

## FCC Test Report (WLAN)

**Report No.:** RF150810C21

**FCC ID:** NQ8CI2516

**Test Model:** CI2516

**Received Date:** Aug. 10, 2015

**Test Date:** Aug. 20 to 24, 2015

**Issued Date:** Sep. 02, 2015

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### Release Control Record

Issue No.	Description	Date Issued
RF150810C21	Original release.	Sep. 02, 2015



## 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 -12.34dB at 0.28281MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 5021.00MHz, 5350.00MHz, 5364.00MHz, 5400.00MHz, 5404.00MHz, 5470.00MHz & 5715.00MHz
15.407(a)(1/2 /3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2 /3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is ipex 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) ( $\pm$ )
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.37 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.65 dB
	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	IP Set Top Box
Brand	Layer3 TV
Test Model	CI2516
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12Vdc from power adapter
Modulation Type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	OFDM
Transfer Rate	802.11a: up to 54Mbps 802.11n: up to 450Mbps 802.11ac: up to 1300Mbps
Operating Frequency	5.18GHz ~ 5.32GHz, 5.50GHz ~ 5.70GHz, 5.745GHz ~ 5.825GHz
Number of Channel	802.11a, 802.11n (HT20), 802.11ac (VHT20): 21 802.11n (HT40), 802.11ac (VHT40): 11 802.11ac (VHT80): 5
Output Power	<b>CDD Mode:</b> 802.11a: 588.201 mW 802.11ac (VHT20): 346.215mW 802.11ac (VHT40): 335.093mW 802.11ac (VHT80): 238.435mW <b>Beamforming Mode:</b> 802.11ac (VHT20): 346.215mW 802.11ac (VHT40): 335.093mW 802.11ac (VHT80): 167.897mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

**Note:**

1. There are Bluetooth technology, WLAN technology and RF4CE technology used for the EUT.
2. The emission of the simultaneous operation (Bluetooth & WLAN & RF4CE) has been evaluated and no non-compliance was found.
3. The EUT support multiple function, therefore the WLAN OFDM will be cover BT OFDM (low power) scenario.
4. The EUT must be supplied with a power adapter as following table:

Brand	Model No.	Spec.
AcBel	ADA017	Input: 100-240V~, 1.2A, 50/60Hz AC power cable (unshielded, 1.5m) Output: 12V, 3A DC power cable (unshielded, 1.75m)

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

<b>Bluetooth</b>					
Ant. No.	Ant. Gain (dBi) Including cable loss	Frequency range (GHz ~ GHz)	Ant. Type	Connecter Type	
1	3.2	2.4~2.5	Dipole	ipex	
<b>WLAN</b>					
Ant. No.	Transmitter Circuit	Ant. Gain (dBi) Including cable loss	Frequency range (GHz ~ GHz)	Ant. Type	Connecter Type
2	Chain (0)	4.6	5.15~5.85	Dipole	ipex
3	Chain (1)	4.7	5.15~5.85	Dipole	ipex
4	Chain (2)	5.4	5.15~5.85	Dipole	ipex
<b>RF4CE</b>					
Ant. No.	Transmitter Circuit	Ant. Gain (dBi) Including cable loss	Frequency range (GHz ~ GHz)	Ant. Type	Connecter Type
5	Chain (0)	4.1	2.4~2.5	Dipole	NA
6	Chain (1)	3.2	2.4~2.5	Dipole	NA



6. The EUT incorporates a MIMO function with beamforming.

<b>MODULATION MODE</b>	<b>DATA RATE (MCS)</b>	<b>TX/RX FUNCTION</b>	
<b>802.11a</b>	6 ~ 54Mbps	3TX	3RX
<b>802.11n (HT20) &amp; 802.11n (HT40)</b>	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
<b>802.11ac (VHT20)</b>	MCS0~8 (256QAM) Nss= 1	3TX	3RX
	MCS0~8 (256QAM) Nss= 2	3TX	3RX
	MCS0~9 (256QAM) Nss= 3	3TX	3RX
<b>802.11ac (VHT40) &amp; 802.11ac (VHT80)</b>	MCS0~9 (256QAM) Nss= 1	3TX	3RX
	MCS0~9 (256QAM) Nss= 2	3TX	3RX
	MCS0~9 (256QAM) Nss= 3	3TX	3RX

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

2. All of modulation mode support beamforming function except 802.11a modulation mode.

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

### 3.2 Description of Test Modes

#### FOR 5180 ~ 5240MHz

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

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

#### 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	5290MHz

**FOR 5500 ~ 5700MHz**

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

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

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

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

**FOR 5745 ~ 5825MHz:**

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

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

### 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	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106	106	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

**Radiated Emission Test (Below 1GHz):**

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

<b>CDD Mode</b>						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320, 5500-5700, 5745-5825	36 to 64, 100 to 140, 149 to 165	157	OFDM	BPSK	6

**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.

<b>CDD Mode</b>						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5320, 5500-5700, 5745-5825	36 to 64, 100 to 140, 149 to 165	157	OFDM	BPSK	6

**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.

<b>CDD Mode</b>						
<b>For Max Average Transmit Power, Peak Power Spectral Density &amp; 6dB bandwidth</b>						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)		42	42	OFDM	BPSK	29.3
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6
802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6
802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106	106	OFDM	BPSK	29.3
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6
802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3
<b>Beamforming Mode</b>						
<b>For Max Average Transmit Power</b>						
MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (VHT80)		58	58	OFDM	BPSK	29.3
802.11n (HT20)	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (VHT80)		106	106	OFDM	BPSK	29.3
802.11n (HT20)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	13.5
802.11ac (VHT80)		155	155	OFDM	BPSK	29.3

**Test Condition:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
<b>RE<math>\geq</math>1G</b>	25deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
	26deg. C, 69%RH	120Vac, 60Hz	Robert Cheng
	25deg. C, 74%RH	120Vac, 60Hz	Robert Cheng
	24deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
<b>RE<math>&lt;</math>1G</b>	24deg. C, 68%RH	120Vac, 60Hz	Weiwei Lo
<b>PLC</b>	25deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin
<b>APCM</b>	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

### 3.3 Duty Cycle of Test Signal

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

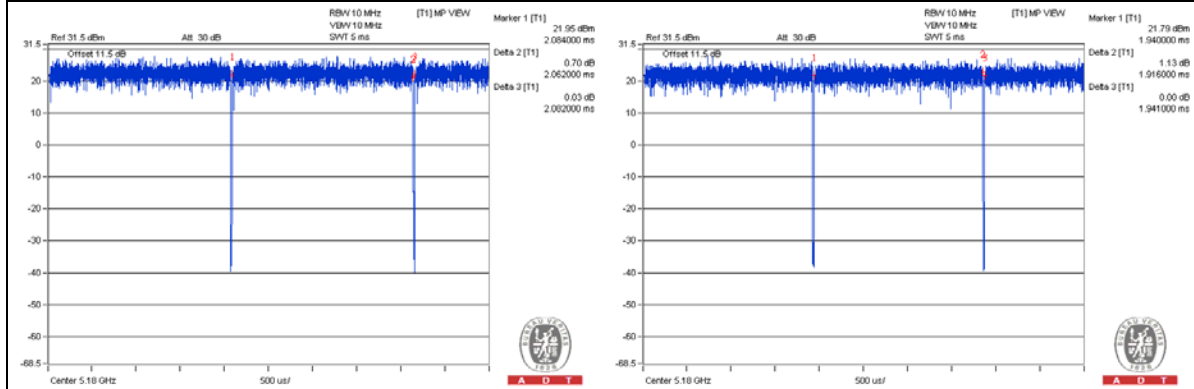
**802.11a:** Duty cycle =  $2.062 \text{ ms} / 2.082 \text{ ms} = 0.99$

**802.11ac (VHT20):** Duty cycle =  $1.916 \text{ ms} / 1.941 \text{ ms} = 0.987$

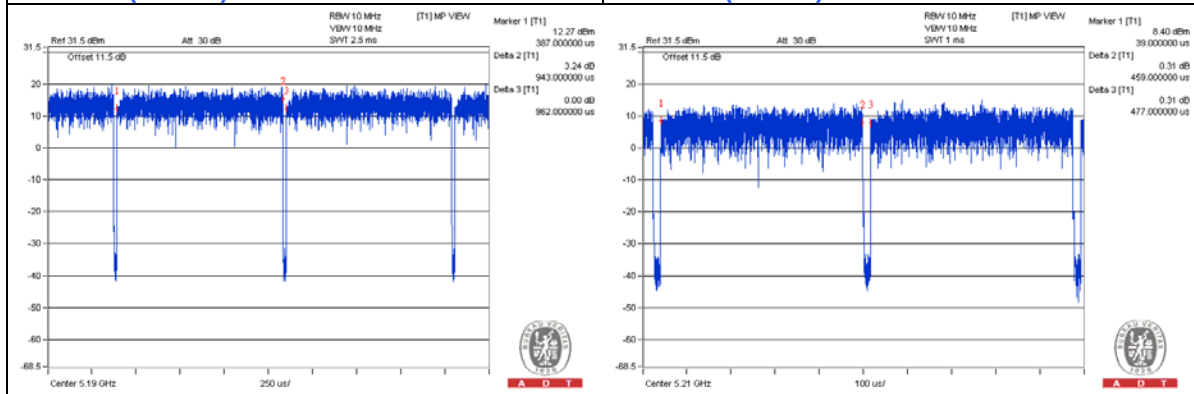
**802.11ac (VHT40):** Duty cycle =  $0.943 \text{ ms} / 0.962 \text{ ms} = 0.98$

**802.11ac (VHT80):** Duty cycle =  $0.459 \text{ ms} / 0.477 \text{ ms} = 0.962$ , Duty factor =  $10 * \log(1/0.962) = 0.17$

**802.11a** **802.11ac (VHT20)**



**802.11ac (VHT40)** **802.11ac (VHT80)**





### 3.4 Description of Support Units

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

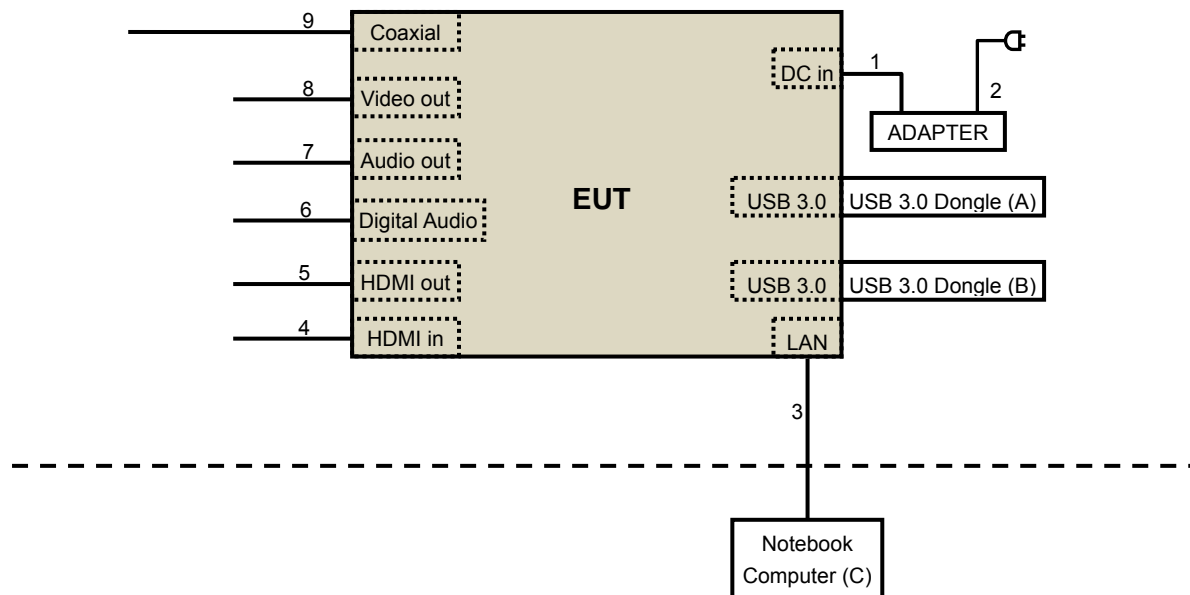
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	USB 3.0 Dongle	Transcend	NA	NA	NA	Provided by Lab
B.	USB 3.0 Dongle	Transcend	NA	NA	NA	Provided by Lab
C.	Notebook Computer	DELL	E5430	HYV4VY1	FCC DoC	

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC	1	1.75	No	0	Supplied by Client
2	AC	1	1.5	No	0	Supplied by Client
3	RJ45	1	10	No	0	Provided by Lab
4	HDMI	1	1.8	No	0	Provided by Lab
5	HDMI	1	1.8	No	0	Provided by Lab
6	Digital	1	1.5	No	0	Provided by Lab
7	Audio	1	1.5	No	0	Provided by Lab
8	Video	1	1.5	No </td <td>0</td> <td>Provided by Lab</td>	0	Provided by Lab
9	Coaxial	1	10	No	0	Provided by Lab

#### 3.4.1 Configuration of System under Test



### 3.5 General Description of Applied Standard

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart E (15.407)**

**789033 D02 General UNII Test Procedure New Rules v01**

**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 v01	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) <sup>*1</sup> PK:-17 (dBm/MHz) <sup>*2</sup>	PK:68.2 (dBuV/m) <sup>*1</sup> PK:78.2 (dBuV/m) <sup>*2</sup>

**NOTE:** <sup>\*1</sup> beyond 10MHz of the band edge <sup>\*2</sup> within 10 MHz of band edge

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

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



## 4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 06, 2015	Feb. 05, 2016
RF Cable	8D-FB	CHGCAB-001 -1 CHGCAB-001 -2	Oct. 04, 2014	Oct. 03, 2015
	RF-141	CHGCAB-004	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	000032009111 0	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/ 4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	June 26, 2015	June 25, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
SPECTRUM ANALYZER R&S	FSP 40	100060	May 08, 2015	May 07, 2016
Power meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-S P-AR	MAA0812-00 8	Jan. 12, 2015	Jan. 11, 2016

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: Aug. 20 to 24, 2015

#### 4.1.3 Test Procedures

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

**Note:**

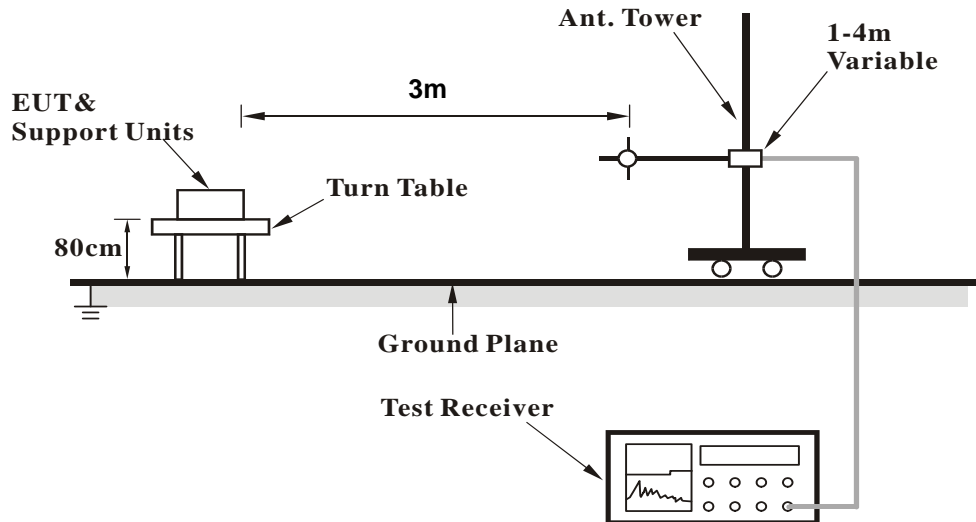
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

#### 4.1.4 Deviation from Test Standard

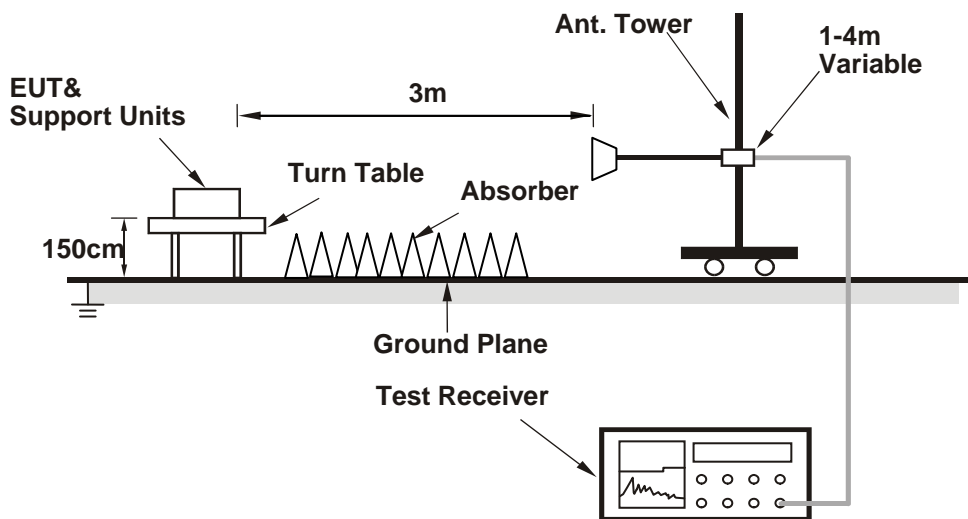
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

#### 4.1.6 EUT Operating Conditions

- a. Placed the EUT on the testing table.
- b. Connect the EUT with the support unit A (Notebook computer) which is placed in remote site.
- c. The communication partner run test program "Mtool.exe V2.0.1.0" to enable EUT under transmission/receiving condition continuously at specific channel frequency.

