FCC Test Report (DFS Band)

Report No.: RF170503E08A-1

FCC ID: 2AHKM-CODA4589

Test Model: CODA-4589

Received Date: June 13, 2017

Test Date: May 26 to July 15, 2017

Issued Date: Aug. 17, 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

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Table of Contents

Release Control Record **4**

1 Certificate of Conformity **5**

2 Summary of Test Results **6**

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information **7**

3.1 General Description of EUT (DFS band) 7
3.2 Description of Test Modes 10
3.2.1 Test Mode Applicability and Tested Channel Detail 12
3.3 Duty Cycle of Test Signal 17
3.4 Description of Support Units 18
3.4.1 Configuration of System under Test 19
3.5 General Description of Applied Standard 20

4 Test Types and Results **21**

4.1 Radiated Emission and Bandedge Measurement 21
4.1.1 Limits of Radiated Emission and Bandedge Measurement 21
4.1.2 Test Instruments 22
4.1.3 Test Procedure 24
4.1.4 Deviation from Test Standard 24
4.1.5 Test Setup 25
4.1.6 EUT Operating Condition 26
4.1.7 Test Results 27
4.2 Conducted Emission Measurement 70
4.2.1 Limits of Conducted Emission Measurement 70
4.2.2 Test Instruments 70
4.2.3 Test Procedure 71
4.2.4 Deviation from Test Standard 71
4.2.5 Test Setup 71
4.2.6 EUT Operating Condition 71
4.2.7 Test Results 72
4.3 Transmit Power Measurment 74
4.3.1 Limits of Transmit Power Measurement 74
4.3.2 Test Setup 75
4.3.3 Test Instruments 75
4.3.4 Test Procedure 76
4.3.5 Deviation from Test Standard 76
4.3.6 EUT Operating Condition 76
4.3.7 Test Result 77
4.4 Occupied Bandwidth Measurement 101
4.4.1 Test Setup 101
4.4.2 Test Instruments 101
4.4.3 Test Procedure 101
4.4.4 Test Results 102
4.5 Peak Power Spectral Density Measurement 106
4.5.1 Limits of Peak Power Spectral Density Measurement 106
4.5.2 Test Setup 106
4.5.3 Test Instruments 106
4.5.4 Test Procedure 107
4.5.5 Deviation from Test Standard 107
4.5.6 EUT Operating Condition 107
4.5.7 Test Results 108
4.6 Frequency Stability Measurement 118
4.6.1 Limits of Frequency Stability Measurement 118

4.6.2 Test Setup 118
4.6.3 Test Instruments 118
4.6.4 Test Procedure 118
4.6.5 Deviation from Test Standard 118
4.6.6 EUT Operating Condition 118
4.6.7 Test Results 119
4.7 6dB Bandwidth Measurment 120
4.7.1 Limits of 6dB Bandwidth Measurement 120
4.7.2 Test Setup 120
4.7.3 Test Instruments 120
4.7.4 Test Procedure 120
4.7.5 Deviation from Test Standard 120
4.7.6 EUT Operating Condition 120
4.7.7 Test Results 121

Appendix – Information on the Testing Laboratories 124

Release Control Record

Issue No.	Description	Date Issued
RF170503E08A-1	Original release.	Aug. 17, 2017

1 Certificate of Conformity

Product: DOCSIS 3.1 WiFi Emta

Brand: Hitron

Test Model: CODA-4589

Sample Status: ENGINEERING SAMPLE

Applicant: HitronTechnologies

Test Date: May 26 to July 15, 2017

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:** Aug. 17, 2017
Wendy Wu / Specialist

Approved by : _____ , **Date:** Aug. 17, 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 -5.36dB 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 5358.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.32 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.14 dB
	6GHz ~ 18GHz	5.04 dB
	18GHz ~ 40GHz	5.25 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (DFS band)

Product	DOCSIS 3.1 WiFi Emta
Brand	Hitron
Test Model	CODA-4589
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	AC 100-240V, 2.1A, 50/60Hz
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps 802.11ac (80+80): up to 3466.7Mbps
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:** **5.26 ~ 5.32GHz:** 178.546mW **5.50 ~ 5.72GHz:** 243.396mW **Beamforming Mode:** **5.26 ~ 5.32GHz:** 74.909mW **5.50 ~ 5.72GHz:** 76.79mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	Power cord x1 (unshielded, 1.8m)

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF170503E08-1 as the following:
   - ◆ Add DFS band <5250~5350MHz & 5470~5725MHz> and multi-channel operation in an 80+80 mode.
2. According to above condition, all test items need to be performed. And all data weres verified to meet the requirements.
3. Simultaneously transmission condition.

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

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

Antenna Set.	Transmitter Circuit	Brand	Model	Antenna Net. Gain(dBi)	Frequency range (GHz)	Antenna Type	Connecter Type	Cable Length
A1	Chain (2)	AirGain	M2420SL0	3.69	2.4~2.4835	Dipole	i-pex(MHF)	50
A2	Chain (0)	AirGain	M2410CM	3.23	2.4~2.4835	Dipole	i-pex(MHF)	115
A3	Chain (1)	AirGain	M2420SL0	4.28	2.4~2.4835	Dipole	i-pex(MHF)	85
A4	Chain (2)	AirGain	M5X05C	4.51	5.15~5.85	Dipole	i-pex(MHF)	120
A5	Chain (1)	AirGain	M5X05C	6.1	5.15~5.85	Dipole	i-pex(MHF)	110
A6	Chain (0)	AirGain	M5X05C	4.94	5.15~5.85	Dipole	i-pex(MHF)	40
A7	Chain (3)	AirGain	M5X05C	4.83	5.15~5.85	Dipole	i-pex(MHF)	60

5. The EUT incorporates a MIMO function:

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

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

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

3.2 Description of Test Modes

FOR 5260 ~ 5320MHz

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5720MHz

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

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

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

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

3 channels are provided for 802.11ac (VHT80):

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

For simultaneous transmission:

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

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 5500-5720	58 106 to 138	106	OFDM	BPSK	29.3

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

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

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

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

Beamforming Mode (Output power only)						
Mode	**FREQ. Band (MHz)**	**Available Channel**	**Tested Channel**	**Modulation Technology**	**Modulation Type**	**Data Rate (Mbps)**
802.11ac (VHT20)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11ac (VHT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11ac (VHT20)	5500-5720	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
802.11ac (VHT40)		102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	BPSK	29.3
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

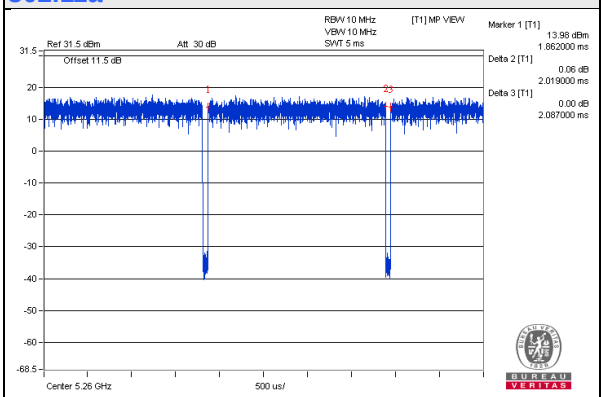
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23deg. C, 67%RH	120Vac, 60Hz	Rey Chen
RE<1G	23deg. C, 70%RH	120Vac, 60Hz	Andy Ho
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

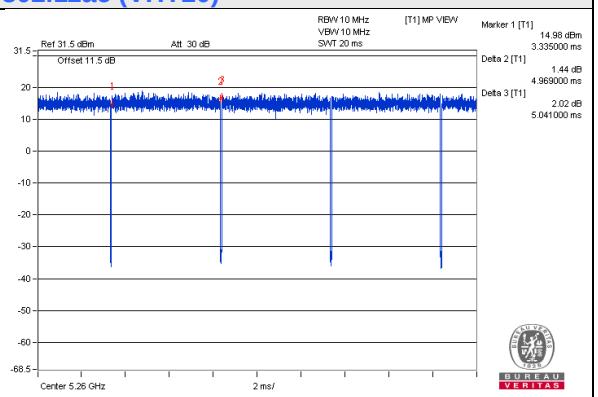
3.3 Duty Cycle of Test Signal

If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.
802.11a: Duty cycle = 2.019/2.087 = 0.967, Duty factor = 10 * log(1/0.967) = 0.14
802.11ac (VHT20): Duty cycle = 4.967/5.041 = 0.986
802.11ac (VHT40): Duty cycle = 2.418/2.482 = 0.974, Duty factor = 10 * log(1/0.974) = 0.11
802.11ac (VHT80): Duty cycle = 1.123/1.2 = 0.936, Duty factor = 10 * log(1/0.936) = 0.29
802.11ac (VHT80+80): Duty cycle = 2.234/2.298 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12

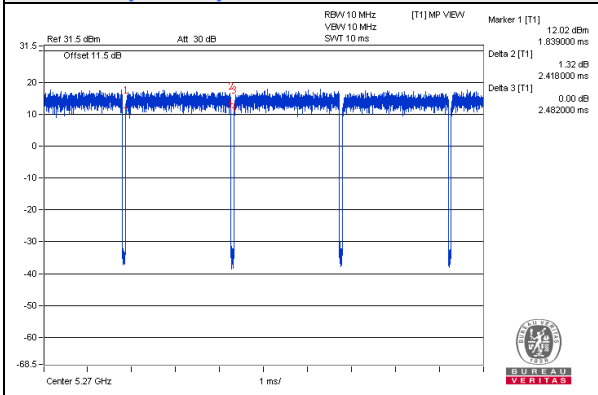
802.11a



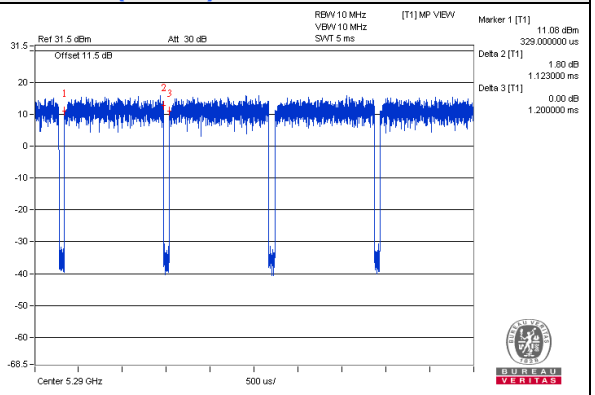
802.11ac (VHT20)



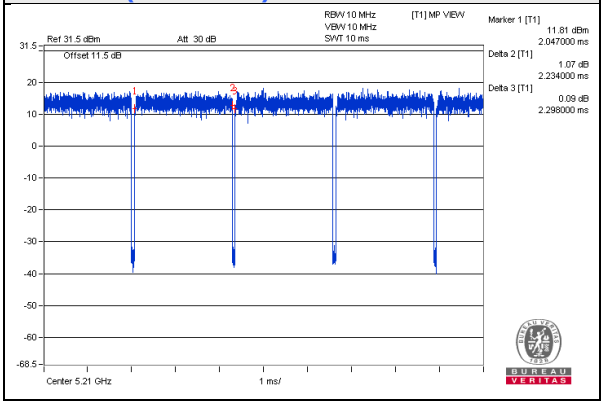
802.11ac (VHT40)



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.

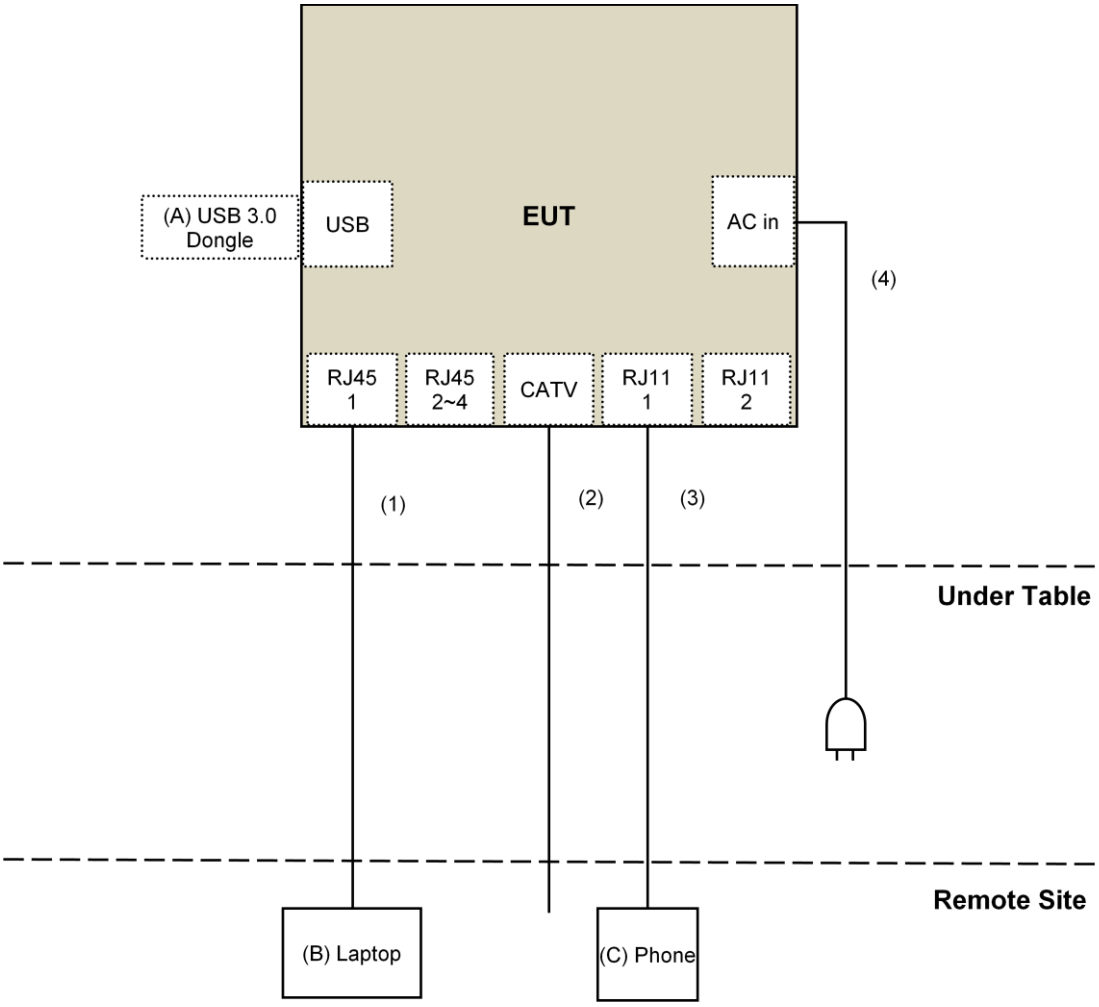
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	USB 3.0 Dongle	Transcend	JetFlash 700	NA	NA	Provided by Lab
B.	Laptop	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
C.	Phone	Remeo	TE-812	97285638	N/A	Provided by Lab

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.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	Coaxial Cable	1	10	Yes	0	Provided by Lab
3.	RJ-11 Cable	1	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 v01r04
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

Applicable To			Limit	
789033 D02 General UNII Test Procedure New Rules v01r03			Field Strength at 3m	
			PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To		EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)		PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)			
5470~5725 MHz	15.407(b)(3)			
5725~5850 MHz	☒	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4
	☐	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

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

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

4.1.2 Test Instruments

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
Pre-Amplifier(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 06, 2017	May 05, 2018
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Dec. 29, 2016	Dec. 28, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 05, 2016	Oct. 04, 2017
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 3.
4. The CANADA Site Registration No. is 20331-1
5 Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: May 26, 2017

For other test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 28, 2016	Dec. 27, 2017
Pre-Amplifier EMCI	EMC12630SE	980384	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160922 150317 150322	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Spectrum Analyzer Keysight	N9030A	MY54490520	July 29, 2016	July 28, 2017
Pre-Amplifier EMCI	EMC184045SE	980386	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSv40	100964	July 1, 2017	June 30, 2018
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018
AC Power Source Extech Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 11, 2017	Jan. 10, 2018
Digital Multimeter FLUKE	87III	73680266	Nov. 10, 2016	Nov. 09, 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 test was performed in 966 Chamber No. 3.
3. The CANADA Site Registration No. is 20331-1
4. Tested Date: July 13 to 15, 2017

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:

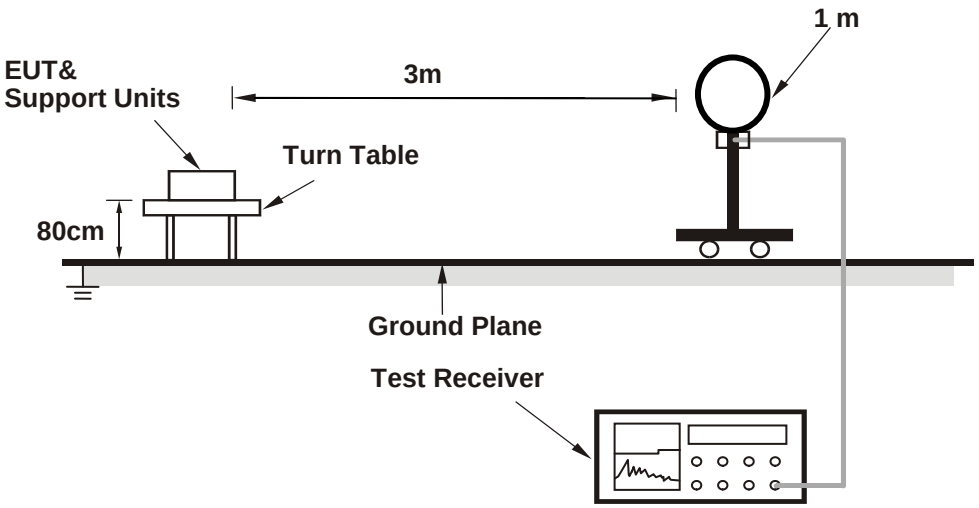
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

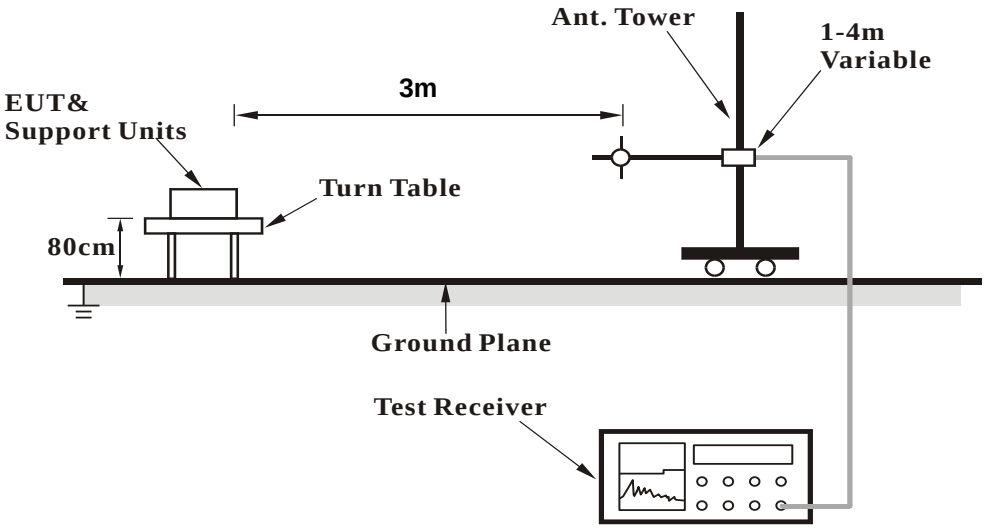
No deviation.

