

FCC Test Report (DFS Band)

Report No.: RF160418C29B-1

FCC ID: GZ5NVG4XXQ

Test Model: NVG468MQ

Series Model: NVG448BQ, NVG443BQ

Received Date: June 23, 2016

Test Date: July 12 to 22, 2016

Issued Date: Dec. 21, 2016

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Release Control Record

Issue No.	Description	Date Issued
RF160418C29B-1	Original release.	Dec. 21, 2016

1 Certificate of Conformity

Product: Ethernet and FTTH Gateway

Brand: ARRIS

Test Model: NVG468MQ

Series Model: NVG448BQ, NVG443BQ

Sample Status: ENGINEERING SAMPLE

Applicant: ARRIS GROUP, INC.

Test Date: July 12 to 22, 2016

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

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

Prepared by : Wendy Wu , **Date:** Dec. 21, 2016
Wendy Wu / Specialist

Approved by : May Chen , **Date:** Dec. 21, 2016
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 -10.81dB at 0.65256MHz.
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 -0.8dB at 5470.00MHz, 5350.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is i-pex(MHF) not a standard connector.

Note: This report is prepared for FCC class II permissive change.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.83 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.31 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.40 dB
	6GHz ~ 18GHz	3.73 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (DFS Band)

Product	Ethernet and FTTH Gateway
Brand	ARRIS
Test Model	NVG468MQ
Series Model	NVG448BQ, NVG443BQ
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode.
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5.26GH ~ 5.32GHz, 5.50GHz ~ 5.72GHz
Number of Channel	16 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 8 for 802.11n (HT40), 802.11ac (VHT40) 4 for 802.11ac (VHT80)
Output Power	5.26GHz ~ 5.32GHz CDD Mode 237.96mW Beamforming Mode 97.93mW 5.50GHz ~ 5.72GHz CDD Mode 236.868mW Beamforming Mode 98.169mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note
Data Cable Supplied	Refer to Note

Note:

- This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF160418C29-1 as the following:
 - ◆ Add DFS band <5.26GHz ~ 5.32GHz, 5.5GHz ~ 5.72GHz>
 - ◆ The antenna 6 connector location changes from chain J2032 to J2030, the antenna 7 connector location changes from chain J2030 to J2032, and the antenna and the antenna position are the same.
- According to above condition, all test items need to be performed. And all data were verified to meet the requirements.
- All models are listed as below.

Brand	Model	Difference					
		Accessory			I/O port		
		Item	Brand	Model	Item	Number	Function
ARRIS	NVG468MQ	Switch Adapter Power cord: 1.8m non-shielded cable w/o ferrite core	Ktec	KSAS0361200250HU	MOCA 2.0	1	For Local Area Network
					USB 3.0	1	For Mass Storage
					LAN (RJ45)	4	For Local Area Network
		Stand	FOXCONN	447.00105.005	WAN (RJ45)	1	For Wild Area Network
		Ethernet Cable (2m non-shielded cable w/o ferrite core)	NIEN-YI	NYS1097	VOIP (RJ14)	1	For Internet Voice Phone
					DC JACK	1	For Power Supply Input
	NVG448BQ	Switch Adapter Power cord: 1.8m non-shielded cable w/o ferrite core	Ktec	KSAS0361200250HU	VDSL (RJ14)	1	For Wideband/Internet connection
					USB 3.0	1	For Mass Storage
					LAN (RJ45)	4	For Local Area Network
		Stand	FOXCONN	447.00105.005	WAN (RJ45)	1	For Wild Area Network
		Ethernet Cable (2m non-shielded cable w/o ferrite core)	NIEN-YI	NYS1097	VOIP (RJ14)	1	For Internet Voice Phone
		RJ14 Cable (4.5m non-shielded cable w/o ferrite core)	NIEN-YI	NYS1131	DC JACK	1	For Power Supply Input
	NVG443BQ	Switch Adapter Power cord: 1.8m non-shielded cable w/o ferrite core	Ktec	KSAS0361200250HU	VDSL (RJ14)	1	For Wideband/Internet connection
					USB 3.0	1	For Mass Storage
					LAN (RJ45)	4	For Local Area Network
		Stand	FOXCONN	447.00105.005	WAN (RJ45)	1	For Wild Area Network
		RJ14 Cable (4.5m non-shielded cable w/o ferrite core)	NIEN-YI	NYS1131	DC JACK	1	For Power Supply Input

From the above models, model: **NVG468MQ** was selected as representative model for the test and its data was recorded in this report.

4. The EUT incorporates a MIMO function.

Modulation Mode	TX FUNCTION	Beamforming mode
802.11a	4TX	Not support
802.11n (HT20)	4TX	Support
802.11n (HT40)	4TX	Support
802.11ac (VHT20)	4TX	Support
802.11ac (VHT40)	4TX	Support
802.11ac (VHT80)	4TX	Support

Note:

1. 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 following antennas were provided to the EUT..

Antenna Type	PIFA	
Antenna Connector	i-pex (MHF)	
Gain (dBi)	Frequency (MHz)	
	2400-2500	5150-5850
Ant. 1	4.00	-
Ant. 2	4.48	-
Ant. 3	2.52	-
Ant. 4	-	3.97
Ant. 5	-	3.18
Ant. 6	-	4.56
Ant. 7	-	4.43

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

3.2 Description of Test Modes

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
Beamforming Mode						
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)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3

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	54 to 62	54	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	54 to 62	54	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	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6
802.11ac (VHT20)		100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
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)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Tim Ho
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Tim Ho
PLC	25deg. C, 68%RH	120Vac, 60Hz	Jyunchun Lin
APCM	21deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

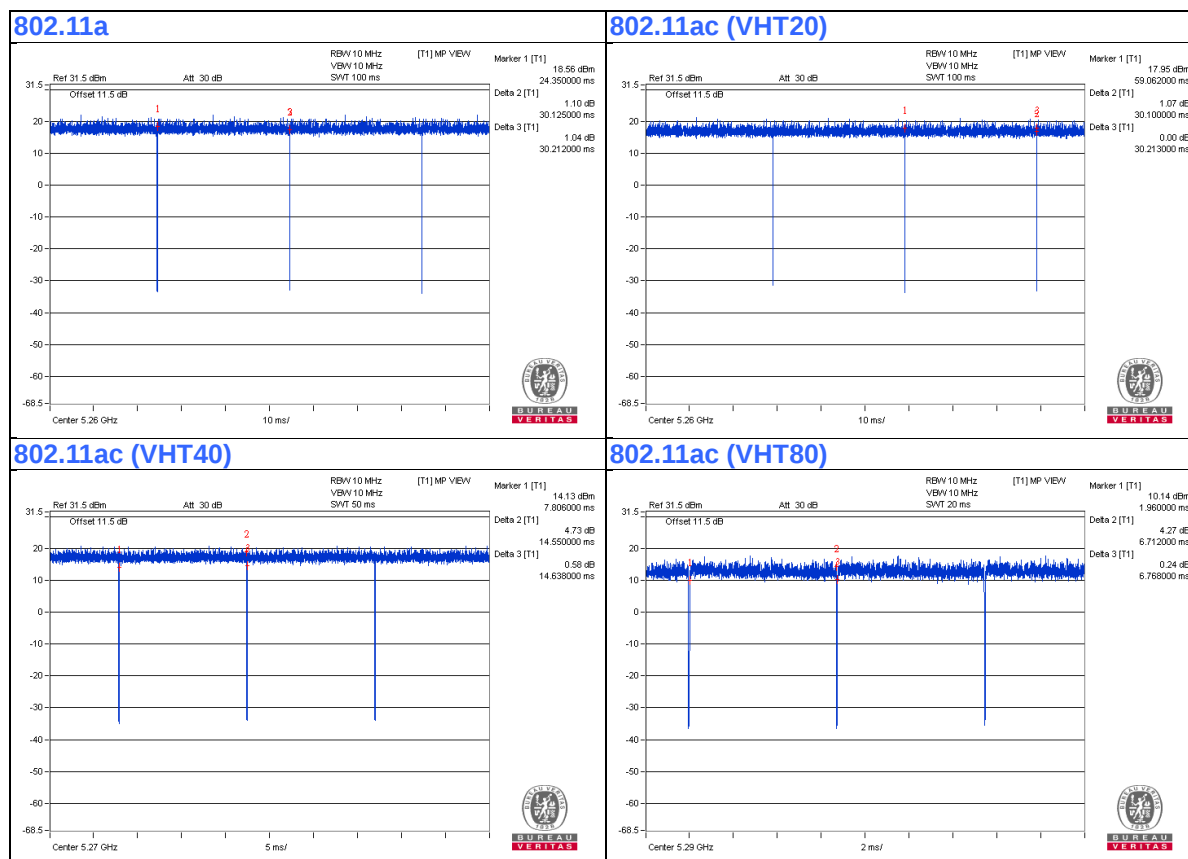
If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11a: Duty cycle = $30.125 \text{ ms} / 30.212 \text{ ms} = 0.997$

802.11ac (VHT20): Duty cycle = $30.1 \text{ ms} / 30.213 \text{ ms} = 0.996$

802.11ac (VHT40): Duty cycle = $14.55 \text{ ms} / 14.638 \text{ ms} = 0.994$

802.11ac (VHT80): Duty cycle = $6.712 \text{ ms} / 6.768 \text{ ms} = 0.992$



3.4 Description of Support Units

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

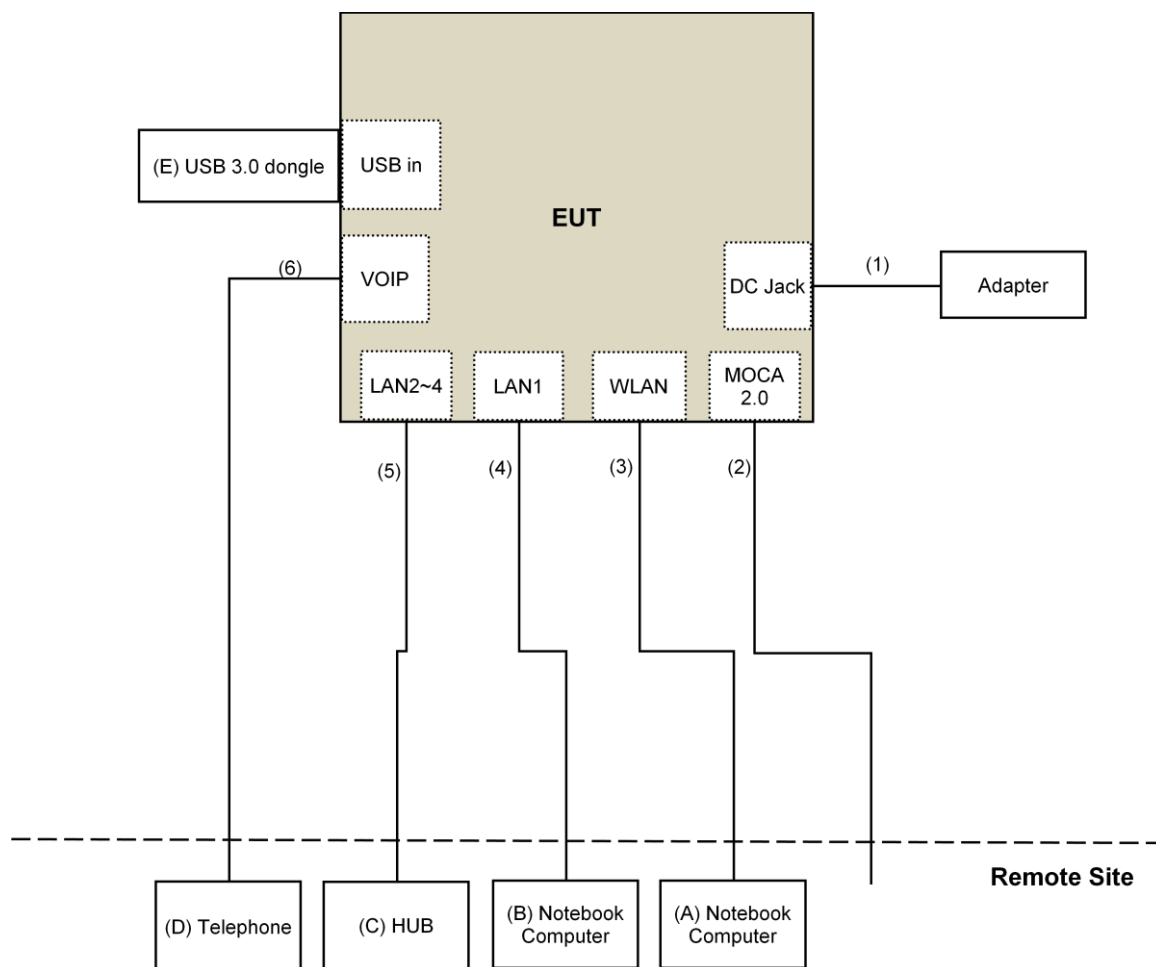
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook Computer	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	Notebook Computer	HP	Pavilion 14-ab023TU	5CD5340WXZ	NA	Provided by Lab
C.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
D.	Telephone	DAISHO	DS-03	NA	NA	Provided by Lab
E.	USB 3.0 dongle	Transcend	32G	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	1.8	No	0	Supplied by Client
2.	Coaxial Cable	1	10	Yes	0	Provided by Lab
3.	RJ45 Cable	1	10	No	0	Provided by Lab
4.	RJ45 Cable	1	10	No	0	Provided by Lab
5.	RJ45 Cable	3	10	No	0	Provided by Lab
6.	RJ11 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 v01r03

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v01r03		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	☒ 15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK:122.2 (dBuV/m) ^{*4}
	☐ 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note:

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 12, 2015	Aug. 11, 2016
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 07, 2016	May 06, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-156	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 02, 2016	Apr. 01, 2017
Horn Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Jan. 20, 2016	Jan. 19, 2017
Pre-Amplifier Agilent	8449B	3008A02465	Apr. 05, 2016	Apr. 04, 2017
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150317 150321 150322	Mar. 30, 2016	Mar. 29, 2017
Spectrum Analyzer Keysight	N9030A	MY54490520	July 26, 2015	July 25, 2016
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated_V8.7.07	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	FSP40	100060	May 11, 2016	May 10, 2017
Power meter Anritsu	ML2495A	1014008	May 5, 2016	May 4, 2017
Power sensor Anritsu	MA2411B	0917122	May 5, 2016	May 4, 2017
AC Power Source Extech Electronics	6205	1440452	NA	NA
Digital Multimeter FLUKE	87III	73680266	Nov. 10, 2015	Nov. 09, 2016

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 FCC Site Registration No. is 147459
5. Loop antenna was used for all emissions below 30 MHz.
6. The CANADA Site Registration No. is 20331-1
7. Tested Date: July 12 to 22, 2016

4.1.3 Test Procedure

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

Note:

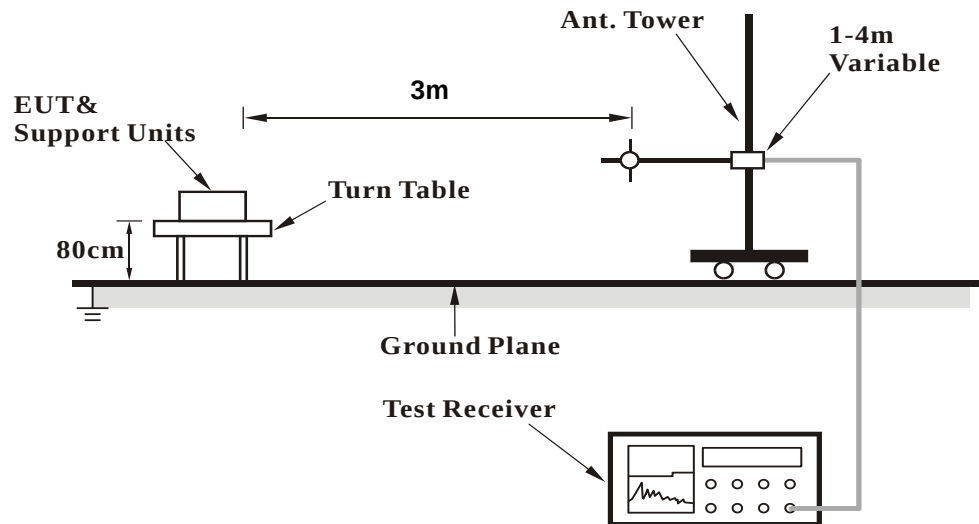
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

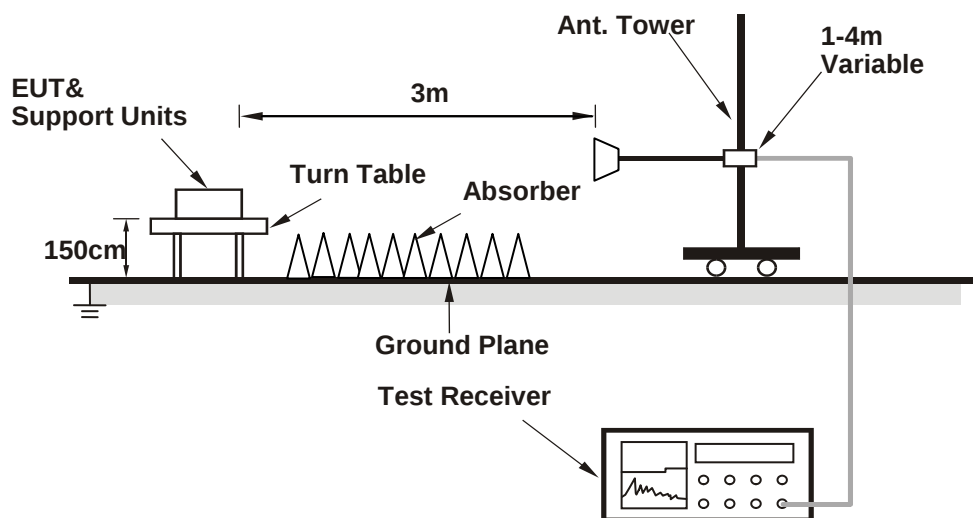
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Condition

1. Connect the EUT with the Notebook Computer which is placed on remote site.
2. Controlling software (telnet with command [Quantenna]) has been activated to set the EUT on specific status.

