	14.2
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	67.4 PK	74.0	-6.6	1.67 V	321	64.8	2.6
2	5460.00	49.6 AV	54.0	-4.4	1.67 V	321	47.0	2.6
3	#5470.00	68.0 PK	68.2	-0.2	1.67 V	321	65.4	2.6
4	*5530.00	107.7 PK			1.67 V	321	105.1	2.6
5	*5530.00	99.1 AV			1.67 V	321	96.5	2.6
6	#5725.00	60.2 PK	68.2	-8.0	1.67 V	321	57.3	2.9
7	11060.00	48.3 PK	74.0	-25.7	1.47 V	303	36.2	12.1
8	11060.00	35.7 AV	54.0	-18.3	1.47 V	303	23.6	12.1
9	#16590.00	53.9 PK	68.2	-14.3	2.13 V	33	39.7	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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	100.7 PK			1.38 H	262	97.9	2.8
2	*5610.00	90.5 AV			1.38 H	262	87.7	2.8
3	#5725.00	64.1 PK	68.2	-4.1	1.38 H	262	61.2	2.9
4	11220.00	45.3 PK	74.0	-28.7	1.76 H	281	33.0	12.3
5	11220.00	33.5 AV	54.0	-20.5	1.76 H	281	21.2	12.3
6	#16830.00	51.2 PK	68.2	-17.0	1.72 H	173	36.6	14.6
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	*5610.00	111.1 PK			1.68 V	322	108.3	2.8
2	*5610.00	102.2 AV			1.68 V	322	99.4	2.8
3	#5725.00	68.0 PK	68.2	-0.2	1.68 V	322	65.1	2.9
4	11220.00	48.7 PK	74.0	-25.3	1.48 V	294	36.4	12.3
5	11220.00	36.2 AV	54.0	-17.8	1.48 V	294	23.9	12.3
6	#16830.00	54.8 PK	68.2	-13.4	2.10 V	45	40.2	14.6

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+80)

CHANNEL	TX Channel 58+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	5150.00	53.2 PK	74.0	-20.8	1.26 H	252	50.6	2.6
2	5150.00	38.2 AV	54.0	-15.8	1.26 H	252	35.6	2.6
3	*5290.00	94.3 PK			1.26 H	252	92.2	2.1
4	*5290.00	84.1 AV			1.26 H	252	82.0	2.1
5	5350.00	64.5 PK	74.0	-9.5	1.26 H	252	62.2	2.3
6	5350.00	49.7 AV	54.0	-4.3	1.26 H	252	47.4	2.3
7	5460.00	64.7 PK	74.0	-9.3	1.27 H	253	62.1	2.6
8	5460.00	44.6 AV	54.0	-9.4	1.27 H	253	42.0	2.6
9	#5470.00	65.5 PK	68.2	-2.7	1.27 H	253	62.9	2.6
10	*5530.00	90.3 PK			1.27 H	253	87.7	2.6
11	*5530.00	82.5 AV			1.27 H	253	79.9	2.6
12	#5725.00	54.7 PK	68.2	-13.5	1.27 H	253	51.8	2.9
13	#10580.00	44.5 PK	68.2	-23.7	1.73 H	271	32.7	11.8
14	11060.00	43.2 PK	74.0	-30.8	1.72 H	274	31.1	12.1
15	11060.00	30.8 AV	54.0	-23.2	1.72 H	274	18.7	12.1
16	15870.00	50.5 PK	74.0	-23.5	1.64 H	191	39.3	11.2
17	15870.00	37.2 AV	54.0	-16.8	1.64 H	191	26.0	11.2
18	#16590.00	49.5 PK	68.2	-18.7	1.65 H	171	35.3	14.2
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	56.2 PK	74.0	-17.8	1.47 V	352	53.6	2.6
2	5150.00	41.1 AV	54.0	-12.9	1.47 V	352	38.5	2.6
3	*5290.00	104.8 PK			1.47 V	352	102.7	2.1
4	*5290.00	96.1 AV			1.47 V	352	94.0	2.1
5	5350.00	67.9 PK	74.0	-6.1	1.47 V	352	65.6	2.3
6	5350.00	52.2 AV	54.0	-1.8	1.47 V	352	49.9	2.3
7	5460.00	68.0 PK	74.0	-6.0	1.46 V	179	65.4	2.6
8	5460.00	48.1 AV	54.0	-5.9	1.46 V	179	45.5	2.6
9	**#5470.00**	**68.1 PK**	**68.2**	**-0.1**	**1.46 V**	**179**	**65.5**	**2.6**
10	*5530.00	102.2 PK			1.46 V	179	99.6	2.6
11	*5530.00	94.3 AV			1.46 V	179	91.7	2.6
12	#5725.00	58.0 PK	68.2	-10.2	1.46 V	179	55.1	2.9
13	#10580.00	47.4 PK	68.2	-20.8	1.31 V	275	35.6	11.8
14	11060.00	46.3 PK	74.0	-27.7	1.27 V	3	34.2	12.1
15	11060.00	33.5 AV	54.0	-20.5	1.27 V	3	21.4	12.1
16	15870.00	53.2 PK	74.0	-20.8	2.03 V	35	42.0	11.2
17	15870.00	40.2 AV	54.0	-13.8	2.03 V	35	29.0	11.2
18	#16590.00	52.1 PK	68.2	-16.1	1.12 V	14	37.9	14.2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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:

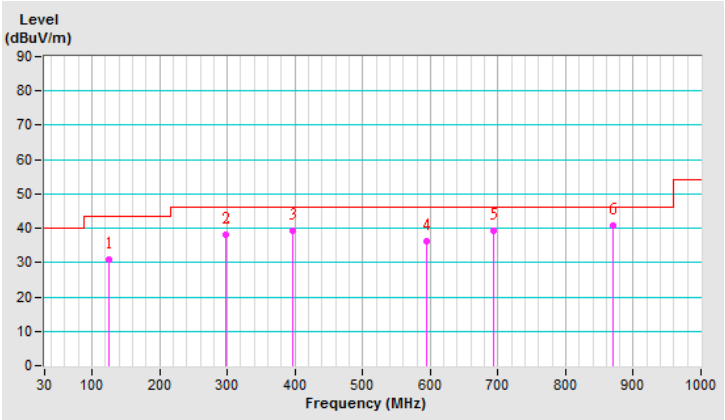
802.11ac (VHT40)

CHANNEL	TX Channel 62	**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	124.99	30.9 QP	43.5	-12.6	1.00 H	117	40.2	-9.3
2	296.77	38.2 QP	46.0	-7.8	1.00 H	320	45.2	-7.0
3	395.69	39.3 QP	46.0	-6.7	1.00 H	144	43.9	-4.6
4	593.57	36.3 QP	46.0	-9.7	1.50 H	320	36.1	0.2
5	692.56	39.1 QP	46.0	-6.9	1.00 H	312	37.3	1.8
6	870.29	40.7 QP	46.0	-5.3	1.00 H	293	36.2	4.5

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The 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.

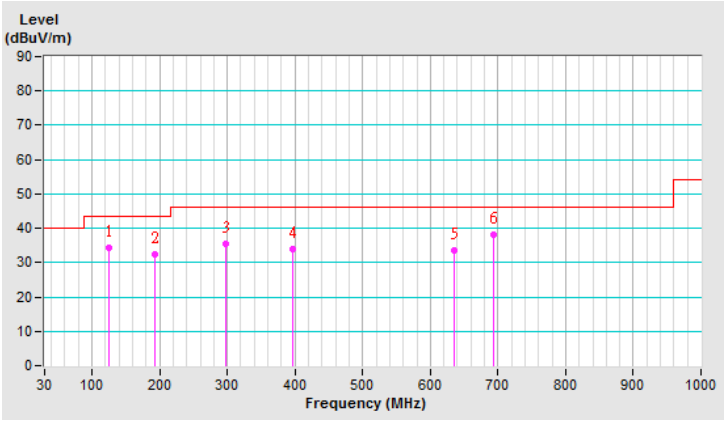


CHANNEL	TX Channel 62	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	124.99	34.3 QP	43.5	-9.2	1.50 V	180	43.6	-9.3
2	193.42	32.5 QP	43.5	-11.0	1.00 V	130	43.1	-10.6
3	296.80	35.3 QP	46.0	-10.7	1.50 V	360	42.3	-7.0
4	395.71	33.8 QP	46.0	-12.2	1.50 V	223	38.4	-4.6
5	635.89	33.4 QP	46.0	-12.6	1.50 V	169	32.2	1.2
6	692.53	38.0 QP	46.0	-8.0	1.00 V	359	36.2	1.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The 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	Nov. 01, 2017	Oct. 31, 2018
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Nov. 15, 2017	Nov. 14, 2018
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 04, 2018	June 03, 2019
50 ohms Terminator	N/A	EMC-02	Sep. 22, 2017	Sep. 21, 2018
RF Cable	5D-FB	COCCAB-001	Sep. 29, 2017	Sep. 28, 2018
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: Aug. 04, 2018

4.2.3 Test Procedure

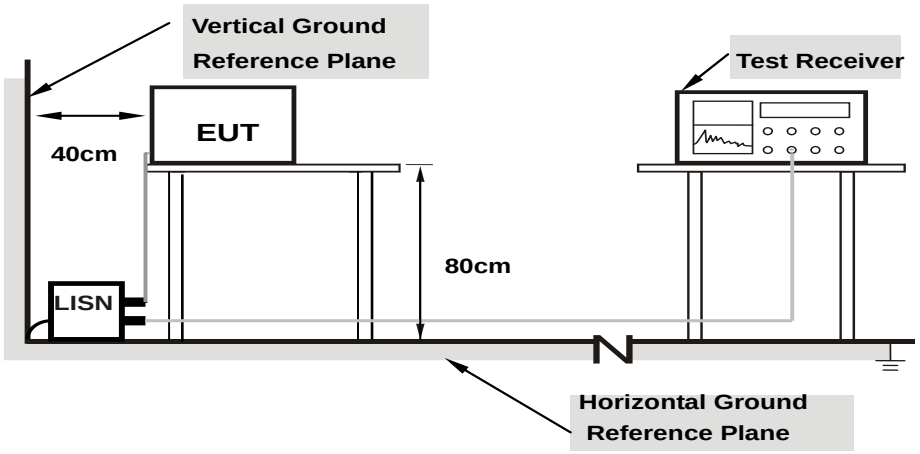
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