4.1.5 Test Setup

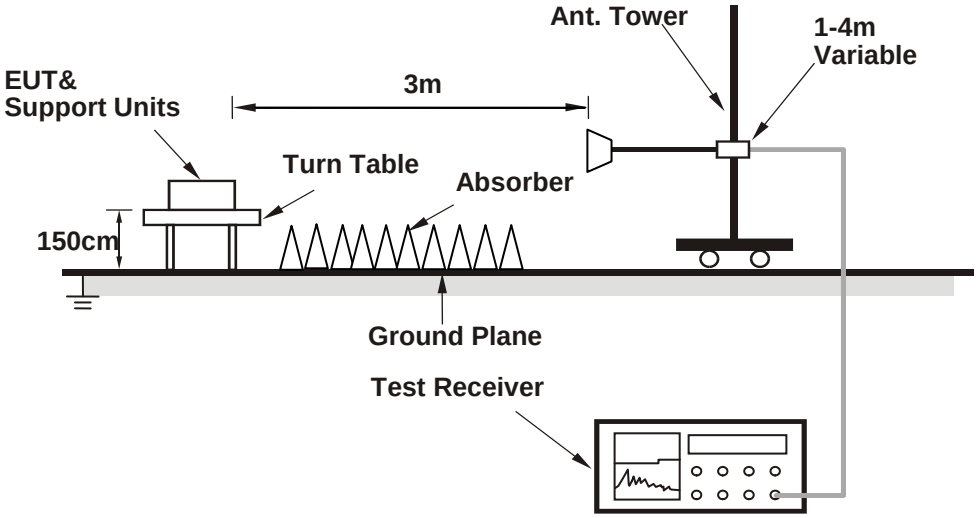
For Radiated emission below 30MHz



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

a. Connected the EUT with the Laptop which is placed on remote site.

b. Contorlling software (WiFi 5G QRCT [Verion3.0.187.0]) 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	49.1 PK	74.0	-24.9	2.29 H	145	45.4	3.7
2	5150.00	37.0 AV	54.0	-17.0	2.29 H	145	33.3	3.7
3	*5260.00	104.8 PK			2.29 H	145	100.8	4.0
4	*5260.00	94.9 AV			2.29 H	145	90.9	4.0
5	#10520.00	46.6 PK	74.0	-27.4	1.82 H	301	33.4	13.2
6	#10520.00	35.5 AV	54.0	-18.5	1.82 H	301	22.3	13.2
7	15780.00	51.8 PK	74.0	-22.2	1.81 H	264	38.2	13.6
8	15780.00	40.0 AV	54.0	-14.0	1.81 H	264	26.4	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	5150.00	50.0 PK	74.0	-24.0	1.76 V	60	46.3	3.7
2	5150.00	39.0 AV	54.0	-15.0	1.76 V	60	35.3	3.7
3	*5260.00	111.5 PK			1.76 V	60	107.5	4.0
4	*5260.00	101.5 AV			1.76 V	60	97.5	4.0
5	#10520.00	45.4 PK	74.0	-28.6	1.68 V	207	32.2	13.2
6	#10520.00	34.3 AV	54.0	-19.7	1.68 V	207	21.1	13.2
7	15780.00	57.2 PK	74.0	-16.8	2.18 V	292	43.6	13.6
8	15780.00	44.0 AV	54.0	-10.0	2.18 V	292	30.4	13.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.6 PK	74.0	-26.4	2.28 H	157	43.9	3.7
2	5150.00	36.7 AV	54.0	-17.3	2.28 H	157	33.0	3.7
3	*5300.00	105.6 PK			2.28 H	157	101.5	4.1
4	*5300.00	95.4 AV			2.28 H	157	91.3	4.1
5	5350.00	53.3 PK	74.0	-20.7	2.28 H	157	49.2	4.1
6	5350.00	42.8 AV	54.0	-11.2	2.28 H	157	38.7	4.1
7	10600.00	47.0 PK	74.0	-27.0	1.84 H	288	33.5	13.5
8	10600.00	35.7 AV	54.0	-18.3	1.84 H	288	22.2	13.5
9	15900.00	51.3 PK	74.0	-22.7	1.78 H	257	38.4	12.9
10	15900.00	39.6 AV	54.0	-14.4	1.78 H	257	26.7	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	5150.00	49.7 PK	74.0	-24.3	2.24 V	61	46.0	3.7
2	5150.00	39.1 AV	54.0	-14.9	2.24 V	61	35.4	3.7
3	*5300.00	111.9 PK			2.24 V	61	107.8	4.1
4	*5300.00	102.1 AV			2.24 V	61	98.0	4.1
5	5350.00	55.6 PK	74.0	-18.4	2.24 V	61	51.5	4.1
6	5350.00	45.0 AV	54.0	-9.0	2.24 V	61	40.9	4.1
7	10600.00	45.7 PK	74.0	-28.3	1.68 V	210	32.2	13.5
8	10600.00	34.7 AV	54.0	-19.3	1.68 V	210	21.2	13.5
9	15900.00	57.9 PK	74.0	-16.1	1.90 V	292	45.0	12.9
10	15900.00	43.5 AV	54.0	-10.5	1.90 V	292	30.6	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 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	105.2 PK			2.32 H	170	101.1	4.1
2	*5320.00	95.1 AV			2.32 H	170	91.0	4.1
3	5350.00	52.1 PK	74.0	-21.9	2.32 H	170	48.0	4.1
4	5350.00	40.8 AV	54.0	-13.2	2.32 H	170	36.7	4.1
5	10640.00	46.8 PK	74.0	-27.2	1.86 H	282	33.3	13.5
6	10640.00	35.8 AV	54.0	-18.2	1.86 H	282	22.3	13.5
7	15960.00	50.8 PK	74.0	-23.2	1.82 H	253	37.9	12.9
8	15960.00	37.8 AV	54.0	-16.2	1.82 H	253	24.9	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	111.8 PK			2.26 V	63	107.7	4.1
2	*5320.00	101.7 AV			2.26 V	63	97.6	4.1
3	5350.00	54.4 PK	74.0	-19.6	2.26 V	63	50.3	4.1
4	5350.00	43.1 AV	54.0	-10.9	2.26 V	63	39.0	4.1
5	10640.00	45.9 PK	74.0	-28.1	1.63 V	199	32.4	13.5
6	10640.00	34.9 AV	54.0	-19.1	1.63 V	199	21.4	13.5
7	15960.00	53.3 PK	74.0	-20.7	2.71 V	299	40.4	12.9
8	15960.00	40.8 AV	54.0	-13.2	2.71 V	299	27.9	12.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.8 PK	74.0	-18.2	2.27 H	160	51.6	4.2
2	#5470.00	41.5 AV	54.0	-12.5	2.27 H	160	37.3	4.2
3	*5500.00	104.6 PK			2.27 H	160	100.4	4.2
4	*5500.00	95.3 AV			2.27 H	160	91.1	4.2
5	11000.00	47.2 PK	74.0	-26.8	1.90 H	275	33.1	14.1
6	11000.00	36.0 AV	54.0	-18.0	1.90 H	275	21.9	14.1
7	#16500.00	44.2 PK	74.0	-29.8	1.79 H	241	29.7	14.5
8	#16500.00	35.4 AV	54.0	-18.6	1.79 H	241	20.9	14.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	59.0 PK	74.0	-15.0	2.20 V	63	54.8	4.2
2	#5470.00	44.6 AV	54.0	-9.4	2.20 V	63	40.4	4.2
3	*5500.00	111.2 PK			2.20 V	63	107.0	4.2
4	*5500.00	101.9 AV			2.20 V	63	97.7	4.2
5	11000.00	46.3 PK	74.0	-27.7	1.63 V	204	32.2	14.1
6	11000.00	35.1 AV	54.0	-18.9	1.63 V	204	21.0	14.1
7	#16500.00	47.0 PK	74.0	-27.0	2.16 V	298	32.5	14.5
8	#16500.00	36.2 AV	54.0	-17.8	2.16 V	298	21.7	14.5

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	47.9 PK	74.0	-26.1	2.33 H	157	43.7	4.2
2	#5470.00	36.1 AV	54.0	-17.9	2.33 H	157	31.9	4.2
3	*5580.00	106.1 PK			2.33 H	157	101.9	4.2
4	*5580.00	95.8 AV			2.33 H	157	91.6	4.2
5	#5725.00	49.2 PK	74.0	-24.8	2.33 H	157	44.8	4.4
6	#5725.00	37.3 AV	54.0	-16.7	2.33 H	157	32.9	4.4
7	11160.00	46.8 PK	74.0	-27.2	1.83 H	297	33.1	13.7
8	11160.00	35.5 AV	54.0	-18.5	1.83 H	297	21.8	13.7
9	#16740.00	51.1 PK	74.0	-22.9	1.85 H	264	35.4	15.7
10	#16740.00	39.1 AV	54.0	-14.9	1.85 H	264	23.4	15.7
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	51.1 PK	74.0	-22.9	2.15 V	60	46.9	4.2
2	#5470.00	39.1 AV	54.0	-14.9	2.15 V	60	34.9	4.2
3	*5580.00	112.6 PK			2.15 V	60	108.4	4.2
4	*5580.00	102.4 AV			2.15 V	60	98.2	4.2
5	#5725.00	52.4 PK	74.0	-21.6	2.15 V	60	48.0	4.4
6	#5725.00	40.4 AV	54.0	-13.6	2.15 V	60	36.0	4.4
7	11160.00	45.9 PK	74.0	-28.1	1.68 V	191	32.2	13.7
8	11160.00	34.8 AV	54.0	-19.2	1.68 V	191	21.1	13.7
9	#16740.00	56.2 PK	74.0	-17.8	1.89 V	300	40.5	15.7
10	#16740.00	42.5 AV	54.0	-11.5	1.89 V	300	26.8	15.7

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 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	105.3 PK			2.37 H	155	100.8	4.5
2	*5700.00	96.6 AV			2.37 H	155	92.1	4.5
3	#5725.00	58.2 PK	74.0	-15.8	2.37 H	155	53.8	4.4
4	#5725.00	44.5 AV	54.0	-9.5	2.37 H	155	40.1	4.4
5	11400.00	46.6 PK	74.0	-27.4	1.81 H	294	33.0	13.6
6	11400.00	35.6 AV	54.0	-18.4	1.81 H	294	22.0	13.6
7	#17100.00	51.2 PK	74.0	-22.8	1.85 H	254	33.8	17.4
8	#17100.00	40.1 AV	54.0	-13.9	1.85 H	254	22.7	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.9 PK			2.22 V	64	107.4	4.5
2	*5700.00	103.2 AV			2.22 V	64	98.7	4.5
3	#5725.00	61.6 PK	74.0	-12.4	2.22 V	64	57.2	4.4
4	#5725.00	47.6 AV	54.0	-6.4	2.22 V	64	43.2	4.4
5	11400.00	45.6 PK	74.0	-28.4	1.68 V	195	32.0	13.6
6	11400.00	34.8 AV	54.0	-19.2	1.68 V	195	21.2	13.6
7	#17100.00	48.1 PK	74.0	-25.9	1.51 V	303	30.7	17.4
8	#17100.00	37.6 AV	54.0	-16.4	1.51 V	303	20.2	17.4

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	46.1 PK	74.0	-27.9	2.35 H	159	41.9	4.2
2	#5470.00	34.5 AV	54.0	-19.5	2.35 H	159	30.3	4.2
3	*5720.00	105.9 PK			2.35 H	159	101.5	4.4
4	*5720.00	96.5 AV			2.35 H	159	92.1	4.4
5	#5850.00	50.4 PK	74.0	-23.6	2.35 H	159	45.9	4.5
6	#5850.00	38.7 AV	54.0	-15.3	2.35 H	159	34.2	4.5
7	11440.00	46.2 PK	74.0	-27.8	1.83 H	286	32.7	13.5
8	11440.00	35.5 AV	54.0	-18.5	1.83 H	286	22.0	13.5
9	#17160.00	52.0 PK	74.0	-22.0	1.91 H	249	34.7	17.3
10	#17160.00	39.2 AV	54.0	-14.8	1.91 H	249	21.9	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	49.2 PK	74.0	-24.8	2.26 V	61	45.0	4.2
2	#5470.00	37.6 AV	54.0	-16.4	2.26 V	61	33.4	4.2
3	*5720.00	112.4 PK			2.26 V	61	108.0	4.4
4	*5720.00	103.1 AV			2.26 V	61	98.7	4.4
5	#5850.00	53.5 PK	74.0	-20.5	2.26 V	61	49.0	4.5
6	#5850.00	41.8 AV	54.0	-12.2	2.26 V	61	37.3	4.5
7	11440.00	45.5 PK	74.0	-28.5	1.70 V	203	32.0	13.5
8	11440.00	34.5 AV	54.0	-19.5	1.70 V	203	21.0	13.5
9	#17160.00	54.3 PK	74.0	-19.7	1.52 V	304	37.0	17.3
10	#17160.00	41.6 AV	54.0	-12.4	1.52 V	304	24.3	17.3

REMARKS:

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

802.11ac (VHT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	47.5 PK	74.0	-26.5	2.37 H	173	43.8	3.7
2	5150.00	35.2 AV	54.0	-18.8	2.37 H	173	31.5	3.7
3	*5260.00	104.8 PK			2.37 H	173	100.8	4.0
4	*5260.00	94.5 AV			2.37 H	173	90.5	4.0
5	#10520.00	45.5 PK	74.0	-28.5	1.86 H	297	32.3	13.2
6	#10520.00	33.4 AV	54.0	-20.6	1.86 H	297	20.2	13.2
7	15780.00	51.0 PK	74.0	-23.0	1.96 H	252	37.4	13.6
8	15780.00	39.5 AV	54.0	-14.5	1.96 H	252	25.9	13.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	50.7 PK	74.0	-23.3	2.22 V	57	47.0	3.7
2	5150.00	38.3 AV	54.0	-15.7	2.22 V	57	34.6	3.7
3	*5260.00	111.3 PK			2.22 V	57	107.3	4.0
4	*5260.00	101.1 AV			2.22 V	57	97.1	4.0
5	#10520.00	45.8 PK	74.0	-28.2	1.68 V	189	32.6	13.2
6	#10520.00	34.6 AV	54.0	-19.4	1.68 V	189	21.4	13.2
7	15780.00	50.0 PK	74.0	-24.0	1.44 V	257	36.4	13.6
8	15780.00	38.7 AV	54.0	-15.3	1.44 V	257	25.1	13.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	46.9 PK	74.0	-27.1	2.37 H	158	43.2	3.7
2	5150.00	35.2 AV	54.0	-18.8	2.37 H	158	31.5	3.7
3	*5300.00	105.9 PK			2.37 H	158	101.8	4.1
4	*5300.00	95.6 AV			2.37 H	158	91.5	4.1
5	5350.00	56.4 PK	74.0	-17.6	2.37 H	158	52.3	4.1
6	5350.00	45.2 AV	54.0	-8.8	2.37 H	158	41.1	4.1
7	10600.00	46.0 PK	74.0	-28.0	1.91 H	310	32.5	13.5
8	10600.00	33.7 AV	54.0	-20.3	1.91 H	310	20.2	13.5
9	15900.00	52.1 PK	74.0	-21.9	1.96 H	261	39.2	12.9
10	15900.00	39.0 AV	54.0	-15.0	1.96 H	261	26.1	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	5150.00	50.0 PK	74.0	-24.0	1.82 V	60	46.3	3.7
2	5150.00	38.3 AV	54.0	-15.7	1.82 V	60	34.6	3.7
3	*5300.00	112.4 PK			1.82 V	60	108.3	4.1
4	*5300.00	102.2 AV			1.82 V	60	98.1	4.1
5	5350.00	59.6 PK	74.0	-14.4	1.82 V	60	55.5	4.1
6	5350.00	48.4 AV	54.0	-5.6	1.82 V	60	44.3	4.1
7	10600.00	45.6 PK	74.0	-28.4	1.73 V	174	32.1	13.5
8	10600.00	34.3 AV	54.0	-19.7	1.73 V	174	20.8	13.5
9	15900.00	55.3 PK	74.0	-18.7	2.00 V	298	42.4	12.9
10	15900.00	42.2 AV	54.0	-11.8	2.00 V	298	29.3	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 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	105.1 PK			2.43 H	150	101.0	4.1
2	*5320.00	94.5 AV			2.43 H	150	90.4	4.1
3	5350.00	52.5 PK	74.0	-21.5	2.43 H	150	48.4	4.1
4	5350.00	40.9 AV	54.0	-13.1	2.43 H	150	36.8	4.1
5	10640.00	46.1 PK	74.0	-27.9	1.96 H	322	32.6	13.5
6	10640.00	33.8 AV	54.0	-20.2	1.96 H	322	20.3	13.5
7	15960.00	51.7 PK	74.0	-22.3	1.97 H	267	38.8	12.9
8	15960.00	38.5 AV	54.0	-15.5	1.97 H	267	25.6	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	111.6 PK			1.78 V	60	107.5	4.1
2	*5320.00	101.1 AV			1.78 V	60	97.0	4.1
3	5350.00	55.9 PK	74.0	-18.1	1.78 V	60	51.8	4.1
4	5350.00	44.2 AV	54.0	-9.8	1.78 V	60	40.1	4.1
5	10640.00	45.7 PK	74.0	-28.3	1.78 V	189	32.2	13.5
6	10640.00	34.4 AV	54.0	-19.6	1.78 V	189	20.9	13.5
7	15960.00	52.9 PK	74.0	-21.1	1.49 V	301	40.0	12.9
8	15960.00	41.3 AV	54.0	-12.7	1.49 V	301	28.4	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	56.4 PK	74.0	-17.6	2.39 H	140	52.2	4.2
2	#5470.00	42.2 AV	54.0	-11.8	2.39 H	140	38.0	4.2
3	*5500.00	104.3 PK			2.39 H	140	100.1	4.2
4	*5500.00	94.4 AV			2.39 H	140	90.2	4.2
5	11000.00	45.8 PK	74.0	-28.2	1.95 H	333	31.7	14.1
6	11000.00	33.5 AV	54.0	-20.5	1.95 H	333	19.4	14.1
7	#16500.00	51.3 PK	74.0	-22.7	1.99 H	258	36.8	14.5
8	#16500.00	38.3 AV	54.0	-15.7	1.99 H	258	23.8	14.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	59.8 PK	74.0	-14.2	2.22 V	61	55.6	4.2
2	#5470.00	45.6 AV	54.0	-8.4	2.22 V	61	41.4	4.2
3	*5500.00	110.9 PK			2.22 V	61	106.7	4.2
4	*5500.00	101.0 AV			2.22 V	61	96.8	4.2
5	11000.00	45.8 PK	74.0	-28.2	1.80 V	202	31.7	14.1
6	11000.00	34.4 AV	54.0	-19.6	1.80 V	202	20.3	14.1
7	#16500.00	50.7 PK	74.0	-23.3	1.89 V	299	36.2	14.5
8	#16500.00	38.2 AV	54.0	-15.8	1.89 V	299	23.7	14.5

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	48.8 PK	74.0	-25.2	2.36 H	141	44.6	4.2
2	#5470.00	35.3 AV	54.0	-18.7	2.36 H	141	31.1	4.2
3	*5580.00	105.0 PK			2.36 H	141	100.8	4.2
4	*5580.00	94.5 AV			2.36 H	141	90.3	4.2
5	#5725.00	49.3 PK	74.0	-24.7	2.36 H	141	44.9	4.4
6	#5725.00	36.2 AV	54.0	-17.8	2.36 H	141	31.8	4.4
7	11160.00	46.2 PK	74.0	-27.8	1.96 H	320	32.5	13.7
8	11160.00	33.7 AV	54.0	-20.3	1.96 H	320	20.0	13.7
9	#16740.00	50.8 PK	74.0	-23.2	1.97 H	264	35.1	15.7
10	#16740.00	38.0 AV	54.0	-16.0	1.97 H	264	22.3	15.7
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	52.1 PK	74.0	-21.9	2.18 V	60	47.9	4.2
2	#5470.00	38.6 AV	54.0	-15.4	2.18 V	60	34.4	4.2
3	*5580.00	111.6 PK			2.18 V	60	107.4	4.2
4	*5580.00	101.1 AV			2.18 V	60	96.9	4.2
5	#5725.00	52.7 PK	74.0	-21.3	2.18 V	60	48.3	4.4
6	#5725.00	39.6 AV	54.0	-14.4	2.18 V	60	35.2	4.4
7	11160.00	45.9 PK	74.0	-28.1	1.85 V	209	32.2	13.7
8	11160.00	34.3 AV	54.0	-19.7	1.85 V	209	20.6	13.7
9	#16740.00	50.3 PK	74.0	-23.7	1.54 V	310	34.6	15.7
10	#16740.00	37.8 AV	54.0	-16.2	1.54 V	310	22.1	15.7

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	106.0 PK			2.42 H	133	101.5	4.5
2	*5700.00	95.6 AV			2.42 H	133	91.1	4.5
3	#5725.00	58.3 PK	74.0	-15.7	2.42 H	133	53.9	4.4
4	#5725.00	43.7 AV	54.0	-10.3	2.42 H	133	39.3	4.4
5	11400.00	46.4 PK	74.0	-27.6	1.96 H	318	32.8	13.6
6	11400.00	34.1 AV	54.0	-19.9	1.96 H	318	20.5	13.6
7	#17100.00	50.6 PK	74.0	-23.4	1.98 H	277	33.2	17.4
8	#17100.00	38.0 AV	54.0	-16.0	1.98 H	277	20.6	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.4 PK			2.16 V	60	107.9	4.5
2	*5700.00	102.1 AV			2.16 V	60	97.6	4.5
3	#5725.00	61.5 PK	74.0	-12.5	2.16 V	60	57.1	4.4
4	#5725.00	46.9 AV	54.0	-7.1	2.16 V	60	42.5	4.4
5	11400.00	46.0 PK	74.0	-28.0	1.83 V	210	32.4	13.6
6	11400.00	34.4 AV	54.0	-19.6	1.83 V	210	20.8	13.6
7	#17100.00	49.9 PK	74.0	-24.1	1.51 V	322	32.5	17.4
8	#17100.00	37.4 AV	54.0	-16.6	1.51 V	322	20.0	17.4

REMARKS:

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

CHANNEL	TX Channel 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	#5470.00	46.9 PK	74.0	-27.1	2.47 H	122	42.7	4.2
2	#5470.00	34.3 AV	54.0	-19.7	2.47 H	122	30.1	4.2
3	*5720.00	105.5 PK			2.47 H	122	101.1	4.4
4	*5720.00	95.9 AV			2.47 H	122	91.5	4.4
5	#5850.00	49.4 PK	74.0	-24.6	2.47 H	122	44.9	4.5
6	#5850.00	37.7 AV	54.0	-16.3	2.47 H	122	33.2	4.5
7	11440.00	46.3 PK	74.0	-27.7	1.94 H	317	32.8	13.5
8	11440.00	34.3 AV	54.0	-19.7	1.94 H	317	20.8	13.5
9	#17160.00	50.5 PK	74.0	-23.5	1.92 H	262	33.2	17.3
10	#17160.00	38.0 AV	54.0	-16.0	1.92 H	262	20.7	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	50.1 PK	74.0	-23.9	1.82 V	62	45.9	4.2
2	#5470.00	37.5 AV	54.0	-16.5	1.82 V	62	33.3	4.2
3	*5720.00	111.9 PK			1.82 V	62	107.5	4.4
4	*5720.00	102.5 AV			1.82 V	62	98.1	4.4
5	#5850.00	52.6 PK	74.0	-21.4	1.82 V	62	48.1	4.5
6	#5850.00	40.9 AV	54.0	-13.1	1.82 V	62	36.4	4.5
7	11440.00	46.5 PK	74.0	-27.5	1.77 V	225	33.0	13.5
8	11440.00	34.8 AV	54.0	-19.2	1.77 V	225	21.3	13.5
9	#17160.00	49.3 PK	74.0	-24.7	1.47 V	324	32.0	17.3
10	#17160.00	37.0 AV	54.0	-17.0	1.47 V	324	19.7	17.3

REMARKS:

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

802.11ac (VHT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	51.3 PK	74.0	-22.7	2.49 H	128	47.6	3.7
2	5150.00	39.1 AV	54.0	-14.9	2.49 H	128	35.4	3.7
3	*5270.00	106.0 PK			2.49 H	128	102.0	4.0
4	*5270.00	94.0 AV			2.49 H	128	90.0	4.0
5	#10540.00	46.9 PK	74.0	-27.1	1.94 H	303	33.6	13.3
6	#10540.00	34.8 AV	54.0	-19.2	1.94 H	303	21.5	13.3
7	15810.00	53.7 PK	74.0	-20.3	1.94 H	255	40.3	13.4
8	15810.00	41.2 AV	54.0	-12.8	1.94 H	255	27.8	13.4
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	5150.00	54.4 PK	74.0	-19.6	1.88 V	58	50.7	3.7
2	5150.00	42.2 AV	54.0	-11.8	1.88 V	58	38.5	3.7
3	*5270.00	112.7 PK			1.88 V	58	108.7	4.0
4	*5270.00	100.6 AV			1.88 V	58	96.6	4.0
5	#10540.00	47.0 PK	74.0	-27.0	1.72 V	230	33.7	13.3
6	#10540.00	35.1 AV	54.0	-18.9	1.72 V	230	21.8	13.3
7	15810.00	59.8 PK	74.0	-14.2	1.89 V	292	46.4	13.4
8	15810.00	45.3 AV	54.0	-8.7	1.89 V	292	31.9	13.4

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 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	105.6 PK			2.47 H	131	101.5	4.1
2	*5310.00	94.8 AV			2.47 H	131	90.7	4.1
3	5350.00	60.5 PK	74.0	-13.5	2.47 H	131	56.4	4.1
4	5350.00	42.3 AV	54.0	-11.7	2.47 H	131	38.2	4.1
5	10620.00	46.6 PK	74.0	-27.4	1.90 H	299	33.1	13.5
6	10620.00	34.7 AV	54.0	-19.3	1.90 H	299	21.2	13.5
7	15930.00	54.0 PK	74.0	-20.0	1.93 H	243	41.2	12.8
8	15930.00	41.3 AV	54.0	-12.7	1.93 H	243	28.5	12.8
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	*5310.00	112.0 PK			1.79 V	60	107.9	4.1
2	*5310.00	101.2 AV			1.79 V	60	97.1	4.1
3	5350.00	63.8 PK	74.0	-10.2	1.79 V	60	59.7	4.1
4	5350.00	45.5 AV	54.0	-8.5	1.79 V	60	41.4	4.1
5	10620.00	46.8 PK	74.0	-27.2	1.77 V	231	33.3	13.5
6	10620.00	35.0 AV	54.0	-19.0	1.77 V	231	21.5	13.5
7	15930.00	59.5 PK	74.0	-14.5	1.89 V	302	46.7	12.8
8	15930.00	44.9 AV	54.0	-9.1	1.89 V	302	32.1	12.8

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.

