FCC Test Report

Report No.:	RF161031E04
FCC ID:	2AHKM-CODA4782
Test Model:	CODA-4782
Series Model:	CODA-4682, CODA-4580, CODA-4582
Received Date:	Oct. 31, 2016
Test Date:	Nov. 11 to 24, 2016
Issued Date:	Jan. 13, 2017
Applicant:	HitronTechnologies
Address:	NO. 1-8, LISING 1ST RD., HSINCHU SCIENCE PARK, HSINCHU,300, TAIWAN.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

Testing Laboratory
2022

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Release Control Record

Issue No.	Description	Date Issued
RF161031E04	Original release.	Jan. 13, 2017

1 Certificate of Conformity

Product:	DOCSIS 3.1 wifi Gateway
Brand:	Hitron
Test Model:	CODA-4782
Series Model:	CODA-4682, CODA-4580, CODA-4582
Sample Status:	R&D SAMPLE
Applicant:	HitronTechnologies
Test Date:	Nov. 11 to 24, 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 : _____ , **Date:** Jan. 13, 2017

Claire Kuan / Specialist

Approved by : _____ , **Date:** Jan. 13, 2017

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 -4.25dB 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 5150.00MHz, 5350.00MHz, 5360.00MHz, 5470.00MHz, 5738.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U_NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex (MHF) not a standard connector.

NOTE: 1. This report is prepared for FCC class II permissive change. (Add DFS band: 5.26 ~ 5.32GHz, 5.5 ~ 5.7GHz).

2. The DFS report was recorded in another test report.

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	5.34 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.41 dB
	6GHz ~ 18GHz	3.49 dB
	18GHz ~ 40GHz	3.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	DOCSIS 3.1 wifi Gateway
Brand	Hitron
Test Model	CODA-4782
Series Model	CODA-4682, CODA-4580, CODA-4582
Status of EUT	R&D SAMPLE
Power Supply Rating	DC 12V from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	OFDM
Transfer Rate	802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5.26GHz ~ 5.32GHz, 5.50GHz ~ 5.72GHz 5.18GHz~5.24GHz, 5.745GHz~5.828GHz (for VHT80+80)
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 16 802.11n (HT40), 802.11ac (VHT40): 8 802.11ac (VHT80): 4 802.11ac (VHT80+80): 14 sets
Output Power	**CDD Mode:** U_NII-1: 81.45mW U_NII-2A: 169.192mW U_NII-2C: 233.122mW U_NII-3: 268.839mW **Beamforming Mode:** U_NII-1: 81.415mW U_NII-2A: 78.716mW U_NII-2C: 134.517mW U_NII-3: 183.303mW
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 change. The difference compared with the Report No.: T160919S01-RP1-1 design is as the following:
   - ◆ Add DFS band <5250~5350MHz & 5470~5725MHz> and multi-channel operation in an 80+80 mode.
2. According to above conditions, all test items need to be performed. And all data were verified to meet the requirements.
3. All models are listed as below.

Brand	Model	Difference			
		Cable Upstream Freq	Downstream Freq	MOCA	Diplexer
Hitron	CODA-4782	5-85 MHz 5-204MHz	108-1002MHz 258-1002MHz	V	2
	CODA-4682	5-42 MHz 5-85MHz	108-1002MHz 258-1002MHz	V	2
	CODA-4580	5-85MHz	108-1002MHz	V	1
	CODA-4582	5-85MHz	108-1002MHz	X	1

From the above models, model: **CODA-4782** was selected as representative model for the test and its data was recorded in this report.

4. The EUT power needs to be supplied from one power adapter, the information is as below table:

Brand	TRIAD
Model	WSU120-3000
Input Power	100-240V, 1.0A, 50/60Hz
Output Power	12V, 3A
Power Line	DC output cable (Unshielded, 1.7m)

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

Transmitter Circuit	Brand	Model	Antenna Gain(dBi)	Frequency range	Antenna Type	Connecter Type	Cable Length (mm)
Chain 0	AirGain	M5X05C	4.94	5.15~5.85GHz	Dipole	i-pex(MHF)	30
Chain 1	AirGain	M5X05C	6.1	5.15~5.85GHz	Dipole	i-pex(MHF)	105
Chain 2	AirGain	M5X05C	4.51	5.15~5.85GHz	Dipole	i-pex(MHF)	110
Chain 3	AirGain	M5X05C	4.83	5.15~5.85GHz	Dipole	i-pex(MHF)	55

6. The EUT incorporates a MIMO function:

WLAN 5GHz			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	4TX	4RX
802.11n (HT20)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11n (HT40)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11ac (VHT20)	MCS0~8 Nss=1	4TX	4RX
	MCS0~8 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~8 Nss=4	4TX	4RX
802.11ac (VHT40)	MCS0~9 Nss=1	4TX	4RX
	MCS0~9 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~9 Nss=4	4TX	4RX
802.11ac (VHT80)	MCS0~9 Nss=1	4TX	4RX
	MCS0~9 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~9 Nss=4	4TX	4RX
802.11ac (VHT80+80)	MCS0~9 Nss=1	4TX	4RX
	MCS0~9 Nss=2	4TX	4RX

Note:
1. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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 ~ 5700MHz

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		

For simultaneous transmission in non-adjacent channles:

14 channels are provided for 802.11ac (VHT80+80):

Channel	Frequency	Channel	Frequency
42+58	5210 MHz + 5290 MHz	58+155	5290 MHz + 5775 MHz
42+106	5210 MHz + 5530 MHz	106+122	5530 MHz + 5610 MHz
42+122	5210 MHz + 5610 MHz	106+138	5530 MHz + 5690 MHz
42+138	5210 MHz + 5690 MHz	106+155	5530 MHz + 5775 MHz
58+106	5290 MHz + 5530 MHz	122+138	5610 MHz + 5690 MHz
58+122	5290 MHz + 5610 MHz	122+155	5610 MHz + 5775 MHz
58+138	5290 MHz + 5690 MHz	138+155	5690 MHz + 5775 MHz

Note: The transmission is for noncontiguous transmission using two nonadjacent 80MHz channels.

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

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
802.11ac (VHT80+80)	5180-5240, 5260-5320, 5500-5720, 5745-5825	42 to 155	42+58 42+106 42+122 42+138 58+106 58+122 58+138 58+155 106+122 106+138 106+155 122+138 122+155 138+155	OFDM	BPSK	58.5

Radiated Emission Test (Below 1GHz):

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

CDD MODE						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT80)	5260-5320	58	106	OFDM	BPSK	29.3
	5500-5720	106 to 138		OFDM	BPSK	29.3

Power Line Conducted Emission Test:

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

CDD MODE						
Mode	FREQ. Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11ac (VHT80)	5260-5320	58	106	OFDM	BPSK	29.3
	5500-5720	106 to 138		OFDM	BPSK	29.3

Antenna Port Conducted Measurement:

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

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
802.11ac (VHT80+80)	5180-5240, 5260-5320, 5500-5720, 5745-5825	42 to 155	42+106 42+122 42+138 58+106 58+122 58+138 58+155 106+155 122+155 138+155	OFDM	BPSK	58.5

Beamforming Mode (Output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11a	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
802.11ac (VHT80+80)	5180-5240, 5260-5320, 5500-5720, 5745-5825	42 to 155	42+106 42+122 42+138 58+106 58+122 58+138 58+155 106+138 106+155 122+155 138+155	OFDM	BPSK	58.5

Test Condition:

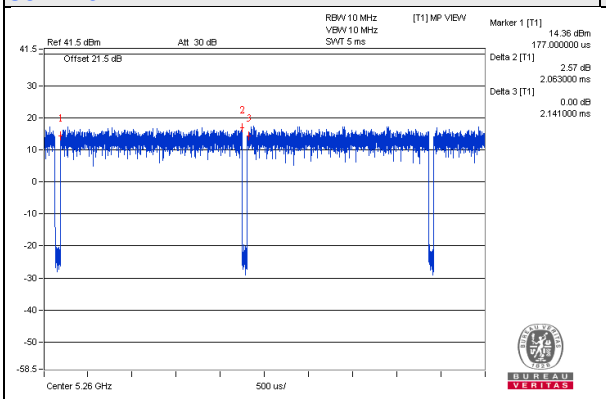
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	24deg. C, 62%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	24deg. C, 71%RH	120Vac, 60Hz	Robert Cheng
PLC	24deg. C, 71%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

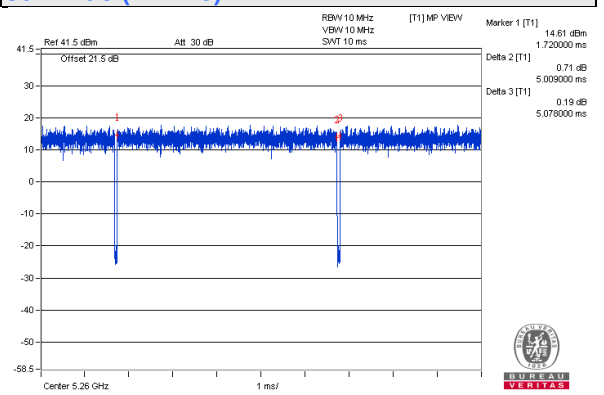
If duty cycle of test signal is < 98 %, duty factor is required
If duty cycle of test signal is ≥ 98 %, duty factor is not required.

802.11a: Duty cycle = 2.063/2.141 = 0.964, Duty factor = 10 * log(1/0.964) = 0.16
802.11ac (VHT20): Duty cycle = 5.009/5.078 = 0.986
802.11ac (VHT40): Duty cycle = 2.434/2.506 = 0.971, Duty factor = 10 * log(1/0.971) = 0.13
802.11ac (VHT80): Duty cycle = 1.148/1.216 = 0.944, Duty factor = 10 * log(1/0.944) = 0.25
802.11ac (VHT80+80): Duty cycle = 2.235/2.309 = 0.968, Duty factor = 10 * log(1/0.968) = 0.14

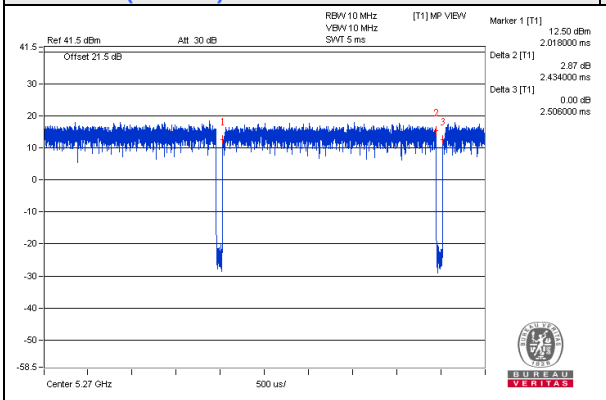
802.11a



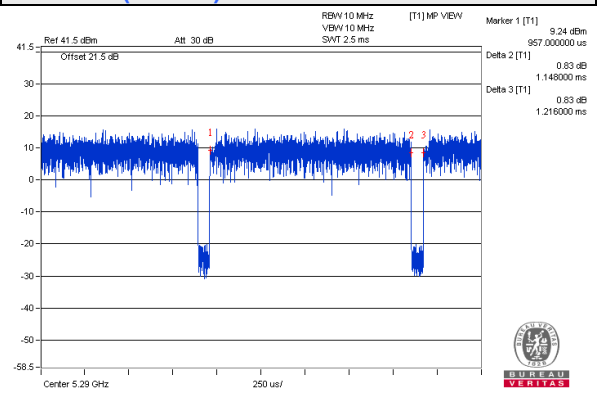
802.11ac (VHT20)



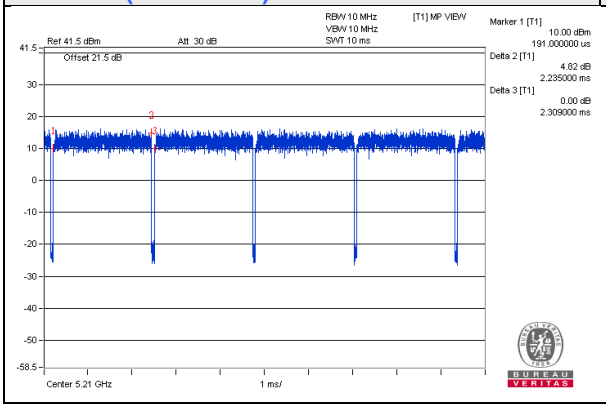
802.11ac (VHT40)



802.11ac (VHT80)



802.11ac (VHT80+80)



3.4 Description of Support Units

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

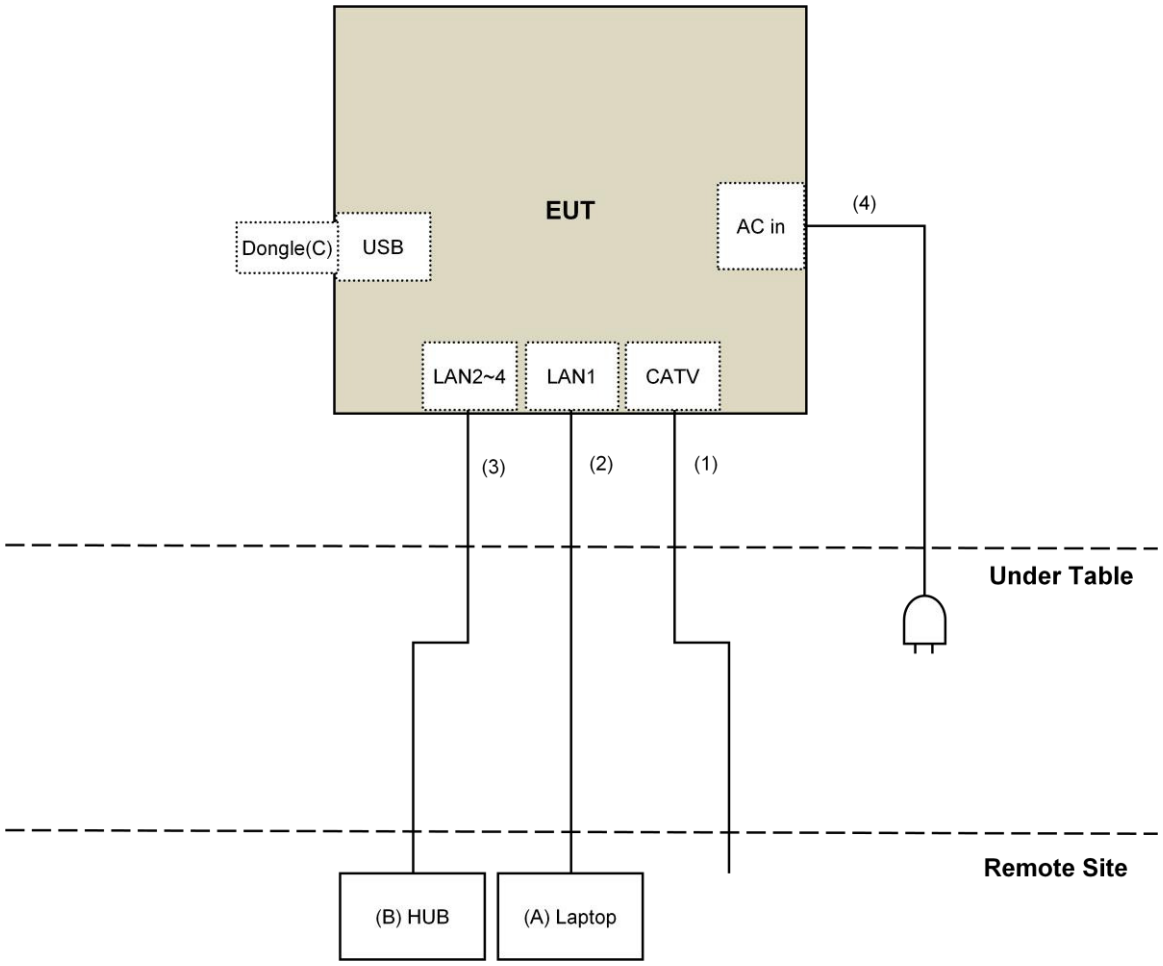
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
B.	HUB	ZyXEL	ES-116P	S060H02000215	FCC Doc	Provided by Lab
C.	Dongle	Transcend	NA	NA	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Coaxial Cable	1	10	Yes	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	3	10	No	0	Provided by Lab
4.	AC Cable	1	1.8	No	0	Supplied by client

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.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

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

Note:

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 20, 2016	July 19, 2017
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-01	Nov. 10, 2016	Nov. 09, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 02, 2016	Apr. 01, 2017
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Jan. 19, 2016	Jan. 18, 2017
Pre-Amplifier Agilent	8449B	3008A01922	Sep. 18, 2016	Sep. 17, 2017
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150318 150323 150324	Mar. 30, 2016	Mar. 29, 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_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSv40	100964	June 28, 2016	June 27, 2017
Power meter Anritsu	ML2495A	1014008	May 05, 2016	May 04, 2017
Power sensor Anritsu	MA2411B	0917122	May 05, 2016	May 04, 2017
Digital Multimeter FLUKE	87III	73680266	Nov. 10, 2016	Nov. 09, 2017
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 15, 2016	Jan. 14, 2017

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Site Registration No. is 292998
5. The CANADA Site Registration No. is 20331-2
6. Tested Date: Nov. 11 to 24, 2016

4.1.3 Test Procedure

For Radiated emission below 30MHz

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

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

c. Both X and Y axes of the antenna are set to make the measurement.

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

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

NOTE:

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

For Radiated emission above 30MHz

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

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

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

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

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

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

Note:

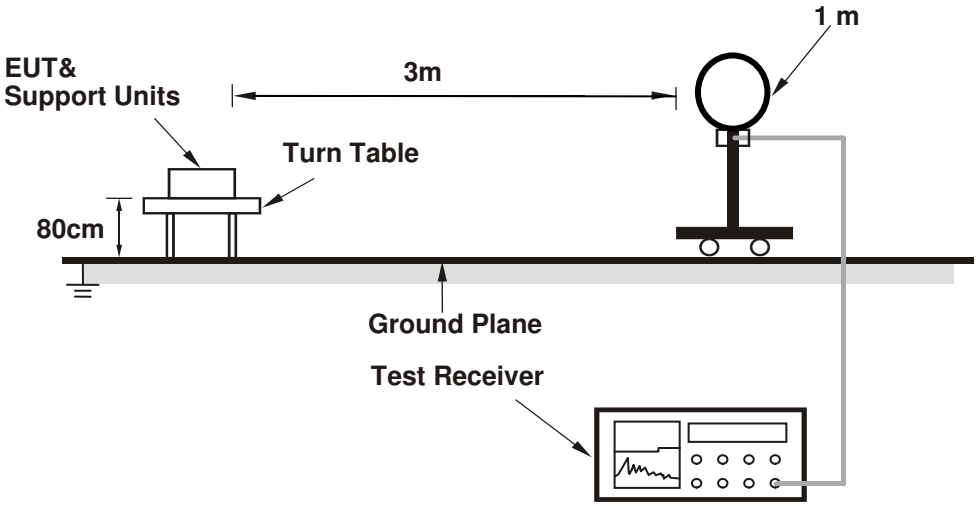
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

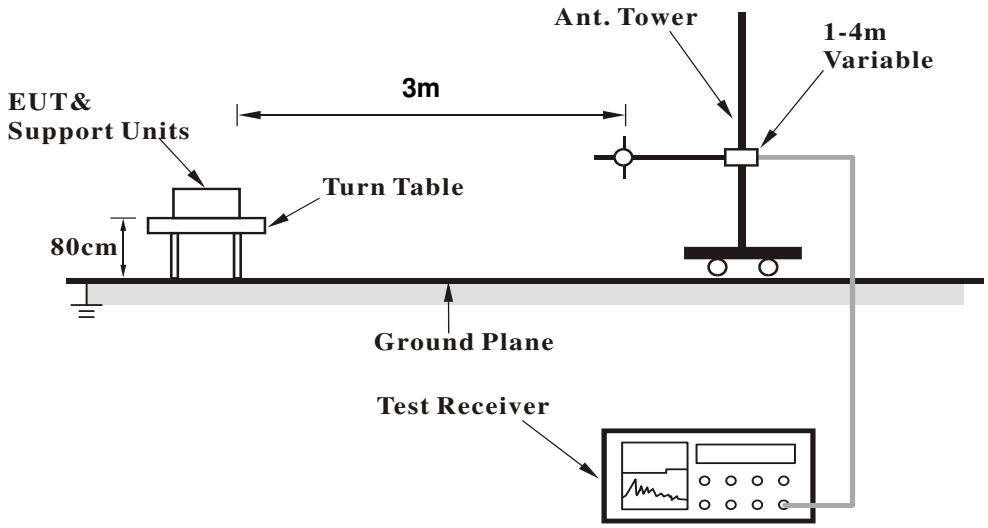
No deviation.