4.1.7 Test Results

CDD Mode

Above 1GHz Data:

802.11a

CHANNEL	TX Channel 52	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	5100.00	53.8 PK	74.0	-20.2	1.50 H	0	51.0	2.8
2	5100.00	43.8 AV	54.0	-10.2	1.50 H	0	41.0	2.8
3	*5260.00	109.7 PK			1.58 H	0	106.4	3.3
4	*5260.00	99.8 AV			1.58 H	0	96.5	3.3
5	5420.00	53.7 PK	74.0	-20.3	1.43 H	185	50.0	3.7
6	5420.00	43.6 AV	54.0	-10.4	1.43 H	185	39.9	3.7
7	#10520.00	57.8 PK	74.0	-16.2	2.15 H	319	43.7	14.1
8	#10520.00	43.4 AV	54.0	-10.6	2.15 H	319	29.3	14.1
9	15780.00	51.5 PK	74.0	-22.5	2.06 H	212	36.3	15.2
10	15780.00	41.6 AV	54.0	-12.4	2.06 H	212	26.4	15.2
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	5100.00	51.9 PK	74.0	-22.1	3.11 V	333	49.1	2.8
2	5100.00	42.1 AV	54.0	-11.9	3.11 V	333	39.3	2.8
3	*5260.00	107.4 PK			3.11 V	333	104.1	3.3
4	*5260.00	97.4 AV			3.11 V	333	94.1	3.3
5	5420.00	51.7 PK	74.0	-22.3	3.11 V	333	48.0	3.7
6	5420.00	41.4 AV	54.0	-12.6	3.11 V	333	37.7	3.7
7	#10520.00	57.7 PK	74.0	-16.3	2.88 V	144	43.6	14.1
8	#10520.00	43.4 AV	54.0	-10.6	2.88 V	144	29.3	14.1
9	15780.00	51.8 PK	74.0	-22.2	2.14 V	231	36.6	15.2
10	15780.00	42.1 AV	54.0	-11.9	2.14 V	231	26.9	15.2

REMARKS:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
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	5140.00	54.3 PK	74.0	-19.7	1.46 H	32	51.3	3.0
2	5140.00	44.1 AV	54.0	-9.9	1.46 H	32	41.1	3.0
3	*5300.00	109.2 PK			1.53 H	0	105.9	3.3
4	*5300.00	99.5 AV			1.53 H	0	96.2	3.3
5	5460.00	53.7 PK	74.0	-20.3	1.50 H	178	50.0	3.7
6	5460.00	43.7 AV	54.0	-10.3	1.50 H	178	40.0	3.7
7	10600.00	57.9 PK	74.0	-16.1	2.19 H	334	43.6	14.3
8	10600.00	43.7 AV	54.0	-10.3	2.19 H	334	29.4	14.3
9	15900.00	51.8 PK	74.0	-22.2	2.11 H	213	36.7	15.1
10	15900.00	41.8 AV	54.0	-12.2	2.11 H	213	26.7	15.1

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	5140.00	52.7 PK	74.0	-21.3	3.07 V	348	49.7	3.0
2	5140.00	42.5 AV	54.0	-11.5	3.07 V	348	39.5	3.0
3	*5300.00	106.9 PK			3.07 V	348	103.6	3.3
4	*5300.00	97.2 AV			3.07 V	348	93.9	3.3
5	5460.00	51.6 PK	74.0	-22.4	3.07 V	348	47.9	3.7
6	5460.00	41.4 AV	54.0	-12.6	3.07 V	348	37.7	3.7
7	10600.00	57.6 PK	74.0	-16.4	2.84 V	140	43.3	14.3
8	10600.00	43.2 AV	54.0	-10.8	2.84 V	140	28.9	14.3
9	15900.00	51.3 PK	74.0	-22.7	2.14 V	238	36.2	15.1
10	15900.00	41.7 AV	54.0	-12.3	2.14 V	238	26.6	15.1

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.

CHANNEL	TX Channel 64	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	*5320.00	110.4 PK			1.53 H	0	106.9	3.5
2	*5320.00	100.3 AV			1.53 H	0	96.8	3.5
3	5350.00	54.2 PK	74.0	-19.8	1.50 H	359	50.7	3.5
4	5350.00	44.3 AV	54.0	-9.7	1.50 H	359	40.8	3.5
5	10640.00	57.8 PK	74.0	-16.2	2.84 H	352	43.5	14.3
6	10640.00	43.6 AV	54.0	-10.4	2.84 H	352	29.3	14.3
7	15960.00	51.7 PK	74.0	-22.3	2.12 H	219	36.6	15.1
8	15960.00	42.0 AV	54.0	-12.0	2.12 H	219	26.9	15.1
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	*5320.00	107.8 PK			3.07 V	347	104.3	3.5
2	*5320.00	98.0 AV			3.07 V	347	94.5	3.5
3	5350.00	52.8 PK	74.0	-21.2	3.07 V	347	49.3	3.5
4	5350.00	42.7 AV	54.0	-11.3	3.07 V	347	39.2	3.5
5	10640.00	57.2 PK	74.0	-16.8	2.94 V	88	42.9	14.3
6	10640.00	42.9 AV	54.0	-11.1	2.94 V	88	28.6	14.3
7	15960.00	51.4 PK	74.0	-22.6	2.13 V	242	36.3	15.1
8	15960.00	41.7 AV	54.0	-12.3	2.13 V	242	26.6	15.1

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.

CHANNEL	TX Channel 100	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	#5470.00	53.9 PK	74.0	-20.1	1.16 H	360	50.2	3.7
2	#5470.00	44.0 AV	54.0	-10.0	1.16 H	360	40.3	3.7
3	*5500.00	109.0 PK			1.13 H	360	105.2	3.8
4	*5500.00	100.5 AV			1.13 H	360	96.7	3.8
5	11000.00	58.1 PK	74.0	-15.9	2.11 H	314	42.9	15.2
6	11000.00	43.5 AV	54.0	-10.5	2.11 H	314	28.3	15.2
7	#16500.00	51.6 PK	74.0	-22.4	2.11 H	219	34.2	17.4
8	#16500.00	41.9 AV	54.0	-12.1	2.11 H	219	24.5	17.4
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	#5470.00	54.3 PK	74.0	-19.7	3.09 V	52	50.6	3.7
2	#5470.00	44.3 AV	54.0	-9.7	3.09 V	52	40.6	3.7
3	*5500.00	108.2 PK			3.07 V	343	104.4	3.8
4	*5500.00	98.8 AV			3.07 V	343	95.0	3.8
5	11000.00	57.6 PK	74.0	-16.4	2.93 V	139	42.4	15.2
6	11000.00	43.2 AV	54.0	-10.8	2.93 V	139	28.0	15.2
7	#16500.00	51.5 PK	74.0	-22.5	2.17 V	232	34.1	17.4
8	#16500.00	42.0 AV	54.0	-12.0	2.17 V	232	24.6	17.4

REMARKS:

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

CHANNEL	TX Channel 116	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	5420.00	53.8 PK	74.0	-20.2	1.31 H	358	50.1	3.7
2	5420.00	43.7 AV	54.0	-10.3	1.31 H	358	40.0	3.7
3	*5580.00	108.6 PK			1.15 H	358	104.7	3.9
4	*5580.00	100.1 AV			1.15 H	358	96.2	3.9
5	#5730.00	54.0 PK	74.0	-20.0	1.31 H	357	49.8	4.2
6	#5730.00	44.2 AV	54.0	-9.8	1.31 H	357	40.0	4.2
7	11160.00	58.3 PK	74.0	-15.7	2.29 H	314	43.1	15.2
8	11160.00	43.5 AV	54.0	-10.5	2.29 H	314	28.3	15.2
9	#16740.00	51.7 PK	74.0	-22.3	2.16 H	194	33.4	18.3
10	#16740.00	41.5 AV	54.0	-12.5	2.16 H	194	23.2	18.3

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	5420.00	51.4 PK	74.0	-22.6	3.02 V	341	47.7	3.7
2	5420.00	41.5 AV	54.0	-12.5	3.02 V	341	37.8	3.7
3	*5580.00	106.4 PK			3.02 V	341	102.5	3.9
4	*5580.00	97.8 AV			3.02 V	341	93.9	3.9
5	#5730.00	51.7 PK	74.0	-22.3	3.02 V	341	47.5	4.2
6	#5730.00	41.9 AV	54.0	-12.1	3.02 V	341	37.7	4.2
7	11160.00	58.1 PK	74.0	-15.9	2.87 V	140	42.9	15.2
8	11160.00	43.7 AV	54.0	-10.3	2.87 V	140	28.5	15.2
9	#16740.00	52.2 PK	74.0	-21.8	2.13 V	243	33.9	18.3
10	#16740.00	42.5 AV	54.0	-11.5	2.13 V	243	24.2	18.3

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	108.9 PK			1.00 H	356	104.7	4.2
2	*5700.00	100.5 AV			1.00 H	356	96.3	4.2
3	#5725.00	54.5 PK	74.0	-19.5	1.17 H	360	50.3	4.2
4	#5725.00	44.3 AV	54.0	-9.7	1.17 H	360	40.1	4.2
5	11400.00	57.9 PK	74.0	-16.1	2.32 H	302	42.4	15.5
6	11400.00	43.6 AV	54.0	-10.4	2.32 H	302	28.1	15.5
7	#17100.00	51.9 PK	74.0	-22.1	2.12 H	211	31.8	20.1
8	#17100.00	42.2 AV	54.0	-11.8	2.12 H	211	22.1	20.1
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	107.6 PK			3.07 V	339	103.4	4.2
2	*5700.00	99.0 AV			3.07 V	339	94.8	4.2
3	#5725.00	52.9 PK	74.0	-21.1	3.07 V	339	48.7	4.2
4	#5725.00	42.5 AV	54.0	-11.5	3.07 V	339	38.3	4.2
5	11400.00	57.9 PK	74.0	-16.1	3.20 V	152	42.4	15.5
6	11400.00	43.4 AV	54.0	-10.6	3.20 V	152	27.9	15.5
7	#17100.00	51.8 PK	74.0	-22.2	2.14 V	250	31.7	20.1
8	#17100.00	42.2 AV	54.0	-11.8	2.14 V	250	22.1	20.1

REMARKS:

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

CHANNEL	TX Channel 144	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	#5470.00	53.7 PK	74.0	-20.3	1.31 H	360	50.0	3.7
2	#5470.00	41.8 AV	54.0	-12.2	1.31 H	360	38.1	3.7
3	*5720.00	109.2 PK			1.22 H	358	105.0	4.2
4	*5720.00	100.8 AV			1.22 H	358	96.6	4.2
5	#5880.00	54.6 PK	74.0	-19.4	1.00 H	182	50.4	4.2
6	#5880.00	44.3 AV	54.0	-9.7	1.00 H	182	40.1	4.2
7	11440.00	57.5 PK	74.0	-16.5	3.19 H	144	42.2	15.3
8	11440.00	43.2 AV	54.0	-10.8	3.19 H	144	27.9	15.3
9	#17160.00	52.0 PK	74.0	-22.0	2.08 H	194	32.2	19.8
10	#17160.00	42.3 AV	54.0	-11.7	2.08 H	194	22.5	19.8

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	#5470.00	51.8 PK	74.0	-22.2	1.10 V	51	48.1	3.7
2	#5470.00	40.8 AV	54.0	-13.2	1.10 V	51	37.1	3.7
3	*5720.00	108.3 PK			1.10 V	47	104.1	4.2
4	*5720.00	98.9 AV			1.10 V	47	94.7	4.2
5	#5880.00	54.0 PK	74.0	-20.0	1.73 V	4	49.8	4.2
6	#5880.00	44.0 AV	54.0	-10.0	1.73 V	4	39.8	4.2
7	11440.00	58.3 PK	74.0	-15.7	3.14 V	316	43.0	15.3
8	11440.00	43.7 AV	54.0	-10.3	3.14 V	316	28.4	15.3
9	#17160.00	51.7 PK	74.0	-22.3	2.16 V	238	31.9	19.8
10	#17160.00	42.1 AV	54.0	-11.9	2.16 V	238	22.3	19.8

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 (VHT20)

CHANNEL	TX Channel 52	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	5100.00	54.1 PK	74.0	-19.9	1.34 H	31	51.3	2.8
2	5100.00	44.0 AV	54.0	-10.0	1.34 H	31	41.2	2.8
3	*5260.00	110.1 PK			1.30 H	30	106.8	3.3
4	*5260.00	100.2 AV			1.30 H	30	96.9	3.3
5	5420.00	55.1 PK	74.0	-18.9	1.35 H	30	51.4	3.7
6	5420.00	44.8 AV	54.0	-9.2	1.35 H	30	41.1	3.7
7	#10520.00	63.7 PK	74.0	-10.3	1.47 H	360	49.6	14.1
8	#10520.00	51.1 AV	54.0	-2.9	1.47 H	360	37.0	14.1
9	15780.00	51.4 PK	74.0	-22.6	2.13 H	218	36.2	15.2
10	15780.00	41.8 AV	54.0	-12.2	2.13 H	218	26.6	15.2
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	5100.00	51.9 PK	74.0	-22.1	3.04 V	345	49.1	2.8
2	5100.00	41.8 AV	54.0	-12.2	3.04 V	345	39.0	2.8
3	*5260.00	107.8 PK			3.04 V	345	104.5	3.3
4	*5260.00	97.9 AV			3.04 V	345	94.6	3.3
5	5420.00	53.0 PK	74.0	-21.0	3.04 V	345	49.3	3.7
6	5420.00	42.4 AV	54.0	-11.6	3.04 V	345	38.7	3.7
7	#10520.00	62.8 PK	74.0	-11.2	1.51 V	246	48.7	14.1
8	#10520.00	49.3 AV	54.0	-4.7	1.51 V	246	35.2	14.1
9	15780.00	51.0 PK	74.0	-23.0	2.15 V	228	35.8	15.2
10	15780.00	41.2 AV	54.0	-12.8	2.15 V	228	26.0	15.2

REMARKS:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
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	5150.00	54.5 PK	74.0	-19.5	1.27 H	39	51.5	3.0
2	5150.00	44.8 AV	54.0	-9.2	1.27 H	39	41.8	3.0
3	*5300.00	109.9 PK			1.26 H	35	106.6	3.3
4	*5300.00	99.7 AV			1.26 H	35	96.4	3.3
5	5460.00	54.1 PK	74.0	-19.9	1.71 H	185	50.4	3.7
6	5460.00	44.1 AV	54.0	-9.9	1.71 H	185	40.4	3.7
7	10600.00	60.8 PK	74.0	-13.2	1.52 H	360	46.5	14.3
8	10600.00	49.1 AV	54.0	-4.9	1.52 H	360	34.8	14.3
9	15900.00	51.5 PK	74.0	-22.5	2.17 H	210	36.4	15.1
10	15900.00	41.4 AV	54.0	-12.6	2.17 H	210	26.3	15.1

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	5150.00	52.0 PK	74.0	-22.0	3.02 V	358	49.0	3.0
2	5150.00	42.5 AV	54.0	-11.5	3.02 V	358	39.5	3.0
3	*5300.00	107.4 PK			3.02 V	358	104.1	3.3
4	*5300.00	97.4 AV			3.02 V	358	94.1	3.3
5	5460.00	51.5 PK	74.0	-22.5	3.02 V	358	47.8	3.7
6	5460.00	41.7 AV	54.0	-12.3	3.02 V	358	38.0	3.7
7	10600.00	58.2 PK	74.0	-15.8	2.92 V	143	43.9	14.3
8	10600.00	43.7 AV	54.0	-10.3	2.92 V	143	29.4	14.3
9	15900.00	51.4 PK	74.0	-22.6	2.17 V	243	36.3	15.1
10	15900.00	41.8 AV	54.0	-12.2	2.17 V	243	26.7	15.1

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.