#### 4.1.7 Test Results

#### CDD Mode

#### Above 1GHz Data

#### 802.11a

<b>CHANNEL</b>	TX Channel 36	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

#### ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5021.00	56.0 PK	74.0	-18.0	1.24 H	218	46.51	9.49
2	5021.00	47.7 AV	54.0	-6.3	1.24 H	218	38.21	9.49
3	5061.00	53.6 PK	74.0	-20.4	1.20 H	11	44.01	9.59
4	5061.00	45.6 AV	54.0	-8.4	1.20 H	11	36.01	9.59
5	5101.00	53.8 PK	74.0	-20.2	1.22 H	222	44.13	9.67
6	5101.00	45.3 AV	54.0	-8.7	1.22 H	222	35.63	9.67
7	*5180.00	113.2 PK			1.07 H	212	103.04	10.16
8	*5180.00	103.6 AV			1.07 H	212	93.44	10.16
9	#10360.00	54.2 PK	74.0	-19.8	1.00 H	215	37.22	16.98
10	#10360.00	40.6 AV	54.0	-13.4	1.00 H	215	23.62	16.98
11	15540.00	60.4 PK	74.0	-13.6	1.42 H	95	38.47	21.93
12	15540.00	47.5 AV	54.0	-6.5	1.42 H	95	25.57	21.93

#### 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	5021.00	64.2 PK	74.0	-9.8	1.13 V	175	54.71	9.49
2	<b>5021.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>1.13 V</b>	<b>175</b>	<b>44.41</b>	<b>9.49</b>
3	5061.00	62.2 PK	74.0	-11.8	1.24 V	173	52.61	9.59
4	5061.00	52.2 AV	54.0	-1.8	1.24 V	173	42.61	9.59
5	5101.00	61.8 PK	74.0	-12.2	1.44 V	173	52.13	9.67
6	5101.00	51.3 AV	54.0	-2.7	1.44 V	173	41.63	9.67
7	*5180.00	118.3 PK			1.49 V	174	108.14	10.16
8	*5180.00	109.5 AV			1.49 V	174	99.34	10.16
9	#10360.00	54.2 PK	74.0	-19.8	1.65 V	120	37.22	16.98
10	#10360.00	40.9 AV	54.0	-13.1	1.65 V	120	23.92	16.98
11	15540.00	60.2 PK	74.0	-13.8	1.24 V	65	38.27	21.93
12	15540.00	48.2 AV	54.0	-5.8	1.24 V	65	26.27	21.93

#### REMARKS:

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



<b>CHANNEL</b>	TX Channel 40	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5042.00	53.1 PK	74.0	-20.9	1.22 H	111	43.55	9.55
2	5042.00	45.8 AV	54.0	-8.2	1.22 H	111	36.25	9.55
3	5121.00	54.8 PK	74.0	-19.2	1.11 H	121	45.01	9.79
4	5121.00	45.3 AV	54.0	-8.7	1.11 H	121	35.51	9.79
5	*5200.00	112.5 PK			1.08 H	222	102.24	10.26
6	*5200.00	103.5 AV			1.08 H	222	93.24	10.26
7	5364.00	55.8 PK	74.0	-18.2	1.22 H	255	45.20	10.60
8	5364.00	47.5 AV	54.0	-6.5	1.22 H	255	36.90	10.60
9	#10400.00	54.3 PK	74.0	-19.7	1.00 H	223	37.24	17.06
10	#10400.00	40.6 AV	54.0	-13.4	1.00 H	223	23.54	17.06
11	15600.00	60.6 PK	74.0	-13.4	1.41 H	108	38.32	22.28
12	15600.00	47.4 AV	54.0	-6.6	1.41 H	108	25.12	22.28

**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	5042.00	61.6 PK	74.0	-12.4	1.28 V	175	52.05	9.55
2	5042.00	52.3 AV	54.0	-1.7	1.28 V	175	42.75	9.55
3	5121.00	63.2 PK	74.0	-10.8	1.19 V	173	53.41	9.79
4	5121.00	51.9 AV	54.0	-2.1	1.19 V	173	42.11	9.79
5	*5200.00	117.4 PK			1.44 V	176	107.14	10.26
6	*5200.00	109.1 AV			1.44 V	176	98.84	10.26
7	5364.00	64.4 PK	74.0	-9.6	1.43 V	164	53.80	10.60
<b>8</b>	<b>5364.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>1.43 V</b>	<b>164</b>	<b>43.30</b>	<b>10.60</b>
9	#10400.00	54.6 PK	74.0	-19.4	1.65 V	123	37.54	17.06
10	#10400.00	41.3 AV	54.0	-12.7	1.65 V	123	24.24	17.06
11	15600.00	60.7 PK	74.0	-13.3	1.23 V	55	38.42	22.28
12	15600.00	48.6 AV	54.0	-5.4	1.23 V	55	26.32	22.28

**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.

<b>CHANNEL</b>	TX Channel 48	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5081.00	54.9 PK	74.0	-19.1	1.65 H	211	45.26	9.64
2	5081.00	46.8 AV	54.0	-7.2	1.65 H	211	37.16	9.64
3	*5240.00	111.9 PK			1.25 H	211	101.57	10.33
4	*5240.00	101.8 AV			1.25 H	211	91.47	10.33
5	5350.00	56.0 PK	74.0	-18.0	1.44 H	322	45.45	10.55
6	5350.00	47.7 AV	54.0	-6.3	1.44 H	322	37.15	10.55
7	5404.00	57.2 PK	74.0	-16.8	1.55 H	122	46.49	10.71
8	5404.00	48.1 AV	54.0	-5.9	1.55 H	122	37.39	10.71
9	#10480.00	54.2 PK	74.0	-19.8	1.20 H	225	37.47	16.73
10	#10480.00	40.7 AV	54.0	-13.3	1.20 H	225	23.97	16.73
11	15720.00	60.2 PK	74.0	-13.8	1.41 H	107	37.57	22.63
12	15720.00	47.6 AV	54.0	-6.4	1.41 H	107	24.97	22.63

**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	5081.00	63.1 PK	74.0	-10.9	1.32 V	174	53.46	9.64
2	5081.00	53.1 AV	54.0	-0.9	1.32 V	174	43.46	9.64
3	*5240.00	117.1 PK			1.24 V	178	106.77	10.33
4	*5240.00	107.7 AV			1.24 V	178	97.37	10.33
5	5350.00	62.3 PK	74.0	-11.7	1.22 V	222	51.75	10.55
6	5350.00	51.3 AV	54.0	-2.7	1.22 V	222	40.75	10.55
7	5404.00	64.5 PK	74.0	-9.5	1.69 V	164	53.79	10.71
<b>8</b>	<b>5404.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>1.69 V</b>	<b>164</b>	<b>43.19</b>	<b>10.71</b>
9	#10480.00	54.3 PK	74.0	-19.7	1.71 V	119	37.57	16.73
10	#10480.00	40.5 AV	54.0	-13.5	1.71 V	119	23.77	16.73
11	15720.00	60.3 PK	74.0	-13.7	1.26 V	56	37.67	22.63
12	15720.00	48.1 AV	54.0	-5.9	1.26 V	56	25.47	22.63

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5102.00	49.0 PK	74.0	-25.0	1.54 H	187	39.32	9.68
2	5102.00	41.5 AV	54.0	-12.5	1.54 H	187	31.82	9.68
3	5150.00	49.8 PK	74.0	-24.2	1.48 H	194	39.83	9.97
4	5150.00	38.8 AV	54.0	-15.2	1.48 H	194	28.83	9.97
5	*5260.00	109.3 PK			1.49 H	174	98.94	10.36
6	*5260.00	97.6 AV			1.49 H	174	87.24	10.36
7	5423.00	53.7 PK	74.0	-20.3	1.43 H	172	42.93	10.77
8	5423.00	44.5 AV	54.0	-9.5	1.43 H	172	33.73	10.77
9	#10520.00	53.9 PK	74.0	-20.1	1.50 H	169	37.18	16.72
10	#10520.00	40.4 AV	54.0	-13.6	1.50 H	169	23.68	16.72
11	15780.00	60.1 PK	74.0	-13.9	1.42 H	177	37.23	22.87
12	15780.00	47.0 AV	54.0	-7.0	1.42 H	177	24.13	22.87

**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	5102.00	57.8 PK	74.0	-16.2	1.20 V	176	48.12	9.68
2	5102.00	47.9 AV	54.0	-6.1	1.20 V	176	38.22	9.68
3	5150.00	57.8 PK	74.0	-16.2	1.42 V	166	47.83	9.97
4	5150.00	45.0 AV	54.0	-9.0	1.42 V	166	35.03	9.97
5	*5260.00	114.6 PK			1.48 V	178	104.24	10.36
6	*5260.00	104.7 AV			1.48 V	178	94.34	10.36
7	5423.00	62.0 PK	74.0	-12.0	1.40 V	165	51.23	10.77
8	5423.00	50.7 AV	54.0	-3.3	1.40 V	165	39.93	10.77
9	#10520.00	54.3 PK	74.0	-19.7	1.74 V	134	37.58	16.72
10	#10520.00	40.7 AV	54.0	-13.3	1.74 V	134	23.98	16.72
11	15780.00	59.7 PK	74.0	-14.3	1.22 V	60	36.83	22.87
12	15780.00	47.7 AV	54.0	-6.3	1.22 V	60	24.83	22.87

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5144.00	48.9 PK	74.0	-25.1	1.44 H	163	38.96	9.94
2	5144.00	41.5 AV	54.0	-12.5	1.44 H	163	31.56	9.94
3	*5300.00	109.0 PK			1.52 H	186	98.57	10.43
4	*5300.00	97.5 AV			1.52 H	186	87.07	10.43
5	5454.00	48.9 PK	74.0	-25.1	1.53 H	172	38.03	10.87
6	5454.00	41.6 AV	54.0	-12.4	1.53 H	172	30.73	10.87
7	10600.00	53.9 PK	74.0	-20.1	1.45 H	166	36.92	16.98
8	10600.00	40.3 AV	54.0	-13.7	1.45 H	166	23.32	16.98
9	15900.00	60.4 PK	74.0	-13.6	1.46 H	164	37.59	22.81
10	15900.00	47.0 AV	54.0	-7.0	1.46 H	164	24.19	22.81

**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	5144.00	57.5 PK	74.0	-16.5	1.01 V	173	47.56	9.94
2	5144.00	47.5 AV	54.0	-6.5	1.01 V	173	37.56	9.94
3	*5300.00	114.9 PK			1.42 V	168	104.47	10.43
4	*5300.00	104.9 AV			1.42 V	168	94.47	10.43
5	5454.00	62.4 PK	74.0	-11.6	1.31 V	165	51.53	10.87
6	5454.00	51.2 AV	54.0	-2.8	1.31 V	165	40.33	10.87
7	10600.00	54.5 PK	74.0	-19.5	1.76 V	114	37.52	16.98
8	10600.00	40.8 AV	54.0	-13.2	1.76 V	114	23.82	16.98
9	15900.00	60.5 PK	74.0	-13.5	1.31 V	42	37.69	22.81
10	15900.00	48.2 AV	54.0	-5.8	1.31 V	42	25.39	22.81

**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.



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.4 PK			1.45 H	179	98.92	10.48
2	*5320.00	97.8 AV			1.45 H	179	87.32	10.48
3	5350.00	48.6 PK	74.0	-25.4	1.53 H	175	38.05	10.55
4	5350.00	41.3 AV	54.0	-12.7	1.53 H	175	30.75	10.55
5	5400.00	49.6 PK	74.0	-24.4	1.52 H	186	38.90	10.70
6	5400.00	38.7 AV	54.0	-15.3	1.52 H	186	28.00	10.70
7	5433.00	53.8 PK	74.0	-20.2	1.50 H	167	42.99	10.81
8	5433.00	44.5 AV	54.0	-9.5	1.50 H	167	33.69	10.81
9	#5473.00	48.8 PK	74.0	-25.2	1.45 H	177	37.86	10.94
10	#5473.00	41.6 AV	54.0	-12.4	1.45 H	177	30.66	10.94
11	10640.00	54.9 PK	74.0	-19.1	1.45 H	188	37.84	17.06
12	10640.00	41.0 AV	54.0	-13.0	1.45 H	188	23.94	17.06
13	15960.00	60.1 PK	74.0	-13.9	1.54 H	181	37.37	22.73
14	15960.00	46.9 AV	54.0	-7.1	1.54 H	181	24.17	22.73

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.7 PK			1.40 V	201	103.22	10.48
2	*5320.00	103.9 AV			1.40 V	201	93.42	10.48
3	5350.00	58.3 PK	74.0	-15.7	1.39 V	155	47.75	10.55
4	5350.00	45.3 AV	54.0	-8.7	1.39 V	155	34.75	10.55
5	5400.00	59.6 PK	74.0	-14.4	1.38 V	165	48.90	10.70
6	5400.00	46.8 AV	54.0	-7.2	1.38 V	165	36.10	10.70
7	5433.00	59.3 PK	74.0	-14.7	1.47 V	166	48.49	10.81
8	5433.00	46.9 AV	54.0	-7.1	1.47 V	166	36.09	10.81
9	#5473.00	61.7 PK	74.0	-12.3	1.40 V	165	50.76	10.94
10	#5473.00	51.2 AV	54.0	-2.8	1.40 V	165	40.26	10.94
11	10640.00	54.7 PK	74.0	-19.3	1.70 V	131	37.64	17.06
12	10640.00	40.9 AV	54.0	-13.1	1.70 V	131	23.84	17.06
13	15960.00	60.2 PK	74.0	-13.8	1.32 V	51	37.47	22.73
14	15960.00	47.9 AV	54.0	-6.1	1.32 V	51	25.17	22.73

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5044.00	50.3 PK	74.0	-23.7	1.22 H	212	40.75	9.55
2	5044.00	40.3 AV	54.0	-13.7	1.22 H	212	30.75	9.55
3	#5470.00	55.3 PK	74.0	-18.7	1.55 H	122	44.38	10.92
4	#5470.00	42.5 AV	54.0	-11.5	1.55 H	122	31.58	10.92
5	*5500.00	107.3 PK			1.15 H	211	96.28	11.02
6	*5500.00	98.1 AV			1.15 H	211	87.08	11.02
7	#5741.00	52.3 PK	74.0	-21.7	1.56 H	100	40.70	11.60
8	#5741.00	42.3 AV	54.0	-11.7	1.56 H	100	30.70	11.60
9	11000.00	54.6 PK	74.0	-19.4	1.44 H	180	36.89	17.71
10	11000.00	40.8 AV	54.0	-13.2	1.44 H	180	23.09	17.71
11	#16500.00	60.4 PK	74.0	-13.6	1.49 H	196	36.05	24.35
12	#16500.00	46.9 AV	54.0	-7.1	1.49 H	196	22.55	24.35

**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	5044.00	54.9 PK	74.0	-19.1	1.27 V	173	45.35	9.55
2	5044.00	45.1 AV	54.0	-8.9	1.27 V	173	35.55	9.55
3	#5470.00	62.5 PK	74.0	-11.5	1.40 V	167	51.58	10.92
4	#5470.00	46.4 AV	54.0	-7.6	1.40 V	167	35.48	10.92
5	*5500.00	113.0 PK			1.16 V	166	101.98	11.02
6	*5500.00	103.4 AV			1.16 V	166	92.38	11.02
7	#5741.00	55.9 PK	74.0	-18.1	1.13 V	106	44.30	11.60
8	#5741.00	45.9 AV	54.0	-8.1	1.13 V	106	34.30	11.60
9	11000.00	54.8 PK	74.0	-19.2	1.69 V	116	37.09	17.71
10	11000.00	41.2 AV	54.0	-12.8	1.69 V	116	23.49	17.71
11	#16500.00	60.2 PK	74.0	-13.8	1.30 V	42	35.85	24.35
12	#16500.00	47.8 AV	54.0	-6.2	1.30 V	42	23.45	24.35

**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.



<b>CHANNEL</b>	TX Channel 120	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5443.00	50.5 PK	74.0	-23.5	1.66 H	222	39.67	10.83
2	5443.00	42.2 AV	54.0	-11.8	1.66 H	222	31.37	10.83
3	*5600.00	107.3 PK			1.16 H	199	96.22	11.08
4	*5600.00	98.1 AV			1.16 H	199	87.02	11.08
5	11200.00	55.1 PK	74.0	-18.9	1.47 H	165	37.24	17.86
6	11200.00	41.2 AV	54.0	-12.8	1.47 H	165	23.34	17.86
7	#16800.00	60.1 PK	74.0	-13.9	1.55 H	210	34.73	25.37
8	#16800.00	46.6 AV	54.0	-7.4	1.55 H	210	21.23	25.37