4.1.5 Test Setup

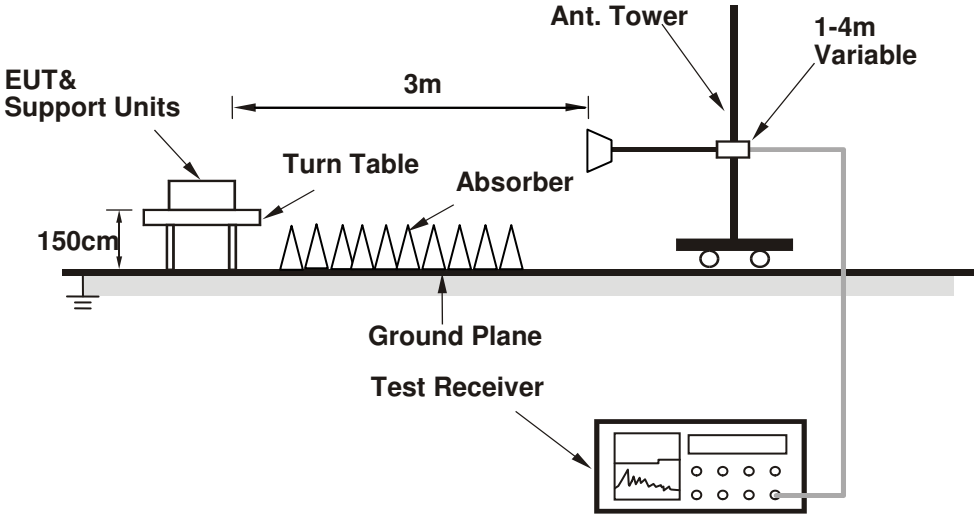
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Condition

1. Connect the EUT with the Laptop which is placed on remote site.
2. Controlling software (QRCT.exe(Ver3.0.187.0)) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz Data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.6 PK	74.0	-18.4	1.93 H	135	54.1	1.5
2	5150.00	41.3 AV	54.0	-12.7	1.93 H	135	39.8	1.5
3	*5260.00	108.9 PK			1.93 H	135	107.2	1.7
4	*5260.00	98.3 AV			1.93 H	135	96.6	1.7
5	#10520.00	52.0 PK	74.0	-22.0	1.41 H	225	39.7	12.3
6	#10520.00	39.6 AV	54.0	-14.4	1.41 H	225	27.3	12.3
7	15780.00	53.3 PK	74.0	-20.7	1.60 H	241	40.2	13.1
8	15780.00	40.7 AV	54.0	-13.3	1.60 H	241	27.6	13.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.9 PK	74.0	-18.1	1.50 V	112	54.4	1.5
2	5150.00	41.5 AV	54.0	-12.5	1.50 V	112	40.0	1.5
3	*5260.00	114.1 PK			1.50 V	112	112.4	1.7
4	*5260.00	103.7 AV			1.50 V	112	102.0	1.7
5	#10520.00	51.8 PK	74.0	-22.2	2.14 V	236	39.5	12.3
6	#10520.00	39.5 AV	54.0	-14.5	2.14 V	236	27.2	12.3
7	15780.00	53.8 PK	74.0	-20.2	1.82 V	269	40.7	13.1
8	15780.00	41.0 AV	54.0	-13.0	1.82 V	269	27.9	13.1

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.3 PK			1.91 H	122	106.5	1.8
2	*5300.00	97.8 AV			1.91 H	122	96.0	1.8
3	10600.00	52.0 PK	74.0	-22.0	1.36 H	231	39.5	12.5
4	10600.00	39.5 AV	54.0	-14.5	1.36 H	231	27.0	12.5
5	15900.00	53.2 PK	74.0	-20.8	1.62 H	242	40.2	13.0
6	15900.00	40.4 AV	54.0	-13.6	1.62 H	242	27.4	13.0
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	*5300.00	113.5 PK			1.50 V	110	111.7	1.8
2	*5300.00	103.1 AV			1.50 V	110	101.3	1.8
3	10600.00	51.3 PK	74.0	-22.7	2.14 V	225	38.8	12.5
4	10600.00	39.3 AV	54.0	-14.7	2.14 V	225	26.8	12.5
5	15900.00	53.2 PK	74.0	-20.8	1.84 V	276	40.2	13.0
6	15900.00	40.5 AV	54.0	-13.5	1.84 V	276	27.5	13.0

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.6 PK			1.93 H	111	106.8	1.8
2	*5320.00	98.1 AV			1.93 H	111	96.3	1.8
3	5350.00	54.7 PK	74.0	-19.3	1.93 H	111	52.8	1.9
4	5350.00	41.6 AV	54.0	-12.4	1.93 H	111	39.7	1.9
5	10640.00	51.9 PK	74.0	-22.1	1.43 H	224	39.4	12.5
6	10640.00	39.5 AV	54.0	-14.5	1.43 H	224	27.0	12.5
7	15960.00	53.8 PK	74.0	-20.2	1.61 H	229	40.9	12.9
8	15960.00	41.0 AV	54.0	-13.0	1.61 H	229	28.1	12.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.8 PK			1.50 V	129	112.0	1.8
2	*5320.00	103.3 AV			1.50 V	129	101.5	1.8
3	5350.00	55.3 PK	74.0	-18.7	1.50 V	129	53.4	1.9
4	5350.00	43.0 AV	54.0	-11.0	1.50 V	129	41.1	1.9
5	10640.00	52.3 PK	74.0	-21.7	2.19 V	233	39.8	12.5
6	10640.00	39.7 AV	54.0	-14.3	2.19 V	233	27.2	12.5
7	15960.00	53.8 PK	74.0	-20.2	1.82 V	279	40.9	12.9
8	15960.00	40.9 AV	54.0	-13.1	1.82 V	279	28.0	12.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	54.9 PK	74.0	-19.1	1.91 H	104	52.8	2.1
2	#5470.00	41.2 AV	54.0	-12.8	1.91 H	104	39.1	2.1
3	*5500.00	108.5 PK			1.91 H	104	106.4	2.1
4	*5500.00	98.0 AV			1.91 H	104	95.9	2.1
5	11000.00	53.7 PK	74.0	-20.3	1.45 H	207	40.5	13.2
6	11000.00	40.9 AV	54.0	-13.1	1.45 H	207	27.7	13.2
7	#16500.00	54.5 PK	74.0	-19.5	1.60 H	215	39.5	15.0
8	#16500.00	41.2 AV	54.0	-12.8	1.60 H	215	26.2	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	#5470.00	55.6 PK	74.0	-18.4	1.50 V	125	53.5	2.1
2	#5470.00	42.3 AV	54.0	-11.7	1.50 V	125	40.2	2.1
3	*5500.00	113.8 PK			1.50 V	125	111.7	2.1
4	*5500.00	103.3 AV			1.50 V	125	101.2	2.1
5	11000.00	53.1 PK	74.0	-20.9	2.20 V	240	39.9	13.2
6	11000.00	40.5 AV	54.0	-13.5	2.20 V	240	27.3	13.2
7	#16500.00	54.6 PK	74.0	-19.4	1.88 V	281	39.6	15.0
8	#16500.00	41.5 AV	54.0	-12.5	1.88 V	281	26.5	15.0

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.7 PK			1.92 H	110	107.4	2.3
2	*5580.00	99.0 AV			1.92 H	110	96.7	2.3
3	11160.00	53.9 PK	74.0	-20.1	1.39 H	214	40.8	13.1
4	11160.00	40.8 AV	54.0	-13.2	1.39 H	214	27.7	13.1
5	#16740.00	54.4 PK	74.0	-19.6	1.55 H	227	38.3	16.1
6	#16740.00	41.4 AV	54.0	-12.6	1.55 H	227	25.3	16.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	114.9 PK			1.50 V	120	112.6	2.3
2	*5580.00	104.0 AV			1.50 V	120	101.7	2.3
3	11160.00	52.5 PK	74.0	-21.5	2.20 V	236	39.4	13.1
4	11160.00	40.0 AV	54.0	-14.0	2.20 V	236	26.9	13.1
5	#16740.00	54.5 PK	74.0	-19.5	1.88 V	277	38.4	16.1
6	#16740.00	41.6 AV	54.0	-12.4	1.88 V	277	25.5	16.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.0 PK			1.95 H	115	106.3	2.7
2	*5700.00	98.5 AV			1.95 H	115	95.8	2.7
3	#5725.00	55.2 PK	74.0	-18.8	1.95 H	115	52.5	2.7
4	#5725.00	42.1 AV	54.0	-11.9	1.95 H	115	39.4	2.7
5	11400.00	53.4 PK	74.0	-20.6	1.42 H	223	40.1	13.3
6	11400.00	40.5 AV	54.0	-13.5	1.42 H	223	27.2	13.3
7	#17100.00	55.1 PK	74.0	-18.9	1.59 H	224	37.4	17.7
8	#17100.00	44.0 AV	54.0	-10.0	1.59 H	224	26.3	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	*5700.00	114.3 PK			1.50 V	111	111.6	2.7
2	*5700.00	103.6 AV			1.50 V	111	100.9	2.7
3	#5725.00	56.1 PK	74.0	-17.9	1.50 V	111	53.4	2.7
4	#5725.00	43.5 AV	54.0	-10.5	1.50 V	111	40.8	2.7
5	11400.00	53.5 PK	74.0	-20.5	2.24 V	227	40.2	13.3
6	11400.00	40.8 AV	54.0	-13.2	2.24 V	227	27.5	13.3
7	#17100.00	55.4 PK	74.0	-18.6	1.94 V	280	37.7	17.7
8	#17100.00	44.2 AV	54.0	-9.8	1.94 V	280	26.5	17.7

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	108.2 PK			2.00 H	124	105.5	2.7
2	*5720.00	97.9 AV			2.00 H	124	95.2	2.7
3	#5850.00	55.1 PK	74.0	-18.9	2.00 H	124	52.3	2.8
4	#5850.00	41.8 AV	54.0	-12.2	2.00 H	124	39.0	2.8
5	11440.00	53.4 PK	74.0	-20.6	1.42 H	226	40.1	13.3
6	11440.00	40.5 AV	54.0	-13.5	1.42 H	226	27.2	13.3
7	#17160.00	55.3 PK	74.0	-18.7	1.62 H	239	37.3	18.0
8	#17160.00	44.3 AV	54.0	-9.7	1.62 H	239	26.3	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	*5720.00	113.5 PK			1.50 V	119	110.8	2.7
2	*5720.00	103.0 AV			1.50 V	119	100.3	2.7
3	#5850.00	56.3 PK	74.0	-17.7	1.50 V	119	53.5	2.8
4	#5850.00	42.9 AV	54.0	-11.1	1.50 V	119	40.1	2.8
5	11440.00	53.1 PK	74.0	-20.9	2.28 V	218	39.8	13.3
6	11440.00	40.7 AV	54.0	-13.3	2.28 V	218	27.4	13.3
7	#17160.00	55.9 PK	74.0	-18.1	1.88 V	292	37.9	18.0
8	#17160.00	44.5 AV	54.0	-9.5	1.88 V	292	26.5	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.

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.0 PK	74.0	-19.0	2.05 H	124	53.5	1.5
2	5150.00	41.1 AV	54.0	-12.9	2.05 H	124	39.6	1.5
3	*5260.00	108.5 PK			2.05 H	124	106.8	1.7
4	*5260.00	98.4 AV			2.05 H	124	96.7	1.7
5	#10520.00	51.7 PK	74.0	-22.3	1.39 H	223	39.4	12.3
6	#10520.00	39.6 AV	54.0	-14.4	1.39 H	223	27.3	12.3
7	15780.00	53.6 PK	74.0	-20.4	1.59 H	225	40.5	13.1
8	15780.00	41.1 AV	54.0	-12.9	1.59 H	225	28.0	13.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.2 PK	74.0	-18.8	1.50 V	111	53.7	1.5
2	5150.00	41.3 AV	54.0	-12.7	1.50 V	111	39.8	1.5
3	*5260.00	113.8 PK			1.50 V	111	112.1	1.7
4	*5260.00	103.3 AV			1.50 V	111	101.6	1.7
5	#10520.00	51.3 PK	74.0	-22.7	2.09 V	228	39.0	12.3
6	#10520.00	39.1 AV	54.0	-14.9	2.09 V	228	26.8	12.3
7	15780.00	53.8 PK	74.0	-20.2	1.83 V	275	40.7	13.1
8	15780.00	40.9 AV	54.0	-13.1	1.83 V	275	27.8	13.1

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	108.0 PK			2.01 H	109	106.2	1.8
2	*5300.00	97.6 AV			2.01 H	109	95.8	1.8
3	10600.00	51.8 PK	74.0	-22.2	1.41 H	239	39.3	12.5
4	10600.00	39.6 AV	54.0	-14.4	1.41 H	239	27.1	12.5
5	15900.00	53.6 PK	74.0	-20.4	1.58 H	226	40.6	13.0
6	15900.00	40.8 AV	54.0	-13.2	1.58 H	226	27.8	13.0
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	*5300.00	113.2 PK			1.50 V	123	111.4	1.8
2	*5300.00	102.5 AV			1.50 V	123	100.7	1.8
3	10600.00	51.4 PK	74.0	-22.6	2.11 V	238	38.9	12.5
4	10600.00	39.1 AV	54.0	-14.9	2.11 V	238	26.6	12.5
5	15900.00	54.4 PK	74.0	-19.6	1.80 V	254	41.4	13.0
6	15900.00	41.5 AV	54.0	-12.5	1.80 V	254	28.5	13.0

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.3 PK			2.02 H	135	106.5	1.8
2	*5320.00	97.9 AV			2.02 H	135	96.1	1.8
3	5350.00	54.6 PK	74.0	-19.4	2.02 H	135	52.7	1.9
4	5350.00	42.0 AV	54.0	-12.0	2.02 H	135	40.1	1.9
5	10640.00	52.7 PK	74.0	-21.3	1.40 H	239	40.2	12.5
6	10640.00	40.0 AV	54.0	-14.0	1.40 H	239	27.5	12.5
7	15960.00	52.9 PK	74.0	-21.1	1.56 H	244	40.0	12.9
8	15960.00	40.5 AV	54.0	-13.5	1.56 H	244	27.6	12.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.5 PK			1.50 V	128	111.7	1.8
2	*5320.00	102.8 AV			1.50 V	128	101.0	1.8
3	5350.00	55.0 PK	74.0	-19.0	1.50 V	128	53.1	1.9
4	5350.00	42.7 AV	54.0	-11.3	1.50 V	128	40.8	1.9
5	10640.00	51.8 PK	74.0	-22.2	2.18 V	230	39.3	12.5
6	10640.00	39.3 AV	54.0	-14.7	2.18 V	230	26.8	12.5
7	15960.00	54.4 PK	74.0	-19.6	1.85 V	262	41.5	12.9
8	15960.00	41.4 AV	54.0	-12.6	1.85 V	262	28.5	12.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	54.9 PK	74.0	-19.1	2.02 H	112	52.8	2.1
2	#5470.00	41.7 AV	54.0	-12.3	2.02 H	112	39.6	2.1
3	*5500.00	108.9 PK			2.02 H	112	106.8	2.1
4	*5500.00	98.4 AV			2.02 H	112	96.3	2.1
5	11000.00	53.0 PK	74.0	-21.0	1.40 H	192	39.8	13.2
6	11000.00	40.4 AV	54.0	-13.6	1.40 H	192	27.2	13.2
7	#16500.00	54.7 PK	74.0	-19.3	1.60 H	205	39.7	15.0
8	#16500.00	41.4 AV	54.0	-12.6	1.60 H	205	26.4	15.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.6 PK	74.0	-18.4	1.50 V	127	53.5	2.1
2	#5470.00	42.3 AV	54.0	-11.7	1.50 V	127	40.2	2.1
3	*5500.00	114.1 PK			1.50 V	127	112.0	2.1
4	*5500.00	103.1 AV			1.50 V	127	101.0	2.1
5	11000.00	53.1 PK	74.0	-20.9	2.25 V	244	39.9	13.2
6	11000.00	40.5 AV	54.0	-13.5	2.25 V	244	27.3	13.2
7	#16500.00	54.0 PK	74.0	-20.0	1.90 V	271	39.0	15.0
8	#16500.00	41.0 AV	54.0	-13.0	1.90 V	271	26.0	15.0

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.4 PK			2.03 H	131	107.1	2.3
2	*5580.00	99.0 AV			2.03 H	131	96.7	2.3
3	11160.00	53.4 PK	74.0	-20.6	1.40 H	217	40.3	13.1
4	11160.00	40.6 AV	54.0	-13.4	1.40 H	217	27.5	13.1
5	#16740.00	54.0 PK	74.0	-20.0	1.62 H	226	37.9	16.1
6	#16740.00	40.7 AV	54.0	-13.3	1.62 H	226	24.6	16.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	114.6 PK			1.50 V	121	112.3	2.3
2	*5580.00	103.7 AV			1.50 V	121	101.4	2.3
3	11160.00	53.4 PK	74.0	-20.6	2.20 V	255	40.3	13.1
4	11160.00	40.7 AV	54.0	-13.3	2.20 V	255	27.6	13.1
5	#16740.00	54.6 PK	74.0	-19.4	1.91 V	296	38.5	16.1
6	#16740.00	41.4 AV	54.0	-12.6	1.91 V	296	25.3	16.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.1 PK			2.01 H	123	106.4	2.7
2	*5700.00	98.6 AV			2.01 H	123	95.9	2.7
3	#5725.00	55.1 PK	74.0	-18.9	2.01 H	123	52.4	2.7
4	#5725.00	42.2 AV	54.0	-11.8	2.01 H	123	39.5	2.7
5	11400.00	53.1 PK	74.0	-20.9	1.45 H	223	39.8	13.3
6	11400.00	40.4 AV	54.0	-13.6	1.45 H	223	27.1	13.3
7	#17100.00	54.6 PK	74.0	-19.4	1.63 H	238	36.9	17.7
8	#17100.00	43.8 AV	54.0	-10.2	1.63 H	238	26.1	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	*5700.00	114.2 PK			1.50 V	122	111.5	2.7
2	*5700.00	103.3 AV			1.50 V	122	100.6	2.7
3	#5725.00	55.8 PK	74.0	-18.2	1.50 V	122	53.1	2.7
4	#5725.00	43.4 AV	54.0	-10.6	1.50 V	122	40.7	2.7
5	11400.00	53.3 PK	74.0	-20.7	2.28 V	228	40.0	13.3
6	11400.00	40.7 AV	54.0	-13.3	2.28 V	228	27.4	13.3
7	#17100.00	55.6 PK	74.0	-18.4	1.94 V	305	37.9	17.7
8	#17100.00	44.3 AV	54.0	-9.7	1.94 V	305	26.6	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 144	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5720.00	108.5 PK			2.09 H	123	105.8	2.7
2	*5720.00	98.3 AV			2.09 H	123	95.6	2.7
3	#5850.00	55.3 PK	74.0	-18.7	2.09 H	123	52.5	2.8
4	#5850.00	41.1 AV	54.0	-12.9	2.09 H	123	38.3	2.8
5	11440.00	53.0 PK	74.0	-21.0	1.42 H	236	39.7	13.3
6	11440.00	40.2 AV	54.0	-13.8	1.42 H	236	26.9	13.3
7	#17160.00	55.1 PK	74.0	-18.9	1.65 H	218	37.1	18.0
8	#17160.00	43.9 AV	54.0	-10.1	1.65 H	218	25.9	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	*5720.00	113.6 PK			1.50 V	123	110.9	2.7
2	*5720.00	102.8 AV			1.50 V	123	100.1	2.7
3	#5850.00	56.4 PK	74.0	-17.6	1.50 V	123	53.6	2.8
4	#5850.00	42.6 AV	54.0	-11.4	1.50 V	123	39.8	2.8
5	11440.00	53.1 PK	74.0	-20.9	2.23 V	210	39.8	13.3
6	11440.00	40.9 AV	54.0	-13.1	2.23 V	210	27.6	13.3
7	#17160.00	55.7 PK	74.0	-18.3	1.83 V	290	37.7	18.0
8	#17160.00	44.2 AV	54.0	-9.8	1.83 V	290	26.2	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.

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.8 PK	74.0	-18.2	2.11 H	137	54.3	1.5
2	5150.00	41.3 AV	54.0	-12.7	2.11 H	137	39.8	1.5
3	*5270.00	109.8 PK			2.11 H	137	108.0	1.8
4	*5270.00	99.9 AV			2.11 H	137	98.1	1.8
5	#10540.00	52.1 PK	74.0	-21.9	1.45 H	238	39.8	12.3
6	#10540.00	40.0 AV	54.0	-14.0	1.45 H	238	27.7	12.3
7	15810.00	53.5 PK	74.0	-20.5	1.59 H	212	40.5	13.0
8	15810.00	40.8 AV	54.0	-13.2	1.59 H	212	27.8	13.0
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	56.0 PK	74.0	-18.0	1.50 V	130	54.5	1.5
2	5150.00	41.6 AV	54.0	-12.4	1.50 V	130	40.1	1.5
3	*5270.00	114.9 PK			1.50 V	130	113.1	1.8
4	*5270.00	104.3 AV			1.50 V	130	102.5	1.8
5	#10540.00	51.8 PK	74.0	-22.2	2.06 V	229	39.5	12.3
6	#10540.00	39.6 AV	54.0	-14.4	2.06 V	229	27.3	12.3
7	15810.00	54.8 PK	74.0	-19.2	1.78 V	261	41.8	13.0
8	15810.00	42.0 AV	54.0	-12.0	1.78 V	261	29.0	13.0

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.5 PK			2.12 H	141	106.7	1.8
2	*5310.00	98.7 AV			2.12 H	141	96.9	1.8
3	5350.00	57.0 PK	74.0	-17.0	2.12 H	141	55.1	1.9
4	5350.00	43.2 AV	54.0	-10.8	2.12 H	141	41.3	1.9
5	10620.00	51.5 PK	74.0	-22.5	1.42 H	251	39.0	12.5
6	10620.00	39.2 AV	54.0	-14.8	1.42 H	251	26.7	12.5
7	15930.00	54.1 PK	74.0	-19.9	1.60 H	218	41.1	13.0
8	15930.00	41.1 AV	54.0	-12.9	1.60 H	218	28.1	13.0
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	*5310.00	113.5 PK			1.50 V	129	111.7	1.8
2	*5310.00	103.2 AV			1.50 V	129	101.4	1.8
3	5350.00	58.5 PK	74.0	-15.5	1.50 V	129	56.6	1.9
4	5350.00	45.8 AV	54.0	-8.2	1.50 V	129	43.9	1.9
5	10620.00	51.3 PK	74.0	-22.7	2.13 V	247	38.8	12.5
6	10620.00	38.8 AV	54.0	-15.2	2.13 V	247	26.3	12.5
7	15930.00	54.6 PK	74.0	-19.4	1.79 V	256	41.6	13.0
8	15930.00	41.7 AV	54.0	-12.3	1.79 V	256	28.7	13.0

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.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	59.8 PK	74.0	-14.2	2.09 H	130	57.7	2.1
2	#5470.00	46.5 AV	54.0	-7.5	2.09 H	130	44.4	2.1
3	*5510.00	109.2 PK			2.09 H	130	107.1	2.1
4	*5510.00	99.0 AV			2.09 H	130	96.9	2.1
5	11020.00	54.2 PK	74.0	-19.8	1.38 H	212	41.0	13.2
6	11020.00	41.1 AV	54.0	-12.9	1.38 H	212	27.9	13.2
7	#16530.00	54.0 PK	74.0	-20.0	1.59 H	233	38.6	15.4
8	#16530.00	41.0 AV	54.0	-13.0	1.59 H	233	25.6	15.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.2 PK	74.0	-12.8	1.50 V	127	59.1	2.1
2	#5470.00	48.6 AV	54.0	-5.4	1.50 V	127	46.5	2.1
3	*5510.00	114.4 PK			1.50 V	127	112.3	2.1
4	*5510.00	103.4 AV			1.50 V	127	101.3	2.1
5	11020.00	53.2 PK	74.0	-20.8	2.16 V	254	40.0	13.2
6	11020.00	40.7 AV	54.0	-13.3	2.16 V	254	27.5	13.2
7	#16530.00	54.9 PK	74.0	-19.1	1.95 V	309	39.5	15.4
8	#16530.00	41.5 AV	54.0	-12.5	1.95 V	309	26.1	15.4