CHANNEL	TX Channel 64	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	*5320.00	109.6 PK			1.25 H	28	106.1	3.5
2	*5320.00	99.7 AV			1.25 H	28	96.2	3.5
3	5350.00	54.4 PK	74.0	-19.6	1.70 H	179	50.9	3.5
4	5350.00	44.1 AV	54.0	-9.9	1.70 H	179	40.6	3.5
5	10640.00	61.3 PK	74.0	-12.7	2.39 H	129	47.0	14.3
6	10640.00	47.4 AV	54.0	-6.6	2.39 H	129	33.1	14.3
7	15960.00	51.2 PK	74.0	-22.8	2.14 H	214	36.1	15.1
8	15960.00	41.4 AV	54.0	-12.6	2.14 H	214	26.3	15.1
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	*5320.00	107.0 PK			3.03 V	348	103.5	3.5
2	*5320.00	97.3 AV			3.03 V	348	93.8	3.5
3	5350.00	52.2 PK	74.0	-21.8	3.03 V	348	48.7	3.5
4	5350.00	41.9 AV	54.0	-12.1	3.03 V	348	38.4	3.5
5	10640.00	57.3 PK	74.0	-16.7	2.93 V	145	43.0	14.3
6	10640.00	42.9 AV	54.0	-11.1	2.93 V	145	28.6	14.3
7	15960.00	51.9 PK	74.0	-22.1	2.11 V	246	36.8	15.1
8	15960.00	42.4 AV	54.0	-11.6	2.11 V	246	27.3	15.1

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.

CHANNEL	TX Channel 100	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	#5470.00	53.9 PK	74.0	-20.1	1.48 H	182	50.2	3.7
2	#5470.00	43.9 AV	54.0	-10.1	1.48 H	182	40.2	3.7
3	*5500.00	109.5 PK			1.29 H	20	105.7	3.8
4	*5500.00	99.3 AV			1.29 H	20	95.5	3.8
5	11000.00	66.1 PK	74.0	-7.9	2.08 H	323	50.9	15.2
6	11000.00	50.3 AV	54.0	-3.7	2.08 H	323	35.1	15.2
7	#16500.00	51.4 PK	74.0	-22.6	2.12 H	200	34.0	17.4
8	#16500.00	41.5 AV	54.0	-12.5	2.12 H	200	24.1	17.4
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	#5470.00	51.5 PK	74.0	-22.5	3.04 V	336	47.8	3.7
2	#5470.00	41.6 AV	54.0	-12.4	3.04 V	336	37.9	3.7
3	*5500.00	107.3 PK			3.04 V	336	103.5	3.8
4	*5500.00	97.1 AV			3.04 V	336	93.3	3.8
5	11000.00	58.2 PK	74.0	-15.8	2.89 V	154	43.0	15.2
6	11000.00	43.7 AV	54.0	-10.3	2.89 V	154	28.5	15.2
7	#16500.00	51.1 PK	74.0	-22.9	2.17 V	229	33.7	17.4
8	#16500.00	41.6 AV	54.0	-12.4	2.17 V	229	24.2	17.4

REMARKS:

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

CHANNEL	TX Channel 116	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	#5470.00	55.1 PK	74.0	-18.9	1.74 H	183	51.4	3.7
2	#5470.00	44.5 AV	54.0	-9.5	1.74 H	183	40.8	3.7
3	*5580.00	109.7 PK			1.24 H	22	105.8	3.9
4	*5580.00	100.1 AV			1.24 H	22	96.2	3.9
5	#5730.00	55.0 PK	74.0	-19.0	1.42 H	176	50.8	4.2
6	#5730.00	44.7 AV	54.0	-9.3	1.42 H	176	40.5	4.2
7	11160.00	66.9 PK	74.0	-7.1	2.01 H	326	51.7	15.2
8	11160.00	50.6 AV	54.0	-3.4	2.01 H	326	35.4	15.2
9	#16740.00	51.2 PK	74.0	-22.8	2.05 H	207	32.9	18.3
10	#16740.00	41.4 AV	54.0	-12.6	2.05 H	207	23.1	18.3

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	#5470.00	53.1 PK	74.0	-20.9	3.08 V	348	49.4	3.7
2	#5470.00	42.7 AV	54.0	-11.3	3.08 V	348	39.0	3.7
3	*5580.00	106.9 PK			3.08 V	348	103.0	3.9
4	*5580.00	97.6 AV			3.08 V	348	93.7	3.9
5	#5730.00	52.8 PK	74.0	-21.2	3.08 V	348	48.6	4.2
6	#5730.00	42.8 AV	54.0	-11.2	3.08 V	348	38.6	4.2
7	11160.00	58.1 PK	74.0	-15.9	2.86 V	134	42.9	15.2
8	11160.00	43.9 AV	54.0	-10.1	2.86 V	134	28.7	15.2
9	#16740.00	51.7 PK	74.0	-22.3	2.16 V	238	33.4	18.3
10	#16740.00	42.0 AV	54.0	-12.0	2.16 V	238	23.7	18.3

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	109.5 PK			1.35 H	23	105.3	4.2
2	*5700.00	99.4 AV			1.35 H	23	95.2	4.2
3	#5725.00	54.2 PK	74.0	-19.8	1.71 H	182	50.0	4.2
4	#5725.00	43.9 AV	54.0	-10.1	1.71 H	182	39.7	4.2
5	11400.00	63.6 PK	74.0	-10.4	2.01 H	332	48.1	15.5
6	11400.00	47.8 AV	54.0	-6.2	2.01 H	332	32.3	15.5
7	#17100.00	51.4 PK	74.0	-22.6	2.13 H	197	31.3	20.1
8	#17100.00	41.8 AV	54.0	-12.2	2.13 H	197	21.7	20.1
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	107.5 PK			3.05 V	354	103.3	4.2
2	*5700.00	97.6 AV			3.05 V	354	93.4	4.2
3	#5725.00	51.6 PK	74.0	-22.4	3.05 V	354	47.4	4.2
4	#5725.00	41.5 AV	54.0	-12.5	3.05 V	354	37.3	4.2
5	11400.00	57.5 PK	74.0	-16.5	2.90 V	129	42.0	15.5
6	11400.00	43.3 AV	54.0	-10.7	2.90 V	129	27.8	15.5
7	#17100.00	51.8 PK	74.0	-22.2	2.13 V	228	31.7	20.1
8	#17100.00	42.2 AV	54.0	-11.8	2.13 V	228	22.1	20.1

REMARKS:

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

CHANNEL	TX Channel 144	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	#5470.00	52.2 PK	74.0	-21.8	2.29 H	89	48.5	3.7
2	#5470.00	41.7 AV	54.0	-12.3	2.29 H	89	38.0	3.7
3	*5720.00	109.9 PK			2.67 H	27	105.7	4.2
4	*5720.00	100.1 AV			2.67 H	27	95.9	4.2
5	#5875.00	54.1 PK	74.0	-19.9	2.29 H	89	49.9	4.2
6	#5875.00	43.6 AV	54.0	-10.4	2.29 H	89	39.4	4.2
7	11440.00	65.3 PK	74.0	-8.7	1.99 H	331	50.0	15.3
8	11440.00	49.9 AV	54.0	-4.1	1.99 H	331	34.6	15.3
9	#17160.00	51.2 PK	74.0	-22.8	2.05 H	202	31.4	19.8
10	#17160.00	41.4 AV	54.0	-12.6	2.05 H	202	21.6	19.8

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	#5470.00	50.1 PK	74.0	-23.9	3.07 V	358	46.4	3.7
2	#5470.00	39.6 AV	54.0	-14.4	3.07 V	358	35.9	3.7
3	*5720.00	108.4 PK			3.07 V	358	104.2	4.2
4	*5720.00	98.4 AV			3.07 V	358	94.2	4.2
5	#5875.00	52.8 PK	74.0	-21.2	3.07 V	358	48.6	4.2
6	#5875.00	42.0 AV	54.0	-12.0	3.07 V	358	37.8	4.2
7	11440.00	58.0 PK	74.0	-16.0	2.88 V	129	42.7	15.3
8	11440.00	43.7 AV	54.0	-10.3	2.88 V	129	28.4	15.3
9	#17160.00	51.6 PK	74.0	-22.4	2.15 V	235	31.8	19.8
10	#17160.00	42.1 AV	54.0	-11.9	2.15 V	235	22.3	19.8

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 (VHT40)

CHANNEL	TX Channel 54	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	5126.00	55.5 PK	74.0	-18.5	1.35 H	30	52.5	3.0
2	5126.00	44.3 AV	54.0	-9.7	1.35 H	30	41.3	3.0
3	*5270.00	110.5 PK			1.35 H	30	107.2	3.3
4	*5270.00	100.9 AV			1.35 H	30	97.6	3.3
5	5430.00	57.7 PK	74.0	-16.3	1.47 H	41	54.0	3.7
6	5430.00	47.2 AV	54.0	-6.8	1.47 H	41	43.5	3.7
7	#10540.00	57.6 PK	74.0	-16.4	2.19 H	334	43.4	14.2
8	#10540.00	43.2 AV	54.0	-10.8	2.19 H	334	29.0	14.2
9	15810.00	51.1 PK	74.0	-22.9	2.11 H	224	36.1	15.0
10	15810.00	41.4 AV	54.0	-12.6	2.11 H	224	26.4	15.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5126.00	53.3 PK	74.0	-20.7	3.07 V	332	50.3	3.0
2	5126.00	42.0 AV	54.0	-12.0	3.07 V	332	39.0	3.0
3	*5270.00	108.4 PK			3.07 V	332	105.1	3.3
4	*5270.00	98.9 AV			3.07 V	332	95.6	3.3
5	5430.00	55.4 PK	74.0	-18.6	3.07 V	332	51.7	3.7
6	5430.00	44.7 AV	54.0	-9.3	3.07 V	332	41.0	3.7
7	#10540.00	58.1 PK	74.0	-15.9	2.83 V	139	43.9	14.2
8	#10540.00	43.8 AV	54.0	-10.2	2.83 V	139	29.6	14.2
9	15810.00	51.6 PK	74.0	-22.4	2.10 V	218	36.6	15.0
10	15810.00	42.0 AV	54.0	-12.0	2.10 V	218	27.0	15.0

REMARKS:

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

CHANNEL	TX Channel 62	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	*5310.00	108.6 PK			1.46 H	41	105.2	3.4
2	*5310.00	100.1 AV			1.46 H	41	96.7	3.4
3	5350.00	68.9 PK	74.0	-5.1	1.67 H	25	65.4	3.5
4	5350.00	53.1 AV	54.0	-0.9	1.67 H	25	49.6	3.5
5	10620.00	57.8 PK	74.0	-16.2	2.21 H	321	43.5	14.3
6	10620.00	43.1 AV	54.0	-10.9	2.21 H	321	28.8	14.3
7	15930.00	51.5 PK	74.0	-22.5	2.03 H	223	36.4	15.1
8	15930.00	41.4 AV	54.0	-12.6	2.03 H	223	26.3	15.1
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	*5310.00	106.5 PK			3.04 V	335	103.1	3.4
2	*5310.00	98.0 AV			3.04 V	335	94.6	3.4
3	5350.00	67.1 PK	74.0	-6.9	3.04 V	335	63.6	3.5
4	5350.00	51.1 AV	54.0	-2.9	3.04 V	335	47.6	3.5
5	10620.00	58.1 PK	74.0	-15.9	2.93 V	141	43.8	14.3
6	10620.00	43.7 AV	54.0	-10.3	2.93 V	141	29.4	14.3
7	15930.00	51.0 PK	74.0	-23.0	2.19 V	220	35.9	15.1
8	15930.00	41.6 AV	54.0	-12.4	2.19 V	220	26.5	15.1

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.

CHANNEL	TX Channel 102	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	#5470.00	71.4 PK	74.0	-2.6	2.13 H	51	67.7	3.7
2	#5470.00	53.2 AV	54.0	-0.8	2.13 H	51	49.5	3.7
3	*5510.00	108.1 PK			2.32 H	19	104.3	3.8
4	*5510.00	99.5 AV			2.32 H	19	95.7	3.8
5	11020.00	58.0 PK	74.0	-16.0	2.20 H	307	42.9	15.1
6	11020.00	43.7 AV	54.0	-10.3	2.20 H	307	28.6	15.1
7	#16530.00	51.2 PK	74.0	-22.8	2.03 H	216	33.7	17.5
8	#16530.00	41.3 AV	54.0	-12.7	2.03 H	216	23.8	17.5
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	#5470.00	69.5 PK	74.0	-4.5	3.12 V	344	65.8	3.7
2	#5470.00	51.4 AV	54.0	-2.6	3.12 V	344	47.7	3.7
3	*5510.00	105.6 PK			3.12 V	344	101.8	3.8
4	*5510.00	97.0 AV			3.12 V	344	93.2	3.8
5	11020.00	57.1 PK	74.0	-16.9	2.92 V	143	42.0	15.1
6	11020.00	43.0 AV	54.0	-11.0	2.92 V	143	27.9	15.1
7	#16530.00	51.9 PK	74.0	-22.1	2.18 V	246	34.4	17.5
8	#16530.00	42.3 AV	54.0	-11.7	2.18 V	246	24.8	17.5

REMARKS:

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

CHANNEL	TX Channel 110	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	5400.00	54.3 PK	74.0	-19.7	2.47 H	33	50.6	3.7
2	5400.00	43.4 AV	54.0	-10.6	2.47 H	33	39.7	3.7
3	*5550.00	108.9 PK			2.12 H	50	105.0	3.9
4	*5550.00	99.7 AV			2.12 H	50	95.8	3.9
5	#5780.00	52.7 PK	74.0	-21.3	2.46 H	33	48.6	4.1
6	#5780.00	42.2 AV	54.0	-11.8	2.46 H	33	38.1	4.1
7	11100.00	57.9 PK	74.0	-16.1	2.15 H	334	42.8	15.1
8	11100.00	43.8 AV	54.0	-10.2	2.15 H	334	28.7	15.1
9	#16650.00	51.4 PK	74.0	-22.6	2.11 H	219	33.4	18.0
10	#16650.00	41.2 AV	54.0	-12.8	2.11 H	219	23.2	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5400.00	51.9 PK	74.0	-22.1	3.03 V	331	48.2	3.7
2	5400.00	41.2 AV	54.0	-12.8	3.03 V	331	37.5	3.7
3	*5550.00	107.5 PK			3.03 V	331	103.6	3.9
4	*5550.00	98.1 AV			3.03 V	331	94.2	3.9
5	#5780.00	51.3 PK	74.0	-22.7	3.03 V	331	47.2	4.1
6	#5780.00	40.7 AV	54.0	-13.3	3.03 V	331	36.6	4.1
7	11100.00	57.8 PK	74.0	-16.2	2.93 V	148	42.7	15.1
8	11100.00	43.4 AV	54.0	-10.6	2.93 V	148	28.3	15.1
9	#16650.00	51.7 PK	74.0	-22.3	2.11 V	229	33.7	18.0
10	#16650.00	42.0 AV	54.0	-12.0	2.11 V	229	24.0	18.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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)
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	*5670.00	108.7 PK			2.82 H	61	104.7	4.0
2	*5670.00	99.4 AV			2.82 H	61	95.4	4.0
3	#5725.00	60.7 PK	74.0	-13.3	2.79 H	61	56.5	4.2
4	#5725.00	47.7 AV	54.0	-6.3	2.79 H	61	43.5	4.2
5	11340.00	57.9 PK	74.0	-16.1	2.15 H	305	42.6	15.3
6	11340.00	43.4 AV	54.0	-10.6	2.15 H	305	28.1	15.3
7	#17010.00	51.9 PK	74.0	-22.1	2.03 H	200	32.0	19.9
8	#17010.00	41.9 AV	54.0	-12.1	2.03 H	200	22.0	19.9
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	*5670.00	107.0 PK			3.09 V	351	103.0	4.0
2	*5670.00	97.7 AV			3.09 V	351	93.7	4.0
3	#5725.00	59.0 PK	74.0	-15.0	3.09 V	351	54.8	4.2
4	#5725.00	46.0 AV	54.0	-8.0	3.09 V	351	41.8	4.2
5	11340.00	57.0 PK	74.0	-17.0	2.87 V	151	41.7	15.3
6	11340.00	43.0 AV	54.0	-11.0	2.87 V	151	27.7	15.3
7	#17010.00	51.9 PK	74.0	-22.1	2.18 V	225	32.0	19.9
8	#17010.00	42.3 AV	54.0	-11.7	2.18 V	225	22.4	19.9