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	54.4 PK	74.0	-19.6	2.42 H	125	50.2	4.2
2	#5470.00	44.0 AV	54.0	-10.0	2.42 H	125	39.8	4.2
3	*5510.00	105.6 PK			2.42 H	125	101.4	4.2
4	*5510.00	94.7 AV			2.42 H	125	90.5	4.2
5	11020.00	46.2 PK	74.0	-27.8	1.88 H	292	32.2	14.0
6	11020.00	34.5 AV	54.0	-19.5	1.88 H	292	20.5	14.0
7	#16530.00	54.0 PK	74.0	-20.0	1.90 H	253	39.1	14.9
8	#16530.00	41.1 AV	54.0	-12.9	1.90 H	253	26.2	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	57.6 PK	74.0	-16.4	1.76 V	61	53.4	4.2
2	#5470.00	47.2 AV	54.0	-6.8	1.76 V	61	43.0	4.2
3	*5510.00	112.2 PK			1.76 V	61	108.0	4.2
4	*5510.00	101.3 AV			1.76 V	61	97.1	4.2
5	11020.00	47.4 PK	74.0	-26.6	1.80 V	240	33.4	14.0
6	11020.00	35.5 AV	54.0	-18.5	1.80 V	240	21.5	14.0
7	#16530.00	59.7 PK	74.0	-14.3	1.85 V	287	44.8	14.9
8	#16530.00	45.1 AV	54.0	-8.9	1.85 V	287	30.2	14.9

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	57.5 PK	74.0	-16.5	2.48 H	113	53.3	4.2
2	#5470.00	42.8 AV	54.0	-11.2	2.48 H	113	38.6	4.2
3	*5550.00	105.8 PK			2.48 H	113	101.6	4.2
4	*5550.00	94.9 AV			2.48 H	113	90.7	4.2
5	#5725.00	50.2 PK	74.0	-23.8	2.48 H	113	45.8	4.4
6	#5725.00	37.2 AV	54.0	-16.8	2.48 H	113	32.8	4.4
7	11100.00	45.8 PK	74.0	-28.2	1.87 H	289	32.0	13.8
8	11100.00	34.1 AV	54.0	-19.9	1.87 H	289	20.3	13.8
9	#16650.00	53.3 PK	74.0	-20.7	1.87 H	247	37.7	15.6
10	#16650.00	40.7 AV	54.0	-13.3	1.87 H	247	25.1	15.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	60.9 PK	74.0	-13.1	1.81 V	62	56.7	4.2
2	#5470.00	46.2 AV	54.0	-7.8	1.81 V	62	42.0	4.2
3	*5550.00	112.3 PK			1.81 V	62	108.1	4.2
4	*5550.00	101.3 AV			1.81 V	62	97.1	4.2
5	#5725.00	53.5 PK	74.0	-20.5	1.81 V	62	49.1	4.4
6	#5725.00	40.5 AV	54.0	-13.5	1.81 V	62	36.1	4.4
7	11100.00	47.7 PK	74.0	-26.3	1.84 V	254	33.9	13.8
8	11100.00	35.8 AV	54.0	-18.2	1.84 V	254	22.0	13.8
9	#16650.00	59.3 PK	74.0	-14.7	1.51 V	309	43.7	15.6
10	#16650.00	47.7 AV	54.0	-6.3	1.51 V	309	32.1	15.6

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	107.7 PK			2.49 H	108	103.4	4.3
2	*5670.00	95.8 AV			2.49 H	108	91.5	4.3
3	#5725.00	56.0 PK	74.0	-18.0	2.49 H	108	51.6	4.4
4	#5725.00	41.4 AV	54.0	-12.6	2.49 H	108	37.0	4.4
5	11340.00	45.4 PK	74.0	-28.6	1.84 H	300	31.8	13.6
6	11340.00	33.8 AV	54.0	-20.2	1.84 H	300	20.2	13.6
7	#17010.00	53.1 PK	74.0	-20.9	1.83 H	259	36.0	17.1
8	#17010.00	40.3 AV	54.0	-13.7	1.83 H	259	23.2	17.1
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	*5670.00	114.3 PK			1.77 V	63	110.0	4.3
2	*5670.00	102.4 AV			1.77 V	63	98.1	4.3
3	#5725.00	59.2 PK	74.0	-14.8	1.77 V	63	54.8	4.4
4	#5725.00	44.6 AV	54.0	-9.4	1.77 V	63	40.2	4.4
5	11340.00	46.9 PK	74.0	-27.1	1.84 V	257	33.3	13.6
6	11340.00	35.3 AV	54.0	-18.7	1.84 V	257	21.7	13.6
7	#17010.00	54.1 PK	74.0	-19.9	1.62 V	311	37.0	17.1
8	#17010.00	42.6 AV	54.0	-11.4	1.62 V	311	25.5	17.1

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 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	#5470.00	46.8 PK	74.0	-27.2	2.53 H	116	42.6	4.2
2	#5470.00	34.4 AV	54.0	-19.6	2.53 H	116	30.2	4.2
3	*5710.00	107.1 PK			2.53 H	116	102.6	4.5
4	*5710.00	96.3 AV			2.53 H	116	91.8	4.5
5	#5850.00	50.8 PK	74.0	-23.2	2.53 H	116	46.3	4.5
6	#5850.00	36.7 AV	54.0	-17.3	2.53 H	116	32.2	4.5
7	11420.00	45.6 PK	74.0	-28.4	1.83 H	309	32.0	13.6
8	11420.00	34.1 AV	54.0	-19.9	1.83 H	309	20.5	13.6
9	#17130.00	52.9 PK	74.0	-21.1	1.82 H	274	35.5	17.4
10	#17130.00	40.3 AV	54.0	-13.7	1.82 H	274	22.9	17.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	50.1 PK	74.0	-23.9	1.76 V	62	45.9	4.2
2	#5470.00	37.7 AV	54.0	-16.3	1.76 V	62	33.5	4.2
3	*5710.00	113.7 PK			1.76 V	62	109.2	4.5
4	*5710.00	102.8 AV			1.76 V	62	98.3	4.5
5	#5850.00	54.2 PK	74.0	-19.8	1.76 V	62	49.7	4.5
6	#5850.00	40.1 AV	54.0	-13.9	1.76 V	62	35.6	4.5
7	11420.00	46.8 PK	74.0	-27.2	1.89 V	247	33.2	13.6
8	11420.00	35.2 AV	54.0	-18.8	1.89 V	247	21.6	13.6
9	#17130.00	53.6 PK	74.0	-20.4	1.51 V	303	36.2	17.4
10	#17130.00	42.0 AV	54.0	-12.0	1.51 V	303	24.6	17.4

REMARKS:

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

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	47.4 PK	74.0	-26.6	2.54 H	114	43.7	3.7
2	5150.00	36.6 AV	54.0	-17.4	2.54 H	114	32.9	3.7
3	*5290.00	102.9 PK			2.54 H	114	98.8	4.1
4	*5290.00	93.7 AV			2.54 H	114	89.6	4.1
5	5350.00	62.1 PK	74.0	-11.9	2.54 H	114	58.0	4.1
6	5350.00	50.3 AV	54.0	-3.7	2.54 H	114	46.2	4.1
7	#10580.00	46.1 PK	74.0	-27.9	1.78 H	323	32.7	13.4
8	#10580.00	34.4 AV	54.0	-19.6	1.78 H	323	21.0	13.4
9	15870.00	53.3 PK	74.0	-20.7	1.87 H	283	40.3	13.0
10	15870.00	40.4 AV	54.0	-13.6	1.87 H	283	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	5150.00	50.7 PK	74.0	-23.3	1.81 V	60	47.0	3.7
2	5150.00	39.9 AV	54.0	-14.1	1.81 V	60	36.2	3.7
3	*5290.00	109.5 PK			1.81 V	60	105.4	4.1
4	*5290.00	100.3 AV			1.81 V	60	96.2	4.1
5	5350.00	65.4 PK	74.0	-8.6	1.81 V	60	61.3	4.1
6	5350.00	53.6 AV	54.0	-0.4	1.81 V	60	49.5	4.1
7	#10580.00	46.2 PK	74.0	-27.8	1.87 V	255	32.8	13.4
8	#10580.00	34.8 AV	54.0	-19.2	1.87 V	255	21.4	13.4
9	15870.00	53.8 PK	74.0	-20.2	1.53 V	314	40.8	13.0
10	15870.00	42.4 AV	54.0	-11.6	1.53 V	314	29.4	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 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	64.3 PK	74.0	-9.7	2.55 H	126	60.1	4.2
2	#5470.00	49.9 AV	54.0	-4.1	2.55 H	126	45.7	4.2
3	*5530.00	104.1 PK			2.55 H	126	99.9	4.2
4	*5530.00	94.8 AV			2.55 H	126	90.6	4.2
5	#5725.00	49.4 PK	74.0	-24.6	2.55 H	126	45.0	4.4
6	#5725.00	38.5 AV	54.0	-15.5	2.55 H	126	34.1	4.4
7	11060.00	45.2 PK	74.0	-28.8	1.84 H	306	31.3	13.9
8	11060.00	33.9 AV	54.0	-20.1	1.84 H	306	20.0	13.9
9	#16590.00	52.5 PK	74.0	-21.5	1.78 H	271	36.9	15.6
10	#16590.00	39.9 AV	54.0	-14.1	1.78 H	271	24.3	15.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	67.6 PK	74.0	-6.4	1.69 V	59	63.4	4.2
2	#5470.00	53.2 AV	54.0	-0.8	1.69 V	59	49.0	4.2
3	*5530.00	110.7 PK			1.69 V	59	106.5	4.2
4	*5530.00	101.4 AV			1.69 V	59	97.2	4.2
5	#5725.00	52.7 PK	74.0	-21.3	1.69 V	59	48.3	4.4
6	#5725.00	41.8 AV	54.0	-12.2	1.69 V	59	37.4	4.4
7	11060.00	46.4 PK	74.0	-27.6	1.86 V	261	32.5	13.9
8	11060.00	34.8 AV	54.0	-19.2	1.86 V	261	20.9	13.9
9	#16590.00	53.5 PK	74.0	-20.5	1.57 V	304	37.9	15.6
10	#16590.00	42.1 AV	54.0	-11.9	1.57 V	304	26.5	15.6

REMARKS:

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

CHANNEL	TX Channel 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	104.5 PK			2.60 H	128	100.1	4.4
2	*5610.00	95.2 AV			2.60 H	128	90.8	4.4
3	#5725.00	62.3 PK	74.0	-11.7	2.60 H	128	57.9	4.4
4	#5725.00	48.0 AV	54.0	-6.0	2.60 H	128	43.6	4.4
5	11220.00	45.0 PK	74.0	-29.0	1.86 H	295	31.3	13.7
6	11220.00	33.6 AV	54.0	-20.4	1.86 H	295	19.9	13.7
7	#16830.00	52.7 PK	74.0	-21.3	1.72 H	286	36.8	15.9
8	#16830.00	40.3 AV	54.0	-13.7	1.72 H	286	24.4	15.9
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	*5610.00	111.1 PK			1.75 V	60	106.7	4.4
2	*5610.00	101.8 AV			1.75 V	60	97.4	4.4
3	#5725.00	65.6 PK	74.0	-8.4	1.75 V	60	61.2	4.4
4	#5725.00	51.3 AV	54.0	-2.7	1.75 V	60	46.9	4.4
5	11220.00	46.6 PK	74.0	-27.4	1.87 V	245	32.9	13.7
6	11220.00	35.0 AV	54.0	-19.0	1.87 V	245	21.3	13.7
7	#16830.00	53.1 PK	74.0	-20.9	1.54 V	303	37.2	15.9
8	#16830.00	41.7 AV	54.0	-12.3	1.54 V	303	25.8	15.9

REMARKS:

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

CHANNEL	TX Channel 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	48.4 PK	74.0	-25.6	2.61 H	119	44.2	4.2
2	#5470.00	36.6 AV	54.0	-17.4	2.61 H	119	32.4	4.2
3	*5690.00	106.0 PK			2.61 H	119	101.5	4.5
4	*5690.00	97.3 AV			2.61 H	119	92.8	4.5
5	#5850.00	61.3 PK	74.0	-12.7	2.61 H	119	56.8	4.5
6	#5850.00	46.3 AV	54.0	-7.7	2.61 H	119	41.8	4.5
7	11380.00	44.7 PK	74.0	-29.3	1.82 H	300	31.1	13.6
8	11380.00	33.3 AV	54.0	-20.7	1.82 H	300	19.7	13.6
9	#17070.00	52.4 PK	74.0	-21.6	1.68 H	300	35.1	17.3
10	#17070.00	40.2 AV	54.0	-13.8	1.68 H	300	22.9	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	51.8 PK	74.0	-22.2	1.76 V	63	47.6	4.2
2	#5470.00	40.0 AV	54.0	-14.0	1.76 V	63	35.8	4.2
3	*5690.00	112.6 PK			1.76 V	63	108.1	4.5
4	*5690.00	103.9 AV			1.76 V	63	99.4	4.5
5	#5850.00	64.6 PK	74.0	-9.4	1.76 V	63	60.1	4.5
6	#5850.00	49.7 AV	54.0	-4.3	1.76 V	63	45.2	4.5
7	11380.00	46.8 PK	74.0	-27.2	1.90 V	252	33.2	13.6
8	11380.00	35.5 AV	54.0	-18.5	1.90 V	252	21.9	13.6
9	#17070.00	53.1 PK	74.0	-20.9	1.53 V	293	35.8	17.3
10	#17070.00	41.5 AV	54.0	-12.5	1.53 V	293	24.2	17.3

REMARKS:

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

802.11ac (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	56.5 PK	74.0	-17.5	1.73 H	140	52.8	3.7
2	5150.00	44.4 AV	54.0	-9.6	1.73 H	140	40.7	3.7
3	*5210.00	100.3 PK			1.73 H	140	96.6	3.7
4	*5210.00	89.7 AV			1.73 H	140	86.0	3.7
5	*5290.00	99.3 PK			1.78 H	142	95.2	4.1
6	*5290.00	90.0 AV			1.78 H	142	85.9	4.1
7	5350.00	55.0 PK	74.0	-19.0	1.78 H	142	50.9	4.1
8	5350.00	43.6 AV	54.0	-10.4	1.78 H	142	39.5	4.1
9	#10420.00	44.2 PK	74.0	-29.8	1.77 H	304	31.1	13.1
10	#10420.00	33.2 AV	54.0	-20.8	1.77 H	304	20.1	13.1
11	#10580.00	44.2 PK	74.0	-29.8	1.81 H	301	30.8	13.4
12	#10580.00	33.4 AV	54.0	-20.6	1.81 H	301	20.0	13.4
13	15630.00	43.1 PK	74.0	-30.9	1.79 H	254	29.5	13.6
14	15630.00	32.6 AV	54.0	-21.4	1.79 H	254	19.0	13.6
15	15870.00	43.0 PK	74.0	-31.0	1.80 H	266	30.0	13.0
16	15870.00	32.6 AV	54.0	-21.4	1.80 H	266	19.6	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	65.8 PK	74.0	-8.2	1.79 V	54	62.1	3.7
2	5150.00	53.6 AV	54.0	-0.4	1.79 V	54	49.9	3.7
3	*5210.00	109.3 PK			1.79 V	54	105.6	3.7
4	*5210.00	99.6 AV			1.79 V	54	95.9	3.7
5	*5290.00	108.5 PK			1.77 V	247	104.4	4.1
6	*5290.00	98.3 AV			1.77 V	247	94.2	4.1
7	5350.00	63.3 PK	74.0	-10.7	1.77 V	247	59.2	4.1
8	5350.00	51.5 AV	54.0	-2.5	1.77 V	247	47.4	4.1
9	#10420.00	45.3 PK	74.0	-28.7	1.54 V	302	32.2	13.1
10	#10420.00	33.9 AV	54.0	-20.1	1.54 V	302	20.8	13.1
11	#10580.00	45.2 PK	74.0	-28.8	2.01 V	302	31.8	13.4
12	#10580.00	34.1 AV	54.0	-19.9	2.01 V	302	20.7	13.4
13	15630.00	45.6 PK	74.0	-28.4	1.65 V	278	32.0	13.6
14	15630.00	33.7 AV	54.0	-20.3	1.65 V	278	20.1	13.6
15	15870.00	44.6 PK	74.0	-29.4	1.85 V	198	31.6	13.0
16	15870.00	33.6 AV	54.0	-20.4	1.85 V	198	20.6	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	57.5 PK	74.0	-16.5	1.74 H	134	53.8	3.7
2	5150.00	45.2 AV	54.0	-8.8	1.74 H	134	41.5	3.7
3	*5210.00	100.3 PK			1.74 H	134	96.6	3.7
4	*5210.00	89.7 AV			1.74 H	134	86.0	3.7
5	5350.00	51.4 PK	74.0	-22.6	1.74 H	134	47.3	4.1
6	5350.00	40.2 AV	54.0	-13.8	1.74 H	134	36.1	4.1
7	#5470.00	60.0 PK	74.0	-14.0	1.74 H	145	55.8	4.2
8	#5470.00	45.1 AV	54.0	-8.9	1.74 H	145	40.9	4.2
9	*5530.00	99.0 PK			1.74 H	145	94.8	4.2
10	*5530.00	90.8 AV			1.74 H	145	86.6	4.2
11	#5856.00	53.4 PK	74.0	-20.6	1.74 H	145	48.9	4.5
12	#5856.00	42.2 AV	54.0	-11.8	1.74 H	145	37.7	4.5
13	#10420.00	44.3 PK	74.0	-29.7	1.79 H	309	31.2	13.1
14	#10420.00	33.3 AV	54.0	-20.7	1.79 H	309	20.2	13.1
15	11060.00	44.5 PK	74.0	-29.5	1.85 H	297	30.6	13.9
16	11060.00	33.5 AV	54.0	-20.5	1.85 H	297	19.6	13.9
17	15630.00	43.2 PK	74.0	-30.8	1.85 H	251	29.6	13.6
18	15630.00	32.4 AV	54.0	-21.6	1.85 H	251	18.8	13.6
19	#16590.00	43.0 PK	74.0	-31.0	1.79 H	266	27.4	15.6
20	#16590.00	32.3 AV	54.0	-21.7	1.79 H	266	16.7	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.79 V	54	62.1	3.7
2	5150.00	53.6 AV	54.0	-0.4	1.79 V	54	49.9	3.7
3	*5210.00	109.3 PK			1.79 V	54	105.6	3.7
4	*5210.00	99.6 AV			1.79 V	54	95.9	3.7
5	5350.00	57.9 PK	74.0	-16.1	1.79 V	54	53.8	4.1
6	5350.00	46.7 AV	54.0	-7.3	1.79 V	54	42.6	4.1
7	#5470.00	68.4 PK	74.0	-5.6	2.09 V	264	64.2	4.2
8	#5470.00	53.5 AV	54.0	-0.5	2.09 V	264	49.3	4.2
9	*5530.00	108.6 PK			2.09 V	264	104.4	4.2
10	*5530.00	99.1 AV			2.09 V	264	94.9	4.2
11	#5856.00	61.6 PK	74.0	-12.4	1.96 V	265	57.1	4.5
12	#5856.00	50.4 AV	54.0	-3.6	1.96 V	265	45.9	4.5
13	#10420.00	45.0 PK	74.0	-29.0	1.53 V	312	31.9	13.1
14	#10420.00	33.7 AV	54.0	-20.3	1.53 V	312	20.6	13.1
15	11060.00	44.9 PK	74.0	-29.1	2.06 V	303	31.0	13.9
16	11060.00	33.8 AV	54.0	-20.2	2.06 V	303	19.9	13.9
17	15630.00	45.9 PK	74.0	-28.1	1.65 V	275	32.3	13.6
18	15630.00	34.0 AV	54.0	-20.0	1.65 V	275	20.4	13.6
19	#16590.00	44.1 PK	74.0	-29.9	1.87 V	202	28.5	15.6
20	#16590.00	33.3 AV	54.0	-20.7	1.87 V	202	17.7	15.6

REMARKS:

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

CHANNEL	TX Channel 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	57.5 PK	74.0	-16.5	1.74 H	134	53.8	3.7
2	5150.00	45.2 AV	54.0	-8.8	1.74 H	134	41.5	3.7
3	*5210.00	100.3 PK			1.74 H	134	96.6	3.7
4	*5210.00	89.7 AV			1.74 H	134	86.0	3.7
5	5350.00	51.4 PK	74.0	-22.6	1.74 H	134	47.3	4.1
6	5350.00	40.2 AV	54.0	-13.8	1.74 H	134	36.1	4.1
7	*5610.00	97.3 PK			1.75 H	153	92.9	4.4
8	*5610.00	88.4 AV			1.75 H	153	84.0	4.4
9	#6010.00	50.7 PK	74.0	-23.3	1.75 H	153	45.9	4.8
10	#6010.00	40.2 AV	54.0	-13.8	1.75 H	153	35.4	4.8
11	#10420.00	44.2 PK	74.0	-29.8	1.77 H	304	31.1	13.1
12	#10420.00	33.2 AV	54.0	-20.8	1.77 H	304	20.1	13.1
13	11220.00	43.6 PK	74.0	-30.4	1.74 H	306	29.9	13.7
14	11220.00	32.9 AV	54.0	-21.1	1.74 H	306	19.2	13.7
15	15630.00	43.1 PK	74.0	-30.9	1.79 H	254	29.5	13.6
16	15630.00	32.6 AV	54.0	-21.4	1.79 H	254	19.0	13.6
17	#16830.00	43.0 PK	74.0	-31.0	1.84 H	248	27.1	15.9
18	#16830.00	32.6 AV	54.0	-21.4	1.84 H	248	16.7	15.9

