

FCC Test Report

Report No.: RF160421C16A

FCC ID: GZ5NVG4XX

Test Model: NVG448B

Series Model: NVG443B

Received Date: July 01, 2016

Test Date: July 27 to Aug. 05, 2016

Issued Date: Dec. 14, 2016

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Release Control Record

Issue No.	Description	Date Issued
RF160421C16A	Original release.	Dec. 14, 2016

1 Certificate of Conformity

Product: ARRIS Gateway

Brand: ARRIS

Test Model: NVG448B

Series Model: NVG443B

Sample Status: ENGINEERING SAMPLE

Applicant: ARRIS GROUP, INC.

Test Date: July 27 to Aug. 05, 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 : Midoli Peng , **Date:** Dec. 14, 2016
Midoli Peng / Specialist

Approved by : May Chen , **Date:** Dec. 14, 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 -8.18dB at 0.15000MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5352.00MHz & 5470.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.83 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	ARRIS Gateway
Brand	ARRIS
Test Model	NVG448B
Series Model	NVG443B
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 12V from power adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	5260 MHz ~5320 MHz, 5500 MHz ~ 5720 MHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 16 802.11n (HT40), 802.11ac (VHT40): 8 802.11ac (VHT80): 4
Output Power	5.26GHz ~ 5.32GHz CDD Mode 245.004mW Beamforming Mode 134.492mW 5.50GHz ~ 5.72GHz CDD Mode 242.986mW Beamforming Mode 134.777mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x1
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF160421C16 as the following:
 - ◆ Add DFS band <5.26GHz ~ 5.32GHz, 5.5GHz ~ 5.72GHz>
2. According to above condition, all test items need to be performed. And all data were verified to meet the requirements.
3. All models are listed as below. Model name NVG448B is the representative for final test.

Brand	Model	Optional function
ARRIS	NVG448B	With VoIP
	NVG443B	Without VoIP

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

Modulation Mode	TX FUNCTION	Beamforming mode
802.11a	3TX	Not support
802.11n (HT20)	3TX	Support
802.11n (HT40)	3TX	Support
802.11ac (VHT20)	3TX	Support
802.11ac (VHT40)	3TX	Support
802.11ac (VHT80)	3TX	Support

* 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)

- * For 802.11n and 802.11ac, CDD mode is the worst case for final radiated emission below 1GHz and power line conducted emission tests after pretesting CDD mode and beamforming mode.

5. The EUT consumes power from the following adapter.

Brand	Ktec
Model	KSAS0361200250HU
Input Power	100-120Vac, 50/60Hz, 1.0A
Output Power	12Vdc, 2.5A
Power Line	1.8m cable without core attached on adapter

6. The following antennas were provided to the EUT.

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

7. 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	6
	5500-5720	102 to 142				

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	6
	5500-5720	102 to 142				

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≥1G	25deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin
PLC	25deg. C, 62%RH	120Vac, 60Hz	Jyunchun Lin
APCM	24deg. C, 62%RH	120Vac, 60Hz	Roebt Cheng

3.3 Duty Cycle of Test Signal

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

If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

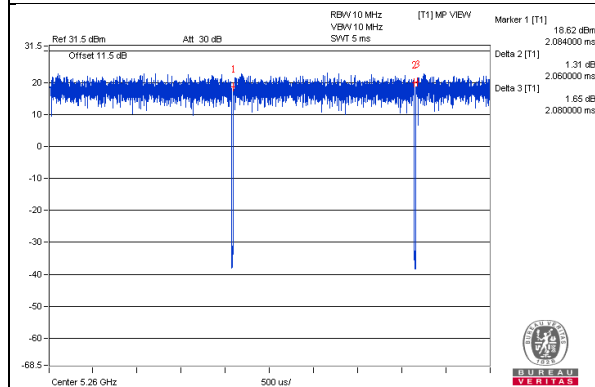
802.11a: Duty cycle = $2.06 \text{ ms} / 2.08 \text{ ms} = 0.99$

802.11ac (VHT20): Duty cycle = $1.918 \text{ ms} / 1.938 \text{ ms} = 0.99$

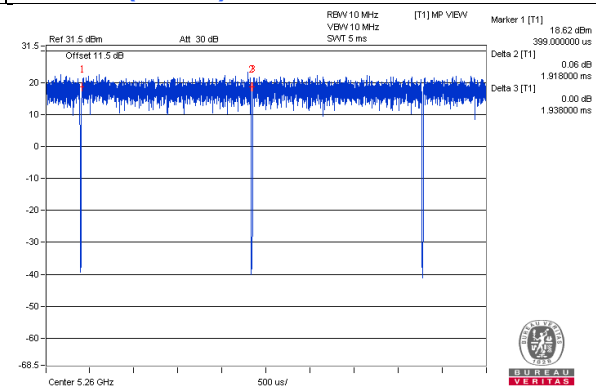
802.11ac (VHT40): Duty cycle = $0.951 \text{ ms} / 0.97 \text{ ms} = 0.98$

802.11ac (VHT80): Duty cycle = $0.459 \text{ ms} / 0.479 \text{ ms} = 0.958$, Duty factor = $10 * \log(1/0.958) = 0.19$

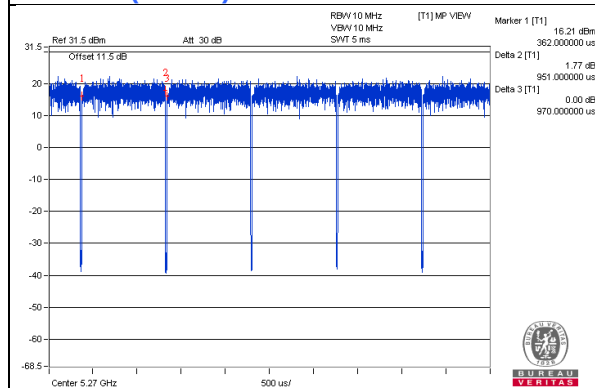
802.11a



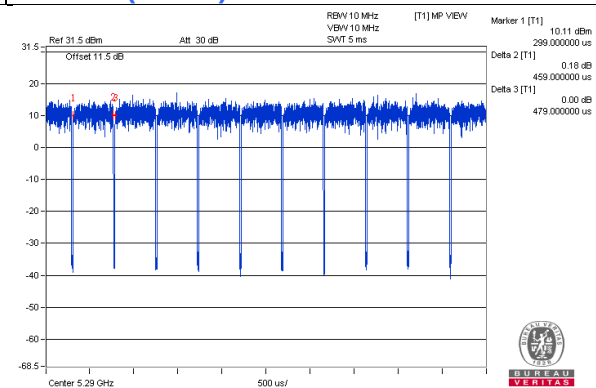
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

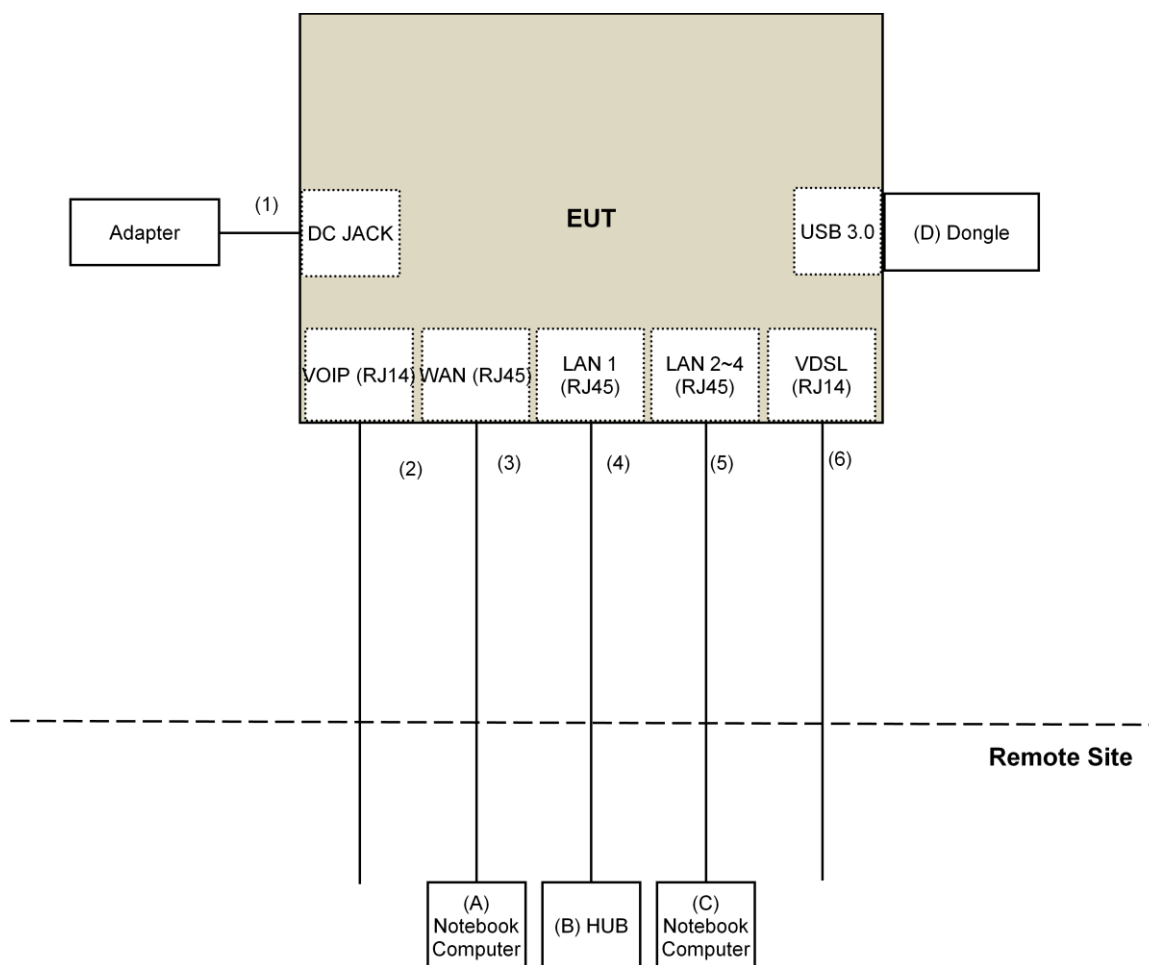
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
C.	NOTEBOOK COMPUTER	DELL	E6440	F9LYQ32	FCC DoC	Provided by Lab
D.	DONGLE	ZyXel	IES-1000	S08024701597	FCC DoC	Provided by Lab

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.	RJ-14 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	RJ-45 Cable	3	10	No	0	Provided by Lab
5.	RJ-45 Cable	1	10	No	0	Provided by Lab
6.	RJ-14 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:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 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 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8(dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	☐	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-1000VH2 B	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 29, 2016	July 28, 2017
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	100036	Jan. 27, 2016	Jan. 26, 2017
AC Power Source Extech Electronics	6502	1140503	NA	NA
Temperature & Humidity Chamber TERCHY	MHU-225AU	911033	Dec. 03, 2015	Dec. 02, 2016
Power meter Anritsu	ML2495A	0824006	May 26, 2016	May 25, 2017
Power sensor Anritsu	MA2411B	0738172	May 26, 2016	May 25, 2017

Digital Multimeter FLUKE	87III	73680266	Nov. 10, 2015	Nov. 09, 2016
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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 Loop antenna was used for all emissions below 30 MHz.
4. The test was performed in 966 Chamber No. 3.
5. The FCC Site Registration No. is 147459
6. The CANADA Site Registration No. is 20331-1
7. Tested Date: Aug. 05, 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:

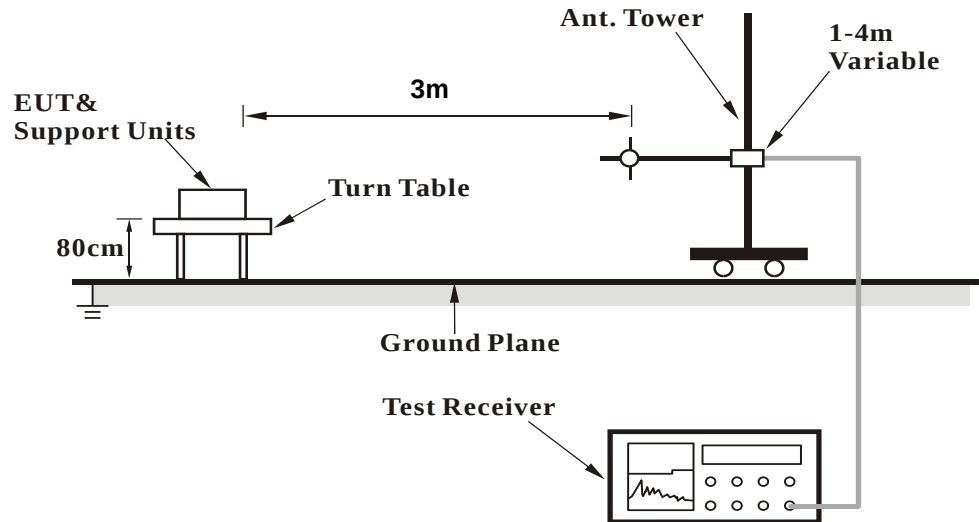
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

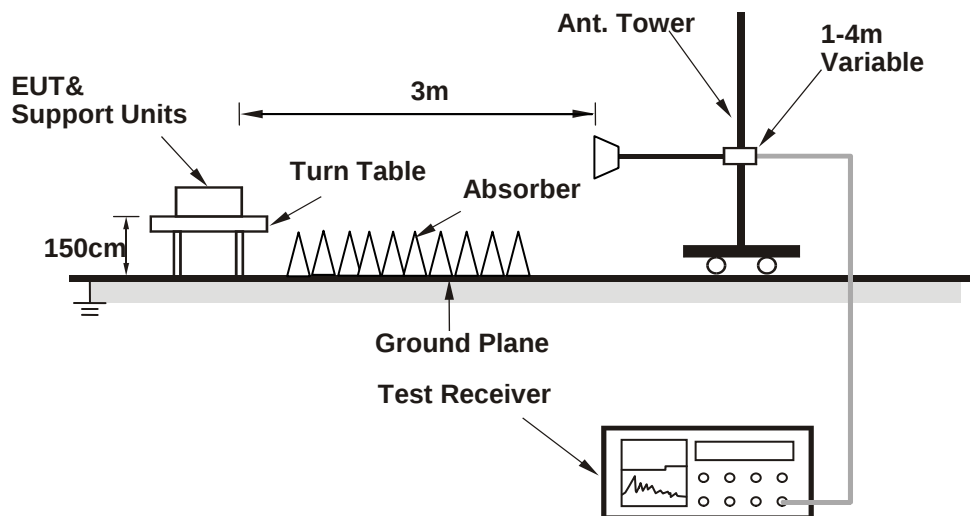
No deviation.