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 142	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	#5470.00	53.1 PK	74.0	-20.9	2.00 H	49	49.4	3.7
2	#5470.00	42.0 AV	54.0	-12.0	2.00 H	49	38.3	3.7
3	*5710.00	109.1 PK			2.79 H	13	104.9	4.2
4	*5710.00	99.3 AV			2.79 H	13	95.1	4.2
5	#5870.00	56.3 PK	74.0	-17.7	2.32 H	0	52.1	4.2
6	#5870.00	46.3 AV	54.0	-7.7	2.32 H	0	42.1	4.2
7	11420.00	57.9 PK	74.0	-16.1	2.13 H	323	42.5	15.4
8	11420.00	43.6 AV	54.0	-10.4	2.13 H	323	28.2	15.4
9	#17130.00	51.1 PK	74.0	-22.9	2.06 H	219	31.1	20.0
10	#17130.00	41.4 AV	54.0	-12.6	2.06 H	219	21.4	20.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	50.6 PK	74.0	-23.4	3.04 V	338	46.9	3.7
2	#5470.00	39.7 AV	54.0	-14.3	3.04 V	338	36.0	3.7
3	*5710.00	107.3 PK			3.04 V	338	103.1	4.2
4	*5710.00	97.6 AV			3.04 V	338	93.4	4.2
5	#5870.00	54.6 PK	74.0	-19.4	3.04 V	338	50.4	4.2
6	#5870.00	44.6 AV	54.0	-9.4	3.04 V	338	40.4	4.2
7	11420.00	58.1 PK	74.0	-15.9	2.85 V	138	42.7	15.4
8	11420.00	43.6 AV	54.0	-10.4	2.85 V	138	28.2	15.4
9	#17130.00	51.7 PK	74.0	-22.3	2.16 V	222	31.7	20.0
10	#17130.00	41.8 AV	54.0	-12.2	2.16 V	222	21.8	20.0

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 58	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	5150.00	59.6 PK	74.0	-14.4	1.25 H	31	56.6	3.0
2	5150.00	45.5 AV	54.0	-8.5	1.25 H	31	42.5	3.0
3	*5290.00	104.8 PK			2.31 H	23	101.5	3.3
4	*5290.00	96.6 AV			2.31 H	23	93.3	3.3
5	5350.00	68.4 PK	74.0	-5.6	1.34 H	29	64.9	3.5
6	5350.00	53.2 AV	54.0	-0.8	1.34 H	29	49.7	3.5
7	#10580.00	57.5 PK	74.0	-16.5	2.15 H	326	43.2	14.3
8	#10580.00	43.0 AV	54.0	-11.0	2.15 H	326	28.7	14.3
9	15870.00	51.6 PK	74.0	-22.4	2.10 H	201	36.6	15.0
10	15870.00	41.7 AV	54.0	-12.3	2.10 H	201	26.7	15.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.7 PK	74.0	-16.3	3.11 V	336	54.7	3.0
2	5150.00	43.9 AV	54.0	-10.1	3.11 V	336	40.9	3.0
3	*5290.00	103.0 PK			3.11 V	336	99.7	3.3
4	*5290.00	95.1 AV			3.11 V	336	91.8	3.3
5	5350.00	66.4 PK	74.0	-7.6	3.11 V	336	62.9	3.5
6	5350.00	51.3 AV	54.0	-2.7	3.11 V	336	47.8	3.5
7	#10580.00	57.5 PK	74.0	-16.5	2.84 V	143	43.2	14.3
8	#10580.00	42.9 AV	54.0	-11.1	2.84 V	143	28.6	14.3
9	15870.00	51.8 PK	74.0	-22.2	2.12 V	240	36.8	15.0
10	15870.00	42.2 AV	54.0	-11.8	2.12 V	240	27.2	15.0

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	68.3 PK	74.0	-5.7	3.31 H	134	64.6	3.7
2	#5470.00	53.2 AV	54.0	-0.8	3.31 H	134	49.5	3.7
3	*5530.00	108.7 PK			3.31 H	31	104.8	3.9
4	*5530.00	99.3 AV			3.31 H	31	95.4	3.9
5	#5725.00	51.9 PK	74.0	-22.1	3.29 H	161	47.7	4.2
6	#5725.00	42.5 AV	54.0	-11.5	3.29 H	161	38.3	4.2
7	11060.00	57.3 PK	74.0	-16.7	2.14 H	322	42.2	15.1
8	11060.00	43.0 AV	54.0	-11.0	2.14 H	322	27.9	15.1
9	#16590.00	51.5 PK	74.0	-22.5	2.05 H	217	33.8	17.7
10	#16590.00	41.7 AV	54.0	-12.3	2.05 H	217	24.0	17.7

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	#5470.00	66.6 PK	74.0	-7.4	3.06 V	331	62.9	3.7
2	#5470.00	51.4 AV	54.0	-2.6	3.06 V	331	47.7	3.7
3	*5530.00	106.5 PK			3.06 V	331	102.6	3.9
4	*5530.00	97.0 AV			3.06 V	331	93.1	3.9
5	#5725.00	50.1 PK	74.0	-23.9	3.06 V	331	45.9	4.2
6	#5725.00	40.8 AV	54.0	-13.2	3.06 V	331	36.6	4.2
7	11060.00	57.4 PK	74.0	-16.6	2.93 V	128	42.3	15.1
8	11060.00	43.1 AV	54.0	-10.9	2.93 V	128	28.0	15.1
9	#16590.00	51.7 PK	74.0	-22.3	2.13 V	217	34.0	17.7
10	#16590.00	42.0 AV	54.0	-12.0	2.13 V	217	24.3	17.7

REMARKS:

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

CHANNEL	TX Channel 122	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	#5470.00	58.0 PK	74.0	-16.0	2.84 H	7	54.3	3.7
2	#5470.00	44.4 AV	54.0	-9.6	2.84 H	7	40.7	3.7
3	*5610.00	107.0 PK			3.28 H	3	103.1	3.9
4	*5610.00	97.2 AV			3.28 H	3	93.3	3.9
5	#5725.00	58.7 PK	74.0	-15.3	2.85 H	244	54.5	4.2
6	#5725.00	47.1 AV	54.0	-6.9	2.85 H	244	42.9	4.2
7	11220.00	57.6 PK	74.0	-16.4	2.13 H	312	42.4	15.2
8	11220.00	43.3 AV	54.0	-10.7	2.13 H	312	28.1	15.2
9	#16830.00	52.0 PK	74.0	-22.0	2.05 H	199	33.5	18.5
10	#16830.00	42.1 AV	54.0	-11.9	2.05 H	199	23.6	18.5

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	#5470.00	56.3 PK	74.0	-17.7	3.12 V	337	52.6	3.7
2	#5470.00	42.7 AV	54.0	-11.3	3.12 V	337	39.0	3.7
3	*5610.00	105.4 PK			3.12 V	337	101.5	3.9
4	*5610.00	95.5 AV			3.12 V	337	91.6	3.9
5	#5725.00	57.5 PK	74.0	-16.5	3.12 V	337	53.3	4.2
6	#5725.00	45.6 AV	54.0	-8.4	3.12 V	337	41.4	4.2
7	11220.00	57.2 PK	74.0	-16.8	2.85 V	154	42.0	15.2
8	11220.00	43.1 AV	54.0	-10.9	2.85 V	154	27.9	15.2
9	#16830.00	52.1 PK	74.0	-21.9	2.19 V	217	33.6	18.5
10	#16830.00	42.4 AV	54.0	-11.6	2.19 V	217	23.9	18.5

REMARKS:

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

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK)
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	#5470.00	52.1 PK	74.0	-21.9	3.31 H	220	48.4	3.7
2	#5470.00	41.4 AV	54.0	-12.6	3.31 H	220	37.7	3.7
3	*5690.00	107.3 PK			3.16 H	323	103.1	4.2
4	*5690.00	97.5 AV			3.16 H	323	93.3	4.2
5	#5850.00	54.5 PK	74.0	-19.5	2.56 H	215	50.3	4.2
6	#5850.00	42.6 AV	54.0	-11.4	2.56 H	215	38.4	4.2
7	11380.00	57.5 PK	74.0	-16.5	2.19 H	322	42.1	15.4
8	11380.00	43.0 AV	54.0	-11.0	2.19 H	322	27.6	15.4
9	#17070.00	51.7 PK	74.0	-22.3	2.11 H	206	31.7	20.0
10	#17070.00	41.8 AV	54.0	-12.2	2.11 H	206	21.8	20.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	49.9 PK	74.0	-24.1	3.10 V	340	46.2	3.7
2	#5470.00	39.3 AV	54.0	-14.7	3.10 V	340	35.6	3.7
3	*5690.00	105.6 PK			3.10 V	340	101.4	4.2
4	*5690.00	95.9 AV			3.10 V	340	91.7	4.2
5	#5850.00	52.1 PK	74.0	-21.9	3.10 V	340	47.9	4.2
6	#5850.00	40.4 AV	54.0	-13.6	3.10 V	340	36.2	4.2
7	11380.00	57.0 PK	74.0	-17.0	2.85 V	157	41.6	15.4
8	11380.00	43.0 AV	54.0	-11.0	2.85 V	157	27.6	15.4
9	#17070.00	51.9 PK	74.0	-22.1	2.11 V	216	31.9	20.0
10	#17070.00	42.1 AV	54.0	-11.9	2.11 V	216	22.1	20.0

REMARKS:

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

Below 1GHz Data:

802.11ac (VHT40)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	below 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	159.54	31.2 QP	43.5	-12.3	2.00 H	64	39.5	-8.3
2	375.07	38.2 QP	46.0	-7.8	1.00 H	288	43.7	-5.5
3	625.00	37.4 QP	46.0	-8.6	1.00 H	238	37.0	0.4
4	800.03	35.6 QP	46.0	-10.4	1.00 H	194	32.5	3.1
5	875.04	39.8 QP	46.0	-6.2	1.00 H	286	36.1	3.7
6	1000.00	38.4 QP	54.0	-15.6	2.00 H	360	33.2	5.2
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	34.68	35.1 QP	40.0	-4.9	1.00 V	198	44.7	-9.6
2	374.96	39.8 QP	46.0	-6.2	1.50 V	75	45.3	-5.5
3	500.03	36.7 QP	46.0	-9.3	1.00 V	275	39.0	-2.3
4	625.00	41.8 QP	46.0	-4.2	1.50 V	258	41.4	0.4
5	749.96	37.4 QP	46.0	-8.6	1.50 V	55	34.9	2.5
6	1000.00	39.0 QP	54.0	-15.0	1.00 V	295	33.8	5.2

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

Beamforming Mode

Above 1GHz Data:

802.11ac (VHT20)

CHANNEL	TX Channel 52	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	*5260.00	108.2 PK			2.02 H	18	104.9	3.3
2	*5260.00	98.3 AV			2.02 H	18	95.0	3.3
3	5420.00	57.2 PK	74.0	-16.8	1.43 H	181	53.5	3.7
4	5420.00	47.4 AV	54.0	-6.6	1.43 H	181	43.7	3.7
5	#5500.00	56.6 PK	74.0	-17.4	1.40 H	183	52.8	3.8
6	#5500.00	47.4 AV	54.0	-6.6	1.40 H	183	43.6	3.8
7	#10520.00	52.0 PK	74.0	-22.0	2.06 H	324	37.9	14.1
8	#10520.00	41.7 AV	54.0	-12.3	2.06 H	324	27.6	14.1
9	15780.00	53.8 PK	74.0	-20.2	2.09 H	250	38.6	15.2
10	15780.00	41.8 AV	54.0	-12.2	2.09 H	250	26.6	15.2
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	*5260.00	103.0 PK			1.09 V	337	99.7	3.3
2	*5260.00	93.1 AV			1.09 V	337	89.8	3.3
3	5420.00	51.5 PK	74.0	-22.5	1.09 V	337	47.8	3.7
4	5420.00	41.9 AV	54.0	-12.1	1.09 V	337	38.2	3.7
5	#5500.00	51.0 PK	74.0	-23.0	1.09 V	337	47.2	3.8
6	#5500.00	42.0 AV	54.0	-12.0	1.09 V	337	38.2	3.8
7	#10520.00	51.8 PK	74.0	-22.2	1.02 V	142	37.7	14.1
8	#10520.00	41.8 AV	54.0	-12.2	1.02 V	142	27.7	14.1
9	15780.00	51.4 PK	74.0	-22.6	2.22 V	239	36.2	15.2
10	15780.00	41.9 AV	54.0	-12.1	2.22 V	239	26.7	15.2

REMARKS:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
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	5150.00	56.8 PK	74.0	-17.2	1.36 H	190	53.8	3.0
2	5150.00	46.1 AV	54.0	-7.9	1.36 H	190	43.1	3.0
3	*5300.00	108.0 PK			2.01 H	15	104.7	3.3
4	*5300.00	98.2 AV			2.01 H	15	94.9	3.3
5	5350.00	57.3 PK	74.0	-16.7	1.36 H	176	53.8	3.5
6	5350.00	46.4 AV	54.0	-7.6	1.36 H	176	42.9	3.5
7	10600.00	51.4 PK	74.0	-22.6	2.08 H	308	37.1	14.3
8	10600.00	41.3 AV	54.0	-12.7	2.08 H	308	27.0	14.3
9	15900.00	54.1 PK	74.0	-19.9	2.09 H	227	39.0	15.1
10	15900.00	42.1 AV	54.0	-11.9	2.09 H	227	27.0	15.1

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	5150.00	51.9 PK	74.0	-22.1	1.05 V	343	48.9	3.0
2	5150.00	41.3 AV	54.0	-12.7	1.05 V	343	38.3	3.0
3	*5300.00	102.6 PK			1.05 V	343	99.3	3.3
4	*5300.00	93.0 AV			1.05 V	343	89.7	3.3
5	5350.00	52.0 PK	74.0	-22.0	1.05 V	343	48.5	3.5
6	5350.00	41.0 AV	54.0	-13.0	1.05 V	343	37.5	3.5
7	10600.00	52.5 PK	74.0	-21.5	1.04 V	131	38.2	14.3
8	10600.00	42.2 AV	54.0	-11.8	1.04 V	131	27.9	14.3
9	15900.00	51.7 PK	74.0	-22.3	2.22 V	214	36.6	15.1
10	15900.00	41.7 AV	54.0	-12.3	2.22 V	214	26.6	15.1

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.

CHANNEL	TX Channel 64	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	*5320.00	107.7 PK			1.97 H	10	104.2	3.5
2	*5320.00	97.8 AV			1.97 H	10	94.3	3.5
3	5350.00	56.8 PK	74.0	-17.2	1.35 H	186	53.3	3.5
4	5350.00	45.9 AV	54.0	-8.1	1.35 H	186	42.4	3.5
5	10640.00	51.6 PK	74.0	-22.4	2.44 H	232	37.3	14.3
6	10640.00	41.8 AV	54.0	-12.2	2.44 H	232	27.5	14.3
7	15960.00	54.3 PK	74.0	-19.7	2.14 H	241	39.2	15.1
8	15960.00	42.2 AV	54.0	-11.8	2.14 H	241	27.1	15.1
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	*5320.00	102.7 PK			1.13 V	345	99.2	3.5
2	*5320.00	93.0 AV			1.13 V	345	89.5	3.5
3	5350.00	51.9 PK	74.0	-22.1	1.13 V	345	48.4	3.5
4	5350.00	40.7 AV	54.0	-13.3	1.13 V	345	37.2	3.5
5	10640.00	51.7 PK	74.0	-22.3	1.00 V	145	37.4	14.3
6	10640.00	41.6 AV	54.0	-12.4	1.00 V	145	27.3	14.3
7	15960.00	51.1 PK	74.0	-22.9	2.24 V	222	36.0	15.1
8	15960.00	41.7 AV	54.0	-12.3	2.24 V	222	26.6	15.1

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.