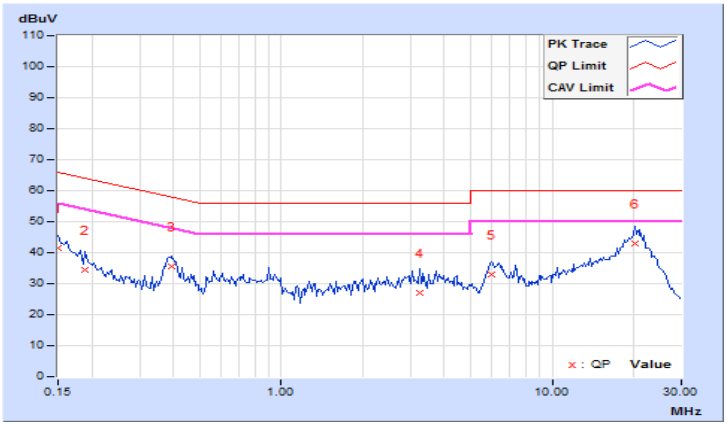
4.2.7 Test Results

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	10.05	31.49	19.34	41.54	29.39	66.00	56.00	-24.46	-26.61
2	0.18906	10.06	24.49	14.24	34.55	24.30	64.08	54.08	-29.53	-29.78
3	0.39609	10.12	25.49	16.68	35.61	26.80	57.93	47.93	-22.32	-21.13
4	3.23828	10.29	16.90	10.26	27.19	20.55	56.00	46.00	-28.81	-25.45
5	6.01172	10.46	22.60	16.64	33.06	27.10	60.00	50.00	-26.94	-22.90
6	20.23438	11.39	31.64	25.59	43.03	36.98	60.00	50.00	-16.97	-13.02

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

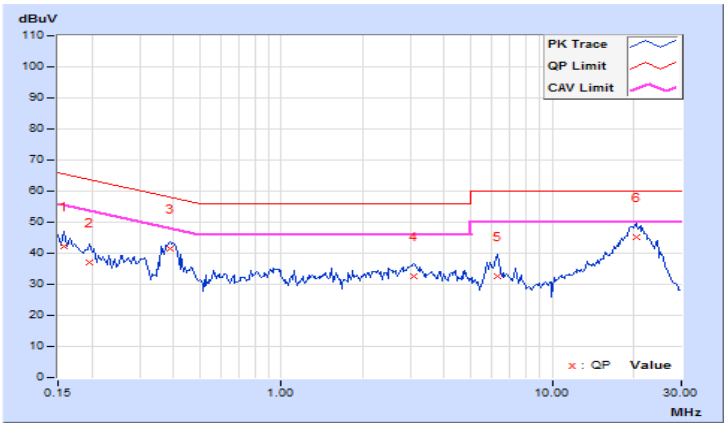


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.15781	9.96	32.31	17.96	42.27	27.92	65.58	55.58	-23.31	-27.66
2	0.19687	9.97	27.17	15.84	37.14	25.81	63.74	53.74	-26.60	-27.93
3	0.38828	10.02	31.52	22.17	41.54	32.19	58.10	48.10	-16.56	-15.91
4	3.07422	10.15	22.60	14.91	32.75	25.06	56.00	46.00	-23.25	-20.94
5	6.29297	10.32	22.43	16.31	32.75	26.63	60.00	50.00	-27.25	-23.37
6	**20.37500**	**11.17**	**34.09**	**28.36**	**45.26**	**39.53**	**60.00**	**50.00**	**-14.74**	**-10.47**

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,

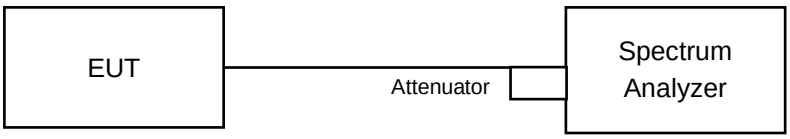
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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 POWER OUTPUT 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 Results

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	12.82	11.96	13.18	13.22	76.633	18.84	24.00	Pass
60	5300	13.21	11.99	13.48	13.45	81.168	19.09	24.00	Pass
64	5320	13.10	11.98	13.38	13.45	80.101	19.04	24.00	Pass
100	5500	12.69	12.64	12.62	13.15	75.878	18.80	24.00	Pass
116	5580	13.32	12.12	12.45	12.97	75.165	18.76	24.00	Pass
140	5700	13.33	11.89	11.87	13.76	76.131	18.82	24.00	Pass

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.38	20.17	20.47	20.28
60	5300	20.36	20.32	20.23	20.26
64	5320	20.05	20.28	20.43	20.12
100	5500	20.25	20.32	20.37	20.28
116	5580	20.30	20.40	20.37	20.27
140	5700	20.56	20.48	20.20	20.41

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	20.17	24.04 > 24
60	5300	20.23	24.05 > 24
64	5320	20.05	24.02 > 24
100	5500	20.25	24.06 > 24
116	5580	20.27	24.06 > 24
140	5700	20.20	24.05 > 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	12.80	11.54	13.20	13.21	75.145	18.76	24.00	Pass
60	5300	13.24	11.98	13.38	13.48	80.923	19.08	24.00	Pass
64	5320	12.80	11.77	13.11	13.22	75.539	18.78	24.00	Pass
100	5500	12.47	12.48	12.41	13.15	73.433	18.66	24.00	Pass
116	5580	13.18	12.12	12.27	13.07	74.233	18.71	24.00	Pass
140	5700	13.47	11.97	12.20	14.05	79.979	19.03	24.00	Pass