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.2 PK	74.0	-18.8	2.11 H	143	53.1	2.1
2	#5470.00	41.8 AV	54.0	-12.2	2.11 H	143	39.7	2.1
3	*5550.00	109.3 PK			2.11 H	143	107.0	2.3
4	*5550.00	99.2 AV			2.11 H	143	96.9	2.3
5	11100.00	54.4 PK	74.0	-19.6	1.39 H	227	41.4	13.0
6	11100.00	41.1 AV	54.0	-12.9	1.39 H	227	28.1	13.0
7	#16650.00	54.0 PK	74.0	-20.0	1.55 H	223	37.9	16.1
8	#16650.00	41.0 AV	54.0	-13.0	1.55 H	223	24.9	16.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.6 PK	74.0	-18.4	1.50 V	126	53.5	2.1
2	#5470.00	42.4 AV	54.0	-11.6	1.50 V	126	40.3	2.1
3	*5550.00	114.3 PK			1.50 V	126	112.0	2.3
4	*5550.00	103.6 AV			1.50 V	126	101.3	2.3
5	11100.00	53.2 PK	74.0	-20.8	2.14 V	251	40.2	13.0
6	11100.00	40.5 AV	54.0	-13.5	2.14 V	251	27.5	13.0
7	#16650.00	54.6 PK	74.0	-19.4	1.96 V	281	38.5	16.1
8	#16650.00	41.4 AV	54.0	-12.6	1.96 V	281	25.3	16.1

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	109.6 PK			2.14 H	151	107.1	2.5
2	*5670.00	99.1 AV			2.14 H	151	96.6	2.5
3	#5725.00	58.9 PK	74.0	-15.1	2.14 H	151	56.2	2.7
4	#5725.00	43.2 AV	54.0	-10.8	2.14 H	151	40.5	2.7
5	11340.00	53.1 PK	74.0	-20.9	1.42 H	208	39.5	13.6
6	11340.00	40.0 AV	54.0	-14.0	1.42 H	208	26.4	13.6
7	#17010.00	54.7 PK	74.0	-19.3	1.64 H	208	36.9	17.8
8	#17010.00	43.7 AV	54.0	-10.3	1.64 H	208	25.9	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	115.0 PK			1.50 V	112	112.5	2.5
2	*5670.00	103.6 AV			1.50 V	112	101.1	2.5
3	#5725.00	60.5 PK	74.0	-13.5	1.50 V	112	57.8	2.7
4	#5725.00	45.5 AV	54.0	-8.5	1.50 V	112	42.8	2.7
5	11340.00	52.9 PK	74.0	-21.1	2.26 V	202	39.3	13.6
6	11340.00	40.7 AV	54.0	-13.3	2.26 V	202	27.1	13.6
7	#17010.00	55.9 PK	74.0	-18.1	1.85 V	301	38.1	17.8
8	#17010.00	44.7 AV	54.0	-9.3	1.85 V	301	26.9	17.8

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	109.4 PK			2.13 H	133	106.7	2.7
2	*5710.00	99.3 AV			2.13 H	133	96.6	2.7
3	#5850.00	56.2 PK	74.0	-17.8	2.13 H	133	53.4	2.8
4	#5850.00	42.0 AV	54.0	-12.0	2.13 H	133	39.2	2.8
5	11420.00	53.6 PK	74.0	-20.4	1.38 H	227	40.3	13.3
6	11420.00	40.6 AV	54.0	-13.4	1.38 H	227	27.3	13.3
7	#17130.00	55.1 PK	74.0	-18.9	1.62 H	226	37.2	17.9
8	#17130.00	44.3 AV	54.0	-9.7	1.62 H	226	26.4	17.9
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	*5710.00	114.7 PK			1.50 V	115	112.0	2.7
2	*5710.00	103.7 AV			1.50 V	115	101.0	2.7
3	#5850.00	57.0 PK	74.0	-17.0	1.50 V	115	54.2	2.8
4	#5850.00	43.2 AV	54.0	-10.8	1.50 V	115	40.4	2.8
5	11420.00	53.3 PK	74.0	-20.7	2.25 V	221	40.0	13.3
6	11420.00	40.7 AV	54.0	-13.3	2.25 V	221	27.4	13.3
7	#17130.00	55.3 PK	74.0	-18.7	1.86 V	296	37.4	17.9
8	#17130.00	44.2 AV	54.0	-9.8	1.86 V	296	26.3	17.9

REMARKS:

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

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.4 PK	74.0	-20.6	2.21 H	145	51.9	1.5
2	5150.00	40.2 AV	54.0	-13.8	2.21 H	145	38.7	1.5
3	*5290.00	103.9 PK			2.21 H	145	102.1	1.8
4	*5290.00	93.6 AV			2.21 H	145	91.8	1.8
5	5360.00	58.6 PK	74.0	-15.4	2.21 H	145	56.6	2.0
6	5360.00	46.2 AV	54.0	-7.8	2.21 H	145	44.2	2.0
7	#10580.00	52.0 PK	74.0	-22.0	1.34 H	238	39.6	12.4
8	#10580.00	39.5 AV	54.0	-14.5	1.34 H	238	27.1	12.4
9	15870.00	53.5 PK	74.0	-20.5	1.58 H	257	40.5	13.0
10	15870.00	40.7 AV	54.0	-13.3	1.58 H	257	27.7	13.0
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	53.8 PK	74.0	-20.2	1.50 V	43	52.3	1.5
2	5150.00	41.0 AV	54.0	-13.0	1.50 V	43	39.5	1.5
3	*5290.00	108.7 PK			1.50 V	43	106.9	1.8
4	*5290.00	98.4 AV			1.50 V	43	96.6	1.8
5	5360.00	66.5 PK	74.0	-7.5	1.50 V	43	64.5	2.0
6	**5360.00**	**53.9 AV**	**54.0**	**-0.1**	**1.50 V**	**43**	**51.9**	**2.0**
7	#10580.00	51.6 PK	74.0	-22.4	2.14 V	223	39.2	12.4
8	#10580.00	39.5 AV	54.0	-14.5	2.14 V	223	27.1	12.4
9	15870.00	54.1 PK	74.0	-19.9	1.80 V	249	41.1	13.0
10	15870.00	41.2 AV	54.0	-12.8	1.80 V	249	28.2	13.0

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	61.0 PK	68.2	-7.2	2.18 H	150	58.9	2.1
2	*5530.00	106.8 PK			2.18 H	150	104.6	2.2
3	*5530.00	96.2 AV			2.18 H	150	94.0	2.2
4	#5725.00	55.0 PK	68.2	-13.2	2.18 H	150	52.3	2.7
5	#5725.00	41.6 AV	54.0	-12.4	2.18 H	150	38.9	2.7
6	11060.00	53.6 PK	74.0	-20.4	1.38 H	208	40.5	13.1
7	11060.00	40.3 AV	54.0	-13.7	1.38 H	208	27.2	13.1
8	#16590.00	54.9 PK	68.2	-13.3	1.57 H	225	38.7	16.2
9	#16590.00	41.7 AV	54.0	-12.3	1.57 H	225	25.5	16.2
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	**#5470.00**	**68.1 PK**	**68.2**	**-0.1**	**1.74 V**	**54**	**66.0**	**2.1**
2	*5530.00	111.6 PK			1.74 V	54	109.4	2.2
3	*5530.00	101.0 AV			1.74 V	54	98.8	2.2
4	#5725.00	56.0 PK	68.2	-12.2	1.74 V	54	53.3	2.7
5	#5725.00	43.0 AV	54.0	-11.0	1.74 V	54	40.3	2.7
6	11060.00	53.1 PK	74.0	-20.9	2.25 V	251	40.0	13.1
7	11060.00	40.2 AV	54.0	-13.8	2.25 V	251	27.1	13.1
8	#16590.00	54.7 PK	68.2	-13.5	1.84 V	260	38.5	16.2
9	#16590.00	41.4 AV	54.0	-12.6	1.84 V	260	25.2	16.2

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	109.2 PK			2.19 H	159	106.7	2.5
2	*5610.00	97.4 AV			2.19 H	159	94.9	2.5
3	#5738.00	61.2 PK	68.2	-7.0	2.19 H	159	58.5	2.7
4	11220.00	53.6 PK	74.0	-20.4	1.42 H	203	40.3	13.3
5	11220.00	40.5 AV	54.0	-13.5	1.42 H	203	27.2	13.3
6	#16830.00	54.0 PK	68.2	-14.2	1.50 H	232	37.3	16.7
7	#16830.00	41.3 AV	54.0	-12.7	1.50 H	232	24.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	114.0 PK			1.50 V	125	111.5	2.5
2	*5610.00	102.1 AV			1.50 V	125	99.6	2.5
3	**#5738.00**	**68.1 PK**	**68.2**	**-0.1**	**1.50 V**	**125**	**65.4**	**2.7**
4	11220.00	53.3 PK	74.0	-20.7	2.18 V	271	40.0	13.3
5	11220.00	40.9 AV	54.0	-13.1	2.18 V	271	27.6	13.3
6	#16830.00	54.6 PK	68.2	-13.6	1.88 V	289	37.9	16.7
7	#16830.00	41.7 AV	54.0	-12.3	1.88 V	289	25.0	16.7

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	54.2 PK	74.0	-19.8	2.17 H	157	52.1	2.1
2	#5470.00	41.2 AV	54.0	-12.8	2.17 H	157	39.1	2.1
3	*5690.00	108.8 PK			2.17 H	157	106.1	2.7
4	*5690.00	97.0 AV			2.17 H	157	94.3	2.7
5	#5860.00	56.8 PK	74.0	-17.2	2.17 H	157	54.0	2.8
6	#5860.00	43.2 AV	54.0	-10.8	2.17 H	157	40.4	2.8
7	11380.00	53.5 PK	74.0	-20.5	1.42 H	218	40.1	13.4
8	11380.00	40.7 AV	54.0	-13.3	1.42 H	218	27.3	13.4
9	#17070.00	55.6 PK	74.0	-18.4	1.54 H	214	37.8	17.8
10	#17070.00	44.5 AV	54.0	-9.5	1.54 H	214	26.7	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	54.5 PK	74.0	-19.5	1.50 V	60	52.4	2.1
2	#5470.00	41.6 AV	54.0	-12.4	1.50 V	60	39.5	2.1
3	*5690.00	113.6 PK			1.50 V	60	110.9	2.7
4	*5690.00	101.7 AV			1.50 V	60	99.0	2.7
5	#5860.00	57.9 PK	74.0	-16.1	1.50 V	60	55.1	2.8
6	#5860.00	45.6 AV	54.0	-8.4	1.50 V	60	42.8	2.8
7	11380.00	53.5 PK	74.0	-20.5	2.32 V	208	40.1	13.4
8	11380.00	40.8 AV	54.0	-13.2	2.32 V	208	27.4	13.4
9	#17070.00	56.2 PK	74.0	-17.8	1.92 V	301	38.4	17.8
10	#17070.00	45.0 AV	54.0	-9.0	1.92 V	301	27.2	17.8

REMARKS:

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

802.11ac (VHT80+80)

CHANNEL	TX Channel 42+58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.0 PK	74.0	-13.0	2.21 H	64	59.5	1.5
2	5150.00	48.9 AV	54.0	-5.1	2.21 H	64	47.4	1.5
3	*5210.00	102.4 PK			2.21 H	64	100.7	1.7
4	*5210.00	92.0 AV			2.21 H	64	90.3	1.7
5	*5290.00	99.7 PK			2.25 H	44	97.9	1.8
6	*5290.00	89.9 AV			2.25 H	44	88.1	1.8
7	5350.00	54.8 PK	74.0	-19.2	2.25 H	44	52.9	1.9
8	5350.00	43.0 AV	54.0	-11.0	2.25 H	44	41.1	1.9
9	#10420.00	52.2 PK	74.0	-21.8	1.36 H	220	40.5	11.7
10	#10420.00	39.6 AV	54.0	-14.4	1.36 H	220	27.9	11.7
11	#10580.00	52.2 PK	74.0	-21.8	1.35 H	234	39.8	12.4
12	#10580.00	39.7 AV	54.0	-14.3	1.35 H	234	27.3	12.4
13	15630.00	52.9 PK	74.0	-21.1	1.64 H	234	39.7	13.2
14	15630.00	40.5 AV	54.0	-13.5	1.64 H	234	27.3	13.2
15	15870.00	53.2 PK	74.0	-20.8	1.57 H	245	40.2	13.0
16	15870.00	40.3 AV	54.0	-13.7	1.57 H	245	27.3	13.0
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	69.4 PK	74.0	-4.6	1.67 V	41	67.9	1.5
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**1.67 V**	**41**	**52.4**	**1.5**
3	*5210.00	109.9 PK			1.67 V	41	108.2	1.7
4	*5210.00	100.1 AV			1.67 V	41	98.4	1.7
5	*5290.00	108.2 PK			2.15 V	243	106.4	1.8
6	*5290.00	98.9 AV			2.15 V	243	97.1	1.8
7	5350.00	63.2 PK	74.0	-10.8	2.15 V	243	61.3	1.9
8	5350.00	52.2 AV	54.0	-1.8	2.15 V	243	50.3	1.9
9	#10420.00	51.9 PK	74.0	-22.1	2.03 V	243	40.2	11.7
10	#10420.00	39.5 AV	54.0	-14.5	2.03 V	243	27.8	11.7
11	#10580.00	51.5 PK	74.0	-22.5	2.13 V	240	39.1	12.4
12	#10580.00	39.7 AV	54.0	-14.3	2.13 V	240	27.3	12.4
13	15630.00	54.7 PK	74.0	-19.3	1.83 V	249	41.5	13.2
14	15630.00	42.1 AV	54.0	-11.9	1.83 V	249	28.9	13.2
15	15870.00	53.2 PK	74.0	-20.8	1.83 V	277	40.2	13.0
16	15870.00	40.4 AV	54.0	-13.6	1.83 V	277	27.4	13.0

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 42+106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	2.24 H	52	59.3	1.5
2	5150.00	48.7 AV	54.0	-5.3	2.24 H	52	47.2	1.5
3	*5210.00	101.9 PK			2.24 H	52	100.2	1.7
4	*5210.00	91.4 AV			2.24 H	52	89.7	1.7
5	#5470.00	55.7 PK	74.0	-18.3	2.22 H	52	53.6	2.1
6	#5470.00	44.0 AV	54.0	-10.0	2.22 H	52	41.9	2.1
7	*5530.00	99.5 PK			2.22 H	52	97.3	2.2
8	*5530.00	89.7 AV			2.22 H	52	87.5	2.2
9	#10420.00	52.0 PK	74.0	-22.0	1.47 H	241	40.3	11.7
10	#10420.00	39.7 AV	54.0	-14.3	1.47 H	241	28.0	11.7
11	11060.00	53.1 PK	74.0	-20.9	1.33 H	212	40.0	13.1
12	11060.00	40.0 AV	54.0	-14.0	1.33 H	212	26.9	13.1
13	15630.00	53.3 PK	74.0	-20.7	1.60 H	241	40.1	13.2
14	15630.00	40.6 AV	54.0	-13.4	1.60 H	241	27.4	13.2
15	#16590.00	55.4 PK	74.0	-18.6	1.61 H	222	39.2	16.2
16	#16590.00	42.1 AV	54.0	-11.9	1.61 H	222	25.9	16.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.3 PK	74.0	-5.7	1.71 V	42	66.8	1.5
2	**5150.00**	**53.9 AV**	**54.0**	**-0.1**	**1.71 V**	**42**	**52.4**	**1.5**
3	*5210.00	109.6 PK			1.71 V	42	107.9	1.7
4	*5210.00	99.7 AV			1.71 V	42	98.0	1.7
5	#5470.00	65.2 PK	74.0	-8.8	1.76 V	246	63.1	2.1
6	#5470.00	53.1 AV	54.0	-0.9	1.76 V	246	51.0	2.1
7	*5530.00	108.3 PK			1.76 V	246	106.1	2.2
8	*5530.00	98.7 AV			1.76 V	246	96.5	2.2
9	#10420.00	52.1 PK	74.0	-21.9	2.03 V	233	40.4	11.7
10	#10420.00	40.0 AV	54.0	-14.0	2.03 V	233	28.3	11.7
11	11060.00	53.4 PK	74.0	-20.6	2.30 V	254	40.3	13.1
12	11060.00	40.5 AV	54.0	-13.5	2.30 V	254	27.4	13.1
13	15630.00	54.4 PK	74.0	-19.6	1.75 V	254	41.2	13.2
14	15630.00	41.9 AV	54.0	-12.1	1.75 V	254	28.7	13.2
15	#16590.00	55.0 PK	74.0	-19.0	1.88 V	254	38.8	16.2
16	#16590.00	41.9 AV	54.0	-12.1	1.88 V	254	25.7	16.2

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 42+122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.0 PK	74.0	-13.0	2.23 H	49	59.5	1.5
2	5150.00	48.9 AV	54.0	-5.1	2.23 H	49	47.4	1.5
3	*5210.00	102.1 PK			2.23 H	49	100.4	1.7
4	*5210.00	91.8 AV			2.23 H	49	90.1	1.7
5	*5610.00	98.1 PK			2.18 H	49	95.6	2.5
6	*5610.00	88.5 AV			2.18 H	49	86.0	2.5
7	#5725.00	54.2 PK	74.0	-19.8	2.18 H	49	51.5	2.7
8	#5725.00	41.8 AV	54.0	-12.2	2.18 H	49	39.1	2.7
9	#10420.00	51.3 PK	74.0	-22.7	1.45 H	225	39.6	11.7
10	#10420.00	39.2 AV	54.0	-14.8	1.45 H	225	27.5	11.7
11	11220.00	53.6 PK	74.0	-20.4	1.44 H	194	40.3	13.3
12	11220.00	40.7 AV	54.0	-13.3	1.44 H	194	27.4	13.3
13	15630.00	53.7 PK	74.0	-20.3	1.64 H	229	40.5	13.2
14	15630.00	41.2 AV	54.0	-12.8	1.64 H	229	28.0	13.2
15	#16830.00	54.3 PK	74.0	-19.7	1.55 H	247	37.6	16.7
16	#16830.00	41.7 AV	54.0	-12.3	1.55 H	247	25.0	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.1 PK	74.0	-5.9	1.75 V	40	66.6	1.5
2	5150.00	53.8 AV	54.0	-0.2	1.75 V	40	52.3	1.5
3	*5210.00	110.3 PK			1.75 V	40	108.6	1.7
4	*5210.00	100.1 AV			1.75 V	40	98.4	1.7
5	*5610.00	108.3 PK			1.82 V	248	105.8	2.5
6	*5610.00	97.4 AV			1.82 V	248	94.9	2.5
7	#5725.00	55.6 PK	74.0	-18.4	1.82 V	248	52.9	2.7
8	#5725.00	44.2 AV	54.0	-9.8	1.82 V	248	41.5	2.7
9	#10420.00	51.3 PK	74.0	-22.7	2.11 V	225	39.6	11.7
10	#10420.00	39.3 AV	54.0	-14.7	2.11 V	225	27.6	11.7
11	11220.00	53.3 PK	74.0	-20.7	2.24 V	267	40.0	13.3
12	11220.00	41.0 AV	54.0	-13.0	2.24 V	267	27.7	13.3
13	15630.00	55.0 PK	74.0	-19.0	1.78 V	268	41.8	13.2
14	15630.00	42.2 AV	54.0	-11.8	1.78 V	268	29.0	13.2
15	#16830.00	54.0 PK	74.0	-20.0	1.82 V	277	37.3	16.7
16	#16830.00	41.3 AV	54.0	-12.7	1.82 V	277	24.6	16.7

REMARKS:

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

CHANNEL	TX Channel 42+138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.7 PK	74.0	-13.3	2.21 H	44	59.2	1.5
2	5150.00	48.6 AV	54.0	-5.4	2.21 H	44	47.1	1.5
3	*5210.00	101.8 PK			2.21 H	44	100.1	1.7
4	*5210.00	91.4 AV			2.21 H	44	89.7	1.7
5	*5690.00	98.6 PK			2.19 H	60	95.9	2.7
6	*5690.00	89.0 AV			2.19 H	60	86.3	2.7
7	#5850.00	54.1 PK	74.0	-19.9	2.19 H	60	51.3	2.8
8	#5850.00	41.1 AV	54.0	-12.9	2.19 H	60	38.3	2.8
9	#10420.00	52.3 PK	74.0	-21.7	1.40 H	234	40.6	11.7
10	#10420.00	39.6 AV	54.0	-14.4	1.40 H	234	27.9	11.7
11	11380.00	53.2 PK	74.0	-20.8	1.44 H	223	39.8	13.4
12	11380.00	40.3 AV	54.0	-13.7	1.44 H	223	26.9	13.4
13	15630.00	53.0 PK	74.0	-21.0	1.60 H	226	39.8	13.2
14	15630.00	40.3 AV	54.0	-13.7	1.60 H	226	27.1	13.2
15	#17070.00	55.7 PK	74.0	-18.3	1.58 H	216	37.9	17.8
16	#17070.00	44.5 AV	54.0	-9.5	1.58 H	216	26.7	17.8
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	5150.00	68.0 PK	74.0	-6.0	1.76 V	42	66.5	1.5
2	5150.00	53.8 AV	54.0	-0.2	1.76 V	42	52.3	1.5
3	*5210.00	110.1 PK			1.76 V	42	108.4	1.7
4	*5210.00	99.8 AV			1.76 V	42	98.1	1.7
5	*5690.00	107.3 PK			1.78 V	240	104.6	2.7
6	*5690.00	97.9 AV			1.78 V	240	95.2	2.7
7	#5850.00	54.7 PK	74.0	-19.3	1.78 V	240	51.9	2.8
8	#5850.00	42.3 AV	54.0	-11.7	1.78 V	240	39.5	2.8
9	#10420.00	52.0 PK	74.0	-22.0	2.05 V	234	40.3	11.7
10	#10420.00	39.8 AV	54.0	-14.2	2.05 V	234	28.1	11.7
11	11380.00	53.6 PK	74.0	-20.4	2.27 V	222	40.2	13.4
12	11380.00	40.8 AV	54.0	-13.2	2.27 V	222	27.4	13.4
13	15630.00	54.8 PK	74.0	-19.2	1.81 V	267	41.6	13.2
14	15630.00	42.2 AV	54.0	-11.8	1.81 V	267	29.0	13.2
15	#17070.00	55.7 PK	74.0	-18.3	1.89 V	286	37.9	17.8
16	#17070.00	44.7 AV	54.0	-9.3	1.89 V	286	26.9	17.8