CHANNEL	TX Channel 100	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	#5470.00	55.4 PK	74.0	-18.6	1.58 H	188	51.7	3.7
2	#5470.00	45.4 AV	54.0	-8.6	1.58 H	188	41.7	3.7
3	*5500.00	108.6 PK			2.02 H	24	104.8	3.8
4	*5500.00	98.8 AV			2.02 H	24	95.0	3.8
5	11000.00	51.4 PK	74.0	-22.6	2.10 H	315	36.2	15.2
6	11000.00	41.3 AV	54.0	-12.7	2.10 H	315	26.1	15.2
7	#16500.00	53.8 PK	74.0	-20.2	2.10 H	236	36.4	17.4
8	#16500.00	41.9 AV	54.0	-12.1	2.10 H	236	24.5	17.4
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	#5470.00	50.6 PK	74.0	-23.4	1.14 V	357	46.9	3.7
2	#5470.00	40.6 AV	54.0	-13.4	1.14 V	357	36.9	3.7
3	*5500.00	103.9 PK			1.14 V	357	100.1	3.8
4	*5500.00	93.8 AV			1.14 V	357	90.0	3.8
5	11000.00	51.9 PK	74.0	-22.1	1.02 V	140	36.7	15.2
6	11000.00	41.9 AV	54.0	-12.1	1.02 V	140	26.7	15.2
7	#16500.00	51.2 PK	74.0	-22.8	2.19 V	226	33.8	17.4
8	#16500.00	41.5 AV	54.0	-12.5	2.19 V	226	24.1	17.4

REMARKS:

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

CHANNEL	TX Channel 116	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	#5470.00	55.8 PK	74.0	-18.2	1.53 H	188	52.1	3.7
2	#5470.00	45.9 AV	54.0	-8.1	1.53 H	188	42.2	3.7
3	*5580.00	108.3 PK			1.95 H	15	104.4	3.9
4	*5580.00	98.3 AV			1.95 H	15	94.4	3.9
5	#5725.00	54.8 PK	74.0	-19.2	1.63 H	194	50.6	4.2
6	#5725.00	45.1 AV	54.0	-8.9	1.63 H	194	40.9	4.2
7	11160.00	51.5 PK	74.0	-22.5	2.10 H	311	36.3	15.2
8	11160.00	41.3 AV	54.0	-12.7	2.10 H	311	26.1	15.2
9	#16740.00	54.1 PK	74.0	-19.9	2.16 H	224	35.8	18.3
10	#16740.00	41.9 AV	54.0	-12.1	2.16 H	224	23.6	18.3

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	#5470.00	51.1 PK	74.0	-22.9	1.14 V	353	47.4	3.7
2	#5470.00	41.0 AV	54.0	-13.0	1.14 V	353	37.3	3.7
3	*5580.00	103.2 PK			1.14 V	353	99.3	3.9
4	*5580.00	93.4 AV			1.14 V	353	89.5	3.9
5	#5725.00	50.4 PK	74.0	-23.6	1.14 V	353	46.2	4.2
6	#5725.00	40.6 AV	54.0	-13.4	1.14 V	353	36.4	4.2
7	11160.00	51.7 PK	74.0	-22.3	1.05 V	129	36.5	15.2
8	11160.00	41.6 AV	54.0	-12.4	1.05 V	129	26.4	15.2
9	#16740.00	51.4 PK	74.0	-22.6	2.25 V	241	33.1	18.3
10	#16740.00	41.9 AV	54.0	-12.1	2.25 V	241	23.6	18.3

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	108.1 PK			1.89 H	22	103.9	4.2
2	*5700.00	98.3 AV			1.89 H	22	94.1	4.2
3	#5725.00	64.4 PK	74.0	-9.6	1.00 H	185	60.2	4.2
4	#5725.00	49.2 AV	54.0	-4.8	1.00 H	185	45.0	4.2
5	11400.00	51.9 PK	74.0	-22.1	1.00 H	122	36.4	15.5
6	11400.00	40.1 AV	54.0	-13.9	1.00 H	122	24.6	15.5
7	#17100.00	53.5 PK	74.0	-20.5	2.13 H	223	33.4	20.1
8	#17100.00	41.7 AV	54.0	-12.3	2.13 H	223	21.6	20.1
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	103.1 PK			1.09 V	348	98.9	4.2
2	*5700.00	93.4 AV			1.09 V	348	89.2	4.2
3	#5725.00	61.1 PK	74.0	-12.9	1.09 V	348	56.9	4.2
4	#5725.00	47.7 AV	54.0	-6.3	1.09 V	348	43.5	4.2
5	11400.00	51.1 PK	74.0	-22.9	1.00 V	288	35.6	15.5
6	11400.00	40.0 AV	54.0	-14.0	1.00 V	288	24.5	15.5
7	#17100.00	51.3 PK	74.0	-22.7	2.20 V	233	31.2	20.1
8	#17100.00	42.0 AV	54.0	-12.0	2.20 V	233	21.9	20.1

REMARKS:

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

CHANNEL	TX Channel 144	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	#5470.00	55.2 PK	74.0	-18.8	1.61 H	173	51.5	3.7
2	#5470.00	44.9 AV	54.0	-9.1	1.61 H	173	41.2	3.7
3	*5720.00	108.2 PK			1.89 H	27	104.0	4.2
4	*5720.00	98.6 AV			1.89 H	27	94.4	4.2
5	#5850.00	55.6 PK	74.0	-18.4	1.56 H	201	51.4	4.2
6	#5850.00	45.6 AV	54.0	-8.4	1.56 H	201	41.4	4.2
7	11440.00	52.0 PK	74.0	-22.0	2.05 H	313	36.7	15.3
8	11440.00	41.7 AV	54.0	-12.3	2.05 H	313	26.4	15.3
9	#17160.00	53.6 PK	74.0	-20.4	2.08 H	246	33.8	19.8
10	#17160.00	41.6 AV	54.0	-12.4	2.08 H	246	21.8	19.8

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	#5470.00	50.0 PK	74.0	-24.0	1.11 V	355	46.3	3.7
2	#5470.00	39.9 AV	54.0	-14.1	1.11 V	355	36.2	3.7
3	*5720.00	102.8 PK			1.11 V	355	98.6	4.2
4	*5720.00	93.3 AV			1.11 V	355	89.1	4.2
5	#5850.00	50.7 PK	74.0	-23.3	1.11 V	355	46.5	4.2
6	#5850.00	40.9 AV	54.0	-13.1	1.11 V	355	36.7	4.2
7	11440.00	52.1 PK	74.0	-21.9	1.00 V	146	36.8	15.3
8	11440.00	42.0 AV	54.0	-12.0	1.00 V	146	26.7	15.3
9	#17160.00	51.1 PK	74.0	-22.9	2.22 V	236	31.3	19.8
10	#17160.00	41.6 AV	54.0	-12.4	2.22 V	236	21.8	19.8

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 (VHT40)

CHANNEL	TX Channel 54	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	5150.00	51.4 PK	74.0	-22.6	1.84 H	82	48.4	3.0
2	5150.00	41.6 AV	54.0	-12.4	1.84 H	82	38.6	3.0
3	*5270.00	107.8 PK			1.62 H	85	104.5	3.3
4	*5270.00	97.1 AV			1.62 H	85	93.8	3.3
5	#10540.00	51.2 PK	74.0	-22.8	2.15 H	308	37.0	14.2
6	#10540.00	41.2 AV	54.0	-12.8	2.15 H	308	27.0	14.2
7	15810.00	53.3 PK	74.0	-20.7	2.06 H	250	38.3	15.0
8	15810.00	41.5 AV	54.0	-12.5	2.06 H	250	26.5	15.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.4 PK	74.0	-18.6	1.03 V	354	52.4	3.0
2	5150.00	41.4 AV	54.0	-12.6	1.03 V	354	38.4	3.0
3	*5270.00	102.8 PK			1.03 V	354	99.5	3.3
4	*5270.00	92.1 AV			1.03 V	354	88.8	3.3
5	#10540.00	51.2 PK	74.0	-22.8	1.04 V	145	37.0	14.2
6	#10540.00	41.5 AV	54.0	-12.5	1.04 V	145	27.3	14.2
7	15810.00	50.8 PK	74.0	-23.2	2.20 V	225	35.8	15.0
8	15810.00	41.0 AV	54.0	-13.0	2.20 V	225	26.0	15.0

REMARKS:

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

CHANNEL	TX Channel 62	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	5150.00	51.7 PK	74.0	-22.3	1.84 H	90	48.7	3.0
2	5150.00	42.0 AV	54.0	-12.0	1.84 H	90	39.0	3.0
3	*5310.00	107.5 PK			1.63 H	84	104.1	3.4
4	*5310.00	96.7 AV			1.63 H	84	93.3	3.4
5	5350.00	62.5 PK	74.0	-11.5	1.78 H	86	59.0	3.5
6	5350.00	47.9 AV	54.0	-6.1	1.78 H	86	44.4	3.5
7	10620.00	51.9 PK	74.0	-22.1	2.15 H	321	37.6	14.3
8	10620.00	41.7 AV	54.0	-12.3	2.15 H	321	27.4	14.3
9	15930.00	53.6 PK	74.0	-20.4	2.12 H	230	38.5	15.1
10	15930.00	41.6 AV	54.0	-12.4	2.12 H	230	26.5	15.1

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	5150.00	54.6 PK	74.0	-19.4	1.06 V	354	51.6	3.0
2	5150.00	40.6 AV	54.0	-13.4	1.06 V	354	37.6	3.0
3	*5310.00	102.8 PK			1.06 V	354	99.4	3.4
4	*5310.00	91.8 AV			1.06 V	354	88.4	3.4
5	5350.00	57.3 PK	74.0	-16.7	1.06 V	354	53.8	3.5
6	5350.00	42.8 AV	54.0	-11.2	1.06 V	354	39.3	3.5
7	10620.00	52.4 PK	74.0	-21.6	1.05 V	126	38.1	14.3
8	10620.00	42.2 AV	54.0	-11.8	1.05 V	126	27.9	14.3
9	15930.00	50.9 PK	74.0	-23.1	2.15 V	240	35.8	15.1
10	15930.00	41.2 AV	54.0	-12.8	2.15 V	240	26.1	15.1

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.

CHANNEL	TX Channel 102	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	#5470.00	60.0 PK	74.0	-14.0	1.67 H	89	56.3	3.7
2	#5470.00	46.1 AV	54.0	-7.9	1.67 H	89	42.4	3.7
3	*5510.00	108.4 PK			1.67 H	85	104.6	3.8
4	*5510.00	96.2 AV			1.67 H	85	92.4	3.8
5	11020.00	51.7 PK	74.0	-22.3	2.12 H	318	36.6	15.1
6	11020.00	41.7 AV	54.0	-12.3	2.12 H	318	26.6	15.1
7	#16530.00	53.9 PK	74.0	-20.1	2.13 H	241	36.4	17.5
8	#16530.00	42.0 AV	54.0	-12.0	2.13 H	241	24.5	17.5
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	#5470.00	55.0 PK	74.0	-19.0	1.12 V	339	51.3	3.7
2	#5470.00	40.9 AV	54.0	-13.1	1.12 V	339	37.2	3.7
3	*5510.00	103.0 PK			1.12 V	339	99.2	3.8
4	*5510.00	90.7 AV			1.12 V	339	86.9	3.8
5	11020.00	52.5 PK	74.0	-21.5	1.07 V	134	37.4	15.1
6	11020.00	42.3 AV	54.0	-11.7	1.07 V	134	27.2	15.1
7	#16530.00	51.4 PK	74.0	-22.6	2.19 V	223	33.9	17.5
8	#16530.00	41.9 AV	54.0	-12.1	2.19 V	223	24.4	17.5

REMARKS:

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

CHANNEL	TX Channel 110	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	#5470.00	51.7 PK	74.0	-22.3	1.82 H	77	48.0	3.7
2	#5470.00	42.3 AV	54.0	-11.7	1.82 H	77	38.6	3.7
3	*5550.00	108.8 PK			1.93 H	173	104.9	3.9
4	*5550.00	96.7 AV			1.93 H	173	92.8	3.9
5	#5725.00	52.0 PK	74.0	-22.0	1.78 H	90	47.8	4.2
6	#5725.00	42.1 AV	54.0	-11.9	1.78 H	90	37.9	4.2
7	11100.00	51.6 PK	74.0	-22.4	2.07 H	311	36.5	15.1
8	11100.00	41.5 AV	54.0	-12.5	2.07 H	311	26.4	15.1
9	#16650.00	53.6 PK	74.0	-20.4	2.11 H	222	35.6	18.0
10	#16650.00	41.7 AV	54.0	-12.3	2.11 H	222	23.7	18.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.0 PK	74.0	-19.0	1.14 V	353	51.3	3.7
2	#5470.00	41.0 AV	54.0	-13.0	1.14 V	353	37.3	3.7
3	*5550.00	104.0 PK			1.14 V	353	100.1	3.9
4	*5550.00	92.0 AV			1.14 V	353	88.1	3.9
5	#5725.00	54.9 PK	74.0	-19.1	1.14 V	353	50.7	4.2
6	#5725.00	40.9 AV	54.0	-13.1	1.14 V	353	36.7	4.2
7	11100.00	51.8 PK	74.0	-22.2	1.07 V	127	36.7	15.1
8	11100.00	41.8 AV	54.0	-12.2	1.07 V	127	26.7	15.1
9	#16650.00	51.4 PK	74.0	-22.6	2.18 V	218	33.4	18.0
10	#16650.00	41.9 AV	54.0	-12.1	2.18 V	218	23.9	18.0

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. 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)
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	*5670.00	109.2 PK			1.96 H	180	105.2	4.0
2	*5670.00	97.1 AV			1.96 H	180	93.1	4.0
3	#5725.00	55.7 PK	74.0	-18.3	1.95 H	183	51.5	4.2
4	#5725.00	46.9 AV	54.0	-7.1	1.95 H	183	42.7	4.2
5	11340.00	51.1 PK	74.0	-22.9	2.08 H	327	35.8	15.3
6	11340.00	40.9 AV	54.0	-13.1	2.08 H	327	25.6	15.3
7	#17010.00	53.8 PK	74.0	-20.2	2.13 H	252	33.9	19.9
8	#17010.00	41.9 AV	54.0	-12.1	2.13 H	252	22.0	19.9
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	*5670.00	104.6 PK			1.07 V	355	100.6	4.0
2	*5670.00	92.2 AV			1.07 V	355	88.2	4.0
3	#5725.00	50.5 PK	74.0	-23.5	1.07 V	355	46.3	4.2
4	#5725.00	41.9 AV	54.0	-12.1	1.07 V	355	37.7	4.2
5	11340.00	52.1 PK	74.0	-21.9	1.04 V	145	36.8	15.3
6	11340.00	41.9 AV	54.0	-12.1	1.04 V	145	26.6	15.3
7	#17010.00	50.9 PK	74.0	-23.1	2.18 V	219	31.0	19.9
8	#17010.00	41.2 AV	54.0	-12.8	2.18 V	219	21.3	19.9

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 142	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	#5470.00	51.3 PK	74.0	-22.7	1.83 H	73	47.6	3.7
2	#5470.00	42.1 AV	54.0	-11.9	1.83 H	73	38.4	3.7
3	*5710.00	109.8 PK			1.97 H	167	105.6	4.2
4	*5710.00	97.5 AV			1.97 H	167	93.3	4.2
5	#5850.00	52.7 PK	74.0	-21.3	1.81 H	74	48.5	4.2
6	#5850.00	42.6 AV	54.0	-11.4	1.81 H	74	38.4	4.2
7	11420.00	51.3 PK	74.0	-22.7	2.15 H	322	35.9	15.4
8	11420.00	40.9 AV	54.0	-13.1	2.15 H	322	25.5	15.4
9	#17130.00	54.4 PK	74.0	-19.6	2.15 H	241	34.4	20.0
10	#17130.00	42.4 AV	54.0	-11.6	2.15 H	241	22.4	20.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	54.4 PK	74.0	-19.6	1.06 V	338	50.7	3.7
2	#5470.00	40.7 AV	54.0	-13.3	1.06 V	338	37.0	3.7
3	*5710.00	104.8 PK			1.06 V	338	100.6	4.2
4	*5710.00	92.8 AV			1.06 V	338	88.6	4.2
5	#5850.00	54.8 PK	74.0	-19.2	1.06 V	338	50.6	4.2
6	#5850.00	41.2 AV	54.0	-12.8	1.06 V	338	37.0	4.2
7	11420.00	51.2 PK	74.0	-22.8	1.01 V	126	35.8	15.4
8	11420.00	41.4 AV	54.0	-12.6	1.01 V	126	26.0	15.4
9	#17130.00	51.1 PK	74.0	-22.9	2.18 V	230	31.1	20.0
10	#17130.00	41.6 AV	54.0	-12.4	2.18 V	230	21.6	20.0

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 58	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	5000.00	54.6 PK	74.0	-19.4	1.00 H	194	52.0	2.6
2	5000.00	44.3 AV	54.0	-9.7	1.00 H	194	41.7	2.6
3	*5290.00	100.6 PK			1.25 H	173	97.3	3.3
4	*5290.00	89.8 AV			1.25 H	173	86.5	3.3
5	5450.00	56.1 PK	74.0	-17.9	1.78 H	186	52.4	3.7
6	5450.00	45.8 AV	54.0	-8.2	1.78 H	186	42.1	3.7
7	#10580.00	51.9 PK	74.0	-22.1	2.12 H	317	37.6	14.3
8	#10580.00	41.7 AV	54.0	-12.3	2.12 H	317	27.4	14.3
9	15870.00	54.1 PK	74.0	-19.9	2.12 H	238	39.1	15.0
10	15870.00	42.1 AV	54.0	-11.9	2.12 H	238	27.1	15.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5000.00	54.6 PK	74.0	-19.4	1.13 V	340	52.0	2.6
2	5000.00	40.6 AV	54.0	-13.4	1.13 V	340	38.0	2.6
3	*5290.00	95.5 PK			1.13 V	340	92.2	3.3
4	*5290.00	84.7 AV			1.13 V	340	81.4	3.3
5	5450.00	55.0 PK	74.0	-19.0	1.13 V	340	51.3	3.7
6	5450.00	41.0 AV	54.0	-13.0	1.13 V	340	37.3	3.7
7	#10580.00	52.2 PK	74.0	-21.8	1.00 V	154	37.9	14.3
8	#10580.00	41.9 AV	54.0	-12.1	1.00 V	154	27.6	14.3
9	15870.00	51.5 PK	74.0	-22.5	2.16 V	217	36.5	15.0
10	15870.00	41.7 AV	54.0	-12.3	2.16 V	217	26.7	15.0