4.1.5 Test Setup

<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

- Connect the EUT with the support units B & D (Notebook Computer) which is placed outside of testing area.
- The communication partner run test program "Mtool. exe[ver 2.0.3.2]" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data :

CDD Mode

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	55.3 PK	74.0	-18.7	1.27 H	124	52.5	2.8
2	5100.00	43.1 AV	54.0	-10.9	1.27 H	124	40.3	2.8
3	*5260.00	109.0 PK			1.34 H	52	105.7	3.3
4	*5260.00	99.8 AV			1.34 H	52	96.5	3.3
5	#10520.00	53.1 PK	74.0	-20.9	1.83 H	272	39.0	14.1
6	#10520.00	40.5 AV	54.0	-13.5	1.83 H	272	26.4	14.1
7	15780.00	54.4 PK	74.0	-19.6	1.50 H	190	39.2	15.2
8	15780.00	41.3 AV	54.0	-12.7	1.50 H	190	26.1	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	57.1 PK	74.0	-16.9	1.79 V	117	54.3	2.8
2	5100.00	44.8 AV	54.0	-9.2	1.79 V	117	42.0	2.8
3	*5260.00	113.1 PK			3.14 V	160	109.8	3.3
4	*5260.00	102.4 AV			3.14 V	160	99.1	3.3
5	#10520.00	56.0 PK	74.0	-18.0	1.35 V	347	41.9	14.1
6	#10520.00	42.6 AV	54.0	-11.4	1.35 V	347	28.5	14.1
7	15780.00	56.0 PK	74.0	-18.0	1.35 V	12	40.8	15.2
8	15780.00	44.3 AV	54.0	-9.7	1.35 V	12	29.1	15.2