**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	5443.00	58.2 PK	74.0	-15.8	1.49 V	166	47.37	10.83
2	5443.00	47.8 AV	54.0	-6.2	1.49 V	166	36.97	10.83
3	*5600.00	113.4 PK			1.15 V	155	102.32	11.08
4	*5600.00	103.5 AV			1.15 V	155	92.42	11.08
5	11200.00	54.9 PK	74.0	-19.1	1.69 V	139	37.04	17.86
6	11200.00	40.9 AV	54.0	-13.1	1.69 V	139	23.04	17.86
7	#16800.00	60.3 PK	74.0	-13.7	1.26 V	49	34.93	25.37
8	#16800.00	47.9 AV	54.0	-6.1	1.26 V	49	22.53	25.37

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.9 PK			1.55 H	122	97.42	11.48
2	*5700.00	97.3 AV			1.55 H	122	85.82	11.48
3	#5725.00	49.6 PK	74.0	-24.4	1.52 H	170	38.05	11.55
4	#5725.00	42.0 AV	54.0	-12.0	1.52 H	170	30.45	11.55
5	#5861.00	48.9 PK	74.0	-25.1	1.47 H	160	37.15	11.75
6	#5861.00	41.3 AV	54.0	-12.7	1.47 H	160	29.55	11.75
7	11400.00	54.4 PK	74.0	-19.6	1.50 H	154	36.38	18.02
8	11400.00	40.7 AV	54.0	-13.3	1.50 H	154	22.68	18.02
9	#17100.00	59.9 PK	74.0	-14.1	1.57 H	220	32.28	27.62
10	#17100.00	46.2 AV	54.0	-7.8	1.57 H	220	18.58	27.62

**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			1.43 V	173	100.92	11.48
2	*5700.00	103.7 AV			1.43 V	173	92.22	11.48
3	#5725.00	64.2 PK	74.0	-9.8	1.31 V	202	52.65	11.55
4	#5725.00	47.7 AV	54.0	-6.3	1.31 V	202	36.15	11.55
5	#5861.00	55.5 PK	74.0	-18.5	1.00 V	161	43.75	11.75
6	#5861.00	46.1 AV	54.0	-7.9	1.00 V	161	34.35	11.75
7	11400.00	54.7 PK	74.0	-19.3	1.66 V	121	36.68	18.02
8	11400.00	40.8 AV	54.0	-13.2	1.66 V	121	22.78	18.02
9	#17100.00	60.2 PK	74.0	-13.8	1.37 V	65	32.58	27.62
10	#17100.00	47.8 AV	54.0	-6.2	1.37 V	65	20.18	27.62

**REMARKS:**

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



<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5665.00	57.3 PK	74.0	-16.7	1.24 H	134	45.97	11.33
2	#5665.00	47.3 AV	54.0	-6.7	1.24 H	134	35.97	11.33
3	#5715.00	58.2 PK	74.0	-15.8	1.32 H	169	46.67	11.53
4	#5715.00	43.6 AV	54.0	-10.4	1.32 H	169	32.07	11.53
5	#5725.00	69.5 PK	78.2	-8.7	1.32 H	156	57.95	11.55
6	*5745.00	110.8 PK			1.30 H	122	99.17	11.63
7	*5745.00	101.7 AV			1.30 H	122	90.07	11.63
8	#5902.00	55.3 PK	74.0	-18.7	1.25 H	200	43.57	11.73
9	#5902.00	46.3 AV	54.0	-7.7	1.25 H	200	34.57	11.73
10	11490.00	54.6 PK	74.0	-19.4	1.48 H	148	37.30	17.30
11	11490.00	42.4 AV	54.0	-11.6	1.48 H	148	25.10	17.30
12	#17235.00	63.6 PK	74.0	-10.4	1.37 H	319	36.79	26.81
13	#17235.00	47.6 AV	54.0	-6.4	1.37 H	319	20.79	26.81

**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	#5665.00	64.3 PK	74.0	-9.7	1.57 V	173	52.97	11.33
2	#5665.00	52.4 AV	54.0	-1.6	1.57 V	173	41.07	11.33
3	#5715.00	65.2 PK	74.0	-8.8	1.64 V	205	53.67	11.53
4	#5715.00	50.4 AV	54.0	-3.6	1.64 V	205	38.87	11.53
5	#5725.00	77.6 PK	78.2	-0.6	1.43 V	174	66.05	11.55
6	*5745.00	116.0 PK			1.52 V	176	104.37	11.63
7	*5745.00	107.0 AV			1.52 V	176	95.37	11.63
8	#5902.00	62.5 PK	74.0	-11.5	1.34 V	191	50.77	11.73
9	#5902.00	52.5 AV	54.0	-1.5	1.34 V	191	40.77	11.73
10	11490.00	57.7 PK	74.0	-16.3	1.06 V	145	40.40	17.30
11	11490.00	44.9 AV	54.0	-9.1	1.06 V	145	27.60	17.30
12	#17235.00	64.0 PK	74.0	-10.0	1.05 V	273	37.19	26.81
13	#17235.00	49.2 AV	54.0	-4.8	1.05 V	273	22.39	26.81

**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.



<b>CHANNEL</b>	TX Channel 157	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.00	60.2 PK	68.2	-8.0	1.22 H	169	49.02	11.18
2	*5785.00	113.4 PK			1.25 H	221	101.66	11.74
3	*5785.00	104.0 AV			1.25 H	221	92.26	11.74
4	#5944.00	58.3 PK	68.2	-9.9	1.28 H	149	46.33	11.97
5	11570.00	54.7 PK	74.0	-19.3	1.51 H	154	36.79	17.91
6	11570.00	42.7 AV	54.0	-11.3	1.51 H	154	24.79	17.91
7	#17355.00	63.3 PK	68.2	-4.9	1.38 H	318	36.16	27.14

**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	#5626.00	66.4 PK	68.2	-1.8	1.39 V	174	55.22	11.18
2	*5785.00	119.2 PK			1.38 V	174	107.46	11.74
3	*5785.00	109.3 AV			1.38 V	174	97.56	11.74
4	#5944.00	64.2 PK	68.2	-4.0	1.11 V	285	52.23	11.97
5	11570.00	56.9 PK	74.0	-17.1	1.10 V	147	38.99	17.91
6	11570.00	44.0 AV	54.0	-10.0	1.10 V	147	26.09	17.91
7	#17355.00	63.9 PK	68.2	-4.3	1.03 V	269	36.76	27.14

**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.

<b>CHANNEL</b>	TX Channel 165	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5666.00	53.2 PK	68.2	-15.0	1.54 H	122	41.85	11.35
2	*5825.00	111.5 PK			1.34 H	155	99.72	11.78
3	*5825.00	102.2 AV			1.34 H	155	90.42	11.78
4	#5850.00	70.9 PK	78.2	-7.3	1.27 H	155	59.15	11.75
5	#5860.00	61.9 PK	68.2	-6.3	1.27 H	155	50.15	11.75
6	#5982.00	59.1 PK	68.2	-9.1	1.23 H	149	46.91	12.19
7	11650.00	54.5 PK	74.0	-19.5	1.48 H	158	36.34	18.16
8	11650.00	42.4 AV	54.0	-11.6	1.48 H	158	24.24	18.16
9	#17475.00	63.7 PK	68.2	-4.5	1.42 H	321	35.78	27.92

**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	#5666.00	66.8 PK	68.2	-1.4	1.46 V	173	55.45	11.35
2	*5825.00	117.2 PK			1.12 V	190	105.42	11.78
3	*5825.00	107.2 AV			1.12 V	190	95.42	11.78
4	#5850.00	77.9 PK	78.2	-0.3	1.42 V	189	66.15	11.75
5	#5860.00	68.0 PK	68.2	-0.2	1.39 V	190	56.25	11.75
6	#5982.00	67.5 PK	68.2	-0.7	1.10 V	194	55.31	12.19
7	11650.00	57.2 PK	74.0	-16.8	1.01 V	152	39.04	18.16
8	11650.00	44.5 AV	54.0	-9.5	1.01 V	152	26.34	18.16
9	#17475.00	64.2 PK	68.2	-4.0	1.00 V	275	36.28	27.92

**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)**

<b>CHANNEL</b>	TX Channel 36	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5021.00	52.6 PK	74.0	-21.4	1.25 H	158	43.11	9.49
2	5021.00	45.3 AV	54.0	-8.7	1.25 H	158	35.81	9.49
3	5150.00	58.9 PK	74.0	-15.1	1.22 H	200	48.93	9.97
4	5150.00	15.3 AV	54.0	-38.7	1.22 H	200	5.33	9.97
5	*5180.00	120.0 PK			1.25 H	211	109.84	10.16
6	*5180.00	102.3 AV			1.25 H	211	92.14	10.16
7	#10360.00	54.0 PK	74.0	-20.0	1.22 H	241	37.02	16.98
8	#10360.00	40.3 AV	54.0	-13.7	1.22 H	241	23.32	16.98
9	15540.00	60.2 PK	74.0	-13.8	1.38 H	113	38.27	21.93
10	15540.00	47.8 AV	54.0	-6.2	1.38 H	113	25.87	21.93

**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	5021.00	61.2 PK	74.0	-12.8	1.01 V	156	51.71	9.49
2	5021.00	51.5 AV	54.0	-2.5	1.01 V	156	42.01	9.49
3	5150.00	67.6 PK	74.0	-6.4	1.28 V	207	57.63	9.97
4	5150.00	52.2 AV	54.0	-1.8	1.28 V	207	42.23	9.97
5	*5180.00	117.8 PK			1.32 V	207	107.64	10.16
6	*5180.00	108.2 AV			1.32 V	207	98.04	10.16
7	#10360.00	53.9 PK	74.0	-20.1	1.63 V	127	36.92	16.98
8	#10360.00	40.7 AV	54.0	-13.3	1.63 V	127	23.72	16.98
9	15540.00	60.7 PK	74.0	-13.3	1.29 V	62	38.77	21.93
10	15540.00	48.5 AV	54.0	-5.5	1.29 V	62	26.57	21.93

**REMARKS:**

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

<b>CHANNEL</b>	TX Channel 40	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5042.00	54.5 PK	74.0	-19.5	1.68 H	209	44.95	9.55
2	5042.00	46.7 AV	54.0	-7.3	1.68 H	209	37.15	9.55
3	5121.00	56.7 PK	74.0	-17.3	1.54 H	111	46.91	9.79
4	5121.00	47.8 AV	54.0	-6.2	1.54 H	111	38.01	9.79
5	*5200.00	111.7 PK			1.28 H	202	101.44	10.26
6	*5200.00	101.5 AV			1.28 H	202	91.24	10.26
7	5364.00	55.8 PK	74.0	-18.2	1.42 H	324	45.20	10.60
8	5364.00	47.4 AV	54.0	-6.6	1.42 H	324	36.80	10.60
9	#10400.00	54.0 PK	74.0	-20.0	1.22 H	241	36.94	17.06
10	#10400.00	40.3 AV	54.0	-13.7	1.22 H	241	23.24	17.06
11	15600.00	60.2 PK	74.0	-13.8	1.38 H	113	37.92	22.28
12	15600.00	47.8 AV	54.0	-6.2	1.38 H	113	25.52	22.28

**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	5042.00	62.2 PK	74.0	-11.8	1.24 V	165	52.65	9.55
2	5042.00	51.6 AV	54.0	-2.4	1.24 V	165	42.05	9.55
3	5121.00	63.3 PK	74.0	-10.7	1.18 V	166	53.51	9.79
4	5121.00	51.8 AV	54.0	-2.2	1.18 V	166	42.01	9.79
5	*5200.00	118.0 PK			1.34 V	222	107.74	10.26
6	*5200.00	108.2 AV			1.34 V	222	97.94	10.26
7	5364.00	64.8 PK	74.0	-9.2	1.38 V	157	54.20	10.60
8	5364.00	53.2 AV	54.0	-0.8	1.38 V	157	42.60	10.60
9	#10400.00	53.9 PK	74.0	-20.1	1.63 V	127	36.84	17.06
10	#10400.00	40.7 AV	54.0	-13.3	1.63 V	127	23.64	17.06
11	15600.00	60.7 PK	74.0	-13.3	1.29 V	62	38.42	22.28
12	15600.00	48.5 AV	54.0	-5.5	1.29 V	62	26.22	22.28

**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.

<b>CHANNEL</b>	TX Channel 48	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5078.00	55.3 PK	74.0	-18.7	1.08 H	125	45.67	9.63
2	5078.00	45.7 AV	54.0	-8.3	1.08 H	125	36.07	9.63
3	*5240.00	113.0 PK			1.10 H	212	102.67	10.33
4	*5240.00	103.8 AV			1.10 H	212	93.47	10.33
5	5350.00	55.3 PK	74.0	-18.7	1.25 H	256	44.75	10.55
6	5350.00	47.1 AV	54.0	-6.9	1.25 H	256	36.55	10.55
7	5400.00	53.2 PK	74.0	-20.8	1.17 H	106	42.50	10.70
8	5400.00	45.8 AV	54.0	-8.2	1.17 H	106	35.10	10.70
9	#10480.00	54.7 PK	74.0	-19.3	1.00 H	230	37.97	16.73
10	#10480.00	40.9 AV	54.0	-13.1	1.00 H	230	24.17	16.73
11	15720.00	61.0 PK	74.0	-13.0	1.39 H	93	38.37	22.63
12	15720.00	47.8 AV	54.0	-6.2	1.39 H	93	25.17	22.63

**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	5078.00	61.5 PK	74.0	-12.5	1.13 V	209	51.87	9.63
2	5078.00	52.2 AV	54.0	-1.8	1.13 V	209	42.57	9.63
3	*5240.00	117.8 PK			1.46 V	187	107.47	10.33
4	*5240.00	109.3 AV			1.46 V	187	98.97	10.33
5	5350.00	60.7 PK	74.0	-13.3	1.21 V	210	50.15	10.55
6	5350.00	49.3 AV	54.0	-4.7	1.21 V	210	38.75	10.55
7	5400.00	64.2 PK	74.0	-9.8	1.51 V	196	53.50	10.70
<b>8</b>	<b>5400.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>1.51 V</b>	<b>196</b>	<b>43.20</b>	<b>10.70</b>
9	#10480.00	54.6 PK	74.0	-19.4	1.68 V	113	37.87	16.73
10	#10480.00	41.2 AV	54.0	-12.8	1.68 V	113	24.47	16.73
11	15720.00	60.5 PK	74.0	-13.5	1.27 V	61	37.87	22.63
12	15720.00	48.2 AV	54.0	-5.8	1.27 V	61	25.57	22.63

**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.



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	109.6 PK			1.51 H	161	99.24	10.36
2	*5260.00	97.8 AV			1.51 H	161	87.44	10.36
3	5420.00	49.5 PK	74.0	-24.5	1.53 H	199	38.73	10.77
4	5420.00	38.5 AV	54.0	-15.5	1.53 H	199	27.73	10.77
5	#10520.00	54.3 PK	74.0	-19.7	1.52 H	185	37.58	16.72
6	#10520.00	40.6 AV	54.0	-13.4	1.52 H	185	23.88	16.72
7	15780.00	60.7 PK	74.0	-13.3	1.40 H	169	37.83	22.87
8	15780.00	47.3 AV	54.0	-6.7	1.40 H	169	24.43	22.87

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	114.3 PK			1.43 V	177	103.94	10.36
2	*5260.00	104.4 AV			1.43 V	177	94.04	10.36
3	5420.00	57.5 PK	74.0	-16.5	1.44 V	172	46.73	10.77
4	5420.00	44.6 AV	54.0	-9.4	1.44 V	172	33.83	10.77
5	#10520.00	54.7 PK	74.0	-19.3	1.77 V	139	37.98	16.72
6	#10520.00	40.9 AV	54.0	-13.1	1.77 V	139	24.18	16.72
7	15780.00	60.1 PK	74.0	-13.9	1.22 V	71	37.23	22.87
8	15780.00	48.0 AV	54.0	-6.0	1.22 V	71	25.13	22.87

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5142.00	53.9 PK	74.0	-20.1	1.41 H	170	43.98	9.92
2	5142.00	44.9 AV	54.0	-9.1	1.41 H	170	34.98	9.92
3	*5300.00	109.6 PK			1.51 H	161	99.17	10.43
4	*5300.00	97.8 AV			1.51 H	161	87.37	10.43
5	5454.00	49.5 PK	74.0	-24.5	1.53 H	199	38.63	10.87
6	5454.00	38.5 AV	54.0	-15.5	1.53 H	199	27.63	10.87
7	10600.00	54.3 PK	74.0	-19.7	1.52 H	185	37.32	16.98
8	10600.00	40.6 AV	54.0	-13.4	1.52 H	185	23.62	16.98
9	15900.00	60.7 PK	74.0	-13.3	1.40 H	169	37.89	22.81
10	15900.00	47.3 AV	54.0	-6.7	1.40 H	169	24.49	22.81