REMARKS:

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

CHANNEL	TX Channel 58+106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	100.1 PK			2.21 H	145	98.3	1.8
2	*5290.00	90.1 AV			2.21 H	145	88.3	1.8
3	5350.00	57.0 PK	74.0	-17.0	2.21 H	145	55.1	1.9
4	5350.00	43.8 AV	54.0	-10.2	2.21 H	145	41.9	1.9
5	#5470.00	54.7 PK	74.0	-19.3	2.25 H	46	52.6	2.1
6	#5470.00	42.9 AV	54.0	-11.1	2.25 H	46	40.8	2.1
7	*5530.00	97.6 PK			2.25 H	46	95.4	2.2
8	*5530.00	87.1 AV			2.25 H	46	84.9	2.2
9	#10580.00	51.2 PK	74.0	-22.8	1.39 H	240	38.8	12.4
10	#10580.00	39.0 AV	54.0	-15.0	1.39 H	240	26.6	12.4
11	11060.00	54.0 PK	74.0	-20.0	1.42 H	204	40.9	13.1
12	11060.00	40.5 AV	54.0	-13.5	1.42 H	204	27.4	13.1
13	15870.00	53.9 PK	74.0	-20.1	1.62 H	272	40.9	13.0
14	15870.00	40.9 AV	54.0	-13.1	1.62 H	272	27.9	13.0
15	#16590.00	54.9 PK	74.0	-19.1	1.54 H	238	38.7	16.2
16	#16590.00	41.8 AV	54.0	-12.2	1.54 H	238	25.6	16.2
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	*5290.00	109.2 PK			1.74 V	47	107.4	1.8
2	*5290.00	98.3 AV			1.74 V	47	96.5	1.8
3	5350.00	64.8 PK	74.0	-9.2	1.74 V	47	62.9	1.9
4	5350.00	53.6 AV	54.0	-0.4	1.74 V	47	51.7	1.9
5	#5470.00	63.0 PK	74.0	-11.0	1.74 V	239	60.9	2.1
6	#5470.00	49.3 AV	54.0	-4.7	1.74 V	239	47.2	2.1
7	*5530.00	108.0 PK			1.74 V	239	105.8	2.2
8	*5530.00	96.9 AV			1.74 V	239	94.7	2.2
9	#10580.00	51.5 PK	74.0	-22.5	2.08 V	233	39.1	12.4
10	#10580.00	39.7 AV	54.0	-14.3	2.08 V	233	27.3	12.4
11	11060.00	53.2 PK	74.0	-20.8	2.23 V	252	40.1	13.1
12	11060.00	40.1 AV	54.0	-13.9	2.23 V	252	27.0	13.1
13	15870.00	53.2 PK	74.0	-20.8	1.92 V	274	40.2	13.0
14	15870.00	40.9 AV	54.0	-13.1	1.92 V	274	27.9	13.0
15	#16590.00	54.8 PK	74.0	-19.2	1.86 V	266	38.6	16.2
16	#16590.00	41.3 AV	54.0	-12.7	1.86 V	266	25.1	16.2

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 58+122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	99.9 PK			2.17 H	135	98.1	1.8
2	*5290.00	90.0 AV			2.17 H	135	88.2	1.8
3	5350.00	57.2 PK	74.0	-16.8	2.17 H	135	55.3	1.9
4	5350.00	43.9 AV	54.0	-10.1	2.17 H	135	42.0	1.9
5	*5610.00	97.5 PK			2.14 H	32	95.0	2.5
6	*5610.00	86.8 AV			2.14 H	32	84.3	2.5
7	#5725.00	55.0 PK	74.0	-19.0	2.14 H	32	52.3	2.7
8	#5725.00	41.6 AV	54.0	-12.4	2.14 H	32	38.9	2.7
9	#10580.00	52.3 PK	74.0	-21.7	1.29 H	241	39.9	12.4
10	#10580.00	40.0 AV	54.0	-14.0	1.29 H	241	27.6	12.4
11	11220.00	53.3 PK	74.0	-20.7	1.45 H	196	40.0	13.3
12	11220.00	40.3 AV	54.0	-13.7	1.45 H	196	27.0	13.3
13	15870.00	53.2 PK	74.0	-20.8	1.64 H	243	40.2	13.0
14	15870.00	40.5 AV	54.0	-13.5	1.64 H	243	27.5	13.0
15	#16830.00	54.1 PK	74.0	-19.9	1.56 H	233	37.4	16.7
16	#16830.00	41.6 AV	54.0	-12.4	1.56 H	233	24.9	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	108.8 PK			1.77 V	61	107.0	1.8
2	*5290.00	98.0 AV			1.77 V	61	96.2	1.8
3	5350.00	64.7 PK	74.0	-9.3	1.77 V	61	62.8	1.9
4	5350.00	53.7 AV	54.0	-0.3	1.77 V	61	51.8	1.9
5	*5610.00	108.0 PK			1.74 V	241	105.5	2.5
6	*5610.00	96.7 AV			1.74 V	241	94.2	2.5
7	#5725.00	55.8 PK	74.0	-18.2	1.74 V	241	53.1	2.7
8	#5725.00	43.4 AV	54.0	-10.6	1.74 V	241	40.7	2.7
9	#10580.00	51.3 PK	74.0	-22.7	2.08 V	254	38.9	12.4
10	#10580.00	39.7 AV	54.0	-14.3	2.08 V	254	27.3	12.4
11	11220.00	53.0 PK	74.0	-21.0	2.19 V	271	39.7	13.3
12	11220.00	40.5 AV	54.0	-13.5	2.19 V	271	27.2	13.3
13	15870.00	53.2 PK	74.0	-20.8	1.85 V	279	40.2	13.0
14	15870.00	40.1 AV	54.0	-13.9	1.85 V	279	27.1	13.0
15	#16830.00	54.9 PK	74.0	-19.1	1.82 V	302	38.2	16.7
16	#16830.00	42.1 AV	54.0	-11.9	1.82 V	302	25.4	16.7

REMARKS:

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

CHANNEL	TX Channel 58+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	*5290.00	100.4 PK			2.20 H	150	98.6	1.8
2	*5290.00	90.4 AV			2.20 H	150	88.6	1.8
3	5350.00	56.7 PK	74.0	-17.3	2.20 H	150	54.8	1.9
4	5350.00	43.6 AV	54.0	-10.4	2.20 H	150	41.7	1.9
5	*5690.00	97.8 PK			2.14 H	54	95.1	2.7
6	*5690.00	87.0 AV			2.14 H	54	84.3	2.7
7	#5850.00	54.8 PK	74.0	-19.2	2.14 H	54	52.0	2.8
8	#5850.00	41.3 AV	54.0	-12.7	2.14 H	54	38.5	2.8
9	#10580.00	51.9 PK	74.0	-22.1	1.29 H	252	39.5	12.4
10	#10580.00	39.6 AV	54.0	-14.4	1.29 H	252	27.2	12.4
11	11380.00	53.9 PK	74.0	-20.1	1.47 H	232	40.5	13.4
12	11380.00	41.1 AV	54.0	-12.9	1.47 H	232	27.7	13.4
13	15870.00	53.9 PK	74.0	-20.1	1.61 H	272	40.9	13.0
14	15870.00	41.0 AV	54.0	-13.0	1.61 H	272	28.0	13.0
15	#17070.00	55.6 PK	74.0	-18.4	1.59 H	210	37.8	17.8
16	#17070.00	44.8 AV	54.0	-9.2	1.59 H	210	27.0	17.8
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	*5290.00	109.4 PK			1.74 V	47	107.6	1.8
2	*5290.00	98.3 AV			1.74 V	47	96.5	1.8
3	5350.00	65.6 PK	74.0	-8.4	1.74 V	47	63.7	1.9
4	**5350.00**	**53.9 AV**	**54.0**	**-0.1**	**1.74 V**	**47**	**52.0**	**1.9**
5	*5690.00	107.5 PK			1.74 V	236	104.8	2.7
6	*5690.00	96.7 AV			1.74 V	236	94.0	2.7
7	#5850.00	55.3 PK	74.0	-18.7	1.74 V	236	52.5	2.8
8	#5850.00	42.8 AV	54.0	-11.2	1.74 V	236	40.0	2.8
9	#10580.00	52.1 PK	74.0	-21.9	2.08 V	241	39.7	12.4
10	#10580.00	40.1 AV	54.0	-13.9	2.08 V	241	27.7	12.4
11	11380.00	53.2 PK	74.0	-20.8	2.31 V	195	39.8	13.4
12	11380.00	40.4 AV	54.0	-13.6	2.31 V	195	27.0	13.4
13	15870.00	53.3 PK	74.0	-20.7	1.87 V	286	40.3	13.0
14	15870.00	40.7 AV	54.0	-13.3	1.87 V	286	27.7	13.0
15	#17070.00	55.9 PK	74.0	-18.1	1.90 V	287	38.1	17.8
16	#17070.00	45.0 AV	54.0	-9.0	1.90 V	287	27.2	17.8

REMARKS:

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

CHANNEL	TX Channel 58+155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	100.2 PK			2.21 H	155	98.4	1.8
2	*5290.00	90.2 AV			2.21 H	155	88.4	1.8
3	5350.00	57.3 PK	74.0	-16.7	2.21 H	155	55.4	1.9
4	5350.00	44.1 AV	54.0	-9.9	2.21 H	155	42.2	1.9
5	#5557.12	54.3 PK	68.2	-13.9	2.17 H	41	52.0	2.3
6	*5775.00	97.2 PK			2.17 H	41	94.5	2.7
7	*5775.00	87.9 AV			2.17 H	41	85.2	2.7
8	#6010.27	56.4 PK	68.2	-11.8	2.17 H	41	53.1	3.3
9	#10580.00	51.3 PK	74.0	-22.7	1.40 H	224	38.9	12.4
10	#10580.00	53.5 PK	74.0	-20.5	1.63 H	257	41.1	12.4
11	#10580.00	39.1 AV	54.0	-14.9	1.40 H	224	26.7	12.4
12	#10580.00	40.7 AV	54.0	-13.3	1.63 H	257	28.3	12.4
13	11220.00	53.7 PK	74.0	-20.3	1.43 H	232	40.4	13.3
14	11220.00	41.1 AV	54.0	-12.9	1.43 H	232	27.8	13.3
15	#16830.00	57.4 PK	74.0	-16.6	1.51 H	208	40.7	16.7
16	#16830.00	45.9 AV	54.0	-8.1	1.51 H	208	29.2	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	109.3 PK			1.73 V	48	107.5	1.8
2	*5290.00	98.2 AV			1.73 V	48	96.4	1.8
3	5350.00	65.7 PK	74.0	-8.3	1.73 V	48	63.8	1.9
4	5350.00	53.8 AV	54.0	-0.2	1.73 V	48	51.9	1.9
5	#5601.77	55.5 PK	74.0	-18.5	1.64 V	238	53.1	2.4
6	*5775.00	108.7 PK			1.64 V	238	106.0	2.7
7	*5775.00	97.9 AV			1.64 V	238	95.2	2.7
8	#6011.23	55.3 PK	74.0	-18.7	1.64 V	238	52.0	3.3
9	#10580.00	52.0 PK	74.0	-22.0	2.18 V	255	39.6	12.4
10	#10580.00	52.9 PK	74.0	-21.1	1.84 V	284	40.5	12.4
11	#10580.00	40.0 AV	54.0	-14.0	2.18 V	255	27.6	12.4
12	#10580.00	39.9 AV	54.0	-14.1	1.84 V	284	27.5	12.4
13	11220.00	54.5 PK	74.0	-19.5	2.32 V	194	41.2	13.3
14	11220.00	42.0 AV	54.0	-12.0	2.32 V	194	28.7	13.3
15	#16830.00	57.1 PK	74.0	-16.9	1.95 V	276	40.4	16.7
16	#16830.00	45.7 AV	54.0	-8.3	1.95 V	276	29.0	16.7

REMARKS:

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

CHANNEL	TX Channel 106+122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.2 PK	74.0	-15.8	2.23 H	152	56.1	2.1
2	#5470.00	44.7 AV	54.0	-9.3	2.23 H	152	42.6	2.1
3	*5530.00	100.4 PK			2.23 H	152	98.2	2.2
4	*5530.00	90.4 AV			2.23 H	152	88.2	2.2
5	*5610.00	96.8 PK			2.26 H	50	94.3	2.5
6	*5610.00	87.1 AV			2.26 H	50	84.6	2.5
7	#5728.00	55.5 PK	74.0	-18.5	2.26 H	50	52.8	2.7
8	#5728.00	42.2 AV	54.0	-11.8	2.26 H	50	39.5	2.7
9	11060.00	52.8 PK	74.0	-21.2	1.43 H	223	39.7	13.1
10	11060.00	39.8 AV	54.0	-14.2	1.43 H	223	26.7	13.1
11	11220.00	53.8 PK	74.0	-20.2	1.41 H	210	40.5	13.3
12	11220.00	40.9 AV	54.0	-13.1	1.41 H	210	27.6	13.3
13	#16590.00	54.6 PK	74.0	-19.4	1.62 H	230	38.4	16.2
14	#16590.00	41.6 AV	54.0	-12.4	1.62 H	230	25.4	16.2
15	#16830.00	54.5 PK	74.0	-19.5	1.55 H	243	37.8	16.7
16	#16830.00	41.7 AV	54.0	-12.3	1.55 H	243	25.0	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.3 PK	74.0	-8.7	1.74 V	54	63.2	2.1
2	#5470.00	53.6 AV	54.0	-0.4	1.74 V	54	51.5	2.1
3	*5530.00	108.0 PK			1.74 V	54	105.8	2.2
4	*5530.00	98.0 AV			1.74 V	54	95.8	2.2
5	*5610.00	109.3 PK			1.74 V	241	106.8	2.5
6	*5610.00	97.2 AV			1.74 V	241	94.7	2.5
7	#5728.00	57.9 PK	74.0	-16.1	1.74 V	241	55.2	2.7
8	#5728.00	44.9 AV	54.0	-9.1	1.74 V	241	42.2	2.7
9	11060.00	53.1 PK	74.0	-20.9	2.25 V	247	40.0	13.1
10	11060.00	40.1 AV	54.0	-13.9	2.25 V	247	27.0	13.1
11	11220.00	53.1 PK	74.0	-20.9	2.17 V	264	39.8	13.3
12	11220.00	40.6 AV	54.0	-13.4	2.17 V	264	27.3	13.3
13	#16590.00	54.8 PK	74.0	-19.2	1.88 V	249	38.6	16.2
14	#16590.00	41.8 AV	54.0	-12.2	1.88 V	249	25.6	16.2
15	#16830.00	54.5 PK	74.0	-19.5	1.94 V	280	37.8	16.7
16	#16830.00	41.7 AV	54.0	-12.3	1.94 V	280	25.0	16.7

REMARKS:

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

CHANNEL	TX Channel 106+138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	57.8 PK	74.0	-16.2	2.28 H	160	55.7	2.1
2	#5470.00	44.5 AV	54.0	-9.5	2.28 H	160	42.4	2.1
3	*5530.00	100.2 PK			2.28 H	160	98.0	2.2
4	*5530.00	90.2 AV			2.28 H	160	88.0	2.2
5	*5690.00	99.5 PK			2.20 H	60	96.8	2.7
6	*5690.00	89.4 AV			2.20 H	60	86.7	2.7
7	#5850.00	55.1 PK	74.0	-18.9	2.20 H	60	52.3	2.8
8	#5850.00	41.8 AV	54.0	-12.2	2.20 H	60	39.0	2.8
9	11060.00	53.3 PK	74.0	-20.7	1.37 H	217	40.2	13.1
10	11060.00	39.9 AV	54.0	-14.1	1.37 H	217	26.8	13.1
11	11380.00	53.3 PK	74.0	-20.7	1.45 H	230	39.9	13.4
12	11380.00	40.5 AV	54.0	-13.5	1.45 H	230	27.1	13.4
13	#16590.00	54.6 PK	74.0	-19.4	1.55 H	221	38.4	16.2
14	#16590.00	41.5 AV	54.0	-12.5	1.55 H	221	25.3	16.2
15	#17070.00	55.4 PK	74.0	-18.6	1.50 H	203	37.6	17.8
16	#17070.00	44.4 AV	54.0	-9.6	1.50 H	203	26.6	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.1 PK	74.0	-8.9	1.74 V	58	63.0	2.1
2	#5470.00	53.5 AV	54.0	-0.5	1.74 V	58	51.4	2.1
3	*5530.00	108.9 PK			1.74 V	58	106.7	2.2
4	*5530.00	98.2 AV			1.74 V	58	96.0	2.2
5	*5690.00	109.4 PK			1.74 V	242	106.7	2.7
6	*5690.00	97.7 AV			1.74 V	242	95.0	2.7
7	#5850.00	59.3 PK	74.0	-14.7	1.74 V	242	56.5	2.8
8	#5850.00	47.0 AV	54.0	-7.0	1.74 V	242	44.2	2.8
9	11060.00	53.6 PK	74.0	-20.4	2.27 V	262	40.5	13.1
10	11060.00	40.4 AV	54.0	-13.6	2.27 V	262	27.3	13.1
11	11380.00	53.6 PK	74.0	-20.4	2.35 V	193	40.2	13.4
12	11380.00	40.8 AV	54.0	-13.2	2.35 V	193	27.4	13.4
13	#16590.00	54.9 PK	74.0	-19.1	1.81 V	254	38.7	16.2
14	#16590.00	41.3 AV	54.0	-12.7	1.81 V	254	25.1	16.2
15	#17070.00	56.2 PK	74.0	-17.8	1.93 V	288	38.4	17.8
16	#17070.00	44.8 AV	54.0	-9.2	1.93 V	288	27.0	17.8

REMARKS:

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

CHANNEL	TX Channel 106+155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	57.6 PK	74.0	-16.4	2.23 H	166	55.5	2.1
2	#5470.00	44.3 AV	54.0	-9.7	2.23 H	166	42.2	2.1
3	*5530.00	100.1 PK			2.23 H	166	97.9	2.2
4	*5530.00	89.9 AV			2.23 H	166	87.7	2.2
5	*5775.00	99.3 PK			2.19 H	41	96.6	2.7
6	*5775.00	89.1 AV			2.19 H	41	86.4	2.7
7	#5990.32	54.8 PK	68.2	-13.4	2.19 H	41	51.5	3.3
8	11060.00	54.0 PK	74.0	-20.0	1.39 H	222	40.9	13.1
9	11060.00	54.4 PK	74.0	-19.6	1.58 H	211	41.3	13.1
10	11060.00	40.6 AV	54.0	-13.4	1.39 H	222	27.5	13.1
11	11060.00	41.3 AV	54.0	-12.7	1.58 H	211	28.2	13.1
12	11220.00	53.4 PK	74.0	-20.6	1.41 H	236	40.1	13.3
13	11220.00	41.1 AV	54.0	-12.9	1.41 H	236	27.8	13.3
14	#16830.00	57.3 PK	74.0	-16.7	1.52 H	200	40.6	16.7
15	#16830.00	46.1 AV	54.0	-7.9	1.52 H	200	29.4	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.2 PK	74.0	-8.8	1.73 V	57	63.1	2.1
2	#5470.00	53.6 AV	54.0	-0.4	1.73 V	57	51.5	2.1
3	*5530.00	108.8 PK			1.73 V	57	106.6	2.2
4	*5530.00	98.1 AV			1.73 V	57	95.9	2.2
5	*5775.00	110.4 PK			1.65 V	235	107.7	2.7
6	*5775.00	98.9 AV			1.65 V	235	96.2	2.7
7	#5955.65	56.7 PK	74.0	-17.3	1.65 V	235	53.7	3.0
8	11060.00	52.9 PK	74.0	-21.1	2.20 V	243	39.8	13.1
9	11060.00	54.5 PK	74.0	-19.5	1.84 V	264	41.4	13.1
10	11060.00	39.7 AV	54.0	-14.3	2.20 V	243	26.6	13.1
11	11060.00	41.3 AV	54.0	-12.7	1.84 V	264	28.2	13.1
12	11220.00	54.4 PK	74.0	-19.6	2.37 V	208	41.1	13.3
13	11220.00	41.9 AV	54.0	-12.1	2.37 V	208	28.6	13.3
14	#16830.00	57.0 PK	74.0	-17.0	1.90 V	275	40.3	16.7
15	#16830.00	45.7 AV	54.0	-8.3	1.90 V	275	29.0	16.7

REMARKS:

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

CHANNEL	TX Channel 122+138	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.1 PK	74.0	-18.9	2.21 H	119	53.0	2.1
2	#5470.00	42.5 AV	54.0	-11.5	2.21 H	119	40.4	2.1
3	*5610.00	101.9 PK			2.21 H	119	99.4	2.5
4	*5610.00	91.6 AV			2.21 H	119	89.1	2.5
5	*5690.00	100.7 PK			2.17 H	31	98.0	2.7
6	*5690.00	90.9 AV			2.17 H	31	88.2	2.7
7	#5850.00	56.1 PK	74.0	-17.9	2.17 H	31	53.3	2.8
8	#5850.00	42.2 AV	54.0	-11.8	2.17 H	31	39.4	2.8
9	11220.00	53.2 PK	74.0	-20.8	1.36 H	199	39.9	13.3
10	11220.00	40.2 AV	54.0	-13.8	1.36 H	199	26.9	13.3
11	11380.00	53.9 PK	74.0	-20.1	1.42 H	209	40.5	13.4
12	11380.00	41.0 AV	54.0	-13.0	1.42 H	209	27.6	13.4
13	#16830.00	54.7 PK	74.0	-19.3	1.47 H	242	38.0	16.7
14	#16830.00	41.7 AV	54.0	-12.3	1.47 H	242	25.0	16.7
15	#17070.00	55.8 PK	74.0	-18.2	1.49 H	217	38.0	17.8
16	#17070.00	44.5 AV	54.0	-9.5	1.49 H	217	26.7	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.8 PK	74.0	-11.2	1.74 V	56	60.7	2.1
2	#5470.00	49.0 AV	54.0	-5.0	1.74 V	56	46.9	2.1
3	*5610.00	110.1 PK			1.74 V	56	107.6	2.5
4	*5610.00	99.5 AV			1.74 V	56	97.0	2.5
5	*5690.00	110.9 PK			1.74 V	237	108.2	2.7
6	*5690.00	98.9 AV			1.74 V	237	96.2	2.7
7	#5850.00	61.9 PK	74.0	-12.1	1.74 V	237	59.1	2.8
8	#5850.00	48.5 AV	54.0	-5.5	1.74 V	237	45.7	2.8
9	11220.00	53.6 PK	74.0	-20.4	2.22 V	255	40.3	13.3
10	11220.00	41.1 AV	54.0	-12.9	2.22 V	255	27.8	13.3
11	11380.00	54.0 PK	74.0	-20.0	2.33 V	211	40.6	13.4
12	11380.00	41.2 AV	54.0	-12.8	2.33 V	211	27.8	13.4
13	#16830.00	54.6 PK	74.0	-19.4	1.94 V	296	37.9	16.7
14	#16830.00	41.4 AV	54.0	-12.6	1.94 V	296	24.7	16.7
15	#17070.00	55.9 PK	74.0	-18.1	1.90 V	299	38.1	17.8
16	#17070.00	44.9 AV	54.0	-9.1	1.90 V	299	27.1	17.8

REMARKS:

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

CHANNEL	TX Channel 122+155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	58.1 PK	74.0	-15.9	2.20 H	125	56.0	2.1
2	#5470.00	45.6 AV	54.0	-8.4	2.20 H	125	43.5	2.1
3	*5610.00	106.5 PK			2.20 H	125	104.0	2.5
4	*5610.00	96.0 AV			2.20 H	125	93.5	2.5
5	*5775.00	102.8 PK			2.19 H	43	100.1	2.7
6	*5775.00	93.7 AV			2.19 H	43	91.0	2.7
7	#5970.37	59.6 PK	68.2	-8.6	2.19 H	43	56.6	3.0
8	11220.00	53.7 PK	74.0	-20.3	1.47 H	199	40.4	13.3
9	11220.00	54.1 PK	74.0	-19.9	1.45 H	223	40.8	13.3
10	11220.00	40.6 AV	54.0	-13.4	1.47 H	199	27.3	13.3
11	11220.00	41.4 AV	54.0	-12.6	1.45 H	223	28.1	13.3
12	#16830.00	53.8 PK	74.0	-20.2	1.47 H	225	37.1	16.7
13	#16830.00	56.8 PK	74.0	-17.2	1.54 H	190	40.1	16.7
14	#16830.00	41.1 AV	54.0	-12.9	1.47 H	225	24.4	16.7
15	#16830.00	45.4 AV	54.0	-8.6	1.54 H	190	28.7	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	65.3 PK	74.0	-8.7	1.62 V	44	63.2	2.1
2	#5470.00	52.7 AV	54.0	-1.3	1.62 V	44	50.6	2.1
3	*5610.00	113.7 PK			1.62 V	44	111.2	2.5
4	*5610.00	103.1 AV			1.62 V	44	100.6	2.5
5	*5775.00	113.3 PK			1.64 V	233	110.6	2.7
6	*5775.00	103.3 AV			1.64 V	233	100.6	2.7
7	#5958.50	67.3 PK	68.2	-0.9	1.64 V	233	64.3	3.0
8	11220.00	53.1 PK	74.0	-20.9	2.24 V	273	39.8	13.3
9	11220.00	54.6 PK	74.0	-19.4	2.26 V	211	41.3	13.3
10	11220.00	41.0 AV	54.0	-13.0	2.24 V	273	27.7	13.3
11	11220.00	42.1 AV	54.0	-11.9	2.26 V	211	28.8	13.3
12	#16830.00	54.5 PK	74.0	-19.5	1.90 V	278	37.8	16.7
13	#16830.00	57.8 PK	74.0	-16.2	1.95 V	301	41.1	16.7
14	#16830.00	41.8 AV	54.0	-12.2	1.90 V	278	25.1	16.7
15	#16830.00	46.3 AV	54.0	-7.7	1.95 V	301	29.6	16.7

REMARKS:

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

CHANNEL	TX Channel 138+155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5690.00	105.8 PK			2.18 H	139	103.1	2.7
2	*5690.00	95.6 AV			2.18 H	139	92.9	2.7
3	*5775.00	103.7 PK			2.20 H	45	101.0	2.7
4	*5775.00	93.9 AV			2.20 H	45	91.2	2.7
5	#5933.32	59.5 PK	68.2	-8.7	2.20 H	45	56.6	2.9
6	11220.00	53.6 PK	74.0	-20.4	1.41 H	232	40.3	13.3
7	11220.00	53.4 PK	74.0	-20.6	1.38 H	231	40.1	13.3
8	11220.00	40.8 AV	54.0	-13.2	1.41 H	232	27.5	13.3
9	11220.00	41.0 AV	54.0	-13.0	1.38 H	231	27.7	13.3
10	#16830.00	55.4 PK	74.0	-18.6	1.51 H	219	38.7	16.7
11	#16830.00	56.7 PK	74.0	-17.3	1.59 H	217	40.0	16.7
12	#16830.00	44.4 AV	54.0	-9.6	1.51 H	219	27.7	16.7
13	#16830.00	45.3 AV	54.0	-8.7	1.59 H	217	28.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5690.00	114.1 PK			1.63 V	57	111.4	2.7
2	*5690.00	103.4 AV			1.63 V	57	100.7	2.7
3	*5775.00	113.7 PK			1.62 V	231	111.0	2.7
4	*5775.00	103.3 AV			1.62 V	231	100.6	2.7
5	#5930.48	67.5 PK	68.2	-0.7	1.62 V	231	64.6	2.9
6	11220.00	53.9 PK	74.0	-20.1	2.32 V	200	40.6	13.3
7	11220.00	54.0 PK	74.0	-20.0	2.34 V	218	40.7	13.3
8	11220.00	41.2 AV	54.0	-12.8	2.32 V	200	27.9	13.3
9	11220.00	41.3 AV	54.0	-12.7	2.34 V	218	28.0	13.3
10	#16830.00	56.0 PK	74.0	-18.0	1.92 V	304	39.3	16.7
11	#16830.00	57.6 PK	74.0	-16.4	1.95 V	297	40.9	16.7
12	#16830.00	44.9 AV	54.0	-9.1	1.92 V	304	28.2	16.7
13	#16830.00	46.0 AV	54.0	-8.0	1.95 V	297	29.3	16.7

REMARKS:

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

Below 1GHz Data:

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	58.66	30.6 QP	40.0	-9.4	2.00 H	89	38.9	-8.3
2	90.46	34.6 QP	43.5	-8.9	2.00 H	360	48.8	-14.2
3	155.62	29.2 QP	43.5	-14.3	2.00 H	89	37.2	-8.0
4	506.25	35.6 QP	46.0	-10.4	1.00 H	109	37.9	-2.3
5	759.37	38.6 QP	46.0	-7.4	1.00 H	35	36.2	2.4
6	937.53	37.8 QP	46.0	-8.2	1.50 H	253	33.1	4.7
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	38.17	31.4 QP	40.0	-8.6	1.50 V	358	40.2	-8.8
2	75.14	32.6 QP	40.0	-7.4	1.00 V	333	44.3	-11.7
3	125.01	33.7 QP	43.5	-9.8	1.00 V	23	43.6	-9.9
4	400.01	37.2 QP	46.0	-8.8	1.00 V	267	42.2	-5.0
5	506.25	36.1 QP	46.0	-9.9	1.00 V	104	38.4	-2.3
6	600.02	42.0 QP	46.0	-4.0	1.00 V	1	42.1	-0.1

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. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 13, 2016	June 12, 2017
RF Cable	5D-FB	COCCAB-001	Sep. 30, 2016	Sep. 29, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 20, 2016	June 19, 2017
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:
1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 1.
3. Tested Date: Nov. 24, 2016

4.2.3 Test Procedure

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

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

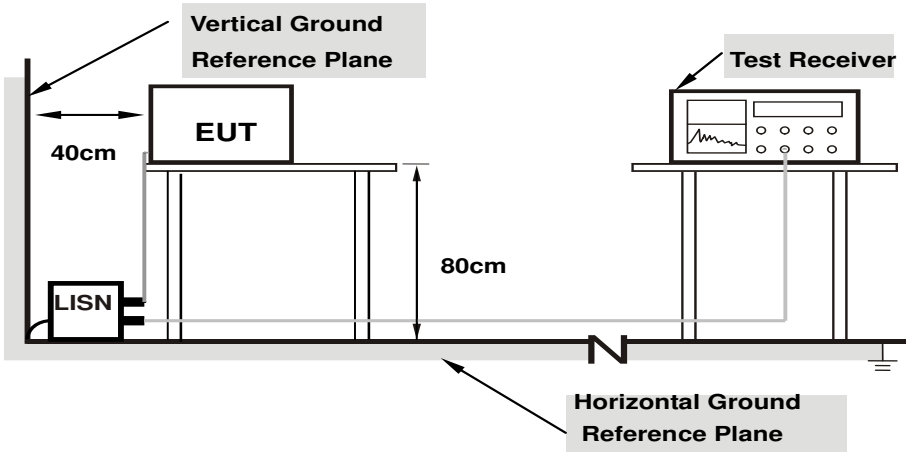
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

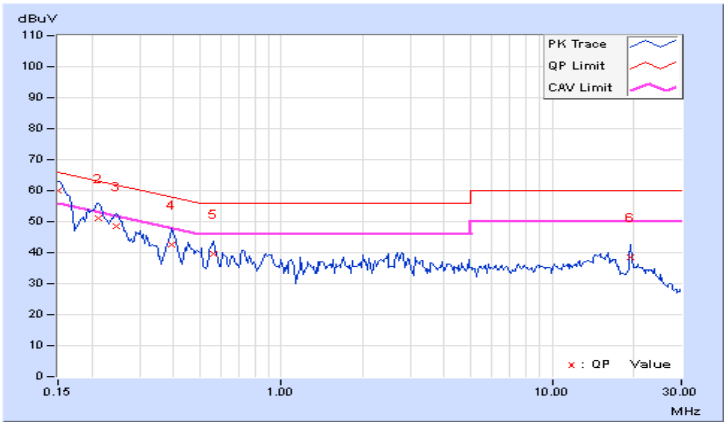
4.2.7 Test Results

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

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	10.19	49.91	41.14	60.10	51.33	66.00	56.00	-5.90	-4.67
2	0.21250	10.19	41.06	32.10	51.25	42.29	63.11	53.11	-11.86	-10.82
3	0.24766	10.20	38.42	30.95	48.62	41.15	61.84	51.84	-13.22	-10.69
4	0.39609	10.22	32.34	26.87	42.56	37.09	57.93	47.93	-15.37	-10.84
5	0.56016	10.23	29.38	23.37	39.61	33.60	56.00	46.00	-16.39	-12.40
6	19.40625	11.34	27.02	21.44	38.36	32.78	60.00	50.00	-21.64	-17.22

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

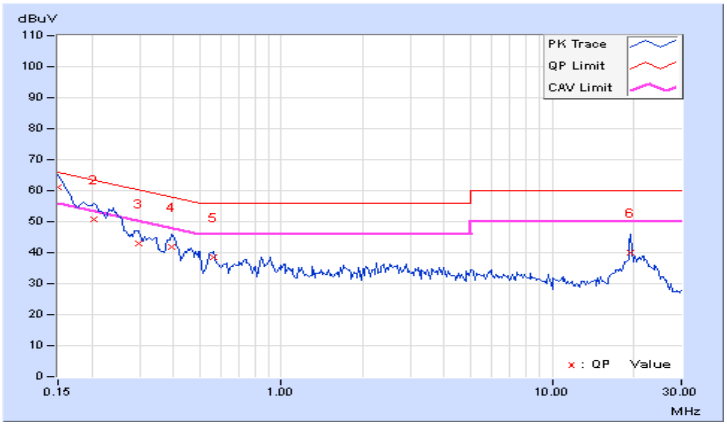


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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**	**10.18**	**50.86**	**41.57**	**61.04**	**51.75**	**66.00**	**56.00**	**-4.96**	**-4.25**
2	0.20469	10.16	40.53	32.90	50.69	43.06	63.42	53.42	-12.73	-10.36
3	0.29844	10.18	32.75	27.31	42.93	37.49	60.29	50.29	-17.36	-12.80
4	0.39219	10.21	31.80	26.91	42.01	37.12	58.02	48.02	-16.01	-10.90
5	0.56016	10.22	28.30	22.46	38.52	32.68	56.00	46.00	-17.48	-13.32
6	19.44922	11.08	29.09	23.60	40.17	34.68	60.00	50.00	-19.83	-15.32

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 Measurment

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

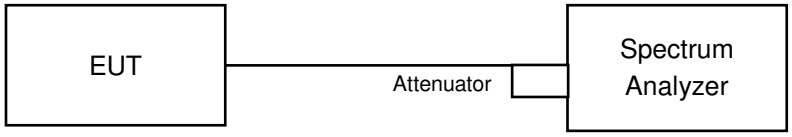
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

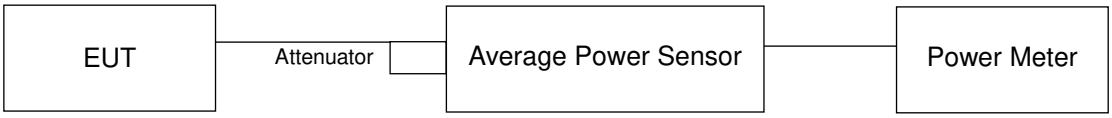
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

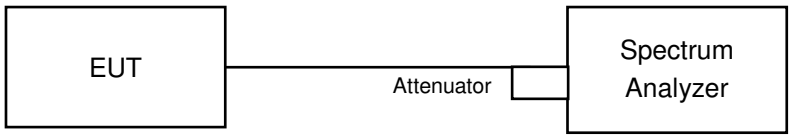
For channel straddling 5725MHz:



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 (VHT20)

Method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x 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.

Other Modulation mode

Method SA-2

1. Set span to encompass the emission bandwidth (EBW) of the signal.
2. Set RBW =1MHz.
3. Set the VBW ≥ 3 x 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).

For other channels:

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

CDD Mode

802.11a

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	12.46	12.84	12.61	12.82	74.233	18.71	23.78	Pass
60	5300	12.22	12.98	12.02	13.18	73.252	18.65	23.73	Pass
64	5320	12.03	13.18	12.20	13.16	74.053	18.70	23.78	Pass
100	5500	12.60	12.22	12.84	12.88	73.509	18.66	23.74	Pass
116	5580	12.18	13.16	12.33	13.08	74.645	18.73	23.79	Pass
140	5700	12.55	12.48	12.71	13.05	74.538	18.72	23.80	Pass
*144 (UNII-2C Band)	5720	8.01	8.49	9.12	8.84	30.313	14.82	22.60	Pass
*144 (UNII-3 Band)	5720	2.28	2.52	3.37	2.76	7.822	8.93	29.90	Pass

Note: The Antenna gain is 6.1dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to"Determined Conduced Limit - (6.1-6)"

* 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)
144	5720	38.135	15.81
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.75	19.61	19.44	20.07
60	5300	19.91	19.74	19.21	20.05
64	5320	19.84	19.55	19.45	19.84
100	5500	20.29	19.59	19.27	19.97
116	5580	19.71	19.89	19.48	20.06
140	5700	20.31	19.98	19.53	20.02
144 (UNII-2C Band)	5720	15.26	15.12	14.88	14.82

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.44	23.88 < 24
60	5300	19.21	23.83 < 24
64	5320	19.45	23.88 < 24
100	5500	19.27	23.84 > 24
116	5580	19.48	23.89 < 24
140	5700	19.53	23.9 < 24
144 (UNII-2C Band)	5720	14.82	22.7 < 24

802.11ac (VHT20)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	12.51	12.84	12.74	12.91	75.391	18.77	23.90	Pass
60	5300	12.23	13.14	12.14	13.19	74.53	18.72	23.90	Pass
64	5320	12.26	13.16	12.16	13.14	74.578	18.73	23.90	Pass
100	5500	13.02	12.50	13.13	12.62	76.668	18.85	23.90	Pass
116	5580	12.26	12.88	12.48	13.19	74.782	18.74	23.90	Pass
140	5700	12.58	12.66	12.93	13.11	76.661	18.85	23.90	Pass
*144 (UNII-2C Band)	5720	8.59	9.24	9.20	9.32	32.492	15.12	22.75	Pass
*144 (UNII-3 Band)	5720	3.36	3.90	3.71	3.90	9.428	9.74	29.90	Pass

Note: The Antenna gain is 6.1dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to"Determined Conduced Limit - (6.1-6)"

* 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	41.92	16.22
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.41	20.48	20.51	20.59
60	5300	20.57	20.48	20.59	20.63
64	5320	20.51	20.52	20.62	20.68
100	5500	20.87	20.54	20.67	20.56
116	5580	21.10	20.84	20.64	20.59
140	5700	20.89	20.73	20.78	20.61
144 (UNII-2C Band)	5720	15.38	15.33	15.37	15.40

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.41	24.09 > 24
60	5300	20.48	24.11 > 24
64	5320	20.51	24.11 > 24
100	5500	20.54	24.12 > 24
116	5580	20.59	24.13 > 24
140	5700	20.61	24.14 > 24
144 (UNII-2C Band)	5720	15.33	22.85 < 24

802.11ac (VHT40)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	15.59	15.73	15.84	16.10	152.744	21.84	23.90	Pass
62	5310	15.18	15.78	15.12	16.15	144.524	21.60	23.90	Pass
102	5510	15.61	15.25	15.89	15.55	144.596	21.60	23.90	Pass
110	5550	15.11	15.61	15.50	15.82	142.501	21.54	23.90	Pass
134	5670	15.18	15.91	15.57	15.88	146.739	21.67	23.90	Pass
*142 (UNII-2C Band)	5710	12.48	12.68	12.81	12.27	74.337	18.71	23.90	Pass
*142 (UNII-3 Band)	5710	2.01	2.07	1.63	0.78	6.025	7.80	29.90	Pass

Note: The Antenna gain is 6.1dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to"Determined Conduced Limit - (6.1-6)"

* 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)
142	5710	80.362	19.05
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	40.74	40.97	40.85	40.83
62	5310	40.88	41.01	40.91	40.62
102	5510	40.78	41.17	40.71	40.76
110	5550	40.67	41.17	40.82	40.77
134	5670	40.82	41.03	40.80	40.78
142 (UNII-2C Band)	5710	35.33	35.43	35.29	35.37

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.74	27.1 > 24
62	5310	40.62	27.08 > 24
102	5510	40.71	27.09 > 24
110	5550	40.67	27.09 > 24
134	5670	40.78	27.1 > 24
142 (UNII-2C Band)	5710	35.29	26.47 > 24

802.11ac (VHT80)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.73	16.16	16.56	16.55	169.192	22.28	23.90	Pass
106	5530	16.57	16.74	17.07	16.92	192.737	22.85	23.90	Pass
122	5610	17.10	17.95	17.36	18.13	233.122	23.68	23.90	Pass
*138 (UNII-2C Band)	5690	13.74	14.04	14.22	14.31	108.477	20.35	23.90	Pass
*138 (UNII-3 Band)	5690	0.97	0.95	1.38	1.01	5.435	7.35	29.90	Pass

Note: The Antenna gain is 6.1dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to"Determined Conduced Limit - (6.1-6)"

* 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	113.912	20.57
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	84.92	85.08	85.74	86.28
106	5530	84.01	84.98	85.58	85.57
122	5610	84.72	84.17	85.39	84.83
138 (UNII-2C Band)	5690	77.74	77.32	77.42	77.23

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.92	30.29 > 24
106	5530	84.01	30.24 > 24
122	5610	84.17	30.25 > 24
138 (UNII-2C Band)	5690	77.23	29.87 > 24

802.11ac (VHT80+80)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+106	5210	16.51	15.64	-	-	81.415	19.11	29.90	Pass
	5530	-	-	16.25	16.22	84.049	19.25	24.00	Pass
42+122	5210	16.51	15.64	-	-	81.415	19.11	29.90	Pass
	5610	-	-	15.31	16.18	75.458	18.78	24.00	Pass
42+ 138* (UNII-2C)+ 138* (UNII-3)	5210	16.51	15.64	-	-	81.415	19.11	29.90	Pass
	5690	-	-	12.59	13.31	40.895	16.12	24.00	Pass
	5690	-	-	-2.36	-1.91	1.2656	1.02	30.00	Pass
58+106	5290	15.73	16.16	-	-	78.716	18.96	23.90	Pass
	5530	-	-	15.29	15.46	68.962	18.39	24.00	Pass
58+122	5290	15.73	16.16	-	-	78.716	18.96	23.90	Pass
	5610	-	-	14.37	15.26	60.927	17.85	24.00	Pass
58+ 138* (UNII-2C)+ 138* (UNII-3)	5290	15.73	16.16	-	-	78.716	18.96	23.90	Pass
	5690	-	-	12.13	12.45	35.033	15.44	24.00	Pass
	5690	-	-	-3.03	-2.53	1.0912	0.38	30.00	Pass
58+155	5290	15.73	16.16	-	-	78.716	18.96	23.90	Pass
	5775	-	-	15.76	15.64	74.314	18.71	30.00	Pass
106+155	5530	16.07	16.13	-	-	81.478	19.11	23.90	Pass
	5775	-	-	16.82	16.78	95.727	19.81	30.00	Pass
122+155	5610	19.44	20.33	-	-	195.797	22.92	23.90	Pass
	5775	-	-	21.27	20.98	259.282	24.14	30.00	Pass
138* (UNII-2C)+ 138* (UNII-3)+ 155	5690	17.35	17.49	-	-	114.086	20.57	23.90	Pass
	5690	4.26	3.43			268.839	24.29	29.90	Pass
	5775	-	-	21.35	21.05				Pass
106+ 138*(UNII-2C)+ 138*(UNII-3)	5530	16.07	16.13	-	-	117.426	20.70	23.90	Pass
	5690	-	-	12.66	12.43				
	5690	-	-	-1.08	-1.25	1.5297	1.85	29.90	Pass
42+58	5210	16.51	15.64	-	-	81.415	19.11	29.90	Pass
	5290	-	-	16.58	17.25	98.587	19.94	24.00	Pass
106+122	5530	16.07	16.13	-	-	157.521	21.97	23.90	Pass
	5610	-	-	15.36	16.20				

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
122+ 138*(UNII-2C)+ 138*(UNII-3)	5610	17.33	17.88	-	-	183.744	22.64	23.90	Pass
	5690	-	-	15.06	15.32				
	5690	-	-	1.43	1.73	2.974	4.73	30.00	Pass

Note: 1. For UNII-2C (Chain 0 & Chain 1): Antenna gain = 6.1dBi > 6dBi, so the power limit shall be reduced to 24-(6.1-6) =23.90dBm.