REMARKS:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
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	*5300.00	110.2 PK			1.30 H	63	106.9	3.3
2	*5300.00	99.6 AV			1.30 H	63	96.3	3.3
3	5378.00	57.7 PK	74.0	-16.3	1.35 H	66	54.1	3.6
4	5378.00	46.9 AV	54.0	-7.1	1.35 H	66	43.3	3.6
5	10600.00	53.1 PK	74.0	-20.9	1.81 H	277	38.8	14.3
6	10600.00	40.3 AV	54.0	-13.7	1.81 H	277	26.0	14.3
7	15900.00	54.1 PK	74.0	-19.9	1.56 H	203	39.0	15.1
8	15900.00	41.0 AV	54.0	-13.0	1.56 H	203	25.9	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	*5300.00	113.2 PK			2.96 V	153	109.9	3.3
2	*5300.00	102.5 AV			2.96 V	153	99.2	3.3
3	5378.00	60.8 PK	74.0	-13.2	2.96 V	153	57.2	3.6
4	5378.00	49.9 AV	54.0	-4.1	2.96 V	153	46.3	3.6
5	10600.00	56.7 PK	74.0	-17.3	1.29 V	344	42.4	14.3
6	10600.00	43.1 AV	54.0	-10.9	1.29 V	344	28.8	14.3
7	15900.00	55.7 PK	74.0	-18.3	1.34 V	8	40.6	15.1
8	15900.00	43.7 AV	54.0	-10.3	1.34 V	8	28.6	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	110.3 PK			1.34 H	49	106.8	3.5
2	*5320.00	99.2 AV			1.34 H	49	95.7	3.5
3	5400.00	57.0 PK	74.0	-17.0	1.32 H	51	53.3	3.7
4	5400.00	46.5 AV	54.0	-7.5	1.32 H	51	42.8	3.7
5	10640.00	53.5 PK	74.0	-20.5	1.80 H	259	39.2	14.3
6	10640.00	40.9 AV	54.0	-13.1	1.80 H	259	26.6	14.3
7	15960.00	54.5 PK	74.0	-19.5	1.46 H	193	39.4	15.1
8	15960.00	41.7 AV	54.0	-12.3	1.46 H	193	26.6	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	113.0 PK			2.96 V	149	109.5	3.5
2	*5320.00	102.0 AV			2.96 V	149	98.5	3.5
3	5400.00	59.8 PK	74.0	-14.2	2.96 V	149	56.1	3.7
4	5400.00	49.4 AV	54.0	-4.6	2.96 V	149	45.7	3.7
5	10640.00	56.4 PK	74.0	-17.6	1.35 V	332	42.1	14.3
6	10640.00	42.6 AV	54.0	-11.4	1.35 V	332	28.3	14.3
7	15960.00	55.9 PK	74.0	-18.1	1.32 V	3	40.8	15.1
8	15960.00	44.3 AV	54.0	-9.7	1.32 V	3	29.2	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	5420.00	57.9 PK	74.0	-16.1	1.40 H	40	54.2	3.7
2	5420.00	47.4 AV	54.0	-6.6	1.40 H	40	43.7	3.7
3	*5500.00	109.3 PK			1.37 H	42	105.5	3.8
4	*5500.00	98.7 AV			1.37 H	42	94.9	3.8
5	11000.00	53.4 PK	74.0	-20.6	1.83 H	285	38.2	15.2
6	11000.00	40.7 AV	54.0	-13.3	1.83 H	285	25.5	15.2
7	#16500.00	54.4 PK	74.0	-19.6	1.47 H	196	37.0	17.4
8	#16500.00	41.5 AV	54.0	-12.5	1.47 H	196	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	5420.00	60.6 PK	74.0	-13.4	2.96 V	352	56.9	3.7
2	5420.00	50.2 AV	54.0	-3.8	2.96 V	352	46.5	3.7
3	*5500.00	112.8 PK			2.86 V	352	109.0	3.8
4	*5500.00	102.0 AV			2.86 V	352	98.2	3.8
5	11000.00	56.8 PK	74.0	-17.2	1.26 V	329	41.6	15.2
6	11000.00	43.3 AV	54.0	-10.7	1.26 V	329	28.1	15.2
7	#16500.00	56.3 PK	74.0	-17.7	1.29 V	13	38.9	17.4
8	#16500.00	44.3 AV	54.0	-9.7	1.29 V	13	26.9	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	5421.00	54.4 PK	74.0	-19.6	1.31 H	49	50.7	3.7
2	5421.00	45.1 AV	54.0	-8.9	1.31 H	49	41.4	3.7
3	*5580.00	111.0 PK			1.29 H	48	107.1	3.9
4	*5580.00	100.1 AV			1.29 H	48	96.2	3.9
5	11160.00	53.5 PK	74.0	-20.5	1.88 H	269	38.3	15.2
6	11160.00	40.9 AV	54.0	-13.1	1.88 H	269	25.7	15.2
7	#16740.00	54.8 PK	74.0	-19.2	1.54 H	192	36.5	18.3
8	#16740.00	41.6 AV	54.0	-12.4	1.54 H	192	23.3	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	5421.00	57.4 PK	74.0	-16.6	2.98 V	350	53.7	3.7
2	5421.00	48.0 AV	54.0	-6.0	2.98 V	350	44.3	3.7
3	*5580.00	113.4 PK			2.86 V	349	109.5	3.9
4	*5580.00	102.8 AV			2.86 V	349	98.9	3.9
5	11160.00	56.8 PK	74.0	-17.2	1.29 V	342	41.6	15.2
6	11160.00	43.3 AV	54.0	-10.7	1.29 V	342	28.1	15.2
7	#16740.00	55.8 PK	74.0	-18.2	1.31 V	9	37.5	18.3
8	#16740.00	43.8 AV	54.0	-10.2	1.31 V	9	25.5	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	110.9 PK			1.34 H	40	106.7	4.2
2	*5700.00	100.3 AV			1.34 H	40	96.1	4.2
3	#5780.00	61.2 PK	74.0	-12.8	1.32 H	55	57.1	4.1
4	#5780.00	51.1 AV	54.0	-2.9	1.32 H	55	47.0	4.1
5	11400.00	53.1 PK	74.0	-20.9	1.80 H	277	37.6	15.5
6	11400.00	40.7 AV	54.0	-13.3	1.80 H	277	25.2	15.5
7	#17100.00	54.5 PK	74.0	-19.5	1.51 H	186	34.4	20.1
8	#17100.00	41.1 AV	54.0	-12.9	1.51 H	186	21.0	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	113.3 PK			2.44 V	355	109.1	4.2
2	*5700.00	102.9 AV			2.44 V	355	98.7	4.2
3	#5780.00	63.9 PK	74.0	-10.1	2.44 V	355	59.8	4.1
4	#5780.00	53.6 AV	54.0	-0.4	2.44 V	355	49.5	4.1
5	11400.00	56.2 PK	74.0	-17.8	1.31 V	340	40.7	15.5
6	11400.00	42.5 AV	54.0	-11.5	1.31 V	340	27.0	15.5
7	#17100.00	56.1 PK	74.0	-17.9	1.31 V	2	36.0	20.1
8	#17100.00	44.3 AV	54.0	-9.7	1.31 V	2	24.2	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	*5720.00	110.1 PK			1.32 H	48	105.9	4.2
2	*5720.00	99.3 AV			1.32 H	48	95.1	4.2
3	#5878.00	60.6 PK	74.0	-13.4	1.29 H	68	56.4	4.2
4	#5878.00	49.4 AV	54.0	-4.6	1.29 H	68	45.2	4.2
5	11440.00	53.3 PK	74.0	-20.7	1.80 H	266	38.0	15.3
6	11440.00	40.4 AV	54.0	-13.6	1.80 H	266	25.1	15.3
7	#17160.00	54.2 PK	74.0	-19.8	1.55 H	183	34.4	19.8
8	#17160.00	41.1 AV	54.0	-12.9	1.55 H	183	21.3	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	*5720.00	113.2 PK			2.44 V	347	109.0	4.2
2	*5720.00	102.5 AV			2.44 V	347	98.3	4.2
3	#5878.00	63.1 PK	74.0	-10.9	2.44 V	347	58.9	4.2
4	#5878.00	52.1 AV	54.0	-1.9	2.44 V	347	47.9	4.2
5	11440.00	57.1 PK	74.0	-16.9	1.36 V	345	41.8	15.3
6	11440.00	43.3 AV	54.0	-10.7	1.36 V	345	28.0	15.3
7	#17160.00	56.2 PK	74.0	-17.8	1.26 V	12	36.4	19.8
8	#17160.00	45.1 AV	54.0	-8.9	1.26 V	12	25.3	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	5107.00	54.5 PK	74.0	-19.5	1.33 H	56	51.7	2.8
2	5107.00	42.3 AV	54.0	-11.7	1.33 H	56	39.5	2.8
3	*5260.00	109.7 PK			1.36 H	37	106.4	3.3
4	*5260.00	99.4 AV			1.36 H	37	96.1	3.3
5	#10520.00	53.5 PK	74.0	-20.5	1.80 H	286	39.4	14.1
6	#10520.00	40.9 AV	54.0	-13.1	1.80 H	286	26.8	14.1
7	15780.00	54.6 PK	74.0	-19.4	1.52 H	194	39.4	15.2
8	15780.00	41.4 AV	54.0	-12.6	1.52 H	194	26.2	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	5107.00	57.3 PK	74.0	-16.7	3.16 V	147	54.5	2.8
2	5107.00	45.2 AV	54.0	-8.8	3.16 V	147	42.4	2.8
3	*5260.00	112.6 PK			3.16 V	147	109.3	3.3
4	*5260.00	102.0 AV			3.16 V	147	98.7	3.3
5	#10520.00	56.2 PK	74.0	-17.8	1.32 V	349	42.1	14.1
6	#10520.00	42.6 AV	54.0	-11.4	1.32 V	349	28.5	14.1
7	15780.00	55.9 PK	74.0	-18.1	1.33 V	14	40.7	15.2
8	15780.00	44.4 AV	54.0	-9.6	1.33 V	14	29.2	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	*5300.00	110.7 PK			1.39 H	59	107.4	3.3
2	*5300.00	99.6 AV			1.39 H	59	96.3	3.3
3	5379.00	58.6 PK	74.0	-15.4	1.33 H	41	54.9	3.7
4	5379.00	47.7 AV	54.0	-6.3	1.33 H	41	44.0	3.7
5	10600.00	52.8 PK	74.0	-21.2	1.82 H	282	38.5	14.3
6	10600.00	40.2 AV	54.0	-13.8	1.82 H	282	25.9	14.3
7	15900.00	54.7 PK	74.0	-19.3	1.52 H	177	39.6	15.1
8	15900.00	41.6 AV	54.0	-12.4	1.52 H	177	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	*5300.00	113.5 PK			2.98 V	156	110.2	3.3
2	*5300.00	102.2 AV			2.98 V	156	98.9	3.3
3	5379.00	60.9 PK	74.0	-13.1	2.98 V	156	57.2	3.7
4	5379.00	50.3 AV	54.0	-3.7	2.98 V	156	46.6	3.7
5	10600.00	56.6 PK	74.0	-17.4	1.31 V	360	42.3	14.3
6	10600.00	43.3 AV	54.0	-10.7	1.31 V	360	29.0	14.3
7	15900.00	55.7 PK	74.0	-18.3	1.35 V	5	40.6	15.1
8	15900.00	43.5 AV	54.0	-10.5	1.35 V	5	28.4	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	110.3 PK			1.31 H	37	106.8	3.5
2	*5320.00	99.1 AV			1.31 H	37	95.6	3.5
3	5400.00	55.9 PK	74.0	-18.1	1.37 H	49	52.2	3.7
4	5400.00	45.8 AV	54.0	-8.2	1.37 H	49	42.1	3.7
5	10640.00	53.1 PK	74.0	-20.9	1.85 H	282	38.8	14.3
6	10640.00	40.3 AV	54.0	-13.7	1.85 H	282	26.0	14.3
7	15960.00	54.9 PK	74.0	-19.1	1.52 H	201	39.8	15.1
8	15960.00	41.7 AV	54.0	-12.3	1.52 H	201	26.6	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	113.4 PK			3.01 V	162	109.9	3.5
2	*5320.00	102.3 AV			3.01 V	162	98.8	3.5
3	5400.00	59.3 PK	74.0	-14.7	3.01 V	162	55.6	3.7
4	5400.00	49.0 AV	54.0	-5.0	3.01 V	162	45.3	3.7
5	10640.00	56.1 PK	74.0	-17.9	1.33 V	332	41.8	14.3
6	10640.00	42.6 AV	54.0	-11.4	1.33 V	332	28.3	14.3
7	15960.00	55.4 PK	74.0	-18.6	1.27 V	0	40.3	15.1
8	15960.00	43.9 AV	54.0	-10.1	1.27 V	0	28.8	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	5418.00	56.9 PK	74.0	-17.1	1.31 H	40	53.2	3.7
2	5418.00	46.5 AV	54.0	-7.5	1.31 H	40	42.8	3.7
3	*5500.00	109.7 PK			1.31 H	67	105.9	3.8
4	*5500.00	98.6 AV			1.31 H	67	94.8	3.8
5	11000.00	52.8 PK	74.0	-21.2	1.85 H	280	37.6	15.2
6	11000.00	40.3 AV	54.0	-13.7	1.85 H	280	25.1	15.2
7	#16500.00	54.5 PK	74.0	-19.5	1.48 H	193	37.1	17.4
8	#16500.00	41.4 AV	54.0	-12.6	1.48 H	193	24.0	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	5418.00	60.3 PK	74.0	-13.7	2.86 V	360	56.6	3.7
2	5418.00	49.7 AV	54.0	-4.3	2.86 V	360	46.0	3.7
3	*5500.00	112.9 PK			2.86 V	360	109.1	3.8
4	*5500.00	102.1 AV			2.86 V	360	98.3	3.8
5	11000.00	56.7 PK	74.0	-17.3	1.31 V	315	41.5	15.2
6	11000.00	43.4 AV	54.0	-10.6	1.31 V	315	28.2	15.2
7	#16500.00	56.7 PK	74.0	-17.3	1.31 V	22	39.3	17.4
8	#16500.00	44.4 AV	54.0	-9.6	1.31 V	22	27.0	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	5421.00	53.9 PK	74.0	-20.1	1.28 H	44	50.2	3.7
2	5421.00	44.6 AV	54.0	-9.4	1.28 H	44	40.9	3.7
3	*5580.00	110.4 PK			1.33 H	40	106.5	3.9
4	*5580.00	99.9 AV			1.33 H	40	96.0	3.9
5	11160.00	53.4 PK	74.0	-20.6	1.82 H	272	38.2	15.2
6	11160.00	40.8 AV	54.0	-13.2	1.82 H	272	25.6	15.2
7	#16740.00	55.0 PK	74.0	-19.0	1.44 H	196	36.7	18.3
8	#16740.00	41.7 AV	54.0	-12.3	1.44 H	196	23.4	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	5421.00	57.2 PK	74.0	-16.8	2.85 V	358	53.5	3.7
2	5421.00	47.8 AV	54.0	-6.2	2.85 V	358	44.1	3.7
3	*5580.00	113.2 PK			2.85 V	358	109.3	3.9
4	*5580.00	102.6 AV			2.85 V	358	98.7	3.9
5	11160.00	56.5 PK	74.0	-17.5	1.34 V	349	41.3	15.2
6	11160.00	43.2 AV	54.0	-10.8	1.34 V	349	28.0	15.2
7	#16740.00	55.4 PK	74.0	-18.6	1.28 V	15	37.1	18.3
8	#16740.00	43.3 AV	54.0	-10.7	1.28 V	15	25.0	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	110.7 PK			1.28 H	56	106.5	4.2
2	*5700.00	100.1 AV			1.28 H	56	95.9	4.2
3	#5778.00	60.3 PK	74.0	-13.7	1.39 H	47	56.2	4.1
4	#5778.00	50.5 AV	54.0	-3.5	1.39 H	47	46.4	4.1
5	11400.00	53.2 PK	74.0	-20.8	1.89 H	287	37.7	15.5
6	11400.00	40.8 AV	54.0	-13.2	1.89 H	287	25.3	15.5
7	#17100.00	54.4 PK	74.0	-19.6	1.49 H	177	34.3	20.1
8	#17100.00	41.1 AV	54.0	-12.9	1.49 H	177	21.0	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	113.4 PK			2.50 V	360	109.2	4.2
2	*5700.00	102.9 AV			2.50 V	360	98.7	4.2
3	#5778.00	63.3 PK	74.0	-10.7	2.50 V	360	59.2	4.1
4	#5778.00	53.6 AV	54.0	-0.4	2.50 V	360	49.5	4.1
5	11400.00	55.7 PK	74.0	-18.3	1.35 V	350	40.2	15.5
6	11400.00	42.2 AV	54.0	-11.8	1.35 V	350	26.7	15.5
7	#17100.00	55.8 PK	74.0	-18.2	1.33 V	7	35.7	20.1
8	#17100.00	43.8 AV	54.0	-10.2	1.33 V	7	23.7	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	*5720.00	109.9 PK			1.35 H	57	105.7	4.2
2	*5720.00	99.5 AV			1.35 H	57	95.3	4.2
3	#5878.00	60.2 PK	74.0	-13.8	1.30 H	37	56.0	4.2
4	#5878.00	49.5 AV	54.0	-4.5	1.30 H	37	45.3	4.2
5	11440.00	53.3 PK	74.0	-20.7	1.85 H	285	38.0	15.3
6	11440.00	40.8 AV	54.0	-13.2	1.85 H	285	25.5	15.3
7	#17160.00	53.7 PK	74.0	-20.3	1.52 H	188	33.9	19.8
8	#17160.00	40.9 AV	54.0	-13.1	1.52 H	188	21.1	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	*5720.00	113.0 PK			2.49 V	352	108.8	4.2
2	*5720.00	102.5 AV			2.49 V	352	98.3	4.2
3	#5878.00	63.5 PK	74.0	-10.5	2.49 V	352	59.3	4.2
4	#5878.00	52.5 AV	54.0	-1.5	2.49 V	352	48.3	4.2
5	11440.00	57.0 PK	74.0	-17.0	1.35 V	336	41.7	15.3
6	11440.00	43.2 AV	54.0	-10.8	1.35 V	336	27.9	15.3
7	#17160.00	56.4 PK	74.0	-17.6	1.31 V	18	36.6	19.8
8	#17160.00	45.5 AV	54.0	-8.5	1.31 V	18	25.7	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	5114.00	55.6 PK	74.0	-18.4	1.39 H	67	52.7	2.9
2	5114.00	42.2 AV	54.0	-11.8	1.39 H	67	39.3	2.9
3	*5270.00	108.8 PK			1.33 H	66	105.5	3.3
4	*5270.00	97.7 AV			1.33 H	66	94.4	3.3
5	#10540.00	53.1 PK	74.0	-20.9	1.77 H	265	38.9	14.2
6	#10540.00	40.5 AV	54.0	-13.5	1.77 H	265	26.3	14.2
7	15810.00	53.9 PK	74.0	-20.1	1.46 H	204	38.9	15.0
8	15810.00	40.8 AV	54.0	-13.2	1.46 H	204	25.8	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	5114.00	58.9 PK	74.0	-15.1	3.00 V	159	56.0	2.9
2	5114.00	45.6 AV	54.0	-8.4	3.00 V	159	42.7	2.9
3	*5270.00	111.8 PK			3.00 V	159	108.5	3.3
4	*5270.00	100.7 AV			3.00 V	159	97.4	3.3
5	#10540.00	56.7 PK	74.0	-17.3	1.31 V	359	42.5	14.2
6	#10540.00	43.0 AV	54.0	-11.0	1.31 V	359	28.8	14.2
7	15810.00	56.1 PK	74.0	-17.9	1.38 V	18	41.1	15.0
8	15810.00	44.7 AV	54.0	-9.3	1.38 V	18	29.7	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 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	106.0 PK			1.36 H	51	102.6	3.4
2	*5310.00	94.6 AV			1.36 H	51	91.2	3.4
3	5352.00	71.1 PK	74.0	-2.9	1.36 H	63	67.6	3.5
4	5352.00	51.0 AV	54.0	-3.0	1.36 H	63	47.5	3.5
5	10620.00	53.3 PK	74.0	-20.7	1.81 H	285	39.0	14.3
6	10620.00	40.9 AV	54.0	-13.1	1.81 H	285	26.6	14.3
7	15930.00	53.9 PK	74.0	-20.1	1.46 H	193	38.8	15.1
8	15930.00	41.0 AV	54.0	-13.0	1.46 H	193	25.9	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	*5310.00	109.4 PK			3.03 V	179	106.0	3.4
2	*5310.00	98.0 AV			3.03 V	179	94.6	3.4
3	5352.00	73.9 PK	74.0	-0.1	1.50 V	41	70.4	3.5
4	5352.00	53.8 AV	54.0	-0.2	1.50 V	41	50.3	3.5
5	10620.00	56.5 PK	74.0	-17.5	1.38 V	338	42.2	14.3
6	10620.00	42.9 AV	54.0	-11.1	1.38 V	338	28.6	14.3
7	15930.00	56.1 PK	74.0	-17.9	1.38 V	0	41.0	15.1
8	15930.00	44.7 AV	54.0	-9.3	1.38 V	0	29.6	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 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	71.1 PK	74.0	-2.9	1.31 H	57	67.4	3.7
2	#5470.00	51.0 AV	54.0	-3.0	1.31 H	57	47.3	3.7
3	*5510.00	107.6 PK			1.37 H	50	103.8	3.8
4	*5510.00	95.7 AV			1.37 H	50	91.9	3.8
5	11020.00	53.1 PK	74.0	-20.9	1.87 H	272	38.0	15.1
6	11020.00	40.6 AV	54.0	-13.4	1.87 H	272	25.5	15.1
7	#16530.00	54.8 PK	74.0	-19.2	1.56 H	183	37.3	17.5
8	#16530.00	41.8 AV	54.0	-12.2	1.56 H	183	24.3	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	73.9 PK	74.0	-0.1	2.81 V	341	70.2	3.7
2	#5470.00	53.9 AV	54.0	-0.1	2.81 V	341	50.2	3.7
3	*5510.00	110.5 PK			2.81 V	341	106.7	3.8
4	*5510.00	98.6 AV			2.81 V	341	94.8	3.8
5	11020.00	56.2 PK	74.0	-17.8	1.32 V	346	41.1	15.1
6	11020.00	42.5 AV	54.0	-11.5	1.32 V	346	27.4	15.1
7	#16530.00	55.9 PK	74.0	-18.1	1.34 V	13	38.4	17.5
8	#16530.00	44.1 AV	54.0	-9.9	1.34 V	13	26.6	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	#5467.00	61.0 PK	74.0	-13.0	1.33 H	55	57.3	3.7
2	#5467.00	47.6 AV	54.0	-6.4	1.33 H	55	43.9	3.7
3	*5550.00	108.7 PK			1.36 H	49	104.8	3.9
4	*5550.00	96.7 AV			1.36 H	49	92.8	3.9
5	11100.00	53.7 PK	74.0	-20.3	1.78 H	266	38.6	15.1
6	11100.00	40.8 AV	54.0	-13.2	1.78 H	266	25.7	15.1
7	#16650.00	54.3 PK	74.0	-19.7	1.45 H	192	36.3	18.0
8	#16650.00	41.1 AV	54.0	-12.9	1.45 H	192	23.1	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	#5467.00	64.1 PK	74.0	-9.9	2.81 V	348	60.4	3.7
2	#5467.00	50.7 AV	54.0	-3.3	2.81 V	348	47.0	3.7
3	*5550.00	111.6 PK			2.81 V	348	107.7	3.9
4	*5550.00	99.9 AV			2.81 V	348	96.0	3.9
5	11100.00	56.3 PK	74.0	-17.7	1.39 V	347	41.2	15.1
6	11100.00	42.6 AV	54.0	-11.4	1.39 V	347	27.5	15.1
7	#16650.00	56.6 PK	74.0	-17.4	1.39 V	13	38.6	18.0
8	#16650.00	44.6 AV	54.0	-9.4	1.39 V	13	26.6	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	109.0 PK			1.31 H	38	105.0	4.0
2	*5670.00	97.3 AV			1.31 H	38	93.3	4.0
3	#5737.00	65.7 PK	74.0	-8.3	1.39 H	50	61.5	4.2
4	#5737.00	49.1 AV	54.0	-4.9	1.39 H	50	44.9	4.2
5	11340.00	52.9 PK	74.0	-21.1	1.89 H	278	37.6	15.3
6	11340.00	40.0 AV	54.0	-14.0	1.89 H	278	24.7	15.3
7	#17010.00	54.5 PK	74.0	-19.5	1.48 H	188	34.6	19.9
8	#17010.00	41.6 AV	54.0	-12.4	1.48 H	188	21.7	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	112.1 PK			2.81 V	348	108.1	4.0
2	*5670.00	100.5 AV			2.81 V	348	96.5	4.0
3	#5737.00	69.2 PK	74.0	-4.8	2.81 V	348	65.0	4.2
4	#5737.00	52.4 AV	54.0	-1.6	2.81 V	348	48.2	4.2
5	11340.00	55.5 PK	74.0	-18.5	1.35 V	349	40.2	15.3
6	11340.00	42.4 AV	54.0	-11.6	1.35 V	349	27.1	15.3
7	#17010.00	55.9 PK	74.0	-18.1	1.34 V	20	36.0	19.9
8	#17010.00	44.0 AV	54.0	-10.0	1.34 V	20	24.1	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	*5710.00	109.5 PK			1.34 H	67	105.3	4.2
2	*5710.00	98.2 AV			1.34 H	67	94.0	4.2
3	#5877.00	58.3 PK	74.0	-15.7	1.33 H	60	54.1	4.2
4	#5877.00	46.8 AV	54.0	-7.2	1.33 H	60	42.6	4.2
5	11420.00	52.7 PK	74.0	-21.3	1.86 H	267	37.3	15.4
6	11420.00	40.1 AV	54.0	-13.9	1.86 H	267	24.7	15.4
7	#17130.00	54.1 PK	74.0	-19.9	1.55 H	192	34.1	20.0
8	#17130.00	40.9 AV	54.0	-13.1	1.55 H	192	20.9	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	*5710.00	112.8 PK			2.81 V	346	108.6	4.2
2	*5710.00	101.2 AV			2.81 V	346	97.0	4.2
3	#5877.00	61.4 PK	74.0	-12.6	2.81 V	346	57.2	4.2
4	#5877.00	49.6 AV	54.0	-4.4	2.81 V	346	45.4	4.2
5	11420.00	55.8 PK	74.0	-18.2	1.31 V	343	40.4	15.4
6	11420.00	42.2 AV	54.0	-11.8	1.31 V	343	26.8	15.4
7	#17130.00	56.3 PK	74.0	-17.7	1.38 V	4	36.3	20.0
8	#17130.00	44.6 AV	54.0	-9.4	1.38 V	4	24.6	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	5150.00	52.8 PK	74.0	-21.2	1.36 H	50	49.8	3.0
2	5150.00	41.6 AV	54.0	-12.4	1.36 H	50	38.6	3.0
3	*5290.00	101.9 PK			1.30 H	59	98.6	3.3
4	*5290.00	92.8 AV			1.30 H	59	89.5	3.3
5	5350.00	68.0 PK	74.0	-6.0	1.35 H	46	64.5	3.5
6	5350.00	50.9 AV	54.0	-3.1	1.35 H	46	47.4	3.5
7	#10580.00	52.4 PK	74.0	-21.6	1.80 H	285	38.1	14.3
8	#10580.00	40.0 AV	54.0	-14.0	1.80 H	285	25.7	14.3
9	15870.00	54.1 PK	74.0	-19.9	1.45 H	184	39.1	15.0
10	15870.00	41.1 AV	54.0	-12.9	1.45 H	184	26.1	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	5150.00	55.8 PK	74.0	-18.2	3.08 V	160	52.8	3.0
2	5150.00	44.3 AV	54.0	-9.7	3.08 V	160	41.3	3.0
3	*5290.00	105.6 PK			3.08 V	160	102.3	3.3
4	*5290.00	96.3 AV			3.08 V	160	93.0	3.3
5	5350.00	70.8 PK	74.0	-3.2	3.08 V	160	67.3	3.5
6	5350.00	53.8 AV	54.0	-0.2	3.08 V	160	50.3	3.5
7	#10580.00	56.1 PK	74.0	-17.9	1.36 V	339	41.8	14.3
8	#10580.00	42.8 AV	54.0	-11.2	1.36 V	339	28.5	14.3
9	15870.00	56.1 PK	74.0	-17.9	1.38 V	28	41.1	15.0
10	15870.00	44.6 AV	54.0	-9.4	1.38 V	28	29.6	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	69.3 PK	74.0	-4.7	1.30 H	67	65.6	3.7
2	#5470.00	51.1 AV	54.0	-2.9	1.30 H	67	47.4	3.7
3	*5530.00	103.0 PK			1.35 H	42	99.1	3.9
4	*5530.00	93.4 AV			1.35 H	42	89.5	3.9
5	11060.00	52.7 PK	74.0	-21.3	1.80 H	275	37.6	15.1
6	11060.00	40.2 AV	54.0	-13.8	1.80 H	275	25.1	15.1
7	#16590.00	54.2 PK	74.0	-19.8	1.45 H	184	36.5	17.7
8	#16590.00	40.9 AV	54.0	-13.1	1.45 H	184	23.2	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	72.2 PK	74.0	-1.8	3.06 V	6	68.5	3.7
2	#5470.00	53.9 AV	54.0	-0.1	3.06 V	6	50.2	3.7
3	*5530.00	106.3 PK			3.06 V	6	102.4	3.9
4	*5530.00	96.8 AV			3.06 V	6	92.9	3.9
5	11060.00	55.9 PK	74.0	-18.1	1.32 V	359	40.8	15.1
6	11060.00	42.5 AV	54.0	-11.5	1.32 V	359	27.4	15.1
7	#16590.00	55.4 PK	74.0	-18.6	1.36 V	20	37.7	17.7
8	#16590.00	43.8 AV	54.0	-10.2	1.36 V	20	26.1	17.7