**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	5142.00	61.8 PK	74.0	-12.2	1.36 V	162	51.88	9.92
2	5142.00	50.7 AV	54.0	-3.3	1.36 V	162	40.78	9.92
3	*5300.00	114.3 PK			1.43 V	177	103.87	10.43
4	*5300.00	104.4 AV			1.43 V	177	93.97	10.43
5	5454.00	57.5 PK	74.0	-16.5	1.44 V	172	46.63	10.87
6	5454.00	44.6 AV	54.0	-9.4	1.44 V	172	33.73	10.87
7	10600.00	54.7 PK	74.0	-19.3	1.77 V	139	37.72	16.98
8	10600.00	40.9 AV	54.0	-13.1	1.77 V	139	23.92	16.98
9	15900.00	60.1 PK	74.0	-13.9	1.22 V	71	37.29	22.81
10	15900.00	48.0 AV	54.0	-6.0	1.22 V	71	25.19	22.81

**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.



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.6 PK			1.51 H	161	99.12	10.48
2	*5320.00	97.8 AV			1.51 H	161	87.32	10.48
3	5400.00	53.9 PK	74.0	-20.1	1.41 H	170	43.20	10.70
4	5400.00	44.9 AV	54.0	-9.1	1.41 H	170	34.20	10.70
5	5433.00	48.8 PK	74.0	-25.2	1.53 H	190	37.99	10.81
6	5433.00	41.0 AV	54.0	-13.0	1.53 H	190	30.19	10.81
7	#5478.00	49.5 PK	74.0	-24.5	1.53 H	199	38.55	10.95
8	#5478.00	38.5 AV	54.0	-15.5	1.53 H	199	27.55	10.95
9	10640.00	54.3 PK	74.0	-19.7	1.52 H	185	37.24	17.06
10	10640.00	40.6 AV	54.0	-13.4	1.52 H	185	23.54	17.06
11	15960.00	60.7 PK	74.0	-13.3	1.40 H	169	37.97	22.73
12	15960.00	47.3 AV	54.0	-6.7	1.40 H	169	24.57	22.73

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	114.3 PK			1.43 V	177	103.82	10.48
2	*5320.00	104.4 AV			1.43 V	177	93.92	10.48
3	5400.00	61.8 PK	74.0	-12.2	1.36 V	162	51.10	10.70
4	5400.00	50.7 AV	54.0	-3.3	1.36 V	162	40.00	10.70
5	5433.00	58.0 PK	74.0	-16.0	1.24 V	184	47.19	10.81
6	5433.00	48.1 AV	54.0	-5.9	1.24 V	184	37.29	10.81
7	#5478.00	57.5 PK	74.0	-16.5	1.44 V	172	46.55	10.95
8	#5478.00	44.6 AV	54.0	-9.4	1.44 V	172	33.65	10.95
9	10640.00	54.7 PK	74.0	-19.3	1.77 V	139	37.64	17.06
10	10640.00	40.9 AV	54.0	-13.1	1.77 V	139	23.84	17.06
11	15960.00	60.1 PK	74.0	-13.9	1.22 V	71	37.37	22.73
12	15960.00	48.0 AV	54.0	-6.0	1.22 V	71	25.27	22.73

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	55.0 PK	74.0	-19.0	1.60 H	117	44.08	10.92
2	#5470.00	42.3 AV	54.0	-11.7	1.60 H	117	31.38	10.92
3	*5500.00	107.1 PK			1.15 H	223	96.08	11.02
4	*5500.00	97.7 AV			1.15 H	223	86.68	11.02
5	11000.00	54.2 PK	74.0	-19.8	1.49 H	178	36.49	17.71
6	11000.00	40.6 AV	54.0	-13.4	1.49 H	178	22.89	17.71
7	#16500.00	60.2 PK	74.0	-13.8	1.43 H	194	35.85	24.35
8	#16500.00	46.7 AV	54.0	-7.3	1.43 H	194	22.35	24.35

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.6 PK	74.0	-11.4	1.37 V	154	51.68	10.92
2	#5470.00	46.6 AV	54.0	-7.4	1.37 V	154	35.68	10.92
3	*5500.00	113.3 PK			1.20 V	167	102.28	11.02
4	*5500.00	103.9 AV			1.20 V	167	92.88	11.02
5	11000.00	54.5 PK	74.0	-19.5	1.64 V	122	36.79	17.71
6	11000.00	40.9 AV	54.0	-13.1	1.64 V	122	23.19	17.71
7	#16500.00	60.6 PK	74.0	-13.4	1.28 V	40	36.25	24.35
8	#16500.00	48.2 AV	54.0	-5.8	1.28 V	40	23.85	24.35

**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.



<b>CHANNEL</b>	TX Channel 120	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5443.00	50.5 PK	74.0	-23.5	1.62 H	236	39.67	10.83
2	5443.00	42.3 AV	54.0	-11.7	1.62 H	236	31.47	10.83
3	*5600.00	107.4 PK			1.12 H	192	96.32	11.08
4	*5600.00	98.4 AV			1.12 H	192	87.32	11.08
5	11200.00	54.8 PK	74.0	-19.2	1.42 H	172	36.94	17.86
6	11200.00	40.9 AV	54.0	-13.1	1.42 H	172	23.04	17.86
7	#16800.00	59.7 PK	74.0	-14.3	1.51 H	210	34.33	25.37
8	#16800.00	46.1 AV	54.0	-7.9	1.51 H	210	20.73	25.37

**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	5443.00	57.5 PK	74.0	-16.5	1.51 V	172	46.67	10.83
2	5443.00	47.3 AV	54.0	-6.7	1.51 V	172	36.47	10.83
3	*5600.00	113.5 PK			1.15 V	143	102.42	11.08
4	*5600.00	103.7 AV			1.15 V	143	92.62	11.08
5	11200.00	55.3 PK	74.0	-18.7	1.64 V	139	37.44	17.86
6	11200.00	41.1 AV	54.0	-12.9	1.64 V	139	23.24	17.86
7	#16800.00	60.2 PK	74.0	-13.8	1.29 V	43	34.83	25.37
8	#16800.00	48.0 AV	54.0	-6.0	1.29 V	43	22.63	25.37

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.3 PK			1.60 H	135	96.82	11.48
2	*5700.00	96.8 AV			1.60 H	135	85.32	11.48
3	#5725.00	50.1 PK	74.0	-23.9	1.52 H	159	38.55	11.55
4	#5725.00	42.3 AV	54.0	-11.7	1.52 H	159	30.75	11.55
5	#5861.00	49.0 PK	74.0	-25.0	1.44 H	155	37.25	11.75
6	#5861.00	41.7 AV	54.0	-12.3	1.44 H	155	29.95	11.75
7	11400.00	54.4 PK	74.0	-19.6	1.51 H	140	36.38	18.02
8	11400.00	40.5 AV	54.0	-13.5	1.51 H	140	22.48	18.02
9	#17100.00	59.3 PK	74.0	-14.7	1.53 H	221	31.68	27.62
10	#17100.00	45.8 AV	54.0	-8.2	1.53 H	221	18.18	27.62

**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	112.2 PK			1.49 V	175	100.72	11.48
2	*5700.00	103.6 AV			1.49 V	175	92.12	11.48
3	#5725.00	64.4 PK	74.0	-9.6	1.27 V	192	52.85	11.55
4	#5725.00	48.0 AV	54.0	-6.0	1.27 V	192	36.45	11.55
5	#5861.00	56.0 PK	74.0	-18.0	1.03 V	160	44.25	11.75
6	#5861.00	46.4 AV	54.0	-7.6	1.03 V	160	34.65	11.75
7	11400.00	54.7 PK	74.0	-19.3	1.66 V	107	36.68	18.02
8	11400.00	40.8 AV	54.0	-13.2	1.66 V	107	22.78	18.02
9	#17100.00	60.4 PK	74.0	-13.6	1.38 V	75	32.78	27.62
10	#17100.00	48.1 AV	54.0	-5.9	1.38 V	75	20.48	27.62

**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.

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5715.00	59.0 PK	74.0	-15.0	1.23 H	149	47.47	11.53
2	#5715.00	43.8 AV	54.0	-10.2	1.23 H	149	32.27	11.53
3	#5725.00	73.4 PK	78.2	-4.8	1.23 H	149	61.85	11.55
4	*5745.00	110.4 PK			1.40 H	153	98.77	11.63
5	*5745.00	101.1 AV			1.40 H	153	89.47	11.63
6	11490.00	53.9 PK	74.0	-20.1	1.47 H	163	36.60	17.30
7	11490.00	42.3 AV	54.0	-11.7	1.47 H	163	25.00	17.30
8	#17235.00	63.5 PK	74.0	-10.5	1.33 H	311	36.69	26.81
9	#17235.00	48.3 AV	54.0	-5.7	1.33 H	311	21.49	26.81

**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	#5715.00	63.0 PK	74.0	-11.0	1.44 V	170	51.47	11.53
2	#5715.00	47.6 AV	54.0	-6.4	1.44 V	170	36.07	11.53
3	#5725.00	77.9 PK	78.2	-0.3	1.44 V	171	66.35	11.55
4	*5745.00	114.9 PK			1.14 V	213	103.27	11.63
5	*5745.00	105.3 AV			1.14 V	213	93.67	11.63
6	11490.00	57.9 PK	74.0	-16.1	1.01 V	141	40.60	17.30
7	11490.00	44.8 AV	54.0	-9.2	1.01 V	141	27.50	17.30
8	#17235.00	63.7 PK	74.0	-10.3	1.01 V	279	36.89	26.81
9	#17235.00	48.9 AV	54.0	-5.1	1.01 V	279	22.09	26.81

**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.

<b>CHANNEL</b>	TX Channel 157	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.00	61.9 PK	68.2	-6.3	1.55 H	200	50.72	11.18
2	*5785.00	112.3 PK			1.25 H	215	100.56	11.74
3	*5785.00	102.1 AV			1.25 H	215	90.36	11.74
4	#5944.00	59.1 PK	68.2	-9.1	1.65 H	201	47.13	11.97
5	11570.00	54.1 PK	74.0	-19.9	1.50 H	168	36.19	17.91
6	11570.00	42.4 AV	54.0	-11.6	1.50 H	168	24.49	17.91
7	#17355.00	63.6 PK	68.2	-4.6	1.40 H	318	36.46	27.14

**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	#5626.00	66.5 PK	68.2	-1.7	1.43 V	164	55.32	11.18
2	*5785.00	116.8 PK			1.08 V	215	105.06	11.74
3	*5785.00	106.2 AV			1.08 V	215	94.46	11.74
4	#5944.00	63.7 PK	68.2	-4.5	1.11 V	290	51.73	11.97
5	11570.00	57.2 PK	74.0	-16.8	1.08 V	143	39.29	17.91
6	11570.00	44.2 AV	54.0	-9.8	1.08 V	143	26.29	17.91
7	#17355.00	64.0 PK	68.2	-4.2	1.00 V	276	36.86	27.14

**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.

<b>CHANNEL</b>	TX Channel 165	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5666.00	53.6 PK	68.2	-14.6	1.54 H	135	42.25	11.35
2	*5825.00	112.0 PK			1.31 H	154	100.22	11.78
3	*5825.00	102.6 AV			1.31 H	154	90.82	11.78
4	#5850.00	70.9 PK	78.2	-7.3	1.27 H	159	59.15	11.75
5	#5860.00	61.5 PK	68.2	-6.7	1.22 H	163	49.75	11.75
6	#5982.00	59.4 PK	68.2	-8.8	1.24 H	139	47.21	12.19
7	11650.00	54.8 PK	74.0	-19.2	1.54 H	143	36.64	18.16
8	11650.00	42.5 AV	54.0	-11.5	1.54 H	143	24.34	18.16
9	#17475.00	63.8 PK	68.2	-4.4	1.44 H	335	35.88	27.92

**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	#5666.00	64.5 PK	68.2	-3.7	1.49 V	184	53.15	11.35
2	*5825.00	114.4 PK			1.29 V	187	102.62	11.78
3	*5825.00	105.2 AV			1.29 V	187	93.42	11.78
4	#5850.00	76.7 PK	78.2	-1.5	1.39 V	190	64.95	11.75
5	#5860.00	68.0 PK	68.2	-0.2	1.45 V	201	56.25	11.75
6	#5982.00	63.5 PK	68.2	-4.7	1.07 V	189	51.31	12.19
7	11650.00	57.0 PK	74.0	-17.0	1.00 V	158	38.84	18.16
8	11650.00	44.2 AV	54.0	-9.8	1.00 V	158	26.04	18.16
9	#17475.00	63.8 PK	68.2	-4.4	1.05 V	266	35.88	27.92

**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)**

<b>CHANNEL</b>	TX Channel 38	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.1 PK	74.0	-11.9	1.50 H	211	52.13	9.97
2	5150.00	49.4 AV	54.0	-4.6	1.50 H	211	39.43	9.97
3	*5190.00	107.5 PK			1.05 H	325	97.30	10.20
4	*5190.00	96.9 AV			1.05 H	325	86.70	10.20
5	5350.00	49.2 PK	74.0	-24.8	1.46 H	151	38.65	10.55
6	5350.00	41.6 AV	54.0	-12.4	1.46 H	151	31.05	10.55
7	#10380.00	54.1 PK	74.0	-19.9	1.50 H	185	37.08	17.02
8	#10380.00	40.3 AV	54.0	-13.7	1.50 H	185	23.28	17.02
9	15570.00	60.5 PK	74.0	-13.5	1.49 H	200	38.40	22.10
10	15570.00	46.7 AV	54.0	-7.3	1.49 H	200	24.60	22.10

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.3 PK	74.0	-5.7	1.50 V	198	58.33	9.97
2	5150.00	53.6 AV	54.0	-0.4	1.50 V	198	43.63	9.97
3	*5190.00	110.5 PK			1.16 V	197	100.30	10.20
4	*5190.00	100.7 AV			1.16 V	197	90.50	10.20
5	5350.00	55.9 PK	74.0	-18.1	1.00 V	163	45.35	10.55
6	5350.00	46.1 AV	54.0	-7.9	1.00 V	163	35.55	10.55
7	#10380.00	57.5 PK	74.0	-16.5	1.02 V	130	40.48	17.02
8	#10380.00	44.3 AV	54.0	-9.7	1.02 V	130	27.28	17.02
9	15570.00	63.4 PK	74.0	-10.6	1.03 V	275	41.30	22.10
10	15570.00	48.9 AV	54.0	-5.1	1.03 V	275	26.80	22.10

**REMARKS:**

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



<b>CHANNEL</b>	TX Channel 46	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5073.00	54.5 PK	74.0	-19.5	1.55 H	211	44.90	9.60
2	5073.00	46.3 AV	54.0	-7.7	1.55 H	211	36.70	9.60
3	*5230.00	112.3 PK			1.00 H	323	101.98	10.32
4	*5230.00	102.4 AV			1.00 H	323	92.08	10.32
5	5395.00	56.1 PK	74.0	-17.9	1.65 H	200	45.41	10.69
6	5395.00	48.2 AV	54.0	-5.8	1.65 H	200	37.51	10.69
7	#10460.00	54.1 PK	74.0	-19.9	1.50 H	185	37.28	16.82
8	#10460.00	40.3 AV	54.0	-13.7	1.50 H	185	23.48	16.82
9	15690.00	60.5 PK	74.0	-13.5	1.49 H	200	37.98	22.52
10	15690.00	46.7 AV	54.0	-7.3	1.49 H	200	24.18	22.52

**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	5073.00	60.7 PK	74.0	-13.3	1.20 V	210	51.10	9.60
2	5073.00	50.5 AV	54.0	-3.5	1.20 V	210	40.90	9.60
3	*5230.00	115.3 PK			1.05 V	155	104.98	10.32
4	*5230.00	105.3 AV			1.05 V	155	94.98	10.32
5	5395.00	62.3 PK	74.0	-11.7	1.48 V	198	51.61	10.69
6	5395.00	52.4 AV	54.0	-1.6	1.48 V	198	41.71	10.69
7	#10460.00	54.9 PK	74.0	-19.1	1.65 V	96	38.08	16.82
8	#10460.00	40.8 AV	54.0	-13.2	1.65 V	96	23.98	16.82
9	15690.00	59.8 PK	74.0	-14.2	1.43 V	61	37.28	22.52
10	15690.00	47.7 AV	54.0	-6.3	1.43 V	61	25.18	22.52

**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.

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5107.00	52.1 PK	74.0	-21.9	1.56 H	123	42.38	9.72
2	5107.00	44.3 AV	54.0	-9.7	1.56 H	123	34.58	9.72
3	*5270.00	111.8 PK			1.55 H	211	101.43	10.37
4	*5270.00	100.8 AV			1.55 H	211	90.43	10.37
5	5425.00	51.3 PK	74.0	-22.7	1.65 H	255	40.52	10.78
6	5425.00	42.9 AV	54.0	-11.1	1.65 H	255	32.12	10.78
7	#10540.00	53.5 PK	74.0	-20.5	1.52 H	181	36.73	16.77
8	#10540.00	39.9 AV	54.0	-14.1	1.52 H	181	23.13	16.77
9	15810.00	60.7 PK	74.0	-13.3	1.54 H	192	37.75	22.95
10	15810.00	47.0 AV	54.0	-7.0	1.54 H	192	24.05	22.95