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	5150.00	65.8 PK	74.0	-8.2	1.79 V	54	62.1	3.7
2	5150.00	53.6 AV	54.0	-0.4	1.79 V	54	49.9	3.7
3	*5210.00	109.3 PK			1.79 V	54	105.6	3.7
4	*5210.00	99.6 AV			1.79 V	54	95.9	3.7
5	5350.00	53.5 PK	74.0	-20.5	1.79 V	54	49.4	4.1
6	5350.00	42.4 AV	54.0	-11.6	1.79 V	54	38.3	4.1
7	*5610.00	106.7 PK			1.50 V	237	102.3	4.4
8	*5610.00	96.7 AV			1.50 V	237	92.3	4.4
9	#6010.00	54.1 PK	74.0	-19.9	1.50 V	237	49.3	4.8
10	#6010.00	43.6 AV	54.0	-10.4	1.50 V	237	38.8	4.8
11	#10420.00	45.0 PK	74.0	-29.0	1.53 V	312	31.9	13.1
12	#10420.00	33.7 AV	54.0	-20.3	1.53 V	312	20.6	13.1
13	11220.00	44.9 PK	74.0	-29.1	1.47 V	303	31.2	13.7
14	11220.00	33.6 AV	54.0	-20.4	1.47 V	303	19.9	13.7
15	15630.00	45.9 PK	74.0	-28.1	1.65 V	275	32.3	13.6
16	15630.00	34.0 AV	54.0	-20.0	1.65 V	275	20.4	13.6
17	#16830.00	45.3 PK	74.0	-28.7	1.69 V	284	29.4	15.9
18	#16830.00	33.6 AV	54.0	-20.4	1.69 V	284	17.7	15.9

REMARKS:

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

CHANNEL	TX Channel 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	57.5 PK	74.0	-16.5	1.74 H	134	53.8	3.7
2	5150.00	45.2 AV	54.0	-8.8	1.74 H	134	41.5	3.7
3	*5210.00	100.3 PK			1.74 H	134	96.6	3.7
4	*5210.00	89.7 AV			1.74 H	134	86.0	3.7
5	5350.00	51.4 PK	74.0	-22.6	1.74 H	134	47.3	4.1
6	5350.00	40.2 AV	54.0	-13.8	1.74 H	134	36.1	4.1
7	#5470.00	48.1 PK	74.0	-25.9	1.73 H	151	43.9	4.2
8	#5470.00	36.1 AV	54.0	-17.9	1.73 H	151	31.9	4.2
9	*5690.00	98.8 PK			1.73 H	151	94.3	4.5
10	*5690.00	90.4 AV			1.73 H	151	85.9	4.5
11	#5850.00	50.8 PK	74.0	-23.2	1.73 H	151	46.3	4.5
12	#5850.00	38.2 AV	54.0	-15.8	1.73 H	151	33.7	4.5
13	#10420.00	44.2 PK	74.0	-29.8	1.77 H	304	31.1	13.1
14	#10420.00	33.2 AV	54.0	-20.8	1.77 H	304	20.1	13.1
15	11380.00	42.9 PK	74.0	-31.1	1.74 H	321	29.3	13.6
16	11380.00	32.5 AV	54.0	-21.5	1.74 H	321	18.9	13.6
17	15630.00	43.1 PK	74.0	-30.9	1.79 H	254	29.5	13.6
18	15630.00	32.6 AV	54.0	-21.4	1.79 H	254	19.0	13.6
19	#17070.00	42.7 PK	74.0	-31.3	1.79 H	239	25.4	17.3
20	#17070.00	32.2 AV	54.0	-21.8	1.79 H	239	14.9	17.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.79 V	54	62.1	3.7
2	5150.00	53.6 AV	54.0	-0.4	1.79 V	54	49.9	3.7
3	*5210.00	109.3 PK			1.79 V	54	105.6	3.7
4	*5210.00	99.6 AV			1.79 V	54	95.9	3.7
5	5350.00	53.5 PK	74.0	-20.5	1.79 V	54	49.4	4.1
6	5350.00	42.4 AV	54.0	-11.6	1.79 V	54	38.3	4.1
7	#5470.00	51.5 PK	74.0	-22.5	1.65 V	250	47.3	4.2
8	#5470.00	39.4 AV	54.0	-14.6	1.65 V	250	35.2	4.2
9	*5690.00	108.3 PK			1.65 V	250	103.8	4.5
10	*5690.00	98.7 AV			1.65 V	250	94.2	4.5
11	#5850.00	54.1 PK	74.0	-19.9	1.65 V	250	49.6	4.5
12	#5850.00	41.5 AV	54.0	-12.5	1.65 V	250	37.0	4.5
13	#10420.00	45.0 PK	74.0	-29.0	1.53 V	312	31.9	13.1
14	#10420.00	33.7 AV	54.0	-20.3	1.53 V	312	20.6	13.1
15	11380.00	44.5 PK	74.0	-29.5	1.42 V	302	30.9	13.6
16	11380.00	33.3 AV	54.0	-20.7	1.42 V	302	19.7	13.6
17	15630.00	45.9 PK	74.0	-28.1	1.65 V	275	32.3	13.6
18	15630.00	34.0 AV	54.0	-20.0	1.65 V	275	20.4	13.6
19	#17070.00	45.7 PK	74.0	-28.3	1.67 V	277	28.4	17.3
20	#17070.00	33.7 AV	54.0	-20.3	1.67 V	277	16.4	17.3

REMARKS:

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

CHANNEL	TX Channel 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	5071.00	49.6 PK	74.0	-24.4	1.69 H	134	46.1	3.5
2	5071.00	38.5 AV	54.0	-15.5	1.69 H	134	35.0	3.5
3	*5290.00	99.3 PK			1.69 H	134	95.2	4.1
4	*5290.00	89.3 AV			1.69 H	134	85.2	4.1
5	5358.00	61.7 PK	74.0	-12.3	1.69 H	134	57.6	4.1
6	5358.00	45.7 AV	54.0	-8.3	1.69 H	134	41.6	4.1
7	#5470.00	58.4 PK	74.0	-15.6	1.77 H	134	54.2	4.2
8	#5470.00	44.4 AV	54.0	-9.6	1.77 H	134	40.2	4.2
9	*5530.00	99.3 PK			1.77 H	160	95.1	4.2
10	*5530.00	90.5 AV			1.77 H	160	86.3	4.2
11	#5725.00	54.3 PK	74.0	-19.7	1.77 H	160	49.9	4.4
12	#5725.00	43.1 AV	54.0	-10.9	1.77 H	160	38.7	4.4
13	#10580.00	43.7 PK	74.0	-30.3	1.77 H	306	30.3	13.4
14	#10580.00	32.8 AV	54.0	-21.2	1.77 H	306	19.4	13.4
15	11060.00	43.9 PK	74.0	-30.1	1.73 H	313	30.0	13.9
16	11060.00	33.2 AV	54.0	-20.8	1.73 H	313	19.3	13.9
17	15870.00	43.6 PK	74.0	-30.4	1.75 H	270	30.6	13.0
18	15870.00	32.8 AV	54.0	-21.2	1.75 H	270	19.8	13.0
19	#16590.00	42.9 PK	74.0	-31.1	1.86 H	237	27.3	15.6
20	#16590.00	32.4 AV	54.0	-21.6	1.86 H	237	16.8	15.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5071.00	53.0 PK	74.0	-21.0	1.61 V	51	49.5	3.5
2	5071.00	41.9 AV	54.0	-12.1	1.61 V	51	38.4	3.5
3	*5290.00	108.3 PK			1.61 V	51	104.2	4.1
4	*5290.00	99.2 AV			1.61 V	51	95.1	4.1
5	5358.00	66.1 PK	74.0	-7.9	1.61 V	51	62.0	4.1
6	**5358.00**	**53.9 AV**	**54.0**	**-0.1**	**1.61 V**	**51**	**49.8**	**4.1**
7	#5470.00	66.0 PK	74.0	-8.0	1.83 V	248	61.8	4.2
8	#5470.00	52.6 AV	54.0	-1.4	1.83 V	248	48.4	4.2
9	*5530.00	108.7 PK			1.83 V	248	104.5	4.2
10	*5530.00	98.7 AV			1.83 V	248	94.5	4.2
11	#5725.00	57.7 PK	74.0	-16.3	1.83 V	248	53.3	4.4
12	#5725.00	46.5 AV	54.0	-7.5	1.83 V	248	42.1	4.4
13	#10580.00	44.9 PK	74.0	-29.1	1.51 V	307	31.5	13.4
14	#10580.00	33.7 AV	54.0	-20.3	1.51 V	307	20.3	13.4
15	11060.00	44.8 PK	74.0	-29.2	1.42 V	294	30.9	13.9
16	11060.00	33.6 AV	54.0	-20.4	1.42 V	294	19.7	13.9
17	15870.00	46.1 PK	74.0	-27.9	1.66 V	271	33.1	13.0
18	15870.00	34.0 AV	54.0	-20.0	1.66 V	271	21.0	13.0
19	#16590.00	46.2 PK	74.0	-27.8	1.70 V	274	30.6	15.6
20	#16590.00	34.0 AV	54.0	-20.0	1.70 V	274	18.4	15.6

REMARKS:

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

CHANNEL	TX Channel 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	5071.00	49.6 PK	74.0	-24.4	1.69 H	134	46.1	3.5
2	5071.00	38.5 AV	54.0	-15.5	1.69 H	134	35.0	3.5
3	*5290.00	99.3 PK			1.69 H	134	95.2	4.1
4	*5290.00	89.3 AV			1.69 H	134	85.2	4.1
5	5358.00	61.7 PK	74.0	-12.3	1.69 H	134	57.6	4.1
6	5358.00	45.7 AV	54.0	-8.3	1.69 H	134	41.6	4.1
7	*5610.00	96.6 PK			1.79 H	156	92.2	4.4
8	*5610.00	88.5 AV			1.79 H	156	84.1	4.4
9	#5925.60	52.8 PK	74.0	-21.2	1.79 H	156	48.1	4.7
10	#5925.60	41.5 AV	54.0	-12.5	1.79 H	156	36.8	4.7
11	#10580.00	43.7 PK	74.0	-30.3	1.77 H	306	30.3	13.4
12	#10580.00	32.8 AV	54.0	-21.2	1.77 H	306	19.4	13.4
13	11220.00	44.1 PK	74.0	-29.9	1.79 H	312	30.4	13.7
14	11220.00	33.2 AV	54.0	-20.8	1.79 H	312	19.5	13.7
15	15870.00	43.6 PK	74.0	-30.4	1.75 H	270	30.6	13.0
16	15870.00	32.8 AV	54.0	-21.2	1.75 H	270	19.8	13.0
17	#16830.00	42.7 PK	74.0	-31.3	1.87 H	247	26.8	15.9
18	#16830.00	32.2 AV	54.0	-21.8	1.87 H	247	16.3	15.9

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	5071.00	53.0 PK	74.0	-21.0	1.61 V	51	49.5	3.5
2	5071.00	41.9 AV	54.0	-12.1	1.61 V	51	38.4	3.5
3	*5290.00	108.3 PK			1.61 V	51	104.2	4.1
4	*5290.00	99.2 AV			1.61 V	51	95.1	4.1
5	5358.00	66.1 PK	74.0	-7.9	1.61 V	51	62.0	4.1
6	**5358.00**	**53.9 AV**	**54.0**	**-0.1**	**1.61 V**	**51**	**49.8**	**4.1**
7	*5610.00	106.1 PK			1.50 V	160	101.7	4.4
8	*5610.00	96.8 AV			1.50 V	160	92.4	4.4
9	#5925.60	56.2 PK	74.0	-17.8	1.50 V	160	51.5	4.7
10	#5925.60	44.9 AV	54.0	-9.1	1.50 V	160	40.2	4.7
11	#10580.00	44.9 PK	74.0	-29.1	1.51 V	307	31.5	13.4
12	#10580.00	33.7 AV	54.0	-20.3	1.51 V	307	20.3	13.4
13	11220.00	45.0 PK	74.0	-29.0	1.40 V	301	31.3	13.7
14	11220.00	34.0 AV	54.0	-20.0	1.40 V	301	20.3	13.7
15	15870.00	46.1 PK	74.0	-27.9	1.66 V	271	33.1	13.0
16	15870.00	34.0 AV	54.0	-20.0	1.66 V	271	21.0	13.0
17	#16830.00	46.1 PK	74.0	-27.9	1.75 V	288	30.2	15.9
18	#16830.00	34.2 AV	54.0	-19.8	1.75 V	288	18.3	15.9

REMARKS:

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

CHANNEL	TX Channel 58+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	4894.00	49.7 PK	74.0	-24.3	1.71 H	141	46.5	3.2
2	4894.00	38.4 AV	54.0	-15.6	1.71 H	141	35.2	3.2
3	*5290.00	99.9 PK			1.68 H	132	95.8	4.1
4	*5290.00	89.6 AV			1.68 H	132	85.5	4.1
5	5358.00	61.8 PK	74.0	-12.2	1.65 H	123	57.7	4.1
6	5358.00	46.0 AV	54.0	-8.0	1.65 H	123	41.9	4.1
7	#5470.00	47.9 PK	74.0	-26.1	1.74 H	153	43.7	4.2
8	#5470.00	36.8 AV	54.0	-17.2	1.74 H	153	32.6	4.2
9	*5690.00	97.4 PK			1.74 H	153	92.9	4.5
10	*5690.00	89.5 AV			1.74 H	153	85.0	4.5
11	#5850.00	53.9 PK	74.0	-20.1	1.74 H	153	49.4	4.5
12	#5850.00	42.1 AV	54.0	-11.9	1.74 H	153	37.6	4.5
13	#10580.00	44.3 PK	74.0	-29.7	1.78 H	293	30.9	13.4
14	#10580.00	33.2 AV	54.0	-20.8	1.78 H	293	19.8	13.4
15	11380.00	44.3 PK	74.0	-29.7	1.81 H	315	30.7	13.6
16	11380.00	33.6 AV	54.0	-20.4	1.81 H	315	20.0	13.6
17	15870.00	44.3 PK	74.0	-29.7	1.72 H	263	31.3	13.0
18	15870.00	33.3 AV	54.0	-20.7	1.72 H	263	20.3	13.0
19	#17070.00	42.7 PK	74.0	-31.3	1.88 H	248	25.4	17.3
20	#17070.00	32.4 AV	54.0	-21.6	1.88 H	248	15.1	17.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4894.00	54.6 PK	74.0	-19.4	1.61 V	51	51.4	3.2
2	4894.00	42.9 AV	54.0	-11.1	1.61 V	51	39.7	3.2
3	*5290.00	108.3 PK			1.61 V	51	104.2	4.1
4	*5290.00	99.2 AV			1.61 V	51	95.1	4.1
5	5358.00	64.4 PK	74.0	-9.6	1.61 V	51	60.3	4.1
6	**5358.00**	**53.9 AV**	**54.0**	**-0.1**	**1.61 V**	**51**	**49.8**	**4.1**
7	#5470.00	51.3 PK	74.0	-22.7	1.50 V	250	47.1	4.2
8	#5470.00	40.2 AV	54.0	-13.8	1.50 V	250	36.0	4.2
9	*5690.00	107.0 PK			1.50 V	250	102.5	4.5
10	*5690.00	97.8 AV			1.50 V	250	93.3	4.5
11	#5850.00	57.3 PK	74.0	-16.7	1.50 V	250	52.8	4.5
12	#5850.00	45.5 AV	54.0	-8.5	1.50 V	250	41.0	4.5
13	#10580.00	44.9 PK	74.0	-29.1	1.56 V	297	31.5	13.4
14	#10580.00	33.8 AV	54.0	-20.2	1.56 V	297	20.4	13.4
15	11380.00	45.1 PK	74.0	-28.9	1.40 V	301	31.5	13.6
16	11380.00	34.1 AV	54.0	-19.9	1.40 V	301	20.5	13.6
17	15870.00	46.1 PK	74.0	-27.9	1.62 V	282	33.1	13.0
18	15870.00	33.9 AV	54.0	-20.1	1.62 V	282	20.9	13.0
19	#17070.00	46.0 PK	74.0	-28.0	1.75 V	282	28.7	17.3
20	#17070.00	34.3 AV	54.0	-19.7	1.75 V	282	17.0	17.3

REMARKS:

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

CHANNEL	TX Channel 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	4894.00	49.7 PK	74.0	-24.3	1.70 H	142	46.5	3.2
2	4894.00	38.6 AV	54.0	-15.4	1.70 H	142	35.4	3.2
3	*5290.00	100.1 PK			1.68 H	119	96.0	4.1
4	*5290.00	89.8 AV			1.68 H	119	85.7	4.1
5	5358.00	61.6 PK	74.0	-12.4	1.60 H	127	57.5	4.1
6	5358.00	46.0 AV	54.0	-8.0	1.60 H	127	41.9	4.1
7	#5604.48	60.1 PK	68.2	-8.1	1.56 H	253	55.7	4.4
8	*5775.00	98.5 PK			1.56 H	253	94.1	4.4
9	*5775.00	88.6 AV			1.56 H	253	84.2	4.4
10	#5982.17	59.7 PK	68.2	-8.5	1.56 H	253	55.0	4.7
11	#10580.00	44.3 PK	74.0	-29.7	1.73 H	299	30.9	13.4
12	#10580.00	32.9 AV	54.0	-21.1	1.73 H	299	19.5	13.4
13	11550.00	44.7 PK	74.0	-29.3	1.86 H	299	31.2	13.5
14	11550.00	33.7 AV	54.0	-20.3	1.86 H	299	20.2	13.5
15	15870.00	44.3 PK	74.0	-29.7	1.68 H	264	31.3	13.0
16	15870.00	33.3 AV	54.0	-20.7	1.68 H	264	20.3	13.0
17	#17325.00	42.9 PK	74.0	-31.1	1.89 H	256	25.1	17.8
18	#17325.00	32.4 AV	54.0	-21.6	1.89 H	256	14.6	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	4894.00	54.6 PK	74.0	-19.4	1.61 V	51	51.4	3.2
2	4894.00	42.9 AV	54.0	-11.1	1.61 V	51	39.7	3.2
3	*5290.00	108.3 PK			1.61 V	51	104.2	4.1
4	*5290.00	99.2 AV			1.61 V	51	95.1	4.1
5	5358.00	64.4 PK	74.0	-9.6	1.61 V	51	60.3	4.1
6	**5358.00**	**53.9 AV**	**54.0**	**-0.1**	**1.61 V**	**51**	**49.8**	**4.1**
7	#5586.94	61.4 PK	68.2	-6.8	1.50 V	249	57.2	4.2
8	*5775.00	107.2 PK			1.50 V	249	102.8	4.4
9	*5775.00	97.2 AV			1.50 V	249	92.8	4.4
10	#5937.81	58.8 PK	68.2	-9.4	1.50 V	249	54.1	4.7
11	#10580.00	44.9 PK	74.0	-29.1	1.56 V	297	31.5	13.4
12	#10580.00	33.8 AV	54.0	-20.2	1.56 V	297	20.4	13.4
13	11550.00	44.8 PK	74.0	-29.2	1.44 V	286	31.3	13.5
14	11550.00	34.0 AV	54.0	-20.0	1.44 V	286	20.5	13.5
15	15870.00	46.1 PK	74.0	-27.9	1.62 V	282	33.1	13.0
16	15870.00	33.9 AV	54.0	-20.1	1.62 V	282	20.9	13.0
17	#17325.00	46.5 PK	74.0	-27.5	1.77 V	282	28.7	17.8
18	#17325.00	34.7 AV	54.0	-19.3	1.77 V	282	16.9	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 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	5456.00	62.0 PK	74.0	-12.0	1.62 H	132	57.8	4.2
2	5456.00	47.0 AV	54.0	-7.0	1.62 H	132	42.8	4.2
3	*5530.00	99.1 PK			1.62 H	132	94.9	4.2
4	*5530.00	88.5 AV			1.62 H	132	84.3	4.2
5	*5610.00	96.2 PK			1.61 H	265	91.8	4.4
6	*5610.00	87.8 AV			1.61 H	265	83.4	4.4
7	#5725.00	51.9 PK	74.0	-22.1	1.62 H	132	47.5	4.4
8	#5725.00	50.1 PK	74.0	-23.9	1.61 H	265	45.7	4.4
9	#5725.00	39.7 AV	54.0	-14.3	1.62 H	132	35.3	4.4
10	#5725.00	38.9 AV	54.0	-15.1	1.61 H	265	34.5	4.4
11	11060.00	44.1 PK	74.0	-29.9	1.73 H	293	30.2	13.9
12	11060.00	32.5 AV	54.0	-21.5	1.73 H	293	18.6	13.9
13	11220.00	45.0 PK	74.0	-29.0	1.89 H	300	31.3	13.7
14	11220.00	33.9 AV	54.0	-20.1	1.89 H	300	20.2	13.7
15	#16590.00	43.7 PK	74.0	-30.3	1.73 H	277	28.1	15.6
16	#16590.00	32.9 AV	54.0	-21.1	1.73 H	277	17.3	15.6
17	#16830.00	42.3 PK	74.0	-31.7	1.92 H	259	26.4	15.9
18	#16830.00	32.1 AV	54.0	-21.9	1.92 H	259	16.2	15.9

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	5456.00	67.5 PK	74.0	-6.5	1.50 V	63	63.3	4.2
2	5456.00	52.6 AV	54.0	-1.4	1.50 V	63	48.4	4.2
3	*5530.00	108.1 PK			1.50 V	63	103.9	4.2
4	*5530.00	98.4 AV			1.50 V	63	94.2	4.2
5	*5610.00	105.8 PK			1.50 V	244	101.4	4.4
6	*5610.00	96.1 AV			1.50 V	244	91.7	4.4
7	#5725.00	55.2 PK	74.0	-18.8	1.50 V	63	50.8	4.4
8	#5725.00	53.5 PK	74.0	-20.5	1.50 V	244	49.1	4.4
9	#5725.00	43.1 AV	54.0	-10.9	1.50 V	63	38.7	4.4
10	#5725.00	42.3 AV	54.0	-11.7	1.50 V	244	37.9	4.4
11	11060.00	44.7 PK	74.0	-29.3	1.55 V	295	30.8	13.9
12	11060.00	33.7 AV	54.0	-20.3	1.55 V	295	19.8	13.9
13	11220.00	44.3 PK	74.0	-29.7	1.41 V	298	30.6	13.7
14	11220.00	33.6 AV	54.0	-20.4	1.41 V	298	19.9	13.7
15	#16590.00	46.2 PK	74.0	-27.8	1.57 V	282	30.6	15.6
16	#16590.00	34.0 AV	54.0	-20.0	1.57 V	282	18.4	15.6
17	#16830.00	46.8 PK	74.0	-27.2	1.82 V	296	30.9	15.9
18	#16830.00	34.9 AV	54.0	-19.1	1.82 V	296	19.0	15.9

REMARKS:

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

CHANNEL	TX Channel 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	5456.00	62.0 PK	74.0	-12.0	1.62 H	132	57.8	4.2
2	5456.00	47.0 AV	54.0	-7.0	1.62 H	132	42.8	4.2
3	*5530.00	99.1 PK			1.62 H	132	94.9	4.2
4	*5530.00	88.5 AV			1.62 H	132	84.3	4.2
5	*5690.00	97.0 PK			1.65 H	276	92.5	4.5
6	*5690.00	89.4 AV			1.65 H	276	84.9	4.5
7	#5850.00	52.9 PK	74.0	-21.1	1.65 H	276	48.4	4.5
8	#5850.00	42.9 AV	54.0	-11.1	1.65 H	276	38.4	4.5
9	11060.00	44.1 PK	74.0	-29.9	1.73 H	293	30.2	13.9
10	11060.00	32.5 AV	54.0	-21.5	1.73 H	293	18.6	13.9
11	11380.00	44.8 PK	74.0	-29.2	1.85 H	311	31.2	13.6
12	11380.00	33.4 AV	54.0	-20.6	1.85 H	311	19.8	13.6
13	#16590.00	43.7 PK	74.0	-30.3	1.73 H	277	28.1	15.6
14	#16590.00	32.9 AV	54.0	-21.1	1.73 H	277	17.3	15.6
15	#17070.00	42.3 PK	74.0	-31.7	1.89 H	246	25.0	17.3
16	#17070.00	32.1 AV	54.0	-21.9	1.89 H	246	14.8	17.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5456.00	55.2 PK	74.0	-18.8	1.50 V	63	51.0	4.2
2	5456.00	43.1 AV	54.0	-10.9	1.50 V	63	38.9	4.2
3	*5530.00	108.1 PK			1.50 V	63	103.9	4.2
4	*5530.00	98.4 AV			1.50 V	63	94.2	4.2
5	*5690.00	106.6 PK			1.57 V	237	102.1	4.5
6	*5690.00	97.7 AV			1.57 V	237	93.2	4.5
7	#5850.00	56.3 PK	74.0	-17.7	1.57 V	237	51.8	4.5
8	#5850.00	46.3 AV	54.0	-7.7	1.57 V	237	41.8	4.5
9	11060.00	44.8 PK	74.0	-29.2	1.57 V	294	30.9	13.9
10	11060.00	34.1 AV	54.0	-19.9	1.57 V	294	20.2	13.9
11	11380.00	44.7 PK	74.0	-29.3	1.42 V	290	31.1	13.6
12	11380.00	34.1 AV	54.0	-19.9	1.42 V	290	20.5	13.6
13	#16590.00	67.5 PK	74.0	-6.5	1.54 V	281	51.9	15.6
14	#16590.00	52.6 AV	54.0	-1.4	1.54 V	281	37.0	15.6
15	#17070.00	46.7 PK	74.0	-27.3	1.87 V	285	29.4	17.3
16	#17070.00	34.9 AV	54.0	-19.1	1.87 V	285	17.6	17.3

REMARKS:

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

CHANNEL	TX Channel 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	5456.00	63.0 PK	74.0	-11.0	1.62 H	132	58.8	4.2
2	5456.00	48.0 AV	54.0	-6.0	1.62 H	132	43.8	4.2
3	*5530.00	100.1 PK			1.62 H	132	95.9	4.2
4	*5530.00	89.5 AV			1.62 H	132	85.3	4.2
5	*5775.00	100.1 PK			1.58 H	254	95.7	4.4
6	*5775.00	90.8 AV			1.58 H	254	86.4	4.4
7	#5940.59	60.1 PK	68.2	-8.1	1.58 H	254	55.4	4.7
8	11060.00	43.8 PK	74.0	-30.2	1.72 H	278	29.9	13.9
9	11060.00	32.3 AV	54.0	-21.7	1.72 H	278	18.4	13.9
10	11550.00	44.2 PK	74.0	-29.8	1.79 H	306	30.7	13.5
11	11550.00	32.9 AV	54.0	-21.1	1.79 H	306	19.4	13.5
12	#16590.00	43.7 PK	74.0	-30.3	1.77 H	283	28.1	15.6
13	#16590.00	32.7 AV	54.0	-21.3	1.77 H	283	17.1	15.6
14	#17325.00	42.4 PK	74.0	-31.6	1.84 H	252	24.6	17.8
15	#17325.00	32.1 AV	54.0	-21.9	1.84 H	252	14.3	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	5456.00	68.5 PK	74.0	-5.5	1.50 V	63	64.3	4.2
2	5456.00	53.6 AV	54.0	-0.4	1.50 V	63	49.4	4.2
3	*5530.00	109.1 PK			1.50 V	63	104.9	4.2
4	*5530.00	99.4 AV			1.50 V	63	95.2	4.2
5	*5775.00	108.5 PK			1.57 V	152	104.1	4.4
6	*5775.00	97.9 AV			1.57 V	152	93.5	4.4
7	#5951.51	61.0 PK	68.2	-7.2	1.57 V	152	56.3	4.7
8	11060.00	44.4 PK	74.0	-29.6	1.62 V	309	30.5	13.9
9	11060.00	33.6 AV	54.0	-20.4	1.62 V	309	19.7	13.9
10	11550.00	44.3 PK	74.0	-29.7	1.44 V	300	30.8	13.5
11	11550.00	33.6 AV	54.0	-20.4	1.44 V	300	20.1	13.5
12	#16590.00	66.7 PK	74.0	-7.3	1.51 V	293	51.1	15.6
13	#16590.00	52.1 AV	54.0	-1.9	1.51 V	293	36.5	15.6
14	#17325.00	46.3 PK	74.0	-27.7	1.84 V	300	28.5	17.8
15	#17325.00	34.5 AV	54.0	-19.5	1.84 V	300	16.7	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+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	5460.00	56.5 PK	74.0	-17.5	1.63 H	134	52.3	4.2
2	5460.00	45.2 AV	54.0	-8.8	1.63 H	134	41.0	4.2
3	*5610.00	98.9 PK			1.63 H	134	94.5	4.4
4	*5610.00	87.7 AV			1.63 H	134	83.3	4.4
5	*5690.00	97.3 PK			1.54 H	239	92.8	4.5
6	*5690.00	88.0 AV			1.54 H	239	83.5	4.5
7	#5850.00	55.4 PK	74.0	-18.6	1.54 H	239	50.9	4.5
8	#5850.00	43.8 AV	54.0	-10.2	1.54 H	239	39.3	4.5
9	11220.00	43.9 PK	74.0	-30.1	1.73 H	273	30.2	13.7
10	11220.00	32.2 AV	54.0	-21.8	1.73 H	273	18.5	13.7
11	11380.00	44.3 PK	74.0	-29.7	1.76 H	294	30.7	13.6
12	11380.00	33.2 AV	54.0	-20.8	1.76 H	294	19.6	13.6
13	#16830.00	43.8 PK	74.0	-30.2	1.71 H	299	27.9	15.9
14	#16830.00	32.8 AV	54.0	-21.2	1.71 H	299	16.9	15.9
15	#17070.00	41.8 PK	74.0	-32.2	1.81 H	242	24.5	17.3
16	#17070.00	31.8 AV	54.0	-22.2	1.81 H	242	14.5	17.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.0 PK	74.0	-13.0	1.50 V	65	56.8	4.2
2	5460.00	49.7 AV	54.0	-4.3	1.50 V	65	45.5	4.2
3	*5610.00	107.9 PK			1.50 V	65	103.5	4.4
4	*5610.00	97.6 AV			1.50 V	65	93.2	4.4
5	*5690.00	106.7 PK			1.71 V	248	102.2	4.5
6	*5690.00	96.3 AV			1.71 V	248	91.8	4.5
7	#5850.00	58.8 PK	74.0	-15.2	1.71 V	248	54.3	4.5
8	#5850.00	47.2 AV	54.0	-6.8	1.71 V	248	42.7	4.5
9	11220.00	44.5 PK	74.0	-29.5	1.66 V	317	30.8	13.7
10	11220.00	33.6 AV	54.0	-20.4	1.66 V	317	19.9	13.7
11	11380.00	44.4 PK	74.0	-29.6	1.41 V	291	30.8	13.6
12	11380.00	33.6 AV	54.0	-20.4	1.41 V	291	20.0	13.6
13	#16830.00	66.6 PK	74.0	-7.4	1.54 V	300	50.7	15.9
14	#16830.00	52.3 AV	54.0	-1.7	1.54 V	300	36.4	15.9
15	#17070.00	46.5 PK	74.0	-27.5	1.82 V	289	29.2	17.3
16	#17070.00	34.7 AV	54.0	-19.3	1.82 V	289	17.4	17.3

REMARKS:

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

CHANNEL	TX Channel 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	5460.00	59.5 PK	74.0	-14.5	1.00 H	0	55.3	4.2
2	5460.00	48.0 AV	54.0	-6.0	1.00 H	0	43.8	4.2
3	*5610.00	101.9 PK			1.69 H	121	97.5	4.4
4	*5610.00	90.7 AV			1.69 H	121	86.3	4.4
5	*5775.00	100.0 PK			1.50 H	306	95.6	4.4
6	*5775.00	89.7 AV			1.50 H	306	85.3	4.4
7	#5996.40	59.9 PK	68.2	-8.3	1.50 H	306	55.2	4.7
8	11220.00	43.7 PK	74.0	-30.3	1.75 H	259	30.0	13.7
9	11220.00	32.3 AV	54.0	-21.7	1.75 H	259	18.6	13.7
10	11550.00	44.9 PK	74.0	-29.1	1.79 H	289	31.4	13.5
11	11550.00	33.5 AV	54.0	-20.5	1.79 H	289	20.0	13.5
12	#16830.00	43.7 PK	74.0	-30.3	1.68 H	307	27.8	15.9
13	#16830.00	32.9 AV	54.0	-21.1	1.68 H	307	17.0	15.9
14	#17325.00	42.1 PK	74.0	-31.9	1.82 H	232	24.3	17.8
15	#17325.00	31.9 AV	54.0	-22.1	1.82 H	232	14.1	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	5460.00	63.9 PK	74.0	-10.1	1.50 V	65	59.7	4.2
2	5460.00	52.5 AV	54.0	-1.5	1.50 V	65	48.3	4.2
3	*5610.00	110.9 PK			1.50 V	65	106.5	4.4
4	*5610.00	100.6 AV			1.50 V	65	96.2	4.4
5	*5775.00	107.6 PK			1.73 V	238	103.2	4.4
6	*5775.00	98.4 AV			1.73 V	238	94.0	4.4
7	#5940.77	63.8 PK	68.2	-4.4	1.73 V	238	59.1	4.7
8	11220.00	44.6 PK	74.0	-29.4	1.67 V	307	30.9	13.7
9	11220.00	33.6 AV	54.0	-20.4	1.67 V	307	19.9	13.7
10	11550.00	44.7 PK	74.0	-29.3	1.38 V	296	31.2	13.5
11	11550.00	33.7 AV	54.0	-20.3	1.38 V	296	20.2	13.5
12	#16830.00	67.1 PK	74.0	-6.9	1.53 V	292	51.2	15.9
13	#16830.00	52.7 AV	54.0	-1.3	1.53 V	292	36.8	15.9
14	#17325.00	46.6 PK	74.0	-27.4	1.76 V	288	28.8	17.8
15	#17325.00	34.5 AV	54.0	-19.5	1.76 V	288	16.7	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 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	#5470.00	51.5 PK	74.0	-22.5	1.72 H	117	47.3	4.2
2	#5470.00	39.0 AV	54.0	-15.0	1.72 H	117	34.8	4.2
3	*5690.00	103.2 PK			1.72 H	117	98.7	4.5
4	*5690.00	92.0 AV			1.72 H	117	87.5	4.5
5	*5775.00	101.0 PK			1.50 H	252	96.6	4.4
6	*5775.00	91.1 AV			1.50 H	252	86.7	4.4
7	#5954.00	60.2 PK	68.2	-8.0	1.50 H	252	55.5	4.7
8	11380.00	44.1 PK	74.0	-29.9	1.73 H	250	30.5	13.6
9	11380.00	32.5 AV	54.0	-21.5	1.73 H	250	18.9	13.6
10	11550.00	44.7 PK	74.0	-29.3	1.75 H	281	31.2	13.5
11	11550.00	33.1 AV	54.0	-20.9	1.75 H	281	19.6	13.5
12	#17070.00	43.7 PK	74.0	-30.3	1.73 H	308	26.4	17.3
13	#17070.00	32.9 AV	54.0	-21.1	1.73 H	308	15.6	17.3
14	#17325.00	41.7 PK	74.0	-32.3	1.80 H	239	23.9	17.8
15	#17325.00	31.8 AV	54.0	-22.2	1.80 H	239	14.0	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	#5470.00	55.6 PK	74.0	-18.4	1.50 V	57	51.4	4.2
2	#5470.00	43.1 AV	54.0	-10.9	1.50 V	57	38.9	4.2
3	*5690.00	112.2 PK			1.50 V	57	107.7	4.5
4	*5690.00	102.1 AV			1.50 V	57	97.6	4.5
5	*5775.00	110.6 PK			1.91 V	270	106.2	4.4
6	*5775.00	101.1 AV			1.91 V	270	96.7	4.4
7	#5936.76	64.8 PK	68.2	-3.4	1.91 V	270	60.1	4.7
8	11380.00	44.4 PK	74.0	-29.6	1.61 V	293	30.8	13.6
9	11380.00	33.7 AV	54.0	-20.3	1.61 V	293	20.1	13.6
10	11550.00	44.4 PK	74.0	-29.6	1.35 V	309	30.9	13.5
11	11550.00	33.4 AV	54.0	-20.6	1.35 V	309	19.9	13.5
12	#17070.00	67.4 PK	74.0	-6.6	1.49 V	305	50.1	17.3
13	#17070.00	52.9 AV	54.0	-1.1	1.49 V	305	35.6	17.3
14	#17325.00	46.7 PK	74.0	-27.3	1.73 V	274	28.9	17.8
15	#17325.00	34.9 AV	54.0	-19.1	1.73 V	274	17.1	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.

Below 1GHz Data:

802.11ac (VHT80)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	35.55	35.0 QP	40.0	-5.0	3.00 H	49	44.1	-9.1
2	148.85	34.1 QP	43.5	-9.4	2.00 H	275	42.3	-8.2
3	249.97	33.8 QP	46.0	-12.2	1.00 H	67	43.4	-9.6
4	449.28	33.5 QP	46.0	-12.5	2.00 H	22	37.2	-3.7
5	510.71	36.6 QP	46.0	-9.4	2.00 H	360	39.3	-2.7
6	577.47	34.3 QP	46.0	-11.7	2.00 H	360	35.8	-1.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	37.95	37.0 QP	40.0	-3.0	1.00 V	31	45.7	-8.7
2	105.71	33.0 QP	43.5	-10.5	1.00 V	2	44.6	-11.6
3	148.56	33.5 QP	43.5	-10.0	2.00 V	360	41.7	-8.2
4	213.40	32.3 QP	43.5	-11.2	1.00 V	360	43.7	-11.4
5	399.96	36.1 QP	46.0	-9.9	2.00 V	248	41.4	-5.3
6	494.34	37.2 QP	46.0	-8.8	3.00 V	67	40.3	-3.1

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 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: June 01, 2017

4.2.3 Test Procedure

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

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

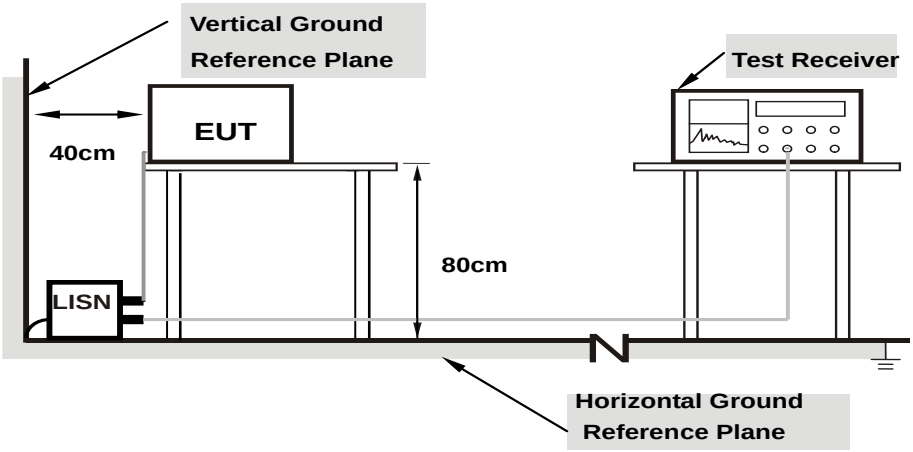
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Condition

Same as 4.1.6.

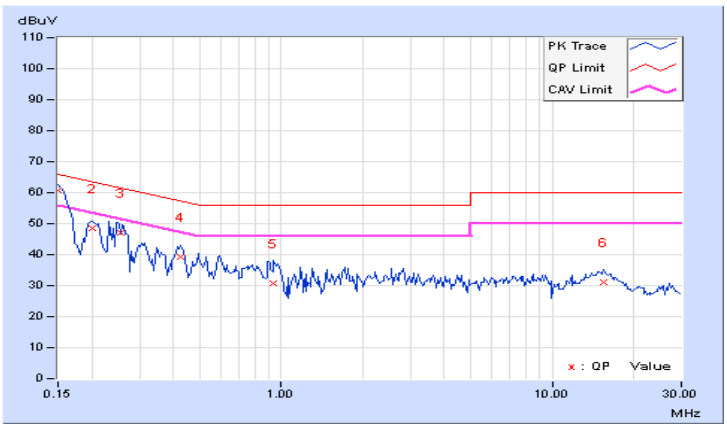
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15000**	**10.19**	**50.45**	**40.16**	**60.64**	**50.35**	**66.00**	**56.00**	**-5.36**	**-5.65**
2	0.20078	10.19	38.19	27.54	48.38	37.73	63.58	53.58	-15.20	-15.85
3	0.25453	10.20	36.74	27.94	46.94	38.14	61.61	51.61	-14.67	-13.47
4	0.42734	10.22	29.11	19.40	39.33	29.62	57.30	47.30	-17.97	-17.68
5	0.93906	10.26	20.47	13.20	30.73	23.46	56.00	46.00	-25.27	-22.54
6	15.53906	11.09	19.96	14.32	31.05	25.41	60.00	50.00	-28.95	-24.59

REMARKS:

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

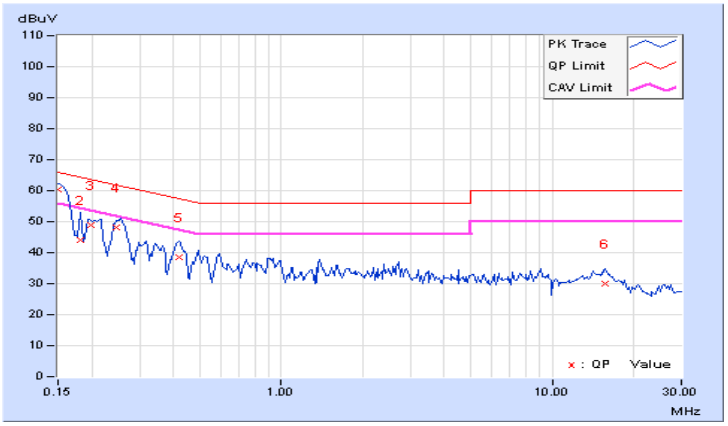


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.18	50.18	39.59	60.36	49.77	66.00	56.00	-5.64	-6.23
2	0.18125	10.17	33.98	11.80	44.15	21.97	64.43	54.43	-20.28	-32.46
3	0.19853	10.16	38.57	27.85	48.73	38.01	63.67	53.67	-14.94	-15.66
4	0.24709	10.17	38.00	26.76	48.17	36.93	61.85	51.85	-13.68	-14.92
5	0.41953	10.21	28.41	22.28	38.62	32.49	57.46	47.46	-18.84	-14.97
6	15.69141	10.91	19.23	13.52	30.14	24.43	60.00	50.00	-29.86	-25.57

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,

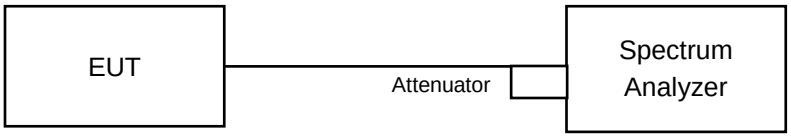
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

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

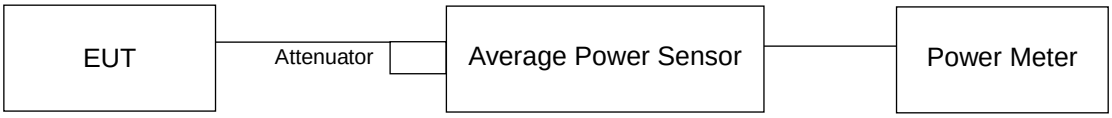
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

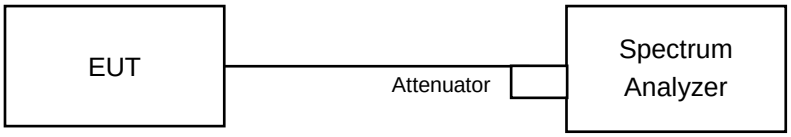
For channel straddling 5725MHz:



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	12.16	12.61	12.93	12.52	72.182	18.58	23.84	Pass
60	5300	12.19	12.53	12.81	12.45	71.142	18.52	23.80	Pass
64	5320	12.10	12.42	12.62	12.35	69.136	18.40	23.78	Pass
100	5500	12.13	12.59	13.10	12.51	72.727	18.62	23.81	Pass
116	5580	12.36	12.11	13.26	12.30	71.64	18.55	23.85	Pass
140	5700	12.20	12.97	13.22	12.69	75.978	18.81	23.84	Pass
*144 (UNII-2C Band)	5720	8.23	8.81	8.79	8.75	30.311	14.82	22.62	Pass
*144 (UNII-3 Band)	5720	2.15	3.28	3.11	2.76	7.962	9.01	29.90	Pass

Note: 1. * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

2. For UNII-2A & UNII-2C: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit” - (6.10-6).

3. For UNII-3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	38.273	15.83
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	19.85	19.68	19.95	19.74
60	5300	20.13	19.76	19.54	19.80
64	5320	19.90	19.62	19.41	19.85
100	5500	20.15	20.33	19.56	19.65
116	5580	20.22	19.97	19.82	19.76
140	5700	20.32	20.09	19.80	19.70
144 (UNII-2C Band)	5720	15.12	15.10	14.92	14.89