REMARKS:

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

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	106.7 PK			1.33 H	52	102.8	3.9
2	*5610.00	97.1 AV			1.33 H	52	93.2	3.9
3	#5753.00	61.6 PK	74.0	-12.4	1.35 H	63	57.4	4.2
4	#5753.00	50.0 AV	54.0	-4.0	1.35 H	63	45.8	4.2
5	11220.00	53.5 PK	74.0	-20.5	1.82 H	281	38.3	15.2
6	11220.00	40.6 AV	54.0	-13.4	1.82 H	281	25.4	15.2
7	#16830.00	54.4 PK	74.0	-19.6	1.49 H	180	35.9	18.5
8	#16830.00	41.5 AV	54.0	-12.5	1.49 H	180	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	109.6 PK			3.08 V	3	105.7	3.9
2	*5610.00	99.9 AV			3.08 V	3	96.0	3.9
3	#5753.00	64.9 PK	74.0	-9.1	3.08 V	3	60.7	4.2
4	#5753.00	53.1 AV	54.0	-0.9	3.08 V	3	48.9	4.2
5	11220.00	56.2 PK	74.0	-17.8	1.41 V	338	41.0	15.2
6	11220.00	42.6 AV	54.0	-11.4	1.41 V	338	27.4	15.2
7	#16830.00	56.3 PK	74.0	-17.7	1.40 V	8	37.8	18.5
8	#16830.00	44.6 AV	54.0	-9.4	1.40 V	8	26.1	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	*5690.00	106.4 PK			1.39 H	50	102.2	4.2
2	*5690.00	97.0 AV			1.39 H	50	92.8	4.2
3	#5857.00	58.7 PK	74.0	-15.3	1.32 H	52	54.5	4.2
4	#5857.00	46.5 AV	54.0	-7.5	1.32 H	52	42.3	4.2
5	11380.00	52.7 PK	74.0	-21.3	1.84 H	284	37.3	15.4
6	11380.00	40.3 AV	54.0	-13.7	1.84 H	284	24.9	15.4
7	#17070.00	54.1 PK	74.0	-19.9	1.49 H	192	34.1	20.0
8	#17070.00	41.1 AV	54.0	-12.9	1.49 H	192	21.1	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	*5690.00	109.8 PK			3.10 V	354	105.6	4.2
2	*5690.00	100.1 AV			3.10 V	354	95.9	4.2
3	#5857.00	62.0 PK	74.0	-12.0	3.10 V	354	57.8	4.2
4	#5857.00	49.6 AV	54.0	-4.4	3.10 V	354	45.4	4.2
5	11380.00	55.2 PK	74.0	-18.8	1.38 V	337	39.8	15.4
6	11380.00	42.1 AV	54.0	-11.9	1.38 V	337	26.7	15.4
7	#17070.00	56.0 PK	74.0	-18.0	1.34 V	16	36.0	20.0
8	#17070.00	44.2 AV	54.0	-9.8	1.34 V	16	24.2	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.

Beamforming Mode

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	5091.00	54.2 PK	74.0	-19.8	1.50 H	78	51.4	2.8
2	5091.00	42.7 AV	54.0	-11.3	1.50 H	78	39.9	2.8
3	*5260.00	109.6 PK			1.50 H	78	106.3	3.3
4	*5260.00	100.7 AV			1.50 H	78	97.4	3.3
5	#10520.00	59.6 PK	74.0	-14.4	1.28 H	168	45.5	14.1
6	#10520.00	46.4 AV	54.0	-7.6	1.28 H	168	32.3	14.1
7	15780.00	56.6 PK	74.0	-17.4	1.28 H	151	41.4	15.2
8	15780.00	44.3 AV	54.0	-9.7	1.28 H	151	29.1	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	5091.00	59.0 PK	74.0	-15.0	1.50 V	26	56.2	2.8
2	5091.00	49.2 AV	54.0	-4.8	1.50 V	26	46.4	2.8
3	*5260.00	112.4 PK			1.50 V	26	109.1	3.3
4	*5260.00	102.8 AV			1.50 V	26	99.5	3.3
5	#10520.00	57.5 PK	74.0	-16.5	1.56 V	5	43.4	14.1
6	#10520.00	44.3 AV	54.0	-9.7	1.56 V	5	30.2	14.1
7	15780.00	56.3 PK	74.0	-17.7	1.51 V	13	41.1	15.2
8	15780.00	44.3 AV	54.0	-9.7	1.51 V	13	29.1	15.2

REMARKS:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
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	*5300.00	108.8 PK			1.49 H	79	105.5	3.3
2	*5300.00	99.1 AV			1.49 H	79	95.8	3.3
3	5372.00	58.3 PK	74.0	-15.7	1.49 H	79	54.7	3.6
4	5372.00	48.4 AV	54.0	-5.6	1.49 H	79	44.8	3.6
5	10600.00	59.9 PK	74.0	-14.1	1.29 H	181	45.6	14.3
6	10600.00	46.6 AV	54.0	-7.4	1.29 H	181	32.3	14.3
7	15900.00	55.8 PK	74.0	-18.2	1.36 H	141	40.7	15.1
8	15900.00	43.7 AV	54.0	-10.3	1.36 H	141	28.6	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	*5300.00	112.1 PK			1.50 V	39	108.8	3.3
2	*5300.00	102.6 AV			1.50 V	39	99.3	3.3
3	5372.00	62.0 PK	74.0	-12.0	1.50 V	39	58.4	3.6
4	5372.00	51.8 AV	54.0	-2.2	1.50 V	39	48.2	3.6
5	10600.00	57.8 PK	74.0	-16.2	1.58 V	13	43.5	14.3
6	10600.00	44.9 AV	54.0	-9.1	1.58 V	13	30.6	14.3
7	15900.00	55.6 PK	74.0	-18.4	1.54 V	44	40.5	15.1
8	15900.00	43.7 AV	54.0	-10.3	1.54 V	44	28.6	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	110.6 PK			1.55 H	86	107.1	3.5
2	*5320.00	100.8 AV			1.55 H	86	97.3	3.5
3	5390.00	60.2 PK	74.0	-13.8	1.55 H	86	56.5	3.7
4	5390.00	49.3 AV	54.0	-4.7	1.55 H	86	45.6	3.7
5	10640.00	59.6 PK	74.0	-14.4	1.27 H	180	45.3	14.3
6	10640.00	46.2 AV	54.0	-7.8	1.27 H	180	31.9	14.3
7	15960.00	56.2 PK	74.0	-17.8	1.29 H	160	41.1	15.1
8	15960.00	43.8 AV	54.0	-10.2	1.29 H	160	28.7	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	*5320.00	113.8 PK			1.50 V	41	110.3	3.5
2	*5320.00	104.0 AV			1.50 V	41	100.5	3.5
3	5390.00	62.5 PK	74.0	-11.5	1.50 V	41	58.8	3.7
4	5390.00	51.9 AV	54.0	-2.1	1.50 V	41	48.2	3.7
5	10640.00	57.7 PK	74.0	-16.3	1.59 V	29	43.4	14.3
6	10640.00	44.4 AV	54.0	-9.6	1.59 V	29	30.1	14.3
7	15960.00	56.3 PK	74.0	-17.7	1.53 V	28	41.2	15.1
8	15960.00	44.4 AV	54.0	-9.6	1.53 V	28	29.3	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	5428.00	59.3 PK	74.0	-14.7	1.49 H	83	55.6	3.7
2	5428.00	49.1 AV	54.0	-4.9	1.49 H	83	45.4	3.7
3	*5500.00	109.6 PK			1.49 H	83	105.8	3.8
4	*5500.00	100.1 AV			1.49 H	83	96.3	3.8
5	11000.00	58.4 PK	74.0	-15.6	1.30 H	159	43.2	15.2
6	11000.00	45.5 AV	54.0	-8.5	1.30 H	159	30.3	15.2
7	#16500.00	55.9 PK	74.0	-18.1	1.34 H	150	38.5	17.4
8	#16500.00	43.6 AV	54.0	-10.4	1.34 H	150	26.2	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	5428.00	62.3 PK	74.0	-11.7	1.50 V	343	58.6	3.7
2	5428.00	51.9 AV	54.0	-2.1	1.50 V	343	48.2	3.7
3	*5500.00	113.1 PK			1.50 V	343	109.3	3.8
4	*5500.00	103.4 AV			1.50 V	343	99.6	3.8
5	11000.00	57.7 PK	74.0	-16.3	1.59 V	14	42.5	15.2
6	11000.00	44.7 AV	54.0	-9.3	1.59 V	14	29.5	15.2
7	#16500.00	56.1 PK	74.0	-17.9	1.53 V	28	38.7	17.4
8	#16500.00	44.0 AV	54.0	-10.0	1.53 V	28	26.6	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	5428.00	59.4 PK	74.0	-14.6	1.48 H	82	55.7	3.7
2	5428.00	49.1 AV	54.0	-4.9	1.48 H	82	45.4	3.7
3	*5580.00	113.3 PK			1.48 H	82	109.4	3.9
4	*5580.00	104.0 AV			1.48 H	82	100.1	3.9
5	11160.00	59.3 PK	74.0	-14.7	1.30 H	170	44.1	15.2
6	11160.00	46.1 AV	54.0	-7.9	1.30 H	170	30.9	15.2
7	#16740.00	56.5 PK	74.0	-17.5	1.32 H	145	38.2	18.3
8	#16740.00	44.1 AV	54.0	-9.9	1.32 H	145	25.8	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	5428.00	62.0 PK	74.0	-12.0	1.50 V	328	58.3	3.7
2	5428.00	51.9 AV	54.0	-2.1	1.50 V	328	48.2	3.7
3	*5580.00	115.6 PK			1.50 V	328	111.7	3.9
4	*5580.00	106.6 AV			1.50 V	328	102.7	3.9
5	11160.00	57.4 PK	74.0	-16.6	1.61 V	12	42.2	15.2
6	11160.00	44.7 AV	54.0	-9.3	1.61 V	12	29.5	15.2
7	#16740.00	56.2 PK	74.0	-17.8	1.50 V	43	37.9	18.3
8	#16740.00	43.8 AV	54.0	-10.2	1.50 V	43	25.5	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	110.0 PK			1.50 H	94	105.8	4.2
2	*5700.00	101.4 AV			1.50 H	94	97.2	4.2
3	#5788.00	60.9 PK	74.0	-13.1	1.50 H	94	56.8	4.1
4	#5788.00	49.2 AV	54.0	-4.8	1.50 H	94	45.1	4.1
5	11400.00	58.0 PK	74.0	-16.0	1.34 H	175	42.5	15.5
6	11400.00	45.2 AV	54.0	-8.8	1.34 H	175	29.7	15.5
7	#17100.00	56.4 PK	74.0	-17.6	1.31 H	145	36.3	20.1
8	#17100.00	44.0 AV	54.0	-10.0	1.31 H	145	23.9	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	112.9 PK			1.50 V	25	108.7	4.2
2	*5700.00	104.0 AV			1.50 V	25	99.8	4.2
3	#5788.00	63.9 PK	74.0	-10.1	1.50 V	25	59.8	4.1
4	#5788.00	52.5 AV	54.0	-1.5	1.50 V	25	48.4	4.1
5	11400.00	57.6 PK	74.0	-16.4	1.62 V	10	42.1	15.5
6	11400.00	44.8 AV	54.0	-9.2	1.62 V	10	29.3	15.5
7	#17100.00	55.9 PK	74.0	-18.1	1.50 V	27	35.8	20.1
8	#17100.00	43.8 AV	54.0	-10.2	1.50 V	27	23.7	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	*5720.00	111.2 PK			1.53 H	68	107.0	4.2
2	*5720.00	101.2 AV			1.53 H	68	97.0	4.2
3	#5878.00	59.0 PK	74.0	-15.0	1.53 H	68	54.8	4.2
4	#5878.00	49.1 AV	54.0	-4.9	1.53 H	68	44.9	4.2
5	11440.00	58.7 PK	74.0	-15.3	1.34 H	172	43.4	15.3
6	11440.00	45.7 AV	54.0	-8.3	1.34 H	172	30.4	15.3
7	#17160.00	56.0 PK	74.0	-18.0	1.30 H	150	36.2	19.8
8	#17160.00	43.7 AV	54.0	-10.3	1.30 H	150	23.9	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	*5720.00	114.7 PK			1.66 V	93	110.5	4.2
2	*5720.00	104.6 AV			1.66 V	93	100.4	4.2
3	#5878.00	61.9 PK	74.0	-12.1	1.66 V	93	57.7	4.2
4	#5878.00	52.2 AV	54.0	-1.8	1.66 V	93	48.0	4.2
5	11440.00	57.5 PK	74.0	-16.5	1.56 V	7	42.2	15.3
6	11440.00	44.7 AV	54.0	-9.3	1.56 V	7	29.4	15.3
7	#17160.00	56.1 PK	74.0	-17.9	1.50 V	35	36.3	19.8
8	#17160.00	43.7 AV	54.0	-10.3	1.50 V	35	23.9	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	52.8 PK	74.0	-21.2	1.54 H	79	49.8	3.0
2	5126.00	41.8 AV	54.0	-12.2	1.54 H	79	38.8	3.0
3	*5270.00	107.0 PK			1.54 H	79	103.7	3.3
4	*5270.00	97.9 AV			1.54 H	79	94.6	3.3
5	#10540.00	58.9 PK	74.0	-15.1	1.27 H	159	44.7	14.2
6	#10540.00	45.7 AV	54.0	-8.3	1.27 H	159	31.5	14.2
7	15810.00	56.6 PK	74.0	-17.4	1.34 H	156	41.6	15.0
8	15810.00	44.3 AV	54.0	-9.7	1.34 H	156	29.3	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	55.8 PK	74.0	-18.2	1.59 V	122	52.8	3.0
2	5126.00	44.8 AV	54.0	-9.2	1.59 V	122	41.8	3.0
3	*5270.00	109.6 PK			1.59 V	122	106.3	3.3
4	*5270.00	100.6 AV			1.59 V	122	97.3	3.3
5	#10540.00	57.2 PK	74.0	-16.8	1.60 V	7	43.0	14.2
6	#10540.00	44.2 AV	54.0	-9.8	1.60 V	7	30.0	14.2
7	15810.00	56.3 PK	74.0	-17.7	1.57 V	25	41.3	15.0
8	15810.00	44.3 AV	54.0	-9.7	1.57 V	25	29.3	15.0