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.60	20.52	20.60	20.59
60	5300	20.48	20.66	20.53	20.63
64	5320	20.59	20.73	20.67	20.44
100	5500	20.61	20.50	20.60	20.71
116	5580	20.59	20.62	20.58	20.56
140	5700	20.68	20.44	20.63	20.63

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	20.52	24.12 > 24
60	5300	20.48	24.11 > 24
64	5320	20.44	24.1 > 24
100	5500	20.50	24.11 > 24
116	5580	20.56	24.13 > 24
140	5700	20.44	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	15.99	14.61	16.17	16.25	152.196	21.82	24.00	Pass
62	5310	16.16	15.10	16.44	16.40	161.371	22.08	24.00	Pass
102	5510	16.10	15.08	16.53	16.21	159.71	22.03	24.00	Pass
110	5550	16.22	14.75	16.31	16.25	156.659	21.95	24.00	Pass
134	5670	16.01	15.36	16.18	16.35	158.905	22.01	24.00	Pass

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.84	41.90	41.82	42.20
62	5310	41.96	41.75	41.99	41.84
102	5510	41.90	41.81	41.65	41.77
110	5550	42.04	41.86	41.70	41.97
134	5670	41.83	41.93	41.74	41.77

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	41.82	27.21 > 24
62	5310	41.75	27.2 > 24
102	5510	41.65	27.19 > 24
110	5550	41.70	27.2 > 24
134	5670	41.74	27.2 > 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	12.91	12.33	12.81	12.90	75.24	18.76	24.00	Pass
106	5530	12.71	12.13	12.67	12.73	72.238	18.59	24.00	Pass
122	5610	15.50	13.54	14.04	14.13	109.308	20.39	24.00	Pass

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	81.77	82.00	82.53	81.91
106	5530	81.56	81.71	81.78	81.84
122	5610	82.08	81.92	82.18	82.15

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	81.77	30.12 > 24
106	5530	81.56	30.11 > 24
122	5610	81.92	30.13 > 24

802.11ac (VHT80+80)

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+106	5290	12.62	11.45	-	-	32.245	15.08	24.00	Pass
	5530	-	-	12.35	12.41	34.597	15.39	24.00	Pass

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58+106	5290	81.87	81.61	-	-
	5530	-	-	81.61	81.55

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	81.61	30.11 > 24
106	5530	81.55	30.11 > 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	12.80	11.54	13.20	13.21	75.145	18.76	19.10	Pass
60	5300	12.70	11.56	12.81	12.96	71.812	18.56	19.10	Pass
64	5320	12.80	11.77	13.11	13.22	75.539	18.78	19.10	Pass
100	5500	12.47	12.48	12.41	13.15	73.433	18.66	19.10	Pass
116	5580	13.18	12.12	12.27	13.07	74.233	18.71	19.10	Pass
140	5700	12.98	11.81	11.84	13.30	71.688	18.55	19.10	Pass

Note: The directional gain = 10.9dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit-(10.9-6)”.

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.60	20.52	20.60	20.59
60	5300	20.48	20.66	20.53	20.63
64	5320	20.59	20.73	20.67	20.44
100	5500	20.61	20.50	20.60	20.71
116	5580	20.59	20.62	20.58	20.56
140	5700	20.68	20.44	20.63	20.63

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	20.52	24.12 > 24
60	5300	20.48	24.11 > 24
64	5320	20.44	24.1 > 24
100	5500	20.50	24.11 > 24
116	5580	20.56	24.13 > 24
140	5700	20.44	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	12.89	11.81	12.96	13.02	74.44	18.72	19.10	Pass
62	5310	12.91	11.92	12.95	12.99	74.734	18.74	19.10	Pass
102	5510	13.12	12.05	13.32	13.12	78.534	18.95	19.10	Pass
110	5550	13.12	12.02	13.26	13.21	78.559	18.95	19.10	Pass
134	5670	12.96	12.42	13.11	13.20	78.585	18.95	19.10	Pass

Note: The directional gain = 10.9dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit-(10.9-6)".

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	41.84	41.90	41.82	42.20
62	5310	41.96	41.75	41.99	41.84
102	5510	41.90	41.81	41.65	41.77
110	5550	42.04	41.86	41.70	41.97
134	5670	41.83	41.93	41.74	41.77

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	41.82	27.21 > 24
62	5310	41.75	27.2 > 24
102	5510	41.65	27.19 > 24
110	5550	41.70	27.2 > 24
134	5670	41.74	27.2 > 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	12.91	12.33	12.81	12.90	75.24	18.76	19.10	Pass
106	5530	12.71	12.13	12.67	12.73	72.238	18.59	19.10	Pass
122	5610	13.52	12.54	12.56	12.64	76.833	18.86	19.10	Pass

Note: The directional gain = 10.9dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit-(10.9-6)".

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	81.77	82.00	82.53	81.91
106	5530	81.56	81.71	81.78	81.84
122	5610	82.08	81.92	82.18	82.15

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	81.77	30.12 > 24
106	5530	81.56	30.11 > 24
122	5610	81.92	30.13 > 24

802.11ac (VHT80+80)

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+106	5290	12.62	11.45	-	-	32.245	15.08	21.99	Pass
	5530	-	-	12.35	12.41	34.597	15.39	21.99	Pass

Note: The directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi, so the power limit shall be reduced to "Determined Conducted Limit-(8.01-6)".