2. For UNII-2C (Chain 2 & Chain 3): Antenna gain = 4.83dBi < 6dBi, so the power limit shall not be reduced.

* 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:

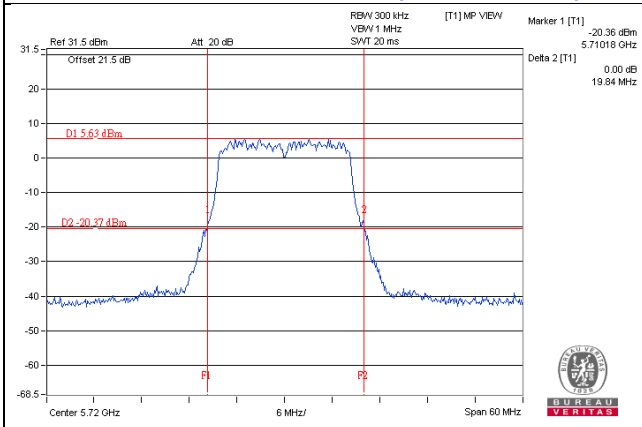
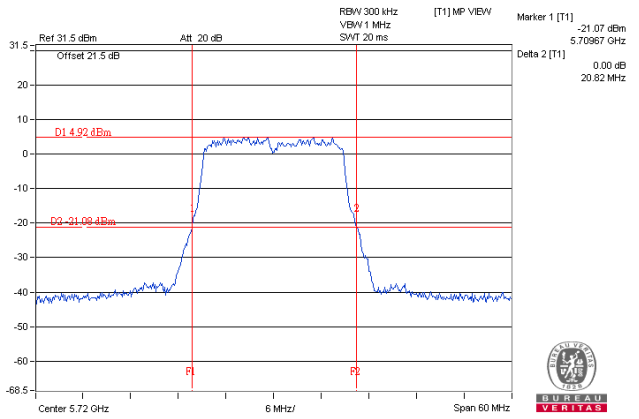
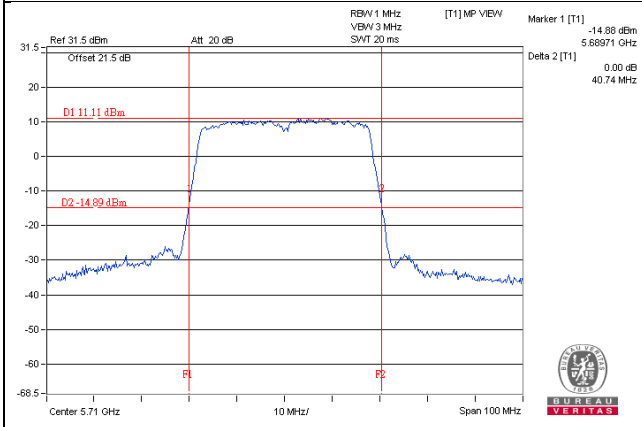
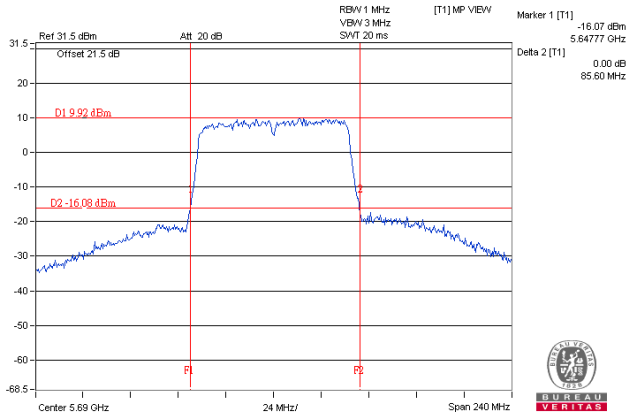
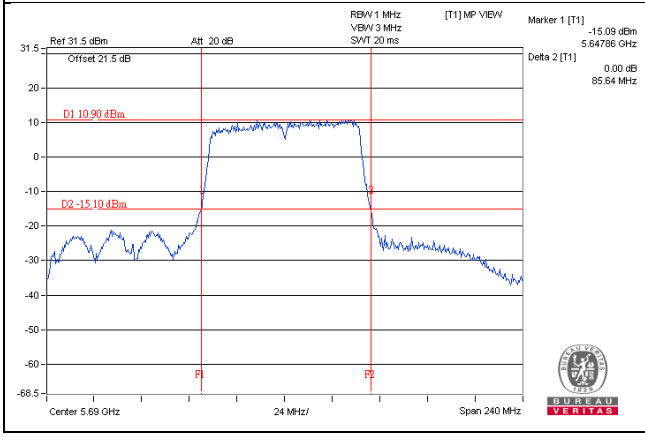
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
42+138 (UNII-2C) +138 (UNII-3)	5690	42.16	16.25
58+138 (UNII-2C) +138 (UNII-3)	5690	36.124	15.58
138 (UNII-2C) +138 (UNII-3)+155	5690	119.118	20.76
106+138 (UNII-2C) +138 (UNII-3)	5690	38.719	16.02
122+138 (UNII-2C) +138 (UNII-3)	5690	71.267	18.67
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+106	5210	85.36	85.63	-	-
	5530	-	-	85.87	85.64
42+122	5210	85.36	85.63	-	-
	5610	-	-	85.14	84.51
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	85.36	85.63	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7345
58+106	5290	85.73	85.85	-	-
	5530	-	-	85.87	85.64
58+122	5290	85.73	85.85	-	-
	5610	-	-	85.14	84.51
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.73	85.85	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7.45
58+155	5290	85.73	85.85	-	-
	5775	-	-	85.38	85.98
106+155	5530	86.21	85.95	-	-
	5775	-	-	85.38	85.98
122+155	5610	85.78	85.78	-	-
	5775	-	-	85.38	85.98
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.56	77.98	-	-
	5690	7.84	8.09	-	-
	5775	-	-	85.38	85.98
106+138 (UNII-2C)+ 138 (UNII-3)	5530	86.21	85.95	-	-
	5690	-	-	77.94	77.23
	5690	-	-	8.01	7.69

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+106	5210	-	-
	5530	85.64	30.26 > 24
42+122	5210	-	-
	5610	84.51	30.27 > 24
42+ 138 (UNII-2C)	5210	-	-
	5690	77.57	30.29 > 24
58+106	5290	85.73	30.3 > 24
	5530	85.64	30.26 > 24
58+122	5290	85.73	30.3 > 24
	5610	84.51	30.27 > 24
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.73	30.3 > 24
	5690	77.57	30.29 > 24
	5690	-	-
58+155	5290	85.73	30.3 > 24
	5775	-	-
106+155	5530	85.95	30.29 > 24
	5775	-	-
122+155	5610	85.78	30.29 > 24
	5775	-	-
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.56	30.29 > 24
	5690	-	-
	5775	-	-
106+138 (UNII-2C)+ 138 (UNII-3)	5530	85.95	30.29 > 24
	5690	77.23	30.29 > 24
	5690	7.69	29.87 > 24
42+58	5210	-	-
	5290	85.84	30.3 > 24
106+122	5530	85.95	30.29 > 24
	5610	86.09	30.27 > 24
122+138 (UNII-2C)+ 138 (UNII-3)	5610	85.78	30.27 > 24
	5690	77.14	30.29 > 24
	5690	-	-

Spectrum Plot of Worst Value	
802.11a / Chain 3 - CH144 (UNII-2C Band)	**802.11ac (VHT20) / Chain 1 - CH144 (UNII-2C Band)**
	
802.11ac (VHT40) / Chain 2 - CH142 (UNII-2C Band)	**802.11ac (VHT80) / Chain 3 - CH138 (UNII-2C Band)**
	
802.11ac (VHT80+80) / Chain 3 - 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

802.11a

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	12.46	12.84	12.61	12.82	74.233	18.71	18.74	Pass
60	5300	12.22	12.98	12.02	13.18	73.252	18.65	18.69	Pass
64	5320	12.03	13.18	12.20	13.16	74.053	18.70	18.74	Pass
100	5500	12.60	12.22	12.84	12.88	73.509	18.66	18.70	Pass
116	5580	12.18	13.16	12.33	13.08	74.645	18.73	18.75	Pass
140	5700	12.55	12.48	12.71	13.05	74.538	18.72	18.76	Pass
*144 (UNII-2C Band)	5720	8.01	8.49	9.12	8.84	30.313	14.82	17.56	Pass
*144 (UNII-3 Band)	5720	2.28	2.52	3.37	2.76	7.822	8.93	24.86	Pass

Note: 1. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] = 11.14dBi > 6dBi , so the power limit shall be reduced to “Determined Conducted Limit-(11.14-6).

2. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power limit shall be reduced to “Determined Conducted Limit-(11.14-6).

3. **For U_NII-3:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power limit shall be reduced to 30-(11.14-6) = 24.86dBm.

* 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)
144	5720	38.135	15.81
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	19.75	19.61	19.44	20.07
60	5300	19.91	19.74	19.21	20.05
64	5320	19.84	19.55	19.45	19.84
100	5500	20.29	19.59	19.27	19.97
116	5580	19.71	19.89	19.48	20.06
140	5700	20.31	19.98	19.53	20.02
144 (UNII-2C Band)	5720	15.26	15.12	14.88	14.82

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.44	23.88 < 24
60	5300	19.21	23.83 < 24
64	5320	19.45	23.88 < 24
100	5500	19.27	23.84 < 24
116	5580	19.48	23.89 < 24
140	5700	19.53	23.9 < 24
144 (UNII-2C Band)	5720	14.82	22.7 < 24

802.11ac (VHT20)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	12.51	12.84	12.74	12.91	75.391	18.77	18.86	Pass
60	5300	12.23	13.14	12.14	13.19	74.53	18.72	18.86	Pass
64	5320	12.26	13.16	12.16	13.14	74.578	18.73	18.86	Pass
100	5500	13.02	12.50	13.13	12.62	76.668	18.85	18.86	Pass
116	5580	12.26	12.88	12.48	13.19	74.782	18.74	18.86	Pass
140	5700	12.58	12.66	12.93	13.11	76.661	18.85	18.86	Pass
*144 (UNII-2C Band)	5720	8.59	9.24	9.20	9.32	32.492	15.12	17.71	Pass
*144 (UNII-3 Band)	5720	3.36	3.90	3.71	3.90	9.428	9.74	24.86	Pass

Note: 1. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] = 11.14dBi > 6dBi , so the power limit shall be reduced to “Determined Conducted Limit-(11.14-6).

2. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] =11.14dBi > 6dBi , so the power limit shall be reduced to “Determined Conducted Limit-(11.14-6).

3. **For U_NII-3:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] =11.14dBi > 6dBi , so the power limit shall be reduced to 30-(11.14-6) = 24.86dBm.

* 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	41.92	16.22
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	20.41	20.48	20.51	20.59
60	5300	20.57	20.48	20.59	20.63
64	5320	20.51	20.52	20.62	20.68
100	5500	20.87	20.54	20.67	20.56
116	5580	21.10	20.84	20.64	20.59
140	5700	20.89	20.73	20.78	20.61
144 (UNII-2C Band)	5720	15.38	15.33	15.37	15.40

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.41	24.09 > 24
60	5300	20.48	24.11 > 24
64	5320	20.51	24.11 > 24
100	5500	20.54	24.12 > 24
116	5580	20.59	24.13 > 24
140	5700	20.61	24.14 > 24
144 (UNII-2C Band)	5720	15.33	22.85 < 24

802.11ac (VHT40)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	12.89	12.77	12.54	12.88	75.733	18.79	18.86	Pass
62	5310	12.25	12.61	11.74	12.96	69.725	18.43	18.86	Pass
102	5510	12.60	12.29	12.82	12.46	71.903	18.57	18.86	Pass
110	5550	11.96	12.51	12.45	12.64	69.472	18.42	18.86	Pass
134	5670	12.11	12.52	12.64	13.08	72.809	18.62	18.86	Pass
*142 (UNII-2C Band)	5710	9.08	9.31	9.48	9.86	36.218	15.59	18.86	Pass
*142 (UNII-3 Band)	5710	-1.91	-1.68	-1.51	-1.19	2.8725	4.58	24.86	Pass

Note: 1. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] = 11.14dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(11.14-6).

2. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] =11.14dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(11.14-6).

3. **For U_NII-3:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / 4$] =11.14dBi > 6dBi , so the power limit shall be reduced to 30-(11.14-6) = 24.86dBm.

* 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)
142	5710	39.0905	15.92
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	40.74	40.97	40.85	40.83
62	5310	40.88	41.01	40.91	40.62
102	5510	40.78	41.17	40.71	40.76
110	5550	40.67	41.17	40.82	40.77
134	5670	40.82	41.03	40.80	40.78
142 (UNII-2C Band)	5710	35.33	35.43	35.29	35.37

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.74	27.1 > 24
62	5310	40.62	27.08 > 24
102	5510	40.71	27.09 > 24
110	5550	40.67	27.09 > 24
134	5670	40.78	27.1 > 24
142 (UNII-2C Band)	5710	35.29	26.47 > 24

802.11ac (VHT80)

POWER OUTPUT:

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	12.96	12.31	12.61	12.42	72.489	18.60	18.86	Pass
106	5530	12.66	12.29	12.56	12.31	70.445	18.48	18.86	Pass
122	5610	12.01	13.09	12.83	13.11	75.906	18.80	18.86	Pass
*138 (UNII-2C Band)	5690	8.93	9.36	9.48	9.68	36.658	15.64	18.86	Pass
*138 (UNII-3 Band)	5690	-3.76	-3.96	-3.30	-3.41	1.8496	2.67	24.86	Pass

Note: 1. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] = 11.14dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(11.14-6).

2. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(11.14-6).

3. **For U_NII-3:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power limit shall be reduced to 30-(11.14-6) = 24.86dBm.

* 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	38.5076	15.86
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	84.92	85.08	85.74	86.28
106	5530	84.01	84.98	85.58	85.57
122	5610	84.72	84.17	85.39	84.83
138 (UNII-2C Band)	5690	77.74	77.32	77.42	77.23

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.92	30.29 > 24
106	5530	84.01	30.24 > 24
122	5610	84.17	30.25 > 24
138 (UNII-2C Band)	5690	77.23	29.87 > 24

802.11ac (VHT80+80)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+106	5210	16.51	15.64	-	-	81.415	19.11	27.45	Pass
	5530	-	-	16.25	16.22	84.049	19.25	22.32	Pass
42+122	5210	16.51	15.64	-	-	81.415	19.11	27.45	Pass
	5610	-	-	15.31	16.18	75.458	18.78	22.32	Pass
42+ 138* (UNII-2C)+ 138* (UNII-3)	5210	16.51	15.64	-	-	81.415	19.11	27.45	Pass
	5690	-	-	12.59	13.31	40.895	16.12	22.32	Pass
	5690	-	-	-2.36	-1.91	1.2656	1.02	28.32	Pass
58+106	5290	15.73	16.16	-	-	78.716	18.96	21.45	Pass
	5530	-	-	15.29	15.46	68.962	18.39	22.32	Pass
58+122	5290	15.73	16.16	-	-	78.716	18.96	21.45	Pass
	5610	-	-	14.37	15.26	60.927	17.85	22.32	Pass
58+ 138* (UNII-2C)+ 138* (UNII-3)	5290	15.73	16.16	-	-	78.716	18.96	21.45	Pass
	5690	-	-	12.13	12.45	35.033	15.44	22.32	Pass
	5690	-	-	-3.03	-2.53	1.0912	0.38	28.32	Pass
58+155	5290	15.73	16.16	-	-	78.716	18.96	21.45	Pass
	5775	-	-	15.76	15.64	74.314	18.71	28.32	Pass
106+ 138* (UNII-2C)+ 138* (UNII-3)	5530	12.54	12.55	-	-	56.628	17.53	18.86	Pass
	5690	-	-	9.90	10.11				
	5690	-	-	-3.45	-2.98	0.987	-0.06	28.32	Pass
106+155	5530	16.07	16.13	-	-	81.478	19.11	21.45	Pass
	5775	-	-	16.82	16.78	95.727	19.81	28.32	Pass
122+155	5610	17.87	18.65	-	-	134.517	21.29	21.45	Pass
	5775	-	-	19.73	19.51	183.303	22.63	28.32	Pass
138* (UNII-2C)+ 138* (UNII-3)+ 155	5690	14.47	15.45	-	-	65.153	18.14	21.45	Pass
	5690	1.77	2.15			148.362	21.71	24.86	Pass
	5775	-	-	21.35	21.05				

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+58	5210	16.51	15.64	-	-	81.415	19.11	27.45	Pass
	5290	-	-	16.58	17.25	98.587	19.94	22.32	Pass
106+122	5530	13.17	13.18	-	-	75.384	18.7	18.86	Pass
	5610	-	-	12.10	12.46				
122+138* (UNII-2C)+ 138* (UNII-3)+	5610	11.81	12.98	-	-	57.528	17.60	18.86	Pass
	5690	-	-	10.17	10.56				
	5690	-	-	-3.38	-1.98	1.1293	0.53	28.32	Pass

Note: 1. **For U_NII-1:** For Chain 0 & Chain 1: Antenna gain = 8.55dBi > 6dBi, so the power limit shall be reduced to 30-(8.55-6) =27.45dBm.

2. **For U_NII-2A** & **For U_NII-2C:** For Chain 0 & Chain 1: Antenna gain = 8.55dBi > 6dBi, so the power limit shall be reduced to 24-(8.55-6) =21.45dBm.
3. **For U_NII-2A** & **For U_NII-2C:** For Chain 2 & Chain 3: Antenna gain = 7.68dBi > 6dBi, so the power limit shall be reduced to 24-(7.68-6) =22.32dBm.
4. **For U_NII-2C:** For Chain 0 & Chain 1Chain 2 & Chain 3: Antenna gain = 11.14dBi > 6dBi, so the power limit shall be reduced to 24-(11.14-6) =18.86dBm.
5. **For U_NII-3:** For Chain 0 & Chain 1Chain 2 & Chain 3: Antenna gain = 11.14dBi > 6dBi, so the power limit shall be reduced to 30-(11.14-6) =24.86dBm.
6. **For U_NII-3:** For Chain 2 & Chain 3: Antenna gain = 7.68dBi > 6dBi, so the power limit shall be reduced to 30-(7.68-6) =28.32dBm.