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": 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	105.0 PK			1.48 H	75	101.6	3.4
2	*5310.00	96.7 AV			1.48 H	75	93.3	3.4
3	5385.00	61.9 PK	74.0	-12.1	1.48 H	75	58.2	3.7
4	5385.00	45.4 AV	54.0	-8.6	1.48 H	75	41.7	3.7
5	10620.00	59.4 PK	74.0	-14.6	1.33 H	162	45.1	14.3
6	10620.00	46.3 AV	54.0	-7.7	1.33 H	162	32.0	14.3
7	15930.00	56.0 PK	74.0	-18.0	1.29 H	143	40.9	15.1
8	15930.00	43.9 AV	54.0	-10.1	1.29 H	143	28.8	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	108.2 PK			1.59 V	184	104.8	3.4
2	*5310.00	99.9 AV			1.59 V	184	96.5	3.4
3	5385.00	64.6 PK	74.0	-9.4	1.59 V	184	60.9	3.7
4	5385.00	48.1 AV	54.0	-5.9	1.59 V	184	44.4	3.7
5	10620.00	58.3 PK	74.0	-15.7	1.55 V	3	44.0	14.3
6	10620.00	45.1 AV	54.0	-8.9	1.55 V	3	30.8	14.3
7	15930.00	56.1 PK	74.0	-17.9	1.51 V	24	41.0	15.1
8	15930.00	43.9 AV	54.0	-10.1	1.51 V	24	28.8	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	5435.00	61.1 PK	74.0	-12.9	1.49 H	66	57.4	3.7
2	5435.00	45.7 AV	54.0	-8.3	1.49 H	66	42.0	3.7
3	*5510.00	106.8 PK			1.49 H	66	103.0	3.8
4	*5510.00	97.1 AV			1.49 H	66	93.3	3.8
5	11020.00	59.3 PK	74.0	-14.7	1.31 H	182	44.2	15.1
6	11020.00	46.1 AV	54.0	-7.9	1.31 H	182	31.0	15.1
7	#16530.00	56.7 PK	74.0	-17.3	1.27 H	146	39.2	17.5
8	#16530.00	44.4 AV	54.0	-9.6	1.27 H	146	26.9	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	5435.00	64.2 PK	74.0	-9.8	2.77 V	152	60.5	3.7
2	5435.00	48.8 AV	54.0	-5.2	2.77 V	152	45.1	3.7
3	*5510.00	110.3 PK			2.77 V	152	106.5	3.8
4	*5510.00	100.5 AV			2.77 V	152	96.7	3.8
5	11020.00	57.0 PK	74.0	-17.0	1.56 V	27	41.9	15.1
6	11020.00	44.3 AV	54.0	-9.7	1.56 V	27	29.2	15.1
7	#16530.00	56.2 PK	74.0	-17.8	1.54 V	18	38.7	17.5
8	#16530.00	44.2 AV	54.0	-9.8	1.54 V	18	26.7	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	#5462.00	57.0 PK	74.0	-17.0	1.47 H	80	53.3	3.7
2	#5462.00	46.4 AV	54.0	-7.6	1.47 H	80	42.7	3.7
3	*5550.00	107.1 PK			1.47 H	80	103.2	3.9
4	*5550.00	97.2 AV			1.47 H	80	93.3	3.9
5	11100.00	58.8 PK	74.0	-15.2	1.34 H	159	43.7	15.1
6	11100.00	45.8 AV	54.0	-8.2	1.34 H	159	30.7	15.1
7	#16650.00	56.9 PK	74.0	-17.1	1.34 H	140	38.9	18.0
8	#16650.00	44.5 AV	54.0	-9.5	1.34 H	140	26.5	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	#5462.00	60.5 PK	74.0	-13.5	2.77 V	353	56.8	3.7
2	#5462.00	49.6 AV	54.0	-4.4	2.77 V	353	45.9	3.7
3	*5550.00	110.1 PK			2.77 V	353	106.2	3.9
4	*5550.00	100.3 AV			2.77 V	353	96.4	3.9
5	11100.00	58.0 PK	74.0	-16.0	1.65 V	27	42.9	15.1
6	11100.00	45.0 AV	54.0	-9.0	1.65 V	27	29.9	15.1
7	#16650.00	56.3 PK	74.0	-17.7	1.56 V	41	38.3	18.0
8	#16650.00	44.1 AV	54.0	-9.9	1.56 V	41	26.1	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	107.1 PK			1.47 H	85	103.1	4.0
2	*5670.00	97.1 AV			1.47 H	85	93.1	4.0
3	#5748.00	57.9 PK	74.0	-16.1	1.47 H	85	53.7	4.2
4	#5748.00	47.1 AV	54.0	-6.9	1.47 H	85	42.9	4.2
5	11340.00	59.4 PK	74.0	-14.6	1.34 H	181	44.1	15.3
6	11340.00	46.2 AV	54.0	-7.8	1.34 H	181	30.9	15.3
7	#17010.00	56.7 PK	74.0	-17.3	1.30 H	139	36.8	19.9
8	#17010.00	44.0 AV	54.0	-10.0	1.30 H	139	24.1	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	110.1 PK			2.79 V	351	106.1	4.0
2	*5670.00	100.1 AV			2.79 V	351	96.1	4.0
3	#5748.00	61.5 PK	74.0	-12.5	2.79 V	351	57.3	4.2
4	#5748.00	50.6 AV	54.0	-3.4	2.79 V	351	46.4	4.2
5	11340.00	58.3 PK	74.0	-15.7	1.57 V	8	43.0	15.3
6	11340.00	45.0 AV	54.0	-9.0	1.57 V	8	29.7	15.3
7	#17010.00	55.6 PK	74.0	-18.4	1.53 V	17	35.7	19.9
8	#17010.00	43.7 AV	54.0	-10.3	1.53 V	17	23.8	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	*5710.00	107.6 PK			1.52 H	82	103.4	4.2
2	*5710.00	98.0 AV			1.52 H	82	93.8	4.2
3	#5866.00	58.8 PK	74.0	-15.2	1.52 H	82	54.6	4.2
4	#5866.00	46.9 AV	54.0	-7.1	1.52 H	82	42.7	4.2
5	11420.00	59.5 PK	74.0	-14.5	1.31 H	180	44.1	15.4
6	11420.00	46.1 AV	54.0	-7.9	1.31 H	180	30.7	15.4
7	#17130.00	56.5 PK	74.0	-17.5	1.35 H	133	36.5	20.0
8	#17130.00	44.3 AV	54.0	-9.7	1.35 H	133	24.3	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	*5710.00	110.8 PK			2.79 V	352	106.6	4.2
2	*5710.00	101.0 AV			2.79 V	352	96.8	4.2
3	#5866.00	61.3 PK	74.0	-12.7	2.79 V	352	57.1	4.2
4	#5866.00	49.6 AV	54.0	-4.4	2.79 V	352	45.4	4.2
5	11420.00	57.9 PK	74.0	-16.1	1.55 V	26	42.5	15.4
6	11420.00	45.1 AV	54.0	-8.9	1.55 V	26	29.7	15.4
7	#17130.00	55.7 PK	74.0	-18.3	1.48 V	29	35.7	20.0
8	#17130.00	43.7 AV	54.0	-10.3	1.48 V	29	23.7	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.

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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	*5290.00	106.0 PK			1.56 H	64	102.7	3.3
2	*5290.00	94.5 AV			1.56 H	64	91.2	3.3
3	5350.00	69.5 PK	74.0	-4.5	1.56 H	64	66.0	3.5
4	5350.00	50.9 AV	54.0	-3.1	1.56 H	64	47.4	3.5
5	#10580.00	60.0 PK	74.0	-14.0	1.32 H	160	45.7	14.3
6	#10580.00	46.5 AV	54.0	-7.5	1.32 H	160	32.2	14.3
7	15870.00	56.5 PK	74.0	-17.5	1.33 H	148	41.5	15.0
8	15870.00	44.2 AV	54.0	-9.8	1.33 H	148	29.2	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	*5290.00	109.1 PK			3.78 V	60	105.8	3.3
2	*5290.00	97.7 AV			3.78 V	60	94.4	3.3
3	5350.00	71.9 PK	74.0	-2.1	3.78 V	60	68.4	3.5
4	5350.00	53.6 AV	54.0	-0.4	3.78 V	60	50.1	3.5
5	#10580.00	57.9 PK	74.0	-16.1	1.55 V	23	43.6	14.3
6	#10580.00	44.7 AV	54.0	-9.3	1.55 V	23	30.4	14.3
7	15870.00	55.5 PK	74.0	-18.5	1.56 V	42	40.5	15.0
8	15870.00	43.6 AV	54.0	-10.4	1.56 V	42	28.6	15.0

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": 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	69.9 PK	74.0	-4.1	1.52 H	91	66.2	3.7
2	#5470.00	50.8 AV	54.0	-3.2	1.52 H	91	47.1	3.7
3	*5530.00	105.5 PK			1.52 H	91	101.6	3.9
4	*5530.00	94.2 AV			1.52 H	91	90.3	3.9
5	11060.00	59.6 PK	74.0	-14.4	1.26 H	175	44.5	15.1
6	11060.00	46.5 AV	54.0	-7.5	1.26 H	175	31.4	15.1
7	#16590.00	56.9 PK	74.0	-17.1	1.27 H	157	39.2	17.7
8	#16590.00	44.5 AV	54.0	-9.5	1.27 H	157	26.8	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	72.8 PK	74.0	-1.2	3.73 V	182	69.1	3.7
2	#5470.00	53.7 AV	54.0	-0.3	3.73 V	182	50.0	3.7
3	*5530.00	109.2 PK			3.73 V	182	105.3	3.9
4	*5530.00	97.7 AV			3.73 V	182	93.8	3.9
5	11060.00	58.2 PK	74.0	-15.8	1.65 V	5	43.1	15.1
6	11060.00	45.2 AV	54.0	-8.8	1.65 V	5	30.1	15.1
7	#16590.00	55.6 PK	74.0	-18.4	1.49 V	25	37.9	17.7
8	#16590.00	43.6 AV	54.0	-10.4	1.49 V	25	25.9	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	107.4 PK			1.53 H	92	103.5	3.9
2	*5610.00	96.0 AV			1.53 H	92	92.1	3.9
3	#5794.00	57.3 PK	74.0	-16.7	1.53 H	92	53.2	4.1
4	#5794.00	47.5 AV	54.0	-6.5	1.53 H	92	43.4	4.1
5	11220.00	58.9 PK	74.0	-15.1	1.34 H	186	43.7	15.2
6	11220.00	45.6 AV	54.0	-8.4	1.34 H	186	30.4	15.2
7	#16830.00	56.5 PK	74.0	-17.5	1.38 H	136	38.0	18.5
8	#16830.00	44.4 AV	54.0	-9.6	1.38 H	136	25.9	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	110.0 PK			3.71 V	73	106.1	3.9
2	*5610.00	98.7 AV			3.71 V	73	94.8	3.9
3	#5794.00	60.5 PK	74.0	-13.5	3.71 V	73	56.4	4.1
4	#5794.00	50.6 AV	54.0	-3.4	3.71 V	73	46.5	4.1
5	11220.00	57.5 PK	74.0	-16.5	1.59 V	1	42.3	15.2
6	11220.00	44.4 AV	54.0	-9.6	1.59 V	1	29.2	15.2
7	#16830.00	56.0 PK	74.0	-18.0	1.48 V	20	37.5	18.5
8	#16830.00	43.7 AV	54.0	-10.3	1.48 V	20	25.2	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	*5690.00	105.5 PK			1.53 H	64	101.3	4.2
2	*5690.00	94.1 AV			1.53 H	64	89.9	4.2
3	#5850.00	56.2 PK	74.0	-17.8	1.53 H	64	52.0	4.2
4	#5850.00	44.7 AV	54.0	-9.3	1.53 H	64	40.5	4.2
5	11380.00	59.7 PK	74.0	-14.3	1.31 H	167	44.3	15.4
6	11380.00	46.4 AV	54.0	-7.6	1.31 H	167	31.0	15.4
7	#17070.00	56.6 PK	74.0	-17.4	1.32 H	150	36.6	20.0
8	#17070.00	44.1 AV	54.0	-9.9	1.32 H	150	24.1	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	*5690.00	109.1 PK			3.70 V	68	104.9	4.2
2	*5690.00	97.6 AV			3.70 V	68	93.4	4.2
3	#5850.00	58.9 PK	74.0	-15.1	3.70 V	68	54.7	4.2
4	#5850.00	47.6 AV	54.0	-6.4	3.70 V	68	43.4	4.2
5	11380.00	57.1 PK	74.0	-16.9	1.55 V	11	41.7	15.4
6	11380.00	44.3 AV	54.0	-9.7	1.55 V	11	28.9	15.4
7	#17070.00	55.8 PK	74.0	-18.2	1.58 V	14	35.8	20.0
8	#17070.00	43.8 AV	54.0	-10.2	1.58 V	14	23.8	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.

Below 1GHz Data :

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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	125.01	35.7 QP	43.5	-7.8	1.50 H	100	46.2	-10.5
2	208.55	37.0 QP	43.5	-6.5	1.00 H	308	48.4	-11.4
3	322.24	39.9 QP	46.0	-6.1	1.00 H	309	46.7	-6.8
4	514.56	42.9 QP	46.0	-3.1	1.50 H	306	44.8	-1.9
5	798.73	35.5 QP	46.0	-10.5	1.00 H	4	32.4	3.1
6	1000.00	33.0 QP	54.0	-21.0	1.50 H	350	27.8	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	30.99	34.7 QP	40.0	-5.3	1.02 V	289	44.6	-9.9
2	43.00	33.5 QP	40.0	-6.5	1.00 V	29	42.1	-8.6
3	125.01	35.3 QP	43.5	-8.2	1.50 V	55	45.8	-10.5
4	311.98	37.9 QP	46.0	-8.1	1.50 V	317	44.9	-7.0
5	511.10	39.7 QP	46.0	-6.3	1.50 V	360	41.7	-2.0
6	798.70	37.2 QP	46.0	-8.8	1.00 V	21	34.1	3.1

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

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 27, 2016

4.2.3 Test Procedure

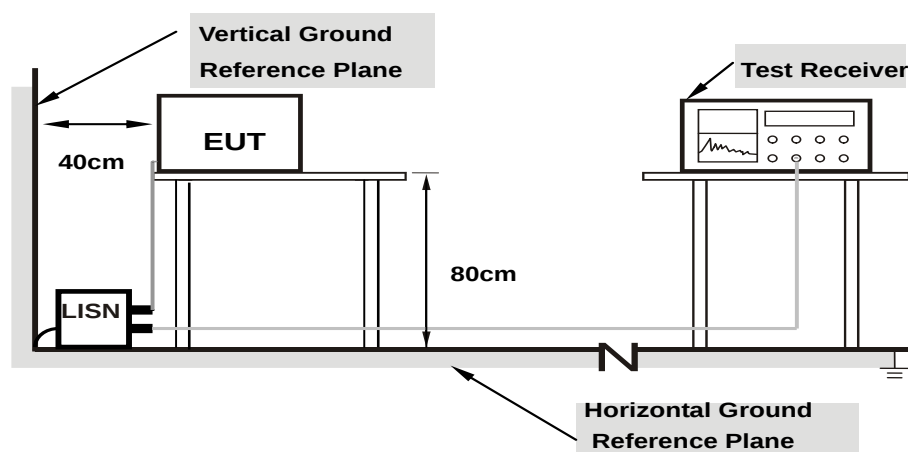
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.