26dB OCCUPIED BANDWIDTH

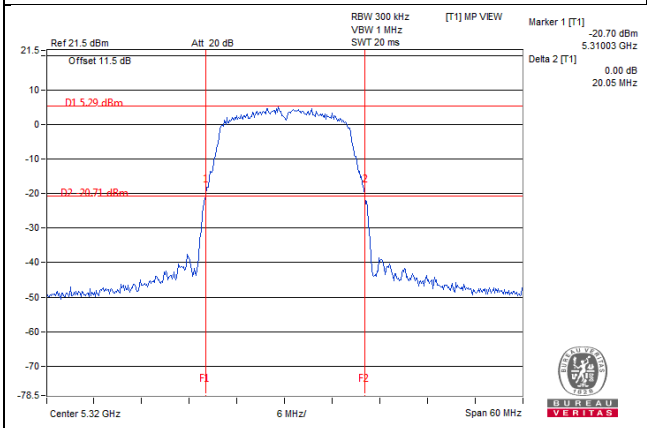
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58+106	5290	81.87	81.61	-	-
	5530	-	-	81.61	81.55

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

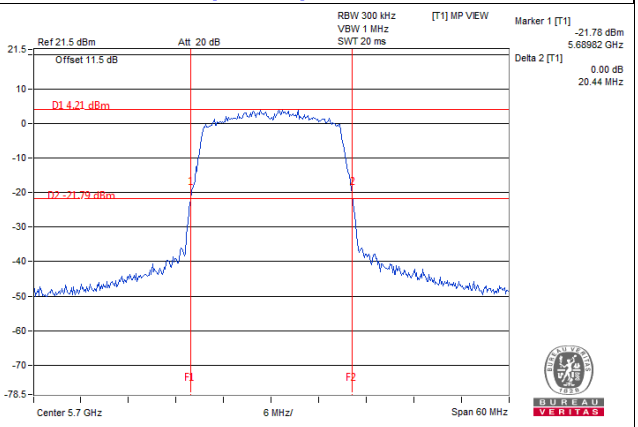
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	81.61	30.11 > 24
106	5530	81.55	30.11 > 24

Spectrum Plot of Worst Value

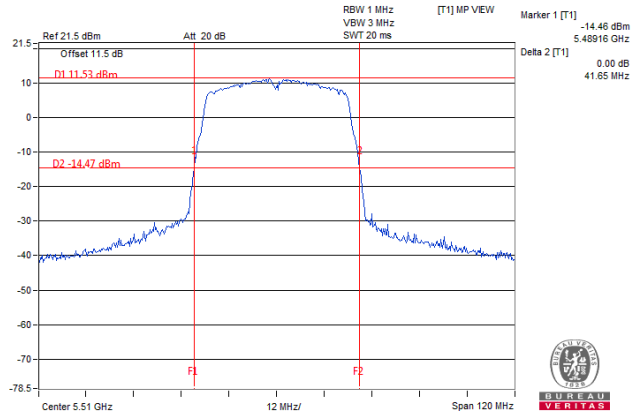
802.11a_Chain 0 / CH64



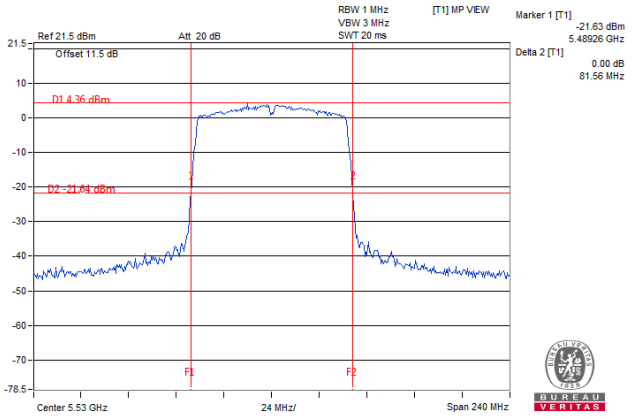
802.11ac (VHT20) _Chain 1 / CH140



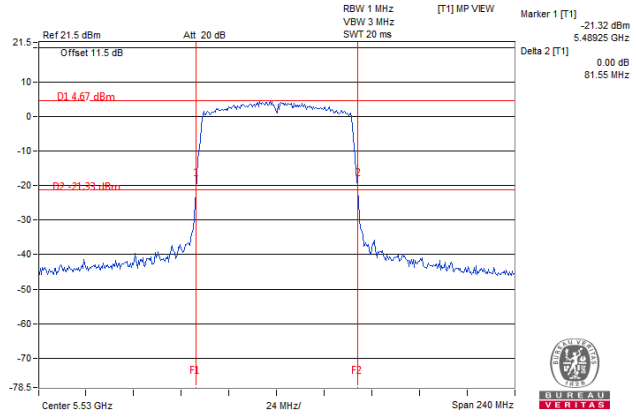
802.11ac (VHT40) _Chain 2 / CH102



802.11ac (VHT80) _Chain 0 / CH106

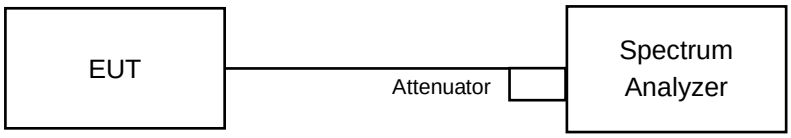


802.11ac (VHT80+80) _Chain 3 / CH106



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

CDD Mode

802.11a

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

802.11ac (VHT20)