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.68	23.94 < 24
60	5300	19.54	23.9 < 24
64	5320	19.41	23.88 < 24
100	5500	19.56	23.91 < 24
116	5580	19.76	23.95 < 24
140	5700	19.70	23.94 < 24
144 (UNII-2C Band)	5720	14.89	22.72 < 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	12.49	12.69	13.13	12.56	74.909	18.75	23.88	Pass
60	5300	12.47	12.67	12.93	12.39	73.125	18.64	23.90	Pass
64	5320	12.38	12.56	12.44	12.58	70.98	18.51	23.90	Pass
100	5500	12.54	12.80	13.30	12.65	76.79	18.85	23.90	Pass
116	5580	12.16	12.15	13.21	12.41	71.209	18.53	23.90	Pass
140	5700	11.96	12.66	13.06	12.49	72.126	18.58	23.90	Pass
*144 (UNII-2C Band)	5720	8.34	8.66	8.78	8.74	29.201	14.65	22.77	Pass
*144 (UNII-3 Band)	5720	2.76	3.79	3.62	3.11	8.628	9.36	29.90	Pass

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

2. For UNII-2A & UNII-2C: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit” -(6.10-6).

3. For UNII-3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	37.829	15.78
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	20.91	19.87	20.43	20.43
60	5300	20.69	20.89	20.38	20.81
64	5320	20.66	20.72	20.51	20.47
100	5500	20.89	20.69	20.62	20.62
116	5580	20.92	20.92	20.54	20.78
140	5700	21.00	20.76	20.83	20.57
144 (UNII-2C Band)	5720	15.49	15.59	15.40	15.52

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.87	23.98 < 24
60	5300	20.38	24.09 > 24
64	5320	20.47	24.11 > 24
100	5500	20.62	24.14 > 24
116	5580	20.54	24.12 > 24
140	5700	20.57	24.13 > 24
144 (UNII-2C Band)	5720	15.40	22.87 < 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	15.41	15.62	15.91	15.42	145.057	21.62	23.90	Pass
62	5310	15.44	15.55	15.98	15.20	143.628	21.57	23.90	Pass
102	5510	15.24	15.47	16.10	15.24	142.815	21.55	23.90	Pass
110	5550	15.38	15.51	16.22	15.15	144.69	21.60	23.90	Pass
134	5670	15.51	15.80	16.16	15.32	148.928	21.73	23.90	Pass
*142 (UNII-2C Band)	5710	11.80	12.50	12.61	12.20	69.547	18.42	23.90	Pass
*142 (UNII-3 Band)	5710	1.19	1.41	1.35	1.05	5.479	7.39	29.90	Pass

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

2. For UNII-2A & UNII-2C: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit” -(6.10-6).

3. For UNII-3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	75.026	18.75
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	40.82	41.32	40.66	40.63
62	5310	40.71	40.97	40.91	40.60
102	5510	40.86	41.03	40.72	40.63
110	5550	40.86	40.96	40.99	40.86
134	5670	40.80	40.88	40.99	40.79
142 (UNII-2C Band)	5710	35.45	35.39	35.33	35.23

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.63	27.08 > 24
62	5310	40.60	27.08 > 24
102	5510	40.63	27.08 > 24
110	5550	40.86	27.11 > 24
134	5670	40.79	27.1 > 24
142 (UNII-2C Band)	5710	35.23	26.46 > 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	16.53	16.51	16.74	16.19	178.546	22.52	23.90	Pass
106	5530	17.67	17.71	18.43	17.50	243.396	23.86	23.90	Pass
122	5610	17.72	17.19	18.15	17.16	228.829	23.60	23.90	Pass
*138 (UNII-2C Band)	5690	14.01	13.96	14.36	13.81	108.353	20.35	23.90	Pass
*138 (UNII-3 Band)	5690	0.69	0.79	0.47	0.18	4.837	6.85	29.90	Pass

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

2. For UNII-2A & UNII-2C: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to “Determined Conducted Limit” -(6.10-6).

3. For UNII-3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	113.19	20.54
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	85.04	85.46	84.94	84.04
106	5530	85.21	84.90	84.83	84.48
122	5610	84.97	84.76	85.06	84.76
138 (UNII-2C Band)	5690	76.89	77.39	76.97	76.59

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.04	30.24 > 24
106	5530	84.48	30.26 > 24
122	5610	84.76	30.28 > 24
138 (UNII-2C Band)	5690	76.59	29.84 > 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+58	5210	18.28	18.63	-	-	140.244	21.47	29.90	Pass
	5290	-	-	19.21	18.83	159.752	22.03	24.00	Pass
42+106	5210	18.28	18.63	-	-	140.244	21.47	29.90	Pass
	5530	-	-	19.56	18.66	163.816	22.14	24.00	Pass
42+122	5210	18.28	18.63	-	-	140.244	21.47	29.90	Pass
	5610	-	-	18.81	17.71	135.053	21.31	24.00	Pass
42+ 138* (UNII-2C)+ 138* (UNII-3)	5210	18.28	18.63	-	-	140.244	21.47	29.90	Pass
	5690	-	-	15.92	15.55	77.124	18.87	24.00	Pass
	5690	-	-	1.50	1.70	2.975	4.73	30.00	Pass
58+106	5290	18.42	18.36	-	-	138.051	21.40	23.90	Pass
	5530	-	-	18.94	18.08	142.612	21.54	24.00	Pass
58+122	5290	18.42	18.36	-	-	138.051	21.40	23.90	Pass
	5610	-	-	18.34	17.16	120.234	20.80	24.00	Pass
58+ 138* (UNII-2C)+ 138* (UNII-3)	5290	18.42	18.36	-	-	138.051	21.40	23.90	Pass
	5690	-	-	15.46	15.00	68.692	18.37	24.00	Pass
	5690	-	-	1.06	0.52	2.472	3.93	30.00	Pass
58+155	5290	18.42	18.36	-	-	138.051	21.40	23.90	Pass
	5775	-	-	18.66	18.06	137.424	21.38	30.00	Pass
106+122	5530	17.59	17.43	-	-	223.315	23.49	23.90	Pass
	5610	-	-	17.95	16.83				
106+ 138*(UNII-2C)+ 138*(UNII-3)	5530	17.59	17.43	-	-	172.88	22.38	23.90	Pass
	5690	-	-	14.82	14.49				
	5690	-	-	1.23	1.41	2.789	4.45	30.00	Pass
106+155	5530	18.81	18.72	-	-	150.506	21.78	23.90	Pass
	5775	-	-	19.15	18.51	153.182	21.85	30.00	Pass
122+ 138*(UNII-2C)+ 138*(UNII-3)	5610	17.45	16.97	-	-	165.497	22.19	23.90	Pass
	5690	-	-	14.82	14.49				
	5690	-	-	1.23	1.41	2.789	4.45	30.00	Pass
122+155	5610	20.41	20.04	-	-	210.826	23.24	23.90	Pass
	5775	-	-	20.84	19.97	220.651	23.44	30.00	Pass

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
138* (UNII-2C)+ 138* (UNII-3)+ 155	5690	17.64	17.78	-	-	121.437	20.84	23.90	Pass
	5690	3.78	4.48	-	-	225.993	23.54	29.90	Pass
	5775	-	-	20.84	19.97				Pass

Note: 1. * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

2. For UNII-1 & UNII-3: For Chain 0 & Chain 1: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

3. For UNII-2A & UNII-2C: For Chain 0 & Chain 1: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 24-(6.10-6) = 23.90dBm.

4. For UNII-1 & UNII-3: For Chain 2 & Chain 3: The max antenna gain = 4.83dBi < 6dBi, so the power limit shall not be reduced.

5. For UNII-2A & UNII-2C: For Chain 2 & Chain 3: The max antenna gain = 4.83dBi < 6dBi, so the power limit shall not be reduced.

6. For UNII-2C: For Chain 0 & Chain 1 & Chain 2 & Chain 3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 24-(6.10-6) = 23.90dBm.

7. For UNII-3: For Chain 0 & Chain 1 & Chain 2 & Chain 3: The max antenna gain = 6.10dBi > 6dBi, so the power limit shall be reduced to 30-(6.10-6) = 29.90dBm.

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	80.099	19.04
58+138 (UNII-2C) +138 (UNII-3)	5690	71.164	18.52
106+138 (UNII-2C) +138 (UNII-3)	5690	62.9214	17.99
122+138 (UNII-2C) +138 (UNII-3)	5690	62.9214	17.99
138 (UNII-2C) +138 (UNII-3)+155	5690	126.7788	21.03
Note: The total power was calculated through formula and record the value for reference only.			

26dB BANDWIDTH:

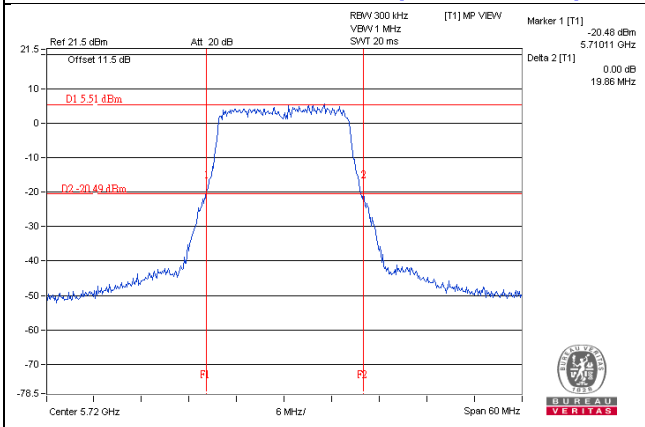
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58	5210	86.32	85.56	-	-
	5290	-	-	87.26	86.66
42+106	5210	86.32	85.56	-	-
	5530	-	-	86.50	85.73
42+122	5210	86.32	85.56	-	-
	5610	-	-	86.57	86.09
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	86.32	85.56	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
58+106	5290	85.70	85.86	-	-
	5530	-	-	86.50	85.73
58+122	5290	85.70	85.86	-	-
	5610	-	-	86.57	86.09
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.70	85.86	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
58+155	5290	85.70	85.86	-	-
	5775	-	-	85.95	86.28
106+122	5530	86.02	85.81	-	-
	5610	-	-	86.57	86.09
106+138 (UNII-2C)+ 138 (UNII-3)	5530	86.02	85.81	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
106+155	5530	86.02	85.81	-	-
	5775	-	-	85.95	86.28
122+138 (UNII-2C)+ 138 (UNII-3)	5610	86.40	85.79	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
122+155	5610	86.40	85.79	-	-
	5775	-	-	85.95	86.28
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.82	78.12	-	-
	5690	8.25	8.40	-	-
	5775	-	-	85.95	86.28

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

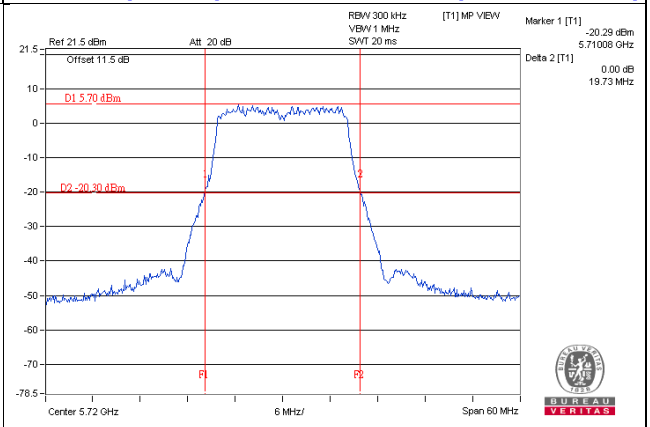
Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58	5210	-	-
	5290	85.70	30.32 > 24
42+106	5210	-	-
	5530	85.73	30.33 > 24
42+122	5210	-	-
	5610	85.79	30.33 > 24
42+ 138 (UNII-2C)	5210	-	-
	5690	77.70	29.9 > 24
58+106	5290	85.70	30.32 > 24
	5530	85.73	30.33 > 24
58+122	5290	85.70	30.32 > 24
	5610	85.79	30.33 > 24
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.70	30.32 > 24
	5690	77.70	29.9 > 24
	5690	-	-
58+155	5290	85.70	30.32 > 24
	5775	-	-
106+122	5530	85.73	30.33 > 24
	5610	85.79	30.33 > 24
106+138 (UNII-2C)+ 138 (UNII-3)	5530	85.73	30.33 > 24
	5690	77.70	29.9 > 24
	5690	-	- 24
106+155	5530	85.73	30.33 > 24
	5775	-	-
122+138 (UNII-2C)+ 138 (UNII-3)	5610	85.79	30.33 > 24
	5690	77.70	29.9 > 24
	5690	-	-
122+155	5610	85.79	30.33 > 24
	5775	-	-
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.70	29.9 > 24
	5690	-	-
	5775	-	-

Spectrum Plot of Worst Value

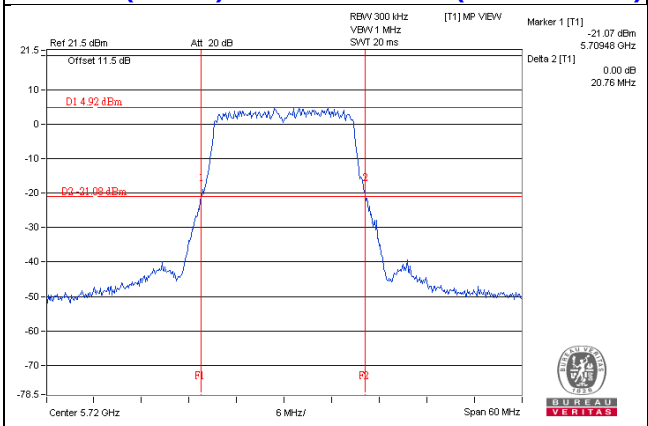
802.11a / Chain 3 - CH144 (UNII-2C Band)



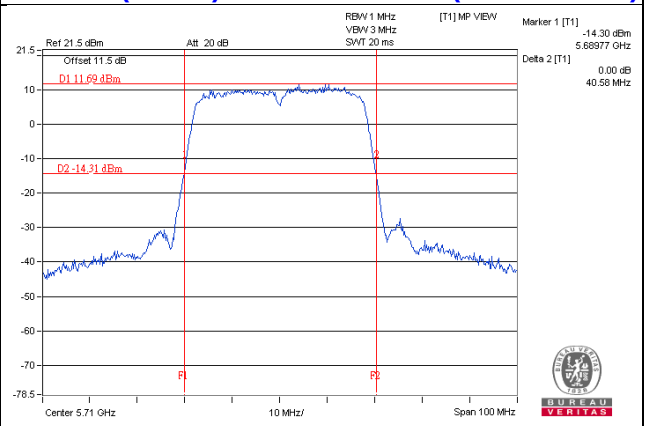
802.11ac (VHT20) / Chain 2 - CH144 (UNII-2C Band)



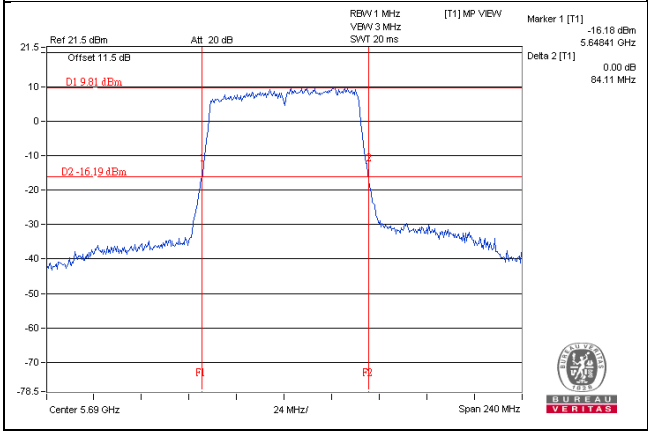
802.11ac (VHT40) / Chain 3 - CH142 (UNII-2C Band)



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

802.11ac (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	12.49	12.69	13.13	12.56	74.909	18.75	18.84	Pass
60	5300	12.47	12.67	12.93	12.39	73.125	18.64	18.86	Pass
64	5320	12.38	12.56	12.44	12.58	70.98	18.51	18.86	Pass
100	5500	12.54	12.80	13.30	12.65	76.79	18.85	18.86	Pass
116	5580	12.16	12.15	13.21	12.41	71.209	18.53	18.86	Pass
140	5700	11.96	12.66	13.06	12.49	72.126	18.58	18.86	Pass
*144 (UNII-2C Band)	5720	8.34	8.66	8.78	8.74	29.201	14.65	17.73	Pass
*144 (UNII-3 Band)	5720	2.76	3.79	3.62	3.11	8.628	9.36	24.86	Pass

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

2. For UNII-2A & UNII-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 UNII-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.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
144	5720	37.829	15.78
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	20.91	19.87	20.43	20.43
60	5300	20.69	20.89	20.38	20.81
64	5320	20.66	20.72	20.51	20.47
100	5500	20.89	20.69	20.62	20.62
116	5580	20.92	20.92	20.54	20.78
140	5700	21.00	20.76	20.83	20.57
144 (UNII-2C Band)	5720	15.49	15.59	15.40	15.52

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	19.87	23.98 < 24
60	5300	20.38	24.09 > 24
64	5320	20.47	24.11 > 24
100	5500	20.62	24.14 > 24
116	5580	20.54	24.12 > 24
140	5700	20.57	24.13 > 24
144 (UNII-2C Band)	5720	15.40	22.87 < 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	12.39	12.58	12.79	12.36	71.681	18.55	18.86	Pass
62	5310	12.41	12.49	12.76	12.12	70.333	18.47	18.86	Pass
102	5510	12.12	12.37	12.98	12.18	69.932	18.45	18.86	Pass
110	5550	12.32	12.44	13.11	12.10	71.282	18.53	18.86	Pass
134	5670	12.46	12.79	13.02	12.28	73.58	18.67	18.86	Pass
*142 (UNII-2C Band)	5710	8.77	9.15	9.29	9.10	33.233	15.22	18.86	Pass
*142 (UNII-3 Band)	5710	-1.88	-1.96	-2.08	-1.79	2.6349	4.21	24.86	Pass

Note: 1. * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

2. For UNII-2A & UNII-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 UNII-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.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
142	5710	35.8679	15.55
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	40.82	41.32	40.66	40.63
62	5310	40.71	40.97	40.91	40.60
102	5510	40.86	41.03	40.72	40.63
110	5550	40.86	40.96	40.99	40.86
134	5670	40.80	40.88	40.99	40.79
142 (UNII-2C Band)	5710	35.45	35.39	35.33	35.23

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	40.63	27.08 > 24
62	5310	40.60	27.08 > 24
102	5510	40.63	27.08 > 24
110	5550	40.86	27.11 > 24
134	5670	40.79	27.1 > 24
142 (UNII-2C Band)	5710	35.23	26.46 > 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	12.46	12.49	12.66	12.11	70.067	18.46	18.86	Pass
106	5530	12.56	12.66	13.32	12.43	75.456	18.78	18.86	Pass
122	5610	12.64	12.11	13.09	12.10	71.208	18.53	18.86	Pass
*138 (UNII-2C Band)	5690	8.55	9.08	9.22	8.92	33.559	15.26	18.86	Pass
*138 (UNII-3 Band)	5690	-4.26	-4.50	-4.38	-4.31	1.5658	1.95	24.86	Pass

Note: 1. * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

2. For UNII-2A & UNII-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 UNII-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.

The Total Power for the straddle channel:

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
138	5690	35.1248	15.46
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	85.04	85.46	84.94	84.04
106	5530	85.21	84.90	84.83	84.48
122	5610	84.97	84.76	85.06	84.76
138 (UNII-2C Band)	5690	76.89	77.39	76.97	76.59

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	84.04	30.24 > 24
106	5530	84.48	30.26 > 24
122	5610	84.76	30.28 > 24
138 (UNII-2C Band)	5690	76.59	29.84 > 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+58	5210	18.28	18.63	-	-	140.244	21.47	27.45	Pass
	5290	-	-	19.21	18.83	159.752	22.03	22.32	Pass
42+106	5210	18.28	18.63	-	-	140.244	21.47	27.45	Pass
	5530	-	-	19.56	18.66	163.816	22.14	22.32	Pass
42+122	5210	18.28	18.63	-	-	140.244	21.47	27.45	Pass
	5610	-	-	18.81	17.71	135.053	21.31	22.32	Pass
42+ 138* (UNII-2C)+ 138* (UNII-3)	5210	18.28	18.63	-	-	140.244	21.47	27.45	Pass
	5690	-	-	15.92	15.55	77.124	18.87	22.32	Pass
	5690	-	-	1.50	1.70	2.975	4.73	28.32	Pass
58+106	5290	18.42	18.36	-	-	138.051	21.40	21.45	Pass
	5530	-	-	18.94	18.08	142.612	21.54	22.32	Pass
58+122	5290	18.42	18.36	-	-	138.051	21.40	21.45	Pass
	5610	-	-	18.34	17.16	120.234	20.80	22.32	Pass
58+ 138* (UNII-2C)+ 138* (UNII-3)	5290	18.42	18.36	-	-	138.051	21.40	21.45	Pass
	5690	-	-	15.46	15.00	68.692	18.37	22.32	Pass
	5690	-	-	1.06	0.52	2.472	3.93	28.32	Pass
58+155	5290	18.42	18.36	-	-	138.051	21.40	21.45	Pass
	5775	-	-	18.66	18.06	137.424	21.38	28.32	Pass
106+122	5530	12.79	12.92	-	-	74.382	18.71	18.86	Pass
	5610	-	-	12.98	12.02				
106+ 138*(UNII-2C)+ 138*(UNII-3)	5530	12.64	12.21	-	-	56.502	17.52	18.86	Pass
	5690	-	-	10.43	9.94				
	5690	-	-	-3.10	-3.00	1.0194	0.08	28.32	Pass
106+155	5530	18.24	18.12	-	-	131.544	21.19	21.45	Pass
	5775	-	-	18.66	18.06	137.424	21.38	28.32	Pass
122+ 138*(UNII-2C)+ 138*(UNII-3)	5610	12.28	11.98	-	-	54.183	17.34	18.86	Pass
	5690	-	-	10.43	9.94				
	5690	-	-	-3.10	-3.00	1.0194	0.08	28.32	Pass
122+155	5610	18.31	18.11	-	-	132.478	21.22	21.45	Pass
	5775	-	-	18.66	18.06	137.424	21.38	28.32	Pass

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
138* (UNII-2C)+ 138* (UNII-3)+ 155	5690	14.82	14.79	-	-	62.201	17.94	21.45	Pass
	5690	1.52	1.27	-	-	140.262	21.47	24.86	Pass
	5775	-	-	18.66	18.06				Pass

Note: 1. * Test was performed in accordance with Measurement follow FCC KDB 789033 UNII test procedure Method SA-2 and use spectrum analyzer test.

2. For UNII-1 & UNII-3: For Chain 0 & Chain 1: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 8.55dBi > 6dBi , so the power limit shall be reduced to 30-(8.55-6) = 27.45dBm.

3. For UNII-2A & UNII-2C: For Chain 0 & Chain 1: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 8.55dBi > 6dBi , so the power limit shall be reduced to 24-(8.55-6) = 21.45dBm.