* 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)
42+ 138 (UNII-2C)+ 138 (UNII-3)	5690	42.16	16.25
58+ 138 (UNII-2C)+ 138 (UNII-3)	5690	36.124	15.58
106+ 138 (UNII-2C)+ 138 (UNII-3)	5690	21.679	13.36
138 (UNII-2C)+ 138 (UNII-3)+155	5690	68.401	18.35
122+ 138 (UNII-2C)+ 138 (UNII-3)	5690	23.625	13.87
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

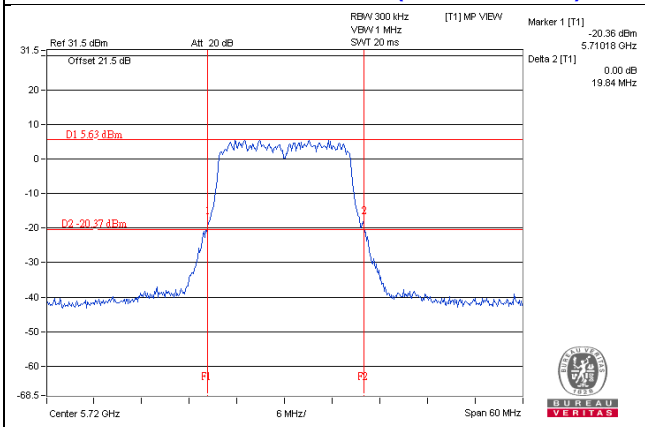
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+106	5210	85.36	85.63	-	-
	5530	-	-	85.87	85.64
42+122	5210	85.36	85.63	-	-
	5610	-	-	85.14	84.51
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	85.36	85.63	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7345
58+106	5290	85.73	85.85	-	-
	5530	-	-	85.87	85.64
58+122	5290	85.73	85.85	-	-
	5610	-	-	85.14	84.51
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.73	85.85	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7.45
58+155	5290	85.73	85.85	-	-
	5775	-	-	85.38	85.98
106+155	5530	86.21	85.95	-	-
	5775	-	-	85.38	85.98
122+155	5610	85.78	85.78	-	-
	5775	-	-	85.38	85.98
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.56	77.98	-	-
	5690	7.84	8.09	-	-
	5775	-	-	85.38	85.98
106+138 (UNII-2C)+ 138 (UNII-3)	5530	86.21	85.95	-	-
	5690	-	-	77.94	77.23
	5690	-	-	8.01	7.69

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

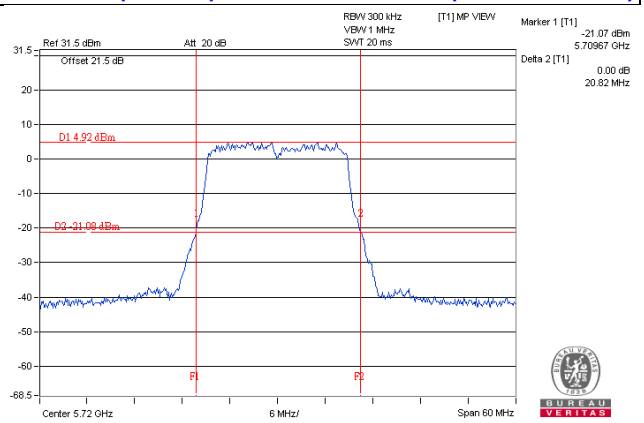
Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+106	5210	-	-
	5530	85.64	30.26 > 24
42+122	5210	-	-
	5610	84.51	30.27 > 24
42+ 138 (UNII-2C)	5210	-	-
	5690	77.57	30.29 > 24
58+106	5290	85.73	30.3 > 24
	5530	85.64	30.26 > 24
58+122	5290	85.73	30.3 > 24
	5610	84.51	30.27 > 24
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.73	30.3 > 24
	5690	77.57	30.29 > 24
	5690	-	-
58+155	5290	85.73	30.3 > 24
	5775	-	-
106+155	5530	85.95	30.29 > 24
	5775	-	-
122+155	5610	85.78	30.29 > 24
	5775	-	-
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.56	30.29 > 24
	5690	-	-
	5775	-	-
106+138 (UNII-2C)+ 138 (UNII-3)	5530	85.95	30.29 > 24
	5690	77.23	30.29 > 24
	5690	7.69	29.87 > 24
42+58	5210	-	-
	5290	85.84	30.3 > 24
106+122	5530	85.95	30.29 > 24
	5610	86.09	30.27 > 24
122+138 (UNII-2C)+ 138 (UNII-3)	5610	85.78	30.27 > 24
	5690	77.14	30.29 > 24
	5690	-	-

Spectrum Plot of Worst Value

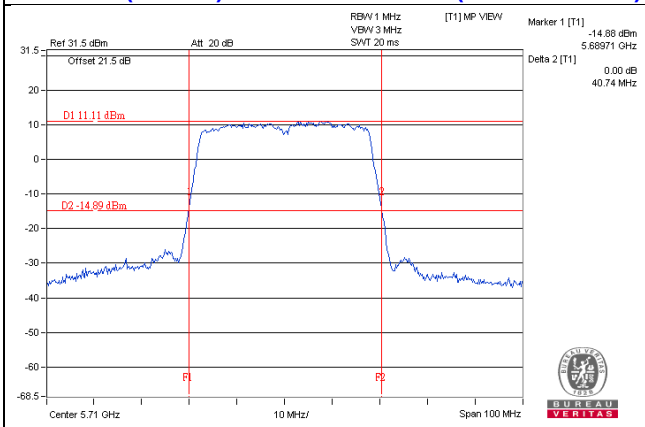
802.11a / Chain 3 - CH144 (UNII-2C Band)



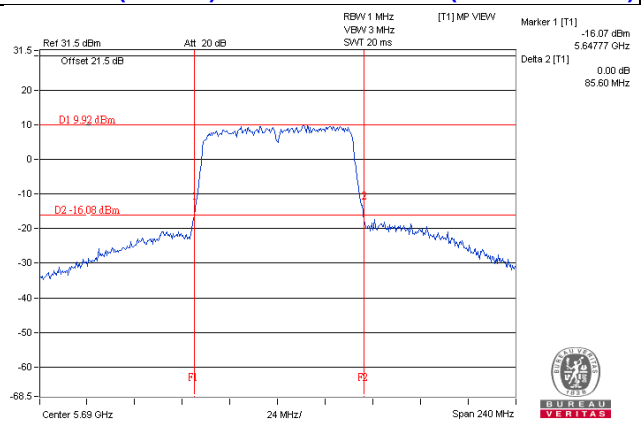
802.11ac (VHT20) / Chain 1 - CH144 (UNII-2C Band)



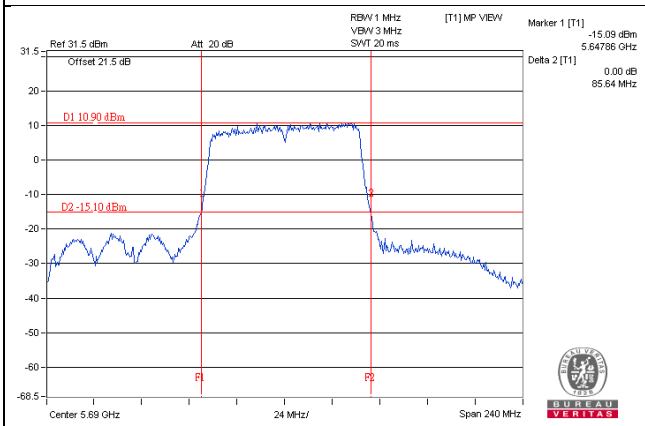
802.11ac (VHT40) / Chain 2 - CH142 (UNII-2C Band)



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



802.11ac (VHT80+80) / Chain 3 - CH138 (UNII-2C Band)

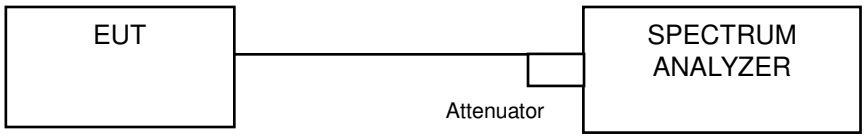


NOTE:

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.

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.16	17.04	17.04	17.16
60	5300	17.16	17.16	17.04	17.04
64	5320	17.16	17.16	17.04	17.16
100	5500	17.28	17.28	17.16	17.28
116	5580	16.56	16.56	16.56	16.56
140	5700	17.28	17.16	17.16	17.16
144 (UNII-2C Band)	5720	13.40	13.40	13.40	13.40
144 (UNII-3 Band)	5720	3.16	3.28	3.16	3.16

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	18.24	18.24	18.12	18.12
60	5300	18.24	18.24	18.24	18.24
64	5320	18.24	18.24	18.12	18.24
100	5500	18.24	18.12	18.24	18.24
116	5580	17.76	17.76	17.64	17.76
140	5700	18.24	18.24	18.24	18.24
144 (UNII-2C Band)	5720	13.88	14.00	13.88	14.00
144 (UNII-3 Band)	5720	3.76	3.76	3.76	3.76

802.11ac (VHT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
54	5270	36.24	36.24	36.24	36.24
62	5310	36.24	36.24	36.24	36.24
102	5510	36.24	36.48	36.24	36.48
110	5550	36.24	36.24	36.24	36.24
134	5670	36.24	36.24	36.48	36.24
142 (UNII-2C Band)	5710	33.20	33.20	33.20	33.20
142 (UNII-3 Band)	5710	3.00	3.00	3.00	3.00

802.11ac (VHT80)

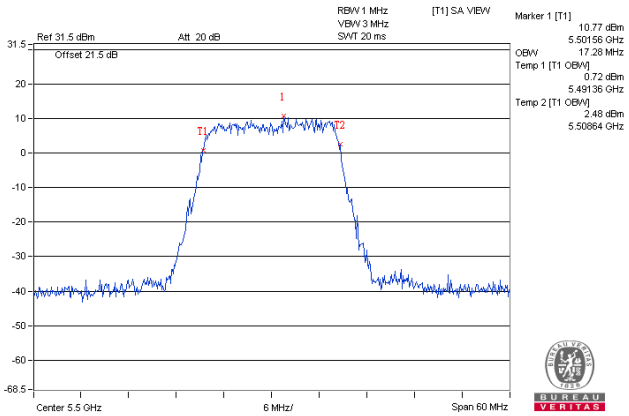
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	76.32	76.32	76.32	76.32
106	5530	75.84	76.32	75.84	75.84
122	5610	76.32	76.32	75.84	76.32
138 (UNII-2C Band)	5690	72.92	73.40	73.40	72.92
138 (UNII-3 Band)	5690	2.92	2.92	2.92	2.92

802.11ac (VHT80+80)

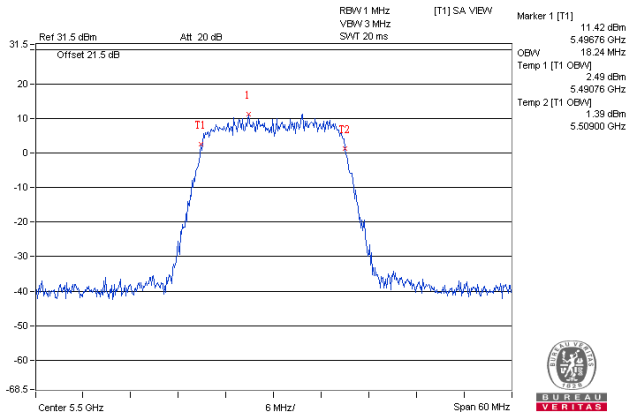
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+106	5210	85.36	85.63	-	-
	5530	-	-	85.87	85.64
42+122	5210	85.36	85.63	-	-
	5610	-	-	85.14	84.51
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	85.36	85.63	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7345
58+106	5290	85.73	85.85	-	-
	5530	-	-	85.87	85.64
58+122	5290	85.73	85.85	-	-
	5610	-	-	85.14	84.51
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.73	85.85	-	-
	5690	-	-	78.21	77.57
	5690	-	-	7.50	7.45
58+155	5290	85.73	85.85	-	-
	5775	-	-	85.38	85.98
106+155	5530	86.21	85.95	-	-
	5775	-	-	85.38	85.98
122+155	5610	85.78	85.78	-	-
	5775	-	-	85.38	85.98
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.56	77.98	-	-
	5690	7.84	8.09	-	-
	5775	-	-	85.38	85.98
106+138 (UNII-2C)+ 138 (UNII-3)	5530	86.21	85.95	-	-
	5690	-	-	77.94	77.23
	5690	-	-	8.01	7.69

Spectrum Plot of Worst Value

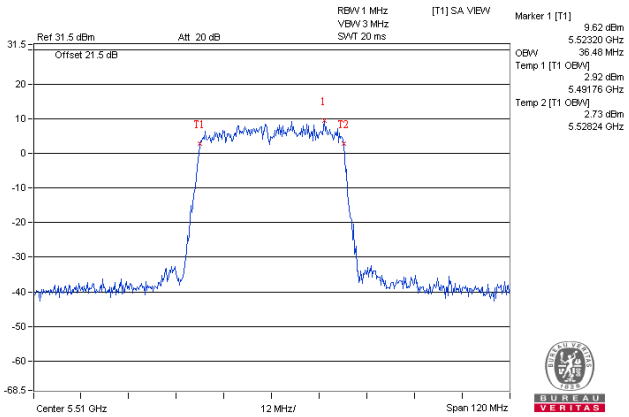
802.11a_Chain 0 / CH100



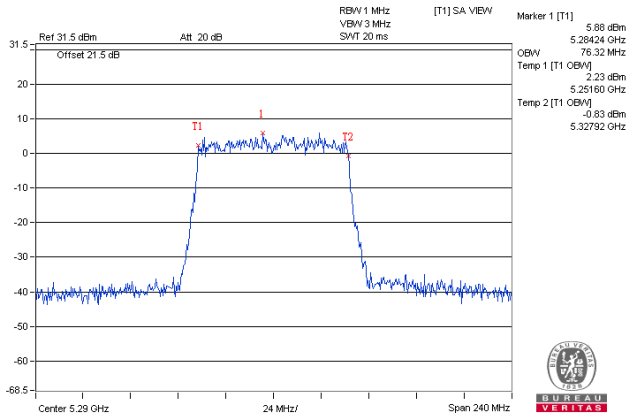
802.11ac (VHT20)_ Chain 0 / CH100



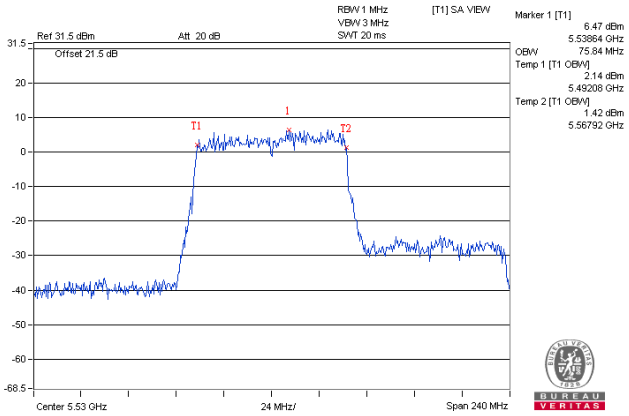
802.11ac (VHT40) _Chain 1 / CH102



802.11ac (VHT80) _Chain 0 / CH58



802.11ac (VHT80+80) _Chain 0 / CH106

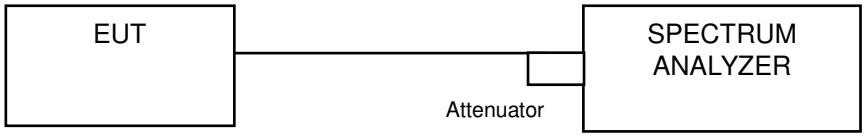


4.5 Peak Power Spectral Density Measurement

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 (VHT40), 802.11ac (VHT80)

Using method SA-2

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

802.11ac (VHT20)

Using method SA-1

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

For U_NII-3:

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

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

802.11ac (VHT20)

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as Item 4.3.6.

4.5.7 Test Results

802.11a

For U_NII-2A, U_NII-2C

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	-1.60	-0.40	-0.68	-1.06	0.16	5.27	5.86	Pass
60	5300	-2.47	-0.47	-1.48	-0.29	0.16	5.09	5.86	Pass
64	5320	-2.12	-1.08	-0.73	-0.11	0.16	5.23	5.86	Pass
100	5500	0.08	-0.85	0.39	-1.43	0.16	5.79	5.86	Pass
116	5580	-1.32	-0.58	-1.08	-0.10	0.16	5.44	5.86	Pass
140	5700	-2.01	-1.06	-0.26	-0.61	0.16	5.24	5.86	Pass
144 (UNII-2C Band)	5720	-2.20	-1.07	-0.60	-1.14	0.16	4.97	5.86	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. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.

3. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi, so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.

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

For U_NII-3

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	144 (UNII-3 Band)	5720	-9.32	-7.10	6.02	0.16	-0.92	24.86	Pass
1	144 (UNII-3 Band)	5720	-8.96	-6.74	6.02	0.16	-0.56	24.86	Pass
2	144 (UNII-3 Band)	5720	-8.62	-6.40	6.02	0.16	-0.22	24.86	Pass
3	144 (UNII-3 Band)	5720	-9.21	-6.99	6.02	0.16	-0.81	24.86	Pass

Note: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to30-(11.14-6) =24.58dBm.

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

802.11ac (VHT20)
For U_NII-2A, U_NII-2C

Chan.	Chan. Freq. (MHz)	PSD (dBm/MHz)				Total Power Density (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	-1.97	-0.86	-0.68	-1.01	4.92	5.86	Pass
60	5300	-2.43	-1.01	-1.05	-0.69	4.77	5.86	Pass
64	5320	-2.60	-0.86	-1.18	-0.74	4.74	5.86	Pass
100	5500	-0.26	-0.50	-0.31	0.01	5.76	5.86	Pass
116	5580	-0.77	0.26	-0.60	-0.25	5.70	5.86	Pass
140	5700	-1.82	-0.76	-0.24	-0.93	5.12	5.86	Pass
144 (UNII-2C Band)	5720	-1.79	-0.66	-0.77	-0.96	5.00	5.86	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. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.
3. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi, so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.

For U_NII-3

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=4) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	144 (UNII-3 Band)	5720	-9.37	-7.15	6.02	-1.13	24.86	Pass
1	144 (UNII-3 Band)	5720	-9.01	-6.79	6.02	-0.77	24.86	Pass
2	144 (UNII-3 Band)	5720	-9.16	-6.94	6.02	-0.92	24.86	Pass
3	144 (UNII-3 Band)	5720	-9.13	-6.91	6.02	-0.89	24.86	Pass

Note: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to30-(11.14-6) =24.86dBm.

802.11ac (VHT40)

For U_NII-2A, U_NII-2C

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	-0.91	-0.16	-0.54	-1.13	0.13	5.48	5.86	Pass
62	5310	-1.96	-0.94	-1.40	-0.42	0.13	5.00	5.86	Pass
102	5510	-0.17	-1.11	-0.58	-0.96	0.13	5.46	5.86	Pass
110	5550	-0.86	-0.22	-0.75	-0.78	0.13	5.50	5.86	Pass
134	5670	-1.32	-0.31	-0.38	-1.16	0.13	5.38	5.86	Pass
142 (UNII-2C Band)	5710	-0.60	-0.44	-0.17	-0.87	0.13	5.63	5.86	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. **For U_NII-2A:** Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$+ $10^{G3/20}$+ $10^{G4/20}$)^2 / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.

3. **For U_NII-2C:** Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$+ $10^{G3/20}$+ $10^{G4/20}$)^2 / 4] =11.14dBi > 6dBi, so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.

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

For U_NII-3

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	142 (UNII-3 Band)	5720	-10.35	-8.13	6.02	0.13	-1.98	24.86	Pass
1	142 (UNII-3 Band)	5720	-9.74	-7.52	6.02	0.13	-1.37	24.86	Pass
2	142 (UNII-3 Band)	5720	-9.87	-7.65	6.02	0.13	-1.50	24.86	Pass
3	142 (UNII-3 Band)	5720	-10.28	-8.06	6.02	0.13	-1.91	24.86	Pass

Note: 1. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$+ $10^{G3/20}$+ $10^{G4/20}$)^2 / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to30-(11.14-6) =24.86dBm.

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

802.11ac (VHT80)

For U_NII-2A, U_NII-2C

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	-4.60	-4.53	-4.95	-3.18	0.25	2.01	5.86	Pass
106	5530	-1.87	-3.84	-2.12	-3.20	0.25	3.59	5.86	Pass
122	5610	-2.81	-1.39	-2.55	-1.82	0.25	4.17	5.86	Pass
138 (UNII-2C Band)	5690	-2.42	-3.08	-3.71	-1.93	0.25	3.54	5.86	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. **For U_NII-2A:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.
3. **For U_NII-2C:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi, so the power density limit shall be reduced to 11-(11.14-6) = 5.86dBm.
4. Refer to section 3.3 for duty cycle spectrum plot.

For U_NII-3

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) 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	-11.63	-9.41	6.02	0.25	-3.14	24.86	Pass
1	138 (UNII-3 Band)	5690	-10.87	-8.65	6.02	0.25	-2.38	24.86	Pass
2	138 (UNII-3 Band)	5690	-11.41	-9.19	6.02	0.25	-2.92	24.86	Pass
2	138 (UNII-3 Band)	5690	-11.03	-8.81	6.02	0.25	-2.54	24.86	Pass

Note: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to30-(11.14-6) =24.86dBm.

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

802.11ac (VHT80+80)

For U_NII-1, U_NII-2A, U_NII-2C

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD With Duty Factor (dBm/MHz)	MAX. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42+106	5210	-2.89	-3.39	-	-	0.14	0.02	14.45	Pass
	5530	-	-	-1.55	-2.13	0.14	1.32	9.32	Pass
42+122	5210	-2.89	-3.39	-	-	0.14	0.02	14.45	Pass
	5610	-	-	-4.20	-2.16	0.14	0.09	9.32	Pass
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	-2.89	-3.39	-	-	0.14	0.02	14.45	Pass
	5690	-	-	-4.57	-2.49	0.14	-0.26	9.32	Pass
	5690	Test results refer to U_NII-3 data							
58+106	5290	-4.06	-3.19	-	-	0.14	-0.45	8.45	Pass
	5530	-	-	-1.55	-2.13	0.14	1.32	9.32	Pass
58+122	5290	-4.06	-3.19	-	-	0.14	-0.45	8.45	Pass
	5610	-	-	-4.20	-2.16	0.14	0.09	9.32	Pass
58+ 138 (UNII-2C)+ 138(UNII-3)	5290	-4.06	-3.19	-	-	0.14	-0.45	8.45	Pass
	5690	-	-	-4.57	-2.49	0.14	-0.26	9.32	Pass
	5690	Test results refer to U_NII-3 data							
58+155	5290	-4.06	-3.19	-	-	0.14	-0.45	8.45	Pass
	5775	Test results refer to U_NII-3 data							
106 +138(UNII-2C) +138(UNII-3)	5530	-2.99	-3.33	-	-	0.14	2.42	5.86	Pass
	5690	-	-	-3.95	-4.25				
	5690	Test results refer to U_NII-3 data							
106+155	5530	-2.99	-3.33	-	-	0.14	-0.01	8.45	Pass
	5775	Test results refer to U_NII-3 data							
42+58	5210	-2.89	-3.39	-	-	0.14	0.02	14.45	
	5290	-	-	-3.17	-1.95	0.14	0.63	9.32	Pass
122+155	5610	-3.25	-2.53	-	-	0.14	0.28	8.45	Pass
	5775	Test results refer to U_NII-3 data							
138 (UNII-2C) +138(UNII-3) +155	5690	0.59	0.49	-	-	0.14	3.69	8.45	Pass
	5690	Test results refer to U_NII-3 data							
	5775	Test results refer to U_NII-3 data							
106+122	5530	-2.99	-3.33	-	-	1.8032	2.56	5.86	Pass
	5610	-	-	-4.62	-3.63				
122+138	5610	-3.74	-2.17	-	-	2.5386	4.05	5.86	Pass
	5690	-	-	-1.86	-1.10				

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. **For U_NII-1 (chain 0+chain 1):** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 8.55dBi > 6dBi , so the power density limit shall be reduced to 17-(8.55-6) = 14.45dBm.
3. **For U_NII-2A & U_NII-2C (chain 0+chain 1):** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 8.55dBi > 6dBi , so the power density limit shall be reduced to 11-(8.55-6) = 8.45dBm.
4. **For U_NII-2A & U_NII-2C (chain 2+chain 3):** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 7.68dBi > 6dBi > 6dBi , so the power density limit shall be reduced to 11-(7.68-6) = 9.32dBm.
5. **For U_NII-2C (chain 0+chain 1+chain 2+chain 3):** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2$ / 4] =11.14dBi > 6dBi , so the power density limit shall be reduced to 11-(11.14-6) =5.86dBm.
6. Refer to section 3.3 for duty cycle spectrum plot.