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

802.11ac (VHT40)

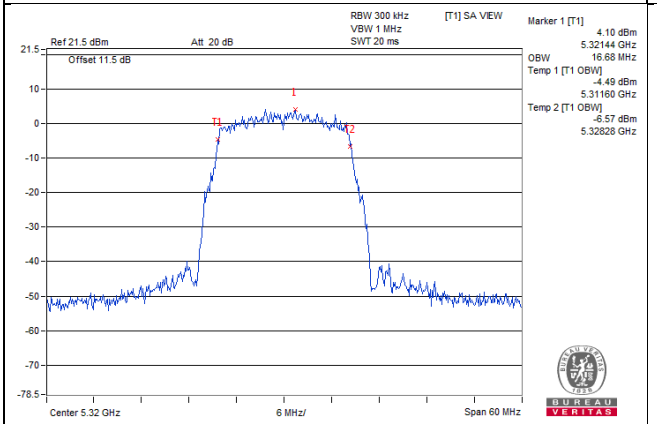
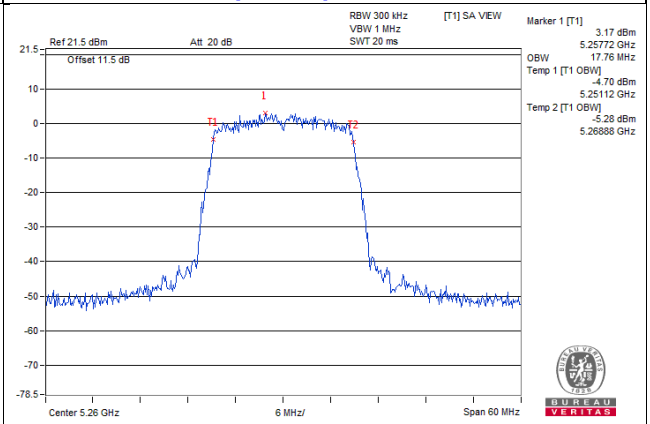
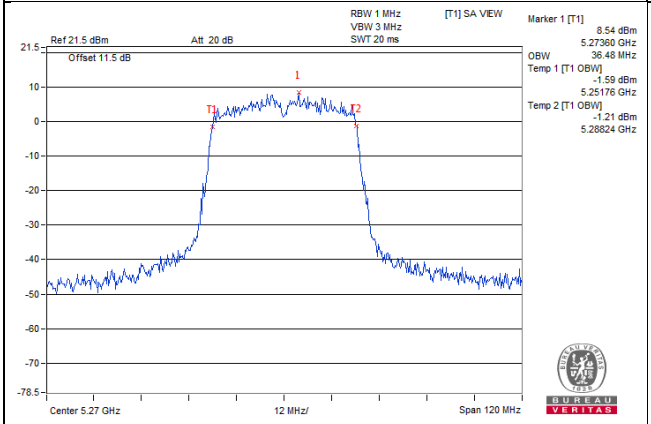
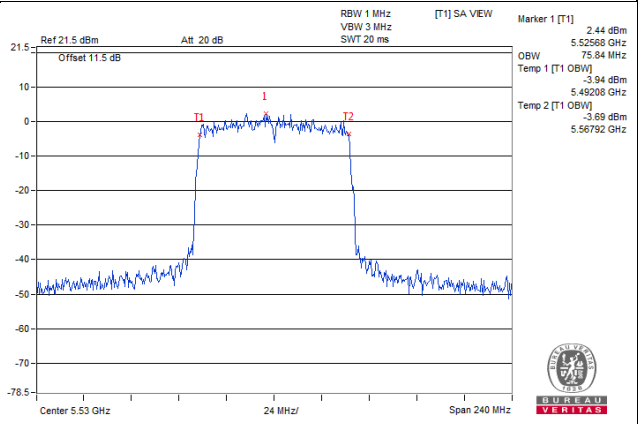
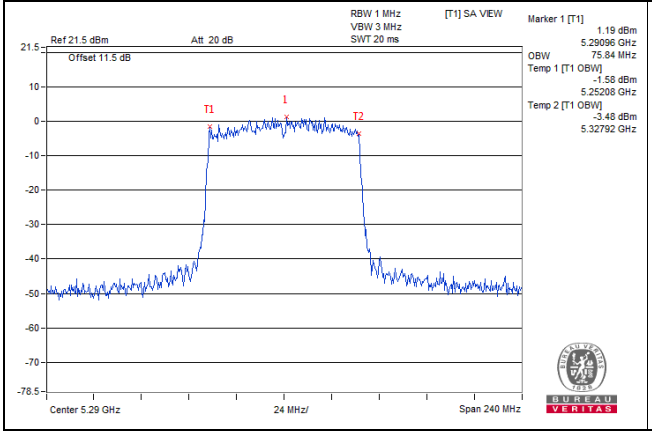
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	36.24	36.48	36.48	36.24
62	5310	36.24	36.24	36.24	36.24
102	5510	36.24	36.24	36.48	36.48
110	5550	36.24	36.00	36.24	36.24
134	5670	36.24	36.24	36.24	36.24

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	75.36	75.36	75.36	75.84
106	5530	75.36	75.84	75.36	75.36
122	5610	75.84	75.36	75.36	75.84

802.11ac (VHT80+80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58+106	5290	75.36	75.84	-	-
	5530	-	-	75.36	75.36