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	54.5 PK	74.0	-19.5	1.03 H	204	50.8	3.7
2	#5470.00	44.4 AV	54.0	-9.6	1.03 H	204	40.7	3.7
3	*5530.00	101.0 PK			1.26 H	187	97.1	3.9
4	*5530.00	90.3 AV			1.26 H	187	86.4	3.9
5	#5770.00	55.6 PK	74.0	-18.4	1.76 H	194	51.4	4.2
6	#5770.00	45.5 AV	54.0	-8.5	1.76 H	194	41.3	4.2
7	11060.00	51.4 PK	74.0	-22.6	2.11 H	316	36.3	15.1
8	11060.00	41.5 AV	54.0	-12.5	2.11 H	316	26.4	15.1
9	#16590.00	53.4 PK	74.0	-20.6	2.07 H	239	35.7	17.7
10	#16590.00	41.5 AV	54.0	-12.5	2.07 H	239	23.8	17.7

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	#5470.00	55.0 PK	74.0	-19.0	1.10 V	344	51.3	3.7
2	#5470.00	41.1 AV	54.0	-12.9	1.10 V	344	37.4	3.7
3	*5530.00	95.7 PK			1.10 V	344	91.8	3.9
4	*5530.00	85.2 AV			1.10 V	344	81.3	3.9
5	#5770.00	55.2 PK	74.0	-18.8	1.10 V	344	51.0	4.2
6	#5770.00	41.4 AV	54.0	-12.6	1.10 V	344	37.2	4.2
7	11060.00	52.0 PK	74.0	-22.0	1.04 V	133	36.9	15.1
8	11060.00	42.2 AV	54.0	-11.8	1.04 V	133	27.1	15.1
9	#16590.00	51.5 PK	74.0	-22.5	2.18 V	238	33.8	17.7
10	#16590.00	41.5 AV	54.0	-12.5	2.18 V	238	23.8	17.7

REMARKS:

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

CHANNEL	TX Channel 122	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	*5610.00	100.7 PK			1.23 H	164	96.8	3.9
2	*5610.00	90.2 AV			1.23 H	164	86.3	3.9
3	#5725.00	55.1 PK	74.0	-18.9	1.02 H	203	50.9	4.2
4	#5725.00	44.6 AV	54.0	-9.4	1.02 H	203	40.4	4.2
5	11220.00	51.4 PK	74.0	-22.6	2.06 H	320	36.2	15.2
6	11220.00	41.4 AV	54.0	-12.6	2.06 H	320	26.2	15.2
7	#16830.00	53.7 PK	74.0	-20.3	2.04 H	233	35.2	18.5
8	#16830.00	41.5 AV	54.0	-12.5	2.04 H	233	23.0	18.5
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	*5610.00	96.2 PK			1.04 V	346	92.3	3.9
2	*5610.00	85.6 AV			1.04 V	346	81.7	3.9
3	#5725.00	55.2 PK	74.0	-18.8	1.04 V	346	51.0	4.2
4	#5725.00	41.4 AV	54.0	-12.6	1.04 V	346	37.2	4.2
5	11220.00	52.1 PK	74.0	-21.9	1.06 V	155	36.9	15.2
6	11220.00	42.0 AV	54.0	-12.0	1.06 V	155	26.8	15.2
7	#16830.00	51.2 PK	74.0	-22.8	2.14 V	222	32.7	18.5
8	#16830.00	41.7 AV	54.0	-12.3	2.14 V	222	23.2	18.5

REMARKS:

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

CHANNEL	TX Channel 138	DETECTOR FUNCTION	Peak (PK)
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	#5470.00	54.1 PK	74.0	-19.9	1.01 H	201	50.4	3.7
2	#5470.00	43.9 AV	54.0	-10.1	1.01 H	201	40.2	3.7
3	*5690.00	100.3 PK			1.21 H	185	96.1	4.2
4	*5690.00	89.5 AV			1.21 H	185	85.3	4.2
5	#5850.00	56.7 PK	74.0	-17.3	1.76 H	193	52.5	4.2
6	#5850.00	46.3 AV	54.0	-7.7	1.76 H	193	42.1	4.2
7	11380.00	51.9 PK	74.0	-22.1	2.15 H	318	36.5	15.4
8	11380.00	41.6 AV	54.0	-12.4	2.15 H	318	26.2	15.4
9	#17070.00	53.7 PK	74.0	-20.3	2.08 H	238	33.7	20.0
10	#17070.00	41.9 AV	54.0	-12.1	2.08 H	238	21.9	20.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.6 PK	74.0	-18.4	1.15 V	349	51.9	3.7
2	#5470.00	41.4 AV	54.0	-12.6	1.15 V	349	37.7	3.7
3	*5690.00	95.5 PK			1.15 V	349	91.3	4.2
4	*5690.00	84.9 AV			1.15 V	349	80.7	4.2
5	#5850.00	55.1 PK	74.0	-18.9	1.15 V	349	50.9	4.2
6	#5850.00	41.1 AV	54.0	-12.9	1.15 V	349	36.9	4.2
7	11380.00	52.0 PK	74.0	-22.0	1.04 V	129	36.6	15.4
8	11380.00	41.7 AV	54.0	-12.3	1.04 V	129	26.3	15.4
9	#17070.00	51.2 PK	74.0	-22.8	2.17 V	235	31.2	20.0
10	#17070.00	41.7 AV	54.0	-12.3	2.17 V	235	21.7	20.0

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2015	Oct. 22, 2016
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 28, 2015	Oct. 27, 2016
RF Cable	5D-FB	COACAB-002	Mar. 04, 2016	Mar. 03, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	Jun. 20, 2016	Jun. 19, 2017
Software BVADT	BVADT_Cond_ V7.3.7.3	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 Shielded Room No. 1.
- 3 Tested Date: July 12, 2016

4.2.3 Test Procedure

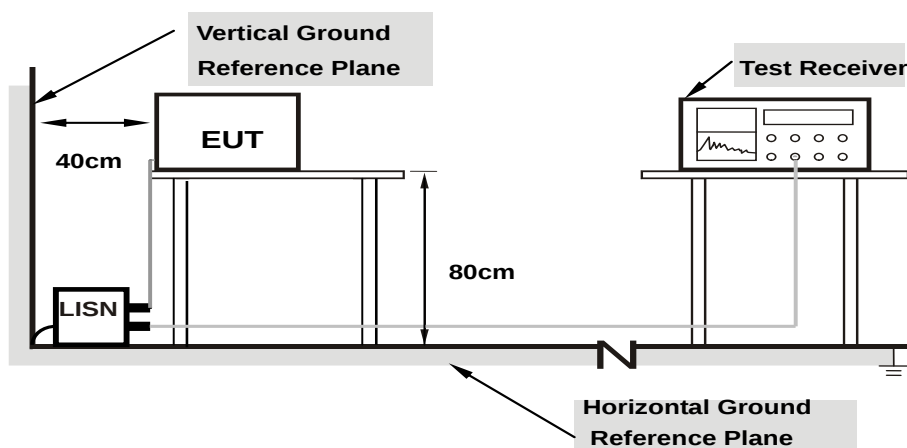
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

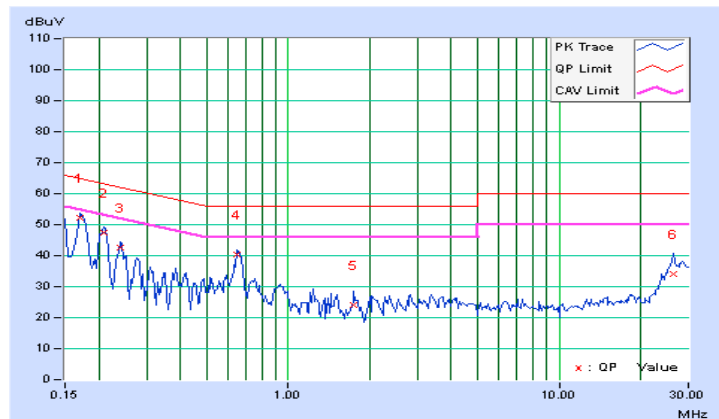
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	10.21	41.95	31.35	52.16	41.56	64.98	54.98	-12.82	-13.42
2	0.20859	10.22	37.09	23.64	47.31	33.86	63.26	53.26	-15.95	-19.40
3	0.23984	10.22	32.33	17.64	42.55	27.86	62.10	52.10	-19.55	-24.24
4	0.65000	10.24	29.95	24.01	40.19	34.25	56.00	46.00	-15.81	-11.75
5	1.74219	10.30	13.66	7.73	23.96	18.03	56.00	46.00	-32.04	-27.97
6	26.29297	11.47	22.67	16.87	34.14	28.34	60.00	50.00	-25.86	-21.66

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.

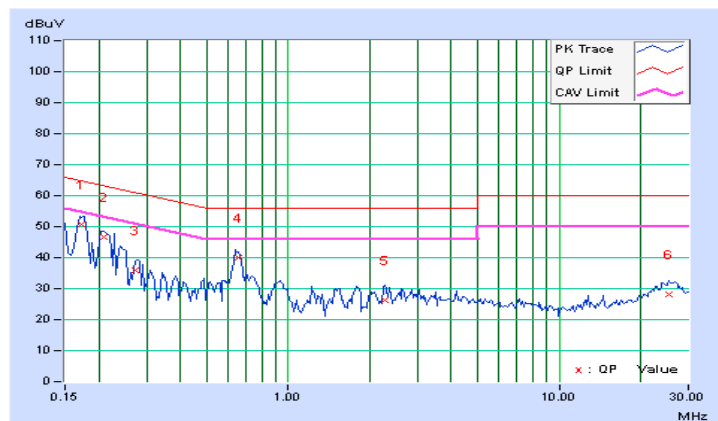


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17147	10.20	40.51	28.33	50.71	38.53	64.89	54.89	-14.18	-16.36
2	0.20859	10.21	36.44	26.33	46.65	36.54	63.26	53.26	-16.61	-16.72
3	0.27216	10.21	25.62	14.17	35.83	24.38	61.05	51.05	-25.23	-26.68
4	0.65256	10.22	29.95	24.97	40.17	35.19	56.00	46.00	-15.83	-10.81
5	2.27344	10.28	16.01	10.27	26.29	20.55	56.00	46.00	-29.71	-25.45
6	25.32422	11.13	16.95	11.56	28.08	22.69	60.00	50.00	-31.92	-27.31

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

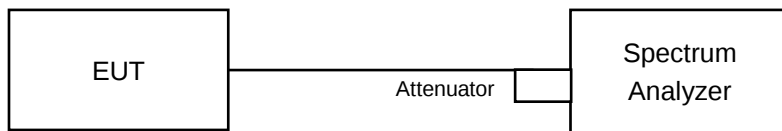
Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

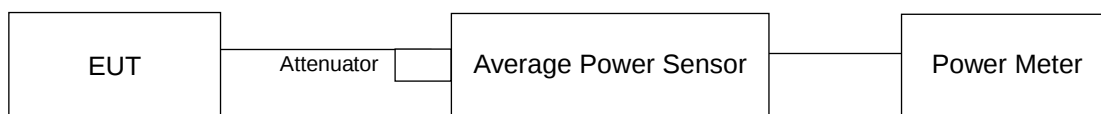
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

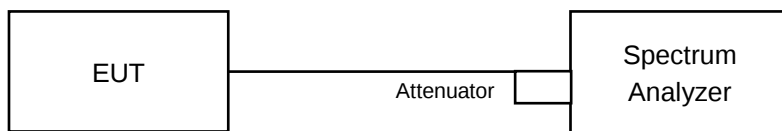
For channel straddling 5725MHz:



For other channels:



FOR 26dB OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

For channel straddling 5725MHz:

Method SA-1

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

For other channels:

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

CDD Mode

802.11a

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.02	14.20	14.53	14.48	107.971	20.33	24.00	Pass
60	5300	13.99	14.39	14.59	14.58	110.022	20.41	24.00	Pass
64	5320	13.97	14.32	14.29	14.89	109.671	20.40	24.00	Pass
100	5500	14.49	13.95	14.58	14.51	109.907	20.41	24.00	Pass
116	5580	14.42	13.96	14.44	14.62	109.328	20.39	24.00	Pass
140	5700	14.26	14.08	14.79	14.06	107.853	20.33	24.00	Pass
*144 (UNII-2c Band)	5720	10.22	10.77	10.76	10.08	44.558	16.49	23.11	Pass
*144 (UNII-3 Band)	5720	4.27	4.65	5.46	4.22	11.748	10.70	30.00	Pass

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

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*144	5720	56.306	17.51

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	23.31	23.19	23.33	23.11
60	5300	23.32	22.97	23.33	23.04
64	5320	23.38	23.17	23.54	23.11
100	5500	23.49	22.91	23.77	23.00
116	5580	23.60	22.78	23.53	23.34
140	5700	23.25	22.91	23.76	23.20
144 (UNII-2c Band)	5720	16.27	16.69	16.68	16.81

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.11	24.63 > 24
60	5300	22.97	24.61 > 24
64	5320	23.11	24.93 > 24
100	5500	22.91	24.60 > 24
116	5580	22.78	24.57 > 24
140	5700	22.91	24.60 > 24
144 (UNII-2c Band)	5720	16.27	23.11 > 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	13.65	13.78	13.71	13.77	94.371	19.75	24.00	Pass
60	5300	13.52	13.73	13.92	13.87	95.134	19.78	24.00	Pass
64	5320	13.41	13.63	14.12	14.23	97.303	19.88	24.00	Pass
100	5500	14.16	13.21	14.04	14.06	97.822	19.90	24.00	Pass
116	5580	14.15	13.06	14.06	14.04	97.051	19.87	24.00	Pass
140	5700	13.60	13.43	14.23	13.47	93.656	19.72	24.00	Pass
*144 (UNII-2c Band)	5720	9.85	10.29	10.82	10.13	42.734	16.31	23.34	Pass
*144 (UNII-3 Band)	5720	4.43	4.69	5.89	4.85	12.654	11.02	30.00	Pass

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

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*144	5720	55.388	17.43

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	23.87	24.28	24.93	25.24
60	5300	24.80	24.58	25.21	25.46
64	5320	24.58	24.34	25.07	25.46
100	5500	24.75	24.74	24.81	25.05
116	5580	24.13	24.30	25.22	24.55
140	5700	24.33	24.23	25.29	25.44
144 (UNII-2c Band)	5720	17.17	17.39	17.85	17.77

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.87	24.77 > 24
60	5300	24.58	24.90 > 24
64	5320	24.34	24.86 > 24
100	5500	24.74	24.93 > 24
116	5580	24.13	24.82 > 24
140	5700	24.23	24.84 > 24
144 (UNII-2c Band)	5720	17.17	24.34 > 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.10	17.60	18.10	18.10	237.96	23.77	24.00	Pass
62	5310	16.73	17.23	17.73	17.73	218.529	23.40	24.00	Pass
102	5510	16.47	16.53	16.93	16.94	188.087	22.74	24.00	Pass
110	5550	17.08	17.58	18.08	18.08	236.868	23.75	24.00	Pass
134	5670	17.02	17.52	18.02	18.02	233.618	23.69	24.00	Pass
*142 (UNII-2c Band)	5710	14.05	14.51	15.04	14.35	112.801	20.52	24.00	Pass
*142 (UNII-3 Band)	5710	4.07	4.07	4.02	4.44	10.409	10.17	30.00	Pass

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

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*142	5710	123.21	20.91

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	43.62	43.75	43.95	44.49
62	5310	44.08	43.79	43.98	44.54
102	5510	49.21	43.48	44.23	44.41
110	5550	46.00	44.64	44.95	44.36
134	5670	50.72	44.27	48.07	47.30
*142 (UNII-2c Band)	5710	37.81	37.22	47.22	37.00

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	43.62	27.39 > 24
62	5310	43.79	27.41 > 24
102	5510	43.48	27.38 > 24
110	5550	44.36	27.46 > 24
134	5670	44.27	27.46 > 24
*142 (UNII-2c Band)	5710	37.00	26.68 > 24

802.11ac (VHT80)

OUTPUT POWER:

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	16.49	16.73	16.51	17.33	190.51	22.80	24.00	Pass
106	5530	16.48	16.65	16.45	17.23	187.703	22.73	24.00	Pass
122	5610	17.34	16.95	17.69	18.13	227.507	23.57	24.00	Pass
*138 (UNII-2c Band)	5690	14.34	14.18	14.68	14.51	110.971	20.45	24.00	Pass
*138 (UNII-3 Band)	5690	0.99	0.12	-0.20	1.05	4.5125	6.54	30.00	Pass

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

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*138	5690	115.4835	20.63

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.03	83.20	83.17	83.61
106	5530	83.59	83.11	83.13	83.43
122	5610	84.22	83.04	84.30	83.94
*138 (UNII-2c Band)	5690	76.75	76.14	76.57	76.84

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.03	30.19 > 24
106	5530	83.11	30.19 > 24
122	5610	83.04	30.19 > 24
*138 (UNII-2c Band)	5690	76.14	29.81 > 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	13.65	13.78	13.71	13.77	94.371	19.75	19.93	Pass
60	5300	13.52	13.73	13.92	13.87	95.134	19.78	19.93	Pass
64	5320	13.41	13.63	14.12	14.23	97.303	19.88	19.93	Pass
100	5500	14.16	13.21	14.04	14.06	97.822	19.90	19.93	Pass
116	5580	14.15	13.06	14.06	14.04	97.051	19.87	19.93	Pass
140	5700	13.60	13.43	14.23	13.47	93.656	19.72	19.93	Pass
*144 (UNII-2c Band)	5720	9.85	10.29	10.82	10.13	42.734	16.31	19.27	Pass
*144 (UNII-3 Band)	5720	4.43	4.69	5.89	4.85	12.654	11.02	25.93	Pass

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

2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(10.07-6).