For U_NII-3

Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
138 (UNII-2C) +138 (UNII-3) +155	0	5690	Test results refer to U_NII-2C data						
		5690	-8.58	-6.36	3.01	0.14	-3.21	27.45	Pass
	1	5690	Test results refer to U_NII-2C data						
		5690	-8.70	-6.48	3.01	0.14	-3.33	27.45	Pass
	2	5775	-7.18	-4.96	3.01	0.14	-1.81	28.32	Pass
	3	5775	-7.06	-4.84	3.01	0.14	-1.69	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
42+ 138 (UNII-2C) +138 (UNII-3)	0	5210	Test results refer to U_NII-1 data						
	1	5210	Test results refer to U_NII-1 data						
	2	5690	Test results refer to U_NII-2C data						
		5690	-14.29	-12.07	3.01	0.14	-8.92	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-13.83	-11.61	3.01	0.14	-8.46	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
58+ 138 (UNII-2C) +138 (UNII-3)	0	5290	Test results refer to U_NII-2A data						
	1	5290	Test results refer to U_NII-2A data						
	2	5690	Test results refer to U_NII-2C data						
		5690	-14.29	-12.07	3.01	0.14	-8.92	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-13.83	-11.61	3.01	0.14	-8.46	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
58+ 155	0	5290	Test results refer to U_NII-2A data						
	1	5290	Test results refer to U_NII-2A data						
	2	5775	-7.18	-4.96	3.01	0.14	-1.81	28.32	Pass
	3	5775	-7.06	-4.84	3.01	0.14	-1.69	28.32	Pass

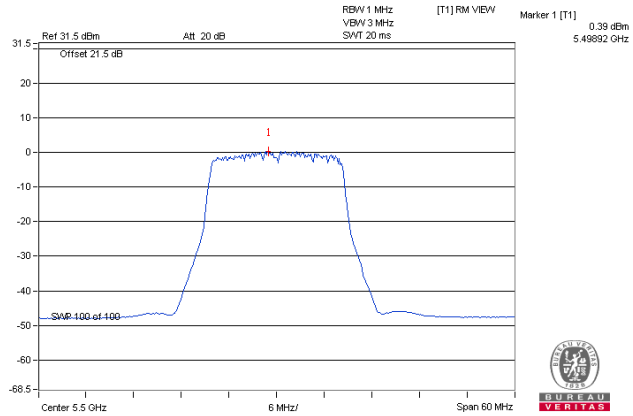
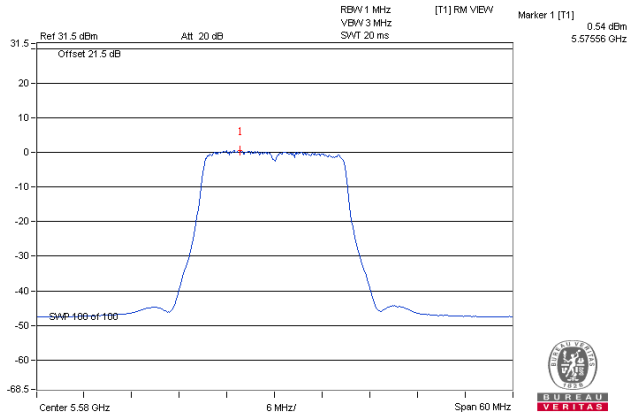
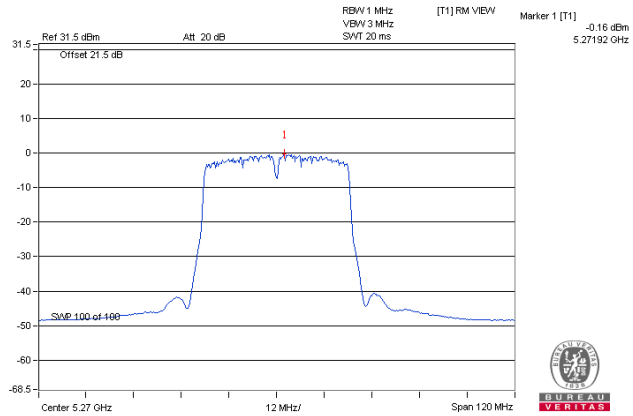
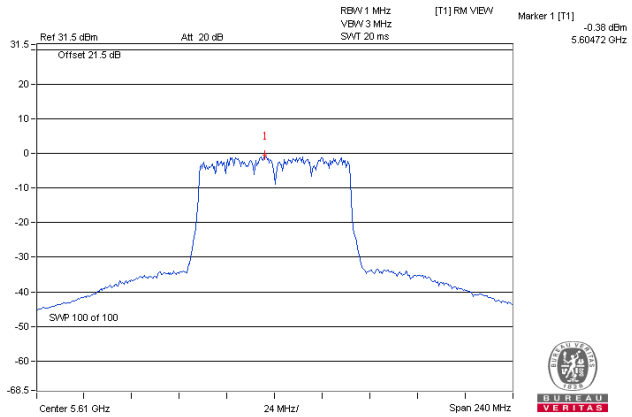
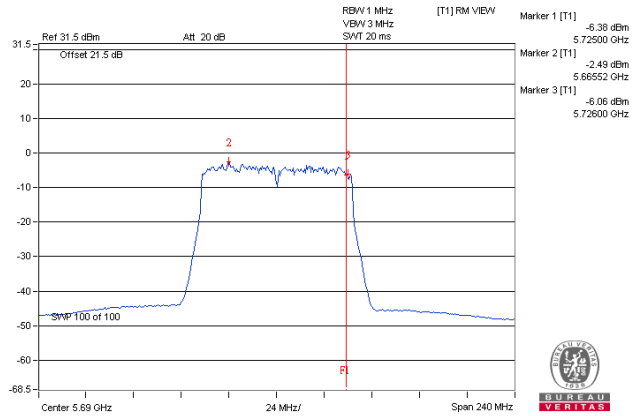
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
106+ 155	0	5530	Test results refer to U_NII-2C data						
	1	5530	Test results refer to U_NII-2C data						
	2	5775	-7.18	-4.96	3.01	0.14	-1.81	28.32	Pass
	3	5775	-7.06	-4.84	3.01	0.14	-1.69	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
122+ 155	0	5610	Test results refer to U_NII-2C data						
	1	5610	Test results refer to U_NII-2C data						
	2	5775	-7.18	-4.96	3.01	0.14	-1.81	28.32	Pass
	3	5775	-7.06	-4.84	3.01	0.14	-1.69	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
106 +138 (UNII-2C) +138 (UNII-3)	0	5530	Test results refer to U_NII-2C data						
	1	5530	Test results refer to U_NII-2C data						
	2	5690	Test results refer to U_NII-2C data						
		5690	-13.66	-11.44	3.01	0.14	-8.43	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	13.68	-11.46	3.01	0.14	-8.45	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
122 +138 (UNII-2C) +138 (UNII-3)	0	5610	Test results refer to U_NII-2C data						
	1	5610	Test results refer to U_NII-2C data						
	2	5690	Test results refer to U_NII-2C data						
		5690	-10.98	-8.76	3.01	0.14	-5.61	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-10.01	-7.79	3.01	0.14	-4.64	28.32	Pass

Note: 1. **For chain 0+chain 1:** Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 8.55dBi > 6dBi , so the power density limit shall be reduced to 30-(8.55-6) =27.45dBm.

2. **For chain 2+chain 3:** Directional gain = 10 log[$(10^{G3/20} + 10^{G4/20})^2$ / 2] = 7.68dBi > 6dBi , so the power density limit shall be reduced to 30-(7.68-6) =28.32dBm.

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

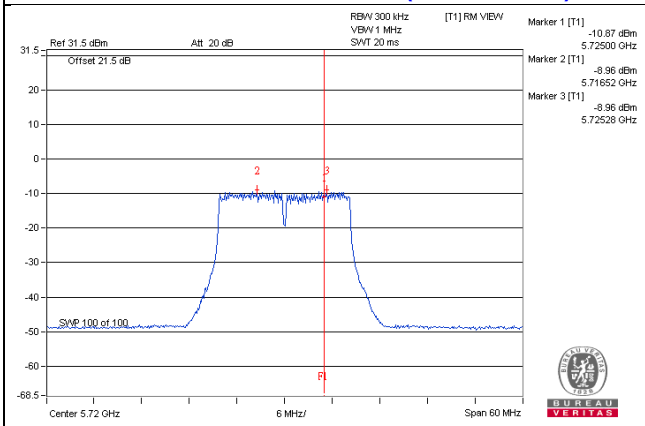
For U_NII-1, U_NII-2A, U_NII-2C

Spectrum Plot of Worst Value	
802.11a / Chain 2 – CH100	**802.11ac (VHT20) / Chain 1 – CH116**
	
802.11ac (VHT40) / Chain 1 – CH54	**802.11ac (VHT80) / Chain 1- CH122(UNII-2C Band)**
	
802.11ac (VHT80+80) / Chain 0 CH138(UNII-2C Band)	
	

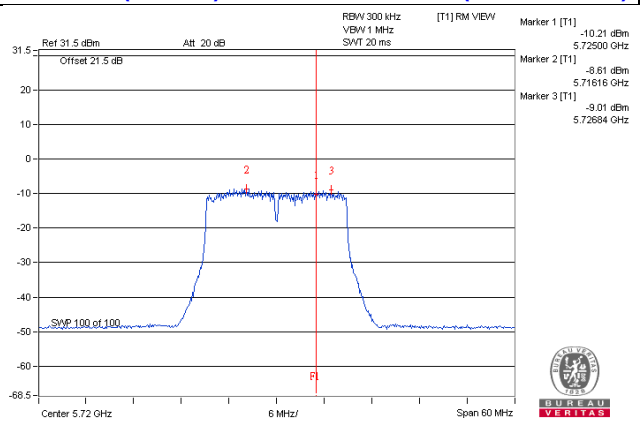
For U_NII-3

Spectrum Plot of Worst Value

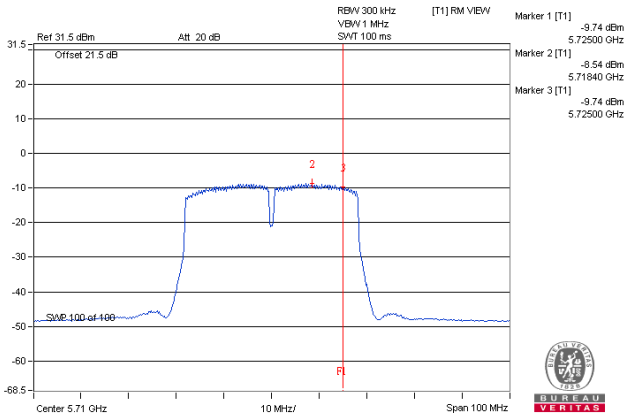
802.11a / Chain 2 – CH144(UNII-3 Band)



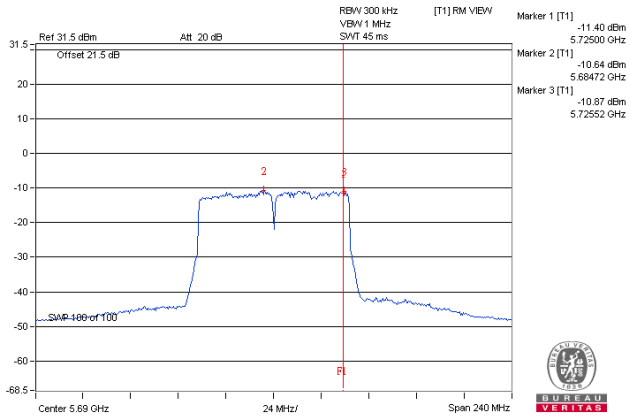
802.11ac (VHT20) / Chain 1 – CH144 (UNII-3 Band)



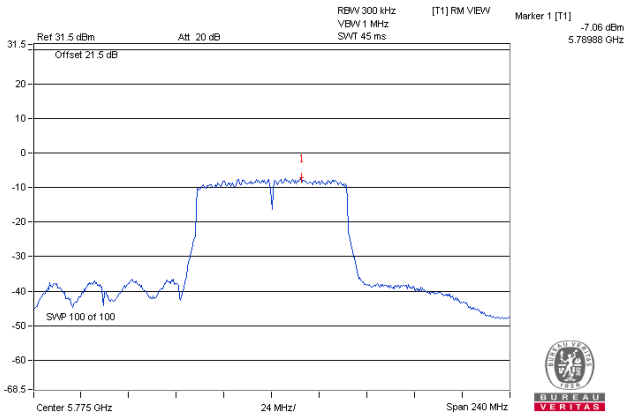
802.11ac (VHT40) / Chain 1– CH142(UNII-3 Band)



802.11ac (VHT80) / Chain 1 – CH138(UNII-3 Band)



802.11ac (VHT80+80) / Chain 3– CH155(UNII-3 Band)

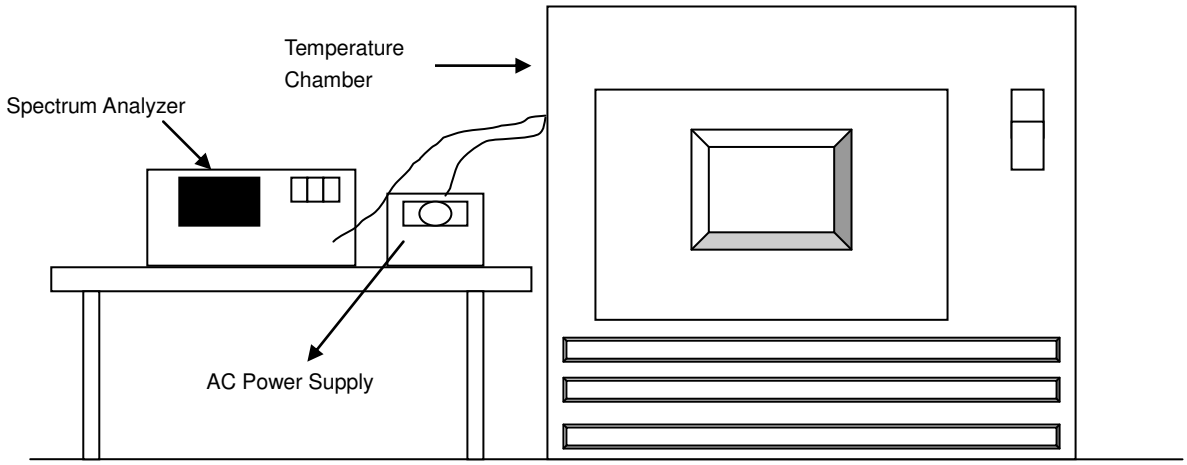


4.6 Frequency Stability Measurement

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 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	5260.0073	PASS	5260.003	PASS	5260.0075	PASS	5260.0076	Pass
40	120	5259.9918	PASS	5259.9924	PASS	5259.9924	PASS	5259.9931	Pass
30	120	5259.9793	PASS	5259.9806	PASS	5259.9793	PASS	5259.9775	Pass
20	120	5259.9835	PASS	5259.9883	PASS	5259.9857	PASS	5259.9876	Pass
10	120	5260.0233	PASS	5260.0267	PASS	5260.0266	PASS	5260.0277	Pass
0	120	5260.0213	PASS	5260.0191	PASS	5260.0183	PASS	5260.0229	Pass
-10	120	5259.995	PASS	5259.994	PASS	5259.9956	PASS	5259.9972	Pass
-20	120	5260.0191	PASS	5260.0149	PASS	5260.0197	PASS	5260.0162	Pass
-30	120	5259.9776	PASS	5259.9782	PASS	5259.9757	PASS	5259.9744	Pass

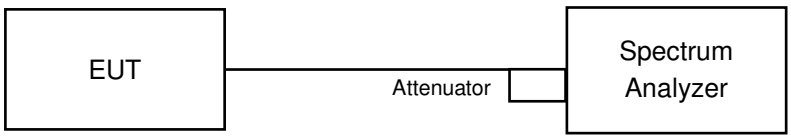
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5259.9844	PASS	5259.9878	PASS	5259.9848	PASS	5259.9869	Pass
	120	5259.9835	PASS	5259.9883	PASS	5259.9857	PASS	5259.9876	Pass
	102	5259.9833	PASS	5259.9889	PASS	5259.9848	PASS	5259.9879	Pass

4.7 6dB Bandwidth Measurment

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*144 (UNII-3 Band)	5720	3.11	3.11	3.11	3.10	0.5	Pass

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

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*144 (UNII-3 Band)	5720	3.70	3.70	3.71	3.75	0.5	Pass

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

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*142 (UNII-3 Band)	5710	2.70	2.54	2.47	2.41	0.5	Pass

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

802.11ac (VHT80)

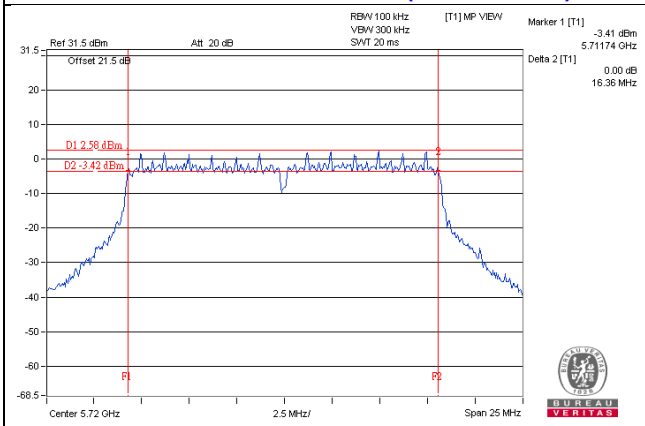
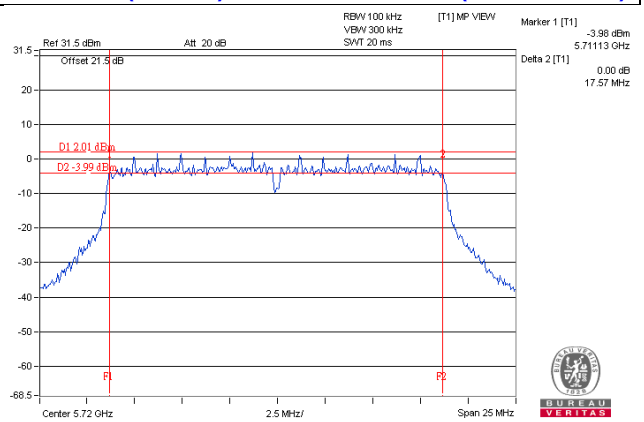
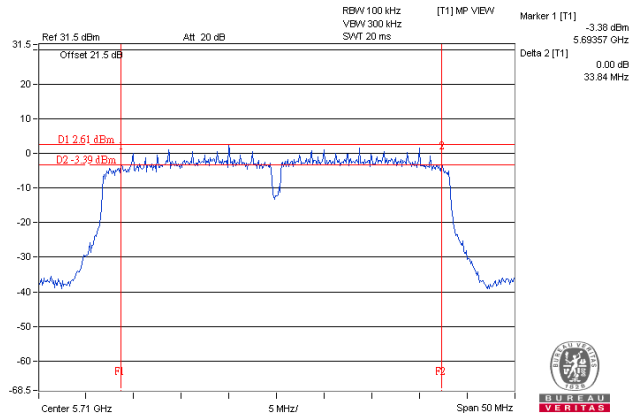
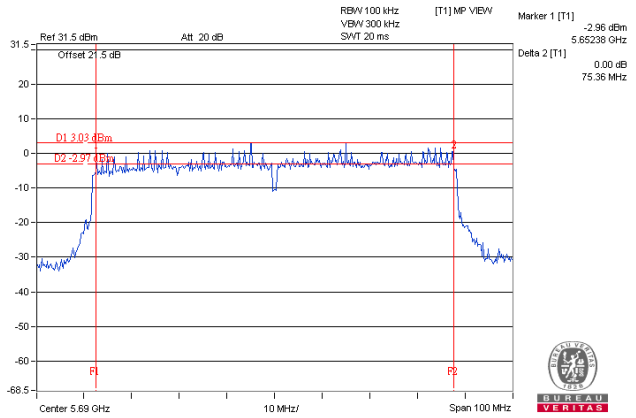
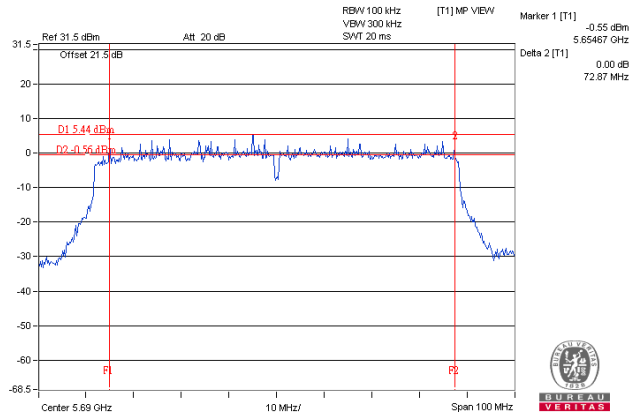
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
*138 (UNII-3 Band)	5690	3.20	2.75	2.77	2.74	0.5	Pass

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

802.11ac (VHT80+80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138 (UNII-2C) +138* (UNII-3) +155	5690	-					
	5690	2.75	2.54	-	-	0.5	Pass
	5775	-	-	74.04	71.56	0.5	Pass
42+ 138 (UNII-2C) +138* (UNII-3)	5210	-					
	5690	-					
	5690	-	-	2.74	2.65	0.5	Pass
58+ 138 (UNII-2C) +138* (UNII-3)	5290	-					
	5690	-					
	5690	-	-	2.74	2.65	0.5	Pass
58+155	5290	-					
	5775	-	-	74.04	71.56	0.5	Pass
106+155	5530	-					
	5775	-	-	74.04	71.56	0.5	Pass
122+155	5610	-					
	5775	-	-	74.04	71.56	0.5	Pass
106+ 138 (UNII-2C) +138* (UNII-3)	5530	-					
	5690	-					
	5690	-	-	2.73	2.73	0.5	Pass

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

Spectrum Plot of Worst Value	
802.11a / Chain 3 - CH144 (UNII-3 Band)	**802.11ac (VHT20) / Chain 0 - CH144 (UNII-3 Band)**
	
802.11ac (VHT40) / Chain 3 - CH142 (UNII-3 Band)	**802.11ac (VHT80) / Chain 3 - CH138 (UNII-3 Band)**
	
802.11ac (VHT80+80) / 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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The address and road map of all our labs can be found in our web site also.

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