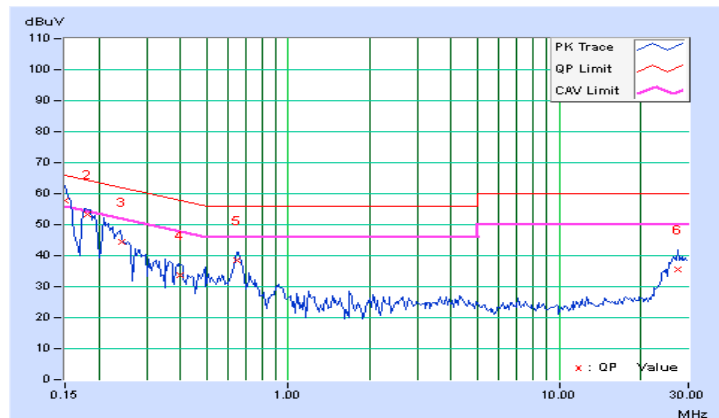
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.21	47.61	35.54	57.82	45.75	66.00	56.00	-8.18	-10.25
2	0.18125	10.22	43.27	32.91	53.49	43.13	64.43	54.43	-10.94	-11.30
3	0.24247	10.22	34.17	15.21	44.39	25.43	62.01	52.01	-17.62	-26.58
4	0.40069	10.22	23.66	17.11	33.88	27.33	57.84	47.84	-23.96	-20.51
5	0.64834	10.24	28.38	23.64	38.62	33.88	56.00	46.00	-17.38	-12.12
6	27.51563	11.49	24.05	18.38	35.54	29.87	60.00	50.00	-24.46	-20.13

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

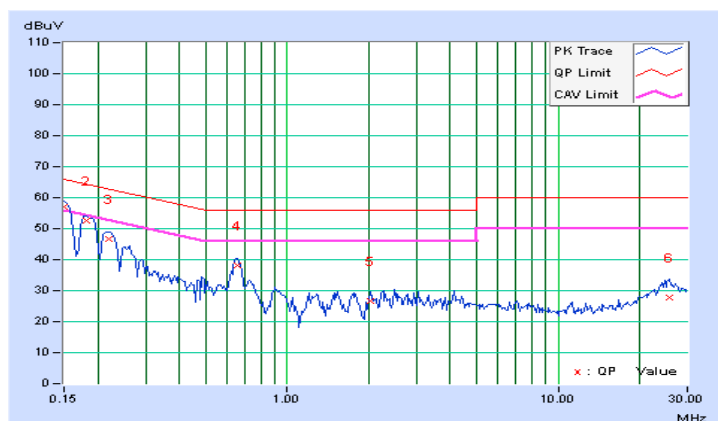


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.19	46.84	33.54	57.03	43.73	66.00	56.00	-8.97	-12.27
2	0.18125	10.20	42.40	31.87	52.60	42.07	64.43	54.43	-11.83	-12.36
3	0.22031	10.21	36.43	24.52	46.64	34.73	62.81	52.81	-16.17	-18.08
4	0.65391	10.22	27.76	23.32	37.98	33.54	56.00	46.00	-18.02	-12.46
5	2.01953	10.29	16.38	9.10	26.67	19.39	56.00	46.00	-29.33	-26.61
6	25.86719	11.13	16.51	11.79	27.64	22.92	60.00	50.00	-32.36	-27.08

Remarks:

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



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		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3		√	1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

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

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

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

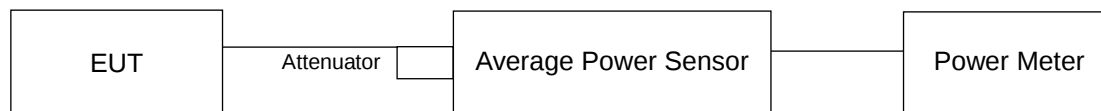
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

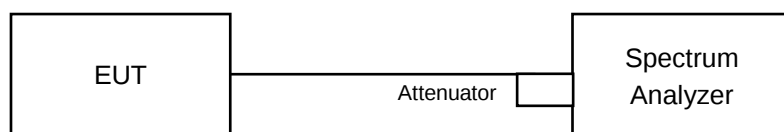
For channel straddling 5725MHz:



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:

802.11ac (VHT80)

Method SA-2

1. Set span to encompass the 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. Detector = RMS.
7. Trace average at least 100 traces in power averaging mode
8. Compute power by integrating the spectrum across the 26 dB EBW of the signal.
9. Duty factor need added to measured value (duty cycle < 98 percent).

Other Modulation mode

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

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
52	5260	16.37	16.15	16.91	133.652	21.26	24.00	Pass
60	5300	16.53	16.12	16.75	133.219	21.25	24.00	Pass
64	5320	16.40	16.11	16.70	131.258	21.18	24.00	Pass
100	5500	16.65	16.30	16.56	134.186	21.28	24.00	Pass
116	5580	16.52	16.22	16.58	132.253	21.21	24.00	Pass
140	5700	16.58	16.16	16.56	132.094	21.21	24.00	Pass
*144 (UNII-2c Band)	5720	13.51	12.75	13.69	64.663	18.11	22.94	Pass
*144 (UNII-3 Band)	5720	7.26	6.55	7.43	15.374	11.87	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	80.037	19.03

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

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.02	20.94	21.37
60	5300	21.06	21.32	21.13
64	5320	21.07	21.09	21.07
100	5500	21.04	21.22	21.11
116	5580	21.38	20.98	21.04
140	5700	21.18	21.23	21.11
144 (UNII-2c Band)	5720	15.72	15.67	15.64

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.94	24.2 > 24
60	5300	21.06	24.23 > 24
64	5320	21.07	24.23 > 24
100	5500	21.04	24.23 > 24
116	5580	20.98	24.21 > 24
140	5700	21.11	24.24 > 24
144 (UNII-2c Band)	5720	15.64	22.94 < 24

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
52	5260	16.58	16.01	16.91	134.492	21.29	24.00	Pass
60	5300	16.54	15.79	17.06	133.829	21.27	24.00	Pass
64	5320	16.76	15.73	16.62	130.755	21.16	24.00	Pass
100	5500	16.56	15.72	16.86	131.144	21.18	24.00	Pass
116	5580	16.73	15.77	16.52	129.73	21.13	24.00	Pass
140	5700	16.80	16.01	16.70	134.539	21.29	24.00	Pass
*144 (UNII-2c Band)	5720	13.72	12.57	13.23	62.66	17.97	22.97	Pass
*144 (UNII-3 Band)	5720	8.03	6.80	7.49	16.749	12.24	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	79.409	19

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

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.58	21.47	21.39
60	5300	21.61	21.58	21.65
64	5320	21.47	21.51	21.59
100	5500	21.61	21.38	21.53
116	5580	21.54	21.66	21.54
140	5700	21.51	21.50	21.43
144 (UNII-2c Band)	5720	15.76	15.84	15.76

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.39	24.3 > 24
60	5300	21.58	24.34 > 24
64	5320	21.47	24.31 > 24
100	5500	21.38	24.3 > 24
116	5580	21.54	24.33 > 24
140	5700	21.43	24.31 > 24
144 (UNII-2c Band)	5720	15.76	22.97 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
54	5270	19.25	18.52	19.53	245.004	23.89	24.00	Pass
62	5310	17.80	16.85	18.12	173.536	22.39	24.00	Pass
102	5510	18.15	17.05	18.35	184.403	22.66	24.00	Pass
110	5550	19.48	18.28	19.25	240.154	23.80	24.00	Pass
134	5670	19.44	18.40	19.34	242.986	23.86	24.00	Pass
*142 (UNII-2c Band)	5710	16.41	15.44	16.21	120.53	20.81	24.00	Pass
*142 (UNII-3 Band)	5710	6.16	5.03	5.98	11.277	10.52	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	131.807	21.2

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

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	54.77	46.87	61.05
62	5310	42.13	41.64	42.09
102	5510	47.40	41.47	43.80
110	5550	60.19	43.39	53.24
134	5670	67.71	54.44	68.17
142 (UNII-2c Band)	5710	43.61	35.96	42.09

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	46.87	27.7 > 24
62	5310	41.64	27.19 > 24
102	5510	41.47	27.17 > 24
110	5550	43.39	27.37 > 24
134	5670	54.44	28.35 > 24
142 (UNII-2c Band)	5710	35.96	26.55 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
58	5290	16.87	16.52	16.62	139.436	21.44	24.00	Pass
106	5530	17.16	16.80	17.07	150.796	21.78	24.00	Pass
122	5610	19.50	18.42	19.20	241.803	23.83	24.00	Pass
*138 (UNII-2c Band)	5690	16.93	15.47	16.82	138.417	21.41	24.00	Pass
*138 (UNII-3 Band)	5690	3.00	1.53	2.90	5.601	7.48	30.00	Pass

Note: * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
*138	5690	144.018	21.58

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

26dB OCCUPIED BANDWIDTH

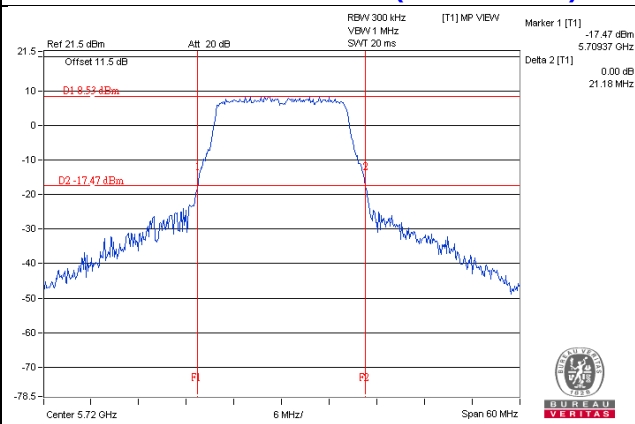
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	82.45	82.72	82.46
106	5530	82.49	82.67	82.60
122	5610	121.78	83.72	115.40
138 (UNII-2c Band)	5690	91.82	81.10	91.81

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

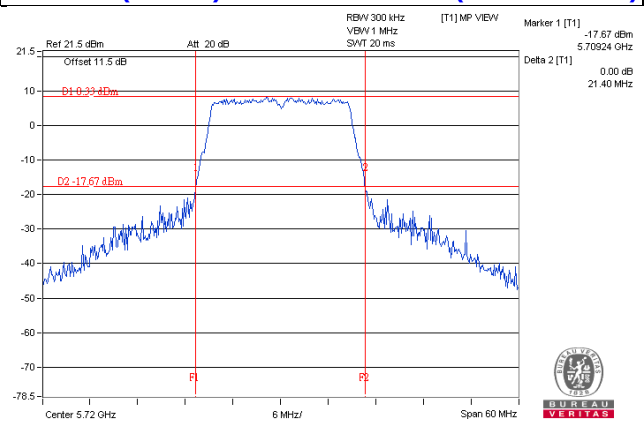
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.49	30.16 > 24
122	5610	83.72	30.22 > 24
138 (UNII-2c Band)	5690	81.10	30.09 > 24

Spectrum Plot of Worst Value

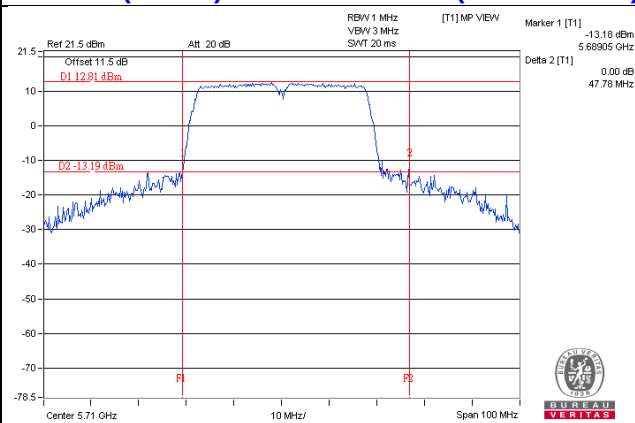
802.11a / Chain 2 - CH144 (UNII-2c Band)



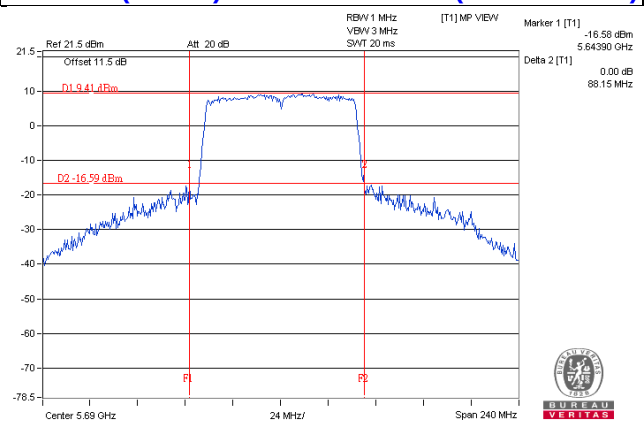
802.11ac (VHT20) / Chain 0 - CH144 (UNII-2c Band)



802.11ac (VHT40) / Chain 1 - 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

Beamforming Mode

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
52	5260	16.58	16.01	16.91	134.492	21.29	21.31	Pass
60	5300	16.54	15.79	17.06	133.829	21.27	21.31	Pass
64	5320	16.76	15.73	16.62	130.755	21.16	21.31	Pass
100	5500	16.56	15.72	16.86	131.144	21.18	21.31	Pass
116	5580	16.73	15.77	16.52	129.73	21.13	21.31	Pass
140	5700	16.80	16.01	16.70	134.539	21.29	21.31	Pass
*144 (UNII-2c Band)	5720	13.72	12.57	13.23	62.66	17.97	20.28	Pass
*144 (UNII-3 Band)	5720	8.03	6.80	7.49	16.749	12.24	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(8.69-6).

* 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	79.409	19

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

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	21.58	21.47	21.39
60	5300	21.61	21.58	21.65
64	5320	21.47	21.51	21.59
100	5500	21.61	21.38	21.53
116	5580	21.54	21.66	21.54
140	5700	21.51	21.50	21.43
144 (UNII-2c Band)	5720	15.76	15.84	15.76

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	21.39	24.3 > 24
60	5300	21.58	24.34 > 24
64	5320	21.47	24.31 > 24
100	5500	21.38	24.3 > 24
116	5580	21.54	24.33 > 24
140	5700	21.43	24.31 > 24
144 (UNII-2c Band)	5720	15.76	22.97 < 24

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
54	5270	16.80	15.70	16.90	133.995	21.27	21.31	Pass
62	5310	16.81	15.68	16.91	134.047	21.27	21.31	Pass
102	5510	16.93	15.68	16.70	133.074	21.24	21.31	Pass
110	5550	16.90	15.78	16.71	133.703	21.26	21.31	Pass
134	5670	16.96	15.75	16.77	134.777	21.30	21.31	Pass
*142 (UNII-2c Band)	5710	13.98	12.86	13.81	68.367	18.35	21.31	Pass
*142 (UNII-3 Band)	5710	3.74	2.65	3.60	6.498	8.13	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(8.69-6).