4. For UNII-1 & UNII-3: For Chain 2 & Chain 3: Directional gain = 10 log[$(10^{G3/20} + 10^{G4/20})^2$ / 2] = 7.68dBi > 6dBi , so the power limit shall be reduced to 30-(7.68-6) = 28.32dBm.

5. For UNII-2A & UNII-2C: For Chain 2 & Chain 3: Directional gain = 10 log[$(10^{G3/20} + 10^{G4/20})^2$ / 2] = 7.68dBi > 6dBi , so the power limit shall be reduced to 24-(7.68-6) = 22.32dBm.

6. For UNII-2C: For 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 limit shall be reduced to 24-(11.14-6) = 18.86dBm.

7. For UNII-3: For 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 limit shall be reduced to 30-(11.14-6) = 24.86dBm.

The Total Power for the straddle channel:

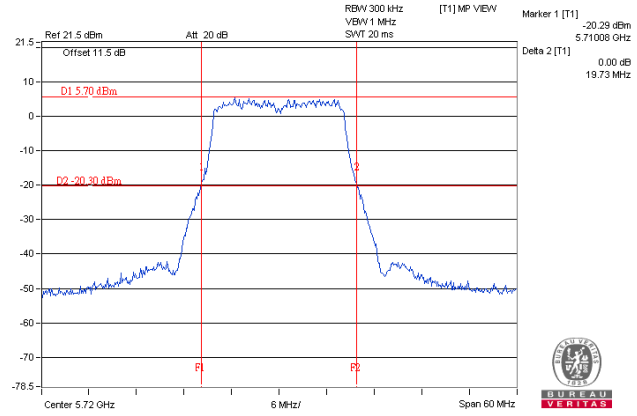
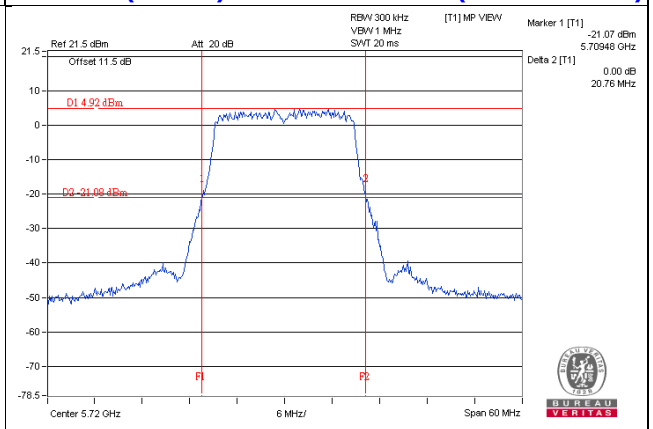
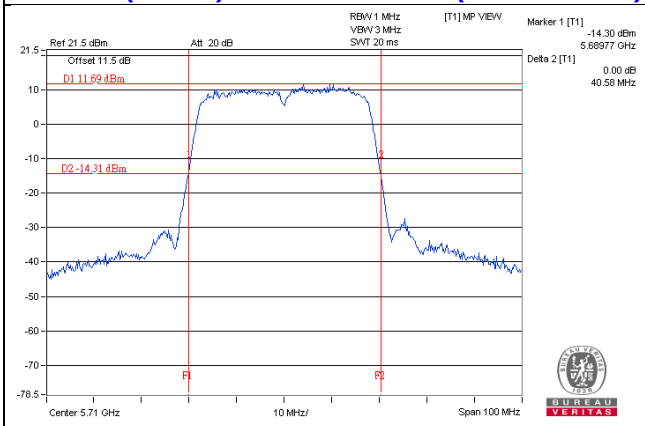
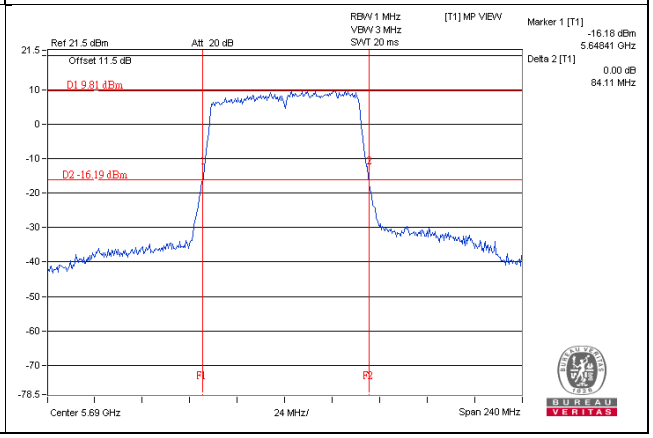
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
42+138 (UNII-2C) +138 (UNII-3)	5690	80.099	19.04
58+138 (UNII-2C) +138 (UNII-3)	5690	71.164	18.52
106+138 (UNII-2C) +138 (UNII-3)	5690	22.5223	13.53
122+138 (UNII-2C) +138 (UNII-3)	5690	22.5223	13.53
138 (UNII-2C) +138 (UNII-3)+155	5690	65.0394	18.13
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+58	5210	86.32	85.56	-	-
	5290	-	-	87.26	86.66
42+106	5210	86.32	85.56	-	-
	5530	-	-	86.50	85.73
42+122	5210	86.32	85.56	-	-
	5610	-	-	86.57	86.09
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	86.32	85.56	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
58+106	5290	85.70	85.86	-	-
	5530	-	-	86.50	85.73
58+122	5290	85.70	85.86	-	-
	5610	-	-	86.57	86.09
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.70	85.86	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
58+155	5290	85.70	85.86	-	-
	5775	-	-	85.95	86.28
106+122	5530	86.02	85.81	-	-
	5610	-	-	86.57	86.09
106+138 (UNII-2C)+ 138 (UNII-3)	5530	86.02	85.81	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
106+155	5530	86.02	85.81	-	-
	5775	-	-	85.95	86.28
122+138 (UNII-2C)+ 138 (UNII-3)	5610	86.40	85.79	-	-
	5690	-	-	77.70	78.26
	5690	-	-	8.04	7.92
122+155	5610	86.40	85.79	-	-
	5775	-	-	85.95	86.28
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.82	78.12	-	-
	5690	8.25	8.40	-	-
	5775	-	-	85.95	86.28

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

Power Limit = 11dBm + 10logB < U_NII-2A, U_NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
42+58	5210	-	-
	5290	85.70	30.32 > 24
42+106	5210	-	-
	5530	85.73	30.33 > 24
42+122	5210	-	-
	5610	85.79	30.33 > 24
42+ 138 (UNII-2C)	5210	-	-
	5690	77.70	29.9 > 24
58+106	5290	85.70	30.32 > 24
	5530	85.73	30.33 > 24
58+122	5290	85.70	30.32 > 24
	5610	85.79	30.33 > 24
58+138 (UNII-2C)+ 138 (UNII-3)	5290	85.70	30.32 > 24
	5690	77.70	29.9 > 24
	5690	-	-
58+155	5290	85.70	30.32 > 24
	5775	-	-
106+122	5530	85.73	30.33 > 24
	5610	85.79	30.33 > 24
106+138 (UNII-2C)+ 138 (UNII-3)	5530	85.73	30.33 > 24
	5690	77.70	29.9 > 24
	5690	-	- 24
106+155	5530	85.73	30.33 > 24
	5775	-	-
122+138 (UNII-2C)+ 138 (UNII-3)	5610	85.79	30.33 > 24
	5690	77.70	29.9 > 24
	5690	-	-
122+155	5610	85.79	30.33 > 24
	5775	-	-
138 (UNII-2C)+ 138 (UNII-3) +155	5690	77.70	29.9 > 24
	5690	-	-
	5775	-	-

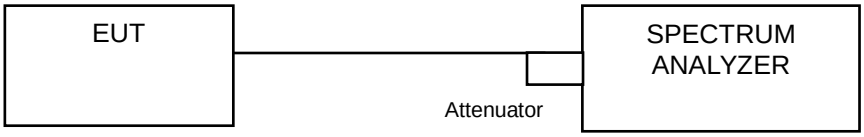
Spectrum Plot of Worst Value	
802.11ac (VHT20) / Chain 2 - CH144 (UNII-2C Band)	**802.11ac (VHT40) / Chain 3 - CH142 (UNII-2C Band)**
	
802.11ac (VHT80) / Chain 3 - CH138 (UNII-2C Band)	**802.11ac (VHT80+80) / Chain 3 - CH138 (UNII-2C Band)**
	

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	16.56	16.44	16.44	16.44
60	5300	16.56	16.44	16.56	16.56
64	5320	16.56	16.44	16.56	16.56
100	5500	16.56	16.56	16.44	16.56
116	5580	16.56	16.56	16.56	16.56
140	5700	16.56	16.56	16.56	16.56
144 (UNII-2C Band)	5720	13.40	13.40	13.40	13.40
144 (UNII-3 Band)	5720	3.16	3.16	3.16	3.16

802.11ac (VHT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
52	5260	17.64	16.44	17.76	17.76
60	5300	17.64	17.64	17.64	17.76
64	5320	17.76	17.76	17.76	17.76
100	5500	17.76	17.76	17.76	17.76
116	5580	17.76	17.64	17.76	17.76
140	5700	17.76	17.76	17.76	17.76
144 (UNII-2C Band)	5720	14.00	14.00	14.00	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	36.48	36.24	36.24	36.24
110	5550	36.24	36.00	36.24	36.24
134	5670	36.24	36.00	36.24	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)

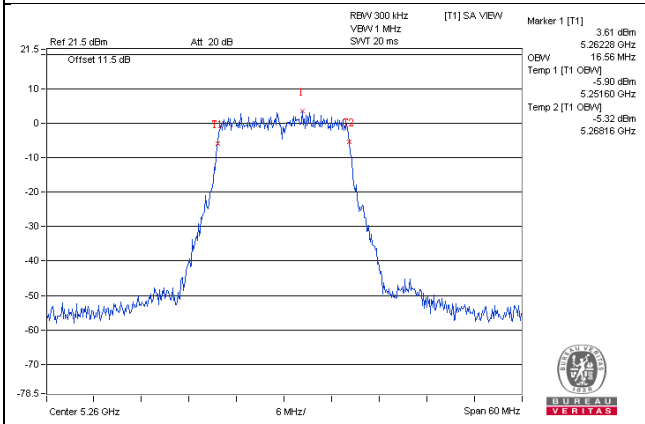
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
58	5290	75.84	76.32	76.32	76.32
106	5530	76.32	75.36	76.32	76.32
122	5610	76.32	76.32	75.84	76.32
138 (UNII-2C Band)	5690	72.92	72.92	72.92	72.92
138 (UNII-3 Band)	5690	2.92	2.92	2.92	2.92

802.11ac (VHT80+80)

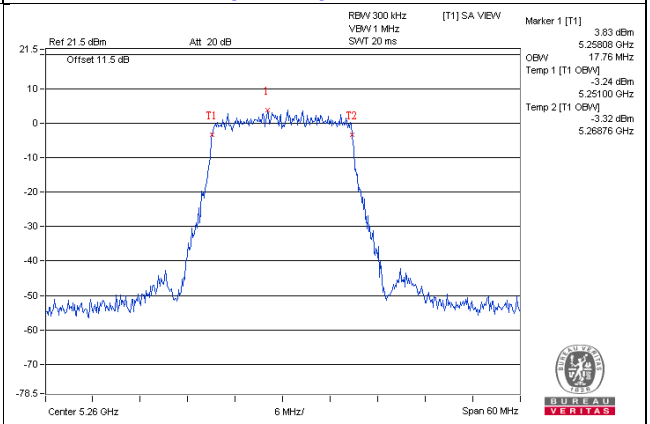
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42+58	5210	75.84	76.32	-	-
	5290	-	-	76.32	75.84
42+106	5210	75.84	76.32	-	-
	5530	-	-	75.84	75.84
42+122	5210	75.84	76.32	-	-
	5610	-	-	75.84	75.84
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	75.84	76.32	-	-
	5690	-	-	73.40	73.40
	5690	-	-	2.44	2.92
58+106	5290	75.84	76.32	-	-
	5530	-	-	75.84	75.84
58+122	5290	75.84	76.32	-	-
	5610	-	-	75.84	75.84
58+138 (UNII-2C)+ 138 (UNII-3)	5290	75.84	76.32	-	-
	5690	-	-	73.40	73.40
	5690	-	-	2.44	2.92
58+155	5290	75.84	76.32	-	-
	5775	-	-	76.32	76.32
106+122	5530	76.32	75.84	-	-
	5610	-	-	75.84	75.84
106+138 (UNII-2C)+ 138 (UNII-3)	5530	76.32	75.84	-	-
	5690	-	-	73.40	73.40
	5690	-	-	2.44	2.92
106+155	5530	76.32	75.84	-	-
	5775	-	-	76.32	76.32
122+138 (UNII-2C)+ 138 (UNII-3)	5610	76.32	76.32	-	-
	5690	-	-	73.40	73.40
	5690	-	-	2.44	2.92
122+155	5610	76.32	76.32	-	-
	5775	-	-	76.32	76.32
138 (UNII-2C)+ 138 (UNII-3) +155	5690	72.92	72.92	-	-
	5690	2.92	2.92	-	-
	5775	-	-	76.32	76.32

Spectrum Plot of Worst Value

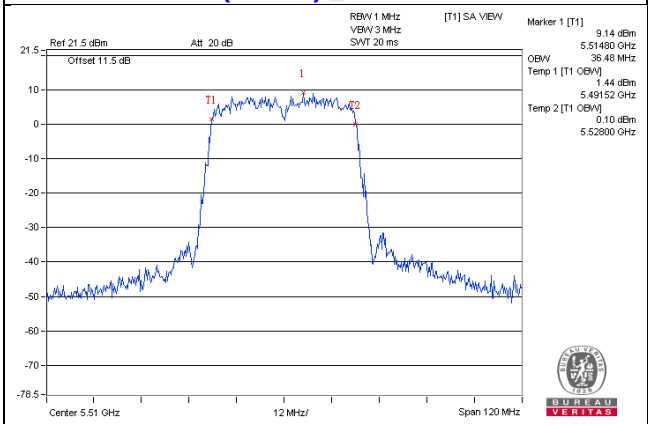
802.11a_Chain 0 / CH52



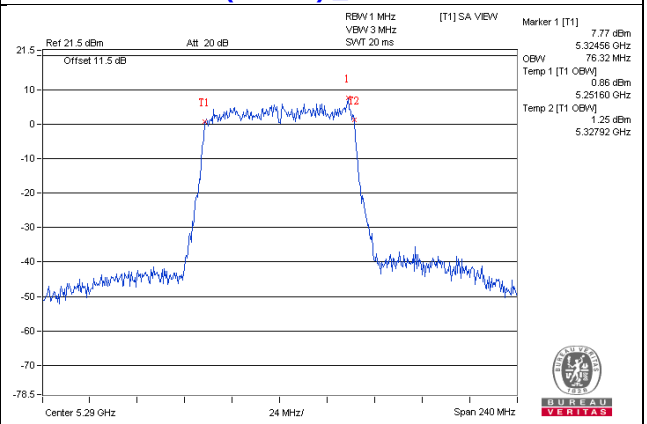
802.11ac (VHT20)_ Chain 2 / CH52



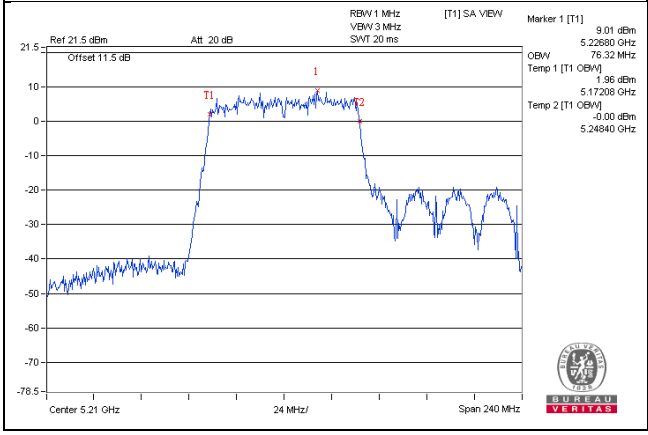
802.11ac (VHT40) _Chain 0 / CH102



802.11ac (VHT80) _Chain 1 / CH58



802.11ac (VHT80+80) _Chain 1 / CH42

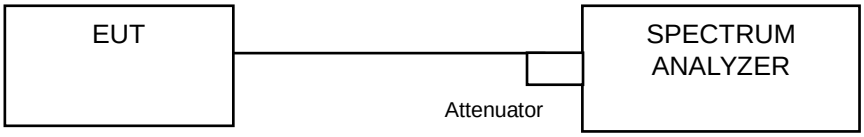


4.5 Peak Power Spectral Density Measurement

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	-2.85	-0.57	-0.51	-0.51	0.14	5.16	5.86	Pass
60	5300	-2.02	-0.88	-0.58	-0.99	0.14	5.08	5.86	Pass
64	5320	-1.80	-0.84	-0.88	-1.09	0.14	5.03	5.86	Pass
100	5500	-1.22	-0.96	-0.20	-0.97	0.14	5.34	5.86	Pass
116	5580	-0.89	-1.71	-0.59	-1.61	0.14	4.99	5.86	Pass
140	5700	-2.01	-0.49	-1.13	-0.83	0.14	5.09	5.86	Pass
144 (UNII-2C Band)	5720	-2.18	-0.79	-0.64	-0.74	0.14	5.12	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. 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. 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	-10.16	-7.94	6.02	0.14	-1.78	24.86	Pass
1	144 (UNII-3 Band)	5720	-8.84	-6.62	6.02	0.14	-0.46	24.86	Pass
2	144 (UNII-3 Band)	5720	-9.05	-6.83	6.02	0.14	-0.67	24.86	Pass
3	144 (UNII-3 Band)	5720	-9.14	-6.92	6.02	0.14	-0.76	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 to 30-(11.14-6) =24.86dBm.

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	-1.47	-0.27	-0.67	-1.24	5.13	5.86	Pass
60	5300	-2.12	-0.83	-0.55	-1.24	4.87	5.86	Pass
64	5320	-2.12	-0.91	-0.88	-1.03	4.81	5.86	Pass
100	5500	-1.50	-0.55	-0.21	-1.32	5.16	5.86	Pass
116	5580	-1.88	-2.13	-1.09	-1.78	4.32	5.86	Pass
140	5700	-2.06	-1.13	-0.97	-1.46	4.64	5.86	Pass
144 (UNII-2C Band)	5720	-1.51	-1.65	-1.54	-1.77	4.40	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. 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	-10.11	-7.89	6.02	-1.87	24.86	Pass
1	144 (UNII-3 Band)	5720	-9.50	-7.28	6.02	-1.26	24.86	Pass
2	144 (UNII-3 Band)	5720	-9.30	-7.08	6.02	-1.06	24.86	Pass
3	144 (UNII-3 Band)	5720	-9.53	-7.31	6.02	-1.29	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 to 30-(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	-1.85	-1.22	-0.56	-1.52	0.11	4.87	5.86	Pass
62	5310	-0.85	-0.97	-0.81	-2.21	0.11	4.96	5.86	Pass
102	5510	-1.32	-0.83	-0.08	-2.09	0.11	5.12	5.86	Pass
110	5550	-1.57	-1.14	-0.31	-1.26	0.11	5.09	5.86	Pass
134	5670	-1.13	-1.60	-0.57	-1.32	0.11	5.00	5.86	Pass
142 (UNII-2C Band)	5710	-1.37	-0.38	-0.54	-1.07	0.11	5.31	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. 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. 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	-11.00	-8.78	6.02	0.11	-2.65	24.86	Pass
1	142 (UNII-3 Band)	5720	-10.38	-8.16	6.02	0.11	-2.03	24.86	Pass
2	142 (UNII-3 Band)	5720	-10.53	-8.31	6.02	0.11	-2.18	24.86	Pass
3	142 (UNII-3 Band)	5720	-10.51	-8.29	6.02	0.11	-2.16	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 to 30-(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	-3.88	-3.28	-3.14	-4.42	0.29	2.66	5.86	Pass
106	5530	-2.14	-2.84	-1.41	-4.46	0.29	3.74	5.86	Pass
122	5610	-2.50	-3.65	-2.54	-3.13	0.29	3.38	5.86	Pass
138 (UNII-2C Band)	5690	-2.12	-3.05	-1.88	-2.75	0.29	3.88	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. 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. 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	-11.08	-8.86	6.02	0.29	-2.55	24.86	Pass
1	138 (UNII-3 Band)	5690	-11.39	-9.17	6.02	0.29	-2.86	24.86	Pass
2	138 (UNII-3 Band)	5690	-11.44	-9.22	6.02	0.29	-2.91	24.86	Pass
2	138 (UNII-3 Band)	5690	-11.40	-9.18	6.02	0.29	-2.87	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 to 30-(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+58	5210	-1.87	-1.40	-	-	0.12	1.50	14.45	Pass
	5290	-	-	-1.36	-0.99	0.12	1.96	9.32	Pass
42+106	5210	-1.87	-1.40	-	-	0.12	1.50	14.45	Pass
	5530	-	-	-0.75	-0.88	0.12	2.32	9.32	Pass
42+122	5210	-1.87	-1.40	-	-	0.12	1.50	14.45	Pass
	5610	-	-	-1.75	-2.26	0.12	1.14	9.32	Pass
42+ 138 (UNII-2C)+ 138 (UNII-3)	5210	-1.87	-1.40	-	-	0.12	1.50	14.45	Pass
	5690	-	-	-0.69	-1.20	0.12	2.20	9.32	Pass
	5690	Test results refer to U_NII-3 data							
58+106	5290	-1.76	-1.53	-	-	0.12	1.49	8.45	Pass
	5530	-	-	-0.75	-0.88	0.12	2.32	9.32	Pass
58+122	5290	-1.76	-1.53	-	-	0.12	1.49	8.45	Pass
	5610	-	-	-1.75	-2.26	0.12	1.14	9.32	Pass
58+ 138 (UNII-2C)+ 138(UNII-3)	5290	-1.76	-1.53	-	-	0.12	1.49	8.45	Pass
	5690	-	-	-0.69	-1.20	0.12	2.20	9.32	Pass
	5690	Test results refer to U_NII-3 data							
58+155	5290	-1.76	-1.53	-	-	0.12	1.49	8.45	Pass
	5775	Test results refer to U_NII-3 data							
106+122	5530	-1.50	-1.32	-	-	0.12	4.36	5.86	Pass
	5610	-	-	-2.11	-2.28				
106 +138(UNII-2C) +138(UNII-3)	5530	-1.50	-1.32	-	-	0.12	4.86	5.86	Pass
	5690	-	-	-1.05	-1.29				
	5690	Test results refer to U_NII-3 data							
106+155	5530	-0.93	-1.32	-	-	0.12	2.01	8.45	Pass
	5775	Test results refer to U_NII-3 data							
122 +138(UNII-2C) +138(UNII-3)	5610	-0.43	-0.24	-	-	0.12	5.41	5.86	Pass
	5690	-	-	-1.05	-1.29	0.12			Pass
	5690	Test results refer to U_NII-3 data							
122+155	5610	0.11	-0.27	-	-	0.12	3.06	8.45	Pass
	5775	Test results refer to U_NII-3 data							
138 (UNII-2C) +138(UNII-3) +155	5690	1.36	0.71	-	-	0.12	4.18	8.45	Pass
	5690	Test results refer to U_NII-3 data							
	5775	Test results refer to U_NII-3 data							

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:** 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.