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5107.00	57.9 PK	74.0	-16.1	1.19 V	154	48.18	9.72
2	5107.00	47.5 AV	54.0	-6.5	1.19 V	154	37.78	9.72
3	*5270.00	115.0 PK			1.20 V	155	104.63	10.37
4	*5270.00	104.7 AV			1.20 V	155	94.33	10.37
5	5425.00	57.7 PK	74.0	-16.3	1.15 V	166	46.92	10.78
6	5425.00	47.3 AV	54.0	-6.7	1.15 V	166	36.52	10.78
7	#10540.00	54.8 PK	74.0	-19.2	1.70 V	106	38.03	16.77
8	#10540.00	40.5 AV	54.0	-13.5	1.70 V	106	23.73	16.77
9	15810.00	59.6 PK	74.0	-14.4	1.45 V	70	36.65	22.95
10	15810.00	47.7 AV	54.0	-6.3	1.45 V	70	24.75	22.95

**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.

<b>CHANNEL</b>	TX Channel 62	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	110.9 PK			1.65 H	200	100.44	10.46
2	*5310.00	99.1 AV			1.65 H	200	88.64	10.46
3	5350.00	64.8 PK	74.0	-9.2	1.55 H	222	54.25	10.55
4	5350.00	49.1 AV	54.0	-4.9	1.55 H	222	38.55	10.55
5	10620.00	54.2 PK	74.0	-19.8	1.51 H	184	37.17	17.03
6	10620.00	40.5 AV	54.0	-13.5	1.51 H	184	23.47	17.03
7	15930.00	60.8 PK	74.0	-13.2	1.55 H	214	38.03	22.77
8	15930.00	47.2 AV	54.0	-6.8	1.55 H	214	24.43	22.77

**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	114.1 PK			1.23 V	156	103.64	10.46
2	*5310.00	103.0 AV			1.23 V	156	92.54	10.46
3	5350.00	71.1 PK	74.0	-2.9	1.21 V	215	60.55	10.55
4	5350.00	53.7 AV	54.0	-0.3	1.21 V	215	43.15	10.55
5	10620.00	57.4 PK	74.0	-16.6	1.00 V	126	40.37	17.03
6	10620.00	44.4 AV	54.0	-9.6	1.00 V	126	27.37	17.03
7	15930.00	63.4 PK	74.0	-10.6	1.05 V	269	40.63	22.77
8	15930.00	48.9 AV	54.0	-5.1	1.05 V	269	26.13	22.77

**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.



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	63.3 PK	74.0	-10.7	1.54 H	211	52.38	10.92
2	#5470.00	49.6 AV	54.0	-4.4	1.54 H	211	38.68	10.92
3	*5510.00	109.7 PK			1.65 H	122	98.68	11.02
4	*5510.00	97.6 AV			1.65 H	122	86.58	11.02
5	11020.00	54.8 PK	74.0	-19.2	1.48 H	188	37.07	17.73
6	11020.00	41.0 AV	54.0	-13.0	1.48 H	188	23.27	17.73
7	#16530.00	60.6 PK	74.0	-13.4	1.54 H	215	36.05	24.55
8	#16530.00	47.2 AV	54.0	-6.8	1.54 H	215	22.65	24.55

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	69.5 PK	74.0	-4.5	1.47 V	200	58.58	10.92
2	#5470.00	53.9 AV	54.0	-0.1	1.47 V	200	42.98	10.92
3	*5510.00	112.4 PK			1.21 V	155	101.38	11.02
4	*5510.00	101.3 AV			1.21 V	155	90.28	11.02
5	11020.00	57.1 PK	74.0	-16.9	1.02 V	116	39.37	17.73
6	11020.00	44.3 AV	54.0	-9.7	1.02 V	116	26.57	17.73
7	#16530.00	63.9 PK	74.0	-10.1	1.10 V	264	39.35	24.55
8	#16530.00	49.2 AV	54.0	-4.8	1.10 V	264	24.65	24.55

**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.



<b>CHANNEL</b>	TX Channel 118	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	64.6 PK	74.0	-9.4	1.52 H	212	53.68	10.92
2	#5470.00	49.2 AV	54.0	-4.8	1.52 H	212	38.28	10.92
3	*5590.00	111.0 PK			1.64 H	189	99.93	11.07
4	*5590.00	99.0 AV			1.64 H	189	87.93	11.07
5	11180.00	53.7 PK	74.0	-20.3	1.57 H	185	35.85	17.85
6	11180.00	40.3 AV	54.0	-13.7	1.57 H	185	22.45	17.85
7	#16770.00	61.4 PK	74.0	-12.6	1.57 H	204	36.07	25.33
8	#16770.00	47.5 AV	54.0	-6.5	1.57 H	204	22.17	25.33

**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	59.2 PK	74.0	-14.8	1.47 V	191	48.28	10.92
2	#5470.00	47.6 AV	54.0	-6.4	1.47 V	191	36.68	10.92
3	*5590.00	114.4 PK			1.65 V	122	103.33	11.07
4	*5590.00	103.3 AV			1.65 V	122	92.23	11.07
5	11180.00	57.1 PK	74.0	-16.9	1.00 V	115	39.25	17.85
6	11180.00	44.0 AV	54.0	-10.0	1.00 V	115	26.15	17.85
7	#16770.00	63.6 PK	74.0	-10.4	1.12 V	253	38.27	25.33
8	#16770.00	49.0 AV	54.0	-5.0	1.12 V	253	23.67	25.33

**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.



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	111.4 PK			1.60 H	198	100.05	11.35
2	*5670.00	99.6 AV			1.60 H	198	88.25	11.35
3	#5725.00	64.5 PK	74.0	-9.5	1.49 H	207	52.95	11.55
4	#5725.00	48.8 AV	54.0	-5.2	1.49 H	207	37.25	11.55
5	11340.00	54.8 PK	74.0	-19.2	1.53 H	170	36.92	17.88
6	11340.00	40.9 AV	54.0	-13.1	1.53 H	170	23.02	17.88
7	#17010.00	61.3 PK	74.0	-12.7	1.59 H	201	34.44	26.86
8	#17010.00	47.6 AV	54.0	-6.4	1.59 H	201	20.74	26.86

**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	114.2 PK			1.59 V	119	102.85	11.35
2	*5670.00	103.2 AV			1.59 V	119	91.85	11.35
3	#5725.00	62.6 PK	74.0	-11.4	1.54 V	174	51.05	11.55
4	#5725.00	49.4 AV	54.0	-4.6	1.54 V	174	37.85	11.55
5	11340.00	57.5 PK	74.0	-16.5	1.04 V	104	39.62	17.88
6	11340.00	44.5 AV	54.0	-9.5	1.04 V	104	26.62	17.88
7	#17010.00	64.1 PK	74.0	-9.9	1.06 V	256	37.24	26.86
8	#17010.00	49.6 AV	54.0	-4.4	1.06 V	256	22.74	26.86

**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.

<b>CHANNEL</b>	TX Channel 151	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5715.00	65.6 PK	74.0	-8.4	1.44 H	244	54.07	11.53
2	#5715.00	49.7 AV	54.0	-4.3	1.44 H	244	38.17	11.53
3	#5725.00	70.6 PK	78.2	-7.6	1.55 H	233	59.05	11.55
4	*5755.00	108.6 PK			1.54 H	211	96.96	11.64
5	*5755.00	97.2 AV			1.54 H	211	85.56	11.64
6	11510.00	54.7 PK	74.0	-19.3	1.59 H	182	37.40	17.30
7	11510.00	41.0 AV	54.0	-13.0	1.59 H	182	23.70	17.30
8	#17265.00	61.4 PK	74.0	-12.6	1.63 H	189	34.69	26.71
9	#17265.00	47.6 AV	54.0	-6.4	1.63 H	189	20.89	26.71

**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	#5715.00	71.3 PK	74.0	-2.7	1.30 V	172	59.77	11.53
2	#5715.00	53.8 AV	54.0	-0.2	1.30 V	172	42.27	11.53
3	#5725.00	76.3 PK	78.2	-1.9	1.39 V	172	64.75	11.55
4	*5755.00	110.7 PK			1.21 V	203	99.06	11.64
5	*5755.00	101.0 AV			1.21 V	203	89.36	11.64
6	11510.00	57.0 PK	74.0	-17.0	1.07 V	107	39.70	17.30
7	11510.00	44.1 AV	54.0	-9.9	1.07 V	107	26.80	17.30
8	#17265.00	64.3 PK	74.0	-9.7	1.06 V	244	37.59	26.71
9	#17265.00	49.7 AV	54.0	-4.3	1.06 V	244	22.99	26.71

**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.

<b>CHANNEL</b>	TX Channel 159	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	111.8 PK			1.22 H	335	100.02	11.78
2	*5795.00	102.0 AV			1.22 H	335	90.22	11.78
3	#5850.00	64.5 PK	78.2	-13.7	1.56 H	244	52.75	11.75
4	#5860.00	60.5 PK	74.0	-13.5	1.55 H	211	48.75	11.75
5	#5860.00	46.7 AV	54.0	-7.3	1.55 H	211	34.95	11.75
6	11590.00	53.6 PK	74.0	-20.4	1.49 H	188	35.49	18.11
7	11590.00	40.1 AV	54.0	-13.9	1.49 H	188	21.99	18.11
8	#17385.00	60.6 PK	74.0	-13.4	1.49 H	200	33.15	27.45
9	#17385.00	47.0 AV	54.0	-7.0	1.49 H	200	19.55	27.45

**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	*5795.00	115.1 PK			1.10 V	148	103.32	11.78
2	*5795.00	105.4 AV			1.10 V	148	93.62	11.78
3	#5850.00	70.2 PK	78.2	-8.0	1.08 V	172	58.45	11.75
4	#5860.00	66.2 PK	74.0	-7.8	1.07 V	182	54.45	11.75
5	#5860.00	50.5 AV	54.0	-3.5	1.07 V	182	38.75	11.75
6	11590.00	55.3 PK	74.0	-18.7	1.67 V	82	37.19	18.11
7	11590.00	41.2 AV	54.0	-12.8	1.67 V	82	23.09	18.11
8	#17385.00	59.3 PK	74.0	-14.7	1.47 V	77	31.85	27.45
9	#17385.00	47.3 AV	54.0	-6.7	1.47 V	77	19.85	27.45

**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)**

<b>CHANNEL</b>	TX Channel 42	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.4 PK	74.0	-7.6	1.52 H	222	56.43	9.97
2	5150.00	50.6 AV	54.0	-3.4	1.52 H	222	40.63	9.97
3	*5210.00	104.1 PK			1.52 H	211	93.83	10.27
4	*5210.00	94.2 AV			1.52 H	211	83.93	10.27
5	5350.00	64.5 PK	74.0	-9.5	1.54 H	200	53.95	10.55
6	5350.00	48.9 AV	54.0	-5.1	1.54 H	200	38.35	10.55
7	#10420.00	55.3 PK	74.0	-18.7	1.55 H	163	38.32	16.98
8	#10420.00	41.2 AV	54.0	-12.8	1.55 H	163	24.22	16.98
9	15630.00	61.0 PK	74.0	-13.0	1.64 H	195	38.63	22.37
10	15630.00	47.2 AV	54.0	-6.8	1.64 H	195	24.83	22.37

**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	70.6 PK	74.0	-3.4	1.33 V	197	60.63	9.97
2	5150.00	53.8 AV	54.0	-0.2	1.33 V	197	43.83	9.97
3	*5210.00	106.2 PK			1.60 V	159	95.93	10.27
4	*5210.00	96.0 AV			1.60 V	159	85.73	10.27
5	5350.00	62.7 PK	74.0	-11.3	1.59 V	165	52.15	10.55
6	5350.00	49.8 AV	54.0	-4.2	1.59 V	165	39.25	10.55
7	#10420.00	55.1 PK	74.0	-18.9	1.65 V	84	38.12	16.98
8	#10420.00	40.8 AV	54.0	-13.2	1.65 V	84	23.82	16.98
9	15630.00	59.6 PK	74.0	-14.4	1.53 V	90	37.23	22.37
10	15630.00	47.7 AV	54.0	-6.3	1.53 V	90	25.33	22.37

**REMARKS:**

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

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	1.53 H	193	54.83	9.97
2	5150.00	48.9 AV	54.0	-5.1	1.53 H	193	38.93	9.97
3	*5290.00	105.6 PK			1.55 H	211	95.18	10.42
4	*5290.00	95.9 AV			1.55 H	211	85.48	10.42
5	5350.00	64.7 PK	74.0	-9.3	1.53 H	212	54.15	10.55
6	5350.00	49.0 AV	54.0	-5.0	1.53 H	212	38.45	10.55
7	#10580.00	55.2 PK	74.0	-18.8	1.56 H	167	38.29	16.91
8	#10580.00	41.1 AV	54.0	-12.9	1.56 H	167	24.19	16.91
9	15870.00	61.1 PK	74.0	-12.9	1.60 H	216	38.25	22.85
10	15870.00	47.6 AV	54.0	-6.4	1.60 H	216	24.75	22.85

**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	62.4 PK	74.0	-11.6	1.48 V	173	52.43	9.97
2	5150.00	49.3 AV	54.0	-4.7	1.48 V	173	39.33	9.97
3	*5290.00	107.9 PK			1.27 V	148	97.48	10.42
4	*5290.00	97.8 AV			1.27 V	148	87.38	10.42
5	5350.00	72.8 PK	74.0	-1.2	1.09 V	159	62.25	10.55
<b>6</b>	<b>5350.00</b>	<b>53.9 AV</b>	<b>54.0</b>	<b>-0.1</b>	<b>1.09 V</b>	<b>159</b>	<b>43.35</b>	<b>10.55</b>
7	#10580.00	55.0 PK	74.0	-19.0	1.69 V	67	38.09	16.91
8	#10580.00	41.0 AV	54.0	-13.0	1.69 V	67	24.09	16.91
9	15870.00	59.2 PK	74.0	-14.8	1.43 V	69	36.35	22.85
10	15870.00	47.2 AV	54.0	-6.8	1.43 V	69	24.35	22.85

**REMARKS:**

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

<b>CHANNEL</b>	TX Channel 106	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	64.0 PK	74.0	-10.0	1.52 H	221	53.08	10.92
2	#5470.00	48.5 AV	54.0	-5.5	1.52 H	221	37.58	10.92
3	*5530.00	102.9 PK			1.55 H	211	91.87	11.03
4	*5530.00	93.4 AV			1.55 H	211	82.37	11.03
5	#5725.00	57.3 PK	74.0	-16.7	1.54 H	194	45.75	11.55
6	#5725.00	42.3 AV	54.0	-11.7	1.54 H	194	30.75	11.55
7	11060.00	54.7 PK	74.0	-19.3	1.52 H	173	36.95	17.75
8	11060.00	40.7 AV	54.0	-13.3	1.52 H	173	22.95	17.75
9	#16590.00	61.3 PK	74.0	-12.7	1.53 H	199	36.39	24.91
10	#16590.00	47.7 AV	54.0	-6.3	1.53 H	199	22.79	24.91

**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	70.2 PK	74.0	-3.8	1.37 V	198	59.28	10.92
2	#5470.00	53.9 AV	54.0	-0.1	1.37 V	198	42.98	10.92
3	*5530.00	105.6 PK			1.25 V	200	94.57	11.03
4	*5530.00	95.4 AV			1.25 V	200	84.37	11.03
5	#5725.00	60.3 PK	74.0	-13.7	1.45 V	182	48.75	11.55
6	#5725.00	47.3 AV	54.0	-6.7	1.45 V	182	35.75	11.55
7	11060.00	55.2 PK	74.0	-18.8	1.71 V	80	37.45	17.75
8	11060.00	40.9 AV	54.0	-13.1	1.71 V	80	23.15	17.75
9	#16590.00	59.0 PK	74.0	-15.0	1.53 V	79	34.09	24.91
10	#16590.00	47.1 AV	54.0	-6.9	1.53 V	79	22.19	24.91

**REMARKS:**

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



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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5610.00	106.8 PK			1.55 H	211	95.69	11.11
2	*5610.00	96.8 AV			1.55 H	211	85.69	11.11
3	#5725.00	57.5 PK	74.0	-16.5	1.50 H	205	45.95	11.55
4	#5725.00	42.4 AV	54.0	-11.6	1.50 H	205	30.85	11.55
5	11220.00	55.3 PK	74.0	-18.7	1.57 H	185	37.45	17.85
6	11220.00	41.4 AV	54.0	-12.6	1.57 H	185	23.55	17.85
7	#16830.00	61.2 PK	74.0	-12.8	1.57 H	211	35.62	25.58
8	#16830.00	47.4 AV	54.0	-6.6	1.57 H	211	21.82	25.58