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*144	5720	55.388	17.43

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	23.87	24.28	24.93	25.24
60	5300	24.80	24.58	25.21	25.46
64	5320	24.58	24.34	25.07	25.46
100	5500	24.75	24.74	24.81	25.05
116	5580	24.13	24.30	25.22	24.55
140	5700	24.33	24.23	25.29	25.44
144 (UNII-2c Band)	5720	17.17	17.39	17.85	17.77

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	23.87	24.77 > 24
60	5300	24.58	24.90 > 24
64	5320	24.34	24.86 > 24
100	5500	24.74	24.93 > 24
116	5580	24.13	24.82 > 24
140	5700	24.23	24.84 > 24
144 (UNII-2c Band)	5720	17.17	23.34 < 24

802.11ac (VHT40)

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	13.37	13.45	13.82	14.14	93.899	19.73	19.93	Pass
62	5310	13.48	13.47	13.65	14.10	93.395	19.70	19.93	Pass
102	5510	14.03	13.25	13.74	14.01	95.264	19.79	19.93	Pass
110	5550	13.86	13.14	13.74	13.91	93.191	19.69	19.93	Pass
134	5670	13.56	13.23	13.74	13.74	91.055	19.59	19.93	Pass
*142 (UNII-2c Band)	5710	10.61	10.52	11.79	11.29	51.34	17.10	19.93	Pass
*142 (UNII-3 Band)	5710	0.70	0.33	0.74	1.32	4.795	6.81	25.93	Pass

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

2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(10.07-6).

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*142	5710	56.135	17.49

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	43.62	43.75	43.95	44.49
62	5310	44.08	43.79	43.98	44.54
102	5510	49.21	43.48	44.23	44.41
110	5550	46.00	44.64	44.95	44.36
134	5670	50.72	44.27	48.07	47.30
*142 (UNII-2c Band)	5710	37.81	37.22	47.22	37.00

Note: For FCC output power limitation is determined based on 26dB bandwidth.

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	43.62	27.39 > 24
62	5310	43.79	27.41 > 24
102	5510	43.48	27.38 > 24
110	5550	44.36	27.46 > 24
134	5670	44.27	27.46 > 24
*142 (UNII-2c Band)	5710	37.00	26.68 > 24

802.11ac (VHT80)

OUTPUT POWER:

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	13.59	13.65	14.03	14.25	97.93	19.91	19.93	Pass
106	5530	13.65	13.77	14.10	14.06	98.169	19.92	19.93	Pass
122	5610	13.77	13.65	14.02	14.06	97.7	19.90	19.93	Pass
*138 (UNII-2c Band)	5690	10.36	10.91	10.79	4.77	38.189	15.82	19.93	Pass
*138 (UNII-3 Band)	5690	-2.66	-2.88	-3.91	-5.99	1.7154	2.34	25.93	Pass

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

2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(10.07-6).

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*138	5690	39.9044	16.01

Note: The total power was calculated through formula and record the value for reference only.

26dB BANDWIDTH:

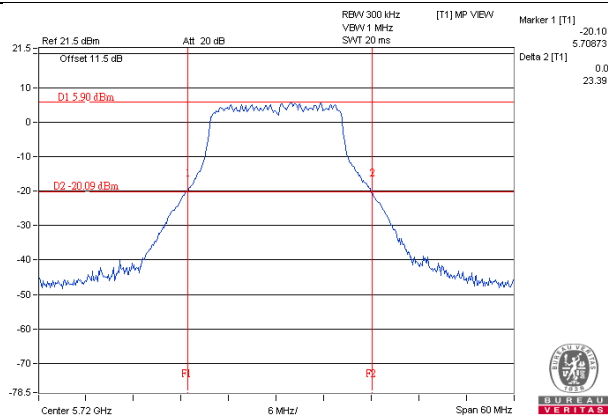
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	83.03	83.20	83.17	83.61
106	5530	83.59	83.11	83.13	83.43
122	5610	84.22	83.04	84.30	83.94
*138 (UNII-2c Band)	5690	76.75	76.14	76.57	76.84

Note: For FCC output power limitation is determined based on 26dB bandwidth.

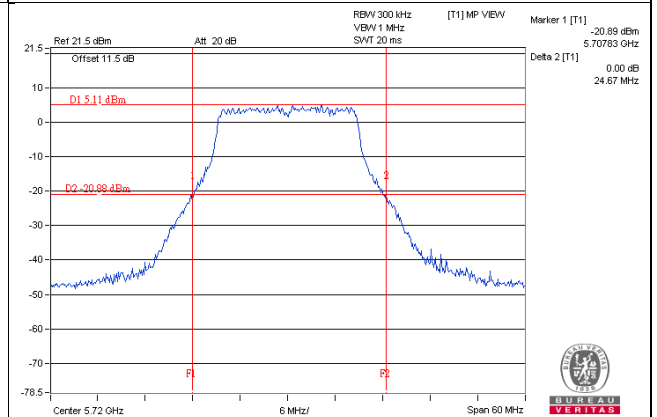
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	83.03	30.19 > 24
106	5530	83.11	30.19 > 24
122	5610	83.04	30.19 > 24
*138 (UNII-2c Band)	5690	76.14	29.81 > 24

Spectrum Plot of Worst Value

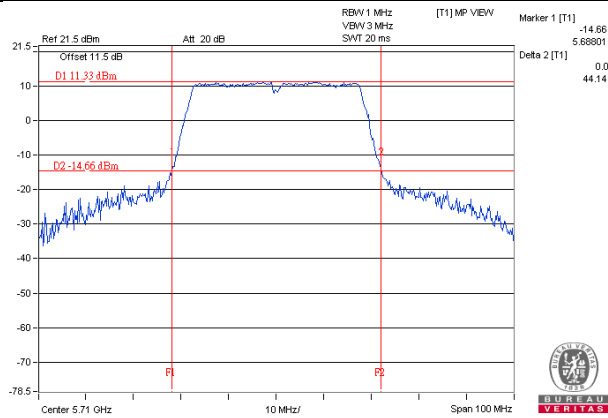
802.11a_Chain 0 / CH144 (UNII-2c Band)



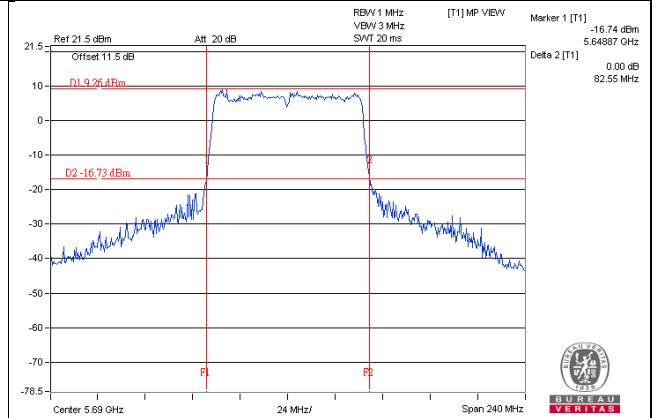
802.11ac (VHT20)_Chain 0 / CH144 (UNII-2c Band)



802.11ac (VHT40)_Chain 3 / CH142 (UNII-2c Band)



802.11ac (VHT80)_Chain 1 / CH138(UNII-2c Band)



NOTE:

- For CH144 (UNII-2c Band) = 5725MHz - Marker 1
- For CH142 (UNII-2c Band) = 5725MHz - Marker 1
- For CH138 (UNII-2c Band) = 5725MHz - Marker 1

For Reference only – Power meter value

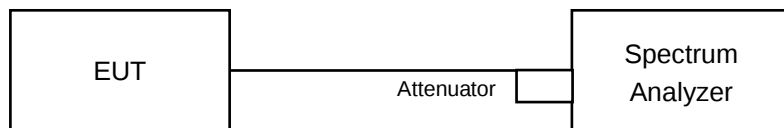
The power value was measured by power meter with average sensor.

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
802.11a							
144	5720	14.13	14.05	14.87	14.12	107.805	20.33
802.11ac (VHT20)							
144	5720	13.54	13.42	14.36	13.64	94.984	19.78
802.11ac (VHT40)							
142	5710	17.06	17.56	18.06	18.06	235.778	23.73
802.11ac (VHT80)							
138	5690	17.13	17.17	17.64	17.93	223.924	23.50

Note: The total power was calculated through formula and record the value for reference only.

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 Result

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3
52	5260	16.92	16.80	17.16	16.92
60	5300	16.92	16.92	16.92	16.92
64	5320	17.16	16.68	16.92	16.92
100	5500	17.04	16.80	17.04	16.92
116	5580	16.92	16.80	17.04	16.92
140	5700	16.92	16.80	17.04	16.92
*144 (UNII-2c Band)	5690	13.52	13.64	13.52	13.52
*144 (UNII-3 Band)	5690	3.40	3.40	3.40	3.40

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3
52	5260	18.00	18.12	18.12	18.12
60	5300	18.12	17.88	18.00	18.24
64	5320	18.12	18.12	18.12	18.12
100	5500	18.12	18.12	18.12	18.12
116	5580	18.00	18.12	18.12	18.24
140	5700	18.00	18.00	18.12	18.00
*144 (UNII-2c Band)	5690	14.11	14.11	14.23	14.11
*144 (UNII-3 Band)	5690	3.89	4.01	4.01	4.01

802.11ac (VHT40)

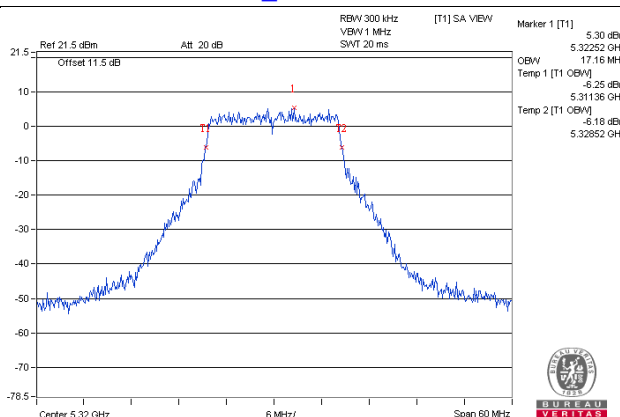
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3
54	5270	36.72	36.72	36.72	36.72
62	5310	36.72	36.72	36.72	36.96
102	5510	36.72	36.72	36.72	37.20
110	5550	36.72	36.72	36.48	36.72
134	5670	36.96	36.96	36.96	36.96
*142 (UNII-2c Band)	5710	33.60	33.60	33.60	33.60
*142 (UNII-3 Band)	5710	3.40	3.20	3.20	3.40

802.11ac (VHT80)

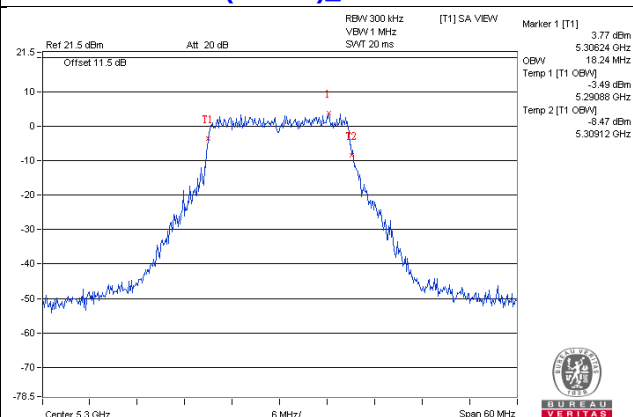
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3
58	5290	75.36	75.36	75.36	75.36
106	5530	75.84	75.36	75.36	75.36
122	5610	75.84	75.84	75.36	75.36
*138 (UNII-2c Band)	5690	72.92	72.92	72.92	72.92
*138 (UNII-3 Band)	5690	2.44	2.44	2.44	2.44

Spectrum Plot of Worst Value

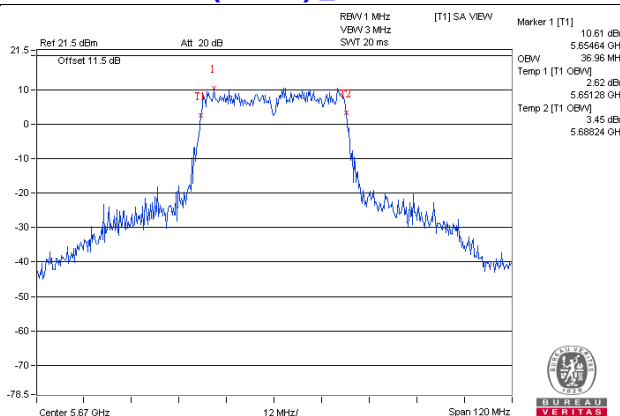
802.11a_Chain 0 / CH64



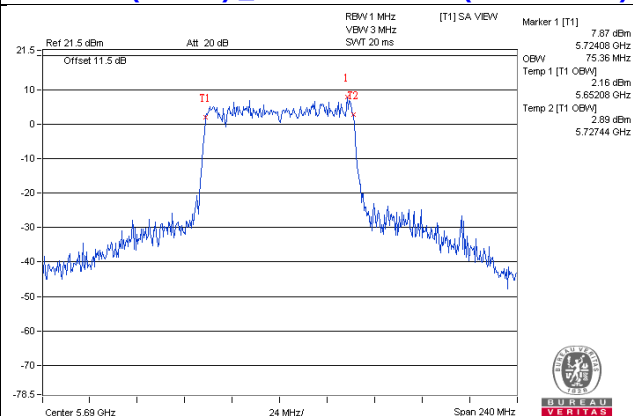
802.11ac (VHT20)_Chain 3 / CH60



802.11ac (VHT40)_Chain 0 / CH134



802.11ac (VHT80)_Chain 0 / CH138 (UNII-3 band)

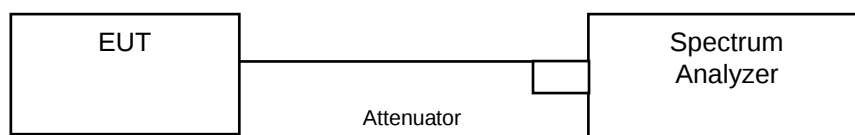


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test 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

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	0.16	0.30	0.07	0.35	6.24	6.93	Pass
60	5300	-0.10	0.14	0.24	0.93	6.34	6.93	Pass
64	5320	-0.13	0.38	0.40	1.24	6.52	6.93	Pass
100	5500	1.00	0.11	0.41	0.74	6.60	6.93	Pass
116	5580	0.50	0.21	0.27	0.44	6.38	6.93	Pass
140	5700	0.22	1.47	1.25	0.04	6.81	6.93	Pass
144 (UNII-2c Band)	5720	-0.12	-0.27	1.11	0.05	6.25	6.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(10.07-6) = 6.93\text{dBm}$.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	-0.56	-0.56	-0.68	0.19	5.63	6.93	Pass
60	5300	-0.04	-0.50	-0.20	-0.45	5.73	6.93	Pass
64	5320	0.35	-0.03	0.35	0.82	6.40	6.93	Pass
100	5500	0.87	-0.27	0.72	0.42	6.48	6.93	Pass
116	5580	0.12	-0.86	0.09	0.33	5.96	6.93	Pass
140	5700	-0.64	-0.29	0.33	-0.72	5.71	6.93	Pass
144 (UNII-2c Band)	5720	-0.66	-0.37	0.70	-0.46	5.86	6.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(10.07-6) = 6.93\text{dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
54	5270	0.24	1.41	1.00	0.77	6.90	6.93	Pass
62	5310	0.09	0.00	-0.12	0.21	6.07	6.93	Pass
102	5510	0.61	-0.55	-0.54	-0.33	5.85	6.93	Pass
110	5550	0.10	0.45	-0.36	0.85	6.30	6.93	Pass
134	5670	0.22	0.30	1.16	0.97	6.70	6.93	Pass
*144 (UNII-2c Band)	5690	0.37	0.63	1.39	0.04	6.66	6.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(10.07-6) = 6.93\text{dBm}$.