4. **For U_NII-2A & U_NII-2C:** 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 11-(8.55-6) = 8.45dBm.

5. **For U_NII-2A & U_NII-2C:** 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 11-(7.68-6) = 9.32dBm.

4. **For U_NII-2A & 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.

5. 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 (dBm/300kHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
138 (UNII-2C) +138 (UNII-3) +155	0	5690	Test results refer to U_NII-2C data						
		5690	-8.01	-5.79	6.02	0.12	0.35	24.86	Pass
	1	5690	Test results refer to U_NII-2C data						
		5690	-7.90	-5.68	6.02	0.12	0.46	24.86	Pass
	2	5775	-7.68	-5.46	6.02	0.12	0.68	24.86	Pass
	3	5775	-7.95	-5.73	6.02	0.12	0.41	24.86	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
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	-11.13	-8.91	3.01	0.12	-5.78	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-10.92	-8.70	3.01	0.12	-5.57	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
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	-11.13	-8.91	3.01	0.12	-5.78	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-10.92	-8.70	3.01	0.12	-5.57	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm/300kHz)	PSD W/O Duty Factor (dBm/500kHz)	10 log (N=2) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
58+ 155	0	5290	Test results refer to U_NII-2A data						
	1	5290	Test results refer to U_NII-2A data						
	2	5775	-7.68	-5.46	3.01	0.12	-2.33	28.32	Pass
	3	5775	-7.95	-5.73	3.01	0.12	-2.60	28.32	Pass

Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) 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	-7.68	-5.46	3.01	0.12	-2.33	28.32	Pass
	3	5775	-7.95	-5.73	3.01	0.12	-2.60	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) 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	-7.68	-5.46	3.01	0.12	-2.33	28.32	Pass
	3	5775	-7.95	-5.73	3.01	0.12	-2.60	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) 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	-11.13	-8.91	3.01	0.12	-5.78	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-10.92	-8.70	3.01	0.12	-5.57	28.32	Pass
Chan.	TX chain	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=2) 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	-11.13	-8.91	3.01	0.12	-5.78	28.32	Pass
	3	5690	Test results refer to U_NII-2C data						
		5690	-10.92	-8.70	3.01	0.12	-5.57	28.32	Pass

Note: 1. 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.

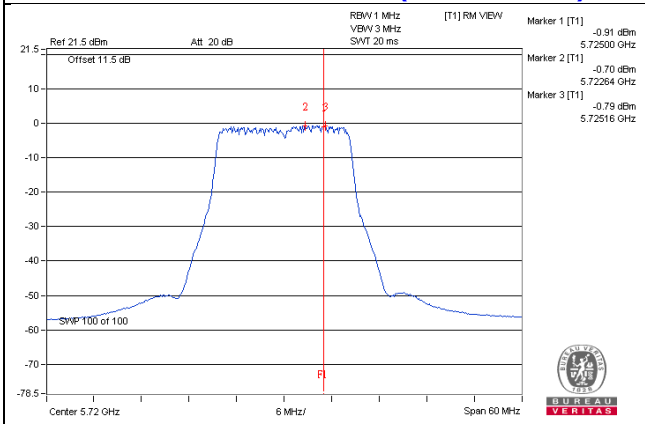
2. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$ + $10^{G4/20}$)^2 / 4] = 11.14dBi > 6dBi , so the power density limit shall be reduced to 30-(11.14-6) =24.86dBm.

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

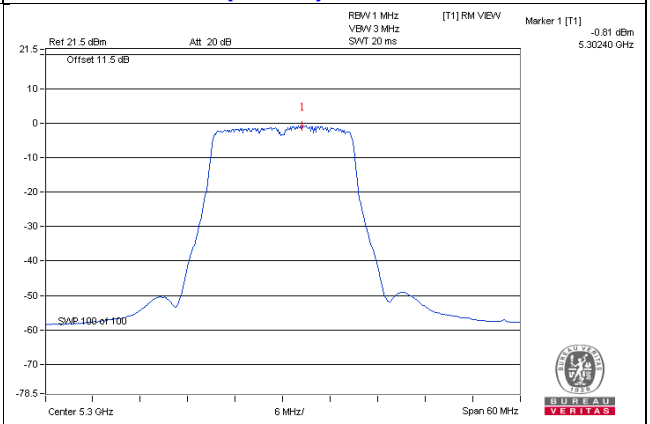
For U_NII-1, U_NII-2A, U_NII-2C

Spectrum Plot of Worst Value

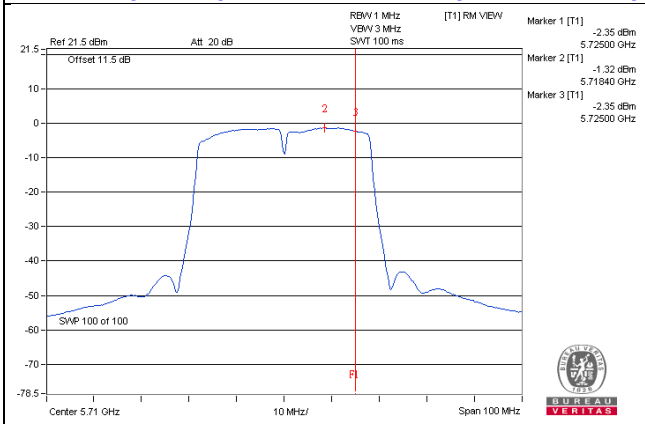
802.11a / Chain 3 – CH144 (UNII-2C Band)



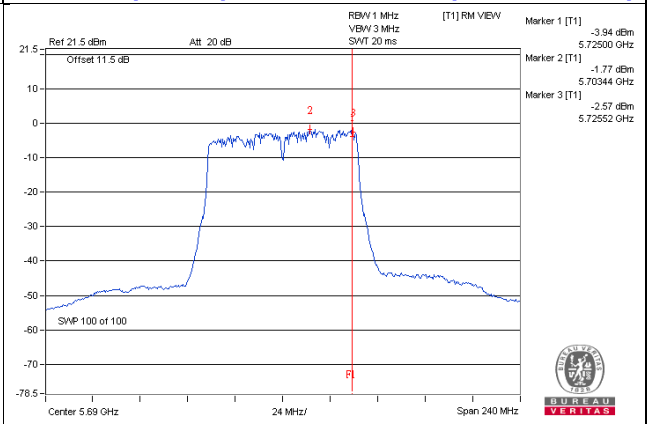
802.11ac (VHT20) / Chain 0 – CH60



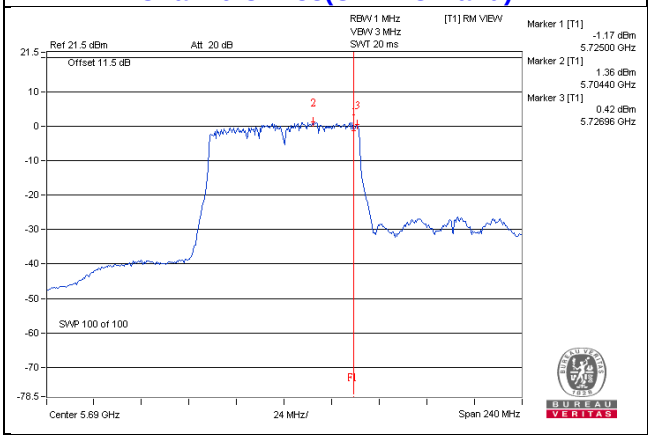
802.11ac (VHT40) / Chain 0 - CH142(UNII-2C Band)



802.11ac (VHT80) / Chain 0- CH138(UNII-2C Band)



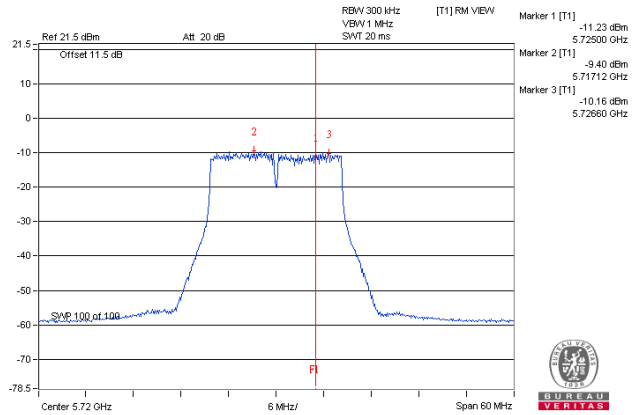
802.11ac (VHT80+80) / Chain 0 CH138(UNII-2C Band)



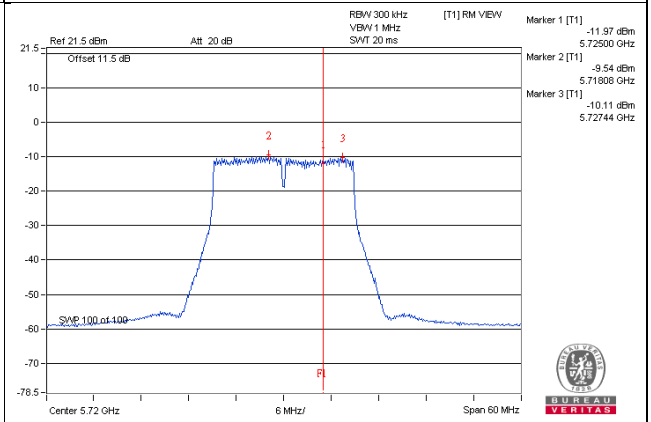
For U_NII-3

Spectrum Plot of Worst Value

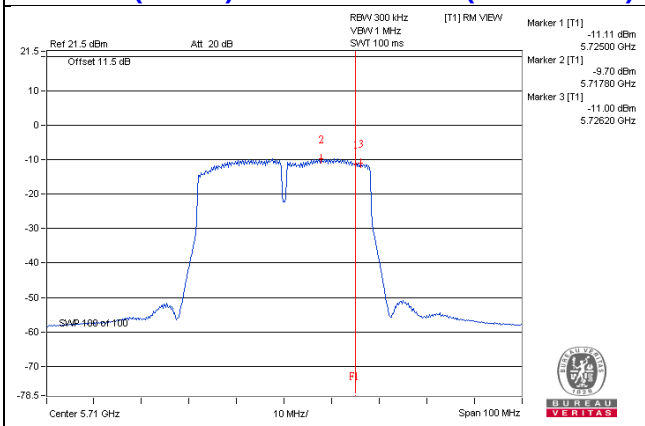
802.11a / Chain 0 – CH144(UNII-3 Band)



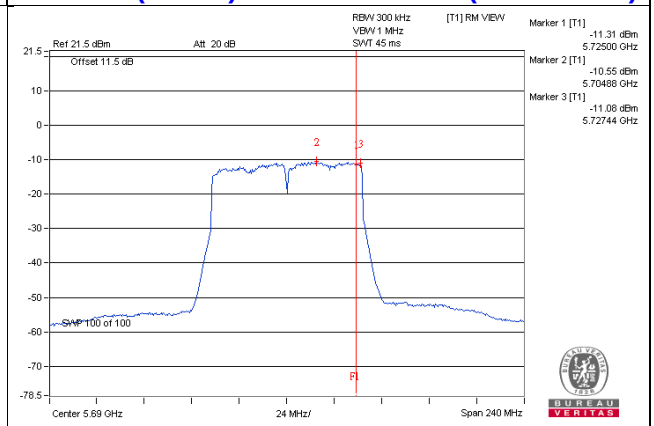
802.11ac (VHT20) / Chain 0 – CH144 (UNII-3 Band)



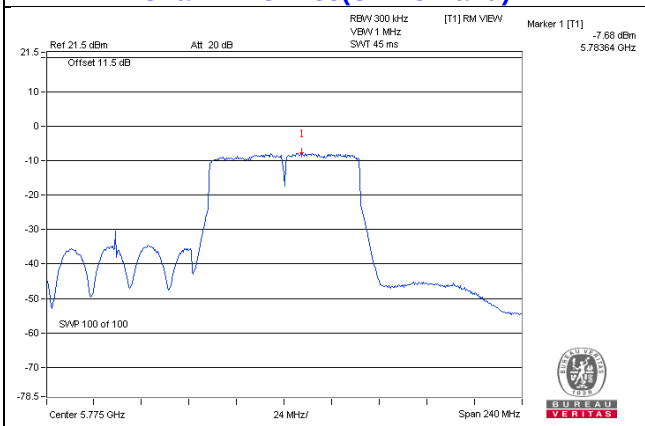
802.11ac (VHT40) / Chain 0 – CH142(UNII-3 Band)



802.11ac (VHT80) / Chain 0 – CH138(UNII-3 Band)



802.11ac (VHT80+80) / Chain 2– CH155(UNII-3 Band)

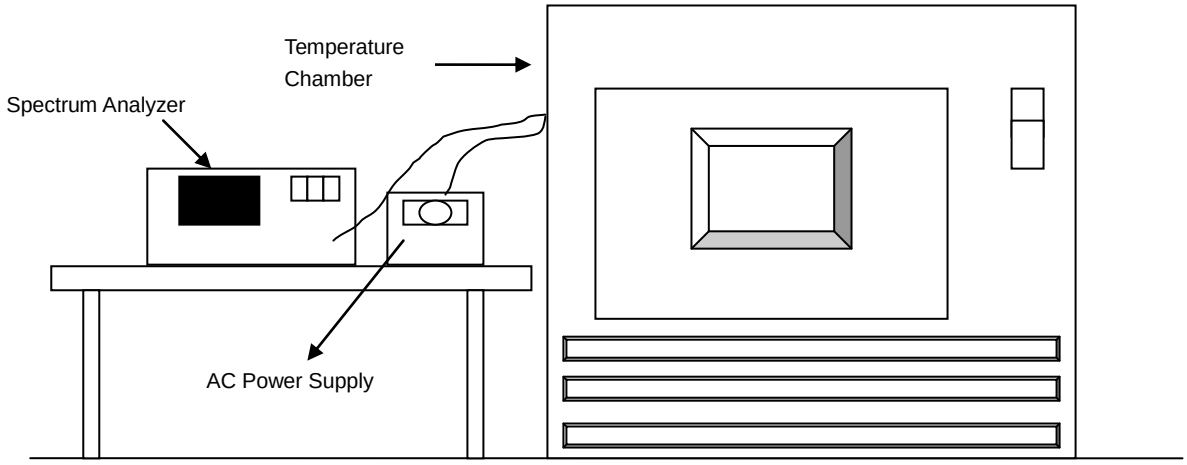


4.6 Frequency Stability Measurement

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	5259.9997	PASS	5259.9979	PASS	5260.0007	PASS	5259.9979	PASS
40	120	5260.005	PASS	5260.004	PASS	5260.003	PASS	5260.002	PASS
30	120	5259.9791	PASS	5259.9814	PASS	5259.9822	PASS	5259.9788	PASS
20	120	5259.9776	PASS	5259.976	PASS	5259.975	PASS	5259.9767	PASS
10	120	5259.9783	PASS	5259.9791	PASS	5259.9771	PASS	5259.9749	PASS
0	120	5259.977	PASS	5259.975	PASS	5259.9737	PASS	5259.9778	PASS
-10	120	5260.0063	PASS	5260.0063	PASS	5260.0056	PASS	5260.0052	PASS
-20	120	5260.0099	PASS	5260.0059	PASS	5260.0105	PASS	5260.0059	PASS
-30	120	5259.9814	PASS	5259.9786	PASS	5259.982	PASS	5259.9799	PASS

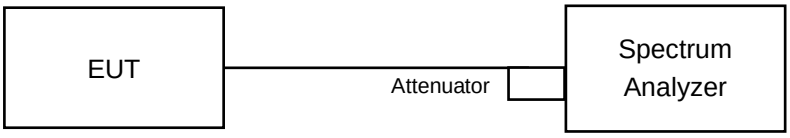
Frequency Stability Versus Voltage									
Operating Frequency: 5260 MHz									
TEMP. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail	Measured Frequency (MHz)	Pass/Fail
20	138	5259.9769	PASS	5259.975	PASS	5259.9756	PASS	5259.9762	PASS
	120	5259.9776	PASS	5259.976	PASS	5259.975	PASS	5259.9767	PASS
	102	5259.9775	PASS	5259.9767	PASS	5259.9757	PASS	5259.976	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	3.12	3.10	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	3.71	3.72	3.72	3.70	0.5	Pass

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

802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142 (UNII-3 Band)	5710	3.10	2.54	2.54	2.55	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	2.77	2.75	2.73	0.5	Pass

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

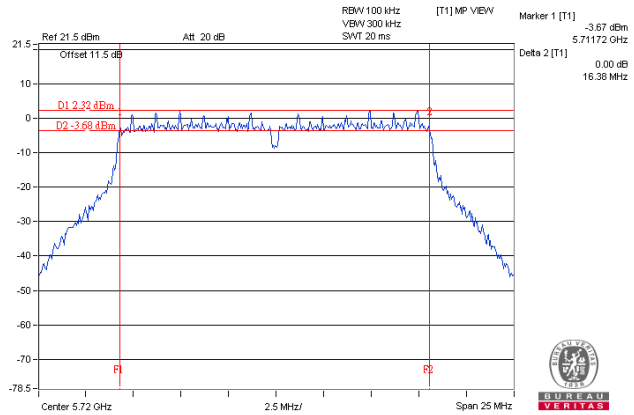
802.11ac (VHT80+80)

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	2.81	2.64	-	-	0.5	Pass
	5775	-	-	75.35	75.27	0.5	Pass
42+ 138 (UNII-2C) +138 (UNII-3)	5210	-					
	5690	-					
	5690	-	-	2.71	2.68	0.5	Pass
58+ 138 (UNII-2C) +138 (UNII-3)	5290	-					
	5690	-					
	5690	-	-	2.71	2.68	0.5	Pass
58+155	5290	-					
	5775	-	-	75.35	75.27	0.5	Pass
106+155	5530	-					
	5775	-	-	75.35	75.27	0.5	Pass
122+155	5610	-					
	5775	-	-	75.35	75.27	0.5	Pass
106+ 138 (UNII-2C) +138 (UNII-3)	5530	-					
	5690	-					
	5690	-	-	2.71	2.68	0.5	Pass
122+ 138 (U_NII-2C)+ 138 (U_NII-3)	5610	-					
	5690	-					
	5690	-	-	2.71	2.68	0.5	Pass

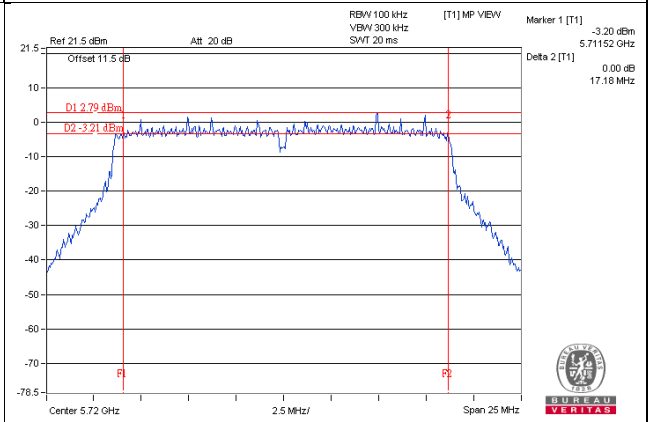
Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

Spectrum Plot of Worst Value

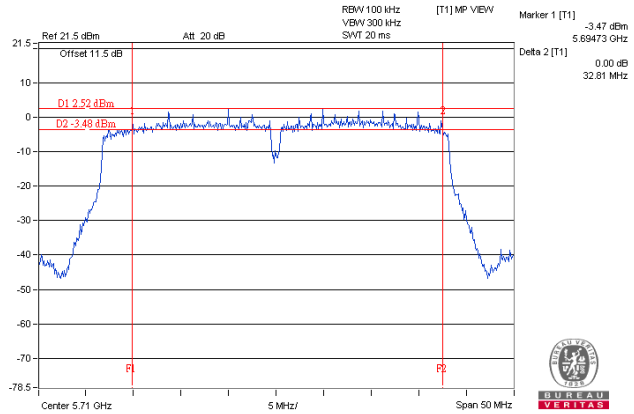
802.11a / Chain 1 - CH144 (UNII-3 Band)



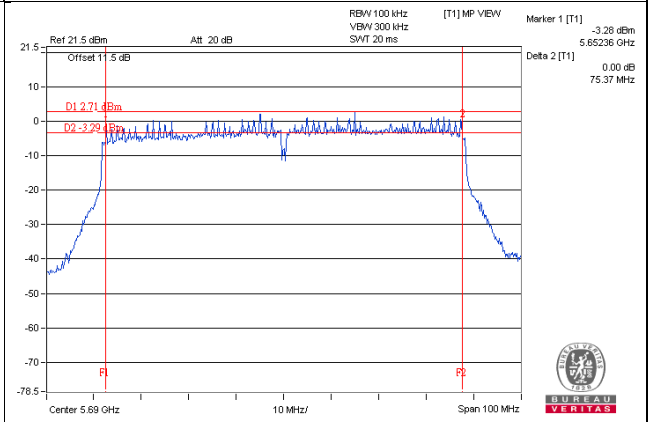
802.11ac (VHT20) / Chain 3 - CH144 (UNII-3 Band)



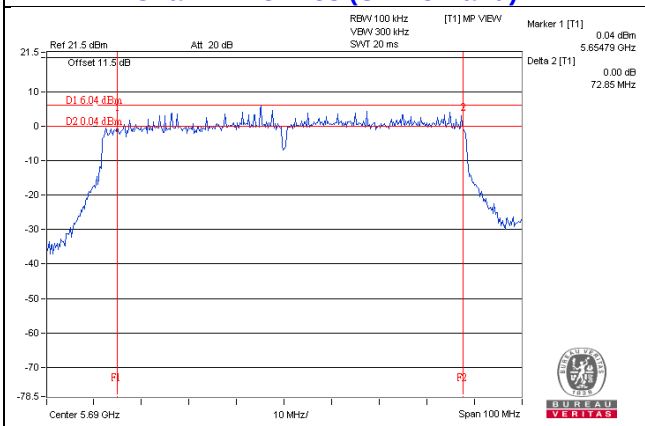
802.11ac (VHT40) / Chain 1 - CH142 (UNII-3 Band)



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



802.11ac (VHT80+80) / Chain 1 – CH138 (UNII-3 Band)



Appendix – Information on the Testing Laboratories

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

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

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