**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	108.5 PK			1.54 V	211	97.39	11.11
2	*5610.00	98.3 AV			1.54 V	211	87.19	11.11
3	#5725.00	63.5 PK	74.0	-10.5	1.24 V	193	51.95	11.55
4	#5725.00	52.9 AV	54.0	-1.1	1.24 V	193	41.35	11.55
5	11220.00	55.5 PK	74.0	-18.5	1.70 V	79	37.65	17.85
6	11220.00	41.6 AV	54.0	-12.4	1.70 V	79	23.75	17.85
7	#16830.00	58.8 PK	74.0	-15.2	1.51 V	74	33.22	25.58
8	#16830.00	46.8 AV	54.0	-7.2	1.51 V	74	21.22	25.58

**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.

<b>CHANNEL</b>	TX Channel 155	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	1GHz ~ 40GHz		Average (AV)

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5715.00	64.0 PK	74.0	-10.0	1.50 H	226	52.47	11.53
2	#5715.00	48.6 AV	54.0	-5.4	1.50 H	226	37.07	11.53
3	#5725.00	70.1 PK	78.2	-8.1	1.52 H	211	58.55	11.55
4	*5775.00	105.4 PK			1.22 H	221	93.68	11.72
5	*5775.00	94.1 AV			1.22 H	221	82.38	11.72
6	#5850.00	64.8 PK	78.2	-13.4	1.47 H	122	53.05	11.75
7	#5860.00	60.0 PK	74.0	-14.0	1.24 H	222	48.25	11.75
8	#5860.00	46.2 AV	54.0	-7.8	1.24 H	222	34.45	11.75
9	11550.00	54.5 PK	74.0	-19.5	1.47 H	183	36.79	17.71
10	11550.00	40.5 AV	54.0	-13.5	1.47 H	183	22.79	17.71
11	#17325.00	61.2 PK	74.0	-12.8	1.65 H	214	34.35	26.85
12	#17325.00	47.7 AV	54.0	-6.3	1.65 H	214	20.85	26.85

**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	#5715.00	70.2 PK	74.0	-3.8	1.17 V	192	58.67	11.53
2	#5715.00	53.9 AV	54.0	-0.1	1.17 V	192	42.37	11.53
3	#5725.00	74.6 PK	78.2	-3.6	1.27 V	193	63.05	11.55
4	*5775.00	107.1 PK			1.36 V	193	95.38	11.72
5	*5775.00	96.9 AV			1.36 V	193	85.18	11.72
6	#5850.00	63.0 PK	78.2	-15.2	1.27 V	193	51.25	11.75
7	#5860.00	62.3 PK	74.0	-11.7	1.27 V	193	50.55	11.75
8	#5860.00	47.9 AV	54.0	-6.1	1.27 V	193	36.15	11.75
9	11550.00	55.5 PK	74.0	-18.5	1.69 V	92	37.79	17.71
10	11550.00	41.6 AV	54.0	-12.4	1.69 V	92	23.89	17.71
11	#17325.00	59.0 PK	74.0	-15.0	1.53 V	93	32.15	26.85
12	#17325.00	47.3 AV	54.0	-6.7	1.53 V	93	20.45	26.85

**REMARKS:**

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

**Below 1GHz Data**

**802.11a**

<b>CHANNEL</b>	TX Channel 157	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	Below 1GHz		

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	296.99	42.8 QP	46.0	-3.2	1.00 H	2	54.95	-12.15
2	404.98	43.3 QP	46.0	-2.7	1.00 H	174	52.58	-9.30
3	473.02	41.3 QP	46.0	-4.7	2.00 H	207	48.70	-7.39
4	650.02	42.7 QP	46.0	-3.4	1.50 H	169	46.06	-3.41
5	729.03	41.3 QP	46.0	-4.7	1.00 H	168	43.47	-2.16
6	890.97	41.0 QP	46.0	-5.0	1.00 H	340	40.52	0.52

**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	350.97	40.8 QP	46.0	-5.2	1.50 V	47	51.60	-10.79
2	431.98	42.9 QP	46.0	-3.1	2.00 V	255	51.08	-8.21
3	467.37	40.3 QP	46.0	-5.8	1.00 V	30	47.76	-7.51
4	494.63	41.0 QP	46.0	-5.0	1.00 V	283	47.94	-6.93
5	603.95	38.7 QP	46.0	-7.3	1.00 V	15	42.82	-4.14
6	945.00	40.4 QP	46.0	-5.6	1.00 V	65	38.86	1.53

**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	100375	May 06, 2015	May 05, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 11, 2015	June 10, 2016
RF Cable	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software BVADT	BVADT_Cond_ V7.3.7.3	NA	NA	NA

#### Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Aug. 20, 2015

#### 4.2.3 Test Procedures

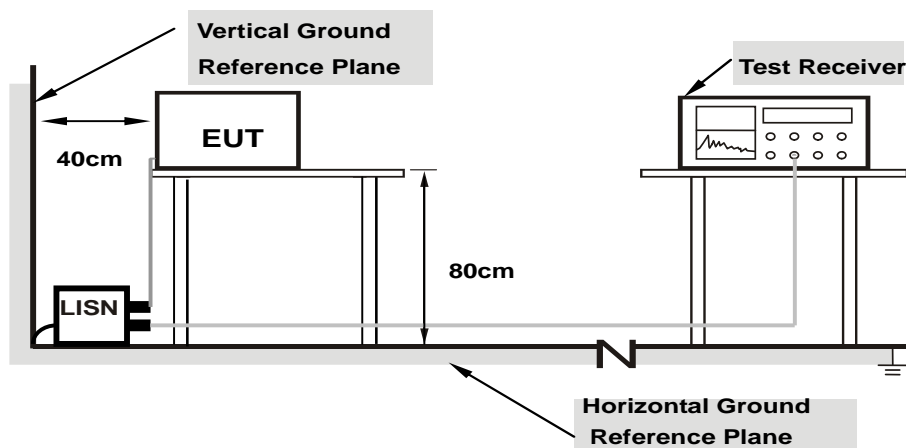
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

Same as 4.1.6.



#### 4.2.7 Test Results

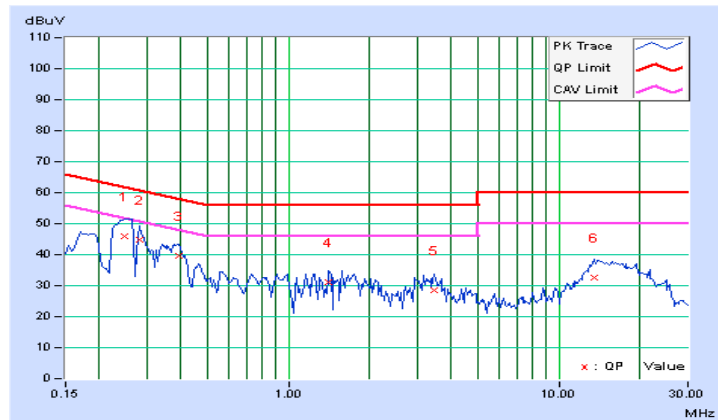
##### CDD Mode

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.24766	0.09	45.88	30.10	45.97	30.19	61.84	51.84	-15.86	-21.64
<b>2</b>	<b>0.28281</b>	<b>0.09</b>	<b>44.67</b>	<b>38.30</b>	<b>44.76</b>	<b>38.39</b>	<b>60.73</b>	<b>50.73</b>	<b>-15.97</b>	<b>-12.34</b>
3	0.39219	0.10	39.49	30.92	39.59	31.02	58.02	48.02	-18.43	-17.00
4	1.41016	0.15	30.87	19.38	31.02	19.53	56.00	46.00	-24.98	-26.47
5	3.45313	0.21	28.39	20.03	28.60	20.24	56.00	46.00	-27.40	-25.76
6	13.51172	0.54	31.89	26.70	32.43	27.24	60.00	50.00	-27.57	-22.76

##### Remarks:

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

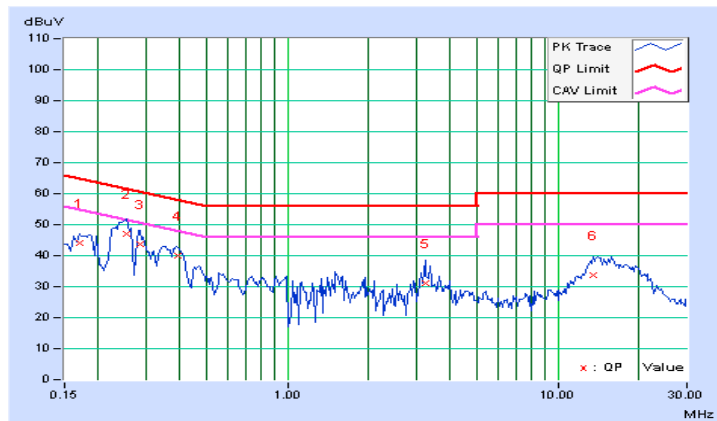


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.08	44.02	36.24	44.10	36.32	64.98	54.98	-20.88	-18.66
2	0.25547	0.09	46.97	30.43	47.06	30.52	61.58	51.58	-14.52	-21.06
3	0.28672	0.09	43.74	37.94	43.83	38.03	60.62	50.62	-16.79	-12.59
4	0.39541	0.10	39.81	33.62	39.91	33.72	57.95	47.95	-18.04	-14.23
5	3.22266	0.21	30.91	19.86	31.12	20.07	56.00	46.00	-24.88	-25.93
6	13.46875	0.56	33.27	27.76	33.83	28.32	60.00	50.00	-26.17	-21.68

**Remarks:**

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



### 4.3 Transmit Power Measurement

#### 4.3.1 Limits of Transmit Power Measurement

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

\*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output v02r01 Method of conducted output power measurement on IEEE 802.11 devices,

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

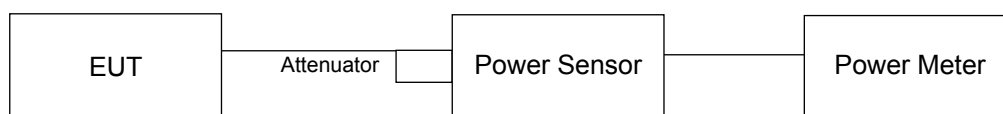
Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

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

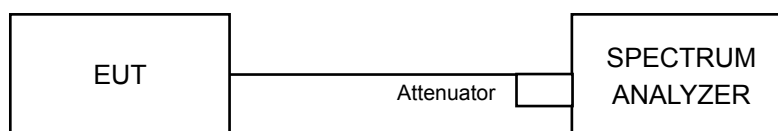
For power measurements on all other devices: Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

#### 4.3.2 Test Setup

##### FOR POWER OUTPUT MEASUREMENT



##### FOR 26dB OCCUPIED BANDWIDTH



#### 4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 Test Procedures

##### **FOR POWER MEASUREMENT**

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

##### **FOR 26dB OCCUPIED BANDWIDTH**

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

#### 4.3.5 Deviation from Test Standard

No deviation.

#### 4.3.6 EUT Operating Conditions

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)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	20.86	20.98	20.32	354.86	25.50	30	Pass
40	5200	20.34	20.09	19.67	302.92	24.81	30	Pass
48	5240	19.25	18.68	18.26	224.918	23.52	30	Pass
52	5260	16.11	14.98	14.79	102.439	20.10	24	Pass
60	5300	15.91	15.02	14.85	101.312	20.06	24	Pass
64	5320	15.72	15.07	14.98	100.939	20.04	24	Pass
100	5500	15.42	15.62	15.44	106.304	20.27	24	Pass
120	5600	15.51	15.63	15.21	105.311	20.22	24	Pass
140	5700	15.68	15.53	15.18	105.671	20.24	24	Pass
149	5745	20.16	20.15	19.92	305.442	24.85	30	Pass
157	5785	22.82	22.94	23.01	588.201	27.70	30	Pass
165	5825	21.69	21.61	21.72	441.042	26.44	30	Pass

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	20.57	20.53	20.60
40	5200	20.51	20.52	20.41
48	5240	20.49	20.61	20.52
52	5260	20.42	20.58	20.51
60	5300	20.60	20.54	20.57
64	5320	20.54	20.56	20.53
100	5500	20.42	20.43	20.53
120	5600	20.51	20.45	20.36
140	5700	20.43	20.36	20.41

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.42	24.1 > 24
60	5300	20.54	24.12 > 24
64	5320	20.53	24.12 > 24
100	5500	20.42	24.1 > 24
120	5600	20.36	24.08 > 24
140	5700	20.36	24.08 > 24

**802.11ac (VHT20)**
**POWER OUTPUT**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	20.57	20.81	20.48	346.215	25.39	30	Pass
40	5200	20.46	20.47	20.42	332.756	25.22	30	Pass
48	5240	19.72	20.01	19.91	291.936	24.65	30	Pass
52	5260	15.92	15.01	14.95	102.041	20.09	24	Pass
60	5300	15.93	14.91	15.01	101.844	20.08	24	Pass
64	5320	15.79	14.83	15.11	100.774	20.03	24	Pass
100	5500	15.29	15.76	15.37	105.911	20.25	24	Pass
120	5600	15.61	15.73	15.21	106.992	20.29	24	Pass
140	5700	15.81	15.49	15.16	106.317	20.27	24	Pass
149	5745	19.21	18.96	18.95	240.597	23.81	30	Pass
157	5785	20.47	20.35	20.28	326.482	25.14	30	Pass
165	5825	20.01	19.87	19.95	296.137	24.71	30	Pass

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	20.88	20.93	20.90
40	5200	20.74	20.94	20.84
48	5240	20.88	20.84	20.86
52	5260	20.70	20.74	20.90
60	5300	20.89	20.78	20.84
64	5320	20.85	20.86	20.90
100	5500	20.87	20.88	20.76
120	5600	20.76	20.78	20.72
140	5700	20.62	20.73	20.82

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.70	24.15 > 24
60	5300	20.78	24.17 > 24
64	5320	20.85	24.19 > 24
100	5500	20.76	24.17 > 24
120	5600	20.72	24.16 > 24
140	5700	20.62	24.14 > 24



**802.11ac (VHT40)**
**POWER OUTPUT**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
38	5190	16.51	16.47	15.91	128.126	21.08	30	Pass
46	5230	20.59	20.21	20.44	330.167	25.19	30	Pass
54	5270	18.81	17.78	18.21	202.234	23.06	24	Pass
62	5310	18.31	17.31	17.89	183.109	22.63	24	Pass
102	5510	16.81	17.51	16.12	145.263	21.62	24	Pass
118	5590	18.63	18.53	18.47	214.538	23.32	24	Pass
134	5670	18.71	18.76	18.32	217.384	23.37	24	Pass
151	5755	17.36	17.56	17.12	162.989	22.12	30	Pass
159	5795	20.47	20.56	20.41	335.093	25.25	30	Pass

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	41.33	41.45	41.37
46	5230	44.84	41.42	41.48
54	5270	41.42	41.46	41.46
62	5310	41.58	41.71	41.52
102	5510	41.53	41.31	41.32
118	5590	41.49	41.40	41.28
134	5670	41.52	41.51	41.54

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.42	27.17 > 24
62	5310	41.52	27.18 > 24
102	5510	41.31	27.16 > 24
110	5550	41.28	27.15 > 24
134	5670	41.51	27.18 > 24

**802.11ac (VHT80)**

**POWER OUTPUT**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	15.94	15.61	14.73	105.373	20.23	30	Pass
58	5290	18.71	17.36	17.57	185.9	22.69	24	Pass
106	5530	16.44	17.31	16.21	139.665	21.45	24	Pass
122	5610	18.92	19.51	18.52	238.435	23.77	24	Pass
155	5775	17.69	17.57	17.16	167.897	22.25	30	Pass

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
42	5210	83.13	83.09	82.98
58	5290	82.81	83.10	83.45
106	5530	83.00	82.83	82.57
122	5610	83.07	83.11	83.14

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

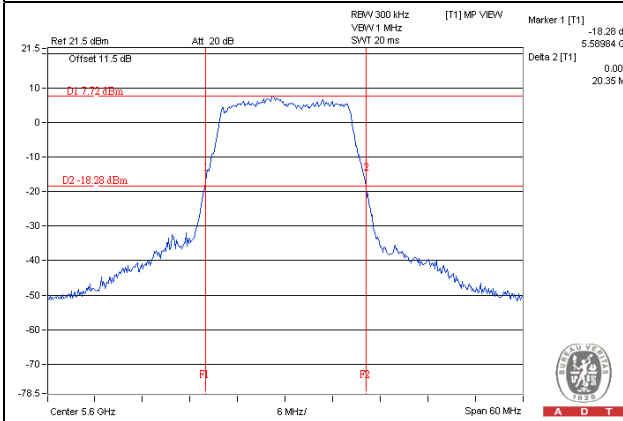
Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.81	30.18 > 24
106	5530	82.57	30.16 > 24
122	5610	83.07	30.19 > 24