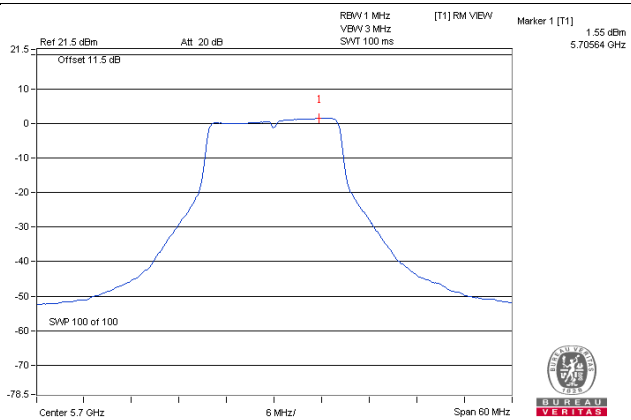
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
58	5290	-1.93	-2.79	-2.61	-1.85	3.74	6.93	Pass
106	5530	-2.94	-2.27	-3.33	-2.16	3.37	6.93	Pass
122	5610	-1.63	-2.47	-1.29	-1.66	4.28	6.93	Pass
*138 (UNII-2c Band)	5690	-2.39	-2.46	-1.30	-2.40	3.91	6.93	Pass

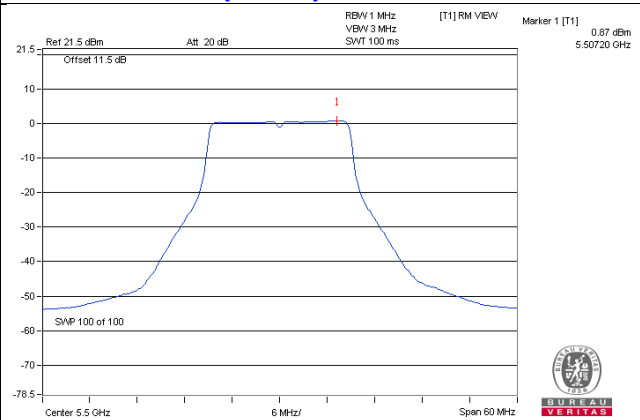
- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(10.07-6) = 6.93\text{dBm}$.

Spectrum Plot of Worst Value

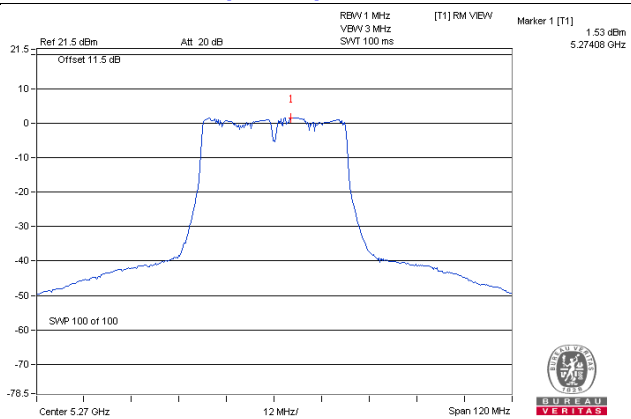
802.11a_Chain 1 / CH140



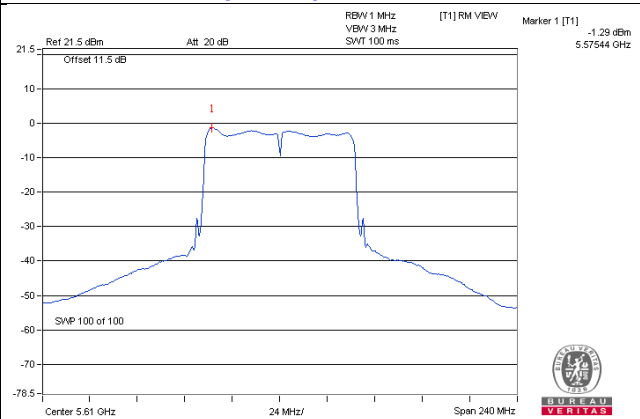
802.11ac (VHT20)_Chain 0 / CH100



802.11ac (VHT40)_Chain 1 / CH54



802.11ac (VHT80)_Chain 2 / CH122



For U-NII-3 band:

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	144 (UNII-3 Band)	5720	-7.68	-5.46	6.02	0.56	25.93	Pass
1	144 (UNII-3 Band)	5720	-8.11	-5.89	6.02	0.13	25.93	Pass
2	144 (UNII-3 Band)	5720	-6.47	-4.25	6.02	1.77	25.93	Pass
3	144 (UNII-3 Band)	5720	-7.64	-5.42	6.02	0.60	25.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(10.07-6) = 25.93\text{dBm}$.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	144 (UNII-3 Band)	5720	-8.33	-6.11	6.02	-0.09	25.93	Pass
1	144 (UNII-3 Band)	5720	-8.29	-6.07	6.02	-0.05	25.93	Pass
2	144 (UNII-3 Band)	5720	-6.91	-4.69	6.02	1.33	25.93	Pass
3	144 (UNII-3 Band)	5720	-8.06	-5.84	6.02	0.18	25.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(10.07-6) = 25.93\text{dBm}$.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	142 (UNII-3 Band)	5710	-7.67	-5.45	6.02	0.57	25.93	Pass
1	142 (UNII-3 Band)	5710	-8.07	-5.85	6.02	0.17	25.93	Pass
2	142 (UNII-3 Band)	5710	-8.31	-6.09	6.02	-0.07	25.93	Pass
3	142 (UNII-3 Band)	5710	-7.98	-5.76	6.02	0.26	25.93	Pass

- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(10.07-6) = 25.93\text{dBm}$.

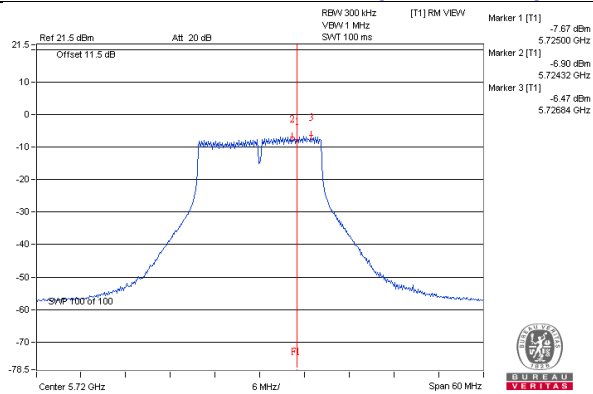
802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	138 (UNII-3 Band)	5690	-10.89	-8.67	6.02	-2.65	25.93	Pass
1	138 (UNII-3 Band)	5690	-11.51	-9.29	6.02	-3.27	25.93	Pass
2	138 (UNII-3 Band)	5690	-11.89	-9.67	6.02	-3.65	25.93	Pass
3	138 (UNII-3 Band)	5690	-11.17	-8.95	6.02	-2.93	25.93	Pass

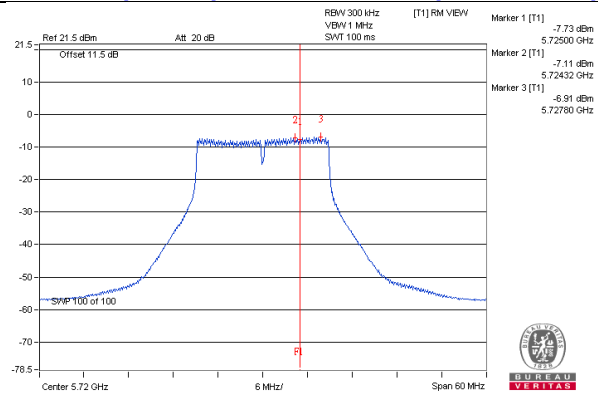
- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4] = 10.07\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30-(10.07-6) = 25.93\text{dBm}$.

Spectrum Plot of Worst Value

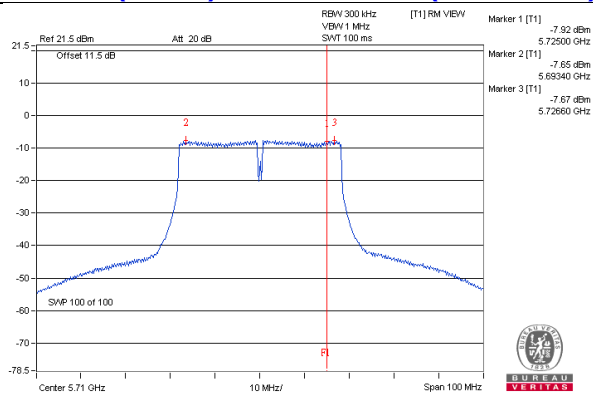
802.11a -Chain 2: CH 144 (UNII-3 Band)



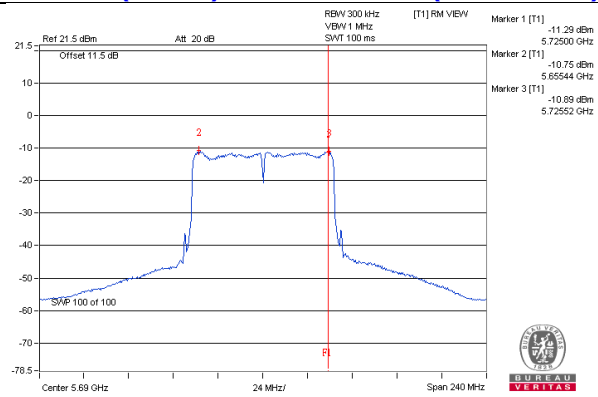
802.11ac (VHT20)-Chain 2: CH 144(UNII-3 Band)



802.11ac (VHT40)-Chain 0: CH 142(UNII-3 Band)



802.11ac (VHT80)/Chain 0: CH 138(UNII-3 Band)

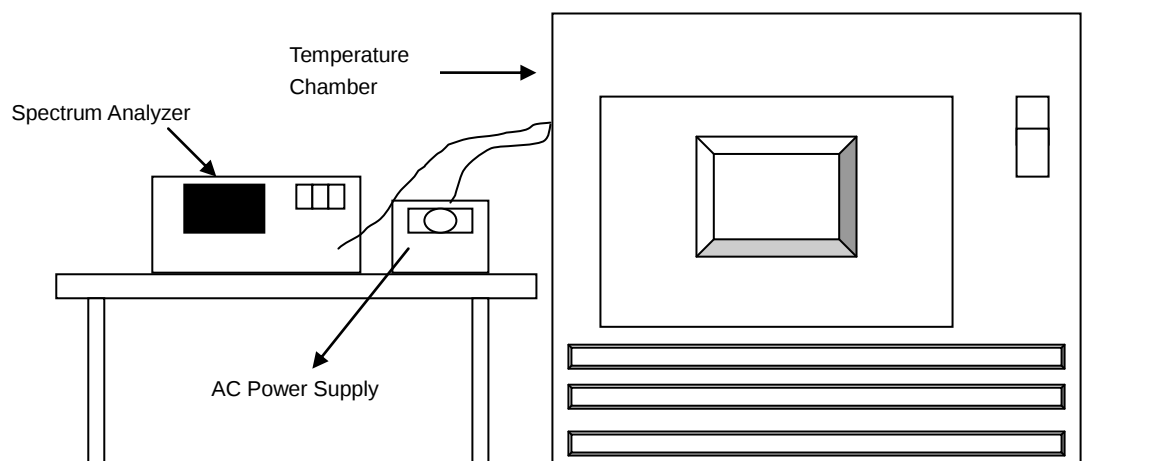


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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: 5260MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
50	120	5259.9988	Pass	5260.0015	Pass	5259.999	Pass	5259.999	Pass
40	120	5260.0112	Pass	5260.009	Pass	5260.009	Pass	5260.0078	Pass
30	120	5260.0091	Pass	5260.0085	Pass	5260.0102	Pass	5260.0118	Pass
20	120	5260.0037	Pass	5260.0049	Pass	5260.0033	Pass	5260.0044	Pass
10	120	5259.9763	Pass	5259.9742	Pass	5259.9731	Pass	5259.976	Pass
0	120	5259.9857	Pass	5259.9869	Pass	5259.9841	Pass	5259.9848	Pass
-10	120	5260.0032	Pass	5260.0037	Pass	5259.9989	Pass	5260.0032	Pass
-20	120	5260.0092	Pass	5260.0113	Pass	5260.0105	Pass	5260.009	Pass
-30	120	5260.0152	Pass	5260.016	Pass	5260.0114	Pass	5260.0146	Pass

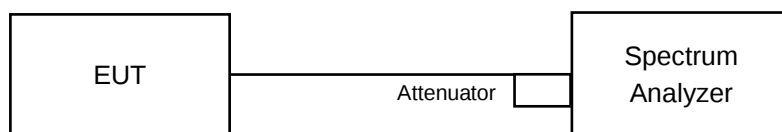
FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5260MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0043	Pass	5260.0041	Pass	5260.0036	Pass	5260.0049	Pass
	120	5260.0037	Pass	5260.0049	Pass	5260.0033	Pass	5260.0044	Pass
	102	5260.0027	Pass	5260.0056	Pass	5260.0036	Pass	5260.0035	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*144 (UNII-3 Band)	5720	3.16	3.17	3.16	3.18	0.5	Pass

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

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*144 (UNII-3 Band)	5720	3.78	3.79	3.82	3.85	0.5	Pass

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

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*142 (UNII-3 Band)	5710	3.25	3.19	3.20	3.23	0.5	Pass

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

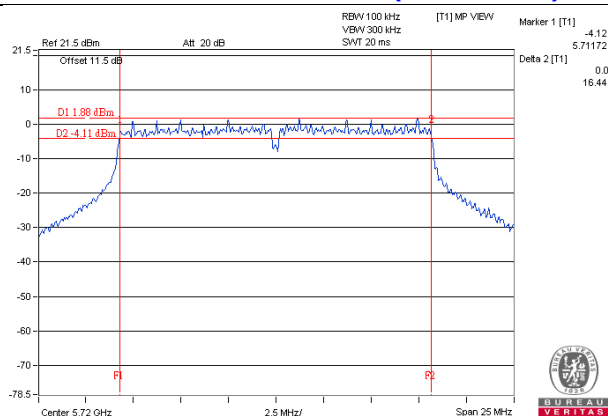
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*138 (UNII-3 Band)	5690	3.02	2.77	2.03	2.91	0.5	Pass

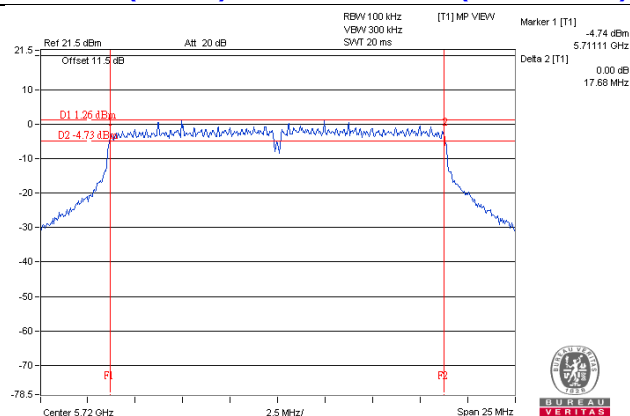
Note: *The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

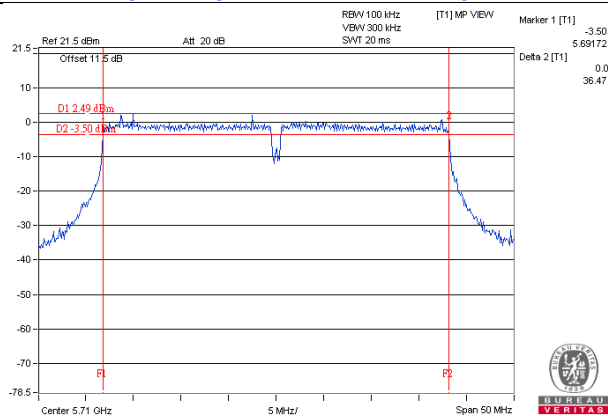
802.11a_Chain 0 / CH144 (UNII-3 Band)



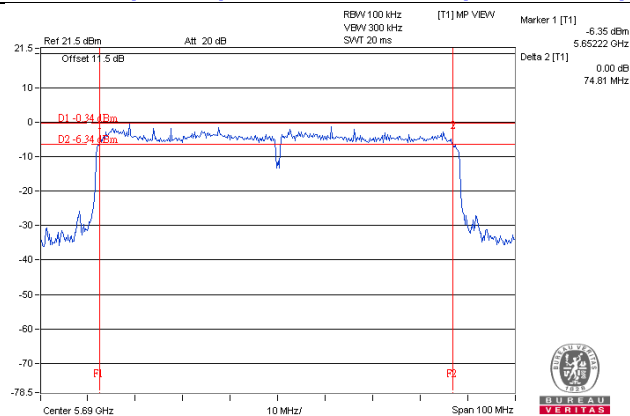
802.11ac (VHT20)_Chain 0 / CH144 (UNII-3 Band)



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



802.11ac (VHT80)_Chain 2 / CH138 (UNII-3 Band)



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 accredited and approved according to ISO/IEC 17025.

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

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Fax: 886-2-26051924

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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