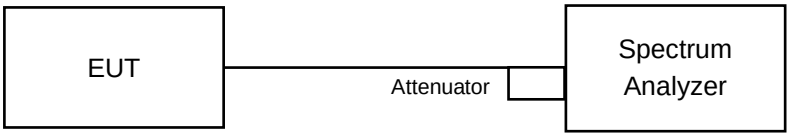
Spectrum Plot of Max Value	
802.11a_Chain 0 / CH64	**802.11ac (VHT20)_Chain 0 / CH52**
	
802.11ac (VHT40)_Chain 1 / CH54	**802.11ac (VHT80)_Chain 1 / CH106**
	
802.11ac (VHT80+80)_Chain 1 / CH58	
	

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

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

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

CDD Mode

802.11a

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	-0.21	-0.35	-0.33	0.32	5.89	6.10	Pass
60	5300	0.26	-0.01	-0.19	0.04	6.05	6.10	Pass
64	5320	0.19	-0.24	-0.15	0.07	5.99	6.10	Pass
100	5500	-0.22	0.06	0.05	0.26	6.06	6.10	Pass
116	5580	0.01	-0.51	-0.31	0.18	5.87	6.10	Pass
140	5700	0.50	-0.67	-0.94	0.67	5.97	6.10	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 10.9dBi > 6dBi, so the power density limit shall be reduced to 11-(10.9-6) = 6.10dBm.

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	-0.17	-1.49	-0.37	0.32	5.64	6.10	Pass
60	5300	0.40	-0.87	0.16	0.36	6.06	6.10	Pass
64	5320	-0.28	-1.27	0.24	0.36	5.83	6.10	Pass
100	5500	-0.52	-0.53	-0.31	0.25	5.75	6.10	Pass
116	5580	0.10	-1.23	-0.93	0.22	5.61	6.10	Pass
140	5700	0.18	-0.75	-1.15	1.07	5.94	6.10	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 10.9dBi > 6dBi, so the power density limit shall be reduced to 11-(10.9-6) = 6.10dBm.

802.11ac (VHT40)

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			
54	5270	-0.18	-1.67	0.11	0.31	5.73	6.10	Pass
62	5310	0.10	-0.49	0.14	0.37	6.06	6.10	Pass
102	5510	0.36	-1.02	0.01	0.20	5.94	6.10	Pass
110	5550	0.35	-1.27	0.05	0.57	6.00	6.10	Pass
134	5670	0.26	-0.73	-0.13	0.00	5.89	6.10	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 10.9dBi > 6dBi, so the power density limit shall be reduced to 11-(10.9-6) = 6.10dBm.

802.11ac (VHT80)

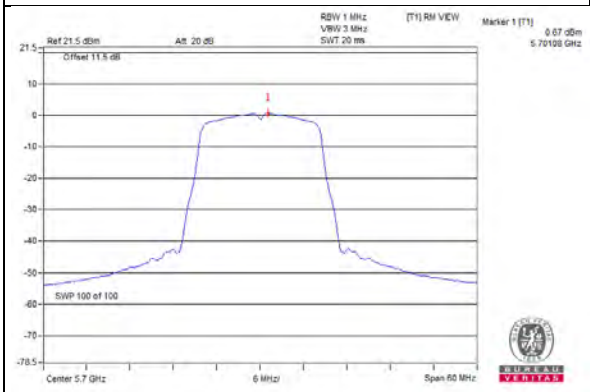
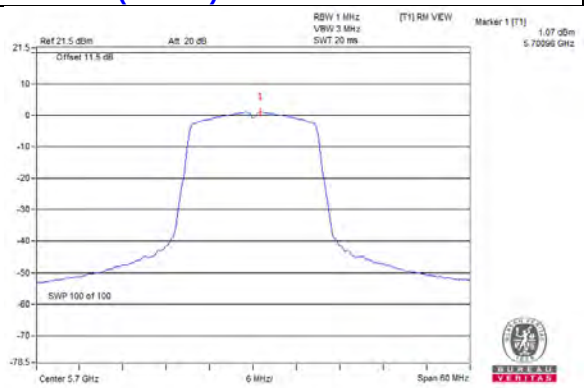
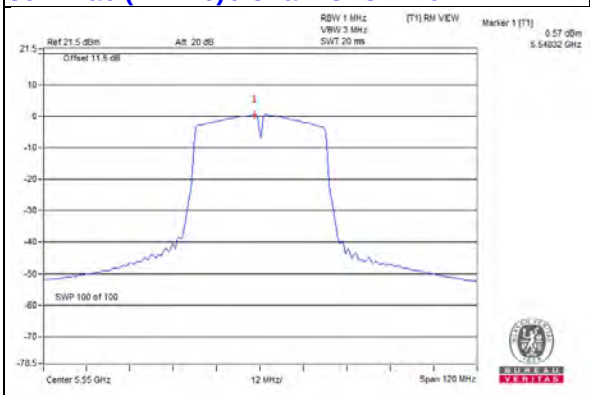
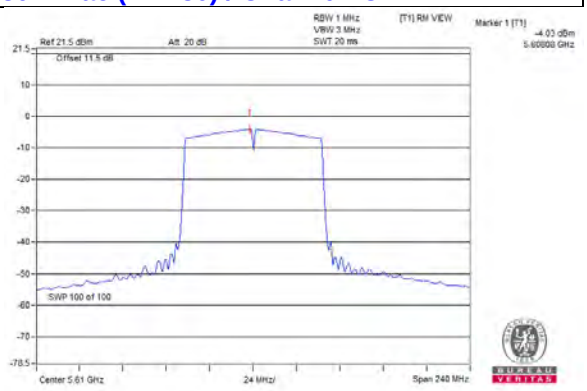
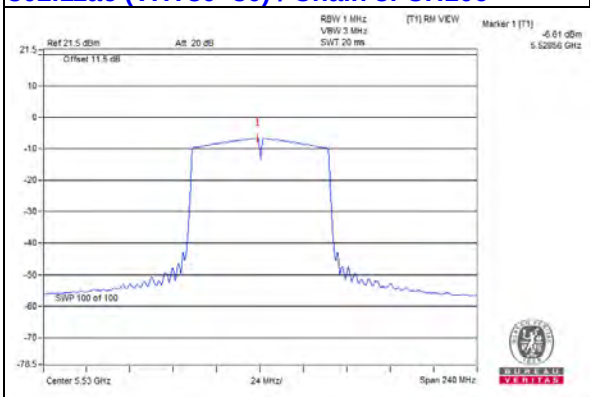
Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
58	5290	-6.58	-7.39	-6.79	-6.64	-0.82	6.10	Pass
106	5530	-6.71	-7.19	-7.06	-6.70	-0.89	6.10	Pass
122	5610	-4.03	-5.93	-5.41	-5.47	0.87	6.10	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 10.9dBi > 6dBi, so the power density limit shall be reduced to 11-(10.9-6) = 6.10dBm.