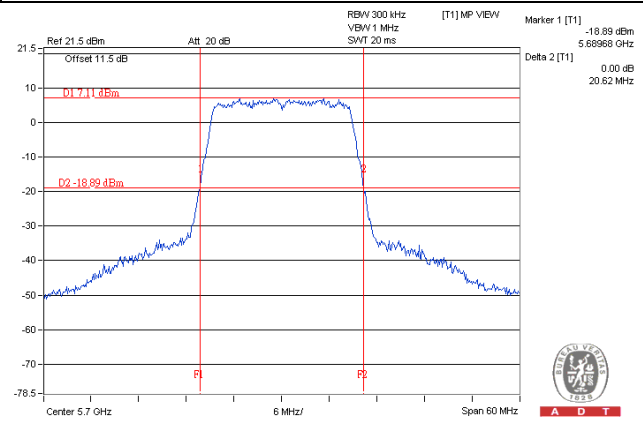
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### Spectrum Plot of Worst Value

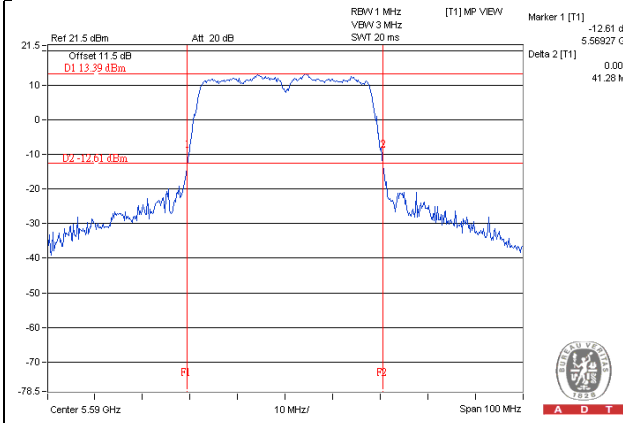
#### 802.11a\_Chain 2 / CH120



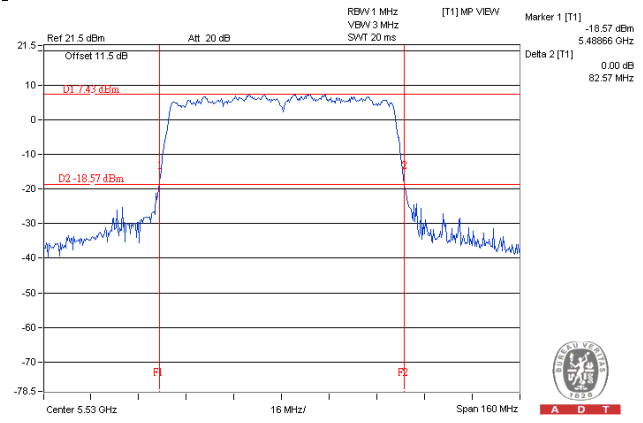
#### 802.11ac (VHT20)\_Chain 0 / CH140



#### 8802.11ac (VHT40)\_Chain 2 / CH118



#### 802.11ac (VHT80)\_Chain 2 / CH106



## Beamforming Mode

### 802.11ac (VHT20)

#### POWER OUTPUT

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	20.57	20.81	20.48	346.215	25.39	26.32	Pass
40	5200	20.46	20.47	20.42	332.756	25.22	26.32	Pass
48	5240	19.72	20.01	19.91	291.936	24.65	26.32	Pass
52	5260	15.92	15.01	14.95	102.041	20.09	20.32	Pass
60	5300	15.93	14.91	15.01	101.844	20.08	20.32	Pass
64	5320	15.79	14.83	15.11	100.774	20.03	20.32	Pass
100	5500	15.29	15.76	15.37	105.911	20.25	20.32	Pass
120	5600	15.61	15.73	15.21	106.992	20.29	20.32	Pass
140	5700	15.81	15.49	15.16	106.317	20.27	20.32	Pass
149	5745	19.21	18.96	18.95	240.597	23.81	26.32	Pass
157	5785	20.47	20.35	20.28	326.482	25.14	26.32	Pass
165	5825	20.01	19.87	19.95	296.137	24.71	26.32	Pass

**Note:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(9.68-6)".

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	20.88	20.93	20.90
40	5200	20.74	20.94	20.84
48	5240	20.88	20.84	20.86
52	5260	20.70	20.74	20.90
60	5300	20.89	20.78	20.84
64	5320	20.85	20.86	20.90
100	5500	20.87	20.88	20.76
120	5600	20.76	20.78	20.72
140	5700	20.62	20.73	20.82

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
52	5260	20.70	24.15 > 24
60	5300	20.78	24.17 > 24
64	5320	20.85	24.19 > 24
100	5500	20.76	24.17 > 24
120	5600	20.72	24.16 > 24
140	5700	20.62	24.14 > 24

**802.11ac (VHT40)**
**POWER OUTPUT**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 3				
38	5190	16.51	16.47	15.91	128.126	21.08	26.32	Pass
46	5230	20.59	20.21	20.44	330.167	25.19	26.32	Pass
54	5270	15.82	14.72	15.51	103.405	20.15	20.32	Pass
62	5310	16.02	14.82	15.34	104.531	20.19	20.32	Pass
102	5510	15.32	16.01	14.67	103.252	20.14	20.32	Pass
118	5590	15.61	15.49	15.47	107.029	20.30	20.32	Pass
134	5670	15.42	15.52	15.07	102.616	20.11	20.32	Pass
151	5755	17.36	17.56	17.12	162.989	22.12	26.32	Pass
159	5795	20.47	20.56	20.41	335.093	25.25	26.32	Pass

**Note:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power limit shall be reduced to "Determined Conducted Limit-(9.68-6)".

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	41.33	41.45	41.37
46	5230	44.84	41.42	41.48
54	5270	41.42	41.46	41.46
62	5310	41.58	41.71	41.52
102	5510	41.53	41.31	41.32
118	5590	41.49	41.40	41.28
134	5670	41.52	41.51	41.54

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
54	5270	41.42	27.17 > 24
62	5310	41.52	27.18 > 24
102	5510	41.31	27.16 > 24
110	5550	41.28	27.15 > 24
134	5670	41.51	27.18 > 24

**802.11ac (VHT80)**
**POWER OUTPUT**

Chan.	Chan. Freq. (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	15.94	15.61	14.73	105.373	20.23	26.32	Pass
58	5290	15.96	14.61	14.82	98.692	19.94	20.32	Pass
106	5530	15.11	16.01	14.94	103.525	20.15	20.32	Pass
122	5610	15.41	16.01	15.01	106.352	20.27	20.32	Pass
155	5775	17.69	17.57	17.16	167.897	22.25	26.32	Pass

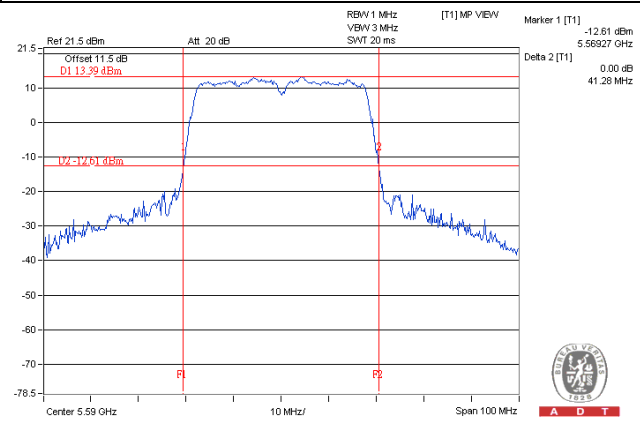
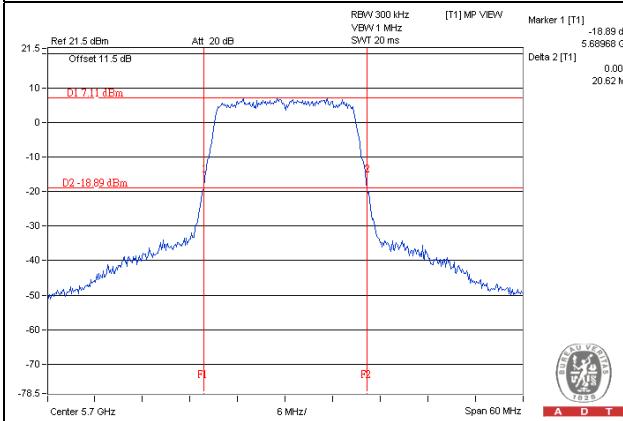
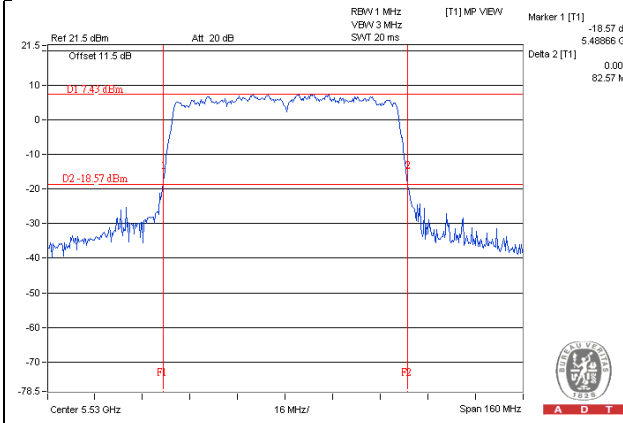
**Note:** Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$ , so the power limit shall be reduced to "Determined Conducted Limit-(9.68-6)".

**26dB OCCUPIED BANDWIDTH**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
42	5210	83.13	83.09	82.98
58	5290	82.81	83.10	83.45
106	5530	83.00	82.83	82.57
122	5610	83.07	83.11	83.14

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

Power Limit = 11dBm + 10logB < U-NII-2A, U-NII-2C >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Conducted Limit (dBm)
58	5290	82.81	30.18 > 24
106	5530	82.57	30.16 > 24
122	5610	83.07	30.19 > 24

**Spectrum Plot of Worst Value****802.11ac (VHT20)\_Chain 0 / CH140****8802.11ac (VHT40)\_Chain 2 / CH118****802.11ac (VHT80)\_Chain 2 / CH106**

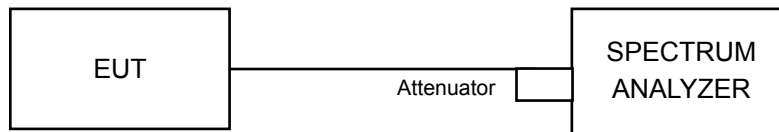


#### 4.4 Peak Power Spectral Density Measurement

##### 4.4.1 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

##### 4.4.2 Test Setup



##### 4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

#### 4.4.4 Test Procedures

##### For U-NII-1, U-NII-2A & U-NII-2C:

##### **802.11a, 802.11ac (VHT20) & 802.11ac (VHT40)**

Using method SA-1

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

##### **802.11ac (VHT80)**

Using method SA-2

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

##### For U-NII-3:

##### **802.11a, 802.11ac (VHT20) & 802.11ac (VHT40)**

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

##### **802.11ac (VHT80)**

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

#### 4.4.5 Deviation from Test Standard

No deviation.

#### 4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

#### 4.4.7 Test Results

##### CDD Mode

For U-NII-1, U-NII-2A & U-NII-2C:

##### 802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm)			Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
36	5180	8.54	8.64	8.08	13.20	13.32	Pass
40	5200	8.06	8.19	8.24	12.94	13.32	Pass
48	5240	6.77	6.83	6.70	11.54	13.32	Pass
52	5260	2.69	2.87	1.76	7.24	7.32	Pass
60	5300	2.86	1.73	1.79	6.93	7.32	Pass
64	5320	2.73	2.88	1.76	7.26	7.32	Pass
100	5500	2.46	2.51	2.32	7.20	7.32	Pass
120	5600	2.98	1.95	1.75	7.03	7.32	Pass
140	5700	3.19	2.13	1.83	7.19	7.32	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. 5150 ~ 5350MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $17 - (9.68 - 6) = 13.32\text{dBm}$ .
3. 5470 ~ 5725MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $11 - (9.68 - 6) = 7.32\text{dBm}$ .

**802.11ac (VHT20)**

Chan.	Chan. Freq. (MHz)	PSD (dBm)			Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
36	5180	7.87	8.02	7.70	12.64	13.32	Pass
40	5200	8.11	8.17	7.67	12.76	13.32	Pass
48	5240	7.46	7.56	7.31	12.22	13.32	Pass
52	5260	2.58	2.47	2.33	7.23	7.32	Pass
60	5300	2.67	2.50	2.37	7.29	7.32	Pass
64	5320	2.52	1.96	2.43	7.08	7.32	Pass
100	5500	2.29	2.79	2.42	7.28	7.32	Pass
120	5600	2.57	2.64	2.39	7.31	7.32	Pass
140	5700	2.58	2.72	2.03	7.22	7.32	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. 5150 ~ 5350MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $17-(9.68-6) = 13.32\text{dBm}$ .
3. 5470 ~ 5725MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$ , so the power density limit shall be reduced to  $11-(9.68-6) = 7.32\text{dBm}$ .

**802.11ac (VHT40)**

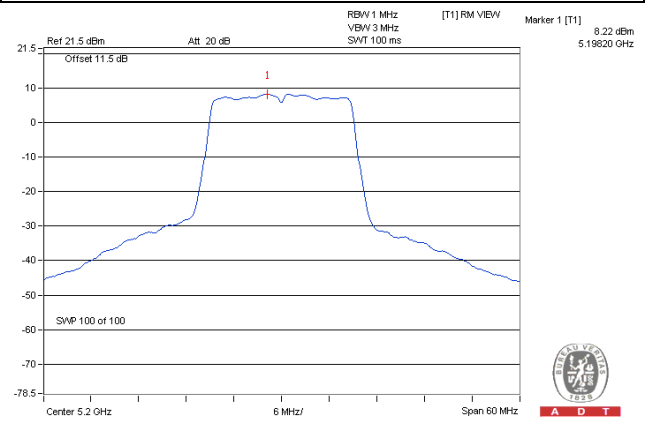
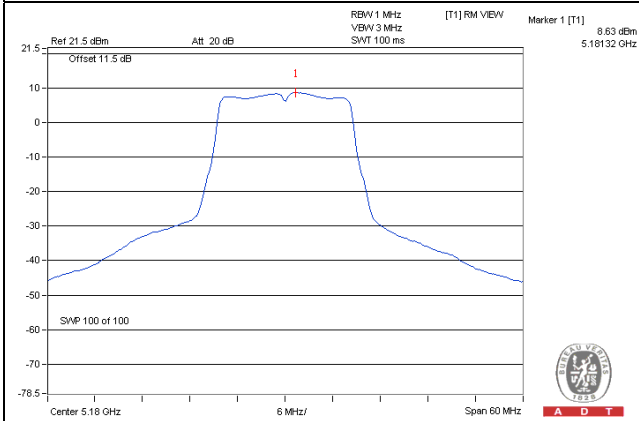
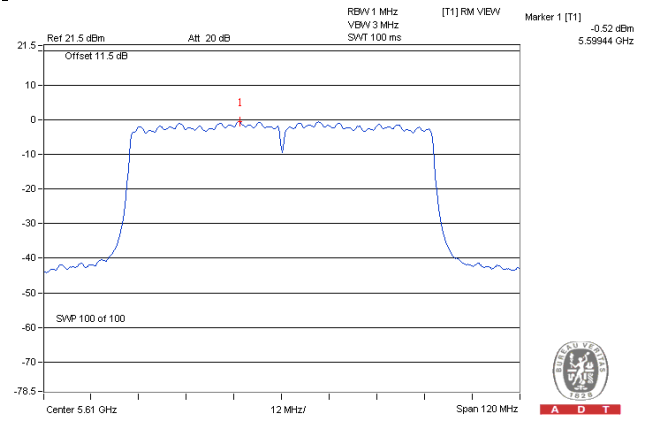
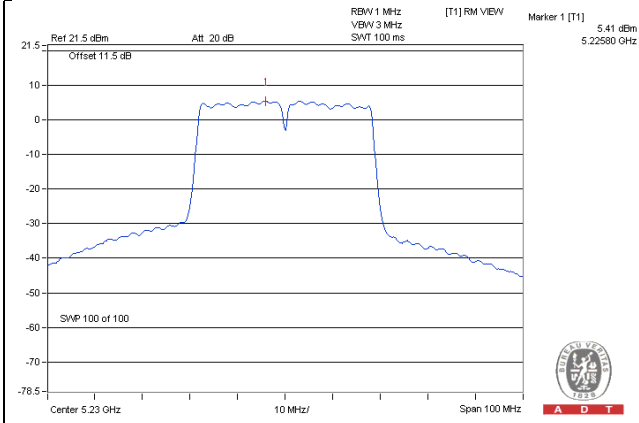
Chan.	Chan. Freq. (MHz)	PSD (dBm)			Total Power Density (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
38	5190	0.69	0.67	0.44	5.37	13.32	Pass
46	5230	5.18	5.41	5.19	10.03	13.32	Pass
54	5270	2.36	2.42	2.22	7.11	7.32	Pass
62	5310	2.30	2.29	1.95	6.95	7.32	Pass
102	5510	1.33	1.49	1.10	6.08	7.32	Pass
118	5590	2.50	2.45	2.42	7.23	7.32	Pass
134	5670	2.34	2.32	2.21	7.06	7.32	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. 5150 ~ 5350MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power density limit shall be reduced to  $17-(9.68-6) = 13.32\text{dBm}$ .
3. 5470 ~ 5725MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power density limit shall be reduced to  $11-(9.68-6) = 7.32\text{dBm}$ .