* 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	74.865	18.74

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

26dB OCCUPIED BANDWIDTH

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	54.77	46.87	61.05
62	5310	42.13	41.64	42.09
102	5510	47.40	41.47	43.80
110	5550	60.19	43.39	53.24
134	5670	67.71	54.44	68.17
142 (UNII-2c Band)	5710	43.61	35.96	42.09

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	46.87	27.7 > 24
62	5310	41.64	27.19 > 24
102	5510	41.47	27.17 > 24
118	5590	43.39	27.37 > 24
134	5670	54.44	28.35 > 24
142 (UNII-2c Band)	5710	35.96	26.55 > 24

802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
58	5290	16.71	15.78	16.83	132.92	21.24	21.31	Pass
106	5530	16.84	15.76	16.85	134.393	21.28	21.31	Pass
122	5610	16.97	15.77	16.70	134.305	21.28	21.31	Pass
*138 (UNII-2c Band)	5690	14.19	12.98	13.99	74.73	18.73	21.31	Pass
*138 (UNII-3 Band)	5690	0.24	-1.00	0.13	3.0259	4.81	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to "Determined Conducted Limit-(8.69-6).

* 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	77.7559	18.91

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

26dB OCCUPIED BANDWIDTH

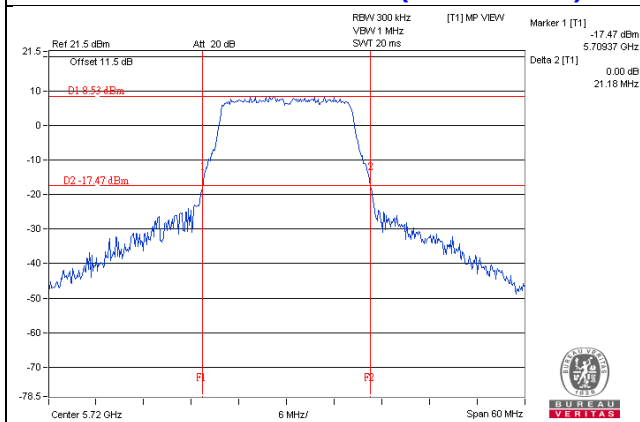
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	82.45	82.72	82.46
106	5530	82.49	82.67	82.60
122	5610	121.78	83.72	115.40
138 (UNII-2c Band)	5690	91.82	81.10	91.81

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

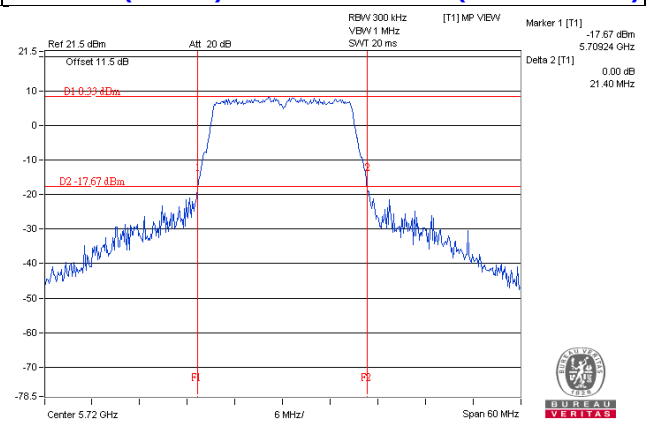
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.45	30.16 > 24
106	5530	82.49	30.16 > 24
122	5610	83.72	30.22 > 24
138 (UNII-2c Band)	5690	81.10	30.09 > 24

Spectrum Plot of Worst Value

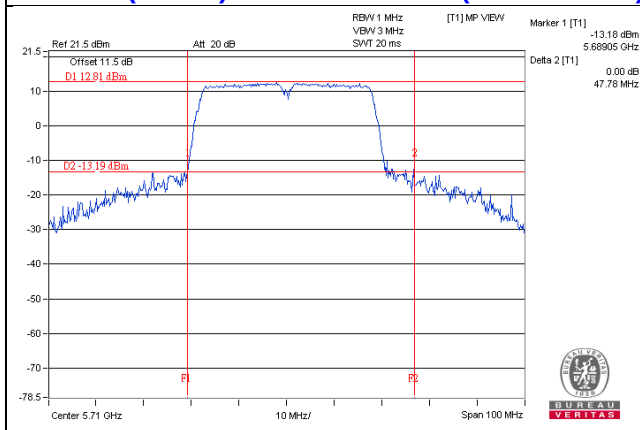
802.11a / Chain 2 - CH144 (UNII-2c Band)



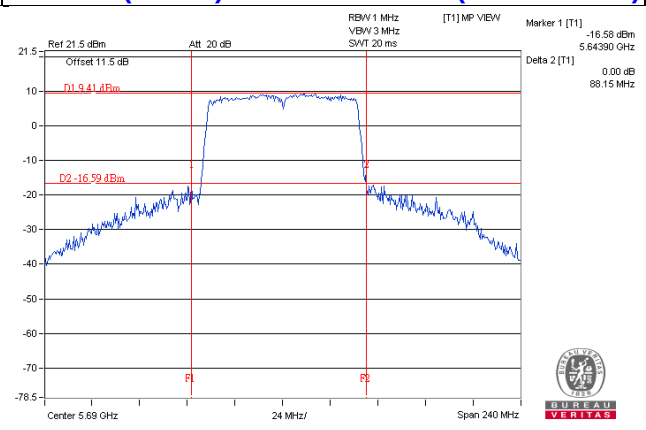
802.11ac (VHT20) / Chain 0 - CH144 (UNII-2c Band)



802.11ac (VHT40) / Chain 1 - CH142 (UNII-2c Band)



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

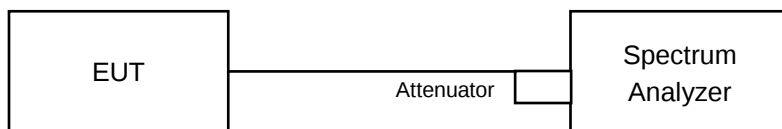


NOTE:

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

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.

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	16.80	16.92	16.92
60	5300	16.80	16.80	16.92
64	5320	16.80	16.92	16.80
100	5500	16.80	16.92	16.80
116	5580	16.92	16.80	16.92
140	5700	16.92	16.80	16.92
144 (UNII-2c Band)	5720	13.52	13.52	13.52
144 (UNII-3 Band)	5720	3.40	3.40	3.40

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
52	5260	18.00	18.00	17.88
60	5300	18.00	17.88	17.88
64	5320	17.88	17.88	18.00
100	5500	18.00	17.88	18.00
116	5580	17.88	18.00	18.00
140	5700	17.88	17.88	17.88
144 (UNII-2c Band)	5720	14.11	14.00	14.00
144 (UNII-3 Band)	5720	4.01	4.00	3.88

802.11ac (VHT40)

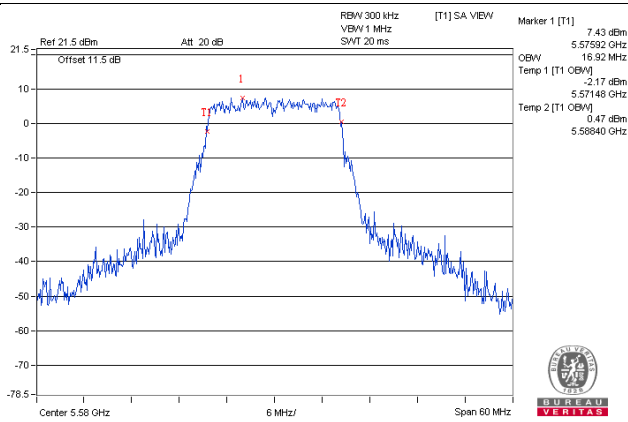
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
54	5270	36.72	36.72	36.72
62	5310	36.72	36.72	36.72
102	5510	36.72	36.72	36.72
110	5550	36.72	36.72	36.72
134	5670	36.72	36.96	37.20
142 (UNII-2c Band)	5710	33.60	33.39	33.60
142 (UNII-3 Band)	5710	3.20	3.21	3.20

802.11ac (VHT80)

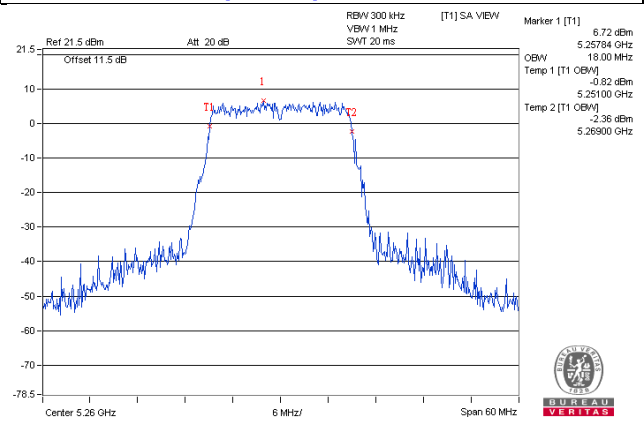
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
58	5290	76.32	75.36	75.84
106	5530	76.32	75.84	75.84
122	5610	76.32	76.32	76.32
138 (UNII-2c Band)	5690	73.39	72.92	72.92
138 (UNII-3 Band)	5690	2.92	2.92	2.92

Spectrum Plot of Worst Value

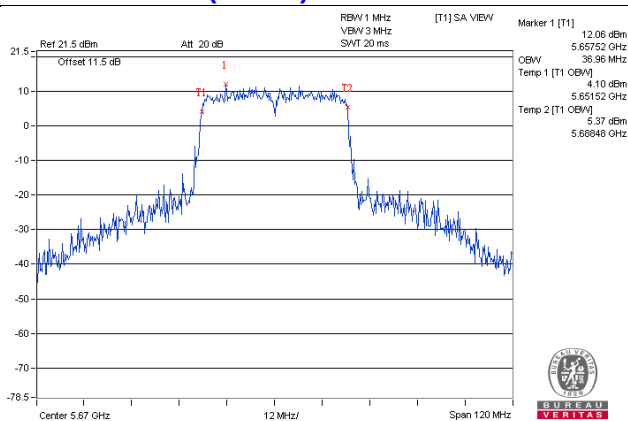
802.11a / Chain 0 – CH116



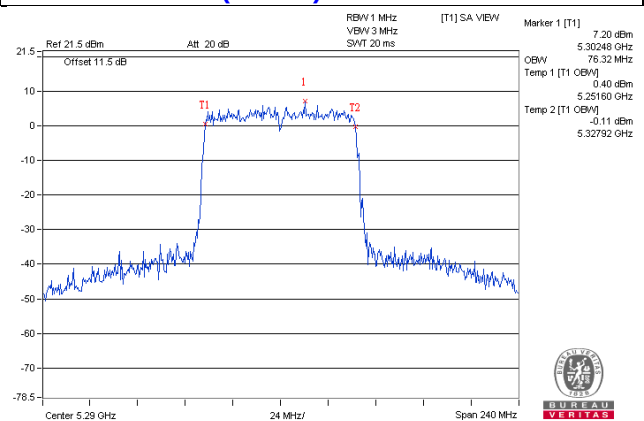
802.11ac (VHT20) / Chain 0 – CH52



802.11ac (VHT40) / Chain 1 – CH134



802.11ac (VHT80) / Chain 0 – CH58

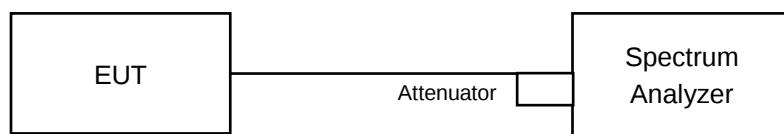


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		Limit
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
		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

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

802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

Using method SA-1

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

802.11ac (VHT80)

Using method SA-2

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

For U-NII-3:

802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to "free run".
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value

802.11ac (VHT80)

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

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

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
52	5260	3.16	2.58	3.87	8.01	8.31	Pass
60	5300	3.31	2.90	3.39	7.98	8.31	Pass
64	5320	3.52	2.79	3.74	8.14	8.31	Pass
100	5500	3.44	2.95	3.19	7.97	8.31	Pass
116	5580	3.34	2.69	3.05	7.81	8.31	Pass
140	5700	3.25	2.88	3.29	7.92	8.31	Pass
144 (UNII-2c Band)	5720	3.57	2.69	3.69	8.11	8.31	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(8.69-6) = 8.31\text{dBm}$.

802.11ac (VHT20)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
52	5260	2.76	1.91	3.17	7.42	8.31	Pass
60	5300	3.00	2.00	3.31	7.58	8.31	Pass
64	5320	3.06	1.90	2.90	7.42	8.31	Pass
100	5500	3.14	1.95	2.99	7.50	8.31	Pass
116	5580	2.77	1.80	2.95	7.31	8.31	Pass
140	5700	2.99	2.24	2.90	7.49	8.31	Pass
144 (UNII-2c Band)	5720	3.15	2.32	2.85	7.56	8.31	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(8.69-6) = 8.31\text{dBm}$.

802.11ac (VHT40)

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)			Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
54	5270	2.55	1.70	2.67	7.10	8.31	Pass
62	5310	1.00	-0.02	0.98	5.45	8.31	Pass
102	5510	1.28	-0.09	1.33	5.66	8.31	Pass
110	5550	2.54	1.25	2.42	6.88	8.31	Pass
134	5670	2.55	1.52	2.37	6.94	8.31	Pass
142 (UNII-2c Band)	5710	2.58	1.43	2.37	6.93	8.31	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 = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(8.69-6) = 8.31\text{dBm}$.