802.11ac (VHT80+80)

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			
58+106	5290	-6.85	-8.16	-	-	-4.45	8.99	Pass
	5530	-	-	-6.98	-6.61	-3.78	8.99	Pass

Note: 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. The directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi, so the power density limit shall be reduced to 11-(8.01-6) = 8.99dBm.

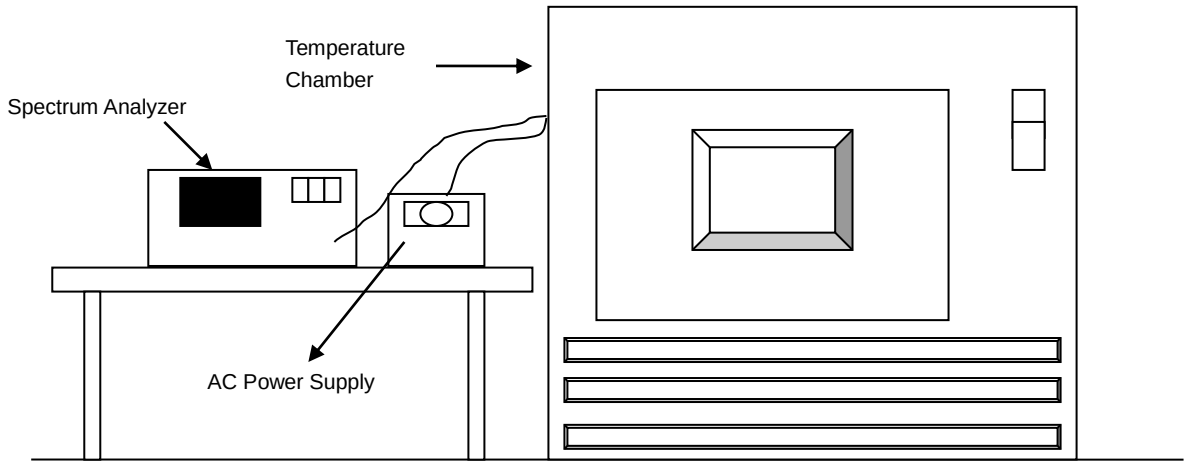
Spectrum Plot of Worst Value	
802.11a / Chain 3 : CH140	**802.11ac (VHT20) / Chain 3 : CH140**
	
802.11ac (VHT40) / Chain 3: CH110	**802.11ac (VHT80) / Chain 0 : CH122**
	
802.11ac (VHT80+80) / Chain 3: CH106	
	

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 AC voltage.

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

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

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.

e. Repeat step 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

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5259.9898	Pass	5259.9875	Pass	5259.9888	Pass	5259.99	Pass
40	120	5259.983	Pass	5259.9786	Pass	5259.9818	Pass	5259.9809	Pass
30	120	5259.9904	Pass	5259.9921	Pass	5259.9913	Pass	5259.992	Pass
20	120	5260.0073	Pass	5260.0088	Pass	5260.0082	Pass	5260.0108	Pass
10	120	5260.0003	Pass	5260.0024	Pass	5259.9987	Pass	5260.0007	Pass
0	120	5259.9999	Pass	5259.999	Pass	5259.999	Pass	5259.9958	Pass
-10	120	5260.0179	Pass	5260.0197	Pass	5260.021	Pass	5260.0192	Pass
-20	120	5260.0096	Pass	5260.0101	Pass	5260.011	Pass	5260.0092	Pass
-30	120	5260.0075	Pass	5260.0056	Pass	5260.0032	Pass	5260.0071	Pass

Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0072	Pass	5260.0097	Pass	5260.0091	Pass	5260.0116	Pass
	120	5260.0073	Pass	5260.0088	Pass	5260.0082	Pass	5260.0108	Pass
	102	5260.0075	Pass	5260.0084	Pass	5260.009	Pass	5260.0117	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.

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

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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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