**802.11ac (VHT80):**

Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor (dBm)			Duty Factor (dB)	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	-3.77	-3.70	-3.72	0.17	1.21	13.32	Pass
58	5290	-1.69	-1.27	-1.67	0.17	3.40	7.32	Pass
106	5530	-2.65	-2.42	-2.81	0.17	2.32	7.32	Pass
122	5610	-0.73	-0.52	-0.70	0.17	4.29	7.32	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. 5150 ~ 5350MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power density limit shall be reduced to  $17-(9.68-6) = 13.32\text{dBm}$ .
3. 5470 ~ 5725MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$  = 9.68dBi > 6dBi , so the power density limit shall be reduced to  $11-(9.68-6) = 7.32\text{dBm}$ .
4. Refer to section 3.3 for duty cycle spectrum plot.

**Spectrum Plot of Worst Value****802.11a\_Chain 1 / CH36****802.11ac (VHT20)\_Chain 1 / CH40****8802.11ac (VHT40)\_Chain 1 / CH46****802.11ac (VHT80)\_Chain 1 / CH122**

**For U-NII-3:**
**802.11a**

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	-0.07	2.15	4.77	6.92	26.32	Pass
	157	5785	2.76	4.98	4.77	9.75	26.32	Pass
	165	5825	1.66	3.88	4.77	8.65	26.32	Pass
1	149	5745	1.20	3.42	4.77	8.19	26.32	Pass
	157	5785	4.50	6.72	4.77	11.49	26.32	Pass
	165	5825	3.19	5.41	4.77	10.18	26.32	Pass
2	149	5745	-0.48	1.74	4.77	6.51	26.32	Pass
	157	5785	2.76	4.98	4.77	9.75	26.32	Pass
	165	5825	1.90	4.12	4.77	8.89	26.32	Pass

**Note:** 1. 5725 ~ 5850MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(9.68-6) = 26.32\text{dBm}$ .

**802.11ac (VHT20)**

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	149	5745	-1.75	0.47	4.77	5.24	26.32	Pass
	157	5785	-0.53	1.69	4.77	6.46	26.32	Pass
	165	5825	-0.88	1.34	4.77	6.11	26.32	Pass
1	149	5745	-1.78	0.44	4.77	5.21	26.32	Pass
	157	5785	-0.03	2.19	4.77	6.96	26.32	Pass
	165	5825	0.46	2.68	4.77	7.45	26.32	Pass
2	149	5745	-2.05	0.17	4.77	4.94	26.32	Pass
	157	5785	-0.33	1.89	4.77	6.66	26.32	Pass
	165	5825	-0.52	1.70	4.77	6.47	26.32	Pass

**Note:** 1. 5725 ~ 5850MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(9.68-6) = 26.32\text{dBm}$ .

**802.11ac (VHT40)**

TX chain	Chan.	Chan. Freq. (MHz)	PSD		10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)				
0	151	5745	-6.66	-4.44	4.77	0.33	26.32	Pass
	159	5785	-3.62	-1.40	4.77	3.37	26.32	Pass
1	151	5745	-7.11	-4.89	4.77	-0.12	26.32	Pass
	159	5785	-3.02	-0.80	4.77	3.97	26.32	Pass
2	151	5745	-6.85	-4.63	4.77	0.14	26.32	Pass
	159	5785	-3.32	-1.10	4.77	3.67	26.32	Pass

**Note:** 1. 5725 ~ 5850MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(9.68-6) = 26.32\text{dBm}$ .

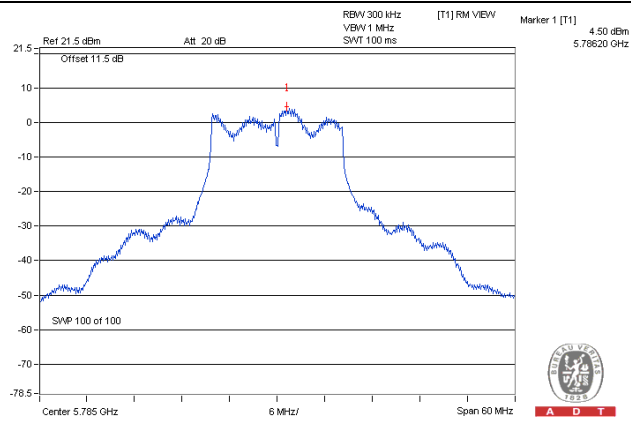
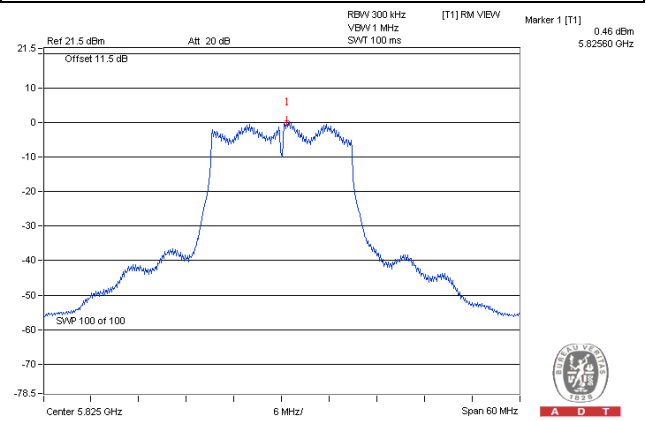
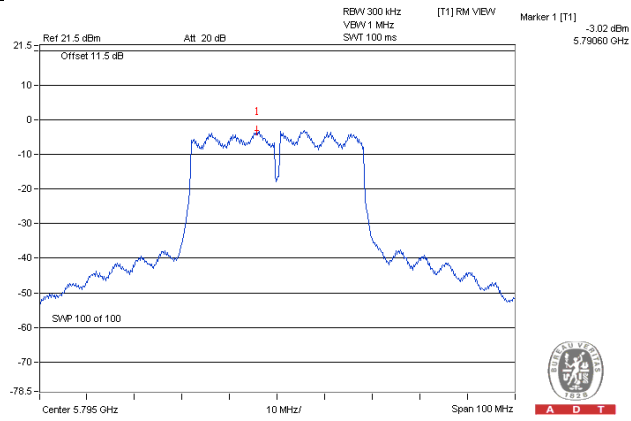
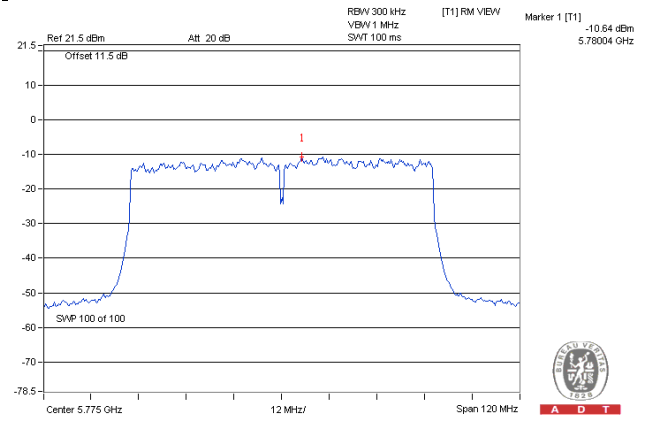
**802.11ac (VHT80)**

TX chain	Chan.	Chan. Freq. (MHz)	PSD W/O Duty Factor		10 log (N=3) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-10.99	-8.77	4.77	0.17	-3.83	26.32	Pass
1	155	5775	-10.64	-8.42	4.77	0.17	-3.48	26.32	Pass
2	155	5775	-10.85	-8.63	4.77	0.17	-3.69	26.32	Pass

**Note:** 1. 5725 ~ 5850MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 9.68\text{dBi} > 6\text{dBi}$  , so the power density limit shall be reduced to  $30-(9.68-6) = 26.32\text{dBm}$ .

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



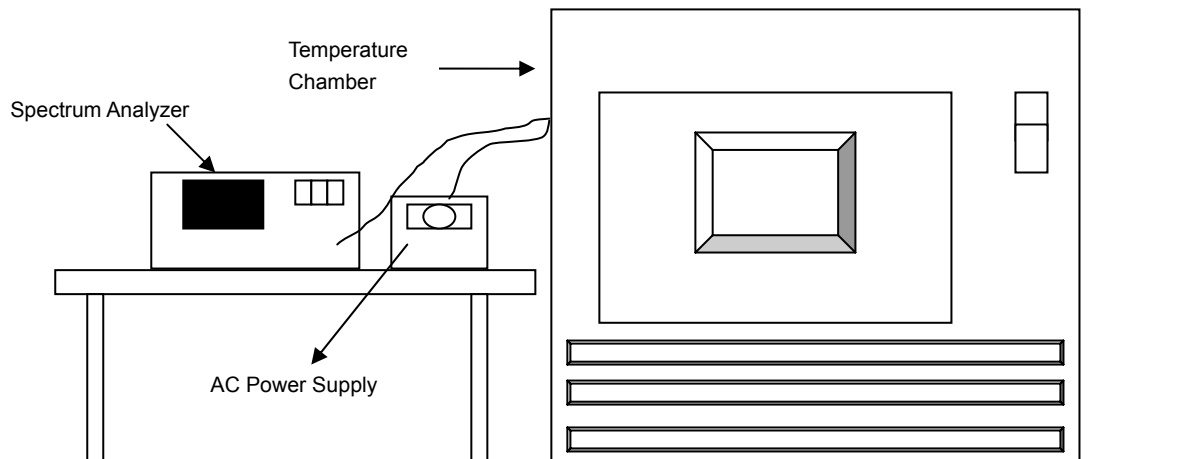
**Spectrum Plot of Worst Value****802.11a\_Chain 1 / CH157****802.11ac (VHT20)\_Chain 1 / CH165****8802.11ac (VHT40)\_Chain 1 / CH159****802.11ac (VHT80)\_Chain 1 / CH155**

## 4.5 Frequency Stability Measurement

### 4.5.1 Limits of Frequency Stability Measurement

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

### 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 Procedures

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

### 4.5.5 Deviation from Test Standard

No deviation.

### 4.5.6 EUT Operating Conditions

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

**4.5.7 Test Results**

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5179.9926	-0.00014	5179.9918	-0.00016	5179.991	-0.00017	5179.9914	-0.00017
40	120	5180.0269	0.00052	5180.0259	0.00050	5180.0278	0.00054	5180.025	0.00048
30	120	5180.0018	0.00003	5179.9999	0.00000	5179.9991	-0.00002	5180.0008	0.00002
20	120	5180.0054	0.00010	5180.0084	0.00016	5180.0043	0.00008	5180.0093	0.00018
10	120	5180.0242	0.00047	5180.0232	0.00045	5180.0258	0.00050	5180.023	0.00044
0	120	5180.0016	0.00003	5180.0044	0.00008	5180.0023	0.00004	5180.0053	0.00010
-10	120	5179.9869	-0.00025	5179.9856	-0.00028	5179.9853	-0.00028	5179.9893	-0.00021
-20	120	5179.9814	-0.00036	5179.9811	-0.00036	5179.9853	-0.00028	5179.9809	-0.00037
-30	120	5180.0049	0.00009	5180.0077	0.00015	5180.0038	0.00007	5180.0054	0.00010

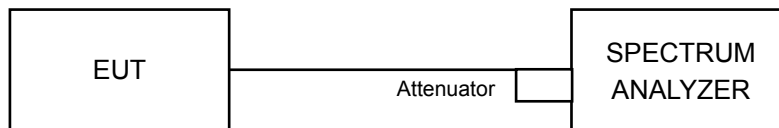
Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5180.0049	0.00009	5180.0091	0.00018	5180.0034	0.00007	5180.0085	0.00016
	120	5180.0054	0.00010	5180.0084	0.00016	5180.0043	0.00008	5180.0093	0.00018
	102	5180.0045	0.00009	5180.0086	0.00017	5180.0047	0.00009	5180.0092	0.00018

## 4.6 6dB Bandwidth Measurement

### 4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

### 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 Procedures

#### MEASUREMENT PROCEDURE REF

- a. Set resolution bandwidth (RBW) = 100kHz
- b. Set the video bandwidth (VBW)  $\geq 3 \times$  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

### 4.6.5 Deviation from Test Standard

No deviation.

### 4.6.6 EUT Operating Conditions

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

#### 4.6.7 Test Results

#### CDD Mode

#### 802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	16.37	15.83	16.38	0.5	Pass
157	5785	16.37	15.77	16.38	0.5	Pass
165	5825	16.37	16.42	16.39	0.5	Pass

#### 802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	17.35	17.19	17.60	0.5	Pass
157	5785	17.30	15.46	17.35	0.5	Pass
165	5825	17.33	16.35	16.93	0.5	Pass

#### 802.11ac (VHT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
151	5755	36.43	36.43	36.41	0.5	Pass
159	5795	36.42	35.86	36.42	0.5	Pass

#### 802.11ac (VHT80)

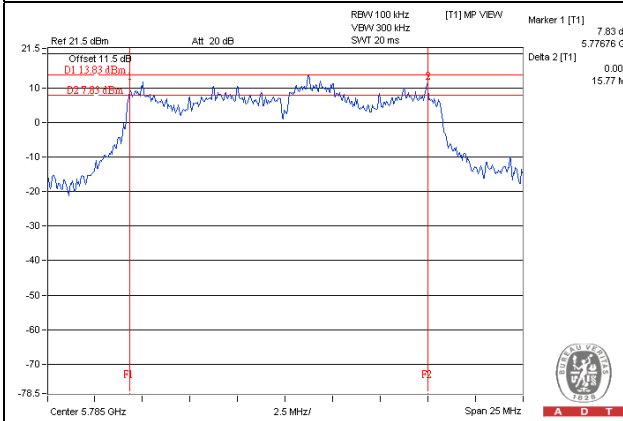
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
155	5775	75.78	75.84	75.86	0.5	Pass



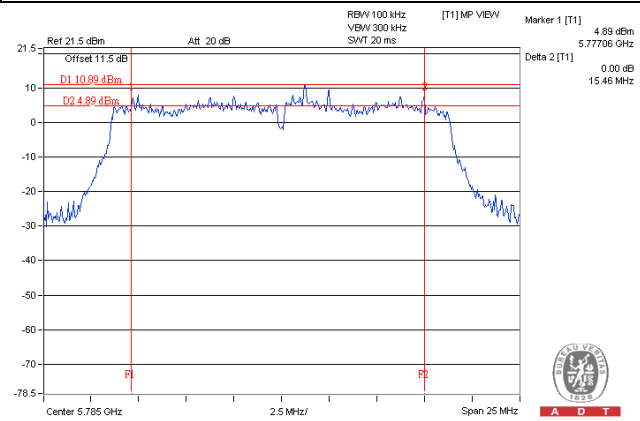
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### Spectrum Plot of Worst Value

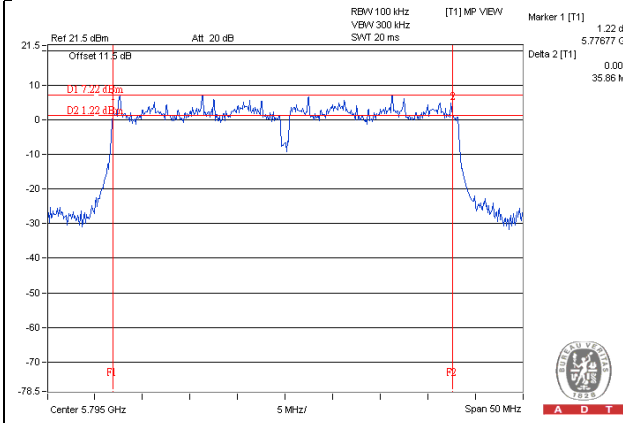
#### 802.11a\_Chain 1 / CH157



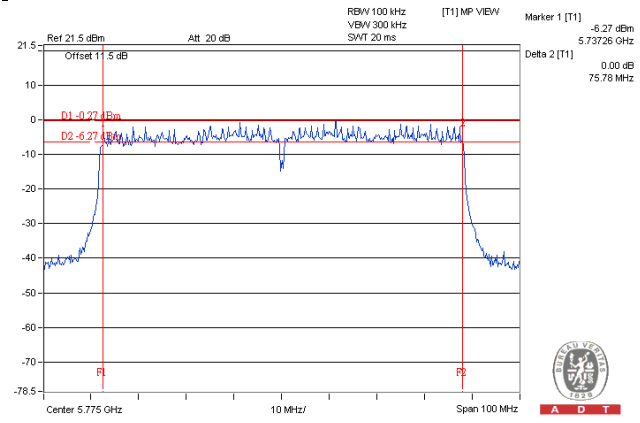
#### 802.11ac (VHT20)\_Chain 1 / CH157



#### 802.11ac (VHT40)\_Chain 1 / CH159



#### 802.11ac (VHT80)\_Chain 0 / CH155



## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information on the Testing Laboratories

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

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

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**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

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

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