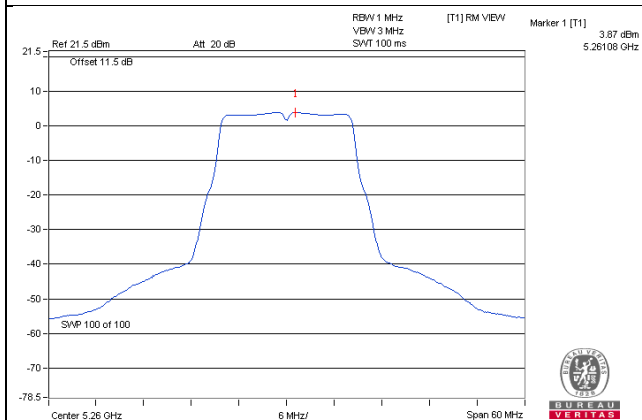
802.11ac (VHT80)

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm)			Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
58	5290	-3.25	-3.60	-3.21	0.19	1.61	8.31	Pass
106	5530	-3.17	-3.68	-3.58	0.19	1.49	8.31	Pass
122	5610	-0.25	-1.53	-0.86	0.19	4.11	8.31	Pass
138 (UNII-2c Band)	5690	-0.22	-1.56	-0.02	0.19	4.41	8.31	Pass

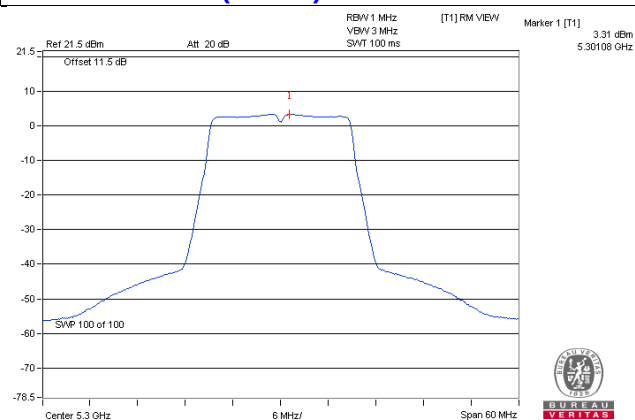
- Note:** 1. Method a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(8.69-6) = 8.31\text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

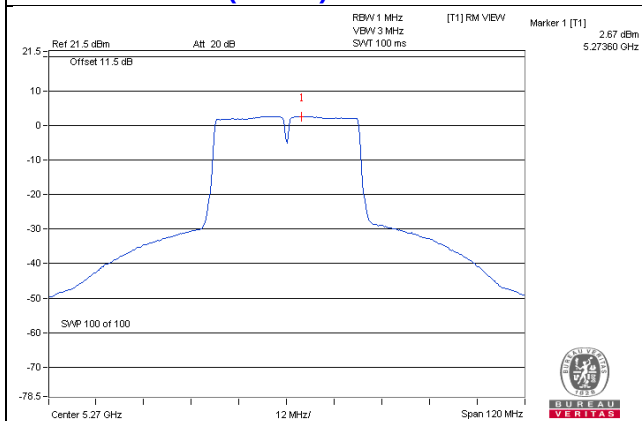
802.11a / Chain 2 – CH52



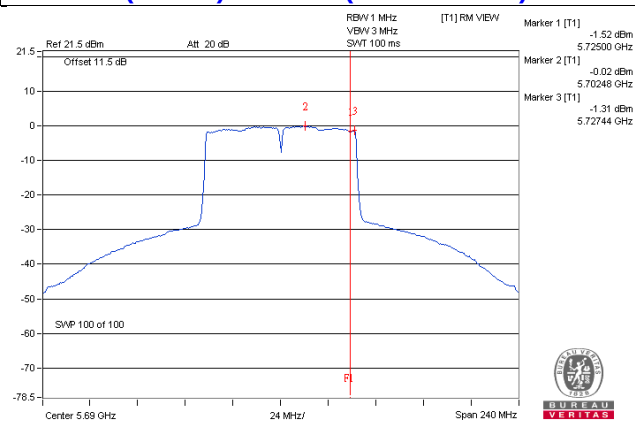
802.11ac (VHT20) / Chain 2 – CH60



802.11ac (VHT40) / Chain 2 – CH54



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



For U-NII-3 Band

802.11a

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144 (UNII-3 Band)	5720	-4.86	-2.64	4.77	2.13	27.31	Pass
1	144 (UNII-3 Band)	5720	-5.68	-3.46	4.77	1.31	27.31	Pass
2	144 (UNII-3 Band)	5720	-4.50	-2.28	4.77	2.49	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.69dBi > 6dBi , so the power density limit shall be reduced to $30-(8.69-6) = 27.31\text{dBm}$.

802.11ac (VHT20)

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144 (UNII-3 Band)	5720	-5.29	-3.07	4.77	1.70	27.31	Pass
1	144 (UNII-3 Band)	5720	-6.10	-3.88	4.77	0.89	27.31	Pass
2	144 (UNII-3 Band)	5720	-5.29	-3.07	4.77	1.70	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.69dBi > 6dBi , so the power density limit shall be reduced to $30-(8.69-6) = 27.31\text{dBm}$.

802.11ac (VHT40)

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	142 (UNII-3 Band)	5710	-6.08	-3.86	4.77	0.91	27.31	Pass
1	142 (UNII-3 Band)	5710	-7.05	-4.83	4.77	-0.06	27.31	Pass
2	142 (UNII-3 Band)	5710	-6.15	-3.93	4.77	0.84	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.69 - 6) = 27.31\text{dBm}$.

802.11ac (VHT80)

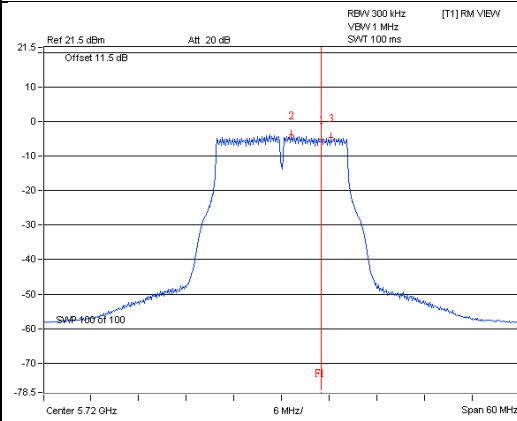
TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=3) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	138 (UNII-3 Band)	5690	-9.94	-7.72	4.77	0.19	-2.76	27.31	Pass
1	138 (UNII-3 Band)	5690	-11.22	-9.00	4.77	0.19	-4.04	27.31	Pass
2	138 (UNII-3 Band)	5690	-9.75	-7.53	4.77	0.19	-2.57	27.31	Pass

Note: 1. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.69\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (8.69 - 6) = 27.31\text{dBm}$.

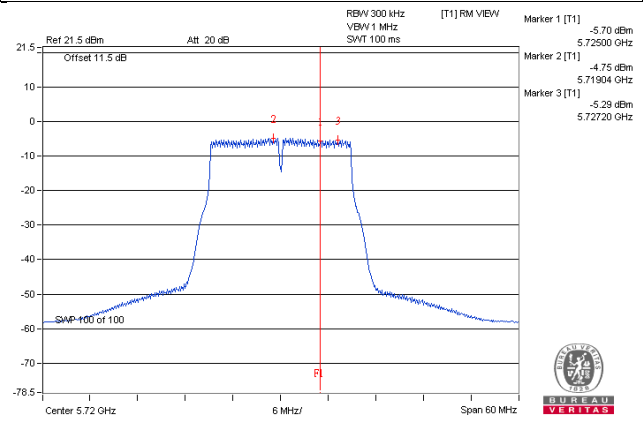
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

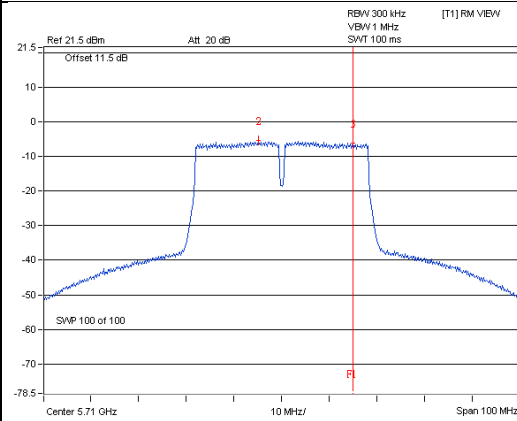
802.11a / Chain 2 (UNII-3 Band) – CH144



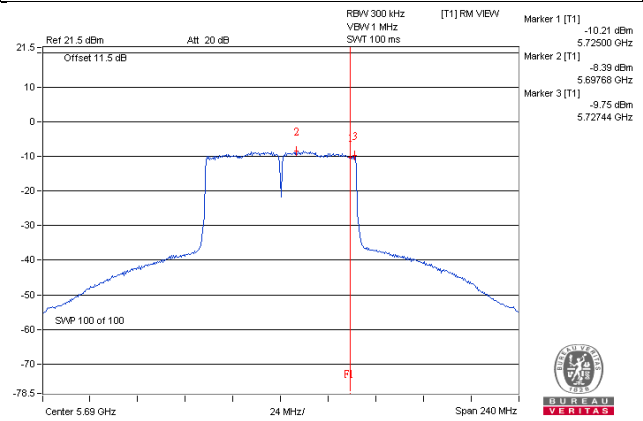
802.11ac (VHT20) / Chain 0 (UNII-3 Band) – CH144



802.11ac (VHT40) / Chain 0 (UNII-3 Band) – CH142



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

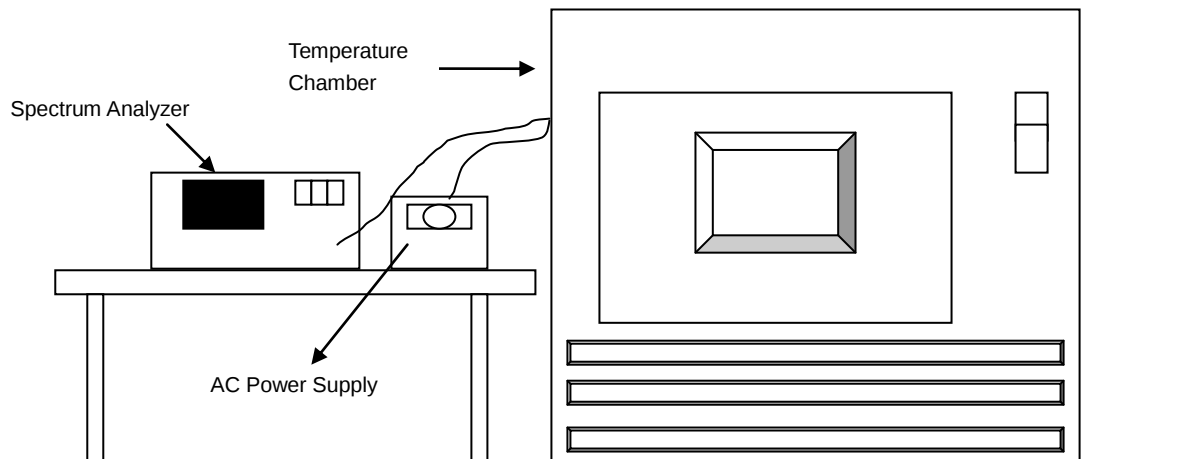


4.6 Frequency Stability Measurement

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: 5260 MHz									
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	5260.0105	Pass	5260.0144	Pass	5260.0128	Pass	5260.0122	Pass
40	120	5260.018	Pass	5260.0197	Pass	5260.0152	Pass	5260.0161	Pass
30	120	5260.0241	Pass	5260.0242	Pass	5260.0282	Pass	5260.0248	Pass
20	120	5260.0029	Pass	5260.0031	Pass	5260.0064	Pass	5260.0077	Pass
10	120	5259.9983	Pass	5259.9978	Pass	5260.0019	Pass	5260.0018	Pass
0	120	5259.9769	Pass	5259.9729	Pass	5259.977	Pass	5259.9723	Pass
-10	120	5260.0086	Pass	5260.0059	Pass	5260.0102	Pass	5260.01	Pass
-20	120	5259.9843	Pass	5259.9829	Pass	5259.9841	Pass	5259.9812	Pass
-30	120	5259.9753	Pass	5259.9738	Pass	5259.9753	Pass	5259.9781	Pass

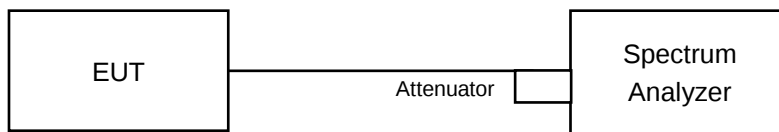
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5260.0019	Pass	5260.0037	Pass	5260.0062	Pass	5260.0079	Pass
	120	5260.0029	Pass	5260.0031	Pass	5260.0064	Pass	5260.0077	Pass
	102	5260.003	Pass	5260.0029	Pass	5260.0059	Pass	5260.0077	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		
*144 (UNII-3 Band)	5720	3.17	3.16	3.17	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		
*144 (UNII-3 Band)	5720	3.79	3.78	3.79	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		
*142 (UNII-3 Band)	5710	3.21	3.20	3.22	0.5	Pass

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

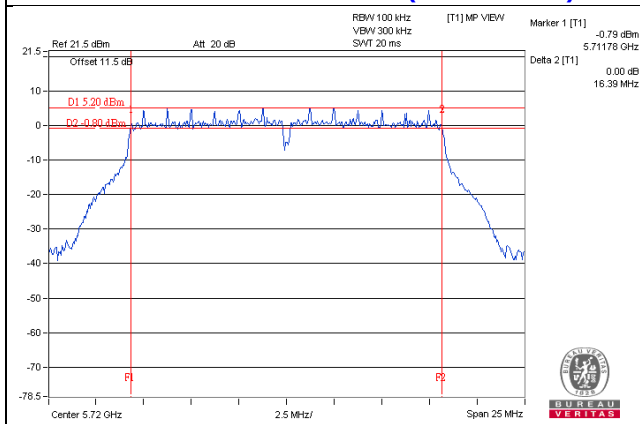
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
*138 (UNII-3 Band)	5690	2.78	2.84	2.76	0.5	Pass

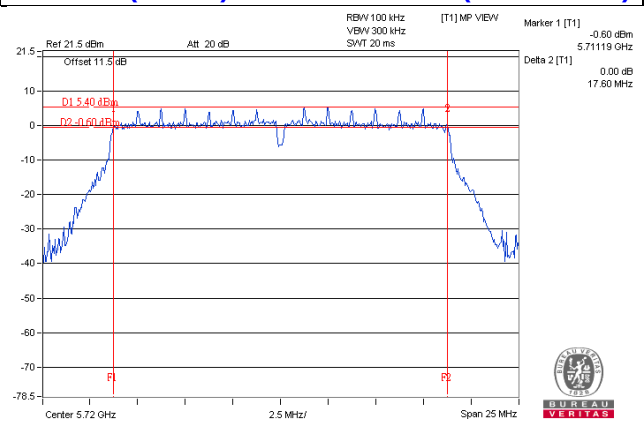
Note: *The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

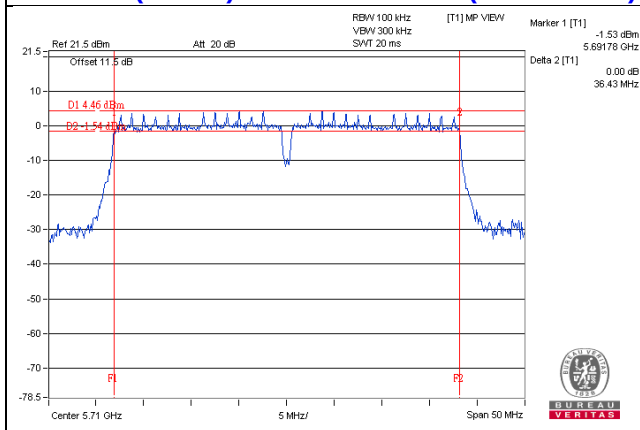
802.11a / Chain 1 - CH144 (UNII-3 Band)



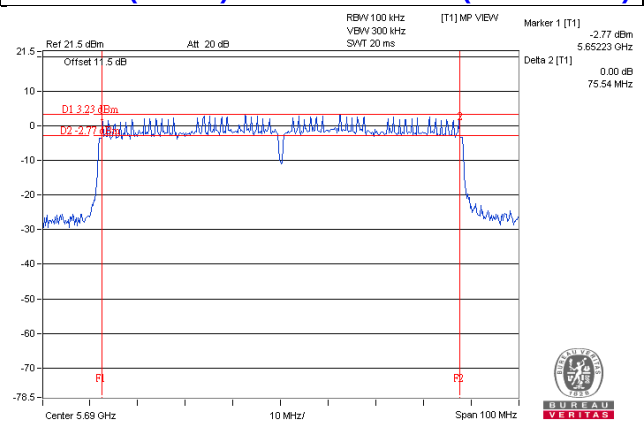
802.11ac (VHT20) / Chain 1 - CH144 (UNII-3 Band)



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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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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